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Volume 4, Part A*

Earth-Mars Trajectories, 1971

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June 15, 1965

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R. J. Richard

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A handwritten signature in cursive script that reads "T. W. Hamilton". The signature is written in dark ink and is positioned above a solid horizontal line.

T. W. Hamilton, Manager
Systems Analysis Section

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June 15, 1965

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FOREWORD

This volume is one of a set of seven giving key characteristics of Earth-to-Mars ballistic trajectories during the period 1964-1977, which period is divided into seven launch intervals (one interval per volume), spaced about 25 months apart. Within each interval, trajectories are calculated for each launch date and further subdivided into flight time ranges graduated in 2-day increments. Launch dates and approximate flight times for this volume are as follows (only trajectories requiring *vis viva* geocentric energies of less than 40 km/sec are included).

Launch date (1971)	Flight time range (days)
March 6-August 10	70-280

The applicability of these books may be extended by noting the 15-year cyclic recurrence of Earth-Mars trajectories. Thus trajectories in 1979 approximate 1964 trajectories; 1982 trajectories approximate 1967 trajectories, etc. Simply by updating the trajectories by 15 years, the results may be reapplied.

It is intended that these books provide trajectory and guidance analysts with data, in volume, so that preliminary design studies, investigations of the properties of ballistic interplanetary trajectories, and interplanetary guidance and orbit determination analyses may be performed. While not exact, these trajectories are sufficiently accurate to be quite useful for the above purposes.

In generating such a large amount of data, it is impossible to check the correctness of each number. Should the reader detect any errors, the authors would appreciate being advised.

Companion volumes (Ref. 1) give the characteristics of Earth-Venus trajectories during the period 1964-1970.

This volume would be incomplete without an expression of gratitude to V. C. Clarke, Jr., W. E. Bollman, T. W. Hamilton, and C. G. Pfeiffer, who laid the foundation upon which this document is based.

I. INTRODUCTION

This report presents the results of extensive machine computations of three-dimensional ballistic interplanetary trajectories. The analytic model used to represent these trajectories is based upon two-body, inverse-square, force field mechanics. A brief explanation of the model is presented in Section II.

Basically, the trajectories are calculated in two distinct parts: (1) the heliocentric transfer ellipse and (2) the launch-planet-centered escape trajectories. Following these trajectories, differential corrections or error coefficients and guidance and tracking parameters are given.

A. Heliocentric Conic Computation

The heliocentric trajectory is obtained by specifying the launch date and flight time only. Given these, the positions of the launch planet on the launch date and the target planet on the arrival date may be obtained by interrogating the ephemerides. By assuming the planets to be massless, a unique heliocentric trajectory may then be computed which passes through the centers of the launch and target planets. Though this assumption may at first seem gross, experience has proved it to be perfectly reasonable for this purpose. After the solution has been obtained by an iterative procedure, the orbital elements, heliocentric position, and velocity vectors at launch and arrival are computed. Other heliocentric quantities of engineering interest are also computed.

B. Planetocentric Conic Computation

After the heliocentric orbit is obtained, the launch and arrival hyperbolic-excess velocity vectors are computed by subtracting the velocity vectors of the launch and target planets from the heliocentric launch and arrival velocity vectors of the probe. The launch hyperbolic-excess vector is, in fact, the most important result of these computations because it yields the energy and direction of fire required to achieve interplanetary transfer.

Further computations are done to exhibit properties of the near-Earth portion of the trajectories. Given the launch hyperbolic-excess vector, a launch site (Cape Kennedy), a launch azimuth, and certain properties of a typical interplanetary boost vehicle, and assuming a 100-nm parking orbit, quantities such as launch time, injection position and velocity vectors, parking orbit coast time, and injection time are computed. In essence, then, approximate trajectories are obtained from the

launch pad to the target. The terminal portions of the trajectories are assumed to impact vertically on the target planet.

C. Differential Corrections

To augment the trajectory parameters, differential corrections or error coefficients relating variations in the launch hyperbolic-excess velocity vector to variations in target miss and flight time are computed. Actually, the variables at launch in these coefficients are the square of the hyperbolic-excess speed, or *vis viva* energy C_3 , and the declination and right ascension of a unit vector S , collinear with the outgoing asymptote of the escape hyperbola. The target variables are the components of the impact parameter B , defined below, and the flight time. These coefficients are obtained by a numerical differencing technique developed by William Kizner of JPL.

Based upon these error coefficients, guidance and tracking parameters are calculated as described below.

D. Mid-Course Guidance

Interplanetary guidance is currently being accomplished by determining the orbit of the probe from radio tracking data and then applying one or more impulsive velocity corrections to null the predicted target error. The guidance task closely parallels the trajectory problem, for it is convenient to define the following guidance "phases":

1. Planetocentric phase, in which, after the launch vehicle has placed the probe on its escape hyperbola, the orbital elements of this trajectory are determined and the hyperbolic-excess velocity is corrected to the desired value.
2. Heliocentric phase, in which additional velocity corrections may be made to correct any error in orbit determination and/or maneuver execution in phase 1.
3. Approach phase, in which the probe is in the sphere of influence of the planet and the final vernier corrections may be made to trim the results of phase 2.

The preflight analysis of phase-1 guidance is primarily concerned with the statistical problem of determining how much propellant to carry aboard the spacecraft in

order to correct a "three-sigma" injection guidance error. These studies are well-documented elsewhere (Ref. 2-4) and will not be discussed here. Suffice it to say that correcting the hyperbolic-excess velocity is a reasonably good approximation to nulling the miss components at the planet. Such an analysis need only be concerned with the planetocentric phase of flight.

The analysis of the heliocentric phase is more complicated, since maneuvers there depend upon errors in applying the first midcourse maneuver (phase 1). In order to understand the effect of phase 1 errors, or to specify a tolerance on them, it is convenient to ask how a unit error in hyperbolic-excess velocity maps to miss at the target. This unit velocity error can be thought of as due to uncertainties in phase-1 maneuver execution and orbit determination. Conceptually, this analysis can be accomplished by letting a unit velocity error trace out a sphere at the tip of the hyperbolic-excess velocity vector and observing the semimajor and semiminor axes of the miss ellipse at the target (only two miss components are normally of interest). Mathematically, this is done by simply forming a matrix of the differential corrections, multiplying this matrix by its own transpose, diagonalizing the resulting symmetric matrix, and observing that the two diagonal terms are the desired semimajor and semiminor axes of the unit error ellipse.¹ It is easy to show that if the coordinate system chosen to describe the target error is collinear with these axes, the rows of the resulting differential correction matrix (which are gradient vectors) are orthogonal, and their norms are the magnitudes of the error-ellipse axes.

The approach guidance phase is not conveniently treated with this kind of analysis, and is not discussed further.

E. Orbit Determination

A spacecraft boosted toward Mars or Venus by the current generation of launch vehicles requires the accuracy obtainable using Earth-based radio guidance in order to accomplish most planet-oriented experiments. The steps in radio guidance are:

1. Track the transponder signal from the spacecraft from several stations located at a spread of latitudes to determine the orbit of the spacecraft.

¹It should be apparent to readers familiar with statistical concepts that this is equivalent to mapping a three-dimensional gaussian distribution of velocity errors, with unit standard deviation along each axis, to a two-dimensional gaussian distribution of position errors at the target.

2. Calculate the velocity changes required to alter the orbit to pass through the desired region at the target. The maneuver is then applied with a small rocket motor; the pointing direction and burning time (of the velocity increment) are calculated to perfectly correct the orbit if both the estimate of the orbit and the application of the maneuver are without error.
3. Track the spacecraft after the first maneuver for a sufficient interval to form a new estimate of the perturbed orbit.

This process of tracking and maneuvering may be repeated several times to achieve high accuracies at the target. There is, however, a limit to the process imposed by our uncertainties in the actual location of the target planet as well as the unpredictable forces acting on the spacecraft.

For extremely high accuracy at the target planet, on-board measurements must be used in conjunction with the Earth-based tracking in order to further reduce the above-mentioned uncertainties. It is not the function of this report to discuss on-board measurement systems but rather to describe the capabilities of current Earth-based radio guidance techniques when applied to interplanetary trajectories.

An adequate description of the accuracy to which orbits may be determined and maneuvers executed for the case of several corrective maneuvers is beyond the scope of this report. The results presented here may be strictly interpreted as corresponding to the accuracy capabilities for a single mid-course maneuver occurring anywhere between 1 and 14 days after injection. The relative contribution to the target uncertainty caused by orbit determination errors and mid-course execution errors depends directly upon the size of the correction required on a particular flight. For this reason, then, the two error sources are considered separately. While our results do correspond to the single maneuver case, they are very valuable in providing a general description of the way in which these errors vary over the selected set of trajectories. Such utilization of the results is discussed later herein.

F. Accuracy of Computations

Extensive accuracy studies were performed to verify the adequacy of these trajectories for preliminary design use. Both Mars and Venus trajectories were computed on the JPL precision-integrating trajectory program using

initial conditions obtained from the approximate trajectories contained herein. Of 56 Mars cases run, 29 missed the target by less than 500,000 km; 16 missed by between 500,000 and 1,000,000 km; and 5 missed by between 1,000,000 and 1,500,000 km. The worst case missed by 3,500,000 km. For the flight time errors, 16 varied between 1 and 2 days; 14 varied between 2 and 3 days; and 9 were greater than 3 days. The worst case was 7.2 days. No systematic properties of these errors were noted except that they appear to get worse for the higher-energy trajectories.

For Venus, the accuracy was considerably better, averaging 322,000-km miss error and 0.67-day flight time errors. Based on these comparisons, the model used to generate the trajectories contained herein is considered to be adequate and the results suitable for preliminary mission design studies. These results are very useful for initializing a precision trajectory search program.

When used for the stated purposes, these trajectories provide an excellent source of data obtained at considerably less time and expense than precision cases.

II. ANALYTICAL MODEL FOR INTERPLANETARY TRAJECTORIES

The analytical model consists of three distinct phases of two-body motion: (1) an escape hyperbola near the launch planet, (2) elliptical² motion under the attraction of the Sun, and (3) terminal hyperbolic motion near the target planet.

A. Heliocentric Motion

Solution of the heliocentric elliptic motion is obtained first under the following assumptions:

1. The launch and target planets move in orbits about the Sun as given in the national ephemerides. Their velocity components are obtained by using two-body conic formulas, mean orbital elements, and their tabular positions as listed in the ephemerides.
2. The launch and target planets are massless. Thus the only force acting on the probe is that of the Sun.
3. The position of the probe at launch into the heliocentric orbit is the center of the massless launch planet. Its position at arrival on the heliocentric orbit is the center of the massless target planet.

Thus for solution to the heliocentric phase of motion, the attractions of the launch and target planets are temporarily disregarded. The primary result to be obtained from the solution of the heliocentric transfer problem is the hyperbolic-excess velocity vector relative to the launch planet.

1. Determination of Planar Orientation

Since the launch and arrival positions of the probe are assumed to be the centers of the launch and target planets, they can immediately be determined, given the launch and arrival³ times, by consulting the ephemeris. Further, the orientation of the heliocentric transfer plane can immediately be found. Let \mathbf{R}_L be the Sun-launch planet position vector at launch time T_L , and let \mathbf{R}_p be the Sun-target planet position vector at arrival time T_p (Fig. 1). Then, planar orientation is found from the unit normal \mathbf{W} to the plane as follows:

$$\mathbf{W} = \frac{\mathbf{R}_L \times \mathbf{R}_p}{R_L R_p \sin \Psi} \quad (1)$$

²Hyperbolic heliocentric motion is not considered herein.

³Or, for convenience, the launch date and flight time can be specified.

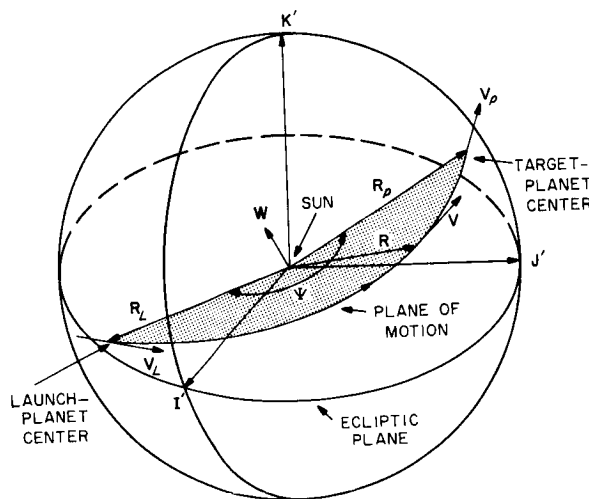


Fig. 1. Heliocentric transfer geometry

where the angle Ψ is defined below. The inclination i to the ecliptic plane can be found by

$$\cos i = \mathbf{W} \cdot \mathbf{K}' \quad (2)$$

where \mathbf{K}' is a unit vector pointing in the direction of the ecliptic north pole.

2. In-Plane Relations

The heliocentric central angle Ψ (Fig. 1) is also readily determined by utilizing the positions of the launch and target planets. This angle may be obtained from

$$\cos \Psi = \frac{\mathbf{R}_L \cdot \mathbf{R}_P}{|\mathbf{R}_L| |\mathbf{R}_P|} \quad (3)$$

$$\sin \Psi = \text{sgn} [(\mathbf{R}_L \times \mathbf{R}_P) \cdot \mathbf{K}'] (1 - \cos^2 \Psi)^{1/2} \quad (4)$$

The velocity vector \mathbf{V} of the spacecraft anywhere along its path may be obtained from

$$\mathbf{V} = \frac{V}{R} [(\mathbf{W} \times \mathbf{R}) \cos \Gamma + \mathbf{R} \sin \Gamma] \quad (5)$$

Here, \mathbf{R} is the heliocentric position vector, $R = |\mathbf{R}|$, and V is the heliocentric speed obtained from

$$V = \sqrt{(GM_S) \left(\frac{2}{R} - \frac{1}{a} \right)} \quad (6)$$

*In this report, we are interested only in transfers which have the same rotational motion about the Sun as the planets; thus, $0 \leq i \leq \pi/2$.

and the path angle Γ is found from

$$\sin \Gamma = \left[\sqrt{\frac{R}{(1 - e^2)(2a - R)}} \right] e \sin v \quad (7)$$

In Eq. (6) and (7), GM_S is the universal gravitational constant times the mass of the Sun ($= 2.959122083 \times 10^{-4} \text{ au}^3/\text{day}^2$), a and e are the semimajor axis and eccentricity of the transfer ellipse, respectively, and v is the true anomaly of the probe given by

$$\cos v = \frac{a(1 - e^2) - R}{eR} \quad (8)$$

3. Lambert's Theorem

Now there are two unknowns in Eq. (5)–(8) which prevent their immediate evaluation. These two unknowns are the semimajor axis a and the eccentricity e . The determination of these quantities is the main problem. Battin (Ref. 5) has shown that the eccentricity is actually a function of the semimajor axis. Thus it is first necessary to determine a . The semimajor axis is related to the time of flight T_F by Lambert's Theorem, which states: *The transfer time between any two points on an ellipse is a function of the sum of the distances of each point from the focus, the distance between the points, and the semimajor axis of the ellipse.* Functionally, the theorem is stated as

$$T_F = T_F(R_L + R_P, C, a) \quad (9)$$

where the distance C between the launch planet at launch time and the target planet at arrival time is shown in Fig. 2 and is obtained from

$$C = |\mathbf{R}_P - \mathbf{R}_L| \quad (10)$$

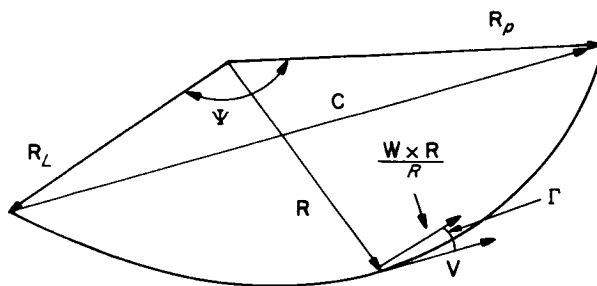


Fig. 2. In-plane transfer geometry

Since the time of flight T_F and the launch and arrival positions R_L and R_P are knowns, only the semimajor axis

remains to be found by iterative solution of Eq. (9). After the semimajor axis a is obtained, the heliocentric velocities of the probe at launch and arrival time V_L and V_p may be evaluated from Eq. (5) under the conditions $R = R_L$ and $R = R_p$. The path angles Γ_L , Γ_p and true anomalies⁵ v_L , v_p at launch and arrival times may also be evaluated from Eq. (8) and (7) under the same conditions.

Finally, the desired end result, the hyperbolic-excess velocity V_{hL} relative to the launch planet may be found (Fig. 3) by

$$V_{hL} = V_L - V_1 \quad (11)$$

where V_1 is the velocity of the launch planet at launch time.

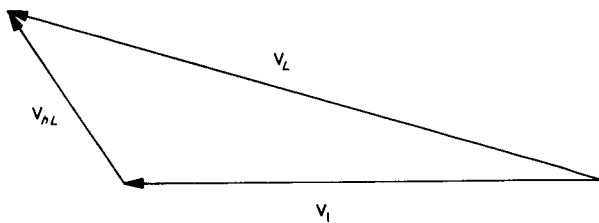


Fig. 3. Determination of the hyperbolic-excess velocity vector V_{hL} .

B. Launch Planet Escape Hyperbola

The key result from the solution of heliocentric transfer is the hyperbolic-excess velocity vector V_{hL} at launch. The reason for the importance of this vector is that it tells the direction in which the probe must be traveling relative to the launch planet when just leaving its gravitational influence. There are an infinite number of escape trajectories (all hyperbolas) which can have the same hyperbolic-excess velocity vector. However, only a portion of these are practical for use when related to existing launch sites and boost vehicle constraints. For example, it would be ridiculously costly in payload—and impractical—to shoot a vehicle straight up. Criteria for selection of a family of feasible escape trajectories are given below.

1. Assumptions

The solution of the escape phase of motion is obtained under the following assumptions: (1) The probe is acted on only by the gravitational force of the launch planet, and (2) the oblateness effects of the launch planet are neglected.

The direction of the asymptote of the escape hyperbola is found by normalizing the hyperbolic-excess vector V_{hL} . The injection energy⁶ C_3 of the escape hyperbola is found by squaring the hyperbolic-excess speed, or

$$C_3 = V_{hL}^2 \quad (12)$$

Thus, in contrast to the heliocentric problem, the launch planet is now “massy,” while the influence of the Sun is neglected. However, the hyperbolic-excess velocity vectors found by solving the heliocentric problem are used as a starting point to solve the escape problem.

2. Size and Shape of the Escape Hyperbola

As previously stated, only some of the infinite number of escape trajectories are practical. Two of the practical aspects of a set of trajectories are the sizes and shapes of the hyperbolas.

Size is basically determined by the energy C_3 , which in turn is a function of boost vehicle capability. For boost vehicles in use (or shortly to be available) at this writing, values of energy less than or equal to $25 \text{ km}^2/\text{sec}^2$ are considered reasonable. The larger the value of energy that the booster is required to deliver, the smaller the payload and launch period over which the vehicle may be fired.

The shape of the hyperbola is determined by its eccentricity, which is a function of both the energy and perifocal distance according to

$$e = 1 + \frac{R_p C_3}{GM} \quad (13)$$

where R_p is the perifocal distance and GM is the universal gravitational constant times the mass of the launch planet. From Eq. (13) it can be seen that for a fixed perifocal distance the eccentricity increases linearly with the energy. The value of perifocal distance is not arbitrary, but depends strongly on the boost vehicle trajectory. It has been shown (Ref. 6) that in the great majority of cases it is necessary and desirable to use a circular parking orbit as part of the preinjection phase of the escape trajectory. It is further an interesting fact that the altitude of the parking orbit determines the perifocal distance. If h is the parking orbit altitude and R_0 is the launch planet's radius, then, to an extremely close degree of approximation,

$$R_p = R_0 + h \quad (14)$$

⁵The details of quadrant choice for these angles are found in Ref. 5.

⁶ C_3 is actually twice the total energy per unit mass, i.e., the *vis viva* integral.

or the perifocal distance is equal to the launch-planet-centered radius of the parking orbit. In Ref. 6 it also has been shown that the lowest possible parking orbit (80–100 nm) allows greatest payload capability. Thus, using 100 nm for the parking orbit altitude, a practical value of perifocal distance is 6560 km. The perifocal distance will vary only slightly about this value for other parking orbit altitudes, or even for direct-ascent-type preinjection trajectories. Therefore, *both* the size and shape are essentially determined by the energy alone, which is found from Eq. (12).

Given the size and shape of the escape hyperbola, its planar orientation must be determined, and this can be done by considering two vectors: (1) the direction of the hyperbolic-excess vector, denoted by a unit vector S , and (2) a unit vector R_L^i directed from the center of the launch planet to the launch site. The vehicle's flight plane will essentially be determined by these two vectors, as shown in Fig. 4. A unit normal W to the launch-planet-centered flight plane is determined by

$$W = \frac{R_L^i \times S}{|R_L^i \times S|} \tag{15}$$

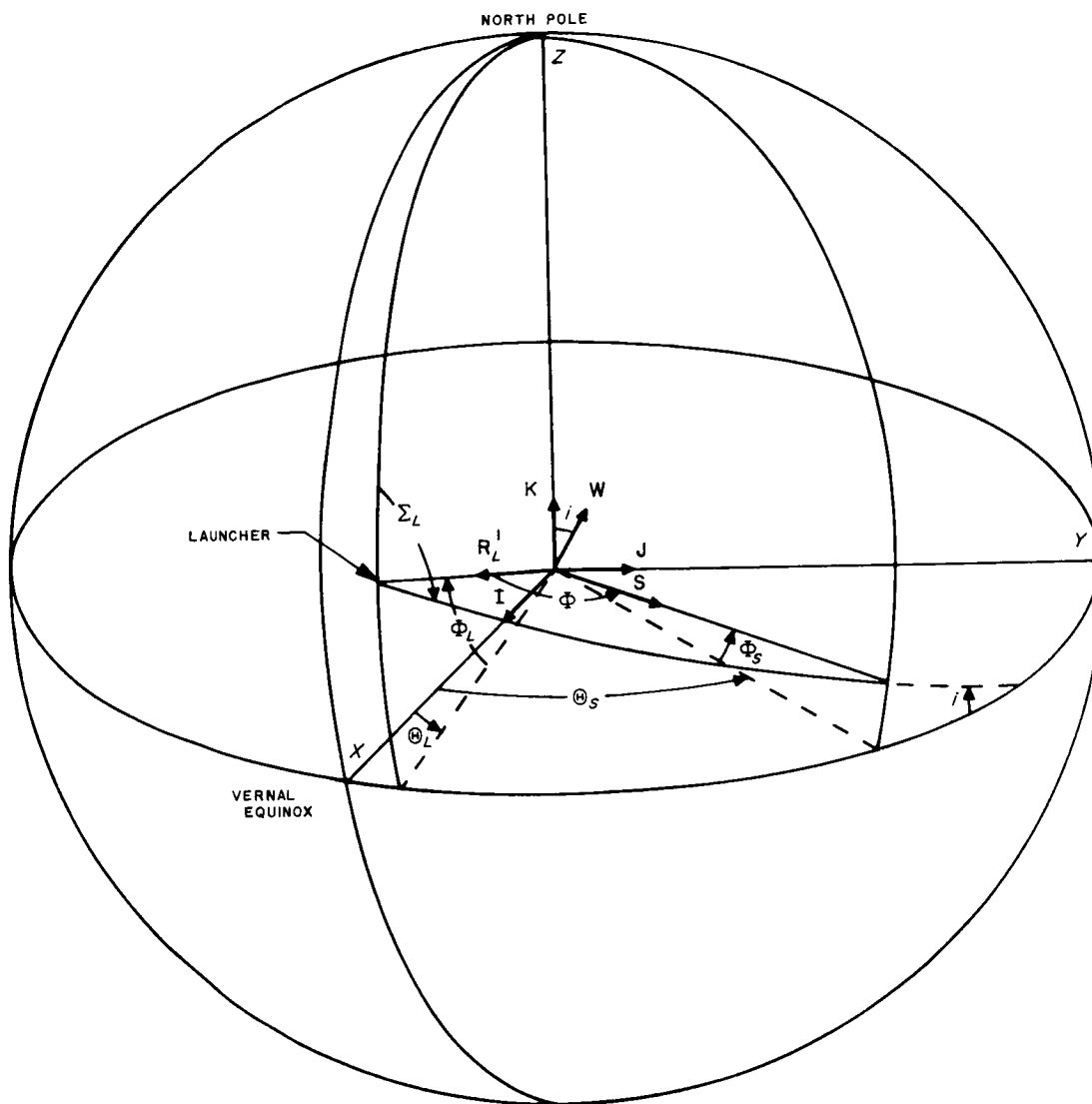


Fig. 4. Vehicle flight plane

with the constraint that the Z component of W is always positive.

Since R_L^i is a function of time, according to the rotation rate of the launch planet, the planar orientation must continually change. In effect, this says that the launch azimuth is a continuous function of launch time.

A detailed description of the geometrical aspects of the launch planet ascent trajectory is not given here but may be found in Ref. 6.

C. Differential Corrections

The calculation of differential corrections for interplanetary trajectories may be accomplished in several ways and depends on choice of independent and dependent variables. In this report, a numerical differencing scheme is used. Basically, the independent variables—the injection energy C_3 , declination Φ_s , and right ascension Θ_s of the outgoing asymptote S of the escape hyperbola—are varied, one at a time, to produce variations in the dependent variables—the components of the impact parameter B and the time-of-flight T_F .

The impact parameter B is defined as a vector originating at the center of the target planet and directed perpendicular to the incoming asymptote of the target-centered approach hyperbola (Fig. 5). The impact parameter B is resolved into two components which lie in a

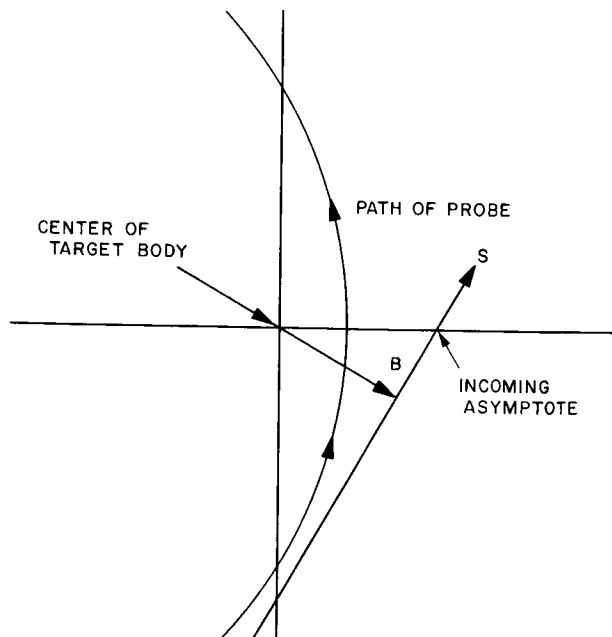


Fig. 5. Impact parameter B

plane normal to the incoming asymptote S . The orientations of the reference axes in this plane are arbitrary, but one is usually selected to lie in a fixed plane. Thus, define a unit vector T , lying in the *ecliptic* plane according to

$$T = \frac{S \times K'}{|S \times K'|} \quad (16)$$

where K' is a unit normal vector to the ecliptic plane. The remaining axis is then given by a unit vector R , defined by

$$R = S \times T \quad (17)$$

Figure 6 illustrates the orientation of the R, S, T target coordinates.

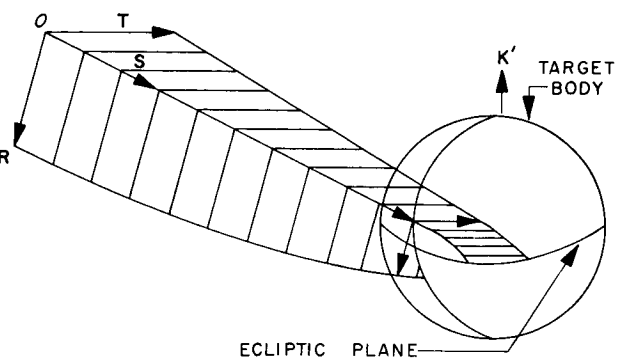


Fig. 6. The R, S, T target coordinate system

The impact parameter B lies in the R - T plane and has miss components $B \cdot T$ and $B \cdot R$. $B \cdot T = B \cdot R = 0$ denotes vertical impact on the target. Thus, $B \cdot T$, $B \cdot R$, and T_F are the three target-dependent variables. If Q_i represents a set of generalized independent variables, such as injection position and velocity or other convenient variables, then the partial derivatives $\partial B \cdot T / \partial Q_i$, $\partial B \cdot R / \partial Q_i$, $\partial T_F / \partial Q_i$ are first-order differential corrections or error coefficients relating miss at the target and flight time errors to the independent variables.

A convenient set of independent variables for interplanetary trajectories is the *vis viva* injection energy C_3 , the declination Φ_s , and the right ascension Θ_s of the asymptote of the escape hyperbola. These variables essentially describe the launch hyperbolic-excess velocity vector since

$$V_{hL} = (C_3)^{1/2} (\cos \Phi_s \cos \Theta_s, \cos \Phi_s \sin \Theta_s, \sin \Phi_s) \quad (18)$$

As stated above, the differential corrections are calculated by a numerical differencing method which uses

quantities obtained from the conic trajectory. The basic idea is to compute a varied or perturbed trajectory and then difference it with the reference case. Let primed quantities denote variables on the perturbed trajectory. A small variation $\Delta \mathbf{V}_{hL}$ in the hyperbolic-excess velocity vector is equivalent to a small variation $\Delta \mathbf{V}_L$ in the launch heliocentric velocity vector. The launch heliocentric velocity on the perturbed trajectory is, then,

$$\mathbf{V}'_L = \mathbf{V}_L + \Delta \mathbf{V}_{hL} \quad (19)$$

where

$$\begin{aligned} \Delta \mathbf{V}_{hL} = & (C_3)^{1/2} \Delta \Phi_S [-\sin \Phi_S \cos \Theta_S, -\sin \Phi_S \sin \Theta_S, \cos \Phi_S] + \\ & (C_3)^{1/2} \Delta \Theta_S [-\cos \Phi_S \sin \Theta_S, \cos \Phi_S \cos \Theta_S, 0] + \\ & \frac{\Delta C_3}{2(C_3)^{1/2}} [\cos \Phi_S \cos \Theta_S, \cos \Phi_S \sin \Theta_S, \sin \Phi_S] \end{aligned}$$

where $\Delta \Phi_S, \Delta \Theta_S$ are small angular variations (0.2 deg), and the energy variation is $\Delta C_3 = 0.005 C_3$.

The semimajor axis a' is obtained from

$$a' = \frac{R_L}{2 - \frac{V_L'^2 R_L}{GM_S}} \quad (20)$$

The radial rate \dot{R}'_L is

$$\dot{R}'_L = \frac{\mathbf{V}'_L \cdot \mathbf{R}_L}{R_L} \quad (21)$$

The semilatus rectum p' and eccentricity e' are

$$p' = \frac{R_L^2 (V_L'^2 - \dot{R}'_L^2)}{GM_S} \quad (22)$$

$$e' = \left(1 - \frac{p'}{a'}\right)^{1/2} \quad (23)$$

The eccentric anomaly at launch E'_L is

$$\sin E'_L = \frac{R_L \dot{R}'_L}{e' (a' GM_S)^{1/2}} \quad (24)$$

$$\cos E'_L = \frac{1}{e'} \left(1 - \frac{R_L}{a'}\right)$$

The mean anomaly at launch M'_L is obtained from

$$M'_L = E'_L - e' \sin E'_L \quad (25)$$

The mean orbital rate n' is

$$n' = \frac{(GM_S)^{1/2}}{a'^{3/2}} \quad (26)$$

The mean anomaly at the target M'_p is

$$M'_p = n' T_F + M'_L \quad (27)$$

The eccentric anomaly at the target E'_p is obtained from the expansion

$$\begin{aligned} E'_p = & E_p + \left(\frac{1}{1 - e' \cos E_p}\right) \Delta M - \frac{1}{2} \left[\frac{e' \sin E_p}{(1 - e' \cos E_p)^3}\right] \Delta M^2 \\ & + \frac{1}{6} \left[\frac{3(e' \sin E_p)^2 - (1 - e' \cos E_p)(e' \cos E_p)}{(1 - e' \cos E_p)^5}\right] \Delta M^3 \end{aligned} \quad (28)$$

if

$$\cos E_p \geq 0$$

or

$$E'_p = E_p + \frac{e' \cos E_p - 1 + \sqrt{(e' \cos E_p - 1)^2 + (2e' \sin E_p) \Delta M}}{e' \sin E_p} \quad (29)$$

if

$$\cos E_p < 0$$

where

$$\Delta M = M'_p - (E_p - e' \sin E_p)$$

The true anomalies at launch and the target v'_L and v'_p are found from

$$\cos v'_L = \frac{p' - R_L}{e' R_L} \quad (30)$$

$$0 < v'_L < \pi \quad \text{if } \dot{R}'_L \text{ is positive}$$

$$\pi < v'_L < 2\pi \quad \text{if } \dot{R}'_L \text{ is negative}$$

$$\cos v'_p = \frac{\cos E'_p - e'}{1 - e' \cos E'_p} \quad (31)$$

$$\sin v'_p = \frac{(1 - e'^2)^{1/2} \sin E'_p}{1 - e' \cos E'_p}$$

The heliocentric central angle Ψ' is

$$\Psi' = v'_p - v'_L \quad (32)$$

The angular momentum \mathbf{h}' is

$$\mathbf{h}' = \mathbf{R}_L \times \mathbf{V}'_L \quad (33)$$

The heliocentric position vector at the target is

$$\mathbf{R}'_p = R'_p \left(\frac{\mathbf{R}_L}{R_L} \cos \Psi' + \frac{\mathbf{h}' \times \mathbf{R}_L}{h' R_L} \sin \Psi' \right) \quad (34)$$

where

$$R'_p = a' (1 - e' \cos E'_p) \quad (35)$$

A vector in the direction of perihelion with magnitude e' is

$$\boldsymbol{\epsilon}' = \frac{\mathbf{V}'_L \times \mathbf{h}'}{GM_S} - \frac{\mathbf{R}_L}{R_L} \quad (36)$$

The heliocentric velocity at the target is

$$\mathbf{V}'_p = \frac{\mathbf{h}'}{p'} \times \left(\frac{\mathbf{R}'_p}{R'_p} + \boldsymbol{\epsilon}' \right) \quad (37)$$

The hyperbolic-excess velocity at the target is

$$\mathbf{V}'_{hp} = \mathbf{V}'_p - \mathbf{V}_2 \quad (38)$$

The difference between the heliocentric position vectors on the perturbed and reference trajectories is

$$\Delta \mathbf{R}'_p = \mathbf{R}'_p - \mathbf{R}_p \quad (39)$$

The impact parameter \mathbf{B} is

$$\mathbf{B} = - \frac{(\Delta \mathbf{R}'_p \cdot \mathbf{V}'_{hp}) \mathbf{V}'_{hp}}{V'^2_{hp}} + \Delta \mathbf{R}'_p$$

The flight time error is

$$\Delta T_F = - \frac{\Delta \mathbf{R}'_p \cdot \mathbf{V}'_{hp}}{V'^2_{hp}} \quad (40)$$

The partial derivatives are formed by dividing $\Delta \Theta_s$, $\Delta \Phi_s$, and ΔC_3 into the miss components $\mathbf{B} \cdot \mathbf{T}$, $\mathbf{B} \cdot \mathbf{R}$, and flight time error ΔT_F . In addition to the component partials, the quantity $\partial B / \partial Q_i$ is defined by

$$\frac{\partial B}{\partial Q_i} = \left[\left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial Q_i} \right)^2 + \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial Q_i} \right)^2 \right]^{1/2} \quad (41)$$

The three partials, $\partial B / \partial \Theta_s$, $\partial B / \partial \Phi_s$, $\partial B / \partial C_3$, are important measures of the error sensitivity of a trajectory.

The effect of uncertainty in the knowledge of the astronomical unit-to-kilometer conversion factor on target miss and flight time may be determined by the following formulae,

$$\begin{aligned} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial au} &= \frac{-2C_3}{au} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial au} &= \frac{-2C_3}{au} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \end{aligned} \quad (42)$$

from whence

$$\frac{\partial B}{\partial au} = \frac{2C_3}{au} \frac{\partial B}{\partial C_3} \quad (43)$$

and

$$\frac{\partial T_F}{\partial au} = \frac{-2C_3}{au} \frac{\partial T_F}{\partial C_3} \quad (44)$$

where au is the astronomical unit-to-kilometer conversion factor.

The effect of solar radiation pressure acting on the probe may also be evaluated as follows: In Eq. (19) let $\Delta \mathbf{V}_{hL} = 0$, but in Eq. (20), (22), (24), (26), (36), vary GM_S by adding an increment ΔGM_S . This procedure gives rise to a varied trajectory from which the impact parameter \mathbf{B} and flight time error ΔT_F may be obtained. The partials $\partial B / \partial GM_S$ and $\partial T_F / \partial GM_S$ may then be calculated. Since the acceleration caused by solar radiation pressure acts opposite to the gravitational attraction of the Sun, radiation pressure has the effect of decreasing the Sun's gravitational attraction, or decreasing GM_S . A decrease, $\Delta GM_S = -1.25 \times 10^6 \text{ km}^3/\text{sec}^2$ corresponds to the solar radiation pressure acting on a 3500-kg spacecraft having a perfectly reflecting area of 22 square meters. Thus the miss, always being a positive number, is obtained by $\Delta B_{sp} = 1.25 \times 10^6 \partial B / \partial GM_S$, and the corresponding flight time error is $\Delta T_{F,sp} = -1.25 \times 10^6 \partial T_F / \partial GM_S$, which is sign sensitive.

D. Mid-Course Execution Accuracy

The effect of mid-course execution errors on target accuracy can be rather simply described if it is assumed that the guidance maneuver is made on the asymptote of the escape hyperbola and that the velocity errors are spherically distributed (that is, the three-dimensional statistical distribution of velocity errors is composed of three orthogonal, independent velocity errors, each with the same variance). The mapping of these errors to the target (Fig. 7) results in a three-dimensional ellipsoid of position errors, which is the "one-sigma ellipsoid." The semiaxes are the respective standard deviations of the position errors. As pointed out above, this ellipsoid can be thought of as the locus of target errors that results from a unit velocity error at the mid-course point tracing out a sphere.

Let the differential corrections discussed above be expressed in matrix form as

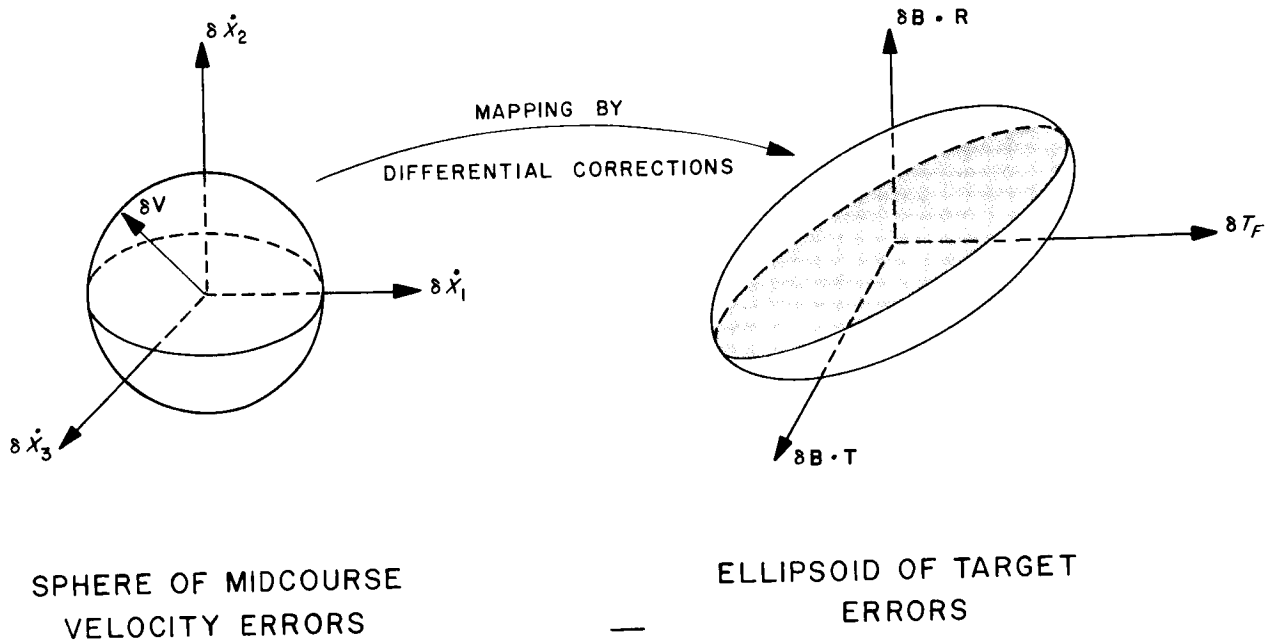


Fig. 7. The mapping of mid-course execution error

$$K = \begin{bmatrix} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \\ \frac{\partial T_F}{\partial \Phi_S} & \frac{\partial T_F}{\partial \Theta_S} & \frac{\partial T_F}{\partial C_3} \end{bmatrix} \quad (45)$$

Now define a Cartesian coordinate system X_1, X_2, X_3 such that

$$\left. \begin{aligned} \delta \dot{X}_1 &= V_{hL} \delta \Phi_S \\ \delta \dot{X}_2 &= -(V_{hL} \cos \Phi_S) \delta \Theta_S \\ \delta \dot{X}_3 &= \delta V_{hL} = \frac{\delta C_3}{2V_{hL}} \end{aligned} \right\} \quad (46)$$

Then a new matrix F can be formed,

$$F = \begin{bmatrix} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_1} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_2} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_1} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_2} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_3} \\ \frac{\partial T_F}{\partial \dot{X}_1} & \frac{\partial T_F}{\partial \dot{X}_2} & \frac{\partial T_F}{\partial \dot{X}_3} \end{bmatrix} \quad (47)$$

where

$$\left. \begin{aligned} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_1} &= \frac{1}{V_{hL}} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_2} &= \frac{-1}{V_{hL} \cos \Phi_S} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \dot{X}_3} &= 2V_{hL} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_1} &= \frac{1}{V_{hL}} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_2} &= \frac{-1}{V_{hL} \cos \Phi_S} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \dot{X}_3} &= 2V_{hL} \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \\ \\ \frac{\partial T_F}{\partial \dot{X}_1} &= \frac{1}{V_{hL}} \frac{\partial T_F}{\partial \Phi_S} \\ \frac{\partial T_F}{\partial \dot{X}_2} &= \frac{-1}{V_{hL} \cos \Phi_S} \frac{\partial T_F}{\partial \Theta_S} \\ \frac{\partial T_F}{\partial \dot{X}_3} &= 2V_{hL} \frac{\partial T_F}{\partial C_3} \end{aligned} \right\} \quad (48)$$

Let the spherical distribution of midcourse velocity errors be described in the X_1, X_2, X_3 system as

$$\text{statistical expectation } \left[\delta \dot{X}_1^2 + \delta \dot{X}_2^2 + \delta \dot{X}_3^2 \right] = 3 \sigma_v^2 \quad (49)$$

where σ_v will be taken equal to 0.1 meters/sec. The resultant one-sigma ellipsoid of target errors is described by the quadratic form,

$$\delta \mathbf{M} \Lambda^{-1} \delta \mathbf{M}^T = 1 \quad (50)$$

where

$$\Lambda = \sigma_v^2 \mathbf{F} \mathbf{F}^T = \begin{bmatrix} \lambda_{11} & \lambda_{12} & \lambda_{13} \\ & \lambda_{22} & \lambda_{23} \\ \text{symmetric} & & \lambda_{33} \end{bmatrix} \quad (51)$$

and

$$\delta \mathbf{M} = (\delta \mathbf{B} \cdot \mathbf{T}, \delta \mathbf{B} \cdot \mathbf{R}, \delta T_F)$$

The elements of the Λ matrix are:

$$\begin{aligned} \lambda_{11} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \right)^2 + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \right)^2 \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \right)^2 \right] \\ \lambda_{12} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \right) \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \right) + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \right) \right. \\ &\quad \left. \times \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \right) + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \right) \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \right) \right] \\ \lambda_{13} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} \right) \left(\frac{\partial T_F}{\partial \Phi_S} \right) + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} \right) \left(\frac{\partial T_F}{\partial \Theta_S} \right) \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \right) \left(\frac{\partial T_F}{\partial C_3} \right) \right] \\ \lambda_{22} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \right)^2 + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \right)^2 \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \right)^2 \right] \\ \lambda_{23} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} \right) \left(\frac{\partial T_F}{\partial \Phi_S} \right) + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} \right) \left(\frac{\partial T_F}{\partial \Theta_S} \right) \right. \\ &\quad \left. + 4C_3 \left(\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \right) \left(\frac{\partial T_F}{\partial C_3} \right) \right] \\ \lambda_{33} &= \sigma_v^2 \left[\frac{1}{C_3} \left(\frac{\partial T_F}{\partial \Phi_S} \right)^2 + \frac{1}{C_3 \cos^2 \Phi_S} \left(\frac{\partial T_F}{\partial \Theta_S} \right)^2 + 4C_3 \left(\frac{\partial T_F}{\partial C_3} \right)^2 \right] \end{aligned} \quad (52)$$

The quantities in the Λ matrix can be interpreted as standard deviations (sigmas) and correlation coefficients (rhos) according to

$$\left. \begin{aligned} \sigma_T &= (\lambda_{11})^{1/2} \\ \sigma_R &= (\lambda_{22})^{1/2} \\ \sigma_F &= (\lambda_{33})^{1/2} \\ \rho_{RT} &= \frac{\lambda_{12}}{(\lambda_{11} \lambda_{22})^{1/2}} \\ \rho_{TF} &= \frac{\lambda_{13}}{(\lambda_{11} \lambda_{33})^{1/2}} \\ \rho_{RF} &= \frac{\lambda_{23}}{(\lambda_{22} \lambda_{33})^{1/2}} \end{aligned} \right\} \quad (53)$$

Then the Λ matrix becomes

$$\Lambda = \begin{bmatrix} \sigma_T^2 & \rho_{RT} \sigma_R \sigma_T & \rho_{TF} \sigma_F \sigma_T \\ & \sigma_R^2 & \rho_{RF} \sigma_R \sigma_F \\ \text{symmetric} & & \sigma_F^2 \end{bmatrix} \quad (54)$$

It is often of interest when describing only miss components to consider

$$\sigma_B = (\sigma_R^2 + \sigma_T^2)^{1/2} \quad (55)$$

and to diagonalize the upper 2×2 portion of the Λ (the miss component elements) to get

$$\Lambda^* = \mathbf{L} \Lambda \mathbf{L}^T = \begin{bmatrix} \sigma_1^2 & 0 & \rho_{13} \sigma_1 \sigma_3 \\ & \sigma_2^2 & \rho_{23} \sigma_2 \sigma_3 \\ \text{symmetric} & & \sigma_3^2 \end{bmatrix} \quad (56)$$

where the matrix \mathbf{L} is given by

$$L = \begin{bmatrix} \cos \theta & \sin \theta & 0 \\ -\sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix} \quad (57)$$

The angle θ is positive when turned counterclockwise from the **T** axis, and has been chosen such that $\sigma_1 \geq \sigma_2$. This is accomplished by

$$\theta = \frac{1}{2} \tan^{-1} \left[\frac{2\rho_{RT}}{\left(\frac{\sigma_T}{\sigma_R}\right) - \left(\frac{\sigma_R}{\sigma_T}\right)} \right] \quad (58)$$

where θ is in first quadrant if ρ_{RT} is positive and θ is in second quadrant if ρ_{RT} is negative. Notice that $\sigma_3 = \sigma_F$. The two-dimensional error ellipse described by σ_1, σ_2 , and θ is the projection of all points of the three-dimensional ellipsoid of position errors (discussed in Section IIE) onto the **T-R** plane, as shown in Fig. 8.

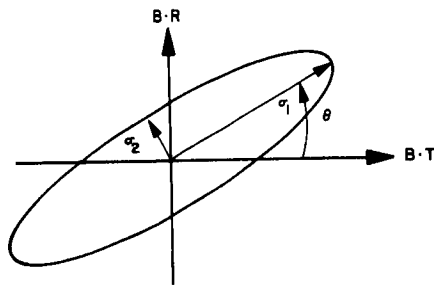


Fig. 8. Projection of three-dimensional error ellipsoid on the **T-R** plane

E. Orbit Determination Accuracy

In this section the analytic model used for describing orbit determination accuracy (tracking error) for interplanetary trajectories is discussed, and the factors upon which the tracking error depends are reviewed. The dominant error sources are defined for the easterly launchings from Cape Kennedy using tracking coverage supplied by NASA's Deep Space Instrumentation Facility (DSIF). Probable generalization to other situations is suggested. Finally, the method of describing target errors is presented along with all formulae relating the tracking errors to the target error parameters chosen.

1. Method of Describing Orbit Determination Accuracy

As discussed in Section IID, the uncertainties in our knowledge of an interplanetary trajectory are well described in terms of the direction and magnitude of the geocentric hyperbolic-excess velocity vector, V_{hL} . Figure 9 defines the right-handed Cartesian coordinate system we have adopted for describing uncertainties in V_{hL} . The X_3 axis is along V_{hL} ; the X_1 axis is in the direction of a positive differential change in asymptote declination Φ_S ; and the X_2 axis completes the system.

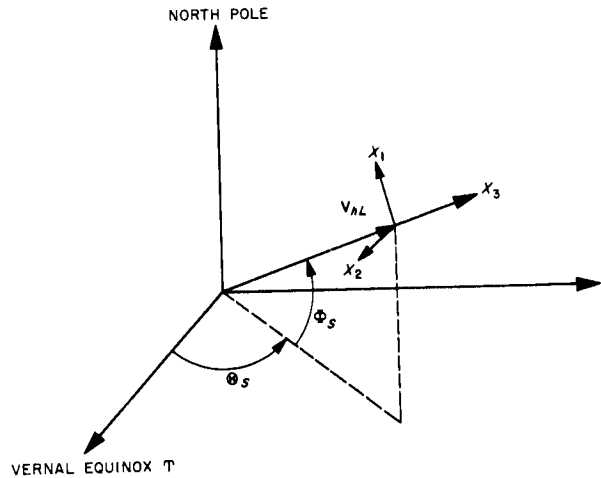


Fig. 9. Orientation of the X_i Cartesian coordinate system to describe uncertainties in the hyperbolic-excess velocity vector V_{hL}

Let $\dot{\mathbf{X}}$ represent the vector of velocity errors in the X_i system just described; $\dot{\mathbf{X}} = (\delta\dot{X}_1, \delta\dot{X}_2, \delta\dot{X}_3)^T$, where T indicates the transpose. The average of any function of $\dot{\mathbf{X}}$, $f(\dot{\mathbf{X}})$, over an ensemble of randomly generated tracking runs may assist in describing our statistical knowledge of $\dot{\mathbf{X}}$ based on tracking noise, station location, and physical constant uncertainties. The ensemble average is usually written $Ef(\dot{\mathbf{X}})$ or as $f(\dot{\mathbf{X}})$. When $\dot{\mathbf{X}}$ has a Gaussian (normal) probability density function, the distribution can be described completely by specifying $E\dot{\mathbf{X}}$ and $E[(\dot{\mathbf{X}} - \dot{\mathbf{X}})(\dot{\mathbf{X}} - \dot{\mathbf{X}})^T]$, the mean and covariance of $\dot{\mathbf{X}}$, respectively.

When all parameters influencing our knowledge of $\dot{\mathbf{X}}$ have been considered, $E\dot{\mathbf{X}}$ should be zero and then the description of our uncertainties in $\dot{\mathbf{X}}$ can be adequately given by Covar $\dot{\mathbf{X}}$, defined above. For convenience, the symbol $\Delta_{\dot{\mathbf{X}}}$, for Covar $\dot{\mathbf{X}}$, is introduced.

$$\Delta_{\dot{\mathbf{X}}} = \text{Covar } \dot{\mathbf{X}} = E \left[(\dot{\mathbf{X}} - \dot{\mathbf{X}})(\dot{\mathbf{X}} - \dot{\mathbf{X}})^T \right] \quad (59)$$

Note that

$$\Lambda_{\dot{\mathbf{x}}} = \begin{pmatrix} \overbrace{\delta\dot{\mathbf{x}}_1, \delta\dot{\mathbf{x}}_1} & \overbrace{\delta\dot{\mathbf{x}}_1, \delta\dot{\mathbf{x}}_2} & \overbrace{\delta\dot{\mathbf{x}}_1, \delta\dot{\mathbf{x}}_3} \\ \overbrace{\delta\dot{\mathbf{x}}_2, \delta\dot{\mathbf{x}}_1} & \overbrace{\delta\dot{\mathbf{x}}_2, \delta\dot{\mathbf{x}}_2} & \overbrace{\delta\dot{\mathbf{x}}_2, \delta\dot{\mathbf{x}}_3} \\ \overbrace{\delta\dot{\mathbf{x}}_3, \delta\dot{\mathbf{x}}_1} & \overbrace{\delta\dot{\mathbf{x}}_3, \delta\dot{\mathbf{x}}_2} & \overbrace{\delta\dot{\mathbf{x}}_3, \delta\dot{\mathbf{x}}_3} \end{pmatrix} \quad (60)$$

is a 3×3 real symmetric matrix. The diagonal terms are the variances of the three components, and the off-diagonal terms measure the correlation between the three components.

Before describing how $\Lambda_{\dot{\mathbf{x}}}$ has been "mapped" into target error uncertainties, a discussion is given of the dependence of $\Lambda_{\dot{\mathbf{x}}}$ upon the relevant factors describing near-Earth tracking as well as the typical errors assumed in preparing the estimates given in this report.

2. Accuracy of Near-Earth Tracking

By expressing the accuracy of near-Earth tracking in terms of $\dot{\mathbf{x}}$ and its associated covariance $\Lambda_{\dot{\mathbf{x}}}$, the dependence upon almost all trajectory parameters has been eliminated. The remaining relevant trajectory parameters are listed in Table 1.

Table 1. Trajectory parameters influencing tracking accuracy

1. Launch site	
2. Launch azimuth Σ_L	Depends on launch time.
3. Injection region	Depends on time in parking orbit; short or long coast less than 1 revolution is current practice.
4. Declination of \mathbf{V}_{HL} , Φ_s	Depends on target position at arrival date and injection energy, C_s .
5. Magnitude of $\mathbf{V}_{HL} = V_{HL} = (C_s)^{1/2}$	

Note the limited number of trajectory parameters on which $\Lambda_{\dot{\mathbf{x}}}$ depends. Table 2 summarizes the key tracking station parameters which influence accuracy in the geocentric tracking phase.

The first three factors listed in Table 2 define the tracking configuration, whereas the last three are station performance factors. Usually, tracking accuracy studies are carried out with the tracking configuration relatively fixed, and the influence of the station performance factors are determined.

The final source of tracking error is uncertainty in physical constants. The influence of GM-Earth errors is somewhat smaller than the above-mentioned errors and should be reduced to negligible contribution in the next two

Table 2. Tracking station parameters influencing tracking accuracy

1. Station locations	A spread of latitudes is very desirable.
2. Total tracking time	
3. Tracking data types	Range R , range rate \dot{R} , and angles are most commonly taken.
4. Delay in acquiring first data	Delay is measured from the injection region as well as station acquisition delays.
5. Tracking data accuracies	Expressed in terms of equivalent uncorrelated noise at a given sampling rate.
6. Uncertainty in tracking	Important when high data accuracies are available. Longitude errors usually are most important.

years. Sections IIC and IIIC describe how the uncertainty in the astronomical unit affects the target error; this error can be important for very long flights, but should also be reduced to a negligible contribution in the next two years. Errors in the target's mass cause minor variations in flight time T_F and negligible effect on \mathbf{B} . The last important target error source currently recognized is the uncertainty in the effect of the standard solar radiation pressure on spacecraft trajectory. The source of uncertainty is that effective reflecting area (largely solar panels) is not perfectly known. Techniques for the accurate measurement of this quantity are currently under development. Our studies show that unless this error is held below 5% it will be the dominant error source on many of our flights. Sections IIC and IIIC describe the calculation of the standard solar radiation pressure on a typical spacecraft deriving electrical power from the Sun.

The tracking accuracies reported here are representative of those foreseen for the 1971 time period. Range rate data were taken from the DSIF stations in South Africa, Australia, and the United States. The measurements were assigned standard deviations at 0.001 meters/sec, corresponding to a 60-sec sample rate. Station location uncertainties were assumed to be uncorrelated, with standard deviations of 0.001 deg in latitude, 0.0005 deg in longitude, and 30 meters in geocentric radius. Simultaneous tracking by more than one station was not allowed. The uncertainties quoted are those to be expected in the absence of other error sources, notably solar pressure and astronomical unit uncertainties.

The $\Lambda_{\dot{\mathbf{x}}}$ matrix used in these calculations was assumed to be independent of the trajectory parameters listed in Table 1. This approximation is good for the range of energies and asymptotic declinations considered to be

most feasible. In the future these approximations will be refined as necessary. The $\Lambda_{\dot{\mathbf{x}}}$ used for orbit determination accuracy in this report is given in Section III E. The target accuracies calculated here are typical for any reasonable multistation tracking configuration, with the data types and accuracies corresponding to this conservative representation of DSIF capabilities.

3. Calculation of Target Errors

The representation of tracking accuracy in the geocentric phase in terms of $\Lambda_{\dot{\mathbf{x}}}$, the covariance of the \mathbf{V}_{hL} in a particular rectangular coordinate system, was developed earlier in this section. In order to express the effect of these uncertainties in \mathbf{V}_{hL} in terms of target error, two mappings must be performed. First, a set of coordinates \mathbf{M}_1 at the target planet for expressing the errors (\mathbf{M}_1 cannot exceed 3 dimensions) must be chosen. (A convenient set with desirable linearity properties is the T-R-S system defined previously.) The matrix U_1 , which maps $\dot{\mathbf{x}}$ to the desired \mathbf{M}_1 , is then determined.

$$\mathbf{M}_1 = U_1 \dot{\mathbf{x}} = \begin{pmatrix} \delta \mathbf{B} \cdot \mathbf{T} \\ \delta \mathbf{B} \cdot \mathbf{R} \\ \delta S \end{pmatrix} \quad (61)$$

The covariance of \mathbf{M}_1 is given by

$$\text{Covar} [\mathbf{M}_1] = \overline{\mathbf{M}_1 \mathbf{M}_1^T} = U_1 \Lambda_{\dot{\mathbf{x}}} U_1^T = \Lambda_{\mathbf{M}_1} \quad (62)$$

The determination of U_1 for the coordinates chosen follows the lines of Section IID. It is presumed that the K-matrix is given, where

$$K = \begin{bmatrix} \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3} \\ \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_S} & \frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3} \\ \frac{\partial T_F}{\partial \Phi_S} & \frac{\partial T_F}{\partial \Theta_S} & \frac{\partial T_F}{\partial C_3} \end{bmatrix} \quad (45)$$

By postmultiplying K by

$$A = \begin{bmatrix} \frac{1}{V_{hL}} & 0 & 0 \\ 0 & \frac{-1}{V_{hL} \cos \Phi_S} & 0 \\ 0 & 0 & 2V_{hL} \end{bmatrix} \quad (63)$$

the F matrix is obtained.

$$F = KA \quad (47)$$

The F matrix must now be adjusted to transform into the T-R-S coordinates used for \mathbf{M}_1 . This transformation B is simply

$$B = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -V_{hp} \end{bmatrix} \quad (64)$$

since $\delta S = -V_{hp} \delta T_L$. Thus our U_1 matrix is given by

$$U_1 = B(KA) = BF \quad (65)$$

Now the mapping given in Eq. (62) to obtain $\Lambda_{\mathbf{M}_1}$ is applied. Since all of the coordinates of \mathbf{M}_1 have the same dimensions (length squared), the one-sigma ellipsoid described by the quadratic form

$$\delta \mathbf{M}_1 \Lambda_{\mathbf{M}_1}^{-1} \delta \mathbf{M}_1^T = 1 \quad (66)$$

has physical significance. The three principal axes of this ellipsoid are the square roots of the 3-eigenvalues of the $\Lambda_{\mathbf{M}_1}$ matrix. The formulas used are standard and are not reproduced here. The projection of the three-dimensional ellipsoid on to the T-R plane is an ellipse. Its major and minor semiaxes and orientation of the major axis are calculated by the same procedure used in Section IID. It is often convenient to write $\Lambda_{\mathbf{M}_1}$ in an alternate form:

$$\Lambda_{\mathbf{M}_1} = \begin{bmatrix} \sigma_T^2 & \rho_{RT} \sigma_T \sigma_R & \rho_{TS} \sigma_T \sigma_S \\ \rho_{RT} \sigma_R \sigma_T & \sigma_R^2 & \rho_{RS} \sigma_R \sigma_S \\ \rho_{TS} \sigma_S \sigma_T & \rho_{RS} \sigma_S \sigma_R & \sigma_S^2 \end{bmatrix} \quad (67)$$

It can be seen that $\Lambda_{\mathbf{M}_1}$ is completely described by σ_T , σ_R , σ_S , ρ_{TS} , ρ_{RS} , ρ_{TR} , because of its symmetry.

III. EXPLANATION OF TRAJECTORY TABLES

Tabular listings of pertinent quantities of the heliocentric and planetocentric trajectories, differential corrections, guidance, and orbit determination parameters are given at 1-day launch date intervals and 2-day flight time intervals over the selected launch period. The launch period is selected to encompass the minimum energy transfer dates obtained from Ref. 7 and 8. A summary of the characteristics of these trajectories is given in Ref. 7.

Each trajectory begins with a header giving launch date, flight time (in days), and arrival date. All the heliocentric transfer trajectories are calculated assuming launch into the heliocentric orbit at 0 hours of the launch date and arrival at 0 hours of the arrival date. Later, however, when the launch-planet ascent trajectories are computed, the actual launch times during the launch day for each launch azimuth are given.

Each page lists four trajectories, each of which is divided into five basic print groups: HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Each quantity is assigned an identifying alphabetic symbol of no more than three letters. The definitions of the symbols and quantities they represent are given below. All pertinent quantities are referenced to the mean equinox and equator, or ecliptic, of *launch* date.

A. Heliocentric Conic Group

The HELIOCENTRIC CONIC group gives the characteristics of the heliocentric transfer ellipse, such as the position and velocity vectors at launch and arrival, some orbital elements, and other quantities of engineering interest. The printout array is as follows:

```

HELIOCENTRIC CONIC          DISTANCE
RL LAL LOL VL  GAL AZL HCA SMA ECC INC V1
RP LAP LOP VP  GAP AZP TAL TAP RCA APO V2
RCGL GP  ZAL ZAP ETS ZAE ETE ZAC ETC LVI
    
```

After the words HELIOCENTRIC CONIC, the heliocentric arc DISTANCE traveled by the spacecraft from launch to arrival is printed. The quantities are defined as follows (all angles are in deg; distances are in millions of km; speeds are in km/sec):

- Line 1
- RL, $R_L = |\mathbf{R}_L|$ the heliocentric radius of the launch planet at 0 hours of the launch date.
 - LAL, β_L the celestial latitude of the launch planet at 0 hours of the launch date.
 - LOL, λ_L the celestial longitude of the launch planet at 0 hours of the launch date.
 - VL, $V_L = |\mathbf{V}_L|$ the heliocentric speed of the probe at 0 hours of the launch date.
 - GAL, Γ_L the path angle of the probe at 0 hours of the launch date, i.e., the complement of the angle between the position and velocity vectors, \mathbf{R}_L and \mathbf{V}_L , defined by

$$\sin \Gamma_L = \frac{\mathbf{R}_L \cdot \mathbf{V}_L}{R_L V_L} \quad -\frac{\pi}{2} \leq \Gamma_L \leq \frac{\pi}{2}$$

- AZL, Σ_L the azimuth angle of the probe at 0 hours of the launch date, i.e., the angle, measured in a plane perpendicular to the radius vector \mathbf{R}_L , between the projection of the ecliptic north and the projection of the velocity vector \mathbf{V}_L on the plane perpendicular to \mathbf{R}_L , defined by

$$\cos \Sigma_L = \frac{\mathbf{V}_L \cdot \Psi^1}{V_L \cos \Gamma_L} \quad 0 \leq \Sigma_L \leq 2\pi$$

$$\sin \Sigma_L = \frac{(\mathbf{R}_L \times \mathbf{V}_L) \cdot \Psi^1}{|\mathbf{R}_L \times \mathbf{V}_L|}$$

where $\Psi^1 = (\mathbf{K}' - \mathbf{R}_L^1 \sin \beta_L) \sec \beta_L$, where the superscript 1 denotes a unit vector.

- HCA, ψ the heliocentric central angle, or angle between the position vector \mathbf{R}_L , of the launch planet at 0 hours of the launch date and the position vector \mathbf{R}_p , of the target planet at 0 hours of the arrival date. This angle is defined by Eq. (3) and (4) and illustrated in Fig. 1.
- SMA, a the semimajor axis of the heliocentric transfer ellipse.

ECC, e the eccentricity of the heliocentric transfer ellipse.

INC, i the inclination of the heliocentric transfer ellipse.

V1, $V_1 = |V_1|$ the heliocentric speed of the launch planet at 0 hours of the launch date.

Line 2

RP, $R_p = |R_p|$ the heliocentric radius of the target planet at 0 hours of the arrival date.

LAP, β_p the celestial latitude of the target planet at 0 hours of the arrival date.

LOP, λ_p the celestial longitude of the target planet at 0 hours of the arrival date.

VP, $V_p = |V_p|$ the heliocentric speed of the probe at 0 hours of the arrival date.

GAP, Γ_p the path angle of the probe at 0 hours of the arrival date, defined the same as Γ_L except that R_p and V_p are substituted for R_L and V_L .

AZP, Σ_p the azimuth angle of the probe at 0 hours of the arrival date, defined the same as Σ_L except that R_p and V_p are substituted for R_L and V_L .

TAL, v_L the true anomaly of the probe in the heliocentric transfer ellipse at 0 hours of the launch date.

TAP, v_p the true anomaly of the probe in the heliocentric transfer ellipse at 0 hours of the arrival date.

RCA, R_{cA} the perihelion distance of the heliocentric transfer ellipse. This distance is printed even though the probe may not transit perihelion.

APO, R_A the aphelion distance of the heliocentric transfer ellipse. This distance is printed even though the probe may not transit aphelion.

V2, $V_2 = |V_2|$ the heliocentric speed of the target planet at 0 hours of the arrival date.

Line 3

RC, R_c the communication distance, or distance between the launch and target planets at 0 hours of the arrival date.

GL, γ_L

the angle between the launch hyperbolic-excess velocity vector V_{hL} and its projection on the orbital plane of the launch planet, defined by

$$\sin \gamma_L = \frac{W_1 \cdot V_{hL}}{V_{hL}} \quad -\frac{\pi}{2} \leq \gamma_L \leq \frac{\pi}{2}$$

where W_1 is a unit normal to the launch planet's orbital plane. This angle is useful in describing the direction in which the probe leaves the launch planet.

GP, γ_p

the angle between the incoming arrival hyperbolic-excess velocity vector V_{hp} , and its projection on the target planet's orbital plane, defined by

$$\sin \gamma_p = \frac{W_2 \cdot V_{hp}}{V_{hp}} \quad -\frac{\pi}{2} \leq \gamma_p \leq \frac{\pi}{2}$$

where W_2 is a unit normal to the target planet's orbital plane. This angle is useful in determining whether the probe is approaching from above or below the target planet. If γ_p is positive, the probe approaches from below—if negative, from above.

ZAL, ζ_L

the angle between the outgoing launch asymptote (or hyperbolic-excess velocity vector) and the launch heliocentric radius vector R_L at launch time. This parameter is a good approximation to the launch-planet-probe-Sun angle as the probe leaves the launch planet. It is an important quantity in the design of attitude control systems which use the Sun and launch planet as optical references. The quantity ζ_L is defined as

$$\cos \zeta_L = \frac{V_{hL} \cdot R_L^1}{V_{hL}} \quad 0 \leq \zeta_L \leq \pi$$

The next six quantities, all angles, have the same general definition. They are important in the design of the near-target trajectory and are used in determining the aiming point for interplanetary flyby trajectories. Consider the target-centered geometry of Fig. 10.

In this diagram, the reference coordinate system is the same target R, S, T system defined in Section IIC. A unit

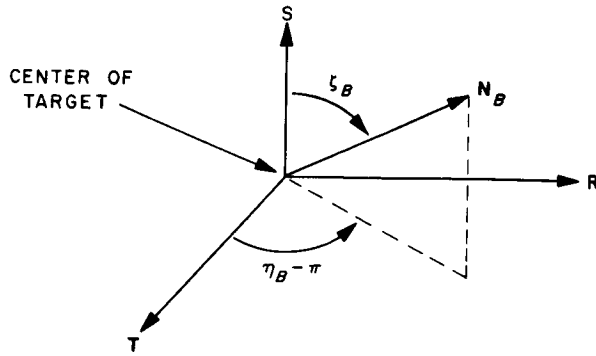


Fig. 10. Generalized geometry for aiming point angles

vector N_B (subscript B for body) is directed from the target center to another celestial body. The angular quantity ζ_B is the angle subtended at the target center between the incoming asymptote S and the target-celestial body line N_B . Thus

$$\cos \zeta_B = S \cdot N_B = \frac{V_{hp} \cdot N_B}{V_{hp}} \quad 0 \leq \zeta_B \leq \pi$$

since

$$S = \frac{V_{hp}}{V_{hp}}$$

The angle η_B is the supplement of the angle between the T direction and the projection of N_B on the $R - T$ plane, defined by

$$\sin \eta_B = \frac{-R \cdot N_B}{\sin \zeta_B} \quad 0 \leq \eta_B \leq 2\pi$$

$$\cos \eta_B = \frac{-T \cdot N_B}{\sin \zeta_B}$$

These quantities are computed for three celestial bodies: the Sun (ζ_s and η_s), the Earth (ζ_E and η_E), and the star Canopus (ζ_c and η_c). Thus,

ZAP, ζ_s (or ζ_p) This angle is useful in that it indicates the direction of the probe's approach to the target. If $\zeta_s < \pi/2$, the probe approaches from the target planet's dark side. If $\zeta_s > \pi/2$, it approaches from the light side. Thus the parameter is equivalent to the Sun-probe-target angle a few days before encounter.

ETS, η_s defined as above.

ZAE, ζ_E This angle is useful in locating the Earth as the probe approaches the target. The parameter is equivalent to the

Earth-probe-target angle a few days before encounter.

ETE, η_E defined as above.

ZAC, ζ_c the Canopus-probe-target angle a few days before encounter.

ETC, η_c defined as above.

LVI, Φ_I the declination (latitude) of the vertical impact point referenced to the target planet's equator. The vertical impact point is that point on the surface of the target planet that the incoming asymptote would intersect if it were to pass through the center of the planet. This quantity is defined by

$$\begin{aligned} \sin \Phi_I = & -(\cos \Theta_{sp} \cos \Phi_{sp} \cos \Theta_p \cos \Phi_p \\ & + \sin \Theta_{sp} \cos \Phi_{sp} \sin \Theta_p \cos \Phi_p \\ & + \sin \Phi_{sp} \sin \Phi_p) \end{aligned}$$

where Θ_p and Φ_p are the Earth equatorial right ascension and declination of the Mars north pole, and Θ_{sp} and Φ_{sp} are the right ascension and declination of the incoming asymptote with respect to the Earth's equator (Fig. 11).

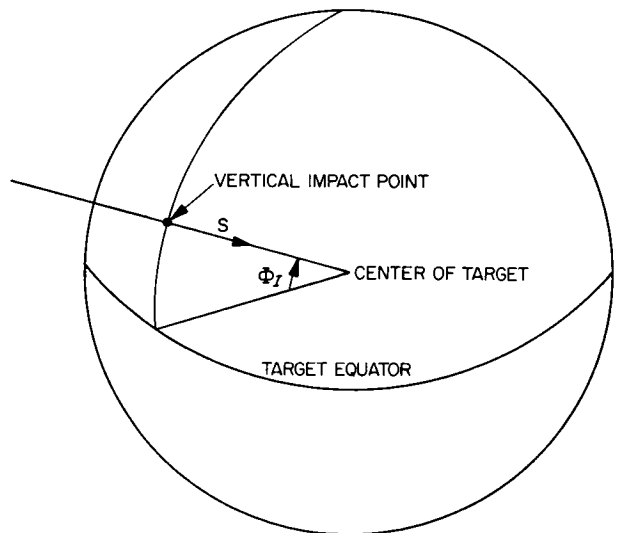


Fig. 11. Vertical impact point geometry

¹ Because of its importance in trajectory studies, the parameter LVI has been substituted in place of CLP, which was given in previous volumes.

B. Planetocentric Conic Group

The second group, PLANETOCENTRIC CONIC, gives the characteristics of primarily the launch-planet ascent trajectories, but also includes the hyperbolic-excess vector at the target. Injection conditions are given for seven launch azimuths, assuming only short coast time parking orbits. As explained in Ref. 6, there may be two launch times per day for each launch azimuth, resulting in a short and long parking orbit. The injection conditions for each set are given in geocentric space-fixed spherical coordinates and, by assuming a 100-nm parking orbit altitude and typical boost vehicle trajectory characteristics, the longitude of injection is calculated, along with the latitude and longitude of ignition of final burn out of the parking orbit.

A special case may arise when the declination of the outgoing asymptote of the escape hyperbola is greater than the launch site latitude (Cape Kennedy). In this case, owing to geometrical restrictions, it may not be possible to fire in a symmetrical band of azimuths about due east, as explained in Ref. 6. This band of restricted azimuths may eliminate part or all of the selected launch azimuth band 50 to 110 deg. When this happens, only those trajectories with permissible azimuths are printed, in addition to the limiting azimuths, or the most northerly and southerly azimuths, that are possible.

The ascent trajectory profile is as shown in Fig. 12. Its characteristics are defined as follows:

- Φ_1 the arc subtended at Earth's center during ascent from launch into parking orbit.
- t_1 the time from launch to parking-orbit injection.
- Φ_2 the arc subtended at Earth's center during final burn out of the parking orbit, to injection.
- t_2 the time of final burn.
- $k_{\dot{\phi}}$ the inverse parking orbital rate, equal to $1/\dot{\phi}_c$.
- v_1 the true anomaly in the hyperbolic orbit at injection.
- R_p the perifocal distance of the escape hyperbola, taken equal to the Earth-centered radius of the parking orbit.

- ϕ_L the longitude of the launch site.
- θ_L the latitude of the launch site.

The values of these quantities for all trajectories contained herein are:

- $\Phi_1 = 23$ deg
- $t_1 = 700$ sec
- $\Phi_2 = 25$ deg
- $t_2 = 300$ sec
- $k_{\dot{\phi}} = 14.689$ sec/deg
- $v_1 = 12$ deg
- $R_p = 6560$ km
- $\phi_L = 28.28$ deg
- $\theta_L = 279.5$ deg

An inherent assumption here is that these quantities are relatively invariant with injection energy. This is a reasonable assumption and will affect the injection coordinates only slightly.

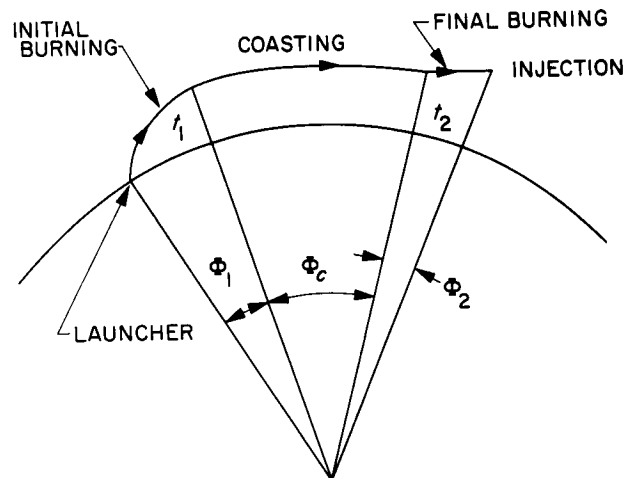


Fig. 12. Ascent trajectory profile

The print array for the PLANETOCENTRIC CONIC group is:

C3	VHL	DLA	RAL	RAD	VEL	PTH	VHP	DPA	RAP	ECC
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG

The quantities are defined as follows (all angles are in deg; distances are in km; speeds are in km/sec, launch-injection (L-I)time and parking orbit coast time (PO CST TIM) are in sec; launch time and injection time are in hr, min, and sec, GMT):

Line 1

- C3, C_3 the *vis viva* integral (Moulton), or twice the total energy per unit mass, expressed in km^2/sec^2 and defined by $C_3 = V_{hL}^2$.
- VHL, V_{hL} the launch hyperbolic-excess speed.
- DLA, Φ_s the declination of the outgoing asymptote of the escape hyperbola defined in Eq. (18).
- RAL, Θ_s the right ascension of the outgoing asymptote of the escape hyperbola defined in Eq. (18).
- RAD, $R = |\mathbf{R}|$ the launch-planet-centered injection radius.
- VEL, $V = |\mathbf{V}|$ the inertial injection speed.
- PTH, Γ the injection path angle defined by

$$\sin \Gamma = \frac{\mathbf{V} \cdot \mathbf{R}}{VR} \quad -\frac{\pi}{2} \leq \Gamma \leq \frac{\pi}{2}$$
- VHP, V_{hp} the hyperbolic-excess speed at the target.
- DPA, Φ_{sp} the declination of the incoming asymptote at the target. The reference coordinate system here is vernal equinox, Earth equatorial, mean of *launch* date
- RAP, Θ_{sp} the right ascension of the incoming asymptote at the target. Same reference coordinates as for Φ_{sp} .
- ECC, e the eccentricity of the escape hyperbola.

Line 2

- LNCH AZMTH, Σ_L the launch azimuth measured in a plane tangent to the surface of the launch planet at the launch site, positive east of true north.
- LNCH TIME, T_L the launch time. For the range of launch azimuths given herein, launch time may cross 0 hours,

or midnight. In this case, the launch date may be advanced to the following day for times after midnight, or it may be retarded to the previous day for times before midnight, whichever the reader wishes.

- L-I TIME, t_{LI} the launch-to-injection time.
- INJ LAT, ϕ the injection latitude (or declination Φ).
- INJ LONG, θ the injection longitude, measured positive east of Greenwich, $0 \leq \theta \leq 2\pi$.
- INJ RT ASC, Θ the injection right ascension.
- INJ AZMTH, Σ the injection azimuth, or angle between the projection of the velocity vector \mathbf{V} , on the local horizontal plane and the projection of true north on this plane, measured positive east of true north.
- INJ TIME, T_I the injection time. The same comment applies to this quantity regarding launch date as applied to the launch time. However, both times must be consistent. For example, if launch time is on the previous day, injection time may fall on the launch date shown, or it may be on the following day.
- PO CST TIM, t_c the coast time in the parking orbit, in sec.
- INJ 2 LAT, ϕ_2 the latitude of the start of final burn out of the parking orbit.
- INJ 2 LONG, θ_2 the longitude of the start of final burn out of the parking orbit, $0 \leq \theta_2 \leq 2\pi$.

The quantities $T_I, R, \phi, \Theta, V, \Gamma, \Sigma$ form a consistent set of injection conditions; i.e., they are the time and the space-fixed spherical coordinates which can be used to initialize an integrating trajectory program.

C. Differential Corrections Group

The DIFFERENTIAL CORRECTIONS group is comprised of sixteen error coefficients relating variations in

injection energy C_3 , declination Φ_s , and right ascension Θ_s , of the outgoing asymptote of the escape hyperbola, the astronomical unit, and solar radiation pressure to variations in the miss components $\mathbf{B} \cdot \mathbf{T}$, $\mathbf{B} \cdot \mathbf{R}$, and the flight time. These coefficients are very useful in gaging the error sensitivity of an interplanetary trajectory. The printout array for this group is as follows:

DIFFERENTIAL CORRECTIONS

TDE	TRA	TC3	BAU
RDE	RRA	RC3	FAU
FDE	FRA	FC3	BSP
BDE	BRA	BC3	FSP

The symbols are defined as follows:

Line 1

- TDE, $\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Phi_s}$ the partial derivative of the T component of the impact parameter \mathbf{B} , with respect to the declination of the launch escape asymptote Φ_s , in megakilometers/deg.
- TRA, $\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial \Theta_s}$ the partial derivative of the T component of the impact parameter \mathbf{B} , with respect to the right ascension of the launch escape asymptote Θ_s , in megakilometers/deg.
- TC3, $\frac{\partial \mathbf{B} \cdot \mathbf{T}}{\partial C_3}$ the partial derivative of the T component of the impact parameter \mathbf{B} , with respect to the injection energy C_3 , in megakilometers/km²/sec².
- BAU, $\frac{\partial \mathbf{B}}{\partial au}$ the partial derivative of the magnitude of the impact parameter \mathbf{B} , with respect to the astronomical unit-to-kilometer conversion factor. This derivative is dimensionless and indicates the target miss caused by an uncertainty in the value of the astronomical unit.

Line 2

- RDE, $\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Phi_s}$ the partial derivative of the R component of the impact parameter \mathbf{B} , with respect to the declination of the launch escape asymptote Φ_s , in megakilometers/deg.
- RRA, $\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial \Theta_s}$ the partial derivative of the R component of the impact parameter \mathbf{B} , with respect to the right ascension of the launch

escape asymptote Θ_s , in megakilometers/deg.

- RC3, $\frac{\partial \mathbf{B} \cdot \mathbf{R}}{\partial C_3}$ the partial derivative of the R component of the impact parameter \mathbf{B} , with respect to the injection energy C_3 , in megakilometers/km²/sec².

- FAU, $\frac{\partial T_F}{\partial au}$ the partial derivative of the flight time T_F , with respect to the astronomical unit-to-kilometer conversion factor. This derivative has dimensions of sec/km and indicates the error in flight time caused by an uncertainty in the value of the astronomical unit.

Line 3

- FDE, $\frac{\partial T_F}{\partial \Phi_s}$ the partial derivative of flight time T_F , with respect to the declination of the launch escape asymptote Φ_s , in days/deg.
- FRA, $\frac{\partial T_F}{\partial \Theta_s}$ the partial derivative of flight time T_F , with respect to the right ascension of the launch escape asymptote Θ_s , in days/deg.
- FC3, $\frac{\partial T_F}{\partial C_3}$ the partial derivative of flight time T_F , with respect to the injection energy C_3 , in days/km²/sec².
- BSP, ΔB_{sp} the target miss (in km) caused by solar radiation pressure acting on a 3500-kg spacecraft having an effective perfectly reflecting area of 22 square meters.

Line 4

- BDE, $\frac{\partial \mathbf{B}}{\partial \Phi_s}$ the partial derivative of the magnitude of the impact parameter \mathbf{B} , with respect to the declination of the launch escape asymptote Φ_s , in megakilometers/deg.
- BRA, $\frac{\partial \mathbf{B}}{\partial \Theta_s}$ the partial derivative of the magnitude of the impact parameter \mathbf{B} , with respect to the right ascension of the launch escape asymptote Θ_s , in megakilometers/deg.
- BC3, $\frac{\partial \mathbf{B}}{\partial C_3}$ the partial derivative of the magnitude of the impact parameter \mathbf{B} , with respect to the injection energy C_3 , in megakilometers/km²/sec².
- FSP, $\Delta T_{F,sp}$ the flight time error (in sec) caused by solar radiation pressure acting on a 3500-kg spacecraft having an effective perfectly reflecting area of 22 square meters.

D. Mid-Course Execution Accuracy Group

The MID-COURSE EXECUTION ACCURACY group gives the parameters of the "one-sigma" three-dimensional ellipsoid of target errors, resulting from a spherically distributed mid-course guidance execution error with σ_v equal to 0.1 m/sec (see Eq. 49). It is assumed here that a single mid-course guidance maneuver is applied during the time the spacecraft is essentially traveling radially outward from the launch planet. This time is approximately from several hours to several days after launch and is a practical period in which to perform a mid-course maneuver. These quantities are quoted in the useful R, S, T coordinate system discussed above.

The print array for this group is:

MID-COURSE EXECUTION ACCURACY

SGT	SGR	SG3
RRT	RRF	RTF
SCB	R23	R13
SG1	SG2	THA

The quantities are defined as follows:

Line 1

- SGT, σ_T the standard deviation of position errors along the T axis, in km.
- SGR, σ_R the standard deviation of position errors along the R axis, in km.
- SG3, σ_3 the standard deviation of flight time errors, in sec.

Line 2

- RRT, ρ_{RT} the linear correlation coefficient relating position errors in the R and T directions (dimensionless).
- RRF, ρ_{RF} the linear correlation coefficient relating position errors in the R direction and flight-time errors (dimensionless).
- RTF, ρ_{TF} the linear correlation coefficient relating position errors in the T direction and flight-time errors (dimensionless).

Line 3

- SCB, σ_B the square root of the sum of the squares of σ_R and σ_T .

- R23, ρ_{23} the linear correlation coefficient of σ_2 and σ_3 ($= \sigma_F$). The same remarks apply to this number as to ρ_{13} , except that the σ_2 direction replaces the σ_1 direction.

- R13, ρ_{13} the linear correlation coefficient relating σ_1 and σ_3 ($= \sigma_F$). This number statistically relates position errors in the σ_1 direction to flight time errors. If $\rho_{13} = 1$, then a position error in the σ_1 direction will always be accompanied by a flight-time error which is linearly related to that position error; ρ_{13} is dimensionless.

Line 4

- SG1, σ_1 the semimajor axis of the error ellipse formed by projecting the three-dimensional error ellipsoid onto the T-R plane (Fig. 8), in km.
- SG2, σ_2 the semiminor axis of this error ellipse (Fig. 8), in km.
- THA, θ the angle between the T axis and the direction of the σ_1 axis, measured in the T-R plane as shown in Fig. 8, in deg.

E. Orbit Determination Accuracy Group

The ORBIT DETERMINATION ACCURACY group is comprised of 12 numbers which describe the uncertainty in target coordinates due to tracking errors described in Section IIE. The printout array for this group is as follows:

ORBIT DETERMINATION ACCURACY

ST	SR	SS
CRT	CRS	CST
LSA	MSA	SSA
EL1	EL2	ALF

The first two lines describe the covariance of M_1 by the method described in Section IIE (Eq. 67):

Line 1

- ST, σ_T the standard deviation of errors in the coordinate $B \cdot T$, in km.
- SR, σ_R the standard deviation of errors in the coordinate $B \cdot R$, in km.
- SS, σ_S the standard deviation of errors in S, in km.

Line 2
 CRT, ρ_{RT} the linear correlation coefficient relating errors in $\mathbf{B} \cdot \mathbf{R}$ to errors in $\mathbf{B} \cdot \mathbf{T}$, dimensionless.
 CRS, ρ_{RS} the linear correlation coefficient relating errors in $\mathbf{B} \cdot \mathbf{R}$ to errors in S , dimensionless.
 CST, ρ_{TS} the linear correlation coefficient relating errors in $\mathbf{B} \cdot \mathbf{T}$ to errors in S , dimensionless.

The third line contains the three semiaxes of the one-sigma position ellipsoid described by $\mathbf{M}_1 \Lambda^{-1} \mathbf{M}^T = 1$.

Line 3
 LSA, $\sqrt{\epsilon_{mar}}$ the largest semiaxis of the position ellipsoid, in km. (ϵ_{mar} is the largest eigenvalue of Λ_{M_1} , in km^2 .)
 MSA, $\sqrt{\epsilon_{mid}}$ the middle semiaxis of the position ellipsoid, in km. (ϵ_{mid} is the second-largest, or middle, eigenvalue of Λ_{M_1} , in km^2 .)
 SSA, $\sqrt{\epsilon_{min}}$ the smallest semiaxis of the position ellipsoid, in km. (ϵ_{min} is the smallest eigenvalue of Λ_{M_1} , in km^2 .)

The fourth line describes the projection of the above position ellipsoid on the T-R plane. This projection is an ellipse with major and minor semiaxes and orientation as described below:

Line 4
 EL1 the major semiaxis of the target error ellipsoid projected onto the T-R plane, in km.

EL2 the minor semiaxis of the target error ellipsoid projected onto the T-R plane, in km.

ALF, α the angle measured counterclockwise from the T-axis to the major semiaxis direction, in deg ($0 \geq \alpha \geq 180$ deg).

The $\Lambda_{\mathbf{x}}$ matrix used in generating the results for this report is

$$\Lambda_{\mathbf{x}} = \begin{pmatrix} 25 \times 10^{-12} & 0 & 0 \\ 0 & 2.25 \times 10^{-12} & 0 \\ 0 & 0 & .0225 \times 10^{-12} \end{pmatrix} \left(\frac{\text{km}}{\text{sec}} \right)^2$$

In all cases $\text{LSA} \gg \text{SSA}$, so that the information contained in lines 3 and 4 of the printout is very useful in visualizing the error ellipsoid. The general shape of the ellipsoid is a thin elliptical "pancake." When $\text{MSA} \ll \text{LSA}$, the "pancake" degenerates to approach a pencil shape. By inspecting the "shadow" of the pancake or pencil shape on the T-R plane, its orientation may be visualized.

If it is desired to estimate the flight time T_f , this can easily be done by the relation

$$\sigma_f = \frac{1}{V_{hp}} \sigma_S$$

The correlation coefficients between T_f and $\mathbf{B} \cdot \mathbf{T}$ are those given by CST; those between T_f and $\mathbf{B} \cdot \mathbf{R}$ are given by CRS.

IV. CONSTANTS

Constants used in trajectory calculations at the Jet Propulsion Laboratory are given in Ref. 9. For purposes of ready reference those constants used in the calculations contained herein are given below.

Gravitational Constants

1. Sun

$$GM_S = 2.959122083 \times 10^{-4} \text{ au}^3/\text{day}^2$$

2. Earth

$$GM_E = 3.986032 \times 10^5 \text{ km}^3/\text{sec}^2$$

Astronomical Unit-to-Kilometer Conversion Factor

$$1 \text{ au} = 149.599 \times 10^6 \text{ km}$$

Earth's Rotation Rate

$$\omega_E = 4.1780742 \times 10^{-3} \text{ deg/sec}$$

REFERENCES

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Earth-Mars Trajectories, 1971

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LAUNCH DATE MAR 6 1971

FLIGHT TIME 218.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-0.00 LOL	164.77 VL	32.325 GAL	-8.33 AZL	81.96 HCA	190.78 SMA	178.48 ECC	.20043 INC	8.0368 V1	30.024
RP 207.73 LAP	-1.50 LOP	355.42 VP	23.111 GAP	6.71 AZP	97.90 TAL	320.31 TAP	151.06 RCA	142.69 APO	214.23 V2	26.373
RC 85.969 GL	45.68 GP	-40.72 ZAL	129.63 ZAP	110.56 ETS	197.73 ZAE	135.13 ETE	232.70 ZAC	61.71 ETC	271.98 LVI	27.89

DISTANCE 547.970

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 39.421 VHL	6.279 DLA	28.70 RAL	308.03 RAD	6650.5 VEL	12.621 PTH	7.47 VHP	5.496 DPA	-62.91 RAP	307.96 ECC	1.6488
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	14 57 6	3888.29	-45.42	165.75	210.00	73.95	16 2 4	2898.3	-46.68	130.71
60.00	14 56 4	3901.05	-36.67	162.45	206.45	71.95	16 1 5	2901.0	-40.26	131.93
70.00	14 54 5	3906.89	-27.93	159.31	202.84	69.50	15 59 12	2906.9	-33.73	132.14
80.00	14 47 32	3926.47	-18.93	156.83	198.88	66.47	15 53 18	2926.5	-26.97	132.31
84.92	14 17 3	4025.78	-11.87	160.73	195.48	63.68	15 24 9	3025.8	-21.70	137.93
100.00	17 30 44	3400.94	-18.93	118.19	198.88	66.47	18 27 25	2400.9	-26.97	93.68
110.00	19 53 32	2953.70	-27.93	86.23	202.84	69.50	20 42 45	1953.7	-33.73	61.06

DIFFERENTIAL CORRECTIONS

TDE .3405 TRA	-.7684 TC3	-.3626 BAV	.5124
RDE 2.1316 RRA	4.1613 RC3	-.9020 FAU	.08813
FDE 3.6858 FRA	7.4403 FC3	-1.9354 BSP	8376
BDE 2.1586 BRA	4.2316 BC3	.9722 FSP	1283

MID-COURSE EXECUTION ACCURACY

SGT 971.0 SGR	4879.3 SG3	758.8
RRT -.4940 RRF	.9989 RTF	-.4732
SCB 4975.0 R23	-.0405 R13	.9983
SG1 4903.5 SG2	840.1 THA	95.78

ORBIT DETERMINATION ACCURACY

ST 19.6 SR	117.0 SS	97.1
CRT .3194 CR8	-.9999 CST	-.3048
LSA 152.1 MSA	18.7 SSA	.3
EL1 117.1 EL2	17.6 ALF	86.85

LAUNCH DATE MAR 6 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-0.00 LOL	164.77 VL	32.312 GAL	-6.31 AZL	82.91 HCA	192.00 SMA	178.26 ECC	.19953 INC	7.0932 V1	30.024
RP 207.86 LAP	-1.47 LOP	356.68 VP	23.075 GAP	6.44 AZP	96.94 TAL	320.24 TAP	152.24 RCA	142.69 APO	213.83 V2	26.357
RC 87.725 GL	42.02 GP	-38.44 ZAL	132.39 ZAP	110.04 ETS	195.75 ZAE	136.30 ETE	229.98 ZAC	63.99 ETC	271.85 LVI	25.95

DISTANCE 552.088

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 35.108 VHL	5.925 DLA	25.07 RAL	308.88 RAD	6648.9 VEL	12.450 PTH	7.35 VHP	5.172 DPA	-60.83 RAP	305.88 ECC	1.5778
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 19 15	3787.64	-47.01	155.57	204.90	81.65	16 22 22	2787.6	-44.81	120.70
60.00	15 26 14	3768.99	-38.95	151.98	203.00	78.72	16 29 3	2769.0	-39.35	120.83
70.00	15 38 6	3734.01	-31.45	147.09	200.94	75.93	16 40 20	2734.0	-34.09	118.68
80.00	16 2 33	3657.28	-25.26	139.36	199.02	73.52	17 3 31	2657.3	-29.68	112.81
90.00	17 0 45	3469.36	-22.50	124.64	198.09	72.41	17 58 34	2469.4	-27.70	97.83
100.00	18 45 25	3131.76	-23.26	100.73	199.02	73.52	19 37 37	2131.6	-29.68	74.18
110.00	20 37 33	2780.83	-31.45	76.01	200.94	75.93	21 23 54	1780.8	-34.09	47.59

DIFFERENTIAL CORRECTIONS

TDE .3427 TRA	-.6179 TC3	-.4458 BAV	.4834
RDE 1.9221 RRA	3.9312 RC3	-.9285 FAU	.09543
FDE 3.8805 FRA	6.3883 FC3	-2.3534 BSP	8120
BDE 1.9525 BRA	3.9795 BC3	1.0300 FSP	1483

MID-COURSE EXECUTION ACCURACY

SGT 907.8 SGR	4720.1 SG3	872.8
RRT -.3667 RRF	.9988 RTF	-.3479
SCB 4806.6 R23	-.0327 R13	.9985
SG1 4732.2 SG2	842.4 THA	94.17

ORBIT DETERMINATION ACCURACY

ST 19.3 SR	112.3 SS	103.1
CRT .4235 CR8	-.9997 CST	-.3999
LSA 152.6 MSA	17.7 SSA	.3
EL1 112.6 EL2	17.5 ALF	85.73

LAUNCH DATE MAR 6 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-0.00 LOL	164.77 VL	32.301 GAL	-6.30 AZL	83.87 HCA	193.24 SMA	178.08 ECC	.19874 INC	6.3255 V1	30.024
RP 208.01 LAP	-1.45 LOP	357.93 VP	23.039 GAP	6.18 AZP	96.16 TAL	320.15 TAP	153.40 RCA	142.69 APO	213.47 V2	26.340
RC 89.514 GL	38.72 GP	-36.41 ZAL	134.84 ZAP	109.23 ETS	193.83 ZAE	137.07 ETE	227.06 ZAC	66.05 ETC	271.68 LVI	24.27

DISTANCE 556.217

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.985 VHL	5.656 DLA	21.83 RAL	309.68 RAD	6647.8 VEL	12.325 PTH	7.25 VHP	4.912 DPA	-58.99 RAP	303.93 ECC	1.5264
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 37 44	3693.90	-47.56	146.58	200.16	86.55	16 39 17	2693.9	-42.53	112.85
60.00	15 50 32	3659.79	-40.02	142.90	199.55	84.79	16 51 31	2659.8	-37.75	112.00
70.00	16 10 50	3600.00	-33.23	137.06	198.54	81.61	17 10 50	2600.0	-33.25	108.32
80.00	16 46 57	3486.73	-28.01	127.45	197.52	79.20	17 45 3	2486.8	-29.70	100.15
90.00	17 52 56	3273.71	-25.90	111.33	197.05	78.23	18 47 29	2273.7	-26.26	84.57
100.00	19 29 48	2961.22	-26.01	88.82	197.52	79.20	20 19 10	1961.2	-29.70	61.52
110.00	21 10 16	2646.82	-33.23	65.97	198.54	81.61	21 54 23	1646.8	-33.25	37.23

DIFFERENTIAL CORRECTIONS

TDE .3570 TRA	-.4537 TC3	-.5330 BAV	.4638
RDE 1.7581 RRA	3.7292 RC3	-.9442 FAU	.10210
FDE 4.0482 FRA	9.2659 FC3	-2.7635 BSP	7876
BDE 1.7940 BRA	3.7567 BC3	1.0842 FSP	1677

MID-COURSE EXECUTION ACCURACY

SGT 859.9 SGR	4569.2 SG3	980.8
RRT -.1851 RRF	.9987 RTF	-.1000
SCB 4649.4 R23	-.0238 R13	.9986
SG1 4572.1 SG2	844.6 THA	92.07

ORBIT DETERMINATION ACCURACY

ST 19.6 SR	108.0 SS	108.3
CRT .5482 CR8	-.9993 CST	-.9179
LSA 153.2 MSA	16.7 SSA	.4
EL1 108.5 EL2	16.3 ALF	84.20

LAUNCH DATE MAR 6 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-0.00 LOL	164.77 VL	32.290 GAL	-6.30 AZL	84.31 HCA	194.48 SMA	177.92 ECC	.19805 INC	5.6883 V1	30.024
RP 208.16 LAP	-1.42 LOP	359.19 VP	23.004 GAP	5.92 AZP	95.51 TAL	320.06 TAP	154.54 RCA	142.68 APO	213.15 V2	26.323
RC 91.337 GL	39.74 GP	-34.57 ZAL	137.01 ZAP	108.16 ETS	191.89 ZAE	137.50 ETE	224.04 ZAC	67.91 ETC	271.49 LVI	22.81

DISTANCE 560.355

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.664 VHL	5.446 DLA	18.93 RAL	310.42 RAD	6646.9 VEL	12.231 PTH	7.18 VHP	4.700 DPA	-57.35 RAP	302.07 ECC	1.4882
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 53 32	3613.48	-47.41	138.81	196.02	94.53	16 53 46	2613.5	-40.14	106.62
60.00	16 10 50	3567.42	-40.30	135.07	196.42	90.10	17 10 17	2567.4	-35.85	104.90
70.00	16 37 6	3490.10	-34.00	128.58	196.19	86.56	17 35 16	2490.1	-31.86	100.05
80.00	17 20 10	3355.07	-29.31	117.89	195.74	84.06	18 16 5	2355.1	-28.81	90.48
90.00	18 29 58	3129.75	-27.49	101.10	195.50	83.10	19 22 8	2129.8	-27.61	74.10
100.00	20 3 2	2829.54	-29.31	79.26	195.74	84.06	20 50 12	1829.5	-28.81	51.85
110.00	21 36 32	2536.92	-34.00	57.49	196.19	86.56	22 18 49	1536.9	-31.86	28.97

DIFFERENTIAL CORRECTIONS

TDE .3798 TRA	-.2796 TC3	-.6228 BAV	.4515
RDE 1.8258 RRA	3.5486 RC3	-.9530 FAU	.10842
FDE 4.1918 FRA	10.0748 FC3	-3.1841 BSP	7625
BDE 1.6695 BRA	3.5598 BC3	1.1384 FSP	1856

MID-COURSE EXECUTION ACCURACY

SGT 846.5 SGR	4424.6 SG3	1082.1
RRT -.0428 RRF	.9986 RTF	.0581
SCB 4504.8 R23	-.0137 R13	.9986
SG1 4424.7 SG2	845.7 THA	89.51

ORBIT DETERMINATION ACCURACY

ST 20.5 SR	104.0 SS	112.6
CRT .6711 CR8	-.9989 CST	-.6367
LSA 153.8 MSA	15.9 SSA	.4
EL1 104.9 EL2	15.1 ALF	82.29

LAUNCH DATE MAR 6 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC
 RL 148.40 LAL -.00 LOL 164.77 VL 32.280 GAL -6.30 AZL 84.85 HCA 195.73 SMA 177.77 ECC .19747 INC 5.1507 V1 30.024
 RP 208.32 LAP -1.39 LOP .44 VP 22.969 GAP 5.66 AZP 94.96 TAL 319.95 TAP 155.68 RCA 142.66 APO 212.87 V2 26.304
 RC 93.190 GL 33.03 GP -32.92 ZAL 138.93 ZAP 106.90 ETS 190.26 ZAE 137.61 ETE 221.00 ZAC 69.59 ETC 271.29 LVI 21.54

PLANETOCENTRIC CONIC
 C3 27.903 VHL 5.282 DLA 16.31 RAL 311.13 RAD 6646.2 VEL 12.159 PTH 7.12 VHP 4.524 DPA -55.89 RAP 300.28 ECC 1.4592
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 7 18 3543.80 -46.83 132.18 192.55 99.60 17 6 22 2543.8 -37.79 101.62
 60.00 16 28 15 3488.06 -40.00 128.35 193.72 94.66 17 26 23 2488.1 -33.86 99.10
 70.00 16 59 4 3397.34 -34.14 121.54 194.07 90.84 17 55 41 2397.3 -30.24 93.31
 80.00 17 47 1 3247.05 -29.81 109.91 194.03 88.23 18 41 8 2247.0 -27.51 82.72
 90.00 18 59 16 3013.86 -28.16 92.69 193.96 87.26 19 49 30 2013.9 -26.45 65.82
 100.00 20 29 53 2721.52 -29.81 71.27 194.03 88.23 21 15 15 1721.5 -27.51 44.09
 110.00 21 58 30 2444.16 -34.14 50.26 194.07 90.84 22 39 14 1444.2 -30.24 22.23

DIFFERENTIAL CORRECTIONS
 TDE .4092 TRA -.0974 TC3 -.7147 BAU .4448
 RDE 1.5183 RRA 3.3857 RC3 -.9544 FAU .11424
 FDE 4.3198 FRA10.8207 FC3-3.5446 BSP 7393
 BDE 1.5725 BRA 3.3871 BC3 1.1923 FSP 2027

MID-COURSE EXECUTION ACCURACY
 SGT 882.7 SGR 4286.1 S63 1176.9
 RRT .2831 RRF .9984 RTF .2961
 SGB 4376.1 R23 -.0022 R13 .9985
 S61 4293.7 S62 845.1 THA 86.53

ORBIT DETERMINATION ACCURACY
 ST 22.3 SR 100.4 SS 116.3
 CRT .7754 CRS -.9985 CST -.7393
 LSA 154.5 MSA 15.1 SSA .5
 EL1 101.9 EL2 13.9 ALF 80.05

LAUNCH DATE MAR 6 1971

FLIGHT TIME 228.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC
 RL 148.40 LAL -.00 LOL 164.77 VL 32.272 GAL -6.30 AZL 85.31 HCA 196.97 SMA 177.63 ECC .19699 INC 4.6906 V1 30.024
 RP 208.49 LAP -1.37 LOP 1.88 VP 22.934 GAP 5.41 AZP 94.49 TAL 319.83 TAP 156.80 RCA 142.64 APO 212.63 V2 26.284
 RC 95.074 GL 30.60 GP -31.41 ZAL 140.64 ZAP 105.47 ETS 188.64 ZAE 137.44 ETE 217.99 ZAC 71.12 ETC 271.08 LVI 20.44

PLANETOCENTRIC CONIC
 C3 26.547 VHL 5.152 DLA 13.95 RAL 311.79 RAD 6645.6 VEL 12.104 PTH 7.08 VHP 4.376 DPA -54.56 RAP 298.55 ECC 1.4369
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 28 3482.94 -45.98 126.55 189.72 103.87 17 17 31 2482.9 -35.55 97.52
 60.00 16 43 27 3419.11 -39.53 122.55 191.46 98.55 17 40 26 2419.1 -31.90 94.31
 70.00 17 17 57 3317.59 -33.89 115.13 192.26 94.50 18 13 14 2317.6 -28.54 87.72
 80.00 18 9 37 3155.67 -29.81 103.12 192.53 91.80 19 2 13 2195.7 -26.04 76.33
 90.00 19 23 39 2916.76 -28.27 85.60 192.57 90.81 20 12 15 1916.8 -25.09 59.04
 100.00 20 52 29 2630.14 -29.81 64.48 192.53 91.80 21 36 19 1630.1 -26.04 37.69
 110.00 22 17 23 2364.41 -33.89 44.05 192.26 94.50 22 56 47 1364.4 -28.54 16.64

DIFFERENTIAL CORRECTIONS
 TDE .4432 TRA .0910 TC3 -.8092 BAU .4428
 RDE 1.4295 RRA 3.2364 RC3 -.9496 FAU .11961
 FDE 4.4340 FRA11.5037 FC3-3.9006 BSP 7183
 BDE 1.4966 BRA 3.2377 BC3 1.2476 FSP 2186

MID-COURSE EXECUTION ACCURACY
 SGT 974.2 SGR 4151.8 S63 1264.6
 RRT .4910 RRF .9982 RTF .5019
 SGB 4264.5 R23 .0107 R13 .9982
 S61 4180.4 S62 842.8 THA 83.15

ORBIT DETERMINATION ACCURACY
 ST 24.7 SR 97.0 SS 119.5
 CRT .8535 CRS -.9979 CST -.8179
 LSA 155.2 MSA 14.4 SSA .6
 EL1 99.3 EL2 12.6 ALF 77.53

LAUNCH DATE MAR 6 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC
 RL 148.40 LAL -.00 LOL 164.77 VL 32.264 GAL -6.31 AZL 85.71 HCA 198.21 SMA 177.52 ECC .19660 INC 4.2922 V1 30.024
 RP 208.67 LAP -1.34 LOP 2.93 VP 22.900 GAP 5.17 AZP 94.08 TAL 319.70 TAP 157.91 RCA 142.62 APO 212.41 V2 26.264
 RC 96.988 GL 28.38 GP -30.03 ZAL 142.16 ZAP 103.90 ETS 187.13 ZAE 137.03 ETE 215.06 ZAC 72.52 ETC 270.85 LVI 19.47

PLANETOCENTRIC CONIC
 C3 25.491 VHL 5.049 DLA 11.82 RAL 312.41 RAD 6645.2 VEL 12.061 PTH 7.04 VHP 4.251 DPA -53.36 RAP 296.87 ECC 1.4195
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 21 3429.42 -45.00 121.77 187.44 107.44 17 27 30 2429.4 -33.46 94.12
 60.00 16 56 56 3336.67 -38.81 117.58 189.61 101.85 17 52 54 2358.7 -30.02 90.30
 70.00 17 34 29 3248.15 -33.39 109.77 190.76 97.63 18 28 37 2248.2 -26.87 83.02
 80.00 18 29 10 3076.86 -29.50 97.28 191.26 94.85 19 20 26 2076.9 -24.53 70.96
 90.00 19 44 34 2833.49 -28.04 79.52 191.39 93.85 20 31 47 1833.5 -23.64 53.37
 100.00 21 12 1 2551.33 -29.50 58.65 191.26 94.85 21 54 33 1551.3 -24.53 32.33
 110.00 22 33 55 2294.97 -33.39 38.69 190.76 97.63 23 12 10 1295.0 -26.87 11.94

DIFFERENTIAL CORRECTIONS
 TDE .4816 TRA .2852 TC3 -.9045 BAU .4447
 RDE 1.3547 RRA 3.0984 RC3 -.9406 FAU .12462
 FDE 4.5352 FRA12.1276 FC3-4.2325 BSP 6996
 BDE 1.4378 BRA 3.1115 BC3 1.3049 FSP 2332

MID-COURSE EXECUTION ACCURACY
 SGT 1114.5 SGR 4021.2 S63 1345.3
 RRT .6461 RRF .9979 RTF .6549
 SGB 4172.8 R23 .0248 R13 .9977
 S61 4088.1 S62 836.8 THA 79.40

ORBIT DETERMINATION ACCURACY
 ST 27.8 SR 93.9 SS 122.2
 CRT .9077 CRS -.9972 CST -.8739
 LSA 156.0 MSA 13.8 SSA .6
 EL1 97.3 EL2 11.3 ALF 74.74

LAUNCH DATE MAR 6 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC
 RL 148.40 LAL -.00 LOL 164.77 VL 32.257 GAL -6.32 AZL 86.06 HCA 199.45 SMA 177.41 ECC .19631 INC 3.9436 V1 30.024
 RP 208.85 LAP -1.31 LOP 4.17 VP 22.866 GAP 4.92 AZP 93.72 TAL 319.56 TAP 159.00 RCA 142.58 APO 212.24 V2 26.243
 RC 98.929 GL 26.36 GP -28.78 ZAL 143.52 ZAP 102.23 ETS 185.72 ZAE 136.40 ETE 212.24 ZAC 73.62 ETC 270.63 LVI 18.62

PLANETOCENTRIC CONIC
 C3 24.685 VHL 4.866 DLA 9.87 RAL 313.00 RAD 6644.9 VEL 12.027 PTH 7.02 VHP 4.146 DPA -52.25 RAP 295.22 ECC 1.4059
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 9 3382.07 -43.95 117.69 185.62 110.43 17 36 31 2382.1 -31.52 91.26
 60.00 17 9 0 3305.30 -37.97 113.29 188.13 104.66 18 4 5 2305.3 -28.25 86.88
 70.00 17 49 11 3187.09 -32.74 105.13 189.54 100.31 18 42 18 2187.1 -25.25 79.01
 80.00 18 46 22 3007.97 -28.99 92.22 190.23 97.46 19 36 30 2008.0 -23.04 66.39
 90.00 20 2 54 2780.95 -27.60 74.26 190.42 96.44 20 48 55 1761.0 -22.20 48.54
 100.00 21 29 13 2482.45 -28.99 53.59 190.23 97.46 22 10 36 1482.4 -23.04 27.76
 110.00 22 48 37 2233.91 -32.74 34.05 189.54 100.31 23 25 51 1233.9 -25.25 7.93

DIFFERENTIAL CORRECTIONS
 TDE .5235 TRA .4842 TC3-1.0009 BAU .4499
 RDE 1.2910 RRA 2.9692 RC3 -.9272 FAU .12919
 FDE 4.6244 FRA12.6919 FC3-4.5345 BSP 6836
 BDE 1.3931 BRA 3.0085 BC3 1.3644 FSP 2464

MID-COURSE EXECUTION ACCURACY
 SGT 1294.1 SGR 3893.1 S63 1418.8
 RRT .7516 RRF .9976 RTF .7589
 SGB 4102.6 R23 .0398 R13 .9969
 S61 4018.3 S62 827.0 THA 75.34

ORBIT DETERMINATION ACCURACY
 ST 31.4 SR 90.9 SS 124.5
 CRT .9435 CRS -.9964 CST -.9121
 LSA 156.8 MSA 13.4 SSA .7
 EL1 95.7 EL2 9.9 ALF 71.75

LAUNCH DATE MAR 6 1971

FLIGHT TIME 234.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 501.137

EARTH TO MARS

RL 148.40 LAL -.00 LOL 164.77 VL 32.251 GAL -6.34 AZL 86.36 HCA 200.68 SMA 177.32 ECC .19610 INC 3.6358 VI 30.024
RP 209.04 LAP -1.28 LOP 5.42 VP 22.832 GAP 4.68 AZP 93.40 TAL 319.40 TAP 160.09 RCA 142.35 APO 212.09 V2 26.221
RC 100.898 GL 24.50 GP -27.99 ZAL 144.73 ZAP 100.47 ETS 184.41 ZAE 138.58 ETE 209.55 ZAC 75.02 ETC 270.39 LVI 17.86

PLANETOCENTRIC CONIC

C3 24.018 VHL 4.901 DLA 8.11 RAL 313.86 RAD 6644.4 VEL 12.000 PTH 6.99 VHP 4.058 DPA -51.23 RAP 293.62 ECC 1.3953
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 5 3339.97 -42.89 114.20 104.19 112.85 17 44 48 2340.0 -29.74 88.83
60.00 17 19 56 3257.89 -37.09 109.57 106.95 107.04 18 14 14 2297.9 -26.60 83.96
70.00 18 2 23 3132.97 -32.01 101.08 100.58 102.60 18 54 36 2133.0 -23.72 75.56
80.00 19 1 43 2947.16 -28.38 87.81 109.41 99.70 19 50 50 1947.2 -21.60 62.45
90.00 20 19 13 2697.03 -27.02 69.68 109.66 98.67 21 4 10 1697.0 -20.79 44.38
100.00 21 44 35 2421.63 -26.38 49.18 109.41 99.70 22 24 56 1421.6 -21.60 23.82
110.00 23 1 50 2179.79 -32.01 30.00 108.58 102.60 23 38 10 1179.6 -23.72 4.47

DIFFERENTIAL CORRECTIONS

TDE .5689 TRA .6872 TC3-1.0974 BAU .4583
RDE 1.2347 RRA 2.8460 RC3 -.9126 FAU .13361
FDE 4.6969 FRA13.1920 FC3-4.8161 BSP 6897
BDE 1.3595 BRA 2.9278 BC3 1.4273 FSP 2578

MID-COURSE EXECUTION ACCURACY

SGT 1502.6 SGR 3765.5 SG3 1484.3
RRR .8217 RRF .9972 RTF .8279
SGB 4054.3 R23 .0950 R13 .9958
SG1 3972.2 SG2 811.8 THA 71.02

ORBIT DETERMINATION ACCURACY

ST 35.4 SR 88.1 SS 126.4
CRT .9663 CRS -.9954 CST -.9377
LSA 157.5 MSA 13.0 SSA .8
EL1 94.5 EL2 8.5 ALF 68.56

LAUNCH DATE MAR 6 1971

FLIGHT TIME 236.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 585.304

EARTH TO MARS

RL 148.40 LAL -.00 LOL 164.77 VL 32.246 GAL -6.36 AZL 86.64 HCA 201.92 SMA 177.24 ECC .19598 INC 3.3617 VI 30.024
RP 209.24 LAP -1.25 LOP 6.66 VP 22.798 GAP 4.44 AZP 93.12 TAL 319.23 TAP 161.15 RCA 142.50 APO 211.97 V2 26.198
RC 102.893 GL 22.80 GP -26.49 ZAL 145.83 ZAP 98.64 ETS 183.20 ZAE 134.59 ETE 207.01 ZAC 76.13 ETC 270.16 LVI 17.19

PLANETOCENTRIC CONIC

C3 23.515 VHL 4.849 DLA 6.49 RAL 314.10 RAD 6644.4 VEL 11.979 PTH 6.98 VHP 3.980 DPA -50.28 RAP 292.05 ECC 1.3870
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 57 16 3302.40 -41.85 111.20 103.08 115.08 17 52 19 2302.4 -28.11 86.73
60.00 17 29 54 3215.57 -36.20 106.33 106.04 109.08 18 23 30 2215.6 -25.07 81.42
70.00 18 14 23 3084.72 -31.24 97.53 107.84 104.57 19 5 48 2084.7 -22.28 72.55
80.00 19 15 35 2893.05 -27.69 83.94 108.79 101.63 20 3 48 1893.0 -20.23 59.01
90.00 20 33 55 2640.26 -26.38 65.65 109.08 100.59 21 17 55 1640.3 -19.45 40.76
100.00 21 58 27 2367.52 -27.69 45.30 108.79 101.63 22 37 54 1367.5 -20.23 20.36
110.00 23 13 49 2131.54 -31.24 26.45 107.84 104.57 23 49 21 1131.5 -22.28 1.47

DIFFERENTIAL CORRECTIONS

TDE .6132 TRA .8908 TC3-1.2012 BAU .4683
RDE 1.1931 RRA 2.7364 RC3 -.8812 FAU .13586
FDE 4.7936 FRA13.6708 FC3-5.0019 BSP 6679
BDE 1.3415 BRA 2.8777 BC3 1.4897 FSP 2716

MID-COURSE EXECUTION ACCURACY

SGT 1733.2 SGR 3647.9 SG3 1545.3
RRR .8642 RRF .9967 RTF .8702
SGB 4038.7 R23 .0696 R13 .9945
SG1 3957.9 SG2 803.7 THA 66.66

ORBIT DETERMINATION ACCURACY

ST 39.6 SR 85.7 SS 128.5
CRT .9812 CRS -.9945 CST -.9958
LSA 159.0 MSA 12.6 SSA .9
EL1 94.2 EL2 7.0 ALF 65.48

LAUNCH DATE MAR 6 1971

FLIGHT TIME 238.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

DISTANCE 589.476

EARTH TO MARS

RL 148.40 LAL -.00 LOL 164.77 VL 32.241 GAL -6.38 AZL 86.88 HCA 203.15 SMA 177.17 ECC .19594 INC 3.1160 VI 30.024
RP 209.44 LAP -1.22 LOP 7.89 VP 22.765 GAP 4.21 AZP 92.07 TAL 319.06 TAP 162.21 RCA 142.45 APO 211.88 V2 26.174
RC 104.913 GL 21.23 GP -25.46 ZAL 146.82 ZAP 98.75 ETS 182.87 ZAE 133.47 ETE 204.63 ZAC 77.18 ETC 269.93 LVI 16.59

PLANETOCENTRIC CONIC

C3 23.127 VHL 4.809 DLA 5.01 RAL 314.62 RAD 6644.2 VEL 11.963 PTH 6.96 VHP 3.916 DPA -49.38 RAP 290.53 ECC 1.3806
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 4 49 3288.75 -40.85 108.60 102.23 116.90 17 59 18 2268.7 -26.62 84.91
60.00 17 39 4 3177.63 -35.31 103.50 105.34 110.83 18 32 1 2177.6 -23.66 79.21
70.00 18 25 21 3041.48 -30.46 94.40 107.28 106.26 19 16 2 2041.5 -20.94 69.91
80.00 19 28 13 2844.60 -26.98 80.51 108.33 103.30 20 15 37 1844.6 -18.94 55.99
90.00 20 47 17 2589.45 -25.69 62.09 108.65 102.25 21 30 26 1589.5 -18.19 37.57
100.00 22 11 5 2319.07 -26.98 41.86 108.33 103.30 22 49 44 1319.1 -18.94 17.36
110.00 23 24 47 2088.29 -30.46 23.32 107.28 106.26 23 59 36 1088.3 -20.94 358.83

DIFFERENTIAL CORRECTIONS

TDE .6829 TRA 1.0995 TC3-1.2989 BAU .4811
RDE 1.1517 RRA 2.6263 RC3 -.8567 FAU .13877
FDE 4.6559 FRA14.0685 FC3-5.1948 BSP 6645
BDE 1.3289 BRA 2.8471 BC3 1.5580 FSP 2816

MID-COURSE EXECUTION ACCURACY

SGT 1978.3 SGR 3925.3 SG3 1596.7
RRR .8952 RRF .9962 RTF .5009
SGB 4042.4 R23 .0834 R13 .9929
SG1 3965.7 SG2 783.6 THA 62.14

ORBIT DETERMINATION ACCURACY

ST 44.2 SR 83.2 SS 129.9
CRT .9901 CRS -.9933 CST -.9676
LSA 160.0 MSA 12.3 SSA .9
EL1 94.1 EL2 5.5 ALF 62.18

LAUNCH DATE MAR 6 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

DISTANCE 593.851

EARTH TO MARS

RL 148.40 LAL -.00 LOL 164.77 VL 32.238 GAL -6.41 AZL 87.11 HCA 204.39 SMA 177.11 ECC .19599 INC 2.8943 VI 30.024
RP 209.66 LAP -1.19 LOP 9.13 VP 22.731 GAP 3.98 AZP 92.64 TAL 318.87 TAP 163.25 RCA 142.40 APO 211.82 V2 26.150
RC 106.958 GL 19.79 GP -24.49 ZAL 147.72 ZAP 94.83 ETS 181.03 ZAE 132.23 ETE 202.42 ZAC 78.16 ETC 269.69 LVI 16.06

PLANETOCENTRIC CONIC

C3 22.835 VHL 4.779 DLA 3.65 RAL 315.12 RAD 6644.1 VEL 11.951 PTH 6.95 VHP 3.862 DPA -48.53 RAP 289.05 ECC 1.3758
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 49 3238.51 -39.89 106.33 101.59 118.45 18 5 47 2238.5 -25.26 83.32
60.00 17 47 31 3143.51 -34.46 101.01 104.83 112.34 18 39 54 2143.5 -22.36 77.26
70.00 18 35 26 3002.55 -29.68 91.64 106.88 107.73 19 25 29 2002.6 -19.69 67.58
80.00 19 39 48 2801.00 -26.26 77.47 108.01 104.74 20 26 29 1801.0 -17.73 53.32
90.00 20 59 31 2543.74 -24.99 58.92 108.37 103.68 21 41 55 1543.7 -17.00 34.75
100.00 22 22 40 2275.47 -26.26 38.84 108.01 104.74 23 0 35 1275.5 -17.73 14.89
110.00 23 34 53 2049.37 -29.68 20.56 106.88 107.73 24 9 2 1049.4 -19.69 356.50

DIFFERENTIAL CORRECTIONS

TDE .7151 TRA 1.3107 TC3-1.3947 BAU .4964
RDE 1.1119 RRA 2.5168 RC3 -.8358 FAU .14203
FDE 4.6909 FRA14.3913 FC3-5.3848 BSP 6624
BDE 1.3220 BRA 2.8376 BC3 1.6259 FSP 2884

MID-COURSE EXECUTION ACCURACY

SGT 2234.2 SGR 3399.8 SG3 1638.9
RRR .9175 RRF .9957 RTF .9229
SGB 4068.2 R23 .0951 R13 .9914
SG1 3997.4 SG2 755.6 THA 57.61

ORBIT DETERMINATION ACCURACY

ST 49.0 SR 80.6 SS 130.7
CRT .9953 CRS -.9920 CST -.9756
LSA 160.7 MSA 12.3 SSA 1.0
EL1 94.3 EL2 4.1 ALF 58.78

LAUNCH DATE MAR 6 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 3 1971

Heliocentric Conic DISTANCE 597.827 EARTH TO MARS
 RL 148.40 LAL -.00 LOL 164.77 VL 32.234 GAL -6.44 AZL 87.31 HCA 205.81 SMA 177.07 ECC .19611 INC 2.6930 V1 30.024
 RP 209.87 LAP -1.16 LOP 10.36 VP 22.698 GAP 3.75 AZP 92.43 TAL 318.67 TAP 164.28 RCA 142.34 APO 211.79 V2 26.124
 RC 109.028 GL 18.45 GP -23.58 ZAL 148.53 ZAP 92.87 ETS 180.06 ZAE 130.89 ETE 200.36 ZAC 79.09 ETC 269.47 LVI 15.57

PLANETOCENTRIC CONIC
 C3 22.625 VHL 4.757 DLA 2.39 RAL 315.61 RAD 6644.0 VEL 11.942 PTH 6.95 VHP 3.819 DPA -47.72 RAP 287.62 ECC 1.3723
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 20 3211.29 -38.99 104.35 181.13 119.78 18 11 51 2211.3 -24.02 81.92
 60.00 17 55 22 3112.74 -33.64 98.81 184.47 113.64 18 47 15 2112.7 -21.16 75.93
 70.00 18 44 47 2967.41 -28.93 89.18 186.62 109.00 19 34 14 1967.4 -18.54 65.51
 80.00 19 50 30 2761.60 -25.55 74.76 187.82 106.00 20 36 32 1761.6 -16.61 50.93
 90.00 21 10 49 2502.44 -24.30 56.10 188.20 104.93 21 52 31 1502.4 -15.88 32.23
 100.00 22 33 22 2236.07 -25.55 36.13 187.82 106.00 23 10 38 1236.1 -16.61 12.30
 110.00 23 44 13 2014.23 -28.93 18.10 186.62 109.00 24 17 48 1014.2 -18.54 354.43

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .7682 TRA 1.5228 TC3-1.4913 BAU .5129 SGT 2497.9 SGR 3279.0 SG3 1675.1 ST 53.9 SR 78.3 SS 131.5
 RDE 1.0792 RRA 2.4143 RC3 -.8072 FAU .14399 RRT .9323 RRF .9950 RTF .9379 CRT .9982 CRS -.9905 CST -.9814
 FDE 4.9325 FRA14.6766 FC3-5.5099 BSP 6682 SGB 4122.1 R23 .1045 R13 .9899 LSA 161.8 MSA 12.2 SSA 1.0
 BDE 1.3247 BRA 2.8544 BC3 1.6957 FSP 2957 SG1 4056.9 SG2 730.2 THA 53.23 EL1 95.0 EL2 2.7 ALF 55.49

LAUNCH DATE MAR 6 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 5 1971

Heliocentric Conic DISTANCE 602.003 EARTH TO MARS
 RL 148.40 LAL -.00 LOL 164.77 VL 32.232 GAL -6.48 AZL 87.49 HCA 206.84 SMA 177.03 ECC .19631 INC 2.5094 V1 30.024
 RP 210.10 LAP -1.13 LOP 11.59 VP 22.664 GAP 3.52 AZP 92.24 TAL 318.46 TAP 165.30 RCA 142.28 APO 211.78 V2 26.098
 RC 111.121 GL 17.20 GP -22.71 ZAL 149.28 ZAP 90.91 ETS 179.17 ZAE 129.47 ETE 198.46 ZAC 79.97 ETC 269.24 LVI 15.12

PLANETOCENTRIC CONIC
 C3 22.464 VHL 4.742 DLA 1.24 RAL 316.08 RAD 6643.9 VEL 11.936 PTH 6.94 VHP 3.784 DPA -46.95 RAP 286.23 ECC 1.3700
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 26 3186.74 -38.15 102.60 180.81 120.93 18 17 32 2186.7 -22.89 80.68
 60.00 18 2 42 3084.93 -32.87 96.86 184.24 114.77 18 54 7 2084.9 -20.06 74.00
 70.00 18 53 29 2935.58 -28.20 86.99 186.47 110.12 19 42 24 1935.6 -17.47 63.66
 80.00 20 0 26 2725.89 -24.86 72.34 187.73 107.09 20 45 52 1725.9 -15.56 48.80
 90.00 21 21 18 2464.99 -23.62 53.56 188.14 106.02 22 2 23 1465.0 -14.84 29.97
 100.00 22 43 18 2200.37 -24.86 33.71 187.73 107.09 23 19 59 1200.4 -15.56 10.17
 110.00 23 52 55 1982.40 -28.20 15.91 186.47 110.12 24 25 57 982.4 -17.47 352.58

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8228 TRA 1.7360 TC3-1.5863 BAU .5309 SGT 2766.6 SGR 3159.7 SG3 1703.9 ST 58.9 SR 76.1 SS 132.0
 RDE 1.0502 RRA 2.3154 RC3 -.7764 FAU .14533 RRT .9427 RRF .9942 RTF .9487 CRT .9995 CRS -.9889 CST -.9856
 FDE 4.9660 FRA14.9104 FC3-5.5960 BSP 6785 SGB 4199.7 R23 .1115 R13 .9885 LSA 162.9 MSA 12.2 SSA 1.1
 BDE 1.3341 BRA 2.8939 BC3 1.7661 FSP 3018 SG1 4140.3 SG2 704.3 THA 49.02 EL1 96.2 EL2 1.4 ALF 52.27

LAUNCH DATE MAR 6 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 7 1971

Heliocentric Conic DISTANCE 606.181 EARTH TO MARS
 RL 148.40 LAL -.00 LOL 164.77 VL 32.230 GAL -6.51 AZL 87.66 HCA 208.07 SMA 177.00 ECC .19658 INC 2.3411 V1 30.024
 RP 210.33 LAP -1.10 LOP 12.82 VP 22.631 GAP 3.29 AZP 92.07 TAL 318.23 TAP 166.30 RCA 142.21 APO 211.80 V2 26.071
 RC 113.239 GL 18.04 GP -21.88 ZAL 149.97 ZAP 88.93 ETS 178.34 ZAE 127.98 ETE 196.71 ZAC 80.80 ETC 269.02 LVI 14.70

PLANETOCENTRIC CONIC
 C3 22.403 VHL 4.733 DLA .17 RAL 316.53 RAD 6643.9 VEL 11.933 PTH 6.94 VHP 3.757 DPA -46.21 RAP 284.90 ECC 1.3687
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 9 3164.57 -37.36 101.07 180.62 121.93 18 22 54 2164.6 -21.86 79.59
 60.00 18 9 33 3059.75 -32.13 95.13 184.12 115.76 19 0 33 2059.7 -19.06 72.63
 70.00 19 1 36 2906.71 -27.51 85.03 186.43 111.09 19 50 3 1906.7 -16.48 62.00
 80.00 20 9 42 2693.44 -24.19 70.16 187.74 108.06 20 54 36 1693.4 -14.59 46.88
 90.00 21 31 4 2430.93 -22.96 51.29 188.16 106.98 22 11 35 1430.9 -13.88 27.93
 100.00 22 52 34 2167.91 -24.19 31.53 187.74 108.06 23 28 42 1167.9 -14.59 8.25
 110.00 0 4 58 1953.52 -27.51 13.95 186.43 111.09 0 37 32 953.5 -16.48 350.92

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .8788 TRA 1.9499 TC3-1.6794 BAU .5502 SGT 3038.1 SGR 3041.3 SG3 1725.9 ST 63.9 SR 73.9 SS 132.4
 RDE 1.0238 RRA 2.2192 RC3 -.7447 FAU .14621 RRT .9302 RRF .9933 RTF .567 CRT .9997 CRS -.9872 CST -.9887
 FDE 4.9892 FRA15.0816 FC3-5.6501 BSP 6930 SGB 4298.8 R23 .1158 R13 .9874 LSA 164.1 MSA 12.2 SSA 1.1
 BDE 1.3492 BRA 2.9541 BC3 1.8371 FSP 3066 SG1 4245.0 SG2 678.2 THA 45.03 EL1 97.7 EL2 1.2 ALF 49.14

LAUNCH DATE MAR 6 1971 FLIGHT TIME 248.00 ARRIVAL DATE NOV 9 1971

Heliocentric Conic DISTANCE 610.358 EARTH TO MARS
 RL 148.40 LAL -.00 LOL 164.77 VL 32.229 GAL -6.58 AZL 87.81 HCA 209.29 SMA 178.99 ECC .19693 INC 2.1861 V1 30.024
 RP 210.57 LAP -1.07 LOP 14.04 VP 22.597 GAP 3.07 AZP 91.91 TAL 318.00 TAP 167.29 RCA 142.13 APO 211.84 V2 26.044
 RC 115.380 GL 14.96 GP -21.09 ZAL 150.61 ZAP 86.98 ETS 177.58 ZAE 126.44 ETE 195.10 ZAC 81.59 ETC 268.81 LVI 14.32

PLANETOCENTRIC CONIC
 C3 22.378 VHL 4.730 DLA -.82 RAL 316.98 RAD 6643.9 VEL 11.932 PTH 6.94 VHP 3.737 DPA -45.49 RAP 283.63 ECC 1.3683
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 33 3144.54 -36.63 99.71 180.53 122.79 18 27 58 2144.5 -20.92 78.61
 60.00 18 16 0 3036.93 -31.45 93.58 184.10 116.62 19 6 37 2036.9 -18.14 71.41
 70.00 19 9 13 2880.46 -26.85 83.27 186.47 111.94 19 57 13 1880.5 -15.58 60.51
 80.00 20 18 23 2663.88 -23.55 68.19 187.83 108.90 21 2 47 1663.9 -13.69 45.15
 90.00 21 40 12 2399.88 -22.33 49.23 188.27 107.82 22 20 12 1399.9 -12.98 26.10
 100.00 23 1 15 2138.35 -23.55 29.56 187.83 108.90 23 36 53 1138.4 -13.69 6.52
 110.00 0 12 35 1927.28 -26.85 12.19 186.47 111.94 0 44 42 927.3 -15.58 349.43

Differential Corrections MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9358 TRA 2.1638 TC3-1.7698 BAU .5706 SGT 3310.4 SGR 2924.6 SG3 1740.1 ST 69.0 SR 71.8 SS 132.5
 RDE 1.0002 RRA 2.1260 RC3 -.7119 FAU .14653 RRT .9555 RRF .9923 RTF .9628 CRT .9990 CRS -.9852 CST -.9910
 FDE 5.0043 FRA15.2241 FC3-5.6693 BSP 7116 SGB 4417.2 R23 .1178 R13 .9865 LSA 165.3 MSA 12.4 SSA 1.2
 BDE 1.3697 BRA 3.0334 BC3 1.9076 FSP 3105 SG1 4368.6 SG2 653.5 THA 41.30 EL1 99.6 EL2 2.2 ALF 46.15

LAUNCH DATE MAR 6 1971

FLIGHT TIME 280.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-.00 LOL	184.77 VL	32.229 GAL	-6.80 AZL	87.96 HCA	210.51 SMA	176.98 ECC	.19735 INC	2.0427 V1	30.024
RP 210.82 LAP	-1.04 LOP	13.28 VP	22.384 GAP	2.85 AZP	91.76 TAL	317.78 TAP	168.27 RCA	142.05 APO	211.90 V2	26.018
RC 117.545 GL	13.95 GP	-20.34 ZAL	151.20 ZAP	85.00 ETS	176.88 ZAE	124.86 ETE	193.62 ZAC	82.34 ETC	268.60 LVI	13.96

PLANETOCENTRIC CONIC

C3 22.396 VHL	4.732 DLA	-1.74 RAL	317.42 RAD	6643.9 VEL	11.933 PTH	6.94 VHP	3.724 DPA	-44.80 RAP	282.42 ECC	1.3686
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 40 39	3126.44	-35.95	98.51	180.53	123.55	18 32 46	2126.4	-20.06	77.74
60.00	18 22 5	3016.24	-30.81	92.20	184.16	117.38	19 12 21	2016.2	-17.29	70.31
70.00	19 16 23	2836.59	-26.24	81.69	186.59	112.69	20 3 59	1876.6	-14.74	59.17
80.00	20 26 32	2636.92	-22.95	66.42	187.99	109.64	21 10 29	1636.9	-12.86	43.50
90.00	21 48 47	2371.54	-21.72	47.37	188.44	106.56	22 28 18	1371.5	-12.15	24.43
100.00	23 9 24	2111.40	-22.95	27.79	187.99	109.64	23 44 35	1111.4	-12.86	4.95
110.00	0 19 45	1903.41	-26.24	10.61	186.59	112.69	0 51 28	903.4	-14.74	348.08

DIFFERENTIAL CORRECTIONS

TDE .9940 TRA	2.3774 TC3-1.8579	BAU .5923
RDE .9785 RRA	2.0351 RC3 - .6791	FAU .14647
FDE 5.0093 FRA	15.3071 FC3-5.6619	BSP 7332
BDE 1.3948 BRA	3.1294 BC3 1.9781	FSP 3130

MID-COURSE EXECUTION ACCURACY

SGT 3582.3 SGR	2809.4 SG3 1747.9
RRT .9593 RRF	.9912 RTF .9675
SG8 4552.5 R23	.1176 R13 .9859
SG1 4508.7 SG2	630.5 THA 37.82

ORBIT DETERMINATION ACCURACY

ST 74.1 SR	69.8 SS	132.4
CRT .9977 CRS	-.9831 CST	-.9927
LSA 166.6 MSA	12.5 SSA	1.2
EL1 101.8 EL2	3.5 ALF	43.29

LAUNCH DATE MAR 6 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-.00 LOL	184.77 VL	32.229 GAL	-6.63 AZL	88.09 HCA	211.72 SMA	176.98 ECC	.19784 INC	1.9095 V1	30.024
RP 211.07 LAP	-1.00 LOP	16.48 VP	22.531 GAP	2.63 AZP	91.62 TAL	317.50 TAP	169.23 RCA	141.96 APO	211.99 V2	25.986
RC 119.734 GL	13.01 GP	-19.62 ZAL	151.75 ZAP	83.06 ETS	176.23 ZAE	123.26 ETE	192.27 ZAC	83.06 ETC	268.40 LVI	13.62

PLANETOCENTRIC CONIC

C3 22.460 VHL	4.739 DLA	-2.60 RAL	317.85 RAD	6643.9 VEL	11.935 PTH	6.94 VHP	3.717 DPA	-44.13 RAP	281.27 ECC	1.3896
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 45 30	3110.09	-35.33	97.44	180.61	124.21	18 37 20	2110.1	-19.29	76.96
60.00	18 27 50	2997.48	-30.21	90.97	184.28	118.05	19 17 48	1997.5	-16.29	69.33
70.00	19 23 8	2834.85	-25.66	80.27	186.77	113.36	20 10 23	1834.9	-13.97	57.95
80.00	20 34 13	2612.31	-22.38	64.82	188.20	110.30	21 17 45	1612.3	-12.09	42.16
90.00	21 56 52	2345.63	-21.15	45.69	188.68	109.22	22 35 57	1345.6	-11.38	22.92
100.00	23 17 5	2086.78	-22.38	26.19	188.20	110.30	23 51 51	1086.8	-12.09	3.53
110.00	0 26 30	1881.67	-25.66	9.18	186.77	113.36	0 57 52	881.7	-13.97	346.87

DIFFERENTIAL CORRECTIONS

TDE 1.0528 TRA	2.5901 TC3-1.9429	BAU .6148
RDE .9584 RRA	1.9466 RC3 - .6465	FAU .14602
FDE 5.0028 FRA	15.3447 FC3-5.6286	BSP 7575
BDE 1.4237 BRA	3.2401 BC3 2.0475	FSP 3141

MID-COURSE EXECUTION ACCURACY

SGT 3851.8 SGR	2696.0 SG3 1749.3
RRT .9618 RRF	.9898 RTF .9711
SG8 4701.6 R23	.1156 R13 .9855
SG1 4661.9 SG2	609.6 THA 34.62

ORBIT DETERMINATION ACCURACY

ST 79.2 SR	67.9 SS	132.1
CRT .9959 CRS	-.9807 CST	-.9941
LSA 167.8 MSA	12.7 SSA	1.2
EL1 104.2 EL2	4.7 ALF	40.59

LAUNCH DATE MAR 6 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-.00 LOL	184.77 VL	32.229 GAL	-6.71 AZL	88.21 HCA	212.94 SMA	176.99 ECC	.19840 INC	1.7857 V1	30.024
RP 211.33 LAP	-.97 LOP	17.89 VP	22.497 GAP	2.41 AZP	91.50 TAL	317.24 TAP	170.18 RCA	141.87 APO	212.10 V2	25.937
RC 121.945 GL	12.12 GP	-18.93 ZAL	152.27 ZAP	81.13 ETS	175.64 ZAE	121.64 ETE	191.03 ZAC	83.74 ETC	268.22 LVI	13.30

PLANETOCENTRIC CONIC

C3 22.563 VHL	4.750 DLA	-3.40 RAL	318.27 RAD	6644.0 VEL	11.940 PTH	6.94 VHP	3.715 DPA	-43.48 RAP	280.19 ECC	1.3713
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 50 6	3095.34	-34.76	96.49	180.75	124.80	18 41 41	2095.3	-18.58	76.26
60.00	18 33 17	2980.47	-29.66	89.86	184.47	118.63	19 22 57	1980.5	-15.82	68.44
70.00	19 29 32	2815.07	-25.12	78.98	187.00	113.94	20 16 27	1815.1	-13.26	58.86
80.00	20 41 28	2589.83	-21.84	63.37	188.48	110.88	21 24 38	1589.8	-11.38	40.87
90.00	22 4 30	2321.94	-20.61	44.18	188.96	109.80	22 43 12	1321.9	-10.67	21.54
100.00	23 24 20	2064.30	-21.84	24.73	188.48	110.88	23 38 44	1064.3	-11.38	2.24
110.00	0 32 34	1861.89	-25.12	7.90	187.00	113.94	1 3 56	861.9	-13.26	345.77

DIFFERENTIAL CORRECTIONS

TDE 1.1130 TRA	2.8024 TC3-2.0233	BAU .6577
RDE .9407 RRA	1.8811 RC3 - .6130	FAU .14496
FDE 4.9925 FRA	15.3427 FC3-5.5621	BSP 7853
BDE 1.4573 BRA	3.3641 BC3 2.1141	FSP 3147

MID-COURSE EXECUTION ACCURACY

SGT 4118.7 SGR	2385.3 SG3 1745.0
RRT .9633 RRF	.9883 RTF .9711
SG8 4862.8 R23	.1122 R13 .9853
SG1 4826.7 SG2	591.9 THA 31.69

ORBIT DETERMINATION ACCURACY

ST 84.2 SR	66.0 SS	131.6
CRT .9936 CRS	-.9782 CST	-.9951
LSA 169.1 MSA	13.0 SSA	1.2
EL1 106.8 EL2	5.9 ALF	38.04

LAUNCH DATE MAR 6 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

RL 148.40 LAL	-.00 LOL	184.77 VL	32.230 GAL	-6.76 AZL	88.33 HCA	214.15 SMA	177.00 ECC	.19902 INC	1.6698 V1	30.024
RP 211.60 LAP	-.94 LOP	18.91 VP	22.464 GAP	2.19 AZP	91.38 TAL	318.98 TAP	171.11 RCA	141.77 APO	212.23 V2	25.926
RC 124.177 GL	11.29 GP	-18.27 ZAL	152.78 ZAP	79.24 ETS	175.10 ZAE	120.01 ETE	189.90 ZAC	84.40 ETC	268.04 LVI	12.98

PLANETOCENTRIC CONIC

C3 22.703 VHL	4.765 DLA	-4.14 RAL	318.69 RAD	6644.0 VEL	11.945 PTH	6.95 VHP	3.719 DPA	-42.86 RAP	279.18 ECC	1.3736
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 54 29	3082.05	-34.25	95.64	180.95	125.30	18 45 51	2082.1	-17.95	75.64
60.00	18 38 27	2965.07	-29.16	88.88	184.72	119.15	19 27 52	1965.1	-15.18	67.65
70.00	19 35 36	2797.07	-24.62	77.83	187.29	114.46	20 22 13	1797.1	-12.62	55.86
80.00	20 48 21	2589.29	-21.33	62.05	188.80	111.40	21 31 10	1569.3	-10.72	39.69
90.00	22 11 43	2300.26	-20.11	42.77	189.30	110.31	22 50 4	1300.3	-10.01	20.29
100.00	23 31 12	2043.77	-21.33	23.42	188.80	111.40	24 5 18	1043.8	-10.72	1.06
110.00	0 38 58	1843.68	-24.62	6.74	187.29	114.46	1 9 42	843.9	-12.62	344.78

DIFFERENTIAL CORRECTIONS

TDE 1.1736 TRA	3.0135 TC3-2.1008	BAU .8614
RDE .9243 RRA	1.7779 RC3 - .5804	FAU .14381
FDE 4.9723 FRA	15.3012 FC3-5.4765	BSP 8147
BDE 1.4930 BRA	3.4988 BC3 2.1792	FSP 3141

MID-COURSE EXECUTION ACCURACY

SGT 4381.6 SGR	2477.1 SG3 1735.1
RRT .9641 RRF	.9865 RTF .9763
SG8 5033.3 R23	.1078 R13 .9852
SG1 5000.2 SG2	576.7 THA 29.01

ORBIT DETERMINATION ACCURACY

ST 89.2 SR	64.2 SS	130.9
CRT .9909 CRS	-.9754 CST	-.9959
LSA 170.4 MSA	13.2 SSA	1.2
EL1 109.7 EL2	7.0 ALF	35.67

LAUNCH DATE MAR 6 1971 FLIGHT TIME 250.00 ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC DISTANCE 631.232 EARTH TO MARS
RL 148.40 LAL -.00 LOL 164.77 VL 32.232 GAL -6.82 AZL 88.44 HCA 215.36 SMA 177.02 ECC .19971 INC 1.5613 V1 30.024
PLANETOCENTRIC CONIC
C3 22.877 VHL 4.783 DLA -4.83 RAL 319.10 RAD 8644.1 VEL 11.953 PTH 6.95 VHP 3.728 DPA -42.25 RAP 278.23 ECC 1.3765
DIFFERENTIAL CORRECTIONS
TDE 1.2349 TRA 3.2233 TC3-2.1737 BAU .6857
MID-COURSE EXECUTION ACCURACY
SGT 4639.8 SGR 2371.8 SG3 1720.4
ORBIT DETERMINATION ACCURACY
ST 94.1 SR 62.5 SS 130.1

LAUNCH DATE MAR 6 1971 FLIGHT TIME 260.00 ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC DISTANCE 635.401 EARTH TO MARS
RL 148.40 LAL -.00 LOL 164.77 VL 32.234 GAL -6.89 AZL 88.54 HCA 216.36 SMA 177.05 ECC .20C46 INC 1.4593 V1 30.024
PLANETOCENTRIC CONIC
C3 23.083 VHL 4.804 DLA -5.48 RAL 319.50 RAD 8644.2 VEL 11.961 PTH 6.96 VHP 3.742 DPA -41.67 RAP 277.35 ECC 1.3799
DIFFERENTIAL CORRECTIONS
TDE 1.2973 TRA 3.4323 TC3-2.2418 BAU .7100
MID-COURSE EXECUTION ACCURACY
SGT 4893.1 SGR 2270.3 SG3 1701.5
ORBIT DETERMINATION ACCURACY
ST 99.0 SR 60.9 SS 129.2

LAUNCH DATE MAR 6 1971 FLIGHT TIME 262.00 ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC DISTANCE 639.568 EARTH TO MARS
RL 148.40 LAL -.00 LOL 164.77 VL 32.236 GAL -6.95 AZL 88.64 HCA 217.76 SMA 177.09 ECC .20128 INC 1.3630 V1 30.024
PLANETOCENTRIC CONIC
C3 23.320 VHL 4.829 DLA -6.08 RAL 319.90 RAD 8644.3 VEL 11.971 PTH 6.97 VHP 3.760 DPA -41.10 RAP 276.54 ECC 1.3838
DIFFERENTIAL CORRECTIONS
TDE 1.3998 TRA 3.6392 TC3-2.3073 BAU .7352
MID-COURSE EXECUTION ACCURACY
SGT 5140.4 SGR 2171.6 SG3 1678.2
ORBIT DETERMINATION ACCURACY
ST 103.7 SR 59.3 SS 128.1

LAUNCH DATE MAR 6 1971 FLIGHT TIME 264.00 ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC DISTANCE 643.732 EARTH TO MARS
RL 148.40 LAL -.00 LOL 164.77 VL 32.239 GAL -7.02 AZL 88.73 HCA 218.96 SMA 177.14 ECC .20215 INC 1.2723 V1 30.024
PLANETOCENTRIC CONIC
C3 23.587 VHL 4.857 DLA -6.84 RAL 320.30 RAD 8644.4 VEL 11.982 PTH 6.98 VHP 3.781 DPA -40.55 RAP 275.80 ECC 1.3882
DIFFERENTIAL CORRECTIONS
TDE 1.4234 TRA 3.8453 TC3-2.3670 BAU .7602
MID-COURSE EXECUTION ACCURACY
SGT 5381.8 SGR 2077.1 SG3 1651.9
ORBIT DETERMINATION ACCURACY
ST 108.4 SR 57.8 SS 126.9

LAUNCH DATE MAR 6 1971

FLIGHT TIME 266.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC										DISTANCE 647.892										EARTH TO MARS																																																									
RL	148.40	LAL	-0.00	LOL	164.77	VL	32.242	GAL	-7.10	AZL	88.81	HCA	220.16	SMA	177.19	ECC	.20309	INC	1.1862	V1	30.024	RP	213.01	LAP	-0.76	LOP	24.92	VP	22.295	GAP	1.12	AZP	90.91	TAL	315.44	TAP	175.60	RCA	141.20	APO	213.17	V2	25.768	RC	135.643	GL	7.79	GP	-15.35	ZAL	154.86	ZAP	70.33	ETS	173.01	ZAE	111.96	ETE	185.97	ZAC	87.26	ETC	267.31	LVI	11.54												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																									
C3	23.682	VHL	4.887	DLA	-7.17	RAL	320.69	RAD	6644.5	VEL	11.994	PTH	6.99	VHP	3.807	DPA	-40.03	RAP	275.13	ECC	1.3930	SGT	5616.8	SGR	1986.3	SG3	1622.5	ST	113.0	SR	56.4	SS	125.6	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15
50.00	18	13	41	3033.64	-32.31	92.68	182.60	127.04	19	4	15	2033.8	-15.62	73.43	SGT	9578	RRF	.9731	RTF	.9827	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							
60.00	19	0	57	2908.11	-27.21	85.30	186.55	120.95	19	49	26	1908.1	-12.78	64.74	SGT	5957.7	R23	.0805	R13	.9857	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							
70.00	20	1	48	2729.23	-22.64	73.56	189.30	116.29	20	47	17	1729.2	-10.14	52.17	SGT	5933.1	SG2	540.5	THA	18.87	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							
80.00	21	17	57	2490.62	-19.30	57.11	190.95	113.23	21	59	28	1490.8	-8.18	35.26	SGT	5933.1	SG2	540.5	THA	18.87	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							
90.00	22	42	50	2216.96	-18.05	37.52	191.50	112.14	23	19	47	1217.0	-7.43	15.53	SGT	5933.1	SG2	540.5	THA	18.87	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							
100.00	0	4	45	1965.29	-19.30	18.47	190.95	113.23	0	37	30	965.3	-8.18	356.63	SGT	5933.1	SG2	540.5	THA	18.87	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							
110.00	1	5	10	1776.05	-22.64	2.47	189.30	116.29	1	34	46	776.1	-10.14	341.09	SGT	5933.1	SG2	540.5	THA	18.87	CR	.9729	CRS	-.9580	CST	-.9982	LSA	177.5	MSA	14.9	SSA	1.3	EL1	125.7	EL2	11.7	ALF	26.15																																							

LAUNCH DATE MAR 6 1971

FLIGHT TIME 266.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC										DISTANCE 652.048										EARTH TO MARS																																																									
RL	148.40	LAL	-0.00	LOL	164.77	VL	32.246	GAL	-7.17	AZL	88.90	HCA	221.35	SMA	177.24	ECC	.20409	INC	1.1045	V1	30.024	RP	213.31	LAP	-0.73	LOP	26.11	VP	22.261	GAP	.91	AZP	90.83	TAL	315.11	TAP	176.46	RCA	141.07	APO	213.41	V2	25.732	RC	137.991	GL	7.20	GP	-14.84	ZAL	155.23	ZAP	68.67	ETS	172.69	ZAE	110.40	ETE	184.92	ZAC	87.77	ETC	267.20	LVI	11.26												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																									
C3	24.206	VHL	4.920	DLA	-7.66	RAL	321.08	RAD	6644.7	VEL	12.008	PTH	7.00	VHP	3.836	DPA	-39.52	RAP	274.53	ECC	1.3904	SGT	5845.1	SGR	1899.5	SG3	1590.7	ST	117.5	SR	55.1	SS	124.3	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67
50.00	18	17	5	3027.26	-32.04	92.28	183.03	127.27	19	7	32	2027.3	-15.30	73.13	SGT	9547	RRF	.9693	RTF	.9833	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							
60.00	19	4	54	2900.08	-26.93	84.81	187.01	121.19	19	53	14	1900.1	-12.44	64.34	SGT	6146.0	R23	.0754	R13	.9858	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							
70.00	20	6	21	2719.40	-22.34	72.95	189.80	116.53	20	51	40	1719.4	-9.78	51.64	SGT	6146.0	R23	.0754	R13	.9858	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							
80.00	21	23	5	2479.19	-18.99	56.39	191.47	113.48	22	4	24	1479.2	-7.80	34.61	SGT	6146.0	R23	.0754	R13	.9858	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							
90.00	22	48	13	2204.52	-17.73	36.75	192.03	112.40	23	24	57	1204.5	-7.04	14.82	SGT	6146.0	R23	.0754	R13	.9858	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							
100.00	0	9	52	1953.66	-18.99	17.75	191.47	113.48	0	42	26	953.7	-7.80	355.98	SGT	6146.0	R23	.0754	R13	.9858	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							
110.00	1	9	43	1766.22	-22.34	1.87	189.80	116.53	1	39	9	766.2	-9.78	340.56	SGT	6146.0	R23	.0754	R13	.9858	CR	.9684	CRS	-.9539	CST	-.9985	LSA	179.0	MSA	15.2	SSA	1.3	EL1	129.1	EL2	12.5	ALF	24.67																																							

LAUNCH DATE MAR 6 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC										DISTANCE 656.200										EARTH TO MARS																																																									
RL	148.40	LAL	-0.00	LOL	164.77	VL	32.250	GAL	-7.23	AZL	88.97	HCA	222.54	SMA	177.30	ECC	.20514	INC	1.0269	V1	30.024	RP	213.61	LAP	-0.69	LOP	27.30	VP	22.227	GAP	.70	AZP	90.76	TAL	314.77	TAP	177.30	RCA	140.93	APO	213.67	V2	25.697	RC	140.356	GL	6.64	GP	-14.35	ZAL	155.59	ZAP	67.06	ETS	172.41	ZAE	108.87	ETE	184.33	ZAC	88.25	ETC	267.10	LVI	10.98												
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																									
C3	24.556	VHL	4.955	DLA	-8.12	RAL	321.47	RAD	6644.8	VEL	12.022	PTH	7.01	VHP	3.868	DPA	-39.03	RAP	273.99	ECC	1.4041	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR	.9637	CRS	-.9495	CST	-.9987	LSA	180.6	MSA	15.6	SSA	1.2	EL1	132.6	EL2	13.2	ALF	23.31
50.00	18	20	21	3021.55	-31.80	91.94	183.48	127.46	19	10	42	2021.6	-15.02	72.87	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			
60.00	19	8	41	2893.01	-26.68	84.38	187.50	121.40	19	56	54	1893.0	-12.14	63.98	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			
70.00	20	10	43	2710.62	-22.07	72.41	190.31	116.75	20	55	53	1710.6	-9.45	51.17	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			
80.00	21	27	59	2468.72	-18.70	55.74	192.00	113.71	22	9	8	1468.7	-7.45	34.02	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			
90.00	22	53	21	2193.27	-17.44	36.06	192.57	112.62	23	29	55	1193.3	-6.69	14.18	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			
100.00	0	14	47	1943.19	-18.70	17.11	192.00	113.71	0	47	10	943.2	-7.45	355.39	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			
110.00	1	14	5	1757.43	-22.07	1.33	190.31	116.75	1	43	22	757.4	-9.45	340.09	SGT	6067.4	SGR	1816.8	SG3	1556.9	ST	121.9	SR	53.8	SS	122.9																																																			

LAUNCH DATE MAR 6 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC										DISTANCE 660.348										EARTH TO MARS																																													
RL	148.40	LAL	-0.00	LOL	164.77	VL	32.254	GAL	-7.34	AZL	89.09	HCA	223.72	SMA	177.37	ECC	.20625	INC	.9529	V1	30.024	RP	213.92	LAP	-0.66	LOP	28.49	VP	22.193	GAP	.48	AZP	90.69	TAL	314.42	TAP	178.14	RCA	140.79	APO	213.95	V2	25.662	RC	142.739	GL	6.12	GP	-13.88	ZAL	155.94	ZAP	63.50	ETS	172.15	ZAE	107.36	ETE	183.78	ZAC	88.70	ETC	267.01	LVI	10.71
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	24.934	VHL	4.993	DLA	-8.55	RAL	321.85	RAD	6645.0	VEL	12.038	PTH	7.03	VHP	3.903	DPA	-38.56	RAP	273.51	ECC	1.4103	SGT	6282.5	SGR	1737.9	SG3	1521.1	ST	126.1	SR	52.7	SS	121.3	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR	.9588	CRS	-.9449</		

LAUNCH DATE MAR 6 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 8 1971

Heliocentric Conic: RL 148.40 LAL -0.00 LOL 164.77 VL 32.259 GAL -7.42 AZL 89.12 HCA 224.90 SMA 177.44 ECC .20742 INC .8822 V1 30.024
 RP 214.24 LAP -.62 LOP 29.67 VP 22.159 GAP .27 AZP 90.63 TAL 314.06 TAP 178.98 RCA 140.64 APO 214.25 V2 25.627
 RC 145.138 GL 5.62 GP -13.45 ZAL 156.28 ZAP 63.98 ETS 171.92 ZAE 105.89 ZAC 89.14 ETC 266.94 LVI 10.43

Planetocentric Conic: C3 25.338 VHL 5.034 DLA -8.96 RAL 322.23 RAD 6645.1 VEL 12.054 PTH 7.04 VHP 3.941 DPA -38.11 RAP 273.10 ECC 1.4170
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 32 3012.52 -31.43 91.41 184.46 127.76 19 16 44 2012.5 -14.58 72.47
 60.00 19 15 48 2881.49 -26.27 83.68 188.54 121.73 20 3 49 1881.5 -11.65 63.41
 70.00 20 18 54 2693.96 -21.62 71.51 191.41 117.11 21 3 50 1696.0 -8.91 50.38
 80.00 21 37 10 2430.93 -18.21 54.65 193.14 114.08 22 18 1 1450.9 -6.86 33.03
 90.00 23 2 59 2174.07 -16.93 34.88 193.73 112.99 23 39 13 1174.1 -6.08 13.10
 100.00 0 23 58 1925.42 -18.21 16.02 193.14 114.08 0 56 3 925.4 -6.86 354.40
 110.00 1 22 16 1742.78 -21.62 .43 191.41 117.11 1 51 19 742.8 -8.91 339.30

Differential Corrections: TDE 1.7468 TRA 4.8528 TC3-2.6073 BAU .8903 SGT 6489.2 SGR 1662.1 S63 1483.4 ST 130.1 SR 51.5 SS 119.5
 RDE .8351 RRA 1.1476 RC3 -.3303 FAU .11996 RRT .9417 RRF .9544 RTF .9846 CRT .9535 CRS -.9399 CST -.9990
 FDE 4.5397 FRA13.7499 FC3-4.0988 BSP 11137 SGB 6698.7 R23 .0613 R13 .9860 LSA 183.3 MSA 16.3 SSA 1.2
 BDE 1.9361 BRA 4.9864 BC3 2.6282 FSP 2758 SG1 6676.6 S62 543.6 THA 13.65 EL1 139.2 EL2 14.5 ALF 20.91

LAUNCH DATE MAR 6 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 7 1971

Heliocentric Conic: RL 148.40 LAL -0.00 LOL 164.77 VL 32.264 GAL -7.51 AZL 89.19 HCA 226.08 SMA 177.52 ECC .20864 INC .8145 V1 30.024
 RP 214.55 LAP -.59 LOP 30.85 VP 22.125 GAP .06 AZP 90.57 TAL 313.69 TAP 179.77 RCA 140.48 APO 214.56 V2 25.591
 RC 147.555 GL 5.14 GP -13.00 ZAL 156.61 ZAP 62.52 ETS 171.71 ZAE 104.44 ETE 182.84 ZAC 89.57 ETC 266.87 LVI 10.15

Planetocentric Conic: C3 25.769 VHL 5.076 DLA -9.33 RAL 322.61 RAD 6645.3 VEL 12.072 PTH 7.05 VHP 3.981 DPA -37.68 RAP 272.75 ECC 1.4241
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 28 3009.11 -31.28 91.21 184.98 127.87 19 19 37 2009.1 -14.41 72.31
 60.00 19 19 10 2876.94 -26.11 83.41 189.09 121.86 20 7 7 1876.9 -11.45 63.18
 70.00 20 22 45 2689.99 -21.43 71.15 191.98 117.25 21 7 35 1690.0 -8.69 50.06
 80.00 21 41 28 2443.54 -18.01 54.19 193.74 114.23 22 22 12 1443.5 -6.62 32.62
 90.00 23 7 30 2166.00 -16.72 34.38 194.33 113.15 23 43 36 1166.0 -5.83 12.64
 100.00 0 28 16 1918.01 -18.01 15.56 193.74 114.23 1 0 14 918.0 -6.62 353.98
 110.00 1 26 7 1736.81 -21.43 .06 191.98 117.25 1 55 4 736.8 -8.69 338.98

Differential Corrections: TDE 1.8172 TRA 5.0531 TC3-2.6380 BAU .9149 SGT 6694.3 SGR 1593.6 S63 1447.0 ST 134.4 SR 50.6 SS 118.2
 RDE .8324 RRA 1.0920 RC3 -.3061 FAU .11577 RRT .9357 RRF .9483 RTF .9847 CRT .9483 CRS -.9354 CST -.9992
 FDE 4.4939 FRA13.5199 FC3-3.8893 BSP 11512 SGB 6681.4 R23 .0587 R13 .9859 LSA 185.2 MSA 16.6 SSA 1.2
 BDE 1.9988 BRA 5.1717 BC3 2.6557 FSP 2713 SG1 6659.5 S62 548.7 THA 12.64 EL1 142.8 EL2 15.1 ALF 19.87

LAUNCH DATE MAR 6 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic: RL 148.40 LAL -0.00 LOL 164.77 VL 32.269 GAL -7.61 AZL 89.25 HCA 227.26 SMA 177.60 ECC .20992 INC .7497 V1 30.024
 RP 214.88 LAP -.55 LOP 32.03 VP 22.090 GAP -.15 AZP 90.51 TAL 313.31 TAP 180.57 RCA 140.32 APO 214.88 V2 25.554
 RC 149.988 GL 4.69 GP -12.59 ZAL 156.94 ZAP 61.09 ETS 171.52 ZAE 103.03 ETE 182.43 ZAC 89.97 ETC 266.81 LVI 9.87

Planetocentric Conic: C3 26.225 VHL 5.121 DLA -9.60 RAL 322.99 RAD 6645.5 VEL 12.091 PTH 7.07 VHP 4.024 DPA -37.27 RAP 272.45 ECC 1.4316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 32 18 3006.37 -31.17 91.05 185.52 127.96 19 22 24 2006.4 -14.28 72.19
 60.00 19 22 24 2873.14 -25.97 83.18 189.65 121.97 20 10 17 1873.1 -11.29 62.99
 70.00 20 26 27 2684.84 -21.27 70.83 192.57 117.37 21 11 11 1684.8 -8.49 49.79
 80.00 21 45 36 2437.03 -17.82 53.80 194.35 114.36 22 26 13 1437.0 -6.40 32.26
 90.00 23 11 49 2158.87 -16.52 33.95 194.95 113.28 23 47 48 1158.9 -5.60 12.24
 100.00 0 32 24 1911.50 -17.82 15.17 194.35 114.36 1 4 15 911.5 -6.40 353.62
 110.00 1 29 49 1731.65 -21.27 359.75 192.57 117.37 1 58 40 731.7 -8.49 338.70

Differential Corrections: TDE 1.8819 TRA 5.2497 TC3-2.6738 BAU .9429 SGT 6887.4 SGR 1525.6 S63 1407.2 ST 138.2 SR 49.6 SS 116.3
 RDE .8277 RRA 1.0361 RC3 -.2878 FAU .11300 RRT .9293 RRF .9413 RTF .9850 CRT .9426 CRS -.9354 CST -.9993
 FDE 4.4141 FRA13.2334 FC3-3.7303 BSP 11798 SGB 7054.3 R23 .0544 R13 .9860 LSA 186.5 MSA 17.0 SSA 1.2
 BDE 2.0558 BRA 5.3510 BC3 2.6893 FSP 2633 SG1 7032.7 S62 551.9 THA 11.70 EL1 145.9 EL2 15.7 ALF 18.90

LAUNCH DATE MAR 6 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic: RL 148.40 LAL -0.00 LOL 164.77 VL 32.275 GAL -7.70 AZL 89.31 HCA 228.43 SMA 177.68 ECC .21126 INC .6875 V1 30.024
 RP 215.21 LAP -.51 LOP 33.20 VP 22.056 GAP -.36 AZP 90.46 TAL 312.93 TAP 181.36 RCA 140.15 APO 215.22 V2 25.518
 RC 152.438 GL 4.26 GP -12.19 ZAL 157.26 ZAP 59.72 ETS 171.38 ZAE 101.64 ETE 182.06 ZAC 90.36 ETC 266.77 LVI 9.60

Planetocentric Conic: C3 26.708 VHL 5.168 DLA -10.01 RAL 323.36 RAD 6645.7 VEL 12.111 PTH 7.08 VHP 4.069 DPA -36.88 RAP 272.22 ECC 1.4395
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 35 2 3004.27 -31.08 90.92 186.07 128.03 19 25 7 2004.3 -14.18 72.10
 60.00 19 25 31 2870.04 -25.86 82.99 190.24 122.06 20 13 21 1870.0 -11.16 62.84
 70.00 20 30 0 2680.47 -21.13 70.57 193.18 117.48 21 14 40 1680.5 -8.33 49.55
 80.00 21 49 34 2431.39 -17.67 53.45 194.97 114.47 22 30 5 1431.4 -6.21 31.94
 90.00 23 15 58 2152.83 -16.36 33.57 195.58 113.40 23 51 50 1152.6 -5.41 11.89
 100.00 0 36 21 1905.86 -17.67 14.82 194.97 114.47 1 8 7 905.9 -6.21 353.31
 110.00 1 33 22 1727.29 -21.13 359.49 193.18 117.48 2 2 9 727.3 -8.33 338.47

Differential Corrections: TDE 1.9497 TRA 5.4470 TC3-2.7028 BAU .9698 SGT 7076.8 SGR 1463.1 S63 1368.2 ST 142.0 SR 48.7 SS 114.6
 RDE .8251 RRA .9838 RC3 -.2688 FAU .10960 RRT .9219 RRF .9337 RTF .9851 CRT .9369 CRS -.9247 CST -.9994
 FDE 4.3464 FRA12.9963 FC3-3.5527 BSP 12109 SGB 7226.4 R23 .0513 R13 .9860 LSA 188.0 MSA 17.3 SSA 1.2
 BDE 2.1171 BRA 5.3351 BC3 2.7159 FSP 2565 SG1 7205.0 S62 556.8 THA 10.86 EL1 149.2 EL2 16.2 ALF 18.02

LAUNCH DATE MAR 7 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.312 GAL -6.23 AZL 82.74 HCA 191.63 SMA 178.36 ECC .19888 INC 7.2562 V1 30.017
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.074 GAP 6.40 AZP 97.11 TAL 320.70 TAP 152.32 RCA 142.87 APO 213.85 V2 26.349
 RC 88.616 GL 42.81 GP -39.19 ZAL 131.56 ZAP 109.48 ETS 195.65 ZAE 135.58 ETE 230.19 ZAC 63.25 ETC 271.89 LVI 26.99

PLANETOCENTRIC CONIC
 C3 1.512 VHL 5.959 DLA 26.11 RAL 309.13 RAD 6649.1 VEL 12.466 PTH 7.36 VHP 5.209 DPA -61.51 RAP 306.54 ECC 1.5844
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 11 3813.36 -46.73 137.99 206.40 79.81 16 14 45 2813.4 -45.33 122.96
 60.00 15 16 6 3800.27 -38.90 154.52 204.11 77.05 16 19 26 2800.3 -39.67 123.43
 70.00 15 24 40 3775.03 -30.73 150.07 201.70 74.30 16 27 35 2775.0 -34.15 121.88
 80.00 15 43 38 3715.48 -24.07 143.28 199.42 71.79 16 45 33 2715.5 -29.36 117.11
 90.00 16 37 6 3542.77 -20.92 129.43 198.25 70.52 17 36 8 2542.8 -27.08 104.11
 100.00 18 26 30 3189.96 -24.07 104.65 199.42 71.79 19 19 40 2190.0 -29.36 78.48
 110.00 20 24 6 2821.85 -30.73 78.99 201.70 74.30 21 11 8 1821.9 -34.15 50.80

DIFFERENTIAL CORRECTIONS
 TDE .3733 TRA -.3673 TC3 -.4504 BAU .4975
 RDE 1.9980 RRA 3.9583 RC3 -.9462 FAU .09444
 FDE 3.9004 FRA 8.1254 FC3-2.3022 B8P 8217
 BDE 2.0330 BRA 3.9987 BC3 1.0479 F8P 1448

MID-COURSE EXECUTION ACCURACY
 SGT 887.3 SGR 4787.9 SG3 852.2
 RRT -.3003 RRF .9989 RTF -.2809
 SGB 4869.4 R23 -.0301 R13 .9986
 SGI 4795.5 SG2 845.0 THA 93.29

ORBIT DETERMINATION ACCURACY
 ST 20.2 SR 115.2 SS 102.8
 CRT .4957 CRS -.9997 CST -.4754
 LSA 154.7 HSA 17.7 H8A .3
 EL1 115.6 EL2 17.5 ALF 84.91

LAUNCH DATE MAR 7 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.300 GAL -6.22 AZL 83.55 HCA 192.87 SMA 178.18 ECC .19821 INC 6.4492 V1 30.017
 RP 208.08 LAP -1.43 LOP 358.96 VP 23.038 GAP 6.14 AZP 96.29 TAL 320.61 TAP 153.48 RCA 142.86 APO 213.50 V2 26.332
 RC 90.421 GL 39.48 GP -37.07 ZAL 134.10 ZAP 108.68 ETS 193.72 ZAE 136.40 ETE 227.27 ZAC 65.58 ETC 271.72 LVI 24.83

PLANETOCENTRIC CONIC
 C3 32.174 VHL 5.672 DLA 22.74 RAL 309.98 RAD 6647.8 VEL 12.333 PTH 7.26 VHP 4.933 DPA -59.60 RAP 304.50 ECC 1.5295
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 49 3714.89 -47.50 148.61 201.53 86.99 16 32 44 2714.9 -43.10 114.58
 60.00 15 42 5 3684.87 -39.84 145.01 200.64 83.37 16 43 30 2684.9 -38.18 113.99
 70.00 16 0 15 3631.34 -32.89 139.44 199.39 80.24 17 0 47 2631.3 -33.53 110.72
 80.00 16 33 40 3526.58 -27.47 130.29 198.18 77.80 17 32 26 2526.6 -29.82 103.11
 90.00 17 38 1 3318.76 -25.24 114.46 197.62 76.80 18 33 20 2318.8 -28.28 87.86
 100.00 19 16 31 3001.05 -27.47 91.65 198.18 77.80 20 6 32 2001.0 -29.82 64.48
 110.00 20 59 42 2678.16 -32.89 68.36 199.39 80.24 21 44 20 1678.2 -33.53 39.64

DIFFERENTIAL CORRECTIONS
 TDE .3873 TRA -.4053 TC3 -.5399 BAU .4756
 RDE 1.8181 RRA 3.7513 RC3 -.9648 FAU .10137
 FDE 4.0753 FRA 9.0256 FC3-2.7276 B8P 7973
 BDE 1.8589 BRA 3.7731 BC3 1.1056 F8P 1647

MID-COURSE EXECUTION ACCURACY
 SGT 851.6 SGR 4631.7 SG3 983.1
 RRT -.1104 RRF .9988 RTF -.0931
 SGB 4709.3 R23 -.0211 R13 .9987
 SGI 4632.6 SG2 846.2 THA 91.20

ORBIT DETERMINATION ACCURACY
 ST 20.7 SR 110.6 SS 106.1
 CRT .6064 CRS -.9994 CST -.5798
 LSA 153.1 HSA 16.8 H8A .6
 EL1 111.3 EL2 16.3 ALF 83.38

LAUNCH DATE MAR 7 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.280 GAL -6.22 AZL 84.22 HCA 194.11 SMA 178.02 ECC .19755 INC 5.7830 V1 30.017
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.003 GAP 5.88 AZP 95.61 TAL 320.51 TAP 154.62 RCA 142.85 APO 213.19 V2 26.313
 RC 92.259 GL 36.40 GP -35.16 ZAL 136.35 ZAP 107.65 ETS 191.88 ZAE 136.89 ETE 224.23 ZAC 67.31 ETC 271.54 LVI 23.30

PLANETOCENTRIC CONIC
 C3 29.714 VHL 5.451 DLA 19.73 RAL 310.78 RAD 6646.9 VEL 12.233 PTH 7.18 VHP 4.711 DPA -57.89 RAP 302.57 ECC 1.4890
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 47 29 3630.76 -47.49 140.48 197.23 93.25 16 48 0 2630.8 -40.69 107.92
 60.00 16 3 36 3587.86 -40.29 136.81 197.42 88.92 17 3 24 2587.9 -36.31 106.43
 70.00 16 28 19 3515.06 -33.88 130.52 197.02 85.42 17 26 54 2515.1 -32.23 101.90
 80.00 17 9 41 3385.41 -29.08 120.12 196.44 82.91 18 6 6 2385.4 -29.08 92.69
 90.00 18 18 35 3163.00 -27.20 103.49 196.18 81.94 19 11 18 2163.0 -27.44 76.50
 100.00 19 52 33 2859.88 -29.08 81.48 196.44 82.91 20 40 13 1859.9 -29.08 54.06
 110.00 21 27 46 2581.88 -33.88 59.43 197.02 85.42 22 10 28 1561.9 -32.23 30.82

DIFFERENTIAL CORRECTIONS
 TDE .4083 TRA -.2332 TC3 -.6325 BAU .4820
 RDE 1.6737 RRA 3.9855 RC3 -.9761 FAU .10794
 FDE 4.2236 FRA 9.8524 FC3-3.1449 B8P 7719
 BDE 1.7228 BRA 3.9731 BC3 1.1631 F8P 1832

MID-COURSE EXECUTION ACCURACY
 SGT 853.0 SGR 4481.0 SG3 1067.0
 RRT .1183 RRF .9986 RTF .134
 SGB 4561.4 R23 -.0110 R13 .9987
 SGI 4482.2 SG2 846.8 THA 88.66

ORBIT DETERMINATION ACCURACY
 ST 21.8 SR 106.3 SS 112.6
 CRT .7132 CRS -.9991 CST -.6827
 LSA 155.6 HSA 15.9 H8A .4
 EL1 107.5 EL2 15.1 ALF 81.50

LAUNCH DATE MAR 7 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.260 GAL -6.22 AZL 84.78 HCA 195.38 SMA 177.87 ECC .19699 INC 5.2234 V1 30.017
 RP 208.41 LAP -1.38 LOP 360.1 VP 22.968 GAP 5.63 AZP 95.04 TAL 320.41 TAP 155.78 RCA 142.83 APO 212.91 V2 26.294
 RC 94.128 GL 33.61 GP -33.44 ZAL 138.33 ZAP 106.41 ETS 190.13 ZAE 137.05 ETE 221.17 ZAC 69.06 ETC 271.33 LVI 21.97

PLANETOCENTRIC CONIC
 C3 27.881 VHL 5.278 DLA 17.02 RAL 311.50 RAD 6646.2 VEL 12.158 PTH 7.12 VHP 4.529 DPA -56.37 RAP 300.72 ECC 1.4588
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 1 56 3550.11 -48.98 133.53 193.60 98.57 17 1 14 2558.1 -38.29 102.61
 60.00 16 21 53 3504.91 -40.16 129.76 194.61 93.70 17 20 20 2504.9 -34.31 100.31
 70.00 16 51 34 3417.66 -34.15 122.93 194.85 89.90 17 48 31 2417.7 -30.62 94.77
 80.00 17 38 17 3271.22 -29.75 111.70 194.72 87.29 18 32 48 2271.2 -27.84 84.44
 90.00 18 49 56 3039.97 -28.06 94.60 194.61 86.31 19 40 36 2040.0 -26.76 67.66
 100.00 20 21 9 2745.69 -29.75 73.07 194.72 87.29 21 6 55 1745.7 -27.84 45.80
 110.00 21 51 0 2464.47 -34.15 51.84 194.85 89.90 22 32 4 1464.5 -30.62 23.68

DIFFERENTIAL CORRECTIONS
 TDE .4384 TRA -.0527 TC3 -.7275 BAU .4540
 RDE 1.5971 RRA 3.3983 RC3 -.9780 FAU .11389
 FDE 4.3546 FRA10.6138 FC3-3.5388 B8P 7484
 BDE 1.6171 BRA 3.3987 BC3 1.2189 F8P 2007

MID-COURSE EXECUTION ACCURACY
 SGT 904.3 SGR 4336.5 SG3 1163.9
 RRT .3475 RRF .9985 RTF .3601
 SGB 4429.8 R23 .0006 R13 .9986
 SGI 4348.3 SG2 845.6 THA 85.69

ORBIT DETERMINATION ACCURACY
 ST 23.7 SR 102.4 SS 116.4
 CRT .8026 CRS -.9986 CST -.7706
 LSA 156.2 HSA 15.1 H8A .5
 EL1 104.2 EL2 13.9 ALF 79.27

LAUNCH DATE MAR 7 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 21 1971

Heliocentric Conic: RL 148.44 LAL -.00 LOL 168.77 VL 32.272 GAL -6.23 AZL 85.29 HCA 196.89 SMA 177.74 ECC .19653 INC 4.7463 V1 30.017 RP 208.88 LAP -1.35 LOP 2.31 VP 22.933 GAP 5.38 AZP 94.55 TAL 320.28 TAP 156.87 RCA 142.61 APO 212.68 V2 26.274 RC 96.027 GL 31.08 GP -31.88 ZAL 140.10 ZAP 104.99 ETS 188.50 ZAE 136.92 ETE 218.13 ZAC 70.65 ETC 271.12 LV1 20.81

Planetocentric Conic: C3 28.443 VHL 5.142 DLA 14.58 RAL 312.19 RAD 6648.6 VEL 12.100 PTH 7.08 VHP 4.377 DPA -54.99 RAP 298.94 ECC 1.4352 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE .4690 TRA .1337 TC3 -.8251 BAW .4518 RDE 1.4597 RRA 3.2442 RC3 -.9759 FAU .11964 FDE 4.4658 FRA11.3062 FC3-3.9168 B8P 7258 BDE 1.5332 BRA 3.2469 BC3 1.2779 FSP 2165

Mid-Course Execution Accuracy: SGT 1008.4 SGR 4195.5 SG3 1253.3 RRT .5381 RRF .9982 RTF .5484 SGB 4315.0 R23 .0134 R13 .9982 SG1 4231.9 SG2 842.7 THA 82.32

Orbit Determination Accuracy: ST 26.3 SR 98.8 SS 119.8 CRT .8698 CRS -.9931 CST -.8377 LSA 156.7 MSA 14.4 SSA .6 EL1 101.4 EL2 12.6 ALF 76.77

LAUNCH DATE MAR 7 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 23 1971

Heliocentric Conic: RL 148.44 LAL -.00 LOL 165.77 VL 32.264 GAL -6.23 AZL 85.67 HCA 197.83 SMA 177.63 ECC .19616 INC 4.3347 V1 30.017 RP 208.76 LAP -1.33 LOP 3.55 VP 22.898 GAP 5.14 AZP 94.13 TAL 320.15 TAP 157.98 RCA 142.79 APO 212.47 V2 26.254 RC 97.935 GL 28.79 GP -30.44 ZAL 141.66 ZAP 103.44 ETS 186.98 ZAE 136.54 ETE 215.18 ZAC 72.11 ETC 270.89 LV1 19.79

Planetocentric Conic: C3 25.348 VHL 5.034 DLA 12.37 RAL 312.84 RAD 6645.1 VEL 12.055 PTH 7.04 VHP 4.249 DPA -53.74 RAP 297.22 ECC 1.4171 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE .5062 TRA .3258 TC3 -.9242 BAW .4527 RDE 1.3801 RRA 3.1038 RC3 -.9648 FAU .12457 FDE 4.5708 FRA11.9439 FC3-4.2548 B8P 7079 BDE 1.4700 BRA 3.1208 BC3 1.3360 FSP 2318

Mid-Course Execution Accuracy: SGT 1158.4 SGR 4060.6 SG3 1335.9 RRT .6764 RRF .9980 RTF .6848 SGB 4222.6 R23 .0273 R13 .9977 SG1 4138.8 SG2 837.1 THA 78.61

Orbit Determination Accuracy: ST 29.4 SR 95.5 SS 122.5 CRT .9170 CRS -.9974 CST -.8862 LSA 157.4 MSA 13.8 SSA .6 EL1 99.2 EL2 11.3 ALF 74.02

LAUNCH DATE MAR 7 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 25 1971

Heliocentric Conic: RL 148.44 LAL -.00 LOL 165.77 VL 32.258 GAL -6.25 AZL 86.02 HCA 199.07 SMA 177.53 ECC .19588 INC 3.9755 V1 30.017 RP 208.94 LAP -1.30 LOP 4.80 VP 22.864 GAP 4.89 AZP 93.76 TAL 320.00 TAP 159.07 RCA 142.75 APO 212.30 V2 26.232 RC 99.910 GL 26.69 GP -29.13 ZAL 143.08 ZAP 101.78 ETS 185.56 ZAE 135.94 ETE 212.31 ZAC 73.45 ETC 270.67 LV1 18.90

Planetocentric Conic: C3 24.491 VHL 4.949 DLA 10.37 RAL 313.46 RAD 6644.8 VEL 12.019 PTH 7.01 VHP 4.141 DPA -52.59 RAP 295.55 ECC 1.4031 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE .5472 TRA .5228 TC3-1.0236 BAW .4575 RDE 1.3119 RRA 2.9712 RC3 -.9510 FAU .12924 FDE 4.6391 FRA12.5154 FC3-4.3686 B8P 6910 BDE 1.4211 BRA 3.0169 BC3 1.3972 FSP 2453

Mid-Course Execution Accuracy: SGT 1344.1 SGR 3927.0 SG3 1410.5 RRT .7706 RRF .9977 RTF .76 LSA 158.1 MSA 13.3 SSA .7 EL1 97.5 EL2 9.9 ALF 71.05

LAUNCH DATE MAR 7 1971

FLIGHT TIME 234.00

ARRIVAL DATE OCT 27 1971

Heliocentric Conic: RL 148.44 LAL -.00 LOL 168.77 VL 32.252 GAL -6.26 AZL 86.34 HCA 200.30 SMA 177.44 ECC .19569 INC 3.6591 V1 30.017 RP 208.14 LAP -1.27 LOP 6.04 VP 22.830 GAP 4.86 AZP 93.43 TAL 319.85 TAP 160.15 RCA 142.71 APO 212.16 V2 26.209 RC 101.882 GL 24.78 GP -27.91 ZAL 144.31 ZAP 100.03 ETS 184.25 ZAE 135.14 ETE 209.60 ZAC 74.69 ETC 270.43 LV1 18.10

Planetocentric Conic: C3 23.824 VHL 4.881 DLA 8.55 RAL 314.05 RAD 6644.5 VEL 11.992 PTH 6.99 VHP 4.050 DPA -51.53 RAP 293.92 ECC 1.3921 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE .5922 TRA .7243 TC3-1.1220 BAW .4656 RDE 1.2503 RRA 2.8442 RC3 -.9372 FAU .13392 FDE 4.7263 FRA13.0174 FC3-4.8665 B8P 6766 BDE 1.3834 BRA 2.9350 BC3 1.4619 FSP 2563

Mid-Course Execution Accuracy: SGT 1556.3 SGR 3793.4 SG3 1476.7 RRT .8342 RRF .9973 RTF .8401 SGB 4100.2 R23 .0572 R13 .9957 SG1 4019.4 SG2 809.9 THA 70.27

Orbit Determination Accuracy: ST 37.1 SR 89.2 SS 126.5 CRT .9688 CRS -.9958 CST -.9423 LSA 158.6 MSA 12.9 SSA .8 EL1 96.2 EL2 8.5 ALF 67.86

LAUNCH DATE MAR 7 1971

FLIGHT TIME 236.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.247 GAL DISTANCE 584.882 EARTH TO MARS
RP 209.34 LAP -1.24 LOP 7.27 VP 22.706 GAP -6.29 AZL 86.02 HCA 201.84 SMA 177.36 ECC .19559 INC 3.3783 V1 30.017
RC 103.900 GL 23.03 GP -26.77 ZAL 148.43 ZAP 86.21 E78 183.03 ZAE 134.18 E7E 207.04 ZAC 75.85 E7C 270.20 LV2 26.186

PLANETOCENTRIC CONIC

C3 23.308 VHL 4.828 DLA 6.89 RAL 314.61 RAD 8644.3 VEL 11.970 PTH 6.97 VHP 3.873 DPA -50.54 RAP 292.34 ECC 1.3036
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 53 52 3308.23 -42.02 111.68 183.70 114.76 17 49 0 2308.2 -26.37 87.09

DIFFERENTIAL CORRECTIONS

TDE .6352 TRA .9255 TC3-1.2298 BAU .4745
RDE 1.2096 RRA 2.7362 RC3 -.8980 FAU .13539
PDE 4.8408 FRA13.5191 FC3-5.0289 B8P 6794
BDE 1.3663 BRA 2.8865 BC3 1.5227 F8P 2724

MID-COURSE EXECUTION ACCURACY

SGT 1789.5 SGR 3673.8 SG3 1940.1
RRT .8712 RRF .9969 RTF .8770
SGB 4088.2 R23 .0718 R13 .9944
SG1 4008.0 S62 803.7 THA 65.98

ORBIT DETERMINATION ACCURACY

ST 41.2 SR 87.0 SS 129.0
CRT .9826 CR8 -.9949 CST -.9591
LSA 160.5 M8A 12.4 S8A .9
EL1 96.0 EL2 6.9 ALF 64.88

LAUNCH DATE MAR 7 1971

FLIGHT TIME 236.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.243 GAL DISTANCE 589.035 EARTH TO MARS
RP 209.55 LAP -1.21 LOP 8.51 VP 22.762 GAP -6.31 AZL 86.87 HCA 202.77 SMA 177.29 ECC .19557 INC 3.1268 V1 30.017
RC 105.933 GL 21.42 GP -25.71 ZAL 146.44 ZAP 96.33 E7S 181.90 ZAE 133.08 E7E 204.84 ZAC 76.93 E7C 269.97 LV2 16.78

PLANETOCENTRIC CONIC

C3 22.911 VHL 4.787 DLA 5.37 RAL 315.14 RAD 8644.1 VEL 11.954 PTH 6.96 VHP 3.908 DPA -49.61 RAP 290.81 ECC 1.3771
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 38 3273.63 -41.00 108.97 182.81 116.64 17 56 12 2273.6 -26.84 89.17

DIFFERENTIAL CORRECTIONS

TDE .8831 TRA 1.1328 TC3-1.3279 BAU .4878
RDE 1.1628 RRA 2.6206 RC3 -.8782 FAU .13909
PDE 4.8878 FRA13.9047 FC3-5.2560 B8P 6728
BDE 1.3494 BRA 2.8550 BC3 1.5920 F8P 2809

MID-COURSE EXECUTION ACCURACY

SGT 2035.5 SGR 3545.5 SG3 1990.9
RRT .9008 RRF .9968 RTF .9062
SGB 4088.3 R23 .0850 R13 .9929
SG1 4013.0 S62 780.9 THA 61.47

ORBIT DETERMINATION ACCURACY

ST 43.9 SR 84.1 SS 130.1
CRT .9906 CR8 -.9937 CST -.9696
LSA 161.1 M8A 12.2 S8A .9
EL1 95.6 EL2 5.5 ALF 61.53

LAUNCH DATE MAR 7 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.238 GAL DISTANCE 593.210 EARTH TO MARS
RP 209.76 LAP -1.18 LOP 9.74 VP 22.729 GAP -6.34 AZL 87.10 HCA 204.00 SMA 177.24 ECC .19563 INC 2.9003 V1 30.017
RC 107.990 GL 19.93 GP -24.71 ZAL 147.38 ZAP 94.41 E78 180.88 ZAE 131.83 E7E 202.41 ZAC 77.94 E7C 269.74 LV2 16.20

PLANETOCENTRIC CONIC

C3 22.613 VHL 4.755 DLA 3.87 RAL 315.88 RAD 8644.0 VEL 11.942 PTH 6.94 VHP 3.854 DPA -48.73 RAP 289.32 ECC 1.3721
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 50 3242.80 -40.02 108.63 182.15 118.24 18 2 52 2242.6 -25.45 83.53

DIFFERENTIAL CORRECTIONS

TDE .7366 TRA 1.3416 TC3-1.4258 BAU .5028
RDE 1.1197 RRA 2.5088 RC3 -.8984 FAU .14243
PDE 4.9174 FRA14.2271 FC3-5.4529 B8P 6690
BDE 1.3403 BRA 2.8450 BC3 1.6632 F8P 2874

MID-COURSE EXECUTION ACCURACY

SGT 2291.8 SGR 3415.3 SG3 1633.1
RRT .9214 RRF .9958 RTF .5269
SGB 4113.0 R23 .0965 R13 .9914
SG1 4043.6 S62 752.4 THA 56.98

ORBIT DETERMINATION ACCURACY

ST 50.6 SR 81.3 SS 130.8
CRT .9955 CR8 -.9924 CST -.9768
LSA 161.7 M8A 12.1 S8A 1.0
EL1 95.7 EL2 4.1 ALF 58.15

LAUNCH DATE MAR 7 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.238 GAL DISTANCE 597.386 EARTH TO MARS
RP 209.99 LAP -1.15 LOP 10.97 VP 22.688 GAP -6.37 AZL 87.30 HCA 208.23 SMA 177.20 ECC .19577 INC 2.6951 V1 30.017
RC 110.071 GL 18.56 GP -23.77 ZAL 148.19 ZAP 92.46 E7S 179.89 ZAE 130.90 E7E 200.34 ZAC 78.89 E7C 269.51 LV2 15.88

PLANETOCENTRIC CONIC

C3 22.389 VHL 4.733 DLA 2.89 RAL 316.16 RAD 8643.9 VEL 11.933 PTH 6.94 VHP 3.811 DPA -47.90 RAP 287.88 ECC 1.3688
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 15 31 3214.71 -39.11 104.59 181.67 119.62 18 9 6 2214.7 -24.18 82.10

DIFFERENTIAL CORRECTIONS

TDE .7881 TRA 1.5517 TC3-1.5239 BAU .5190
RDE 1.0854 RRA 2.4051 RC3 -.8259 FAU .14432
PDE 4.9591 FRA14.5164 FC3-5.3782 B8P 6763
BDE 1.3420 BRA 2.8622 BC3 1.7333 F8P 2950

MID-COURSE EXECUTION ACCURACY

SGT 2355.4 SGR 3291.6 SG3 1669.7
RRT .9350 RRF .9951 RTF .9404
SGB 4167.1 R23 .1057 R13 .9899
SG1 4103.2 S62 726.8 THA 52.65

ORBIT DETERMINATION ACCURACY

ST 55.5 SR 78.9 SS 131.6
CRT .9983 CR8 -.9910 CST -.9823
LSA 162.8 M8A 12.0 S8A 1.0
EL1 95.5 EL2 2.7 ALF 54.89

LAUNCH DATE MAR 7 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 601.563

EARTH TO MARS

RL 148.44 LAL -.00 LOL 169.77 VL 32.234 GAL -6.41 AZL 87.49 HCA 206.49 SMA 177.16 ECC .19908 INC 2.9001 V1 30.017
RP 210.22 LAP -1.12 LOP 12.20 VP 22.661 GAP 3.50 AZP 92.25 TAL 318.89 TAP 169.34 RCA 142.44 APO 211.96 V2 26.068
RC 112.177 GL 17.29 GP -22.08 ZAL 148.95 ZAP 90.50 ETS 179.00 ZAE 129.09 ETE 196.43 ZAC 79.80 ETC 269.28 LVI 19.20

PLANETOCENTRIC CONIC

C3 22.285 VHL 4.718 DLA 1.81 RAL 316.64 RAD 6643.8 VEL 11.927 PTH 6.93 VHP 3.778 DPA -47.10 RAP 266.60 ECC 1.3669
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 47 3189.60 -38.25 102.81 181.35 120.80 18 14 56 2189.6 -23.02 80.83
60.00 17 59 46 3088.55 -32.97 97.11 184.76 114.63 18 51 14 2088.5 -20.21 74.20
70.00 18 50 14 2940.13 -28.31 87.30 186.98 109.96 19 39 14 1940.1 -17.62 63.92
80.00 19 56 54 2731.34 -24.97 72.71 188.22 106.93 20 42 26 1731.3 -15.72 49.12
90.00 21 17 38 2470.83 -23.73 53.96 188.62 105.86 21 58 49 1470.8 -15.01 30.32
100.00 22 39 46 2205.81 -24.97 34.07 188.22 106.93 23 16 32 1205.8 -15.72 10.49
110.00 23 49 40 1986.95 -28.31 16.22 186.96 109.96 24 22 47 986.9 -17.72 352.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8428 TRA 1.7622 TC3-1.6213 BAU .5372 SGT 2823.4 SGR 3168.7 SG3 1898.5 ST 60.5 SR 76.6 SS 132.1
RDE 1.0545 RRA 2.3044 RC3 -.7946 FAU .14580 RRT .9447 RRF .9944 RTF .9504 CRT .9995 CRS -.9895 CST -.9862
PDE 4.9892 FRA14.7489 FC3-5.6715 B8P 6863 SGB 4244.1 R23 .1124 R13 .9886 LSA 163.8 MSA 12.0 SSA 1.1
BDE 1.3499 BRA 2.9010 BC3 1.8058 F8P 3010 SG1 4185.8 SG2 700.8 THA 48.49 EL1 .97.6 EL2 1.5 ALF 51.71

LAUNCH DATE MAR 7 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 605.741

EARTH TO MARS

RL 148.44 LAL -.00 LOL 165.77 VL 32.232 GAL -6.45 AZL 87.66 HCA 207.68 SMA 177.14 ECC .19827 INC 2.3370 V1 30.017
RP 210.45 LAP -1.09 LOP 13.43 VP 22.628 GAP 3.28 AZP 92.07 TAL 318.68 TAP 166.34 RCA 142.37 APO 211.91 V2 26.058
RC 114.307 GL 16.10 GP -22.03 ZAL 149.85 ZAP 88.54 ETS 176.16 ZAE 127.61 ETE 196.67 ZAC 80.65 ETC 269.06 LVI 14.77

PLANETOCENTRIC CONIC

C3 22.173 VHL 4.709 DLA .41 RAL 317.11 RAD 6643.8 VEL 11.923 PTH 6.93 VHP 3.748 DPA -46.34 RAP 285.17 ECC 1.3849
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 27 38 3166.96 -37.44 101.23 181.15 121.82 18 20 25 2167.0 -21.97 78.70
60.00 18 6 47 3082.83 -32.22 95.34 184.64 115.64 18 57 50 2062.8 -19.18 72.80
70.00 18 58 32 2910.64 -27.61 85.30 186.93 110.96 19 47 3 1910.6 -16.62 62.23
80.00 20 6 23 2698.19 -24.29 70.48 188.23 107.92 20 51 21 1808.2 -14.73 47.16
90.00 21 27 37 2436.04 -23.06 51.63 188.65 106.84 22 8 13 1436.0 -14.02 28.24
100.00 22 49 15 2172.66 -24.29 31.84 188.23 107.92 23 25 27 1172.7 -14.73 8.93
110.00 0 1 54 1957.45 -27.61 14.21 186.93 110.96 0 34 32 957.5 -16.62 351.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8982 TRA 1.9736 TC3-1.7157 BAU .5565 SGT 3093.9 SGR 3047.4 SG3 1720.0 ST 65.5 SR 74.3 SS 132.4
RDE 1.0265 RRA 2.2071 RC3 -.7619 FAU .14680 RRT .9517 RRF .9935 RTF .9580 CRT .9997 CRS -.9877 CST -.9891
PDE 5.0093 FRA14.9308 FC3-5.7282 B8P 7008 SGB 4342.7 R23 .1167 R13 .9875 LSA 164.9 MSA 12.1 SSA 1.1
BDE 1.3640 BRA 2.9010 BC3 1.8771 F8P 3058 SG1 4290.0 SG2 674.7 THA 44.54 EL1 99.1 EL2 1.2 ALF 48.62

LAUNCH DATE MAR 7 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 609.918

EARTH TO MARS

RL 148.44 LAL -.00 LOL 165.77 VL 32.231 GAL -6.49 AZL 87.82 HCA 208.90 SMA 177.12 ECC .19863 INC 2.1794 V1 30.017
RP 210.70 LAP -1.05 LOP 14.69 VP 22.594 GAP 3.06 AZP 91.91 TAL 318.43 TAP 167.33 RCA 142.30 APO 211.95 V2 26.030
RC 116.460 GL 15.00 GP -21.22 ZAL 150.30 ZAP 86.57 ETS 177.42 ZAE 126.08 ETE 195.05 ZAC 81.46 ETC 266.85 LVI 14.36

PLANETOCENTRIC CONIC

C3 22.146 VHL 4.706 DLA -.60 RAL 317.57 RAD 6643.8 VEL 11.922 PTH 6.93 VHP 3.729 DPA -45.60 RAP 283.90 ECC 1.3845
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 33 10 3148.53 -36.70 99.84 181.06 122.71 18 25 36 2146.5 -21.01 78.71
60.00 18 13 22 3039.56 -31.53 93.76 184.61 116.53 19 4 2 2039.6 -18.24 71.55
70.00 19 6 19 2883.87 -26.94 83.50 186.97 111.83 19 54 23 1883.9 -15.69 60.70
80.00 20 15 14 2688.05 -23.65 68.47 188.32 108.78 20 59 43 1683.0 -13.82 45.39
90.00 21 36 57 2404.39 -22.42 49.53 188.76 107.70 22 17 2 1404.4 -13.11 26.36
100.00 22 58 6 2142.52 -23.85 29.84 188.32 108.78 23 33 49 1142.5 -13.82 8.76
110.00 0 9 41 1930.69 -26.94 12.42 186.97 111.83 0 41 52 930.7 -15.69 349.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9344 TRA 2.1845 TC3-1.8082 BAU .5772 SGT 3364.7 SGR 2927.6 SG3 1734.2 ST 70.5 SR 72.1 SS 132.5
RDE 1.0011 RRA 2.1123 RC3 -.7284 FAU .14716 RRT .9567 RRF .9925 RTF .537 CRT .9991 CRS -.9858 CST -.9913
PDE 5.0191 FRA15.0986 FC3-5.7527 B8P 7185 SGB 4460.1 R23 .1185 R13 .9866 LSA 166.1 MSA 12.2 SSA 1.2
BDE 1.3831 BRA 3.0388 BC3 1.9494 F8P 3092 SG1 4412.8 SG2 649.7 THA 40.85 EL1 100.9 EL2 2.2 ALF 45.65

LAUNCH DATE MAR 7 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 614.095

EARTH TO MARS

RL 148.44 LAL -.00 LOL 165.77 VL 32.231 GAL -6.54 AZL 87.97 HCA 210.12 SMA 177.12 ECC .19706 INC 2.0340 V1 30.017
RP 210.98 LAP -1.02 LOP 15.87 VP 22.561 GAP 2.84 AZP 91.76 TAL 318.18 TAP 168.30 RCA 142.22 APO 212.02 V2 26.001
RC 116.637 GL 13.97 GP -20.45 ZAL 150.90 ZAP 84.62 ETS 176.73 ZAE 124.51 ETE 193.57 ZAC 82.23 ETC 268.65 LVI 13.98

PLANETOCENTRIC CONIC

C3 22.186 VHL 4.708 DLA -1.54 RAL 318.02 RAD 6643.8 VEL 11.923 PTH 6.93 VHP 3.716 DPA -44.90 RAP 282.70 ECC 1.3848
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 38 22 3128.10 -36.02 98.82 181.06 123.48 18 30 30 2128.1 -20.14 77.82
60.00 18 19 35 3018.49 -30.88 92.35 184.67 117.30 19 9 53 2018.5 -17.38 70.43
70.00 19 13 37 2859.56 -26.31 81.89 187.09 112.60 20 1 17 1859.6 -14.84 59.73
80.00 20 23 33 2640.60 -23.03 66.88 188.48 109.54 21 7 34 1640.6 -12.97 43.79
90.00 21 45 42 2375.53 -21.81 47.63 188.94 108.46 22 25 18 1375.5 -12.27 24.67
100.00 23 6 25 2115.07 -23.03 28.03 188.48 109.54 23 41 40 1115.1 -12.97 5.16
110.00 0 17 0 1906.38 -26.31 10.80 187.09 112.60 0 48 46 906.4 -14.84 348.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0118 TRA 2.3955 TC3-1.8978 BAU .5987 SGT 3635.1 SGR 2810.3 SG3 1742.1 ST 75.6 SR 70.1 SS 132.4
RDE .9785 RRA 2.0209 RC3 -.6940 FAU .14701 RRT .9602 RRF .9913 RTF .9681 CRT .9978 CRS -.9837 CST -.9930
PDE 5.0229 FRA15.1449 FC3-5.7418 B8P 7404 SGB 4594.7 R23 .1183 R13 .9860 LSA 167.3 MSA 12.3 SSA 1.2
BDE 1.4076 BRA 3.1341 BC3 2.0204 F8P 3118 SG1 4551.7 SG2 627.1 THA 37.42 EL1 103.0 EL2 3.4 ALF 42.83

LAUNCH DATE MAR 7 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.231 GAL -6.59 AZL 88.10 HCA 211.33 SMA 177.12 ECC .19756 INC 1.8991 V1 30.017
 RP 211.20 LAP -.99 LOP -17.09 VP 22.527 GAP 2.62 AZP 91.62 TAL 317.93 TAP 169.26 RCA 142.13 APO 212.11 V2 25.972
 RC 120.836 GL 13.01 GP -19.71 ZAL 151.45 ZAP 82.69 ETS 176.09 ZAE 122.91 ETE 192.22 ZAC 82.97 ETC 268.45 LVI 13.82

DISTANCE 618.272

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.230 VHL 4.715 DLA -2.41 RAL 318.46 RAD 8643.8 VEL 11.926 PTH 6.93 VHP 3.709 DPA -44.21 RAP 261.56 ECC 1.3659
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 18 3111.47 -35.39 97.53 181.14 124.16 18 35 10 2111.5 -19.35 77.02
 60.00 18 25 26 2999.41 -30.26 91.10 184.80 117.98 19 15 25 1999.4 -16.60 69.43
 70.00 19 20 30 2837.46 -25.73 80.44 187.27 113.28 20 7 48 1837.5 -14.06 58.10
 80.00 20 31 22 2615.57 -22.45 65.03 188.70 110.22 21 14 58 1615.6 -12.19 42.35
 90.00 21 53 56 2349.19 -21.23 45.92 189.17 109.13 22 33 5 1349.2 -11.48 23.13
 100.00 23 14 14 2090.05 -22.45 26.40 188.70 110.22 23 49 4 1090.0 -12.19 3.71
 110.00 0 23 53 1864.28 -25.73 9.35 187.27 113.28 0 55 17 864.3 -14.06 347.02

DIFFERENTIAL CORRECTIONS

TDE 1.0705 TRA 2.6061 TC3-1.9826 BAU .6210
 RDE .9579 RRA 1.9319 RC3 -.6599 FAU .14650
 FDE 5.0170 FRA15.1827 FC3-5.7053 B8P 7652
 BDE 1.4365 BRA 3.2440 BC3 2.0895 F8P 3131

MID-COURSE EXECUTION ACCURACY

SGT 3903.1 SGR 2695.0 SG3 1743.3
 RRT .9626 RRF .9900 RTF .9717
 SGB 4743.2 R23 .1162 R13 .9856
 SG1 4704.3 SG2 606.0 THA 34.26

ORBIT DETERMINATION ACCURACY

ST 80.6 SR 68.0 SS 132.0
 CRT .9960 CRS -.9814 CST -.9942
 LSA 168.5 MSA 12.5 SSA 1.2
 EL1 105.4 EL2 4.6 ALF 40.15

LAUNCH DATE MAR 7 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.232 GAL -6.64 AZL 88.23 HCA 212.54 SMA 177.13 ECC .19813 INC 1.7737 V1 30.017
 RP 211.46 LAP -.95 LOP 18.30 VP 22.494 GAP 2.40 AZP 91.50 TAL 317.66 TAP 170.20 RCA 142.04 APO 212.23 V2 25.942
 RC 123.058 GL 12.10 GP -19.01 ZAL 151.98 ZAP 80.77 ETS 175.50 ZAE 121.30 ETE 190.98 ZAC 83.67 ETC 268.27 LVI 13.28

DISTANCE 622.447

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.334 VHL 4.726 DLA -3.21 RAL 318.89 RAD 8643.9 VEL 11.930 PTH 6.93 VHP 3.708 DPA -43.55 RAP 280.49 ECC 1.3676
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 47 59 3096.49 -34.81 98.56 181.29 124.75 18 39 36 2096.5 -18.64 76.32
 60.00 18 30 59 2982.14 -29.72 89.97 185.00 118.58 19 20 41 1982.1 -15.89 68.53
 70.00 19 27 1 2817.37 -25.18 79.13 187.51 113.87 20 13 58 1817.4 -13.35 56.98
 80.00 20 38 45 2592.75 -21.91 63.55 188.98 110.81 21 21 58 1592.7 -11.47 41.03
 90.00 22 1 41 2325.14 -20.69 44.36 189.47 109.72 22 40 27 1325.1 -10.76 21.73
 100.00 23 21 37 2067.22 -21.91 24.92 188.98 110.81 23 56 4 1067.2 -11.47 2.40
 110.00 0 30 23 1864.19 -25.18 8.05 187.51 113.87 1 1 27 864.2 -13.35 345.90

DIFFERENTIAL CORRECTIONS

TDE 1.1299 TRA 2.8158 TC3-2.0641 BAU .6440
 RDE .9391 RRA 1.8458 RC3 -.8257 FAU .14551
 FDE 5.0031 FRA15.1808 FC3-5.6408 B8P 7923
 BDE 1.4692 BRA 3.3668 BC3 2.1569 F8P 3134

MID-COURSE EXECUTION ACCURACY

SGT 4168.2 SGR 2582.5 SG3 1738.8
 RRT .9640 RRF .9885 RTF .9744
 SGB 4903.4 R23 .1127 R13 .9854
 SG1 4668.0 SG2 588.0 THA 31.36

ORBIT DETERMINATION ACCURACY

ST 85.6 SR 66.1 SS 131.5
 CRT .9938 CRS -.9789 CST -.9952
 LSA 169.8 MSA 12.8 SSA 1.2
 EL1 108.0 EL2 5.8 ALF 37.63

LAUNCH DATE MAR 7 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.233 GAL -6.70 AZL 88.34 HCA 213.75 SMA 177.15 ECC .19876 INC 1.6566 V1 30.017
 RP 211.73 LAP -.92 LOP 19.51 VP 22.480 GAP 2.18 AZP 91.38 TAL 317.38 TAP 171.13 RCA 141.94 APO 212.36 V2 25.911
 RC 125.302 GL 11.26 GP -18.33 ZAL 152.47 ZAP 78.89 ETS 174.97 ZAE 119.67 ETE 189.85 ZAC 84.33 ETC 268.09 LVI 12.95

DISTANCE 626.620

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.474 VHL 4.741 DLA -3.97 RAL 319.32 RAD 8643.9 VEL 11.936 PTH 6.94 VHP 3.712 DPA -42.92 RAP 279.48 ECC 1.3699
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 26 3083.01 -34.28 95.71 181.49 125.27 18 43 49 2083.0 -17.93 75.69
 60.00 18 36 14 2968.52 -29.21 88.97 185.25 119.10 19 25 41 1968.5 -15.24 67.72
 70.00 19 33 10 2799.11 -24.87 77.96 187.81 114.40 20 19 49 1799.1 -12.69 55.98
 80.00 20 45 44 2571.93 -21.40 62.22 189.31 111.33 21 28 36 1571.9 -10.81 39.84
 90.00 22 9 2 2303.16 -20.18 42.96 189.80 110.25 22 47 25 1303.2 -10.10 20.46
 100.00 23 28 36 2046.40 -21.40 23.59 189.31 111.33 24 2 42 1046.4 -10.81 1.21
 110.00 0 36 32 1845.93 -24.87 6.88 187.81 114.40 1 7 18 845.9 -12.69 344.89

DIFFERENTIAL CORRECTIONS

TDE 1.1903 TRA 3.0247 TC3-2.1418 BAU .6676
 RDE .9225 RRA 1.7627 RC3 -.5916 FAU .14405
 FDE 4.9851 FRA15.1438 FC3-5.5492 B8P 8220
 BDE 1.5059 BRA 3.5009 BC3 2.2220 F8P 3130

MID-COURSE EXECUTION ACCURACY

SGT 4429.6 SGR 2473.5 SG3 1729.3
 RRT .9646 RRF .9867 RTF .5.66
 SGB 5073.4 R23 .1084 R13 .9853
 SG1 5040.9 SG2 573.4 THA 28.71

ORBIT DETERMINATION ACCURACY

ST 90.6 SR 64.3 SS 130.9
 CRT .9912 CRS -.9762 CST -.9961
 LSA 171.2 MSA 13.0 SSA 1.2
 EL1 110.9 EL2 6.9 ALF 35.29

LAUNCH DATE MAR 7 1971

FLIGHT TIME 258.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -0.00 LOL 165.77 VL 32.235 GAL -6.76 AZL 88.45 HCA 214.96 SMA 177.17 ECC .19946 INC 1.5469 V1 30.017
 RP 212.01 LAP -.89 LOP 20.72 VP 22.426 GAP 1.97 AZP 91.27 TAL 317.09 TAP 172.05 RCA 141.84 APO 212.51 V2 25.880
 RC 127.586 GL 10.46 GP -17.69 ZAL 152.93 ZAP 77.04 ETS 174.48 ZAE 118.05 ETE 188.81 ZAC 84.97 ETC 267.93 LVI 12.84

DISTANCE 630.792

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.649 VHL 4.759 DLA -4.67 RAL 319.74 RAD 8644.0 VEL 11.943 PTH 6.95 VHP 3.721 DPA -42.30 RAP 278.55 ECC 1.3727
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 41 3070.90 -33.80 94.95 181.75 125.72 18 47 52 2070.9 -17.41 75.13
 60.00 18 41 14 2952.41 -28.74 88.07 185.54 119.57 19 30 27 1952.4 -14.65 66.99
 70.00 19 39 1 2782.53 -24.20 76.90 188.15 114.87 20 25 23 1782.5 -12.09 55.07
 80.00 20 52 21 2552.94 -20.92 61.01 189.68 111.80 21 34 54 1552.9 -10.20 38.76
 90.00 22 15 39 2283.09 -19.70 41.68 190.19 110.71 22 54 2 1283.1 -9.48 19.30
 100.00 23 35 12 2027.41 -20.92 22.38 189.68 111.80 24 9 0 1027.4 -10.20 .13
 110.00 0 42 23 1829.35 -24.20 5.82 188.15 114.87 1 12 52 829.4 -12.09 343.98

DIFFERENTIAL CORRECTIONS

TDE 1.2513 TRA 3.2323 TC3-2.2151 BAU .6917
 RDE .9071 RRA 1.6823 RC3 -.5581 FAU .14221
 FDE 4.9574 FRA15.0708 FC3-5.4361 B8P 8531
 BDE 1.5455 BRA 3.6439 BC3 2.2843 F8P 3116

MID-COURSE EXECUTION ACCURACY

SGT 4886.1 SGR 2367.3 SG3 1714.6
 RRT .9645 RRF .9847 RTF .9783
 SGB 5250.1 R23 .1035 R13 .9852
 SG1 5220.0 SG2 561.5 THA 26.30

ORBIT DETERMINATION ACCURACY

ST 95.5 SR 62.5 SS 130.1
 CRT .9883 CRS -.9732 CST -.9967
 LSA 172.5 MSA 13.3 SSA 1.2
 EL1 113.8 EL2 8.0 ALF 33.11

LAUNCH DATE MAR 7 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.237 GAL -6.82 AZL 88.56 HCA 216.16 SMA 177.21 ECC .20022 INC 1.4439 V1 30.017
 RP 212.29 LAP -.85 LOP 21.92 VP 22.392 GAP 1.75 AZP 91.17 TAL 316.80 TAP 172.96 RCA 141.73 APO 212.69 V2 25.848
 RC 129.850 GL 9.71 GP -17.07 ZAL 153.37 ZAP 75.23 ETS 174.03 ZAE 116.43 ETE 187.87 ZAC 85.58 ETC 267.77 LVI 12.33

PLANETOCENTRIC CONIC
 C3 22.855 VHL 4.781 DLA -5.32 RAL 320.15 RAD 6644.1 VEL 11.952 PTH 6.95 VHP 3.735 DPA -41.71 RAP 277.68 ECC 1.3761
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 43 3060.07 -33.37 94.27 182.05 126.12 18 51 45 2060.1 -18.89 74.63
 60.00 18 48 0 2939.70 -28.31 87.27 185.88 119.88 19 35 0 1939.7 -14.11 66.34
 70.00 19 44 34 2767.50 -23.77 75.95 188.52 115.28 20 30 41 1767.5 -11.94 54.24
 80.00 20 58 37 2535.64 -20.48 59.91 190.08 112.21 21 40 53 1535.6 -9.64 37.78
 90.00 22 22 35 2284.76 -19.25 40.52 190.60 111.12 23 0 19 1264.8 -8.92 18.25
 100.00 23 41 29 2010.11 -20.48 21.28 190.08 112.21 24 14 59 1010.1 -9.64 359.15
 110.00 0 47 56 1814.32 -23.77 4.87 188.52 115.28 1 18 10 814.3 -11.54 343.16

MID-COURSE EXECUTION ACCURACY
 SGT 4936.9 SGR 2264.1 S63 1695.2
 RRT .9638 RRF .9824 RTF .9798
 S6B 5431.3 R23 .0979 R13 .9853
 S61 5403.2 S62 551.7 THA 24.11

ORBIT DETERMINATION ACCURACY
 ST 100.3 SR 60.9 SS 129.1
 CRT .9850 CRS -.9700 CST -.9972
 LSA 173.9 MSA 13.7 SSA 1.3
 EL1 116.9 EL2 9.0 ALF 31.08

DIFFERENTIAL CORRECTIONS
 TDE 1.3128 TRA 3.4381 TC3-2.2846 BAU .7164
 RDE .8930 RRA 1.6041 RC3 -.5263 FAU .14025
 FDE 4.9212 FRA14.9624 FC3-5.3125 BSP 8848
 BDE 1.5877 BRA 3.7939 BC3 2.3445 FSP 3090

LAUNCH DATE MAR 7 1971

FLIGHT TIME 262.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.239 GAL -6.89 AZL 88.65 HCA 217.36 SMA 177.25 ECC .20104 INC 1.3470 V1 30.017
 RP 212.57 LAP -.82 LOP 23.12 VP 22.359 GAP 1.54 AZP 91.07 TAL 316.49 TAP 173.85 RCA 141.61 APO 212.83 V2 25.815
 RC 132.153 GL 9.01 GP -16.48 ZAL 153.79 ZAP 73.45 ETS 173.82 ZAE 114.82 ETE 187.01 ZAC 86.16 ETC 267.63 LVI 12.03

PLANETOCENTRIC CONIC
 C3 23.093 VHL 4.806 DLA -5.93 RAL 320.56 RAD 6644.2 VEL 11.962 PTH 6.96 VHP 3.753 DPA -41.13 RAP 276.88 ECC 1.3801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 38 3050.40 -32.98 93.68 182.38 126.47 18 55 28 2050.4 -16.42 74.18
 60.00 18 50 33 2928.28 -27.92 86.55 186.26 120.34 19 39 21 1928.3 -13.63 65.76
 70.00 19 49 51 2753.90 -23.37 75.09 188.94 115.64 20 35 45 1753.9 -11.05 53.50
 80.00 21 4 36 2519.90 -20.07 58.92 190.52 112.58 21 46 35 1519.9 -9.13 36.89
 90.00 22 28 51 2248.05 -18.84 39.47 191.05 111.49 23 6 19 1248.1 -8.40 17.30
 100.00 23 47 27 1994.37 -20.07 20.29 190.52 112.58 24 20 42 994.4 -9.13 358.26
 110.00 0 53 13 1800.72 -23.37 4.01 188.94 115.64 1 23 14 800.7 -11.05 342.42

MID-COURSE EXECUTION ACCURACY
 SGT 5182.7 SGR 2165.3 S63 1672.3
 RRT .9625 RRF .9798 RTF .9810
 S6B 5616.8 R23 .0923 R13 .9854
 S61 5590.3 S62 544.9 THA 22.13

ORBIT DETERMINATION ACCURACY
 ST 105.0 SR 59.3 SS 128.0
 CRT .9815 CRS -.9866 CST -.9978
 LSA 175.3 MSA 14.0 SSA 1.3
 EL1 120.2 EL2 9.9 ALF 29.20

DIFFERENTIAL CORRECTIONS
 TDE 1.3755 TRA 3.6436 TC3-2.3485 BAU .7409
 RDE .8808 RRA 1.3292 RC3 -.4945 FAU .13776
 FDE 4.8836 FRA14.8317 FC3-5.1648 BSP 9188
 BDE 1.6333 BRA 3.9515 BC3 2.3999 FSP 3061

LAUNCH DATE MAR 7 1971

FLIGHT TIME 264.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.242 GAL -6.96 AZL 88.74 HCA 218.56 SMA 177.29 ECC .20192 INC 1.2553 V1 30.017
 RP 212.86 LAP -.78 LOP 24.32 VP 22.325 GAP 1.33 AZP 90.98 TAL 316.17 TAP 174.73 RCA 141.49 APO 213.09 V2 25.782
 RC 134.475 GL 8.34 GP -15.91 ZAL 154.19 ZAP 71.72 ETS 173.25 ZAE 113.23 ETE 186.23 ZAC 86.72 ETC 267.50 LVI 11.73

PLANETOCENTRIC CONIC
 C3 23.360 VHL 4.833 DLA -6.50 RAL 320.96 RAD 6644.3 VEL 11.973 PTH 6.97 VHP 3.775 DPA -40.58 RAP 276.15 ECC 1.3844
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 21 3041.83 -32.63 93.16 182.78 126.77 18 59 3 2041.8 -16.00 73.79
 60.00 18 54 53 2918.05 -27.98 85.92 186.67 120.65 19 43 31 1918.1 -13.20 65.24
 70.00 19 54 53 2741.62 -23.01 74.33 189.38 115.97 20 40 35 1741.6 -10.60 52.84
 80.00 21 10 17 2505.61 -19.70 58.03 190.99 112.90 21 52 2 1505.6 -8.66 36.09
 90.00 22 34 49 2232.84 -18.46 38.51 191.53 111.81 23 12 2 1232.8 -7.93 16.43
 100.00 23 53 9 1980.08 -19.70 19.40 190.99 112.90 24 26 9 980.1 -8.66 357.46
 110.00 0 58 16 1788.44 -23.01 3.24 189.38 115.97 1 28 4 788.4 -10.60 341.76

MID-COURSE EXECUTION ACCURACY
 SGT 5421.6 SGR 2089.9 S63 1645.8
 RRT .9605 RRF .9768 RTF .519
 S6B 5803.3 R23 .0867 R13 .9855
 S61 5778.1 S62 540.1 THA 20.32

ORBIT DETERMINATION ACCURACY
 ST 109.6 SR 57.8 SS 126.8
 CRT .9776 CRS -.9829 CST -.9980
 LSA 176.7 MSA 14.3 SSA 1.3
 EL1 123.4 EL2 10.8 ALF 27.48

DIFFERENTIAL CORRECTIONS
 TDE 1.4379 TRA 3.8468 TC3-2.4095 BAU .7684
 RDE .8694 RRA 1.4568 RC3 -.4848 FAU .13528
 FDE 4.8363 FRA14.8728 FC3-5.0130 BSP 9519
 BDE 1.6803 BRA 4.1131 BC3 2.4540 FSP 3022

LAUNCH DATE MAR 7 1971

FLIGHT TIME 266.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC
 RL 148.44 LAL -.00 LOL 165.77 VL 32.246 GAL -7.03 AZL 88.83 HCA 219.78 SMA 177.34 ECC .20286 INC 1.1688 V1 30.017
 RP 213.16 LAP -.75 LOP 25.52 VP 22.291 GAP 1.12 AZP 90.90 TAL 315.89 TAP 175.60 RCA 141.37 APO 213.32 V2 25.749
 RC 136.814 GL 7.71 GP -15.37 ZAL 154.58 ZAP 70.03 ETS 172.91 ZAE 111.85 ETE 185.52 ZAC 87.25 ETC 267.38 LVI 11.44

PLANETOCENTRIC CONIC
 C3 23.658 VHL 4.864 DLA -7.03 RAL 321.36 RAD 6644.4 VEL 11.985 PTH 6.98 VHP 3.800 DPA -40.05 RAP 275.49 ECC 1.3893
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 55 3034.27 -32.32 92.70 183.17 127.03 19 2 29 2034.3 -15.64 73.45
 60.00 18 59 2 2908.94 -27.24 85.36 187.11 120.93 19 47 31 1908.9 -12.81 64.78
 70.00 19 59 42 2730.57 -22.68 73.64 189.85 116.25 20 45 13 1730.6 -10.19 52.24
 80.00 21 15 42 2492.86 -19.35 57.22 191.49 113.19 21 57 15 1492.7 -8.24 35.36
 90.00 22 40 30 2219.03 -18.11 37.85 192.04 112.10 23 17 29 1219.0 -7.50 15.64
 100.00 0 2 30 1967.13 -19.35 18.59 191.49 113.19 0 35 17 967.1 -8.24 358.73
 110.00 1 3 4 1777.39 -22.68 2.96 189.85 116.25 1 32 42 777.4 -10.19 341.16

MID-COURSE EXECUTION ACCURACY
 SGT 5654.9 SGR 1978.6 S63 1616.5
 RRT .9581 RRF .9733 RTF .9827
 S6B 5991.0 R23 .0812 R13 .9856
 S61 5966.9 S62 537.4 THA 18.69

ORBIT DETERMINATION ACCURACY
 ST 114.2 SR 56.3 SS 125.5
 CRT .9735 CRS -.9590 CST -.9983
 LSA 178.2 MSA 14.7 SSA 1.3
 EL1 126.8 EL2 11.6 ALF 25.89

DIFFERENTIAL CORRECTIONS
 TDE 1.5017 TRA 4.0491 TC3-2.4649 BAU .7916
 RDE .8595 RRA 1.3870 RC3 -.4357 FAU .13240
 FDE 4.7875 FRA14.4950 FC3-4.8457 BSP 9862
 BDE 1.7303 BRA 4.2801 BC3 2.5031 FSP 2978

LAUNCH DATE MAR 7 1971

FLIGHT TIME 266.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -.00 LOL 165.77 VL 32.249 GAL -7.11 AZL 88.91 MCA 220.84 SMA 177.40 ECC .20386 INC 1.0865 V1 30.017
RP 213.46 LAP -.71 LOP 26.71 VP 22.257 GAP .91 AZP 90.82 TAL 315.51 TAP 178.45 RCA 141.24 APO 213.56 V2 25.714
RC 139.171 GL 7.12 GP -14.85 ZAL 154.95 ZAP 88.39 ETS 172.61 ZAE 110.10 ETE 184.87 ZAC 87.76 ETC 267.27 LVI 11.18

PLANETOCENTRIC CONIC

C3 23.979 VHL 4.897 DLA -7.93 RAL 321.76 RAD 6644.6 VEL 11.998 PTH 6.99 VHP 3.829 DPA -39.53 RAP 274.80 ECC 3.8946
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 15 21 3027.65 -32.03 92.31 183.80 127.28 19 5 48 2027.6 -15.32 73.15
60.00 19 3 1 2900.86 -26.96 94.86 187.58 121.17 19 51 22 1900.9 -12.47 64.38
70.00 20 4 18 2720.60 -22.38 73.03 190.35 116.50 20 49 39 1720.7 -9.83 51.71
80.00 21 20 52 2480.96 -19.04 56.50 192.02 113.45 22 2 13 1481.0 -7.83 34.71
90.00 22 45 56 2206.51 -17.78 36.88 192.57 112.36 23 22 43 1206.5 -7.11 14.93
100.00 0 7 40 1955.43 -19.04 17.86 192.02 113.45 0 40 16 955.4 -7.85 356.08
110.00 1 7 40 1767.49 -22.38 1.94 190.35 116.50 1 37 8 767.5 -9.83 340.63

DIFFERENTIAL CORRECTIONS

TDE 1.5656 TRA 4.2500 TC3-2.5167 BAU .8173
RDE .8507 RRA 1.3200 RC3 -.4082 FAU .12942
FDE 4.7339 FRA14.2990 FC3-4.6726 BSP 10202
BDE 1.7638 BRA 4.4503 BC3 2.5496 FSP 2929

MID-COURSE EXECUTION ACCURACY

SGT 8881.4 SGR 1891.5 SG3 1584.7
RRT .9549 RRF .9695 RTF .9833
SG8 6178.1 R23 .0761 R13 .9857
SG1 6154.7 SG2 536.5 THA 17.21

ORBIT DETERMINATION ACCURACY

ST 118.6 SR 55.0 SS 124.2
CRT .9690 CRS -.9549 CST -.9985
LSA 179.6 MSA 15.0 S8A 1.3
EL1 130.1 EL2 12.4 ALF 24.43

LAUNCH DATE MAR 7 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -.00 LOL 165.77 VL 32.254 GAL -7.19 AZL 88.99 MCA 222.13 SMA 177.46 ECC .20492 INC 1.0084 V1 30.017
RP 213.77 LAP -.68 LOP 27.90 VP 22.222 GAP .70 AZP 90.75 TAL 315.17 TAP 177.30 RCA 141.13 APO 213.63 V2 25.680
RC 141.945 GL 6.56 GP -14.36 ZAL 155.31 ZAP 86.79 ETS 172.33 ZAE 108.58 ETE 184.28 ZAC 88.24 ETC 267.18 LVI 10.67

PLANETOCENTRIC CONIC

C3 24.329 VHL 4.932 DLA -7.99 RAL 322.15 RAD 6644.7 VEL 12.013 PTH 7.00 VHP 3.861 DPA -39.04 RAP 274.37 ECC 1.4004
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 39 3021.91 -31.82 91.96 184.06 127.45 19 9 1 2021.9 -15.04 72.69
60.00 19 6 30 2893.76 -26.71 84.43 188.07 121.38 19 55 4 1893.8 -12.17 64.02
70.00 20 8 42 2711.86 -22.11 72.48 190.88 116.72 20 53 54 1711.9 -9.50 51.23
80.00 21 25 49 2470.44 -18.75 55.83 192.56 113.67 22 6 59 1470.4 -7.51 34.12
90.00 22 51 7 2195.22 -17.49 36.18 193.13 112.50 23 27 42 1195.2 -6.75 14.29
100.00 0 12 37 1944.91 -18.75 17.21 192.56 113.67 0 45 2 944.9 -7.51 355.49
110.00 1 12 4 1758.67 -22.11 1.40 190.88 116.72 1 41 23 758.7 -9.50 340.15

DIFFERENTIAL CORRECTIONS

TDE 1.6307 TRA 4.4500 TC3-2.5636 BAU .8430
RDE .8433 RRA 1.2589 RC3 -.3816 FAU .12619
FDE 4.6787 FRA14.0887 FC3-4.4905 BSP 10546
BDE 1.8358 BRA 4.6238 BC3 2.5919 FSP 2878

MID-COURSE EXECUTION ACCURACY

SGT 8101.6 SGR 1808.7 SG3 1551.0
RRT .9512 RRF .9651 RTF .9838
SG8 6364.0 R23 .0714 R13 .9858
SG1 6341.3 SG2 537.3 THA 15.86

ORBIT DETERMINATION ACCURACY

ST 122.9 SR 53.7 SS 122.7
CRT .9644 CRS -.9506 CST -.9987
LSA 181.2 MSA 15.4 S8A 1.3
EL1 133.5 EL2 13.1 ALF 23.09

LAUNCH DATE MAR 7 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -.00 LOL 165.77 VL 32.258 GAL -7.27 AZL 89.07 MCA 223.31 SMA 177.53 ECC .20603 INC .9339 V1 30.017
RP 214.08 LAP -.64 LOP 29.08 VP 22.188 GAP .49 AZP 90.68 TAL 314.81 TAP 178.13 RCA 140.95 APO 214.11 V2 25.645
RC 143.936 GL 6.02 GP -13.88 ZAL 155.66 ZAP 85.24 ETS 172.08 ZAE 107.08 ETE 183.74 ZAC 88.71 ETC 267.09 LVI 10.58

PLANETOCENTRIC CONIC

C3 24.708 VHL 4.971 DLA -8.42 RAL 322.54 RAD 6644.9 VEL 12.028 PTH 7.02 VHP 3.896 DPA -38.57 RAP 273.91 ECC 1.4086
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 21 49 3017.00 -31.61 91.67 184.55 127.61 19 12 6 2017.0 -14.80 72.67
60.00 19 10 30 2887.36 -26.49 84.05 188.59 121.56 19 58 37 1887.6 -11.90 63.71
70.00 20 12 55 2704.04 -21.87 72.00 191.42 116.91 20 57 59 1704.0 -9.21 50.81
80.00 21 30 32 2461.02 -18.49 55.27 193.13 113.87 22 11 33 1461.0 -7.20 33.59
90.00 22 56 4 2185.06 -17.22 35.55 193.70 112.78 23 22 29 1185.1 -6.43 13.72
100.00 0 17 20 1935.90 -18.49 16.63 193.13 113.87 0 49 36 935.5 -7.20 354.96
110.00 1 16 17 1750.86 -21.87 .92 191.42 116.91 1 45 28 750.9 -9.21 339.73

DIFFERENTIAL CORRECTIONS

TDE 1.8963 TRA 4.6487 TC3-2.8066 BAU .8690
RDE .8368 RRA 1.1941 RC3 -.3570 FAU .12300
FDE 4.6192 FRA13.8644 FC3-4.3101 BSP 10885
BDE 1.8918 BRA 4.7996 BC3 2.8310 FSP 2820

MID-COURSE EXECUTION ACCURACY

SGT 8315.2 SGR 1729.9 SG3 1515.6
RRT .9468 RRF .9602 RTF .542
SG8 6547.9 R23 .0868 R13 .9859
SG1 6525.7 SG2 538.0 THA 14.64

ORBIT DETERMINATION ACCURACY

ST 127.2 SR 52.6 SS 121.2
CRT .9595 CRS -.9460 CST -.9989
LSA 182.7 MSA 15.7 S8A 1.2
EL1 136.9 EL2 13.8 ALF 21.86

LAUNCH DATE MAR 7 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 148.44 LAL -.00 LOL 165.77 VL 32.263 GAL -7.38 AZL 89.14 MCA 224.48 SMA 177.60 ECC .20720 INC .8629 V1 30.017
RP 214.39 LAP -.60 LOP 30.26 VP 22.154 GAP .28 AZP 90.12 TAL 314.45 TAP 178.65 RCA 140.80 APO 214.40 V2 25.609
RC 146.344 GL 5.92 GP -13.43 ZAL 156.00 ZAP 83.74 ETS 171.85 ZAE 105.61 ETE 183.25 ZAC 89.15 ETC 267.02 LVI 10.30

PLANETOCENTRIC CONIC

C3 25.108 VHL 5.011 DLA -8.83 RAL 322.93 RAD 6645.0 VEL 12.049 PTH 7.03 VHP 3.934 DPA -38.12 RAP 273.51 ECC 1.4132
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 24 53 3012.86 -31.44 91.43 185.05 127.75 19 15 6 2012.9 -14.60 72.48
60.00 19 14 1 2882.21 -26.30 83.73 189.12 121.71 20 2 3 1882.2 -11.68 63.44
70.00 20 16 57 2697.17 -21.66 71.58 191.98 117.00 21 1 54 1697.2 -8.95 50.45
80.00 21 35 4 2452.64 -18.26 54.75 193.71 114.04 22 15 56 1452.6 -6.92 33.13
90.00 23 0 49 2175.98 -16.98 34.99 194.29 112.96 23 37 4 1176.0 -6.15 13.21
100.00 0 21 51 1927.11 -18.26 16.12 193.71 114.04 0 53 58 927.1 -6.92 354.49
110.00 1 20 19 1743.99 -21.66 .50 191.98 117.00 1 49 23 744.0 -8.95 339.36

DIFFERENTIAL CORRECTIONS

TDE 1.7800 TRA 4.0439 TC3-2.6488 BAU .8963
RDE .8302 RRA 1.1339 RC3 -.3352 FAU .12018
FDE 4.5480 FRA13.6191 FC3-4.1436 BSP 11190
BDE 1.9460 BRA 4.9749 BC3 2.6699 FSP 2748

MID-COURSE EXECUTION ACCURACY

SGT 8520.2 SGR 1654.0 SG3 1477.9
RRT .9418 RRF .9546 RTF .9846
SG8 6726.7 R23 .0620 R13 .9860
SG1 6704.9 SG2 540.7 THA 13.53

ORBIT DETERMINATION ACCURACY

ST 131.2 SR 51.4 SS 119.4
CRT .9543 CRS -.9411 CST -.9990
LSA 184.0 MSA 16.1 S8A 1.2
EL1 140.2 EL2 14.4 ALF 20.72

LAUNCH DATE MAR 7 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC DISTANCE 668.184 EARTH TO MARS
RL 148.44 LAL -.00 LOL 188.77 VL 32.268 GAL -7.45 AZL 89.20 HCA 228.67 SMA 177.68 ECC .20843 INC .7949 V1 30.017
RP 214.72 LAP -.57 LOP 31.44 VP 22.119 GAP .06 AZP 90.56 TAL 314.08 TAP 179.79 RCA 140.65 APO 214.72 V2 25.973
RC 148.770 GL 3.04 GP -13.00 ZAL 156.34 ZAP 62.28 ETS 171.65 ZAE 104.17 ETE 182.81 ZAC 89.58 ETC 266.95 LVI 10.02

PLANETOCENTRIC CONIC
C3 25.540 VHL 5.054 DLA -9.21 RAL 323.31 RAD 6645.2 VEL 12.063 PTH 7.05 VHP 3.974 DPA -37.66 RAP 273.17 ECC 1.4203
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 27 31 3009.46 -31.30 91.23 185.58 127.66 19 18 0 2009.5 -14.43 72.33
60.00 19 17 24 2877.68 -26.14 83.45 189.68 121.84 20 5 21 1877.7 -11.48 63.22
70.00 20 20 49 2691.21 -21.47 71.22 192.56 117.22 21 5 40 1691.2 -8.73 50.13
80.00 21 39 25 2445.25 -18.05 54.30 194.31 114.19 22 20 9 1445.2 -6.67 32.71
90.00 23 5 21 2167.93 -16.77 34.50 194.90 113.11 23 41 28 1167.9 -5.89 12.78
100.00 0 26 11 1919.72 -18.05 15.67 194.31 114.19 0 58 11 919.7 -6.67 354.08
110.00 1 24 11 1738.03 -21.47 .14 192.56 117.22 1 53 9 738.0 -8.73 339.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8327 TRA 5.0473 TC3-2.6754 BAU .9196 SGT 6725.7 SGR 1586.8 SG3 1442.8 ST 135.5 SR 50.5 SS 116.3
RDE .8285 RRA 1.0798 RC3 -.3088 FAU .11539 RRT .9356 RRF .9485 RTF .9845 CRT .9491 CRS -.9368 CST -.9992
FDE 4.5118 FRA13.4051 FC3-3.9113 B8P 11596 SGB 6910.4 R23 .0602 R13 .9857 LSA 186.2 HSA 16.4 SSA 1.2
BDE 2.0112 BRA 5.1616 BC3 2.6932 F8P 2717 SGI 6868.7 SG2 546.9 TMA 12.53 EL1 143.9 EL2 15.0 ALF 19.71

LAUNCH DATE MAR 7 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC DISTANCE 672.317 EARTH TO MARS
RL 148.44 LAL -.00 LOL 165.77 VL 32.273 GAL -7.54 AZL 89.27 HCA 228.84 SMA 177.77 ECC .20971 INC .7299 V1 30.017
RP 215.04 LAP -.53 LOP 32.61 VP 22.089 GAP -.15 AZP 90.50 TAL 313.71 TAP 180.55 RCA 140.49 APO 215.04 V2 25.536
RC 151.211 GL 4.59 GP -12.58 ZAL 156.66 ZAP 60.87 ETS 171.47 ZAE 102.76 ETE 182.40 ZAC 89.98 ETC 266.90 LVI 9.73

PLANETOCENTRIC CONIC
C3 25.994 VHL 5.098 DLA -9.56 RAL 323.69 RAD 6645.4 VEL 12.081 PTH 7.06 VHP 4.017 DPA -37.27 RAP 272.89 ECC 1.4278
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 30 42 3006.73 -31.18 91.07 186.13 127.95 19 20 49 2006.7 -14.30 72.21
60.00 19 20 39 2875.88 -26.00 83.23 190.25 121.95 20 8 33 1873.9 -11.32 63.03
70.00 20 24 32 2686.07 -21.31 70.91 193.16 117.34 21 9 18 1686.1 -8.54 49.85
80.00 21 43 32 2438.75 -17.87 53.90 194.93 114.32 22 24 11 1438.8 -6.46 32.35
90.00 23 9 41 2160.81 -16.58 34.07 195.52 113.24 23 45 42 1160.8 -5.67 12.35
100.00 0 30 20 1913.22 -17.87 15.27 194.93 114.32 1 2 13 913.2 -6.46 353.72
110.00 1 27 54 1732.89 -21.31 359.83 193.16 117.34 1 56 47 732.9 -8.54 338.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8942 TRA 5.2375 TC3-2.7145 BAU .9488 SGT 6915.1 SGR 1517.6 SG3 1402.3 ST 139.1 SR 49.4 SS 116.2
RDE .8226 RRA 1.0233 RC3 -.2920 FAU .11323 RRT .9293 RRF .9414 RTF .9849 CRT .9434 CRS -.9312 CST -.9993
FDE 4.4195 FRA13.1318 FC3-3.7711 B8P 11644 SGB 7079.7 R23 .0551 R13 .9859 LSA 187.1 HSA 16.8 SSA 1.2
BDE 2.0651 BRA 5.3366 BC3 2.7302 F8P 2623 SGI 7058.3 SG2 549.1 TMA 11.60 EL1 146.8 EL2 15.5 ALF 18.74

LAUNCH DATE MAR 7 1971 FLIGHT TIME 280.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC DISTANCE 676.443 EARTH TO MARS
RL 148.44 LAL -.00 LOL 165.77 VL 32.279 GAL -7.64 AZL 89.33 HCA 228.01 SMA 177.88 ECC .21104 INC .6874 V1 30.017
RP 215.37 LAP -.50 LOP 33.78 VP 22.091 GAP -.36 AZP 90.45 TAL 313.32 TAP 181.33 RCA 140.32 APO 215.39 V2 25.489
RC 153.669 GL 4.15 GP -12.19 ZAL 156.98 ZAP 59.50 ETS 171.30 ZAE 101.38 ETE 182.03 ZAC 90.37 ETC 266.86 LVI 9.45

PLANETOCENTRIC CONIC
C3 26.476 VHL 5.145 DLA -9.89 RAL 324.07 RAD 6645.6 VEL 12.101 PTH 7.08 VHP 4.061 DPA -36.87 RAP 272.66 ECC 1.4357
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 33 27 3004.66 -31.10 90.95 186.69 128.02 19 23 32 2004.7 -14.19 72.11
60.00 19 23 47 2870.81 -25.89 83.04 190.84 122.03 20 11 38 1870.8 -11.19 62.87
70.00 20 28 6 2681.73 -21.17 70.64 193.77 117.45 21 12 47 1681.7 -8.38 49.62
80.00 21 47 30 2433.14 -17.72 53.56 195.56 114.43 22 28 4 1433.1 -6.27 32.04
90.00 23 13 50 2154.61 -16.41 33.69 196.16 113.36 23 49 45 1154.6 -5.47 12.00
100.00 0 34 18 1907.61 -17.72 14.93 195.56 114.43 1 6 6 907.6 -6.27 353.41
110.00 1 31 28 1728.59 -21.17 359.56 193.77 117.45 2 0 17 728.5 -8.38 338.54

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.9620 TRA 5.4333 TC3-2.7428 BAU .9756 SGT 7103.2 SGR 1455.3 SG3 1363.6 ST 143.0 SR 48.5 SS 114.5
RDE .8199 RRA .9714 RC3 -.2727 FAU .10982 RRT .9219 RRF .9338 RTF .9850 CRT .9377 CRS -.9260 CST -.9994
FDE 4.3525 FRA12.8795 FC3-3.5910 B8P 12155 SGB 7250.7 R23 .0520 R13 .9859 LSA 188.7 HSA 17.2 SSA 1.2
BDE 2.1264 BRA 5.5194 BC3 2.7563 F8P 2557 SGI 7229.5 SG2 554.0 TMA 10.76 EL1 150.1 EL2 16.1 ALF 17.87

LAUNCH DATE MAR 8 1971

FLIGHT TIME 170.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -.00 LOL 166.77 VL 33.118 GAL -7.67 AZL 95.24 HCA 159.44 SMA 192.10 ECC .26166 IMC 5.2362 V1 30.009
 RP 206.90 LAP -1.84 LOP 326.29 VP 24.331 GAP 14.32 AZP 85.10 TAL 321.65 TAP 121.09 RCA 141.83 APO 242.36 V2 26.469
 RC 57.930 GL -26.32 GP 15.10 ZAL 140.47 ZAP 151.19 ETS 150.04 ZAE 156.88 ETE 121.27 ZAC 116.88 ETC 274.46 LVI -26.80

DISTANCE 451.611 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 39.870 VHL 6.314 DLA -42.05 RAL 331.69 RAD 6650.6 VEL 12.639 PTH 7.49 VHP 7.379 DPA -6.78 RAP 300.89 ECC 1.6562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 4 49 2348.32 .21 80.05 207.02 137.58 22 43 57 1348.3 18.37 43.82
 57.48 0 54 51 1908.44 16.53 35.70 222.47 129.23 1 26 40 908.4 30.93 14.52
 57.48 0 54 51 1908.44 16.53 35.70 222.47 129.23 1 26 40 908.4 30.93 14.52
 57.48 0 54 51 1908.44 16.53 35.70 222.47 129.23 1 26 40 908.4 30.93 14.52
 57.48 0 54 51 1908.44 16.53 35.70 222.47 129.23 1 26 40 908.4 30.93 14.52
 57.48 0 54 51 1908.44 16.53 35.70 222.47 129.23 1 26 40 908.4 30.93 14.52

MID-COURSE EXECUTION ACCURACY
 SGT 2723.6 SGR 1147.9 SG3 422.3
 RRT .9253 RRF -.9774 RTF -.9179
 SGB 2955.7 R23 -.2864 R13 -.9351
 SG1 2927.8 SG2 405.0 THA 21.74

ORBIT DETERMINATION ACCURACY
 ST 75.3 SR 30.7 SS 61.7
 CRT .9995 CRS .9600 CST .9655
 LSA 101.2 MSA 13.1 SSA .7
 EL1 61.3 EL2 .9 ALF 22.14

DIFFERENTIAL CORRECTIONS
 TDE -1.4628 TRA -1.9447 TC3 -.0755 BAU .1724
 RDE -.6021 RRA -.7596 RC3 .3145 FAU .05637
 FDE 1.5514 FRA 3.6154 FC3 -1.2241 BSP 5155
 BDE 1.5819 BRA 2.0878 BC3 .3235 FSP 658

LAUNCH DATE MAR 8 1971

FLIGHT TIME 172.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -.00 LOL 166.77 VL 33.057 GAL -7.55 AZL 95.55 HCA 160.71 SMA 190.99 ECC .25679 INC 5.5490 V1 30.009
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.256 GAP 14.11 AZP 84.76 TAL 321.68 TAP 122.39 RCA 141.94 APO 240.03 V2 26.476
 RC 58.496 GL -30.14 GP 16.40 ZAL 139.40 ZAP 149.56 ETS 149.36 ZAE 156.05 ETE 118.86 ZAC 118.17 ETC 274.54 LVI -28.12

DISTANCE 455.285 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 39.820 VHL 6.310 DLA -43.64 RAL 332.94 RAD 6650.6 VEL 12.637 PTH 7.49 VHP 7.225 DPA -5.49 RAP 300.71 ECC 1.6553
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 30 13 2288.09 3.23 57.53 210.61 137.49 23 8 21 1288.1 21.23 40.95
 55.26 0 50 43 1932.66 17.06 38.31 224.15 130.80 1 22 56 932.7 32.00 17.41
 55.26 0 50 43 1932.66 17.06 38.31 224.15 130.80 1 22 56 932.7 32.00 17.41
 55.26 0 50 43 1932.66 17.06 38.31 224.15 130.80 1 22 56 932.7 32.00 17.41
 55.26 0 50 43 1932.66 17.06 38.31 224.15 130.80 1 22 56 932.7 32.00 17.41
 55.26 0 50 43 1932.66 17.06 38.31 224.15 130.80 1 22 56 932.7 32.00 17.41
 55.26 0 50 43 1932.66 17.06 38.31 224.15 130.80 1 22 56 932.7 32.00 17.41

MID-COURSE EXECUTION ACCURACY
 SGT 2730.3 SGR 1271.7 SG3 441.2
 RRT .9297 RRF -.9830 RTF -.9187
 SGB 3012.0 R23 -.2906 R13 -.9392
 SG1 2981.3 SG2 428.9 THA 23.94

ORBIT DETERMINATION ACCURACY
 ST 77.4 SR 33.2 SS 64.2
 CRT .9996 CRS .9696 CST .9651
 LSA 105.0 MSA 13.3 SSA .6
 EL1 84.2 EL2 .8 ALF 23.24

DIFFERENTIAL CORRECTIONS
 TDE -1.5168 TRA -1.8776 TC3 -.0708 BAU .1848
 RDE -.6456 RRA -.8320 RC3 .3398 FAU .05790
 FDE 1.6747 FRA 3.6727 FC3 -1.2588 BSP 5273
 BDE 1.6485 BRA 2.0537 BC3 .3471 FSP 691

LAUNCH DATE MAR 8 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -.00 LOL 166.77 VL 32.311 GAL -6.15 AZL 82.57 HCA 191.25 SMA 178.45 ECC .19844 INC 7.4294 V1 30.009
 RP 208.01 LAP -1.45 LOP 357.93 VP 23.073 GAP 6.36 AZP 97.29 TAL 321.16 TAP 152.41 RCA 143.04 APO 213.86 V2 26.340
 RC 89.514 GL 43.83 GP -39.95 ZAL 130.71 ZAP 108.87 ETS 195.53 ZAE 134.77 ETE 230.39 ZAC 62.48 ETC 271.93 LVI 27.24

DISTANCE 551.189 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 35.978 VHL 5.998 DLA 27.17 RAL 309.37 RAD 6649.2 VEL 12.485 PTH 7.38 VHP 5.243 DPA -62.21 RAP 307.21 ECC 1.5921
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 2 45 3840.42 -46.37 160.50 207.90 77.90 16 6 45 2840.4 -45.82 125.39
 60.00 15 5 21 3633.46 -37.96 157.18 205.20 75.32 16 9 15 2833.5 -39.94 126.21
 70.00 15 10 4 3819.58 -29.86 153.25 202.40 72.60 16 13 43 2819.6 -34.12 125.36
 80.00 15 21 36 3783.36 -22.56 147.75 199.63 69.90 16 24 39 2783.4 -28.80 122.07
 90.00 16 6 30 3638.22 -18.63 135.50 198.03 68.33 17 7 8 2638.2 -25.94 110.86
 100.00 18 4 27 3257.83 -22.56 109.12 199.63 69.90 18 58 45 2257.8 -28.80 83.44
 110.00 20 9 30 2866.40 -29.86 82.17 202.40 72.60 20 57 16 1866.4 -34.12 54.27

MID-COURSE EXECUTION ACCURACY
 SGT 869.7 SGR 4856.9 SG3 830.6
 RRT -.2275 RRF .9989 RTF -.2275
 SGB 4934.1 R23 -.0274 R13 .9987
 SG1 4861.0 SG2 846.2 THA 92.40

ORBIT DETERMINATION ACCURACY
 ST 21.4 SR 118.3 SS 102.4
 CRT .5628 CRS -.9998 CST -.9455
 LSA 156.9 MSA 17.8 SSA .3
 EL1 118.9 EL2 17.6 ALF 84.07

DIFFERENTIAL CORRECTIONS
 TDE .4118 TRA -.5155 TC3 -.4530 BAU .5112
 RDE 2.0797 RRA 3.9857 RC3 -.9615 FAU .09320
 FDE 3.9186 FRA 7.8579 FC3 -2.2427 BSP 8331
 BDE 2.1201 BRA 4.0189 BC3 1.0629 FSP 1415

LAUNCH DATE MAR 8 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -.00 LOL 166.77 VL 32.300 GAL -6.15 AZL 83.42 HCA 192.49 SMA 178.28 ECC .19770 INC 6.5797 V1 30.009
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.037 GAP 6.10 AZP 96.43 TAL 321.07 TAP 153.56 RCA 143.03 APO 213.52 V2 26.323
 RC 91.337 GL 40.28 GP -37.74 ZAL 133.34 ZAP 108.14 ETS 193.60 ZAE 135.70 ETE 227.46 ZAC 64.71 ETC 271.77 LVI 25.40

DISTANCE 555.320 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 32.400 VHL 5.692 DLA 23.68 RAL 310.28 RAD 6647.9 VEL 12.342 PTH 7.27 VHP 4.956 DPA -60.22 RAP 305.08 ECC 1.5332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 23 38 3736.85 -47.40 150.72 202.92 85.37 16 25 55 2736.9 -43.85 116.37
 60.00 15 33 15 3711.21 -39.61 147.22 201.72 81.89 16 35 6 2711.2 -38.59 116.10
 70.00 15 49 4 3664.64 -32.48 141.95 200.22 78.81 16 50 8 2664.6 -33.77 113.29
 80.00 16 19 18 3369.80 -26.81 133.33 198.78 76.33 17 18 47 2569.8 -29.86 106.32
 90.00 17 21 38 3368.50 -24.42 117.87 198.11 75.27 18 17 46 2368.5 -28.20 91.50
 100.00 19 2 9 3044.27 -26.81 94.70 198.78 76.33 19 52 54 2044.3 -29.86 67.69
 110.00 20 48 30 2711.46 -32.48 70.87 200.22 78.81 21 33 41 1711.5 -33.77 42.20

MID-COURSE EXECUTION ACCURACY
 SGT 848.4 SGR 4694.4 SG3 944.4
 RRT -.0330 RRF .9988 RTF -.0156
 SGB 4770.5 R23 -.0185 R13 .9988
 SG1 4694.5 SG2 848.0 THA 90.35

ORBIT DETERMINATION ACCURACY
 ST 21.9 SR 113.3 SS 108.0
 CRT .6577 CRS -.9995 CST -.6345
 LSA 154.2 MSA 16.8 SSA .4
 EL1 117.3 EL2 16.4 ALF 82.59

DIFFERENTIAL CORRECTIONS
 TDE .4197 TRA -.3573 TC3 -.5465 BAU .4875
 RDE 1.8820 RRA 3.7727 RC3 -.9837 FAU .10043
 FDE 4.1013 FRA 8.7793 FC3 -2.6837 BSP 8077
 BDE 1.9283 BRA 3.7896 BC3 1.1254 FSP 1618

LAUNCH DATE MAR 8 1971 FLIGHT TIME 224.00 ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 186.77 VL 32.289 GAL -6.14 AZL 84.12 HCA 193.73 SMA 178.12 ECC .19706 INC 5.8825 V1 30.009
 RP 208.32 LAP -1.39 LOP .44 VP 23.001 GAP 5.85 AZP 95.72 TAL 320.97 TAP 154.71 RCA 143.02 APO 213.22 V2 26.304
 RC 93.190 GL 37.07 GP -35.76 ZAL 135.67 ZAP 107.13 ETS 191.75 ZAE 136.26 ETE 224.41 ZAC 66.71 ETC 271.58 LVI 25.80

PLANETOCENTRIC CONIC: C3 29.787 VHL 5.458 DLA 20.55 RAL 311.09 RAD 8646.9 VEL 12.236 PTH 7.19 VHP 4.725 DPA -58.44 RAP 303.07 ECC 1.4902
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 15 3640.75 -47.95 142.21 198.46 91.91 16 42 3 2646.7 -41.24 109.29
 60.00 13 56 6 3609.19 -40.25 138.62 198.42 87.69 16 56 15 2609.2 -36.76 108.06
 70.00 16 19 10 3541.25 -33.72 132.54 197.85 84.23 17 18 11 2541.3 -32.58 103.86
 80.00 16 58 37 3417.57 -28.79 122.46 197.13 81.71 17 55 34 2417.6 -29.33 95.05
 90.00 18 6 29 3198.48 -26.84 106.02 196.79 80.73 18 59 47 2198.5 -28.03 79.08
 100.00 19 41 29 2892.05 -26.79 83.83 197.13 81.71 20 29 41 1892.0 -29.33 56.42
 110.00 21 18 36 2586.07 -33.72 61.46 197.85 84.23 22 1 44 1586.1 -32.58 32.78

Differential Corrections: TDE .4386 TRA -.1871 TC3 -.6423 BAU .4713
 RDE 1.7269 RRA 3.5847 RC3 -.9940 FAU .10693
 FDE 4.2611 FRA 9.6323 FC3 -3.1080 BSP 7848
 BDE 1.7817 BRA 3.5896 BC3 1.1835 FSP 1814

LAUNCH DATE MAR 8 1971 FLIGHT TIME 226.00 ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 186.77 VL 32.280 GAL -6.14 AZL 84.70 HCA 194.97 SMA 177.98 ECC .19652 INC 5.2995 V1 30.009
 RP 208.49 LAP -1.37 LOP 1.68 VP 22.966 GAP 5.60 AZP 95.12 TAL 320.86 TAP 155.83 RCA 143.01 APO 212.96 V2 26.284
 RC 95.074 GL 34.18 GP -33.97 ZAL 137.72 ZAP 105.92 ETS 190.00 ZAE 136.48 ETE 221.32 ZAC 68.53 ETC 271.37 LVI 22.40

PLANETOCENTRIC CONIC: C3 27.835 VHL 5.276 DLA 17.75 RAL 311.86 RAD 8646.1 VEL 12.157 PTH 7.12 VHP 4.538 DPA -56.85 RAP 301.16 ECC 1.4581
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 25 3572.94 -47.12 134.94 194.67 97.50 16 55 58 2572.9 -38.80 103.67
 60.00 16 15 24 3522.40 -40.23 131.24 195.52 92.70 17 14 6 2522.4 -34.76 101.57
 70.00 16 43 48 3438.81 -34.14 124.58 195.63 88.93 17 41 6 2438.8 -31.01 96.29
 80.00 17 29 12 3296.52 -29.65 113.57 195.41 86.31 18 24 8 2296.5 -28.16 86.25
 90.00 18 40 10 3067.39 -27.92 96.59 195.26 85.32 19 31 18 2067.4 -27.05 69.62
 100.00 20 12 3 2770.99 -29.65 74.94 195.41 86.31 20 58 14 1771.0 -28.16 47.61
 110.00 21 43 14 2485.63 -34.14 53.50 195.63 88.93 22 24 39 1485.6 -31.01 25.21

Differential Corrections: TDE .4649 TRA -.0086 TC3 -.7403 BAU .4629
 RDE 1.5986 RRA 3.4113 RC3 -.9997 FAU .11330
 FDE 4.3912 FRA 10.4058 FC3 -3.5230 BSP 7594
 BDE 1.8648 BRA 3.4113 BC3 1.2440 FSP 1990

LAUNCH DATE MAR 8 1971 FLIGHT TIME 228.00 ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 186.77 VL 32.272 GAL -6.15 AZL 85.20 HCA 196.21 SMA 177.86 ECC .19608 INC 4.8045 V1 30.009
 RP 208.67 LAP -1.34 LOP 2.93 VP 22.931 GAP 5.35 AZP 94.61 TAL 320.74 TAP 156.95 RCA 142.98 APO 212.73 V2 26.264
 RC 96.988 GL 31.57 GP -32.35 ZAL 139.54 ZAP 104.52 ETS 188.36 ZAE 136.40 ETE 218.25 ZAC 70.18 ETC 271.16 LVI 21.19

PLANETOCENTRIC CONIC: C3 28.351 VHL 5.133 DLA 15.22 RAL 312.59 RAD 8645.5 VEL 12.096 PTH 7.07 VHP 4.379 DPA -55.42 RAP 299.34 ECC 1.4337
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 43 3507.12 -46.36 126.77 191.56 102.20 17 8 10 2507.1 -36.46 99.12
 60.00 16 32 5 3447.58 -39.80 124.92 193.07 96.96 17 29 32 2447.6 -32.73 96.26
 70.00 17 4 38 3351.74 -34.04 117.78 193.70 92.94 18 0 30 2351.7 -29.30 90.09
 80.00 17 54 23 3195.87 -29.86 106.10 193.83 90.25 18 47 39 2195.9 -26.73 79.12
 90.00 19 7 29 2959.92 -28.27 88.75 193.82 89.23 19 56 49 1959.9 -25.74 62.03
 100.00 20 37 15 2670.34 -29.86 67.47 193.83 90.25 21 21 45 1670.3 -26.73 40.48
 110.00 22 4 5 2398.56 -34.04 46.70 193.70 92.94 22 44 3 1398.6 -29.30 19.01

Differential Corrections: TDE .4988 TRA .1783 TC3 -.8403 BAU .4597
 RDE 1.4932 RRA 3.2532 RC3 -.9983 FAU .11919
 FDE 4.5042 FRA 11.1121 FC3 -3.9161 BSP 7362
 BDE 1.5737 BRA 3.2580 BC3 1.3049 FSP 2152

LAUNCH DATE MAR 8 1971 FLIGHT TIME 230.00 ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 186.77 VL 32.265 GAL -6.16 AZL 85.62 HCA 197.45 SMA 177.74 ECC .19573 INC 4.3788 V1 30.009
 RP 208.85 LAP -1.31 LOP 4.17 VP 22.897 GAP 5.11 AZP 94.18 TAL 320.60 TAP 158.05 RCA 142.95 APO 212.53 V2 26.243
 RC 98.929 GL 29.20 GP -30.86 ZAL 141.16 ZAP 102.99 ETS 186.82 ZAE 136.05 ETE 215.26 ZAC 71.69 ETC 270.93 LVI 20.12

PLANETOCENTRIC CONIC: C3 25.208 VHL 5.021 DLA 12.94 RAL 313.27 RAD 8645.1 VEL 12.049 PTH 7.03 VHP 4.248 DPA -54.12 RAP 297.58 ECC 1.4149
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 30 3449.55 -45.40 123.55 189.06 106.12 17 19 0 2449.5 -34.26 95.38
 60.00 16 46 44 3382.40 -39.12 119.52 191.07 100.57 17 43 6 2382.4 -30.77 91.85
 70.00 17 22 42 3276.55 -33.63 111.96 192.08 96.36 18 17 19 2276.6 -27.57 84.93
 80.00 18 15 50 3110.08 -29.66 99.74 192.49 93.57 19 7 40 2110.1 -25.19 73.21
 90.00 19 30 32 2869.00 -28.17 82.11 192.58 92.56 20 18 21 1869.0 -24.29 55.77
 100.00 20 58 42 2584.55 -29.66 61.10 192.49 93.57 21 41 47 1584.6 -25.19 34.57
 110.00 22 22 9 2323.37 -33.63 40.87 192.08 96.36 23 0 52 1323.4 -27.57 13.84

Differential Corrections: TDE .5327 TRA .3667 TC3 -.9422 BAU .4606
 RDE 1.4054 RRA 3.1072 RC3 -.9901 FAU .12455
 FDE 4.6027 FRA 11.7531 FC3 -4.2778 BSP 7158
 BDE 1.5030 BRA 3.1288 BC3 1.3668 FSP 2301

LAUNCH DATE MAR 8 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 576.083

EARTH TO MARS

RL 148.48 LAL -.00 LOL 186.77 VL 32.258 GAL -6.17 AZL 85.99 HCA 198.69 SMA 177.64 ECC .19547 INC 4.0086 V1 30.009
RP 209.04 LAP -1.28 LOP 5.42 VP 22.862 GAP 4.87 AZP 93.80 TAL 320.45 TAP 159.14 RCA 142.92 APO 212.37 V2 26.221
RC 102.898 GL 27.04 GP -29.49 ZAL 142.59 ZAP 101.33 ETS 185.40 ZAE 135.47 ETE 212.38 ZAC 73.08 ETC 270.71 LVI 19.18

PLANETOCENTRIC CONIC

C3 24.323 VHL 4.932 DLA 10.88 RAL 313.91 RAD 6644.7 VEL 12.012 PTH 7.00 VHP 4.137 DPA -32.92 RAP 295.88 ECC 1.4003
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 5 3398.86 -44.34 119.12 187.07 109.39 17 28 44 2398.9 -32.22 92.26
60.00 16 59 47 3325.18 -38.30 114.87 189.45 103.63 17 55 12 2325.2 -28.92 88.14
70.00 17 38 37 3210.89 -33.02 106.93 190.77 99.28 18 32 8 2210.9 -25.89 80.56
80.00 18 34 32 3035.75 -29.22 94.26 191.38 96.42 19 25 7 2035.7 -23.66 68.22
90.00 19 50 30 2790.57 -27.80 76.40 191.55 95.39 20 37 0 1790.6 -22.81 50.50
100.00 21 17 23 2510.22 -29.22 55.63 191.38 96.42 21 59 14 1510.2 -23.66 29.59
110.00 22 38 3 2257.71 -33.02 35.85 190.77 99.28 23 15 41 1257.7 -25.89 9.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5728 TRA .5619 TC3-1.0444 BAU .4648 SGT 1394.9 SGR 3960.3 SG3 1401.9 ST 34.8 SR 93.7 SS 125.0
RDE 1.3322 RRA 2.9721 RC3 -.9758 FAU .12933 RRT .7890 RRF .9978 RTF .7955 CRT .9528 CRS -.9969 CST -.9264
FDE 4.6921 FRA12.3347 FC3-4.6032 BSP 6998 SGB 4198.8 R23 .0445 R13 .9969 LSA 159.4 MSA 13.7 SSA .7
BDE 1.4501 BRA 3.0247 BC3 1.4293 FSP 2439 SG1 4117.0 SG2 824.5 THA 73.80 EL1 99.4 EL2 9.9 ALF 70.31

LAUNCH DATE MAR 8 1971

FLIGHT TIME 234.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

DISTANCE 580.251

EARTH TO MARS

RL 148.48 LAL -.00 LOL 186.77 VL 32.253 GAL -6.19 AZL 86.32 HCA 199.92 SMA 177.56 ECC .19530 INC 3.6833 V1 30.009
RP 209.24 LAP -1.25 LOP 6.66 VP 22.828 GAP 4.63 AZP 93.46 TAL 320.29 TAP 180.22 RCA 142.88 APO 212.23 V2 26.198
RC 102.893 GL 25.07 GP -28.23 ZAL 143.88 ZAP 99.59 ETS 184.08 ZAE 134.70 ETE 209.64 ZAC 74.36 ETC 270.47 LVI 18.34

PLANETOCENTRIC CONIC

C3 23.635 VHL 4.862 DLA 9.00 RAL 314.52 RAD 6644.4 VEL 11.984 PTH 6.98 VHP 4.044 DPA -51.82 RAP 294.23 ECC 1.3890
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 41 40 3354.01 -43.26 115.35 185.51 112.13 17 37 34 2354.0 -30.34 89.63
60.00 17 11 30 3274.60 -37.42 110.87 188.18 106.21 18 6 5 2274.6 -27.19 84.98
70.00 17 52 49 3153.04 -32.30 102.57 189.73 101.76 18 45 22 2153.0 -24.30 76.83
80.00 18 51 4 2970.57 -28.63 89.50 190.50 98.85 19 40 35 1970.6 -22.16 63.96
90.00 20 8 6 2722.00 -27.27 71.46 190.73 97.81 20 53 28 1722.0 -21.36 46.00
100.00 21 33 56 2445.05 -28.63 50.87 190.50 98.85 22 14 41 1445.0 -22.16 25.32
110.00 22 52 16 2199.86 -32.30 31.49 189.73 101.76 23 28 55 1199.9 -24.30 5.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6168 TRA .7611 TC3-1.1458 BAU .4727 SGT 1810.6 SGR 3821.2 SG3 1469.0 ST 38.8 SR 90.3 SS 126.7
RDE 1.2663 RRA 2.8419 RC3 -.9620 FAU .13418 RRT .8459 RRF .9974 RTF .8514 CRT .9711 CRS -.9961 CST -.9484
FDE 4.7560 FRA12.8418 FC3-4.9151 BSP 6843 SGB 4146.8 R23 .0593 R13 .9957 LSA 159.8 MSA 12.9 SSA .8
BDE 1.4085 BRA 2.8421 BC3 1.4961 FSP 2551 SG1 4067.5 SG2 806.9 THA 69.54 EL1 97.9 EL2 8.6 ALF 67.15

LAUNCH DATE MAR 8 1971

FLIGHT TIME 236.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

DISTANCE 584.345

EARTH TO MARS

RL 148.48 LAL -.00 LOL 186.77 VL 32.248 GAL -6.22 AZL 86.60 HCA 201.16 SMA 177.48 ECC .19530 INC 3.3950 V1 30.009
RP 209.44 LAP -1.22 LOP 7.89 VP 22.794 GAP 4.41 AZP 93.17 TAL 320.07 TAP 161.23 RCA 142.82 APO 212.15 V2 26.174
RC 104.913 GL 23.24 GP -27.05 ZAL 145.07 ZAP 97.85 ETS 182.90 ZAE 133.82 ETE 207.12 ZAC 75.56 ETC 270.26 LVI 17.56

PLANETOCENTRIC CONIC

C3 23.143 VHL 4.811 DLA 7.28 RAL 315.14 RAD 6644.2 VEL 11.964 PTH 6.96 VHP 3.967 DPA -50.78 RAP 292.75 ECC 1.3809
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 30 36 3314.36 -42.19 112.14 184.38 114.42 17 45 50 2314.4 -28.64 87.39
60.00 17 22 22 3229.84 -36.51 107.42 187.26 108.40 18 16 11 2229.8 -25.59 82.27
70.00 18 5 51 3101.88 -31.53 98.78 189.00 103.88 18 57 33 2101.9 -22.80 73.61
80.00 19 6 9 2913.04 -27.96 85.38 189.90 100.93 19 54 42 1913.0 -20.74 60.27
90.00 20 24 5 2661.98 -26.63 67.15 190.17 99.88 21 8 26 1661.6 -19.97 42.11
100.00 21 49 1 2387.52 -27.96 46.73 189.90 100.93 22 28 48 1387.5 -20.74 21.64
110.00 23 5 18 2148.70 -31.53 27.70 189.00 103.88 23 41 6 1148.7 -22.80 2.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .3504 TRA .8749 TC3-1.4827 BAU .4758 SGT 1889.0 SGR 4087.0 SG3 1676.4 ST 36.4 SR 105.8 SS 156.9
RDE 1.5221 RRA 3.0332 RC3 -.4077 FAU .07168 RRT .7220 RRF .9973 RTF .1.18 CRT .9941 CRS -.9970 CST -.9841
FDE 6.2597 FRA14.7635 FC3-2.6814 BSP 10281 SGB 4502.4 R23 .0724 R13 .9932 LSA 192.6 MSA 8.6 SSA 1.6
BDE 1.8185 BRA 3.1568 BC3 1.5377 FSP 4215 SG1 4330.1 SG2 1233.7 THA 69.84 EL1 111.9 EL2 3.7 ALF 71.09

LAUNCH DATE MAR 8 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

DISTANCE 588.593

EARTH TO MARS

RL 148.48 LAL -.00 LOL 186.77 VL 32.244 GAL -6.24 AZL 86.88 HCA 202.38 SMA 177.42 ECC .19521 INC 3.1378 V1 30.009
RP 209.66 LAP -1.19 LOP 9.13 VP 22.780 GAP 4.16 AZP 92.90 TAL 319.94 TAP 162.33 RCA 142.79 APO 212.06 V2 26.150
RC 106.958 GL 21.61 GP -25.96 ZAL 146.06 ZAP 95.90 ETS 181.73 ZAE 132.65 ETE 204.64 ZAC 76.67 ETC 270.01 LVI 16.93

PLANETOCENTRIC CONIC

C3 22.697 VHL 4.764 DLA 5.73 RAL 315.68 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 3.901 DPA -49.84 RAP 291.08 ECC 1.3735
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 58 25 3278.56 -41.15 109.35 183.39 116.38 17 53 4 2278.6 -27.06 85.44
60.00 17 31 53 3189.52 -35.60 104.38 186.44 110.29 18 25 2 2189.5 -24.10 79.90
70.00 18 17 18 3055.93 -30.73 95.44 188.33 105.70 19 8 14 2055.9 -21.39 70.79
80.00 19 19 21 2881.57 -27.24 81.71 189.34 102.72 20 7 3 1881.6 -19.40 57.04
90.00 20 38 4 2607.56 -25.95 63.35 189.65 101.66 21 21 32 1607.6 -18.65 38.70
100.00 22 2 13 2336.04 -27.24 43.08 189.34 102.72 22 41 9 1336.0 -19.40 18.41
110.00 23 16 44 2102.75 -30.73 24.36 188.33 105.70 23 51 47 1102.8 -21.39 359.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .7081 TRA 1.1657 TC3-1.3563 BAU .4943 SGT 2093.0 SGR 3563.1 SG3 1583.9 ST 47.6 SR 84.9 SS 130.2
RDE 1.1713 RRA 2.6127 RC3 -.9022 FAU .13970 RRT .9065 RRF .9965 RTF .9115 CRT .9911 CRS -.9941 CST -.9712
FDE 4.9085 FRA13.7313 FC3-5.3285 BSP 6793 SGB 4132.3 R23 .0866 R13 .9929 LSA 162.1 MSA 12.2 SSA .9
BDE 1.3687 BRA 2.8609 BC3 1.6290 FSP 2792 SG1 4058.9 SG2 775.9 THA 60.80 EL1 97.2 EL2 5.5 ALF 60.85

LAUNCH DATE MAR 8 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 3 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.240 GAL -6.27 AZL 87.09 HCA 203.62 SMA 177.37 ECC .19528 INC 2.9064 V1 30.009
 RP 209.87 LAP -1.16 LOP 10.36 VP 22.726 GAP 3.94 AZP 92.66 TAL 319.74 TAP 163.36 RCA 142.73 APO 212.01 V2 26.124
 RC 109.028 GL 20.08 GP -24.93 ZAL 147.00 ZAP 93.99 ETS 180.69 ZAE 131.44 ETE 202.39 ZAC 77.72 ETC 269.78 LVI 16.33

Distance 592.769 Earth to Mars

Planetary Centric Conic: C3 22.393 VHL 4.732 DLA 4.30 RAL 316.19 RAD 6643.9 VEL 11.932 PTH 6.04 VHP 3.847 DPA -48.93 RAP 289.89 ECC 1.3685
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 49 3246.72 -40.18 106.84 182.71 118.03 17 59 56 2248.7 -25.64 83.75
 60.00 17 40 50 3153.37 -34.72 101.74 185.89 111.90 18 33 23 2153.6 -22.74 77.83
 70.00 18 27 59 3014.90 -29.93 92.51 187.91 107.27 19 18 14 2014.9 -20.09 68.32
 80.00 19 31 38 2815.56 -26.51 78.48 189.00 104.26 20 18 33 1815.6 -18.14 54.21
 90.00 20 31 2 2559.31 -25.24 59.99 189.35 103.20 21 33 41 1559.3 -17.41 35.70
 100.00 22 14 30 2290.03 -26.51 39.85 189.00 104.26 22 52 40 1290.0 -18.14 15.57
 110.00 23 27 25 2061.71 -29.93 21.43 187.91 107.27 24 1 47 1061.7 -20.09 357.23

Differential Corrections: TDE .7583 TRA 1.3719 TC3-1.4575 BAU .5090 SGT 2349.5 SCR 3431.7 SC3 1627.6 ST 52.3 SR 82.1 SS 131.0
 RDE 1.1284 RRA 2.5012 RC3 -.8756 FAU .14257 RRT .9248 RRF .9959 RTF .9297 CRT .9957 CR3 -.9929 CST -.9780
 FDE 4.9484 FRA14.0680 FC3-5.5118 B8P 6788 SGB 4158.9 R23 .0978 R13 .9914 LSA 162.8 MSA 12.0 SSA 1.0
 BDE 1.3595 BRA 2.6527 BC3 1.7003 F8P 2870 SG1 4090.7 SG2 750.1 THA 56.38 EL1 97.3 EL2 4.1 ALF 57.55

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 8 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 5 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.238 GAL -6.30 AZL 87.30 HCA 204.84 SMA 177.33 ECC .19544 INC 2.6971 V1 30.009
 RP 210.10 LAP -1.13 LOP 11.59 VP 22.692 GAP 3.71 AZP 92.45 TAL 319.54 TAP 164.38 RCA 142.67 APO 211.99 V2 26.098
 RC 111.121 GL 18.67 GP -23.96 ZAL 147.85 ZAP 92.06 ETS 179.72 ZAE 130.11 ETE 200.31 ZAC 78.70 ETC 269.55 LVI 15.79

Distance 596.945 Earth to Mars

Planetary Centric Conic: C3 22.174 VHL 4.709 DLA 2.98 RAL 316.71 RAD 6643.8 VEL 11.923 PTH 6.93 VHP 3.803 DPA -48.07 RAP 288.15 ECC 1.3649
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 42 3218.14 -39.22 104.84 182.21 119.45 18 6 20 2218.1 -24.34 82.27
 60.00 17 49 7 3121.26 -33.87 99.41 185.51 113.28 18 41 8 2121.3 -21.50 76.01
 70.00 18 37 50 2977.98 -29.16 89.92 187.63 108.63 19 27 28 1978.0 -18.89 66.13
 80.00 19 42 55 2774.16 -25.78 75.62 188.80 105.60 20 29 9 1774.2 -16.97 51.69
 90.00 21 2 57 2515.89 -24.53 57.01 189.17 104.53 21 44 53 1515.9 -16.25 33.04
 100.00 22 25 47 2248.63 -25.78 36.99 188.80 105.60 23 3 15 1248.6 -16.97 13.06
 110.00 23 37 16 2024.80 -29.16 18.83 187.63 108.63 24 11 1 1024.8 -18.89 355.05

Differential Corrections: TDE .8102 TRA 1.5797 TC3-1.5576 BAU .5252 SGT 2613.1 SCR 3303.9 SC3 1664.3 ST 57.2 SR 79.6 SS 131.8
 RDE 1.0917 RRA 2.3956 RC3 -.8442 FAU .14454 RRT .9375 RRF .9953 RTF .9426 CRT .9983 CR3 -.9915 CST -.9831
 FDE 4.9857 FRA14.3577 FC3-5.6433 B8P 6849 SGB 4212.4 R23 .1069 R13 .9899 LSA 163.8 MSA 11.9 SSA 1.0
 BDE 1.3595 BRA 2.8696 BC3 1.7717 F8P 2945 SG1 4149.7 SG2 724.2 THA 52.09 EL1 97.9 EL2 2.7 ALF 54.31

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 8 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 7 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.236 GAL -6.34 AZL 87.49 HCA 206.07 SMA 177.30 ECC .19566 INC 2.3066 V1 30.009
 RP 210.33 LAP -1.10 LOP 12.82 VP 22.658 GAP 3.48 AZP 92.25 TAL 319.32 TAP 165.39 RCA 142.61 APO 211.99 V2 26.071
 RC 113.239 GL 17.37 GP -23.04 ZAL 148.62 ZAP 90.10 ETS 178.84 ZAE 128.71 ETE 198.38 ZAC 79.63 ETC 269.33 LVI 15.29

Distance 601.122 Earth to Mars

Planetary Centric Conic: C3 22.028 VHL 4.693 DLA 1.77 RAL 317.20 RAD 6643.7 VEL 11.917 PTH 6.92 VHP 3.767 DPA -47.25 RAP 286.76 ECC 1.3625
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 6 3192.49 -38.34 103.01 181.88 120.67 18 12 19 2192.5 -23.15 80.97
 60.00 17 56 49 3092.15 -33.07 97.36 185.27 114.48 18 48 21 2092.2 -20.35 74.40
 70.00 18 46 57 2944.88 -28.41 87.61 187.47 109.80 19 36 2 1944.7 -17.78 64.19
 80.00 19 53 21 2736.77 -25.07 73.07 188.71 106.76 20 38 57 1736.6 -15.88 49.45
 90.00 21 13 87 2476.67 -23.83 54.35 189.10 105.69 21 55 14 1476.7 -15.17 30.67
 100.00 22 36 13 2211.24 -25.07 34.44 188.71 106.76 23 13 4 1211.2 -15.88 10.82
 110.00 23 46 24 1991.48 -28.41 18.53 187.47 109.80 24 19 35 991.5 -17.78 353.10

Differential Corrections: TDE .8628 TRA 1.7873 TC3-1.6571 BAU .5436 SGT 2880.0 SCR 3176.6 SC3 1692.7 ST 62.1 SR 77.0 SS 132.2
 RDE 1.0580 RRA 2.2925 RC3 -.8131 FAU .14826 RRT .9468 RRF .9945 RTF .9521 CRT .9995 CR3 -.9900 CST -.9887
 FDE 5.0079 FRA14.5852 FC3-5.7483 B8P 6937 SGB 4287.8 R23 .1134 R13 .9888 LSA 164.7 MSA 11.9 SSA 1.1
 BDE 1.3652 BRA 2.8089 BC3 1.8458 F8P 2999 SG1 4230.7 SG2 697.2 THA 47.96 EL1 98.9 EL2 1.5 ALF 51.15

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 8 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 9 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.234 GAL -6.38 AZL 87.67 HCA 207.29 SMA 177.28 ECC .19596 INC 2.3326 V1 30.009
 RP 210.57 LAP -1.07 LOP 14.04 VP 22.625 GAP 3.26 AZP 92.07 TAL 319.10 TAP 166.38 RCA 142.54 APO 212.02 V2 26.044
 RC 115.380 GL 16.16 GP -22.17 ZAL 149.33 ZAP 88.14 ETS 178.02 ZAE 127.24 ETE 196.62 ZAC 80.51 ETC 269.11 LVI 14.83

Distance 608.300 Earth to Mars

Planetary Centric Conic: C3 21.945 VHL 4.685 DLA .66 RAL 317.69 RAD 6643.7 VEL 11.914 PTH 6.92 VHP 3.740 DPA -46.46 RAP 285.44 ECC 1.3612
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 7 3169.33 -37.53 101.40 181.68 121.72 18 17 56 2169.3 -22.08 79.82
 60.00 18 4 0 3065.89 -32.31 95.55 185.14 115.52 18 58 6 2065.9 -19.30 72.97
 70.00 18 55 27 2914.54 -27.70 85.56 187.42 110.83 19 44 2 1914.5 -16.75 62.45
 80.00 20 3 2 2702.91 -24.39 70.79 188.71 107.76 20 48 5 1702.9 -14.88 47.44
 90.00 21 24 10 2441.13 -23.16 51.97 189.13 106.70 22 4 51 1441.1 -14.17 28.54
 100.00 22 45 54 2177.38 -24.39 32.16 188.71 107.76 23 22 12 1177.4 -14.88 8.81
 110.00 23 54 54 1961.36 -27.70 14.48 187.42 110.83 24 27 35 961.4 -16.75 351.37

Differential Corrections: TDE .9179 TRA 1.9986 TC3-1.7525 BAU .5625 SGT 3149.7 SCR 3053.4 SC3 1714.7 ST 67.1 SR 74.7 SS 132.5
 RDE 1.0293 RRA 2.1948 RC3 -.7780 FAU .14702 RRT .9531 RRF .9937 RTF .9592 CRT .9997 CR3 -.9883 CST -.9895
 FDE 5.0303 FRA14.7722 FC3-5.7999 B8P 7089 SGB 4366.8 R23 .1175 R13 .9875 LSA 165.8 MSA 11.9 SSA 1.1
 BDE 1.3791 BRA 2.9671 BC3 1.9174 F8P 3051 SG1 4335.1 SG2 671.3 THA 44.07 EL1 100.4 EL2 1.2 ALF 48.09

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 8 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -0.00 LOL 166.77 VL 32.233 GAL -6.42 AZL 87.83 HCA 208.51 SMA 177.26 ECC .19634 INC 2.1727 V1 30.009
 RP 210.82 LAP -1.04 LOP 15.26 VP 22.591 GAP 3.04 AZP 91.91 TAL 318.86 TAP 167.36 RCA 142.46 APO 212.07 V2 26.019
 RC 117.545 GL 15.03 GP -21.34 ZAL 149.88 ZAP 86.19 ETS 177.27 ZAE 125.71 ETE 195.00 ZAC 81.34 ETC 268.90 LVI 14.40

DISTANCE 609.478 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.917 VHL 4.682 DLA -0.37 RAL 318.16 RAD 6643.7 VEL 11.913 PTH 6.82 VHP 3.721 DPA -45.71 RAP 284.17 ECC 1.3607
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 45 3148.49 -36.77 99.98 181.58 122.63 18 23 14 2148.5 -21.10 78.80
 60.00 18 10 44 3042.15 -31.61 93.93 185.12 116.43 19 1 26 2042.2 -18.35 71.69
 70.00 19 3 24 2887.24 -27.03 83.72 187.47 111.72 19 51 31 1887.2 -15.81 60.89
 80.00 20 12 5 2672.17 -23.74 68.74 188.80 108.67 20 56 38 1672.2 -13.94 45.63
 90.00 21 33 42 2408.84 -22.91 49.82 189.24 107.58 22 13 51 1408.8 -13.24 26.63
 100.00 22 54 57 2148.64 -23.74 30.11 188.80 108.67 23 30 44 1148.6 -13.94 7.00
 110.00 0 6 46 1934.06 -27.03 12.64 187.47 111.72 0 39 0 934.1 -15.81 349.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9736 TRA 2.2053 TC3-1.8459 BAU .5831 SGT 3419.4 SGR 2930.7 S63 1728.8 ST 72.1 SR 72.5 SS 132.8
 RDE 1.0026 RRA 2.0989 RC3 -.7435 FAU .14750 RRT .9578 RRF .9927 RTF .9646 CRT .9991 CRS -.9884 CST -.9916
 FDE 5.0377 FRA14.9006 FC3-5.8264 BSP 7269 SGB 4503.5 R23 .1192 R13 .9867 LSA 166.9 MSA 12.0 SSA 1.2
 BDE 1.3975 BRA 3.0445 BC3 1.9901 F8P 3086 S61 4456.9 S62 645.9 THA 40.41 EL1 102.2 EL2 2.1 ALF 45.15

LAUNCH DATE MAR 8 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -0.00 LOL 166.77 VL 32.233 GAL -6.47 AZL 87.97 HCA 209.72 SMA 177.26 ECC .19678 INC 2.0251 V1 30.009
 RP 211.07 LAP -1.00 LOP 16.48 VP 22.597 GAP 2.82 AZP 91.76 TAL 318.61 TAP 168.33 RCA 142.38 APO 212.14 V2 25.986
 RC 119.734 GL 13.98 GP -20.55 ZAL 150.59 ZAP 84.24 ETS 176.58 ZAE 124.15 ETE 193.51 ZAC 82.13 ETC 268.70 LVI 14.00

DISTANCE 613.655 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.937 VHL 4.684 DLA -1.33 RAL 318.62 RAD 6643.7 VEL 11.913 PTH 6.92 VHP 3.708 DPA -44.99 RAP 282.98 ECC 1.3610
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 4 3129.72 -36.08 98.72 181.58 123.42 18 28 14 2129.7 -20.22 77.90
 60.00 18 17 3 3020.69 -30.95 92.50 185.18 117.22 19 7 24 2020.7 -17.47 70.55
 70.00 19 10 51 2862.48 -26.39 82.08 187.59 112.51 19 58 34 1862.5 -14.95 59.50
 80.00 20 20 34 2644.22 -23.11 66.90 188.97 109.45 21 4 38 1644.2 -13.08 44.00
 90.00 21 42 37 2379.46 -21.89 47.89 189.42 108.36 22 22 16 1379.5 -12.38 24.90
 100.00 23 3 26 2118.69 -23.11 28.27 188.97 109.45 23 38 44 1118.7 -13.08 5.37
 110.00 0 14 14 1909.30 -26.39 11.00 187.59 112.51 0 46 3 909.3 -14.95 348.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0303 TRA 2.4137 TC3-1.9362 BAU .6048 SGT 3888.0 SGR 2811.2 S63 1736.5 ST 77.1 SR 70.3 SS 132.4
 RDE .9789 RRA 2.0066 RC3 -.7079 FAU .14735 RRT .9611 RRF .9915 RTF .9688 CRT .9979 CRS -.9844 CST -.9932
 FDE 5.0397 FRA14.9857 FC3-5.8151 BSP 7488 SGB 4837.2 R23 .1190 R13 .9860 LSA 168.1 MSA 12.2 SSA 1.2
 BDE 1.4212 BRA 3.1389 BC3 2.0616 F8P 3111 S61 4595.1 S62 823.4 THA 37.02 EL1 104.3 EL2 3.4 ALF 42.36

LAUNCH DATE MAR 8 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -0.00 LOL 166.77 VL 32.234 GAL -6.52 AZL 88.11 HCA 210.94 SMA 177.26 ECC .19729 INC 1.8885 V1 30.009
 RP 211.33 LAP -.97 LOP 17.69 VP 22.523 GAP 2.60 AZP 91.62 TAL 318.35 TAP 169.29 RCA 142.29 APO 212.24 V2 25.937
 RC 121.948 GL 13.00 GP -19.80 ZAL 151.15 ZAP 82.32 ETS 175.95 ZAE 122.56 ETE 192.15 ZAC 82.88 ETC 268.51 LVI 13.62

DISTANCE 617.831 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.001 VHL 4.691 DLA -2.21 RAL 319.07 RAD 6643.7 VEL 11.916 PTH 6.92 VHP 3.701 DPA -44.29 RAP 281.84 ECC 1.3621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 6 3112.81 -35.44 97.61 181.67 124.11 18 32 59 2112.8 -19.42 77.09
 60.00 18 23 1 3001.29 -30.34 91.22 185.32 117.91 19 13 3 2001.3 -16.68 69.53
 70.00 19 17 52 2840.01 -25.80 80.60 187.77 113.20 20 5 12 1840.0 -14.15 58.24
 80.00 20 28 32 2618.77 -22.53 65.24 189.20 110.13 21 12 10 1618.8 -12.28 42.53
 90.00 21 51 0 2382.88 -21.31 46.14 189.66 109.04 22 30 12 1352.7 -11.59 23.33
 100.00 23 11 24 2093.24 -22.53 26.61 189.20 110.13 23 46 17 1093.2 -12.29 3.90
 110.00 0 21 14 1886.83 -25.80 9.52 187.77 113.20 0 52 41 886.8 -14.15 347.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0884 TRA 2.6220 TC3-2.0222 BAU .6268 SGT 3954.8 SGR 2694.2 S63 1737.8 ST 82.1 SR 68.2 SS 132.0
 RDE .9574 RRA 1.8173 RC3 -.6724 FAU .14678 RRT .9633 RRF .9902 RTF .521 CRT .9962 CRS -.9821 CST -.9944
 FDE 5.0325 FRA15.0266 FC3-5.7756 BSP 7734 SGB 4785.3 R23 .1189 R13 .9858 LSA 169.3 MSA 12.4 SSA 1.2
 BDE 1.4496 BRA 3.2483 BC3 2.1310 F8P 3125 S61 4747.2 S62 602.5 THA 33.90 EL1 106.6 EL2 4.6 ALF 39.71

LAUNCH DATE MAR 8 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 148.48 LAL -0.00 LOL 166.77 VL 32.234 GAL -6.57 AZL 88.24 HCA 212.15 SMA 177.26 ECC .19786 INC 1.7614 V1 30.009
 RP 211.60 LAP -.94 LOP 18.91 VP 22.490 GAP 2.39 AZP 91.49 TAL 318.08 TAP 170.23 RCA 142.20 APO 212.35 V2 25.926
 RC 124.177 GL 12.09 GP -19.08 ZAL 151.68 ZAP 80.42 ETS 175.37 ZAE 120.95 ETE 190.91 ZAC 83.59 ETC 268.32 LVI 13.27

DISTANCE 622.006 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.105 VHL 4.702 DLA -3.03 RAL 319.51 RAD 6643.8 VEL 11.921 PTH 6.93 VHP 3.700 DPA -43.62 RAP 280.78 ECC 1.3638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 52 3097.59 -34.85 96.63 181.82 124.71 18 37 30 2097.6 -18.69 76.37
 60.00 18 28 40 2983.75 -29.77 90.08 185.51 118.52 19 18 24 1983.7 -15.95 68.61
 70.00 19 24 29 2819.61 -25.24 79.28 188.02 113.81 20 11 29 1819.6 -13.43 57.11
 80.00 20 36 2 2595.60 -21.98 63.74 189.48 110.74 21 19 17 1595.6 -11.56 41.20
 90.00 21 58 53 2328.26 -20.76 44.56 189.96 109.65 22 37 41 1328.3 -10.86 21.91
 100.00 23 18 54 2070.07 -21.98 25.10 189.48 110.74 23 53 24 1070.1 -11.56 2.57
 110.00 0 27 51 1866.43 -25.24 8.19 188.02 113.81 0 58 58 866.4 -13.43 346.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1469 TRA 2.8288 TC3-2.1052 BAU .6500 SGT 4217.7 SGR 2579.8 S63 1733.0 ST 87.0 SR 66.2 SS 131.5
 RDE .9376 RRA 1.8306 RC3 -.6373 FAU .14582 RRT .9646 RRF .9887 RTF .9748 CRT .9940 CRS -.9796 CST -.9954
 FDE 5.0195 FRA15.0236 FC3-5.7108 BSP 8000 SGB 4944.1 R23 .1135 R13 .9854 LSA 170.5 MSA 12.6 SSA 1.2
 BDE 1.4814 BRA 3.3694 BC3 2.1995 F8P 3125 S61 4909.4 S62 584.8 THA 31.03 EL1 109.2 EL2 5.8 ALF 37.23

LAUNCH DATE MAR 8 1971 FLIGHT TIME 256.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.236 GAL -6.63 AZL 88.36 HCA 213.36 SMA 177.30 ECC .19850 INC 1.6431 V1 30.009
 RP 211.87 LAP -.90 LOP 20.12 VP 22.456 GAP 2.17 AZP 91.37 TAL 317.80 TAP 171.15 RCA 142.10 APO 212.49 V2 25.898
 RC 126.431 GL 11.23 GP -18.40 ZAL 152.17 ZAP 76.54 ETS 174.84 ZAE 119.33 ETE 189.78 ZAC 84.27 ETC 268.15 LVI 12.92

Planetary Conic: C3 22.246 VHL 4.717 DLA -3.80 RAL 319.95 RAD 6645.8 VEL 11.926 PTH 6.93 VHP 3.705 DPA -42.97 RAP 279.79 ECC 1.3661
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 24 3083.91 -34.32 95.76 182.02 125.23 18 41 48 1967.9 -15.29 67.79
 60.00 18 34 1 2967.90 -29.25 89.06 185.77 119.08 19 23 29 1801.1 -12.76 56.08
 70.00 19 30 44 2801.09 -24.73 78.08 188.32 114.34 20 17 26 1574.5 -10.89 39.99
 80.00 20 43 7 2574.49 -21.46 62.38 189.81 111.27 21 26 2 1306.0 -10.18 20.62
 90.00 22 6 20 2305.98 -20.24 43.14 190.31 110.18 22 44 46 1049.0 -10.89 1.38
 100.00 23 25 59 2048.96 -21.46 23.75 189.81 111.27 24 0 8 847.9 -12.76 345.00
 110.00 0 34 7 1847.91 -24.73 7.00 188.32 114.34 1 4 55

Differential Corrections: TDE 1.2069 TRA 3.0353 TC3-2.1828 BAU .6734
 RDE .9201 RRA 1.7471 RC3 -.6023 FAU .14437
 FDE 4.9943 FRA14.9860 FC3-5.6183 B8P 8298
 BDE 1.5176 BRA 3.5022 BC3 2.2644 F8P 3120

Mid-Course Execution Accuracy: SGT 4477.1 SGR 2469.0 SG3 1723.2
 RRT .9651 RRF .9869 RTF .9769
 SGB 5112.8 R23 .1091 R13 .9853
 SG1 5080.9 SG2 569.7 TMA 28.41

Orbit Determination Accuracy: ST 92.0 SR 64.4 SS 130.8
 CRT .9915 CRS -.9769 CST -.9962
 LSA 171.9 MSA 12.9 SSA 1.2
 EL1 112.0 EL2 6.9 ALF 34.91

LAUNCH DATE MAR 8 1971 FLIGHT TIME 258.00 ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.237 GAL -6.69 AZL 88.47 HCA 214.56 SMA 177.32 ECC .19921 INC 1.5323 V1 30.009
 RP 212.14 LAP -.87 LOP 21.32 VP 22.422 GAP 1.96 AZP 91.26 TAL 317.51 TAP 172.07 RCA 142.00 APO 212.65 V2 25.864
 RC 126.706 GL 10.42 GP -17.74 ZAL 152.64 ZAP 76.70 ETS 174.35 ZAE 117.72 ETE 188.75 ZAC 84.92 ETC 267.99 LVI 12.59

Planetary Conic: C3 22.421 VHL 4.735 DLA -4.51 RAL 320.38 RAD 6643.9 VEL 11.934 PTH 6.94 VHP 3.714 DPA -42.34 RAP 278.86 ECC 1.3690
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 43 3071.65 -33.83 94.99 182.29 125.69 18 45 54 1953.6 -14.70 67.06
 60.00 18 39 5 2953.61 -28.78 88.15 186.07 119.53 19 28 19 1784.3 -12.15 55.16
 70.00 19 36 40 2784.30 -24.25 77.01 188.66 114.82 20 23 4 1555.3 -10.27 38.90
 80.00 20 49 50 2555.28 -20.98 61.15 190.19 111.74 21 32 25 1285.7 -9.56 19.45
 90.00 22 13 23 2285.66 -19.76 41.84 190.69 110.65 22 51 29 1029.7 -10.27 .26
 100.00 23 32 41 2029.73 -20.98 22.92 190.19 111.74 24 6 31 831.1 -12.15 344.08
 110.00 0 40 2 1831.12 -24.25 5.93 188.66 114.82 1 10 34

Differential Corrections: TDE 1.2673 TRA 3.2403 TC3-2.2570 BAU .8977
 RDE .9042 RRA 1.6664 RC3 -.5683 FAU .14261
 FDE 4.9653 FRA14.9141 FC3-5.5066 B8P 8605
 BDE 1.5568 BRA 3.6437 BC3 2.3275 F8P 3105

Mid-Course Execution Accuracy: SGT 4731.7 SGR 2361.7 SG3 1708.4
 RRT .9649 RRF .9849 RTF .9786
 SGB 5288.3 R23 .1040 R13 .9853
 SG1 5258.8 SG2 557.7 TMA 26.03

Orbit Determination Accuracy: ST 96.8 SR 62.6 SS 130.0
 CRT .9887 CRS -.9740 CST -.9968
 LSA 173.2 MSA 13.2 SSA 1.2
 EL1 115.0 EL2 7.9 ALF 32.75

LAUNCH DATE MAR 8 1971 FLIGHT TIME 260.00 ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.240 GAL -6.76 AZL 88.57 HCA 215.76 SMA 177.38 ECC .19997 INC 1.4284 V1 30.009
 RP 212.43 LAP -.83 LOP 22.52 VP 22.388 GAP 1.75 AZP 91.16 TAL 317.21 TAP 172.97 RCA 141.89 APO 212.83 V2 25.832
 RC 130.999 GL 9.66 GP -17.11 ZAL 153.08 ZAP 74.90 ETS 173.91 ZAE 116.10 ETE 187.81 ZAC 85.54 ETC 267.84 LVI 12.27

Planetary Conic: C3 22.629 VHL 4.757 DLA -5.17 RAL 320.80 RAD 6644.0 VEL 11.942 PTH 6.95 VHP 3.728 DPA -41.74 RAP 278.01 ECC 1.3724
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 58 50 3080.68 -33.40 94.31 182.59 126.10 18 49 50 1940.6 -14.16 66.40
 60.00 18 43 35 2940.75 -28.34 87.33 186.42 119.94 19 32 36 1769.1 -11.60 54.33
 70.00 19 42 18 2769.10 -23.82 76.05 189.05 115.24 20 28 27 1537.8 -9.71 37.90
 80.00 20 56 11 2537.77 -20.54 60.05 190.60 112.16 21 38 29 1267.1 -A.99 18.39
 90.00 22 20 4 2287.13 -19.31 40.67 191.12 111.07 22 57 31 1012.2 -9.71 359.27
 100.00 23 39 3 2012.24 -20.54 21.41 190.60 112.16 24 12 35 815.9 -11.60 343.75
 110.00 0 45 40 1815.92 -23.82 4.97 189.05 115.24 1 15 56

Differential Corrections: TDE 1.3288 TRA 3.4444 TC3-2.3280 BAU .7221
 RDE .8898 RRA 1.5888 RC3 -.5349 FAU .14048
 FDE 4.9311 FRA14.8112 FC3-5.3744 B8P 8929
 BDE 1.5993 BRA 3.7931 BC3 2.3888 F8P 3081

Mid-Course Execution Accuracy: SGT 4981.1 SGR 2258.1 SG3 1689.3
 RRT .9642 RRF .9826 RTF .5.00
 SGB 5469.0 R23 .0985 R13 .9853
 SG1 5441.5 SG2 548.3 TMA 23.87

Orbit Determination Accuracy: ST 101.6 SR 60.9 SS 129.0
 CRT .9855 CRS -.9708 CST -.9973
 LSA 174.6 MSA 13.5 SSA 1.3
 EL1 118.1 EL2 8.9 ALF 30.75

LAUNCH DATE MAR 8 1971 FLIGHT TIME 262.00 ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 148.48 LAL -.00 LOL 166.77 VL 32.242 GAL -6.82 AZL 88.67 HCA 216.96 SMA 177.40 ECC .20080 INC 1.3305 V1 30.009
 RP 212.72 LAP -.80 LOP 23.72 VP 22.354 GAP 1.54 AZP 91.06 TAL 316.90 TAP 173.86 RCA 141.78 APO 213.02 V2 25.799
 RC 133.312 GL 8.94 GP -16.51 ZAL 153.50 ZAP 73.14 ETS 173.51 ZAE 114.50 ETE 186.98 ZAC 86.13 ETC 267.70 LVI 11.96

Planetary Conic: C3 22.867 VHL 4.782 DLA -5.79 RAL 321.21 RAD 6644.1 VEL 11.952 PTH 6.95 VHP 3.746 DPA -41.16 RAP 277.22 ECC 1.3763
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 46 3050.92 -33.00 93.71 182.94 126.45 18 53 37 1929.2 -13.67 65.81
 60.00 18 48 31 2929.22 -27.95 86.61 186.80 120.31 19 37 21 1755.4 -11.10 53.58
 70.00 19 47 39 2755.36 -23.41 75.18 189.47 115.61 20 33 34 1521.9 -9.19 37.01
 80.00 21 2 14 2521.87 -20.12 59.05 191.05 112.53 21 44 16 1250.3 -8.47 17.42
 90.00 22 28 25 2250.28 -18.89 39.60 191.58 111.44 23 3 55 996.3 -9.19 358.37
 100.00 23 45 6 1996.34 -20.12 20.41 191.05 112.53 24 18 22 802.2 -11.10 342.50
 110.00 0 51 1 1802.18 -23.41 4.10 189.47 115.61 1 21 3

Differential Corrections: TDE 1.3902 TRA 3.6489 TC3-2.3912 BAU .7470
 RDE .8768 RRA 1.5133 RC3 -.5030 FAU .13814
 FDE 4.8887 FRA14.6807 FC3-5.2301 B8P 9255
 BDE 1.6436 BRA 3.9485 BC3 2.4435 F8P 3049

Mid-Course Execution Accuracy: SGT 5224.4 SGR 2158.2 SG3 1666.2
 RRT .9628 RRF .9800 RTF .9811
 SGB 5652.6 R23 .0929 R13 .9854
 SG1 5626.6 SG2 541.4 TMA 21.90

Orbit Determination Accuracy: ST 106.2 SR 59.2 SS 127.9
 CRT .9819 CRS -.9674 CST -.9977
 LSA 176.0 MSA 13.8 SSA 1.3
 EL1 121.2 EL2 9.8 ALF 28.90

LAUNCH DATE MAR 8 1971

FLIGHT TIME 264.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 148.48 LAL	-0.00 LOL	166.77 VL	32.245 GAL	-6.89 AZL	88.76 HCA	218.18 SMA	177.45 ECC	.20169 INC	1.2383 V1	30.009
RP 213.01 LAP	-7.76 LOP	24.92 VP	22.320 GAP	1.33 AZP	90.97 TAL	316.58 TAP	174.74 RCA	141.66 APO	213.24 V2	25.766
RC 135.643 GL	8.27 GP	-15.94 ZAL	153.91 ZAP	71.42 ETL	173.15 ZAE	112.92 ETE	166.18 ZAC	86.70 ETC	267.57 LVI	11.65

DISTANCE 642.648

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.134 VHL	4.810 DLA	-6.36 RAL	321.62 RAD	6644.2 VEL	11.963 PTH	6.96 VHP	3.768 DPA	-40.60 RAP	276.51 ECC	1.3807
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 6 32	3042.27	-32.65	93.19	183.32	126.75	18 57 14	2042.3	-16.03	73.81
60.00	18 52 55	2918.90	-27.59	85.97	187.22	120.62	19 41 34	1918.9	-13.24	65.29
70.00	19 52 45	2742.97	-23.05	74.41	189.92	115.93	20 38 28	1743.0	-10.65	52.91
80.00	21 7 59	2507.46	-19.75	58.14	191.53	112.86	21 49 46	1507.5	-8.72	38.19
90.00	22 32 27	2234.92	-16.51	38.64	192.06	111.77	23 9 42	1234.9	-7.99	16.53
100.00	23 50 50	1981.93	-19.75	19.51	191.53	112.86	24 23 52	981.9	-8.72	357.56
110.00	0 8 7	1789.79	-23.05	3.33	189.92	115.93	1 25 57	789.8	-10.65	341.83

DIFFERENTIAL CORRECTIONS

TDE 1.4532 TRA 3.8483 TC3-2.4510 BAU .7720
 RDE .8657 RRA 1.4414 RC3 -.4717 FAU .13540
 FDE 4.8461 FRA14.5270 FC3-5.0670 B8P 9596
 BDE 1.6915 BRA 4.1095 BC3 2.4960 F8P 3014

MID-COURSE EXECUTION ACCURACY

SGT 5462.0 SGR 2062.6 SG3 1639.9
 RRT .9608 RRF .9770 RTF .9820
 SGB 5838.3 R23 .0875 R13 .9855
 SGI 5813.7 8G2 537.1 THA 20.12

ORBIT DETERMINATION ACCURACY

ST 110.9 SR 37.7 SS 126.7
 CRT .9781 CRS -.9638 CST -.9980
 LSA 177.4 MSA 14.1 S8A 1.3
 EL1 124.5 EL2 10.7 ALF 27.20

LAUNCH DATE MAR 8 1971

FLIGHT TIME 266.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 148.48 LAL	-0.00 LOL	166.77 VL	32.249 GAL	-6.97 AZL	88.85 HCA	219.35 SMA	177.50 ECC	.20263 INC	1.1508 V1	30.009
RP 213.31 LAP	-7.73 LOP	26.11 VP	22.286 GAP	1.12 AZP	90.89 TAL	316.25 TAP	175.60 RCA	141.53 APO	213.47 V2	25.732
RC 137.991 GL	7.63 GP	-15.39 ZAL	154.30 ZAP	69.74 ETS	172.82 ZAE	111.35 ETE	185.47 ZAC	87.23 ETC	267.45 LVI	11.35

DISTANCE 647.007

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.430 VHL	4.840 DLA	-6.90 RAL	322.03 RAD	6644.3 VEL	11.976 PTH	6.97 VHP	3.793 DPA	-40.06 RAP	275.86 ECC	1.3856
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 10 9	3034.64	-32.34	92.73	183.73	127.02	19 0 43	2034.6	-15.66	73.46
60.00	18 57 7	2909.72	-27.27	85.40	187.66	120.90	19 45 37	1909.7	-12.85	64.82
70.00	19 57 37	2731.84	-22.71	73.72	190.40	116.22	20 43 8	1731.8	-10.24	52.31
80.00	21 13 27	2494.42	-19.40	57.33	192.03	113.15	21 55 1	1494.4	-8.30	35.46
90.00	22 38 11	2221.01	-18.16	37.78	192.59	112.06	23 15 12	1221.0	-7.56	15.76
100.00	0 0 15	1968.89	-19.40	18.70	192.03	113.15	0 33 4	968.9	-8.30	356.83
110.00	1 0 59	1778.66	-22.71	2.84	190.40	116.22	1 30 38	778.7	-10.24	341.23

DIFFERENTIAL CORRECTIONS

TDE 1.5157 TRA 4.0480 TC3-2.5077 BAU .7976
 RDE .8592 RRA 1.3718 RC3 -.4425 FAU .13266
 FDE 4.7939 FRA14.3504 FC3-4.9016 B8P 9929
 BDE 1.7403 BRA 4.2741 BC3 2.5464 F8P 2969

MID-COURSE EXECUTION ACCURACY

SGT 5692.7 SGR 1970.7 SG3 1610.6
 RRT .9583 RRF .9735 RTF .9827
 SGB 6024.2 R23 .0820 R13 .9856
 SGI 6000.4 8G2 534.4 THA 18.50

ORBIT DETERMINATION ACCURACY

ST 115.3 SR 56.3 SS 125.4
 CRT .9740 CRS -.9599 CST -.9983
 LSA 178.8 MSA 14.5 S8A 1.3
 EL1 127.8 EL2 11.5 ALF 25.6

LAUNCH DATE MAR 8 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 148.48 LAL	-0.00 LOL	166.77 VL	32.253 GAL	-7.05 AZL	88.93 HCA	220.54 SMA	177.56 ECC	.20364 INC	1.0681 V1	30.009
RP 213.61 LAP	-6.69 LOP	27.30 VP	22.292 GAP	.91 AZP	90.81 TAL	315.92 TAP	176.45 RCA	141.40 APO	213.72 V2	25.697
RC 140.358 GL	7.03 GP	-14.87 ZAL	154.87 ZAP	68.11 ETS	172.52 ZAE	109.80 ETE	184.82 ZAC	87.75 ETC	267.35 LVI	11.05

DISTANCE 651.163

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.753 VHL	4.874 DLA	-7.40 RAL	322.43 RAD	6644.5 VEL	11.989 PTH	6.98 VHP	3.822 DPA	-39.54 RAP	275.28 ECC	1.3909
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 13 37	3027.98	-32.07	92.33	184.17	127.24	19 4 5	2028.0	-15.33	73.16
60.00	19 1 8	2901.59	-26.99	84.91	188.14	121.15	19 49 30	1901.6	-12.50	64.41
70.00	20 2 15	2721.89	-22.41	73.10	190.90	116.47	20 47 37	1721.9	-9.87	51.77
80.00	21 18 40	2482.66	-19.08	56.60	192.56	113.41	22 0 3	1482.7	-7.91	34.80
90.00	22 43 40	2208.43	-17.83	37.00	193.12	112.32	23 20 28	1208.4	-7.17	15.04
100.00	0 5 28	1957.13	-19.08	17.97	192.56	113.41	0 38 5	957.1	-7.91	356.17
110.00	1 5 37	1768.71	-22.41	2.02	190.90	116.47	1 35 6	768.7	-9.87	340.69

DIFFERENTIAL CORRECTIONS

TDE 1.5793 TRA 4.2466 TC3-2.5594 BAU .8234
 RDE .8461 RRA 1.3050 RC3 -.4146 FAU .12972
 FDE 4.7386 FRA14.1560 FC3-4.7280 B8P 10263
 BDE 1.7917 BRA 4.4426 BC3 2.5928 F8P 2918

MID-COURSE EXECUTION ACCURACY

SGT 5917.3 SGR 1883.1 SG3 1578.8
 RRT .9552 RRF .9697 RTF .5333
 SGB 6209.7 R23 .0768 R13 .9857
 SGI 6186.8 8G2 533.3 THA 17.04

ORBIT DETERMINATION ACCURACY

ST 119.7 SR 54.9 SS 124.0
 CRT .9696 CRS -.9556 CST -.9986
 LSA 180.3 MSA 14.8 S8A 1.3
 EL1 131.1 EL2 12.3 ALF 24.19

LAUNCH DATE MAR 8 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 148.48 LAL	-0.00 LOL	166.77 VL	32.257 GAL	-7.13 AZL	89.01 HCA	221.72 SMA	177.62 ECC	.20470 INC	.9896 V1	30.009
RP 213.92 LAP	-6.66 LOP	28.49 VP	22.217 GAP	.70 AZP	90.74 TAL	315.57 TAP	177.29 RCA	141.26 APO	213.98 V2	25.662
RC 142.739 GL	6.47 GP	-14.37 ZAL	155.03 ZAP	66.52 ETS	172.25 ZAE	108.29 ETE	184.24 ZAC	88.24 ETC	267.25 LVI	10.75

DISTANCE 655.314

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.103 VHL	4.909 DLA	-7.86 RAL	322.83 RAD	6644.6 VEL	12.003 PTH	7.00 VHP	3.854 DPA	-39.05 RAP	274.76 ECC	1.3987
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 16 57	3022.22	-31.83	91.98	184.64	127.44	19 7 19	2022.2	-15.05	72.90
60.00	19 4 59	2894.45	-26.73	84.47	188.64	121.36	19 53 13	1894.5	-12.20	64.05
70.00	20 6 41	2713.03	-22.14	72.56	191.43	116.69	20 51 54	1713.0	-9.54	51.30
80.00	21 23 39	2472.09	-18.80	55.95	193.11	113.64	22 4 51	1472.1	-7.56	34.21
90.00	22 48 53	2197.09	-17.54	36.29	193.68	112.55	23 25 30	1197.1	-6.81	14.40
100.00	0 10 27	1946.56	-18.80	17.32	193.11	113.64	0 42 53	946.6	-7.56	355.58
110.00	1 10 3	1759.85	-22.14	1.47	191.43	116.69	1 39 23	759.8	-9.54	340.21

DIFFERENTIAL CORRECTIONS

TDE 1.6439 TRA 4.4449 TC3-2.6055 BAU .8488
 RDE .8384 RRA 1.2412 RC3 -.3875 FAU .12647
 FDE 4.8631 FRA13.9507 FC3-4.5427 B8P 10607
 BDE 1.8454 BRA 4.6150 BC3 2.6342 F8P 2867

MID-COURSE EXECUTION ACCURACY

SGT 6135.8 SGR 1800.2 SG3 1545.3
 RRT .9514 RRF .9653 RTF .9838
 SGB 6394.4 R23 .0752 R13 .9858
 SGI 6372.1 8G2 534.0 THA 15.71

ORBIT DETERMINATION ACCURACY

ST 124.0 SR 53.6 SS 122.6
 CRT .9650 CRS -.9515 CST -.9988
 LSA 181.8 MSA 15.2 S8A 1.3
 EL1 134.5 EL2 13.0 ALF 22.87

LAUNCH DATE MAR 8 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

RL 148.48 LAL -.00 LOL 166.77 VL 32.262 GAL -7.21 AZL 89.09 HCA 222.90 SMA 177.69 ECC .20582 INC .9149 V1 30.009
RP 214.24 LAP -.62 LOP 29.67 VP 22.183 GAP .49 AZP 90.67 TAL 315.21 TAP 178.12 RCA 141.12 APO 214.27 V2 25.627
RC 145.138 GL 5.93 GP -13.89 ZAL 155.38 ZAP 84.98 ETS 172.01 ZAE 106.79 ETE 183.70 ZAC 88.71 ETC 267.17 LVI 10.46

PLANETOCENTRIC CONIC

C3 24.480 VHL 4.948 DLA -8.30 RAL 323.23 RAD 8644.8 VEL 12.019 PTH 7.01 VHP 3.889 DPA -38.57 RAP 274.31 ECC 1.4029
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 20 9 3017.29 -31.62 91.69 185.13 127.60 19 10 26 2017.3 -14.81 72.68
60.00 19 8 41 2888.24 -26.51 84.09 189.16 121.54 19 56 49 1688.2 -11.93 63.74
70.00 20 10 56 2705.20 -21.90 72.07 191.98 116.88 20 56 1 1705.2 -9.25 50.88
80.00 21 28 24 2462.65 -19.54 55.37 193.68 113.83 22 9 27 1462.7 -7.25 33.68
90.00 22 53 32 2186.91 -17.27 35.67 194.26 112.75 23 30 19 1186.9 -6.49 13.82
100.00 0 15 12 1937.12 -16.54 16.73 193.68 113.83 0 47 29 937.1 -7.25 355.05
110.00 1 14 18 1752.01 -21.90 .99 191.98 116.88 1 43 30 752.0 -9.25 339.79

DIFFERENTIAL CORRECTIONS

TDE 1.7095 TRA 4.6419 TC3-2.6484 BAU .8748 SGT 6348.0 SGR 1721.5 SCS 1510.2 ST 128.3 SR 52.4 SS 121.1
RDE .8319 RRA 1.1800 RC3 -.3621 FAU .12319 RRT .9469 RRF .9803 RTF .9842 CRT .9601 CRS -.9471 CST -.9989
FDE 4.6250 FRA13.7315 FC3-4.3568 B8P 10947 SGB 6577.2 R23 .0676 R13 .9858 LSA 183.4 MSA 15.6 SSA 1.3
BDE 1.9012 BRA 4.7895 BC3 2.6730 F8P 2812 SGI 6555.4 SGI 535.9 THA 14.50 EL1 137.9 EL2 13.6 ALF 21.65

LAUNCH DATE MAR 8 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 148.48 LAL -.00 LOL 166.77 VL 32.266 GAL -7.30 AZL 89.16 HCA 224.08 SMA 177.77 ECC .20699 INC .8434 V1 30.009
RP 214.55 LAP -.59 LOP 30.85 VP 22.149 GAP .28 AZP 90.61 TAL 314.85 TAP 178.93 RCA 140.97 APO 214.56 V2 25.591
RC 147.855 GL 5.42 GP -13.43 ZAL 155.72 ZAP 83.49 ETS 171.79 ZAE 105.33 ETE 183.21 ZAC 89.16 ETC 267.10 LVI 10.17

PLANETOCENTRIC CONIC

C3 24.882 VHL 4.988 DLA -8.70 RAL 323.82 RAD 8644.9 VEL 12.036 PTH 7.02 VHP 3.927 DPA -38.12 RAP 273.92 ECC 1.4095
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 23 14 3013.16 -31.45 91.45 185.65 127.74 19 13 27 2013.2 -14.61 72.50
60.00 19 12 13 2892.89 -26.32 83.77 189.70 121.69 20 0 16 1882.9 -11.71 63.48
70.00 20 15 0 2698.33 -21.69 71.65 192.55 117.05 20 59 58 1698.3 -9.00 50.51
80.00 21 32 57 2454.27 -18.31 54.85 194.27 114.01 22 13 52 1454.3 -6.97 33.22
90.00 22 58 38 2177.83 -17.03 35.11 194.85 112.92 23 34 56 1177.8 -6.20 13.31
100.00 0 19 45 1928.74 -18.31 16.22 194.27 114.01 0 51 54 928.7 -6.97 354.56
110.00 1 18 22 1745.14 -21.69 .57 192.55 117.05 1 47 27 745.1 -9.00 339.43

DIFFERENTIAL CORRECTIONS

TDE 1.7759 TRA 4.8387 TC3-2.6854 BAU .9003 SGT 6553.8 SGR 1647.3 SCS 1474.0 ST 132.4 SR 51.3 SS 119.6
RDE .8267 RRA 1.1216 RC3 -.3374 FAU .11959 RRT .9417 RRF .9548 RTF .9844 CRT .9551 CRS -.9425 CST -.9991
FDE 4.5671 FRA13.5060 FC3-4.1608 B8P 11292 SGB 6757.7 R23 .0638 R13 .9858 LSA 185.0 MSA 15.9 SSA 1.2
BDE 1.9569 BRA 4.9670 BC3 2.7065 F8P 2757 SGI 6736.1 SGI 539.2 THA 13.40 EL1 141.3 EL2 14.3 ALF 20.54

LAUNCH DATE MAR 8 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 148.48 LAL -.00 LOL 166.77 VL 32.272 GAL -7.39 AZL 89.22 HCA 225.28 SMA 177.89 ECC .20821 INC .7752 V1 30.009
RP 214.88 LAP -.55 LOP 32.03 VP 22.114 GAP .07 AZP 90.55 TAL 314.48 TAP 179.74 RCA 140.82 APO 214.88 V2 25.534
RC 149.988 GL 4.94 GP -13.00 ZAL 156.06 ZAP 82.04 ETS 171.59 ZAE 103.90 ETE 182.77 ZAC 89.59 ETC 267.03 LVI 9.86

PLANETOCENTRIC CONIC

C3 25.311 VHL 5.031 DLA -9.08 RAL 324.01 RAD 8645.1 VEL 12.053 PTH 7.04 VHP 3.967 DPA -37.68 RAP 273.59 ECC 1.4166
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 26 13 3009.77 -31.31 91.25 186.18 127.85 19 16 23 2009.8 -14.44 72.34
60.00 19 15 36 2878.36 -26.18 83.49 190.26 121.82 20 3 36 1878.4 -11.51 63.25
70.00 20 18 53 2692.37 -21.51 71.29 193.14 117.19 21 3 46 1692.4 -8.78 50.19
80.00 21 37 18 2446.88 -18.10 54.40 194.88 114.16 22 18 5 1446.9 -8.73 32.60
90.00 23 3 11 2169.79 -16.82 34.61 195.47 113.08 23 39 21 1169.8 -5.95 12.86
100.00 0 24 6 1921.36 -18.10 15.77 194.88 114.16 0 56 7 921.4 -6.73 354.17
110.00 1 22 15 1739.19 -21.51 .21 193.14 117.19 1 51 15 739.2 -8.78 339.11

DIFFERENTIAL CORRECTIONS

TDE 1.8498 TRA 5.0418 TC3-2.7095 BAU .9228 SGT 6758.5 SGR 1580.7 SCS 1439.4 ST 136.8 SR 50.5 SS 118.6
RDE .8253 RRA 1.0663 RC3 -.3098 FAU .11452 RRT .9355 RRF .9488 RTF .9443 CRT .9500 CRS -.9384 CST -.9993
FDE 4.5378 FRA13.3008 FC3-3.9169 B8P 11713 SGB 6940.9 R23 .0623 R13 .9855 LSA 187.3 MSA 16.3 SSA 1.3
BDE 2.0254 BRA 5.1538 BC3 2.7271 F8P 2732 SGI 6919.4 SGI 545.7 THA 12.42 EL1 145.1 EL2 14.9 ALF 19.54

LAUNCH DATE MAR 8 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 148.48 LAL -.00 LOL 166.77 VL 32.277 GAL -7.48 AZL 89.29 HCA 226.43 SMA 177.93 ECC .20949 INC .7098 V1 30.009
RP 215.21 LAP -.51 LOP 33.20 VP 22.080 GAP -.14 AZP 90.49 TAL 314.10 TAP 180.53 RCA 140.66 APO 215.21 V2 25.518
RC 152.438 GL 4.48 GP -12.58 ZAL 156.39 ZAP 80.64 ETS 171.41 ZAE 102.50 ETE 182.37 ZAC 89.00 ETC 266.90 LVI 9.58

PLANETOCENTRIC CONIC

C3 25.764 VHL 5.076 DLA -9.43 RAL 324.39 RAD 8645.3 VEL 12.072 PTH 7.05 VHP 4.009 DPA -37.26 RAP 273.32 ECC 1.4240
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 29 3 3007.05 -31.20 91.09 186.73 127.94 19 19 12 2007.0 -14.31 72.22
60.00 19 18 54 2874.58 -26.02 83.27 190.84 121.93 20 6 48 1874.6 -11.35 63.06
70.00 20 22 37 2687.24 -21.35 70.98 193.74 117.32 21 7 24 1687.2 -8.58 49.91
80.00 21 41 28 2440.41 -17.92 54.00 195.50 114.29 22 22 8 1440.4 -6.51 32.44
90.00 23 7 33 2182.69 -16.63 34.18 198.10 113.21 23 43 35 1182.7 -5.72 12.46
100.00 0 28 16 1914.88 -17.92 15.37 195.50 114.29 1 0 11 914.9 -6.51 353.81
110.00 1 25 59 1734.06 -21.35 359.90 193.74 117.32 1 54 53 734.1 -6.58 338.83

DIFFERENTIAL CORRECTIONS

TDE 1.9088 TRA 5.2255 TC3-2.7553 BAU .9545 SGT 6943.3 SGR 1509.5 SCS 1397.6 ST 140.2 SR 49.3 SS 116.1
RDE .8175 RRA 1.0105 RC3 -.2958 FAU .11333 RRT .9293 RRF .9415 RTF .9848 CRT .9442 CRS -.9324 CST -.9993
FDE 4.4272 FRA13.0133 FC3-3.8063 B8P 11903 SGB 7105.5 R23 .0559 R13 .9858 LSA 187.8 MSA 16.6 SSA 1.2
BDE 2.0747 BRA 5.3223 BC3 2.7712 F8P 2618 SGI 7084.4 SGI 546.4 THA 11.49 EL1 147.8 EL2 15.4 ALF 18.58

LAUNCH DATE MAR 8 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC										DISTANCE 675.996										EARTH TO MARS									
RL 148.48	LAL -.00	LOL 166.77	VL 32.283	GAL -7.38	AZL 89.35	HCA 227.60	SMA 178.02	ECC .21082	INC .6473	V1 30.009																			
RP 219.84	LAP -.48	LOP 34.37	VP 22.045	GAP -.35	AZP 90.44	TAL 313.71	TAP 181.31	RCA 140.49	APO 215.55	V2 28.480																			
RC 154.904	GL 4.03	GP -12.18	ZAL 156.71	ZAP 59.28	ETS 171.25	ZAE 101.12	EYE 182.00	ZAC 90.39	ETC 266.94	LVI 9.29																			
PLANETOCENTRIC CONIC																													
C3 26.244	VHL 5.123	DLA -9.76	RAL 324.78	RAD 6645.5	VEL 12.092	PTH 7.07	VHP 4.054	DPA -36.07	RAP 273.10	ECC 1.4310																			
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG																			
50.00	18 31 52	3004.99	-31.11	90.97	187.29	126.01	19 21 57	2005.0	-14.21	72.13																			
60.00	19 22 3	2971.93	-25.91	83.08	191.43	122.01	20 9 54	1871.5	-11.22	62.91																			
70.00	20 26 12	2682.93	-21.21	70.72	194.36	117.42	21 10 55	1682.9	-8.42	49.68																			
80.00	21 48 27	2434.83	-17.76	53.66	196.14	114.40	22 26 2	1434.8	-6.33	32.13																			
90.00	23 11 43	2156.52	-16.46	33.80	196.74	113.32	23 47 39	1156.5	-5.53	12.11																			
100.00	0 32 15	1909.30	-17.76	15.03	196.14	114.40	1 4 4	909.3	-6.33	353.50																			
110.00	1 29 34	1729.75	-21.21	359.64	194.36	117.42	1 58 24	729.7	-8.42	338.60																			
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY									
TDE 1.9740	TRA 5.4193	TC3 -2.7835	BAU .9814	SGT 7129.7	SGR 1447.2	SG3 1359.0	ST 143.9	SR 48.4	SS 114.4																				
RDE .6146	RRA .9588	RC3 -.2765	FAU .10999	RRT .9218	RRF .9338	RTF .9849	CRT .9385	CRS -.9271	CST -.9994																				
FDE 4.3581	FRA 12.7636	FC3 -3.6284	BSP 12209	SGB 7275.0	R23 .0527	R13 .9858	LSA 189.3	MSA 17.0	SSA 1.2																				
BDE 2.1355	BRA 5.5034	BC3 2.7972	FSP 2549	SG1 7254.1	SG2 551.2	THA 10.66	EL1 151.0	EL2 15.9	ALF 17.72																				

LAUNCH DATE MAR 9 1971 FLIGHT TIME 166.00 ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC DISTANCE 443.786 EARTH TO MARS
RL 148.52 LAL -.00 LOL 167.77 VL 33.236 GAL -7.81 AZL 94.84 HCA 156.35 SMA 194.43 ECC .27058 INC 4.6336 V1 30.001
PLANETOCENTRIC CONIC
C3 39.741 VHL 6.304 DLA -38.89 RAL 330.21 RAD 6650.6 VEL 12.634 PTH 7.48 VHP 7.655 DPA -9.08 RAP 301.53 ECC 1.6540
DIFFERENTIAL CORRECTIONS
TDE-1.3627 TRA-2.0442 TC3 -.0906 BAU .1521
RDE -.5397 RRA -.6165 RC3 .2716 FAU .05380
PDE 1.3547 FRA 3.4847 FC3-1.1720 BSP 4998
BDE 1.4857 BRA 2.1352 BC3 .2883 FSP 601
MID-COURSE EXECUTION ACCURACY
SGT 2891.6 SGR 935.9 SG3 388.9
RRT .9077 RRF -.9588 RTF -.9137
SGB 2849.6 R23 -.2693 R13 -.9260
SG1 2825.0 SG2 374.2 THA 17.84
ORBIT DETERMINATION ACCURACY
ST 71.5 SR 26.8 SS 57.4
CRT .9938 CRS .9337 CST .9668
LSA 94.7 HSA 12.7 SSA .8
EL1 76.3 EL2 2.8 ALF 20.45

LAUNCH DATE MAR 9 1971 FLIGHT TIME 166.00 ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC DISTANCE 447.387 EARTH TO MARS
RL 148.52 LAL -.00 LOL 167.77 VL 33.189 GAL -7.68 AZL 94.87 HCA 157.82 SMA 193.17 ECC .26522 INC 4.8747 V1 30.001
PLANETOCENTRIC CONIC
C3 39.248 VHL 6.265 DLA -40.22 RAL 331.15 RAD 6650.4 VEL 12.614 PTH 7.47 VHP 7.474 DPA -8.06 RAP 301.49 ECC 1.6459
DIFFERENTIAL CORRECTIONS
TDE-1.3936 TRA-1.9870 TC3 -.0831 BAU .1603
RDE -.5608 RRA -.6759 RC3 .2939 FAU .05540
PDE 1.4466 FRA 3.5710 FC3-1.2221 BSP 5067
BDE 1.5041 BRA 2.0988 BC3 .3055 FSP 635
MID-COURSE EXECUTION ACCURACY
SGT 2702.7 SGR 1026.7 SG3 408.8
RRT .9165 RRF -.9685 RTF -.9156
SGB 2891.1 R23 -.2791 R13 -.9301
SG1 2865.0 SG2 387.5 THA 19.57
ORBIT DETERMINATION ACCURACY
ST 73.1 SR 28.4 SS 59.5
CRT .9975 CRS .9467 CST .9660
LSA 97.6 HSA 12.9 SSA .7
EL1 78.4 EL2 1.9 ALF 21.17

LAUNCH DATE MAR 9 1971 FLIGHT TIME 170.00 ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC DISTANCE 451.032 EARTH TO MARS
RL 148.52 LAL -.00 LOL 167.77 VL 33.106 GAL -7.55 AZL 95.14 HCA 159.08 SMA 192.00 ECC .28013 INC 5.1414 V1 30.001
PLANETOCENTRIC CONIC
C3 38.945 VHL 6.241 DLA -41.86 RAL 332.20 RAD 6650.3 VEL 12.602 PTH 7.46 VHP 7.304 DPA -6.93 RAP 301.38 ECC 1.8409
DIFFERENTIAL CORRECTIONS
TDE-1.4331 TRA-1.9231 TC3 -.0740 BAU .1700
RDE -.5903 RRA -.7406 RC3 .3179 FAU .05697
PDE 1.3523 FRA 3.6485 FC3-1.2664 BSP 5117
BDE 1.5499 BRA 2.0808 BC3 .3284 FSP 689
MID-COURSE EXECUTION ACCURACY
SGT 2706.6 SGR 1131.3 SG3 428.8
RRT .9236 RRF -.9782 RTF -.5176
SGB 2935.5 R23 -.2849 R13 -.9346
SG1 2905.5 SG2 404.1 THA 21.54
ORBIT DETERMINATION ACCURACY
ST 74.7 SR 30.4 SS 61.9
CRT .9994 CRS .9583 CST .9688
LSA 100.8 HSA 13.1 SSA .7
EL1 80.7 EL2 1.0 ALF 22.09

LAUNCH DATE MAR 9 1971 FLIGHT TIME 172.00 ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC DISTANCE 454.717 EARTH TO MARS
RL 148.52 LAL -.00 LOL 167.77 VL 33.046 GAL -7.43 AZL 95.44 HCA 160.34 SMA 190.90 ECC .25532 INC 5.4408 V1 30.001
PLANETOCENTRIC CONIC
C3 38.859 VHL 6.234 DLA -43.22 RAL 333.41 RAD 6650.3 VEL 12.599 PTH 7.46 VHP 7.149 DPA -5.67 RAP 301.20 ECC 1.6398
DIFFERENTIAL CORRECTIONS
TDE-1.4824 TRA-1.8581 TC3 -.0686 BAU .1821
RDE -.6305 RRA -.8114 RC3 .3436 FAU .05882
PDE 1.6716 FRA 3.7114 FC3-1.3039 BSP 5227
BDE 1.6109 BRA 2.0275 BC3 .3506 FSP 702
MID-COURSE EXECUTION ACCURACY
SGT 2712.0 SGR 1251.7 SG3 448.3
RRT .9282 RRF -.9821 RTF -.9184
SGB 2986.9 R23 -.2896 R13 -.9386
SG1 2956.2 SG2 427.2 THA 23.72
ORBIT DETERMINATION ACCURACY
ST 76.7 SR 32.8 SS 64.3
CRT .9997 CRS .9681 CST .9650
LSA 104.4 HSA 13.4 SSA .6
EL1 83.4 EL2 .7 ALF 23.16

LAUNCH DATE MAR 9 1971

FLIGHT TIME 174.00

ARRIVAL DATE AUG 30 1971

MELIOCENTRIC CONIC
 RL 148.52 LAL -.00 LOL 167.77 VL 32.989 GAL -7.31 AZL 95.78 HCA 161.61 SMA 189.88 ECC .25075 INC 5.7798 V1 30.001
 RP 206.77 LAP -1.82 LOP 329.46 VP 24.181 GAP 13.61 AZP 84.51 TAL 322.19 TAP 123.79 RCA 142.26 APO 237.49 V2 26.485
 RC 59.483 GL -31.83 GP 17.56 ZAL 138.12 ZAP 147.81 ETS 149.25 ZAE 155.58 ETE 115.78 ZAC 119.28 ETC 274.72 LVI -29.37

DISTANCE 458.440
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 39.025 VHL 6.247 DLA -44.89 RAL 334.79 RAD 6650.3 VEL 12.606 PTH 7.48 VHP 7.008 DPA -4.26 RAP 300.94 ECC 1.6423
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 53 21 2227.97 6.24 55.00 214.62 137.26 23 30 29 1228.0 24.03 37.95
 53.56 0 47 35 1945.00 17.69 40.02 226.10 131.96 1 20 0 945.0 33.00 19.27
 53.56 0 47 35 1945.00 17.69 40.02 226.10 131.96 1 20 0 945.0 33.00 19.27
 53.56 0 47 35 1945.00 17.69 40.02 226.10 131.96 1 20 0 945.0 33.00 19.27
 53.56 0 47 35 1945.00 17.69 40.02 226.10 131.96 1 20 0 945.0 33.00 19.27
 53.56 0 47 35 1945.00 17.69 40.02 226.10 131.96 1 20 0 945.0 33.00 19.27

DIFFERENTIAL CORRECTIONS
 TDE -1.5396 TRA -1.7844 TC3 -.0616 BAU .1963 SGT 2708.7 SGR 1380.4 SG3 466.8 ST 78.6 SR 35.9 SS 87.0
 RDE -.6851 RRA -.8886 RC3 .3711 FAU .06014 RRT .9318 RRF -.9866 RTF -.9193 CRT .9987 CRS .9763 CST .9650
 FDE 1.8121 FRA 3.7568 FC3 -1.3341 BSP 5326 SGB 3044.7 R23 -.2892 R13 -.9433 LSA 108.5 MSA 13.7 SSA .6
 BDE 1.6851 BRA 1.9935 BC3 .3762 FSP 736 SG1 3010.6 SG2 454.1 THA 26.20 EL1 86.4 EL2 1.6 ALF 24.49

LAUNCH DATE MAR 9 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 1 1971

MELIOCENTRIC CONIC
 RL 148.52 LAL -.00 LOL 167.77 VL 32.935 GAL -7.20 AZL 96.17 HCA 162.87 SMA 188.92 ECC .24843 INC 6.1671 V1 30.001
 RP 206.74 LAP -1.81 LOP 330.73 VP 24.112 GAP 13.22 AZP 84.10 TAL 322.23 TAP 125.10 RCA 142.36 APO 235.47 V2 26.489
 RC 80.233 GL -33.96 GP 19.18 ZAL 136.79 ZAP 145.93 ETS 148.47 ZAE 154.31 ETE 113.88 ZAC 120.89 ETC 274.80 LVI -30.85

DISTANCE 462.197
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 39.496 VHL 6.285 DLA -46.70 RAL 336.41 RAD 6650.5 VEL 12.624 PTH 7.48 VHP 6.886 DPA -2.68 RAP 300.59 ECC 1.6500
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 41 4 2121.90 11.52 50.45 221.59 136.49 24 16 26 1121.9 28.77 32.32
 51.14 0 45 10 1970.80 18.12 42.85 228.44 133.82 1 18 1 970.8 34.05 22.51
 51.14 0 45 10 1970.80 18.12 42.85 228.44 133.82 1 18 1 970.8 34.05 22.51
 51.14 0 45 10 1970.80 18.12 42.85 228.44 133.82 1 18 1 970.8 34.05 22.51
 51.14 0 45 10 1970.80 18.12 42.85 228.44 133.82 1 18 1 970.8 34.05 22.51
 51.14 0 45 10 1970.80 18.12 42.85 228.44 133.82 1 18 1 970.8 34.05 22.51

DIFFERENTIAL CORRECTIONS
 TDE -1.6094 TRA -1.7035 TC3 -.0549 BAU .2131 SGT 2899.3 SGR 1550.3 SG3 483.6 ST 80.8 SR 39.7 SS 69.9
 RDE -.7590 RRA -.9726 RC3 .3999 FAU .06157 RRT .9341 RRF -.9901 RTF -.9198 CRT .9968 CRS .9829 CST .9655
 FDE 1.9765 FRA 3.7768 FC3 -1.3495 BSP 5441 SGB 3112.8 R23 -.2850 R13 -.9483 LSA 113.1 MSA 13.9 SSA .5
 BDE 1.7794 BRA 1.9616 BC3 .4036 FSP 766 SG1 3074.7 SG2 485.9 THA 29.01 EL1 90.0 EL2 2.8 ALF 26.09

LAUNCH DATE MAR 9 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 15 1971

MELIOCENTRIC CONIC
 RL 148.52 LAL -.00 LOL 167.77 VL 32.310 GAL -6.07 AZL 82.39 HCA 190.88 SMA 178.55 ECC .19791 INC 7.6135 V1 30.001
 RP 208.08 LAP -1.43 LOP 356.56 VP 23.072 GAP 6.33 AZP 97.48 TAL 321.62 TAP 152.50 RCA 143.21 APO 213.89 V2 26.332
 RC 90.421 GL 44.79 GP -40.72 ZAL 129.83 ZAP 108.28 ETS 195.41 ZAE 133.99 ETE 230.56 ZAC 61.71 ETC 271.97 LVI 27.90

DISTANCE 550.739
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 36.513 VHL 6.043 DLA 28.26 RAL 309.58 RAD 6649.4 VEL 12.506 PTH 7.39 VHP 5.285 DPA -62.92 RAP 307.91 ECC 1.6009
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 53 52 3868.93 -45.94 163.11 209.39 75.93 15 58 21 2868.9 -46.28 127.99
 60.00 14 53 55 3868.79 -37.32 159.96 206.24 73.53 15 58 24 2868.8 -40.14 129.19
 70.00 14 54 1 3868.50 -28.82 158.68 202.99 70.82 15 58 30 2868.5 -33.95 129.17
 80.00 14 54 18 3867.63 -20.49 153.15 199.53 67.79 15 58 46 2867.6 -27.83 128.15
 90.00 15 3 23 3838.22 -13.19 147.65 196.18 64.75 16 7 21 2838.2 -22.47 124.47
 100.00 17 37 10 3342.10 -20.49 114.52 199.53 67.79 18 32 52 2342.1 -27.83 89.51
 110.00 19 53 28 2915.32 -28.82 85.59 202.99 70.82 20 42 3 1915.3 -33.95 58.08

DIFFERENTIAL CORRECTIONS
 TDE .4496 TRA -.4656 TC3 -.4563 BAU .5268 SGT 858.6 SGR 4924.0 SG3 807.7 ST 22.6 SR 121.4 SS 101.8
 RDE 2.1654 RRA 4.0099 RC3 -.9780 FAU .09206 RRT -.1506 RRF .9989 RTF -.0003 CRT .6203 CRS -.9998 CST -.6057
 FDE 3.9294 FRA 7.5788 FC3 -2.1828 BSP 8422 SGB 4988.3 R23 -.0249 R13 .9988 LSA 159.0 MSA 17.8 SSA .3
 BDE 2.2115 BRA 4.0369 BC3 1.0792 FSP 1374 SG1 4925.8 SG2 848.5 THA 91.55 EL1 122.2 EL2 17.6 ALF 83.27

LAUNCH DATE MAR 9 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 17 1971

MELIOCENTRIC CONIC
 RL 148.52 LAL -.00 LOL 167.77 VL 32.299 GAL -6.07 AZL 83.28 HCA 192.12 SMA 178.38 ECC .19719 INC 6.7177 V1 30.001
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.035 GAP 6.07 AZP 96.37 TAL 321.53 TAP 153.65 RCA 143.21 APO 213.55 V2 26.313
 RC 92.259 GL 41.10 GP -38.43 ZAL 132.56 ZAP 107.59 ETS 193.47 ZAE 135.00 ETE 227.63 ZAC 64.01 ETC 271.81 LVI 25.98

DISTANCE 554.870
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 32.667 VHL 5.716 DLA 24.84 RAL 310.52 RAD 6648.0 VEL 12.352 PTH 7.28 VHP 4.982 DPA -60.85 RAP 305.67 ECC 1.5376
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 8 3739.85 -47.25 152.92 204.33 83.68 16 18 48 2759.9 -44.20 118.31
 60.00 15 23 59 3738.95 -39.32 149.52 202.80 80.36 16 26 18 2738.9 -38.98 118.36
 70.00 15 37 9 3700.17 -31.98 144.60 201.02 77.31 16 38 49 2700.2 -33.97 116.04
 80.00 16 3 34 3617.25 -26.00 136.62 199.32 74.78 17 3 52 2617.2 -29.80 109.85
 90.00 17 3 15 3424.50 -23.40 121.66 198.51 73.65 18 0 20 2424.5 -27.98 95.58
 100.00 18 46 26 3091.72 -26.00 97.99 199.32 74.78 19 37 58 2091.7 -29.80 71.21
 110.00 20 36 35 2746.98 -31.98 73.52 201.02 77.31 21 22 22 1747.0 -33.97 44.96

DIFFERENTIAL CORRECTIONS
 TDE .4546 TRA -.3094 TC3 -.5520 BAU .4994 SGT 849.9 SGR 4758.3 SG3 925.0 ST 23.4 SR 116.2 SS 107.8
 RDE 1.9502 RRA 3.7941 RC3 -1.0016 FAU .09937 RRT .0459 RRF .9989 RTF .0632 CRT .7025 CRS -.9996 CST -.6625
 FDE 4.1255 FRA 8.5283 FC3 -2.6335 BSP 8194 SGB 4833.6 R23 -.0158 R13 .9989 LSA 159.3 MSA 16.9 SSA .3
 BDE 2.0025 BRA 3.8067 BC3 1.1436 FSP 1588 SG1 4758.4 SG2 848.9 THA 89.52 EL1 117.4 EL2 16.5 ALF 81.79

LAUNCH DATE MAR 9 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 19 1971

DISTANCE 559.011

EARTH TO MARS

RL 148.92 LAL -.00 LOL 167.77 VL 32.289 GAL -6.06 AZL 84.01 HCA 193.36 SMA 178.23 ECC .19657 INC 5.9867 V1 30.001
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.000 GAP 5.82 AZP 95.83 TAL 321.43 TAP 154.79 RCA 143.19 APO 213.26 V2 26.294
 RC 94.128 GL 37.78 GP -36.37 ZAL 134.97 ZAP 106.62 ETS 191.61 ZAE 135.62 ETE 224.56 ZAC 86.10 ETC 271.62 LVI 24.31

PLANETOCENTRIC CONIC
 C3 29.887 VHL 5.487 DLA 21.40 RAL 311.40 RAD 8647.0 VEL 12.240 PTH 7.19 VHP 4.740 DPA -59.00 RAP 303.36 ECC 1.4919
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 46 3667.49 -47.57 144.02 199.71 90.52 16 35 54 2687.5 -41.79 110.75
 60.00 15 48 18 3631.49 -40.17 140.51 199.44 88.41 16 48 49 2631.5 -37.22 109.78
 70.00 16 9 34 3568.82 -33.51 134.67 198.67 82.99 17 9 3 2568.8 -32.91 105.94
 80.00 16 46 53 3451.83 -28.43 124.94 197.80 80.46 17 44 25 2451.8 -29.54 97.57
 90.00 17 53 33 3236.57 -26.39 108.72 197.40 79.45 18 47 30 2236.6 -28.17 81.85
 100.00 19 29 45 2926.30 -28.43 86.31 197.80 80.46 20 18 31 1926.3 -29.54 58.94
 110.00 21 9 0 2615.64 -33.51 63.59 198.67 82.99 21 52 36 1615.6 -32.91 34.86

DIFFERENTIAL CORRECTIONS
 TDE .4704 TRA -.1420 TC3 -.6516 BAU .4827 SGT 881.0 SGR 4595.6 SG3 1034.5 ST 24.8 SR 111.3 SS 112.6
 RDE 1.7782 RRA 3.5987 RC3-1.0172 FAU .10638 RRT .2627 RRF .9988 RTF .2772 CRT .7807 CRS -.9993 CST -.7570
 FDE 4.2850 FRA 9.3933 FC3-3.0815 B8P 7935 SGB 4679.3 R23 -.0057 R13 .9989 LSA 159.4 MSA 16.0 SSA .4
 BDE 1.8394 BRA 3.6015 BC3 1.2080 F8P 1784 SG1 4601.6 SG2 848.9 THA 87.02 EL1 113.0 EL2 15.3 ALF 79.95

LAUNCH DATE MAR 9 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 21 1971

DISTANCE 563.159

EARTH TO MARS

RL 148.92 LAL -.00 LOL 167.77 VL 32.280 GAL -6.07 AZL 84.62 HCA 194.60 SMA 178.09 ECC .19605 INC 5.3786 V1 30.001
 RP 208.58 LAP -1.35 LOP 2.31 VP 22.964 GAP 5.37 AZP 95.21 TAL 321.32 TAP 155.91 RCA 143.17 APO 213.01 V2 26.274
 RC 96.027 GL 34.78 GP -34.51 ZAL 137.10 ZAP 105.43 ETS 189.85 ZAE 135.89 ETE 221.45 ZAC 67.98 ETC 271.41 LVI 22.85

PLANETOCENTRIC CONIC
 C3 27.826 VHL 5.275 DLA 18.49 RAL 312.21 RAD 6646.1 VEL 12.156 PTH 7.12 VHP 4.544 DPA -57.35 RAP 301.61 ECC 1.4579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 44 3588.32 -47.25 136.40 195.76 96.38 16 50 32 2588.3 -39.32 104.77
 60.00 16 8 40 3540.58 -40.27 132.78 196.44 91.65 17 7 40 2540.6 -35.21 102.90
 70.00 16 35 44 3480.88 -34.10 126.30 196.41 87.91 17 33 25 2460.9 -31.39 97.90
 80.00 17 19 42 3323.07 -29.52 115.53 196.09 85.28 18 15 5 2323.1 -28.47 88.16
 90.00 18 29 57 3096.28 -27.74 98.69 195.90 84.29 19 21 34 2096.3 -27.33 71.69
 100.00 20 2 34 2797.54 -29.52 76.90 196.09 85.28 20 49 11 1797.5 -28.47 49.53
 110.00 21 35 10 2507.70 -34.10 55.22 196.41 87.91 22 16 58 1507.7 -31.39 26.82

DIFFERENTIAL CORRECTIONS
 TDE .4944 TRA .0341 TC3 -.7529 BAU .4738 SGT 959.6 SGR 4435.7 SG3 1135.6 ST 26.9 SR 106.6 SS 116.5
 RDE 1.6375 RRA 3.4195 RC3-1.0272 FAU .11320 RRT .4626 RRF .9986 RTF .4743 CRT .8460 CRS -.9993 CST -.8204
 FDE 4.4134 FRA 10.1808 FC3-3.5221 B8P 7652 SGB 4538.3 R23 .0058 R13 .9987 LSA 159.5 MSA 15.2 SSA .5
 BDE 1.7105 BRA 3.4197 BC3 1.2736 F8P 1958 SG1 4458.7 SG2 846.4 THA 84.07 EL1 109.0 EL2 14.0 ALF 77.75

LAUNCH DATE MAR 9 1971

FLIGHT TIME 228.00

ARRIVAL DATE OCT 23 1971

DISTANCE 567.314

EARTH TO MARS

RL 148.92 LAL -.00 LOL 167.77 VL 32.272 GAL -6.07 AZL 85.14 HCA 195.84 SMA 177.97 ECC .19563 INC 4.8647 V1 30.001
 RP 208.76 LAP -1.33 LOP 3.55 VP 22.929 GAP 5.32 AZP 94.68 TAL 321.19 TAP 157.03 RCA 143.15 APO 212.78 V2 26.254
 RC 97.935 GL 32.07 GP -32.82 ZAL 138.98 ZAP 104.05 ETS 188.20 ZAE 135.86 ETE 218.36 ZAC 69.70 ETC 271.20 LVI 21.57

PLANETOCENTRIC CONIC
 C3 26.269 VHL 5.125 DLA 15.88 RAL 312.97 RAD 6645.5 VEL 12.093 PTH 7.07 VHP 4.382 DPA -55.86 RAP 299.74 ECC 1.4323
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 39 3519.81 -46.53 129.94 192.50 101.31 17 3 19 2519.8 -36.92 99.97
 60.00 16 26 10 3462.53 -39.91 126.18 193.89 96.12 17 23 52 2462.5 -33.16 97.30
 70.00 16 57 41 3369.73 -34.10 119.19 194.42 92.11 17 53 51 2369.7 -29.68 91.36
 80.00 17 46 23 3217.17 -29.85 107.69 194.48 89.40 18 40 0 2217.2 -27.06 80.61
 90.00 18 58 58 2982.84 -28.24 90.43 194.45 88.39 19 48 41 1982.8 -26.06 63.63
 100.00 20 29 14 2691.64 -29.85 69.05 194.48 89.40 21 14 6 1691.6 -27.06 41.98
 110.00 21 57 8 2416.55 -34.10 48.10 194.42 92.11 22 37 24 1416.6 -29.68 20.27

DIFFERENTIAL CORRECTIONS
 TDE .5245 TRA .2172 TC3 -.8565 BAU .4693 SGT 1085.5 SGR 4283.7 SG3 1229.3 ST 29.6 SR 102.4 SS 119.9
 RDE 1.5246 RRA 3.2583 RC3-1.0256 FAU .11919 RRT .6190 RRF .9984 RTF .4.83 CRT .8960 CRS -.9994 CST -.8699
 FDE 4.5300 FRA 10.9030 FC3-3.9282 B8P 7427 SGB 4419.1 R23 .0185 R13 .9983 LSA 159.8 MSA 14.5 SSA .5
 BDE 1.6123 BRA 3.2655 BC3 1.3362 F8P 2126 SG1 4338.2 SG2 841.9 THA 80.73 EL1 105.9 EL2 12.7 ALF 75.27

LAUNCH DATE MAR 9 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 25 1971

DISTANCE 571.474

EARTH TO MARS

RL 148.92 LAL -.00 LOL 167.77 VL 32.265 GAL -6.08 AZL 85.58 HCA 197.07 SMA 177.88 ECC .19530 INC 4.4244 V1 30.001
 RP 208.94 LAP -1.30 LOP 4.80 VP 22.895 GAP 5.08 AZP 94.23 TAL 321.03 TAP 158.13 RCA 143.12 APO 212.59 V2 26.232
 RC 99.910 GL 29.82 GP -31.28 ZAL 140.84 ZAP 102.53 ETS 186.66 ZAE 135.55 ETE 215.34 ZAC 71.27 ETC 270.97 LVI 20.45

PLANETOCENTRIC CONIC
 C3 25.078 VHL 5.008 DLA 13.52 RAL 313.68 RAD 6645.0 VEL 12.044 PTH 7.03 VHP 4.247 DPA -54.50 RAP 297.94 ECC 1.4127
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 57 3460.05 -45.59 124.49 189.88 105.42 17 14 37 2460.0 -34.67 96.05
 60.00 16 41 28 3394.79 -39.27 120.53 191.80 99.90 17 38 3 2394.8 -31.16 92.68
 70.00 17 16 36 3291.40 -33.73 113.10 192.74 95.69 18 11 27 2291.4 -27.93 85.93
 80.00 18 8 54 3127.50 -29.73 101.03 193.10 92.89 19 1 2 2127.5 -25.53 74.39
 90.00 19 23 13 2887.65 -28.22 83.47 193.17 91.88 20 11 21 1887.6 -24.61 57.04
 100.00 20 51 46 2601.97 -29.73 62.39 193.10 92.89 21 35 8 1602.0 -25.53 35.76
 110.00 22 16 2 2338.22 -33.73 42.02 192.74 95.69 22 55 0 1338.2 -27.93 14.85

DIFFERENTIAL CORRECTIONS
 TDE .5597 TRA .4062 TC3 -.9611 BAU .4689 SGT 1251.0 SGR 4136.5 SG3 1315.1 ST 32.8 SR 98.6 SS 122.7
 RDE 1.4312 RRA 3.1101 RC3-1.0160 FAU .12454 RRT .7299 RRF .9981 RTF .7374 CRT .9319 CRS -.9978 CST -.9063
 FDE 4.6322 FRA 11.5597 FC3-4.2992 B8P 7237 SGB 4321.6 R23 .0323 R13 .9977 LSA 160.2 MSA 13.8 SSA .6
 BDE 1.5367 BRA 3.1365 BC3 1.3985 F8P 2283 SG1 4240.3 SG2 834.2 THA 77.04 EL1 103.3 EL2 11.4 ALF 72.54

LAUNCH DATE MAR 9 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 27 1971

Heliocentric Conic

RL 148.52 LAL -.00 LOL 167.77 VL 32.259 GAL -6.10 AZL 85.96 HCA 186.31 SMA 177.76 ECC .19306 INC 4.0425 V1 30.001
 RP 209.14 LAP -1.27 LOP 6.04 VP 22.860 GAP 4.84 AZP 93.84 TAL 320.90 TAP 199.21 RCA 143.09 APO 212.44 V2 26.209
 RC 101.892 GL 27.39 GP -29.86 ZAL 142.12 ZAP 100.69 ETS 185.23 ZAE 135.00 ETE 212.43 ZAC 72.71 ETC 270.74 LVI 19.46

DISTANCE 579.638

EARTH TO MARS

Planetocentric Conic

C3 24.160 VHL 4.915 DLA 11.39 RAL 314.35 RAD 6644.6 VEL 12.006 PTH 7.00 VHP 4.134 DPA -53.26 RAP 296.21 ECC 1.3976
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 56 3407.58 -44.54 119.87 187.80 108.84 17 24 44 2407.6 -32.57 92.79
 60.00 16 55 2 3335.49 -38.46 115.70 190.12 103.09 17 50 37 2335.5 -29.26 88.80
 70.00 17 33 10 3223.25 -33.15 107.87 191.38 98.74 18 26 54 2223.2 -26.22 81.37
 80.00 18 26 25 3050.18 -29.33 95.32 191.95 95.87 19 19 15 2050.2 -23.97 69.18
 90.00 19 44 5 2805.98 -27.90 77.52 192.11 94.84 20 30 51 1806.0 -23.11 51.53
 100.00 21 11 17 2524.66 -29.33 56.69 191.95 95.87 21 53 21 1524.7 -23.97 30.55
 110.00 22 32 37 2270.06 -33.15 36.79 191.38 98.74 23 10 27 1270.1 -26.22 10.29

Differential Corrections

TDE .5983 TRA .9990 TC3-1.0670 BAU .4728
 RDE 1.3920 RRA 2.9710 RC3-1.0023 FAU .12954
 FDE 4.7183 FRA12.1467 FC3-4.6420 BSP 7067
 BDE 1.4784 BRA 3.0300 BC3 1.4639 FSP 2421

Mid-Course Execution Accuracy

SGT 1447.0 SGR 3991.9 SG3 1392.3
 RRT .8048 RRF .9978 RTF .8109
 SGB 4246.0 R23 .0467 R13 .9968
 SG1 4165.5 SG2 823.1 THA 73.05

Orbit Determination Accuracy

ST 36.5 SR 95.0 SS 125.1
 CRT .9566 CRS -.9972 CST -.9322
 LSA 160.7 MSA 13.3 SSA .7
 EL1 101.3 EL2 10.0 ALF 69.61

LAUNCH DATE MAR 9 1971

FLIGHT TIME 234.00

ARRIVAL DATE OCT 29 1971

Heliocentric Conic

RL 148.52 LAL -.00 LOL 167.77 VL 32.253 GAL -6.12 AZL 86.29 HCA 199.54 SMA 177.68 ECC .19491 INC 3.7080 V1 30.001
 RP 209.34 LAP -1.24 LOP 7.27 VP 22.826 GAP 4.60 AZP 93.49 TAL 320.74 TAP 160.28 RCA 143.05 APO 212.31 V2 26.186
 RC 103.900 GL 25.36 GP -28.56 ZAL 143.44 ZAP 99.15 ETS 183.91 ZAE 134.25 ETE 209.67 ZAC 74.04 ETC 270.51 LVI 18.59

DISTANCE 579.807

EARTH TO MARS

Planetocentric Conic

C3 23.449 VHL 4.842 DLA 9.46 RAL 314.98 RAD 6644.3 VEL 11.976 PTH 6.97 VHP 4.039 DPA -52.12 RAP 294.53 ECC 1.3899
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 52 3361.25 -43.44 113.95 186.17 111.70 17 33 53 2361.2 -30.65 90.05
 60.00 17 7 11 3283.20 -37.58 111.54 188.79 105.78 18 1 54 2283.2 -27.49 85.81
 70.00 17 47 55 3163.39 -32.44 103.35 190.30 101.32 18 40 38 2163.4 -24.59 77.49
 80.00 18 45 36 2982.65 -28.78 90.38 191.05 98.40 19 35 19 1982.7 -22.45 64.74
 90.00 20 2 23 2734.88 -27.38 72.39 191.26 97.36 20 47 58 1734.9 -21.64 46.84
 100.00 21 28 28 2457.13 -28.76 51.75 191.05 98.40 22 9 25 1457.1 -22.45 26.11
 110.00 22 47 21 2210.20 -32.44 32.26 190.30 101.32 23 24 11 1210.2 -24.59 6.41

Differential Corrections

TDE .6408 TRA .7963 TC3-1.1718 BAU .4800
 RDE 1.2831 RRA 2.8394 RC3 -.9857 FAU .13424
 FDE 4.7863 FRA12.6661 FC3-4.9562 BSP 6924
 BDE 1.4342 BRA 2.9489 BC3 1.5310 FSP 2539

Mid-Course Execution Accuracy

SGT 1665.8 SGR 3849.1 SG3 1461.0
 RRT .8559 RRF .9975 RTF .8610
 SGB 4194.1 R23 .0613 R13 .9957
 SG1 4116.0 SG2 805.7 THA 68.83

Orbit Determination Accuracy

ST 40.6 SR 91.5 SS 126.9
 CRT .9731 CRS -.9964 CST -.9502
 LSA 161.1 MSA 12.8 SSA .7
 EL1 99.7 EL2 8.6 ALF 66.48

LAUNCH DATE MAR 9 1971

FLIGHT TIME 236.00

ARRIVAL DATE OCT 31 1971

Heliocentric Conic

RL 148.52 LAL -.00 LOL 167.77 VL 32.249 GAL -6.14 AZL 86.59 HCA 200.77 SMA 177.61 ECC .19484 INC 3.4122 V1 30.001
 RP 209.55 LAP -1.21 LOP 8.51 VP 22.791 GAP 4.37 AZP 93.19 TAL 320.57 TAP 161.34 RCA 143.00 APO 212.21 V2 26.162
 RC 105.933 GL 23.50 GP -27.34 ZAL 144.62 ZAP 97.34 ETS 182.68 ZAE 133.32 ETE 207.06 ZAC 75.27 ETC 270.28 LVI 17.81

DISTANCE 583.979

EARTH TO MARS

Planetocentric Conic

C3 22.901 VHL 4.788 DLA 7.70 RAL 315.59 RAD 6644.1 VEL 11.954 PTH 6.95 VHP 3.960 DPA -51.06 RAP 292.92 ECC 1.3769
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 53 3320.15 -42.36 112.61 184.92 114.09 17 42 13 2320.1 -28.89 87.71
 60.00 17 18 11 3236.85 -36.66 107.95 187.76 108.07 18 12 8 2236.9 -25.85 82.69
 70.00 18 1 10 3110.42 -31.66 99.41 189.47 103.53 18 53 0 2110.4 -23.05 74.14
 80.00 19 0 58 2923.10 -28.09 86.08 190.35 100.57 19 49 41 1923.1 -21.00 60.91
 90.00 20 18 41 2672.31 -26.76 67.91 190.62 99.51 21 3 13 1672.3 -20.22 42.80
 100.00 21 43 50 2397.57 -26.09 47.45 190.35 100.57 22 23 48 1397.6 -21.00 22.28
 110.00 23 0 36 2157.24 -31.66 28.33 189.47 103.53 23 36 33 1157.2 -23.05 3.06

Differential Corrections

TDE .6862 TRA .9964 TC3-1.2758 BAU .4908
 RDE 1.2213 RRA 2.7121 RC3 -.9894 FAU .13899
 FDE 4.8316 FRA13.1097 FC3-5.2540 BSP 6800
 BDE 1.4009 BRA 2.8893 BC3 1.6021 FSP 2631

Mid-Course Execution Accuracy

SGT 1901.2 SGR 3706.1 SG3 1520.3
 RRT .8911 RRF .9971 RTF .8553
 SGB 4165.3 R23 .0752 R13 .9944
 SG1 4091.3 SG2 781.6 THA 64.43

Orbit Determination Accuracy

ST 44.9 SR 88.1 SS 128.1
 CRT .9840 CRS -.9954 CST -.9627
 LSA 161.3 MSA 12.5 SSA .8
 EL1 98.6 EL2 7.2 ALF 63.21

LAUNCH DATE MAR 9 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 2 1971

Heliocentric Conic

RL 148.52 LAL -.00 LOL 167.77 VL 32.245 GAL -6.17 AZL 86.85 HCA 202.00 SMA 177.55 ECC .19485 INC 3.1488 V1 30.001
 RP 209.76 LAP -1.18 LOP 9.74 VP 22.757 GAP 4.14 AZP 92.92 TAL 320.38 TAP 162.38 RCA 142.95 APO 212.14 V2 26.137
 RC 107.990 GL 21.80 GP -26.21 ZAL 145.68 ZAP 95.48 ETS 181.56 ZAE 132.24 ETE 204.63 ZAC 76.42 ETC 270.05 LVI 17.10

DISTANCE 588.151

EARTH TO MARS

Planetocentric Conic

C3 22.485 VHL 4.742 DLA 6.09 RAL 316.18 RAD 6643.9 VEL 11.936 PTH 6.94 VHP 3.894 DPA -50.06 RAP 291.36 ECC 1.3700
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 9 3283.56 -41.30 109.73 183.97 116.11 17 49 53 2283.6 -27.28 85.71
 60.00 17 28 14 3195.57 -35.74 104.83 186.99 110.01 18 21 29 2195.6 -24.33 80.25
 70.00 18 13 12 3063.29 -30.86 95.97 188.85 105.42 19 4 15 2063.3 -21.62 71.24
 80.00 19 14 51 2870.20 -27.37 82.32 189.84 102.42 20 2 41 1870.2 -19.63 57.58
 90.00 20 33 23 2616.78 -26.07 64.00 190.15 101.36 21 16 59 1616.8 -18.88 39.28
 100.00 21 57 43 2344.67 -27.37 43.68 189.84 102.42 22 36 47 1344.7 -19.63 18.95
 110.00 23 12 38 2110.11 -30.86 24.89 188.85 105.42 23 47 48 1110.1 -21.62 .15

Differential Corrections

TDE .7311 TRA 1.1969 TC3-1.3855 BAU .5015
 RDE 1.1783 RRA 2.8024 RC3 -.9296 FAU .14067
 FDE 4.9192 FRA13.5488 FC3-5.4160 BSP 6840
 BDE 1.3667 BRA 2.8645 BC3 1.6685 FSP 2767

Mid-Course Execution Accuracy

SGT 2149.9 SGR 3578.4 SG3 1576.1
 RRT .9119 RRF .9966 RTF .9165
 SGB 4174.6 R23 .0881 R13 .9929
 SG1 4103.0 SG2 769.5 THA 60.12

Orbit Determination Accuracy

ST 49.3 SR 85.6 SS 130.0
 CRT .9914 CRS -.9944 CST -.9724
 LSA 162.8 MSA 12.1 SSA .9
 EL1 98.6 EL2 5.6 ALF 60.15

LAUNCH DATE MAR 9 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.52	LAL	-0.00	LOL	167.77	VL	32.242	GAL	-6.20	AZL	87.09	HCA	203.23	SMA	177.50	ECC	.19494	INC	2.9124	V1	30.001				
RP	209.99	LAP	-1.15	LOP	10.97	VP	22.723	GAP	3.91	AZP	92.68	TAL	320.18	TAP	163.42	RCA	142.90	APO	212.10	V2	26.111				
RC	110.071	GL	20.23	GP	-25.15	ZAL	146.63	ZAP	93.58	ETS	180.51	ZAE	131.03	ETE	202.36	ZAC	77.50	ETC	269.82	LVI	16.47				
PLANETOCENTRIC CONIC																									
C3	22.174	VHL	4.709	DLA	4.62	RAL	316.72	RAD	6643.8	VEL	11.923	PTH	6.93	VHP	3.639	DPA	-49.12	RAP	289.86	ECC	1.3649				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	2	47	3250.86	-40.29	107.25	183.26	117.82	17	96	58	2250.9	-25.82	83.97											
60.00	17	37	26	3158.65	-34.85	102.11	186.42	111.68	18	30	5	2158.6	-22.94	78.12											
70.00	18	24	12	3021.13	-30.06	92.95	188.41	107.04	19	14	33	2021.1	-20.29	68.69											
80.00	19	27	29	2822.92	-26.63	79.00	189.49	104.02	20	14	32	1822.9	-18.35	54.66											
90.00	20	46	44	2567.18	-25.36	60.54	189.83	102.95	21	29	31	1367.2	-17.61	36.19											
100.00	22	10	21	2297.39	-26.63	40.37	189.49	104.02	22	48	38	1297.4	-18.35	16.03											
110.00	23	23	38	2067.95	-30.06	21.87	188.41	107.04	23	58	6	1067.9	-20.29	357.61											
DIFFERENTIAL CORRECTIONS										ORBIT DETERMINATION ACCURACY															
TDE	.7799	TRA	1.4008	TC3	-1.4902	BAU	.5156	SGT	2407.1	SGR	3446.4	SG3	1621.6	ST	54.0	SR	82.8	SS	131.2						
RDE	1.1359	RRA	2.4920	RC3	-.8989	FAU	.14295	RRT	.9280	RRF	.9961	RTF	.9327	CRT	.9959	CR8	-.9933	CST	-.9791						
FDE	4.9721	FRA	13.9030	FC3	-5.5813	BSP	6866	SG8	4203.8	R23	.0992	R13	.9914	LSA	163.8	MSA	11.9	SSA	1.0						
BDE	1.3778	BRA	2.8587	BC3	1.7393	FSP	2862	SG1	4136.9	SG2	747.0	THA	55.78	EL1	98.8	EL2	4.1	ALF	56.95						

LAUNCH DATE MAR 9 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.52	LAL	-0.00	LOL	167.77	VL	32.239	GAL	-6.23	AZL	87.30	HCA	204.46	SMA	177.46	ECC	.19511	INC	2.6988	V1	30.001				
RP	210.22	LAP	-1.12	LOP	12.20	VP	22.689	GAP	3.69	AZP	92.46	TAL	319.98	TAP	164.43	RCA	142.84	APO	212.09	V2	26.085				
RC	112.177	GL	18.79	GP	-24.15	ZAL	147.49	ZAP	91.65	ETS	179.55	ZAE	129.72	ETE	200.27	ZAC	78.51	ETC	269.59	LVI	15.90				
PLANETOCENTRIC CONIC																									
C3	21.951	VHL	4.685	DLA	3.28	RAL	317.25	RAD	6643.7	VEL	11.914	PTH	6.92	VHP	3.795	DPA	-48.24	RAP	288.41	ECC	1.3613				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	9	50	3221.58	-39.34	105.09	182.75	119.28	18	3	32	2221.6	-24.49	82.45											
60.00	17	45	57	3125.53	-33.99	99.72	186.02	113.10	18	38	2	2125.5	-21.66	76.25											
70.00	18	34	18	2983.28	-29.27	90.29	188.12	108.43	19	24	2	1983.3	-19.06	66.44											
80.00	19	39	4	2780.46	-25.90	76.06	189.28	105.40	20	25	25	1780.5	-17.15	52.07											
90.00	20	58	58	2522.65	-24.64	57.47	189.65	104.33	21	41	1	1522.6	-16.43	33.46											
100.00	22	21	58	2254.94	-25.90	37.43	189.28	105.40	22	59	31	1254.9	-17.15	13.44											
110.00	23	33	45	2030.10	-29.27	19.20	188.12	108.43	24	7	35	1030.1	-19.06	355.36											
DIFFERENTIAL CORRECTIONS										ORBIT DETERMINATION ACCURACY															
TDE	.8305	TRA	1.6055	TC3	-1.5931	BAU	.5322	SGT	2669.7	SGR	3313.6	SG3	1657.9	ST	58.8	SR	80.1	SS	131.8						
RDE	1.0980	RRA	2.3838	RC3	-.8663	FAU	.14528	RRT	.9399	RRF	.9954	RTF	.9448	CRT	.9984	CR3	-.9919	CST	-.9838						
FDE	5.0013	FRA	14.1871	FC3	-5.7290	BSP	6909	SG8	4255.3	R23	.1080	R13	.9899	LSA	164.6	MSA	11.8	SSA	1.0						
BDE	1.3751	BRA	2.8739	BC3	1.8134	FSP	2929	SG1	4193.9	SG2	720.2	THA	51.52	EL1	99.3	EL2	2.7	ALF	53.73						

LAUNCH DATE MAR 9 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.52	LAL	-0.00	LOL	167.77	VL	32.237	GAL	-6.27	AZL	87.50	HCA	205.68	SMA	177.43	ECC	.19535	INC	2.5050	V1	30.001				
RP	210.45	LAP	-1.09	LOP	13.43	VP	22.655	GAP	3.47	AZP	92.26	TAL	319.76	TAP	165.44	RCA	142.77	APO	212.09	V2	26.058				
RC	114.307	GL	17.45	GP	-23.21	ZAL	148.28	ZAP	89.70	ETS	178.87	ZAE	128.33	ETE	198.33	ZAC	79.46	ETC	269.37	LVI	15.37				
PLANETOCENTRIC CONIC																									
C3	21.802	VHL	4.689	DLA	2.04	RAL	317.76	RAD	6643.6	VEL	11.908	PTH	6.92	VHP	3.780	DPA	-47.39	RAP	287.03	ECC	1.3588				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	16	23	3195.29	-38.44	103.21	182.40	120.53	18	9	40	2193.3	-23.29	81.11											
60.00	17	53	50	3095.75	-33.17	97.61	185.77	114.34	18	45	26	2095.7	-20.49	74.60											
70.00	18	43	40	2949.19	-28.52	87.92	187.96	109.65	19	32	49	1949.2	-17.93	64.45											
80.00	19	49	46	2742.20	-25.18	73.44	189.19	106.60	20	35	28	1742.2	-16.04	49.77											
90.00	21	10	15	2482.50	-23.94	54.74	189.58	105.52	21	51	37	1482.5	-15.33	31.02											
100.00	22	32	38	2216.67	-25.18	34.61	189.19	106.60	23	9	34	1216.7	-16.04	11.14											
110.00	23	43	6	1998.01	-28.52	16.84	187.96	109.65	24	16	22	996.0	-17.93	353.37											
DIFFERENTIAL CORRECTIONS										ORBIT DETERMINATION ACCURACY															
TDE	.8630	TRA	1.8117	TC3	-1.6933	BAU	.5499	SGT	2936.5	SGR	3184.4	SG3	1887.1	ST	63.7	SR	77.5	SS	132.3						
RDE	1.0817	RRA	2.2805	RC3	-.8314	FAU	.14665	RRT	.9484	RRF	.9947	RTF	.9536	CRT	.9995	CR8	-.9905	CST	-.9873						
FDE	5.0277	FRA	14.4238	FC3	-5.8232	BSP	7017	SG8	4331.7	R23	.1144	R13	.9886	LSA	165.6	MSA	11.7	SSA	1.1						
BDE	1.3809	BRA	2.9126	BC3	1.8864	FSP	2992	SG1	4278.8	SG2	693.7	THA	47.44	EL1	100.3	EL2	1.5	ALF	50.60						

LAUNCH DATE MAR 9 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.52	LAL	-0.00	LOL	167.77	VL	32.236	GAL	-6.31	AZL	87.67	HCA	206.80	SMA	177.41	ECC	.19566	INC	2.3279	V1	30.001				
RP	210.70	LAP	-1.05	LOP	14.63	VP	22.621	GAP	3.25	AZP	92.08	TAL	319.53	TAP	166.43	RCA	142.70	APO	212.13	V2	26.030				
RC	116.460	GL	16.22	GP	-22.31	ZAL	149.00	ZAP	87.75	ETS	177.86	ZAE	126.86	ETE	196.56	ZAC	80.36	ETC	269.15	LVI	14.89				
PLANETOCENTRIC CONIC																									
C3	21.718	VHL	4.660	DLA	.90	RAL	318.26	RAD	6643.6	VEL	11.904	PTH	6.91	VHP	3.733	DPA	-46.59	RAP	285.70	ECC	1.3574				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	22	34	3171.67	-37.61	101.56	182.19	121.61	18	15	25	2171.7	-22.19	79.94											
60.00	18	1	11	3068.91	-32.40	95.76	185.65	115.40	18	52	20	2068.9	-19.43	73.13											
70.00	18	32	22	2918.41	-27.79	85.82	187.91	110.70	19	41	0	1918.4	-16.89	62.67											
80.00	19	39	41	2707.60	-24.49	71.11	189.19	107.64	20	44	49	1707.6	-15.02	47.71											
90.00	21	20	42	2446.18	-23.26	52.30	189.61	106.56	22	1	28	1446.2	-14.31	28.84											
100.00	22	42	33	2182.07	-24.49	32.47	189.19	107.64	23	18	55	1182.1	-15.02	9.08											
110.00	23	51	48	1965.23	-27.79	14.74	187.91	110.70	24	24	33	965.2	-16.89	351.59											
DIFFERENTIAL CORRECTIONS										ORBIT DETERMINATION ACCURACY															
TDE	.9369	TRA	2.0181	TC3	-1.7910	BAU	.5689	SGT	3204.8	SGR	3057.7	SG3	1708.8	ST	68.6	SR	75.1	SS	132.5						
RDE	1.0312	RRA	2.1811	RC3	-.7951	FAU	.14745	RRT	.9544	RRF	.9938	RTF	.9603	CRT	.9997	CR8	-.9888	CST	-.9899						
FDE	5.0465	FRA	14.6080	FC3	-5.8780	BSP	7164	SG8	4429.5	R23	.1184	R13	.9875	LSA	166.7	MSA	11.8	SSA	1.1						
BDE	1.3933	BRA	2.9715	BC3	1.9596	FSP	3042	SG1	4378.8	SG2	668.0	THA	43.59	EL1	101.7	EL2	1.2	ALF	47.58						

LAUNCH DATE MAR 9 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.235 GAL -6.35 AZL 87.85 HCA 208.12 SMA 177.40 ECC .19605 INC 2.1655 VI 30.001
 RP 210.95 LAP -1.02 LOP 15.87 VP 22.587 GAP 3.03 AZP 91.91 TAL 319.29 TAP 167.40 RCA 142.62 APO 212.16 V2 26.001
 RC 118.837 GL 15.07 GP -21.46 ZAL 149.86 ZAP 85.80 ETS 177.11 ZAE 125.35 ETE 194.93 ZAC 81.22 ETC 268.95 LVI 14.44

PLANETOCENTRIC CONIC

C3 21.689 VHL 4.657 DLA -.15 RAL 318.74 RAD 6843.6 VEL 11.903 PTH 6.91 VHP 3.713 DPA -45.82 RAP 284.45 ECC 1.3569
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 20 3150.42 -36.84 100.11 182.10 122.54 18 20 50 2150.4 -21.19 78.89
 60.00 18 8 4 3044.71 -31.68 94.11 185.62 116.33 18 58 49 2044.7 -18.45 71.83
 70.00 19 0 29 2890.57 -27.11 83.95 187.95 111.62 19 48 39 1890.6 -15.93 61.00
 80.00 20 8 56 2676.24 -23.82 69.01 189.29 108.55 20 53 32 1676.2 -14.07 45.87
 90.00 21 30 26 2413.25 -22.60 50.11 189.72 107.46 22 10 39 1413.3 -13.37 26.89
 100.00 22 51 48 2150.71 -23.82 30.38 189.29 108.55 23 27 38 1150.7 -14.07 7.24
 110.00 0 3 51 1937.39 -27.11 12.86 187.95 111.62 0 36 8 937.4 -15.93 350.00

DIFFERENTIAL CORRECTIONS

TDE .9920 TRA 2.2245 TC3-1.8856 BAU .5894
 RDE 1.0037 RRA 2.0849 RC3 -.7591 FAU .14790
 FDE 5.0347 FRA14.7409 FC3-5.9036 BSP 7348
 BDE 1.4112 BRA 3.0488 BC3 2.0327 FSP 3079

MID-COURSE EXECUTION ACCURACY

SGT 3473.3 SGR 2933.2 SG3 1723.3
 RRT .9588 RRF .9928 RTF .9654
 SGB 4546.2 R23 .1200 R13 .9867
 SG1 4500.5 SG2 642.8 THA 39.98

ORBIT DETERMINATION ACCURACY

ST 73.6 SR 72.8 SS 132.6
 CRT .9992 CRS -.9870 CST -.9919
 LSA 167.7 MSA 11.9 SSA 1.1
 EL1 103.5 EL2 2.1 ALF 44.67

LAUNCH DATE MAR 9 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.235 GAL -6.40 AZL 87.98 HCA 209.33 SMA 177.40 ECC .19650 INC 2.0159 VI 30.001
 RP 211.20 LAP -.99 LOP 17.09 VP 22.554 GAP 2.81 AZP 91.76 TAL 319.04 TAP 168.37 RCA 142.54 APO 212.26 V2 25.972
 RC 120.836 GL 14.00 GP -20.66 ZAL 150.28 ZAP 83.87 ETS 176.43 ZAE 123.79 ETE 193.45 ZAC 82.02 ETC 268.75 LVI 14.02

PLANETOCENTRIC CONIC

C3 21.709 VHL 4.659 DLA -1.12 RAL 319.22 RAD 6643.6 VEL 11.904 PTH 6.91 VHP 3.700 DPA -45.07 RAP 283.25 ECC 1.3573
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 45 3131.30 -36.14 98.83 182.10 123.35 18 25 57 2131.3 -20.29 77.97
 60.00 18 14 32 3022.85 -31.01 92.64 185.68 117.14 19 4 54 2022.9 -17.56 70.66
 70.00 19 8 5 2865.35 -26.47 82.27 188.08 112.42 19 55 50 1865.4 -15.05 59.66
 80.00 20 17 34 2647.78 -23.19 67.13 189.45 109.35 21 1 42 1647.8 -13.19 44.21
 90.00 21 39 32 2383.33 -21.98 48.14 189.90 108.26 22 19 15 1383.3 -12.50 25.12
 100.00 23 0 26 2122.25 -23.19 28.50 189.45 109.35 23 35 48 1122.2 -13.19 5.58
 110.00 0 11 27 1912.17 -26.47 11.19 188.08 112.42 0 43 19 912.2 -15.05 348.58

DIFFERENTIAL CORRECTIONS

TDE 1.0480 TRA 2.4303 TC3-1.9769 BAU .6108
 RDE .9784 RRA 1.9914 RC3 -.7224 FAU .14777
 FDE 5.0513 FRA14.8235 FC3-5.8932 BSP 7559
 BDE 1.4337 BRA 3.1420 BC3 2.1047 FSP 3100

MID-COURSE EXECUTION ACCURACY

SGT 3740.3 SGR 2810.7 SG3 1730.5
 RRT .9619 RRF .9917 RTF .9694
 SGB 4678.6 R23 .1197 R13 .9861
 SG1 4637.4 SG2 619.9 THA 36.62

ORBIT DETERMINATION ACCURACY

ST 78.5 SR 70.5 SS 132.3
 CRT .9980 CRS -.9849 CST -.9934
 LSA 168.8 MSA 12.0 SSA 1.2
 EL1 105.5 EL2 3.3 ALF 41.90

LAUNCH DATE MAR 9 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.236 GAL -6.45 AZL 88.12 HCA 210.54 SMA 177.41 ECC .19702 INC 1.8774 VI 30.001
 RP 211.46 LAP -.95 LOP 18.30 VP 22.520 GAP 2.59 AZP 91.62 TAL 318.77 TAP 169.32 RCA 142.46 APO 212.36 V2 25.942
 RC 123.056 GL 13.00 GP -19.89 ZAL 150.84 ZAP 81.95 ETS 175.80 ZAE 122.21 ETE 192.09 ZAC 82.79 ETC 268.56 LVI 13.62

PLANETOCENTRIC CONIC

C3 21.773 VHL 4.666 DLA -2.02 RAL 319.68 RAD 6643.6 VEL 11.907 PTH 6.91 VHP 3.694 DPA -44.36 RAP 282.13 ECC 1.3583
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 53 3114.09 -35.49 97.70 182.19 124.05 18 30 47 2114.1 -19.46 77.15
 60.00 18 20 36 3003.11 -30.39 91.34 185.82 117.85 19 10 40 2003.1 -16.75 69.62
 70.00 19 15 14 2842.50 -25.86 80.77 188.27 113.12 20 2 36 1842.5 -14.24 58.38
 80.00 20 25 41 2621.90 -22.60 65.44 189.69 110.05 21 9 23 1621.9 -12.39 42.71
 90.00 21 48 3 2356.10 -21.39 46.37 190.15 108.96 22 27 19 1356.1 -11.69 23.53
 100.00 23 8 33 2098.37 -22.60 26.81 189.69 110.05 23 43 29 1096.4 -12.39 4.08
 110.00 0 18 36 1889.32 -25.86 9.68 188.27 113.12 0 50 5 889.3 -14.24 347.30

DIFFERENTIAL CORRECTIONS

TDE 1.1052 TRA 2.8359 TC3-2.0646 BAU .6333
 RDE .9538 RRA 1.9016 RC3 -.6862 FAU .14729
 FDE 5.0413 FRA14.8649 FC3-5.8566 BSP 7805
 BDE 1.4612 BRA 3.2502 BC3 2.1757 FSP 3114

MID-COURSE EXECUTION ACCURACY

SGT 4005.3 SGR 2691.9 SG3 1731.8
 RRT .9640 RRF .9904 RTF .5.28
 SGB 4825.9 R23 .1176 R13 .9857
 SG1 4788.5 SG2 599.1 THA 33.53

ORBIT DETERMINATION ACCURACY

ST 83.5 SR 68.4 SS 131.9
 CRT .9963 CRS -.9827 CST -.9946
 LSA 170.0 MSA 12.2 SSA 1.2
 EL1 107.8 EL2 4.5 ALF 39.29

LAUNCH DATE MAR 9 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.237 GAL -6.51 AZL 88.25 HCA 211.75 SMA 177.42 ECC .19761 INC 1.7488 VI 30.001
 RP 211.73 LAP -.92 LOP 19.31 VP 22.486 GAP 2.38 AZP 91.49 TAL 318.50 TAP 170.25 RCA 142.36 APO 212.46 V2 25.911
 RC 125.302 GL 12.06 GP -19.16 ZAL 151.38 ZAP 80.08 ETS 175.23 ZAE 120.60 ETE 190.85 ZAC 83.52 ETC 268.38 LVI 13.24

PLANETOCENTRIC CONIC

C3 21.878 VHL 4.677 DLA -2.86 RAL 320.13 RAD 6643.7 VEL 11.911 PTH 6.92 VHP 3.693 DPA -43.68 RAP 281.08 ECC 1.3601
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 44 3098.63 -34.89 96.70 182.34 124.67 18 35 23 2098.6 -18.74 76.42
 60.00 18 26 21 2985.30 -29.82 90.18 186.03 118.47 19 16 6 1985.3 -16.02 68.69
 70.00 19 21 57 2821.78 -25.30 79.42 188.52 113.74 20 8 59 1821.8 -13.50 57.23
 80.00 20 33 19 2598.37 -22.04 63.92 189.97 110.66 21 16 37 1598.4 -11.65 41.36
 90.00 21 56 5 2331.30 -20.83 44.76 190.45 109.57 22 34 56 1331.3 -10.95 22.09
 100.00 23 16 10 2072.84 -22.04 25.28 189.97 110.66 23 50 43 1072.8 -11.65 2.73
 110.00 0 25 20 1868.60 -25.30 8.33 188.52 113.74 0 56 28 868.6 -13.50 346.15

DIFFERENTIAL CORRECTIONS

TDE 1.1631 TRA 2.8403 TC3-2.1477 BAU .6563
 RDE .9355 RRA 1.8147 RC3 -.6498 FAU .14624
 FDE 5.0237 FRA14.8647 FC3-5.7871 BSP 8072
 BDE 1.4926 BRA 3.3705 BC3 2.2438 FSP 3116

MID-COURSE EXECUTION ACCURACY

SGT 4266.4 SGR 2576.0 SG3 1727.0
 RRT .9651 RRF .9889 RTF .9751
 SGB 4983.8 R23 .1142 R13 .9854
 SG1 4949.7 SG2 581.4 THA 30.70

ORBIT DETERMINATION ACCURACY

ST 88.4 SR 66.3 SS 131.4
 CRT .9943 CRS -.9803 CST -.9955
 LSA 171.2 MSA 12.4 SSA 1.2
 EL1 110.4 EL2 5.7 ALF 36.83

LAUNCH DATE MAR 9 1971

FLIGHT TIME 296.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.238 GAL -6.58 AZL 88.37 HCA 212.96 SMA 177.45 ECC .19825 INC 1.6291 V1 30.001
 RP 212.01 LAP -.89 LOP 20.72 VP 22.452 GAP 2.17 AZP 91.37 TAL 318.22 TAP 171.18 RCA 142.27 APO 212.63 V2 25.880
 RC 127.966 GL 11.19 GP -18.46 ZAL 151.87 ZAP 78.20 ETS 174.71 ZAE 118.99 ETE 189.72 ZAC 84.22 ETC 268.21 LVI 12.89

PLANETOCENTRIC CONIC

C3 22.019 VHL 4.692 DLA -3.63 RAL 320.57 RAD 6643.7 VEL 11.917 PTH 6.92 VMP 3.698 DPA -43.02 RAP 280.09 ECC 1.3624
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 21 3084.76 -34.35 95.82 182.55 125.20 18 39 46 2084.8 -18.08 75.77
 60.00 18 31 47 2969.23 -29.30 89.14 186.28 119.01 19 21 16 1969.2 -15.35 67.86
 70.00 19 28 19 2803.00 -24.78 78.21 188.83 114.29 20 15 2 1803.0 -12.85 56.19
 80.00 20 40 30 2576.96 -21.52 62.54 190.31 111.21 21 23 27 1577.0 -10.97 40.13
 90.00 22 3 39 2306.72 -20.31 43.31 190.80 110.12 22 42 7 1308.7 -10.27 20.78
 100.00 23 23 22 2051.44 -21.52 23.91 190.31 111.21 23 57 34 1051.4 -10.97 1.50
 110.00 0 31 41 1849.82 -24.78 7.12 188.83 114.29 1 2 31 849.8 -12.83 345.11

DIFFERENTIAL CORRECTIONS

TDE 1.2224 TRA 3.0443 TC3-2.2263 BAU .6798
 RDE .9172 RRA 1.7308 RC3 -.6140 FAU .14488
 FDE 5.0004 FRA14.8271 FC3-5.6984 B8P 8363
 BDE 1.5282 BRA 3.5019 BC3 2.3095 F8P 3108

DISTANCE 625.737

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 4523.9 SGR 2463.9 SG3 1717.0
 RRT .9658 RRF .9871 RTF .9771
 SGB 5151.4 R23 .1097 R13 .9853
 SG1 5120.2 SG2 566.1 THA 28.11

ORBIT DETERMINATION ACCURACY

ST 93.3 SR 64.4 SS 130.7
 CRT .9918 CR8 -.9776 CST -.9963
 LSA 172.5 MSA 12.7 S8A 1.2
 EL1 113.1 EL2 6.8 ALF 34.54

LAUNCH DATE MAR 9 1971

FLIGHT TIME 258.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.240 GAL -6.63 AZL 88.48 HCA 214.16 SMA 177.48 ECC .19897 INC 1.5172 V1 30.001
 RP 212.29 LAP -.85 LOP 21.92 VP 22.418 GAP 1.95 AZP 91.26 TAL 317.93 TAP 172.09 RCA 142.16 APO 212.79 V2 25.848
 RC 129.850 GL 10.37 GP -17.79 ZAL 152.34 ZAP 76.37 ETS 174.23 ZAE 117.38 ETE 188.69 ZAC 84.88 ETC 268.05 LVI 12.54

PLANETOCENTRIC CONIC

C3 22.195 VHL 4.711 DLA -4.35 RAL 321.01 RAD 6643.8 VEL 11.924 PTH 6.93 VMP 3.707 DPA -42.38 RAP 279.18 ECC 1.3653
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 44 3072.33 -33.86 95.04 182.82 125.67 18 43 56 2072.3 -17.48 75.19
 60.00 18 36 56 2954.75 -28.81 88.22 186.59 119.49 19 26 11 1954.8 -14.74 67.11
 70.00 19 34 20 2786.00 -24.30 77.12 189.18 114.77 20 20 46 1786.0 -12.22 55.26
 80.00 20 47 19 2557.50 -21.04 61.30 190.69 111.69 21 29 56 1557.5 -10.34 39.02
 90.00 22 10 48 2288.14 -19.82 42.00 191.20 110.60 22 48 56 1288.1 -9.64 19.59
 100.00 23 30 10 2031.97 -21.04 22.67 190.69 111.69 24 4 2 1032.0 -10.34 .39
 110.00 0 37 42 1832.82 -24.30 6.04 189.18 114.77 1 8 15 832.8 -12.22 344.17

DIFFERENTIAL CORRECTIONS

TDE 1.2824 TRA 3.2473 TC3-2.3005 BAU .7039
 RDE .9009 RRA 1.6503 RC3 -.5785 FAU .14300
 FDE 4.9715 FRA14.7585 FC3-5.5780 B8P 8673
 BDE 1.5672 BRA 3.6425 BC3 2.3721 F8P 3094

DISTANCE 629.908

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 4776.8 SGR 2355.6 SG3 1702.3
 RRT .9653 RRF .9851 RTF .9788
 SGB 5326.0 R23 .1048 R13 .9853
 SG1 5297.1 SG2 554.4 THA 25.76

ORBIT DETERMINATION ACCURACY

ST 98.1 SR 62.6 SS 129.8
 CRT .9890 CR8 -.9747 CST -.9969
 LSA 173.9 MSA 13.0 S8A 1.2
 EL1 116.1 EL2 7.8 ALF 32.41

LAUNCH DATE MAR 9 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.243 GAL -6.69 AZL 88.59 HCA 215.36 SMA 177.51 ECC .19974 INC 1.4122 V1 30.001
 RP 212.57 LAP -.82 LOP 23.12 VP 22.384 GAP 1.74 AZP 91.15 TAL 317.62 TAP 172.99 RCA 142.06 APO 212.97 V2 25.815
 RC 132.153 GL 9.60 GP -17.15 ZAL 152.79 ZAP 74.57 ETS 173.80 ZAE 115.78 ETE 187.75 ZAC 85.51 ETC 267.90 LVI 12.20

PLANETOCENTRIC CONIC

C3 22.403 VHL 4.733 DLA -5.02 RAL 321.44 RAD 6643.9 VEL 11.933 PTH 6.94 VMP 3.721 DPA -41.77 RAP 278.34 ECC 1.3687
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 54 3081.24 -33.42 94.35 183.13 126.08 18 47 56 2081.2 -16.94 74.68
 60.00 18 41 50 2941.74 -28.38 87.40 186.95 119.91 19 30 52 1941.7 -14.20 66.43
 70.00 19 40 2 2770.62 -23.86 76.15 189.57 115.20 20 26 13 1770.6 -11.66 54.41
 80.00 20 53 45 2539.81 -20.59 60.18 191.12 112.11 21 36 5 1539.8 -9.77 38.02
 90.00 22 17 34 2269.41 -19.37 40.81 191.63 111.02 22 55 23 1269.4 -9.06 18.52
 100.00 23 36 37 2014.28 -20.59 21.54 191.12 112.11 24 10 11 1014.3 -9.77 359.39
 110.00 0 43 24 1817.44 -23.86 5.06 189.57 115.20 1 13 42 817.4 -11.66 343.33

DIFFERENTIAL CORRECTIONS

TDE 1.3425 TRA 3.4482 TC3-2.3707 BAU .7289
 RDE .8859 RRA 1.5721 RC3 -.5445 FAU .14091
 FDE 4.9337 FRA14.6550 FC3-5.4453 B8P 8988
 BDE 1.6084 BRA 3.7897 BC3 2.4324 F8P 3069

DISTANCE 634.076

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 5023.5 SGR 2250.6 SG3 1682.9
 RRT .9845 RRF .9828 RTF .501
 SGB 5504.6 R23 .0994 R13 .9853
 SG1 5477.5 SG2 545.2 THA 23.62

ORBIT DETERMINATION ACCURACY

ST 102.8 SR 60.8 SS 128.8
 CRT .9858 CR8 -.9716 CST -.9974
 LSA 175.2 MSA 13.3 S8A 1.3
 EL1 119.1 EL2 8.8 ALF 30.43

LAUNCH DATE MAR 9 1971

FLIGHT TIME 262.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -.00 LOL 167.77 VL 32.248 GAL -6.76 AZL 88.69 HCA 216.56 SMA 177.89 ECC .20057 INC 1.3138 V1 30.001
 RP 212.86 LAP -.78 LOP 24.32 VP 22.350 GAP 1.53 AZP 91.06 TAL 317.31 TAP 173.87 RCA 141.94 APO 213.17 V2 25.782
 RC 134.475 GL 8.88 GP -16.54 ZAL 153.21 ZAP 72.82 ETS 173.41 ZAE 114.18 ETE 186.90 ZAC 86.11 ETC 267.76 LVI 11.88

PLANETOCENTRIC CONIC

C3 22.641 VHL 4.758 DLA -5.84 RAL 321.86 RAD 6644.0 VEL 11.943 PTH 6.95 VMP 3.739 DPA -41.18 RAP 277.56 ECC 1.3728
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 54 3051.38 -33.02 93.74 183.48 126.43 18 51 45 2051.4 -16.47 74.23
 60.00 18 46 30 2930.09 -27.98 86.87 187.34 120.28 19 35 20 1930.1 -13.71 65.85
 70.00 19 45 27 2756.74 -23.45 75.27 189.99 115.57 20 31 24 1756.7 -11.15 53.66
 80.00 20 59 52 2523.78 -20.17 59.16 191.57 112.49 21 41 56 1523.8 -9.25 37.11
 90.00 22 23 59 2252.37 -18.95 39.74 192.09 111.40 23 1 31 1252.4 -8.54 17.54
 100.00 23 42 44 1998.23 -20.17 20.53 191.57 112.49 24 16 2 998.2 -9.25 358.48
 110.00 0 48 49 1803.56 -23.45 4.19 189.99 115.57 1 18 53 803.6 -11.15 342.58

DIFFERENTIAL CORRECTIONS

TDE 1.4042 TRA 3.6489 TC3-2.4355 BAU .7533
 RDE .8728 RRA 1.4974 RC3 -.5115 FAU .13851
 FDE 4.8935 FRA14.5286 FC3-5.2980 B8P 9317
 BDE 1.6534 BRA 3.9442 BC3 2.4886 F8P 3038

DISTANCE 638.242

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 5265.4 SGR 2150.4 SG3 1660.0
 RRT .9831 RRF .9802 RTF .9812
 SGB 5687.6 R23 .0937 R13 .9854
 SG1 5662.1 SG2 538.2 THA 21.68

ORBIT DETERMINATION ACCURACY

ST 107.5 SR 59.2 SS 127.8
 CRT .9823 CR8 -.9682 CST -.9978
 LSA 176.6 MSA 13.6 S8A 1.3
 EL1 122.3 EL2 9.7 ALF 28.61

LAUNCH DATE MAR 9 1971

FLIGHT TIME 264.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -0.00 LOL 167.77 VL 32.249 GAL -6.83 AZL 88.78 HCA 217.75 SMA 177.60 ECC .20146 INC 1.2207 V1 30.001
 RP 213.16 LAP -.75 LOP 25.52 VP 22.315 GAP 1.32 AZP 90.97 TAL 316.99 TAP 174.74 RCA 141.82 APO 215.38 V2 25.749
 RC 136.814 GL 8.19 GP -15.96 ZAL 153.62 ZAP 71.11 E78 173.05 ZAE 112.60 ETE 186.12 ZAC 86.68 ETC 267.64 LVI 11.56

PLANETOCENTRIC CONIC

C3 22.909 VHL 4.786 DLA -6.22 RAL 322.28 RAD 6644.1 VEL 11.954 PTH 6.96 VHP 3.761 DPA -40.61 RAP 276.86 ECC 1.3770
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 43 3042.64 -32.67 93.21 183.87 126.74 18 55 25 2042.6 -16.04 73.83
 60.00 18 50 57 2919.68 -27.62 86.02 187.76 120.60 19 39 36 1919.7 -13.27 65.33
 70.00 19 50 36 2744.25 -23.09 74.49 190.45 115.90 20 36 21 1744.2 -10.69 52.98
 80.00 21 5 41 2509.22 -19.79 58.25 192.05 112.82 21 47 30 1509.2 -8.78 36.29
 90.00 22 30 5 2236.91 -18.56 38.77 192.59 111.73 23 7 22 1236.9 -8.06 16.66
 100.00 23 48 33 1983.70 -19.79 19.62 192.05 112.82 24 21 36 983.7 -8.78 357.66
 110.00 0 53 59 1791.07 -23.09 3.41 190.45 115.90 1 23 50 791.1 -10.69 341.90

DIFFERENTIAL CORRECTIONS

TDE 1.4663 TRA 3.8461 TC3-2.4956 BAU .7783
 RDE .8609 RRA 1.4255 RC3 -.4796 FAU .13579
 FDE 4.8473 FRA14.3781 FC3-5.1314 BSP 9655
 BDE 1.7004 BRA 4.1037 BC3 2.5412 FSP 3002

MID-COURSE EXECUTION ACCURACY

SGT 5500.9 SGR 2054.1 S63 1633.8
 RRT .9611 RRF .9772 RTF .9820
 SGB 5871.9 R23 .0882 R13 .9855
 S61 5847.6 S62 533.8 THA 19.92

ORBIT DETERMINATION ACCURACY

ST 112.0 SR 57.6 S8 126.6
 CRT .9786 CRS -.9646 CST -.9981
 LSA 178.0 MSA 14.0 S8A 1.3
 EL1 125.5 EL2 10.6 ALF 26.92

LAUNCH DATE MAR 9 1971

FLIGHT TIME 266.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -0.00 LOL 167.77 VL 32.252 GAL -6.90 AZL 88.87 HCA 218.94 SMA 177.66 ECC .20241 INC 1.1327 V1 30.001
 RP 213.46 LAP -.71 LOP 26.71 VP 22.281 GAP 1.11 AZP 90.88 TAL 316.66 TAP 175.60 RCA 141.70 APO 213.62 V2 25.714
 RC 139.171 GL 7.55 GP -15.41 ZAL 154.01 ZAP 69.45 E78 172.73 ZAE 111.04 ETE 185.41 ZAC 87.22 ETC 267.32 LVI 11.25

PLANETOCENTRIC CONIC

C3 23.205 VHL 4.817 DLA -6.76 RAL 322.70 RAD 6644.2 VEL 11.966 PTH 6.97 VHP 3.787 DPA -40.07 RAP 276.22 ECC 1.3819
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 22 3034.96 -32.35 92.74 184.29 127.01 18 58 57 2033.0 -15.67 73.48
 60.00 18 55 11 2910.43 -27.30 85.45 188.21 120.88 19 43 42 1910.4 -12.88 64.86
 70.00 19 55 31 2733.04 -22.75 73.79 190.94 116.19 20 41 4 1733.0 -10.28 52.38
 80.00 21 11 12 2496.09 -19.44 57.43 192.57 113.12 21 52 48 1496.1 -8.35 35.86
 90.00 22 35 53 2222.90 -18.20 37.89 193.11 112.02 23 12 55 1222.9 -7.62 15.86
 100.00 23 54 4 1970.56 -19.44 18.80 192.57 113.12 24 26 55 970.6 -8.35 356.92
 110.00 0 58 53 1779.86 -22.75 2.71 190.94 116.19 1 28 33 779.9 -10.28 341.29

DIFFERENTIAL CORRECTIONS

TDE 1.5267 TRA 4.0458 TC3-2.5520 BAU .8039
 RDE .8503 RRA 1.3562 RC3 -.4498 FAU .13304
 FDE 4.7958 FRA14.2045 FC3-4.9635 BSP 9987
 BDE 1.7493 BRA 4.2670 BC3 2.5914 FSP 2957

MID-COURSE EXECUTION ACCURACY

SGT 5730.0 SGR 1961.9 S63 1604.5
 RRT .9585 RRF .9737 RTF .9827
 SGB 6056.6 R23 .0827 R13 .9856
 S61 6033.3 S62 531.1 THA 18.32

ORBIT DETERMINATION ACCURACY

ST 116.5 SR 56.1 S8 125.2
 CRT .9745 CRS -.9608 CST -.9984
 LSA 179.4 MSA 14.3 S8A 1.3
 EL1 128.8 EL2 11.4 ALF 25.36

LAUNCH DATE MAR 9 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -0.00 LOL 167.77 VL 32.256 GAL -6.98 AZL 88.95 HCA 220.13 SMA 177.72 ECC .20342 INC 1.0496 V1 30.001
 RP 213.77 LAP -.68 LOP 27.90 VP 22.247 GAP .91 AZP 90.80 TAL 316.32 TAP 176.45 RCA 141.57 APO 213.87 V2 25.680
 RC 141.545 GL 6.94 GP -14.88 ZAL 154.38 ZAP 67.83 E78 172.44 ZAE 109.50 ETE 184.77 ZAC 87.75 ETC 267.42 LVI 10.94

PLANETOCENTRIC CONIC

C3 23.928 VHL 4.891 DLA -7.27 RAL 323.10 RAD 6644.4 VEL 11.980 PTH 6.98 VHP 3.816 DPA -39.55 RAP 275.65 ECC 1.3872
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 32 3028.26 -32.00 92.34 184.74 127.23 19 2 20 2028.3 -15.35 73.18
 60.00 18 59 15 2902.25 -27.01 84.95 188.69 121.13 19 47 37 1902.3 -12.33 64.45
 70.00 20 0 12 2723.03 -22.45 73.17 191.45 116.44 20 45 35 1723.0 -9.91 51.84
 80.00 21 16 28 2484.27 -19.13 58.70 193.10 113.37 21 57 52 1484.3 -7.96 34.89
 90.00 22 41 24 2210.26 -17.88 37.11 193.66 112.28 23 18 14 1210.3 -7.22 15.15
 100.00 0 3 16 1958.74 -19.13 18.07 193.10 113.37 0 35 55 958.7 -7.96 356.26
 110.00 1 3 34 1769.85 -22.45 2.09 191.45 116.44 1 33 4 769.8 -9.91 340.75

DIFFERENTIAL CORRECTIONS

TDE 1.5928 TRA 4.2431 TC3-2.6020 BAU .8291
 RDE .8419 RRA 1.2900 RC3 -.4204 FAU .12987
 FDE 4.7451 FRA14.0173 FC3-4.7786 BSP 10333
 BDE 1.8014 BRA 4.4349 BC3 2.6358 FSP 2911

MID-COURSE EXECUTION ACCURACY

SGT 5953.2 SGR 1874.6 S63 1573.1
 RRT .9553 RRF .9698 RTF .9833
 SGB 6241.4 R23 .0777 R13 .9856
 S61 6218.8 S62 530.4 THA 16.87

ORBIT DETERMINATION ACCURACY

ST 120.9 SR 54.8 S8 123.9
 CRT .9702 CRS -.9568 CST -.9986
 LSA 181.0 MSA 14.7 S8A 1.3
 EL1 132.1 EL2 12.1 ALF 23.95

LAUNCH DATE MAR 9 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 148.52 LAL -0.00 LOL 167.77 VL 32.280 GAL -7.06 AZL 89.03 HCA 221.31 SMA 177.79 ECC .20449 INC .9703 V1 30.001
 RP 214.08 LAP -.64 LOP 29.08 VP 22.212 GAP .70 AZP 90.73 TAL 315.97 TAP 177.29 RCA 141.43 APO 214.14 V2 25.645
 RC 143.936 GL 6.37 GP -14.37 ZAL 154.75 ZAP 66.25 E78 172.17 ZAE 107.99 ETE 184.19 ZAC 88.24 ETC 267.33 LVI 10.63

PLANETOCENTRIC CONIC

C3 23.877 VHL 4.886 DLA -7.73 RAL 323.51 RAD 6644.5 VEL 11.994 PTH 6.99 VHP 3.848 DPA -39.05 RAP 275.15 ECC 1.3930
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 14 3022.47 -31.84 92.00 185.21 127.43 19 5 36 2022.5 -15.06 72.91
 60.00 19 3 8 2895.08 -26.76 84.51 189.20 121.34 19 51 23 1895.1 -12.22 64.09
 70.00 20 4 40 2714.13 -22.18 72.62 191.99 116.67 20 49 55 1714.1 -9.58 51.36
 80.00 21 21 29 2473.66 -18.84 58.04 193.66 113.60 22 2 43 1473.7 -7.61 34.30
 90.00 22 46 39 2198.87 -17.58 36.40 194.22 112.51 23 23 18 1198.9 -6.87 14.50
 100.00 0 8 17 1948.14 -18.84 17.41 193.66 113.60 0 40 45 948.1 -7.61 355.67
 110.00 1 8 3 1760.95 -22.18 1.54 191.99 116.67 1 37 24 761.0 -9.58 340.27

DIFFERENTIAL CORRECTIONS

TDE 1.6558 TRA 4.4383 TC3-2.6500 BAU .8552
 RDE .8331 RRA 1.2262 RC3 -.3936 FAU .12683
 FDE 4.6834 FRA13.8111 FC3-4.5986 BSP 10656
 BDE 1.8535 BRA 4.6046 BC3 2.6790 FSP 2854

MID-COURSE EXECUTION ACCURACY

SGT 6169.1 SGR 1790.9 S63 1539.4
 RRT .9515 RRF .9654 RTF .9838
 SGB 6423.8 R23 .0727 R13 .9857
 S61 6401.9 S62 530.8 THA 15.55

ORBIT DETERMINATION ACCURACY

ST 125.1 SR 53.5 S8 122.4
 CRT .9655 CRS -.9524 CST -.9988
 LSA 182.4 MSA 15.0 S8A 1.3
 EL1 135.4 EL2 12.9 ALF 22.65

LAUNCH DATE MAR 9 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 148.92 LAL -.00 LOL 167.77 VL 32.265 GAL -7.15 AZL 89.10 HCA 222.49 SMA 177.66 ECC .20960 INC .8952 V1 30.001
RP 214.39 LAP -.80 LOP 30.26 VP 22.178 GAP .49 AZP 90.66 TAL 315.82 TAP 178.11 RCA 141.29 APO 214.42 V2 25.609
RC 146.344 GL 5.83 GP -13.89 ZAL 158.10 ZAP 64.72 ETS 171.84 ZAE 106.51 ETE 183.66 ZAC 88.72 ETC 267.25 LVI 10.33

DISTANCE 659.014

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.253 VHL 4.925 DLA -8.17 RAL 323.91 RAD 6644.7 VEL 12.010 PTH 7.00 VHP 3.882 DPA -38.57 RAP 274.71 ECC 1.3891
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 28 3017.54 -31.63 91.70 185.71 127.59 19 8 46 2017.8 -14.82 72.69
60.00 19 6 51 2886.85 -26.54 84.13 189.73 121.52 19 55 0 1888.9 -11.06 63.77
70.00 20 8 57 2706.28 -21.94 72.14 192.54 116.86 20 54 3 1706.3 -9.29 50.93
80.00 21 26 17 2464.20 -18.58 55.46 194.24 113.80 22 7 21 1484.2 -7.30 33.77
90.00 22 51 41 2188.67 -17.32 35.77 194.81 112.71 23 28 9 1188.7 -6.55 13.92
100.00 0 13 4 1938.67 -18.58 16.83 194.24 113.80 0 45 23 938.7 -7.30 359.14
110.00 1 12 19 1753.10 -21.94 1.06 192.54 116.86 1 41 32 753.1 -9.29 339.85

DIFFERENTIAL CORRECTIONS

TDE 1.7209 TRA 4.6332 TC3-2.6923 BAU .8810
RDE .0268 RRA 1.1654 RC3 -.3675 FAU .12348
FDE 4.6260 FRA13.5968 FC3-4.4077 B8P 10995
BDE 1.9090 BRA 4.7775 BC3 2.7172 F8P 2600

MID-COURSE EXECUTION ACCURACY

SGT 8379.3 SGR 1712.2 SG3 1504.4
RRT .9470 RRF .9605 RTF .9841
SGB 6805.1 R23 .0684 R13 .9857
SG1 6583.5 SGT 532.9 THA 14.36

ORBIT DETERMINATION ACCURACY

ST 129.3 SR 52.3 S8 120.9
CRT .9607 CR8 -.9480 C8T -.9990
LSA 183.9 MSA 15.4 S8A 1.3
EL1 138.8 EL2 13.5 ALF 21.45

LAUNCH DATE MAR 9 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 148.92 LAL -.00 LOL 167.77 VL 32.270 GAL -7.23 AZL 89.18 HCA 223.67 SMA 177.93 ECC .20678 INC .8235 V1 30.001
RP 214.72 LAP -.57 LOP 31.44 VP 22.143 GAP .26 AZP 90.60 TAL 315.25 TAP 178.92 RCA 141.14 APO 214.73 V2 25.573
RC 148.770 GL 5.32 GP -13.43 ZAL 155.44 ZAP 63.24 ETS 171.72 ZAE 105.09 ETE 183.17 ZAC 89.17 ETC 267.18 LVI 10.03

DISTANCE 663.155

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.855 VHL 4.965 DLA -8.58 RAL 324.31 RAD 6644.8 VEL 12.026 PTH 7.02 VHP 3.920 DPA -38.11 RAP 274.33 ECC 1.4058
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 21 35 3013.40 -31.46 91.46 188.23 127.73 19 11 48 2013.4 -14.62 72.51
60.00 19 10 25 2883.50 -26.34 83.80 190.28 121.67 19 58 29 1883.5 -11.73 63.51
70.00 20 13 2 2699.40 -21.72 71.72 193.12 117.03 20 56 2 1699.4 -9.04 50.57
80.00 21 30 51 2455.81 -18.35 54.95 194.83 113.98 22 11 47 1455.8 -7.02 33.30
90.00 22 56 28 2179.59 -17.08 35.22 195.41 112.89 23 32 47 1179.6 -6.26 13.41
100.00 0 17 39 1930.28 -18.35 16.31 194.83 113.98 0 49 49 930.3 -7.02 354.67
110.00 1 16 25 1746.22 -21.72 .64 193.12 117.03 1 45 31 746.2 -9.04 339.48

DIFFERENTIAL CORRECTIONS

TDE 1.7867 TRA 4.8277 TC3-2.7303 BAU .9070
RDE .8209 RRA 1.1071 RC3 -.3432 FAU .12011
FDE 4.5661 FRA13.3723 FC3-4.2174 B8P 11329
BDE 1.9663 BRA 4.9530 BC3 2.7518 F8P 2742

MID-COURSE EXECUTION ACCURACY

SGT 8583.4 SGR 1637.9 SG3 1466.3
RRT .9418 RRF .9549 RTF .9844
SGB 6784.1 R23 .0643 R13 .9857
SG1 6762.9 SGT 535.9 THA 13.27

ORBIT DETERMINATION ACCURACY

ST 133.4 SR 51.2 S8 119.4
CRT .9556 CR8 -.9434 C8T -.9991
LSA 185.5 MSA 15.7 S8A 1.2
EL1 142.1 EL2 14.1 ALF 20.35

LAUNCH DATE MAR 9 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 148.92 LAL -.00 LOL 167.77 VL 32.275 GAL -7.32 AZL 89.24 HCA 224.84 SMA 178.01 ECC .20800 INC .7551 V1 30.001
RP 215.04 LAP -.55 LOP 32.81 VP 22.109 GAP .07 AZP 90.54 TAL 314.88 TAP 179.72 RCA 140.99 APO 215.04 V2 25.536
RC 151.211 GL 4.83 GP -12.99 ZAL 155.77 ZAP 61.80 ETS 171.53 ZAE 103.63 ETE 182.73 ZAC 89.60 ETC 267.12 LVI 9.73

DISTANCE 667.293

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.092 VHL 5.008 DLA -8.96 RAL 324.70 RAD 6645.0 VEL 12.044 PTH 7.03 VHP 3.980 DPA -37.67 RAP 274.01 ECC 1.4128
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 18 24 35 3010.00 -31.32 91.26 186.77 127.84 19 14 45 2010.0 -14.46 72.35
60.00 19 13 51 2878.97 -26.18 83.53 190.84 121.80 20 1 50 1879.0 -11.54 63.28
70.00 20 16 57 2693.44 -21.54 71.36 193.71 117.17 21 1 51 1693.4 -8.82 50.25
80.00 21 35 13 2448.42 -18.14 54.49 195.45 114.13 22 16 2 1448.4 -6.78 32.69
90.00 23 1 2 2171.54 -16.86 34.72 196.03 113.04 23 37 14 1171.5 -6.00 12.96
100.00 0 22 1 1922.89 -18.14 15.86 195.45 114.13 0 54 4 922.9 -6.78 354.26
110.00 1 20 19 1740.26 -21.54 .27 193.71 117.17 1 49 20 740.3 -6.82 339.16

DIFFERENTIAL CORRECTIONS

TDE 1.8503 TRA 5.0183 TC3-2.7688 BAU .9347
RDE .8131 RRA 1.0502 RC3 -.3223 FAU .11730
FDE 4.4901 FRA13.1271 FC3-4.0488 B8P 11620
BDE 2.0218 BRA 5.1270 BC3 2.7875 F8P 2667

MID-COURSE EXECUTION ACCURACY

SGT 8778.8 SGR 1566.3 SG3 1430.1
RRT .9381 RRF .9486 RTF .9847
SGB 6957.4 R23 .0597 R13 .9858
SG1 6936.5 SGT 538.6 THA 12.26

ORBIT DETERMINATION ACCURACY

ST 137.2 SR 50.1 S8 117.5
CRT .9503 CR8 -.9383 C8T -.9992
LSA 186.8 MSA 16.1 S8A 1.2
EL1 145.3 EL2 14.7 ALF 19.34

LAUNCH DATE MAR 9 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

RL 148.92 LAL -.00 LOL 167.77 VL 32.281 GAL -7.42 AZL 89.31 HCA 226.01 SMA 178.10 ECC .20928 INC .8894 V1 30.001
RP 215.37 LAP -.80 LOP 33.78 VP 22.074 GAP -.13 AZP 90.48 TAL 314.50 TAP 180.51 RCA 140.83 APO 215.37 V2 25.499
RC 183.669 GL 4.37 GP -12.37 ZAL 156.10 ZAP 60.41 ETS 171.36 ZAE 102.23 ETE 182.33 ZAC 90.02 ETC 267.07 LVI 9.43

DISTANCE 671.422

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.538 VHL 5.053 DLA -9.31 RAL 325.09 RAD 6645.2 VEL 12.062 PTH 7.05 VHP 4.002 DPA -37.25 RAP 273.75 ECC 1.4202
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
80.00 18 27 28 3007.31 -31.21 91.10 187.33 127.93 19 17 36 2007.3 -14.32 72.23
80.00 19 17 9 2878.22 -26.05 83.31 191.43 121.91 20 5 4 1875.2 -11.38 63.09
70.00 20 20 42 2688.35 -21.38 71.05 194.32 117.29 21 5 30 1688.4 -8.63 49.97
80.00 21 38 24 2441.99 -17.96 54.10 196.07 114.26 22 20 6 1442.0 -6.57 32.53
90.00 23 5 25 2184.48 -16.68 34.29 196.67 113.18 23 41 29 1164.5 -5.78 12.56
100.00 0 26 12 1916.48 -17.96 15.47 196.07 114.26 0 58 8 916.5 -6.57 353.90
110.00 1 24 4 1735.17 -21.38 359.98 194.32 117.29 1 52 59 735.2 -8.63 338.69

DIFFERENTIAL CORRECTIONS

TDE 1.9182 TRA 5.2124 TC3-2.7978 BAU .9608
RDE .8121 RRA .9974 RC3 -.2998 FAU .11350
FDE 4.4325 FRA12.8947 FC3-3.8463 B8P 11952
BDE 2.0831 BRA 5.3070 BC3 2.8139 F8P 2610

MID-COURSE EXECUTION ACCURACY

SGT 8971.0 SGR 1501.0 SG3 1392.9
RRT .9292 RRF .9416 RTF .9847
SGB 7130.7 R23 .0569 R13 .9857
SG1 7110.0 SGT 543.8 THA 11.38

ORBIT DETERMINATION ACCURACY

ST 141.1 SR 49.1 S8 116.0
CRT .9448 CR8 -.9335 C8T -.9994
LSA 188.5 MSA 16.5 S8A 1.2
EL1 148.7 EL2 15.3 ALF 18.42

LAUNCH DATE MAR 9 1971

FLIGHT TIME 200.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 148.52 LAL -.00 LOL 167.77 VL 32.287 GAL -7.51 AZL 89.37 MCA 227.18 SMA 178.19 ECC .21061 INC .6267 V1 30.001
 RP 215.71 LAP -.46 LOP 34.95 VP 22.039 GAP -.34 AZP 90.43 TAL 314.11 TAP 181.29 RCA 140.86 APO 215.72 V2 25.461
 RC 196.143 GL 3.94 GP -12.17 ZAL 196.42 ZAP 99.07 ETS 171.21 ZAE 100.86 ETE 181.96 ZAC 90.41 ETC 267.03 LVI 9.14

PLANETOCENTRIC CONIC
 C3 26.012 VML 5.100 DLA -9.64 RAL 325.48 RAD 6645.4 VEL 12.082 PTN 7.06 VHP 4.048 DPA -36.85 RAP 273.54 ECC 1.4281
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 30 16 3009.28 -31.12 90.98 187.90 128.00 19 20 21 2009.3 -14.23 72.14
 60.00 19 20 18 2872.19 -25.94 83.12 192.03 122.00 20 8 11 1872.2 -11.25 62.94
 70.00 20 24 18 2684.07 -21.25 70.79 194.94 117.39 21 9 2 1684.1 -8.47 49.75
 80.00 21 43 24 2438.44 -17.81 53.76 196.71 114.37 22 24 0 1438.4 -6.38 32.22
 90.00 23 9 35 2158.36 -16.51 33.92 197.31 113.29 23 45 34 1158.4 -5.59 12.21
 100.00 0 30 12 1910.92 -17.81 15.13 196.71 114.37 1 2 2 910.9 -6.38 353.59
 110.00 1 27 40 1730.89 -21.25 359.70 194.94 117.39 1 56 31 730.9 -8.47 338.66

DIFFERENTIAL CORRECTIONS
 TDE 1.9848 TRA 5.4040 TC3-2.8258 BAW .9875
 RDE .8089 RRA .9460 RC3 -.2803 FAU .11022
 FDE 4.3611 FRA12.6470 FC3-3.6683 B8P 12253
 BDE 2.1431 BRA 5.4861 BC3 2.8398 FSP 2541

MID-COURSE EXECUTION ACCURACY
 SGT 7155.2 SGR 1438.6 SG3 1354.2
 RRT .9218 RRF .9338 RTF .9848
 SGB 7298.3 R23 .0534 R13 .9857
 SG1 7277.7 SG2 548.4 THA 10.56

ORBIT DETERMINATION ACCURACY
 ST 144.9 SR 48.2 SS 114.2
 CRT .9392 CRS -.9282 CST -.9994
 LSA 189.9 MSA 16.8 SSA 1.2
 EL1 151.8 EL2 15.8 ALF 17.56

LAUNCH DATE MAR 10 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 33.292 GAL -7.82 AZL 94.36 HCA 194.03 SMA 195.64 ECC .27452 INC 4.3587 V1 29.994
RP 207.05 LAP -1.84 LOP 325.76 VP 24.568 GAP 15.59 AZP 86.05 TAL 322.47 TAP 117.40 RCA 141.93 APO 249.54 V2 26.453
RC 57.030 GL -23.48 GP 11.65 ZAL 142.47 ZAP 185.35 ETS 152.73 ZAE 159.37 ETE 126.88 ZAC 113.41 ETC 274.44 LVI -23.85

PLANETOCENTRIC CONIC

C3 39.530 VHL 6.287 DLA -37.36 RAL 329.86 RAD 6650.5 VEL 12.625 PTH 7.48 VHP 7.772 DPA -10.07 RAP 302.01 ECC 1.6506
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 5 5 2490.93 -6.94 66.03 200.59 137.19 21 46 36 1490.8 11.43 50.24
60.00 23 4 12 2173.20 3.25 47.20 210.30 130.19 23 40 25 1173.2 18.89 28.81
64.50 1 12 44 1813.65 15.02 26.54 219.37 124.62 1 42 58 813.6 27.82 4.64
64.50 1 12 44 1813.65 15.02 26.54 219.37 124.62 1 42 58 813.6 27.82 4.64
64.50 1 12 44 1813.65 15.02 26.54 219.37 124.62 1 42 58 813.6 27.82 4.64
64.50 1 12 44 1813.65 15.02 26.54 219.37 124.62 1 42 58 813.6 27.82 4.64

DIFFERENTIAL CORRECTIONS

TDE -1.3073 TRA -2.0648 TC3 -.0099 BAV .1427
RDE -.5177 RRA -.5463 RC3 .2546 FAU .05281
PDE 1.2750 FRA 3.4093 FC3 -1.1565 B8P 4836
BDE 1.4061 BRA 2.1359 BC3 .2700 F8P 575

MID-COURSE EXECUTION ACCURACY

SGT 2692.6 SGR 847.0 SCS 374.1
RRT .8940 RRF -.9441 RTF -.9120
SGB 2764.5 R23 -.2522 R13 -.9223
SG1 2760.6 SGT 364.6 THA 16.22

ORBIT DETERMINATION ACCURACY

ST 69.3 SR 25.4 SS 55.4
CRT .9872 CR8 .9167 CBT .9679
LSA 91.5 MSA 12.6 SSA .8
EL1 73.8 EL2 3.8 ALF 19.93

LAUNCH DATE MAR 10 1971

FLIGHT TIME 166.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 33.222 GAL -7.68 AZL 94.56 HCA 156.19 SMA 194.30 ECC .26894 INC 4.5636 V1 29.994
RP 206.97 LAP -1.84 LOP 325.03 VP 24.483 GAP 15.16 AZP 85.82 TAL 322.50 TAP 118.69 RCA 142.05 APO 246.56 V2 26.462
RC 57.440 GL -24.85 GP 12.54 ZAL 141.79 ZAP 154.02 ETS 152.29 ZAE 159.08 ETE 124.16 ZAC 114.27 ETC 274.52 LVI -24.74

PLANETOCENTRIC CONIC

C3 38.865 VHL 6.234 DLA -36.57 RAL 330.78 RAD 6650.3 VEL 12.599 PTH 7.46 VHP 7.981 DPA -9.16 RAP 302.02 ECC 1.6398
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 18 31 2452.06 -5.00 64.39 202.16 137.38 21 59 23 1452.1 13.34 49.54
60.00 23 31 8 2097.92 6.55 43.58 213.11 129.85 24 6 6 1097.9 21.87 24.37
62.60 1 6 30 1836.94 15.61 28.89 220.25 125.73 1 37 7 836.9 28.79 7.10
62.60 1 6 30 1836.94 15.61 28.89 220.25 125.73 1 37 7 836.9 28.79 7.10
62.60 1 6 30 1836.94 15.61 28.89 220.25 125.73 1 37 7 836.9 28.79 7.10
62.60 1 6 30 1836.94 15.61 28.89 220.25 125.73 1 37 7 836.9 28.79 7.10

DIFFERENTIAL CORRECTIONS

TDE -1.3381 TRA -2.0182 TC3 -.0875 BAV .1500
RDE -.5316 RRA -.6002 RC3 .2750 FAU .05437
PDE 1.3569 FRA 3.5069 FC3 -1.2111 B8P 4957
BDE 1.4399 BRA 2.1056 BC3 .2686 F8P 609

MID-COURSE EXECUTION ACCURACY

SGT 2674.5 SGR 924.2 SCS 394.3
RRT .9052 RRF -.9568 RTF -.9134
SGB 2829.7 R23 -.2667 R13 -.9256
SG1 2804.8 SGT 374.5 THA 17.70

ORBIT DETERMINATION ACCURACY

ST 71.0 SR 26.6 SS 57.5
CRT .9931 CR8 .9315 CBT .9669
LSA 94.4 MSA 12.7 SSA .8
EL1 75.8 EL2 2.9 ALF 20.45

LAUNCH DATE MAR 10 1971

FLIGHT TIME 168.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 33.196 GAL -7.55 AZL 94.79 HCA 157.45 SMA 193.06 ECC .26364 INC 4.7935 V1 29.994
RP 206.90 LAP -1.84 LOP 326.29 VP 24.402 GAP 14.74 AZP 85.57 TAL 322.54 TAP 119.99 RCA 142.16 APO 243.96 V2 26.469
RC 57.930 GL -26.32 GP 13.52 ZAL 141.02 ZAP 152.61 ETS 151.79 ZAE 158.62 ETE 121.55 ZAC 115.24 ETC 274.60 LVI -25.71

PLANETOCENTRIC CONIC

C3 38.363 VHL 6.194 DLA -39.88 RAL 331.69 RAD 6650.1 VEL 12.579 PTH 7.44 VHP 7.400 DPA -8.17 RAP 301.97 ECC 1.6314
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 34 4 2409.73 -2.88 62.62 204.10 137.51 22 14 14 1409.7 15.41 46.64
60.00 0 16 35 1979.30 11.68 37.75 217.70 128.85 0 51 35 979.3 26.30 17.47
60.62 1 0 48 1860.28 16.20 31.30 221.33 126.95 1 31 48 860.3 29.79 9.65
60.62 1 0 48 1860.28 16.20 31.30 221.33 126.95 1 31 48 860.3 29.79 9.65
60.62 1 0 48 1860.28 16.20 31.30 221.33 126.95 1 31 48 860.3 29.79 9.65
60.62 1 0 48 1860.28 16.20 31.30 221.33 126.95 1 31 48 860.3 29.79 9.65

DIFFERENTIAL CORRECTIONS

TDE -1.3689 TRA -1.9628 TC3 -.0806 BAV .1581
RDE -.5512 RRA -.6583 RC3 .2975 FAU .05602
PDE 1.4475 FRA 3.5972 FC3 -1.2641 B8P 5028
BDE 1.4788 BRA 2.0703 BC3 .3083 F8P 644

MID-COURSE EXECUTION ACCURACY

SGT 2885.4 SGR 1012.7 SCS 414.8
RRT .9143 RRF -.9889 RTF -.5.52
SGB 2870.0 R23 -.2771 R13 -.9295
SG1 2843.8 SGT 387.4 THA 18.40

ORBIT DETERMINATION ACCURACY

ST 72.6 SR 28.1 SS 59.7
CRT .9970 CR8 .9447 CBT .9660
LSA 97.2 MSA 12.8 SSA .7
EL1 77.8 EL2 2.0 ALF 21.18

LAUNCH DATE MAR 10 1971

FLIGHT TIME 170.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 33.093 GAL -7.43 AZL 95.05 HCA 158.72 SMA 191.90 ECC .25861 INC 5.0484 V1 29.994
RP 206.88 LAP -1.83 LOP 327.56 VP 24.324 GAP 14.32 AZP 85.29 TAL 322.57 TAP 121.29 RCA 142.27 APO 241.53 V2 26.476
RC 58.486 GL -27.92 GP 14.62 ZAL 140.15 ZAP 151.12 ETS 151.22 ZAE 157.99 ETE 119.11 ZAC 116.33 ETC 274.68 LVI -26.78

PLANETOCENTRIC CONIC

C3 38.042 VHL 6.168 DLA -41.28 RAL 332.71 RAD 6650.0 VEL 12.567 PTH 7.44 VHP 7.230 DPA -7.07 RAP 301.86 ECC 1.6261
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 52 26 2382.61 -.51 60.65 206.54 137.57 22 31 49 1382.6 17.69 44.49
58.57 0 55 42 1883.80 16.77 33.77 222.62 128.29 1 27 6 883.8 30.82 12.30
58.57 0 55 42 1883.80 16.77 33.77 222.62 128.29 1 27 6 883.8 30.82 12.30
58.57 0 55 42 1883.80 16.77 33.77 222.62 128.29 1 27 6 883.8 30.82 12.30
58.57 0 55 42 1883.80 16.77 33.77 222.62 128.29 1 27 6 883.8 30.82 12.30
58.57 0 55 42 1883.80 16.77 33.77 222.62 128.29 1 27 6 883.8 30.82 12.30

DIFFERENTIAL CORRECTIONS

TDE -1.4025 TRA -1.9003 TC3 -.0704 BAV .1676
RDE -.5784 RRA -.7216 RC3 .3220 FAU .05768
PDE 1.5507 FRA 3.6796 FC3 -1.3127 B8P 5068
BDE 1.5171 BRA 2.0327 BC3 .3296 F8P 679

MID-COURSE EXECUTION ACCURACY

SGT 2687.7 SGR 1114.6 SCS 435.3
RRT .9217 RRF -.9749 RTF -.9173
SGB 2909.6 R23 -.2831 R13 -.9341
SG1 2881.6 SGT 403.1 THA 21.36

ORBIT DETERMINATION ACCURACY

ST 74.1 SR 30.0 SS 62.0
CRT .9992 CR8 .9565 CST .9654
LSA 100.3 MSA 13.1 SSA .7
EL1 79.9 EL2 1.1 ALF 22.05

LAUNCH DATE MAR 10 1971 FLIGHT TIME 172.00 ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC DISTANCE 454.149 EARTH TO MARS
 RL 148.95 LAL -.00 LOL 168.77 VL 33.034 GAL -7.31 AZL 95.34 HCA 159.98 SMA 190.82 ECC .25386 INC 5.3361 V1 29.994
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.249 GAP 13.92 AZP 84.98 TAL 322.61 TAP 122.59 RCA 142.38 APO 239.26 V2 26.482
 RC 59.137 GL -29.66 GP 15.86 ZAL 139.16 ZAP 149.52 ETS 150.59 ZAE 157.17 ETE 116.87 ZAC 117.55 ETC 274.75 LVI -29.95

PLANETOCENTRIC CONIC
 C3 37.926 VHL 6.158 DLA -42.80 RAL 333.87 RAD 6649.9 VEL 12.562 PTH 7.43 VHP 7.074 DPA -5.84 RAP 301.68 ECC 1.6242
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 14 47 2308.52 2.21 58.39 209.66 137.54 22 53 16 1308.5 20.27 41.93
 56.43 0 51 18 1907.73 17.32 36.32 224.17 129.77 1 23 6 907.7 31.87 15.09
 56.43 0 51 18 1907.73 17.32 36.32 224.17 129.77 1 23 6 907.7 31.87 15.09
 56.43 0 51 18 1907.73 17.32 36.32 224.17 129.77 1 23 6 907.7 31.87 15.09
 56.43 0 51 18 1907.73 17.32 36.32 224.17 129.77 1 23 6 907.7 31.87 15.09
 56.43 0 51 18 1907.73 17.32 36.32 224.17 129.77 1 23 6 907.7 31.87 15.09

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE-1.4500 TRA-1.8394 TC3 -.0679 BAU .1795 SGT 2695.7 SGR 1232.5 S63 455.6 ST 76.0 SR 32.4 SS 64.5
 RDE -.6162 RRA -.7915 RC3 .3473 FAU .05926 RRT .9266 RRF -.9811 RTF -.9180 CRT .9998 CRS .9666 CST .9649
 FDE 1.6700 FRA 3.7510 FC3-1.3528 BSP 5200 SGB 2984.1 R23 -.2887 R13 -.9380 LSA 103.9 MSA 13.4 SSA .6
 BDE 1.5755 BRA 2.0025 BC3 .3539 FSP 716 SG1 2933.3 S62 426.0 THA 23.48 EL1 82.6 EL2 .7 ALF 23.08

LAUNCH DATE MAR 10 1971 FLIGHT TIME 174.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC DISTANCE 457.882 EARTH TO MARS
 RL 148.95 LAL -.00 LOL 168.77 VL 32.978 GAL -7.19 AZL 95.66 HCA 161.24 SMA 189.80 ECC .24935 INC 5.6599 V1 29.994
 RP 206.75 LAP -1.82 LOP 330.10 VP 24.178 GAP 13.52 AZP 84.64 TAL 322.65 TAP 123.90 RCA 142.48 APO 237.13 V2 26.487
 RC 59.850 GL -31.54 GP 17.25 ZAL 138.04 ZAP 147.81 ETS 149.89 ZAE 156.15 ETE 114.85 ZAC 118.93 ETC 274.83 LVI -29.25

PLANETOCENTRIC CONIC
 C3 38.044 VHL 6.168 DLA -44.43 RAL 335.21 RAD 6650.0 VEL 12.567 PTH 7.44 VHP 6.932 DPA -4.48 RAP 301.43 ECC 1.6261
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 43 21 2242.86 5.50 55.63 213.79 137.33 23 20 44 1242.9 23.34 38.71
 54.18 0 47 41 1932.34 17.83 38.99 226.04 131.40 1 19 53 932.3 32.93 18.06
 54.18 0 47 41 1932.34 17.83 38.99 226.04 131.40 1 19 53 932.3 32.93 18.06
 54.18 0 47 41 1932.34 17.83 38.99 226.04 131.40 1 19 53 932.3 32.93 18.06
 54.18 0 47 41 1932.34 17.83 38.99 226.04 131.40 1 19 53 932.3 32.93 18.06
 54.18 0 47 41 1932.34 17.83 38.99 226.04 131.40 1 19 53 932.3 32.93 18.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE-1.5023 TRA-1.7678 TC3 -.0608 BAU .1933 SGT 2691.0 SGR 1367.3 S63 474.9 ST 77.8 SR 35.3 SS 67.1
 RDE -.6666 RRA -.8669 RC3 .3752 FAU .06091 RRT .9303 RRF -.9859 RTF -.9188 CRT .9989 CRS .9750 CST .9648
 FDE 1.8060 FRA 3.8026 FC3-1.3861 BSP 5289 SGB 3018.5 R23 -.2891 R13 -.9426 LSA 107.8 MSA 13.7 SSA .6
 BDE 1.6436 BRA 1.9689 BC3 .3801 FSP 749 SG1 2984.4 S62 452.3 THA 25.94 EL1 85.4 EL2 1.5 ALF 24.37

LAUNCH DATE MAR 10 1971 FLIGHT TIME 176.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 461.649 EARTH TO MARS
 RL 148.95 LAL -.00 LOL 168.77 VL 32.925 GAL -7.09 AZL 96.03 HCA 162.51 SMA 188.86 ECC .24508 INC 6.0288 V1 29.994
 RP 206.72 LAP -1.81 LOP 331.37 VP 24.110 GAP 13.13 AZP 84.25 TAL 322.70 TAP 125.20 RCA 142.57 APO 235.13 V2 26.491
 RC 60.833 GL -33.60 GP 18.82 ZAL 136.77 ZAP 145.96 ETS 149.13 ZAE 154.90 ETE 113.06 ZAC 120.50 ETC 274.90 LVI -30.69

PLANETOCENTRIC CONIC
 C3 38.445 VHL 6.200 DLA -46.20 RAL 336.76 RAD 6650.1 VEL 12.583 PTH 7.45 VHP 6.807 DPA -2.94 RAP 301.08 ECC 1.6327
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 24 16 2152.00 10.03 51.76 219.79 136.76 24 0 8 1152.0 27.45 33.97
 51.81 0 45 1 1957.88 18.28 41.79 228.27 133.20 1 17 39 957.9 33.98 21.23
 51.81 0 45 1 1957.88 18.28 41.79 228.27 133.20 1 17 39 957.9 33.98 21.23
 51.81 0 45 1 1957.88 18.28 41.79 228.27 133.20 1 17 39 957.9 33.98 21.23
 51.81 0 45 1 1957.88 18.28 41.79 228.27 133.20 1 17 39 957.9 33.98 21.23
 51.81 0 45 1 1957.88 18.28 41.79 228.27 133.20 1 17 39 957.9 33.98 21.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE-1.5846 TRA-1.6884 TC3 -.0529 BAU .2098 SGT 2678.6 SGR 1322.4 S63 492.5 ST 79.8 SR 38.9 SS 69.9
 RDE -.7344 RRA -.9490 RC3 .4048 FAU .06248 RRT .9328 RRF -.9899 RTF -.5.93 CRT .9971 CRS .9818 CST .9650
 FDE 1.9642 FRA 3.8307 FC3-1.4069 BSP 5379 SGB 3081.0 R23 -.2891 R13 -.9476 LSA 112.1 MSA 14.0 SSA .5
 BDE 1.7284 BRA 1.9368 BC3 .4082 FSP 780 SG1 3042.9 S62 482.9 THA 28.72 EL1 88.7 EL2 2.7 ALF 25.95

LAUNCH DATE MAR 10 1971 FLIGHT TIME 178.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 465.448 EARTH TO MARS
 RL 148.95 LAL -.00 LOL 168.77 VL 32.875 GAL -6.88 AZL 96.45 HCA 163.77 SMA 187.98 ECC .24105 INC 6.4534 V1 29.994
 RP 206.70 LAP -1.80 LOP 332.84 VP 24.044 GAP 12.74 AZP 83.80 TAL 322.74 TAP 126.51 RCA 142.67 APO 233.29 V2 26.494
 RC 61.483 GL -35.86 GP 20.61 ZAL 135.32 ZAP 143.96 ETS 148.32 ZAE 153.39 ETE 111.53 ZAC 122.28 ETC 274.98 LVI -32.30

PLANETOCENTRIC CONIC
 C3 39.192 VHL 6.260 DLA -48.10 RAL 338.58 RAD 6650.4 VEL 12.612 PTH 7.47 VHP 6.702 DPA -1.21 RAP 300.64 ECC 1.6450
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.32 0 43 33 1984.72 18.64 44.73 230.95 135.18 1 16 37 984.7 35.01 24.65
 49.32 0 43 33 1984.72 18.64 44.73 230.95 135.18 1 16 37 984.7 35.01 24.65
 49.32 0 43 33 1984.72 18.64 44.73 230.95 135.18 1 16 37 984.7 35.01 24.65
 49.32 0 43 33 1984.72 18.64 44.73 230.95 135.18 1 16 37 984.7 35.01 24.65
 49.32 0 43 33 1984.72 18.64 44.73 230.95 135.18 1 16 37 984.7 35.01 24.65
 49.32 0 43 33 1984.72 18.64 44.73 230.95 135.18 1 16 37 984.7 35.01 24.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE-1.6405 TRA-1.5992 TC3 -.0442 BAU .2294 SGT 2657.1 SGR 1700.8 S63 507.5 ST 82.0 SR 43.4 SS 73.0
 RDE -.8268 RRA -1.0379 RC3 .4356 FAU .06388 RRT .9344 RRF -.9922 RTF -.9196 CRT .9947 CRS .9871 CST .9658
 FDE 2.1520 FRA 3.8268 FC3-1.4110 BSP 5481 SGB 3154.8 R23 -.2767 R13 -.9531 LSA 117.2 MSA 14.3 SSA .5
 BDE 1.8371 BRA 1.9065 BC3 .4378 FSP 807 SG1 3112.1 S62 517.2 THA 31.87 EL1 92.7 EL2 3.9 ALF 27.86

LAUNCH DATE MAR 10 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC										DISTANCE 550.288										EARTH TO MARS																																													
RL	148.55	LAL	-0.00	LOL	168.77	VL	32.309	GAL	-5.99	AZL	82.19	HCA	190.51	SMA	178.65	ECC	.10739	INC	7.0099	V1	29.994	RP	208.16	LAP	-1.42	LOP	359.19	VP	23.070	GAP	6.29	AZP	97.68	TAL	322.08	TAP	152.59	RCA	143.38	APO	213.91	V2	26.323	RC	91.337	GL	45.77	GP	-41.51	ZAL	128.93	ZAP	107.68	ETS	195.27	ZAE	135.18	ETE	250.70	ZAC	60.91	ETC	272.01	LVI	28.59
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	37.127	VHL	6.093	DLA	29.38	RAL	309.77	RAD	6649.7	VEL	12.531	PTH	7.41	VHP	5.332	DPA	-63.64	RAP	308.64	ECC	1.6110	ST	24.1	SR	124.7	SS	101.2	SGT	852.1	SGR	4992.8	SG3	784.0	CRT	.6715	CRS	-.9999	CST	-.6595																										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	ST	24.1	SR	124.7	SS	101.2	SGT	852.1	SGR	4992.8	SG3	784.0	CRT	.6715	CRS	-.9999	CST	-.6595																						
50.00	14	44	31	3899.03	-45.40	165.82	210.86	73.91	15	49	30	2899.0	-46.69	130.78	50.00	14	44	31	3899.03	-45.40	165.82	210.86	73.91	15	49	30	2899.0	-46.69	130.78	50.00	14	44	31	3899.03	-45.40	165.82	210.86	73.91	15	49	30	2899.0	-46.69	130.78																					
60.00	14	41	41	3906.57	-36.55	162.87	207.23	71.69	15	46	48	2906.6	-40.27	132.40	60.00	14	41	41	3906.57	-36.55	162.87	207.23	71.69	15	46	48	2906.6	-40.27	132.40	60.00	14	41	41	3906.57	-36.55	162.87	207.23	71.69	15	46	48	2906.6	-40.27	132.40																					
70.00	14	36	6	3923.08	-27.54	160.41	203.44	68.95	15	41	29	2923.1	-33.62	133.39	70.00	14	36	6	3923.08	-27.54	160.41	203.44	68.95	15	41	29	2923.1	-33.62	133.39	70.00	14	36	6	3923.08	-27.54	160.41	203.44	68.95	15	41	29	2923.1	-33.62	133.39																					
80.00	14	13	52	3993.11	-17.07	160.90	198.65	65.12	15	20	25	2993.1	-25.85	136.94	80.00	14	13	52	3993.11	-17.07	160.90	198.65	65.12	15	20	25	2993.1	-25.85	136.94	80.00	14	13	52	3993.11	-17.07	160.90	198.65	65.12	15	20	25	2993.1	-25.85	136.94																					
81.67	13	42	11	4094.67	-12.60	166.18	196.41	63.23	14	50	25	3094.7	-22.54	143.32	81.67	13	42	11	4094.67	-12.60	166.18	196.41	63.23	14	50	25	3094.7	-22.54	143.32	81.67	13	42	11	4094.67	-12.60	166.18	196.41	63.23	14	50	25	3094.7	-22.54	143.32																					
100.00	16	56	44	3467.59	-17.07	122.27	198.65	65.12	17	54	32	2467.6	-25.85	98.30	100.00	16	56	44	3467.59	-17.07	122.27	198.65	65.12	17	54	32	2467.6	-25.85	98.30	100.00	16	56	44	3467.59	-17.07	122.27	198.65	65.12	17	54	32	2467.6	-25.85	98.30																					
110.00	19	35	52	2969.90	-27.54	89.32	203.44	68.95	20	25	2	1969.9	-33.62	62.31	110.00	19	35	52	2969.90	-27.54	89.32	203.44	68.95	20	25	2	1969.9	-33.62	62.31	110.00	19	35	52	2969.90	-27.54	89.32	203.44	68.95	20	25	2	1969.9	-33.62	62.31																					
TDE	.4915	TRA	-.4152	TC3	-.4581	BAU	.5422	SGT	852.1	SGR	4992.8	SG3	784.0	ST	24.1	SR	124.7	SS	101.2	RDE	2.2581	RRA	4.0349	RC3	-.9916	FAU	.09065	RRT	-.0894	RRF	.9990	RTF	-.0490	CRT	.6715	CRS	-.9999	CST	-.6595																										
FDE	3.9360	FRA	7.2958	FC3	-2.1137	BSP	8535	SG8	5065.0	R23	-.0225	R13	.9989	LSA	161.4	MSA	17.9	SSA	.3	BDE	2.3110	BRA	4.0562	BC3	1.0923	FSP	1336	SG1	4993.2	SG2	850.0	THA	90.70	EL1	125.7	EL2	17.7	ALF	82.48																										

LAUNCH DATE MAR 10 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC										DISTANCE 554.420										EARTH TO MARS																																													
RL	148.55	LAL	-0.00	LOL	168.77	VL	32.298	GAL	-5.99	AZL	83.14	HCA	191.75	SMA	178.48	ECC	.19669	INC	6.8633	V1	29.994	RP	208.32	LAP	-1.39	LOP	.44	VP	23.034	GAP	6.03	AZP	96.72	TAL	321.99	TAP	153.74	RCA	143.38	APO	213.59	V2	26.304	RC	93.190	GL	41.95	GP	-39.13	ZAL	131.76	ZAP	107.04	ETS	193.34	ZAE	134.27	ETE	227.78	ZAC	63.31	ETC	271.85	LVI	26.58
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	32.981	VHL	5.743	DLA	25.62	RAL	310.76	RAD	6648.1	VEL	12.365	PTH	7.29	VHP	5.012	DPA	-61.49	RAP	306.29	ECC	1.5428	ST	24.9	SR	116.8	SS	107.2	SGT	857.0	SGR	4814.4	SG3	903.3	CRT	.7401	CRS	-.9997	CST	-.7228																										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	ST	24.9	SR	116.8	SS	107.2	SGT	857.0	SGR	4814.4	SG3	903.3	CRT	.7401	CRS	-.9997	CST	-.7228																						
50.00	15	8	19	3783.98	-47.05	155.22	205.75	81.92	16	11	23	2784.0	-44.74	120.38	50.00	15	8	19	3783.98	-47.05	155.22	205.75	81.92	16	11	23	2784.0	-44.74	120.38	50.00	15	8	19	3783.98	-47.05	155.22	205.75	81.92	16	11	23	2784.0	-44.74	120.38																					
60.00	15	14	14	3788.23	-38.96	151.92	203.87	78.76	16	17	2	2788.2	-39.34	120.77	60.00	15	14	14	3788.23	-38.96	151.92	203.87	78.76	16	17	2	2788.2	-39.34	120.77	60.00	15	14	14	3788.23	-38.96	151.92	203.87	78.76	16	17	2	2788.2	-39.34	120.77																					
70.00	15	24	23	3738.29	-31.38	147.41	201.77	75.76	16	26	42	2738.3	-34.10	119.01	70.00	15	24	23	3738.29	-31.38	147.41	201.77	75.76	16	26	42	2738.3	-34.10	119.01	70.00	15	24	23	3738.29	-31.38	147.41	201.77	75.76	16	26	42	2738.3	-34.10	119.01																					
80.00	15	46	5	3670.18	-25.00	140.24	199.76	73.13	16	47	16	2670.2	-29.62	113.77	80.00	15	46	5	3670.18	-25.00	140.24	199.76	73.13	16	47	16	2670.2	-29.62	113.77	80.00	15	46	5	3670.18	-25.00	140.24	199.76	73.13	16	47	16	2670.2	-29.62	113.77																					
90.00	16	42	2	3489.50	-22.08	125.97	198.76	71.87	17	40	11	2489.5	-27.55	100.28	90.00	16	42	2	3489.50	-22.08	125.97	198.76	71.87	17	40	11	2489.5	-27.55	100.28	90.00	16	42	2	3489.50	-22.08	125.97	198.76	71.87	17	40	11	2489.5	-27.55	100.28																					
100.00	18	28	57	3144.65	-25.00	101.61	199.76	73.13	19	21	22	2144.7	-29.62	75.14	100.00	18	28	57	3144.65	-25.00	101.61	199.76	73.13	19	21	22	2144.7	-29.62	75.14	100.00	18	28	57	3144.65	-25.00	101.61	199.76	73.13	19	21	22	2144.7	-29.62	75.14																					
110.00	20	23	50	2785.11	-31.38	76.32	201.77	75.76	21	10	15	1785.1	-34.10	47.93	110.00	20	23	50	2785.11	-31.38	76.32	201.77	75.76	21	10	15	1785.1	-34.10	47.93	110.00	20	23	50	2785.11	-31.38	76.32	201.77	75.76	21	10	15	1785.1	-34.10	47.93																					
TDE	.4911	TRA	-.2630	TC3	-.5573	BAU	.5151	SGT	857.0	SGR	4814.4	SG3	903.3	ST	24.9	SR	116.8	SS	107.2	RDE	2.0158	RRA	3.8070	RC3	-1.0268	FAU	.09891	RRT	.1246	RRF	.9989	RTF	.1418	CRT	.7401	CRS	-.9997	CST	-.7228																										
FDE	4.1313	FRA	8.2545	FC3	-2.5982	BSP	8222	SG8	4890.1	R23	-.0134	R13	.9990	LSA	161.0	MSA	17.0	SSA	.3	BDE	2.0745	BRA	3.8181	BC3	1.1683	FSP	1540	SG1	4815.7	SG2	850.1	THA	88.69	EL1	120.2	EL2	16.5	ALF	81.01																										

LAUNCH DATE MAR 10 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC										DISTANCE 558.562										EARTH TO MARS																																													
RL	148.55	LAL	-0.00	LOL	168.77	VL	32.289	GAL	-5.99	AZL	83.90	HCA	192.99	SMA	178.33	ECC	.19609	INC	6.0964	V1	29.994	RP	208.49	LAP	-1.37	LOP	1.88	VP	22.998	GAP	5.78	AZP	95.84	TAL	321.89	TAP	154.87	RCA	143.36	APO	213.30	V2	26.284	RC	95.074	GL	38.50	GP	-38.99	ZAL	134.25	ZAP	108.10	ETS	191.47	ZAE	134.97	ETE	224.70	ZAC	65.47	ETC	271.66	LVI	24.83
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	30.014	VHL	5.479	DLA	22.28	RAL	311.69	RAD	6647.0	VEL	12.245	PTH	7.19	VHP	4.758	DPA	-59.57	RAP	304.11	ECC	1.4940	ST	26.4	SR	113.7	SS	112.4	SGT	901.9	SGR	4849.6	SG3	1016.3	CRT	.8070	CRS	-.9994	CST	-.7861																										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	ST	26.4	SR	113.7	SS	112.4	SGT	901.9	SGR	4849.6	SG3	1016.3	CRT	.8070	CRS	-.9994	CST	-.7861																						
50.00	15	28	4	3687.05	-47.57	145.92	200.99	89.08	16	29	31	2687.1	-42.35	112.30	50.00	15	28	4	3687.05	-47.57	145.92	200.99	89.08	16	29	31	2687.1	-42.35	112.30	50.00	15	28	4	3687.05	-47.57	145.92	200.99	89.08	16	29	31	2687.1	-42																						

LAUNCH DATE MAR 10 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic

DISTANCE 566.867

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.272 GAL -6.00 AZL 85.07 HCA 195.46 SMA 178.08 ECC .19520 INC 4.9277 V1 29.994
 RP 208.85 LAP -1.31 LOP 4.17 VP 22.927 GAP 5.29 AZP 94.75 TAL 321.65 TAP 157.10 RCA 143.32 APO 212.84 V2 26.243
 RC 98.929 GL 32.59 GP -33.30 ZAL 138.40 ZAP 103.58 ETS 188.04 ZAE 135.31 ETE 218.45 ZAC 89.21 ETC 271.24 LVI 21.96

Planetocentric Conic

C3 26.199 VHL 5.119 DLA 16.54 RAL 313.34 RAD 6645.5 VEL 12.090 PTH 7.07 VHP 4.386 DPA -96.30 RAP 300.14 ECC 1.4312
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 27 3532.93 -46.70 131.16 193.46 100.38 16 58 20 2532.9 -37.40 100.87
 60.00 16 20 5 3478.02 -40.02 127.48 194.72 95.24 17 18 3 2478.0 -33.59 98.39
 70.00 16 50 31 3388.41 -34.13 120.64 195.14 91.25 17 47 0 2388.4 -30.06 92.68
 80.00 17 38 5 3239.36 -29.82 109.33 195.13 88.53 18 32 4 2239.4 -27.40 82.17
 90.00 18 50 8 3006.79 -26.18 92.16 195.06 87.52 19 40 15 2006.8 -26.37 65.32
 100.00 20 20 57 2713.83 -29.82 70.70 195.13 88.53 21 6 11 1713.8 -27.40 43.54
 110.00 21 49 57 2435.23 -34.13 49.56 195.14 91.25 22 30 33 1435.2 -30.06 21.59

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5537 TRA .2576 TC3 -.8725 BAU .4779 SGT 1128.0 SGR 4328.5 SG3 1216.5 ST 31.3 SR 104.4 SS 120.0
 RDE 1.5594 RRA 3.2649 RC3-1.0491 FAU .11874 RRT .6530 RRF .9985 RTF .6618 CRT .9064 CRS -.9986 CST -.8829
 FDE 4.5620 FRA10.6975 FC3-3.9238 BSP 7525 SGB 4473.0 R23 .0209 R13 .9983 LSA 161.5 MSA 14.5 SSA .5
 BDE 1.6548 BRA 3.2750 BC3 1.3645 FSP 2108 SG1 4393.1 SG2 841.8 THA 79.97 EL1 108.2 EL2 12.8 ALF 74.55

LAUNCH DATE MAR 10 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic

DISTANCE 571.027

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.265 GAL -6.01 AZL 85.53 HCA 196.69 SMA 177.97 ECC .19489 INC 4.4718 V1 29.994
 RP 209.04 LAP -1.28 LOP 5.42 VP 22.892 GAP 5.05 AZP 94.28 TAL 321.51 TAP 158.20 RCA 143.29 APO 212.66 V2 26.221
 RC 100.898 GL 30.05 GP -31.70 ZAL 140.12 ZAP 102.07 ETS 136.49 ZAE 135.04 ETE 215.40 ZAC 70.84 ETC 271.01 LVI 20.78

Planetocentric Conic

C3 24.956 VHL 4.996 DLA 14.11 RAL 314.08 RAD 6645.0 VEL 12.039 PTH 7.03 VHP 4.247 DPA -54.89 RAP 298.30 ECC 1.4107
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 17 3470.86 -45.78 125.46 190.71 104.69 17 10 8 2470.9 -35.09 96.74
 60.00 16 36 4 3407.55 -39.41 121.59 192.54 99.19 17 32 52 2407.6 -31.55 93.53
 70.00 17 10 20 3306.72 -33.83 114.29 193.41 95.00 18 5 26 2306.7 -28.29 86.98
 80.00 18 1 47 3145.52 -29.78 102.36 193.71 92.19 18 54 12 2145.5 -25.86 75.63
 90.00 19 15 41 2906.96 -28.26 84.88 193.76 91.17 20 4 8 1907.0 -24.93 58.36
 100.00 20 44 38 2619.99 -29.78 63.73 193.71 92.19 21 28 18 1620.0 -25.86 37.00
 110.00 22 9 46 2353.54 -33.83 43.21 193.41 95.00 22 49 0 1353.5 -26.29 15.90

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5868 TRA .4442 TC3 -.9813 BAU .4769 SGT 1300.1 SGR 4175.8 SG3 1304.3 ST 34.6 SR 100.3 SS 123.0
 RDE 1.4594 RRA 3.1135 RC3-1.0392 FAU .12419 RRT .7513 RRF .9982 RTF .7584 CRT .9379 CRS -.9980 CST -.9146
 FDE 4.6666 FRA11.3674 FC3-4.3081 BSP 7335 SGB 4373.5 R23 .0345 R13 .9977 LSA 161.8 MSA 13.8 SSA .6
 BDE 1.5730 BRA 3.1451 BC3 1.4293 FSP 2269 SG1 4293.1 SG2 834.5 THA 76.31 EL1 105.5 EL2 11.4 ALF 71.85

LAUNCH DATE MAR 10 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 28 1971

Heliocentric Conic

DISTANCE 575.192

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.259 GAL -6.02 AZL 85.92 HCA 197.93 SMA 177.88 ECC .19467 INC 4.0777 V1 29.994
 RP 209.24 LAP -1.25 LOP 6.66 VP 22.858 GAP 4.81 AZP 93.88 TAL 321.35 TAP 159.28 RCA 143.25 APO 212.51 V2 26.198
 RC 102.893 GL 27.75 GP -30.23 ZAL 141.64 ZAP 100.44 ETS 185.06 ZAE 134.53 ETE 212.47 ZAC 72.33 ETC 270.78 LVI 19.75

Planetocentric Conic

C3 24.002 VHL 4.899 DLA 11.91 RAL 314.78 RAD 6644.6 VEL 11.999 PTH 6.99 VHP 4.131 DPA -53.60 RAP 296.54 ECC 1.3050
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 43 3418.51 -44.73 120.64 188.54 108.27 17 20 39 2416.5 -32.94 93.33
 60.00 16 50 11 3346.06 -38.62 116.55 190.79 102.53 17 45 57 2346.1 -29.61 89.48
 70.00 17 27 37 3233.93 -33.28 108.84 191.99 98.18 18 21 33 2235.9 -26.55 82.21
 80.00 18 22 10 3065.02 -29.43 96.41 192.53 95.30 19 13 15 2065.0 -24.28 70.17
 90.00 19 37 31 2821.84 -27.98 78.67 192.66 94.27 20 24 33 1821.8 -24.52 52.59
 100.00 21 5 2 2539.50 -29.43 57.78 192.33 95.30 21 47 21 1539.5 -24.28 31.54
 110.00 22 27 3 2282.74 -33.28 37.76 191.99 98.18 23 5 6 1282.7 -26.55 11.13

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6243 TRA .6354 TC3-1.0898 BAU .4800 SGT 1800.1 SGR 4026.3 SG3 1383.3 ST 38.3 SR 96.5 SS 125.4
 RDE 1.3749 RRA 2.9720 RC3-1.0246 FAU .12923 RRT .8186 RRF .9979 RTF .6244 CRT .9600 CRS -.9974 CST -.9375
 FDE 4.7540 FRA11.9671 FC3-4.6810 BSP 7189 SGB 4296.6 R23 .0488 R13 .9968 LSA 162.2 MSA 13.2 SSA .7
 BDE 1.5100 BRA 3.0391 BC3 1.4958 FSP 2413 SG1 4217.1 SG2 822.7 THA 72.35 EL1 103.3 EL2 10.0 ALF 68.94

LAUNCH DATE MAR 10 1971

FLIGHT TIME 234.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic

DISTANCE 579.362

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.254 GAL -6.04 AZL 86.27 HCA 199.18 SMA 177.80 ECC .19453 INC 3.7335 V1 29.994
 RP 209.44 LAP -1.22 LOP 7.89 VP 22.823 GAP 4.58 AZP 93.53 TAL 321.19 TAP 160.33 RCA 143.21 APO 212.39 V2 26.174
 RC 104.913 GL 25.66 GP -28.88 ZAL 142.99 ZAP 98.72 ETS 183.73 ZAE 133.80 ETE 209.68 ZAC 73.71 ETC 270.55 LVI 18.85

Planetocentric Conic

C3 23.267 VHL 4.824 DLA 9.92 RAL 315.44 RAD 6644.3 VEL 11.969 PTH 6.97 VHP 4.035 DPA -52.42 RAP 294.84 ECC 1.3829
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 0 3368.64 -43.63 116.57 186.84 111.25 17 30 8 2368.6 -30.96 90.48
 60.00 17 2 48 3291.99 -37.74 112.23 189.40 105.34 17 57 40 2292.0 -27.79 86.05
 70.00 17 42 55 3173.95 -32.58 104.14 190.87 100.87 18 35 49 2174.0 -24.89 78.17
 80.00 18 40 2 2995.00 -28.88 91.28 191.59 97.95 19 29 57 1995.0 -22.74 65.54
 90.00 19 56 33 2748.06 -27.49 73.33 191.79 96.90 20 42 21 1748.1 -21.92 47.70
 100.00 21 22 54 2469.48 -28.88 52.65 191.59 97.95 22 4 4 1469.5 -22.74 26.91
 110.00 22 42 21 2220.77 -32.58 33.06 190.87 100.87 23 19 22 1220.8 -24.89 7.08

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6670 TRA .8318 TC3-1.1946 BAU .4877 SGT 1721.0 SGR 3873.1 SG3 1451.6 ST 42.4 SR 92.5 SS 126.8
 RDE 1.2969 RRA 2.8329 RC3-1.0153 FAU .13491 RRT .8664 RRF .9976 RTF .8711 CRT .9747 CRS -.9966 CST -.9333
 FDE 4.8026 FRA12.4744 FC3-5.0200 BSP 6976 SGB 4238.3 R23 .0633 R13 .9957 LSA 162.1 MSA 12.8 SSA .7
 BDE 1.4584 BRA 2.9525 BC3 1.5678 FSP 2514 SG1 4162.2 SG2 799.6 THA 68.09 EL1 101.4 EL2 8.6 ALF 65.74

LAUNCH DATE MAR 10 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC										DISTANCE 583.533										EARTH TO MARS																																													
RL	149.55	LAL	-0.00	LQL	168.77	VL	32.250	GAL	-6.07	AZL	86.57	HCA	200.39	SMA	177.73	ECC	.19448	INC	3.4300	V1	29.994	RP	209.68	LAP	-1.19	LOP	9.13	VP	22.789	GAP	4.35	AZP	93.22	TAL	321.01	TAP	161.40	RCA	143.17	APO	212.30	V2	26.150	RC	106.958	GL	23.74	GP	-27.63	ZAL	144.20	ZAP	96.92	ETS	182.31	ZAE	132.89	ETE	207.06	ZAC	74.98	ETC	270.32	LVI	18.01
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	22.704	VHL	4.765	DLA	8.11	RAL	316.07	RAD	6644.0	VEL	11.945	PTH	6.95	VHP	3.954	DPA	-51.31	RAP	293.21	ECC	1.3736	ST	46.6	SR	89.4	SS	128.7	CRT	.9851	CRS	-.9958	CST	-.9654																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	ST	46.6	SR	89.4	SS	128.7	CRT	.9851	CRS	-.9958	CST	-.9654																												
50.00	16	43	20	3326.27	-42.32	113.10	185.53	113.74	17	38	46	2326.3	-29.15	88.06	50.00	16	43	20	3326.27	-42.32	113.10	185.53	113.74	17	38	46	2326.3	-29.15	88.06	60.00	17	14	11	3244.18	-36.81	108.51	188.34	107.71	18	8	15	2244.2	-26.11	83.13																					

LAUNCH DATE MAR 10 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC										DISTANCE 587.706										EARTH TO MARS																																													
RL	148.55	LAL	-0.00	LQL	168.77	VL	32.246	GAL	-6.09	AZL	86.84	HCA	201.62	SMA	177.68	ECC	.19451	INC	3.1601	V1	29.994	RP	209.87	LAP	-1.16	LOP	10.38	VP	22.754	GAP	4.12	AZP	92.94	TAL	320.82	TAP	162.44	RCA	143.12	APO	212.24	V2	26.124	RC	109.028	GL	21.99	GP	-26.48	ZAL	145.29	ZAP	95.06	ETS	181.38	ZAE	131.82	ETE	204.60	ZAC	76.17	ETC	270.09	LVI	17.27
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	22.276	VHL	4.720	DLA	6.46	RAL	316.66	RAD	6643.8	VEL	11.928	PTH	6.93	VHP	3.887	DPA	-50.28	RAP	291.64	ECC	1.3686	ST	51.0	SR	86.5	SS	130.4	CRT	.9919	CRS	-.9948	CST	-.9741																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	ST	51.0	SR	86.5	SS	130.4	CRT	.9919	CRS	-.9948	CST	-.9741																												
50.00	16	51	52	3280.62	-41.45	110.12	184.54	115.84	17	46	40	2288.6	-27.51	85.98	50.00	16	51	52	3280.62	-41.45	110.12	184.54	115.84	17	46	40	2288.6	-27.51	85.98	60.00	17	24	32	3201.69	-35.88	105.29	187.53	109.73	18	17	54	2201.7	-24.56	80.61																					

LAUNCH DATE MAR 10 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC										DISTANCE 591.880										EARTH TO MARS																																													
RL	148.55	LAL	-0.00	LQL	168.77	VL	32.243	GAL	-6.13	AZL	87.08	HCA	202.85	SMA	177.63	ECC	.19461	INC	2.9185	V1	29.994	RP	210.10	LAP	-1.13	LOP	11.59	VP	22.720	GAP	3.89	AZP	92.69	TAL	320.62	TAP	163.47	RCA	143.06	APO	212.10	V2	26.098	RC	111.121	GL	20.39	GP	-25.36	ZAL	146.26	ZAP	93.17	ETS	180.34	ZAE	130.63	ETE	202.33	ZAC	77.28	ETC	269.66	LVI	16.61
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	21.959	VHL	4.686	DLA	4.95	RAL	317.23	RAD	6643.7	VEL	11.914	PTH	6.92	VHP	3.832	DPA	-49.32	RAP	290.13	ECC	1.3614	ST	55.6	SR	84.1	SS	132.2	CRT	.9962	CRS	-.9938	CST	-.9808																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	ST	55.6	SR	84.1	SS	132.2	CRT	.9962	CRS	-.9938	CST	-.9808																												
50.00	17	34	1	3163.77	-34.97	102.48	186.94	111.45	18	26	45	2163.8	-23.13	78.41	50.00	17	34	1	3163.77	-34.97	102.48	186.94	111.45	18	26	45	2163.8	-23.13	78.41	60.00	17	34	1	3163.77	-34.97	102.48	186.94	111.45	18	26	45	2163.8	-23.13	78.41																					

LAUNCH DATE MAR 10 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC										DISTANCE 596.059										EARTH TO MARS																																													
RL	148.55	LAL	-0.00	LQL	168.77	VL	32.241	GAL	-6.16	AZL	87.30	HCA	204.07	SMA	177.59	ECC	.19479	INC	2.7006	V1	29.994	RP	210.33	LAP	-1.10	LOP	12.82	VP	22.686	GAP	3.67	AZP	92.47	TAL	320.41	TAP	164.48	RCA	143.00	APO	212.19	V2	26.071	RC	113.239	GL	18.91	GP	-24.33	ZAL	147.14	ZAP	91.24	ETS	179.38	ZAE	129.33	ETE	200.22	ZAC	78.32	ETC	269.63	LVI	16.00
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	21.730	VHL	4.662	DLA	3.57	RAL	317.78	RAD	6643.6	VEL	11.905	PTH	6.91	VHP	3.787	DPA	-48.40	RAP	288.68	ECC	1.3576	ST	60.4	SR	80.7	SS	131.9	CRT	.9984	CRS	-.9924	CST	-.9845																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	ST	60.4	SR	80.7	SS	131.9	CRT	.9984	CRS	-.9924	CST	-.9845																												
50.00	17	6	58	3225.02	-39.45	105.34	183.27	119.12	18	0	43	2225.0	-24.65	82.62	50.00	17	6	58	3225.02	-39.45	105.34	183.27	119.12	18	0	43	2225.0	-24.65	82.62	60.00	17	42	45	3129.81	-34.10	100.02	186.53	112.92	18	34	55	2129.8	-21.83	76.49																					

LAUNCH DATE MAR 10 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 600.237

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.239 GAL -6.20 AZL 87.30 HCA 205.20 SMA 177.57 ECC .19505 INC 2.5031 V1 29.994
 RP 210.37 LAP -1.07 LOP 14.04 VP 22.652 GAP 3.45 AZP 92.26 TAL 320.19 TAP 169.48 RCA 142.93 APO 212.20 V2 26.044
 RC 115.380 GL 17.54 GP -23.37 ZAL 147.94 ZAP 89.30 ETS 176.50 ZAE 127.94 ETE 198.28 ZAC 79.30 ETC 269.41 LVI 15.45

PLANETOCENTRIC CONIC

C3 21.578 VHL 4.645 DLA 2.31 RAL 318.31 RAD 6643.5 VEL 11.899 PTH 6.91 VHP 3.752 DPA -47.53 RAP 287.29 ECC 1.3551
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 42 3198.12 -38.54 103.41 182.92 120.40 18 7 0 2198.1 -23.42 81.26
 60.00 17 50 50 3099.33 -33.27 97.87 186.27 114.19 18 42 30 2099.3 -20.63 74.79
 70.00 18 40 21 2953.70 -28.62 88.23 188.45 109.49 19 29 35 1953.7 -18.08 64.71
 80.00 19 46 10 2747.60 -25.28 73.81 189.66 106.43 20 31 58 1747.6 -16.20 50.09
 90.00 21 6 31 2488.31 -24.05 55.14 190.05 105.35 21 47 59 1488.3 -15.49 31.37
 100.00 22 29 2 2222.08 -25.28 35.18 189.66 106.43 23 6 4 1222.1 -16.20 11.46
 110.00 23 39 48 2000.51 -26.62 17.15 188.45 109.49 24 13 8 1000.5 -18.08 355.63

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9028 TRA 1.8346 TC3-1.7307 BAU .5584 SGT 2992.4 SGR 3190.6 SG3 1680.9 ST 65.3 SR 77.9 SS 132.3
 RDE 1.0649 RRA 2.2669 RC3 -.8510 FAU .14720 RRT .9501 RRF .9948 RTF .9551 CRT .9995 CRS -.9909 CST -.9877
 FDE 5.0424 FRA14.2561 FC3-5.9059 BSP 7087 SGB 4374.3 R23 .1153 R13 .9886 LSA 166.4 MSA 11.6 SSA 1.1
 BDE 1.3958 BRA 2.9163 BC3 1.9286 FSP 2979 SG1 4319.6 SG2 689.6 THA 46.93 EL1 101.6 EL2 1.5 ALF 50.03

LAUNCH DATE MAR 10 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 604.415

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.238 GAL -6.24 AZL 87.68 HCA 206.51 SMA 177.55 ECC .19537 INC 2.3231 V1 29.994
 RP 210.82 LAP -1.04 LOP 15.26 VP 22.618 GAP 3.23 AZP 92.08 TAL 319.96 TAP 168.47 RCA 142.88 APO 212.24 V2 26.015
 RC 117.545 GL 16.27 GP -22.45 ZAL 148.67 ZAP 87.36 ETS 177.69 ZAE 126.49 ETE 196.50 ZAC 80.23 ETC 269.20 LVI 14.94

PLANETOCENTRIC CONIC

C3 21.492 VHL 4.636 DLA 1.15 RAL 318.82 RAD 6643.5 VEL 11.895 PTH 6.90 VHP 3.725 DPA -46.71 RAP 285.97 ECC 1.3537
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 0 3173.98 -37.70 101.72 182.71 121.51 18 12 54 2174.0 -22.30 80.05
 60.00 17 58 22 3071.91 -32.49 95.96 186.14 115.29 18 49 34 2071.9 -19.55 73.29
 70.00 18 49 15 2922.25 -27.89 86.08 188.39 110.57 19 37 58 1922.2 -17.02 62.89
 80.00 19 56 19 2712.25 -24.58 71.42 189.66 107.50 20 41 31 1712.2 -15.16 47.99
 90.00 21 17 13 2451.20 -23.35 52.64 190.07 106.42 21 58 4 1451.2 -14.46 29.14
 100.00 22 39 11 2186.72 -24.58 32.79 189.66 107.50 23 15 38 1106.7 -15.16 9.36
 110.00 23 48 42 1969.07 -27.89 15.00 188.39 110.57 24 21 31 969.1 -17.02 351.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9562 TRA 2.0388 TC3-1.8298 BAU .5752 SGT 3259.9 SGR 3061.6 SG3 1703.0 ST 70.2 SR 75.4 SS 132.8
 RDE 1.0330 RRA 2.1670 RC3 -.8122 FAU .14784 RRT .9557 RRF .9940 RTF .9613 CRT .9997 CRS -.9893 CST -.9902
 FDE 5.0620 FRA14.4452 FC3-5.9555 BSP 7241 SGB 4472.1 R23 .1193 R13 .9875 LSA 167.5 MSA 11.6 SSA 1.1
 BDE 1.4076 BRA 2.9754 BC3 2.0020 FSP 3033 SG1 4422.5 SG2 664.5 THA 43.12 EL1 103.0 EL2 1.2 ALF 47.06

LAUNCH DATE MAR 10 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

DISTANCE 608.593

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.237 GAL -6.28 AZL 87.84 HCA 207.73 SMA 177.54 ECC .19577 INC 2.1582 V1 29.994
 RP 211.07 LAP -1.00 LOP 16.48 VP 22.584 GAP 3.01 AZP 91.91 TAL 319.72 TAP 167.44 RCA 142.79 APO 212.30 V2 25.986
 RC 119.734 GL 18.10 GP -21.58 ZAL 149.34 ZAP 85.42 ETS 176.95 ZAE 124.98 ETE 194.87 ZAC 81.10 ETC 268.99 LVI 14.47

PLANETOCENTRIC CONIC

C3 21.462 VHL 4.633 DLA .07 RAL 319.32 RAD 6643.5 VEL 11.894 PTH 6.90 VHP 3.705 DPA -45.92 RAP 284.72 ECC 1.3532
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 54 3182.30 -36.91 100.23 182.61 122.46 18 18 26 2152.5 -21.28 78.99
 60.00 18 5 24 3047.22 -31.76 94.28 186.12 116.24 18 56 11 2047.2 -18.55 71.96
 70.00 18 57 33 2893.85 -27.19 84.17 188.44 111.51 19 45 47 1893.8 -16.04 61.27
 80.00 20 5 45 2680.26 -23.91 69.28 189.76 108.44 20 50 26 1680.3 -14.19 46.11
 90.00 21 27 9 2417.61 -22.69 50.40 190.19 107.35 22 7 27 1417.6 -13.49 27.14
 100.00 22 48 37 2154.73 -23.91 30.65 189.76 108.44 23 24 32 1154.7 -14.19 7.47
 110.00 0 0 55 1940.66 -27.19 13.08 188.44 111.51 0 33 16 940.7 -16.04 350.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0108 TRA 2.2430 TC3-1.9255 BAU .5955 SGT 3327.1 SGR 2934.5 SG3 1717.4 ST 75.1 SR 73.0 SS 132.5
 RDE 1.0041 RRA 2.0700 RC3 -.7748 FAU .14824 RRT .9598 RRF .9930 RTF .562 CRT .9992 CRS -.9875 CST -.9921
 FDE 5.0678 FRA14.5793 FC3-5.9799 BSP 7424 SGB 4588.2 R23 .1208 R13 .9867 LSA 168.5 MSA 11.7 SSA 1.1
 BDE 1.4246 BRA 3.0522 BC3 2.0755 FSP 3070 SG1 4543.5 SG2 639.3 THA 39.55 EL1 104.7 EL2 2.1 ALF 44.18

LAUNCH DATE MAR 10 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

DISTANCE 612.770

EARTH TO MARS

RL 148.55 LAL -.00 LOL 168.77 VL 32.237 GAL -6.33 AZL 87.99 HCA 208.94 SMA 177.55 ECC .19623 INC 2.0063 V1 29.994
 RP 211.33 LAP -.97 LOP 17.89 VP 22.590 GAP 2.80 AZP 91.76 TAL 319.46 TAP 168.40 RCA 142.71 APO 212.39 V2 25.957
 RC 121.945 GL 14.01 GP -20.76 ZAL 149.96 ZAP 83.49 ETS 176.28 ZAE 123.43 ETE 193.38 ZAC 81.93 ETC 268.80 LVI 14.03

PLANETOCENTRIC CONIC

C3 21.482 VHL 4.635 DLA -.92 RAL 319.81 RAD 6643.5 VEL 11.895 PTH 6.90 VHP 3.693 DPA -45.16 RAP 283.53 ECC 1.3535
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 26 3132.82 -36.19 98.93 182.61 123.29 18 23 39 2132.8 -20.36 78.04
 60.00 18 11 59 3024.96 -31.08 92.78 186.18 117.07 19 2 24 2025.0 -17.65 70.77
 70.00 19 5 18 2888.16 -26.54 82.45 188.56 112.33 19 53 8 1868.2 -15.15 59.82
 80.00 20 14 34 2651.27 -23.27 67.36 189.93 109.25 20 58 46 1651.3 -13.30 44.41
 90.00 21 36 26 2387.13 -22.06 48.39 190.38 108.16 22 16 13 1387.1 -12.61 25.35
 100.00 22 57 26 2125.74 -23.27 28.73 189.93 109.25 23 32 52 1125.7 -13.30 5.78
 110.00 0 8 40 1914.98 -26.54 11.37 188.56 112.33 0 40 35 915.0 -15.15 348.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0657 TRA 2.4464 TC3-2.0181 BAU .6170 SGT 3792.6 SGR 2810.4 SG3 1724.9 ST 80.0 SR 70.7 SS 132.3
 RDE .9780 RRA 1.9762 RC3 -.7371 FAU .14821 RRT .9627 RRF .9919 RTF .9700 CRT .9981 CRS -.9855 CST -.9936
 FDE 5.0640 FRA14.6650 FC3-5.9732 BSP 7638 SGB 4720.4 R23 .1204 R13 .9861 LSA 169.6 MSA 11.8 SSA 1.2
 BDE 1.4465 BRA 3.1449 BC3 2.1485 FSP 3092 SG1 4680.0 SG2 616.2 THA 36.23 EL1 106.7 EL2 3.3 ALF 41.45

LAUNCH DATE MAR 10 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 148.55 LAL -.00 LOL 168.77 VL 32.238 GAL -6.39 AZL 88.13 HCA 210.15 SMA 177.55 ECC .19676 INC 1.8660 V1 29.994
 RP 211.60 LAP -.94 LOP 18.91 VP 22.516 GAP 2.58 AZP 91.61 TAL 319.20 TAP 169.35 RCA 142.62 APO 212.49 V2 25.926
 RC 124.177 GL 12.99 GP -19.97 ZAL 150.53 ZAP 81.59 ETS 175.66 ZAE 121.85 ETE 192.02 ZAC 82.71 ETC 268.61 LVI 13.61

DISTANCE 618.946 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.546 VHL 4.642 DLA -1.83 RAL 320.28 RAD 6643.5 VEL 11.897 PTH 6.91 VHP 3.686 DPA -44.43 RAP 282.42 ECC 1.3546
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 40 3115.33 -35.53 97.76 182.70 124.00 18 28 35 2115.3 -19.54 77.21
 60.00 18 18 11 3004.88 -30.45 91.45 186.32 117.79 19 8 16 2004.9 -16.83 69.72
 70.00 19 12 35 2844.92 -25.93 80.92 188.76 113.05 20 0 0 1844.9 -14.33 58.51
 80.00 20 22 50 2624.96 -22.67 65.64 190.17 109.97 21 6 35 1625.0 -12.48 42.89
 90.00 21 45 7 2359.44 -21.46 48.58 190.63 108.87 22 24 26 1359.4 -11.79 23.72
 100.00 23 5 42 2099.43 -22.67 27.01 190.17 109.97 23 40 41 1099.4 -12.48 4.26
 110.00 0 15 57 1891.74 -25.93 9.84 188.76 113.05 0 47 29 891.7 -14.33 347.43

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1218 TRA 2.6490 TC3-2.1070 BAU .6395 SGT 4055.3 SGR 2688.9 SG3 1725.7 ST 84.9 SR 68.5 SS 131.9
 RDE .9541 RRA 1.8854 RC3 -.6996 FAU .14772 RRT .9646 RRF .9905 RTF .9730 CRT .9965 CRS -.9833 CST -.9947
 FDE 5.0497 FRA14.7038 FC3-5.9353 BSP 7875 SGB 4865.8 R23 .1183 R13 .9857 LSA 170.7 MSA 12.0 SSA 1.2
 BDE 1.4727 BRA 3.2514 BC3 2.2202 F8P 3102 SGI 4829.2 SG2 595.5 THA 33.17 EL1 109.0 EL2 4.5 ALF 38.86

LAUNCH DATE MAR 10 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 148.55 LAL -.00 LOL 168.77 VL 32.239 GAL -6.44 AZL 88.26 HCA 211.36 SMA 177.57 ECC .19735 INC 1.7360 V1 29.994
 RP 211.87 LAP -.90 LOP 20.12 VP 22.482 GAP 2.37 AZP 91.48 TAL 318.92 TAP 170.28 RCA 142.53 APO 212.62 V2 25.896
 RC 126.431 GL 12.04 GP -19.22 ZAL 151.07 ZAP 79.70 ETS 175.09 ZAE 120.26 ETE 190.78 ZAC 83.45 ETC 268.43 LVI 13.22

DISTANCE 621.121 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.651 VHL 4.653 DLA -2.68 RAL 320.74 RAD 6643.6 VEL 11.902 PTH 6.91 VHP 3.686 DPA -43.73 RAP 281.37 ECC 1.3563
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 36 3099.62 -34.93 96.76 182.86 124.63 18 33 16 2099.6 -18.79 76.47
 60.00 18 24 2 2986.78 -29.87 90.27 186.53 118.42 19 13 48 1986.8 -16.08 68.77
 70.00 19 19 25 2823.88 -25.36 79.55 189.02 113.68 20 6 29 1823.9 -13.58 57.34
 80.00 20 30 35 2601.07 -22.11 64.09 190.46 110.60 21 13 56 1601.1 -11.73 41.51
 90.00 21 53 16 2334.27 -20.90 44.95 190.94 109.50 22 32 11 1334.3 -11.04 22.26
 100.00 23 13 27 2075.54 -22.11 25.46 190.46 110.60 23 48 3 1075.5 -11.73 2.88
 110.00 0 22 48 1870.70 -25.36 8.47 189.02 113.68 0 53 58 870.7 -13.58 346.26

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1797 TRA 2.8517 TC3-2.1905 BAU .6623 SGT 4315.4 SGR 2571.8 SG3 1721.1 ST 89.8 SR 66.4 SS 131.3
 RDE .9332 RRA 1.7983 RC3 -.6618 FAU .14664 RRT .9657 RRF .9890 RTF .9754 CRT .9945 CRS -.9809 CST -.9956
 FDE 5.0325 FRA14.7061 FC3-5.8633 BSP 8148 SGB 5023.6 R23 .1149 R13 .9855 LSA 171.9 MSA 12.2 SSA 1.2
 BDE 1.5042 BRA 3.3714 BC3 2.2883 F8P 3105 SGI 4990.3 SG2 577.6 THA 30.37 EL1 111.5 EL2 5.6 ALF 36.43

LAUNCH DATE MAR 10 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 148.55 LAL -.00 LOL 168.77 VL 32.241 GAL -6.50 AZL 88.39 HCA 212.56 SMA 177.60 ECC .19801 INC 1.6149 V1 29.994
 RP 212.14 LAP -.87 LOP 21.32 VP 22.447 GAP 2.16 AZP 91.36 TAL 318.64 TAP 171.20 RCA 142.43 APO 212.78 V2 25.864
 RC 128.706 GL 11.15 GP -18.51 ZAL 151.57 ZAP 77.85 ETS 174.58 ZAE 118.65 ETE 189.65 ZAC 84.16 ETC 268.26 LVI 12.84

DISTANCE 625.293 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.793 VHL 4.668 DLA -3.47 RAL 321.20 RAD 6643.6 VEL 11.908 PTH 6.92 VHP 3.690 DPA -43.06 RAP 280.40 ECC 1.3587
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 17 3085.55 -34.38 95.87 183.08 125.17 18 37 43 2085.5 -18.11 75.81
 60.00 18 29 33 2970.40 -29.34 89.22 186.80 118.97 19 19 3 1970.5 -15.40 67.92
 70.00 19 25 53 2804.84 -24.83 78.32 189.33 114.24 20 12 38 1804.8 -12.90 58.29
 80.00 20 37 54 2579.36 -21.58 62.89 190.81 111.15 21 20 53 1579.4 -11.04 40.27
 90.00 22 0 57 2311.36 -20.37 43.48 191.30 110.05 22 39 29 1311.4 -10.35 20.93
 100.00 23 20 46 2053.83 -21.58 24.06 190.81 111.15 23 54 59 1053.8 -11.04 1.64
 110.00 0 29 15 1851.66 -24.83 7.24 189.33 114.24 1 0 7 851.7 -12.90 345.21

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2391 TRA 3.0933 TC3-2.2694 BAU .6858 SGT 4570.9 SGR 2458.6 SG3 1711.2 ST 94.6 SR 64.4 SS 130.6
 RDE .9145 RRA 1.7147 RC3 -.6242 FAU .14508 RRT .9660 RRF .9875 RTF .573 CRT .9920 CRS -.9783 CST -.9964
 FDE 5.0089 FRA14.6734 FC3-5.7632 BSP 8441 SGB 5190.2 R23 .1106 R13 .9853 LSA 173.2 MSA 12.5 SSA 1.2
 BDE 1.5392 BRA 3.5018 BC3 2.3537 F8P 3101 SGI 5159.5 SG2 563.2 THA 27.82 EL1 114.3 EL2 6.7 ALF 34.17

LAUNCH DATE MAR 10 1971

FLIGHT TIME 258.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 148.55 LAL -.00 LOL 168.77 VL 32.243 GAL -6.56 AZL 88.50 HCA 213.76 SMA 177.63 ECC .19873 INC 1.5019 V1 29.994
 RP 212.43 LAP -.83 LOP 22.52 VP 22.413 GAP 1.95 AZP 91.25 TAL 318.34 TAP 172.11 RCA 142.33 APO 212.93 V2 25.832
 RC 130.999 GL 10.32 GP -17.83 ZAL 152.04 ZAP 76.03 ETS 174.11 ZAE 117.05 ETE 188.62 ZAC 84.63 ETC 268.11 LVI 12.48

DISTANCE 629.464 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.969 VHL 4.687 DLA -4.20 RAL 321.64 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 3.700 DPA -42.41 RAP 279.50 ECC 1.3616
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 44 3072.96 -33.89 95.07 183.35 125.65 18 41 57 2072.0 -17.51 75.22
 60.00 18 34 47 2955.82 -28.85 88.29 187.11 119.46 19 24 3 1955.8 -14.79 67.17
 70.00 19 31 59 2787.62 -24.35 77.22 189.69 114.73 20 18 27 1787.6 -12.27 55.34
 80.00 20 44 48 2559.65 -21.09 61.43 191.20 111.64 21 27 27 1559.7 -10.41 39.15
 90.00 22 8 12 2290.53 -19.88 42.15 191.70 110.54 22 46 23 1290.5 -9.71 19.73
 100.00 23 27 40 2034.12 -21.09 22.80 191.20 111.64 24 1 34 1034.1 -10.41 .51
 110.00 0 35 21 1834.43 -24.35 6.14 189.69 114.73 1 5 56 834.4 -12.27 344.26

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2975 TRA 3.2538 TC3-2.3441 BAU .7098 SGT 4821.6 SGR 2349.0 SG3 1696.3 ST 99.4 SR 62.5 SS 129.7
 RDE .8975 RRA 1.6338 RC3 -.5882 FAU .14328 RRT .9657 RRF .9853 RTF .9789 CRT .9893 CRS -.9754 CST -.9970
 FDE 4.9777 FRA14.6042 FC3-5.6463 BSP 8747 SGB 5363.4 R23 .1055 R13 .9853 LSA 174.5 MSA 12.6 SSA 1.2
 BDE 1.5778 BRA 3.6408 BC3 2.4168 F8P 3084 SGI 5335.0 SG2 551.1 THA 25.49 EL1 117.2 EL2 7.7 ALF 32.06

LAUNCH DATE MAR 10 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic

RL 148.55 LAL -.00 LOL 188.77 VL 32.245 GAL -6.63 AZL 88.60 HCA 214.96 SMA 177.67 ECC .19951 INC 1.3959 V1 29.994
 RP 212.72 LAP -.80 LOP 23.72 VP 22.379 GAP 1.74 AZP 91.14 TAL 318.04 TAP 173.00 RCA 142.22 APO 213.11 V2 25.799
 RC 133.312 GL 9.54 GP -17.19 ZAL 152.49 ZAP 74.25 ETS 173.69 ZAE 115.45 ETE 187.68 ZAC 85.47 ETC 267.96 LVI 12.13

Planetocentric Conic

C3 22.178 VHL 4.709 DLA -4.87 RAL 322.08 RAD 6643.8 VEL 11.924 PTH 6.93 VHP 3.714 DPA -41.79 RAP 278.66 ECC 1.3650
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 59 3081.74 -33.44 94.38 183.67 126.06 18 46 0 2061.7 -16.97 74.70
 60.00 18 39 45 2942.66 -28.41 87.45 187.47 119.88 19 28 48 1942.7 -14.24 66.50
 70.00 19 37 46 2772.06 -23.90 76.24 190.08 115.16 20 23 58 1772.1 -11.71 34.49
 80.00 20 51 20 2541.77 -20.64 60.30 191.62 112.07 21 33 41 1541.8 -9.84 38.13
 90.00 22 15 4 2271.59 -19.42 40.95 192.14 110.97 22 52 55 1271.6 -9.13 18.64
 100.00 23 34 11 2016.24 -20.64 21.67 191.62 112.07 24 7 48 1016.2 -9.84 359.50
 110.00 0 41 8 1818.88 -23.90 5.15 190.08 115.16 1 11 27 818.9 -11.71 343.41

Differential Corrections

TDE 1.3971 TRA 3.4325 TC3-2.4147 BAU .7345
 RDE .8819 RRA 1.9558 RC3 -.3537 FAU .14125
 FDE 4.9383 FRA14.3035 FC3-5.5139 BSP 9060
 BDE 1.6185 BRA 3.7868 BC3 2.4774 FSP 3059

Mid-Course Execution Accuracy

SGT 3066.6 SGR 2243.3 SG3 1676.9
 RRT .9649 RRF .9830 RTF .9802
 SGB 5541.0 R23 .1000 R13 .9853
 SG1 5514.5 SG2 541.6 THA 23.37

Orbit Determination Accuracy

ST 104.0 SR 60.8 SS 128.7
 CRT .9862 CRS -.9723 CST -.9974
 LSA 175.8 MSA 13.1 SSA 1.3
 EL1 120.2 EL2 8.7 ALF 30.11

LAUNCH DATE MAR 10 1971

FLIGHT TIME 262.00

ARRIVAL DATE NOV 27 1971

Heliocentric Conic

RL 148.55 LAL -.00 LOL 168.77 VL 32.248 GAL -6.69 AZL 88.70 HCA 216.16 SMA 177.71 ECC .20035 INC 1.2964 V1 29.994
 RP 213.01 LAP -.76 LOP 24.92 VP 22.345 GAP 1.53 AZP 91.05 TAL 317.72 TAP 173.88 RCA 142.11 APO 213.31 V2 25.766
 RC 135.643 GL 8.80 GP -16.57 ZAL 152.92 ZAP 72.51 ETS 173.30 ZAE 113.86 ETE 186.83 ZAC 86.08 ETC 267.83 LVI 11.80

Planetocentric Conic

C3 22.416 VHL 4.735 DLA -5.50 RAL 322.51 RAD 6643.9 VEL 11.933 PTH 6.94 VHP 3.732 DPA -41.20 RAP 277.90 ECC 1.3689
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 1 3051.77 -33.04 93.76 184.03 126.42 18 49 53 2051.8 -16.49 74.24
 60.00 18 44 28 2930.89 -28.00 86.72 187.87 120.25 19 33 19 1930.9 -13.74 65.89
 70.00 19 43 15 2758.05 -23.49 75.35 190.52 115.53 20 29 13 1758.0 -11.20 53.73
 80.00 20 57 31 2525.56 -20.22 59.28 192.08 112.45 21 39 36 1525.6 -9.31 37.21
 90.00 22 21 33 2254.40 -19.00 39.86 192.61 111.35 22 59 8 1254.4 -8.60 17.66
 100.00 23 40 23 2000.03 -20.22 20.65 192.08 112.45 24 13 43 1000.0 -9.31 358.58
 110.00 0 46 37 1804.86 -23.49 4.27 190.52 115.53 1 16 42 804.9 -11.20 342.65

Differential Corrections

TDE 1.4179 TRA 3.6505 TC3-2.4797 BAU .7593
 RDE .8683 RRA 1.4811 RC3 -.5197 FAU .13878
 FDE 4.8983 FRA14.3784 FC3-5.3598 BSP 9388
 BDE 1.6626 BRA 3.9395 BC3 2.5336 FSP 3029

Mid-Course Execution Accuracy

SGT 5306.0 SGR 2142.1 SG3 1653.9
 RRT .9634 RRF .9804 RTF .9812
 SGB 5722.1 R23 .0945 R13 .9854
 SG1 5697.0 SG2 535.0 THA 21.45

Orbit Determination Accuracy

ST 108.6 SR 59.1 SS 127.6
 CRT .9827 CRS -.9690 CST -.9978
 LSA 177.2 MSA 13.4 SSA 1.3
 EL1 123.3 EL2 9.6 ALF 28.31

LAUNCH DATE MAR 10 1971

FLIGHT TIME 264.00

ARRIVAL DATE NOV 29 1971

Heliocentric Conic

RL 148.55 LAL -.00 LOL 168.77 VL 32.251 GAL -6.77 AZL 88.80 HCA 217.35 SMA 177.76 ECC .20125 INC 1.2026 V1 29.994
 RP 213.31 LAP -.73 LOP 26.11 VP 22.310 GAP 1.32 AZP 90.96 TAL 317.40 TAP 174.75 RCA 141.99 APO 213.53 V2 25.732
 RC 137.991 GL 8.11 GP -15.98 ZAL 153.33 ZAP 70.81 ETS 172.95 ZAE 112.29 ETE 186.06 ZAC 86.66 ETC 267.70 LVI 11.47

Planetocentric Conic

C3 22.684 VHL 4.763 DLA -6.09 RAL 322.94 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 3.754 DPA -40.62 RAP 277.21 ECC 1.3733
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 53 3042.96 -32.68 93.23 184.42 126.73 18 53 36 2043.0 -16.06 73.84
 60.00 18 48 58 2920.39 -27.64 86.06 188.30 120.58 19 37 39 1920.4 -13.30 65.36
 70.00 19 48 28 2745.45 -23.12 74.56 190.98 115.87 20 34 13 1745.4 -10.74 53.05
 80.00 21 3 23 2510.90 -19.84 58.36 192.58 112.78 21 45 14 1510.9 -8.84 36.39
 90.00 22 27 43 2238.81 -18.61 38.89 193.11 111.69 23 5 2 1238.8 -8.12 16.77
 100.00 23 46 19 1985.37 -19.84 19.73 192.58 112.78 24 19 20 985.4 -8.84 357.76
 110.00 0 51 50 1792.27 -23.12 3.48 190.98 115.87 1 21 42 792.3 -10.74 341.96

Differential Corrections

TDE 1.4793 TRA 3.8473 TC3-2.5405 BAU .7845
 RDE .8561 RRA 1.4092 RC3 -.4877 FAU .13621
 FDE 4.8487 FRA14.2286 FC3-5.1985 BSP 9715
 BDE 1.7092 BRA 4.0972 BC3 2.5869 FSP 2989

Mid-Course Execution Accuracy

SGT 5339.6 SGR 2045.2 SG3 1627.6
 RRT .9614 RRF .9773 RTF .521
 SGB 5905.1 R23 .0888 R13 .9855
 SG1 5881.2 SG2 530.2 THA 19.71

Orbit Determination Accuracy

ST 113.2 SR 57.5 SS 126.4
 CRT .9790 CRS -.9654 CST -.9982
 LSA 178.6 MSA 13.8 SSA 1.3
 EL1 126.5 EL2 10.5 ALF 26.64

LAUNCH DATE MAR 10 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 1 1971

Heliocentric Conic

RL 148.55 LAL -.00 LOL 168.77 VL 32.255 GAL -6.84 AZL 88.89 HCA 218.54 SMA 177.82 ECC .20220 INC 1.1143 V1 29.994
 RP 213.61 LAP -.69 LOP 27.30 VP 22.278 GAP 1.11 AZP 90.87 TAL 317.07 TAP 175.61 RCA 141.86 APO 213.77 V2 25.697
 RC 140.356 GL 7.46 GP -15.42 ZAL 153.72 ZAP 69.16 ETS 172.64 ZAE 110.73 ETE 185.36 ZAC 87.22 ETC 267.59 LVI 11.14

Planetocentric Conic

C3 22.980 VHL 4.794 DLA -6.63 RAL 323.36 RAD 6644.1 VEL 11.957 PTH 6.96 VHP 3.780 DPA -40.08 RAP 276.59 ECC 1.3782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 6 35 3035.22 -32.36 92.76 184.85 127.00 18 57 10 2035.2 -15.68 73.49
 60.00 18 53 16 2911.07 -27.32 85.49 188.76 120.86 19 41 47 1911.1 -12.90 64.89
 70.00 19 53 26 2734.16 -22.78 73.86 191.48 116.16 20 39 0 1734.2 -10.32 52.44
 80.00 21 8 58 2497.68 -19.49 57.53 193.10 113.08 21 50 36 1497.7 -8.40 35.64
 90.00 22 33 34 2224.71 -18.25 38.01 193.64 111.98 23 10 39 1224.7 -7.68 15.97
 100.00 23 51 50 1972.15 -19.49 18.90 193.10 113.08 24 24 42 972.2 -8.40 357.01
 110.00 0 56 48 1780.98 -22.78 2.78 191.48 116.16 1 26 29 781.0 -10.32 341.35

Differential Corrections

TDE 1.5420 TRA 4.0435 TC3-2.5954 BAU .8096
 RDE .8455 RRA 1.3405 RC3 -.4563 FAU .13323
 FDE 4.7994 FRA14.0617 FC3-5.0190 BSP 10057
 BDE 1.7566 BRA 4.2599 BC3 2.6352 FSP 2948

Mid-Course Execution Accuracy

SGT 5767.2 SGR 1953.0 SG3 1598.6
 RRT .9587 RRF .9739 RTF .9828
 SGB 6088.9 R23 .0835 R13 .9855
 SG1 6066.0 SG2 527.9 THA 18.13

Orbit Determination Accuracy

ST 117.6 SR 56.0 SS 125.1
 CRT .9750 CRS -.9616 CST -.9984
 LSA 180.1 MSA 14.1 SSA 1.3
 EL1 129.8 EL2 11.3 ALF 25.12

LAUNCH DATE MAR 10 1971 FLIGHT TIME 260.00 ARRIVAL DATE DEC 3 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, INC, APO, V1, V2, LVI, SGT, SGR, SGC, RRT, RRF, R13, R23, R33, LSA, MSA, SSA, EL1, EL2, ALF.

LAUNCH DATE MAR 10 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 5 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, INC, APO, V1, V2, LVI, SGT, SGR, SGC, RRT, RRF, R13, R23, R33, LSA, MSA, SSA, EL1, EL2, ALF.

LAUNCH DATE MAR 10 1971 FLIGHT TIME 272.00 ARRIVAL DATE DEC 7 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, INC, APO, V1, V2, LVI, SGT, SGR, SGC, RRT, RRF, R13, R23, R33, LSA, MSA, SSA, EL1, EL2, ALF.

LAUNCH DATE MAR 10 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 9 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-1 TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, INC, APO, V1, V2, LVI, SGT, SGR, SGC, RRT, RRF, R13, R23, R33, LSA, MSA, SSA, EL1, EL2, ALF.

LAUNCH DATE MAR 10 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 32.278 GAL -7.26 AZL 89.27 HCA 224.43 SMA 178.18 ECC .20780 INC .7348 V1 29.994
 RP 215.21 LAP -.51 LOP 33.20 VP 22.103 GAP .08 AZP 90.52 TAL 319.27 TAP 179.70 RCA 141.16 APO 215.21 V2 25.518
 RC 152.438 GL 4.72 GP -12.98 ZAL 155.49 ZAP 81.57 ETS 171.47 ZAE 103.35 ETE 182.89 ZAC 89.62 ETC 267.20 LVI 9.59

PLANETOCENTRIC CONIC

C3 24.834 VHL 4.985 DLA -8.84 RAL 325.39 RAD 6644.9 VEL 12.034 PTH 7.02 VHP 3.953 DPA -37.66 RAP 274.43 ECC 1.4090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 56 3010.20 -31.33 91.27 187.36 127.84 19 13 7 2010.2 -14.47 72.36
 60.00 19 12 4 2879.53 -26.20 83.56 191.42 121.79 20 0 4 1879.5 -11.56 63.31
 70.00 20 15 1 2694.46 -21.57 71.42 194.28 117.14 20 59 56 1694.5 -8.85 50.30
 80.00 21 33 8 2449.90 -18.18 54.58 196.01 114.10 22 13 50 1449.9 -6.83 32.97
 90.00 22 58 54 2173.23 -16.91 34.83 196.59 113.01 23 35 7 1173.2 -6.06 13.05
 100.00 0 19 58 1924.37 -18.18 15.95 196.01 114.10 0 52 1 924.4 -6.83 354.34
 110.00 1 18 23 1741.28 -21.57 .34 194.28 117.14 1 47 23 741.3 -8.85 339.22

DIFFERENTIAL CORRECTIONS

TDE 1.8611 TRA 5.0063 TC3-2.8118 BAU .9406
 RDE .8093 RRA 1.0364 RC3 -.3267 FAU .11753
 FDE 4.4914 FRA13.0028 FC3-4.0940 BSP 11674
 BDE 2.0294 BRA 5.1125 BC3 2.8308 FSP 2658

MID-COURSE EXECUTION ACCURACY

SGT 6807.3 SGR 1557.0 SG3 1425.0
 RRT .9361 RRF .9486 RTF .9846
 SGB 6983.1 R23 .0603 R13 .9857
 SG1 6982.5 SG2 535.5 THA 12.16

ORBIT DETERMINATION ACCURACY

ST 138.1 SR 49.9 SS 117.4
 CRT .9509 CR8 -.9393 CST -.9993
 LSA 187.3 MSA 15.9 SSA 1.2
 EL1 146.2 EL2 14.6 ALF 19.16

LAUNCH DATE MAR 10 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 32.284 GAL -7.35 AZL 89.33 HCA 225.80 SMA 178.27 ECC .20908 INC .6689 V1 29.994
 RP 215.54 LAP -.48 LOP 34.37 VP 22.088 GAP -.13 AZP 90.47 TAL 314.89 TAP 180.49 RCA 141.00 APO 215.54 V2 25.480
 RC 154.904 GL 4.26 GP -12.56 ZAL 155.82 ZAP 80.19 ETS 171.31 ZAE 101.96 ETE 182.29 ZAC 90.04 ETC 267.15 LVI 9.28

PLANETOCENTRIC CONIC

C3 25.305 VHL 5.030 DLA -9.19 RAL 325.78 RAD 6645.1 VEL 12.033 PTH 7.04 VHP 3.995 DPA -37.24 RAP 274.18 ECC 1.4165
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 25 51 3007.53 -31.22 91.12 187.92 127.92 19 15 59 2007.5 -14.33 72.24
 60.00 19 15 23 2875.80 -26.07 83.34 192.01 121.89 20 3 19 1875.8 -11.40 63.12
 70.00 20 18 47 2689.39 -21.41 71.11 194.89 117.27 21 3 36 1689.4 -8.60 50.03
 80.00 21 37 20 2443.50 -18.01 54.19 196.64 114.23 22 18 4 1443.5 -6.62 32.62
 90.00 23 3 17 2166.21 -16.72 34.40 197.23 113.14 23 39 23 1166.2 -5.84 12.66
 100.00 0 24 8 1917.97 -18.01 15.56 196.64 114.23 0 56 6 918.0 -6.62 353.98
 110.00 1 22 9 1736.21 -21.41 .03 194.89 117.27 1 51 6 736.2 -8.65 338.95

DIFFERENTIAL CORRECTIONS

TDE 1.9297 TRA 5.1998 TC3-2.8385 BAU .9658
 RDE .8066 RRA .9844 RC3 -.3032 FAU .11351
 FDE 4.4377 FRA12.7793 FC3-3.8834 BSP 12015
 BDE 2.0915 BRA 5.2922 BC3 2.8547 FSP 2606

MID-COURSE EXECUTION ACCURACY

SGT 6998.6 SGR 1492.4 SG3 1388.4
 RRT .9292 RRF .9417 RTF .9846
 SGB 7155.9 R23 .0577 R13 .9856
 SG1 7135.4 SG2 541.0 THA 11.27

ORBIT DETERMINATION ACCURACY

ST 142.1 SR 49.0 SS 115.9
 CRT .9435 CR8 -.9346 CST -.9994
 LSA 189.1 MSA 16.3 SSA 1.2
 EL1 149.5 EL2 15.2 ALF 18.25

LAUNCH DATE MAR 10 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 148.55 LAL -.00 LOL 168.77 VL 32.290 GAL -7.45 AZL 89.39 HCA 226.76 SMA 178.36 ECC .21041 INC .8059 V1 29.994
 RP 215.87 LAP -.44 LOP 35.53 VP 22.033 GAP -.34 AZP 90.42 TAL 314.50 TAP 181.26 RCA 140.83 APO 215.89 V2 25.443
 RC 157.385 GL 3.82 GP -12.15 ZAL 156.14 ZAP 58.85 ETS 171.16 ZAE 100.60 ETE 181.93 ZAC 90.44 ETC 267.12 LVI 8.98

PLANETOCENTRIC CONIC

C3 25.781 VHL 5.078 DLA -9.52 RAL 326.18 RAD 6645.3 VEL 12.073 PTH 7.05 VHP 4.039 DPA -36.84 RAP 273.99 ECC 1.4243
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 28 40 3005.52 -31.13 91.00 188.50 127.99 19 18 45 2005.5 -14.24 72.15
 60.00 19 18 34 2872.80 -25.96 83.16 192.61 121.98 20 6 27 1872.8 -11.27 62.97
 70.00 20 22 23 2685.14 -21.28 70.85 195.52 117.37 21 7 9 1685.1 -8.51 49.80
 80.00 21 41 21 2437.99 -17.85 53.86 197.28 114.34 22 21 59 1438.0 -6.43 32.31
 90.00 23 7 28 2160.12 -16.56 34.02 197.88 113.26 23 43 28 1160.1 -5.64 12.31
 100.00 0 28 8 1912.46 -17.85 15.22 197.28 114.34 1 0 1 912.5 -6.43 353.68
 110.00 1 25 46 1731.96 -21.28 359.77 195.52 117.37 1 54 38 732.0 -8.51 336.72

DIFFERENTIAL CORRECTIONS

TDE 1.9948 TRA 5.3883 TC3-2.8682 BAU .9934
 RDE .8030 RRA .9330 RC3 -.2842 FAU .11047
 FDE 4.3626 FRA12.5314 FC3-3.7097 BSP 12297
 BDE 2.1503 BRA 5.4685 BC3 2.8823 FSP 2531

MID-COURSE EXECUTION ACCURACY

SGT 7180.5 SGR 1429.6 SG3 1349.6
 RRT .9217 RRF .9338 RTF .5447
 SGB 7321.4 R23 .0540 R13 .9856
 SG1 7301.1 SG2 545.4 THA 10.46

ORBIT DETERMINATION ACCURACY

ST 145.7 SR 48.1 SS 114.1
 CRT .9398 CR8 -.9292 CST -.9995
 LSA 190.5 MSA 16.7 SSA 1.2
 EL1 152.6 EL2 15.7 ALF 17.41

LAUNCH DATE MAR 11 1971 FLIGHT TIME 162.00 ARRIVAL DATE AUG 20 1971

Table with columns for Heliocentric Conic, Planeto-centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAR 11 1971 FLIGHT TIME 164.00 ARRIVAL DATE AUG 22 1971

Table with columns for Heliocentric Conic, Planeto-centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAR 11 1971 FLIGHT TIME 166.00 ARRIVAL DATE AUG 24 1971

Table with columns for Heliocentric Conic, Planeto-centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAR 11 1971 FLIGHT TIME 168.00 ARRIVAL DATE AUG 26 1971

Table with columns for Heliocentric Conic, Planeto-centric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1.

LAUNCH DATE MAR 11 1971 FLIGHT TIME 170.00 ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 148.59 LAL -.00 LOL 169.77 VL 35.081 GAL -7.31 AZL 94.96 HCA 156.35 SMA 191.80 ECC .25711 INC 4.9600 V1 29.986
 RP 206.82 LAP -1.83 LOP 328.19 VP 24.320 GAP 14.22 AZP 85.39 TAL 323.04 TAP 121.39 RCA 142.49 APO 241.11 V2 26.479
 RC 58.807 GL -27.74 GP 14.39 ZAL 139.97 ZAP 151.07 ETS 151.80 ZAE 158.52 ETE 118.01 ZAC 118.05 ETC 274.78 LVI -26.73

Planetocentric Conic: C3 37.162 VHL 6.098 DLA -40.91 RAL 333.21 RAD 6649.7 VEL 12.532 PTH 7.41 VHP 7.157 DPA -7.20 RAP 302.34 ECC 1.6116
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 46 35 2368.89 -.83 60.91 206.35 137.57 22 26 4 1368.9 17.39 44.78
 59.11 0 56 6 1871.43 16.89 32.80 222.68 127.84 1 27 18 871.4 30.76 11.20
 59.11 0 56 6 1871.43 16.89 32.80 222.68 127.84 1 27 18 871.4 30.76 11.20
 59.11 0 56 6 1871.43 16.89 32.80 222.68 127.84 1 27 18 871.4 30.76 11.20
 59.11 0 56 6 1871.43 16.89 32.80 222.68 127.84 1 27 18 871.4 30.76 11.20
 59.11 0 56 6 1871.43 16.89 32.80 222.68 127.84 1 27 18 871.4 30.76 11.20

Differential Corrections: TDE-1.3710 TRA-1.8752 TC3 -.0655 BAU .1654 SGT 2665.8 SGR 1097.8 SG3 441.8 ORBIT DETERMINATION ACCURACY
 RDE -.5666 RRA -.7025 RC3 .3263 FAU .05845 RRT .9199 RRF -.9735 RTF -.9170 CRT .9990 CRS .9545 CST .9653
 FDE 1.5477 FRA 3.7082 FC3-1.3617 BSP 4996 SGB 2863.0 R23 -.2811 R13 -.9337 LSA 99.7 MSA 13.2 SSA .7
 BDE 1.4835 BRA 2.0025 BC3 .3328 FSP 688 SGI 2854.8 SGI 402.0 THA 21.19 EL1 79.1 EL2 1.3 ALF 22.03

LAUNCH DATE MAR 11 1971 FLIGHT TIME 172.00 ARRIVAL DATE AUG 30 1971

Heliocentric Conic: RL 148.59 LAL -.00 LOL 169.77 VL 33.022 GAL -7.19 AZL 95.23 HCA 159.62 SMA 190.73 ECC .25241 INC 5.2347 V1 29.986
 RP 206.77 LAP -1.82 LOP 329.46 VP 24.246 GAP 13.82 AZP 85.09 TAL 323.08 TAP 122.70 RCA 142.59 APO 238.87 V2 26.485
 RC 59.485 GL -29.43 GP 15.59 ZAL 139.02 ZAP 149.49 ETS 151.20 ZAE 157.71 ETE 115.86 ZAC 117.24 ETC 274.85 LVI -27.87

Planetocentric Conic: C3 37.018 VHL 6.084 DLA -42.39 RAL 334.34 RAD 6649.6 VEL 12.526 PTH 7.41 VHP 7.000 DPA -6.01 RAP 302.16 ECC 1.6092
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 7 39 2317.36 1.76 58.76 209.26 137.55 22 46 16 1317.4 19.85 42.36
 57.00 0 51 35 1895.20 17.45 35.33 224.18 129.27 1 23 10 895.2 31.80 13.94
 57.00 0 51 35 1895.20 17.45 35.33 224.18 129.27 1 23 10 895.2 31.80 13.94
 57.00 0 51 35 1895.20 17.45 35.33 224.18 129.27 1 23 10 895.2 31.80 13.94
 57.00 0 51 35 1895.20 17.45 35.33 224.18 129.27 1 23 10 895.2 31.80 13.94
 57.00 0 51 35 1895.20 17.45 35.33 224.18 129.27 1 23 10 895.2 31.80 13.94

Differential Corrections: TDE-1.4169 TRA-1.8180 TC3 -.0652 BAU .1770 SGT 2675.8 SGR 1213.0 SG3 462.8 ORBIT DETERMINATION ACCURACY
 RDE -.6020 RRA -.7712 RC3 .3516 FAU .06003 RRT .9249 RRF -.9801 RTF -.9175 CRT .9990 CRS .9649 CST .9648
 FDE 1.6661 FRA 3.7871 FC3-1.4038 BSP 5149 SGB 2938.0 R23 -.2877 R13 -.9374 LSA 103.3 MSA 13.4 SSA .6
 BDE 1.5395 BRA 1.9748 BC3 .3576 FSP 727 SGI 2907.1 SGI 424.6 THA 23.27 EL1 81.7 EL2 .6 ALF 23.01

LAUNCH DATE MAR 11 1971 FLIGHT TIME 174.00 ARRIVAL DATE SEP 1 1971

Heliocentric Conic: RL 148.59 LAL -.00 LOL 169.77 VL 32.967 GAL -7.08 AZL 95.54 HCA 160.88 SMA 189.73 ECC .24796 INC 5.5441 V1 29.986
 RP 206.74 LAP -1.81 LOP 330.73 VP 24.175 GAP 13.42 AZP 84.76 TAL 323.12 TAP 124.00 RCA 142.69 APO 236.78 V2 26.489
 RC 60.233 GL -31.26 GP 16.94 ZAL 137.94 ZAP 147.80 ETS 150.53 ZAE 156.70 ETE 113.93 ZAC 118.59 ETC 274.93 LVI -29.13

Planetocentric Conic: C3 37.094 VHL 6.090 DLA -43.98 RAL 335.62 RAD 6649.6 VEL 12.529 PTH 7.41 VHP 6.856 DPA -4.69 RAP 301.90 ECC 1.6105
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 34 7 2256.00 4.84 56.18 213.07 137.39 23 11 43 1236.0 22.73 39.36
 54.79 0 47 47 1919.66 17.97 37.97 225.97 130.85 1 19 47 919.7 32.86 16.85
 54.79 0 47 47 1919.66 17.97 37.97 225.97 130.85 1 19 47 919.7 32.86 16.85
 54.79 0 47 47 1919.66 17.97 37.97 225.97 130.85 1 19 47 919.7 32.86 16.85
 54.79 0 47 47 1919.66 17.97 37.97 225.97 130.85 1 19 47 919.7 32.86 16.85
 54.79 0 47 47 1919.66 17.97 37.97 225.97 130.85 1 19 47 919.7 32.86 16.85

Differential Corrections: TDE-1.4638 TRA-1.7485 TC3 -.0578 BAU .1905 SGT 2669.7 SGR 1344.2 SG3 482.8 ORBIT DETERMINATION ACCURACY
 RDE -.6484 RRA -.8451 RC3 .3798 FAU .06175 RRT .9288 RRF -.9851 RTF -.5.84 CRT .9991 CRS .9735 CST .9645
 FDE 1.7979 FRA 3.8460 FC3-1.4413 BSP 5225 SGB 2989.0 R23 -.2885 R13 -.9420 LSA 107.0 MSA 13.7 SSA .6
 BDE 1.6010 BRA 1.9420 BC3 .3642 FSP 761 SGI 2955.0 SGI 450.0 THA 25.70 EL1 84.4 EL2 1.3 ALF 24.26

LAUNCH DATE MAR 11 1971 FLIGHT TIME 176.00 ARRIVAL DATE SEP 3 1971

Heliocentric Conic: RL 148.59 LAL -.00 LOL 169.77 VL 32.914 GAL -6.97 AZL 95.90 HCA 162.14 SMA 188.80 ECC .24375 INC 5.8957 V1 29.986
 RP 206.71 LAP -1.80 LOP 332.00 VP 24.107 GAP 13.04 AZP 84.39 TAL 323.17 TAP 123.31 RCA 142.78 APO 234.82 V2 26.492
 RC 61.050 GL -33.27 GP 18.47 ZAL 136.72 ZAP 145.98 ETS 149.80 ZAE 155.47 ETE 112.25 ZAC 120.11 ETC 275.00 LVI -30.53

Planetocentric Conic: C3 37.431 VHL 6.118 DLA -45.70 RAL 337.11 RAD 6649.8 VEL 12.543 PTH 7.42 VHP 6.729 DPA -3.20 RAP 301.56 ECC 1.6160
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 10 18 2175.41 8.87 52.76 218.38 136.94 23 46 33 1175.4 26.41 35.22
 52.47 0 44 55 1944.93 18.43 40.72 228.11 132.59 1 17 20 944.9 33.91 19.96
 52.47 0 44 55 1944.93 18.43 40.72 228.11 132.59 1 17 20 944.9 33.91 19.96
 52.47 0 44 55 1944.93 18.43 40.72 228.11 132.59 1 17 20 944.9 33.91 19.96
 52.47 0 44 55 1944.93 18.43 40.72 228.11 132.59 1 17 20 944.9 33.91 19.96
 52.47 0 44 55 1944.93 18.43 40.72 228.11 132.59 1 17 20 944.9 33.91 19.96

Differential Corrections: TDE-1.5227 TRA-1.6737 TC3 -.0522 BAU .2064 SGT 2659.8 SGR 1495.6 SG3 501.5 ORBIT DETERMINATION ACCURACY
 RDE -.7115 RRA -.9261 RC3 .4092 FAU .06332 RRT .9314 RRF -.9889 RTF -.9188 CRT .9974 CRS .9806 CST .9646
 FDE 1.9537 FRA 3.8848 FC3-1.4646 BSP 5333 SGB 3051.5 R23 -.2855 R13 -.9468 LSA 111.2 MSA 14.0 SSA .5
 BDE 1.6808 BRA 1.9129 BC3 .4125 FSP 795 SGI 3013.4 SGI 480.4 THA 28.43 EL1 87.6 EL2 2.5 ALF 25.80

LAUNCH DATE MAR 11 1971 FLIGHT TIME 178.00 ARRIVAL DATE SEP 5 1971

Heliocentric Conic DISTANCE 484.909 EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.865 GAL -6.87 AZL 96.30 HCA 163.41 SMA 187.93 ECC .23976 INC 6.2091 V1 29.986
 RP 206.69 LAP -1.00 LOP 333.27 VP 24.042 GAP 12.66 AZP 83.96 TAL 323.21 TAP 126.62 RCA 142.87 APO 232.99 V2 26.495
 RC 61.935 GL -38.46 GP 20.20 ZAL 138.34 ZAP 144.01 ETS 149.01 ZAE 154.00 ETE 110.83 ZAC 121.84 ETC 275.07 LVI -32.00

PLANETOCENTRIC CONIC

C3 38.087 VHL 6.171 DLA -47.88 RAL 338.85 RAD 6850.0 VEL 12.569 PTH 7.44 VHP 6.621 DPA -1.52 RAP 301.13 ECC 1.6268
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 0 33 24 1995.60 17.68 44.78 229.49 134.92 1 6 40 995.6 34.03 24.86
 50.03 0 43 8 1971.42 18.82 43.62 230.67 134.52 1 15 59 971.4 34.94 23.31
 50.03 0 43 8 1971.42 18.82 43.62 230.67 134.52 1 15 59 971.4 34.94 23.31
 50.03 0 43 8 1971.42 18.82 43.62 230.67 134.52 1 15 59 971.4 34.94 23.31
 50.03 0 43 8 1971.42 18.82 43.62 230.67 134.52 1 15 59 971.4 34.94 23.31
 50.03 0 43 8 1971.42 18.82 43.62 230.67 134.52 1 15 59 971.4 34.94 23.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -1.5908 TRA -1.5970 TC3 -.0430 BAU .2255 SGT 2636.2 SGR 1668.7 SG3 517.6 ST 80.8 SR 42.5 SS 73.0
 RDE -.7961 RRA -1.0132 RC3 .4408 FAU .06487 RRT .9332 RRF -.9918 RTF -.9191 CRT .9951 CRS .9862 CST .9652
 FDE 2.1343 FRA 3.8910 FC3 -1.4745 B8P 5416 SGB 3120.0 R23 -.2775 R13 -.9523 LSA 116.0 MSA 14.3 SSA .5
 BDE 1.7789 BRA 1.8829 BC3 .4429 F8P 823 SG1 3077.4 SG2 513.8 THA 31.55 EL1 91.2 EL2 3.7 ALF 27.66

LAUNCH DATE MAR 11 1971 FLIGHT TIME 180.00 ARRIVAL DATE SEP 7 1971

Heliocentric Conic DISTANCE 468.745 EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.818 GAL -6.77 AZL 96.77 HCA 164.67 SMA 187.12 ECC .23600 INC 6.7669 V1 29.986
 RP 206.68 LAP -1.79 LOP 334.54 VP 23.979 GAP 12.28 AZP 85.47 TAL 323.26 TAP 127.93 RCA 142.96 APO 231.28 V2 26.496
 RC 62.879 GL -37.66 GP 22.17 ZAL 133.78 ZAP 141.86 ETS 148.17 ZAE 152.26 ETE 109.64 ZAC 123.61 ETC 275.15 LVI -33.64

PLANETOCENTRIC CONIC

C3 39.146 VHL 6.257 DLA -49.54 RAL 340.93 RAD 6650.4 VEL 12.610 PTH 7.47 VHP 6.537 DPA .38 RAP 300.58 ECC 1.6442
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.46 0 42 46 1999.44 19.08 46.68 233.76 136.64 1 16 6 999.4 35.92 26.93
 47.46 0 42 46 1999.44 19.08 46.68 233.76 136.64 1 16 6 999.4 35.92 26.93
 47.46 0 42 46 1999.44 19.08 46.68 233.76 136.64 1 16 6 999.4 35.92 26.93
 47.46 0 42 46 1999.44 19.08 46.68 233.76 136.64 1 16 6 999.4 35.92 26.93
 47.46 0 42 46 1999.44 19.08 46.68 233.76 136.64 1 16 6 999.4 35.92 26.93
 47.46 0 42 46 1999.44 19.08 46.68 233.76 136.64 1 16 6 999.4 35.92 26.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -1.6689 TRA -1.4839 TC3 -.0270 BAU .2469 SGT 2592.8 SGR 1866.1 SG3 529.6 ST 82.6 SR 47.8 SS 76.2
 RDE -.9105 RRA -1.1055 RC3 .4749 FAU .06635 RRT .9345 RRF -.9939 RTF -.9194 CRT .9924 CRS .9905 CST .9663
 FDE 2.3458 FRA 3.8540 FC3 -1.4673 B8P 5441 SGB 3194.6 R23 -.2638 R13 -.9586 LSA 121.3 MSA 14.5 SSA .4
 BDE 1.9011 BRA 1.8505 BC3 .4757 F8P 842 SG1 3147.3 SG2 547.3 THA 35.14 EL1 95.3 EL2 5.1 ALF 29.97

LAUNCH DATE MAR 11 1971 FLIGHT TIME 220.00 ARRIVAL DATE OCT 17 1971

Heliocentric Conic DISTANCE 549.836 EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.308 GAL -5.91 AZL 81.98 HCA 190.14 SMA 178.74 ECC .19688 INC 8.0199 V1 29.986
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.060 GAP 6.25 AZP 97.90 TAL 322.54 TAP 152.68 RCA 143.55 APO 213.93 V2 26.313
 RC 92.259 GL 46.80 GP -42.32 ZAL 120.01 ZAP 107.08 ETS 195.11 ZAE 132.35 ETE 230.62 ZAC 60.10 ETC 272.05 LVI 29.29

PLANETOCENTRIC CONIC

C3 37.830 VHL 6.151 DLA 30.54 RAL 309.94 RAD 6649.9 VEL 12.558 PTH 7.43 VHP 5.385 DPA -84.38 RAP 309.41 ECC 1.6228
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 34 37 3930.91 -44.76 168.62 212.30 71.83 15 40 8 2930.9 -47.04 133.78
 60.00 14 28 30 3947.21 -35.64 165.93 208.15 69.78 15 34 18 2947.2 -40.30 135.85
 70.00 14 15 33 3985.46 -25.95 164.52 203.68 66.97 15 21 59 2985.5 -33.04 138.16
 77.95 13 10 39 4189.58 -12.90 173.40 197.11 62.07 14 20 29 3189.6 -23.28 150.67
 77.95 13 10 39 4189.58 -12.90 173.40 197.11 62.07 14 20 29 3189.6 -23.28 150.67
 77.95 13 10 39 4189.58 -12.90 173.40 197.11 62.07 14 20 29 3189.6 -23.28 150.67
 110.00 19 15 0 3032.28 -25.95 93.47 203.68 66.97 20 5 32 2032.3 -33.04 67.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .5354 TRA -.3663 TC3 -.4607 BAU .5583 SGT 852.8 SGR 5081.7 SG3 759.1 ST 25.7 SR 128.1 SS 100.5
 RDE 2.3982 RRA 4.0588 RC3 -1.0031 FAU .06908 RRT .0129 RRF -.9990 RTF .0339 CRT .7151 CRS -.9999 CST -.7092
 FDE 3.9424 FRA 7.0054 FC3 -2.0386 B8P 8654 SGB 5133.0 R23 -.0202 R13 .9990 LSA 163.8 MSA 17.9 SSA .3
 BDE 2.4182 BRA 4.0753 BC3 1.1038 F8P 1295 SG1 9061.7 SG2 892.5 THA 89.87 EL1 129.4 EL2 17.7 ALF 61.69

LAUNCH DATE MAR 11 1971 FLIGHT TIME 222.00 ARRIVAL DATE OCT 19 1971

Heliocentric Conic DISTANCE 553.970 EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.297 GAL -5.91 AZL 82.98 HCA 191.37 SMA 178.58 ECC .19620 INC 7.0183 V1 29.986
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.032 GAP 6.00 AZP 96.80 TAL 322.45 TAP 153.83 RCA 143.55 APO 213.62 V2 26.294
 RC 94.128 GL 42.82 GP -39.84 ZAL 130.94 ZAP 106.48 ETS 193.19 ZAE 133.53 ETE 227.91 ZAC 62.59 ETC 271.89 LVI 27.19

PLANETOCENTRIC CONIC

C3 33.347 VHL 9.775 DLA 26.64 RAL 310.99 RAD 6648.3 VEL 12.360 PTH 7.30 VHP 5.048 DPA -62.14 RAP 306.93 ECC 1.5488
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 0 9 3809.34 -46.78 157.61 207.18 80.09 16 3 38 2809.3 -45.25 122.61
 60.00 15 3 56 3799.25 -38.52 154.44 204.92 77.10 16 7 15 2799.3 -39.66 123.34
 70.00 15 10 39 3779.50 -30.65 150.39 202.47 74.13 16 13 37 2779.5 -34.15 122.23
 80.00 15 26 10 3730.69 -23.75 144.29 200.06 71.35 16 20 21 2730.7 -29.25 118.23
 90.00 16 16 6 3589.37 -20.30 131.14 198.75 69.88 17 15 35 2569.4 -26.80 106.00
 100.00 16 9 2 3205.17 -23.75 105.66 200.06 71.35 19 2 27 2205.2 -29.25 79.60
 110.00 20 10 4 2826.32 -30.65 79.31 202.47 74.13 20 57 10 1826.3 -34.15 51.14

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .5297 TRA -.2173 TC3 -.5631 BAU .5276 SGT 870.3 SGR 4880.1 SG3 882.1 ST 26.5 SR 121.9 SS 106.9
 RDE 2.0938 RRA 3.8280 RC3 -1.0408 FAU .09748 RRT .1998 RRF .9990 RTF .2167 CRT .7730 CRS -.9997 CST -.7581
 FDE 4.1521 FRA 7.9933 FC3 -2.5307 B8P 8364 SGB 4957.1 R23 -.0111 R13 .9990 LSA 163.4 MSA 17.0 SSA .3
 BDE 2.1597 BRA 3.8342 BC3 1.1834 F8P 1510 SG1 4883.3 SG2 852.2 THA 87.90 EL1 123.6 EL2 16.6 ALF 80.27

LAUNCH DATE MAR 11 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

DISTANCE 550.112

EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.288 GAL -5.91 AZL 83.79 MCA 192.61 SMA 178.44 ECC .149563 INC 6.2121 V1 29.986
RP 208.58 LAP -1.35 LOP 2.31 VP 22.996 GAP 3.75 AZP 96.06 TAL 322.35 TAP 154.98 RCA 143.53 APO 213.34 VE 26.274
RC 96.027 GL 39.25 GP -37.62 ZAL 133.52 ZAP 105.59 ETS 191.32 ZAE 134.30 ETE 224.83 ZAC 64.84 ETC 271.70 LVI 25.36

PLANETOCENTRIC CONIC

C3 30.174 VHL 5.493 DLA 23.15 RAL 311.96 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 4.779 DPA -60.15 RAP 304.65 ECC 1.4966
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 21 7 3707.50 -47.53 147.89 202.29 87.84 16 22 54 2707.5 -42.90 113.95
60.00 15 31 41 3679.34 -39.89 144.55 201.48 83.68 16 33 0 2679.3 -38.09 113.55
70.00 15 48 51 3628.76 -32.92 139.24 200.27 80.35 16 49 20 2628.8 -33.51 110.52
80.00 16 20 56 3528.12 -27.44 130.40 199.04 77.75 17 19 44 2528.1 -29.82 103.22
90.00 17 24 28 3322.96 -25.17 114.75 198.47 76.66 18 19 51 2323.0 -28.27 88.17
100.00 19 3 48 3002.60 -27.44 91.76 199.04 77.75 19 53 50 2002.6 -29.82 64.59
110.00 20 48 17 2675.58 -32.92 68.16 200.27 80.35 21 32 53 1675.6 -33.51 39.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5391 TRA -.0543 TC3 -.6690 BAU .5066 SGT 927.5 SGR 4705.6 SG3 997.6 ST 28.2 SR 116.3 SS 112.2
RDE 1.8894 RRA 3.6235 RC3-1.0627 FAU .10503 RRT .3925 RRF .9989 RTF .4061 CRT .8297 CRS -.9995 CBT -.8114
FDE 4.3258 FRA 8.9027 FC3-3.0135 BSP 8103 SGB 4796.2 R23 -.0008 R13 .9990 LSA 163.2 MSA 16.1 SSA .4
BDE 1.9648 BRA 3.6239 BC3 1.2557 FSP 1718 SGI 4720.2 SG2 850.4 THA 85.43 EL1 118.6 EL2 15.4 ALF 78.44

LAUNCH DATE MAR 11 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

DISTANCE 562.262

EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.280 GAL -5.91 AZL 84.45 HCA 193.85 SMA 178.31 ECC .19515 INC 5.5488 V1 29.986
RP 208.76 LAP -1.33 LOP 3.55 VP 22.960 GAP 5.50 AZP 95.39 TAL 322.23 TAP 156.08 RCA 143.51 APO 213.10 VE 26.254
RC 97.955 GL 36.03 GP -35.61 ZAL 135.80 ZAP 104.45 ETS 189.54 ZAE 134.70 ETE 221.67 ZAC 66.87 ETC 271.50 LVI 23.76

PLANETOCENTRIC CONIC

C3 27.862 VHL 5.278 DLA 20.03 RAL 312.86 RAD 6646.2 VEL 12.152 PTH 7.12 VHP 4.565 DPA -58.36 RAP 302.54 ECC 1.4585
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 38 50 3620.93 -47.45 139.53 198.01 93.98 16 39 11 2620.9 -40.38 107.18
60.00 15 54 29 3579.21 -40.30 136.07 198.30 89.42 16 54 9 2579.2 -36.12 105.78
70.00 16 18 38 3508.13 -33.92 129.98 197.96 85.74 17 17 6 2508.1 -32.13 101.39
80.00 16 59 19 3380.58 -29.12 119.76 197.41 83.10 17 55 39 2380.6 -29.04 92.34
90.00 18 7 51 3159.32 -27.23 103.23 197.14 82.07 19 0 31 2159.3 -27.81 76.23
100.00 19 42 11 2855.05 -29.12 81.13 197.41 83.10 20 29 46 1855.1 -29.04 53.71
110.00 21 18 4 2554.95 -33.92 58.90 197.96 85.74 22 0 39 1555.0 -32.13 30.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5581 TRA .1179 TC3 -.7775 BAU .4940 SGT 1029.2 SGR 4535.9 SG3 1104.5 ST 30.4 SR 111.0 SS 116.5
RDE 1.7261 RRA 3.4381 RC3-1.0743 FAU .11208 RRT .3585 RRF .9987 RTF .5691 CRT .8778 CRS -.9991 CBT -.8575
FDE 4.4679 FRA 9.7308 FC3-3.4627 BSP 7840 SGB 4651.2 R23 .0106 R13 .9988 LSA 163.1 MSA 15.3 SSA .4
BDE 1.8141 BRA 3.4401 BC3 1.3261 FSP 1907 SGI 4573.5 SG2 846.7 THA 82.52 EL1 114.2 EL2 14.1 ALF 76.28

LAUNCH DATE MAR 11 1971

FLIGHT TIME 228.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

DISTANCE 566.418

EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.272 GAL -5.92 AZL 85.01 HCA 195.08 SMA 178.19 ECC .19477 INC 4.9933 V1 29.986
RP 208.94 LAP -1.30 LOP 4.80 VP 22.925 GAP 5.26 AZP 94.82 TAL 322.10 TAP 157.18 RCA 143.49 APO 212.90 VE 26.232
RC 99.910 GL 33.12 GP -33.79 ZAL 137.81 ZAP 103.11 ETS 187.87 ZAE 134.76 ETE 218.53 ZAC 68.72 ETC 271.28 LVI 22.36

PLANETOCENTRIC CONIC

C3 26.142 VHL 5.113 DLA 17.23 RAL 313.69 RAD 6645.5 VEL 12.087 PTH 7.07 VHP 4.391 DPA -56.74 RAP 300.55 ECC 1.4302
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 54 7 3548.52 -46.86 132.44 194.44 99.41 16 53 13 2546.5 -37.88 101.80
60.00 16 13 49 3494.07 -40.11 126.84 195.56 94.32 17 12 3 2494.1 -34.02 99.53
70.00 16 43 6 3407.83 -34.15 122.16 195.86 90.36 17 39 54 2407.8 -30.44 94.06
80.00 17 29 28 3262.53 -29.77 111.05 195.77 87.63 18 23 51 2262.5 -27.72 83.82
90.00 18 40 58 3031.87 -28.09 94.01 195.88 86.61 19 31 28 2031.9 -26.67 67.08
100.00 20 12 20 2737.00 -29.77 72.42 195.77 87.63 20 57 57 1737.0 -27.72 45.18
110.00 21 42 33 2454.85 -34.15 51.08 195.86 90.36 22 23 27 1454.6 -30.44 22.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .5842 TRA .2972 TC3 -.8884 BAU .4872 SGT 1172.8 SGR 4371.8 SG3 1202.8 ST 33.2 SR 106.3 SS 120.1
RDE 1.5944 RRA 3.2695 RC3-1.0742 FAU .11840 RRT .6836 RRF .9985 RTF .5119 CRT .9154 CRS -.9982 CBT -.8941
FDE 4.5884 FRA 10.4841 FC3-3.9209 BSP 7612 SGB 4526.3 R23 .0232 R13 .9983 LSA 163.1 MSA 14.5 SSA .5
BDE 1.6980 BRA 3.2829 BC3 1.3940 FSP 2085 SGI 4447.5 SG2 841.4 THA 79.22 EL1 110.6 EL2 12.8 ALF 73.83

LAUNCH DATE MAR 11 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 570.580

EARTH TO MARS

RL 148.59 LAL -.00 LOL 169.77 VL 32.266 GAL -5.93 AZL 85.48 HCA 196.32 SMA 178.09 ECC .19448 INC 4.5211 V1 29.986
RP 209.14 LAP -1.27 LOP 6.04 VP 22.890 GAP 5.02 AZP 94.34 TAL 321.96 TAP 156.28 RCA 143.45 APO 212.72 V2 26.209
RC 101.892 GL 30.50 GP -32.13 ZAL 139.58 ZAP 101.62 ETS 186.32 ZAE 134.53 ETE 215.46 ZAC 70.41 ETC 271.05 LVI 21.12

PLANETOCENTRIC CONIC

C3 24.843 VHL 4.984 DLA 14.71 RAL 314.47 RAD 6644.9 VEL 12.034 PTH 7.02 VHP 4.248 DPA -55.28 RAP 298.67 ECC 1.4088
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 7 31 3482.02 -45.97 126.47 191.56 103.93 17 5 33 2482.0 -35.51 97.46
60.00 16 30 32 3420.72 -39.55 122.68 193.29 98.46 17 27 33 2420.7 -31.95 94.42
70.00 17 3 53 3322.55 -33.92 115.51 194.07 94.28 17 59 16 2322.5 -28.66 88.07
80.00 17 54 26 3184.18 -29.83 103.75 194.31 91.47 18 47 10 2184.2 -26.19 76.91
90.00 19 7 53 2927.00 -28.28 86.35 194.34 90.44 19 56 42 1927.0 -25.25 59.75
100.00 20 37 18 2638.65 -29.83 65.12 194.31 91.47 21 21 17 1638.6 -26.19 38.28
110.00 22 3 20 2369.37 -33.92 44.43 194.07 94.28 22 42 49 1369.4 -28.66 16.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .6157 TRA .4821 TC3-1.0000 BAU .4850 SGT 1350.2 SGR 4213.9 SG3 1292.7 ST 36.4 SR 102.0 SS 123.1
RDE 1.4875 RRA 3.1152 RC3-1.0642 FAU .12394 RRT .7715 RRF .9983 RTF .7781 CRT .9432 CRS -.9982 CBT -.9220
FDE 4.6963 FRA 11.1684 FC3-4.3193 BSP 7427 SGB 4424.9 R23 .0367 R13 .9977 LSA 163.4 MSA 13.8 SSA .6
BDE 1.6099 BRA 3.1523 BC3 1.4603 FSP 2252 SGI 4345.8 SG2 833.0 THA 75.57 EL1 107.7 EL2 11.5 ALF 71.15

LAUNCH DATE MAR 11 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 29 1971

Heliocentric Conic: RL 148.59 LAL -0.00 LOL 169.77 VL 32.269 GAL -5.95 AZL 85.89 HCA 197.55 BMA 178.00 ECC .19428 INC 4.1141 VI 29.988
 RP 209.34 LAP -1.24 LOP 7.27 VP 22.885 GAP 4.79 AZP 93.92 TAL 321.80 TAP 159.38 RCA 143.42 APO 212.58 VE 26.188
 RC 103.900 GL 28.12 GP -30.61 ZAL 141.15 ZAP 100.00 ETS 184.88 ZAE 134.08 ETE 212.50 ZAC 71.93 ETC 270.82 LVI 20.04

PLANETOCENTRIC CONIC: C3 23.851 VHL 4.884 DLA 12.44 RAL 315.20 RAD 8644.5 VEL 11.993 PTH 6.99 VHP 4.129 DPA -53.94 RAP 296.87 ECC 1.3928
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 24 3425.68 -44.92 121.44 189.28 107.68 17 16 30 2425.7 -33.31 93.89
 60.00 16 45 14 3356.91 -38.78 117.43 191.46 101.95 17 41 11 2356.9 -29.86 90.18
 70.00 17 21 56 3246.95 -33.40 109.83 192.61 97.60 18 16 5 2249.0 -26.89 83.07
 80.00 18 18 46 3080.29 -29.52 97.53 193.10 94.72 19 7 6 2080.3 -24.60 71.19
 90.00 19 30 47 2836.17 -26.06 79.86 193.22 93.68 20 18 5 1838.2 -23.73 53.68
 100.00 20 58 37 2554.77 -29.52 58.90 193.10 94.72 21 41 12 1554.8 -24.60 32.56
 110.00 22 21 22 2295.77 -33.40 38.75 192.61 97.60 22 59 38 1295.8 -26.89 11.99

DIFFERENTIAL CORRECTIONS: TDE .6309 TRA .6708 TC3-1.1133 BAU .4877 RDE 1.3972 RRA 2.9710 RC3-1.0489 FAU .12907 PDE 4.7841 FRA11.7800 FC3-4.6851 B8P 7262 BDE 1.5413 BRA 3.0459 BC3 1.5296 F8P 2401
 MID-COURSE EXECUTION ACCURACY: SGT 1354.1 SGR 4059.1 SCS 1373.6 RRT .8311 RRF .9980 RTF .8366 SGB 4346.5 R23 .0508 R13 .9968 SGI 4268.0 SGT 822.1 THA 71.65
 ORBIT DETERMINATION ACCURACY: ST 40.1 SR 97.9 88 125.6 CRT .9630 CR8 -.9978 C8T -.9423 L8A 163.7 H8A 13.2 88A .6 EL1 105.3 EL2 10.0 ALP 68.20

LAUNCH DATE MAR 11 1971

FLIGHT TIME 234.00

ARRIVAL DATE OCT 31 1971

Heliocentric Conic: RL 148.59 LAL -0.00 LOL 169.77 VL 32.285 GAL -5.97 AZL 86.24 HCA 198.78 BMA 177.92 ECC .19416 INC 3.7598 VI 29.988
 RP 209.78 LAP -1.21 LOP 8.81 VP 22.820 GAP 4.55 AZP 93.56 TAL 321.64 TAP 180.42 RCA 143.38 APO 212.47 VE 26.182
 RC 103.933 GL 29.96 GP -29.21 ZAL 142.54 ZAP 96.28 ETS 183.55 ZAE 133.34 ETE 209.69 ZAC 73.38 ETC 270.99 LVI 19.07

PLANETOCENTRIC CONIC: C3 23.090 VHL 4.805 DLA 10.37 RAL 315.89 RAD 8644.2 VEL 11.961 PTH 6.98 VHP 4.030 DPA -52.71 RAP 295.15 ECC 1.3800
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 4 3376.19 -43.81 117.20 187.50 110.79 17 26 20 2376.2 -31.28 90.92
 60.00 16 58 19 3300.98 -37.90 112.94 190.02 104.88 17 53 20 2301.0 -28.10 86.61
 70.00 17 37 50 3184.75 -32.71 104.95 191.44 100.41 18 30 54 2184.8 -25.19 78.86
 80.00 18 34 22 3007.64 -28.99 92.20 192.12 97.47 19 24 30 2007.6 -23.03 66.37
 90.00 19 50 37 2761.55 -27.60 74.31 192.32 96.42 20 36 39 1761.5 -22.21 48.58
 100.00 21 17 14 2482.11 -26.99 53.57 192.12 97.47 21 58 36 1482.1 -23.03 27.74
 110.00 22 37 16 2231.97 -32.71 33.87 191.44 100.41 23 14 27 1231.6 -25.19 7.78

DIFFERENTIAL CORRECTIONS: TDE .6931 TRA .8659 TC3-1.2197 BAU .4952 RDE 1.3128 RRA 2.8274 RC3-1.0419 FAU .13516 PDE 4.8256 FRA12.2888 FC3-5.0677 B8P 7048 BDE 1.4848 BRA 2.9570 BC3 1.6041 F8P 2497
 MID-COURSE EXECUTION ACCURACY: SGT 1777.3 SGR 3898.8 SCS 1442.5 RRT .8753 RRF .9977 RTF .8798 SGB 4284.8 R23 .0632 R13 .9956 SGI 4210.2 SGT 796.0 THA 67.40
 ORBIT DETERMINATION ACCURACY: ST 44.3 SR 93.7 88 126.8 CRT .9763 CR8 -.9969 C8T -.9563 L8A 163.3 H8A 12.8 88A .7 EL1 103.2 EL2 8.7 ALP 65.08

LAUNCH DATE MAR 11 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 2 1971

Heliocentric Conic: RL 148.59 LAL -0.00 LOL 169.77 VL 32.251 GAL -5.99 AZL 86.55 HCA 200.01 BMA 177.86 ECC .19412 INC 3.4480 VI 29.988
 RP 209.78 LAP -1.18 LOP 9.74 VP 22.786 GAP 4.32 AZP 93.24 TAL 321.46 TAP 181.47 RCA 143.33 APO 212.38 VE 26.137
 RC 107.990 GL 23.99 GP -27.91 ZAL 143.78 ZAP 96.49 ETS 182.32 ZAE 132.45 ETE 207.04 ZAC 74.70 ETC 270.36 LVI 18.21

PLANETOCENTRIC CONIC: C3 22.508 VHL 4.744 DLA 8.52 RAL 316.54 RAD 8643.9 VEL 11.937 PTH 6.94 VHP 3.948 DPA -51.57 RAP 293.40 ECC 1.3704
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 43 3332.48 -42.89 113.60 188.14 113.39 17 35 15 2332.5 -29.42 88.41
 60.00 17 10 6 3251.83 -38.98 109.09 188.90 107.35 18 4 18 2251.6 -26.38 83.98
 70.00 17 52 2 3126.27 -31.94 100.73 190.34 102.79 18 44 10 2126.3 -23.58 75.28
 80.00 18 30 52 2944.00 -26.34 87.58 191.38 99.82 19 39 55 1944.0 -21.52 62.25
 90.00 20 8 8 2694.60 -27.00 69.50 191.82 98.78 20 53 3 1694.6 -20.74 44.23
 100.00 21 33 43 2418.47 -26.34 48.95 191.38 98.82 22 14 2 1418.5 -21.52 23.61
 110.00 22 51 28 2175.09 -31.94 29.65 190.34 102.79 23 27 43 1175.1 -23.58 4.18

DIFFERENTIAL CORRECTIONS: TDE .7382 TRA 1.0810 TC3-1.3308 BAU .5049 RDE 1.2442 RRA 2.6966 RC3-1.0221 FAU .13989 PDE 4.8706 FRA12.7486 FC3-5.3007 B8P 6934 BDE 1.4482 BRA 2.8978 BC3 1.6780 F8P 2596
 MID-COURSE EXECUTION ACCURACY: SGT 2018.4 SGR 3747.3 SCS 1504.0 RRT .9038 RRF .9973 RTF .5776 SGB 4254.8 R23 .0788 R13 .9943 SGI 4184.1 SGT 772.5 THA 63.09
 ORBIT DETERMINATION ACCURACY: ST 48.5 SR 89.9 88 128.1 CRT .9855 CR8 -.9960 C8T -.9867 L8A 163.4 H8A 12.4 88A .9 EL1 101.9 EL2 7.3 ALP 61.89

LAUNCH DATE MAR 11 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 4 1971

Heliocentric Conic: RL 148.59 LAL -0.00 LOL 169.77 VL 32.247 GAL -6.02 AZL 86.83 HCA 201.24 BMA 177.80 ECC .19417 INC 3.1717 VI 29.988
 RP 209.99 LAP -1.15 LOP 10.97 VP 22.751 GAP 4.10 AZP 92.96 TAL 321.27 TAP 182.50 RCA 143.28 APO 212.33 VE 26.111
 RC 110.071 GL 22.19 GP -26.70 ZAL 144.89 ZAP 94.64 ETS 181.19 ZAE 131.40 ETE 204.97 ZAC 75.92 ETC 270.13 LVI 17.44

PLANETOCENTRIC CONIC: C3 22.069 VHL 4.688 DLA 6.83 RAL 317.15 RAD 8643.7 VEL 11.919 PTH 6.93 VHP 3.880 DPA -50.51 RAP 291.91 ECC 1.3632
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 48 31 3293.73 -41.60 110.52 189.10 118.98 17 43 25 2293.7 -27.73 86.26
 60.00 17 20 47 3207.86 -36.02 105.75 188.07 109.44 18 14 15 2207.9 -24.79 80.97
 70.00 18 4 51 3078.26 -31.13 97.06 189.88 104.82 18 96 9 2078.3 -22.08 72.15
 80.00 19 5 40 2887.79 -27.62 83.58 190.83 101.82 19 53 48 1887.8 -20.09 58.68
 90.00 20 23 49 2635.55 -26.32 65.32 191.12 100.75 21 7 45 1635.6 -19.34 40.46
 100.00 21 46 32 2362.26 -27.62 44.93 190.83 101.82 22 27 54 1362.3 -20.09 20.05
 110.00 23 4 17 2125.08 -31.13 25.98 189.88 104.82 23 39 42 1125.1 -22.08 1.07

DIFFERENTIAL CORRECTIONS: TDE .7770 TRA 1.2586 TC3-1.4483 BAU .5148 RDE 1.1990 RRA 2.5886 RC3 -.9730 FAU .14003 PDE 4.9722 FRA13.2138 FC3-5.5265 B8P 7012 BDE 1.4287 BRA 2.8757 BC3 1.7448 F8P 2753
 MID-COURSE EXECUTION ACCURACY: SGT 2265.4 SGR 3615.1 SCS 1582.9 RRT .9199 RRF .9968 RTF .9241 SGB 4266.3 R23 .0911 R13 .9928 SGI 4197.1 SGT 765.2 THA 58.89
 ORBIT DETERMINATION ACCURACY: ST 52.8 SR 87.3 88 130.4 CRT .9922 CR8 -.9951 C8T -.9753 L8A 165.1 H8A 11.9 88A .9 EL1 101.8 EL2 5.6 ALP 58.94

LAUNCH DATE MAR 11 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 591.455

EARTH TO MARS

RL 148.59 LAL -0.00 LOL 169.77 VL 32.244 GAL -6.09 AZL 87.08 HCA 202.46 SMA 177.76 ECC .19429 INC 2.9246 V1 29.986
RP 210.22 LAP -1.12 LOP 12.20 VP 22.717 GAP 3.87 AZP 92.70 TAL 321.06 TAP 163.53 RCA 143.22 APO 212.30 V2 26.069
RC 112.177 GL 20.54 GP -25.58 ZAL 145.89 ZAP 92.76 ETS 180.16 ZAE 130.23 ETE 202.28 ZAC 77.07 ETC 269.90 LVI 16.74

PLANETOCENTRIC CONIC

C3 21.744 VHL 4.663 DLA 5.26 RAL 317.75 RAD 6643.6 VEL 11.905 PTH 6.91 VMP 3.825 DPA -49.51 RAP 290.40 ECC 1.3579
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 56 36 3259.25 -40.55 107.88 184.34 117.39 17 50 56 2259.3 -26.20 84.41
60.00 17 30 33 3168.92 -35.10 102.86 187.46 111.22 18 23 22 2168.9 -23.33 78.71
70.00 18 18 31 3033.74 -30.31 93.85 189.41 106.56 19 7 5 2033.7 -20.69 69.44
80.00 19 19 4 2837.81 -26.87 80.04 190.46 103.53 20 6 22 1837.8 -18.75 55.57
90.00 20 38 0 2583.10 -25.60 61.64 190.79 102.45 21 21 3 1583.1 -16.02 37.18
100.00 22 1 58 2312.28 -26.87 41.41 190.46 103.53 22 40 29 1312.3 -18.75 16.94
110.00 23 15 57 2080.56 -30.31 22.77 189.41 106.56 23 50 38 1080.6 -20.69 358.36

DIFFERENTIAL CORRECTIONS

TDE .6220 TRA 1.4546 TC3-1.5619 BAU .5276
RDE 1.1582 RRA 2.4795 RC3 -.9245 FAU .14159
FDE 5.0563 FRA13.6111 FC3-5.6372 BSP 7098
BDE 1.4202 BRA 2.8747 BC3 1.8150 FSP 2869

MID-COURSE EXECUTION ACCURACY

SGT 2922.7 SGR 3482.7 SG3 1612.5
RRY .9316 RRF .9963 RTF .9362
SGB 4300.4 R23 .1027 R13 .9913
SG1 4233.7 SG2 754.2 THA 54.70

ORBIT DETERMINATION ACCURACY

ST 57.3 SR 84.7 SS 132.2
CRT .9963 CRS -.9941 CST -.9815
LSA 166.7 MSA 11.6 SSA 1.0
EL1 102.1 EL2 4.1 ALF 85.96

LAUNCH DATE MAR 11 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 595.615

EARTH TO MARS

RL 148.59 LAL -0.00 LOL 169.77 VL 32.242 GAL -6.09 AZL 87.30 HCA 203.68 SMA 177.73 ECC .19448 INC 2.7024 V1 29.986
RP 210.45 LAP -1.09 LOP 13.43 VP 22.683 GAP 3.65 AZP 92.48 TAL 320.85 TAP 164.54 RCA 143.16 APO 212.29 V2 26.058
RC 114.307 GL 19.02 GP -24.52 ZAL 146.78 ZAP 90.84 ETS 179.20 ZAE 128.94 ETE 200.16 ZAC 78.14 ETC 269.67 LVI 16.11

PLANETOCENTRIC CONIC

C3 21.510 VHL 4.638 DLA 3.87 RAL 318.31 RAD 6643.5 VEL 11.896 PTH 6.91 VMP 3.780 DPA -46.57 RAP 288.94 ECC 1.3540
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 4 3 3228.46 -39.56 105.59 183.80 118.95 17 57 52 2228.5 -24.81 82.80
60.00 17 39 32 3134.09 -34.21 100.33 187.03 112.74 18 31 46 2134.1 -21.99 76.73
70.00 18 27 11 2993.91 -29.90 91.03 189.10 108.05 19 17 5 1993.9 -19.41 67.07
80.00 19 31 18 2793.11 -26.12 76.93 190.23 105.00 20 17 51 1793.1 -17.51 52.84
90.00 20 50 55 2536.20 -24.87 58.40 190.59 103.91 21 33 11 1536.2 -16.80 34.28
100.00 22 14 10 2267.58 -26.12 38.30 190.23 105.00 22 51 58 1267.6 -17.51 14.21
110.00 23 26 37 2040.73 -29.90 19.95 189.10 108.05 24 0 38 1040.7 -19.41 355.99

DIFFERENTIAL CORRECTIONS

TDE .8726 TRA 1.6560 TC3-1.6644 BAU .5449
RDE 1.1061 RRA 2.3600 RC3 -.9050 FAU .14590
FDE 5.0404 FRA13.8578 FC3-5.8721 BSP 7072
BDE 1.4088 BRA 2.8650 BC3 1.8949 FSP 2914

MID-COURSE EXECUTION ACCURACY

SGT 2783.8 SGR 3333.5 SG3 1645.8
RRY .9442 RRF .9957 RTF .9486
SGB 4343.0 R23 .1102 R13 .9899
SG1 4284.0 SG2 713.6 THA 50.43

ORBIT DETERMINATION ACCURACY

ST 62.1 SR 81.2 SS 131.9
CRT .9984 CRS -.9928 CST -.9851
LSA 166.5 MSA 11.6 SSA 1.0
EL1 102.2 EL2 2.8 ALF 82.60

LAUNCH DATE MAR 11 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 599.793

EARTH TO MARS

RL 148.59 LAL -0.00 LOL 169.77 VL 32.241 GAL -6.13 AZL 87.90 HCA 204.90 SMA 177.70 ECC .19475 INC 2.5012 V1 29.986
RP 210.70 LAP -1.05 LOP 14.85 VP 22.648 GAP 3.43 AZP 92.27 TAL 320.83 TAP 165.53 RCA 143.10 APO 212.31 V2 26.030
RC 116.460 GL 17.92 GP -23.92 ZAL 147.99 ZAP 86.91 ETS 178.33 ZAE 127.86 ETE 198.21 ZAC 79.14 ETC 269.48 LVI 15.93

PLANETOCENTRIC CONIC

C3 21.355 VHL 4.621 DLA 2.58 RAL 318.86 RAD 6643.4 VEL 11.889 PTH 6.90 VMP 3.744 DPA -47.87 RAP 287.58 ECC 1.3515
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 58 3200.93 -38.84 103.81 183.43 120.27 18 4 19 2200.9 -23.55 81.40
60.00 17 47 49 3102.89 -33.37 98.12 186.77 114.05 18 39 32 2102.9 -20.78 74.99
70.00 18 37 1 2958.19 -28.72 88.54 188.93 109.33 19 28 19 1958.2 -18.23 64.97
80.00 19 42 33 2753.00 -25.39 74.18 190.13 106.27 20 28 26 1753.0 -16.36 50.42
90.00 21 2 46 2494.11 -24.15 55.53 190.51 105.18 21 44 21 1494.1 -15.65 31.72
100.00 22 25 25 2227.47 -25.39 35.54 190.13 106.27 23 2 32 1227.5 -16.36 11.79
110.00 23 36 28 2005.01 -28.72 17.46 188.93 109.33 24 9 53 1005.0 -18.23 353.88

DIFFERENTIAL CORRECTIONS

TDE .9233 TRA 1.8574 TC3-1.7663 BAU .5623
RDE 1.0684 RRA 2.2846 RC3 -.8677 FAU .14727
FDE 5.0641 FRA14.0994 FC3-5.9701 BSP 7176
BDE 1.4121 BRA 2.9211 BC3 1.9687 FSP 2976

MID-COURSE EXECUTION ACCURACY

SGT 3048.8 SGR 3198.1 SG3 1675.5
RRY .9515 RRF .9950 RTF .5663
SGB 4418.5 R23 .1164 R13 .9888
SG1 4364.7 SG2 687.3 THA 48.44

ORBIT DETERMINATION ACCURACY

ST 66.9 SR 74.4 SS 132.4
CRT .9995 CRS -.9914 CST -.9882
LSA 167.4 MSA 11.5 SSA 1.0
EL1 103.1 EL2 1.5 ALF 49.33

LAUNCH DATE MAR 11 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 603.971

EARTH TO MARS

RL 148.59 LAL -0.00 LOL 169.77 VL 32.240 GAL -6.17 AZL 87.68 HCA 206.12 SMA 177.69 ECC .19509 INC 2.3160 V1 29.986
RP 210.95 LAP -1.02 LOP 15.87 VP 22.614 GAP 3.21 AZP 92.08 TAL 320.39 TAP 166.51 RCA 143.03 APO 212.38 V2 26.001
RC 118.637 GL 16.33 GP -22.58 ZAL 148.34 ZAP 86.97 ETS 177.53 ZAE 126.11 ETE 196.43 ZAC 80.09 ETC 269.25 LVI 15.00

PLANETOCENTRIC CONIC

C3 21.267 VHL 4.612 DLA 1.39 RAL 319.38 RAD 6643.4 VEL 11.886 PTH 6.90 VMP 3.717 DPA -46.82 RAP 286.24 ECC 1.3500
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 25 3178.26 -37.78 101.87 183.21 121.41 18 10 21 2178.3 -22.40 80.16
60.00 17 55 32 3074.88 -32.58 96.17 186.63 115.17 18 46 46 2074.9 -19.66 73.45
70.00 18 46 8 2926.03 -27.98 86.34 188.87 110.44 19 34 54 1926.0 -17.15 63.11
80.00 19 52 56 2716.86 -24.68 71.73 190.13 107.37 20 38 13 1716.9 -15.29 48.26
90.00 21 13 43 2456.18 -23.45 52.97 190.54 106.28 21 54 39 1456.2 -14.60 29.44
100.00 22 35 48 2191.33 -24.68 33.10 190.13 107.37 23 12 19 1191.3 -15.29 9.63
110.00 23 45 34 1972.87 -27.98 15.26 188.87 110.44 24 18 27 972.9 -17.15 352.03

DIFFERENTIAL CORRECTIONS

TDE .9752 TRA 2.0588 TC3-1.8692 BAU .5815
RDE 1.0342 RRA 2.1524 RC3 -.8297 FAU .14826
FDE 5.0742 FRA14.2621 FC3-6.0355 BSP 7319
BDE 1.4215 BRA 2.9785 BC3 2.0451 FSP 3024

MID-COURSE EXECUTION ACCURACY

SGT 3314.7 SGR 3064.7 SG3 1697.0
RRY .9569 RRF .9941 RTF .9623
SGB 4514.4 R23 .1201 R13 .9876
SG1 4465.8 SG2 660.6 THA 42.65

ORBIT DETERMINATION ACCURACY

ST 71.8 SR 75.8 SS 132.5
CRT .9998 CRS -.9898 CST -.9906
LSA 168.3 MSA 11.5 SSA 1.1
EL1 104.3 EL2 1.1 ALF 46.55

LAUNCH DATE MAR 11 1971 FLIGHT TIME 248.00 ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC DISTANCE 608.148 EARTH TO MARS
RL 148.59 LAL -0.00 LOL 169.77 VL 32.239 GAL -6.22 AZL 87.05 HCA 207.33 SMA 177.69 ECC .19849 INC 2.1505 V1 29.986
PLANETOCENTRIC CONIC
C3 21.236 VHL 4.608 DLA .29 RAL 319.89 RAD 6643.4 VEL 11.084 PTH 6.90 VHP 3.698 DPA -46.01 RAP 264.99 ECC 1.3498
DIFFERENTIAL CORRECTIONS
TDE 1.0284 TRA 2.2602 TC3-1.9669 BAU .6018
RDE 1.0042 RRA 2.0546 RC3 -.7905 FAU .14864
PDE 5.0791 FRA14.4175 FC3-6.0598 B8P 7499
BDE 1.4374 BRA 3.0345 BC3 2.1198 F8P 3080

LAUNCH DATE MAR 11 1971 FLIGHT TIME 250.00 ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC DISTANCE 612.326 EARTH TO MARS
RL 148.59 LAL -0.00 LOL 169.77 VL 32.239 GAL -6.27 AZL 88.00 HCA 208.55 SMA 177.69 ECC .19897 INC 1.9965 V1 29.986
PLANETOCENTRIC CONIC
C3 21.256 VHL 4.610 DLA -.72 RAL 320.39 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 3.685 DPA -45.24 RAP 263.81 ECC 1.3498
DIFFERENTIAL CORRECTIONS
TDE 1.0829 TRA 2.4612 TC3-2.0605 BAU .6233
RDE .9785 RRA 1.9599 RC3 -.7519 FAU .14865
PDE 5.0703 FRA14.5019 FC3-6.0545 B8P 7711
BDE 1.4582 BRA 3.1482 BC3 2.1934 F8P 3081

LAUNCH DATE MAR 11 1971 FLIGHT TIME 252.00 ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 616.502 EARTH TO MARS
RL 148.59 LAL -0.00 LOL 169.77 VL 32.240 GAL -6.32 AZL 88.15 HCA 209.76 SMA 177.70 ECC .19650 INC 1.8543 V1 29.986
PLANETOCENTRIC CONIC
C3 21.320 VHL 4.617 DLA -1.65 RAL 320.88 RAD 6643.4 VEL 11.888 PTH 6.90 VHP 3.679 DPA -44.49 RAP 262.70 ECC 1.3509
DIFFERENTIAL CORRECTIONS
TDE 1.1385 TRA 2.6817 TC3-2.1500 BAU .6456
RDE .9523 RRA 1.8691 RC3 -.7126 FAU .14803
PDE 5.0584 FRA14.5452 FC3-6.0109 B8P 7953
BDE 1.4843 BRA 3.2324 BC3 2.2650 F8P 3084

LAUNCH DATE MAR 11 1971 FLIGHT TIME 254.00 ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC DISTANCE 620.676 EARTH TO MARS
RL 148.59 LAL -0.00 LOL 169.77 VL 32.241 GAL -6.37 AZL 88.28 HCA 210.98 SMA 177.72 ECC .19711 INC 1.7227 V1 29.986
PLANETOCENTRIC CONIC
C3 21.425 VHL 4.629 DLA -2.51 RAL 321.38 RAD 6643.5 VEL 11.892 PTH 6.90 VHP 3.678 DPA -43.78 RAP 261.67 ECC 1.3526
DIFFERENTIAL CORRECTIONS
TDE 1.1935 TRA 2.8617 TC3-2.2342 BAU .6684
RDE .9305 RRA 1.7817 RC3 -.6737 FAU .14697
PDE 5.0388 FRA14.5490 FC3-5.9386 B8P 8224
BDE 1.5150 BRA 3.3710 BC3 2.3336 F8P 3098

LAUNCH DATE MAR 11 1971

FLIGHT TIME 296.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.243 GAL -6.43 AZL 88.40 MCA 212.16 SMA 177.75 ECC .19777 INC 1.6002 V1 29.986
RP 212.29 LAP -.85 LOP 21.92 VP 22.443 GAP 2.15 AZP 91.35 TAL 319.06 TAP 171.22 RCA 142.59 APO 212.90 V2 25.848
RC 129.850 GL 11.11 GP -18.56 ZAL 151.27 ZAP 77.51 ETS 174.45 ZAE 118.31 ETE 189.57 ZAC 84.11 ETC 268.32 LVI 12.80

PLANETOCENTRIC CONIC

C3 21.568 VHL 4.644 DLA -3.30 RAL 321.81 RAD 6643.5 VEL 11.898 PTH 6.91 VHP 3.683 DPA -43.10 RAP 280.71 ECC 1.3550
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 44 13 3086.28 -34.41 95.91 183.59 125.14 18 35 40 2086.3 -18.15 75.84
60.00 18 27 19 2971.67 -29.38 89.30 187.30 118.93 19 16 50 1971.7 -15.45 67.99
70.00 19 23 27 2806.59 -24.88 76.44 189.82 114.19 20 10 14 1806.6 -12.96 56.39
80.00 20 35 17 2581.67 -21.64 62.64 191.30 111.09 21 18 19 1581.7 -11.12 40.40
90.00 21 58 16 2313.92 -20.43 43.64 191.78 109.99 22 36 50 1313.9 -10.42 21.06
100.00 23 18 9 2056.14 -21.64 24.21 191.30 111.09 23 52 25 1056.1 -11.12 1.77
110.00 0 26 49 1853.41 -24.88 7.36 189.82 114.19 0 57 43 853.4 -12.96 345.31

DIFFERENTIAL CORRECTIONS

TDE 1.2530 TRA 3.0605 TC3-2.3145 BAU .6921
RDE .9109 RRA 1.6975 RC3 -.6357 FAU .14553
FDE 5.0117 FRA14.5140 FC3-5.8418 B8P 8507
BDE 1.5491 BRA 3.4997 BC3 2.4002 F8P 3088

MID-COURSE EXECUTION ACCURACY

SGT 4816.8 SGR 2451.9 SG3 1704.9
RRF .9664 RRF .9875 RTF .9778
SGB 5227.5 R23 .1113 R13 .9853
SG1 5197.5 SG2 559.5 THA 27.52

ORBIT DETERMINATION ACCURACY

ST 95.8 SR 64.4 SS 130.4
CRT .9923 CR8 -.9789 CST -.9965
LSA 173.8 MSA 12.3 SSA 1.2
EL1 115.4 EL2 6.6 ALF 33.80

LAUNCH DATE MAR 11 1971

FLIGHT TIME 296.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.245 GAL -6.50 AZL 88.51 MCA 213.36 SMA 177.78 ECC .19850 INC 1.4862 V1 29.986
RP 212.57 LAP -.82 LOP 23.12 VP 22.409 GAP 1.94 AZP 91.24 TAL 318.76 TAP 172.13 RCA 142.49 APO 213.07 V2 25.815
RC 132.153 GL 10.26 GP -17.87 ZAL 151.74 ZAP 75.70 ETS 173.99 ZAE 116.71 ETE 188.55 ZAC 84.80 ETC 268.17 LVI 12.42

PLANETOCENTRIC CONIC

C3 21.745 VHL 4.663 DLA -4.04 RAL 322.27 RAD 6643.6 VEL 11.905 PTH 6.91 VHP 3.693 DPA -42.44 RAP 279.81 ECC 1.3579
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 45 3073.52 -33.91 95.11 183.87 125.62 18 39 58 2073.5 -17.54 78.25
60.00 18 32 37 2958.82 -28.88 88.35 187.62 119.42 19 21 54 1958.8 -14.93 67.22
70.00 19 29 39 2789.15 -24.39 77.32 190.19 114.68 20 16 8 1789.2 -12.33 55.43
80.00 20 42 17 2561.71 -21.14 61.57 191.69 111.59 21 24 59 1561.7 -10.43 39.26
90.00 22 5 37 2292.83 -19.93 42.30 192.19 110.49 22 43 50 1292.8 -9.78 19.86
100.00 23 25 9 2036.18 -21.14 22.93 191.69 111.59 23 59 5 1036.2 -10.48 .63
110.00 0 33 1 1835.97 -24.39 6.24 190.19 114.68 1 3 37 836.0 -12.33 344.35

DIFFERENTIAL CORRECTIONS

TDE 1.3120 TRA 3.2590 TC3-2.3689 BAU .7159
RDE .8936 RRA 1.6169 RC3 -.5983 FAU .14365
FDE 4.9810 FRA14.4495 FC3-5.7191 B8P 8820
BDE 1.5873 BRA 3.6381 BC3 2.4627 F8P 3075

MID-COURSE EXECUTION ACCURACY

SGT 4866.0 SGR 2341.7 SG3 1690.2
RRF .9661 RRF .9855 RTF .9791
SGB 5400.1 R23 .1062 R13 .9853
SG1 5372.3 SG2 547.5 THA 25.21

ORBIT DETERMINATION ACCURACY

ST 100.7 SR 62.5 SS 129.6
CRT .9896 CR8 -.9761 CST -.9970
LSA 175.1 MSA 12.6 SSA 1.3
EL1 118.2 EL2 7.7 ALF 31.72

LAUNCH DATE MAR 11 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.248 GAL -6.56 AZL 88.62 MCA 214.56 SMA 177.82 ECC .19929 INC 1.3792 V1 29.986
RP 212.86 LAP -.78 LOP 24.32 VP 22.374 GAP 1.73 AZP 91.14 TAL 318.45 TAP 173.01 RCA 142.38 APO 213.26 V2 25.782
RC 134.475 GL 9.47 GP -17.22 ZAL 152.19 ZAP 73.93 ETS 173.58 ZAE 115.12 ETE 187.81 ZAC 83.45 ETC 268.02 LVI 12.06

PLANETOCENTRIC CONIC

C3 21.953 VHL 4.685 DLA -4.73 RAL 322.71 RAD 6643.7 VEL 11.914 PTH 6.92 VHP 3.707 DPA -41.81 RAP 278.99 ECC 1.3613
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 53 3 3062.17 -33.46 94.40 184.20 126.04 18 44 5 2062.2 -16.99 74.72
60.00 18 37 40 2943.51 -28.43 87.51 187.99 119.85 19 26 43 1943.5 -14.27 66.54
70.00 19 39 30 2773.43 -23.94 76.32 190.59 115.12 20 21 44 1773.4 -11.76 54.57
80.00 20 48 54 2543.63 -20.69 60.42 192.13 112.02 21 31 18 1543.6 -9.90 38.24
90.00 22 12 34 2273.68 -19.47 41.08 192.64 110.92 22 50 28 1273.7 -9.19 18.76
100.00 23 31 46 2018.10 -20.69 21.79 192.13 112.02 24 5 24 1018.1 -9.90 359.60
110.00 0 38 52 1820.24 -23.94 5.24 190.59 115.12 1 9 13 820.2 -11.76 343.49

DIFFERENTIAL CORRECTIONS

TDE 1.3711 TRA 3.4555 TC3-2.4599 BAU .7408
RDE .8777 RRA 1.5391 RC3 -.5823 FAU .14132
FDE 4.9418 FRA14.3524 FC3-5.5809 B8P 9130
BDE 1.6280 BRA 3.7828 BC3 2.5234 F8P 3050

MID-COURSE EXECUTION ACCURACY

SGT 5109.0 SGR 2235.3 SG3 1870.9
RRF .9651 RRF .9832 RTF .5503
SGB 5576.6 R23 .1009 R13 .9853
SG1 5550.5 SG2 538.5 THA 23.12

ORBIT DETERMINATION ACCURACY

ST 105.3 SR 60.7 SS 128.6
CRT .9865 CR8 -.9730 CST -.9975
LSA 176.4 MSA 12.9 SSA 1.3
EL1 121.2 EL2 8.6 ALF 29.78

LAUNCH DATE MAR 11 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.251 GAL -6.63 AZL 88.72 MCA 215.75 SMA 177.86 ECC .20013 INC 1.2790 V1 29.986
RP 213.18 LAP -.75 LOP 25.52 VP 22.340 GAP 1.52 AZP 91.04 TAL 318.14 TAP 173.89 RCA 142.27 APO 213.46 V2 25.749
RC 136.814 GL 8.73 GP -16.59 ZAL 152.62 ZAP 72.20 ETS 173.20 ZAE 113.53 ETE 186.77 ZAC 86.07 ETC 267.89 LVI 11.71

PLANETOCENTRIC CONIC

C3 22.192 VHL 4.711 DLA -5.38 RAL 323.15 RAD 6643.8 VEL 11.924 PTH 6.93 VHP 3.725 DPA -41.21 RAP 278.25 ECC 1.3652
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 57 9 3052.10 -33.05 93.78 184.56 126.40 18 48 1 2052.1 -16.50 74.26
60.00 18 42 27 2931.62 -28.03 86.76 188.39 120.23 19 31 18 1931.6 -13.77 65.93
70.00 19 41 3 2759.27 -23.53 75.43 191.03 115.50 20 27 3 1759.3 -11.24 53.80
80.00 20 55 10 2527.27 -20.27 59.38 192.60 112.41 21 37 17 1527.3 -9.37 37.31
90.00 22 19 8 2256.32 -19.04 39.99 193.12 111.31 22 56 44 1256.3 -8.66 17.77
100.00 23 38 1 2001.74 -20.27 20.75 192.60 112.41 24 11 23 1001.7 -9.37 358.68
110.00 0 44 26 1806.09 -23.53 4.35 191.03 115.50 1 14 32 806.1 -11.24 342.71

DIFFERENTIAL CORRECTIONS

TDE 1.4313 TRA 3.6515 TC3-2.5248 BAU .7653
RDE .8636 RRA 1.4645 RC3 -.5279 FAU .13909
FDE 4.8979 FRA14.2291 FC3-5.4258 B8P 9454
BDE 1.6717 BRA 3.9342 BC3 2.5794 F8P 3018

MID-COURSE EXECUTION ACCURACY

SGT 5346.6 SGR 2133.3 SG3 1647.9
RRF .9637 RRF .9805 RTF .9813
SGB 5756.3 R23 .0953 R13 .9854
SG1 5731.9 SG2 531.5 THA 21.22

ORBIT DETERMINATION ACCURACY

ST 109.8 SR 59.0 SS 127.4
CRT .9831 CR8 -.9697 CST -.9979
LSA 177.8 MSA 13.3 SSA 1.3
EL1 124.3 EL2 9.5 ALF 28.01

LAUNCH DATE MAR 11 1971 FLIGHT TIME 264.00 ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 148.59 LAL -.00 LOL 169.77 VL 32.254 GAL -6.70 AZL 88.82 HCA 216.93 SMA 177.92 ECC .20103 INC 1.1845 V1 29.986
 RP 213.46 LAP -.71 LOP 26.71 VP 22.305 GAP 1.32 AZP 90.95 TAL 317.81 TAP 174.76 RCA 142.15 APO 213.68 V2 25.714
 RC 139.171 GL 8.03 GP -15.99 ZAL 153.03 ZAP 70.51 ETS 172.86 ZAE 111.97 ETE 186.00 ZAC 86.66 ETC 267.77 LVI 11.37

PLANETOCENTRIC CONIC
 C3 22.461 VHL 4.739 DLA -5.95 RAL 323.59 RAD 6643.9 VEL 11.935 PTH 6.94 VHP 3.747 DPA -40.63 RAP 277.57 ECC 1.3696
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 3 3043.21 -32.69 93.24 184.96 126.72 18 51 46 2043.2 -16.07 73.85
 60.00 18 47 0 2921.02 -27.66 86.10 188.83 120.56 19 35 41 1921.0 -13.33 65.39
 70.00 19 46 20 2746.56 -23.15 74.63 191.51 115.84 20 32 6 1746.6 -10.78 53.11
 80.00 21 1 6 2512.49 -19.88 58.46 193.09 112.75 21 42 58 1512.5 -8.89 36.48
 90.00 22 25 22 2240.61 -18.65 39.00 193.62 111.65 23 2 42 1240.6 -8.17 16.87
 100.00 23 43 38 1986.96 -19.88 19.83 193.09 112.75 24 17 4 967.0 -8.89 357.85
 110.00 0 49 42 1793.38 -23.15 3.55 191.51 115.84 1 19 35 793.4 -10.78 342.02

DIFFERENTIAL CORRECTIONS
 TDE 1.4922 TRA 3.8461 TC3-2.5857 BAU .7905
 RDE .8512 RRA 1.3929 RC3 -.4949 FAU .13643
 FDE 4.8507 FRA14.0831 FC3-5.2586 BSP 9781
 BDE 1.7179 BRA 4.0905 BC3 2.6326 FSP 2980

MID-COURSE EXECUTION ACCURACY
 SGT 5578.2 SGR 2036.0 SG3 1621.6
 RRT .9616 RRF .9775 RTF .9821
 SGB 5938.1 R23 .0897 R13 .9854
 SGI 5914.7 SGI 527.1 THA 19.50

ORBIT DETERMINATION ACCURACY
 ST 114.3 SR 57.4 SS 126.2
 CRT .9794 CRS -.9662 CST -.9982
 LSA 179.2 MSA 13.6 SSA 1.3
 EL1 127.5 EL2 10.4 ALF 26.37

LAUNCH DATE MAR 11 1971 FLIGHT TIME 266.00 ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 148.59 LAL -.00 LOL 169.77 VL 32.258 GAL -6.78 AZL 88.90 HCA 218.13 SMA 177.98 ECC .20199 INC 1.0954 V1 29.986
 RP 213.77 LAP -.68 LOP 27.90 VP 22.271 GAP 1.11 AZP 90.86 TAL 317.48 TAP 175.61 RCA 142.03 APO 213.93 V2 25.680
 RC 141.545 GL 7.38 GP -15.43 ZAL 153.42 ZAP 68.87 ETS 172.35 ZAE 110.42 ETE 185.30 ZAC 67.22 ETC 267.66 LVI 11.03

PLANETOCENTRIC CONIC
 C3 22.756 VHL 4.770 DLA -6.30 RAL 324.01 RAD 6644.0 VEL 11.948 PTH 6.95 VHP 3.773 DPA -40.08 RAP 276.95 ECC 1.3745
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 47 3035.42 -32.37 92.77 185.40 126.99 18 55 23 2035.4 -15.69 73.50
 60.00 18 51 20 2911.64 -27.34 85.52 189.30 120.85 19 39 51 1911.6 -12.93 64.92
 70.00 19 51 20 2735.20 -22.81 73.93 192.01 116.13 20 36 56 1735.2 -10.36 52.49
 80.00 21 6 44 2499.18 -19.53 57.63 193.62 113.05 21 48 23 1499.2 -8.45 35.73
 90.00 22 31 16 2226.41 -18.29 38.11 194.16 111.95 23 8 22 1226.4 -7.73 16.06
 100.00 23 49 36 1973.65 -19.53 18.99 193.62 113.05 24 22 29 973.7 -8.45 357.10
 110.00 0 54 43 1782.02 -22.81 2.84 192.01 116.13 1 24 25 782.0 -10.36 341.41

DIFFERENTIAL CORRECTIONS
 TDE 1.5539 TRA 4.0401 TC3-2.6412 BAU .8158
 RDE .8401 RRA 1.3245 RC3 -.4632 FAU .13354
 FDE 4.7991 FRA13.9191 FC3-5.0802 BSP 10116
 BDE 1.7665 BRA 4.2517 BC3 2.6815 FSP 2937

MID-COURSE EXECUTION ACCURACY
 SGT 5803.9 SGR 1943.5 SG3 1592.7
 RRT .9589 RRF .9741 RTF .9828
 SGB 6120.6 R23 .0843 R13 .9855
 SGI 6098.1 SGI 524.6 THA 17.94

ORBIT DETERMINATION ACCURACY
 ST 118.7 SR 55.9 SS 124.9
 CRT .9754 CRS -.9624 CST -.9985
 LSA 180.6 MSA 13.9 SSA 1.3
 EL1 130.7 EL2 11.2 ALF 24.86

LAUNCH DATE MAR 11 1971 FLIGHT TIME 268.00 ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 148.59 LAL -.00 LOL 169.77 VL 32.262 GAL -6.86 AZL 88.99 HCA 219.32 SMA 178.04 ECC .20300 INC 1.0111 V1 29.986
 RP 214.08 LAP -.64 LOP 29.08 VP 22.236 GAP .90 AZP 90.78 TAL 317.13 TAP 176.45 RCA 141.90 APO 214.18 V2 25.645
 RC 143.936 GL 6.76 GP -14.89 ZAL 153.80 ZAP 67.27 ETS 172.27 ZAE 108.90 ETE 184.66 ZAC 67.75 ETC 267.56 LVI 10.71

PLANETOCENTRIC CONIC
 C3 23.079 VHL 4.804 DLA -7.01 RAL 324.44 RAD 6644.2 VEL 11.961 PTH 6.96 VHP 3.802 DPA -39.54 RAP 276.41 ECC 1.3798
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 22 3028.64 -32.09 92.37 185.86 127.22 18 58 51 2028.6 -15.38 73.19
 60.00 18 55 28 2903.37 -27.05 85.01 189.79 121.09 19 43 52 1903.4 -12.58 64.50
 70.00 19 56 7 2725.08 -22.51 73.30 192.53 116.39 20 41 32 1725.1 -9.99 51.95
 80.00 21 12 5 2487.23 -19.21 56.88 194.17 113.31 21 53 32 1487.2 -8.06 35.06
 90.00 22 36 53 2213.63 -17.97 37.32 194.72 112.21 23 13 46 1213.6 -7.33 15.34
 100.00 23 54 57 1961.70 -19.21 18.25 194.17 113.31 24 27 39 961.7 -8.06 356.43
 110.00 0 59 29 1771.89 -22.51 2.22 192.53 116.39 1 29 1 771.9 -9.99 340.88

DIFFERENTIAL CORRECTIONS
 TDE 1.6165 TRA 4.2327 TC3-2.6916 BAU .8412
 RDE .8307 RRA 1.2988 RC3 -.4329 FAU .13040
 FDE 4.7459 FRA13.7368 FC3-4.8917 BSP 10482
 BDE 1.8174 BRA 4.4159 BC3 2.7262 FSP 2891

MID-COURSE EXECUTION ACCURACY
 SGT 6022.8 SGR 1855.4 SG3 1561.4
 RRT .9557 RRF .9702 RTF .9533
 SGB 6302.1 R23 .0792 R13 .9858
 SGI 6280.3 SGI 524.0 THA 16.52

ORBIT DETERMINATION ACCURACY
 ST 123.0 SR 54.5 SS 123.5
 CRT .9712 CRS -.9584 CST -.9987
 LSA 182.1 MSA 14.3 SSA 1.3
 EL1 134.0 EL2 11.9 ALF 23.48

LAUNCH DATE MAR 11 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 148.59 LAL -.00 LOL 169.77 VL 32.267 GAL -6.94 AZL 89.07 HCA 220.50 SMA 178.11 ECC .20407 INC .9311 V1 29.986
 RP 214.39 LAP -.60 LOP 30.26 VP 22.202 GAP .70 AZP 90.71 TAL 316.78 TAP 177.28 RCA 141.76 APO 214.16 V2 25.609
 RC 146.344 GL 6.17 GP -14.37 ZAL 154.16 ZAP 65.72 ETS 172.02 ZAE 107.40 ETE 184.08 ZAC 68.26 ETC 267.48 LVI 10.38

PLANETOCENTRIC CONIC
 C3 23.428 VHL 4.840 DLA -7.49 RAL 324.85 RAD 6644.3 VEL 11.975 PTH 6.97 VHP 3.834 DPA -39.04 RAP 275.93 ECC 1.3856
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 48 3022.80 -31.85 92.02 186.35 127.42 19 2 11 2022.8 -15.08 72.93
 60.00 18 59 25 2896.14 -26.79 84.57 190.31 121.31 19 47 42 1896.1 -12.27 64.14
 70.00 20 0 39 2716.11 -22.24 72.75 193.08 116.62 20 45 55 1716.1 -9.66 51.46
 80.00 21 17 11 2476.55 -18.92 56.22 194.74 113.54 21 58 27 1476.5 -7.71 34.46
 90.00 22 42 13 2202.17 -17.67 36.61 195.30 112.44 23 18 55 1202.2 -6.97 14.69
 100.00 0 3 58 1951.02 -18.92 17.59 194.74 113.54 0 36 29 951.0 -7.71 355.83
 110.00 1 4 2 1762.93 -22.24 1.66 193.08 116.62 1 33 24 762.9 -9.66 340.38

DIFFERENTIAL CORRECTIONS
 TDE 1.6791 TRA 4.4239 TC3-2.7393 BAU .8673
 RDE .8221 RRA 1.1957 RC3 -.4050 FAU .12735
 FDE 4.6863 FRA13.5382 FC3-4.7059 BSP 10773
 BDE 1.8696 BRA 4.5827 BC3 2.7691 FSP 2835

MID-COURSE EXECUTION ACCURACY
 SGT 6235.4 SGR 1771.7 SG3 1528.0
 RRT .9518 RRF .9657 RTF .9837
 SGB 6482.2 R23 .0743 R13 .9856
 SGI 6461.0 SGI 524.6 THA 15.24

ORBIT DETERMINATION ACCURACY
 ST 127.2 SR 53.2 SS 122.0
 CRT .9666 CRS -.9542 CST -.9989
 LSA 183.5 MSA 14.7 SSA 1.3
 EL1 137.2 EL2 12.6 ALF 22.20

LAUNCH DATE MAR 11 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.272 GAL
 RP 214.72 LAP -.57 LOP 31.44 VP 22.167 GAP
 RC 148.770 GL 5.62 GP -13.68 ZAL 154.52 ZAP

DISTANCE 658.118

-7.02 AZL 89.14 HCA 221.67 SMA 178.18 ECC .20520 INC .8552 V1 29.986
 .49 AZP 90.64 TAL 316.42 TAP 178.09 RCA 141.62 APO 214.75 V2 25.973
 64.21 ETS 171.80 ZAE 105.93 ETE 183.56 ZAC 88.74 ETC 267.40 LVI 10.07

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.802 VHL 4.879 DLA -7.93 RAL 325.26
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT
 50.00 18 15 6 3017.85 -31.65
 60.00 19 3 12 2889.89 -26.57
 70.00 20 4 59 2708.22 -22.00
 80.00 21 22 2 2467.05 -18.66
 90.00 22 47 18 2191.93 -17.40
 100.00 0 8 49 1941.52 -18.66
 110.00 1 8 22 1755.04 -22.00

RAD 6644.5 VEL 11.991 PTH 6.99 VHP 3.868 DPA -38.55 RAP 275.51 ECC 1.3917
 INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 91.72 188.86 127.58 19 5 23 2017.8 -14.84 72.71
 84.19 190.85 121.49 19 51 22 1889.9 -12.00 63.83
 72.26 193.65 116.81 20 50 8 1708.2 -9.36 51.04
 55.64 195.33 113.74 22 3 9 1467.0 -7.40 33.93
 35.98 195.90 112.65 23 23 50 1191.9 -6.65 14.11
 17.00 195.33 113.74 0 41 11 941.5 -7.40 355.30
 1.18 193.65 116.81 1 37 37 755.0 -9.36 339.96

DIFFERENTIAL CORRECTIONS

TDE 1.7432 TRA 4.6154 TC3-2.7810 BAU .8931
 RDE .8152 RRA 1.0783 RC3 -.3780 FAU .12398
 FDE 4.6281 FRA13.3324 FC3-4.5094 B8P 11109
 BDE 1.9244 BRA 4.7531 BC3 2.8065 F8P 2782

MID-COURSE EXECUTION ACCURACY

SGT 6442.3 SGR 1693.0 SG3 1493.5
 RRT .9472 RRF .9607 RTF .9840
 SGB 6661.0 R23 .0699 R13 .9856
 SGI 6640.2 SG2 526.7 TMA 14.07

ORBIT DETERMINATION ACCURACY

ST 131.3 SR 52.0 SS 120.6
 CRT .9618 CRS -.9498 CST -.9991
 L8A 185.0 M8A 15.0 S8A 1.3
 EL1 140.6 EL2 13.3 ALF 21.04

LAUNCH DATE MAR 11 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.277 GAL
 RP 215.04 LAP -.53 LOP 32.61 VP 22.132 GAP
 RC 151.211 GL 5.10 GP -13.41 ZAL 194.86 ZAP

DISTANCE 662.258

-7.11 AZL 89.22 HCA 222.85 SMA 178.26 ECC .20637 INC .7829 V1 29.986
 .29 AZP 90.57 TAL 316.05 TAP 178.90 RCA 141.48 APO 215.03 V2 25.536
 62.75 ETS 171.60 ZAE 104.49 ETE 183.08 ZAC 89.20 ETC 267.34 LVI 9.75

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.202 VHL 4.920 DLA -8.34 RAL 325.67
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT
 50.00 18 18 15 3013.71 -31.48
 60.00 19 6 50 2884.53 -26.38
 70.00 20 9 8 2701.34 -21.78
 80.00 21 26 39 2458.68 -18.43
 90.00 22 52 8 2182.85 -17.16
 100.00 0 13 27 1933.13 -18.43
 110.00 1 12 30 1748.16 -21.78

RAD 6644.7 VEL 12.007 PTH 7.00 VHP 3.906 DPA -38.09 RAP 275.16 ECC 1.3983
 INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 91.48 187.39 127.72 19 8 29 2013.7 -14.64 72.52
 83.87 191.41 121.64 19 54 54 1884.5 -11.78 63.56
 71.84 194.24 116.98 20 54 9 1701.3 -9.11 50.67
 55.12 195.94 113.92 22 7 38 1458.7 -7.12 33.46
 35.42 196.51 112.83 23 28 31 1182.8 -6.36 13.59
 16.49 195.94 113.92 0 45 40 933.1 -7.12 354.83
 .76 194.24 116.98 1 41 38 748.2 -9.11 339.59

DIFFERENTIAL CORRECTIONS

TDE 1.8080 TRA 4.8061 TC3-2.8185 BAU .9191
 RDE .8092 RRA 1.0783 RC3 -.3529 FAU .12063
 FDE 4.5663 FRA13.1151 FC3-4.3152 B8P 11433
 BDE 1.9808 BRA 4.9255 BC3 2.8408 F8P 2722

MID-COURSE EXECUTION ACCURACY

SGT 6642.9 SGR 1618.6 SG3 1457.7
 RRT .9419 RRF .9551 RTF .9842
 SGB 6837.2 R23 .0857 R13 .9856
 SGI 6816.7 SG2 529.6 TMA 13.01

ORBIT DETERMINATION ACCURACY

ST 135.3 SR 50.8 SS 119.0
 CRT .9568 CRS -.9452 CST -.9992
 L8A 186.6 M8A 15.4 S8A 1.3
 EL1 143.8 EL2 13.9 ALF 19.97

LAUNCH DATE MAR 11 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.282 GAL
 RP 215.37 LAP -.50 LOP 33.78 VP 22.097 GAP
 RC 153.869 GL 4.61 GP -12.96 ZAL 155.20 ZAP

DISTANCE 666.394

-7.20 AZL 89.29 HCA 224.02 SMA 178.38 ECC .20760 INC .7141 V1 29.986
 .08 AZP 90.51 TAL 315.67 TAP 179.69 RCA 141.32 APO 215.37 V2 25.499
 61.33 ETS 171.42 ZAE 103.08 ETE 182.65 ZAC 89.64 ETC 267.28 LVI 9.44

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.627 VHL 4.963 DLA -8.72 RAL 326.08
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT
 50.00 18 21 18 3010.33 -31.33
 60.00 19 10 18 2880.02 -26.22
 70.00 20 13 5 2695.41 -21.60
 80.00 21 31 4 2451.30 -18.22
 90.00 22 56 45 2174.83 -18.95
 100.00 0 17 52 1925.77 -18.22
 110.00 1 16 27 1742.23 -21.60

RAD 6644.8 VEL 12.025 PTH 7.01 VHP 3.949 DPA -37.64 RAP 274.86 ECC 1.4053
 INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 91.28 187.94 127.83 19 11 28 2010.3 -14.47 72.37
 83.59 191.99 121.77 19 58 18 1880.0 -11.56 63.33
 71.48 194.84 117.12 20 58 1 1695.4 -8.89 50.35
 54.87 196.56 114.07 22 11 55 1451.3 -6.88 33.05
 34.92 197.14 112.98 23 33 0 1174.8 -6.11 13.14
 16.04 196.56 114.07 0 49 57 925.8 -6.88 354.42
 .39 194.84 117.12 1 45 30 742.2 -8.89 339.27

DIFFERENTIAL CORRECTIONS

TDE 1.8708 TRA 4.9936 TC3-2.8559 BAU .9464
 RDE .8033 RRA 1.0224 RC3 -.3309 FAU .11770
 FDE 4.4914 FRA12.8803 FC3-4.1378 B8P 11722
 BDE 2.0360 BRA 5.0972 BC3 2.8746 F8P 2649

MID-COURSE EXECUTION ACCURACY

SGT 6835.2 SGR 1547.4 SG3 1420.0
 RRT .9360 RRF .9487 RTF .9545
 SGB 7008.1 R23 .0611 R13 .9856
 SGI 6987.9 SG2 532.6 TMA 12.04

ORBIT DETERMINATION ACCURACY

ST 139.1 SR 49.7 SS 117.2
 CRT .9515 CRS -.9402 CST -.9993
 L8A 187.9 M8A 15.8 S8A 1.2
 EL1 147.0 EL2 14.5 ALF 18.98

LAUNCH DATE MAR 11 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

RL 148.59 LAL -.00 LOL 169.77 VL 32.288 GAL
 RP 215.71 LAP -.48 LOP 34.98 VP 22.063 GAP
 RC 158.143 GL 4.15 GP -12.54 ZAL 155.33 ZAP

DISTANCE 670.521

-7.29 AZL 89.35 HCA 225.18 SMA 178.44 ECC .20888 INC .6482 V1 29.986
 -.12 AZP 90.46 TAL 315.29 TAP 180.47 RCA 141.16 APO 215.71 V2 25.461
 59.97 ETS 171.26 ZAE 101.88 ETE 182.25 ZAC 90.06 ETC 267.24 LVI 9.13

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.077 VHL 5.008 DLA -9.07 RAL 326.48
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT
 50.00 18 24 14 3007.89 -31.22
 60.00 19 13 37 2876.32 -26.09
 70.00 20 16 52 2690.37 -21.44
 80.00 21 35 17 2444.92 -18.05
 90.00 23 1 9 2167.84 -16.77
 100.00 0 22 4 1919.39 -18.05
 110.00 1 20 14 1737.19 -21.44

RAD 6645.0 VEL 12.044 PTH 7.03 VHP 3.987 DPA -37.22 RAP 274.62 ECC 1.4127
 INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 91.12 186.51 127.92 19 14 21 2007.7 -14.34 72.25
 83.37 192.59 121.88 20 1 34 1876.3 -11.42 63.15
 71.17 195.46 117.24 21 1 43 1690.4 -8.70 50.08
 54.28 197.20 114.20 22 16 1 1444.9 -6.66 32.70
 34.50 197.79 113.11 23 37 17 1167.8 -5.89 12.75
 15.65 197.20 114.20 0 54 4 919.4 -6.66 354.06
 .09 195.46 117.24 1 49 12 737.2 -8.70 339.00

DIFFERENTIAL CORRECTIONS

TDE 1.9416 TRA 5.1681 TC3-2.8789 BAU .9706
 RDE .8013 RRA .9716 RC3 -.3080 FAU .11333
 FDE 4.4466 FRA12.6690 FC3-3.9124 B8P 12097
 BDE 2.1004 BRA 5.2783 BC3 2.8951 F8P 2608

MID-COURSE EXECUTION ACCURACY

SGT 7027.2 SGR 1483.8 SG3 1384.3
 RRT .9290 RRF .9418 RTF .9844
 SGB 7182.2 R23 .0589 R13 .9854
 SGI 7162.0 SG2 538.6 TMA 11.16

ORBIT DETERMINATION ACCURACY

ST 143.1 SR 48.9 SS 115.9
 CRT .9462 CRS -.9357 CST -.9994
 L8A 189.9 M8A 16.1 S8A 1.2
 EL1 150.5 EL2 15.0 ALF 18.08

LAUNCH DATE MAR 11 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC										DISTANCE 874.645										EARTH TO MARS																																													
RL	148.59	LAL	-.00	LQL	169.77	VL	32.294	GAL	-7.39	AZL	89.41	MCA	226.34	SMA	178.53	ECC	.21021	INC	.9849	V1	29.986	RP	216.04	LAP	-.42	LOP	36.11	VP	22.028	GAP	-.33	AZP	90.40	TAL	314.90	TAP	181.24	RCA	141.00	APO	216.06	V2	25.424	RC	158.631	GL	3.71	GP	-12.13	ZAL	155.88	ZAP	58.64	ETS	171.12	ZAE	100.34	ETE	181.89	ZAC	90.47	ETC	267.20	LVI	8.82
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	25.551	VHL	5.058	DLA	-9.40	RAL	328.87	RAD	8645.2	VEL	12.063	PTH	7.05	VMP	4.031	DPA	-36.82	RAP	274.43	ECC	1.4205	SGT	7206.3	SGR	1420.6	SG3	1345.2	ST	146.6	SR	47.9	SS	113.9	CRT	.9405	CRS	-.9303	CST	-.9995																										
LNCM	AZMTH	LNCM	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	RRT	.9215	RRF	.9338	RTF	.9846	LSA	191.1	MSA	16.5	SSA	1.2	EL1	153.5	EL2	15.5	ALF	17.25																						
50.00	18	27	3	3005.71	-31.14	91.01	189.09	127.98	19	17	9	2005.7	-14.25	72.16	50.00	18	27	3	3005.71	-31.14	91.01	189.09	127.98	19	17	9	2005.7	-14.25	72.16	60.00	19	16	49	2873.35	-25.98	83.19	193.20	121.96	20	4	42	1873.3	-11.30	63.00																					
60.00	19	16	49	2873.35	-25.98	83.19	193.20	121.96	20	4	42	1873.3	-11.30	63.00	70.00	20	20	29	2686.15	-21.31	70.91	196.10	117.34	21	5	15	1686.1	-8.54	49.86																																				
70.00	20	20	29	2686.15	-21.31	70.91	196.10	117.34	21	5	15	1686.1	-8.54	49.86	80.00	21	39	18	2439.45	-17.89	53.94	197.85	114.31	22	19	57	1439.5	-6.48	32.39																																				
80.00	21	39	18	2439.45	-17.89	53.94	197.85	114.31	22	19	57	1439.5	-6.48	32.39	90.00	23	5	21	2161.80	-16.60	34.13	198.45	113.23	23	41	23	1161.8	-5.70	12.41																																				
90.00	23	5	21	2161.80	-16.60	34.13	198.45	113.23	23	41	23	1161.8	-5.70	12.41	100.00	0	26	5	1913.92	-17.89	15.31	197.85	114.31	0	57	59	913.9	-6.48	353.76																																				
100.00	0	26	5	1913.92	-17.89	15.31	197.85	114.31	0	57	59	913.9	-6.48	353.76	110.00	1	23	52	1732.97	-21.31	359.83	196.10	117.34	1	52	45	733.0	-8.54	338.77																																				
110.00	1	23	52	1732.97	-21.31	359.83	196.10	117.34	1	52	45	733.0	-8.54	338.77																																																			

LAUNCH DATE MAR 12 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 33.411 GAL -7.84 AZL 93.89 HCA 151.67 SMA 198.24 ECC .28296 INC 3.8949 V1 29.978
RP 207.13 LAP -1.85 LOP 322.50 VP 24.738 GAP 16.24 AZP 86.57 TAL 323.32 TAP 115.00 RCA 142.14 APO 254.33 V2 26.443
RC 96.701 GL -20.94 GP 9.88 ZAL 142.98 ZAP 137.64 ETS 154.39 ZAE 160.71 ETE 129.90 ZAC 111.61 ETC 274.49 LVI -22.36

PLANETOCENTRIC CONIC

C3 39.571 VHL 6.291 DLA -34.69 RAL 329.75 RAD 8650.5 VEL 12.627 PTH 7.48 VHP 8.033 DPA -11.71 RAP 302.83 ECC 1.6512
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 36 27 2582.20 -10.49 69.09 198.74 136.68 21 19 9 1562.2 7.89 53.32
60.00 22 17 43 2292.54 -2.00 52.91 206.82 130.26 22 55 56 1292.5 13.87 34.75
69.01 1 28 46 1740.24 14.05 20.02 218.53 122.05 1 57 46 740.2 25.95 357.80
69.01 1 28 46 1740.24 14.05 20.02 218.53 122.05 1 57 46 740.2 25.95 357.80
69.01 1 28 46 1740.24 14.05 20.02 218.53 122.05 1 57 46 740.2 25.95 357.80
69.01 1 28 46 1740.24 14.05 20.02 218.53 122.05 1 57 46 740.2 25.95 357.80
69.01 1 28 46 1740.24 14.05 20.02 218.53 122.05 1 57 46 740.2 25.95 357.80

DIFFERENTIAL CORRECTIONS

TDE-1.2305 TRA-2.1007 TC3 -.0998 BAW .1296
RDE -.4943 RRA -.4263 RC3 .2237 FAU .05071
PDE 1.1436 FRA 3.2333 FC3-1.1095 BSP 4679
BDE 1.3261 BRA 2.1435 BC3 .2449 FSP 323

MID-COURSE EXECUTION ACCURACY

SGT 2585.9 SGR 710.6 SG3 344.1
RRT .8534 RRF -.9022 RTF -.9056
SG8 2681.8 R23 -.2186 R13 -.9132
SG1 2657.4 SG2 360.4 THA 13.45

ORBIT DETERMINATION ACCURACY

ST 66.0 SR 23.6 SS 52.0
CRT .9681 CRS .8795 CST .9700
LSA 86.3 HSA 12.6 SSA .9
EL1 69.9 EL2 5.6 ALF 19.22

LAUNCH DATE MAR 12 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 33.335 GAL -7.70 AZL 94.06 HCA 152.94 SMA 196.74 ECC .27690 INC 4.0561 V1 29.978
RP 207.03 LAP -1.84 LOP 323.76 VP 24.646 GAP 15.80 AZP 86.39 TAL 323.35 TAP 116.29 RCA 142.26 APO 251.22 V2 26.433
RC 57.030 GL -22.08 GP 10.97 ZAL 142.49 ZAP 156.45 ETS 154.11 ZAE 160.65 ETE 127.07 ZAC 112.27 ETC 274.57 LVI -23.10

PLANETOCENTRIC CONIC

C3 38.632 VHL 6.215 DLA -35.71 RAL 330.41 RAD 8650.2 VEL 12.590 PTH 7.45 VHP 7.824 DPA -10.98 RAP 302.92 ECC 1.6358
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 46 19 2329.66 -8.88 67.69 199.87 136.94 21 28 29 1529.7 9.51 81.93
60.00 22 33 15 2244.81 .10 50.63 208.23 130.30 23 10 39 1244.8 15.98 32.29
67.23 1 21 13 1764.72 14.65 22.35 219.07 122.94 1 50 38 764.7 26.84 .18
67.23 1 21 13 1764.72 14.65 22.35 219.07 122.94 1 50 38 764.7 26.84 .18
67.23 1 21 13 1764.72 14.65 22.35 219.07 122.94 1 50 38 764.7 26.84 .18
67.23 1 21 13 1764.72 14.65 22.35 219.07 122.94 1 50 38 764.7 26.84 .18
67.23 1 21 13 1764.72 14.65 22.35 219.07 122.94 1 50 38 764.7 26.84 .18

DIFFERENTIAL CORRECTIONS

TDE-1.2476 TRA-2.0585 TC3 -.0958 BAW .1338
RDE -.4976 RRA -.4698 RC3 .2417 FAU .05220
PDE 1.2087 FRA 3.3397 FC3-1.1717 BSP 4746
BDE 1.3431 BRA 2.1118 BC3 .2591 FSP 356

MID-COURSE EXECUTION ACCURACY

SGT 2607.2 SGR 764.9 SG3 363.9
RRT .8720 RRF -.9222 RTF -.9082
SG8 2717.1 R23 -.2340 R13 -.9170
SG1 2692.8 SG2 362.6 THA 14.62

ORBIT DETERMINATION ACCURACY

ST 67.3 SR 24.3 SS 53.8
CRT .9774 CRS .8960 CST .9689
LSA 88.7 HSA 12.6 SSA .9
EL1 71.4 EL2 4.8 ALF 19.52

LAUNCH DATE MAR 12 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 33.283 GAL -7.56 AZL 94.23 HCA 154.20 SMA 195.34 ECC .27114 INC 4.2321 V1 29.978
RP 206.97 LAP -1.84 LOP 325.03 VP 24.597 GAP 15.37 AZP 86.19 TAL 323.39 TAP 117.59 RCA 142.38 APO 246.31 V2 26.482
RC 57.440 GL -23.31 GP 11.34 ZAL 141.93 ZAP 155.19 ETS 153.77 ZAE 160.47 ETE 124.31 ZAC 113.01 ETC 274.66 LVI -23.88

PLANETOCENTRIC CONIC

C3 37.828 VHL 6.150 DLA -38.80 RAL 331.11 RAD 8649.9 VEL 12.558 PTH 7.43 VHP 7.624 DPA -10.19 RAP 302.98 ECC 1.6226
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 57 22 2495.17 -7.16 66.21 200.83 137.16 21 38 57 1495.2 11.22 90.43
60.00 22 51 46 2190.23 2.51 48.02 210.04 130.24 23 28 16 1190.2 18.20 29.42
63.41 1 14 12 1788.61 15.24 24.67 219.73 123.90 1 44 1 788.6 27.76 2.97
63.41 1 14 12 1788.61 15.24 24.67 219.73 123.90 1 44 1 788.6 27.76 2.97
63.41 1 14 12 1788.61 15.24 24.67 219.73 123.90 1 44 1 788.6 27.76 2.97
63.41 1 14 12 1788.61 15.24 24.67 219.73 123.90 1 44 1 788.6 27.76 2.97
63.41 1 14 12 1788.61 15.24 24.67 219.73 123.90 1 44 1 788.6 27.76 2.97

DIFFERENTIAL CORRECTIONS

TDE-1.2645 TRA-2.0110 TC3 -.0848 BAW .1388
RDE -.5045 RRA -.5169 RC3 .2812 FAU .05388
PDE 1.2809 FRA 3.4461 FC3-1.2332 BSP 4777
BDE 1.3614 BRA 2.0764 BC3 .2745 FSP 591

MID-COURSE EXECUTION ACCURACY

SGT 2621.4 SGR 820.1 SG3 384.4
RRT .8878 RRF -.9388 RTF -.5.11
SG8 2749.1 R23 -.2470 R13 -.9213
SG1 2724.5 SG2 366.7 THA 15.96

ORBIT DETERMINATION ACCURACY

ST 68.6 SR 25.2 SS 53.8
CRT .9852 CRS .9119 CST .9680
LSA 91.0 HSA 12.7 SSA .9
EL1 72.9 EL2 4.1 ALF 19.95

LAUNCH DATE MAR 12 1971

FLIGHT TIME 166.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 33.194 GAL -7.43 AZL 94.43 HCA 155.46 SMA 194.05 ECC .26569 INC 4.4250 V1 29.978
RP 206.90 LAP -1.84 LOP 326.29 VP 24.473 GAP 14.94 AZP 85.97 TAL 323.43 TAP 118.89 RCA 142.49 APO 245.60 V2 26.469
RC 57.930 GL -24.62 GP 12.18 ZAL 141.29 ZAP 153.87 ETS 153.37 ZAE 160.15 ETE 121.67 ZAC 113.84 ETC 274.73 LVI -24.74

PLANETOCENTRIC CONIC

C3 37.167 VHL 6.096 DLA -37.96 RAL 331.89 RAD 8649.7 VEL 12.532 PTH 7.41 VHP 7.434 DPA -9.33 RAP 302.98 ECC 1.6117
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 9 52 2458.33 -5.32 64.66 202.25 137.35 21 50 50 1458.3 13.03 48.82
60.00 23 14 57 2124.56 5.39 44.87 212.43 130.00 23 50 22 1124.6 20.83 25.85
63.55 1 7 44 1812.15 15.84 27.01 220.55 124.96 1 37 57 812.2 28.71 5.01
63.55 1 7 44 1812.15 15.84 27.01 220.55 124.96 1 37 57 812.2 28.71 5.01
63.55 1 7 44 1812.15 15.84 27.01 220.55 124.96 1 37 57 812.2 28.71 5.01
63.55 1 7 44 1812.15 15.84 27.01 220.55 124.96 1 37 57 812.2 28.71 5.01
63.55 1 7 44 1812.15 15.84 27.01 220.55 124.96 1 37 57 812.2 28.71 5.01

DIFFERENTIAL CORRECTIONS

TDE-1.2907 TRA-1.9661 TC3 -.0818 BAW .1459
RDE -.5162 RRA -.5684 RC3 .2820 FAU .05554
PDE 1.3611 FRA 3.5502 FC3-1.2937 BSP 4890
BDE 1.3901 BRA 2.0467 BC3 .2936 FSP 628

MID-COURSE EXECUTION ACCURACY

SGT 2640.9 SGR 901.5 SG3 405.6
RRT .8998 RRF -.9525 RTF -.9126
SG8 2790.5 R23 -.2618 R13 -.9246
SG1 2765.1 SG2 375.6 THA 17.41

ORBIT DETERMINATION ACCURACY

ST 70.1 SR 26.3 SS 57.9
CRT .9915 CRS .9269 CST .9669
LSA 93.8 HSA 12.8 SSA .8
EL1 74.8 EL2 3.2 ALF 20.45

LAUNCH DATE MAR 12 1971 FLIGHT TIME 160.00 ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC DISTANCE 445.622 EARTH TO MARS
RL 148.63 LAL .00 LOL 170.77 VL 33.130 GAL -7.31 AZL 94.64 HCA 186.73 SMA 192.83 ECC .26052 INC 4.8377 V1 29.978

PLANETOCENTRIC CONIC
C3 36.654 VHL 6.054 DLA -39.21 RAL 332.75 RAD 6649.5 VEL 12.512 PTH 7.40 VHP 7.253 DPA -8.38 RAP 302.92 ECC 1.6032

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.3175 TRA-1.9147 TC3 -.0759 BAU .1538 SGT 2651.8 SGR 985.9 SG3 427.1 ST 71.5 SR 27.7 S5 60.1

LAUNCH DATE MAR 12 1971 FLIGHT TIME 170.00 ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC DISTANCE 449.300 EARTH TO MARS
RL 148.63 LAL .00 LOL 170.77 VL 33.068 GAL -7.19 AZL 94.87 HCA 157.99 SMA 191.70 ECC .25561 INC 4.8734 V1 29.978

PLANETOCENTRIC CONIC
C3 36.304 VHL 6.025 DLA -40.55 RAL 333.71 RAD 6649.4 VEL 12.498 PTH 7.38 VHP 7.084 DPA -7.34 RAP 302.81 ECC 1.5975

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.3439 TRA-1.8535 TC3 -.0642 BAU .1630 SGT 2649.4 SGR 1082.3 SG3 448.6 ST 72.7 SR 29.4 S5 62.3

LAUNCH DATE MAR 12 1971 FLIGHT TIME 172.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC DISTANCE 453.017 EARTH TO MARS
RL 148.63 LAL .00 LOL 170.77 VL 33.010 GAL -7.07 AZL 95.14 HCA 189.25 SMA 190.65 ECC .25097 INC 5.1365 V1 29.978

PLANETOCENTRIC CONIC
C3 36.135 VHL 6.011 DLA -41.99 RAL 334.80 RAD 6649.3 VEL 12.491 PTH 7.38 VHP 6.926 DPA -6.18 RAP 302.65 ECC 1.5947

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.3851 TRA-1.7975 TC3 -.0631 BAU .1748 SGT 2637.5 SGR 1194.4 SG3 470.3 ST 74.5 SR 31.6 S5 64.7

LAUNCH DATE MAR 12 1971 FLIGHT TIME 174.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 456.769 EARTH TO MARS
RL 148.63 LAL .00 LOL 170.77 VL 32.956 GAL -6.96 AZL 95.43 HCA 160.52 SMA 189.66 ECC .24658 INC 5.4321 V1 29.978

PLANETOCENTRIC CONIC
C3 36.172 VHL 6.014 DLA -43.54 RAL 336.03 RAD 6649.3 VEL 12.493 PTH 7.38 VHP 6.782 DPA -4.89 RAP 302.38 ECC 1.5953

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.4289 TRA-1.7308 TC3 -.0566 BAU .1878 SGT 2651.8 SGR 1322.1 SG3 491.0 ST 76.1 SR 34.2 S5 67.2

LAUNCH DATE MAR 12 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.904 GAL -6.86 AZL 95.77 HCA 161.78 SMA 188.74 ECC .24242 INC 5.7674 V1 29.978
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.104 GAP 12.94 AZP 84.52 TAL 323.64 TAP 123.43 RCA 142.99 APO 234.50 V2 26.494
 RC 61.483 GL -32.94 GP 18.13 ZAL 136.66 ZAP 145.98 ETS 150.46 ZAE 156.03 ETE 111.45 ZAC 119.73 ETC 275.09 LVI -30.37

PLANETOCENTRIC CONIC
 C3 36.452 VHL 6.038 DLA -45.22 RAL 337.46 RAD 6649.4 VEL 12.504 PTH 7.39 VHP 6.653 DPA -3.45 RAP 302.04 ECC 1.5999
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 22 58 5 2194.73 7.90 33.59 217.21 137.07 23 34 40 1194.7 25.54 36.24
 53.12 0 44 47 1932.04 18.58 39.67 227.95 132.00 1 16 59 932.0 33.83 18.70
 53.12 0 44 47 1932.04 18.58 39.67 227.95 132.00 1 16 59 932.0 33.83 18.70
 53.12 0 44 47 1932.04 18.58 39.67 227.95 132.00 1 16 59 932.0 33.83 18.70
 53.12 0 44 47 1932.04 18.58 39.67 227.95 132.00 1 16 59 932.0 33.83 18.70
 53.12 0 44 47 1932.04 18.58 39.67 227.95 132.00 1 16 59 932.0 33.83 18.70

DIFFERENTIAL CORRECTIONS
 TDE -1.4811 TRA -1.8570 TC3 -.0501 BAU .2033
 RDE -.6894 RRA -.9030 RC3 .4141 FAU .06425
 FDE 1.9420 FRA 3.9360 FC3 -1.5260 BSP 5271
 BDE 1.6337 BRA 1.8871 BC3 .4171 FSP 809

MID-COURSE EXECUTION ACCURACY
 SGT 2638.6 SGR 1469.0 SG3 510.5
 RRT .9300 RRF -.9883 RTF -.9183
 SGB 3019.9 R23 -.2856 R13 -.9461
 SGI 2981.9 SG2 477.7 THA 28.16

ORBIT DETERMINATION ACCURACY
 ST 77.8 SR 37.5 SS 70.0
 CRT .9977 CRS .9794 CST .9642
 LSA 110.3 MSA 14.1 SSA .5
 EL1 86.4 EL2 2.3 ALF 25.67

LAUNCH DATE MAR 12 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.855 GAL -6.78 AZL 96.15 HCA 163.05 SMA 187.89 ECC .23849 INC 6.1508 V1 29.978
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.039 GAP 12.97 AZP 84.11 TAL 323.69 TAP 126.74 RCA 143.08 APO 232.69 V2 26.496
 RC 62.398 GL -35.07 GP 19.80 ZAL 135.34 ZAP 144.04 ETS 149.70 ZAE 154.60 ETE 110.13 ZAC 121.40 ETC 275.17 LVI -31.89

PLANETOCENTRIC CONIC
 C3 37.026 VHL 6.085 DLA -47.02 RAL 339.12 RAD 6649.6 VEL 12.527 PTH 7.41 VHP 6.542 DPA -1.82 RAP 301.61 ECC 1.6094
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 51 12 2077.28 13.71 48.48 224.93 136.02 24 25 49 1077.3 30.68 29.79
 50.73 0 42 44 1958.17 18.99 42.52 230.41 133.86 1 15 23 958.2 34.87 21.97
 50.73 0 42 44 1958.17 18.99 42.52 230.41 133.86 1 15 23 958.2 34.87 21.97
 50.73 0 42 44 1958.17 18.99 42.52 230.41 133.86 1 15 23 958.2 34.87 21.97
 50.73 0 42 44 1958.17 18.99 42.52 230.41 133.86 1 15 23 958.2 34.87 21.97
 50.73 0 42 44 1958.17 18.99 42.52 230.41 133.86 1 15 23 958.2 34.87 21.97

DIFFERENTIAL CORRECTIONS
 TDE -1.5444 TRA -1.5752 TC3 -.0429 BAU .2216
 RDE -.7876 RRA -.9892 RC3 .4456 FAU .06581
 FDE 2.1184 FRA 3.9547 FC3 -1.5388 BSP 5367
 BDE 1.7246 BRA 1.8601 BC3 .4477 FSP 840

MID-COURSE EXECUTION ACCURACY
 SGT 2617.3 SGR 1637.9 SG3 527.8
 RRT .9318 RRF -.9913 RTF -.9185
 SGB 3087.5 R23 -.2784 R13 -.9515
 SGI 3045.0 SG2 510.9 THA 31.23

ORBIT DETERMINATION ACCURACY
 ST 79.7 SR 41.6 SS 73.0
 CRT .9954 CRS .9853 CST .9646
 LSA 114.9 MSA 14.3 SSA .5
 EL1 89.8 EL2 3.5 ALF 27.47

LAUNCH DATE MAR 12 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.809 GAL -6.86 AZL 96.59 HCA 164.31 SMA 187.08 ECC .23478 INC 6.5942 V1 29.978
 RP 206.67 LAP -1.78 LOP 335.18 VP 23.977 GAP 12.20 AZP 83.65 TAL 323.74 TAP 128.05 RCA 143.16 APO 231.01 V2 26.496
 RC 63.376 GL -37.40 GP 21.71 ZAL 133.84 ZAP 141.94 ETS 148.89 ZAE 152.90 ETE 109.05 ZAC 123.31 ETC 275.24 LVI -33.58

PLANETOCENTRIC CONIC
 C3 37.988 VHL 6.162 DLA -48.95 RAL 341.10 RAD 6650.0 VEL 12.564 PTH 7.43 VHP 6.453 DPA .01 RAP 301.07 ECC 1.6249
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.22 0 42 0 1985.77 19.29 45.53 233.34 135.92 1 15 5 985.8 35.87 25.51
 48.22 0 42 0 1985.77 19.29 45.53 233.34 135.92 1 15 5 985.8 35.87 25.51
 48.22 0 42 0 1985.77 19.29 45.53 233.34 135.92 1 15 5 985.8 35.87 25.51
 48.22 0 42 0 1985.77 19.29 45.53 233.34 135.92 1 15 5 985.8 35.87 25.51
 48.22 0 42 0 1985.77 19.29 45.53 233.34 135.92 1 15 5 985.8 35.87 25.51
 48.22 0 42 0 1985.77 19.29 45.53 233.34 135.92 1 15 5 985.8 35.87 25.51

DIFFERENTIAL CORRECTIONS
 TDE -1.8127 TRA -1.4748 TC3 -.0286 BAU .2444
 RDE -.8716 RRA -1.0798 RC3 .4808 FAU .06748
 FDE 2.3204 FRA 3.9286 FC3 -1.5383 BSP 5366
 BDE 1.8331 BRA 1.8276 BC3 .4814 FSP 860

MID-COURSE EXECUTION ACCURACY
 SGT 2570.9 SGR 1829.2 SG3 541.0
 RRT .9334 RRF -.9935 RTF -.9190
 SGB 3195.2 R23 -.2648 R13 -.9579
 SGI 3108.1 SG2 543.0 THA 34.80

ORBIT DETERMINATION ACCURACY
 ST 81.3 SR 46.6 SS 76.1
 CRT .9927 CRS .9897 CST .9654
 LSA 119.8 MSA 14.6 SSA .4
 EL1 93.5 EL2 4.9 ALF 29.73

LAUNCH DATE MAR 12 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.785 GAL -6.57 AZL 97.11 HCA 165.57 SMA 186.33 ECC .23128 INC 7.1130 V1 29.978
 RP 206.68 LAP -1.77 LOP 336.45 VP 23.917 GAP 11.84 AZP 83.11 TAL 323.78 TAP 129.35 RCA 143.24 APO 229.43 V2 26.496
 RC 64.414 GL -38.98 GP 23.88 ZAL 132.15 ZAP 139.64 ETS 148.04 ZAE 150.91 ETE 108.21 ZAC 125.49 ETC 275.32 LVI -35.46

PLANETOCENTRIC CONIC
 C3 39.391 VHL 6.276 DLA -51.03 RAL 343.48 RAD 6650.5 VEL 12.620 PTH 7.47 VHP 6.392 DPA 2.09 RAP 300.42 ECC 1.6483
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.57 0 42 58 2015.23 19.44 48.70 236.88 138.17 1 16 33 1015.2 36.77 29.36
 45.57 0 42 58 2015.23 19.44 48.70 236.88 138.17 1 16 33 1015.2 36.77 29.36
 45.57 0 42 58 2015.23 19.44 48.70 236.88 138.17 1 16 33 1015.2 36.77 29.36
 45.57 0 42 58 2015.23 19.44 48.70 236.88 138.17 1 16 33 1015.2 36.77 29.36
 45.57 0 42 58 2015.23 19.44 48.70 236.88 138.17 1 16 33 1015.2 36.77 29.36
 45.57 0 42 58 2015.23 19.44 48.70 236.88 138.17 1 16 33 1015.2 36.77 29.36

DIFFERENTIAL CORRECTIONS
 TDE -1.7248 TRA -1.3875 TC3 -.0351 BAU .2692
 RDE -1.0221 RRA -1.1828 RC3 .5101 FAU .06816
 FDE 2.5768 FRA 3.8695 FC3 -1.4980 BSP 5694
 BDE 2.0049 BRA 1.8231 BC3 .5113 FSP 886

MID-COURSE EXECUTION ACCURACY
 SGT 2556.9 SGR 2056.2 SG3 550.7
 RRT .9318 RRF -.9952 RTF -.9164
 SGB 3281.1 R23 -.2536 R13 -.9628
 SGI 3227.4 SG2 591.4 THA 38.37

ORBIT DETERMINATION ACCURACY
 ST 84.3 SR 53.3 SS 79.9
 CRT .9903 CRS .9931 CST .9674
 LSA 127.0 MSA 14.8 SSA .4
 EL1 99.6 EL2 6.3 ALF 32.19

LAUNCH DATE MAR 12 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.307 GAL -5.83 AZL 81.75 HCA 189.77 SMA 178.84 ECC .19637 INC 8.2451 V1 29.978
 RP 208.32 LAP -1.39 LOP .44 VP 23.066 GAP 6.21 AZP 98.13 TAL 323.00 TAP 152.77 RCA 143.72 APO 213.96 V2 26.304
 RC 93.190 GL 47.86 GP -43.14 ZAL 127.06 ZAP 106.48 ETS 194.95 ZAE 131.51 ETE 230.92 ZAC 59.28 ETC 272.09 LVI 30.00

PLANETOCENTRIC CONIC
 C3 39.834 VHL 6.216 DLA 31.74 RAL 310.07 RAD 6650.2 VEL 12.590 PTH 7.45 VHP 5.444 DPA -63.13 RAP 310.21 ECC 1.6358
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 24 6 3964.75 -44.00 171.52 213.69 69.70 15 30 11 2964.8 -47.31 137.00
 60.00 14 14 11 3991.22 -34.55 169.16 208.96 67.82 15 20 42 2991.2 -40.20 139.59
 70.00 13 50 58 4059.86 -23.88 169.34 203.60 64.82 14 58 38 3059.9 -32.09 143.76
 74.96 12 46 5 4261.69 -13.19 179.00 197.83 60.87 13 57 7 3261.7 -24.02 156.41
 74.96 12 46 5 4261.69 -13.19 179.00 197.83 60.87 13 57 7 3261.7 -24.02 156.41
 74.96 12 46 5 4261.69 -13.19 179.00 197.83 60.87 13 57 7 3261.7 -24.02 156.41
 110.00 18 50 25 3106.68 -23.88 98.26 203.60 64.82 19 42 11 2106.7 -32.09 72.68

DIFFERENTIAL CORRECTIONS
 TDE .5836 TRA -.3174 TC3 -.4620 BAU .5747
 RDE 2.4662 RRA 4.0822 RC3-1.0122 FAU .08733
 FDE 3.9421 FRA 6.7088 FC3-1.9570 BSP 8785
 BDE 2.5343 BRA 4.0945 BC3 1.1127 FSP 1254

MID-COURSE EXECUTION ACCURACY
 SGT 858.8 SGR 5131.1 S63 733.1
 RRT .0961 RRF .9990 RTF .1167
 SGB 5202.5 R23 -.0180 R13 .9991
 S61 5131.8 S62 854.7 THA 89.05

ORBIT DETERMINATION ACCURACY
 ST 27.4 SR 131.6 SS 99.7
 CRT .7531 CRS -.9999 CST -.7451
 LSA 166.4 MSA 18.0 SSA .3
 EL1 133.3 EL2 17.8 ALF 80.93

LAUNCH DATE MAR 12 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.297 GAL -5.83 AZL 82.82 HCA 191.00 SMA 178.69 ECC .19572 INC 7.1831 V1 29.978
 RP 208.49 LAP -1.37 LOP 1.68 VP 23.030 GAP 5.96 AZP 97.05 TAL 322.91 TAP 153.92 RCA 143.71 APO 213.66 V2 26.284
 RC 95.074 GL 43.74 GP -40.37 ZAL 130.09 ZAP 105.93 ETS 193.03 ZAE 132.78 ETE 228.02 ZAC 61.86 ETC 271.93 LVI 27.81

PLANETOCENTRIC CONIC
 C3 33.771 VHL 5.811 DLA 27.68 RAL 311.19 RAD 6648.4 VEL 12.397 PTH 7.31 VHP 5.083 DPA -62.81 RAP 307.59 ECC 1.5558
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 51 34 3836.05 -46.44 160.10 208.61 78.21 15 55 30 2836.0 -45.75 124.99
 60.00 14 53 0 3832.23 -37.99 157.08 205.94 75.38 15 56 52 2832.2 -39.93 126.11
 70.00 14 55 38 3824.47 -29.76 153.60 203.09 72.42 15 59 22 2824.5 -34.11 125.74
 80.00 15 2 30 3802.86 -22.10 149.02 200.14 69.39 16 5 53 2802.9 -28.60 123.49
 90.00 15 39 30 3683.22 -17.47 138.30 198.19 67.41 16 40 54 2683.2 -25.28 113.99
 100.00 17 45 22 3277.33 -22.10 110.38 200.14 69.39 18 40 0 2277.3 -28.60 64.86
 110.00 19 55 4 2871.29 -29.76 82.52 203.09 72.42 20 42 55 1871.3 -34.11 54.65

DIFFERENTIAL CORRECTIONS
 TDE .5717 TRA -.1716 TC3 -.5672 BAU .5412
 RDE 2.1748 RRA 3.8455 RC3-1.0561 FAU .09614
 FDE 4.1645 FRA 7.7204 FC3-2.4646 BSP 8482
 BDE 2.2487 BRA 3.8493 BC3 1.1988 FSP 1475

MID-COURSE EXECUTION ACCURACY
 SGT 888.2 SGR 4945.2 S63 859.4
 RRT .2733 RRF .9990 RTF .2898
 SGB 5022.4 R23 -.0088 R13 .9991
 S61 4949.4 S62 853.3 THA 87.10

ORBIT DETERMINATION ACCURACY
 ST 28.3 SR 125.0 SS 106.5
 CRT .8014 CRS -.9998 CST -.7887
 LSA 165.7 MSA 17.1 SSA .3
 EL1 127.1 EL2 16.7 ALF 79.52

LAUNCH DATE MAR 12 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.288 GAL -5.83 AZL 83.67 HCA 192.24 SMA 178.54 ECC .19517 INC 6.3344 V1 29.978
 RP 208.67 LAP -1.34 LOP 2.93 VP 22.994 GAP 5.71 AZP 96.19 TAL 322.81 TAP 155.05 RCA 143.70 APO 213.39 V2 26.264
 RC 96.988 GL 40.02 GP -38.26 ZAL 132.77 ZAP 105.07 ETS 191.16 ZAE 133.62 ETE 224.93 ZAC 64.19 ETC 271.74 LVI 25.90

PLANETOCENTRIC CONIC
 C3 30.367 VHL 5.511 DLA 24.06 RAL 312.21 RAD 6647.1 VEL 12.260 PTH 7.20 VHP 4.802 DPA -60.73 RAP 305.21 ECC 1.4998
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 13 32 3728.90 -47.45 149.96 203.62 85.95 16 16 1 2728.9 -43.45 115.71
 60.00 15 22 48 3705.12 -39.67 146.71 202.51 82.23 16 24 33 2705.1 -38.50 115.61
 70.00 15 37 34 3661.57 -32.52 141.72 201.04 78.94 16 38 36 2661.6 -33.75 113.05
 80.00 16 8 22 3571.25 -26.78 133.43 199.59 76.29 17 5 53 2571.3 -29.86 106.43
 90.00 17 7 44 3373.09 -24.34 118.19 198.90 75.14 18 3 57 2373.1 -28.18 91.83
 100.00 18 49 14 3045.73 -26.78 94.80 199.59 76.29 19 39 59 2045.7 -29.86 67.80
 110.00 20 37 1 2708.39 -32.52 70.64 201.04 78.94 21 22 9 1708.4 -33.75 41.97

DIFFERENTIAL CORRECTIONS
 TDE .5766 TRA -.0114 TC3 -.6770 BAU .5187
 RDE 1.9500 RRA 3.6348 RC3-1.0835 FAU .10413
 FDE 4.3430 FRA 8.6486 FC3-2.9686 BSP 8196
 BDE 2.0334 BRA 3.6349 BC3 1.2777 FSP 1683

MID-COURSE EXECUTION ACCURACY
 SGT 957.3 SGR 4760.9 S63 977.8
 RRT .4504 RRF .9989 RTF .434
 SGB 4856.2 R23 .0015 R13 .9990
 S61 4781.1 S62 851.1 THA 84.66

ORBIT DETERMINATION ACCURACY
 ST 30.0 SR 118.9 SS 112.0
 CRT .8492 CRS -.9995 CST -.8332
 LSA 165.2 MSA 16.2 SSA .4
 EL1 121.6 EL2 15.5 ALF 77.70

LAUNCH DATE MAR 12 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.279 GAL -5.83 AZL 84.36 HCA 193.47 SMA 178.42 ECC .19471 INC 5.6403 V1 29.978
 RP 208.85 LAP -1.31 LOP 4.17 VP 22.958 GAP 5.47 AZP 95.49 TAL 322.69 TAP 156.16 RCA 143.68 APO 213.16 V2 26.243
 RC 98.928 GL 36.88 GP -36.17 ZAL 135.13 ZAP 103.96 ETS 189.38 ZAE 134.08 ETE 221.78 ZAC 66.31 ETC 271.54 LVI 24.23

PLANETOCENTRIC CONIC
 C3 27.912 VHL 5.283 DLA 20.82 RAL 313.16 RAD 6646.2 VEL 12.160 PTH 7.12 VHP 4.578 DPA -58.87 RAP 303.02 ECC 1.4594
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 32 35 3638.24 -47.52 141.20 199.17 92.69 16 33 13 2638.2 -40.92 108.19
 60.00 15 47 0 3599.81 -40.27 137.82 199.25 88.23 16 47 0 2599.8 -36.57 107.34
 70.00 16 9 31 3533.53 -33.77 131.95 198.74 84.58 17 8 24 2533.5 -32.48 103.28
 80.00 16 48 18 3411.93 -28.84 122.05 198.06 81.92 17 45 10 2411.9 -29.29 94.63
 90.00 17 55 48 3194.01 -26.88 105.70 197.72 80.88 18 49 2 2194.0 -28.01 78.75
 100.00 19 31 10 2886.40 -28.84 83.42 198.06 81.92 20 19 16 1886.4 -29.29 56.00
 110.00 21 8 57 2580.35 -33.77 60.86 198.74 84.58 21 51 57 1580.3 -32.48 32.20

DIFFERENTIAL CORRECTIONS
 TDE .5917 TRA .1580 TC3 -.7903 BAU .5049
 RDE 1.7722 RRA 3.4449 RC3-1.0984 FAU .11151
 FDE 4.4882 FRA 9.4948 FC3-3.4585 BSP 7925
 BDE 1.8684 BRA 3.4485 BC3 1.3531 FSP 1877

MID-COURSE EXECUTION ACCURACY
 SGT 1069.0 SGR 4584.5 S63 1087.4
 RRT .5989 RRF .9988 RTF .6090
 SGB 4707.4 R23 .0129 R13 .9988
 S61 4630.5 S62 847.5 THA 81.77

ORBIT DETERMINATION ACCURACY
 ST 32.2 SR 113.3 SS 116.4
 CRT .8903 CRS -.9992 CST -.8722
 LSA 164.9 MSA 15.3 SSA .4
 EL1 116.9 EL2 14.2 ALF 75.57

LAUNCH DATE MAR 12 1971

FLIGHT TIME 229.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 148.83 LAL .00 LOL 170.77 VL 32.272 GAL -5.84 AZL 84.94 HCA 194.70 SMA 178.30 ECC .19435 INC 5.0620 V1 29.978
RP 209.04 LAP -1.28 LOP 5.42 VP 22.923 GAP 5.23 AZP 94.90 TAL 322.56 TAP 157.26 RCA 143.65 APO 212.96 V2 26.221
RC 100.898 GL 33.67 GP -34.28 ZAL 137.21 ZAP 102.64 ETS 187.70 ZAE 134.20 ETE 218.60 ZAC 68.23 ETC 271.32 LVI 22.71

PLANETOCENTRIC CONIC

C3 26.099 VHL 5.109 DLA 17.92 RAL 314.04 RAD 6645.4 VEL 12.086 PTH 7.06 VHP 4.398 DPA -57.20 RAP 300.97 ECC 1.4295
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 48 37 3560.61 -47.01 133.77 195.44 98.39 16 47 58 2560.6 -38.38 102.79
60.00 16 7 21 3510.73 -40.18 130.25 196.41 93.37 17 5 52 2510.7 -34.46 100.73
70.00 16 35 26 3428.05 -34.15 123.74 196.59 89.42 17 32 34 2428.0 -30.82 95.52
80.00 17 20 30 3286.79 -29.69 112.85 196.41 86.68 18 15 17 2286.8 -28.04 85.55
90.00 18 31 19 3058.21 -27.97 95.92 196.28 85.68 19 22 18 2058.2 -26.96 68.96
100.00 20 3 22 2761.27 -29.69 74.22 196.41 86.68 20 49 24 1761.3 -28.04 46.92
110.00 21 34 53 2474.87 -34.15 52.66 196.59 89.42 22 16 8 1474.9 -30.82 24.43

DIFFERENTIAL CORRECTIONS

TDE .6192 TRA .3353 TC3 -.9049 BAU .4965
RDE 1.6318 RRA 3.2741 RC3-1.0982 FAU .11788
FDE 4.6168 FRA10.2692 FC3-3.9102 BSP 7712
BDE 1.7440 BRA 3.2912 BC3 1.4229 FSP 2064

MID-COURSE EXECUTION ACCURACY

SGT 1219.5 SGR 4416.2 SCS 1188.7
RRT .7104 RRF .9986 RTF .7183
SGB 4981.4 R23 .0253 R13 .9984
SG1 4903.5 SGT 841.6 THA 78.49

ORBIT DETERMINATION ACCURACY

ST 35.0 SR 108.3 SS 120.2
CRT .9232 CRS -.9989 CST -.9040
LSA 164.9 MSA 14.5 SBA .5
EL1 113.1 EL2 12.9 ALF 73.15

LAUNCH DATE MAR 12 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 32.266 GAL -5.86 AZL 85.43 HCA 195.94 SMA 178.21 ECC .19408 INC 4.5721 V1 29.978
RP 209.24 LAP -1.25 LOP 6.66 VP 22.887 GAP 4.99 AZP 94.40 TAL 322.41 TAP 158.35 RCA 143.62 APO 212.79 V2 26.198
RC 102.893 GL 30.96 GP -32.56 ZAL 139.04 ZAP 101.16 ETS 186.14 ZAE 134.01 ETE 215.51 ZAC 69.97 ETC 271.09 LVI 21.47

PLANETOCENTRIC CONIC

C3 24.738 VHL 4.974 DLA 15.32 RAL 314.85 RAD 6644.9 VEL 12.030 PTH 7.02 VHP 4.250 DPA -55.68 RAP 299.04 ECC 1.4071
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 2 37 3493.52 -48.15 127.32 192.42 103.14 17 0 51 2493.5 -35.95 98.22
60.00 16 24 52 3434.31 -39.68 123.81 194.04 97.71 17 22 6 2434.3 -32.35 95.35
70.00 16 57 16 3338.92 -33.99 116.79 194.74 93.53 17 52 55 2338.9 -29.02 89.20
80.00 17 46 52 3183.94 -29.85 105.19 194.92 90.71 18 39 55 2183.5 -26.52 78.26
90.00 18 59 53 2947.82 -28.28 87.87 194.93 89.68 19 49 1 1947.8 -25.56 61.19
100.00 20 29 43 2638.01 -29.85 66.55 194.92 90.71 21 14 1 1638.0 -26.52 39.62
110.00 21 56 43 2358.74 -33.99 45.70 194.74 93.53 22 36 28 1358.7 -29.02 18.12

DIFFERENTIAL CORRECTIONS

TDE .6445 TRA .3180 TC3-1.0205 BAU .4941
RDE 1.5150 RRA 3.1152 RC3-1.0912 FAU .12388
FDE 4.7192 FRA10.9628 FC3-4.3344 BSP 7504
BDE 1.6464 BRA 3.1579 BC3 1.4941 FSP 2230

MID-COURSE EXECUTION ACCURACY

SGT 1401.6 SGR 4250.7 SCS 1280.3
RRT .7888 RRF .9984 RTF .7951
SGB 4475.8 R23 .0388 R13 .9977
SG1 4397.7 SGT 832.7 THA 74.86

ORBIT DETERMINATION ACCURACY

ST 36.3 SR 103.6 SS 123.2
CRT .9477 CRS -.9984 CST -.9283
LSA 164.9 MSA 13.8 SBA .5
EL1 109.8 EL2 11.5 ALF 70.47

LAUNCH DATE MAR 12 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 32.260 GAL -5.88 AZL 85.85 HCA 197.17 SMA 178.12 ECC .19390 INC 4.1518 V1 29.978
RP 209.44 LAP -1.22 LOP 7.99 VP 22.892 GAP 4.76 AZP 93.97 TAL 322.26 TAP 159.43 RCA 143.58 APO 212.66 V2 26.174
RC 104.913 GL 28.50 GP -30.98 ZAL 140.86 ZAP 99.56 ETS 184.70 ZAE 133.58 ETE 212.52 ZAC 71.57 ETC 270.86 LVI 20.33

PLANETOCENTRIC CONIC

C3 23.705 VHL 4.869 DLA 12.97 RAL 315.61 RAD 6644.4 VEL 11.987 PTH 6.98 VHP 4.128 DPA -54.29 RAP 297.21 ECC 1.3901
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 19 0 3435.11 -45.11 122.27 190.03 107.07 17 12 15 2435.1 -33.68 94.48
60.00 16 40 11 3368.07 -38.93 118.34 192.13 101.35 17 36 19 2368.1 -30.32 90.91
70.00 17 16 7 3282.38 -33.51 110.86 193.22 97.00 18 10 29 2282.4 -27.22 83.97
80.00 18 9 12 3096.03 -29.60 98.70 193.67 94.11 19 0 48 2096.0 -24.92 72.25
90.00 19 23 32 2855.01 -26.13 81.09 193.77 93.07 20 11 27 1855.0 -24.04 54.82
100.00 20 52 4 2570.50 -29.60 60.08 193.67 94.11 21 34 54 1570.5 -24.92 33.62
110.00 22 19 33 2309.17 -33.51 39.78 193.22 97.00 22 54 2 1309.2 -27.22 12.89

DIFFERENTIAL CORRECTIONS

TDE .6786 TRA .7054 TC3-1.1360 BAU .4988
RDE 1.4186 RRA 2.8675 RC3-1.0759 FAU .12913
FDE 4.8075 FRA11.5836 FC3-4.7161 BSP 7337
BDE 1.3725 BRA 3.0502 BC3 1.5646 FSP 2381

MID-COURSE EXECUTION ACCURACY

SGT 1608.5 SGR 4089.9 SCS 1362.8
RRT .8429 RRF .9981 RTF .8181
SGB 4394.8 R23 .0528 R13 .9968
SG1 4317.7 SGT 819.8 THA 70.95

ORBIT DETERMINATION ACCURACY

ST 42.0 SR 99.3 SS 125.6
CRT .9655 CRS -.9978 CST -.9464
LSA 165.0 MSA 13.2 SBA .6
EL1 107.3 EL2 10.1 ALF 67.60

LAUNCH DATE MAR 12 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 148.63 LAL .00 LOL 170.77 VL 32.255 GAL -5.90 AZL 86.21 HCA 198.40 SMA 178.05 ECC .19379 INC 3.7868 V1 29.978
RP 209.68 LAP -1.19 LOP 9.13 VP 22.817 GAP 4.53 AZP 93.59 TAL 322.09 TAP 160.49 RCA 143.54 APO 212.55 V2 26.150
RC 106.958 GL 26.27 GP -29.53 ZAL 142.08 ZAP 97.85 ETS 183.36 ZAE 132.88 ETE 209.69 ZAC 73.05 ETC 270.63 LVI 19.32

PLANETOCENTRIC CONIC

C3 22.916 VHL 4.787 DLA 10.86 RAL 316.32 RAD 6644.1 VEL 11.954 PTH 6.86 VHP 4.027 DPA -53.01 RAP 295.45 ECC 1.3771
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 26 4 3383.91 -44.00 117.85 188.17 110.32 17 22 28 2383.9 -31.60 91.37
60.00 16 53 46 3310.16 -38.05 113.67 190.63 104.41 17 48 57 2310.2 -28.42 87.19
70.00 17 32 39 3195.80 -32.85 105.79 192.01 99.93 18 25 54 2195.8 -25.49 79.58
80.00 18 28 35 3020.58 -29.10 93.15 192.66 96.99 19 18 55 2020.6 -23.32 67.22
90.00 19 44 33 2775.37 -27.70 75.30 192.84 95.93 20 30 49 1775.4 -22.50 49.49
100.00 21 11 26 2495.05 -29.10 54.51 192.66 96.99 21 53 1 1495.0 -23.32 28.59
110.00 22 32 5 2242.62 -32.85 34.70 192.01 99.93 23 9 27 1242.6 -25.49 8.49

DIFFERENTIAL CORRECTIONS

TDE .7193 TRA .8984 TC3-1.2453 BAU .3032
RDE 1.3273 RRA 2.8200 RC3-1.0711 FAU .13563
FDE 4.8405 FRA12.0955 FC3-5.1239 BSP 7108
BDE 1.5097 BRA 2.9596 BC3 1.6426 FSP 2474

MID-COURSE EXECUTION ACCURACY

SGT 1833.4 SGR 3922.5 SCS 1432.6
RRT .8834 RRF .9978 RTF .8874
SGB 4329.9 R23 .0670 R13 .9956
SG1 4256.9 SGT 791.7 THA 66.71

ORBIT DETERMINATION ACCURACY

ST 46.1 SR 94.7 SS 126.8
CRT .9775 CRS -.9971 CST -.9588
LSA 164.4 MSA 12.6 SBA .7
EL1 105.0 EL2 8.8 ALF 64.36

LAUNCH DATE MAR 12 1971 FLIGHT TIME 236.00 ARRIVAL DATE NOV 3 1971

Heliocentric Conic DISTANCE 582.642 EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.251 GAL -5.92 AZL 86.53 HCA 199.63 SMA 177.98 ECC .19377 INC 3.4666 V1 29.978
 RP 209.87 LAP -1.16 LOP 10.36 VP 22.783 GAP 4.30 AZP 93.27 TAL 321.91 TAP 161.53 RCA 143.49 APO 212.47 V2 26.124
 RC 109.028 GL 24.24 GP -20.19 ZAL 143.36 ZAP 96.07 ETS 182.13 ZAE 132.01 ETE 207.02 ZAC 74.41 ETC 270.39 LVI 18.42

PLANETOCENTRIC CONIC

C3 22.317 VHL 4.724 DLA 8.94 RAL 317.00 RAD 6643.9 VEL 11.929 PTH 6.93 VHP 3.943 DPA -51.83 RAP 293.79 ECC 1.3673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 3 3338.82 -42.86 114.11 186.74 113.02 17 31 42 2338.8 -29.69 88.76
 60.00 17 5 58 3259.22 -37.12 109.67 189.47 106.98 18 0 17 2259.2 -26.85 84.04
 70.00 17 47 22 3137.43 -32.08 101.41 191.08 102.41 18 39 39 2137.4 -23.85 75.84
 80.00 18 45 41 2954.74 -28.46 88.36 191.88 99.43 19 34 56 1954.7 -21.78 62.94
 90.00 20 2 45 2706.06 -27.11 70.32 192.12 98.36 20 47 51 1706.1 -21.00 44.97
 100.00 21 28 33 2429.21 -28.46 49.73 191.88 99.43 22 9 2 1429.2 -21.78 24.30
 110.00 22 46 48 2184.25 -32.08 30.33 191.08 102.41 23 23 12 1184.3 -23.85 4.76

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .7576 TRA 1.0896 TC3-1.3650 BAU .5114 SGT 2073.0 SGR 3774.8 SG3 1498.2 ST 50.2 SR 91.2 SS 128.8
 RDE 1.2629 RRA 2.6946 RC3-1.0365 FAU .13887 RRT .9068 RRF .9974 RTF .9107 CRT .9865 CRS -.9963 CST -.9689
 FDE 4.9180 FRA12.5967 FC3-5.3873 BSP 7069 SGB 4306.5 R23 .0802 R13 .9943 LSA 165.1 HSA 12.3 SSA .8
 BDE 1.4724 BRA 2.9066 BC3 1.7139 FSP 2611 SG1 4235.5 SG2 778.7 THA 62.52 EL1 103.9 EL2 7.2 ALF 61.37

LAUNCH DATE MAR 12 1971 FLIGHT TIME 238.00 ARRIVAL DATE NOV 5 1971

Heliocentric Conic DISTANCE 586.815 EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.248 GAL -5.95 AZL 86.82 HCA 200.85 SMA 177.93 ECC .19383 INC 3.1833 V1 29.978
 RP 210.10 LAP -1.13 LOP 11.59 VP 22.748 GAP 4.08 AZP 92.98 TAL 321.71 TAP 162.56 RCA 143.44 APO 212.42 V2 26.098
 RC 111.121 GL 22.39 GP -26.95 ZAL 144.49 ZAP 94.23 ETS 181.01 ZAE 130.98 ETE 204.54 ZAC 75.67 ETC 270.16 LVI 17.61

PLANETOCENTRIC CONIC

C3 21.865 VHL 4.676 DLA 7.20 RAL 317.64 RAD 6643.7 VEL 11.910 PTH 6.92 VHP 3.874 DPA -50.73 RAP 292.19 ECC 1.3598
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 9 3298.92 -41.75 110.93 185.67 115.28 17 40 7 2298.9 -27.90 86.54
 60.00 17 17 0 3214.15 -36.16 106.23 188.60 109.15 18 10 34 2214.2 -25.02 81.34
 70.00 18 0 36 3085.89 -31.26 97.61 190.39 104.52 18 52 2 2085.9 -22.32 72.62
 80.00 19 0 59 2896.75 -27.74 84.20 191.32 101.50 19 49 16 1896.8 -20.32 59.25
 90.00 20 18 57 2645.13 -26.44 65.99 191.60 100.43 21 3 3 1645.1 -19.57 41.07
 100.00 21 43 51 2371.22 -27.74 45.57 191.32 101.50 22 23 22 1371.2 -20.32 20.61
 110.00 23 0 2 2132.70 -31.26 26.53 190.39 104.52 23 35 35 1132.7 -22.32 1.54

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .7994 TRA 1.2836 TC3-1.4818 BAU .5223 SGT 2322.3 SGR 3629.8 SG3 1554.8 ST 54.5 SR 88.0 SS 130.3
 RDE 1.2068 RRA 2.5753 RC3 -.9987 FAU .14149 RRT .9236 RRF .9970 RTF .9275 CRT .9924 CRS -.9954 CST -.9764
 FDE 4.9849 FRA13.0326 FC3-5.6024 BSP 7068 SGB 4309.1 R23 .0926 R13 .9928 LSA 166.0 HSA 11.9 SSA .8
 BDE 1.4476 BRA 2.8775 BC3 1.7869 FSP 2734 SG1 4241.2 SG2 762.1 THA 58.28 EL1 103.4 EL2 5.7 ALF 58.32

LAUNCH DATE MAR 12 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 7 1971

Heliocentric Conic DISTANCE 590.990 EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.245 GAL -5.98 AZL 87.07 HCA 202.08 SMA 177.89 ECC .19397 INC 2.9306 V1 29.978
 RP 210.33 LAP -1.10 LOP 12.82 VP 22.714 GAP 3.85 AZP 92.72 TAL 321.51 TAP 163.56 RCA 143.39 APO 212.40 V2 26.071
 RC 113.239 GL 20.89 GP -25.79 ZAL 145.51 ZAP 92.35 ETS 179.97 ZAE 129.82 ETE 202.23 ZAC 76.85 ETC 269.94 LVI 16.88

PLANETOCENTRIC CONIC

C3 21.531 VHL 4.640 DLA 5.61 RAL 318.25 RAD 6643.5 VEL 11.897 PTH 6.91 VHP 3.818 DPA -49.70 RAP 290.67 ECC 1.3543
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 28 3263.48 -40.69 108.20 184.88 117.17 17 47 51 2263.5 -26.39 84.63
 60.00 17 27 3 3174.11 -35.23 103.24 187.97 110.99 18 19 57 2174.1 -23.92 79.00
 70.00 18 12 37 3040.10 -30.43 94.31 189.90 106.31 19 3 17 2040.1 -20.90 69.83
 80.00 19 14 48 2845.33 -26.99 80.56 190.93 103.27 20 2 13 1845.3 -18.96 56.04
 90.00 20 33 34 2591.14 -25.72 62.20 191.25 102.19 21 16 45 1591.1 -18.23 37.68
 100.00 21 57 40 2319.80 -26.99 41.93 190.93 103.27 22 36 20 1319.8 -18.96 17.41
 110.00 23 12 3 2086.92 -30.43 23.22 189.90 106.31 23 46 50 1086.9 -20.90 358.75

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .8442 TRA 1.4802 TC3-1.5962 BAU .5352 SGT 2579.4 SGR 3490.4 SG3 1603.8 ST 59.0 SR 85.1 SS 131.8
 RDE 1.1607 RRA 2.4639 RC3 -.9539 FAU .14290 RRT .9351 RRF .9964 RTF .5394 CRT .9963 CRS -.9944 CST -.9821
 FDE 5.0527 FRA13.4194 FC3-5.7460 BSP 7135 SGB 4340.1 R23 .1037 R13 .9913 LSA 167.2 HSA 11.5 SSA .9
 BDE 1.4352 BRA 2.8743 BC3 1.8595 FSP 2856 SG1 4275.5 SG2 746.0 THA 54.09 EL1 103.5 EL2 4.2 ALF 55.30

LAUNCH DATE MAR 12 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 9 1971

Heliocentric Conic DISTANCE 595.189 EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.243 GAL -6.02 AZL 87.30 HCA 203.30 SMA 177.86 ECC .19418 INC 2.7039 V1 29.978
 RP 210.57 LAP -1.07 LOP 14.04 VP 22.679 GAP 3.63 AZP 92.48 TAL 321.29 TAP 164.59 RCA 143.33 APO 212.40 V2 26.044
 RC 115.360 GL 19.14 GP -24.70 ZAL 146.42 ZAP 90.43 ETS 179.02 ZAE 128.54 ETE 200.10 ZAC 77.95 ETC 269.72 LVI 16.21

PLANETOCENTRIC CONIC

C3 21.292 VHL 4.614 DLA 4.17 RAL 318.83 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 3.772 DPA -48.73 RAP 289.21 ECC 1.3504
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 7 3231.91 -39.68 105.84 184.31 118.78 17 54 59 2231.9 -24.96 82.98
 60.00 17 36 17 3138.38 -34.33 100.64 187.53 112.56 18 28 35 2138.4 -22.16 76.97
 70.00 18 23 35 2999.25 -29.61 91.41 189.58 107.85 19 13 34 1999.2 -19.58 67.38
 80.00 19 27 22 2799.46 -26.24 77.37 190.69 104.79 20 14 2 1799.5 -17.69 53.22
 90.00 20 46 51 2543.00 -24.98 58.87 191.05 103.71 21 29 14 1543.0 -16.98 34.70
 100.00 22 10 14 2273.93 -26.24 38.74 190.69 104.79 22 48 8 1273.9 -17.69 14.59
 110.00 23 23 1 2046.06 -29.61 20.32 189.58 107.85 23 57 7 1046.1 -19.56 356.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE .8930 TRA 1.6791 TC3-1.7023 BAU .5517 SGT 2840.3 SGR 3341.9 SG3 1639.4 ST 63.7 SR 81.7 SS 132.0
 RDE 1.1102 RRA 2.3469 RC3 -.9265 FAU .14627 RRT .9460 RRF .9958 RTF .9503 CRT .9984 CRS -.9931 CST -.9856
 FDE 5.0547 FRA13.6901 FC3-5.9473 BSP 7144 SGB 4385.9 R23 .1114 R13 .9899 LSA 167.4 HSA 11.4 SSA 1.0
 BDE 1.4248 BRA 2.8857 BC3 1.9381 FSP 2903 SG1 4327.9 SG2 710.9 THA 49.90 EL1 103.6 EL2 2.8 ALF 52.05

LAUNCH DATE MAR 12 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.242 GAL -6.06 AZL 87.30 HCA 204.91 SMA 177.84 ECC .19446 INC 2.4989 V1 29.978
 RP 210.82 LAP -1.04 LOP 15.26 VP 22.645 GAP 3.41 AZP 92.27 TAL 321.07 TAP 165.58 RCA 143.26 APO 212.42 V2 26.015
 RC 117.543 GL 17.70 GP -23.68 ZAL 147.24 ZAP 88.51 ETS 178.15 ZAE 127.17 EYE 198.14 ZAC 78.99 ETC 269.50 LVI 15.61

DISTANCE 399.347 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.133 VHL 4.597 DLA 2.84 RAL 319.40 RAD 6643.3 VEL 11.880 PTH 6.89 VHP 3.737 DPA -47.81 RAP 287.82 ECC 1.3478
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 13 3203.72 -38.73 103.80 183.94 120.14 18 1 37 2203.7 -23.67 81.54
 60.00 17 44 47 3106.44 -33.47 98.36 167.26 113.90 18 36 34 2106.4 -20.91 75.19
 70.00 18 33 40 2962.66 -26.82 88.85 189.40 109.17 19 23 3 1962.7 -18.38 65.23
 80.00 19 38 54 2758.37 -25.49 74.54 190.59 106.10 20 24 53 1758.4 -16.51 50.74
 90.00 20 59 0 2499.89 -24.25 55.92 190.97 105.01 21 40 40 1499.9 -15.81 32.07
 100.00 22 21 46 2232.84 -25.49 35.91 190.59 106.10 22 58 59 1232.8 -16.51 12.11
 110.00 23 33 8 2009.48 -28.82 17.77 189.40 109.17 24 6 36 1009.5 -18.38 354.15

DIFFERENTIAL CORRECTIONS
 TDE .9427 TRA 1.8781 TC3-1.8080 BAU .5691 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE 1.0705 RRA 2.2399 RC3 -.8876 FAU .14778 SGT 3104.3 SGR 3202.9 SG3 1669.1 ST 68.5 SR 78.8 SS 132.4
 FDE 5.0754 FRA13.9312 FC3-6.0538 BSP 7249 RRT .9530 RRF .9951 RTF .9576 CRT .9995 CRS -.9910 CST -.9886 LSA 168.2 MSA 11.3 SSA 1.0
 BDE 1.4265 BRA 2.9231 BC3 2.0141 FSP 2966 SGB 4460.4 R23 .1173 R13 .9886 SGI 4407.7 SG2 683.7 THA 45.94 EL1 104.4 EL2 1.6 ALF 49.00

LAUNCH DATE MAR 12 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.241 GAL -6.10 AZL 87.69 HCA 205.73 SMA 177.83 ECC .19481 INC 2.3127 V1 29.978
 RP 211.07 LAP -1.00 LOP 16.48 VP 22.810 GAP 3.20 AZP 92.08 TAL 320.83 TAP 166.56 RCA 143.19 APO 212.47 V2 25.986
 RC 119.734 GL 16.38 GP -22.71 ZAL 148.00 ZAP 86.58 ETS 177.36 ZAE 125.73 ETE 196.35 ZAC 79.96 ETC 269.29 LVI 15.05

DISTANCE 603.525 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.043 VHL 4.587 DLA 1.63 RAL 319.94 RAD 6643.3 VEL 11.876 PTH 6.89 VHP 3.709 DPA -46.93 RAP 286.50 ECC 1.3463
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 49 3178.52 -37.86 102.03 183.71 121.30 18 7 47 2178.5 -22.51 80.28
 60.00 17 52 40 3077.80 -32.66 96.37 187.12 115.06 18 43 58 2077.8 -19.78 73.61
 70.00 18 43 0 2929.81 -28.07 86.60 189.34 110.31 19 31 49 1929.8 -17.27 63.33
 80.00 19 49 32 2721.43 -24.77 72.04 190.59 107.23 20 34 54 1721.4 -15.43 48.53
 90.00 21 10 13 2461.11 -23.54 53.30 191.00 106.14 21 51 14 1461.1 -14.74 29.74
 100.00 22 32 24 2195.90 -24.77 33.40 190.59 107.23 23 9 0 1195.9 -15.43 9.90
 110.00 23 42 26 1976.63 -28.07 15.51 189.34 110.31 24 15 23 976.6 -17.27 352.24

DIFFERENTIAL CORRECTIONS
 TDE .9937 TRA 2.0773 TC3-1.9108 BAU .5681 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE 1.0349 RRA 2.1370 RC3 -.8482 FAU .14879 SGT 3369.1 SGR 3066.9 SG3 1690.9 ST 73.3 SR 76.0 SS 132.5
 FDE 5.0840 FRA14.1171 FC3-6.1215 BSP 7388 RRT .9580 RRF .9943 RTF .9632 CRT .9998 CRS -.9902 CST -.9909 LSA 169.1 MSA 11.3 SSA 1.1
 BDE 1.4347 BRA 2.9802 BC3 2.0904 FSP 3012 SGB 4556.0 R23 .1209 R13 .9876 SGI 4508.4 SG2 656.9 THA 42.20 EL1 105.6 EL2 1.1 ALF 46.05

LAUNCH DATE MAR 12 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.241 GAL -6.15 AZL 87.86 HCA 206.94 SMA 177.83 ECC .19522 INC 2.1426 V1 29.978
 RP 211.33 LAP -.97 LOP 17.69 VP 22.576 GAP 2.98 AZP 91.91 TAL 320.58 TAP 167.52 RCA 143.11 APO 212.54 V2 25.937
 RC 121.943 GL 15.16 GP -21.80 ZAL 148.68 ZAP 84.66 ETS 176.63 ZAE 124.24 ETE 194.71 ZAC 80.88 ETC 269.09 LVI 14.53

DISTANCE 607.703 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.011 VHL 4.584 DLA .51 RAL 320.46 RAD 6643.3 VEL 11.875 PTH 6.89 VHP 3.690 DPA -46.10 RAP 285.26 ECC 1.3458
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 59 3155.95 -37.05 100.40 183.61 122.30 18 13 35 2155.9 -21.45 79.16
 60.00 18 0 1 3052.10 -31.91 94.61 187.09 116.05 18 50 53 2052.1 -18.75 72.22
 70.00 18 51 39 2900.24 -27.35 84.59 189.39 111.30 19 39 59 1900.2 -16.26 61.63
 80.00 19 59 23 2688.13 -24.08 69.80 190.69 108.21 20 44 12 1688.1 -14.43 46.57
 90.00 21 20 35 2426.13 -22.86 50.97 191.11 107.11 22 1 1 1426.1 -13.74 27.65
 100.00 22 42 15 2162.60 -24.08 31.17 190.69 108.21 23 18 18 1162.6 -14.43 7.94
 110.00 23 51 5 1947.06 -27.35 13.91 189.39 111.30 24 23 32 947.1 -16.26 350.55

DIFFERENTIAL CORRECTIONS
 TDE 1.0465 TRA 2.2788 TC3-2.0087 BAU .6080 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE 1.0037 RRA 2.0386 RC3 -.8088 FAU .14904 SGT 3633.4 SGR 2935.1 SG3 1705.6 ST 78.2 SR 73.5 SS 132.8
 FDE 5.0879 FRA14.2556 FC3-6.1408 BSP 7576 RRT .9616 RRF .9933 RTF .9578 CRT .9993 CRS -.9885 CST -.9926 LSA 170.1 MSA 11.4 SSA 1.1
 BDE 1.4500 BRA 3.0561 BC3 2.1646 FSP 3051 SGB 4670.8 R23 .1225 R13 .9868 SGI 4627.9 SG2 632.1 THA 36.70 EL1 107.2 EL2 2.0 ALF 43.23

LAUNCH DATE MAR 12 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 148.63 LAL .00 LOL 170.77 VL 32.241 GAL -6.20 AZL 88.01 HCA 208.15 SMA 177.83 ECC .19571 INC 1.9883 V1 29.978
 RP 211.60 LAP -.94 LOP 18.91 VP 22.542 GAP 2.77 AZP 91.75 TAL 320.32 TAP 168.47 RCA 143.03 APO 212.64 V2 25.926
 RC 124.177 GL 14.02 GP -20.84 ZAL 149.32 ZAP 82.75 ETS 175.97 ZAE 122.70 ETE 193.22 ZAC 81.74 ETC 268.30 LVI 14.04

DISTANCE 611.880 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.030 VHL 4.586 DLA -.51 RAL 320.97 RAD 6643.3 VEL 11.876 PTH 6.89 VHP 3.677 DPA -45.31 RAP 284.09 ECC 1.3461
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 45 3135.73 -36.30 99.12 183.62 123.17 18 19 1 2135.7 -20.50 78.18
 60.00 18 6 53 3028.99 -31.20 93.05 187.16 116.92 18 57 22 2029.0 -17.81 70.99
 70.00 18 59 43 2873.59 -26.68 82.81 189.52 112.16 19 47 37 1873.6 -15.34 60.12
 80.00 20 8 34 2658.05 -23.42 67.81 190.87 109.06 20 52 52 1658.0 -13.51 44.81
 90.00 21 30 14 2394.51 -22.21 48.88 191.31 107.97 22 10 8 1394.5 -12.82 25.78
 100.00 22 51 25 2132.52 -23.42 29.18 190.87 109.06 23 26 58 1132.5 -13.51 6.18
 110.00 0 3 6 1920.41 -26.68 11.73 189.52 112.16 0 35 6 920.4 -15.34 349.04

DIFFERENTIAL CORRECTIONS
 TDE 1.0998 TRA 2.4750 TC3-2.1039 BAU .6296 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .9751 RRA 1.9432 RC3 -.7666 FAU .14904 SGT 3895.4 SGR 2806.0 SG3 1712.7 ST 82.9 SR 71.0 SS 132.1
 FDE 5.0779 FRA14.3407 FC3-6.1352 BSP 7783 RRT .9642 RRF .9922 RTF .9710 CRT .9983 CRS -.9866 CST -.9940 LSA 171.0 MSA 11.5 SSA 1.2
 BDE 1.4698 BRA 3.1467 BC3 2.2393 FSP 3072 SGB 4800.8 R23 .1220 R13 .9862 SGI 4762.1 SG2 608.9 THA 35.45 EL1 109.1 EL2 3.2 ALF 40.55

LAUNCH DATE MAR 12 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 148.63 LAL .00 LOL 170.77 VL 32.242 GAL -6.25 AZL 88.16 MCA 209.36 SMA 177.85 ECC .19626 INC 1.8423 V1 29.978
 RP 211.87 LAP -.90 LOP 20.12 VP 22.507 GAP 2.56 AZP 91.61 TAL 320.05 TAP 169.41 RCA 142.94 APO 212.75 V2 25.896
 RC 126.431 GL 12.96 GP -20.12 ZAL 149.90 ZAP 80.86 ETS 175.37 ZAE 121.14 ETE 191.88 ZAC 82.56 ETC 268.71 LVI 13.59

Distance 616.056

Planetocentric Conic: C3 21.095 VHL 4.593 DLA -1.46 RAL 321.47 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 3.671 DPA -44.55 RAP 282.99 ECC 1.3472
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 11 3117.62 -35.62 97.93 183.71 123.91 18 24 9 2117.6 -19.64 77.32
 60.00 18 13 19 3008.22 -30.56 91.67 187.31 117.67 19 3 27 2008.2 -16.96 69.89
 70.00 19 7 16 2849.55 -28.05 81.23 189.72 112.91 19 54 46 1849.5 -14.49 58.77
 80.00 20 17 7 2630.03 -22.81 66.02 191.12 109.81 21 0 58 1630.8 -12.67 43.23
 90.00 21 39 14 2365.88 -21.60 47.00 191.57 108.71 22 18 40 1365.9 -11.98 24.10
 100.00 22 59 59 2105.31 -22.81 27.39 191.12 109.81 23 35 5 1105.3 -12.67 4.60
 110.00 0 10 39 1896.37 -26.05 10.15 189.72 112.91 0 42 15 896.4 -14.49 347.69

Differential Corrections: TDE 1.1545 TRA 2.6729 TC3-2.1943 BAU .6519 SGT 4154.9 SGR 2681.3 SG3 1713.7 ST 87.7 SR 68.6 SS 131.7
 RDE .9498 RRA 1.8518 RC3 -.7265 FAU .14850 RRT .9658 RRF .9909 RTF .9738 CRT .9968 CRS -.9844 CST -.9950
 FDE 5.0625 FRA14.3637 FC3-6.0944 BSP 8022 SGB 4944.9 R23 .1198 R13 .9858 LSA 172.1 MSA 11.7 SSA 1.2
 BDE 1.4950 BRA 3.2517 BC3 2.3115 FSP 3082 SG1 4909.8 SG2 588.2 THA 32.46 EL1 111.3 EL2 4.3 ALF 38.02

Mid-Course Execution Accuracy: SGT 4154.9 SGR 2681.3 SG3 1713.7
 RRT .9658 RRF .9909 RTF .9738
 SGB 4944.9 R23 .1198 R13 .9858
 SG1 4909.8 SG2 588.2 THA 32.46

Orbit Determination Accuracy: ST 87.7 SR 68.6 SS 131.7
 CRT .9968 CRS -.9844 CST -.9950
 LSA 172.1 MSA 11.7 SSA 1.2
 EL1 111.3 EL2 4.3 ALF 38.02

LAUNCH DATE MAR 12 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 148.63 LAL .00 LOL 170.77 VL 32.244 GAL -6.31 AZL 88.29 HCA 210.57 SMA 177.87 ECC .19687 INC 1.7091 V1 29.978
 RP 212.14 LAP -.87 LOP 21.32 VP 22.473 GAP 2.35 AZP 91.47 TAL 319.77 TAP 170.34 RCA 142.85 APO 212.88 V2 25.864
 RC 128.706 GL 11.98 GP -19.35 ZAL 150.45 ZAP 79.00 ETS 174.82 ZAE 119.55 ETE 190.62 ZAC 83.33 ETC 268.54 LVI 13.16

Distance 620.230

Planetocentric Conic: C3 21.201 VHL 4.604 DLA -2.34 RAL 321.95 RAD 6643.4 VEL 11.883 PTH 6.89 VHP 3.671 DPA -43.83 RAP 281.97 ECC 1.3489
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 19 3101.42 -35.00 96.88 183.87 124.56 18 29 0 2101.4 -18.87 76.55
 60.00 18 19 22 2989.55 -29.96 90.45 187.53 118.32 19 9 11 1989.6 -16.19 68.91
 70.00 19 14 21 2827.85 -25.47 79.81 189.99 113.56 20 1 29 1827.8 -13.72 57.56
 80.00 20 25 9 2606.20 -22.23 64.42 191.42 110.46 21 8 35 1606.2 -11.90 41.61
 90.00 21 47 40 2339.92 -21.02 45.32 191.89 109.36 22 26 40 1339.9 -11.21 22.59
 100.00 23 8 1 2080.67 -22.23 25.79 191.42 110.46 23 42 41 1080.7 -11.90 3.17
 110.00 0 17 44 1874.67 -25.47 8.73 189.99 113.56 0 48 58 874.7 -13.72 346.48

Differential Corrections: TDE 1.2107 TRA 2.8705 TC3-2.2795 BAU .6747 SGT 4410.9 SGR 2561.3 SG3 1709.1 ST 92.5 SR 66.5 SS 131.1
 RDE .9275 RRA 1.7845 RC3 -.6859 FAU .14735 RRT .9866 RRF .9894 RTF .9760 CRT .9948 CRS -.9821 CST -.9959
 FDE 5.0435 FRA14.3906 FC3-6.0172 BSP 8295 SGB 5100.6 R23 .1165 R13 .9855 LSA 173.3 MSA 11.9 SSA 1.2
 BDE 1.5252 BRA 3.3695 BC3 2.3804 FSP 3080 SG1 5068.6 SG2 570.9 THA 29.72 EL1 113.8 EL2 5.5 ALF 35.65

Mid-Course Execution Accuracy: SGT 4410.9 SGR 2561.3 SG3 1709.1
 RRT .9866 RRF .9894 RTF .9760
 SGB 5100.6 R23 .1165 R13 .9855
 SG1 5068.6 SG2 570.9 THA 29.72

Orbit Determination Accuracy: ST 92.5 SR 66.5 SS 131.1
 CRT .9948 CRS -.9821 CST -.9959
 LSA 173.3 MSA 11.9 SSA 1.2
 EL1 113.8 EL2 5.5 ALF 35.65

LAUNCH DATE MAR 12 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 148.63 LAL .00 LOL 170.77 VL 32.246 GAL -6.37 AZL 88.41 HCA 211.77 SMA 177.90 ECC .19754 INC 1.5853 V1 29.978
 RP 212.43 LAP -.83 LOP 22.52 VP 22.438 GAP 2.14 AZP 91.35 TAL 319.48 TAP 171.25 RCA 142.75 APO 213.04 V2 25.832
 RC 130.999 GL 11.08 GP -18.61 ZAL 150.96 ZAP 77.16 ETS 174.32 ZAE 117.96 ETE 189.49 ZAC 84.07 ETC 268.38 LVI 12.75

Distance 624.402

Planetocentric Conic: C3 21.343 VHL 4.620 DLA -3.14 RAL 322.43 RAD 6643.4 VEL 11.889 PTH 6.90 VHP 3.676 DPA -43.13 RAP 281.01 ECC 1.3513
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 9 3086.94 -34.44 95.95 184.10 125.12 18 33 36 2086.9 -18.18 75.87
 60.00 18 23 4 2972.78 -29.41 89.37 187.80 118.89 19 14 37 1972.8 -15.50 68.04
 70.00 19 21 1 2808.26 -24.93 78.54 190.32 114.14 20 7 49 1808.3 -13.02 56.48
 80.00 20 32 41 2583.88 -21.69 62.98 191.78 111.03 21 15 45 1583.9 -11.19 40.53
 90.00 21 55 35 2316.38 -20.46 43.80 192.26 109.93 22 34 12 1316.4 -10.50 21.22
 100.00 23 15 33 2058.35 -21.69 24.35 191.78 111.03 23 49 31 1058.4 -11.19 1.90
 110.00 0 24 23 1855.08 -24.93 7.48 190.32 114.14 0 55 18 855.1 -13.02 345.40

Differential Corrections: TDE 1.2674 TRA 3.0671 TC3-2.3801 BAU .6983 SGT 4662.4 SGR 2444.8 SG3 1698.7 ST 97.2 SR 64.4 SS 130.3
 RDE .9071 RRA 1.6801 RC3 -.6468 FAU .14589 RRT .9868 RRF .9877 RTF .9778 CRT .9925 CRS -.9795 CST -.9968
 FDE 5.0136 FRA14.3570 FC3-5.9178 BSP 8579 SGB 5264.6 R23 .1121 R13 .9853 LSA 174.4 MSA 12.1 SSA 1.2
 BDE 1.5585 BRA 3.4971 BC3 2.4471 FSP 3078 SG1 5235.1 SG2 556.0 THA 27.22 EL1 116.4 EL2 6.6 ALF 33.43

Mid-Course Execution Accuracy: SGT 4662.4 SGR 2444.8 SG3 1698.7
 RRT .9868 RRF .9877 RTF .9778
 SGB 5264.6 R23 .1121 R13 .9853
 SG1 5235.1 SG2 556.0 THA 27.22

Orbit Determination Accuracy: ST 97.2 SR 64.4 SS 130.3
 CRT .9925 CRS -.9795 CST -.9968
 LSA 174.4 MSA 12.1 SSA 1.2
 EL1 116.4 EL2 6.6 ALF 33.43

LAUNCH DATE MAR 12 1971

FLIGHT TIME 258.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 148.63 LAL .00 LOL 170.77 VL 32.248 GAL -6.43 AZL 88.53 HCA 212.97 SMA 177.93 ECC .19827 INC 1.4699 V1 29.978
 RP 212.72 LAP -.80 LOP 23.72 VP 22.404 GAP 1.93 AZP 91.23 TAL 319.18 TAP 172.14 RCA 142.65 APO 213.21 V2 25.799
 RC 133.312 GL 10.21 GP -17.91 ZAL 151.43 ZAP 75.37 ETS 173.87 ZAE 116.37 ETE 188.47 ZAC 84.76 ETC 268.23 LVI 12.38

Distance 628.572

Planetocentric Conic: C3 21.521 VHL 4.639 DLA -3.89 RAL 322.89 RAD 6643.5 VEL 11.896 PTH 6.91 VHP 3.686 DPA -42.47 RAP 280.13 ECC 1.3542
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 43 3074.02 -33.93 95.14 184.39 125.61 18 37 59 2074.0 -17.56 75.27
 60.00 18 30 28 2937.74 -28.91 88.41 188.13 119.39 19 19 45 1937.7 -14.87 67.27
 70.00 19 27 18 2790.60 -24.43 77.41 190.69 114.64 20 13 49 1790.6 -12.38 55.51
 80.00 20 39 47 2563.67 -21.19 61.69 192.18 111.54 21 22 31 1563.7 -10.54 39.37
 90.00 22 3 3 2295.02 -19.98 42.44 192.68 110.44 22 41 18 1295.0 -9.85 19.99
 100.00 23 22 39 2038.15 -21.19 23.06 192.18 111.54 23 56 37 1038.1 -10.54 .74
 110.00 0 30 40 1837.42 -24.43 6.33 190.69 114.64 1 1 18 837.4 -12.38 344.43

Differential Corrections: TDE 1.3252 TRA 3.2625 TC3-2.4363 BAU .7225 SGT 4909.2 SGR 2333.1 SG3 1683.7 ST 101.9 SR 62.4 SS 129.4
 RDE .8888 RRA 1.5991 RC3 -.6093 FAU .14418 RRT .9865 RRF .9857 RTF .9792 CRT .9898 CRS -.9767 CST -.9971
 FDE 4.9788 FRA14.2911 FC3-5.8001 BSP 8876 SGB 5435.4 R23 .1070 R13 .9853 LSA 175.6 MSA 12.4 SSA 1.3
 BDE 1.5957 BRA 3.6334 BC3 2.5113 FSP 3160 SG1 5408.2 SG2 543.8 THA 24.94 EL1 119.2 EL2 7.6 ALF 31.37

Mid-Course Execution Accuracy: SGT 4909.2 SGR 2333.1 SG3 1683.7
 RRT .9865 RRF .9857 RTF .9792
 SGB 5435.4 R23 .1070 R13 .9853
 SG1 5408.2 SG2 543.8 THA 24.94

Orbit Determination Accuracy: ST 101.9 SR 62.4 SS 129.4
 CRT .9898 CRS -.9767 CST -.9971
 LSA 175.6 MSA 12.4 SSA 1.3
 EL1 119.2 EL2 7.6 ALF 31.37

LAUNCH DATE MAR 12 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

DISTANCE 832.740

EARTH TO MARS

RL 148.83 LAL .00 LOL 170.77 VL 32.251 GAL -6.50 AZL 88.84 MCA 214.16 SMA 177.97 ECC .18907 INC 1.3621 V1 29.978
RP 213.01 LAP -.76 LOP 24.92 VP 22.369 GAP 1.72 AZP 91.13 TAL 318.87 TAP 173.03 RCA 142.54 APO 213.40 V2 25.766
RC 135.843 GL 9.40 GP -17.24 ZAL 151.89 ZAP 73.61 ETS 173.46 ZAE 114.79 ETE 187.54 ZAC 85.43 ETC 268.09 LVI 11.98

PLANETOCENTRIC CONIC

C3 21.730 VHL 4.682 DLA -4.58 RAL 323.34 RAD 8643.6 VEL 11.905 PTH 6.91 VHP 3.700 DPA -41.83 RAP 279.33 ECC 1.3576
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 6 3062.55 -33.47 94.43 184.72 126.03 18 42 9 2062.5 -17.01 74.74
60.00 18 35 34 2944.26 -28.46 87.56 188.50 119.83 19 24 38 1944.3 -14.31 66.58
70.00 19 33 14 2774.70 -23.98 76.40 191.10 115.08 20 19 29 1774.7 -11.81 54.64
80.00 20 46 29 2545.39 -20.73 60.53 192.63 111.98 21 28 54 1545.4 -9.96 38.34
90.00 22 10 5 2275.67 -19.52 41.21 193.13 110.88 22 48 0 1275.7 -9.26 18.88
100.00 23 29 21 2019.86 -20.73 21.90 192.63 111.98 24 3 1 1019.9 -9.96 359.70
110.00 0 36 37 1821.52 -23.98 5.32 191.10 115.08 1 6 58 821.5 -11.81 343.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3839 TRA 3.4572 TC3-2.5066 BAU .7469 SGT 5130.5 SGR 2226.1 S63 1664.5 ST 106.5 SR 60.6 SS 128.4
RDE .8727 RRA 1.5216 RC3 -.5721 FAU .14196 RRT .9655 RRF .9834 RTF .9804 CRT .9868 CRS -.9737 CST -.9976
FDE 4.9403 FRA14.1976 FC3-5.6560 BSP 9192 SGB 5811.0 R23 .1016 R13 .9853 LSA 177.0 MSA 12.7 SSA 1.3
BDE 1.6361 BRA 3.7772 BC3 2.5711 FSP 3037 SGT 5585.4 S62 534.8 THA 22.87 EL1 122.2 EL2 8.5 ALF 29.47

LAUNCH DATE MAR 12 1971

FLIGHT TIME 262.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

DISTANCE 636.904

EARTH TO MARS

RL 148.83 LAL .00 LOL 170.77 VL 32.254 GAL -6.57 AZL 88.74 MCA 215.35 SMA 178.02 ECC .19992 INC 1.2609 V1 29.978
RP 213.31 LAP -.73 LOP 26.11 VP 22.335 GAP 1.52 AZP 91.03 TAL 318.55 TAP 173.90 RCA 142.43 APO 213.61 V2 25.732
RC 137.991 GL 8.65 GP -16.61 ZAL 152.32 ZAP 71.89 ETS 173.10 ZAE 113.21 ETE 186.70 ZAC 86.05 ETC 267.96 LVI 11.62

PLANETOCENTRIC CONIC

C3 21.969 VHL 4.687 DLA -5.23 RAL 323.79 RAD 8643.7 VEL 11.915 PTH 6.92 VHP 3.718 DPA -41.22 RAP 278.59 ECC 1.3616
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 55 16 3052.36 -33.06 93.80 185.09 126.40 18 46 8 2052.4 -16.51 74.27
60.00 18 40 25 2932.27 -28.05 86.80 188.91 120.21 19 29 17 1932.3 -13.80 65.97
70.00 19 38 52 2760.40 -23.56 75.50 191.54 115.47 20 24 52 1760.4 -11.29 53.86
80.00 20 52 49 2528.87 -20.31 59.49 193.10 112.37 21 34 58 1528.9 -9.42 37.40
90.00 22 16 43 2258.14 -19.09 40.10 193.62 111.27 22 54 21 1258.1 -8.72 17.87
100.00 23 35 41 2003.34 0.31 20.85 193.10 112.37 24 9 4 1003.3 -9.42 358.77
110.00 0 42 14 1807.22 :3.56 4.42 191.54 115.47 1 12 21 807.2 -11.29 342.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4433 TRA 3.8507 TC3-2.5721 BAU 7717 SGT 5386.0 SGR 2123.7 S63 1641.6 ST 111.0 SR 58.8 SS 127.2
RDE .8583 RRA 1.4473 RC3 -.5367 FAU .13951 RRT .9639 RRF .9807 RTF .9814 CRT .9835 CRS -.9704 CST -.9979
FDE 4.8955 FRA14.0780 FC3-5.4978 BSP 9513 SGB 5789.5 R23 .0960 R13 .9853 LSA 178.3 MSA 13.1 SSA 1.3
BDE 1.6792 BRA 3.9271 BC3 2.6275 FSP 3006 SGT 5765.4 S62 528.1 THA 20.99 EL1 125.2 EL2 9.4 ALF 27.71

LAUNCH DATE MAR 12 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 641.065

EARTH TO MARS

RL 148.83 LAL .00 LOL 170.77 VL 32.257 GAL -6.64 AZL 88.83 MCA 216.54 SMA 178.08 ECC .20082 INC 1.1658 V1 29.978
RP 213.81 LAP -.69 LOP 27.30 VP 22.300 GAP 1.31 AZP 90.94 TAL 318.22 TAP 174.78 RCA 142.31 APO 213.84 V2 25.697
RC 140.356 GL 7.95 GP -16.00 ZAL 152.73 ZAP 70.21 ETS 172.76 ZAE 111.65 ETE 185.93 ZAC 86.65 ETC 267.84 LVI 11.27

PLANETOCENTRIC CONIC

C3 22.237 VHL 4.716 DLA -5.82 RAL 324.23 RAD 8643.8 VEL 11.926 PTH 6.93 VHP 3.740 DPA -40.63 RAP 277.92 ECC 1.3660
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 13 3043.40 -32.70 93.25 185.50 126.71 18 49 56 2043.4 -16.08 73.86
60.00 18 45 1 2921.58 -27.68 86.14 189.36 120.54 19 33 43 1921.6 -13.35 65.42
70.00 19 44 11 2747.59 -23.18 74.70 192.02 115.81 20 29 59 1747.6 -10.82 53.16
80.00 20 58 49 2513.98 -19.92 58.55 193.61 112.71 21 40 43 1514.0 -8.94 36.56
90.00 22 25 1 2242.30 -18.69 39.11 194.13 111.61 23 0 23 1242.3 -8.22 18.97
100.00 23 41 41 1988.45 -19.92 19.92 193.61 112.71 24 14 49 988.4 -8.94 357.93
110.00 0 47 34 1794.41 -23.18 3.62 192.02 115.81 1 17 28 794.4 -10.82 342.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5038 TRA 3.8436 TC3-2.6324 BAU .7968 SGT 5815.9 SGR 2026.0 S63 1815.3 ST 115.4 SR 57.2 SS 126.0
RDE .8456 RRA 1.3760 RC3 -.5028 FAU .13683 RRT .9618 RRF .9777 RTF .5.22 CRT .9798 CRS -.9669 CST -.9983
FDE 4.8484 FRA13.9351 FC3-5.3270 BSP 9840 SGB 5970.2 R23 .0904 R13 .9894 LSA 179.7 MSA 13.4 SSA 1.3
BDE 1.7253 BRA 4.0825 BC3 2.6800 FSP 2988 SGT 5947.2 S62 523.6 THA 19.29 EL1 128.4 EL2 10.3 ALF 26.09

LAUNCH DATE MAR 12 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

DISTANCE 648.222

EARTH TO MARS

RL 148.83 LAL .00 LOL 170.77 VL 32.261 GAL -6.71 AZL 88.82 MCA 217.73 SMA 178.14 ECC .20179 INC 1.0761 V1 29.978
RP 213.92 LAP -.66 LOP 28.49 VP 22.266 GAP 1.11 AZP 90.85 TAL 317.89 TAP 175.61 RCA 142.19 APO 214.08 V2 25.662
RC 142.739 GL 7.28 GP -15.43 ZAL 153.12 ZAP 68.58 ETS 172.46 ZAE 110.11 ETE 185.24 ZAC 87.22 ETC 267.73 LVI 10.92

PLANETOCENTRIC CONIC

C3 22.833 VHL 4.747 DLA -6.38 RAL 324.67 RAD 8643.9 VEL 11.938 PTH 6.94 VHP 3.766 DPA -40.07 RAP 277.32 ECC 1.3708
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 3 0 3035.55 -32.38 92.78 185.94 126.99 18 53 35 2035.5 -15.70 73.51
60.00 18 49 24 2912.13 -27.36 85.55 189.83 120.83 19 37 56 1912.1 -12.95 64.94
70.00 19 49 15 2736.15 -22.84 73.98 192.53 116.11 20 34 51 1736.1 -10.40 52.54
80.00 21 4 30 2500.58 -19.56 57.71 194.14 113.02 21 46 11 1500.6 -8.50 35.81
90.00 22 28 58 2228.02 -18.33 38.21 194.68 111.92 23 6 6 1228.0 -7.78 16.16
100.00 23 47 22 1975.05 -19.56 19.08 194.14 113.02 24 20 17 975.0 -8.50 357.18
110.00 0 52 37 1782.97 -22.84 2.90 192.53 116.11 1 22 20 783.0 -10.40 341.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5848 TRA 4.0351 TC3-2.6883 BAU .8222 SGT 5839.4 SGR 1933.1 S63 1586.6 ST 119.7 SR 55.7 SS 124.7
RDE .8344 RRA 1.3079 RC3 -.4704 FAU .13390 RRT .9591 RRF .9742 RTF .9828 CRT .9758 CRS -.9632 CST -.9985
FDE 4.7965 FRA13.7738 FC3-5.1446 BSP 10169 SGB 6151.1 R23 .0851 R13 .9854 LSA 181.1 MSA 13.8 SSA 1.3
BDE 1.7734 BRA 4.2418 BC3 2.7292 FSP 2925 SGT 6128.9 S62 521.3 THA 17.75 EL1 131.6 EL2 11.1 ALF 24.61

LAUNCH DATE MAR 12 1971 FLIGHT TIME 268.00 ARRIVAL DATE DEC 5 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, and various correction coefficients.

LAUNCH DATE MAR 12 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 7 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, and various correction coefficients.

LAUNCH DATE MAR 12 1971 FLIGHT TIME 272.00 ARRIVAL DATE DEC 9 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, and various correction coefficients.

LAUNCH DATE MAR 12 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 11 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT ASC, INJ AZMTH, INJ TIME, PO CST TIM, INJ 2 LAT, INJ 2 LONG, DPA, RAP, ECC, V1, V2, LVI, and various correction coefficients.

LAUNCH DATE MAR 12 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 665.942

EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.286 GAL -7.14 AZL 89.31 HCA 223.60 SMA 178.51 ECC .20740 INC .6929 V1 29.978
 RP 215.54 LAP -.48 LOP 34.37 VP 22.092 GAP .09 AZP 90.50 TAL 316.07 TAP 179.67 RCA 141.49 APO 215.54 V2 29.480
 RC 134.904 GL 4.50 GP -12.95 ZAL 134.90 ZAP 61.10 ETS 171.37 ZAE 102.60 ETE 182.61 ZAC 89.67 ETC 267.37 LVI 9.28

PLANETOCENTRIC CONIC

C3 24.400 VHL 4.940 DLA -8.60 RAL 326.76 RAD 6644.7 VEL 12.016 PTH 7.01 VHP 3.938 DPA -37.62 RAP 275.28 ECC 1.4016
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 39 3010.41 -31.34 91.28 188.52 127.83 19 9 49 2010.4 -14.48 72.37
 60.00 19 8 31 2880.45 -26.24 83.62 192.56 121.76 19 56 31 1880.4 -11.60 63.35
 70.00 20 11 9 2696.27 -21.63 71.33 195.40 117.10 20 56 6 1696.3 -8.92 50.40
 80.00 21 29 0 2452.60 -18.26 54.75 197.11 114.04 22 9 52 1452.6 -6.92 33.12
 90.00 22 54 37 2176.34 -18.99 35.02 197.69 112.95 23 30 54 1176.3 -6.16 13.23
 100.00 0 15 47 1927.07 -18.26 16.12 197.11 114.04 0 47 54 927.1 -6.92 354.49
 110.00 1 14 32 1743.09 -21.63 .45 195.40 117.10 1 43 35 743.1 -8.92 339.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8600 TRA 4.9799 TC3-2.9011 BAU .9526 SGT 8862.8 SCR 1537.3 S63 1414.9 ST 139.9 SR 49.5 S8 117.0
 RDE .7970 RRA 1.0081 RC3 -.3355 FAU .11601 RRT .9360 RRF .9487 RTF .9844 CRT .9520 CR8 -.9410 C8T -.9993
 FDE 4.4894 FRA12.7564 FC3-4.1872 BSP 11770 SGB 7032.9 R23 .0618 R13 .9855 LSA 188.4 MSA 15.6 S8A 1.2
 BDE 2.0420 BRA 5.0809 BC3 2.9204 FSP 2639 S61 7012.9 S62 529.4 THA 11.91 EL1 147.8 EL2 14.4 ALF 18.80

LAUNCH DATE MAR 12 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

DISTANCE 670.068

EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.291 GAL -7.23 AZL 89.37 HCA 224.77 SMA 178.60 ECC .20868 INC .6269 V1 29.978
 RP 215.87 LAP -.44 LOP 35.53 VP 22.057 GAP -.12 AZP 90.45 TAL 315.69 TAP 180.45 RCA 141.33 APO 215.88 V2 25.443
 RC 157.385 GL 4.03 GP -12.52 ZAL 155.23 ZAP 59.74 ETS 171.21 ZAE 101.43 ETE 182.21 ZAC 90.09 ETC 267.32 LVI 8.97

PLANETOCENTRIC CONIC

C3 24.849 VHL 4.985 DLA -8.95 RAL 327.16 RAD 6644.9 VEL 12.034 PTH 7.02 VHP 3.979 DPA -37.20 RAP 275.05 ECC 1.4089
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 36 3007.79 -31.23 91.13 189.09 127.92 19 12 44 2007.8 -14.35 72.25
 60.00 19 11 52 2876.77 -26.10 83.40 193.16 121.87 19 59 48 1876.8 -11.44 63.17
 70.00 20 14 57 2691.27 -21.47 71.22 196.03 117.22 20 59 49 1691.3 -8.73 50.13
 80.00 21 33 13 2446.26 -18.08 54.36 197.76 114.17 22 13 59 1446.3 -6.71 32.77
 90.00 22 59 2 2169.39 -16.81 34.59 198.35 113.08 23 35 12 1169.4 -5.94 12.83
 100.00 0 20 1 1920.74 -18.08 15.73 197.76 114.17 0 52 2 920.7 -6.71 354.14
 110.00 1 18 20 1738.09 -21.47 .14 196.03 117.22 1 47 18 738.1 -8.73 339.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9533 TRA 5.1763 TC3-2.9188 BAU .9750 SGT 7035.9 SGR 1475.4 S63 1380.6 ST 144.2 SR 48.7 S8 116.0
 RDE .7961 RRA .9590 RC3 -.3080 FAU .11289 RRT .9288 RRF .9419 RTF .9842 CRT .9468 CR8 -.9369 C8T -.9995
 FDE 4.4584 FRA12.5636 FC3-3.9332 BSP 12182 SGB 7208.5 R23 .0606 R13 .9852 LSA 190.7 MSA 16.0 S8A 1.3
 BDE 2.1093 BRA 5.2644 BC3 2.9350 FSP 2614 S61 7188.5 S62 536.7 THA 11.05 EL1 151.4 EL2 14.9 ALF 17.92

LAUNCH DATE MAR 12 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

DISTANCE 674.192

EARTH TO MARS

RL 148.63 LAL .00 LOL 170.77 VL 32.298 GAL -7.33 AZL 89.44 HCA 225.93 SMA 178.70 ECC .21001 INC .5636 V1 29.978
 RP 216.21 LAP -.41 LOP 36.89 VP 22.022 GAP -.32 AZP 90.39 TAL 315.29 TAP 181.22 RCA 141.17 APO 216.23 V2 25.405
 RC 159.881 GL 3.59 GP -12.11 ZAL 155.56 ZAP 58.43 ETS 171.08 ZAE 100.08 ETE 181.86 ZAC 90.50 ETC 267.29 LVI 8.65

PLANETOCENTRIC CONIC

C3 25.320 VHL 5.032 DLA -9.23 RAL 327.56 RAD 6645.1 VEL 12.054 PTH 7.04 VHP 4.023 DPA -36.79 RAP 274.87 ECC 1.4167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 25 26 3005.84 -31.15 91.02 189.68 127.98 19 15 32 2005.8 -14.25 72.17
 60.00 19 15 4 2873.83 -26.00 83.22 193.77 121.95 20 2 58 1873.8 -11.32 63.02
 70.00 20 18 35 2687.08 -21.34 70.97 196.67 117.32 21 3 22 1687.1 -8.58 49.91
 80.00 21 37 15 2440.83 -17.93 54.03 198.42 114.28 22 17 56 1440.8 -6.53 32.47
 90.00 23 3 15 2163.38 -16.65 34.22 199.01 113.20 23 39 18 1163.4 -5.75 12.50
 100.00 0 24 3 1915.30 -17.93 15.40 198.42 114.28 0 55 58 915.3 -6.53 353.84
 110.00 1 21 57 1733.90 -21.34 359.89 196.67 117.32 1 50 51 733.9 -8.58 338.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.0131 TRA 5.3582 TC3-2.9594 BAU 1.0053 SGT 7231.1 SGR 1411.0 S63 1340.7 ST 147.5 SR 47.7 S8 113.8
 RDE .7906 RRA .9067 RC3 -.2916 FAU .11088 RRT .8214 RRF .9338 RTF .5.45 CRT .9410 CR8 -.9312 C8T -.9995
 FDE 4.3638 FRA12.3044 FC3-3.7912 BSP 12394 SGB 7367.5 R23 .0555 R13 .9853 LSA 191.6 MSA 16.3 S8A 1.2
 BDE 2.1627 BRA 5.4324 BC3 2.9698 FSP 2516 S61 7347.7 S62 539.6 THA 10.25 EL1 154.2 EL2 15.4 ALF 17.09

LAUNCH DATE MAR 13 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.67	LAL	.00	LOL	171.76	VL	33.475	GAL	-7.86	AZL	93.70	HCA	150.05	SMA	199.64	ECC	.28748	INC	3.7032	V1	29.970				
RP	207.18	LAP	-1.85	LOP	321.86	VP	24.828	GAP	16.37	AZP	86.79	TAL	323.75	TAP	113.80	RCA	142.25	APO	257.03	V2	26.438				
RC	56.568	GL	-19.85	GP	9.14	ZAL	143.08	ZAP	158.69	ETS	155.09	ZAE	161.22	ETE	131.39	ZAC	110.85	ETC	274.51	LVI	-21.74				
PLANETOCENTRIC CONIC										ORBIT DETERMINATION ACCURACY															
C3	39.773	VHL	6.307	DLA	-33.52	RAL	329.76	RAD	6650.6	VEL	12.635	PTH	7.48	VHP	8.174	DPA	-12.40	RAP	303.18	ECC	1.6546				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00		20	24	36	2593.15		-12.02		70.44		198.23		136.39		21	7	50	1593.1		6.35		54.63			
60.00		22	0	27	2338.02		-4.00		55.08		205.84		130.14		22	39	25	1338.0		12.04		37.05			
70.00		0	41	1	1875.91		8.25		26.85		214.94		123.26		1	12	17	875.9		21.07		5.85			
71.20		1	38	2	1701.32		13.59		16.69		218.35		120.94		2	6	24	701.3		25.09		354.35			
71.20		1	38	2	1701.32		13.59		16.69		218.35		120.94		2	6	24	701.3		25.09		354.35			
71.20		1	38	2	1701.32		13.59		16.69		218.35		120.94		2	6	24	701.3		25.09		354.35			
110.00		5	40	27	6210.77		8.25		293.67		214.94		123.26		7	23	58	5210.8		21.07		272.67			
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY															
TDE	-1.1975	TRA	-2.1092	TC3	-.1022	BAU	.1242			SGT	2546.2	SGR	658.9	SG3	329.2	ST	64.4	SR	23.1	SS	50.3				
RDE	-.4893	RRA	-.3742	RC3	.2101	FAU	.04968			RRT	.8266	RRF	-.8740	RTF	-.9024	CRS	.9562	CR8	.8599	CST	.9710				
FDE	1.0871	FRA	3.1368	FC3	-1.0815	BSP	4578			SG8	2630.1	R23	-.2002	R13	-.9089	LSA	84.0	MSA	12.7	SSA	1.0				
BDE	1.2938	BRA	2.1421	BC3	.2337	FSP	498			SG1	2605.0	SG2	362.5	THA	12.32	EL1	68.1	EL2	6.4	ALF	19.07				

LAUNCH DATE MAR 13 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.67	LAL	.00	LOL	171.76	VL	33.395	GAL	-7.71	AZL	93.85	HCA	151.31	SMA	198.05	ECC	.28116	INC	3.8468	V1	29.970				
RP	207.09	LAP	-1.85	LOP	323.13	VP	24.731	GAP	16.12	AZP	86.62	TAL	323.78	TAP	115.09	RCA	142.37	APO	253.74	V2	26.448				
RC	56.856	GL	-20.90	GP	9.76	ZAL	142.66	ZAP	157.55	ETS	154.88	ZAE	161.27	ETE	128.53	ZAC	111.44	ETC	274.60	LVI	-22.41				
PLANETOCENTRIC CONIC										ORBIT DETERMINATION ACCURACY															
C3	38.720	VHL	6.223	DLA	-34.46	RAL	330.35	RAD	6650.2	VEL	12.594	PTH	7.45	VHP	7.958	DPA	-11.74	RAP	303.31	ECC	1.6372				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00		20	33	16	2562.72		-10.52		69.11		198.95		136.67		21	15	59	1562.7		7.87		53.34			
60.00		22	13	22	2296.18		-2.16		53.08		206.90		130.25		22	51	38	1296.2		13.81		34.93			
69.44		1	29	43	1727.14		14.17		19.07		218.75		121.74		1	58	30	727.1		25.94		356.76			
69.44		1	29	43	1727.14		14.17		19.07		218.75		121.74		1	58	30	727.1		25.94		356.76			
69.44		1	29	43	1727.14		14.17		19.07		218.75		121.74		1	58	30	727.1		25.94		356.76			
69.44		1	29	43	1727.14		14.17		19.07		218.75		121.74		1	58	30	727.1		25.94		356.76			
69.44		1	29	43	1727.14		14.17		19.07		218.75		121.74		1	58	30	727.1		25.94		356.76			
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY															
TDE	-1.2116	TRA	-2.0713	TC3	-.0965	BAU	.1278			SGT	2570.8	SGR	704.3	SG3	348.6	ST	65.7	SR	23.6	SS	52.1				
RDE	-.4891	RRA	-.4138	RC3	.2268	FAU	.03120			RRT	.8491	RRF	-.8982	RTF	-.9052	CRS	.9667	CR8	.8769	CST	.9700				
FDE	1.1486	FRA	3.2457	FC3	-1.1449	BSP	4650			SG8	2665.5	R23	-.2157	R13	-.9127	LSA	86.2	MSA	12.7	SSA	.9				
BDE	1.3066	BRA	2.1122	BC3	.2483	FSP	531			SG1	2640.8	SG2	382.2	THA	13.35	EL1	69.6	EL2	5.7	ALF	19.28				

LAUNCH DATE MAR 13 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.67	LAL	.00	LOL	171.76	VL	33.318	GAL	-7.57	AZL	94.00	HCA	152.57	SMA	198.58	ECC	.27516	INC	4.0026	V1	29.970				
RP	207.01	LAP	-1.84	LOP	324.39	VP	24.639	GAP	15.89	AZP	86.45	TAL	323.82	TAP	116.39	RCA	142.49	APO	250.67	V2	26.457				
RC	57.225	GL	-22.03	GP	10.43	ZAL	142.18	ZAP	156.35	ETS	154.61	ZAE	161.19	ETE	125.71	ZAC	112.09	ETC	274.68	LVI	-23.13				
PLANETOCENTRIC CONIC										ORBIT DETERMINATION ACCURACY															
C3	37.796	VHL	6.148	DLA	-35.46	RAL	330.99	RAD	6649.9	VEL	12.557	PTH	7.43	VHP	7.750	DPA	-11.03	RAP	303.41	ECC	1.6220				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00		20	42	51	2530.77		-8.93		67.73		199.85		136.93		21	25	2	1330.8		9.46		51.97			
60.00		22	28	17	2249.97		-.12		50.87		208.24		130.30		23	9	47	1250.0		15.75		32.56			
67.66		1	22	0	1751.99		14.76		21.41		219.26		122.61		1	51	12	752.0		26.81		359.15			
67.66		1	22	0	1751.99		14.76		21.41		219.26		122.61		1	51	12	752.0		26.81		359.15			
67.66		1	22	0	1751.99		14.76		21.41		219.26		122.61		1	51	12	752.0		26.81		359.15			
67.66		1	22	0	1751.99		14.76		21.41		219.26		122.61		1	51	12	752.0		26.81		359.15			
67.66		1	22	0	1751.99		14.76		21.41		219.26		122.61		1	51	12	752.0		26.81		359.15			
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY															
TDE	-1.2278	TRA	-2.0303	TC3	-.0910	BAU	.1320			SGT	2592.1	SGR	757.3	SG3	368.8	ST	67.0	SR	24.2	SS	54.0				
RDE	-.4919	RRA	-.4363	RC3	.2448	FAU	.05277			RRT	.8682	RRF	-.9188	RTF	-.9378	CRS	.9782	CR8	.8935	CST	.9690				
FDE	1.2119	FRA	3.3551	FC3	-1.2088	BSP	4722			SG8	2700.5	R23	-.2312	R13	-.9165	LSA	88.5	MSA	12.7	SSA	.9				
BDE	1.3227	BRA	2.0812	BC3	.2811	FSP	585			SG1	2675.8	SG2	364.1	THA	14.91	EL1	71.1	EL2	5.0	ALF	19.54				

LAUNCH DATE MAR 13 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC										EARTH TO MARS															
RL	148.67	LAL	.00	LOL	171.76	VL	33.248	GAL	-7.44	AZL	94.17	HCA	153.84	SMA	195.20	ECC	.26947	INC	4.1723	V1	29.970				
RP	206.94	LAP	-1.84	LOP	325.66	VP	24.551	GAP	15.26	AZP	86.25	TAL	323.85	TAP	117.69	RCA	142.60	APO	247.80	V2	26.466				
RC	57.875	GL	-23.22	GP	11.18	ZAL	141.64	ZAP	155.10	ETS	154.29	ZAE	161.00	ETE	122.97	ZAC	112.81	ETC	274.76	LVI	-23.90				
PLANETOCENTRIC CONIC										ORBIT DETERMINATION ACCURACY															
C3	37.001	VHL	6.083	DLA	-36.52	RAL	331.68	RAD	6649.6	VEL	12.326	PTH	7.41	VHP	7.551	DPA	-10.25	RAP	303.45	ECC	1.6089				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00		20	53	34	2497.01		-7.23		66.29		200.95		137.15		21	35	11	1497.0		11.13		50.51			
60.00		22	45	55	2197.60		2.18		48.37		209.94		130.25		23	22	32	1197.6		17.90		29.31			
65.86		1	14	53	1776.05		15.35		23.73		219.90		123.56		1	44	29	776.1		27.72		1.54			
65.86		1	14	53	1776.05		15.35		23.73		219.90		123.56		1	44	29	776.1		27.72		1.54			
65.86		1	14	53	1776.05		15.35		23.73		219.90		123.56		1	44	29	776.1		27.72		1.54			
65.86		1	14	53	1776.05		15.35		23.73		219.90		123.56		1	44	29	776.1		27.72		1.54			
65.86		1	14	53	1776.05		15.35		23.73		219.90		123.56		1	44	29	776.1		27.7					

LAUNCH DATE MAR 13 1971

FLIGHT TIME 166.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 441.388

EARTH TO MARS

RL 148.67 LAL .00 LOL 171.76 VL 33.180 GAL -7.31 AZL 94.36 HCA 158.10 SMA 193.92 ECC .26408 INC 4.3582 V1 29.970
RP 206.87 LAP -1.83 LOP 328.93 VP 24.468 GAP 14.84 AZP 86.05 TAL 323.89 TAP 118.99 RCA 142.71 APO 245.13 V2 26.473
RC 58.203 GL -24.51 GP 12.00 ZAL 141.03 ZAP 153.79 ETS 153.90 ZAE 160.66 ETE 120.38 ZAC 113.62 ZEC 274.84 LVI -24.73

PLANETOCENTRIC CONIC

C3 36.344 VHL 6.029 DLA -37.66 RAL 332.44 RAD 6649.4 VEL 12.499 PTH 7.39 VHP 7.361 DPA -9.42 RAP 303.45 ECC 1.5981
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 5 38 2461.07 -3.45 64.77 202.30 137.34 21 46 39 1461.1 12.90 48.94
60.00 23 7 38 2135.66 4.90 45.40 212.16 130.05 23 43 14 1135.7 20.39 26.47
64.01 1 8 20 1799.63 15.95 26.07 220.69 124.58 1 38 20 799.6 28.66 3.96
64.01 1 8 20 1799.63 15.95 26.07 220.69 124.58 1 38 20 799.6 28.66 3.96
64.01 1 8 20 1799.63 15.95 26.07 220.69 124.58 1 38 20 799.6 28.66 3.96
64.01 1 8 20 1799.63 15.95 26.07 220.69 124.58 1 38 20 799.6 28.66 3.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.2672 TRA -1.9401 TC3 -.0788 BAU .1439 SGT 2624.0 SGR 890.3 S63 411.3 ST 69.6 SR 26.1 SS 58.1
RDE -.5085 RRA -.5529 RC3 .2855 FAU .05615 RRT .8969 RRF -.9501 RTF -.9121 CRT .9907 CRS .9244 CST .9669
FDE 1.3620 FRA 3.5711 FC3 -1.3376 BSP 4857 SGB 2770.9 R23 -.2595 R13 -.9240 LSA 93.5 MSA 12.9 SSA .8
BDE 1.3654 BRA 2.0174 BC3 .2962 FSP 637 SGI 2745.2 S62 376.2 TMA 17.26 EL1 74.3 EL2 3.3 ALF 20.45

LAUNCH DATE MAR 13 1971

FLIGHT TIME 168.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 445.036

EARTH TO MARS

RL 148.67 LAL .00 LOL 171.76 VL 33.116 GAL -7.19 AZL 94.56 HCA 156.36 SMA 192.72 ECC .25897 INC 4.5627 V1 29.970
RP 206.82 LAP -1.83 LOP 328.19 VP 24.388 GAP 14.42 AZP 85.82 TAL 323.94 TAP 120.30 RCA 142.81 APO 242.63 V2 26.479
RC 58.807 GL -28.89 GP 12.92 ZAL 140.34 ZAP 152.41 ETS 153.46 ZAE 160.18 ETE 117.97 ZAC 114.51 ETC 274.91 LVI -25.63

PLANETOCENTRIC CONIC

C3 35.828 VHL 5.986 DLA -38.89 RAL 333.27 RAD 6649.2 VEL 12.479 PTH 7.37 VHP 7.181 DPA -8.49 RAP 303.40 ECC 1.5896
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 19 25 2422.36 -3.51 63.14 203.97 137.48 21 59 47 1422.4 14.80 47.21
60.00 23 36 43 2055.51 8.40 41.52 215.23 129.56 24 10 59 1055.5 23.49 21.96
62.12 1 2 20 1823.05 16.54 28.43 221.65 125.71 1 32 43 823.0 29.63 6.43
62.12 1 2 20 1823.05 16.54 28.43 221.65 125.71 1 32 43 823.0 29.63 6.43
62.12 1 2 20 1823.05 16.54 28.43 221.65 125.71 1 32 43 823.0 29.63 6.43
62.12 1 2 20 1823.05 16.54 28.43 221.65 125.71 1 32 43 823.0 29.63 6.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.2903 TRA -1.8885 TC3 -.0712 BAU .1518 SGT 2631.7 SGR 972.3 S63 433.2 ST 70.9 SR 27.5 SS 60.2
RDE -.5237 RRA -.6072 RC3 .3087 FAU .05797 RRT .9073 RRF -.9616 RTF -.9140 CRT .9954 CRS .9381 CST .9659
FDE 1.4486 FRA 3.6734 FC3 -1.4008 BSP 4911 SGB 2805.6 R23 -.2707 R13 -.9279 LSA 96.1 MSA 13.1 SSA .8
BDE 1.3926 BRA 1.9837 BC3 .3168 FSP 674 SGI 2778.7 S62 387.2 TMA 18.91 EL1 76.0 EL2 2.5 ALF 21.10

LAUNCH DATE MAR 13 1971

FLIGHT TIME 170.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 448.725

EARTH TO MARS

RL 148.67 LAL .00 LOL 171.76 VL 33.056 GAL -7.07 AZL 94.79 HCA 157.63 SMA 191.61 ECC .25413 INC 4.7890 V1 29.970
RP 206.77 LAP -1.82 LOP 329.46 VP 24.311 GAP 14.02 AZP 85.57 TAL 323.98 TAP 121.61 RCA 142.91 APO 240.30 V2 26.485
RC 59.485 GL -27.38 GP 13.94 ZAL 139.56 ZAP 150.94 ETS 152.96 ZAE 159.54 ETE 115.77 ZAC 115.52 ETC 274.98 LVI -26.62

PLANETOCENTRIC CONIC

C3 35.466 VHL 5.955 DLA -40.20 RAL 334.20 RAD 6649.1 VEL 12.464 PTH 7.36 VHP 7.011 DPA -7.47 RAP 303.28 ECC 1.5837
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 35 23 2380.03 -1.39 61.37 206.02 137.56 22 15 3 1380.0 16.85 45.29
60.00 0 36 34 1903.60 14.88 33.92 221.01 127.90 1 8 18 903.6 28.92 12.78
60.15 0 36 53 1846.48 17.12 30.85 222.80 126.94 1 27 40 846.5 30.64 8.99
60.15 0 36 53 1846.48 17.12 30.85 222.80 126.94 1 27 40 846.5 30.64 8.99
60.15 0 36 53 1846.48 17.12 30.85 222.80 126.94 1 27 40 846.5 30.64 8.99
60.15 0 36 53 1846.48 17.12 30.85 222.80 126.94 1 27 40 846.5 30.64 8.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.3141 TRA -1.8293 TC3 -.0599 BAU .1809 SGT 2629.2 SGR 1086.4 S63 455.4 ST 72.0 SR 29.1 SS 62.4
RDE -.5448 RRA -.6662 RC3 .3340 FAU .05983 RRT .9159 RRF -.9706 RTF -.5.62 CRT .9984 CRS .9504 CST .9651
FDE 1.5455 FRA 3.7693 FC3 -1.4805 BSP 4920 SGB 2837.2 R23 -.2776 R13 -.9326 LSA 98.8 MSA 13.3 SSA .7
BDE 1.4226 BRA 1.9469 BC3 .3393 FSP 711 SGI 2808.8 S62 400.8 TMA 20.82 EL1 77.7 EL2 1.5 ALF 21.96

LAUNCH DATE MAR 13 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

DISTANCE 452.452

EARTH TO MARS

RL 148.67 LAL .00 LOL 171.76 VL 32.988 GAL -6.95 AZL 95.04 HCA 158.89 SMA 190.57 ECC .24955 INC 5.0412 V1 29.970
RP 206.74 LAP -1.81 LOP 330.73 VP 24.238 GAP 13.62 AZP 85.30 TAL 324.03 TAP 122.92 RCA 143.01 APO 238.12 V2 26.489
RC 60.233 GL -28.99 GP 15.07 ZAL 138.68 ZAP 149.39 ETS 152.41 ZAE 158.74 ETE 113.81 ZAC 116.65 ETC 275.05 LVI -27.70

PLANETOCENTRIC CONIC

C3 35.278 VHL 5.939 DLA -41.60 RAL 335.25 RAD 6649.0 VEL 12.457 PTH 7.35 VHP 6.853 DPA -6.34 RAP 303.10 ECC 1.5805
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 54 17 2332.82 .89 59.40 208.59 137.57 22 33 9 1332.8 19.12 43.09
58.12 0 52 5 1870.14 17.69 33.34 224.18 128.29 1 23 15 870.1 31.66 11.66
58.12 0 52 5 1870.14 17.69 33.34 224.18 128.29 1 23 15 870.1 31.66 11.66
58.12 0 52 5 1870.14 17.69 33.34 224.18 128.29 1 23 15 870.1 31.66 11.66
58.12 0 52 5 1870.14 17.69 33.34 224.18 128.29 1 23 15 870.1 31.66 11.66
58.12 0 52 5 1870.14 17.69 33.34 224.18 128.29 1 23 15 870.1 31.66 11.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.3535 TRA -1.7759 TC3 -.0606 BAU .1720 SGT 2638.0 SGR 1175.8 S63 477.7 ST 73.8 SR 31.2 SS 64.8
RDE -.5753 RRA -.7320 RC3 .3597 FAU .06153 RRT .9213 RRF -.9778 RTF -.9165 CRT .9997 CRS .9614 CST .9644
FDE 1.6590 FRA 3.8595 FC3 -1.5100 BSP 5063 SGB 2888.1 R23 -.2856 R13 -.9361 LSA 102.1 MSA 13.5 SSA .7
BDE 1.4707 BRA 1.9208 BC3 .3648 FSP 752 SGI 2857.1 S62 422.2 TMA 22.85 EL1 80.1 EL2 .7 ALF 22.89

LAUNCH DATE MAR 13 1971		FLIGHT TIME 174.00										ARRIVAL DATE SEP 3 1971													
HELIOCENTRIC CONIC												EARTH TO MARS													
RL	148.67	LAL	.00	LOL	171.76	VL	32.944	GAL	-6.65	AZL	95.32	HCA	160.16	SMA	189.60	ECC	.24521	INC	9.3240	V1	29.970				
RP	206.71	LAP	-1.80	LOP	332.00	VP	24.168	GAP	13.23	AZP	84.99	TAL	324.07	TAP	124.23	RCA	143.10	APO	236.09	V2	26.482				
RC	61.050	GL	-30.73	GP	16.35	ZAL	137.69	ZAP	147.74	ETS	151.79	ZAE	157.76	ETE	112.10	ZAC	117.92	ETC	275.12	LVI	-28.80				
PLANETOCENTRIC CONIC												EARTH TO MARS													
C3	35.278	VHL	3.940	DLA	-43.11	RAL	336.44	RAD	6649.0	VEL	12.457	PTH	7.35	VHP	6.708	DPA	-5.09	RAP	302.85	ECC	1.5806				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00		22	17	21	2278.27		3.73		57.12		211.86		137.47		22	53	19		1278.3		21.69		40.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		
55.99		0	47	58	1894.27		18.23		35.92		225.83		129.78		1	19	33		894.3		32.70		14.47		

LAUNCH DATE MAR 13 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.797 GAL -6.46 AZL 96.92 HCA 165.21 BMA 166.31 ECC .23013 INC 6.9186 V1 29.970
 RP 206.68 LAP -1.76 LOP 337.08 VP 23.915 GAP 11.75 AZP 83.31 TAL 324.26 TAP 129.47 RCA 143.44 APO 229.19 V2 26.496
 RC 64.956 GL -39.42 GP 23.36 ZAL 132.27 ZAP 139.75 ETS 148.78 ZAE 131.59 ETE 107.73 ZAC 124.93 ETC 275.40 LVI -35.17

PLANETOCENTRIC CONIC
 C3 38.117 VHL 6.174 DLA -30.40 RAL 343.53 RAD 6650.0 VEL 12.570 PTH 7.44 VHP 6.304 DPA 1.66 RAP 300.82 ECC 1.6273
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.37 0 41 46 2001.06 19.67 47.51 236.32 137.40 1 15 7 1001.1 36.73 27.85
 46.37 0 41 46 2001.06 19.67 47.51 236.32 137.40 1 15 7 1001.1 36.73 27.85
 46.37 0 41 46 2001.06 19.67 47.51 236.32 137.40 1 15 7 1001.1 36.73 27.85
 46.37 0 41 46 2001.06 19.67 47.51 236.32 137.40 1 15 7 1001.1 36.73 27.85
 46.37 0 41 46 2001.06 19.67 47.51 236.32 137.40 1 15 7 1001.1 36.73 27.85
 46.37 0 41 46 2001.06 19.67 47.51 236.32 137.40 1 15 7 1001.1 36.73 27.85

DIFFERENTIAL CORRECTIONS
 TDE -1.6617 TRA -1.3810 TC3 -.0340 BAU .2642
 RDE -.9718 RRA -1.1551 RC3 .5173 FAU .06951
 FDE 2.5403 FRA 3.9561 FC3 -1.5788 BSP 5608
 BDE 1.9250 BRA 1.8004 BC3 .5185 FSP 905

MID-COURSE EXECUTION ACCURACY
 SGT 2534.4 SGR 2012.5 SG3 563.5
 RRT .9303 RRF -.9950 RTF -.9156
 SGB 3236.2 R23 -.2557 R13 -.9619
 SGI 3182.4 SGI 587.7 THA 37.90

ORBIT DETERMINATION ACCURACY
 ST 82.8 SR 31.7 SS 79.6
 CRT .9904 CRS .9925 CST .9663
 LSA 125.1 MSA 14.9 SSA .4
 EL1 97.4 EL2 6.1 ALF 31.86

LAUNCH DATE MAR 13 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.710 GAL -6.38 AZL 97.50 HCA 166.47 BMA 165.82 ECC .22687 INC 7.4979 V1 29.970
 RP 206.70 LAP -1.75 LOP 338.33 VP 23.898 GAP 11.40 AZP 82.71 TAL 324.31 TAP 130.78 RCA 143.51 APO 227.73 V2 26.494
 RC 66.082 GL -42.15 GP 23.76 ZAL 130.44 ZAP 137.28 ETS 147.93 ZAE 149.34 ETE 107.21 ZAC 127.35 ETC 275.49 LVI -37.24

PLANETOCENTRIC CONIC
 C3 39.964 VHL 6.322 DLA -52.57 RAL 346.28 RAD 6650.6 VEL 12.642 PTH 7.49 VHP 6.289 DPA 3.95 RAP 300.13 ECC 1.6377
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.65 0 44 18 2032.27 19.68 50.80 240.37 139.79 1 18 11 1032.3 37.53 31.93
 43.65 0 44 18 2032.27 19.68 50.80 240.37 139.79 1 18 11 1032.3 37.53 31.93
 43.65 0 44 18 2032.27 19.68 50.80 240.37 139.79 1 18 11 1032.3 37.53 31.93
 43.65 0 44 18 2032.27 19.68 50.80 240.37 139.79 1 18 11 1032.3 37.53 31.93
 43.65 0 44 18 2032.27 19.68 50.80 240.37 139.79 1 18 11 1032.3 37.53 31.93
 43.65 0 44 18 2032.27 19.68 50.80 240.37 139.79 1 18 11 1032.3 37.53 31.93

DIFFERENTIAL CORRECTIONS
 TDE -1.7739 TRA -1.2735 TC3 -.0319 BAU .2940
 RDE -1.1599 RRA -1.2601 RC3 .5494 FAU .07015
 FDE 2.8261 FRA 3.8464 FC3 1.5198 BSP 5817
 BDE 2.1194 BRA 1.7915 BC3 .5503 FSP 917

MID-COURSE EXECUTION ACCURACY
 SGT 2488.3 SGR 2262.2 SG3 567.6
 RRT .9290 RRF -.9962 RTF -.9136
 SGB 3363.0 R23 -.2377 R13 -.9680
 SGI 3303.3 SGI 630.6 THA 42.07

ORBIT DETERMINATION ACCURACY
 ST 85.3 SR 59.7 SS 83.6
 CRT .9884 CRS .9951 CST .9686
 LSA 132.7 MSA 15.1 SSA .3
 EL1 103.8 EL2 7.5 ALF 34.86

LAUNCH DATE MAR 13 1971

FLIGHT TIME 220.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.306 GAL -5.75 AZL 81.51 HCA 189.40 BMA 178.94 ECC .19588 INC 8.4871 V1 29.970
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.064 GAP 6.18 AZP 98.37 TAL 323.47 TAP 152.87 RCA 143.89 APO 213.39 V2 26.294
 RC 94.128 GL 48.96 GP -43.98 ZAL 126.08 ZAP 105.87 ETS 194.76 ZAE 130.64 ETE 231.00 ZAC 58.43 ETC 272.13 LVI 30.74

PLANETOCENTRIC CONIC
 C3 39.955 VHL 6.289 DLA 32.97 RAL 310.18 RAD 6650.5 VEL 12.626 PTH 7.48 VHP 5.510 DPA -65.90 RAP 311.06 ECC 1.6510
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 12 52 4000.81 -43.11 174.53 215.02 67.52 15 19 33 3000.8 -47.50 140.47
 60.00 13 58 27 4039.34 -33.26 172.59 209.62 65.79 15 5 46 3039.3 -39.94 143.66
 70.00 13 18 37 4157.36 -20.92 175.36 202.91 62.37 14 27 55 3157.4 -30.45 150.88
 72.30 12 25 1 4322.32 -13.45 183.78 198.58 59.61 13 37 3 3322.3 -24.75 161.37
 72.30 12 25 1 4322.32 -13.45 183.78 198.58 59.61 13 37 3 3322.3 -24.75 161.37
 72.30 12 25 1 4322.32 -13.45 183.78 198.58 59.61 13 37 3 3322.3 -24.75 161.37
 110.00 18 18 4 3204.18 -20.92 104.28 202.91 62.37 19 11 28 2204.2 -30.45 79.79

DIFFERENTIAL CORRECTIONS
 TDE .6353 TRA -.2697 TC3 -.4627 BAU .5931
 RDE 2.5774 RRA 4.0985 RC3 -1.0258 FAU .08591
 FDE 3.9273 FRA 6.3959 FC3 -1.8803 BSP 8843
 BDE 2.6545 BRA 4.1073 BC3 1.1253 FSP 1201

MID-COURSE EXECUTION ACCURACY
 SGT 871.4 SGR 5194.7 SG3 705.3
 RRT .1781 RRF .9990 RTF .0086
 SGB 3267.3 R23 -.0160 R13 .9991
 SGI 5197.1 SGI 857.1 THA 88.24

ORBIT DETERMINATION ACCURACY
 ST 29.3 SR 135.1 SS 98.6
 CRT .7852 CRS -.9999 CST -.7789
 LSA 168.8 MSA 18.1 SSA .2
 EL1 137.0 EL2 17.9 ALF 80.17

LAUNCH DATE MAR 13 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.288 GAL -5.75 AZL 82.64 HCA 190.63 BMA 178.79 ECC .19325 INC 7.3587 V1 29.970
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.028 GAP 5.93 AZP 97.23 TAL 323.38 TAP 154.01 RCA 143.88 APO 213.70 V2 26.274
 RC 96.027 GL 44.68 GP -41.32 ZAL 129.23 ZAP 105.37 ETS 192.86 ZAE 132.01 ETE 228.12 ZAC 61.11 ETC 271.97 LVI 28.45

PLANETOCENTRIC CONIC
 C3 34.260 VHL 5.853 DLA 28.76 RAL 311.36 RAD 6648.6 VEL 12.416 PTH 7.32 VHP 5.125 DPA -63.49 RAP 308.28 ECC 1.5638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 42 32 3864.23 -46.01 162.69 210.04 76.25 15 48 56 2864.2 -46.21 127.56
 60.00 14 41 21 3867.42 -37.34 159.85 206.92 73.60 15 45 48 2867.4 -40.14 129.08
 70.00 14 39 4 3874.15 -28.69 157.07 203.60 70.63 15 43 38 2874.2 -33.93 129.60
 80.00 14 31 46 3897.09 -19.72 155.00 199.80 67.11 15 36 43 2897.1 -27.42 130.24
 84.56 13 59 51 3999.96 -12.95 159.38 196.60 64.10 15 6 30 3000.0 -22.52 136.33
 100.00 17 14 38 3371.57 -19.72 116.37 199.80 67.11 18 10 50 2371.6 -27.42 91.61
 110.00 19 38 30 2920.97 -28.69 85.98 203.60 70.63 20 27 11 1921.0 -33.93 58.52

DIFFERENTIAL CORRECTIONS
 TDE .6164 TRA -.1269 TC3 -.5709 BAU .5558
 RDE 2.2608 RRA 3.8609 RC3 -1.0709 FAU .09475
 FDE 4.1716 FRA 7.4388 FC3 -2.3943 BSP 8588
 BDE 2.3434 BRA 3.8630 BC3 1.2136 FSP 1434

MID-COURSE EXECUTION ACCURACY
 SGT 911.5 SGR 5005.5 SG3 835.5
 RRT .3424 RRF .9990 RTF .3585
 SGB 3087.8 R23 -.0065 R13 .9992
 SGI 5015.5 SGI 854.7 THA 86.33

ORBIT DETERMINATION ACCURACY
 ST 30.3 SR 128.2 SS 105.9
 CRT .8257 CRS -.9998 CST -.8149
 LSA 168.1 MSA 17.1 SSA .3
 EL1 130.6 EL2 16.7 ALF 78.78

LAUNCH DATE MAR 13 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.287 GAL -5.75 AZL 83.54 HCA 191.86 SMA 178.65 ECC .19472 INC 6.4639 V1 29.970
 RP 208.76 LAP -1.33 LOP 3.35 VP 22.991 GAP 5.68 AZP 96.33 TAL 323.27 TAP 155.13 RCA 143.84 APO 213.44 V2 26.254
 RC 97.955 GL 40.83 GP -38.91 ZAL 132.00 ZAP 104.55 ETS 190.99 ZAE 132.93 ETE 225.03 ZAC 63.54 ETC 271.78 LVI 28.45

DISTANCE 557.210

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.600 VHL 5.532 DLA 25.00 RAL 312.45 RAD 6647.2 VEL 12.269 PTH 7.21 VHP 4.828 DPA -61.33 RAP 305.79 ECC 1.5036
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 6 20 3751.35 -47.32 152.11 204.96 84.30 16 8 51 2751.3 -44.00 117.59
 60.00 15 13 28 3732.30 -39.40 148.97 203.53 80.72 16 15 41 2732.3 -38.89 117.82
 70.00 15 25 34 3696.66 -32.03 144.34 201.78 77.46 16 27 11 2696.7 -33.95 115.77
 80.00 15 50 22 3618.82 -25.97 136.73 200.07 74.73 16 50 41 2618.8 -29.80 109.96
 90.00 16 48 50 3430.01 -23.29 122.03 199.23 73.49 17 46 0 2430.0 -27.95 95.98
 100.00 18 33 14 3093.29 -25.97 98.10 200.07 74.73 19 24 47 2093.3 -29.80 71.33
 110.00 20 25 0 2743.48 -32.03 73.26 201.78 77.46 21 10 44 1743.5 -33.95 44.69

DIFFERENTIAL CORRECTIONS

TDE .6158 TRA .0302 TC3 -.6848 BAU .5306
 RDE 2.0164 RRA 3.6474 RC3-1.1014 FAU .10295
 FDE 4.3625 FRA 8.3935 FC3-2.9127 BSP 8315
 BDE 2.1083 BRA 3.6476 BC3 1.2969 FSP 1652

MID-COURSE EXECUTION ACCURACY

SGT 991.0 SGR 4818.9 SG3 957.5
 RRT .5024 RRF .9990 RTF .5149
 SGB 4919.8 R23 .0037 R13 .9991
 SG1 4845.4 SG2 852.2 THA 83.91

ORBIT DETERMINATION ACCURACY

ST 31.9 SR 121.7 CS 111.7
 CRT .8661 CRS -.9996 CST -.8520
 LSA 167.5 MSA 16.2 SSA .3
 EL1 124.9 EL2 15.6 ALF 77.00

LAUNCH DATE MAR 13 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.279 GAL -5.76 AZL 84.26 HCA 193.09 SMA 178.53 ECC .19428 INC 5.7365 V1 29.970
 RP 208.94 LAP -1.30 LOP 4.80 VP 22.956 GAP 5.44 AZP 95.59 TAL 323.15 TAP 156.25 RCA 143.64 APO 213.21 V2 26.232
 RC 99.910 GL 37.38 GP -36.74 ZAL 134.45 ZAP 103.47 ETS 189.20 ZAE 133.46 ETE 221.84 ZAC 65.73 ETC 271.57 LVI 24.70

DISTANCE 561.362

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.985 VHL 5.290 DLA 21.64 RAL 313.44 RAD 6646.2 VEL 12.163 PTH 7.13 VHP 4.594 DPA -59.40 RAP 303.51 ECC 1.4608
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 6 3656.29 -47.56 142.94 200.35 91.35 16 27 3 2656.3 -41.46 109.88
 60.00 15 39 14 3621.35 -40.21 139.65 200.20 86.99 16 39 35 2621.3 -37.01 109.00
 70.00 15 59 58 3560.28 -33.58 134.01 199.51 83.38 16 59 18 2560.3 -32.81 105.30
 80.00 16 36 37 3445.36 -28.50 124.47 198.68 80.69 17 34 2 2445.4 -29.50 97.09
 90.00 17 42 54 3231.32 -26.45 108.35 198.28 79.62 18 36 46 2231.3 -28.16 81.47
 100.00 19 19 28 2919.83 -28.50 85.84 198.68 80.69 20 8 8 1919.8 -29.50 58.46
 110.00 20 59 24 2607.10 -33.58 62.93 199.51 83.38 21 42 31 1607.1 -32.81 34.22

DIFFERENTIAL CORRECTIONS

TDE .6266 TRA .1967 TC3 -.8030 BAU .5161
 RDE 1.6214 RRA 3.4514 RC3-1.1216 FAU .11080
 FDE 4.5086 FRA 9.2553 FC3-3.4276 BSP 8017
 BDE 1.9262 BRA 3.4570 BC3 1.3794 FSP 1847

MID-COURSE EXECUTION ACCURACY

SGT 1111.2 SGR 4833.9 SG3 1069.8
 RRT .6347 RRF .9988 RTF .6444
 SGB 4765.3 R23 .0150 R13 .9988
 SG1 4689.1 SG2 848.6 THA 81.05

ORBIT DETERMINATION ACCURACY

ST 34.1 SR 115.6 SS 116.3
 CRT .9012 CRS -.9993 CST -.8850
 LSA 166.8 MSA 15.4 SSA .4
 EL1 119.7 EL2 14.3 ALF 74.89

LAUNCH DATE MAR 13 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.272 GAL -5.77 AZL 84.87 HCA 194.33 SMA 178.42 ECC .19394 INC 5.1337 V1 29.970
 RP 209.14 LAP -1.27 LOP 6.04 VP 22.920 GAP 5.20 AZP 94.97 TAL 323.02 TAP 157.34 RCA 143.82 APO 213.02 V2 26.209
 RC 101.892 GL 34.24 GP -34.78 ZAL 136.60 ZAP 102.17 ETS 187.52 ZAE 133.62 ETE 218.66 ZAC 67.72 ETC 271.35 LVI 23.17

DISTANCE 565.519

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.071 VHL 5.106 DLA 18.64 RAL 314.36 RAD 6645.4 VEL 12.084 PTH 7.06 VHP 4.408 DPA -57.66 RAP 301.40 ECC 1.4291
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 58 3575.23 -47.14 135.15 196.45 97.33 16 42 33 2575.2 -38.88 103.83
 60.00 16 0 41 3528.05 -40.24 131.72 197.26 92.37 16 59 29 2528.1 -34.90 101.98
 70.00 16 27 29 3449.15 -34.12 125.39 197.32 88.45 17 24 58 2449.2 -31.19 97.05
 80.00 17 11 10 3312.26 -29.57 114.74 197.04 85.70 18 6 22 2312.3 -28.35 87.38
 90.00 18 21 16 3085.96 -27.81 97.94 196.88 84.66 19 12 42 2086.0 -27.24 70.95
 100.00 19 54 1 2786.74 -29.57 76.10 197.04 85.70 20 40 28 1786.7 -28.35 48.75
 110.00 21 26 58 2495.97 -34.12 54.30 197.32 88.45 22 8 32 1496.0 -31.19 25.96

DIFFERENTIAL CORRECTIONS

TDE .6476 TRA .3725 TC3 -.9209 BAU .5085
 RDE 1.6689 RRA 3.2762 RC3-1.1243 FAU .11752
 FDE 4.6375 FRA10.0448 FC3-3.9024 BSP 7793
 BDE 1.7901 BRA 3.2973 BC3 1.4533 FSP 2036

MID-COURSE EXECUTION ACCURACY

SGT 1267.7 SGR 4458.5 SG3 1173.5
 RRT .7346 RRF .9987 RTF .721
 SGB 4635.2 R23 .0275 R13 .9984
 SG1 4558.2 SG2 841.3 THA 77.78

ORBIT DETERMINATION ACCURACY

ST 37.0 SR 110.3 SS 120.1
 CRT .9300 CRS -.9990 CST -.9126
 LSA 166.5 MSA 14.6 SSA .5
 EL1 115.6 EL2 13.0 ALF 72.46

LAUNCH DATE MAR 13 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.266 GAL -5.78 AZL 85.37 HCA 195.58 SMA 178.32 ECC .19369 INC 4.6255 V1 29.970
 RP 209.34 LAP -1.24 LOP 7.27 VP 22.884 GAP 4.96 AZP 94.46 TAL 322.87 TAP 158.43 RCA 143.78 APO 212.86 V2 26.186
 RC 103.900 GL 31.43 GP -32.99 ZAL 138.49 ZAP 100.71 ETS 185.96 ZAE 133.48 ETE 215.54 ZAC 69.53 ETC 271.13 LVI 21.82

DISTANCE 569.682

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.643 VHL 4.964 DLA 15.94 RAL 315.22 RAD 6644.8 VEL 12.026 PTH 7.02 VHP 4.253 DPA -56.08 RAP 299.42 ECC 1.4056
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 37 3505.41 -46.33 128.61 193.29 102.31 16 56 2 2505.4 -36.39 99.00
 60.00 16 19 2 3448.37 -39.80 124.99 194.80 96.92 17 16 31 2448.4 -32.76 96.32
 70.00 16 50 28 3355.88 -34.06 118.11 195.41 92.75 17 46 24 2355.9 -29.39 90.38
 80.00 17 39 2 3203.66 -29.86 106.68 195.52 89.82 18 32 26 2203.7 -26.85 79.66
 90.00 18 51 35 2969.51 -28.26 89.46 195.51 88.88 19 41 4 1969.5 -25.87 62.70
 100.00 20 21 54 2678.13 -29.86 68.05 195.52 89.92 21 6 32 1678.1 -26.85 41.03
 110.00 21 49 54 2402.70 -34.06 47.03 195.41 92.75 22 29 57 1402.7 -29.39 19.30

DIFFERENTIAL CORRECTIONS

TDE .6745 TRA .5531 TC3-1.0409 BAU .5027
 RDE 1.5446 RRA 3.1152 RC3-1.1159 FAU .12347
 FDE 4.7449 FRA10.7567 FC3-4.3375 BSP 7596
 BDE 1.6855 BRA 3.1639 BC3 1.5260 FSP 2210

MID-COURSE EXECUTION ACCURACY

SGT 1454.3 SGR 4288.2 SG3 1267.6
 RRT .8043 RRF .9984 RTF .8102
 SGB 4528.1 R23 .0408 R13 .9977
 SG1 4450.9 SG2 832.6 THA 74.17

ORBIT DETERMINATION ACCURACY

ST 40.2 SR 105.3 SS 123.3
 CRT .9518 CRS -.9985 CST -.9340
 LSA 166.5 MSA 13.8 SSA .5
 EL1 112.1 EL2 11.6 ALF 69.81

LAUNCH DATE MAR 13 1971

FLIGHT TIME 232.00

ARRIVAL DATE OCT 31 1971

MELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.260 GAL -5.80 AZL 85.81 HCA 196.79 SMA 178.24 ECC .19392 INC 4.1908 V1 29.970
RP 209.55 LAP -1.21 LOP 8.31 VP 22.049 GAP 4.73 AZP 94.01 TAL 322.71 TAP 159.50 RCA 143.75 APO 212.73 V2 26.162
RC 105.933 GL 28.89 GP -31.36 ZAL 140.15 ZAP 99.12 ETS 184.51 ZAE 133.06 ETE 212.53 ZAC 71.19 ETC 270.90 LVI 20.63

PLANETOCENTRIC CONIC

C3 23.566 VHL 4.855 DLA 13.52 RAL 316.01 RAD 6644.4 VEL 11.981 PTH 6.98 VHP 4.127 DPA -54.63 RAP 297.54 ECC 1.3878
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 10 31 3444.80 -45.31 123.13 190.78 106.43 17 7 55 2444.8 -34.07 95.08
60.00 16 35 1 3379.54 -39.08 119.28 192.81 100.73 17 31 21 2379.5 -30.69 91.66
70.00 17 10 9 3278.13 -33.62 111.93 193.83 98.39 18 4 45 2276.2 -27.56 84.90
80.00 18 2 28 3112.26 -29.67 99.90 194.23 93.48 18 54 20 2112.3 -25.24 73.35
90.00 19 16 47 2872.40 -26.18 82.36 194.32 92.43 20 4 39 1872.4 -24.35 56.00
100.00 20 45 20 2586.73 -29.67 61.27 194.23 93.48 21 28 27 1586.7 -25.24 34.72
110.00 22 9 36 2322.97 -33.62 40.84 193.83 96.38 22 48 19 1323.0 -27.56 13.82

DIFFERENTIAL CORRECTIONS

TDE .7060 TRA .7378 TC3-1.1608 BAU .5048
RDE 1.4393 RRA 2.9627 RC3-1.1044 FAU .12929
FDE 4.8252 FRA11.3820 FC3-4.7498 BSP 7400
BDE 1.6032 BRA 3.0532 BC3 1.6022 FSP 2357

MID-COURSE EXECUTION ACCURACY

SGT 1663.3 SGR 4119.4 SG3 1351.3
RRT .8530 RRF .9982 RTF .8579
SGB 4442.6 R23 .0547 R13 .9968
SG1 4366.5 SG2 818.9 THA 70.27

ORBIT DETERMINATION ACCURACY

ST 43.8 SR 100.6 SS 125.6
CRT .9677 CRS -.9980 CST -.9500
LSA 166.3 MSA 13.2 SSA .6
EL1 109.3 EL2 10.2 ALF 66.94

LAUNCH DATE MAR 13 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 2 1971

MELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.256 GAL -5.82 AZL 86.19 HCA 198.02 SMA 178.17 ECC .19344 INC 3.8145 V1 29.970
RP 209.76 LAP -1.18 LOP 9.74 VP 22.814 GAP 4.50 AZP 93.63 TAL 322.54 TAP 160.56 RCA 143.70 APO 212.63 V2 26.137
RC 107.990 GL 26.59 GP -29.86 ZAL 141.62 ZAP 97.42 ETS 183.17 ZAE 132.42 ETE 209.68 ZAC 72.72 ETC 270.66 LVI 19.57

PLANETOCENTRIC CONIC

C3 22.749 VHL 4.770 DLA 11.34 RAL 316.75 RAD 6644.0 VEL 11.947 PTH 6.95 VHP 4.024 DPA -53.31 RAP 295.77 ECC 1.3744
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 22 0 3391.82 -44.18 118.52 188.84 109.83 17 18 32 2391.8 -31.93 91.84
60.00 16 49 9 3319.57 -38.21 114.42 191.24 103.92 17 44 28 2319.6 -28.73 87.78
70.00 17 27 22 3207.12 -32.98 106.64 192.58 99.44 18 20 49 2207.1 -25.79 80.31
80.00 18 22 41 3033.84 -29.21 94.12 193.19 96.49 19 13 14 2033.8 -23.61 68.09
90.00 19 38 22 2789.54 -27.80 76.33 193.36 95.43 20 24 52 1789.5 -22.79 50.43
100.00 21 5 32 2508.32 -29.21 55.49 193.19 96.49 21 47 21 1508.3 -23.61 29.46
110.00 22 26 48 2253.94 -32.98 35.56 192.58 99.44 23 4 22 1253.9 -25.79 9.23

DIFFERENTIAL CORRECTIONS

TDE .7416 TRA .9261 TC3-1.2805 BAU .5101
RDE 1.3521 RRA 2.8216 RC3-1.0834 FAU .13422
FDE 4.8950 FRA11.9401 FC3-5.1080 BSP 7260
BDE 1.5421 BRA 2.9697 BC3 1.6774 FSP 2491

MID-COURSE EXECUTION ACCURACY

SGT 1890.3 SGR 3956.9 SG3 1425.8
RRT .8867 RRF .9979 RTF .8909
SGB 4385.2 R23 .0686 R13 .9956
SG1 4311.2 SG2 802.3 THA 66.17

ORBIT DETERMINATION ACCURACY

ST 47.7 SR 96.4 SS 127.6
CRT .9792 CRS -.9973 CST -.9620
LSA 166.4 MSA 12.6 SSA .7
EL1 107.2 EL2 8.7 ALF 63.95

LAUNCH DATE MAR 13 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 4 1971

MELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.252 GAL -5.85 AZL 86.51 HCA 199.24 SMA 178.11 ECC .19344 INC 3.4858 V1 29.970
RP 209.99 LAP -1.15 LOP 10.97 VP 22.779 GAP 4.28 AZP 93.29 TAL 322.35 TAP 161.60 RCA 143.66 APO 212.56 V2 26.111
RC 110.071 GL 24.50 GP -28.48 ZAL 142.92 ZAP 95.65 ETS 181.94 ZAE 131.57 ETE 206.99 ZAC 74.12 ETC 270.43 LVI 18.62

PLANETOCENTRIC CONIC

C3 22.129 VHL 4.704 DLA 9.36 RAL 317.45 RAD 6643.8 VEL 11.922 PTH 6.93 VHP 3.938 DPA -52.09 RAP 294.08 ECC 1.3642
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 20 3345.27 -43.03 114.64 187.35 112.64 17 28 6 2345.3 -29.97 89.13
60.00 17 1 46 3266.93 -37.27 110.27 190.04 106.60 17 56 13 2266.9 -26.92 84.51
70.00 17 42 37 3146.77 -32.21 102.10 191.61 102.02 18 35 4 2146.8 -24.12 76.43
80.00 18 40 26 2965.68 -28.58 89.15 192.39 99.03 19 29 52 1965.7 -22.05 63.64
90.00 19 57 15 2717.74 -27.23 71.16 192.62 97.96 20 42 33 1717.7 -21.26 45.72
100.00 21 23 18 2440.15 -26.58 50.52 192.39 99.03 22 3 58 1440.1 -22.05 25.01
110.00 22 42 4 2193.59 -32.21 31.02 191.61 102.02 23 18 37 1193.6 -24.12 5.35

DIFFERENTIAL CORRECTIONS

TDE .7810 TRA 1.1177 TC3-1.3987 BAU .5174
RDE 1.2816 RRA 2.6924 RC3-1.0501 FAU .13773
FDE 4.9675 FRA12.4444 FC3-5.3881 BSP 7213
BDE 1.5008 BRA 2.9151 BC3 1.7490 FSP 2628

MID-COURSE EXECUTION ACCURACY

SGT 2130.8 SGR 3802.4 SG3 1492.2
RRT .9097 RRF .9975 RTF .536
SGB 4358.7 R23 .0819 R13 .9942
SG1 4267.5 SG2 784.8 THA 61.97

ORBIT DETERMINATION ACCURACY

ST 51.9 SR 92.6 SS 129.4
CRT .9873 CRS -.9966 CST -.9711
LSA 167.0 MSA 12.2 SSA .8
EL1 105.9 EL2 7.2 ALF 60.98

LAUNCH DATE MAR 13 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 6 1971

MELIOCENTRIC CONIC

RL 148.87 LAL .00 LOL 171.76 VL 32.248 GAL -5.88 AZL 86.80 HCA 200.47 SMA 178.08 ECC .19351 INC 3.1953 V1 29.970
RP 210.22 LAP -1.12 LOP 12.20 VP 22.745 GAP 4.05 AZP 92.99 TAL 322.16 TAP 162.62 RCA 143.60 APO 212.52 V2 26.085
RC 112.177 GL 22.59 GP -27.19 ZAL 144.08 ZAP 93.81 ETS 180.82 ZAE 130.58 ETE 204.49 ZAC 75.43 ETC 270.20 LVI 17.77

PLANETOCENTRIC CONIC

C3 21.664 VHL 4.654 DLA 7.57 RAL 318.12 RAD 6643.6 VEL 11.902 PTH 6.91 VHP 3.868 DPA -50.95 RAP 292.47 ECC 1.3565
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 41 44 3304.18 -41.90 111.34 186.23 114.99 17 36 48 2304.2 -28.19 86.83
60.00 17 13 10 3220.51 -36.31 106.71 189.13 108.85 18 6 51 2220.5 -25.25 81.71
70.00 17 56 18 3093.62 -31.39 98.18 190.89 104.21 18 47 52 2093.6 -22.55 73.10
80.00 18 56 15 2905.84 -27.87 84.85 191.80 101.18 19 44 41 1905.8 -20.56 59.82
90.00 20 14 2 2654.84 -26.55 66.88 192.08 100.10 20 58 17 1654.8 -19.81 41.68
100.00 21 39 7 2380.31 -27.87 46.22 191.80 101.18 22 18 47 1380.3 -20.56 21.19
110.00 22 55 44 2140.44 -31.39 27.10 190.89 104.21 23 31 25 1140.4 -22.55 2.02

DIFFERENTIAL CORRECTIONS

TDE .8208 TRA 1.3095 TC3-1.5203 BAU .5275
RDE 1.2284 RRA 2.5754 RC3-1.0027 FAU .13937
FDE 5.0531 FRA12.9088 FC3-5.5694 BSP 7251
BDE 1.4757 BRA 2.8692 BC3 1.8212 FSP 2776

MID-COURSE EXECUTION ACCURACY

SGT 2380.7 SGR 3637.7 SG3 1551.7
RRT .9241 RRF .9971 RTF .9283
SGB 4364.2 R23 .0947 R13 .9927
SG1 4294.9 SG2 774.9 THA 57.80

ORBIT DETERMINATION ACCURACY

ST 56.1 SR 89.4 SS 131.4
CRT .9930 CRS -.9958 CST -.9782
LSA 168.2 MSA 11.7 SSA .9
EL1 105.5 EL2 5.6 ALF 57.97

LAUNCH DATE MAR 13 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.78 VL 32.246 GAL -8.91 AZL 87.06 HCA 201.89 SMA 178.02 ECC .19366 INC 2.9370 V1 29.970
 RP 210.48 LAP -1.09 LOP 13.43 VP 22.710 GAP 3.83 AZP 92.73 TAL 321.95 TAP 163.64 RCA 143.55 APO 212.50 V2 26.050
 RC 114.307 GL 20.85 GP -26.00 ZAL 149.12 ZAP 91.94 ETS 179.79 ZAE 129.41 ETE 202.17 ZAC 76.64 ETC 269.98 LVI 17.01

PLANETOCENTRIC CONIC
 C3 21.320 VML 4.617 DLA 3.95 RAL 319.75 RAD 6643.4 VEL 11.888 PTH 6.9D VHP 3.811 DPA -49.88 RAP 290.93 ECC 1.3509
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 17 3267.75 -40.82 108.52 185.41 116.95 17 44 45 2267.7 -26.58 84.86
 60.00 17 23 31 3179.33 -35.36 103.62 188.48 110.75 18 16 31 2179.3 -23.72 79.30
 70.00 18 8 40 3046.52 -30.55 94.77 190.38 106.07 18 59 27 2046.5 -21.10 70.22
 80.00 19 10 29 2852.91 -27.11 81.10 191.40 103.02 19 58 2 1852.9 -19.16 56.51
 90.00 20 29 5 2399.25 -25.83 62.77 191.72 101.93 21 12 25 1599.3 -18.44 38.18
 100.00 21 53 21 2327.38 -27.11 42.47 191.40 103.02 22 32 9 1327.4 -19.16 17.88
 110.00 23 8 7 2093.34 -30.55 23.68 190.38 106.07 23 43 0 1093.3 -21.10 359.13

DIFFERENTIAL CORRECTIONS
 TDE .8885 TRA 1.5053 TC3-1.6314 BAU .5417 SGT 2636.8 SGR 3502.8 SG3 1597.1 ST 60.7 SR 85.8 SS 132.0
 RDE 1.1677 RRA 2.4322 RC3 -.9747 FAU .14304 RRT .9376 RRF .9966 RTF .9416 CRT .9964 CRS -.9947 CST -.9829
 FDE 5.0723 FRA13.2513 FC3-5.8082 B8P 7220 SGB 4384.3 R23 .1049 R13 .9912 LSA 166.3 MSA 11.4 SSA .9
 BDE 1.4541 BRA 2.8774 BC3 1.9004 F8P 2848 SG1 4320.8 SG2 743.4 THA 53.53 EL1 105.0 EL2 4.2 ALF 54.73

LAUNCH DATE MAR 13 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.78 VL 32.245 GAL -5.95 AZL 87.29 HCA 202.91 SMA 178.00 ECC .19389 INC 2.7054 V1 29.970
 RP 210.70 LAP -1.05 LOP 14.65 VP 22.675 GAP 3.61 AZP 92.49 TAL 321.73 TAP 164.64 RCA 143.49 APO 212.51 V2 26.030
 RC 116.460 GL 19.25 GP -24.88 ZAL 146.05 ZAP 90.03 ETS 178.84 ZAE 129.14 ETE 200.03 ZAC 77.77 ETC 269.76 LVI 16.31

PLANETOCENTRIC CONIC
 C3 21.075 VML 4.591 DLA 4.46 RAL 319.35 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 3.765 DPA -48.88 RAP 289.47 ECC 1.3468
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 10 3235.36 -39.79 106.10 184.83 118.61 17 52 5 2235.4 -25.12 83.16
 60.00 17 33 0 3142.68 -34.44 100.95 188.02 112.37 18 25 23 2142.7 -22.33 77.21
 70.00 18 19 57 3004.59 -29.72 91.78 190.05 107.65 19 10 1 2004.6 -19.76 67.70
 80.00 19 23 25 2805.82 -26.35 77.81 191.18 104.58 20 10 11 1805.8 -17.87 53.61
 90.00 20 42 45 2549.82 -25.09 59.34 191.50 103.49 21 25 14 1549.8 -17.16 35.12
 100.00 22 6 17 2260.29 -26.35 39.18 191.16 104.58 22 44 17 1260.3 -17.87 14.98
 110.00 23 19 23 2051.41 -29.72 20.70 190.05 107.65 23 53 35 1051.4 -19.76 356.62

DIFFERENTIAL CORRECTIONS
 TDE .9136 TRA 1.7013 TC3-1.7408 BAU .5583 SGT 2896.7 SGR 3350.4 SG3 1633.0 ST 65.4 SR 82.2 SS 132.0
 RDE 1.1149 RRA 2.3335 RC3 -.9466 FAU .14652 RRT .9477 RRF .9959 RTF .9518 CRT .9985 CRS -.9935 CST -.9862
 FDE 5.0722 FRA13.5239 FC3-6.0187 B8P 7222 SGB 4429.0 R23 .1126 R13 .9899 LSA 166.4 MSA 11.3 SSA 1.0
 BDE 1.4414 BRA 2.8879 BC3 1.9815 F8P 2895 SG1 4371.9 SG2 708.6 THA 49.38 EL1 105.0 EL2 2.8 ALF 51.52

LAUNCH DATE MAR 13 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.78 VL 32.243 GAL -5.99 AZL 87.50 HCA 204.13 SMA 177.98 ECC .19417 INC 2.4966 V1 29.970
 RP 210.95 LAP -1.02 LOP 15.87 VP 22.641 GAP 3.40 AZP 92.28 TAL 321.50 TAP 165.63 RCA 143.42 APO 212.54 V2 26.001
 RC 118.637 GL 17.79 GP -23.83 ZAL 146.89 ZAP 88.12 ETS 177.98 ZAE 126.78 ETE 198.06 ZAC 78.84 ETC 269.54 LVI 15.88

PLANETOCENTRIC CONIC
 C3 20.913 VML 4.573 DLA 3.11 RAL 319.93 RAD 6643.2 VEL 11.871 PTH 6.88 VHP 3.729 DPA -47.94 RAP 288.08 ECC 1.3442
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 27 3206.50 -38.83 104.00 184.44 120.01 17 58 53 2206.5 -23.80 81.88
 60.00 17 41 44 3109.97 -33.57 98.61 187.74 113.75 18 33 34 2110.0 -21.05 75.38
 70.00 18 30 18 2987.12 -28.92 89.16 189.87 109.01 19 19 45 1967.1 -18.53 65.49
 80.00 19 35 15 2763.72 -25.59 74.91 191.04 105.93 20 21 18 1763.7 -16.87 51.06
 90.00 20 55 13 2505.64 -24.35 56.31 191.42 104.84 21 36 59 1505.6 -15.97 32.42
 100.00 22 18 6 2238.19 -25.59 36.28 191.04 105.93 22 55 25 1238.2 -15.67 12.43
 110.00 23 29 44 2013.94 -28.92 18.08 189.87 109.01 24 3 18 1013.9 -18.53 354.41

DIFFERENTIAL CORRECTIONS
 TDE .9621 TRA 1.8979 TC3-1.8488 BAU .5787 SGT 3159.5 SGR 3207.7 SG3 1662.9 ST 70.1 SR 79.2 SS 132.4
 RDE 1.0727 RRA 2.2851 RC3 -.9069 FAU .14818 RRT .9543 RRF .9952 RTF .9587 CRT .9995 CRS -.9922 CST -.9880
 FDE 5.0673 FRA13.7661 FC3-6.1331 B8P 7321 SGB 4502.4 R23 .1184 R13 .9886 LSA 169.0 MSA 11.2 SSA 1.0
 BDE 1.4409 BRA 2.9248 BC3 2.0590 F8P 2958 SG1 4450.6 SG2 680.8 THA 45.45 EL1 105.8 EL2 1.6 ALF 48.48

LAUNCH DATE MAR 13 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.78 VL 32.243 GAL -6.03 AZL 87.89 HCA 205.34 SMA 177.97 ECC .19453 INC 2.3070 V1 29.970
 RP 211.20 LAP -.99 LOP 17.09 VP 22.606 GAP 3.18 AZP 92.09 TAL 321.26 TAP 166.60 RCA 143.35 APO 212.59 V2 25.972
 RC 120.836 GL 16.43 GP -22.84 ZAL 147.65 ZAP 86.19 ETS 177.19 ZAE 125.35 ETE 196.27 ZAC 79.83 ETC 269.34 LVI 15.09

PLANETOCENTRIC CONIC
 C3 20.821 VML 4.563 DLA 1.87 RAL 320.49 RAD 6643.2 VEL 11.867 PTH 6.88 VHP 3.702 DPA -47.04 RAP 286.77 ECC 1.3427
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 12 3180.73 -37.93 102.18 184.20 121.20 18 5 13 2180.7 -22.61 80.39
 60.00 17 49 48 3080.89 -32.74 96.57 187.60 114.94 18 41 9 2080.7 -19.90 73.77
 70.00 18 39 50 2933.53 -28.15 86.85 189.81 110.19 19 28 44 1933.5 -17.40 63.54
 80.00 19 46 8 2725.95 -24.86 72.34 191.05 107.09 20 31 34 1726.0 -15.56 48.80
 90.00 21 6 41 2465.99 -23.64 53.63 191.45 106.00 21 47 47 1466.0 -14.87 30.03
 100.00 22 29 0 2200.42 -24.86 33.71 191.05 107.09 23 5 40 1200.4 -15.56 10.17
 110.00 23 39 17 1980.35 -28.15 15.77 189.81 110.19 24 12 17 980.3 -17.40 352.46

DIFFERENTIAL CORRECTIONS
 TDE 1.0117 TRA 2.0941 TC3-1.9534 BAU .5949 SGT 3422.5 SGR 3067.8 SG3 1684.3 ST 74.8 SR 76.3 SS 132.4
 RDE 1.0349 RRA 2.1204 RC3 -.8671 FAU .14936 RRT .9591 RRF .9944 RTF .9641 CRT .9998 CRS -.9906 CST -.9911
 FDE 5.0900 FRA13.9481 FC3-6.2107 B8P 7453 SGB 4596.1 R23 .1219 R13 .9876 LSA 169.7 MSA 11.2 SSA 1.1
 BDE 1.4472 BRA 2.9801 BC3 2.1372 F8P 2998 SG1 4549.5 SG2 653.3 THA 41.74 EL1 106.9 EL2 1.1 ALF 45.55

LAUNCH DATE MAR 13 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

RL 148.87 LAL .00 LOL 171.76 VL 32.243 GAL -6.08 AZL 87.87 HCA 206.55 SMA 177.97 ECC .19496 INC 2.1342 V1 29.970
 RP 211.46 LAP -.95 LOP 18.30 VP 22.572 GAP 2.97 AZP 91.91 TAL 321.01 TAP 167.56 RCA 143.27 APO 212.67 V2 25.942
 RC 123.056 GL 15.18 GP -21.91 ZAL 149.35 ZAP 84.28 ETS 176.47 ZAE 123.86 ETE 194.63 ZAC 80.77 ETC 269.14 LVI 14.55

PLANETOCENTRIC CONIC

C3 20.788 VHL 4.559 DLA .73 RAL 321.03 RAD 6643.2 VEL 11.866 PTH 6.88 VHP 3.682 DPA -46.19 RAP 285.53 ECC 1.3421
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 30 3157.70 -37.11 100.60 184.10 122.23 18 11 8 2157.7 -21.54 79.25
 60.00 17 57 19 3054.46 -31.98 94.77 187.57 115.96 18 48 13 2054.5 -18.85 72.35
 70.00 18 48 41 2903.36 -27.43 84.80 189.85 111.20 19 37 5 1903.4 -16.37 61.81
 80.00 19 56 12 2691.97 -24.16 70.06 191.15 108.10 20 41 4 1692.0 -14.55 46.79
 90.00 21 17 17 2430.30 -22.95 51.24 191.57 107.00 21 57 48 1430.3 -13.86 27.90
 100.00 22 39 4 2166.44 -24.16 31.43 191.15 108.10 23 15 10 1166.4 -14.55 8.16
 110.00 23 48 8 1950.18 -27.43 13.72 189.85 111.20 24 20 38 950.2 -16.37 350.73

DIFFERENTIAL CORRECTIONS

TDE 1.0836 TRA 2.2915 TC3-2.0527 BAU .6146
 RDE 1.0029 RRA 2.0219 RC3 -.8233 FAU .14949
 FDE 5.0947 FRA14.0921 FC3-6.2260 BSP 7647
 BDE 1.4819 BRA 3.0560 BC3 2.2116 FSP 3041

MID-COURSE EXECUTION ACCURACY

SGT 3685.6 SGR 2934.1 SG3 1699.4
 RRT .9624 RRF .9935 RTF .9682
 SGB 4710.9 R23 .1234 R13 .9868
 SG1 4668.8 S62 629.0 THA 38.28

ORBIT DETERMINATION ACCURACY

ST 79.6 SR 73.7 SS 132.4
 CRT .9994 CRS -.9890 CST -.9928
 LSA 170.8 MSA 11.2 SSA 1.1
 EL1 106.5 EL2 1.9 ALF 42.77

LAUNCH DATE MAR 13 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.243 GAL -6.13 AZL 88.02 HCA 207.76 SMA 177.98 ECC .19546 INC 1.9758 V1 29.970
 RP 211.73 LAP -.92 LOP 19.31 VP 22.537 GAP 2.76 AZP 91.75 TAL 320.75 TAP 168.51 RCA 143.19 APO 212.76 V2 25.911
 RC 125.302 GL 14.02 GP -21.03 ZAL 148.99 ZAP 82.38 ETS 175.82 ZAE 122.33 ETE 193.13 ZAC 81.66 ETC 268.95 LVI 14.05

PLANETOCENTRIC CONIC

C3 20.806 VHL 4.561 DLA -.32 RAL 321.55 RAD 6643.2 VEL 11.866 PTH 6.88 VHP 3.670 DPA -45.38 RAP 284.37 ECC 1.3424
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 24 3137.10 -36.35 99.21 184.11 123.11 18 16 41 2137.1 -20.7 78.25
 60.00 18 4 19 3030.92 -31.26 93.18 187.64 116.85 18 54 50 2030.9 -17.69 71.09
 70.00 18 56 55 2876.21 -26.75 82.99 189.99 112.08 19 44 52 1876.2 -15.43 60.27
 80.00 20 5 33 2661.32 -23.50 68.03 191.33 108.97 20 49 54 1661.3 -13.61 45.00
 90.00 21 27 8 2398.08 -22.29 49.11 191.77 107.87 22 7 6 1398.1 -12.93 25.99
 100.00 22 48 25 2135.79 -23.50 29.39 191.33 108.97 23 24 1 1135.8 -13.61 6.37
 110.00 0 0 18 1923.02 -26.75 11.91 189.99 112.08 0 32 21 923.0 -15.43 349.19

DIFFERENTIAL CORRECTIONS

TDE 1.1165 TRA 2.4878 TC3-2.1482 BAU .6359
 RDE .9734 RRA 1.9262 RC3 -.7815 FAU .14944
 FDE 5.0842 FRA14.1801 FC3-6.2182 BSP 7858
 BDE 1.4813 BRA 3.1464 BC3 2.2860 FSP 3062

MID-COURSE EXECUTION ACCURACY

SGT 3946.3 SGR 2803.1 SG3 1706.8
 RRT .9649 RRF .9923 RTF .9715
 SGB 4840.6 R23 .1228 R13 .9862
 SG1 4802.6 S62 605.3 THA 35.06

ORBIT DETERMINATION ACCURACY

ST 84.4 SR 71.1 SS 132.0
 CRT .9984 CRS -.9871 CST -.9941
 LSA 171.7 MSA 11.3 SSA 1.2
 EL1 110.3 EL2 3.1 ALF 40.10

LAUNCH DATE MAR 13 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.244 GAL -6.18 AZL 88.17 HCA 208.97 SMA 177.99 ECC .19601 INC 1.9299 V1 29.970
 RP 212.01 LAP -.89 LOP 20.72 VP 22.503 GAP 2.55 AZP 91.80 TAL 320.48 TAP 169.44 RCA 143.10 APO 212.86 V2 25.880
 RC 127.566 GL 12.95 GP -20.19 ZAL 149.58 ZAP 80.50 ETS 175.23 ZAE 120.78 ETE 191.77 ZAC 82.49 ETC 268.77 LVI 13.57

PLANETOCENTRIC CONIC

C3 20.871 VHL 4.568 DLA -1.28 RAL 322.06 RAD 6643.2 VEL 11.869 PTH 6.88 VHP 3.664 DPA -44.61 RAP 283.28 ECC 1.3435
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 56 3118.68 -35.66 98.00 184.20 123.87 18 21 55 2118.7 -19.69 77.37
 60.00 18 10 52 3009.79 -30.61 91.78 187.79 117.61 19 1 2 2009.8 -17.03 69.97
 70.00 19 4 37 2891.75 -26.11 81.37 190.20 112.84 19 52 9 1851.7 -14.57 58.90
 80.00 20 14 16 2633.64 -22.87 66.21 191.58 109.73 20 58 10 1633.6 -12.76 43.39
 90.00 21 38 18 2368.96 -21.67 47.20 192.04 108.63 22 15 47 1369.0 -12.07 24.28
 100.00 22 57 8 2108.11 -22.87 27.58 191.58 109.73 23 32 16 1108.1 -12.76 4.76
 110.00 0 7 59 1898.57 -26.11 10.29 190.20 112.84 0 39 38 898.6 -14.57 347.81

DIFFERENTIAL CORRECTIONS

TDE 1.1703 TRA 2.6835 TC3-2.2397 BAU .6581
 RDE .9472 RRA 1.8346 RC3 -.7399 FAU .14887
 FDE 5.0675 FRA14.2255 FC3-6.1750 BSP 8097
 BDE 1.5036 BRA 3.2506 BC3 2.3587 FSP 3074

MID-COURSE EXECUTION ACCURACY

SGT 4204.1 SGR 2676.7 SG3 1707.8
 RRT .9663 RRF .9911 RTF .5.41
 SGB 4983.8 R23 .1206 R13 .9858
 SG1 4949.4 S62 584.9 THA 32.10

ORBIT DETERMINATION ACCURACY

ST 89.1 SR 68.7 SS 131.6
 CRT .9969 CRS -.9850 CST -.9952
 LSA 172.7 MSA 11.5 SSA 1.2
 EL1 112.5 EL2 4.3 ALF 37.60

LAUNCH DATE MAR 13 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 148.67 LAL .00 LOL 171.76 VL 32.246 GAL -6.24 AZL 88.30 HCA 210.17 SMA 178.01 ECC .19663 INC 1.6950 V1 29.970
 RP 212.29 LAP -.85 LOP 21.92 VP 22.468 GAP 2.34 AZP 91.47 TAL 320.19 TAP 170.36 RCA 143.01 APO 213.02 V2 25.848
 RC 129.850 GL 11.95 GP -19.40 ZAL 150.13 ZAP 78.84 ETS 174.69 ZAE 119.20 ETE 190.53 ZAC 83.28 ETC 268.60 LVI 13.12

PLANETOCENTRIC CONIC

C3 20.977 VHL 4.580 DLA -2.17 RAL 322.55 RAD 6643.3 VEL 11.873 PTH 6.89 VHP 3.664 DPA -43.87 RAP 282.26 ECC 1.3452
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 9 3102.22 -35.03 96.93 184.37 124.53 18 26 51 2102.2 -18.91 76.59
 60.00 18 17 2 2990.83 -30.00 90.54 188.01 118.28 19 6 53 1990.8 -16.25 68.98
 70.00 19 11 49 2829.71 -25.52 79.93 190.47 113.51 19 58 59 1829.7 -13.79 57.67
 80.00 20 22 26 2608.62 -22.29 64.58 191.90 110.40 21 5 54 1608.6 -11.97 41.95
 90.00 21 44 52 2342.60 -21.08 45.49 192.36 109.30 22 23 55 1342.6 -11.29 22.74
 100.00 23 5 18 2083.09 -22.29 25.95 191.90 110.40 23 40 1 1083.1 -11.97 3.31
 110.00 0 15 11 1876.53 -25.52 8.85 190.47 113.51 0 46 28 876.5 -13.79 346.58

DIFFERENTIAL CORRECTIONS

TDE 1.2256 TRA 2.8787 TC3-2.3256 BAU .6809
 RDE .9239 RRA 1.7468 RC3 -.6983 FAU .14775
 FDE 5.0447 FRA14.2324 FC3-6.0978 BSP 8363
 BDE 1.5348 BRA 3.3672 BC3 2.4281 FSP 3077

MID-COURSE EXECUTION ACCURACY

SGT 4459.3 SGR 2554.8 SG3 1702.9
 RRT .9671 RRF .9896 RTF .9762
 SGB 5138.4 R23 .1173 R13 .9855
 SG1 5107.0 S62 567.2 THA 29.39

ORBIT DETERMINATION ACCURACY

ST 93.9 SR 66.5 SS 130.9
 CRT .9950 CRS -.9827 CST -.9960
 LSA 173.9 MSA 11.7 SSA 1.2
 EL1 114.9 EL2 5.4 ALF 35.26

LAUNCH DATE MAR 13 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 148.67 LAL .00 LOL 171.76 VL 32.248 GAL -6.30 AZL 88.43 MCA 211.37 SMA 178.05 ECC .19731 INC 1.5700 V1 29.970
 RP 212.57 LAP -.82 LOP 23.12 VP 22.434 GAP 2.13 AZP 91.34 TAL 319.90 TAP 171.27 RCA 142.91 APO 213.18 V2 25.815
 RC 132.153 GL 11.02 GP -18.65 ZAL 150.64 ZAP 76.82 ETS 174.20 ZAE 117.62 ETE 189.41 ZAC 84.03 ETC 268.44 LVI 12.70

Planetocentric Conic: C3 21.120 VHL 4.596 DLA -2.99 RAL 323.03 RAD 6643.3 VEL 11.879 PTH 6.89 VHP 3.669 DPA -43.16 RAP 281.32 ECC 1.3476
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 5 3087.53 -34.46 95.99 184.61 125.10 18 31 32 2087.5 -18.21 75.90
 60.00 18 22 50 2973.82 -29.45 89.44 188.30 118.86 19 12 23 1973.8 -15.54 68.10
 70.00 19 18 35 2809.84 -24.97 78.65 190.80 114.09 20 5 25 1809.8 -13.08 56.57
 80.00 20 30 5 2585.99 -21.74 63.12 192.26 110.98 21 13 11 1586.0 -11.26 40.65
 90.00 21 52 55 2318.73 -20.54 43.95 192.74 109.88 22 31 34 1318.7 -10.57 21.36
 100.00 23 12 57 2060.47 -21.74 24.49 192.26 110.98 23 47 17 1060.5 -11.26 2.02
 110.00 0 21 58 1856.66 -24.97 7.56 190.80 114.09 0 52 54 856.7 -13.08 345.49

Differential Corrections: TDE 1.2815 TRA 3.0727 TC3-2.4071 BAU .7046 SGT 4707.8 SGR 2437.2 SG3 1692.6 ST 98.5 SR 64.3 SS 130.1
 RDE .9028 RRA 1.6623 RC3 -.6586 FAU .14639 RRT .9673 RRF .9878 RTF .9780 CRT .9927 CRS -.9801 CST -.9968
 FDE 5.0134 FRA14.2002 FC3-8.0007 BSP 8646 SGB 5301.3 R23 .1128 R13 .9854 LSA 175.0 MSA 12.0 SSA 1.2
 BDE 1.5676 BRA 3.4935 BC3 2.4956 FSP 3067 SG1 5272.4 SG2 552.1 THA 26.92 EL1 117.5 EL2 6.5 ALF 33.06

LAUNCH DATE MAR 13 1971

FLIGHT TIME 258.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 148.67 LAL .00 LOL 171.76 VL 32.250 GAL -6.36 AZL 88.55 MCA 212.57 SMA 178.08 ECC .19805 INC 1.4535 V1 29.970
 RP 212.86 LAP -.78 LOP 24.32 VP 22.399 GAP 1.92 AZP 91.23 TAL 319.60 TAP 172.16 RCA 142.81 APO 213.35 V2 25.782
 RC 134.475 GL 10.15 GP -17.94 ZAL 151.12 ZAP 75.03 ETS 173.75 ZAE 116.03 ETE 188.39 ZAC 84.73 ETC 268.29 LVI 12.29

Planetocentric Conic: C3 21.297 VHL 4.615 DLA -3.74 RAL 323.51 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 3.679 DPA -42.48 RAP 280.45 ECC 1.3505
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 44 3074.44 -33.94 95.17 184.90 125.59 18 35 59 2074.4 -17.58 75.29
 60.00 18 28 18 2958.59 -28.94 88.46 188.63 119.37 19 17 37 1958.6 -14.91 67.31
 70.00 19 24 58 2791.96 -24.47 77.50 191.18 114.60 20 11 30 1792.0 -12.43 55.58
 80.00 20 37 17 2565.54 -21.24 61.81 192.67 111.49 21 20 3 1565.5 -10.60 39.48
 90.00 22 0 28 2297.11 -20.03 42.57 193.16 110.39 22 38 46 1297.1 -9.91 20.11
 100.00 23 20 9 2040.01 -21.24 23.18 192.67 111.49 23 54 9 1040.0 -10.60 .85
 110.00 0 28 20 1838.78 -24.47 6.42 191.18 114.60 0 58 59 838.8 -12.43 344.50

Differential Corrections: TDE 1.3385 TRA 3.2661 TC3-2.4833 BAU .7287 SGT 4952.6 SGR 2324.6 SG3 1677.7 ST 103.1 SR 62.3 SS 129.2
 RDE .8842 RRA 1.5815 RC3 -.6192 FAU .14450 RRT .9668 RRF .9858 RTF .9794 CRT .9901 CRS -.9773 CST -.9972
 FDE 4.9790 FRA14.1382 FC3-5.8739 BSP 8946 SGB 5471.1 R23 .1079 R13 .9853 LSA 176.2 MSA 12.3 SSA 1.3
 BDE 1.6042 BRA 3.6289 BC3 2.5594 FSP 3052 SG1 5444.3 SG2 540.5 THA 24.67 EL1 120.3 EL2 7.5 ALF 31.04

LAUNCH DATE MAR 13 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 148.67 LAL .00 LOL 171.76 VL 32.253 GAL -6.43 AZL 88.66 MCA 213.76 SMA 178.13 ECC .19885 INC 1.3446 V1 29.970
 RP 213.18 LAP -.75 LOP 25.52 VP 22.364 GAP 1.72 AZP 91.12 TAL 319.29 TAP 173.05 RCA 142.71 APO 213.55 V2 25.749
 RC 136.814 GL 9.33 GP -17.26 ZAL 151.58 ZAP 73.28 ETS 173.36 ZAE 114.45 ETE 187.46 ZAC 85.41 ETC 268.15 LVI 11.90

Planetocentric Conic: C3 21.507 VHL 4.638 DLA -4.45 RAL 323.97 RAD 6643.5 VEL 11.896 PTH 6.91 VHP 3.693 DPA -41.84 RAP 279.66 ECC 1.3539
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 10 3062.83 -33.48 94.44 185.24 126.02 18 40 13 2062.8 -17.02 74.75
 60.00 18 33 29 2944.97 -28.48 87.60 189.01 119.81 19 22 34 1945.0 -14.33 66.61
 70.00 19 30 59 2775.88 -24.01 76.48 191.60 115.05 20 17 15 1775.9 -11.85 54.70
 80.00 20 44 4 2547.05 -20.77 60.63 193.12 111.94 21 26 31 1547.1 -10.01 38.43
 90.00 22 7 36 2277.54 -19.56 41.33 193.62 110.84 22 45 33 1277.5 -9.31 18.99
 100.00 23 26 56 2021.52 -20.77 22.00 193.12 111.94 24 0 37 1021.5 -10.01 359.80
 110.00 0 34 21 1822.70 -24.01 5.40 191.60 115.05 1 4 44 822.7 -11.85 343.62

Differential Corrections: TDE 1.3988 TRA 3.4585 TC3-2.5537 BAU .7530 SGT 5191.9 SGR 2216.7 SG3 1658.4 ST 107.7 SR 60.5 SS 128.2
 RDE .8677 RRA 1.5041 RC3 -.5813 FAU .14230 RRT .9658 RRF .9835 RTF .9705 CRT .9871 CRS -.9743 CST -.9976
 FDE 4.9388 FRA14.0462 FC3-5.7283 BSP 9258 SGB 5645.3 R23 .1024 R13 .9853 LSA 177.5 MSA 12.6 SSA 1.3
 BDE 1.6442 BRA 3.7715 BC3 2.6180 FSP 3027 SG1 5820.3 SG2 531.2 THA 22.82 EL1 123.2 EL2 8.5 ALF 29.15

LAUNCH DATE MAR 13 1971

FLIGHT TIME 262.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 148.67 LAL .00 LOL 171.76 VL 32.256 GAL -6.50 AZL 88.78 MCA 214.95 SMA 178.18 ECC .19971 INC 1.2426 V1 29.970
 RP 213.46 LAP -.71 LOP 26.71 VP 22.330 GAP 1.51 AZP 91.02 TAL 318.97 TAP 173.92 RCA 142.59 APO 213.76 V2 25.714
 RC 139.171 GL 8.57 GP -16.62 ZAL 152.01 ZAP 71.58 ETS 172.99 ZAE 112.89 ETE 186.62 ZAC 86.04 ETC 268.02 LVI 11.53

Planetocentric Conic: C3 21.747 VHL 4.683 DLA -5.09 RAL 324.43 RAD 6643.6 VEL 11.906 PTH 6.91 VHP 3.711 DPA -41.22 RAP 278.93 ECC 1.3579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 22 3052.55 -33.07 93.81 185.62 126.39 18 44 15 2052.5 -16.52 74.28
 60.00 18 38 23 2932.84 -28.07 86.84 189.43 120.19 19 27 16 1932.8 -13.82 65.99
 70.00 19 36 40 2761.45 -23.59 75.57 192.05 115.44 20 22 42 1761.4 -11.32 53.92
 80.00 20 50 29 2530.38 -20.35 59.58 193.60 112.34 21 32 39 1530.4 -9.47 37.49
 90.00 22 14 19 2259.85 -19.13 40.21 194.12 111.23 22 51 59 1259.9 -8.77 17.97
 100.00 23 33 20 2004.85 -20.35 20.95 193.60 112.34 24 6 45 1004.8 -9.47 358.85
 110.00 0 40 2 1808.26 -23.59 4.48 192.05 115.44 1 10 11 808.3 -11.32 342.83

Differential Corrections: TDE 1.4552 TRA 3.6497 TC3-2.6201 BAU .7781 SGT 5425.5 SGR 2113.7 SG3 1635.5 ST 112.1 SR 58.7 SS 127.0
 RDE .8529 RRA 1.4299 RC3 -.5452 FAU .13990 RRT .9642 RRF .9809 RTF .9814 CRT .9836 CRS -.9711 CST -.9980
 FDE 4.8939 FRA13.9281 FC3-5.5694 BSP 9575 SGB 5822.7 R23 .0969 R13 .9853 LSA 178.8 MSA 12.9 SSA 1.3
 BDE 1.6867 BRA 3.9198 BC3 2.6762 FSP 2995 SG1 5799.0 SG2 524.7 THA 20.76 EL1 126.2 EL2 9.4 ALF 27.42

LAUNCH DATE MAR 13 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.260 GAL -6.97 AZL 88.85 HCA 216.14 SMA 178.23 ECC .20062 INC 1.1468 V1 29.970
 RP 213.77 LAP -.68 LOP 27.90 VP 22.295 GAP 1.31 AZP 90.93 TAL 318.64 TAP 174.77 RCA 142.48 APO 213.99 V2 25.680
 RC 141.945 GL 7.86 GP -16.01 ZAL 152.42 ZAP 69.91 ETS 172.67 ZAE 111.34 ETE 185.86 ZAC 86.65 ETC 267.91 LVI 11.16

DISTANCE 640.615
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.015 VHL 4.692 DLA -5.70 RAL 324.88 RAD 6643.7 VEL 11.917 PTH 6.92 VHP 3.734 DPA -40.63 RAP 278.28 ECC 1.3623
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 23 3043.51 -32.70 93.26 186.03 126.71 18 48 6 2043.5 -16.09 73.87
 60.00 18 43 2 2922.06 -27.70 86.17 189.88 120.53 19 31 44 1922.1 -13.37 65.45
 70.00 19 42 4 2748.53 -23.21 74.76 192.54 115.79 20 27 52 1748.5 -10.85 53.21
 80.00 20 36 32 2515.36 -19.95 58.64 194.11 112.88 21 38 28 1515.4 -8.98 36.64
 90.00 22 20 40 2243.89 -18.73 39.21 194.64 111.58 22 58 4 1243.9 -8.27 17.06
 100.00 23 39 24 1989.83 -19.95 20.01 194.11 112.68 24 12 34 989.8 -8.98 358.01
 110.00 0 45 26 1793.35 -23.21 3.67 192.54 115.79 1 15 21 795.4 -10.85 342.13

DIFFERENTIAL CORRECTIONS
 TDE 1.5148 TRA 3.8401 TC3-2.6807 BAU .8032
 RDE .8398 RRA 1.3589 RC3 -.5105 FAU .13718
 FDE 4.8443 FRA13.7887 FC3-5.3947 BSP 9898
 BDE 1.7320 BRA 4.0735 BC3 2.7289 FSP 2957

MID-COURSE EXECUTION ACCURACY
 SGT 5653.2 SGR 2015.5 SG3 1609.3
 RRT .9620 RRF .9779 RTF .9822
 SGB 6001.7 R23 .0913 R13 .9853
 SG1 5979.1 SG2 520.3 THA 19.08

ORBIT DETERMINATION ACCURACY
 ST 116.5 SR 57.1 SS 125.8
 CRT .9801 CRS -.9676 CST -.9983
 LSA 180.2 MSA 13.2 SSA 1.3
 EL1 129.3 EL2 10.2 ALF 25.82

LAUNCH DATE MAR 13 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.264 GAL -6.65 AZL 88.94 HCA 217.32 SMA 178.29 ECC .20159 INC 1.0565 V1 29.970
 RP 214.08 LAP -.64 LOP 29.08 VP 22.260 GAP 1.10 AZP 90.84 TAL 318.30 TAP 175.62 RCA 142.35 APO 214.24 V2 25.645
 RC 143.936 GL 7.19 GP -15.43 ZAL 152.82 ZAP 68.29 ETS 172.38 ZAE 109.80 ETE 185.17 ZAC 87.22 ETC 267.80 LVI 10.81

DISTANCE 644.772
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.311 VHL 4.723 DLA -6.25 RAL 325.32 RAD 6643.9 VEL 11.929 PTH 6.93 VHP 3.759 DPA -40.06 RAP 277.69 ECC 1.3672
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 12 3035.60 -32.38 92.78 186.48 126.98 18 51 48 2035.6 -15.70 73.51
 60.00 18 47 28 2912.55 -27.37 85.58 190.36 120.82 19 36 1 1912.5 -12.97 64.97
 70.00 19 47 10 2737.01 -22.87 74.04 193.05 116.09 20 32 47 1737.0 -10.43 52.59
 80.00 21 2 17 2501.87 -19.60 57.79 194.65 112.99 21 43 59 1501.9 -8.54 35.88
 90.00 22 26 41 2229.51 -18.37 38.31 195.19 111.88 23 3 51 1229.5 -7.83 16.24
 100.00 23 45 8 1976.35 -19.60 19.16 194.65 112.99 24 18 5 976.3 -8.54 357.25
 110.00 0 50 33 1783.83 -22.87 2.96 193.05 116.09 1 20 16 783.8 -10.43 341.51

DIFFERENTIAL CORRECTIONS
 TDE 1.5754 TRA 4.0298 TC3-2.7362 BAU .8285
 RDE .8282 RRA 1.2910 RC3 -.4776 FAU .13431
 FDE 4.7916 FRA13.6296 FC3-5.2116 BSP 10224
 BDE 1.7799 BRA 4.2315 BC3 2.7776 FSP 2913

MID-COURSE EXECUTION ACCURACY
 SGT 5874.9 SGR 1922.2 SG3 1580.5
 RRT .9593 RRF .9744 RTF .9828
 SGB 6181.4 R23 .0858 R13 .9854
 SG1 6159.6 SG2 517.7 THA 17.55

ORBIT DETERMINATION ACCURACY
 ST 120.8 SR 55.5 SS 124.4
 CRT .9762 CRS -.9638 CST -.9986
 LSA 181.6 MSA 13.6 SSA 1.3
 EL1 132.5 EL2 11.0 ALF 24.33

LAUNCH DATE MAR 13 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.268 GAL -6.73 AZL 89.03 HCA 218.50 SMA 178.36 ECC .20261 INC .9712 V1 29.970
 RP 214.39 LAP -.60 LOP 30.26 VP 22.225 GAP .90 AZP 90.76 TAL 317.95 TAP 176.45 RCA 142.23 APO 214.50 V2 25.609
 RC 146.344 GL 6.56 GP -14.88 ZAL 153.19 ZAP 66.71 ETS 172.12 ZAE 108.30 ETE 184.54 ZAC 87.77 ETC 267.71 LVI 10.46

DISTANCE 648.924
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.633 VHL 4.757 DLA -6.77 RAL 325.75 RAD 6644.0 VEL 11.942 PTH 6.95 VHP 3.788 DPA -39.52 RAP 277.17 ECC 1.3725
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 51 3028.75 -32.10 92.37 186.96 127.22 18 55 20 2028.7 -15.37 73.20
 60.00 18 51 41 2904.19 -27.08 85.06 190.87 121.07 19 40 6 1904.2 -12.61 64.54
 70.00 19 52 2 2726.78 -22.56 73.40 193.59 116.35 20 37 28 1726.8 -10.05 52.04
 80.00 21 7 43 2489.81 -19.28 57.04 195.22 113.25 21 49 13 1489.8 -8.15 35.20
 90.00 22 32 24 2216.61 -18.04 37.50 195.76 112.15 23 9 20 1216.6 -7.42 15.51
 100.00 23 50 35 1964.28 -19.28 18.41 195.22 113.25 24 23 19 964.3 -8.15 356.57
 110.00 0 55 24 1773.60 -22.56 2.32 193.59 116.35 1 24 57 773.6 -10.05 340.96

DIFFERENTIAL CORRECTIONS
 TDE 1.6368 TRA 4.2188 TC3-2.7867 BAU .8539
 RDE .8184 RRA 1.2282 RC3 -.4481 FAU .13117
 FDE 4.7377 FRA13.4554 FC3-5.0175 BSP 10534
 BDE 1.8300 BRA 4.3932 BC3 2.8222 FSP 2866

MID-COURSE EXECUTION ACCURACY
 SGT 6090.5 SGR 1833.9 SG3 1549.6
 RRT .9559 RRF .9705 RTF .532
 SGB 6360.6 R23 .0807 R13 .9854
 SG1 6339.5 SG2 517.2 THA 16.17

ORBIT DETERMINATION ACCURACY
 ST 125.0 SR 54.1 SS 123.1
 CRT .9720 CRS -.9599 CST -.9988
 LSA 183.0 MSA 14.0 SSA 1.3
 EL1 135.7 EL2 11.7 ALF 23.00

LAUNCH DATE MAR 13 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 148.67 LAL .00 LOL 171.76 VL 32.273 GAL -6.81 AZL 89.11 HCA 219.68 SMA 178.43 ECC .20368 INC .8904 V1 29.970
 RP 214.72 LAP -.57 LOP 31.44 VP 22.191 GAP .70 AZP 90.69 TAL 317.59 TAP 177.27 RCA 142.09 APO 214.78 V2 25.573
 RC 148.770 GL 5.96 GP -14.35 ZAL 153.56 ZAP 65.18 ETS 171.88 ZAE 106.81 ETE 183.98 ZAC 88.29 ETC 267.63 LVI 10.12

DISTANCE 653.072
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.981 VHL 4.794 DLA -7.25 RAL 326.18 RAD 6644.1 VEL 11.957 PTH 6.96 VHP 3.820 DPA -39.01 RAP 276.71 ECC 1.3782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 21 3022.87 -31.86 92.02 187.46 127.42 18 58 44 2022.9 -15.08 72.93
 60.00 18 55 43 2896.91 -26.82 84.62 191.40 121.28 19 44 0 1896.9 -12.30 64.18
 70.00 19 56 39 2717.75 -22.29 72.85 194.16 116.58 20 41 56 1717.8 -9.72 51.55
 80.00 21 12 54 2479.05 -18.99 56.38 195.80 113.49 21 54 13 1479.1 -7.79 34.60
 90.00 22 37 49 2205.07 -17.75 36.79 196.36 112.39 23 14 34 1205.1 -7.06 14.45
 100.00 23 55 45 1953.52 -18.99 17.75 195.80 113.49 24 28 19 953.5 -7.79 355.97
 110.00 1 0 1 1764.57 -22.29 1.76 194.16 116.58 1 29 26 764.6 -9.72 340.47

DIFFERENTIAL CORRECTIONS
 TOE 1.6985 TRA 4.4064 TC3-2.8330 BAU .8798
 RDE .8096 RRA 1.1642 RC3 -.4168 FAU .12801
 FDE 4.6783 FRA13.2663 FC3-4.8223 BSP 10881
 BDE 1.8816 BRA 4.5576 BC3 2.8635 FSP 2814

MID-COURSE EXECUTION ACCURACY
 SGT 6299.5 SGR 1750.2 SG3 1516.6
 RRT .9520 RRF .9660 RTF .9836
 SGB 6538.2 R23 .0758 R13 .9854
 SG1 6517.6 SG2 517.9 THA 14.91

ORBIT DETERMINATION ACCURACY
 ST 129.1 SR 52.8 SS 121.6
 CRT .9675 CRS -.9557 CST -.9990
 LSA 184.4 MSA 14.3 SSA 1.3
 EL1 138.9 EL2 12.4 ALF 21.76

LAUNCH DATE MAR 13 1971 FLIGHT TIME 272.00 ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC DISTANCE 657.218 EARTH TO MARS
RL 148.67 LAL .00 LOL 171.76 VL 32.278 GAL -6.89 AZL 89.19 HCA 220.89 SMA 178.51 ECC .20480 INC .8139 V1 29.970
RP 215.04 LAP -.35 LOP 32.61 VP 22.196 GAP .50 AZP 90.62 TAL 317.23 TAP 178.08 RCA 141.95 APO 215.07 V2 25.536
RC 151.211 GL 8.41 GP -13.85 ZAL 153.92 ZAP 83.70 ETS 171.67 ZAE 105.36 ETE 183.46 ZAC 88.78 ETC 267.56 LVI 9.78

PLANETOCENTRIC CONIC
C3 23.354 VHL 4.833 DLA -7.69 RAL 326.61 RAD 6644.3 VEL 11.972 PTH 6.97 VHP 3.854 DPA -36.51 RAP 276.32 ECC 1.3843
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 11 42 3017.90 -31.65 91.73 187.98 127.58 19 2 0 2017.9 -14.84 72.71
60.00 18 59 33 2890.63 -26.60 84.24 191.96 121.47 19 47 44 1890.6 -12.04 63.86
70.00 20 1 2 2709.84 -22.05 72.36 194.74 116.77 20 46 12 1705.8 -9.42 51.13
80.00 21 17 48 2469.52 -18.73 55.79 196.41 113.69 21 58 58 1469.5 -7.48 34.07
90.00 22 42 57 2194.80 -17.48 36.15 196.97 112.59 23 19 32 1194.8 -6.74 14.27
100.00 0 4 36 1944.00 -18.73 17.16 196.41 113.69 0 37 0 944.0 -7.48 355.44
110.00 1 4 25 1756.66 -22.05 1.28 194.74 116.77 1 33 41 756.7 -9.42 340.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.7621 TRA 4.5943 TC3-2.9739 BAU .9054 SGT 6503.3 SGR 1671.6 SG3 1482.4 ST 133.1 SR 51.9 SS 120.1
RDE .8025 RRA 1.1051 RC3 -.3688 FAU .12463 RRT .9473 RRF .9609 RTF .9839 CRT .9627 CRS -.9514 CST -.9991
FDE 4.6208 FRA13.0678 FC3-4.6202 B8P 11211 SGB 6714.7 R23 .0713 R13 .9854 LSA 186.0 MSA 14.7 S3A 1.3
BDE 1.9362 BRA 4.7254 BC3 2.9000 F8P 2760 SGI 6694.5 SG2 520.1 THA 13.77 EL1 142.2 EL2 13.1 ALF 20.62

LAUNCH DATE MAR 13 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC DISTANCE 661.354 EARTH TO MARS
RL 148.67 LAL .00 LOL 171.76 VL 32.283 GAL -6.98 AZL 89.26 HCA 222.02 SMA 178.59 ECC .20598 INC .7410 V1 29.970
RP 215.37 LAP -.50 LOP 33.78 VP 22.121 GAP .29 AZP 90.55 TAL 316.85 TAP 178.87 RCA 141.61 APO 215.38 V2 25.499
RC 153.669 GL 4.86 GP -13.38 ZAL 154.26 ZAP 82.26 ETS 171.48 ZAE 103.93 ETE 182.99 ZAC 89.25 ETC 267.50 LVI 9.45

PLANETOCENTRIC CONIC
C3 23.751 VHL 4.874 DLA -8.10 RAL 327.02 RAD 6644.5 VEL 11.989 PTH 6.98 VHP 3.891 DPA -36.04 RAP 275.98 ECC 1.3909
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 14 55 3013.77 -31.48 91.48 188.53 127.72 19 5 8 2013.8 -14.64 72.52
60.00 19 3 13 2885.28 -26.41 83.91 192.53 121.62 19 51 19 1885.3 -11.81 63.60
70.00 20 5 14 2702.96 -21.83 71.94 195.34 116.94 20 50 17 1703.0 -9.17 50.76
80.00 21 22 29 2461.14 -18.50 55.27 197.03 113.87 22 3 30 1461.1 -7.20 33.60
90.00 22 47 51 2185.72 -17.24 35.59 197.60 112.77 23 24 16 1185.7 -6.45 13.76
100.00 0 9 17 1935.61 -18.50 16.64 197.03 113.87 0 41 32 935.6 -7.20 354.97
110.00 1 8 36 1749.78 -21.83 .86 195.34 116.94 1 37 46 749.8 -9.17 339.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8258 TRA 4.7813 TC3-2.9110 BAU .9315 SGT 6700.5 SGR 1597.5 SG3 1447.0 ST 137.1 SR 50.4 SS 118.6
RDE .7964 RRA 1.0486 RC3 -.3627 FAU .12124 RRT .9420 RRF .9552 RTF .9841 CRT .9577 CRS -.9468 CST -.9993
FDE 4.5595 FRA12.8398 FC3-4.4190 B8P 11528 SGB 6888.3 R23 .0672 R13 .9854 LSA 187.5 MSA 15.1 S3A 1.3
BDE 1.9919 BRA 4.8949 BC3 2.9336 F8P 2701 SGI 6868.4 SG2 523.2 THA 12.73 EL1 145.4 EL2 13.7 ALF 19.58

LAUNCH DATE MAR 13 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC DISTANCE 665.488 EARTH TO MARS
RL 148.67 LAL .00 LOL 171.76 VL 32.289 GAL -7.07 AZL 89.33 HCA 223.19 SMA 178.68 ECC .20721 INC .6715 V1 29.970
RP 215.71 LAP -.46 LOP 34.95 VP 22.086 GAP .09 AZP 90.49 TAL 316.47 TAP 179.66 RCA 141.66 APO 215.71 V2 25.461
RC 156.143 GL 4.38 GP -12.93 ZAL 154.80 ZAP 80.87 ETS 171.32 ZAE 102.53 ETE 182.56 ZAC 89.70 ETC 267.45 LVI 9.13

PLANETOCENTRIC CONIC
C3 24.173 VHL 4.917 DLA -8.48 RAL 327.44 RAD 6644.6 VEL 12.006 PTH 7.00 VHP 3.930 DPA -37.60 RAP 275.70 ECC 1.3978
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 0 3010.42 -31.34 91.29 189.09 127.83 19 8 10 2010.4 -14.48 72.37
60.00 19 6 44 2880.80 -26.25 83.64 193.12 121.75 19 54 45 1880.8 -11.62 63.37
70.00 20 9 14 2697.06 -21.65 71.58 195.95 117.00 20 54 11 1697.1 -8.95 50.44
80.00 21 26 56 2453.81 -18.29 54.82 197.66 114.02 22 7 50 1453.8 -6.96 33.19
90.00 22 52 30 2177.75 -17.03 35.10 198.24 112.92 23 28 47 1177.8 -6.20 13.31
100.00 0 13 43 1928.29 -18.29 16.19 197.66 114.02 0 43 52 926.3 -6.96 354.56
110.00 1 12 36 1743.88 -21.65 .50 195.95 117.00 1 41 40 743.9 -8.95 339.36

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8872 TRA 4.9647 TC3-2.9484 BAU .9592 SGT 6889.2 SGR 1826.5 SG3 1409.6 ST 140.7 SR 49.3 SS 116.7
RDE .7902 RRA .8935 RC3 -.3402 FAU .11838 RRT .9360 RRF .9487 RTF .5443 CRT .9524 CRS -.9418 CST -.9994
FDE 4.4835 FRA12.6317 FC3-4.2393 B8P 11807 SGB 7036.3 R23 .0625 R13 .9854 LSA 188.7 MSA 15.4 S3A 1.3
BDE 2.0460 BRA 5.0632 BC3 2.9680 F8P 2627 SGI 7036.6 SG2 526.3 THA 11.78 EL1 148.4 EL2 14.2 ALF 18.62

LAUNCH DATE MAR 13 1971 FLIGHT TIME 278.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC DISTANCE 669.612 EARTH TO MARS
RL 148.67 LAL .00 LOL 171.76 VL 32.298 GAL -7.17 AZL 89.39 HCA 224.38 SMA 178.77 ECC .20849 INC .6054 V1 29.970
RP 216.04 LAP -.42 LOP 36.11 VP 22.051 GAP -.11 AZP 90.43 TAL 316.08 TAP 180.43 RCA 141.50 APO 216.05 V2 25.424
RC 158.631 GL 3.91 GP -12.50 ZAL 154.93 ZAP 59.52 ETS 171.17 ZAE 101.16 ETE 182.17 ZAC 90.12 ETC 267.41 LVI 8.80

PLANETOCENTRIC CONIC
C3 24.621 VHL 4.962 DLA -8.84 RAL 327.85 RAD 6644.8 VEL 12.025 PTH 7.01 VHP 3.972 DPA -37.17 RAP 275.49 ECC 1.4052
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 20 58 3007.84 -31.23 91.13 189.67 127.91 19 11 6 2007.8 -14.35 72.26
60.00 19 10 6 2877.16 -26.12 83.42 193.73 121.86 19 58 3 1877.2 -11.46 63.19
70.00 20 13 3 2692.09 -21.90 71.27 196.59 117.20 20 57 55 1692.1 -8.76 50.17
80.00 21 31 10 2447.52 -18.12 54.44 198.31 114.15 22 11 58 1447.5 -6.75 32.84
90.00 22 56 55 2170.85 -16.85 34.68 198.90 113.06 23 33 6 1170.8 -5.98 12.92
100.00 0 17 58 1921.99 -18.12 15.81 198.31 114.15 0 50 0 922.0 -6.75 354.21
110.00 1 16 25 1738.91 -21.50 .19 196.59 117.20 1 45 24 738.9 -8.76 339.09

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.9879 TRA 5.1672 TC3-2.9546 BAU .9778 SGT 7086.6 SGR 1468.0 SG3 1378.1 ST 145.4 SR 48.6 SS 116.3
RDE .7919 RRA .9473 RC3 -.3080 FAU .11184 RRT .9284 RRF .9421 RTF .9838 CRT .9476 CRS -.9383 CST -.9995
FDE 4.4833 FRA12.4710 FC3-3.9325 B8P 12310 SGB 7237.1 R23 .0632 R13 .9848 LSA 191.7 MSA 15.8 S3A 1.3
BDE 2.1212 BRA 5.2533 BC3 2.9706 F8P 2634 SGI 7217.2 SG2 535.7 THA 10.95 EL1 152.6 EL2 14.8 ALF 17.77

LAUNCH DATE MAR 13 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 673.737

EARTH TO MARS

RL 148.87 LAL .00 LOL 171.76 VL 32.301 GAL -7.28 AZL 89.46 MCA 225.51 SMA 176.87 ECC .20981 INC .5419 V1 29.870
 RP 216.39 LAP -.39 LOP 37.27 VP 22.016 GAP -.32 AZP 90.38 TAL 315.69 TAP 181.20 RCA 141.34 APO 216.40 V2 25.385
 RC 181.134 GL 3.47 GP -12.09 ZAL 155.28 ZAP 58.21 ETS 171.04 ZAE 99.81 ETE 181.82 ZAC 90.53 ETC 267.38 LVI 8.48

PLANETOCENTRIC CONIC

C3 25.091 VML 5.009 DLA -9.17 RAL 328.25 RAD 6645.0 VEL 12.044 PTM 7.03 VMP 4.015 DPA -36.75 RAP 275.32 ECC 1.4129
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 23 49 3009.91 -31.15 91.02 190.26 127.98 19 13 55 2005.9 -14.26 72.17
 60.00 19 13 19 2874.25 -26.01 83.25 194.35 121.94 20 1 13 1874.2 -11.34 65.04
 70.00 20 16 41 2687.93 -21.37 71.02 197.23 117.30 21 1 29 1687.9 -8.61 49.95
 80.00 21 33 13 2442.12 -17.97 54.11 198.97 114.25 22 15 55 1442.1 -6.57 32.54
 90.00 23 1 8 2164.88 -16.69 34.31 199.56 113.17 23 37 13 1164.9 -5.79 12.58
 100.00 0 22 0 1916.60 -17.97 15.48 198.97 114.25 0 53 57 916.6 -6.57 355.91
 110.00 1 20 3 1734.75 -21.37 359.94 197.23 117.30 1 48 58 734.8 -8.61 338.87

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

YDE 2.0210 TRA 5.3394 TC3-3.0000 BAU 1.0112 SGT 7255.9 SGR 1401.2 SG3 1336.3 ST 148.3 SR 47.5 SS 113.6
 RDE .7841 RRA .8934 RC3 -.2950 FAU .11103 RRT .9212 RRF .9337 RTF .9844 CRT .9415 CRS -.9321 CST -.9995
 FDE 4.3633 FRA12.1925 FC3-3.8311 BSP 12448 SGB 7390.0 R23 .0564 R13 .9852 LSA 192.0 MSA 16.2 SSA 1.2
 BDE 2.1677 BRA 5.4137 BC3 3.0144 FSP 2511 SGI 7370.5 SG2 536.8 THA 10.14 EL1 154.9 EL2 15.3 ALF 16.94

LAUNCH DATE MAR 14 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 4 1971

DISTANCE 455.659 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.933 GAL -6.73 AZL 95.22 HCA 159.80 SMA 189.53 ECC .24386 INC 5.2191 V1 29.962
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.164 GAP 13.14 AZP 85.10 TAL 324.55 TAP 124.35 RCA 143.31 APO 235.75 V2 26.494
 RC 61.483 GL -30.48 GP 18.06 ZAL 137.55 ZAP 147.70 ETS 152.41 ZAE 158.26 ETE 111.19 ZAC 117.59 ETC 275.22 LVI -29.78

PLANETOCENTRIC CONIC
 C3 34.410 VHL 5.866 DLA -42.69 RAL 336.85 RAD 6648.7 VEL 12.422 PTH 7.33 VHP 6.635 DPA -5.28 RAP 303.31 ECC 1.5663
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 9 38 2287.82 3.25 57.52 211.36 137.49 22 47 46 1287.8 21.25 40.93
 56.57 0 48 4 1881.55 18.35 34.90 225.77 129.25 1 19 25 881.5 32.63 13.29
 56.57 0 48 4 1881.55 18.35 34.90 225.77 129.25 1 19 25 881.5 32.63 13.29
 56.57 0 48 4 1881.55 18.35 34.90 225.77 129.25 1 19 25 881.5 32.63 13.29
 56.57 0 48 4 1881.55 18.35 34.90 225.77 129.25 1 19 25 881.5 32.63 13.29
 56.57 0 48 4 1881.55 18.35 34.90 225.77 129.25 1 19 25 881.5 32.63 13.29

MID-COURSE EXECUTION ACCURACY
 SGT 2611.9 SGR 1278.9 SG3 507.5
 RRT .9238 RRF -.9824 RTF -.9166
 SGB 2908.2 R23 -.2875 R13 -.9397
 SG1 2873.9 SG2 445.0 THA 24.98

ORBIT DETERMINATION ACCURACY
 ST 74.5 SR 33.2 SS 67.4
 CRT .9996 CR8 .9689 CST .9636
 LSA 104.9 MSA 13.9 SSA .6
 EL1 81.5 EL2 .9 ALF 24.00

DIFFERENTIAL CORRECTIONS
 TDE-1.3596 TRA-1.6918 TC3 -.0528 BAU .1823
 RDE -.5994 RRA -.7821 RC3 .3928 FAU .06424
 FDE 1.7763 FRA 3.9741 FC3-1.6163 BSP 5097
 BDE 1.4859 BRA 1.8638 BC3 .3963 FSP 803

LAUNCH DATE MAR 14 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 6 1971

DISTANCE 459.462 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.883 GAL -6.63 AZL 95.52 HCA 161.06 SMA 188.63 ECC .23981 INC 5.5241 V1 29.962
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.097 GAP 12.76 AZP 84.77 TAL 324.60 TAP 125.66 RCA 143.40 APO 233.87 V2 26.496
 RC 62.398 GL -32.32 GP 17.46 ZAL 136.47 ZAP 145.95 ETS 151.76 ZAE 157.10 ETE 109.85 ZAC 118.98 ETC 275.28 LVI -30.06

PLANETOCENTRIC CONIC
 C3 34.593 VHL 5.882 DLA -44.28 RAL 338.17 RAD 6648.7 VEL 12.430 PTH 7.33 VHP 6.503 DPA -3.93 RAP 302.98 ECC 1.5693
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 37 1 2225.62 6.36 54.90 215.34 137.25 23 14 7 1225.6 24.13 37.83
 54.39 0 44 35 1906.19 18.85 37.55 227.65 130.84 1 16 21 906.2 33.67 16.21
 54.39 0 44 35 1906.19 18.85 37.55 227.65 130.84 1 16 21 906.2 33.67 16.21
 54.39 0 44 35 1906.19 18.85 37.55 227.65 130.84 1 16 21 906.2 33.67 16.21
 54.39 0 44 35 1906.19 18.85 37.55 227.65 130.84 1 16 21 906.2 33.67 16.21
 54.39 0 44 35 1906.19 18.85 37.55 227.65 130.84 1 16 21 906.2 33.67 16.21

MID-COURSE EXECUTION ACCURACY
 SGT 2597.5 SGR 1417.9 SG3 528.7
 RRT .9269 RRF -.9869 RTF -.9170
 SGB 2959.3 R23 -.2862 R13 -.9445
 SG1 2921.2 SG2 473.1 THA 27.82

ORBIT DETERMINATION ACCURACY
 ST 75.9 SR 36.1 SS 70.0
 CRT .9983 CR8 .9767 CST .9632
 LSA 108.5 MSA 14.1 SSA .6
 EL1 84.1 EL2 1.9 ALF 25.42

DIFFERENTIAL CORRECTIONS
 TDE-1.4028 TRA-1.6229 TC3 -.0470 BAU .1971
 RDE -.6485 RRA -.8580 RC3 .4237 FAU .06613
 FDE 1.9195 FRA 4.0363 FC3-1.6550 BSP 5169
 BDE 1.5454 BRA 1.8557 BC3 .4262 FSP 839

LAUNCH DATE MAR 14 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 8 1971

DISTANCE 463.295 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.835 GAL -6.53 AZL 95.87 HCA 162.33 SMA 187.80 ECC .23599 INC 5.8712 V1 29.962
 RP 206.67 LAP -1.78 LOP 335.18 VP 24.033 GAP 12.39 AZP 84.40 TAL 324.65 TAP 126.98 RCA 143.48 APO 232.12 V2 26.496
 RC 63.376 GL -34.32 GP 19.03 ZAL 135.27 ZAP 144.07 ETS 151.06 ZAE 155.74 ETE 108.76 ZAC 120.56 ETC 275.34 LVI -31.49

PLANETOCENTRIC CONIC
 C3 35.026 VHL 5.918 DLA -45.98 RAL 339.69 RAD 6648.9 VEL 12.447 PTH 7.35 VHP 6.387 DPA -2.41 RAP 302.56 ECC 1.5764
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 15 9 2141.84 10.53 51.32 220.97 136.67 23 50 51 1141.8 27.90 33.42
 52.09 0 42 2 1931.74 19.30 40.33 229.90 132.59 1 14 13 931.7 34.71 19.34
 52.09 0 42 2 1931.74 19.30 40.33 229.90 132.59 1 14 13 931.7 34.71 19.34
 52.09 0 42 2 1931.74 19.30 40.33 229.90 132.59 1 14 13 931.7 34.71 19.34
 52.09 0 42 2 1931.74 19.30 40.33 229.90 132.59 1 14 13 931.7 34.71 19.34
 52.09 0 42 2 1931.74 19.30 40.33 229.90 132.59 1 14 13 931.7 34.71 19.34

MID-COURSE EXECUTION ACCURACY
 SGT 2572.6 SGR 1577.2 SG3 548.1
 RRT .9291 RRF -.9903 RTF -.5.73
 SGB 3017.6 R23 -.2797 R13 -.9500
 SG1 2875.2 SG2 504.3 THA 30.64

ORBIT DETERMINATION ACCURACY
 ST 77.4 SR 39.8 SS 72.9
 CRT .9960 CR8 .9831 CST .9633
 LSA 112.6 MSA 14.4 SSA .5
 EL1 87.0 EL2 3.2 ALF 27.15

DIFFERENTIAL CORRECTIONS
 TDE-1.4535 TRA-1.5453 TC3 -.0392 BAU .2144
 RDE -.7144 RRA -.9408 RC3 .4563 FAU .06790
 FDE 2.0845 FRA 4.0743 FC3-1.6782 BSP 5236
 BDE 1.6196 BRA 1.8091 BC3 .4560 FSP 873

LAUNCH DATE MAR 14 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 10 1971

DISTANCE 467.156 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.790 GAL -6.44 AZL 96.27 HCA 163.59 SMA 187.02 ECC .23239 INC 6.2697 V1 29.962
 RP 206.68 LAP -1.77 LOP 336.45 VP 23.972 GAP 12.03 AZP 83.98 TAL 324.70 TAP 128.29 RCA 143.56 APO 230.48 V2 26.496
 RC 64.414 GL -36.31 GP 20.82 ZAL 133.90 ZAP 142.04 ETS 150.31 ZAE 154.13 ETE 107.91 ZAC 122.35 ETC 275.41 LVI -33.08

PLANETOCENTRIC CONIC
 C3 35.767 VHL 5.981 DLA -47.82 RAL 341.48 RAD 6649.2 VEL 12.476 PTH 7.37 VHP 6.291 DPA -.69 RAP 302.04 ECC 1.5886
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.68 0 40 37 1958.53 19.66 43.25 232.58 134.52 1 13 15 958.5 35.73 22.72
 49.68 0 40 37 1958.53 19.66 43.25 232.58 134.52 1 13 15 958.5 35.73 22.72
 49.68 0 40 37 1958.53 19.66 43.25 232.58 134.52 1 13 15 958.5 35.73 22.72
 49.68 0 40 37 1958.53 19.66 43.25 232.58 134.52 1 13 15 958.5 35.73 22.72
 49.68 0 40 37 1958.53 19.66 43.25 232.58 134.52 1 13 15 958.5 35.73 22.72
 49.68 0 40 37 1958.53 19.66 43.25 232.58 134.52 1 13 15 958.5 35.73 22.72

MID-COURSE EXECUTION ACCURACY
 SGT 2523.4 SGR 1756.5 SG3 563.6
 RRT .9308 RRF -.9928 RTF -.9176
 SGB 3074.5 R23 -.2673 R13 -.9563
 SG1 3027.6 SG2 535.3 THA 34.15

ORBIT DETERMINATION ACCURACY
 ST 78.6 SR 44.2 SS 75.7
 CRT .9932 CR8 .9880 CST .9637
 LSA 116.8 MSA 14.7 SSA .4
 EL1 90.0 EL2 4.5 ALF 29.28

DIFFERENTIAL CORRECTIONS
 TDE-1.5067 TRA-1.4505 TC3 -.0217 BAU .2362
 RDE -.8004 RRA -1.0275 RC3 .4934 FAU .06990
 FDE 2.2686 FRA 4.0704 FC3-1.6919 BSP 5208
 BDE 1.7061 BRA 1.7776 BC3 .4939 FSP 893

LAUNCH DATE MAR 14 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 12 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.748 GAL -6.35 AZL 96.73 HCA 184.85 SMA 186.29 ECC .22898 INC 6.7331 V1 29.962
 RP 206.69 LAP -1.76 LOP 337.72 VP 23.912 GAP 11.67 AZP 83.30 TAL 324.74 TAP 129.60 RCA 143.63 APO 228.95 V2 26.495
 RC 65.512 GL -38.91 GP 22.85 ZAL 132.36 ZAP 139.84 ETS 149.51 ZAE 132.26 ETE 107.27 ZAC 124.39 ETC 275.49 LVI -34.86

Distance 471.039

Planeto-centric Conic: C3 36.906 VHL 6.075 DLA -49.79 RAL 343.61 RAD 8649.6 VEL 12.522 PTH 7.40 VHP 6.218 DPA 1.25 RAP 301.41 ECC 1.6074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.15 0 40 39 1986.97 19.89 46.33 235.78 136.64 1 13 46 987.0 36.68 26.37
 47.15 0 40 39 1986.97 19.89 46.33 235.78 136.64 1 13 46 987.0 36.68 26.37
 47.15 0 40 39 1986.97 19.89 46.33 235.78 136.64 1 13 46 987.0 36.68 26.37
 47.15 0 40 39 1986.97 19.89 46.33 235.78 136.64 1 13 46 987.0 36.68 26.37
 47.15 0 40 39 1986.97 19.89 46.33 235.78 136.64 1 13 46 987.0 36.68 26.37
 47.15 0 40 39 1986.97 19.89 46.33 235.78 136.64 1 13 46 987.0 36.68 26.37

Differential Corrections: TDE -1.6041 TRA -1.3756 TC3 -.0370 BAU .2584
 RDE -.9271 RRA -1.1297 RC3 .5225 FAU .07059
 FDE 2.5121 FRA 4.0473 FC3 -1.6558 B8P 5563
 BDE 1.8527 BRA 1.7800 BC3 .5236 F8P 930

Mid-course Execution Accuracy: SGT 2515.7 SGR 1972.6 SCS 577.1
 RRT .9291 RRF -.9947 RTF -.9150
 SGB 3196.8 R23 -.2575 R13 -.9611
 SGI 3143.0 SGI 583.9 THA 37.60

Orbit Determination Accuracy: ST 81.4 SR 50.2 S8 79.5
 CRT .9906 CRS .9919 CST .9653
 LSA 123.5 MSA 15.0 SSA .14
 EL1 95.5 EL2 5.9 ALF 31.57

LAUNCH DATE MAR 14 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 14 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.708 GAL -6.27 AZL 97.28 HCA 166.12 SMA 185.61 ECC .22578 INC 7.2784 V1 29.962
 RP 206.71 LAP -1.74 LOP 338.98 VP 23.855 GAP 11.32 AZP 82.93 TAL 324.79 TAP 130.90 RCA 143.70 APO 227.52 V2 26.493
 RC 66.667 GL -41.55 GP 25.16 ZAL 130.61 ZAP 137.43 ETS 148.69 ZAE 150.07 ETE 106.85 ZAC 126.72 ETC 275.57 LVI -38.86

Distance 474.947

Planeto-centric Conic: C3 38.561 VHL 6.210 DLA -51.89 RAL 346.19 RAD 8650.2 VEL 12.587 PTH 7.45 VHP 6.176 DPA 3.45 RAP 300.64 ECC 1.6346
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.49 0 42 33 2017.53 19.96 49.57 239.62 138.96 1 16 11 1017.5 37.52 30.35
 44.49 0 42 33 2017.53 19.96 49.57 239.62 138.96 1 16 11 1017.5 37.52 30.35
 44.49 0 42 33 2017.53 19.96 49.57 239.62 138.96 1 16 11 1017.5 37.52 30.35
 44.49 0 42 33 2017.53 19.96 49.57 239.62 138.96 1 16 11 1017.5 37.52 30.35
 44.49 0 42 33 2017.53 19.96 49.57 239.62 138.96 1 16 11 1017.5 37.52 30.35
 44.49 0 42 33 2017.53 19.96 49.57 239.62 138.96 1 16 11 1017.5 37.52 30.35

Differential Corrections: TDE -1.7027 TRA -1.2703 TC3 -.0320 BAU .2877
 RDE -1.0958 RRA -1.2326 RC3 .5572 FAU .07159
 FDE 2.7834 FRA 3.9512 FC3 -1.6073 B8P 5722
 BDE 2.0248 BRA 1.7700 BC3 .5581 F8P 941

Mid-course Execution Accuracy: SGT 2465.2 SGR 2213.0 SCS 582.7
 RRT .9277 RRF -.9960 RTF -.9128
 SGB 3312.8 R23 -.2398 R13 -.9672
 SGI 3253.1 SGI 625.9 THA 41.68

Orbit Determination Accuracy: ST 83.6 SR 57.6 S8 83.3
 CRT .9882 CRS .9946 CST .9672
 LSA 130.4 MSA 15.2 SSA .13
 EL1 101.2 EL2 7.3 ALF 34.48

LAUNCH DATE MAR 14 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.295 GAL -5.67 AZL 82.45 HCA 190.28 SMA 178.89 ECC .19479 INC 7.5464 V1 29.962
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.025 GAP 5.89 AZP 97.43 TAL 323.84 TAP 154.10 RCA 144.05 APO 213.74 V2 26.264
 RC 96.988 GL 45.66 GP -42.08 ZAL 128.34 ZAP 104.81 ETS 192.68 ZAE 131.22 ETE 228.19 ZAC 60.35 ETC 272.01 LVI 29.11

Distance 552.614

Planeto-centric Conic: C3 34.823 VHL 5.901 DLA 29.87 RAL 311.51 RAD 8648.8 VEL 12.439 PTH 7.34 VHP 5.171 DPA -64.18 RAP 309.01 ECC 1.5731
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 33 0 3894.09 -45.49 163.38 211.45 74.23 15 37 54 2894.1 -46.82 130.32
 60.00 14 28 51 3903.16 -36.58 162.76 207.85 71.75 15 33 56 2905.2 -40.27 132.28
 70.00 14 20 25 3930.06 -27.37 160.88 203.95 68.72 15 25 55 2930.1 -33.56 133.93
 79.97 13 20 14 4120.62 -13.29 168.47 197.25 63.01 14 28 55 3120.6 -23.27 145.52
 79.97 13 20 14 4120.62 -13.29 168.47 197.25 63.01 14 28 55 3120.6 -23.27 145.52
 79.97 13 20 14 4120.62 -13.29 168.47 197.25 63.01 14 28 55 3120.6 -23.27 145.52
 110.00 19 19 31 2976.88 -27.37 89.80 203.93 66.72 20 9 28 1976.9 -33.56 62.84

Differential Corrections: TDE .6633 TRA -.0844 TC3 -.5751 BAU .5723
 RDE 2.3506 RRA 3.8737 RC3 -1.0865 FAU .09342
 FDE 4.1697 FRA 7.1472 FC3 -2.3225 B8P 8675
 BDE 2.4424 BRA 3.8746 BC3 1.2293 F8P 1368

Mid-course Execution Accuracy: SGT 940.4 SGR 5065.9 SCS 810.2
 RRT .4052 RRF .9991 RTF .4.09
 SGB 5152.5 R23 -.0045 R13 .9992
 SGI 5080.7 SGI 857.2 THA 85.57

Orbit Determination Accuracy: ST 32.2 SR 131.4 S8 105.2
 CRT .8461 CRS -.9998 CST -.8369
 LSA 170.5 MSA 17.2 SSA .3
 EL1 134.2 EL2 16.8 ALF 78.08

LAUNCH DATE MAR 14 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.286 GAL -5.67 AZL 83.40 HCA 191.49 SMA 178.78 ECC .19428 INC 6.6013 V1 29.962
 RP 208.85 LAP -1.31 LOP 4.17 VP 22.989 GAP 5.65 AZP 96.47 TAL 323.74 TAP 155.22 RCA 144.03 APO 213.48 V2 26.243
 RC 98.929 GL 41.66 GP -39.58 ZAL 131.21 ZAP 104.03 ETS 190.81 ZAE 132.22 ETE 225.10 ZAC 62.87 ETC 271.82 LVI 27.02

Distance 556.758

Planeto-centric Conic: C3 30.875 VHL 5.557 DLA 25.96 RAL 312.66 RAD 8647.3 VEL 12.280 PTH 7.22 VHP 4.857 DPA -61.94 RAP 306.39 ECC 1.5081
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 58 27 3774.94 -47.13 154.36 206.32 82.57 16 1 22 2774.9 -44.54 119.60
 60.00 15 3 39 3761.06 -39.05 151.34 204.54 79.15 16 6 20 2761.1 -39.26 120.17
 70.00 15 12 41 3734.40 -31.44 147.12 202.48 75.91 16 14 56 2734.4 -34.09 118.71
 80.00 15 32 30 3672.23 -24.98 140.38 200.44 73.07 16 33 42 2672.2 -29.61 113.92
 90.00 16 26 45 3496.98 -21.93 126.48 199.39 71.68 17 25 2 2497.0 -27.49 100.82
 100.00 18 15 22 3146.70 -24.98 101.75 200.44 73.07 19 7 48 2146.7 -29.61 75.29
 110.00 20 12 8 2781.22 -31.44 76.04 202.48 75.91 20 58 29 1781.2 -34.09 47.62

Differential Corrections: TDE .6571 TRA .0704 TC3 -.6926 BAU .5435
 RDE 2.0650 RRA 3.6576 RC3 -1.1199 FAU .10181
 FDE 4.3748 FRA 8.1290 FC3 -2.8548 B8P 8421
 BDE 2.1861 BRA 3.6583 BC3 1.3168 F8P 1616

Mid-course Execution Accuracy: SGT 1028.6 SGR 4875.3 SCS 935.9
 RRT .9491 RRF .9990 RTF .5611
 SGB 4982.6 R23 .0058 R13 .9991
 SGI 4908.9 SGI 853.8 THA 83.18

Orbit Determination Accuracy: ST 33.9 SR 124.6 S8 111.4
 CRT .8804 CRS -.9997 CST -.8682
 LSA 169.7 MSA 16.3 SSA .3
 EL1 128.2 EL2 15.6 ALF 76.31

LAUNCH DATE MAR 14 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.278 GAL -5.68 AZL 84.16 HCA 192.72 SMA 178.64 ECC .19388 INC 5.8384 V1 29.962
 RP 209.04 LAP -1.28 LOP 5.42 VP 22.953 GAP 5.41 AZP 95.70 TAL 323.61 TAP 156.33 RCA 144.01 APO 213.27 V2 26.221
 RC 100.898 GL 38.08 GP -37.33 ZAL 133.74 ZAP 102.98 ETS 189.02 ZAE 132.82 ETE 221.91 ZAC 65.14 ETC 271.61 LVI 25.19

Planetocentric Conic: C3 28.084 VHL 5.299 DLA 22.48 RAL 313.71 RAD 6646.2 VEL 12.167 PTH 7.13 VHP 4.611 DPA -59.93 RAP 304.01 ECC 1.4622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 19 24 3675.16 -47.58 144.77 201.56 89.95 16 20 39 2675.2 -42.01 111.35
 60.00 15 31 7 3643.94 -40.11 141.56 201.17 85.70 16 31 51 2643.9 -37.46 110.75
 70.00 15 49 55 3588.56 -33.34 136.18 200.27 82.12 16 49 44 2588.6 -33.13 107.44
 80.00 16 24 9 3481.23 -29.08 127.06 199.27 79.40 17 22 10 2481.2 -29.68 99.75
 90.00 16 24 9 3481.23 -29.08 127.06 199.27 79.40 17 22 10 2481.2 -29.68 99.75
 100.00 19 7 1 2955.70 -28.08 86.42 199.27 79.40 19 56 16 1955.7 -29.68 61.11
 110.00 20 49 22 2635.37 -33.34 65.10 200.27 82.12 21 33 17 1635.4 -33.13 36.36

Differential Corrections: TDE .6650 TRA .2363 TC3 -.8132 BAU .5256 RDE 1.8766 RRA 3.4607 RC3-1.1394 FAU .10958 FDE -4.5358 FRA 9.0204 FC3-3.3779 BSP 6158 BDE 1.9909 BRA 3.4688 BC3 1.3998 FSP 1825

Mid-Course Execution Accuracy: SGT 1155.9 SGR 4687.4 SG3 1052.0 RRT .6679 RRF .9989 RTF .6770 SGB 4827.8 R23 .0171 R13 .9988 SG1 4752.7 SG2 848.5 THA 80.34

Orbit Determination Accuracy: ST 36.2 SR 118.3 SS 116.3 CRT .9110 CRS -.9994 CST -.8967 LSA 169.1 MSA 15.4 SSA .4 EL1 122.8 EL2 14.4 ALF 74.19

LAUNCH DATE MAR 14 1971

FLIGHT TIME 228.00

ARRIVAL DATE OCT 28 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.272 GAL -5.69 AZL 84.79 HCA 193.95 SMA 178.53 ECC .19354 INC 5.2091 V1 29.962
 RP 209.24 LAP -1.25 LOP 6.66 VP 22.917 GAP 5.17 AZP 95.06 TAL 323.48 TAP 157.43 RCA 143.98 APO 213.08 V2 26.190
 RC 102.893 GL 34.83 GP -35.29 ZAL 135.97 ZAP 101.71 ETS 187.33 ZAE 133.04 ETE 218.71 ZAC 67.21 ETC 271.39 LVI 23.59

Planetocentric Conic: C3 26.058 VHL 5.105 DLA 19.37 RAL 314.68 RAD 6645.4 VEL 12.084 PTH 7.06 VHP 4.415 DPA -58.12 RAP 301.83 ECC 1.4289
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 9 3590.43 -47.26 136.60 197.49 96.22 16 36 59 2590.4 -39.39 104.93
 60.00 15 53 48 3546.09 -40.28 133.25 198.13 91.33 16 52 54 2546.1 -35.34 103.31
 70.00 16 19 13 3471.22 -34.07 127.11 198.05 87.43 17 17 5 2471.2 -31.56 98.66
 80.00 17 1 22 3339.09 -29.42 116.72 197.67 84.67 17 57 2 2339.1 -28.65 89.32
 90.00 18 10 41 3115.33 -27.61 100.06 197.46 83.61 19 2 37 2115.3 -27.49 73.06
 100.00 19 44 14 2813.56 -29.42 78.08 197.67 84.67 20 31 8 1813.8 -23.65 50.69
 110.00 21 18 40 2518.04 -34.07 56.02 198.05 87.43 22 0 38 1518.0 -31.56 27.58

Differential Corrections: TDE .6814 TRA .4085 TC3 -.9371 BAU .5163 RDE 1.7088 RRA 3.2792 RC3-1.1480 FAU .11687 FDE 4.6605 FRA 9.8212 FC3-3.8828 BSP 7892 BDE 1.8397 BRA 3.3046 BC3 1.4819 FSP 2012

Mid-Course Execution Accuracy: SGT 1317.8 SGR 4502.6 SG3 1157.9 RRT .7558 RRF .9987 RTF .7629 SGB 4691.5 R23 .0295 R13 .9984 SG1 4615.3 SG2 841.8 THA 77.09

Orbit Determination Accuracy: ST 39.0 SR 112.4 SS 120.1 CRT .9359 CRS -.9991 CST -.9202 LSA 168.4 MSA 14.6 SSA .4 EL1 118.2 EL2 13.0 ALF 71.79

LAUNCH DATE MAR 14 1971

FLIGHT TIME 230.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.266 GAL -5.71 AZL 85.32 HCA 195.18 SMA 178.44 ECC .19331 INC 4.6811 V1 29.962
 RP 209.44 LAP -1.22 LOP 7.89 VP 22.881 GAP 4.94 AZP 94.52 TAL 323.33 TAP 156.51 RCA 143.95 APO 212.93 V2 26.174
 RC 104.913 GL 31.92 GP -33.43 ZAL 137.92 ZAP 100.26 ETS 185.76 ZAE 132.95 ETE 215.56 ZAC 69.09 ETC 271.12 LVI 22.18

Planetocentric Conic: C3 24.559 VHL 4.956 DLA 16.58 RAL 315.57 RAD 6644.8 VEL 12.022 PTH 7.01 VHP 4.257 DPA -56.48 RAP 299.80 ECC 1.4042
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 28 3517.71 -46.50 129.75 194.17 101.45 16 51 6 2517.7 -36.85 99.83
 60.00 16 13 3 3462.92 -39.92 126.21 195.57 96.09 17 10 46 2462.9 -33.17 97.33
 70.00 16 43 26 3373.49 -34.11 119.48 196.08 91.94 17 39 40 2373.5 -29.76 91.62
 80.00 17 30 56 3224.63 -29.85 108.24 196.13 89.10 18 24 41 2224.6 -27.18 81.13
 90.00 18 42 58 2992.16 -28.22 91.11 196.08 88.05 19 32 50 1992.2 -26.16 64.29
 100.00 20 13 48 2699.10 -29.85 69.61 196.13 89.10 20 58 47 1699.1 -27.18 42.50
 110.00 21 42 53 2420.31 -34.11 46.40 196.08 91.94 22 23 13 1420.3 -29.76 20.54

Differential Corrections: TDE .7054 TRA .5870 TC3-1.0612 BAU .5124 RDE 1.5732 RRA 3.1123 RC3-1.1444 FAU .12339 FDE 4.7623 FRA 11.5404 FC3-4.3496 BSP 7688 BDE 1.7241 BRA 3.1674 BC3 1.5607 FSP 2184

Mid-Course Execution Accuracy: SGT 1507.6 SGR 4323.8 SG3 1253.8 RRT .8185 RRF .9985 RTF .5241 SGB 4578.8 R23 .0428 R13 .9977 SG1 4502.6 SG2 831.6 THA 73.49

Orbit Determination Accuracy: ST 42.2 SR 107.0 SS 123.2 CRT .9552 CRS -.9987 CST -.9389 LSA 168.0 MSA 13.9 SSA .5 EL1 114.4 EL2 11.7 ALF 69.14

LAUNCH DATE MAR 14 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 1 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.261 GAL -5.73 AZL 85.77 HCA 196.41 SMA 178.36 ECC .19316 INC 4.2315 V1 29.962
 RP 209.66 LAP -1.19 LOP 9.13 VP 22.848 GAP 4.71 AZP 94.06 TAL 323.16 TAP 159.57 RCA 143.91 APO 212.81 V2 26.150
 RC 108.958 GL 29.29 GP -31.74 ZAL 139.83 ZAP 98.88 ETS 184.31 ZAE 132.57 ETE 212.54 ZAC 70.81 ETC 270.93 LVI 20.93

Planetocentric Conic: C3 23.434 VHL 4.841 DLA 14.08 RAL 316.40 RAD 6644.3 VEL 11.976 PTH 6.97 VHP 4.127 DPA -54.98 RAP 297.88 ECC 1.3857
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 55 3454.78 -45.49 124.01 191.55 105.77 17 3 30 2454.8 -34.46 99.71
 60.00 16 29 45 3391.36 -39.23 120.25 193.49 100.08 17 26 16 2391.4 -31.05 92.45
 70.00 17 4 3 3290.38 -33.73 113.02 194.44 95.74 17 58 54 2290.4 -27.91 85.86
 80.00 17 55 33 3129.03 -29.74 101.14 194.80 92.83 18 47 42 2129.0 -25.55 74.50
 90.00 19 9 29 2890.40 -28.23 83.67 194.87 91.78 19 57 39 1890.4 -24.65 57.23
 100.00 20 38 25 2603.50 -29.74 62.51 194.80 92.83 21 21 48 1603.5 -25.55 35.87
 110.00 22 3 29 2337.20 -33.73 41.94 194.44 95.74 22 42 27 1337.2 -27.91 14.78

Differential Corrections: TDE .7354 TRA .7706 TC3-1.1840 BAU .5126 RDE 1.4627 RRA 2.9593 RC3-1.1293 FAU .12901 FDE 4.8496 FRA 11.1860 FC3-4.7659 BSP 7494 BDE 1.6372 BRA 3.0580 BC3 1.6362 FSP 2341

Mid-Course Execution Accuracy: SGT 1719.3 SGR 4151.2 SG3 1340.0 RRT .8625 RRF .9983 RTF .8671 SGB 4493.1 R23 .0566 R13 .9967 SG1 4418.1 SG2 817.4 THA 69.61

Orbit Determination Accuracy: ST 45.8 SR 102.1 SS 125.7 CRT .9698 CRS -.9982 CST -.9534 LSA 167.8 MSA 13.2 SSA .6 EL1 111.4 EL2 10.2 ALF 66.20

LAUNCH DATE MAR 14 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 577.571

EARTH TO MARS

RL 148.71 LAL .00 LOL 172.76 VL 32.296 GAL -5.75 AZL 86.16 HCA 197.64 SMA 178.29 ECC .19309 INC 3.8435 V1 29.962
 RP 209.87 LAP -1.16 LOP 10.36 VP 22.811 GAP 4.48 AZP 93.66 TAL 322.99 TAP 160.63 RCA 143.87 APO 212.72 V2 26.124
 RC 109.028 GL 26.92 GP -30.19 ZAL 141.15 ZAP 96.99 ETS 182.97 ZAE 131.95 ETE 209.66 ZAC 72.38 ETC 270.70 LVI 18.82

PLANETOCENTRIC CONIC

C3 22.585 VHL 4.752 DLA 11.02 RAL 317.17 RAD 6644.0 VEL 11.940 PTH 6.94 VHP 4.021 DPA -53.61 RAP 296.08 ECC 1.3717
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 31 3399.93 -44.37 119.21 189.51 109.32 17 14 31 2309.9 -32.26 92.33
 60.00 16 44 26 3329.20 -38.37 115.20 191.86 103.42 17 39 55 2329.2 -29.06 88.40
 70.00 17 21 58 3218.72 -33.10 107.53 193.14 98.93 18 15 37 2218.7 -26.10 81.07
 80.00 18 16 38 3047.46 -29.31 95.12 193.72 95.97 19 7 26 2047.5 -23.91 69.00
 90.00 19 32 3 2804.10 -27.89 77.39 193.87 94.91 20 18 47 1804.1 -23.08 51.40
 100.00 20 59 30 2521.93 -29.31 56.48 193.72 95.97 21 41 32 1521.9 -23.91 30.37
 110.00 22 21 25 2265.54 -33.10 36.44 193.14 98.93 22 59 10 1265.5 -26.10 9.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .7682 TRA .9560 TC3-1.3085 BAU .5179 SGT 1947.1 SGR 3982.3 SG3 1415.9 ST 49.6 SR 97.6 SS 127.7
 RDE 1.3694 RRA 2.8149 RC3-1.1090 FAU .13418 RRT .8928 RRF .9980 RTF .8968 CRT .9803 CRS -.9975 CST -.9642
 FDE 4.9165 FRA11.7512 FC3-5.1435 BSP 7345 SGB 4432.8 R23 .0703 R13 .9956 LSA 167.7 MSA 12.6 SSA .7
 BDE 1.5701 BRA 2.9728 BC3 1.7153 FSP 2477 SG1 4359.8 SG2 801.1 THA 65.54 EL1 109.1 EL2 8.8 ALF 63.33

LAUNCH DATE MAR 14 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 581.744

EARTH TO MARS

RL 148.71 LAL .00 LOL 172.76 VL 32.253 GAL -5.78 AZL 86.49 HCA 198.86 SMA 178.24 ECC .19310 INC 3.5054 V1 29.962
 RP 210.10 LAP -1.13 LOP 11.59 VP 22.776 GAP 4.25 AZP 93.32 TAL 322.80 TAP 161.68 RCA 143.82 APO 212.65 V2 26.098
 RC 111.121 GL 24.76 GP -28.76 ZAL 142.48 ZAP 95.22 ETS 181.75 ZAE 131.12 ETE 206.95 ZAC 73.84 ETC 270.47 LVI 18.83

PLANETOCENTRIC CONIC

C3 21.944 VHL 4.684 DLA 9.79 RAL 317.90 RAD 6643.7 VEL 11.914 PTH 6.92 VHP 3.934 DPA -52.34 RAP 294.37 ECC 1.3611
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 34 3351.84 -43.20 115.18 187.96 112.26 17 24 26 2351.8 -30.25 89.51
 60.00 16 57 31 3274.82 -37.42 110.89 190.60 106.20 17 52 5 2274.8 -27.20 84.99
 70.00 17 37 48 3156.28 -32.34 102.81 192.13 101.62 18 30 24 2156.3 -24.39 77.03
 80.00 18 35 5 2976.84 -28.70 89.96 192.89 98.62 19 24 42 1976.8 -22.31 64.36
 90.00 19 51 40 2729.66 -27.34 72.01 193.11 97.54 20 37 10 1729.7 -21.52 46.50
 100.00 21 17 57 2451.31 -28.70 51.33 192.89 98.62 21 58 48 1451.3 -22.31 25.73
 110.00 22 37 14 2203.10 -32.34 31.73 192.13 101.62 23 13 57 1203.1 -24.39 5.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8059 TRA 1.1456 TC3-1.4295 BAU .5254 SGT 2187.9 SGR 3820.3 SG3 1482.7 ST 53.7 SR 93.5 SS 129.3
 RDE 1.2924 RRA 2.6812 RC3-1.0787 FAU .13826 RRT .9145 RRF .9976 RTF .9181 CRT .9878 CRS -.9968 CST -.9725
 FDE 4.9783 FRA12.2535 FC3-5.4545 BSP 7270 SGB 4402.5 R23 .0834 R13 .9942 LSA 168.0 MSA 12.1 SSA .7
 BDE 1.5231 BRA 2.9157 BC3 1.7908 FSP 2805 SG1 4332.7 SG2 780.7 THA 61.34 EL1 107.6 EL2 7.3 ALF 60.26

LAUNCH DATE MAR 14 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 585.919

EARTH TO MARS

RL 148.71 LAL .00 LOL 172.76 VL 32.250 GAL -5.81 AZL 86.79 HCA 200.08 SMA 178.19 ECC .19319 INC 3.2078 V1 29.962
 RP 210.33 LAP -1.10 LOP 12.82 VP 22.741 GAP 4.03 AZP 93.01 TAL 322.60 TAP 162.69 RCA 143.77 APO 212.62 V2 26.071
 RC 113.239 GL 22.80 GP -27.43 ZAL 143.67 ZAP 93.40 ETS 180.62 ZAE 130.13 ETE 204.43 ZAC 75.18 ETC 270.24 LVI 17.94

PLANETOCENTRIC CONIC

C3 21.464 VHL 4.633 DLA 7.95 RAL 318.59 RAD 6643.5 VEL 11.894 PTH 6.90 VHP 3.862 DPA -51.17 RAP 292.74 ECC 1.3532
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 38 15 3309.50 -42.08 111.76 186.79 114.69 17 33 25 2309.5 -28.43 87.12
 60.00 17 9 17 3226.94 -36.43 107.19 189.66 108.54 18 3 4 2226.9 -25.49 82.10
 70.00 17 51 56 3101.45 -31.52 98.75 191.39 103.89 18 43 38 2101.4 -22.79 73.58
 80.00 18 51 27 2915.05 -27.99 85.51 192.28 100.86 19 40 2 1915.1 -20.79 60.40
 90.00 20 9 2 2664.68 -26.67 67.37 192.55 99.77 20 53 26 1664.7 -20.04 42.31
 100.00 21 34 19 2389.52 -27.99 46.87 192.28 100.86 22 14 8 1389.5 -20.79 21.77
 110.00 22 51 22 2148.26 -31.52 27.67 191.39 103.89 23 27 11 1148.3 -22.79 2.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8461 TRA 1.3367 TC3-1.3499 BAU .5353 SGT 2437.9 SGR 3665.7 SG3 1541.1 ST 58.0 SR 89.9 SS 130.9
 RDE 1.2293 RRA 2.5577 RC3-1.0384 FAU .14101 RRT .9292 RRF .9972 RTF .9328 CRT .9931 CRS -.9980 CST -.9788
 FDE 5.0407 FRA12.7009 FC3-5.6875 BSP 7269 SGB 4402.4 R23 .0956 R13 .9927 LSA 168.6 MSA 11.7 SSA .8
 BDE 1.4924 BRA 2.8859 BC3 1.8656 FSP 2732 SG1 4335.9 SG2 781.9 THA 57.14 EL1 106.8 EL2 5.7 ALF 57.22

LAUNCH DATE MAR 14 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 590.086

EARTH TO MARS

RL 148.71 LAL .00 LOL 172.76 VL 32.247 GAL -5.84 AZL 87.06 HCA 201.30 SMA 178.16 ECC .19336 INC 2.9434 V1 29.962
 RP 210.57 LAP -1.07 LOP 14.04 VP 22.706 GAP 3.81 AZP 92.74 TAL 322.39 TAP 163.70 RCA 143.71 APO 212.60 V2 26.044
 RC 115.380 GL 21.01 GP -26.20 ZAL 144.73 ZAP 91.53 ETS 179.60 ZAE 128.99 ETE 202.10 ZAC 76.43 ETC 270.02 LVI 17.14

PLANETOCENTRIC CONIC

C3 21.111 VHL 4.595 DLA 6.28 RAL 319.24 RAD 6643.3 VEL 11.879 PTH 6.89 VHP 3.805 DPA -50.07 RAP 291.20 ECC 1.3474
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 5 3272.03 -40.95 108.85 185.94 116.72 17 41 37 2272.0 -26.77 85.09
 60.00 17 19 57 3184.60 -35.48 104.01 188.98 110.51 18 13 2 2184.6 -23.92 79.61
 70.00 18 4 41 3052.99 -30.67 95.23 190.86 105.82 18 55 34 2053.0 -21.30 70.61
 80.00 19 8 8 2860.56 -27.23 81.64 191.86 102.76 19 53 48 1860.6 -19.37 56.98
 90.00 20 24 34 2607.43 -25.94 63.34 192.17 101.67 21 8 1 1607.4 -18.64 38.69
 100.00 21 49 0 2335.03 -27.23 43.00 191.86 102.76 22 27 55 1335.0 -19.37 18.35
 110.00 23 4 8 2099.80 -30.67 24.15 190.86 105.82 23 39 8 1099.8 -21.30 359.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8890 TRA 1.5292 TC3-1.6671 BAU .5486 SGT 2693.7 SGR 3512.3 SG3 1589.3 ST 62.5 SR 86.3 SS 131.9
 RDE 1.1726 RRA 2.4379 RC3 -.9999 FAU .14367 RRT .9403 RRF .9967 RTF .9440 CRT .9965 CRS -.9950 CST -.9835
 FDE 5.0801 FRA13.0718 FC3-5.8917 BSP 7282 SGB 4426.3 R23 .1060 R13 .9912 LSA 169.2 MSA 11.4 SSA .9
 BDE 1.4714 BRA 2.8778 BC3 1.9439 FSP 2829 SG1 4364.3 SG2 738.1 THA 52.97 EL1 106.5 EL2 4.3 ALF 54.13

LAUNCH DATE MAR 14 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC DISTANCE 594.274 EARTH TO MARS
RL 148.71 LAL .00 LOL 172.76 VL 32.246 GAL -5.88 AZL 87.29 HCA 202.52 SMA 178.13 ECC .19359 INC 2.7069 V1 29.982

PLANETOCENTRIC CONIC C3 20.860 VHL 4.567 DLA 4.76 RAL 319.86 RAD 6643.2 VEL 11.869 PTH 6.88 VMP 3.758 DPA -49.04 RAP 289.74 ECC 1.3433
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .9345 TRA 1.7228 TC3-1.7793 BAU .5649 SGT 2952.8 SGR 3357.4 SG3 1626.2 ST 67.1 SR 82.7 SS 132.0

LAUNCH DATE MAR 14 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC DISTANCE 598.453 EARTH TO MARS
RL 148.71 LAL .00 LOL 172.76 VL 32.245 GAL -5.92 AZL 87.31 HCA 203.74 SMA 178.11 ECC .19389 INC 2.4941 V1 29.982

PLANETOCENTRIC CONIC C3 20.694 VHL 4.549 DLA 3.37 RAL 320.46 RAD 6643.1 VEL 11.862 PTH 6.88 VMP 3.722 DPA -48.07 RAP 286.35 ECC 1.3406
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .9810 TRA 1.9171 TC3-1.8891 BAU .5821 SGT 3214.6 SGR 3211.5 SG3 1656.5 ST 71.7 SR 79.6 SS 132.3

LAUNCH DATE MAR 14 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC DISTANCE 602.631 EARTH TO MARS
RL 148.71 LAL .00 LOL 172.76 VL 32.244 GAL -5.96 AZL 87.70 HCA 204.95 SMA 178.11 ECC .19427 INC 2.3014 V1 29.982

PLANETOCENTRIC CONIC C3 20.599 VHL 4.539 DLA 2.11 RAL 321.03 RAD 6643.1 VEL 11.858 PTH 6.87 VMP 3.694 DPA -47.15 RAP 287.04 ECC 1.3390
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.0311 TRA 2.1110 TC3-1.9945 BAU .6007 SGT 3476.9 SGR 3070.0 SG3 1678.7 ST 76.4 SR 76.6 SS 132.4

LAUNCH DATE MAR 14 1971 FLIGHT TIME 248.00 ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC DISTANCE 606.809 EARTH TO MARS
RL 148.71 LAL .00 LOL 172.76 VL 32.244 GAL -6.01 AZL 87.87 HCA 206.16 SMA 178.11 ECC .19471 INC 2.1258 V1 29.982

PLANETOCENTRIC CONIC C3 20.565 VHL 4.535 DLA .94 RAL 321.58 RAD 6643.1 VEL 11.856 PTH 6.87 VMP 3.675 DPA -46.27 RAP 285.80 ECC 1.3384
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.0812 TRA 2.3059 TC3-2.0963 BAU .6209 SGT 3737.8 SGR 2932.0 SG3 1693.0 ST 81.1 SR 73.8 SS 132.2

LAUNCH DATE MAR 14 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC				DISTANCE 610.985				EARTH TO MARS			
RL 148.71 LAL	.00 LOL 172.76 VL	32.248 GAL	-6.06 AZL	88.03 HCA	207.37 SMA	178.12 ECC	.19521 INC	1.9649 V1	29.962		
RP 211.87 LAP	-.90 LOP	20.12 VP	22.533 GAP	2.74 AZP	91.75 TAL	321.18 TAP	168.55 RCA	143.35 APO	212.89 V2	25.996	
RC 126.431 GL	14.02 GP	-21.11 ZAL	148.66 ZAP	82.01 ETS	175.67 ZAE	121.97 ETE	193.04 ZAC	81.57 ETC	269.00 LVI	14.04	
PLANETOCENTRIC CONIC											
C3 20.583 VHL	4.537 DLA	-.12 RAL	322.12 RAD	6643.1 VEL	11.857 PTH	6.87 VHP	3.662 DPA	-45.45 RAP	284.65 ECC	1.3387	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	17 22 2	3138.42	-36.40	99.30	184.59	123.05	18 14 20	2138.4	-20.63	78.31	
60.00	18 1 44	3032.78	-31.32	93.31	188.11	116.78	18 52 17	2032.8	-17.97	71.19	
70.00	18 54 7	2878.74	-26.81	83.16	190.45	112.00	19 42 6	1878.7	-15.52	60.41	
80.00	20 2 32	2684.51	-23.57	68.24	191.79	108.88	20 46 57	1664.5	-13.71	45.18	
90.00	21 24 2	2401.57	-22.36	49.34	192.22	107.78	22 4 3	1401.6	-13.03	26.20	
100.00	22 45 24	2138.99	-23.57	29.60	191.79	108.88	23 21 3	1139.0	-13.71	6.55	
110.00	23 53 34	1925.56	-26.81	12.07	190.45	112.00	24 25 39	925.6	-15.52	349.33	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.1329 TRA	2.4998 TC3	-2.1939 BAU	.6422	SGT 3997.0	SGR 2799.7	SG3 1700.8	ST 85.8 SR	71.2 SS	132.0		
RDE .9714 RRA	1.9089 RC3	-.7962 FAU	.14978	RRT .9654 RRF	.9925 RTF	.9719	CRT .9965 CRS	-.9875 CST	-.9943		
FDE 5.0892 FRA	14.0208 FC3	-6.3000 BSP	7930	SG8 4880.0	R23 .1237 R13	.9862	LSA 172.4	MSA 11.2	SSA 1.2		
BDE 1.4923 BRA	3.1453 BC3	2.3339 FSP	3054	SG1 4842.7	SG2 602.2	THA 34.68	EL1 111.3	EL2 3.0	ALF 39.67		

LAUNCH DATE MAR 14 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC				DISTANCE 615.161				EARTH TO MARS			
RL 148.71 LAL	.00 LOL 172.76 VL	32.248 GAL	-6.12 AZL	88.18 HCA	208.57 SMA	178.14 ECC	.19578 INC	1.8171 V1	29.962		
RP 212.14 LAP	-.87 LOP	21.32 VP	22.498 GAP	2.54 AZP	91.60 TAL	320.90 TAP	169.48 RCA	143.26 APO	213.01 V2	25.864	
RC 128.706 GL	12.93 GP	-20.26 ZAL	149.25 ZAP	80.14 ETS	175.08 ZAE	120.42 ETE	191.68 ZAC	82.42 ETC	268.82 LVI	13.55	
PLANETOCENTRIC CONIC											
C3 20.648 VHL	4.544 DLA	-1.10 RAL	322.64 RAD	6643.1 VEL	11.860 PTH	6.87 VHP	3.656 DPA	-44.66 RAP	283.57 ECC	1.3398	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	17 27 41	3119.67	-35.70	98.06	184.69	123.83	18 19 40	2119.7	-19.74	77.41	
60.00	18 8 25	3011.29	-30.65	91.88	188.27	117.56	18 58 37	2011.3	-17.09	70.05	
70.00	19 1 57	2853.86	-26.17	81.51	190.68	112.78	19 49 31	1853.9	-14.64	59.01	
80.00	20 11 25	2636.36	-22.93	66.38	192.04	109.66	20 55 22	1636.4	-12.84	43.55	
90.00	21 33 22	2371.94	-21.73	47.40	192.49	108.55	22 12 54	1371.9	-12.16	24.46	
100.00	22 54 17	2110.83	-22.93	27.75	192.04	109.66	23 29 28	1110.8	-12.84	4.91	
110.00	0 5 20	1900.68	-26.17	10.43	190.66	112.78	0 37 0	900.7	-14.64	347.93	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.1855 TRA	2.6927 TC3	-2.2885 BAU	.6645	SGT 4252.6	SGR 2671.0	SG3 1701.6	ST 90.5 SR	68.7 SS	131.4		
RDE .9440 RRA	1.8186 RC3	-.7535 FAU	.14926	RRT .9669 RRF	.9912 RTF	.9745	CRT .9970 CRS	-.9855 CST	-.9953		
FDE 5.0690 FRA	14.0855 FC3	-6.2585 BSP	8186	SG8 5021.9	R23 .1215 R13	.9858	LSA 173.4	MSA 11.3	SSA 1.2		
BDE 1.5154 BRA	3.2482 BC3	2.4074 FSP	3084	SG1 4988.1	SG2 581.5	THA 31.75	EL1 113.6	EL2 4.2	ALF 37.19		

LAUNCH DATE MAR 14 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC				DISTANCE 619.334				EARTH TO MARS			
RL 148.71 LAL	.00 LOL 172.76 VL	32.248 GAL	-6.17 AZL	88.32 HCA	209.77 SMA	178.16 ECC	.19640 INC	1.6806 V1	29.962		
RP 212.43 LAP	-.83 LOP	22.52 VP	22.463 GAP	2.33 AZP	91.46 TAL	320.62 TAP	170.39 RCA	143.17 APO	213.16 V2	25.832	
RC 130.999 GL	11.91 GP	-19.45 ZAL	149.81 ZAP	78.29 ETS	174.55 ZAE	118.85 ETE	190.44 ZAC	83.23 ETC	268.65 LVI	13.08	
PLANETOCENTRIC CONIC											
C3 20.754 VHL	4.556 DLA	-2.00 RAL	323.15 RAD	6643.2 VEL	11.864 PTH	6.88 VHP	3.656 DPA	-43.90 RAP	282.56 ECC	1.3416	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	17 32 59	3102.95	-35.06	98.98	184.87	124.50	18 24 42	2102.9	-18.93	76.62	
60.00	18 14 41	2992.02	-30.04	90.61	188.50	118.24	19 4 33	1992.0	-16.30	69.04	
70.00	19 9 17	2831.48	-25.57	80.05	190.94	113.46	19 56 29	1831.5	-13.85	57.77	
80.00	20 19 43	2610.95	-22.34	64.73	192.36	110.34	21 3 14	1610.9	-12.05	42.08	
90.00	21 42 5	2345.18	-21.14	45.68	192.83	109.23	22 21 10	1345.2	-11.36	22.89	
100.00	23 2 35	2083.42	-22.34	26.10	192.36	110.34	23 37 20	1085.4	-12.05	3.45	
110.00	0 12 39	1878.30	-25.57	8.96	190.94	113.46	0 43 58	878.3	-13.85	346.68	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.2401 TRA	2.8859 TC3	-2.3727 BAU	.6872	SGT 4503.1	SGR 2547.9	SG3 1696.9	ST 95.2 SR	66.4 SS	130.8		
RDE .9202 RRA	1.7288 RC3	-.7105 FAU	.14809	RRT .9675 RRF	.9897 RTF	.9765	CRT .9952 CRS	-.9832 CST	-.9961		
FDE 5.0484 FRA	14.0757 FC3	-6.1777 BSP	8435	SG8 5175.7	R23 .1182 R13	.9855	LSA 174.5	MSA 11.6	SSA 1.2		
BDE 1.5442 BRA	3.3841 BC3	2.4788 FSP	3069	SG1 5144.9	SG2 563.9	THA 29.07	EL1 116.0	EL2 5.3	ALF 34.87		

LAUNCH DATE MAR 14 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC				DISTANCE 623.506				EARTH TO MARS			
RL 148.71 LAL	.00 LOL 172.76 VL	32.250 GAL	-6.24 AZL	88.45 HCA	210.97 SMA	178.20 ECC	.19709 INC	1.5542 V1	29.962		
RP 212.72 LAP	-.80 LOP	23.72 VP	22.429 GAP	2.12 AZP	91.33 TAL	320.32 TAP	171.30 RCA	143.07 APO	213.32 V2	25.799	
RC 133.312 GL	10.97 GP	-18.69 ZAL	150.32 ZAP	76.48 ETS	174.07 ZAE	117.27 ETE	189.32 ZAC	83.99 ETC	268.49 LVI	12.64	
PLANETOCENTRIC CONIC											
C3 20.897 VHL	4.571 DLA	-2.83 RAL	323.64 RAD	6643.2 VEL	11.870 PTH	6.88 VHP	3.661 DPA	-43.18 RAP	281.63 ECC	1.3439	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	17 38 0	3088.04	-34.48	96.02	185.11	125.08	18 29 28	2088.0	-18.23	75.92	
60.00	18 20 35	2974.77	-29.48	89.50	188.78	118.83	19 10 10	1974.8	-15.58	68.15	
70.00	19 16 10	2811.33	-25.01	78.74	191.28	114.05	20 3 1	1811.3	-13.13	56.65	
80.00	20 27 29	2588.00	-21.79	63.25	192.73	110.93	21 10 37	1588.0	-11.32	40.76	
90.00	21 50 15	2320.97	-20.59	44.10	193.21	109.82	22 28 56	1321.0	-10.64	21.49	
100.00	23 10 21	2062.47	-21.79	24.62	192.73	110.93	23 44 44	1062.5	-11.32	2.13	
110.00	0 19 32	1858.15	-25.01	7.86	191.28	114.05	0 50 30	858.2	-13.13	345.57	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.2952 TRA	3.0778 TC3	-2.4544 BAU	.7107	SGT 4752.7	SGR 2429.0	SG3 1686.5	ST 99.8 SR	64.3 SS	129.9		
RDE .8984 RRA	1.6443 RC3	-.6694 FAU	.14868	RRT .9678 RRF	.9880 RTF	.9781	CRT .9929 CRS	-.9807 CST	-.9967		
FDE 5.0132 FRA	14.0455 FC3	-6.0768 BSP	8716	SG8 5337.5	R23 .1137 R13	.9853	LSA 175.6	MSA 11.8	SSA 1.2		
BDE 1.5763 BRA	3.4895 BC3	2.5440 FSP	3057	SG1 5309.2	SG2 548.7	THA 26.62	EL1 118.5	EL2 6.4	ALF 32.70		

LAUNCH DATE MAR 14 1971 FLIGHT TIME 256.00 ARRIVAL DATE NOV 27 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.253 GAL -6.30 AZL 88.56 HCA 212.17 SMA 178.24 ECC .19784 INC 1.4364 V1 29.962
 RP 213.01 LAP -.76 LOP 24.92 VP 22.394 GAP 1.92 AZP 91.22 TAL 320.02 TAP 172.19 RCA 142.97 APO 213.50 V2 25.766
 RC 133.643 GL 10.08 GP -17.97 ZAL 150.81 ZAP 74.70 ETS 173.64 ZAE 115.69 ETE 188.31 ZAC 84.71 ETC 266.35 LVI 12.22

Planetocentric Conic: C3 21.075 VHL 4.591 DLA -3.60 RAL 324.12 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 3.671 DPA -42.50 RAP 280.77 ECC 1.3468
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 44 3074.79 -33.96 95.19 185.41 125.58 18 33 59 2074.8 -17.60 75.31
 60.00 18 26 8 2959.34 -28.97 88.51 189.12 119.34 19 15 28 1959.3 -14.94 67.35
 70.00 19 22 38 2793.22 -24.51 77.58 191.66 114.57 20 9 11 1793.2 -12.48 55.65
 80.00 20 34 47 2567.29 -21.28 61.92 193.15 111.45 21 17 35 1567.3 -10.66 39.58
 90.00 21 57 55 2299.09 -20.08 42.70 193.64 110.34 22 36 14 1299.1 -9.97 20.22
 100.00 23 17 39 2041.76 -21.28 23.29 193.15 111.45 23 51 41 1041.6 -10.66 .95
 110.00 0 26 0 1840.04 -24.51 6.50 191.66 114.57 0 56 40 840.0 -12.48 344.57

Differential Corrections: TDE 1.3509 TRA 3.2683 TC3-2.5322 BAU .7352 SGT 4995.2 SGR 2315.2 SG3 1671.4 ORBIT DETERMINATION ACCURACY
 RDE .8791 RRA 1.5633 RC3 -.6296 FAU .14492 RRT .9671 RRF .9860 RTF .9795 CRT .9903 CRS -.9779 CST -.9973
 FDE 4.9759 FRA13.9831 FC3-5.9531 BSP 9007 SGB 5505.6 R23 .1087 R13 .9853 LSA 176.7 MSA 12.1 SSA 1.3
 BDE 1.6116 BRA 3.6229 BC3 2.6093 FSP 3040 SGI 5479.4 SG2 537.1 THA 24.39 EL1 121.2 EL2 7.4 ALF 30.70

LAUNCH DATE MAR 14 1971 FLIGHT TIME 260.00 ARRIVAL DATE NOV 29 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.256 GAL -6.37 AZL 88.67 HCA 213.36 SMA 178.28 ECC .19864 INC 1.3266 V1 29.962
 RP 213.31 LAP -.73 LOP 26.11 VP 22.359 GAP 1.71 AZP 91.11 TAL 319.70 TAP 173.06 RCA 142.87 APO 213.70 V2 25.732
 RC 137.991 GL 9.26 GP -17.28 ZAL 151.26 ZAP 72.98 ETS 173.25 ZAE 114.12 ETE 187.39 ZAC 85.39 ETC 266.21 LVI 11.82

Planetocentric Conic: C3 21.285 VHL 4.614 DLA -4.31 RAL 324.60 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 3.688 DPA -41.84 RAP 279.99 ECC 1.3503
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 47 13 3063.04 -33.49 94.46 185.75 126.01 18 38 16 2063.0 -17.03 74.76
 60.00 18 31 23 2945.57 -28.50 87.64 189.51 119.79 19 20 29 1945.6 -14.36 66.64
 70.00 19 28 44 2778.96 -24.04 76.55 192.09 115.02 20 13 1 1777.0 -11.89 54.76
 80.00 20 41 40 2548.80 -20.81 60.73 193.61 111.90 21 24 8 1548.6 -10.06 38.52
 90.00 22 5 8 2279.31 -19.61 41.44 194.11 110.80 22 43 7 1279.3 -9.37 19.09
 100.00 23 24 32 2023.08 -20.81 22.10 193.61 111.90 23 58 15 1023.1 -10.06 359.89
 110.00 0 32 6 1823.78 -24.04 5.46 192.09 115.02 1 2 30 823.8 -11.89 343.68

Differential Corrections: TDE 1.4083 TRA 3.4588 TC3-2.6028 BAU .7595 SGT 5232.6 SGR 2206.5 SG3 1652.1 ORBIT DETERMINATION ACCURACY
 RDE .8620 RRA 1.4860 RC3 -.5908 FAU .14273 RRT .9660 RRF .9837 RTF .9806 CRT .9874 CRS -.9749 CST -.9977
 FDE 4.9338 FRA13.8935 FC3-5.8053 BSP 9316 SGB 5678.8 R23 .1032 R13 .9853 LSA 178.0 MSA 12.4 SSA 1.3
 BDE 1.6512 BRA 3.7643 BC3 2.6690 FSP 3014 SGI 5654.2 SG2 527.6 THA 22.37 EL1 124.1 EL2 8.4 ALF 28.84

LAUNCH DATE MAR 14 1971 FLIGHT TIME 262.00 ARRIVAL DATE DEC 1 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.259 GAL -6.44 AZL 88.78 HCA 214.55 SMA 178.33 ECC .19950 INC 1.2240 V1 29.962
 RP 213.61 LAP -.89 LOP 27.30 VP 22.324 GAP 1.51 AZP 91.01 TAL 319.38 TAP 173.93 RCA 142.75 APO 213.91 V2 25.697
 RC 140.356 GL 8.49 GP -16.83 ZAL 151.70 ZAP 71.27 ETS 172.89 ZAE 112.56 ETE 186.55 ZAC 86.04 ETC 268.09 LVI 11.43

Planetocentric Conic: C3 21.525 VHL 4.639 DLA -4.97 RAL 325.06 RAD 6643.5 VEL 11.896 PTH 6.91 VHP 3.704 DPA -41.22 RAP 279.27 ECC 1.3542
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 29 3092.66 -33.07 93.82 186.14 126.38 18 42 22 2052.7 -16.53 74.29
 60.00 18 36 21 2933.32 -28.09 86.87 189.94 120.18 19 25 14 1933.3 -13.84 66.02
 70.00 19 34 29 2762.39 -23.82 75.63 192.55 115.42 20 20 31 1762.4 -11.36 53.97
 80.00 20 48 9 2531.77 -20.38 59.67 194.10 112.30 21 30 21 1531.8 -9.51 37.56
 90.00 22 11 55 2261.45 -19.17 40.31 194.61 111.20 22 49 37 1261.5 -8.82 18.06
 100.00 23 31 1 2006.24 -20.38 21.04 194.10 112.30 24 4 27 1006.2 -9.51 358.93
 110.00 0 37 51 1809.21 -23.82 4.54 192.55 115.42 1 8 0 809.2 -11.36 342.88

Differential Corrections: TDE 1.4667 TRA 3.8483 TC3-2.6681 BAU .7841 SGT 3464.7 SGR 2103.1 SG3 1629.4 ORBIT DETERMINATION ACCURACY
 RDE .8471 RRA 1.4124 RC3 -.5533 FAU .14018 RRT .9844 RRF .9811 RTF .9815 CRT .9841 CRS -.9717 CST -.9981
 FDE 4.8898 FRA13.7807 FC3-5.6382 BSP 9639 SGB 5655.4 R23 .0977 R13 .9853 LSA 179.3 MSA 12.7 SSA 1.3
 BDE 1.6937 BRA 3.9121 BC3 2.7249 FSP 2984 SGI 5832.2 SG2 521.2 THA 20.53 EL1 127.1 EL2 9.3 ALF 27.12

LAUNCH DATE MAR 14 1971 FLIGHT TIME 264.00 ARRIVAL DATE DEC 3 1971

Heliocentric Conic: RL 148.71 LAL .00 LOL 172.76 VL 32.263 GAL -6.51 AZL 88.87 HCA 215.73 SMA 178.39 ECC .20042 INC 1.1274 V1 29.962
 RP 213.92 LAP -.76 LOP 28.49 VP 22.290 GAP 1.30 AZP 90.92 TAL 319.05 TAP 174.78 RCA 142.64 APO 214.14 V2 25.662
 RC 142.739 GL 7.77 GP -16.01 ZAL 152.11 ZAP 69.61 ETS 172.58 ZAE 111.02 ETE 185.79 ZAC 86.65 ETC 267.98 LVI 11.05

Planetocentric Conic: C3 21.793 VHL 4.688 DLA -5.57 RAL 325.52 RAD 6643.6 VEL 11.908 PTH 6.92 VHP 3.727 DPA -40.62 RAP 278.63 ECC 1.3587
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 55 32 3043.54 -32.70 93.26 186.56 126.71 18 46 16 2043.5 -16.09 73.67
 60.00 18 41 4 2922.46 -27.71 86.19 190.39 120.52 19 29 46 1922.5 -13.39 65.47
 70.00 19 39 58 2749.37 -23.24 74.81 193.05 115.76 20 25 45 1749.4 -10.88 53.26
 80.00 20 54 16 2516.63 -19.99 58.72 194.62 112.65 21 36 13 1516.6 -9.02 36.71
 90.00 22 18 21 2245.36 -18.77 39.30 195.14 111.55 22 55 46 1245.4 -8.32 17.14
 100.00 23 37 8 1991.11 -19.99 20.09 194.62 112.65 24 10 19 991.1 -9.02 358.08
 110.00 0 43 18 1796.19 -23.24 3.73 193.05 115.76 1 13 14 796.2 -10.88 342.18

Differential Corrections: TDE 1.5259 TRA 3.8365 TC3-2.7286 BAU .8092 SGT 5690.4 SGR 2004.7 SG3 1603.4 ORBIT DETERMINATION ACCURACY
 RDE .8339 RRA 1.3417 RC3 -.5179 FAU .13747 RRT .9622 RRF .9780 RTF .9822 CRT .9805 CRS -.9662 CST -.9984
 FDE 4.8414 FRA13.6441 FC3-5.4611 BSP 9964 SGB 6033.2 R23 .0921 R13 .9853 LSA 180.7 MSA 13.1 SSA 1.3
 BDE 1.7389 BRA 4.0644 BC3 2.7773 FSP 2948 SGI 6011.0 SG2 516.8 THA 18.87 EL1 130.2 EL2 10.1 ALF 25.54

LAUNCH DATE MAR 14 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic

RL 148.71 LAL .00 LOL 172.76 VL 32.267 GAL -6.58 AZL 88.96 HCA 216.81 SMA 178.45 ECC .20139 INC 1.0366 V1 29.962
 RP 214.24 LAP -.62 LOP 29.67 VP 22.235 GAP 1.10 AZP 90.83 TAL 318.71 TAP 175.62 RCA 142.52 APO 214.39 V2 25.627
 RC 145.138 GL 7.09 GP -15.42 ZAL 152.51 ZAP 66.00 ETS 172.29 ZAE 109.49 ETE 185.11 ZAC 87.23 ETC 267.88 LVI 10.69

DISTANCE 644.321

EARTH TO MARS

Planetocentric Conic

C3 22.089 VHL 4.700 DLA -6.13 RAL 325.96 RAD 6643.8 VEL 11.920 PTH 6.93 VHP 3.752 DPA -40.05 RAP 278.06 ECC 1.3635
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 24 3035.58 -32.38 92.78 187.01 126.98 18 50 0 2035.6 -15.70 73.51
 60.00 18 45 32 2912.88 -27.38 85.60 190.88 120.81 19 34 5 1912.9 -12.98 64.98
 70.00 19 45 6 2737.77 -22.89 74.09 193.57 116.07 20 30 43 1737.8 -10.46 52.63
 80.00 21 0 4 2503.06 -19.63 57.87 195.16 112.96 21 41 47 1503.1 -8.58 35.95
 90.00 22 24 25 2230.89 -16.41 38.39 195.70 111.85 23 1 36 1230.9 -7.87 16.32
 100.00 23 42 56 1977.53 -19.63 19.24 195.16 112.96 24 15 53 977.5 -8.58 357.32
 110.00 0 48 28 1784.59 -22.89 3.00 193.57 116.07 1 18 12 784.6 -10.46 341.55

Differential Corrections

TDE 1.5858 TRA 4.0241 TC3-2.7838 BAU .8344
 RDE .8221 RRA 1.2742 RC3 -.4841 FAU .13452
 FDE 4.7883 FRA13.4889 FC3-5.2725 BSP 10289
 BDE 1.7863 BRA 4.2211 BC3 2.8256 FSP 2904

Mid-Course Execution Accuracy

SGT 5910.1 SGR 1911.1 SG3 1574.7
 RRT .9594 RRF .9745 RTF .9827
 SGB 6211.4 R23 .0867 R13 .9853
 SG1 6190.1 SG2 514.4 THA 17.36

Orbit Determination Accuracy

ST 121.8 SR 55.3 SS 124.2
 CRT .9768 CRS -.9643 CST -.9986
 LSA 182.1 MSA 13.4 SSA 1.3
 EL1 133.3 EL2 10.9 ALF 24.09

LAUNCH DATE MAR 14 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 7 1971

Heliocentric Conic

RL 148.71 LAL .00 LOL 172.76 VL 32.271 GAL -6.66 AZL 89.05 HCA 218.09 SMA 178.52 ECC .20241 INC .9507 V1 29.962
 RP 214.55 LAP -.59 LOP 30.85 VP 22.220 GAP .90 AZP 90.75 TAL 318.36 TAP 176.43 RCA 142.39 APO 214.66 V2 25.591
 RC 147.555 GL 6.45 GP -14.87 ZAL 152.89 ZAP 66.44 ETS 172.04 ZAE 107.99 ETE 184.48 ZAC 87.78 ETC 267.79 LVI 10.33

DISTANCE 648.472

EARTH TO MARS

Planetocentric Conic

C3 22.411 VHL 4.734 DLA -6.65 RAL 326.41 RAD 6643.9 VEL 11.933 PTH 6.94 VHP 3.781 DPA -39.50 RAP 277.55 ECC 1.3688
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 3 6 3028.70 -32.10 92.37 187.50 127.22 18 53 34 2028.7 -15.37 73.19
 60.00 18 49 48 2904.48 -27.09 85.08 191.40 121.06 19 38 12 1904.5 -12.62 64.56
 70.00 19 50 0 2727.49 -22.58 73.45 194.12 116.33 20 35 27 1727.5 -10.08 52.08
 80.00 21 5 33 2490.94 -19.31 57.11 195.74 113.23 21 47 4 1490.9 -8.18 35.27
 90.00 22 30 10 2217.93 -18.08 37.59 196.28 112.12 23 7 8 1217.9 -7.46 15.58
 100.00 23 48 25 1965.41 -19.31 18.48 195.74 113.23 24 21 10 965.4 -8.18 358.83
 110.00 0 53 22 1774.31 -22.58 2.37 194.12 116.33 1 22 56 774.3 -10.08 340.99

Differential Corrections

TDE 1.6459 TRA 4.2107 TC3-2.8351 BAU .8602
 RDE .8118 RRA 1.2097 RC3 -.4524 FAU .13150
 FDE 4.7308 FRA13.3166 FC3-5.0800 BSP 10607
 BDE 1.8352 BRA 4.3610 BC3 2.8709 FSP 2855

Mid-Course Execution Accuracy

SGT 6123.6 SGR 1822.5 SG3 1543.7
 RRT .9561 RRF .9706 RTF .9832
 SGB 6389.0 R23 .0815 R13 .9854
 SG1 6368.3 SG2 513.8 THA 15.99

Orbit Determination Accuracy

ST 125.9 SR 53.9 SS 122.8
 CRT .9723 CRS -.9606 CST -.9988
 LSA 183.4 MSA 13.8 SSA 1.3
 EL1 136.5 EL2 11.6 ALF 22.76

LAUNCH DATE MAR 14 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic

RL 148.71 LAL .00 LOL 172.76 VL 32.276 GAL -6.75 AZL 89.13 HCA 219.27 SMA 178.60 ECC .20349 INC .8697 V1 29.962
 RP 214.88 LAP -.55 LOP 32.03 VP 22.185 GAP .70 AZP 90.67 TAL 318.00 TAP 177.26 RCA 142.26 APO 214.94 V2 25.554
 RC 149.988 GL 5.85 GP -14.34 ZAL 153.25 ZAP 64.92 ETS 171.81 ZAE 106.52 ETE 183.92 ZAC 88.31 ETC 267.71 LVI 9.98

DISTANCE 652.620

EARTH TO MARS

Planetocentric Conic

C3 22.758 VHL 4.771 DLA -7.13 RAL 326.84 RAD 6644.0 VEL 11.948 PTH 6.95 VHP 3.813 DPA -38.98 RAP 277.10 ECC 1.3745
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 6 37 3022.80 -31.85 92.02 188.01 127.42 18 57 0 2022.8 -15.08 72.93
 60.00 18 53 51 2897.17 -26.83 84.84 191.94 121.28 19 42 9 1897.2 -12.31 64.19
 70.00 19 54 39 2718.44 -22.31 72.89 194.68 116.56 20 39 57 1718.4 -9.74 51.59
 80.00 21 10 46 2480.13 -19.01 56.45 196.33 113.46 21 52 6 1480.2 -7.83 34.66
 90.00 22 35 37 2206.36 -17.70 36.87 196.88 112.36 23 12 24 1208.4 -7.10 14.93
 100.00 23 53 37 1954.62 -19.01 17.81 196.33 113.46 24 26 12 954.6 -7.83 358.03
 110.00 0 58 1 1765.25 -22.31 1.81 194.68 116.56 1 27 26 765.3 -9.74 340.51

Differential Corrections

TDE 1.7085 TRA 4.3979 TC3-2.8795 BAU .8855
 RDE .8034 RRA 1.1484 RC3 -.4218 FAU .12813
 FDE 4.6769 FRA13.1351 FC3-4.8743 BSP 10944
 BDE 1.8880 BRA 4.5453 BC3 2.9102 FSP 2806

Mid-Course Execution Accuracy

SGT 6332.0 SGR 1739.3 SG3 1511.3
 RRT .9520 RRF .9861 RTF .5.36
 SGB 6566.6 R23 .0768 R13 .9854
 SG1 6546.4 SG2 514.8 THA 14.75

Orbit Determination Accuracy

ST 130.1 SR 52.8 SS 121.4
 CRT .9679 CRS -.9565 CST -.9990
 LSA 185.0 MSA 14.2 SSA 1.3
 EL1 139.8 EL2 12.3 ALF 21.54

LAUNCH DATE MAR 14 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic

RL 148.71 LAL .00 LOL 172.76 VL 32.281 GAL -6.83 AZL 89.21 HCA 220.44 SMA 178.68 ECC .20462 INC .7927 V1 29.962
 RP 215.21 LAP -.51 LOP 33.20 VP 22.150 GAP .50 AZP 90.60 TAL 317.83 TAP 178.07 RCA 142.12 APO 215.24 V2 25.518
 RC 152.438 GL 5.29 GP -13.83 ZAL 153.61 ZAP 63.45 ETS 171.61 ZAE 105.07 ETE 183.40 ZAC 88.81 ETC 267.64 LVI 9.64

DISTANCE 658.762

EARTH TO MARS

Planetocentric Conic

C3 23.130 VHL 4.809 DLA -7.58 RAL 327.27 RAD 6644.2 VEL 11.963 PTH 6.96 VHP 3.847 DPA -38.49 RAP 276.72 ECC 1.3807
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 0 3017.82 -31.65 91.72 188.54 127.59 19 0 18 2017.8 -14.84 72.70
 60.00 18 57 44 2890.89 -26.81 84.25 192.50 121.48 19 45 54 1890.9 -12.05 63.88
 70.00 19 59 4 2710.51 -22.07 72.40 195.27 116.75 20 44 15 1710.5 -9.45 51.16
 80.00 21 15 42 2470.61 -18.76 55.86 196.94 113.67 21 56 53 1470.6 -7.51 34.13
 90.00 22 40 48 2198.08 -17.51 36.23 197.50 112.57 23 17 24 1196.1 -6.78 14.34
 100.00 0 2 30 1945.08 -18.76 17.22 196.94 113.67 0 34 59 945.1 -7.51 355.50
 110.00 1 2 27 1737.33 -22.07 1.32 195.27 116.75 1 31 44 757.3 -9.45 340.08

Differential Corrections

TDE 1.7708 TRA 4.5833 TC3-2.9213 BAU .9115
 RDE .7959 RRA 1.0898 RC3 -.3937 FAU .12486
 FDE 4.6187 FRA12.9389 FC3-4.6732 BSP 11264
 BDE 1.9414 BRA 4.7111 BC3 2.9477 FSP 2751

Mid-Course Execution Accuracy

SGT 6533.6 SGR 1680.5 SG3 1477.1
 RRT .9473 RRF .9810 RTF .9830
 SGB 6741.3 R23 .0722 R13 .9853
 SG1 6721.5 SG2 516.9 THA 13.62

Orbit Determination Accuracy

ST 134.1 SR 51.3 SS 119.9
 CRT .9631 CRS -.9521 CST -.9992
 LSA 186.4 MSA 14.5 SSA 1.3
 EL1 143.0 EL2 12.9 ALF 20.41

LAUNCH DATE MAR 14 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.286 GAL -6.92 AZL 89.28 HCA 221.81 SMA 178.76 ECC .20579 INC .7197 V1 29.962
 RP 215.54 LAP -.48 LOP 34.37 VP 22.115 GAP .29 AZP 90.54 TAL 317.26 TAP 178.86 RCA 141.97 APO 215.55 V2 25.480
 RC 154.904 GL 4.76 GP -13.36 ZAL 153.96 ZAP 62.02 ETS 171.43 ZAE 103.64 ETE 182.94 ZAC 89.28 ETC 267.58 LVI 9.30

PLANETOCENTRIC CONIC
 C3 23.527 VHL 4.850 DLA -7.99 RAL 327.69 RAD 6644.4 VEL 11.980 PTH 6.98 VHP 3.884 DPA -38.02 RAP 276.40 ECC 1.3872
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 14 3013.70 -31.47 91.48 189.09 127.72 19 3 28 2013.7 -14.64 72.52
 60.00 19 1 25 2885.55 -26.42 83.93 193.08 121.62 19 49 31 1885.5 -11.82 63.61
 70.00 20 3 17 2703.64 -21.86 71.98 195.88 116.92 20 48 21 1703.6 -9.19 50.79
 80.00 21 20 24 2462.23 -18.53 55.34 197.96 113.84 22 1 26 1462.2 -7.24 33.66
 90.00 22 45 42 2187.01 -17.27 35.67 198.13 112.74 23 22 9 1187.0 -6.49 13.83
 100.00 0 7 12 1938.70 -18.53 16.71 197.56 113.84 0 39 29 936.7 -7.24 355.03
 110.00 1 6 40 1750.46 -21.86 .90 195.88 116.92 1 35 50 750.5 -9.19 339.71

DIFFERENTIAL CORRECTIONS
 TDE 1.8342 TRA 4.7887 TC3-2.9578 BAU .9375
 RDE .7897 RRA 1.0336 RC3 -.3872 FAU .12143
 FDE 4.5556 FRA12.7347 FC3-4.4684 B8P 11584
 BDE 1.9970 BRA 4.8794 BC3 2.9805 F8P 2693

MID-COURSE EXECUTION ACCURACY
 SGT 6729.3 SGR 1586.5 SG3 1441.9
 RRT .9419 RRF .9553 RTF .9840
 SGB 6913.8 R23 .0680 R13 .9853
 SG1 6894.2 SG2 520.1 THA 12.59

ORBIT DETERMINATION ACCURACY
 ST 138.0 SR 50.2 SS 118.3
 CRT .9582 CRS -.9476 CST -.9993
 LSA 188.0 MSA 14.9 SSA 1.3
 EL1 146.2 EL2 13.6 ALF 19.39

LAUNCH DATE MAR 14 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.292 GAL -7.01 AZL 89.35 HCA 222.77 SMA 178.85 ECC .20702 INC .6501 V1 29.962
 RP 215.87 LAP -.44 LOP 35.53 VP 22.080 GAP .09 AZP 90.48 TAL 316.87 TAP 179.64 RCA 141.82 APO 215.88 V2 25.443
 RC 157.385 GL 4.26 GP -12.90 ZAL 154.30 ZAP 60.63 ETS 171.27 ZAE 102.25 ETE 182.52 ZAC 89.73 ETC 267.53 LVI 8.97

PLANETOCENTRIC CONIC
 C3 23.948 VHL 4.894 DLA -8.37 RAL 328.11 RAD 6644.6 VEL 11.997 PTH 6.99 VHP 3.923 DPA -37.57 RAP 276.13 ECC 1.3941
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 20 3010.37 -31.34 91.28 189.85 127.83 19 6 31 2010.4 -14.47 72.37
 60.00 19 4 57 2881.09 -26.26 83.66 193.68 121.74 19 52 58 1881.1 -11.63 63.39
 70.00 20 7 18 2697.76 -21.67 71.62 196.50 117.07 20 52 16 1697.8 -8.98 50.48
 80.00 21 24 32 2454.94 -18.32 54.89 198.21 113.99 22 5 47 1454.9 -7.00 33.25
 90.00 22 50 23 2179.06 -17.06 35.18 198.78 112.90 23 26 42 1179.1 -6.24 13.38
 100.00 0 11 40 1929.41 -18.32 16.26 198.21 113.99 0 43 49 929.4 -7.00 354.62
 110.00 1 10 40 1744.58 -21.67 .54 196.50 117.07 1 39 45 744.6 -8.98 339.40

DIFFERENTIAL CORRECTIONS
 TDE 1.8982 TRA 4.9537 TC3-2.9902 BAU .9638
 RDE .7846 RRA .9800 RC3 -.3426 FAU .11802
 FDE 4.4921 FRA12.5225 FC3-4.2684 B8P 11896
 BDE 2.0539 BRA 5.0497 BC3 3.0097 F8P 2633

MID-COURSE EXECUTION ACCURACY
 SGT 6919.0 SGR 1517.0 SG3 1405.7
 RRT .9358 RRF .9488 RTF .9841
 SGB 7083.3 R23 .0640 R13 .9852
 SG1 7063.9 SG2 524.0 THA 11.66

ORBIT DETERMINATION ACCURACY
 ST 141.8 SR 49.1 SS 116.7
 CRT .9529 CRS -.9428 CST -.9994
 LSA 189.5 MSA 15.3 SSA 1.3
 EL1 149.4 EL2 14.1 ALF 18.44

LAUNCH DATE MAR 14 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.298 GAL -7.10 AZL 89.42 HCA 223.93 SMA 178.94 ECC .20830 INC .5837 V1 29.962
 RP 216.21 LAP -.41 LOP 36.89 VP 22.045 GAP -.11 AZP 90.42 TAL 316.48 TAP 180.42 RCA 141.67 APO 216.22 V2 25.405
 RC 159.881 GL 3.79 GP -12.47 ZAL 154.83 ZAP 59.30 ETS 171.13 ZAE 100.88 ETE 182.13 ZAC 90.16 ETC 267.50 LVI 8.64

PLANETOCENTRIC CONIC
 C3 24.392 VHL 4.939 DLA -8.73 RAL 328.53 RAD 6644.7 VEL 12.015 PTH 7.01 VHP 3.964 DPA -37.14 RAP 275.92 ECC 1.4014
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 19 3007.79 -31.23 91.13 190.24 127.92 19 9 27 2007.8 -14.35 72.25
 60.00 19 8 20 2877.45 -26.13 83.44 194.29 121.85 19 56 17 1877.5 -11.47 63.20
 70.00 20 11 8 2692.80 -21.52 71.32 197.14 117.18 20 56 1 1692.8 -8.79 50.21
 80.00 21 29 7 2448.65 -18.15 54.51 198.86 114.12 22 9 56 1448.7 -6.79 32.90
 90.00 22 54 49 2172.17 -16.88 34.76 199.44 113.03 23 31 1 1172.2 -6.02 12.99
 100.00 0 15 55 1923.12 -18.15 15.87 198.86 114.12 0 47 58 923.1 -6.79 354.27
 110.00 1 14 30 1739.82 -21.52 .24 197.14 117.18 1 43 30 739.6 -8.79 339.13

DIFFERENTIAL CORRECTIONS
 TDE 1.9607 TRA 5.1358 TC3-3.0229 BAU .9913
 RDE .7797 RRA .9281 RC3 -.3211 FAU .11507
 FDE 4.4178 FRA12.2954 FC3-4.0842 B8P 12171
 BDE 2.1101 BRA 5.2189 BC3 3.0399 F8P 2559

MID-COURSE EXECUTION ACCURACY
 SGT 7101.0 SGR 1451.0 SG3 1388.3
 RRT .9289 RRF .9415 RTF .5443
 SGB 7247.7 R23 .0598 R13 .9852
 SG1 7228.4 SG2 527.9 THA 10.81

ORBIT DETERMINATION ACCURACY
 ST 145.4 SR 48.1 SS 114.9
 CRT .9475 CRS -.9377 CST -.9995
 LSA 190.8 MSA 15.7 SSA 1.3
 EL1 152.4 EL2 14.7 ALF 17.57

LAUNCH DATE MAR 14 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC
 RL 148.71 LAL .00 LOL 172.76 VL 32.304 GAL -7.20 AZL 89.48 HCA 225.09 SMA 179.04 ECC .20962 INC .5199 V1 29.962
 RP 216.56 LAP -.37 LOP 37.85 VP 22.009 GAP -.31 AZP 90.37 TAL 316.09 TAP 181.17 RCA 141.51 APO 216.57 V2 25.366
 RC 162.380 GL 3.33 GP -12.06 ZAL 154.96 ZAP 58.00 ETS 171.00 ZAE 99.55 ETE 181.78 ZAC 90.57 ETC 267.47 LVI 8.31

PLANETOCENTRIC CONIC
 C3 24.881 VHL 4.986 DLA -9.05 RAL 328.94 RAD 6644.9 VEL 12.035 PTH 7.02 VHP 4.007 DPA -36.73 RAP 275.76 ECC 1.4092
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 11 3005.91 -31.15 91.02 190.84 127.98 19 12 17 2005.9 -14.26 72.17
 60.00 19 11 34 2874.59 -26.02 83.27 194.92 121.93 19 59 29 1874.6 -11.35 63.06
 70.00 20 14 47 2688.71 -21.39 71.07 197.79 117.28 20 59 36 1688.7 -8.64 49.99
 80.00 21 33 10 2443.33 -18.00 54.18 199.53 114.23 22 13 54 1443.3 -6.61 32.61
 90.00 22 59 3 2166.28 -16.72 34.40 200.11 113.14 23 35 9 1166.3 -5.84 12.66
 100.00 0 19 58 1917.80 -18.00 15.55 199.53 114.23 0 51 56 917.8 -6.61 353.97
 110.00 1 18 10 1735.52 -21.39 359.99 197.79 117.28 1 47 5 735.5 -8.64 338.91

DIFFERENTIAL CORRECTIONS
 TDE 2.0283 TRA 5.3225 TC3-3.0446 BAU 1.0168
 RDE .7774 RRA .8601 RC3 -.2983 FAU .11114
 FDE 4.3612 FRA12.0823 FC3-3.8702 B8P 12496
 BDE 2.1721 BRA 5.3947 BC3 3.0592 F8P 2505

MID-COURSE EXECUTION ACCURACY
 SGT 7280.6 SGR 1391.1 SG3 1332.0
 RRT .9209 RRF .9336 RTF .9842
 SGB 7412.3 R23 .0572 R13 .9850
 SG1 7393.0 SG2 533.8 THA 10.03

ORBIT DETERMINATION ACCURACY
 ST 149.1 SR 47.2 SS 113.4
 CRT .9420 CRS -.9329 CST -.9996
 LSA 192.5 MSA 16.0 SSA 1.3
 EL1 155.7 EL2 15.2 ALF 16.78

LAUNCH DATE MAR 15 1971 FLIGHT TIME 156.00 ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 33.522 GAL -7.73 AZL 93.49 HCA 148.06 SMA 200.90 ECC .29027 INC 3.4944 V1 29.953
 RP 207.18 LAP -1.85 LOP 321.86 VP 24.911 GAP 16.78 AZP 87.03 TAL 324.64 TAP 112.70 RCA 142.58 APO 259.21 V2 26.438
 RC 56.566 GL -18.86 GP 8.37 ZAL 142.74 ZAP 190.59 ETS 136.18 ZAE 162.22 ETE 131.42 ZAC 110.03 ETC 274.65 LVI -21.25

Planetocentric Conic: C3 39.212 VHL 6.262 DLA -32.24 RAL 330.41 RAD 6650.4 VEL 12.613 PTH 7.47 VHP 8.245 DPA -13.01 RAP 303.99 ECC 1.6453
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 11 9 2821.07 -13.39 71.67 198.18 136.09 20 54 50 1621.1 4.95 55.81
 60.00 21 42 0 2379.30 -5.80 57.07 205.35 129.95 22 21 40 1379.3 10.27 39.10
 70.00 23 55 25 1986.42 4.09 32.69 212.77 123.94 24 28 31 986.4 17.45 12.38
 73.83 1 49 35 1645.73 13.24 12.20 218.50 119.67 2 17 1 645.7 24.28 349.70
 73.83 1 49 35 1645.73 13.24 12.20 218.50 119.67 2 17 1 645.7 24.28 349.70
 73.83 1 49 35 1645.73 13.24 12.20 218.50 119.67 2 17 1 645.7 24.28 349.70
 110.00 4 58 47 1033.24 4.09 321.61 212.77 123.94 5 16 0 33.2 17.45 301.30

Differential Corrections: TDE-1.1519 TRA-2.0832 TC3 -.1015 BAW .1178 SGT 2491.1 SGR 612.6 SG3 310.7 ORBIT DETERMINATION ACCURACY
 RDE -.4831 RRA -.3161 RC3 .2005 FAU .04908 RRT .7893 RRF -.8354 RTF -.8985 ST 62.6 SR 22.7 SS 48.9
 FDE 1.0389 FRA 3.0468 FC3-1.0835 BSP 4459 SGB 2563.4 R23 -.1795 R13 -.9041 CRT .9418 CRS .8381 CST .9720
 BDE 1.2491 BRA 2.1070 BC3 .2247 FSP 480 SGI 2538.7 SG2 369.1 THA 11.23 LSA 81.6 MSA 12.9 SSA 1.0
 EL1 66.2 EL2 7.2 ALF 19.08

LAUNCH DATE MAR 15 1971 FLIGHT TIME 156.00 ARRIVAL DATE AUG 20 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 33.440 GAL -7.59 AZL 93.62 HCA 149.32 SMA 199.24 ECC .28376 INC 3.6191 V1 29.953
 RP 207.09 LAP -1.85 LOP 323.13 VP 24.811 GAP 16.33 AZP 86.89 TAL 324.67 TAP 113.99 RCA 142.70 APO 255.77 V2 26.448
 RC 56.856 GL -19.82 GP 8.91 ZAL 142.39 ZAP 158.49 ETS 156.03 ZAE 162.34 ETE 128.51 ZAC 110.54 ETC 274.74 LVI -21.86

Planetocentric Conic: C3 38.077 VHL 6.171 DLA -33.09 RAL 330.94 RAD 6650.0 VEL 12.568 PTH 7.44 VHP 8.023 DPA -12.42 RAP 304.16 ECC 1.6267
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 18 41 2592.75 -12.00 70.42 198.70 136.39 21 1 54 1592.7 6.37 54.62
 60.00 21 52 46 2342.33 -4.19 55.29 206.11 130.12 22 31 48 1342.3 11.66 37.26
 70.00 0 23 20 1910.08 6.97 26.67 214.44 123.52 0 55 10 910.1 19.98 7.90
 72.05 1 40 10 1674.09 13.81 14.72 218.77 120.38 2 8 4 674.1 25.08 352.24
 72.05 1 40 10 1674.09 13.81 14.72 218.77 120.38 2 8 4 674.1 25.08 352.24
 72.05 1 40 10 1674.09 13.81 14.72 218.77 120.38 2 8 4 674.1 25.08 352.24
 110.00 5 22 47 6244.94 6.97 295.49 214.44 123.52 7 6 51 5244.9 19.98 274.72

Differential Corrections: TDE-1.1623 TRA-2.0487 TC3 -.0956 BAW .1203 SGT 2516.8 SGR 649.0 SG3 337.9 ORBIT DETERMINATION ACCURACY
 RDE -.4797 RRA -.3514 RC3 .2161 FAU .05059 RRT .8164 RRF -.8644 RTF -.9017 ST 63.8 SR 23.0 SS 50.6
 FDE 1.0934 FRA 3.1375 FC3-1.1503 BSP 4524 SGB 2599.1 R23 -.1944 R13 -.9080 CRT .9532 CRS .8548 CST .9710
 BDE 1.2573 BRA 2.0786 BC3 .2363 FSP 512 SGI 2573.1 SG2 366.6 THA 12.14 LSA 83.7 MSA 12.8 SSA 1.0
 EL1 67.5 EL2 6.6 ALF 19.17

LAUNCH DATE MAR 15 1971 FLIGHT TIME 160.00 ARRIVAL DATE AUG 22 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 33.362 GAL -7.45 AZL 93.75 HCA 150.58 SMA 197.69 ECC .27758 INC 3.7533 V1 29.953
 RP 207.01 LAP -1.84 LOP 324.39 VP 24.716 GAP 15.89 AZP 86.73 TAL 324.71 TAP 115.29 RCA 142.82 APO 252.57 V2 26.457
 RC 57.225 GL -20.84 GP 9.50 ZAL 141.99 ZAP 157.35 ETS 155.86 ZAE 162.34 ETE 125.64 ZAC 111.10 ETC 274.82 LVI -22.50

Planetocentric Conic: C3 37.063 VHL 6.088 DLA -34.00 RAL 331.51 RAD 6649.6 VEL 12.528 PTH 7.41 VHP 7.809 DPA -11.79 RAP 304.28 ECC 1.6100
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 26 55 2583.28 -10.54 69.13 199.36 136.67 21 9 39 1563.3 7.84 53.37
 60.00 22 4 52 2302.91 -2.44 53.36 207.07 130.24 22 43 15 1302.5 13.55 35.26
 70.00 1 5 20 1780.63 11.77 21.71 217.47 122.30 1 35 1 780.6 23.95 359.95
 70.29 1 31 32 1700.70 14.39 17.14 219.14 121.14 1 59 53 700.7 25.91 354.68
 70.29 1 31 32 1700.70 14.39 17.14 219.14 121.14 1 59 53 700.7 25.91 354.68
 70.29 1 31 32 1700.70 14.39 17.14 219.14 121.14 1 59 53 700.7 25.91 354.68
 110.00 6 4 47 6115.49 11.77 288.53 217.47 122.30 7 46 42 5115.5 23.95 266.78

Differential Corrections: TDE-1.1739 TRA-2.0121 TC3 -.0896 BAW .1237 SGT 2539.7 SGR 691.8 SG3 357.9 ORBIT DETERMINATION ACCURACY
 RDE -.4785 RRA -.3892 RC3 .2331 FAU .05221 RRT .8400 RRF -.8898 RTF -.5444 ST 65.0 SR 23.5 SS 52.4
 FDE 1.1517 FRA 3.2698 FC3-1.2195 BSP 4591 SGB 2632.2 R23 -.2099 R13 -.9118 CRT .9639 CRS .8719 CST .9700
 BDE 1.2677 BRA 2.0494 BC3 .2497 FSP 546 SGI 2806.7 SG2 365.7 THA 13.15 LSA 85.8 MSA 12.8 SSA 1.0
 EL1 66.9 EL2 5.9 ALF 19.34

LAUNCH DATE MAR 15 1971 FLIGHT TIME 162.00 ARRIVAL DATE AUG 24 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 33.288 GAL -7.31 AZL 93.90 HCA 151.85 SMA 196.25 ECC .27173 INC 3.8988 V1 29.953
 RP 206.94 LAP -1.84 LOP 325.86 VP 24.626 GAP 15.46 AZP 86.56 TAL 324.75 TAP 116.59 RCA 142.93 APO 249.58 V2 26.466
 RC 57.675 GL -21.92 GP 10.15 ZAL 141.55 ZAP 156.16 ETS 155.62 ZAE 162.23 ETE 122.85 ZAC 111.72 ETC 274.90 LVI -23.19

Planetocentric Conic: C3 36.169 VHL 6.014 DLA -34.96 RAL 332.12 RAD 6649.3 VEL 12.492 PTH 7.38 VHP 7.603 DPA -11.11 RAP 304.36 ECC 1.5952
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 36 0 2532.47 -9.02 67.81 200.18 136.92 21 18 13 1532.5 9.37 52.05
 60.00 22 18 41 2259.02 -.52 51.30 208.28 130.30 22 56 20 1259.0 15.37 33.03
 68.53 1 23 35 1726.09 14.97 19.50 219.61 121.97 1 52 21 726.1 26.77 357.08
 68.53 1 23 35 1726.09 14.97 19.50 219.61 121.97 1 52 21 726.1 26.77 357.08
 68.53 1 23 35 1726.09 14.97 19.50 219.61 121.97 1 52 21 726.1 26.77 357.08
 68.53 1 23 35 1726.09 14.97 19.50 219.61 121.97 1 52 21 726.1 26.77 357.08
 68.53 1 23 35 1726.09 14.97 19.50 219.61 121.97 1 52 21 726.1 26.77 357.08

Differential Corrections: TDE-1.1870 TRA-1.9731 TC3 -.0831 BAW .1281 SGT 2559.3 SGR 742.2 SG3 378.8 ORBIT DETERMINATION ACCURACY
 RDE -.4801 RRA -.4301 RC3 .2516 FAU .05389 RRT .8603 RRF -.9116 RTF -.9070 ST 66.2 SR 24.1 SS 54.3
 FDE 1.2158 FRA 3.3840 FC3-1.2900 BSP 4651 SGB 2664.8 R23 -.2253 R13 -.9156 CRT .9735 CRS .8880 CST .9609
 BDE 1.2804 BRA 2.0194 BC3 .2649 FSP 581 SGI 2639.4 SG2 366.9 THA 14.29 LSA 88.0 MSA 12.8 SSA .9
 EL1 70.2 EL2 5.2 ALF 19.61

LAUNCH DATE MAR 15 1971 FLIGHT TIME 164.00 ARRIVAL DATE AUG 26 1971

DISTANCE 436.568 EARTH TO MARS

RL 148.76 LAL .00 LOL 173.76 VL 33.218 GAL -7.18 AZL 94.06 HCA 153.11 SNA 194.92 ECC .26617 INC 4.0569 V1 29.853	
RP 206.87 LAP -1.83 LOP 326.93 VP 24.539 GAP 19.04 AZP 86.38 TAL 324.79 TAP 117.90 RCA 143.03 APO 246.80 V2 26.473	
RC 58.203 GL -23.07 GP 10.86 ZAL 141.04 ZAP 154.91 ETS 155.32 ZAE 162.00 ETE 120.20 ZAC 112.42 ETC 274.97 LVI -23.92	
PLANETOCENTRIC CONIC	
C3 35.395 VHL 5.949 DLA -35.99 RAL 332.78 RAD 6649.0 VEL 12.462 PTH 7.36 VHP 7.405 DPA -10.37 RAP 304.40 ECC 1.5825	
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG	
50.00 20 46 5 2500.09 -7.40 66.42 201.19 137.13 21 27 45 1500.1 10.98 50.65	
60.00 22 34 46 2210.49 1.61 48.99 209.79 130.27 23 11 37 1210.5 17.37 30.49	
66.75 1 16 14 1750.56 15.57 21.83 220.20 122.87 1 45 24 750.6 27.66 359.46	
66.75 1 16 14 1750.56 15.57 21.83 220.20 122.87 1 45 24 750.6 27.66 359.46	
66.75 1 16 14 1750.56 15.57 21.83 220.20 122.87 1 45 24 750.6 27.66 359.46	
66.75 1 16 14 1750.56 15.57 21.83 220.20 122.87 1 45 24 750.6 27.66 359.46	
66.75 1 16 14 1750.56 15.57 21.83 220.20 122.87 1 45 24 750.6 27.66 359.46	
66.75 1 16 14 1750.56 15.57 21.83 220.20 122.87 1 45 24 750.6 27.66 359.46	
DIFFERENTIAL CORRECTIONS	
TDE -1.2011 TRA -1.9302 TC3 -.0759 BAW .1334	SGT 2573.7 SGR 800.7 SG3 400.6
RDE -.4849 RRA -.4743 RC3 .2714 FAU .05561	RRT .8774 RRF -.9299 RTF -.9096
FDE 1.2863 FRA 3.4987 FC3-1.3601 BSP 4703	SGB 2695.4 R23 -.2395 R13 -.9195
BDE 1.2952 BRA 1.9876 BC3 .2818 FSP 618	SG1 2669.8 SG2 370.4 THA 15.57
ORBIT DETERMINATION ACCURACY	
ST 67.3 SR 24.8 SS 56.3	CRT .9819 CRS .9041 CST .9679
LSA 90.3 MSA 12.9 SSA .9	EL1 71.6 EL2 4.4 ALF 20.00

LAUNCH DATE MAR 15 1971 FLIGHT TIME 166.00 ARRIVAL DATE AUG 28 1971

DISTANCE 440.196 EARTH TO MARS

RL 148.76 LAL .00 LOL 173.76 VL 33.152 GAL -7.06 AZL 94.23 HCA 154.38 SNA 193.67 ECC .26091 INC 4.2293 V1 29.933	
RP 206.82 LAP -1.83 LOP 328.19 VP 24.457 GAP 14.63 AZP 86.19 TAL 324.84 TAP 119.21 RCA 143.14 APO 244.20 V2 26.479	
RC 58.807 GL -24.31 GP 11.65 ZAL 140.47 ZAP 153.60 ETS 154.98 ZAE 161.64 ETE 117.73 ZAC 113.18 ETC 275.05 LVI -24.72	
PLANETOCENTRIC CONIC	
C3 34.747 VHL 5.895 DLA -37.09 RAL 333.50 RAD 6648.8 VEL 12.436 PTH 7.34 VHP 7.217 DPA -9.57 RAP 304.39 ECC 1.5718	
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG	
50.00 20 57 22 2465.80 -5.89 64.97 202.42 137.32 21 38 27 1465.8 12.67 49.15	
60.00 22 54 6 2154.58 4.07 46.31 211.72 130.13 23 30 0 1154.6 19.64 27.50	
64.94 1 9 28 1774.40 16.16 24.16 220.94 123.84 1 39 3 774.4 28.58 1.86	
64.94 1 9 28 1774.40 16.16 24.16 220.94 123.84 1 39 3 774.4 28.58 1.86	
64.94 1 9 28 1774.40 16.16 24.16 220.94 123.84 1 39 3 774.4 28.58 1.86	
64.94 1 9 28 1774.40 16.16 24.16 220.94 123.84 1 39 3 774.4 28.58 1.86	
64.94 1 9 28 1774.40 16.16 24.16 220.94 123.84 1 39 3 774.4 28.58 1.86	
64.94 1 9 28 1774.40 16.16 24.16 220.94 123.84 1 39 3 774.4 28.58 1.86	
DIFFERENTIAL CORRECTIONS	
TDE -1.2199 TRA -1.8886 TC3 -.0711 BAW .1400	SGT 2587.9 SGR 888.5 SG3 423.0
RDE -.4934 RRA -.5223 RC3 .2929 FAU .05744	RRT .8910 RRF -.9451 RTF -.9113
FDE 1.3830 FRA 3.6117 FC3-1.4312 BSP 4777	SGB 2729.7 R23 -.2543 R13 -.9229
BDE 1.3159 BRA 1.9576 BC3 .3014 FSP 656	SG1 2703.5 SG2 377.4 THA 16.99
ORBIT DETERMINATION ACCURACY	
ST 68.6 SR 25.8 SS 58.3	CRT .9888 CRS .9192 CST .9688
LSA 92.8 MSA 13.0 SSA .8	EL1 73.2 EL2 3.6 ALF 20.47

LAUNCH DATE MAR 15 1971 FLIGHT TIME 168.00 ARRIVAL DATE AUG 30 1971

DISTANCE 443.887 EARTH TO MARS

RL 148.76 LAL .00 LOL 173.76 VL 33.090 GAL -6.94 AZL 94.42 HCA 155.84 SNA 192.50 ECC .25592 INC 4.4185 V1 29.933	
RP 206.77 LAP -1.82 LOP 329.46 VP 24.378 GAP 14.22 AZP 85.97 TAL 324.88 TAP 120.52 RCA 143.24 APO 241.77 V2 26.485	
RC 59.485 GL -25.63 GP 12.52 ZAL 139.83 ZAP 152.23 ETS 154.57 ZAE 161.14 ETE 115.49 ZAC 114.04 ETC 275.12 LVI -25.58	
PLANETOCENTRIC CONIC	
C3 34.229 VHL 5.851 DLA -38.25 RAL 334.29 RAD 6648.6 VEL 12.415 PTH 7.32 VHP 7.038 DPA -8.69 RAP 304.33 ECC 1.5633	
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG	
50.00 21 10 8 2429.15 -3.85 63.43 203.92 137.48 21 50 37 1429.1 14.46 47.52	
60.00 23 18 37 2086.21 7.06 43.01 214.28 129.78 23 53 23 1086.2 22.32 23.71	
63.09 1 3 15 1797.94 16.76 26.51 221.83 124.91 1 33 13 797.9 29.53 4.29	
63.09 1 3 15 1797.94 16.76 26.51 221.83 124.91 1 33 13 797.9 29.53 4.29	
63.09 1 3 15 1797.94 16.76 26.51 221.83 124.91 1 33 13 797.9 29.53 4.29	
63.09 1 3 15 1797.94 16.76 26.51 221.83 124.91 1 33 13 797.9 29.53 4.29	
63.09 1 3 15 1797.94 16.76 26.51 221.83 124.91 1 33 13 797.9 29.53 4.29	
63.09 1 3 15 1797.94 16.76 26.51 221.83 124.91 1 33 13 797.9 29.53 4.29	
DIFFERENTIAL CORRECTIONS	
TDE -1.2402 TRA -1.8363 TC3 -.0652 BAW .1478	SGT 2595.7 SGR 946.5 SG3 448.0
RDE -.5083 RRA -.3744 RC3 .3162 FAU .05932	RRT .9021 RRF -.9875 RTF -.5.29
FDE 1.4480 FRA 3.7224 FC3-1.5003 BSP 4838	SGB 2762.9 R23 -.2666 R13 -.9267
BDE 1.3395 BRA 1.9261 BC3 .3229 FSP 695	SG1 2735.6 SG2 387.6 THA 18.60
ORBIT DETERMINATION ACCURACY	
ST 69.8 SR 27.0 SS 60.5	CRT .9941 CRS .9333 CST .9657
LSA 95.3 MSA 13.2 SSA .8	EL1 74.8 EL2 2.7 ALF 21.08

LAUNCH DATE MAR 15 1971 FLIGHT TIME 170.00 ARRIVAL DATE SEP 1 1971

DISTANCE 447.577 EARTH TO MARS

RL 148.76 LAL .00 LOL 173.76 VL 33.031 GAL -6.83 AZL 94.63 HCA 156.91 SNA 191.42 ECC .25120 INC 4.6273 V1 29.933	
RP 206.74 LAP -1.81 LOP 330.73 VP 24.302 GAP 13.82 AZP 85.74 TAL 324.93 TAP 121.84 RCA 143.33 APO 239.50 V2 26.489	
RC 60.233 GL -27.03 GP 13.49 ZAL 139.11 ZAP 150.79 ETS 154.12 ZAE 160.50 ETE 113.49 ZAC 114.99 ETC 275.18 LVI -26.52	
PLANETOCENTRIC CONIC	
C3 33.849 VHL 5.818 DLA -39.51 RAL 335.17 RAD 6648.5 VEL 12.400 PTH 7.31 VHP 6.889 DPA -7.72 RAP 304.21 ECC 1.5571	
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG	
50.00 21 24 47 2389.47 -1.86 61.77 205.77 137.55 22 4 36 1389.5 16.39 45.72	
60.00 23 54 19 1989.29 11.25 38.25 218.07 128.96 24 27 29 989.3 25.94 18.07	
61.18 0 57 36 1821.34 17.35 28.90 222.90 126.07 1 27 58 821.3 30.51 6.79	
61.18 0 57 36 1821.34 17.35 28.90 222.90 126.07 1 27 58 821.3 30.51 6.79	
61.18 0 57 36 1821.34 17.35 28.90 222.90 126.07 1 27 58 821.3 30.51 6.79	
61.18 0 57 36 1821.34 17.35 28.90 222.90 126.07 1 27 58 821.3 30.51 6.79	
61.18 0 57 36 1821.34 17.35 28.90 222.90 126.07 1 27 58 821.3 30.51 6.79	
61.18 0 57 36 1821.34 17.35 28.90 222.90 126.07 1 27 58 821.3 30.51 6.79	
DIFFERENTIAL CORRECTIONS	
TDE -1.2577 TRA -1.7807 TC3 -.0523 BAW .1566	SGT 2589.2 SGR 1035.8 SG3 469.2
RDE -.5241 RRA -.6307 RC3 .3421 FAU .06131	RRT .9116 RRF -.9674 RTF -.9154
FDE 1.5411 FRA 3.8268 FC3-1.5682 BSP 4827	SGB 2788.7 R23 -.2736 R13 -.9315
BDE 1.3626 BRA 1.8891 BC3 .3461 FSP 734	SG1 2759.9 SG2 399.5 THA 20.48
ORBIT DETERMINATION ACCURACY	
ST 70.7 SR 28.5 SS 62.6	CRT .9976 CRS .9460 CST .9648
LSA 97.7 MSA 13.4 SSA .7	EL1 76.2 EL2 1.8 ALF 21.92

LAUNCH DATE MAR 15 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.978 GAL -6.72 AZL 94.86 HCA 158.17 SMA 190.41 ECC .24874 INC 4.8588 V1 29.953
RP 206.71 LAP -1.80 LOP 332.00 VP 24.230 GAP 13.43 AZP 85.49 TAL 324.98 TAP 123.15 RCA 143.43 APO 237.39 V2 26.482
RC 61.050 GL -28.58 GP 14.57 ZAL 138.29 ZAP 149.26 ETS 153.60 ZAE 159.71 ETE 111.75 ZAC 116.06 ETC 275.25 LVI -27.54

PLANETOCENTRIC CONIC

C3 33.623 VHL 5.799 DLA -40.85 RAL 336.15 RAD 6648.4 VEL 12.391 PTH 7.30 VHP 6.710 DPA -6.66 RAP 304.02 ECC 1.5534
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 41 52 2348.83 .33 59.95 208.05 137.58 22 20 57 1345.8 18.49 43.70
59.20 0 52 32 1844.92 17.92 31.35 224.17 127.34 1 23 17 844.9 31.52 9.39
59.20 0 52 32 1844.92 17.92 31.35 224.17 127.34 1 23 17 844.9 31.52 9.39
59.20 0 52 32 1844.92 17.92 31.35 224.17 127.34 1 23 17 844.9 31.52 9.39
59.20 0 52 32 1844.92 17.92 31.35 224.17 127.34 1 23 17 844.9 31.52 9.39
59.20 0 52 32 1844.92 17.92 31.35 224.17 127.34 1 23 17 844.9 31.52 9.39

DIFFERENTIAL CORRECTIONS

TDE-1.2925 TRA-1.7316 TC3 -.0549 BAU .1674
RDE -.5501 RRA -.6935 RC3 .3684 FAU .06319
FDE 1.6497 FRA 3.9273 FC3-1.6269 BSP 4974
BDE 1.4046 BRA 1.8653 BC3 .3725 FSP 776

MID-COURSE EXECUTION ACCURACY

SGT 2590.3 SGR 1139.5 SG3 492.8
RRT .9173 RRF -.9753 RTF -.9153
SGB 2837.2 R23 -.2836 R13 -.9346
SG1 2805.9 SG2 420.3 THA 22.45

ORBIT DETERMINATION ACCURACY

ST 72.3 SR 30.4 SS 65.0
CRT .9994 CRS .9574 CST .9639
LSA 101.0 MSA 13.6 SSA .7
EL1 78.4 EL2 .9 ALF 22.79

LAUNCH DATE MAR 15 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.922 GAL -6.61 AZL 95.12 HCA 159.44 SMA 189.46 ECC .24252 INC 5.1176 V1 29.953
RP 206.69 LAP -1.80 LOP 333.27 VP 24.160 GAP 13.05 AZP 85.21 TAL 325.03 TAP 124.47 RCA 143.51 APO 235.41 V2 26.495
RC 61.933 GL -30.23 GP 15.78 ZAL 137.38 ZAP 147.64 ETS 153.04 ZAE 158.76 ETE 110.28 ZAC 117.26 ETC 275.31 LVI -28.67

PLANETOCENTRIC CONIC

C3 33.567 VHL 5.794 DLA -42.28 RAL 337.26 RAD 6648.4 VEL 12.389 PTH 7.30 VHP 6.563 DPA -5.47 RAP 303.77 ECC 1.5524
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 2 17 2296.51 2.81 57.88 210.90 137.51 22 40 34 1296.5 20.84 41.35
57.15 0 48 8 1868.80 18.47 33.88 225.70 128.74 1 19 17 868.8 32.54 12.11
57.15 0 48 8 1868.80 18.47 33.88 225.70 128.74 1 19 17 868.8 32.54 12.11
57.15 0 48 8 1868.80 18.47 33.88 225.70 128.74 1 19 17 868.8 32.54 12.11
57.15 0 48 8 1868.80 18.47 33.88 225.70 128.74 1 19 17 868.8 32.54 12.11
57.15 0 48 8 1868.80 18.47 33.88 225.70 128.74 1 19 17 868.8 32.54 12.11
57.15 0 48 8 1868.80 18.47 33.88 225.70 128.74 1 19 17 868.8 32.54 12.11

DIFFERENTIAL CORRECTIONS

TDE-1.3263 TRA-1.6715 TC3 -.0503 BAU .1797
RDE -.5843 RRA -.7617 RC3 .3972 FAU .06511
FDE 1.7715 FRA 4.0131 FC3-1.6794 BSP 5049
BDE 1.4493 BRA 1.8368 BC3 .4004 FSP 817

MID-COURSE EXECUTION ACCURACY

SGT 2591.5 SGR 1257.9 SG3 516.0
RRT .9221 RRF -.9814 RTF -.9180
SGB 2880.6 R23 -.2889 R13 -.9390
SG1 2846.3 SG2 443.2 THA 24.75

ORBIT DETERMINATION ACCURACY

ST 73.6 SR 32.7 SS 67.5
CRT .9997 CRS .9672 CST .9632
LSA 104.2 MSA 13.9 SSA .6
EL1 80.6 EL2 .8 ALF 23.93

LAUNCH DATE MAR 15 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.872 GAL -6.51 AZL 95.41 HCA 160.70 SMA 188.58 ECC .23852 INC 5.4087 V1 29.953
RP 206.68 LAP -1.79 LOP 334.54 VP 24.094 GAP 12.67 AZP 84.89 TAL 325.08 TAP 125.79 RCA 143.60 APO 233.56 V2 26.496
RC 62.879 GL -32.02 GP 17.13 ZAL 136.36 ZAP 145.92 ETS 152.41 ZAE 157.62 ETE 109.06 ZAC 118.81 ETC 275.37 LVI -29.91

PLANETOCENTRIC CONIC

C3 33.708 VHL 5.806 DLA -43.83 RAL 338.52 RAD 6648.4 VEL 12.394 PTH 7.31 VHP 6.430 DPA -4.16 RAP 303.44 ECC 1.5547
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 27 40 2238.35 5.73 55.44 214.58 137.31 23 4 58 1238.3 23.55 38.48
55.01 0 44 29 1893.23 18.98 36.50 227.51 130.28 1 16 3 893.2 33.59 14.98
55.01 0 44 29 1893.23 18.98 36.50 227.51 130.28 1 16 3 893.2 33.59 14.98
55.01 0 44 29 1893.23 18.98 36.50 227.51 130.28 1 16 3 893.2 33.59 14.98
55.01 0 44 29 1893.23 18.98 36.50 227.51 130.28 1 16 3 893.2 33.59 14.98
55.01 0 44 29 1893.23 18.98 36.50 227.51 130.28 1 16 3 893.2 33.59 14.98
55.01 0 44 29 1893.23 18.98 36.50 227.51 130.28 1 16 3 893.2 33.59 14.98

DIFFERENTIAL CORRECTIONS

TDE-1.3661 TRA-1.6055 TC3 -.0480 BAU .1941
RDE -.6298 RRA -.8361 RC3 .4281 FAU .06704
FDE 1.9006 FRA 4.0838 FC3-1.7217 BSP 5126
BDE 1.5043 BRA 1.8101 BC3 .4306 FSP 855

MID-COURSE EXECUTION ACCURACY

SGT 2577.8 SGR 1393.4 SG3 538.1
RRT .9233 RRF -.9861 RTF -.5.63
SGB 2930.1 R23 -.2864 R13 -.9437
SG1 2892.0 SG2 471.0 THA 27.38

ORBIT DETERMINATION ACCURACY

ST 75.0 SR 35.5 SS 70.1
CRT .9995 CRS .9753 CST .9828
LSA 107.7 MSA 14.2 SSA .6
EL1 83.0 EL2 1.7 ALF 25.30

LAUNCH DATE MAR 15 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.825 GAL -6.42 AZL 95.74 HCA 161.97 SMA 187.75 ECC .23476 INC 5.7391 V1 29.953
RP 206.67 LAP -1.77 LOP 335.81 VP 24.030 GAP 12.30 AZP 84.54 TAL 325.13 TAP 127.10 RCA 143.60 APO 231.83 V2 26.496
RC 63.888 GL -33.97 GP 18.68 ZAL 138.20 ZAP 144.06 ETS 151.74 ZAE 156.28 ETE 108.10 ZAC 120.14 ETC 275.43 LVI -31.29

PLANETOCENTRIC CONIC

C3 34.080 VHL 5.838 DLA -48.49 RAL 339.98 RAD 6648.6 VEL 12.409 PTH 7.32 VHP 6.312 DPA -2.89 RAP 303.02 ECC 1.5609
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 1 37 2163.51 9.46 52.25 219.59 136.85 23 37 41 1163.5 26.94 34.59
52.76 0 41 41 1918.56 19.44 39.24 229.65 131.97 1 13 40 918.6 34.63 18.05
52.76 0 41 41 1918.56 19.44 39.24 229.65 131.97 1 13 40 918.6 34.63 18.05
52.76 0 41 41 1918.56 19.44 39.24 229.65 131.97 1 13 40 918.6 34.63 18.05
52.76 0 41 41 1918.56 19.44 39.24 229.65 131.97 1 13 40 918.6 34.63 18.05
52.76 0 41 41 1918.56 19.44 39.24 229.65 131.97 1 13 40 918.6 34.63 18.05
52.76 0 41 41 1918.56 19.44 39.24 229.65 131.97 1 13 40 918.6 34.63 18.05

DIFFERENTIAL CORRECTIONS

TDE-1.4120 TRA-1.5308 TC3 -.0391 BAU .2108
RDE -.6904 RRA -.9172 RC3 .4611 FAU .06889
FDE 2.0694 FRA 4.1337 FC3-1.7500 BSP 5193
BDE 1.5717 BRA 1.7846 BC3 .4628 FSP 891

MID-COURSE EXECUTION ACCURACY

SGT 2552.5 SGR 1548.4 SG3 558.5
RRT .9276 RRF -.9897 RTF -.9165
SGB 2985.4 R23 -.2807 R13 -.9491
SG1 2943.0 SG2 501.8 THA 30.34

ORBIT DETERMINATION ACCURACY

ST 76.4 SR 39.0 SS 72.9
CRT .9964 CRS .9819 CST .9627
LSA 111.6 MSA 14.5 SSA .5
EL1 85.7 EL2 3.0 ALF 26.99

LAUNCH DATE MAR 15 1971 FLIGHT TIME 180.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 466.626 EARTH TO MARS
 RL 148.76 LAL .00 LOL 173.76 VL 32.781 GAL -6.33 AZL 96.12 HCA 163.23 SMA 186.99 ECC .23120 INC 6.1175 V1 29.953
 RP 206.68 LAP -1.76 LOP 337.08 VP 23.969 GAP 11.94 AZP 84.14 TAL 325.18 TAP 128.41 RCA 143.75 APO 230.22 V2 26.496
 RC 64.956 GL -36.09 GP 20.39 ZAL 133.90 ZAP 142.07 ETS 151.01 ZAE 154.72 ETE 107.36 ZAC 121.88 ETC 275.50 LVI -32.83

PLANETOCENTRIC CONIC
 C3 34.737 VHL 5.894 DLA -47.27 RAL 341.68 RAD 6648.8 VEL 12.435 PTH 7.34 VHP 6.212 DPA -1.03 RAP 302.51 ECC 1.5717
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 0 5 19 2031.39 15.95 46.42 228.19 135.44 0 39 11 1031.4 32.59 27.07
 30.40 0 39 58 1944.98 19.83 42.12 232.21 133.84 1 12 23 945.0 35.65 21.34
 30.40 0 39 58 1944.98 19.83 42.12 232.21 133.84 1 12 23 945.0 35.65 21.34
 30.40 0 39 58 1944.98 19.83 42.12 232.21 133.84 1 12 23 945.0 35.65 21.34
 30.40 0 39 58 1944.98 19.83 42.12 232.21 133.84 1 12 23 945.0 35.65 21.34
 30.40 0 39 58 1944.98 19.83 42.12 232.21 133.84 1 12 23 945.0 35.65 21.34
 30.40 0 39 58 1944.98 19.83 42.12 232.21 133.84 1 12 23 945.0 35.65 21.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.4594 TRA -1.4394 TC3 -.0221 BAU .2316 SGT 2503.4 SGR 1723.4 SG3 575.5 ST 77.4 SR 43.2 SS 75.7
 RDE -.7696 RRA -1.0032 RC3 .4982 FAU .0709D RRT .9295 RRF -.9924 RTF -.9171 CRT .9936 CR8 .9871 CST .9629
 FDE 2.2494 FRA 4.1438 FC3 -1.7670 BSP 5163 SGB 3039.3 R23 -.2663 R13 -.9555 LSA 115.6 MSA 14.8 SSA .5
 BDE 1.6499 BRA 1.7545 BC3 .4986 FSP 915 SGI 2992.4 SG2 531.7 THA 33.83 EL1 88.5 EL2 4.3 ALF 29.08

LAUNCH DATE MAR 15 1971 FLIGHT TIME 182.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 470.517 EARTH TO MARS
 RL 148.76 LAL .00 LOL 173.76 VL 32.739 GAL -6.25 AZL 96.56 HCA 164.50 SMA 186.27 ECC .22785 INC 6.5556 V1 29.053
 RP 206.70 LAP -1.75 LOP 338.35 VP 23.910 GAP 11.59 AZP 83.68 TAL 325.23 TAP 129.72 RCA 143.83 APO 228.71 V2 26.494
 RC 66.082 GL -38.42 GP 22.35 ZAL 132.43 ZAP 139.91 ETS 150.24 ZAE 152.90 ETE 106.84 ZAC 123.85 ETC 275.57 LVI -34.56

PLANETOCENTRIC CONIC
 C3 35.755 VHL 5.980 DLA -49.19 RAL 343.70 RAD 6649.2 VEL 12.476 PTH 7.37 VHP 6.135 DPA .84 RAP 301.89 ECC 1.5804
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90
 47.92 0 39 36 1972.94 20.10 45.15 235.26 135.89 1 12 29 972.9 36.62 24.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.5472 TRA -1.3664 TC3 -.0370 BAU .2535 SGT 2492.5 SGR 1931.6 SG3 590.1 ST 80.0 SR 46.8 SS 79.3
 RDE -.8841 RRA -1.1027 RC3 .5291 FAU .07188 RRT .9276 RRF -.9944 RTF -.9141 CRT .9907 CR8 .9912 CST .9642
 FDE 2.4797 FRA 4.1307 FC3 -1.7406 BSP 5485 SGB 3153.3 R23 -.2595 R13 -.9602 LSA 121.8 MSA 15.1 SSA .4
 BDE 1.7820 BRA 1.7558 BC3 .5304 FSP 951 SGI 3099.5 SG2 580.2 THA 37.24 EL1 93.5 EL2 5.7 ALF 31.29

LAUNCH DATE MAR 15 1971 FLIGHT TIME 184.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 474.432 EARTH TO MARS
 RL 148.76 LAL .00 LOL 173.76 VL 32.700 GAL -6.17 AZL 97.07 HCA 165.78 SMA 186.60 ECC .22470 INC 7.0692 V1 29.953
 RP 206.72 LAP -1.74 LOP 339.62 VP 23.853 GAP 11.25 AZP 83.15 TAL 325.27 TAP 131.03 RCA 143.89 APO 227.30 V2 26.491
 RC 67.263 GL -40.97 GP 24.59 ZAL 130.76 ZAP 137.96 ETS 149.44 ZAE 150.79 ETE 106.51 ZAC 126.10 ETC 275.64 LVI -36.49

PLANETOCENTRIC CONIC
 C3 37.238 VHL 6.102 DLA -51.24 RAL 346.13 RAD 6649.7 VEL 12.535 PTH 7.41 VHP 6.085 DPA 2.97 RAP 301.14 ECC 1.6128
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77
 45.31 0 40 57 2002.87 20.22 48.34 238.92 138.15 1 14 20 1002.9 37.49 28.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.6371 TRA -1.2678 TC3 -.0347 BAU .2812 SGT 2445.0 SGR 2185.6 SG3 597.8 ST 82.0 SR 55.7 SS 83.0
 RDE -1.0373 RRA -1.2054 RC3 .5639 FAU .07293 RRT .9262 RRF -.9958 RTF -.5.19 CRT .9882 CR8 .9941 CST .9659
 FDE 2.7415 FRA 4.0544 FC3 -1.6956 BSP 5654 SGB 3266.1 R23 -.2423 R13 -.9663 LSA 128.4 MSA 15.3 SSA .4
 BDE 1.9381 BRA 1.7492 BC3 .5649 FSP 966 SGI 3206.3 SG2 622.6 THA 41.26 EL1 98.9 EL2 7.1 ALF 34.10

LAUNCH DATE MAR 15 1971 FLIGHT TIME 186.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 478.387 EARTH TO MARS
 RL 148.76 LAL .00 LOL 173.76 VL 32.683 GAL -6.09 AZL 97.68 HCA 167.02 SMA 184.97 ECC .22172 INC 7.6804 V1 29.953
 RP 206.75 LAP -1.72 LOP 340.89 VP 23.798 GAP 10.91 AZP 82.51 TAL 325.32 TAP 132.34 RCA 143.96 APO 225.98 V2 26.487
 RC 68.302 GL -43.78 GP 27.14 ZAL 128.88 ZAP 134.87 ETS 148.64 ZAE 148.34 ETE 106.36 ZAC 128.68 ETC 275.73 LVI -38.68

PLANETOCENTRIC CONIC
 C3 39.351 VHL 6.273 DLA -53.42 RAL 349.11 RAD 6650.4 VEL 12.618 PTH 7.47 VHP 6.072 DPA 5.38 RAP 300.25 ECC 1.6478
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99
 42.59 0 44 35 2035.35 20.12 51.69 243.32 140.61 1 18 31 1035.4 38.20 32.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.7484 TRA -1.1550 TC3 -.0322 BAU .3145 SGT 2384.4 SGR 2434.0 SG3 597.5 ST 84.1 SR 64.7 SS 87.1
 RDE -1.2933 RRA -1.3136 RC3 .5970 FAU .07338 RRT .9238 RRF -.9969 RTF -.9088 CRT .9863 CR8 .9962 CST .9664
 FDE 3.0544 FRA 3.9112 FC3 -1.6143 BSP 5873 SGB 3407.3 R23 -.2215 R13 -.9725 LSA 136.4 MSA 15.4 SSA .3
 BDE 2.1512 BRA 1.7491 BC3 .5978 FSP 970 SGI 3341.8 SG2 684.8 THA 45.64 EL1 105.8 EL2 8.5 ALF 37.47

LAUNCH DATE MAR 15 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 23 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.294 GAL -5.59 AZL 82.23 HCA 189.88 SMA 178.99 ECC .19433 INC 7.7476 V1 29.953
 RP 208.76 LAP -1.33 LOP 3.55 VP 23.022 GAP 5.85 AZP 97.63 TAL 324.31 TAP 154.19 RCA 144.21 APO 213.78 V2 26.254
 RC 97.955 GL 46.68 GP -42.85 ZAL 127.42 ZAP 104.25 ETS 192.49 ZAE 130.41 ETE 228.25 ZAC 59.57 ETC 272.05 LVI 29.78

Planetocentric Conic: C3 35.470 VHL 5.956 DLA 31.01 RAL 311.83 RAD 6649.1 VEL 12.465 PTH 7.36 VHP 5.224 DPA -64.89 RAP 309.77 ECC 1.5837
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 22 54 3925.77 -44.87 168.17 212.84 72.16 15 28 20 2925.8 -46.99 133.29
 60.00 14 15 21 3945.91 -35.67 165.83 208.69 69.84 15 21 7 2945.9 -40.30 135.74
 70.00 13 58 47 3994.85 -25.70 165.17 204.08 66.69 15 5 22 2994.9 -32.93 138.88
 76.71 12 52 43 4201.72 -13.61 174.70 197.91 61.86 14 2 45 3201.7 -24.01 151.88
 76.71 12 52 43 4201.72 -13.61 174.70 197.91 61.86 14 2 45 3201.7 -24.01 151.88
 76.71 12 52 43 4201.72 -13.61 174.70 197.91 61.86 14 2 45 3201.7 -24.01 151.88
 110.00 18 58 14 3041.67 -25.70 94.09 204.08 66.69 19 48 55 2041.7 -32.93 67.80

Differential Corrections: TDE .7146 TRA -.0416 TC3 -.5773 BAU .5893 SGT 973.4 SGR 5125.5 SG3 783.7 ORBIT DETERMINATION ACCURACY
 RDE 2.4469 RRA 3.8843 RC3-1.1006 FAU .09195 RRT .4642 RRF .9991 RTF .4794 ST 34.4 SR 134.7 SS 104.3
 FDE 4.1828 FRA 6.8480 FC3-2.2442 BSP 8760 SGB 5217.1 R23 -.0024 R13 .9992 CRT .8640 CRS -.9999 CST -.8563
 BDE 2.5491 BRA 3.8846 BC3 1.2428 FSP 1341 SC1 5145.9 SG2 858.7 THA 84.82 LSA 172.9 MSA 17.3 SSA .3
 EL1 138.0 EL2 16.9 ALF 77.36

LAUNCH DATE MAR 15 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 25 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.285 GAL -5.60 AZL 83.25 HCA 191.11 SMA 178.86 ECC .19384 INC 6.7473 V1 29.953
 RP 208.94 LAP -1.30 LOP 4.80 VP 22.986 GAP 5.61 AZP 96.62 TAL 324.20 TAP 155.31 RCA 144.19 APO 213.54 V2 26.232
 RC 99.910 GL 42.52 GP -40.26 ZAL 130.40 ZAP 103.51 ETS 190.63 ZAE 131.50 ETE 225.17 ZAC 62.18 ETC 271.86 LVI 27.61

Planetocentric Conic: C3 31.198 VHL 5.585 DLA 26.96 RAL 312.85 RAD 6647.5 VEL 12.293 PTH 7.23 VHP 4.890 DPA -62.57 RAP 307.01 ECC 1.5134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 11 3799.77 -46.89 156.71 207.69 80.78 15 53 31 2799.8 -45.06 121.76
 60.00 14 53 18 3791.57 -38.63 153.82 205.53 77.51 15 56 27 2791.6 -39.59 122.70
 70.00 14 58 46 3775.33 -30.72 150.09 203.12 74.29 16 1 42 2775.3 -34.15 121.90
 80.00 15 11 58 3733.89 -23.68 144.50 200.67 71.26 16 14 12 2733.9 -29.23 118.46
 90.00 15 59 6 3581.57 -20.01 131.92 199.26 69.59 16 58 48 2581.6 -26.66 106.87
 100.00 17 54 50 3208.36 -23.68 105.87 200.67 71.26 18 48 18 2208.4 -29.23 79.83
 110.00 19 58 13 2822.15 -30.72 79.01 203.12 74.29 20 45 15 1822.1 -34.15 50.82

Differential Corrections: TDE .7008 TRA .1097 TC3 -.6996 BAU .5581 SGT 1069.4 SGR 4928.5 SG3 912.7 ORBIT DETERMINATION ACCURACY
 RDE 2.1553 RRA 3.6638 RC3-1.1407 FAU .10082 RRT .5916 RRF .9990 RTF .6030 ST 36.0 SR 127.4 SS 110.8
 FDE 4.3780 FRA 7.8521 FC3-2.7977 BSP 8493 SGB 5043.2 R23 .0078 R13 .9991 CRT .8928 CRS -.9997 CST -.8821
 BDE 2.2664 BRA 3.6654 BC3 1.3382 FSP 1572 SC1 4970.2 SG2 855.0 THA 82.46 LSA 171.9 MSA 16.4 SSA .3
 EL1 131.4 EL2 15.7 ALF 75.62

LAUNCH DATE MAR 15 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 27 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.278 GAL -5.60 AZL 84.05 HCA 192.34 SMA 178.75 ECC .19345 INC 5.9455 V1 29.953
 RP 209.14 LAP -1.27 LOP 6.04 VP 22.950 GAP 5.37 AZP 95.81 TAL 324.08 TAP 156.42 RCA 144.17 APO 213.33 V2 26.209
 RC 101.892 GL 38.79 GP -37.92 ZAL 133.02 ZAP 102.49 ETS 188.83 ZAE 132.17 ETE 221.96 ZAC 64.54 ETC 271.65 LVI 25.69

Planetocentric Conic: C3 28.211 VHL 5.311 DLA 23.34 RAL 313.96 RAD 6646.3 VEL 12.172 PTH 7.13 VHP 4.631 DPA -60.48 RAP 304.53 ECC 1.4643
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 26 3694.90 -47.56 146.68 202.79 88.48 16 14 1 2694.9 -42.56 112.93
 60.00 15 22 39 3667.67 -39.97 143.57 202.13 84.34 16 23 47 2667.7 -37.89 112.62
 70.00 15 39 20 3618.55 -33.04 138.47 201.01 80.79 16 39 38 2618.5 -33.42 109.74
 80.00 16 10 45 3520.00 -27.56 129.82 199.82 78.03 17 9 25 2520.0 -29.80 102.62
 90.00 17 13 52 3316.20 -25.28 114.28 199.26 76.88 18 9 8 2316.2 -28.28 87.67
 100.00 18 53 37 2994.47 -27.56 91.19 199.82 78.03 19 43 31 1994.5 -29.80 63.99
 110.00 20 38 46 2665.37 -33.04 67.39 201.01 80.79 21 23 12 1665.4 -33.42 38.85

Differential Corrections: TDE .7036 TRA .2730 TC3 -.8248 BAU .5382 SGT 1202.7 SGR 4733.9 SG3 1032.0 ORBIT DETERMINATION ACCURACY
 RDE 1.9284 RRA 3.4828 RC3-1.1846 FAU .10896 RRT .6969 RRF .9989 RTF .1.56 ST 38.3 SR 120.8 SS 115.9
 FDE 4.5444 FRA 8.7639 FC3-3.3437 BSP 8223 SGB 4884.3 R23 .0191 R13 .9988 CRT .9192 CRS -.9995 CST -.9063
 BDE 2.0527 BRA 3.4736 BC3 1.4270 FSP 1785 SC1 4809.9 SG2 848.9 THA 79.63 LSA 170.9 MSA 15.5 SSA .4
 EL1 125.7 EL2 14.5 ALF 73.51

LAUNCH DATE MAR 15 1971

FLIGHT TIME 228.00

ARRIVAL DATE OCT 29 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.271 GAL -5.82 AZL 84.71 HCA 193.57 SMA 178.65 ECC .19315 INC 5.2883 V1 29.953
 RP 209.34 LAP -1.24 LOP 7.27 VP 22.914 GAP 5.14 AZP 95.14 TAL 323.94 TAP 157.51 RCA 144.14 APO 213.15 V2 26.186
 RC 103.900 GL 35.44 GP -35.80 ZAL 135.32 ZAP 101.24 ETS 187.14 ZAE 132.45 ETE 218.74 ZAC 66.69 ETC 271.43 LVI 24.02

Planetocentric Conic: C3 26.083 VHL 5.105 DLA 20.12 RAL 314.97 RAD 6645.4 VEL 12.084 PTH 7.06 VHP 4.426 DPA -58.60 RAP 302.27 ECC 1.4269
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 31 8 3608.25 -47.37 138.12 198.55 95.06 16 31 14 2606.3 -39.91 106.09
 60.00 15 46 40 3564.91 -40.30 134.85 199.01 90.25 16 46 5 2564.9 -35.79 104.71
 70.00 16 10 37 3494.36 -33.98 128.91 198.77 86.37 17 8 51 2494.4 -31.92 100.36
 80.00 16 51 6 3367.45 -29.22 118.80 198.28 83.59 17 47 13 2367.5 -28.92 91.38
 90.00 17 59 32 3146.55 -27.35 102.31 198.02 82.52 18 51 58 2146.6 -27.73 75.31
 100.00 19 33 58 2841.92 -29.22 80.17 198.28 83.59 20 21 20 1841.9 -28.92 52.75
 110.00 21 10 3 2541.18 -33.98 57.83 198.77 86.37 21 52 25 1541.2 -31.92 29.28

Differential Corrections: TDE .7168 TRA .4440 TC3 -.9524 BAU .5260 SGT 1369.1 SGR 4546.1 SG3 1141.5 ORBIT DETERMINATION ACCURACY
 RDE 1.7506 RRA 3.2809 RC3-1.1712 FAU .11613 RRT .7751 RRF .9988 RTF .7817 ST 41.0 SR 114.5 SS 120.1
 FDE 4.6814 FRA 9.5918 FC3-3.8575 BSP 7993 SGB 4747.8 R23 .0314 R13 .9984 CRT .9412 CRS -.9992 CST -.9270
 BDE 1.8916 BRA 3.3108 BC3 1.5095 FSP 1986 SC1 4672.6 SG2 841.6 THA 76.41 LSA 170.3 MSA 14.7 SSA .4
 EL1 120.9 EL2 13.1 ALF 71.13

LAUNCH DATE MAR 15 1971 FLIGHT TIME 230.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 368.781 EARTH TO MARS
RL 148.76 LAL .00 LOL 173.76 VL 32.266 GAL -5.63 AZL 85.26 HCA 194.80 SMA 178.56 ECC .19293 INC 4.7395 V1 29.953
RP 209.55 LAP -1.21 LOP 8.51 VP 22.078 GAP 4.91 AZP 94.58 TAL 323.79 TAP 158.59 RCA 144.11 APO 213.31 V2 26.162
RC 105.933 GL 32.42 GP -33.88 ZAL 137.34 ZAP 99.81 ETS 185.57 ZAE 132.40 ETE 215.58 ZAC 68.64 ETC 271.20 LVI 22.54

PLANETOCENTRIC CONIC
C3 24.485 VHL 4.948 DLA 17.23 RAL 315.91 RAD 6644.8 VEL 12.019 PTH 7.01 VHP 4.262 DPA -56.89 RAP 300.18 ECC 1.4030
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 47 12 3530.45 -46.67 130.93 195.08 100.55 16 46 2 2530.5 -37.31 100.70
60.00 16 6 54 3470.01 -40.02 127.48 196.34 95.24 17 4 52 2478.0 -33.59 96.39
70.00 16 36 11 3391.79 -34.14 120.91 196.75 91.10 17 32 43 2391.8 -30.13 92.92
80.00 17 22 32 3246.52 -29.81 109.87 196.72 88.25 18 16 39 2246.5 -27.50 82.68
90.00 18 34 0 3015.86 -28.15 92.84 196.65 87.19 19 24 15 2015.9 -26.48 65.96
100.00 20 5 24 2720.99 -29.81 71.23 196.72 88.25 20 50 45 1721.0 -27.50 44.05
110.00 21 35 37 2438.61 -34.14 49.83 196.75 91.10 22 16 16 1438.6 -30.13 21.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
YDE .7581 TRA .6208 TC3-1.0804 BAU .5208 SGT 1562.0 SGR 4361.7 SG3 1240.1 ST 44.2 SR 108.9 SS 123.3
RDE 1.6060 RRA 3.1117 RC3-1.1679 FAU .12277 RRT .8314 RRF .9986 RTF .8366 CRT .9585 CRS -.9988 CST -.9436
FDE 4.7886 FRA10.3295 FC3-4.3408 B8P 7775 SGB 4632.9 R23 .0446 R13 .9977 LSA 169.8 MSA 13.9 SSA .5
BDE 1.7675 BRA 3.1730 BC3 1.5910 F8P 2165 SG1 4557.9 SG2 830.7 THA 72.83 EL1 116.9 EL2 11.7 ALF 68.50

LAUNCH DATE MAR 15 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 572.949 EARTH TO MARS
RL 148.76 LAL .00 LOL 173.76 VL 32.261 GAL -5.65 AZL 85.73 HCA 196.03 SMA 178.48 ECC .19280 INC 4.2739 V1 29.953
RP 209.76 LAP -1.18 LOP 9.74 VP 22.843 GAP 4.68 AZP 94.11 TAL 323.62 TAP 159.65 RCA 144.07 APO 212.89 V2 26.137
RC 107.990 GL 29.71 GP -32.13 ZAL 139.11 ZAP 98.24 ETS 184.11 ZAE 132.06 ETE 212.53 ZAC 70.42 ETC 270.97 LVI 21.23

PLANETOCENTRIC CONIC
C3 23.309 VHL 4.828 DLA 14.84 RAL 316.77 RAD 6644.3 VEL 11.971 PTH 6.97 VHP 4.128 DPA -55.34 RAP 298.23 ECC 1.3836
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 1 14 3465.06 -45.68 124.94 192.32 105.08 16 58 59 2465.1 -34.86 96.37
60.00 16 24 20 3403.54 -39.37 121.26 194.18 99.41 17 21 4 2403.5 -31.43 93.26
70.00 16 57 47 3305.08 -33.82 114.16 193.08 95.07 17 52 53 2305.1 -28.25 86.88
80.00 17 48 26 3146.39 -29.79 102.43 195.36 92.16 18 40 52 2146.4 -25.88 75.69
90.00 19 1 58 2909.06 -28.26 85.04 195.41 91.09 19 50 27 1909.1 -24.96 58.51
100.00 20 31 18 2620.86 -29.79 63.80 195.36 92.16 21 14 59 1820.9 -25.88 37.06
110.00 21 57 14 2351.89 -33.82 43.08 195.08 95.07 22 36 26 1351.9 -28.25 15.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
YDE .7649 TRA .8018 TC3-1.2084 BAU .5209 SGT 1775.5 SGR 4183.3 SG3 1320.5 ST 47.8 SR 103.7 SS 125.9
RDE 1.4877 RRA 2.9556 RC3-1.1533 FAU .12857 RRT .8707 RRF .9983 RTF .8750 CRT .9717 CRS -.9983 CST -.9565
FDE 4.8757 FRA10.9885 FC3-4.7753 B8P 7897 SGB 4544.5 R23 .0583 R13 .9967 LSA 169.4 MSA 13.2 SSA .6
BDE 1.8728 BRA 3.0624 BC3 1.6704 F8P 2327 SG1 4470.4 SG2 817.1 THA 68.98 EL1 113.7 EL2 10.3 ALF 65.88

LAUNCH DATE MAR 15 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 577.120 EARTH TO MARS
RL 148.76 LAL .00 LOL 173.76 VL 32.257 GAL -5.68 AZL 86.13 HCA 197.25 SMA 178.48 ECC .19275 INC 3.8738 V1 29.983
RP 209.99 LAP -1.15 LOP 10.97 VP 22.807 GAP 4.45 AZP 93.70 TAL 323.44 TAP 160.70 RCA 144.03 APO 212.81 V2 26.111
RC 110.071 GL 27.25 GP -30.52 ZAL 140.67 ZAP 96.56 ETS 182.77 ZAE 131.47 ETE 209.63 ZAC 72.05 ETC 270.74 LVI 20.07

PLANETOCENTRIC CONIC
C3 22.426 VHL 4.738 DLA 12.32 RAL 317.58 RAD 6643.9 VEL 11.934 PTH 6.94 VHP 4.019 DPA -53.91 RAP 296.39 ECC 1.3691
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 13 36 3406.23 -44.55 119.93 190.19 108.80 17 10 26 2408.2 -32.40 92.83
60.00 16 39 37 3339.08 -38.52 119.99 192.47 102.90 17 35 16 2339.1 -29.38 89.03
70.00 17 16 28 3230.62 -33.22 108.43 193.70 98.41 18 10 19 2230.6 -26.42 81.86
80.00 18 10 28 3061.45 -29.40 96.15 194.25 95.44 19 1 30 2061.5 -24.21 69.93
90.00 19 28 34 2819.08 -27.97 78.47 194.39 94.37 20 12 33 1819.1 -23.37 52.40
100.00 20 53 20 2535.92 -29.40 57.51 194.25 95.44 21 35 36 1535.9 -24.21 31.30
110.00 22 15 55 2277.44 -33.22 37.35 193.70 98.41 22 53 52 1277.4 -26.42 10.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
YDE .7985 TRA .9882 TC3-1.3382 BAU .5245 SGT 2004.9 SGR 4009.9 SG3 1406.4 ST 51.6 SR 99.0 SS 128.0
RDE 1.3894 RRA 2.8066 RC3-1.1305 FAU .13385 RRT .8985 RRF .9980 RTF .523 CRT .9814 CRS -.9977 CST -.9864
FDE 4.9466 FRA11.5690 FC3-5.1394 B8P 7462 SGB 4483.1 R23 .0719 R13 .9955 LSA 169.3 MSA 12.6 SSA .6
BDE 1.6016 BRA 2.8777 BC3 1.7495 F8P 2472 SG1 4411.2 SG2 799.9 THA 64.93 EL1 111.2 EL2 8.8 ALF 62.72

LAUNCH DATE MAR 15 1971 FLIGHT TIME 236.00 ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 581.295 EARTH TO MARS
RL 148.76 LAL .00 LOL 173.76 VL 32.253 GAL -5.70 AZL 86.47 HCA 198.48 SMA 178.36 ECC .19278 INC 3.5258 V1 29.983
RP 210.22 LAP -1.12 LOP 12.20 VP 22.772 GAP 4.23 AZP 93.34 TAL 323.25 TAP 161.73 RCA 143.96 APO 212.75 V2 26.085
RC 112.177 GL 28.03 GP -29.04 ZAL 142.04 ZAP 94.80 ETS 181.55 ZAE 130.67 ETE 208.91 ZAC 73.55 ETC 270.51 LVI 19.04

PLANETOCENTRIC CONIC
C3 21.762 VHL 4.665 DLA 10.22 RAL 318.34 RAD 6643.6 VEL 11.906 PTH 6.91 VHP 3.930 DPA -52.60 RAP 294.66 ECC 1.3581
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 24 44 3358.55 -43.38 115.73 188.58 111.86 17 20 42 2358.6 -30.54 89.89
60.00 16 53 10 3282.84 -37.57 111.51 191.16 105.80 17 47 53 2282.8 -27.48 85.49
70.00 17 32 53 3165.98 -32.47 103.54 192.66 101.21 18 25 39 2166.0 -24.66 77.65
80.00 18 29 38 2986.23 -28.81 90.79 193.38 98.20 19 19 26 1988.2 -22.58 65.10
90.00 19 45 59 2741.84 -27.44 72.89 193.59 97.12 20 31 41 1741.8 -21.79 47.29
100.00 21 12 30 2462.70 -28.81 52.15 193.38 98.20 21 53 33 1462.7 -22.58 26.47
110.00 22 32 20 2212.80 -32.47 32.46 192.66 101.21 23 9 13 1212.8 -24.66 6.57

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
YDE .8319 TRA 1.1730 TC3-1.4600 BAU .5329 SGT 2245.6 SGR 3838.4 SG3 1473.1 ST 55.6 SR 94.4 SS 129.3
RDE 1.3038 RRA 2.6700 RC3-1.1080 FAU .13855 RRT .9189 RRF .9977 RTF .9222 CRT .9882 CRS -.9970 CST -.9737
FDE 4.9902 FRA12.0641 FC3-5.5119 B8P 7339 SGB 4447.0 R23 .0849 R13 .9942 LSA 169.0 MSA 12.1 SSA .7
BDE 1.5466 BRA 2.9163 BC3 1.8316 F8P 2585 SG1 4378.6 SG2 776.7 THA 60.73 EL1 109.3 EL2 7.3 ALF 59.63

LAUNCH DATE MAR 15 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 8 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.280 GAL -5.74 AZL 86.78 HCA 199.70 SMA 178.32 ECC .19288 INC 3.2205 V1 29.953
 RP 210.45 LAP -1.09 LOP 13.43 VP 22.737 GAP 4.01 AZP 93.03 TAL 323.05 TAP 162.75 RCA 143.93 APO 212.72 V2 26.058
 RC 114.307 GL 23.01 GP -27.68 ZAL 143.25 ZAP 92.98 ETS 180.43 ZAE 129.70 ETE 204.37 ZAC 74.94 ETC 270.28 LVI 18.11

Distance 585.470

Planetary Data: C3 21.267 VHL 4.612 DLA 8.33 RAL 319.05 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 3.857 DPA -51.38 RAP 293.02 ECC 1.3500
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 44 3314.90 -42.21 112.19 187.35 114.59 17 29 59 2314.9 -28.66 87.42
 60.00 17 5 20 3233.47 -36.99 107.69 190.18 106.23 17 59 14 2235.5 -25.72 82.49
 70.00 17 47 31 3109.39 -31.65 99.34 191.68 103.57 18 39 20 2109.4 -23.02 74.08
 80.00 18 46 34 2924.40 -28.10 86.18 192.75 100.52 19 35 19 1924.4 -21.03 61.00
 90.00 20 3 57 2674.67 -26.78 68.08 193.02 99.43 20 48 32 1674.7 -20.28 42.95
 100.00 21 29 26 2398.87 -26.10 47.54 192.75 100.52 22 9 25 1398.9 -21.03 22.36
 110.00 22 46 57 2156.21 -31.65 28.25 191.88 103.57 23 22 53 1156.2 -23.02 3.00

Differential Corrections: TDE .8700 TRA 1.3616 TC3-1.5842 BAU .5425 SGT 2495.3 SGR 3680.2 SG3 1532.9
 RDE 1.2380 RRA 2.9455 RC3-1.0632 FAU .14127 RRT .9322 RRF .9973 RTF .9356
 FDE 5.0550 FRA12.3217 FC3-5.7508 BSP 7343 SGB 4446.4 R23 .0869 R13 .9927
 BDE 1.5132 BRA 2.8868 BC3 1.9079 FSP 2717 SGI 4381.2 SG2 758.9 THA 56.57

Orbit Determination Accuracy: ST 59.9 SR 90.6 SS 130.9
 CRT .9933 CRS -.9962 CST -.9797
 LSA 169.7 HSA 11.6 SSA .8
 EL1 108.5 EL2 5.8 ALF 56.63

LAUNCH DATE MAR 15 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 10 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.248 GAL -5.77 AZL 87.05 HCA 200.92 SMA 178.29 ECC .19306 INC 2.9499 V1 29.953
 RP 210.70 LAP -1.05 LOP 14.65 VP 22.702 GAP 3.79 AZP 92.76 TAL 322.84 TAP 163.76 RCA 143.87 APO 212.71 V2 26.030
 RC 116.460 GL 21.17 GP -26.41 ZAL 144.33 ZAP 91.12 ETS 179.40 ZAE 128.98 ETE 202.02 ZAC 76.22 ETC 270.06 LVI 17.27

Distance 589.647

Planetary Data: C3 20.904 VHL 4.572 DLA 6.61 RAL 319.72 RAD 6643.2 VEL 11.870 PTH 6.88 VHP 3.798 DPA -50.25 RAP 291.47 ECC 1.3440
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 50 3276.38 -41.08 109.18 186.46 116.49 17 38 27 2276.4 -26.97 85.32
 60.00 17 16 20 3189.90 -35.61 104.41 189.47 110.27 18 9 30 2189.9 -24.12 79.92
 70.00 18 0 40 3059.50 -30.79 95.70 191.33 105.56 18 51 39 2059.5 -21.50 71.00
 80.00 19 1 43 2866.27 -27.34 82.18 192.32 102.49 19 49 32 1866.3 -19.58 57.46
 90.00 20 20 0 2615.68 -26.06 63.92 192.63 101.40 21 3 35 1615.7 -18.85 39.21
 100.00 21 44 35 2342.74 -27.34 43.55 192.32 102.49 22 23 38 1342.7 -19.58 18.83
 110.00 23 0 6 2106.32 -30.79 24.62 191.33 105.56 23 35 13 1106.3 -21.50 359.92

Differential Corrections: TDE .9115 TRA 1.5521 TC3-1.7035 BAU .5556 SGT 2750.5 SGR 3921.0 SG3 1581.2
 RDE 1.1771 RRA 2.4229 RC3-1.0251 FAU .14423 RRT .9428 RRF .9968 RTF .9463
 FDE 5.0861 FRA12.8909 FC3-5.9741 BSP 7346 SGB 4468.0 R23 .1070 R13 .9912
 BDE 1.4887 BRA 2.8774 BC3 1.9882 FSP 2810 SGI 4407.5 SG2 732.8 THA 52.41

Orbit Determination Accuracy: ST 64.3 SR 86.9 SS 131.7
 CRT .9965 CRS -.9953 CST -.9840
 LSA 170.0 HSA 11.3 SSA .9
 EL1 108.0 EL2 4.3 ALF 53.83

LAUNCH DATE MAR 15 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 12 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.247 GAL -5.81 AZL 87.29 HCA 202.13 SMA 178.27 ECC .19331 INC 2.7064 V1 29.953
 RP 210.95 LAP -1.02 LOP 15.87 VP 22.667 GAP 3.58 AZP 92.51 TAL 322.62 TAP 164.75 RCA 143.81 APO 212.73 V2 26.001
 RC 116.837 GL 19.49 GP -25.22 ZAL 145.30 ZAP 89.23 ETS 178.47 ZAE 127.35 ETE 199.87 ZAC 77.42 ETC 269.84 LVI 16.51

Distance 593.825

Planetary Data: C3 20.646 VHL 4.544 DLA 5.06 RAL 320.37 RAD 6643.1 VEL 11.860 PTH 6.87 VHP 3.751 DPA -49.19 RAP 290.00 ECC 1.3398
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 10 3242.27 -40.01 106.61 185.83 118.26 17 46 12 2242.3 -25.43 83.52
 60.00 17 26 22 3151.29 -34.66 101.57 188.99 112.00 18 18 53 2151.3 -22.66 77.70
 70.00 18 12 35 3015.29 -29.94 92.54 190.98 107.26 19 2 51 2015.3 -20.10 68.34
 80.00 19 15 24 2818.58 -26.56 78.69 192.06 104.17 20 2 23 1818.6 -18.22 54.39
 90.00 20 34 27 2583.51 -25.30 60.28 192.40 103.07 21 17 10 1583.5 -17.52 35.96
 100.00 21 58 16 2293.05 -26.56 40.06 192.06 104.17 22 38 29 1293.0 -18.22 15.76
 110.00 23 12 2 2062.11 -29.94 21.46 190.98 107.26 23 48 24 1062.1 -20.10 357.26

Differential Corrections: TDE .9554 TRA 1.7431 TC3-1.8192 BAU .5715 SGT 3008.9 SGR 3364.3 SG3 1819.5
 RDE 1.1221 RRA 2.3044 RC3 -.9888 FAU .14715 RRT .9510 RRF .9962 RTF .5447
 FDE 5.0952 FRA13.1860 FC3-6.1703 BSP 7374 SGB 4513.5 R23 .1147 R13 .9898
 BDE 1.4737 BRA 2.8894 BC3 2.0705 FSP 2874 SGI 4458.6 SG2 702.0 THA 48.36

Orbit Determination Accuracy: ST 68.8 SR 83.2 SS 132.0
 CRT .9985 CRS -.9941 CST -.9872
 LSA 170.2 HSA 11.1 SSA .9
 EL1 107.9 EL2 2.9 ALF 50.43

LAUNCH DATE MAR 15 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 14 1971

Heliocentric Conic: RL 148.76 LAL .00 LOL 173.76 VL 32.246 GAL -5.85 AZL 87.51 HCA 203.35 SMA 178.25 ECC .19362 INC 2.4915 V1 29.953
 RP 211.20 LAP -1.99 LOP 17.09 VP 22.632 GAP 3.36 AZP 92.29 TAL 322.38 TAP 165.73 RCA 143.74 APO 212.77 V2 25.972
 RC 120.836 GL 17.95 GP -24.12 ZAL 146.17 ZAP 87.33 ETS 177.62 ZAE 126.00 ETE 197.89 ZAC 78.54 ETC 269.63 LVI 15.81

Distance 598.004

Planetary Data: C3 20.476 VHL 4.525 DLA 3.64 RAL 320.98 RAD 6643.0 VEL 11.853 PTH 6.87 VHP 3.715 DPA -48.19 RAP 288.61 ECC 1.3370
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 59 50 3211.99 -39.01 104.40 185.42 119.75 17 53 22 2212.0 -24.05 81.96
 60.00 17 35 33 3116.98 -33.76 99.11 188.69 113.46 18 27 30 2117.0 -21.33 75.77
 70.00 18 23 29 2973.96 -29.11 89.78 190.76 108.70 19 13 5 1976.0 -18.82 66.01
 80.00 19 27 52 2774.36 -25.79 75.64 191.94 105.60 20 14 6 1774.4 -16.98 51.70
 90.00 20 47 35 2517.09 -24.55 57.09 192.31 104.49 21 29 32 1517.1 -16.28 33.12
 100.00 22 10 43 2248.83 -25.79 37.01 191.94 105.60 22 48 12 1248.8 -16.98 13.07
 110.00 23 22 55 2022.77 -29.11 18.69 190.78 108.70 23 56 38 1022.8 -18.82 354.93

Differential Corrections: TDE 1.0011 TRA 1.9350 TC3-1.9311 BAU .5888 SGT 3269.3 SGR 3214.2 SG3 1649.7
 RDE 1.0753 RRA 2.1932 RC3 -.9469 FAU .14898 RRT .9569 RRF .9955 RTF .9609
 FDE 5.1017 FRA13.4306 FC3-6.2990 BSP 7467 SGB 4584.7 R23 .1203 R13 .9886
 BDE 1.4692 BRA 2.9248 BC3 2.1508 FSP 2933 SGI 4535.0 SG2 673.2 THA 44.49

Orbit Determination Accuracy: ST 73.3 SR 79.9 SS 132.2
 CRT .9995 CRS -.9929 CST -.9897
 LSA 170.6 HSA 11.0 SSA 1.0
 EL1 108.4 EL2 1.7 ALF 47.44

LAUNCH DATE MAR 15 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 16 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 602.182

RL 148.76 LAL .00 LOL 173.76 VL 32.246 GAL -5.90 AZL 87.70 HCA 204.56 SMA 176.25 ECC .19401 INC 2.2953 V1 29.953
 RP 211.46 LAP -.93 LOP 16.30 VP 22.598 GAP 3.15 AZP 92.09 TAL 322.14 TAP 166.70 RCA 143.67 APO 212.83 V2 25.942
 RC 123.058 GL 16.53 GP -23.08 ZAL 146.96 ZAP 85.42 ETS 176.85 ZAE 124.58 ETE 196.08 ZAC 79.59 ETC 269.43 LVI 15.18

PLANETOCENTRIC CONIC

C3 20.379 VHL 4.514 DLA 2.54 RAL 321.57 RAD 6643.0 VEL 11.846 PTH 6.86 VHP 3.687 DPA -47.25 RAP 287.31 ECC 1.3354
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 55 3185.05 -38.09 102.49 185.17 121.01 18 0 0 2185.0 -22.61 80.60
 60.00 17 44 1 3086.35 -32.91 98.96 186.53 114.72 18 35 27 2086.4 -20.12 74.08
 70.00 18 33 30 2940.83 -28.32 87.35 190.72 109.94 19 22 31 1940.8 -17.65 63.96
 80.00 19 39 16 2734.65 -25.04 72.94 191.94 106.82 20 24 51 1734.9 -15.83 49.33
 90.00 20 59 37 2475.61 -23.61 54.28 192.33 105.72 21 40 52 1475.6 -15.14 30.61
 100.00 22 22 8 2209.32 -23.04 34.31 191.94 106.82 22 58 57 1209.3 -15.83 10.70
 110.00 23 32 56 1987.65 -26.32 16.27 190.72 109.94 24 6 4 987.7 -17.65 352.88

MID-COURSE EXECUTION ACCURACY

SGT 3530.0 SGR 3069.5 SG3 1672.0
 RRT .9611 RRF .9847 RTF .9657
 SGB 4677.9 R23 .1236 R13 .9878
 SG1 4633.1 SG2 846.0 THA 40.65

ORBIT DETERMINATION ACCURACY

ST 78.0 SR 76.8 SS 132.3
 CRT .9998 CR3 -.9914 CST -.9917
 LSA 171.3 MSA 10.9 SSA 1.1
 EL1 109.5 EL2 1.1 ALF 44.57

DIFFERENTIAL CORRECTIONS

TDE 1.0489 TRA 2.1270 TC3-2.0388 BAU .6075
 RDE 1.0354 RRA 2.0874 RC3 -.9025 FAU .15002
 FDE 5.1066 FRA13.6217 FC3-6.3730 B8P 7610
 BDE 1.4738 BRA 2.9802 BC3 2.2296 F8P 2982

LAUNCH DATE MAR 15 1971 FLIGHT TIME 248.00 ARRIVAL DATE NOV 18 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 606.359

RL 148.76 LAL .00 LOL 173.76 VL 32.246 GAL -5.94 AZL 87.88 HCA 205.77 SMA 178.25 ECC .19446 INC 2.1168 V1 29.953
 RP 211.73 LAP -.92 LOP 19.51 VP 22.563 GAP 2.94 AZP 91.91 TAL 321.88 TAP 167.65 RCA 143.59 APO 212.91 V2 25.911
 RC 125.302 GL 15.23 GP -22.10 ZAL 147.67 ZAP 83.52 ETS 176.15 ZAE 123.11 ETE 194.44 ZAC 80.57 ETC 269.23 LVI 14.59

PLANETOCENTRIC CONIC

C3 20.343 VHL 4.510 DLA 1.16 RAL 322.14 RAD 6643.0 VEL 11.847 PTH 6.86 VHP 3.667 DPA -46.35 RAP 286.08 ECC 1.3348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 30 3161.05 -37.23 100.83 185.06 122.08 18 6 12 2161.1 -21.69 79.41
 60.00 17 51 52 3059.02 -32.11 95.08 188.50 115.79 18 42 51 2059.0 -19.03 72.60
 70.00 18 42 44 2909.40 -27.58 85.21 190.77 111.00 19 31 14 1909.4 -16.58 62.16
 80.00 19 49 47 2699.44 -24.32 70.56 192.04 107.88 20 34 47 1699.4 -14.77 47.23
 90.00 21 10 41 2438.41 -23.11 51.78 192.46 106.77 21 51 19 1438.4 -14.09 28.38
 100.00 22 32 39 2173.91 -24.32 31.93 192.04 107.88 23 8 53 1173.9 -14.77 8.60
 110.00 23 42 11 1956.21 -27.58 14.13 190.77 111.00 24 14 47 956.2 -16.58 351.07

MID-COURSE EXECUTION ACCURACY

SGT 3789.3 SGR 2929.7 SG3 1686.8
 RRT .9640 RRF .9938 RTF .9694
 SGB 4789.8 R23 .1251 R13 .9868
 SG1 4749.3 SG2 621.4 THA 37.45

ORBIT DETERMINATION ACCURACY

ST 82.6 SR 73.9 SS 132.1
 CRT .9994 CR3 -.9898 CST -.9932
 LSA 172.1 MSA 10.9 SSA 1.1
 EL1 110.8 EL2 1.8 ALF 41.83

DIFFERENTIAL CORRECTIONS

TDE 1.0978 TRA 2.3187 TC3-2.1425 BAU .6276
 RDE .9998 RRA 1.9868 RC3 -.8571 FAU .15040
 FDE 5.1012 FRA13.7634 FC3-6.4006 B8P 7786
 BDE 1.4849 BRA 3.0534 BC3 2.3075 F8P 3018

LAUNCH DATE MAR 15 1971 FLIGHT TIME 250.00 ARRIVAL DATE NOV 20 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 610.536

RL 148.76 LAL .00 LOL 173.76 VL 32.247 GAL -6.00 AZL 88.05 HCA 206.97 SMA 178.26 ECC .19497 INC 1.9537 V1 29.953
 RP 212.01 LAP -.89 LOP 20.72 VP 22.528 GAP 2.73 AZP 91.74 TAL 321.61 TAP 168.58 RCA 143.51 APO 213.02 V2 25.880
 RC 127.566 GL 14.02 GP -21.19 ZAL 148.32 ZAP 81.64 ETS 175.51 ZAE 121.60 ETE 192.94 ZAC 81.49 ETC 269.05 LVI 14.04

PLANETOCENTRIC CONIC

C3 20.361 VHL 4.512 DLA .07 RAL 322.69 RAD 6643.0 VEL 11.848 PTH 6.86 VHP 3.655 DPA -45.51 RAP 284.93 ECC 1.3351
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 39 3139.66 -36.45 99.36 185.07 123.00 18 11 59 2139.7 -20.89 78.37
 60.00 17 59 10 3034.58 -31.38 93.43 188.58 116.71 18 49 44 2034.6 -18.04 71.29
 70.00 18 51 19 2881.20 -26.87 83.32 190.91 111.92 19 39 20 1881.2 -15.60 60.55
 80.00 19 59 31 2667.62 -23.64 68.44 192.23 108.79 20 43 59 1667.6 -13.81 45.37
 90.00 21 20 55 2404.96 -22.43 49.56 192.66 107.89 22 1 0 1405.0 -13.13 26.40
 100.00 22 42 23 2142.09 -23.64 29.61 192.23 108.79 23 18 5 1142.1 -13.81 6.73
 110.00 23 50 45 1928.02 -26.87 12.24 190.91 111.92 24 22 53 928.0 -15.60 349.47

MID-COURSE EXECUTION ACCURACY

SGT 4046.7 SGR 2794.8 SG3 1694.4
 RRT .9661 RRF .9927 RTF .5.24
 SGB 4917.9 R23 .1248 R13 .9862
 SG1 4881.4 SG2 598.4 THA 34.30

ORBIT DETERMINATION ACCURACY

ST 87.2 SR 71.3 SS 131.8
 CRT .9985 CR3 -.9880 CST -.9944
 LSA 173.0 MSA 11.0 SSA 1.2
 EL1 112.6 EL2 3.0 ALF 39.23

DIFFERENTIAL CORRECTIONS

TDE 1.1485 TRA 2.3102 TC3-2.2407 BAU .6487
 RDE .9685 RRA 1.8904 RC3 -.8117 FAU .15025
 FDE 5.0693 FRA13.8568 FC3-6.3884 B8P 7997
 BDE 1.5023 BRA 3.1424 BC3 2.3832 F8P 3042

LAUNCH DATE MAR 15 1971 FLIGHT TIME 252.00 ARRIVAL DATE NOV 22 1971

EARTH TO MARS

HELIOCENTRIC CONIC DISTANCE 614.711

RL 148.76 LAL .00 LOL 173.76 VL 32.248 GAL -6.05 AZL 88.20 HCA 208.18 SMA 178.29 ECC .19555 INC 1.8040 V1 29.953
 RP 212.29 LAP -.85 LOP 21.92 VP 22.493 GAP 2.52 AZP 91.59 TAL 321.33 TAP 169.51 RCA 143.42 APO 213.15 V2 25.848
 RC 129.850 GL 12.91 GP -20.32 ZAL 148.92 ZAP 79.78 ETS 174.94 ZAE 120.06 ETE 191.58 ZAC 82.36 ETC 266.87 LVI 13.52

PLANETOCENTRIC CONIC

C3 20.425 VHL 4.519 DLA -.92 RAL 323.22 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 3.649 DPA -44.70 RAP 283.85 ECC 1.3361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 25 3120.59 -35.73 98.12 185.17 123.79 18 17 25 2120.6 -19.79 77.46
 60.00 18 5 56 3012.71 -30.70 91.97 188.74 117.51 18 56 11 2012.7 -17.15 70.13
 70.00 18 59 18 2855.89 -26.22 81.64 191.12 112.71 19 46 54 1855.9 -14.71 59.13
 80.00 20 8 34 2638.98 -22.99 66.56 192.50 109.59 20 52 33 1639.0 -12.92 43.70
 90.00 21 30 26 2374.83 -21.79 47.59 192.94 108.48 22 10 1 1374.8 -12.25 24.62
 100.00 22 51 26 2113.45 -22.99 27.92 192.50 109.59 23 26 39 1113.4 -12.92 5.07
 110.00 0 2 40 1902.71 -26.22 10.56 191.12 112.71 0 34 23 902.7 -14.71 348.05

MID-COURSE EXECUTION ACCURACY

SGT 4300.8 SGR 2664.5 SG3 1695.3
 RRT .9674 RRF .9914 RTF .9748
 SGB 5059.3 R23 .1223 R13 .9858
 SG1 5026.2 SG2 577.4 THA 31.40

ORBIT DETERMINATION ACCURACY

ST 91.9 SR 68.7 SS 131.2
 CRT .9972 CR3 -.9859 CST -.9954
 LSA 173.9 MSA 11.2 SSA 1.2
 EL1 114.7 EL2 4.2 ALF 36.78

DIFFERENTIAL CORRECTIONS

TDE 1.2004 TRA 2.7012 TC3-2.3339 BAU .6709
 RDE .9403 RRA 1.7980 RC3 -.7676 FAU .14972
 FDE 5.0674 FRA13.9049 FC3-6.3458 B8P 8234
 BDE 1.5248 BRA 3.2449 BC3 2.4569 F8P 3052

LAUNCH DATE MAR 15 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.250 GAL -6.11 AZL 88.33 HCA 209.38 SMA 178.31 ECC .19618 INC 1.6660 VI 29.853
RP 212.57 LAP -.82 LOP 23.12 VP 22.459 GAP 2.32 AZP 91.45 TAL 321.05 TAP 170.42 RCA 143.33 APO 213.29 VE 25.815
RC 132.153 GL 11.07 GP -19.50 ZAL 149.48 ZAP 77.94 ETS 174.42 ZAE 118.49 ETE 190.35 ZAC 83.18 ETC 266.71 LVI 13.04

PLANETOCENTRIC CONIC

C3 20.531 VHL 4.531 DLA -1.84 RAL 323.74 RAD 6643.1 VEL 11.855 PTH 6.87 VHP 3.649 DPA -43.93 RAP 262.86 ECC 1.3379
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 49 3103.60 -35.08 97.02 185.35 124.47 18 22 33 2103.6 -18.98 76.45
60.00 18 12 21 2993.14 -30.07 90.69 188.97 118.20 19 2 14 1993.1 -16.34 69.10
70.00 19 6 45 2833.15 -25.61 80.16 191.41 113.41 19 53 58 1833.2 -13.91 57.86
80.00 20 17 1 2613.17 -22.40 64.87 192.82 110.28 21 0 34 1613.2 -12.11 42.21
90.00 21 39 18 2347.64 -21.20 45.82 193.28 109.17 22 18 26 1347.6 -11.44 23.04
100.00 22 59 52 2087.64 -22.40 26.24 192.82 110.28 23 34 40 1087.6 -12.11 3.58
110.00 0 10 7 1879.97 -25.61 9.07 191.41 113.41 0 41 27 880.0 -13.91 346.78

DIFFERENTIAL CORRECTIONS

TDE 1.2543 TRA 2.8923 TC3-2.4203 BAU .6933
RDE .9159 RRA 1.7102 RC3 -.7230 FAU .14849
FDE 5.0445 FRA13.9174 FC3-6.2613 BSP 8507
BDE 1.5531 BRA 3.3601 BC3 2.5260 F8P 3058

MID-COURSE EXECUTION ACCURACY

SGT 4951.5 SGR 2340.1 SG3 1690.7
RRT .9680 RRF .9899 RTF .9767
SGB 5212.3 R23 .1189 R13 .9855
SG1 5182.2 SG2 559.9 THA 28.75

ORBIT DETERMINATION ACCURACY

ST 96.3 SR 66.4 SS 130.6
CRT .9954 CRS -.9837 CST -.9962
LSA 175.0 MSA 11.4 SSA 1.2
EL1 117.0 EL2 5.3 ALF 34.48

LAUNCH DATE MAR 15 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.252 GAL -6.17 AZL 88.46 HCA 210.57 SMA 178.35 ECC .19688 INC 1.5382 VI 29.953
RP 212.86 LAP -.78 LOP 24.32 VP 22.424 GAP 2.11 AZP 91.32 TAL 320.75 TAP 171.32 RCA 143.23 APO 213.46 VE 25.782
RC 134.475 GL 10.91 GP -18.72 ZAL 150.00 ZAP 76.14 ETS 173.95 ZAE 116.92 ETE 189.23 ZAC 83.96 ETC 268.55 LVI 12.58

PLANETOCENTRIC CONIC

C3 20.675 VHL 4.547 DLA -2.68 RAL 324.24 RAD 6643.1 VEL 11.861 PTH 6.88 VHP 3.654 DPA -43.20 RAP 261.94 ECC 1.3403
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 35 55 3088.48 -34.50 96.05 185.60 125.06 18 27 23 2088.5 -18.25 75.94
60.00 18 18 20 2975.64 -29.51 89.55 189.27 118.80 19 7 56 1975.6 -15.62 68.19
70.00 19 13 44 2812.72 -25.05 78.83 191.75 114.01 20 0 37 1812.7 -13.18 56.73
80.00 20 24 54 2589.90 -21.84 63.37 193.20 110.88 21 8 4 1589.9 -11.38 40.87
90.00 21 47 35 2323.10 -20.64 44.23 193.68 109.77 22 26 18 1323.1 -10.70 21.61
100.00 23 7 46 2064.37 -21.84 24.74 193.20 110.88 23 42 10 1064.4 -11.38 2.24
110.00 0 17 6 1859.54 -25.05 7.75 191.75 114.01 0 48 6 859.5 -13.18 345.64

DIFFERENTIAL CORRECTIONS

TDE 1.3087 TRA 3.0820 TC3-2.5026 BAU .7168
RDE .8937 RRA 1.6258 RC3 -.6801 FAU .14696
FDE 5.0118 FRA13.8907 FC3-6.1536 BSP 8789
BDE 1.5847 BRA 3.4848 BC3 2.5934 F8P 3050

MID-COURSE EXECUTION ACCURACY

SGT 4797.3 SGR 2420.1 SG3 1680.3
RRT .9880 RRF .9882 RTF .9783
SGB 5373.2 R23 .1146 R13 .9853
SG1 5345.5 SG2 545.2 THA 26.32

ORBIT DETERMINATION ACCURACY

ST 101.1 SR 64.2 SS 129.7
CRT .9932 CRS -.9812 CST -.9968
LSA 176.1 MSA 11.6 SSA 1.2
EL1 119.5 EL2 6.3 ALF 32.34

LAUNCH DATE MAR 15 1971

FLIGHT TIME 258.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.255 GAL -6.23 AZL 88.58 HCA 211.77 SMA 178.39 ECC .19763 INC 1.4193 VI 29.953
RP 213.16 LAP -.75 LOP 25.52 VP 22.389 GAP 1.91 AZP 91.21 TAL 320.44 TAP 172.21 RCA 143.13 APO 213.64 VE 25.749
RC 136.814 GL 10.02 GP -17.99 ZAL 150.49 ZAP 74.37 ETS 173.32 ZAE 115.39 ETE 188.22 ZAC 84.69 ETC 268.41 LVI 12.15

PLANETOCENTRIC CONIC

C3 20.893 VHL 4.567 DLA -3.46 RAL 324.73 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 3.684 DPA -42.51 RAP 261.09 ECC 1.3432
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 40 43 3075.06 -33.97 95.21 185.90 125.57 18 31 58 2075.1 -17.61 75.32
60.00 18 23 58 2960.01 -28.99 88.55 189.61 119.32 19 13 18 1960.0 -14.98 67.38
70.00 19 20 18 2794.39 -24.54 77.66 192.14 114.54 20 6 52 1794.4 -12.52 55.72
80.00 20 32 18 2568.93 -21.32 62.03 193.62 111.41 21 15 7 1568.9 -10.71 39.67
90.00 21 53 22 2300.94 -20.12 42.81 194.11 110.30 22 33 43 1300.9 -10.03 20.33
100.00 23 15 10 2043.40 -21.32 23.39 193.62 111.41 23 49 14 1043.4 -10.71 1.04
110.00 0 23 40 1841.20 -24.54 6.57 192.14 114.54 0 54 21 841.2 -12.52 344.63

DIFFERENTIAL CORRECTIONS

TDE 1.3641 TRA 3.2709 TC3-2.5796 BAU .7409
RDE .8741 RRA 1.5453 RC3 -.6390 FAU .14513
FDE 4.8751 FRA13.8331 FC3-6.0250 BSP 9084
BDE 1.6201 BRA 3.6176 BC3 2.6576 F8P 3032

MID-COURSE EXECUTION ACCURACY

SGT 5038.2 SGR 2305.7 SG3 1685.5
RRT .9874 RRF .9882 RTF .5.96
SGB 5340.8 R23 .1096 R13 .9853
SG1 5515.1 SG2 533.4 THA 24.12

ORBIT DETERMINATION ACCURACY

ST 105.5 SR 62.1 SS 128.8
CRT .9906 CRS -.9785 CST -.9973
LSA 177.3 MSA 11.9 SSA 1.3
EL1 122.2 EL2 7.3 ALF 30.36

LAUNCH DATE MAR 15 1971

FLIGHT TIME 260.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

RL 148.76 LAL .00 LOL 173.76 VL 32.258 GAL -6.30 AZL 88.69 HCA 212.96 SMA 178.44 ECC .19844 INC 1.3084 VI 29.953
RP 213.46 LAP -.71 LOP 26.71 VP 22.354 GAP 1.71 AZP 91.10 TAL 320.12 TAP 173.08 RCA 143.03 APO 213.84 VE 25.714
RC 139.171 GL 9.18 GP -17.29 ZAL 150.95 ZAP 72.65 ETS 173.14 ZAE 113.79 ETE 187.30 ZAC 85.38 ETC 268.28 LVI 11.73

PLANETOCENTRIC CONIC

C3 21.084 VHL 4.590 DLA -4.18 RAL 325.21 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 3.679 DPA -41.84 RAP 260.32 ECC 1.3467
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 45 16 3063.17 -33.50 94.47 188.26 126.01 18 36 19 2063.2 -17.04 74.77
60.00 18 29 18 2946.09 -28.52 87.67 190.01 119.77 19 18 24 1946.1 -14.38 66.67
70.00 19 26 29 2777.94 -24.07 76.61 192.58 114.99 20 12 46 1777.9 -11.92 54.81
80.00 20 39 18 2550.04 -20.85 60.82 194.09 111.87 21 21 46 1550.0 -10.10 36.60
90.00 22 2 40 2280.95 -19.65 41.54 194.59 110.76 22 40 41 1280.9 -9.42 19.18
100.00 23 22 8 2024.51 -20.85 22.19 194.09 111.87 23 55 52 1024.5 -10.10 359.97
110.00 0 29 51 1824.76 -24.07 5.53 192.58 114.99 1 0 16 824.8 -11.92 343.73

DIFFERENTIAL CORRECTIONS

TDE 1.4200 TRA 3.4582 TC3-2.6520 BAU .7657
RDE .8564 RRA 1.4679 RC3 -.5999 FAU .14307
FDE 4.9302 FRA13.7436 FC3-5.8803 BSP 9384
BDE 1.6582 BRA 3.7569 BC3 2.7190 F8P 3005

MID-COURSE EXECUTION ACCURACY

SGT 5273.2 SGR 2196.0 SG3 1646.1
RRT .9663 RRF .9839 RTF .9806
SGB 5712.2 R23 .1041 R13 .9852
SG1 5688.1 SG2 524.1 THA 22.12

ORBIT DETERMINATION ACCURACY

ST 109.9 SR 60.1 SS 127.7
CRT .9876 CRS -.9755 CST -.9978
LSA 178.5 MSA 12.2 SSA 1.3
EL1 125.0 EL2 8.3 ALF 28.52

LAUNCH DATE MAR 15 1971 FLIGHT TIME 262.00 ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.261 GAL -6.37 AZL 88.80 HCA 214.14 SMA 178.49 ECC .19931 INC 1.2049 V1 29.953
 RP 213.77 LAP -.68 LOP 27.90 VP 22.319 GAP 1.50 AZP 91.00 TAL 319.80 TAP 173.94 RCA 142.92 APO 214.06 V2 25.680
 RC 141.345 GL 8.40 GP -16.63 ZAL 151.38 ZAP 70.96 ETS 172.80 ZAE 112.23 ETE 186.47 ZAC 86.04 ETC 268.16 LVI 11.33

PLANETOCENTRIC CONIC
 C3 21.304 VHL 4.616 DLA -4.84 RAL 325.69 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 3.697 DPA -41.21 RAP 279.62 ECC 1.3506
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 35 3052.69 -33.07 93.82 186.65 126.38 18 40 28 2052.7 -16.53 74.29
 60.00 18 34 19 2933.71 -28.10 86.89 190.44 120.17 19 23 13 1933.7 -13.86 66.04
 70.00 19 32 18 2763.23 -23.64 75.68 193.05 115.40 20 18 21 1763.2 -11.39 54.01
 80.00 20 45 50 2533.05 -20.41 59.75 194.59 112.27 21 28 3 1533.0 -9.56 37.64
 90.00 22 9 33 2262.93 -19.21 40.40 195.10 111.16 22 47 15 1262.9 -8.86 18.15
 100.00 23 28 41 2007.52 -20.41 21.12 194.59 112.27 24 2 9 1007.5 -9.56 359.01
 110.00 0 39 40 1810.05 -23.64 4.60 193.05 115.40 1 5 50 810.0 -11.39 342.93

DIFFERENTIAL CORRECTIONS
 TDE 1.4778 TRA 3.6461 TC3-2.7169 BAU .7901
 RDE .8410 RRA 1.3945 RC3 -.5615 FAU .14090
 FDE 4.8843 FRA13.6337 FC3-5.7096 BSP 9706
 BDE 1.7003 BRA 3.9037 BC3 2.7743 FSP 2975

MID-COURSE EXECUTION ACCURACY
 SGT 5503.4 SGR 2092.1 SCS 1623.4
 RRT .9646 RRF .9812 RTF .9815
 SGB 5887.6 R23 .0985 R13 .9852
 SGI 5864.8 SGI 517.4 THA 20.30

ORBIT DETERMINATION ACCURACY
 ST 114.3 SR 58.3 SS 126.5
 CRT .9844 CRS -.9723 CST -.9981
 LSA 179.8 MSA 12.5 SSA 1.3
 EL1 128.0 EL2 9.2 ALF 26.82

LAUNCH DATE MAR 15 1971 FLIGHT TIME 264.00 ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.265 GAL -6.44 AZL 88.89 HCA 215.33 SMA 178.55 ECC .20023 INC 1.1076 V1 29.953
 RP 214.08 LAP -.64 LOP 29.08 VP 22.284 GAP 1.30 AZP 90.90 TAL 319.46 TAP 174.79 RCA 142.80 APO 214.30 V2 25.645
 RC 143.936 GL 7.67 GP -16.01 ZAL 151.80 ZAP 69.32 ETS 172.49 ZAE 110.70 ETE 185.72 ZAC 86.66 ETC 266.05 LVI 10.94

PLANETOCENTRIC CONIC
 C3 21.572 VHL 4.645 DLA -5.45 RAL 326.15 RAD 6643.5 VEL 11.898 PTH 6.91 VHP 3.720 DPA -40.60 RAP 278.99 ECC 1.3550
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 42 3043.50 -32.70 93.28 187.08 126.71 18 44 25 2043.5 -16.09 73.87
 60.00 18 39 5 2922.76 -27.72 86.21 190.91 120.51 19 27 48 1922.8 -13.40 65.48
 70.00 19 37 49 2750.10 -23.26 74.86 193.55 115.74 20 23 39 1750.1 -10.91 53.30
 80.00 20 52 1 2517.79 -20.02 58.79 195.11 112.63 21 33 59 1517.8 -9.06 36.78
 90.00 22 16 2 2246.71 -18.81 39.38 195.64 111.52 22 53 28 1246.7 -8.36 17.22
 100.00 23 34 53 1992.27 -20.02 20.16 195.11 112.63 24 8 5 992.3 -9.06 358.14
 110.00 0 41 11 1796.92 -23.26 3.77 193.55 115.74 1 11 8 796.9 -10.91 342.22

DIFFERENTIAL CORRECTIONS
 TDE 1.5359 TRA 3.8321 TC3-2.7781 BAU .8154
 RDE .8275 RRA 1.3241 RC3 -.5255 FAU .13782
 FDE 4.8353 FRA13.4994 FC3-5.5311 BSP 10021
 BDE 1.7448 BRA 4.0544 BC3 2.8273 FSP 2936

MID-COURSE EXECUTION ACCURACY
 SGT 5727.1 SGR 1993.2 SCS 1597.4
 RRT .9624 RRF .9782 RTF .9822
 SGB 6064.0 R23 .0930 R13 .9853
 SGI 6042.3 SGI 513.3 THA 18.66

ORBIT DETERMINATION ACCURACY
 ST 118.6 SR 56.7 SS 125.3
 CRT .9808 CRS -.9669 CST -.9984
 LSA 181.1 MSA 12.9 SSA 1.3
 EL1 131.1 EL2 10.0 ALF 25.27

LAUNCH DATE MAR 15 1971 FLIGHT TIME 266.00 ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.269 GAL -6.52 AZL 88.96 HCA 216.51 SMA 178.61 ECC .20120 INC 1.0162 V1 29.953
 RP 214.39 LAP -.60 LOP 30.26 VP 22.249 GAP 1.10 AZP 90.82 TAL 319.12 TAP 175.63 RCA 142.68 APO 214.55 V2 25.609
 RC 146.344 GL 6.98 GP -15.42 ZAL 152.19 ZAP 67.72 ETS 172.21 ZAE 109.18 ETE 185.04 ZAC 87.24 ETC 267.95 LVI 10.56

PLANETOCENTRIC CONIC
 C3 21.868 VHL 4.676 DLA -6.02 RAL 326.61 RAD 6643.7 VEL 11.911 PTH 6.92 VHP 3.745 DPA -40.03 RAP 278.42 ECC 1.3599
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 38 3035.49 -32.37 92.78 187.54 126.99 18 48 12 2035.5 -13.70 73.50
 60.00 18 43 37 2913.12 -27.39 85.61 191.40 120.80 19 32 10 1913.1 -12.99 64.99
 70.00 19 43 1 2738.43 -22.91 74.13 194.08 116.05 20 28 40 1738.4 -10.48 52.67
 80.00 20 57 52 2504.14 -19.66 57.94 195.67 112.94 21 39 36 1504.1 -8.61 36.01
 90.00 22 22 9 2232.18 -18.44 38.47 196.20 111.83 22 59 22 1232.2 -7.91 16.39
 100.00 23 40 43 1978.61 -19.66 19.30 195.67 112.94 24 13 42 978.6 -8.61 357.38
 110.00 0 46 24 1785.25 -22.91 3.04 194.08 116.05 1 16 9 785.3 -10.48 341.58

DIFFERENTIAL CORRECTIONS
 TDE 1.5950 TRA 4.0174 TC3-2.8339 BAU .8408
 RDE .8156 RRA 1.2570 RC3 -.4909 FAU .13486
 FDE 4.7823 FRA13.3476 FC3-5.3390 BSP 10343
 BDE 1.7915 BRA 4.2095 BC3 2.8761 FSP 2893

MID-COURSE EXECUTION ACCURACY
 SGT 5944.9 SGR 1899.5 SCS 1568.8
 RRT .9595 RRF .9747 RTF .527
 SGB 6241.0 R23 .0877 R13 .9853
 SGI 6220.0 SGI 511.2 THA 17.16

ORBIT DETERMINATION ACCURACY
 ST 122.8 SR 55.1 SS 124.0
 CRT .9769 CRS -.9652 CST -.9987
 LSA 182.5 MSA 13.3 SSA 1.3
 EL1 134.2 EL2 10.8 ALF 23.84

LAUNCH DATE MAR 15 1971 FLIGHT TIME 268.00 ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.274 GAL -6.60 AZL 89.07 HCA 217.68 SMA 178.69 ECC .20223 INC .9299 V1 29.953
 RP 214.72 LAP -.57 LOP 31.44 VP 22.214 GAP .90 AZP 90.74 TAL 318.77 TAP 176.45 RCA 142.55 APO 214.82 V2 25.573
 RC 148.770 GL 6.34 GP -14.85 ZAL 152.57 ZAP 66.16 ETS 171.97 ZAE 107.69 ETE 184.42 ZAC 87.80 ETC 267.86 LVI 10.20

PLANETOCENTRIC CONIC
 C3 22.189 VHL 4.711 DLA -6.54 RAL 327.05 RAD 6643.8 VEL 11.924 PTH 6.93 VHP 3.774 DPA -39.48 RAP 277.93 ECC 1.3652
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 20 3028.56 -32.09 92.36 188.03 127.22 18 51 48 2028.6 -15.36 73.19
 60.00 18 47 55 2904.68 -27.09 85.09 191.93 121.05 19 36 19 1904.7 -12.63 64.57
 70.00 19 47 58 2728.11 -22.60 73.49 194.63 116.31 20 33 26 1728.1 -10.10 52.11
 80.00 21 3 24 2491.98 -19.33 57.18 196.25 113.21 21 44 56 1492.0 -8.22 35.32
 90.00 22 27 57 2219.13 -18.11 37.66 196.79 112.10 23 4 56 1219.1 -7.50 15.65
 100.00 23 46 16 1966.43 -19.33 18.55 196.25 113.21 24 19 2 966.4 -8.22 356.69
 110.00 0 51 20 1774.92 -22.60 2.40 194.63 116.31 1 20 55 774.9 -10.10 341.03

DIFFERENTIAL CORRECTIONS
 TDE 1.6548 TRA 4.2021 TC3-2.8840 BAU .8663
 RDE .8050 RRA 1.1929 RC3 -.4586 FAU .13181
 FDE 4.7239 FRA13.1782 FC3-5.1427 BSP 10663
 BDE 1.8402 BRA 4.3681 BC3 2.9202 FSP 2844

MID-COURSE EXECUTION ACCURACY
 SGT 6156.4 SGR 1810.6 SCS 1537.8
 RRT .9562 RRF .9707 RTF .9832
 SGB 6417.1 R23 .0823 R13 .9853
 SGI 6396.8 SGI 510.3 THA 15.81

ORBIT DETERMINATION ACCURACY
 ST 126.9 SR 53.6 SS 122.5
 CRT .9727 CRS -.9612 CST -.9989
 LSA 183.8 MSA 13.6 SSA 1.3
 EL1 137.3 EL2 11.5 ALF 22.52

LAUNCH DATE MAR 15 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.279 GAL -6.68 AZL 89.15 HCA 218.06 SMA 178.76 ECC .20330 INC .0485 V1 29.933
 RP 215.04 LAP -.53 LOP 32.61 VP 22.179 GAP .70 AZP 90.66 TAL 318.41 TAP 177.26 RCA 142.42 APO 215.10 V2 25.536
 RC 151.211 GL 5.74 GP -14.32 ZAL 152.94 ZAP 64.65 ETS 171.75 ZAE 106.22 ETE 183.86 ZAC 88.33 ETC 267.76 LVI 9.64

PLANETOCENTRIC CONIC
 C3 22.536 VHL 4.747 DLA -7.02 RAL 327.50 RAD 6643.9 VEL 11.938 PTH 6.94 VHP 3.806 DPA -38.96 RAP 277.49 ECC 1.3709
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 53 3022.65 -31.85 92.01 180.55 127.42 18 55 16 2022.6 -15.07 72.92
 60.00 18 52 0 2897.35 -26.64 84.65 192.47 121.27 19 40 17 1897.4 -12.32 64.20
 70.00 19 52 39 2719.02 -22.33 72.92 195.21 116.54 20 37 58 1719.0 -9.76 51.62
 80.00 21 8 38 2481.14 -19.04 56.51 196.85 113.44 21 49 59 1481.1 -7.86 34.72
 90.00 22 33 26 2207.53 -17.81 36.94 197.39 112.34 23 10 14 1207.5 -7.14 14.99
 100.00 23 51 30 1955.61 -19.04 17.87 196.85 113.44 24 24 6 955.6 -7.86 356.09
 110.00 0 56 1 1765.84 -22.33 1.84 195.21 116.54 1 25 27 765.8 -9.76 340.54

DIFFERENTIAL CORRECTIONS
 TDE 1.7161 TRA 4.3868 TC3-2.9297 BAU .8920 SGT 6362.8 SGR 1727.2 SG3 1505.4 ST 130.9 SR 52.3 SS 121.1
 RDE .7962 RRA 1.1319 RC3 -.4280 FAU .12859 RRT .9521 RRF .9662 RTF .9835 CRT .9682 CRS -.9571 CST -.9990
 FDE 4.6673 FRA12.9983 FC3-4.9400 BSP 10988 SGB 6593.0 R23 .0774 R13 .9853 LSA 185.3 MSA 14.0 SSA 1.3
 BDE 1.8918 BRA 4.5305 BC3 2.9608 FSP 2793 SG1 6573.2 SG2 511.2 THA 14.58 EL1 140.5 EL2 12.2 ALF 21.31

LAUNCH DATE MAR 15 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.284 GAL -6.77 AZL 89.23 HCA 220.03 SMA 178.84 ECC .20443 INC .7713 V1 29.933
 RP 215.37 LAP -.50 LOP 33.78 VP 22.144 GAP .50 AZP 90.59 TAL 318.04 TAP 178.06 RCA 142.28 APO 215.40 V2 25.499
 RC 153.669 GL 5.17 GP -13.81 ZAL 153.30 ZAP 63.19 ETS 171.55 ZAE 104.77 ETE 183.35 ZAC 88.83 ETC 267.72 LVI 9.49

PLANETOCENTRIC CONIC
 C3 22.907 VHL 4.786 DLA -7.47 RAL 327.93 RAD 6644.1 VEL 11.954 PTH 6.96 VHP 3.840 DPA -38.46 RAP 277.12 ECC 1.3770
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 18 3017.67 -31.64 91.71 189.08 127.59 18 58 35 2017.7 -14.83 72.70
 60.00 18 55 54 2891.06 -26.61 84.26 193.04 121.46 19 44 5 1891.1 -12.05 63.88
 70.00 19 57 7 2711.09 -22.08 72.44 195.81 116.74 20 42 18 1711.1 -9.47 51.19
 80.00 21 13 37 2471.59 -18.78 55.92 197.46 113.65 21 54 48 1471.6 -7.55 34.18
 90.00 22 38 39 2197.24 -17.54 36.30 198.02 112.54 23 15 16 1197.2 -6.82 14.41
 100.00 0 0 25 1946.06 -18.78 17.28 197.46 113.65 0 32 51 946.1 -7.55 356.55
 110.00 1 0 29 1757.91 -22.08 1.35 195.81 116.74 1 29 47 757.9 -9.47 340.11

DIFFERENTIAL CORRECTIONS
 TDE 1.7782 TRA 4.9710 TC3-2.9701 BAU .9178 SGT 6583.0 SGR 1648.7 SG3 1471.5 ST 134.9 SR 51.1 SS 119.6
 RDE .7888 RRA 1.0737 RC3 -.3992 FAU .12523 RRT .9474 RRF .9611 RTF .9838 CRT .9835 CRS -.9528 CST -.9992
 FDE 4.6081 FRA12.8075 FC3-4.7329 BSP 11311 SGB 6766.9 R23 .0728 R13 .9853 LSA 186.8 MSA 14.4 SSA 1.3
 BDE 1.9453 BRA 4.6954 BC3 2.9968 FSP 2739 SG1 6747.4 SG2 513.4 THA 13.47 EL1 143.7 EL2 12.8 ALF 20.20

LAUNCH DATE MAR 15 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.290 GAL -6.85 AZL 89.30 HCA 221.19 SMA 178.93 ECC .20561 INC .6978 V1 29.933
 RP 215.71 LAP -.48 LOP 34.93 VP 22.109 GAP .30 AZP 90.53 TAL 317.66 TAP 178.85 RCA 142.14 APO 215.72 V2 25.461
 RC 158.143 GL 4.64 GP -13.33 ZAL 153.65 ZAP 61.78 ETS 171.38 ZAE 103.36 ETE 182.89 ZAC 89.31 ETC 267.66 LVI 9.14

PLANETOCENTRIC CONIC
 C3 23.303 VHL 4.827 DLA -7.88 RAL 328.36 RAD 6644.3 VEL 11.970 PTH 6.97 VHP 3.876 DPA -37.98 RAP 276.81 ECC 1.3835
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 33 3013.56 -31.47 91.47 189.64 127.73 19 1 47 2013.6 -14.63 72.51
 60.00 18 59 37 2885.73 -26.42 83.94 193.63 121.61 19 47 43 1885.7 -11.83 63.62
 70.00 20 1 21 2704.25 -P*.87 72.02 196.42 116.91 20 46 25 1704.2 -9.22 50.82
 80.00 21 18 20 2463.22 -16.55 55.40 198.10 113.82 21 59 23 1463.2 -7.27 33.72
 90.00 22 43 35 2188.18 -17.30 35.74 198.66 112.72 23 20 3 1188.2 -6.53 13.90
 100.00 0 5 8 1937.89 -18.55 16.77 198.10 113.82 0 37 26 937.7 -7.27 355.08
 110.00 1 4 43 1751.05 -21.87 .93 196.42 116.91 1 33 54 751.0 -9.22 339.74

DIFFERENTIAL CORRECTIONS
 TDE 1.8411 TRA 4.7547 TC3-3.0062 BAU .9437 SGT 6757.0 SGR 1574.9 SG3 1436.5 ST 138.8 SR 49.9 SS 118.1
 RDE .7826 RRA 1.0182 RC3 -.3720 FAU .12175 RRT .9419 RRF .9553 RTF .5-.39 CRT .9585 CRS -.9483 CST -.9993
 FDE 4.5481 FRA12.6079 FC3-4.5232 BSP 11628 SGB 6938.1 R23 .0687 R13 .9852 LSA 188.3 MSA 14.7 SSA 1.3
 BDE 2.0006 BRA 4.8825 BC3 3.0291 FSP 2682 SG1 6918.8 SG2 516.7 THA 12.45 EL1 146.9 EL2 13.4 ALF 19.18

LAUNCH DATE MAR 15 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
 RL 148.76 LAL .00 LOL 173.76 VL 32.295 GAL -6.93 AZL 89.37 HCA 222.36 SMA 179.02 ECC .20694 INC .6281 V1 29.933
 RP 216.04 LAP -.42 LOP 36.11 VP 22.074 GAP .10 AZP 90.46 TAL 317.28 TAP 179.63 RCA 141.99 APO 216.05 V2 25.424
 RC 158.631 GL 4.14 GP -12.87 ZAL 153.99 ZAP 60.40 ETS 171.22 ZAE 101.97 ETE 182.47 ZAC 89.76 ETC 267.62 LVI 8.81

PLANETOCENTRIC CONIC
 C3 23.722 VHL 4.871 DLA -8.26 RAL 328.79 RAD 6644.5 VEL 11.988 PTH 6.98 VHP 3.915 DPA -37.53 RAP 276.55 ECC 1.3904
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 14 41 3010.25 -31.33 91.28 190.22 127.84 19 4 51 2010.2 -14.47 72.36
 60.00 19 3 10 2881.29 -26.27 83.67 194.23 121.74 19 51 11 1881.3 -11.64 63.40
 70.00 20 5 23 2698.37 -21.69 71.66 197.05 117.05 20 50 21 1698.4 -9.00 50.51
 80.00 21 22 49 2455.95 -18.35 54.95 198.74 113.97 22 3 45 1455.9 -7.03 33.31
 90.00 22 48 16 2180.26 -17.10 35.26 199.32 112.88 23 24 36 1180.3 -6.28 13.45
 100.00 0 9 37 1930.42 -18.35 16.32 198.74 113.97 0 41 47 930.4 -7.03 354.68
 110.00 1 8 45 1745.19 -21.69 .58 197.05 117.05 1 37 50 745.2 -9.00 339.43

DIFFERENTIAL CORRECTIONS
 TDE 1.9053 TRA 4.9385 TC3-3.0375 BAU .9696 SGT 6945.6 SGR 1505.8 SG3 1400.8 ST 142.6 SR 48.9 SS 116.5
 RDE .7776 RRA .9853 RC3 -.3467 FAU .11823 RRT .9356 RRF .9488 RTF .9840 CRT .9533 CRS -.9436 CST -.9994
 FDE 4.4869 FRA12.4015 FC3-4.3149 BSP 11947 SGB 7106.9 R23 .0649 R13 .9851 LSA 189.9 MSA 15.1 SSA 1.3
 BDE 2.0579 BRA 5.0320 BC3 3.0572 FSP 2625 SG1 7087.8 SG2 520.8 THA 11.53 EL1 150.1 EL2 14.0 ALF 18.26

LAUNCH DATE MAR 16 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 33.890 GAL -7.75 AZL 93.34 HCA 148.43 SMA 202.44 ECC .29514 INC 3.3449 V1 29.945
 RP 207.22 LAP -1.85 LOP 321.23 VP 25.006 GAP 17.11 AZP 87.21 TAL 325.07 TAP 111.31 RCA 142.69 APO 262.18 V2 26.432
 RC 56.455 GL -17.98 GP 7.78 ZAL 142.67 ZAP 160.55 ETS 156.72 ZAE 162.58 ETE 132.85 ZAC 109.43 ETC 274.67 LVI -20.76

PLANETOCENTRIC CONIC
 C3 39.591 VHL 6.292 DLA -31.26 RAL 330.31 RAD 6650.5 VEL 12.628 PTH 7.48 VHP 8.397 DPA -13.55 RAP 304.29 ECC 1.6516
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 1 35 2647.27 -14.68 72.84 198.05 135.78 20 45 42 1647.3 3.64 56.91
 60.00 21 29 5 2414.46 -7.34 58.77 204.94 129.74 22 9 19 1414.5 8.75 40.83
 70.00 23 32 13 2052.06 1.58 36.12 211.65 124.12 24 6 25 1052.1 15.19 16.12
 76.09 2 1 31 1599.69 12.79 8.45 218.53 118.77 2 28 11 599.7 23.51 345.88
 76.09 2 1 31 1599.69 12.79 8.45 218.53 118.77 2 28 11 599.7 23.51 345.88
 76.09 2 1 31 1599.69 12.79 8.45 218.53 118.77 2 28 11 599.7 23.51 345.88
 110.00 4 35 35 1098.88 1.58 325.04 211.65 124.12 4 53 54 98.9 15.19 305.04

DIFFERENTIAL CORRECTIONS
 TDE-1.1249 TRA-2.0824 TC3 -.1020 BAU .1136 SGT 2446.7 SGR 579.2 SG3 304.3 ORBIT DETERMINATION ACCURACY
 RDE -.4840 RRA -.2733 RC3 .1889 FAU .04806 RRT .7527 RRF -.7967 RTF -.8951 CRT .9263 CRS .8191 CST .9730 ST 61.1 SR 22.5 SS 47.3
 FDE .9908 FRA 2.9449 FC3-1.0509 BSP 4344 SGB *2514.4 R23 -.1620 R13 -.8999 LSA 79.4 MSA 13.0 SSA 1.1
 BDE 1.2246 BRA 2.1003 BC3 .2147 F8P 455 SGI 2486.2 SG2 375.3 THA 10.34 EL1 64.6 EL2 7.9 ALF 19.15

LAUNCH DATE MAR 16 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 33.504 GAL -7.60 AZL 93.46 HCA 147.69 SMA 200.67 ECC .28836 INC 3.4573 V1 29.945
 RP 207.13 LAP -1.85 LOP 322.50 VP 24.902 GAP 16.66 AZP 87.08 TAL 325.10 TAP 112.80 RCA 142.81 APO 258.54 V2 26.443
 RC 56.701 GL -18.87 GP 8.27 ZAL 142.37 ZAP 159.49 ETS 156.65 ZAE 162.78 ETE 129.92 ZAC 109.88 ETC 274.76 LVI -21.32

PLANETOCENTRIC CONIC
 C3 38.362 VHL 6.194 DLA -32.05 RAL 331.00 RAD 6650.1 VEL 12.579 PTH 7.44 VHP 8.168 DPA -13.01 RAP 304.48 ECC 1.6313
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 6 22 2620.28 -13.35 71.63 198.43 136.10 20 52 2 1620.3 4.99 55.78
 60.00 21 38 31 2380.35 -5.85 57.12 205.52 129.95 22 18 11 1380.4 10.23 39.15
 70.00 23 49 35 1994.42 3.78 33.11 212.75 123.97 24 22 50 994.4 17.18 12.84
 74.25 1 50 52 1631.24 13.35 11.17 218.71 119.41 2 18 4 631.2 24.28 348.60
 74.25 1 50 52 1631.24 13.35 11.17 218.71 119.41 2 18 4 631.2 24.28 348.60
 74.25 1 50 52 1631.24 13.35 11.17 218.71 119.41 2 18 4 631.2 24.28 348.60
 110.00 4 52 57 1041.24 3.78 322.03 212.75 123.97 5 10 19 41.2 17.18 301.76

DIFFERENTIAL CORRECTIONS
 TDE-1.1343 TRA-2.0519 TC3 -.0978 BAU .1157 SGT 2476.0 SGR 608.8 SG3 322.8 ORBIT DETERMINATION ACCURACY
 RDE -.4784 RRA -.3058 RC3 .2034 FAU .04953 RRT .7834 RRF -.8297 RTF -.8982 CRT .9402 CRS .8354 CST .9720 ST 62.3 SR 22.7 SS 49.0
 FDE 1.0410 FRA 3.0549 FC3-1.1177 BSP 4426 SGB 2349.7 R23 -.1766 R13 -.9037 LSA 81.4 MSA 13.0 SSA 1.0
 BDE 1.2311 BRA 2.0745 BC3 .2256 F8P 467 SGI 2522.6 SG2 371.3 THA 11.15 EL1 65.9 EL2 7.3 ALF 19.15

LAUNCH DATE MAR 16 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 33.422 GAL -7.46 AZL 93.58 HCA 148.98 SMA 199.04 ECC .28192 INC 3.5780 V1 29.945
 RP 207.05 LAP -1.84 LOP 323.76 VP 24.803 GAP 16.22 AZP 86.93 TAL 325.14 TAP 114.09 RCA 142.92 APO 255.15 V2 26.453
 RC 57.030 GL -19.81 GP 8.79 ZAL 142.03 ZAP 156.39 ETS 156.52 ZAE 162.87 ETE 126.99 ZAC 110.38 ETC 274.84 LVI -21.91

PLANETOCENTRIC CONIC
 C3 37.251 VHL 6.103 DLA -32.89 RAL 331.52 RAD 6649.7 VEL 12.535 PTH 7.41 VHP 7.947 DPA -12.44 RAP 304.64 ECC 1.6131
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 43 2592.34 -11.98 70.40 198.92 136.40 20 58 58 1592.3 6.39 54.80
 60.00 21 48 59 2344.12 -4.26 55.38 206.24 130.11 22 28 3 1344.1 11.78 37.35
 70.00 0 15 43 1923.28 6.48 29.38 214.27 123.61 0 47 47 923.3 19.55 8.69
 72.47 1 41 14 1660.24 13.92 13.72 218.96 120.10 2 8 54 660.2 25.07 351.17
 72.47 1 41 14 1660.24 13.92 13.72 218.96 120.10 2 8 54 660.2 25.07 351.17
 72.47 1 41 14 1660.24 13.92 13.72 218.96 120.10 2 8 54 660.2 25.07 351.17
 110.00 5 15 10 6258.14 6.48 296.19 214.27 123.61 6 39 28 5258.1 19.55 279.51

DIFFERENTIAL CORRECTIONS
 TDE-1.1444 TRA-2.0185 TC3 -.0919 BAU .1184 SGT 2501.7 SGR 644.1 SG3 342.3 ORBIT DETERMINATION ACCURACY
 RDE -.4747 RRA -.3402 RC3 .2192 FAU .05109 RRT .8111 RRF -.8593 RTF -.5112 CRT .9516 CRS .8520 CST .9710 ST 63.5 SR 23.0 SS 50.8
 FDE 1.0953 FRA 3.1672 FC3-1.1873 BSP 4488 SGB 2583.3 R23 -.1916 R13 -.9075 LSA 83.5 MSA 12.9 SSA 1.0
 BDE 1.2390 BRA 2.0470 BC3 .2377 F8P 520 SGI 2556.9 SG2 368.6 THA 12.05 EL1 67.2 EL2 6.7 ALF 19.22

LAUNCH DATE MAR 16 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 33.348 GAL -7.32 AZL 93.71 HCA 150.22 SMA 197.51 ECC .27582 INC 3.7079 V1 29.945
 RP 206.97 LAP -1.84 LOP 325.03 VP 24.709 GAP 15.78 AZP 86.78 TAL 325.18 TAP 115.40 RCA 143.04 APO 251.99 V2 26.462
 RC 57.440 GL -20.81 GP 9.37 ZAL 141.65 ZAP 157.24 ETS 156.35 ZAE 162.86 ETE 124.11 ZAC 110.93 ETC 274.93 LVI -22.54

PLANETOCENTRIC CONIC
 C3 36.256 VHL 6.021 DLA -33.78 RAL 332.08 RAD 6649.3 VEL 12.498 PTH 7.38 VHP 7.734 DPA -11.82 RAP 304.76 ECC 1.5987
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 23 48 2563.33 -10.55 69.14 199.36 136.67 21 6 29 1563.3 7.84 53.37
 60.00 22 0 43 2305.24 -2.96 55.51 207.16 130.23 22 39 8 1305.2 13.43 35.39
 70.00 0 49 49 1817.52 10.42 23.71 216.73 122.71 1 20 7 817.5 22.86 2.27
 70.71 1 32 26 1687.29 14.50 16.16 219.32 120.85 2 0 34 687.3 25.89 353.63
 70.71 1 32 26 1687.29 14.50 16.16 219.32 120.85 2 0 34 687.3 25.89 353.63
 70.71 1 32 26 1687.29 14.50 16.16 219.32 120.85 2 0 34 687.3 25.89 353.63
 110.00 5 49 16 6152.38 10.42 290.54 216.73 122.71 7 31 48 5152.4 22.86 269.09

DIFFERENTIAL CORRECTIONS
 TDE-1.1549 TRA-1.9828 TC3 -.0856 BAU .1219 SGT 2524.0 SGR 685.8 SG3 362.7 ORBIT DETERMINATION ACCURACY
 RDE -.4732 RRA -.3773 RC3 .2364 FAU .05274 RRT .8353 RRF -.8853 RTF -.9040 CRT .9623 CRS .8687 CST .9700 ST 64.6 SR 23.4 SS 52.6
 FDE 1.1538 FRA 3.2619 FC3-1.2593 BSP 4560 SGB 2615.5 R23 -.2070 R13 -.9113 LSA 85.6 MSA 12.9 SSA 1.0
 BDE 1.2461 BRA 2.0184 BC3 .2514 F8P 554 SGI 2589.6 SG2 367.6 THA 13.05 EL1 68.5 EL2 6.0 ALF 19.39

LAUNCH DATE MAR 16 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 25 1971

Heliocentric Conic: RL 148.80 LAL .00 LOL 174.75 VL 33.272 GAL -7.19 AZL 93.85 HCA 131.48 SMA 196.09 ECC .27002 INC 3.6483 V1 29.945
 RP 206.80 LAP -1.84 LOP 326.29 VP 24.819 GAP 15.35 AZP 86.62 TAL 325.22 TAP 116.71 RCA 143.15 APO 249.04 V2 26.469
 RC 57.930 GL -21.87 GP 10.01 ZAL 141.21 ZAP 136.05 ETS 136.12 ZAE 162.73 ETE 121.36 ZAC 111.54 ETC 275.00 LVI -23.21

Planetocentric Conic: C3 35.375 VHL 5.948 DLA -34.73 RAL 332.67 RAD 6649.0 VEL 12.461 PTH 7.36 VHP 7.529 DPA -11.15 RAP 304.84 ECC 1.5822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 32 36 2533.01 -9.04 67.83 200.34 136.91 21 14 49 1533.0 9.34 52.07
 60.00 22 14 3 2262.89 -.69 51.49 208.30 130.30 22 51 46 1262.9 15.21 33.23
 66.95 1 24 20 1712.99 15.09 18.54 219.77 121.65 1 52 53 713.0 26.74 356.04
 66.95 1 24 20 1712.99 15.09 18.54 219.77 121.65 1 52 53 713.0 26.74 356.04
 66.95 1 24 20 1712.99 15.09 18.54 219.77 121.65 1 52 53 713.0 26.74 356.04
 66.95 1 24 20 1712.99 15.09 18.54 219.77 121.65 1 52 53 713.0 26.74 356.04
 66.95 1 24 20 1712.99 15.09 18.54 219.77 121.65 1 52 53 713.0 26.74 356.04

Differential Corrections: TDE-1.1501 TRA-1.9277 TC3 -.0604 BAU .1249 SGT 2517.5 SGR 733.8 SG3 383.7 ST 64.9 SR 23.9 SS 54.4
 RDE -.4732 RRA -.4161 RC3 .2562 FAU .05459 RRT .8580 RRF -.9076 RTF -.9097 CRT .9715 CRS .8847 CST .9693
 FDE 1.2141 FRA 3.3948 FC3-1.3360 BSP 4415 SGB 2622.3 R23 -.2145 R13 -.9180 LSA 87.1 MSA 12.8 SSA .9
 BDE 1.2436 BRA 1.9721 BC3 .2632 FSP 586 SGT 2596.7 SG2 365.5 THA 14.33 EL1 69.0 EL2 5.3 ALF 19.83

LAUNCH DATE MAR 16 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 148.80 LAL .00 LOL 174.75 VL 33.203 GAL -7.06 AZL 94.00 HCA 132.75 SMA 194.78 ECC .26454 INC 4.0008 V1 29.945
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.533 GAP 14.93 AZP 86.44 TAL 325.26 TAP 118.01 RCA 143.25 APO 246.30 V2 26.476
 RC 58.496 GL -23.00 GP 10.70 ZAL 140.72 ZAP 154.80 ETS 155.84 ZAE 162.48 ETE 118.76 ZAC 112.22 ETC 275.08 LVI -23.93

Planetocentric Conic: C3 34.615 VHL 5.883 DLA -35.73 RAL 333.32 RAD 6648.8 VEL 12.431 PTH 7.33 VHP 7.333 DPA -10.43 RAP 304.87 ECC 1.5697
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 42 23 2501.32 -7.46 66.48 201.30 137.13 21 24 4 1501.3 10.92 50.70
 60.00 22 29 27 2216.10 1.37 49.26 209.73 130.28 23 6 23 1216.1 17.14 30.79
 67.19 1 16 52 1737.69 15.67 20.88 220.34 122.53 1 45 50 737.7 27.62 358.42
 67.19 1 16 52 1737.69 15.67 20.88 220.34 122.53 1 45 50 737.7 27.62 358.42
 67.19 1 16 52 1737.69 15.67 20.88 220.34 122.53 1 45 50 737.7 27.62 358.42
 67.19 1 16 52 1737.69 15.67 20.88 220.34 122.53 1 45 50 737.7 27.62 358.42
 67.19 1 16 52 1737.69 15.67 20.88 220.34 122.53 1 45 50 737.7 27.62 358.42

Differential Corrections: TDE-1.1787 TRA-1.9017 TC3 -.0713 BAU .1315 SGT 2555.3 SGR 791.5 SG3 406.0 ST 66.6 SR 24.7 SS 56.4
 RDE -.4762 RRA -.4603 RC3 .2752 FAU .05627 RRT .8736 RRF -.9267 RTF -.9091 CRT .9806 CRS .9011 CST .9678
 FDE 1.2858 FRA 3.5143 FC3-1.4073 BSP 4658 SGB 2675.1 R23 -.2368 R13 -.9190 LSA 89.9 MSA 13.0 SSA .9
 BDE 1.2720 BRA 1.9566 BC3 .2842 FSP 626 SGT 2649.1 SG2 371.5 THA 15.45 EL1 71.1 EL2 4.5 ALF 20.02

LAUNCH DATE MAR 16 1971

FLIGHT TIME 166.00

ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 148.80 LAL .00 LOL 174.75 VL 33.138 GAL -6.94 AZL 94.17 HCA 134.02 SMA 193.55 ECC .25934 INC 4.1669 V1 29.945
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.451 GAP 14.52 AZP 86.25 TAL 325.31 TAP 119.33 RCA 143.35 APO 243.74 V2 26.482
 RC 59.137 GL -24.21 GP 11.47 ZAL 140.17 ZAP 153.50 ETS 155.51 ZAE 162.11 ETE 116.37 ZAC 112.97 ETC 275.15 LVI -24.71

Planetocentric Conic: C3 33.973 VHL 5.829 DLA -36.80 RAL 334.02 RAD 6648.5 VEL 12.405 PTH 7.32 VHP 7.143 DPA -9.64 RAP 304.86 ECC 1.5591
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 53 18 2467.81 -5.79 65.06 202.48 137.31 21 34 26 1467.8 12.57 49.24
 60.00 22 47 46 2162.70 3.71 46.70 211.54 130.16 23 23 48 1162.7 19.31 27.94
 65.40 1 10 0 1761.68 16.27 23.21 221.05 123.48 1 39 22 761.7 28.54 .80
 65.40 1 10 0 1761.68 16.27 23.21 221.05 123.48 1 39 22 761.7 28.54 .80
 65.40 1 10 0 1761.68 16.27 23.21 221.05 123.48 1 39 22 761.7 28.54 .80
 65.40 1 10 0 1761.68 16.27 23.21 221.05 123.48 1 39 22 761.7 28.54 .80
 65.40 1 10 0 1761.68 16.27 23.21 221.05 123.48 1 39 22 761.7 28.54 .80

Differential Corrections: TDE-1.1974 TRA-1.8609 TC3 -.0688 BAU .1382 SGT 2571.3 SGR 857.8 SG3 429.0 ST 68.1 SR 25.7 SS 58.5
 RDE -.4860 RRA -.5074 RC3 .2966 FAU .05809 RRT .8877 RRF -.9423 RTF -.5.06 CRT .9879 CRS .9164 CST .9667
 FDE 1.3629 FRA 3.6319 FC3-1.4803 BSP 4732 SGB 2710.8 R23 -.2522 R13 -.9222 LSA 92.4 MSA 13.1 SSA .8
 BDE 1.2923 BRA 1.9289 BC3 .3044 FSP 666 SGT 2684.1 SG2 378.4 THA 16.84 EL1 72.7 EL2 3.7 ALF 20.47

LAUNCH DATE MAR 16 1971

FLIGHT TIME 168.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic: RL 148.80 LAL .00 LOL 174.75 VL 33.076 GAL -6.82 AZL 94.35 HCA 135.28 SMA 192.40 ECC .25442 INC 4.3490 V1 29.945
 RP 206.75 LAP -1.82 LOP 330.10 VP 24.372 GAP 14.12 AZP 86.05 TAL 325.36 TAP 120.64 RCA 143.45 APO 241.35 V2 26.467
 RC 59.850 GL -25.50 GP 12.32 ZAL 139.55 ZAP 152.14 ETS 155.12 ZAE 161.60 ETE 114.22 ZAC 113.80 ETC 275.22 LVI -25.55

Planetocentric Conic: C3 33.455 VHL 5.784 DLA -37.95 RAL 334.79 RAD 6648.3 VEL 12.384 PTH 7.30 VHP 6.967 DPA -8.79 RAP 304.79 ECC 1.5506
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 5 36 2432.11 -4.00 63.55 203.91 137.45 21 46 8 1432.1 14.32 47.65
 60.00 23 10 34 2098.70 6.32 43.62 213.91 129.86 23 45 33 1098.7 21.84 24.41
 63.56 1 3 41 1785.30 16.86 25.55 221.50 124.51 1 33 26 785.3 29.48 3.22
 63.56 1 3 41 1785.30 16.86 25.55 221.90 124.51 1 33 26 785.3 29.48 3.22
 63.56 1 3 41 1785.30 16.86 25.55 221.90 124.51 1 33 26 785.3 29.48 3.22
 63.56 1 3 41 1785.30 16.86 25.55 221.90 124.51 1 33 26 785.3 29.48 3.22
 63.56 1 3 41 1785.30 16.86 25.55 221.90 124.51 1 33 26 785.3 29.48 3.22

Differential Corrections: TDE-1.2156 TRA-1.8136 TC3 -.0622 BAU .1459 SGT 2577.9 SGR 933.9 SG3 452.5 ST 69.2 SR 26.8 SS 60.6
 RDE -.4977 RRA -.5583 RC3 .3202 FAU .06005 RRT .8992 RRF -.9554 RTF -.9123 CRT .9934 CRS .9307 CST .9656
 FDE 1.4464 FRA 3.7459 FC3-1.5538 BSP 4807 SGB 2741.8 R23 -.2648 R13 -.9259 LSA 94.9 MSA 13.3 SSA .8
 BDE 1.3135 BRA 1.8976 BC3 .3262 FSP 706 SGT 2714.2 SG2 388.0 THA 18.43 EL1 74.2 EL2 2.9 ALF 21.07

LAUNCH DATE MAR 16 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 447.005

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 33.018 GAL -6.71 AZL 94.55 HCA 156.55 SMA 191.33 ECC .24975 INC 4.5495 V1 29.945
RP 206.72 LAP -1.81 LOP 331.37 VP 24.297 GAP 13.72 AZP 85.83 TAL 325.41 TAP 121.96 RCA 143.54 APO 239.11 V2 26.491
RC 60.633 GL -26.89 GP 13.27 ZAL 136.86 ZAP 130.70 ETS 154.69 ZAE 160.96 ETE 112.34 ZAC 114.73 ETC 275.28 LVI -26.46

PLANETOCENTRIC CONIC

C3 33.069 VHL 5.751 DLA -39.17 RAL 335.64 RAD 6648.2 VEL 12.369 PTH 7.29 VHP 6.798 DPA -7.85 RAP 304.66 ECC 1.5442
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 19 39 2393.62 -2.07 61.94 205.66 137.54 21 59 33 1393.6 16.19 45.91
60.00 23 42 0 2013.07 10.23 39.43 217.25 129.20 24 15 34 1013.1 25.07 19.49
61.68 0 57 55 1808.76 17.45 27.92 222.93 125.64 1 28 4 808.8 30.45 5.70
61.68 0 57 55 1808.76 17.45 27.92 222.93 125.64 1 28 4 808.8 30.45 5.70
61.68 0 57 55 1808.76 17.45 27.92 222.93 125.64 1 28 4 808.8 30.45 5.70
61.68 0 57 55 1808.76 17.45 27.92 222.93 125.64 1 28 4 808.8 30.45 5.70
61.68 0 57 55 1808.76 17.45 27.92 222.93 125.64 1 28 4 808.8 30.45 5.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2301 TRA-1.7561 TC3 -.0480 BAU .1546 SGT 2568.9 SGR 1020.7 SG3 476.2 ST 70.0 SR 28.2 SS 62.7
RDE -.5139 RRA -.6132 RC3 .3464 FAU .06212 RRT .9093 RRF -.9657 RTF -.9149 CRT .9971 CRS .9436 CST .9646
FDE 1.5378 FRA 3.8543 FC3-1.6263 BSP 4770 SGB 2764.2 R23 -.2717 R13 -.9309 LSA 97.2 MSA 13.4 SSA .7
BDE 1.3331 BRA 1.8601 BC3 .3497 FSP 745 SG1 2735.3 SG2 399.0 THA 20.32 EL1 75.5 EL2 2.0 ALF 21.90

LAUNCH DATE MAR 16 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 450.761

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.963 GAL -6.60 AZL 94.77 HCA 157.81 SMA 190.33 ECC .24535 INC 4.7716 V1 29.945
RP 206.70 LAP -1.80 LOP 332.64 VP 24.225 GAP 13.33 AZP 85.58 TAL 325.46 TAP 123.28 RCA 143.63 APO 237.03 V2 26.494
RC 61.483 GL -26.38 GP 14.32 ZAL 136.08 ZAP 149.18 ETS 154.20 ZAE 160.18 ETE 110.72 ZAC 115.77 ETC 275.34 LVI -27.46

PLANETOCENTRIC CONIC

C3 32.828 VHL 5.730 DLA -40.48 RAL 336.59 RAD 6648.1 VEL 12.359 PTH 7.28 VHP 6.639 DPA -6.81 RAP 304.48 ECC 1.5403
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 35 57 2351.56 .04 60.18 207.81 137.58 22 15 8 1351.6 18.22 43.97
59.74 0 52 45 1832.26 18.03 30.35 224.16 126.88 1 23 17 832.3 31.44 8.26
59.74 0 52 45 1832.26 18.03 30.35 224.16 126.88 1 23 17 832.3 31.44 8.26
59.74 0 52 45 1832.26 18.03 30.35 224.16 126.88 1 23 17 832.3 31.44 8.26
59.74 0 52 45 1832.26 18.03 30.35 224.16 126.88 1 23 17 832.3 31.44 8.26
59.74 0 52 45 1832.26 18.03 30.35 224.16 126.88 1 23 17 832.3 31.44 8.26
59.74 0 52 45 1832.26 18.03 30.35 224.16 126.88 1 23 17 832.3 31.44 8.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2628 TRA-1.7091 TC3 -.0518 BAU .1651 SGT 2578.2 SGR 1122.0 SG3 500.6 ST 71.6 SR 30.0 SS 65.1
RDE -.5381 RRA -.8748 RC3 .3726 FAU .06401 RRT .9152 RRF -.9739 RTF -.9148 CRT .9993 CRS .9553 CST .9636
FDE 1.6452 FRA 3.9610 FC3-1.6880 BSP 4929 SGB 2811.7 R23 -.2823 R13 -.9339 LSA 100.4 MSA 13.7 SSA .7
BDE 1.3726 BRA 1.8375 BC3 .3762 FSP 789 SG1 2780.3 SG2 419.2 THA 22.25 EL1 77.6 EL2 1.1 ALF 22.75

LAUNCH DATE MAR 16 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 454.550

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.911 GAL -6.50 AZL 95.02 HCA 159.08 SMA 189.40 ECC .24118 INC 5.0191 V1 29.945
RP 206.68 LAP -1.79 LOP 333.91 VP 24.156 GAP 12.95 AZP 85.31 TAL 325.52 TAP 124.60 RCA 143.72 APO 235.08 V2 26.496
RC 62.398 GL -29.99 GP 15.49 ZAL 137.20 ZAP 147.58 ETS 153.66 ZAE 159.24 ETE 109.37 ZAC 116.94 ETC 275.40 LVI -28.55

PLANETOCENTRIC CONIC

C3 32.748 VHL 5.723 DLA -41.88 RAL 337.66 RAD 6648.1 VEL 12.356 PTH 7.28 VHP 6.492 DPA -5.68 RAP 304.22 ECC 1.5389
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 55 15 2304.44 2.41 58.22 210.49 137.53 22 33 40 1304.4 20.46 41.74
57.72 0 48 12 1856.04 18.58 32.85 225.62 128.24 1 19 8 856.0 32.46 10.94
57.72 0 48 12 1856.04 18.58 32.85 225.62 128.24 1 19 8 856.0 32.46 10.94
57.72 0 48 12 1856.04 18.58 32.85 225.62 128.24 1 19 8 856.0 32.46 10.94
57.72 0 48 12 1856.04 18.58 32.85 225.62 128.24 1 19 8 856.0 32.46 10.94
57.72 0 48 12 1856.04 18.58 32.85 225.62 128.24 1 19 8 856.0 32.46 10.94
57.72 0 48 12 1856.04 18.58 32.85 225.62 128.24 1 19 8 856.0 32.46 10.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2932 TRA-1.6504 TC3 -.0476 BAU .1771 SGT 2570.1 SGR 1237.1 SG3 524.4 ST 72.8 SR 32.2 SS 67.5
RDE -.5695 RRA -.7413 RC3 .4018 FAU .06602 RRT .9202 RRF -.9804 RTF -.5.54 CRT .9997 CRS .9653 CST .9629
FDE 1.7635 FRA 4.0546 FC3-1.7454 BSP 4998 SGB 2832.4 R23 -.2864 R13 -.9382 LSA 103.4 MSA 14.0 SSA .6
BDE 1.4130 BRA 1.8093 BC3 .4046 FSP 831 SG1 2818.0 SG2 441.6 THA 24.53 EL1 79.6 EL2 .7 ALF 23.86

LAUNCH DATE MAR 16 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 458.371

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.862 GAL -6.40 AZL 95.30 HCA 160.34 SMA 188.83 ECC .23725 INC 5.2970 V1 29.945
RP 206.67 LAP -1.78 LOP 335.18 VP 24.090 GAP 12.38 AZP 85.01 TAL 325.57 TAP 125.91 RCA 143.80 APO 233.25 V2 26.496
RC 63.376 GL -31.74 GP 16.81 ZAL 136.22 ZAP 145.87 ETS 153.06 ZAE 158.12 ETE 108.29 ZAC 118.25 ETC 275.46 LVI -29.76

PLANETOCENTRIC CONIC

C3 32.850 VHL 5.732 DLA -43.39 RAL 338.88 RAD 6648.1 VEL 12.360 PTH 7.28 VHP 6.358 DPA -4.39 RAP 303.89 ECC 1.5406
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 18 54 2249.72 5.16 55.92 213.89 137.36 22 58 24 1249.7 23.02 39.05
55.61 0 44 22 1880.33 19.11 35.45 227.36 129.72 1 15 43 880.3 33.50 13.76
55.61 0 44 22 1880.33 19.11 35.45 227.36 129.72 1 15 43 880.3 33.50 13.76
55.61 0 44 22 1880.33 19.11 35.45 227.36 129.72 1 15 43 880.3 33.50 13.76
55.61 0 44 22 1880.33 19.11 35.45 227.36 129.72 1 15 43 880.3 33.50 13.76
55.61 0 44 22 1880.33 19.11 35.45 227.36 129.72 1 15 43 880.3 33.50 13.76
55.61 0 44 22 1880.33 19.11 35.45 227.36 129.72 1 15 43 880.3 33.50 13.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3287 TRA-1.5857 TC3 -.0430 BAU .1912 SGT 2554.2 SGR 1368.8 SG3 547.4 ST 74.0 SR 34.9 SS 70.1
RDE -.6114 RRA -.8139 RC3 .4332 FAU .06804 RRT .9237 RRF -.9853 RTF -.9157 CRT .9987 CRS .9737 CST .9623
FDE 1.8977 FRA 4.1324 FC3-1.7932 BSP 5064 SGB 2897.9 R23 -.2863 R13 -.9429 LSA 106.8 MSA 14.2 SSA .6
BDE 1.4628 BRA 1.7824 BC3 .4353 FSP 870 SG1 2859.7 SG2 468.5 THA 27.12 EL1 81.8 EL2 1.6 ALF 25.21

LAUNCH DATE MAR 16 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 10 1971

DISTANCE 462.220

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.815 GAL -6.31 AZL 95.61 HCA 161.61 SMA 187.71 ECC .23353 INC 5.6116 V1 29.945
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.026 GAP 12.22 AZP 84.67 TAL 325.62 TAP 127.23 RCA 143.88 APO 231.55 V2 26.496
 RC 64.414 GL -33.63 GP 18.29 ZAL 135.12 ZAP 144.04 ETS 152.41 ZAE 156.82 ETE 107.45 ZAC 119.74 ETC 275.52 LVI -31.10

PLANETOCENTRIC CONIC

C3 33.169 VHL 5.759 DLA -45.00 RAL 340.27 RAD 6648.2 VEL 12.373 PTH 7.29 VHP 6.236 DPA -2.96 RAP 303.48 ECC 1.5459

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	22 49 37	2181.65	6.56	53.03	218.42	136.98	23 25 59	1181.6	26.13	35.55
53.41	0 41 22	1905.36	19.58	38.15	229.42	131.36	1 13 8	905.4	34.54	16.76
53.41	0 41 22	1905.36	19.58	38.15	229.42	131.36	1 13 8	905.4	34.54	16.76
53.41	0 41 22	1905.36	19.58	38.15	229.42	131.36	1 13 8	905.4	34.54	16.76
53.41	0 41 22	1905.36	19.58	38.15	229.42	131.36	1 13 8	905.4	34.54	16.76
53.41	0 41 22	1905.36	19.58	38.15	229.42	131.36	1 13 8	905.4	34.54	16.76
53.41	0 41 22	1905.36	19.58	38.15	229.42	131.36	1 13 8	905.4	34.54	16.76

MID-COURSE EXECUTION ACCURACY

SGT 2828.2 SGR 1919.4 SCS 568.8
 RRT .9261 RRF -.9881 RTF -.9158
 SGB 2949.7 R23 -.2812 R13 -.9483
 SGI 2907.2 SGI2 498.6 THA 30.07

ORBIT DETERMINATION ACCURACY

ST 75.3 SR 38.2 SS 72.8
 CRT .9967 CRS .9807 CST .9620
 LSA 110.5 MSA 14.5 SSA .5
 EL1 84.3 EL2 2.8 ALF 28.85

DIFFERENTIAL CORRECTIONS

TDE-1.3699 TRA-1.5132 TC3 -.0361 BAV .2076
 RDE -.6670 RRA -.8932 RC3 .4668 FAV .07003
 FDE 2.0522 FRA 4.1888 FC3-1.8279 B8P 5117
 BDE 1.5236 BRA 1.7572 BC3 .4682 F8P 907

LAUNCH DATE MAR 16 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 12 1971

DISTANCE 466.097

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.771 GAL -6.22 AZL 95.97 HCA 162.87 SMA 186.98 ECC .23003 INC 5.9710 V1 29.945
 RP 206.69 LAP -1.78 LOP 337.72 VP 23.965 GAP 11.86 AZP 84.29 TAL 325.67 TAP 128.54 RCA 143.95 APO 229.96 V2 26.495
 RC 65.512 GL -35.69 GP 19.97 ZAL 133.87 ZAP 142.08 ETS 151.71 ZAE 155.30 ETE 108.83 ZAC 121.42 ETC 275.58 LVI -32.59

PLANETOCENTRIC CONIC

C3 33.747 VHL 5.809 DLA -46.74 RAL 341.89 RAD 6640.4 VEL 12.396 PTH 7.31 VHP 6.135 DPA -1.36 RAP 302.97 ECC 1.5554

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	23 36 29	2079.45	13.61	48.58	225.29	136.04	24 11 8	1079.4	30.59	29.91
51.10	0 39 23	1931.44	19.99	40.99	231.86	133.17	1 11 34	931.4	35.56	19.98
51.10	0 39 23	1931.44	19.99	40.99	231.86	133.17	1 11 34	931.4	35.56	19.98
51.10	0 39 23	1931.44	19.99	40.99	231.86	133.17	1 11 34	931.4	35.56	19.98
51.10	0 39 23	1931.44	19.99	40.99	231.86	133.17	1 11 34	931.4	35.56	19.98
51.10	0 39 23	1931.44	19.99	40.99	231.86	133.17	1 11 34	931.4	35.56	19.98
51.10	0 39 23	1931.44	19.99	40.99	231.86	133.17	1 11 34	931.4	35.56	19.98

MID-COURSE EXECUTION ACCURACY

SGT 2479.8 SGR 1689.8 SCS 587.1
 RRT .9281 RRF -.9919 RTF -.9164
 SGB 3000.8 R23 -.2694 R13 -.9547
 SGI 2954.0 SGI2 528.2 THA 33.52

ORBIT DETERMINATION ACCURACY

ST 76.1 SR 42.1 SS 75.6
 CRT .9939 CRS .9861 CST .9620
 LSA 114.3 MSA 14.8 SSA .5
 EL1 86.9 EL2 4.1 ALF 28.89

DIFFERENTIAL CORRECTIONS

TDE-1.4123 TRA-1.4256 TC3 -.0206 BAV .2276
 RDE -.7396 RRA -.9779 RC3 .5040 FAV .07209
 FDE 2.2264 FRA 4.2114 FC3-1.8494 B8P 5094
 BDE 1.5942 BRA 1.7287 BC3 .5044 F8P 934

LAUNCH DATE MAR 16 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 14 1971

DISTANCE 469.995

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.730 GAL -6.14 AZL 96.39 HCA 164.14 SMA 186.28 ECC .22873 INC 6.3857 V1 29.945
 RP 206.71 LAP -1.74 LOP 338.99 VP 23.907 GAP 11.51 AZP 83.86 TAL 325.72 TAP 129.85 RCA 144.02 APO 228.47 V2 26.493
 RC 66.667 GL -37.94 GP 21.86 ZAL 132.47 ZAP 139.98 ETS 150.97 ZAE 153.53 ETE 106.42 ZAC 123.33 ETC 275.64 LVI -34.26

PLANETOCENTRIC CONIC

C3 34.857 VHL 5.887 DLA -48.60 RAL 343.81 RAD 6648.8 VEL 12.432 PTH 7.34 VHP 6.054 DPA .45 RAP 302.36 ECC 1.5704

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45
48.68	0 38 37	1958.97	20.30	43.97	234.77	135.16	1 11 16	959.0	36.54	23.45

MID-COURSE EXECUTION ACCURACY

SGT 2471.1 SGR 1892.9 SCS 603.5
 RRT .9262 RRF -.9941 RTF -.5333
 SGB 3112.8 R23 -.2761 R13 -.9593
 SGI 3058.9 SGI2 976.5 THA 38.88

ORBIT DETERMINATION ACCURACY

ST 78.6 SR 47.5 SS 79.2
 CRT .9909 CRS .9904 CST .9691
 LSA 120.3 MSA 15.2 SSA .4
 EL1 91.7 EL2 5.5 ALF 31.03

DIFFERENTIAL CORRECTIONS

TDE-1.4941 TRA-1.3573 TC3 -.0381 BAV .2484
 RDE -.8490 RRA -1.0788 RC3 .5348 FAV .07307
 FDE 2.4515 FRA 4.2135 FC3-1.8234 B8P 5427
 BDE 1.7164 BRA 1.7325 BC3 .5361 F8P 976

LAUNCH DATE MAR 16 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 16 1971

DISTANCE 473.916

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.681 GAL -6.08 AZL 96.87 HCA 165.40 SMA 185.59 ECC .22362 INC 6.8700 V1 29.945
 RP 206.73 LAP -1.73 LOP 340.25 VP 23.890 GAP 11.17 AZP 83.35 TAL 325.76 TAP 131.16 RCA 144.08 APO 227.09 V2 26.489
 RC 67.877 GL -40.41 GP 24.02 ZAL 130.89 ZAP 137.68 ETS 150.20 ZAE 151.49 ETE 106.19 ZAC 125.50 ETC 275.71 LVI -36.13

PLANETOCENTRIC CONIC

C3 35.988 VHL 5.999 DLA -50.59 RAL 346.10 RAD 6649.2 VEL 12.465 PTH 7.38 VHP 5.998 DPA 2.50 RAP 301.63 ECC 1.5922

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22
46.13	0 39 27	1988.34	20.46	47.11	238.24	137.35	1 12 35	988.3	37.45	27.22

MID-COURSE EXECUTION ACCURACY

SGT 2423.0 SGR 2119.7 SCS 613.0
 RRT .9247 RRF -.9956 RTF -.9110
 SGB 3219.3 R23 -.2447 R13 -.9654
 SGI 3159.3 SGI2 618.8 THA 40.87

ORBIT DETERMINATION ACCURACY

ST 80.4 SR 54.0 SS 82.7
 CRT .9881 CRS .9936 CST .9645
 LSA 126.4 MSA 15.4 SSA .4
 EL1 96.6 EL2 6.9 ALF 33.76

DIFFERENTIAL CORRECTIONS

TDE-1.5747 TRA-1.2623 TC3 -.0366 BAV .2751
 RDE -.9837 RRA -1.1781 RC3 .5708 FAV .07428
 FDE 2.7020 FRA 4.1553 FC3-1.7870 B8P 5584
 BDE 1.8567 BRA 1.7267 BC3 .5717 F8P 993

LAUNCH DATE MAR 16 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 477.850

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.655 GAL -5.99 AZL 97.44 HCA 186.86 SMA 184.97 ECC .22070 INC 7.4436 V1 29.945
RP 208.77 LAP -1.71 LOP 341.52 VP 23.795 GAP 10.83 AZP 82.76 TAL 325.81 TAP 132.47 RCA 144.15 APO 225.79 V2 26.485
RC 89.140 GL -43.13 GP 26.48 ZAL 129.09 ZAP 135.14 ETS 149.41 ZAE 149.11 ETE 106.13 ZAC 127.98 ETC 275.80 LVI -39.23

PLANETOCENTRIC CONIC

C3 37.879 VHL 6.155 DLA -52.72 RAL 348.89 RAD 6649.9 VEL 12.580 PTH 7.43 VHP 5.975 DPA 4.83 RAP 300.76 ECC 1.6234
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.45 0 42 22 2020.04 20.43 50.42 242.41 139.74 1 16 2 1020.0 38.21 31.33
43.45 0 42 22 2020.04 20.43 50.42 242.41 139.74 1 16 2 1020.0 38.21 31.33
43.45 0 42 22 2020.04 20.43 50.42 242.41 139.74 1 16 2 1020.0 38.21 31.33
43.45 0 42 22 2020.04 20.43 50.42 242.41 139.74 1 16 2 1020.0 38.21 31.33
43.45 0 42 22 2020.04 20.43 50.42 242.41 139.74 1 16 2 1020.0 38.21 31.33
43.45 0 42 22 2020.04 20.43 50.42 242.41 139.74 1 16 2 1020.0 38.21 31.33

DIFFERENTIAL CORRECTIONS

TDE -1.6740 TRA -1.1547 TC3 -.0347 BAU .3068
RDE -1.1780 RRA -1.2860 RC3 .6048 FAU .07489
FDE 3.0018 FRA 4.0327 FC3 -1.7115 BSP 5787
BDE 2.0470 BRA 1.7284 BC3 .6058 FSP 1001

MID-COURSE EXECUTION ACCURACY

SGT 2362.3 SGR 2379.9 SG3 615.0
RRT .9223 RRF -.9967 RTF -.9079
SGB 3353.3 R23 -.2239 R13 -.9717
SG1 3287.5 SG2 660.8 THA 45.23

ORBIT DETERMINATION ACCURACY

ST 82.3 SR 62.3 SS 86.7
CRT .9860 CRS .9958 CST .9667
LSA 133.9 MSA 15.5 SSA .3
EL1 102.9 EL2 8.3 ALF 37.02

LAUNCH DATE MAR 16 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 551.706

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.293 GAL -5.51 AZL 82.04 HCA 189.51 SMA 179.10 ECC .19389 INC 7.9642 V1 29.945
RP 208.85 LAP -1.31 LOP 4.17 VP 23.020 GAP 5.82 AZP 97.86 TAL 324.78 TAP 154.29 RCA 144.37 APO 213.82 V2 26.243
RC 98.929 GL 47.74 GP -43.85 ZAL 126.48 ZAP 103.69 ETS 192.28 ZAE 129.59 ETE 226.30 ZAC 58.77 ETC 272.09 LVI 30.48

PLANETOCENTRIC CONIC

C3 36.214 VHL 6.018 DLA 32.20 RAL 311.73 RAD 6649.3 VEL 12.494 PTH 7.38 VHP 5.282 DPA -85.62 RAP 310.57 ECC 1.5960
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 12 9 3959.50 -44.13 171.08 214.17 70.02 15 18 8 2959.5 -47.28 136.50
60.00 14 0 38 3990.23 -34.58 189.09 209.43 67.86 15 7 8 2990.2 -40.20 139.51
70.00 13 32 18 4074.09 -23.46 170.24 203.82 64.44 14 40 12 3074.1 -31.88 144.81
73.93 12 30 0 4267.05 -13.91 179.82 198.59 60.67 13 41 7 3267.1 -24.76 157.13
73.93 12 30 0 4267.05 -13.91 179.82 198.59 60.67 13 41 7 3267.1 -24.76 157.13
73.93 12 30 0 4267.05 -13.91 179.82 198.59 60.67 13 41 7 3267.1 -24.76 157.13
110.00 18 31 44 3120.91 -23.46 99.16 203.82 64.44 19 23 45 2120.9 -31.88 73.73

DIFFERENTIAL CORRECTIONS

TDE .7698 TRA .0000 TC3 -.5791 BAU .6053
RDE 2.5555 RRA 3.8988 RC3 -1.1080 FAU .09000
FDE 4.1585 FRA 6.5909 FC3 -2.1515 BSP 8901
BDE 2.6689 BRA 3.8988 BC3 1.2503 FSP 1299

MID-COURSE EXECUTION ACCURACY

SGT 1011.4 SGR 5190.4 SG3 756.7
RRT .5168 RRF .9991 RTF .5314
SGB 5288.1 R23 -.0005 R13 .9993
SG1 5217.4 SG2 861.4 THA 84.09

ORBIT DETERMINATION ACCURACY

ST 36.7 SR 130.3 SS 103.5
CRT .8796 CRS -.9999 CST -.8731
LSA 175.7 MSA 17.3 SSA .3
EL1 142.1 EL2 17.0 ALF 76.68

LAUNCH DATE MAR 16 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 555.851

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.285 GAL -5.52 AZL 83.10 HCA 190.74 SMA 178.97 ECC .19342 INC 6.9032 V1 29.945
RP 209.04 LAP -1.28 LOP 5.42 VP 22.983 GAP 5.58 AZP 96.78 TAL 324.67 TAP 153.40 RCA 144.35 APO 213.59 V2 26.221
RC 100.898 GL 43.42 GP -40.96 ZAL 129.87 ZAP 102.99 ETS 190.43 ZAE 130.77 ETE 225.22 ZAC 61.48 ETC 271.90 LVI 28.20

PLANETOCENTRIC CONIC

C3 31.575 VHL 5.619 DLA 27.98 RAL 313.01 RAD 6647.6 VEL 12.308 PTH 7.24 VHP 4.926 DPA -63.21 RAP 307.66 ECC 1.5196
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 41 31 3825.99 -46.57 159.16 209.06 78.91 15 45 17 2826.0 -45.57 124.09
60.00 14 42 14 3824.07 -38.12 156.43 206.50 75.80 15 45 58 2824.1 -39.87 125.42
70.00 14 43 34 3820.14 -29.85 153.29 203.68 72.58 15 47 14 2820.1 -34.12 125.40
80.00 14 47 13 3808.69 -21.96 149.39 200.65 69.24 15 50 42 2808.7 -28.54 123.91
90.00 15 15 95 3715.81 -16.61 140.30 198.36 66.78 16 17 51 2715.8 -24.76 116.23
100.00 17 30 5 3283.18 -21.96 110.76 200.65 69.24 18 24 48 2283.2 -28.54 85.28
110.00 19 43 1 2886.96 -29.85 82.21 203.68 72.58 20 30 47 1867.0 -34.12 54.32

DIFFERENTIAL CORRECTIONS

TDE .7480 TRA .1485 TC3 -.7056 BAU .5705
RDE 2.2362 RRA 3.6747 RC3 -1.1528 FAU .09914
FDE 4.3895 FRA 7.5814 FC3 -2.7182 BSP 8642
BDE 2.3580 BRA 3.6777 BC3 1.3516 FSP 1539

MID-COURSE EXECUTION ACCURACY

SGT 1113.5 SGR 4988.1 SG3 889.5
RRT .6291 RRF .9991 RTF .6.00
SGB 5110.9 R23 .0097 R13 .9991
SG1 5038.5 SG2 856.9 THA 81.77

ORBIT DETERMINATION ACCURACY

ST 38.2 SR 130.6 SS 110.5
CRT .9059 CRS -.9996 CST -.8946
LSA 174.5 MSA 16.4 SSA .3
EL1 135.1 EL2 15.8 ALF 74.96

LAUNCH DATE MAR 16 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

DISTANCE 560.005

EARTH TO MARS

RL 148.80 LAL .00 LOL 174.75 VL 32.277 GAL -5.53 AZL 83.94 HCA 191.87 SMA 178.88 ECC .19305 INC 6.0593 V1 29.945
RP 209.24 LAP -1.25 LOP 6.66 VP 22.947 GAP 5.34 AZP 95.93 TAL 324.54 TAP 156.51 RCA 144.33 APO 213.39 V2 26.198
RC 102.893 GL 39.55 GP -38.53 ZAL 132.29 ZAP 102.00 ETS 188.84 ZAE 131.51 ETE 222.01 ZAC 63.93 ETC 271.69 LVI 26.21

PLANETOCENTRIC CONIC

C3 28.370 VHL 5.326 DLA 24.23 RAL 314.18 RAD 6646.4 VEL 12.179 PTH 7.14 VHP 4.653 DPA -61.03 RAP 305.07 ECC 1.4669
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 5 11 3713.60 -47.50 148.67 204.05 86.94 16 7 7 2715.6 -43.11 114.61
60.00 15 13 48 3692.67 -39.78 145.67 203.10 82.93 16 15 20 2692.7 -38.31 114.61
70.00 15 28 6 3650.51 -32.66 140.89 201.73 79.41 16 28 57 2650.5 -33.68 112.19
80.00 15 56 13 3562.30 -26.93 132.80 200.33 76.59 16 55 35 2562.3 -29.86 105.76
90.00 16 57 7 3365.65 -24.47 117.68 199.65 75.36 17 53 12 2365.7 -28.20 91.29
100.00 18 39 5 3036.78 -26.93 94.17 200.33 76.59 19 29 42 2036.8 -29.86 67.13
110.00 20 27 33 2697.33 -32.66 69.81 201.73 79.41 21 12 30 1697.3 -33.68 41.11

DIFFERENTIAL CORRECTIONS

TDE .7447 TRA .3093 TC3 -.8333 BAU .5493
RDE 1.9878 RRA 3.4685 RC3 -1.1833 FAU .10776
FDE 4.5617 FRA 8.5132 FC3 -3.2884 BSP 8345
BDE 2.1227 BRA 3.4822 BC3 1.4484 FSP 1755

MID-COURSE EXECUTION ACCURACY

SGT 1251.7 SGR 4785.5 SG3 1012.0
RRT .7225 RRF .9990 RTF .7307
SGB 4946.5 R23 .0210 R13 .9988
SG1 4873.0 SG2 849.9 THA 78.96

ORBIT DETERMINATION ACCURACY

ST 40.4 SR 123.3 SS 115.8
CRT .9266 CRS -.9996 CST -.9151
LSA 173.2 MSA 15.6 SSA .4
EL1 128.9 EL2 14.5 ALF 72.87

LAUNCH DATE MAR 16 1971

FLIGHT TIME 228.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 32.271 GAL -5.54 AZL 84.63 HCA 193.19 SMA 178.76 ECC .19276 INC 5.3717 V1 29.945
 RP 209.44 LAP -1.22 LOP 7.89 VP 22.911 GAP 5.11 AZP 95.23 TAL 324.40 TAP 157.59 RCA 144.30 APO 213.22 V2 26.174
 RC 104.913 GL 36.07 GP -36.33 ZAL 134.67 ZAP 100.77 ETS 186.94 ZAE 131.86 ETE 218.77 ZAC 66.16 ETC 271.47 LVI 24.44

PLANETOCENTRIC CONIC
 C3 26.088 VHL 5.108 DLA 20.88 RAL 315.25 RAD 6645.4 VEL 12.083 PTH 7.06 VHP 4.439 DPA -59.08 RAP 302.72 ECC 1.4293
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 24 56 3622.74 -47.46 139.70 199.63 93.84 16 25 18 2622.7 -40.44 107.32
 60.00 15 39 15 3584.57 -40.29 136.53 199.89 89.11 16 39 0 2584.6 -36.24 106.19
 70.00 16 1 38 3518.67 -33.86 130.80 199.49 85.26 17 0 17 2518.7 -32.28 102.17
 80.00 16 40 16 3397.55 -28.98 121.00 198.88 82.46 17 36 53 2397.6 -29.18 93.58
 90.00 17 47 41 3179.91 -27.03 104.70 198.57 81.36 18 40 41 2179.9 -27.93 77.73
 100.00 19 23 8 2872.03 -28.98 82.37 198.88 82.46 20 11 0 1872.0 -29.18 54.95
 110.00 21 1 4 2565.49 -33.86 59.71 199.49 85.26 21 43 50 1565.5 -32.28 31.09

DIFFERENTIAL CORRECTIONS
 TDE .7532 TRA .4777 TC3 -.9683 BAU .5366
 RDE 1.7933 RRA 3.2809 RC3-1.1957 FAU .11546
 FDE 4.6975 FRA 9.3555 FC3-3.8316 B8P 8086
 BDE 1.9450 BRA 3.3155 BC3 1.5385 F8P 1957

MID-COURSE EXECUTION ACCURACY
 SGT 1421.7 SGR 4588.7 SG3 1124.1
 RRT .7921 RRF .9988 RTF .7983
 SGB 4803.9 R23 .0333 R13 .9963
 SGI 4729.5 SG2 842.0 THA 75.75

ORBIT DETERMINATION ACCURACY
 ST 43.1 SR 116.7 SS 120.0
 CRT .9458 CRS -.9993 CST -.9330
 LSA 172.2 MSA 14.7 SSA .4
 EL1 123.7 EL2 13.2 ALF 70.49

LAUNCH DATE MAR 16 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 32.266 GAL -5.56 AZL 85.20 HCA 194.42 SMA 178.68 ECC .19256 INC 4.8005 V1 29.945
 RP 209.86 LAP -1.19 LOP 9.13 VP 22.875 GAP 4.88 AZP 94.65 TAL 324.24 TAP 158.67 RCA 144.27 APO 213.08 V2 26.150
 RC 106.958 GL 32.94 GP -34.33 ZAL 136.75 ZAP 99.36 ETS 185.36 ZAE 131.86 ETE 215.58 ZAC 66.18 ETC 271.24 LVI 28.91

PLANETOCENTRIC CONIC
 C3 24.424 VHL 4.942 DLA 17.90 RAL 316.23 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 4.268 DPA -57.30 RAP 300.57 ECC 1.4020
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 41 47 3543.66 -46.83 132.17 196.00 99.61 16 40 50 2543.7 -37.78 101.61
 60.00 16 0 33 3493.68 -40.11 128.81 197.13 94.34 16 58 47 2493.7 -34.01 99.50
 70.00 16 28 41 3410.85 -34.15 122.40 197.43 90.22 17 25 32 2410.9 -30.50 94.28
 80.00 17 13 48 3269.43 -29.75 111.57 197.32 87.36 18 8 18 2269.4 -27.82 84.31
 90.00 18 24 39 3040.76 -28.05 94.65 197.21 86.29 19 15 20 2040.8 -26.77 67.72
 100.00 19 56 40 2743.90 -29.75 72.93 197.32 87.36 20 42 24 1743.9 -27.82 45.68
 110.00 21 28 7 2457.67 -34.15 51.31 197.43 90.22 22 9 5 1457.7 -30.50 23.20

DIFFERENTIAL CORRECTIONS
 TDE .7710 TRA .6525 TC3-1.1006 BAU .5302
 RDE 1.6377 RRA 3.1088 RC3-1.1940 FAU .12234
 FDE 4.8059 FRA10.1107 FC3-4.3366 B8P 7863
 BDE 1.8101 BRA 3.1765 BC3 1.6239 F8P 2140

MID-COURSE EXECUTION ACCURACY
 SGT 1616.9 SGR 4398.0 SG3 1225.4
 RRT .8426 RRF .9986 RTF .8475
 SGB 4685.8 R23 .0464 R13 .9976
 SGI 4611.6 SG2 830.4 THA 72.19

ORBIT DETERMINATION ACCURACY
 ST 46.3 SR 110.6 SS 123.3
 CRT .9613 CRS -.9989 CST -.9476
 LSA 171.4 MSA 13.9 SSA .15
 EL1 119.4 EL2 11.8 ALF 67.86

LAUNCH DATE MAR 16 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 32.261 GAL -5.58 AZL 85.68 HCA 195.65 SMA 178.60 ECC .19245 INC 4.3180 V1 29.945
 RP 209.87 LAP -1.16 LOP 10.38 VP 22.839 GAP 4.65 AZP 94.16 TAL 324.08 TAP 159.72 RCA 144.23 APO 212.97 V2 26.124
 RC 109.029 GL 30.13 GP -32.52 ZAL 138.58 ZAP 97.81 ETS 183.91 ZAE 131.55 ETE 212.51 ZAC 70.02 ETC 271.01 LVI 21.54

PLANETOCENTRIC CONIC
 C3 23.192 VHL 4.816 DLA 15.22 RAL 317.14 RAD 6644.2 VEL 11.986 PTH 6.96 VHP 4.130 DPA -55.69 RAP 298.58 ECC 1.3817
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 25 3475.67 -45.86 125.89 193.11 104.36 16 54 21 2475.7 -35.27 97.05
 60.00 16 18 48 3416.12 -39.50 122.30 194.87 98.72 17 15 44 2416.1 -31.81 94.11
 70.00 16 51 22 3320.27 -33.91 115.34 195.67 94.38 17 48 42 2320.3 -28.60 87.91
 80.00 17 41 6 3184.39 -29.83 103.76 195.92 91.46 18 33 51 2164.4 -26.20 76.93
 90.00 18 54 13 2928.43 -28.28 86.45 195.95 90.39 19 43 1 1928.4 -25.27 59.84
 100.00 20 23 58 2638.86 -29.83 63.13 195.92 91.46 21 7 57 1638.9 -26.20 38.30
 110.00 21 50 48 2367.09 -33.91 44.26 195.67 94.38 22 30 15 1367.1 -28.60 18.83

DIFFERENTIAL CORRECTIONS
 TDE .7948 TRA .8313 TC3-1.2332 BAU .5298
 RDE 1.5108 RRA 2.9488 RC3-1.1816 FAU .12850
 FDE 4.8909 FRA10.7791 FC3-4.7969 B8P 7669
 BDE 1.7070 BRA 3.0635 BC3 1.7079 F8P 2302

MID-COURSE EXECUTION ACCURACY
 SGT 1831.9 SGR 4212.2 SG3 1315.6
 RRT .8784 RRF .9984 RTF .8724
 SGB 4593.3 R23 .0600 R13 .9967
 SGI 4520.3 SG2 815.9 THA 68.35

ORBIT DETERMINATION ACCURACY
 ST 49.8 SR 105.1 SS 125.9
 CRT .9732 CRS -.9985 CST -.9592
 LSA 170.9 MCA 13.2 SSA .6
 EL1 115.8 EL2 10.4 ALF 65.08

LAUNCH DATE MAR 16 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 148.80 LAL .00 LOL 174.75 VL 32.257 GAL -5.60 AZL 86.10 HCA 196.87 SMA 178.54 ECC .19242 INC 3.9048 V1 29.945
 RP 210.10 LAP -1.13 LOP 11.59 VP 22.804 GAP 4.43 AZP 93.74 TAL 323.90 TAP 160.77 RCA 144.18 APO 212.89 V2 26.098
 RC 111.121 GL 27.60 GP -30.86 ZAL 140.18 ZAP 96.14 ETS 182.87 ZAE 131.00 ETE 209.59 ZAC 71.71 ETC 270.78 LVI 20.33

PLANETOCENTRIC CONIC
 C3 22.272 VHL 4.719 DLA 12.82 RAL 317.98 RAD 6643.8 VEL 11.927 PTH 6.93 VHP 4.018 DPA -54.22 RAP 296.71 ECC 1.3665
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 9 20 3416.76 -44.74 120.67 190.87 108.25 17 6 16 2416.8 -32.95 93.35
 60.00 16 34 42 3349.22 -38.67 116.81 193.09 102.36 17 30 31 2349.2 -29.71 89.68
 70.00 17 10 51 3242.85 -33.34 109.37 194.26 97.67 18 4 54 2242.9 -26.73 82.67
 80.00 18 4 9 3075.85 -29.49 97.21 194.77 94.89 18 55 25 2075.8 -24.51 70.89
 90.00 19 18 56 2834.50 -28.04 79.60 194.89 93.81 20 6 10 1834.5 -23.66 53.44
 100.00 20 47 1 2550.32 -29.49 58.57 194.77 94.89 21 29 31 1550.3 -24.51 32.26
 110.00 22 10 1 2289.67 -33.34 38.28 194.26 97.67 22 48 27 1289.7 -26.73 11.59

DIFFERENTIAL CORRECTIONS
 TDE .8241 TRA 1.0135 TC3-1.3641 BAU .5334
 RDE 1.4044 RRA 2.7988 RC3-1.1614 FAU .13404
 FDE 4.9539 FRA11.3647 FC3-5.2103 B8P 7514
 BDE 1.6284 BRA 2.9766 BC3 1.7915 F8P 2444

MID-COURSE EXECUTION ACCURACY
 SGT 2061.8 SGR 4031.4 SG3 1394.7
 RRT .9041 RRF .9981 RTF .9075
 SGB 4528.1 R23 .0735 R13 .9955
 SGI 4457.4 SG2 796.9 THA 64.30

ORBIT DETERMINATION ACCURACY
 ST 53.5 SR 100.0 SS 127.8
 CRT .9822 CRS -.9979 CST -.9681
 LSA 170.4 MSA 12.6 SSA .6
 EL1 113.1 EL2 8.9 ALF 62.09

LAUNCH DATE MAR 16 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC										DISTANCE 580.844										EARTH TO MARS																									
RL	148.80	LAL	.00	LOL	174.75	VL	32.254	GAL	-5.83	AZL	86.45	HCA	198.09	SMA	178.49	ECC	.19246	INC	3.3469	V1	29.945	RC	113.239	GL	25.30	GP	-29.33	ZAL	141.58	ZAP	94.39	ETS	181.34	ZAE	130.22	ZAE	130.22	ETE	206.85	ZAC	73.26	ETC	270.55	LVI	19.24
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																									
C3	21.584	VHL	4.646	DLA	10.66	RAL	318.76	RAD	8643.5	VEL	11.899	PTH	6.91	VHP	3.926	DPA	-52.86	RAP	294.93	ECC	1.3552	ST	57.5	SR	95.3	SS	129.3	CR	.9887	CRS	-.9972	CST	-.9750												
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	EL1	111.1	EL2	7.4	ALF	59.02														
90.00	16	20	50	3365.40	-43.55	118.30	189.17	111.45	17	16	55	2365.4	-30.82	90.29	90.00	16	48	46	3291.04	-37.72	112.18	191.72	105.39	17	43	37	2291.0	-27.76	85.99																
70.00	17	27	54	3175.89	-32.60	104.28	193.18	100.79	18	20	50	2175.9	-24.94	78.29	90.00	18	24	5	2999.86	-28.92	91.63	193.88	97.76	19	14	5	1999.9	-22.85	65.86																
90.00	19	40	11	2754.29	-27.54	73.78	194.07	96.68	20	26	5	1754.3	-22.06	48.11	100.00	21	6	57	2474.35	-28.92	53.00	193.88	97.76	21	48	12	1474.3	-22.85	27.23																
110.00	22	27	20	2222.71	-32.60	33.20	193.18	100.79	23	4	23	1222.7	-24.94	7.21	DDE	1.5705	BRA	2.9163	BC3	1.8734	F8P	2566	SG1	4424.6	SG2	773.6	THA	60.14																	

LAUNCH DATE MAR 16 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC										DISTANCE 585.180										EARTH TO MARS																							
RL	148.80	LAL	.00	LOL	174.75	VL	32.251	GAL	-5.64	AZL	86.77	HCA	199.31	SMA	178.45	ECC	.19240	INC	3.2336	V1	29.945	RC	113.300	GL	23.27	GP	-27.93	ZAL	142.73	ZAP	92.40	ETS	180.13	ZAE	129.11	ETE	204.15	ZAC	74.69	ETC	270.27	LVI	18.35
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	20.994	VHL	4.592	DLA	8.73	RAL	319.41	RAD	8643.3	VEL	11.874	PTH	6.89	VHP	3.851	DPA	-51.64	RAP	293.03	ECC	1.3455	ST	68.6	SR	50.1	SS	70.3	CR	.9325	CRS	-.9824	CST	-.8487										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	EL1	83.6	EL2	14.8	ALF	35.52												
50.00	16	30	44	3319.82	-42.35	112.58	187.74	114.11	17	26	4	2319.8	-28.87	87.70	90.00	17	0	53	3239.59	-36.72	108.16	190.55	107.94	17	54	53	2239.6	-25.94	82.85														
70.00	17	42	33	3117.00	-31.77	99.90	192.22	103.26	18	34	30	2117.0	-23.25	74.55	90.00	18	41	8	2933.51	-28.22	86.83	193.07	100.20	19	30	1	1933.5	-21.26	61.58														
90.00	19	58	18	2684.46	-26.89	68.78	193.32	99.10	20	43	2	1684.5	-20.50	43.58	100.00	21	24	0	2407.98	-28.22	48.20	193.07	100.20	22	4	8	1408.0	-21.26	22.94														
110.00	22	41	59	2163.82	-31.77	28.82	192.22	103.26	23	18	3	1163.8	-23.25	3.47	DDE	1.1538	BRA	2.3528	BC3	2.7140	F8P	-718	SG1	4082.2	SG2	680.4	THA	52.85															

LAUNCH DATE MAR 16 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC										DISTANCE 589.197										EARTH TO MARS																							
RL	148.80	LAL	.00	LOL	174.75	VL	32.249	GAL	-5.70	AZL	87.04	HCA	200.53	SMA	178.42	ECC	.19277	INC	2.9565	V1	29.945	RC	117.545	GL	21.33	GP	-26.61	ZAL	143.93	ZAP	90.72	ETS	179.21	ZAE	128.16	ETE	201.94	ZAC	76.02	ETC	270.10	LVI	17.40
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	20.699	VHL	4.580	DLA	6.95	RAL	320.20	RAD	8643.1	VEL	11.862	PTH	6.88	VHP	3.792	DPA	-50.43	RAP	291.74	ECC	1.3406	ST	66.0	SR	67.4	SS	131.8	CR	.9965	CRS	-.9955	CST	-.9846										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	EL1	109.4	EL2	4.4	ALF	52.96												
50.00	16	40	33	3280.74	-41.21	109.31	186.98	116.26	17	35	14	2280.7	-27.16	85.56	90.00	17	12	41	3195.23	-35.73	104.81	189.97	110.03	18	5	58	2195.3	-24.32	80.23														
70.00	17	56	36	3086.08	-30.91	96.18	191.80	105.31	18	47	42	2066.1	-21.71	71.41	90.00	18	57	18	2876.04	-27.45	82.73	192.77	102.22	19	45	12	1876.0	-19.78	57.95														
90.00	20	15	22	2624.01	-26.17	64.50	193.07	101.13	20	59	6	1624.0	-19.06	39.73	100.00	21	40	8	2350.52	-27.45	44.10	192.77	102.22	22	19	19	1350.5	-19.78	19.32														
110.00	22	56	2	2112.89	-30.91	25.09	191.80	103.31	23	31	15	1112.9	-21.71	.32	DDE	1.5060	BRA	2.8781	BC3	2.0340	F8P	2792	SG1	4450.4	SG2	728.3	THA	51.87															

LAUNCH DATE MAR 16 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC										DISTANCE 593.375										EARTH TO MARS																							
RL	148.80	LAL	.00	LOL	174.75	VL	32.248	GAL	-5.74	AZL	87.29	HCA	201.75	SMA	178.40	ECC	.19303	INC	2.7009	V1	29.945	RC	119.734	GL	19.61	GP	-25.39	ZAL	144.92	ZAP	88.83	ETS	178.28	ZAE	126.93	ETE	199.78	ZAC	77.25	ETC	269.88	LVI	16.60
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	20.434	VHL	4.520	DLA	5.35	RAL	320.86	RAD	8643.0	VEL	11.851	PTH	6.87	VHP	3.744	DPA	-49.34	RAP	290.26	ECC	1.3363	ST	70.5	SR	83.7	SS	132.1	CR	.9985	CRS	-.9945	CST	-.9876										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	EL1	109.4	EL2	3.0	ALF	49.90												
50.00	16	49	7	3245.72	-40.12	106.86	186.33	118.08	17	43	13	2245.7	-25.59	83.70	90.00	17	23	0	3155.60	-34.77	101.88	189.46	111.81	18	15	35	2155.6	-22.82	77.94														
70.00	18	8	92	3020.68	-30.05	92.92	191.43	107.05	18	59	13	2020.7	-22.82	68.66	90.00	19	11	21	2824.98	-26.67	79.14	192.50	103.95	19	58	26	1825.0	-18.40	54.78														
90.00	20	30	13	2570.37	-25.41	60.78	192.83	102.85	21	13	5	1570.4	-17.70	36.39	100.00	21	54	13	2299.45	-26.67	40.31	192.50	103.95	22	32	32	1299.4	-18.40	16.15														
110.00	23	8	18	2067.48	-30.05	21.84	191.43	107.05	23	42	46	1067.5	-20.28	357.58	DDE	1.4901	BRA	2.8893	BC3	2.1157	F8P	2866	SG1	4501.7	SG2	699.3	THA	47.86															

LAUNCH DATE MAR 16 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.247 GAL -5.78 AZL 87.51 HCA 202.96 SMA 178.39 ECC .19336 INC 2.4887 V1 29.945
RP 211.33 LAP -.97 LOP 17.69 VP 22.628 GAP 3.35 AZP 92.29 TAL 322.82 TAP 165.78 RCA 143.90 APO 212.88 V2 25.957
RC 121.945 GL 18.03 GP -24.26 ZAL 145.80 ZAP 86.94 ETS 177.44 ZAE 125.60 ETE 197.79 ZAC 78.40 ETC 269.67 LVI 15.88

DISTANCE 597.553

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.260 VHL 4.501 DLA 3.90 RAL 321.50 RAD 8643.0 VEL 11.843 PTH 6.86 VHP 3.707 DPA -48.31 RAP 288.88 ECC 1.3334
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 56 59 3214.70 -39.10 104.59 185.90 119.62 17 50 34 2214.7 -24.18 82.10
60.00 17 32 26 3120.41 -33.85 99.35 189.15 113.32 18 24 26 2120.4 -21.46 75.96
70.00 18 20 3 2980.34 -29.21 90.08 191.23 108.54 19 9 43 1980.3 -18.97 66.27
80.00 19 24 8 2779.64 -25.88 76.00 192.38 105.43 20 10 28 1779.6 -17.13 52.02
90.00 20 43 44 2522.78 -24.65 57.48 192.74 104.32 21 25 47 1522.8 -16.44 33.46
100.00 22 7 0 2254.11 -25.88 37.37 192.38 105.43 22 44 34 1254.1 -17.13 13.39
110.00 23 19 29 2027.16 -29.21 19.00 191.23 108.54 23 53 17 1027.2 -18.97 355.19

DIFFERENTIAL CORRECTIONS

TDE 1.0205 TRA 1.9521 TC3-1.9738 BAU .5982
RDE 1.0772 RRA 2.1769 RC3 -.9659 FAU .14920
PDE 5.1132 FRA13.2658 FC3-6.3754 BSP 7550
BDE 1.4839 BRA 2.9240 BC3 2.1974 FSP 2927

MID-COURSE EXECUTION ACCURACY

SGT 3323.8 SGR 3217.3 SG3 1643.3
RRT .9580 RRF .9956 RTF .9618
SGB 4625.8 R23 .1213 R13 .9886
SG1 4577.0 SG2 670.4 THA 44.03

ORBIT DETERMINATION ACCURACY

ST 75.0 SR 80.2 SS 132.2
CRT .9995 CRS -.9932 CST -.9900
LSA 171.5 MSA 10.9 SBA 1.0
EL1 109.8 EL2 1.7 ALF 46.94

LAUNCH DATE MAR 16 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.247 GAL -5.83 AZL 87.71 HCA 204.17 SMA 178.39 ECC .19375 INC 2.2889 V1 29.945
RP 211.80 LAP -.94 LOP 18.91 VP 22.593 GAP 3.13 AZP 92.09 TAL 322.57 TAP 166.74 RCA 143.83 APO 212.95 V2 25.926
RC 124.177 GL 16.58 GP -23.20 ZAL 146.80 ZAP 85.04 ETS 176.68 ZAE 124.20 ETE 195.98 ZAC 79.47 ETC 269.47 LVI 15.21

DISTANCE 601.732

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.160 VHL 4.490 DLA 2.58 RAL 322.10 RAD 8642.9 VEL 11.839 PTH 6.86 VHP 3.680 DPA -47.34 RAP 287.57 ECC 1.3318
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 4 15 3187.15 -38.16 102.83 185.84 120.91 17 57 22 2187.1 -22.91 80.71
60.00 17 41 6 3089.11 -32.98 97.15 188.99 114.60 18 32 35 2089.1 -20.23 74.23
70.00 18 30 18 2944.41 -28.41 87.80 191.16 109.81 19 19 23 1944.4 -17.77 64.17
80.00 19 35 50 2739.22 -25.12 73.24 192.38 106.69 20 21 29 1739.2 -15.96 49.59
90.00 20 56 3 2480.33 -23.90 54.60 192.76 105.58 21 37 24 1480.3 -15.27 30.89
100.00 22 18 41 2213.69 -23.12 34.81 192.38 106.69 22 55 35 1213.7 -15.96 10.96
110.00 23 29 44 1991.23 -28.41 16.51 191.16 109.81 24 2 56 991.2 -17.77 353.09

DIFFERENTIAL CORRECTIONS

TDE 1.0662 TRA 2.1410 TC3-2.0844 BAU .8142
RDE 1.0344 RRA 2.0698 RC3 -.9211 FAU .13043
PDE 5.1086 FRA13.4549 FC3-6.4800 BSP 7676
BDE 1.4898 BRA 2.9778 BC3 2.2788 FSP 2970

MID-COURSE EXECUTION ACCURACY

SGT 3582.5 SGR 3068.5 SG3 1665.4
RRT .9819 RRF .9948 RTF .9664
SGB 4717.0 R23 .1247 R13 .9876
SG1 4673.0 SG2 642.9 THA 40.41

ORBIT DETERMINATION ACCURACY

ST 79.5 SR 77.0 SS 132.1
CRT .9998 CRS -.9918 CST -.9919
LSA 172.0 MSA 10.8 SBA 1.1
EL1 110.7 EL2 1.1 ALF 44.09

LAUNCH DATE MAR 16 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.248 GAL -5.88 AZL 87.89 HCA 205.38 SMA 178.40 ECC .19421 INC 2.1076 V1 29.945
RP 211.87 LAP -.90 LOP 20.12 VP 22.558 GAP 2.93 AZP 91.90 TAL 322.31 TAP 167.69 RCA 143.75 APO 213.04 V2 25.896
RC 126.431 GL 15.25 GP -22.20 ZAL 147.32 ZAP 83.15 ETS 175.98 ZAE 122.74 ZAC 80.48 ETC 269.28 LVI 14.60

DISTANCE 605.909

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.123 VHL 4.488 DLA 1.37 RAL 322.68 RAD 8642.9 VEL 11.838 PTH 6.86 VHP 3.660 DPA -46.43 RAP 286.35 ECC 1.3312
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 0 3162.65 -37.29 100.94 185.54 122.01 18 3 42 2162.6 -21.77 79.49
60.00 17 49 8 3061.21 -32.18 95.23 188.96 115.70 18 40 9 2061.2 -19.12 72.71
70.00 18 39 45 2912.31 -27.65 85.41 191.21 110.90 19 28 17 1912.3 -16.68 62.32
80.00 19 46 35 2703.06 -24.39 70.80 192.48 107.77 20 31 38 1703.1 -14.88 47.45
90.00 21 7 22 2442.35 -23.18 52.05 192.89 106.66 21 48 5 1442.4 -14.20 28.61
100.00 22 29 26 2177.53 -24.39 32.17 192.48 107.77 23 5 44 1177.5 -14.88 8.81
110.00 23 39 11 1959.13 -27.65 14.33 191.21 110.90 24 11 51 959.1 -16.68 351.24

DIFFERENTIAL CORRECTIONS

TDE 1.1148 TRA 2.3309 TC3-2.1888 BAU .6340
RDE .9992 RRA 1.9688 RC3 -.8732 FAU .15071
PDE 5.1050 FRA13.6017 FC3-6.4838 BSP 7861
BDE 1.4962 BRA 3.0511 BC3 2.3565 FSP 3011

MID-COURSE EXECUTION ACCURACY

SGT 3840.7 SGR 2928.8 SG3 1680.8
RRT .9647 RRF .9939 RTF .5099
SGB 4828.8 R23 .1261 R13 .9868
SG1 4789.1 SG2 618.3 THA 37.04

ORBIT DETERMINATION ACCURACY

ST 84.1 SR 74.1 SS 132.0
CRT .9999 CRS -.9902 CST -.9934
LSA 172.8 MSA 10.8 SBA 1.1
EL1 112.1 EL2 1.8 ALF 41.58

LAUNCH DATE MAR 16 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.248 GAL -5.93 AZL 88.06 HCA 206.58 SMA 178.41 ECC .19474 INC 1.9422 V1 29.945
RP 212.14 LAP -.87 LOP 21.32 VP 22.523 GAP 2.72 AZP 91.74 TAL 322.04 TAP 168.62 RCA 143.67 APO 213.15 V2 25.864
RC 128.706 GL 14.02 GP -21.26 ZAL 147.98 ZAP 81.27 ETS 175.36 ZAE 121.23 ETE 192.64 ZAC 81.42 ETC 269.10 LVI 14.03

DISTANCE 610.085

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.140 VHL 4.488 DLA .26 RAL 323.25 RAD 8642.9 VEL 11.838 PTH 6.86 VHP 3.648 DPA -45.56 RAP 285.21 ECC 1.3314
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 18 3140.85 -36.49 99.46 185.54 122.95 18 9 37 2140.8 -20.74 78.43
60.00 17 56 34 3036.29 -31.43 93.54 189.04 116.65 18 47 11 2036.3 -18.11 71.38
70.00 18 48 30 2883.58 -26.93 83.48 191.36 111.84 19 36 34 1883.6 -15.68 60.69
80.00 19 56 30 2670.63 -23.70 68.64 192.68 108.71 20 41 1 1670.6 -13.90 45.54
90.00 21 17 49 2408.26 -22.50 49.78 193.10 107.60 21 57 57 1408.3 -13.22 26.59
100.00 22 39 22 2145.10 -23.70 30.01 192.68 108.71 23 15 7 1145.1 -13.90 6.91
110.00 23 47 56 1930.40 -26.93 12.40 191.36 111.84 24 20 7 930.4 -15.68 349.61

DIFFERENTIAL CORRECTIONS

TDE 1.1641 TRA 2.5204 TC3-2.2882 BAU .6551
RDE .9655 RRA 1.8721 RC3 -.8269 FAU .15064
PDE 5.0895 FRA13.6973 FC3-6.4756 BSP 8071
BDE 1.5124 BRA 3.1396 BC3 2.4331 FSP 3033

MID-COURSE EXECUTION ACCURACY

SGT 4096.5 SGR 2789.8 SG3 1688.3
RRT .9667 RRF .9928 RTF .9728
SGB 4956.2 R23 .1254 R13 .9862
SG1 4920.4 SG2 594.8 THA 33.92

ORBIT DETERMINATION ACCURACY

ST 88.7 SR 71.3 SS 131.6
CRT .9986 CRS -.9884 CST -.9946
LSA 173.6 MSA 10.9 SBA 1.2
EL1 113.7 EL2 2.9 ALF 38.80

LAUNCH DATE MAR 16 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.250 GAL -5.98 AZL 88.21 HCA 207.78 SMA 178.43 ECC .19532 INC 1.7905 V1 29.945
RP 212.43 LAP -.83 LOP 22.52 VP 22.488 GAP 2.31 AZP 91.58 TAL 321.78 TAP 169.54 RCA 143.58 APO 213.28 V2 25.832
RC 130.999 GL 12.88 GP -20.37 ZAL 148.59 ZAP 79.42 ETS 174.79 ZAE 119.69 ETE 191.48 ZAC 82.31 ETC 268.92 LVI 13.49

PLANETOCENTRIC CONIC

C3 20.204 VHL 4.485 DLA -.75 RAL 323.79 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 3.642 DPA -44.74 RAP 284.14 ECC 1.3325
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 23 8 3121.44 -35.77 98.18 185.65 123.76 18 15 10 2121.4 -19.63 77.50
60.00 18 3 31 3014.04 -30.74 92.06 189.20 117.46 18 53 45 2014.0 -17.20 70.20
70.00 18 56 38 2857.83 -26.27 81.77 191.58 112.65 19 44 16 1857.8 -14.78 59.24
80.00 20 5 43 2941.49 -23.05 66.72 192.94 109.52 20 49 45 1641.5 -13.00 43.84
90.00 21 27 30 2377.60 -21.85 47.77 193.39 108.41 22 7 8 1377.6 -12.33 24.79
100.00 22 48 35 2115.96 -23.05 28.09 192.94 109.52 23 23 51 1116.0 -13.00 5.21
110.00 0 0 0 1904.64 -26.27 10.69 191.58 112.65 0 31 45 904.6 -14.78 348.15

DIFFERENTIAL CORRECTIONS

TDE 1.2151 TRA 2.7089 TC3-2.3822 BAU .6772
RDE .9366 RRA 1.7794 RC3 -.7813 FAU .15009
FDE 5.0678 FRA13.7471 FC3-6.4313 BSP 8307
BDE 1.9342 BRA 3.2411 BC3 2.5070 FSP 3044

MID-COURSE EXECUTION ACCURACY

SGT 4348.7 SGR 2657.9 SG3 1689.3
RRT .9679 RRF .9915 RTF .9751
SGB 3096.6 R23 .1232 R13 .9858
SG1 5064.2 SG2 573.9 THA 31.05

ORBIT DETERMINATION ACCURACY

ST 93.2 SR 68.7 SS 131.1
CRT .9973 CRS -.9864 CST -.9955
LSA 174.5 MSA 11.0 SSA 1.2
EL1 115.7 EL2 4.1 ALF 36.37

LAUNCH DATE MAR 16 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.252 GAL -6.04 AZL 88.35 HCA 208.98 SMA 178.48 ECC .19596 INC 1.6508 V1 29.945
RP 212.72 LAP -.80 LOP 23.72 VP 22.453 GAP 2.31 AZP 91.44 TAL 321.47 TAP 170.45 RCA 143.49 APO 213.43 V2 25.799
RC 133.312 GL 11.83 GP -19.54 ZAL 149.15 ZAP 77.59 ETS 174.28 ZAE 118.14 ETE 190.25 ZAC 83.14 ETC 268.76 LVI 12.99

PLANETOCENTRIC CONIC

C3 20.310 VHL 4.507 DLA -1.68 RAL 324.32 RAD 6643.0 VEL 11.848 PTH 6.86 VHP 3.642 DPA -43.98 RAP 283.16 ECC 1.3343
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 28 39 3104.18 -35.11 97.06 185.83 124.45 18 20 23 2104.2 -19.00 76.68
60.00 18 10 0 2994.16 -30.11 90.75 189.44 118.16 18 59 54 1994.2 -16.38 69.15
70.00 19 4 13 2834.73 -25.65 80.26 191.87 113.36 19 51 28 1834.7 -13.97 57.95
80.00 20 14 18 2615.28 -22.45 65.01 193.28 110.22 20 57 54 1615.3 -12.18 42.33
90.00 21 36 31 2349.99 -21.25 45.97 193.74 109.11 22 15 41 1350.0 -11.51 23.17
100.00 22 57 10 2089.75 -22.45 26.38 193.28 110.22 23 32 0 1089.7 -12.18 3.70
110.00 0 7 35 1881.55 -25.65 9.18 191.87 113.36 0 38 57 881.5 -13.97 346.86

DIFFERENTIAL CORRECTIONS

TDE 1.2678 TRA 2.8973 TC3-2.4704 BAU .6999
RDE .9111 RRA 1.6912 RC3 -.7360 FAU .14899
FDE 5.0402 FRA13.7594 FC3-6.3508 BSP 8573
BDE 1.9610 BRA 3.3548 BC3 2.5777 FSP 3047

MID-COURSE EXECUTION ACCURACY

SGT 4597.3 SGR 2531.6 SG3 1684.5
RRT .9884 RRF .9901 RTF .9770
SGB 3248.2 R23 .1197 R13 .9855
SG1 5218.7 SG2 556.1 THA 28.42

ORBIT DETERMINATION ACCURACY

ST 97.8 SR 66.3 SS 130.4
CRT .9955 CRS -.9842 CST -.9963
LSA 175.6 MSA 11.2 SSA 1.2
EL1 118.0 EL2 5.2 ALF 34.10

LAUNCH DATE MAR 16 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.254 GAL -6.10 AZL 88.40 HCA 210.17 SMA 178.50 ECC .19667 INC 1.5214 V1 29.945
RP 213.01 LAP -.76 LOP 24.92 VP 22.418 GAP 2.10 AZP 91.32 TAL 321.17 TAP 171.35 RCA 143.39 APO 213.60 V2 25.766
RC 135.643 GL 10.85 GP -18.75 ZAL 149.67 ZAP 75.80 ETS 173.82 ZAE 116.58 ETE 189.14 ZAC 83.93 ETC 268.61 LVI 12.52

PLANETOCENTRIC CONIC

C3 20.454 VHL 4.523 DLA -2.54 RAL 324.84 RAD 6643.0 VEL 11.852 PTH 6.87 VHP 3.647 DPA -43.22 RAP 282.23 ECC 1.3386
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 33 49 3088.84 -34.51 96.07 186.09 125.05 18 25 18 2088.8 -18.27 75.96
60.00 18 16 5 2978.41 -29.53 89.60 189.74 118.77 19 5 42 1978.4 -15.65 68.23
70.00 19 11 19 2814.01 -25.09 78.92 192.22 113.97 19 58 13 1814.0 -13.23 56.80
80.00 20 22 19 2591.88 -21.88 63.48 193.66 110.84 21 5 31 1591.7 -11.44 40.97
90.00 21 44 56 2325.10 -20.69 44.36 194.14 109.72 22 23 42 1325.1 -10.76 21.73
100.00 23 5 11 2066.16 -21.88 24.85 193.66 110.84 23 39 37 1066.2 -11.44 2.34
110.00 0 14 41 1860.83 -25.09 7.83 192.22 113.97 0 45 42 860.8 -13.23 345.72

DIFFERENTIAL CORRECTIONS

TDE 1.3208 TRA 3.0841 TC3-2.5541 BAU .7236
RDE .8881 RRA 1.6066 RC3 -.6923 FAU .14752
FDE 5.0046 FRA13.7328 FC3-6.2441 BSP 8844
BDE 1.9914 BRA 3.4775 BC3 2.6462 FSP 3035

MID-COURSE EXECUTION ACCURACY

SGT 4840.7 SGR 2410.1 SG3 1673.9
RRT .9683 RRF .9883 RTF .5.85
SGB 3407.5 R23 .1154 R13 .9853
SG1 5380.3 SG2 541.5 THA 28.02

ORBIT DETERMINATION ACCURACY

ST 102.2 SR 64.0 SS 129.5
CRT .9933 CRS -.9817 CST -.9969
LSA 176.6 MSA 11.5 SSA 1.2
EL1 120.5 EL2 6.3 ALF 31.98

LAUNCH DATE MAR 16 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.257 GAL -6.17 AZL 88.60 HCA 211.37 SMA 178.54 ECC .19743 INC 1.4015 V1 29.945
RP 213.31 LAP -.73 LOP 26.11 VP 22.384 GAP 1.90 AZP 91.20 TAL 320.86 TAP 172.23 RCA 143.29 APO 213.79 V2 25.732
RC 137.991 GL 9.84 GP -18.01 ZAL 150.16 ZAP 74.05 ETS 173.41 ZAE 115.01 ETE 188.13 ZAC 84.67 ETC 268.47 LVI 12.07

PLANETOCENTRIC CONIC

C3 20.633 VHL 4.542 DLA -3.32 RAL 325.34 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 3.657 DPA -42.51 RAP 281.41 ECC 1.3398
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 38 42 3075.25 -33.98 95.22 186.40 125.56 18 29 57 2075.2 -17.62 75.33
60.00 18 21 49 2960.59 -29.01 88.59 190.10 119.30 19 11 9 1960.6 -14.99 67.41
70.00 19 17 58 2795.44 -24.57 77.72 192.62 114.51 20 4 34 1795.4 -12.56 55.77
80.00 20 29 50 2570.45 -21.36 62.12 194.09 111.37 21 12 40 1570.5 -10.76 39.76
90.00 21 52 49 2302.67 -20.16 42.92 194.58 110.26 22 31 12 1302.7 -10.08 20.43
100.00 23 12 42 2044.92 -21.36 23.49 194.09 111.37 23 46 47 1044.9 -10.76 1.13
110.00 0 21 21 1842.26 -24.57 6.64 192.62 114.51 0 52 3 842.3 -12.56 344.69

DIFFERENTIAL CORRECTIONS

TDE 1.3751 TRA 3.2708 TC3-2.6311 BAU .7478
RDE .8680 RRA 1.5261 RC3 -.6499 FAU .14564
FDE 4.9661 FRA13.6762 FC3-6.1111 BSP 9139
BDE 1.6261 BRA 3.6093 BC3 2.7102 FSP 3018

MID-COURSE EXECUTION ACCURACY

SGT 5079.4 SGR 2294.6 SG3 1658.9
RRT .9677 RRF .9863 RTF .9797
SGB 3573.7 R23 .1104 R13 .9852
SG1 5548.5 SG2 529.6 THA 23.84

ORBIT DETERMINATION ACCURACY

ST 106.7 SR 61.9 SS 128.5
CRT .9908 CRS -.9790 CST -.9974
LSA 177.7 MSA 11.7 SSA 1.3
EL1 123.1 EL2 7.3 ALF 30.02

LAUNCH DATE MAR 16 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.260 GAL -6.24 AZL 86.71 HCA 212.55 SMA 178.59 ECC .19824 INC 1.2899 V1 29.945
RP 213.61 LAP -.69 LOP 27.30 VP 22.349 GAP 1.70 AZP 91.09 TAL 320.34 TAP 173.10 RCA 143.19 APO 214.00 V2 25.697
RC 140.356 GL 9.10 GP -17.30 ZAL 150.62 ZAP 72.33 ETS 175.05 ZAE 113.45 ETE 187.22 ZAC 85.37 ETC 268.34 LVI 11.84

DISTANCE 630.938

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.843 VHL 4.565 DLA -4.05 RAL 325.83 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 3.672 DPA -41.84 RAP 280.65 ECC 1.3430
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 43 19 3063.22 -33.30 94.47 186.76 126.00 18 34 23 2063.2 -17.04 74.77
60.00 18 27 12 2946.51 -28.54 87.70 190.50 119.76 19 16 19 1946.5 -14.40 66.69
70.00 19 24 14 2778.82 -24.10 76.66 193.06 114.97 20 10 33 1778.8 -11.96 54.86
80.00 20 36 53 2351.38 -20.88 60.91 194.56 111.84 21 19 24 1551.4 -10.15 38.67
90.00 22 0 13 2282.46 -19.68 41.64 195.08 110.73 22 38 16 1282.5 -9.46 19.27
100.00 23 19 45 2025.83 -20.88 22.28 194.56 111.84 23 53 31 1025.8 -10.15 .04
110.00 0 27 36 1825.64 -24.10 5.58 193.06 114.97 0 58 2 825.8 -11.96 343.78

DIFFERENTIAL CORRECTIONS

TDE 1.4313 TRA 3.4573 TC3-2.7016 BAU .7717
RDE .8504 RRA 1.4496 RC3 -.6085 FAU .14330
PDE 4.9251 FRA13.5948 FC3-5.9521 BSP 9452
BDE 1.6648 BRA 3.7489 BC3 2.7692 FSP 2996

MID-COURSE EXECUTION ACCURACY

SGT 5313.3 SGR 2184.9 SG3 1640.0
RRT .9665 RRF .9840 RTF .9807
SCB 5745.0 R23 .1051 R13 .9852
SG1 5721.4 SG2 520.6 THA 21.87

ORBIT DETERMINATION ACCURACY

ST 111.1 SR 60.0 SS 127.4
CRT .9879 CRS -.9761 CST -.9978
LSA 179.0 MSA 12.0 SSA 1.3
EL1 126.0 EL2 8.2 ALF 28.21

LAUNCH DATE MAR 16 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.264 GAL -6.31 AZL 88.81 HCA 213.74 SMA 178.65 ECC .19911 INC 1.1856 V1 29.945
RP 213.92 LAP -.66 LOP 28.49 VP 22.313 GAP 1.50 AZP 90.99 TAL 320.21 TAP 173.95 RCA 143.08 APO 214.22 V2 25.662
RC 142.739 GL 8.31 GP -16.83 ZAL 151.06 ZAP 70.65 ETS 172.70 ZAE 111.91 ETE 186.39 ZAC 86.04 ETC 268.22 LVI 11.22

DISTANCE 635.100

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.063 VHL 4.592 DLA -4.72 RAL 326.31 RAD 6643.3 VEL 11.876 PTH 6.89 VHP 3.690 DPA -41.20 RAP 279.98 ECC 1.3470
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 42 3052.64 -33.07 93.82 187.16 126.39 18 38 34 2052.6 -16.53 74.28
60.00 1A 32 10 2934.01 -28.11 86.91 190.94 120.16 19 21 12 1934.0 -13.87 66.05
70.00 19 30 8 2763.97 -23.67 75.73 193.54 115.38 20 16 12 1764.0 -11.42 54.05
80.00 20 43 31 2534.21 -20.44 59.82 195.07 112.25 21 25 45 1534.2 -9.59 37.70
90.00 22 7 10 2284.28 -19.24 40.49 195.58 111.13 22 44 55 1264.3 -8.90 18.22
100.00 23 26 23 2006.66 -20.44 21.19 195.07 112.25 23 59 51 1008.7 -9.59 359.07
110.00 0 33 30 1810.78 -23.67 4.64 193.54 115.38 1 3 41 810.8 -11.42 342.97

DIFFERENTIAL CORRECTIONS

TDE 1.4884 TRA 3.6430 TC3-2.7668 BAU .7962
RDE .8349 RRA 1.3765 RC3 -.5692 FAU .14073
PDE 4.8801 FRA13.4879 FC3-5.7786 BSP 9771
BDE 1.7066 BRA 3.8944 BC3 2.8247 FSP 2966

MID-COURSE EXECUTION ACCURACY

SGT 5541.7 SGR 2080.6 SG3 1617.4
RRT .9648 RRF .9814 RTF .9815
SCB 5919.4 R23 .0995 R13 .9852
SG1 5897.0 SG2 514.1 THA 20.07

ORBIT DETERMINATION ACCURACY

ST 115.4 SR 58.2 SS 126.3
CRT .9847 CRS -.9729 CST -.9882
LSA 180.3 MSA 12.4 SSA 1.3
EL1 128.9 EL2 9.1 ALF 26.53

LAUNCH DATE MAR 16 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.268 GAL -6.38 AZL 88.91 HCA 214.92 SMA 178.71 ECC .20004 INC 1.0875 V1 29.945
RP 214.24 LAP -.62 LOP 29.67 VP 22.278 GAP 1.30 AZP 90.89 TAL 319.88 TAP 174.80 RCA 142.96 APO 214.46 V2 25.627
RC 145.138 GL 7.57 GP -16.00 ZAL 151.48 ZAP 69.02 ETS 172.40 ZAE 110.38 ETE 185.64 ZAC 86.67 ETC 269.11 LVI 10.82

DISTANCE 639.258

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.352 VHL 4.621 DLA -5.33 RAL 326.78 RAD 6643.4 VEL 11.889 PTH 6.90 VHP 3.712 DPA -40.58 RAP 279.34 ECC 1.3514
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 51 3043.37 -32.70 93.25 187.60 126.71 18 42 34 2043.4 -16.08 73.86
60.00 18 37 7 2922.97 -27.73 86.22 191.41 120.50 19 25 50 1923.0 -13.41 65.49
70.00 19 35 42 2750.73 -23.28 74.89 194.05 115.73 20 21 32 1750.7 -10.93 53.33
80.00 20 49 46 2518.83 -20.05 58.85 195.61 112.60 21 31 45 1518.8 -9.09 36.83
90.00 22 13 44 2247.94 -18.84 39.46 196.13 111.49 22 51 11 1247.9 -8.40 17.29
100.00 23 32 38 1993.30 -20.05 20.22 195.61 112.60 24 5 51 993.3 -9.09 358.20
110.00 0 39 4 1797.55 -23.28 3.81 194.05 115.73 1 9 2 797.6 -10.93 342.25

DIFFERENTIAL CORRECTIONS

TDE 1.5447 TRA 3.8262 TC3-2.8294 BAU .8219
RDE .8205 RRA 1.3061 RC3 -.5332 FAU .13823
PDE 4.8242 FRA13.3537 FC3-5.6045 BSP 10077
BDE 1.7491 BRA 4.0430 BC3 2.8792 FSP 2924

MID-COURSE EXECUTION ACCURACY

SGT 5762.9 SGR 1980.8 SG3 1591.2
RRT .9626 RRF .9783 RTF .9522
SCB 6093.8 R23 .0938 R13 .9852
SG1 6072.4 SG2 509.6 THA 18.44

ORBIT DETERMINATION ACCURACY

ST 119.6 SR 56.4 SS 124.9
CRT .9811 CRS -.9694 CST -.9888
LSA 181.5 MSA 12.7 SSA 1.3
EL1 131.8 EL2 9.9 ALF 24.99

LAUNCH DATE MAR 16 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.272 GAL -6.46 AZL 89.00 HCA 216.10 SMA 178.73 ECC .20101 INC .9955 V1 29.945
RP 214.55 LAP -.59 LOP 30.85 VP 22.243 GAP 1.10 AZP 90.80 TAL 319.53 TAP 175.63 RCA 142.84 APO 214.71 V2 25.591
RC 147.555 GL 6.88 GP -15.40 ZAL 151.87 ZAP 67.43 ETS 172.13 ZAE 108.87 ETE 184.97 ZAC 87.26 ETC 268.02 LVI 10.44

DISTANCE 643.413

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.647 VHL 4.653 DLA -5.90 RAL 327.25 RAD 6643.6 VEL 11.901 PTH 6.91 VHP 3.738 DPA -40.00 RAP 278.79 ECC 1.3563
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 58 48 3038.31 -32.37 92.77 188.08 126.99 18 46 23 2035.3 -15.69 73.49
60.00 18 41 41 2913.27 -27.40 85.82 191.91 120.80 19 30 14 1913.3 -13.00 65.00
70.00 19 40 57 2738.99 -22.93 74.18 194.58 116.04 20 26 36 1739.0 -10.50 52.70
80.00 20 55 40 2508.09 -19.68 58.00 196.17 112.91 21 37 25 1505.1 -8.65 36.06
90.00 22 19 54 2233.29 -18.47 38.54 196.70 111.80 22 57 8 1233.3 -7.94 16.46
100.00 23 38 32 1979.57 -19.68 19.36 196.17 112.91 24 11 31 979.6 -8.65 357.43
110.00 0 44 20 1785.81 -22.93 3.08 194.58 116.04 1 14 6 785.8 -10.50 341.61

DIFFERENTIAL CORRECTIONS

TDE 1.6038 TRA 4.0104 TC3-2.8841 BAU .8470
RDE .8087 RRA 1.2396 RC3 -.4978 FAU .13520
PDE 4.7739 FRA13.2070 FC3-5.4071 BSP 10403
BDE 1.7962 BRA 4.1976 BC3 2.9268 FSP 2883

MID-COURSE EXECUTION ACCURACY

SGT 5979.5 SGR 1887.2 SG3 1582.9
RRT .9597 RRF .9748 RTF .9827
SCB 6270.2 R23 .0885 R13 .9852
SG1 6249.7 SG2 507.5 THA 16.97

ORBIT DETERMINATION ACCURACY

ST 123.8 SR 54.9 SS 123.7
CRT .9772 CRS -.9658 CST -.9987
LSA 182.9 MSA 13.1 SSA 1.3
EL1 134.9 EL2 10.7 ALF 23.58

LAUNCH DATE MAR 16 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC										DISTANCE 647.964										EARTH TO MARS																																																																																																																																																	
RL	148.80	LAL	.00	LOL	174.75	VL	32.277	GAL	-6.34	AZL	89.09	HCA	217.27	SMA	178.85	ECC	.20204	INC	.9089	V1	29.945	RP	214.88	LAP	-.55	LOP	32.03	VP	22.208	GAP	.90	AZP	90.72	TAL	319.18	TAP	176.45	RCA	142.71	APO	214.98	V2	25.554	RC	149.988	GL	6.23	GP	-14.83	ZAL	152.26	ZAP	65.89	ETS	171.90	ZAE	107.38	ETE	184.35	ZAC	87.82	ETC	267.93	LVI	10.06																																																																																																				
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																	
C3	21.968	VHL	4.687	DLA	-6.43	RAL	327.70	RAD	6643.7	VEL	11.915	PTH	6.92	VHP	3.767	DPA	-39.45	RAP	278.31	ECC	1.3619	SGT	6189.6	SGR	1798.6	SG3	1532.3	ST	127.8	SR	53.4	SS	122.3	PO	CSY	TIM	INJ	2	2028.4	-13.35	73.10																																																																																																																												
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CSY	TIM	INJ	2	2028.4	-13.35	73.10	RRT	.9562	RRF	.9708	RTF	.9831	CRT	.9730	CRS	-.9619	CST	-.9989	50.00	17	59	34	3028.35	-32.08	92.35	188.56	127.23	18	50	2	2028.4	-13.35	73.10	SG6	6445.6	R23	.0832	R13	.9852	LSA	184.3	MSA	13.5	SSA	1.3	60.00	18	46	2	2904.79	-27.10	85.10	192.45	121.05	19	34	26	1904.8	-12.64	64.57	SG1	6425.7	SG2	506.9	THA	15.63	EL1	138.1	EL2	11.4	ALF	22.26	70.00	19	45	57	2728.61	-22.62	73.52	195.15	116.30	20	31	25	1728.6	-10.12	52.14	80.00	21	1	18	2492.86	-19.36	57.23	196.75	113.19	21	42	48	1492.9	-8.25	35.37	90.00	22	25	45	2220.21	-18.14	37.73	197.29	112.08	23	2	45	1220.2	-7.54	15.71	100.00	23	44	7	1967.33	-19.36	18.60	196.75	113.19	24	16	54	967.3	-8.25	356.74	110.00	0	49	19	1775.43	-22.62	2.44	195.15	116.30	1	18	54	775.4	-10.12	341.05

LAUNCH DATE MAR 16 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC										DISTANCE 651.710										EARTH TO MARS																																																																																																																								
RL	148.80	LAL	.00	LOL	174.75	VL	32.282	GAL	-6.62	AZL	89.17	HCA	218.45	SMA	178.93	ECC	.20312	INC	.8270	V1	29.945	RP	215.21	LAP	-.51	LOP	33.20	VP	22.173	GAP	.70	AZP	90.65	TAL	318.81	TAP	177.26	RCA	142.58	APO	215.27	V2	25.518	RC	152.438	GL	5.62	GP	-14.30	ZAL	152.63	ZAP	64.39	ETS	171.68	ZAE	105.92	ETE	183.80	ZAC	88.36	ETC	267.86	LVI	9.70																																																																											
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																								
C3	22.314	VHL	4.724	DLA	-6.91	RAL	328.15	RAD	6643.9	VEL	11.929	PTH	6.93	VHP	3.798	DPA	-38.92	RAP	277.89	ECC	1.3672	SGT	6394.3	SGR	1715.3	SG3	1500.1	ST	131.8	SR	52.1	SS	120.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CSY	TIM	INJ	2	2022.4	-15.06	72.91																																																																																		
50.00	18	3	9	3022.42	-31.84	91.99	189.08	127.43	18	53	32	2022.4	-15.06	72.91	RRT	.9521	RRF	.9663	RTF	.9835	CRT	.9686	CRS	-.9578	CST	-.9991	60.00	18	50	9	2897.44	-26.84	84.65	193.00	121.27	19	38	26	1897.4	-12.33	64.20	SG6	6620.4	R23	.0783	R13	.9852	LSA	185.7	MSA	13.8	SSA	1.3	70.00	19	50	40	2719.50	-22.34	72.95	195.73	118.53	20	38	0	1719.5	-9.78	51.65	SG1	6600.8	SG2	507.9	THA	14.42	EL1	141.2	EL2	12.1	ALF	21.09	80.00	21	6	32	2482.01	-19.07	56.56	197.36	113.42	21	47	54	1482.0	-7.89	34.77	90.00	22	31	16	2208.58	-17.84	37.00	197.91	112.32	23	8	5	1208.6	-7.17	15.05	100.00	23	49	24	1956.48	-19.07	17.93	197.36	113.42	24	22	0	956.9	-7.89	356.13	110.00	0	54	2	1786.32	-22.34	1.87	195.73	118.53	1	23	29	766.3	-9.78	340.56

LAUNCH DATE MAR 16 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC										DISTANCE 655.851										EARTH TO MARS																																																																																																																								
RL	148.80	LAL	.00	LOL	174.75	VL	32.287	GAL	-6.70	AZL	89.25	HCA	219.61	SMA	179.01	ECC	.20425	INC	.7494	V1	29.945	RP	215.54	LAP	-.48	LOP	34.37	VP	22.138	GAP	.50	AZP	90.58	TAL	318.44	TAP	178.06	RCA	142.44	APO	215.57	V2	25.480	RC	154.904	GL	5.05	GP	-13.79	ZAL	152.99	ZAP	62.94	ETS	171.50	ZAE	104.48	ETE	183.29	ZAC	88.86	ETC	267.80	LVI	9.34																																																																											
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																								
C3	22.685	VHL	4.763	DLA	-7.36	RAL	328.59	RAD	6644.0	VEL	11.945	PTH	6.95	VHP	3.832	DPA	-38.42	RAP	277.52	ECC	1.3733	SGT	6592.2	SGR	1636.6	SG3	1486.2	ST	133.8	SR	50.8	SS	118.3	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CSY	TIM	INJ	2	2017.4	-14.82	72.69																																																																																		
50.00	18	6	35	3017.44	-31.63	91.70	189.63	127.60	18	56	53	2017.4	-14.82	72.69	RRT	.9473	RRF	.9611	RTF	.9837	CRT	.9638	CRS	-.9534	CST	-.9992	60.00	18	54	5	2891.14	-26.62	84.27	193.57	121.45	19	42	16	1891.1	-12.06	63.89	SG6	6792.4	R23	.0737	R13	.9852	LSA	187.2	MSA	14.2	SSA	1.3	70.00	19	55	9	2711.57	-22.10	72.47	196.33	116.73	20	40	21	1711.6	-9.49	51.22	SG1	6773.2	SG2	510.1	THA	13.31	EL1	144.4	EL2	12.7	ALF	20.00	80.00	21	11	32	2472.46	-18.81	55.97	197.98	113.63	21	52	44	1472.5	-7.97	34.23	90.00	22	38	30	2198.28	-17.57	36.37	198.54	112.52	23	13	9	1198.3	-6.85	14.47	100.00	23	54	24	1946.93	-18.81	17.34	197.98	113.63	24	26	51	946.9	-7.97	355.60	110.00	0	58	31	1758.38	-22.10	1.38	196.33	116.73	1	27	50	758.4	-9.49	340.14

LAUNCH DATE MAR 16 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC										DISTANCE 659.987										EARTH TO MARS																																																																																																																								
RL	148.80	LAL	.00	LOL	174.75	VL	32.293	GAL	-6.79	AZL	89.32	HCA	220.78	SMA	179.09	ECC	.20543	INC	.6757	V1	29.945	RP	215.87	LAP	-.44	LOP	35.53	VP	22.103	GAP	.30	AZP	90.51	TAL	318.08	TAP	178.84	RCA	142.30	APO	215.89	V2	25.443	RC	157.385	GL	4.32	GP	-13.30	ZAL	153.34	ZAP	61.53	ETS	171.33	ZAE	103.07	ETE	182.84	ZAC	89.35	ETC	267.74	LVI	8.98																																																																											
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																								
C3	23.080	VHL	4.804	DLA	-7.78	RAL	329.03	RAD	6644.2	VEL	11.961	PTH	6.96	VHP	3.869	DPA	-37.94	RAP	277.22	ECC	1.3798	SGT	6784.4	SGR	1562.8	SG3	1431.2	ST	139.6	SR	49.7	SS	117.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CSY	TIM	INJ	2	2013.3	-14.62	72.50																																																																																		
50.00	18	9	52	3013.34	-31.46	91.46	190.19	127.73	19	0	6	2013.3	-14.62	72.50	RRT	.9418	RRF	.9553	RTF	.9838	CRT	.9588	CRS	-.9489	CST	-.9993	60.00	18	57	49	2885.82	-26.43	83.95	194.17	121.61	19	45	55	1885.8	-11.83	63.62	SG6	6962.1	R23	.0695	R13	.9851	LSA	188.7	MSA	14.6	SSA	1.3	70.00	19	59	25	2704.72	-21.89	72.05	196.95	116.90	20	44	30	1704.7	-9.23	50.85	SG1	6943.1	SG2	513.4	THA	12.31	EL1	147.5	EL2	13.3	ALF	19.00	80.00	21	16	17	2464.10	-18.58	55.45	198.62	113.80	21	57	21	1464.1	-7.30	33.76	90.00	22	41	28	2189.23	-17.33	35.81	199.19	112.70	23	17	57	1189.2	-6.56	13.96	100.00	0	3	4	1938.57	-18.58	16.82	198.62	113.80	0	35	23	938.6	-7.30	355.13	110.00	1	2	47	1751.54	-21.89	.96	196.95	116.90	1	31	59	751.5	-9.23	339.77

LAUNCH DATE MAR 16 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.298 GAL -6.88 AZL 89.39 MCA 221.94 SMA 179.19 ECC .20666 INC .6057 V1 29.945
RP 216.21 LAP -.41 LOP 36.69 VP 22.067 GAP .10 AZP 90.45 TAL 317.68 TAP 179.62 RCA 142.16 APO 216.22 V2 25.405
RC 159.881 GL 4.01 GP -12.84 ZAL 153.68 ZAP 60.17 ETS 171.18 ZAE 101.89 ETE 182.42 ZAC 89.80 ETC 267.70 LVI 8.64

DISTANCE 664.118

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.498 VHL 4.847 DLA -8.16 RAL 329.46 RAD 8644.4 VEL 11.978 PTH 6.98 VHP 3.908 DPA -37.49 RAP 276.98 ECC 1.3667
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 13 1 3010.05 -31.32 91.26 190.77 127.84 19 3 11 2010.1 -14.46 72.36
60.00 19 1 23 2881.40 -26.27 83.68 194.78 121.73 19 49 25 1881.4 -11.64 63.40
70.00 20 3 28 2698.88 -21.71 71.69 197.59 117.04 20 48 27 1698.9 -9.02 50.54
80.00 21 20 47 2456.85 -18.38 55.01 199.28 113.95 22 1 44 1456.9 -7.06 33.36
90.00 22 46 10 2161.35 -17.12 35.32 199.85 112.85 23 22 32 1181.3 -6.31 13.51
100.00 0 7 35 1931.32 -18.38 16.38 199.28 113.95 0 39 46 931.3 -7.06 354.73
110.00 1 6 50 1745.70 -21.71 .61 197.59 117.04 1 35 56 745.7 -9.02 339.48

DIFFERENTIAL CORRECTIONS

TDE 1.9109 TRA 4.9222 TC3-3.0873 BAU .9761
RDE .7701 RRA .9503 RC3 -.3512 FAU .11861
FDE 4.4780 FRA12.2799 FC3-4.3701 B8P 11989
BDE 2.0602 BRA 5.0131 BC3 3.1072 F8P 2614

MID-COURSE EXECUTION ACCURACY

SGT 8971.6 SGR 1494.0 SG3 1395.8
RRT .9355 RRF .9488 RTF .9840
SG8 7129.9 R23 .0656 R13 .9850
SG1 7111.1 SG2 517.4 THA 11.40

ORBIT DETERMINATION ACCURACY

ST 143.3 SR 48.6 SS 116.2
CRT .9537 CRS -.9442 CST -.9995
LSA 190.2 MSA 15.0 SSA 1.3
EL1 150.7 EL2 13.9 ALF 18.08

LAUNCH DATE MAR 16 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.304 GAL -6.98 AZL 89.46 MCA 223.10 SMA 179.28 ECC .20793 INC .5390 V1 29.945
RP 216.56 LAP -.37 LOP 37.85 VP 22.032 GAP -.10 AZP 90.59 TAL 317.29 TAP 180.38 RCA 142.00 APO 216.56 V2 25.366
RC 162.390 GL 3.54 GP -12.41 ZAL 154.01 ZAP 58.85 ETS 171.05 ZAE 100.34 ETE 182.04 ZAC 90.24 ETC 267.67 LVI 8.30

DISTANCE 668.243

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.939 VHL 4.893 DLA -8.51 RAL 329.88 RAD 8644.5 VEL 11.997 PTH 6.99 VHP 3.948 DPA -37.06 RAP 276.78 ECC 1.3940
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 16 2 3007.52 -31.22 91.12 191.37 127.92 19 6 10 2007.5 -14.33 72.24
60.00 19 4 48 2877.83 -26.14 83.46 195.40 121.84 19 82 48 1877.8 -11.49 63.22
70.00 20 7 20 2693.99 -21.56 71.39 198.23 117.16 20 52 14 1694.0 -8.84 50.26
80.00 21 25 4 2450.65 -18.21 54.63 199.94 114.08 22 5 54 1450.6 -6.85 33.01
90.00 22 50 38 2174.54 -16.94 34.91 200.52 112.99 23 26 53 1174.5 -6.10 13.13
100.00 0 11 31 1925.12 -18.21 16.00 199.94 114.08 0 43 56 925.1 -6.85 354.38
110.00 1 10 42 1740.81 -21.56 .31 198.23 117.16 1 39 43 740.8 -8.84 339.19

DIFFERENTIAL CORRECTIONS

TDE 1.9728 TRA 5.1013 TC3-3.1192 BAU 1.0038
RDE .7652 RRA .8993 RC3 -.3292 FAU .11586
FDE 4.4080 FRA12.0613 FC3-4.1829 B8P 12256
BDE 2.1186 BRA 5.1799 BC3 3.1366 F8P 2541

MID-COURSE EXECUTION ACCURACY

SGT 7151.1 SGR 1428.5 SG3 1358.8
RRT .9265 RRF .9414 RTF .9841
SG8 7292.3 R23 .0612 R13 .9850
SG1 7273.7 SG2 521.4 THA 10.58

ORBIT DETERMINATION ACCURACY

ST 146.9 SR 47.6 SS 114.4
CRT .9482 CRS -.9391 CST -.9998
LSA 191.5 MSA 15.3 SSA 1.3
EL1 153.7 EL2 14.4 ALF 17.23

LAUNCH DATE MAR 16 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

RL 148.80 LAL .00 LOL 174.75 VL 32.311 GAL -7.07 AZL 89.52 MCA 224.25 SMA 179.38 ECC .20926 INC .4753 V1 29.945
RP 216.91 LAP -.33 LOP 39.00 VP 21.997 GAP -.30 AZP 90.34 TAL 316.88 TAP 181.13 RCA 141.84 APO 216.92 V2 25.327
RC 164.912 GL 3.09 GP -11.99 ZAL 154.34 ZAP 57.58 ETS 170.94 ZAE 99.02 ETE 181.70 ZAC 90.65 ETC 267.65 LVI 7.96

DISTANCE 672.362

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.404 VHL 4.940 DLA -8.84 RAL 330.30 RAD 8644.7 VEL 12.018 PTH 7.01 VHP 3.991 DPA -36.64 RAP 276.65 ECC 1.4016
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 56 3008.72 -31.14 91.01 191.98 127.98 19 9 2 2005.7 -14.25 72.16
60.00 19 8 4 2875.05 -26.04 83.30 196.04 121.91 19 55 59 1875.1 -11.37 63.08
70.00 20 11 0 2689.99 -21.43 71.15 198.90 117.25 20 55 50 1690.0 -8.69 50.08
80.00 21 29 8 2445.43 -18.08 54.31 200.62 114.19 22 9 53 1445.4 -6.68 32.72
90.00 22 54 53 2168.76 -16.79 34.55 201.20 113.10 23 31 2 1168.8 -5.92 12.80
100.00 0 15 55 1919.90 -18.08 15.68 200.62 114.19 0 47 53 919.9 -6.68 354.09
110.00 1 14 23 1736.81 -21.43 .08 198.90 117.25 1 43 19 736.8 -8.69 338.98

DIFFERENTIAL CORRECTIONS

TDE 2.0457 TRA 5.2897 TC3-3.1334 BAU 1.0271
RDE .7843 RRA .9336 RC3 -.3034 FAU .11095
FDE 4.3653 FRA11.8727 FC3-3.9360 B8P 12632
BDE 2.1820 BRA 5.3582 BC3 3.1480 F8P 2503

MID-COURSE EXECUTION ACCURACY

SGT 7331.6 SGR 1370.9 SG3 1324.4
RRT .9203 RRF .9335 RTF .5.38
SG8 7458.8 R23 .0597 R13 .9846
SG1 7439.9 SG2 528.5 THA 9.81

ORBIT DETERMINATION ACCURACY

ST 150.8 SR 46.8 SS 113.2
CRT .9429 CRS -.9347 CST -.9996
LSA 193.7 MSA 15.7 SSA 1.3
EL1 157.2 EL2 15.0 ALF 16.46

LAUNCH DATE MAR 17 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 10 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 33.370 GAL -7.61 AZL 93.31 HCA 146.07 SMA 202.19 ECC .29316 INC 3.3119 V1 29.937
 RP 207.18 LAP -1.83 LOP 321.86 VP 24.896 GAP 16.99 AZP 87.25 TAL 325.53 TAP 111.60 RCA 142.92 APO 261.47 V2 26.438
 RC 56.568 GL -17.99 GP 7.69 ZAL 142.29 ZAP 160.44 ETP 157.18 ZAE 163.15 ETE 131.32 ZAC 109.29 ETC 274.78 LVI -20.84

PLANETOCENTRIC CONIC
 C3 38.729 VHL 6.223 DLA -31.08 RAL 331.09 RAD 6650.2 VEL 12.594 PTH 7.46 VHP 8.319 DPA -13.54 RAP 304.78 ECC 1.6374
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 58 55 2646.02 -14.61 72.78 190.30 135.80 20 43 1 1646.0 3.70 58.86
 60.00 21 25 50 2414.74 -7.35 58.79 205.13 129.74 22 6 5 1414.7 8.74 40.85
 70.00 23 27 25 2036.93 1.40 36.38 211.71 124.13 24 1 42 1056.9 15.02 16.39
 76.54 2 3 7 1584.08 12.90 7.34 218.74 118.52 2 29 31 584.1 23.52 344.71
 76.54 2 3 7 1584.08 12.90 7.34 218.74 118.52 2 29 31 584.1 23.52 344.71
 76.54 2 3 7 1584.08 12.90 7.34 218.74 118.52 2 29 31 584.1 23.52 344.71
 110.00 4 30 48 1103.75 1.40 325.29 211.71 124.13 4 49 11 103.7 15.02 305.31

DIFFERENTIAL CORRECTIONS
 TDE-1.1097 TRA-2.0520 TC3 -.0994 BAU .1118 SGT 2434.1 SGR 576.4 S63 308.2 ST 60.9 SR 22.5 S8 47.3
 RDE -.4797 RRA -.2637 RC3 .1916 FAU .04845 RRT .7462 RRF -.7903 RTF -.8946 CRT .9268 CRS .8167 CST .9730
 FDE .9937 FRA 2.9521 FC3-1.0831 B8P 4331 SGB 2901.4 R23 -.1596 R13 -.8994 LSA 79.3 MSA 13.1 S8A 1.1
 BDE 1.2089 BRA 2.0689 BC3 .2159 F8P 463 S61 2472.7 S62 377.8 THA 10.26 EL1 64.4 EL2 8.0 ALF 19.21

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 33.485 GAL -7.46 AZL 93.42 HCA 147.33 SMA 200.45 ECC .28646 INC 3.4208 V1 29.937
 RP 207.09 LAP -1.85 LOP 323.13 VP 24.893 GAP 16.54 AZP 87.12 TAL 325.57 TAP 112.90 RCA 143.03 APO 257.87 V2 26.448
 RC 56.856 GL -18.87 GP 8.16 ZAL 142.00 ZAP 159.38 ETS 157.12 ZAE 163.32 ETE 128.34 ZAC 109.73 ETC 274.87 LVI -21.38

PLANETOCENTRIC CONIC
 C3 37.527 VHL 6.126 DLA -31.86 RAL 331.58 RAD 6649.8 VEL 12.546 PTH 7.42 VHP 8.092 DPA -13.02 RAP 304.97 ECC 1.6176
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 5 34 2619.35 -13.31 71.59 199.67 136.11 20 49 13 1619.3 5.04 55.74
 60.00 21 35 3 2381.21 -5.89 57.16 205.68 129.94 22 14 44 1381.2 10.19 39.20
 70.00 23 43 59 2001.60 3.51 33.48 212.73 123.99 24 17 21 1001.6 16.94 13.25
 74.68 1 52 8 1616.66 13.46 10.12 218.90 119.15 2 19 5 616.7 24.28 347.49
 74.68 1 52 8 1616.66 13.46 10.12 218.90 119.15 2 19 5 616.7 24.28 347.49
 74.68 1 52 8 1616.66 13.46 10.12 218.90 119.15 2 19 5 616.7 24.28 347.49
 110.00 4 47 21 1048.42 3.51 322.40 212.73 123.99 5 4 50 48.4 16.94 302.17

DIFFERENTIAL CORRECTIONS
 TDE-1.1178 TRA-2.0215 TC3 -.0940 BAU .1138 SGT 2462.0 SGR 605.0 S63 327.0 ST 62.0 SR 22.7 S8 49.2
 RDE -.4738 RRA -.2953 RC3 .2064 FAU .04998 RRT .7775 RRF -.8239 RTF -.8978 CRT .9386 CRS .8328 CST .9720
 FDE 1.0436 FRA 3.0633 FC3-1.1529 B8P 4403 SGB 2535.3 R23 -.1739 R13 -.9033 LSA 81.3 MSA 13.0 S8A 1.0
 BDE 1.2141 BRA 2.0430 BC3 .2268 F8P 494 S61 2507.6 S62 373.6 THA 11.07 EL1 65.6 EL2 7.4 ALF 19.20

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 33.405 GAL -7.32 AZL 93.54 HCA 146.60 SMA 198.84 ECC .28009 INC 3.5376 V1 29.937
 RP 207.01 LAP -1.84 LOP 324.39 VP 24.798 GAP 16.10 AZP 86.98 TAL 325.61 TAP 114.20 RCA 143.15 APO 254.53 V2 26.457
 RC 57.225 GL -19.80 GP 8.68 ZAL 141.87 ZAP 158.27 ETS 157.00 ZAE 163.39 ETE 125.40 ZAC 110.22 ETC 274.95 LVI -21.96

PLANETOCENTRIC CONIC
 C3 36.439 VHL 6.036 DLA -32.68 RAL 332.09 RAD 6649.4 VEL 12.503 PTH 7.39 VHP 7.872 DPA -12.45 RAP 305.12 ECC 1.5997
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 12 46 2591.79 -11.95 70.38 199.14 136.40 20 55 57 1591.8 6.41 54.58
 60.00 21 45 14 2349.87 -4.33 55.45 206.37 130.11 22 24 20 1345.7 11.71 37.43
 70.00 0 8 39 1934.73 6.04 29.97 214.14 123.68 0 40 54 934.7 19.18 9.36
 72.89 1 42 18 1646.22 14.03 12.71 219.15 119.82 2 9 44 646.2 25.06 350.09
 72.89 1 42 18 1646.22 14.03 12.71 219.15 119.82 2 9 44 646.2 25.06 350.09
 72.89 1 42 18 1646.22 14.03 12.71 219.15 119.82 2 9 44 646.2 25.06 350.09
 110.00 5 8 5 6269.59 6.04 298.79 214.14 123.68 6 52 33 5269.6 19.18 276.19

DIFFERENTIAL CORRECTIONS
 TDE-1.1263 TRA-1.9887 TC3 -.0881 BAU .1165 SGT 2486.7 SGR 639.2 S63 346.8 ST 63.2 SR 23.0 S8 50.9
 RDE -.4697 RRA -.3291 RC3 .2224 FAU .05158 RRT .8055 RRF -.8541 RTF -.5008 CRT .9500 CRS .8491 CST .9709
 FDE 1.0971 FRA 3.1769 FC3-1.2256 B8P 4470 SGB 2567.5 R23 -.1888 R13 -.9071 LSA 83.3 MSA 13.0 S8A 1.0
 BDE 1.2203 BRA 2.0157 BC3 .2392 F8P 527 S61 2540.6 S62 370.7 THA 11.96 EL1 66.9 EL2 6.8 ALF 19.28

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 33.329 GAL -7.19 AZL 93.66 HCA 149.86 SMA 197.34 ECC .27406 INC 3.6632 V1 29.937
 RP 206.94 LAP -1.84 LOP 325.68 VP 24.701 GAP 15.87 AZP 86.83 TAL 325.65 TAP 115.51 RCA 143.23 APO 251.42 V2 26.466
 RC 57.675 GL -20.78 GP 9.24 ZAL 141.29 ZAP 157.13 ETS 156.84 ZAE 163.36 ETE 122.54 ZAC 110.76 ETC 275.03 LVI -22.58

PLANETOCENTRIC CONIC
 C3 35.484 VHL 5.993 DLA -33.56 RAL 332.63 RAD 6649.1 VEL 12.484 PTH 7.36 VHP 7.660 DPA -11.84 RAP 305.23 ECC 1.5836
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 20 36 2583.23 -10.54 69.13 199.74 136.67 21 3 20 1563.2 7.84 53.36
 60.00 21 56 36 2307.68 -2.66 63.63 207.24 130.23 22 35 4 1307.7 13.33 35.52
 70.00 0 38 16 1842.31 9.50 25.05 216.26 122.96 1 8 58 842.3 22.11 3.80
 71.13 1 33 19 1673.81 14.61 15.18 219.48 120.55 2 1 12 673.8 25.88 352.58
 71.13 1 33 19 1673.81 14.61 15.18 219.48 120.55 2 1 12 673.8 25.88 352.58
 71.13 1 33 19 1673.81 14.61 15.18 219.48 120.55 2 1 12 673.8 25.88 352.58
 110.00 5 37 42 6177.17 9.50 291.87 216.26 122.96 7 20 39 5177.2 22.11 270.62

DIFFERENTIAL CORRECTIONS
 TDE-1.1365 TRA-1.9540 TC3 -.0826 BAU .1201 SGT 2509.0 SGR 679.8 S63 367.5 ST 64.3 SR 23.4 S8 52.7
 RDE -.4679 RRA -.3655 RC3 .2396 FAU .05325 RRT .8303 RRF -.8807 RTF -.9035 CRT .9608 CRS .8657 CST .9699
 FDE 1.1554 FRA 3.2936 FC3-1.3000 B8P 4539 SGB 2599.5 R23 -.2044 R13 -.9107 LSA 85.4 MSA 13.0 S8A 1.0
 BDE 1.2290 BRA 1.9879 BC3 .2534 F8P 562 S61 2573.1 S62 369.5 THA 12.95 EL1 68.1 EL2 6.1 ALF 19.43

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 33.287 GAL -7.06 AZL 93.80 HCA 151.12 SMA 195.94 ECC .26833 INC 3.7989 V1 29.937
RP 206.87 LAP -1.83 LOP 326.93 VP 24.611 GAP 15.24 AZP 86.67 TAL 325.69 TAP 116.82 RCA 143.36 APO 248.51 V2 26.473
RC 58.203 GL -21.82 GP 9.86 ZAL 140.87 ZAP 155.93 ETS 156.62 ZAE 163.21 ETE 119.83 ZAC 111.36 ETC 275.11 LVI -23.24

PLANETOCENTRIC CONIC

C3 34.598 VHL 5.882 DLA -34.49 RAL 333.22 RAD 6648.7 VEL 12.430 PTH 7.33 VHP 7.457 DPA -11.19 RAP 305.31 ECC 1.5694
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 29 13 2533.44 -9.06 67.85 200.49 136.91 21 11 26 1533.4 9.32 52.09
60.00 22 9 29 2266.48 -.85 51.66 208.33 130.29 22 47 15 1266.5 15.06 33.41
69.38 1 25 5 1699.80 15.19 17.57 219.92 121.34 1 53 24 699.8 26.72 354.99
69.38 1 25 5 1699.80 15.19 17.57 219.92 121.34 1 53 24 699.8 26.72 354.99
69.38 1 25 5 1699.80 15.19 17.57 219.92 121.34 1 53 24 699.8 26.72 354.99
69.38 1 25 5 1699.80 15.19 17.57 219.92 121.34 1 53 24 699.8 26.72 354.99

DIFFERENTIAL CORRECTIONS

TDE-1.1324 TRA-1.9014 TC3 -.0588 BAV .1230
RDE -.4876 RRA -.4036 RC3 .2594 FAU .05512
FDE 1.2162 FRA 3.4098 FC3-1.3793 B8P 4413
BDE 1.2251 BRA 1.9437 BC3 .2660 F8P 596

DISTANCE 431.750

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 167.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 33.189 GAL -6.93 AZL 93.95 HCA 152.39 SMA 194.64 ECC .26292 INC 3.9460 V1 29.937
RP 206.82 LAP -1.83 LOP 328.20 VP 24.526 GAP 14.82 AZP 86.50 TAL 325.74 TAP 118.13 RCA 143.46 APO 245.81 V2 26.479
RC 58.807 GL -22.93 GP 10.54 ZAL 140.40 ZAP 154.69 ETS 156.36 ZAE 162.94 ETE 117.30 ZAC 112.02 ETC 275.18 LVI -23.94

PLANETOCENTRIC CONIC

C3 33.849 VHL 5.818 DLA -35.48 RAL 333.85 RAD 6648.5 VEL 12.400 PTH 7.31 VHP 7.262 DPA -10.49 RAP 305.34 ECC 1.5571
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 38 43 2302.36 -7.52 66.52 201.42 137.12 21 20 25 1502.4 10.86 50.75
60.00 22 24 15 2221.23 1.14 49.50 209.60 130.29 23 1 16 1221.2 16.93 31.06
67.63 1 17 30 1724.75 15.78 19.92 220.47 122.20 1 46 14 724.8 27.59 357.37
67.63 1 17 30 1724.75 15.78 19.92 220.47 122.20 1 46 14 724.8 27.59 357.37
67.63 1 17 30 1724.75 15.78 19.92 220.47 122.20 1 46 14 724.8 27.59 357.37
67.63 1 17 30 1724.75 15.78 19.92 220.47 122.20 1 46 14 724.8 27.59 357.37

DIFFERENTIAL CORRECTIONS

TDE-1.1580 TRA-1.8748 TC3 -.0678 BAV .1298
RDE -.4718 RRA -.4467 RC3 .2787 FAU .05688
FDE 1.2888 FRA 3.5314 FC3-1.4548 B8P 4631
BDE 1.2504 BRA 1.9272 BC3 .2868 F8P 636

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 166.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 33.124 GAL -8.81 AZL 94.11 HCA 153.65 SMA 193.42 ECC .25778 INC 4.1060 V1 29.937
RP 206.77 LAP -1.82 LOP 329.46 VP 24.445 GAP 14.42 AZP 86.32 TAL 325.79 TAP 119.45 RCA 143.56 APO 243.28 V2 26.485
RC 59.489 GL -24.12 GP 11.30 ZAL 139.87 ZAP 153.39 ETS 156.04 ZAE 162.56 ETE 114.99 ZAC 112.75 ETC 275.25 LVI -24.70

PLANETOCENTRIC CONIC

C3 33.214 VHL 5.763 DLA -36.53 RAL 334.53 RAD 6648.2 VEL 12.374 PTH 7.29 VHP 7.075 DPA -9.72 RAP 305.32 ECC 1.5466
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 49 17 2469.60 -5.88 65.13 202.94 137.30 21 30 26 1469.6 12.48 49.31
60.00 22 41 40 2170.07 3.39 47.05 211.39 130.18 23 17 50 1170.1 19.02 28.34
65.85 1 10 30 1748.93 16.37 22.25 221.15 123.12 1 39 39 748.9 28.49 359.75
65.85 1 10 30 1748.93 16.37 22.25 221.15 123.12 1 39 39 748.9 28.49 359.75
65.85 1 10 30 1748.93 16.37 22.25 221.15 123.12 1 39 39 748.9 28.49 359.75
65.85 1 10 30 1748.93 16.37 22.25 221.15 123.12 1 39 39 748.9 28.49 359.75

DIFFERENTIAL CORRECTIONS

TDE-1.1744 TRA-1.8341 TC3 -.0644 BAV .1364
RDE -.4787 RRA -.4927 RC3 .3004 FAU .05878
FDE 1.3623 FRA 3.6314 FC3-1.5320 B8P 4714
BDE 1.2682 BRA 1.8991 BC3 .3072 F8P 677

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 33.083 GAL -6.70 AZL 94.28 HCA 154.92 SMA 192.29 ECC .25292 INC 4.2812 V1 29.937
RP 206.74 LAP -1.81 LOP 330.73 VP 24.367 GAP 14.02 AZP 86.12 TAL 325.84 TAP 120.76 RCA 143.66 APO 240.93 V2 26.489
RC 60.233 GL -25.38 GP 12.13 ZAL 139.27 ZAP 152.03 ETS 155.68 ZAE 162.05 ETE 112.95 ZAC 113.56 ETC 275.31 LVI -25.52

PLANETOCENTRIC CONIC

C3 32.697 VHL 5.718 DLA -37.65 RAL 335.28 RAD 6648.0 VEL 12.354 PTH 7.28 VHP 6.897 DPA -8.88 RAP 305.25 ECC 1.5381
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 1 9 2434.80 -4.14 63.67 203.91 137.44 21 41 44 1434.8 14.19 47.77
60.00 23 3 0 2109.77 6.03 44.15 213.58 129.92 23 38 10 1109.8 21.41 25.03
64.04 1 4 6 1772.58 16.97 24.58 221.97 124.13 1 33 39 772.6 29.42 2.15
64.04 1 4 6 1772.58 16.97 24.58 221.97 124.13 1 33 39 772.6 29.42 2.15
64.04 1 4 6 1772.58 16.97 24.58 221.97 124.13 1 33 39 772.6 29.42 2.15
64.04 1 4 6 1772.58 16.97 24.58 221.97 124.13 1 33 39 772.6 29.42 2.15

DIFFERENTIAL CORRECTIONS

TDE-1.1909 TRA-1.7882 TC3 -.0584 BAV .1440
RDE -.4893 RRA -.5424 RC3 .3241 FAU .06078
FDE 1.4448 FRA 3.7692 FC3-1.6094 B8P 4767
BDE 1.2875 BRA 1.8686 BC3 .3293 F8P 717

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 17 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 33.009 GAL -6.59 AZL 94.47 HCA 156.19 SMA 191.24 ECC .24837 INC 4.4737 V1 29.937
RP 206.71 LAP -1.80 LOP 332.00 VP 24.292 GAP 13.62 AZP 85.91 TAL 325.90 TAP 122.08 RCA 143.75 APO 236.72 V2 26.492
RC 61.050 GL -26.74 GP 13.05 ZAL 136.60 ZAP 150.60 ETS 155.26 ZAE 161.41 ETE 111.18 ZAC 114.47 ETC 275.37 LVI -26.40

PLANETOCENTRIC CONIC

C3 32.306 VHL 5.684 DLA -38.85 RAL 336.11 RAD 6647.9 VEL 12.338 PTH 7.26 VHP 6.728 DPA -7.97 RAP 305.12 ECC 1.5317
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 14 39 2397.43 -2.26 62.10 205.57 137.54 21 54 36 1397.4 16.01 46.09
60.00 23 31 18 2032.34 9.40 40.38 216.58 129.37 24 5 11 1032.3 24.36 20.62
62.18 0 58 13 1796.10 17.56 26.95 222.96 125.22 1 28 9 796.1 30.38 4.61
62.18 0 58 13 1796.10 17.56 26.95 222.96 125.22 1 28 9 796.1 30.38 4.61
62.18 0 58 13 1796.10 17.56 26.95 222.96 125.22 1 28 9 796.1 30.38 4.61
62.18 0 58 13 1796.10 17.56 26.95 222.96 125.22 1 28 9 796.1 30.38 4.61
62.18 0 58 13 1796.10 17.56 26.95 222.96 125.22 1 28 9 796.1 30.38 4.61

DIFFERENTIAL CORRECTIONS

TDE-1.2031 TRA-1.7316 TC3 -.0442 BAU .1326
RDE -.5039 RRA -.5959 RC3 .3506 FAU .06295
FDE 1.5336 FRA 3.8009 FC3-1.6869 BSP 4734
BDE 1.3043 BRA 1.8313 BC3 .3534 FSP 756

MID-COURSE EXECUTION ACCURACY

SGT 2548.8 SGR 1005.9 SG3 483.4
RRT .9067 RRF -.9638 RTF -.9142
SCB 2740.1 R23 -.2700 R13 -.9301
SG1 2710.9 SG2 398.8 THA 20.14

ORBIT DETERMINATION ACCURACY

ST 69.3 SR 27.9 SS 62.8
CRT .9966 CRS .9410 CST .9644
LSA 96.7 MSA 13.5 SSA .8
EL1 74.7 EL2 2.1 ALF 21.88

LAUNCH DATE MAR 17 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 32.951 GAL -6.48 AZL 94.69 HCA 157.45 SMA 190.25 ECC .24398 INC 4.6867 V1 29.937
RP 206.69 LAP -1.80 LOP 333.27 VP 24.220 GAP 13.24 AZP 85.67 TAL 325.95 TAP 123.40 RCA 143.83 APO 236.67 V2 26.495
RC 61.933 GL -28.20 GP 14.07 ZAL 137.85 ZAP 149.10 ETS 154.79 ZAE 160.63 ETE 109.69 ZAC 115.49 ETC 275.43 LVI -27.38

PLANETOCENTRIC CONIC

C3 32.053 VHL 5.662 DLA -40.12 RAL 337.03 RAD 6647.8 VEL 12.328 PTH 7.26 VHP 6.569 DPA -6.96 RAP 304.93 ECC 1.5275
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 30 12 2356.83 -.22 60.40 207.60 137.58 22 9 29 1356.8 17.97 44.22
60.00 0 26 6 1895.04 15.24 33.48 221.85 127.77 0 57 41 895.0 29.20 12.23
60.26 0 52 56 1819.57 18.13 29.36 224.14 126.42 1 23 15 819.6 31.37 7.14
60.26 0 52 56 1819.57 18.13 29.36 224.14 126.42 1 23 15 819.6 31.37 7.14
60.26 0 52 56 1819.57 18.13 29.36 224.14 126.42 1 23 15 819.6 31.37 7.14
60.26 0 52 56 1819.57 18.13 29.36 224.14 126.42 1 23 15 819.6 31.37 7.14
60.26 0 52 56 1819.57 18.13 29.36 224.14 126.42 1 23 15 819.6 31.37 7.14

DIFFERENTIAL CORRECTIONS

TDE-1.2340 TRA-1.6866 TC3 -.0491 BAU .1629
RDE -.5264 RRA -.8562 RC3 .3770 FAU .06487
FDE 1.6398 FRA 3.9934 FC3-1.7521 BSP 4890
BDE 1.3416 BRA 1.8098 BC3 .3802 FSP 802

MID-COURSE EXECUTION ACCURACY

SGT 2558.3 SGR 1104.6 SG3 508.4
RRT .9130 RRF -.9725 RTF -.9140
SCB 2766.6 R23 -.2814 R13 -.9331
SG1 2755.0 SG2 418.6 THA 22.05

ORBIT DETERMINATION ACCURACY

ST 70.9 SR 29.7 SS 65.2
CRT .9990 CRS .9530 CST .9633
LSA 99.8 MSA 13.7 SSA .7
EL1 76.8 EL2 1.2 ALF 22.70

LAUNCH DATE MAR 17 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 32.899 GAL -6.38 AZL 94.92 HCA 158.72 SMA 189.33 ECC .23987 INC 4.9235 V1 29.937
RP 206.68 LAP -1.79 LOP 334.54 VP 24.152 GAP 12.86 AZP 85.41 TAL 326.00 TAP 124.72 RCA 143.92 APO 234.75 V2 26.496
RC 62.879 GL -29.76 GP 15.21 ZAL 137.01 ZAP 147.50 ETS 154.27 ZAE 159.70 ETE 108.48 ZAC 116.82 ETC 275.49 LVI -28.44

PLANETOCENTRIC CONIC

C3 31.951 VHL 5.652 DLA -41.49 RAL 338.06 RAD 6647.8 VEL 12.324 PTH 7.25 VHP 6.422 DPA -5.85 RAP 304.67 ECC 1.5258
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 48 29 2311.70 2.05 58.52 210.11 137.54 22 27 1 1311.7 20.12 42.09
58.28 0 48 16 1843.22 18.70 31.83 225.55 127.74 1 18 59 843.2 32.38 9.77
58.28 0 48 16 1843.22 18.70 31.83 225.55 127.74 1 18 59 843.2 32.38 9.77
58.28 0 48 16 1843.22 18.70 31.83 225.55 127.74 1 18 59 843.2 32.38 9.77
58.28 0 48 16 1843.22 18.70 31.83 225.55 127.74 1 18 59 843.2 32.38 9.77
58.28 0 48 16 1843.22 18.70 31.83 225.55 127.74 1 18 59 843.2 32.38 9.77
58.28 0 48 16 1843.22 18.70 31.83 225.55 127.74 1 18 59 843.2 32.38 9.77

DIFFERENTIAL CORRECTIONS

TDE-1.2611 TRA-1.6289 TC3 -.0448 BAU .1748
RDE -.5552 RRA -.7210 RC3 .4067 FAU .06700
FDE 1.7549 FRA 4.0922 FC3-1.8154 BSP 4948
BDE 1.3780 BRA 1.7814 BC3 .4091 FSP 844

MID-COURSE EXECUTION ACCURACY

SGT 2548.6 SGR 1216.6 SG3 532.9
RRT .9182 RRF -.9792 RTF -.5.46
SCB 2824.0 R23 -.2861 R13 -.9373
SG1 2789.5 SG2 440.3 THA 24.31

ORBIT DETERMINATION ACCURACY

ST 72.0 SR 31.7 SS 67.5
CRT .9997 CRS .9633 CST .9824
LSA 102.7 MSA 14.0 SSA .7
EL1 78.6 EL2 .7 ALF 23.79

LAUNCH DATE MAR 17 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 32.851 GAL -6.29 AZL 95.19 HCA 159.99 SMA 188.47 ECC .23599 INC 5.1889 V1 29.937
RP 206.67 LAP -1.77 LOP 335.81 VP 24.088 GAP 12.49 AZP 85.12 TAL 326.06 TAP 126.04 RCA 144.00 APO 232.95 V2 26.496
RC 63.888 GL -31.48 GP 16.49 ZAL 136.07 ZAP 145.81 ETS 153.70 ZAE 158.61 ETE 107.53 ZAC 117.90 ETC 275.54 LVI -29.61

PLANETOCENTRIC CONIC

C3 32.019 VHL 5.659 DLA -42.95 RAL 339.23 RAD 6647.8 VEL 12.326 PTH 7.26 VHP 6.287 DPA -4.81 RAP 304.34 ECC 1.5270
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 10 37 2259.97 4.64 56.35 213.27 137.40 22 48 17 1260.0 22.55 39.56
56.21 0 44 16 1867.35 19.23 34.40 227.21 129.18 1 15 24 867.3 33.41 12.54
56.21 0 44 16 1867.35 19.23 34.40 227.21 129.18 1 15 24 867.3 33.41 12.54
56.21 0 44 16 1867.35 19.23 34.40 227.21 129.18 1 15 24 867.3 33.41 12.54
56.21 0 44 16 1867.35 19.23 34.40 227.21 129.18 1 15 24 867.3 33.41 12.54
56.21 0 44 16 1867.35 19.23 34.40 227.21 129.18 1 15 24 867.3 33.41 12.54
56.21 0 44 16 1867.35 19.23 34.40 227.21 129.18 1 15 24 867.3 33.41 12.54

DIFFERENTIAL CORRECTIONS

TDE-1.2932 TRA-1.5682 TC3 -.0405 BAU .1884
RDE -.5937 RRA -.7320 RC3 .4383 FAU .06909
FDE 1.8855 FRA 4.1774 FC3-1.8682 BSP 5010
BDE 1.4230 BRA 1.7551 BC3 .4402 FSP 885

MID-COURSE EXECUTION ACCURACY

SGT 2532.1 SGR 1344.7 SG3 556.7
RRT .9218 RRF -.9844 RTF -.9148
SCB 2867.0 R23 -.2866 R13 -.9420
SG1 2828.8 SG2 466.5 THA 26.87

ORBIT DETERMINATION ACCURACY

ST 73.1 SR 34.3 SS 70.1
CRT .9990 CRS .9721 CST .9617
LSA 105.9 MSA 14.3 SSA .6
EL1 80.7 EL2 1.4 ALF 25.10

LAUNCH DATE MAR 17 1971 FLIGHT TIME 170.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 461.683 EARTH TO MARS
RL 148.84 LAL .00 LOL 175.75 VL 32.808 GAL -8.20 AZL 95.49 HCA 161.25 SMA 187.67 ECC .23232 INC 5.4885 V1 29.937
RP 206.68 LAP -1.76 LOP 337.08 VP 24.023 GAP 12.13 AZP 84.80 TAL 326.11 TAP 127.36 RCA 144.07 APO 231.27 V2 26.496
RC 64.956 GL -33.30 GP 17.93 ZAL 135.01 ZAP 144.01 ETS 153.08 ZAE 157.34 ETE 106.82 ZAC 119.34 ETC 275.60 LVI -30.91

PLANETOCENTRIC CONIC
C3 32.289 VHL 5.682 DLA -44.53 RAL 340.56 RAD 6647.9 VEL 12.337 PTH 7.26 VHP 6.165 DPA -3.23 RAP 303.93 ECC 1.5314
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 22 38 43 2197.28 7.78 53.70 217.40 137.09 23 15 20 1197.3 25.42 36.37
54.05 0 41 3 1892.20 19.72 37.07 229.18 130.77 1 12 35 892.2 34.44 15.48
84.05 0 41 3 1892.20 19.72 37.07 229.18 130.77 1 12 35 892.2 34.44 15.48
54.05 0 41 3 1892.20 19.72 37.07 229.18 130.77 1 12 35 892.2 34.44 15.48
54.05 0 41 3 1892.20 19.72 37.07 229.18 130.77 1 12 35 892.2 34.44 15.48
54.05 0 41 3 1892.20 19.72 37.07 229.18 130.77 1 12 35 892.2 34.44 15.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -1.3304 TRA -1.4962 TC3 -.0348 BAU .2044 SGT 2505.8 SGR 1491.1 SG3 579.1 ST 74.2 SR 37.4 SS 72.7
RDE -.6448 RRA -.8696 RC3 .4723 FAU .07116 RRT .9243 RRF -.9884 RTF -.9149 CRT .9970 CRS .9793 CST .9613
PDE 2.0352 FRA 4.2428 FC3-1.9081 B8P 5062 SGB 2915.9 R23 -.2923 R13 -.9473 LSA 109.5 MSA 14.6 S8A .5
BDE 1.4785 BRA 1.7306 BC3 .4735 F8P 923 SG1 2873.4 SG2 496.3 THA 29.79 EL1 83.1 EL2 2.6 ALF 26.70

LAUNCH DATE MAR 17 1971 FLIGHT TIME 180.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 465.568 EARTH TO MARS
RL 148.84 LAL .00 LOL 175.75 VL 32.762 GAL -6.11 AZL 95.83 HCA 162.52 SMA 186.92 ECC .22887 INC 5.8300 V1 29.937
RP 206.70 LAP -1.75 LOP 338.35 VP 23.962 GAP 11.78 AZP 84.44 TAL 326.16 TAP 128.68 RCA 144.14 APO 229.70 V2 26.494
RC 66.082 GL -35.29 GP 19.55 ZAL 133.82 ZAP 142.07 ETS 152.41 ZAE 155.86 ETE 106.33 ZAC 120.97 ETC 275.65 LVI -32.36

PLANETOCENTRIC CONIC
C3 32.797 VHL 5.727 DLA -46.21 RAL 342.11 RAD 6648.1 VEL 12.358 PTH 7.26 VHP 6.060 DPA -1.68 RAP 303.43 ECC 1.5398
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 18 33 2110.72 12.07 49.96 223.29 136.38 23 53 44 1110.7 29.28 31.69
51.79 0 38 47 1917.98 20.14 39.86 231.51 132.52 1 10 45 918.0 35.47 18.63
51.79 0 38 47 1917.98 20.14 39.86 231.51 132.52 1 10 45 918.0 35.47 18.63
51.79 0 38 47 1917.98 20.14 39.86 231.51 132.52 1 10 45 918.0 35.47 18.63
51.79 0 38 47 1917.98 20.14 39.86 231.51 132.52 1 10 45 918.0 35.47 18.63
51.79 0 38 47 1917.98 20.14 39.86 231.51 132.52 1 10 45 918.0 35.47 18.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -1.3671 TRA -1.4109 TC3 -.0192 BAU .2237 SGT 2456.1 SGR 1656.8 SG3 598.7 ST 74.9 SR 41.2 SS 75.5
RDE -.7114 RRA -.9528 RC3 .5098 FAU .07330 RRT .9266 RRF -.9914 RTF -.9156 CRT .9942 CRS .9850 CST .9611
PDE 2.2041 FRA 4.2771 FC3-1.9348 B8P 5029 SGB 2962.6 R23 -.2706 R13 -.9538 LSA 113.0 MSA 14.9 S8A .5
BDE 1.5411 BRA 1.7024 BC3 .5101 F8P 933 SG1 2915.8 SG2 582.0 THA 33.22 EL1 85.4 EL2 3.9 ALF 28.71

LAUNCH DATE MAR 17 1971 FLIGHT TIME 182.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 469.473 EARTH TO MARS
RL 148.84 LAL .00 LOL 175.75 VL 32.721 GAL -6.03 AZL 96.22 HCA 163.78 SMA 186.23 ECC .22562 INC 6.2225 V1 29.937
RP 206.72 LAP -1.74 LOP 339.62 VP 23.903 GAP 11.43 AZP 84.02 TAL 326.21 TAP 129.99 RCA 144.21 APO 226.24 V2 26.491
RC 67.265 GL -37.47 GP 21.39 ZAL 132.49 ZAP 139.99 ETS 151.70 ZAE 154.15 ETE 106.03 ZAC 122.81 ETC 275.72 LVI -33.97

PLANETOCENTRIC CONIC
C3 33.609 VHL 5.797 DLA -48.02 RAL 343.93 RAD 6648.4 VEL 12.390 PTH 7.30 VHP 5.974 DPA .07 RAP 302.83 ECC 1.5331
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.42 0 37 42 1945.05 20.48 42.79 234.29 134.44 1 10 7 945.1 36.46 22.01
49.42 0 37 42 1945.05 20.48 42.79 234.29 134.44 1 10 7 945.1 36.46 22.01
49.42 0 37 42 1945.05 20.48 42.79 234.29 134.44 1 10 7 945.1 36.46 22.01
49.42 0 37 42 1945.05 20.48 42.79 234.29 134.44 1 10 7 945.1 36.46 22.01
49.42 0 37 42 1945.05 20.48 42.79 234.29 134.44 1 10 7 945.1 36.46 22.01
49.42 0 37 42 1945.05 20.48 42.79 234.29 134.44 1 10 7 945.1 36.46 22.01

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -1.4407 TRA -1.3442 TC3 -.0368 BAU .2444 SGT 2444.4 SGR 1852.3 SG3 618.1 ST 77.2 SR 46.1 SS 78.8
RDE -.8063 RRA -1.0484 RC3 .5427 FAU .07462 RRT .9244 RRF -.9937 RTF -.5.20 CRT .9911 CRS .9896 CST .9618
PDE 2.4158 FRA 4.2893 FC3-1.9220 B8P 5324 SGB 3068.9 R23 -.2637 R13 -.9582 LSA 118.6 MSA 15.2 S8A .4
BDE 1.6510 BRA 1.7047 BC3 .5439 F8P 991 SG1 3012.8 SG2 573.3 THA 36.55 EL1 89.8 EL2 5.3 ALF 30.76

LAUNCH DATE MAR 17 1971 FLIGHT TIME 184.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC DISTANCE 473.401 EARTH TO MARS
RL 148.84 LAL .00 LOL 175.75 VL 32.683 GAL -5.96 AZL 96.68 HCA 165.04 SMA 185.58 ECC .22256 INC 6.6796 V1 29.937
RP 206.75 LAP -1.72 LOP 340.89 VP 23.847 GAP 11.09 AZP 83.54 TAL 326.25 TAP 131.29 RCA 144.27 APO 226.86 V2 26.487
RC 68.502 GL -39.86 GP 23.47 ZAL 130.98 ZAP 137.74 ETS 150.95 ZAE 152.16 ETE 105.91 ZAC 124.91 ETC 275.78 LVI -35.77

PLANETOCENTRIC CONIC
C3 34.800 VHL 5.899 DLA -49.96 RAL 346.10 RAD 6648.8 VEL 12.438 PTH 7.34 VHP 5.913 DPA 2.04 RAP 302.11 ECC 1.5727
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.92 0 38 2 1973.87 20.68 45.89 237.59 136.56 1 10 56 973.9 37.39 25.69
46.92 0 38 2 1973.87 20.68 45.89 237.59 136.56 1 10 56 973.9 37.39 25.69
46.92 0 38 2 1973.87 20.68 45.89 237.59 136.56 1 10 56 973.9 37.39 25.69
46.92 0 38 2 1973.87 20.68 45.89 237.59 136.56 1 10 56 973.9 37.39 25.69
46.92 0 38 2 1973.87 20.68 45.89 237.59 136.56 1 10 56 973.9 37.39 25.69
46.92 0 38 2 1973.87 20.68 45.89 237.59 136.56 1 10 56 973.9 37.39 25.69

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -1.3152 TRA -1.2555 TC3 -.0383 BAU .2694 SGT 2400.3 SGR 2074.2 SG3 628.0 ST 78.9 SR 52.3 SS 82.4
RDE -.9335 RRA -1.1501 RC3 .5778 FAU .07574 RRT .9230 RRF -.9954 RTF -.9098 CRT .9881 CRS .9930 CST .9631
PDE 2.6616 FRA 4.2516 FC3-1.8842 B8P 5510 SGB 3172.3 R23 -.2473 R13 -.9644 LSA 124.5 MSA 15.5 S8A .4
BDE 1.7796 BRA 1.7027 BC3 .5791 F8P 1018 SG1 3112.0 SG2 615.5 THA 40.49 EL1 94.4 EL2 6.7 ALF 33.42

LAUNCH DATE MAR 17 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 477.350

EARTH TO MARS

RL 148.84 LAL .00 LOL 175.75 VL 32.647 GAL -5.88 AZL 97.22 HCA 166.30 SMA 184.97 ECC .21969 INC 7.2185 V1 29.937
 RP 206.79 LAP -1.71 LOP 342.18 VP 23.792 GAP 10.76 AZP 82.98 TAL 326.30 TAP 133.90 RCA 144.33 APO 225.60 V2 26.483
 RC 69.791 GL -42.49 GP 23.85 ZAL 129.27 ZAP 135.28 ETS 150.18 ZAE 149.87 ETE 105.94 ZAC 127.31 ETC 275.86 LVI -37.80

PLANETOCENTRIC CONIC

C3 36.497 VHL 6.041 DLA -52.04 RAL 348.72 RAD 6649.4 VEL 12.506 PTH 7.39 VHP 5.882 DPA 4.28 RAP 301.26 ECC 1.6006
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.31 0 40 18 2004.86 20.71 49.15 241.54 138.88 1 13 43 1004.9 38.20 29.69
 44.31 0 40 18 2004.86 20.71 49.15 241.54 138.88 1 13 43 1004.9 38.20 29.69
 44.31 0 40 18 2004.86 20.71 49.15 241.54 138.88 1 13 43 1004.9 38.20 29.69
 44.31 0 40 18 2004.86 20.71 49.15 241.54 138.88 1 13 43 1004.9 38.20 29.69
 44.31 0 40 18 2004.86 20.71 49.15 241.54 138.88 1 13 43 1004.9 38.20 29.69
 44.31 0 40 18 2004.86 20.71 49.15 241.54 138.88 1 13 43 1004.9 38.20 29.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.6034 TRA-1.1922 TC3 -.0367 BAU .3000 SGT 2338.8 SGR 2325.7 SG3 632.0 ST 80.6 SR 60.0 SS 86.1
 RDE-1.1078 RRA-1.2368 RC3 .6138 FAU .07659 RRT .9205 RRF -.9966 RTF -.9086 CRT .9857 CRS .9954 CST .9650
 FDE 2.9468 FRA 4.1471 FC3-1.8188 B8P 5690 SGB 3298.3 R23 -.2268 R13 -.9708 LSA 131.4 MSA 15.6 SSA .3
 BDE 1.9489 BRA 1.7050 BC3 .6149 F8P 1028 SG1 3232.1 SG2 657.4 THA 44.82 EL1 100.2 EL2 8.1 ALF 36.58

LAUNCH DATE MAR 17 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 481.318

EARTH TO MARS

RL 148.84 LAL .00 LOL 175.75 VL 32.613 GAL -5.82 AZL 97.86 HCA 167.58 SMA 184.40 ECC .21698 INC 7.8640 V1 29.937
 RP 206.84 LAP -1.69 LOP 343.43 VP 23.739 GAP 10.43 AZP 82.32 TAL 326.34 TAP 133.90 RCA 144.79 APO 224.41 V2 26.477
 RC 71.130 GL -45.39 GP 28.55 ZAL 127.34 ZAP 132.59 ETS 149.43 ZAE 147.22 ETE 106.11 ZAC 130.05 ETC 275.96 LVI -40.07

PLANETOCENTRIC CONIC

C3 38.887 VHL 6.236 DLA -54.24 RAL 351.94 RAD 6650.3 VEL 12.600 PTH 7.46 VHP 5.891 DPA 6.84 RAP 300.25 ECC 1.6400
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.58 0 46 7 2038.69 20.50 52.57 246.31 141.40 1 19 6 1038.7 38.81 34.04
 41.58 0 45 7 2038.69 20.50 52.57 246.31 141.40 1 19 6 1038.7 38.81 34.04
 41.58 0 45 7 2038.69 20.50 52.57 246.31 141.40 1 19 6 1038.7 38.81 34.04
 41.58 0 45 7 2038.69 20.50 52.57 246.31 141.40 1 19 6 1038.7 38.81 34.04
 41.58 0 45 7 2038.69 20.50 52.57 246.31 141.40 1 19 6 1038.7 38.81 34.04
 41.58 0 45 7 2038.69 20.50 52.57 246.31 141.40 1 19 6 1038.7 38.81 34.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.7022 TRA-1.0245 TC3 -.0246 BAU .3389 SGT 2245.3 SGR 2607.2 SG3 625.1 ST 81.8 SR 69.9 SS 90.1
 RDE-1.3507 RRA-1.3638 RC3 .6514 FAU .07719 RRT .9173 RRF -.9974 RTF -.9025 CRT .9839 CRS .9971 CST .9674
 FDE 3.2759 FRA 3.9565 FC3-1.7175 B8P 5795 SGB 3440.7 R23 -.2019 R13 -.9772 LSA 139.5 MSA 15.6 SSA .3
 BDE 2.1730 BRA 1.7057 BC3 .6518 F8P 1011 SG1 3370.5 SG2 691.8 THA 49.64 EL1 107.2 EL2 9.5 ALF 40.43

LAUNCH DATE MAR 17 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

DISTANCE 551.252

EARTH TO MARS

RL 148.84 LAL .00 LOL 175.75 VL 32.292 GAL -5.44 AZL 81.80 HCA 169.14 SMA 179.20 ECC .19345 INC 8.1979 V1 29.937
 RP 208.94 LAP -1.30 LOP 343.43 VP 23.016 GAP 5.79 AZP 96.10 TAL 325.25 TAP 154.38 RCA 144.53 APO 213.87 V2 26.232
 RC 99.910 GL 48.84 GP -44.46 ZAL 125.51 ZAP 103.13 ETS 192.06 ZAE 128.75 ETE 226.32 ZAC 57.95 ETC 272.12 LVI 31.19

PLANETOCENTRIC CONIC

C3 37.089 VHL 6.088 DLA 33.42 RAL 311.79 RAD 6649.6 VEL 12.528 PTH 7.41 VHP 5.347 DPA -66.36 RAP 311.42 ECC 1.6101
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 0 39 3995.54 -43.24 174.09 215.44 67.83 15 7 14 2995.5 -47.48 139.96
 60.00 13 44 24 4038.94 -33.27 172.96 210.02 65.81 14 51 43 3038.9 -39.94 143.63
 70.00 12 34 58 4185.83 -20.02 177.06 202.74 61.73 14 4 44 3185.8 -29.89 132.89
 71.40 12 10 3 4323.34 -14.18 184.30 199.29 59.42 13 22 6 3323.3 -25.50 161.78
 71.40 12 10 3 4323.34 -14.18 184.30 199.29 59.42 13 22 6 3323.3 -25.50 161.78
 71.40 12 10 3 4323.34 -14.18 184.30 199.29 59.42 13 22 6 3323.3 -25.50 161.78
 110.00 17 54 25 3232.45 -20.02 105.98 202.74 61.73 18 48 17 2232.4 -29.89 81.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8298 TRA .0412 TC3 -.5799 BAU .6220 SGT 1053.5 SGR 5255.0 SG3 728.4 ST 39.1 SR 142.1 SS 102.5
 RDE 2.6728 RRA 3.8117 RC3-1.1134 FAU .08791 RRT .5646 RRF .9991 RTF .5.86 CRT .8931 CRS -.9999 CST -.8878
 FDE 4.1474 FRA 6.2463 FC3-2.0332 B8P 9052 SGB 3359.5 R23 .0014 R13 .9993 LSA 178.7 MSA 17.4 SSA .2
 BDE 2.7964 BRA 3.9119 BC3 1.2551 F8P 1255 SG1 3289.5 SG2 863.8 THA 83.36 EL1 146.4 EL2 17.1 ALF 76.01

LAUNCH DATE MAR 17 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 555.397

EARTH TO MARS

RL 148.84 LAL .00 LOL 175.75 VL 32.284 GAL -5.44 AZL 82.93 HCA 190.36 SMA 179.08 ECC .19300 INC 7.0699 V1 29.937
 RP 209.14 LAP -1.27 LOP 8.04 VP 22.980 GAP 5.55 AZP 96.96 TAL 325.13 TAP 155.80 RCA 144.52 APO 213.64 V2 26.209
 RC 101.892 GL 44.38 GP -41.67 ZAL 128.71 ZAP 102.48 ETS 190.22 ZAE 130.02 ETE 225.28 ZAC 60.76 ETC 271.94 LVI 28.82

PLANETOCENTRIC CONIC

C3 32.012 VHL 5.658 DLA 29.04 RAL 313.15 RAD 6647.8 VEL 12.326 PTH 7.26 VHP 4.967 DPA -63.86 RAP 308.33 ECC 1.5268
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 14 32 23 3853.72 -46.18 161.72 210.44 76.98 15 3# 37 2853.7 -46.04 126.60
 80.00 14 30 28 3859.85 -37.51 159.18 207.43 74.03 15 34 47 2859.9 -40.10 128.35
 70.00 14 26 43 3869.89 -28.79 156.77 204.13 70.78 15 31 13 2869.9 -33.95 129.27
 80.00 14 13 44 3910.76 -19.35 155.85 200.13 66.81 15 18 55 2910.8 -27.22 131.20
 83.10 13 39 28 4020.87 -13.58 161.24 197.38 64.08 14 46 29 3020.9 -23.10 138.08
 100.00 16 56 36 3385.23 -19.35 117.22 200.13 66.81 17 53 2 2385.2 -27.22 92.57
 110.00 19 26 10 2916.71 -28.79 85.69 204.13 70.78 20 14 46 1916.7 -33.95 58.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .7988 TRA .1868 TC3 -.7097 BAU .5845 SGT 1160.2 SGR 5045.2 SG3 864.8 ST 40.6 SR 133.8 SS 109.9
 RDE 2.3199 RRA 3.8823 RC3-1.1668 FAU .09758 RRT .6635 RRF .9991 RTF .6739 CRT .9136 CRS -.9998 CST -.9055
 FDE 4.3916 FRA 7.2995 FC3-2.6390 B8P 8759 SGB 5176.9 R23 .0117 R13 .9991 LSA 177.0 MSA 16.5 SSA .3
 BDE 2.4536 BRA 3.6870 BC3 1.3657 F8P 1498 SG1 5105.3 SG2 857.9 THA 81.07 EL1 138.9 EL2 15.9 ALF 74.29

LAUNCH DATE MAR 17 1971 FLIGHT TIME 226.00 ARRIVAL DATE OCT 29 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.78 VL 32.277 GAL -5.45 AZL 83.82 MCA 191.59 SMA 178.97 ECC .19265 INC 6.1800 V1 29.937
 RP 209.34 LAP -1.24 LOP 7.27 VP 22.943 GAP 5.31 AZP 96.05 TAL 325.00 TAP 156.60 RCA 144.49 APO 213.45 V2 26.186
 RC 103.900 GL 40.33 GP -39.15 ZAL 131.53 ZAP 101.51 ETS 186.43 ZAE 130.84 ETE 222.04 ZAC 63.31 ETC 271.73 LVI 23.73

Planetocentric Conic: C3 26.364 VHL 5.345 DLA 25.15 RAL 314.39 RAD 6646.4 VEL 12.186 PTH 7.15 VHP 4.678 DPA -61.60 RAP 308.62 ECC 1.4701
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 57 38 3737.35 -47.40 150.77 205.32 85.33 15 59 55 2737.3 -43.66 116.41
 60.00 15 4 29 3719.07 -39.54 147.87 204.07 81.45 16 6 28 2719.1 -38.71 116.74
 70.00 15 16 8 3684.73 -32.20 143.45 202.42 77.96 16 17 33 2684.7 -33.89 114.84
 80.00 15 40 15 3609.07 -26.15 136.06 200.76 75.04 16 40 24 2609.1 -29.82 109.24
 90.00 16 38 10 3422.01 -23.44 121.49 199.93 73.72 17 35 12 2422.0 -27.99 95.39
 100.00 18 23 7 3083.54 -26.15 97.43 200.76 75.04 19 14 30 2083.5 -29.82 70.61
 110.00 20 15 35 2731.55 -32.20 72.37 202.42 77.96 21 1 6 1731.6 -33.89 43.78

Differential Corrections: TDE .7882 TRA .3445 TC3 -.8454 BAV .5608 SGT 1302.7 SGR 4837.4 SG3 991.1 ST 42.7 SR 126.1 SS 115.5
 RDE 2.0506 RRA 3.4734 RC3-1.2009 FAU .10648 RRT .7451 RRF .9990 RTF .7529 CRT .9331 CRS -.9996 CST -.9229
 FDE 4.5760 FRA 8.2573 FC3-3.2267 BSP 8470 SGB 5009.8 R23 .0229 R13 .9988 LSA 175.6 MSA 14.6 SSA .3
 BDE 2.1969 BRA 3.4904 BC3 1.4686 F8P 1724 SGI 4936.9 SGI 831.3 THA 78.30 EL1 132.3 EL2 14.6 ALF 72.23

LAUNCH DATE MAR 17 1971 FLIGHT TIME 226.00 ARRIVAL DATE OCT 31 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.78 VL 32.271 GAL -5.47 AZL 84.54 MCA 192.82 SMA 178.88 ECC .19238 INC 5.4597 V1 29.937
 RP 209.55 LAP -1.21 LOP 8.51 VP 22.907 GAP 5.08 AZP 95.32 TAL 324.86 TAP 157.68 RCA 144.46 APO 213.29 V2 26.182
 RC 105.933 GL 36.72 GP -36.86 ZAL 133.99 ZAP 100.31 ETS 186.73 ZAE 131.25 ETE 218.79 ZAC 65.62 ETC 271.51 LVI 24.90

Planetocentric Conic: C3 26.133 VHL 5.112 DLA 21.67 RAL 315.51 RAD 6645.5 VEL 12.087 PTH 7.07 VHP 4.453 DPA -59.57 RAP 303.19 ECC 1.4301
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 18 30 3639.97 -47.92 141.36 200.74 92.57 16 19 10 2640.0 -40.97 108.82
 60.00 15 31 34 3605.17 -40.26 138.28 200.78 87.92 16 31 39 2605.2 -36.68 107.75
 70.00 15 52 13 3544.31 -33.70 132.78 200.21 84.10 16 51 18 2544.3 -32.62 104.09
 80.00 16 28 47 3429.67 -26.87 123.34 199.46 81.27 17 25 57 2429.7 -29.41 95.94
 90.00 17 35 2 3215.80 -26.64 107.25 199.08 80.14 18 28 37 2215.8 -28.10 80.34
 100.00 19 11 39 2904.14 -26.67 84.71 199.46 81.27 20 0 3 1904.1 -29.41 57.31
 110.00 20 51 40 2591.13 -33.70 61.70 200.21 84.10 21 34 51 1591.1 -32.62 33.01

Differential Corrections: TDE .7917 TRA .5106 TC3 -.9833 BAV .5471 SGT 1475.6 SGR 4632.3 SG3 1106.1 ST 45.3 SR 118.9 SS 119.9
 RDE 1.8390 RRA 3.2808 RC3-1.2186 FAU .11461 RRT .8073 RRF .9989 RTF .8133 CRT .9500 CRS -.9994 CST -.9363
 FDE 4.7144 FRA 9.1167 FC3-3.7970 BSP 8189 SGB 4861.6 R23 .0351 R13 .9983 LSA 174.2 MSA 14.8 SSA .4
 BDE 2.0022 BRA 3.3203 BC3 1.5689 F8P 1928 SGI 4788.1 SGI 842.4 THA 75.11 EL1 126.6 EL2 13.3 ALF 69.86

LAUNCH DATE MAR 17 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 2 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.75 VL 32.265 GAL -5.48 AZL 85.14 MCA 194.04 SMA 178.79 ECC .19221 INC 4.8645 V1 29.937
 RP 209.76 LAP -1.18 LOP 9.74 VP 22.871 GAP 4.85 AZP 94.72 TAL 324.70 TAP 158.75 RCA 144.43 APO 213.16 V2 26.137
 RC 107.990 GL 33.48 GP -34.79 ZAL 136.15 ZAP 98.92 ETS 185.15 ZAE 131.30 ETE 215.58 ZAC 67.72 ETC 271.28 LVI 23.28

Planetocentric Conic: C3 24.375 VHL 4.937 DLA 18.58 RAL 316.54 RAD 6644.7 VEL 12.015 PTH 7.01 VHP 4.275 DPA -57.73 RAP 300.97 ECC 1.4012
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 12 3557.38 -46.97 133.46 196.93 98.63 16 35 29 2357.4 -38.26 102.56
 60.00 15 54 0 3509.97 -40.18 130.19 197.92 93.41 16 52 30 2310.0 -34.44 100.67
 70.00 16 20 55 3430.75 -34.15 123.95 198.10 89.30 17 18 5 2430.7 -30.87 95.71
 80.00 17 4 42 3293.48 -29.66 113.35 197.90 86.43 17 59 36 2293.5 -28.13 86.03
 90.00 18 14 52 3086.98 -27.92 96.56 197.76 85.34 19 5 59 2067.0 -27.05 69.59
 100.00 19 47 34 2767.95 -29.66 74.72 197.90 86.43 20 33 42 1767.9 -28.13 47.40
 110.00 21 20 21 2477.56 -34.15 52.87 198.10 89.30 22 1 39 1477.6 -30.87 24.63

Differential Corrections: TDE .8051 TRA .6831 TC3-1.1210 BAV .5400 SGT 1872.7 SGR 4433.8 SG3 1209.9 ST 48.4 SR 112.5 SS 123.2
 RDE 1.8709 RRA 3.1048 RC3-1.2204 FAU .12189 RRT .8528 RRF .9987 RTF .8174 CRT .9638 CRS -.9990 CST -.9513
 FDE 4.8222 FRA 9.8863 FC3-4.3290 BSP 7949 SGB 4738.8 R23 .0482 R13 .9976 LSA 173.2 MSA 14.0 SSA .4
 BDE 1.8546 BRA 3.1788 BC3 1.6572 F8P 2113 SGI 4685.5 SGI 830.1 THA 71.56 EL1 121.9 EL2 11.9 ALF 67.25

LAUNCH DATE MAR 17 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 4 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.75 VL 32.261 GAL -5.51 AZL 85.84 MCA 195.27 SMA 178.72 ECC .19211 INC 4.3641 V1 29.937
 RP 209.99 LAP -1.15 LOP 10.97 VP 22.838 GAP 4.63 AZP 94.21 TAL 324.54 TAP 159.80 RCA 144.39 APO 213.06 V2 26.111
 RC 110.071 GL 30.57 GP -32.81 ZAL 138.03 ZAP 97.37 ETS 183.69 ZAE 131.04 ETE 212.49 ZAC 69.62 ETC 271.04 LVI 21.85

Planetocentric Conic: C3 23.083 VHL 4.804 DLA 15.81 RAL 317.49 RAD 6644.2 VEL 11.961 PTH 6.96 VHP 4.132 DPA -56.05 RAP 298.93 ECC 1.3799
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 30 3488.63 -46.04 126.89 193.90 103.61 16 49 37 2488.6 -35.69 97.76
 60.00 16 13 6 3429.12 -39.83 123.38 195.57 98.00 17 10 16 2429.1 -32.20 94.99
 70.00 16 44 45 3336.00 -33.98 116.56 196.29 93.66 17 40 21 2336.0 -28.96 89.00
 80.00 17 33 32 3183.09 -29.85 105.15 196.47 90.73 18 26 35 2183.1 -26.52 78.22
 90.00 18 46 11 2948.59 -28.28 87.93 196.48 89.65 19 35 20 1948.6 -25.57 61.24
 100.00 20 18 24 2657.56 -29.85 66.52 196.47 90.73 21 0 42 1657.6 -26.52 39.59
 110.00 21 44 11 2382.82 -33.98 45.48 196.29 93.66 22 23 54 1382.8 -28.96 17.91

Differential Corrections: TDE .8259 TRA .8801 TC3-1.2580 BAV .5384 SGT 1888.8 SGR 4241.3 SG3 1302.2 ST 51.8 SR 106.6 SS 125.8
 RDE 1.5344 RRA 2.9414 RC3-1.2090 FAU .12828 RRT .8854 RRF .9985 RTF .8891 CRT .9747 CRS -.9986 CST -.9616
 FDE 4.9052 FRA 10.5687 FC3-4.8110 BSP 7748 SGB 4642.9 R23 .0617 R13 .9966 LSA 172.3 MSA 13.3 SSA .5
 BDE 1.7426 BRA 3.0646 BC3 1.7448 F8P 2279 SGI 4570.8 SGI 814.8 THA 67.74 EL1 118.1 EL2 10.5 ALF 64.44

LAUNCH DATE MAR 17 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC										DISTANCE 576.217										EARTH TO MARS																																																																																																			
RL	148.84	LAL	.00	LOL	175.75	VL	32.257	GAL	-5.53	AZL	86.06	HCA	196.49	SMA	178.66	ECC	.19209	INC	3.9372	V1	29.937	RP	210.22	LAP	-1.12	LOP	12.20	VP	22.800	GAP	4.40	AZP	93.78	TAL	324.35	TAP	160.84	RCA	144.35	APO	212.98	V2	26.085	RC	112.177	GL	27.95	GP	-31.19	ZAL	139.88	ZAP	95.71	ETS	182.36	ZAE	130.52	ETE	209.55	ZAC	71.37	ETC	270.81	LVI	20.58																																																						
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																			
C3	22.124	VHL	4.704	DLA	13.33	RAL	318.37	RAD	6643.8	VEL	11.921	PTH	6.93	VHP	4.017	DPA	-54.52	RAP	297.02	ECC	1.3641	ST	55.5	SR	101.2	SS	127.8	CRT	.9830	CRS	-.9981	CST	-.8680	LSA	171.8	MSA	12.6	SSA	.8	EL1	115.1	EL2	9.0	ALF	61.50																																																																										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	2119.1	SGR	4055.4	SG3	1383.5	RRT	.9088	RRF	.9982	RTF	.9121	SGB	4575.7	R23	.0751	R13	.9954	SG1	4506.0	SG2	795.6	THA	63.71																																																																						
50.00	16	4	56	3425.53	-44.92	121.43	191.55	107.69	17	2	2	2425.5	-33.30	93.88	50.00	16	44	17	3299.41	-37.87	112.82	192.28	104.96	17	39	17	2299.4	-31.12	90.70	60.00	16	29	41	3359.64	-30.82	117.66	193.71	101.80	17	25	41	2359.6	-30.05	90.36	70.00	17	5	6	3253.43	-33.46	110.33	194.83	97.31	17	59	21	2255.4	-27.05	83.51	80.00	17	37	41	3090.68	-29.57	98.30	195.29	94.32	18	49	12	2090.7	-24.81	71.89	90.00	19	12	8	2850.41	-28.11	80.75	195.40	93.23	19	59	38	1850.4	-23.95	54.51	100.00	20	40	33	2565.15	-29.57	59.67	195.29	94.32	21	23	18	1565.1	-24.81	33.26	110.00	22	4	32	2302.25	-33.46	39.25	194.83	97.31	22	42	54	1302.3	-27.05	12.42

LAUNCH DATE MAR 17 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC										DISTANCE 580.392										EARTH TO MARS																																																																																				
RL	148.84	LAL	.00	LOL	175.75	VL	32.254	GAL	-5.56	AZL	86.43	HCA	197.71	SMA	178.62	ECC	.19215	INC	3.5686	V1	29.937	RP	210.45	LAP	-1.09	LOP	13.43	VP	22.764	GAP	4.18	AZP	93.40	TAL	324.16	TAP	181.87	RCA	144.30	APO	212.94	V2	26.058	RC	114.307	GL	25.59	GP	-29.61	ZAL	141.12	ZAP	93.97	ETS	181.13	ZAE	129.77	ETE	206.79	ZAC	72.97	ETC	270.58	LVI	19.45																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	21.409	VHL	4.627	DLA	11.10	RAL	319.18	RAD	6643.5	VEL	11.892	PTH	6.90	VHP	3.923	DPA	-53.12	RAP	295.24	ECC	1.3523	ST	59.5	SR	96.2	SS	129.1	CRT	.9890	CRS	-.9974	CST	-.9760	LSA	171.2	MSA	12.1	SSA	.7	EL1	112.9	EL2	7.5	ALF	58.41																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	2360.3	SGR	3873.1	SG3	1453.1	RRT	.9264	RRF	.9979	RTF	.9293	SGB	4535.6	R23	.0877	R13	.9941	SG1	4469.8	SG2	769.9	THA	59.55																																																							
50.00	16	16	52	3372.39	-43.72	116.88	189.77	111.02	17	13	4	2372.4	-31.12	90.70	60.00	16	44	17	3299.41	-37.87	112.82	192.28	104.96	17	39	17	2299.4	-31.12	90.70	70.00	17	22	49	3186.02	-32.73	105.05	193.69	100.36	18	15	55	2186.0	-25.22	78.94	80.00	18	18	26	3011.79	-29.03	92.90	194.36	97.32	19	8	38	2011.8	-23.12	66.64	90.00	19	34	16	2767.04	-27.64	74.70	194.55	96.23	20	20	23	1767.0	-22.32	48.94	100.00	21	1	18	2486.26	-29.03	53.87	194.36	97.32	21	42	44	1486.3	-23.12	28.01	110.00	22	22	16	2232.84	-32.73	33.97	193.69	100.36	22	59	28	1232.8	-25.22	7.86

LAUNCH DATE MAR 17 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC										DISTANCE 584.569										EARTH TO MARS																																																																																				
RL	148.84	LAL	.00	LOL	175.75	VL	32.252	GAL	-5.59	AZL	86.75	HCA	198.93	SMA	178.58	ECC	.19228	INC	3.2468	V1	29.937	RP	210.70	LAP	-1.05	LOP	14.65	VP	22.729	GAP	3.97	AZP	93.07	TAL	323.98	TAP	182.88	RCA	144.24	APO	212.92	V2	26.030	RC	116.460	GL	23.44	GP	-28.16	ZAL	142.40	ZAP	92.16	ETS	180.02	ZAE	128.83	ETE	204.22	ZAC	74.45	ETC	270.36	LVI	18.44																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	20.880	VHL	4.569	DLA	9.10	RAL	319.95	RAD	6643.2	VEL	11.869	PTH	6.88	VHP	3.847	DPA	-51.02	RAP	293.57	ECC	1.3436	ST	63.6	SR	91.6	SS	130.0	CRT	.9934	CRS	-.9966	CST	-.9608	LSA	170.8	MSA	11.7	SSA	.8	EL1	111.3	EL2	6.0	ALF	55.29																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	2608.6	SGR	3696.3	SG3	1511.9	RRT	.9395	RRF	.9975	RTF	.9421	SGB	4524.3	R23	.0988	R13	.9927	SG1	4463.3	SG2	740.3	THA	55.37																																																							
50.00	16	27	33	3325.94	-42.51	113.07	188.45	113.76	17	22	59	2325.9	-29.14	88.04	60.00	16	57	17	3246.82	-36.87	108.72	191.22	107.59	17	51	24	2246.8	-26.20	83.29	70.00	17	38	29	3125.63	-31.90	100.53	192.85	102.90	18	30	34	2125.6	-23.50	75.09	80.00	18	36	37	2943.33	-28.33	87.55	193.68	99.83	19	25	40	1943.5	-21.51	62.22	90.00	19	53	35	2695.13	-27.00	69.54	193.93	98.74	20	38	30	1695.1	-20.75	44.26	100.00	21	19	29	2418.00	-28.33	48.92	193.68	99.83	21	59	47	1418.0	-21.51	23.58	110.00	22	37	55	2172.45	-31.90	29.45	192.85	102.90	23	14	8	1172.5	-23.50	4.01

LAUNCH DATE MAR 17 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC										DISTANCE 588.745										EARTH TO MARS																																																																																				
RL	148.84	LAL	.00	LOL	175.75	VL	32.250	GAL	-5.63	AZL	87.04	HCA	200.15	SMA	178.55	ECC	.19249	INC	2.9632	V1	29.937	RP	210.95	LAP	-1.02	LOP	15.87	VP	22.694	GAP	3.75	AZP	92.78	TAL	323.73	TAP	183.88	RCA	144.18	APO	212.92	V2	26.001	RC	118.637	GL	21.50	GP	-26.81	ZAL	143.53	ZAP	90.31	ETS	179.01	ZAE	127.74	ETE	201.85	ZAC	75.81	ETC	270.14	LVI	17.52																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	20.495	VHL	4.527	DLA	7.29	RAL	320.67	RAD	6643.1	VEL	11.853	PTH	6.87	VHP	3.786	DPA	-50.61	RAP	292.00	ECC	1.3373	ST	67.8	SR	87.8	SS	131.4	CRT	.9966	CRS	-.9958	CST	-.9850	LSA	171.6	MSA	11.2	SSA	.8	EL1	110.9	EL2	4.5	ALF	52.38																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	2862.7	SGR	3536.3	SG3	1564.5	RRT	.9471	RRF	.9970	RTF	.9501	SGB	4549.8	R23	.1092	R13	.9912	SG1	4491.9	SG2	723.5	THA	51.33																																																							
50.00	16	37	14	3285.15	-41.35	109.85	187.49	116.03	17	31	59	2285.1	-27.35	85.79	60.00	17	9	0	3200.64	-35.86	105.21	190.45	109.78	18	2	20	2200.6	-24.52	80.54	70.00	17	52	29	3072.71	-31.03	96.66	192.27	105.04	18	43	42	2072.7	-21.91	71.81	80.00	18	52	46	2883.89	-27.57	83.29	193.22	101.95	19	40	50	1883.9	-19.99	58.44	90.00	20	10	42	2632.42	-26.28	65.09	193.51	100.85	20	54	34	1632.4	-19.26	40.26	100.00	21	35	38	2358.37	-27.57	44.65	193.22	101.95	22	14	56	1358.4	-19.99	19.81	110.00	22	51	55	2119.52	-31.03	25.57	192.27	105.04	23	27	15	1119.5	-21.91	.73

LAUNCH DATE MAR 17 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 14 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.75 VL 32.249 GAL -8.67 AZL 87.29 HCA 201.36 SMA 178.94 ECC .19276 INC 2.7114 V1 29.937
 RP 211.20 LAP -.99 LOP 17.09 VP 22.659 GAP 3.54 AZP 92.53 TAL 323.50 TAP 164.86 RCA 144.12 APO 212.95 V2 25.972
 RC 120.836 GL 19.73 GP -25.56 ZAL 144.53 ZAP 88.44 ETS 178.09 ZAE 126.55 ETE 199.88 ZAC 77.08 ETC 269.92 LVI 16.89

Planetocentric Conic: C3 20.225 VHL 4.497 DLA 5.65 RAL 321.36 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 3.738 DPA -49.48 RAP 290.53 ECC 1.3329
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 4 3249.20 -40.24 107.12 186.82 117.91 17 40 13 2249.2 -25.75 83.88
 60.00 17 19 37 3139.92 -34.88 102.20 189.93 111.62 18 12 17 2159.9 -22.99 78.19
 70.00 18 5 7 3026.05 -30.16 93.30 191.89 106.85 18 55 33 2026.0 -20.45 68.98
 80.00 19 7 16 2831.40 -26.77 79.59 192.94 103.74 19 54 28 1831.4 -18.56 55.18
 90.00 20 26 1 2577.27 -25.51 61.24 193.27 102.63 21 8 59 1577.3 -17.87 36.81
 100.00 21 50 8 2305.87 -26.77 40.96 192.94 103.74 22 28 34 1305.9 -18.58 16.55
 110.00 23 4 34 2072.87 -30.16 22.22 191.89 106.85 23 39 7 1072.9 -20.45 357.90

Differential Corrections: TDE .9970 TRA 1.7819 TC3-1.9027 BAU .5823 RDE 1.1396 RRA 2.2842 RC3-1.0088 FAU .14480 FDE 5.1739 FRA12.9081 FC3-6.1980 B8P 7642 BDE 1.5142 BRA 2.8971 BC3 2.1536 F8P 2920

Mid-Course Execution Accuracy: SGT 3121.9 SGR 3388.7 SCS 1610.9 RRT .9517 RRF .9964 RTF .9554 SGB 4807.6 R23 .1189 R13 .9896 SGI 4592.0 SCS 713.5 THA 47.47

Orbit Determination Accuracy: ST 72.2 SR 84.8 SS 133.2 CRT .9986 CR8 -.9949 CST -.9886 LSA 173.3 NSA 10.8 S8A 1.0 EL1 111.3 EL2 2.9 ALF 49.61

LAUNCH DATE MAR 17 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.75 VL 32.248 GAL -5.71 AZL 87.51 HCA 202.57 SMA 178.93 ECC .19310 INC 2.4858 V1 29.937
 RP 211.46 LAP -.95 LOP 18.30 VP 22.624 GAP 3.33 AZP 92.30 TAL 323.26 TAP 165.83 RCA 144.05 APO 213.00 V2 25.942
 RC 123.058 GL 18.11 GP -24.40 ZAL 145.43 ZAP 86.55 ETS 177.26 ZAE 125.21 ETE 197.69 ZAC 78.26 ETC 269.72 LVI 15.94

Planetocentric Conic: C3 20.045 VHL 4.477 DLA 4.16 RAL 322.01 RAD 6642.9 VEL 11.834 PTH 6.85 VHP 3.700 DPA -48.43 RAP 289.14 ECC 1.3299
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 8 3217.38 -39.20 104.79 186.37 119.49 17 47 45 2217.4 -24.30 82.83
 60.00 17 29 17 3123.84 -33.94 99.60 189.61 113.18 18 21 21 2123.8 -21.60 76.15
 70.00 18 16 36 2984.69 -29.30 90.39 191.67 108.38 19 6 20 1984.7 -19.11 68.92
 80.00 19 20 24 2784.89 -25.98 76.38 192.81 105.26 20 6 48 1784.9 -17.28 52.34
 90.00 20 39 52 2528.43 -24.74 57.87 193.17 104.15 21 22 0 1528.4 -16.59 33.81
 100.00 22 3 15 2259.36 -25.98 37.73 192.81 105.26 22 40 55 1259.4 -17.28 13.71
 110.00 23 16 2 2031.51 -29.30 19.30 191.67 108.38 23 49 54 1031.5 -19.11 355.44

Differential Corrections: TDE 1.0396 TRA 1.9679 TC3-2.0176 BAU .6018 RDE 1.0776 RRA 2.1595 RC3 -.9861 FAU .14954 FDE 5.1161 FRA13.0970 FC3-6.4987 B8P 7619 BDE 1.4973 BRA 2.9217 BC3 2.2457 F8P 2914

Mid-Course Execution Accuracy: SGT 3377.8 SGR 3218.6 SCS 1636.4 RRT .9590 RRF .9957 RTF .9627 SGB 4665.8 R23 .1224 R13 .9886 SGI 4617.9 SCS 868.9 THA 43.56

Orbit Determination Accuracy: ST 76.6 SR 80.5 SS 132.1 CRT .9995 CR8 -.9935 CST -.9903 LSA 172.3 NSA 10.8 S8A 1.0 EL1 111.1 EL2 1.7 ALF 46.43

LAUNCH DATE MAR 17 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 18 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.75 VL 32.248 GAL -5.76 AZL 87.72 HCA 203.78 SMA 178.93 ECC .19351 INC 2.2825 V1 29.937
 RP 211.73 LAP -.92 LOP 19.51 VP 22.588 GAP 3.12 AZP 92.09 TAL 323.01 TAP 166.79 RCA 143.98 APO 213.08 V2 25.911
 RC 125.302 GL 18.63 GP -23.31 ZAL 146.24 ZAP 84.86 ETS 176.50 ZAE 123.81 ETE 195.88 ZAC 79.36 ETC 269.52 LVI 15.25

Planetocentric Conic: C3 19.942 VHL 4.486 DLA 2.81 RAL 322.63 RAD 6642.8 VEL 11.830 PTH 6.85 VHP 3.672 DPA -47.43 RAP 287.84 ECC 1.3282
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 34 3189.20 -38.23 102.78 186.11 120.82 17 54 44 2189.2 -23.00 80.81
 60.00 17 38 11 3091.82 -33.06 97.34 189.44 114.50 18 29 42 2091.8 -20.34 74.38
 70.00 18 27 6 2947.93 -28.49 87.84 191.60 109.69 19 16 14 1947.9 -17.89 64.37
 80.00 19 32 22 2743.53 -25.21 73.53 192.81 106.56 20 18 6 1743.5 -16.08 49.85
 90.00 20 52 29 2485.00 -23.99 54.91 193.19 105.45 21 33 54 1485.0 -15.40 31.17
 100.00 22 15 14 2218.00 -25.21 34.90 192.81 106.56 22 52 12 1218.0 -16.08 11.22
 110.00 23 26 32 1994.75 -28.49 16.75 191.60 109.69 23 59 47 994.8 -17.89 353.29

Differential Corrections: TDE 1.0846 TRA 2.1551 TC3-2.1293 BAU .6203 RDE 1.0343 RRA 2.0523 RC3 -.9380 FAU .15058 FDE 5.1161 FRA13.2944 FC3-6.5370 B8P 7760 BDE 1.4987 BRA 2.9760 BC3 2.3268 F8P 2965

Mid-Course Execution Accuracy: SGT 3635.6 SGR 3088.1 SCS 1659.3 RRT .9627 RRF .9950 RTF .9707 SGB 4757.2 R23 .1257 R13 .9876 SGI 4714.0 SCS 640.1 THA 39.98

Orbit Determination Accuracy: ST 81.1 SR 77.3 SS 132.1 CRT .9998 CR8 -.9922 CST -.9921 LSA 172.9 NSA 10.7 S8A 1.1 EL1 112.0 EL2 1.1 ALF 43.61

LAUNCH DATE MAR 17 1971 FLIGHT TIME 248.00 ARRIVAL DATE NOV 20 1971

Heliocentric Conic: RL 148.84 LAL .00 LOL 175.75 VL 32.249 GAL -5.81 AZL 87.90 HCA 204.98 SMA 178.94 ECC .19398 INC 2.0982 V1 29.937
 RP 212.01 LAP -.89 LOP 20.72 VP 22.553 GAP 2.91 AZP 91.90 TAL 322.75 TAP 167.73 RCA 143.91 APO 213.17 V2 25.880
 RC 127.588 GL 18.27 GP -22.29 ZAL 146.97 ZAP 82.77 ETS 175.82 ZAE 122.36 ETE 194.23 ZAC 80.39 ETC 269.53 LVI 14.61

Planetocentric Conic: C3 19.903 VHL 4.461 DLA 1.58 RAL 323.23 RAD 6642.8 VEL 11.829 PTH 6.85 VHP 3.653 DPA -46.50 RAP 286.82 ECC 1.3276
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 28 3164.18 -37.34 101.04 186.00 121.94 18 1 12 2164.2 -21.84 79.57
 60.00 17 48 23 3063.33 -32.24 95.37 189.41 115.62 18 37 26 2063.3 -19.20 72.83
 70.00 18 36 46 2915.15 -27.72 85.60 191.65 110.81 19 25 21 1915.2 -16.77 62.49
 80.00 19 43 22 2706.80 -24.47 71.04 192.91 107.67 20 28 28 1706.6 -14.99 47.66
 90.00 21 4 3 2446.20 -23.26 52.30 193.32 106.56 21 44 50 1446.2 -14.31 28.84
 100.00 22 26 13 2181.07 -24.47 32.41 192.91 107.67 23 2 34 1181.1 -14.99 9.02
 110.00 23 36 12 1961.97 -27.72 14.52 191.65 110.81 24 8 54 962.0 -16.77 351.40

Differential Corrections: TDE 1.1310 TRA 2.3422 TC3-2.2363 BAU .6405 RDE .9957 RRA 1.9500 RC3 -.8909 FAU .15121 FDE 5.1044 FRA13.4376 FC3-6.5771 B8P 7931 BDE 1.5068 BRA 3.0477 BC3 2.4072 F8P 2999

Mid-Course Execution Accuracy: SGT 3891.8 SGR 2923.0 SCS 1674.2 RRT .9654 RRF .9940 RTF .9704 SGB 4867.2 R23 .1269 R13 .9868 SGI 4828.4 SCS 614.1 THA 36.63

Orbit Determination Accuracy: ST 85.6 SR 74.2 SS 131.9 CRT .9995 CR8 -.9906 CST -.9936 LSA 173.5 NSA 10.7 S8A 1.1 EL1 113.2 EL2 1.7 ALF 40.92

LAUNCH DATE MAR 17 1971

FLIGHT TIME 280.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.78 VL 32.250 GAL -5.86 AZL 88.07 HCA 206.19 SMA 178.86 ECC .19451 INC 1.9304 V1 29.937
RP 212.29 LAP -.85 LOP 21.92 VP 22.518 GAP 2.71 AZP 91.73 TAL 322.48 TAP 168.66 RCA 143.82 APO 213.29 V2 25.848
RC 129.850 GL 14.01 GP -21.33 ZAL 147.64 ZAP 80.91 ETS 175.20 ZAE 120.86 ETE 192.73 ZAC 81.35 ETC 269.15 LVI 14.01

PLANETOCENTRIC CONIC

C3 19.919 VHL 4.463 DLA .45 RAL 325.80 RAD 6642.8 VEL 11.829 PTH 6.85 VHP 3.640 DPA -45.61 RAP 285.49 ECC 1.3278
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 53 3141.96 -36.53 99.54 186.01 122.90 18 7 15 2142.0 -20.80 78.48
60.00 17 53 39 3037.93 -31.48 93.65 189.49 116.59 18 44 37 2037.9 -18.18 71.46
70.00 18 45 41 2885.87 -28.99 83.63 191.80 111.77 19 33 47 1885.9 -15.76 60.82
80.00 19 33 30 2673.54 -23.77 68.83 193.11 108.63 20 38 3 1673.5 -13.99 45.71
90.00 21 14 43 2411.45 -22.56 49.99 193.54 107.51 21 54 54 1411.5 -13.32 26.78
100.00 22 36 21 2148.02 -23.77 30.20 193.11 108.63 23 12 10 1148.0 -13.99 7.08
110.00 23 45 8 1932.69 -26.99 12.55 191.80 111.77 24 17 20 932.7 -15.76 349.73

DIFFERENTIAL CORRECTIONS

TDE 1.1793 TRA 2.5291 TC3-2.3368 BAU .6615
RDE .9619 RRA 1.8527 RC3 -.8427 FAU .15111
FDE 5.0867 FRA13.5337 FC3-6.5676 BSP 8139
BDE 1.9218 BRA 3.1351 BC3 2.4841 F8P 3021

MID-COURSE EXECUTION ACCURACY

SGT 4145.5 SGR 2783.5 S63 1681.8
RRR .9873 RRF .9929 RTF .9732
SGB 4993.3 R23 .1262 R13 .9862
S61 4958.3 S62 590.6 THA 33.54

ORBIT DETERMINATION ACCURACY

ST 90.1 SR 71.3 SS 131.4
CRT .9987 CRS -.9888 CST -.9947
LSA 174.2 MSA 10.7 S8A 1.2
EL1 114.8 EL2 2.9 ALF 38.36

LAUNCH DATE MAR 17 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 32.252 GAL -5.92 AZL 88.22 HCA 207.39 SMA 178.58 ECC .19510 INC 1.7766 V1 29.937
RP 212.57 LAP -.82 LOP 23.12 VP 22.483 GAP 2.50 AZP 91.58 TAL 322.19 TAP 169.58 RCA 143.74 APO 213.42 V2 25.815
RC 132.153 GL 12.86 GP -20.43 ZAL 148.25 ZAP 79.06 ETS 174.65 ZAE 119.33 ETE 191.38 ZAC 82.25 ETC 268.98 LVI 13.46

PLANETOCENTRIC CONIC

C3 19.983 VHL 4.470 DLA -.58 RAL 324.36 RAD 6642.8 VEL 11.832 PTH 6.85 VHP 3.634 DPA -44.78 RAP 284.43 ECC 1.3289
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 52 3122.21 -35.79 98.23 186.12 123.73 18 12 54 2122.2 -19.86 77.54
60.00 18 1 3 3015.29 -30.78 92.14 189.66 117.42 18 51 19 2015.3 -17.25 70.26
70.00 18 53 58 2859.66 -26.32 81.89 192.03 112.60 19 41 38 1859.7 -14.85 59.34
80.00 20 2 53 2643.89 -23.11 66.88 193.38 109.45 20 46 57 1643.9 -13.07 43.98
90.00 21 24 35 2380.26 -21.91 47.94 193.83 108.34 22 4 15 1380.3 -12.41 24.94
100.00 22 45 45 2118.37 -23.11 28.25 193.38 109.45 23 21 3 1118.4 -13.07 5.35
110.00 23 53 25 1906.48 -26.32 10.81 192.03 112.60 24 25 11 906.5 -14.85 348.26

DIFFERENTIAL CORRECTIONS

TDE 1.2291 TRA 2.7156 TC3-2.4318 BAU .6835
RDE .9321 RRA 1.7601 RC3 -.7952 FAU .13050
FDE 5.0627 FRA13.5878 FC3-6.5201 BSP 8376
BDE 1.5428 BRA 3.2381 BC3 2.5586 F8P 3033

MID-COURSE EXECUTION ACCURACY

SGT 4396.1 SGR 2650.0 S63 1683.0
RRR .9884 RRF .9917 RTF .9754
SGB 5133.0 R23 .1240 R13 .9857
S61 5101.3 S62 570.0 THA 30.70

ORBIT DETERMINATION ACCURACY

ST 94.6 SR 68.7 SS 130.8
CRT .9974 CRS -.9868 CST -.9956
LSA 175.1 MSA 10.9 S8A 1.2
EL1 116.8 EL2 4.0 ALF 35.98

LAUNCH DATE MAR 17 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 32.254 GAL -5.97 AZL 88.36 HCA 208.58 SMA 178.61 ECC .19575 INC 1.6351 V1 29.937
RP 212.86 LAP -.78 LOP 24.32 VP 22.448 GAP 2.30 AZP 91.44 TAL 321.90 TAP 170.48 RCA 143.65 APO 213.57 V2 25.782
RC 134.475 GL 11.78 GP -19.58 ZAL 148.82 ZAP 77.25 ETS 174.15 ZAE 117.78 ETE 190.15 ZAC 83.10 ETC 268.82 LVI 12.94

PLANETOCENTRIC CONIC

C3 20.089 VHL 4.462 DLA -1.93 RAL 324.90 RAD 6642.9 VEL 11.836 PTH 6.85 VHP 3.634 DPA -43.98 RAP 283.45 ECC 1.3306
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 28 28 3104.67 -35.13 97.09 186.31 124.43 18 18 12 2104.7 -19.03 76.70
60.00 18 7 40 2995.09 -30.14 90.81 189.90 118.13 18 57 35 1995.1 -16.42 69.20
70.00 19 1 41 2836.20 -25.69 80.35 192.32 113.32 19 48 58 1836.2 -14.02 58.03
80.00 20 11 37 2617.27 -22.49 65.14 193.72 110.17 20 55 14 1617.3 -12.24 42.44
90.00 21 33 45 2352.22 -21.30 46.11 194.18 109.08 22 12 57 1352.2 -11.58 23.30
100.00 22 54 29 2091.74 -22.49 26.51 193.72 110.17 23 29 20 1091.7 -12.24 3.81
110.00 0 3 4 1883.02 -25.69 9.27 192.32 113.32 0 36 27 883.0 -14.02 346.95

DIFFERENTIAL CORRECTIONS

TDE 1.2800 TRA 2.9012 TC3-2.5219 BAU .7065
RDE .9037 RRA 1.6715 RC3 -.7490 FAU .14946
FDE 5.0324 FRA13.5894 FC3-6.4410 BSP 8633
BDE 1.5880 BRA 3.3483 BC3 2.6304 F8P 3033

MID-COURSE EXECUTION ACCURACY

SGT 4842.3 SGR 2321.9 S63 1677.9
RRR .9888 RRF .9902 RTF .572
SGB 5293.0 R23 .1206 R13 .9885
S61 5254.1 S62 532.2 THA 28.10

ORBIT DETERMINATION ACCURACY

ST 99.0 SR 66.2 SS 130.1
CRT .9956 CRS -.9846 CST -.9964
LSA 176.0 MSA 11.1 S8A 1.2
EL1 119.0 EL2 5.1 ALF 33.72

LAUNCH DATE MAR 17 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

RL 148.84 LAL .00 LOL 175.75 VL 32.258 GAL -6.04 AZL 88.50 HCA 209.78 SMA 178.68 ECC .19646 INC 1.5046 V1 29.937
RP 213.16 LAP -.75 LOP 25.32 VP 22.413 GAP 2.09 AZP 91.31 TAL 321.60 TAP 171.37 RCA 143.55 APO 213.75 V2 25.749
RC 136.814 GL 10.79 GP -18.78 ZAL 149.34 ZAP 75.46 ETS 173.70 ZAE 116.23 ETE 189.04 ZAC 83.91 ETC 268.87 LVI 12.43

PLANETOCENTRIC CONIC

C3 20.234 VHL 4.498 DLA -2.39 RAL 325.43 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 3.640 DPA -43.23 RAP 282.56 ECC 1.3330
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 31 44 3089.11 -34.52 96.09 186.57 125.04 18 23 13 2089.1 -18.26 75.97
60.00 18 13 51 2977.09 -29.55 89.65 190.21 118.75 19 3 28 1977.1 -15.68 68.27
70.00 19 8 54 2815.19 -25.12 78.99 192.68 113.94 19 55 49 1815.2 -13.27 56.86
80.00 20 19 45 2593.34 -21.82 63.59 194.12 110.79 21 2 59 1593.3 -11.49 41.07
90.00 21 42 18 2326.98 -20.73 44.48 194.59 109.88 22 21 5 1327.0 -10.82 21.84
100.00 23 2 37 2067.82 -21.92 24.96 194.12 110.79 23 37 5 1067.8 -11.49 2.44
110.00 0 12 16 1862.00 -25.12 7.91 192.68 113.94 0 43 18 862.0 -13.27 345.78

DIFFERENTIAL CORRECTIONS

TDE 1.3330 TRA 3.0870 TC3-2.6042 BAU .7297
RDE .8827 RRA 1.5876 RC3 -.7032 FAU .14783
FDE 5.0000 FRA13.5799 FC3-6.3250 BSP 8918
BDE 1.5988 BRA 3.4713 BC3 2.6974 F8P 3027

MID-COURSE EXECUTION ACCURACY

SGT 4884.6 SGR 2400.2 S63 1667.9
RRR .9887 RRF .9885 RTF .9786
SGB 5442.5 R23 .1163 R13 .9853
S61 5415.8 S62 537.7 THA 25.73

ORBIT DETERMINATION ACCURACY

ST 103.5 SR 63.9 SS 129.2
CRT .9935 CRS -.9822 CST -.9970
LSA 177.1 MSA 11.3 S8A 1.2
EL1 121.4 EL2 6.2 ALF 31.62

LAUNCH DATE MAR 17 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 32.275 GAL -6.39 AZL 89.03 HCA 215.89 SMA 178.94 ECC .20083 INC .9744 V1 29.937
 RP 214.72 LAP -.57 LOP 31.44 VP 22.237 GAP 1.09 AZP 90.79 TAL 319.95 TAP 175.64 RCA 143.00 APO 214.87 V2 25.573
 RC 148.770 GL 6.77 GP -15.38 ZAL 151.55 ZAP 67.15 ETS 172.06 ZAE 108.56 ETE 184.90 ZAC 87.28 ETC 268.09 LVI 10.31

DISTANCE 642.957
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.427 VHL 4.629 DLA -5.79 RAL 327.88 RAD 6643.5 VEL 11.892 PTH 6.90 VHP 3.731 DPA -39.97 RAP 279.16 ECC 1.3526
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 0 3035.04 -32.36 92.75 188.58 127.00 18 44 35 2035.0 -15.68 73.48
 60.00 18 39 48 2913.32 -27.40 85.63 192.42 120.79 19 28 19 1913.3 -13.00 65.00
 70.00 19 38 54 2739.43 -22.94 74.19 195.08 116.02 20 24 34 1739.4 -10.52 52.72
 80.00 20 53 29 2505.92 -19.71 58.05 196.66 112.90 21 35 15 1505.9 -8.67 36.11
 90.00 22 17 40 2234.30 -18.49 38.61 197.19 111.78 22 54 55 1234.3 -7.98 16.51
 100.00 23 36 21 1980.40 -19.71 19.42 196.66 112.90 24 9 22 980.4 -8.67 357.48
 110.00 0 42 16 1786.25 -22.94 3.11 195.08 116.02 1 12 3 786.3 -10.52 341.64

DIFFERENTIAL CORRECTIONS
 TDE 1.6116 TRA 4.0020 TC3-2.9362 BAU .8539
 RDE .8014 RRA 1.2218 RC3 -.5048 FAU .13561
 FDE 4.7628 FRA13.0655 FC3-5.4790 BSP 10453
 BDE 1.7999 BRA 4.1844 BC3 2.9793 FSP 2671

MID-COURSE EXECUTION ACCURACY
 SGT 6013.3 SGR 1874.3 SG3 1556.9
 RRT .9598 RRF .9749 RTF .9827
 SGB 6298.6 R23 .0892 R13 .9851
 SG1 6278.4 SG2 503.8 THA 16.77

ORBIT DETERMINATION ACCURACY
 ST 124.7 SR 54.6 SS 123.3
 CRT .9775 CRS -.9663 CST -.9987
 LSA 183.2 MSA 12.9 SSA 1.3
 EL1 135.7 EL2 10.6 ALF 23.32

LAUNCH DATE MAR 17 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 32.279 GAL -6.47 AZL 89.11 HCA 216.87 SMA 179.01 ECC .20186 INC .8874 V1 29.937
 RP 215.04 LAP -.53 LOP 32.61 VP 22.202 GAP .90 AZP 90.71 TAL 319.59 TAP 176.45 RCA 142.87 APO 215.15 V2 25.536
 RC 151.211 GL 6.11 GP -14.81 ZAL 151.94 ZAP 65.62 ETS 171.83 ZAE 107.08 ETE 184.29 ZAC 87.85 ETC 268.01 LVI 9.92

DISTANCE 647.107
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.748 VHL 4.663 DLA -6.32 RAL 328.34 RAD 6643.6 VEL 11.906 PTH 6.91 VHP 3.760 DPA -39.42 RAP 278.69 ECC 1.3579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 48 3028.05 -32.07 92.33 189.09 127.24 18 48 16 2028.1 -15.34 73.17
 60.00 18 44 9 2904.80 -27.10 85.10 192.96 121.05 19 32 33 1904.8 -12.64 64.57
 70.00 19 43 36 2729.01 -22.63 73.54 195.65 116.29 20 29 25 1729.0 -10.13 52.16
 80.00 20 59 7 2493.64 -19.38 57.28 197.26 113.17 21 40 40 1493.6 -8.27 38.42
 90.00 22 23 34 2221.16 -18.16 37.79 197.79 112.06 23 0 35 1221.2 -7.57 18.77
 100.00 23 41 59 1968.11 -19.38 18.65 197.26 113.17 24 14 47 968.1 -8.27 356.79
 110.00 0 47 18 1775.63 -22.63 2.46 195.65 116.29 1 16 54 775.8 -10.13 341.08

DIFFERENTIAL CORRECTIONS
 TDE 1.8710 TRA 4.1835 TC3-2.9852 BAU .8787
 RDE .7909 RRA 1.1588 RC3 -.4707 FAU .13240
 FDE 4.7090 FRA12.9060 FC3-5.2708 BSP 10779
 BDE 1.8488 BRA 4.3411 BC3 3.0220 FSP 2825

MID-COURSE EXECUTION ACCURACY
 SGT 6221.7 SGR 1765.8 SG3 1526.5
 RRT .9563 RRF .9709 RTF .9831
 SGB 6473.0 R23 .0840 R13 .9851
 SG1 6453.4 SG2 503.4 THA 15.44

ORBIT DETERMINATION ACCURACY
 ST 128.7 SR 53.1 SS 122.0
 CRT .9733 CRS -.9625 CST -.9989
 LSA 184.6 MSA 13.3 SSA 1.3
 EL1 138.8 EL2 11.3 ALF 22.04

LAUNCH DATE MAR 17 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 32.284 GAL -6.55 AZL 89.19 HCA 218.03 SMA 179.09 ECC .20294 INC .8051 V1 29.937
 RP 215.37 LAP -.50 LOP 33.78 VP 22.167 GAP .70 AZP 90.63 TAL 319.22 TAP 177.26 RCA 142.74 APO 215.43 V2 25.499
 RC 153.669 GL 5.50 GP -14.27 ZAL 152.31 ZAP 64.13 ETS 171.62 ZAE 105.62 ETE 183.74 ZAC 88.39 ETC 267.94 LVI 9.55

DISTANCE 651.252
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.094 VHL 4.700 DLA -6.61 RAL 328.80 RAD 6643.8 VEL 11.920 PTH 6.93 VHP 3.791 DPA -38.88 RAP 278.28 ECC 1.3638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 25 3022.11 -31.82 91.98 189.62 127.44 18 51 48 2022.1 -15.05 72.90
 60.00 18 48 18 2897.43 -26.84 84.65 193.32 121.27 19 36 35 1897.4 -12.33 64.20
 70.00 19 48 41 2719.88 -22.35 72.98 196.24 116.52 20 34 1 1719.9 -9.80 51.67
 80.00 21 4 26 2482.76 -19.09 56.81 197.87 113.41 21 43 48 1482.8 -7.91 34.81
 90.00 22 29 7 2209.50 -17.86 37.06 198.41 112.30 23 5 57 1209.5 -7.20 15.10
 100.00 23 47 18 1957.24 -19.09 17.98 197.87 113.41 24 19 55 957.2 -7.91 356.18
 110.00 0 52 4 1768.70 -22.35 1.90 196.24 116.52 1 21 30 766.7 -9.80 340.58

DIFFERENTIAL CORRECTIONS
 TDE 1.7305 TRA 4.3645 TC3-3.0303 BAU .9044
 RDE .7817 RRA 1.0988 RC3 -.4390 FAU .12918
 FDE 4.6494 FRA12.7335 FC3-5.0619 BSP 11093
 BDE 1.8988 BRA 4.5007 BC3 3.0620 FSP 2773

MID-COURSE EXECUTION ACCURACY
 SGT 6424.4 SGR 1702.3 SG3 1494.3
 RRT .9522 RRF .9663 RTF .9834
 SGB 6646.1 R23 .0791 R13 .9851
 SG1 6626.9 SG2 504.3 THA 14.24

ORBIT DETERMINATION ACCURACY
 ST 132.7 SR 51.6 SS 120.5
 CRT .9688 CRS -.9583 CST -.9991
 LSA 186.0 MSA 13.7 SSA 1.3
 EL1 141.9 EL2 12.0 ALF 20.86

LAUNCH DATE MAR 17 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 148.84 LAL .00 LOL 175.75 VL 32.290 GAL -6.64 AZL 89.27 HCA 219.20 SMA 179.17 ECC .20407 INC .7273 V1 29.937
 RP 215.71 LAP -.48 LOP 34.93 VP 22.132 GAP .50 AZP 90.56 TAL 318.85 TAP 178.05 RCA 142.61 APO 215.74 V2 25.481
 RC 156.143 GL 4.93 GP -13.76 ZAL 152.87 ZAP 62.69 ETS 171.44 ZAE 104.19 ETE 183.24 ZAC 88.90 ETC 267.88 LVI 9.18

DISTANCE 655.393
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.463 VHL 4.740 DLA -7.26 RAL 329.23 RAD 6643.9 VEL 11.935 PTH 6.94 VHP 3.825 DPA -38.38 RAP 277.93 ECC 1.3697
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 53 3017.13 -31.62 91.68 190.17 127.61 18 55 10 2017.1 -14.80 72.67
 60.00 18 52 15 2891.14 -26.62 84.27 194.10 121.45 19 40 26 1891.1 -12.06 63.89
 70.00 19 53 12 2711.94 -22.11 72.49 196.85 116.72 20 38 24 1711.9 -9.50 51.24
 80.00 21 9 28 2473.20 -18.83 56.02 198.50 113.61 21 50 41 1473.2 -7.60 34.27
 90.00 22 34 23 2199.20 -17.59 36.42 199.05 112.50 23 11 2 1199.2 -6.88 14.52
 100.00 23 52 19 1947.67 -18.83 17.38 198.50 113.61 24 24 47 947.7 -7.60 355.64
 110.00 0 56 34 1758.76 -22.11 1.41 196.85 116.72 1 25 53 758.8 -9.50 340.16

DIFFERENTIAL CORRECTIONS
 TDE 1.7918 TRA 4.5453 TC3-3.0697 BAU .9300
 RDE .7741 RRA 1.0416 RC3 -.4091 FAU .12577
 FDE 4.5915 FRA12.5502 FC3-4.8472 BSP 11416
 BDE 1.9518 BRA 4.6631 BC3 3.0968 FSP 2721

MID-COURSE EXECUTION ACCURACY
 SGT 6621.2 SGR 1624.0 SG3 1460.7
 RRT .9473 RRF .9612 RTF .9836
 SGB 6817.5 R23 .0745 R13 .9851
 SG1 6798.6 SG2 506.6 THA 13.15

ORBIT DETERMINATION ACCURACY
 ST 136.6 SR 50.5 SS 119.0
 CRT .9641 CRS -.9540 CST -.9993
 LSA 187.5 MSA 14.0 SSA 1.3
 EL1 145.1 EL2 12.6 ALF 19.78

LAUNCH DATE MAR 17 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
RL 148.84 LAL .00 LOL 175.75 VL 32.295 GAL -6.73 AZL 89.35 HCA 220.36 SMA 179.26 ECC .20825 INC .6535 V1 29.937
RP 216.04 LAP -.42 LOP 36.11 VP 22.096 GAP .30 AZP 90.50 TAL 318.47 TAP 178.83 RCA 142.47 APO 216.06 V2 25.424
RC 158.631 GL 4.39 GP -13.27 ZAL 153.02 ZAP 61.29 ETS 171.28 ZAE 102.79 ETE 182.78 ZAC 89.38 ETC 267.83 LVI 6.82

PLANETOCENTRIC CONIC
C3 22.857 VHL 4.781 DLA -7.67 RAL 329.69 RAD 6644.1 VEL 11.952 PTH 6.95 VHP 3.861 DPA -37.90 RAP 277.64 ECC 1.3762
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 8 11 3013.04 -31.45 91.44 190.74 127.74 18 58 24 2013.0 -14.60 72.49
60.00 18 56 1 2885.82 -26.43 83.95 194.70 121.61 19 44 7 1885.8 -11.63 63.62
70.00 19 57 29 2705.10 -21.90 72.07 197.48 116.89 20 42 34 1705.1 -9.25 50.87
80.00 21 14 14 2464.86 -18.60 55.50 199.15 113.79 21 55 19 1464.9 -7.32 33.61
90.00 22 39 22 2190.17 -17.36 35.87 199.71 112.68 23 15 52 1190.2 -6.59 14.01
100.00 0 1 1 1939.33 -18.60 16.87 199.15 113.79 0 33 21 939.3 -7.32 355.17
110.00 1 0 51 1751.92 -21.90 .99 197.48 116.89 1 30 3 751.9 -9.25 339.79

DIFFERENTIAL CORRECTIONS
TDE 1.8533 TRA 4.7255 TC3-3.1059 BAU .9562 SGT 6812.3 SGR 1550.5 SG3 1426.1 ORBIT DETERMINATION ACCURACY
RDE .7877 RRA .9871 RC3 -.3815 FAU .12240 RRT .9417 RRF .9553 RTF .9838 ST 140.4 SR 49.4 SS 117.5
FDE 4.5301 FRA12.3580 FC3-4.6363 B8P 11728 SGB 6986.5 R23 .0702 R13 .9850 CRT .9591 CRS -.9495 CST -.9994
BDE 2.0060 BRA 4.8275 BC3 3.1292 F8P 2664 SG1 6967.9 SG2 509.8 THA 12.16 LSA 189.0 MSA 14.4 S8A 1.3
EL1 148.2 EL2 13.2 ALF 18.80

LAUNCH DATE MAR 17 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC
RL 148.84 LAL .00 LOL 175.75 VL 32.301 GAL -6.82 AZL 89.42 HCA 221.52 SMA 179.35 ECC .20648 INC .5831 V1 29.937
RP 216.39 LAP -.39 LOP 37.27 VP 22.061 GAP .10 AZP 90.44 TAL 318.08 TAP 179.61 RCA 142.32 APO 216.39 V2 25.365
RC 161.134 GL 3.88 GP -12.81 ZAL 153.36 ZAP 59.94 ETS 171.14 ZAE 101.41 ETE 182.37 ZAC 89.84 ETC 267.79 LVI 6.47

PLANETOCENTRIC CONIC
C3 23.273 VHL 4.824 DLA -8.06 RAL 330.12 RAD 6644.3 VEL 11.969 PTH 6.97 VHP 3.900 DPA -37.44 RAP 277.40 ECC 1.3830
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 11 21 3009.77 -31.31 91.25 191.32 127.85 19 1 31 2009.8 -14.44 72.34
60.00 18 59 37 2881.43 -26.27 83.68 195.32 121.73 19 47 38 1881.4 -11.64 63.40
70.00 20 1 34 2699.29 -21.72 71.71 198.12 117.03 20 46 33 1699.3 -9.03 50.56
80.00 21 18 45 2457.64 -18.40 55.06 199.81 113.94 21 59 43 1457.6 -7.09 33.40
90.00 22 44 5 2182.31 -17.15 35.38 200.37 112.84 23 20 28 1182.3 -6.35 13.56
100.00 0 5 33 1932.12 -18.40 16.43 199.81 113.94 0 37 45 932.1 -7.09 354.77
110.00 1 4 56 1746.11 -21.72 .63 198.12 117.03 1 34 2 746.1 -9.03 339.48

DIFFERENTIAL CORRECTIONS
TDE 1.8161 TRA 4.9057 TC3-3.1370 BAU .9823 SGT 6997.6 SGR 1481.8 SG3 1390.7 ORBIT DETERMINATION ACCURACY
RDE .7625 RRA .9351 RC3 -.3585 FAU .11891 RRT .9354 RRF .9487 RTF .9839 ST 144.1 SR 48.3 SS 115.9
FDE 4.4689 FRA12.1590 FC3-4.4233 B8P 12031 SGB 7152.7 R23 .0663 R13 .9849 CRT .9539 CRS -.9448 CST -.9995
BDE 2.0622 BRA 4.9940 BC3 3.1571 F8P 2604 SG1 7134.2 SG2 514.0 THA 11.26 LSA 190.5 MSA 14.8 S8A 1.3
EL1 151.3 EL2 13.8 ALF 17.80

LAUNCH DATE MAR 17 1971 FLIGHT TIME 278.00 ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC
RL 148.84 LAL .00 LOL 175.75 VL 32.308 GAL -6.91 AZL 89.48 HCA 222.88 SMA 179.48 ECC .20776 INC .5163 V1 29.937
RP 216.73 LAP -.35 LOP 38.43 VP 22.026 GAP -.10 AZP 90.38 TAL 317.69 TAP 180.37 RCA 142.17 APO 216.73 V2 25.347
RC 163.649 GL 3.40 GP -12.37 ZAL 153.69 ZAP 58.63 ETS 171.02 ZAE 100.07 ETE 182.00 ZAC 90.28 ETC 267.76 LVI 6.12

PLANETOCENTRIC CONIC
C3 23.713 VHL 4.870 DLA -8.41 RAL 330.55 RAD 6644.5 VEL 11.987 PTH 6.98 VHP 3.941 DPA -37.01 RAP 277.22 ECC 1.3903
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 14 23 3007.28 -31.21 91.10 191.93 127.93 19 4 31 2007.3 -14.32 72.23
60.00 19 3 2 2877.89 -26.14 83.47 195.95 121.83 19 51 0 1877.9 -11.49 63.23
70.00 20 5 26 2694.44 -21.57 71.42 198.77 117.15 20 50 20 1694.4 -8.85 50.30
80.00 21 23 2 2451.48 -18.23 54.68 200.48 114.06 22 3 54 1451.5 -6.88 33.06
90.00 22 48 34 2175.55 -16.97 34.97 201.03 112.97 23 24 49 1175.6 -6.13 13.18
100.00 0 9 30 1925.96 -18.23 16.03 200.48 114.06 0 41 56 926.0 -6.88 354.43
110.00 1 8 48 1741.26 -21.57 .34 198.77 117.15 1 37 49 741.3 -8.85 339.22

DIFFERENTIAL CORRECTIONS
TDE 1.9775 TRA 5.0835 TC3-3.1678 BAU 1.0097 SGT 7175.5 SGR 1416.8 SG3 1354.1 ORBIT DETERMINATION ACCURACY
RDE .7576 RRA .8848 RC3 -.3326 FAU .11583 RRT .9283 RRF .9413 RTF .5440 ST 147.6 SR 47.3 SS 114.1
FDE 4.3989 FRA11.9465 FC3-4.2287 B8P 12305 SGB 7314.0 R23 .0621 R13 .9849 CRT .9485 CRS -.9398 CST -.9996
BDE 2.1175 BRA 5.1800 BC3 3.1850 F8P 2534 SG1 7293.6 SG2 518.3 THA 10.44 LSA 191.9 MSA 15.2 S8A 1.3
EL1 154.3 EL2 14.3 ALF 17.06

LAUNCH DATE MAR 17 1971 FLIGHT TIME 280.00 ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
RL 148.84 LAL .00 LOL 175.75 VL 32.314 GAL -7.01 AZL 89.55 HCA 223.83 SMA 179.58 ECC .20908 INC .4527 V1 29.937
RP 217.08 LAP -.31 LOP 39.58 VP 21.990 GAP -.29 AZP 90.33 TAL 317.28 TAP 181.11 RCA 142.01 APO 217.08 V2 25.308
RC 166.178 GL 2.95 GP -11.95 ZAL 154.02 ZAP 57.37 ETS 170.91 ZAE 98.75 ETE 181.66 ZAC 90.69 ETC 267.74 LVI 7.78

PLANETOCENTRIC CONIC
C3 24.176 VHL 4.917 DLA -8.75 RAL 330.97 RAD 6644.6 VEL 12.006 PTH 7.00 VHP 3.983 DPA -36.60 RAP 277.09 ECC 1.3979
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 17 18 3005.52 -31.13 91.00 192.55 127.99 19 7 23 2005.5 -14.24 72.15
60.00 19 6 19 2875.16 -26.03 83.30 196.59 121.91 19 54 14 1875.2 -11.38 63.09
70.00 20 9 7 2690.50 -21.45 71.18 199.44 117.24 20 53 58 1690.5 -8.71 50.09
80.00 21 27 7 2446.33 -18.09 54.36 201.18 114.17 22 7 53 1446.3 -6.71 32.77
90.00 22 52 49 2169.84 -16.82 34.62 201.74 113.07 23 28 59 1169.8 -5.95 12.86
100.00 0 13 55 1920.80 -18.09 15.73 201.16 114.17 0 45 56 920.8 -6.71 354.14
110.00 1 12 30 1737.31 -21.45 .09 199.44 117.24 1 41 27 737.3 -8.71 339.01

DIFFERENTIAL CORRECTIONS
TDE 2.0528 TRA 5.2754 TC3-3.1746 BAU 1.0308 SGT 7358.6 SGR 1361.3 SG3 1321.4 ORBIT DETERMINATION ACCURACY
RDE .7582 RRA .8409 RC3 -.3043 FAU .11036 RRT .9198 RRF .9335 RTF .9835 ST 151.8 SR 46.6 SS 113.3
FDE 4.3754 FRA11.7782 FC3-3.9519 B8P 12737 SGB 7483.4 R23 .0616 R13 .9843 CRT .9433 CRS -.9358 CST -.9997
BDE 2.1883 BRA 5.3420 BC3 3.1892 F8P 2517 SG1 7464.9 SG2 526.5 THA 9.71 LSA 194.4 MSA 15.5 S8A 1.3
EL1 158.1 EL2 14.9 ALF 16.31

LAUNCH DATE MAR 18 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 413.826

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 33.639 GAL -7.62 AZL 93.18 HCA 144.45 SMA 203.79 ECC .29819 INC 3.1804 V1 29.928
RP 207.22 LAP -1.89 LOP 321.23 VP 25.093 GAP 17.32 AZP 87.41 TAL 325.97 TAP 110.41 RCA 143.02 APO 264.56 V2 26.432
RC 56.435 GL -17.19 GP 7.16 ZAL 142.14 ZAP 161.36 ETS 157.65 ZAE 163.46 ETE 132.71 ZAC 108.75 ETC 274.80 LVI -20.40

PLANETOCENTRIC CONIC

C3 39.172 VHL 6.259 DLA -30.18 RAL 331.22 RAD 6650.4 VEL 12.611 PTH 7.47 VHP 8.475 DPA -14.02 RAP 305.03 ECC 1.6447
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 50 12 2670.27 -15.79 73.87 198.30 135.49 20 34 42 1670.3 2.48 57.48
60.00 21 14 24 2446.27 -8.72 60.33 204.92 129.50 21 55 10 1446.3 7.37 42.38
70.00 23 9 16 2108.29 -.56 39.08 211.04 124.15 23 44 25 1108.3 13.20 19.26
79.01 2 17 40 1930.00 12.46 3.05 218.85 117.70 2 43 10 530.0 22.80 340.36
79.01 2 17 40 1930.00 12.46 3.05 218.85 117.70 2 43 10 530.0 22.80 340.36
79.01 2 17 40 1930.00 12.46 3.05 218.85 117.70 2 43 10 530.0 22.80 340.36
110.00 4 12 39 1155.11 -.56 327.97 211.04 124.15 4 31 54 155.1 13.20 308.17

DIFFERENTIAL CORRECTIONS

TDE-1.0849 TRA-2.0477 TC3 -.0993 BAV .1080
RDE -.4628 RRA -.2251 RC3 .1808 FAU .04743
FDE 1.9489 FRA 2.8494 FC3-1.0482 B8P 4211
BDE 1.1875 BRA 2.0600 BC3 .2063 F8P 439

MID-COURSE EXECUTION ACCURACY

SGT 2388.2 SGR 550.8 SG3 294.0
RRT .7052 RRF -.7469 RTF -.8911
SG8 2450.9 R23 -.1434 R13 -.8953
SG1 2420.4 SG2 385.3 THA 9.48

ORBIT DETERMINATION ACCURACY

ST 59.4 SR 22.4 SS 46.0
CRT .9131 CR8 .7987 CST .9740
LSA 77.2 MSA 13.3 S8A 1.1
EL1 62.9 EL2 8.6 ALF 19.38

LAUNCH DATE MAR 18 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 417.167

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 33.551 GAL -7.47 AZL 93.28 HCA 145.71 SMA 201.95 ECC .29120 INC 3.2793 V1 29.928
RP 207.13 LAP -1.85 LOP 322.50 VP 24.986 GAP 16.87 AZP 87.29 TAL 326.00 TAP 111.71 RCA 143.14 APO 260.75 V2 26.443
RC 56.701 GL -18.01 GP 7.59 ZAL 141.90 ZAP 160.33 ETS 157.64 ZAE 163.70 ETE 129.71 ZAC 109.15 ETC 274.89 LVI -20.91

PLANETOCENTRIC CONIC

C3 37.882 VHL 6.155 DLA -30.90 RAL 331.67 RAD 6649.9 VEL 12.560 PTH 7.43 VHP 8.242 DPA -13.54 RAP 305.27 ECC 1.6234
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 56 14 2644.65 -14.55 72.72 198.55 135.82 20 40 19 1644.6 3.77 56.80
60.00 21 22 36 2414.85 -7.36 58.79 205.31 129.74 22 2 51 1414.8 8.74 40.85
70.00 23 22 45 2061.31 1.23 36.60 211.77 124.13 23 57 6 1061.3 14.87 16.64
77.00 2 4 42 1568.39 13.01 6.22 218.94 118.28 2 30 50 568.4 23.52 343.53
77.00 2 4 42 1568.39 13.01 6.22 218.94 118.28 2 30 50 568.4 23.52 343.53
77.00 2 4 42 1568.39 13.01 6.22 218.94 118.28 2 30 50 568.4 23.52 343.53
110.00 4 26 7 1108.13 1.23 325.52 211.77 124.13 4 44 35 108.1 14.87 305.56

DIFFERENTIAL CORRECTIONS

TDE-1.0928 TRA-2.0205 TC3 -.0950 BAV .1097
RDE -.4751 RRA -.2541 RC3 .1946 FAU .04891
FDE 1.9952 FRA 2.9583 FC3-1.1178 B8P 4298
BDE 1.1916 BRA 2.0364 BC3 .2166 F8P 469

MID-COURSE EXECUTION ACCURACY

SGT 2419.4 SGR 573.8 SG3 312.1
RRT .7395 RRF -.7838 RTF -.8943
SG8 2486.5 R23 -.1570 R13 -.8990
SG1 2457.2 SG2 380.2 THA 10.19

ORBIT DETERMINATION ACCURACY

ST 60.6 SR 22.5 SS 47.6
CRT .9251 CR8 .8140 CST .9729
LSA 79.1 MSA 13.2 S8A 1.1
EL1 64.1 EL2 8.1 ALF 19.28

LAUNCH DATE MAR 18 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 420.572

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 33.467 GAL -7.33 AZL 93.38 HCA 146.97 SMA 200.23 ECC .28457 INC 3.3848 V1 29.928
RP 207.05 LAP -1.84 LOP 323.76 VP 24.883 GAP 16.42 AZP 87.16 TAL 326.04 TAP 113.01 RCA 143.25 APO 257.21 V2 26.453
RC 57.030 GL -18.87 GP 8.05 ZAL 141.61 ZAP 159.26 ETS 157.59 ZAE 163.85 ETE 126.71 ZAC 109.58 ETC 274.98 LVI -21.45

PLANETOCENTRIC CONIC

C3 36.706 VHL 6.059 DLA -31.67 RAL 332.15 RAD 6649.5 VEL 12.514 PTH 7.40 VHP 8.018 DPA -13.02 RAP 305.45 ECC 1.6041
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 2 45 2618.29 -13.26 71.54 198.90 136.13 20 46 23 1618.3 5.09 53.70
60.00 21 31 36 2381.86 -5.92 57.20 205.83 129.94 22 11 18 1381.9 10.16 39.23
70.00 23 38 31 2008.04 3.26 33.84 212.73 124.02 24 11 59 1008.0 16.72 13.64
75.12 1 53 24 1601.90 13.57 9.06 219.09 118.89 2 20 6 601.9 24.28 346.37
75.12 1 53 24 1601.90 13.57 9.06 219.09 118.89 2 20 6 601.9 24.28 346.37
75.12 1 53 24 1601.90 13.57 9.06 219.09 118.89 2 20 6 601.9 24.28 346.37
110.00 4 41 57 1054.86 3.26 322.74 212.73 124.02 4 59 32 54.9 16.72 302.54

DIFFERENTIAL CORRECTIONS

TDE-1.1006 TRA-1.9908 TC3 -.0889 BAV .1119
RDE -.4890 RRA -.2851 RC3 .2095 FAU .05047
FDE 1.0481 FRA 3.0708 FC3-1.1903 B8P 4372
BDE 1.1964 BRA 2.0111 BC3 .2279 F8P 500

MID-COURSE EXECUTION ACCURACY

SGT 2447.2 SGR 601.3 SG3 331.3
RRT .7713 RRF -.8178 RTF -.8774
SG8 2520.0 R23 -.1712 R13 -.9028
SG1 2491.8 SG2 375.9 THA 10.98

ORBIT DETERMINATION ACCURACY

ST 61.7 SR 22.7 SS 49.3
CRT .9369 CR8 .8299 CST .9719
LSA 81.1 MSA 13.1 S8A 1.0
EL1 65.3 EL2 7.5 ALF 19.27

LAUNCH DATE MAR 18 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 424.038

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 33.387 GAL -7.19 AZL 93.50 HCA 148.23 SMA 198.64 ECC .27828 INC 3.4978 V1 29.928
RP 206.97 LAP -1.84 LOP 323.03 VP 24.788 GAP 15.98 AZP 87.03 TAL 326.08 TAP 114.31 RCA 143.36 APO 253.92 V2 26.462
RC 57.440 GL -19.79 GP 8.56 ZAL 141.29 ZAP 158.16 ETS 157.48 ZAE 163.90 ETE 123.78 ZAC 110.06 ETC 275.06 LVI -22.01

PLANETOCENTRIC CONIC

C3 35.641 VHL 5.970 DLA -32.48 RAL 332.65 RAD 6649.1 VEL 12.471 PTH 7.37 VHP 7.797 DPA -12.46 RAP 305.60 ECC 1.5866
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 9 48 2591.11 -11.92 70.35 199.35 136.41 20 52 59 1591.1 6.45 54.55
60.00 21 41 31 2347.00 -4.39 55.52 206.49 130.10 22 20 38 1347.0 11.66 37.50
70.00 0 2 0 1944.77 5.67 30.50 214.03 123.74 0 34 25 944.8 18.85 9.95
73.31 1 43 20 1632.14 14.14 11.69 219.32 119.55 2 10 32 632.1 25.06 349.00
73.31 1 43 20 1632.14 14.14 11.69 219.32 119.55 2 10 32 632.1 25.06 349.00
73.31 1 43 20 1632.14 14.14 11.69 219.32 119.55 2 10 32 632.1 25.06 349.00
110.00 5 1 27 6279.63 5.67 297.32 214.03 123.74 6 46 6 5279.6 18.85 276.78

DIFFERENTIAL CORRECTIONS

TDE-1.1079 TRA-1.9584 TC3 -.0835 BAV .1146
RDE -.4647 RRA -.3182 RC3 .2257 FAU .05213
FDE 1.0979 FRA 3.1862 FC3-1.2662 B8P 4436
BDE 1.2014 BRA 1.9841 BC3 .2406 F8P 534

MID-COURSE EXECUTION ACCURACY

SGT 2470.8 SGR 634.4 SG3 351.3
RRT .7999 RRF -.8487 RTF -.9004
SG8 2551.0 R23 -.1860 R13 -.9066
SG1 2523.6 SG2 372.8 THA 11.87

ORBIT DETERMINATION ACCURACY

ST 62.8 SR 23.0 SS 51.0
CRT .9483 CR8 .8460 CST .9708
LSA 83.1 MSA 13.1 S8A 1.0
EL1 66.5 EL2 6.9 ALF 19.33

LAUNCH DATE MAR 18 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 25 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 33,312 GAL -7.06 AZL 93.62 MCA 149.50 SMA 197.16 ECC .27231 INC 3.6193 V1 29.928
 RP 206.90 LAP -1.84 LOP 326.29 VP 24.693 GAP 15.55 AZP 86.88 TAL 326.12 TAP 115.62 RCA 143.47 APO 250.85 V2 26.469
 RC 57.930 GL -20.75 GP 9.11 ZAL 140.93 ZAP 157.01 ETS 157.32 ZAE 163.84 ETE 120.93 ZAC 110.59 ETC 275.14 LVI -22.62

Planetocentric Conic: C3 34.685 VHL 5.889 DLA -33.34 RAL 333.18 RAD 6648.8 VEL 12.433 PTH 7.34 VHP 7.587 DPA -11.87 RAP 305.71 ECC 1.5708
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 17 27 2562.98 -10.53 89.12 199.93 136.67 21 0 10 1563.0 7.85 53.35
 60.00 21 52 33 2309.84 -2.76 53.73 207.32 130.22 22 31 3 1309.8 13.24 35.63
 70.00 0 28 31 1861.47 8.79 26.08 215.91 123.14 0 59 33 861.5 21.52 4.97
 71.55 1 34 11 1660.14 14.71 14.19 219.64 120.26 2 1 51 660.1 25.86 351.51
 71.55 1 34 11 1660.14 14.71 14.19 219.64 120.26 2 1 51 660.1 25.86 351.51
 71.55 1 34 11 1660.14 14.71 14.19 219.64 120.26 2 1 51 660.1 25.86 351.51
 110.00 5 27 58 6196.33 8.79 292.90 215.91 123.14 7 11 14 5196.3 21.52 271.80

Differential Corrections: TDE -1.1167 TRA -1.9241 TC3 -.0774 BAU .1183 MID-COURSE EXECUTION ACCURACY: SGT 2491.9 SGR 873.8 S63 372.4 ORBIT DETERMINATION ACCURACY: ST 63.9 SR 23.3 SS 52.8
 RDE -.4625 RRA -.3537 RC3 .2431 FAU .05385 RRT .0252 RRF -.8760 RTF -.9031 CRT .9592 CR8 .8625 C8T .9698
 FDE 1.1558 FRA 3.3046 FC3 -1.3440 B8P 4497 SGB 2581.4 R23 -.2013 R13 -.9103 LSA 85.1 MSA 13.1 S8A 1.0
 BDE 1.2087 BRA 1.9563 BC3 .2551 F8P 569 S61 2554.5 S62 371.2 THA 12.86 EL1 67.7 EL2 6.2 ALF 19.48

LAUNCH DATE MAR 18 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 33,241 GAL -6.93 AZL 93.75 MCA 150.76 SMA 195.78 ECC .26666 INC 3.7502 V1 29.928
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.604 GAP 15.13 AZP 86.73 TAL 326.17 TAP 116.94 RCA 143.58 APO 247.99 V2 26.476
 RC 58.496 GL -21.78 GP 9.72 ZAL 140.52 ZAP 155.82 ETS 157.12 ZAE 163.87 ETE 118.26 ZAC 111.17 ETC 275.21 LVI -23.26

Planetocentric Conic: C3 33.835 VHL 5.817 DLA -34.26 RAL 333.75 RAD 6648.5 VEL 12.399 PTH 7.31 VHP 7.384 DPA -11.23 RAP 305.77 ECC 1.5568
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 25 50 2533.70 -9.08 67.86 200.65 136.91 21 8 4 1533.7 9.31 52.10
 60.00 22 4 59 2269.72 -.99 51.82 208.35 130.29 22 42 49 1269.7 14.92 33.58
 69.80 1 25 47 1686.56 15.30 16.60 220.06 121.03 1 53 54 686.6 26.70 353.94
 69.80 1 25 47 1686.56 15.30 16.60 220.06 121.03 1 53 54 686.6 26.70 353.94
 69.80 1 25 47 1686.56 15.30 16.60 220.06 121.03 1 53 54 686.6 26.70 353.94
 69.80 1 25 47 1686.56 15.30 16.60 220.06 121.03 1 53 54 686.6 26.70 353.94
 69.80 1 25 47 1686.56 15.30 16.60 220.06 121.03 1 53 54 686.6 26.70 353.94

Differential Corrections: TDE -1.1127 TRA -1.8736 TC3 -.0550 BAU .1215 MID-COURSE EXECUTION ACCURACY: SGT 2488.2 SGR 719.4 S63 394.3 ORBIT DETERMINATION ACCURACY: ST 64.2 SR 23.8 SS 54.6
 RDE -.4816 RRA -.3910 RC3 .2630 FAU .05579 RRT .8487 RRF -.8995 RTF -.9082 CRT .9686 CR8 .8785 C8T .9690
 FDE 1.2151 FRA 3.4219 FC3 -1.4274 B8P 4387 SGB 2590.1 R23 -.2103 R13 -.9164 LSA 86.6 MSA 13.0 S8A .9
 BDE 1.2046 BRA 1.9140 BC3 .2687 F8P 604 S61 2563.7 S62 369.2 THA 14.08 EL1 68.3 EL2 5.6 ALF 19.87

LAUNCH DATE MAR 18 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 33,174 GAL -6.81 AZL 93.89 MCA 152.03 SMA 194.50 ECC .26131 INC 3.8921 V1 29.928
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.519 GAP 14.72 AZP 86.56 TAL 326.22 TAP 118.25 RCA 143.67 APO 245.32 V2 26.482
 RC 59.137 GL -22.87 GP 10.39 ZAL 140.06 ZAP 154.58 ETS 156.87 ZAE 163.39 ETE 115.80 ZAC 111.82 ETC 275.28 LVI -23.95

Planetocentric Conic: C3 33.098 VHL 5.753 DLA -35.23 RAL 334.37 RAD 6648.2 VEL 12.370 PTH 7.29 VHP 7.190 DPA -10.54 RAP 305.80 ECC 1.5447
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 35 4 2503.22 -7.56 66.56 201.53 137.12 21 16 47 1503.2 10.82 50.78
 60.00 22 19 11 2225.90 .94 49.72 209.64 130.29 22 56 17 1225.9 16.74 31.31
 68.06 1 18 6 1711.70 15.89 18.95 220.59 121.86 1 46 38 711.7 27.56 356.32
 68.06 1 18 6 1711.70 15.89 18.95 220.59 121.86 1 46 38 711.7 27.56 356.32
 68.06 1 18 6 1711.70 15.89 18.95 220.59 121.86 1 46 38 711.7 27.56 356.32
 68.06 1 18 6 1711.70 15.89 18.95 220.59 121.86 1 46 38 711.7 27.56 356.32
 68.06 1 18 6 1711.70 15.89 18.95 220.59 121.86 1 46 38 711.7 27.56 356.32

Differential Corrections: TDE -1.1368 TRA -1.8476 TC3 -.0641 BAU .1281 MID-COURSE EXECUTION ACCURACY: SGT 2322.1 SGR 774.1 S63 417.4 ORBIT DETERMINATION ACCURACY: ST 65.9 SR 24.5 SS 56.6
 RDE -.4652 RRA -.4332 RC3 .2824 FAU .05756 RRT .8658 RRF -.9199 RTF -.5579 CRT .9781 CR8 .8950 C8T .9679
 FDE 1.2858 FRA 3.5471 FC3 -1.5055 B8P 4602 SGB 2638.2 R23 -.2319 R13 -.9176 LSA 89.3 MSA 13.2 S8A .9
 BDE 1.2283 BRA 1.8977 BC3 .2896 F8P 648 S61 2611.8 S62 374.1 THA 15.20 EL1 70.2 EL2 4.8 ALF 20.07

LAUNCH DATE MAR 18 1971

FLIGHT TIME 166.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 33,110 GAL -6.69 AZL 94.05 MCA 153.30 SMA 193.30 ECC .25624 INC 4.0464 V1 29.928
 RP 206.75 LAP -1.82 LOP 330.10 VP 24.438 GAP 14.31 AZP 86.38 TAL 326.27 TAP 119.57 RCA 143.77 APO 242.83 V2 26.487
 RC 59.890 GL -24.03 GP 11.12 ZAL 139.95 ZAP 153.28 ETS 156.57 ZAE 162.99 ETE 113.60 ZAC 112.53 ETC 275.35 LVI -24.68

Planetocentric Conic: C3 32.470 VHL 5.688 DLA -36.26 RAL 335.04 RAD 6648.0 VEL 12.348 PTH 7.27 VHP 7.004 DPA -9.79 RAP 305.77 ECC 1.5344
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 45 18 2471.16 -5.96 65.20 202.60 137.29 21 26 29 1471.2 12.40 49.36
 60.00 22 35 47 2176.76 3.10 47.37 211.24 130.20 23 12 4 1176.8 18.75 28.70
 66.30 1 10 59 1736.09 16.48 21.28 221.24 122.77 1 39 55 736.1 28.45 358.70
 66.30 1 10 59 1736.09 16.48 21.28 221.24 122.77 1 39 55 736.1 28.45 358.70
 66.30 1 10 59 1736.09 16.48 21.28 221.24 122.77 1 39 55 736.1 28.45 358.70
 66.30 1 10 59 1736.09 16.48 21.28 221.24 122.77 1 39 55 736.1 28.45 358.70
 66.30 1 10 59 1736.09 16.48 21.28 221.24 122.77 1 39 55 736.1 28.45 358.70

Differential Corrections: TDE -1.1508 TRA -1.8067 TC3 -.0598 BAU .1348 MID-COURSE EXECUTION ACCURACY: SGT 2533.6 SGR 836.8 S63 441.2 ORBIT DETERMINATION ACCURACY: ST 67.0 SR 25.3 SS 58.6
 RDE -.4712 RRA -.4779 RC3 .3044 FAU .05953 RRT .8809 RRF -.9368 RTF -.9095 CRT .9857 CR8 .9104 C8T .9663
 FDE 1.3599 FRA 3.8695 FC3 -1.5871 B8P 4669 SGB 2668.2 R23 -.2472 R13 -.9210 LSA 91.6 MSA 13.3 S8A .9
 BDE 1.2435 BRA 1.8689 BC3 .3102 F8P 686 S61 2641.0 S62 379.9 THA 16.57 EL1 71.5 EL2 4.0 ALF 20.50

LAUNCH DATE MAR 18 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 442.119

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 33.050 GAL -6.58 AZL 94.21 HCA 154.58 SMA 192.19 ECC .25144 INC 4.2149 V1 29.928
 RP 206.72 LAP -1.81 LOP 331.37 VP 24.361 GAP 13.92 AZP 86.19 TAL 326.33 TAP 120.89 RCA 143.86 APO 240.51 V2 26.491
 RC 60.633 GL -23.27 GP 11.93 ZAL 136.97 ZAP 151.92 ETS 156.22 ZAE 162.48 ETE 111.67 ZAC 113.33 ETC 275.41 LVI -23.48

PLANETOCENTRIC CONIC

C3 31.956 VHL 5.633 DLA -37.36 RAL 335.77 RAD 6647.8 VEL 12.324 PTH 7.25 VHP 6.827 DPA -8.98 RAP 305.70 ECC 1.5259
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 56 45 2437.22 -4.26 63.77 203.90 137.43 21 37 23 1437.2 14.07 47.88
 60.00 22 55 51 2119.67 5.60 44.63 213.29 129.98 23 31 10 1119.7 21.02 25.58
 64.50 1 4 28 1759.87 17.07 23.61 222.03 123.75 1 33 48 759.9 29.37 1.09
 64.50 1 4 28 1759.87 17.07 23.61 222.03 123.75 1 33 48 759.9 29.37 1.09
 64.50 1 4 28 1759.87 17.07 23.61 222.03 123.75 1 33 48 759.9 29.37 1.09
 64.50 1 4 28 1759.87 17.07 23.61 222.03 123.75 1 33 48 759.9 29.37 1.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1665 TRA-1.7624 TC3 -.0549 BAU .1421 SGT 2540.0 SGR 909.0 S63 465.8 ST 68.0 SR 26.4 SS 60.8
 RDE -.4810 RRA -.5267 RC3 .3281 FAU .06153 RRT .8933 RRF -.9507 RTF -.9111 CRT .9918 CRS .9251 CST .9652
 FDE 1.4425 FRA 3.7918 FC3-1.6668 BSP 4731 SGB 2697.8 R23 -.2605 R13 -.9246 LSA 94.0 MSA 13.4 SSA .8
 BDE 1.2617 BRA 1.8395 BC3 .3326 FSP 729 S61 2669.6 S62 388.7 THA 18.13 EL1 72.9 EL2 3.2 ALF 21.07

LAUNCH DATE MAR 18 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 445.861

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.993 GAL -6.47 AZL 94.40 HCA 155.83 SMA 191.14 ECC .24690 INC 4.3998 V1 29.928
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.287 GAP 13.53 AZP 85.98 TAL 326.39 TAP 122.21 RCA 143.93 APO 236.34 V2 26.494
 RC 61.483 GL -26.59 GP 12.83 ZAL 136.33 ZAP 150.30 ETS 155.83 ZAE 161.84 ETE 110.03 ZAC 114.21 ETC 275.47 LVI -26.35

PLANETOCENTRIC CONIC

C3 31.560 VHL 5.618 DLA -36.52 RAL 336.57 RAD 6647.6 VEL 12.308 PTH 7.24 VHP 6.658 DPA -8.09 RAP 305.57 ECC 1.5194
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 9 44 2400.91 -2.44 62.25 205.48 137.53 21 49 45 1400.9 15.84 48.24
 60.00 23 21 41 2048.57 8.70 41.18 216.02 129.51 23 55 50 1048.6 23.75 21.96
 62.67 0 58 30 1783.35 17.66 25.96 222.98 124.81 1 28 13 783.4 30.32 3.52
 62.67 0 58 30 1783.35 17.66 25.96 222.98 124.81 1 28 13 783.4 30.32 3.52
 62.67 0 58 30 1783.35 17.66 25.96 222.98 124.81 1 28 13 783.4 30.32 3.52
 62.67 0 58 30 1783.35 17.66 25.96 222.98 124.81 1 28 13 783.4 30.32 3.52
 62.67 0 58 30 1783.35 17.66 25.96 222.98 124.81 1 28 13 783.4 30.32 3.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1757 TRA-1.7062 TC3 -.0390 BAU .1507 SGT 2527.2 SGR 991.2 S63 490.6 ST 68.6 SR 27.6 SS 62.8
 RDE -.4941 RRA -.5788 RC3 .3551 FAU .06380 RRT .9042 RRF -.9819 RTF -.9138 CRT .9961 CRS .9383 CST .9641
 FDE 1.5291 FRA 3.9069 FC3-1.7502 BSP 4680 SGB 2714.6 R23 -.2679 R13 -.9296 LSA 96.1 MSA 13.5 SSA .8
 BDE 1.2793 BRA 1.8017 BC3 .3572 FSP 768 S61 2685.2 S62 398.4 THA 19.99 EL1 73.9 EL2 2.3 ALF 21.88

LAUNCH DATE MAR 18 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 449.636

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.939 GAL -6.37 AZL 94.60 HCA 157.09 SMA 190.17 ECC .24261 INC 4.6039 V1 29.928
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.215 GAP 13.14 AZP 85.76 TAL 326.44 TAP 123.53 RCA 144.04 APO 236.31 V2 26.496
 RC 62.398 GL -28.01 GP 13.83 ZAL 137.61 ZAP 149.00 ETS 155.38 ZAE 161.07 ETE 108.67 ZAC 115.20 ETC 275.52 LVI -27.29

PLANETOCENTRIC CONIC

C3 31.297 VHL 5.594 DLA -39.77 RAL 337.46 RAD 6647.5 VEL 12.297 PTH 7.23 VHP 6.500 DPA -7.11 RAP 305.38 ECC 1.5151
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 24 36 2381.67 -4.66 60.61 207.40 137.57 22 3 57 1361.7 17.73 44.44
 60.00 0 5 26 1941.35 13.29 35.84 220.22 128.40 0 37 47 941.4 27.64 15.15
 60.78 0 53 6 1806.80 18.24 28.36 224.12 125.98 1 23 13 806.8 31.30 6.02
 60.78 0 53 6 1806.80 18.24 28.36 224.12 125.98 1 23 13 806.8 31.30 6.02
 60.78 0 53 6 1806.80 18.24 28.36 224.12 125.98 1 23 13 806.8 31.30 6.02
 60.78 0 53 6 1806.80 18.24 28.36 224.12 125.98 1 23 13 806.8 31.30 6.02
 60.78 0 53 6 1806.80 18.24 28.36 224.12 125.98 1 23 13 806.8 31.30 6.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2037 TRA-1.6638 TC3 -.0464 BAU .1607 SGT 2558.3 SGR 1087.5 S63 516.3 ST 70.1 SR 29.3 SS 65.2
 RDE -.5150 RRA -.6379 RC3 .3814 FAU .06575 RRT .9106 RRF -.9709 RTF -.5.33 CRT .9988 CRS .9507 CST .9630
 FDE 1.6342 FRA 4.0252 FC3-1.8187 BSP 4848 SGB 2761.5 R23 -.2857 R13 -.9322 LSA 99.2 MSA 13.8 SSA .7
 BDE 1.3111 BRA 1.7819 BC3 .3842 FSP 816 S61 2729.6 S62 418.0 THA 21.85 EL1 76.0 EL2 1.3 ALF 22.66

LAUNCH DATE MAR 18 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 453.444

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.888 GAL -6.27 AZL 94.83 HCA 158.36 SMA 189.27 ECC .23856 INC 4.8306 V1 29.928
 RP 206.67 LAP -1.78 LOP 335.18 VP 24.147 GAP 12.77 AZP 85.51 TAL 326.49 TAP 124.86 RCA 144.12 APO 234.42 V2 26.496
 RC 63.376 GL -29.54 GP 14.94 ZAL 136.80 ZAP 147.42 ETS 154.88 ZAE 160.18 ETE 107.59 ZAC 116.31 ETC 275.58 LVI -28.33

PLANETOCENTRIC CONIC

C3 31.175 VHL 5.583 DLA -41.10 RAL 338.45 RAD 6647.5 VEL 12.292 PTH 7.23 VHP 6.392 DPA -6.03 RAP 305.12 ECC 1.5131
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 41 57 2318.35 1.71 58.80 209.77 137.55 22 20 36 1318.4 19.80 42.40
 58.83 0 48 18 1830.41 18.80 30.81 225.47 127.25 1 18 48 830.4 32.30 8.61
 58.83 0 48 18 1830.41 18.80 30.81 225.47 127.25 1 18 48 830.4 32.30 8.61
 58.83 0 48 18 1830.41 18.80 30.81 225.47 127.25 1 18 48 830.4 32.30 8.61
 58.83 0 48 18 1830.41 18.80 30.81 225.47 127.25 1 18 48 830.4 32.30 8.61
 58.83 0 48 18 1830.41 18.80 30.81 225.47 127.25 1 18 48 830.4 32.30 8.61
 58.83 0 48 18 1830.41 18.80 30.81 225.47 127.25 1 18 48 830.4 32.30 8.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2293 TRA-1.8070 TC3 -.0415 BAU .1724 SGT 2526.4 SGR 1196.2 S63 541.4 ST 71.1 SR 31.3 SS 67.5
 RDE -.5412 RRA -.7009 RC3 .4116 FAU .06800 RRT .9160 RRF -.9780 RTF -.9138 CRT .9997 CRS .9612 CST .9619
 FDE 1.7450 FRA 4.1285 FC3-1.8885 BSP 4894 SGB 2795.3 R23 -.2857 R13 -.9364 LSA 102.0 MSA 14.1 SSA .7
 BDE 1.3432 BRA 1.7532 BC3 .4137 FSP 857 S61 2760.6 S62 439.1 THA 24.10 EL1 77.7 EL2 .7 ALF 23.72

LAUNCH DATE MAR 18 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 10 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.840 GAL -6.18 AZL 95.08 HCA 159.63 SMA 188.42 ECC .23473 INC 5.0842 V1 29.928
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.082 GAP 12.40 AZP 85.23 TAL 326.55 TAP 126.18 RCA 144.19 APO 232.65 V2 26.496
 RC 64.414 GL -31.19 GP 16.18 ZAL 135.90 ZAP 145.74 ETS 154.34 ZAE 159.09 ETE 106.78 ZAC 117.55 ETC 275.63 LVI -29.48

PLANETOCENTRIC CONIC: C3 31.213 VHL 5.587 DLA -42.53 RAL 339.98 RAD 6847.5 VEL 12.294 PTH 7.23 VHP 6.216 DPA -4.83 RAP 304.79 ECC 1.5137
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 2 45 2269.26 4.18 56.74 212.72 137.44 22 40 34 1269.3 22.11 40.02
 56.80 0 44 8 1854.42 19.34 33.35 227.06 126.65 1 15 3 854.4 33.31 11.34
 56.80 0 44 8 1854.42 19.34 33.35 227.06 126.65 1 15 3 854.4 33.31 11.34
 56.80 0 44 8 1854.42 19.34 33.35 227.06 126.65 1 15 3 854.4 33.31 11.34
 56.80 0 44 8 1854.42 19.34 33.35 227.06 126.65 1 15 3 854.4 33.31 11.34
 56.80 0 44 8 1854.42 19.34 33.35 227.06 126.65 1 15 3 854.4 33.31 11.34

Differential Corrections: TDE-1.2597 TRA-1.5474 TC3 -.0304 BAU .1855 SGT 2511.6 SGR 1321.5 SG3 586.4 ST 72.2 SR 33.7 SS 70.1
 RDE -.5773 RRA -.1709 RC3 .4429 FAU .07006 RRT .9199 RRF -.9835 RTF -.9140 CRT .9992 CR8 .9704 CST .9612
 FDE 1.8756 FRA 4.2240 FC3-1.9431 BSP 4970 SGB 2638.1 R23 -.2869 R13 -.9410 LSA 105.2 MSA 14.4 SSA .6
 BDE 1.3857 BRA 1.7288 BC3 .4446 F8P 903 SGI 2799.8 SG2 464.8 THA 26.62 EL1 79.7 EL2 1.3 ALF 25.01

LAUNCH DATE MAR 18 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 12 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.795 GAL -6.09 AZL 95.37 HCA 160.89 SMA 187.63 ECC .23113 INC 5.3697 V1 29.928
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.019 GAP 12.05 AZP 84.92 TAL 326.60 TAP 127.50 RCA 144.27 APO 231.00 V2 26.495
 RC 65.512 GL -32.98 GP 17.57 ZAL 134.89 ZAP 143.96 ETS 153.74 ZAE 157.85 ETE 106.20 ZAC 118.94 ETC 275.68 LVI -30.72

PLANETOCENTRIC CONIC: C3 31.438 VHL 5.607 DLA -44.06 RAL 340.86 RAD 6647.6 VEL 12.303 PTH 7.24 VHP 6.093 DPA -3.49 RAP 304.38 ECC 1.5174
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 28 39 2210.98 7.09 54.28 216.51 137.17 23 5 30 1211.0 24.80 37.08
 54.69 0 40 45 1878.99 19.84 35.98 228.95 130.19 1 12 4 879.0 34.34 14.22
 54.69 0 40 45 1878.99 19.84 35.98 228.95 130.19 1 12 4 879.0 34.34 14.22
 54.69 0 40 45 1878.99 19.84 35.98 228.95 130.19 1 12 4 879.0 34.34 14.22
 54.69 0 40 45 1878.99 19.84 35.98 228.95 130.19 1 12 4 879.0 34.34 14.22
 54.69 0 40 45 1878.99 19.84 35.98 228.95 130.19 1 12 4 879.0 34.34 14.22

Differential Corrections: TDE-1.2920 TRA-1.4784 TC3 -.0332 BAU .2012 SGT 2482.7 SGR 1463.5 SG3 589.8 ST 73.2 SR 36.6 SS 72.7
 RDE -.6239 RRA -.8464 RC3 .4776 FAU .07229 RRT .9225 RRF -.9877 RTF -.9140 CRT .9973 CR8 .9778 CST .9806
 FDE 2.0192 FRA 4.2962 FC3-1.9906 BSP 5006 SGB 2882.0 R23 -.2831 R13 -.9463 LSA 106.4 MSA 14.7 SSA .6
 BDE 1.4347 BRA 1.7035 BC3 .4787 F8P 941 SGI 2839.3 SG2 493.9 THA 29.32 EL1 81.8 EL2 2.4 ALF 26.57

LAUNCH DATE MAR 18 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 14 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.753 GAL -6.00 AZL 95.69 HCA 162.16 SMA 186.89 ECC .22772 INC 5.6941 V1 29.928
 RP 206.71 LAP -1.74 LOP 338.99 VP 23.958 GAP 11.69 AZP 84.58 TAL 326.65 TAP 128.81 RCA 144.34 APO 229.45 V2 26.493
 RC 66.667 GL -34.91 GP 19.15 ZAL 133.76 ZAP 142.05 ETS 153.10 ZAE 156.41 ETE 105.84 ZAC 120.52 ETC 275.73 LVI -32.12

PLANETOCENTRIC CONIC: C3 31.884 VHL 5.647 DLA -45.70 RAL 342.34 RAD 6647.7 VEL 12.321 PTH 7.25 VHP 5.986 DPA -1.99 RAP 303.88 ECC 1.5247
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 3 42 2134.77 10.88 51.01 221.70 136.61 23 39 17 1134.8 28.21 33.03
 52.47 0 38 14 1904.49 20.29 38.74 231.18 131.88 1 9 59 904.5 35.37 17.29
 52.47 0 38 14 1904.49 20.29 38.74 231.18 131.88 1 9 59 904.5 35.37 17.29
 52.47 0 38 14 1904.49 20.29 38.74 231.18 131.88 1 9 59 904.5 35.37 17.29
 52.47 0 38 14 1904.49 20.29 38.74 231.18 131.88 1 9 59 904.5 35.37 17.29
 52.47 0 38 14 1904.49 20.29 38.74 231.18 131.88 1 9 59 904.5 35.37 17.29

Differential Corrections: TDE-1.3238 TRA-1.3956 TC3 -.0178 BAU .2200 SGT 2432.4 SGR 1624.3 SG3 610.3 ST 73.7 SR 40.2 SS 73.3
 RDE -.6843 RRA -.9277 RC3 .5157 FAU .07456 RRT .9249 RRF -.9909 RTF -.546 CRT .9946 CR8 .9838 CST .9802
 FDE 2.1811 FRA 4.3404 FC3-2.0245 BSP 4967 SGB 2924.9 R23 -.2720 R13 -.9528 LSA 111.8 MSA 14.9 SSA .5
 BDE 1.4903 BRA 1.8758 BC3 .5160 F8P 972 SGI 2877.9 SG2 521.9 THA 32.92 EL1 83.9 EL2 3.7 ALF 28.53

LAUNCH DATE MAR 18 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.713 GAL -5.93 AZL 96.07 HCA 163.42 SMA 186.21 ECC .22453 INC 6.0862 V1 29.928
 RP 206.73 LAP -1.73 LOP 340.23 VP 23.900 GAP 11.35 AZP 84.18 TAL 326.70 TAP 130.12 RCA 144.40 APO 228.02 V2 26.489
 RC 67.877 GL -37.02 GP 20.92 ZAL 132.48 ZAP 140.01 ETS 152.42 ZAE 154.74 ETE 105.67 ZAC 122.31 ETC 275.79 LVI -33.68

PLANETOCENTRIC CONIC: C3 32.606 VHL 5.710 DLA -47.46 RAL 344.07 RAD 6648.0 VEL 12.330 PTH 7.27 VHP 5.897 DPA -.31 RAP 303.29 ECC 1.5366
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 0 19 54 1983.21 18.27 44.20 231.37 134.73 0 48 57 983.2 34.51 24.08
 50.15 0 36 49 1931.18 20.65 41.62 233.82 133.74 1 9 0 931.2 36.37 20.59
 50.15 0 36 49 1931.18 20.65 41.62 233.82 133.74 1 9 0 931.2 36.37 20.59
 50.15 0 36 49 1931.18 20.65 41.62 233.82 133.74 1 9 0 931.2 36.37 20.59
 50.15 0 36 49 1931.18 20.65 41.62 233.82 133.74 1 9 0 931.2 36.37 20.59
 50.15 0 36 49 1931.18 20.65 41.62 233.82 133.74 1 9 0 931.2 36.37 20.59

Differential Corrections: TDE-1.3933 TRA-1.3338 TC3 -.0387 BAU .2393 SGT 2423.6 SGR 1815.8 SG3 629.8 ST 75.9 SR 45.0 SS 76.7
 RDE -.7727 RRA -1.0229 RC3 .5476 FAU .07574 RRT .9228 RRF -.9933 RTF -.9111 CRT .9914 CR8 .9887 CST .9608
 FDE 2.3915 FRA 4.3716 FC3-2.0111 BSP 5284 SGB 3028.3 R23 -.2657 R13 -.9573 LSA 117.3 MSA 15.3 SSA .5
 BDE 1.5933 BRA 1.6807 BC3 .5490 F8P 1019 SGI 2974.2 SG2 570.0 THA 36.20 EL1 88.1 EL2 5.1 ALF 30.53

LAUNCH DATE MAR 18 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.675 GAL -8.85 AZL 96.50 HCA 184.68 SMA 185.87 ECC .22152 INC 8.4975 V1 29.828
RP 206.77 LAP -1.71 LOP 341.52 VP 23.843 GAP 11.01 AZP 83.73 TAL 326.75 TAP 131.43 RCA 144.46 APO 226.67 V2 26.485
RC 89.140 GL -39.34 GP 22.93 ZAL 131.05 ZAP 137.80 ETS 151.70 ZAE 152.82 ETE 105.65 ZAC 124.34 ETC 275.85 LVI -35.43

PLANETOCENTRIC CONIC

C3 33.674 VHL 5.803 DLA -49.35 RAL 346.11 RAD 6648.4 VEL 12.393 PTH 7.31 VHP 5.830 DPA 1.59 RAP 302.58 ECC 1.5542
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.71 0 36 44 1959.46 20.89 44.67 236.96 135.79 1 9 23 959.5 37.32 24.17
47.71 0 36 44 1959.46 20.89 44.67 236.96 135.79 1 9 23 959.5 37.32 24.17
47.71 0 36 44 1959.46 20.89 44.67 236.96 135.79 1 9 23 959.5 37.32 24.17
47.71 0 36 44 1959.46 20.89 44.67 236.96 135.79 1 9 23 959.5 37.32 24.17
47.71 0 36 44 1959.46 20.89 44.67 236.96 135.79 1 9 23 959.5 37.32 24.17
47.71 0 36 44 1959.46 20.89 44.67 236.96 135.79 1 9 23 959.5 37.32 24.17

DIFFERENTIAL CORRECTIONS

TDE-1.4581 TRA-1.2464 TC3 -.0394 BAU .2640
RDE -.8868 RRA-1.1217 RC3 .5851 FAU .07723
FDE 2.8219 FRA 4.3441 FC3-1.9856 BSP 5430
BDE 1.7066 BRA 1.6768 BC3 .5864 FSP 1043

MID-COURSE EXECUTION ACCURACY

SGT 2375.7 SGR 2029.3 SG3 642.9
RRT .9213 RRF -.9951 RTF -.9086
SGB 3124.4 R23 -.2499 R13 -.9634
SG1 3063.9 SG2 612.0 THA 40.13

ORBIT DETERMINATION ACCURACY

ST 77.4 SR 50.7 SS 82.0
CRT .9882 CRS .9923 CST .9617
LSA 122.6 MSA 15.6 SSA .4
EL1 92.3 EL2 6.5 ALF 33.10

LAUNCH DATE MAR 18 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.639 GAL -5.78 AZL 97.00 HCA 165.95 SMA 184.97 ECC .21869 INC 7.0044 V1 29.928
RP 206.81 LAP -1.70 LOP 342.79 VP 23.789 GAP 10.68 AZP 83.20 TAL 326.79 TAP 132.74 RCA 144.52 APO 225.42 V2 26.480
RC 70.455 GL -41.87 GP 25.22 ZAL 129.42 ZAP 135.40 ETS 150.96 ZAE 150.60 ETE 105.78 ZAC 126.63 ETC 275.92 LVI -37.38

PLANETOCENTRIC CONIC

C3 35.195 VHL 5.933 DLA -51.37 RAL 348.57 RAD 6649.0 VEL 12.454 PTH 7.35 VHP 5.792 DPA 3.75 RAP 301.74 ECC 1.5792
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.15 0 38 24 1989.79 20.98 47.87 240.71 138.04 1 11 33 989.8 38.16 28.06
45.15 0 38 24 1989.79 20.98 47.87 240.71 138.04 1 11 33 989.8 38.16 28.06
45.15 0 38 24 1989.79 20.98 47.87 240.71 138.04 1 11 33 989.8 38.16 28.06
45.15 0 38 24 1989.79 20.98 47.87 240.71 138.04 1 11 33 989.8 38.16 28.06
45.15 0 38 24 1989.79 20.98 47.87 240.71 138.04 1 11 33 989.8 38.16 28.06
45.15 0 38 24 1989.79 20.98 47.87 240.71 138.04 1 11 33 989.8 38.16 28.06

DIFFERENTIAL CORRECTIONS

TDE-1.5370 TRA-1.1492 TC3 -.0392 BAU .2930
RDE-1.0445 RRA-1.2284 RC3 .6214 FAU .07815
FDE 2.8970 FRA 4.2621 FC3-1.9223 BSP 5606
BDE 1.8583 BRA 1.6815 BC3 .6227 FSP 1058

MID-COURSE EXECUTION ACCURACY

SGT 2315.3 SGR 2274.3 SG3 649.4
RRT .9189 RRF -.9964 RTF -.9055
SGB 3245.5 R23 -.2294 R13 -.9699
SG1 3179.0 SG2 653.6 THA 44.44

ORBIT DETERMINATION ACCURACY

ST 78.9 SR 57.9 SS 85.8
CRT .9854 CRS .9949 CST .9634
LSA 129.2 MSA 15.8 SSA .4
EL1 97.5 EL2 8.0 ALF 36.19

LAUNCH DATE MAR 18 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.606 GAL -5.72 AZL 97.61 HCA 167.21 SMA 184.41 ECC .21603 INC 7.6084 V1 29.928
RP 206.87 LAP -1.68 LOP 344.06 VP 23.736 GAP 10.38 AZP 82.58 TAL 326.83 TAP 134.04 RCA 144.57 APO 224.25 V2 26.474
RC 71.818 GL -44.67 GP 27.83 ZAL 127.59 ZAP 132.78 ETS 150.22 ZAE 148.04 ETE 106.03 ZAC 129.29 ETC 276.01 LVI -39.58

PLANETOCENTRIC CONIC

C3 37.333 VHL 6.110 DLA -53.52 RAL 351.59 RAD 6649.7 VEL 12.539 PTH 7.41 VHP 5.790 DPA 6.21 RAP 300.78 ECC 1.6144
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
42.47 0 42 20 2022.80 20.84 51.25 245.22 140.49 1 16 3 1022.8 38.84 32.31
42.47 0 42 20 2022.80 20.84 51.25 245.22 140.49 1 16 3 1022.8 38.84 32.31
42.47 0 42 20 2022.80 20.84 51.25 245.22 140.49 1 16 3 1022.8 38.84 32.31
42.47 0 42 20 2022.80 20.84 51.25 245.22 140.49 1 16 3 1022.8 38.84 32.31
42.47 0 42 20 2022.80 20.84 51.25 245.22 140.49 1 16 3 1022.8 38.84 32.31
42.47 0 42 20 2022.80 20.84 51.25 245.22 140.49 1 16 3 1022.8 38.84 32.31

DIFFERENTIAL CORRECTIONS

TDE-1.6249 TRA-1.0270 TC3 -.0289 BAU .3300
RDE-1.2614 RRA-1.3357 RC3 .6605 FAU .07892
FDE 3.2105 FRA 4.0937 FC3-1.8302 BSP 5712
BDE 2.0970 BRA 1.6848 BC3 .6811 FSP 1046

MID-COURSE EXECUTION ACCURACY

SGT 2223.9 SGR 2547.0 SG3 645.1
RRT .9154 RRF -.9973 RTF -.9112
SGB 3381.3 R23 -.2047 R13 -.9765
SG1 3310.4 SG2 688.8 THA 49.23

ORBIT DETERMINATION ACCURACY

ST 80.0 SR 67.1 SS 89.6
CRT .9833 CRS .9987 CST .9654
LSA 136.6 MSA 15.8 SSA .3
EL1 103.9 EL2 9.4 ALF 39.90

LAUNCH DATE MAR 18 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.891 GAL -5.38 AZL 81.55 HCA 188.77 SMA 179.31 ECC .19303 INC 8.4509 V1 29.928
RP 209.04 LAP -1.28 LOP 5.42 VP 23.013 GAP 5.75 AZP 98.35 TAL 325.71 TAP 154.48 RCA 144.70 APO 213.92 V2 26.221
RC 100.898 GL 49.99 GP -45.30 ZAL 124.80 ZAP 102.56 ETS 191.83 ZAE 127.89 ETE 228.33 ZAC 57.12 ETC 272.18 LVI 31.91

PLANETOCENTRIC CONIC

C3 38.055 VHL 6.189 DLA 34.69 RAL 311.82 RAD 6650.0 VEL 12.587 PTH 7.44 VHP 5.420 DPA -87.11 RAP 312.33 ECC 1.6263
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 48 16 4034.24 -42.20 177.23 216.82 65.60 14 55 30 3034.2 -47.57 143.70
60.00 13 28 11 4093.26 -31.69 176.30 210.40 83.68 14 34 24 3093.3 -39.46 148.17
69.02 11 51 51 4373.83 -14.42 188.39 200.02 58.11 13 4 45 3373.8 -26.23 166.07
69.02 11 51 51 4373.83 -14.42 188.39 200.02 58.11 13 4 45 3373.8 -26.23 166.07
69.02 11 51 51 4373.83 -14.42 188.39 200.02 58.11 13 4 45 3373.8 -26.23 166.07
69.02 11 51 51 4373.83 -14.42 188.39 200.02 58.11 13 4 45 3373.8 -26.23 166.07

DIFFERENTIAL CORRECTIONS

TDE .8954 TRA .0618 TC3 -.5783 BAU .6400
RDE 2.7988 RRA 3.9220 RC3-1.1171 FAU .08574
FDE 4.1281 FRA 5.9334 FC3-1.9508 BSP 9182
BDE 2.9383 BRA 3.9229 BC3 1.2580 FSP 1207

MID-COURSE EXECUTION ACCURACY

SGT 1099.6 SGR 5318.2 SG3 698.8
RRT .6078 RRF .9991 RTF .6212
SGB 5430.7 R23 .0033 R13 .9993
SG1 5361.2 SG2 866.2 THA 82.64

ORBIT DETERMINATION ACCURACY

ST 41.6 SR 146.0 SS 101.4
CRT .9050 CRS -.9999 CST -.9006
LSA 181.7 MSA 17.5 SSA .2
EL1 150.8 EL2 17.1 ALF 75.34

LAUNCH DATE MAR 18 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.73 VL 32.283 GAL -5.36 AZL 82.75 HCA 189.99 SMA 179.19 ECC .19260 INC 7.2486 V1 29.928
RP 209.24 LAP -1.25 LOP 6.86 VP 22.976 GAP 5.51 AZP 97.14 TAL 325.60 TAP 155.59 RCA 144.68 APO 213.70 V2 26.198
RC 102.893 GL 45.33 GP -42.40 ZAL 127.83 ZAP 101.96 ETS 190.01 ZAE 129.26 ETE 225.29 ZAC 60.03 ETC 271.98 LVI 26.45

DISTANCE 554.941

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 32.520 VHL 5.703 DLA 30.14 RAL 313.27 RAD 8648.0 VEL 12.347 PTH 7.27 VHP 5.013 DPA -64.52 RAP 309.05 ECC 1.5352
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 22 44 3883.14 -45.69 164.40 211.80 74.97 15 27 27 2893.1 -46.48 129.30
60.00 14 17 49 3896.26 -36.77 162.08 208.30 72.18 15 22 45 2896.3 -40.25 131.82
70.00 14 7 40 3926.23 -27.46 160.62 204.42 68.85 15 13 6 2926.2 -33.59 133.63
79.13 13 5 8 4123.70 -13.93 169.03 197.98 63.01 14 13 51 3123.7 -23.86 145.97
79.13 13 5 8 4123.70 -13.93 169.03 197.98 63.01 14 13 51 3123.7 -23.86 145.97
79.13 13 5 8 4123.70 -13.93 169.03 197.98 63.01 14 13 51 3123.7 -23.86 145.97
110.00 19 7 6 2973.05 -27.46 69.54 204.42 68.85 19 56 39 1973.1 -33.59 82.55

DIFFERENTIAL CORRECTIONS

TDE .8523 TRA .2832 TC3 -.7138 BAU .5997
RDE 2.4089 RRA 3.6877 RC3-1.1804 FAU .09601
PDE 4.3875 FRA 7.0093 FC3-2.5559 B8P 8870
BDE 2.9553 BRA 3.6944 BC3 1.3794 F8P 1454

MID-COURSE EXECUTION ACCURACY

SGT 1209.7 SGR 9101.5 SG3 838.7
RRT .6935 RRF .0991 RTF .7033
SG8 5842.9 R23 .0136 R13 .9991
SG1 9171.9 SG2 859.7 THA 80.39

ORBIT DETERMINATION ACCURACY

BT 43.0 BR 137.0 BS 109.2
CRT .9219 CR8 -.9998 CST -.9149
LSA 179.6 MSA 16.6 S8A .3
EL1 142.7 EL2 16.0 ALF 73.65

LAUNCH DATE MAR 18 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.73 VL 32.276 GAL -5.37 AZL 83.69 HCA 191.21 SMA 179.08 ECC .19226 INC 6.3082 V1 29.928
RP 209.44 LAP -1.22 LOP 7.89 VP 22.940 GAP 5.28 AZP 96.19 TAL 325.47 TAP 156.69 RCA 144.65 APO 213.51 V2 26.174
RC 104.913 GL 41.15 GP -39.78 ZAL 130.75 ZAP 101.03 ETS 188.22 ZAE 130.16 ETE 222.07 ZAC 62.67 ETC 271.77 LVI 26.172

DISTANCE 559.095

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.797 VHL 5.368 DLA 26.09 RAL 314.57 RAD 8646.5 VEL 12.196 PTH 7.15 VHP 4.706 DPA -62.18 RAP 306.20 ECC 1.4739
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 49 44 3760.24 -47.25 152.96 206.61 83.65 15 22 24 2760.2 -44.21 118.34
60.00 14 54 41 3747.04 -39.23 150.18 205.02 79.91 15 57 8 2747.0 -39.09 119.02
70.00 15 3 18 3721.62 -31.65 146.18 203.08 76.43 16 5 20 2721.6 -34.05 117.71
80.00 15 22 23 3661.73 -25.17 139.67 201.09 73.59 16 23 25 2661.7 -29.66 113.14
90.00 16 15 37 3488.68 -22.10 125.91 200.05 71.89 17 14 6 2488.7 -27.56 100.22
100.00 18 5 15 3136.20 -23.17 101.03 201.09 73.59 18 57 31 2136.2 -29.66 74.51
110.00 20 2 45 2768.44 -31.65 75.10 203.08 76.43 20 48 53 1768.4 -34.05 46.63

DIFFERENTIAL CORRECTIONS

TDE .8337 TRA .3778 TC3 -.8547 BAU .5748
RDE 2.1125 RRA 3.4723 RC3-1.2241 FAU .10557
PDE 4.5764 FRA 7.9843 FC3-3.1737 B8P 8540
BDE 2.2711 BRA 3.4928 BC3 1.4930 F8P 1679

MID-COURSE EXECUTION ACCURACY

SGT 1354.8 SGR 4884.0 SG3 968.2
RRT .7628 RRF .0991 RTF .7731
SG8 5068.4 R23 .0248 R13 .9988
SG1 4996.3 SG2 851.7 THA 77.64

ORBIT DETERMINATION ACCURACY

BT 45.0 BR 126.7 BS 115.0
CRT .9386 CR8 -.9997 CST -.9296
LSA 177.7 MSA 15.7 S8A .3
EL1 135.5 EL2 14.7 ALF 71.59

LAUNCH DATE MAR 18 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.73 VL 32.270 GAL -5.39 AZL 84.45 HCA 192.44 SMA 178.99 ECC .19202 INC 5.5526 V1 29.928
RP 209.66 LAP -1.19 LOP 9.13 VP 22.903 GAP 5.08 AZP 95.42 TAL 325.33 TAP 157.77 RCA 144.62 APO 213.36 V2 26.150
RC 106.998 GL 37.40 GP -37.41 ZAL 133.30 ZAP 99.65 ETS 186.32 ZAE 130.63 ETE 218.80 ZAC 65.07 ETC 271.94 LVI 25.35

DISTANCE 563.255

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.200 VHL 5.119 DLA 22.48 RAL 315.76 RAD 8645.5 VEL 12.090 PTH 7.07 VHP 4.470 DPA -60.07 RAP 303.67 ECC 1.4312
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 11 50 3657.98 -47.56 143.10 201.87 91.23 16 12 48 2658.0 -41.51 110.01
60.00 15 23 33 3626.78 -40.19 140.11 201.69 86.68 16 23 59 2626.8 -37.12 109.42
70.00 15 42 20 3571.42 -33.49 134.67 200.92 82.88 16 41 52 2571.4 -32.94 106.14
80.00 16 16 33 3464.13 -28.28 125.83 200.01 80.01 17 14 17 2464.1 -29.60 98.48
90.00 17 21 24 3294.72 -26.16 110.00 199.59 78.85 18 19 39 2254.7 -26.22 83.18
100.00 18 59 23 2938.60 -28.28 87.20 200.01 80.01 19 48 23 1938.6 -29.60 59.85
110.00 20 41 47 2618.24 -33.49 63.79 200.92 82.88 21 25 25 1618.2 -32.94 35.08

DIFFERENTIAL CORRECTIONS

TDE .8317 TRA .8422 TC3 -.9980 BAU .5579
RDE 1.6863 RRA 3.2798 RC3-1.2414 FAU .11371
PDE 4.7267 FRA 8.8722 FC3-3.7573 B8P 8289
BDE 2.0618 BRA 3.3241 BC3 1.5928 F8P 1896

MID-COURSE EXECUTION ACCURACY

SGT 1530.4 SGR 4679.2 SG3 1067.1
RRT .9210 RRF .9989 RTF .1.68
SG8 4919.4 R23 .0369 R13 .9983
SG1 4646.6 SG2 843.0 THA 74.48

ORBIT DETERMINATION ACCURACY

BT 47.6 BR 121.2 BS 119.7
CRT .9536 CR8 -.9994 CST -.9451
LSA 176.3 MSA 14.8 S8A .4
EL1 129.6 EL2 13.4 ALF 69.24

LAUNCH DATE MAR 18 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.73 VL 32.268 GAL -5.41 AZL 85.07 HCA 193.66 SMA 178.91 ECC .19185 INC 4.9319 V1 29.928
RP 209.87 LAP -1.16 LOP 10.36 VP 22.887 GAP 4.82 AZP 94.79 TAL 325.17 TAP 158.83 RCA 144.59 APO 213.24 V2 26.124
RC 109.028 GL 34.04 GP -35.26 ZAL 135.83 ZAP 98.47 ETS 184.94 ZAE 130.74 ETE 218.57 ZAC 67.24 ETC 271.31 LVI 23.66

DISTANCE 567.421

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.340 VHL 4.834 DLA 19.27 RAL 316.84 RAD 8644.7 VEL 12.013 PTH 7.00 VHP 4.284 DPA -58.16 RAP 301.38 ECC 1.4006
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 30 27 3571.86 -47.11 134.81 197.89 97.59 18 29 59 2571.7 -38.76 103.37
60.00 18 47 14 3526.95 -40.24 131.83 196.72 92.43 16 46 1 2526.9 -34.87 101.80
70.00 18 12 50 3451.55 -34.12 125.57 198.77 88.34 17 10 22 2451.6 -31.23 97.22
80.00 18 55 11 3318.80 -29.54 115.22 198.48 85.45 17 50 30 2318.8 -28.43 87.85
90.00 18 4 37 3094.70 -27.75 98.57 198.30 84.35 18 56 11 2094.7 -27.32 71.57
100.00 19 38 3 2793.27 -29.54 76.99 198.48 85.45 20 24 37 1793.3 -28.43 49.22
110.00 21 12 17 2498.37 -34.12 54.49 198.77 88.34 21 53 55 1498.4 -31.23 26.14

DIFFERENTIAL CORRECTIONS

TDE .8413 TRA .7132 TC3-1.1401 BAU .5494
RDE 1.7059 RRA 3.1002 RC3-1.2453 FAU .12123
PDE 4.6381 FRA 9.6609 FC3-4.3121 B8P 8044
BDE 1.8020 BRA 3.1812 BC3 1.6884 F8P 2087

MID-COURSE EXECUTION ACCURACY

SGT 1729.2 SGR 4470.2 SG3 1193.9
RRT .8622 RRF .9988 RTF .8666
SG8 4792.9 R23 .0499 R13 .9976
SG1 4720.6 SG2 829.4 THA 70.94

ORBIT DETERMINATION ACCURACY

BT 50.6 BR 114.4 BS 123.2
CRT .9661 CR8 -.9991 CST -.9546
LSA 175.0 MSA 14.0 S8A .4
EL1 124.5 EL2 12.0 ALF 66.62

LAUNCH DATE MAR 18 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 571.590

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.261 GAL -5.43 AZL 85.59 HCA 194.89 SMA 178.85 ECC .19177 INC 4.4124 V1 29.928
RP 210.10 LAP -1.13 LOP 11.59 VP 22.832 GAP 4.80 AZP 94.26 TAL 324.99 TAP 159.88 RCA 144.55 APO 213.14 V2 26.098
RC 111.181 GL 31.02 GP -33.31 ZAL 137.47 ZAP 96.94 ETS 183.48 ZAE 130.52 ETE 212.46 ZAC 69.22 ETC 271.06 LVI 22.17

PLANETOCENTRIC CONIC

C3 22.983 VHL 4.794 DLA 16.41 RAL 317.83 RAD 6644.1 VEL 11.957 PTH 6.98 VHP 4.135 DPA -56.42 RAP 299.28 ECC 1.3782
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 46 28 3497.97 -46.22 127.93 194.71 102.83 16 44 46 2498.0 -36.12 98.51
60.00 16 7 16 3442.58 -39.75 124.50 196.27 97.24 17 4 39 2442.6 -32.59 95.92
70.00 16 37 56 3352.32 -34.04 117.83 196.90 92.91 17 33 48 2352.3 -29.31 90.13
80.00 17 25 43 3202.55 -29.86 106.60 197.03 89.97 18 19 6 2202.5 -26.63 79.58
90.00 18 37 33 2969.62 -28.26 89.46 197.01 88.88 19 27 23 1969.6 -25.87 62.71
100.00 20 8 35 2677.02 -29.86 67.97 197.03 89.97 20 53 12 1677.0 -26.83 40.95
110.00 21 37 22 2399.14 -34.04 46.75 196.90 92.91 22 17 21 1399.1 -29.31 19.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8581 TRA .8879 TC3-1.2827 BAU .5469 SGT 1946.3 SGR 4272.7 SG3 1289.1 ST 53.9 SR 108.2 SB 125.9
RDE 1.5612 RRA 2.9354 RC3-1.2338 FAU .12775 RRT .8916 RRF .9985 RTF .8951 CRT .9761 CRS -.9987 CST -.9640
FDE 4.9258 FRA10.3620 FC3-4.6122 BSP 7853 SGB 4895.1 R23 .0632 R13 .9966 LSA 174.1 MSA 13.3 SSA .5
BDE 1.7815 BRA 3.0667 BC3 1.7798 FSP 2261 SG1 4623.9 SG2 814.6 THA 67.15 EL1 120.5 EL2 10.5 ALF 63.85

LAUNCH DATE MAR 18 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 575.763

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.257 GAL -5.46 AZL 86.03 HCA 196.11 SMA 178.79 ECC .19177 INC 3.9710 V1 29.920
RP 210.33 LAP -1.10 LOP 12.82 VP 22.796 GAP 4.38 AZP 93.82 TAL 324.81 TAP 160.92 RCA 144.50 APO 213.06 V2 26.071
RC 113.239 GL 28.32 GP -31.53 ZAL 139.17 ZAP 95.29 ETS 182.14 ZAE 130.03 ETE 209.50 ZAC 71.03 ETC 270.85 LVI 20.84

PLANETOCENTRIC CONIC

C3 21.981 VHL 4.688 DLA 13.85 RAL 318.74 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 4.016 DPA -54.83 RAP 297.34 ECC 1.3618
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 0 27 3434.54 -45.10 122.22 192.24 107.10 16 57 42 2434.5 -33.66 94.44
60.00 16 24 34 3370.36 -38.96 118.53 194.33 101.23 17 20 44 2370.4 -30.39 91.06
70.00 16 59 13 3268.39 -33.56 111.33 195.39 96.73 17 53 41 2268.4 -27.37 84.38
80.00 17 51 3 3105.98 -29.65 99.43 195.81 93.73 18 42 49 2106.0 -25.11 72.93
90.00 19 5 8 2866.84 -28.17 81.95 195.90 92.64 19 52 55 1866.8 -24.25 55.62
100.00 20 33 55 2580.45 -29.85 60.80 195.81 93.73 21 18 55 1580.5 -25.11 34.30
110.00 21 58 39 2315.21 -33.56 40.25 195.39 96.73 22 37 14 1315.2 -27.37 13.29

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .8812 TRA 1.0657 TC3-1.4227 BAU .5498 SGT 2176.8 SGR 4079.2 SG3 1372.0 ST 57.5 SR 102.5 SB 127.9
RDE 1.4408 RRA 2.7798 RC3-1.2150 FAU .13378 RRT .9132 RRF .9983 RTF .9162 CRT .9837 CRS -.9982 CST -.9714
FDE 4.9856 FRA10.9894 FC3-5.2890 BSP 7878 SGB 4823.7 R23 .0768 R13 .9954 LSA 173.2 MSA 12.6 SSA .6
BDE 1.6889 BRA 2.9771 BC3 1.8709 FSP 2407 SG1 4554.9 SG2 794.4 THA 63.14 EL1 117.2 EL2 9.0 ALF 60.91

LAUNCH DATE MAR 18 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 579.939

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.255 GAL -5.49 AZL 86.41 HCA 197.33 SMA 178.75 ECC .19184 INC 3.5913 V1 29.928
RP 210.57 LAP -1.07 LOP 14.04 VP 22.780 GAP 4.18 AZP 93.43 TAL 324.81 TAP 161.94 RCA 144.45 APO 213.04 V2 26.044
RC 115.380 GL 25.87 GP -29.90 ZAL 140.86 ZAP 93.55 ETS 180.92 ZAE 129.31 ETE 206.72 ZAC 72.68 ETC 270.62 LVI 19.66

PLANETOCENTRIC CONIC

C3 21.238 VHL 4.608 DLA 11.55 RAL 319.59 RAD 6643.4 VEL 11.884 PTH 6.90 VHP 3.920 DPA -53.37 RAP 295.54 ECC 1.3495
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 12 50 3379.55 -43.89 117.48 190.38 110.59 17 9 9 2379.5 -31.42 91.12
60.00 16 39 43 3307.87 -38.02 113.50 192.84 104.52 17 34 51 2308.0 -28.34 87.05
70.00 17 17 39 3196.38 -32.85 105.83 194.21 99.91 18 18 35 2196.4 -25.50 78.61
80.00 18 12 40 3023.99 -29.13 93.40 194.85 96.88 19 3 4 2024.0 -23.40 67.44
90.00 19 28 14 2780.10 -27.73 75.65 195.02 95.78 20 14 34 1780.1 -22.59 49.81
100.00 20 55 32 2498.46 -29.13 54.76 194.85 96.88 21 37 11 1498.5 -23.40 28.81
110.00 22 17 5 2243.20 -32.85 34.75 194.21 99.91 22 54 28 1243.2 -25.50 8.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9109 TRA 1.2473 TC3-1.5561 BAU .5570 SGT 2417.6 SGR 3887.9 SG3 1442.0 ST 61.4 SR 97.0 SB 128.9
RDE 1.3367 RRA 2.8304 RC3-1.1945 FAU .13973 RRT .9303 RRF .9979 RTF .5228 CRT .9893 CRS -.9976 CST -.9770
FDE 5.0117 FRA11.4780 FC3-5.6958 BSP 7523 SGB 4878.2 R23 .0869 R13 .9940 LSA 172.2 MSA 12.1 SSA .7
BDE 1.6179 BRA 2.9112 BC3 1.9617 FSP 2514 SG1 4514.1 SG2 763.7 THA 58.98 EL1 114.6 EL2 7.6 ALF 57.78

LAUNCH DATE MAR 18 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 584.118

EARTH TO MARS

RL 148.88 LAL .00 LOL 176.75 VL 32.252 GAL -5.52 AZL 86.74 HCA 198.54 SMA 178.71 ECC .19199 INC 3.2807 V1 29.928
RP 210.82 LAP -1.04 LOP 15.26 VP 22.725 GAP 3.94 AZP 93.09 TAL 324.40 TAP 162.96 RCA 144.40 APO 213.02 V2 26.015
RC 117.545 GL 23.67 GP -28.40 ZAL 141.96 ZAP 91.75 ETS 179.81 ZAE 128.39 ETE 204.14 ZAC 74.20 ETC 270.40 LVI 18.60

PLANETOCENTRIC CONIC

C3 20.691 VHL 4.549 DLA 9.49 RAL 320.38 RAD 6643.1 VEL 11.862 PTH 6.88 VHP 3.643 DPA -52.03 RAP 293.85 ECC 1.3405
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 23 54 3331.60 -42.67 113.53 188.99 113.44 17 19 25 2331.6 -29.38 88.36
60.00 16 53 11 3253.65 -37.00 109.24 191.73 107.25 17 47 25 2253.7 -26.45 83.70
70.00 17 33 52 3133.95 -32.02 101.15 193.34 102.56 18 26 6 2134.0 -23.75 75.82
80.00 18 31 32 2953.34 -28.45 88.26 194.14 99.48 19 20 45 1953.3 -21.75 62.85
90.00 19 48 17 2705.62 -27.11 70.29 194.38 98.38 20 33 23 1705.6 -20.99 44.94
100.00 21 14 24 2427.81 -28.45 49.63 194.14 99.48 21 54 51 1427.8 -21.75 24.21
110.00 22 33 19 2180.77 -32.02 30.07 193.34 102.56 23 9 39 1180.8 -23.75 4.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9427 TRA 1.4290 TC3-1.6904 BAU .5682 SGT 2865.6 SGR 3710.8 SG3 1503.5 ST 65.4 SR 92.8 SB 130.1
RDE 1.2552 RRA 2.4989 RC3-1.1542 FAU .14356 RRT .9414 RRF .9975 RTF .9439 CRT .9936 CRS -.9988 CST -.9817
FDE 5.0311 FRA11.9387 FC3-6.0068 BSP 7485 SGB 4568.9 R23 .1003 R13 .9926 LSA 172.1 MSA 11.6 SSA .7
BDE 1.5698 BRA 2.8769 BC3 2.0469 FSP 2633 SG1 4508.6 SG2 740.3 THA 54.84 EL1 113.1 EL2 6.1 ALF 54.76

LAUNCH DATE MAR 18 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 13 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.251 GAL -5.56 AZL 87.03 HCA 199.78 SMA 178.69 ECC .19221 INC 2.9703 V1 29.928
 RP 211.07 LAP -1.00 LOP 16.48 VP 22.689 GAP 3.73 AZP 92.80 TAL 324.18 TAP 163.94 RCA 144.34 APO 213.03 V2 25.986
 RC 119.734 GL 21.67 GP -27.01 ZAL 143.12 ZAP 89.91 ETS 176.81 ZAE 127.32 ETE 201.76 ZAC 75.61 ETC 270.18 LVI 17.65

PLANETOCENTRIC CONIC: C3 20.294 VHL 4.505 DLA 7.63 RAL 321.13 RAD 6643.0 VEL 11.845 PTH 6.86 VHP 3.781 DPA -50.79 RAP 292.27 ECC 1.3340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 33 3289.59 -41.48 110.20 187.99 115.79 17 28 42 2289.6 -27.55 86.03
 60.00 17 5 16 3206.09 -35.98 105.62 190.93 109.53 17 58 42 2206.1 -24.72 80.86
 70.00 17 48 20 3079.40 -31.15 97.14 192.72 104.78 18 39 39 2079.4 -22.12 72.22
 80.00 18 48 13 2891.82 -27.68 83.85 193.66 101.67 19 36 25 1891.8 -20.20 58.94
 90.00 20 5 58 2640.91 -26.38 65.69 193.95 100.57 20 49 59 1640.9 -19.47 40.80
 100.00 21 31 5 2366.29 -27.68 45.22 193.66 101.67 22 10 31 1366.3 -20.20 20.30
 110.00 22 47 46 2126.22 -31.15 26.06 192.72 104.78 23 23 12 1126.2 -22.12 1.14

Differential Corrections: TDE .9788 TRA 1.6132 TC3-1.8198 BAU .5770 SGT 2919.3 SGR 3545.3 SG3 1556.7 ORBIT DETERMINATION ACCURACY
 RDE 1.1905 RRA 2.3756 RC3-1.1006 FAU .14558 RRT .9489 RRF .9971 RTF .9517 CRT .9966 CRS -.9960 CST -.9856
 FDE 5.1017 FRA12.3518 FC3-6.2105 BSP 7547 SGB 4592.5 R23 .1103 R13 .9911 LSA 172.7 HSA 11.1 SSA .8
 BDE 1.5410 BRA 2.8716 BC3 2.1267 FSP 2758 SG1 4535.7 SG2 720.2 THA 50.82 EL1 112.5 EL2 4.5 ALF 51.83

LAUNCH DATE MAR 18 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 15 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.250 GAL -5.60 AZL 87.29 HCA 200.97 SMA 178.67 ECC .15250 INC 2.7127 V1 29.928
 RP 211.33 LAP -.97 LOP 17.69 VP 22.654 GAP 3.52 AZP 92.53 TAL 323.95 TAP 164.92 RCA 144.28 APO 213.07 V2 25.957
 RC 121.945 GL 19.85 GP -25.73 ZAL 144.14 ZAP 88.04 ETS 177.90 ZAE 126.12 ETE 199.58 ZAC 76.91 ETC 269.96 LVI 16.78

PLANETOCENTRIC CONIC: C3 20.016 VHL 4.474 DLA 5.95 RAL 321.84 RAD 6642.8 VEL 11.833 PTH 6.85 VHP 3.731 DPA -49.63 RAP 290.79 ECC 1.3294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 57 3252.65 -40.35 107.38 187.30 117.73 17 37 10 2252.7 -25.90 84.06
 60.00 17 16 11 3164.24 -34.99 102.52 190.39 111.43 18 8 55 2164.2 -23.15 76.44
 70.00 18 1 20 3031.43 -30.26 93.69 192.33 106.65 18 51 52 2031.4 -20.62 69.31
 80.00 19 3 9 2837.82 -26.87 80.04 193.37 103.52 19 50 27 1837.8 -18.75 55.57
 90.00 20 21 45 2584.16 -25.61 61.72 193.69 102.41 21 4 49 1584.2 -18.05 37.24
 100.00 21 46 1 2312.29 -26.87 41.41 193.37 103.52 22 24 33 1312.3 -18.75 16.94
 110.00 23 0 46 2078.25 -30.26 22.60 192.33 106.65 23 35 25 1078.2 -20.62 358.22

Differential Corrections: TDE 1.0173 TRA 1.7983 TC3-1.9454 BAU .5900 SGT 3176.3 SGR 3389.1 SG3 1601.8 ORBIT DETERMINATION ACCURACY
 RDE 1.1388 RRA 2.2640 RC3-1.0373 FAU .14592 RRT .9536 RRF .9965 RTF .9570 CRT .9986 CRS -.9951 CST -.9888
 FDE 5.1615 FRA12.7172 FC3-6.3115 BSP 7680 SGB 4644.9 R23 .1196 R13 .9896 LSA 173.8 HSA 10.7 SSA .9
 BDE 1.5270 BRA 2.8913 BC3 2.2047 FSP 2889 SG1 4590.9 SG2 705.9 THA 46.95 EL1 112.6 EL2 3.0 ALF 49.03

LAUNCH DATE MAR 18 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 17 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.249 GAL -5.64 AZL 87.52 HCA 202.18 SMA 178.67 ECC .19285 INC 2.4827 V1 29.928
 RP 211.60 LAP -.94 LOP 18.91 VP 22.619 GAP 3.31 AZP 92.30 TAL 323.71 TAP 165.89 RCA 144.21 APO 213.12 V2 25.926
 RC 124.177 GL 18.19 GP -24.53 ZAL 145.05 ZAP 86.16 ETS 177.07 ZAE 124.81 ETE 197.58 ZAC 78.12 ETC 269.76 LVI 16.00

PLANETOCENTRIC CONIC: C3 19.831 VHL 4.453 DLA 4.42 RAL 322.51 RAD 6642.8 VEL 11.825 PTH 6.84 VHP 3.693 DPA -48.54 RAP 289.40 ECC 1.3284
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 15 3220.04 -39.28 104.98 186.84 119.36 17 44 55 2220.0 -24.42 82.37
 60.00 17 26 7 3127.25 -34.03 99.84 190.06 113.03 18 18 15 2127.2 -21.73 76.34
 70.00 18 13 7 2989.02 -29.40 90.69 192.11 108.23 19 2 56 1989.0 -19.25 66.78
 80.00 19 16 38 2790.11 -26.07 76.72 193.23 105.09 20 3 8 1790.1 -17.43 52.66
 90.00 20 35 59 2534.06 -24.83 58.26 193.59 103.98 21 18 13 1534.1 -16.74 34.15
 100.00 21 59 30 2264.58 -26.07 38.09 193.23 105.09 22 37 14 1264.6 -17.43 14.02
 110.00 23 12 33 2035.83 -29.40 19.61 192.11 108.23 23 46 29 1035.8 -19.25 355.70

Differential Corrections: TDE 1.0584 TRA 1.9827 TC3-2.0829 BAU .6086 SGT 3431.7 SGR 3219.5 SG3 1629.4 ORBIT DETERMINATION ACCURACY
 RDE 1.0779 RRA 2.1416 RC3-1.0087 FAU .14990 RRT .9801 RRF .9959 RTF .5.36 CRT .9995 CRS -.9930 CST -.9906
 FDE 5.1188 FRA12.9280 FC3-6.5441 BSP 7691 SGB 4705.5 R23 .1234 R13 .9886 LSA 173.1 HSA 10.7 SSA 1.0
 BDE 1.5107 BRA 2.9184 BC3 2.2954 FSP 2903 SG1 4658.4 SG2 683.6 THA 43.10 EL1 112.4 EL2 1.8 ALF 45.93

LAUNCH DATE MAR 18 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.250 GAL -5.69 AZL 87.72 HCA 203.39 SMA 178.67 ECC .19327 INC 2.2756 V1 29.928
 RP 211.87 LAP -.90 LOP 20.12 VP 22.584 GAP 3.10 AZP 92.09 TAL 323.45 TAP 166.84 RCA 144.14 APO 213.20 V2 25.896
 RC 126.431 GL 16.67 GP -23.42 ZAL 145.87 ZAP 84.28 ETS 176.33 ZAE 123.42 ETE 195.78 ZAC 79.25 ETC 269.56 LVI 15.28

PLANETOCENTRIC CONIC: C3 19.723 VHL 4.441 DLA 3.04 RAL 323.15 RAD 6642.7 VEL 11.821 PTH 6.84 VHP 3.665 DPA -47.52 RAP 288.10 ECC 1.3246
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 53 3191.20 -38.30 102.92 186.57 120.72 17 52 4 2191.2 -23.10 80.91
 60.00 17 35 14 3094.48 -33.14 97.53 189.89 114.39 18 26 48 2094.5 -20.44 74.53
 70.00 18 23 53 2951.39 -28.57 88.08 192.03 109.57 19 13 4 1951.4 -18.00 64.58
 80.00 19 28 54 2747.77 -25.29 73.82 193.23 106.43 20 14 42 1747.8 -16.21 50.10
 90.00 20 48 53 2489.59 -24.07 55.22 193.61 105.31 21 30 24 1489.6 -15.53 31.45
 100.00 22 11 46 2222.24 -25.29 35.19 193.23 106.43 22 48 48 1222.2 -16.21 11.47
 110.00 23 23 19 1990.21 -28.57 16.99 192.03 109.57 23 56 37 998.2 -18.00 353.49

Differential Corrections: TDE 1.1013 TRA 2.1671 TC3-2.1772 BAU .6272 SGT 3687.4 SGR 3065.7 SG3 1652.5 ORBIT DETERMINATION ACCURACY
 RDE 1.0324 RRA 2.0334 RC3 -.9578 FAU .15110 RRT .9635 RRF .9951 RTF .9676 CRT .9998 CRS -.9925 CST -.9924
 FDE 5.1136 FRA13.1267 FC3-6.6317 BSP 7823 SGB 4795.4 R23 .1267 R13 .9875 LSA 173.5 HSA 10.6 SSA 1.1
 BDE 1.5096 BRA 2.9717 BC3 2.3786 FSP 2952 SG1 4752.9 SG2 636.4 THA 39.55 EL1 113.2 EL2 1.1 ALF 43.14

LAUNCH DATE MAR 18 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.250 GAL -5.74 AZL 87.91 HCA 204.89 SMA 178.68 ECC .19375 INC 2.0885 V1 29.928
RP 212.14 LAP -.87 LOP 21.32 VP 22.948 GAP 2.90 AZP 91.90 TAL 323.19 TAP 167.78 RCA 144.06 APO 213.30 VE 25.864
RC 129.708 GL 19.28 GP -22.37 ZAL 146.61 ZAP 82.40 ETS 175.66 ZAE 121.98 ETE 194.12 ZAC 80.30 ETC 269.36 LVI 14.61

PLANETOCENTRIC CONIC

C3 18.884 VHL 4.437 DLA 1.78 RAL 323.77 RAD 8642.7 VEL 11.819 PTH 6.84 VHP 3.648 DPA -46.56 RAP 286.89 ECC 1.3240
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 9 56 3169.65 -37.40 101.14 186.46 121.88 17 58 41 2165.7 -21.91 79.84
60.00 17 43 37 3068.38 -32.30 95.51 189.86 115.54 18 34 43 2065.4 -19.28 72.94
70.00 18 33 48 2917.92 -27.78 85.79 192.08 110.71 19 22 23 1917.9 -16.87 62.84
80.00 19 40 8 2710.05 -24.54 71.27 193.34 107.97 20 25 18 1710.1 -15.09 47.86
90.00 21 0 44 2449.97 -23.33 52.58 193.74 106.45 21 41 34 1450.0 -14.42 29.07
100.00 22 23 0 2184.53 -24.54 32.84 193.34 107.37 22 59 25 1184.5 -15.09 9.23
110.00 23 33 12 1964.74 -27.78 14.71 192.08 110.71 24 5 57 964.7 -16.87 351.56

DIFFERENTIAL CORRECTIONS

TDE 1.1469 TRA 2.3524 TC3-2.2649 BAU .6470
RDE .9928 RRA 1.9309 RC3 -.9080 FAU .15160
FDE 5.1021 FRA13.2746 FC3-6.8677 BSP 7998
BDE 1.5169 BRA 3.0434 BC3 2.4587 FSP 2987

MID-COURSE EXECUTION ACCURACY

SGT 3942.3 SGR 2918.4 SG3 1867.7
RRT .9661 RRF .9942 RTF .9709
SGB 4905.0 R23 .1278 R13 .9868
SG1 4866.8 SGT 610.4 THA 36.23

ORBIT DETERMINATION ACCURACY

ST 87.0 SR 74.2 SS 131.7
CRT .9996 CRS -.9909 CST -.9937
LSA 174.1 MSA 10.5 SBA 1.1
EL1 114.4 EL2 1.7 ALF 40.47

LAUNCH DATE MAR 18 1971

FLIGHT TIME 280.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.252 GAL -5.79 AZL 88.08 HCA 205.79 SMA 178.70 ECC .19429 INC 1.9182 V1 29.928
RP 212.43 LAP -.83 LOP 22.52 VP 22.513 GAP 2.69 AZP 91.73 TAL 322.91 TAP 168.70 RCA 143.98 APO 213.42 VE 25.832
RC 130.999 GL 14.00 GP -21.39 ZAL 147.29 ZAP 80.54 ETS 175.05 ZAE 120.49 ETE 192.62 ZAC 81.28 ETC 269.20 LVI 14.00

PLANETOCENTRIC CONIC

C3 19.700 VHL 4.438 DLA .63 RAL 324.38 RAD 8642.7 VEL 11.820 PTH 6.84 VHP 3.633 DPA -45.66 RAP 285.76 ECC 1.3242
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 28 3143.00 -36.57 99.61 186.47 122.86 18 4 51 2143.0 -20.84 78.53
60.00 17 51 23 3039.49 -31.53 93.78 189.94 116.53 18 42 3 2039.5 -18.24 71.55
70.00 18 42 52 2888.06 -27.05 83.78 192.23 111.70 19 31 0 1888.1 -15.84 60.94
80.00 19 50 29 2676.35 -23.83 69.02 193.54 108.55 20 35 5 1676.4 -14.07 45.88
90.00 21 11 37 2414.54 -22.63 50.20 193.96 107.43 21 51 52 1414.5 -13.41 26.96
100.00 22 33 21 2190.83 -23.83 30.39 193.54 108.55 23 9 12 1150.8 -14.07 7.24
110.00 23 42 19 1934.88 -27.05 12.70 192.23 111.70 24 14 34 934.9 -15.84 349.86

DIFFERENTIAL CORRECTIONS

TDE 1.1944 TRA 2.5374 TC3-2.3858 BAU .6677
RDE .9583 RRA 1.8339 RC3 -.8574 FAU .15138
FDE 5.0851 FRA13.3751 FC3-6.6527 BSP 8216
BDE 1.5313 BRA 3.1305 BC3 2.3352 FSP 3015

MID-COURSE EXECUTION ACCURACY

SGT 4194.4 SGR 2777.1 SG3 1675.6
RRT .9678 RRF .9931 RTF .9735
SGB 5030.4 R23 .1272 R13 .9861
SG1 4986.1 SGT 587.1 THA 33.17

ORBIT DETERMINATION ACCURACY

ST 91.5 SR 71.3 SS 131.3
CRT .9988 CRS -.9892 CST -.9949
LSA 174.8 MSA 10.6 SBA 1.2
EL1 116.0 EL2 2.6 ALF 37.94

LAUNCH DATE MAR 18 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.283 GAL -5.85 AZL 88.24 HCA 206.99 SMA 178.73 ECC .19489 INC 1.7624 V1 29.928
RP 212.72 LAP -.80 LOP 23.72 VP 22.478 GAP 2.49 AZP 91.57 TAL 322.63 TAP 169.62 RCA 143.90 APO 213.56 VE 25.799
RC 133.312 GL 12.82 GP -20.47 ZAL 147.91 ZAP 78.71 ETS 174.50 ZAE 118.97 ETE 191.27 ZAC 82.21 ETC 269.03 LVI 13.42

PLANETOCENTRIC CONIC

C3 19.763 VHL 4.446 DLA -.41 RAL 324.93 RAD 8642.7 VEL 11.823 PTH 6.84 VHP 3.627 DPA -44.81 RAP 284.72 ECC 1.3253
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 34 3122.90 -35.82 98.27 186.58 123.70 18 10 37 2122.9 -19.89 77.57
60.00 17 58 36 3016.44 -30.81 92.22 190.11 117.37 18 48 52 2016.4 -17.30 70.32
70.00 18 51 19 2861.59 -26.38 82.01 192.47 112.54 19 39 0 1861.4 -14.91 59.44
80.00 20 0 3 2648.18 -23.16 67.03 193.82 109.39 20 44 9 1648.2 -13.14 44.12
90.00 21 21 40 2382.80 -21.97 48.11 194.26 108.27 22 1 23 1382.8 -12.48 25.09
100.00 22 42 55 2120.66 -23.16 28.40 193.82 109.39 23 18 15 1120.7 -13.14 5.48
110.00 23 50 45 1908.21 -26.38 10.92 192.47 112.54 24 22 34 908.2 -14.91 348.35

DIFFERENTIAL CORRECTIONS

TDE 1.2428 TRA 2.7215 TC3-2.4823 BAU .6898
RDE .9275 RRA 1.7404 RC3 -.8080 FAU .15088
FDE 5.0384 FRA13.4289 FC3-6.6084 BSP 8447
BDE 1.5508 BRA 3.2304 BC3 2.6108 FSP 3024

MID-COURSE EXECUTION ACCURACY

SGT 4443.0 SGR 2641.8 SG3 1676.7
RRT .9688 RRF .9918 RTF .556
SGB 5169.0 R23 .1249 R13 .9857
SG1 5137.9 SGT 566.2 THA 30.35

ORBIT DETERMINATION ACCURACY

ST 95.9 SR 68.8 SS 130.6
CRT .9975 CRS -.9872 CST -.9957
LSA 175.8 MSA 10.7 SBA 1.2
EL1 117.8 EL2 4.0 ALF 35.56

LAUNCH DATE MAR 18 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.298 GAL -5.91 AZL 88.38 HCA 208.18 SMA 178.78 ECC .19555 INC 1.6192 V1 29.928
RP 213.01 LAP -.76 LOP 24.92 VP 22.443 GAP 2.29 AZP 91.43 TAL 322.33 TAP 170.51 RCA 143.80 APO 213.72 VE 25.762
RC 135.643 GL 11.74 GP -19.61 ZAL 148.48 ZAP 76.80 ETS 174.01 ZAE 117.43 ETE 190.05 ZAC 83.07 ETC 268.87 LVI 12.38

PLANETOCENTRIC CONIC

C3 19.889 VHL 4.458 DLA -1.37 RAL 325.48 RAD 8642.8 VEL 11.827 PTH 6.85 VHP 3.627 DPA -44.00 RAP 283.75 ECC 1.3270
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 24 17 3105.08 -35.14 97.11 186.77 124.41 18 16 2 2105.1 -19.05 76.72
60.00 18 5 19 2995.92 -30.16 90.87 190.36 118.10 18 55 15 1995.9 -16.46 69.25
70.00 18 59 10 2837.56 -25.73 80.44 192.77 113.27 19 46 28 1837.6 -14.07 58.10
80.00 20 8 55 2619.14 -22.54 65.26 194.16 110.12 20 52 35 1619.1 -12.30 42.55
90.00 21 31 0 2354.31 -21.35 46.25 194.62 109.00 22 10 14 1354.3 -11.64 23.43
100.00 22 51 47 2093.61 -22.54 26.63 194.16 110.12 23 26 41 1093.6 -12.30 3.92
110.00 0 2 32 1884.37 -25.73 9.36 192.77 113.27 0 33 87 884.4 -14.07 347.02

DIFFERENTIAL CORRECTIONS

TDE 1.2928 TRA 2.9047 TC3-2.5728 BAU .7128
RDE .9001 RRA 1.6518 RC3 -.7615 FAU .14984
FDE 5.0247 FRA13.4425 FC3-6.5288 BSP 8696
BDE 1.5750 BRA 3.3415 BC3 2.6832 FSP 3021

MID-COURSE EXECUTION ACCURACY

SGT 4887.1 SGR 2511.9 SG3 1671.6
RRT .9892 RRF .9904 RTF .9774
SGB 5317.8 R23 .1215 R13 .9854
SG1 5289.4 SGT 548.3 THA 27.77

ORBIT DETERMINATION ACCURACY

ST 100.3 SR 66.0 SS 129.8
CRT .9958 CRS -.9850 CST -.9965
LSA 176.5 MSA 10.9 SBA 1.2
EL1 119.9 EL2 5.1 ALF 33.33

LAUNCH DATE MAR 18 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 29 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.288 GAL -5.97 AZL 88.51 HCA 209.38 SMA 178.80 ECC .19626 INC 1.4871 V1 29.928
 RP 213.31 LAP -.73 LOP 26.11 VP 22.408 GAP 2.09 AZP 91.30 TAL 322.02 TAP 171.40 RCA 143.71 APO 213.89 V2 25.732
 RC 137.991 GL 10.73 GP -18.80 ZAL 149.01 ZAP 75.13 ETS 173.57 ZAE 115.88 ETE 188.94 ZAC 83.89 ETC 268.75 LVI 12.38

Planeto-centric Conic: C3 20.014 VHL 4.474 DLA -2.25 RAL 326.02 RAD 6642.0 VEL 11.833 PTH 6.85 VHP 3.632 DPA -43.23 RAP 282.86 ECC 1.3294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 38 3089.29 -34.53 96.10 187.04 125.03 18 21 7 2089.3 -18.29 75.98
 60.00 18 11 36 2977.66 -29.57 89.68 190.67 118.73 19 1 14 1977.7 -15.70 68.30
 70.00 19 6 29 2816.25 -25.15 79.06 193.14 113.91 19 53 26 1816.2 -13.31 56.92
 80.00 20 17 12 2594.87 -21.96 63.69 194.57 110.75 21 0 26 1594.9 -11.54 41.16
 90.00 21 39 41 2328.72 -20.77 44.59 195.04 109.64 22 18 29 1328.7 -10.87 21.94
 100.00 23 0 3 2069.35 -21.96 25.06 194.57 110.75 23 34 33 1069.3 -11.54 2.52
 110.00 0 9 82 1863.06 -25.15 7.98 193.14 113.91 0 40 55 863.1 -13.31 345.84

Differential Corrections: TDE 1.3437 TRA 3.0875 TC3-2.6577 BAU .7364 SGT 4927.2 SGR 2388.9 SG3 1661.5 ST 104.6 SR 63.7 SS 128.9
 RDE .8763 RRA 1.5677 RC3 -.7154 FAU .14837 RRT .9690 RRF .9886 RTF .9787 CRT .9937 CRS -.9826 CST -.9971
 FDE 4.9890 FRA13.4232 FC3-6.4180 B8P 8972 SGB 5475.7 R23 .1172 R13 .9853 LSA 177.5 MSA 11.1 S8A 1.2
 BDE 1.6042 BRA 3.4827 BC3 2.7523 F8P 3014 SG1 5449.6 SG2 533.8 TMA 25.43 EL1 122.3 EL2 6.1 ALF 31.27

Mid-course Execution Accuracy: SGT 4927.2 SGR 2388.9 SG3 1661.5
 RRT .9690 RRF .9886 RTF .9787
 SGB 5475.7 R23 .1172 R13 .9853
 SG1 5449.6 SG2 533.8 TMA 25.43

Orbit Determination Accuracy: ST 104.6 SR 63.7 SS 128.9
 CRT .9937 CRS -.9826 CST -.9971
 LSA 177.5 MSA 11.1 S8A 1.2
 EL1 122.3 EL2 6.1 ALF 31.27

LAUNCH DATE MAR 18 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 1 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.281 GAL -6.04 AZL 88.64 HCA 210.56 SMA 178.85 ECC .19703 INC 1.3649 V1 29.928
 RP 213.61 LAP -.69 LOP 27.30 VP 22.372 GAP 1.89 AZP 91.18 TAL 321.71 TAP 172.27 RCA 143.61 APO 214.09 V2 25.697
 RC 140.356 GL 9.79 GP -18.03 ZAL 149.50 ZAP 73.39 ETS 173.18 ZAE 114.33 ETE 187.94 ZAC 84.65 ETC 268.59 LVI 11.89

Planeto-centric Conic: C3 20.193 VHL 4.494 DLA -3.06 RAL 326.54 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 3.643 DPA -42.50 RAP 282.05 ECC 1.3323
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 40 3075.35 -33.98 95.22 187.36 125.56 18 25 55 2075.3 -17.62 75.33
 60.00 18 17 30 2961.43 -29.04 88.64 191.04 119.27 19 6 51 1961.4 -15.02 67.46
 70.00 19 13 21 2797.21 -24.62 77.84 193.55 114.46 19 59 58 1797.2 -12.62 55.87
 80.00 20 24 55 2573.11 -21.43 62.29 195.01 111.31 21 7 48 1573.1 -10.85 39.91
 90.00 21 47 47 2305.73 -20.24 43.12 195.50 110.19 22 26 13 1305.7 -10.17 20.61
 100.00 23 7 47 2047.58 -21.43 23.66 195.01 111.31 23 41 54 1047.6 -10.85 1.28
 110.00 0 16 43 1844.03 -24.62 6.75 193.55 114.46 0 47 27 844.0 -12.62 344.79

Differential Corrections: TDE 1.3973 TRA 3.2708 TC3-2.7342 BAU .7800 SGT 5182.6 SGR 2272.1 SG3 1846.9 ST 109.0 SR 61.6 SS 128.0
 RDE .8558 RRA 1.4880 RC3 -.6696 FAU .14627 RRT .9682 RRF .9866 RTF .9799 CRT .9912 CRS -.9800 CST -.9976
 FDE 4.9526 FRA13.3735 FC3-6.2710 B8P 9274 SGB 5640.5 R23 .1123 R13 .9851 LSA 178.6 MSA 11.4 S8A 1.3
 BDE 1.6385 BRA 3.5932 BC3 2.8150 F8P 3000 SG1 5616.2 SG2 522.4 TMA 23.29 EL1 124.9 EL2 7.1 ALF 29.35

Mid-course Execution Accuracy: SGT 5182.6 SGR 2272.1 SG3 1846.9
 RRT .9682 RRF .9866 RTF .9799
 SGB 5640.5 R23 .1123 R13 .9851
 SG1 5616.2 SG2 522.4 TMA 23.29

Orbit Determination Accuracy: ST 109.0 SR 61.6 SS 128.0
 CRT .9912 CRS -.9800 CST -.9976
 LSA 178.6 MSA 11.4 S8A 1.3
 EL1 124.9 EL2 7.1 ALF 29.35

LAUNCH DATE MAR 18 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 3 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.285 GAL -6.10 AZL 88.75 HCA 211.75 SMA 178.90 ECC .19786 INC 1.2512 V1 29.928
 RP 213.92 LAP -.66 LOP 28.49 VP 22.337 GAP 1.89 AZP 91.06 TAL 321.39 TAP 173.14 RCA 143.50 APO 214.30 V2 25.662
 RC 142.739 GL 8.92 GP -17.30 ZAL 149.96 ZAP 71.89 ETS 172.83 ZAE 112.78 ETE 187.04 ZAC 85.38 ETC 268.47 LVI 11.44

Planeto-centric Conic: C3 20.404 VHL 4.517 DLA -3.80 RAL 327.05 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 3.657 DPA -41.81 RAP 281.32 ECC 1.3358
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 25 3063.05 -33.49 94.46 187.74 126.01 18 30 28 2063.1 -17.03 74.76
 60.00 18 23 2 2947.04 -28.55 87.73 191.46 119.74 19 12 9 1947.0 -14.42 66.72
 70.00 19 19 46 2780.22 -24.14 78.75 194.01 114.93 20 6 6 1780.2 -12.01 54.94
 80.00 20 32 9 2553.60 -20.94 61.05 195.50 111.78 21 14 42 1553.6 -10.22 38.80
 90.00 21 55 22 2285.09 -19.75 41.80 195.99 110.67 22 33 27 1285.1 -9.54 19.42
 100.00 23 15 1 2028.07 -20.94 22.42 195.50 111.78 23 48 49 1028.1 -10.22 .17
 110.00 0 23 8 1827.03 -24.14 5.87 194.01 114.93 0 53 35 827.0 -12.01 343.86

Differential Corrections: TDE 1.4508 TRA 3.4920 TC3-2.8088 BAU .7848 SGT 5391.9 SGR 2180.4 SG3 1827.6 ST 113.2 SR 59.3 SS 126.8
 RDE .8369 RRA 1.4114 RC3 -.6275 FAU .14416 RRT .9670 RRF .9843 RTF .9508 CRT .9883 CRS -.9771 CST -.9970
 FDE 4.9051 FRA13.2842 FC3-6.1169 B8P 9571 SGB 5808.6 R23 .1088 R13 .9851 LSA 179.7 MSA 11.7 S8A 1.3
 BDE 1.6748 BRA 3.7294 BC3 2.8781 F8P 2973 SG1 5785.9 SG2 513.0 TMA 21.36 EL1 127.6 EL2 8.0 ALF 27.58

Mid-course Execution Accuracy: SGT 5391.9 SGR 2180.4 SG3 1827.6
 RRT .9670 RRF .9843 RTF .9508
 SGB 5808.6 R23 .1088 R13 .9851
 SG1 5785.9 SG2 513.0 TMA 21.36

Orbit Determination Accuracy: ST 113.2 SR 59.3 SS 126.8
 CRT .9883 CRS -.9771 CST -.9970
 LSA 179.7 MSA 11.7 S8A 1.3
 EL1 127.6 EL2 8.0 ALF 27.58

LAUNCH DATE MAR 18 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 5 1971

Heliocentric Conic: RL 148.88 LAL .00 LOL 176.75 VL 32.288 GAL -6.18 AZL 88.85 HCA 212.93 SMA 178.98 ECC .19874 INC 1.1452 V1 29.928
 RP 214.24 LAP -.62 LOP 29.67 VP 22.302 GAP 1.49 AZP 90.96 TAL 321.05 TAP 173.98 RCA 143.39 APO 214.53 V2 25.627
 RC 145.138 GL 8.11 GP -16.62 ZAL 150.40 ZAP 70.04 ETS 172.91 ZAE 111.25 ETE 186.23 ZAC 86.06 ETC 268.36 LVI 11.00

Planeto-centric Conic: C3 20.645 VHL 4.544 DLA -4.48 RAL 327.55 RAD 6643.1 VEL 11.860 PTH 6.87 VHP 3.676 DPA -41.15 RAP 280.65 ECC 1.3398
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 54 3032.24 -33.06 93.79 188.15 126.40 18 34 47 2052.3 -16.51 74.27
 60.00 18 28 15 2934.30 -28.12 86.93 191.91 120.15 19 17 10 1934.3 -13.89 66.07
 70.00 19 25 48 2765.08 -23.70 75.80 194.50 115.35 20 11 53 1765.1 -11.46 54.11
 80.00 20 38 58 2536.13 -20.49 59.94 196.02 112.20 21 21 12 1536.1 -9.66 37.81
 90.00 22 2 29 2286.57 -19.30 40.63 196.53 111.08 22 40 15 1266.6 -8.98 18.36
 100.00 23 21 48 2010.60 -20.49 21.31 196.02 112.20 23 55 18 1010.6 -9.66 359.18
 110.00 0 29 11 1811.90 -23.70 4.71 194.50 115.35 0 59 22 811.9 -11.46 343.03

Differential Corrections: TDE 1.5057 TRA 3.6331 TC3-2.8730 BAU .8093 SGT 5616.0 SGR 2054.9 SG3 1604.9 ST 117.4 SR 57.6 SS 125.6
 RDE .8204 RRA 1.3388 RC3 -.5869 FAU .14169 RRT .9652 RRF .9817 RTF .9816 CRT .9851 CRS -.9739 CST -.9983
 FDE 4.8556 FRA13.1914 FC3-5.9419 B8P 9878 SGB 5980.1 R23 .1011 R13 .9851 LSA 180.9 MSA 12.0 S8A 1.3
 BDE 1.7147 BRA 3.8719 BC3 2.9324 F8P 2940 SG1 5958.7 SG2 506.3 TMA 19.60 EL1 130.5 EL2 8.3 ALF 25.94

Mid-course Execution Accuracy: SGT 5616.0 SGR 2054.9 SG3 1604.9
 RRT .9652 RRF .9817 RTF .9816
 SGB 5980.1 R23 .1011 R13 .9851
 SG1 5958.7 SG2 506.3 TMA 19.60

Orbit Determination Accuracy: ST 117.4 SR 57.6 SS 125.6
 CRT .9851 CRS -.9739 CST -.9983
 LSA 180.9 MSA 12.0 S8A 1.3
 EL1 130.5 EL2 8.3 ALF 25.94

LAUNCH DATE MAR 18 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.273 GAL -6.25 AZL 88.95 HCA 214.11 SMA 179.03 ECC .19987 INC 1.0460 V1 29.928
RP 214.55 LAP -.59 LOP 30.85 VP 22.287 GAP 1.29 AZP 90.87 TAL 320.71 TAP 174.82 RCA 143.28 APO 214.77 V2 25.591
RC 147.555 GL 7.36 GP -15.97 ZAL 150.82 ZAP 88.43 ETS 172.23 ZAE 109.74 ETE 185.49 ZAC 86.70 ETC 268.25 LVI 10.58

PLANETOCENTRIC CONIC

C3 20.913 VHL 4.373 DLA -5.11 RAL 328.04 RAD 8643.2 VEL 11.871 PTH 6.88 VHP 3.698 DPA -40.53 RAP 280.06 ECC 1.3442
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 10 3042.85 -32.68 93.22 188.61 126.73 18 38 52 2042.8 -16.05 73.84
60.00 18 33 11 2923.09 -27.74 86.23 192.40 120.50 19 21 54 1923.1 -13.41 65.50
70.00 19 31 29 2751.65 -23.30 74.95 195.02 115.70 20 17 21 1751.6 -10.96 53.38
80.00 20 45 19 2520.53 -20.09 58.96 196.57 112.56 21 27 19 1520.5 -9.15 36.93
90.00 22 9 10 2249.98 -18.89 39.59 197.09 111.45 22 46 40 1250.0 -8.46 17.41
100.00 23 28 11 1995.00 -20.09 20.33 196.57 112.56 24 1 26 995.0 -9.15 358.30
110.00 0 34 52 1798.46 -23.30 3.87 195.02 115.70 1 4 50 798.5 -10.96 342.30

DIFFERENTIAL CORRECTIONS

TDE 1.5618 TRA 3.8133 TC3-2.9339 BAW .8345
RDE .8063 RRA 1.2698 RC3 -.5480 FAU .1389D
FDE 4.8059 FRA13.0680 FC3-5.7499 BSP 10191
BDE 1.7578 BRA 4.0192 BC3 2.9846 FSP 2903

MID-COURSE EXECUTION ACCURACY

SGT 5834.2 SGR 1955.2 SG3 1579.3
RRT .9628 RRF .9786 RTF .9822
SGB 6153.1 R23 .0956 R13 .9851
SG1 6132.6 S62 502.4 THA 18.01

ORBIT DETERMINATION ACCURACY

ST 121.5 SR 55.9 SS 124.4
CRT .9816 CRS -.9705 CST -.9986
LSA 182.2 MSA 12.4 SSA 1.3
EL1 133.4 EL2 9.7 ALF 24.45

LAUNCH DATE MAR 18 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.277 GAL -6.33 AZL 89.05 HCA 215.28 SMA 179.10 ECC .20066 INC .9530 V1 29.928
RP 214.88 LAP -.55 LOP 32.03 VP 22.231 GAP 1.09 AZP 90.78 TAL 320.36 TAP 175.64 RCA 143.16 APO 215.03 V2 25.554
RC 149.988 GL 6.65 GP -15.38 ZAL 151.22 ZAP 66.86 ETS 171.98 ZAE 108.24 ETE 184.82 ZAC 87.31 ETC 268.16 LVI 10.17

PLANETOCENTRIC CONIC

C3 21.208 VHL 4.605 DLA -5.69 RAL 328.51 RAD 8643.4 VEL 11.883 PTH 6.89 VHP 3.724 DPA -39.94 RAP 279.53 ECC 1.3490
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 52 12 3034.68 -32.34 92.73 189.09 127.01 18 42 46 2034.7 -15.66 73.47
60.00 18 37 51 2913.26 -27.40 85.62 192.92 120.80 19 26 24 1913.3 -13.00 65.00
70.00 19 36 51 2739.76 -22.95 74.21 195.58 118.02 20 22 31 1739.8 -10.53 52.74
80.00 20 51 19 2506.62 -19.72 58.09 197.15 112.88 21 33 6 1506.6 -8.70 36.15
90.00 22 15 27 2235.17 -18.52 38.66 197.68 111.76 22 52 42 1235.2 -8.00 16.56
100.00 23 34 11 1981.09 -19.72 19.46 197.15 112.88 24 7 12 981.1 -8.70 357.52
110.00 0 40 14 1786.58 -22.95 3.13 195.58 116.02 1 10 0 786.6 -10.53 341.66

DIFFERENTIAL CORRECTIONS

TDE 1.6192 TRA 3.9933 TC3-2.9882 BAW .8598
RDE .7938 RRA 1.2039 RC3 -.5114 FAU .1359D
FDE 4.7514 FRA12.9255 FC3-5.5478 BSP 10510
BDE 1.8033 BRA 4.1709 BC3 3.0316 FSP 2881

MID-COURSE EXECUTION ACCURACY

SGT 6046.7 SGR 1860.9 SG3 1550.9
RRT .9599 RRF .9750 RTF .9827
SGB 6326.5 R23 .0901 R13 .9851
SG1 6306.7 S62 500.1 THA 16.57

ORBIT DETERMINATION ACCURACY

ST 125.6 SR 54.3 SS 123.0
CRT .9777 CRS -.9669 CST -.9988
LSA 183.5 MSA 12.8 SSA 1.3
EL1 136.4 EL2 10.5 ALF 23.06

LAUNCH DATE MAR 18 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.282 GAL -6.41 AZL 89.13 HCA 216.46 SMA 179.17 ECC .20189 INC .8653 V1 29.928
RP 215.21 LAP -.51 LOP 33.20 VP 22.198 GAP .89 AZP 90.70 TAL 320.00 TAP 176.46 RCA 143.04 APO 215.31 V2 25.518
RC 152.438 GL 5.99 GP -14.78 ZAL 151.81 ZAP 65.34 ETS 171.76 ZAE 106.77 ETE 184.22 ZAC 87.88 ETC 268.08 LVI 9.78

PLANETOCENTRIC CONIC

C3 21.528 VHL 4.640 DLA -6.22 RAL 328.98 RAD 8643.5 VEL 11.898 PTH 6.91 VHP 3.752 DPA -39.38 RAP 279.07 ECC 1.3543
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 58 2 3027.66 -32.05 92.31 189.60 127.25 18 46 30 2027.7 -15.32 73.15
60.00 18 42 16 2904.71 -27.10 85.10 193.47 121.05 19 30 41 1904.7 -12.63 64.37
70.00 19 41 55 2729.29 -22.64 73.56 196.15 116.28 20 27 25 1729.3 -10.14 52.17
80.00 20 56 59 2494.28 -19.40 57.32 197.75 113.16 21 38 34 1494.3 -8.29 35.45
90.00 22 21 23 2221.98 -18.18 37.84 198.29 112.04 22 58 25 1222.0 -7.59 15.81
100.00 23 39 51 1968.76 -19.40 18.69 197.75 113.16 24 12 40 968.8 -8.29 358.82
110.00 0 45 18 1776.11 -22.64 2.48 196.15 116.28 1 14 54 776.1 -10.14 341.09

DIFFERENTIAL CORRECTIONS

TDE 1.6770 TRA 4.1727 TC3-3.0385 BAW .8892
RDE .7831 RRA 1.1413 RC3 -.4771 FAU .13283
FDE 4.6949 FRA12.7690 FC3-5.3416 BSP 10825
BDE 1.8508 BRA 4.3259 BC3 3.0758 FSP 2813

MID-COURSE EXECUTION ACCURACY

SGT 6253.3 SGR 1772.3 SG3 1520.6
RRT .9584 RRF .9710 RTF .9831
SGB 6499.6 R23 .0848 R13 .9851
SG1 6480.4 S62 499.6 THA 15.26

ORBIT DETERMINATION ACCURACY

ST 129.6 SR 52.8 SS 121.6
CRT .9736 CRS -.9830 CST -.9990
LSA 184.9 MSA 13.1 SSA 1.3
EL1 139.5 EL2 11.2 ALF 21.80

LAUNCH DATE MAR 18 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.287 GAL -6.49 AZL 89.22 HCA 217.62 SMA 179.25 ECC .20277 INC .7827 V1 29.928
RP 215.34 LAP -.48 LOP 34.37 VP 22.181 GAP .70 AZP 90.82 TAL 319.63 TAP 177.26 RCA 142.91 APO 215.60 V2 25.480
RC 154.904 GL 5.38 GP -14.24 ZAL 151.98 ZAP 63.87 ETS 171.56 ZAE 105.32 ETE 183.67 ZAC 88.42 ETC 268.01 LVI 9.39

PLANETOCENTRIC CONIC

C3 21.873 VHL 4.677 DLA -6.71 RAL 329.44 RAD 8643.7 VEL 11.911 PTH 6.92 VHP 3.784 DPA -38.84 RAP 278.67 ECC 1.3600
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 41 3021.71 -31.81 91.95 190.14 127.46 18 50 3 2021.7 -15.03 72.88
60.00 18 46 27 2897.33 -26.84 84.64 194.04 121.27 19 34 45 1897.3 -12.32 64.20
70.00 19 46 43 2720.14 -22.36 72.99 196.75 116.52 20 32 3 1720.1 -9.81 51.68
80.00 21 2 21 2483.39 -19.10 56.65 198.37 113.39 21 43 44 1483.4 -7.93 34.84
90.00 22 26 59 2210.29 -17.88 37.11 198.92 112.28 23 3 49 1210.3 -7.23 15.15
100.00 23 45 12 1957.86 -19.10 18.01 198.37 113.39 24 17 50 957.9 -7.93 356.21
110.00 0 50 5 1768.96 -22.36 1.91 196.75 116.52 1 19 32 767.0 -9.81 340.60

DIFFERENTIAL CORRECTIONS

TDE 1.7360 TRA 4.3517 TC3-3.0832 BAW .9109
RDE .7739 RRA 1.0818 RC3 -.4448 FAU .12958
FDE 4.6370 FRA12.5988 FC3-5.1287 BSP 11140
BDE 1.9006 BRA 4.4842 BC3 3.1151 FSP 2762

MID-COURSE EXECUTION ACCURACY

SGT 6454.1 SGR 1688.9 SG3 1488.6
RRT .9522 RRF .9664 RTF .9833
SGB 6871.4 R23 .0799 R13 .9850
SG1 6652.6 S62 500.7 THA 14.07

ORBIT DETERMINATION ACCURACY

ST 133.5 SR 51.5 SS 120.2
CRT .9691 CRS -.9589 CST -.9992
LSA 186.3 MSA 13.5 SSA 1.3
EL1 142.5 EL2 11.9 ALF 20.64

LAUNCH DATE MAR 18 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.78 VL 32.293 GAL -6.58 AZL 89.30 HCA 218.79 SMA 179.34 ECC .20390 INC .7046 V1 29.928
RP 215.87 LAP -.44 LOP 35.53 VP 22.125 GAP .50 AZP 90.55 TAL 319.26 TAP 178.05 RCA 142.77 APO 215.91 V2 25.443
RC 157.385 GL 4.80 GP -13.72 ZAL 152.34 ZAP 62.44 ETS 171.39 ZAE 103.90 ETE 183.18 ZAC 88.04 ETC 267.96 LVI 9.02

PLANETOCENTRIC CONIC

C3 22.242 VHL 4.718 DLA -7.18 RAL 329.90 RAD 6643.8 VEL 11.926 PTH 6.93 VHP 3.818 DPA -38.33 RAP 278.33 ECC 1.3660
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 3 11 3016.73 -31.60 91.68 190.70 127.62 18 53 27 2016.7 -14.78 72.66
60.00 18 50 26 2891.03 -26.61 84.26 194.63 121.46 19 38 37 1891.0 -12.05 63.68
70.00 19 51 16 2712.20 -22.12 72.50 197.37 116.71 20 36 28 1712.2 -9.51 51.25
80.00 21 7 24 2473.82 -18.84 56.05 199.01 113.60 21 48 38 1473.8 -7.62 34.31
90.00 22 32 17 2199.99 -17.61 36.47 199.56 112.49 23 8 57 1200.0 -6.90 14.56
100.00 23 50 16 1946.30 -18.84 17.42 199.01 113.60 24 22 44 948.3 -7.62 355.68
110.00 0 54 38 1759.02 -22.12 1.42 197.37 116.71 1 23 57 759.0 -9.51 340.17

DIFFERENTIAL CORRECTIONS

TDE 1.7965 TRA 4.3304 TC3-3.1228 BAU .9367 SGT 8649.1 SGR 1610.6 SG3 1455.1 ST 137.3 SR 50.2 SS 118.7
RDE .7661 RRA 1.0249 RC3 -4.146 FAU .12622 RRT .9473 RRF .9812 RTF .9836 CRT .9844 CRS -.9545 CST -.9993
FDE 4.5777 FRA12.4191 FC3-4.9129 B8P 11453 SGB 6841.4 R23 .0752 R13 .9850 LSA 187.8 MSA 13.9 S8A 1.3
BDE 1.9330 BRA 4.6499 BC3 3.1501 F8P 2707 SG1 6822.9 SG2 502.9 THA 13.00 EL1 145.7 EL2 12.5 ALF 19.57

LAUNCH DATE MAR 18 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.298 GAL -6.66 AZL 89.37 HCA 219.95 SMA 179.43 ECC .20508 INC .6306 V1 29.928
RP 216.21 LAP -.41 LOP 36.69 VP 22.090 GAP .30 AZP 90.48 TAL 318.88 TAP 178.83 RCA 142.63 APO 216.23 V2 25.405
RC 159.881 GL 4.26 GP -13.23 ZAL 152.69 ZAP 61.05 ETS 171.24 ZAE 102.50 ETE 182.73 ZAC 89.43 ETC 267.91 LVI 8.65

PLANETOCENTRIC CONIC

C3 22.634 VHL 4.758 DLA -7.57 RAL 330.34 RAD 6644.0 VEL 11.942 PTH 6.95 VHP 3.854 DPA -37.85 RAP 278.05 ECC 1.3725
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 6 30 3012.65 -31.43 91.42 191.28 127.76 18 56 43 2012.7 -14.58 72.47
60.00 18 54 14 2885.73 -26.42 83.94 195.23 121.61 19 42 19 1885.7 -11.83 63.62
70.00 19 55 34 2705.38 -21.91 72.09 198.00 116.88 20 40 39 1705.4 -9.26 50.89
80.00 21 12 12 2465.50 -18.62 55.54 199.66 113.77 21 53 17 1465.5 -7.34 33.84
90.00 22 37 17 2190.97 -17.38 35.92 200.22 112.67 23 13 48 1191.0 -6.62 14.05
100.00 23 55 3 1939.97 -18.62 16.91 199.66 113.77 24 27 23 940.0 -7.34 355.21
110.00 0 58 56 1752.20 -21.91 1.00 198.00 116.88 1 28 9 752.2 -9.26 339.80

DIFFERENTIAL CORRECTIONS

TDE 1.8578 TRA 4.7098 TC3-3.1576 BAU .9826 SGT 6839.2 SGR 1537.7 SG3 1420.9 ST 141.1 SR 49.1 SS 117.1
RDE .7598 RRA .9712 RC3 -.3862 FAU .12275 RRT .9416 RRF .9553 RTF .9837 CRT .9594 CRS -.9500 CST -.9994
FDE 4.5182 FRA12.2336 FC3-4.6953 B8P 11769 SGB 7010.0 R23 .0709 R13 .9849 LSA 189.3 MSA 14.3 S8A 1.3
BDE 2.0072 BRA 4.8089 BC3 3.1811 F8P 2652 SG1 6991.6 SG2 506.3 THA 12.02 EL1 148.8 EL2 13.1 ALF 18.60

LAUNCH DATE MAR 18 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.304 GAL -6.75 AZL 89.44 HCA 221.11 SMA 179.52 ECC .20631 INC .5601 V1 29.928
RP 216.56 LAP -.37 LOP 37.85 VP 22.035 GAP .11 AZP 90.42 TAL 318.49 TAP 179.59 RCA 142.49 APO 216.56 V2 25.368
RC 162.390 GL 3.75 GP -12.77 ZAL 153.04 ZAP 59.71 ETS 171.10 ZAE 101.13 ETE 182.32 ZAC 89.89 ETC 267.87 LVI 8.30

PLANETOCENTRIC CONIC

C3 23.049 VHL 4.801 DLA -7.96 RAL 330.78 RAD 6644.2 VEL 11.960 PTH 6.96 VHP 3.892 DPA -37.39 RAP 277.82 ECC 1.3793
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 9 41 3009.41 -31.30 91.23 191.87 127.86 18 59 51 2009.4 -14.43 72.33
60.00 18 57 50 2881.37 -26.27 83.88 195.85 121.74 19 45 52 1881.4 -11.64 63.40
70.00 19 59 40 2699.60 -21.73 71.73 198.65 117.02 20 44 39 1699.6 -9.04 50.58
80.00 21 16 44 2458.32 -18.42 55.10 200.33 113.92 21 57 42 1458.3 -7.11 33.44
90.00 22 42 1 2183.15 -17.17 35.43 200.89 112.82 23 18 24 1183.2 -6.37 13.61
100.00 0 3 32 1932.79 -18.42 16.47 200.33 113.92 0 35 44 932.8 -7.11 354.81
110.00 1 3 2 1746.42 -21.73 .85 198.65 117.02 1 32 8 746.4 -9.04 339.49

DIFFERENTIAL CORRECTIONS

TDE 1.9202 TRA 4.8883 TC3-3.1881 BAU .9886 SGT 7022.8 SGR 1469.1 SG3 1385.7 ST 144.8 SR 48.0 SS 115.6
RDE .7546 RRA .9197 RC3 -.3598 FAU .11927 RRT .9352 RRF .9486 RTF .5.38 CRT .9542 CRS -.9454 CST -.9995
FDE 4.4368 FRA12.0377 FC3-4.4797 B8P 12073 SGB 7174.8 R23 .0669 R13 .9848 LSA 190.8 MSA 14.7 S8A 1.3
BDE 2.0631 BRA 4.9740 BC3 3.2083 F8P 2594 SG1 7156.6 SG2 510.5 THA 11.13 EL1 151.9 EL2 13.7 ALF 17.70

LAUNCH DATE MAR 18 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

RL 148.88 LAL .00 LOL 176.75 VL 32.311 GAL -6.85 AZL 89.51 HCA 222.26 SMA 179.62 ECC .20758 INC .4933 V1 29.928
RP 216.91 LAP -.33 LOP 38.00 VP 22.019 GAP -.09 AZP 90.37 TAL 318.09 TAP 180.35 RCA 142.33 APO 216.91 V2 25.327
RC 164.912 GL 3.27 GP -12.33 ZAL 153.37 ZAP 58.41 ETS 170.99 ZAE 99.79 ETE 181.95 ZAC 90.33 ETC 267.84 LVI 7.94

PLANETOCENTRIC CONIC

C3 23.487 VHL 4.846 DLA -8.31 RAL 331.22 RAD 6644.4 VEL 11.978 PTH 6.98 VHP 3.933 DPA -36.96 RAP 277.65 ECC 1.3865
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 12 44 3006.95 -31.19 91.08 192.48 127.94 19 2 51 2007.0 -14.31 72.22
60.00 19 1 17 2877.87 -26.14 83.46 196.49 121.84 19 49 15 1877.9 -11.49 63.23
70.00 20 3 33 2694.79 -21.58 71.44 199.31 117.14 20 48 28 1694.8 -8.87 50.32
80.00 21 21 2 2452.21 -18.25 54.72 201.01 114.05 22 1 54 1452.2 -6.81 33.10
90.00 22 46 30 2176.45 -16.99 35.02 201.58 112.95 23 22 47 1176.4 -6.16 13.23
100.00 0 7 50 1926.68 -18.25 16.09 201.01 114.05 0 39 57 926.7 -6.91 354.47
110.00 1 8 55 1741.61 -21.58 .36 199.31 117.14 1 35 57 741.6 -8.87 339.24

DIFFERENTIAL CORRECTIONS

TDE 1.9837 TRA 5.0680 TC3-3.2146 BAU 1.0149 SGT 7202.2 SGR 1405.6 SG3 1350.3 ST 148.4 SR 47.0 SS 114.0
RDE .7506 RRA .8709 RC3 -.3352 FAU .11572 RRT .9279 RRF .9412 RTF .9838 CRT .9488 CRS -.9405 CST -.9996
FDE 4.3963 FRA11.8407 FC3-4.2653 B8P 12379 SGB 7338.1 R23 .0634 R13 .9847 LSA 192.4 MSA 15.0 S8A 1.3
BDE 2.1210 BRA 5.1422 BC3 3.2320 F8P 2535 SG1 7320.0 SG2 515.5 THA 10.32 EL1 155.0 EL2 14.2 ALF 16.88

LAUNCH DATE MAR 18 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC										DISTANCE 671.438										EARTH TO MARS																																													
RL	146.88	LAL	.00	LOL	176.75	VL	32.317	GAL	-6.94	AZL	89.57	HCA	223.41	SMA	179.72	ECC	.20890	INC	.4296	V1	29.028	RP	217.26	LAP	-.30	LOP	40.15	VP	21.984	GAP	-.29	AZP	90.31	TAL	317.69	TAP	181.10	RCA	142.18	APO	217.27	V2	25.288	RC	167.446	GL	2.82	GP	-11.91	ZAL	153.70	ZAP	57.16	ETS	170.88	ZAE	98.48	ETE	181.62	ZAC	90.74	ETC	267.82	LVI	7.60
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	23.948	VHL	4.894	DLA	-8.63	RAL	331.84	RAD	8644.6	VEL	11.997	PTH	6.99	VHP	3.975	DPA	-36.54	RAP	277.53	ECC	1.3941	ST	151.8	SR	46.1	SS	112.2	SGT	7375.0	SGR	1345.1	SG3	1313.4	RRT	.9199	RRF	.9328	RTF	.9839	CRT	.9431	CRS	-.9353	CST	-.9998																				
LNCH	AZMTH	LNCH	TIME	L-1	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG	LSA	193.7	MSA	15.4	SSA	1.3	EL1	157.9	EL2	14.7	ALF	16.13																												
50.00	18	15	40	3005.22	-31.12	90.98	193.10	128.00	19	5	45	2005.2	-14.22	72.14	SGB	7494.6	R23	.0593	R13	.9846	SG1	7476.6	SG2	520.2	TMA	9.57																																							
60.00	19	4	34	2875.17	-26.05	83.30	197.14	121.91	19	52	29	1875.2	-11.38	63.09	SGC	7494.6	R23	.0593	R13	.9846																																													
70.00	20	7	14	2690.88	-21.46	71.20	199.98	117.23	20	52	5	1690.9	-8.72	50.11	SGD	7494.6	R23	.0593	R13	.9846																																													
80.00	21	25	7	2447.09	-18.11	54.41	201.70	114.15	22	5	54	1447.1	-6.74	32.82	SGE	7494.6	R23	.0593	R13	.9846																																													
90.00	22	50	45	2170.78	-16.84	34.68	202.27	113.06	23	26	56	1170.8	-5.98	12.91	SGF	7494.6	R23	.0593	R13	.9846																																													
100.00	0	11	55	1921.56	-18.11	15.78	201.70	114.15	0	43	56	921.6	-6.74	354.18	SGG	7494.6	R23	.0593	R13	.9846																																													
110.00	1	10	37	1737.70	-21.46	.12	199.98	117.23	1	39	34	737.7	-8.72	339.03	SGH	7494.6	R23	.0593	R13	.9846																																													
DIFFERENTIAL CORRECTIONS										ORBIT DETERMINATION ACCURACY																																																							
TDE	2.0451	TRA	5.2438	TC3	-3.2414	BAU	1.0426	ST	151.8	SR	46.1	SS	112.2	SGT	7375.0	SGR	1345.1	SG3	1313.4																																														
RDE	.7467	RRA	.8233	RC3	-.3141	FAU	.11272	CRT	.9431	CRS	-.9353	CST	-.9998	RRT	.9199	RRF	.9328	RTF	.9839																																														
FDE	4.3225	FRA	11.6258	FC3	-4.0750	BSP	12638	LSA	193.7	MSA	15.4	SSA	1.3	SGB	7494.6	R23	.0593	R13	.9846																																														
BDE	2.1772	BRA	5.3081	BC3	3.2566	FSP	2462	EL1	157.9	EL2	14.7	ALF	16.13	SGC	7494.6	R23	.0593	R13	.9846																																														

LAUNCH DATE MAR 19 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 18 1971

DISTANCE 409.845 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 33.711 GAL -7.63 AZL 93.06 HCA 142.82 SMA 205.48 ECC .30344 INC 3.0611 V1 29.920
 RP 207.27 LAP -1.85 LOP 320.60 VP 25.194 GAP 17.66 AZP 87.56 TAL 326.40 TAP 109.22 RCA 143.13 APO 267.84 V2 26.426
 RC 56.362 GL -16.45 GP 6.66 ZAL 141.94 ZAP 162.25 ETS 158.05 ZAE 163.72 ETE 134.10 ZAC 108.26 ETC 274.82 LVI -20.00

PLANETOCENTRIC CONIC
 C3 39.685 VHL 6.300 DLA -29.33 RAL 331.37 RAD 6650.6 VEL 12.632 PTH 7.48 VHP 8.637 DPA -14.46 RAP 305.30 ECC 1.6531
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 5 2693.23 -16.91 74.92 198.39 135.16 20 26 58 1693.2 1.33 58.84
 60.00 21 3 56 2475.48 -9.98 61.76 204.84 129.25 21 45 12 1475.5 6.10 43.80
 70.00 22 53 43 2152.57 -2.26 41.37 210.62 124.09 23 29 35 1152.6 11.60 21.69
 80.00 1 34 48 1660.09 7.38 9.94 216.53 119.01 2 2 28 660.1 18.64 348.23
 81.87 2 36 20 1482.95 12.04 357.85 219.04 116.95 3 0 43 462.9 22.11 335.11
 100.00 4 17 40 1134.56 7.38 331.31 216.53 119.01 4 36 34 134.6 18.64 309.60
 110.00 3 57 5 1199.39 -2.26 330.28 210.62 124.09 4 17 5 199.4 11.60 310.60

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0597 TRA-2.0385 TC3 -.0969 BAW .1042 SGT 2338.1 SGR 531.0 SG3 280.3 ST 57.8 SR 22.4 SS 44.5
 RDE -.4876 RRA -.1893 RC3 .1709 FAU .04643 RRT .6613 RRF -.7004 RTF -.8879 CRT .8995 CR8 .7817 C8T .9750
 PDE .9068 FRA 2.7474 FC3-1.0129 B8P 4083 SGB 2397.8 R23 -.1280 R13 -.8915 L8A 75.1 M8A 13.5 S8A 1.1
 BDE 1.1664 BRA 2.0473 BC3 .1964 F8P 415 SGT 2365.1 SGR 593.8 THA 8.79 EL1 61.3 EL2 9.2 ALF 19.66

LAUNCH DATE MAR 19 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 18 1971

DISTANCE 413.133 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 33.619 GAL -7.48 AZL 93.15 HCA 144.08 SMA 203.52 ECC .29616 INC 3.1513 V1 29.920
 RP 207.18 LAP -1.85 LOP 321.86 VP 25.082 GAP 17.20 AZP 87.45 TAL 326.43 TAP 110.52 RCA 143.25 APO 263.80 V2 26.430
 RC 56.568 GL -17.22 GP 7.07 ZAL 141.74 ZAP 161.25 ETS 158.10 ZAE 164.02 ETE 131.08 ZAC 108.61 ETC 274.91 LVI -20.48

PLANETOCENTRIC CONIC
 C3 38.309 VHL 6.189 DLA -30.01 RAL 331.79 RAD 6650.1 VEL 12.577 PTH 7.44 VHP 8.397 DPA -14.01 RAP 305.54 ECC 1.6305
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 47 37 2688.50 -15.71 73.79 198.55 135.51 20 32 6 1668.5 2.57 57.80
 60.00 21 11 21 2445.76 -8.70 60.30 205.11 129.51 21 52 6 1445.8 7.40 42.36
 70.00 23 5 9 2110.94 -.67 39.19 211.14 124.15 23 40 20 1110.9 13.10 19.40
 79.31 2 19 48 1512.36 12.58 1.80 219.05 117.47 2 45 0 512.4 22.81 339.05
 79.51 2 19 48 1512.36 12.58 1.80 219.05 117.47 2 45 0 512.4 22.81 339.05
 79.51 2 19 48 1512.36 12.58 1.80 219.05 117.47 2 45 0 512.4 22.81 339.05
 110.00 4 8 31 1157.76 -.67 328.11 211.14 124.15 4 27 49 157.8 13.10 308.32

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0690 TRA-2.0159 TC3 -.0951 BAW .1059 SGT 2374.3 SGR 548.8 SG3 297.8 ST 59.1 SR 22.4 SS 46.1
 RDE -.4784 RRA -.2162 RC3 .1837 FAU .04786 RRT .6980 RRF -.7398 RTF -.8908 CRT .9116 CR8 .7961 C8T .9739
 PDE .9504 FRA 2.8542 FC3-1.0815 B8P 4181 SGB 2436.9 R23 -.1410 R13 -.8948 L8A 77.1 M8A 13.4 S8A 1.1
 BDE 1.1711 BRA 2.0273 BC3 .2068 F8P 444 SGT 2405.9 SGR 387.8 THA 9.41 EL1 62.6 EL2 8.7 ALF 19.46

LAUNCH DATE MAR 19 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 20 1971

DISTANCE 416.491 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 33.532 GAL -7.34 AZL 93.25 HCA 145.35 SMA 201.71 ECC .28925 INC 3.2471 V1 29.920
 RP 207.09 LAP -1.85 LOP 323.13 VP 24.975 GAP 16.75 AZP 87.33 TAL 326.47 TAP 111.81 RCA 143.36 APO 260.05 V2 26.448
 RC 56.856 GL -18.03 GP 7.49 ZAL 141.50 ZAP 160.21 ETS 158.10 ZAE 164.24 ETE 128.03 ZAC 109.00 ETC 275.00 LVI -20.98

PLANETOCENTRIC CONIC
 C3 37.048 VHL 6.087 DLA -30.73 RAL 332.24 RAD 6649.6 VEL 12.527 PTH 7.41 VHP 8.164 DPA -13.53 RAP 305.75 ECC 1.6097
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 53 33 2643.15 -14.47 72.65 198.79 135.84 20 37 36 1643.1 3.84 56.74
 60.00 21 19 23 2414.78 -7.35 58.79 205.49 129.74 21 59 38 1414.8 6.74 40.85
 70.00 23 18 11 2065.23 1.08 36.81 211.83 124.14 23 52 36 1065.2 14.73 16.86
 77.45 2 6 19 1552.35 13.13 5.08 219.12 118.03 2 32 12 552.3 23.53 342.33
 77.45 2 6 19 1552.35 13.13 5.08 219.12 118.03 2 32 12 552.3 23.53 342.33
 77.45 2 6 19 1552.35 13.13 5.08 219.12 118.03 2 32 12 552.3 23.53 342.33
 110.00 4 21 33 1112.05 1.08 325.73 211.83 124.14 4 40 5 112.0 14.73 305.78

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0756 TRA-1.9891 TC3 -.0906 BAW .1077 SGT 2404.8 SGR 570.8 SG3 316.2 ST 60.3 SR 22.5 SS 47.7
 RDE -.4705 RRA -.2447 RC3 .1976 FAU .04939 RRT .7327 RRF -.7771 RTF -.8639 CRT .9234 CR8 .8112 C8T .9728
 PDE .9982 FRA 2.9842 FC3-1.1541 B8P 4268 SGB 2471.4 R23 -.1545 R13 -.8985 L8A 79.0 M8A 13.3 S8A 1.1
 BDE 1.1742 BRA 2.0041 BC3 .2174 F8P 475 SGT 2441.6 SGR 382.6 THA 10.12 EL1 63.8 EL2 8.2 ALF 19.36

LAUNCH DATE MAR 19 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 22 1971

DISTANCE 419.914 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 33.449 GAL -7.19 AZL 93.38 HCA 146.61 SMA 200.02 ECC .28269 INC 3.3493 V1 29.920
 RP 207.01 LAP -1.84 LOP 324.39 VP 24.874 GAP 16.30 AZP 87.20 TAL 326.51 TAP 113.12 RCA 143.47 APO 256.56 V2 26.457
 RC 57.225 GL -18.88 GP 7.94 ZAL 141.22 ZAP 159.14 ETS 158.06 ZAE 164.36 ETE 125.00 ZAC 109.43 ETC 275.09 LVI -21.50

PLANETOCENTRIC CONIC
 C3 35.898 VHL 5.991 DLA -31.48 RAL 332.71 RAD 6649.2 VEL 12.482 PTH 7.37 VHP 7.940 DPA -13.02 RAP 305.93 ECC 1.5808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 59 58 2617.11 -13.20 71.49 199.12 136.14 20 43 33 1617.1 5.15 55.65
 60.00 21 26 10 2382.32 -5.94 57.22 205.98 129.94 22 7 52 1382.3 10.14 39.25
 70.00 23 33 22 2013.82 3.04 34.12 212.73 124.03 24 6 55 1013.8 16.52 13.95
 75.55 1 54 43 1586.83 13.68 7.99 219.26 118.63 2 21 10 586.8 24.28 345.23
 75.55 1 54 43 1586.83 13.68 7.99 219.26 118.63 2 21 10 586.8 24.28 345.23
 75.55 1 54 43 1586.83 13.68 7.99 219.26 118.63 2 21 10 586.8 24.28 345.23
 110.00 4 36 44 1060.64 3.04 323.04 212.73 124.03 4 54 24 60.6 16.52 302.87

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0830 TRA-1.9602 TC3 -.0856 BAW .1100 SGT 2432.1 SGR 597.6 SG3 335.6 ST 61.4 SR 22.7 SS 49.4
 RDE -.4643 RRA -.2751 RC3 .2126 FAU .05096 RRT .7849 RRF -.8117 RTF -.8970 CRT .9352 CR8 .8269 C8T .9718
 PDE 1.0462 FRA 3.0786 FC3-1.2289 B8P 4345 SGB 2504.4 R23 -.1685 R13 -.9023 L8A 80.9 M8A 13.2 S8A 1.0
 BDE 1.1783 BRA 1.9794 BC3 .2292 F8P 508 SGT 2475.7 SGR 378.2 THA 10.90 EL1 65.0 EL2 7.6 ALF 19.33

LAUNCH DATE MAR 19 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 423.395

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 33.370 GAL -7.06 AZL 93.46 HCA 147.87 SMA 188.45 ECC .27647 INC 3.4586 V1 29.920
RP 206.84 LAP -1.84 LOP 325.66 VP 24.777 GAP 15.87 AZP 87.07 TAL 326.55 TAP 114.43 RCA 143.58 APO 253.31 V2 26.466
RC 57.675 GL -19.78 GP 8.44 ZAL 140.91 ZAP 156.04 ETS 157.96 ZAE 164.38 ETE 122.06 ZAC 109.90 ETC 275.16 LVI -22.06

PLANETOCENTRIC CONIC

C3 34.856 VHL 5.904 DLA -32.29 RAL 333.20 RAD 6648.8 VEL 12.440 PTH 7.34 VHP 7.723 DPA -12.48 RAP 306.07 ECC 1.5736
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 6 49 2590.29 -11.60 70.31 199.55 136.42 20 50 0 1590.3 6.49 54.51
60.00 21 37 49 2348.10 -4.44 55.57 206.61 130.10 22 16 57 1348.1 11.61 37.55
70.00 23 51 46 1953.63 5.33 30.97 213.94 123.79 24 24 20 953.6 16.55 10.47
73.73 1 44 22 1617.92 14.25 10.67 219.48 119.28 2 11 20 617.9 25.05 347.91
73.73 1 44 22 1617.92 14.25 10.67 219.48 119.28 2 11 20 617.9 25.05 347.91
73.73 1 44 22 1617.92 14.25 10.67 219.48 119.28 2 11 20 617.9 25.05 347.91
110.00 4 55 8 1000.45 5.33 319.88 213.94 123.79 5 11 49 .5 16.55 299.39

DIFFERENTIAL CORRECTIONS

TDE -1.0896 TRA -1.9281 TC3 -.0789 BAW .1128
RDE -.4596 RRA -.3074 RC3 .2290 FAW .05268
FDE 1.0986 FRA 3.1948 FC3 -1.3084 BSP 4404
BDE 1.1826 BRA 1.9524 BC3 .2422 FSP 541

MID-COURSE EXECUTION ACCURACY

SGT 2454.8 SGR 629.7 SCS 356.0
RRY .7940 RRF -.8431 RTF -.8999
SCB 2534.2 R23 -.1832 R13 -.9060
SG1 2506.4 SCS 374.9 THA 11.78

ORBIT DETERMINATION ACCURACY

ST 62.4 SR 22.9 SS 31.1
CRT .9466 CRS .8429 CST .9707
LSA 82.8 MSA 13.2 SSA 1.0
EL1 66.1 EL2 7.0 ALF 19.39

LAUNCH DATE MAR 19 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 426.931

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 33.296 GAL -6.93 AZL 93.56 HCA 149.14 SMA 196.99 ECC .27058 INC 3.5761 V1 29.920
RP 206.87 LAP -1.83 LOP 326.93 VP 24.685 GAP 15.44 AZP 86.93 TAL 326.60 TAP 115.74 RCA 143.69 APO 250.29 V2 26.473
RC 58.203 GL -20.73 GP 8.98 ZAL 140.56 ZAP 156.89 ETS 157.81 ZAE 164.30 ETE 119.26 ZAC 110.42 ETC 275.24 LVI -22.65

PLANETOCENTRIC CONIC

C3 33.920 VHL 5.824 DLA -33.13 RAL 333.72 RAD 6648.5 VEL 12.403 PTH 7.31 VHP 7.514 DPA -11.90 RAP 306.17 ECC 1.5582
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 14 18 2582.58 -10.51 69.10 200.10 136.68 20 57 1 1562.6 7.87 53.34
60.00 21 48 32 2311.74 -2.84 53.82 207.40 130.22 22 27 4 1311.7 13.16 35.72
70.00 0 19 53 1877.18 8.21 26.92 215.63 123.27 0 51 10 877.2 21.03 5.93
71.97 1 35 2 1646.41 14.82 13.19 219.79 119.98 2 2 29 646.4 25.85 350.44
71.97 1 35 2 1646.41 14.82 13.19 219.79 119.98 2 2 29 646.4 25.85 350.44
71.97 1 35 2 1646.41 14.82 13.19 219.79 119.98 2 2 29 646.4 25.85 350.44
110.00 5 19 19 8212.03 8.21 293.74 215.63 123.27 7 2 52 3212.0 21.03 872.75

DIFFERENTIAL CORRECTIONS

TDE -1.0981 TRA -1.8952 TC3 -.0734 BAW .1106
RDE -.4571 RRA -.3422 RC3 .2464 FAW .05442
FDE 1.1564 FRA 3.3158 FC3 -1.3890 BSP 4474
BDE 1.1895 BRA 1.9258 BC3 .2571 FSP 578

MID-COURSE EXECUTION ACCURACY

SGT 2476.2 SGR 688.0 SCS 377.5
RRY .8200 RRF -.8710 RTF -.9025
SCB 2564.7 R23 -.1987 R13 -.9097
SG1 2537.4 SCS 373.2 THA 12.75

ORBIT DETERMINATION ACCURACY

ST 63.5 SR 23.3 SS 53.0
CRT .9575 CRS .8594 CST .9696
LSA 84.9 MSA 13.2 SSA 1.0
EL1 67.3 EL2 6.3 ALF 19.52

LAUNCH DATE MAR 19 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 430.518

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 33.225 GAL -6.80 AZL 93.70 HCA 150.40 SMA 196.83 ECC .26499 INC 3.7026 V1 29.920
RP 206.82 LAP -1.83 LOP 328.20 VP 24.596 GAP 15.02 AZP 86.78 TAL 326.65 TAP 117.06 RCA 143.79 APO 247.47 V2 26.479
RC 58.807 GL -21.74 GP 9.58 ZAL 140.16 ZAP 159.69 ETS 157.82 ZAE 164.11 ETE 116.65 ZAC 110.99 ETC 275.31 LVI -23.28

PLANETOCENTRIC CONIC

C3 33.086 VHL 5.752 DLA -34.03 RAL 334.28 RAD 6648.2 VEL 12.369 PTH 7.29 VHP 7.312 DPA -11.27 RAP 306.24 ECC 1.5448
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 22 28 2533.79 -9.08 67.86 200.79 136.91 21 4 42 1533.8 9.31 52.10
60.00 22 0 34 2272.63 -1.12 51.96 208.38 130.29 22 38 26 1272.6 14.80 33.73
70.00 1 3 25 1743.54 13.11 19.87 218.74 121.82 1 32 29 743.5 23.00 357.59
70.23 1 26 30 1673.17 15.40 15.62 220.18 120.73 1 54 23 673.2 26.68 352.89
70.23 1 26 30 1673.17 15.40 15.62 220.18 120.73 1 54 23 673.2 26.68 352.89
70.23 1 26 30 1673.17 15.40 15.62 220.18 120.73 1 54 23 673.2 26.68 352.89
110.00 6 2 52 6078.40 13.11 286.50 218.74 121.82 7 44 10 5078.4 23.00 864.41

DIFFERENTIAL CORRECTIONS

TDE -1.0933 TRA -1.8456 TC3 -.0508 BAW .1200
RDE -.4558 RRA -.3785 RC3 .2868 FAW .05642
FDE 1.2147 FRA 3.4347 FC3 -1.4784 BSP 4383
BDE 1.1845 BRA 1.8840 BC3 .2714 FSP 612

MID-COURSE EXECUTION ACCURACY

SGT 2471.9 SGR 712.2 SCS 399.6
RRY .8440 RRF -.8952 RTF -.9578
SCB 2572.4 R23 -.2078 R13 -.9157
SG1 2545.6 SCS 370.9 THA 13.97

ORBIT DETERMINATION ACCURACY

ST 63.8 SR 23.7 SS 54.7
CRT .9671 CRS .8752 CST .9668
LSA 86.3 MSA 13.1 SSA .9
EL1 67.8 EL2 5.7 ALF 19.91

LAUNCH DATE MAR 19 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 434.149

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 33.199 GAL -6.88 AZL 93.84 HCA 151.67 SMA 194.36 ECC .25971 INC 3.8394 V1 29.920
RP 206.77 LAP -1.82 LOP 329.46 VP 24.512 GAP 14.81 AZP 86.82 TAL 326.71 TAP 118.38 RCA 143.86 APO 244.84 V2 26.485
RC 59.485 GL -22.81 GP 10.23 ZAL 139.72 ZAP 154.45 ETS 157.38 ZAE 163.82 ETE 114.28 ZAC 111.62 ETC 275.38 LVI -23.95

PLANETOCENTRIC CONIC

C3 32.361 VHL 5.689 DLA -34.98 RAL 334.88 RAD 6647.9 VEL 12.340 PTH 7.27 VHP 7.119 DPA -10.60 RAP 306.26 ECC 1.5326
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 31 26 2503.88 -7.59 66.58 201.63 137.11 21 13 10 1503.9 10.79 50.81
60.00 22 14 13 2230.14 .75 49.93 209.60 130.30 22 51 24 1230.1 16.57 31.53
68.49 1 18 40 1698.61 15.99 17.98 220.69 121.54 1 46 59 698.6 27.53 355.27
68.49 1 18 40 1698.61 15.99 17.98 220.69 121.54 1 46 59 698.6 27.53 355.27
68.49 1 18 40 1698.61 15.99 17.98 220.69 121.54 1 46 59 698.6 27.53 355.27
68.49 1 18 40 1698.61 15.99 17.98 220.69 121.54 1 46 59 698.6 27.53 355.27
68.49 1 18 40 1698.61 15.99 17.98 220.69 121.54 1 46 59 698.6 27.53 355.27

DIFFERENTIAL CORRECTIONS

TDE -1.1150 TRA -1.8192 TC3 -.0593 BAW .1265
RDE -.4587 RRA -.4197 RC3 .2862 FAW .05825
FDE 1.2846 FRA 3.5621 FC3 -1.5582 BSP 4564
BDE 1.2057 BRA 1.8670 BC3 .2923 FSP 655

MID-COURSE EXECUTION ACCURACY

SGT 2503.4 SGR 765.3 SCS 423.2
RRY .8616 RRF -.9162 RTF -.9074
SCB 2617.8 R23 -.2292 R13 -.9170
SG1 2590.8 SCS 375.4 THA 15.08

ORBIT DETERMINATION ACCURACY

ST 65.4 SR 24.4 SS 56.7
CRT .9767 CRS .8917 CST .9673
LSA 89.0 MSA 13.2 SSA .9
EL1 69.6 EL2 4.9 ALF 20.10

LAUNCH DATE MAR 19 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

DISTANCE 437.825

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 33.096 GAL -6.57 AZL 93.99 HCA 152.94 SMA 193.18 ECC .25470 INC 3.9880 V1 29.920
RP 206.74 LAP -1.81 LOP 330.73 VP 24.432 GAP 14.21 AZP 86.45 TAL 326.76 TAP 119.70 RCA 143.98 APO 242.38 V2 26.489
RC 60.233 GL -23.95 GP 10.95 ZAL 139.22 ZAP 193.16 ETS 157.10 ZAE 163.41 ETE 112.19 ZAC 112.32 ETC 275.44 LVI -24.67

PLANETOCENTRIC CONIC

C3 31.738 VHL 5.634 DLA -36.00 RAL 335.53 RAD 6647.7 VEL 12.315 PTH 7.25 VHP 6.934 DPA -9.87 RAP 306.23 ECC 1.5223
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 41 22 2472.46 -8.02 65.25 202.66 137.28 21 22 34 1472.5 12.34 49.44
60.00 22 30 5 2182.77 2.83 47.66 211.12 130.22 23 6 28 1182.8 18.30 20.02
66.74 1 11 27 1723.12 16.58 20.32 221.32 122.42 1 40 11 723.1 28.41 357.64
66.74 1 11 27 1723.12 16.58 20.32 221.32 122.42 1 40 11 723.1 28.41 357.64
66.74 1 11 27 1723.12 16.58 20.32 221.32 122.42 1 40 11 723.1 28.41 357.64
66.74 1 11 27 1723.12 16.58 20.32 221.32 122.42 1 40 11 723.1 28.41 357.64
66.74 1 11 27 1723.12 16.58 20.32 221.32 122.42 1 40 11 723.1 28.41 357.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1137 TRA-1.7654 TC3 -.0372 BAU .1324 SGT 2491.9 SGR 825.3 SG3 447.2 ST 65.7 SR 25.1 88 58.6
RDE -.4628 RRA -.4623 RC3 .3098 FAU .06044 RRT .8792 RRF -.9335 RTF -.9116 CRT .9842 CRS .9069 CST .9664
FDE 1.3540 FRA 3.6834 FC3-1.6487 B8P 4456 SGB 2625.0 R23 -.2374 R13 -.9228 LSA 90.6 MSA 13.3 88A .9
BDE 1.2060 BRA 1.8249 BC3 .3120 F8P 692 SGI 2397.8 SG2 377.1 THA 16.59 EL1 70.2 EL2 4.2 ALF 20.68

LAUNCH DATE MAR 19 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

DISTANCE 441.538

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 33.036 GAL -6.46 AZL 94.15 HCA 154.20 SMA 192.08 ECC .24997 INC 4.1500 V1 29.920
RP 206.71 LAP -1.80 LOP 332.00 VP 24.355 GAP 13.81 AZP 86.26 TAL 326.82 TAP 121.02 RCA 144.07 APO 240.10 V2 26.492
RC 61.050 GL -25.16 GP 11.74 ZAL 138.66 ZAP 151.80 ETS 156.77 ZAE 162.90 ETE 110.38 ZAC 113.09 ETC 275.50 LVI -25.45

PLANETOCENTRIC CONIC

C3 31.229 VHL 5.588 DLA -37.07 RAL 336.24 RAD 6647.5 VEL 12.295 PTH 7.23 VHP 6.757 DPA -9.07 RAP 306.15 ECC 1.5140
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 52 25 2439.39 -4.37 63.86 203.90 137.42 21 33 5 1439.4 13.96 47.98
60.00 22 49 1 2128.56 5.21 45.06 213.03 130.02 23 24 29 1128.6 20.67 26.08
64.97 1 4 49 1747.07 17.17 22.64 222.08 123.37 1 33 56 747.1 29.32 .02
64.97 1 4 49 1747.07 17.17 22.64 222.08 123.37 1 33 56 747.1 29.32 .02
64.97 1 4 49 1747.07 17.17 22.64 222.08 123.37 1 33 56 747.1 29.32 .02
64.97 1 4 49 1747.07 17.17 22.64 222.08 123.37 1 33 56 747.1 29.32 .02
64.97 1 4 49 1747.07 17.17 22.64 222.08 123.37 1 33 56 747.1 29.32 .02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1413 TRA-1.7358 TC3 -.0496 BAU .1403 SGT 2519.3 SGR 896.6 SG3 472.5 ST 67.4 SR 26.2 88 60.8
RDE -.4728 RRA -.5110 RC3 .3324 FAU .06236 RRT .8902 RRF -.9481 RTF -.9106 CRT .9909 CRS .9221 CST .9649
FDE 1.4386 FRA 3.6128 FC3-1.7287 B8P 4678 SGB 2674.1 R23 -.2582 R13 -.9239 LSA 93.5 MSA 13.3 88A .8
BDE 1.2353 BRA 1.8095 BC3 .3361 F8P 739 SGI 2645.7 SG2 388.9 THA 17.98 EL1 72.2 EL2 3.3 ALF 21.08

LAUNCH DATE MAR 19 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

DISTANCE 445.200

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.980 GAL -6.35 AZL 94.33 HCA 155.47 SMA 191.06 ECC .24549 INC 4.3277 V1 29.920
RP 206.69 LAP -1.80 LOP 333.27 VP 24.281 GAP 13.43 AZP 86.06 TAL 326.88 TAP 122.35 RCA 144.15 APO 237.96 V2 26.495
RC 61.933 GL -26.45 GP 12.81 ZAL 138.04 ZAP 150.38 ETS 158.39 ZAE 162.26 ETE 108.87 ZAC 113.96 ETC 275.56 LVI -26.29

PLANETOCENTRIC CONIC

C3 30.831 VHL 5.593 DLA -36.21 RAL 337.02 RAD 6647.3 VEL 12.278 PTH 7.22 VHP 6.589 DPA -8.21 RAP 306.01 ECC 1.5074
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 4 54 2404.08 -2.99 62.38 205.40 137.52 21 44 58 1404.1 15.69 48.39
60.00 23 12 51 2062.58 8.09 41.86 215.53 129.62 23 47 14 1062.8 23.22 22.37
63.16 0 58 44 1770.64 17.76 24.99 222.99 124.41 1 28 15 770.6 30.26 2.43
63.16 0 58 44 1770.64 17.76 24.99 222.99 124.41 1 28 15 770.6 30.26 2.43
63.16 0 58 44 1770.64 17.76 24.99 222.99 124.41 1 28 15 770.6 30.26 2.43
63.16 0 58 44 1770.64 17.76 24.99 222.99 124.41 1 28 15 770.6 30.26 2.43
63.16 0 58 44 1770.64 17.76 24.99 222.99 124.41 1 28 15 770.6 30.26 2.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1484 TRA-1.6803 TC3 -.0339 BAU .1488 SGT 2505.0 SGR 976.8 SG3 497.9 ST 67.9 SR 27.3 58 82.9
RDE -.4845 RRA -.5610 RC3 .3595 FAU .06467 RRT .9016 RRF -.9898 RTF -.5.33 CRT .9995 CRS .9339 CST .9638
FDE 1.9240 FRA 3.9324 FC3-1.8139 B8P 4825 SGB 2688.7 R23 -.2698 R13 -.9290 LSA 95.3 MSA 13.6 88A .8
BDE 1.2465 BRA 1.7718 BC3 .3611 F8P 780 SGI 2659.1 SG2 397.9 THA 19.83 EL1 73.1 EL2 2.4 ALF 21.88

LAUNCH DATE MAR 19 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

DISTANCE 449.075

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.927 GAL -6.25 AZL 94.52 HCA 156.74 SMA 190.10 ECC .24126 INC 4.5234 V1 29.920
RP 206.68 LAP -1.79 LOP 334.94 VP 24.210 GAP 13.05 AZP 85.84 TAL 326.93 TAP 123.67 RCA 144.24 APO 235.96 V2 26.496
RC 62.879 GL -27.64 GP 13.58 ZAL 137.35 ZAP 148.89 ETS 159.97 ZAE 161.50 ETE 107.86 ZAC 114.92 ETC 275.61 LVI -27.21

PLANETOCENTRIC CONIC

C3 30.559 VHL 5.528 DLA -39.43 RAL 337.88 RAD 6647.2 VEL 12.267 PTH 7.21 VHP 6.431 DPA -7.25 RAP 305.62 ECC 1.5029
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 19 8 2386.10 -.89 60.79 207.22 137.57 21 58 34 1366.1 17.52 44.65
60.00 23 48 49 1971.00 12.03 37.34 219.14 128.76 24 19 40 971.0 26.59 16.97
61.30 0 53 14 1794.05 18.34 27.36 224.09 125.54 1 23 8 794.1 31.22 4.90
61.30 0 53 14 1794.05 18.34 27.36 224.09 125.54 1 23 8 794.1 31.22 4.90
61.30 0 53 14 1794.05 18.34 27.36 224.09 125.54 1 23 8 794.1 31.22 4.90
61.30 0 53 14 1794.05 18.34 27.36 224.09 125.54 1 23 8 794.1 31.22 4.90
61.30 0 53 14 1794.05 18.34 27.36 224.09 125.54 1 23 8 794.1 31.22 4.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1769 TRA-1.6398 TC3 -.0425 BAU .1587 SGT 2516.2 SGR 1070.4 SG3 524.2 ST 69.3 SR 28.9 53 65.2
RDE -.5036 RRA -.6195 RC3 .3860 FAU .06670 RRT .9081 RRF -.9693 RTF -.9125 CRT .9985 CRS .9481 CST .9625
FDE 1.8267 FRA 4.0551 FC3-1.8895 B8P 4796 SGB 2734.4 R23 -.2794 R13 -.9313 LSA 98.5 MSA 13.9 88A .7
BDE 1.2801 BRA 1.7529 BC3 .3684 F8P 828 SGI 2702.4 SG2 417.3 THA 21.66 EL1 75.1 EL2 1.5 ALF 22.62

LAUNCH DATE MAR 19 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 492.891

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.877 GAL -6.15 AZL 94.74 MCA 158.00 SMA 189.21 ECC .23727 INC 4.7404 V1 29.920
RP 206.87 LAP -1.77 LOP 335.81 VP 24.142 GAP 12.68 AZP 85.60 TAL 326.99 TAP 124.99 RCA 144.31 APO 234.10 V2 26.496
RC 63.888 GL -29.33 GP 14.66 ZAL 136.58 ZAP 147.32 ETS 195.49 ZAE 160.60 ETE 106.72 ZAC 115.99 ETC 275.66 LVI -20.21

PLANETOCENTRIC CONIC

C3 30.419 VHL 5.513 DLA -40.73 RAL 338.84 RAD 6647.2 VEL 12.262 PTH 7.21 VHP 6.283 DPA -6.20 RAP 305.56 ECC 1.5008
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 35 38 2324.48 1.41 59.05 209.45 137.56 22 14 23 1324.5 19.51 42.69
59.38 0 48 19 1817.57 18.91 29.79 225.38 126.77 1 18 36 817.6 32.21 7.46
59.38 0 48 19 1817.57 18.91 29.79 225.38 126.77 1 18 36 817.6 32.21 7.46
59.38 0 48 19 1817.57 18.91 29.79 225.38 126.77 1 18 36 817.6 32.21 7.46
59.38 0 48 19 1817.57 18.91 29.79 225.38 126.77 1 18 36 817.6 32.21 7.46
59.38 0 48 19 1817.57 18.91 29.79 225.38 126.77 1 18 36 817.6 32.21 7.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1988 TRA-1.5851 TC3 -.0386 BAW .1700 SGT 2504.9 SGR 1176.4 SG3 550.2 ST 70.3 SR 30.8 SS 67.6
RDE -.5281 RRA -.6813 RC3 .4162 FAU .06887 RRT .9139 RRF -.9767 RTF -.9130 CRT .9997 CRS .9590 CST .9615
FDE 1.7368 FRA 4.1656 FC3-1.9628 B8P 4851 SGB 2767.4 R23 -.2852 R13 -.9355 LSA 101.3 MSA 14.1 SSA .7
BDE 1.3100 BRA 1.7253 BC3 .4180 F8P 873 SGI 2732.5 SGI 437.8 THA 23.88 EL1 76.7 EL2 .7 ALF 23.66

LAUNCH DATE MAR 19 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

DISTANCE 456.737

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.830 GAL -6.06 AZL 94.98 MCA 159.27 SMA 188.37 ECC .23349 INC 4.9025 V1 29.920
RP 206.88 LAP -1.78 LOP 337.08 VP 24.077 GAP 12.32 AZP 85.34 TAL 327.04 TAP 126.31 RCA 144.39 APO 232.36 V2 26.496
RC 64.958 GL -30.93 GP 15.87 ZAL 135.72 ZAP 145.66 ETS 154.97 ZAE 159.56 ETE 106.05 ZAC 117.20 ETC 275.71 LVI -29.32

PLANETOCENTRIC CONIC

C3 30.431 VHL 5.516 DLA -42.12 RAL 339.92 RAD 6647.2 VEL 12.262 PTH 7.21 VHP 6.147 DPA -5.04 RAP 305.23 ECC 1.5008
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 55 13 2277.71 3.75 57.10 212.21 137.46 22 33 11 1277.7 21.72 40.44
57.38 0 44 1 1841.45 19.45 32.30 226.91 128.13 1 14 42 841.5 33.22 10.14
57.38 0 44 1 1841.45 19.45 32.30 226.91 128.13 1 14 42 841.5 33.22 10.14
57.38 0 44 1 1841.45 19.45 32.30 226.91 128.13 1 14 42 841.5 33.22 10.14
57.38 0 44 1 1841.45 19.45 32.30 226.91 128.13 1 14 42 841.5 33.22 10.14
57.38 0 44 1 1841.45 19.45 32.30 226.91 128.13 1 14 42 841.5 33.22 10.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2246 TRA-1.5259 TC3 -.0358 BAW .1830 SGT 2486.9 SGR 1297.7 SG3 575.7 ST 71.2 SR 33.1 SS 70.0
RDE -.5606 RRA -.7491 RC3 .4485 FAU .07124 RRT .9179 RRF -.9825 RTF -.9131 CRT .9993 CRS .9684 CST .9605
FDE 1.8604 FRA 4.2651 FC3-2.0268 B8P 4904 SGB 2805.1 R23 -.2871 R13 -.9400 LSA 104.2 MSA 14.4 SSA .6
BDE 1.3468 BRA 1.6999 BC3 .4499 F8P 917 SGI 2766.7 SGI 462.9 THA 26.39 EL1 78.5 EL2 1.1 ALF 24.92

LAUNCH DATE MAR 19 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

DISTANCE 460.610

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.788 GAL -5.98 AZL 95.25 MCA 160.53 SMA 187.59 ECC .22994 INC 5.2547 V1 29.920
RP 206.70 LAP -1.75 LOP 338.35 VP 24.015 GAP 11.96 AZP 85.04 TAL 327.10 TAP 127.63 RCA 144.46 APO 230.73 V2 26.494
RC 66.082 GL -32.68 GP 17.22 ZAL 134.78 ZAP 143.90 ETS 154.41 ZAE 158.34 ETE 105.61 ZAC 118.58 ETC 275.76 LVI -30.54

PLANETOCENTRIC CONIC

C3 30.615 VHL 5.533 DLA -43.61 RAL 341.19 RAD 6647.2 VEL 12.270 PTH 7.21 VHP 6.023 DPA -3.75 RAP 304.82 ECC 1.5038
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 22 19 16 2223.19 6.49 54.80 215.71 137.24 22 56 19 1223.2 24.25 37.71
55.31 0 40 26 1865.85 19.96 34.90 228.72 129.61 1 11 32 865.8 34.24 12.96
55.31 0 40 26 1865.85 19.96 34.90 228.72 129.61 1 11 32 865.8 34.24 12.96
55.31 0 40 26 1865.85 19.96 34.90 228.72 129.61 1 11 32 865.8 34.24 12.96
55.31 0 40 26 1865.85 19.96 34.90 228.72 129.61 1 11 32 865.8 34.24 12.96
55.31 0 40 26 1865.85 19.96 34.90 228.72 129.61 1 11 32 865.8 34.24 12.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2537 TRA-1.4593 TC3 -.0303 BAW .1982 SGT 2458.0 SGR 1436.1 SG3 600.1 ST 72.1 SR 35.8 SS 72.8
RDE -.8036 RRA -.8232 RC3 .4832 FAU .07348 RRT .9208 RRF -.9889 RTF -.531 CRT .9978 CRS .9762 CST .9598
FDE 2.0015 FRA 4.3477 FC3-2.0779 B8P 4941 SGB 2846.8 R23 -.2837 R13 -.9454 LSA 107.4 MSA 14.7 SSA .6
BDE 1.3914 BRA 1.6755 BC3 .4841 F8P 958 SGI 2804.1 SGI 491.1 THA 29.26 EL1 80.5 EL2 2.2 ALF 26.45

LAUNCH DATE MAR 19 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 464.909

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.743 GAL -5.89 AZL 95.56 MCA 161.80 SMA 186.87 ECC .22859 INC 5.5830 V1 29.920
RP 206.72 LAP -1.74 LOP 339.62 VP 23.954 GAP 11.61 AZP 84.71 TAL 327.15 TAP 128.95 RCA 144.53 APO 229.21 V2 26.491
RC 67.265 GL -34.54 GP 18.75 ZAL 133.67 ZAP 142.02 ETS 153.79 ZAE 156.94 ETE 105.39 ZAC 120.08 ETC 275.81 LVI -31.89

PLANETOCENTRIC CONIC

C3 31.004 VHL 5.568 DLA -45.20 RAL 342.56 RAD 6647.4 VEL 12.285 PTH 7.22 VHP 5.913 DPA -2.30 RAP 304.32 ECC 1.5102
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 22 50 42 2134.52 9.90 51.87 220.37 136.78 23 26 37 1154.5 27.34 34.10
53.14 0 37 42 1891.05 20.42 37.61 230.85 131.25 1 9 13 891.0 35.27 15.97
53.14 0 37 42 1891.05 20.42 37.61 230.85 131.25 1 9 13 891.0 35.27 15.97
53.14 0 37 42 1891.05 20.42 37.61 230.85 131.25 1 9 13 891.0 35.27 15.97
53.14 0 37 42 1891.05 20.42 37.61 230.85 131.25 1 9 13 891.0 35.27 15.97
53.14 0 37 42 1891.05 20.42 37.61 230.85 131.25 1 9 13 891.0 35.27 15.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2809 TRA-1.3780 TC3 -.0148 BAW .2166 SGT 2405.8 SGR 1591.8 SG3 621.7 ST 72.5 SR 39.2 SS 75.1
RDE -.6586 RRA -.9022 RC3 .5224 FAU .07596 RRT .9232 RRF -.9903 RTF -.9136 CRT .9949 CRS .9825 CST .9592
FDE 2.1561 FRA 4.3993 FC3-2.1211 B8P 4886 SGB 2884.7 R23 -.2733 R13 -.9518 LSA 110.5 MSA 15.0 SSA .5
BDE 1.4403 BRA 1.6471 BC3 .5226 F8P 989 SGI 2837.7 SGI 518.7 THA 32.64 EL1 82.4 EL2 3.5 ALF 28.36

LAUNCH DATE MAR 19 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

RL 148.92 LAL .00 LOL 177.74 VL 32.704 GAL -5.82 AZL 95.92 HCA 163.06 SMA 186.19 ECC .22344 INC 5.9156 V1 29.920
 RP 206.75 LAP -1.72 LOP 340.89 VP 23.896 GAP 11.27 AZP 84.34 TAL 327.20 TAP 130.26 RCA 144.59 APO 227.79 V2 26.487
 RC 68.502 GL -36.59 GP 20.46 ZAL 132.45 ZAP 140.00 ETS 153.14 ZAE 155.33 ETE 105.33 ZAC 121.61 ETC 275.86 LVI -33.40

PLANETOCENTRIC CONIC

C3 31.647 VHL 5.626 DLA -46.91 RAL 344.21 RAD 6647.6 VEL 12.311 PTH 7.24 VHP 5.821 DPA -.68 RAP 303.74 ECC 1.5208
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 40 1 2047.68 15.16 47.16 227.58 135.66 24 14 8 1047.7 31.92 28.05
 50.87 0 35 58 1917.36 20.81 40.46 233.37 133.05 1 7 56 917.4 36.27 19.19
 50.87 0 35 58 1917.36 20.81 40.46 233.37 133.05 1 7 56 917.4 36.27 19.19
 50.87 0 35 58 1917.36 20.81 40.46 233.37 133.05 1 7 56 917.4 36.27 19.19
 50.87 0 35 58 1917.36 20.81 40.46 233.37 133.05 1 7 56 917.4 36.27 19.19
 50.87 0 35 58 1917.36 20.81 40.46 233.37 133.05 1 7 56 917.4 36.27 19.19
 50.87 0 35 58 1917.36 20.81 40.46 233.37 133.05 1 7 56 917.4 36.27 19.19

DIFFERENTIAL CORRECTIONS

TDE-1.3443 TRA-1.3181 TC3 -.0364 BAU .2355 SGT 2395.8 SGR 1777.0 SG3 642.4 ST 74.1 SR 43.7 SS 78.4
 RDE -.7388 RRA -.9930 RC3 .5555 FAU .07733 RRT .9209 RRF -.9929 RTF -.9098 CRT .9916 CRS .9877 CST .9595
 FDE 2.3577 FRA 4.4415 FC3-2.1155 B8P 5189 SGB 2982.7 R23 -.2679 R13 -.9562 LSA 115.7 MSA 15.4 SSA .5
 BDE 1.5340 BRA 1.6515 BC3 .5567 F8P 1036 SG1 2928.4 SG2 566.6 THA 35.89 EL1 86.3 EL2 4.9 ALF 30.29

LAUNCH DATE MAR 19 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

RL 148.92 LAL .00 LOL 177.74 VL 32.667 GAL -5.75 AZL 96.32 HCA 164.33 SMA 185.58 ECC .22048 INC 6.3232 V1 29.920
 RP 206.79 LAP -1.71 LOP 342.18 VP 23.840 GAP 10.94 AZP 83.91 TAL 327.25 TAP 131.37 RCA 144.65 APO 226.47 V2 26.483
 RC 69.791 GL -38.83 GP 22.41 ZAL 131.09 ZAP 137.84 ETS 152.44 ZAE 153.46 ETE 105.43 ZAC 123.77 ETC 275.92 LVI -35.08

PLANETOCENTRIC CONIC

C3 32.603 VHL 5.710 DLA -48.75 RAL 346.14 RAD 6648.0 VEL 12.350 PTH 7.27 VHP 5.750 DPA 1.16 RAP 303.04 ECC 1.5366
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67
 48.48 0 35 29 1945.17 21.09 43.45 236.36 135.03 1 7 54 945.2 37.23 22.67

DIFFERENTIAL CORRECTIONS

TDE-1.4018 TRA-1.2341 TC3 -.0379 BAU .2593 SGT 2346.9 SGR 1984.2 SG3 657.3 ST 75.8 SR 49.1 SS 81.6
 RDE -.8422 RRA-1.0923 RC3 .5937 FAU .07893 RRT .9194 RRF -.9948 RTF -.9073 CRT .9882 CRS .9915 CST .9601
 FDE 2.5790 FRA 4.4303 FC3-2.0960 B8P 5323 SGB 3073.3 R23 -.2523 R13 -.9624 LSA 120.7 MSA 15.7 SSA .4
 BDE 1.6355 BRA 1.6481 BC3 .5949 F8P 1063 SG1 3012.5 SG2 607.9 THA 39.80 EL1 90.0 EL2 6.3 ALF 32.81

LAUNCH DATE MAR 19 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

RL 148.92 LAL .00 LOL 177.74 VL 32.632 GAL -5.68 AZL 96.80 HCA 165.59 SMA 184.97 ECC .21770 INC 6.8001 V1 29.920
 RP 206.84 LAP -1.69 LOP 343.43 VP 23.786 GAP 10.61 AZP 83.41 TAL 327.29 TAP 132.88 RCA 144.70 APO 225.24 V2 26.477
 RC 71.130 GL -41.28 GP 24.61 ZAL 129.54 ZAP 135.49 ETS 151.73 ZAE 151.32 ETE 105.65 ZAC 126.01 ETC 275.93 LVI -36.97

PLANETOCENTRIC CONIC

C3 33.967 VHL 5.828 DLA -50.71 RAL 348.48 RAD 6648.5 VEL 12.405 PTH 7.32 VHP 5.705 DPA 3.24 RAP 302.22 ECC 1.5590
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46
 45.98 0 36 36 1974.85 21.23 46.61 239.92 137.21 1 9 31 974.9 38.11 26.46

DIFFERENTIAL CORRECTIONS

TDE-1.4724 TRA-1.1400 TC3 -.0392 BAU .2874 SGT 2286.8 SGR 2220.8 SG3 665.8 ST 77.1 SR 55.8 SS 85.2
 RDE -.9841 RRA-1.1971 RC3 .6316 FAU .08008 RRT .9168 RRF -.9962 RTF -.5538 CRT .9852 CRS .9944 CST .9619
 FDE 2.8414 FRA 4.3650 FC3-2.0410 B8P 5486 SGB 3187.7 R23 -.2325 R13 -.9669 LSA 126.7 MSA 15.9 SSA .4
 BDE 1.7710 BRA 1.6330 BC3 .6329 F8P 1081 SG1 3120.8 SG2 650.0 THA 44.08 EL1 94.9 EL2 7.6 ALF 35.79

LAUNCH DATE MAR 19 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

RL 148.92 LAL .00 LOL 177.74 VL 32.599 GAL -5.61 AZL 97.37 HCA 166.85 SMA 184.42 ECC .21509 INC 7.3659 V1 29.920
 RP 206.90 LAP -1.67 LOP 344.89 VP 23.733 GAP 10.28 AZP 82.83 TAL 327.33 TAP 134.18 RCA 144.75 APO 224.08 V2 26.470
 RC 72.317 GL -43.98 GP 27.13 ZAL 127.80 ZAP 132.93 ETS 151.01 ZAE 148.84 ETE 105.98 ZAC 128.55 ETC 276.06 LVI -39.09

PLANETOCENTRIC CONIC

C3 35.880 VHL 5.990 DLA -52.81 RAL 351.28 RAD 6649.2 VEL 12.481 PTH 7.37 VHP 5.693 DPA 5.60 RAP 301.26 ECC 1.5905
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59
 43.35 0 39 47 2007.03 21.16 49.93 244.18 139.59 1 13 14 1007.0 38.85 30.59

DIFFERENTIAL CORRECTIONS

TDE-1.5480 TRA-1.0231 TC3 -.0281 BAU .3231 SGT 2194.1 SGR 2484.4 SG3 664.0 ST 77.9 SR 64.2 SS 88.8
 RDE-1.1770 RRA-1.3036 RC3 .6731 FAU .08115 RRT .9134 RRF -.9971 RTF -.8997 CRT .9826 CRS .9963 CST .9632
 FDE 3.1384 FRA 4.2179 FC3-1.9581 B8P 5564 SGB 3314.6 R23 -.2074 R13 -.9757 LSA 133.5 MSA 16.0 SSA .3
 BDE 1.9447 BRA 1.6571 BC3 .6736 F8P 1070 SG1 3243.2 SG2 684.2 THA 48.88 EL1 100.6 EL2 9.2 ALF 39.41

LAUNCH DATE MAR 19 1971

FLIGHT TIME 190.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.568 GAL -5.56 AZL 98.05 HCA 168.11 SMA 183.91 ECC .21265 INC 8.0489 V1 29.920
 RP 208.96 LAP -1.65 LOP 345.96 VP 23.682 GAP 9.97 AZP 82.12 TAL 327.38 TAP 135.47 RCA 144.80 APO 223.01 V2 26.462
 RC 73.930 GL -46.96 GP 30.00 ZAL 125.82 ZAP 130.14 ETS 150.31 ZAE 146.00 ETE 106.41 ZAC 131.46 ETC 276.16 LVI -41.47

PLANETOCENTRIC CONIC
 C3 38.564 VHL 6.210 DLA -55.01 RAL 354.77 RAD 6650.2 VEL 12.587 PTH 7.45 VHP 5.725 DPA 8.29 RAP 300.14 ECC 1.6347
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.63 0 45 50 2042.35 20.82 53.42 249.33 142.16 1 19 53 1042.4 39.35 35.08
 40.63 0 45 50 2042.35 20.82 53.42 249.33 142.16 1 19 53 1042.4 39.35 35.08
 40.63 0 45 50 2042.35 20.82 53.42 249.33 142.16 1 19 53 1042.4 39.35 35.08
 40.63 0 45 50 2042.35 20.82 53.42 249.33 142.16 1 19 53 1042.4 39.35 35.08
 40.63 0 45 50 2042.35 20.82 53.42 249.33 142.16 1 19 53 1042.4 39.35 35.08
 40.63 0 45 50 2042.35 20.82 53.42 249.33 142.16 1 19 53 1042.4 39.35 35.08

DIFFERENTIAL CORRECTIONS
 TDE -1.6708 TRA -.9183 TC3 -.0475 BAU .3607 SGT 2136.2 SGR 2799.7 SG3 653.6 ST 80.2 SR 75.9 SS 93.5
 RDE -1.4659 RRA -1.4250 RC3 .6981 FAU .08002 RRT .9066 RRF -.9978 RTF -.8921 CRT .9817 CRS .9977 CST .9668
 FDE 3.5193 FRA 4.0131 FC3 -1.7965 BSP 6027 SGB 3521.6 R23 -.1850 R13 -.9810 LSA 143.8 MSA 15.9 SSA .3
 BDE 2.2227 BRA 1.6952 BC3 .6997 FSP 1071 SG1 3444.5 SG2 732.9 THA 53.40 EL1 109.9 EL2 10.5 ALF 43.38

LAUNCH DATE MAR 19 1971

FLIGHT TIME 222.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.289 GAL -5.28 AZL 81.27 HCA 188.39 SMA 179.41 ECC .19261 INC 8.7253 V1 29.920
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.010 GAP 5.72 AZP 98.63 TAL 326.19 TAP 154.58 RCA 144.86 APO 213.97 V2 26.209
 RC 101.892 GL 31.18 GP -46.15 ZAL 123.47 ZAP 102.00 ETS 191.58 ZAE 127.01 ETE 228.32 ZAC 56.26 ETC 272.19 LVI 32.66

PLANETOCENTRIC CONIC
 C3 39.188 VHL 6.260 DLA 36.00 RAL 311.81 RAD 6650.4 VEL 12.612 PTH 7.47 VHP 5.501 DPA -67.88 RAP 313.29 ECC 1.6449
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 34 51 4075.99 -40.98 180.48 217.67 63.32 14 42 47 3076.0 -47.52 147.73
 60.00 13 5 15 4155.18 -29.75 180.39 210.49 61.46 14 14 30 3155.2 -38.69 153.25
 66.73 11 34 57 4420.15 -14.63 192.20 200.77 56.73 12 48 37 3420.1 -26.95 170.10
 66.73 11 34 57 4420.15 -14.63 192.20 200.77 56.73 12 48 37 3420.1 -26.95 170.10
 66.73 11 34 57 4420.15 -14.63 192.20 200.77 56.73 12 48 37 3420.1 -26.95 170.10
 66.73 11 34 57 4420.15 -14.63 192.20 200.77 56.73 12 48 37 3420.1 -26.95 170.10
 66.73 11 34 57 4420.15 -14.63 192.20 200.77 56.73 12 48 37 3420.1 -26.95 170.10

DIFFERENTIAL CORRECTIONS
 TDE .9652 TRA .1194 TC3 -.5770 BAU .6634 SGT 1149.2 SGR 5372.2 SG3 666.8 ST 44.2 SR 149.6 SS 99.8
 RDE 2.9273 RRA 3.9223 RC3 -1.1272 FAU .08400 RRT .6456 RRF .9992 RTF .6585 CRT .9150 CRS -1.0000 CST -.9114
 FDE 4.0883 FRA 5.6017 FC3 -1.8557 BSP 9215 SGB 5493.8 R23 .0051 R13 .9993 LSA 184.3 MSA 17.5 SSA .2
 BDE 3.0823 BRA 3.9241 BC3 1.2683 FSP 1143 SG1 5424.6 SG2 869.1 THA 81.93 EL1 155.0 EL2 17.2 ALF 74.67

LAUNCH DATE MAR 19 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.282 GAL -5.29 AZL 82.56 HCA 189.61 SMA 179.30 ECC .19220 INC 7.4407 V1 29.920
 RP 209.34 LAP -1.24 LOP 7.28 VP 22.973 GAP 5.48 AZP 97.34 TAL 326.07 TAP 155.89 RCA 144.84 APO 213.76 V2 26.186
 RC 103.900 GL 46.34 GP -43.15 ZAL 126.92 ZAP 101.44 ETS 189.78 ZAE 128.47 ETE 225.30 ZAC 59.28 ETC 272.02 LVI 30.09

PLANETOCENTRIC CONIC
 C3 33.106 VHL 5.734 DLA 31.27 RAL 313.35 RAD 6648.2 VEL 12.370 PTH 7.29 VHP 5.064 DPA -65.20 RAP 309.80 ECC 1.5448
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 12 29 3914.45 -45.10 167.18 213.13 72.89 15 17 44 2914.5 -46.97 132.22
 60.00 14 4 8 3936.76 -35.88 165.15 209.10 70.26 15 9 45 2936.8 -40.30 134.97
 70.00 13 45 24 3992.13 -25.77 164.99 204.47 66.77 14 51 56 2992.1 -32.97 136.67
 76.07 12 39 20 4198.51 -14.27 174.82 198.60 61.88 13 49 18 3198.5 -24.61 151.87
 76.07 12 39 20 4198.51 -14.27 174.82 198.60 61.88 13 49 18 3198.5 -24.61 151.87
 76.07 12 39 20 4198.51 -14.27 174.82 198.60 61.88 13 49 18 3198.5 -24.61 151.87
 110.00 18 44 50 3038.95 -25.77 93.91 204.47 66.77 19 35 29 2039.0 -32.97 67.59

DIFFERENTIAL CORRECTIONS
 TDE .9095 TRA .2583 TC3 -.7189 BAU .6151 SGT 1261.5 SGR 5159.1 SG3 811.7 ST 45.5 SR 140.5 SS 108.4
 RDE 2.5064 RRA 3.6930 RC3 -1.1905 FAU .09418 RRT .7199 RRF .9992 RTF .1.03 CRT .9294 CRS -.9999 CST -.9233
 FDE 4.3815 FRA 6.7147 FC3 -2.4629 BSP 8998 SGB 5311.1 R23 .0153 R13 .9991 LSA 182.4 MSA 16.6 SSA .3
 BDE 2.6684 BRA 3.7020 BC3 1.3897 FSP 1410 SG1 5240.7 SG2 862.0 THA 79.74 EL1 146.8 EL2 16.1 ALF 73.03

LAUNCH DATE MAR 19 1971

FLIGHT TIME 226.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.278 GAL -5.30 AZL 83.55 HCA 190.84 SMA 179.20 ECC .19188 INC 6.4449 V1 29.920
 RP 209.55 LAP -1.21 LOP 8.91 VP 22.936 GAP 5.25 AZP 96.33 TAL 325.94 TAP 156.78 RCA 144.81 APO 213.58 V2 26.162
 RC 105.933 GL 41.99 GP -40.43 ZAL 129.94 ZAP 100.54 ETS 188.00 ZAE 129.46 ETE 222.08 ZAC 62.02 ETC 271.81 LVI 27.82

PLANETOCENTRIC CONIC
 C3 29.074 VHL 5.392 DLA 27.08 RAL 314.73 RAD 6648.6 VEL 12.207 PTH 7.16 VHP 4.738 DPA -62.77 RAP 306.79 ECC 1.4785
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 41 27 3784.38 -47.04 155.26 207.92 81.89 15 44 32 2784.4 -44.74 120.42
 60.00 14 44 18 3776.78 -38.85 152.62 205.97 78.30 15 47 15 2776.8 -39.44 121.47
 70.00 14 49 25 3761.68 -30.97 149.11 203.68 74.83 15 52 7 2761.7 -34.14 120.83
 80.00 15 1 50 3722.73 -23.92 143.76 201.28 71.58 16 3 52 2722.7 -29.31 117.64
 90.00 15 47 55 3573.75 -20.20 131.42 199.87 69.78 16 47 29 2573.8 -26.75 106.31
 100.00 17 44 41 3197.20 -23.92 105.13 201.28 71.58 18 37 59 2197.2 -29.31 79.01
 110.00 19 48 52 2808.50 -30.97 78.03 203.68 74.83 20 35 40 1808.5 -34.14 49.75

DIFFERENTIAL CORRECTIONS
 TDE .8813 TRA .4096 TC3 -.8641 BAU .5890 SGT 1408.6 SGR 4931.1 SG3 944.3 ST 47.4 SR 131.4 SS 114.4
 RDE 2.1789 RRA 3.4710 RC3 -1.2447 FAU .10444 RRT .7836 RRF .9991 RTF .7906 CRT .9436 CRS -.9997 CST -.9355
 FDE 4.5746 FRA 7.7076 FC3 -3.1099 BSP 8619 SGB 5128.3 R23 .0265 R13 .9988 LSA 179.9 MSA 15.8 SSA .3
 BDE 2.3504 BRA 3.4950 BC3 1.5153 FSP 1635 SG1 5056.8 SG2 853.3 THA 77.01 EL1 138.9 EL2 14.9 ALF 70.97

LAUNCH DATE MAR 19 1971 FLIGHT TIME 228.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 982.800 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.270 GAL -5.31 AZL 84.35 HCA 192.08 SMA 179.11 ECC .19166 INC 5.6512 V1 29.020
RP 209.76 LAP -1.18 LOP 9.74 VP 22.900 GAP 5.02 AZP 95.53 TAL 329.79 TAP 157.89 RCA 144.78 APO 213.43 V2 26.137
RC 107.990 GL 38.10 GP -37.97 ZAL 132.59 ZAP 99.39 ETS 186.30 ZAE 130.01 ETE 218.80 ZAC 64.51 ETC 271.58 LVI 25.82
PLANETOCENTRIC CONIC
C3 26.294 VHL 5.128 DLA 23.32 RAL 318.98 RAD 6645.5 VEL 12.094 PTH 7.07 VHP 4.488 DPA -60.58 RAP 304.16 ECC 1.4327
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 4 54 3676.86 -47.56 144.93 203.03 89.82 16 6 11 2676.9 -42.06 111.49
60.00 15 15 10 3649.51 -40.08 142.04 202.59 85.38 16 16 0 2649.5 -37.56 111.10
70.00 15 31 55 3600.20 -33.23 137.07 201.82 81.60 16 31 55 2600.2 -33.23 108.33
80.00 16 3 25 3501.36 -27.82 128.50 200.53 78.68 17 1 46 2501.4 -29.75 101.24
90.00 17 6 35 3297.41 -25.56 112.98 199.99 77.47 18 1 32 2297.4 -28.28 86.30
100.00 18 46 17 2975.86 -27.82 89.86 200.53 78.68 19 35 53 1975.9 -29.75 62.61
110.00 20 31 21 2647.02 -33.23 65.99 201.62 81.60 21 15 28 1647.0 -33.23 37.25
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .8741 TRA .9732 TC3-1.0113 BAU .5690 SGT 1586.2 SGR 4718.6 SCS 1067.3 ST 50.0 SR 123.6 SS 119.4
RDE 1.9364 RRA 3.2775 RC3-1.2640 FAU .11275 RRT .8336 RRF .9990 RTF .8388 CRT .9570 CRS -.9995 CST -.9475
PDE 4.7375 FRA 8.6233 FC3-3.7123 B8P 8392 SGB 4978.1 R23 .0386 R13 .9983 LSA 178.4 HSA 14.9 S3A .4
BDE 2.1246 BRA 3.3272 BC3 1.6187 F8P 1863 SGI 4906.2 SGI 842.7 THA 73.86 EL1 132.7 EL2 13.5 ALF 68.82

LAUNCH DATE MAR 19 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 586.965 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.268 GAL -5.33 AZL 85.00 HCA 193.28 SMA 179.03 ECC .19191 INC 5.0028 V1 29.820
RP 209.99 LAP -1.19 LOP 10.98 VP 22.863 GAP 4.80 AZP 94.87 TAL 325.83 TAP 158.91 RCA 144.74 APO 213.32 V2 26.111
RC 110.071 GL 34.61 GP -35.74 ZAL 134.90 ZAP 98.03 ETS 184.72 ZAE 130.17 ETE 218.58 ZAC 66.76 ETC 271.38 LVI 24.05
PLANETOCENTRIC CONIC
C3 24.321 VHL 4.932 DLA 19.99 RAL 317.12 RAD 6644.7 VEL 12.012 PTH 7.00 VHP 4.294 DPA -58.59 RAP 301.79 ECC 1.4003
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 31 3886.52 -47.24 136.23 198.86 96.51 16 24 18 2886.5 -39.26 104.64
60.00 15 40 14 3844.68 -40.28 133.13 199.53 91.41 16 39 19 2844.7 -35.31 103.20
70.00 16 4 27 3473.37 -34.06 127.27 199.45 87.33 17 2 20 2473.4 -31.59 98.82
80.00 16 45 13 3345.56 -29.38 117.19 199.09 84.42 17 40 58 2345.6 -28.71 89.79
90.00 17 53 48 3124.15 -27.54 100.70 198.82 83.30 18 45 52 2124.2 -27.56 73.69
100.00 19 28 5 2820.03 -29.38 78.56 199.05 84.42 20 15 5 1820.0 -28.71 51.18
110.00 21 3 53 2520.19 -34.06 56.19 199.45 87.33 21 45 53 1520.2 -31.59 27.73
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .8782 TRA .7416 TC3-1.1598 BAU .5592 SGT 1786.1 SGR 4507.2 SCS 1177.3 ST 52.9 SR 116.4 SS 123.1
RDE 1.7428 RRA 3.0957 RC3-1.2699 FAU .12031 RRT .8703 RRF .9988 RTF .8745 CRT .9682 CRS -.9992 CST -.9576
PDE 4.8528 FRA 9.4328 FC3-4.2898 B8P 8148 SGB 4848.2 R23 .0815 R13 .9975 LSA 176.9 HSA 14.1 S3A .4
BDE 1.9514 BRA 3.1833 BC3 1.7198 F8P 2061 SGI 4776.7 SGI 829.6 THA 70.35 EL1 127.3 EL2 12.1 ALF 68.03

LAUNCH DATE MAR 19 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 571.135 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.261 GAL -5.36 AZL 85.54 HCA 194.51 SMA 178.97 ECC .19145 INC 4.4630 V1 29.920
RP 210.22 LAP -1.12 LOP 12.20 VP 22.827 GAP 4.57 AZP 94.32 TAL 325.46 TAP 159.96 RCA 144.70 APO 213.23 V2 26.085
RC 112.177 GL 31.49 GP -35.72 ZAL 136.90 ZAP 96.51 ETS 183.26 ZAE 130.00 ETE 212.42 ZAC 68.81 ETC 271.12 LVI 22.49
PLANETOCENTRIC CONIC
C3 22.892 VHL 4.788 DLA 17.02 RAL 316.15 RAD 6644.1 VEL 11.953 PTH 6.95 VHP 4.140 DPA -56.79 RAP 299.64 ECC 1.3767
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 41 17 3509.72 -46.39 129.01 195.92 102.01 16 39 47 2509.7 -36.55 99.29
60.00 16 1 16 3436.53 -39.87 125.67 196.98 96.46 16 58 52 2436.5 -32.99 96.88
70.00 16 30 54 3389.28 -34.10 119.15 197.92 92.13 17 27 3 2389.3 -29.67 91.32
80.00 17 17 38 3222.85 -29.85 108.11 197.58 89.17 18 11 20 2222.8 -27.15 81.01
90.00 18 29 16 2991.60 -29.22 91.07 197.53 88.07 19 19 8 1991.6 -26.17 64.25
100.00 18 29 16 2991.60 -29.22 69.48 197.58 89.17 20 45 27 1697.3 -27.15 42.38
110.00 21 30 21 2416.09 -34.10 48.07 197.32 92.13 22 10 37 1416.1 -29.67 20.24
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .8912 TRA .9143 TC3-1.3073 BAU .5559 SGT 2003.8 SGR 4302.1 SCS 1274.9 ST 56.1 SR 109.8 SS 125.9
RDE 1.5673 RRA 2.9271 RC3-1.2608 FAU .12737 RRT .8974 RRF .9986 RTF .5007 CRT .9773 CRS -.9988 CST -.9660
PDE 4.9396 FRA 10.1472 FC3-4.8170 B8P 7938 SGB 4749.8 R23 .0848 R13 .9966 LSA 175.7 HSA 13.3 S3A .5
BDE 1.8204 BRA 3.0866 BC3 1.8183 F8P 2237 SGI 4678.6 SGI 813.6 THA 66.56 EL1 122.9 EL2 10.6 ALF 63.26

LAUNCH DATE MAR 19 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC DISTANCE 578.308 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.258 GAL -5.38 AZL 85.99 HCA 195.73 SMA 178.91 ECC .19146 INC 4.0064 V1 29.920
RP 210.45 LAP -1.09 LOP 13.43 VP 22.792 GAP 4.35 AZP 93.86 TAL 325.27 TAP 160.99 RCA 144.66 APO 213.17 V2 26.058
RC 114.307 GL 28.69 GP -31.87 ZAL 138.65 ZAP 94.87 ETS 181.92 ZAE 129.54 ETE 209.44 ZAC 70.68 ETC 270.88 LVI 21.11
PLANETOCENTRIC CONIC
C3 21.844 VHL 4.674 DLA 14.38 RAL 319.11 RAD 6643.6 VEL 11.910 PTH 6.92 VHP 4.017 DPA -55.14 RAP 297.67 ECC 1.3595
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 59 52 3443.83 -45.29 123.04 192.94 106.49 16 53 16 2443.8 -34.03 95.02
60.00 16 19 19 3381.41 -39.11 119.43 194.95 100.83 17 15 40 2381.4 -30.74 91.79
70.00 16 53 11 3281.79 -33.67 112.36 195.94 96.13 17 47 52 2281.8 -27.70 85.28
80.00 17 44 14 3121.80 -29.71 100.80 196.32 93.12 18 36 15 2121.8 -25.42 74.00
90.00 18 57 37 2883.85 -28.21 83.19 196.40 92.02 19 46 1 1883.8 -24.54 56.78
100.00 20 27 5 2596.27 -29.71 61.97 196.32 93.12 21 10 22 1596.3 -25.42 35.37
110.00 21 52 37 2328.57 -33.67 41.27 195.94 96.13 22 31 26 1328.6 -27.70 14.20
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .9114 TRA 1.0807 TC3-1.4514 BAU .5575 SGT 2234.8 SGR 4103.5 SCS 1360.2 ST 59.6 SR 103.8 SS 127.9
RDE 1.4602 RRA 2.7702 RC3-1.2399 FAU .13337 RRT .9173 RRF .9983 RTF .9201 CRT .9844 CRS -.9984 CST -.9728
PDE 5.0021 FRA 10.7718 FC3-5.2857 B8P 7777 SGB 4672.6 R23 .0780 R13 .9954 LSA 174.7 HSA 12.6 S3A .6
BDE 1.7214 BRA 2.9772 BC3 1.9089 F8P 2391 SGI 4604.7 SGI 793.2 THA 62.57 EL1 119.4 EL2 9.1 ALF 60.33

LAUNCH DATE MAR 19 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 579.485

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.255 GAL -3.42 AZL 86.39 HCA 196.84 SMA 178.07 ECC .19155 INC 3.6149 V1 29.920
RP 210.70 LAP -1.05 LOP 14.65 VP 22.756 GAP 4.14 AZP 93.46 TAL 325.07 TAP 162.01 RCA 144.61 APO 213.14 V2 26.030
RC 116.460 GL 26.17 GP -30.19 ZAL 140.18 ZAP 93.14 ETS 180.71 ZAE 126.84 ETE 206.64 ZAC 72.39 ETC 270.66 LVI 19.87

PLANETOCENTRIC CONIC

C3 21.071 VHL 4.590 DLA 12.01 RAL 319.99 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 3.918 DPA -53.63 RAP 295.83 ECC 1.3468
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 43 3386.87 -44.07 118.10 190.98 110.14 17 5 10 2386.9 -31.72 91.55
60.00 16 35 5 3316.73 -38.16 114.20 193.39 104.07 17 30 21 2316.7 -26.64 87.60
70.00 17 12 22 3206.99 -32.97 106.63 194.72 99.45 18 5 49 2207.0 -25.79 80.31
80.00 18 6 47 3036.50 -29.23 94.31 195.33 96.39 18 57 24 2036.5 -23.67 68.27
90.00 19 22 5 2793.51 -27.82 76.82 195.49 95.29 20 8 38 1793.5 -22.87 50.70
100.00 20 49 39 2510.97 -29.23 55.68 195.33 96.39 21 31 30 1511.0 -23.67 29.64
110.00 22 11 48 2253.81 -32.97 35.55 194.72 99.45 22 49 22 1253.8 -25.79 9.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9385 TRA 1.2705 TC3-1.5887 BAU .5645 SGT 2475.5 SGR 3905.5 SG3 1431.6 ST 63.5 SR 98.0 SS 128.9
RDE 1.3495 RRA 2.6177 RC3-1.2211 FAU .13967 RRT .9334 RRF .9980 RTF .9357 CRT .9896 CRS -.9978 CST -.9780
FDE 5.0235 FRA11.2875 FC3-5.7384 B8P 7609 SGB 4623.9 R23 .0902 R13 .9940 LSA 173.5 MSA 12.1 SSA .6
BDE 1.6437 BRA 2.9097 BC3 2.0036 F8P 2498 SG1 4560.9 SG2 760.7 THA 58.41 EL1 116.5 EL2 7.7 ALF 57.19

LAUNCH DATE MAR 19 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 583.662

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.253 GAL -5.45 AZL 86.72 HCA 198.16 SMA 178.84 ECC .19171 INC 3.2751 V1 29.920
RP 210.95 LAP -1.02 LOP 15.87 VP 22.720 GAP 3.92 AZP 93.11 TAL 324.86 TAP 163.02 RCA 144.56 APO 213.13 V2 26.001
RC 116.637 GL 23.90 GP -28.64 ZAL 141.52 ZAP 91.35 ETS 179.60 ZAE 127.95 ETE 204.05 ZAC 73.96 ETC 270.43 LVI 18.77

PLANETOCENTRIC CONIC

C3 20.504 VHL 4.528 DLA 9.88 RAL 320.81 RAD 6643.1 VEL 11.854 PTH 6.87 VHP 3.838 DPA -52.25 RAP 294.13 ECC 1.3374
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 20 11 3337.35 -42.82 113.99 189.54 113.11 17 15 48 2337.3 -29.63 88.68
60.00 16 49 1 3260.60 -37.14 109.78 192.23 106.91 17 43 22 2260.6 -26.70 84.12
70.00 17 29 11 3142.41 -32.15 101.78 193.81 102.21 18 21 34 2142.4 -23.99 76.15
80.00 18 26 21 2983.32 -29.56 88.98 194.59 99.11 19 15 45 1983.3 -21.99 63.49
90.00 19 42 54 2716.31 -27.21 71.05 194.82 98.01 20 28 10 1716.3 -21.23 45.63
100.00 21 9 13 2437.79 -28.56 50.35 194.59 99.11 21 49 51 1437.8 -21.99 24.86
110.00 22 28 37 2189.23 -32.15 30.70 193.81 102.21 23 5 7 1189.2 -23.99 5.07

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9678 TRA 1.4497 TC3-1.7261 BAU .5747 SGT 2722.1 SGR 3717.8 SG3 1492.4 ST 67.3 SR 92.9 SS 129.6
RDE 1.2567 RRA 2.4774 RC3-1.1897 FAU .14472 RRT .9445 RRF .9976 RTF .9468 CRT .9936 CRS -.9970 CST -.9821
FDE 5.0385 FRA11.7333 FC3-6.1105 B8P 7517 SGB 4607.8 R23 .1010 R13 .9926 LSA 172.7 MSA 11.6 SSA .7
BDE 1.5877 BRA 2.8704 BC3 2.0964 F8P 2594 SG1 4549.5 SG2 730.5 THA 54.27 EL1 114.5 EL2 6.2 ALF 54.11

LAUNCH DATE MAR 19 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 587.837

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.251 GAL -5.49 AZL 87.02 HCA 199.37 SMA 178.82 ECC .19194 INC 2.9774 V1 29.920
RP 211.20 LAP -.99 LOP 17.09 VP 22.685 GAP 3.71 AZP 92.81 TAL 324.63 TAP 164.00 RCA 144.50 APO 213.14 V2 25.972
RC 120.836 GL 21.84 GP -27.21 ZAL 142.70 ZAP 89.51 ETS 178.61 ZAE 126.89 ETE 201.66 ZAC 75.41 ETC 270.22 LVI 17.77

PLANETOCENTRIC CONIC

C3 20.095 VHL 4.483 DLA 7.97 RAL 321.59 RAD 6642.9 VEL 11.837 PTH 6.85 VHP 3.778 DPA -50.96 RAP 292.54 ECC 1.3307
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 30 29 3294.08 -41.81 110.55 188.50 115.94 17 25 23 2294.1 -27.75 86.28
60.00 17 1 29 3211.58 -36.11 106.03 191.41 109.27 17 55 1 2211.6 -24.92 81.19
70.00 17 44 7 3088.15 -31.26 97.63 193.18 104.51 18 35 34 2086.2 -22.32 72.64
80.00 18 43 37 2899.83 -27.79 84.42 194.09 101.39 19 31 57 1899.8 -20.40 59.44
90.00 20 1 11 2649.49 -26.49 66.30 194.37 100.28 20 45 21 1649.5 -19.68 41.34
100.00 21 26 29 2374.30 -27.79 45.79 194.09 101.39 22 6 3 1374.3 -20.40 20.81
110.00 22 43 34 2132.97 -31.26 26.53 193.18 104.51 23 19 7 1133.0 -22.32 1.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0005 TRA 1.6311 TC3-1.8619 BAU .5838 SGT 2975.4 SGR 3555.2 SG3 1349.4 ST 71.4 SR 89.1 SS 131.5
RDE 1.1973 RRA 2.3614 RC3-1.1206 FAU .14333 RRT .9500 RRF .9972 RTF .528 CRT .9967 CRS -.9963 CST -.9861
FDE 5.1176 FRA12.1845 FC3-6.2609 B8P 7641 SGB 4636.0 R23 .1119 R13 .9910 LSA 173.8 MSA 11.1 SSA .8
BDE 1.5803 BRA 2.8700 BC3 2.1731 F8P 2757 SG1 4573.6 SG2 721.1 THA 50.33 EL1 114.1 EL2 4.6 ALF 51.35

LAUNCH DATE MAR 19 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 592.014

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.251 GAL -5.53 AZL 87.29 HCA 200.58 SMA 178.81 ECC .19224 INC 2.7140 V1 29.920
RP 211.46 LAP -.95 LOP 18.30 VP 22.649 GAP 3.50 AZP 92.54 TAL 324.40 TAP 164.98 RCA 144.43 APO 213.18 V2 25.942
RC 123.056 GL 19.97 GP -25.89 ZAL 143.74 ZAP 87.65 ETS 177.70 ZAE 125.71 ETE 199.47 ZAC 76.75 ETC 270.01 LVI 16.87

PLANETOCENTRIC CONIC

C3 19.808 VHL 4.451 DLA 6.24 RAL 322.32 RAD 6642.8 VEL 11.825 PTH 6.84 VHP 3.725 DPA -49.77 RAP 291.06 ECC 1.3260
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 50 3256.11 -40.45 107.64 187.77 117.55 17 34 6 2256.1 -26.06 84.24
60.00 17 12 44 3168.56 -35.09 102.83 190.85 111.24 18 5 33 2168.6 -23.31 78.68
70.00 17 57 31 3036.82 -30.37 94.07 192.76 106.44 18 48 8 2036.8 -20.79 69.63
80.00 18 50 0 2844.26 -26.98 80.49 193.79 103.31 19 46 24 1844.3 -18.93 55.97
90.00 20 17 27 2591.08 -25.71 62.20 194.11 102.19 21 0 38 1591.1 -18.23 37.67
100.00 21 41 52 2318.73 -26.98 41.86 193.79 103.31 22 20 30 1318.7 -18.93 17.34
110.00 22 56 57 2063.63 -30.37 22.99 192.76 106.44 23 31 41 1063.6 -20.79 358.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0375 TRA 1.8141 TC3-1.9889 BAU .5972 SGT 3230.7 SGR 3391.3 SG3 1593.6 ST 75.6 SR 85.3 SS 132.5
RDE 1.1395 RRA 2.2452 RC3-1.0626 FAU .14659 RRT .9551 RRF .9966 RTF .9583 CRT .9985 CRS -.9953 CST -.9891
FDE 5.1574 FRA12.5371 FC3-6.4070 B8P 7737 SGB 4683.9 R23 .1204 R13 .9896 LSA 174.5 MSA 10.7 SSA .9
BDE 1.5411 BRA 2.8865 BC3 2.2550 F8P 2868 SG1 4631.2 SG2 700.6 THA 46.45 EL1 113.9 EL2 3.1 ALF 48.49

LAUNCH DATE MAR 19 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.251 GAL -5.57 AZL 87.52 HCA 201.79 SMA 178.81 ECC .19260 INC 2.4792 V1 29.920
 RP 211.73 LAP -.92 LOP 19.51 VP 22.614 GAP 3.29 AZP 92.30 TAL 324.15 TAP 165.94 RCA 144.37 APO 213.24 V2 25.911
 RC 125.302 GL 18.27 GP -24.66 ZAL 144.67 ZAP 85.77 ETS 176.89 ZAE 124.41 ETE 197.47 ZAC 77.99 ETC 269.60 LVI 16.05

DISTANCE 596.194 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.618 VHL 4.429 DLA 4.68 RAL 323.01 RAD 6642.7 VEL 11.817 PTH 6.84 VHP 3.687 DPA -48.65 RAP 289.67 ECC 1.3229
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 21 3222.66 -39.37 105.17 187.30 119.23 17 42 3 2222.7 -24.54 82.50
 60.00 17 22 58 3130.62 -34.12 100.08 190.50 112.89 18 15 7 2130.6 -21.86 76.53
 70.00 18 9 37 2993.31 -29.49 90.99 192.53 108.07 18 59 31 1993.3 -19.39 67.03
 80.00 19 12 51 2795.30 -26.16 77.08 193.65 104.93 19 59 26 1795.3 -17.57 52.97
 90.00 20 32 4 2539.65 -24.93 58.64 194.00 103.81 21 14 24 1539.6 -16.69 34.50
 100.00 21 55 43 2269.77 -26.16 38.45 193.65 104.93 22 33 32 1269.8 -17.57 14.34
 110.00 23 9 4 2040.12 -29.49 19.91 192.53 108.07 23 43 4 1040.1 -19.39 355.93

DIFFERENTIAL CORRECTIONS
 TDE 1.0764 TRA 1.9956 TC3-2.1101 BAU .6156 SGT 3484.5 SGR 3219.3 SG3 1622.2 ST 79.8 SR 81.0 SS 131.8
 RDE 1.0776 RRA 2.1228 RC3-1.0260 FAU .15031 RRT .9610 RRF .9960 RTF .9643 CRT .9995 CRS -.9941 CST -.9909
 FDE 5.1183 FRA12.7571 FC3-6.6331 B8P 7755 SGB 4744.0 R23 .1245 R13 .9885 LSA 173.8 MSA 10.6 SSA 1.0
 BDE 1.9231 BRA 2.9136 BC3 2.3472 F8P 2690 SGI 4697.7 SG2 680.7 THA 42.64 EL1 113.7 EL2 1.8 ALF 45.45

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 19 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.251 GAL -5.62 AZL 87.73 HCA 203.00 SMA 178.81 ECC .19303 INC 2.2685 V1 29.920
 RP 212.01 LAP -.89 LOP 20.72 VP 22.579 GAP 3.09 AZP 92.09 TAL 323.89 TAP 166.89 RCA 144.30 APO 213.33 V2 25.880
 RC 127.566 GL 16.72 GP -23.52 ZAL 145.50 ZAP 83.90 ETS 176.15 ZAE 123.03 ETE 195.65 ZAC 79.14 ETC 269.61 LVI 15.30

DISTANCE 600.372 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.509 VHL 4.417 DLA 3.27 RAL 323.67 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 3.658 DPA -47.61 RAP 288.37 ECC 1.3211
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 10 3193.15 -38.37 103.06 187.02 120.63 17 49 23 2193.2 -23.19 81.01
 60.00 17 32 17 3097.08 -33.21 97.71 190.32 114.28 18 23 54 2097.1 -20.55 74.67
 70.00 18 20 39 2954.79 -28.64 88.31 192.46 109.45 19 9 54 1954.3 -18.12 64.77
 80.00 19 25 25 2751.95 -25.37 74.11 193.64 106.30 20 11 17 1751.9 -16.33 50.35
 90.00 20 45 19 2494.12 -24.15 55.53 194.02 105.18 21 26 54 1494.1 -15.65 31.72
 100.00 22 8 17 2226.42 -25.37 35.47 193.64 106.30 22 45 24 1226.4 -16.33 11.72
 110.00 23 20 5 2001.61 -28.64 17.23 192.46 109.45 23 53 27 1001.6 -18.12 353.69

DIFFERENTIAL CORRECTIONS
 TDE 1.1181 TRA 2.1784 TC3-2.2259 BAU .6341 SGT 3739.1 SGR 3062.7 SG3 1645.7 ST 84.1 SR 77.5 SS 131.7
 RDE 1.0304 RRA 2.0141 RC3 -.9775 FAU .15157 RRT .9643 RRF .9952 RTF .9683 CRT .9998 CRS -.9928 CST -.9925
 FDE 5.1110 FRA12.9590 FC3-6.7261 B8P 7888 SGB 4833.4 R23 .1276 R13 .9875 LSA 174.1 MSA 10.4 SSA 1.0
 BDE 1.9205 BRA 2.9668 BC3 2.4310 F8P 2939 SGI 4791.8 SG2 632.7 THA 39.12 EL1 114.4 EL2 1.1 ALF 42.67

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 19 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.252 GAL -5.67 AZL 87.92 HCA 204.20 SMA 178.83 ECC .19352 INC 2.0783 V1 29.920
 RP 212.29 LAP -.85 LOP 21.92 VP 22.543 GAP 2.88 AZP 91.90 TAL 323.63 TAP 167.82 RCA 144.22 APO 213.43 V2 25.846
 RC 129.850 GL 15.30 GP -22.48 ZAL 146.25 ZAP 82.03 ETS 175.49 ZAE 121.60 ETE 194.00 ZAC 80.22 ETC 269.42 LVI 14.61

DISTANCE 604.549 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.466 VHL 4.412 DLA 1.99 RAL 324.30 RAD 6642.6 VEL 11.810 PTH 6.83 VHP 3.638 DPA -46.63 RAP 287.16 ECC 1.3204
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 23 3167.05 -37.45 101.24 186.90 121.82 17 56 10 2167.1 -21.97 79.71
 60.00 17 40 51 3067.35 -32.36 95.65 190.29 115.47 18 31 59 2067.3 -19.36 73.05
 70.00 18 30 45 2920.59 -27.65 85.97 192.31 110.62 19 19 26 1920.6 -16.96 62.80
 80.00 19 36 55 2713.41 -24.81 71.50 193.76 107.47 20 22 8 1713.4 -15.19 48.06
 90.00 20 57 25 2453.63 -23.40 52.80 194.16 106.35 21 38 19 1453.6 -14.52 29.29
 100.00 22 19 47 2187.88 -24.81 32.86 193.76 107.47 22 56 15 1187.9 -15.19 9.43
 110.00 23 30 12 1967.41 -27.85 14.89 192.31 110.62 24 2 59 967.4 -16.96 351.71

DIFFERENTIAL CORRECTIONS
 TDE 1.1621 TRA 2.3612 TC3-2.3351 BAU .6338 SGT 3992.1 SGR 2912.6 SG3 1661.0 ST 88.4 SR 74.3 SS 131.4
 RDE .9892 RRA 1.9109 RC3 -.9262 FAU .15214 RRT .9668 RRF .9943 RTF .5114 CRT .9996 CRS -.9913 CST -.9939
 FDE 5.0985 FRA13.1090 FC3-6.7661 B8P 8064 SGB 4941.8 R23 .1287 R13 .9867 LSA 174.6 MSA 10.4 SSA 1.1
 BDE 1.9261 BRA 3.0375 BC3 2.5120 F8P 2975 SGI 4904.3 SG2 606.2 THA 35.83 EL1 115.5 EL2 1.6 ALF 40.02

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 19 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC
 RL 148.92 LAL .00 LOL 177.74 VL 32.253 GAL -5.72 AZL 88.09 HCA 205.40 SMA 178.85 ECC .19407 INC 1.9055 V1 29.920
 RP 212.57 LAP -.82 LOP 23.12 VP 22.508 GAP 2.68 AZP 91.72 TAL 323.35 TAP 168.74 RCA 144.14 APO 213.56 V2 25.815
 RC 132.153 GL 13.99 GP -21.45 ZAL 148.93 ZAP 80.18 ETS 174.90 ZAE 120.11 ETE 192.51 ZAC 81.22 ETC 269.25 LVI 13.97

DISTANCE 608.725 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.481 VHL 4.414 DLA .82 RAL 324.90 RAD 6642.6 VEL 11.811 PTH 6.83 VHP 3.625 DPA -45.70 RAP 286.04 ECC 1.3206
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 10 4 3143.95 -36.81 99.67 186.91 122.82 18 2 28 2144.0 -20.89 78.58
 60.00 17 48 47 3040.96 -31.57 93.85 190.37 116.47 18 39 28 2041.0 -18.30 71.63
 70.00 18 40 4 2890.15 -27.10 83.92 192.66 111.63 19 28 14 1890.2 -15.91 61.06
 80.00 19 47 28 2679.05 -23.88 69.20 193.96 108.47 20 32 7 1679.1 -14.15 46.03
 90.00 21 6 32 2417.51 -22.69 50.39 194.38 107.35 21 48 49 1417.5 -13.49 27.14
 100.00 22 30 20 2153.52 -23.88 30.57 193.96 108.47 23 6 14 1153.5 -14.15 7.40
 110.00 23 39 30 1936.97 -27.10 12.84 192.66 111.63 24 11 47 937.0 -15.91 349.98

DIFFERENTIAL CORRECTIONS
 TDE 1.2079 TRA 2.5437 TC3-2.4383 BAU .6746 SGT 4242.4 SGR 2769.3 SG3 1669.0 ST 92.8 SR 71.3 SS 131.0
 RDE .9536 RRA 1.8131 RC3 -.8742 FAU .15198 RRT .9683 RRF .9932 RTF .9739 CRT .9988 CRS -.9896 CST -.9950
 FDE 5.0763 FRA13.2114 FC3-6.7539 B8P 8272 SGB 5066.2 R23 .1281 R13 .9861 LSA 175.3 MSA 10.4 SSA 1.2
 BDE 1.5389 BRA 3.1258 BC3 2.5903 F8P 3000 SGI 5032.5 SG2 583.2 THA 32.79 EL1 117.0 EL2 2.6 ALF 37.52

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 19 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC		DISTANCE 612.899										EARTH TO MARS													
RL	148.92 LAL	.00	LOL	177.74	VL	32.255	GAL	-5.78	AZL	88.25	HCA	206.59	SMA	178.88	ECC	.19468	INC	1.7476	V1	29.920					
RP	212.86 LAP	-.78	LOP	24.32	VP	22.473	GAP	2.48	AZP	91.56	TAL	323.06	TAP	169.65	RCA	144.05	APO	213.70	V2	25.792					
RC	134.475 GL	12.79	GP	-20.52	ZAL	147.98	ZAP	78.35	ETS	174.36	ZAE	118.60	ETE	191.16	ZAC	82.16	ETC	269.08	LVI	13.38					
PLANETOCENTRIC CONIC		DISTANCE 612.899										EARTH TO MARS													
C3	19.544	VHL	4.421	DLA	-.25	RAL	325.49	RAD	6642.6	VEL	11.813	PTH	6.83	VHP	3.620	DPA	-44.83	RAP	285.01	ECC	1.3216				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	16	17	3123.50	-35.84	98.31	187.03	123.67	18	8	21	2123.5	-19.92	77.60											
60.00	17	56	8	3017.50	-30.85	92.29	180.55	117.34	18	46	25	2017.5	-17.34	70.38											
70.00	18	46	40	2863.01	-26.41	82.11	192.90	112.49	19	36	23	1863.0	-14.97	59.53											
80.00	19	57	13	2648.35	-23.21	67.17	194.25	109.33	20	41	21	1648.3	-13.21	44.24											
90.00	21	18	46	2385.21	-22.02	48.27	194.69	108.21	21	58	31	1385.2	-12.55	25.23											
100.00	22	40	5	2122.82	-23.21	28.54	194.25	109.33	23	15	28	1122.8	-13.21	5.61											
110.00	23	48	6	1909.83	-26.41	11.03	192.90	112.49	24	19	56	909.8	-14.97	318.45											
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY									
TDE	1.2554	TRA	2.7256	TC3	-2.5357	BAU	.6966	SGT	4489.1	SGR	2632.2	SG3	1670.2	ST	97.1	SR	68.5	SS	130.3						
RDE	.9222	RRA	1.7201	RC3	-.8234	FAU	.15133	RRT	.9692	RRF	.9920	RTF	.9758	CRT	.9976	CRS	-.9876	CST	-.9959						
FDE	5.0503	FRA13	2.687	FC3	-6.7032	BSP	8505	SGB	5203.9	R23	.1260	R13	.9857	LSA	176.1	MSA	10.6	SSA	1.2						
BDE	1.5577	BRA	3.2230	BC3	2.6660	FSP	3011	SGI	5173.4	SG2	562.8	THA	30.00	EL1	118.8	EL2	3.9	ALF	35.16						

LAUNCH DATE MAR 19 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC		DISTANCE 617.071										EARTH TO MARS													
RL	148.92 LAL	.00	LOL	177.74	VL	32.257	GAL	-5.84	AZL	88.40	HCA	207.79	SMA	178.91	ECC	.19535	INC	1.6029	V1	29.920					
RP	213.16 LAP	-.75	LOP	25.52	VP	22.437	GAP	2.28	AZP	91.42	TAL	322.76	TAP	170.55	RCA	143.96	APO	213.86	V2	25.749					
RC	136.814 GL	11.68	GP	-19.64	ZAL	148.13	ZAP	76.55	ETS	173.88	ZAE	117.07	ETE	189.94	ZAC	83.04	ETC	268.93	LVI	12.82					
PLANETOCENTRIC CONIC		DISTANCE 617.071										EARTH TO MARS													
C3	19.650	VHL	4.433	DLA	-1.23	RAL	326.05	RAD	6642.7	VEL	11.818	PTH	6.84	VHP	3.620	DPA	-44.01	RAP	284.05	ECC	1.3234				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	22	6	3105.39	-35.15	97.13	187.23	124.40	18	13	51	2105.4	-19.06	76.74											
60.00	18	2	58	2996.65	-30.19	90.92	190.81	118.08	18	52	55	1996.7	-16.49	69.28											
70.00	18	56	39	2838.80	-25.76	80.52	193.21	113.24	19	43	58	1838.8	-14.11	58.17											
80.00	20	6	15	2620.87	-22.58	65.37	194.60	110.08	20	49	56	1620.9	-12.36	42.65											
90.00	21	28	15	2356.27	-21.39	46.38	195.05	108.95	22	7	31	1356.3	-11.70	23.54											
100.00	22	49	7	2095.35	-22.58	26.74	194.60	110.08	23	24	2	1095.3	-12.36	4.02											
110.00	0	0	1	1885.62	-25.76	9.44	193.21	113.24	0	31	27	885.6	-14.11	347.09											
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY									
TDE	1.3049	TRA	2.9078	TC3	-2.6252	BAU	.7190	SGT	4732.2	SGR	2502.1	SG3	1665.7	ST	101.5	SR	65.9	SS	129.6						
RDE	.8948	RRA	1.6323	RC3	-.7734	FAU	.15010	RRT	.9695	RRF	.9905	RTF	.9775	CRT	.9959	CRS	-.9855	CST	-.9966						
FDE	5.0199	FRA13	2.905	FC3	-6.6129	BSP	8771	SGB	5353.0	R23	.1226	R13	.9854	LSA	177.0	MSA	10.7	SSA	1.2						
BDE	1.5922	BRA	3.3346	BC3	2.7368	FSP	3015	SGI	5325.2	SG2	545.1	THA	27.45	EL1	120.9	EL2	5.0	ALF	32.96						

LAUNCH DATE MAR 19 1971

FLIGHT TIME 256.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC		DISTANCE 821.240										EARTH TO MARS													
RL	148.92 LAL	.00	LOL	177.74	VL	32.260	GAL	-5.90	AZL	88.53	HCA	208.98	SMA	178.95	ECC	.19607	INC	1.4694	V1	29.920					
RP	213.46 LAP	-.71	LOP	26.71	VP	22.402	GAP	2.08	AZP	91.29	TAL	322.45	TAP	171.43	RCA	143.87	APO	214.04	V2	25.714					
RC	139.171 GL	10.66	GP	-18.81	ZAL	148.66	ZAP	74.79	ETS	173.45	ZAE	115.53	ETE	188.84	ZAC	83.87	ETC	268.79	LVI	12.33					
PLANETOCENTRIC CONIC		DISTANCE 821.240										EARTH TO MARS													
C3	19.795	VHL	4.449	DLA	-2.12	RAL	326.60	RAD	6642.7	VEL	11.824	PTH	6.84	VHP	3.625	DPA	-43.23	RAP	283.17	ECC	1.3258				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	27	32	3089.38	-34.53	96.11	187.50	125.03	18	19	1	2049.4	-18.30	75.98											
60.00	18	9	22	2978.13	-29.59	89.71	191.13	118.71	18	59	0	1978.1	-15.72	66.32											
70.00	19	4	5	2817.18	-25.18	79.12	193.58	113.88	19	51	3	1817.2	-13.34	56.97											
80.00	20	14	39	2596.27	-21.99	63.78	195.01	110.72	20	57	55	1596.3	-11.58	41.24											
90.00	21	37	4	2330.32	-20.81	44.70	195.48	109.80	22	15	54	1330.3	-10.92	22.03											
100.00	22	57	31	2070.74	-21.99	25.15	195.01	110.72	23	32	1	1070.7	-11.58	2.60											
110.00	0	7	28	1864.00	-25.18	8.04	193.58	113.88	0	38	32	864.0	-13.34	345.89											
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY									
TDE	1.3553	TRA	3.0883	TC3	-2.7103	BAU	.7426	SGT	4970.1	SGR	2377.4	SG3	1655.4	ST	105.8	SR	63.5	SS	128.7						
RDE	.8702	RRA	1.5479	RC3	-.7282	FAU	.14887	RRT	.9693	RRF	.9868	RTF	.9759	CRT	.9938	CRS	-.9831	CST	-.9971						
FDE	4.9817	FRA13	2.703	FC3	-6.5020	BSP	9043	SGB	5509.4	R23	.1182	R13	.9852	LSA	177.9	MSA	11.0	SSA	1.2						
BDE	1.6108	BRA	3.4845	BC3	2.8059	FSP	3005	SGI	5485.9	SG2	530.1	THA	25.13	EL1	123.3	EL2	6.0	ALF	30.91						

LAUNCH DATE MAR 19 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC		DISTANCE 825.407										EARTH TO MARS													
RL	148.92 LAL	.00	LOL	177.74	VL	32.263	GAL	-5.97	AZL	88.65	HCA	210.18	SMA	179.00	ECC	.19685	INC	1.3460	V1	29.920					
RP	213.77 LAP	-.68	LOP	27.90	VP	22.367	GAP	1.88	AZP	91.16	TAL	322.14	TAP	172.30	RCA	143.77	APO	214.24	V2	25.680					
RC	141.545 GL	9.71	GP	-18.03	ZAL	149.18	ZAP	73.08	ETS	173.07	ZAE	115.98	ETE	187.85	ZAC	84.65	ETC	268.65	LVI	11.80					
PLANETOCENTRIC CONIC		DISTANCE 825.407										EARTH TO MARS													
C3	19.974	VHL	4.469	DLA	-2.93	RAL	327.13	RAD	6642.8	VEL	11.832	PTH	6.85	VHP	3.636	DPA	-42.49	RAP	282.37	ECC	1.3287				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	17	32	39	3075.25	-33.98	95.22	187.84	125.56	18	23	54	2075.3	-17.62	75.33											
60.00	18	15	20	2961.69	-29.05	88.66	191.51	119.26	19	4	42	1961.7	-15.04	67.47											
70.00	19	11	2	2797.91	-24.64	77.88	194.01	114.44	19	57	40	1797.9	-12.65	55.91											
80.00	20	22	29	2574.23	-21.46	62.36	195.46	111.28	21	5	23	1574.2	-10.88	39.98											
90.00	21	45	17	2307.05	-20.27	43.20	195.94	110.16	22	23	44	1307.0	-10.21	20.68											
100.00	23	5	20	2048.71	-21.46	23.73	195.46	111.28	23	39	29	1048.7	-10.88	1.34											
110.00	0	14	25	1844.72	-24.64	6.80	194.01	114.44	0	45	9	844.7	-12.65	344.83											
DIFFERENTIAL CORRECTIONS											MID-COURSE EXECUTION ACCURACY					ORBIT DETERMINATION ACCURACY									
TDE	1.4067	TRA	3.2689	TC3	-2.7884	BAU	.7665	SGT	5203.1	SGR	2259.5	SG3	1640.6	ST	110.0	SR	61.3	SS	127.7						
RDE	.8487	RRA	1.4682	RC3	-.6802	FAU	.14672	RRT	.9685	RRF	.9868	RTF	.9799	CRT	.9914	CRS	-.9804	CST	-.9976						
FDE	4.9395	FRA13	2.235	FC3	-6.3591	BSP	9331	SGB	5672.5	R23	.1132	R13	.9851	LSA	179.0	MSA	11.2	SSA	1.3						
BDE	1.6429	BRA	3.5834	BC3	2.8702	FSP	2988	SGI	5648.8	SG2	518.5	THA	23.02	EL1	125.8	EL2	7.0	ALF	29.02						

LAUNCH DATE MAR 19 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

DISTANCE 629.571

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.267 GAL -6.04 AZL 88.77 HCA 211.35 SMA 179.06 ECC .19768 INC 1.2312 V1 29.920
RP 214.08 LAP -.64 LOP 29.08 VP 22.331 GAP 1.68 AZP 91.05 TAL 321.81 TAP 173.16 RCA 143.66 APO 214.45 VE 25.643
RC 143.936 GL 8.63 GP -17.30 ZAL 149.63 ZAP 71.38 ETS 172.73 ZAE 112.45 ETE 186.95 ZAC 85.38 ETC 268.53 LVI 11.33

PLANETOCENTRIC CONIC

C3 20.186 VHL 4.493 DLA -3.68 RAL 327.65 RAD 6642.9 VEL 11.840 PTH 6.86 VHP 3.650 DPA -41.79 RAP 281.65 ECC 1.3322
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 37 28 3062.82 -33.48 94.44 188.22 126.02 18 28 31 2062.8 -17.02 74.75
60.00 18 20 57 2947.14 -28.56 87.74 191.93 119.74 19 10 4 1947.1 -14.43 66.72
70.00 19 17 33 2780.73 -24.15 76.79 194.47 114.92 20 3 54 1780.7 -12.03 54.97
80.00 20 29 48 2554.51 -20.96 61.11 195.96 111.76 21 12 23 1554.5 -10.25 38.85
90.00 21 52 58 2286.18 -19.77 41.87 196.45 110.64 22 31 4 1286.2 -9.58 19.48
100.00 23 12 40 2028.98 -20.96 22.48 195.96 111.76 23 46 29 1029.0 -10.25 .22
110.00 0 20 55 1827.55 -24.15 5.70 194.47 114.92 0 51 23 827.5 -12.03 343.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4595 TRA 3.4478 TC3-2.8613 BAU .7910 SGT 5430.2 SGR 2147.1 S63 1621.2 ST 114.2 SR 59.2 S8 126.5
RDE .8296 RRA 1.3918 RC3 -.6368 FAU .14457 RRT .9672 RRF .9845 RTF .9809 CRT .9885 CRS -.9775 CST -.9880
FDE 4.8923 FRA13.1440 FC3-6.2003 B8P 9627 SGB 5839.3 R23 .1077 R13 .9851 LSA 180.1 HSA 11.5 H8A 1.3
BDE 1.6788 BRA 3.7181 BC3 2.9313 F8P 2961 S61 5817.1 S62 509.2 THA 21.10 EL1 128.4 EL2 8.0 ALF 27.26

LAUNCH DATE MAR 19 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

DISTANCE 633.731

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.271 GAL -6.11 AZL 88.88 HCA 212.53 SMA 179.12 ECC .19856 INC 1.1244 V1 29.920
RP 214.39 LAP -.80 LOP 30.26 VP 22.296 GAP 1.48 AZP 90.95 TAL 321.47 TAP 174.00 RCA 143.55 APO 214.69 VE 25.609
RC 146.344 GL 8.01 GP -16.61 ZAL 150.07 ZAP 69.74 ETS 172.42 ZAE 110.92 ETE 186.14 ZAC 86.07 ETC 268.42 LVI 10.88

PLANETOCENTRIC CONIC

C3 20.426 VHL 4.520 DLA -4.37 RAL 328.16 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 3.669 DPA -41.12 RAP 281.00 ECC 1.3362
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17.42 1 3051.93 -33.04 93.77 188.64 126.41 18 32 53 2051.9 -16.49 74.25
60.00 18 26 14 2934.29 -28.12 86.93 192.39 120.15 19 15 9 1934.3 -13.89 66.07
70.00 19 23 39 2765.46 -23.71 75.82 194.97 115.34 20 9 45 1765.5 -11.47 54.13
80.00 20 36 40 2536.89 -20.51 59.99 196.49 112.18 21 18 57 1536.9 -9.68 37.85
90.00 22 0 9 2267.49 -19.32 40.69 196.99 111.06 22 37 57 1267.5 -9.00 18.41
100.00 23 19 32 2011.36 -20.51 21.36 196.49 112.18 23 53 3 1011.4 -9.68 359.22
110.00 0 27 2 1812.28 -23.71 4.74 194.97 115.34 0 57 14 812.3 -11.47 343.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5134 TRA 3.6267 TC3-2.9279 BAU .8159 SGT 5652.3 SGR 2041.2 S63 1598.7 ST 118.3 SR 57.3 S8 125.3
RDE .8129 RRA 1.3196 RC3 -.5953 FAU .14210 RRT .9654 RRF .9818 RTF .9816 CRT .9853 CRS -.9744 CST -.9963
FDE 4.8425 FRA13.0438 FC3-6.0226 B8P 9932 SGB 6009.5 R23 .1021 R13 .9850 LSA 181.2 HSA 11.9 S8A 1.3
BDE 1.7179 BRA 3.6594 BC3 2.9878 F8P 2928 S61 5986.5 S62 502.6 THA 19.36 EL1 131.2 EL2 8.8 ALF 25.65

LAUNCH DATE MAR 19 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

DISTANCE 637.888

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.275 GAL -6.18 AZL 88.98 HCA 213.70 SMA 179.19 ECC .19950 INC 1.0246 V1 29.920
RP 214.72 LAP -.57 LOP 31.44 VP 22.261 GAP 1.28 AZP 90.85 TAL 321.13 TAP 174.63 RCA 143.44 APO 214.93 VE 25.573
RC 146.770 GL 7.25 GP -15.95 ZAL 150.49 ZAP 68.14 ETS 172.15 ZAE 109.42 ETE 185.41 ZAC 86.72 ETC 268.32 LVI 10.45

PLANETOCENTRIC CONIC

C3 20.695 VHL 4.549 DLA -5.00 RAL 328.66 RAD 6643.1 VEL 11.862 PTH 6.88 VHP 3.691 DPA -40.50 RAP 280.41 ECC 1.3406
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 19 3042.44 -32.86 93.20 189.10 126.75 18 37 1 2042.4 -16.03 73.82
60.00 18 31 13 2922.99 -27.73 86.22 192.89 120.50 19 19 56 1923.0 -13.41 65.49
70.00 19 29 24 2751.92 -23.31 74.97 195.51 115.70 20 15 16 1751.9 -10.97 53.40
80.00 20 43 6 2521.16 -20.11 59.00 197.05 112.55 21 25 8 1521.2 -9.17 36.97
90.00 22 6 54 2250.79 -18.91 39.64 197.56 111.43 22 44 25 1250.8 -8.49 17.45
100.00 23 25 58 1995.64 -20.11 20.37 197.05 112.55 23 59 14 995.6 -9.17 358.33
110.00 0 32 46 1798.74 -23.31 3.89 195.51 115.70 1 2 45 798.7 -10.97 342.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5688 TRA 3.8058 TC3-2.9877 BAU .8408 SGT 5868.9 SGR 1941.3 S63 1573.1 ST 122.4 SR 55.6 S8 124.0
RDE .7989 RRA 1.2510 RC3 -.5555 FAU .13926 RRT .9630 RRF .9787 RTF .522 CRT .9818 CRS -.9710 CST -.9986
FDE 4.7913 FRA12.9244 FC3-5.8257 B8P 10248 SGB 6181.8 R23 .0965 R13 .9850 LSA 182.5 HSA 12.2 H8A 1.3
BDE 1.7604 BRA 4.0060 BC3 3.0389 F8P 2892 S61 6161.5 S62 498.5 THA 17.79 EL1 134.1 EL2 9.6 ALF 24.17

LAUNCH DATE MAR 19 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

DISTANCE 642.040

EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.280 GAL -6.26 AZL 89.07 HCA 214.88 SMA 179.26 ECC .20048 INC .9310 V1 29.920
RP 215.04 LAP -.83 LOP 32.61 VP 22.225 GAP 1.09 AZP 90.78 TAL 320.78 TAP 175.65 RCA 143.32 APO 215.20 VE 25.536
RC 151.211 GL 6.53 GP -15.34 ZAL 150.89 ZAP 66.58 ETS 171.91 ZAE 107.93 ETE 184.75 ZAC 87.34 ETC 268.24 LVI 10.03

PLANETOCENTRIC CONIC

C3 20.989 VHL 4.581 DLA -5.58 RAL 329.14 RAD 6643.3 VEL 11.874 PTH 6.89 VHP 3.717 DPA -39.90 RAP 279.90 ECC 1.3454
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 50 24 3034.23 -32.32 92.70 189.60 127.03 18 40 58 2034.2 -15.64 73.45
60.00 18 35 56 2913.10 -27.39 85.81 193.42 120.80 19 24 29 1913.1 -12.99 64.99
70.00 19 34 49 2739.98 -22.96 74.22 196.07 116.01 20 20 29 1740.0 -10.34 52.75
80.00 20 49 10 2507.18 -19.74 58.13 197.64 112.87 21 30 57 1507.2 -8.71 36.18
90.00 22 13 15 2235.89 -18.53 38.70 198.16 111.75 22 50 31 1235.9 -8.02 16.60
100.00 23 32 2 1981.65 -19.74 19.49 197.64 112.87 24 5 4 981.7 -8.71 357.55
110.00 0 38 11 1786.78 -22.96 3.14 196.07 116.01 1 7 58 786.8 -10.34 341.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6257 TRA 3.9839 TC3-3.0422 BAU .8659 SGT 6079.8 SGR 1847.3 S63 1545.2 ST 126.5 SR 54.0 S8 122.7
RDE .7862 RRA 1.1859 RC3 -.5180 FAU .13624 RRT .9600 RRF .9751 RTF .9826 CRT .9780 CRS -.9674 CST -.9988
FDE 4.7398 FRA12.7874 FC3-5.6195 B8P 10564 SGB 6354.3 R23 .0911 R13 .9850 LSA 183.9 HSA 12.6 H8A 1.3
BDE 1.8058 BRA 4.1567 BC3 3.0860 F8P 2851 S61 6334.9 S62 496.5 THA 16.36 EL1 137.1 EL2 10.4 ALF 22.81

LAUNCH DATE MAR 19 1971 FLIGHT TIME 260.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC DISTANCE 646.188 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.284 GAL -6.34 AZL 89.16 HCA 216.05 SMA 179.34 ECC .20152 INC .8429 V1 29.920
RP 215.37 LAP -.50 LOP 33.78 VP 22.190 GAP .89 AZP 90.68 TAL 320.42 TAP 176.46 RCA 143.20 APO 215.48 V2 25.499
RC 153.669 GL 3.87 GP -14.75 ZAL 151.26 ZAP 63.07 ETS 171.70 ZAE 106.46 ETE 184.15 ZAC 87.92 ETC 268.16 LVI 9.63
PLANETOCENTRIC CONIC
C3 21.309 VHL 4.616 DLA -6.12 RAL 329.62 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 3.745 DPA -39.33 RAP 279.45 ECC 1.3507
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 54 16 3027.18 -32.03 92.28 190.12 127.27 18 44 43 2027.2 -15.29 73.13
60.00 18 40 23 2904.51 -27.09 85.08 193.97 121.06 19 28 48 1904.5 -12.63 64.56
70.00 19 39 56 2729.46 -22.64 73.57 196.65 116.28 20 25 25 1729.5 -10.15 52.18
80.00 20 54 53 2494.80 -19.41 57.35 198.24 113.14 21 36 28 1494.8 -8.31 35.48
90.00 22 19 14 2222.65 -18.20 37.88 198.78 112.03 22 56 16 1222.6 -7.61 15.85
100.00 23 37 45 1969.27 -19.41 18.72 198.24 113.14 24 10 34 969.3 -8.31 356.85
110.00 0 43 18 1776.27 -22.64 2.49 196.65 116.28 1 12 54 776.3 -10.15 341.10
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.6629 TRA 4.1615 TC3-3.0919 BAU .8915 SGT 6284.8 SGR 1758.6 SG3 1515.0 ST 130.4 SR 52.5 SS 121.3
RDE .7752 RRA 1.1238 RC3 -.4830 FAU .13313 RRT .9564 RRF .9711 RTF .9830 CRT .9738 CRS -.9635 CST -.9990
PDE 4.6828 FRA12.6343 FC3-5.4088 BSP 10875 SGB 6526.2 R23 .0858 R13 .9850 LSA 185.2 MSA 13.0 S8A 1.3
BDE 1.8529 BRA 4.3106 BC3 3.1294 FSP 2802 SG1 6507.3 SG2 496.1 THA 15.07 EL1 140.1 EL2 11.1 ALF 21.56

LAUNCH DATE MAR 19 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC DISTANCE 650.332 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.290 GAL -6.43 AZL 89.24 HCA 217.21 SMA 179.42 ECC .20260 INC .7601 V1 29.920
RP 215.71 LAP -.46 LOP 34.95 VP 22.155 GAP .70 AZP 90.61 TAL 320.05 TAP 177.26 RCA 143.07 APO 215.77 V2 25.461
RC 156.143 GL 5.25 GP -14.20 ZAL 151.65 ZAP 63.61 ETS 171.51 ZAE 105.02 ETE 183.61 ZAC 86.46 ETC 268.09 LVI 9.24
PLANETOCENTRIC CONIC
C3 21.653 VHL 4.653 DLA -6.61 RAL 330.08 RAD 6643.6 VEL 11.902 PTH 6.91 VHP 3.776 DPA -38.79 RAP 279.06 ECC 1.3564
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 57 57 3021.21 -31.79 91.92 190.66 127.47 18 48 19 2021.2 -15.00 72.66
60.00 18 44 37 2897.12 -26.83 84.63 194.55 121.28 19 32 54 1897.1 -12.31 64.19
70.00 19 44 45 2720.28 -22.36 73.00 197.26 116.51 20 30 6 1720.3 -9.81 51.69
80.00 21 0 16 2483.88 -19.12 56.68 198.87 113.38 21 41 40 1483.9 -7.95 34.87
90.00 22 24 52 2210.94 -17.90 37.15 199.41 112.27 23 1 43 1210.9 -7.25 15.19
100.00 23 43 8 1958.35 -19.12 18.04 198.87 113.38 24 15 46 958.3 -7.95 356.24
110.00 0 48 8 1767.10 -22.36 1.92 197.26 116.51 1 17 35 767.1 -9.81 340.60
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.7416 TRA 4.3390 TC3-3.1359 BAU .9171 SGT 6484.0 SGR 1675.4 SG3 1483.1 ST 134.3 SR 51.2 SS 119.8
RDE .7660 RRA 1.0647 RC3 -.4500 FAU .12984 RRT .9521 RRF .9664 RTF .9833 CRT .9693 CRS -.9594 CST -.9992
PDE 4.6259 FRA12.4691 FC3-5.1910 BSP 11195 SGB 6697.0 R23 .0808 R13 .9849 LSA 186.6 MSA 13.3 S8A 1.3
BDE 1.9028 BRA 4.4677 BC3 3.1681 FSP 2753 SG1 6678.5 SG2 497.2 THA 13.90 EL1 143.2 EL2 11.8 ALF 20.41

LAUNCH DATE MAR 19 1971 FLIGHT TIME 272.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC DISTANCE 654.471 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.295 GAL -6.51 AZL 89.32 HCA 218.37 SMA 179.50 ECC .20374 INC .6817 V1 29.920
RP 216.04 LAP -.42 LOP 36.11 VP 22.119 GAP .50 AZP 90.53 TAL 319.67 TAP 178.04 RCA 142.93 APO 216.08 V2 25.424
RC 158.631 GL 4.67 GP -13.68 ZAL 152.01 ZAP 62.19 ETS 171.34 ZAE 103.60 ETE 183.12 ZAC 86.98 ETC 268.04 LVI 8.86
PLANETOCENTRIC CONIC
C3 22.021 VHL 4.693 DLA -7.06 RAL 330.84 RAD 6643.7 VEL 11.917 PTH 6.92 VHP 3.810 DPA -38.28 RAP 278.73 ECC 1.3624
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 18 1 28 3018.24 -31.58 91.63 191.23 127.64 18 51 44 2018.2 -14.76 72.63
60.00 18 48 38 2890.82 -26.61 84.25 195.14 121.46 19 36 48 1890.8 -12.04 63.87
70.00 19 49 20 2712.34 -22.12 72.51 197.88 116.71 20 34 32 1712.3 -9.92 51.26
80.00 21 5 22 2474.32 -18.86 56.08 199.52 113.59 21 46 36 1474.3 -7.64 34.34
90.00 22 30 11 2200.64 -17.63 36.51 200.06 112.48 23 6 52 1200.6 -6.92 14.60
100.00 23 48 13 1948.79 -18.86 17.45 199.52 113.59 24 20 42 948.8 -7.64 359.70
110.00 0 52 42 1759.18 -22.12 1.43 197.88 116.71 1 22 1 759.2 -9.92 340.18
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8019 TRA 4.5166 TC3-3.1749 BAU .9428 SGT 6677.9 SGR 1597.3 SG3 1450.0 ST 138.1 SR 49.9 SS 118.4
RDE .7583 RRA 1.0087 RC3 -.4192 FAU .12648 RRT .9472 RRF .9612 RTF .9835 CRT .9646 CRS -.9551 CST -.9993
PDE 4.5673 FRA12.2945 FC3-4.9715 BSP 11507 SGB 6866.3 R23 .0761 R13 .9849 LSA 188.1 MSA 13.7 S8A 1.3
BDE 1.9548 BRA 4.6278 BC3 3.2025 FSP 2700 SG1 6848.1 SG2 499.5 THA 12.84 EL1 146.3 EL2 12.4 ALF 19.36

LAUNCH DATE MAR 19 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC DISTANCE 658.605 EARTH TO MARS
RL 148.92 LAL .00 LOL 177.74 VL 32.301 GAL -6.60 AZL 89.39 HCA 219.53 SMA 179.60 ECC .20492 INC .6075 V1 29.920
RP 216.39 LAP -.39 LOP 37.27 VP 22.084 GAP .30 AZP 90.47 TAL 319.29 TAP 178.82 RCA 142.79 APO 216.40 V2 25.385
RC 161.134 GL 4.12 GP -13.19 ZAL 152.36 ZAP 60.81 ETS 171.20 ZAE 102.21 ETE 182.67 ZAC 89.47 ETC 267.99 LVI 8.48
PLANETOCENTRIC CONIC
C3 22.412 VHL 4.734 DLA -7.48 RAL 331.00 RAD 6643.9 VEL 11.933 PTH 6.94 VHP 3.848 DPA -37.80 RAP 278.46 ECC 1.3688
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 4 49 3012.18 -31.41 91.39 191.81 127.77 18 55 2 2012.2 -14.56 72.45
60.00 18 52 26 2885.54 -26.42 83.93 195.76 121.62 19 40 32 1885.5 -11.82 63.61
70.00 19 53 39 2705.54 -21.91 72.10 198.52 116.88 20 38 45 1705.5 -9.26 50.89
80.00 21 10 10 2466.01 -18.63 55.57 200.18 113.76 21 51 16 1466.0 -7.36 33.87
90.00 22 35 12 2191.64 -17.40 35.96 200.73 112.63 23 11 44 1191.6 -6.64 14.09
100.00 23 53 2 1940.48 -18.63 16.94 200.18 113.76 24 25 23 940.5 -7.36 355.24
110.00 0 57 2 1752.36 -21.91 1.01 198.52 116.88 1 26 14 752.4 -9.26 339.81
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8619 TRA 4.6937 TC3-3.2093 BAU .9687 SGT 6865.7 SGR 1524.4 SG3 1415.8 ST 141.8 SR 48.7 SS 116.8
RDE .7517 RRA .9552 RC3 -.3904 FAU .12299 RRT .9415 RRF .9552 RTF .9836 CRT .9596 CRS -.9506 CST -.9994
PDE 4.5064 FRA12.1107 FC3-4.7510 BSP 11816 SGB 7032.9 R23 .0718 R13 .9848 LSA 189.5 MSA 14.1 S8A 1.3
BDE 2.0079 BRA 4.7699 BC3 3.2330 FSP 2644 SG1 7014.9 SG2 502.9 THA 11.87 EL1 149.4 EL2 13.0 ALF 18.40

LAUNCH DATE MAR 19 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC DISTANCE 662.733 EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.307 GAL -6.69 AZL 89.46 HCA 220.69 SMA 179.69 ECC .20614 INC .5370 V1 29.920
 RP 216.73 LAP -.35 LOP 38.43 VP 22.048 GAP .11 AZP 90.41 TAL 318.89 TAP 179.58 RCA 142.65 APO 216.73 V2 25.347
 RC 163.849 GL 3.61 GP -12.72 ZAL 152.71 ZAP 59.48 ETS 171.07 ZAE 100.85 ETE 182.27 ZAC 89.94 ETC 267.95 LVI 8.12

PLANETOCENTRIC CONIC

C3 22.826 VHL 4.778 DLA -7.86 RAL 331.44 RAD 6644.1 VEL 11.950 PTH 6.95 VHP 3.884 DPA -37.34 RAP 278.25 ECC 1.3757
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 2 3008.97 -31.28 91.20 192.41 127.88 18 58 11 2009.0 -14.41 72.31
 60.00 18 58 4 2881.21 -26.26 83.67 196.39 121.74 19 44 5 1881.2 -11.63 63.39
 70.00 19 57 46 2699.79 -21.74 71.74 199.17 117.02 20 42 46 1699.8 -9.05 50.59
 80.00 21 14 44 2458.86 -18.43 55.13 200.85 113.91 21 55 42 1458.9 -7.13 33.47
 90.00 22 39 58 2183.86 -17.19 35.48 201.41 112.81 23 16 21 1183.9 -6.39 13.65
 100.00 0 1 31 1933.34 -18.43 16.50 200.85 113.91 0 33 45 933.3 -7.13 354.84
 110.00 1 1 8 1746.61 -21.74 .66 199.17 117.02 1 30 15 746.6 -9.05 339.50

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.9232 TRA 4.8708 TC3-3.2402 BAU .9950 SGT 7047.9 SGR 1456.2 SG3 1380.7 ST 145.4 SR 47.7 SS 115.2
 RDE .7465 RRA .9043 RC3 -.3638 FAU .11954 RRT .9350 RRF .9485 RTF .9836 CRT .9544 CRS -.9459 CST -.9995
 FDE 4.4448 FRA11.9189 FC3-4.5339 BSP 12113 SGB 7196.8 R23 .0678 R13 .9847 LSA 191.0 MSA 14.5 S8A 1.3
 BDE 2.0630 BRA 4.9538 BC3 3.2606 F8P 2584 SG1 7178.9 SG2 507.2 THA 10.99 EL1 152.4 EL2 13.6 ALF 17.52

LAUNCH DATE MAR 19 1971 FLIGHT TIME 278.00 ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC DISTANCE 666.856 EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.314 GAL -6.78 AZL 89.53 HCA 221.84 SMA 179.79 ECC .20741 INC .4700 V1 29.920
 RP 217.08 LAP -.31 LOP 39.58 VP 22.013 GAP -.09 AZP 90.35 TAL 318.50 TAP 180.34 RCA 142.90 APO 217.08 V2 25.308
 RC 166.178 GL 3.13 GP -12.28 ZAL 153.04 ZAP 58.20 ETS 170.96 ZAE 99.52 ETE 181.90 ZAC 90.38 ETC 267.93 LVI 7.76

PLANETOCENTRIC CONIC

C3 23.282 VHL 4.823 DLA -8.21 RAL 331.88 RAD 6644.3 VEL 11.969 PTH 6.97 VHP 3.924 DPA -36.90 RAP 278.08 ECC 1.3828
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 5 3006.55 -31.18 91.06 193.03 127.96 19 1 12 2006.5 -14.29 72.20
 60.00 18 59 31 2877.74 -26.14 83.46 197.03 121.84 19 47 29 1877.7 -11.49 63.22
 70.00 20 1 40 2695.03 -21.59 71.45 199.84 117.13 20 46 35 1695.0 -8.87 50.33
 80.00 21 19 2 2452.81 -18.27 54.76 201.53 114.04 21 59 55 1452.8 -6.93 33.13
 90.00 22 44 27 2177.21 -17.01 35.07 202.10 112.93 23 20 45 1177.2 -6.18 13.28
 100.00 0 5 50 1927.28 -18.27 16.13 201.53 114.04 0 37 57 927.3 -6.93 354.50
 110.00 1 5 2 1741.85 -21.59 .37 199.84 117.13 1 34 4 741.8 -8.87 339.25

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 1.9869 TRA 5.0488 TC3-3.2853 BAU 1.0210 SGT 7225.8 SGR 1393.1 SG3 1345.6 ST 149.0 SR 46.7 SS 113.7
 RDE .7426 RRA .8560 RC3 -.3387 FAU .11592 RRT .9276 RRF .9410 RTF .9836 CRT .9490 CRS -.9411 CST -.9996
 FDE 4.3860 FRA11.7258 FC3-4.3143 BSP 12428 SGB 7358.9 R23 .0643 R13 .9845 LSA 192.6 MSA 14.9 S8A 1.3
 BDE 2.1211 BRA 5.1208 BC3 3.2829 F8P 2528 SG1 7341.1 SG2 812.3 THA 10.19 EL1 155.8 EL2 14.1 ALF 16.71

LAUNCH DATE MAR 19 1971 FLIGHT TIME 280.00 ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC DISTANCE 670.973 EARTH TO MARS

RL 148.92 LAL .00 LOL 177.74 VL 32.320 GAL -6.88 AZL 89.59 HCA 222.99 SMA 179.89 ECC .20873 INC .4060 V1 29.920
 RP 217.43 LAP -.28 LOP 40.73 VP 21.977 GAP -.28 AZP 90.30 TAL 318.09 TAP 181.08 RCA 142.35 APO 217.44 V2 25.289
 RC 168.717 GL 2.68 GP -11.86 ZAL 153.38 ZAP 56.95 ETS 170.86 ZAE 98.21 ETE 181.57 ZAC 90.79 ETC 267.51 LVI 7.41

PLANETOCENTRIC CONIC

C3 23.721 VHL 4.870 DLA -8.53 RAL 332.31 RAD 6644.5 VEL 11.988 PTH 6.98 VHP 3.966 DPA -36.48 RAP 277.97 ECC 1.3904
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 14 1 3004.85 -31.11 90.96 193.66 128.01 19 4 8 2004.9 -14.20 72.12
 60.00 19 2 49 2875.09 -26.04 83.30 197.68 121.91 19 50 44 1875.1 -11.37 63.09
 70.00 20 5 22 2691.17 -21.47 71.22 200.52 117.22 20 50 13 1691.2 -8.73 50.12
 80.00 21 23 8 2447.75 -18.12 54.45 202.23 114.14 22 3 55 1447.7 -6.76 32.83
 90.00 22 48 43 2171.60 -16.87 34.73 202.80 113.04 23 24 55 1171.6 -6.01 12.96
 100.00 0 9 33 1922.22 -18.12 15.82 202.23 114.14 0 41 58 922.2 -6.76 354.22
 110.00 1 8 44 1737.99 -21.47 .14 200.52 117.22 1 37 42 738.0 -6.73 339.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE 2.0473 TRA 5.2231 TC3-3.2929 BAU 1.0491 SGT 7395.5 SGR 1332.9 SG3 1308.9 ST 152.4 SR 45.8 SS 111.8
 RDE .7386 RRA .8089 RC3 -.3176 FAU .11304 RRT .9195 RRF .9326 RTF .9837 CRT .9433 CRS -.9358 CST -.9997
 FDE 4.3117 FRA11.5149 FC3-4.1255 BSP 12673 SGB 7514.7 R23 .0601 R13 .9843 LSA 193.9 MSA 15.3 S8A 1.3
 BDE 2.1765 BRA 5.2854 BC3 3.3082 F8P 2453 SG1 7496.9 SG2 516.9 THA 9.45 EL1 158.4 EL2 14.6 ALF 15.97

LAUNCH DATE MAR 20 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 409.135

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 33.690 GAL -7.49 AZL 93.04 HCA 142.46 SMA 205.19 ECC .30134 INC 3.0350 V1 29.911
 RP 207.22 LAP -1.85 LOP 321.23 VP 25.181 GAP 17.53 AZP 87.59 TAL 326.87 TAP 109.33 RCA 143.36 APO 267.02 V2 26.432
 RC 56.455 GL -16.49 GP 6.60 ZAL 141.53 ZAP 162.13 ETS 156.50 ZAE 164.29 ETE 132.49 ZAC 108.13 ETC 274.93 LVI -20.00

PLANETOCENTRIC CONIC

C3 38.805 VHL 6.229 DLA -29.18 RAL 331.94 RAD 6650.2 VEL 12.597 PTH 7.46 VHP 8.556 DPA -14.43 RAP 305.79 ECC 1.6386
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 39 35 2691.12 -16.80 74.83 198.65 135.19 20 24 26 1691.1 1.43 58.75
 60.00 21 1 2 2474.45 -9.94 61.71 205.04 129.26 21 42 16 1474.5 6.14 43.75
 70.00 22 49 58 2154.03 -2.31 41.44 210.75 124.09 23 25 52 1154.0 11.54 21.77
 80.00 1 26 44 1675.18 6.88 10.78 216.39 119.13 1 54 39 675.2 16.23 349.16
 82.50 2 39 38 1441.38 12.16 356.32 219.23 116.73 3 3 39 441.4 22.13 333.52
 100.00 4 9 36 1149.65 6.88 332.15 216.39 119.13 4 28 45 149.7 18.23 310.53
 110.00 3 53 20 1200.84 -2.31 330.36 210.75 124.08 4 13 21 200.8 11.54 310.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0492 TRA -2.0074 TC3 -.0936 BAU .1023 SGT 2325.8 SGR 529.8 SG3 283.9 ST 57.6 SR 22.4 SS 44.6
 RDE -.4832 RRA -.1812 RC3 .1736 FAU .04603 RRT .6538 RRF -.6929 RTF -.8874 CRT .8980 CRS .7793 CST .9748
 FDE .9083 FRA 2.7514 FC3 -1.0448 BSP 4047 SGB 2385.4 R23 -.1259 R13 -.8909 LSA 75.0 MSA 13.6 SSA 1.1
 BDE 1.1515 BRA 2.0155 BC3 .1972 FSP 421 SGI 2352.2 SG2 396.4 THA 8.72 EL1 61.1 EL2 9.3 ALF 19.74

LAUNCH DATE MAR 20 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 412.442

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 33.599 GAL -7.34 AZL 93.12 HCA 143.72 SMA 203.26 ECC .29414 INC 3.1224 V1 29.911
 RP 207.13 LAP -1.85 LOP 322.50 VP 25.070 GAP 17.07 AZP 87.48 TAL 326.90 TAP 110.62 RCA 143.47 APO 263.04 V2 26.443
 RC 56.701 GL -17.25 GP 6.98 ZAL 141.33 ZAP 161.13 ETS 158.56 ZAE 164.57 ETE 129.37 ZAC 108.48 ETC 275.02 LVI -20.55

PLANETOCENTRIC CONIC

C3 37.480 VHL 6.120 DLA -29.85 RAL 332.36 RAD 6649.8 VEL 12.544 PTH 7.42 VHP 8.318 DPA -13.99 RAP 306.03 ECC 1.6165
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 45 2 2686.01 -15.62 73.71 198.79 135.54 20 29 28 1666.6 2.67 57.72
 60.00 21 8 18 2445.09 -8.67 60.27 205.30 129.51 21 49 3 1445.1 7.42 42.33
 70.00 23 1 6 2113.26 -.75 39.31 211.24 124.15 23 36 19 1113.3 13.02 19.53
 80.00 2 15 49 1514.06 12.10 1.67 218.91 117.51 2 41 3 514.1 12.38 339.00
 80.03 2 22 3 1494.18 12.89 .51 219.23 117.24 2 46 57 494.2 22.82 337.70
 100.00 4 58 41 6276.57 12.10 300.94 218.91 117.51 6 43 18 5276.6 22.38 278.28
 110.00 4 4 28 1160.08 -.75 328.23 211.24 124.15 4 23 48 160.1 13.02 308.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0530 TRA -1.9848 TC3 -.0911 BAU .1040 SGT 2360.6 SGR 546.9 SG3 301.5 ST 58.8 SR 22.4 SS 46.2
 RDE -.4736 RRA -.2075 RC3 .1866 FAU .04831 RRT .6907 RRF -.7326 RTF -.8903 CRT .9099 CR8 .7934 CST .9737
 FDE .9511 FRA 2.8587 FC3 -1.1164 BSP 4160 SGB 2423.1 R23 -.1388 R13 -.8943 LSA 76.9 MSA 13.5 SSA 1.1
 BDE 1.1547 BRA 1.9954 BC3 .2076 FSP 450 SGI 2391.4 SG2 390.4 THA 9.34 EL1 62.4 EL2 6.8 ALF 19.54

LAUNCH DATE MAR 20 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 415.818

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 33.512 GAL -7.20 AZL 93.22 HCA 144.98 SMA 201.47 ECC .28731 INC 3.2153 V1 29.911
 RP 207.05 LAP -1.84 LOP 323.76 VP 24.985 GAP 16.82 AZP 87.37 TAL 326.94 TAP 111.92 RCA 143.58 APO 259.35 V2 26.453
 RC 57.030 GL -18.05 GP 7.39 ZAL 141.09 ZAP 160.09 ETS 158.57 ZAE 164.76 ETE 126.27 ZAC 108.86 ETC 275.11 LVI -21.04

PLANETOCENTRIC CONIC

C3 36.228 VHL 6.019 DLA -30.56 RAL 332.80 RAD 6649.3 VEL 12.495 PTH 7.38 VHP 8.087 DPA -13.52 RAP 306.23 ECC 1.5982
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 50 31 2841.53 -14.39 72.58 199.02 135.86 20 34 53 1641.5 3.92 56.87
 60.00 21 16 10 2414.53 -7.34 58.78 205.65 129.74 21 58 25 1414.5 8.75 40.83
 70.00 23 13 42 2088.72 .95 36.99 211.89 124.14 23 48 10 1088.7 14.61 17.03
 77.91 2 8 0 1536.00 13.24 3.92 219.29 117.79 2 33 36 536.0 23.54 341.10
 77.91 2 8 0 1536.00 13.24 3.92 219.29 117.79 2 33 36 536.0 23.54 341.10
 77.91 2 8 0 1536.00 13.24 3.92 219.29 117.79 2 33 36 536.0 23.54 341.10
 110.00 4 17 4 1115.54 .95 325.91 211.89 124.14 4 38 39 1115.5 14.61 305.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0594 TRA -1.9585 TC3 -.0863 BAU .1058 SGT 2390.8 SGR 568.1 SG3 320.3 ST 60.0 SR 22.5 SS 47.8
 RDE -.4658 RRA -.2355 RC3 .2006 FAU .04986 RRT .7257 RRF -.7703 RTF -.8734 CRT .9217 CR8 .8082 CST .9727
 FDE .9971 FRA 2.8703 FC3 -1.1916 BSP 4240 SGB 2457.2 R23 -.1320 R13 -.8980 LSA 78.8 MSA 13.4 SSA 1.1
 BDE 1.1573 BRA 1.9726 BC3 .2184 FSP 481 SGI 2426.8 SG2 385.0 THA 10.04 EL1 63.5 EL2 8.2 ALF 19.43

LAUNCH DATE MAR 20 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 419.257

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 33.430 GAL -7.06 AZL 93.31 HCA 146.28 SMA 199.80 ECC .28083 INC 3.3143 V1 29.911
 RP 206.97 LAP -1.84 LOP 325.03 VP 24.864 GAP 16.18 AZP 87.24 TAL 326.98 TAP 113.23 RCA 143.69 APO 255.91 V2 26.462
 RC 57.440 GL -18.89 GP 7.84 ZAL 140.82 ZAP 159.02 ETS 158.53 ZAE 164.86 ETE 123.23 ZAC 109.28 ETC 275.19 LVI -21.98

PLANETOCENTRIC CONIC

C3 35.104 VHL 5.925 DLA -31.30 RAL 333.26 RAD 6648.9 VEL 12.450 PTH 7.35 VHP 7.864 DPA -13.02 RAP 306.41 ECC 1.5777
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 57 6 2615.79 -13.13 71.43 199.33 136.15 20 40 42 1615.8 5.21 55.59
 60.00 21 24 45 2382.58 -5.95 57.23 206.12 129.93 22 4 27 1382.6 10.13 39.26
 70.00 23 28 17 2018.99 2.85 34.39 212.74 124.05 24 1 56 1019.0 16.34 14.25
 75.98 1 55 59 1571.75 13.79 6.91 219.42 118.38 2 22 11 571.7 24.28 344.09
 75.98 1 55 59 1571.75 13.79 6.91 219.42 118.38 2 22 11 571.7 24.28 344.09
 75.98 1 55 59 1571.75 13.79 6.91 219.42 118.38 2 22 11 571.7 24.28 344.09
 110.00 4 31 39 1065.81 2.85 323.31 212.74 124.05 4 49 25 65.8 16.34 303.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0654 TRA -1.9294 TC3 -.0806 BAU .1081 SGT 2416.5 SGR 594.0 SG3 340.0 ST 61.0 SR 22.7 SS 49.5
 RDE -.4594 RRA -.2651 RC3 .2158 FAU .05149 RRT .7584 RRF -.8053 RTF -.8966 CRT .9334 CR8 .8238 CST .9717
 FDE 1.0466 FRA 3.0854 FC3 -1.2698 BSP 4311 SGB 2488.4 R23 -.1658 R13 -.9018 LSA 80.7 MSA 13.3 SSA 1.0
 BDE 1.1602 BRA 1.9475 BC3 .2304 FSP 515 SGI 2459.1 SG2 300.4 THA 10.82 EL1 64.7 EL2 7.7 ALF 19.40

LAUNCH DATE MAR 20 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 33.353 GAL -6.93 AZL 93.42 HCA 147.81 SMA 198.25 ECC .27468 INC 3.4200 V1 29.911
 RP 206.90 LAP -1.84 LOP 326.29 VP 24.768 GAP 15.75 AZP 87.11 TAL 327.03 TAP 114.54 RCA 143.80 APO 252.71 V2 26.469
 RC 97.930 GL -19.77 GP 8.32 ZAL 140.52 ZAP 157.91 ETS 158.44 ZAE 164.85 ETE 120.31 ZAC 109.74 ETC 275.27 LVI -22.10

PLANETOCENTRIC CONIC
 C3 34.084 VHL 5.838 DLA -32.09 RAL 333.74 RAD 6648.6 VEL 12.409 PTH 7.32 VHP 7.648 DPA -12.49 RAP 306.54 ECC 1.5809
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 3 31 2589.32 -11.83 70.27 199.75 136.43 20 47 0 1589.3 6.54 34.47
 60.00 21 34 9 2348.98 -4.48 55.61 206.72 130.09 22 13 18 1349.0 11.57 37.59
 70.00 23 45 45 1961.50 5.03 31.38 213.86 123.83 24 18 26 961.5 18.29 10.93
 74.16 1 45 24 1603.49 14.36 9.63 219.63 119.01 2 12 8 603.5 25.04 346.81
 74.16 1 45 24 1603.49 14.36 9.63 219.63 119.01 2 12 8 603.5 25.04 346.81
 74.16 1 45 24 1603.49 14.36 9.63 219.63 119.01 2 12 8 603.5 25.04 346.81
 110.00 4 49 7 1008.32 5.03 320.30 213.86 123.83 5 5 55 8.3 18.29 299.83

DIFFERENTIAL CORRECTIONS
 TDE-1.0717 TRA-1.8988 TC3 -.0749 BAU .1112
 RDE -.4548 RRA -.2988 RC3 .2322 FAU .05321
 FDE 1.0991 FRA 3.2042 FC3-1.3516 BSP 4378
 BDE 1.1641 BRA 1.9218 BC3 .2440 FSP 549

MID-COURSE EXECUTION ACCURACY
 SGT 2439.7 SGR 625.1 SG3 360.7
 RRT .7880 RRF -.8373 RTF -.8994
 SGB 2518.5 R23 -1.8006 R13 -.9055
 SGI 2490.1 SGI 377.0 THA 11.69

ORBIT DETERMINATION ACCURACY
 ST 62.1 SR 22.9 SS 51.2
 CRT .9448 CR8 .8397 CST .9708
 LSA 82.6 MSA 13.3 SSA 1.0
 EL1 65.8 EL2 7.1 ALF 19.45

LAUNCH DATE MAR 20 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 33.279 GAL -6.80 AZL 93.53 HCA 148.78 JMA 196.81 ECC .26886 INC 3.5335 V1 29.911
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.676 GAP 15.33 AZP 86.98 TAL 327.08 TAP 115.86 RCA 143.90 APO 249.73 V2 26.476
 RC 58.496 GL -20.71 GP 8.85 ZAL 140.17 ZAP 156.78 ETS 158.30 ZAE 164.75 ETE 117.55 ZAC 110.24 ETC 275.34 LVI -22.68

PLANETOCENTRIC CONIC
 C3 33.188 VHL 5.759 DLA -32.93 RAL 334.25 RAD 6648.2 VEL 12.373 PTH 7.29 VHP 7.441 DPA -11.92 RAP 306.64 ECC 1.5459
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 11 9 2562.02 -10.48 69.08 200.27 136.68 20 53 51 1562.0 7.90 33.31
 60.00 21 44 34 2313.38 -2.91 53.90 207.48 130.21 22 23 7 1313.4 13.09 35.81
 70.00 0 12 1 1890.43 7.71 27.62 215.41 123.38 0 43 32 890.4 20.61 6.72
 72.39 1 35 52 1632.57 14.93 12.19 219.92 119.69 2 3 5 632.6 25.84 349.37
 72.39 1 35 52 1632.57 14.93 12.19 219.92 119.69 2 3 5 632.6 25.84 349.37
 72.39 1 35 52 1632.57 14.93 12.19 219.92 119.69 2 3 5 632.6 25.84 349.37
 110.00 5 11 27 6225.29 7.71 294.45 215.41 123.38 6 55 13 3225.3 20.61 273.55

DIFFERENTIAL CORRECTIONS
 TDE-1.0787 TRA-1.8659 TC3 -.0686 BAU .1149
 RDE -.4517 RRA -.3308 RC3 .2499 FAU .05503
 FDE 1.1559 FRA 3.3263 FC3-1.4364 BSP 4438
 BDE 1.1695 BRA 1.8950 BC3 .2592 FSP 586

MID-COURSE EXECUTION ACCURACY
 SGT 2459.5 SGR 662.2 SG3 382.5
 RRT .8145 RRF -.8859 RTF -.9020
 SGB 2547.1 R23 -1.1959 R13 -.9091
 SGI 2519.4 SGI 375.1 THA 12.65

ORBIT DETERMINATION ACCURACY
 ST 63.1 SR 23.2 SS 33.1
 CRT .9558 CR8 .8560 CST .9695
 LSA 84.6 MSA 13.3 SSA 1.0
 EL1 66.9 EL2 6.4 ALF 19.58

LAUNCH DATE MAR 20 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 33.210 GAL -6.67 AZL 93.66 HCA 150.04 SMA 195.47 ECC .26334 INC 3.6557 V1 29.911
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.589 GAP 14.91 AZP 86.83 TAL 327.14 TAP 117.18 RCA 144.00 APO 246.95 V2 26.482
 RC 59.137 GL -21.70 GP 9.44 ZAL 139.79 ZAP 155.56 ETS 158.12 ZAE 164.54 ETE 115.02 ZAC 110.80 ETC 275.41 LVI -23.29

PLANETOCENTRIC CONIC
 C3 32.350 VHL 5.688 DLA -33.81 RAL 334.80 RAD 6647.9 VEL 12.340 PTH 7.27 VHP 7.240 DPA -11.31 RAP 306.70 ECC 1.5324
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 19 7 2533.72 -9.08 67.86 200.93 136.91 21 1 20 1533.7 9.31 32.10
 60.00 21 56 12 2275.23 -1.24 52.08 208.41 130.29 22 34 8 1275.2 14.69 33.86
 70.00 0 46 42 1783.39 11.67 21.86 217.89 122.33 1 18 25 783.4 23.87 .13
 70.65 1 27 10 1659.76 15.51 14.64 220.30 120.43 1 54 49 659.8 26.65 351.83
 70.65 1 27 10 1659.76 15.51 14.64 220.30 120.43 1 54 49 659.8 26.65 351.83
 70.65 1 27 10 1659.76 15.51 14.64 220.30 120.43 1 54 49 659.8 26.65 351.83
 110.00 5 46 8 6118.25 11.67 288.68 217.89 122.33 7 28 6 5118.2 23.87 286.95

DIFFERENTIAL CORRECTIONS
 TDE-1.0743 TRA-1.8188 TC3 -.0472 BAU .1188
 RDE -.4500 RRA -.3664 RC3 .2701 FAU .05708
 FDE 1.2143 FRA 3.4480 FC3-1.5271 BSP 4344
 BDE 1.1648 BRA 1.8551 BC3 .2742 FSP 622

MID-COURSE EXECUTION ACCURACY
 SGT 2456.7 SGR 705.2 SG3 403.2
 RRT .8390 RRF -.8907 RTF -.5689
 SGB 2555.9 R23 -1.2055 R13 -.9149
 SGI 2528.6 SGI 372.8 THA 13.85

ORBIT DETERMINATION ACCURACY
 ST 63.4 SR 23.6 SS 34.8
 CRT .9655 CR8 .8718 CST .9688
 LSA 86.1 MSA 13.2 SSA .9
 EL1 67.4 EL2 5.8 ALF 19.94

LAUNCH DATE MAR 20 1971

FLIGHT TIME 164.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 33.144 GAL -6.56 AZL 93.79 HCA 151.31 SMA 194.23 ECC .25813 INC 3.7876 V1 29.911
 RP 206.75 LAP -1.82 LOP 330.10 VP 24.503 GAP 14.80 AZP 86.68 TAL 327.19 TAP 118.50 RCA 144.09 APO 244.36 V2 26.487
 RC 59.850 GL -22.75 GP 10.07 ZAL 139.36 ZAP 154.32 ETS 157.90 ZAE 164.23 ETE 112.74 ZAC 111.42 ETC 275.48 LVI -23.95

PLANETOCENTRIC CONIC
 C3 31.838 VHL 5.625 DLA -34.74 RAL 335.38 RAD 6647.6 VEL 12.311 PTH 7.24 VHP 7.048 DPA -10.85 RAP 306.71 ECC 1.5207
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 27 48 2504.37 -7.62 66.61 201.74 137.11 21 9 34 1504.4 10.77 50.83
 60.00 22 0 22 2233.98 .58 50.11 209.57 130.30 22 46 38 1234.0 16.41 31.73
 68.92 1 19 14 1685.40 16.09 17.01 220.79 121.22 1 47 19 685.4 27.50 354.22
 68.92 1 19 14 1685.40 16.09 17.01 220.79 121.22 1 47 19 685.4 27.50 354.22
 68.92 1 19 14 1685.40 16.09 17.01 220.79 121.22 1 47 19 685.4 27.50 354.22
 68.92 1 19 14 1685.40 16.09 17.01 220.79 121.22 1 47 19 685.4 27.50 354.22
 68.92 1 19 14 1685.40 16.09 17.01 220.79 121.22 1 47 19 685.4 27.50 354.22

DIFFERENTIAL CORRECTIONS
 TDE-1.0938 TRA-1.7917 TC3 -.0549 BAU .1248
 RDE -.4522 RRA -.4065 RC3 .2900 FAU .05896
 FDE 1.2827 FRA 3.5771 FC3-1.6133 BSP 4530
 BDE 1.1836 BRA 1.8372 BC3 .2951 FSP 664

MID-COURSE EXECUTION ACCURACY
 SGT 2485.7 SGR 756.7 SG3 429.1
 RRT .8573 RRF -.9123 RTF -.9067
 SGB 2598.3 R23 -1.2266 R13 -.9163
 SGI 2570.8 SGI 376.7 THA 14.95

ORBIT DETERMINATION ACCURACY
 ST 64.9 SR 24.2 SS 56.8
 CRT .9753 CR8 .8883 CST .9671
 LSA 88.6 MSA 13.3 SSA .9
 EL1 69.1 EL2 5.0 ALF 20.13

LAUNCH DATE MAR 20 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 437.233

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 33.082 GAL -6.44 AZL 93.83 HCA 152.58 SMA 193.06 ECC .25318 INC 3.9308 V1 29.911
 RP 206.72 LAP -1.81 LOP 331.37 VP 24.425 GAP 14.11 AZP 86.51 TAL 327.25 TAP 119.83 RCA 144.18 APO 241.94 V2 26.491
 RC 60.633 GL -23.86 GP 10.77 ZAL 136.88 ZAP 153.03 ETS 157.63 ZAE 163.82 ETE 110.76 ZAC 112.10 ETC 275.54 LVI -24.65

PLANETOCENTRIC CONIC

C3 31.024 VHL 5.570 DLA -35.74 RAL 336.02 RAD 6647.4 VEL 12.286 PTH 7.22 VHP 6.864 DPA -9.94 RAP 306.68 ECC 1.5106
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 37 27 2473.62 -6.08 65.30 202.72 137.28 21 18 40 1473.6 12.28 49.49
 60.00 22 24 32 2188.34 2.59 47.93 211.00 130.23 23 1 0 1188.3 16.28 29.32
 67.18 1 11 53 1710.19 16.68 19.35 221.39 122.07 1 40 23 710.2 28.37 356.59
 67.18 1 11 53 1710.19 16.68 19.35 221.39 122.07 1 40 23 710.2 28.37 356.59
 67.18 1 11 53 1710.19 16.68 19.35 221.39 122.07 1 40 23 710.2 28.37 356.59
 67.18 1 11 53 1710.19 16.68 19.35 221.39 122.07 1 40 23 710.2 28.37 356.59

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0989 TRA-1.7465 TC3 -.0425 BAU .1310 SGT 2485.7 SGR 815.6 SG3 453.8 ST 65.6 SR 25.0 SS 56.8
 RDE -.4563 RRA -.4468 RC3 .3129 FAU .06107 RRT .8745 RRF -.9304 RTF -.9096 CRT .9832 CRS .9038 CST .9660
 FDE 1.3541 FRA 3.7045 FC3-1.7042 B8P 4515 SGB 2616.1 R23 -.2588 R13 -.9208 LSA 90.5 MSA 13.4 SSA .9
 BDE 1.1899 BRA 1.8032 BC3 .3157 F8P 705 SGI 2588.3 SG2 379.9 THA 16.37 EL1 70.0 EL2 4.3 ALF 20.62

LAUNCH DATE MAR 20 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 440.958

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 33.023 GAL -6.33 AZL 94.09 HCA 153.84 SMA 191.98 ECC .24851 INC 4.0866 V1 29.911
 RP 206.70 LAP -1.80 LOP 332.84 VP 24.349 GAP 13.71 AZP 86.33 TAL 327.31 TAP 121.15 RCA 144.27 APO 239.69 V2 26.494
 RC 61.483 GL -25.05 GP 11.95 ZAL 138.34 ZAP 151.68 ETS 157.31 ZAE 163.30 ETE 109.09 ZAC 112.86 ETC 275.59 LVI -25.41

PLANETOCENTRIC CONIC

C3 30.518 VHL 5.524 DLA -36.79 RAL 336.71 RAD 6647.2 VEL 12.266 PTH 7.21 VHP 6.888 DPA -9.17 RAP 306.59 ECC 1.5022
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 48 8 2441.31 -4.46 63.94 203.90 137.42 21 28 50 1441.3 13.87 48.06
 60.00 22 42 28 2136.58 4.86 45.45 212.79 130.06 23 18 4 1136.6 20.35 26.52
 65.43 1 5 9 1734.22 17.27 21.67 222.12 123.00 1 34 3 734.2 29.26 358.95
 65.43 1 5 9 1734.22 17.27 21.67 222.12 123.00 1 34 3 734.2 29.26 358.95
 65.43 1 5 9 1734.22 17.27 21.67 222.12 123.00 1 34 3 734.2 29.26 358.95
 65.43 1 5 9 1734.22 17.27 21.67 222.12 123.00 1 34 3 734.2 29.26 358.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1164 TRA-1.7091 TC3 -.0445 BAU .1386 SGT 2498.4 SGR 884.3 SG3 479.3 ST 66.7 SR 25.9 SS 60.8
 RDE -.4642 RRA -.4954 RC3 .3367 FAU .06321 RRT .8869 RRF -.9455 RTF -.9099 CRT .9899 CRS .9188 CST .9646
 FDE 1.4338 FRA 3.8330 FC3-1.7931 B8P 4630 SGB 2650.2 R23 -.2560 R13 -.9231 LSA 93.0 MSA 13.6 SSA .8
 BDE 1.2091 BRA 1.7794 BC3 .3396 F8P 749 SGI 2621.5 SG2 389.3 THA 17.83 EL1 71.5 EL2 3.4 ALF 21.09

LAUNCH DATE MAR 20 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 444.720

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.987 GAL -6.23 AZL 94.26 HCA 155.11 SMA 190.97 ECC .24409 INC 4.2573 V1 29.911
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.275 GAP 13.33 AZP 86.14 TAL 327.37 TAP 122.46 RCA 144.35 APO 237.58 V2 26.496
 RC 62.398 GL -26.32 GP 12.40 ZAL 137.74 ZAP 150.26 ETS 156.96 ZAE 162.67 ETE 107.72 ZAC 113.70 ETC 275.65 LVI -26.23

PLANETOCENTRIC CONIC

C3 30.118 VHL 5.488 DLA -37.90 RAL 337.46 RAD 6647.1 VEL 12.250 PTH 7.20 VHP 6.521 DPA -8.32 RAP 306.48 ECC 1.4957
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 0 9 2408.95 -2.74 62.30 205.33 137.52 21 40 16 1407.0 15.55 46.52
 60.00 23 4 38 2074.83 7.56 42.46 215.11 129.71 23 39 13 1074.9 22.76 23.07
 63.63 0 58 58 1757.82 17.86 24.00 223.00 124.01 1 28 16 757.8 30.19 1.34
 63.63 0 58 58 1757.82 17.86 24.00 223.00 124.01 1 28 16 757.8 30.19 1.34
 63.63 0 58 58 1757.82 17.86 24.00 223.00 124.01 1 28 16 757.8 30.19 1.34
 63.63 0 58 58 1757.82 17.86 24.00 223.00 124.01 1 28 16 757.8 30.19 1.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1214 TRA-1.6543 TC3 -.0278 BAU .1470 SGT 2482.3 SGR 962.2 SG3 505.3 ST 67.1 SR 27.1 SS 62.9
 RDE -.4750 RRA -.5431 RC3 .3641 FAU .06560 RRT .8989 RRF -.9376 RTF -.5.27 CRT .9948 CRS .9328 CST .9634
 FDE 1.5177 FRA 3.9585 FC3-1.8856 B8P 4571 SGB 2662.4 R23 -.2634 R13 -.9263 LSA 94.9 MSA 13.7 SSA .8
 BDE 1.2178 BRA 1.7418 BC3 .3652 F8P 791 SGI 2632.3 SG2 397.6 THA 19.67 EL1 72.3 EL2 2.6 ALF 21.88

LAUNCH DATE MAR 20 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 448.514

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.919 GAL -6.13 AZL 94.44 HCA 156.38 SMA 190.02 ECC .23992 INC 4.4449 V1 29.911
 RP 206.67 LAP -1.78 LOP 335.18 VP 24.203 GAP 12.96 AZP 85.93 TAL 327.43 TAP 123.81 RCA 144.43 APO 235.61 V2 26.496
 RC 63.376 GL -27.67 GP 13.34 ZAL 137.08 ZAP 148.78 ETS 156.55 ZAE 161.91 ETE 108.65 ZAC 114.64 ETC 275.70 LVI -27.12

PLANETOCENTRIC CONIC

C3 29.838 VHL 5.462 DLA -39.09 RAL 338.30 RAD 6646.9 VEL 12.238 PTH 7.19 VHP 6.363 DPA -7.40 RAP 306.26 ECC 1.4911
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 13 47 2370.16 -.89 60.96 207.05 137.57 21 53 17 1370.2 17.33 44.84
 60.00 23 34 38 1993.67 11.06 38.47 218.30 129.00 24 7 52 993.7 25.76 18.33
 61.80 0 53 20 1781.31 18.44 26.37 224.05 125.10 1 23 1 781.3 31.14 3.79
 61.80 0 53 20 1781.31 18.44 26.37 224.05 125.10 1 23 1 781.3 31.14 3.79
 61.80 0 53 20 1781.31 18.44 26.37 224.05 125.10 1 23 1 781.3 31.14 3.79
 61.80 0 53 20 1781.31 18.44 26.37 224.05 125.10 1 23 1 781.3 31.14 3.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1484 TRA-1.6153 TC3 -.0380 BAU .1566 SGT 2493.6 SGR 1053.3 SG3 532.2 ST 68.6 SR 28.6 SS 65.2
 RDE -.4925 RRA -.6013 RC3 .3908 FAU .06768 RRT .9055 RRF -.9675 RTF -.9117 CRT .9981 CRS .9454 CST .9621
 FDE 1.6184 FRA 4.0838 FC3-1.9638 B8P 4743 SGB 2706.9 R23 -.2783 R13 -.9304 LSA 97.8 MSA 14.0 SSA .7
 BDE 1.2495 BRA 1.7236 BC3 .3927 F8P 841 SGI 2674.7 SG2 416.7 THA 21.48 EL1 74.3 EL2 1.6 ALF 22.60

LAUNCH DATE MAR 20 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 452,339

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.866 GAL -6.04 AZL 84.65 HCA 157.65 SMA 189.14 ECC .23598 INC 4.6527 V1 29.911
 RP 206.88 LAP -1.77 LOP 336.45 VP 24.137 GAP 12.59 AZP 85.70 TAL 327.49 TAP 125.13 RCA 144.51 APO 233.78 V2 26.496
 RC 64.414 GL -29.12 GP 14.39 ZAL 136.34 ZAP 147.22 ETS 156.10 ZAE 161.03 ETE 105.87 ZAC 115.68 ETC 275.74 LVI -28.10

PLANETOCENTRIC CONIC

C3 29.684 VHL 5.448 DLA -40.36 RAL 339.22 RAD 6646.9 VEL 12.232 PTH 7.18 VHP 6.215 DPA -6.38 RAP 305.99 ECC 1.4885
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 29 30 2330.05 1.13 59.29 209.15 137.57 22 8 20 1330.0 19.25 42.96
 59.91 0 48 18 1804.75 19.01 28.77 225.29 126.30 1 18 22 804.7 32.12 6.31
 59.91 0 48 18 1804.75 19.01 28.77 225.29 126.30 1 18 22 804.7 32.12 6.31
 59.91 0 48 18 1804.75 19.01 28.77 225.29 126.30 1 18 22 804.7 32.12 6.31
 59.91 0 48 18 1804.75 19.01 28.77 225.29 126.30 1 18 22 804.7 32.12 6.31
 59.91 0 48 18 1804.75 19.01 28.77 225.29 126.30 1 18 22 804.7 32.12 6.31
 59.91 0 48 18 1804.75 19.01 28.77 225.29 126.30 1 18 22 804.7 32.12 6.31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.1680 TRA -1.5622 TC3 -.0347 BAU .1677 SGT 2481.7 SGR 1156.7 SG3 559.0 ST 69.4 SR 30.4 SS 67.5
 RDE -.5149 RRA -.6618 RC3 .4212 FAU .07001 RRT .9116 RRF -.9753 RTF -.9122 CRT .9996 CRS .9567 CST .9609
 FDE 1.7265 FRA 4.2009 FC3 -2.0418 BSP 4794 SGB 2738.0 R23 -.2845 R13 -.9346 LSA 100.5 MSA 14.2 SSA .7
 BDE 1.2765 BRA 1.6966 BC3 .4226 FSP 887 SG1 2703.0 SG2 436.5 THA 23.68 EL1 75.8 EL2 .8 ALF 23.61

LAUNCH DATE MAR 20 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 456,193

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.819 GAL -5.95 AZL 94.88 HCA 158.91 SMA 188.32 ECC .23227 INC 4.6840 V1 29.911
 RP 206.89 LAP -1.78 LOP 337.72 VP 24.073 GAP 12.23 AZP 85.44 TAL 327.54 TAP 126.46 RCA 144.58 APO 232.08 V2 26.495
 RC 65.512 GL -30.68 GP 15.57 ZAL 135.51 ZAP 145.57 ETS 155.60 ZAE 160.01 ETE 105.34 ZAC 116.86 ETC 275.79 LVI -29.17

PLANETOCENTRIC CONIC

C3 29.670 VHL 5.447 DLA -41.71 RAL 340.26 RAD 6646.9 VEL 12.231 PTH 7.18 VHP 6.078 DPA -5.25 RAP 305.66 ECC 1.4883
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 48 0 2285.42 3.37 57.42 211.74 137.49 22 26 6 1285.4 21.36 40.81
 57.96 0 43 52 1828.47 19.56 31.25 226.76 127.61 1 14 20 828.5 33.12 8.95
 57.96 0 43 52 1828.47 19.56 31.25 226.76 127.61 1 14 20 828.5 33.12 8.95
 57.96 0 43 52 1828.47 19.56 31.25 226.76 127.61 1 14 20 828.5 33.12 8.95
 57.96 0 43 52 1828.47 19.56 31.25 226.76 127.61 1 14 20 828.5 33.12 8.95
 57.96 0 43 52 1828.47 19.56 31.25 226.76 127.61 1 14 20 828.5 33.12 8.95
 57.96 0 43 52 1828.47 19.56 31.25 226.76 127.61 1 14 20 828.5 33.12 8.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.1912 TRA -1.5044 TC3 -.0323 BAU .1805 SGT 2462.7 SGR 1274.6 SG3 585.3 ST 70.3 SR 32.5 SS 69.9
 RDE -.9448 RRA -.7278 RC3 .4538 FAU .07236 RRT .9158 RRF -.9814 RTF -.9121 CRT .9995 CRS .9664 CST .9598
 FDE 1.8472 FRA 4.3062 FC3 -2.1115 BSP 4844 SGB 2773.0 R23 -.2872 R13 -.9391 LSA 103.3 MSA 14.5 SSA .6
 BDE 1.3099 BRA 1.6711 BC3 .4549 FSP 932 SG1 2734.4 SG2 461.0 THA 26.16 EL1 77.4 EL2 1.0 ALF 24.84

LAUNCH DATE MAR 20 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 460,074

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.775 GAL -5.87 AZL 95.14 HCA 160.18 SMA 187.55 ECC .22876 INC 5.1434 V1 29.911
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.010 GAP 11.88 AZP 85.16 TAL 327.60 TAP 127.78 RCA 144.65 APO 230.48 V2 26.493
 RC 66.867 GL -32.36 GP 16.88 ZAL 134.59 ZAP 143.82 ETS 155.06 ZAE 158.83 ETE 105.05 ZAC 118.17 ETC 275.83 LVI -30.35

PLANETOCENTRIC CONIC

C3 29.819 VHL 5.461 DLA -43.18 RAL 341.44 RAD 6646.9 VEL 12.237 PTH 7.19 VHP 5.953 DPA -4.00 RAP 305.75 ECC 1.4907
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 10 25 2234.06 5.94 55.26 214.98 137.29 22 47 39 1234.1 23.75 38.26
 55.92 0 40 7 1852.67 20.08 33.82 228.49 129.05 1 11 0 852.7 34.14 11.71
 55.92 0 40 7 1852.67 20.08 33.82 228.49 129.05 1 11 0 852.7 34.14 11.71
 55.92 0 40 7 1852.67 20.08 33.82 228.49 129.05 1 11 0 852.7 34.14 11.71
 55.92 0 40 7 1852.67 20.08 33.82 228.49 129.05 1 11 0 852.7 34.14 11.71
 55.92 0 40 7 1852.67 20.08 33.82 228.49 129.05 1 11 0 852.7 34.14 11.71
 55.92 0 40 7 1852.67 20.08 33.82 228.49 129.05 1 11 0 852.7 34.14 11.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.2168 TRA -1.4393 TC3 -.0279 BAU .1952 SGT 2432.9 SGR 1408.9 SG3 610.6 ST 71.0 SR 35.2 SS 72.4
 RDE -.5841 RRA -.8000 RC3 .4889 FAU .07472 RRT .9187 RRF -.9861 RTF -.9121 CRT .9979 CRS .9745 CST .9589
 FDE 1.9833 FRA 4.3964 FC3 -2.1692 BSP 4874 SGB 2811.4 R23 -.2846 R13 -.9443 LSA 106.3 MSA 14.8 SSA .6
 BDE 1.3497 BRA 1.8469 BC3 .4897 FSP 975 SG1 2768.6 SG2 488.9 THA 29.01 EL1 79.2 EL2 2.0 ALF 26.33

LAUNCH DATE MAR 20 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 463,980

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.734 GAL -5.79 AZL 95.44 HCA 161.44 SMA 186.84 ECC .22946 INC 5.4367 V1 29.911
 RP 206.73 LAP -1.73 LOP 340.25 VP 23.950 GAP 11.53 AZP 84.84 TAL 327.65 TAP 129.09 RCA 144.71 APO 228.96 V2 26.489
 RC 67.877 GL -34.19 GP 18.35 ZAL 133.56 ZAP 141.96 ETS 154.48 ZAE 157.47 ETE 104.95 ZAC 119.65 ETC 275.88 LVI -31.66

PLANETOCENTRIC CONIC

C3 30.156 VHL 5.491 DLA -44.72 RAL 342.79 RAD 6647.1 VEL 12.251 PTH 7.20 VHP 5.842 DPA -2.60 RAP 304.76 ECC 1.4963
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 39 0 2171.31 9.07 52.59 219.21 136.91 23 15 11 1171.3 26.59 35.01
 53.80 0 37 10 1877.59 20.55 36.50 230.53 130.63 1 8 28 877.6 35.16 14.65
 53.80 0 37 10 1877.59 20.55 36.50 230.53 130.63 1 8 28 877.6 35.16 14.65
 53.80 0 37 10 1877.59 20.55 36.50 230.53 130.63 1 8 28 877.6 35.16 14.65
 53.80 0 37 10 1877.59 20.55 36.50 230.53 130.63 1 8 28 877.6 35.16 14.65
 53.80 0 37 10 1877.59 20.55 36.50 230.53 130.63 1 8 28 877.6 35.16 14.65
 53.80 0 37 10 1877.59 20.55 36.50 230.53 130.63 1 8 28 877.6 35.16 14.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.2398 TRA -1.3804 TC3 -.0125 BAU .2130 SGT 2379.8 SGR 1560.7 SG3 633.6 ST 71.3 SR 38.3 SS 75.0
 RDE -.6346 RRA -.8776 RC3 .5283 FAU .07725 RRT .9215 RRF -.9897 RTF -.9127 CRT .9953 CRS .9812 CST .9582
 FDE 2.1342 FRA 4.4600 FC3 -2.2176 BSP 4812 SGB 2845.9 R23 -.2743 R13 -.9509 LSA 109.3 MSA 15.1 SSA .5
 BDE 1.3928 BRA 1.6190 BC3 .5284 FSP 1008 SG1 2798.9 SG2 515.3 THA 32.38 EL1 80.9 EL2 3.3 ALF 28.22

LAUNCH DATE MAR 20 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.695 GAL -5.71 AZL 95.77 HCA 182.71 SMA 186.17 ECC .22237 INC 5.7710 V1 29.911
 RP 206.77 LAP -1.71 LOP 341.52 VP 23.892 GAP 11.19 AZP 84.49 TAL 327.70 TAP 130.41 RCA 144.77 APO 227.57 V2 26.465
 RC 69.140 GL -36.17 GP 20.01 ZAL 132.40 ZAP 139.98 ETS 153.85 ZAE 155.90 ETE 105.02 ZAC 121.33 ETC 275.93 LVI -33.12

DISTANCE 467.906
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 30.726 VHL 5.543 DLA -46.38 RAL 344.36 RAD 8647.3 VEL 12.274 PTH 7.22 VHP 5.747 DPA -1.03 RAP 304.18 ECC 1.5057
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 20 0 2083.16 13.43 48.75 225.28 136.09 23 54 43 1083.2 30.43 30.13
 51.57 0 35 10 1903.55 20.96 39.29 232.94 132.37 1 6 54 903.5 36.17 17.80
 51.57 0 35 10 1903.55 20.96 39.29 232.94 132.37 1 6 54 903.5 36.17 17.80
 51.57 0 35 10 1903.55 20.96 39.29 232.94 132.37 1 6 54 903.5 36.17 17.80
 51.57 0 35 10 1903.55 20.96 39.29 232.94 132.37 1 6 54 903.5 36.17 17.80
 51.57 0 35 10 1903.55 20.96 39.29 232.94 132.37 1 6 54 903.5 36.17 17.80

MID-COURSE EXECUTION ACCURACY
 SGT 2368.6 SGR 1740.0 SG3 655.5
 RRT .9191 RRF -.9924 RTF -.9086
 SGB 2939.0 R23 -.2698 R13 -.9551
 SGI 2884.6 SG2 563.0 THA 35.59

ORBIT DETERMINATION ACCURACY
 ST 73.2 SR 42.6 SS 78.2
 CRT .9919 CR3 .9866 CST .9583
 LSA 114.2 MSA 15.5 SSA .5
 EL1 84.5 EL2 4.7 ALF 30.08

DIFFERENTIAL CORRECTIONS
 TDE-1.2979 TRA-1.3026 TC3 -.0354 BAU .2314
 RDE -.7077 RRA -.9682 RC3 .5621 FAU .07877
 FDE 2.3277 FRA 4.5129 FC3-2.2193 B8P 5107
 BDE 1.4783 BRA 1.6230 BC3 .5633 F8P 1057

LAUNCH DATE MAR 20 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.658 GAL -5.64 AZL 96.16 HCA 163.97 SMA 185.55 ECC .21945 INC 6.1563 V1 29.911
 RP 206.81 LAP -1.70 LOP 342.79 VP 23.836 GAP 10.86 AZP 84.08 TAL 327.75 TAP 131.72 RCA 144.83 APO 226.27 V2 26.480
 RC 70.455 GL -38.33 GP 21.89 ZAL 131.10 ZAP 137.85 ETS 153.19 ZAE 154.09 ETE 105.24 ZAC 123.22 ETC 275.98 LVI -34.74

DISTANCE 471.855
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 31.582 VHL 5.620 DLA -48.16 RAL 346.19 RAD 8647.6 VEL 12.309 PTH 7.24 VHP 5.872 DPA .73 RAP 303.49 ECC 1.5198
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.24 0 34 18 1930.90 21.27 42.24 235.78 134.29 1 6 29 930.9 37.14 21.19
 49.24 0 34 18 1930.90 21.27 42.24 235.78 134.29 1 6 29 930.9 37.14 21.19
 49.24 0 34 18 1930.90 21.27 42.24 235.78 134.29 1 6 29 930.9 37.14 21.19
 49.24 0 34 18 1930.90 21.27 42.24 235.78 134.29 1 6 29 930.9 37.14 21.19
 49.24 0 34 18 1930.90 21.27 42.24 235.78 134.29 1 6 29 930.9 37.14 21.19
 49.24 0 34 18 1930.90 21.27 42.24 235.78 134.29 1 6 29 930.9 37.14 21.19

MID-COURSE EXECUTION ACCURACY
 SGT 2322.7 SGR 1942.3 SG3 672.6
 RRT .9176 RRF -.9945 RTF -.9060
 SGB 3027.8 R23 -.2549 R13 -.9614
 SGI 2966.8 SG2 604.5 THA 39.46

ORBIT DETERMINATION ACCURACY
 ST 74.4 SR 47.7 SS 81.4
 CRT .9884 CR3 .9907 CST .9587
 LSA 119.0 MSA 15.8 SSA .4
 EL1 88.1 EL2 6.1 ALF 32.53

DIFFERENTIAL CORRECTIONS
 TDE-1.3508 TRA-1.2234 TC3 -.0398 BAU .2539
 RDE -.8026 RRA-1.0647 RC3 .6000 FAU .08035
 FDE 2.5443 FRA 4.5207 FC3-2.2025 B8P 5257
 BDE 1.5712 BRA 1.6218 BC3 .6013 F8P 1092

LAUNCH DATE MAR 20 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.624 GAL -5.58 AZL 96.61 HCA 165.23 SMA 184.97 ECC .21672 INC 6.6053 V1 29.911
 RP 206.87 LAP -1.68 LOP 344.06 VP 23.782 GAP 10.55 AZP 83.61 TAL 327.79 TAP 133.02 RCA 144.88 APO 225.06 V2 26.474
 RC 71.818 GL -40.70 GP 24.02 ZAL 129.64 ZAP 135.55 ETS 152.50 ZAE 152.01 ETE 105.56 ZAC 125.38 ETC 276.04 LVI -36.57

DISTANCE 475.823
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 32.806 VHL 5.728 DLA -50.07 RAL 348.38 RAD 8648.1 VEL 12.358 PTH 7.28 VHP 5.821 DPA 2.74 RAP 302.89 ECC 1.9399
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.79 0 34 55 1960.01 21.45 45.34 239.16 136.40 1 7 35 960.0 38.05 24.88
 46.79 0 34 55 1960.01 21.45 45.34 239.16 136.40 1 7 35 960.0 38.05 24.88
 46.79 0 34 55 1960.01 21.45 45.34 239.16 136.40 1 7 35 960.0 38.05 24.88
 46.79 0 34 55 1960.01 21.45 45.34 239.16 136.40 1 7 35 960.0 38.05 24.88
 46.79 0 34 55 1960.01 21.45 45.34 239.16 136.40 1 7 35 960.0 38.05 24.88
 46.79 0 34 55 1960.01 21.45 45.34 239.16 136.40 1 7 35 960.0 38.05 24.88

MID-COURSE EXECUTION ACCURACY
 SGT 2282.0 SGR 2171.2 SG3 683.0
 RRT .9148 RRF -.9959 RTF -.9223
 SGB 3133.4 R23 -.2355 R13 -.9679
 SGI 3068.0 SG2 646.8 THA 43.72

ORBIT DETERMINATION ACCURACY
 ST 75.5 SR 54.0 SS 84.6
 CRT .9880 CR3 .9938 CST .9597
 LSA 124.7 MSA 16.0 SSA .4
 EL1 92.5 EL2 7.6 ALF 35.42

DIFFERENTIAL CORRECTIONS
 TDE-1.4133 TRA-1.1326 TC3 -.0421 BAU .2810
 RDE -.9303 RRA-1.1677 RC3 .6392 FAU .08170
 FDE 2.7938 FRA 4.4719 FC3-2.1580 B8P 5410
 BDE 1.6920 BRA 1.6267 BC3 .6406 F8P 1111

LAUNCH DATE MAR 20 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.592 GAL -5.51 AZL 97.14 HCA 166.49 SMA 184.43 ECC .21415 INC 7.1356 V1 29.911
 RP 206.93 LAP -1.66 LOP 345.33 VP 23.730 GAP 10.21 AZP 83.06 TAL 327.83 TAP 134.32 RCA 144.93 APO 223.92 V2 26.466
 RC 73.228 GL -43.31 GP 26.44 ZAL 127.98 ZAP 133.06 ETS 151.80 ZAE 149.62 ETE 105.97 ZAC 127.83 ETC 276.11 LVI -38.61

DISTANCE 479.809
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 34.520 VHL 5.875 DLA -52.11 RAL 351.02 RAD 8648.7 VEL 12.427 PTH 7.33 VHP 5.800 DPA 5.01 RAP 301.75 ECC 1.5681
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.22 0 37 25 1991.42 21.45 48.62 243.19 138.71 1 10 36 991.4 38.83 28.90
 44.22 0 37 25 1991.42 21.45 48.62 243.19 138.71 1 10 36 991.4 38.83 28.90
 44.22 0 37 25 1991.42 21.45 48.62 243.19 138.71 1 10 36 991.4 38.83 28.90
 44.22 0 37 25 1991.42 21.45 48.62 243.19 138.71 1 10 36 991.4 38.83 28.90
 44.22 0 37 25 1991.42 21.45 48.62 243.19 138.71 1 10 36 991.4 38.83 28.90
 44.22 0 37 25 1991.42 21.45 48.62 243.19 138.71 1 10 36 991.4 38.83 28.90

MID-COURSE EXECUTION ACCURACY
 SGT 2168.0 SGR 2425.6 SG3 683.4
 RRT .9112 RRF -.9970 RTF -.8980
 SGB 3253.3 R23 -.2103 R13 -.9749
 SGI 3181.3 SG2 680.9 THA 48.52

ORBIT DETERMINATION ACCURACY
 ST 76.1 SR 61.7 SS 88.1
 CRT .9820 CR3 .9959 CST .9611
 LSA 130.8 MSA 16.1 SSA .3
 EL1 97.5 EL2 9.1 ALF 38.95

DIFFERENTIAL CORRECTIONS
 TDE-1.4783 TRA-1.0195 TC3 -.0310 BAU .3155
 RDE-1.1020 RRA-1.2729 RC3 .6829 FAU .08309
 FDE 3.0741 FRA 4.3440 FC3-2.0839 B8P 5457
 BDE 1.8438 BRA 1.6309 BC3 .6836 F8P 1101

LAUNCH DATE MAR 20 1971 FLIGHT TIME 190.00 ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC DISTANCE 483.809 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.361 GAL -5.46 AZL 97.77 HCA 167.75 SMA 183.92 ECC .21176 INC 7.7726 V1 29.911
RP 207.00 LAP -1.64 LOP 348.59 VP 23.679 GAP 9.90 AZP 82.40 TAL 327.86 TAP 135.61 RCA 144.98 APO 222.87 V2 26.458
RC 74.883 GL -46.18 GP 29.21 ZAL 126.11 ZAP 130.35 ETS 151.11 ZAE 146.88 ETE 106.46 ZAC 130.63 ETC 276.20 LVI -40.91

PLANETOCENTRIC CONIC
C3 36.914 VHL 6.076 DLA -54.27 RAL 354.27 RAD 6649.6 VEL 12.522 PTH 7.40 VHP 5.620 DPA 7.59 RAP 300.66 ECC 1.8075
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27
41.54 0 42 29 2025.77 21.20 52.06 248.04 141.21 1 16 15 1025.8 39.41 33.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -1.5878 TRA -.9199 TC3 -.0507 BAU .3519 SGT 2110.0 SGR 2729.9 SG3 675.9 ST 76.1 SR 72.4 SS 92.7
RDE -1.3581 RRA -1.3937 RC3 .7112 FAU .08235 RRT .9041 RRF -.9977 RTF -.8901 CRT .9807 CR8 .9974 CST .9843
PDE 3.4366 FRA 4.1628 FC3 -1.9314 BSP 5887 SGB 3450.3 R23 -.1879 R13 -.9803 LSA 140.3 MSA 16.1 SSA .3
BDE 2.0894 BRA 1.6699 BC3 .7130 FSP 1104 SGI 3372.1 SG2 730.1 THA 53.03 EL1 106.0 EL2 10.4 ALF 42.79

LAUNCH DATE MAR 20 1971 FLIGHT TIME 224.00 ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC DISTANCE 554.027 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.281 GAL -5.21 AZL 82.35 HCA 189.24 SMA 179.41 ECC .19181 INC 7.6474 V1 29.911
RP 209.44 LAP -1.22 LOP 7.89 VP 22.969 GAP 5.45 AZP 97.55 TAL 326.54 TAP 155.78 RCA 144.59 APO 213.82 V2 26.174
RC 104.913 GL 47.40 GP -43.92 ZAL 125.98 ZAP 100.92 ETS 189.54 ZAE 127.68 ETE 225.30 ZAC 58.51 ETC 272.05 LVI 30.76

PLANETOCENTRIC CONIC
C3 33.784 VHL 5.812 DLA 32.44 RAL 313.40 RAD 6646.4 VEL 12.397 PTH 7.31 VHP 5.120 DPA -65.90 RAP 310.59 ECC 1.5560
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 1 34 3947.88 -44.39 170.09 214.42 70.75 15 7 22 2947.9 -47.19 135.39
60.00 13 49 11 3980.97 -34.81 168.42 209.79 68.27 14 55 32 2981.0 -40.23 138.73
70.00 13 17 42 4074.15 -23.46 170.24 204.11 64.44 14 25 36 3074.2 -31.88 144.82
73.41 12 17 29 4260.31 -14.59 179.70 199.24 60.70 13 28 29 3260.3 -25.37 156.88
73.41 12 17 29 4260.31 -14.59 179.70 199.24 60.70 13 28 29 3260.3 -25.37 156.88
73.41 12 17 29 4260.31 -14.59 179.70 199.24 60.70 13 28 29 3260.3 -25.37 156.88
110.00 18 17 8 3120.97 -23.46 99.16 204.11 64.44 19 9 9 2121.0 -31.88 73.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .9686 TRA .2892 TC3 -.7213 BAU .6358 SGT 1314.9 SGR 5206.6 SG3 782.0 ST 48.0 SR 143.6 SS 107.1
RDE 2.6019 RRA 3.6880 RC3 -1.2088 FAU .09293 RRT .7424 RRF .9992 RTF .7514 CRT .9355 CR8 -.9999 CST -.9302
PDE 4.3529 FRA 6.3983 FC3 -2.3815 BSP 9008 SGB 5370.1 R23 .0170 R13 .9991 LSA 184.7 MSA 16.7 SSA .3
BDE 2.7764 BRA 3.6994 BC3 1.4076 FSP 1346 SGI 5299.9 SG2 865.4 THA 79.09 EL1 150.6 EL2 16.2 ALF 72.42

LAUNCH DATE MAR 20 1971 FLIGHT TIME 226.00 ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC DISTANCE 556.161 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.275 GAL -5.22 AZL 83.41 HCA 190.46 SMA 179.31 ECC .19151 INC 6.5913 V1 29.511
RP 209.66 LAP -1.19 LOP 9.13 VP 22.932 GAP 5.22 AZP 96.48 TAL 326.41 TAP 156.87 RCA 144.97 APO 213.65 V2 26.150
RC 106.956 GL 42.88 GP -41.09 ZAL 129.12 ZAP 100.06 ETS 187.77 ZAE 128.75 ETE 222.09 ZAC 61.35 ETC 271.84 LVI 28.39

PLANETOCENTRIC CONIC
C3 29.400 VHL 5.422 DLA 28.06 RAL 314.87 RAD 6646.8 VEL 12.220 PTH 7.17 VHP 4.773 DPA -63.38 RAP 307.42 ECC 1.4839
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 32 45 3809.92 -46.77 157.66 209.24 80.03 15 36 15 2809.9 -45.26 122.66
60.00 14 33 17 3808.52 -38.38 155.19 206.89 76.61 15 36 45 2808.5 -39.74 124.12
70.00 14 34 15 3805.64 -30.14 152.26 204.20 73.13 15 37 41 2805.6 -34.14 124.27
80.00 14 36 58 3797.13 -22.23 148.65 201.22 69.54 15 40 15 2797.1 -28.66 123.07
90.00 15 2 19 3715.08 -16.63 140.25 198.85 66.79 16 4 14 2715.1 -24.77 116.18
100.00 17 19 50 3271.60 -22.23 110.01 201.22 69.54 18 14 21 2271.6 -28.66 64.44
110.00 19 33 42 2852.46 -30.14 81.18 204.20 73.13 20 21 14 1852.5 -34.14 53.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .9326 TRA .4408 TC3 -.8719 BAU .6020 SGT 1484.2 SGR 4982.9 SG3 920.2 ST 49.9 SR 134.5 SS 114.0
RDE 2.2542 RRA 3.4723 RC3 -1.2592 FAU .10284 RRT .7996 RRF .9991 RTF .562 CRT .9482 CR8 -.9998 CST -.9410
PDE 4.5783 FRA 7.4339 FC3 -3.0282 BSP 8744 SGB 5193.6 R23 .0282 R13 .9988 LSA 182.5 MSA 15.8 SSA .3
BDE 2.4395 BRA 3.5004 BC3 1.5316 FSP 1597 SGI 5122.7 SG2 855.4 THA 76.39 EL1 142.6 EL2 15.0 ALF 70.38

LAUNCH DATE MAR 20 1971 FLIGHT TIME 228.00 ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC DISTANCE 582.342 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.289 GAL -5.24 AZL 84.24 HCA 191.68 SMA 179.22 ECC .19130 INC 5.7556 V1 29.911
RP 209.87 LAP -1.16 LOP 10.38 VP 22.898 GAP 4.99 AZP 95.64 TAL 326.26 TAP 157.94 RCA 144.94 APO 213.51 V2 26.124
RC 109.028 GL 38.83 GP -38.54 ZAL 131.86 ZAP 98.93 ETS 186.07 ZAE 129.37 ETE 218.79 ZAC 63.94 ETC 271.62 LVI 26.30

PLANETOCENTRIC CONIC
C3 26.415 VHL 5.140 DLA 24.18 RAL 316.19 RAD 6645.6 VEL 12.099 PTH 7.08 VHP 4.509 DPA -61.10 RAP 304.66 ECC 1.4347
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 57 42 3696.88 -47.55 148.85 204.21 88.34 15 59 19 2696.7 -42.61 113.07
60.00 15 6 25 3673.48 -39.93 144.06 203.50 84.01 16 7 38 2673.5 -37.99 113.08
70.00 15 20 52 3630.89 -32.90 139.41 202.30 80.26 16 21 23 2630.9 -33.52 110.68
80.00 15 49 11 3542.02 -27.24 131.38 201.00 77.27 16 48 13 2542.0 -29.84 104.26
90.00 16 50 14 3344.90 -24.82 116.26 200.36 75.99 17 45 59 2344.9 -28.25 89.77
100.00 18 32 3 3016.49 -27.24 92.75 201.00 77.27 19 22 20 2016.5 -29.84 65.62
110.00 20 20 18 2677.71 -32.90 68.32 202.30 80.26 21 4 56 1677.7 -33.52 39.60

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE .9171 TRA .6013 TC3 -1.0259 BAU .5814 SGT 1642.3 SGR 4760.3 SG3 1046.3 ST 52.3 SR 126.0 SS 119.1
RDE 1.9880 RRA 3.2731 RC3 -1.2875 FAU .11184 RRT .8442 RRF .9990 RTF .8492 CRT .9599 CR8 -.9996 CST -.9513
PDE 4.7419 FRA 8.3659 FC3 -3.6653 BSP 8473 SGB 5035.7 R23 .0402 R13 .9983 LSA 180.5 MSA 15.0 SSA .4
BDE 2.1893 BRA 3.3279 BC3 1.6463 FSP 1824 SGI 4964.4 SG2 844.0 THA 73.26 EL1 135.8 EL2 13.6 ALF 68.04

LAUNCH DATE MAR 20 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 566.508

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.265 GAL -5.26 AZL 84.92 HCA 192.90 SMA 179.15 ECC .19118 INC 5.0776 V1 29.911
RP 210.10 LAP -1.13 LOP 11.59 VP 22.859 GAP 4.77 AZP 94.95 TAL 326.09 TAP 159.00 RCA 144.90 APO 213.40 V2 26.098
RC 111.121 GL 35.21 GP -36.22 ZAL 134.25 ZAP 97.59 ETS 184.49 ZAE 129.59 ETE 215.53 ZAC 66.28 ETC 271.39 LVI 24.45

PLANETOCENTRIC CONIC

C3 24.318 VHL 4.931 DLA 20.72 RAL 317.38 RAD 6644.7 VEL 12.012 PTH 7.00 VHP 4.306 DPA -59.04 RAP 302.22 ECC 1.4002
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 18 23 3602.03 -47.34 137.71 199.86 95.37 16 18 25 2602.0 -39.77 105.78
60.00 15 32 58 3563.19 -40.30 134.71 200.35 90.34 16 32 22 2583.2 -35.75 104.58
70.00 15 55 41 3496.30 -33.98 129.06 200.12 86.28 16 53 57 2496.3 -31.95 100.51
80.00 16 34 43 3373.94 -29.17 119.28 199.60 83.35 17 30 57 2373.9 -28.98 91.85
90.00 17 42 21 3155.58 -27.27 102.96 199.33 82.20 18 34 57 2155.6 -27.79 75.96
100.00 19 17 35 2848.41 -29.17 80.64 199.60 83.35 20 5 3 1848.4 -28.98 53.22
110.00 20 55 7 2543.12 -33.98 57.98 200.12 86.28 21 37 31 1543.1 -31.95 29.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9163 TRA .7685 TC3-1.1796 BAU .5693 SGT 1843.5 SGR 4543.6 SG3 1159.9 ST 55.2 SR 118.4 SS 123.0
RDE 1.7809 RRA 3.0898 RC3-1.2943 FAU .11972 RRT .8778 RRF .9989 RTF .8816 CRT .9700 CRS -.9993 CST -.9803
PDE 4.8632 FRA 9.1991 FC3-4.2622 BSP 8244 SGB 4903.3 R23 .0531 R13 .9975 LSA 178.9 MSA 14.1 SSA .4
BDE 2.0028 BRA 3.1840 BC3 1.7512 FSP 2033 SG1 4832.5 SG2 830.3 THA 69.77 EL1 130.1 EL2 12.2 ALF 65.46

LAUNCH DATE MAR 20 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 570.679

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.261 GAL -5.28 AZL 85.48 HCA 194.12 SMA 179.09 ECC .19113 INC 4.5160 V1 29.911
RP 210.33 LAP -1.10 LOP 12.82 VP 22.823 GAP 4.55 AZP 94.38 TAL 325.92 TAP 160.04 RCA 144.86 APO 213.32 V2 26.071
RC 113.239 GL 31.98 GP -34.13 ZAL 136.32 ZAP 96.08 ETS 183.03 ZAE 129.47 ETE 212.38 ZAC 66.40 ETC 271.15 LVI 22.82

PLANETOCENTRIC CONIC

C3 22.811 VHL 4.776 DLA 17.85 RAL 316.46 RAD 6644.1 VEL 11.950 PTH 6.95 VHP 4.145 DPA -57.16 RAP 300.01 ECC 1.3754
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 35 58 3521.90 -46.56 130.14 196.36 101.16 16 34 40 2521.9 -37.00 100.11
60.00 15 55 5 3471.01 -39.97 126.89 197.69 95.64 16 52 56 2471.0 -33.40 97.90
70.00 16 23 39 3386.93 -34.13 120.53 198.14 91.32 17 20 6 2386.9 -30.03 92.57
80.00 17 9 13 3244.07 -29.82 109.68 198.12 88.35 18 3 18 2244.1 -27.47 82.51
90.00 18 20 18 3014.66 -28.16 92.75 198.05 87.23 19 10 32 2014.7 -26.46 65.87
100.00 19 52 5 2718.55 -29.82 71.05 198.12 88.35 20 37 24 1718.5 -27.47 45.87
110.00 21 23 5 2433.75 -34.13 49.45 198.14 91.32 22 3 39 1433.7 -30.03 21.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9248 TRA .9390 TC3-1.3330 BAU .5652 SGT 2081.3 SGR 4331.0 SG3 1260.0 ST 58.3 SR 111.4 SS 125.8
RDE 1.6140 RRA 2.9181 RC3-1.2878 FAU .12693 RRT .9024 RRF .9987 RTF .9056 CRT .9783 CRS -.9989 CST -.9679
PDE 4.9505 FRA 9.9289 FC3-4.6173 BSP 8023 SGB 4796.5 R23 .0663 R13 .9965 LSA 177.3 MSA 13.3 SSA .5
BDE 1.8601 BRA 3.0654 BC3 1.8533 FSP 2212 SG1 4727.0 SG2 813.6 THA 66.00 EL1 125.3 EL2 10.7 ALF 62.69

LAUNCH DATE MAR 20 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 574.852

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.258 GAL -5.31 AZL 85.96 HCA 195.34 SMA 179.04 ECC .19116 INC 4.0432 V1 29.911
RP 210.37 LAP -1.07 LOP 14.04 VP 22.787 GAP 4.33 AZP 93.90 TAL 325.73 TAP 161.07 RCA 144.82 APO 213.27 V2 26.044
RC 115.380 GL 29.08 GP -32.22 ZAL 138.13 ZAP 94.45 ETS 181.70 ZAE 129.05 ETE 209.38 ZAC 70.33 ETC 270.92 LVI 21.38

PLANETOCENTRIC CONIC

C3 21.714 VHL 4.680 DLA 14.91 RAL 319.46 RAD 6643.6 VEL 11.904 PTH 6.91 VHP 4.018 DPA -55.46 RAP 297.99 ECC 1.3574
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 51 11 3453.40 -45.47 123.89 193.64 105.86 16 48 45 2453.4 -34.41 95.62
60.00 16 13 57 3392.80 -39.25 120.37 195.57 100.01 17 10 30 2392.8 -31.10 92.54
70.00 16 47 0 3295.55 -33.76 113.42 196.50 95.51 17 41 55 2295.6 -28.03 86.21
80.00 17 37 13 3138.17 -29.76 101.82 196.83 92.48 18 29 31 2138.2 -25.72 75.12
90.00 18 50 33 2901.48 -28.25 84.48 196.89 91.37 19 38 55 1901.5 -24.84 57.99
100.00 20 20 5 2612.65 -29.76 63.19 196.83 92.48 21 3 38 1612.6 -25.72 36.48
110.00 21 46 28 2342.37 -33.76 42.34 196.50 95.51 22 25 28 1342.4 -28.03 15.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9413 TRA 1.1134 TC3-1.4824 BAU .5680 SGT 2292.5 SGR 4127.1 SG3 1347.9 ST 61.7 SR 103.1 SS 127.9
RDE 1.4799 RRA 2.7594 RC3-1.2866 FAU .13308 RRT .9207 RRF .9984 RTF .5234 CRT .9850 CRS -.9985 CST -.9742
PDE 5.0162 FRA10.5697 FC3-5.3038 BSP 7864 SGB 4721.1 R23 .0795 R13 .9953 LSA 176.3 MSA 12.6 SSA .6
BDE 1.7539 BRA 2.9758 BC3 1.9498 FSP 2372 SG1 4634.0 SG2 793.2 THA 62.03 EL1 121.6 EL2 9.2 ALF 59.79

LAUNCH DATE MAR 20 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 579.029

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.255 GAL -5.34 AZL 86.36 HCA 196.58 SMA 179.00 ECC .19128 INC 3.6391 V1 29.911
RP 210.82 LAP -1.04 LOP 15.28 VP 22.751 GAP 4.11 AZP 93.49 TAL 325.53 TAP 162.08 RCA 144.77 APO 213.24 V2 26.015
RC 117.545 GL 26.47 GP -30.48 ZAL 139.70 ZAP 92.73 ETS 180.49 ZAE 128.38 ETE 206.56 ZAC 72.10 ETC 270.69 LVI 20.09

PLANETOCENTRIC CONIC

C3 20.909 VHL 4.573 DLA 12.47 RAL 320.38 RAD 6643.2 VEL 11.871 PTH 6.88 VHP 3.916 DPA -53.89 RAP 296.13 ECC 1.3441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 4 32 3394.38 -44.24 118.74 191.59 109.67 17 1 7 2394.4 -32.03 92.00
60.00 16 30 20 3325.70 -38.31 114.91 193.95 103.60 17 25 46 2325.7 -28.94 88.17
70.00 17 6 59 3217.87 -33.09 107.46 195.23 98.97 18 0 37 2217.9 -26.08 81.02
80.00 18 0 47 3049.34 -29.32 95.25 195.80 95.90 18 51 36 2049.3 -23.95 69.12
90.00 19 15 47 2807.27 -27.90 77.62 195.95 94.79 20 2 34 1807.3 -23.14 51.61
100.00 20 43 39 2523.81 -29.32 56.62 195.80 95.90 21 25 42 1523.8 -23.95 30.49
110.00 22 6 26 2264.69 -33.09 36.38 195.23 98.97 22 44 10 1264.7 -26.08 9.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9847 TRA 1.2904 TC3-1.6248 BAU .5734 SGT 2532.1 SGR 3919.7 SG3 1419.9 ST 65.4 SR 98.9 SS 128.7
RDE 1.3602 RRA 2.6018 RC3-1.2523 FAU .14003 RRT .9361 RRF .9981 RTF .9383 CRT .9899 CRS -.9979 CST -.9786
PDE 5.0243 FRA11.0844 FC3-5.7979 BSP 7656 SGB 4666.4 R23 .0916 R13 .9940 LSA 174.5 MSA 12.1 SSA .6
BDE 1.6876 BRA 2.9042 BC3 2.0514 FSP 2470 SG1 4604.4 SG2 758.1 THA 57.86 EL1 118.3 EL2 7.8 ALF 56.63

LAUNCH DATE MAR 20 1971 FLIGHT TIME 238.00 ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC										DISTANCE 583.204										EARTH TO MARS																																													
RL	148.97	LAL	.00	LOL	178.73	VL	32.253	GAL	-5.38	AZL	86.71	HCA	197.77	SMA	178.97	ECC	.19144	INC	3.2899	V1	29.911	RP	211.07	LAP	-1.00	LOP	16.48	VP	22.718	GAP	3.90	AZP	93.13	TAL	325.31	TAP	163.08	RCA	144.71	APO	213.24	V2	25.986	RC	119.734	GL	24.13	GP	-28.88	ZAL	141.07	ZAP	90.94	ETP	179.39	ZAE	127.51	ETE	203.95	ZAC	73.72	ETC	270.47	LVI	18.93
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	20.322	VHL	4.508	DLA	10.28	RAL	321.23	RAD	6843.0	VEL	11.846	PTH	6.86	VHP	3.834	DPA	-52.46	RAP	294.41	ECC	1.3344	SGT	2779.7	SGR	3741.7	SG3	1487.3	ST	69.1	SR	94.3	SS	130.6	CRT	.9939	CRS	-.9973	CST	-.9833	LSA	174.9	MSA	11.5	SSA	.7																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9443	RRF	.9977	RTF	.9467	EL1	116.8	EL2	6.1	ALF	53.79																												
50.00	16	16	25	3343.21	-42.98	114.47	190.08	112.76	17	12	8	2343.2	-29.88	69.01	80.00	16	44	48	3267.67	-37.28	110.33	192.74	106.56	17	39	15	2267.7	-26.95	84.95	90.00	19	37	26	2727.20	-27.31	71.83	195.26	97.63	20	22	53	1727.2	-21.47	46.34																					
60.00	16	44	48	3267.67	-37.28	110.33	192.74	106.56	17	39	15	2267.7	-26.95	84.95	100.00	21	3	39	2447.96	-28.66	51.08	195.04	98.74	21	44	47	1448.0	-22.23	25.51	110.00	22	23	53	2197.84	-32.27	31.34	194.29	101.84	23	0	31	1197.8	-24.24	5.62																					

LAUNCH DATE MAR 20 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC										DISTANCE 587.382										EARTH TO MARS																																													
RL	148.97	LAL	.00	LOL	178.73	VL	32.252	GAL	-5.42	AZL	87.02	HCA	198.98	SMA	178.85	ECC	.19168	INC	2.9848	V1	29.911	RP	211.33	LAP	-.97	LOP	17.69	VP	22.680	GAP	3.69	AZP	92.82	TAL	325.08	TAP	164.07	RCA	144.65	APO	213.26	V2	25.957	RC	121.945	GL	22.01	GP	-27.41	ZAL	142.28	ZAP	89.11	ETS	178.40	ZAE	126.47	ETE	201.55	ZAC	75.21	ETC	270.26	LVI	17.90
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.898	VHL	4.461	DLA	6.31	RAL	322.03	RAD	6642.8	VEL	11.828	PTH	6.85	VHP	3.770	DPA	-51.13	RAP	292.81	ECC	1.3275	SGT	3031.4	SGR	3561.4	SG3	1540.6	ST	73.2	SR	89.6	SS	131.4	CRT	.9967	CRS	-.9965	CST	-.9866	LSA	174.7	MSA	11.0	SSA	.8																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9519	RRF	.9973	RTF	.9544	EL1	115.6	EL2	4.6	ALF	50.79																												
50.00	16	27	3	3298.61	-41.74	110.90	188.99	115.29	17	22	2	2298.6	-27.95	86.52	80.00	16	57	40	3217.13	-36.23	106.45	191.88	109.01	17	51	17	2217.1	-25.13	81.51	90.00	19	56	21	2658.15	-26.59	66.91	194.80	99.99	20	40	39	1658.2	-19.89	41.89																					
60.00	16	57	40	3217.13	-36.23	106.45	191.88	109.01	17	51	17	2217.1	-25.13	81.51	100.00	21	21	49	2382.39	-27.89	46.36	194.52	101.11	22	1	31	1382.4	-20.61	21.32	110.00	22	39	19	2139.79	-31.38	27.05	193.62	104.24	23	14	58	1139.8	-22.53	1.98																					

LAUNCH DATE MAR 20 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC										DISTANCE 591.559										EARTH TO MARS																																													
RL	148.97	LAL	.00	LOL	178.73	VL	32.252	GAL	-5.46	AZL	87.28	HCA	200.19	SMA	178.95	ECC	.19199	INC	2.7153	V1	29.911	RP	211.60	LAP	-.94	LOP	18.91	VP	22.644	GAP	3.48	AZP	92.55	TAL	324.84	TAP	165.04	RCA	144.59	APO	213.30	V2	25.926	RC	124.177	GL	20.09	GP	-26.05	ZAL	143.34	ZAP	87.26	ETS	177.51	ZAE	125.29	ETE	199.35	ZAC	76.58	ETC	270.05	LVI	16.96
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.602	VHL	4.427	DLA	6.54	RAL	322.79	RAD	6642.7	VEL	11.816	PTH	6.84	VHP	3.719	DPA	-49.90	RAP	291.32	ECC	1.3226	SGT	3284.9	SGR	3392.4	SG3	1583.2	ST	77.2	SR	85.6	SS	132.3	CRT	.9985	CRS	-.9956	CST	-.9893	LSA	175.1	MSA	10.6	SSA	.9																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9566	RRF	.9987	RTF	.9596	EL1	115.3	EL2	3.1	ALF	47.95																												
50.00	16	36	40	3259.57	-40.56	107.90	188.24	117.38	17	31	0	2259.6	-26.21	84.43	80.00	17	9	15	3172.88	-39.20	103.15	191.30	111.04	18	2	8	2172.9	-23.48	78.93	90.00	20	13	7	2598.01	-25.81	62.68	194.32	101.97	20	56	25	1598.0	-18.40	38.10																					
60.00	17	9	15	3172.88	-39.20	103.15	191.30	111.04	18	2	8	2172.9	-23.48	78.93	100.00	21	37	40	2325.18	-27.08	42.31	194.21	103.09	22	16	26	1325.2	-19.11	17.74	110.00	22	53	6	2089.03	-30.47	23.38	193.19	106.23	23	27	55	1089.0	-20.96	358.87																					

LAUNCH DATE MAR 20 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC										DISTANCE 595.738										EARTH TO MARS																																													
RL	148.97	LAL	.00	LOL	178.73	VL	32.252	GAL	-5.50	AZL	87.52	HCA	201.40	SMA	178.95	ECC	.19236	INC	2.4759	V1	29.911	RP	211.87	LAP	-.90	LOP	20.12	VP	22.609	GAP	3.28	AZP	92.31	TAL	324.60	TAP	166.00	RCA	144.52	APO	213.37	V2	25.896	RC	126.431	GL	18.35	GP	-24.79	ZAL	144.28	ZAP	85.39	ETS	176.70	ZAE	124.01	ETE	197.35	ZAC	77.86	ETC	269.85	LVI	16.11
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.406	VHL	4.405	DLA	4.94	RAL	323.50	RAD	6642.6	VEL	11.808	PTH	6.83	VHP	3.680	DPA	-48.76	RAP	289.93	ECC	1.3194	SGT	3538.0	SGR	3219.8	SG3	1615.5	ST	81.4	SR	81.3	SS	131.8	CRT	.9995	CRS	-.9944	CST	-.9911	LSA	174.7	MSA	10.5	SSA	1.0																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9619	RRF	.9961	RTF	.9651	EL1	115.1	EL2	1.9	ALF	44.77																												
50.00	16	45	25	3225.26	-39.46	103.36	187.75	119.10	17	39	10	2225.3	-24.66	82.64	80.00	17	19	44	3133.95	-34.21	100.32	190.93	112.75	18	11	58	2134.0	-21.99	76.72	90.00	19	9	3	2800.45	-26.25	77.44	194.06	104.76	19	55	43	1800.4	-17.72	53.28																					
60.00	17	19	44	3133.95	-34.21	100.32	190.93	112.75	18	11	58	2134.0	-21.99	76.72	100.00	21	51	55	2274.92	-26.25	38.80	194.06	104.76	22	29	49	1274.9	-17.72	14.65	110.00	23	5	33	2044.38	-29.58	20.21	192.96	107.91	23	39	37	1044.4	-19.53	356.20																					

LAUNCH DATE MAR 20 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.252 GAL -5.55 AZL 87.74 HCA 202.60 SMA 178.95 ECC .19280 INC 2.2611 V1 29.911
 RP 212.14 LAP -.87 LOP 21.32 VP 22.573 GAP 3.07 AZP 92.09 TAL 324.34 TAP 166.94 RCA 144.45 APO 213.46 V2 25.864
 RC 128.706 GL 18.76 GP -23.62 ZAL 145.13 ZAP 83.52 ETS 175.98 ZAE 122.64 ETE 195.53 ZAC 79.04 ETC 269.65 LVI 15.33

PLANETOCENTRIC CONIC
 C3 19.294 VHL 4.392 DLA 3.50 RAL 324.16 RAD 6642.5 VEL 11.803 PTH 6.83 VHP 3.651 DPA -47.69 RAP 288.63 ECC 1.3175
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 26 3195.05 -38.43 103.19 187.46 120.55 17 46 41 2195.0 -23.27 81.10
 60.00 17 29 18 3099.62 -33.28 97.89 190.75 114.18 18 20 58 2099.6 -20.65 74.81
 70.00 18 17 25 2958.13 -28.72 88.54 192.88 109.33 19 6 43 1958.1 -18.23 64.97
 80.00 19 21 56 2758.05 -25.45 74.38 194.05 106.17 20 7 52 1756.1 -16.45 50.60
 90.00 20 41 44 2498.57 -24.23 55.83 194.43 105.05 21 23 22 1498.6 -15.78 31.99
 100.00 22 4 48 2230.52 -25.45 35.75 194.05 106.17 22 41 59 1230.5 -16.45 11.97
 110.00 23 16 51 2004.94 -28.72 17.46 192.88 109.33 23 50 16 1004.9 -18.23 353.89

DIFFERENTIAL CORRECTIONS
 TDE 1.1343 TRA 2.1881 TC3-2.2763 BAU .6410 SGT 3790.1 SGR 3058.7 SG3 1638.7 ST 85.6 SR 77.6 SS 131.5
 RDE 1.0278 RRA 1.9941 RC3 -.9973 FAU .15203 RRT .9650 RRF .9953 RTF .9688 CRT .9998 CRS -.9931 CST -.9927
 FDE 5.1055 FRA12.7917 FC3-6.8218 BSP 7951 SGB 4870.4 R23 .1287 R13 .9875 LSA 174.7 MSA 10.3 SSA 1.0
 BDE 1.5307 BRA 2.9604 BC3 2.4852 FSP 2926 SG1 4829.5 SG2 629.4 THA 38.69 EL1 115.5 EL2 1.1 ALF 42.21

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 20 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.253 GAL -5.60 AZL 87.93 HCA 203.80 SMA 178.97 ECC .19330 INC 2.0678 V1 29.911
 RP 212.43 LAP -.83 LOP 22.52 VP 22.538 GAP 2.87 AZP 91.89 TAL 324.08 TAP 167.87 RCA 144.37 APO 213.56 V2 25.832
 RC 130.999 GL 15.31 GP -22.53 ZAL 145.89 ZAP 81.66 ETS 175.33 ZAE 121.22 ETE 193.88 ZAC 80.14 ETC 269.47 LVI 14.61

PLANETOCENTRIC CONIC
 C3 19.250 VHL 4.387 DLA 2.19 RAL 324.82 RAD 6642.5 VEL 11.801 PTH 6.82 VHP 3.631 DPA -46.68 RAP 287.43 ECC 1.3168
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 49 3188.38 -37.50 101.33 187.34 121.76 17 53 38 2168.4 -22.04 79.77
 60.00 17 38 5 3069.24 -32.41 95.78 190.72 115.39 18 29 14 2069.2 -19.44 73.15
 70.00 18 27 45 2923.18 -27.91 86.15 192.93 110.54 19 16 28 1923.2 -17.05 62.95
 80.00 19 33 42 2716.67 -24.67 71.72 194.17 107.37 20 18 58 1716.7 -15.29 48.25
 90.00 20 54 6 2457.19 -23.47 53.04 194.56 106.25 21 35 3 1457.2 -14.62 29.50
 100.00 22 16 33 2191.15 -24.67 33.08 194.17 107.37 22 53 5 1191.1 -15.29 9.62
 110.00 23 27 11 1970.00 -27.91 15.06 192.93 110.54 24 0 1 970.0 -17.05 351.86

DIFFERENTIAL CORRECTIONS
 TDE 1.1774 TRA 2.3693 TC3-2.3864 BAU .6603 SGT 4041.8 SGR 2906.8 SG3 1654.5 ST 89.9 SR 74.3 SS 131.3
 RDE .9861 RRA 1.8910 RC3 -.9426 FAU .15239 RRT .9672 RRF .9944 RTF .9717 CRT .9996 CRS -.9916 CST -.9940
 FDE 5.0936 FRA12.9474 FC3-6.8536 BSP 8132 SGB 4978.5 R23 .1299 R13 .9867 LSA 175.3 MSA 10.3 SSA 1.1
 BDE 1.5358 BRA 3.0314 BC3 2.5658 FSP 2966 SG1 4941.8 SG2 603.6 THA 35.43 EL1 116.6 EL2 1.6 ALF 39.58

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 20 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.255 GAL -5.66 AZL 88.11 HCA 209.00 SMA 178.99 ECC .19386 INC 1.8924 V1 29.911
 RP 212.72 LAP -.80 LOP 23.72 VP 22.502 GAP 2.87 AZP 91.72 TAL 323.78 TAP 168.79 RCA 144.29 APO 213.69 V2 25.799
 RC 133.312 GL 13.98 GP -21.51 ZAL 146.50 ZAP 79.81 ETS 174.74 ZAE 119.74 ETE 192.39 ZAC 81.16 ETC 269.30 LVI 13.95

PLANETOCENTRIC CONIC
 C3 19.263 VHL 4.389 DLA .99 RAL 325.45 RAD 6642.5 VEL 11.802 PTH 6.82 VHP 3.618 DPA -45.74 RAP 286.32 ECC 1.3170
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 39 3144.83 -36.64 99.73 187.36 122.70 18 0 4 2144.8 -20.93 78.62
 60.00 17 46 11 3042.33 -31.61 93.95 190.81 116.42 18 36 53 2042.3 -18.35 71.70
 70.00 18 37 15 2892.14 -27.15 84.05 193.08 111.57 19 25 27 1892.1 -15.98 61.17
 80.00 19 44 28 2681.63 -23.94 69.37 194.38 108.40 20 29 10 1681.6 -14.23 46.19
 90.00 21 5 26 2420.36 -22.75 50.58 194.60 107.27 21 45 47 1420.4 -13.57 27.31
 100.00 22 27 20 2196.11 -23.94 30.74 194.38 108.40 23 3 18 1156.1 -14.23 7.55
 110.00 23 36 41 1938.96 -27.15 12.97 193.08 111.57 24 9 0 939.0 -15.98 350.09

DIFFERENTIAL CORRECTIONS
 TDE 1.2217 TRA 2.5495 TC3-2.4912 BAU .6812 SGT 4290.2 SGR 2761.2 SG3 1662.6 ST 94.1 SR 71.2 SS 130.7
 RDE .9490 RRA 1.7928 RC3 -.8896 FAU .15234 RRT .9687 RRF .9934 RTF .541 CRT .9989 CRS -.9899 CST -.9951
 FDE 5.0703 FRA13.0512 FC3-6.8485 BSP 8337 SGB 5101.9 R23 .1292 R13 .9861 LSA 175.8 MSA 10.3 SSA 1.1
 BDE 1.5470 BRA 3.1167 BC3 2.6453 FSP 2989 SG1 5068.9 SG2 580.0 THA 32.42 EL1 118.0 EL2 2.7 ALF 37.10

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 20 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 148.97 LAL .00 LOL 178.73 VL 32.257 GAL -5.71 AZL 88.27 HCA 206.20 SMA 179.02 ECC .19448 INC 1.7325 V1 29.911
 RP 213.01 LAP -.76 LOP 24.92 VP 22.467 GAP 2.46 AZP 91.58 TAL 323.49 TAP 169.69 RCA 144.21 APO 213.84 V2 25.786
 RC 138.643 GL 12.75 GP -20.55 ZAL 147.20 ZAP 78.00 ETS 174.22 ZAE 118.23 ETE 191.04 ZAC 82.12 ETC 269.14 LVI 13.33

PLANETOCENTRIC CONIC
 C3 19.328 VHL 4.396 DLA -.09 RAL 326.04 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 3.612 DPA -44.85 RAP 285.29 ECC 1.3181
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 59 3124.00 -35.86 98.35 187.48 123.65 18 6 3 2124.0 -19.95 77.62
 60.00 17 53 40 3018.46 -30.88 92.35 190.99 117.30 18 43 59 2018.5 -17.38 70.43
 70.00 18 46 1 2864.52 -26.44 82.21 193.33 112.45 19 33 45 1864.5 -15.02 59.61
 80.00 19 54 24 2650.38 -23.25 67.30 194.67 109.28 20 38 34 1650.4 -13.27 44.36
 90.00 21 15 52 2387.48 -22.07 48.41 195.10 108.15 21 55 40 1387.5 -12.62 25.37
 100.00 22 37 16 2124.86 -23.25 28.67 194.67 109.28 23 12 41 1124.9 -13.27 5.73
 110.00 23 45 27 1911.34 -26.44 11.13 193.33 112.45 24 17 18 911.3 -15.02 348.53

DIFFERENTIAL CORRECTIONS
 TDE 1.2683 TRA 2.7298 TC3-2.5884 BAU .7029 SGT 4535.4 SGR 2622.7 SG3 1664.1 ST 98.4 SR 68.4 SS 130.1
 RDE .9168 RRA 1.6999 RC3 -.8373 FAU .15169 RRT .9698 RRF .9921 RTF .9761 CRT .9977 CRS -.9880 CST -.9959
 FDE 5.0426 FRA13.1124 FC3-6.7954 BSP 8575 SGB 5239.1 R23 .1269 R13 .9857 LSA 176.6 MSA 10.4 SSA 1.2
 BDE 1.5649 BRA 3.2158 BC3 2.7205 FSP 3002 SG1 5209.2 SG2 558.8 THA 29.65 EL1 119.8 EL2 3.8 ALF 34.76

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 20 1971 FLIGHT TIME 254.00 ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC DISTANCE 616.613 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.259 GAL -5.77 AZL 88.41 HCA 207.39 SMA 179.06 ECC .19515 INC 1.5860 V1 29.911
RP 213.31 LAP -.73 LOP 26.11 VP 22.432 GAP 2.27 AZP 91.41 TAL 323.19 TAP 170.58 RCA 144.12 APO 214.01 V2 25.732
RC 137.991 GL 11.63 GP -19.66 ZAL 147.78 ZAP 76.21 ETS 173.75 ZAE 116.71 ETE 189.83 ZAC 83.02 ETC 268.98 LVI 12.76

PLANETOCENTRIC CONIC
C3 19.432 VHL 4.408 DLA -1.08 RAL 326.62 RAD 6642.6 VEL 11.809 PTH 6.83 VHP 3.612 DPA -44.01 RAP 284.35 ECC 1.3198
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 54 3105.60 -35.16 97.15 187.68 124.39 18 11 40 2105.6 -19.07 76.75
60.00 18 0 38 2997.27 -30.21 90.96 191.25 118.06 18 50 35 1997.3 -16.51 69.32
70.00 18 54 8 2839.91 -25.79 80.60 193.65 113.20 19 41 28 1839.9 -14.15 58.24
80.00 20 3 35 2622.47 -22.61 85.48 195.03 110.03 20 47 18 1622.5 -12.41 42.74
90.00 21 25 31 2358.08 -21.43 46.49 195.48 108.91 22 4 49 1358.1 -11.75 23.65
100.00 22 46 37 2096.94 -22.61 26.85 195.03 110.03 23 21 24 1096.9 -12.41 4.11
110.00 23 53 35 1886.73 -25.79 9.51 193.65 113.20 24 25 1 886.7 -14.15 347.15

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 4776.0 SGR 2490.3 SG3 1659.1 ST 102.7 SR 65.7 SS 129.3
RRT .9699 RRF .9907 RTF .9777 CRT .9960 CRS -.9859 CST -.9966
LSA 177.4 MSA 10.6 SSA 1.2
SGB 5386.3 R23 .1234 R13 .9854 EL1 121.8 EL2 4.9 ALF 32.58
SG1 5359.1 SG2 540.7 THA 27.13

LAUNCH DATE MAR 20 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC DISTANCE 620.782 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.282 GAL -5.84 AZL 88.55 HCA 208.58 SMA 179.11 ECC .19588 INC 1.4512 V1 29.911
RP 213.61 LAP -.69 LOP 27.30 VP 22.396 GAP 2.07 AZP 91.27 TAL 322.88 TAP 171.46 RCA 144.02 APO 214.19 V2 25.697
RC 140.356 GL 10.59 GP -18.82 ZAL 148.32 ZAP 74.46 ETS 173.33 ZAE 115.17 ETE 188.73 ZAC 83.86 ETC 268.84 LVI 12.21

PLANETOCENTRIC CONIC
C3 19.577 VHL 4.425 DLA -1.99 RAL 327.18 RAD 6642.6 VEL 11.815 PTH 6.84 VHP 3.618 DPA -43.22 RAP 283.48 ECC 1.3222
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 26 3089.36 -34.53 96.11 187.96 125.03 18 16 56 2089.4 -18.30 75.98
60.00 18 7 7 2978.48 -29.60 89.74 191.58 118.70 18 56 46 1978.5 -15.73 68.34
70.00 19 1 42 2817.99 -25.20 79.17 194.03 113.86 19 48 40 1818.0 -13.37 57.02
80.00 20 12 7 2597.52 -22.02 63.86 195.44 110.69 20 55 24 1597.5 -11.62 41.31
90.00 21 34 28 2331.77 -20.84 44.79 195.91 109.56 22 13 20 1331.8 -10.96 22.11
100.00 22 54 59 2071.99 -22.02 25.23 195.44 110.69 23 29 31 1072.0 -11.62 2.68
110.00 0 5 4 1864.81 -25.20 8.09 194.03 113.86 0 36 9 864.8 -13.37 345.94

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5012.3 SGR 2365.2 SG3 1649.2 ST 106.9 SR 63.3 SS 128.4
RRT .9695 RRF .9889 RTF .9790 CRT .9940 CRS -.9835 CST -.9972
LSA 178.3 MSA 10.8 SSA 1.2
SGB 5542.3 R23 .1192 R13 .9852 EL1 124.1 EL2 6.0 ALF 30.58
SG1 5517.2 SG2 526.3 THA 24.83

LAUNCH DATE MAR 20 1971 FLIGHT TIME 258.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC DISTANCE 624.948 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.265 GAL -5.90 AZL 88.67 HCA 209.76 SMA 179.16 ECC .19666 INC 1.3265 V1 29.911
RP 213.92 LAP -.66 LOP 28.49 VP 22.361 GAP 1.87 AZP 91.15 TAL 322.56 TAP 172.32 RCA 143.92 APO 214.39 V2 25.662
RC 142.739 GL 9.62 GP -18.03 ZAL 148.82 ZAP 72.74 ETS 172.96 ZAE 113.64 ETE 187.74 ZAC 84.65 ETC 268.71 V1 11.70

PLANETOCENTRIC CONIC
C3 19.757 VHL 4.445 DLA -2.81 RAL 327.73 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 3.628 DPA -42.47 RAP 282.69 ECC 1.3251
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 38 3075.05 -33.97 95.21 188.30 125.57 18 21 53 2075.1 -17.61 75.32
60.00 18 13 11 2961.84 -29.05 88.67 191.96 119.26 19 2 33 1961.8 -15.04 67.48
70.00 19 8 45 2798.47 -24.66 77.92 194.46 114.42 19 55 23 1798.5 -12.67 55.94
80.00 20 20 3 2575.21 -21.48 62.43 195.91 111.25 21 2 58 1575.2 -10.91 40.03
90.00 21 42 48 2308.21 -20.29 43.28 196.39 110.13 22 21 16 1308.2 -10.25 20.75
100.00 23 2 55 2049.68 -21.48 23.80 195.91 111.25 23 37 5 1049.7 -10.91 1.40
110.00 0 12 7 1845.29 -24.66 6.83 194.46 114.42 0 42 52 845.3 -12.67 344.86

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5243.2 SGR 2246.4 SG3 1634.4 ST 111.1 SR 61.1 SS 127.3
RRT .9687 RRF .9869 RTF .9700 CRT .9915 CRS -.9809 CST -.9977
LSA 179.3 MSA 11.1 SSA 1.3
SGB 5704.2 R23 .1142 R13 .9850 EL1 126.6 EL2 7.0 ALF 28.69
SG1 5680.9 SG2 514.7 THA 22.74

LAUNCH DATE MAR 20 1971 FLIGHT TIME 260.00 ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC DISTANCE 629.112 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.289 GAL -5.97 AZL 88.79 HCA 210.94 SMA 179.21 ECC .19750 INC 1.2107 V1 29.911
RP 214.24 LAP -.62 LOP 29.67 VP 22.325 GAP 1.87 AZP 91.04 TAL 322.23 TAP 173.18 RCA 143.82 APO 214.61 V2 25.627
RC 145.138 GL 8.73 GP -17.29 ZAL 149.29 ZAP 71.06 ETS 172.63 ZAE 112.11 ETE 186.85 ZAC 85.39 ETC 268.60 LVI 11.22

PLANETOCENTRIC CONIC
C3 19.988 VHL 4.469 DLA -3.57 RAL 328.25 RAD 6642.8 VEL 11.831 PTH 6.85 VHP 3.643 DPA -41.76 RAP 281.58 ECC 1.3286
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 35 31 3062.49 -33.47 94.42 188.69 126.03 18 26 33 2062.5 -17.00 74.74
60.00 18 18 53 2947.12 -28.56 87.74 192.39 119.74 19 8 0 1947.1 -14.43 66.72
70.00 19 15 20 2781.11 -24.16 76.81 194.93 114.91 20 1 42 1781.1 -12.04 54.99
80.00 20 27 28 2555.28 -20.98 61.16 196.41 111.74 21 10 3 1555.3 -10.27 38.90
90.00 21 50 35 2287.12 -19.79 41.93 196.90 110.62 22 28 42 1287.1 -9.61 19.54
100.00 23 10 20 2029.75 -20.98 22.52 196.41 111.74 23 44 10 1029.7 -10.27 .27
110.00 0 18 43 1827.93 -24.16 5.73 194.93 114.91 0 49 11 827.9 -12.04 343.91

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
SGT 5468.0 SGR 2133.2 SG3 1615.0 ST 115.2 SR 59.0 SS 126.1
RRT .9674 RRF .9846 RTF .9809 CRT .9887 CRS -.9780 CST -.9981
LSA 180.3 MSA 11.4 SSA 1.3
SGB 5869.4 R23 .1088 R13 .9850 EL1 129.1 EL2 7.9 ALF 26.95
SG1 5847.6 SG2 505.5 THA 20.84

LAUNCH DATE MAR 20 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 633.271

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.273 GAL -6.04 AZL 88.90 HCA 212.12 SMA 179.28 ECC .19839 INC 1.1031 V1 29.911
RP 214.59 LAP -.59 LOP 30.85 VP 22.290 GAP 1.48 AZP 90.93 TAL 321.90 TAP 174.02 RCA 143.71 APO 214.84 V2 25.591
RC 147.553 GL 7.90 GP -16.59 ZAL 149.73 ZAP 69.43 ETS 172.33 ZAE 110.99 ETE 186.05 ZAC 96.09 ETC 268.49 LVI 10.76

PLANETOCENTRIC CONIC

C3 20.209 VHL 4.495 DLA -4.27 RAL 328.77 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 3.662 DPA -41.09 RAP 281.34 ECC 1.3326
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 40 7 3091.49 -33.03 93.75 189.12 126.43 18 30 58 2051.5 -16.47 74.23
60.00 18 24 14 2934.15 -28.12 86.92 192.87 120.15 19 13 8 1934.2 -15.88 66.06
70.00 19 21 31 2765.70 -23.72 75.83 195.44 115.33 20 7 37 1765.7 -11.48 54.15
80.00 20 34 25 2337.49 -20.53 60.03 196.95 112.17 21 16 42 1537.5 -9.70 37.69
90.00 21 57 51 2268.26 -19.34 40.74 197.45 111.05 22 35 39 1268.3 -9.03 18.45
100.00 23 17 16 2011.96 -20.53 21.40 196.95 112.17 23 50 48 1012.0 -9.70 359.26
110.00 0 24 54 1812.52 -23.72 4.75 195.44 115.33 0 55 6 812.5 -11.48 343.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5208 TRA 3.6202 TC3-2.9834 BAU .8223 SGT 3688.5 SGR 2027.0 SG3 1592.5 ST 119.3 SR 57.0 SS 124.9
RDE .8050 RRA 1.3002 RC3 -.6035 FAU .14248 RRT .9655 RRF .9819 RTF .9816 CRT .9855 CRS -.9748 CST -.9984
FDE 4.8276 FRA12.8983 FC3-6.1039 BSP 9984 SGB 8038.9 R23 .1030 R13 .9850 LSA 181.5 MSA 11.7 SSA 1.3
BDE 1.7205 BRA 3.8466 BC3 3.0438 F8P 2916 SG1 8018.3 SG2 498.8 THA 19.12 EL1 131.9 EL2 8.7 ALF 25.36

LAUNCH DATE MAR 20 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 637.427

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.277 GAL -6.12 AZL 89.00 HCA 213.30 SMA 179.35 ECC .19933 INC 1.0027 V1 29.911
RP 214.88 LAP -.55 LOP 32.03 VP 22.255 GAP 1.28 AZP 90.84 TAL 321.55 TAP 174.84 RCA 143.60 APO 215.09 V2 25.554
RC 149.988 GL 7.13 GP -15.93 ZAL 150.15 ZAP 67.84 ETS 172.07 ZAE 109.09 ETE 185.32 ZAC 86.75 ETC 268.39 LVI 10.31

PLANETOCENTRIC CONIC

C3 20.477 VHL 4.525 DLA -4.90 RAL 329.27 RAD 6643.0 VEL 11.853 PTH 6.87 VHP 3.684 DPA -40.45 RAP 280.77 ECC 1.3370
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 44 28 3041.93 -32.64 93.17 189.59 126.78 18 35 10 2041.9 -16.01 73.80
60.00 18 29 16 2922.77 -27.73 86.21 193.37 120.51 19 17 59 1922.8 -13.40 65.48
70.00 19 27 20 2752.06 -23.32 74.98 195.98 115.69 20 13 12 1752.1 -10.98 53.40
80.00 20 40 55 2521.66 -20.12 59.03 197.52 112.54 21 22 57 1521.7 -9.19 36.99
90.00 22 4 40 2251.44 -18.92 39.68 198.03 111.42 22 42 12 1251.4 -8.51 17.49
100.00 23 23 47 1996.13 -20.12 20.40 197.52 112.54 23 57 3 996.1 -9.19 358.36
110.00 0 30 42 1798.86 -23.32 3.90 195.98 115.69 0 41 1 798.9 -10.98 342.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5758 TRA 3.7872 TC3-3.0431 BAU .8472 SGT 5903.5 SGR 1927.1 SG3 1567.3 ST 123.3 SR 55.3 SS 123.7
RDE .7908 RRA 1.2322 RC3 -.5627 FAU .13960 RRT .9630 RRF .9788 RTF .9821 CRT .9820 CRS -.9715 CST -.9987
FDE 4.7795 FRA12.7829 FC3-5.9020 B8P 10302 SGB 8210.1 R23 .0975 R13 .9849 LSA 182.8 MSA 12.1 SSA 1.3
BDE 1.7630 BRA 3.9922 BC3 3.0946 F8P 2882 SG1 6190.4 SG2 495.0 THA 17.57 EL1 134.8 EL2 9.6 ALF 23.90

LAUNCH DATE MAR 20 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 641.579

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.282 GAL -6.20 AZL 89.09 HCA 214.47 SMA 179.42 ECC .20032 INC .9085 V1 29.911
RP 215.21 LAP -.51 LOP 33.20 VP 22.219 GAP 1.08 AZP 90.75 TAL 321.19 TAP 175.68 RCA 143.48 APO 215.36 V2 25.518
RC 152.438 GL 6.41 GP -19.30 ZAL 150.55 ZAP 66.30 ETS 171.84 ZAE 107.61 ETE 184.67 ZAC 87.37 ETC 268.31 LVI 9.89

PLANETOCENTRIC CONIC

C3 20.771 VHL 4.558 DLA -5.49 RAL 329.77 RAD 6643.2 VEL 11.865 PTH 6.88 VHP 3.709 DPA -39.85 RAP 280.27 ECC 1.3418
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 36 3033.67 -32.30 92.67 190.09 127.05 18 39 9 2033.7 -15.61 73.42
60.00 18 34 2 2912.83 -27.38 85.60 193.91 120.81 19 22 34 1912.8 -12.98 64.98
70.00 19 32 48 2740.04 -22.96 74.23 196.55 116.01 20 18 28 1740.0 -10.54 52.75
80.00 20 47 2 2507.60 -19.75 58.15 198.11 112.86 21 28 50 1507.6 -8.73 36.20
90.00 22 11 4 2236.46 -18.55 38.74 198.64 111.74 22 48 21 1236.5 -8.04 16.64
100.00 23 29 54 1982.07 -19.75 19.52 198.11 112.86 24 2 56 982.1 -8.73 357.57
110.00 0 36 10 1786.85 -22.96 3.14 196.55 116.01 1 5 57 786.9 -10.54 341.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6306 TRA 3.8732 TC3-3.0983 BAU .8726 SGT 6112.1 SGR 1832.6 SG3 1539.2 ST 127.2 SR 53.7 SS 122.3
RDE .7777 RRA 1.1674 RC3 -.5249 FAU .13667 RRT .9600 RRF .9752 RTF .9826 CRT .9781 CRS -.9678 CST -.9989
FDE 4.7224 FRA12.6476 FC3-5.8984 B8P 10611 SGB 6380.9 R23 .0920 R13 .9849 LSA 184.0 MSA 12.4 SSA 1.3
BDE 1.8066 BRA 4.1411 BC3 3.1425 F8P 2838 SG1 6361.8 SG2 492.8 THA 16.16 EL1 137.7 EL2 10.3 ALF 22.55

LAUNCH DATE MAR 20 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 645.727

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.287 GAL -6.28 AZL 89.18 HCA 215.63 SMA 179.50 ECC .20135 INC .8203 V1 29.911
RP 215.34 LAP -.48 LOP 34.37 VP 22.184 GAP .89 AZP 90.67 TAL 320.63 TAP 176.47 RCA 143.36 APO 215.64 V2 25.480
RC 154.904 GL 5.74 GP -14.72 ZAL 150.94 ZAP 64.80 ETS 171.63 ZAE 106.15 ETE 184.08 ZAC 87.95 ETC 268.23 LVI 9.47

PLANETOCENTRIC CONIC

C3 21.091 VHL 4.592 DLA -6.02 RAL 330.25 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 3.738 DPA -39.28 RAP 279.83 ECC 1.3471
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 52 30 3026.60 -32.01 92.24 190.82 127.29 18 42 57 2026.6 -15.26 73.10
60.00 18 38 31 2904.21 -27.08 85.07 194.47 121.07 19 26 56 1904.2 -12.61 64.55
70.00 19 37 57 2729.49 -22.84 73.57 197.14 116.20 20 23 26 1729.5 -10.15 52.18
80.00 20 52 47 2495.18 -19.42 57.38 198.73 113.14 21 34 23 1495.2 -8.32 35.50
90.00 22 17 5 2223.17 -18.21 37.91 199.26 112.02 22 54 9 1223.2 -7.63 15.88
100.00 23 35 39 1969.64 -19.42 18.74 198.73 113.14 24 8 29 969.6 -8.32 356.87
110.00 0 41 19 1776.31 -22.64 2.49 197.14 116.28 1 10 55 776.3 -10.15 341.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6885 TRA 4.1500 TC3-3.1459 BAU .8977 SGT 6316.0 SGR 1744.4 SG3 1509.3 ST 131.2 SR 52.2 SS 120.9
RDE .7871 RRA 1.1061 RC3 -.4886 FAU .13338 RRT .9564 RRF .9712 RTF .9829 CRT .9740 CRS -.9640 CST -.9991
FDE 4.6697 FRA12.5008 FC3-5.4751 B8P 10933 SGB 6552.5 R23 .0867 R13 .9849 LSA 185.5 MSA 12.8 SSA 1.3
BDE 1.8546 BRA 4.2949 BC3 3.1836 F8P 2794 SG1 6533.9 SG2 492.5 THA 14.88 EL1 140.8 EL2 11.0 ALF 21.32

LAUNCH DATE MAR 20 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC DISTANCE 649.869 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.292 GAL -6.36 AZL 89.26 HCA 216.80 SMA 179.58 ECC .20244 INC .7368 V1 29.911
RP 215.87 LAP -.44 LOP 35.53 VP 22.148 GAP .70 AZP 90.59 TAL 320.46 TAP 177.26 RCA 143.23 APO 215.94 V2 25.443
RC 157.385 GL 5.12 GP -14.16 ZAL 151.31 ZAP 63.35 ETS 171.45 ZAE 104.72 ETE 183.54 ZAC 88.51 ETC 268.17 LVI 9.08

PLANETOCENTRIC CONIC
C3 21.434 VHL 4.630 DLA -6.52 RAL 330.72 RAD 6643.5 VEL 11.893 PTH 6.90 VHP 3.769 DPA -38.74 RAP 279.45 ECC 1.3528
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 56 13 3020.62 -31.76 91.89 191.17 127.49 18 46 34 2020.6 -14.97 72.83
60.00 18 42 47 2896.80 -26.82 84.61 195.05 121.29 19 31 4 1896.8 -12.30 64.17
70.00 19 42 48 2720.30 -22.37 73.00 197.75 116.31 20 28 9 1720.3 -9.81 51.69
80.00 20 58 13 2484.23 -19.13 56.70 199.37 113.37 21 39 37 1484.2 -7.96 34.89
90.00 22 22 46 2211.44 -17.91 37.18 199.90 112.26 22 59 37 1211.4 -7.26 15.21
100.00 23 41 5 1958.70 -19.13 18.07 199.37 113.37 24 13 43 958.7 -7.96 356.26
110.00 0 46 11 1767.12 -22.37 1.92 197.75 116.31 1 15 38 767.1 -9.81 340.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.7456 TRA 4.3250 TC3-3.1912 BAU .9237 SGT 6313.1 SGR 1861.1 SG3 1477.5 ST 135.0 SR 50.8 SS 119.5
RDE .7576 RRA 1.0474 RC3 -.4556 FAU .13023 RRT .9521 RRF .9665 RTF .9832 CRT .9695 CRS -.9599 CST -.9992
PDE 4.6099 FRA12.3373 FC3-5.2601 BSP 11235 SGB 6721.6 R23 .0817 R13 .9848 LSA 186.8 MSA 13.2 SSA 1.3
BDE 1.9029 BRA 4.4500 BC3 3.2235 FSP 2741 SG1 6703.5 SG2 493.5 THA 13.72 EL1 143.7 EL2 11.7 ALF 20.19

LAUNCH DATE MAR 20 1971 FLIGHT TIME 272.00 ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC DISTANCE 654.008 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.298 GAL -6.45 AZL 89.34 HCA 217.96 SMA 179.67 ECC .20357 INC .6583 V1 29.911
RP 216.21 LAP -.41 LOP 36.69 VP 22.113 GAP .50 AZP 90.52 TAL 320.08 TAP 178.04 RCA 143.09 APO 216.25 V2 25.405
RC 159.881 GL 4.53 GP -13.64 ZAL 151.68 ZAP 61.94 ETS 171.30 ZAE 103.31 ETE 183.05 ZAC 89.03 ETC 268.12 LVI 8.69

PLANETOCENTRIC CONIC
C3 21.801 VHL 4.669 DLA -6.97 RAL 331.19 RAD 6643.6 VEL 11.908 PTH 6.92 VHP 3.803 DPA -38.23 RAP 279.13 ECC 1.3588
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 46 3015.65 -31.56 91.59 191.75 127.66 18 50 1 2015.7 -14.73 72.61
60.00 18 46 49 2890.51 -26.59 84.23 195.66 121.47 19 35 0 1890.5 -12.03 63.86
70.00 19 47 24 2712.36 -22.12 72.51 198.38 116.71 20 32 37 1712.4 -9.52 51.26
80.00 21 3 20 2474.67 -18.87 56.11 200.02 113.58 21 44 35 1474.7 -7.65 34.36
90.00 22 28 6 2201.14 -17.64 36.54 200.56 112.47 23 4 48 1201.1 -6.94 14.63
100.00 23 46 12 1949.14 -18.87 17.47 200.02 113.58 24 18 41 949.1 -7.65 355.72
110.00 0 50 47 1759.18 -22.12 1.43 198.38 116.71 1 20 6 759.2 -9.52 340.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8048 TRA 4.5009 TC3-3.2294 BAU .9493 SGT 6705.2 SGR 1583.3 SG3 1444.5 ST 138.7 SR 49.5 SS 118.0
RDE .7498 RRA .9918 RC3 -.4243 FAU .12685 RRT .9471 RRF .9612 RTF .9834 CRT .9648 CRS -.9556 CST -.9993
PDE 4.5512 FRA12.1658 FC3-5.0373 BSP 11551 SGB 6889.6 R23 .0769 R13 .9848 LSA 188.2 MSA 13.6 SSA 1.3
BDE 1.9544 BRA 4.6088 BC3 3.2571 FSP 2689 SG1 6871.7 SG2 495.8 THA 12.67 EL1 146.8 EL2 12.3 ALF 19.15

LAUNCH DATE MAR 20 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC DISTANCE 658.141 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.304 GAL -6.54 AZL 89.42 HCA 219.12 SMA 179.78 ECC .20475 INC .5837 V1 29.911
RP 216.56 LAP -.37 LOP 37.85 VP 22.077 GAP .31 AZP 90.45 TAL 319.70 TAP 178.81 RCA 142.96 APO 216.57 V2 25.366
RC 162.390 GL 3.98 GP -13.14 ZAL 152.03 ZAP 60.57 ETS 171.16 ZAE 101.92 ETE 182.62 ZAC 89.52 ETC 268.07 LVI 8.31

PLANETOCENTRIC CONIC
C3 22.191 VHL 4.711 DLA -7.39 RAL 331.65 RAD 6643.8 VEL 11.924 PTH 6.93 VHP 3.838 DPA -37.74 RAP 278.87 ECC 1.3652
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 3 8 3011.61 -31.39 91.36 192.34 127.79 18 53 20 2011.6 -14.53 72.43
60.00 18 50 39 2885.25 -26.41 83.91 196.28 121.62 19 38 44 1885.2 -11.81 63.55
70.00 19 51 45 2705.58 -21.92 72.10 199.03 116.88 20 36 51 1705.6 -9.27 50.90
80.00 21 8 10 2468.58 -18.64 55.60 200.68 113.76 21 49 16 1466.4 -7.37 33.89
90.00 22 33 9 2192.17 -17.41 35.99 201.24 112.64 23 9 41 1192.2 -6.66 14.12
100.00 23 51 2 1940.86 -18.64 16.96 200.68 113.76 24 23 23 940.9 -7.37 355.26
110.00 0 55 8 1752.40 -21.92 1.02 199.03 116.88 1 24 20 752.4 -9.27 339.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8648 TRA 4.6763 TC3-3.2638 BAU .9753 SGT 6891.7 SGR 1510.6 SG3 1410.5 ST 142.4 SR 48.4 SS 116.4
RDE .7433 RRA .9389 RC3 -.3850 FAU .12337 RRT .9413 RRF .9552 RTF .9835 CRT .9597 CRS -.9510 CST -.9995
PDE 4.4918 FRA11.9882 FC3-4.8131 BSP 11858 SGB 7058.3 R23 .0726 R13 .9847 LSA 189.7 MSA 14.0 SSA 1.3
BDE 2.0075 BRA 4.7869 BC3 3.2674 FSP 2633 SG1 7037.6 SG2 499.3 THA 11.72 EL1 149.9 EL2 12.9 ALF 18.20

LAUNCH DATE MAR 20 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC DISTANCE 662.288 EARTH TO MARS
RL 148.97 LAL .00 LOL 178.73 VL 32.310 GAL -6.63 AZL 89.49 HCA 220.27 SMA 179.86 ECC .20598 INC .5132 V1 29.911
RP 216.91 LAP -.33 LOP 39.00 VP 22.042 GAP .11 AZP 90.39 TAL 319.30 TAP 179.57 RCA 142.81 APO 216.91 V2 25.327
RC 164.912 GL 3.47 GP -12.67 ZAL 152.37 ZAP 59.25 ETS 171.04 ZAE 100.57 ETE 182.22 ZAC 89.99 ETC 268.04 LVI 7.94

PLANETOCENTRIC CONIC
C3 22.603 VHL 4.754 DLA -7.77 RAL 332.10 RAD 6644.0 VEL 11.941 PTH 6.94 VHP 3.876 DPA -37.28 RAP 278.67 ECC 1.3720
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 6 22 3008.43 -31.26 91.17 192.95 127.89 18 56 30 2008.4 -14.38 72.28
60.00 18 54 16 2880.94 -26.25 83.65 196.91 121.75 19 42 19 1880.9 -11.62 63.38
70.00 19 55 53 2699.87 -21.74 71.75 199.69 117.01 20 40 53 1699.9 -9.05 50.59
80.00 21 12 44 2459.28 -18.44 55.16 201.36 113.90 21 53 43 1459.3 -7.14 33.50
90.00 22 37 55 2184.43 -17.21 35.51 201.92 112.79 23 14 20 1184.4 -6.41 13.68
100.00 23 55 36 1933.75 -18.44 16.53 201.36 113.90 24 27 50 933.8 -7.14 354.86
110.00 0 59 15 1746.69 -21.74 .67 199.69 117.01 1 28 22 746.7 -9.05 339.51

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.9265 TRA 4.8528 TC3-3.2927 BAU 1.0012 SGT 7073.3 SGR 1443.0 SG3 1376.0 ST 146.1 SR 47.4 SS 114.9
RDE .7383 RRA .8888 RC3 -.3677 FAU .11980 RRT .9347 RRF .9484 RTF .9835 CRT .9545 CRS -.9464 CST -.9996
PDE 4.4331 FRA11.8015 FC3-4.5887 BSP 12163 SGB 7219.0 R23 .0687 R13 .9845 LSA 191.3 MSA 14.4 SSA 1.3
BDE 2.0631 BRA 4.9335 BC3 3.3132 FSP 2577 SG1 7201.5 SG2 503.7 THA 10.85 EL1 153.0 EL2 13.5 ALF 17.33

LAUNCH DATE MAR 20 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 23 1971

MELIOCENTRIC CONIC

DISTANCE 866.369

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.316 GAL -6.72 AZL 89.55 HCA 221.42 SMA 179.98 ECC .20725 INC .4461 V1 29.911
 RP 217.26 LAP -.30 LOP 40.15 VP 22.008 GAP -.08 AZP 90.33 TAL 318.90 TAP 180.32 RCA 142.66 APO 217.26 V2 23.288
 RC 167.446 GL 2.99 GP -12.23 ZAL 152.71 ZAP 57.98 ETS 170.93 ZAE 99.24 ETE 161.86 ZAC 90.43 ETC 268.02 LVI 7.57

PLANETOCENTRIC CONIC

C3 23.038 VML 4.800 DLA -8.12 RAL 332.94 RAD 8644.2 VEL 11.959 PTH 6.98 VHP 3.918 DPA -36.84 RAP 278.52 ECC 1.3791
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 9 28 3006.05 -31.18 91.03 193.57 127.97 18 59 33 2006.0 -14.26 72.18
 60.00 18 57 46 2877.52 -26.13 83.44 197.56 121.84 19 45 44 1877.5 -11.48 63.21
 70.00 19 59 48 2695.15 -21.59 71.46 200.36 117.13 20 44 43 1695.2 -8.88 50.34
 80.00 21 17 3 2453.27 -18.28 54.79 202.05 114.03 21 57 57 1453.3 -6.94 33.16
 90.00 22 42 26 2177.84 -17.03 35.11 202.62 112.92 23 18 43 1177.8 -6.20 13.31
 100.00 0 3 31 1927.75 -18.28 16.16 202.05 114.03 0 35 59 927.7 -6.54 354.53
 110.00 1 3 10 1741.97 -21.59 .38 200.36 117.13 1 32 12 742.0 -8.88 339.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9889 TRA 5.0290 TC3-3.3177 BAU 1.0273 SGT 7249.3 SGR 1380.1 SG3 1340.9 ST 149.6 SR 46.4 SS 113.4
 RDE .7343 RRA .8409 RC3 -.3425 FAU .11627 RRT .9273 RRF .9408 RTF .9835 CRT .9491 CRS -.9416 CST -.9996
 FDE 4.3730 FRA11.6109 FC3-4.3692 BSP 12462 SGB 7379.5 R23 .0650 R13 .9844 LSA 192.8 MSA 14.7 SSA 1.3
 BDE 2.1202 BRA 5.0988 BC3 3.3353 FSP 2318 SG1 7361.9 SG2 508.7 THA 10.06 EL1 156.0 EL2 14.0 ALF 16.54

LAUNCH DATE MAR 20 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 25 1971

MELIOCENTRIC CONIC

DISTANCE 870.506

EARTH TO MARS

RL 148.97 LAL .00 LOL 178.73 VL 32.323 GAL -6.82 AZL 89.62 HCA 222.57 SMA 180.07 ECC .20856 INC .3823 V1 29.911
 RP 217.61 LAP -.26 LOP 41.30 VP 21.971 GAP -.28 AZP 90.28 TAL 318.50 TAP 181.06 RCA 142.51 APO 217.62 V2 23.249
 RC 169.992 GL 2.53 GP -11.81 ZAL 153.05 ZAP 56.74 ETS 170.84 ZAE 97.94 ETE 161.53 ZAC 90.85 ETC 268.00 LVI 7.22

PLANETOCENTRIC CONIC

C3 23.494 VML 4.847 DLA -8.44 RAL 332.98 RAD 8644.4 VEL 11.978 PTH 6.98 VHP 3.958 DPA -36.42 RAP 278.41 ECC 1.3866
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 12 23 3004.40 -31.09 90.93 194.20 128.03 19 2 28 2004.4 -14.18 72.10
 60.00 19 1 4 2874.92 -26.04 83.29 198.22 121.92 19 48 59 1874.9 -11.36 63.06
 70.00 20 3 30 2691.35 -21.47 71.23 201.05 117.22 20 48 22 1691.4 -8.74 50.13
 80.00 21 21 9 2448.28 -18.14 54.48 202.75 114.13 22 1 57 1448.3 -6.78 32.88
 90.00 22 46 41 2172.30 -16.88 34.77 203.33 113.03 23 22 54 1172.3 -6.03 13.00
 100.00 0 7 57 1922.76 -18.14 15.85 202.75 114.13 0 40 0 922.8 -6.78 354.25
 110.00 1 6 53 1738.17 -21.47 .15 201.05 117.22 1 35 51 738.2 -8.74 339.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.0492 TRA 5.2020 TC3-3.3448 BAU 1.0534 SGT 7417.9 SGR 1320.3 SG3 1304.5 ST 152.9 SR 45.5 SS 111.5
 RDE .7303 RRA .7944 RC3 -.3210 FAU .11336 RRT .9191 RRF .9323 RTF .9836 CRT .9434 CRS -.9363 CST -.9997
 FDE 4.2996 FRA11.4040 FC3-4.1773 BSP 12712 SGB 7534.5 R23 .0608 R13 .9843 LSA 194.1 MSA 15.1 SSA 1.3
 BDE 2.1754 BRA 5.2623 BC3 3.3602 FSP 2444 SG1 7516.9 SG2 513.5 THA 9.33 EL1 158.9 EL2 14.5 ALF 15.80

LAUNCH DATE MAR 21 1971 FLIGHT TIME 148.00 ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 33.784 GAL -7.50 AZL 92.93 HCA 140.84 SMA 206.95 ECC .30676 INC 2.9291 V1 29.903
 RP 207.27 LAP -1.85 LOP 320.60 VP 25.284 GAP 17.86 AZP 87.73 TAL 327.30 TAP 108.14 RCA 143.47 APO 270.43 V2 26.426
 RC 56.362 GL -15.82 GP 6.17 ZAL 141.27 ZAP 162.99 ETS 158.85 ZAE 164.50 ETE 133.81 ZAC 107.69 ETC 274.95 LVI -19.73

Distance 405.174

Planetary Conic: C3 39.384 VHL 6.274 DLA -28.40 RAL 332.11 RAD 6650.4 VEL 12.619 PTH 7.47 VHP 8.721 DPA -14.82 RAP 306.02 ECC 1.6478
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 32 2 2712.67 -17.84 75.82 198.83 134.87 20 17 15 1712.7 .35 59.65
 60.00 20 51 30 2501.30 -11.09 63.04 205.08 129.00 21 33 11 1501.3 4.97 45.04
 70.00 22 36 31 2192.43 -3.77 43.45 210.53 123.97 23 13 4 1192.4 10.14 23.85
 80.00 0 58 40 1759.64 4.06 15.46 215.38 119.61 1 27 59 759.6 15.81 354.26
 87.29 3 19 30 1318.59 11.75 347.09 219.47 116.04 3 37 29 318.6 21.48 324.26
 100.00 3 41 31 1234.11 4.06 336.83 215.38 119.61 4 2 6 234.1 15.81 315.63
 110.00 3 39 53 1239.24 -3.77 332.37 210.53 123.97 4 0 33 239.2 10.14 312.77

Differential Corrections: YDE -1.0198 TRA -1.9938 TC3 -.0889 BAU .0993 SGT 2272.5 SGR 515.7 SG3 270.5
 RDE -.4893 RRA -.1487 RC3 .1642 FAU .04580 RRT .6081 RRF -.6442 RTF -.8847 CRT .8846 CRS .7637 CST .9759
 FDE .8693 FRA 2.6509 FC3 -1.0074 BSP 3878 SGB 2330.2 R23 -.1113 R13 -.8878 LSA 72.9 MSA 13.8 SSA 1.1
 BDE 1.1311 BRA 1.9993 BC3 .1867 FSP 399 SGI 2294.7 SGI 405.4 THA 8.11 EL1 59.5 EL2 9.9 ALF 20.12

Mid-Course Execution Accuracy: SGT 2272.5 SGR 515.7 SG3 270.5
 RRT .6081 RRF -.6442 RTF -.8847
 SGB 2330.2 R23 -.1113 R13 -.8878
 SGI 2294.7 SGI 405.4 THA 8.11

Orbit Determination Accuracy: ST 56.0 SR 22.5 SS 43.2
 CRT .8846 CRS .7637 CST .9759
 LSA 72.9 MSA 13.8 SSA 1.1
 EL1 59.5 EL2 9.9 ALF 20.12

LAUNCH DATE MAR 21 1971 FLIGHT TIME 150.00 ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 33.669 GAL -7.35 AZL 93.01 HCA 142.10 SMA 204.90 ECC .29925 INC 3.0091 V1 29.903
 RP 207.18 LAP -1.85 LOP 321.86 VP 25.169 GAP 17.40 AZP 87.62 TAL 327.34 TAP 109.43 RCA 143.58 APO 266.21 V2 26.438
 RC 56.568 GL -16.53 GP 6.51 ZAL 141.10 ZAP 162.01 ETS 158.96 ZAE 164.84 ETE 130.71 ZAC 108.00 ETC 275.04 LVI -20.17

Distance 408.427

Planetary Conic: C3 37.938 VHL 6.159 DLA -29.03 RAL 332.51 RAD 6649.9 VEL 12.563 PTH 7.43 VHP 8.476 DPA -14.41 RAP 306.28 ECC 1.6244
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 37 4 2688.88 -16.70 74.72 198.89 135.23 20 21 53 1688.9 1.55 58.65
 60.00 20 58 7 2473.27 -9.89 61.65 205.24 129.27 21 39 20 1473.3 6.20 43.69
 70.00 22 46 16 2155.20 -2.36 41.50 210.87 124.08 23 22 11 1155.2 11.50 21.83
 80.00 1 19 26 1687.66 6.47 11.48 216.30 119.21 1 47 34 687.7 17.88 349.92
 83.16 2 43 15 1418.62 12.27 354.70 219.41 116.51 3 6 53 4.8.6 22.15 331.85
 100.00 4 2 18 1182.13 6.47 332.84 216.30 119.21 4 21 40 162.1 17.88 311.29
 110.00 3 49 38 1202.02 -2.36 330.42 210.87 124.08 4 9 40 202.0 11.50 310.75

Differential Corrections: YDE -1.0303 TRA -1.9763 TC3 -.0901 BAU .1004 SGT 2313.3 SGR 528.6 SG3 287.5
 RDE -.4787 RRA -.1732 RC3 .1763 FAU .04724 RRT .6462 RRF -.6853 RTF -.8868 CRT .8966 CRS .7767 CST .9747
 FDE .9092 FRA 2.7552 FC3 -1.0780 BSP 4035 SGB 2372.9 R23 -.1240 R13 -.8904 LSA 74.9 MSA 13.7 SSA 1.1
 BDE 1.1361 BRA 1.9839 BC3 .1980 FSP 427 SGI 2339.1 SGI 399.0 THA 8.65 EL1 60.9 EL2 9.4 ALF 19.81

Mid-Course Execution Accuracy: SGT 2313.3 SGR 528.6 SG3 287.5
 RRT .6462 RRF -.6853 RTF -.8868
 SGB 2372.9 R23 -.1240 R13 -.8904
 SGI 2339.1 SGI 399.0 THA 8.65

Orbit Determination Accuracy: ST 57.4 SR 22.4 SS 44.7
 CRT .8966 CRS .7767 CST .9747
 LSA 74.9 MSA 13.7 SSA 1.1
 EL1 60.9 EL2 9.4 ALF 19.81

LAUNCH DATE MAR 21 1971 FLIGHT TIME 152.00 ARRIVAL DATE AUG 20 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 33.978 GAL -7.20 AZL 93.09 HCA 143.36 SMA 202.99 ECC .29213 INC 3.0938 V1 29.903
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.059 GAP 16.95 AZP 87.52 TAL 327.37 TAP 110.73 RCA 143.69 APO 262.29 V2 26.448
 RC 56.856 GL -17.28 GP 6.88 ZAL 140.91 ZAP 161.01 ETS 159.02 ZAE 165.10 ETE 127.57 ZAC 108.34 ETC 275.13 LVI -20.63

Distance 411.753

Planetary Conic: C3 36.825 VHL 6.052 DLA -29.69 RAL 332.92 RAD 6649.5 VEL 12.511 PTH 7.39 VHP 8.239 DPA -13.98 RAP 306.51 ECC 1.6028
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 25 2684.60 -15.52 73.62 199.02 135.56 20 26 50 1664.6 2.77 57.64
 60.00 21 5 15 2444.25 -8.63 60.23 205.48 129.52 21 45 59 1444.2 7.46 42.28
 70.00 22 57 5 2115.25 -.83 39.42 211.33 124.14 23 32 21 1115.2 12.95 19.64
 80.00 1 53 40 1573.73 10.20 5.08 218.01 118.21 2 19 54 573.7 20.92 342.83
 80.56 2 24 23 1475.54 12.81 359.18 219.40 117.02 2 48 59 475.5 22.84 336.32
 100.00 4 36 32 1048.20 10.20 326.45 218.01 118.21 4 54 0 48.2 20.92 304.20
 110.00 4 0 28 1162.07 -.83 328.34 211.33 124.14 4 19 50 162.1 12.95 308.56

Differential Corrections: YDE -1.0373 TRA -1.9538 TC3 -.0870 BAU .1021 SGT 2347.0 SGR 545.0 SG3 303.4
 RDE -.4693 RRA -.1990 RC3 .1895 FAU .04876 RRT .6832 RRF -.7252 RTF -.8.98 CRT .9083 CRS .7906 CST .9736
 FDE .9519 FRA 2.8633 FC3 -1.1326 BSP 4138 SGB 2409.4 R23 -.1386 R13 -.8938 LSA 76.8 MSA 13.6 SSA 1.1
 BDE 1.1385 BRA 1.9837 BC3 .2085 FSP 457 SGI 2377.2 SGI 392.9 THA 9.27 EL1 62.1 EL2 8.9 ALF 19.81

Mid-Course Execution Accuracy: SGT 2347.0 SGR 545.0 SG3 303.4
 RRT .6832 RRF -.7252 RTF -.8.98
 SGB 2409.4 R23 -.1386 R13 -.8938
 SGI 2377.2 SGI 392.9 THA 9.27

Orbit Determination Accuracy: ST 58.6 SR 22.5 SS 46.3
 CRT .9083 CRS .7906 CST .9736
 LSA 76.8 MSA 13.6 SSA 1.1
 EL1 62.1 EL2 8.9 ALF 19.81

LAUNCH DATE MAR 21 1971 FLIGHT TIME 154.00 ARRIVAL DATE AUG 22 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 33.493 GAL -7.08 AZL 93.18 HCA 144.62 SMA 201.23 ECC .28538 INC 3.1838 V1 29.903
 RP 207.01 LAP -1.84 LOP 324.39 VP 24.954 GAP 16.50 AZP 87.40 TAL 327.42 TAP 112.04 RCA 143.80 APO 258.65 V2 26.457
 RC 57.225 GL -18.07 GP 7.29 ZAL 140.68 ZAP 159.98 ETS 159.03 ZAE 165.26 ETE 124.44 ZAC 108.72 ETC 275.22 LVI -21.11

Distance 415.147

Planetary Conic: C3 35.421 VHL 5.952 DLA -30.39 RAL 333.38 RAD 6649.0 VEL 12.463 PTH 7.36 VHP 8.010 DPA -13.52 RAP 306.71 ECC 1.5829
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 48 8 2639.77 -14.31 72.50 199.24 135.88 20 32 8 1639.8 4.01 56.60
 60.00 21 12 57 2414.10 -7.32 58.76 205.81 129.74 21 53 12 1414.1 8.77 40.81
 70.00 23 9 18 2071.80 .83 37.15 211.94 124.14 23 43 50 1071.8 14.50 17.23
 78.38 2 9 41 1519.41 13.35 2.74 219.45 117.56 2 35 1 519.4 23.55 339.87
 78.38 2 9 41 1519.41 13.35 2.74 219.45 117.56 2 35 1 519.4 23.55 339.87
 78.38 2 9 41 1519.41 13.35 2.74 219.45 117.56 2 35 1 519.4 23.55 339.87
 110.00 4 12 40 1118.62 .83 326.07 211.94 124.14 4 31 19 118.6 14.50 306.14

Differential Corrections: YDE -1.0428 TRA -1.9277 TC3 -.0822 BAU .1040 SGT 2376.1 SGR 565.4 SG3 324.4
 RDE -.4612 RRA -.2263 RC3 .2037 FAU .05035 RRT .7186 RRF -.7632 RTF -.8929 CRT .9200 CRS .8052 CST .9725
 FDE .9976 FRA 2.9758 FC3 -1.2306 BSP 4218 SGB 2442.4 R23 -.1497 R13 -.8975 LSA 78.6 MSA 13.5 SSA 1.1
 BDE 1.1402 BRA 1.9409 BC3 .2196 FSP 488 SGI 2411.5 SGI 387.4 THA 9.96 EL1 63.2 EL2 8.3 ALF 19.50

Mid-Course Execution Accuracy: SGT 2376.1 SGR 565.4 SG3 324.4
 RRT .7186 RRF -.7632 RTF -.8929
 SGB 2442.4 R23 -.1497 R13 -.8975
 SGI 2411.5 SGI 387.4 THA 9.96

Orbit Determination Accuracy: ST 59.7 SR 22.5 SS 47.9
 CRT .9200 CRS .8052 CST .9725
 LSA 78.6 MSA 13.5 SSA 1.1
 EL1 63.2 EL2 8.3 ALF 19.50

LAUNCH DATE MAR 21 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 33.412 GAL -8.93 AZL 93.28 HCA 145.89 SMA 199.59 ECC .27897 INC 3.2796 V1 29.903
 RP 206.94 LAP -1.84 LOP 325.66 VP 24.854 GAP 16.06 AZP 87.26 TAL 327.46 TAP 113.35 RCA 143.91 AFO 255.27 V2 26.466
 RC 57.675 GL -18.90 GP 7.73 ZAL 140.41 ZAP 158.89 ETS 159.00 ZAE 165.33 ETE 121.40 ZAC 109.12 ETC 275.30 LVI -21.61

DISTANCE 418.601
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 34.323 VHL 5.859 DLA -31.13 RAL 333.80 RAD 6648.6 VEL 12.419 PTH 7.33 VHP 7.789 DPA -13.03 RAP 306.88 ECC 1.5649
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 54 16 2614.34 -13.06 71.37 199.53 136.17 20 37 50 1614.3 5.29 55.53
 60.00 21 21 20 2382.64 -5.95 57.23 206.26 129.93 22 1 3 1382.6 10.13 39.27
 70.00 23 23 20 2023.61 2.67 34.64 212.74 124.06 23 57 4 1023.6 16.18 14.51
 76.42 1 57 17 1556.36 13.91 5.81 219.57 118.13 2 23 14 556.4 24.28 342.93
 76.42 1 57 17 1556.36 13.91 5.81 219.57 118.13 2 23 14 556.4 24.28 342.93
 76.42 1 57 17 1556.36 13.91 5.81 219.57 118.13 2 23 14 556.4 24.28 342.93
 110.00 4 26 43 1070.43 2.67 323.55 212.74 124.06 4 44 33 70.4 16.18 303.43

DIFFERENTIAL CORRECTIONS
 TDE-1.0478 TRA-1.8992 TC3 -.0761 BAU .1064 SGT 2401.3 SGR 590.3 SG3 344.4 ORBIT DETERMINATION ACCURACY
 RDE -.4545 RRA -.2553 RC3 .2190 FAU .05203 RRT .7516 RRF -.7988 RTF -.8959 ST 60.7 SR 22.7 SS 49.6
 FDE 1.0481 FRA 3.0922 FC3-1.3125 BSP 4284 SGB 2472.8 R23 -.1634 R13 -.9012 CRT .9316 CRS .8204 CST .9715
 BDE 1.1421 BRA 1.9163 BC3 .2319 FSP 522 SG1 2443.0 SG2 382.7 THA 10.74 LSA 80.5 MSA 13.4 SSA 1.0
 EL1 64.3 EL2 7.8 ALF 19.47

LAUNCH DATE MAR 21 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 33.335 GAL -6.79 AZL 93.38 HCA 147.15 SMA 198.06 ECC .27290 INC 3.3820 V1 29.903
 RP 206.87 LAP -1.83 LOP 326.93 VP 24.759 GAP 15.64 AZP 87.16 TAL 327.51 TAP 114.67 RCA 144.01 APO 252.11 V2 26.473
 RC 58.203 GL -19.77 GP 8.20 ZAL 140.12 ZAP 157.78 ETS 158.91 ZAE 165.30 ETE 118.50 ZAC 109.57 ETC 275.37 LVI -22.14

DISTANCE 422.113
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 33.326 VHL 5.773 DLA -31.90 RAL 334.27 RAD 6648.3 VEL 12.379 PTH 7.30 VHP 7.574 DPA -12.50 RAP 307.01 ECC 1.5485
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 0 52 2588.22 -11.78 70.22 199.93 136.44 20 44 0 1588.2 6.59 54.43
 60.00 21 30 31 2349.84 -4.51 55.64 206.83 130.09 22 9 41 1349.6 11.54 37.63
 70.00 23 39 58 1968.49 4.77 31.75 213.80 123.86 24 12 47 968.5 18.06 11.34
 74.58 1 46 26 1588.93 14.47 8.59 219.77 118.75 2 12 55 588.9 25.04 345.70
 74.58 1 46 26 1588.93 14.47 8.59 219.77 118.75 2 12 55 588.9 25.04 345.70
 74.58 1 46 26 1588.93 14.47 8.59 219.77 118.75 2 12 55 588.9 25.04 345.70
 110.00 4 43 21 1015.31 4.77 320.67 213.80 123.86 5 0 16 15.3 18.06 300.26

DIFFERENTIAL CORRECTIONS
 TDE-1.0533 TRA-1.8687 TC3 -.0699 BAU .1095 SGT 2423.3 SGR 620.4 SG3 365.5 ORBIT DETERMINATION ACCURACY
 RDE -.4494 RRA -.2862 RC3 .2356 FAU .03380 RRT .7818 RRF -.8313 RTF -.8988 ST 61.7 SR 22.9 SS 51.3
 FDE 1.0986 FRA 3.2124 FC3-1.3976 BSP 4346 SGB 2501.5 R23 -.1779 R13 -.9049 CRT .9430 CRS .8363 CST .9704
 BDE 1.1452 BRA 1.8905 BC3 .2457 FSP 557 SG1 2472.6 SG2 379.1 THA 11.60 LSA 82.4 MSA 13.4 SSA 1.0
 EL1 65.4 EL2 7.2 ALF 19.51

LAUNCH DATE MAR 21 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 33.283 GAL -6.87 AZL 93.49 HCA 148.42 SMA 196.84 ECC .26715 INC 3.4916 V1 29.903
 RP 206.82 LAP -1.83 LOP 328.20 VP 24.668 GAP 15.22 AZP 87.02 TAL 327.57 TAP 115.99 RCA 144.11 APO 249.18 V2 26.479
 RC 58.807 GL -20.69 GP 8.72 ZAL 139.78 ZAP 156.63 ETS 158.79 ZAE 165.18 ETE 115.80 ZAC 110.07 ETC 275.44 LVI -22.71

DISTANCE 425.877
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 32.428 VHL 5.695 DLA -32.73 RAL 334.77 RAD 6647.8 VEL 12.343 PTH 7.27 VHP 7.368 DPA -11.95 RAP 307.10 ECC 1.5337
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 0 0 2561.32 -10.45 69.05 200.44 136.69 20 50 41 1561.3 7.94 53.28
 60.00 21 40 38 2314.76 -2.98 53.97 207.55 130.21 22 19 13 1314.0 13.03 35.88
 70.00 0 4 43 1901.83 7.28 28.23 215.22 123.46 0 36 25 901.8 20.24 7.41
 72.80 1 38 41 1618.63 15.04 11.18 220.04 119.41 2 3 39 618.6 25.82 348.30
 72.80 1 38 41 1618.63 15.04 11.18 220.04 119.41 2 3 39 618.6 25.82 348.30
 72.80 1 38 41 1618.63 15.04 11.18 220.04 119.41 2 3 39 618.6 25.82 348.30
 110.00 5 4 10 6236.69 7.28 295.05 215.22 123.46 6 48 6 5236.7 20.24 274.23

DIFFERENTIAL CORRECTIONS
 TDE-1.0591 TRA-1.8360 TC3 -.0632 BAU .1133 SGT 2441.7 SGR 656.3 SG3 387.7 ORBIT DETERMINATION ACCURACY
 RDE -.4481 RRA -.3194 RC3 .2538 FAU .05567 RRT .8088 RRF -.8805 RTF -.9519 ST 62.6 SR 23.2 SS 53.1
 FDE 1.1546 FRA 3.3357 FC3-1.4862 BSP 4399 SGB 2528.4 R23 -.1930 R13 -.9089 CRT .9540 CRS .8524 CST .9682
 BDE 1.1492 BRA 1.8635 BC3 .2613 FSP 594 SG1 2500.1 SG2 376.9 THA 12.56 LSA 84.3 MSA 13.4 SSA 1.0
 EL1 66.5 EL2 6.5 ALF 19.63

LAUNCH DATE MAR 21 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 33.194 GAL -6.55 AZL 93.61 HCA 149.89 SMA 195.32 ECC .26170 INC 3.6095 V1 29.903
 RP 206.77 LAP -1.82 LOP 329.48 VP 24.581 GAP 14.80 AZP 86.88 TAL 327.63 TAP 117.31 RCA 144.21 APO 246.44 V2 26.485
 RC 59.485 GL -21.66 GP 9.29 ZAL 139.41 ZAP 155.43 ETS 158.62 ZAE 164.95 ETE 113.35 ZAC 110.62 ETC 275.51 LVI -23.31

DISTANCE 429.288
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 31.828 VHL 5.624 DLA -33.59 RAL 335.30 RAD 6647.6 VEL 12.311 PTH 7.24 VHP 7.169 DPA -11.35 RAP 307.15 ECC 1.5205
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 45 2533.49 -9.07 67.85 201.06 136.91 20 57 59 1533.5 9.32 52.09
 60.00 21 51 54 2277.53 -1.34 52.19 208.44 130.28 22 29 52 1277.5 14.60 33.98
 70.00 0 34 37 1808.99 10.73 23.25 217.35 122.62 1 4 46 809.0 23.12 1.74
 71.06 1 27 49 1646.20 15.61 13.65 220.40 120.13 1 55 15 646.2 26.63 350.77
 71.06 1 27 49 1646.20 15.61 13.65 220.40 120.13 1 55 15 646.2 26.63 350.77
 71.06 1 27 49 1646.20 15.61 13.65 220.40 120.13 1 55 15 646.2 26.63 350.77
 110.00 5 34 4 6143.85 10.73 290.08 217.35 122.62 7 16 28 5143.8 23.12 268.56

DIFFERENTIAL CORRECTIONS
 TDE-1.0557 TRA-1.7915 TC3 -.0442 BAU .1172 SGT 2441.4 SGR 698.2 SG3 410.7 ORBIT DETERMINATION ACCURACY
 RDE -.4442 RRA -.3544 RC3 .2737 FAU .05773 RRT .8338 RRF -.8861 RTF -.9059 ST 63.0 SR 23.5 SS 54.9
 FDE 1.2130 FRA 3.4603 FC3-1.5801 BSP 4329 SGB 2539.2 R23 -.2036 R13 -.9140 CRT .9639 CRS .8683 CST .9683
 BDE 1.1454 BRA 1.8262 BC3 .2773 FSP 631 SG1 2511.4 SG2 374.7 THA 13.72 LSA 85.8 MSA 13.3 SSA 1.0
 EL1 67.0 EL2 5.9 ALF 19.97

LAUNCH DATE MAR 21 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 33.129 GAL -6.43 AZL 93.74 HCA 150.95 SMA 194.09 ECC .25636 INC 3.7368 V1 29.903
 RP 206.74 LAP -1.81 LOP 330.73 VP 24.498 GAP 14.40 AZP 86.73 TAL 327.68 TAP 118.64 RCA 144.30 APO 243.89 V2 26.489
 RC 60.233 GL -22.69 GP 9.92 ZAL 136.99 ZAP 154.19 ETS 158.41 ZAE 164.63 ETE 111.18 ZAC 111.22 ETC 275.57 LVI -23.95

PLANETOCENTRIC CONIC

C3 30.928 VHL 5.561 DLA -34.51 RAL 335.88 RAD 6647.4 VEL 12.282 PTH 7.22 VHP 6.978 DPA -10.71 RAP 307.16 ECC 1.5390
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONC
 50.00 20 24 14 2504.67 -7.63 66.62 201.84 137.11 21 5 59 1504.7 10.75 50.85
 60.00 22 4 36 2237.44 .43 50.27 209.54 130.30 22 41 53 1237.4 16.27 31.91
 69.34 1 19 45 1672.18 16.20 16.04 220.87 120.90 1 47 37 672.2 27.46 353.17
 69.34 1 19 45 1672.18 16.20 16.04 220.87 120.90 1 47 37 672.2 27.46 353.17
 69.34 1 19 45 1672.18 16.20 16.04 220.87 120.90 1 47 37 672.2 27.46 353.17
 69.34 1 19 45 1672.18 16.20 16.04 220.87 120.90 1 47 37 672.2 27.46 353.17
 69.34 1 19 45 1672.18 16.20 16.04 220.87 120.90 1 47 37 672.2 27.46 353.17

DIFFERENTIAL CORRECTIONS

TDE-1.0732 TRA-1.7643 TC3 -.0508 BAU .1233
 RDE -.4459 RRA -.3935 RC3 .2938 FAU .05966
 FDE 1.2810 FRA 3.5919 FC3-1.6702 BSP 4502
 BDE 1.1621 BRA 1.8077 BC3 .2981 FSP 675

MID-COURSE EXECUTION ACCURACY

SGT 2468.2 SGR 748.2 S63 435.1
 RRT .8527 RRF -.9083 RTF -.9060
 SGB 2579.1 R23 -.2243 R13 -.9155
 S61 2551.2 S62 378.1 THA 14.83

ORBIT DETERMINATION ACCURACY

ST 64.4 SR 24.1 S3 56.9
 CRT .9738 CRS .8848 CST .9668
 LSA 88.2 MSA 13.4 SSA .9
 EL1 68.6 EL2 5.2 ALF 20.16

LAUNCH DATE MAR 21 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 33.068 GAL -6.32 AZL 93.87 HCA 152.22 SMA 192.95 ECC .25168 INC 3.8746 V1 29.903
 RP 206.71 LAP -1.80 LOP 332.00 VP 24.418 GAP 14.00 AZP 86.57 TAL 327.74 TAP 119.96 RCA 144.39 APO 241.51 V2 26.492
 RC 61.050 GL -23.79 GP 10.60 ZAL 138.52 ZAP 152.89 ETS 158.15 ZAE 164.21 ETE 109.33 ZAC 111.89 ETC 275.63 LVI -24.63

PLANETOCENTRIC CONIC

C3 30.324 VHL 5.507 DLA -35.48 RAL 336.49 RAD 6647.1 VEL 12.258 PTH 7.20 VHP 6.795 DPA -10.01 RAP 307.12 ECC 1.4991
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONC
 50.00 20 33 33 2474.97 -6.13 65.34 202.77 137.27 21 14 48 1474.6 12.24 49.53
 60.00 22 19 8 2193.38 2.37 48.17 210.89 130.24 22 55 41 1193.4 18.07 29.59
 67.62 1 12 18 1697.12 16.78 18.38 221.45 121.73 1 40 35 697.1 28.33 355.53
 67.62 1 12 18 1697.12 16.78 18.38 221.45 121.73 1 40 35 697.1 28.33 355.53
 67.62 1 12 18 1697.12 16.78 18.38 221.45 121.73 1 40 35 697.1 28.33 355.53
 67.62 1 12 18 1697.12 16.78 18.38 221.45 121.73 1 40 35 697.1 28.33 355.53
 67.62 1 12 18 1697.12 16.78 18.38 221.45 121.73 1 40 35 697.1 28.33 355.53

DIFFERENTIAL CORRECTIONS

TDE-1.0807 TRA-1.7238 TC3 -.0431 BAU .1295
 RDE -.4494 RRA -.4351 RC3 .3165 FAU .06182
 FDE 1.3519 FRA 3.7228 FC3-1.7650 BSP 4527
 BDE 1.1704 BRA 1.7778 BC3 .3195 FSP 717

MID-COURSE EXECUTION ACCURACY

SGT 2473.4 SGR 805.7 S63 460.3
 RRT .8699 RRF -.9271 RTF -.9081
 SGB 2601.3 R23 -.2387 R13 -.9192
 S61 2573.1 S62 382.0 THA 16.19

ORBIT DETERMINATION ACCURACY

ST 65.2 SR 24.8 S3 58.8
 CRT .9820 CRS .9005 CST .9656
 LSA 90.3 MSA 13.5 SSA .9
 EL1 69.8 EL2 4.4 ALF 20.59

LAUNCH DATE MAR 21 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 33.010 GAL -6.21 AZL 94.02 HCA 153.49 SMA 191.88 ECC .24707 INC 4.0245 V1 29.903
 RP 206.69 LAP -1.80 LOP 335.27 VP 24.342 GAP 13.62 AZP 86.40 TAL 327.81 TAP 121.29 RCA 144.47 APO 239.28 V2 26.495
 RC 61.933 GL -24.95 GP 11.35 ZAL 138.01 ZAP 151.54 ETS 157.88 ZAE 163.69 ETE 107.79 ZAC 112.63 ETC 275.69 LVI -25.37

PLANETOCENTRIC CONIC

C3 29.821 VHL 5.461 DLA -36.51 RAL 337.16 RAD 6646.9 VEL 12.238 PTH 7.19 VHP 6.620 DPA -9.26 RAP 307.03 ECC 1.4908
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONC
 50.00 20 43 54 2443.00 -4.55 64.01 203.90 137.41 21 24 37 1443.0 13.79 48.14
 60.00 22 36 9 2143.83 4.54 45.79 212.58 130.09 23 11 53 1143.8 20.06 26.91
 65.88 1 5 26 1721.33 17.37 20.70 222.15 122.63 1 34 8 721.3 29.21 357.89
 65.88 1 5 26 1721.33 17.37 20.70 222.15 122.63 1 34 8 721.3 29.21 357.89
 65.88 1 5 26 1721.33 17.37 20.70 222.15 122.63 1 34 8 721.3 29.21 357.89
 65.88 1 5 26 1721.33 17.37 20.70 222.15 122.63 1 34 8 721.3 29.21 357.89
 65.88 1 5 26 1721.33 17.37 20.70 222.15 122.63 1 34 8 721.3 29.21 357.89

DIFFERENTIAL CORRECTIONS

TDE-1.0932 TRA-1.6835 TC3 -.0408 BAU .1368
 RDE -.4584 RRA -.4804 RC3 .3407 FAU .06401
 FDE 1.4304 FRA 3.8543 FC3-1.8583 BSP 4598
 BDE 1.1847 BRA 1.7506 BC3 .3432 FSP 762

MID-COURSE EXECUTION ACCURACY

SGT 2479.3 SGR 872.3 S63 486.3
 RRT .8834 RRF -.9427 RTF -.9091
 SGB 2628.3 R23 -.2540 R13 -.9223
 S61 2599.2 S62 389.9 THA 17.68

ORBIT DETERMINATION ACCURACY

ST 66.1 SR 25.7 S3 60.9
 CRT .9889 CRS .9156 CST .9642
 LSA 92.5 MSA 13.6 SSA .8
 EL1 70.9 EL2 3.6 ALF 21.09

LAUNCH DATE MAR 21 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.955 GAL -6.11 AZL 94.19 HCA 154.75 SMA 190.88 ECC .24271 INC 4.1884 V1 29.903
 RP 206.88 LAP -1.79 LOP 334.54 VP 24.269 GAP 13.23 AZP 86.21 TAL 327.87 TAP 122.62 RCA 144.55 APO 237.21 V2 26.496
 RC 62.879 GL -26.18 GP 12.18 ZAL 137.43 ZAP 150.13 ETS 157.52 ZAE 163.06 ETE 106.58 ZAC 113.45 ETC 275.74 LVI -26.17

PLANETOCENTRIC CONIC

C3 29.421 VHL 5.424 DLA -37.60 RAL 337.90 RAD 6646.8 VEL 12.221 PTH 7.17 VHP 6.453 DPA -8.44 RAP 306.89 ECC 1.4842
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONC
 50.00 20 53 28 2409.54 -2.87 62.61 205.26 137.51 21 35 38 1409.5 15.42 46.64
 60.00 22 56 53 2085.72 7.08 42.99 214.72 129.78 23 31 39 1085.7 22.34 23.68
 64.11 0 59 9 1745.02 17.95 23.02 223.00 123.61 1 28 14 745.0 30.13 .26
 64.11 0 59 9 1745.02 17.95 23.02 223.00 123.61 1 28 14 745.0 30.13 .26
 64.11 0 59 9 1745.02 17.95 23.02 223.00 123.61 1 28 14 745.0 30.13 .26
 64.11 0 59 9 1745.02 17.95 23.02 223.00 123.61 1 28 14 745.0 30.13 .26
 64.11 0 59 9 1745.02 17.95 23.02 223.00 123.61 1 28 14 745.0 30.13 .26

DIFFERENTIAL CORRECTIONS

TDE-1.0946 TRA-1.6279 TC3 -.0214 BAU .1453
 RDE -.4655 RRA -.5284 RC3 .3689 FAU .06658
 FDE 1.5101 FRA 3.9792 FC3-1.9592 BSP 4510
 BDE 1.1895 BRA 1.7115 BC3 .3695 FSP 802

MID-COURSE EXECUTION ACCURACY

SGT 2459.3 SGR 947.8 S63 512.7
 RRT .8959 RRF -.9553 RTF -.9121
 SGB 2635.6 R23 -.2613 R13 -.9276
 S61 2605.5 S62 397.3 THA 19.52

ORBIT DETERMINATION ACCURACY

ST 66.3 SR 26.8 S3 62.8
 CRT .9940 CRS .9293 CST .9630
 LSA 94.2 MSA 13.8 SSA .8
 EL1 71.5 EL2 2.7 ALF 21.89

LAUNCH DATE MAR 21 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.003 GAL -6.02 AZL 94.37 HCA 156.02 SMA 189.95 ECC .23860 INC 4.3884 V1 29.903
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.199 GAP 12.86 AZP 86.01 TAL 327.93 TAP 123.95 RCA 144.63 APO 235.27 V2 26.496
 RC 63.888 GL -27.50 GP 13.10 ZAL 136.79 ZAP 148.66 ETS 157.13 ZAE 162.32 ZAE 105.66 ZAC 114.36 ETC 275.76 LVI -27.03

DISTANCE 447.953
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.135 VHL 5.398 DLA -38.76 RAL 338.70 RAD 6646.7 VEL 12.210 PTH 7.16 VHP 6.296 DPA -7.54 RAP 306.69 ECC 1.4795
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 8 33 2373.87 -1.08 61.12 206.90 137.57 21 48 6 1373.9 17.15 45.01
 60.00 23 23 57 2012.20 10.27 39.39 217.60 129.19 23 57 29 1012.2 25.11 19.43
 62.30 0 53 26 1768.41 18.54 25.36 224.01 124.67 1 22 55 768.4 31.07 2.68
 62.30 0 53 26 1768.41 18.54 25.36 224.01 124.67 1 22 55 768.4 31.07 2.68
 62.30 0 53 26 1768.41 18.54 25.36 224.01 124.67 1 22 55 768.4 31.07 2.68
 62.30 0 53 26 1768.41 18.54 25.36 224.01 124.67 1 22 55 768.4 31.07 2.68

DIFFERENTIAL CORRECTIONS
 TDE-1.1212 TRA-1.5913 TC3 -.0343 BAU .1546 SGT 2472.1 SGR 1036.8 SG3 540.5 ST 67.8 SR 26.2 SS 65.2
 RDE -.4819 RRA -.5836 RC3 .3954 FAU .06865 RRY .9029 RRF -.9657 RTF -.9108 CRT .9977 CRS .9426 CST .9616
 FDE 1.6113 FRA 4.1133 FC3-2.0399 BSP 4698 SGB 2680.7 R23 -.2771 R13 -.9295 LSA 97.2 MSA 14.0 SSA .8
 BDE 1.2204 BRA 1.6950 BC3 .3969 FSP 855 SG1 2648.2 SG2 416.1 THA 21.29 EL1 73.4 EL2 1.8 ALF 22.57

LAUNCH DATE MAR 21 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.054 GAL -5.92 AZL 94.57 HCA 157.29 SMA 189.08 ECC .23471 INC 4.5672 V1 29.903
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.132 GAP 12.50 AZP 85.79 TAL 327.99 TAP 123.28 RCA 144.70 APO 233.46 V2 26.496
 RC 64.956 GL -28.91 GP 14.13 ZAL 136.08 ZAP 147.10 ETS 156.70 ZAE 161.46 ETE 105.03 ZAC 115.38 ETC 275.83 LVI -27.98

DISTANCE 451.787
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.967 VHL 5.382 DLA -40.00 RAL 339.60 RAD 6646.6 VEL 12.203 PTH 7.16 VHP 6.148 DPA -6.55 RAP 306.42 ECC 1.4767
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 23 32 2335.18 .87 59.50 208.88 137.57 22 2 28 1335.2 19.00 43.20
 60.00 0 13 4 1891.00 15.40 33.27 222.30 127.71 0 44 35 891.0 29.34 11.97
 60.44 0 48 16 1791.85 19.11 27.76 225.20 125.84 1 18 8 791.9 32.04 5.17
 60.44 0 48 16 1791.85 19.11 27.76 225.20 125.84 1 18 8 791.9 32.04 5.17
 60.44 0 48 16 1791.85 19.11 27.76 225.20 125.84 1 18 8 791.9 32.04 5.17
 60.44 0 48 16 1791.85 19.11 27.76 225.20 125.84 1 18 8 791.9 32.04 5.17

DIFFERENTIAL CORRECTIONS
 TDE-1.1383 TRA-1.5393 TC3 -.0316 BAU .1655 SGT 2458.8 SGR 1137.2 SG3 567.9 ST 68.6 SR 29.9 SS 67.5
 RDE -.5023 RRA -.6423 RC3 .4261 FAU .07108 RRT .9091 RRF -.9739 RTF -.9112 CRT .9995 CRS .9541 CST .9603
 FDE 1.7158 FRA 4.2345 FC3-2.1243 BSP 4740 SGB 2709.0 R23 -.2843 R13 -.9335 LSA 99.7 MSA 14.3 SSA .7
 BDE 1.2442 BRA 1.6679 BC3 .4273 FSP 901 SG1 2673.8 SG2 435.6 THA 23.47 EL1 74.8 EL2 .9 ALF 23.56

LAUNCH DATE MAR 21 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.808 GAL -5.84 AZL 94.79 HCA 158.55 SMA 188.27 ECC .23105 INC 4.7883 V1 29.903
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.068 GAP 12.14 AZP 85.54 TAL 328.05 TAP 126.60 RCA 144.77 APO 231.77 V2 26.494
 RC 66.082 GL -30.43 GP 15.26 ZAL 135.29 ZAP 145.47 ETS 156.23 ZAE 160.46 ETE 104.86 ZAC 116.52 ETC 275.87 LVI -29.02

DISTANCE 455.649
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.931 VHL 5.379 DLA -41.32 RAL 340.60 RAD 6646.6 VEL 12.201 PTH 7.16 VHP 6.010 DPA -5.46 RAP 306.09 ECC 1.4761
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 41 3 2292.46 3.01 57.71 211.30 137.50 22 19 15 1292.5 21.03 41.16
 58.52 0 43 42 1815.46 19.66 30.21 226.61 127.11 1 13 58 815.5 33.02 7.76
 58.52 0 43 42 1815.46 19.66 30.21 226.61 127.11 1 13 58 815.5 33.02 7.76
 58.52 0 43 42 1815.46 19.66 30.21 226.61 127.11 1 13 58 815.5 33.02 7.76
 58.52 0 43 42 1815.46 19.66 30.21 226.61 127.11 1 13 58 815.5 33.02 7.76
 58.52 0 43 42 1815.46 19.66 30.21 226.61 127.11 1 13 58 815.5 33.02 7.76

DIFFERENTIAL CORRECTIONS
 TDE-1.1593 TRA-1.4831 TC3 -.0294 BAU .1778 SGT 2439.5 SGR 1252.1 SG3 595.1 ST 69.3 SR 32.0 SS 69.9
 RDE -.3298 RRA -.7070 RC3 .4589 FAU .07348 RRT .9137 RRF -.9803 RTF -.5.12 CRT .9996 CRS .9642 CST .9592
 FDE 1.8347 FRA 4.3479 FC3-2.1988 BSP 4788 SGB 2742.0 R23 -.2873 R13 -.9380 LSA 102.5 MSA 14.6 SSA .8
 BDE 1.2746 BRA 1.6430 BC3 .4598 FSP 949 SG1 2703.3 SG2 459.3 THA 25.93 EL1 76.4 EL2 .9 ALF 24.76

LAUNCH DATE MAR 21 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.765 GAL -5.76 AZL 95.04 HCA 159.82 SMA 187.82 ECC .22760 INC 5.0356 V1 29.903
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.006 GAP 11.79 AZP 85.27 TAL 328.10 TAP 127.92 RCA 144.84 APO 230.20 V2 26.491
 RC 67.265 GL -32.07 GP 16.54 ZAL 134.41 ZAP 143.73 ETS 155.72 ZAE 159.30 ETE 104.51 ZAC 117.79 ETC 275.91 LVI -30.16

DISTANCE 459.537
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.047 VHL 5.390 DLA -42.73 RAL 341.73 RAD 6646.6 VEL 12.206 PTH 7.16 VHP 5.884 DPA -4.25 RAP 305.68 ECC 1.4780
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 2 1 2243.91 5.45 55.67 214.32 137.34 22 39 25 1243.9 23.29 38.76
 56.52 0 39 48 1839.49 20.18 32.74 228.27 128.50 1 10 27 839.5 34.03 10.48
 56.52 0 39 48 1839.49 20.18 32.74 228.27 128.50 1 10 27 839.5 34.03 10.48
 56.52 0 39 48 1839.49 20.18 32.74 228.27 128.50 1 10 27 839.5 34.03 10.48
 56.52 0 39 48 1839.49 20.18 32.74 228.27 128.50 1 10 27 839.5 34.03 10.48
 56.52 0 39 48 1839.49 20.18 32.74 228.27 128.50 1 10 27 839.5 34.03 10.48

DIFFERENTIAL CORRECTIONS
 TDE-1.1829 TRA-1.4210 TC3 -.0271 BAU .1921 SGT 2410.8 SGR 1383.0 SG3 621.5 ST 70.0 SR 34.5 SS 72.4
 RDE -.5661 RRA -.7777 RC3 .4940 FAU .07588 RRT .9166 RRF -.9853 RTF -.9109 CRT .9982 CRS .9728 CST .9581
 FDE 1.9681 FRA 4.4470 FC3-2.2615 BSP 4829 SGB 2779.3 R23 -.2857 R13 -.9431 LSA 105.4 MSA 14.9 SSA .6
 BDE 1.3114 BRA 1.6199 BC3 .4947 FSP 994 SG1 2736.3 SG2 487.0 THA 28.73 EL1 78.1 EL2 1.9 ALF 26.21

LAUNCH DATE MAR 21 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 463.451

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.724 GAL -5.66 AZL 95.31 HCA 161.09 SMA 186.81 ECC .22435 INC 5.3145 V1 29.903
RP 206.75 LAP -1.72 LOP 340.89 VP 23.946 GAP 11.45 AZP 84.97 TAL 328.16 TAP 129.24 RCA 144.90 APO 226.72 V2 26.487
RC 68.502 GL -33.84 GP 17.96 ZAL 133.43 ZAP 141.90 ETS 155.16 ZAE 197.98 ETE 104.55 ZAC 119.23 ETC 275.95 LVI -31.43

PLANETOCENTRIC CONIC

C3 29.337 VHL 5.416 DLA -44.24 RAL 343.02 RAD 6646.7 VEL 12.218 PTH 7.17 VHP 5.772 DPA -2.90 RAP 305.19 ECC 1.4828
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 28 15 2185.91 8.34 53.21 218.19 137.01 23 4 40 1185.9 25.94 35.78
54.44 0 36 39 1864.15 20.67 35.38 230.21 130.03 1 7 43 864.2 35.05 13.35
54.44 0 36 39 1864.15 20.67 35.38 230.21 130.03 1 7 43 864.2 35.05 13.35
54.44 0 36 39 1864.15 20.67 35.38 230.21 130.03 1 7 43 864.2 35.05 13.35
54.44 0 36 39 1864.15 20.67 35.38 230.21 130.03 1 7 43 864.2 35.05 13.35
54.44 0 36 39 1864.15 20.67 35.38 230.21 130.03 1 7 43 864.2 35.05 13.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2001 TRA-1.3421 TC3 -.0099 BAU .2097 SGT 2353.4 SGR 1529.8 SG3 645.3 ST 70.1 SR 37.8 SS 74.8
RDE -.6114 RRA -.8528 RC3 .5347 FAU .07867 RRT .9196 RRF -.9890 RTF -.9115 CRT .9956 CRS .9796 CST .9571
FDE 2.1099 FRA 4.3184 FC3-2.3214 BSP 4744 SGB 2806.8 R23 -.2737 R13 -.9498 LSA 108.0 MSA 15.1 SSA .5
BDE 1.3469 BRA 1.5901 BC3 .5348 FSP 1026 SG1 2759.6 SG2 512.4 THA 32.10 EL1 79.4 EL2 3.1 ALF 28.08

LAUNCH DATE MAR 21 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 467.384

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.688 GAL -5.61 AZL 95.63 HCA 162.35 SMA 186.15 ECC .22131 INC 5.6317 V1 29.903
RP 206.79 LAP -1.71 LOP 342.16 VP 23.888 GAP 11.11 AZP 84.63 TAL 328.20 TAP 130.55 RCA 144.96 APO 227.35 V2 26.483
RC 69.791 GL -35.76 GP 19.97 ZAL 132.33 ZAP 139.94 ETS 154.86 ZAE 156.45 ETE 104.75 ZAC 120.85 ETC 275.99 LVI -32.84

PLANETOCENTRIC CONIC

C3 29.843 VHL 5.483 DLA -45.85 RAL 344.52 RAD 6646.9 VEL 12.238 PTH 7.19 VHP 5.675 DPA -1.39 RAP 304.62 ECC 1.4911
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 3 53 2109.41 12.13 49.90 223.50 136.37 23 39 3 1109.4 29.31 31.62
52.27 0 34 23 1889.79 21.10 38.14 232.51 131.71 1 5 53 889.8 36.05 16.42
52.27 0 34 23 1889.79 21.10 38.14 232.51 131.71 1 5 53 889.8 36.05 16.42
52.27 0 34 23 1889.79 21.10 38.14 232.51 131.71 1 5 53 889.8 36.05 16.42
52.27 0 34 23 1889.79 21.10 38.14 232.51 131.71 1 5 53 889.8 36.05 16.42
52.27 0 34 23 1889.79 21.10 38.14 232.51 131.71 1 5 53 889.8 36.05 16.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2555 TRA-1.2887 TC3 -.0369 BAU .2271 SGT 2345.5 SGR 1704.8 SG3 669.1 ST 72.0 SR 41.5 SS 78.0
RDE -.6792 RRA -.9424 RC3 .5679 FAU .08011 RRT .9171 RRF -.9919 RTF -.9072 CRT .9923 CRS .9855 CST .9571
FDE 2.3013 FRA 4.3880 FC3-2.3240 BSP 5056 SGB 2899.8 R23 -.2722 R13 -.9539 LSA 112.9 MSA 15.6 SSA .5
BDE 1.4274 BRA 1.5965 BC3 .5691 FSP 1082 SG1 2844.9 SG2 560.5 THA 35.26 EL1 83.0 EL2 4.5 ALF 29.87

LAUNCH DATE MAR 21 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 471.339

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.650 GAL -5.54 AZL 96.00 HCA 163.61 SMA 185.54 ECC .21844 INC 5.9959 V1 29.903
RP 206.84 LAP -1.69 LOP 343.43 VP 23.832 GAP 10.76 AZP 84.25 TAL 328.25 TAP 131.86 RCA 145.01 APO 226.07 V2 26.477
RC 71.130 GL -37.85 GP 21.38 ZAL 131.09 ZAP 137.85 ETS 153.92 ZAE 154.70 ETE 105.08 ZAC 122.68 ETC 276.04 LVI -34.41

PLANETOCENTRIC CONIC

C3 30.608 VHL 5.532 DLA -47.59 RAL 346.25 RAD 6647.2 VEL 12.269 PTH 7.21 VHP 5.596 DPA .32 RAP 303.94 ECC 1.5037
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.99 0 33 11 1916.69 21.44 41.03 235.22 133.56 1 5 8 916.7 37.04 19.73
49.99 0 33 11 1916.69 21.44 41.03 235.22 133.56 1 5 8 916.7 37.04 19.73
49.99 0 33 11 1916.69 21.44 41.03 235.22 133.56 1 5 8 916.7 37.04 19.73
49.99 0 33 11 1916.69 21.44 41.03 235.22 133.56 1 5 8 916.7 37.04 19.73
49.99 0 33 11 1916.69 21.44 41.03 235.22 133.56 1 5 8 916.7 37.04 19.73
49.99 0 33 11 1916.69 21.44 41.03 235.22 133.56 1 5 8 916.7 37.04 19.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3011 TRA-1.2101 TC3 -.0403 BAU .2491 SGT 2295.8 SGR 1899.6 SG3 687.3 ST 72.9 SR 48.2 SS 81.0
RDE -.7645 RRA-1.0359 RC3 .6075 FAU .08198 RRT .9155 RRF -.9941 RTF -.5344 CRT .9885 CRS .9898 CST .9571
FDE 2.5058 FRA 4.6034 FC3-2.3187 BSP 5170 SGB 2979.7 R23 -.2577 R13 -.9602 LSA 117.3 MSA 15.9 SSA .4
BDE 1.5091 BRA 1.5929 BC3 .6069 FSP 1115 SG1 2918.3 SG2 601.3 THA 39.12 EL1 86.1 EL2 5.9 ALF 32.25

LAUNCH DATE MAR 21 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 475.313

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.616 GAL -5.47 AZL 96.42 HCA 164.87 SMA 184.97 ECC .21575 INC 6.4189 V1 29.903
RP 206.90 LAP -1.67 LOP 344.69 VP 23.778 GAP 10.46 AZP 83.80 TAL 328.29 TAP 133.17 RCA 145.06 APO 224.88 V2 26.470
RC 72.517 GL -40.14 GP 23.44 ZAL 129.70 ZAP 135.60 ETS 153.26 ZAE 152.69 ETE 105.51 ZAC 124.76 ETC 276.09 LVI -36.17

PLANETOCENTRIC CONIC

C3 31.708 VHL 5.631 DLA -49.44 RAL 348.31 RAD 6647.7 VEL 12.314 PTH 7.25 VHP 5.539 DPA 2.24 RAP 303.15 ECC 1.5218
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.59 0 33 20 1945.24 21.66 44.08 238.43 135.60 1 5 45 945.2 37.97 23.31
47.59 0 33 20 1945.24 21.66 44.08 238.43 135.60 1 5 45 945.2 37.97 23.31
47.59 0 33 20 1945.24 21.66 44.08 238.43 135.60 1 5 45 945.2 37.97 23.31
47.59 0 33 20 1945.24 21.66 44.08 238.43 135.60 1 5 45 945.2 37.97 23.31
47.59 0 33 20 1945.24 21.66 44.08 238.43 135.60 1 5 45 945.2 37.97 23.31
47.59 0 33 20 1945.24 21.66 44.08 238.43 135.60 1 5 45 945.2 37.97 23.31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3558 TRA-1.1226 TC3 -.0431 BAU .2754 SGT 2234.2 SGR 2121.3 SG3 699.7 ST 73.8 SR 52.1 SS 84.3
RDE -.8793 RRA-1.1371 RC3 .6484 FAU .08358 RRT .9125 RRF -.9957 RTF -.9006 CRT .9848 CRS .9931 CST .9578
FDE 2.7429 FRA 4.5715 FC3-2.2621 BSP 5308 SGB 3080.8 R23 -.2386 R13 -.9669 LSA 122.5 MSA 16.1 SSA .4
BDE 1.6160 BRA 1.5978 BC3 .6498 FSP 1136 SG1 3012.9 SG2 643.4 THA 43.37 EL1 90.1 EL2 7.4 ALF 35.07

LAUNCH DATE MAR 21 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 470.305

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.584 GAL -5.41 AZL 96.92 HCA 166.13 SMA 184.44 ECC .21323 INC 6.9169 V1 29.903
RP 206.96 LAP -1.65 LOP 345.96 VP 23.726 GAP 10.14 AZP 83.28 TAL 328.33 TAP 134.47 RCA 145.11 APO 223.77 V2 26.462
RC 73.950 GL -42.65 GP 25.77 ZAL 126.13 ZAP 133.16 ETS 152.59 ZAE 150.38 ETE 106.01 ZAC 127.13 ETC 276.16 LVI -38.14

PLANETOCENTRIC CONIC

C3 33.242 VHL 5.766 DLA -51.43 RAL 350.79 RAD 6648.2 VEL 12.376 PTH 7.20 VHP 5.510 DPA 4.43 RAP 302.23 ECC 1.5471
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.07 0 35 12 1975.91 21.73 47.31 242.25 137.84 1 8 8 975.9 38.79 27.22
45.07 0 35 12 1975.91 21.73 47.31 242.25 137.84 1 8 8 975.9 38.79 27.22
45.07 0 35 12 1975.91 21.73 47.31 242.25 137.84 1 8 8 975.9 38.79 27.22
45.07 0 35 12 1975.91 21.73 47.31 242.25 137.84 1 8 8 975.9 38.79 27.22
45.07 0 35 12 1975.91 21.73 47.31 242.25 137.84 1 8 8 975.9 38.79 27.22
45.07 0 35 12 1975.91 21.73 47.31 242.25 137.84 1 8 8 975.9 38.79 27.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.4146 TRA-1.0163 TC3 -.0360 BAU .3071 SGT 2145.1 SGR 2371.5 SG3 703.6 ST 74.4 SR 59.5 SS 87.7
RDE-1.0397 RRA-1.2441 RC3 .6900 FAU .08473 RRT .9093 RRF -.9968 RTF -.8965 CRT .9816 CRS .9955 CST .9590
FDE 3.0194 FRA 4.4741 FC3-2.2066 BSP 5395 SGB 3197.7 R23 -.2131 R13 -.9740 LSA 128.4 MSA 16.3 SSA .13
BDE 1.7532 BRA 1.6064 BC3 .6910 FSP 1141 SG1 3125.1 SG2 677.5 THA 48.15 EL1 94.8 EL2 8.9 ALF 38.92

LAUNCH DATE MAR 21 1971

FLIGHT TIME 190.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 483.311

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.555 GAL -5.36 AZL 97.51 HCA 167.39 SMA 183.94 ECC .21088 INC 7.3115 V1 29.903
RP 207.04 LAP -1.64 LOP 347.23 VP 23.675 GAP 9.83 AZP 82.67 TAL 328.36 TAP 135.75 RCA 145.15 APO 222.73 V2 26.454
RC 75.426 GL -45.43 GP 28.43 ZAL 126.35 ZAP 130.52 ETS 151.92 ZAE 147.73 ETE 106.57 ZAC 129.82 ETC 276.24 LVI -40.35

PLANETOCENTRIC CONIC

C3 39.380 VHL 5.948 DLA -53.53 RAL 353.82 RAD 6649.0 VEL 12.461 PTH 7.36 VHP 5.519 DPA 6.91 RAP 301.16 ECC 1.5823
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
42.45 0 39 24 2009.33 21.56 50.70 246.83 140.28 1 12 53 1009.3 39.45 31.48
42.45 0 39 24 2009.33 21.56 50.70 246.83 140.28 1 12 53 1009.3 39.45 31.48
42.45 0 39 24 2009.33 21.56 50.70 246.83 140.28 1 12 53 1009.3 39.45 31.48
42.45 0 39 24 2009.33 21.56 50.70 246.83 140.28 1 12 53 1009.3 39.45 31.48
42.45 0 39 24 2009.33 21.56 50.70 246.83 140.28 1 12 53 1009.3 39.45 31.48
42.45 0 39 24 2009.33 21.56 50.70 246.83 140.28 1 12 53 1009.3 39.45 31.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.5113 TRA -.9204 TC3 -.0561 BAU .3423 SGT 2085.3 SGR 2664.3 SG3 698.7 ST 76.1 SR 69.3 SS 92.0
RDE-1.2626 RRA-1.3635 RC3 .7215 FAU .08439 RRT .9016 RRF -.9976 RTF -.8862 CRT .9797 CRS .9971 CST .9618
FDE 3.3617 FRA 4.3140 FC3-2.0649 BSP 5789 SGB 3383.4 R23 -.1908 R13 -.9796 LSA 137.1 MSA 16.4 SSA .3
BDE 1.9693 BRA 1.6451 BC3 .7237 FSP 1145 SG1 3304.2 SG2 727.4 THA 52.67 EL1 102.4 EL2 10.3 ALF 42.23

LAUNCH DATE MAR 21 1971

FLIGHT TIME 192.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 487.331

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.527 GAL -5.31 AZL 98.23 HCA 168.65 SMA 183.48 ECC .20868 INC 8.2350 V1 29.903
RP 207.12 LAP -1.62 LOP 346.49 VP 23.626 GAP 9.53 AZP 81.92 TAL 328.39 TAP 137.04 RCA 145.19 APO 221.77 V2 26.444
RC 76.944 GL -48.50 GP 31.46 ZAL 124.33 ZAP 127.63 ETS 151.30 ZAE 144.68 ETE 107.19 ZAC 132.90 ETC 276.35 LVI -42.83

PLANETOCENTRIC CONIC

C3 38.369 VHL 6.194 DLA -55.75 RAL 357.59 RAD 6650.1 VEL 12.580 PTH 7.44 VHP 5.576 DPA 9.74 RAP 299.93 ECC 1.6315
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.73 0 46 42 2046.32 21.08 54.24 252.36 142.90 1 20 49 1046.3 39.83 36.11
39.73 0 46 42 2046.32 21.08 54.24 252.36 142.90 1 20 49 1046.3 39.83 36.11
39.73 0 46 42 2046.32 21.08 54.24 252.36 142.90 1 20 49 1046.3 39.83 36.11
39.73 0 46 42 2046.32 21.08 54.24 252.36 142.90 1 20 49 1046.3 39.83 36.11
39.73 0 46 42 2046.32 21.08 54.24 252.36 142.90 1 20 49 1046.3 39.83 36.11
39.73 0 46 42 2046.32 21.08 54.24 252.36 142.90 1 20 49 1046.3 39.83 36.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.6167 TRA -.7994 TC3 -.0835 BAU .3855 SGT 1992.0 SGR 2994.2 SG3 679.9 ST 77.3 SR 82.0 SS 96.6
RDE-1.5866 RRA-1.4844 RC3 .7489 FAU .08309 RRT .8930 RRF -.9982 RTF -.8850 CRT .9789 CRS .9982 CST .9651
FDE 3.7570 FRA 4.0336 FC3-1.8749 BSP 6148 SGB 3596.3 R23 -.1646 R13 -.9850 LSA 147.5 MSA 16.2 SSA .3
BDE 2.2651 BRA 1.6860 BC3 .7516 FSP 1122 SG1 3514.3 SG2 763.9 THA 57.57 EL1 112.1 EL2 11.6 ALF 46.72

LAUNCH DATE MAR 21 1971

FLIGHT TIME 224.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 533.569

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.280 GAL -5.13 AZL 82.13 HCA 188.87 SMA 179.51 ECC .19143 INC 7.8710 V1 29.903
RP 209.55 LAP -1.21 LOP 8.51 VP 22.965 GAP 5.41 AZP 97.78 TAL 327.01 TAP 155.88 RCA 145.15 APO 213.88 V2 26.162
RC 105.933 GL 48.50 GP -44.71 ZAL 125.01 ZAP 100.40 ETS 189.29 ZAE 126.86 ETE 225.29 ZAC 57.72 ETC 272.09 LVI 31.44

PLANETOCENTRIC CONIC

C3 34.566 VHL 5.879 DLA 33.65 RAL 313.42 RAD 6648.7 VEL 12.429 PTH 7.33 VHP 5.184 DPA -66.62 RAP 311.44 ECC 1.5689
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 49 52 3983.72 -43.54 173.12 215.65 68.54 14 56 16 2983.7 -47.43 138.82
60.00 13 32 38 4029.77 -33.53 171.92 210.32 66.19 14 39 47 3029.8 -40.00 142.86
70.00 12 36 26 4196.71 -19.66 177.72 202.74 61.49 13 46 22 3196.7 -29.66 153.67
70.95 11 58 0 4314.27 -14.89 184.03 199.91 59.46 13 9 55 3314.3 -26.12 161.37
70.95 11 58 0 4314.27 -14.89 184.03 199.91 59.46 13 9 55 3314.3 -26.12 161.37
70.95 11 58 0 4314.27 -14.89 184.03 199.91 59.46 13 9 55 3314.3 -26.12 161.37
110.00 17 35 52 3243.53 -19.66 106.64 202.74 61.49 18 29 56 2243.5 -29.66 82.59

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0373 TRA .3238 TC3 -.7194 BAU .6526 SGT 1371.6 SGR 5263.2 SG3 752.4 ST 50.9 SR 117.3 SS 106.0
RDE 2.7147 RRA 3.6898 RC3-1.2151 FAU .09083 RRT .7647 RRF .9992 RTF .7732 CRT .9416 CRS -.9999 CST -.9370
FDE 4.3339 FRA 6.0905 FC3-2.2750 BSP 9133 SGB 5439.0 R23 .0189 R13 .9991 LSA 187.8 MSA 16.8 SSA .2
BDE 2.9061 BRA 3.7040 BC3 1.4121 FSP 1297 SG1 5369.6 SG2 866.3 THA 78.42 EL1 155.0 EL2 15.3 ALF 71.78

LAUNCH DATE MAR 21 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.274 GAL -5.14 AZL 83.25 MCA 190.09 SMA 179.42 ECC .19115 INC 6.7483 V1 29.903
RP 209.76 LAP -1.18 LOP 9.74 VP 22.928 GAP 5.19 AZP 96.65 TAL 326.88 TAP 156.96 RCA 145.12 APO 213.72 V2 26.137
RC 107.990 GL 43.80 GP -41.77 ZAL 128.27 ZAP 99.58 ETS 187.53 ZAE 128.03 ETE 222.08 ZAC 60.67 ETC 271.88 LVI 26.97

PLANETOCENTRIC CONIC

C3 29.782 VHL 5.457 DLA 29.10 RAL 314.97 RAD 6646.9 VEL 12.236 PTH 7.19 VHP 4.812 DPA -64.00 RAP 308.08 ECC 1.4901
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 23 35 3836.99 -46.42 160.18 210.56 78.14 15 27 32 2837.0 -45.76 125.08
60.00 14 21 30 3842.55 -37.80 157.90 207.78 74.85 15 25 33 2842.5 -40.00 126.97
70.00 14 17 28 3854.54 -29.13 155.71 204.62 71.32 15 21 41 2854.5 -34.01 128.08
80.00 14 3 3 3899.83 -19.64 155.17 200.66 67.05 15 8 3 2099.8 -27.38 130.43
82.83 13 28 50 4009.75 -14.15 160.70 198.07 64.30 14 35 39 3009.8 -23.53 137.41
100.00 16 45 55 3374.31 -19.64 116.54 200.66 67.05 17 42 9 2374.3 -27.38 91.80
110.00 19 16 53 2901.35 -29.13 84.62 204.62 71.32 20 5 14 1901.4 -34.01 57.00

DIFFERENTIAL CORRECTIONS

TDE .9881 TRA .4716 TC3 -.8769 BAU .6161
RDE 2.3325 RRA 3.4711 RC3-1.2749 FAU .10131
FDE 4.5736 FRA 7.1504 FC3-2.9449 BSP 8853
BDE 2.5332 BRA 3.8030 BC3 1.5473 FSP 1553

MID-COURSE EXECUTION ACCURACY

SGT 1521.0 SGR 5032.8 SG3 894.6
RRT .8146 RRF .9992 RTF .8208
SGB 5257.6 R23 .0299 R13 .9988
SG1 5187.5 SG2 855.9 THA 75.77

ORBIT DETERMINATION ACCURACY

ST 52.6 SR 137.5 SS 113.3
CRT .9523 CRS -.9998 CST -.9459
LSA 185.1 MSA 15.9 SSA .3
EL1 146.5 EL2 15.1 ALF 69.77

LAUNCH DATE MAR 21 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.269 GAL -5.16 AZL 84.13 MCA 191.31 SMA 179.34 ECC .19096 INC 5.8668 V1 29.903
RP 209.99 LAP -1.15 LOP 10.98 VP 22.891 GAP 4.96 AZP 95.75 TAL 326.73 TAP 158.03 RCA 145.09 APO 213.59 V2 26.111
RC 110.071 GL 39.59 GP -39.12 ZAL 131.11 ZAP 98.48 ETS 185.84 ZAE 128.72 ETE 218.78 ZAC 63.35 ETC 271.66 LVI 26.79

PLANETOCENTRIC CONIC

C3 26.568 VHL 5.154 DLA 25.06 RAL 316.37 RAD 6645.6 VEL 12.105 PTH 7.08 VHP 4.533 DPA -61.63 RAP 305.19 ECC 1.4372
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 30 11 3717.53 -47.49 148.86 205.41 86.80 15 52 9 2717.5 -43.16 114.77
60.00 14 57 12 3698.83 -39.73 146.18 204.41 82.58 15 58 51 2698.8 -36.40 115.11
70.00 15 9 6 3663.78 -32.49 141.88 202.95 78.84 16 10 10 2663.8 -33.77 113.22
80.00 15 33 36 3586.91 -26.53 134.52 201.41 75.77 16 33 23 2586.9 -29.85 107.59
90.00 16 31 49 3398.88 -23.88 119.93 200.62 74.38 17 28 28 2398.9 -28.09 93.71
100.00 18 16 27 3061.38 -26.53 95.89 201.41 75.77 19 7 29 2061.4 -29.85 68.96
110.00 20 8 32 2710.59 -32.49 70.80 202.95 78.84 20 53 43 1710.6 -33.77 42.14

DIFFERENTIAL CORRECTIONS

TDE .9637 TRA .6293 TC3-1.0382 BAU .5934
RDE 2.0437 RRA 3.2689 RC3-1.3088 FAU .11070
FDE 4.7488 FRA 8.1082 FC3-3.6073 BSP 8574
BDE 2.2595 BRA 3.3289 BC3 1.6708 FSP 1787

MID-COURSE EXECUTION ACCURACY

SGT 1699.8 SGR 4003.4 SG3 1024.6
RRT .8543 RRF .9991 RTF .8590
SGB 5095.3 R23 .0419 R13 .9982
SG1 5024.8 SG2 844.6 THA 72.67

ORBIT DETERMINATION ACCURACY

ST 54.8 SR 128.6 SS 118.7
CRT .9626 CRS -.9996 CST -.9548
LSA 182.8 MSA 15.1 SSA .3
EL1 139.1 EL2 13.7 ALF 67.45

LAUNCH DATE MAR 21 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.264 GAL -5.18 AZL 84.84 MCA 192.52 SMA 179.27 ECC .19085 INC 5.1566 V1 29.903
RP 210.22 LAP -1.12 LOP 12.20 VP 22.855 GAP 4.74 AZP 95.03 TAL 326.56 TAP 159.09 RCA 145.06 APO 213.48 V2 26.085
RC 112.177 GL 35.84 GP -36.72 ZAL 133.59 ZAP 97.15 ETS 184.25 ZAE 129.01 ETE 215.50 ZAC 65.78 ETC 271.42 LVI 24.88

PLANETOCENTRIC CONIC

C3 24.333 VHL 4.933 DLA 21.48 RAL 317.62 RAD 6644.7 VEL 12.013 PTH 7.00 VHP 4.319 DPA -59.49 RAP 302.65 ECC 1.4005
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 12 3 3818.24 -47.44 139.27 200.88 94.10 16 12 21 2618.2 -40.29 106.98
60.00 15 23 26 3582.60 -40.29 138.36 201.18 89.22 16 25 8 2582.6 -36.19 106.04
70.00 15 48 31 3520.48 -33.85 130.94 200.78 85.18 16 45 12 2520.5 -32.30 102.31
80.00 16 23 38 3404.19 -28.91 121.49 200.14 82.21 17 20 21 2404.2 -29.23 94.07
90.00 17 30 9 3189.35 -26.93 105.37 199.81 81.04 18 23 19 2189.3 -27.98 78.41
100.00 19 6 28 2878.66 -28.91 82.85 200.14 82.21 19 54 27 1878.7 -29.23 55.43
110.00 20 45 58 2567.30 -33.85 59.85 200.78 85.18 21 28 45 1567.3 -32.30 31.22

DIFFERENTIAL CORRECTIONS

TDE .9582 TRA .7941 TC3-1.1988 BAU .5805
RDE 1.8185 RRA 3.0811 RC3-1.3222 FAU .11917
FDE 4.8686 FRA 8.9555 FC3-4.2401 BSP 8313
BDE 2.0546 BRA 3.1818 BC3 1.7846 FSP 1993

MID-COURSE EXECUTION ACCURACY

SGT 1901.1 SGR 4577.5 SG3 1141.1
RRT .8849 RRF .9989 RTF .8584
SGB 4956.6 R23 .0546 R13 .9975
SG1 4886.7 SG2 829.8 THA 69.19

ORBIT DETERMINATION ACCURACY

ST 57.5 SR 120.4 SS 122.7
CRT .9716 CRS -.9994 CST -.9827
LSA 180.7 MSA 14.2 SSA .4
EL1 132.8 EL2 12.3 ALF 64.88

LAUNCH DATE MAR 21 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.261 GAL -5.21 AZL 85.43 MCA 193.74 SMA 179.21 ECC .19082 INC 4.5719 V1 29.903
RP 210.45 LAP -1.09 LOP 13.43 VP 22.819 GAP 4.52 AZP 94.44 TAL 326.38 TAP 160.12 RCA 145.02 APO 213.41 V2 26.058
RC 114.307 GL 32.48 GP -34.54 ZAL 135.73 ZAP 95.66 ETS 182.80 ZAE 128.93 ETE 212.32 ZAC 67.98 ETC 271.19 LVI 23.16

PLANETOCENTRIC CONIC

C3 22.741 VHL 4.769 DLA 18.30 RAL 318.78 RAD 6644.0 VEL 11.947 PTH 6.95 VHP 4.152 DPA -57.54 RAP 300.38 ECC 1.3743
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 30 3534.55 -46.72 131.32 197.21 100.26 16 29 25 2534.6 -37.46 100.98
60.00 15 48 43 3486.07 -40.06 129.16 198.41 94.78 16 46 49 2486.1 -33.81 98.96
70.00 16 16 8 3405.34 -34.15 121.97 198.75 90.47 17 12 53 2405.3 -30.59 93.88
80.00 17 0 29 3266.33 -29.76 111.34 198.68 87.48 17 54 55 2266.3 -27.78 84.09
90.00 18 10 56 3038.91 -28.06 94.52 198.56 86.35 19 1 35 2038.9 -26.75 67.59
100.00 19 43 21 2740.80 -29.76 72.70 198.66 87.48 20 29 2 1740.8 -27.78 45.46
110.00 21 15 34 2452.16 -34.15 50.88 198.75 90.47 21 56 26 1452.2 -30.59 22.80

DIFFERENTIAL CORRECTIONS

TDE .9401 TRA .9633 TC3-1.3572 BAU .5745
RDE 1.8418 RRA 2.9081 RC3-1.3148 FAU .12643
FDE 4.9804 FRA 9.7071 FC3-4.8131 BSP 8110
BDE 1.9019 BRA 3.0635 BC3 1.8897 FSP 2185

MID-COURSE EXECUTION ACCURACY

SGT 2119.5 SGR 4359.7 SG3 1244.5
RRT .9074 RRF .9987 RTF .9103
SGB 4847.6 R23 .0678 R13 .9965
SG1 4779.0 SG2 812.5 THA 65.44

ORBIT DETERMINATION ACCURACY

ST 60.5 SR 113.0 SS 125.7
CRT .9793 CRS -.9990 CST -.9697
LSA 179.1 MSA 13.4 SSA .5
EL1 127.8 EL2 10.8 ALF 62.11

LAUNCH DATE MAR 21 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC DISTANCE 574.394 EARTH TO MARS
 RL 149.01 LAL .00 LOL 179.73 VL 32.258 GAL -5.24 AZL 85.92 HCA 194.96 SMA 179.17 ECC .19086 INC 4.0818 V1 29.903
 RP 210.70 LAP -1.05 LOP 14.65 VP 22.782 GAP 4.30 AZP 93.94 TAL 326.19 TAP 161.15 RCA 144.97 APO 213.36 V2 26.030
 RC 116.460 GL 29.48 GP -32.57 ZAL 137.59 ZAP 94.04 ETS 181.47 ZAE 128.55 ETE 209.30 ZAC 69.98 ETC 270.96 LVI 21.65

PLANETOCENTRIC CONIC
 C3 21.590 VHL 4.647 DLA 15.46 RAL 319.80 RAD 6643.5 VEL 11.899 PTH 6.91 VHP 4.019 DPA -59.77 RAP 298.32 ECC 1.3553
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 46 24 3463.28 -45.65 124.78 194.35 105.20 16 44 7 2463.3 -34.79 96.25
 60.00 16 8 27 3404.56 -39.38 121.34 196.20 99.36 17 5 12 2404.6 -31.46 93.33
 70.00 16 40 38 3309.83 -33.85 114.53 197.06 94.86 17 35 48 2309.8 -28.36 87.19
 80.00 17 30 0 3155.15 -29.81 103.08 197.34 91.82 18 22 35 2155.2 -26.03 76.29
 90.00 18 42 55 2919.79 -26.27 85.82 197.38 90.70 19 31 35 1919.8 -25.13 59.25
 100.00 20 12 52 2629.62 -29.81 64.45 197.34 91.82 20 56 41 1629.6 -26.03 37.66
 110.00 21 40 5 2356.64 -33.85 43.45 197.06 94.86 22 19 21 1356.6 -28.36 16.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9729 TRA 1.1363 TC3-1.5110 BAU .5744 SGT 2350.4 SGR 4148.4 SG3 1334.5 ST 63.9 SR 106.4 SS 127.8
 RDE 1.4983 RRA 2.7465 RC3-1.2952 FAU .13289 RRT .9246 RRF .9985 RTF .9270 CRT .9855 CRS -.9986 CST -.9754
 FDE 5.0221 FRA10.3601 FC3-5.3289 BSP 7939 SGB 4768.0 R23 .0808 R13 .9953 LSA 177.7 MSA 12.7 SSA .5
 BDE 1.7865 BRA 2.9723 BC3 1.9901 FSP 2347 SG1 4702.1 SG2 790.1 THA 61.47 EL1 123.7 EL2 9.3 ALF 59.19

LAUNCH DATE MAR 21 1971 FLIGHT TIME 236.00 ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC DISTANCE 578.572 EARTH TO MARS
 RL 149.01 LAL .00 LOL 179.73 VL 32.255 GAL -5.27 AZL 86.34 HCA 196.17 SMA 179.13 ECC .19098 INC 3.6647 V1 29.903
 RP 210.95 LAP -1.02 LOP 15.87 VP 22.747 GAP 4.09 AZP 93.52 TAL 325.98 TAP 162.18 RCA 144.92 APO 213.34 V2 26.001
 RC 118.637 GL 26.79 GP -30.77 ZAL 139.20 ZAP 92.32 ETS 180.26 ZAE 127.91 ETE 206.47 ZAC 71.80 ETC 270.73 LVI 20.30

PLANETOCENTRIC CONIC
 C3 20.750 VHL 4.555 DLA 12.94 RAL 320.75 RAD 6643.2 VEL 11.864 PTH 6.88 VHP 3.914 DPA -54.16 RAP 296.43 ECC 1.3415
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 0 17 3402.07 -44.42 119.40 192.20 109.19 16 56 59 2402.1 -32.35 92.46
 60.00 16 25 31 3334.91 -38.46 115.65 194.50 103.12 17 21 6 2334.9 -29.24 88.76
 70.00 17 1 29 3229.03 -33.21 108.31 195.73 98.48 17 55 19 2229.0 -26.37 81.75
 80.00 17 54 38 3062.53 -29.41 96.23 196.27 95.40 18 45 41 2062.5 -24.23 70.00
 90.00 19 9 20 2821.44 -27.98 78.64 196.41 94.28 19 56 22 1821.4 -23.41 52.56
 100.00 20 37 30 2537.00 -29.41 57.59 196.27 95.40 21 19 47 1537.0 -24.23 31.37
 110.00 22 0 56 2275.85 -33.21 37.23 195.73 98.48 22 38 52 1275.8 -26.37 10.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .9928 TRA 1.3108 TC3-1.6584 BAU .5822 SGT 2589.1 SGR 3932.8 SG3 1407.7 ST 67.4 SR 99.6 SS 128.4
 RDE 1.3699 RRA 2.5845 RC3-1.2860 FAU .14053 RRT .9393 RRF .9982 RTF .9411 CRT .9901 CRS -.9981 CST -.9796
 FDE 5.0198 FRA10.8770 FC3-5.8633 BSP 7703 SGB 4708.6 R23 .0927 R13 .9939 LSA 175.5 MSA 12.1 SSA .6
 BDE 1.6918 BRA 2.8979 BC3 2.0985 FSP 2438 SG1 4648.1 SG2 751.8 THA 57.31 EL1 120.1 EL2 7.9 ALF 56.01

LAUNCH DATE MAR 21 1971 FLIGHT TIME 238.00 ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC DISTANCE 582.747 EARTH TO MARS
 RL 149.01 LAL .00 LOL 179.73 VL 32.254 GAL -5.31 AZL 86.69 HCA 197.39 SMA 179.10 ECC .19117 INC 3.3053 V1 29.903
 RP 211.20 LAP -.99 LOP 17.09 VP 22.711 GAP 3.88 AZP 93.15 TAL 325.76 TAP 163.15 RCA 144.87 APO 213.34 V2 25.972
 RC 120.836 GL 24.37 GP -29.12 ZAL 140.61 ZAP 90.34 ETS 179.17 ZAE 127.06 ETE 203.85 ZAC 73.48 ETC 270.51 LVI 19.10

PLANETOCENTRIC CONIC
 C3 20.141 VHL 4.488 DLA 10.68 RAL 321.64 RAD 6642.9 VEL 11.838 PTH 6.86 VHP 3.831 DPA -52.67 RAP 294.69 ECC 1.3315
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 12 35 3349.17 -43.14 114.96 190.62 112.41 17 8 24 2349.2 -30.14 89.35
 60.00 16 40 30 3274.87 -37.42 110.89 193.24 106.20 17 35 5 2274.9 -27.20 85.00
 70.00 17 19 37 3159.79 -32.39 103.08 194.75 101.47 18 12 16 2159.8 -24.49 77.26
 80.00 18 15 47 2983.85 -28.77 90.47 195.49 98.36 19 5 30 1983.8 -22.48 64.82
 90.00 19 31 52 2738.30 -27.41 72.63 195.70 97.24 20 17 30 1738.3 -21.71 47.06
 100.00 20 58 38 2458.32 -28.77 51.84 195.49 98.36 21 39 37 1458.3 -22.48 26.19
 110.00 22 19 3 2208.61 -32.39 31.99 194.75 101.47 22 55 50 1208.6 -24.49 6.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0160 TRA 1.4862 TC3-1.8078 BAU .5876 SGT 2836.1 SGR 3751.8 SG3 1477.2 ST 71.1 SR 95.0 SS 130.4
 RDE 1.2849 RRA 2.4559 RC3-1.2228 FAU .14279 RRT .9463 RRF .9978 RTF .5.85 CRT .9940 CRS -.9975 CST -.9839
 FDE 5.0965 FRA11.4074 FC3-6.1377 BSP 7763 SGB 4703.1 R23 .1044 R13 .9924 LSA 175.9 MSA 11.4 SSA .7
 BDE 1.6380 BRA 2.8708 BC3 2.1822 FSP 2611 SG1 4644.4 SG2 740.5 THA 53.34 EL1 118.5 EL2 6.2 ALF 53.24

LAUNCH DATE MAR 21 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC DISTANCE 586.922 EARTH TO MARS
 RL 149.01 LAL .00 LOL 179.73 VL 32.253 GAL -5.35 AZL 87.01 HCA 198.60 SMA 179.09 ECC .19143 INC 2.9921 V1 29.903
 RP 211.48 LAP -.95 LOP 18.30 VP 22.675 GAP 3.67 AZP 92.84 TAL 325.53 TAP 164.13 RCA 144.81 APO 213.37 V2 25.942
 RC 123.058 GL 22.19 GP -27.60 ZAL 141.85 ZAP 88.72 ETS 178.19 ZAE 126.04 ETE 201.44 ZAC 75.01 ETC 270.30 LVI 18.02

PLANETOCENTRIC CONIC
 C3 19.703 VHL 4.439 DLA 8.65 RAL 322.47 RAD 6642.7 VEL 11.820 PTH 6.84 VHP 3.765 DPA -51.30 RAP 293.08 ECC 1.3243
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 35 3303.19 -41.87 111.26 189.49 115.04 17 18 38 2303.2 -28.15 86.78
 60.00 16 53 49 3222.73 -36.35 106.87 192.35 108.74 17 47 31 2222.7 -25.33 81.85
 70.00 17 35 34 3099.87 -31.49 98.64 194.06 103.96 18 27 14 2099.9 -22.74 73.49
 80.00 18 34 15 2916.10 -28.00 85.58 194.95 100.82 19 22 51 1916.1 -20.82 60.47
 90.00 19 51 27 2666.93 -26.70 67.53 195.21 99.70 20 35 54 1666.9 -20.09 42.45
 100.00 21 17 6 2390.57 -28.00 46.95 194.95 100.82 21 56 57 1390.6 -20.82 21.84
 110.00 22 35 1 2146.69 -31.49 27.56 194.06 103.96 23 10 47 1146.7 -22.74 2.40

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.0448 TRA 1.6641 TC3-1.9484 BAU .5967 SGT 3087.3 SGR 3577.1 SG3 1535.5 ST 74.9 SR 90.7 SS 132.1
 RDE 1.2137 RRA 2.3343 RC3-1.1554 FAU .14412 RRT .9516 RRF .9974 RTF .9543 CRT .9968 CRS -.9967 CST -.9673
 FDE 5.1616 FRA11.8619 FC3-6.3322 BSP 7855 SGB 4725.1 R23 .1153 R13 .9908 LSA 176.6 MSA 10.9 SSA .8
 BDE 1.6014 BRA 2.8667 BC3 2.2653 FSP 2766 SG1 4668.9 SG2 727.0 THA 49.41 EL1 117.6 EL2 4.6 ALF 50.46

LAUNCH DATE MAR 21 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 18 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 32.252 GAL -5.39 AZL 87.28 HCA 199.80 SMA 179.08 ECC .19175 INC 2.7165 V1 29.903
 RP 211.73 LAP -.82 LOP 19.51 VP 22.639 GAP 3.46 AZP 92.56 TAL 325.29 TAP 165.10 RCA 144.74 APO 213.42 V2 25.911
 RC 125.302 GL 20.22 GP -26.21 ZAL 142.93 ZAP 86.86 ETS 177.31 ZAE 124.88 ETE 199.23 ZAC 76.42 ETC 270.09 LVI 17.04

Planetary Conic: C3 19.397 VHL 4.404 DLA 6.84 RAL 323.25 RAD 6642.6 VEL 11.807 PTH 6.83 VHP 3.713 DPA -50.04 RAP 291.58 ECC 1.3192
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 29 3263.02 -40.67 108.16 188.70 117.20 17 27 52 2263.0 -24.37 84.61
 60.00 17 5 44 3177.20 -35.30 103.47 191.74 110.85 17 58 41 2177.2 -23.64 79.18
 70.00 17 49 47 3047.61 -30.57 94.84 193.62 106.03 18 40 35 2047.6 -21.13 70.28
 80.00 18 50 35 2857.17 -27.18 81.40 194.61 102.87 19 38 12 1857.2 -19.28 56.77
 90.00 20 8 45 2604.95 -25.91 63.17 194.92 101.75 20 52 10 1605.0 -18.58 38.54
 100.00 21 33 27 2331.64 -27.18 42.77 194.61 102.87 22 12 19 1331.6 -19.28 18.14
 110.00 22 49 13 2094.43 -30.57 23.76 193.62 106.03 23 24 8 1094.4 -21.13 359.20

Differential Corrections: TDE 1.0771 TRA 1.8413 TC3-2.0809 BAU .6126 SGT 3338.2 SGR 3390.9 SG3 1575.8 ST 78.9 SR 85.8 SS 131.8
 RDE 1.1380 RRA 2.2035 RC3-1.1185 FAU .14838 RRT .9581 RRF .9968 RTF .9609 CRT .9985 CR8 -.9958 CST -.9895
 FDE 5.1346 FRA12.1631 FC3-6.6226 BSP 7827 SGB 4758.3 R23 .1220 R13 .9896 LSA 175.6 MSA 10.8 S8A .9
 BDE 1.5669 BRA 2.8716 BC3 2.3625 FSP 2815 SGI 4708.3 SG2 688.2 THA 45.47 EL1 116.5 EL2 3.2 ALF 47.39

LAUNCH DATE MAR 21 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 20 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 32.253 GAL -5.43 AZL 87.53 HCA 201.01 SMA 179.08 ECC .19213 INC 2.4722 V1 29.903
 RP 212.01 LAP -.89 LOP 20.72 VP 22.604 GAP 3.26 AZP 92.31 TAL 325.04 TAP 166.05 RCA 144.68 APO 213.49 V2 25.880
 RC 127.566 GL 18.43 GP -24.91 ZAL 143.89 ZAP 85.00 ETS 176.51 ZAE 123.61 ETE 197.22 ZAC 77.73 ETC 269.89 LVI 16.18

Planetary Conic: C3 19.196 VHL 4.381 DLA 5.20 RAL 323.98 RAD 6642.5 VEL 11.799 PTH 6.82 VHP 3.673 DPA -48.86 RAP 290.19 ECC 1.3159
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 28 3227.82 -39.54 105.54 188.19 118.98 17 36 16 2227.8 -24.78 82.77
 60.00 17 16 31 3137.25 -34.30 100.56 191.36 112.61 18 8 48 2137.3 -22.12 76.90
 70.00 18 2 34 3001.77 -29.66 91.58 193.37 107.76 18 52 36 2001.8 -19.67 67.53
 80.00 19 5 13 2805.55 -26.34 77.79 194.46 104.59 19 51 59 1805.6 -17.86 53.60
 90.00 20 24 12 2550.71 -25.10 59.40 194.80 103.47 21 6 42 1550.7 -17.18 35.17
 100.00 21 48 5 2280.02 -26.34 39.16 194.46 104.59 22 26 5 1280.0 -17.86 14.98
 110.00 23 2 1 2048.59 -29.66 20.50 193.37 107.76 23 36 9 1048.6 -19.67 356.45

Differential Corrections: TDE 1.1131 TRA 2.0199 TC3-2.2060 BAU .6293 SGT 3590.4 SGR 3217.9 SG3 1608.0 ST 83.0 SR 81.5 SS 131.6
 RDE 1.0766 RRA 2.0845 RC3-1.0705 FAU .15100 RRT .9827 RRF .9962 RTF .9658 CRT .9995 CR8 -.9947 CST -.9913
 FDE 5.1176 FRA12.4196 FC3-6.8103 BSP 7897 SGB 4821.4 R23 .1266 R13 .9884 LSA 175.3 MSA 10.4 S8A 1.0
 BDE 1.5486 BRA 2.9026 BC3 2.4520 FSP 2867 SGI 4776.8 SG2 654.0 THA 41.75 EL1 116.3 EL2 1.9 ALF 44.48

LAUNCH DATE MAR 21 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 22 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 32.253 GAL -5.48 AZL 87.75 HCA 202.21 SMA 179.09 ECC .19258 INC 2.2537 V1 29.903
 RP 212.29 LAP -.85 LOP 21.92 VP 22.568 GAP 3.05 AZP 92.09 TAL 324.78 TAP 166.99 RCA 144.60 APO 213.58 V2 25.848
 RC 129.890 GL 18.80 GP -23.71 ZAL 144.75 ZAP 83.14 ETS 175.80 ZAE 122.25 ETE 195.40 ZAC 78.94 ETC 269.70 LVI 15.35

Planetary Conic: C3 19.080 VHL 4.368 DLA 3.72 RAL 324.68 RAD 6642.4 VEL 11.794 PTH 6.82 VHP 3.644 DPA -47.76 RAP 288.90 ECC 1.3140
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 42 3198.88 -38.50 103.32 187.90 120.46 17 43 59 2198.9 -23.36 81.19
 60.00 17 28 19 3102.09 -33.35 98.06 191.18 114.08 18 18 2 2102.1 -20.74 74.94
 70.00 18 14 10 2961.38 -28.79 88.76 193.29 109.22 19 3 31 1961.4 -18.34 65.16
 80.00 19 18 27 2760.07 -25.52 74.66 194.45 106.04 20 4 27 1760.1 -16.36 50.84
 90.00 20 38 8 2502.93 -24.31 56.13 194.83 104.92 21 19 51 1502.9 -15.90 32.26
 100.00 22 1 19 2234.34 -25.32 36.03 194.45 106.04 22 38 33 1234.5 -16.56 12.21
 110.00 23 13 38 2008.20 -28.79 17.68 193.29 109.22 23 47 4 1008.2 -16.34 354.08

Differential Corrections: TDE 1.1512 TRA 2.1980 TC3-2.3263 BAU .6478 SGT 3841.6 SGR 3054.4 SG3 1631.8 ST 87.1 SR 77.7 SS 131.3
 RDE 1.0253 RRA 1.9738 RC3-1.0168 FAU .15240 RRT .9658 RRF .9955 RTF .9594 CRT .9998 CR8 -.9934 CST -.9929
 FDE 5.1020 FRA12.6255 FC3-6.9152 BSP 8022 SGB 4907.9 R23 .1296 R13 .9875 LSA 175.4 MSA 10.2 S8A 1.0
 BDE 1.5416 BRA 2.9542 BC3 2.5388 FSP 2914 SGI 4867.9 SG2 625.3 THA 38.27 EL1 116.7 EL2 1.1 ALF 41.73

LAUNCH DATE MAR 21 1971 FLIGHT TIME 248.00 ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 149.01 LAL .00 LOL 179.73 VL 32.254 GAL -5.53 AZL 87.94 HCA 203.41 SMA 179.11 ECC .19309 INC 2.0571 V1 29.903
 RP 212.57 LAP -.82 LOP 23.12 VP 22.532 GAP 2.85 AZP 91.89 TAL 324.51 TAP 167.92 RCA 144.53 APO 213.70 V2 25.818
 RC 132.153 GL 18.32 GP -22.60 ZAL 145.52 ZAP 81.29 ETS 175.16 ZAE 120.83 ETE 193.75 ZAC 80.06 ETC 269.52 LVI 14.60

Planetary Conic: C3 19.033 VHL 4.363 DLA 2.38 RAL 325.35 RAD 6642.4 VEL 11.792 PTH 6.82 VHP 3.623 DPA -46.73 RAP 287.70 ECC 1.3132
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 15 3169.64 -37.54 101.42 187.78 121.70 17 51 5 2169.6 -22.09 79.84
 60.00 17 35 18 3071.05 -32.47 95.90 191.14 115.32 18 26 29 2071.1 -19.51 73.25
 70.00 18 24 44 2925.27 -27.97 86.31 193.34 110.45 19 13 30 1925.7 -17.13 63.09
 80.00 19 30 28 2719.83 -24.74 71.93 194.57 107.28 20 15 48 1719.8 -15.38 48.44
 90.00 20 50 47 2460.65 -23.53 53.27 194.96 106.15 21 31 48 1460.6 -14.72 29.71
 100.00 22 13 20 2194.30 -24.74 33.30 194.57 107.28 22 49 54 1194.3 -15.38 9.81
 110.00 23 24 11 1972.49 -27.97 15.23 193.34 110.45 23 57 3 972.5 -17.13 352.01

Differential Corrections: TDE 1.1927 TRA 2.3771 TC3-2.4377 BAU .6685 SGT 4091.5 SGR 2900.7 SG3 1648.3 ST 91.3 SR 74.3 SS 131.1
 RDE .9828 RRA 1.8711 RC3 -.9386 FAU .15256 RRT .9677 RRF .9946 RTF .9721 CRT .9996 CR8 -.9920 CST -.9942
 FDE 5.0911 FRA12.7889 FC3-6.9392 BSP 8209 SGB 5015.4 R23 .1310 R13 .9866 LSA 175.9 MSA 10.1 S8A 1.1
 BDE 1.5454 BRA 3.0252 BC3 2.6194 FSP 2959 SGI 4979.3 SG2 600.6 THA 35.04 EL1 117.8 EL2 1.6 ALF 39.15

LAUNCH DATE MAR 21 1971

FLIGHT TIME 280.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.256 GAL -5.59 AZL 88.12 HCA 204.61 SMA 179.14 ECC .19366 INC 1.0791 V1 29.903
 RP 212.86 LAP -.78 LOP 24.32 VP 22.497 GAP 2.65 AZP 91.71 TAL 324.22 TAP 168.83 RCA 144.45 APO 213.83 V2 25.782
 RC 134.475 GL 13.96 GP -21.56 ZAL 146.21 ZAP 79.45 ETS 174.59 ZAE 119.37 ETE 192.26 ZAC 81.11 ETC 269.35 LVI 13.92

PLANETOCENTRIC CONIC
 C3 19.046 VHL 4.364 DLA 1.17 RAL 325.98 RAD 6642.4 VEL 11.793 PTH 6.82 VHP 3.611 DPA -45.77 RAP 286.60 ECC 1.3134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 14 3145.61 -36.67 99.78 187.79 122.75 17 57 39 2145.6 -20.97 78.66
 60.00 17 43 34 3043.60 -31.65 94.03 191.23 116.37 18 34 18 2043.6 -18.41 71.77
 70.00 18 34 26 2894.01 -27.20 84.18 193.50 111.50 19 22 40 1894.0 -16.05 61.28
 80.00 19 41 28 2684.09 -23.99 69.53 194.78 108.33 20 26 12 1684.1 -14.31 46.33
 90.00 21 2 22 2423.08 -22.80 50.76 195.20 107.20 21 42 45 1423.1 -13.65 27.47
 100.00 22 24 20 2158.56 -23.99 30.90 194.78 108.33 23 0 19 1158.6 -14.31 7.70
 110.00 23 33 52 1940.83 -27.20 13.09 193.50 111.50 24 6 13 940.8 -16.05 350.20

DIFFERENTIAL CORRECTIONS
 TDE 1.2356 TRA 2.5552 TC3-2.5438 BAU .6875 SGT 4358.2 SGR 2752.7 SG3 1656.4
 RDE .9443 RRA 1.7723 RC3 -.9052 FAU .15270 RRT .9692 RRF .9935 RTF .9745
 FDE 5.0635 FRA12.8929 FC3-6.9411 BSP 8411 SGB 5137.8 R23 .1301 R13 .9861
 BDE 1.5551 BRA 3.1097 BC3 2.7000 FSP 2980 SGI 5105.5 SG2 575.8 THA 32.05

EARTH TO MARS ORBIT DETERMINATION ACCURACY
 ST 95.5 SR 71.1 SS 130.5
 CRT .9989 CRS -.9903 CST -.9952
 LSA 176.4 MSA 10.2 SSA 1.1
 EL1 119.1 EL2 2.6 ALF 36.67

LAUNCH DATE MAR 21 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.256 GAL -5.65 AZL 88.28 HCA 205.80 SMA 179.17 ECC .19428 INC 1.7169 V1 29.903
 RP 213.18 LAP -.75 LOP 25.52 VP 22.481 GAP 2.45 AZP 91.55 TAL 323.93 TAP 169.73 RCA 144.36 APO 213.98 V2 25.749
 RC 136.814 GL 12.71 GP -20.59 ZAL 146.85 ZAP 77.64 ETS 174.08 ZAE 117.87 ETE 190.92 ZAC 82.09 ETC 269.19 LVI 13.28

PLANETOCENTRIC CONIC
 C3 19.108 VHL 4.371 DLA .06 RAL 326.60 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.605 DPA -44.86 RAP 285.58 ECC 1.3145
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 42 3124.41 -35.88 98.37 187.91 123.64 18 3 46 2124.4 -19.97 77.64
 60.00 17 51 12 3019.30 -30.90 92.41 191.42 117.27 18 41 32 2019.3 -17.42 70.48
 70.00 18 43 22 2865.90 -26.48 82.30 193.75 112.40 19 31 8 1865.9 -15.07 59.69
 80.00 19 51 35 2652.28 -23.30 67.43 195.08 109.22 20 35 48 1652.3 -13.33 44.47
 90.00 21 13 0 2389.61 -22.11 48.55 195.52 108.09 21 52 49 1389.6 -12.66 25.49
 100.00 22 34 27 2126.75 -23.30 28.80 195.08 109.22 23 9 54 1126.8 -13.33 5.84
 110.00 23 42 49 1912.71 -26.48 11.22 193.75 112.40 24 14 41 912.7 -15.07 348.61

DIFFERENTIAL CORRECTIONS
 TDE 1.2800 TRA 2.7325 TC3-2.6435 BAU .7095 SGT 4580.8 SGR 2611.9 SG3 1657.6
 RDE .9107 RRA 1.6789 RC3 -.8518 FAU .15215 RRT .9700 RRF .9923 RTF .9763
 FDE 5.0310 FRA12.9538 FC3-8.8934 BSP 8638 SGB 5273.1 R23 .1279 R13 .9856
 BDE 1.5710 BRA 3.2070 BC3 2.7774 FSP 2991 SGI 5243.8 SG2 555.0 THA 29.31

EARTH TO MARS ORBIT DETERMINATION ACCURACY
 ST 99.7 SR 68.2 SS 129.8
 CRT .9978 CRS -.9884 CST -.9960
 LSA 177.0 MSA 10.3 SSA 1.2
 EL1 120.7 EL2 3.8 ALF 34.36

LAUNCH DATE MAR 21 1971

FLIGHT TIME 254.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.261 GAL -5.71 AZL 88.43 HCA 206.99 SMA 179.21 ECC .19496 INC 1.5687 V1 29.903
 RP 213.46 LAP -.71 LOP 26.71 VP 22.426 GAP 2.25 AZP 91.40 TAL 323.63 TAP 170.61 RCA 144.27 APO 214.15 V2 25.714
 RC 139.171 GL 11.56 GP -19.68 ZAL 147.43 ZAP 75.86 ETS 173.62 ZAE 116.35 ETE 189.71 ZAC 83.00 ETC 269.04 LVI 12.69

PLANETOCENTRIC CONIC
 C3 19.214 VHL 4.383 DLA -.94 RAL 327.19 RAD 6642.5 VEL 11.800 PTH 6.82 VHP 3.603 DPA -44.01 RAP 284.64 ECC 1.3162
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 43 3105.71 -35.17 97.19 188.13 124.39 18 9 29 2105.7 -19.08 76.75
 60.00 17 58 18 2997.77 -30.22 90.99 191.68 118.04 18 48 15 1997.8 -16.53 69.34
 70.00 18 51 38 2840.90 -25.82 80.66 194.07 113.17 19 38 59 1840.9 -14.18 58.29
 80.00 20 0 56 2623.92 -22.65 65.57 195.45 109.99 20 44 40 1623.9 -12.45 42.83
 90.00 21 22 48 2399.74 -21.47 46.80 195.90 108.87 22 2 8 1359.7 -11.80 23.74
 100.00 22 43 48 2098.39 -22.65 26.94 195.45 109.99 23 18 46 1098.4 -12.45 4.20
 110.00 23 51 5 1887.72 -25.82 9.98 194.07 113.17 24 22 32 887.7 -14.18 347.21

DIFFERENTIAL CORRECTIONS
 TDE 1.3267 TRA 2.9097 TC3-2.7355 BAU .7321 SGT 4819.4 SGR 2478.2 SG3 1652.7
 RDE .8815 RRA 1.5903 RC3 -.7997 FAU .15107 RRT .9702 RRF .9908 RTF .9779
 FDE 4.9943 FRA12.9743 FC3-6.8089 BSP 8892 SGB 5419.3 R23 .1243 R13 .9853
 BDE 1.5928 BRA 3.3159 BC3 2.8500 FSP 2991 SGI 5392.6 SG2 536.7 THA 26.80

EARTH TO MARS ORBIT DETERMINATION ACCURACY
 ST 103.9 SR 65.5 SS 128.9
 CRT .9961 CRS -.9863 CST -.9967
 LSA 177.7 MSA 10.4 SSA 1.2
 EL1 122.7 EL2 4.9 ALF 32.20

LAUNCH DATE MAR 21 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 149.01 LAL .00 LOL 179.73 VL 32.264 GAL -5.77 AZL 88.57 HCA 208.18 SMA 179.26 ECC .19570 INC 1.4325 V1 29.903
 RP 213.77 LAP -.68 LOP 27.90 VP 22.390 GAP 2.06 AZP 91.26 TAL 323.31 TAP 171.49 RCA 144.18 APO 214.34 V2 25.680
 RC 141.545 GL 10.51 GP -18.82 ZAL 147.97 ZAP 74.12 ETS 173.21 ZAE 114.82 ETE 188.62 ZAC 83.86 ETC 268.90 LVI 12.13

PLANETOCENTRIC CONIC
 C3 19.359 VHL 4.400 DLA -1.88 RAL 327.76 RAD 6642.6 VEL 11.806 PTH 6.83 VHP 3.611 DPA -43.21 RAP 283.79 ECC 1.3186
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 20 3089.24 -34.53 96.10 188.41 125.03 18 14 50 2089.2 -18.29 75.98
 60.00 18 4 53 2978.72 -29.61 89.75 192.02 118.69 18 54 32 1978.7 -15.74 68.35
 70.00 18 59 19 2818.66 -25.22 79.22 194.46 113.84 19 46 18 1818.7 -13.9 57.05
 80.00 20 9 36 2598.61 -22.05 63.93 195.87 110.66 20 52 54 1598.6 -11.66 41.37
 90.00 21 31 54 2333.06 -20.87 44.87 196.34 109.53 22 10 47 1333.1 -11.00 22.19
 100.00 22 52 28 2073.09 -22.05 25.30 195.87 110.66 23 27 1 1073.1 -11.66 2.74
 110.00 0 2 41 1865.48 -25.22 8.13 194.46 113.84 0 33 47 865.5 -13.39 345.97

DIFFERENTIAL CORRECTIONS
 TDE 1.3755 TRA 3.0871 TC3-2.8198 BAU .7551 SGT 5054.0 SGR 2352.2 SG3 1642.9
 RDE .8565 RRA 1.5070 RC3 -.7484 FAU .14937 RRT .9698 RRF .9891 RTF .9791
 FDE 4.9585 FRA12.9650 FC3-6.6799 BSP 9173 SGB 5574.6 R23 .1201 R13 .9851
 BDE 1.6204 BRA 3.4353 BC3 2.9175 FSP 2985 SGI 5550.1 SG2 522.3 THA 24.52

EARTH TO MARS ORBIT DETERMINATION ACCURACY
 ST 108.1 SR 63.1 SS 128.1
 CRT .9941 CRS -.9839 CST -.9973
 LSA 178.7 MSA 10.5 SSA 1.3
 EL1 125.0 EL2 5.9 ALF 30.20

LAUNCH DATE MAR 21 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

DISTANCE 641.116

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.284 GAL -6.13 AZL 89.11 HCA 214.06 SMA 179.58 ECC .20015 INC .8850 V1 29.903
RP 215.37 LAP -.50 LOP 33.78 VP 22.213 GAP 1.08 AZP 90.73 TAL 321.61 TAP 175.67 RCA 143.64 APO 215.53 V2 25.499
RC 153.669 GL 6.28 GP -15.27 ZAL 150.21 ZAP 86.02 ETS 171.77 ZAE 107.30 ETE 184.59 ZAC 87.41 ETC 268.38 LVI 9.74

PLANETOCENTRIC CONIC

C3 20.554 VHL 4.534 DLA -5.39 RAL 330.39 RAD 6643.1 VEL 11.856 PTH 6.87 VHP 3.702 DPA -39.80 RAP 280.63 ECC 1.3383
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 48 3033.00 -32.27 92.63 190.59 127.07 18 37 21 2033.0 -15.58 73.39
60.00 18 32 8 2912.43 -27.37 85.57 194.39 120.82 19 20 40 1912.4 -12.96 64.96
70.00 19 30 47 2739.97 -22.96 74.22 197.03 116.01 20 16 27 1740.0 -10.54 52.75
80.00 20 44 55 2507.86 -19.76 58.17 198.59 112.85 21 26 43 1507.9 -8.74 36.22
90.00 22 8 55 2236.86 -18.56 38.77 199.11 111.73 22 46 11 1236.9 -8.06 16.66
100.00 23 27 47 1982.33 -19.76 19.54 198.59 112.85 24 0 49 982.3 -8.74 357.58
110.00 0 34 9 1786.79 -22.96 3.14 197.03 116.01 1 3 56 786.8 -10.54 341.67

DIFFERENTIAL CORRECTIONS

TDE 1.6363 TRA 3.9826 TC3-3.1538 BAU .8788
RDE .7895 RRA 1.1488 RC3 -.5313 FAU .13699
FDE 4.7078 FRA12.5098 FC3-5.7701 B8P 10667
BDE 1.8082 BRA 4.1256 BC3 3.1982 F8P 2628

MID-COURSE EXECUTION ACCURACY

SGT 6144.7 SGR 1817.8 SG3 1333.3
RRR .9801 RRF .9753 RTF .9825
SGB 6407.9 R23 .0928 R13 .9848
SG1 6389.2 SG2 488.9 THA 15.95

ORBIT DETERMINATION ACCURACY

ST 128.1 SR 53.3 SS 121.9
CRT .9783 CRS -.9683 CST -.9989
LSA 184.3 MSA 12.3 S8A 1.3
EL1 138.4 EL2 10.2 ALF 22.29

LAUNCH DATE MAR 21 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

DISTANCE 645.263

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.289 GAL -6.21 AZL 89.20 HCA 215.22 SMA 179.66 ECC .20119 INC .7971 V1 29.903
RP 215.71 LAP -.46 LOP 34.95 VP 22.177 GAP .89 AZP 90.65 TAL 321.25 TAP 176.47 RCA 143.51 APO 215.81 V2 25.461
RC 156.143 GL 5.81 GP -14.68 ZAL 150.60 ZAP 64.53 ETS 171.58 ZAE 105.84 ETE 184.00 ZAC 88.00 ETC 268.31 LVI 9.32

PLANETOCENTRIC CONIC

C3 20.873 VHL 4.569 DLA -5.93 RAL 330.88 RAD 6643.2 VEL 11.869 PTH 6.88 VHP 3.730 DPA -39.23 RAP 280.21 ECC 1.3435
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 50 45 3025.91 -31.98 92.20 191.12 127.31 18 41 11 2025.9 -15.23 73.07
60.00 18 36 40 2903.78 -27.06 85.04 194.96 121.08 19 25 4 1903.8 -12.59 64.52
70.00 19 35 58 2729.39 -22.64 73.57 197.63 116.28 20 21 28 1729.4 -10.15 52.18
80.00 20 50 43 2495.38 -19.42 57.39 199.21 113.13 21 32 19 1495.4 -8.33 35.52
90.00 22 14 58 2223.53 -18.22 37.93 199.74 112.01 22 52 2 1223.5 -7.64 15.90
100.00 23 33 35 1969.85 -19.42 18.76 199.21 113.13 24 6 25 969.9 -8.33 356.88
110.00 0 39 21 1776.21 -22.64 2.48 197.63 116.28 1 8 57 776.2 -10.15 341.10

DIFFERENTIAL CORRECTIONS

TDE 1.6927 TRA 4.1374 TC3-3.2018 BAU .9041
RDE .7586 RRA 1.0880 RC3 -.4945 FAU .13374
FDE 4.6538 FRA12.3662 FC3-5.5470 B8P 10984
BDE 1.8549 BRA 4.2781 BC3 3.2398 F8P 2784

MID-COURSE EXECUTION ACCURACY

SGT 6346.6 SGR 1729.5 SG3 1503.6
RRR .9564 RRF .9712 RTF .9829
SGB 6578.0 R23 .0877 R13 .9848
SG1 6559.8 SG2 468.8 THA 14.69

ORBIT DETERMINATION ACCURACY

ST 131.9 SR 51.8 SS 120.6
CRT .9741 CRS -.9644 CST -.9991
LSA 185.7 MSA 12.6 S8A 1.3
EL1 141.3 EL2 10.9 ALF 21.07

LAUNCH DATE MAR 21 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

DISTANCE 649.405

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.295 GAL -6.30 AZL 89.29 HCA 216.39 SMA 179.75 ECC .20228 INC .7134 V1 29.903
RP 216.04 LAP -.42 LOP 36.11 VP 22.142 GAP .69 AZP 90.57 TAL 320.87 TAP 177.26 RCA 143.39 APO 216.11 V2 25.424
RC 158.631 GL 4.98 GP -14.12 ZAL 150.97 ZAP 63.09 ETS 171.40 ZAE 104.42 ETE 183.47 ZAC 88.55 ETC 268.25 LVI 8.91

PLANETOCENTRIC CONIC

C3 21.216 VHL 4.606 DLA -6.43 RAL 331.36 RAD 6643.4 VEL 11.883 PTH 6.89 VHP 3.762 DPA -38.68 RAP 279.84 ECC 1.3492
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 30 3019.93 -31.73 91.85 191.68 127.52 18 44 50 2019.9 -14.94 72.80
60.00 18 40 57 2896.36 -26.80 84.59 195.55 121.30 19 29 14 1896.4 -12.28 64.15
70.00 19 40 52 2720.19 -22.36 73.00 198.25 116.51 20 26 12 1720.2 -9.81 51.68
80.00 20 56 11 2484.43 -19.13 56.71 199.85 113.37 21 37 35 1484.4 -7.97 34.90
90.00 22 20 41 2211.78 -17.92 37.20 200.39 112.25 22 57 33 1211.8 -7.27 15.23
100.00 23 39 2 1958.90 -19.13 18.08 199.85 113.37 24 11 41 958.9 -7.97 356.27
110.00 0 44 14 1767.00 -22.36 1.91 198.25 116.51 1 13 42 767.0 -9.81 340.60

DIFFERENTIAL CORRECTIONS

TDE 1.7491 TRA 4.3109 TC3-3.2466 BAU .9301
RDE .7490 RRA 1.0298 RC3 -.4610 FAU .13059
FDE 4.5932 FRA12.2060 FC3-5.3290 B8P 11284
BDE 1.9027 BRA 4.4322 BC3 3.2791 F8P 2730

MID-COURSE EXECUTION ACCURACY

SGT 6542.1 SGR 1648.2 SG3 1471.9
RRR .9521 RRF .9665 RTF .531
SGB 6746.1 R23 .0824 R13 .9847
SG1 6720.3 SG2 489.7 THA 13.55

ORBIT DETERMINATION ACCURACY

ST 135.7 SR 50.4 SS 119.1
CRT .9696 CRS -.9603 CST -.9993
LSA 187.0 MSA 13.0 S8A 1.3
EL1 144.3 EL2 11.6 ALF 19.96

LAUNCH DATE MAR 21 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 653.542

EARTH TO MARS

RL 149.01 LAL .00 LOL 179.73 VL 32.301 GAL -6.38 AZL 89.37 HCA 217.55 SMA 179.84 ECC .20341 INC .6345 V1 29.903
RP 216.39 LAP -.39 LOP 37.27 VP 22.106 GAP .50 AZP 90.50 TAL 320.49 TAP 178.04 RCA 143.26 APO 216.42 V2 25.385
RC 161.134 GL 4.39 GP -13.59 ZAL 151.34 ZAP 61.69 ETS 171.25 ZAE 103.01 ETE 182.99 ZAC 89.08 ETC 268.20 LVI 8.52

PLANETOCENTRIC CONIC

C3 21.582 VHL 4.646 DLA -6.88 RAL 331.83 RAD 6643.5 VEL 11.899 PTH 6.91 VHP 3.795 DPA -38.16 RAP 279.53 ECC 1.3552
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 58 4 3014.97 -31.53 91.53 192.26 127.68 18 48 19 2015.0 -14.70 72.58
60.00 18 45 1 2890.08 -26.56 84.20 196.16 121.48 19 33 11 1890.1 -12.01 63.84
70.00 19 45 30 2712.26 -22.12 72.51 198.88 116.71 20 30 42 1712.3 -1.51 51.26
80.00 21 1 19 2474.88 -18.87 56.12 200.51 113.58 21 42 34 1474.9 -7.65 34.37
90.00 22 26 3 2201.49 -17.85 36.57 201.06 112.46 23 2 45 1201.5 -6.95 14.65
100.00 23 44 11 1949.35 -18.87 17.49 200.51 113.58 24 16 40 949.3 -7.65 355.73
110.00 0 48 52 1759.08 -22.12 1.43 198.88 116.71 1 18 11 759.1 -9.51 340.17

DIFFERENTIAL CORRECTIONS

TDE 1.8079 TRA 4.4850 TC3-3.2842 BAU .9556
RDE .7412 RRA .9749 RC3 -.4289 FAU .12714
FDE 4.5356 FRA12.0393 FC3-5.1001 B8P 11595
BDE 1.9539 BRA 4.5898 BC3 3.3121 F8P 2678

MID-COURSE EXECUTION ACCURACY

SGT 6732.5 SGR 1568.8 SG3 1439.1
RRR .9470 RRF .9611 RTF .9833
SGB 6912.9 R23 .0778 R13 .9848
SG1 6895.3 SG2 492.1 THA 12.51

ORBIT DETERMINATION ACCURACY

ST 139.4 SR 49.2 SS 117.6
CRT .9649 CRS -.9560 CST -.9994
LSA 188.4 MSA 13.4 S8A 1.3
EL1 147.3 EL2 12.2 ALF 18.94

LAUNCH DATE MAR 21 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.307 GAL -6.47 AZL 89.44 HCA 218.70 SMA 179.93 ECC .20459 INC .5598 V1 29.903
 RP 216.73 LAP -.35 LOP 36.43 VP 22.071 GAP .31 AZP 90.44 TAL 320.11 TAP 178.81 RCA 143.12 APO 216.74 V2 25.347
 RC 183.649 GL 3.84 GP -13.09 ZAL 151.69 ZAP 60.33 ETS 171.12 ZAE 101.64 ETE 182.56 ZAC 89.58 ETC 266.16 LV1 8.13

DISTANCE 657.674

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.970 VHL 4.697 DLA -7.30 RAL 332.29 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 3.831 DPA -37.68 RAP 279.29 ECC 1.3616
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 27 3010.95 -31.36 91.32 192.86 127.81 18 51 38 2010.9 -14.50 72.40
 60.00 18 48 52 2884.84 -26.39 83.89 196.79 121.64 19 36 57 1884.8 -11.79 63.57
 70.00 19 49 52 2705.50 -21.91 72.09 199.54 116.88 20 34 58 1705.5 -9.26 50.89
 80.00 21 6 10 2466.62 -18.65 55.61 201.18 113.75 21 47 17 1466.6 -7.38 33.91
 90.00 22 31 7 2192.55 -17.42 36.01 201.74 112.64 23 7 40 1192.6 -6.67 14.14
 100.00 23 49 2 1941.09 -18.65 16.98 201.18 113.75 24 21 23 941.1 -7.38 355.27
 110.00 0 53 14 1752.32 -21.91 1.01 199.54 116.88 1 22 27 752.3 -9.26 339.81

DIFFERENTIAL CORRECTIONS

TDE 1.8673 TRA 4.8592 TC3-3.3185 BAU .9817
 RDE .7348 RRA .9226 RC3 -.3994 FAU .12371
 PDE 4.4768 FRA11.8639 FC3-4.8748 BSP 11898
 BDE 2.0066 BRA 4.7497 BC3 3.3424 FSP 2623

MID-COURSE EXECUTION ACCURACY

SGT 6917.9 SGR 1498.5 SG3 1405.4
 RRT .9411 RRF .9551 RTF .9834
 SGB 7077.9 R23 .0734 R13 .9845
 SG1 7060.5 SG2 495.7 THA 11.57

ORBIT DETERMINATION ACCURACY

ST 143.1 SR 48.0 SS 116.1
 CRT .9599 CRS -.9915 CST -.9995
 LSA 189.9 MSA 13.8 SSA 1.3
 EL1 150.4 EL2 12.6 ALF 18.00

LAUNCH DATE MAR 21 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.313 GAL -6.56 AZL 89.51 HCA 219.85 SMA 180.03 ECC .20582 INC .4890 V1 29.803
 RP 217.08 LAP -.31 LOP 39.58 VP 22.035 GAP .11 AZP 90.38 TAL 319.71 TAP 179.58 RCA 142.98 APO 217.08 V2 23.308
 RC 166.178 GL 3.32 GP -12.62 ZAL 152.04 ZAP 59.02 ETS 171.01 ZAE 100.29 ETE 182.16 ZAC 90.03 ETC 266.12 LV1 7.75

DISTANCE 661.801

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.381 VHL 4.731 DLA -7.68 RAL 332.75 RAD 6643.9 VEL 11.932 PTH 6.94 VHP 3.869 DPA -37.21 RAP 279.09 ECC 1.3683
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 42 3007.80 -31.23 91.13 193.47 127.92 18 54 50 2007.8 -14.35 72.26
 60.00 18 52 32 2880.57 -26.24 83.63 197.43 121.76 19 40 33 1880.6 -11.61 63.36
 70.00 19 54 1 2699.82 -21.74 71.75 200.20 117.02 20 39 0 1699.8 -9.05 50.59
 80.00 21 10 46 2459.56 -18.45 55.18 201.87 113.90 21 51 45 1459.6 -7.15 33.51
 90.00 22 35 54 2184.86 -17.22 35.54 202.43 112.79 23 12 19 1184.9 -6.43 13.71
 100.00 23 53 37 1934.03 -18.45 16.54 201.87 113.90 24 25 51 934.0 -7.15 354.88
 110.00 0 57 23 1746.64 -21.74 .66 200.20 117.02 1 26 29 746.6 -9.05 339.51

DIFFERENTIAL CORRECTIONS

TDE 1.9277 TRA 4.8332 TC3-3.3479 BAU 1.0079
 RDE .7295 RRA .8728 RC3 -.3720 FAU .12024
 PDE 4.4162 FRA11.6805 FC3-4.6510 BSP 12195
 BDE 2.0811 BRA 4.9114 BC3 3.3686 FSP 2565

MID-COURSE EXECUTION ACCURACY

SGT 7097.4 SGR 1429.0 SG3 1370.8
 RRT .9345 RRF .9482 RTF .9834
 SGB 7239.8 R23 .0693 R13 .9844
 SG1 7222.5 SG2 500.0 THA 10.71

ORBIT DETERMINATION ACCURACY

ST 146.6 SR 47.0 SS 114.5
 CRT .9546 CRS -.9468 CST -.9996
 LSA 191.4 MSA 14.2 SSA 1.3
 EL1 153.4 EL2 13.4 ALF 17.14

LAUNCH DATE MAR 21 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.319 GAL -6.66 AZL 89.58 HCA 221.00 SMA 180.13 ECC .20709 INC .4219 V1 29.903
 RP 217.43 LAP -.28 LOP 40.73 VP 21.999 GAP -.08 AZP 90.32 TAL 319.31 TAP 180.31 RCA 142.83 APO 217.44 V2 25.269
 RC 188.717 GL 2.84 GP -12.18 ZAL 152.38 ZAP 57.76 ETS 170.91 ZAE 98.96 ETE 181.81 ZAC 90.49 ETC 266.10 LV1 7.39

DISTANCE 665.922

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.813 VHL 4.776 DLA -8.03 RAL 333.20 RAD 6644.1 VEL 11.950 PTH 6.95 VHP 3.908 DPA -36.77 RAP 278.95 ECC 1.3754
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 48 3005.46 -31.13 90.99 194.10 127.99 18 57 53 2005.5 -14.23 72.15
 60.00 18 56 1 2877.19 -26.12 83.42 198.09 121.85 19 43 58 1877.2 -11.46 63.19
 70.00 19 57 56 2695.16 -21.59 71.46 200.88 117.13 20 42 51 1695.2 -8.88 50.34
 80.00 21 15 5 2453.61 -18.29 54.81 202.57 114.02 21 53 59 1453.6 -6.95 33.18
 90.00 22 40 25 2178.32 -17.04 35.14 203.13 112.91 23 16 43 1178.3 -6.22 13.34
 100.00 0 1 53 1928.08 -18.29 16.18 202.57 114.02 0 34 1 928.1 -6.95 354.55
 110.00 1 1 18 1741.98 -21.59 .38 200.88 117.13 1 30 20 742.0 -8.88 339.26

DIFFERENTIAL CORRECTIONS

TDE 1.9897 TRA 5.0088 TC3-3.3724 BAU 1.0340
 RDE .7256 RRA .8256 RC3 -.3463 FAU .11668
 PDE 4.3571 FRA11.4956 FC3-4.4266 BSP 12497
 BDE 2.1178 BRA 5.0781 BC3 3.3902 FSP 2508

MID-COURSE EXECUTION ACCURACY

SGT 7272.5 SGR 1366.5 SG3 1336.1
 RRT .9269 RRF .9406 RTF .9834
 SGB 7399.8 R23 .0693 R13 .9842
 SG1 7382.6 SG2 505.2 THA 9.93

ORBIT DETERMINATION ACCURACY

ST 150.2 SR 46.0 SS 113.0
 CRT .9492 CRS -.9419 CST -.9997
 LSA 192.9 MSA 14.6 SSA 1.3
 EL1 156.4 EL2 13.9 ALF 16.36

LAUNCH DATE MAR 21 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.01 LAL .00 LOL 179.73 VL 32.326 GAL -6.75 AZL 89.64 HCA 222.14 SMA 180.24 ECC .20840 INC .3579 V1 29.903
 RP 217.79 LAP -.24 LOP 41.87 VP 21.964 GAP -.28 AZP 90.27 TAL 318.90 TAP 181.04 RCA 142.68 APO 217.80 V2 25.229
 RC 171.268 GL 2.38 GP -11.76 ZAL 152.71 ZAP 56.53 ETS 170.83 ZAE 97.67 ETE 181.48 ZAC 90.91 ETC 266.09 LV1 7.20

DISTANCE 670.037

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.267 VHL 4.824 DLA -8.35 RAL 333.84 RAD 6644.3 VEL 11.969 PTH 6.97 VHP 3.950 DPA -36.35 RAP 278.85 ECC 1.3829
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 45 3003.85 -31.08 90.90 194.74 128.04 19 0 49 2003.9 -14.16 72.08
 60.00 18 59 20 2874.84 -26.03 83.27 198.75 121.93 19 47 15 1874.6 -11.35 63.06
 70.00 20 1 39 2691.42 -21.48 71.23 201.57 117.22 20 46 31 1691.4 -8.74 50.14
 80.00 21 19 11 2448.89 -18.15 54.51 203.27 114.12 22 0 0 1448.7 -6.79 32.90
 90.00 22 44 41 2172.86 -16.90 34.80 203.84 113.02 23 20 54 1172.9 -6.05 13.03
 100.00 0 5 59 1923.16 -18.15 15.88 203.27 114.12 0 38 2 923.2 -6.79 354.27
 110.00 1 5 1 1738.23 -21.48 .15 201.57 117.22 1 34 0 738.2 -8.74 339.06

DIFFERENTIAL CORRECTIONS

TDE 2.0496 TRA 5.1804 TC3-3.3976 BAU 1.0617
 RDE .7217 RRA .7797 RC3 -.3244 FAU .11367
 PDE 4.2848 FRA11.2941 FC3-4.2293 BSP 12750
 BDE 2.1730 BRA 5.2387 BC3 3.4132 FSP 2435

MID-COURSE EXECUTION ACCURACY

SGT 7439.8 SGR 1307.3 SG3 1300.0
 RRT .9186 RRF .9320 RTF .9835
 SGB 7553.7 R23 .0614 R13 .9842
 SG1 7536.5 SG2 510.0 THA 9.21

ORBIT DETERMINATION ACCURACY

ST 153.4 SR 45.1 SS 111.2
 CRT .9434 CRS -.9367 CST -.9997
 LSA 194.2 MSA 15.0 SSA 1.3
 EL1 159.3 EL2 14.4 ALF 15.63

LAUNCH DATE MAR 22 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 401.253

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 33.841 GAL -7.31 AZL 92.83 HCA 139.21 SMA 208.82 ECC .31243 INC 2.8323 V1 29.894
RP 207.32 LAP -1.85 LOP 319.97 VP 23.391 GAP 18.20 AZP 87.85 TAL 327.74 TAP 108.98 RCA 143.58 APO 274.06 V2 26.420
RC 36.291 GL -15.20 GP 5.77 ZAL 140.98 ZAP 163.83 ETS 159.13 ZAE 164.88 ETE 135.16 ZAC 107.29 ETC 274.97 LVI -19.40

PLANETOCENTRIC CONIC

C3 39.891 VHL 6.324 DLA -27.67 RAL 332.29 RAD 6650.7 VEL 12.644 PTH 7.49 VHP 8.890 DPA -15.18 RAP 306.23 ECC 1.6581
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 24 54 2733.34 -18.83 76.79 199.08 134.54 20 10 28 1733.3 -6.69 60.51
60.00 20 42 36 2526.67 -12.17 64.31 205.21 128.72 21 24 43 1526.7 3.86 46.26
70.00 22 24 23 2227.36 -5.10 45.29 210.45 123.82 23 1 30 1227.4 8.84 25.72
80.00 0 37 53 1821.76 1.96 18.88 214.83 119.80 1 8 14 821.8 13.94 357.93
90.00 2 43 27 1416.80 6.41 351.53 217.27 117.60 3 7 4 416.8 17.20 329.70
100.00 3 20 44 1296.23 1.96 340.23 214.83 119.80 3 42 21 296.2 13.94 319.30
110.00 3 27 43 1274.18 -5.10 334.20 210.45 123.82 3 49 0 274.2 8.84 314.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0131 TRA -1.9961 TC3 -.1024 BAU .0993 SGT 2242.6 SGR 506.0 S63 257.6 ST 55.2 SR 22.6 SS 41.7
RDE -.4970 RRA -.1189 RC3 .1550 FAU .04487 RRT .5608 RRF -.5949 RTF -.8768 CRT .8738 CRS .7491 CST .9760
FDE .8311 FRA 2.5513 FC3 -.9713 BSP 3924 SGB 2298.9 R23 -.1036 R13 -.8795 LSA 71.4 MSA 14.0 SSA 1.1
BDE 1.1265 BRA 1.9996 BC3 .1858 FSP 377 SGI 2261.1 S62 415.5 THA 7.46 EL1 58.7 EL2 10.3 ALF 20.34

LAUNCH DATE MAR 22 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 404.448

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 33.742 GAL -7.36 AZL 92.91 HCA 140.48 SMA 206.63 ECC .30460 INC 2.9058 V1 29.894
RP 207.22 LAP -1.85 LOP 321.23 VP 25.271 GAP 17.73 AZP 87.76 TAL 327.77 TAP 108.25 RCA 143.69 APO 269.57 V2 26.432
RC 36.455 GL -15.87 GP 6.09 ZAL 140.84 ZAP 162.87 ETS 159.30 ZAE 165.07 ETE 132.06 ZAC 107.57 ETC 275.06 LVI -19.81

PLANETOCENTRIC CONIC

C3 38.478 VHL 6.203 DLA -28.26 RAL 332.67 RAD 6650.1 VEL 12.584 PTH 7.45 VHP 8.639 DPA -14.80 RAP 306.51 ECC 1.6332
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 29 35 2710.12 -17.72 75.70 199.07 134.91 20 14 45 1710.1 .48 59.54
60.00 20 48 41 2499.68 -11.02 62.98 205.28 129.01 21 30 21 1499.7 5.04 44.97
70.00 22 33 4 2192.72 -3.79 43.47 210.67 123.97 23 9 37 1192.7 10.12 23.86
80.00 0 33 18 1785.95 3.85 15.81 215.39 119.63 1 22 44 765.9 15.62 354.64
90.00 3 27 5 1269.83 10.95 343.12 219.18 116.24 3 48 15 269.8 20.83 320.45
100.00 3 36 10 1240.42 3.85 337.18 215.39 119.63 3 56 50 240.4 15.62 318.01
110.00 3 36 26 1239.54 -3.79 332.39 210.67 123.97 3 57 6 239.5 10.12 312.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0093 TRA -1.9624 TC3 -.0850 BAU .0964 SGT 2280.1 SGR 515.1 S63 273.9 ST 55.8 SR 22.5 SS 43.3
RDE -.4848 RRA -.1413 RC3 .1869 FAU .04622 RRT .6003 RRF -.6363 RTF -.8842 CRT .8832 CRS .7612 CST .9757
FDE .8696 FRA 2.6331 FC3 -1.0398 BSP 3857 SGB 2318.1 R23 -.1095 R13 -.8872 LSA 72.7 MSA 13.9 SSA 1.1
BDE 1.1161 BRA 1.9674 BC3 .1873 FSP 404 SGI 2281.9 S62 408.0 THA 8.05 EL1 59.3 EL2 9.9 ALF 20.21

LAUNCH DATE MAR 22 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 407.721

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 33.847 GAL -7.21 AZL 92.98 HCA 141.74 SMA 204.61 ECC .29717 INC 2.9834 V1 29.894
RP 207.13 LAP -1.85 LOP 322.50 VP 25.156 GAP 17.27 AZP 87.66 TAL 327.81 TAP 109.55 RCA 143.80 APO 265.41 V2 26.443
RC 36.701 GL -16.58 GP 6.42 ZAL 140.87 ZAP 161.89 ETS 159.42 ZAE 165.38 ETE 128.88 ZAC 107.87 ETC 275.15 LVI -20.25

PLANETOCENTRIC CONIC

C3 37.085 VHL 6.090 DLA -28.88 RAL 333.08 RAD 6649.6 VEL 12.529 PTH 7.41 VHP 8.396 DPA -14.39 RAP 306.77 ECC 1.6103
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 34 32 2686.53 -16.58 74.82 199.12 135.26 20 19 18 1686.5 1.67 58.56
60.00 20 35 12 2471.92 -9.83 61.59 205.42 129.28 21 36 24 1471.9 6.26 43.63
70.00 22 42 35 2156.09 -2.39 41.35 210.98 124.08 23 18 31 1136.1 11.47 21.88
80.00 1 12 42 1698.18 6.12 12.08 216.23 119.28 1 41 1 698.2 17.58 350.57
83.88 2 47 19 1394.19 12.39 352.98 219.57 116.30 3 10 33 394.2 22.17 330.06
100.00 3 55 34 1172.65 6.12 333.43 216.23 119.28 4 13 7 172.6 17.58 311.93
110.00 3 45 57 1202.91 -2.39 330.47 210.98 124.08 4 6 0 202.9 11.47 310.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0146 TRA -1.9448 TC3 -.0895 BAU .0984 SGT 2299.7 SGR 527.4 S63 291.1 ST 57.1 SR 22.5 SS 44.8
RDE -.4741 RRA -.1853 RC3 .1792 FAU .04769 RRT .6383 RRF -.6775 RTF -.8664 CRT .8949 CRS .7739 CST .9745
FDE .9085 FRA 2.7582 FC3 -1.1133 BSP 4007 SGB 2359.4 R23 -.1219 R13 -.8889 LSA 74.7 MSA 13.6 SSA 1.1
BDE 1.1199 BRA 1.9518 BC3 .1985 FSP 433 SGI 2325.0 S62 401.6 THA 8.59 EL1 60.6 EL2 9.4 ALF 19.90

LAUNCH DATE MAR 22 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 411.066

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 33.858 GAL -7.07 AZL 93.07 HCA 143.00 SMA 202.73 ECC .29013 INC 3.0635 V1 29.894
RP 207.05 LAP -1.84 LOP 323.76 VP 25.047 GAP 16.82 AZP 87.55 TAL 327.85 TAP 110.89 RCA 143.91 APO 261.55 V2 26.453
RC 37.030 GL -17.32 GP 6.79 ZAL 140.48 ZAP 160.88 ETS 159.48 ZAE 165.61 ETE 125.68 ZAC 108.20 ETC 275.24 LVI -20.70

PLANETOCENTRIC CONIC

C3 35.803 VHL 5.984 DLA -29.54 RAL 335.46 RAD 6649.2 VEL 12.478 PTH 7.37 VHP 8.161 DPA -13.96 RAP 306.99 ECC 1.5892
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 39 48 2862.46 -13.42 73.52 199.25 135.59 20 24 10 1682.5 2.87 57.53
60.00 21 2 12 2443.24 -8.59 60.18 205.64 129.53 21 42 55 1443.2 7.51 42.24
70.00 22 53 8 2118.91 -8.89 39.51 211.42 124.14 23 28 25 1118.9 12.89 19.73
80.00 1 41 39 1600.97 9.32 6.82 217.83 118.50 2 8 20 601.0 20.22 344.56
81.10 2 26 49 1456.39 12.92 357.82 219.56 116.79 2 51 6 456.4 22.85 334.91
100.00 4 24 30 1075.44 9.32 327.99 217.63 118.50 4 42 26 75.4 20.22 305.92
110.00 3 56 30 1163.73 -8.89 328.42 211.42 124.14 4 15 54 163.7 12.89 308.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0208 TRA -1.9225 TC3 -.0823 BAU .1002 SGT 2332.8 SGR 543.1 S63 309.4 ST 58.3 SR 22.5 SS 46.4
RDE -.4646 RRA -.1905 RC3 .1924 FAU .04924 RRT .6756 RRF -.7176 RTF -.8893 CRT .9065 CRS .7875 CST .9734
FDE .9518 FRA 2.8675 FC3 -1.1905 BSP 4110 SGB 2395.2 R23 -.1343 R13 -.8932 LSA 76.6 MSA 13.7 SSA 1.1
BDE 1.1216 BRA 1.9319 BC3 .2093 FSP 463 SGI 2362.3 S62 395.4 THA 9.20 EL1 61.8 EL2 8.9 ALF 19.70

LAUNCH DATE MAR 22 1971 FLIGHT TIME 154.00 ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 33.474 GAL -6.93 AZL 93.15 HCA 144.27 SMA 200.99 ECC .20346 INC 3.1527 V1 29.894
 RP 206.97 LAP -1.84 LOP 325.03 VP 24.943 GAP 16.38 AZP 87.44 TAL 327.90 TAP 112.16 RCA 144.02 APO 257.96 V2 26.462
 RC 37.440 GL -18.09 GP 7.19 ZAL 140.25 ZAP 199.83 ETS 159.50 ZAE 165.74 ETE 122.53 ZAC 108.57 ETC 275.32 LVI -21.17

Planetocentric Conic: C3 34.628 VHL 5.885 DLA -30.23 RAL 333.88 RAD 6648.8 VEL 12.431 PTH 7.34 VHP 7.934 DPA -13.51 RAP 307.19 ECC 1.5699
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 45 25 2637.89 -14.22 72.42 199.45 135.90 20 29 22 1637.9 4.11 56.52
 60.00 21 9 45 2413.49 -7.30 58.73 205.96 129.75 21 49 59 1413.5 8.80 40.78
 70.00 23 4 59 2074.48 .73 37.29 212.00 124.15 23 39 33 1074.5 14.40 17.38
 78.86 2 11 25 1502.53 13.47 1.54 219.60 117.32 2 36 27 502.5 23.56 338.61
 78.86 2 11 25 1502.53 13.47 1.54 219.60 117.32 2 36 27 502.5 23.56 338.61
 78.86 2 11 25 1502.53 13.47 1.54 219.60 117.32 2 36 27 502.5 23.56 338.61
 110.00 4 8 21 1121.30 .73 326.21 212.00 124.15 4 27 2 121.3 14.40 306.29

Differential Corrections: TDE -1.0254 TRA -1.8967 TC3 -.0772 BAU .1022
 RDE -.4564 RRA -.2172 RC3 .2088 FAU .05008
 FDE .9971 FRA 2.9812 FC3 -1.2715 B8P 4187
 BDE 1.1224 BRA 1.9081 BC3 .2207 F8P 495

Mid-Course Execution Accuracy: SGT 2360.8 SGR 562.7 S63 328.6
 RRT .7112 RRF -.7560 RTF -.8924
 SGB 2427.0 R23 -.1472 R13 -.8970
 S61 2395.5 S62 389.8 THA 9.89

Orbit Determination Accuracy: ST 59.3 SR 22.5 SS 48.0
 CRT .9181 CRS .8019 CST .9724
 LSA 78.4 MSA 13.6 S8A 1.1
 EL1 62.9 EL2 8.4 ALF 19.58

LAUNCH DATE MAR 22 1971 FLIGHT TIME 156.00 ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 33.394 GAL -6.79 AZL 93.25 HCA 145.53 SMA 199.37 ECC .27713 INC 3.2455 V1 29.894
 RP 206.90 LAP -1.84 LOP 326.29 VP 24.844 GAP 15.95 AZP 87.32 TAL 327.95 TAP 113.48 RCA 144.12 APO 254.63 V2 26.469
 RC 37.930 GL -18.91 GP 7.62 ZAL 139.99 ZAP 158.76 ETS 159.47 ZAE 165.79 ETE 119.50 ZAC 108.97 ETC 275.40 LVI -21.66

Planetocentric Conic: C3 33.555 VHL 5.793 DLA -30.95 RAL 334.33 RAD 6648.4 VEL 12.388 PTH 7.30 VHP 7.713 DPA -13.03 RAP 307.35 ECC 1.5522
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 51 25 2612.75 -12.98 71.30 199.73 136.19 20 34 58 1612.7 5.37 55.46
 60.00 21 17 57 2382.51 -5.95 57.23 206.39 129.93 21 57 39 1382.5 10.13 39.26
 70.00 23 18 31 2027.70 2.51 34.85 212.75 124.07 23 52 19 1027.7 16.04 14.74
 78.86 1 58 35 1540.83 14.02 4.70 219.71 117.88 2 24 16 540.8 24.29 341.76
 78.86 1 58 35 1540.83 14.02 4.70 219.71 117.88 2 24 16 540.8 24.29 341.76
 78.86 1 58 35 1540.83 14.02 4.70 219.71 117.88 2 24 16 540.8 24.29 341.76
 110.00 4 21 53 1074.52 2.51 323.77 212.75 124.07 4 39 48 74.5 16.04 303.66

Differential Corrections: TDE -1.0302 TRA -1.8688 TC3 -.0713 BAU .1047
 RDE -.4496 RRA -.2456 RC3 .2223 FAU .05258
 FDE 1.0457 FRA 3.0989 FC3 -1.3566 B8P 4257
 BDE 1.1240 BRA 1.8849 BC3 .2334 F8P 529

Mid-Course Execution Accuracy: SGT 2385.6 SGR 586.8 S63 349.0
 RRT .7447 RRF -.7920 RTF -.8954
 SGB 2456.7 R23 -.1608 R13 -.9006
 S61 2426.3 S62 385.0 THA 10.65

Orbit Determination Accuracy: ST 60.3 SR 22.6 SS 49.7
 CRT .9297 CRS .8170 CST .9713
 LSA 80.2 MSA 13.5 S8A 1.1
 EL1 64.0 EL2 7.9 ALF 19.54

LAUNCH DATE MAR 22 1971 FLIGHT TIME 158.00 ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 33.318 GAL -6.66 AZL 93.34 HCA 146.80 SMA 197.87 ECC .27114 INC 3.3445 V1 29.894
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.749 GAP 15.52 AZP 87.20 TAL 328.00 TAP 114.80 RCA 144.22 APO 251.52 V2 26.476
 RC 38.496 GL -19.77 GP 8.08 ZAL 139.70 ZAP 157.64 ETS 159.39 ZAE 165.73 ETE 118.63 ZAC 109.41 ETC 275.47 LVI -22.18

Planetocentric Conic: C3 32.581 VHL 5.708 DLA -31.72 RAL 334.79 RAD 6648.0 VEL 12.349 PTH 7.27 VHP 7.501 DPA -12.52 RAP 307.47 ECC 1.5362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 57 53 2586.97 -11.72 70.17 200.11 136.45 20 41 0 1587.0 6.66 54.37
 60.00 21 26 54 2350.07 -4.53 55.66 206.93 130.09 22 6 4 1350.1 11.53 37.65
 70.00 23 34 24 1974.71 4.53 32.07 213.74 123.89 24 7 19 974.7 17.85 11.70
 79.00 1 47 25 1574.32 14.58 7.54 219.89 118.49 2 13 40 574.3 25.04 344.59
 79.00 1 47 25 1574.32 14.58 7.54 219.89 118.49 2 13 40 574.3 25.04 344.59
 79.00 1 47 25 1574.32 14.58 7.54 219.89 118.49 2 13 40 574.3 25.04 344.59
 110.00 4 37 47 1021.53 4.53 320.99 213.74 123.89 4 54 48 21.5 17.85 300.62

Differential Corrections: TDE -1.0347 TRA -1.8391 TC3 -.0648 BAU .1079
 RDE -.4442 RRA -.2759 RC3 .2380 FAU .05439
 FDE 1.0974 FRA 3.2205 FC3 -1.4453 B8P 4314
 BDE 1.1260 BRA 1.8596 BC3 .2476 F8P 583

Mid-Course Execution Accuracy: SGT 2407.1 SGR 615.8 S63 370.4
 RRT .7754 RRF -.8232 RTF -.8083
 SGB 2484.6 R23 -.1732 R13 -.9043
 S61 2455.2 S62 381.3 THA 11.50

Orbit Determination Accuracy: ST 61.3 SR 22.8 SS 51.4
 CRT .9411 CRS .8326 CST .9702
 LSA 82.1 MSA 13.5 S8A 1.0
 EL1 65.0 EL2 7.3 ALF 19.57

LAUNCH DATE MAR 22 1971 FLIGHT TIME 160.00 ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 33.248 GAL -6.54 AZL 93.48 HCA 148.08 SMA 196.47 ECC .26546 INC 3.4504 V1 29.894
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.659 GAP 15.10 AZP 87.07 TAL 328.06 TAP 116.12 RCA 144.32 APO 248.63 V2 26.482
 RC 39.137 GL -20.67 GP 8.59 ZAL 139.38 ZAP 156.49 ETS 159.28 ZAE 165.59 ETE 114.00 ZAC 109.90 ETC 275.54 LVI -22.73

Planetocentric Conic: C3 31.703 VHL 5.631 DLA -32.53 RAL 335.28 RAD 6647.7 VEL 12.314 PTH 7.25 VHP 7.296 DPA -11.97 RAP 307.56 ECC 1.5217
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 4 51 2580.43 -10.40 69.01 200.59 138.69 20 47 31 1560.5 7.98 53.25
 60.00 21 36 44 2315.89 -3.03 54.02 207.62 130.21 22 15 20 1315.9 12.98 35.93
 70.00 23 53 56 1911.74 6.91 28.75 215.05 123.53 24 25 48 911.7 19.93 8.00
 73.22 1 37 29 1604.55 15.14 10.17 220.15 119.14 2 4 13 604.5 25.81 347.21
 73.22 1 37 29 1604.55 15.14 10.17 220.15 119.14 2 4 13 604.5 25.81 347.21
 73.22 1 37 29 1604.55 15.14 10.17 220.15 119.14 2 4 13 604.5 25.81 347.21
 110.00 4 57 19 6246.60 6.91 295.58 215.05 123.53 6 41 25 8246.6 19.93 274.82

Differential Corrections: TDE -1.0395 TRA -1.8069 TC3 -.0580 BAU .1117
 RDE -.4406 RRA -.3082 RC3 .2571 FAU .05631
 FDE 1.1929 FRA 3.3458 FC3 -1.5378 B8P 4367
 BDE 1.1290 BRA 1.8330 BC3 .2636 F8P 603

Mid-Course Execution Accuracy: SGT 2424.7 SGR 650.6 S63 392.9
 RRT .8030 RRF -.8550 RTF -.9009
 SGB 2510.4 R23 -.1903 R13 -.9078
 S61 2481.7 S62 378.8 THA 12.45

Orbit Determination Accuracy: ST 62.2 SR 23.1 SS 53.2
 CRT .9522 CRS .8486 CST .9690
 LSA 83.9 MSA 13.5 S8A 1.0
 EL1 66.0 EL2 6.7 ALF 19.69

LAUNCH DATE MAR 22 1971

FLIGHT TIME 162.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic Data:
 RL 149.05 LAL .00 LOL 180.72 VL 33.178 GAL -6.42 AZL 93.56 HCA 149.33 SMA 195.17 ECC .28008 INC 3.5842 V1 29.894
 RP 206.75 LAP -1.82 LOP 330.10 VP 24.572 GAP 14.69 AZP 86.93 TAL 328.12 TAP 117.45 RCA 144.41 APO 245.63 V2 26.487
 RC 59.850 GL -21.63 GP 9.15 ZAL 138.01 ZAP 155.29 ETS 159.12 ZAE 165.35 ETE 111.85 ZAC 110.43 ETC 275.61 LVI -23.32

Planetocentric Conic Data:
 C3 30.818 VHL 5.560 DLA -33.38 RAL 335.80 RAD 6647.4 VEL 12.282 PTH 7.22 VHP 7.098 DPA -11.39 RAP 307.60 ECC 1.5088
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 12 24 2533.09 -9.05 67.83 201.19 136.91 20 54 38 1533.1 9.34 52.07
 60.00 21 47 40 2279.53 -1.43 52.28 208.46 130.28 22 25 39 1279.5 14.51 34.08
 70.00 0 24 32 1828.45 10.02 24.30 216.94 122.82 0 55 1 828.5 22.53 2.94
 71.48 1 28 26 1632.60 15.72 12.66 220.50 119.84 1 55 39 632.6 26.61 349.71
 71.48 1 28 26 1632.60 15.72 12.66 220.50 119.84 1 55 39 632.6 26.61 349.71
 71.48 1 28 26 1632.60 15.72 12.66 220.50 119.84 1 55 39 632.6 26.61 349.71
 110.00 5 23 59 6163.31 10.02 291.13 216.94 122.82 7 6 42 5163.3 22.53 269.77

Differential Corrections and Mid-Course Execution Accuracy:
 TDE-1.0367 TRA-1.7642 TC3 -.0407 BAU .1150 SGT 2425.4 SGR 691.2 SG3 416.4 ST 62.6 SR 23.5 SS 59.0
 RDE -.4384 RRA -.3425 RC3 .2775 FAU .05839 RRT .8284 RRF -.8812 RTF -.9051 CRT .9622 CR8 .8648 CST .9681
 FDE 1.2113 FRA 3.4726 FC3-1.6351 B8P 4312 SGB 2522.0 R23 -.2015 R13 -.9131 LSA 85.5 HSA 13.4 SSA 1.0
 BDE 1.1256 BRA 1.7971 BC3 .2802 F8P 641 SG1 2493.7 SG2 376.6 THA 13.60 EL1 66.6 EL2 6.0 ALF 20.00

LAUNCH DATE MAR 22 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic Data:
 RL 149.05 LAL .00 LOL 180.72 VL 33.114 GAL -6.31 AZL 93.69 HCA 150.60 SMA 193.98 ECC .25500 INC 3.6869 V1 29.894
 RP 206.72 LAP -1.81 LOP 331.37 VP 24.490 GAP 14.29 AZP 86.79 TAL 328.18 TAP 118.77 RCA 144.50 APO 243.42 V2 26.491
 RC 60.633 GL -22.64 GP 9.76 ZAL 138.61 ZAP 154.05 ETS 158.92 ZAE 165.02 ETE 109.61 ZAC 111.02 ETC 275.67 LVI -23.94

Planetocentric Conic Data:
 C3 30.231 VHL 5.498 DLA -34.28 RAL 336.36 RAD 6647.1 VEL 12.254 PTH 7.20 VHP 6.908 DPA -10.78 RAP 307.61 ECC 1.4975
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 20 39 2504.79 -7.64 66.62 201.93 137.11 21 2 24 1504.8 10.74 50.85
 60.00 21 59 54 2240.53 .29 50.42 209.51 130.30 22 37 15 1240.5 16.14 32.07
 69.76 1 20 13 1658.93 16.30 15.06 220.94 120.59 1 47 52 658.9 27.43 352.11
 69.76 1 20 13 1658.93 16.30 15.06 220.94 120.59 1 47 52 658.9 27.43 352.11
 69.76 1 20 13 1658.93 16.30 15.06 220.94 120.59 1 47 52 658.9 27.43 352.11
 69.76 1 20 13 1658.93 16.30 15.06 220.94 120.59 1 47 52 658.9 27.43 352.11
 69.76 1 20 13 1658.93 16.30 15.06 220.94 120.59 1 47 52 658.9 27.43 352.11

Differential Corrections and Mid-Course Execution Accuracy:
 TDE-1.0515 TRA-1.7362 TC3 -.0451 BAU .1217 SGT 2449.0 SGR 739.7 SG3 441.2 ST 63.9 SR 24.0 SS 56.9
 RDE -.4394 RRA -.3805 RC3 .2977 FAU .06042 RRT .8481 RRF -.9041 RTF -.9054 CRT .9722 CR8 .8810 CST .9665
 FDE 1.2776 FRA 3.6058 FC3-1.7304 B8P 4460 SGB 2558.2 R23 -.2215 R13 -.9148 LSA 87.8 HSA 13.5 SSA .9
 BDE 1.1396 BRA 1.7774 BC3 .3011 F8P 684 SG1 2529.9 SG2 379.4 THA 14.71 EL1 68.0 EL2 5.3 ALF 20.20

LAUNCH DATE MAR 22 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic Data:
 RL 149.05 LAL .00 LOL 180.72 VL 33.054 GAL -6.20 AZL 93.82 HCA 151.86 SMA 192.83 ECC .25019 INC 3.8195 V1 29.894
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.411 GAP 13.90 AZP 86.63 TAL 328.24 TAP 120.10 RCA 144.59 APO 241.07 V2 26.494
 RC 61.483 GL -23.71 GP 10.42 ZAL 138.16 ZAP 152.75 ETS 158.68 ZAE 164.59 ETE 107.89 ZAC 111.67 ETC 275.72 LVI -24.61

Planetocentric Conic Data:
 C3 29.636 VHL 5.444 DLA -35.23 RAL 336.96 RAD 6646.9 VEL 12.230 PTH 7.18 VHP 6.726 DPA -10.09 RAP 307.56 ECC 1.4877
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 29 42 2475.32 -6.16 65.37 202.83 137.27 21 10 57 1475.3 12.20 49.57
 60.00 22 13 51 2197.92 2.17 48.39 210.79 130.25 22 50 29 1197.9 17.89 29.83
 68.05 1 12 39 1684.08 16.88 17.40 221.50 121.40 1 40 43 684.1 28.28 354.47
 68.05 1 12 39 1684.08 16.88 17.40 221.50 121.40 1 40 43 684.1 28.28 354.47
 68.05 1 12 39 1684.08 16.88 17.40 221.50 121.40 1 40 43 684.1 28.28 354.47
 68.05 1 12 39 1684.08 16.88 17.40 221.50 121.40 1 40 43 684.1 28.28 354.47
 68.05 1 12 39 1684.08 16.88 17.40 221.50 121.40 1 40 43 684.1 28.28 354.47

Differential Corrections and Mid-Course Execution Accuracy:
 TDE-1.0603 TRA-1.6985 TC3 -.0407 BAU .1280 SGT 2457.0 SGR 795.7 SG3 466.9 ST 64.7 SR 24.7 SS 58.9
 RDE -.4424 RRA -.4212 RC3 .3205 FAU .06282 RRT .8654 RRF -.9235 RTF -.5069 CRT .9807 CR8 .8968 CST .9652
 FDE 1.3481 FRA 3.7393 FC3-1.8294 B8P 4516 SGB 2582.7 R23 -.2375 R13 -.9180 LSA 89.9 HSA 13.6 SSA .9
 BDE 1.1489 BRA 1.7500 BC3 .3231 F8P 728 SG1 2554.0 SG2 383.5 THA 16.03 EL1 69.1 EL2 4.5 ALF 20.58

LAUNCH DATE MAR 22 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic Data:
 RL 149.05 LAL .00 LOL 180.72 VL 32.998 GAL -6.09 AZL 93.98 HCA 153.13 SMA 191.78 ECC .24564 INC 3.9637 V1 29.894
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.335 GAP 13.52 AZP 86.46 TAL 328.30 TAP 121.43 RCA 144.67 APO 238.88 V2 26.496
 RC 62.398 GL -24.84 GP 11.16 ZAL 137.66 ZAP 151.40 ETS 158.40 ZAE 164.07 ETE 106.50 ZAC 112.39 ETC 275.77 LVI -25.33

Planetocentric Conic Data:
 C3 29.138 VHL 5.398 DLA -36.24 RAL 337.61 RAD 6646.7 VEL 12.210 PTH 7.16 VHP 6.552 DPA -9.35 RAP 307.47 ECC 1.4795
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 39 42 2444.45 -4.82 64.07 203.90 137.41 21 20 26 1444.5 13.72 48.20
 60.00 22 30 4 2150.39 4.26 48.11 212.38 130.11 23 5 54 1150.4 19.80 27.27
 66.33 1 5 43 1708.35 17.47 19.72 222.17 122.27 1 34 11 708.4 29.16 356.82
 66.33 1 5 43 1708.35 17.47 19.72 222.17 122.27 1 34 11 708.4 29.16 356.82
 66.33 1 5 43 1708.35 17.47 19.72 222.17 122.27 1 34 11 708.4 29.16 356.82
 66.33 1 5 43 1708.35 17.47 19.72 222.17 122.27 1 34 11 708.4 29.16 356.82
 66.33 1 5 43 1708.35 17.47 19.72 222.17 122.27 1 34 11 708.4 29.16 356.82

Differential Corrections and Mid-Course Execution Accuracy:
 TDE-1.0696 TRA-1.6574 TC3 -.0361 BAU .1352 SGT 2459.3 SGR 860.4 SG3 493.4 ST 65.5 SR 25.5 SS 60.9
 RDE -.4484 RRA -.4653 RC3 .3451 FAU .06490 RRT .8798 RRF -.9397 RTF -.9083 CRT .9878 CR8 .9121 CST .9639
 FDE 1.4252 FRA 3.8743 FC3-1.9282 B8P 4558 SGB 2605.4 R23 -.2520 R13 -.9214 LSA 92.0 HSA 13.7 SSA .9
 BDE 1.1597 BRA 1.7215 BC3 .3469 F8P 773 SG1 2576.0 SG2 390.5 THA 17.52 EL1 70.2 EL2 3.7 ALF 21.10

LAUNCH DATE MAR 22 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.942 GAL -5.99 AZL 94.12 HCA 154.40 SMA 190.79 ECC .24133 INC 4.1211 V1 29.894
RP 206.67 LAP -1.78 LOP 335.18 VP 24.263 GAP 13.14 AZP 86.28 TAL 328.37 TAP 122.77 RCA 144.75 APO 236.84 V2 26.496
RC 63.376 GL -26.05 GP 11.97 ZAL 137.11 ZAP 150.00 ETS 158.07 ZAE 163.44 ETE 105.44 ZAC 113.19 ETC 275.82 LVI -26.10

PLANETOCENTRIC CONIC

C3 28.738 VHL 5.361 DLA -37.31 RAL 338.32 RAD 6646.5 VEL 12.194 PTH 7.15 VHP 6.386 DPA -8.56 RAP 307.32 ECC 1.4730
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 50 31 2411.86 -2.98 62.70 205.19 137.50 21 31 3 1411.9 15.31 46.74
60.00 22 49 32 2095.40 6.66 43.46 214.38 129.84 23 24 27 1095.4 21.97 24.23
64.58 0 59 18 1732.15 18.05 22.04 222.98 123.22 1 28 10 732.2 30.07 359.18
64.58 0 59 18 1732.15 18.05 22.04 222.98 123.22 1 28 10 732.2 30.07 359.18
64.58 0 59 18 1732.15 18.05 22.04 222.98 123.22 1 28 10 732.2 30.07 359.18
64.58 0 59 18 1732.15 18.05 22.04 222.98 123.22 1 28 10 732.2 30.07 359.18

DIFFERENTIAL CORRECTIONS

TDE-1.0689 TRA-1.6020 TC3 -.0162 BAU .1435
RDE -.4565 RRA -.5121 RC3 .3733 FAU .06749
FDE 1.5039 FRA 4.0029 FC3-2.0332 B8P 4460
BDE 1.1623 BRA 1.6818 BC3 .3736 F8P 815

MID-COURSE EXECUTION ACCURACY

SGT 2437.1 SGR 933.7 SCS 520.3
RRT .8929 RRF -.9529 RTF -.9115
SGB 2609.8 R23 -.2591 R13 -.9268
SGI 2579.4 SGI 397.2 THA 19.36

ORBIT DETERMINATION ACCURACY

ST 65.6 SR 26.5 S8 62.9
CRT .9932 CRS .9260 CST .9626
LSA 93.6 MSA 13.8 S8A .8
EL1 70.7 EL2 2.9 ALF 21.89

LAUNCH DATE MAR 22 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.891 GAL -5.90 AZL 94.29 HCA 155.66 SMA 189.88 ECC .23728 INC 4.2937 V1 29.894
RP 206.68 LAP -1.77 LOP 336.45 VP 24.193 GAP 12.77 AZP 86.09 TAL 328.43 TAP 124.10 RCA 144.82 APO 234.93 V2 26.496
RC 64.414 GL -27.34 GP 12.86 ZAL 136.49 ZAP 148.52 ETS 157.71 ZAE 162.72 ETE 104.69 ZAC 114.08 ETC 275.87 LVI -26.95

PLANETOCENTRIC CONIC

C3 28.447 VHL 5.334 DLA -38.44 RAL 339.10 RAD 6646.4 VEL 12.182 PTH 7.14 VHP 6.229 DPA -7.68 RAP 307.12 ECC 1.4682
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 3 24 2377.25 -1.25 61.28 206.75 137.96 21 43 1 1377.2 16.98 45.18
60.00 23 14 16 2027.87 9.59 40.16 217.00 129.33 23 48 4 1027.9 24.53 20.36
62.80 0 53 29 1755.59 18.63 24.37 223.95 124.26 1 22 45 755.6 30.99 1.57
62.80 0 53 29 1755.59 18.63 24.37 223.95 124.26 1 22 45 755.6 30.99 1.57
62.80 0 53 29 1755.59 18.63 24.37 223.95 124.26 1 22 45 755.6 30.99 1.57
62.80 0 53 29 1755.59 18.63 24.37 223.95 124.26 1 22 45 755.6 30.99 1.57

DIFFERENTIAL CORRECTIONS

TDE-1.0939 TRA-1.5670 TC3 -.0303 BAU .1526
RDE -.4713 RRA -.5859 RC3 .4001 FAU .06967
FDE 1.6020 FRA 4.1408 FC3-2.1204 B8P 4649
BDE 1.1911 BRA 1.6860 BC3 .4013 F8P 868

MID-COURSE EXECUTION ACCURACY

SGT 2449.7 SGR 1020.2 SCS 546.7
RRT .8999 RRF -.9638 RTF -.9099
SGB 2653.7 R23 -.2762 R13 -.9285
SGI 2620.9 SGI 415.8 THA 21.10

ORBIT DETERMINATION ACCURACY

ST 67.0 SR 27.9 S8 65.2
CRT .9972 CRS .9396 CST .9611
LSA 96.5 MSA 14.1 S8A .8
EL1 72.6 EL2 1.9 ALF 22.54

LAUNCH DATE MAR 22 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.843 GAL -5.81 AZL 94.48 HCA 156.93 SMA 189.02 ECC .23346 INC 4.4841 V1 29.894
RP 206.69 LAP -1.76 LOP 337.72 VP 24.127 GAP 12.41 AZP 85.87 TAL 328.49 TAP 125.42 RCA 144.89 APO 233.15 V2 26.495
RC 65.512 GL -28.72 GP 13.86 ZAL 135.81 ZAP 146.98 ETS 157.30 ZAE 161.87 ETE 104.21 ZAC 115.07 ETC 275.91 LVI -27.86

PLANETOCENTRIC CONIC

C3 28.267 VHL 5.317 DLA -39.65 RAL 339.97 RAD 6646.3 VEL 12.174 PTH 7.14 VHP 6.081 DPA -6.72 RAP 306.85 ECC 1.4652
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 17 43 2359.89 .63 59.70 208.62 137.57 21 56 43 1339.9 18.78 43.42
60.00 23 51 0 1929.53 13.79 35.24 220.88 128.25 24 23 9 929.5 28.04 14.41
60.96 0 48 13 1778.91 19.20 26.74 225.10 125.38 1 17 52 778.9 31.95 4.03
60.96 0 48 13 1778.91 19.20 26.74 225.10 125.38 1 17 52 778.9 31.95 4.03
60.96 0 48 13 1778.91 19.20 26.74 225.10 125.38 1 17 52 778.9 31.95 4.03
60.96 0 48 13 1778.91 19.20 26.74 225.10 125.38 1 17 52 778.9 31.95 4.03

DIFFERENTIAL CORRECTIONS

TDE-1.1093 TRA-1.3160 TC3 -.0281 BAU .1632
RDE -.4901 RRA -.6232 RC3 .4309 FAU .07214
FDE 1.7054 FRA 4.2660 FC3-2.2093 B8P 4691
BDE 1.2127 BRA 1.6391 BC3 .4318 F8P 917

MID-COURSE EXECUTION ACCURACY

SGT 2435.6 SGR 1117.9 SCS 576.9
RRT .9066 RRF -.9723 RTF -.5.02
SGB 2679.9 R23 -.2937 R13 -.9325
SGI 2644.4 SGI 434.5 THA 23.26

ORBIT DETERMINATION ACCURACY

ST 67.7 SR 29.5 S8 67.8
CRT .9993 CRS .9515 CST .9537
LSA 99.0 MSA 14.4 S8A .7
EL1 73.8 EL2 1.0 ALF 23.51

LAUNCH DATE MAR 22 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.798 GAL -5.73 AZL 94.70 HCA 158.20 SMA 188.22 ECC .22985 INC 4.6953 V1 29.894
RP 206.71 LAP -1.74 LOP 338.99 VP 24.063 GAP 12.03 AZP 85.74 TAL 328.55 TAP 126.75 RCA 144.96 APO 231.49 V2 26.493
RC 66.667 GL -30.19 GP 14.96 ZAL 135.06 ZAP 145.55 ETS 156.85 ZAE 160.89 ETE 104.00 ZAC 116.18 ETC 275.95 LVI -28.87

PLANETOCENTRIC CONIC

C3 28.213 VHL 5.312 DLA -40.93 RAL 340.93 RAD 6646.3 VEL 12.172 PTH 7.13 VHP 5.943 DPA -5.67 RAP 306.51 ECC 1.4643
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 34 20 2298.92 2.69 57.98 210.90 137.52 22 12 39 1298.9 20.72 41.47
59.08 0 43 31 1802.45 19.76 29.16 226.45 126.61 1 13 34 802.4 32.93 6.58
59.08 0 43 31 1802.45 19.76 29.16 226.45 126.61 1 13 34 802.4 32.93 6.58
59.08 0 43 31 1802.45 19.76 29.16 226.45 126.61 1 13 34 802.4 32.93 6.58
59.08 0 43 31 1802.45 19.76 29.16 226.45 126.61 1 13 34 802.4 32.93 6.58
59.08 0 43 31 1802.45 19.76 29.16 226.45 126.61 1 13 34 802.4 32.93 6.58

DIFFERENTIAL CORRECTIONS

TDE-1.1282 TRA-1.4616 TC3 -.0276 BAU .1752
RDE -.5154 RRA -.6863 RC3 .4637 FAU .07460
FDE 1.8217 FRA 4.3879 FC3-2.2892 B8P 4743
BDE 1.2404 BRA 1.6147 BC3 .4646 F8P 966

MID-COURSE EXECUTION ACCURACY

SGT 2418.0 SGR 1229.7 SCS 605.0
RRT .9112 RRF -.9791 RTF -.9100
SGB 2711.0 R23 -.2877 R13 -.9368
SGI 2672.0 SGI 457.9 THA 25.69

ORBIT DETERMINATION ACCURACY

ST 68.4 SR 31.5 S8 69.8
CRT .9996 CRS .9620 CST .9584
LSA 101.7 MSA 14.7 S8A .7
EL1 75.3 EL2 .8 ALF 24.68

LAUNCH DATE MAR 22 1971 FLIGHT TIME 178.00 ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.755 GAL -5.43 AZL 94.93 HCA 159.46 SMA 187.48 ECC .22645 INC 4.9311 V1 29.894
 RP 206.75 LAP -1.73 LOP 340.25 VP 24.001 GAP 11.71 AZP 85.38 TAL 328.61 TAP 128.07 RCA 145.02 APO 229.93 V2 26.489
 RC 87.877 GL -31.78 GP 16.20 ZAL 134.22 ZAP 143.63 ETS 136.36 ZAE 159.77 ETE 104.00 ZAC 117.42 ETC 275.98 LVI -26.98

DISTANCE 459.001
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.299 VHL 5.320 DLA -42.31 RAL 342.02 RAD 6646.3 VEL 12.176 PTH 7.14 VHP 5.817 DPA -4.50 RAP 306.11 ECC 1.4657
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 54 2 2252.83 5.00 56.05 213.71 137.38 22 31 34 1252.8 22.68 39.21
 57.12 0 39 28 1826.30 20.29 31.67 228.04 127.96 1 9 54 826.3 33.92 9.25
 57.12 0 39 28 1826.30 20.29 31.67 228.04 127.96 1 9 54 826.3 33.92 9.25
 57.12 0 39 28 1826.30 20.29 31.67 228.04 127.96 1 9 54 826.3 33.92 9.25
 57.12 0 39 28 1826.30 20.29 31.67 228.04 127.96 1 9 54 826.3 33.92 9.25
 57.12 0 39 28 1826.30 20.29 31.67 228.04 127.96 1 9 54 826.3 33.92 9.25

DIFFERENTIAL CORRECTIONS
 TDE -1.1472 TRA -1.3996 TC3 -.0235 BAU .1893 SGT 2383.7 SGR 1356.4 SG3 632.1 ST 68.9 SR 33.8 SS 72.2
 RDE -.5481 RRA -.7549 RC3 .4999 FAU .07720 RRT .9145 RRF -.9843 RTF -.9098 CRT .9985 CR8 .9708 CST .9572
 FDE 1.9485 FRA 4.4924 FC3 -2.3619 BSP 4758 SGB 2742.6 R23 -.2865 R13 -.9420 LSA 104.3 MSA 14.7 SSA .6
 BDE 1.2714 BRA 1.5902 BC3 .5004 FSP 1011 SGI 2699.5 SG2 484.6 THA 28.49 EL1 76.8 EL2 1.7 ALF 26.11

LAUNCH DATE MAR 22 1971 FLIGHT TIME 180.00 ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.715 GAL -5.57 AZL 95.20 HCA 160.73 SMA 186.78 ECC .22326 INC 5.1964 V1 29.894
 RP 206.77 LAP -1.71 LOP 341.52 VP 23.941 GAP 11.37 AZP 85.09 TAL 328.66 TAP 129.39 RCA 145.08 APO 228.49 V2 26.485
 RC 69.140 GL -33.50 GP 17.58 ZAL 133.28 ZAP 141.82 ETS 155.83 ZAE 158.48 ETE 104.18 ZAC 118.81 ETC 276.02 LVI -31.20

DISTANCE 462.920
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.549 VHL 5.343 DLA -43.77 RAL 343.28 RAD 6646.4 VEL 12.186 PTH 7.15 VHP 5.703 DPA -3.19 RAP 305.62 ECC 1.4698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 18 13 2198.90 7.70 53.77 217.27 137.10 22 54 52 1198.9 25.35 36.46
 55.08 0 36 8 1850.75 20.78 34.27 229.90 129.43 1 6 59 850.8 34.93 12.06
 55.08 0 36 8 1850.75 20.78 34.27 229.90 129.43 1 6 59 850.8 34.93 12.06
 55.08 0 36 8 1850.75 20.78 34.27 229.90 129.43 1 6 59 850.8 34.93 12.06
 55.08 0 36 8 1850.75 20.78 34.27 229.90 129.43 1 6 59 850.8 34.93 12.06
 55.08 0 36 8 1850.75 20.78 34.27 229.90 129.43 1 6 59 850.8 34.93 12.06

DIFFERENTIAL CORRECTIONS
 TDE -1.1787 TRA -1.3401 TC3 -.0317 BAU .2049 SGT 2357.8 SGR 1502.6 SG3 658.4 ST 69.9 SR 36.8 SS 74.9
 RDE -.5928 RRA -.8318 RC3 .5360 FAU .07944 RRT .9151 RRF -.9884 RTF -.9078 CRT .9960 CR8 .9782 CST .9563
 FDE 2.0995 FRA 4.5857 FC3 -2.4091 BSP 4876 SGB 2795.9 R23 -.2837 R13 -.9468 LSA 107.8 MSA 15.3 SSA .6
 BDE 1.3194 BRA 1.5773 BC3 .5389 FSP 1059 SGI 2747.2 SG2 519.9 THA 31.51 EL1 78.9 EL2 2.9 ALF 27.71

LAUNCH DATE MAR 22 1971 FLIGHT TIME 182.00 ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.877 GAL -5.50 AZL 95.50 HCA 161.99 SMA 186.14 ECC .22026 INC 5.4974 V1 29.894
 RP 206.81 LAP -1.70 LOP 342.79 VP 23.884 GAP 11.05 AZP 84.77 TAL 328.71 TAP 130.70 RCA 145.14 APO 227.14 V2 26.480
 RC 70.455 GL -35.36 GP 19.13 ZAL 132.23 ZAP 139.89 ETS 155.26 ZAE 157.00 ETE 104.52 ZAC 120.38 ETC 276.06 LVI -32.56

DISTANCE 466.861
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.894 VHL 5.385 DLA -45.34 RAL 344.68 RAD 6646.6 VEL 12.204 PTH 7.16 VHP 5.604 DPA -1.73 RAP 305.04 ECC 1.4772
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 49 39 2130.53 11.09 50.83 222.01 136.57 23 25 29 1130.5 28.39 32.80
 52.95 0 33 37 1876.06 21.23 36.98 232.09 131.06 1 4 53 876.1 35.94 15.06
 52.95 0 33 37 1876.06 21.23 36.98 232.09 131.06 1 4 53 876.1 35.94 15.06
 52.95 0 33 37 1876.06 21.23 36.98 232.09 131.06 1 4 53 876.1 35.94 15.06
 52.95 0 33 37 1876.06 21.23 36.98 232.09 131.06 1 4 53 876.1 35.94 15.06
 52.95 0 33 37 1876.06 21.23 36.98 232.09 131.06 1 4 53 876.1 35.94 15.06

DIFFERENTIAL CORRECTIONS
 TDE -1.2122 TRA -1.2709 TC3 -.0348 BAU .2232 SGT 2316.7 SGR 1668.8 SG3 682.2 ST 70.7 SR 40.4 SS 77.7
 RDE -.6314 RRA -.8156 RC3 .5749 FAU .08166 RRT .9190 RRF -.9914 RTF -.9339 CRT .9926 CR8 .9842 CST .9557
 FDE 2.2710 FRA 4.6521 FC3 -2.4384 BSP 4967 SGB 2855.1 R23 -.2742 R13 -.9327 LSA 111.5 MSA 14.6 SSA .5
 BDE 1.3761 BRA 1.5664 BC3 .5759 FSP 1103 SGI 2800.3 SG2 556.9 THA 34.88 EL1 81.3 EL2 4.3 ALF 29.68

LAUNCH DATE MAR 22 1971 FLIGHT TIME 184.00 ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.842 GAL -5.43 AZL 95.84 HCA 163.28 SMA 185.53 ECC .21714 INC 5.8419 V1 29.894
 RP 206.87 LAP -1.68 LOP 344.06 VP 23.828 GAP 10.71 AZP 84.40 TAL 328.78 TAP 132.01 RCA 145.19 APO 225.88 V2 26.474
 RC 71.818 GL -37.38 GP 20.89 ZAL 131.06 ZAP 137.83 ETS 154.66 ZAE 155.30 ETE 104.97 ZAC 122.15 ETC 276.10 LVI -34.08

DISTANCE 470.822
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.877 VHL 5.448 DLA -47.02 RAL 346.33 RAD 6646.9 VEL 12.232 PTH 7.18 VHP 5.521 DPA -.09 RAP 304.37 ECC 1.4884
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 40 57 2020.68 16.47 45.93 229.43 135.29 24 14 37 1020.7 33.02 26.42
 50.72 0 32 8 1902.49 21.60 39.83 234.67 132.85 1 3 50 902.5 36.93 18.27
 50.72 0 32 8 1902.49 21.60 39.83 234.67 132.85 1 3 50 902.5 36.93 18.27
 50.72 0 32 8 1902.49 21.60 39.83 234.67 132.85 1 3 50 902.5 36.93 18.27
 50.72 0 32 8 1902.49 21.60 39.83 234.67 132.85 1 3 50 902.5 36.93 18.27
 50.72 0 32 8 1902.49 21.60 39.83 234.67 132.85 1 3 50 902.5 36.93 18.27

DIFFERENTIAL CORRECTIONS
 TDE -1.2530 TRA -1.1959 TC3 -.0404 BAU .2446 SGT 2267.8 SGR 1857.8 SG3 702.0 ST 71.5 SR 44.9 SS 80.7
 RDE -.7287 RRA -1.0072 RC3 .6152 FAU .08367 RRT .9132 RRF -.9937 RTF -.9028 CRT .9887 CR8 .9888 CST .9555
 FDE 2.4667 FRA 4.6838 FC3 -2.4409 BSP 5083 SGB 2931.6 R23 -.2605 R13 -.9590 LSA 115.6 MSA 16.0 SSA .5
 BDE 1.4495 BRA 1.5635 BC3 .6166 FSP 1138 SGI 2870.0 SG2 598.1 THA 38.80 EL1 84.2 EL2 5.7 ALF 31.99

LAUNCH DATE MAR 22 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 474.802

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.609 GAL -5.37 AZL 96.24 HCA 164.52 SMA 184.97 ECC .21480 INC 6.2408 V1 29.894
RP 206.93 LAP -1.66 LOP 345.33 VP 23.774 GAP 10.39 AZP 83.98 TAL 328.80 TAP 133.32 RCA 145.24 APO 224.70 V2 26.466
RC 73.226 GL -39.59 GP 22.87 ZAL 129.73 ZAP 135.62 ETS 154.02 ZAE 153.35 ETE 105.50 ZAC 124.16 ETC 276.14 LVI -35.77

PLANETOCENTRIC CONIC

C3 30.662 VHL 5.537 DLA -48.83 RAL 348.27 RAD 6647.3 VEL 12.272 PTH 7.21 VHP 5.460 DPA 1.76 RAP 303.59 ECC 1.5046
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76
48.38 0 31 50 1930.54 21.86 42.83 237.72 134.82 1 4 1 930.5 37.87 21.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3025 TRA-1.1121 TC3 -.0456 BAU .2694 SGT 2207.7 SGR 2073.8 SG3 716.8 ST 72.3 SR 50.4 SS 83.9
RDE -.8334 RRA-1.1075 RC3 .6557 FAU .08523 RRT .9104 RRF -.9954 RTF -.8989 CRT .9847 CRS .9924 CST .9560
FDE 2.6985 FRA 4.6724 FC3-2.4066 BSP 5229 SGB 3029.0 R23 -.2416 R13 -.9658 LSA 120.6 MSA 16.3 SSA .4
BDE 1.5463 BRA 1.5693 BC3 .6572 FSP 1168 SG1 2960.6 SG2 639.9 THA 43.03 EL1 87.9 EL2 7.2 ALF 34.74

LAUNCH DATE MAR 22 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 478.801

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.577 GAL -5.31 AZL 96.71 HCA 165.78 SMA 184.45 ECC .21232 INC 6.7082 V1 29.894
RP 207.00 LAP -1.64 LOP 346.59 VP 23.722 GAP 10.07 AZP 83.50 TAL 328.84 TAP 134.61 RCA 145.29 APO 223.61 V2 26.458
RC 74.683 GL -42.02 GP 25.12 ZAL 128.24 ZAP 133.23 ETS 153.37 ZAE 151.12 ETE 106.09 ZAC 126.44 ETC 276.20 LVI -37.68

PLANETOCENTRIC CONIC

C3 32.039 VHL 5.660 DLA -50.76 RAL 350.60 RAD 6647.8 VEL 12.327 PTH 7.26 VHP 5.424 DPA 3.86 RAP 302.69 ECC 1.5273
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56
45.92 0 33 8 1960.53 21.97 45.99 241.34 136.99 1 5 49 960.5 38.73 25.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3524 TRA-1.0089 TC3 -.0387 BAU .3003 SGT 2117.1 SGR 2314.7 SG3 722.7 ST 72.6 SR 57.2 SS 87.1
RDE -.9723 RRA-1.2120 RC3 .6999 FAU .08677 RRT .9068 RRF -.9966 RTF -.8945 CRT .9810 CRS .9949 CST .9567
FDE 2.9573 FRA 4.5910 FC3-2.3446 BSP 5288 SGB 3136.9 R23 -.2164 R13 -.9731 LSA 125.9 MSA 16.4 SSA .3
BDE 1.6656 BRA 1.5770 BC3 .7010 FSP 1171 SG1 3083.5 SG2 674.4 THA 47.81 EL1 92.0 EL2 6.7 ALF 38.10

LAUNCH DATE MAR 22 1971

FLIGHT TIME 190.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 482.812

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.548 GAL -5.26 AZL 97.26 HCA 167.04 SMA 183.96 ECC .21002 INC 7.2639 V1 29.894
RP 207.08 LAP -1.63 LOP 347.86 VP 23.672 GAP 9.77 AZP 82.92 TAL 328.87 TAP 135.90 RCA 145.33 APO 222.80 V2 26.449
RC 76.180 GL -44.89 GP 27.68 ZAL 126.96 ZAP 130.86 ETS 152.72 ZAE 148.95 ETE 106.72 ZAC 129.04 ETC 276.28 LVI -38.81

PLANETOCENTRIC CONIC

C3 33.951 VHL 5.827 DLA -52.81 RAL 353.42 RAD 6648.5 VEL 12.404 PTH 7.31 VHP 5.422 DPA 6.25 RAP 301.6 ECC 1.5587
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70
43.35 0 36 31 1993.11 21.88 49.33 245.66 139.35 1 9 44 993.1 39.45 29.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.4396 TRA -.9181 TC3 -.0610 BAU .3337 SGT 2039.0 SGR 2599.0 SG3 721.1 ST 74.2 SR 66.3 SS 91.3
RDE-1.1752 RRA-1.3313 RC3 .7327 FAU .08659 RRT .8988 RRF -.9975 RTF -.8558 CRT .9787 CRS .9960 CST .9592
FDE 3.2886 FRA 4.4576 FC3-2.2081 BSP 5676 SGB 3315.8 R23 -.1941 R13 -.9788 LSA 134.0 MSA 16.6 SSA .3
BDE 1.8593 BRA 1.6172 BC3 .7352 FSP 1182 SG1 3235.5 SG2 725.1 THA 52.33 EL1 99.0 EL2 10.2 ALF 41.70

LAUNCH DATE MAR 22 1971

FLIGHT TIME 192.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 486.838

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.520 GAL -5.21 AZL 97.94 HCA 168.29 SMA 183.51 ECC .20786 INC 7.9363 V1 29.894
RP 207.17 LAP -1.61 LOP 348.12 VP 23.623 GAP 9.46 AZP 82.23 TAL 328.89 TAP 137.19 RCA 145.36 APO 221.65 V2 26.439
RC 77.718 GL -47.65 GP 30.59 ZAL 124.65 ZAP 127.85 ETS 152.11 ZAE 145.61 ETE 107.39 ZAC 132.00 ETC 276.38 LVI -42.20

PLANETOCENTRIC CONIC

C3 36.608 VHL 6.050 DLA -54.98 RAL 356.92 RAD 6649.5 VEL 12.510 PTH 7.39 VHP 5.464 DPA 8.97 RAP 300.45 ECC 1.6025
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22
40.67 0 42 43 2028.96 21.51 52.84 250.87 141.91 1 16 32 1029.0 39.93 34.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.5297 TRA -.8007 TC3 -.0672 BAU .3756 SGT 1962.3 SGR 2914.9 SG3 704.7 ST 75.1 SR 77.9 SS 95.5
RDE-1.4588 RRA-1.4509 RC3 .7649 FAU .08585 RRT .8897 RRF -.9981 RTF -.8759 CRT .9773 CRS .9980 CST .9621
FDE 3.6580 FRA 4.2197 FC3-2.0302 BSP 5978 SGB 3513.9 R23 -.1673 R13 -.9844 LSA 143.4 MSA 16.5 SSA .3
BDE 2.1138 BRA 1.6572 BC3 .7679 FSP 1159 SG1 3430.4 SG2 781.3 THA 57.27 EL1 107.6 EL2 11.5 ALF 46.06

LAUNCH DATE MAR 22 1971

FLIGHT TIME 224.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

DISTANCE 553.109

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.279 GAL -5.05 AZL 81.88 HCA 188.49 SMA 179.82 ECC .19106 INC 8.1154 V1 29.894
RP 209.66 LAP -1.19 LOP 9.13 VP 22.960 GAP 3.38 AZP 98.03 TAL 327.49 TAP 155.98 RCA 145.31 APO 213.94 V2 26.150
RC 106.958 GL 49.65 GP -45.52 ZAL 124.01 ZAP 99.89 ETS 189.03 ZAE 126.03 ETE 225.27 ZAC 56.90 ETC 272.13 LVI 32.15

PLANETOCENTRIC CONIC

C3 35.471 VHL 5.956 DLA 34.91 RAL 313.40 RAD 6649.1 VEL 12.465 PTH 7.36 VHP 5.255 DPA -67.35 RAP 312.34 ECC 1.5838
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 37 15 4022.31 -42.53 176.27 216.80 66.27 14 44 17 3022.3 -47.56 142.54
60.00 13 14 0 4084.47 -31.98 175.70 210.66 64.01 14 22 4 3084.5 -39.55 147.44
68.62 11 40 5 4363.15 -15.15 188.02 200.59 58.16 12 52 48 3363.2 -26.87 165.54
68.62 11 40 5 4363.15 -15.15 188.02 200.59 58.16 12 52 48 3363.2 -26.87 165.54
68.62 11 40 5 4363.15 -15.15 188.02 200.59 58.16 12 52 48 3363.2 -26.87 165.54
68.62 11 40 5 4363.15 -15.15 188.02 200.59 58.16 12 52 48 3363.2 -26.87 165.54
68.62 11 40 5 4363.15 -15.15 188.02 200.59 58.16 12 52 48 3363.2 -26.87 165.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1095 TRA .3548 TC3 -.7186 BAU .6694 SGT 1430.1 SGR 5325.4 S63 721.9 ST 53.7 SR 151.3 S8 104.9
RDE 2.8410 RRA 3.6933 RC3-1.2150 FAU .08835 RRT .7828 RRF .9992 RTF .7909 CRT .9468 CRS -.9999 CST -.9429
FDE 4.3133 FRA 5.7811 FC3-2.1563 BSP 9292 SGB 5512.1 R23 .0205 R13 .9991 LSA 191.1 MSA 16.9 S8A .2
BDE 3.0500 BRA 3.7103 BC3 1.4116 F8P 1251 SGI 5443.0 S62 870.4 THA 77.81 EL1 159.8 EL2 16.4 ALF 71.21

LAUNCH DATE MAR 22 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 557.263

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.273 GAL -5.07 AZL 83.08 HCA 189.71 SMA 179.53 ECC .19080 INC 6.9171 V1 29.894
RP 209.87 LAP -1.16 LOP 10.36 VP 22.924 GAP 5.18 AZP 96.82 TAL 327.35 TAP 157.06 RCA 145.28 APO 213.79 V2 26.124
RC 109.028 GL 44.76 GP -42.47 ZAL 127.39 ZAP 99.10 ETS 187.28 ZAE 127.29 ETE 222.07 ZAC 59.97 ETC 271.92 LVI 29.57

PLANETOCENTRIC CONIC

C3 30.229 VHL 5.498 DLA 30.18 RAL 315.05 RAD 6647.1 VEL 12.254 PTH 7.20 VHP 4.858 DPA -64.64 RAP 308.77 ECC 1.4975
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 13 53 3865.78 -45.99 162.83 211.88 76.15 15 18 19 2865.8 -46.23 127.70
60.00 14 8 51 3879.23 -37.11 160.77 209.61 73.02 15 13 30 2879.2 -40.19 130.08
70.00 13 56 25 3910.03 -27.86 159.52 204.88 69.39 15 3 35 2910.0 -33.71 132.38
79.00 12 55 34 4108.40 -14.52 168.20 198.63 63.25 14 4 2 3108.4 -24.79 144.99
79.00 12 55 34 4108.40 -14.52 168.20 198.63 63.25 14 4 2 3108.4 -24.29 144.99
79.00 12 55 34 4108.40 -14.52 168.20 198.63 63.25 14 4 2 3108.4 -24.29 144.99
110.00 18 57 51 2956.85 -27.86 88.44 204.88 69.39 19 47 8 1956.8 -33.71 61.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0470 TRA .5006 TC3 -.8818 BAU .6292 SGT 1579.5 SGR 5086.8 S63 866.4 ST 55.3 SR 140.9 S8 112.7
RDE 2.4208 RRA 3.4722 RC3-1.2633 FAU .09927 RRT .8272 RRF .9992 RTF .8331 CRT .9560 CRS -.9998 CST -.9504
FDE 4.5718 FRA 6.8682 FC3-2.8432 BSP 9000 SGB 5326.3 R23 .0315 R13 .9988 LSA 188.1 MSA 16.0 S8A .3
BDE 2.6373 BRA 3.5081 BC3 1.5570 F8P 1514 SGI 5256.6 S62 858.8 THA 75.19 EL1 150.6 EL2 15.2 ALF 69.21

LAUNCH DATE MAR 22 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 561.424

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.268 GAL -5.09 AZL 84.01 HCA 190.93 SMA 179.46 ECC .19062 INC 5.9855 V1 29.894
RP 210.10 LAP -1.13 LOP 11.59 VP 22.887 GAP 4.93 AZP 95.88 TAL 327.20 TAP 158.12 RCA 145.25 APO 213.66 V2 26.098
RC 111.121 GL 40.39 GP -39.71 ZAL 130.34 ZAP 98.02 ETS 185.59 ZAE 128.07 ETE 218.76 ZAC 62.75 ETC 271.69 LVI 27.30

PLANETOCENTRIC CONIC

C3 26.756 VHL 5.173 DLA 25.98 RAL 316.53 RAD 6645.7 VEL 12.113 PTH 7.09 VHP 4.559 DPA -62.18 RAP 305.74 ECC 1.4403
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 42 20 3739.52 -47.39 150.98 206.63 85.17 15 44 39 2739.5 -43.72 116.59
60.00 14 47 30 3725.73 -39.47 148.42 205.32 81.09 15 49 36 2725.7 -36.80 117.28
70.00 14 56 30 3699.23 -31.99 144.53 203.57 77.35 15 58 9 2699.2 -33.96 115.97
80.00 15 16 12 3637.35 -25.63 138.00 201.72 74.14 16 16 50 2637.3 -29.75 111.34
90.00 16 10 22 3462.38 -22.65 124.18 200.75 72.60 17 8 5 2462.4 -27.75 98.32
100.00 17 59 4 3111.82 -25.63 99.37 201.72 74.14 18 50 56 2111.8 -29.75 72.70
110.00 19 55 56 2748.05 -31.99 73.45 203.57 77.35 20 41 42 1746.1 -33.96 44.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0128 TRA .6561 TC3 -1.0495 BAU .6048 SGT 1738.1 SGR 4848.8 S63 1002.3 ST 57.4 SR 131.3 S8 118.4
RDE 2.1048 RRA 3.2659 RC3-1.3258 FAU .10922 RRT .8631 RRF .9991 RTF .8475 CRT .9851 CRS -.9997 CST -.9880
FDE 4.7528 FRA 7.8467 FC3-3.5341 BSP 8703 SGB 5157.7 R23 .0434 R13 .9982 LSA 183.3 MSA 15.1 S8A .3
BDE 2.3358 BRA 3.3312 BC3 1.6909 F8P 1754 SGI 5087.9 S62 846.1 THA 72.11 EL1 142.6 EL2 13.8 ALF 66.89

LAUNCH DATE MAR 22 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 565.591

EARTH TO MARS

RL 149.05 LAL .00 LOL 180.72 VL 32.264 GAL -5.11 AZL 84.78 HCA 192.14 SMA 179.39 ECC .19053 INC 5.2405 V1 29.894
RP 210.33 LAP -1.10 LOP 12.82 VP 22.850 GAP 4.71 AZP 95.12 TAL 327.03 TAP 159.17 RCA 145.21 APO 213.57 V2 26.071
RC 113.839 GL 36.48 GP -37.22 ZAL 132.91 ZAP 96.71 ETS 184.01 ZAE 128.42 ETE 215.46 ZAC 65.27 ETC 271.46 LVI 25.28

PLANETOCENTRIC CONIC

C3 24.368 VHL 4.838 DLA 22.26 RAL 317.85 RAD 6644.7 VEL 12.014 PTH 7.01 VHP 4.334 DPA -59.95 RAP 303.10 ECC 1.4010
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 5 29 3635.21 -47.51 140.91 201.93 92.92 16 6 4 2635.2 -40.82 108.26
60.00 15 17 35 3602.98 -40.26 138.09 202.01 88.05 16 17 38 2603.0 -36.83 107.59
70.00 15 36 54 3546.05 -33.69 132.91 201.44 84.02 16 36 0 2546.0 -32.64 104.22
80.00 16 11 48 3436.81 -28.39 123.84 200.66 81.01 17 9 5 2436.6 -29.45 96.45
90.00 17 17 4 3225.88 -26.52 107.97 200.26 79.80 18 10 50 2225.9 -28.14 81.07
100.00 18 54 40 2911.08 -28.59 85.21 200.66 81.01 19 43 11 1911.1 -29.45 57.82
110.00 20 36 21 2592.86 -33.69 61.83 201.44 84.02 21 19 34 1592.9 -32.64 33.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE .9978 TRA .8188 TC3-1.2173 BAU .5901 SGT 1959.6 SGR 4616.8 S63 1122.7 ST 59.9 SR 122.7 S8 122.7
RDE 1.8634 RRA 3.0763 RC3-1.3413 FAU .11788 RRT .8906 RRF .9990 RTF .8940 CRT .9733 CRS -.9994 CST -.9651
FDE 4.8842 FRA 8.7212 FC3-4.1879 BSP 8445 SGB 5015.5 R23 .0561 R13 .9974 LSA 183.0 MSA 14.3 S8A .4
BDE 2.1137 BRA 3.1834 BC3 1.8113 F8P 1972 SGI 4946.1 S62 831.8 THA 68.65 EL1 136.0 EL2 12.4 ALF 64.33

LAUNCH DATE MAR 22 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.261 GAL -5.13 AZL 85.37 HCA 193.36 SMA 179.34 ECC .19052 INC 4.6307 V1 29.894
RP 210.57 LAP -1.07 LOP 14.04 VP 22.814 GAP 4.49 AZP 94.51 TAL 326.85 TAP 160.21 RCA 145.17 APO 213.50 V2 26.044
RC 115.360 GL 33.00 GP -34.97 ZAL 139.12 ZAP 95.23 ETS 182.56 ZAE 129.39 ETE 212.27 ZAC 67.55 ETC 271.23 LVI 23.50

PLANETOCENTRIC CONIC

C3 22.683 VHL 4.763 DLA 18.95 RAL 319.04 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 4.159 DPA -57.93 RAP 300.76 ECC 1.3733
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 24 53 3547.72 -46.87 132.55 198.07 99.32 16 24 0 2547.7 -37.93 101.89
60.00 15 42 8 3501.76 -40.15 129.49 199.14 93.88 16 40 30 2501.8 -34.23 100.08
70.00 16 8 21 3424.59 -34.15 123.47 199.37 89.58 17 5 25 2424.6 -30.75 95.27
80.00 16 51 22 3289.73 -29.68 113.07 199.19 86.57 17 46 12 2289.7 -28.08 85.76
90.00 18 1 8 3064.51 -27.94 96.38 199.05 85.43 18 52 13 2064.5 -27.03 69.41
100.00 19 34 14 2764.20 -29.68 74.44 199.19 86.57 20 20 18 1764.2 -28.08 47.13
110.00 21 7 47 2471.41 -34.15 52.39 199.37 89.58 21 48 58 1471.4 -30.75 24.18

DIFFERENTIAL CORRECTIONS

TDE .8961 TRA .9860 TC3-1.3821 BAU .5839
RDE 1.6715 RRA 2.8983 RC3-1.3407 FAU .12578
FDE 4.9707 FRA 9.4849 FC3-4.8006 BSP 8206
BDE 1.9458 BRA 3.0615 BC3 1.9255 FSP 2160

MID-COURSE EXECUTION ACCURACY

SGT 2177.6 SGR 4389.2 SG3 1228.7
RRT .9117 RRF .9988 RTF .9144
SGB 4899.7 R23 .0692 R13 .9964
SG1 4831.9 SG2 812.6 THA 64.90

ORBIT DETERMINATION ACCURACY

ST 62.8 SR 114.8 SS 125.6
CRT .9802 CRS -.9991 CST -.9713
LSA 180.9 MSA 13.4 SSA .4
EL1 130.4 EL2 10.9 ALF 61.56

LAUNCH DATE MAR 22 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.258 GAL -5.16 AZL 85.88 HCA 194.58 SMA 179.29 ECC .19058 INC 4.1220 V1 29.894
RP 210.82 LAP -1.04 LOP 15.26 VP 22.778 GAP 4.28 AZP 93.99 TAL 326.65 TAP 161.23 RCA 145.12 APO 213.46 V2 26.015
RC 117.945 GL 29.89 GP -32.92 ZAL 137.04 ZAP 93.62 ETS 181.23 ZAE 128.05 ETE 209.23 ZAC 69.62 ETC 270.99 LVI 21.92

PLANETOCENTRIC CONIC

C3 21.474 VHL 4.634 DLA 16.02 RAL 320.12 RAD 6643.5 VEL 11.894 PTH 6.90 VHP 4.022 DPA -56.09 RAP 298.65 ECC 1.3534
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 41 29 3473.49 -45.83 125.70 195.07 104.51 16 39 23 2473.5 -35.19 96.91
60.00 16 2 49 3416.72 -39.51 122.35 196.83 98.69 16 59 46 2416.7 -31.83 94.15
70.00 16 34 7 3324.61 -33.93 115.67 197.62 94.18 17 29 31 2324.6 -28.70 88.21
80.00 17 22 33 3172.79 -29.84 104.39 197.84 91.13 18 15 26 2172.8 -26.34 77.51
90.00 18 35 2 2938.84 -28.28 87.21 197.86 90.00 19 24 1 1938.8 -25.43 60.57
100.00 20 5 25 2647.26 -29.84 65.76 197.84 91.13 20 49 32 1647.3 -26.34 38.88
110.00 21 33 33 2371.43 -33.93 44.59 197.62 94.18 22 13 4 1371.4 -28.70 17.13

DIFFERENTIAL CORRECTIONS

TDE 1.0036 TRA 1.1557 TC3-1.5439 BAU .5835
RDE 1.5191 RRA 2.7345 RC3-1.3217 FAU .13248
FDE 5.0335 FRA10.1536 FC3-5.3409 BSP 8026
BDE 1.8207 BRA 2.9687 BC3 2.0324 FSP 2327

MID-COURSE EXECUTION ACCURACY

SGT 2407.8 SGR 4171.5 SG3 1321.2
RRT .9272 RRF .9986 RTF .9295
SGB 4816.6 R23 .0823 R13 .9952
SG1 4751.0 SG2 791.9 THA 60.96

ORBIT DETERMINATION ACCURACY

ST 66.0 SR 107.7 SS 127.8
CRT .9860 CRS -.9987 CST -.9785
LSA 179.3 MSA 12.7 SSA .5
EL1 126.0 EL2 9.4 ALF 58.69

LAUNCH DATE MAR 22 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.258 GAL -5.20 AZL 86.31 HCA 195.79 SMA 179.28 ECC .19071 INC 3.69.3 V1 29.894
RP 211.07 LAP -1.00 LOP 16.48 VP 22.742 GAP 4.07 AZP 93.55 TAL 326.44 TAP 162.23 RCA 145.07 APO 213.45 V2 25.986
RC 119.734 GL 27.11 GP -31.06 ZAL 136.70 ZAP 91.91 ETS 180.03 ZAE 127.44 ETE 206.38 ZAC 71.51 ETC 270.77 LVI 20.52

PLANETOCENTRIC CONIC

C3 20.597 VHL 4.538 DLA 13.41 RAL 321.12 RAD 6643.1 VEL 11.858 PTH 6.87 VHP 3.913 DPA -54.42 RAP 296.73 ECC 1.3390
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 55 57 3409.98 -44.59 120.08 192.81 108.69 16 52 47 2410.0 -32.67 92.93
60.00 16 20 36 3344.36 -38.60 116.42 195.05 102.62 17 16 20 2344.4 -29.56 89.37
70.00 16 55 53 3240.51 -33.32 109.19 196.24 97.97 17 49 54 2240.5 -26.67 82.51
80.00 17 48 21 3076.12 -29.49 97.23 196.74 94.88 18 39 38 2076.1 -24.51 70.91
90.00 19 2 45 2836.02 -28.05 79.71 196.87 93.75 19 50 1 1836.0 -23.69 53.54
100.00 20 31 13 2550.59 -29.49 58.59 196.74 94.88 21 13 44 1550.8 -24.51 32.28
110.00 21 55 20 2287.32 -33.32 38.11 196.24 97.97 22 33 27 1287.3 -26.67 11.43

DIFFERENTIAL CORRECTIONS

TDE 1.0198 TRA 1.3290 TC3-1.6978 BAU .5878
RDE 1.3937 RRA 2.5805 RC3-1.2928 FAU .13839
FDE 5.0698 FRA10.7244 FC3-5.8168 BSP 7892
BDE 1.7270 BRA 2.9028 BC3 2.1339 FSP 2488

MID-COURSE EXECUTION ACCURACY

SGT 2647.2 SGR 3961.0 SG3 1400.0
RRT .9394 RRF .9983 RTF .5.15
SGB 4764.1 R23 .0945 R13 .9938
SG1 4702.4 SG2 764.2 THA 58.89

ORBIT DETERMINATION ACCURACY

ST 69.4 SR 101.3 SS 129.2
CRT .9906 CRS -.9982 CST -.9808
LSA 177.9 MSA 12.0 SSA .6
EL1 122.6 EL2 7.9 ALF 55.68

LAUNCH DATE MAR 22 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.254 GAL -5.23 AZL 86.88 HCA 197.00 SMA 179.24 ECC .19091 INC 3.3213 V1 29.894
RP 211.33 LAP -.97 LOP 17.69 VP 22.708 GAP 3.86 AZP 93.18 TAL 326.22 TAP 163.22 RCA 145.02 APO 213.45 V2 25.957
RC 121.945 GL 24.81 GP -29.36 ZAL 140.15 ZAP 90.14 ETS 178.95 ZAE 126.62 ETE 203.74 ZAC 73.23 ETC 270.55 LVI 19.27

PLANETOCENTRIC CONIC

C3 19.963 VHL 4.468 DLA 11.08 RAL 322.04 RAD 6642.8 VEL 11.831 PTH 6.85 VHP 3.828 DPA -52.88 RAP 294.97 ECC 1.3285
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 41 3355.24 -43.29 115.46 191.15 112.05 17 4 37 2355.2 -30.40 89.70
60.00 16 36 8 3282.19 -37.36 111.46 193.74 105.83 17 30 51 2282.2 -27.45 85.45
70.00 17 14 42 3168.73 -32.51 103.75 195.21 101.10 18 7 31 2168.7 -24.74 77.83
80.00 18 10 21 2994.42 -28.87 91.24 195.92 97.97 19 0 15 1994.4 -22.72 65.90
90.00 19 26 11 2749.63 -27.51 73.45 196.13 96.84 20 12 1 1749.6 -21.96 47.80
100.00 20 53 13 2466.89 -28.87 52.80 195.92 97.97 21 34 21 1468.9 -22.72 26.87
110.00 22 14 8 2215.55 -32.51 32.66 195.21 101.10 22 51 4 1215.5 -24.74 6.75

DIFFERENTIAL CORRECTIONS

TDE 1.0410 TRA 1.8030 TC3-1.8474 BAU .5955
RDE 1.2921 RRA 2.4385 RC3-1.2512 FAU .14305
FDE 5.0972 FRA11.2162 FC3-6.2035 BSP 7826
BDE 1.6592 BRA 2.8645 BC3 2.2312 FSP 2589

MID-COURSE EXECUTION ACCURACY

SGT 2892.2 SGR 3761.5 SG3 1467.0
RRT .9482 RRF .9979 RTF .9503
SGB 4744.3 R23 .1056 R13 .9924
SG1 4687.3 SG2 737.0 THA 52.83

ORBIT DETERMINATION ACCURACY

ST 73.0 SR 95.7 SS 130.3
CRT .9941 CRS -.9976 CST -.9844
LSA 177.0 MSA 11.4 SSA .7
EL1 120.2 EL2 6.3 ALF 52.69

LAUNCH DATE MAR 22 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC DISTANCE 586.484 EARTH TO MARS
RL 149.05 LAL .00 LOL 180.72 VL 32.253 GAL -5.27 AZL 87.00 HCA 198.21 SMA 179.22 ECC .19118 INC 2.9999 V1 29.894
RP 211.60 LAP -.94 LOP 18.91 VP 22.670 GAP 3.85 AZP 92.85 TAL 325.99 TAP 164.20 RCA 144.96 APO 213.49 V2 25.926
RC 124.177 GL 22.37 6P -27.80 ZAL 141.41 ZAP 88.32 ETS 177.98 ZAE 125.61 ETE 201.32 ZAC 74.81 ETC 270.33 LVI 18.14

PLANETOCENTRIC CONIC
C3 19.310 VHL 4.417 DLA 9.00 RAL 322.90 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 3.760 DPA -51.47 RAP 293.35 ECC 1.3211
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 20 3 3307.80 -42.01 111.62 189.97 114.79 17 15 11 2307.8 -28.35 87.03
60.00 16 49 54 3228.38 -36.48 107.30 192.80 108.47 17 43 42 2228.4 -25.54 82.18
70.00 17 31 13 3106.83 -31.61 99.15 194.30 103.67 18 23 0 2106.8 -22.95 73.92
80.00 18 29 28 2924.36 -28.10 86.17 195.36 100.52 19 18 12 1924.4 -21.03 60.99
90.00 19 46 29 2675.79 -26.80 68.16 195.62 99.40 20 31 5 1675.8 -20.30 43.02
100.00 21 12 20 2398.83 -28.10 47.54 195.36 100.52 21 52 19 1398.8 -21.03 22.36
110.00 22 30 39 2153.65 -31.61 28.07 194.50 103.67 23 6 33 1153.6 -22.95 2.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.0673 TRA 1.6787 TC3-1.9918 BAU .6048 SGT 3142.2 SGR 3578.9 SG3 1525.2 ST 76.8 SR 91.0 SS 131.7
RDE 1.2144 RRA 2.3129 RC3-1.1874 FAU .14507 RRT .9536 RRF .9975 RTF .9560 CRT .9968 CRS -.9969 CST -.9876
FDE 5.1463 FRA11.6651 FC3-6.4372 BSP 7893 SGB 4762.6 R23 .1160 R13 .9908 LSA 177.2 MSA 10.9 SSA .8
BDE 1.6167 BRA 2.8579 BC3 2.3188 FSP 2733 SGI 4707.9 SG2 719.4 THA 48.90 EL1 119.0 EL2 4.7 ALF 49.87

LAUNCH DATE MAR 22 1971 FLIGHT TIME 242.00 ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC DISTANCE 590.643 EARTH TO MARS
RL 149.05 LAL .00 LOL 180.72 VL 32.253 GAL -5.32 AZL 87.28 HCA 199.42 SMA 179.22 ECC .19151 INC 2.7180 V1 29.894
RP 211.87 LAP -.90 LOP 20.12 VP 22.634 GAP 3.44 AZP 92.56 TAL 325.74 TAP 165.16 RCA 144.90 APO 213.54 V2 25.896
RC 126.431 GL 20.34 GP -26.36 ZAL 142.52 ZAP 86.47 ETS 177.11 ZAE 124.47 ETE 199.10 ZAC 76.27 ETC 270.13 LVI 17.12

PLANETOCENTRIC CONIC
C3 19.194 VHL 4.381 DLA 7.13 RAL 323.70 RAD 6642.5 VEL 11.799 PTH 6.82 VHP 3.707 DPA -50.17 RAP 291.84 ECC 1.3159
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 30 16 3266.47 -40.78 108.42 189.16 117.02 17 24 42 2266.5 -26.52 84.79
60.00 17 2 11 3181.52 -35.41 103.79 192.17 110.65 17 55 13 2181.5 -23.80 79.43
70.00 17 45 52 3053.01 -30.67 95.23 194.03 105.82 18 36 45 2053.0 -21.30 70.61
80.00 18 46 20 2863.65 -27.27 81.85 195.02 102.65 19 34 4 1863.6 -19.45 57.17
90.00 20 4 20 2611.91 -26.01 63.65 195.32 101.52 20 47 52 1611.9 -18.75 38.97
100.00 21 29 12 2338.12 -27.27 43.22 195.02 102.65 22 8 10 1338.1 -13.45 18.54
110.00 22 45 19 2099.83 -30.67 24.15 194.03 105.82 23 20 18 1099.8 -21.30 359.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.0980 TRA 1.8549 TC3-2.1264 BAU .6190 SGT 3392.7 SGR 3393.9 SG3 1568.4 ST 80.7 SR 86.2 SS 131.8
RDE 1.1403 RRA 2.1856 RC3-1.1393 FAU .14835 RRT .9591 RRF .9970 RTF .9617 CRT .9984 CRS -.9960 CST -.9898
FDE 5.1398 FRA11.9955 FC3-6.6912 BSP 7913 SGB 4798.8 R23 .1232 R13 .9895 LSA 176.6 MSA 10.5 SSA .9
BDE 1.5829 BRA 2.8666 BC3 2.4124 FSP 2808 SGI 4749.5 SG2 686.0 THA 45.01 EL1 118.0 EL2 3.3 ALF 46.90

LAUNCH DATE MAR 22 1971 FLIGHT TIME 244.00 ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC DISTANCE 594.822 EARTH TO MARS
RL 149.05 LAL .00 LOL 180.72 VL 32.254 GAL -5.36 AZL 87.53 HCA 200.62 SMA 179.22 ECC .19191 INC 2.4685 V1 29.894
RP 212.14 LAP -.87 LOP 21.32 VP 22.598 GAP 3.24 AZP 92.31 TAL 325.49 TAP 166.11 RCA 144.83 APO 213.62 V2 25.864
RC 128.706 GL 18.51 GP -25.03 ZAL 143.49 ZAP 84.62 ETS 176.32 ZAE 123.21 ETE 197.09 ZAC 77.61 ETC 269.93 LVI 16.20

PLANETOCENTRIC CONIC
C3 18.987 VHL 4.357 DLA 5.46 RAL 324.46 RAD 6642.4 VEL 11.790 PTH 6.81 VHP 3.667 DPA -48.96 RAP 290.45 ECC 1.3125
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 39 30 3230.34 -39.63 105.73 188.63 118.85 17 33 21 2230.3 -24.89 82.90
60.00 17 13 16 3140.91 -34.38 100.79 191.78 112.47 18 5 37 2140.5 -22.24 77.09
70.00 17 59 1 3005.94 -29.75 91.88 193.77 107.60 18 49 7 2005.9 -19.80 67.78
80.00 19 1 23 2810.61 -26.43 78.14 194.86 104.43 19 48 14 1810.6 -18.00 53.90
90.00 20 20 14 2558.17 -23.19 59.78 195.19 103.30 21 2 50 1558.2 -17.32 35.51
100.00 21 44 15 2285.08 -26.43 39.51 194.86 104.43 22 22 20 1285.1 -18.00 15.27
110.00 22 58 27 2032.76 -29.75 20.80 193.77 107.60 23 32 40 1032.8 -19.80 356.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.1316 TRA 2.0311 TC3-2.2546 BAU .6357 SGT 3643.2 SGR 3216.7 SG3 1801.0 ST 84.6 SR 81.8 SS 131.5
RDE 1.0762 RRA 2.0652 RC3-1.0901 FAU .15109 RRT .9635 RRF .9963 RTF .5664 CRT .9994 CRS -.9949 CST -.9916
FDE 5.1186 FRA12.8543 FC3-6.8891 BSP 7980 SGB 4860.0 R23 .1278 R13 .9884 LSA 176.2 MSA 10.3 SSA .9
BDE 1.5817 BRA 2.8967 BC3 2.5043 FSP 2861 SGI 4816.2 SG2 651.3 THA 41.31 EL1 117.7 EL2 2.0 ALF 44.00

LAUNCH DATE MAR 22 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC DISTANCE 598.999 EARTH TO MARS
RL 149.05 LAL .00 LOL 180.72 VL 32.254 GAL -5.41 AZL 87.75 HCA 201.82 SMA 179.24 ECC .19237 INC 2.2458 V1 29.894
RP 212.43 LAP -.83 LOP 22.52 VP 22.562 GAP 3.04 AZP 92.09 TAL 325.22 TAP 167.04 RCA 144.76 APO 213.72 V2 25.832
RC 130.999 GL 18.84 GP -23.81 ZAL 144.36 ZAP 82.76 ETS 175.62 ZAE 121.86 ETE 195.27 ZAC 78.85 ETC 269.74 LVI 15.36

PLANETOCENTRIC CONIC
C3 18.867 VHL 4.344 DLA 3.94 RAL 325.18 RAD 6642.3 VEL 11.785 PTH 6.81 VHP 3.637 DPA -47.83 RAP 289.16 ECC 1.3105
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 47 56 3198.65 -38.56 103.44 188.33 120.38 17 41 15 2198.7 -23.44 81.28
60.00 17 23 20 3104.49 -33.41 98.23 191.59 113.98 18 15 4 2104.5 -20.84 75.08
70.00 18 10 54 2964.56 -28.86 88.98 193.69 109.11 19 0 19 1964.6 -18.44 65.34
80.00 19 14 57 2764.01 -25.60 74.93 194.85 105.92 20 1 1 1764.0 -16.68 51.08
90.00 20 34 31 2507.21 -24.38 56.42 195.22 104.79 21 16 19 1507.2 -16.01 32.52
100.00 21 57 49 2238.48 -25.60 36.30 194.85 105.92 22 35 7 1238.5 -16.68 12.45
110.00 23 10 21 2011.38 -28.56 17.90 193.69 109.11 23 43 52 1011.4 -18.44 354.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.1674 TRA 2.2066 TC3-2.3780 BAU .6541 SGT 3892.4 SGR 3050.2 SG3 1625.2 ST 88.6 SR 77.8 SS 131.2
RDE 1.0230 RRA 1.9539 RC3-1.0347 FAU .15255 RRT .9663 RRF .9956 RTF .9698 CRT .9998 CRS -.9937 CST -.9931
FDE 5.0999 FRA12.4642 FC3-7.0001 BSP 8097 SGB 4945.2 R23 .1309 R13 .9874 LSA 176.1 MSA 10.1 SSA 1.0
BDE 1.5522 BRA 2.9473 BC3 2.5934 FSP 2908 SGI 4905.8 SG2 623.0 THA 37.85 EL1 117.9 EL2 1.1 ALF 41.29

LAUNCH DATE MAR 22 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.256 GAL -5.46 AZL 87.95 HCA 203.02 SMA 179.26 ECC .19268 INC 2.0460 V1 29.894
RP 212.72 LAP -.80 LOP 23.72 VP 22.527 GAP 2.84 AZP 91.88 TAL 324.95 TAP 187.97 RCA 144.68 APO 213.83 V2 25.799
RC 133.312 GL 19.32 GP -22.87 ZAL 145.14 ZAP 80.91 ETS 174.99 ZAE 120.45 ETE 193.62 ZAC 80.00 ETC 269.57 LVI 14.59

PLANETOCENTRIC CONIC

C3 18.818 VHL 4.338 DLA 2.58 RAL 325.86 RAD 6642.3 VEL 11.783 PTH 6.81 VHP 3.616 DPA -46.78 RAP 287.97 ECC 1.3097
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 55 40 3170.80 -37.58 101.50 188.20 121.65 17 48 31 2170.8 -22.15 79.89
60.00 17 32 31 3072.77 -32.52 96.02 191.55 115.25 18 23 44 2072.8 -19.58 73.34
70.00 18 21 43 2928.06 -28.02 86.48 193.74 110.37 19 10 31 1928.1 -17.21 65.23
80.00 19 27 15 2722.86 -24.80 72.13 194.96 107.19 20 12 38 1722.9 -15.47 48.62
90.00 20 47 29 2463.98 -23.60 53.50 195.36 106.05 21 28 53 1464.0 -14.82 29.91
100.00 22 10 7 2197.34 -24.80 33.50 194.96 107.19 22 46 44 1197.3 -15.47 9.99
110.00 23 21 10 1974.88 -28.02 15.39 193.74 110.37 23 54 5 974.9 -17.21 352.14

DIFFERENTIAL CORRECTIONS

TDE 1.2071 TRA 2.3832 TC3-2.4912 BAU .6733
RDE .9779 RRA 1.8493 RC3 -.9777 FAU .15314
FDE 5.0795 FRA12.6223 FC3-7.0454 BSP 8273
BDE 1.5535 BRA 3.0167 BC3 2.6762 FSP 2945

MID-COURSE EXECUTION ACCURACY

SGT 4140.3 SGR 2892.5 SG3 1641.3
RRT .9684 RRF .9947 RTF .9725
SG8 5050.6 R23 .1318 R13 .9866
SG1 5015.4 R62 595.7 THA 34.64

ORBIT DETERMINATION ACCURACY

ST 92.7 SR 74.3 SS 130.8
CRT .9997 CRS -.9922 CST -.9943
LSA 176.4 MSA 10.0 SSA 1.1
EL1 118.8 EL2 1.5 ALF 38.69

LAUNCH DATE MAR 22 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.257 GAL -5.52 AZL 88.13 HCA 204.21 SMA 179.29 ECC .19346 INC 1.8650 V1 29.894
RP 213.01 LAP -.76 LOP 24.92 VP 22.491 GAP 2.64 AZP 91.70 TAL 324.66 TAP 168.87 RCA 144.60 APO 213.97 V2 25.766
RC 135.643 GL 13.94 GP -21.60 ZAL 145.84 ZAP 79.09 ETS 174.43 ZAE 118.99 ETE 192.13 ZAC 81.06 ETC 269.40 LVI 13.88

PLANETOCENTRIC CONIC

C3 18.829 VHL 4.339 DLA 1.34 RAL 326.52 RAD 6642.3 VEL 11.783 PTH 6.81 VHP 3.603 DPA -45.79 RAP 286.87 ECC 1.3099
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 2 48 3146.30 -36.69 99.83 188.22 122.72 17 55 14 2146.3 -21.00 78.69
60.00 17 40 58 3044.77 -31.69 94.11 191.64 116.33 18 31 43 2044.8 -18.45 71.83
70.00 18 31 38 2895.77 -27.24 84.29 193.90 111.45 19 19 53 1895.8 -16.11 61.38
80.00 19 38 29 2686.41 -24.04 69.69 195.18 108.26 20 23 15 1686.4 -14.36 46.47
90.00 20 59 17 2425.65 -22.85 50.93 195.60 107.13 21 39 43 1425.7 -13.73 27.62
100.00 22 21 21 2180.88 -24.04 31.06 195.18 108.26 22 57 22 1160.9 -14.36 7.83
110.00 23 31 4 1942.58 -27.24 13.21 193.90 111.45 24 3 26 942.6 -16.11 350.30

DIFFERENTIAL CORRECTIONS

TDE 1.2477 TRA 2.5581 TC3-2.6008 BAU .6947
RDE .9381 RRA 1.7501 RC3 -.9227 FAU .15335
FDE 5.0483 FRA12.7267 FC3-7.0506 BSP 8459
BDE 1.5610 BRA 3.0995 BC3 2.7596 FSP 2963

MID-COURSE EXECUTION ACCURACY

SGT 4384.6 SGR 2742.0 SG3 1649.3
RRT .9697 RRF .9936 RTF .9747
SG8 5171.4 R23 .1311 R13 .9860
SG1 5139.7 R62 571.8 THA 31.67

ORBIT DETERMINATION ACCURACY

ST 96.8 SR 71.0 SS 130.1
CRT .9990 CRS -.9906 CST -.9953
LSA 176.7 MSA 10.0 SSA 1.1
EL1 120.0 EL2 2.6 ALF 36.25

LAUNCH DATE MAR 22 1971

FLIGHT TIME 252.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.260 GAL -5.58 AZL 88.30 HCA 205.40 SMA 179.32 ECC .19409 INC 1.7006 V1 29.894
RP 213.31 LAP -.73 LOP 26.11 VP 22.456 GAP 2.44 AZP 91.54 TAL 324.37 TAP 169.77 RCA 144.52 APO 214.13 V2 25.732
RC 137.991 GL 12.67 GP -20.61 ZAL 146.48 ZAP 77.29 ETS 173.94 ZAE 117.50 ETE 190.80 ZAC 82.06 ETC 269.24 LVI 13.22

PLANETOCENTRIC CONIC

C3 18.891 VHL 4.346 DLA .21 RAL 327.14 RAD 6642.3 VEL 11.786 PTH 6.81 VHP 3.598 DPA -44.87 RAP 285.87 ECC 1.3109
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 9 24 3124.71 -35.89 98.39 188.35 123.62 18 1 28 2124.7 -19.98 77.66
60.00 17 48 45 3020.03 -30.93 92.45 191.84 117.24 18 39 5 2020.0 -17.45 70.51
70.00 18 40 44 2867.14 -26.51 82.39 194.16 112.36 19 28 31 1867.1 -15.11 59.76
80.00 19 48 48 2654.03 -23.33 67.54 195.49 109.17 20 33 2 1654.0 -13.39 44.57
90.00 21 10 8 2391.59 -22.15 48.68 195.92 108.04 21 49 59 1391.6 -12.74 25.61
100.00 22 31 39 2128.50 -23.33 28.91 195.49 109.17 23 7 8 1128.5 -13.39 5.94
110.00 23 40 10 1913.96 -26.51 11.30 194.16 112.36 24 12 4 914.0 -15.11 348.68

DIFFERENTIAL CORRECTIONS

TDE 1.2906 TRA 2.7336 TC3-2.7016 BAU .7186
RDE .9041 RRA 1.6573 RC3 -.8668 FAU .15268
FDE 5.0166 FRA12.7940 FC3-6.9971 BSP 8687
BDE 1.5758 BRA 3.1988 BC3 2.8373 FSP 2976

MID-COURSE EXECUTION ACCURACY

SGT 4825.5 SGR 2800.2 SG3 1831.1
RRT .9703 RRF .9924 RTF .5.69
SG8 5306.3 R23 .1291 R13 .9856
SG1 5277.5 R62 551.5 THA 28.98

ORBIT DETERMINATION ACCURACY

ST 100.8 SR 68.0 SS 129.4
CRT .9978 CRS -.9887 CST -.9981
LSA 177.3 MSA 10.1 SSA 1.2
EL1 121.6 EL2 3.7 ALF 33.98

LAUNCH DATE MAR 22 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.262 GAL -5.64 AZL 88.45 HCA 206.59 SMA 179.36 ECC .19478 INC 1.5807 V1 29.894
RP 213.61 LAP -.69 LOP 27.30 VP 22.428 GAP 2.84 AZP 91.39 TAL 324.06 TAP 170.65 RCA 144.43 APO 214.30 V2 25.697
RC 140.358 GL 11.50 GP -19.69 ZAL 147.07 ZAP 75.92 ETS 173.49 ZAE 115.99 ETE 189.59 ZAC 82.99 ETC 269.10 LVI 12.61

PLANETOCENTRIC CONIC

C3 18.998 VHL 4.359 DLA -.81 RAL 327.75 RAD 6642.4 VEL 11.790 PTH 6.81 VHP 3.598 DPA -44.00 RAP 284.94 ECC 1.3127
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 31 3105.71 -35.17 97.15 188.56 124.39 18 7 17 2105.7 -19.08 76.75
60.00 17 55 58 2998.15 -30.24 91.01 192.11 118.02 18 45 56 1998.2 -16.55 69.36
70.00 18 49 9 2841.74 -25.84 80.72 194.49 113.15 19 36 31 1841.7 -14.21 58.34
80.00 19 58 18 2625.21 -22.68 65.66 195.86 109.96 20 42 3 1625.2 -12.49 42.80
90.00 21 20 6 2361.24 -21.50 46.70 196.31 108.83 21 59 28 1361.2 -11.64 23.83
100.00 22 41 10 2099.69 -22.68 27.02 195.86 109.96 23 16 9 1099.7 -12.49 4.27
110.00 23 48 35 1888.56 -25.84 9.63 194.49 113.15 24 20 4 888.6 -14.21 347.25

DIFFERENTIAL CORRECTIONS

TDE 1.3365 TRA 2.9089 TC3-2.7937 BAU .7390
RDE .8744 RRA 1.5690 RC3 -.8128 FAU .15156
FDE 4.9801 FRA12.8178 FC3-6.9065 BSP 8946
BDE 1.5971 BRA 3.3051 BC3 2.9096 FSP 2978

MID-COURSE EXECUTION ACCURACY

SGT 4862.3 SGR 2465.3 SG3 1646.3
RRT .9705 RRF .9909 RTF .9780
SG8 5451.6 R23 .1255 R13 .9853
SG1 5425.5 R62 533.1 THA 26.47

ORBIT DETERMINATION ACCURACY

ST 105.0 SR 65.3 SS 128.6
CRT .9963 CRS -.9866 CST -.9968
LSA 178.1 MSA 7.3 SSA 1.2
EL1 123.5 EL2 4.8 ALF 31.83

LAUNCH DATE MAR 22 1971

FLIGHT TIME 296.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.266 GAL -5.70 AZL 88.59 HCA 207.78 SMA 179.41 ECC .19552 INC 1.4131 V1 29.894
 RP 213.92 LAP -.66 LOP 28.49 VP 22.384 GAP 2.05 AZP 91.25 TAL 323.74 TAP 171.52 RCA 144.33 APO 214.49 V2 25.662
 RC 142.739 GL 10.43 GP -18.82 ZAL 147.61 ZAP 73.79 ETS 173.10 ZAE 114.47 ETE 188.51 ZAC 83.86 ETC 268.96 LVI 12.04

DISTANCE 619.861 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.143 VHL 4.375 DLA -1.74 RAL 328.33 RAD 6642.5 VEL 11.797 PTH 6.82 VHP 3.603 DPA -43.19 RAP 284.10 ECC 1.3150
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 15 3089.00 -34.52 96.08 188.86 125.04 18 12 44 2089.0 -18.28 75.97
 60.00 18 2 40 2978.82 -29.61 89.76 192.46 118.89 18 52 19 1978.8 -15.75 66.36
 70.00 18 56 57 2819.19 -25.23 79.25 194.89 113.82 19 43 56 1819.2 -13.41 57.08
 80.00 20 7 6 2399.55 -22.07 63.99 196.30 110.63 20 50 25 1599.5 -11.69 41.42
 90.00 21 29 20 2334.18 -20.89 44.95 196.76 109.50 22 6 14 1334.2 -11.03 22.25
 100.00 22 49 58 2074.02 -22.07 25.36 196.30 110.63 23 24 32 1074.0 -11.69 2.79
 110.00 0 0 19 1866.01 -25.23 8.17 194.89 113.82 0 31 25 866.0 -13.41 348.00

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3837 TRA 3.0843 TC3-2.8791 BAU .7621 SGT 5095.1 SGR 2338.3 SCS 1636.8 ST 109.1 SR 62.8 SS 127.7
 RDE .8486 RRA 1.4859 RC3 -.7606 FAU .14993 RRT .9700 RRF .9892 RTF .9792 CRT .9942 CR8 -.9843 C8T -.9973
 FDE 4.9409 FRA12.8112 FC3-6.7806 B8P 9222 SGB 5606.0 R23 .1212 R13 .9851 LSA 178.9 MSA 10.5 S8A 1.3
 BDE 1.6232 BRA 3.4236 BC3 2.9779 F8P 2971 SGI 5582.0 SGI 518.5 THA 24.22 EL1 125.7 EL2 5.8 ALF 29.85

LAUNCH DATE MAR 22 1971

FLIGHT TIME 298.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.269 GAL -5.77 AZL 88.71 HCA 208.96 SMA 179.47 ECC .19632 INC 1.2860 V1 29.894
 RP 214.24 LAP -.62 LOP 29.67 VP 22.349 GAP 1.85 AZP 91.13 TAL 323.42 TAP 172.38 RCA 144.23 APO 214.70 V2 25.627
 RC 145.138 GL 9.44 GP -18.01 ZAL 148.11 ZAP 72.09 ETS 172.75 ZAE 112.95 ETE 187.53 ZAC 84.67 ETC 268.84 LVI 11.49

DISTANCE 624.027 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.323 VHL 4.398 DLA -2.59 RAL 328.89 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 3.614 DPA -42.42 RAP 283.33 ECC 1.3180
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 36 3074.32 -33.94 95.16 189.21 125.59 18 17 50 2074.3 -17.57 75.28
 60.00 18 8 55 2961.75 -29.05 88.66 192.86 119.26 18 58 17 1961.8 -15.04 67.47
 70.00 19 4 12 2799.18 -24.68 77.96 195.33 114.40 19 50 51 1799.2 -12.69 55.98
 80.00 20 15 16 2576.68 -21.52 62.52 196.78 111.22 20 58 12 1576.7 -10.96 40.12
 90.00 21 37 54 2310.03 -20.34 43.39 197.25 110.08 22 16 24 1310.0 -10.31 20.86
 100.00 22 58 8 2051.16 -21.52 23.89 196.78 111.22 23 32 19 1051.2 -10.96 1.48
 110.00 0 7 34 1848.00 -24.68 6.88 195.33 114.40 0 38 20 846.0 -12.69 344.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4318 TRA 3.2579 TC3-2.9590 BAU .7861 SGT 5321.6 SGR 2217.6 SCS 1621.6 ST 113.1 SR 60.5 SS 126.9
 RDE .8257 RRA 1.4066 RC3 -.7112 FAU .14802 RRT .9691 RRF .9872 RTF .9801 CRT .9918 CR8 -.9817 C8T -.9978
 FDE 4.8943 FRA12.7686 FC3-6.6318 B8P 9502 SGB 5785.1 R23 .1162 R13 .9849 LSA 179.8 MSA 10.7 S8A 1.3
 BDE 1.6528 BRA 3.5486 BC3 3.0432 F8P 2953 SGI 5742.8 SGI 506.7 THA 22.17 EL1 128.0 EL2 6.8 ALF 28.02

LAUNCH DATE MAR 22 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.273 GAL -5.84 AZL 88.83 HCA 210.13 SMA 179.53 ECC .19716 INC 1.1683 V1 29.894
 RP 214.55 LAP -.59 LOP 30.85 VP 22.313 GAP 1.86 AZP 91.01 TAL 323.09 TAP 173.22 RCA 144.13 APO 214.92 V2 25.591
 RC 147.595 GL 8.52 GP -17.25 ZAL 148.58 ZAP 70.44 ETS 172.44 ZAE 111.43 ETE 186.85 ZAC 85.43 ETC 268.73 LVI 10.98

DISTANCE 628.188 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.534 VHL 4.420 DLA -3.38 RAL 329.44 RAD 6642.6 VEL 11.813 PTH 6.83 VHP 3.628 DPA -41.69 RAP 282.84 ECC 1.3215
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 37 3081.48 -33.43 94.36 189.82 126.07 18 22 38 2081.5 -18.96 74.69
 60.00 18 14 46 2946.72 -28.94 87.71 193.31 119.75 19 3 52 1946.7 -14.41 66.70
 70.00 19 10 58 2781.44 -24.17 78.83 195.83 114.90 19 57 19 1781.4 -12.05 55.01
 80.00 20 22 52 2556.33 -21.01 61.22 197.30 111.72 21 5 20 1556.3 -10.31 38.86
 90.00 21 43 52 2288.49 -19.83 42.02 197.79 110.59 22 24 1 1288.5 -9.65 19.61
 100.00 23 5 44 2030.80 -21.01 22.59 197.30 111.72 23 39 35 1030.8 -10.31 .32
 110.00 0 14 20 1828.28 -24.17 5.75 195.83 114.90 0 44 48 828.3 -12.05 343.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4818 TRA 3.4314 TC3-3.0328 BAU .8107 SGT 5543.5 SGR 2103.8 SCS 1602.7 ST 117.1 SR 58.3 SS 125.3
 RDE .8086 RRA 1.3318 RC3 -.8648 FAU .14588 RRT .9677 RRF .9849 RTF .5009 CRT .9890 CR8 .9738 C8T -.9982
 FDE 4.8448 FRA12.6998 FC3-6.4693 B8P 9789 SGB 5929.3 R23 .1106 R13 .9849 LSA 180.8 MSA 11.1 S8A 1.3
 BDE 1.6889 BRA 3.6807 BC3 3.1049 F8P 2925 SGI 5908.4 SGI 497.3 THA 20.32 EL1 130.6 EL2 7.7 ALF 26.32

LAUNCH DATE MAR 22 1971

FLIGHT TIME 282.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC
 RL 149.05 LAL .00 LOL 180.72 VL 32.277 GAL -5.91 AZL 88.94 HCA 211.31 SMA 179.59 ECC .19806 INC 1.0593 V1 29.894
 RP 214.88 LAP -.55 LOP 32.03 VP 22.277 GAP 1.46 AZP 90.91 TAL 322.74 TAP 174.05 RCA 144.02 APO 219.18 V2 25.554
 RC 148.988 GL 7.67 GP -16.83 ZAL 149.03 ZAP 68.82 ETS 172.16 ZAE 109.95 ETE 185.86 ZAC 86.15 ETC 268.67 LVI 10.50

DISTANCE 632.347 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.775 VHL 4.447 DLA -4.07 RAL 329.98 RAD 6642.7 VEL 11.823 PTH 6.84 VHP 3.647 DPA -41.00 RAP 282.03 ECC 1.3254
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 20 3050.28 -32.98 93.67 190.07 126.47 18 27 10 2050.3 -16.41 74.18
 60.00 18 20 14 2933.51 -28.09 86.88 193.79 120.17 19 9 8 1933.5 -13.85 66.03
 70.00 19 17 17 2765.75 -23.72 75.84 196.35 115.33 20 3 23 1765.8 -11.48 54.15
 80.00 20 29 58 2538.22 -20.55 60.08 197.86 112.15 21 12 16 1538.2 -9.72 37.93
 90.00 21 53 18 2269.30 -19.36 40.80 198.36 111.02 22 31 8 1269.3 -9.06 18.51
 100.00 23 12 50 2012.70 -20.55 21.44 197.86 112.15 23 46 22 1012.7 -9.72 359.30
 110.00 0 20 40 1812.57 -23.72 4.76 196.35 115.33 0 50 52 812.6 -11.48 343.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5337 TRA 3.6054 TC3-3.0973 BAU .8350 SGT 5760.3 SGR 1997.3 SCS 1580.6 ST 121.1 SR 56.4 SS 124.2
 RDE .7887 RRA 1.2618 RC3 -.8193 FAU .14315 RRT .9657 RRF .9822 RTF .9816 CRT .9859 CR8 -.9757 C8T -.9985
 FDE 4.7977 FRA12.6116 FC3-6.2669 B8P 10102 SGB 6096.8 R23 .1051 R13 .9848 LSA 182.0 MSA 11.4 S8A 1.3
 BDE 1.7246 BRA 3.8196 BC3 3.1586 F8P 2897 SGI 6076.9 SGI 491.3 THA 18.64 EL1 133.3 EL2 8.6 ALF 24.77

LAUNCH DATE MAR 22 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 19 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 32.303 GAL -6.32 AZL 89.39 HCA 217.13 SMA 180.00 ECC .20326 INC .6101 V1 29.694
 RP 216.56 LAP -.37 LOP 37.85 VP 22.099 GAP .50 AZP 90.49 TAL 320.91 TAP 178.04 RCA 143.42 APO 216.59 V2 25.366
 RC 162.390 GL 4.24 GP -13.54 ZAL 150.99 ZAP 61.44 ETS 171.21 ZAE 102.72 ETE 182.93 ZAC 89.13 ETC 268.28 LVI 8.34

Planetary Conic: CS 21.363 VHL 4.622 DLA -6.80 RAL 332.47 RAD 8643.4 VEL 11.890 PTH 6.90 VHP 3.787 DPA -38.10 RAP 279.93 ECC 1.3516
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 22 3014.18 -31.49 91.51 192.77 127.71 18 46 36 2014.2 -14.66 72.54
 60.00 18 43 13 2889.53 -26.56 84.17 196.66 121.50 19 31 23 1889.5 -11.99 63.61
 70.00 19 43 36 2712.01 -22.11 72.49 199.38 116.72 20 28 48 1712.0 -9.50 51.24
 80.00 20 59 20 2474.93 -18.87 56.12 201.00 113.57 21 40 35 1474.9 -7.66 34.37
 90.00 22 24 1 2201.69 -17.66 36.58 201.55 112.45 23 0 43 1201.7 -6.96 14.66
 100.00 23 42 12 1949.40 -18.87 17.49 201.00 113.57 24 14 41 949.4 -7.66 355.74
 110.00 0 46 58 1758.83 -22.11 1.41 199.38 116.72 1 16 17 758.8 -9.50 340.16

Differential Corrections: TDE 1.8101 TRA 4.4666 TC3-3.3411 BAU .9822 MID-COURSE EXECUTION ACCURACY: SGT 6759.9 SGR 1554.0 SG3 1433.9 ORBIT DETERMINATION ACCURACY: ST 140.0 SR 48.8 SS 117.2
 RDE .7324 RRA .9578 RC3 -.4337 FAU .12751 RRT .9468 RRF .9611 RTF .9832 CRT .9650 CRS -.9564 CST -.9994
 FDE 4.5193 FRA11.9135 FC3-5.1674 BSP 11640 SGB 6936.2 R23 .0786 R13 .9845 LSA 188.6 MSA 13.3 SSA 1.3
 BDE 1.9528 BRA 4.5701 BC3 3.3691 FSP 2669 SGI 5919.0 SG2 488.5 THA 12.34 EL1 147.8 EL2 12.1 ALF 18.72

LAUNCH DATE MAR 22 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 21 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 32.309 GAL -6.41 AZL 89.46 HCA 218.28 SMA 180.10 ECC .20444 INC .5355 V1 29.694
 RP 216.91 LAP -.33 LOP 39.00 VP 22.064 GAP .31 AZP 90.42 TAL 320.52 TAP 178.00 RCA 143.20 APO 216.92 V2 25.327
 RC 164.912 GL 3.69 GP -13.04 ZAL 151.35 ZAP 60.10 ETS 171.09 ZAE 101.35 ETE 182.50 ZAC 89.63 ETC 268.24 LVI 7.93

Planetary Conic: CS 21.750 VHL 4.664 DLA -7.21 RAL 332.93 RAD 8643.6 VEL 11.906 PTH 6.91 VHP 3.823 DPA -37.61 RAP 279.70 ECC 1.3579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 47 3010.18 -31.33 91.27 193.38 127.84 18 49 57 2010.2 -14.4 72.36
 60.00 18 47 6 2884.32 -26.37 83.85 197.30 121.65 19 35 10 1884.3 -11.77 63.55
 70.00 19 48 0 2705.28 -21.91 72.08 200.04 116.88 20 33 5 1705.3 -9.26 50.88
 80.00 21 4 12 2466.70 -18.65 55.62 201.68 113.75 21 45 19 1466.7 -7.38 33.91
 90.00 22 29 6 2192.77 -17.42 36.03 202.23 112.63 23 5 39 1192.8 -6.67 14.16
 100.00 23 47 4 1941.18 -18.65 16.98 201.68 113.75 24 19 25 941.2 -7.38 355.28
 110.00 0 51 22 1752.10 -21.91 1.00 200.04 116.88 1 20 34 752.1 -9.26 339.80

Differential Corrections: TDE 1.8687 TRA 4.6412 TC3-3.3742 BAU .9881 MID-COURSE EXECUTION ACCURACY: SGT 6943.3 SGR 1481.8 SG3 1400.2 ORBIT DETERMINATION ACCURACY: ST 143.6 SR 47.7 SS 115.7
 RDE .7258 RRA .9060 RC3 -.4038 FAU .12408 RRT .9409 RRF .9550 RTF .9833 CRT .9600 CRS -.9519 CST -.9995
 FDE 4.4592 FRA11.7409 FC3-4.9388 BSP 11941 SGB 7099.7 R23 .0741 R13 .9844 LSA 190.0 MSA 13.7 SSA 1.3
 BDE 2.0047 BRA 4.7288 BC3 3.3983 FSP 2613 SGI 7082.6 SG2 491.9 THA 11.41 EL1 150.8 EL2 12.7 ALF 17.80

LAUNCH DATE MAR 22 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 23 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 32.316 GAL -6.30 AZL 89.54 HCA 219.43 SMA 180.20 ECC .20566 INC .4646 V1 29.694
 RP 217.26 LAP -.30 LOP 40.15 VP 22.028 GAP .12 AZP 90.36 TAL 320.12 TAP 179.56 RCA 143.14 APO 217.26 V2 25.288
 RC 167.446 GL 3.17 GP -12.57 ZAL 151.69 ZAP 58.80 ETS 170.98 ZAE 100.00 ETE 182.11 ZAC 90.10 ETC 268.21 LVI 7.57

Planetary Conic: CS 22.159 VHL 4.707 DLA -7.60 RAL 333.39 RAD 8643.8 VEL 11.923 PTH 6.93 VHP 3.861 DPA -37.14 RAP 279.51 ECC 1.3647
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 3 2 3007.07 -31.20 91.09 194.00 127.94 18 53 0 2007.1 -14.31 72.22
 60.00 18 50 47 2880.09 -26.22 83.80 197.95 121.77 19 38 47 1880.1 -11.59 63.34
 70.00 19 52 9 2699.65 -21.73 71.74 200.71 117.02 20 37 9 1699.7 -9.05 50.58
 80.00 21 8 48 2459.69 -18.48 55.18 202.37 113.90 21 49 48 1459.7 -7.15 33.52
 90.00 22 33 54 2185.13 -17.22 35.98 202.93 112.78 23 10 19 1185.1 -6.43 13.72
 100.00 23 51 40 1934.16 -18.48 16.95 202.37 113.90 24 23 54 934.2 -7.15 384.89
 110.00 0 55 31 1746.47 -21.73 .85 200.71 117.02 1 24 38 746.5 -9.15 339.50

Differential Corrections: TDE 1.9290 TRA 4.8144 TC3-3.4023 BAU 1.0140 MID-COURSE EXECUTION ACCURACY: SGT 7122.0 SGR 1414.9 SG3 1386.1 ORBIT DETERMINATION ACCURACY: ST 147.2 SR 41.0 SS 114.2
 RDE .7208 RRA .8569 RC3 -.3758 FAU .12052 RRT .9342 RRF .9481 RTF .533 CRT .9547 CRS -.9472 CST -.9996
 FDE 4.4012 FRA11.5639 FC3-4.7089 BSP 12244 SGB 7281.2 R23 .0701 R13 .9843 LSA 191.5 MSA 14.1 SSA 1.3
 BDE 2.0592 BRA 4.8901 BC3 3.4230 FSP 2557 SGI 7244.2 SG2 496.4 THA 10.58 EL1 153.8 EL2 13.3 ALF 16.98

LAUNCH DATE MAR 22 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 25 1971

Heliocentric Conic: RL 149.05 LAL .00 LOL 180.72 VL 32.322 GAL -6.39 AZL 89.60 HCA 220.58 SMA 180.30 ECC .20693 INC .3974 V1 29.694
 RP 217.61 LAP -.26 LOP 41.30 VP 21.993 GAP -.08 AZP 90.30 TAL 319.72 TAP 180.30 RCA 142.99 APO 217.61 V2 25.249
 RC 169.992 GL 2.69 GP -12.12 ZAL 152.03 ZAP 57.54 ETS 170.89 ZAE 98.89 ETE 181.76 ZAC 90.35 ETC 268.10 LVI 7.19

Planetary Conic: CS 22.590 VHL 4.753 DLA -7.94 RAL 333.85 RAD 8644.0 VEL 11.941 PTH 6.94 VHP 3.900 DPA -36.70 RAP 279.38 ECC 1.3718
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 6 9 3004.77 -31.10 90.95 194.63 128.01 18 56 14 2004.8 -14.20 72.12
 60.00 18 54 17 2876.76 -26.10 83.40 198.61 121.87 19 42 13 1876.8 -11.44 63.17
 70.00 19 56 5 2695.04 -21.59 71.45 201.40 117.13 20 41 0 1695.0 -8.87 50.33
 80.00 21 13 8 2453.80 -18.29 54.82 203.08 114.02 21 54 2 1453.8 -6.96 33.19
 90.00 22 38 25 2178.66 -17.05 35.16 203.64 112.91 23 14 44 1178.7 -6.23 13.36
 100.00 23 56 0 1928.27 -18.29 16.19 203.08 114.02 24 28 9 928.3 -6.96 354.56
 110.00 0 59 27 1741.86 -21.59 .37 201.40 117.13 1 28 29 741.9 -8.87 339.25

Differential Corrections: TDE 1.9903 TRA 4.9879 TC3-3.4264 BAU 1.0402 MID-COURSE EXECUTION ACCURACY: SGT 7295.6 SGR 1352.8 SG3 1331.5 ORBIT DETERMINATION ACCURACY: ST 150.7 SR 45.7 SS 112.6
 RDE .7169 RRA .8103 RC3 -.3497 FAU .11692 RRT .9265 RRF .9404 RTF .9833 CRT .9492 CRS -.9424 CST -.9997
 FDE 4.3431 FRA11.3820 FC3-4.4811 BSP 12541 SGB 7419.9 R23 .0665 R13 .9841 LSA 193.1 MSA 14.4 SSA 1.3
 BDE 2.1157 BRA 5.0533 BC3 3.4442 FSP 2500 SGI 7403.0 SG2 501.7 THA 9.79 EL1 156.9 EL2 13.8 ALF 16.18

LAUNCH DATE MAR 22 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 149.05 LAL .00 LOL 180.72 VL 32.329 GAL -8.69 AZL 89.67 HCA 221.72 SMA 180.41 ECC .20824 INC .3332 V1 29.894
RP 217.97 LAP -.22 LOP 42.44 VP 21.957 GAP -.27 AZP 90.25 TAL 319.31 TAP 181.03 RCA 142.84 APO 217.98 V2 25.209
RC 172.547 GL 2.23 GP -11.70 ZAL 152.37 ZAP 56.33 ETS 170.82 ZAE 97.40 ETE 181.44 ZAC 90.97 ETC 268.18 LVI 6.83

DISTANCE 669.565

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.042 VHL 4.800 DLA -8.26 RAL 334.29 RAD 6644.2 VEL 11.959 PTH 6.96 VHP 3.941 DPA -36.28 RAP 279.29 ECC 1.3792
LNCH AZNTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 9 7 3003.22 -31.04 90.86 195.28 128.06 18 59 10 2003.2 -14.12 72.05
60.00 18 57 36 2874.27 -26.01 83.25 199.28 121.94 19 45 30 1874.3 -11.34 63.05
70.00 19 59 49 2691.37 -21.48 71.23 202.09 117.22 20 44 40 1691.4 -8.74 50.14
80.00 21 17 15 2448.96 -18.16 54.53 203.79 114.12 21 58 4 1449.0 -6.80 32.92
90.00 22 42 41 2173.28 -16.91 34.83 204.36 113.01 23 18 55 1173.3 -6.06 13.05
100.00 0 4 2 1923.43 -18.16 15.89 203.79 114.12 0 36 6 923.4 -6.80 354.29
110.00 1 3 11 1738.19 -21.48 .15 202.09 117.22 1 32 9 738.2 -8.74 339.05

DIFFERENTIAL CORRECTIONS

TDE 2.0549 TRA 5.1640 TC3-3.4430 BAW 1.0653
RDE .7148 RRA .7865 RC3 -.3244 FAU .11294
FDE 4.2918 FRA11.2048 FC3-4.2435 BSP 12856
BOE 2.1757 BRA 5.2206 BC3 3.4583 FSP 2450

MID-COURSE EXECUTION ACCURACY

SGT 7465.6 SGR 1296.0 SG3 1297.4
RRT .9178 RRF .9318 RTF .9831
SGB 7577.3 R23 .0638 R13 .9838
SG1 7560.2 SG2 508.0 TMA 9.09

ORBIT DETERMINATION ACCURACY

ST 154.3 SR 44.9 SS 111.2
CRT .9437 CR8 -.9376 CST -.9997
LSA 194.8 MSA 14.8 SSA 1.3
EL1 160.0 EL2 14.3 ALF 15.47

LAUNCH DATE MAR 23 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 400.508

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.818 GAL -7.37 AZL 92.81 HCA 138.85 SMA 208.48 ECC .31020 INC 2.8113 V1 29.885
 RP 207.27 LAP -1.85 LOP 320.60 VP 25.376 GAP 18.07 AZP 87.88 TAL 328.21 TAP 107.06 RCA 143.80 APO 273.13 V2 26.426
 RC 56.362 GL -15.26 GP 5.70 ZAL 140.54 ZAP 163.71 ETS 159.59 ZAE 165.25 ETE 133.40 ZAC 107.17 ETC 275.08 LVI -19.49

PLANETOCENTRIC CONIC

C3 39.082 VHL 6.252 DLA -27.53 RAL 332.85 RAD 6650.3 VEL 12.608 PTH 7.47 VHP 8.807 DPA -15.15 RAP 306.73 ECC 1.6432
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 30 2730.52 -18.70 76.66 199.32 134.59 20 8 0 1730.5 -.55 60.39
 60.00 20 39 53 2524.66 -12.09 64.21 205.41 128.74 21 21 58 1524.7 3.95 46.17
 70.00 22 21 7 2226.96 -9.08 45.26 210.60 123.62 22 58 14 1227.0 8.86 25.70
 80.00 0 33 20 1825.35 1.84 19.08 214.89 119.81 1 3 46 825.4 13.83 356.14
 90.00 2 36 28 1426.31 6.04 352.18 217.20 117.68 3 0 16 426.3 16.90 330.41
 100.00 3 16 12 1299.82 1.84 340.45 214.89 119.81 3 37 52 299.0 13.83 319.51
 110.00 3 24 30 1273.77 -5.08 334.18 210.60 123.62 3 45 44 273.8 8.86 314.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9991 TRA-1.9847 TC3 -.0989 BAU .0972 SGT 2231.1 SGR 505.9 SG3 280.9 ST 55.0 SR 22.6 SS 41.8
 RDE -.4925 RRA -.1121 RC3 .1576 FAU .04522 RRT .5531 RRF -.5871 RTF -.8763 CRT .8725 CRS .7469 CST .9758
 FDE .8319 FRA 2.5535 FC3-1.0018 BSP 3909 SGB 2287.7 R23 -.1018 R13 -.8790 LSA 71.3 MSA 14.1 SSA 1.1
 BDE 1.1139 BRA 1.9879 BC3 .1861 FSP 383 SGI 2249.2 SG2 418.1 THA 7.41 EL1 58.6 EL2 10.4 ALF 20.43

LAUNCH DATE MAR 23 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 403.725

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.719 GAL -7.22 AZL 92.88 HCA 140.12 SMA 206.31 ECC .30245 INC 2.8026 V1 29.885
 RP 207.18 LAP -1.85 LOP 321.86 VP 23.257 GAP 17.60 AZP 87.79 TAL 328.25 TAP 108.36 RCA 143.91 APO 268.71 V2 26.438
 RC 56.568 GL -15.92 GP 6.01 ZAL 140.40 ZAP 162.75 ETS 159.76 ZAE 165.62 ETE 130.21 ZAC 107.44 ETC 275.17 LVI -19.90

PLANETOCENTRIC CONIC

C3 37.605 VHL 6.132 DLA -28.12 RAL 333.22 RAD 6649.8 VEL 12.549 PTH 7.42 VHP 8.558 DPA -14.77 RAP 307.00 ECC 1.6189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 27 6 2707.45 -17.59 75.58 199.30 134.95 20 12 14 1707.5 .61 59.43
 60.00 20 45 53 2497.90 -10.94 62.87 205.46 129.03 21 27 31 1497.9 5.12 44.88
 70.00 22 29 38 2192.77 -3.79 43.47 210.79 123.97 23 6 11 1192.8 10.12 23.87
 80.00 0 48 8 1771.44 3.66 16.11 215.41 119.65 1 17 39 771.4 15.46 354.97
 90.00 3 8 40 1318.17 9.48 345.91 218.55 116.77 3 30 39 318.2 19.69 323.54
 100.00 3 31 0 1245.91 3.66 337.48 215.41 119.65 3 51 46 245.9 15.46 316.33
 110.00 3 33 0 1239.59 -3.79 332.39 210.79 123.97 3 53 40 239.6 10.12 312.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9910 TRA-1.9319 TC3 -.0817 BAU .0946 SGT 2248.6 SGR 514.6 SG3 277.4 ST 55.6 SR 22.5 SS 43.3
 RDE -.4802 RRA -.1341 RC3 .1696 FAU .04662 RRT .5923 RRF -.6283 RTF -.8835 CRT .8818 CRS .7586 CST .9755
 FDE .8699 FRA 2.6558 FC3-1.0733 BSP 3850 SGB 2306.7 R23 -.1079 R13 -.8866 LSA 72.8 MSA 14.0 SSA 1.1
 BDE 1.1012 BRA 1.9365 BC3 .1882 FSP 410 SGI 2269.8 SG2 410.7 THA 7.98 EL1 59.1 EL2 10.0 ALF 20.29

LAUNCH DATE MAR 23 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 407.018

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.628 GAL -7.07 AZL 92.96 HCA 141.38 SMA 204.32 ECC .29511 INC 2.9580 V1 29.885
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.143 GAP 17.15 AZP 87.69 TAL 328.28 TAP 109.66 RCA 144.02 APO 264.81 V2 26.448
 RC 56.858 GL -16.62 GP 6.34 ZAL 140.23 ZAP 161.78 ETS 159.88 ZAE 165.90 ETE 128.95 ZAC 107.74 ETC 275.26 LVI -20.32

PLANETOCENTRIC CONIC

C3 36.246 VHL 6.020 DLA -28.74 RAL 333.60 RAD 6649.3 VEL 12.496 PTH 7.38 VHP 8.317 DPA -14.37 RAP 307.25 ECC 1.5965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 31 59 2684.04 -16.48 74.50 199.34 135.30 20 16 43 1884.0 1.79 58.45
 60.00 20 52 17 2470.42 -9.76 61.51 205.59 129.30 21 33 27 1470.4 6.32 43.55
 70.00 22 38 57 2158.71 -2.41 41.58 211.09 124.08 23 14 53 1156.7 11.45 21.91
 80.00 1 6 25 1707.16 5.82 12.56 216.17 119.34 1 34 52 707.2 17.33 351.11
 90.00 2 9 56 1367.83 12.50 351.08 219.73 116.09 3 14 44 367.8 22.19 328.13
 100.00 3 49 17 1181.63 5.82 333.93 216.17 119.34 4 8 58 181.6 17.33 312.48
 110.00 3 42 19 1203.53 -2.41 330.50 211.09 124.08 4 2 23 203.5 11.45 310.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9998 TRA-1.9144 TC3 -.0820 BAU .0967 SGT 2287.4 SGR 528.3 SG3 294.9 ST 56.9 SR 22.5 SS 44.9
 RDE -.4696 RRA -.1576 RC3 .1819 FAU .04811 RRT .5835 RRF -.6696 RTF -.8858 CRT .8934 CRS .7718 CST .9743
 FDE .9099 FRA 2.7620 FC3-1.1491 BSP 3993 SGB 2347.2 R23 -.1199 R13 -.8892 LSA 74.6 MSA 13.8 SSA 1.1
 BDE 1.1046 BRA 1.9209 BC3 .1996 FSP 439 SGI 2312.1 SG2 404.1 THA 8.52 EL1 60.4 EL2 9.1 ALF 19.88

LAUNCH DATE MAR 23 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

DISTANCE 410.381

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.538 GAL -6.93 AZL 93.04 HCA 142.64 SMA 202.47 ECC .28815 INC 3.0375 V1 29.885
 RP 207.01 LAP -1.84 LOP 324.39 VP 23.035 GAP 16.70 AZP 87.58 TAL 328.33 TAP 110.97 RCA 144.13 APO 260.81 V2 26.457
 RC 57.225 GL -17.35 GP 6.70 ZAL 140.04 ZAP 160.75 ETS 159.94 ZAE 166.10 ETE 123.71 ZAC 108.06 ETC 275.34 LVI -20.76

PLANETOCENTRIC CONIC

C3 34.995 VHL 5.916 DLA -29.39 RAL 334.00 RAD 6648.9 VEL 12.446 PTH 7.35 VHP 8.083 DPA -13.95 RAP 307.47 ECC 1.5759
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 37 9 2660.20 -15.30 73.42 199.46 135.62 20 21 30 1660.2 2.99 57.45
 60.00 20 59 9 2442.05 -8.54 60.12 205.80 129.54 21 39 51 1442.1 7.96 42.18
 70.00 22 49 14 2118.26 -1.95 39.58 211.30 124.14 23 24 32 1118.3 12.84 19.81
 80.00 1 32 3 1620.28 8.69 7.71 217.38 118.68 1 59 4 620.3 19.72 345.77
 90.00 2 29 25 1436.57 13.04 356.41 219.70 116.57 2 53 21 436.6 22.87 333.45
 100.00 4 14 55 1094.75 8.69 329.08 217.38 118.68 4 33 10 94.8 19.72 307.13
 110.00 3 52 36 1165.08 -1.95 328.49 211.30 124.14 4 12 1 165.1 12.84 308.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0045 TRA-1.8915 TC3 -.0776 BAU .0984 SGT 2318.5 SGR 541.2 SG3 313.4 ST 58.0 SR 22.5 SS 46.4
 RDE -.4599 RRA -.1822 RC3 .1954 FAU .04971 RRT .6678 RRF -.7098 RTF -.8888 CRT .9048 CRS .7844 CST .9732
 FDE .9515 FRA 2.8717 FC3-1.2288 BSP 4085 SGB 2380.9 R23 -.1320 R13 -.8927 LSA 76.4 MSA 13.8 SSA 1.1
 BDE 1.1046 BRA 1.9002 BC3 .2103 FSP 469 SGI 2347.4 SG2 397.9 THA 9.13 EL1 61.5 EL2 9.0 ALF 19.78

LAUNCH DATE MAR 23 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 413.808

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.454 GAL -6.79 AZL 93.12 HCA 143.91 SMA 200.76 ECC .28155 INC 3.1220 V1 29.885
 RP 206.94 LAP -1.84 LOP 325.66 VP 24.932 GAP 16.26 AZP 87.48 TAL 328.38 TAP 112.29 RCA 144.23 APO 237.28 V2 26.486
 RC 57.875 GL -18.12 GP 7.08 ZAL 139.82 ZAP 159.70 ETS 159.96 ZAE 166.21 ETE 120.55 ZAC 108.42 ETC 275.42 LVI -21.22

PLANETOCENTRIC CONIC

C3 33.848 VHL 5.818 DLA -30.07 RAL 334.41 RAD 6648.5 VEL 12.400 PTH 7.31 VHP 7.857 DPA -13.50 RAP 307.66 ECC 1.5570
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 40 2635.87 -14.12 72.33 199.65 135.92 20 28 36 1635.9 4.21 56.43
 60.00 21 6 33 2412.69 -7.26 58.69 206.10 129.75 21 46 46 1412.7 8.83 40.74
 70.00 23 0 44 2076.78 .64 37.41 212.05 124.15 23 35 21 1076.8 14.32 17.51
 79.33 2 13 10 1485.38 13.58 .32 219.74 117.09 2 37 55 485.4 23.57 337.33
 79.33 2 13 10 1485.38 13.58 .32 219.74 117.09 2 37 55 485.4 23.57 337.33
 79.33 2 13 10 1485.38 13.58 .32 219.74 117.09 2 37 55 485.4 23.57 337.33
 110.00 4 4 6 1123.60 .64 326.33 212.05 124.15 4 22 50 123.6 14.32 306.42

DIFFERENTIAL CORRECTIONS

TDE-1.0088 TRA-1.8663 TC3 -.0723 BAV .1005
 RDE -.4516 RRA -.2083 RC3 .2099 FAU .05139
 FDE .9968 FRA 2.9865 FC3-1.3143 BSP 4164
 BDE 1.1053 BRA 1.8779 BC3 .2220 FSP 502

MID-COURSE EXECUTION ACCURACY

SGT 2346.2 SGR 560.1 SG3 333.0
 RRT .7038 RRF -.7486 RTF -.8919
 SGB 2412.1 R23 -.1448 R13 -.8964
 SG1 2380.0 SG2 392.2 THA 9.81

ORBIT DETERMINATION ACCURACY

ST 59.0 SR 22.5 S8 48.1
 CRT .9163 CRS .7987 CST .9721
 LSA 78.2 MSA 13.7 S8A 1.1
 EL1 62.6 EL2 8.5 ALF 19.65

LAUNCH DATE MAR 23 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 417.295

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.375 GAL -6.66 AZL 93.21 HCA 145.17 SMA 199.18 ECC .27530 INC 3.2118 V1 29.885
 RP 206.87 LAP -1.83 LOP 326.93 VP 24.833 GAP 15.83 AZP 87.38 TAL 328.43 TAP 113.60 RCA 144.33 APO 253.99 V2 26.473
 RC 58.203 GL -18.92 GP 7.50 ZAL 139.57 ZAP 158.62 ETS 159.94 ZAE 166.22 ETE 117.53 ZAC 108.81 ETC 275.50 LVI -21.71

PLANETOCENTRIC CONIC

C3 32.800 VHL 5.727 DLA -30.79 RAL 334.84 RAD 6646.1 VEL 12.358 PTH 7.28 VHP 7.639 DPA -13.03 RAP 307.81 ECC 1.5398
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 48 34 2611.02 -12.90 71.22 199.91 136.21 20 32 5 1611.0 5.45 55.39
 60.00 21 14 34 2382.18 -5.93 57.21 206.51 129.94 21 54 16 1382.2 10.15 39.24
 70.00 23 13 48 2031.31 2.38 35.04 212.76 124.08 23 47 40 1031.3 15.91 14.95
 77.30 1 59 53 1525.11 14.13 3.58 219.83 117.64 2 25 18 525.1 24.29 340.58
 77.30 1 59 53 1525.11 14.13 3.58 219.83 117.64 2 25 18 525.1 24.29 340.58
 77.30 1 59 53 1525.11 14.13 3.58 219.83 117.64 2 25 18 525.1 24.29 340.58
 110.00 4 17 11 1078.13 2.38 323.98 212.76 124.08 4 35 9 78.1 15.91 303.86

DIFFERENTIAL CORRECTIONS

TDE-1.0134 TRA-1.8397 TC3 -.0670 BAV .1031
 RDE -.4447 RRA -.2362 RC3 .2255 FAU .05311
 FDE 1.0437 FRA 3.1063 FC3-1.4018 BSP 4237
 BDE 1.1067 BRA 1.8548 BC3 .2352 FSP 538

MID-COURSE EXECUTION ACCURACY

SGT 2371.4 SGR 583.3 SG3 353.7
 RRT .7377 RRF -.7852 RTF -.8949
 SGB 2442.1 R23 -.1583 R13 -.9000
 SG1 2411.2 SG2 387.3 THA 10.58

ORBIT DETERMINATION ACCURACY

ST 60.0 SR 22.6 S8 49.8
 CRT .9279 CRS .8137 CST .9711
 LSA 80.0 MSA 13.6 S8A 1.1
 EL1 63.6 EL2 8.0 ALF 19.60

LAUNCH DATE MAR 23 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 420.836

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.300 GAL -6.53 AZL 93.31 HCA 146.44 SMA 197.68 ECC .26938 INC 3.3074 V1 29.885
 RP 206.82 LAP -1.83 LOP 328.20 VP 24.739 GAP 15.41 AZP 87.24 TAL 328.49 TAP 114.93 RCA 144.43 APO 250.93 V2 26.479
 RC 58.807 GL -19.77 GP 7.96 ZAL 139.28 ZAP 157.50 ETS 159.87 ZAE 166.14 ETE 114.72 ZAC 109.25 ETC 275.57 LVI -22.22

PLANETOCENTRIC CONIC

C3 31.848 VHL 5.643 DLA -31.54 RAL 335.30 RAD 6647.7 VEL 12.319 PTH 7.25 VHP 7.427 DPA -12.53 RAP 307.93 ECC 1.5241
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 54 53 2589.58 -11.65 70.10 200.28 136.47 20 37 58 1585.6 6.73 54.31
 60.00 21 23 18 2350.29 -4.54 55.67 207.03 130.09 22 2 28 1350.3 11.52 37.66
 70.00 23 29 1 1980.22 4.32 32.36 213.69 123.91 24 2 1 980.2 17.66 12.02
 75.42 1 48 23 1559.58 14.68 6.48 220.00 118.23 2 14 23 559.6 25.03 343.47
 75.42 1 48 23 1559.58 14.68 6.48 220.00 118.23 2 14 23 559.6 25.03 343.47
 75.42 1 48 23 1559.58 14.68 6.48 220.00 118.23 2 14 23 559.6 25.03 343.47
 110.00 4 32 23 1027.04 4.32 321.28 213.69 123.91 4 49 30 27.0 17.66 300.94

DIFFERENTIAL CORRECTIONS

TDE-1.0164 TRA-1.8095 TC3 -.0598 BAV .1063
 RDE -.4391 RRA -.2638 RC3 .2424 FAU .05499
 FDE 1.0963 FRA 3.2288 FC3-1.4949 BSP 4286
 BDE 1.1072 BRA 1.8289 BC3 .2497 FSP 374

MID-COURSE EXECUTION ACCURACY

SGT 2390.8 SGR 811.3 SG3 375.4
 RRT .7688 RRF -.8188 RTF -.8577
 SGB 2467.7 R23 -.1726 R13 -.9037
 SG1 2437.8 SG2 383.4 THA 11.41

ORBIT DETERMINATION ACCURACY

ST 60.9 SR 22.8 S8 51.5
 CRT .9392 CRS .8290 CST .9699
 LSA 81.8 MSA 13.6 S8A 1.0
 EL1 64.6 EL2 7.4 ALF 19.64

LAUNCH DATE MAR 23 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 424.427

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 33.230 GAL -6.41 AZL 93.41 HCA 147.70 SMA 196.30 ECC .26378 INC 3.4098 V1 29.885
 RP 206.77 LAP -1.82 LOP 329.46 VP 24.850 GAP 14.99 AZP 87.12 TAL 328.55 TAP 116.28 RCA 144.52 APO 248.09 V2 26.465
 RC 59.485 GL -20.66 GP 8.46 ZAL 138.97 ZAP 156.34 ETS 159.76 ZAE 165.98 ETE 112.17 ZAC 109.72 ETC 275.64 LVI -22.75

PLANETOCENTRIC CONIC

C3 30.988 VHL 5.567 DLA -32.34 RAL 335.78 RAD 6647.4 VEL 12.285 PTH 7.22 VHP 7.224 DPA -12.00 RAP 308.01 ECC 1.5100
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 1 41 2559.45 -10.35 68.97 200.74 136.70 20 44 21 1559.5 8.03 53.20
 60.00 21 32 52 2316.79 -3.06 54.07 207.68 130.20 22 11 29 1316.8 12.94 35.98
 70.00 23 47 27 1920.42 6.58 29.21 214.91 123.59 24 19 28 920.4 19.64 8.52
 73.63 1 38 13 1590.46 15.25 9.15 220.25 118.86 2 4 44 590.5 25.80 346.13
 73.63 1 38 13 1590.46 15.25 9.15 220.25 118.86 2 4 44 590.5 25.80 346.13
 73.63 1 38 13 1590.46 15.25 9.15 220.25 118.86 2 4 44 590.5 25.80 346.13
 110.00 4 50 49 8255.28 6.58 296.04 214.91 123.59 6 35 5 5255.3 19.64 275.34

DIFFERENTIAL CORRECTIONS

TDE-1.0211 TRA-1.7785 TC3 -.0537 BAV .1102
 RDE -.4332 RRA -.2973 RC3 .2606 FAU .05694
 FDE 1.1520 FRA 3.3562 FC3-1.5907 BSP 4344
 BDE 1.1100 BRA 1.8032 BC3 .2661 FSP 613

MID-COURSE EXECUTION ACCURACY

SGT 2408.6 SGR 845.0 SG3 398.3
 RRT .7969 RRF -.8493 RTF -.9003
 SGB 2493.5 R23 -.1877 R13 -.9071
 SG1 2464.3 SG2 380.8 THA 12.35

ORBIT DETERMINATION ACCURACY

ST 61.8 SR 23.1 S8 53.3
 CRT .9503 CRS .8450 CST .9688
 LSA 83.7 MSA 13.6 S8A 1.0
 EL1 65.6 EL2 6.8 ALF 19.74

LAUNCH DATE MAR 23 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 429.065 EARTH TO MARS
 RL 149.10 LAL -.00 LOL 181.71 VL 33.163 GAL -8.29 AZL 93.52 HCA 148.97 SMA 195.02 ECC .25847 INC 3.5196 V1 29.889
 RP 206.74 LAP -1.81 LOP 330.73 VP 24.564 GAP 14.59 AZP 86.98 TAL 328.61 TAP 117.59 RCA 144.81 APO 245.43 V2 26.489
 RC 60.233 GL -21.60 GP 9.00 ZAL 138.61 ZAP 155.14 ETS 159.62 ZAE 165.72 ETE 109.93 ZAC 110.24 ETC 275.70 LVI -25.33

PLANETOCENTRIC CONIC
 C3 30.221 VHL 5.497 DLA -33.17 RAL 336.29 RAD 6647.1 VEL 12.284 PTH 7.20 VHP 7.027 DPA -11.43 RAP 308.05 ECC 1.4974
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 9 4 2532.52 -9.02 87.81 201.31 136.92 20 51 16 1532.5 9.37 52.05
 60.00 21 43 28 2281.25 -1.30 52.37 208.49 130.28 22 21 29 1281.2 14.44 34.17
 70.00 0 15 38 1844.21 9.43 25.15 216.61 122.98 0 48 23 844.2 22.05 3.92
 71.89 1 29 1 1618.96 15.82 11.67 220.58 119.55 1 56 0 619.0 26.59 348.65
 71.89 1 29 1 1618.96 15.82 11.67 220.58 119.55 1 56 0 619.0 26.59 348.65
 71.89 1 29 1 1618.96 15.82 11.67 220.58 119.55 1 56 0 619.0 26.59 348.65
 110.00 5 15 5 6179.07 9.43 291.98 216.61 122.98 6 58 4 5179.1 22.05 270.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0176 TRA-1.7385 TC3 -.0361 BAV .1145 SGT 2408.7 SGR 684.4 SG3 422.2 ST 62.2 SR 23.4 SS 55.0
 RDE -.4326 RRA -.3307 RC3 .2810 FAU .05911 RRT .8228 RRF -.8762 RTF -.9043 CRT .9604 CRS .8607 CST .9677
 FDE 1.2089 FRA 3.4843 FC3-1.6932 BSP 4289 SGB 2504.1 R23 -.1991 R13 -.9122 LSA 85.2 MSA 13.5 S3A 1.0
 BDE 1.1058 BRA 1.7677 BC3 .2833 FSP 651 SG1 2475.3 SG2 378.4 THA 13.48 EL1 66.1 EL2 6.1 ALF 20.04

LAUNCH DATE MAR 23 1971 FLIGHT TIME 164.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 431.745 EARTH TO MARS
 RL 149.10 LAL -.00 LOL 181.71 VL 33.099 GAL -6.18 AZL 93.64 HCA 150.24 SMA 193.83 ECC .25345 INC 3.6378 V1 29.885
 RP 206.71 LAP -1.80 LOP 332.00 VP 24.482 GAP 14.19 AZP 86.84 TAL 328.68 TAP 118.92 RCA 144.70 APO 242.95 V2 26.492
 RC 61.050 GL -22.59 GP 9.60 ZAL 138.22 ZAP 153.90 ETS 159.43 ZAE 165.38 ETE 108.02 ZAC 110.82 ETC 275.76 LVI -25.93

PLANETOCENTRIC CONIC
 C3 29.546 VHL 5.436 DLA -34.06 RAL 336.83 RAD 6646.8 VEL 12.226 PTH 7.18 VHP 6.838 DPA -10.82 RAP 308.05 ECC 1.4863
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 17 5 2504.73 -7.63 86.62 202.02 137.11 20 58 49 1504.7 10.75 50.85
 60.00 21 55 17 2243.27 .17 50.55 209.48 130.30 22 32 40 1243.3 16.02 32.21
 70.00 1 0 12 1707.97 14.38 17.70 219.76 121.32 1 28 40 708.0 25.97 355.27
 70.18 1 20 40 1645.58 16.40 14.08 221.01 120.28 1 48 5 645.6 27.40 351.06
 70.18 1 20 40 1645.58 16.40 14.08 221.01 120.28 1 48 5 645.6 27.40 351.06
 70.18 1 20 40 1645.58 16.40 14.08 221.01 120.28 1 48 5 645.6 27.40 351.06
 110.00 5 59 39 6042.82 14.38 284.52 219.76 121.32 7 40 21 5042.8 25.97 262.10

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0310 TRA-1.7090 TC3 -.0407 BAV .1202 SGT 2431.2 SGR 731.4 SG3 447.4 ST 63.4 SR 23.9 SS 57.0
 RDE -.4331 RRA -.3679 RC3 .3016 FAU .06117 RRT .8432 RRF -.8998 RTF -.9046 CRT .9706 CRS .8772 CST .9662
 FDE 1.2748 FRA 3.6204 FC3-1.7924 BSP 4430 SGB 2538.8 R23 -.2191 R13 -.9140 LSA 87.4 MSA 13.6 S3A .9
 BDE 1.1182 BRA 1.7481 BC3 .3043 FSP 695 SG1 2510.1 SG2 380.9 THA 14.58 EL1 67.5 EL2 5.4 ALF 20.23

LAUNCH DATE MAR 23 1971 FLIGHT TIME 166.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC DISTANCE 435.464 EARTH TO MARS
 RL 149.10 LAL -.00 LOL 181.71 VL 33.039 GAL -6.07 AZL 93.77 HCA 151.51 SMA 192.71 ECC .24870 INC 3.7656 V1 29.885
 RP 206.69 LAP -1.80 LOP 333.27 VP 24.404 GAP 13.80 AZP 86.89 TAL 328.74 TAP 120.25 RCA 144.78 APO 240.64 V2 26.495
 RC 61.933 GL -23.64 GP 10.25 ZAL 137.78 ZAP 152.60 ETS 159.20 ZAE 164.95 ETE 106.45 ZAC 111.45 ETC 275.81 LVI -24.58

PLANETOCENTRIC CONIC
 C3 28.981 VHL 5.382 DLA -34.99 RAL 337.41 RAD 6646.6 VEL 12.203 PTH 7.16 VHP 6.697 DPA -10.16 RAP 308.00 ECC 1.4766
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 28 52 2475.85 -6.19 85.40 202.87 137.27 21 7 7 1475.8 12.17 49.59
 60.00 22 8 41 2202.01 1.99 48.58 210.69 130.28 22 45 23 1202.0 17.72 30.05
 68.48 1 12 59 1670.96 16.98 16.43 221.54 121.07 1 40 50 671.0 28.24 353.42
 68.48 1 12 59 1670.96 16.98 16.43 221.54 121.07 1 40 50 671.0 28.24 353.42
 68.48 1 12 59 1670.96 16.98 16.43 221.54 121.07 1 40 50 671.0 28.24 353.42
 68.48 1 12 59 1670.96 16.98 16.43 221.54 121.07 1 40 50 671.0 28.24 353.42
 68.48 1 12 59 1670.96 16.98 16.43 221.54 121.07 1 40 50 671.0 28.24 353.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0380 TRA-1.6713 TC3 -.0358 BAV .1264 SGT 2437.3 SGR 785.7 SG3 473.6 ST 64.1 SR 24.7 SS 58.9
 RDE -.4354 RRA -.4075 RC3 .3245 FAU .06343 RRT .8611 RRF -.9198 RTF -.5082 CRT .9793 CRS .8931 CST .9649
 FDE 1.3443 FRA 3.7564 FC3-1.8960 BSP 4473 SGB 2560.8 R23 -.2349 R13 -.9172 LSA 89.4 MSA 13.7 S3A .9
 BDE 1.1256 BRA 1.7203 BC3 .3268 FSP 739 SG1 2531.8 SG2 384.5 THA 15.89 EL1 68.5 EL2 4.6 ALF 20.61

LAUNCH DATE MAR 23 1971 FLIGHT TIME 168.00 ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC DISTANCE 439.221 EARTH TO MARS
 RL 149.10 LAL -.00 LOL 181.71 VL 32.983 GAL -5.97 AZL 93.90 HCA 152.77 SMA 191.68 ECC .24422 INC 3.9043 V1 29.885
 RP 206.68 LAP -1.79 LOP 334.54 VP 24.329 GAP 13.42 AZP 86.53 TAL 328.81 TAP 121.58 RCA 144.86 APO 238.49 V2 26.496
 RC 62.879 GL -24.75 GP 10.97 ZAL 137.30 ZAP 151.26 ETS 158.94 ZAE 164.43 ETE 105.22 ZAC 112.16 ETC 275.86 LVI -25.28

PLANETOCENTRIC CONIC
 C3 28.469 VHL 5.336 DLA -35.98 RAL 338.05 RAD 6646.4 VEL 12.183 PTH 7.14 VHP 6.484 DPA -9.45 RAP 307.90 ECC 1.4685
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 35 32 2445.68 -4.68 84.12 203.90 137.40 21 16 18 1445.7 13.66 48.26
 60.00 22 24 9 2156.31 4.00 46.39 212.19 130.14 23 0 5 1156.3 19.57 27.59
 66.77 1 5 56 1695.37 17.56 18.74 222.19 121.92 1 34 11 695.4 29.11 355.75
 66.77 1 5 56 1695.37 17.56 18.74 222.19 121.92 1 34 11 695.4 29.11 355.75
 66.77 1 5 56 1695.37 17.56 18.74 222.19 121.92 1 34 11 695.4 29.11 355.75
 66.77 1 5 56 1695.37 17.56 18.74 222.19 121.92 1 34 11 695.4 29.11 355.75
 66.77 1 5 56 1695.37 17.56 18.74 222.19 121.92 1 34 11 695.4 29.11 355.75

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.0460 TRA-1.6308 TC3 -.0309 BAV .1333 SGT 2438.3 SGR 848.6 SG3 500.7 ST 64.9 SR 25.3 SS 60.9
 RDE -.4406 RRA -.4505 RC3 .3493 FAU .06576 RRT .8761 RRF -.9366 RTF -.9076 CRT .9867 CRS .9085 CST .9635
 FDE 1.4204 FRA 3.8943 FC3-1.9998 BSP 4516 SGB 2581.8 R23 -.2496 R13 -.9206 LSA 91.5 MSA 13.8 S3A .9
 BDE 1.1350 BRA 1.6919 BC3 .3506 FSP 786 SG1 2552.0 SG2 390.9 THA 17.38 EL1 69.5 EL2 3.8 ALF 21.12

LAUNCH DATE MAR 23 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 443.012

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.930 GAL -5.88 AZL 94.06 HCA 184.04 SMA 190.71 ECC .23997 INC 4.0553 V1 29.885
RP 206.67 LAP -1.77 LOP 335.81 VP 24.256 GAP 13.04 AZP 86.35 TAL 328.87 TAP 122.92 RCA 144.94 APO 236.47 V2 26.496
RC 63.888 GL -28.93 GP 11.76 ZAL 136.77 ZAP 149.85 ETS 158.63 ZAE 163.82 ETE 104.32 ZAC 112.94 ETC 275.91 LVI -26.04

PLANETOCENTRIC CONIC

C3 28.070 VHL 5.298 DLA -37.02 RAL 338.74 RAD 6646.2 VEL 12.166 PTH 7.13 VHP 6.319 DPA -8.67 RAP 307.75 ECC 1.4620
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 46 18 2413.91 -3.09 62.79 205.13 137.50 21 26 32 1413.9 15.21 46.83
60.00 22 42 31 2104.08 6.28 43.88 214.06 129.89 23 17 35 1104.1 21.63 24.72
65.04 0 59 25 1719.25 18.14 21.05 222.96 122.84 1 28 5 719.3 30.00 358.10
65.04 0 59 25 1719.25 18.14 21.05 222.96 122.84 1 28 5 719.3 30.00 358.10
65.04 0 59 25 1719.25 18.14 21.05 222.96 122.84 1 28 5 719.3 30.00 358.10
65.04 0 59 25 1719.25 18.14 21.05 222.96 122.84 1 28 5 719.3 30.00 358.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0428 TRA-1.5751 TC3 -.0098 BAV .1419 SGT 2413.3 SGR 919.6 SG3 328.0 ST 64.8 SR 26.2 SB 62.8
RDE -.4475 RRA -.4958 RC3 .3780 FAU .06849 RRT .8897 RRF -.9503 RTF -.9108 CRT .9923 CRS .9225 CST .9621
FDE 1.4957 FRA 4.0249 FC3-2.1125 B8P 4400 SGB 2582.5 R23 -.2569 R13 -.9260 LSA 93.0 MSA 13.9 S8A .8
BDE 1.1348 BRA 1.6513 BC3 .3781 F8P 826 SGT 2551.8 SG2 397.0 THA 19.21 EL1 69.9 EL2 3.0 ALF 21.91

LAUNCH DATE MAR 23 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

DISTANCE 446.832

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.879 GAL -5.78 AZL 94.22 HCA 155.31 SMA 189.80 ECC .23598 INC 4.2208 V1 29.885
RP 206.68 LAP -1.76 LOP 337.08 VP 24.187 GAP 12.68 AZP 86.16 TAL 328.94 TAP 124.25 RCA 145.01 APO 234.59 V2 26.496
RC 64.956 GL -27.18 GP 12.63 ZAL 136.18 ZAP 148.38 ETS 158.28 ZAE 163.10 ETE 103.73 ZAC 113.80 ETC 275.95 LVI -26.85

PLANETOCENTRIC CONIC

C3 27.775 VHL 5.270 DLA -38.13 RAL 339.49 RAD 6646.1 VEL 12.154 PTH 7.12 VHP 6.162 DPA -7.82 RAP 307.54 ECC 1.4571
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 58 21 2380.30 -1.40 61.38 206.61 137.56 21 38 1 1380.3 16.84 45.30
60.00 23 5 20 2041.41 9.01 40.83 216.47 129.45 23 39 22 1041.4 24.02 21.15
63.28 0 53 30 1742.69 18.72 23.37 223.89 123.84 1 22 33 742.7 30.92 .47
63.28 0 53 30 1742.69 18.72 23.37 223.89 123.84 1 22 33 742.7 30.92 .47
63.28 0 53 30 1742.69 18.72 23.37 223.89 123.84 1 22 33 742.7 30.92 .47
63.28 0 53 30 1742.69 18.72 23.37 223.89 123.84 1 22 33 742.7 30.92 .47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0678 TRA-1.5425 TC3 -.0265 BAV .1506 SGT 2427.6 SGR 1004.0 SG3 557.2 ST 66.3 SR 27.5 SB 65.2
RDE -.4613 RRA -.5484 RC3 .4047 FAU .07068 RRT .8970 RRF -.9617 RTF -.9089 CRT .9967 CRS .9365 CST .9603
FDE 1.5940 FRA 4.1683 FC3-2.2030 B8P 4606 SGB 2627.1 R23 -.2751 R13 -.9274 LSA 95.9 MSA 14.2 S8A .8
BDE 1.1632 BRA 1.6371 BC3 .4056 F8P 883 SGT 2594.0 SG2 415.4 THA 20.91 EL1 71.7 EL2 2.1 ALF 22.52

LAUNCH DATE MAR 23 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

DISTANCE 450.683

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.832 GAL -5.70 AZL 94.40 HCA 156.58 SMA 188.96 ECC .23221 INC 4.4029 V1 29.885
RP 206.70 LAP -1.75 LOP 338.35 VP 24.121 GAP 12.32 AZP 85.96 TAL 329.00 TAP 125.58 RCA 145.08 APO 232.84 V2 26.494
RC 66.082 GL -28.53 GP 13.59 ZAL 139.53 ZAP 146.84 ETS 157.90 ZAE 162.27 ETE 103.42 ZAC 114.77 ETC 275.98 LVI -27.74

PLANETOCENTRIC CONIC

C3 27.585 VHL 5.252 DLA -39.31 RAL 340.33 RAD 6646.0 VEL 12.146 PTH 7.11 VHP 6.015 DPA -6.90 RAP 307.27 ECC 1.4540
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 12 2 2344.18 .41 59.88 208.38 137.57 21 51 7 1344.2 18.57 43.63
60.00 23 37 3 1956.38 12.65 36.60 219.84 128.59 24 9 39 956.4 27.11 16.07
61.48 0 48 8 1766.01 19.29 25.72 224.99 124.93 1 17 34 766.0 31.86 2.90
61.48 0 48 8 1766.01 19.29 25.72 224.99 124.93 1 17 34 766.0 31.86 2.90
61.48 0 48 8 1766.01 19.29 25.72 224.99 124.93 1 17 34 766.0 31.86 2.90
61.48 0 48 8 1766.01 19.29 25.72 224.99 124.93 1 17 34 766.0 31.86 2.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0804 TRA-1.4923 TC3 -.0237 BAV .1611 SGT 2411.6 SGR 1098.7 SG3 583.9 ST 66.8 SR 29.0 SB 67.4
RDE -.4780 RRA -.6041 RC3 .4368 FAU .07332 RRT .9039 RRF -.9707 RTF -.5591 CRT .9991 CRS .9486 CST .9590
FDE 1.6927 FRA 4.2992 FC3-2.3010 B8P 4633 SGB 2650.1 R23 -.2833 R13 -.9314 LSA 98.2 MSA 14.5 S8A .7
BDE 1.1814 BRA 1.6009 BC3 .4368 F8P 930 SGT 2614.4 SG2 433.6 THA 23.05 EL1 72.9 EL2 1.2 ALF 23.47

LAUNCH DATE MAR 23 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 454.561

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.787 GAL -5.61 AZL 94.60 HCA 157.84 SMA 188.18 ECC .22866 INC 4.6040 V1 29.885
RP 206.72 LAP -1.74 LOP 339.62 VP 24.057 GAP 11.97 AZP 85.73 TAL 329.06 TAP 126.90 RCA 145.15 APO 237.20 V2 26.491
RC 67.265 GL -29.96 GP 14.67 ZAL 134.81 ZAP 145.23 ETS 157.47 ZAE 161.32 ETE 103.36 ZAC 115.84 ETC 275.02 LVI -28.72

PLANETOCENTRIC CONIC

C3 27.313 VHL 5.245 DLA -40.56 RAL 341.28 RAD 6646.0 VEL 12.144 PTH 7.11 VHP 5.877 DPA -5.87 RAP 306.93 ECC 1.4528
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 27 49 2304.82 2.39 58.23 210.53 137.53 22 6 14 1304.8 20.44 41.76
59.62 0 43 19 1789.41 19.85 28.12 226.29 126.12 1 13 9 789.4 32.83 5.41
59.62 0 43 19 1789.41 19.85 28.12 226.29 126.12 1 13 9 789.4 32.83 5.41
59.62 0 43 19 1789.41 19.85 28.12 226.29 126.12 1 13 9 789.4 32.83 5.41
59.62 0 43 19 1789.41 19.85 28.12 226.29 126.12 1 13 9 789.4 32.83 5.41
59.62 0 43 19 1789.41 19.85 28.12 226.29 126.12 1 13 9 789.4 32.83 5.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0970 TRA-1.4392 TC3 -.0239 BAV .1728 SGT 2391.2 SGR 1207.4 SG3 614.9 ST 67.5 SR 30.9 SB 69.7
RDE -.5011 RRA -.6657 RC3 .4692 FAU .07584 RRT .9088 RRF -.9778 RTF -.9089 CRT .9997 CRS .9595 CST .9576
FDE 1.8064 FRA 4.4260 FC3-2.3863 B8P 4682 SGB 2678.8 R23 -.2879 R13 -.9357 LSA 100.6 MSA 14.7 S8A .7
BDE 1.2060 BRA 1.5857 BC3 .4698 F8P 982 SGT 2639.6 SG2 456.4 THA 25.47 EL1 74.2 EL2 .7 ALF 24.61

LAUNCH DATE MAR 23 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.745 GAL -5.34 AZL 94.83 HCA 159.11 SMA 187.44 ECC .22532 INC 4.8287 V1 29.885
RP 206.75 LAP -1.72 LOP 340.89 VP 23.996 GAP 11.82 AZP 85.49 TAL 329.12 TAP 128.23 RCA 145.21 APO 229.68 V2 26.487
RC 68.502 GL -31.51 GP 15.88 ZAL 134.00 ZAP 143.52 ETS 157.01 ZAE 180.23 ETE 103.52 ZAC 117.05 ETC 276.05 LVI -29.79

Planetocentric Conic

C3 27.573 VHL 5.251 DLA -41.89 RAL 342.30 RAD 6646.0 VEL 12.146 PTH 7.11 VHP 5.750 DPA -4.74 RAP 306.52 ECC 1.4530
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 21 46 22 2260.96 4.59 56.39 213.15 137.41 22 24 3 1261.0 22.50 39.61
57.70 0 39 8 1813.07 20.39 30.59 227.81 127.42 1 9 21 813.1 33.81 8.02
57.70 0 39 8 1813.07 20.39 30.59 227.81 127.42 1 9 21 813.1 33.81 8.02
57.70 0 39 8 1813.07 20.39 30.59 227.81 127.42 1 9 21 813.1 33.81 8.02
57.70 0 39 8 1813.07 20.39 30.59 227.81 127.42 1 9 21 813.1 33.81 8.02
57.70 0 39 8 1813.07 20.39 30.59 227.81 127.42 1 9 21 813.1 33.81 8.02

Differential Corrections

TDE-1.1141 TRA-1.3792 TC3 -.0217 BAU .1884
RDE -.5313 RRA -.7328 RC3 .5031 FAU .07843
FDE 1.9319 FRA 4.9396 FC3-2.4627 BSP 4704
BDE 1.2344 BRA 1.5618 BC3 .5055 FSP 1030

Mid-Course Execution Accuracy

SGT 2359.1 SGR 1330.9 SG3 843.2
RRT .9123 RRF -.9833 RTF -.9086
SGB 2708.6 R23 -.2875 R13 -.9408
SG1 2665.3 S22 482.5 THA 28.24

Orbit Determination Accuracy

ST 67.9 SR 33.2 SS 72.1
CRT .9987 CRS .9687 CST .9563
LSA 103.4 MSA 15.0 SSA .6
EL1 75.6 EL2 1.5 ALP 26.01

LAUNCH DATE MAR 23 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.705 GAL -5.46 AZL 95.08 HCA 160.37 SMA 186.78 ECC .22217 INC 5.0821 V1 29.885
RP 206.79 LAP -1.71 LOP 342.16 VP 23.936 GAP 11.29 AZP 85.21 TAL 329.17 TAP 129.54 RCA 145.27 APO 228.25 V2 26.483
RC 69.791 GL -33.17 GP 17.20 ZAL 133.11 ZAP 141.72 ETS 156.50 ZAE 188.97 ETE 103.85 ZAC 118.40 ETC 276.08 LVI -30.97

Planetocentric Conic

C3 27.785 VHL 5.271 DLA -43.32 RAL 343.49 RAD 6646.1 VEL 12.155 PTH 7.12 VHP 5.635 DPA -3.48 RAP 306.04 ECC 1.4573
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 22 8 50 2210.41 7.12 84.26 216.44 137.17 22 45 41 1210.4 24.83 37.05
55.71 0 35 37 1837.30 20.89 33.15 229.59 128.85 1 6 15 837.3 34.81 10.78
55.71 0 35 37 1837.30 20.89 33.15 229.59 128.85 1 6 15 837.3 34.81 10.78
55.71 0 35 37 1837.30 20.89 33.15 229.59 128.85 1 6 15 837.3 34.81 10.78
55.71 0 35 37 1837.30 20.89 33.15 229.59 128.85 1 6 15 837.3 34.81 10.78
55.71 0 35 37 1837.30 20.89 33.15 229.59 128.85 1 6 15 837.3 34.81 10.78

Differential Corrections

TDE-1.1430 TRA-1.3218 TC3 -.0314 BAU .2015
RDE -.5724 RRA -.8078 RC3 .5415 FAU .08078
FDE 2.0788 FRA 4.6420 FC3-2.5168 BSP 4824
BDE 1.2783 BRA 1.5491 BC3 .5424 FSP 1081

Mid-Course Execution Accuracy

SGT 2333.3 SGR 1473.0 SG3 670.6
RRT .9129 RRF -.9876 RTF -.9064
SGB 2759.4 R23 -.2855 R13 -.9455
SG1 2710.4 S22 517.7 THA 31.22

Orbit Determination Accuracy

ST 66.8 SR 36.0 SS 74.8
CRT .9963 CRS .9765 CST .9552
LSA 106.7 MSA 15.4 SSA .6
EL1 77.6 EL2 2.7 ALP 27.97

LAUNCH DATE MAR 23 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.688 GAL -5.39 AZL 95.37 HCA 161.64 SMA 186.12 ECC .21922 INC 5.3677 V1 29.885
RP 206.84 LAP -1.69 LOP 343.43 VP 23.879 GAP 10.95 AZP 84.90 TAL 329.22 TAP 130.86 RCA 145.32 APO 226.92 V2 26.477
RC 71.130 GL -34.97 GP 18.70 ZAL 132.11 ZAP 139.82 ETS 155.98 ZAE 187.53 ETE 104.32 ZAC 119.91 ETC 276.12 LVI -32.28

Planetocentric Conic

C3 28.176 VHL 5.308 DLA -44.84 RAL 344.84 RAD 6646.3 VEL 12.171 PTH 7.13 VHP 5.534 DPA -2.07 RAP 305.47 ECC 1.4637
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 22 37 32 2148.35 10.21 91.60 220.72 136.73 23 13 20 1148.4 27.61 33.77
53.62 0 32 53 1862.30 21.35 35.83 231.68 130.42 1 3 56 862.3 35.82 13.70
53.62 0 32 53 1862.30 21.35 35.83 231.68 130.42 1 3 56 862.3 35.82 13.70
53.62 0 32 53 1862.30 21.35 35.83 231.68 130.42 1 3 56 862.3 35.82 13.70
53.62 0 32 53 1862.30 21.35 35.83 231.68 130.42 1 3 56 862.3 35.82 13.70
53.62 0 32 53 1862.30 21.35 35.83 231.68 130.42 1 3 56 862.3 35.82 13.70

Differential Corrections

TDE-1.1728 TRA-1.2548 TC3 -.0382 BAU .2192
RDE -.8286 RRA -.8896 RC3 .5808 FAU .08310
FDE 2.2433 FRA 4.7191 FC3-2.5334 BSP 4908
BDE 1.3291 BRA 1.5382 BC3 .5819 FSP 1126

Mid-Course Execution Accuracy

SGT 2291.8 SGR 1634.1 SG3 895.8
RRT .9127 RRF -.9908 RTF -.5342
SGB 2814.8 R23 -.2970 R13 -.9913
SG1 2759.6 S22 554.7 THA 34.63

Orbit Determination Accuracy

ST 69.5 SR 39.4 SS 77.3
CRT .9929 CRS .9828 CST .9544
LSA 110.2 MSA 15.7 SSA .5
EL1 79.8 EL2 4.1 ALP 29.48

LAUNCH DATE MAR 23 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.633 GAL -5.33 AZL 95.89 HCA 162.90 SMA 185.53 ECC .21845 INC 5.6938 V1 29.885
RP 206.90 LAP -1.67 LOP 344.69 VP 23.824 GAP 10.83 AZP 84.56 TAL 329.27 TAP 132.17 RCA 145.37 APO 225.88 V2 26.470
RC 72.917 GL -38.93 GP 20.40 ZAL 131.00 ZAP 137.78 ETS 155.38 ZAE 185.89 ETE 104.89 ZAC 121.83 ETC 276.15 LVI -33.75

Planetocentric Conic

C3 28.786 VHL 5.365 DLA -46.48 RAL 346.41 RAD 6646.5 VEL 12.195 PTH 7.15 VHP 5.449 DPA -.49 RAP 304.80 ECC 1.4737
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 23 19 6 2059.77 14.57 47.70 226.87 135.81 23 53 26 1059.8 31.42 28.76
51.44 0 31 5 1888.37 21.74 38.62 234.14 132.15 1 2 34 888.4 36.81 16.84
51.44 0 31 5 1888.37 21.74 38.62 234.14 132.15 1 2 34 888.4 36.81 16.84
51.44 0 31 5 1888.37 21.74 38.62 234.14 132.15 1 2 34 888.4 36.81 16.84
51.44 0 31 5 1888.37 21.74 38.62 234.14 132.15 1 2 34 888.4 36.81 16.84
51.44 0 31 5 1888.37 21.74 38.62 234.14 132.15 1 2 34 888.4 36.81 16.84

Differential Corrections

TDE-1.2076 TRA-1.1806 TC3 -.0411 BAU .2400
RDE -.6956 RRA -.9789 RC3 .6222 FAU .08329
FDE 2.4310 FRA 4.7629 FC3-2.5652 BSP 5004
BDE 1.3936 BRA 1.5336 BC3 .6235 FSP 1164

Mid-Course Execution Accuracy

SGT 2239.8 SGR 1817.1 SG3 717.0
RRT .9110 RRF -.9933 RTF -.9011
SGB 2884.2 R23 -.2634 R13 -.9578
SG1 2822.2 S22 594.8 THA 38.49

Orbit Determination Accuracy

ST 70.1 SR 43.6 SS 80.4
CRT .9889 CRS .9878 CST .9539
LSA 114.1 MSA 16.1 SSA .5
EL1 82.3 EL2 5.5 ALP 31.75

LAUNCH DATE MAR 23 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.600 GAL -5.27 AZL 96.07 HCA 164.16 SMA 184.87 ECC .21386 INC 6.0701 V1 29.885
RP 206.96 LAP -1.65 LOP 345.96 VP 23.770 GAP 10.31 AZP 84.16 TAL 329.31 TAP 133.47 RCA 145.42 APO 224.53 V2 26.462
RC 73.950 GL -39.07 GP 22.31 ZAL 129.74 ZAP 135.61 ETS 154.78 ZAE 154.00 ETE 105.53 ZAC 123.57 ETC 276.19 LVI -35.38

DISTANCE 474.292

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.669 VHL 5.447 DLA -48.23 RAL 348.25 RAD 6646.9 VEL 12.231 PTH 7.18 VMP 5.383 DPA 1.29 RAP 304.03 ECC 1.4883
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23
49.16 0 30 25 1915.92 22.04 41.57 237.03 134.05 1 2 21 915.9 37.77 20.23

DIFFERENTIAL CORRECTIONS

TDE-1.2508 TRA-1.0994 TC3 -.0474 BAU .2639
RDE -.7900 RRA-1.0771 RC3 .6636 FAU .08702
PDE 2.6519 FRA 4.7674 FC3-2.5394 B8P 5137
BDE 1.4784 BRA 1.5391 BC3 .6653 F8P 1196

MID-COURSE EXECUTION ACCURACY

SGT 2178.8 SGR 2026.2 SG3 733.6
RRR .9079 RRF -.9991 RTF -.8970
SGB 2975.3 R23 -.2448 R13 -.9646
SG1 2906.4 SG2 636.6 THA 42.71

ORBIT DETERMINATION ACCURACY

ST 70.8 SR 48.8 SS 83.5
CRT .9847 CRS .9916 CST .9540
LSA 118.7 MSA 16.4 S8A .4
EL1 85.6 EL2 7.0 ALF 34.43

LAUNCH DATE MAR 23 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.570 GAL -5.21 AZL 96.51 HCA 165.42 SMA 184.46 ECC .21142 INC 6.5092 V1 29.885
RP 207.04 LAP -1.64 LOP 347.23 VP 23.718 GAP 10.00 AZP 83.70 TAL 329.35 TAP 134.77 RCA 145.46 APO 223.46 V2 26.454
RC 75.426 GL -41.41 GP 24.48 ZAL 128.33 ZAP 133.28 ETS 154.16 ZAE 151.84 ETE 106.21 ZAC 125.77 ETC 276.24 LVI -37.22

DISTANCE 478.295

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.904 VHL 5.559 DLA -50.10 RAL 350.43 RAD 6647.4 VEL 12.201 PTH 7.22 VMP 5.341 DPA 3.31 RAP 303.15 ECC 1.5086
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92
46.75 0 31 11 1945.29 22.20 44.69 240.46 136.15 1 3 36 945.3 38.65 23.92

DIFFERENTIAL CORRECTIONS

TDE-1.2941 TRA-1.0005 TC3 -.0418 BAU .2938
RDE -.9144 RRA-1.1802 RC3 .7094 FAU .08880
PDE 2.8981 FRA 4.7058 FC3-2.4875 B8P 5193
BDE 1.5846 BRA 1.5472 BC3 .7106 F8P 1203

MID-COURSE EXECUTION ACCURACY

SGT 2089.4 SGR 2259.7 SG3 742.0
RRR .9042 RRF -.9964 RTF -.8924
SGB 3077.7 R23 -.2197 R13 -.9721
SG1 3003.5 SG2 671.5 THA 47.48

ORBIT DETERMINATION ACCURACY

ST 70.9 SR 55.1 SS 86.6
CRT .9808 CRS .9943 CST .9543
LSA 123.6 MSA 16.6 S8A .4
EL1 89.4 EL2 8.6 ALF 37.69

LAUNCH DATE MAR 23 1971

FLIGHT TIME 190.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.541 GAL -5.16 AZL 97.03 HCA 166.68 SMA 183.98 ECC .20916 INC 7.0290 V1 29.885
RP 207.12 LAP -1.62 LOP 346.49 VP 23.668 GAP 9.70 AZP 83.16 TAL 329.37 TAP 136.05 RCA 145.50 APO 222.46 V2 26.444
RC 76.944 GL -43.98 GP 26.94 ZAL 126.74 ZAP 130.76 ETS 153.53 ZAE 149.36 ETE 106.91 ZAC 126.27 ETC 276.31 LVI -39.27

DISTANCE 482.312

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 32.615 VHL 5.711 DLA -52.10 RAL 353.07 RAD 6648.0 VEL 12.350 PTH 7.27 VMP 5.330 DPA 5.60 RAP 302.13 ECC 1.5368
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94
44.23 0 33 51 1977.02 22.18 47.97 244.55 138.44 1 6 48 977.0 39.42 27.94

DIFFERENTIAL CORRECTIONS

TDE-1.3728 TRA -.9144 TC3 -.0673 BAU .3251
RDE -1.0982 RRA-1.2991 RC3 .7426 FAU .08880
PDE 3.2154 FRA 4.5989 FC3-2.3540 B8P 5576
BDE 1.7567 BRA 1.5888 BC3 .7456 F8P 1222

MID-COURSE EXECUTION ACCURACY

SGT 2032.8 SGR 2339.8 SG3 743.5
RRR .8958 RRF -.9974 RTF -.8933
SGB 3250.0 R23 -.1975 R13 -.9779
SG1 3168.5 SG2 723.1 THA 51.99

ORBIT DETERMINATION ACCURACY

ST 72.4 SR 63.5 SS 90.8
CRT .9778 CRS .9984 CST .9565
LSA 131.2 MSA 16.8 S8A .3
EL1 95.8 EL2 10.1 ALF 41.19

LAUNCH DATE MAR 23 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.514 GAL -5.11 AZL 97.65 HCA 167.94 SMA 183.83 ECC .20705 INC 7.6545 V1 29.885
RP 207.21 LAP -1.60 LOP 349.75 VP 23.619 GAP 9.40 AZP 82.51 TAL 329.40 TAP 137.34 RCA 145.53 APO 221.53 V2 26.433
RC 76.508 GL -46.83 GP 29.74 ZAL 124.93 ZAP 128.03 ETS 152.93 ZAE 146.82 ETE 107.64 ZAC 131.12 ETC 276.40 LVI -41.98

DISTANCE 486.343

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 34.980 VHL 5.914 DLA -54.22 RAL 356.32 RAD 6648.9 VEL 12.445 PTH 7.35 VMP 5.358 DPA 8.21 RAP 300.96 ECC 1.5757
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34
41.60 0 39 3 2011.79 21.91 51.43 249.45 140.93 1 12 35 1011.8 39.99 32.34

DIFFERENTIAL CORRECTIONS

TDE-1.4311 TRA -.8019 TC3 -.0737 BAU .3659
RDE -1.3455 RRA-1.4177 RC3 .7789 FAU .08843
PDE 3.5656 FRA 4.3850 FC3-2.1887 B8P 5845
BDE 1.9789 BRA 1.6288 BC3 .7823 F8P 1199

MID-COURSE EXECUTION ACCURACY

SGT 1936.2 SGR 2839.9 SG3 730.2
RRR .8862 RRF -.9980 RTF -.8729
SGB 3437.2 R23 -.1704 R13 -.9837
SG1 3352.1 SG2 760.1 THA 56.94

ORBIT DETERMINATION ACCURACY

ST 73.1 SR 74.1 SS 94.6
CRT .9758 CRS .9977 CST .9590
LSA 139.6 MSA 16.7 S8A .3
EL1 103.4 EL2 11.4 ALF 45.42

LAUNCH DATE MAR 23 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 490.386

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.409 GAL -5.07 AZL 98.42 HCA 189.19 SMA 183.12 ECC .20508 INC 8.4222 V1 29.885
RP 207.31 LAP -1.57 LOP 351.02 VP 23.571 GAP 9.10 AZP 81.73 TAL 329.42 TAP 138.61 RCA 145.57 APO 220.67 V2 26.422
RC 80.098 GL -49.99 GP 32.94 ZAL 122.88 ZAP 125.06 ETS 152.39 ZAE 143.27 ETE 108.38 ZAC 134.36 ETC 276.52 LVI -44.15

PLANETOCENTRIC CONIC

C3 38.294 VHL 6.188 DLA -56.43 RAL .39 RAD 6650.1 VEL 12.577 PTH 7.44 VHP 3.442 DPA 11.18 RAP 299.61 ECC 1.6302
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.89 0 47 41 2050.57 21.29 55.04 255.39 143.60 1 21 52 1050.6 40.24 37.11
38.89 0 47 41 2050.57 21.29 55.04 255.39 143.60 1 21 52 1050.6 40.24 37.11
38.89 0 47 41 2050.57 21.29 55.04 255.39 143.60 1 21 52 1050.6 40.24 37.11
38.89 0 47 41 2050.57 21.29 55.04 255.39 143.60 1 21 52 1050.6 40.24 37.11
38.89 0 47 41 2050.57 21.29 55.04 255.39 143.60 1 21 52 1050.6 40.24 37.11
38.89 0 47 41 2050.57 21.29 55.04 255.39 143.60 1 21 52 1050.6 40.24 37.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.5492 TRA -.6782 TC3 -.0848 BAU .4130 SGT 1832.6 SGR 3189.3 SG3 702.0 ST 73.7 SR 88.2 SS 99.2
RDE-1.7122 RRA-1.5425 RC3 .8023 FAU .08630 RRT .8732 RRF -.9985 RTF -.8589 CRT .9754 CRS .9986 CST .9626
FDE 3.9823 FRA 4.0761 FC3-1.9509 BSP 6266 SGB 3678.3 R23 -.1437 R13 -.9885 LSA 150.9 HSA 16.5 SSA .2
BDE 2.3090 BRA 1.6850 BC3 .8068 F8P 1163 SG1 3591.8 SG2 793.0 THA 61.88 EL1 114.3 EL2 12.5 ALF 50.25

LAUNCH DATE MAR 23 1971

FLIGHT TIME 224.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 552.649

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.278 GAL -4.98 AZL 81.62 HCA 188.12 SMA 179.73 ECC .19070 INC 8.3809 V1 29.885
RP 209.76 LAP -1.18 LOP 9.74 VP 22.956 GAP 5.35 AZP 98.30 TAL 327.96 TAP 156.08 RCA 145.46 APO 214.01 V2 26.137
RC 107.990 GL 50.86 GP -46.35 ZAL 122.98 ZAP 99.37 ETS 188.75 ZAE 125.18 ETE 225.23 ZAC 56.07 ETC 272.16 LVI 32.88

PLANETOCENTRIC CONIC

C3 38.519 VHL 6.043 DLA 36.22 RAL 313.34 RAD 6649.4 VEL 12.508 PTH 7.39 VHP 5.335 DPA -68.10 RAP 313.31 ECC 1.6010
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 23 32 4064.11 -41.33 179.57 217.81 63.96 14 31 16 3064.1 -47.55 148.59
60.00 12 52 28 4147.27 -30.01 179.88 210.68 61.73 14 1 35 3147.3 -38.80 152.60
66.36 11 23 17 4408.35 -15.38 191.76 201.30 56.79 12 36 45 3408.3 -27.62 169.50
66.36 11 23 17 4408.35 -15.38 191.76 201.30 56.79 12 36 45 3408.3 -27.62 169.50
66.36 11 23 17 4408.35 -15.38 191.76 201.30 56.79 12 36 45 3408.3 -27.62 169.50
66.36 11 23 17 4408.35 -15.38 191.76 201.30 56.79 12 36 45 3408.3 -27.62 169.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1884 TRA .3843 TC3 -.7157 BAU .6894 SGT 1490.5 SGR 5379.0 SG3 689.5 ST 56.8 SR 155.3 SS 3.5
RDE 2.9735 RRA 3.6913 RC3-1.2173 FAU .08604 RRT .7993 RRF .9992 RTF .8070 CRT .9514 CRS -.9999 CST -.5481
FDE 4.2767 FRA 5.4595 FC3-2.0397 BSP 9407 SGB 5581.6 R23 .0223 R13 .9991 LSA 194.3 HSA 17.0 SSA .2
BDE 3.2021 BRA 3.7113 BC3 1.4121 F8P 1195 SG1 5512.8 SG2 873.9 THA 77.18 EL1 164.5 EL2 16.5 ALF 70.62

LAUNCH DATE MAR 23 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

DISTANCE 556.802

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.273 GAL -4.99 AZL 82.90 HCA 189.33 SMA 179.65 ECC .19045 INC 7.0990 V1 29.885
RP 209.99 LAP -1.15 LOP 10.98 VP 22.919 GAP 5.12 AZP 97.01 TAL 327.83 TAP 157.16 RCA 145.43 APO 213.86 V2 26.111
RC 110.071 GL 45.77 GP -43.19 ZAL 126.49 ZAP 98.62 ETS 187.02 ZAE 126.54 ETE 222.05 ZAC 59.24 ETC 271.96 LVI 30.19

PLANETOCENTRIC CONIC

C3 30.748 VHL 5.545 DLA 31.29 RAL 315.10 RAD 6647.3 VEL 12.275 PTH 7.22 VHP 4.904 DPA -65.29 RAP 309.50 ECC 1.5060
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 14 3 35 3896.49 -45.45 165.59 213.17 74.07 15 8 31 2896.5 -46.65 130.54
60.00 13 55 8 3919.03 -36.28 163.82 209.37 71.09 15 0 27 2919.0 -40.29 133.46
70.00 13 36 10 3975.09 -26.22 163.87 204.91 67.29 14 42 25 2975.1 -33.15 137.36
76.01 12 30 9 4181.26 -14.88 173.85 199.20 62.15 13 39 50 3181.3 -25.06 150.75
76.01 12 30 9 4181.26 -14.88 173.85 199.20 62.15 13 39 50 3181.3 -25.06 150.75
76.01 12 30 9 4181.26 -14.88 173.85 199.20 62.15 13 39 50 3181.3 -25.06 150.75
110.00 18 35 36 3021.91 -26.22 92.79 204.91 67.29 19 25 58 2021.9 -33.15 66.29

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1098 TRA .5278 TC3 -.8850 BAU .6443 SGT 1638.8 SGR 5137.9 SG3 840.5 ST 58.1 SR 144.3 SS 111.9
RDE 2.5126 RRA 3.4694 RC3-1.2936 FAU .09730 RRT .8388 RRF .9992 RTF .5443 CRT .9594 CRS -.9998 CST -.9544
FDE 4.5598 FRA 6.5743 FC3-2.7417 BSP 9122 SGB 5393.0 R23 .0331 R13 .9987 LSA 190.9 HSA 16.1 SSA .3
BDE 2.7468 BRA 3.5094 BC3 1.5674 F8P 1468 SG1 5323.8 SG2 861.1 THA 74.61 EL1 154.8 EL2 15.3 ALF 68.64

LAUNCH DATE MAR 23 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 560.964

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.288 GAL -5.01 AZL 83.89 HCA 190.55 SMA 179.57 ECC .19030 INC 6.1122 V1 29.885
RP 210.22 LAP -1.12 LOP 12.20 VP 22.882 GAP 4.90 AZP 96.01 TAL 327.67 TAP 158.22 RCA 145.40 APO 213.74 V2 26.085
RC 112.177 GL 41.22 GP -40.33 ZAL 129.55 ZAP 97.57 ETS 185.34 ZAE 127.40 ETE 218.74 ZAC 62.13 ETC 271.73 LVI 27.82

PLANETOCENTRIC CONIC

C3 26.983 VHL 5.194 DLA 28.93 RAL 316.68 RAD 6645.8 VEL 12.122 PTH 7.09 VHP 4.589 DPA -62.74 RAP 306.31 ECC 1.4441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 14 34 6 3782.75 -47.23 183.20 207.87 83.46 15 36 49 2782.8 -44.27 118.56
60.00 14 37 15 3754.35 -39.14 180.79 208.21 79.51 15 39 49 2754.4 -39.18 119.62
70.00 14 42 53 3737.75 -31.38 147.37 204.14 75.78 15 45 11 2737.7 -34.10 118.97
80.00 14 58 19 3695.52 -24.49 141.95 201.91 72.37 15 57 53 2695.5 -29.49 115.84
90.00 15 43 46 3542.20 -20.93 129.40 200.62 70.53 16 42 48 2542.2 -27.08 104.07
100.00 17 39 11 3170.00 -24.49 103.32 201.91 72.37 18 32 1 2170.0 -29.49 77.01
110.00 19 42 19 2784.57 -31.38 76.28 204.14 75.78 20 28 44 1784.6 -34.10 47.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0640 TRA .6808 TC3-1.0606 BAU .6182 SGT 1816.8 SGR 4890.7 SG3 978.2 ST 60.0 SR 133.9 SS 117.9
RDE 2.1686 RRA 3.2586 RC3-1.3462 FAU .10798 RRT .8712 RRF .9991 RTF .8753 CRT .9672 CRS -.9997 CST -.9609
FDE 4.7484 FRA 7.5739 FC3-3.4646 BSP 8789 SGB 5217.2 R23 .0450 R13 .9982 LSA 187.6 HSA 15.2 SSA .3
BDE 2.4138 BRA 3.3290 BC3 1.7138 F8P 1709 SG1 5147.9 SG2 847.3 THA 71.55 EL1 146.1 EL2 14.0 ALF 66.33

LAUNCH DATE MAR 23 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.264 GAL -5.03 AZL 84.67 HCA 191.76 SMA 179.51 ECC .19022 INC 5.3294 V1 29.889
RP 210.45 LAP -1.00 LOP 13.43 VP 22.845 GAP 4.68 AZP 95.22 TAL 327.30 TAP 159.26 RCA 145.36 APO 213.66 V2 26.056
RC 114.307 GL 37.16 GP -37.74 ZAL 132.21 ZAP 96.28 ETS 183.76 ZAE 127.81 ETE 215.42 ZAC 64.75 ETC 271.50 LVI 25.71

DISTANCE 565.130

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.425 VHL 4.942 DLA 23.06 RAL 318.05 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 4.351 DPA -60.42 RAP 301.56 ECC 1.4020
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 58 39 3693.01 -47.56 142.62 203.00 91.60 15 59 32 2653.0 -41.36 109.62
60.00 15 9 23 3624.43 -40.20 139.91 202.89 86.81 16 9 47 2624.4 -37.08 109.24
70.00 15 26 47 3573.18 -33.48 135.00 202.09 82.80 16 26 20 2573.2 -32.96 108.27
80.00 15 59 10 3471.59 -28.19 126.36 201.15 79.74 16 57 2 2471.6 -29.64 99.03
90.00 17 2 54 3265.81 -26.01 110.78 200.68 78.48 17 57 20 2265.8 -28.24 83.99
100.00 18 42 2 2946.06 -28.19 87.73 201.15 79.74 19 31 8 1946.1 -29.64 60.40
110.00 20 28 13 2620.00 -33.48 63.92 202.09 82.80 21 9 53 1620.0 -32.96 35.19

DIFFERENTIAL CORRECTIONS

TDE 1.0418 TRA .8423 TC3-1.2341 BAU .6015
RDE 1.9059 RRA 3.0662 RC3-1.3676 FAU .11711
FDE 4.8652 FRA 8.4703 FC3-4.1508 BSP 8520
BDE 2.1721 BRA 3.1798 BC3 1.8421 FSP 1934

MID-COURSE EXECUTION ACCURACY

SGT 2018.2 SGR 4851.3 SG3 1102.4
RRT .8967 RRF .9990 RTF .8998
SGB 5070.3 R23 .0576 R13 .9974
SG1 5001.8 SG2 830.6 THA 68.10

ORBIT DETERMINATION ACCURACY

ST 62.5 SR 124.8 SS 122.3
CRT .9746 CR3 -.9995 CST -.9672
LSA 185.0 MSA 14.3 S3A .4
EL1 139.0 EL2 12.6 ALF 63.75

LAUNCH DATE MAR 23 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.261 GAL -5.06 AZL 85.31 HCA 192.98 SMA 179.48 ECC .19022 INC 4.6928 V1 29.885
RP 210.70 LAP -1.05 LOP 14.65 VP 22.609 GAP 4.47 AZP 94.57 TAL 327.31 TAP 160.29 RCA 145.32 APO 213.60 V2 26.030
RC 116.460 GL 33.54 GP -35.40 ZAL 134.50 ZAP 94.81 ETS 182.31 ZAE 127.84 ETE 212.21 ZAC 67.12 ETC 271.26 LVI 23.85

DISTANCE 569.301

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.638 VHL 4.758 DLA 19.63 RAL 319.30 RAD 6644.0 VEL 11.943 PTH 6.95 VHP 4.168 DPA -58.32 RAP 301.15 ECC 1.3726
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 19 5 3561.43 -47.01 133.85 198.95 98.33 16 18 26 2561.4 -38.41 102.85
60.00 15 35 20 3518.13 -40.21 130.88 199.88 92.94 16 33 58 2518.1 -34.65 101.26
70.00 16 0 15 3444.75 -34.13 125.04 199.99 88.65 16 57 40 2444.8 -31.11 96.73
80.00 16 41 50 3314.42 -29.56 114.90 199.72 85.62 17 37 4 2314.4 -28.38 87.53
90.00 17 50 51 3091.63 -27.78 98.35 199.54 84.46 18 42 22 2091.6 -27.29 71.35
100.00 19 24 42 2788.89 -29.56 76.26 199.72 85.62 20 11 11 1788.9 -28.38 48.90
110.00 20 59 42 2491.57 -34.13 53.96 199.99 88.65 21 41 13 1491.6 -31.11 25.64

DIFFERENTIAL CORRECTIONS

TDE 1.0340 TRA 1.0077 TC3-1.4058 BAU .5932
RDE 1.7024 RRA 2.8878 RC3-1.3660 FAU .12503
FDE 4.9798 FRA 9.2593 FC3-4.7817 BSP 8306
BDE 1.9918 BRA 3.0586 BC3 1.9602 FSP 2134

MID-COURSE EXECUTION ACCURACY

SGT 2236.1 SGR 4418.6 SG3 1212.1
RRT .9158 RRF .9988 RTF .9183
SGB 4952.2 R23 .0706 R13 .9964
SG1 4885.1 SG2 812.3 THA 64.37

ORBIT DETERMINATION ACCURACY

ST 65.2 SR 116.5 SS 125.5
CRT .9811 CR3 -.9992 CST -.9729
LSA 182.8 MSA 13.5 S3A .4
EL1 133.1 EL2 11.1 ALF 61.01

LAUNCH DATE MAR 23 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.258 GAL -5.09 AZL 85.84 HCA 194.19 SMA 179.42 ECC .19029 INC 4.1644 V1 29.885
RP 210.95 LAP -1.02 LOP 15.87 VP 22.773 GAP 4.25 AZP 94.04 TAL 327.11 TAP 161.31 RCA 145.28 APO 213.56 V2 26.001
RC 118.637 GL 30.32 GP -33.28 ZAL 136.48 ZAP 93.21 ETS 180.99 ZAE 127.94 ETE 209.15 ZAC 69.26 ETC 271.03 LVI 22.20

DISTANCE 573.475

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.364 VHL 4.622 DLA 16.59 RAL 320.44 RAD 6643.4 VEL 11.890 PTH 6.90 VHP 4.025 DPA -56.42 RAP 298.99 ECC 1.3516
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 36 28 3484.06 -46.00 126.66 195.80 103.79 16 34 32 2484.1 -35.59 97.60
60.00 15 57 1 3429.32 -39.63 123.40 197.47 97.98 16 54 11 2429.3 -32.20 95.01
70.00 16 27 23 3339.95 -34.00 116.87 198.17 93.48 17 23 3 2339.9 -29.04 89.27
80.00 17 14 52 3191.15 -29.86 105.75 198.34 90.41 18 0 3 2191.2 -26.65 78.79
90.00 18 26 52 2958.72 -28.27 88.67 198.33 89.28 19 16 11 1958.7 -25.72 61.93
100.00 19 57 44 2665.63 -29.86 67.12 198.34 90.41 20 42 9 1665.6 -26.65 40.16
110.00 21 26 49 2386.77 -34.00 45.78 198.17 93.48 22 6 36 1386.8 -29.04 18.19

DIFFERENTIAL CORRECTIONS

TDE 1.0362 TRA 1.1753 TC3-1.5744 BAU .5928
RDE 1.5388 RRA 2.7203 RC3-1.3510 FAU .13224
FDE 5.0376 FRA 9.9397 FC3-5.3585 BSP 8098
BDE 1.8551 BRA 2.8634 BC3 2.0746 FSP 2299

MID-COURSE EXECUTION ACCURACY

SGT 2465.8 SGR 4192.7 SG3 1307.0
RRT .9303 RRF .9986 RTF .524
SGB 4863.9 R23 .0838 R13 .9952
SG1 4799.3 SG2 790.1 THA 60.44

ORBIT DETERMINATION ACCURACY

ST 68.2 SR 109.0 SS 127.7
CRT .9864 CR3 -.9989 CST -.9775
LSA 180.7 MSA 12.7 S3A .5
EL1 126.2 EL2 9.5 ALF 58.13

LAUNCH DATE MAR 23 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -.00 LOL 181.71 VL 32.256 GAL -5.12 AZL 86.28 HCA 195.40 SMA 179.39 ECC .19044 INC 3.7191 V1 29.885
RP 211.20 LAP -.99 LOP 17.09 VP 22.738 GAP 4.04 AZP 93.59 TAL 326.90 TAP 162.31 RCA 145.23 APO 213.55 V2 25.972
RC 120.836 GL 27.44 GP -31.35 ZAL 138.19 ZAP 91.51 ETS 179.80 ZAE 126.97 ETE 206.28 ZAC 71.21 ETC 270.80 LVI 20.74

DISTANCE 577.651

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.448 VHL 4.522 DLA 13.89 RAL 321.48 RAD 6643.0 VEL 11.851 PTH 6.87 VHP 3.913 DPA -54.68 RAP 297.03 ECC 1.3365
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 51 31 3418.10 -44.76 120.78 193.42 108.17 16 48 29 2418.1 -33.00 93.43
60.00 16 13 34 3354.08 -38.74 117.20 195.61 102.10 17 11 28 2354.1 -29.87 90.00
70.00 16 50 9 3252.30 -33.43 110.09 196.74 97.45 17 44 21 2252.3 -26.97 83.30
80.00 17 41 55 3090.11 -29.57 98.26 197.21 94.34 18 33 25 2090.1 -24.80 71.85
90.00 18 55 59 2851.07 -28.11 80.80 197.32 93.21 19 43 30 1851.1 -23.97 54.55
100.00 20 24 47 2564.58 -29.57 59.63 197.21 94.34 21 7 31 1564.6 -24.80 33.22
110.00 21 49 35 2299.12 -33.43 39.01 196.74 97.45 22 27 55 1299.1 -26.97 12.22

DIFFERENTIAL CORRECTIONS

TDE 1.0488 TRA 1.3471 TC3-1.7331 BAU .5954
RDE 1.4079 RRA 2.5655 RC3-1.3193 FAU .13811
FDE 5.0787 FRA 10.5277 FC3-5.8474 BSP 7981
BDE 1.7556 BRA 2.8976 BC3 2.1781 FSP 2449

MID-COURSE EXECUTION ACCURACY

SGT 2704.4 SGR 3977.3 SG3 1388.3
RRT .9416 RRF .9983 RTF .9435
SGB 4809.7 R23 .0958 R13 .9938
SG1 4748.8 SG2 762.7 THA 56.39

ORBIT DETERMINATION ACCURACY

ST 71.5 SR 102.4 SS 129.2
CRT .9908 CR3 -.9984 CST -.9816
LSA 179.3 MSA 12.0 S3A .6
EL1 124.6 EL2 8.0 ALF 55.15

LAUNCH DATE MAR 23 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 501.020

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.255 GAL -5.16 AZL 86.66 HCA 196.61 SMA 179.37 ECC .19065 INC 3.3381 V1 29.885
 RP 211.46 LAP -.95 LOP 18.30 VP 22.700 GAP 3.84 AZP 93.20 TAL 326.68 TAP 163.29 RCA 145.17 APO 213.57 V2 25.942
 RC 123.056 GL 24.86 GP -29.80 ZAL 139.67 ZAP 89.74 ETS 176.73 ZAE 126.17 ETE 203.62 ZAC 72.99 ETC 270.58 LVI 19.43

PLANETOCENTRIC CONIC

C3 19.788 VHL 4.448 DLA 11.49 RAL 322.43 RAD 6642.7 VEL 11.824 PTH 6.84 VHP 3.825 DPA -53.10 RAP 295.25 ECC 1.3257
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 4 44 3361.43 -43.45 115.97 191.69 111.69 17 0 46 2361.4 -30.66 90.06
 60.00 16 31 42 3289.67 -37.70 112.05 194.23 105.46 17 26 32 2289.7 -27.71 85.91
 70.00 17 9 43 3177.84 -32.63 104.43 195.67 100.71 18 2 40 2177.8 -24.99 78.42
 80.00 18 4 49 3005.20 -28.97 92.02 196.36 97.57 18 54 54 2005.2 -22.97 66.21
 90.00 19 20 25 2761.20 -27.60 74.28 196.55 96.43 20 6 26 1761.2 -22.20 48.56
 100.00 20 47 41 2479.68 -26.97 53.39 196.36 97.57 21 29 1 1479.7 -22.97 27.58
 110.00 22 9 9 2224.66 -32.63 33.35 195.67 100.71 22 48 14 1224.7 -24.99 7.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0670 TRA 1.5194 TC3-1.8868 BAU .6030 SGT 2948.7 SGR 3771.1 SG3 1456.5 ST 75.0 SR 96.4 SS 130.1
 RDE 1.2994 RRA 2.4209 RC3-1.2792 FAU .14317 RRT .9501 RRF .9980 RTF .9519 CRT .9941 CRS -.9978 CST -.9849
 PDE 5.0976 FRA11.0259 FC3-6.2638 BSP 7906 SGB 4787.0 R23 .1067 R13 .9923 LSA 176.1 MSA 11.4 S8A .7
 BDE 1.6813 BRA 2.8582 BC3 2.2796 FSP 2572 SG1 4730.6 SG2 733.1 THA 52.33 EL1 121.9 EL2 6.4 ALF 52.14

LAUNCH DATE MAR 23 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 586.004

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.254 GAL -5.20 AZL 86.99 HCA 197.82 SMA 179.36 ECC .19094 INC 3.0080 V1 29.885
 RP 211.73 LAP -.92 LOP 19.51 VP 22.864 GAP 3.63 AZP 92.86 TAL 326.44 TAP 164.26 RCA 145.11 APO 213.60 V2 25.911
 RC 125.302 GL 22.55 GP -27.99 ZAL 140.97 ZAP 87.93 ETS 177.76 ZAE 125.18 ETE 201.19 ZAC 74.62 ETC 270.37 LVI 18.26

PLANETOCENTRIC CONIC

C3 19.318 VHL 4.395 DLA 9.35 RAL 323.32 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 3.755 DPA -51.64 RAP 293.61 ECC 1.3179
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 29 3312.47 -42.14 111.99 190.45 114.53 17 11 42 2312.5 -26.55 87.29
 60.00 16 45 56 3234.10 -36.60 107.74 193.26 108.20 17 39 50 2234.1 -25.75 82.52
 70.00 17 26 48 3113.87 -31.72 99.67 194.92 103.39 18 18 42 2113.9 -23.16 74.36
 80.00 18 24 38 2932.72 -28.21 86.77 195.77 100.22 19 13 31 1932.7 -21.24 61.53
 90.00 19 41 28 2684.76 -26.89 68.80 196.02 99.09 20 26 13 1684.8 -20.51 43.59
 100.00 21 7 30 2407.19 -28.21 48.14 195.77 100.22 21 47 37 1407.2 -21.24 22.89
 110.00 22 26 15 2160.68 -31.72 28.58 194.92 103.39 23 2 15 1160.7 -23.16 3.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.0901 TRA 1.6929 TC3-2.0355 BAU .6116 SGT 3197.4 SGR 3585.4 SG3 1516.7 ST 78.6 SR 91.6 SS 131.7
 RDE 1.2195 RRA 2.2954 RC3-1.2104 FAU .14498 RRT .9548 RRF .9976 RTF .9570 CRT .9968 CRS -.9971 CST -.9880
 PDE 5.1524 FRA11.4896 FC3-6.4969 BSP 7982 SGB 4804.0 R23 .1173 R13 .9908 LSA 178.3 MSA 10.8 S8A .8
 BDE 1.6357 BRA 2.8521 BC3 2.3682 FSP 2724 SG1 4750.1 SG2 717.7 THA 48.43 EL1 120.6 EL2 4.8 ALF 49.37

LAUNCH DATE MAR 23 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 590.183

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.254 GAL -5.25 AZL 87.28 HCA 199.03 SMA 179.36 ECC .19128 INC 2.7191 V1 29.885
 RP 212.01 LAP -.89 LOP 20.72 VP 22.628 GAP 3.43 AZP 92.57 TAL 326.20 TAP 165.22 RCA 145.05 APO 213.66 V2 25.880
 RC 127.366 GL 20.47 GP -26.51 ZAL 142.09 ZAP 86.08 ETS 176.90 ZAE 124.05 ETE 198.97 ZAC 76.11 ETC 270.17 LVI 17.20

PLANETOCENTRIC CONIC

C3 18.992 VHL 4.358 DLA 7.43 RAL 324.15 RAD 6642.4 VEL 11.790 PTH 6.81 VHP 3.701 DPA -50.30 RAP 292.10 ECC 1.3126
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 1 3189.92 -40.88 108.68 189.61 116.84 17 21 31 2269.9 -26.68 84.98
 60.00 16 58 37 3185.83 -35.51 104.11 192.60 110.46 17 51 43 2185.8 -23.97 79.68
 70.00 17 41 55 3058.42 -30.77 95.62 194.44 105.61 18 32 54 2058.4 -21.47 70.94
 80.00 18 42 2 2870.12 -27.37 82.31 195.41 102.43 19 29 53 1870.1 -19.63 57.58
 90.00 19 59 54 2618.88 -26.10 64.14 195.71 101.29 20 43 32 1618.9 -18.93 39.41
 100.00 21 24 54 2344.60 -27.37 43.68 195.41 102.43 22 3 59 1344.6 -19.63 18.95
 110.00 22 41 22 2105.24 -30.77 24.54 194.44 105.61 23 16 27 1105.2 -21.47 359.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1167 TRA 1.8652 TC3-2.1761 BAU .6271 SGT 3445.1 SGR 3391.9 SG3 1559.1 ST 82.3 SR 86.3 SS 131.3
 RDE 1.1385 RRA 2.1634 RC3-1.1682 FAU .14921 RRT .9604 RRF .9970 RTF .5627 CRT .9984 CRS -.9982 CST -.9900
 PDE 5.1239 FRA11.8078 FC3-6.8018 BSP 7952 SGB 4834.7 R23 .1241 R13 .9895 LSA 177.1 MSA 10.5 S8A .8
 BDE 1.9948 BRA 2.8565 BC3 2.4698 FSP 2780 SG1 4786.5 SG2 680.4 THA 44.54 EL1 119.2 EL2 3.4 ALF 46.38

LAUNCH DATE MAR 23 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 594.381

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.254 GAL -5.29 AZL 87.54 HCA 200.23 SMA 179.36 ECC .19169 INC 2.4644 V1 29.885
 RP 212.29 LAP -.85 LOP 21.92 VP 22.593 GAP 3.22 AZP 92.31 TAL 325.94 TAP 166.17 RCA 144.98 APO 213.75 V2 25.848
 RC 129.850 GL 18.58 GP -25.15 ZAL 143.09 ZAP 84.23 ETS 176.13 ZAE 122.80 ETE 196.95 ZAC 77.49 ETC 269.97 LVI 16.25

PLANETOCENTRIC CONIC

C3 18.778 VHL 4.333 DLA 5.71 RAL 324.93 RAD 6642.3 VEL 11.781 PTH 6.81 VHP 3.660 DPA -49.05 RAP 290.71 ECC 1.3090
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 31 3232.81 -39.71 105.91 189.06 118.73 17 30 24 2232.8 -25.01 83.03
 60.00 17 10 0 3143.71 -34.47 101.02 192.19 112.33 18 2 24 2143.7 -22.37 77.27
 70.00 17 55 27 3010.05 -29.84 92.17 194.17 107.45 18 45 37 2010.1 -19.94 68.03
 80.00 18 57 32 2815.62 -26.51 78.49 195.24 104.26 19 44 27 1815.6 -18.14 54.21
 90.00 20 16 15 2561.58 -25.27 60.15 195.58 103.13 20 58 56 1561.6 -17.47 35.84
 100.00 21 40 23 2290.09 -26.51 39.86 195.24 104.26 22 18 34 1290.1 -18.14 15.50
 110.00 22 54 53 2058.87 -29.84 21.09 194.17 107.45 23 29 10 1058.9 -19.94 358.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1487 TRA 2.0398 TC3-2.3070 BAU .6431 SGT 3694.7 SGR 3212.8 SG3 1593.0 ST 86.2 SR 81.9 SS 131.2
 RDE 1.0737 RRA 2.0437 RC3-1.1139 FAU .15167 RRT .9643 RRF .9964 RTF .9671 CRT .9994 CRS -.9952 CST -.9918
 PDE 5.1078 FRA12.0790 FC3-6.9924 BSP 8030 SGB 4896.2 R23 .1268 R13 .9883 LSA 176.7 MSA 10.2 S8A .9
 BDE 1.5723 BRA 2.8875 BC3 2.5618 FSP 2841 SG1 4853.2 SG2 647.4 THA 40.86 EL1 118.8 EL2 2.0 ALF 43.52

LAUNCH DATE MAR 23 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 149.10 LAL -.00 LOL 181.71 VL 32.255 GAL -5.34 AZL 87.76 HCA 201.43 SMA 179.38 ECC .19216 INC 2.2377 V1 29.885
 RP 212.87 LAP -.82 LOP 23.12 VP 22.557 GAP 3.02 AZP 92.08 TAL 325.67 TAP 187.10 RCA 144.91 APO 213.85 V2 25.815
 RC 132.153 GL 16.88 GP -23.89 ZAL 143.97 ZAP 82.38 ETS 175.44 ZAE 121.47 ETE 195.13 ZAC 78.76 ETC 269.79 LVI 13.38

Planetocentric Conic: CS 18.654 VHL 4.319 DLA 4.16 RAL 325.67 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 3.630 DPA -47.90 RAP 289.43 ECC 1.3070
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 10 3200.35 -38.62 103.57 188.75 120.30 17 38 31 2200.4 -23.52 81.37
 60.00 17 20 20 3106.81 -33.48 98.39 192.00 113.88 18 12 6 2106.8 -20.93 75.21
 70.00 18 7 38 2967.66 -28.93 89.20 194.08 109.00 18 57 6 1967.7 -18.55 65.52
 80.00 19 11 26 2767.85 -25.67 75.19 195.23 105.80 19 57 34 1767.9 -16.79 51.31
 90.00 20 30 55 2511.39 -24.45 56.71 195.80 104.67 21 12 48 1511.4 -16.13 32.77
 100.00 21 54 18 2242.32 -25.67 36.56 195.23 105.80 22 31 40 1242.3 -16.79 12.68
 110.00 23 7 5 2014.47 -28.93 18.12 194.08 109.00 23 40 39 1014.5 -18.55 354.44

Differential Corrections: TDE 1.1639 TRA 2.2147 TC3-2.4299 BAU .6605 SGT 3943.3 SGR 3045.0 SG3 1618.5 ORBIT DETERMINATION ACCURACY ST 90.2 SR 77.9 SS 131.0
 RDE 1.0208 RRA 1.9334 RC3-1.0532 FAU .15275 RRT .9869 RRF .9957 RTF .9702 CRT .9998 CRS -.9940 CST -.9953
 PDE 5.0958 FRA12.3018 FC3-7.0889 BSP 8175 SGB 4982.1 R23 .1320 R13 .9873 LSA 176.8 MSA 10.0 SSA 1.0
 BDE 1.5628 BRA 2.9399 BC3 2.6483 FSP 2900 SGI 4943.5 SG2 619.6 THA 37.44 EL1 119.1 EL2 1.1 ALF 40.63

LAUNCH DATE MAR 23 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 149.10 LAL -.00 LOL 181.71 VL 32.257 GAL -5.40 AZL 87.97 HCA 202.62 SMA 179.40 ECC .19268 INC 2.0342 V1 29.889
 RP 212.86 LAP -.78 LOP 24.32 VP 22.521 GAP 2.82 AZP 91.88 TAL 325.39 TAP 188.01 RCA 144.83 APO 213.97 V2 25.782
 RC 134.475 GL 19.33 GP -22.73 ZAL 144.78 ZAP 80.54 ETS 174.83 ZAE 120.06 ETE 193.48 ZAC 79.93 ETC 269.61 LVI 14.58

Planetocentric Conic: CS 18.604 VHL 4.313 DLA 2.76 RAL 326.37 RAD 6642.2 VEL 11.774 PTH 6.80 VHP 3.609 DPA -46.82 RAP 288.24 ECC 1.3082
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 5 3171.88 -37.62 101.57 188.62 121.60 17 45 57 2171.9 -22.20 79.95
 60.00 17 29 44 3074.38 -32.56 96.13 191.96 115.19 18 20 58 2074.4 -19.64 73.43
 70.00 18 18 43 2930.33 -28.08 86.63 194.14 110.29 19 7 33 1930.3 -17.29 63.36
 80.00 19 24 2 2725.78 -24.86 72.33 195.35 107.10 20 9 28 1725.8 -15.56 48.79
 90.00 20 44 10 2467.18 -23.66 53.71 195.74 105.96 21 25 17 1467.2 -14.91 30.10
 100.00 22 6 54 2200.25 -24.86 33.70 195.35 107.10 22 43 34 1200.3 -15.56 10.18
 110.00 23 18 9 1977.15 -28.08 15.55 194.14 110.29 23 51 6 977.2 -17.29 352.27

Differential Corrections: TDE 1.2203 TRA 2.3877 TC3-2.5480 BAU .6805 SGT 4188.4 SGR 2883.8 SG3 1634.4 ORBIT DETERMINATION ACCURACY ST 94.1 SR 74.2 SS 130.5
 RDE .9727 RRA 1.8276 RC3 -.9965 FAU .15369 RRT .9869 RRF .9948 RTF .9729 CRT .9997 CRS -.9925 CST -.9944
 PDE 5.0670 FRA12.4574 FC3-7.1520 BSP 8327 SGB 5085.2 R23 .1329 R13 .9866 LSA 176.9 MSA 9.9 SSA 1.1
 BDE 1.5605 BRA 3.0069 BC3 2.7360 FSP 2930 SGI 5050.6 SG2 592.2 THA 34.24 EL1 119.8 EL2 1.4 ALF 38.28

LAUNCH DATE MAR 23 1971 FLIGHT TIME 250.00 ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 149.10 LAL -.00 LOL 181.71 VL 32.259 GAL -5.45 AZL 88.15 HCA 203.81 SMA 179.43 ECC .19327 INC 1.8509 V1 29.885
 RP 213.16 LAP -.75 LOP 25.52 VP 22.485 GAP 2.62 AZP 91.69 TAL 325.10 TAP 188.92 RCA 144.75 APO 214.11 V2 25.749
 RC 136.814 GL 13.91 GP -21.65 ZAL 145.47 ZAP 78.73 ETS 174.28 ZAE 118.61 ETE 192.00 ZAC 81.02 ETC 269.45 LVI 13.84

Planetocentric Conic: CS 18.614 VHL 4.314 DLA 1.50 RAL 327.04 RAD 6642.2 VEL 11.774 PTH 6.80 VHP 3.596 DPA -45.81 RAP 287.15 ECC 1.3063
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 22 3146.88 -36.71 99.87 188.64 122.70 17 52 49 2146.9 -21.03 78.72
 60.00 17 38 21 3045.82 -31.72 94.18 192.05 116.29 18 29 7 2045.8 -18.50 71.89
 70.00 18 28 49 2897.39 -27.28 84.40 194.30 111.39 19 17 7 1897.4 -16.16 61.47
 80.00 19 35 30 2688.59 -24.09 69.83 195.58 108.20 20 20 19 1688.6 -14.44 46.59
 90.00 20 56 14 2428.08 -22.90 51.10 195.99 107.06 21 36 42 1428.1 -13.80 27.77
 100.00 22 18 22 2163.06 -24.09 31.20 195.58 108.20 22 54 25 1163.1 -14.44 7.98
 110.00 23 28 16 1944.21 -27.28 13.32 194.30 111.39 24 0 40 944.2 -16.16 350.39

Differential Corrections: TDE 1.2607 TRA 2.5821 TC3-2.6556 BAU .7007 SGT 4431.6 SGR 2732.4 SG3 1643.2 ORBIT DETERMINATION ACCURACY ST 98.1 SR 70.0 SS 129.9
 RDE .9329 RRA 1.7293 RC3 -.9367 FAU .15347 RRT .9700 RRF .9938 RTF .5.49 CRT .9990 CRS -.9909 CST -.9954
 PDE 5.0413 FRA12.5725 FC3-7.1378 BSP 8339 SGB 5206.3 R23 .1323 R13 .9860 LSA 177.3 MSA 9.9 SSA 1.1
 BDE 1.5683 BRA 3.0911 BC3 2.8159 FSP 2959 SGI 5175.1 SG2 568.6 THA 31.30 EL1 121.0 EL2 2.5 ALF 35.84

LAUNCH DATE MAR 23 1971 FLIGHT TIME 252.00 ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 149.10 LAL -.00 LOL 181.71 VL 32.261 GAL -5.51 AZL 88.32 HCA 205.00 SMA 179.47 ECC .19391 INC 1.6842 V1 29.885
 RP 213.46 LAP -.71 LOP 26.71 VP 22.450 GAP 2.43 AZP 91.53 TAL 324.80 TAP 189.81 RCA 144.67 APO 214.27 V2 25.714
 RC 139.171 GL 12.62 GP -20.64 ZAL 146.11 ZAP 76.94 ETS 173.80 ZAE 117.13 ETE 190.67 ZAC 82.04 ETC 269.30 LVI 13.16

Planetocentric Conic: CS 18.675 VHL 4.321 DLA .36 RAL 327.68 RAD 6642.2 VEL 11.777 PTH 6.80 VHP 3.590 DPA -44.87 RAP 286.15 ECC 1.3073
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 6 3124.91 -35.90 98.40 188.77 123.82 17 59 10 2124.9 -19.99 77.66
 60.00 17 46 18 3020.63 -30.95 92.49 192.25 117.22 18 36 38 2020.6 -17.47 70.55
 70.00 18 38 6 2868.24 -26.54 82.46 194.57 112.33 19 25 55 1868.2 -15.15 59.82
 80.00 19 46 1 2655.62 -23.37 67.65 195.89 109.13 20 30 16 1655.6 -13.44 44.67
 90.00 21 7 17 2393.39 -22.19 48.80 196.32 108.00 21 47 10 1393.4 -12.79 25.71
 100.00 22 28 53 2130.09 -23.37 29.02 195.89 109.13 23 4 23 1130.1 -13.44 6.03
 110.00 23 37 33 1915.06 -26.54 11.38 194.57 112.33 24 9 28 915.1 -15.15 348.74

Differential Corrections: TDE 1.3022 TRA 2.7351 TC3-2.7579 BAU .7228 SGT 4670.4 SGR 2588.0 SG3 1644.6 ORBIT DETERMINATION ACCURACY ST 102.1 SR 67.8 SS 129.1
 RDE .8974 RRA 1.6356 RC3 -.8806 FAU .15303 RRT .9707 RRF .9925 RTF .9767 CRT .9979 CRS -.9891 CST -.9962
 PDE 5.0038 FRA12.6369 FC3-7.0939 BSP 8757 SGB 5339.6 R23 .1300 R13 .9855 LSA 177.7 MSA 10.0 SSA 1.2
 BDE 1.5815 BRA 3.1869 BC3 2.8951 FSP 2966 SGI 5311.4 SG2 547.2 THA 28.61 EL1 122.5 EL2 3.6 ALF 33.57

LAUNCH DATE MAR 23 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 2 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.264 GAL -5.37 AZL 88.47 HCA 206.19 SMA 179.51 ECC .19460 INC 1.5326 V1 29.885
 RP 213.77 LAP -.68 LOP 27.90 VP 22.414 GAP 2.23 AZP 91.36 TAL 324.50 TAP 170.69 RCA 144.50 APO 214.45 V2 25.680
 RC 141.545 GL 11.43 GP -19.70 ZAL 146.70 ZAP 75.18 ETS 173.36 ZAE 119.63 ETE 189.47 ZAC 82.98 ETC 269.15 LVI 12.53

Planetocentric Conic

C3 18.781 VHL 4.334 DLA -.68 RAL 326.30 RAD 6642.3 VEL 11.781 PTH 6.81 VHP 3.590 DPA -43.99 RAP 285.24 ECC 1.3091
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 20 3105.59 -35.16 97.15 188.99 124.39 18 5 6 2105.6 -19.07 76.75
 60.00 17 53 38 2998.40 -30.24 91.03 192.53 118.02 18 43 36 1998.4 -16.56 69.38
 70.00 18 46 40 2842.43 -25.86 80.76 194.91 113.13 19 34 3 1842.4 -14.24 58.38
 80.00 19 55 41 2626.34 -22.70 65.73 196.27 103.93 20 39 27 1626.3 -12.53 42.97
 90.00 21 17 26 2362.56 -21.53 46.79 196.72 108.79 21 56 48 1362.6 -11.88 23.91
 100.00 22 38 33 2100.81 -22.70 27.10 196.27 109.93 23 13 34 1100.8 -12.53 4.34
 110.00 23 46 6 1889.25 -25.86 9.68 194.91 113.13 24 17 36 889.3 -14.24 347.29

Differential Corrections

TDE 1.3467 TRA 2.9089 TC3-2.8507 BAU .7451
 RDE .8673 RRA 1.5480 RC3 -.8247 FAU .15183
 FDE 4.9677 FRA12.6676 FC3-6.9985 BSP 9019
 BDE 1.6018 BRA 3.2951 BC3 2.9676 FSP 2971

Mid-Course Execution Accuracy

SGT 4905.8 SGR 2452.5 SG3 1640.4
 RRT .9707 RRF .9911 RTF .9781
 SGB 5484.7 R23 .1266 R13 .9852
 SG1 5459.1 SG2 529.3 THA 26.15

Orbit Determination Accuracy

ST 106.1 SR 65.0 SS 128.3
 CRT .9964 CRS -.9870 CST -.9969
 LSA 178.5 MSA 10.1 SSA 1.2
 EL1 124.4 EL2 4.7 ALF 31.46

LAUNCH DATE MAR 23 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 4 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.267 GAL -5.64 AZL 88.61 HCA 207.37 SMA 179.56 ECC .19535 INC 1.3933 V1 29.885
 RP 214.08 LAP -.64 LOP 29.08 VP 22.378 GAP 2.04 AZP 91.24 TAL 324.18 TAP 171.55 RCA 144.49 APO 214.64 V2 25.645
 RC 143.936 GL 10.34 GP -18.82 ZAL 147.25 ZAP 73.45 ETS 172.98 ZAE 114.12 ETE 188.39 ZAC 83.86 ETC 269.02 LVI 11.94

Planetocentric Conic

C3 18.926 VHL 4.350 DLA -1.62 RAL 328.90 RAD 6642.4 VEL 11.787 PTH 6.81 VHP 3.596 DPA -43.16 RAP 284.40 ECC 1.3115
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 9 3088.64 -34.50 96.06 189.29 125.05 18 10 38 2088.6 -18.26 75.95
 60.00 18 0 27 2978.79 -29.61 89.76 192.88 118.69 18 50 6 1978.8 -15.75 68.35
 70.00 18 54 36 2819.56 -25.24 79.27 195.31 113.81 19 41 35 1819.6 -13.42 57.10
 80.00 20 4 37 2600.31 -22.09 64.04 196.71 110.61 20 47 57 1600.3 -11.71 41.47
 90.00 21 26 48 2335.11 -20.91 45.01 197.17 109.48 22 5 43 1335.1 -11.06 22.31
 100.00 22 47 29 2074.78 -22.09 25.41 196.71 110.61 23 22 4 1074.8 -11.71 2.84
 110.00 23 54 2 1866.38 -25.24 6.19 195.31 113.81 24 25 8 866.4 -13.42 346.02

Differential Corrections

TDE 1.3921 TRA 3.0812 TC3-2.9377 BAU .7685
 RDE .8406 RRA 1.4644 RC3 -.7720 FAU .15036
 FDE 4.9237 FRA12.6581 FC3-6.8776 BSP 9263
 BDE 1.6262 BRA 3.4115 BC3 3.0374 FSP 2960

Mid-Course Execution Accuracy

SGT 5135.7 SGR 2323.7 SG3 1630.2
 RRT .9703 RRF .9894 RTF .9792
 SGB 5636.9 R23 .1221 R13 .9850
 SG1 5613.4 SG2 514.2 THA 23.92

Orbit Determination Accuracy

ST 110.1 SR 62.5 SS 127.3
 CRT .9944 CRS -.9846 CST -.9974
 LSA 179.2 MSA 10.3 SSA 1.3
 EL1 126.5 EL2 5.8 ALF 29.50

LAUNCH DATE MAR 23 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 6 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.271 GAL -5.70 AZL 88.73 HCA 208.55 SMA 179.62 ECC .19615 INC 1.2651 V1 29.885
 RP 214.39 LAP -.60 LOP 30.26 VP 22.342 GAP 1.84 AZP 91.11 TAL 323.88 TAP 172.40 RCA 144.59 APO 214.85 V2 25.609
 RC 146.344 GL 9.33 GP -17.99 ZAL 147.75 ZAP 71.77 ETS 172.64 ZAE 112.60 ETE 187.42 ZAC 84.69 ETC 268.90 LVI 11.38

Planetocentric Conic

C3 19.107 VHL 4.371 DLA -2.48 RAL 329.47 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.606 DPA -42.38 RAP 283.65 ECC 1.3144
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 35 3073.78 -33.92 95.13 189.66 125.61 18 15 49 2073.8 -17.55 75.26
 60.00 18 8 47 2961.51 -29.04 88.65 193.29 119.27 18 56 9 1961.5 -15.03 67.46
 70.00 19 1 57 2799.30 -24.68 77.87 195.76 114.40 19 48 36 1799.3 -12.70 55.89
 80.00 20 12 54 2577.16 -21.53 62.55 197.20 111.20 20 55 51 1577.2 -10.97 40.14
 90.00 21 35 29 2310.67 -20.35 43.44 197.68 110.07 22 14 0 1310.7 -10.32 20.89
 100.00 22 55 46 2051.64 -21.53 23.92 197.20 111.20 23 29 57 1051.6 -10.97 1.51
 110.00 0 5 19 1846.12 -24.68 6.89 195.76 114.40 0 36 5 846.1 -12.70 344.90

Differential Corrections

TDE 1.4393 TRA 3.2531 TC3-3.0170 BAU .7928
 RDE .8174 RRA 1.3856 RC3 -.7214 FAU .14845
 FDE 4.8772 FRA12.6193 FC3-6.7265 BSP 9562
 BDE 1.6582 BRA 3.5359 BC3 3.1029 FSP 2941

Mid-Course Execution Accuracy

SGT 5360.7 SGR 2202.5 SG3 1615.4
 RRT .9693 RRF .9873 RTF .9702
 SGB 5795.5 R23 .1171 R13 .9849
 SG1 5773.7 SG2 502.4 THA 21.89

Orbit Determination Accuracy

ST 114.1 SR 60.1 SS 126.2
 CRT .9920 CRS -.9820 CST -.9979
 LSA 180.1 MSA 10.6 SSA 1.3
 EL1 128.8 EL2 6.7 ALF 27.63

LAUNCH DATE MAR 23 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 8 1971

Heliocentric Conic

RL 149.10 LAL -.00 LOL 181.71 VL 32.275 GAL -5.77 AZL 88.85 HCA 209.73 SMA 179.68 ECC .19700 INC 1.1467 V1 29.885
 RP 214.72 LAP -.57 LOP 31.44 VP 22.307 GAP 1.65 AZP 91.00 TAL 323.51 TAP 173.24 RCA 144.29 APO 215.08 V2 25.573
 RC 148.770 GL 8.41 GP -17.22 ZAL 148.23 ZAP 70.12 ETS 172.34 ZAE 111.10 ETE 186.55 ZAC 85.46 ETC 268.79 LVI 10.86

Planetocentric Conic

C3 19.318 VHL 4.395 DLA -3.26 RAL 330.03 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 3.621 DPA -41.65 RAP 282.97 ECC 1.3179
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 40 3060.80 -33.40 94.32 190.07 126.09 18 20 41 2060.8 -16.92 74.66
 60.00 18 12 43 2946.31 -28.53 87.68 193.75 119.77 19 1 49 1946.3 -14.39 66.68
 70.00 19 8 48 2781.37 -24.17 76.83 196.26 114.90 19 55 9 1781.4 -12.05 55.00
 80.00 20 20 36 2556.59 -21.02 61.24 197.74 111.71 21 3 12 1556.6 -10.32 38.97
 90.00 21 43 33 2288.91 -19.84 42.05 198.22 110.58 22 21 42 1288.9 -9.66 19.64
 100.00 23 3 26 2031.06 -21.02 22.61 197.74 111.71 23 37 19 1031.1 -10.32 .34
 110.00 0 12 10 1828.19 -24.17 5.74 196.26 114.90 0 42 39 828.2 -12.05 343.92

Differential Corrections

TDE 1.4885 TRA 3.4252 TC3-3.0901 BAU .8168
 RDE .7973 RRA 1.3122 RC3 -.6730 FAU .14614
 FDE 4.8286 FRA12.5549 FC3-6.5492 BSP 9857
 BDE 1.6885 BRA 3.6676 BC3 3.1626 FSP 2917

Mid-Course Execution Accuracy

SGT 5580.7 SGR 2088.4 SG3 1596.6
 RRT .9679 RRF .9850 RTF .9810
 SGB 5958.7 R23 .1116 R13 .9848
 SG1 5938.2 SG2 493.4 THA 20.05

Orbit Determination Accuracy

ST 118.0 SR 58.0 SS 125.0
 CRT .9892 CRS -.9792 CST -.9982
 LSA 181.1 MSA 10.9 SSA 1.3
 EL1 131.3 EL2 7.6 ALF 26.01

LAUNCH DATE MAR 23 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -0.00 LOL 181.71 VL 32.278 GAL -5.85 AZL 88.96 HCA 210.90 SMA 179.75 ECC .19790 INC 1.0367 V1 29.885
RP 219.04 LAP -.53 LOP 32.61 VP 22.271 GAP 1.46 AZP 90.89 TAL 323.17 TAP 174.07 RCA 144.18 APO 219.33 V2 25.536
RC 151.211 GL 7.55 GP -16.50 ZAL 148.67 ZAP 68.52 ETS 172.08 ZAE 109.60 ETE 185.77 ZAC 86.18 ETC 268.69 LVI 10.36

PLANETOCENTRIC CONIC

C3 19.559 VHL 4.423 DLA -3.98 RAL 330.57 RAD 6642.6 VEL 11.814 PTH 6.83 VHP 3.640 DPA -40.95 RAP 282.37 ECC 1.3219
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 34 27 3049.50 -32.95 93.63 190.53 126.50 18 25 17 2049.5 -16.38 74.14
60.00 18 18 18 2932.88 -28.08 86.85 194.25 120.19 19 7 8 1935.0 -13.83 66.00
70.00 19 15 12 2785.95 -23.71 75.82 196.80 115.33 20 1 18 1765.5 -11.47 54.14
80.00 20 27 46 2538.33 -20.55 60.08 198.30 112.15 21 10 5 1538.3 -9.73 37.84
90.00 21 51 4 2269.55 -19.37 40.82 198.80 111.02 22 28 54 1269.6 -9.07 18.53
100.00 23 10 38 2012.80 -20.55 21.45 198.30 112.15 23 44 11 1012.8 -9.73 359.30
110.00 0 18 34 1812.37 -23.71 4.74 196.80 115.33 0 48 47 812.4 -11.47 343.06

DIFFERENTIAL CORRECTIONS

TDE 1.5388 TRA 3.5967 TC3-3.1564 BAU .9415
RDE .7798 RRA 1.2409 RC3 -.6273 FAU .14354
PDE 4.7776 FRA12.4680 FC3-6.3534 BSP 10154
BDE 1.7251 BRA 3.8046 BC3 3.2181 FSP 2885

MID-COURSE EXECUTION ACCURACY

SGT 5795.3 SGR 1981.2 SG3 1574.4
RRT .9659 RRF .9823 RTF .9816
SG8 6124.6 R23 .1060 R13 .9847
SG1 6105.2 S62 487.2 THA 18.39

ORBIT DETERMINATION ACCURACY

ST 121.9 SR 56.0 SS 123.7
CRT .9860 CRS -.9761 CST -.9985
LSA 182.2 MSA 11.2 SSA 1.3
EL1 133.9 EL2 8.5 ALF 24.47

LAUNCH DATE MAR 23 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -0.00 LOL 181.71 VL 32.284 GAL -5.92 AZL 89.07 HCA 212.07 SMA 179.83 ECC .19885 INC .9345 V1 29.885
RP 215.37 LAP -.50 LOP 33.78 VP 22.235 GAP 1.27 AZP 90.79 TAL 322.82 TAP 174.89 RCA 144.07 APO 215.58 V2 25.499
RC 153.669 GL 6.75 GP -15.82 ZAL 149.10 ZAP 86.97 ETS 171.85 ZAE 108.12 ETE 185.06 ZAC 86.86 ETC 268.60 LVI 9.88

PLANETOCENTRIC CONIC

C3 19.827 VHL 4.453 DLA -4.63 RAL 331.10 RAD 6642.6 VEL 11.825 PTH 6.84 VHP 3.662 DPA -40.30 RAP 281.83 ECC 1.3263
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 38 57 3039.73 -32.55 93.03 191.03 126.84 18 29 37 2039.7 -15.90 73.70
60.00 18 23 28 2921.35 -27.68 86.12 194.78 120.55 19 12 9 1921.4 -13.34 65.41
70.00 19 21 11 2751.62 -23.30 74.95 197.37 115.71 20 7 3 1751.6 -10.96 53.38
80.00 20 34 29 2522.16 -20.13 59.06 198.90 112.53 21 16 31 1522.2 -9.20 37.02
90.00 21 58 5 2252.37 -18.95 39.74 199.40 111.40 22 35 38 1252.4 -8.54 17.54
100.00 23 17 20 1996.63 -20.13 20.43 198.90 112.53 23 50 37 996.6 -9.20 358.39
110.00 0 24 33 1798.43 -23.30 3.87 197.37 115.71 0 54 32 798.4 -10.96 342.30

DIFFERENTIAL CORRECTIONS

TDE 1.5911 TRA 3.7682 TC3-3.2154 BAU .8663
RDE .7647 RRA 1.1741 RC3 -.5843 FAU .14072
PDE 4.7255 FRA12.3599 FC3-6.1443 BSP 10466
BDE 1.7653 BRA 3.9468 BC3 3.2681 FSP 2849

MID-COURSE EXECUTION ACCURACY

SGT 6004.5 SGR 1880.5 SG3 1549.2
RRT .9833 RRF .9791 RTF .9821
SG8 6292.1 R23 .1002 R13 .9847
SG1 6273.6 S62 482.9 THA 16.89

ORBIT DETERMINATION ACCURACY

ST 125.8 SR 54.2 SS 122.4
CRT .9825 CRS -.9727 CST -.9988
LSA 183.4 MSA 11.6 SSA 1.3
EL1 136.6 EL2 9.3 ALF 23.08

LAUNCH DATE MAR 23 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -0.00 LOL 181.71 VL 32.288 GAL -6.00 AZL 89.16 HCA 213.24 SMA 179.90 ECC .19984 INC .8387 V1 29.885
RP 215.71 LAP -.48 LOP 34.95 VP 22.200 GAP 1.07 AZP 90.70 TAL 322.45 TAP 175.69 RCA 143.95 APO 215.86 V2 25.461
RC 156.143 GL 6.02 GP -15.16 ZAL 149.51 ZAP 85.45 ETS 171.64 ZAE 106.86 ETE 184.42 ZAC 87.50 ETC 268.53 LVI 9.43

PLANETOCENTRIC CONIC

C3 20.121 VHL 4.486 DLA -5.22 RAL 331.62 RAD 6642.9 VEL 11.838 PTH 6.86 VHP 3.687 DPA -39.68 RAP 281.37 ECC 1.3311
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 43 13 3031.33 -32.20 92.53 191.55 127.13 18 33 44 2031.3 -15.50 73.31
60.00 18 28 21 2911.25 -27.32 85.50 195.34 120.86 19 16 53 1911.3 -12.91 64.90
70.00 19 26 48 2739.40 -22.94 74.19 197.96 116.02 20 12 28 1739.4 -10.52 52.72
80.00 20 40 45 2507.88 -19.76 58.17 199.52 112.85 21 22 33 1507.9 -9.74 36.22
90.00 22 4 39 2237.16 -18.57 38.78 200.03 111.72 22 41 57 1237.2 -8.06 16.60
100.00 23 23 37 1982.35 -19.76 19.54 199.52 112.85 23 56 39 982.4 -8.74 357.59
110.00 0 30 10 1786.22 -22.94 3.10 197.96 116.02 0 59 57 786.2 -10.52 341.64

DIFFERENTIAL CORRECTIONS

TDE 1.6439 TRA 3.9387 TC3-3.2705 BAU .8919
RDE .7517 RRA 1.1108 RC3 -.5443 FAU .13778
PDE 4.6704 FRA12.2348 FC3-5.9281 BSP 10766
BDE 1.8076 BRA 4.0924 BC3 3.3155 FSP 2806

MID-COURSE EXECUTION ACCURACY

SGT 6200.1 SGR 1786.1 SG3 1821.6
RRT .9802 RRF .9759 RTF .5225
SG8 6459.9 R23 .0947 R13 .9846
SG1 6442.0 S62 481.0 THA 15.53

ORBIT DETERMINATION ACCURACY

ST 129.6 SR 52.6 SS 121.1
CRT .9786 CRS -.9691 CST -.9990
LSA 184.6 MSA 11.9 SSA 1.3
EL1 139.4 EL2 10.0 ALF 21.77

LAUNCH DATE MAR 23 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

RL 149.10 LAL -0.00 LOL 181.71 VL 32.294 GAL -6.08 AZL 89.25 HCA 214.40 SMA 179.99 ECC .20089 INC .7492 V1 29.885
RP 216.04 LAP -.42 LOP 36.11 VP 22.164 GAP .88 AZP 90.62 TAL 322.09 TAP 176.49 RCA 143.83 APO 216.15 V2 25.424
RC 158.631 GL 5.33 GP -14.58 ZAL 149.90 ZAP 83.99 ETS 171.47 ZAE 105.22 ETE 183.85 ZAC 88.10 ETC 268.46 LVI 8.99

PLANETOCENTRIC CONIC

C3 20.439 VHL 4.521 DLA -5.77 RAL 332.12 RAD 6643.0 VEL 11.851 PTH 6.87 VHP 3.716 DPA -39.10 RAP 280.98 ECC 1.3364
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 14 3024.20 -31.91 92.10 192.10 127.37 18 37 38 2024.2 -15.15 72.99
60.00 18 32 58 2902.55 -27.02 84.96 195.93 121.12 19 21 21 1900.5 -12.54 64.46
70.00 19 32 5 2728.75 -22.62 73.53 198.58 116.30 20 17 33 1728.8 -10.12 52.14
80.00 20 46 38 2495.33 -19.42 57.39 200.16 113.13 21 28 13 1495.3 -8.33 35.51
90.00 22 10 49 2223.74 -18.23 37.95 200.68 112.00 22 47 52 1223.7 -7.65 15.91
100.00 23 29 30 1969.80 -19.42 18.78 200.16 113.13 24 2 20 969.8 -8.33 356.88
110.00 0 35 27 1775.57 -22.62 2.44 198.58 116.30 1 5 2 775.6 -10.12 341.06

DIFFERENTIAL CORRECTIONS

TDE 1.6984 TRA 4.1098 TC3-3.3186 BAU .9173
RDE .7404 RRA 1.0509 RC3 -.5067 FAU .13465
PDE 4.6138 FRA12.0960 FC3-5.7034 BSP 11073
BDE 1.8528 BRA 4.2418 BC3 3.3570 FSP 2759

MID-COURSE EXECUTION ACCURACY

SGT 6406.2 SGR 1697.8 SG3 1492.0
RRT .9564 RRF .973 RTF .9828
SG8 6627.4 R23 .0102 R13 .9846
SG1 6609.9 S62 481.6 THA 14.30

ORBIT DETERMINATION ACCURACY

ST 133.3 SR 51.0 SS 119.7
CRT .9744 CRS -.9652 CST -.9992
LSA 185.8 MSA 12.3 SSA 1.3
EL1 142.3 EL2 0.7 ALF 20.58

LAUNCH DATE MAR 23 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 648.471

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.300 GAL -6.17 AZL 89.33 HCA 215.98 SMA 180.08 ECC .20198 INC .6650 V1 29.885
RP 216.39 LAP -.39 LOP 37.27 VP 22.128 GAP .69 AZP 90.34 TAL 321.71 TAP 177.27 RCA 143.71 APO 216.45 V2 25.385
RC 161.134 GL 4.69 GP -14.01 ZAL 150.27 ZAP 62.57 ET8 171.31 ZAE 103.81 ETE 183.33 ZAC 88.66 ETC 268.40 LVI 8.57

PLANETOCENTRIC CONIC

C3 20.780 VHL 4.559 DLA -6.27 RAL 332.61 RAD 6643.2 VEL 11.865 PTH 6.88 VHP 3.746 DPA -38.55 RAP 280.62 ECC 1.3420
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 3 3018.21 -31.66 91.74 192.68 127.57 18 41 21 2018.2 -14.66 72.72
60.00 18 37 19 2895.12 -26.76 84.51 196.53 121.34 19 25 35 1895.1 -12.23 64.09
70.00 19 37 2 2719.53 -22.34 72.96 199.21 116.53 20 22 22 1719.5 -9.78 51.65
80.00 20 52 10 2484.35 -19.13 56.71 200.81 113.37 21 33 34 1484.4 -7.97 34.90
90.00 22 16 35 2211.97 -17.92 37.22 201.35 112.25 22 53 27 1212.0 -7.28 15.24
100.00 23 35 2 1958.83 -19.13 18.07 200.81 113.37 24 7 40 958.8 -7.97 356.27
110.00 0 40 25 1766.35 -22.34 1.87 199.21 116.53 1 9 51 766.4 -9.78 340.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7543 TRA 4.2808 TC3-3.3609 BAU .9428 SGT 6599.2 SGR 1615.4 SG3 1460.8 ST 137.0 SR 49.7 SS 118.2
RDE .7311 RRA .9943 RC3 -.4712 FAU .13128 RRT .9519 RRF .9665 RTF .9830 CRT .9699 CRS -.9611 CST -.9993
FDE 4.5575 FRA11.9470 FC3-5.4692 BSP 11381 SGB 6794.0 R23 .0842 R13 .9845 LSA 187.2 MSA 12.7 SSA 1.3
BDE 1.9005 BRA 4.3947 BC3 3.3938 FSP 2710 SG1 6776.9 SG2 482.0 THA 13.18 EL1 145.3 EL2 11.4 ALF 19.50

LAUNCH DATE MAR 23 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 652.606

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.306 GAL -6.25 AZL 89.41 HCA 216.71 SMA 180.17 ECC .20311 INC .5855 V1 29.885
RP 216.73 LAP -.35 LOP 36.43 VP 22.093 GAP .50 AZP 90.47 TAL 321.32 TAP 178.04 RCA 143.58 APO 216.76 V2 25.347
RC 163.649 GL 4.09 GP -13.48 ZAL 150.84 ZAP 61.19 ET8 171.18 ZAE 102.42 ETE 182.86 ZAC 89.19 ETC 268.36 LVI 8.16

PLANETOCENTRIC CONIC

C3 21.144 VHL 4.598 DLA -6.72 RAL 333.10 RAD 6643.3 VEL 11.880 PTH 6.89 VHP 3.780 DPA -38.02 RAP 280.33 ECC 1.3480
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 40 3013.28 -31.46 91.45 193.27 127.74 18 44 53 2013.3 -14.62 72.50
60.00 18 41 26 2888.86 -26.54 84.13 197.16 121.92 19 29 35 1888.9 -11.96 63.77
70.00 19 41 43 2711.63 -22.10 72.47 199.87 116.73 20 26 55 1711.6 -9.49 51.22
80.00 20 57 21 2474.83 -18.87 56.12 201.49 113.58 21 38 36 1474.8 -7.65 34.36
90.00 22 22 0 2201.71 -17.66 36.58 202.03 112.45 22 58 42 1201.7 -6.96 14.66
100.00 23 40 13 1949.30 -18.87 17.48 201.49 113.58 24 12 43 949.3 -7.65 355.73
110.00 0 45 5 1758.45 -22.10 1.39 199.87 116.73 1 14 24 758.4 -9.49 340.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8109 TRA 4.4514 TC3-3.3987 BAU .9687 SGT 6786.2 SGR 1538.3 SG3 1428.3 ST 140.6 SR 48.4 SS 116.7
RDE .7231 RRA .9403 RC3 -.4386 FAU .12792 RRT .9467 RRF .9610 RTF .9831 CRT .9651 CRS -.9567 CST -.9994
FDE 4.4988 FRA11.7859 FC3-5.2378 BSP 11681 SGB 6958.4 R23 .0793 R13 .9844 LSA 188.6 MSA 13.1 SSA 1.3
BDE 1.9499 BRA 4.5496 BC3 3.4289 FSP 2657 SG1 6941.5 SG2 484.5 THA 12.17 EL1 148.2 EL2 12.0 ALF 18.51

LAUNCH DATE MAR 23 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 658.738

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.312 GAL -6.34 AZL 89.49 HCA 217.87 SMA 180.27 ECC .20429 INC .5107 V1 29.885
RP 217.08 LAP -.31 LOP 39.58 VP 22.037 GAP .31 AZP 90.40 TAL 320.93 TAP 178.80 RCA 143.44 APO 217.09 V2 25.308
RC 166.178 GL 3.54 GP -12.98 ZAL 150.99 ZAP 59.86 ET8 171.06 ZAE 101.05 ETE 182.44 ZAC 89.70 ETC 268.32 LVI 7.76

PLANETOCENTRIC CONIC

C3 21.930 VHL 4.640 DLA -7.14 RAL 333.57 RAD 6643.5 VEL 11.897 PTH 6.91 VHP 3.815 DPA -37.53 RAP 280.11 ECC 1.3843
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 58 8 3009.31 -31.29 91.22 193.89 127.87 18 48 15 2009.3 -14.42 72.32
60.00 18 45 20 2883.68 -26.35 83.82 197.80 121.87 19 33 24 1883.7 -11.74 63.52
70.00 19 46 8 2704.93 -21.90 72.06 200.54 116.89 20 31 13 1704.9 -9.24 50.86
80.00 21 2 15 2466.63 -18.85 55.81 202.17 113.75 21 43 22 1466.6 -7.38 33.91
90.00 22 27 7 2192.83 -17.43 36.03 202.72 112.63 23 3 39 1192.8 -6.88 14.16
100.00 23 45 7 1941.11 -18.85 18.98 202.17 113.75 24 17 28 941.1 -7.38 385.27
110.00 0 49 30 1751.75 -21.90 .98 200.54 116.89 1 18 42 751.7 -9.24 339.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8893 TRA 4.6228 TC3-3.4313 BAU .9946 SGT 6968.7 SGR 1486.7 SG3 1393.0 ST 144.2 SR 47.3 SS 115.3
RDE .7187 RRA .8893 RC3 -.4080 FAU .12442 RRT .9407 RRF .9348 RTF .532 CRT .9600 CRS -.9522 CST -.9999
FDE 4.4410 FRA11.6181 FC3-5.0029 BSP 11984 SGB 7121.4 R23 .0790 R13 .9843 LSA 190.1 MSA 13.5 SSA 1.3
BDE 2.0020 BRA 4.7075 BC3 3.4558 FSP 2603 SG1 7104.6 SG2 488.1 THA 11.85 EL1 151.2 EL2 12.6 ALF 17.60

LAUNCH DATE MAR 23 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

DISTANCE 660.861

EARTH TO MARS

RL 149.10 LAL -.00 LOL 181.71 VL 32.318 GAL -6.43 AZL 89.58 HCA 219.01 SMA 180.37 ECC .20551 INC .4399 V1 29.885
RP 217.43 LAP -.28 LOP 40.73 VP 22.021 GAP .12 AZP 90.34 TAL 320.53 TAP 179.55 RCA 143.30 APO 217.44 V2 25.269
RC 168.717 GL 3.02 GP -12.51 ZAL 151.34 ZAP 58.57 ET8 170.96 ZAE 99.72 ETE 182.06 ZAC 90.17 ETC 268.29 LVI 7.37

PLANETOCENTRIC CONIC

C3 21.937 VHL 4.684 DLA -7.52 RAL 334.04 RAD 6643.7 VEL 11.914 PTH 6.92 VHP 3.853 DPA -37.06 RAP 279.93 ECC 1.3810
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 1 23 3006.23 -31.16 91.04 194.31 127.97 18 51 29 2006.2 -14.27 72.18
60.00 18 49 2 2879.48 -26.20 83.58 198.45 121.79 19 37 2 1879.5 -11.56 63.31
70.00 19 50 18 2699.34 -21.72 71.72 201.22 117.03 20 39 17 1699.3 -9.03 50.56
80.00 21 6 52 2459.67 -18.45 55.18 202.87 113.90 21 47 51 1459.7 -7.15 33.52
90.00 22 31 55 2185.24 -17.23 35.56 203.43 112.78 23 8 20 1185.2 -6.44 13.73
100.00 23 49 43 1934.14 -18.45 16.55 202.87 113.90 24 21 58 934.1 -7.15 354.89
110.00 0 53 40 1746.16 -21.72 .63 201.22 117.03 1 22 47 746.2 -9.03 339.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9291 TRA 4.7944 TC3-3.4587 BAU 1.0203 SGT 7145.8 SGR 1400.2 SG3 1361.1 ST 147.7 SR 46.2 SS 113.7
RDE .7116 RRA .8408 RC3 -.3796 FAU .12088 RRT .9338 RRF .9479 RTF .9832 CRT .9547 CRS -.9475 CST -.9996
FDE 4.3828 FRA11.4455 FC3-4.7702 BSP 12284 SGB 7281.7 R23 .0708 R13 .9841 LSA 191.6 MSA 13.9 SSA 1.3
BDE 2.0562 BRA 4.8676 BC3 3.4794 FSP 2547 SG1 7265.0 SG2 492.6 THA 10.42 EL1 154.2 EL2 13.2 ALF 16.76

LAUNCH DATE MAR 23 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.10 LAL	-.00 LOL	181.71 VL	32.325 GAL	-6.53 AZL	89.63 HCA	220.18 SMA	180.47 ECC	.20678 INC	.3728 V1	29.885
RP 217.78 LAP	-.24 LOP	41.87 VP	21.986 GAP	-.07 AZP	90.28 TAL	320.13 TAP	180.29 RCA	143.16 APO	217.79 V2	25.229
RC 171.268 GL	2.53 GP	-12.06 ZAL	151.69 ZAP	57.32 ETS	170.88 ZAE	98.41 ETE	181.71 ZAC	90.62 ETC	268.28 LVI	7.00

DISTANCE 664.979

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.366 VML	4.729 DLA	-7.86 RAL	334.50 RAD	6643.9 VEL	11.931 PTH	6.94 VMP	3.892 DPA	-36.62 RAP	279.81 ECC	1.3681
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 4 30	3003.98	-31.07	90.91	195.18	128.04	18 54 34	2004.0	-14.16	72.08
60.00	18 52 33	2876.21	-26.08	83.36	199.12	121.88	19 40 29	1878.2	-11.42	63.14
70.00	19 54 15	2694.78	-21.58	71.44	201.91	117.14	20 39 10	1694.8	-8.87	50.32
80.00	21 11 13	2453.85	-18.29	54.82	203.58	114.02	21 52 6	1453.8	-6.96	33.19
90.00	22 36 27	2178.84	-17.06	39.17	204.14	112.90	23 12 46	1178.8	-6.24	13.37
100.00	23 54 4	1928.32	-18.29	18.19	203.58	114.02	24 26 13	928.3	-6.96	354.56
110.00	0 57 37	1741.60	-21.58	.36	201.91	117.14	1 26 39	741.6	-8.87	359.24

DIFFERENTIAL CORRECTIONS

TDE 1.9899 TRA	4.9868 TC3	-3.4818 BAV	1.0465
RDE .7078 RRA	.7947 RC3	-.3532 FAU	.11728
FDE 4.3246 FRA	11.2680 FC3	-4.5395 BSP	12580
BDE 2.1120 BRA	5.0299 BC3	3.4997 FBP	2490

MID-COURSE EXECUTION ACCURACY

SGT 7318.2 SGR	1338.5 S63	1326.7
RRR .9281 RRF	.9400 RTF	.9831
SG8 7439.6 R23	.0671 R13	.9840
SG1 7422.9 S62	497.9 THA	9.66

ORBIT DETERMINATION ACCURACY

ST 151.2 SR	45.3 S8	112.2
CRT .9492 CR8	-.9426 CST	-.9997
LSA 193.1 M8A	14.3 S8A	1.3
EL1 157.2 EL2	13.7 ALP	16.00

LAUNCH DATE MAR 23 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.10 LAL	-.00 LOL	181.71 VL	32.332 GAL	-6.62 AZL	89.69 HCA	221.30 SMA	180.58 ECC	.20809 INC	.3085 V1	29.885
RP 218.15 LAP	-.20 LOP	43.01 VP	21.950 GAP	-.27 AZP	90.23 TAL	319.72 TAP	181.02 RCA	143.01 APO	218.16 V2	25.189
RC 173.829 GL	2.08 GP	-11.63 ZAL	152.02 ZAP	56.12 ETS	170.81 ZAE	97.13 ETE	181.39 ZAC	91.04 ETC	268.27 LVI	6.63

DISTANCE 669.093

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.816 VML	4.777 DLA	-8.18 RAL	334.95 RAD	6644.1 VEL	11.950 PTH	6.95 VMP	3.933 DPA	-36.20 RAP	279.73 ECC	1.3755
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	18 7 29	3002.48	-31.01	90.82	195.81	128.09	18 57 31	2002.5	-14.09	72.02
60.00	18 55 53	2873.78	-26.00	83.22	199.80	121.95	19 43 48	1873.8	-11.32	63.02
70.00	19 57 59	2691.18	-21.47	71.22	202.61	117.22	20 42 50	1691.2	-8.73	50.13
80.00	21 15 19	2449.08	-18.16	54.53	204.30	114.11	21 58 8	1449.1	-6.80	32.93
90.00	22 40 43	2173.54	-16.92	34.84	204.87	113.00	23 16 97	1173.5	-6.07	13.07
100.00	0 2 7	1923.55	-18.16	15.90	204.30	114.11	0 34 10	923.6	-6.80	354.29
110.00	1 1 21	1738.00	-21.47	.14	202.61	117.22	1 30 19	738.0	-8.73	359.04

DIFFERENTIAL CORRECTIONS

TDE 2.0517 TRA	5.1391 TC3	-3.5021 BAV	1.0730
RDE .7090 RRA	.7508 RC3	-.3291 FAU	.11375
FDE 4.2659 FRA	11.0859 FC3	-4.3160 BSP	12887
BDE 2.1894 BRA	5.1937 BC3	3.5178 FBP	2431

MID-COURSE EXECUTION ACCURACY

SGT 7485.6 SGR	1281.3 S63	1292.1
RRR .9174 RRF	.9313 RTF	.9830
SG8 7594.5 R23	.0637 R13	.9838
SG1 7577.8 S62	503.7 THA	8.96

ORBIT DETERMINATION ACCURACY

ST 154.6 SR	44.4 S8	110.7
CRT .9435 CR8	-.9377 CST	-.9998
LSA 194.7 M8A	14.7 S8A	1.3
EL1 160.2 EL2	14.2 ALP	15.30

LAUNCH DATE MAR 24 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC												DISTANCE 396.608												EARTH TO MARS																																									
RL	149.14	LAL	-0.00	LOL	182.71	VL	33.897	GAL	-7.38	AZL	92.72	HCA	137.23	SMA	210.41	ECC	.31604	INC	2.7246	V1	29.877	RP	207.32	LAP	-1.85	LOP	319.97	VP	25.486	GAP	18.41	AZP	88.00	TAL	328.65	TAP	105.88	RCA	143.91	APO	276.90	V2	26.420	RC	56.291	GL	-14.68	GP	5.34	ZAL	140.20	ZAP	164.52	ETS	159.82	ZAE	165.40	ETE	134.75	ZAC	106.80	ETC	275.09	LVI	-19.19
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	38.743	VHL	6.304	DLA	-26.85	RAL	333.03	RAD	8650.6	VEL	12.634	PTH	7.48	VHP	8.980	DPA	-15.47	RAP	306.92	ECC	1.6541	ST	53.7	SR	22.8	SS	40.5	CRT	.8613	CRS	.7337	CST	.9764	LSA	69.5	MSA	14.3	SSA	1.1	EL1	57.3	EL2	10.8	ALF	20.87																				
DIFFERENTIAL CORRECTIONS												ORBIT DETERMINATION ACCURACY																																																					
TDE	-.9822	TRA	-1.9536	TC3	-.1002	BAU	.0955	SGT	2184.9	SGR	500.0	SG3	248.3	ST	53.7	SR	22.8	SS	40.5	CRT	.8613	CRS	.7337	CST	.9764	LSA	69.5	MSA	14.3	SSA	1.1	EL1	57.3	EL2	10.8	ALF	20.87																												
RDE	-.5007	RRA	-.0846	RC3	.1493	FAU	.04427	RRT	.5072	RRF	-.5384	RTF	-.8713	CRT	.8613	CRS	.7337	CST	.9764	LSA	69.5	MSA	14.3	SSA	1.1	EL1	57.3	EL2	10.8	ALF	20.87																																		
PDE	.7962	FRA	2.4561	FC3	-.9643	BSP	3814	SG8	2241.3	R23	-.0915	R13	-.8737	LSA	69.5	MSA	14.3	SSA	1.1	EL1	57.3	EL2	10.8	ALF	20.87																																								
BDE	1.1025	BRA	1.9554	BC3	.1798	FSP	362	SG1	2200.1	SG2	427.9	THA	6.88	EL1	57.3	EL2	10.8	ALF	20.87	EL1	57.3	EL2	10.8	ALF	20.87																																								

LAUNCH DATE MAR 24 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC												DISTANCE 399.765												EARTH TO MARS																																									
RL	149.14	LAL	-0.00	LOL	182.71	VL	33.794	GAL	-7.22	AZL	92.79	HCA	138.49	SMA	208.12	ECC	.30797	INC	2.7904	V1	29.877	RP	207.22	LAP	-1.85	LOP	321.23	VP	25.361	GAP	17.94	AZP	87.91	TAL	328.68	TAP	107.18	RCA	144.02	APO	272.21	V2	26.432	RC	56.455	GL	-15.31	GP	5.62	ZAL	140.08	ZAP	163.59	ETS	160.05	ZAE	165.81	ETE	131.54	ZAC	107.05	ETC	275.19	LVI	-19.58
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	38.187	VHL	6.188	DLA	-27.41	RAL	333.39	RAD	8650.0	VEL	12.572	PTH	7.44	VHP	8.724	DPA	-15.11	RAP	307.22	ECC	1.6285	ST	54.8	SR	22.7	SS	41.9	CRT	.8711	CRS	.7443	CST	.9756	LSA	71.2	MSA	14.2	SSA	1.1	EL1	58.3	EL2	10.5	ALF	20.53																				
DIFFERENTIAL CORRECTIONS												ORBIT DETERMINATION ACCURACY																																																					
TDE	-.9840	TRA	-1.9326	TC3	-.0946	BAU	.0950	SGT	2218.1	SGR	505.8	SG3	264.1	ST	54.8	SR	22.7	SS	41.9	CRT	.8711	CRS	.7443	CST	.9756	LSA	71.2	MSA	14.2	SSA	1.1	EL1	58.3	EL2	10.5	ALF	20.53																												
RDE	-.4878	RRA	-.1054	RC3	.1603	FAU	.04563	RRT	.5451	RRF	-.5791	RTF	-.8758	CRT	.8711	CRS	.7443	CST	.9756	LSA	71.2	MSA	14.2	SSA	1.1	EL1	58.3	EL2	10.5	ALF	20.53																																		
PDE	.8316	FRA	2.5545	FC3	-1.0344	BSP	3886	SG8	2275.1	R23	-1.0000	R13	-.8785	LSA	71.2	MSA	14.2	SSA	1.1	EL1	58.3	EL2	10.5	ALF	20.53																																								
BDE	1.0983	BRA	1.9355	BC3	.1861	FSP	368	SG1	2235.8	SG2	420.7	THA	7.35	EL1	58.3	EL2	10.5	ALF	20.53	EL1	58.3	EL2	10.5	ALF	20.53																																								

LAUNCH DATE MAR 24 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC												DISTANCE 403.003												EARTH TO MARS																																									
RL	149.14	LAL	-0.00	LOL	182.71	VL	33.697	GAL	-7.07	AZL	92.86	HCA	139.76	SMA	205.99	ECC	.30031	INC	2.8597	V1	29.877	RP	207.13	LAP	-1.85	LOP	322.50	VP	25.243	GAP	17.47	AZP	87.82	TAL	328.72	TAP	108.48	RCA	144.13	APO	267.86	V2	26.443	RC	56.701	GL	-15.97	GP	5.92	ZAL	139.94	ZAP	162.62	ETS	160.22	ZAE	166.15	ETE	128.25	ZAC	107.31	ETC	275.28	LVI	-19.98
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	38.747	VHL	6.062	DLA	-27.99	RAL	333.78	RAD	8649.5	VEL	12.515	PTH	7.40	VHP	8.477	DPA	-14.74	RAP	307.49	ECC	1.6048	ST	55.3	SR	22.6	SS	43.4	CRT	.8803	CRS	.7569	CST	.9783	LSA	72.5	MSA	14.0	SSA	1.1	EL1	58.9	EL2	10.1	ALF	20.38																				
DIFFERENTIAL CORRECTIONS												ORBIT DETERMINATION ACCURACY																																																					
TDE	-.9760	TRA	-1.9005	TC3	-.0773	BAU	.0928	SGT	2235.6	SGR	514.0	SG3	280.9	ST	55.3	SR	22.6	SS	43.4	CRT	.8803	CRS	.7569	CST	.9783	LSA	72.5	MSA	14.0	SSA	1.1	EL1	58.9	EL2	10.1	ALF	20.38																												
RDE	-.4758	RRA	-.1288	RC3	.1724	FAU	.04706	RRT	.5842	RRF	-.6202	RTF	-.8730	CRT	.8803	CRS	.7569	CST	.9783	LSA	72.5	MSA	14.0	SSA	1.1	EL1	58.9	EL2	10.1	ALF	20.38																																		
PDE	.8693	FRA	2.6375	FC3	-1.1087	BSP	3828	SG8	2293.9	R23	-1.0261	R13	-.8859	LSA	72.5	MSA	14.0	SSA	1.1	EL1	58.9	EL2	10.1	ALF	20.38																																								
BDE	1.0857	BRA	1.9048	BC3	.1889	FSP	416	SG1	2258.4	SG2	413.3	THA	7.92	EL1	58.9	EL2	10.1	ALF	20.38	EL1	58.9	EL2	10.1	ALF	20.38																																								

LAUNCH DATE MAR 24 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC												DISTANCE 406.318												EARTH TO MARS																																									
RL	149.14	LAL	-0.00	LOL	182.71	VL	33.605	GAL	-6.93	AZL	92.93	HCA	141.02	SMA	204.03	ECC	.29305	INC	2.8326	V1	29.877	RP	207.05	LAP	-1.84	LOP	323.78	VP	25.130	GAP	17.02	AZP	87.72	TAL	328.77	TAP	109.78	RCA	144.24	APO	263.82	V2	26.433	RC	57.030	GL	-16.86	GP	6.25	ZAL	139.78	ZAP	161.83	ETS	160.34	ZAE	166.40	ETE	124.93	ZAC	107.60	ETC	275.37	LVI	-20.39
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	35.421	VHL	5.992	DLA	-28.80	RAL	334.13	RAD	8649.0	VEL	12.463	PTH	7.38	VHP	8.238	DPA	-14.35	RAP	307.73	ECC	1.5829	ST	56.6	SR	22.5	SS	44.9	CRT	.8916	CRS	.7681	CST	.9741	LSA	74.4	MSA	13.9	SSA	1.1	EL1	60.1	EL2	9.6	ALF	20.07																				
DIFFERENTIAL CORRECTIONS												ORBIT DETERMINATION ACCURACY																																																					
TDE	-.9835	TRA	-1.8828	TC3	-.0767	BAU	.0948	SGT	2273.1	SGR	525.1	SG3	298.7	ST	56.6	SR	22.5	SS	44.9	CRT	.8916	CRS	.7681	CST	.9741	LSA	74.4	MSA	13.9	SSA	1.1	EL1	60.1	EL2	9.6	ALF	20.07																												
RDE	-.4649	RRA	-.1498	RC3	.1849	FAU	.04859	RRT	.6223	RRF	-.6614	RTF	-.8853	CRT	.8916	CRS	.7681	CST	.9741	LSA	74.4	MSA	13.9	SSA	1.1	EL1	60.1	EL2	9.6	ALF	20.07																																		
PDE	.9088	FRA	2.7842	FC3	-1.1876	BSP	3965	SG8	2332.9	R23	-1.178	R13	-.8887	LSA	74.4	MSA	13.9	SSA	1.1	EL1	60.1	EL2	9.6	ALF	20.07																																								
BDE	1.0879	BRA	1.8888	BC3	.2002	FSP	445	SG1	2297.2	SG2	406.7	THA	8.45	EL1	60.1	EL2	9.6	ALF	20.07	EL1	60.1	EL2	9.6	ALF	20.07																																								

LAUNCH DATE MAR 24 1971 FLIGHT TIME 152.00 ARRIVAL DATE AUG 23 1971

Heliocentric Conic
 RL 149.14 LAL -.00 LOL 182.71 VL 33.518 GAL -6.79 AZL 93.01 MCA 142.28 SMA 202.21 ECC .28618 INC 3.0098 V1 29.877
 RP 206.97 LAP -1.84 LOP 325.03 VP 25.023 GAP 16.58 AZP 87.62 TAL 328.81 TAP 111.10 RCA 144.34 APO 260.08 VE 26.482
 RC 57.440 GL -17.39 GP 6.60 ZAL 139.59 ZAP 180.61 ETS 180.40 ZAE 166.57 ETE 121.65 ZAC 107.92 ETC 275.45 LVI -20.83

Planetocentric Conic
 C3 34.201 VHL 5.848 DLA -29.24 RAL 334.52 RAD 6648.6 VEL 12.414 PTH 7.32 VHP 8.006 DPA -13.93 RAP 307.95 ECC 1.5629
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 30 2657.80 -15.19 73.31 199.66 135.65 20 18 48 1657.8 3.11 57.35
 60.00 20 56 6 2440.70 -8.48 60.05 205.95 129.55 21 36 47 1440.7 7.62 42.11
 70.00 22 43 22 2119.30 -.98 39.63 211.58 124.14 23 20 42 1119.3 12.80 19.86
 80.00 1 23 46 1635.32 8.19 8.55 217.20 118.81 1 51 1 635.3 19.32 346.70
 82.24 2 32 11 1415.98 13.15 354.95 219.83 116.35 2 55 47 416.0 22.89 331.93
 100.00 4 6 38 1109.79 8.19 329.92 217.20 118.81 4 25 7 109.8 19.32 308.07
 110.00 3 48 43 1166.12 -.98 328.55 211.58 124.14 4 8 11 166.1 12.80 308.78

Differential Corrections
 TDE -.9885 TRA -1.8612 TC3 -.0730 BAU .0967
 RDE -.4553 RRA -1.1740 RC3 .1985 FAU .05021
 PDE .9511 FRA 2.8758 FC3 -1.2710 BSP 4064
 BDE 1.0883 BRA 1.0693 BC3 .2115 FSP 478

Mid-Course Execution Accuracy
 SGT 2304.8 SGR 539.5 SG3 317.5
 RRT .6599 RRF -.7020 RTF -.8882
 SGB 2367.1 R23 -.1299 R13 -.8921
 SG1 2333.0 SG2 400.4 THA 9.05

Orbit Determination Accuracy
 ST 57.7 SR 22.5 SS 46.5
 CRT .9030 CR8 .7812 CST .9730
 LSA 76.2 MSA 13.9 S8A 1.1
 EL1 61.2 EL2 9.1 ALF 19.86

LAUNCH DATE MAR 24 1971 FLIGHT TIME 154.00 ARRIVAL DATE AUG 25 1971

Heliocentric Conic
 RL 149.14 LAL -.00 LOL 182.71 VL 33.435 GAL -6.65 AZL 93.09 MCA 143.55 SMA 200.52 ECC .27966 INC 3.0915 V1 29.877
 RP 206.90 LAP -1.84 LOP 326.29 VP 24.920 GAP 16.14 AZP 87.51 TAL 328.87 TAP 112.42 RCA 144.44 APO 256.60 VE 26.469
 RC 57.930 GL -16.14 GP 6.90 ZAL 139.37 ZAP 159.56 ETS 160.43 ZAE 166.65 ETE 118.49 ZAC 108.27 ETC 275.53 LVI -21.28

Planetocentric Conic
 C3 33.081 VHL 5.752 DLA -29.91 RAL 334.93 RAD 6648.2 VEL 12.369 PTH 7.29 VHP 7.781 DPA -13.50 RAP 308.13 ECC 1.5444
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 39 55 2633.72 -14.01 72.23 199.83 135.95 20 23 48 1633.7 4.32 56.34
 60.00 21 3 21 2411.72 -7.22 58.64 206.24 129.76 21 43 33 1411.7 6.87 40.70
 70.00 22 56 33 2078.72 .57 37.51 212.09 124.15 23 31 12 1078.7 14.25 17.81
 79.82 2 14 58 1467.86 13.69 359.07 219.86 116.86 2 39 26 467.9 23.58 336.03
 79.82 2 14 58 1467.86 13.69 359.07 219.86 116.86 2 39 26 467.9 23.58 336.03
 79.82 2 14 58 1467.86 13.69 359.07 219.86 116.86 2 39 26 467.9 23.58 336.03
 110.00 3 59 55 1125.53 .57 326.43 212.09 124.15 4 18 41 125.5 14.25 306.53

Differential Corrections
 TDE -.9919 TRA -1.8363 TC3 -.0675 BAU .0989
 RDE -.4488 RRA -1.1995 RC3 .2131 FAU .05192
 PDE .9955 FRA 2.9914 FC3 -1.3589 BSP 4137
 BDE 1.0879 BRA 1.0471 BC3 .2236 FSP 509

Mid-Course Execution Accuracy
 SGT 2331.6 SGR 557.5 SG3 337.4
 RRT .6960 RRF -.7410 RTF -.8912
 SGB 2397.4 R23 -.1425 R13 -.8957
 SG1 2364.6 SG2 394.7 THA 9.72

Orbit Determination Accuracy
 ST 58.7 SR 22.5 SS 48.1
 CRT .9144 CR8 .7951 CST .9719
 LSA 77.9 MSA 13.8 S8A 1.1
 EL1 62.3 EL2 8.6 ALF 19.73

LAUNCH DATE MAR 24 1971 FLIGHT TIME 156.00 ARRIVAL DATE AUG 27 1971

Heliocentric Conic
 RL 149.14 LAL -.00 LOL 182.71 VL 33.357 GAL -6.52 AZL 93.18 MCA 144.81 SMA 198.98 ECC .27349 INC 3.1784 V1 29.877
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.823 GAP 15.71 AZP 87.40 TAL 328.92 TAP 113.74 RCA 144.54 APO 253.36 VE 26.476
 RC 58.496 GL -18.94 GP 7.39 ZAL 139.13 ZAP 158.47 ETS 160.41 ZAE 166.64 ETE 115.50 ZAC 108.66 ETC 275.60 LVI -21.73

Planetocentric Conic
 C3 32.057 VHL 5.682 DLA -30.62 RAL 335.35 RAD 6647.8 VEL 12.328 PTH 7.26 VHP 7.564 DPA -13.04 RAP 308.28 ECC 1.5278
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 45 41 2609.16 -12.81 71.14 200.09 136.23 20 29 10 1609.2 5.55 55.31
 60.00 21 11 12 2381.65 -5.91 57.18 206.62 129.94 21 50 53 1381.6 10.17 39.22
 70.00 23 9 12 2034.45 2.26 35.20 212.77 124.09 23 43 6 1034.5 15.81 15.12
 77.74 2 1 11 1509.16 14.24 2.45 219.95 117.40 2 26 20 509.2 24.30 339.39
 77.74 2 1 11 1509.16 14.24 2.45 219.95 117.40 2 26 20 509.2 24.30 339.39
 77.74 2 1 11 1509.16 14.24 2.45 219.95 117.40 2 26 20 509.2 24.30 339.39
 110.00 4 12 34 1081.27 2.26 324.12 212.77 124.09 4 30 35 81.3 15.81 304.04

Differential Corrections
 TDE -.9953 TRA -1.8093 TC3 -.0614 BAU .1016
 RDE -.4397 RRA -1.2287 RC3 .2289 FAU .05371
 PDE 1.0438 FRA 3.1120 FC3 -1.4505 BSP 4204
 BDE 1.0881 BRA 1.0234 BC3 .2370 FSP 545

Mid-Course Execution Accuracy
 SGT 2355.0 SGR 579.8 SG3 358.4
 RRT .7303 RRF -.7780 RTF -.8443
 SGB 2425.3 R23 -.1558 R13 -.8994
 SG1 2393.8 SG2 388.6 THA 10.47

Orbit Determination Accuracy
 ST 59.6 SR 22.6 SS 49.8
 CRT .9259 CR8 .8099 CST .9708
 LSA 79.7 MSA 13.7 S8A 1.1
 EL1 63.3 EL2 8.1 ALF 19.86

LAUNCH DATE MAR 24 1971 FLIGHT TIME 158.00 ARRIVAL DATE AUG 29 1971

Heliocentric Conic
 RL 149.14 LAL -.00 LOL 182.71 VL 33.283 GAL -6.40 AZL 93.27 MCA 146.08 SMA 197.49 ECC .26764 INC 3.2709 V1 29.877
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.729 GAP 15.29 AZP 87.28 TAL 329.99 TAP 115.07 RCA 144.64 APO 250.35 VE 26.482
 RC 59.137 GL -19.77 GP 7.84 ZAL 138.85 ZAP 157.35 ETS 160.35 ZAE 166.54 ETE 112.76 ZAC 109.08 ETC 275.67 LVI -22.25

Planetocentric Conic
 C3 31.128 VHL 5.579 DLA -31.36 RAL 335.80 RAD 6647.4 VEL 12.290 PTH 7.23 VHP 7.354 DPA -12.55 RAP 308.39 ECC 1.5123
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 51 52 2584.04 -11.57 70.04 200.43 136.48 20 34 56 1584.0 6.80 54.25
 60.00 21 19 43 2350.30 -4.94 55.67 207.11 130.09 21 58 53 1350.3 11.52 37.66
 70.00 23 23 48 1985.09 4.14 32.82 213.64 123.93 23 58 53 985.1 17.50 12.30
 75.84 1 49 22 1544.66 14.79 5.42 220.10 117.98 2 15 7 544.7 25.03 342.34
 75.84 1 49 22 1544.66 14.79 5.42 220.10 117.98 2 15 7 544.7 25.03 342.34
 75.84 1 49 22 1544.66 14.79 5.42 220.10 117.98 2 15 7 544.7 25.03 342.34
 110.00 4 27 10 1031.91 4.14 321.54 213.64 123.93 4 44 22 31.9 17.50 301.22

Differential Corrections
 TDE -.9980 TRA -1.7803 TC3 -.0545 BAU .1048
 RDE -.4339 RRA -1.2555 RC3 .2459 FAU .05563
 PDE 1.0942 FRA 3.2365 FC3 -1.5473 BSP 4256
 BDE 1.0882 BRA 1.7986 BC3 .2519 FSP 582

Mid-Course Execution Accuracy
 SGT 2374.6 SGR 606.9 SG3 380.5
 RRT .7620 RRF -.8122 RTF -.8971
 SGB 2450.9 R23 -.1701 R13 -.9029
 SG1 2420.4 SG2 385.6 THA 11.31

Orbit Determination Accuracy
 ST 60.5 SR 22.8 SS 51.5
 CRT .9372 CR8 .8250 CST .9696
 LSA 81.5 MSA 13.7 S8A 1.0
 EL1 64.2 EL2 7.5 ALF 19.70

LAUNCH DATE MAR 24 1971

FLIGHT TIME 160.00

ARRIVAL DATE AUG 31 1971

MELIOCENTRIC CONIC

DISTANCE 423.804

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 33.213 GAL -6.28 AZL 93.37 HCA 147.35 SMA 198.14 ECC .28211 INC 3.3697 V1 29.877
RP 206.75 LAP -1.82 LOP 330.10 VP 24.640 GAP 14.88 AZP 87.16 TAL 329.03 TAP 116.40 RCA 144.73 APO 247.53 V2 26.487
RC 59.890 GL -20.65 GP 8.33 ZAL 138.54 ZAP 156.19 ETS 160.25 ZAE 166.35 ETE 110.31 ZAC 109.54 ETC 275.73 LVI -22.77

PLANETOCENTRIC CONIC

C3 30.288 VHL 5.503 DLA -32.15 RAL 336.26 RAD 6647.1 VEL 12.256 PTH 7.20 VHP 7.152 DPA -12.03 RAP 308.46 ECC 1.4888
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 58 32 2598.29 -10.30 66.92 200.87 136.71 20 41 10 1558.3 8.09 53.15
60.00 21 29 2 2317.43 -3.09 54.10 207.74 130.20 22 7 39 1317.4 12.91 36.01
70.00 23 41 16 1928.05 6.30 29.62 214.78 123.64 24 13 24 928.1 19.40 8.97
74.04 1 38 57 1576.25 15.36 8.13 220.33 118.59 2 5 13 576.3 25.79 345.04
74.04 1 38 57 1576.25 15.36 8.13 220.33 118.59 2 5 13 576.3 25.79 345.04
74.04 1 38 57 1576.25 15.36 8.13 220.33 118.59 2 5 13 576.3 25.79 345.04
110.00 4 44 38 6262.91 6.30 296.44 214.78 123.64 6 29 1 5262.9 19.40 275.79

DIFFERENTIAL CORRECTIONS

TDE -1.0018 TRA -1.7493 TC3 -.0481 BAU .1088
RDE -.4297 RRA -.2864 RC3 .2643 FAU .05763
FDE 1.1492 FRA 3.3651 FC3 -1.6471 B8P 4309
BDE 1.0900 BRA 1.7726 BC3 .2686 F8P 621

MID-COURSE EXECUTION ACCURACY

SGT 2391.1 SGR 639.3 SG3 403.8
RRF .7906 RRF -.8434 RTF -.8996
SGB 2475.1 R23 -.1851 R13 -.9064
SG1 2445.3 SG2 382.8 THA 12.24

ORBIT DETERMINATION ACCURACY

ST 61.3 SR 23.0 SS 53.3
CRT .9484 CR8 .8409 CST .9685
LSA 83.3 MSA 13.7 SSA 1.0
EL1 65.1 EL2 6.9 ALF 19.80

LAUNCH DATE MAR 24 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 2 1971

MELIOCENTRIC CONIC

DISTANCE 427.454

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 33.147 GAL -8.17 AZL 93.48 HCA 148.81 SMA 194.87 ECC .25687 INC 3.4756 V1 29.877
RP 206.72 LAP -1.81 LOP 331.37 VP 24.555 GAP 14.48 AZP 87.03 TAL 329.11 TAP 117.73 RCA 144.82 APO 244.93 V2 26.491
RC 60.633 GL -21.57 GP 8.86 ZAL 138.20 ZAP 154.89 ETS 160.11 ZAE 166.09 ETE 108.19 ZAC 110.05 ETC 275.79 LVI -23.33

PLANETOCENTRIC CONIC

C3 29.537 VHL 5.435 DLA -32.97 RAL 336.78 RAD 6646.8 VEL 12.226 PTH 7.18 VHP 6.957 DPA -11.47 RAP 308.50 ECC 1.4861
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 5 43 2531.79 -8.98 67.78 201.42 136.92 20 47 55 1531.8 9.41 52.02
60.00 21 39 18 2282.68 -1.56 52.44 208.50 130.28 22 17 21 1282.7 14.38 34.25
70.00 0 7 33 1857.38 8.94 25.86 216.33 123.10 0 38 30 857.4 21.65 4.72
72.30 1 29 35 1605.19 15.92 10.67 220.65 119.26 1 56 20 605.2 26.57 347.58
72.30 1 29 35 1605.19 15.92 10.67 220.65 119.26 1 56 20 605.2 26.57 347.58
72.30 1 29 35 1605.19 15.92 10.67 220.65 119.26 1 56 20 605.2 26.57 347.58
110.00 5 6 59 6192.24 8.94 292.68 216.33 123.10 6 50 11 5192.2 21.65 271.55

DIFFERENTIAL CORRECTIONS

TDE -.9981 TRA -1.7091 TC3 -.0314 BAU .1131
RDE -.4267 RRA -.3191 RC3 .2848 FAU .05985
FDE 1.2033 FRA 3.4955 FC3 -1.7542 B8P 4263
BDE 1.0855 BRA 1.7386 BC3 .2888 F8P 660

MID-COURSE EXECUTION ACCURACY

SGT 2391.8 SGR 677.5 SG3 428.0
RRF .8170 RRF -.8709 RTF -.9035
SGB 2485.9 R23 -.1969 R13 -.9113
SG1 2456.7 SG2 380.3 THA 13.36

ORBIT DETERMINATION ACCURACY

ST 61.7 SR 23.3 SS 55.0
CRT .9586 CR8 .8566 CST .9674
LSA 84.8 MSA 13.6 SSA 1.0
EL1 65.6 EL2 6.2 ALF 20.08

LAUNCH DATE MAR 24 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 4 1971

MELIOCENTRIC CONIC

DISTANCE 431.145

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 33.085 GAL -6.06 AZL 93.59 HCA 149.88 SMA 193.70 ECC .25192 INC 3.5895 V1 29.877
RP 206.70 LAP -1.80 LOP 332.64 VP 24.474 GAP 14.08 AZP 86.89 TAL 329.18 TAP 119.06 RCA 144.90 APO 242.49 V2 26.494
RC 61.483 GL -22.94 GP 9.44 ZAL 137.62 ZAP 153.74 ETS 159.94 ZAE 165.74 ETE 106.42 ZAC 110.62 ETC 275.85 LVI -23.92

PLANETOCENTRIC CONIC

C3 28.875 VHL 5.374 DLA -33.84 RAL 337.29 RAD 6646.6 VEL 12.199 PTH 7.16 VHP 6.769 DPA -10.88 RAP 308.49 ECC 1.4752
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 13 31 2504.50 -7.62 66.61 202.10 137.11 20 55 16 1504.5 10.76 50.64
60.00 21 50 44 2245.68 .06 50.67 209.45 130.30 22 28 10 1245.7 15.92 32.34
70.00 0 48 25 1750.24 12.87 20.04 218.81 121.91 1 11 36 750.2 24.81 358.02
70.59 1 21 4 1832.18 16.50 13.10 221.05 119.97 1 48 16 632.2 27.37 350.00
70.59 1 21 4 1832.18 16.50 13.10 221.05 119.97 1 48 16 632.2 27.37 350.00
70.59 1 21 4 1832.18 16.50 13.10 221.05 119.97 1 48 16 632.2 27.37 350.00
110.00 5 41 52 6085.09 12.87 286.87 218.81 121.91 7 23 17 5085.1 24.81 264.84

DIFFERENTIAL CORRECTIONS

TDE -1.0104 TRA -1.6814 TC3 -.0359 BAU .1188
RDE -.4267 RRA -.3552 RC3 .3055 FAU .06198
FDE 1.2708 FRA 3.6333 FC3 -1.8578 B8P 4396
BDE 1.0968 BRA 1.7185 BC3 .3076 F8P 703

MID-COURSE EXECUTION ACCURACY

SGT 2412.7 SGR 723.0 SG3 453.7
RRF .8380 RRF -.8992 RTF -.5337
SGB 2518.7 R23 -.2168 R13 -.9130
SG1 2489.5 SG2 382.4 THA 14.45

ORBIT DETERMINATION ACCURACY

ST 62.8 SR 23.8 SS 57.0
CRT .9689 CR8 .8731 CST .9658
LSA 87.0 MSA 13.7 SSA 1.0
EL1 67.0 EL2 5.5 ALF 20.28

LAUNCH DATE MAR 24 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 6 1971

MELIOCENTRIC CONIC

DISTANCE 434.876

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 33.025 GAL -5.95 AZL 93.71 HCA 151.15 SMA 192.80 ECC .24723 INC 3.7125 V1 29.877
RP 206.68 LAP -1.79 LOP 333.91 VP 24.396 GAP 13.70 AZP 86.75 TAL 329.25 TAP 120.40 RCA 144.98 APO 240.21 V2 26.496
RC 62.398 GL -23.57 GP 10.08 ZAL 137.40 ZAP 152.45 ETS 159.72 ZAE 165.31 ETE 105.01 ZAC 111.24 ETC 275.90 LVI -24.56

PLANETOCENTRIC CONIC

C3 28.299 VHL 5.320 DLA -34.75 RAL 337.86 RAD 6646.3 VEL 12.176 PTH 7.14 VHP 6.589 DPA -10.23 RAP 308.43 ECC 1.4657
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 22 2 2476.18 -6.21 65.41 202.92 137.27 21 3 19 1476.2 12.16 49.60
60.00 22 3 38 2205.66 1.83 48.76 210.60 130.27 22 40 23 1205.7 17.57 30.24
68.90 1 13 16 1657.79 17.08 15.45 221.56 120.74 1 40 54 657.8 28.20 352.37
68.90 1 13 16 1657.79 17.08 15.45 221.56 120.74 1 40 54 657.8 28.20 352.37
68.90 1 13 16 1657.79 17.08 15.45 221.56 120.74 1 40 54 657.8 28.20 352.37
68.90 1 13 16 1657.79 17.08 15.45 221.56 120.74 1 40 54 657.8 28.20 352.37
68.90 1 13 16 1657.79 17.08 15.45 221.56 120.74 1 40 54 657.8 28.20 352.37

DIFFERENTIAL CORRECTIONS

TDE -1.0132 TRA -1.6413 TC3 -.0286 BAU .1249
RDE -.4282 RRA -.3936 RC3 .3290 FAU .06432
FDE 1.3381 FRA 3.7708 FC3 -1.9678 B8P 4403
BDE 1.0999 BRA 1.6878 BC3 .3300 F8P 750

MID-COURSE EXECUTION ACCURACY

SGT 2412.6 SGR 775.5 SG3 480.2
RRF .8570 RRF -.9159 RTF -.9059
SGB 2534.2 R23 -.2311 R13 -.9168
SG1 2504.8 SG2 384.9 THA 15.78

ORBIT DETERMINATION ACCURACY

ST 63.4 SR 24.3 SS 58.9
CRT .9777 CR8 .8889 CST .9645
LSA 88.8 MSA 13.8 SSA 1.0
EL1 67.7 EL2 4.8 ALF 20.68

LAUNCH DATE MAR 24 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 438.642

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.970 GAL -5.85 AZL 93.85 MCA 152.42 SMA 191.58 ECC .24281 INC 3.8459 V1 29.877
RP 206.67 LAP -1.78 LOP 335.18 VP 24.321 GAP 13.32 AZP 86.59 TAL 329.32 TAP 121.73 RCA 145.06 APO 238.09 V2 26.496
RC 63.376 GL -24.65 GP 10.77 ZAL 136.93 ZAP 151.10 ETS 159.47 ZAE 164.79 ETE 103.94 ZAC 111.92 ETC 275.95 LVI -25.24

PLANETOCENTRIC CONIC

C3 27.813 VHL 5.274 DLA -35.72 RAL 336.48 RAD 6646.1 VEL 12.156 PTH 7.12 VHP 6.417 DPA -9.54 RAP 308.33 ECC 1.4877
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 31 24 2446.69 -4.73 64.17 203.90 137.40 21 12 11 1446.7 13.61 46.30
60.00 22 18 24 2161.67 3.76 46.85 212.01 130.15 22 54 26 1161.7 19.35 27.88
67.21 1 6 6 1682.43 17.65 17.77 222.18 121.57 1 34 8 682.4 29.06 354.70
67.21 1 6 6 1682.43 17.65 17.77 222.18 121.57 1 34 8 682.4 29.06 354.70
67.21 1 6 6 1682.43 17.65 17.77 222.18 121.57 1 34 8 682.4 29.06 354.70
67.21 1 6 6 1682.43 17.65 17.77 222.18 121.57 1 34 8 682.4 29.06 354.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0222 TRA-1.6043 TC3 -.0255 BAU .1318 SGT 2417.1 SGR 836.8 S63 508.0 ST 64.2 SR 25.1 SS 60.9
RDE -.4327 RRA -.4358 RC3 .3536 FAU .06669 RRT .8721 RRF -.9334 RTF -.9068 CRT .9854 CRS .9046 CST .9630
FDE 1.4135 FRA 3.9130 FC3-2.0758 B8P 4470 SGB 2557.9 R23 -.2475 R13 -.9197 LSA 90.9 MSA 13.9 SSA .9
BDE 1.1100 BRA 1.6624 BC3 .3548 F8P 798 SGI 2527.7 SGI 391.6 THA 17.23 EL1 68.8 EL2 4.0 ALF 21.14

LAUNCH DATE MAR 24 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 442.443

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.917 GAL -5.76 AZL 93.99 MCA 153.69 SMA 190.62 ECC .23863 INC 3.9009 V1 29.877
RP 206.68 LAP -1.77 LOP 336.45 VP 24.250 GAP 13.25 AZP 86.42 TAL 329.38 TAP 123.07 RCA 145.13 APO 236.11 V2 26.496
RC 64.414 GL -25.81 GP 11.54 ZAL 136.42 ZAP 149.70 ETS 159.18 ZAE 164.18 ETE 103.22 ZAC 112.68 ETC 275.99 LVI -25.97

PLANETOCENTRIC CONIC

C3 27.416 VHL 5.236 DLA -36.74 RAL 339.14 RAD 6646.0 VEL 12.140 PTH 7.11 VHP 6.252 DPA -8.79 RAP 308.17 ECC 1.4512
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 41 47 2415.71 -3.18 62.87 205.07 137.50 21 22 3 1415.7 15.12 46.91
60.00 22 35 46 2111.89 5.94 44.26 213.77 129.93 23 10 58 1111.9 21.32 25.15
65.50 0 59 31 1706.32 18.24 20.07 222.93 122.47 1 27 57 706.3 29.94 357.02
65.50 0 59 31 1706.32 18.24 20.07 222.93 122.47 1 27 57 706.3 29.94 357.02
65.50 0 59 31 1706.32 18.24 20.07 222.93 122.47 1 27 57 706.3 29.94 357.02
65.50 0 59 31 1706.32 18.24 20.07 222.93 122.47 1 27 57 706.3 29.94 357.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0180 TRA-1.5494 TC3 -.0040 BAU .1402 SGT 2391.1 SGR 906.0 S63 536.0 ST 64.1 SR 26.0 SS 62.8
RDE -.4389 RRA -.4600 RC3 .3823 FAU .06947 RRT .8864 RRF -.9476 RTF -.9101 CRT .9914 CRS .9189 CST .9616
FDE 1.4687 FRA 4.0479 FC3-2.1936 B8P 4352 SGB 2557.0 R23 -.2546 R13 -.9253 LSA 92.4 MSA 14.0 SSA .8
BDE 1.1086 BRA 1.6221 BC3 .3825 F8P 840 SGI 2526.0 SGI 396.9 THA 19.05 EL1 69.1 EL2 3.2 ALF 21.92

LAUNCH DATE MAR 24 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 446.272

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.867 GAL -5.67 AZL 94.13 MCA 154.95 SMA 189.73 ECC .23469 INC 4.1496 V1 29.877
RP 206.69 LAP -1.76 LOP 337.72 VP 24.181 GAP 12.58 AZP 86.24 TAL 329.43 TAP 124.40 RCA 145.20 APO 234.26 V2 26.495
RC 65.512 GL -27.03 GP 12.39 ZAL 135.85 ZAP 148.23 ETS 158.86 ZAE 163.48 ETE 102.79 ZAC 113.53 ETC 276.03 LVI -26.76

PLANETOCENTRIC CONIC

C3 27.118 VHL 5.208 DLA -37.82 RAL 339.88 RAD 6645.9 VEL 12.127 PTH 7.10 VHP 6.096 DPA -7.96 RAP 307.96 ECC 1.4463
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 53 22 2383.05 -1.54 61.50 206.47 137.56 21 33 5 1383.1 16.70 45.43
60.00 22 56 59 2053.28 8.49 41.41 215.99 129.85 23 31 13 1053.3 23.58 21.83
63.76 0 53 31 1729.74 18.82 22.37 223.83 123.44 1 22 20 729.7 30.84 359.37
63.76 0 53 31 1729.74 18.82 22.37 223.83 123.44 1 22 20 729.7 30.84 359.37
63.76 0 53 31 1729.74 18.82 22.37 223.83 123.44 1 22 20 729.7 30.84 359.37
63.76 0 53 31 1729.74 18.82 22.37 223.83 123.44 1 22 20 729.7 30.84 359.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0411 TRA-1.5178 TC3 -.0215 BAU .1487 SGT 2404.6 SGR 987.9 S63 565.7 ST 65.5 SR 27.2 SS 65.1
RDE -.4312 RRA -.4312 RC3 .4088 FAU .07175 RRT .8939 RRF -.9395 RTF -.9180 CRT .9961 CRS .9331 CST .9599
FDE 1.3840 FRA 4.1852 FC3-2.2907 B8P 4334 SGB 2599.6 R23 -.2737 R13 -.9265 LSA 93.2 MSA 14.3 SSA .8
BDE 1.1346 BRA 1.6081 BC3 .4101 F8P 897 SGI 2566.3 SGI 414.9 THA 20.73 EL1 70.9 EL2 2.2 ALF 22.50

LAUNCH DATE MAR 24 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 450.131

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.821 GAL -5.58 AZL 94.32 MCA 156.22 SMA 188.80 ECC .23098 INC 4.3240 V1 29.877
RP 206.71 LAP -1.74 LOP 338.99 VP 24.119 GAP 12.23 AZP 86.04 TAL 329.51 TAP 125.73 RCA 145.27 APO 232.53 V2 26.493
RC 66.867 GL -28.34 GP 13.33 ZAL 135.23 ZAP 146.70 ETS 158.49 ZAE 162.67 ETE 102.66 ZAC 114.47 ETC 276.06 LVI -27.62

PLANETOCENTRIC CONIC

C3 26.920 VHL 5.188 DLA -38.97 RAL 340.68 RAD 6645.8 VEL 12.119 PTH 7.09 VHP 5.949 DPA -7.06 RAP 307.68 ECC 1.4430
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 6 26 2348.11 .22 60.04 208.15 137.58 21 45 37 1348.1 18.39 43.81
60.00 23 25 11 1977.46 11.76 37.66 219.00 126.83 23 56 8 977.5 26.36 17.36
61.99 0 48 1 1753.06 19.38 24.70 224.88 124.49 1 17 14 753.1 31.77 1.77
61.99 0 48 1 1753.06 19.38 24.70 224.88 124.49 1 17 14 753.1 31.77 1.77
61.99 0 48 1 1753.06 19.38 24.70 224.88 124.49 1 17 14 753.1 31.77 1.77
61.99 0 48 1 1753.06 19.38 24.70 224.88 124.49 1 17 14 753.1 31.77 1.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0533 TRA-1.4694 TC3 -.0212 BAU .1588 SGT 2389.4 SGR 1080.3 S63 595.4 ST 66.0 SR 28.6 SS 67.4
RDE -.4668 RRA -.4668 RC3 .4406 FAU .07438 RRT .9011 RRF -.9689 RTF -.9081 CRT .9988 CRS .9457 CST .9584
FDE 1.6835 FRA 4.3330 FC3-2.3912 B8P 4596 SGB 2622.3 R23 -.2828 R13 -.9303 LSA 97.5 MSA 14.5 SSA .7
BDE 1.1521 BRA 1.5819 BC3 .4411 F8P 949 SGI 2566.3 SGI 432.7 THA 22.84 EL1 72.0 EL2 1.3 ALF 23.43

LAUNCH DATE MAR 24 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 454.017

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.777 GAL -5.50 AZL 94.52 HCA 157.49 SMA 188.13 ECC .22748 INC 4.5169 V1 29.877
RP 206.73 LAP -1.73 LOP 340.25 VP 24.051 GAP 11.88 AZP 85.83 TAL 329.57 TAP 127.06 RCA 145.33 APO 230.92 V2 26.489
RC 67.877 GL -29.74 GP 14.37 ZAL 134.54 ZAP 145.09 ETS 158.09 ZAE 161.74 ETE 102.78 ZAC 119.51 ETC 276.09 LVI -28.87

PLANETOCENTRIC CONIC

C3 26.832 VHL 5.180 DLA -40.19 RAL 341.58 RAD 6645.7 VEL 12.116 PTH 7.09 VHP 5.811 DPA -6.08 RAP 307.34 ECC 1.4416
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 21 29 2310.23 2.12 58.46 210.17 137.54 21 59 59 1310.2 20.19 42.01
60.00 0 22 9 1835.26 17.70 30.35 224.39 126.82 0 52 44 835.3 31.12 8.33
60.16 0 43 6 1776.36 19.94 27.08 226.12 125.64 1 12 42 776.4 32.73 4.24
60.16 0 43 6 1776.36 19.94 27.08 226.12 125.64 1 12 42 776.4 32.73 4.24
60.16 0 43 6 1776.36 19.94 27.08 226.12 125.64 1 12 42 776.4 32.73 4.24
60.16 0 43 6 1776.36 19.94 27.08 226.12 125.64 1 12 42 776.4 32.73 4.24

DIFFERENTIAL CORRECTIONS

TDE-1.0669 TRA-1.4169 TC3 -.0217 BAU .1702
RDE -.4876 RRA -.6435 RC3 .4740 FAU .07699
FDE 1.7926 FRA 4.4645 FC3-2.4841 BSP 4629
BDE 1.1730 BRA 1.5570 BC3 .4745 FSP 1000

MID-COURSE EXECUTION ACCURACY

SGT 2366.8 SGR 1185.6 SG3 625.1
RRR .9062 RRF -.9764 RTF -.9078
SGB 2647.2 R23 -.2881 R13 -.9345
SG1 2607.8 SG2 455.0 THA 25.24

ORBIT DETERMINATION ACCURACY

ST 66.5 SR 30.4 SS 69.7
CRT .9997 CRS .9569 CST .9568
LSA 99.9 MSA 14.8 SSA .7
EL1 73.2 EL2 .7 ALF 24.55

LAUNCH DATE MAR 24 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 457.928

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.735 GAL -5.43 AZL 94.73 HCA 158.75 SMA 187.41 ECC .22419 INC 4.7313 V1 29.877
RP 206.77 LAP -1.71 LOP 341.52 VP 23.990 GAP 11.54 AZP 85.59 TAL 329.63 TAP 128.38 RCA 145.39 APO 229.42 V2 26.485
RC 69.140 GL -31.24 GP 15.53 ZAL 133.77 ZAP 143.40 ETS 157.85 ZAE 160.67 ETE 103.08 ZAC 116.68 ETC 276.12 LVI -29.60

PLANETOCENTRIC CONIC

C3 26.868 VHL 5.183 DLA -41.49 RAL 342.58 RAD 6645.8 VEL 12.117 PTH 7.09 VHP 5.684 DPA -4.98 RAP 306.93 ECC 1.4422
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 38 59 2268.37 4.22 56.70 212.63 137.43 22 16 48 1268.4 22.16 39.98
58.28 0 38 46 1799.91 20.48 29.52 227.58 126.90 1 8 48 799.9 33.70 6.81
58.28 0 38 46 1799.91 20.48 29.52 227.58 126.90 1 8 48 799.9 33.70 6.81
58.28 0 38 46 1799.91 20.48 29.52 227.58 126.90 1 8 48 799.9 33.70 6.81
58.28 0 38 46 1799.91 20.48 29.52 227.58 126.90 1 8 48 799.9 33.70 6.81
58.28 0 38 46 1799.91 20.48 29.52 227.58 126.90 1 8 48 799.9 33.70 6.81

DIFFERENTIAL CORRECTIONS

TDE-1.0818 TRA-1.3582 TC3 -.0195 BAU .1835
RDE -.5151 RRA -.7108 RC3 .5104 FAU .07973
FDE 1.9140 FRA 4.5848 FC3-2.5690 BSP 4645
BDE 1.1981 BRA 1.5330 BC3 .5108 FSP 1049

MID-COURSE EXECUTION ACCURACY

SGT 2333.8 SGR 1305.6 SG3 654.2
RRR .9099 RRF -.9822 RTF -.9073
SGB 2674.2 R23 -.2882 R13 -.9396
SG1 2630.7 SG2 480.5 THA 27.99

ORBIT DETERMINATION ACCURACY

ST 66.9 SR 32.5 SS 72.0
CRT .9989 CRS .9685 CST .9593
LSA 102.4 MSA 15.1 SSA .6
EL1 74.4 EL2 1.4 ALF 25.92

LAUNCH DATE MAR 24 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 461.861

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.698 GAL -5.35 AZL 94.97 HCA 160.02 SMA 186.73 ECC .22110 INC 4.9715 V1 29.877
RP 206.81 LAP -1.70 LOP 342.79 VP 23.931 GAP 11.20 AZP 85.33 TAL 329.69 TAP 129.70 RCA 145.45 APO 228.02 V2 26.480
RC 70.455 GL -32.85 GP 16.83 ZAL 132.92 ZAP 141.82 ETS 157.17 ZAE 159.45 ETE 103.56 ZAC 117.99 ETC 276.15 LVI -30.75

PLANETOCENTRIC CONIC

C3 27.046 VHL 5.201 DLA -42.87 RAL 343.71 RAD 6645.8 VEL 12.124 PTH 7.10 VHP 5.568 DPA -3.77 RAP 306.45 ECC 1.4451
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 59 57 2220.75 6.61 54.70 215.68 137.23 22 38 58 1220.7 24.36 37.59
56.32 0 35 5 1823.91 20.99 32.05 229.28 128.28 1 5 29 823.9 34.69 9.51
56.32 0 35 5 1823.91 20.99 32.05 229.28 128.28 1 5 29 823.9 34.69 9.51
56.32 0 35 5 1823.91 20.99 32.05 229.28 128.28 1 5 29 823.9 34.69 9.51
56.32 0 35 5 1823.91 20.99 32.05 229.28 128.28 1 5 29 823.9 34.69 9.51
56.32 0 35 5 1823.91 20.99 32.05 229.28 128.28 1 5 29 823.9 34.69 9.51

DIFFERENTIAL CORRECTIONS

TDE-1.1066 TRA-1.3015 TC3 -.0292 BAU .1982
RDE -.5523 RRA -.7839 RC3 .5474 FAU .08218
FDE 2.0361 FRA 4.6955 FC3-2.6308 BSP 4750
BDE 1.2389 BRA 1.5193 BC3 .5481 FSP 1102

MID-COURSE EXECUTION ACCURACY

SGT 2305.6 SGR 1443.3 SG3 682.8
RRR .9107 RRF -.9868 RTF -.5451
SGB 2720.1 R23 -.2888 R13 -.9443
SG1 2670.9 SG2 516.7 THA 30.96

ORBIT DETERMINATION ACCURACY

ST 67.7 SR 35.2 SS 74.6
CRT .9987 CRS .9747 CST .9341
LSA 105.6 MSA 15.5 SSA .6
EL1 76.2 EL2 2.5 ALF 27.45

LAUNCH DATE MAR 24 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 468.815

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.659 GAL -5.29 AZL 95.24 HCA 161.28 SMA 186.11 ECC .21820 INC 5.2426 V1 29.877
RP 206.87 LAP -1.68 LOP 344.06 VP 23.874 GAP 10.88 AZP 85.03 TAL 329.74 TAP 131.02 RCA 145.50 APO 226.71 V2 26.474
RC 71.818 GL -34.80 GP 18.28 ZAL 131.97 ZAP 139.73 ETS 156.88 ZAE 158.08 ETE 104.17 ZAC 119.46 ETC 276.18 LVI -32.01

PLANETOCENTRIC CONIC

C3 27.389 VHL 5.233 DLA -44.35 RAL 345.01 RAD 6646.0 VEL 12.138 PTH 7.11 VHP 5.485 DPA -2.41 RAP 305.88 ECC 1.4508
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 26 9 2163.72 9.45 52.26 219.58 136.85 23 2 13 1163.7 26.93 34.60
54.29 0 32 9 1848.63 21.46 34.68 231.28 129.80 1 2 57 848.6 35.69 12.37
54.29 0 32 9 1848.63 21.46 34.68 231.28 129.80 1 2 57 848.6 35.69 12.37
54.29 0 32 9 1848.63 21.46 34.68 231.28 129.80 1 2 57 848.6 35.69 12.37
54.29 0 32 9 1848.63 21.46 34.68 231.28 129.80 1 2 57 848.6 35.69 12.37
54.29 0 32 9 1848.63 21.46 34.68 231.28 129.80 1 2 57 848.6 35.69 12.37

DIFFERENTIAL CORRECTIONS

TDE-1.1328 TRA-1.2364 TC3 -.0352 BAU .2154
RDE -.6008 RRA -.8636 RC3 .5872 FAU .08464
FDE 2.2143 FRA 4.7828 FC3-2.6755 BSP 4830
BDE 1.2923 BRA 1.5081 BC3 .5883 FSP 1149

MID-COURSE EXECUTION ACCURACY

SGT 2263.4 SGR 1599.6 SG3 709.0
RRR .9104 RRF -.9902 RTF -.9026
SGB 2771.6 R23 -.2791 R13 -.9501
SG1 2716.2 SG2 551.5 THA 34.37

ORBIT DETERMINATION ACCURACY

ST 68.2 SR 38.4 SS 77.3
CRT .9933 CRS .9813 CST .9530
LSA 108.8 MSA 15.8 SSA .5
EL1 76.2 EL2 3.9 ALF 29.31

LAUNCH DATE MAR 24 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.825 GAL -5.22 AZL 95.55 HCA 162.54 SMA 185.52 ECC .21547 INC 5.5913 V1 29.877
 RP 206.93 LAP -1.66 LOP 345.33 VP 23.819 GAP 10.56 AZP 84.70 TAL 329.70 TAP 132.33 RCA 145.55 APO 225.50 V2 26.466
 RC 73.228 GL -36.49 GP 19.92 ZAL 130.91 ZAP 137.72 E78 156.11 ZAE 156.46 ETE 104.86 ZAC 121.11 ETC 276.21 LVI -33.42

PLANETOCENTRIC CONIC
 C3 27.932 VHL 5.285 DLA -45.94 RAL 346.50 RAD 6646.2 VEL 12.161 PTH 7.13 VHP 5.378 DPA -.89 RAP 305.22 ECC 1.4597
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 1 56 2087.74 13.20 48.95 224.92 136.14 23 36 44 1087.7 30.24 30.39
 52.15 0 30 5 1874.30 21.88 37.43 233.62 131.46 1 1 19 874.3 36.68 15.42
 52.15 0 30 5 1874.30 21.88 37.43 233.62 131.46 1 1 19 874.3 36.68 15.42
 52.15 0 30 5 1874.30 21.88 37.43 233.62 131.46 1 1 19 874.3 36.68 15.42
 52.15 0 30 5 1874.30 21.88 37.43 233.62 131.46 1 1 19 874.3 36.68 15.42
 52.15 0 30 5 1874.30 21.88 37.43 233.62 131.46 1 1 19 874.3 36.68 15.42
 52.15 0 30 5 1874.30 21.88 37.43 233.62 131.46 1 1 19 874.3 36.68 15.42

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.1645 TRA-1.1653 TC3 -.0427 BAU .2352 SGT 2212.6 SGR 1777.8 SC3 732.3 ST 68.8 SR 42.4 SS 80.1
 RDE -.6650 RRA -.9514 RC3 .6283 FAU .08683 RRT .9057 RRF -.9928 RTF -.8994 CRT .9891 CR8 .9866 CST .9523
 FDE 2.3974 FRA 4.8423 FC3-2.6914 B8P 4935 SGB 2838.3 R23 -.2661 R13 -.9565 LSA 112.6 MSA 16.2 SBA .5
 BDE 1.3410 BRA 1.5043 BC3 .6298 F8P 1192 SG1 2776.0 S62 591.6 THA 36.18 EL1 80.6 EL2 5.3 ALF 31.52

LAUNCH DATE MAR 24 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.593 GAL -5.17 AZL 95.91 HCA 163.81 SMA 184.98 ECC .21292 INC 5.9063 V1 29.877
 RP 207.00 LAP -1.64 LOP 346.59 VP 23.765 GAP 10.24 AZP 84.33 TAL 329.82 TAP 133.63 RCA 145.59 APO 224.36 V2 26.458
 RC 74.663 GL -38.55 GP 21.76 ZAL 129.72 ZAP 135.59 E78 155.53 ZAE 154.63 ETE 105.61 ZAC 122.98 ETC 276.24 LVI -35.00

PLANETOCENTRIC CONIC
 C3 28.723 VHL 5.359 DLA -47.64 RAL 348.23 RAD 6646.5 VEL 12.193 PTH 7.15 VHP 5.308 DPA .83 RAP 304.46 ECC 1.4727
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72
 49.92 0 29 3 1901.36 22.20 40.33 236.37 133.30 1 0 44 901.4 37.65 18.72

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.2019 TRA-1.0881 TC3 -.0498 BAU .2583 SGT 2150.2 SGR 1979.5 S63 750.5 ST 69.3 SR 47.2 SS 83.1
 RDE -.7498 RRA-1.0488 RC3 .6714 FAU .08885 RRT .9053 RRF -.9947 RTF -.8949 CRT .9847 CR8 .9907 CST .9519
 FDE 2.6062 FRA 4.8595 FC3-2.6779 B8P 5044 SGB 2922.7 R23 -.2482 R13 -.9634 LSA 116.8 MSA 16.5 SBA .4
 BDE 1.4165 BRA 1.5085 BC3 .6732 F8P 1223 SG1 2853.2 S62 633.7 THA 42.39 EL1 83.5 EL2 6.8 ALF 34.12

LAUNCH DATE MAR 24 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.562 GAL -5.11 AZL 96.32 HCA 165.07 SMA 184.47 ECC .21034 INC 6.3191 V1 29.877
 RP 207.08 LAP -1.63 LOP 347.86 VP 23.714 GAP 9.93 AZP 83.89 TAL 329.86 TAP 134.92 RCA 145.63 APO 223.31 V2 26.449
 RC 76.180 GL -40.81 GP 23.85 ZAL 126.39 ZAP 133.30 E78 154.94 ZAE 152.93 ETE 106.39 ZAC 125.10 ETC 276.29 LVI -36.76

PLANETOCENTRIC CONIC
 C3 29.831 VHL 5.462 DLA -49.46 RAL 350.29 RAD 6646.9 VEL 12.238 PTH 7.19 VHP 5.261 DPA 2.77 RAP 303.59 ECC 1.4909
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30
 47.57 0 29 21 1930.08 22.41 43.38 239.62 135.32 1 1 32 930.1 38.56 22.30

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.2386 TRA -.9901 TC3 -.0481 BAU .2871 SGT 2060.1 SGR 2205.4 S63 761.0 ST 69.2 SR 53.0 SS 86.0
 RDE -.8610 RRA-1.1478 RC3 .7184 FAU .09083 RRT .9014 RRF -.9961 RTF -.8700 CRT .9802 CR8 .9937 CST .9519
 FDE 2.8400 FRA 4.8160 FC3-2.6361 B8P 5091 SGB 3017.9 R23 -.2232 R13 -.9710 LSA 121.3 MSA 16.7 SBA .4
 BDE 1.5084 BRA 1.5159 BC3 .7189 F8P 1234 SG1 2942.9 S62 668.6 THA 47.16 EL1 86.8 EL2 8.4 ALF 37.30

LAUNCH DATE MAR 24 1971

FLIGHT TIME 190.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.534 GAL -5.06 AZL 96.81 HCA 166.32 SMA 184.00 ECC .20832 INC 6.8058 V1 29.877
 RP 207.17 LAP -1.61 LOP 349.12 VP 23.663 GAP 9.63 AZP 83.59 TAL 329.89 TAP 136.21 RCA 145.67 APO 222.33 V2 26.439
 RC 77.718 GL -43.30 GP 26.22 ZAL 126.88 ZAP 130.84 E78 154.33 ZAE 150.14 ETE 107.16 ZAC 127.51 ETC 276.34 LVI -38.74

PLANETOCENTRIC CONIC
 C3 31.363 VHL 5.600 DLA -51.40 RAL 352.76 RAD 6647.5 VEL 12.300 PTH 7.24 VHP 5.241 DPA 4.97 RAP 302.59 ECC 1.5162
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21
 45.11 0 31 23 1961.04 22.46 46.61 243.48 137.54 1 4 4 961.0 39.37 26.21

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.3089 TRA -.9084 TC3 -.0724 BAU .3172 SGT 2004.7 SGR 2473.5 S63 765.7 ST 70.6 SR 60.9 SS 89.9
 RDE -1.0237 RRA-1.2659 RC3 .7530 FAU .09089 RRT .8927 RRF -.9972 RTF -.8807 CRT .9769 CR8 .9959 CST .9537
 FDE 3.1444 FRA 4.7350 FC3-2.5088 B8P 5467 SGB 3183.8 R23 -.2009 R13 -.9770 LSA 128.5 MSA 16.9 SBA .3
 BDE 1.6617 BRA 1.5581 BC3 .7564 F8P 1260 SG1 3101.3 S62 720.4 THA 51.67 EL1 92.7 EL2 9.9 ALF 40.71

LAUNCH DATE MAR 24 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 489.848

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.800 GAL -5.01 AZL 87.39 HCA 167.58 SMA 183.56 ECC .20624 INC 7.3984 V1 29.877
RP 207.26 LAP -1.58 LOP 350.38 VP 23.814 GAP 9.33 AZP 82.78 TAL 329.91 TAP 137.49 RCA 145.70 APO 221.42 V2 26.428
RC 79.293 GL -46.04 GP 28.92 ZAL 123.17 ZAP 126.16 ETS 153.75 ZAE 147.39 ETE 107.94 ZAC 130.26 ETC 276.42 LVI -40.96

PLANETOCENTRIC CONIC

C3 33.472 VHL 5.785 DLA -53.47 RAL 358.78 RAD 6648.3 VEL 12.385 PTH 7.30 VHP 5.258 DPA 7.47 RAP 301.45 ECC 1.5909
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
42.53 0 35 39 1994.86 22.27 50.02 248.11 139.97 1 8 54 994.9 40.01 30.48
42.53 0 35 39 1994.86 22.27 50.02 248.11 139.97 1 8 54 994.9 40.01 30.48
42.53 0 35 39 1994.86 22.27 50.02 248.11 139.97 1 8 54 994.9 40.01 30.48
42.53 0 35 39 1994.86 22.27 50.02 248.11 139.97 1 8 54 994.9 40.01 30.48
42.53 0 35 39 1994.86 22.27 50.02 248.11 139.97 1 8 54 994.9 40.01 30.48
42.53 0 35 39 1994.86 22.27 50.02 248.11 139.97 1 8 54 994.9 40.01 30.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3774 TRA -.8005 TC3 -.0805 BAU .3556 SGT 1908.7 SGR 2768.9 SG3 756.1 ST 71.1 SR 70.7 SS 93.8
RDE-1.2449 RRA-1.3650 RC3 .7905 FAU .09079 RRT .8828 RRF -.9979 RTF -.8700 CRT .9743 CRS .9974 CST .9958
PDE 3.4807 FRA 4.5506 FC3-2.3482 BSP 5731 SGB 3363.0 R23 -.1732 R13 -.9831 LSA 136.2 MSA 17.0 SSA .3
BDE 1.8566 BRA 1.5997 BC3 .7946 FSP 1246 SGI 3276.5 SG2 757.7 THA 56.66 EL1 99.6 EL2 11.4 ALF 44.84

LAUNCH DATE MAR 24 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 489.896

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.483 GAL -4.97 AZL 98.10 HCA 168.83 SMA 183.15 ECC .20431 INC 8.0990 V1 29.877
RP 207.37 LAP -1.56 LOP 351.65 VP 23.567 GAP 9.04 AZP 82.05 TAL 329.93 TAP 138.76 RCA 145.73 APO 220.57 V2 26.415
RC 80.909 GL -49.08 GP 31.98 ZAL 123.23 ZAP 125.30 ETS 153.21 ZAE 144.26 ETE 108.72 ZAC 133.38 ETC 276.53 LVI -43.44

PLANETOCENTRIC CONIC

C3 36.405 VHL 6.034 DLA -55.65 RAL 359.54 RAD 6649.4 VEL 12.502 PTH 7.39 VHP 5.324 DPA 10.33 RAP 300.14 ECC 1.5991
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.85 0 43 2 2032.32 21.77 53.59 253.68 142.58 1 16 54 1032.3 40.38 35.14
39.85 0 43 2 2032.32 21.77 53.59 253.68 142.58 1 16 54 1032.3 40.38 35.14
39.85 0 43 2 2032.32 21.77 53.59 253.68 142.58 1 16 54 1032.3 40.38 35.14
39.85 0 43 2 2032.32 21.77 53.59 253.68 142.58 1 16 54 1032.3 40.38 35.14
39.85 0 43 2 2032.32 21.77 53.59 253.68 142.58 1 16 54 1032.3 40.38 35.14
39.85 0 43 2 2032.32 21.77 53.59 253.68 142.58 1 16 54 1032.3 40.38 35.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.4630 TRA -.6824 TC3 -.0925 BAU .4006 SGT 1805.8 SGR 3105.8 SG3 731.8 ST 71.6 SR 83.6 SS 98.2
RDE-1.5659 RRA-1.5108 RC3 .8178 FAU .08909 RRT .8691 RRF -.9985 RTF -.8553 CRT .9733 CRS .9984 CST .9590
PDE 3.8778 FRA 4.2707 FC3-2.1186 BSP 6121 SGB 3592.6 R23 -.1480 R13 -.9880 LSA 146.5 MSA 16.8 SSA .2
BDE 2.1430 BRA 1.6575 BC3 .8230 FSP 1214 SGI 3504.3 SG2 791.6 THA 81.81 EL1 109.3 EL2 12.6 ALF 49.54

LAUNCH DATE MAR 24 1971

FLIGHT TIME 224.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 552.187

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.277 GAL -4.90 AZL 81.33 HCA 167.74 SMA 179.84 ECC .19034 INC 8.6715 V1 29.877
RP 209.87 LAP -1.18 LOP 10.36 VP 22.951 GAP 5.32 AZP 89.59 TAL 328.44 TAP 136.18 RCA 145.61 APO 214.08 V2 26.124
RC 109.028 GL 52.12 GP -47.21 ZAL 121.91 ZAP 98.96 ETS 188.46 ZAE 124.31 ETE 225.18 ZAC 55.21 ETC 272.20 LVI 33.63

PLANETOCENTRIC CONIC

C3 37.738 VHL 6.143 DLA 37.58 RAL 313.23 RAD 6649.9 VEL 12.555 PTH 7.43 VHP 5.424 DPA -68.87 RAP 314.38 ECC 1.6211
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 8 30 4109.68 -39.91 183.01 218.66 81.59 14 17 0 3109.7 -47.37 130.98
60.00 12 28 26 4222.44 -27.49 184.65 210.22 59.28 13 38 48 3222.4 -37.58 158.61
64.14 11 7 17 4450.91 -15.57 195.34 202.03 55.35 12 21 28 3450.9 -28.34 173.33
64.14 11 7 17 4450.91 -15.57 195.34 202.03 55.35 12 21 28 3450.9 -28.34 173.33
64.14 11 7 17 4450.91 -15.57 195.34 202.03 55.35 12 21 28 3450.9 -28.34 173.33
64.14 11 7 17 4450.91 -15.57 195.34 202.03 55.35 12 21 28 3450.9 -28.34 173.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2743 TRA .4120 TC3 -.7111 BAU .7110 SGT 1552.8 SGR 5433.2 SG3 655.6 ST 59.9 SR 159.4 SS 101.8
RDE 3.1192 RRA 3.6861 RC3-1.2167 FAU .08357 RRT .8140 RRF .9993 RTF .6213 CRT .9557 CRS-1.0000 CST -.9528
PDE 4.2317 FRA 5.1299 FC3-1.9172 BSP 9509 SGB 5850.7 R23 .0240 R13 .9991 LSA 197.6 MSA 17.0 SSA .2
BDE 3.3895 BRA 3.7090 BC3 1.4093 FSP 1135 SGI 5582.1 SG2 877.9 THA 76.57 EL1 169.4 EL2 16.6 ALF 70.05

LAUNCH DATE MAR 24 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 556.340

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.272 GAL -4.91 AZL 82.70 HCA 188.98 SMA 179.76 ECC .16012 INC 7.2955 V1 29.877
RP 210.10 LAP -1.13 LOP 11.39 VP 22.914 GAP 5.09 AZP 97.21 TAL 328.30 TAP 137.26 RCA 145.58 APO 213.94 V2 26.098
RC 111.121 GL 46.82 GP -43.93 ZAL 125.55 ZAP 98.15 ETS 186.75 ZAE 125.77 ETE 222.02 ZAC 58.50 ETC 271.99 LVI 30.83

PLANETOCENTRIC CONIC

C3 31.352 VHL 5.999 DLA 32.45 RAL 315.11 RAD 6647.5 VEL 12.299 PTH 7.23 VHP 4.959 DPA -65.96 RAP 310.27 ECC 1.5160
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 52 35 3929.37 -44.79 168.49 214.43 71.92 14 58 4 2929.4 -47.02 133.63
60.00 13 40 8 3962.58 -35.27 167.07 210.04 69.09 14 46 11 2962.6 -40.28 137.16
70.00 13 8 30 4056.26 -23.98 189.11 204.54 64.92 14 16 6 3056.3 -32.14 143.49
73.38 12 8 24 4242.03 -15.22 178.66 199.80 60.99 13 19 6 3242.0 -25.83 155.67
73.38 12 8 24 4242.03 -15.22 178.66 199.80 60.99 13 19 6 3242.0 -25.83 155.67
73.38 12 8 24 4242.03 -15.22 178.66 199.80 60.99 13 19 6 3242.0 -25.83 155.67
110.00 18 7 56 3103.08 -23.98 98.03 204.54 64.92 18 59 39 2103.1 -32.14 72.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1759 TRA .5519 TC3 -.8881 BAU .6627 SGT 1698.5 SGR 5183.5 SG3 810.5 ST 61.0 SR 147.5 SS 110.7
RDE 2.8072 FRA 3.4603 RC3-1.3080 FAU .09576 RRT .8490 RRF .9992 RTF .8542 CRT .9623 CRS -.9999 CST -.9576
PDE 4.5331 FRA 6.2652 FC3-2.6442 BSP 9179 SGB 5454.7 R23 .0348 R13 .9987 LSA 193.6 MSA 16.2 SSA .3
BDE 2.8601 BRA 3.5040 BC3 1.5810 FSP 1408 SGI 5385.9 SG2 863.7 THA 74.03 EL1 158.6 EL2 15.4 ALF 68.08

LAUNCH DATE MAR 24 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 149.14 LAL -.00 LOL 182.71 VL 32.287 GAL -4.93 AZL 83.75 HCA 190.17 SMA 179.69 ECC .18998 INC 6.2463 V1 28.877
RP 210.33 LAP -1.10 LOP 12.82 VP 22.877 GAP 4.87 AZP 96.15 TAL 328.14 TAP 158.31 RCA 145.55 APO 213.83 V2 26.071
RC 113.239 GL 42.08 GP -40.96 ZAL 128.73 ZAP 97.12 ETS 185.08 ZAE 126.72 ETE 218.70 ZAC 61.50 ETC 271.77 LVI 28.35

DISTANCE 580.501

EARTH TO MARS

PLANETOCENTRIC CONIC

CS 27.254 VHL 5.221 DLA 27.90 RAL 316.76 RAD 8645.9 VEL 12.133 PTH 7.10 VHP 4.622 DPA -63.31 RAP 306.90 ECC 1.4485
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 25 27 3787.36 -47.02 153.54 209.13 81.67 15 28 34 2787.4 -44.81 120.68
60.00 14 26 21 3784.95 -38.73 153.28 207.09 77.86 15 29 26 2784.9 -39.52 122.15
70.00 14 28 2 3780.00 -30.64 150.43 204.64 74.11 15 31 2 2780.0 -34.15 122.27
80.00 14 32 34 3763.75 -22.96 146.60 201.89 70.38 15 35 19 2765.8 -28.97 120.79
90.00 15 3 56 3664.26 -17.97 137.12 199.85 67.79 16 5 1 2664.3 -25.57 112.67
100.00 17 15 25 3240.23 -22.96 107.97 201.89 70.38 18 9 26 2240.2 -28.97 82.16
110.00 19 27 28 2826.82 -30.64 79.35 204.64 74.11 20 14 35 1826.8 -34.15 51.18

DIFFERENTIAL CORRECTIONS

TDE 1.1200 TRA .7057 TC3-1.0683 BAU .6299
RDE 2.2372 RRA 3.2544 RC3-1.3591 FAU .10617
FDE 4.7503 FRA 7.3050 FC3-3.3726 BSP 8934
BDE 2.5019 BRA 3.3300 BC3 1.7287 FSP 1874

MID-COURSE EXECUTION ACCURACY

SGT 1877.0 SGR 4937.3 SG3 953.9
RRT .8787 RRF .9992 RTF .8825
SGB 5282.1 R23 .0464 R13 .9981
SG1 5213.4 SG2 848.6 THA 71.01

ORBIT DETERMINATION ACCURACY

ST 62.9 SR 136.9 SS 117.4
CRT .9694 CRS -.9997 CST -.9636
LSA 190.4 MSA 15.3 S8A .3
EL1 150.0 EL2 14.1 ALF 65.78

LAUNCH DATE MAR 24 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 149.14 LAL -.00 LOL 182.71 VL 32.263 GAL -4.96 AZL 84.58 HCA 191.38 SMA 179.63 ECC .18992 INC 5.4238 V1 29.877
RP 210.57 LAP -1.07 LOP 14.04 VP 22.840 GAP 4.66 AZP 95.32 TAL 327.97 TAP 159.35 RCA 145.52 APO 213.74 V2 26.044
RC 115.380 GL 37.86 GP -38.27 ZAL 131.49 ZAP 95.85 ETS 183.51 ZAE 127.20 ETE 215.38 ZAC 64.22 ETC 271.53 LVI 26.15

DISTANCE 564.668

EARTH TO MARS

PLANETOCENTRIC CONIC

CS 24.907 VHL 4.950 DLA 23.88 RAL 318.23 RAD 6644.8 VEL 12.020 PTH 7.01 VHP 4.370 DPA -60.91 RAP 304.04 ECC 1.4033
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 51 33 3671.72 -47.58 144.43 204.09 90.20 15 52 45 2671.7 -41.91 111.08
60.00 15 0 48 3647.07 -40.09 141.83 203.70 85.52 16 1 36 2647.1 -37.51 111.00
70.00 15 16 4 3602.11 -33.21 137.22 202.73 81.52 16 16 6 2602.1 -33.27 108.48
80.00 15 45 32 3309.65 -27.70 129.08 201.60 78.39 16 44 2 2509.6 -29.78 101.85
90.00 16 47 22 3309.99 -25.37 113.85 201.03 77.07 17 42 32 2310.0 -28.28 87.22
100.00 18 28 24 2984.12 -27.70 90.45 201.60 78.39 19 18 8 1984.1 -29.78 63.22
110.00 20 15 30 2648.93 -33.21 66.14 202.73 81.52 20 59 39 1648.9 -33.27 37.39

DIFFERENTIAL CORRECTIONS

TDE 1.0883 TRA .8628 TC3-1.2526 BAU .6143
RDE 1.9498 RRA 3.0544 RC3-1.3950 FAU .11638
FDE 4.8804 FRA 8.2126 FC3-4.1111 BSP 8591
BDE 2.2318 BRA 3.1739 BC3 1.8748 FSP 1891

MID-COURSE EXECUTION ACCURACY

SGT 2076.4 SGR 4684.6 SG3 1081.0
RRT .9018 RRF .9991 RTF .9047
SGB 5124.2 R23 .0590 R13 .9974
SG1 5056.3 SG2 831.4 THA 87.57

ORBIT DETERMINATION ACCURACY

ST 65.0 SR 126.9 SS 121.8
CRT .9759 CRS -.9996 CST -.9690
LSA 187.0 MSA 14.4 S8A .4
EL1 142.0 EL2 12.7 ALF 63.21

LAUNCH DATE MAR 24 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 149.14 LAL -.00 LOL 182.71 VL 32.260 GAL -4.99 AZL 85.24 HCA 192.60 SMA 179.58 ECC .18993 INC 4.7583 V1 29.877
RP 210.82 LAP -1.04 LOP 15.26 VP 22.804 GAP 4.44 AZP 94.64 TAL 327.78 TAP 160.38 RCA 145.47 APO 213.89 V2 26.015
RC 117.545 GL 34.11 GP -35.84 ZAL 133.86 ZAP 94.39 ETS 182.06 ZAE 127.29 ETE 212.14 ZAC 66.87 ETC 271.30 LVI 24.21

DISTANCE 568.839

EARTH TO MARS

PLANETOCENTRIC CONIC

CS 22.808 VHL 4.755 DLA 20.32 RAL 319.55 RAD 6644.0 VEL 11.941 PTH 6.94 VHP 4.178 DPA -58.73 RAP 301.54 ECC 1.3720
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 13 3 3575.74 -47.15 139.20 199.86 97.30 16 12 41 2575.7 -38.90 103.67
60.00 15 28 18 3335.25 -40.26 132.33 200.63 91.98 16 27 13 2535.2 -35.08 102.51
70.00 15 51 50 3465.93 -34.08 126.70 200.60 87.68 16 49 36 2465.9 -31.47 98.27
80.00 16 31 49 3340.55 -29.41 116.82 200.23 84.61 17 27 30 2340.6 -28.66 89.42
90.00 17 39 59 3120.50 -27.57 100.44 200.01 83.45 18 32 0 2120.5 -27.54 73.43
100.00 19 14 41 2815.02 -29.41 78.19 200.23 84.61 20 1 36 1815.0 -28.66 50.79
110.00 20 51 16 2512.75 -34.08 55.61 200.60 87.68 21 33 9 1512.8 -31.47 27.19

DIFFERENTIAL CORRECTIONS

TDE 1.0723 TRA 1.0273 TC3-1.4307 BAU .6039
RDE 1.7327 RRA 2.8747 RC3-1.3951 FAU .12455
FDE 4.9806 FRA 9.0248 FC3-4.7698 BSP 8376
BDE 2.0377 BRA 3.0327 BC3 1.9984 FSP 2099

MID-COURSE EXECUTION ACCURACY

SGT 2294.2 SGR 4446.0 SG3 1194.4
RRT .9196 RRF .9989 RTF .5219
SGB 5003.0 R23 .0720 R13 .9963
SG1 4936.7 SG2 811.8 THA 83.85

ORBIT DETERMINATION ACCURACY

ST 67.6 SR 118.2 SS 125.2
CRT .9818 CRS -.9993 CST -.9741
LSA 184.5 MSA 13.6 S8A .4
EL1 135.7 EL2 11.2 ALF 60.46

LAUNCH DATE MAR 24 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

RL 149.14 LAL -.00 LOL 182.71 VL 32.258 GAL -5.02 AZL 85.79 HCA 193.81 SMA 179.84 ECC .19002 INC 4.2093 V1 29.877
RP 211.07 LAP -1.00 LOP 16.48 VP 22.787 GAP 4.23 AZP 94.09 TAL 327.58 TAP 161.39 RCA 145.43 APO 213.66 V2 25.986
RC 119.734 GL 30.76 GP -33.64 ZAL 135.81 ZAP 92.80 ETS 180.75 ZAE 127.03 ETE 209.08 ZAC 68.89 ETC 271.07 LVI 22.49

DISTANCE 573.013

EARTH TO MARS

PLANETOCENTRIC CONIC

CS 21.263 VHL 4.611 DLA 17.18 RAL 320.74 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 4.029 DPA -56.75 RAP 299.33 ECC 1.3499
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 31 18 3495.02 -46.18 127.66 196.54 103.04 16 29 33 2495.0 -36.01 98.31
60.00 15 51 4 3442.38 -39.75 124.49 198.11 97.25 16 48 27 2442.4 -32.58 95.90
70.00 16 20 27 3335.89 -34.06 118.11 198.73 92.75 17 16 23 2355.9 -29.39 90.38
80.00 17 6 54 3210.32 -29.86 107.18 198.83 89.68 18 0 24 2210.3 -26.96 80.13
90.00 18 18 24 2979.51 -28.24 90.19 198.80 88.52 19 8 4 1979.5 -26.01 63.40
100.00 19 49 48 2684.79 -29.86 68.54 198.83 89.68 20 34 31 1684.8 -26.96 41.50
110.00 21 19 53 2402.71 -34.06 47.03 198.73 92.75 21 59 56 1402.7 -29.39 19.30

DIFFERENTIAL CORRECTIONS

TDE 1.0711 TRA 1.1950 TC3-1.6026 BAU .6006
RDE 1.5612 RRA 2.7074 RC3-1.3766 FAU .13160
FDE 5.0473 FRA 9.7303 FC3-5.3583 BSP 8206
BDE 1.8933 BRA 2.9594 BC3 2.1127 FSP 2281

MID-COURSE EXECUTION ACCURACY

SGT 2524.1 SGR 4215.8 SG3 1292.8
RRT .9332 RRF .9987 RTF .9351
SGB 4913.6 R23 .0849 R13 .9951
SG1 4850.0 SG2 788.4 THA 59.93

ORBIT DETERMINATION ACCURACY

ST 70.5 SR 110.5 SS 127.6
CRT .9869 CRS -.9990 CST -.9785
LSA 182.5 MSA 12.8 S8A .5
EL1 130.7 EL2 9.6 ALF 57.58

LAUNCH DATE MAR 24 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC										DISTANCE 577.189										EARTH TO MARS																							
RL	149.14	LAL	-.00	LQL	182.71	VL	32.258	GAL	-8.05	AZL	86.25	HCA	195.02	SMA	179.52	ECC	.19018	INC	3.7481	V1	29.877	RC	121.945	GL	27.78	GP	-31.65	ZAL	137.67	ZAP	91.10	ETS	179.56	ZAE	126.49	ETE	206.17	ZAC	70.91	ETC	270.84	LVI	20.96
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	20.303	VHL	4.906	DLA	14.39	RAL	321.82	RAD	6843.0	VEL	11.845	PTH	6.86	VHP	3.913	DPA	-54.95	RAP	297.34	ECC	1.3341	SCT	2761.4	SCR	3993.4	SG3	1376.3	ST	73.6	SR	103.4	SS	129.2										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RR7	.9434	RRF	.9984	RTF	.9452	CRT	.9910	CRS	-.9985	CST	-.9823						
50.00	15	47	0	3426.45	-44.94	121.51	194.04	107.63	18	44	6	2426.5	-33.34	93.94	SG8	4855.2	R23	.0971	R13	.9937	LSA	180.7	MSA	12.0	SSA	.6																	
60.00	16	10	26	3364.07	-38.88	118.02	196.16	101.56	17	6	30	2364.1	-30.19	90.68	SG1	4794.9	SG2	762.5	THA	55.90	EL1	126.7	EL2	8.1	ALF	54.64																	
70.00	16	44	17	3264.46	-33.53	111.02	197.24	96.91	17	38	41	2264.5	-27.28	84.11																													
80.00	17	35	19	3104.55	-29.64	99.33	197.66	93.78	18	27	4	2104.5	-25.09	72.83																													
90.00	18	49	2	2866.62	-28.17	81.94	197.76	92.64	19	38	49	1866.6	-24.24	55.61																													
100.00	20	18	11	2579.02	-29.64	60.69	197.66	93.78	21	1	10	1579.0	-25.09	34.20																													
110.00	21	43	43	2311.27	-33.53	39.94	197.24	96.91	22	22	15	1311.3	-27.28	13.03																													

LAUNCH DATE MAR 24 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC										DISTANCE 581.366										EARTH TO MARS																							
RL	149.14	LAL	-.00	LQL	182.71	VL	32.255	GAL	-5.09	AZL	86.64	HCA	196.23	SMA	179.50	ECC	.19041	INC	3.3553	V1	29.877	RC	124.177	GL	25.12	GP	-29.83	ZAL	139.19	ZAP	89.34	ETS	178.50	ZAE	125.71	ETE	203.50	ZAC	72.75	ETC	270.62	LVI	19.60
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	19.616	VHL	4.429	DLA	11.91	RAL	322.81	RAD	6842.7	VEL	11.816	PTH	6.84	VHP	3.822	DPA	-53.31	RAP	295.53	ECC	1.3228	SCT	3004.3	SCR	3779.8	SG3	1445.7	ST	77.0	SR	97.0	SS	130.0										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RR7	.9517	RRF	.9981	RTF	.9533	CRT	.9942	CRS	-.9979	CST	-.9853						
50.00	16	0	44	3367.75	-43.61	116.49	192.22	111.31	16	56	51	2367.8	-30.92	90.43	SG8	4826.3	R23	.1079	R13	.9923	LSA	179.1	MSA	11.4	SSA	.6																	
60.00	16	27	12	3297.29	-37.83	112.65	194.72	105.07	17	22	9	2297.3	-27.98	86.38	SG1	4772.7	SG2	730.7	THA	51.84	EL1	123.7	EL2	6.5	ALF	51.62																	
70.00	17	4	38	3187.14	-32.74	105.13	196.12	100.31	17	57	45	2187.1	-25.25	79.02																													
80.00	17	59	11	3016.23	-29.07	92.83	196.78	97.15	18	49	27	2016.2	-23.22	66.93																													
90.00	19	14	32	2773.04	-27.68	75.14	196.96	96.02	20	0	45	1773.0	-22.45	49.34																													
100.00	20	42	3	2490.70	-29.07	54.20	196.78	97.15	21	23	34	1490.7	-23.22	28.30																													
110.00	22	4	4	2253.96	-32.74	34.08	196.12	100.31	22	41	10	1234.0	-25.25	7.93																													

LAUNCH DATE MAR 24 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC										DISTANCE 585.447										EARTH TO MARS																							
RL	149.14	LAL	-.00	LQL	182.71	VL	32.255	GAL	-5.14	AZL	86.98	HCA	197.43	SMA	179.49	ECC	.19080	INC	3.0163	V1	29.877	RC	126.431	GL	22.71	GP	-28.18	ZAL	140.50	ZAP	87.64	ETS	177.81	ZAE	124.85	ETE	201.15	ZAC	74.42	ETC	270.44	LVI	18.34
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	19.172	VHL	4.379	DLA	9.69	RAL	323.80	RAD	6842.5	VEL	11.798	PTH	6.82	VHP	3.751	DPA	-51.79	RAP	294.05	ECC	1.3155	SCT	3319.6	SCR	4160.7	SG3	1728.6	ST	82.1	SR	119.2	SS	172.9										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RR7	.8735	RRF	.9981	RTF	.8539	CRT	.9992	CRS	-.9986	CST	-.9963						
50.00	16	13	9	3317.58	-42.28	112.40	191.03	114.24	17	8	27	2317.6	-28.78	87.57	SG8	5322.7	R23	.1669	R13	.9844	LSA	225.4	MSA	7.1	SSA	1.7																	
60.00	16	42	13	3240.25	-36.73	106.21	193.80	107.90	17	36	13	2240.2	-25.97	82.69	SG1	5160.7	SG2	1303.1	THA	52.31	EL1	144.7	EL2	2.6	ALF	55.43																	
70.00	17	22	38	3121.33	-31.83	100.22	195.44	103.08	18	14	39	2121.3	-23.38	74.83																													
80.00	18	20	2	2941.51	-28.31	87.41	196.27	99.91	19	9	4	1941.5	-21.46	62.09																													
90.00	19	38	41	2694.16	-26.99	69.47	196.32	98.77	20	21	35	1694.2	-20.73	44.20																													
100.00	21	2	54	2415.98	-28.31	48.77	196.27	99.91	21	43	10	1416.0	-21.46	23.46																													
110.00	22	22	4	2168.15	-31.83	29.13	195.44	103.08	22	58	12	1168.2	-23.38	3.74																													

LAUNCH DATE MAR 24 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC										DISTANCE 589.721										EARTH TO MARS																							
RL	149.14	LAL	-.00	LQL	182.71	VL	32.255	GAL	-5.18	AZL	87.28	HCA	198.84	SMA	179.49	ECC	.19106	INC	2.7206	V1	29.877	RC	128.706	GL	20.59	GP	-26.66	ZAL	141.67	ZAP	85.70	ETS	176.70	ZAE	123.63	ETE	198.83	ZAC	75.96	ETC	270.21	LVI	17.28
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																							
C3	18.791	VHL	4.335	DLA	7.73	RAL	324.59	RAD	6842.3	VEL	11.782	PTH	6.81	VHP	3.696	DPA	-50.42	RAP	292.36	ECC	1.3093	SCT	3498.7	SCR	3391.8	SG3	1550.7	ST	84.1	SR	86.6	SS	131.1										
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RR7	.9615	RRF	.9971	RTF	.9637	CRT	.9984	CRS	-.9964	CST	-.9902						
50.00	16	23	44	3273.36	-40.99	108.95	190.05	116.65	17	18	17	2273.4	-26.83	85.16	SG8	4872.9	R23	.1250	R13	.9894	LSA	177.9	MSA	10.4	SSA	.8																	
60.00	16	55	0	3190.15	-35.81	104.43	193.02	110.26	17	48	10	2190.1	-24.13	79.93	SG1	4825.8	SG2	676.1	THA	44.08	EL1	120.7	EL2	3.4	ALF	45.87																	
70.00	17	37	57	3063.82	-30.87	96.01	194.84	105.39	18	29	0	2063.8	-21.64	71.27																													
80.00	18	37	43	2876.61	-27.46	82.77	195.80	102.20	19	25	39	1876.6	-19.80	57.98																													
90.00	19	55	25	2625.86	-26.19	64.65	196.09	101.06	20	39	11	1625.9	-19.10	39.85																													
100.00	21	20	35	2351.08	-27.46	44.14	195.80	102.20	21	59	46	1351.1	-19.80	19.35																													
110.00	22	37	23	2110.64	-30.87	24.93	194.84	105.39	23	12	34	1110.6	-21.64	.19																													

LAUNCH DATE MAR 24 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 593.899

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.258 GAL -5.22 AZL 87.54 HCA 199.84 SMA 179.50 ECC .19148 INC 2.4802 V1 29.877
RP 212.43 LAP -.83 LOP 22.52 VP 22.587 GAP 3.21 AZP 92.31 TAL 326.39 TAP 166.23 RCA 145.13 APO 213.87 V2 25.832
RC 130.999 GL 18.66 GP -25.26 ZAL 142.68 ZAP 83.85 ETS 175.94 ZAE 122.40 ETE 196.81 ZAC 77.37 ETC 270.02 LVI 16.29

PLANETOCENTRIC CONIC

C3 18.571 VHL 4.309 DLA 5.96 RAL 325.40 RAD 6642.2 VEL 11.773 PTH 6.80 VHP 3.654 DPA -49.14 RAP 290.97 ECC 1.3056
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 31 3235.24 -39.79 106.09 189.48 118.61 17 27 26 2235.2 -25.12 83.15
60.00 17 6 43 3146.87 -34.55 101.25 192.60 112.19 17 59 10 2146.9 -22.49 77.45
70.00 17 51 51 3014.12 -29.92 92.46 194.56 107.30 18 42 5 2014.1 -20.07 68.27
80.00 18 53 39 2820.57 -26.59 78.83 195.62 104.10 19 40 40 1820.6 -18.28 54.51
90.00 20 12 15 2566.93 -25.36 60.52 195.95 102.96 20 55 2 1566.9 -17.61 36.17
100.00 21 36 31 2295.04 -26.59 40.20 195.62 104.10 22 14 46 1295.0 -18.28 15.88
110.00 22 51 18 2060.94 -29.92 21.37 194.56 107.30 23 25 39 1060.9 -20.07 357.19

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1661 TRA 2.0482 TC3-2.3590 BAU .6499 SGT 3746.2 SGR 3209.7 SG3 1585.6 ST 87.8 SR 82.0 SS 131.0
RDE 1.0724 RRA 2.0230 RC3-1.1346 FAU .15182 RRT .9650 RRF .9965 RTF .9676 CRT .999 CRY -.9954 CST -.9920
PDE 5.1047 FRA11.9115 FC3-7.0775 B8P 8103 SGB 4933.2 R23 .1301 R13 .9883 LSA 177.5 MSA 10.1 S8A .9
BDE 1.5842 BRA 2.8788 BC3 2.6177 F8P 2833 SGI 4890.8 SG2 845.1 THA 40.43 EL1 120.1 EL2 2.1 ALF 43.06

LAUNCH DATE MAR 24 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

DISTANCE 598.076

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.257 GAL -5.27 AZL 87.77 HCA 201.03 SMA 179.52 ECC .19196 INC 2.2292 V1 29.877
RP 212.72 LAP -.80 LOP 23.72 VP 22.551 GAP 3.01 AZP 92.08 TAL 326.12 TAP 167.15 RCA 145.06 APO 213.98 V2 25.799
RC 133.312 GL 16.91 GP -23.98 ZAL 143.57 ZAP 82.01 ETS 175.26 ZAE 121.07 ETE 194.99 ZAC 78.67 ETC 269.84 LVI 15.38

PLANETOCENTRIC CONIC

C3 18.443 VHL 4.295 DLA 4.38 RAL 326.16 RAD 6642.1 VEL 11.767 PTH 6.79 VHP 3.623 DPA -47.96 RAP 289.69 ECC 1.3035
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 23 3201.97 -38.67 103.68 189.16 120.22 17 35 45 2202.0 -23.59 81.45
60.00 17 17 19 3109.05 -33.54 98.55 192.39 113.79 18 9 8 2109.1 -21.02 75.33
70.00 18 4 22 2970.65 -29.00 89.41 194.47 108.89 18 53 53 1970.7 -18.65 65.70
80.00 19 7 56 2771.59 -25.74 75.45 195.61 105.68 19 54 7 1771.6 -16.90 51.54
90.00 20 27 18 2515.46 -24.52 56.98 195.97 104.54 21 9 13 1515.5 -16.24 33.02
100.00 21 50 48 2246.06 -25.74 36.82 195.61 105.68 22 28 14 1246.1 -16.90 12.90
110.00 23 3 48 2017.47 -29.00 18.33 194.47 108.89 23 37 26 1017.5 -18.65 354.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1991 TRA 2.2209 TC3-2.4847 BAU .6675 SGT 3993.1 SGR 3037.8 SG3 1611.1 ST 91.6 SR 77.9 SS 130.7
RDE 1.0159 RRA 1.9111 RC3-1.0747 FAU .15330 RRT .9676 RRF .9958 RTF .9707 CRT .9998 CRS -.9942 CST -.9934
PDE 5.0834 FRA12.1320 FC3-7.1965 B8P 8234 SGB 5017.2 R23 .1329 R13 .9873 LSA 177.3 MSA 9.9 S8A 1.0
BDE 1.5716 BRA 2.8299 BC3 2.7071 F8P 2884 SGI 4979.4 SG2 814.9 THA 37.02 EL1 120.3 EL2 1.1 ALF 40.36

LAUNCH DATE MAR 24 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

DISTANCE 602.252

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.258 GAL -5.33 AZL 87.98 HCA 202.23 SMA 179.55 ECC .19249 INC 2.0223 V1 29.877
RP 213.01 LAP -.76 LOP 24.92 VP 22.515 GAP 2.81 AZP 91.87 TAL 325.84 TAP 168.07 RCA 144.90 APO 214.11 V2 25.766
RC 135.843 GL 15.33 GP -22.79 ZAL 144.37 ZAP 80.18 ETS 174.66 ZAE 119.68 ETE 193.34 ZAC 79.87 ETC 269.66 LVI 14.56

PLANETOCENTRIC CONIC

C3 18.390 VHL 4.288 DLA 2.95 RAL 326.88 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 3.602 DPA -46.86 RAP 288.51 ECC 1.3028
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 50 29 3172.87 -37.66 101.64 189.03 121.56 17 43 22 2172.9 -22.24 80.00
60.00 17 26 57 3075.89 -32.61 96.24 192.38 115.13 18 18 12 2075.9 -19.70 73.51
70.00 18 15 42 2932.49 -28.13 86.78 194.52 110.22 19 4 34 1932.5 -17.37 63.48
80.00 19 20 49 2728.56 -24.91 72.52 195.73 107.01 20 6 18 1728.6 -15.64 48.96
90.00 20 40 52 2470.24 -23.72 53.92 196.12 105.87 21 22 2 1470.2 -14.99 30.28
100.00 22 3 41 2203.03 -24.91 33.89 195.73 107.01 22 40 24 1203.0 -15.64 10.33
110.00 23 15 8 1979.31 -28.13 15.70 194.52 110.22 23 48 7 979.3 -17.37 332.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2340 TRA 2.3923 TC3-2.6040 BAU .6871 SGT 4236.7 SGR 2874.5 SG3 1627.6 ST 95.5 SR 74.1 SS 130.2
RDE .9674 RRA 1.8036 RC3-1.0145 FAU .15408 RRT .9694 RRF .9949 RTF .5732 CRT .9997 CRS -.9928 CST -.9946
PDE 5.0549 FRA12.2948 FC3-7.2537 B8P 8394 SGB 5119.8 R23 .1339 R13 .9865 LSA 177.4 MSA 9.8 S8A 1.1
BDE 1.5680 BRA 2.8972 BC3 2.7947 F8P 2920 SGI 5085.9 SG2 588.1 THA 33.85 EL1 120.8 EL2 1.4 ALF 37.82

LAUNCH DATE MAR 24 1971

FLIGHT TIME 250.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

DISTANCE 606.425

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.260 GAL -5.38 AZL 88.16 HCA 203.42 SMA 179.58 ECC .19378 INC 1.8361 V1 29.877
RP 213.31 LAP -.73 LOP 26.11 VP 22.479 GAP 2.61 AZP 91.68 TAL 325.55 TAP 168.96 RCA 144.50 APO 214.25 V2 25.732
RC 137.991 GL 13.88 GP -21.68 ZAL 145.09 ZAP 78.37 ETS 174.13 ZAE 118.24 ETE 191.87 ZAC 80.98 ETC 269.50 LVI 13.80

PLANETOCENTRIC CONIC

C3 18.399 VHL 4.289 DLA 1.66 RAL 327.57 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 3.589 DPA -45.83 RAP 287.43 ECC 1.3028
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 57 56 3147.35 -36.73 99.90 189.04 122.67 17 50 23 2147.4 -21.05 78.75
60.00 17 35 45 3046.74 -31.75 94.24 192.45 116.26 18 26 32 2046.7 -18.53 71.94
70.00 18 26 2 2898.87 -27.32 84.50 194.69 111.35 19 14 21 1898.9 -16.21 61.56
80.00 19 32 32 2690.61 -24.13 69.97 195.96 108.14 20 17 23 1690.6 -14.51 46.71
90.00 20 53 11 2430.34 -22.95 51.25 196.37 107.00 21 33 42 1430.3 -13.86 27.90
100.00 22 15 24 2165.08 -24.13 31.34 195.96 108.14 22 51 29 1165.1 -14.51 8.08
110.00 23 25 28 1945.89 -27.32 13.42 194.69 111.35 23 57 54 945.7 -16.21 350.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2727 TRA 2.5645 TC3-2.7130 BAU .7073 SGT 4477.9 SGR 2721.0 SG3 1636.6 ST 99.4 SR 70.7 SS 125.6
RDE .9265 RRA 1.7071 RC3 -.9527 FAU .15386 RRT .9704 RRF .9939 RTF .9752 CRT .9991 CRS -.9912 CST -.9955
PDE 5.0273 FRA12.4125 FC3-7.2397 B8P 8601 SGB 5239.8 R23 .1334 R13 .9859 LSA 177.7 MSA 9.7 S8A 1.1
BDE 1.5742 BRA 3.0807 BC3 2.8754 F8P 2946 SGI 5209.3 SG2 564.5 THA 30.93 EL1 122.0 EL2 2.5 ALF 35.42

LAUNCH DATE MAR 24 1971

FLIGHT TIME 292.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 610.597

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.263 GAL -5.44 AZL 88.33 HCA 204.61 SMA 179.62 ECC .19373 INC 1.6673 V1 29.877
 RP 213.61 LAP -.89 LOP 27.30 VP 22.443 GAP 2.42 AZP 91.52 TAL 325.24 TAP 169.85 RCA 144.82 APO 214.42 V2 25.697
 RC 140.356 GL 12.56 GP -20.65 ZAL 148.74 ZAP 76.56 ETS 175.66 ZAE 116.76 ETE 190.54 ZAC 82.02 ETC 269.35 LVI 13.10

PLANETOCENTRIC CONIC

C3 18.480 VHL 4.296 DLA .50 RAL 328.22 RAD 6642.1 VEL 11.768 PTH 6.79 VHP 3.583 DPA -44.87 RAP 286.43 ECC 1.3058
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 48 3124.98 -35.90 98.41 189.18 123.61 17 56 53 2125.0 -19.99 77.67
 60.00 17 43 31 3021.09 -30.96 82.53 192.65 117.21 18 34 12 2021.1 -17.49 70.57
 70.00 18 35 30 2869.20 -26.57 82.52 194.96 112.30 19 23 19 1869.2 -15.18 59.88
 80.00 19 43 15 2657.04 -23.40 67.74 196.28 109.09 20 27 32 1657.0 -13.48 44.75
 90.00 21 4 27 2395.03 -22.22 48.91 196.71 107.95 21 44 22 1395.0 -12.64 25.81
 100.00 22 26 7 2131.51 -23.40 29.11 196.28 109.09 23 1 38 1131.5 -13.48 6.12
 110.00 23 34 56 1916.02 -26.57 11.44 194.96 112.30 24 6 52 916.0 -15.18 348.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3129 TRA 2.7357 TC3-2.8162 BAU .7292 SGT 4715.1 SGR 2575.4 SG3 1638.3 ST 103.3 SR 67.6 SS 128.8
 RDE .8906 RRA 1.6137 RC3 -.8944 FAU .15336 RRT .9710 RRF .9927 RTF .9768 CRT .9980 CRS -.9894 CST -.9963
 PDE 4.9904 FRA12.4614 FC3-7.1924 BSP 8827 SGB 5372.6 R23 .1311 R13 .9855 LSA 178.1 HSA 9.8 SSA 1.2
 BDE 1.5865 BRA 3.1762 BC3 2.9548 FSP 2958 SGI 5345.0 SG2 543.3 THA 28.26 EL1 123.4 EL2 3.6 ALF 33.18

LAUNCH DATE MAR 24 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

DISTANCE 614.767

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.266 GAL -5.50 AZL 88.49 HCA 205.79 SMA 179.66 ECC .19443 INC 1.5136 V1 29.877
 RP 213.92 LAP -.66 LOP 28.49 VP 22.408 GAP 2.22 AZP 91.38 TAL 324.93 TAP 170.72 RCA 144.73 APO 214.60 V2 25.662
 RC 142.739 GL 11.36 GP -19.70 ZAL 146.33 ZAP 74.83 ETS 173.24 ZAE 115.27 ETE 189.34 ZAC 82.98 ETC 269.21 LVI 12.45

PLANETOCENTRIC CONIC

C3 18.566 VHL 4.309 DLA -.55 RAL 328.85 RAD 6642.2 VEL 11.772 PTH 6.80 VHP 3.583 DPA -43.97 RAP 285.53 ECC 1.3055
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 9 3108.35 -35.15 97.13 189.41 124.40 18 2 54 2105.3 -19.06 76.74
 60.00 17 51 19 2998.30 -30.25 91.04 192.94 118.01 18 41 17 1998.5 -16.56 69.38
 70.00 18 44 12 2842.97 -25.88 80.80 195.31 113.11 19 31 35 1843.0 -14.26 58.41
 80.00 19 53 5 2627.29 -22.73 65.79 196.67 109.90 20 36 52 1627.3 -12.56 43.02
 90.00 21 14 46 2363.70 -21.55 46.86 197.12 108.77 21 54 10 1363.7 -11.92 23.97
 100.00 22 35 57 2101.76 -22.73 27.16 196.67 109.90 23 10 59 1101.8 -12.56 4.39
 110.00 23 43 39 1889.79 -25.88 9.71 195.31 113.11 24 15 8 889.8 -14.26 347.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3954 TRA 2.9067 TC3-2.9110 BAU .7518 SGT 4948.0 SGR 2436.2 SG3 1633.9 ST 107.2 SR 64.8 SS 127.9
 RDE .8595 RRA 1.5259 RC3 -.8375 FAU .15227 RRT .9710 RRF .9912 RTF .9782 CRT .9964 CRS -.9873 CST -.9970
 PDE 4.9503 FRA12.5125 FC3-7.1005 BSP 9075 SGB 5516.1 R23 .1277 R13 .9851 LSA 178.7 HSA 10.0 SSA 1.2
 BDE 1.6049 BRA 3.2829 BC3 3.0291 FSP 2960 SGI 5491.0 SG2 525.4 THA 25.82 EL1 125.2 EL2 4.7 ALF 31.09

LAUNCH DATE MAR 24 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

DISTANCE 618.934

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.269 GAL -5.57 AZL 88.63 HCA 206.97 SMA 179.72 ECC .19519 INC 1.3730 V1 29.877
 RP 214.24 LAP -.62 LOP 29.67 VP 22.372 GAP 2.03 AZP 91.22 TAL 324.61 TAP 171.58 RCA 144.64 APO 214.80 V2 25.627
 RC 143.138 GL 10.25 GP -18.80 ZAL 146.88 ZAP 73.12 ETS 172.87 ZAE 113.76 ETE 188.27 ZAC 83.87 ETC 269.08 LVI 11.84

PLANETOCENTRIC CONIC

C3 18.711 VHL 4.326 DLA -1.51 RAL 329.46 RAD 6642.3 VEL 11.778 PTH 6.80 VHP 3.589 DPA -43.13 RAP 284.71 ECC 1.3079
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 4 3088.15 -34.48 96.03 189.72 125.07 18 8 32 2088.1 -18.24 75.93
 60.00 17 58 14 2978.61 -29.60 89.74 193.30 118.70 18 47 53 1978.6 -15.74 68.35
 70.00 18 52 15 2819.77 -25.25 79.29 195.72 113.80 19 39 15 1819.8 -13.43 57.12
 80.00 20 2 9 2600.89 -22.10 64.08 197.12 110.60 20 45 30 1600.9 -11.73 41.50
 90.00 21 24 18 2335.86 -20.93 45.05 197.98 109.46 22 3 13 1335.9 -11.09 22.35
 100.00 22 45 1 2075.36 -22.10 25.45 197.12 110.60 23 19 37 1075.4 -11.73 2.87
 110.00 23 31 42 1866.59 -25.25 8.20 195.72 113.80 24 22 48 866.6 -13.43 346.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3998 TRA 3.0771 TC3-2.9987 BAU .7753 SGT 5176.0 SGR 2308.3 SG3 1623.8 ST 111.1 SR 62.1 SS 126.8
 RDE .8322 RRA 1.4428 RC3 -.7837 FAU .15084 RRT .9705 RRF .9895 RTF .5.93 CRT .9945 CRS -.9850 CST -.9975
 PDE 4.9041 FRA12.8050 FC3-6.8792 BSP 9339 SGB 5667.3 R23 .1232 R13 .9849 LSA 179.4 HSA 10.2 SSA 1.3
 BDE 1.6283 BRA 3.3984 BC3 3.0994 FSP 2949 SGI 5644.4 SG2 510.1 THA 23.61 EL1 127.2 EL2 5.7 ALF 29.14

LAUNCH DATE MAR 24 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 623.097

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.273 GAL -5.64 AZL 88.78 HCA 208.15 SMA 179.78 ECC .19599 INC 1.2435 V1 29.877
 RP 214.55 LAP -.59 LOP 30.85 VP 22.336 GAP 1.83 AZP 91.10 TAL 324.28 TAP 172.43 RCA 144.54 APO 215.01 V2 25.591
 RC 147.558 GL 9.23 GP -17.97 ZAL 147.39 ZAP 71.44 ETS 172.54 ZAE 112.26 ETE 187.31 ZAC 84.71 ETC 268.96 LVI 11.27

PLANETOCENTRIC CONIC

C3 18.891 VHL 4.346 DLA -2.38 RAL 330.08 RAD 6642.3 VEL 11.786 PTH 6.81 VHP 3.599 DPA -42.34 RAP 283.97 ECC 1.3109
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 34 3073.10 -33.89 95.08 190.10 125.64 18 13 47 2073.1 -17.52 75.23
 60.00 18 4 40 2961.11 -29.03 88.62 193.72 119.28 18 54 2 1961.1 -15.01 67.44
 70.00 18 59 43 2799.28 -24.68 77.97 196.19 114.40 19 46 22 1799.3 -12.70 55.98
 80.00 20 10 33 2577.46 -21.53 62.57 197.62 111.20 20 53 31 1577.5 -10.98 40.16
 90.00 21 33 6 2311.12 -20.36 43.46 198.10 110.06 22 11 37 1311.1 -10.34 20.92
 100.00 22 53 25 2051.93 -21.53 23.94 197.62 111.20 23 27 37 1051.9 -10.98 1.53
 110.00 0 3 5 1848.08 -24.68 6.88 196.19 114.40 0 33 51 846.1 -12.70 344.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4454 TRA 3.2468 TC3-3.0796 BAU .7994 SGT 5398.8 SGR 2186.2 SG3 1608.9 ST 115.0 SR 59.7 SS 125.7
 RDE .8084 RRA 1.3640 RC3 -.7321 FAU .14898 RRT .9695 RRF .9875 RTF .9802 CRT .9921 CRS -.9824 CST -.9979
 PDE 4.8552 FRA12.4677 FC3-6.8274 BSP 9611 SGB 5824.6 R23 .1181 R13 .9848 LSA 180.2 HSA 10.4 SSA 1.3
 BDE 1.6561 BRA 3.5217 BC3 3.1654 FSP 2928 SGI 5803.3 SG2 498.1 THA 21.60 EL1 129.4 EL2 6.7 ALF 27.35

LAUNCH DATE MAR 24 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 627.250

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.277 GAL -5.71 AZL 88.88 HCA 209.32 SMA 179.84 ECC .19684 INC 1.1242 V1 29.877
RP 214.88 LAP -.55 LOP 32.03 VP 22.300 GAP 1.64 AZP 90.98 TAL 323.94 TAP 173.27 RCA 144.44 APO 215.24 V2 25.554
RC 148.988 GL 8.29 GP -17.19 ZAL 147.86 ZAP 88.81 ETS 172.25 ZAE 110.76 ETE 186.45 ZAC 85.49 ETC 268.85 LVI 10.73

PLANETOCENTRIC CONIC

C3 19.103 VHL 4.371 DLA -3.17 RAL 330.61 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.614 DPA -41.59 RAP 283.30 ECC 1.3144
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 27 44 3059.98 -33.37 94.27 190.52 126.12 18 18 44 2060.0 -16.88 74.62
60.00 18 10 41 2945.76 -28.51 87.65 194.19 119.78 18 59 46 1945.8 -14.37 68.55
70.00 19 6 39 2781.14 -24.16 76.81 196.70 114.91 19 53 1 1781.1 -12.04 54.99
80.00 20 18 21 2556.67 -21.02 61.24 198.16 111.71 21 0 58 1556.7 -10.32 38.98
90.00 21 41 16 2289.13 -19.84 42.06 198.65 110.57 22 19 25 1289.1 -9.67 19.65
100.00 23 1 13 2031.14 -21.02 22.61 198.16 111.71 23 35 4 1031.1 -10.32 .34
110.00 0 10 2 1827.96 -24.16 5.73 196.70 114.91 0 40 30 828.0 -12.04 343.91

DIFFERENTIAL CORRECTIONS

TDE 1.4940 TRA 3.4176 TC3-3.1509 BAU .8234
RDE .7884 RRA 1.2904 RC3 -.6820 FAU .14656
FDE 4.8092 FRA12.4088 FC3-6.6420 B8P 9910
BDE 1.6893 BRA 3.6530 BC3 3.2239 F8P 2905

MID-COURSE EXECUTION ACCURACY

SGT 5617.4 SGR 2072.1 SG3 1590.5
RRT .9680 RRF .9851 RTF .9810
SGB 5987.4 R23 .1126 R13 .9847
SG1 5967.3 SG2 489.3 THA 19.79

ORBIT DETERMINATION ACCURACY

ST 118.9 SR 57.6 SS 124.6
CRT .9893 CR8 -.9796 CST -.9983
LSA 181.3 MSA 10.7 S8A 1.3
EL1 131.9 EL2 7.6 ALF 25.70

LAUNCH DATE MAR 24 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 631.415

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.281 GAL -5.78 AZL 88.99 HCA 210.50 SMA 179.91 ECC .19775 INC 1.0133 V1 29.877
RP 215.21 LAP -.91 LOP 33.20 VP 22.264 GAP 1.45 AZP 90.87 TAL 323.60 TAP 174.09 RCA 144.33 APO 215.49 V2 25.518
RC 152.438 GL 7.42 GP -16.46 ZAL 148.31 ZAP 88.22 ETS 172.00 ZAE 109.27 ETE 185.67 ZAC 86.22 ETC 268.76 LVI 10.22

PLANETOCENTRIC CONIC

C3 19.344 VHL 4.398 DLA -3.09 RAL 331.17 RAD 6642.5 VEL 11.805 PTH 6.83 VHP 3.632 DPA -40.89 RAP 282.71 ECC 1.3184
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 32 34 3048.59 -32.91 93.57 190.99 126.53 18 23 23 2048.6 -16.33 74.10
60.00 18 16 17 2932.32 -28.05 86.81 194.70 120.21 19 5 10 1932.3 -13.80 65.97
70.00 19 13 8 2765.18 -23.70 75.80 197.24 115.34 19 59 13 1765.2 -11.46 54.12
80.00 20 25 36 2538.26 -20.55 60.08 198.74 112.15 21 7 55 1538.3 -9.72 37.93
90.00 21 48 52 2269.61 -19.37 40.82 199.23 111.02 22 26 42 1269.6 -9.07 18.53
100.00 23 8 28 2012.73 -20.55 21.45 198.74 112.15 23 42 1 1012.7 -9.72 359.30
110.00 0 16 30 1812.00 -23.70 4.72 197.24 115.34 0 46 42 812.0 -11.46 343.04

DIFFERENTIAL CORRECTIONS

TDE 1.5429 TRA 3.5865 TC3-3.2182 BAU .8484
RDE .7708 RRA 1.2201 RC3 -.6358 FAU .14407
FDE 4.7563 FRA12.3214 FC3-6.4475 B8P 10202
BDE 1.7246 BRA 3.7884 BC3 3.2804 F8P 2872

MID-COURSE EXECUTION ACCURACY

SGT 5829.5 SGR 1964.3 SG3 1588.1
RRT .9660 RRF .9824 RTF .9816
SGB 6151.6 R23 .1070 R13 .9846
SG1 6132.6 SG2 483.0 THA 18.15

ORBIT DETERMINATION ACCURACY

ST 122.7 SR 55.6 SS 123.3
CRT .9861 CR8 -.9784 CST -.9986
LSA 182.3 MSA 11.1 S8A 1.3
EL1 134.4 EL2 8.4 ALF 24.18

LAUNCH DATE MAR 24 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 635.588

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.286 GAL -5.86 AZL 89.09 HCA 211.66 SMA 179.99 ECC .19870 INC .9106 V1 29.877
RP 215.54 LAP -.48 LOP 34.37 VP 22.229 GAP 1.28 AZP 90.78 TAL 323.24 TAP 174.91 RCA 144.22 APO 215.75 V2 25.480
RC 154.904 GL 6.82 GP -15.77 ZAL 148.74 ZAP 86.67 ETS 171.78 ZAE 107.79 ETE 184.97 ZAC 86.91 ETC 268.67 LVI 9.73

PLANETOCENTRIC CONIC

C3 19.612 VHL 4.429 DLA -4.55 RAL 331.70 RAD 6642.7 VEL 11.816 PTH 6.84 VHP 3.655 DPA -40.23 RAP 282.19 ECC 1.3228
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 37 8 3038.75 -32.51 92.97 191.49 126.87 18 27 47 2038.7 -15.86 73.65
80.00 18 21 33 2920.60 -27.65 86.08 195.24 120.57 19 10 14 1920.6 -13.31 65.37
70.00 19 19 11 2751.15 -23.29 74.92 197.82 115.72 20 5 2 1751.2 -10.95 53.38
80.00 20 32 23 2521.98 -20.13 59.05 199.34 112.53 21 14 24 1522.0 -9.20 37.01
90.00 21 55 57 2252.31 -18.94 39.73 199.85 111.40 22 33 29 1252.3 -8.53 17.54
100.00 23 15 15 1996.45 -20.13 20.42 199.34 112.53 23 48 31 996.4 -9.20 358.38
110.00 0 22 33 1797.97 -23.29 3.84 197.82 115.72 0 52 31 798.0 -10.95 342.27

DIFFERENTIAL CORRECTIONS

TDE 1.5945 TRA 3.7588 TC3-3.2785 BAU .8730
RDE .7553 RRA 1.1542 RC3 -.5915 FAU .14115
FDE 4.7043 FRA12.2198 FC3-6.2309 B8P 10511
BDE 1.7644 BRA 3.9301 BC3 3.3295 F8P 2837

MID-COURSE EXECUTION ACCURACY

SGT 6037.5 SGR 1883.8 SG3 1543.2
RRT .9634 RRF .9792 RTF .1520
SGB 6318.6 R23 .1012 R13 .9846
SG1 6300.4 SG2 478.9 THA 18.88

ORBIT DETERMINATION ACCURACY

ST 126.5 SR 53.8 SS 122.0
CRT .9826 CR8 -.9731 CST -.9988
LSA 183.4 MSA 11.4 S8A 1.3
EL1 137.2 EL2 9.2 ALF 22.78

LAUNCH DATE MAR 24 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

DISTANCE 639.717

EARTH TO MARS

RL 149.14 LAL -.00 LOL 182.71 VL 32.291 GAL -5.94 AZL 89.19 HCA 212.83 SMA 180.07 ECC .19970 INC .8143 V1 29.877
RP 215.87 LAP -.44 LOP 35.53 VP 22.193 GAP 1.07 AZP 90.68 TAL 322.88 TAP 175.71 RCA 144.11 APO 216.03 V2 25.443
RC 157.385 GL 8.87 GP -15.13 ZAL 149.14 ZAP 85.17 ETS 171.58 ZAE 106.34 ETE 184.34 ZAC 87.55 ETC 268.80 LVI 9.27

PLANETOCENTRIC CONIC

C3 19.906 VHL 4.462 DLA -5.15 RAL 332.23 RAD 6642.8 VEL 11.829 PTH 6.85 VHP 3.680 DPA -39.61 RAP 281.73 ECC 1.3278
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 41 25 3030.32 -32.16 92.47 192.03 127.16 18 31 56 2030.3 -15.45 73.27
80.00 18 26 29 2910.46 -27.30 85.45 195.81 120.88 19 15 0 1910.5 -12.88 64.86
70.00 19 24 50 2738.88 -22.93 74.15 198.42 116.04 20 10 29 1738.9 -10.50 52.69
80.00 20 38 42 2507.63 -19.75 58.15 199.97 112.86 21 20 30 1507.6 -8.73 36.20
90.00 22 2 34 2237.03 -18.56 38.78 200.49 111.73 22 39 51 1237.0 -8.06 16.67
100.00 23 21 34 1982.10 -19.75 19.52 199.97 112.86 23 54 36 982.1 -8.73 357.57
110.00 0 28 13 1785.70 -22.93 3.07 198.42 116.04 0 57 58 785.7 -10.50 341.61

DIFFERENTIAL CORRECTIONS

TDE 1.6461 TRA 3.9255 TC3-3.3313 BAU .8986
RDE .7422 RRA 1.0915 RC3 -.5508 FAU .13822
FDE 4.6481 FRA12.0977 FC3-6.0113 B8P 10811
BDE 1.8056 BRA 4.0744 BC3 3.3765 F8P 2794

MID-COURSE EXECUTION ACCURACY

SGT 6238.9 SGR 1769.4 SG3 1515.6
RRT .9602 RRF .9755 RTF .9824
SGB 6484.9 R23 .0956 R13 .9843
SG1 6467.4 SG2 476.9 THA 15.32

ORBIT DETERMINATION ACCURACY

ST 130.2 SR 52.1 SS 120.6
CRT .9787 CR8 -.9694 CST -.9990
LSA 184.6 MSA 11.8 S8A 1.3
EL1 139.9 EL2 10.0 ALF 21.51

LAUNCH DATE MAR 24 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.297 GAL -8.02 AZL 89.28 HCA 213.99 SMA 180.15 ECC .20074 INC .7245 V1 29.877
 RP 216.21 LAP -.41 LOP 36.69 VP 22.157 GAP .88 AZP 90.60 TAL 322.51 TAP 176.49 RCA 143.99 APO 216.32 V2 25.405
 RC 159.881 GL 3.18 GP -14.52 ZAL 149.54 ZAP 63.72 ETS 171.42 ZAE 104.91 ETE 183.77 ZAC 88.18 ETC 268.53 LVI 8.82

PLANETOCENTRIC CONIC
 C3 20.223 VHL 4.497 DLA -5.69 RAL 332.74 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 3.708 DPA -39.02 RAP 281.34 ECC 1.3328
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 29 3023.17 -31.87 92.04 192.59 127.41 18 35 52 2023.2 -15.10 72.95
 60.00 18 31 8 2901.73 -26.99 84.91 196.40 121.14 19 19 30 1901.7 -12.51 64.42
 70.00 19 30 9 2728.20 -22.60 73.49 199.05 116.31 20 15 38 1728.2 -10.10 52.11
 80.00 20 44 38 2495.04 -19.42 57.37 200.62 113.14 21 26 13 1495.0 -8.32 35.50
 90.00 22 8 46 2223.58 -18.22 37.94 201.14 112.01 22 45 50 1223.6 -7.64 15.90
 100.00 23 27 30 1989.52 -19.42 18.74 200.62 113.14 24 0 19 969.3 -8.32 3/6.86
 110.00 0 33 32 1775.02 -22.60 2.41 199.05 116.31 1 3 7 775.0 -10.10 341.03

MID-COURSE EXECUTION ACCURACY
 SGT 6435.7 SGR 1681.3 SG3 1488.3
 RRT .9563 RRF .9713 RTF .9827
 SGB 6651.7 R23 .0902 R13 .9845
 SGI 6634.6 SGI2 476.8 THA 14.10

ORBIT DETERMINATION ACCURACY
 ST 133.9 SR 50.6 SS 119.2
 CRT .9745 CRS -.9656 CST -.9992
 LSA 185.9 MSA 12.2 SSA 1.3
 EL1 142.8 EL2 10.7 ALF 20.34

LAUNCH DATE MAR 24 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.302 GAL -8.10 AZL 89.36 HCA 215.15 SMA 180.24 ECC .20163 INC .6398 V1 29.877
 RP 216.36 LAP -.37 LOP 37.85 VP 22.121 GAP .69 AZP 90.52 TAL 322.13 TAP 177.27 RCA 143.88 APO 216.62 V2 25.366
 RC 162.390 GL 4.54 GP -13.96 ZAL 149.91 ZAP 62.31 ETS 171.27 ZAE 103.50 ETE 183.26 ZAC 88.72 ETC 268.48 LVI 8.39

PLANETOCENTRIC CONIC
 C3 20.563 VHL 4.535 DLA -6.19 RAL 333.24 RAD 6643.1 VEL 11.856 PTH 6.87 VHP 3.739 DPA -38.47 RAP 281.01 ECC 1.3384
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 19 3017.18 -31.62 91.68 193.17 127.61 18 39 37 2017.2 -14.81 72.68
 60.00 18 35 32 2894.30 -26.73 84.46 197.01 121.36 19 23 46 1894.3 -12.19 64.05
 70.00 19 35 9 2718.98 -22.33 72.92 199.69 116.54 20 20 28 1719.0 -9.78 51.62
 80.00 20 50 11 2484.06 -19.12 56.69 201.28 113.38 21 31 35 1484.1 -7.96 34.88
 90.00 22 14 34 2211.80 -17.92 37.20 201.82 112.25 22 51 26 1211.8 -7.27 15.23
 100.00 23 33 3 1958.54 -19.12 18.06 201.28 113.38 24 5 42 958.5 -7.96 356.25
 110.00 0 38 31 1765.80 -22.33 1.84 199.69 116.54 1 7 57 765.8 -9.78 340.53

MID-COURSE EXECUTION ACCURACY
 SGT 6626.8 SGR 1599.1 SG3 1455.3
 RRT .9518 RRF .9665 RTF .9829
 SGB 6817.1 R23 .0851 R13 .9844
 SGI 6800.3 SGI2 478.1 THA 13.00

ORBIT DETERMINATION ACCURACY
 ST 137.6 SR 49.2 SS 117.8
 CRT .9699 CRS -.9614 CST -.9994
 LSA 187.3 MSA 12.6 SSA 1.3
 EL1 145.7 EL2 11.3 ALF 19.27

LAUNCH DATE MAR 24 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.308 GAL -6.19 AZL 89.44 HCA 216.30 SMA 180.34 ECC .20297 INC .5804 V1 29.877
 RP 216.91 LAP -.33 LOP 39.00 VP 22.086 GAP .50 AZP 90.45 TAL 321.74 TAP 178.04 RCA 143.73 APO 216.94 V2 25.327
 RC 164.912 GL 3.94 GP -13.42 ZAL 150.28 ZAP 60.94 ETS 171.14 ZAE 102.12 ETE 182.80 ZAC 89.26 ETC 268.44 LVI 7.97

PLANETOCENTRIC CONIC
 C3 20.926 VHL 4.575 DLA -6.65 RAL 333.73 RAD 6643.2 VEL 11.871 PTH 6.88 VHP 3.772 DPA -37.95 RAP 280.73 ECC 1.3444
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 38 3012.26 -31.41 91.39 193.77 127.77 18 43 10 2012.3 -14.57 72.43
 60.00 18 39 40 2888.08 -26.51 84.08 197.65 121.54 19 27 48 1888.1 -11.93 63.73
 70.00 19 39 51 2711.09 -22.08 72.44 200.35 116.74 20 25 2 1711.1 -9.47 51.19
 80.00 20 58 25 2474.58 -18.88 56.10 201.97 113.58 21 36 39 1474.8 -7.64 34.33
 90.00 22 20 1 2201.56 -17.65 36.57 202.51 112.46 22 56 43 1201.6 -6.95 14.65
 100.00 23 38 16 1949.03 -18.88 17.47 201.97 113.58 24 10 45 949.0 -7.64 325.72
 110.00 0 43 14 1757.91 -22.08 1.33 200.35 116.74 1 12 31 757.9 -9.47 340.11

MID-COURSE EXECUTION ACCURACY
 SGT 6812.7 SGR 1522.5 SG3 1423.0
 RRT .9465 RRF .9609 RTF .9830
 SGB 6980.8 R23 .0803 R13 .9843
 SGI 6964.2 SGI2 480.7 THA 12.00

ORBIT DETERMINATION ACCURACY
 ST 141.2 SR 48.0 SS 116.3
 CRT .9651 CRS -.9571 CST -.9995
 LSA 188.6 MSA 13.0 SSA 1.3
 EL1 148.6 EL2 11.9 ALF 18.29

LAUNCH DATE MAR 24 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.315 GAL -6.28 AZL 89.51 HCA 217.45 SMA 180.43 ECC .20414 INC .4856 V1 29.877
 RP 217.26 LAP -.30 LOP 40.18 VP 22.050 GAP .31 AZP 90.39 TAL 321.35 TAP 178.80 RCA 143.60 APO 217.27 V2 25.288
 RC 167.448 GL 3.38 GP -12.92 ZAL 150.64 ZAP 59.62 ETS 171.04 ZAE 100.76 ETE 182.38 ZAC 89.76 ETC 268.40 LVI 7.57

PLANETOCENTRIC CONIC
 C3 21.311 VHL 4.616 DLA -7.06 RAL 334.21 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 3.807 DPA -37.45 RAP 280.51 ECC 1.3507
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 26 3006.32 -31.25 91.16 194.39 127.90 18 46 34 2006.3 -14.37 72.28
 60.00 18 43 35 2882.91 -26.32 83.77 198.30 121.69 19 31 38 1882.9 -11.71 63.48
 70.00 19 44 17 2704.43 -21.88 72.03 201.03 116.90 20 29 22 1704.4 -9.22 50.84
 80.00 21 0 19 2466.40 -18.64 55.60 202.86 113.76 21 41 26 1466.4 -7.37 33.89
 90.00 22 25 9 2192.72 -17.42 36.02 203.21 112.63 23 1 41 1192.7 -6.67 14.15
 100.00 23 43 11 1940.87 -18.64 16.96 202.86 113.76 24 15 32 940.9 -7.37 355.26
 110.00 0 47 39 1751.25 -21.88 .95 201.03 116.90 1 16 51 751.2 -9.22 329.75

MID-COURSE EXECUTION ACCURACY
 SGT 6993.7 SGR 1451.4 SG3 1390.0
 RRT .9404 RRF .9347 RTF .9831
 SGB 7142.7 R23 .0758 R13 .9841
 SGI 7126.3 SGI2 484.4 THA 11.00

ORBIT DETERMINATION ACCURACY
 ST 144.7 SR 46.9 SS 114.9
 CRT .9600 CRS -.9525 CST -.9996
 LSA 190.1 MSA 13.4 SSA 1.3
 EL1 151.6 EL2 12.5 ALF 17.39

LAUNCH DATE MAR 24 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 25 1971

DISTANCE 660.389 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.321 GAL -6.37 AZL 89.59 MCA 218.59 SMA 180.54 ECC .20537 INC .4147 V1 29.877
 RP 217.61 LAP -.26 LOP 41.30 VP 22.014 GAP .12 AZP 90.32 TAL 320.93 TAP 179.54 RCA 143.46 APO 217.61 V2 23.249
 RC 189.992 GL 2.86 GP -12.44 ZAL 150.99 ZAP 58.34 ETS 170.94 ZAC 99.43 ETE 182.00 ZAC 90.24 ETC 268.38 LVI 7.18

PLANETOCENTRIC CONIC
 C3 21.717 VHL 4.680 DLA -7.44 RAL 334.68 RAD 6643.8 VEL 11.904 PTH 6.91 VHP 3.844 DPA -36.98 RAP 280.35 ECC 1.3574
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 43 3005.29 -31.12 90.98 195.03 128.00 18 49 49 2005.3 -14.23 72.14
 60.00 18 47 18 2878.76 -26.17 83.52 198.96 121.81 19 35 17 1878.8 -11.53 63.27
 70.00 19 48 28 2698.89 -21.71 71.69 201.71 117.04 20 33 27 1698.9 -9.02 50.54
 80.00 21 4 37 2459.49 -18.45 55.17 203.36 113.90 21 45 56 1459.5 -7.15 33.51
 90.00 22 29 58 2185.19 -17.23 35.56 203.92 112.78 23 6 23 1185.2 -6.44 13.73
 100.00 23 47 48 1933.96 -18.45 16.54 203.36 113.90 24 20 2 934.0 -7.15 354.88
 110.00 0 51 51 1745.71 -21.71 .61 201.71 117.04 1 20 56 745.7 -9.02 339.46

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7169.4 SGR 1385.1 S63 1356.1 ST 148.2 SR 45.8 S8 113.3
 RRT .9335 RRF .9476 RTF .9831 CRT .9546 CR8 -.9478 C8T -.9996
 SGB 7302.0 R23 .0717 R13 .9840 LSA 191.6 MSA 13.8 S8A 1.3
 S61 7285.6 S62 488.9 THA 10.27 EL1 154.6 EL2 13.1 ALP 16.57

DIFFERENTIAL CORRECTIONS
 TDE 1.9282 TRA 4.7739 TC3-3.5167 BAV 1.0271
 RDE .7023 RRA .8245 RC3 -.3833 FAV .12122
 FDE 4.3639 FRA11.3281 FC3-4.8326 B8P 12320
 BDE 2.0521 BRA 4.8445 BC3 3.5375 F8P 2537

LAUNCH DATE MAR 24 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 27 1971

DISTANCE 664.506 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.328 GAL -6.46 AZL 89.65 MCA 219.74 SMA 180.64 ECC .20663 INC .3475 V1 29.877
 RP 217.97 LAP -.22 LOP 42.44 VP 21.979 GAP -.07 AZP 90.27 TAL 320.54 TAP 180.28 RCA 143.32 APO 217.97 V2 23.209
 RC 172.547 GL 2.37 GP -11.99 ZAL 151.33 ZAP 57.10 ETS 170.87 ZAE 98.13 ETE 181.66 ZAC 90.66 ETC 268.36 LVI 6.80

PLANETOCENTRIC CONIC
 C3 22.144 VHL 4.708 DLA -7.79 RAL 335.14 RAD 6643.8 VEL 11.922 PTH 6.93 VHP 3.883 DPA -36.54 RAP 280.23 ECC 1.3644
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 52 3003.08 -31.03 90.86 195.67 128.07 18 52 55 2003.1 -14.12 72.04
 60.00 18 50 49 2875.53 -26.06 83.32 199.83 121.90 19 38 45 1875.5 -11.39 63.11
 70.00 19 52 25 2694.39 -21.57 71.41 202.41 117.15 20 37 20 1694.4 -8.85 50.30
 80.00 21 9 18 2453.74 -18.29 54.82 204.08 114.02 21 50 12 1433.7 -6.96 33.19
 90.00 22 34 30 2178.86 -17.08 35.17 204.64 112.90 23 10 49 1178.9 -6.24 13.37
 100.00 23 52 10 1928.21 -18.29 16.19 204.08 114.02 24 24 18 928.2 -6.96 354.55
 110.00 0 55 48 1741.21 -21.57 .33 202.41 117.15 1 24 49 741.2 -6.85 339.22

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7340.8 SGR 1323.9 S63 1322.1 ST 151.8 SR 44.9 S8 111.8
 RRT .9256 RRF .9397 RTF .9830 CRT .9491 CR8 -.9429 C8T -.9997
 SGB 7459.2 R23 .0679 R13 .9830 LSA 193.2 MSA 14.2 S8A 1.3
 S61 7442.8 S62 494.2 THA 9.52 EL1 157.6 EL2 13.6 ALP 15.82

DIFFERENTIAL CORRECTIONS
 TDE 1.9888 TRA 4.8449 TC3-3.5392 BAV 1.0530
 RDE .8986 RRA .7790 RC3 -.3566 FAV .11782
 FDE 4.3071 FRA11.1548 FC3-4.8985 B8P 12618
 BDE 2.1079 BRA 5.0059 BC3 3.5571 F8P 2480

LAUNCH DATE MAR 24 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 29 1971

DISTANCE 668.618 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 149.14 LAL -.00 LOL 182.71 VL 32.338 GAL -6.56 AZL 89.72 MCA 220.88 SMA 180.75 ECC .20794 INC .2835 V1 29.877
 RP 218.33 LAP -.19 LOP 43.58 VP 21.943 GAP -.26 AZP 90.21 TAL 320.13 TAP 181.00 RCA 143.17 APO 218.34 V2 23.169
 RC 175.114 GL 1.92 GP -11.57 ZAL 151.67 ZAP 55.91 ETS 170.80 ZAE 98.88 ETE 181.35 ZAC 91.11 ETC 268.36 LVI 6.42

PLANETOCENTRIC CONIC
 C3 22.591 VHL 4.753 DLA -8.10 RAL 335.60 RAD 6644.0 VEL 11.941 PTH 6.94 VHP 3.924 DPA -36.11 RAP 280.17 ECC 1.3718
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 31 3001.64 -30.97 90.77 196.33 128.11 18 55 53 2001.6 -14.05 71.98
 60.00 18 34 10 2873.17 -25.97 83.18 200.32 121.97 19 42 3 1873.2 -11.29 62.99
 70.00 19 56 10 2690.86 -21.46 71.20 203.12 117.23 20 41 1 1690.9 -8.72 50.11
 80.00 21 13 24 2449.05 -18.16 54.53 204.80 114.11 21 54 13 1449.0 -6.80 32.93
 90.00 22 38 46 2173.64 -16.92 34.85 205.37 113.00 23 15 0 1173.6 -6.07 13.07
 100.00 0 0 12 1923.52 -18.16 15.90 204.80 114.11 0 32 16 923.5 -6.80 354.29
 110.00 0 59 32 1737.68 -21.46 .12 203.12 117.23 1 28 30 737.7 -6.72 339.03

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 7506.8 SGR 1267.1 S63 1287.7 ST 155.0 SR 44.0 S8 110.3
 RRT .9188 RRF .9309 RTF .9829 CRT .9434 CR8 -.9379 C8T -.9998
 SGB 7613.0 R23 .0644 R13 .9836 LSA 194.7 MSA 14.6 S8A 1.3
 S61 7596.6 S62 500.0 THA 8.84 EL1 160.5 EL2 14.1 ALP 15.13

DIFFERENTIAL CORRECTIONS
 TDE 2.0499 TRA 5.1161 TC3-3.5592 BAV 1.0793
 RDE .6958 RRA .7337 RC3 -.3322 FAV .11409
 FDE 4.2480 FRA10.9764 FC3-4.3722 B8P 12902
 BDE 2.1647 BRA 5.1687 BC3 3.5373 F8P 2422

LAUNCH DATE MAR 25 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 16 1971

Heliocentric Conic

DISTANCE 395.846

EARTH TO MARS

RL 149.18 LAL -.00 LOL 103.70 VL 33.872 GAL -7.23 AZL 92.71 HCA 136.87 SMA 210.02 ECC .31373 INC 2.7058 V1 29.868
 RP 207.27 LAP -1.85 LOP 320.80 VP 25.480 GAP 16.27 AZP 88.02 TAL 329.12 TAP 106.00 RCA 144.13 APO 275.92 V2 26.426
 RC 56.368 GL -14.75 GP 5.27 ZAL 139.73 ZAP 164.40 ETS 160.29 ZAE 165.97 ETE 132.88 ZAC 106.68 ETC 275.21 LVI -19.28

Planetocentric Conic

C3 38.825 VHL 6.231 DLA -26.73 RAL 333.57 RAD 6650.3 VEL 12.598 PTH 7.46 VHP 8.895 DPA -15.43 RAP 307.42 ECC 1.6390
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 19 13 22 2746.89 -19.48 77.43 199.84 134.31 19 59 9 1746.9 -1.37 61.08
 60.00 20 28 57 2545.82 -12.99 65.27 205.79 128.49 21 11 23 1545.8 3.02 47.18
 70.00 22 7 5 2257.28 -6.23 46.86 210.78 123.65 22 44 43 1257.3 7.72 27.32
 80.00 0 12 45 1876.27 .12 21.87 214.71 119.86 0 44 1 876.3 12.25 1.10
 90.00 2 6 28 1509.54 3.46 356.75 216.56 118.09 2 31 37 509.5 14.67 335.33
 100.00 2 55 36 1350.74 .12 343.24 214.71 119.86 3 18 7 350.7 12.25 222.47
 110.00 3 10 28 1304.10 -6.23 335.78 210.78 123.65 3 32 12 304.1 7.72 316.24

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9671 TRA-1.9211 TC3 -.0958 BAU .0932 SGT 2172.0 SGR 500.3 SG3 251.5 ST 53.5 SR 22.8 SB 40.5
 RDE -.4960 RRA -.0783 RC3 .1510 FAU .04464 RRT .4993 RRF -.5305 RTF -.8709 CRT .8600 CR8 .7312 C8T .9762
 PDE .7955 FRA 2.4584 FC3 -.9955 B8P 3787 SGB 2228.9 R23 -.0898 R13 -.8732 L8A 69.4 M8A 14.4 S8A 1.1
 BDE 1.0869 BRA 1.9227 BC3 .1795 F8P 367 SGT 2186.9 SGT 430.5 THA 6.83 EL1 57.1 EL2 10.9 ALF 20.97

LAUNCH DATE MAR 25 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 18 1971

Heliocentric Conic

DISTANCE 399.025

EARTH TO MARS

RL 149.18 LAL -.00 LOL 103.70 VL 33.771 GAL -7.08 AZL 92.77 HCA 136.13 SMA 207.77 ECC .30575 INC 2.7697 V1 29.468
 RP 207.18 LAP -1.85 LOP 321.86 VP 25.346 GAP 17.80 AZP 87.94 TAL 329.16 TAP 107.29 RCA 144.24 APO 271.29 V2 26.438
 RC 56.588 GL -15.37 GP 5.84 ZAL 139.62 ZAP 163.46 ETS 160.51 ZAE 166.35 ETE 129.56 ZAC 106.92 ETC 275.30 LVI -19.66

Planetocentric Conic

C3 37.307 VHL 6.108 DLA -27.28 RAL 333.93 RAD 6649.7 VEL 12.538 PTH 7.41 VHP 8.642 DPA -15.08 RAP 307.71 ECC 1.6140
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 19 17 37 2724.40 -18.41 76.37 199.76 134.68 20 3 1 1724.5 -.24 60.14
 60.00 20 34 26 2520.16 -11.90 63.98 205.76 128.79 21 16 26 1520.2 4.14 45.95
 70.00 22 14 39 2225.46 -5.03 45.19 210.86 123.83 22 51 44 1225.5 8.91 25.62
 80.00 0 24 36 1830.98 1.65 19.39 215.00 119.82 0 55 7 831.0 13.66 358.47
 90.00 2 23 58 1446.01 5.48 353.18 217.11 117.79 2 48 4 446.0 16.42 331.49
 100.00 3 7 28 1305.45 1.65 340.75 215.00 119.82 3 29 13 305.4 13.66 319.84
 110.00 3 18 1 1272.27 -5.03 334.10 210.86 123.83 3 39 14 272.3 8.91 314.54

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9669 TRA-1.9010 TC3 -.0898 BAU .0928 SGT 2205.4 SGR 505.8 SG3 267.5 ST 54.5 SR 22.7 SB 42.0
 RDE -.4831 RRA -.0987 RC3 .1630 FAU .04603 RRT .5371 RRF -.5709 RTF -.8754 CRT .8697 CR8 .7417 C8T .9754
 PDE .8311 FRA 2.5598 FC3 -1.0681 B8P 3858 SGB 2262.6 R23 -.0981 R13 -.8781 L8A 71.0 M8A 14.3 S8A 1.1
 BDE 1.0827 BRA 1.9035 BC3 .1861 F8P 393 SGT 2222.7 SGT 423.3 THA 7.29 EL1 58.1 EL2 10.5 ALF 20.63

LAUNCH DATE MAR 25 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 20 1971

Heliocentric Conic

DISTANCE 402.284

EARTH TO MARS

RL 149.18 LAL -.00 LOL 103.70 VL 33.875 GAL -6.93 AZL 92.84 HCA 139.40 SMA 205.88 ECC .29818 INC 2.8368 V1 29.868
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.228 GAP 17.34 AZP 87.85 TAL 329.20 TAP 108.80 RCA 144.35 APO 267.01 V2 26.448
 RC 56.896 GL -16.03 GP 5.84 ZAL 139.48 ZAP 162.49 ETS 160.68 ZAE 166.66 ETE 126.19 ZAC 107.18 ETC 275.39 LVI -20.06

Planetocentric Conic

C3 35.903 VHL 5.992 DLA -27.86 RAL 334.29 RAD 6648.2 VEL 12.482 PTH 7.37 VHP 8.398 DPA -14.71 RAP 307.97 ECC 1.8909
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 6 2701.73 -17.32 75.32 199.72 135.04 20 7 7 1701.7 .90 59.19
 60.00 20 40 15 2493.85 -10.77 62.67 205.80 129.07 21 21 48 1493.8 5.30 44.69
 70.00 22 22 51 2192.13 -3.78 43.44 211.03 123.97 22 59 23 1192.1 10.15 23.83
 80.00 0 38 19 1780.27 3.36 16.60 215.45 119.89 1 8 0 780.3 19.20 358.49
 90.00 2 48 29 1360.52 8.17 348.34 216.06 117.17 3 11 10 360.5 18.65 326.21
 100.00 3 21 11 1254.74 3.38 337.97 215.45 119.89 3 42 8 254.7 15.20 316.86
 110.00 3 26 13 1238.95 -3.78 332.33 211.03 123.97 3 46 52 238.9 10.15 312.73

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9808 TRA-1.8695 TC3 -.0727 BAU .0911 SGT 2222.7 SGR 513.4 SG3 284.5 ST 55.0 SR 22.8 SB 43.5
 RDE -.4709 RRA -.1198 RC3 .1752 FAU .04731 RRT .5760 RRF -.6119 RTF -.8823 CRT .8787 CR8 .7528 C8T .9750
 PDE .8683 FRA 2.6590 FC3 -1.1457 B8P 3806 SGB 2281.2 R23 -.1043 R13 -.8853 L8A 72.3 M8A 14.1 S8A 1.1
 BDE 1.0700 BRA 1.8733 BC3 .1897 F8P 421 SGT 2242.9 SGT 415.9 THA 7.85 EL1 58.6 EL2 10.1 ALF 20.47

LAUNCH DATE MAR 25 1971

FLIGHT TIME 150.00

ARRIVAL DATE UG 22 1971

Heliocentric Conic

DISTANCE 405.616

EARTH TO MARS

RL 149.18 LAL -.00 LOL 103.70 VL 33.584 GAL -6.78 AZL 92.91 HCA 140.66 SMA 203.73 ECC .28101 INC 2.9076 V1 29.868
 RP 207.01 LAP -1.84 LOP 324.39 VP 25.117 GAP 16.89 AZP 87.73 TAL 329.25 TAP 109.91 RCA 144.45 APO 263.04 V2 26.457
 RC 57.225 GL -16.71 GP 6.16 ZAL 139.32 ZAP 161.50 ETS 160.80 ZAE 166.88 ETE 122.81 ZAC 107.47 ETC 275.47 LVI -20.46

Planetocentric Conic

C3 34.610 VHL 5.883 DLA -28.46 RAL 334.66 RAD 6648.7 VEL 12.430 PTH 7.33 VHP 8.158 DPA -14.33 RAP 308.21 ECC 1.5696
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 19 28 49 2678.68 -16.20 74.26 199.75 135.37 20 11 28 1678.7 2.06 58.23
 60.00 20 46 28 2486.90 -9.61 61.34 205.91 129.33 21 27 33 1466.9 6.47 43.38
 70.00 22 31 46 2187.14 -2.43 41.61 211.28 124.08 23 7 43 1157.1 11.43 21.93
 80.00 0 54 49 1721.46 5.34 13.35 216.09 119.42 1 23 31 721.5 16.92 351.98
 86.64 3 4 32 1303.60 12.74 346.48 219.99 115.67 3 26 15 303.6 22.23 323.44
 100.00 3 37 41 1195.93 5.34 334.72 216.09 119.42 3 57 37 195.9 16.92 313.34
 110.00 3 35 8 1203.95 -2.43 330.52 211.28 124.08 3 55 12 204.0 11.43 310.85

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9677 TRA-1.8519 TC3 -.0717 BAU .0931 SGT 2259.3 SGR 524.0 SG3 302.6 ST 56.3 SR 22.5 SB 45.0
 RDE -.4801 RRA -.1422 RC3 .1879 FAU .04908 RRT .6141 RRF -.6532 RTF -.8847 CRT .8899 CR8 .7648 C8T .9738
 PDE .9077 FRA 2.7668 FC3 -1.2278 B8P 3941 SGB 2319.3 R23 -.1159 R13 -.8881 L8A 74.2 M8A 14.0 S8A 1.1
 BDE 1.0715 BRA 1.8574 BC3 .2011 F8P 451 SGT 2282.9 SGT 409.3 THA 8.30 EL1 59.8 EL2 9.7 ALF 20.16

LAUNCH DATE MAR 25 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 33,498 GAL -6.63 AZL 92.98 HCA 141.93 SMA 201.95 ECC .28422 INC 2.9823 V1 29.868
RP 206.94 LAP -1.84 LOP 325.66 VP 25.010 GAP 16.45 AZP 87.65 TAL 329.30 TAP 111.23 RCA 144.56 APO 259.35 V2 26.466
RC 57.675 GL -17.42 GP 6.50 ZAL 139.13 ZAP 160.47 ETS 160.87 ZAE 167.02 ETE 119.30 ZAC 107.78 ETC 275.55 LVI -20.89

DISTANCE 409.015

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 33.419 VHL 5.781 DLA -29.10 RAL 335.04 RAD 6648.3 VEL 12.383 PTH 7.30 VHP 7.928 DPA -13.92 RAP 308.42 ECC 1.5500
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 31 49 2655.26 -15.06 73.20 199.85 135.68 20 16 5 1655.3 3.23 57.25
60.00 20 53 3 2439.17 -8.41 59.98 206.09 129.56 21 33 42 1439.2 7.68 42.04
70.00 22 41 33 2120.03 -1.01 39.67 211.65 124.14 23 16 53 1120.0 12.78 19.90
80.00 1 16 19 1647.52 7.79 9.24 217.05 118.91 1 43 46 647.5 18.99 347.46
82.85 2 35 8 1394.58 13.27 353.43 219.95 116.13 2 58 23 394.6 22.90 330.36
100.00 3 59 10 1121.89 7.79 330.60 217.05 118.91 4 17 52 122.0 18.99 308.83
110.00 3 44 56 1166.85 -1.01 328.59 211.65 124.14 4 4 23 166.8 12.78 308.82

DIFFERENTIAL CORRECTIONS

TDE -.9719 TRA-1.8305 TC3 -.0678 BAU .0990
RDE -.4504 RRA -.1659 RC3 .2016 FAU .05074
PDE .9494 FRA 2.8791 FC3-1.3145 B8P 4037
BDE 1.0712 BRA 1.8380 BC3 .2127 F8P 483

MID-COURSE EXECUTION ACCURACY

SGT 2290.2 SGR 537.6 SG3 321.7
RRT .6517 RRF -.6939 RTF -.8878
SG8 2352.5 R23 -.1278 R13 -.8914
SG1 2317.7 SG2 402.9 THA 8.97

ORBIT DETERMINATION ACCURACY

ST 57.4 SR 22.5 SS 46.8
CRT .9011 CRS .7777 CST .9727
LSA 75.9 MSA 14.0 SSA 1.1
EL1 60.9 EL2 9.2 ALF 19.94

LAUNCH DATE MAR 25 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 33,416 GAL -6.52 AZL 93.06 HCA 143.19 SMA 200.29 ECC .27778 INC 3.0614 V1 29.868
RP 206.87 LAP -1.63 LOP 326.93 VP 24.909 GAP 16.02 AZP 87.55 TAL 329.36 TAP 112.55 RCA 144.65 APO 255.93 V2 26.473
RC 58.203 GL -18.17 GP 6.87 ZAL 138.92 ZAP 159.41 ETS 160.89 ZAE 167.07 ETE 116.35 ZAC 108.12 ETC 275.63 LVI -23.33

DISTANCE 412.478

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 32.326 VHL 5.688 DLA -29.76 RAL 335.43 RAD 6647.9 VEL 12.339 PTH 7.27 VHP 7.705 DPA -13.49 RAP 308.59 ECC 1.5320
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 37 8 2631.43 -13.90 72.13 200.01 135.98 20 21 0 1631.4 4.43 56.25
60.00 21 0 10 2410.55 -7.17 58.58 206.36 129.77 21 40 20 1410.6 8.92 40.64
70.00 22 52 26 2080.29 .51 37.59 212.14 124.15 23 27 6 1080.3 14.20 17.70
80.00 1 54 26 1521.59 11.86 2.10 218.94 117.60 2 19 47 521.3 22.20 339.49
80.32 2 16 51 1449.97 13.81 357.80 219.97 116.63 2 41 1 450.0 23.59 334.71
100.00 4 37 18 8284.10 11.86 301.37 218.94 117.60 6 22 2 5284.1 22.20 278.77
110.00 3 55 48 1127.11 .51 326.31 212.14 124.15 4 14 35 127.1 14.20 306.62

DIFFERENTIAL CORRECTIONS

TDE -.9748 TRA-1.8060 TC3 -.0623 BAU .0973
RDE -.4419 RRA -.1909 RC3 .2163 FAU .05247
FDE .9941 FRA 2.8982 FC3-1.4052 B8P 4111
BDE 1.0703 BRA 1.8160 BC3 .2251 F8P 517

MID-COURSE EXECUTION ACCURACY

SGT 2316.3 SGR 554.9 SG3 341.9
RRT .6882 RRF -.7332 RTF -.8907
SG8 2381.9 R23 -.1401 R13 -.8951
SG1 2348.5 SG2 397.1 THA 9.64

ORBIT DETERMINATION ACCURACY

ST 58.3 SR 22.5 SS 48.2
CRT .9124 CRS .7915 CST .9716
LSA 77.7 MSA 13.9 SSA 1.1
EL1 61.9 EL2 8.7 ALF 19.81

LAUNCH DATE MAR 25 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 33,339 GAL -6.39 AZL 93.15 HCA 144.48 SMA 198.74 ECC .27168 INC 3.1454 V1 29.868
RP 206.82 LAP -1.83 LOP 326.20 VP 24.812 GAP 15.60 AZP 87.44 TAL 329.42 TAP 113.88 RCA 144.75 APO 252.74 V2 26.479
RC 58.807 GL -18.95 GP 7.28 ZAL 138.68 ZAP 159.33 ETS 160.88 ZAE 167.03 ETE 113.41 ZAC 108.50 ETC 275.70 LVI -21.79

DISTANCE 415.994

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.328 VHL 5.597 DLA -30.46 RAL 335.85 RAD 6647.5 VEL 12.299 PTH 7.23 VHP 7.490 DPA -13.04 RAP 308.74 ECC 1.5156
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 42 48 2807.15 -12.71 71.05 200.26 136.25 20 26 15 1807.1 5.65 53.23
60.00 21 7 50 2380.92 -5.88 57.15 206.72 129.94 21 47 31 1380.9 10.20 39.18
70.00 23 4 40 2037.15 2.15 35.34 212.77 124.09 23 38 37 1037.1 15.71 15.28
78.18 2 2 28 1493.13 14.35 1.30 220.04 117.16 2 27 21 493.1 24.30 338.19
78.18 2 2 28 1493.13 14.35 1.30 220.04 117.16 2 27 21 493.1 24.30 338.19
78.18 2 2 28 1493.13 14.35 1.30 220.04 117.16 2 27 21 493.1 24.30 338.19
110.00 4 8 2 1083.97 2.15 324.26 212.77 124.09 4 26 6 84.0 15.71 304.20

DIFFERENTIAL CORRECTIONS

TDE -.9789 TRA-1.7791 TC3 -.0580 BAU .1000
RDE -.4346 RRA -.2173 RC3 .2323 FAU .05434
PDE 1.0411 FRA 3.1175 FC3-1.5017 B8P 4166
BDE 1.0682 BRA 1.7924 BC3 .2388 F8P 592

MID-COURSE EXECUTION ACCURACY

SGT 2338.4 SGR 576.3 SG3 363.2
RRT .7228 RRF -.7706 RTF -.8137
SG8 2408.4 R23 -.1832 R13 -.8988
SG1 2376.3 SG2 391.9 THA 10.39

ORBIT DETERMINATION ACCURACY

ST 59.2 SR 22.6 SS 49.8
CRT .9237 CRS .8058 CST .9705
LSA 79.4 MSA 13.8 SSA 1.1
EL1 62.8 EL2 8.1 ALF 19.75

LAUNCH DATE MAR 25 1971

FLIGHT TIME 158.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 33,266 GAL -6.27 AZL 93.23 HCA 145.72 SMA 197.31 ECC .26591 INC 3.2347 V1 29.880
RP 206.77 LAP -1.82 LOP 329.46 VP 24.719 GAP 15.18 AZP 87.33 TAL 329.48 TAP 115.21 RCA 144.84 APO 249.77 V2 26.485
RC 59.488 GL -19.77 GP 7.72 ZAL 138.41 ZAP 157.20 ETS 160.83 ZAE 166.91 ETE 110.75 ZAC 108.91 ETC 275.77 LVI -22.28

DISTANCE 418.564

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.420 VHL 5.515 DLA -31.19 RAL 336.28 RAD 6647.2 VEL 12.262 PTH 7.21 VHP 7.281 DPA -12.57 RAP 308.84 ECC 1.5006
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 48 51 2582.35 -11.49 69.96 200.58 136.50 20 31 54 1582.4 6.89 54.18
60.00 21 16 9 2350.09 -4.53 55.66 207.19 130.09 21 55 19 1350.1 11.52 37.65
70.00 23 18 43 1989.37 3.97 32.84 213.59 123.95 23 51 52 969.4 17.35 12.55
76.25 1 50 18 1529.66 14.90 4.34 220.19 117.72 2 15 48 529.7 25.03 341.21
76.25 1 50 18 1529.66 14.90 4.34 220.19 117.72 2 15 48 529.7 25.03 341.21
76.25 1 50 18 1529.66 14.90 4.34 220.19 117.72 2 15 48 529.7 25.03 341.21
110.00 4 22 5 1036.19 3.97 321.76 213.59 123.95 4 39 21 36.2 17.35 301.47

DIFFERENTIAL CORRECTIONS

TDE -.9789 TRA-1.7501 TC3 -.0481 BAU .1034
RDE -.4285 RRA -.2454 RC3 .2496 FAU .05630
PDE 1.0911 FRA 3.2429 FC3-1.6024 B8P 4210
BDE 1.0686 BRA 1.7672 BC3 .2542 F8P 590

MID-COURSE EXECUTION ACCURACY

SGT 2356.7 SGR 602.3 SG3 385.6
RRT .7549 RRF -.8054 RTF -.8964
SG8 2432.4 R23 -.1674 R13 -.9023
SG1 2401.3 SG2 387.7 THA 11.22

ORBIT DETERMINATION ACCURACY

ST 60.0 SR 22.7 SS 51.5
CRT .9351 CRS .8209 CST .9693
LSA 81.1 MSA 13.8 SSA 1.0
EL1 63.7 EL2 7.6 ALF 19.78

LAUNCH DATE MAR 25 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

DISTANCE 423.181

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 33.197 GAL -6.15 AZL 93.33 HCA 146.99 SMA 195.97 ECC .26045 INC 3.3501 V1 29.868
RP 206.74 LAP -1.81 LOP 330.73 VP 24.631 GAP 14.77 AZP 87.21 TAL 329.55 TAP 116.94 RCA 144.93 APO 247.01 V2 26.489
RC 60.233 GL -20.63 GP 8.19 ZAL 138.11 ZAP 156.04 ETS 160.74 ZAE 166.71 ETE 108.42 ZAC 109.37 ETC 275.83 LVI -22.79

PLANETOCENTRIC CONIC

C3 29.600 VHL 5.441 DLA -31.98 RAL 336.74 RAD 6646.8 VEL 12.229 PTH 7.18 VHP 7.080 DPA -12.06 RAP 308.91 ECC 1.4871
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 19 55 21 2556.97 -10.23 68.86 201.00 136.72 20 37 58 1557.0 8.15 53.10
60.00 21 25 13 2317.84 -3.11 54.12 207.79 130.20 22 3 51 1317.8 12.90 36.03
70.00 23 35 19 1934.76 6.04 29.97 214.66 123.68 24 7 34 934.8 19.18 9.36
74.44 1 39 38 1562.01 15.46 7.10 220.41 118.33 2 5 40 562.0 25.78 343.95
74.44 1 39 38 1562.01 15.46 7.10 220.41 118.33 2 5 40 562.0 25.78 343.95
74.44 1 39 38 1562.01 15.46 7.10 220.41 118.33 2 5 40 562.0 25.78 343.95
110.00 4 38 42 6269.62 6.04 296.79 214.66 123.68 6 23 11 5269.6 19.18 276.19

DIFFERENTIAL CORRECTIONS

YDE -.9817 TRA-1.7196 TC3 -.0412 BAU .1073
RDE -.4241 RRA -.2755 RC3 .2681 FAU .05838
FDE 1.1451 FRA 3.3730 FC3-1.7074 BSP 4265
BDE 1.0694 BRA 1.7416 BC3 .2713 FSP 629

MID-COURSE EXECUTION ACCURACY

SGT 2372.2 SGR 633.7 SG3 409.3
RRT .7842 RRF -.8371 RTF -.8989
SGB 2455.4 R23 -.1823 R13 -.9057
SG1 2425.1 SG2 384.7 THA 12.14

ORBIT DETERMINATION ACCURACY

ST 60.8 SR 22.9 SS 53.3
CRT .9463 CRS .8365 CST .9681
LSA 82.9 MSA 13.8 S8A 1.0
EL1 64.6 EL2 7.0 ALF 19.87

LAUNCH DATE MAR 25 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

DISTANCE 426.844

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 33.131 GAL -6.04 AZL 93.43 HCA 148.26 SMA 194.72 ECC .25528 INC 3.4323 V1 29.868
RP 206.71 LAP -1.80 LOP 332.00 VP 24.546 GAP 14.37 AZP 87.08 TAL 329.62 TAP 117.88 RCA 145.02 APO 244.43 V2 26.492
RC 61.050 GL -21.54 GP 8.71 ZAL 137.77 ZAP 154.83 ETS 160.81 ZAE 166.43 ETE 108.44 ZAC 109.86 ETC 275.89 LVI -23.33

PLANETOCENTRIC CONIC

C3 28.864 VHL 5.373 DLA -32.77 RAL 337.22 RAD 6646.6 VEL 12.199 PTH 7.16 VHP 6.887 DPA -11.51 RAP 308.94 ECC 1.4750
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 2 22 2530.90 -8.94 67.74 201.53 136.93 20 44 33 1530.9 9.45 51.98
60.00 21 35 11 2283.85 -1.82 52.49 208.52 130.27 22 13 15 1283.8 14.33 34.31
70.00 0 0 3 1868.82 8.53 26.46 216.08 123.20 0 31 12 868.6 21.30 5.41
72.70 1 30 5 1591.41 16.03 9.67 220.70 118.98 1 56 37 591.4 26.55 346.51
72.70 1 30 5 1591.41 16.03 9.67 220.70 118.98 1 56 37 591.4 26.55 346.51
72.70 1 30 5 1591.41 16.03 9.67 220.70 118.98 1 56 37 591.4 26.55 346.51
110.00 4 59 29 6203.47 8.53 293.28 216.08 123.20 6 42 53 5203.5 21.30 272.23

DIFFERENTIAL CORRECTIONS

YDE -.9786 TRA-1.6811 TC3 -.0264 BAU .1118
RDE -.4208 RRA -.3075 RC3 .2886 FAU .06061
FDE 1.2013 FRA 3.3058 FC3-1.8178 BSP 4235
BDE 1.0652 BRA 1.7090 BC3 .2698 FSP 670

MID-COURSE EXECUTION ACCURACY

SGT 2374.2 SGR 670.6 SG3 434.0
RRT .8110 RRF -.8654 RTF -.9026
SGB 2467.0 R23 -.1946 R13 -.9104
SG1 2437.3 SG2 382.2 THA 13.23

ORBIT DETERMINATION ACCURACY

ST 61.2 SR 23.2 SS 55.1
CRT .9566 CRS .8523 CST .9670
LSA 84.4 MSA 13.1 S8A 1.0
EL1 65.1 EL2 6.3 ALF 20.13

LAUNCH DATE MAR 25 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

DISTANCE 430.547

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 33.070 GAL -5.93 AZL 93.54 HCA 149.53 SMA 193.56 ECC .25039 INC 3.5420 V1 29.868
RP 206.69 LAP -1.80 LOP 333.27 VP 24.466 GAP 13.98 AZP 86.95 TAL 329.69 TAP 119.21 RCA 145.10 APO 242.03 V2 26.495
RC 61.933 GL -22.49 GP 9.28 ZAL 137.40 ZAP 153.58 ETS 160.44 ZAE 166.08 ETE 104.82 ZAC 110.41 ETC 275.94 LVI -23.91

PLANETOCENTRIC CONIC

C3 28.216 VHL 5.312 DLA -33.83 RAL 337.74 RAD 6646.3 VEL 12.172 PTH 7.13 VHP 6.700 DPA -10.93 RAP 308.92 ECC 1.4644
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 9 58 2304.09 -7.60 66.39 202.18 137.11 20 51 42 1504.1 10.78 50.82
60.00 21 48 15 2247.77 -0.03 50.77 209.42 130.30 22 23 42 1247.8 15.84 32.45
70.00 0 29 57 1776.27 11.93 21.47 218.20 122.24 0 59 33 776.3 24.07 359.68
71.00 1 21 26 1618.74 18.60 12.11 221.09 119.67 1 48 25 618.7 27.35 348.95
71.00 1 21 26 1618.74 18.60 12.11 221.09 119.67 1 48 25 618.7 27.35 348.95
71.00 1 21 26 1618.74 18.60 12.11 221.09 119.67 1 48 25 618.7 27.35 348.95
110.00 5 29 23 6111.13 11.93 288.30 218.20 122.24 7 11 15 5111.1 24.07 266.50

DIFFERENTIAL CORRECTIONS

YDE -.9889 TRA-1.6533 TC3 -.0298 BAU .1173
RDE -.4203 RRA -.3427 RC3 .3098 FAU .06280
FDE 1.2655 FRA 3.6459 FC3-1.9269 BSP 4358
BDE 1.0745 BRA 1.6884 BC3 .3111 FSP 716

MID-COURSE EXECUTION ACCURACY

SGT 2392.8 SGR 714.7 SG3 460.1
RRT .8327 RRF -.8904 RTF -.9330
SGB 2497.3 R23 -.2141 R13 -.9122
SG1 2467.6 SG2 383.8 THA 14.32

ORBIT DETERMINATION ACCURACY

ST 62.3 SR 23.6 SS 57.0
CRT .9671 CRS .8687 CST .9654
LSA 86.5 MSA 13.8 S8A 1.0
EL1 66.4 EL2 5.6 ALF 20.31

LAUNCH DATE MAR 25 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

DISTANCE 434.289

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 33.011 GAL -5.83 AZL 93.66 HCA 150.79 SMA 192.48 ECC .24577 INC 3.6804 V1 29.868
RP 206.68 LAP -1.79 LOP 334.54 VP 24.388 GAP 13.60 AZP 86.80 TAL 329.78 TAP 120.55 RCA 145.18 APO 239.79 V2 26.496
RC 62.878 GL -23.50 GP 9.90 ZAL 137.00 ZAP 152.29 ETS 160.24 ZAE 165.64 ETE 103.57 ZAC 111.02 ETC 275.99 LVI -24.52

PLANETOCENTRIC CONIC

C3 27.649 VHL 5.258 DLA -34.52 RAL 338.29 RAD 6646.1 VEL 12.149 PTH 7.12 VHP 6.521 DPA -10.31 RAP 308.86 ECC 1.4550
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 18 14 2476.31 -6.21 65.41 202.96 137.27 20 59 31 1476.3 12.15 49.61
60.00 21 58 40 2208.90 1.68 48.91 210.51 130.27 22 35 29 1208.9 17.44 30.41
69.32 1 13 30 1644.64 17.17 14.48 221.58 120.42 1 40 55 644.6 28.17 351.31
69.32 1 13 30 1644.64 17.17 14.48 221.58 120.42 1 40 55 644.6 28.17 351.31
69.32 1 13 30 1644.64 17.17 14.48 221.58 120.42 1 40 55 644.6 28.17 351.31
69.32 1 13 30 1644.64 17.17 14.48 221.58 120.42 1 40 55 644.6 28.17 351.31
69.32 1 13 30 1644.64 17.17 14.48 221.58 120.42 1 40 55 644.6 28.17 351.31

DIFFERENTIAL CORRECTIONS

YDE -.9854 TRA-1.6084 TC3 -.0128 BAU .1235
RDE -.4207 RRA -.3796 RC3 .3339 FAU .06532
FDE 1.3295 FRA 3.7833 FC3-2.0453 BSP 4290
BDE 1.0715 BRA 1.6526 BC3 .3341 FSP 758

MID-COURSE EXECUTION ACCURACY

SGT 2382.8 SGR 765.2 SG3 486.9
RRT .8531 RRF -.9117 RTF -.9063
SGB 2502.7 R23 -.2257 R13 -.9170
SG1 2472.9 SG2 384.7 THA 15.71

ORBIT DETERMINATION ACCURACY

ST 62.5 SR 24.1 SS 58.8
CRT .9759 CRS .8844 CST .9641
LSA 88.0 MSA 13.9 S8A .9
EL1 66.8 EL2 4.9 ALF 20.78

LAUNCH DATE MAR 25 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.956 GAL -5.73 AZL 93.79 HCA 192.06 SMA 101.48 ECC .24141 INC 3.7865 V1 29.869
RP 206.87 LAP -1.77 LOP 335.81 VP 24.314 GAP 13.22 AZP 86.85 TAL 329.83 TAP 121.89 RCA 145.25 APO 237.70 V2 26.496
RC 63.886 GL -24.56 GP 10.58 ZAL 136.55 ZAP 190.94 ETS 160.01 ZAE 165.13 ETE 102.68 ZAC 111.69 ETC 276.03 LVI -25.18

DISTANCE 438.064

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.170 VHL 5.213 DLA -35.47 RAL 338.89 RAD 6645.9 VEL 12.130 PTH 7.10 VHP 6.350 DPA -9.63 RAP 308.75 ECC 1.4472
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 27 18 2447.49 -4.77 64.20 203.89 137.39 21 8 6 1447.5 13.57 48.34
60.00 22 12 48 2186.49 3.55 46.88 211.85 130.17 22 48 54 1166.5 19.16 28.14
67.64 1 6 14 1669.38 17.75 16.79 222.17 121.22 1 34 4 669.4 29.01 353.64
67.64 1 6 14 1669.38 17.75 16.79 222.17 121.22 1 34 4 669.4 29.01 353.64
67.64 1 6 14 1669.38 17.75 16.79 222.17 121.22 1 34 4 669.4 29.01 353.64
67.64 1 6 14 1669.38 17.75 16.79 222.17 121.22 1 34 4 669.4 29.01 353.64
67.64 1 6 14 1669.38 17.75 16.79 222.17 121.22 1 34 4 669.4 29.01 353.64

DIFFERENTIAL CORRECTIONS

TDE -.9990 TRA-1.5775 TC3 -.0199 BAW .1303
RDE -.4250 RRA -.4212 RC3 .3581 FAU .06788
PDE 1.4060 FRA 3.9305 FC3-2.1560 B8P 4427
BDE 1.0857 BRA 1.6328 BC3 .3587 F8P 610

MID-COURSE EXECUTION ACCURACY

SGT 2395.7 SGR 825.1 SG3 515.4
RRT .8679 RRF -.9299 RTF -.9058
SGB 2533.7 R23 -.2455 R13 -.9187
SG1 2503.2 SG2 392.3 TMA 17.07

ORBIT DETERMINATION ACCURACY

ST 63.5 SR 24.9 SS 60.9
CRT .9841 CRS .9005 CST .9624
LSA 90.3 MSA 14.0 SSA .9
EL1 68.1 EL2 4.1 ALF 21.16

LAUNCH DATE MAR 25 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.905 GAL -5.64 AZL 93.93 HCA 153.33 SMA 190.54 ECC .23729 INC 3.9278 V1 29.868
RP 206.88 LAP -1.76 LOP 337.08 VP 24.243 GAP 12.85 AZP 86.49 TAL 329.90 TAP 123.23 RCA 145.32 APO 235.75 V2 26.496
RC 64.956 GL -25.69 GP 11.33 ZAL 136.05 ZAP 149.54 ETS 159.73 ZAE 164.54 ETE 102.13 ZAC 112.43 ETC 276.07 LVI -25.90

DISTANCE 441.874

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.776 VHL 5.175 DLA -36.47 RAL 339.54 RAD 6645.7 VEL 12.113 PTH 7.09 VHP 6.186 DPA -8.90 RAP 308.59 ECC 1.4407
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 37 20 2417.26 -3.26 62.93 205.01 137.49 21 17 37 1417.3 15.04 46.98
60.00 22 29 17 2118.91 5.63 44.59 213.49 129.97 23 4 36 1118.9 21.03 25.54
65.95 0 59 34 1693.32 18.33 19.08 222.89 122.09 1 27 48 693.3 29.88 355.95
65.95 0 59 34 1693.32 18.33 19.08 222.89 122.09 1 27 48 693.3 29.88 355.95
65.95 0 59 34 1693.32 18.33 19.08 222.89 122.09 1 27 48 693.3 29.88 355.95
65.95 0 59 34 1693.32 18.33 19.08 222.89 122.09 1 27 48 693.3 29.88 355.95
65.95 0 59 34 1693.32 18.33 19.08 222.89 122.09 1 27 48 693.3 29.88 355.95

DIFFERENTIAL CORRECTIONS

TDE -.9922 TRA-1.5225 TC3 .0026 BAW .1308
RDE -.4300 RRA -.4641 RC3 .3872 FAU .07052
PDE 1.4786 FRA 4.0680 FC3-2.2802 B8P 4296
BDE 1.0814 BRA 1.5916 BC3 .3872 F8P 832

MID-COURSE EXECUTION ACCURACY

SGT 2366.7 SGR 892.0 SG3 543.9
RRT .8828 RRF -.9447 RTF -.9093
SGB 2529.2 R23 -.2524 R13 -.9244
SG1 2497.9 SG2 396.9 TMA 18.90

ORBIT DETERMINATION ACCURACY

ST 63.3 SR 25.7 SS 62.7
CRT .9903 CRS .9149 CST .9610
LSA 91.7 MSA 14.1 SSA .8
EL1 68.2 EL2 3.3 ALF 21.94

LAUNCH DATE MAR 25 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.896 GAL -5.55 AZL 94.08 HCA 154.80 SMA 189.86 ECC .23342 INC 4.0800 V1 29.868
RP 206.70 LAP -1.75 LOP 338.35 VP 24.175 GAP 12.49 AZP 86.31 TAL 329.96 TAP 124.56 RCA 145.39 APO 233.93 V2 26.494
RC 66.082 GL -26.88 GP 12.16 ZAL 135.51 ZAP 148.07 ETS 159.43 ZAE 163.85 ETE 101.88 ZAC 113.25 ETC 276.10 LVI -26.67

DISTANCE 445.712

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.476 VHL 5.145 DLA -37.52 RAL 340.25 RAD 6645.6 VEL 12.101 PTH 7.08 VHP 6.031 DPA -8.10 RAP 308.37 ECC 1.4357
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 48 28 2385.52 -1.66 61.80 206.34 137.55 21 28 14 1385.5 16.59 45.54
60.00 22 49 6 2063.78 8.04 41.92 215.56 129.63 23 23 30 1063.8 23.18 22.44
64.24 0 53 27 1716.84 18.90 21.38 223.75 123.04 1 22 4 716.8 30.77 358.28
64.24 0 53 27 1716.84 18.90 21.38 223.75 123.04 1 22 4 716.8 30.77 358.28
64.24 0 53 27 1716.84 18.90 21.38 223.75 123.04 1 22 4 716.8 30.77 358.28
64.24 0 53 27 1716.84 18.90 21.38 223.75 123.04 1 22 4 716.8 30.77 358.28
64.24 0 53 27 1716.84 18.90 21.38 223.75 123.04 1 22 4 716.8 30.77 358.28

DIFFERENTIAL CORRECTIONS

TDE -1.0158 TRA-1.4930 TC3 -.0181 BAW .1467
RDE -.4416 RRA -.5143 RC3 .4140 FAU .07278
PDE 1.5749 FRA 4.2215 FC3-2.3800 B8P 4511
BDE 1.1078 BRA 1.5791 BC3 .4144 F8P 912

MID-COURSE EXECUTION ACCURACY

SGT 2382.0 SGR 971.9 SG3 574.4
RRT .8908 RRF -.9572 RTF -.5569
SGB 2572.6 R23 -.2728 R13 -.9253
SG1 2539.0 SG2 414.7 TMA 20.54

ORBIT DETERMINATION ACCURACY

ST 64.7 SR 26.9 SS 65.1
CRT .9954 CRS .9297 CST .9593
LSA 94.5 MSA 14.4 SSA .8
EL1 70.0 EL2 2.4 ALF 22.49

LAUNCH DATE MAR 25 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.810 GAL -5.47 AZL 94.25 HCA 158.86 SMA 188.84 ECC .22976 INC 4.2469 V1 29.868
RP 206.72 LAP -1.74 LOP 339.62 VP 24.109 GAP 12.14 AZP 86.12 TAL 330.03 TAP 125.89 RCA 145.45 APO 232.23 V2 26.491
RC 87.285 GL -28.16 GP 13.07 ZAL 134.91 ZAP 146.54 ETS 159.08 ZAE 163.08 ETE 101.92 ZAC 114.17 ETC 276.14 LVI -27.50

DISTANCE 449.880

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.270 VHL 5.125 DLA -38.64 RAL 341.03 RAD 6645.5 VEL 12.093 PTH 7.07 VHP 5.884 DPA -7.23 RAP 308.09 ECC 1.4323
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 1 1 2351.87 .04 60.19 207.93 137.58 21 40 13 1351.7 16.21 43.98
60.00 23 14 37 1994.88 11.01 38.53 218.27 129.02 23 47 52 994.9 25.74 18.41
62.49 0 47 52 1740.08 19.47 23.69 224.76 124.06 1 16 52 740.1 31.69 .65
62.49 0 47 52 1740.08 19.47 23.69 224.76 124.06 1 16 52 740.1 31.69 .65
62.49 0 47 52 1740.08 19.47 23.69 224.76 124.06 1 16 52 740.1 31.69 .65
62.49 0 47 52 1740.08 19.47 23.69 224.76 124.06 1 16 52 740.1 31.69 .65
62.49 0 47 52 1740.08 19.47 23.69 224.76 124.06 1 16 52 740.1 31.69 .65

DIFFERENTIAL CORRECTIONS

TDE -1.0257 TRA-1.4454 TC3 -.0175 BAW .1566
RDE -.4555 RRA -.5672 RC3 .4455 FAU .07552
PDE 1.6709 FRA 4.3634 FC3-2.4887 B8P 4544
BDE 1.1223 BRA 1.5527 BC3 .4459 F8P 965

MID-COURSE EXECUTION ACCURACY

SGT 2365.2 SGR 1061.6 SG3 604.8
RRT .8981 RRF -.9671 RTF -.9069
SGB 2592.5 R23 -.2824 R13 -.9290
SG1 2556.3 SG2 431.9 TMA 22.64

ORBIT DETERMINATION ACCURACY

ST 65.2 SR 28.2 SS 67.3
CRT .9984 CRS .9425 CST .9576
LSA 96.7 MSA 14.6 SSA .7
EL1 71.0 EL2 1.4 ALF 23.39

LAUNCH DATE MAR 25 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 453.473

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.786 GAL -5.39 AZL 94.43 HCA 157.13 SMA 188.08 ECC .22632 INC 4.4312 V1 29.868
RP 206.75 LAP -1.72 LOP 340.89 VP 24.046 GAP 11.79 AZP 85.92 TAL 330.09 TAP 127.22 RCA 145.51 APO 230.65 V2 26.487
RC 68.502 GL -29.52 GP 14.08 ZAL 134.25 ZAP 144.94 ZEP 158.70 ZAE 162.15 ETE 102.20 ZAC 115.18 ETC 276.16 LVI -28.42

PLANETOCENTRIC CONIC

C3 26.169 VHL 5.116 DLA -39.83 RAL 341.89 RAD 6645.5 VEL 12.088 PTH 7.07 VHP 5.747 DPA -6.28 RAP 307.75 ECC 1.4307
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 15 19 2315.19 1.87 58.67 209.84 137.55 21 53 54 1315.2 19.85 42.25
60.00 23 54 10 1889.52 15.46 33.19 222.41 127.69 24 25 40 889.5 29.39 11.88
60.70 0 42 50 1763.30 20.03 26.04 225.95 125.17 1 12 14 763.3 32.63 3.08
60.70 0 42 50 1763.30 20.03 26.04 225.95 125.17 1 12 14 763.3 32.63 3.08
60.70 0 42 50 1763.30 20.03 26.04 225.95 125.17 1 12 14 763.3 32.63 3.08
60.70 0 42 50 1763.30 20.03 26.04 225.95 125.17 1 12 14 763.3 32.63 3.08

DIFFERENTIAL CORRECTIONS

TDE-1.0360 TRA-1.3946 TC3 -.0189 BAU .1677
RDE -.4746 RRA -.6255 RC3 .4791 FAU .07822
FDE 1.7782 FRA 4.5016 FC3-2.5878 BSP 4578
BDE 1.1414 BRA 1.5285 BC3 .4795 FSP 1018

MID-COURSE EXECUTION ACCURACY

SGT 2342.9 SGR 1164.1 SG3 635.4
RRY .9035 RRF -.9749 RTF -.9065
SGB 2616.1 R23 -.2884 R13 -.9332
SG1 2576.5 SG2 453.7 THA 25.00

ORBIT DETERMINATION ACCURACY

ST 65.6 SR 29.9 SS 69.6
CRT .9997 CR8 .9541 C8T .9560
LSA 99.1 MSA 14.9 S8A .7
EL1 72.1 EL2 .7 ALF 24.48

LAUNCH DATE MAR 25 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 457.391

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.725 GAL -5.32 AZL 94.64 HCA 158.40 SMA 187.37 ECC .22308 INC 4.6356 V1 29.868
RP 206.79 LAP -1.71 LOP 342.16 VP 23.985 GAP 11.46 AZP 85.69 TAL 330.15 TAP 126.55 RCA 145.57 APO 229.17 V2 26.483
RC 69.791 GL -30.97 GP 15.20 ZAL 133.52 ZAP 143.26 ZEP 158.20 ZAE 161.11 ETE 102.67 ZAC 116.31 ETC 276.19 LVI -29.42

PLANETOCENTRIC CONIC

C3 26.184 VHL 5.117 DLA -41.09 RAL 342.85 RAD 6645.5 VEL 12.089 PTH 7.07 VHP 5.619 DPA -5.22 RAP 307.34 ECC 1.4309
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 31 52 2275.14 3.88 56.99 212.15 137.46 22 9 48 1275.1 21.84 40.31
58.85 0 38 23 1786.69 20.58 28.45 227.34 126.39 1 8 10 786.7 33.59 5.60
58.85 0 38 23 1786.69 20.58 28.45 227.34 126.39 1 8 10 786.7 33.59 5.60
58.85 0 38 23 1786.69 20.58 28.45 227.34 126.39 1 8 10 786.7 33.59 5.60
58.85 0 38 23 1786.69 20.58 28.45 227.34 126.39 1 8 10 786.7 33.59 5.60
58.85 0 38 23 1786.69 20.58 28.45 227.34 126.39 1 8 10 786.7 33.59 5.60

DIFFERENTIAL CORRECTIONS

TDE-1.0494 TRA-1.3358 TC3 -.0161 BAU .1808
RDE -.4992 RRA -.6887 RC3 .5163 FAU .08115
FDE 1.8939 FRA 4.6264 FC3-2.6831 BSP 4577
BDE 1.1621 BRA 1.5029 BC3 .5166 FSP 1067

MID-COURSE EXECUTION ACCURACY

SGT 2306.5 SGR 1280.1 SG3 665.2
RRY .9073 RRF -.9811 RTF -.9059
SGB 2637.9 R23 -.2891 R13 -.9383
SG1 2594.2 SG2 478.5 THA 27.75

ORBIT DETERMINATION ACCURACY

ST 65.9 SR 31.9 SS 71.8
CRT .9991 CR8 .9640 C8T .9542
LSA 101.4 MSA 15.2 S8A .6
EL1 73.2 EL2 1.2 ALF 25.83

LAUNCH DATE MAR 25 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 461.330

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.687 GAL -5.25 AZL 94.86 HCA 159.88 SMA 186.71 ECC .22004 INC 4.6642 V1 29.868
RP 206.84 LAP -1.69 LOP 343.43 VP 23.928 GAP 11.12 AZP 85.44 TAL 330.20 TAP 129.87 RCA 145.62 APO 227.79 V2 26.477
RC 71.130 GL -32.54 GP 16.46 ZAL 132.71 ZAP 141.49 ZEP 157.83 ZAE 159.93 ETE 103.31 ZAC 117.58 ETC 276.21 LVI -30.52

PLANETOCENTRIC CONIC

C3 26.330 VHL 5.131 DLA -42.44 RAL 343.94 RAD 6645.5 VEL 12.095 PTH 7.07 VHP 5.502 DPA -4.05 RAP 306.85 ECC 1.4333
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 51 30 2230.10 6.14 55.09 214.98 137.27 22 28 40 1230.1 23.93 38.06
56.93 0 34 34 1810.46 21.09 30.94 228.97 127.72 1 4 44 810.5 34.57 8.24
56.93 0 34 34 1810.46 21.09 30.94 228.97 127.72 1 4 44 810.5 34.57 8.24
56.93 0 34 34 1810.46 21.09 30.94 228.97 127.72 1 4 44 810.5 34.57 8.24
56.93 0 34 34 1810.46 21.09 30.94 228.97 127.72 1 4 44 810.5 34.57 8.24
56.93 0 34 34 1810.46 21.09 30.94 228.97 127.72 1 4 44 810.5 34.57 8.24

DIFFERENTIAL CORRECTIONS

TDE-1.0718 TRA-1.2810 TC3 -.0275 BAU .1951
RDE -.5332 RRA -.7998 RC3 .5535 FAU .08369
FDE 2.0312 FRA 4.7486 FC3-2.7519 BSP 4681
BDE 1.1871 BRA 1.4894 BC3 .5542 FSP 1121

MID-COURSE EXECUTION ACCURACY

SGT 2278.1 SGR 1413.8 SG3 694.8
RRY .9081 RRF -.9839 RTF -.5334
SGB 2681.1 R23 -.2884 R13 -.9428
SG1 2631.7 SG2 512.5 THA 30.69

ORBIT DETERMINATION ACCURACY

ST 66.5 SR 34.4 SS 74.4
CRT .9970 CR8 .9726 C8T .9528
LSA 104.4 MSA 15.6 S8A .6
EL1 74.9 EL2 2.4 ALF 27.31

LAUNCH DATE MAR 25 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 465.291

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.681 GAL -5.18 AZL 95.12 HCA 160.92 SMA 186.09 ECC .21718 INC 5.1216 V1 29.868
RP 206.90 LAP -1.67 LOP 344.69 VP 23.869 GAP 10.80 AZP 85.16 TAL 330.25 TAP 131.18 RCA 145.67 APO 226.51 V2 26.470
RC 72.517 GL -34.23 GP 17.86 ZAL 131.81 ZAP 139.62 ZEP 157.34 ZAE 158.57 ETE 104.05 ZAC 119.01 ETC 276.23 LVI -31.74

PLANETOCENTRIC CONIC

C3 26.629 VHL 5.160 DLA -43.88 RAL 345.17 RAD 6645.7 VEL 12.107 PTH 7.08 VHP 5.398 DPA -2.74 RAP 306.29 ECC 1.4383
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 15 36 2177.22 8.78 52.84 218.56 136.95 22 51 54 1177.2 26.33 35.32
54.94 0 31 25 1834.93 21.57 33.53 230.88 129.18 1 2 0 834.9 35.56 11.04
54.94 0 31 25 1834.93 21.57 33.53 230.88 129.18 1 2 0 834.9 35.56 11.04
54.94 0 31 25 1834.93 21.57 33.53 230.88 129.18 1 2 0 834.9 35.56 11.04
54.94 0 31 25 1834.93 21.57 33.53 230.88 129.18 1 2 0 834.9 35.56 11.04
54.94 0 31 25 1834.93 21.57 33.53 230.88 129.18 1 2 0 834.9 35.56 11.04

DIFFERENTIAL CORRECTIONS

TDE-1.0944 TRA-1.2171 TC3 -.0345 BAU .2117
RDE -.5773 RRA -.8375 RC3 .5937 FAU .08624
FDE 2.1846 FRA 4.8433 FC3-2.8036 BSP 4751
BDE 1.2374 BRA 1.4774 BC3 .5947 FSP 1171

MID-COURSE EXECUTION ACCURACY

SGT 2234.4 SGR 1565.3 SG3 722.4
RRY .9079 RRF -.9895 RTF -.9009
SGB 2728.2 R23 -.2815 R13 -.9486
SG1 2672.4 SG2 548.6 THA 34.09

ORBIT DETERMINATION ACCURACY

ST 67.0 SR 37.4 SS 77.0
CRT .9937 CR8 .9797 C8T .9515
LSA 107.5 MSA 15.9 S8A .5
EL1 76.6 EL2 3.7 ALF 29.14

LAUNCH DATE MAR 25 1971

FLIGHT TIME 104.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.617 GAL -8.12 AZL 95.41 HCA 162.19 SMA 185.51 ECC .21451 INC 5.4139 V1 29.888
RP 206.96 LAP -1.65 LOP 345.96 VP 23.814 GAP 10.48 AZP 84.84 TAL 330.30 TAP 132.49 RCA 145.72 APO 225.31 V2 26.462
RC 73.950 GL -38.06 GP 19.44 ZAL 130.81 ZAP 137.65 ETS 156.82 ZAE 157.02 ETE 104.88 ZAC 120.61 ETC 276.26 LVI -33.10

PLANETOCENTRIC CONIC

C3 27.112 VHL 5.207 DLA -45.42 RAL 346.59 RAD 6645.9 VEL 12.127 PTH 7.10 VHP 5.308 DPA -1.27 RAP 305.63 ECC 1.4462
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 47 15 2109.96 12.11 49.93 223.29 136.37 23 22 25 1110.0 29.29 31.65
52.85 0 29 6 1860.27 22.00 36.24 233.11 130.79 1 0 6 860.3 36.55 14.02
52.85 0 29 6 1860.27 22.00 36.24 233.11 130.79 1 0 6 860.3 36.55 14.02
52.85 0 29 6 1860.27 22.00 36.24 233.11 130.79 1 0 6 860.3 36.55 14.02
52.85 0 29 6 1860.27 22.00 36.24 233.11 130.79 1 0 6 860.3 36.55 14.02
52.85 0 29 6 1860.27 22.00 36.24 233.11 130.79 1 0 6 860.3 36.55 14.02

DIFFERENTIAL CORRECTIONS

TDE-1.1218 TRA-1.1480 TC3 -.0427 BAU .2310
RDE -.6351 RRA -.9229 RC3 .6358 FAU .08863
PDE 2.3591 FRA 4.9144 FC3-2.8301 B8P 4840
BDE 1.2891 BRA 1.4730 BC3 .6372 F8P 1215

DISTANCE 469.271

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2182.7 SGR 1737.8 SG3 747.1
RRT .9061 RRF -.9923 RTF -.8973
SGB 2790.0 R23 -.2692 R13 -.9851
SG1 2727.2 SG2 588.5 THA 37.88

ORBIT DETERMINATION ACCURACY

ST 67.4 SR 41.1 SS 79.7
CRT .9894 CRS .9853 CST .9504
LSA 111.0 MSA 16.3 SSA .5
EL1 78.8 EL2 5.1 ALF 31.29

LAUNCH DATE MAR 25 1971

FLIGHT TIME 106.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.585 GAL -5.06 AZL 95.75 HCA 163.45 SMA 184.98 ECC .21200 INC 5.7490 V1 29.888
RP 207.04 LAP -1.84 LOP 347.23 VP 23.761 GAP 10.17 AZP 84.49 TAL 330.34 TAP 133.79 RCA 145.76 APO 224.19 V2 26.454
RC 75.426 GL -38.06 GP 21.22 ZAL 129.68 ZAP 135.54 ETS 156.28 ZAE 155.25 ETE 105.74 ZAC 122.41 ETC 276.29 LVI -34.62

PLANETOCENTRIC CONIC

C3 27.820 VHL 5.275 DLA -47.06 RAL 348.24 RAD 6646.1 VEL 12.156 PTH 7.12 VHP 5.235 DPA .37 RAP 304.88 ECC 1.4579
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 38 21 2000.53 17.44 45.00 230.72 135.00 24 11 41 1000.5 33.83 25.17
50.67 0 27 45 1886.85 22.35 39.08 235.72 132.56 0 59 12 886.8 37.52 17.23
50.67 0 27 45 1886.85 22.35 39.08 235.72 132.56 0 59 12 886.8 37.52 17.23
50.67 0 27 45 1886.85 22.35 39.08 235.72 132.56 0 59 12 886.8 37.52 17.23
50.67 0 27 45 1886.85 22.35 39.08 235.72 132.56 0 59 12 886.8 37.52 17.23
50.67 0 27 45 1886.85 22.35 39.08 235.72 132.56 0 59 12 886.8 37.52 17.23

DIFFERENTIAL CORRECTIONS

TDE-1.1592 TRA-1.0717 TC3 -.0521 BAU .2532
RDE -.7122 RRA-1.0168 RC3 .6788 FAU .09066
PDE 2.5622 FRA 4.9496 FC3-2.8211 B8P 4959
BDE 1.3571 BRA 1.4773 BC3 .6807 F8P 1254

DISTANCE 473.268

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2120.9 SGR 1934.0 SG3 767.5
RRT .9026 RRF -.9944 RTF -.8927
SGB 2870.3 R23 -.2515 R13 -.9821
SG1 2800.2 SG2 630.4 THA 42.08

ORBIT DETERMINATION ACCURACY

ST 67.8 SR 45.7 SS 82.7
CRT .9847 CRS .9897 CST .9498
LSA 115.1 MSA 16.6 SSA .4
EL1 81.5 EL2 6.6 ALF 33.84

LAUNCH DATE MAR 25 1971

FLIGHT TIME 108.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.555 GAL -5.01 AZL 96.14 HCA 164.71 SMA 184.48 ECC .20966 INC 6.1374 V1 29.888
RP 207.12 LAP -1.62 LOP 348.49 VP 23.709 GAP 9.86 AZP 84.08 TAL 330.38 TAP 135.08 RCA 145.90 APO 223.18 V2 26.444
RC 76.944 GL -40.23 GP 23.23 ZAL 128.41 ZAP 133.30 ETS 155.71 ZAE 153.21 ETE 106.61 ZAC 124.46 ETC 276.32 LVI -36.31

PLANETOCENTRIC CONIC

C3 28.815 VHL 5.368 DLA -48.83 RAL 350.17 RAD 6646.5 VEL 12.197 PTH 7.15 VHP 5.183 DPA 2.24 RAP 304.02 ECC 1.4742
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.38 0 27 37 1914.99 22.60 42.08 238.81 134.51 0 59 32 915.0 38.45 20.70
48.38 0 27 37 1914.99 22.60 42.08 238.81 134.51 0 59 32 915.0 38.45 20.70
48.38 0 27 37 1914.99 22.60 42.08 238.81 134.51 0 59 32 915.0 38.45 20.70
48.38 0 27 37 1914.99 22.60 42.08 238.81 134.51 0 59 32 915.0 38.45 20.70
48.38 0 27 37 1914.99 22.60 42.08 238.81 134.51 0 59 32 915.0 38.45 20.70
48.38 0 27 37 1914.99 22.60 42.08 238.81 134.51 0 59 32 915.0 38.45 20.70

DIFFERENTIAL CORRECTIONS

TDE-1.1859 TRA -.9784 TC3 -.0484 BAU .2806
RDE -.8120 RRA-1.1159 RC3 .7268 FAU .09282
PDE 2.7847 FRA 4.9241 FC3-2.7888 B8P 4998
BDE 1.4372 BRA 1.4841 BC3 .7264 F8P 1268

DISTANCE 477.263

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 2030.2 SGR 2152.6 SG3 780.2
RRT .8988 RRF -.9959 RTF -.8776
SGB 2938.9 R23 -.2265 R13 -.9699
SG1 2883.2 SG2 665.2 THA 46.86

ORBIT DETERMINATION ACCURACY

ST 67.6 SR 51.1 SS 85.5
CRT .9798 CRS .9930 CST .9494
LSA 119.2 MSA 16.9 SSA .4
EL1 84.4 EL2 8.2 ALF 36.95

LAUNCH DATE MAR 25 1971

FLIGHT TIME 100.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.527 GAL -4.96 AZL 96.59 HCA 165.97 SMA 184.02 ECC .20748 INC 6.5931 V1 29.888
RP 207.21 LAP -1.60 LOP 349.75 VP 23.659 GAP 9.56 AZP 83.60 TAL 330.40 TAP 136.37 RCA 145.84 APO 222.20 V2 26.433
RC 78.502 GL -42.63 GP 25.51 ZAL 126.99 ZAP 130.89 ETS 155.13 ZAE 150.90 ETE 107.47 ZAC 126.78 ETC 276.37 LVI -36.22

PLANETOCENTRIC CONIC

C3 30.187 VHL 5.494 DLA -50.72 RAL 352.49 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 5.158 DPA 4.35 RAP 303.04 ECC 1.4988
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.97 0 29 2 1945.23 22.70 45.25 242.46 136.66 1 1 27 945.2 39.30 24.49
45.97 0 29 2 1945.23 22.70 45.25 242.46 136.66 1 1 27 945.2 39.30 24.49
45.97 0 29 2 1945.23 22.70 45.25 242.46 136.66 1 1 27 945.2 39.30 24.49
45.97 0 29 2 1945.23 22.70 45.25 242.46 136.66 1 1 27 945.2 39.30 24.49
45.97 0 29 2 1945.23 22.70 45.25 242.46 136.66 1 1 27 945.2 39.30 24.49
45.97 0 29 2 1945.23 22.70 45.25 242.46 136.66 1 1 27 945.2 39.30 24.49

DIFFERENTIAL CORRECTIONS

TDE-1.2467 TRA -.8979 TC3 -.0749 BAU .3104
RDE -.9555 RRA-1.2300 RC3 .7654 FAU .09341
PDE 3.0683 FRA 4.8585 FC3-2.6788 B8P 5320
BDE 1.5708 BRA 1.5229 BC3 .7690 F8P 1290

DISTANCE 481.310

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 1970.8 SGR 2409.3 SG3 786.9
RRT .8892 RRF -.9970 RTF -.8776
SGB 3112.7 R23 -.2044 R13 -.9760
SG1 3029.0 SG2 717.1 THA 51.41

ORBIT DETERMINATION ACCURACY

ST 68.7 SR 58.4 SS 89.1
CRT .9759 CRS .9954 CST .9506
LSA 125.6 MSA 17.1 SSA .3
EL1 89.6 EL2 9.8 ALF 40.25

LAUNCH DATE MAR 25 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 489.352 EARTH TO MARS
RL 149.18 LAL -.00 LOL 183.70 VL 32.501 GAL -4.92 AZL 97.14 HCA 187.22 SMA 183.59 ECC .20545 INC 7.1364 V1 29.868
RP 207.31 LAP -1.37 LOP 351.02 VP 23.610 GAP 9.27 AZP 83.04 TAL 330.42 TAP 137.65 RCA 145.87 APO 221.31 V2 26.422
RC 80.098 GL -45.27 GP 20.10 ZAL 125.37 ZAP 128.30 ETS 154.97 ZAE 148.24 ETE 108.30 ZAC 129.41 ETC 276.44 LVI -40.33
PLANETOCENTRIC CONIC
C3 32.069 VHL 5.663 DLA -52.73 RAL 355.30 RAD 6647.8 VEL 12.328 PTH 7.26 VHP 5.162 DPA 6.75 RAP 301.93 ECC 1.5278
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
43.44 0 32 30 1978.09 22.60 48.60 246.82 139.01 1 5 28 978.1 40.00 28.64
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.3088 TRA -.7969 TC3 -.0880 BAU .3460 SGT 1880.5 SGR 2898.2 SG3 781.6 ST 69.2 SR 67.5 SS 93.0
RDE-1.1535 RRA-1.3507 RC3 .8022 FAU .08323 RRT .8789 RRF -.9978 RTF -.8666 CRT .9728 CRS .9971 CST .9524
FDE 3.3983 FRA 4.7091 FC3-2.3168 BSP 5611 SGB 3288.8 R23 -.1764 R13 -.9823 LSA 133.0 MSA 17.2 SSA .3
BDE 1.7446 BRA 1.5682 BC3 .6070 F8P 1291 SGI 3200.8 SG2 756.1 THA 56.39 EL1 96.0 EL2 11.3 ALF 44.28

LAUNCH DATE MAR 25 1971 FLIGHT TIME 194.00 ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC DISTANCE 489.405 EARTH TO MARS
RL 149.18 LAL -.00 LOL 183.70 VL 32.477 GAL -4.88 AZL 97.79 HCA 186.48 SMA 183.19 ECC .20356 INC 7.7950 V1 29.868
RP 207.42 LAP -1.35 LOP 352.28 VP 23.582 GAP 8.98 AZP 82.36 TAL 330.44 TAP 138.91 RCA 145.90 APO 220.46 V2 26.409
RC 81.730 GL -48.19 GP 31.05 ZAL 123.54 ZAP 125.50 ETS 154.04 ZAE 145.22 ETE 109.12 ZAC 132.42 ETC 276.53 LVI -42.75
PLANETOCENTRIC CONIC
C3 34.871 VHL 5.888 DLA -54.86 RAL 358.77 RAD 6648.8 VEL 12.433 PTH 7.34 VHP 5.212 DPA 9.49 RAP 300.65 ECC 1.5708
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
40.81 0 38 43 2014.39 22.21 52.13 252.05 141.56 1 12 17 1014.4 40.47 33.18
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.3831 TRA -.6841 TC3 -.1006 BAU .3891 SGT 1778.5 SGR 3023.6 SG3 761.2 ST 69.5 SR 79.2 SS 97.1
RDE-1.4346 RRA-1.4763 RC3 .8334 FAU .09198 RRT .8646 RRF -.9984 RTF -.8513 CRT .9711 CRS .9982 CST .9552
FDE 3.7738 FRA 4.4586 FC3-2.2968 BSP 5973 SGB 3507.9 R23 -.1485 R13 -.9876 LSA 142.3 MSA 17.1 SSA .3
BDE 1.9928 BRA 1.6271 BC3 .8395 F8P 1263 SGI 3417.6 SG2 790.6 THA 61.37 EL1 104.6 EL2 12.6 ALF 48.85

LAUNCH DATE MAR 25 1971 FLIGHT TIME 196.00 ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC DISTANCE 493.468 EARTH TO MARS
RL 149.18 LAL -.00 LOL 183.70 VL 32.455 GAL -4.84 AZL 98.61 HCA 189.73 SMA 182.82 ECC .20181 INC 8.6108 V1 29.868
RP 207.84 LAP -1.53 LOP 353.54 VP 23.516 GAP 8.70 AZP 81.53 TAL 330.45 TAP 140.17 RCA 145.92 APO 219.71 V2 26.395
RC 83.399 GL -51.45 GP 34.41 ZAL 121.45 ZAP 122.46 ETS 153.60 ZAE 141.77 ETE 109.93 ZAC 135.83 ETC 276.66 LVI -45.41
PLANETOCENTRIC CONIC
C3 38.332 VHL 6.191 DLA -57.08 RAL 316 RAD 6650.1 VEL 12.578 PTH 7.44 VHP 5.323 DPA 12.60 RAP 299.20 ECC 1.6308
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
38.11 0 48 47 2055.05 21.44 55.80 258.41 144.28 1 23 2 1055.0 40.59 38.09
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE-1.4878 TRA -.5545 TC3 -.1109 BAU .4415 SGT 1859.9 SGR 3388.3 SG3 722.0 ST 69.4 SR 94.7 SS 101.5
RDE-1.8437 RRA-1.6023 RC3 .8545 FAU .08916 RRT .8447 RRF -.9988 RTF -.801 CRT .9708 CRS .9989 CST .9588
FDE 4.2016 FRA 4.0897 FC3-2.0136 BSP 6409 SGB 3773.1 R23 -.1221 R13 -.9916 LSA 154.3 MSA 16.8 SSA .2
BDE 2.3582 BRA 1.6955 BC3 .8616 F8P 1203 SGI 3883.5 SG2 817.4 THA 66.28 EL1 116.6 EL2 13.5 ALF 54.02

LAUNCH DATE MAR 25 1971 FLIGHT TIME 224.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 551.724 EARTH TO MARS
RL 149.18 LAL -.00 LOL 183.70 VL 32.278 GAL -4.82 AZL 81.01 HCA 187.37 SMA 178.95 ECC .19000 INC 8.9911 V1 29.868
RP 209.99 LAP -1.15 LOP 10.98 VP 22.846 GAP 5.28 AZP 98.92 TAL 328.92 TAP 156.29 RCA 145.76 APO 214.15 V2 26.111
RC 110.071 GL 53.44 GP -48.09 ZAL 120.81 ZAP 98.34 ETS 188.16 ZAE 123.42 ETE 225.12 ZAC 54.32 ETC 272.23 LVI 34.40
PLANETOCENTRIC CONIC
C3 39.159 VHL 6.258 DLA 39.00 RAL 313.08 RAD 6650.4 VEL 12.611 PTH 7.47 VHP 5.528 DPA -69.65 RAP 315.49 ECC 1.6445
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 51 49 4159.82 -38.23 186.63 219.29 59.18 14 1 9 3159.8 -46.96 155.75
60.00 11 51 42 4321.46 -23.90 190.57 208.84 56.53 13 3 43 3321.5 -35.47 166.17
61.94 10 51 55 4491.57 -15.70 198.80 202.79 53.83 12 6 46 3491.6 -29.04 177.08
61.94 10 51 55 4491.57 -15.70 198.80 202.79 53.83 12 6 46 3491.6 -29.04 177.08
61.94 10 51 55 4491.57 -15.70 198.80 202.79 53.83 12 6 46 3491.6 -29.04 177.08
61.94 10 51 55 4491.57 -15.70 198.80 202.79 53.83 12 6 46 3491.6 -29.04 177.08
61.94 10 51 55 4491.57 -15.70 198.80 202.79 53.83 12 6 46 3491.6 -29.04 177.08
61.94 10 51 55 4491.57 -15.70 198.80 202.79 53.83 12 6 46 3491.6 -29.04 177.08
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3887 TRA .4373 TC3 -.7050 BAU .7340 SGT 1616.9 SGR 5487.9 SG3 620.4 ST 63.1 SR 163.7 SS 99.9
RDE 3.2802 RRA 3.6797 RC3-1.2119 FAU .08088 RRT .8267 RRF .9993 RTF .8336 CRT .9594 CRS -1.0000 CST -.9569
FDE 4.1770 FRA 4.7960 FC3-1.7881 BSP 9624 SGB 5721.2 R23 .0257 R13 .9990 LSA 201.1 MSA 17.1 SSA .2
BDE 3.5543 BRA 3.7056 BC3 1.4021 F8P 1075 SGI 5652.6 SG2 883.2 THA 75.96 EL1 174.6 EL2 16.7 ALF 69.49

LAUNCH DATE MAR 25 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 535.877

EARTH TO MARS

RL 149.18 LAL -0.00 LOL 193.70 VL 32.271 GAL -4.84 AZL 82.49 MCA 188.58 SMA 179.87 ECC .18979 INC 7.5093 V1 29.868
RP 210.22 LAP -1.12 LOP 12.20 VP 22.909 GAP 5.06 AZP 97.43 TAL 328.78 TAP 157.36 RCA 145.74 APO 214.01 V2 26.089
RC 112.177 GL 47.92 GP -44.70 ZAL 124.59 ZAP 97.68 ETS 186.48 ZAE 124.99 ETE 221.99 ZAC 57.74 ETC 272.03 LVI 31.49

PLANETOCENTRIC CONIC

C3 32.034 VHL 5.662 DLA 33.65 RAL 315.08 RAD 6647.8 VEL 12.328 PTH 7.26 VHP 5.020 DPA -66.65 RAP 311.10 ECC 1.5275
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 40 47 3964.71 -44.00 171.52 215.64 69.70 14 46 51 2964.7 -47.31 137.00
60.00 13 23 32 4010.77 -34.04 170.57 210.56 66.98 14 30 23 3010.8 -40.11 141.25
70.00 12 27 19 4177.75 -20.27 176.59 203.19 61.91 13 36 57 3177.8 -30.05 152.33
70.95 11 48 53 4295.34 -15.54 182.96 200.41 59.77 13 0 29 3295.3 -26.60 160.11
70.95 11 48 53 4295.34 -15.54 182.96 200.41 59.77 13 0 29 3295.3 -26.60 160.11
70.95 11 48 53 4295.34 -15.54 182.96 200.41 59.77 13 0 29 3295.3 -26.60 160.11
110.00 17 26 46 3224.57 -20.27 105.51 203.19 61.91 18 20 30 2224.6 -30.05 81.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2497 TRA .5788 TC3 -.8871 BAU .6776 SGT 1760.8 SCR 5239.1 SCS 780.8 ST 64.1 SR 151.4 SS 109.8
RDE 2.7191 RRA 3.4585 RC3-1.3090 FAU .09326 RRT .8583 RRF .9993 RTF .8632 CRT .9651 CRS -.9999 CST -.9612
FDE 4.5161 FRA 5.9657 FC3-2.5188 B8P 9350 SGB 3527.1 R23 .0363 R13 .9987 LSA 197.0 MSA 16.3 SSA .2
BDE 2.9928 BRA 3.5063 BC3 1.5812 F8P 1364 SGI 5456.6 SGI 867.2 THA 73.48 EL1 163.7 EL2 15.5 ALF 67.55

LAUNCH DATE MAR 25 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 560.038

EARTH TO MARS

RL 149.18 LAL -0.00 LOL 193.70 VL 32.267 GAL -4.86 AZL 83.61 MCA 189.79 SMA 179.81 ECC .18967 INC 6.3942 V1 29.868
RP 210.45 LAP -1.09 LOP 13.43 VP 22.872 GAP 4.84 AZP 96.30 TAL 328.62 TAP 158.41 RCA 145.97 APO 213.91 V2 26.058
RC 114.307 GL 42.99 GP -41.60 ZAL 127.89 ZAP 96.68 ETS 184.82 ZAE 126.02 ETE 216.67 ZAC 60.85 ETC 271.80 LVI 28.90

PLANETOCENTRIC CONIC

C3 27.576 VHL 5.251 DLA 28.92 RAL 316.84 RAD 6646.0 VEL 12.146 PTH 7.11 VHP 4.658 DPA -63.90 RAP 307.53 ECC 1.4538
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 16 19 3813.51 -46.73 158.00 210.40 79.80 15 19 53 2813.5 -45.33 122.98
60.00 14 14 43 3817.79 -38.23 155.93 207.95 76.13 15 18 21 2817.8 -39.82 124.89
70.00 14 11 37 3826.94 -29.71 153.77 205.05 72.33 15 15 24 2826.9 -34.10 125.93
80.00 14 1 16 3859.53 -20.69 152.64 201.46 67.98 15 5 35 2859.5 -27.93 127.57
83.69 13 27 29 3968.19 -14.63 157.87 198.67 64.77 14 33 37 2968.2 -23.77 134.43
100.00 16 44 7 3334.00 -20.69 114.01 201.46 67.98 17 39 41 2334.0 -27.93 88.94
110.00 19 11 3 2873.76 -29.71 82.69 205.05 72.33 19 58 57 1873.8 -34.10 54.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1769 TRA .7263 TC3-1.0778 BAU .6449 SGT 1936.4 SCR 4978.8 SCS 927.4 ST 65.6 SR 139.0 SS 116.7
RDE 2.3076 RRA 3.2444 RC3-1.3778 FAU .10477 RRT .8850 RRF .9992 RTF .8886 CRT .9712 CRS -.9198 CST -.9660
FDE 4.7370 FRA 7.0201 FC3-3.2893 B8P 9010 SGB 5342.1 R23 .0480 R13 .9981 LSA 192.9 MSA 15.4 SSA .3
BDE 2.9904 BRA 3.3247 BC3 1.7492 F8P 1624 SGI 5273.8 SGI 851.2 THA 70.48 EL1 153.8 EL2 14.2 ALF 65.23

LAUNCH DATE MAR 25 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 564.205

EARTH TO MARS

RL 149.18 LAL -0.00 LOL 193.70 VL 32.263 GAL -4.88 AZL 84.48 MCA 191.00 SMA 179.75 ECC .18962 INC 5.5248 V1 29.868
RP 210.70 LAP -1.05 LOP 14.65 VP 22.835 GAP 4.63 AZP 95.42 TAL 328.44 TAP 159.45 RCA 145.67 APO 213.83 V2 26.030
RC 116.460 GL 38.59 GP -38.81 ZAL 130.75 ZAP 95.42 ETS 183.25 ZAE 126.59 ETE 215.32 ZAC 63.67 ETC 271.57 LVI 26.61

PLANETOCENTRIC CONIC

C3 24.615 VHL 4.961 DLA 24.73 RAL 318.39 RAD 6644.8 VEL 12.025 PTH 7.01 VHP 4.391 DPA -61.40 RAP 304.53 ECC 1.4051
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 44 9 3691.43 -47.56 146.34 205.21 88.74 15 45 41 2691.4 -42.47 112.65
60.00 14 51 49 3671.03 -39.95 143.85 204.55 84.15 15 53 0 2671.0 -37.95 112.89
70.00 15 4 41 3633.08 -32.87 139.57 203.34 80.16 16 5 14 2633.1 -33.54 110.85
80.00 15 30 41 3551.91 -27.09 132.05 201.99 76.95 16 29 53 2551.5 -29.85 104.96
90.00 16 30 3 3359.78 -24.57 117.28 201.31 75.54 17 26 3 2359.8 -28.22 90.86
100.00 18 13 33 3025.98 -27.09 93.41 201.99 76.95 19 3 59 2026.0 -29.85 66.33
110.00 20 4 7 2679.90 -32.87 68.49 203.34 80.16 20 48 47 1679.9 -33.54 39.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1348 TRA .8837 TC3-1.2679 BAU .6253 SGT 2135.9 SCR 4721.8 SCS 1059.4 ST 67.7 SR 129.3 SS 121.5
RDE 1.9999 RRA 3.0449 RC3-1.4153 FAU .11507 RRT .9066 RRF .9991 RTF .5192 CRT .9771 CRS -.9996 CST -.9708
FDE 4.8632 FRA 7.9592 FC3-4.0470 B8P 8701 SGB 5182.4 R23 .0604 R13 .9973 LSA 189.3 MSA 14.5 SSA .3
BDE 2.2993 BRA 3.1706 BC3 1.9002 F8P 1856 SGI 5115.1 SGI 832.1 THA 67.06 EL1 145.4 EL2 12.8 ALF 62.68

LAUNCH DATE MAR 25 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 568.375

EARTH TO MARS

RL 149.18 LAL -0.00 LOL 193.70 VL 32.260 GAL -4.91 AZL 85.17 MCA 192.22 SMA 179.70 ECC .18965 INC 4.8279 V1 29.868
RP 210.95 LAP -1.02 LOP 15.87 VP 22.798 GAP 4.41 AZP 94.72 TAL 328.25 TAP 160.47 RCA 145.62 APO 213.79 V2 26.001
RC 118.637 GL 34.69 GP -36.28 ZAL 133.21 ZAP 93.98 ETS 181.81 ZAE 126.73 ETE 212.07 ZAC 66.22 ETC 271.33 LVI 24.58

PLANETOCENTRIC CONIC

C3 22.590 VHL 4.753 DLA 21.04 RAL 319.78 RAD 6644.0 VEL 11.941 PTH 6.94 VHP 4.190 DPA -59.14 RAP 301.94 ECC 1.3718
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 8 54 3590.70 -47.27 136.63 200.78 96.20 16 6 45 2590.7 -39.40 104.95
60.00 15 20 59 3553.18 -40.29 133.86 201.38 90.92 16 20 12 2553.2 -35.51 103.83
70.00 15 43 2 3486.25 -34.01 126.43 201.21 86.65 16 41 10 2488.2 -31.83 99.91
80.00 16 21 16 3368.35 -29.22 118.87 200.73 83.56 17 17 25 2368.3 -28.93 91.44
90.00 17 28 28 3151.40 -27.31 102.86 200.46 82.35 18 21 0 2151.4 -27.76 75.66
100.00 19 4 8 2842.82 -25.22 80.23 200.73 83.56 19 51 31 1842.8 -28.93 52.81
110.00 20 42 28 2535.06 -34.01 57.35 201.21 86.65 21 24 43 1535.1 -31.83 28.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1137 TRA 1.0471 TC3-1.4527 BAU .6131 SGT 2353.4 SCR 4477.0 SCS 1176.8 ST 70.2 SR 120.2 SS 125.2
RDE 1.7680 RRA 2.8640 RC3-1.4183 FAU .12352 RRT .9231 RRF .9990 RTF .9252 CRT .9826 CRS -.9994 CST -.9754
FDE 4.9903 FRA 8.7961 FC3-4.7539 B8P 8490 SGB 5057.8 R23 .0733 R13 .9963 LSA 186.7 MSA 13.6 SSA .4
BDE 2.0895 BRA 3.0494 BC3 2.0302 F8P 2073 SGI 4992.3 SGI 811.5 THA 63.36 EL1 138.7 EL2 11.3 ALF 59.94

LAUNCH DATE MAR 25 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.258 GAL -4.94 AZL 85.74 HCA 193.43 SMA 179.87 ECC .18976 INC 4.2560 V1 29.868
RP 211.20 LAP -.99 LOP 17.09 VP 22.782 GAP 4.20 AZP 94.14 TAL 328.05 TAP 181.47 RCA 145.58 APO 213.76 V2 25.972
RC 120.836 GL 31.22 GP -34.01 ZAL 135.33 ZAP 92.39 ETS 180.50 ZAE 126.52 ETE 208.97 ZAC 68.52 ETC 271.10 LVI 22.78

PLANETOCENTRIC CONIC

C3 21.171 VHL 4.601 DLA 17.77 RAL 321.02 RAD 6643.4 VEL 11.882 PTH 6.89 VHP 4.034 DPA -57.08 RAP 299.67 ECC 1.3484
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 26 0 3506.39 -46.34 128.70 197.29 102.25 16 24 27 2506.4 -36.43 99.07
60.00 15 44 57 3455.95 -39.86 125.63 198.75 98.49 16 42 33 2455.9 -32.97 96.84
70.00 16 13 18 3372.49 -34.10 119.40 199.28 91.99 17 9 30 2372.5 -29.74 91.55
80.00 16 58 39 3230.35 -29.84 108.66 199.32 88.88 17 52 29 2230.4 -27.26 81.54
90.00 18 9 36 3001.31 -28.20 91.78 199.27 87.72 18 59 38 2001.3 -26.30 64.93
100.00 19 41 31 2704.82 -29.84 70.03 199.32 88.88 20 26 35 1704.8 -27.26 42.90
110.00 21 12 44 2419.31 -34.10 48.32 199.28 91.99 21 53 3 1419.3 -29.74 20.47

DIFFERENTIAL CORRECTIONS

TDE 1.1040 TRA 1.2104 TC3-1.6358 BAU .6108
RDE 1.5815 RRA 2.6908 RC3-1.4075 FAU .13138
FDE 5.0458 FRA 9.5074 FC3-5.3726 BSP 8263
BDE 1.9288 BRA 2.9505 BC3 2.1580 FSP 2248

MID-COURSE EXECUTION ACCURACY

SGT 2580.9 SGR 4235.2 SG3 1277.1
RRT .9356 RRF .9987 RTF .9373
SCB 4959.6 R23 .0863 R13 .9950
SG1 4896.6 SG2 788.4 THA 59.43

ORBIT DETERMINATION ACCURACY

ST 72.8 SR 111.7 SS 127.4
CRT .9872 CRS -.9990 CST -.9794
LSA 184.0 MSA 12.8 SSA .5
EL1 133.0 EL2 9.7 ALF 57.07

LAUNCH DATE MAR 25 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.257 GAL -4.98 AZL 86.22 HCA 194.63 SMA 179.65 ECC .18993 INC 3.7785 V1 29.868
RP 211.46 LAP -.95 LOP 18.30 VP 22.726 GAP 4.00 AZP 93.66 TAL 327.83 TAP 162.47 RCA 145.53 APO 213.77 V2 25.942
RC 123.058 GL 28.14 GP -31.95 ZAL 137.14 ZAP 90.70 ETS 179.32 ZAE 126.01 ETE 206.06 ZAC 70.61 ETC 270.88 LVI 21.19

PLANETOCENTRIC CONIC

C3 20.164 VHL 4.490 DLA 14.89 RAL 322.15 RAD 6642.9 VEL 11.839 PTH 6.86 VHP 3.914 DPA -55.22 RAP 297.64 ECC 1.3319
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 42 23 3435.06 -45.11 122.27 194.66 107.07 16 39 38 2435.1 -33.68 94.47
60.00 16 5 11 3374.36 -39.02 118.86 196.71 101.01 17 1 25 2374.4 -30.52 91.32
70.00 16 38 16 3278.99 -33.63 111.99 197.73 96.34 17 32 53 2277.0 -27.58 84.96
80.00 17 28 32 3119.47 -29.70 100.43 198.12 93.21 18 20 32 2119.5 -25.37 73.84
90.00 18 41 54 2882.71 -28.21 83.11 198.20 92.06 19 29 56 1882.7 -24.52 56.70
100.00 20 11 24 2593.94 -29.70 61.80 198.12 93.21 20 54 38 1593.9 -25.37 35.21
110.00 21 37 42 2323.81 -33.63 40.91 197.73 96.34 22 16 26 1323.8 -27.58 13.87

DIFFERENTIAL CORRECTIONS

TDE 1.1074 TRA 1.3786 TC3-1.8070 BAU .6116
RDE 1.4370 RRA 2.5349 RC3-1.3720 FAU .13736
FDE 5.0921 FRA 10.1339 FC3-5.8974 BSP 8157
BDE 1.8142 BRA 2.8855 BC3 2.2689 FSP 2414

MID-COURSE EXECUTION ACCURACY

SGT 2818.3 SGR 4010.0 SG3 1364.1
RRT .9491 RRF .9985 RTF .9468
SCB 4901.3 R23 .0985 R13 .9937
SG1 4841.7 SG2 762.5 THA 55.43

ORBIT DETERMINATION ACCURACY

ST 75.8 SR 104.5 SS 129.2
CRT .9912 CRS -.9986 CST -.9830
LSA 182.2 MSA 12.1 SSA .5
EL1 128.9 EL2 8.2 ALF 54.14

LAUNCH DATE MAR 25 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.258 GAL -5.02 AZL 86.63 HCA 195.84 SMA 179.63 ECC .19017 INC 3.3731 V1 29.868
RP 211.73 LAP -.92 LOP 19.51 VP 22.689 GAP 3.79 AZP 93.25 TAL 327.60 TAP 163.44 RCA 145.47 APO 213.79 V2 25.911
RC 125.302 GL 25.39 GP -30.07 ZAL 138.71 ZAP 88.94 ETS 178.27 ZAE 125.28 ETE 203.38 ZAC 72.50 ETC 270.66 LVI 19.77

PLANETOCENTRIC CONIC

C3 19.447 VHL 4.410 DLA 12.32 RAL 323.18 RAD 6642.6 VEL 11.809 PTH 6.83 VHP 3.820 DPA -53.52 RAP 295.81 ECC 1.3200
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 56 39 3374.20 -43.76 117.03 192.75 110.91 16 52 53 2374.2 -31.19 90.80
60.00 16 22 37 3308.07 -37.97 113.27 195.21 104.87 17 17 42 2305.1 -28.24 86.87
70.00 16 59 28 3196.65 -32.86 105.85 196.57 99.90 17 52 44 2196.6 -25.51 79.63
80.00 17 53 27 3027.50 -29.18 93.65 197.20 96.73 18 43 59 2027.5 -23.47 67.68
90.00 19 8 33 2785.15 -27.77 78.01 197.37 95.58 19 54 58 1785.1 -22.70 50.14
100.00 20 36 19 2501.97 -29.18 55.02 197.20 96.73 21 10 1 1502.0 -23.47 29.04
110.00 21 58 54 2243.48 -32.86 34.77 196.57 99.90 22 36 18 1243.5 -25.51 8.55

DIFFERENTIAL CORRECTIONS

TDE 1.1167 TRA 1.5458 TC3-1.9729 BAU .6201
RDE 1.3120 RRA 2.3815 RC3-1.3402 FAU .14372
FDE 5.0861 FRA 10.8318 FC3-6.3980 BSP 8011
BDE 1.7229 BRA 2.8391 BC3 2.3650 FSP 2520

MID-COURSE EXECUTION ACCURACY

SGT 3059.1 SGR 3786.0 SG3 1433.9
RRT .9532 RRF .9981 RTF .5447
SCB 4867.4 R23 .1090 R13 .9922
SG1 4812.8 SG2 727.3 THA 51.35

ORBIT DETERMINATION ACCURACY

ST 78.9 SR 97.6 SS 129.6
CRT .9942 CRS -.9981 CST -.9857
LSA 180.0 MSA 11.4 SSA .6
EL1 125.3 EL2 6.6 ALF 51.09

LAUNCH DATE MAR 25 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 149.18 LAL -.00 LOL 183.70 VL 32.258 GAL -5.06 AZL 86.98 HCA 197.04 SMA 179.63 ECC .19048 INC 3.0249 V1 29.868
RP 212.01 LAP -.89 LOP 20.72 VP 22.653 GAP 3.59 AZP 92.89 TAL 327.36 TAP 164.41 RCA 145.41 APO 213.84 V2 25.880
RC 127.868 GL 22.93 GP -28.37 ZAL 140.06 ZAP 87.14 ETS 177.33 ZAE 124.31 ETE 200.92 ZAC 74.23 ETC 270.45 LVI 18.50

PLANETOCENTRIC CONIC

C3 18.940 VHL 4.352 DLA 10.05 RAL 324.14 RAD 6642.4 VEL 11.788 PTH 6.81 VHP 3.747 DPA -51.97 RAP 294.14 ECC 1.3117
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 9 13 3321.93 -42.40 112.75 191.40 113.99 17 4 35 2321.9 -28.97 87.81
60.00 16 37 52 3245.69 -36.84 108.63 194.14 107.64 17 31 57 2245.7 -26.16 83.22
70.00 17 17 48 3128.16 -31.94 100.72 195.76 102.80 18 9 57 2128.2 -23.58 75.25
80.00 18 14 46 2949.73 -28.41 88.00 196.57 99.61 19 3 56 1949.7 -21.66 62.61
90.00 19 31 13 2703.03 -27.08 70.10 196.80 98.47 20 16 16 1703.0 -20.93 44.77
100.00 20 57 38 2424.20 -29.41 49.37 196.57 99.61 21 38 2 1424.2 -21.66 23.98
110.00 22 17 15 2174.98 -31.94 29.64 195.76 102.80 22 53 30 1175.0 -23.58 4.17

DIFFERENTIAL CORRECTIONS

TDE 1.1343 TRA 1.7154 TC3-2.1273 BAU .6298
RDE 1.2140 RRA 2.2437 RC3-1.2891 FAU .14807
FDE 5.0884 FRA 11.0648 FC3-6.7679 BSP 7994
BDE 1.6614 BRA 2.8243 BC3 2.4874 FSP 2626

MID-COURSE EXECUTION ACCURACY

SGT 3304.4 SGR 3579.5 SG3 1492.6
RRT .9591 RRF .9977 RTF .9607
SCB 4871.5 R23 .1178 R13 .9908
SG1 4821.8 SG2 694.0 THA 47.39

ORBIT DETERMINATION ACCURACY

ST 82.3 SR 91.7 SS 130.1
CRT .9966 CRS -.9974 CST -.9882
LSA 178.8 MSA 10.9 SSA .7
EL1 123.1 EL2 5.1 ALF 48.12

LAUNCH DATE MAR 25 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.256 GAL -8.10 AZL 87.28 HCA 198.25 SMA 179.63 ECC .19085 INC 2.7219 V1 29.868
 RP 212.29 LAP -.85 LOP 21.92 VP 22.617 GAP 3.39 AZP 92.59 TAL 327.11 TAP 165.35 RCA 145.35 APO 213.91 V2 25.848
 RC 129.850 GL 20.72 GP -26.81 ZAL 141.24 ZAP 85.31 ETS 178.49 ZAE 125.21 ETE 198.69 ZAC 75.81 ETC 270.25 LVI 17.36

PLANETOCENTRIC CONIC
 C3 18.592 VHL 4.312 DLA 8.02 RAL 325.03 RAD 6642.2 VEL 11.773 PTH 6.80 VHP 3.690 DPA -50.54 RAP 292.62 ECC 1.3060
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 20 25 3276.79 -41.09 109.21 190.48 116.47 17 15 2 2276.8 -26.98 85.34
 60.00 16 51 22 3194.46 -35.71 104.75 193.43 110.06 17 44 36 2194.5 -24.29 80.18
 70.00 17 33 56 3069.23 -30.97 98.40 195.23 105.18 18 25 5 2069.2 -21.80 71.60
 80.00 18 33 21 2883.10 -27.55 83.23 196.18 101.98 19 21 24 1883.1 -19.97 58.39
 90.00 19 50 54 2632.85 -26.28 65.12 196.47 100.83 20 34 47 1632.9 -19.27 40.29
 100.00 21 18 13 2357.58 -27.55 44.60 196.18 101.98 21 55 31 1357.6 -19.97 19.78
 110.00 22 33 22 2116.05 -30.97 25.32 195.23 105.18 23 8 38 1116.0 -21.80 .52

DIFFERENTIAL CORRECTIONS
 TDE 1.1568 TRA 1.8860 TC3-2.2746 BAU .6410 SGT 3551.9 SGR 3392.3 SG3 1542.7 ORBIT DETERMINATION ACCURACY
 RDE 1.1399 RRA 2.1228 RC3-1.2154 FAU .14956 RRT .9822 RRF .9972 RTF .9843 CRT .9984 CRS -.9966 CST -.9905
 FDE 5.1182 FRA11.4602 FC3-6.9643 B8P 8099 SGB 4911.6 R23 .1263 R13 .9894 LSA 176.8 MSA 10.3 S8A .8
 BDE 1.6241 BRA 2.8396 BC3 2.5790 F8P 2755 SG1 4865.0 SG2 674.4 THA 43.63 EL1 122.1 EL2 3.5 ALF 45.40

LAUNCH DATE MAR 25 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.256 GAL -5.15 AZL 87.54 HCA 199.44 SMA 179.64 ECC .19128 INC 2.4559 V1 29.868
 RP 212.57 LAP -.82 LOP 23.12 VP 22.581 GAP 3.19 AZP 92.32 TAL 326.84 TAP 166.29 RCA 145.28 APO 214.00 V2 25.815
 RC 132.153 GL 18.74 GP -25.37 ZAL 142.27 ZAP 83.47 ETS 175.75 ZAE 121.99 ETE 196.67 ZAC 77.26 ETC 270.06 LVI 16.32

PLANETOCENTRIC CONIC
 C3 18.366 VHL 4.288 DLA 6.21 RAL 325.86 RAD 6642.1 VEL 11.764 PTH 6.79 VHP 3.648 DPA -49.23 RAP 291.23 ECC 1.3023
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 30 29 3237.63 -39.86 106.26 189.89 118.49 17 24 27 2237.6 -25.22 83.28
 60.00 17 3 28 3149.99 -34.63 101.40 193.00 112.06 17 55 56 2150.0 -22.61 77.62
 70.00 17 48 15 3018.13 -30.00 92.74 194.95 107.15 18 38 33 2018.1 -20.20 68.51
 80.00 18 49 46 2825.47 -26.67 79.17 196.00 103.94 19 36 52 1825.5 -18.42 54.81
 90.00 20 8 14 2572.23 -25.44 60.89 196.32 102.79 20 51 7 1572.2 -17.74 36.50
 100.00 21 32 38 2299.94 -26.67 40.54 196.00 103.94 22 10 58 1299.9 -18.42 16.18
 110.00 22 47 42 2064.95 -30.00 21.66 194.95 107.15 23 22 7 1065.0 -20.20 357.43

DIFFERENTIAL CORRECTIONS
 TDE 1.1859 TRA 2.0589 TC3-2.4091 BAU .65339 SGT 3800.6 SGR 3217.0 SG3 1583.1 ORBIT DETERMINATION ACCURACY
 RDE 1.0800 RRA 2.0114 RC3-1.1353 FAU .14955 RRT .9642 RRF .9967 RTF .9669 CRT .9994 CRS -.9957 CST -.9925
 FDE 5.1523 FRA11.7982 FC3-7.0498 B8P 8275 SGB 4979.4 R23 .1336 R13 .9879 LSA 179.4 MSA 9.9 S8A .9
 BDE 1.6040 BRA 2.8784 BC3 2.6632 F8P 2879 SG1 4935.8 SG2 658.9 THA 40.07 EL1 122.0 EL2 2.1 ALF 42.77

LAUNCH DATE MAR 25 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.256 GAL -5.20 AZL 87.78 HCA 200.64 SMA 179.66 ECC .19176 INC 2.2202 V1 29.868
 RP 212.86 LAP -.78 LOP 24.32 VP 22.545 GAP 2.99 AZP 92.08 TAL 326.57 TAP 167.21 RCA 145.21 APO 214.11 V2 25.782
 RC 134.475 GL 16.95 GP -24.05 ZAL 143.17 ZAP 81.63 ETS 175.08 ZAE 120.68 ETE 194.84 ZAC 78.59 ETC 269.88 LVI 15.39

PLANETOCENTRIC CONIC
 C3 18.232 VHL 4.270 DLA 4.59 RAL 326.64 RAD 6642.0 VEL 11.758 PTH 6.79 VHP 3.616 DPA -48.01 RAP 289.95 ECC 1.3001
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 36 3203.52 -38.73 103.79 189.56 120.15 17 32 59 2203.5 -23.66 81.53
 60.00 17 14 17 3111.20 -33.60 98.70 192.78 113.70 18 6 9 2111.2 -21.10 75.45
 70.00 18 1 5 2973.55 -29.06 89.61 194.85 108.78 18 50 39 1973.6 -18.74 65.87
 80.00 19 4 25 2775.22 -25.80 75.70 195.98 105.57 19 50 40 1775.2 -17.00 51.75
 90.00 20 23 41 2519.42 -24.59 57.25 196.34 104.42 21 5 41 1519.4 -16.34 33.26
 100.00 21 47 17 2249.69 -25.80 37.06 195.98 105.57 22 24 47 1249.7 -17.00 13.12
 110.00 23 0 32 2020.37 -29.06 18.53 194.85 108.78 23 34 12 1020.4 -18.74 354.79

DIFFERENTIAL CORRECTIONS
 TDE 1.2139 TRA 2.2260 TC3-2.5410 BAU .6744 SGT 4042.4 SGR 3030.2 SG3 1603.9 ORBIT DETERMINATION ACCURACY
 RDE 1.0115 RRA 1.8889 RC3-1.0949 FAU .15368 RRT .9682 RRF .9959 RTF .5.11 CRT .9998 CRS -.9944 CST -.9935
 FDE 5.0715 FRA11.9860 FC3-7.2975 B8P 8293 SGB 5052.1 R23 .1341 R13 .9872 LSA 177.9 MSA 9.8 S8A 1.0
 BDE 1.5801 BRA 2.8194 BC3 2.7669 F8P 2870 SG1 5014.9 SG2 611.5 THA 36.60 EL1 121.3 EL2 1.1 ALF 39.91

LAUNCH DATE MAR 25 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.259 GAL -5.26 AZL 87.99 HCA 201.83 SMA 179.68 ECC .19231 INC 2.0098 V1 29.868
 RP 213.16 LAP -.73 LOP 25.52 VP 22.509 GAP 2.79 AZP 91.87 TAL 326.29 TAP 168.12 RCA 145.13 APO 214.25 V2 25.749
 RC 136.814 GL 15.32 GP -22.84 ZAL 143.98 ZAP 79.81 ETS 174.30 ZAE 119.29 ETE 193.20 ZAC 79.82 ETC 269.71 LVI 14.53

PLANETOCENTRIC CONIC
 C3 18.177 VHL 4.283 DLA 3.13 RAL 327.38 RAD 6642.0 VEL 11.756 PTH 6.78 VHP 3.595 DPA -46.89 RAP 288.77 ECC 1.2991
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 53 3173.75 -37.69 101.70 189.42 121.52 17 40 47 2173.7 -22.29 80.04
 60.00 17 24 9 3077.28 -32.65 96.33 192.74 115.08 18 15 26 2077.3 -19.76 73.58
 70.00 18 12 41 2934.52 -28.18 86.92 194.90 110.15 19 1 36 1934.5 -17.43 63.60
 80.00 19 17 37 2731.20 -24.96 72.70 196.10 106.93 20 3 8 1731.2 -15.72 49.12
 90.00 20 37 35 2473.16 -23.77 54.11 196.49 105.79 21 18 48 1473.2 -15.07 30.46
 100.00 22 0 29 2205.67 -24.96 34.06 196.10 106.93 22 37 14 1205.7 -15.72 10.48
 110.00 23 12 8 1981.33 -28.18 15.84 194.90 110.15 23 45 9 981.3 -17.43 352.52

DIFFERENTIAL CORRECTIONS
 TDE 1.2474 TRA 2.3956 TC3-2.6617 BAU .6938 SGT 4284.5 SGR 2865.0 SG3 1621.0 ORBIT DETERMINATION ACCURACY
 RDE .9824 RRA 1.7836 RC3-1.0310 FAU .15426 RRT .9697 RRF .9951 RTF .9734 CRT .9997 CRS -.9931 CST -.9947
 FDE 5.0459 FRA12.1356 FC3-7.3471 B8P 8462 SGB 5154.2 R23 .1353 R13 .9864 LSA 177.9 MSA 9.6 S8A 1.1
 BDE 1.5755 BRA 2.8667 BC3 2.8544 F8P 2911 SG1 5120.8 SG2 585.5 THA 33.46 EL1 121.9 EL2 1.4 ALF 37.40

LAUNCH DATE MAR 25 1971 FLIGHT TIME 250.00 ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 149.18 LAL -.00 LOL 183.70 VL 32.262 GAL -5.31 AZL 88.18 HCA 203.02 SMA 179.73 ECC .19291 INC 1.8206 V1 29.868
 RP 213.46 LAP -.71 LOP 26.71 VP 22.473 GAP 2.80 AZP 91.68 TAL 325.99 TAP 169.01 RCA 145.06 APO 214.40 V2 25.714
 RC 139.171 GL 13.85 GP -21.71 ZAL 144.70 ZAP 78.00 ETS 173.98 ZAE 117.86 ETE 191.72 ZAC 80.95 ETC 269.55 LVI 13.75

Planetary Centric Conic: C3 18.184 VHL 4.284 DLA 1.82 RAL 328.08 RAD 8642.0 VEL 11.756 PTH 6.78 VHP 3.582 DPA -45.84 RAP 287.70 ECC 1.2093
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 30 3147.71 -36.75 99.92 189.44 122.66 17 47 57 2147.7 -21.07 78.78
 60.00 17 33 9 3047.54 -31.77 94.30 192.84 116.23 18 23 56 2047.5 -18.57 71.98
 70.00 18 23 15 2900.21 -27.35 84.59 195.08 111.30 19 11 35 1900.2 -16.26 61.63
 80.00 19 29 35 2692.47 -24.17 70.09 196.34 108.08 20 14 27 1692.5 -14.56 46.82
 90.00 20 50 10 2432.44 -22.99 51.39 196.75 106.94 21 30 42 1432.4 -13.92 28.02
 100.00 22 12 27 2166.94 -24.17 31.46 196.34 108.08 22 48 34 1166.9 -14.56 8.19
 110.00 23 22 41 1947.03 -27.35 13.51 195.08 111.30 23 55 8 947.0 -16.26 350.55

Differential Corrections: TDE 1.2827 TRA 2.5644 TC3-2.7752 BAU .7148 SGT 4522.9 SGR 2707.8 SG3 1629.4 ST 100.6 SR 70.5 SS 129.1
 RDE .9187 RRA 1.6835 RC3 -.9715 FAU .15467 RRT .9709 RRF .9940 RTF .9755 CRT .9991 CRS -.9915 CST -.9956
 FDE 5.0048 FRA12.2460 FC3-7.3637 BSP 8643 SGB 5271.5 R23 .1343 R13 .9859 LSA 177.9 MSA 9.6 SCA 1.1
 BDE 1.5778 BRA 3.0676 BC3 2.9404 FSP 2928 SGI 5241.7 SG2 559.8 THA 30.55 EL1 122.8 EL2 2.4 ALF 35.01

LAUNCH DATE MAR 25 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 2 1971

Heliocentric Conic: RL 149.18 LAL -.00 LOL 183.70 VL 32.264 GAL -5.37 AZL 88.35 HCA 204.21 SMA 179.77 ECC .19356 INC 1.6497 V1 29.868
 RP 213.77 LAP -.68 LOP 27.90 VP 22.437 GAP 2.40 AZP 91.50 TAL 325.69 TAP 169.89 RCA 144.97 APO 214.56 V2 25.680
 RC 141.545 GL 12.50 GP -20.66 ZAL 145.36 ZAP 76.23 ETS 173.52 ZAE 116.39 ETE 190.40 ZAC 82.01 ETC 269.40 LVI 13.03

Planetary Centric Conic: C3 18.245 VHL 4.271 DLA .63 RAL 328.75 RAD 8642.0 VEL 11.759 PTH 6.79 VHP 3.575 DPA -44.86 RAP 286.72 ECC 1.3003
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 30 3124.92 -35.90 98.41 189.59 123.61 17 54 34 2124.9 -19.99 77.67
 60.00 17 41 24 3021.42 -30.97 92.55 193.05 117.19 18 31 46 2021.4 -17.50 70.59
 70.00 18 32 53 2869.99 -26.59 82.58 195.35 112.27 19 20 43 1870.0 -15.21 59.92
 80.00 19 40 30 2658.29 -23.43 67.82 196.67 109.06 20 24 48 1658.3 -13.52 44.82
 90.00 21 1 38 2396.47 -22.25 49.01 197.09 107.91 21 41 35 1396.5 -12.88 25.90
 100.00 22 23 22 2132.76 -23.43 29.19 196.67 109.06 22 58 55 1132.8 -13.52 6.19
 110.00 23 32 20 1918.81 -26.59 11.49 195.35 112.27 24 4 17 916.8 -15.21 348.84

Differential Corrections: TDE 1.3224 TRA 2.7348 TC3-2.8771 BAU .7360 SGT 4758.8 SGR 2561.5 SG3 1631.8 ST 104.4 SR 67.3 SS 128.4
 RDE .8928 RRA 1.5911 RC3 -.9092 FAU .15386 RRT .9713 RRF .9928 RTF .9770 CRT .9981 CRS -.9897 CST -.9964
 FDE 4.9717 FRA12.3243 FC3-7.3007 BSP 8682 SGB 5404.4 R23 .1322 R13 .9854 LSA 178.4 MSA 9.7 SCA 1.2
 BDE 1.5899 BRA 3.1640 BC3 3.0174 FSP 2946 SGI 5377.4 SG2 539.1 THA 27.91 EL1 124.2 EL2 3.5 ALF 32.78

LAUNCH DATE MAR 25 1971 FLIGHT TIME 254.00 ARRIVAL DATE DEC 4 1971

Heliocentric Conic: RL 149.18 LAL -.00 LOL 183.70 VL 32.267 GAL -5.44 AZL 88.51 HCA 205.39 SMA 179.82 ECC .19427 INC 1.4941 V1 29.868
 RP 214.08 LAP -.64 LOP 29.08 VP 22.401 GAP 2.21 AZP 91.35 TAL 325.37 TAP 170.78 RCA 144.88 APO 214.75 V2 25.645
 RC 143.936 GL 11.28 GP -19.69 ZAL 145.96 ZAP 74.49 ETS 173.11 ZAE 114.90 ETE 189.21 ZAC 82.98 ETC 269.27 LVI 12.36

Planetary Centric Conic: C3 18.351 VHL 4.284 DLA -.44 RAL 329.40 RAD 8642.1 VEL 11.763 PTH 6.79 VHP 3.576 DPA -43.95 RAP 285.82 ECC 1.3020
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 56 3104.97 -35.14 97.11 189.83 124.42 18 0 43 2105.0 -19.04 76.72
 60.00 17 49 0 2998.46 -30.25 91.03 193.35 118.01 18 38 59 1998.5 -16.56 69.36
 70.00 18 41 45 2843.33 -25.89 80.82 195.71 113.10 19 29 9 1843.3 -14.27 58.43
 80.00 19 30 31 2628.05 -22.74 65.84 197.07 109.88 20 34 19 1628.1 -12.58 43.07
 90.00 21 12 9 2364.85 -21.57 48.92 197.51 108.74 21 51 33 1364.6 -11.94 24.03
 100.00 22 33 22 2102.52 -22.74 27.21 197.07 109.88 23 8 25 1102.5 -12.58 4.43
 110.00 23 41 12 1890.15 -25.89 9.74 195.71 113.10 24 12 42 890.2 -14.27 347.34

Differential Corrections: TDE 1.3633 TRA 2.9039 TC3-2.9732 BAU .7587 SGT 4989.6 SGR 2422.6 SG3 1627.2 ST 108.3 SR 64.4 SS 127.4
 RDE .8909 RRA 1.5031 RC3 -.8511 FAU .15283 RRT .9713 RRF .9913 RTF .5.83 CRT .9965 CRS -.9876 CST -.9970
 FDE 4.9290 FRA12.3590 FC3-7.2100 BSP 9128 SGB 5546.6 R23 .1287 R13 .9851 LSA 178.9 MSA 9.8 SCA 1.2
 BDE 1.6071 BRA 3.2695 BC3 3.0926 FSP 2945 SGI 5522.1 SG2 520.9 THA 25.49 EL1 125.9 EL2 4.6 ALF 30.71

LAUNCH DATE MAR 25 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 6 1971

Heliocentric Conic: RL 149.18 LAL -.00 LOL 183.70 VL 32.271 GAL -5.50 AZL 88.69 HCA 206.57 SMA 179.87 ECC .19503 INC 1.3521 V1 29.868
 RP 214.39 LAP -.60 LOP 30.26 VP 22.368 GAP 2.02 AZP 91.21 TAL 325.05 TAP 171.62 RCA 144.79 APO 214.95 V2 25.609
 RC 148.344 GL 10.15 GP -18.79 ZAL 146.51 ZAP 72.78 ETS 172.75 ZAE 113.41 ETE 188.15 ZAC 83.89 ETC 269.14 LVI 11.73

Planetary Centric Conic: C3 18.496 VHL 4.301 DLA -1.41 RAL 330.02 RAD 8642.2 VEL 11.769 PTH 6.80 VHP 3.561 DPA -43.09 RAP 285.02 ECC 1.3044
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 58 3087.53 -34.46 95.99 190.14 125.10 18 6 26 2087.5 -18.21 75.90
 60.00 17 56 3 2978.28 -29.59 89.72 193.72 118.71 18 45 41 1978.3 -15.73 68.33
 70.00 18 49 56 2819.80 -25.25 79.29 196.13 113.80 19 36 56 1819.8 -13.43 57.12
 80.00 19 59 43 2601.28 -22.11 64.10 197.53 110.59 20 43 5 1601.3 -11.74 41.52
 90.00 21 21 49 2336.40 -20.94 45.09 197.90 109.45 22 0 45 1336.4 -11.10 22.58
 100.00 22 42 35 2075.75 -22.11 25.47 197.53 110.59 23 17 11 1075.7 -11.74 2.89
 110.00 23 49 22 1866.62 -25.25 8.21 196.13 113.80 24 20 29 866.6 -13.43 346.04

Differential Corrections: TDE 1.4068 TRA 3.0728 TC3-3.0602 BAU .7818 SGT 5216.2 SGR 2292.6 SG3 1617.6 ST 112.1 SR 61.8 SS 126.4
 RDE .8237 RRA 1.4207 RC3 -.7946 FAU .15120 RRT .9707 RRF .9896 RTF .9794 CRT .9946 CRS -.9853 CST -.9975
 FDE 4.8857 FRA12.3551 FC3-7.0772 BSP 9398 SGB 5697.8 R23 .1243 R13 .9849 LSA 179.6 MSA 10.0 SCA 1.3
 BDE 1.6302 BRA 3.3853 BC3 3.1617 FSP 2938 SGI 5675.3 SG2 506.1 THA 23.30 EL1 127.9 EL2 5.6 ALF 28.79

LAUNCH DATE MAR 25 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

DISTANCE 622.630

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.275 GAL -5.57 AZL 88.78 HCA 207.75 SMA 179.93 ECC .19584 INC 1.2214 V1 29.868
RP 214.72 LAP -.57 LOP 31.44 VP 22.329 GAP 1.83 AZP 91.08 TAL 324.72 TAP 172.46 RCA 144.69 APO 215.17 V2 25.573
RC 148.770 GL 9.12 GP -17.94 ZAL 147.02 ZAP 71.12 ETS 172.44 ZAE 111.91 ETE 187.19 ZAC 84.74 ETC 269.02 LVI 11.14

PLANETOCENTRIC CONIC

C3 18.677 VHL 4.322 DLA -2.29 RAL 330.62 RAD 8642.2 VEL 11.777 PTH 6.80 VHP 3.592 DPA -42.29 RAP 284.29 ECC 1.3074
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 34 3072.29 -33.86 93.03 190.53 125.67 18 11 47 2072.3 -17.48 75.19
60.00 18 2 34 2960.57 -29.01 88.59 194.14 119.30 18 51 55 1960.6 -14.99 67.41
70.00 18 57 30 2799.04 -24.67 77.95 196.60 114.40 19 44 9 1799.0 -12.69 55.97
80.00 20 8 14 2577.96 -21.54 62.58 198.04 111.19 20 51 12 1577.6 -10.99 40.17
90.00 21 30 44 2311.36 -20.37 43.48 198.51 110.05 22 9 16 1311.4 -10.35 20.93
100.00 22 51 6 2052.03 -21.54 23.95 198.04 111.19 23 25 18 1052.0 -10.99 1.53
110.00 0 0 52 1845.86 -24.67 6.87 196.60 114.40 0 31 38 845.9 -12.69 344.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4514 TRA 3.2406 TC3-3.1409 BAU .8058 SGT 5437.0 SGR 2189.8 SG3 1802.8 ST 115.9 SR 39.4 SS 125.3
RDE .7996 RRA 1.3425 RC3 -.7417 FAU .14933 RRT .9697 RRF .9876 RTF .9803 CRT .9922 CRS -.9827 CST -.9980
FDE 4.8359 FRA12.3204 FC3-6.9221 BSP 9669 SGB 5853.9 R23 .1192 R13 .9847 LSA 180.4 MSA 10.3 SSA 1.3
BDE 1.6571 BRA 3.5077 BC3 3.2273 FSP 2917 SG1 5833.0 SG2 494.1 THA 21.32 EL1 130.1 EL2 6.6 ALF 27.02

LAUNCH DATE MAR 25 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

DISTANCE 626.790

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.279 GAL -5.64 AZL 88.90 HCA 208.92 SMA 180.00 ECC .19669 INC 1.1013 V1 29.868
RP 215.04 LAP -.53 LOP 32.61 VP 22.294 GAP 1.63 AZP 90.96 TAL 324.38 TAP 173.30 RCA 144.59 APO 215.40 V2 25.536
RC 151.211 GL 8.17 GP -17.15 ZAL 147.49 ZAP 69.50 ETS 172.16 ZAE 110.41 ETE 186.34 ZAC 85.53 ETC 268.92 LVI 10.59

PLANETOCENTRIC CONIC

C3 18.889 VHL 4.346 DLA -3.08 RAL 331.19 RAD 8642.3 VEL 11.786 PTH 6.81 VHP 3.606 DPA -41.54 RAP 283.63 ECC 1.3109
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 48 3059.03 -33.33 94.21 190.96 126.16 18 16 47 2059.0 -16.84 74.58
60.00 18 8 39 2945.05 -28.49 87.60 194.62 119.81 18 57 44 1945.1 -14.34 66.62
70.00 19 4 32 2780.74 -24.15 76.79 197.12 114.92 19 50 53 1780.7 -12.03 54.97
80.00 20 16 8 2556.56 -21.01 61.24 198.59 111.71 20 58 44 1556.6 -10.31 38.97
90.00 21 39 0 2289.15 -19.84 42.06 199.07 110.57 22 17 10 1289.1 -9.67 19.65
100.00 22 59 0 2031.03 -21.01 22.61 198.59 111.71 23 32 51 1031.0 -10.31 .34
110.00 0 7 54 1827.56 -24.15 5.70 197.12 114.92 0 38 22 827.6 -12.03 343.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4989 TRA 3.4096 TC3-3.2125 BAU .8290 SGT 5653.8 SGR 2055.2 SG3 1584.4 ST 119.7 SR 57.2 SS 124.1
RDE .7792 RRA 1.2693 RC3 -.6906 FAU .14694 RRT .9882 RRF .9852 RTF .9810 CRT .9894 CRS -.9799 CST -.9983
FDE 4.7884 FRA12.2643 FC3-6.7347 BSP 9969 SGB 6015.8 R23 .1137 R13 .9846 LSA 181.4 MSA 10.6 SSA 1.3
BDE 1.6894 BRA 3.6382 BC3 3.2859 FSP 2896 SG1 5996.2 SG2 485.1 THA 19.52 EL1 132.5 EL2 7.5 ALF 23.38

LAUNCH DATE MAR 25 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

DISTANCE 630.946

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.283 GAL -5.71 AZL 89.01 HCA 210.09 SMA 180.07 ECC .19760 INC .9897 V1 29.868
RP 215.37 LAP -.50 LOP 33.78 VP 22.258 GAP 1.44 AZP 90.86 TAL 324.03 TAP 174.12 RCA 144.49 APO 215.65 V2 25.499
RC 153.869 GL 7.29 GP -16.41 ZAL 147.94 ZAP 67.92 ETS 171.92 ZAE 108.93 ETE 185.57 ZAC 86.27 ETC 268.83 LVI 10.07

PLANETOCENTRIC CONIC

C3 19.130 VHL 4.374 DLA -3.81 RAL 331.76 RAD 8642.4 VEL 11.796 PTH 6.82 VHP 3.625 DPA -40.83 RAP 283.05 ECC 1.3148
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 42 3047.54 -32.87 93.51 191.44 126.57 18 21 30 2047.5 -16.28 74.05
60.00 18 14 20 2931.49 -28.03 86.75 195.14 120.23 19 3 11 1931.5 -13.77 65.93
70.00 19 11 5 2764.64 -23.69 75.77 197.68 115.36 19 57 9 1764.6 -11.44 54.09
80.00 20 23 28 2537.99 -20.54 60.06 199.17 112.16 21 5 46 1538.0 -9.72 37.92
90.00 21 48 41 2289.46 -19.37 40.81 199.88 111.02 22 24 31 1269.5 -9.06 18.52
100.00 23 6 20 2012.46 -20.54 21.43 199.17 112.16 23 39 52 1012.5 -9.72 359.28
110.00 0 14 27 1811.46 -23.69 4.69 197.68 115.36 0 44 38 811.5 -11.44 343.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5468 TRA 3.5780 TC3-3.2790 BAU .8548 SGT 5864.2 SGR 1947.3 SG3 1562.2 ST 123.5 SR 55.2 SS 122.8
RDE .7812 RRA 1.1997 RC3 -.8431 FAU .14437 RRT .9860 RRF .9825 RTF .5.15 CRT .9862 CRS -.9760 CST -.9986
FDE 4.7353 FRA12.1813 FC3-6.5335 BSP 10258 SGB 6179.0 R23 .1081 R13 .9843 LSA 182.4 MSA 10.9 SSA 1.3
BDE 1.7239 BRA 3.7728 BC3 3.3422 FSP 2863 SG1 6160.4 SG2 479.1 THA 17.90 EL1 135.0 EL2 8.3 ALF 23.88

LAUNCH DATE MAR 25 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

DISTANCE 639.098

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.288 GAL -5.79 AZL 89.11 HCA 211.25 SMA 180.15 ECC .19856 INC .8863 V1 29.868
RP 215.71 LAP -.46 LOP 34.95 VP 22.222 GAP 1.25 AZP 90.78 TAL 323.67 TAP 174.92 RCA 144.38 APO 215.92 V2 25.461
RC 156.143 GL 6.48 GP -15.72 ZAL 148.37 ZAP 66.38 ETS 171.71 ZAE 107.47 ETE 184.87 ZAC 86.96 ETC 268.74 LVI 9.57

PLANETOCENTRIC CONIC

C3 19.398 VHL 4.404 DLA -4.47 RAL 332.30 RAD 8642.6 VEL 11.807 PTH 6.83 VHP 3.647 DPA -40.16 RAP 282.54 ECC 1.3192
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 35 19 3037.64 -32.48 92.91 191.95 126.91 18 25 56 2037.6 -15.80 73.60
60.00 18 19 39 2919.71 -27.62 86.02 195.69 120.60 19 8 19 1919.7 -13.27 65.53
70.00 19 17 11 2750.52 -23.27 74.88 198.26 115.73 20 3 2 1750.5 -10.92 53.32
80.00 20 30 18 2521.60 -20.12 59.03 199.78 112.54 21 12 20 1521.6 -9.18 36.99
90.00 21 53 30 2252.05 -18.94 39.72 200.29 111.40 22 31 23 1252.1 -8.53 17.53
100.00 23 13 10 1996.07 -20.12 20.40 199.78 112.54 23 46 26 996.1 -9.18 358.36
110.00 0 20 33 1797.34 -23.27 3.80 198.26 115.73 0 50 31 797.3 -10.92 342.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5974 TRA 3.7451 TC3-3.3385 BAU .8796 SGT 8070.3 SGR 1848.6 SG3 1537.3 ST 127.2 SR 53.4 SS 121.5
RDE .7460 RRA 1.1342 RC3 -.5984 FAU .14155 RRT .9634 RRF .9793 RTF .9820 CRT .9827 CRS -.9734 CST -.9989
FDE 4.6830 FRA12.0811 FC3-6.3175 BSP 10563 SGB 6344.9 R23 .1022 R13 .9845 LSA 183.5 MSA 11.3 SSA 1.3
BDE 1.7630 BRA 3.9131 BC3 3.3918 FSP 2827 SG1 6327.1 SG2 474.8 THA 16.43 EL1 137.7 EL2 9.1 ALF 22.50

LAUNCH DATE MAR 25 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

DISTANCE 639.248

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.294 GAL -5.87 AZL 89.21 HCA 212.42 SMA 180.23 ECC .19956 INC .7898 V1 29.868
RP 216.04 LAP -.42 LOP 36.11 VP 22.186 GAP 1.07 AZP 90.67 TAL 323.30 TAP 175.72 RCA 144.26 APO 216.19 V2 25.424
RC 156.831 GL 5.73 GP -15.07 ZAL 148.78 ZAP 64.89 ETS 171.53 ZAE 106.02 ETE 184.25 ZAC 87.61 ETC 266.67 LVI 9.10

PLANETOCENTRIC CONIC

C3 19.691 VHL 4.437 DLA -5.07 RAL 332.83 RAD 6642.7 VEL 11.820 PTH 6.84 VHP 3.673 DPA -39.54 RAP 282.10 ECC 1.3241
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 39 39 3029.17 -32.12 92.40 192.49 127.20 18 30 8 2029.2 -15.39 73.22
60.00 18 24 38 2909.51 -27.26 85.39 196.26 120.91 19 13 8 1909.5 -12.84 64.81
70.00 19 22 54 2738.19 -22.90 74.11 198.87 116.06 20 8 32 1738.2 -10.47 52.65
80.00 20 36 41 2507.19 -19.74 58.13 200.42 112.87 21 18 28 1507.2 -8.71 36.18
90.00 22 0 31 2236.70 -18.55 38.76 200.93 111.73 22 37 40 1236.7 -8.05 16.65
100.00 23 19 33 1981.66 -19.74 19.49 200.42 112.87 23 52 34 981.7 -8.71 357.55
110.00 0 26 16 1785.01 -22.90 3.03 198.87 116.06 0 56 1 785.0 -10.47 341.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6487 TRA 3.9126 TC3-3.3918 BAU .9048 SGT 6270.3 SGR 1752.3 GC3 1509.9 ST 130.9 SR 51.7 SS 120.2
RDE .7328 RRA 1.0721 RC3 -.5587 FAU .13854 RRT .9602 RRF .9756 RTF .9823 CRT .9788 CRS -.9698 CST -.9991
FDE 4.6279 FRA11.9628 FC3-6.0910 BSP 10866 SGB 6510.5 R23 .0965 R13 .9844 LSA 184.7 MSA 11.6 SSA 1.3
BDE 1.8042 BRA 4.0568 BC3 3.4372 FSP 2784 SG1 6493.3 SG2 472.9 THA 15.10 EL1 140.4 EL2 9.9 ALF 21.24

LAUNCH DATE MAR 25 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 643.390

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.299 GAL -5.95 AZL 89.30 HCA 213.58 SMA 180.32 ECC .20060 INC .6992 V1 29.868
RP 216.39 LAP -.39 LOP 37.27 VP 22.150 GAP .88 AZP 90.58 TAL 322.93 TAP 176.51 RCA 144.14 APO 216.49 V2 25.385
RC 161.134 GL 5.03 GP -14.46 ZAL 149.17 ZAP 63.45 ETS 171.37 ZAE 104.60 ETE 183.69 ZAC 86.22 ETC 268.61 LVI 8.64

PLANETOCENTRIC CONIC

C3 20.008 VHL 4.473 DLA -5.62 RAL 333.35 RAD 6642.8 VEL 11.833 PTH 6.85 VHP 3.701 DPA -38.95 RAP 281.71 ECC 1.3293
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 43 44 3022.00 -31.82 91.97 193.06 127.45 18 34 6 2022.0 -15.04 72.89
60.00 18 29 19 2900.77 -26.96 84.85 196.87 121.17 19 17 40 1900.8 -12.47 64.37
70.00 19 28 15 2727.49 -22.58 73.45 199.51 116.33 20 13 43 1727.5 -10.08 52.08
80.00 20 42 39 2494.57 -19.40 57.34 201.08 113.15 21 24 14 1494.6 -8.30 35.47
90.00 22 6 45 2223.22 -18.21 37.91 201.60 112.02 22 43 48 1223.2 -7.63 15.88
100.00 23 25 31 1969.05 -19.40 18.71 201.08 113.15 23 58 20 969.0 -8.30 356.84
110.00 0 31 37 1774.31 -22.58 2.37 199.51 116.33 1 1 12 774.3 -10.08 340.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7007 TRA 4.0796 TC3-3.4403 BAU .9308 SGT 6464.5 SGR 1664.1 GC3 1480.4 ST 134.5 SR 50.2 SS 118.7
RDE .7213 RRA 1.0133 RC3 -.5180 FAU .13544 RRT .9563 RRF .9713 RTF .9826 CRT .9745 CRS -.9658 CST -.9992
FDE 4.5693 FRA11.8298 FC3-5.8605 BSP 11158 SGB 6675.3 R23 .0910 R13 .9844 LSA 185.9 MSA 12.0 SSA 1.3
BDE 1.8473 BRA 4.2035 BC3 3.4791 FSP 2735 SG1 6656.5 SG2 472.6 THA 13.90 EL1 143.2 EL2 10.6 ALF 20.08

LAUNCH DATE MAR 25 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 647.528

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.305 GAL -6.03 AZL 89.39 HCA 214.73 SMA 180.41 ECC .20169 INC .6145 V1 29.868
RP 216.73 LAP -.35 LOP 38.43 VP 22.115 GAP .89 AZP 90.51 TAL 322.53 TAP 177.28 RCA 144.02 APO 216.79 V2 25.347
RC 163.649 GL 4.38 GP -13.89 ZAL 149.93 ZAP 62.05 ETS 171.23 ZAE 103.20 ETE 183.19 ZAC 86.79 ETC 268.56 LVI 8.21

PLANETOCENTRIC CONIC

C3 20.347 VHL 4.511 DLA -6.12 RAL 333.88 RAD 6643.0 VEL 11.847 PTH 6.86 VHP 3.731 DPA -38.39 RAP 281.39 ECC 1.3349
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 37 3016.02 -31.57 91.62 193.69 127.65 18 37 53 2016.0 -14.75 72.62
60.00 18 33 44 2893.34 -26.89 84.40 197.49 121.39 19 21 58 1893.3 -12.15 64.00
70.00 19 33 17 2718.27 -22.30 72.88 200.18 116.58 20 18 35 1718.3 -9.74 51.58
80.00 20 48 14 2483.59 -19.11 56.66 201.78 113.39 21 29 38 1483.6 -7.94 34.83
90.00 22 12 35 2211.44 -17.91 37.18 202.28 112.26 22 49 27 1211.4 -7.26 15.21
100.00 23 31 6 1958.07 -19.11 18.03 201.75 113.39 24 3 44 958.1 -7.94 356.22
110.00 0 38 39 1765.09 -22.30 1.80 200.18 116.58 1 8 4 765.1 -9.74 340.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7553 TRA 4.2478 TC3-3.4820 BAU .9588 SGT 6654.6 SGR 1582.3 GC3 1449.7 ST 138.1 SR 48.8 SS 117.3
RDE .7120 RRA .9579 RC3 -.4814 FAU .13209 RRT .9518 RRF .9864 RTF .9828 CRT .9699 CRS -.9617 CST -.9994
FDE 4.5145 FRA11.6885 FC3-5.8200 BSP 11465 SGB 6840.1 R23 .0859 R13 .9843 LSA 187.3 MSA 12.4 SSA 1.3
BDE 1.8942 BRA 4.3543 BC3 3.5151 FSP 2688 SG1 6823.7 SG2 474.1 THA 12.81 EL1 146.1 EL2 11.2 ALF 19.04

LAUNCH DATE MAR 25 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 651.662

EARTH TO MARS

RL 149.18 LAL -.00 LOL 183.70 VL 32.311 GAL -6.12 AZL 89.48 HCA 215.88 SMA 180.50 ECC .20283 INC .5349 V1 29.868
RP 217.08 LAP -.31 LOP 39.58 VP 22.079 GAP .90 AZP 90.43 TAL 322.18 TAP 178.04 RCA 143.89 APO 217.11 V2 25.308
RC 166.178 GL 3.78 GP -13.35 ZAL 149.92 ZAP 60.89 ETS 171.11 ZAE 101.82 ETE 182.73 ZAC 89.33 ETC 268.52 LVI 7.79

PLANETOCENTRIC CONIC

C3 20.709 VHL 4.551 DLA -6.58 RAL 334.35 RAD 6643.2 VEL 11.862 PTH 6.88 VHP 3.764 DPA -37.86 RAP 281.13 ECC 1.3408
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 17 3011.12 -31.37 91.33 194.28 127.81 18 41 28 2011.1 -14.51 72.40
60.00 18 37 54 2887.12 -26.47 84.02 198.13 121.57 19 26 1 1887.1 -11.89 63.69
70.00 19 38 0 2710.40 -22.06 72.39 200.83 116.76 20 23 11 1710.4 -9.44 51.16
80.00 20 53 29 2474.11 -18.85 56.07 202.44 113.59 21 34 43 1474.1 -7.63 24.32
90.00 22 18 4 2201.22 -17.65 36.55 202.98 112.48 22 54 43 1201.2 -6.94 14.63
100.00 23 38 21 1948.58 -18.85 17.44 202.44 113.59 24 8 50 948.6 -7.63 355.69
110.00 0 41 23 1757.22 -22.06 1.31 200.83 116.76 1 10 40 757.2 -9.44 340.07

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8111 TRA 4.4156 TC3-3.5184 BAU .9820 SGT 6839.0 SGR 1506.1 GC3 1417.7 ST 141.7 SR 47.6 SS 115.9
RDE .7042 RRA .9052 RC3 -.4475 FAU .12865 RRT .9463 RRF .9608 RTF .9829 CRT .9651 CRS -.9574 CST -.9995
FDE 4.4581 FRA11.5361 FC3-5.3781 BSP 11764 SGB 7002.9 R23 .0811 R13 .9841 LSA 188.7 MSA 12.8 SSA 1.3
BDE 1.9432 BRA 4.5074 BC3 3.5468 FSP 2636 SG1 6986.6 SG2 476.8 THA 11.83 EL1 149.0 EL2 11.9 ALF 18.07

LAUNCH DATE MAR 25 1971 FLIGHT TIME 274.00 ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.317 GAL -6.21 AZL 89.54 HCA 217.03 SMA 180.60 ECC .20400 INC .4600 V1 29.868
 RP 217.43 LAP -.28 LOP 40.73 VP 22.043 GAP .31 AZP 90.37 TAL 321.76 TAP 178.79 RCA 143.76 APO 217.45 VE 25.269
 RC 166.717 GL 3.22 GP -12.83 ZAL 150.28 ZAP 56.38 ETS 171.01 ZAE 100.47 ETE 182.32 ZAC 89.83 ETC 268.48 LVI 7.38

PLANETOCENTRIC CONIC
 C3 21.092 VHL 4.593 DLA -6.89 RAL 334.84 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 3.799 DPA -37.36 RAP 280.92 ECC 1.3471
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 46 3007.22 -31.20 91.10 194.89 127.93 18 44 53 2007.2 -14.32 72.23
 60.00 18 41 51 2882.00 -26.29 83.71 198.79 121.72 19 29 53 1882.0 -11.67 63.43
 70.00 19 42 28 2703.78 -21.86 71.99 201.51 116.92 20 27 31 1703.6 -9.20 50.80
 80.00 20 58 25 2486.00 -18.63 55.57 203.14 113.76 21 39 31 1466.0 -7.36 33.87
 90.00 22 23 12 2192.43 -17.42 36.01 203.69 112.64 22 59 44 1192.4 -6.66 14.14
 100.00 23 41 17 1940.47 -18.63 16.94 203.14 113.76 24 13 37 940.5 -7.36 335.24
 110.00 0 48 50 1750.99 -21.86 .91 201.51 116.92 1 15 0 750.6 -9.20 339.72

DIFFERENTIAL CORRECTIONS
 TDE 1.8664 TRA 4.9839 TC3-3.5491 BAW 1.0078 SGT 7018.2 SGR 1435.2 SG3 1384.7 ST 145.2 SR 46.4 S8 114.4
 RDE .6979 RRA .8553 RC3 -.4160 FAU .12513 RRT .9401 RRF .9545 RTF .9829 CRT .9599 CRS -.9528 CST -.9996
 FDE 4.4012 FRA11.3761 FC3-3.1359 B8P 12067 SGB 7163.5 R23 .0766 R13 .9840 LSA 190.1 MSA 13.2 S8A 1.3
 BDE 1.9944 BRA 4.6630 BC3 3.5734 F8P 2583 SGI 7147.4 SGI 480.4 THA 10.93 EL1 151.9 EL2 12.4 ALF 17.18

LAUNCH DATE MAR 25 1971 FLIGHT TIME 276.00 ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.324 GAL -6.30 AZL 89.61 HCA 218.17 SMA 180.71 ECC .20522 INC .3890 V1 29.868
 RP 217.79 LAP -.24 LOP 41.87 VP 22.007 GAP .12 AZP 90.31 TAL 321.36 TAP 179.54 RCA 143.62 PO 217.79 VE 25.229
 RC 171.268 GL 2.70 GP -12.37 ZAL 150.63 ZAP 58.11 ETS 170.93 ZAE 99.14 ETE 181.94 ZAC 90.31 ETC 268.46 LVI 6.98

PLANETOCENTRIC CONIC
 C3 21.496 VHL 4.636 DLA -7.37 RAL 335.32 RAD 6643.5 VEL 11.895 PTH 6.91 VHP 3.836 DPA -36.89 RAP 280.77 ECC 1.3538
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 4 3004.23 -31.08 90.92 195.53 128.03 18 48 9 2004.2 -14.17 72.10
 60.00 18 45 34 2877.90 -26.14 83.47 199.46 121.83 19 33 32 1877.9 -11.49 63.23
 70.00 19 46 39 2698.29 -21.69 71.65 202.20 117.05 20 31 38 1698.3 -9.00 50.51
 80.00 21 3 3 2459.15 -18.44 55.15 203.85 113.91 21 44 2 1459.1 -7.14 33.49
 90.00 22 28 2 2184.96 -17.22 35.55 204.41 112.78 23 4 27 1185.0 -6.43 13.71
 100.00 23 45 55 1933.62 -18.44 16.52 203.85 113.91 24 18 6 933.6 -7.14 334.86
 110.00 0 50 2 1745.11 -21.69 .57 202.20 117.05 1 19 7 745.1 -9.00 338.42

DIFFERENTIAL CORRECTIONS
 TDE 1.9269 TRA 4.7533 TC3-3.5750 BAW 1.0334 SGT 7193.1 SGR 1369.7 SG3 1351.4 ST 148.6 SR 45.4 S8 112.9
 RDE .6929 RRA .8082 RC3 -.3868 FAU .12154 RRT .9330 RRF .9474 RTF .9829 CRT .9546 CRS -.9481 CST -.9997
 FDE 4.3451 FRA11.2125 FC3-4.8948 B8P 12363 SGB 7322.4 R23 .0725 R13 .9838 LSA 191.6 MSA 13.6 S8A 1.3
 BDE 2.0477 BRA 4.8215 BC3 3.5959 F8P 2528 SGI 7306.3 SGI 485.1 THA 10.12 EL1 154.9 EL2 13.0 ALF 16.37

LAUNCH DATE MAR 25 1971 FLIGHT TIME 278.00 ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.330 GAL -6.40 AZL 89.68 HCA 219.31 SMA 180.81 ECC .20649 INC .3217 V1 29.868
 RP 218.15 LAP -.20 LOP 43.01 VP 21.972 GAP -.07 AZP 90.25 TAL 320.95 TAP 180.27 RCA 143.48 APO 218.15 VE 25.189
 RC 173.829 GL 2.21 GP -11.92 ZAL 150.97 ZAP 56.88 ETS 170.86 ZAE 97.85 ETE 181.61 ZAC 90.76 ETC 268.45 LVI 6.59

PLANETOCENTRIC CONIC
 C3 21.921 VHL 4.682 DLA -7.71 RAL 335.79 RAD 6643.7 VEL 11.913 PTH 6.92 VHP 3.875 DPA -36.45 RAP 280.66 ECC 1.3608
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 13 3002.07 -30.99 90.80 196.19 128.10 18 51 15 2002.1 -14.07 72.00
 60.00 18 49 6 2874.74 -26.03 83.28 200.14 121.92 19 37 1 1874.7 -11.36 63.07
 70.00 19 50 37 2693.86 -21.55 71.38 202.91 117.16 20 35 31 1693.9 -8.83 50.27
 80.00 21 7 24 2453.46 -18.28 54.80 204.57 114.02 21 48 18 1453.5 -6.95 33.17
 90.00 22 32 34 2178.70 -17.03 35.18 205.13 112.91 23 8 53 1178.7 -6.23 13.36
 100.00 23 50 16 1927.93 -18.28 16.17 204.57 114.02 24 22 24 927.9 -6.95 334.54
 110.00 0 53 59 1740.68 -21.55 .30 202.91 117.16 1 23 0 740.7 -8.83 339.19

DIFFERENTIAL CORRECTIONS
 TDE 1.9859 TRA 4.9220 TC3-3.5979 BAW 1.0597 SGT 7362.3 SGR 1308.7 SG3 1317.3 ST 152.0 SR 44.5 S8 111.4
 RDE .6890 RRA .7631 RC3 -.3801 FAU .11804 RRT .9251 RRF .9393 RTF .9829 CRT .9490 CRS -.9431 CST -.9997
 FDE 4.2859 FRA11.0401 FC3-4.6618 B8P 12652 SGB 7477.7 R23 .0688 R13 .9837 LSA 193.1 MSA 14.0 S8A 1.3
 BDE 2.1021 BRA 4.9808 BC3 3.6159 F8P 2471 SGI 7461.6 SGI 490.4 THA 9.38 EL1 157.8 EL2 13.5 ALF 15.63

LAUNCH DATE MAR 25 1971 FLIGHT TIME 280.00 ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC
 RL 149.18 LAL -.00 LOL 183.70 VL 32.337 GAL -6.49 AZL 89.74 HCA 220.45 SMA 180.93 ECC .20779 INC .2577 V1 29.868
 RP 218.51 LAP -.17 LOP 44.15 VP 21.936 GAP -.26 AZP 90.20 TAL 320.54 TAP 180.99 RCA 143.33 APO 218.52 VE 25.149
 RC 176.400 GL 1.75 GP -11.50 ZAL 151.31 ZAP 55.70 ETS 170.80 ZAE 96.58 ETE 181.30 ZAC 91.18 ETC 268.45 LVI 6.21

PLANETOCENTRIC CONIC
 C3 22.367 VHL 4.729 DLA -8.03 RAL 336.25 RAD 6643.9 VEL 11.931 PTH 6.94 VHP 3.915 DPA -36.02 RAP 280.60 ECC 1.3681
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 14 3000.69 -30.93 90.72 196.85 128.14 18 54 14 2000.7 -14.00 71.94
 60.00 18 52 27 2872.43 -25.95 83.14 200.83 121.99 19 40 19 1872.4 -11.26 62.95
 70.00 19 54 22 2690.40 -21.45 71.17 203.62 117.24 20 39 12 1690.4 -8.70 50.08
 80.00 21 11 31 2448.86 -18.16 54.52 205.30 114.12 21 52 20 1448.9 -6.79 32.91
 90.00 22 36 50 2173.88 -16.92 34.85 205.87 113.00 23 13 4 1173.6 -6.07 13.07
 100.00 23 54 23 1923.33 -18.16 15.89 205.30 114.12 24 26 26 923.3 -6.79 334.28
 110.00 0 57 44 1737.22 -21.45 .09 203.62 117.24 1 26 41 737.2 -8.70 339.00

DIFFERENTIAL CORRECTIONS
 TDE 2.0473 TRA 5.0924 TC3-3.6158 BAW 1.0859 SGT 7527.7 SGR 1252.6 SG3 1283.3 ST 155.4 SR 43.6 S8 109.9
 RDE .6864 RRA .7205 RC3 -.3352 FAU .11443 RRT .9161 RRF .9304 RTF .9829 CRT .9432 CRS -.9381 CST -.9998
 FDE 4.2299 FRA10.8675 FC3-4.4291 B8P 12939 SGB 7631.2 R23 .0651 R13 .9835 LSA 194.7 MSA 14.4 S8A 1.3
 BDE 2.1593 BRA 5.1431 BC3 3.6313 F8P 2415 SGI 7615.1 SGI 496.3 THA 8.71 EL1 160.8 EL2 14.0 ALF 14.95

LAUNCH DATE MAR 26 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.984 GAL -7.24 AZL 92.63 MCA 135.25 SMA 212.05 ECC .31976 INC 2.6280 V1 29.860
RP 207.32 LAP -1.85 LOP 319.97 VP 25.581 GAP 18.61 AZP 88.13 TAL 329.57 TAP 104.82 RCA 144.24 APO 279.05 V2 26.420
RC 56.291 GL -14.22 GP 4.94 ZAL 139.39 ZAP 165.20 ETS 160.48 ZAE 166.09 EYE 134.22 ZAC 106.35 ETC 275.22 LVI -19.01

DISTANCE 391.870

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 39.520 VHL 6.288 DLA -26.10 RAL 333.76 RAD 6650.5 VEL 12.625 PTH 7.48 VHP 9.070 DPA -15.72 RAP 307.60 ECC 1.6504
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 6 57 2765.55 -20.36 76.32 200.19 133.98 19 53 3 1765.6 -2.31 61.66
60.00 20 21 11 2568.10 -13.93 66.40 206.05 128.21 21 3 59 1568.1 2.04 48.25
70.00 21 57 5 2286.16 -7.32 48.39 210.90 123.45 22 35 11 1286.2 6.64 28.85
80.00 23 54 39 1918.18 -1.30 24.17 214.62 119.83 24 26 37 918.2 10.93 3.30
90.00 1 47 57 1565.48 1.66 359.87 216.26 118.24 2 14 2 565.5 13.07 338.66
100.00 2 41 27 1392.65 -1.30 345.54 214.62 119.83 3 4 39 392.6 10.93 324.87
110.00 3 0 27 1332.98 -7.32 337.31 210.90 123.45 3 22 40 333.0 6.64 317.77

DIFFERENTIAL CORRECTIONS

TDE -.9517 TRA-1.9089 TC3 -.0977 BAW .0919
RDE -.5050 RRA -.0531 RC3 .1439 FAU .04368
PDE .7617 FRA 2.3612 FC3 -.9369 B8P 3699
BDE 1.0774 BRA 1.9098 BC3 .1739 F8P 346

MID-COURSE EXECUTION ACCURACY

SGT 2126.2 SGR 497.5 SCS 239.3
RRT .4552 RRF -.4836 RTF -.8655
SGB 2183.6 R23 -.0809 R13 -.8676
SGI 2138.7 S62 440.3 THA 6.35

ORBIT DETERMINATION ACCURACY

ST 52.2 SR 23.0 SS 39.2
CRT .8497 CRS .7194 CST .9767
LSA 67.6 MSA 14.6 SSA 1.1
EL1 55.9 EL2 11.3 ALF 21.47

LAUNCH DATE MAR 26 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.848 GAL -7.08 AZL 92.69 MCA 136.51 SMA 209.64 ECC .31144 INC 2.6871 V1 29.860
RP 207.22 LAP -1.85 LOP 321.23 VP 25.453 GAP 18.13 AZP 88.05 TAL 329.60 TAP 106.12 RCA 144.35 APO 274.93 V2 26.432
RC 56.455 GL -14.82 GP 5.19 ZAL 139.26 ZAP 164.28 ETS 160.75 ZAE 166.52 EYE 130.90 ZAC 106.56 ETC 275.31 LVI -19.37

DISTANCE 395.085

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 37.922 VHL 6.158 DLA -26.62 RAL 334.10 RAD 6649.9 VEL 12.562 PTH 7.43 VHP 8.811 DPA -15.39 RAP 307.01 ECC 1.6241
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 10 57 2743.54 -19.32 77.27 200.05 134.37 19 56 41 1743.5 -1.20 60.94
60.00 20 26 17 2543.15 -12.87 65.14 205.96 128.53 21 8 41 1543.2 3.13 47.05
70.00 22 4 0 2255.86 -6.18 48.79 210.91 123.66 22 41 36 1255.9 7.78 27.25
80.00 0 8 50 1877.41 .08 21.93 214.78 119.86 0 40 7 877.4 12.22 1.16
90.00 2 1 38 1513.67 3.32 356.98 216.58 118.10 2 26 51 513.7 14.55 335.58
100.00 2 51 42 1351.89 .08 343.30 214.78 119.86 3 14 14 351.9 12.22 322.53
110.00 3 7 22 1302.68 -6.18 335.71 210.91 123.66 3 29 5 302.7 7.78 316.16

DIFFERENTIAL CORRECTIONS

TDE -.9529 TRA-1.8898 TC3 -.0917 BAW .0910
RDE -.4912 RRA -.0723 RC3 .1544 FAU .04502
PDE .7852 FRA 2.4569 FC3-1.0279 B8P 3770
BDE 1.0721 BRA 1.8912 BC3 .1798 F8P 372

MID-COURSE EXECUTION ACCURACY

SGT 2180.4 SGR 500.7 SCS 254.7
RRT .4915 RRF -.9226 RTF -.8703
SGB 2217.6 R23 -.0883 R13 -.8727
SGI 2174.9 S62 433.1 THA 6.77

ORBIT DETERMINATION ACCURACY

ST 53.3 SR 22.9 SS 40.6
CRT .8587 CRS .7288 CST .9760
LSA 69.2 MSA 14.5 SSA 1.1
EL1 56.9 EL2 11.0 ALF 21.07

LAUNCH DATE MAR 26 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.748 GAL -6.93 AZL 92.75 MCA 137.78 SMA 207.42 ECC .30358 INC 2.7490 V1 29.860
RP 207.13 LAP -1.85 LOP 322.50 VP 25.330 GAP 17.67 AZP 87.96 TAL 329.84 TAP 107.42 RCA 144.46 APO 270.39 V2 26.443
RC 56.701 GL -15.44 GP 5.46 ZAL 139.19 ZAP 163.33 ETS 160.97 ZAE 166.87 EYE 127.47 ZAC 106.80 ETC 275.41 LVI -19.75

DISTANCE 398.287

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 36.442 VHL 6.037 DLA -27.18 RAL 334.45 RAD 6649.4 VEL 12.503 PTH 7.39 VHP 8.559 DPA -15.03 RAP 308.19 ECC 1.5997
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 15 9 2721.26 -18.25 76.22 199.98 134.74 20 0 30 1721.3 -.08 60.01
60.00 20 31 41 2517.67 -11.79 63.86 205.93 128.82 21 13 39 1517.7 4.25 45.83
70.00 22 11 26 2224.36 -4.99 45.13 210.98 123.83 22 40 50 1224.4 8.95 25.56
80.00 0 20 22 1833.06 1.58 19.50 215.05 119.82 0 50 55 833.1 13.60 358.59
90.00 2 18 16 1452.84 5.27 353.56 217.08 117.83 2 42 29 452.8 16.24 331.81
100.00 3 3 14 1307.53 1.58 340.87 215.05 119.82 3 25 2 307.5 13.60 319.96
110.00 3 14 48 1271.18 -4.99 334.05 210.98 123.83 3 36 0 271.2 8.95 314.48

DIFFERENTIAL CORRECTIONS

TDE -.9335 TRA-1.8692 TC3 -.0849 BAW .0907
RDE -.4783 RRA -.0922 RC3 .1657 FAU .04646
PDE .8300 FRA 2.5565 FC3-1.1037 B8P 3835
BDE 1.0667 BRA 1.8715 BC3 .1862 F8P 398

MID-COURSE EXECUTION ACCURACY

SGT 2192.2 SGR 505.7 SCS 270.9
RRT .5289 RRF -.9827 RTF -.8449
SGB 2249.8 R23 -.0964 R13 -.8775
SGI 2209.1 S62 425.9 THA 7.23

ORBIT DETERMINATION ACCURACY

ST 54.2 SR 22.7 SS 42.0
CRT .8681 CRS .7388 CST .9751
LSA 70.8 MSA 14.4 SSA 1.1
EL1 57.9 EL2 10.6 ALF 20.73

LAUNCH DATE MAR 26 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.653 GAL -6.79 AZL 92.81 MCA 139.04 SMA 205.37 ECC .29607 INC 2.8141 V1 29.860
RP 207.05 LAP -1.84 LOP 323.76 VP 25.214 GAP 17.22 AZP 87.87 TAL 329.89 TAP 108.71 RCA 144.56 APO 266.17 V2 26.453
RC 57.030 GL -16.08 GP 5.75 ZAL 139.01 ZAP 162.36 ETS 161.14 ZAE 167.15 EYE 124.01 ZAC 107.05 ETC 275.49 LVI -20.13

DISTANCE 401.567

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 35.073 VHL 5.922 DLA -27.73 RAL 334.80 RAD 6648.9 VEL 12.449 PTH 7.35 VHP 8.318 DPA -14.68 RAP 308.45 ECC 1.5772
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 19 34 2698.67 -17.17 75.17 199.92 135.08 20 4 32 1698.7 1.06 59.06
60.00 20 37 25 2491.58 -10.67 62.56 205.95 129.10 21 18 56 1491.6 5.40 44.58
70.00 22 19 29 2191.44 -3.74 43.40 211.13 123.97 22 56 0 1191.4 10.17 23.79
80.00 0 33 38 1783.73 3.25 16.79 215.46 119.70 1 3 22 783.7 15.09 355.69
90.00 2 40 39 1374.15 7.75 349.11 217.91 117.28 3 3 33 374.1 18.31 327.06
100.00 3 16 30 1258.19 3.25 336.16 215.46 119.70 3 37 28 258.2 15.09 317.06
110.00 3 22 51 1238.26 -3.74 332.32 211.13 123.97 3 43 29 238.3 10.17 312.71

DIFFERENTIAL CORRECTIONS

TDE -.9461 TRA-1.8395 TC3 -.0685 BAW .0894
RDE -.4662 RRA -.1128 RC3 .1780 FAU .04796
PDE .8672 FRA 2.6609 FC3-1.1838 B8P 3795
BDE 1.0547 BRA 1.8429 BC3 .1908 F8P 427

MID-COURSE EXECUTION ACCURACY

SGT 2210.7 SGR 512.9 SCS 288.2
RRT .5676 RRF -.8036 RTF -.8817
SGB 2269.4 R23 -.1026 R13 -.8846
SGI 2230.5 S62 418.5 THA 7.78

ORBIT DETERMINATION ACCURACY

ST 54.8 SR 22.6 SS 43.5
CRT .8771 CRS .7497 CST .9747
LSA 72.1 MSA 14.2 SSA 1.1
EL1 58.4 EL2 10.2 ALF 20.56

LAUNCH DATE MAR 26 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC DISTANCE 404.918 EARTH TO MARS
 RL 149.22 LAL -.00 LOL 184.89 VL 33.883 GAL -6.65 AZL 92.88 HCA 140.30 SMA 203.46 ECC .28898 INC 2.8827 V1 28.860
 RP 206.97 LAP -1.84 LOP 325.03 VP 25.103 GAP 16.77 AZP 87.78 TAL 329.74 TAP 110.04 RCA 144.67 APO 282.26 V2 26.482
 RC 57.440 GL -18.76 GP 6.07 ZAL 138.85 ZAP 161.36 ETS 161.26 ZAE 167.34 ETE 120.58 ZAC 107.33 ETC 275.57 LVI -20.53

PLANETOCENTRIC CONIC
 C3 33.812 VHL 5.815 DLA -28.33 RAL 335.17 RAD 6648.5 VEL 12.398 PTH 7.31 VHP 8.079 DPA -14.31 RAP 308.68 ECC 1.5568
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 24 13 2679.81 -16.06 74.13 199.94 135.41 20 8 48 1675.8 2.20 58.11
 60.00 20 43 30 2464.89 -9.52 61.24 206.05 129.35 21 24 35 1484.9 6.56 43.29
 70.00 22 28 13 2156.94 -2.42 41.60 211.37 124.08 23 4 10 1156.9 11.44 21.92
 80.00 0 49 24 1727.12 5.15 13.66 216.05 119.45 1 18 12 727.1 16.76 352.32
 88.22 3 15 33 1254.78 12.86 342.97 220.10 115.46 3 36 48 254.0 22.26 319.87
 100.00 3 32 16 1201.59 5.15 335.03 216.05 119.45 3 52 18 201.6 16.76 313.68
 110.00 3 31 35 1203.76 -2.42 330.51 211.37 124.08 3 51 39 203.8 11.44 310.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9520 TRA-1.8219 TC3 -.0673 BAU .0915 SGT 2246.2 SGR 522.9 SG3 306.5 ST 56.0 SR 22.6 SS 45.0
 RDE -.4554 RRA -.1348 RC3 .1908 FAU .04956 RRT .6057 RRF -.6448 RTF -.8841 CRT .8881 CRS .7615 CST .9735
 FDE .9062 FRA 2.7694 FC3-1.2689 BSP 3923 SGB 2306.3 R23 -.1140 R13 -.8874 LSA 74.0 MSA 14.2 SBA 1.1
 BDE 1.0553 BRA 1.8289 BC3 .2024 FSP 458 SGI 2269.2 SG2 411.8 THA 8.30 EL1 59.6 EL2 9.7 ALF 20.25

LAUNCH DATE MAR 26 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC DISTANCE 408.335 EARTH TO MARS
 RL 149.22 LAL -.00 LOL 184.89 VL 33.478 GAL -6.51 AZL 92.96 HCA 141.57 SMA 201.70 ECC .28227 INC 2.9550 V1 29.860
 RP 206.90 LAP -1.84 LOP 326.29 VP 24.998 GAP 16.33 AZP 87.66 TAL 329.80 TAP 111.36 RCA 144.76 APO 258.63 V2 26.469
 RC 57.930 GL -17.46 GP 6.40 ZAL 138.67 ZAP 160.33 ETS 161.33 ZAE 167.44 ETE 117.27 ZAC 107.64 ETC 275.65 LVI -20.94

PLANETOCENTRIC CONIC
 C3 32.650 VHL 5.714 DLA -28.96 RAL 335.54 RAD 6648.0 VEL 12.352 PTH 7.28 VHP 7.851 DPA -13.91 RAP 308.88 ECC 1.5373
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 29 8 2652.60 -14.93 73.08 200.03 135.72 20 13 20 1692.6 3.37 57.14
 60.00 20 50 0 2437.46 -8.34 59.90 206.22 129.57 21 30 37 1437.5 7.76 41.95
 70.00 22 37 47 2120.46 -1.03 39.69 211.71 124.14 23 13 7 1120.5 12.76 19.93
 80.00 1 9 28 1657.63 7.46 9.80 216.93 118.99 1 37 5 657.6 18.71 348.08
 83.49 2 38 22 1372.14 13.38 351.84 220.05 115.92 3 1 14 372.1 22.92 328.72
 100.00 3 52 20 1132.10 7.46 331.17 216.93 118.99 4 11 12 132.1 18.71 309.45
 110.00 3 41 9 1167.28 -1.03 328.61 211.71 124.14 4 0 36 167.3 12.76 308.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9531 TRA-1.7998 TC3 -.0622 BAU .0934 SGT 2275.2 SGR 535.0 SG3 325.9 ST 57.0 SR 22.5 SS 46.6
 RDE -.4458 RRA -.1579 RC3 .2048 FAU .05127 RRT .6434 RRF -.6856 RTF -.8870 CRT .8991 CRS .7740 CST .9724
 FDE .9475 FRA 2.8823 FC3-1.3595 BSP 4011 SGB 2337.4 R23 -.1255 R13 -.8908 LSA 75.7 MSA 14.1 SBA 1.1
 BDE 1.0540 BRA 1.8067 BC3 .2140 FSP 490 SGI 2302.0 SG2 405.4 THA 8.90 EL1 60.6 EL2 9.3 ALF 20.03

LAUNCH DATE MAR 26 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC DISTANCE 411.813 EARTH TO MARS
 RL 149.22 LAL -.00 LOL 184.89 VL 33.397 GAL -6.38 AZL 93.03 HCA 142.83 SMA 200.06 ECC .27591 INC 3.0316 V1 29.860
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.897 GAP 15.90 AZP 87.58 TAL 329.86 TAP 112.69 RCA 144.86 APO 255.26 V2 26.478
 RC 58.496 GL -18.20 GP 6.77 ZAL 138.46 ZAP 159.27 ETS 161.36 ZAE 167.47 ETE 114.14 ZAC 107.97 ETC 275.73 LVI -21.37

PLANETOCENTRIC CONIC
 C3 31.585 VHL 5.620 DLA -29.82 RAL 335.93 RAD 6647.6 VEL 12.309 PTH 7.24 VHP 7.630 DPA -13.49 RAP 309.05 ECC 1.5198
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 21 2629.01 -13.78 72.02 200.18 136.00 20 18 10 1629.0 4.55 56.15
 60.00 20 56 58 2409.21 -7.11 58.52 206.47 129.77 21 37 7 1409.2 8.98 40.57
 70.00 22 48 22 2081.52 .46 37.66 212.17 124.15 23 23 3 1081.5 14.15 17.77
 80.00 1 40 36 1553.79 10.84 3.94 218.44 117.99 2 6 30 553.8 21.42 341.56
 80.82 2 18 45 1431.74 13.92 356.51 220.06 116.41 2 42 37 431.7 23.61 333.36
 100.00 4 23 28 1028.26 10.84 325.31 218.44 117.99 4 40 36 28.3 21.42 302.93
 110.00 3 51 44 1128.34 .46 326.58 212.17 124.15 4 10 33 128.3 14.15 306.89

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9575 TRA-1.7759 TC3 -.0565 BAU .0958 SGT 2300.9 SGR 552.4 SG3 346.4 ST 57.9 SR 22.5 SS 48.2
 RDE -.4370 RRA -.1823 RC3 .2196 FAU .05308 RRT .6801 RRF -.7252 RTF -.1101 CRT .9103 CRS .7876 CST .9713
 FDE .9816 FRA 3.0007 FC3-1.4542 BSP 4081 SGB 2366.3 R23 -.1378 R13 -.8944 LSA 77.4 MSA 14.0 SBA 1.1
 BDE 1.0525 BRA 1.7852 BC3 .2268 FSP 524 SGI 2332.3 SG2 399.5 THA 9.56 EL1 61.5 EL2 8.8 ALF 18.89

LAUNCH DATE MAR 26 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC DISTANCE 415.345 EARTH TO MARS
 RL 149.22 LAL -.00 LOL 184.89 VL 33.321 GAL -6.26 AZL 93.11 HCA 144.10 SMA 198.54 ECC .26989 INC 3.1127 V1 29.860
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.801 GAP 15.48 AZP 87.48 TAL 329.92 TAP 114.02 RCA 144.95 APO 252.12 V2 26.482
 RC 59.137 GL -18.97 GP 7.16 ZAL 138.22 ZAP 158.17 ETS 161.35 ZAE 167.40 ETE 111.27 ZAC 108.34 ETC 275.80 LVI -21.83

PLANETOCENTRIC CONIC
 C3 30.610 VHL 5.533 DLA -30.30 RAL 336.33 RAD 6647.2 VEL 12.270 PTH 7.21 VHP 7.416 DPA -13.05 RAP 309.19 ECC 1.5038
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 39 54 2605.00 -12.60 70.96 200.41 136.27 20 23 19 1605.0 5.75 55.14
 60.00 21 4 28 2379.99 -5.84 57.10 206.82 129.95 21 44 8 1380.0 10.24 39.14
 70.00 23 0 14 2039.43 2.07 35.46 212.77 124.10 23 34 13 1039.4 15.63 15.41
 78.63 2 3 45 1476.86 14.46 .15 220.13 116.92 2 28 22 476.9 24.31 336.98
 78.63 2 3 45 1476.86 14.46 .15 220.13 116.92 2 28 22 476.9 24.31 336.98
 78.63 2 3 45 1476.86 14.46 .15 220.13 116.92 2 28 22 476.9 24.31 336.98
 110.00 4 3 36 1086.25 2.07 324.38 212.77 124.10 4 21 42 86.2 15.63 304.32

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9594 TRA-1.7498 TC3 -.0501 BAU .0988 SGT 2322.8 SGR 572.9 SG3 368.1 ST 58.8 SR 22.6 SS 49.9
 RDE -.4295 RRA -.2081 RC3 .2357 FAU .05494 RRT .7150 RRF -.7630 RTF -.8930 CRT .9217 CRS .8018 CST .9702
 FDE 1.0368 FRA 3.1233 FC3-1.5538 BSP 4141 SGB 2392.4 R23 -.1510 R13 -.8980 LSA 79.1 MSA 13.9 SBA 1.1
 BDE 1.0512 BRA 1.7621 BC3 .2410 FSP 561 SGI 2359.7 SG2 394.3 THA 10.29 EL1 62.4 EL2 8.2 ALF 19.83

LAUNCH DATE MAR 26 1971

FLIGHT TIME 168.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.249 GAL -6.14 AZL 93.20 HCA 145.37 SNA 197.12 ECC .26420 INC 3.1990 V1 29.860
RP 206.75 LAP -1.02 LOP 330.10 VP 24.709 GAP 15.07 AZP 87.37 TAL 329.99 TAP 115.36 RCA 145.04 APO 249.20 V2 26.487
RC 59.850 GL -19.78 GP 7.59 ZAL 137.98 ZAP 157.04 ETS 161.30 ZAE 167.26 ETE 106.71 ZAC 108.74 ETC 275.86 LVI -22.30

DISTANCE 418.929

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.724 VHL 5.452 DLA -31.03 RAL 336.76 RAD 6646.9 VEL 12.234 PTH 7.18 VHP 7.209 DPA -12.58 RAP 309.29 ECC 1.4892
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 19 45 50 2880.52 -11.40 69.88 200.72 136.81 20 28 50 1580.5 6.98 54.10
60.00 21 12 35 2349.67 -4.51 55.84 207.27 130.09 21 51 45 1349.7 11.54 37.63
70.00 23 13 45 1993.10 3.83 35.04 213.55 123.96 23 46 58 993.1 17.23 12.76
76.67 1 51 14 1514.50 15.01 3.26 220.26 117.48 2 16 29 514.5 25.03 340.07
76.67 1 51 14 1514.50 15.01 3.26 220.26 117.48 2 16 29 514.5 25.03 340.07
76.67 1 51 14 1514.50 15.01 3.26 220.26 117.48 2 16 29 514.5 25.03 340.07
110.00 4 17 7 1039.92 3.83 321.96 213.55 123.96 4 34 27 39.9 17.23 301.68

DIFFERENTIAL CORRECTIONS

TDE -.9607 TRA-1.7210 TC3 -.0424 BAU .1020
RDE -.4233 RRA -.2356 RC3 .2531 FAU .05698
FDE 1.0881 FRA 3.2498 FC3 -1.6595 B8P 4188
BDE 1.0498 BRA 1.7370 BC3 .2567 F8P 599

MID-COURSE EXECUTION ACCURACY

SGT 2340.1 SGR 597.9 SG3 390.9
RRY .7476 RRF -.7983 RTF -.8957
SGB 2415.3 R23 -.1649 R13 -.9015
SG1 2383.6 SG2 389.9 THA 11.12

ORBIT DETERMINATION ACCURACY

ST 59.6 SR 22.7 S8 51.6
CRT .9330 CR8 .8166 C8T .9690
LSA 80.8 M8A 13.9 S8A 1.1
EL1 63.3 EL2 7.7 ALF 19.84

LAUNCH DATE MAR 26 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.160 GAL -6.02 AZL 93.29 HCA 146.64 SNA 195.80 ECC .25880 INC 3.2911 V1 29.860
RP 206.72 LAP -1.81 LOP 331.37 VP 24.621 GAP 14.66 AZP 87.25 TAL 330.06 TAP 116.69 RCA 145.13 APO 246.48 V2 26.491
RC 60.633 GL -20.62 GP 8.06 ZAL 137.86 ZAP 155.87 ETS 161.22 ZAE 167.05 ETE 106.50 ZAC 109.19 ETC 275.92 LVI -22.80

DISTANCE 422.560

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.923 VHL 5.378 DLA -31.79 RAL 337.20 RAD 6646.6 VEL 12.201 PTH 7.18 VHP 7.009 DPA -12.09 RAP 309.35 ECC 1.4760
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 19 52 11 2555.50 -10.16 66.80 201.12 136.74 20 34 46 1555.5 8.23 53.03
60.00 21 21 25 2318.02 -3.12 54.13 207.83 130.20 22 0 3 1318.0 12.89 36.04
70.00 23 29 36 1940.66 5.82 30.28 214.54 123.71 24 1 57 940.7 18.98 9.71
74.85 1 40 19 1547.57 15.57 6.06 220.47 118.07 2 6 7 547.6 25.77 342.85
74.85 1 40 19 1547.57 15.57 6.06 220.47 118.07 2 6 7 547.6 25.77 342.85
74.85 1 40 19 1547.57 15.57 6.06 220.47 118.07 2 6 7 547.6 25.77 342.85
110.00 4 32 58 8275.52 5.82 297.11 214.54 123.71 6 17 34 8275.5 18.98 276.54

DIFFERENTIAL CORRECTIONS

TDE -.9631 TRA-1.6914 TC3 -.0361 BAU .1060
RDE -.4186 RRA -.2650 RC3 .2718 FAU .05908
FDE 1.1418 FRA 3.3618 FC3 -1.7684 B8P 4239
BDE 1.0501 BRA 1.7120 BC3 .2742 F8P 639

MID-COURSE EXECUTION ACCURACY

SGT 2355.5 SGR 628.2 SG3 414.9
RRY .7774 RRF -.8307 RTF -.8981
SGB 2437.8 R23 -.1799 R13 -.9048
SG1 2406.9 SG2 386.7 THA 12.03

ORBIT DETERMINATION ACCURACY

ST 60.4 SR 22.9 S8 53.3
CRT .9442 CR8 .8322 C8T .9677
LSA 82.5 M8A 13.9 S8A 1.0
EL1 64.1 EL2 7.1 ALF 19.82

LAUNCH DATE MAR 26 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.118 GAL -5.81 AZL 93.39 HCA 147.90 SNA 194.58 ECC .25370 INC 3.3096 V1 29.860
RP 206.70 LAP -1.80 LOP 332.64 VP 24.537 GAP 14.27 AZP 87.13 TAL 330.13 TAP 116.03 RCA 145.21 APO 243.94 V2 26.494
RC 61.483 GL -21.51 GP 8.57 ZAL 137.34 ZAP 154.87 ETS 161.10 ZAE 166.78 ETE 104.67 ZAC 109.67 ETC 275.98 LVI -23.33

DISTANCE 426.235

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.204 VHL 5.311 DLA -32.58 RAL 337.68 RAD 6646.3 VEL 12.172 PTH 7.13 VHP 6.817 DPA -11.56 RAP 309.37 ECC 1.4842
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 19 59 1 2929.85 -8.88 67.69 201.63 136.94 20 41 11 1529.8 9.80 51.93
60.00 21 31 7 2284.75 -1.66 52.53 208.53 130.27 22 9 11 1284.7 14.29 34.35
70.00 23 49 9 1878.30 8.16 26.98 218.86 123.28 24 20 23 878.3 20.99 5.99
73.10 1 30 34 1577.57 16.13 6.67 220.75 118.70 1 58 51 577.0 26.54 345.44
73.10 1 30 34 1577.57 16.13 6.67 220.75 118.70 1 58 51 577.0 26.54 345.44
73.10 1 30 34 1577.57 16.13 6.67 220.75 118.70 1 58 51 577.0 26.54 345.44
110.00 4 52 27 8213.16 8.16 293.80 218.86 123.28 6 36 0 8213.2 20.99 272.82

DIFFERENTIAL CORRECTIONS

TDE -.9597 TRA-1.6937 TC3 -.0217 BAU .1106
RDE -.4130 RRA -.2861 RC3 .2924 FAU .06137
FDE 1.1971 FRA 3.5163 FC3 -1.8839 B8P 4211
BDE 1.0496 BRA 1.6800 BC3 .2932 F8P 680

MID-COURSE EXECUTION ACCURACY

SGT 2357.1 SGR 663.9 SG3 440.1
RRY .8048 RRF -.8597 RTF -.5116
SGB 2448.8 R23 -.1925 R13 -.9093
SG1 2418.5 SG2 384.1 THA 13.11

ORBIT DETERMINATION ACCURACY

ST 60.7 SR 23.1 S8 55.1
CRT .9547 CR8 .8478 C8T .9688
LSA 84.0 M8A 13.9 S8A 1.0
EL1 64.7 EL2 6.5 ALF 20.17

LAUNCH DATE MAR 26 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 33.055 GAL -5.81 AZL 93.50 HCA 148.17 SNA 193.44 ECC .24889 INC 3.4953 V1 29.860
RP 206.68 LAP -1.79 LOP 333.91 VP 24.457 GAP 13.88 AZP 87.00 TAL 330.20 TAP 119.37 RCA 145.29 APO 241.58 V2 26.496
RC 62.398 GL -22.48 GP 9.12 ZAL 136.88 ZAP 153.42 ETS 160.95 ZAE 166.40 ETE 103.21 ZAC 110.21 ETC 276.03 LVI -23.89

DISTANCE 429.949

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.589 VHL 5.251 DLA -33.42 RAL 338.18 RAD 6646.0 VEL 12.146 PTH 7.11 VHP 6.632 DPA -10.99 RAP 309.35 ECC 1.4537
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 20 6 25 2903.51 -7.57 66.57 202.24 137.11 20 48 8 1503.5 10.81 50.00
60.00 21 41 49 2249.55 -1.11 50.85 209.38 130.30 22 19 18 1249.6 15.76 32.54
70.00 0 19 38 1795.76 11.22 22.53 217.74 122.47 0 49 31 795.8 23.51 .91
71.41 1 21 46 1605.27 16.70 11.13 221.12 119.38 1 48 31 605.3 27.32 347.89
71.41 1 21 46 1605.27 16.70 11.13 221.12 119.38 1 48 31 605.3 27.32 347.89
71.41 1 21 46 1605.27 16.70 11.13 221.12 119.38 1 48 31 605.3 27.32 347.89
110.00 5 19 2 6130.63 11.22 289.36 217.74 122.47 7 1 13 5130.6 23.51 267.73

DIFFERENTIAL CORRECTIONS

TDE -.9684 TRA-1.6257 TC3 -.0241 BAU .1159
RDE -.4140 RRA -.3304 RC3 .3137 FAU .06364
FDE 1.2604 FRA 3.6582 FC3 -1.9984 B8P 4319
BDE 1.0532 BRA 1.6589 BC3 .3146 F8P 727

MID-COURSE EXECUTION ACCURACY

SGT 2373.7 SGR 706.5 SG3 466.6
RRY .8271 RRF -.8854 RTF -.9021
SGB 2476.6 R23 -.2117 R13 -.9112
SG1 2446.5 SG2 385.3 THA 14.19

ORBIT DETERMINATION ACCURACY

ST 61.7 SR 23.5 S8 57.0
CRT .9653 CR8 .8643 C8T .9649
LSA 86.1 M8A 13.9 S8A 1.0
EL1 65.8 EL2 5.8 ALF 20.35

LAUNCH DATE MAR 26 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 433.702

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.998 GAL -5.71 AZL 93.61 HCA 150.44 SMA 192.37 ECC .24433 INC 3.6092 V1 29.860
RP 206.67 LAP -1.78 LOP 335.18 VP 24.380 GAP 13.50 AZP 86.86 TAL 330.27 TAP 120.71 RCA 145.37 APO 239.37 V2 26.486
RC 63.376 GL -23.43 GP 9.73 ZAL 136.98 ZAP 152.12 ETS 160.76 ZAE 165.97 ETE 102.14 ZAC 110.80 ETC 276.07 LVI -24.49

PLANETOCENTRIC CONIC

C3 27.012 VHL 5.197 DLA -34.30 RAL 338.72 RAD 6645.6 VEL 12.123 PTH 7.09 VHP 6.454 DPA -10.38 RAP 309.28 ECC 1.4445
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 14 27 2476.24 -6.21 65.41 202.99 137.27 20 59 43 1476.2 12.15 49.61
60.00 21 53 47 2211.75 1.56 49.05 210.42 130.28 22 30 39 1211.6 17.32 30.56
69.73 1 13 43 1631.35 17.27 13.50 221.58 120.10 1 40 54 631.3 28.13 350.26
69.73 1 13 43 1631.35 17.27 13.50 221.58 120.10 1 40 54 631.3 28.13 350.26
69.73 1 13 43 1631.35 17.27 13.50 221.58 120.10 1 40 54 631.3 28.13 350.26
69.73 1 13 43 1631.35 17.27 13.50 221.58 120.10 1 40 54 631.3 28.13 350.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9563 TRA-1.5739 TC3 .0038 BAU .1224 SGT 2350.1 SGR 755.0 SG3 493.7 ST 61.4 SR 23.9 SS 58.7
RDE -.4133 RRA -.3658 RC3 .3389 FAU .06635 RRT .8494 RRF -.9073 RTF -.9070 CRT .9739 CRS .8796 CST .9638
PDE 1.3203 FRA 3.7953 FC3-2.1266 BSP 4165 SGB 2468.4 R23 -2190 R13 -.9176 LSA 87.1 MSA 13.9 SSA .9
BDE 1.0418 BRA 1.6159 BC3 .3389 FSP 767 SG1 2438.3 SG2 384.1 THA 15.66 EL1 65.7 EL2 5.1 ALF 20.92

LAUNCH DATE MAR 26 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 437.487

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.943 GAL -5.61 AZL 93.73 HCA 151.71 SMA 191.38 ECC .24003 INC 3.7323 V1 29.860
RP 206.68 LAP -1.77 LOP 336.45 VP 24.307 GAP 13.12 AZP 86.71 TAL 330.34 TAP 122.05 RCA 145.44 APO 237.31 V2 26.496
RC 64.414 GL -24.47 GP 10.39 ZAL 136.15 ZAP 150.77 ETS 160.54 ZAE 165.47 ETE 101.43 ZAC 111.46 ETC 276.11 LVI -25.13

PLANETOCENTRIC CONIC

C3 26.540 VHL 5.192 DLA -35.22 RAL 339.30 RAD 6645.6 VEL 12.104 PTH 7.08 VHP 6.284 DPA -9.73 RAP 309.17 ECC 1.4368
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 23 14 2448.07 -4.80 64.22 203.88 137.39 21 4 2 1448.1 13.54 48.36
60.00 22 7 19 2170.83 3.36 47.09 211.69 130.18 22 43 30 1170.8 18.98 28.38
68.07 1 6 21 1656.27 17.84 15.81 222.15 120.89 1 33 57 656.3 28.96 352.58
68.07 1 6 21 1656.27 17.84 15.81 222.15 120.89 1 33 57 656.3 28.96 352.58
68.07 1 6 21 1656.27 17.84 15.81 222.15 120.89 1 33 57 656.3 28.96 352.58
68.07 1 6 21 1656.27 17.84 15.81 222.15 120.89 1 33 57 656.3 28.96 352.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9755 TRA-1.3504 TC3 -.0143 BAU .1288 SGT 2373.3 SGR 813.3 SG3 522.8 ST 62.8 SR 24.7 SS 60.8
RDE -.4173 RRA -.4067 RC3 .3626 FAU .06865 RRT .8634 RRF -.9262 RTF -.9049 CRT .9827 CRS .8961 CST .9610
PDE 1.3974 FRA 3.9473 FC3-2.2393 BSP 4378 SGB 2508.8 R23 -2434 R13 -.9177 LSA 89.7 MSA 14.1 SSA .9
BDE 1.0610 BRA 1.6029 BC3 .3629 FSP 822 SG1 2477.8 SG2 393.0 THA 16.82 EL1 67.3 EL2 4.3 ALF 21.18

LAUNCH DATE MAR 26 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 441.306

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.892 GAL -5.52 AZL 93.87 HCA 152.97 SMA 190.45 ECC .23597 INC 3.8660 V1 29.860
RP 206.69 LAP -1.76 LOP 337.72 VP 24.236 GAP 12.76 AZP 86.56 TAL 330.41 TAP 123.39 RCA 145.51 APO 235.39 V2 26.495
RC 65.512 GL -25.57 GP 11.12 ZAL 135.68 ZAP 149.37 ETS 160.28 ZAE 164.88 ETE 101.07 ZAC 112.18 ETC 276.15 LVI -25.82

PLANETOCENTRIC CONIC

C3 26.149 VHL 5.114 DLA -36.20 RAL 339.93 RAD 6645.5 VEL 12.088 PTH 7.07 VHP 6.121 DPA -9.02 RAP 309.00 ECC 1.4303
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 32 54 2418.57 -3.32 62.99 204.95 137.49 21 13 13 1418.6 14.98 47.04
60.00 22 23 0 2125.23 5.36 44.90 213.23 130.00 22 58 25 1125.2 20.80 25.89
66.39 0 59 35 1680.33 18.42 18.10 222.84 121.73 1 27 35 680.3 29.82 354.88
66.39 0 59 35 1680.33 18.42 18.10 222.84 121.73 1 27 35 680.3 29.82 354.88
66.39 0 59 35 1680.33 18.42 18.10 222.84 121.73 1 27 35 680.3 29.82 354.88
66.39 0 59 35 1680.33 18.42 18.10 222.84 121.73 1 27 35 680.3 29.82 354.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9875 TRA-1.4958 TC3 .0088 BAU .1371 SGT 2342.9 SGR 878.4 SG3 532.0 ST 62.5 SR 25.4 SS 62.7
RDE -.4215 RRA -.4485 RC3 .3920 FAU .07161 RRT .8792 RRF -.9417 RTF -.5586 CRT .9892 CRS .9108 CST .9604
PDE 1.4691 FRA 4.0886 FC3-2.3708 BSP 4239 SGB 2502.1 R23 -2500 R13 -.9236 LSA 91.0 MSA 14.2 SSA .8
BDE 1.0553 BRA 1.5616 BC3 .3921 FSP 865 SG1 2470.5 SG2 396.8 THA 18.75 EL1 67.4 EL2 3.4 ALF 21.96

LAUNCH DATE MAR 26 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 445.153

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.844 GAL -5.44 AZL 94.01 HCA 154.24 SMA 189.59 ECC .23216 INC 4.0117 V1 29.860
RP 206.71 LAP -1.74 LOP 338.99 VP 24.188 GAP 12.40 AZP 86.39 TAL 330.48 TAP 124.72 RCA 145.57 APO 233.60 V2 26.493
RC 66.667 GL -26.74 GP 11.92 ZAL 135.16 ZAP 147.91 ETS 159.99 ZAE 164.21 ETE 101.00 ZAC 112.98 ETC 276.10 LVI -26.57

PLANETOCENTRIC CONIC

C3 25.848 VHL 5.084 DLA -37.23 RAL 340.61 RAD 6645.3 VEL 12.075 PTH 7.06 VHP 5.966 DPA -8.25 RAP 308.78 ECC 1.4254
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 43 38 2387.70 -1.77 61.69 206.21 137.55 21 23 25 1387.7 16.48 45.64
60.00 22 41 37 2073.13 7.63 42.38 215.16 129.69 23 16 10 1073.1 22.82 22.97
64.70 0 53 23 1703.84 18.99 20.38 223.66 122.64 1 21 47 703.8 30.70 357.18
64.70 0 53 23 1703.84 18.99 20.38 223.66 122.64 1 21 47 703.8 30.70 357.18
64.70 0 53 23 1703.84 18.99 20.38 223.66 122.64 1 21 47 703.8 30.70 357.18
64.70 0 53 23 1703.84 18.99 20.38 223.66 122.64 1 21 47 703.8 30.70 357.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9898 TRA-1.4674 TC3 -.0127 BAU .1449 SGT 2357.6 SGR 955.7 SG3 583.0 ST 63.9 SR 26.5 SS 65.0
RDE -.4317 RRA -.4971 RC3 .4192 FAU .07400 RRT .8870 RRF -.9547 RTF -.9056 CRT .9947 CRS .9258 CST .9584
PDE 1.5619 FRA 4.2443 FC3-2.4785 BSP 4456 SGB 2544.0 R23 -2719 R13 -.9240 LSA 93.8 MSA 14.5 SSA .8
BDE 1.0798 BRA 1.5494 BC3 .4194 FSP 925 SG1 2510.0 SG2 414.6 THA 20.36 EL1 69.1 EL2 2.5 ALF 22.47

LAUNCH DATE MAR 26 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.798 GAL -5.35 AZL 94.17 HCA 155.81 SMA 188.78 ECC .22855 INC 4.1716 V1 28.860
 RP 206.73 LAP -1.73 LOP 340.25 VP 24.102 GAP 12.05 AZP 86.20 TAL 330.55 TAP 126.06 RCA 145.64 APO 231.93 V2 26.489
 RC 67.877 GL -27.98 GP 12.81 ZAL 134.58 ZAP 146.38 ETS 159.67 ZAE 163.44 ETE 101.22 ZAC 113.67 ETC 276.21 LVI -27.38

Planetocentric Conic: C3 25.636 VHL 5.063 DLA -38.32 RAL 341.36 RAD 6645.3 VEL 12.067 PTH 7.05 VHP 5.820 DPA -7.40 RAP 308.90 ECC 1.4219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 55 39 2354.90 -.12 60.32 207.72 137.58 21 34 54 1354.9 18.06 44.13
 60.00 23 4 58 2009.72 10.37 39.27 217.64 129.16 23 38 28 1009.7 25.20 19.29
 62.98 0 47 42 1727.06 19.56 22.67 224.63 123.63 1 16 29 727.1 31.60 359.52
 62.98 0 47 42 1727.06 19.56 22.67 224.63 123.63 1 16 29 727.1 31.60 359.52
 62.98 0 47 42 1727.06 19.56 22.67 224.63 123.63 1 16 29 727.1 31.60 359.52
 62.98 0 47 42 1727.06 19.56 22.67 224.63 123.63 1 16 29 727.1 31.60 359.52

Differential Corrections: TDE -.9986 TRA-1.4212 TC3 -.0137 BAU .1545 SGT 2340.8 SGR 1042.9 SG3 614.2 ST 64.3 SR 27.8 SS 67.2
 RDE -.4444 RRA -.5488 RC3 .4505 FAU .07673 RRT .8949 RRF -.9651 RTF -.9056 CRT .9981 CRS .9391 CST .9567
 FDE 1.6569 FRA 4.3924 FC3-2.5911 BSP 4490 SGB 2562.6 R23 -.2821 R13 -.9277 LSA 95.9 MSA 14.7 SSA .8
 BDE 1.0930 BRA 1.5235 BC3 .4507 FSP 980 SG1 2526.1 SG2 431.3 THA 22.43 EL1 70.1 EL2 1.6 ALF 23.36

LAUNCH DATE MAR 26 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 18 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.756 GAL -5.28 AZL 94.35 HCA 156.78 SMA 188.03 ECC .22517 INC 4.3475 V1 29.860
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.039 GAP 11.71 AZP 86.00 TAL 330.61 TAP 127.39 RCA 145.70 APO 230.37 V2 26.485
 RC 69.140 GL -29.30 GP 13.79 ZAL 133.95 ZAP 144.79 ETS 159.31 ZAE 162.55 ETE 101.67 ZAC 114.85 ETC 276.23 LVI -28.26

Planetocentric Conic: C3 25.523 VHL 5.052 DLA -39.48 RAL 342.19 RAD 6645.2 VEL 12.062 PTH 7.05 VHP 5.683 DPA -6.48 RAP 308.15 ECC 1.4201
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 9 17 2319.71 1.64 58.85 209.52 137.55 21 47 57 1319.7 19.74 42.47
 60.00 23 38 10 1921.37 14.13 34.83 221.15 128.14 24 10 11 921.4 28.32 13.90
 61.22 0 42 33 1750.22 20.12 25.00 225.77 124.71 1 11 44 750.2 32.53 1.93
 61.22 0 42 33 1750.22 20.12 25.00 225.77 124.71 1 11 44 750.2 32.53 1.93
 61.22 0 42 33 1750.22 20.12 25.00 225.77 124.71 1 11 44 750.2 32.53 1.93
 61.22 0 42 33 1750.22 20.12 25.00 225.77 124.71 1 11 44 750.2 32.53 1.93

Differential Corrections: TDE -1.0089 TRA-1.3710 TC3 -.0155 BAU .1654 SGT 2316.7 SGR 1142.3 SG3 645.6 ST 64.7 SR 29.4 SS 69.4
 RDE -.4616 RRA -.8054 RC3 .4845 FAU .07956 RRT .9005 RRF -.9733 RTF -.9050 CRT .9996 CRS .9510 CST .9549
 FDE 1.7611 FRA 4.5351 FC3-2.6986 BSP 4522 SGB 2583.0 R23 -.2889 R13 -.9318 LSA 98.2 MSA 15.0 SSA .7
 BDE 1.1095 BRA 1.4987 BC3 .4847 FSP 1034 SG1 2543.1 SG2 452.5 THA 24.78 EL1 71.1 EL2 .8 ALF 24.42

LAUNCH DATE MAR 26 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 20 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.718 GAL -5.21 AZL 94.54 HCA 158.04 SMA 187.33 ECC .22198 INC 4.5426 V1 29.860
 RP 206.81 LAP -1.70 LOP 342.79 VP 23.979 GAP 11.37 AZP 85.79 TAL 330.67 TAP 128.71 RCA 145.75 APO 228.92 V2 26.480
 RC 70.455 GL -30.72 GP 14.88 ZAL 133.25 ZAP 143.11 ETS 158.91 ZAE 161.54 ETE 102.31 ZAC 115.95 ETC 276.25 LVI -29.23

Planetocentric Conic: C3 25.519 VHL 5.052 DLA -40.71 RAL 343.12 RAD 6645.2 VEL 12.062 PTH 7.04 VHP 5.555 DPA -5.46 RAP 307.74 ECC 1.4200
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 24 59 2281.34 3.57 57.25 211.69 137.47 22 3 0 1281.3 21.93 40.62
 59.40 0 37 59 1773.48 20.66 27.39 227.11 125.89 1 7 32 773.5 33.48 4.41
 59.40 0 37 59 1773.48 20.66 27.39 227.11 125.89 1 7 32 773.5 33.48 4.41
 59.40 0 37 59 1773.48 20.66 27.39 227.11 125.89 1 7 32 773.5 33.48 4.41
 59.40 0 37 59 1773.48 20.66 27.39 227.11 125.89 1 7 32 773.5 33.48 4.41
 59.40 0 37 59 1773.48 20.66 27.39 227.11 125.89 1 7 32 773.5 33.48 4.41

Differential Corrections: TDE -1.0180 TRA-1.3134 TC3 -.0137 BAU .1780 SGT 2279.3 SGR 1254.9 SG3 676.4 ST 64.8 SR 31.3 SS 71.6
 RDE -.4839 RRA -.6669 RC3 .5217 FAU .08252 RRT .9046 RRF -.9798 RTF -.5344 CRT .9993 CRS .9614 CST .9531
 FDE 1.8738 FRA 4.6673 FC3-2.7997 BSP 4511 SGB 2602.0 R23 -.2901 R13 -.9368 LSA 100.4 MSA 15.3 SSA .7
 BDE 1.1272 BRA 1.4730 BC3 .5219 FSP 1085 SG1 2557.9 SG2 476.7 THA 27.51 EL1 72.0 EL2 1.1 ALF 25.74

LAUNCH DATE MAR 26 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 22 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.677 GAL -5.14 AZL 94.76 HCA 159.31 SMA 186.88 ECC .21899 INC 4.7601 V1 29.860
 RP 206.87 LAP -1.68 LOP 344.06 VP 23.920 GAP 11.04 AZP 85.55 TAL 330.73 TAP 130.03 RCA 145.80 APO 227.56 V2 26.474
 RC 71.818 GL -32.24 GP 16.09 ZAL 132.48 ZAP 141.36 ETS 158.49 ZAE 160.39 ETE 103.10 ZAC 117.18 ETC 276.27 LVI -30.30

Planetocentric Conic: C3 25.637 VHL 5.063 DLA -42.02 RAL 344.16 RAD 6645.3 VEL 12.067 PTH 7.05 VHP 5.438 DPA -4.32 RAP 307.25 ECC 1.4219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 43 24 2236.61 5.71 55.45 214.33 137.31 22 20 43 1238.6 23.54 38.49
 57.53 0 34 1 1797.04 21.19 29.84 228.66 127.17 1 3 58 797.0 34.45 6.99
 57.53 0 34 1 1797.04 21.19 29.84 228.66 127.17 1 3 58 797.0 34.45 6.99
 57.53 0 34 1 1797.04 21.19 29.84 228.66 127.17 1 3 58 797.0 34.45 6.99
 57.53 0 34 1 1797.04 21.19 29.84 228.66 127.17 1 3 58 797.0 34.45 6.99
 57.53 0 34 1 1797.04 21.19 29.84 228.66 127.17 1 3 58 797.0 34.45 6.99

Differential Corrections: TDE -1.0386 TRA-1.2606 TC3 -.0273 BAU .1918 SGT 2251.4 SGR 1384.8 SG3 707.2 ST 65.5 SR 33.7 SS 74.2
 RDE -.5151 RRA -.7362 RC3 .5590 FAU .08513 RRT .9053 RRF -.9849 RTF -.9016 CRT .9974 CRS .9704 CST .9515
 FDE 2.0081 FRA 4.7957 FC3-2.8749 BSP 4625 SGB 2643.2 R23 -.2909 R13 -.9413 LSA 103.3 MSA 15.7 SSA .6
 BDE 1.1595 BRA 1.4598 BC3 .5597 FSP 1144 SG1 2593.4 SG2 510.7 THA 30.41 EL1 73.6 EL2 2.2 ALF 27.18

LAUNCH DATE MAR 26 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 464.767

EARTH TO MARS

RL 149.22 LAL -0.00 LOL 184.69 VL 32.842 GAL -8.07 AZL 95.00 HCA 160.57 SMA 186.07 ECC .21618 INC 5.0044 V1 29.860
 RP 206.93 LAP -1.66 LOP 345.33 VP 23.864 GAP 10.72 AZP 85.28 TAL 330.78 TAP 131.35 RCA 145.85 APO 226.30 V2 26.486
 RC 73.228 GL -33.87 GP 17.45 ZAL 131.63 ZAP 139.51 ETS 158.03 ZAE 159.07 ETE 103.99 ZAC 118.56 ETC 276.29 LVI -31.47

PLANETOCENTRIC CONIC

C3 25.897 VHL 5.089 DLA -43.41 RAL 348.34 RAD 6645.4 VEL 12.077 PTH 7.06 VHP 5.332 DPA -3.07 RAP 306.69 ECC 1.4262
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 5 43 2189.23 6.18 53.36 217.63 137.04 22 42 12 1189.2 25.79 35.93
 55.58 0 30 42 1821.21 21.68 32.39 230.48 128.58 1 1 3 821.2 35.43 9.72
 55.58 0 30 42 1821.21 21.68 32.39 230.48 128.58 1 1 3 821.2 35.43 9.72
 55.58 0 30 42 1821.21 21.68 32.39 230.48 128.58 1 1 3 821.2 35.43 9.72
 55.58 0 30 42 1821.21 21.68 32.39 230.48 128.58 1 1 3 821.2 35.43 9.72
 55.58 0 30 42 1821.21 21.68 32.39 230.48 128.58 1 1 3 821.2 35.43 9.72
 55.58 0 30 42 1821.21 21.68 32.39 230.48 128.58 1 1 3 821.2 35.43 9.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0576 TRA-1.1974 TC3 -.0335 BAU .2082 SGT 2205.2 SGR 1531.2 SG3 735.7 ST 65.7 SR 36.5 SS 76.7
 RDE -.5547 RRA -.8113 RC3 .8005 FAU .08795 RRT .9031 RRF -.9888 RTF -.8989 CRT .9941 CRS .9778 CST .9498
 FDE 2.1536 FRA 4.9001 FC3-2.9402 BSP 4675 SGB 2684.7 R23 -.2843 R13 -.9471 LSA 106.2 NSA 16.0 SBA .6
 BDE 1.1942 BRA 1.4463 BC3 .6015 FSP 1192 SGI 2628.5 SGI 546.2 THA 33.80 EL1 75.1 EL2 3.5 ALF 28.96

LAUNCH DATE MAR 26 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 468.753

EARTH TO MARS

RL 149.22 LAL -0.00 LOL 184.69 VL 32.809 GAL -5.02 AZL 95.28 HCA 161.83 SMA 185.51 ECC .21355 INC 5.2813 V1 29.860
 RP 207.00 LAP -1.64 LOP 346.59 VP 23.809 GAP 10.41 AZP 84.98 TAL 330.82 TAP 132.65 RCA 145.89 APO 225.12 V2 26.458
 RC 74.683 GL -35.64 GP 18.97 ZAL 130.67 ZAP 137.55 ETS 157.54 ZAE 157.57 ETE 104.94 ZAC 120.11 ETC 276.31 LVI -32.78

PLANETOCENTRIC CONIC

C3 26.325 VHL 5.131 DLA -44.90 RAL 346.69 RAD 6645.5 VEL 12.095 PTH 7.07 VHP 5.240 DPA -1.66 RAP 306.04 ECC 1.4332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 34 10 2128.53 11.19 50.74 221.89 136.55 23 9 39 1128.5 28.48 32.68
 53.54 0 28 9 1846.22 22.12 35.05 232.61 130.13 0 58 55 846.2 36.41 12.63
 53.54 0 28 9 1846.22 22.12 35.05 232.61 130.13 0 58 55 846.2 36.41 12.63
 53.54 0 28 9 1846.22 22.12 35.05 232.61 130.13 0 58 55 846.2 36.41 12.63
 53.54 0 28 9 1846.22 22.12 35.05 232.61 130.13 0 58 55 846.2 36.41 12.63
 53.54 0 28 9 1846.22 22.12 35.05 232.61 130.13 0 58 55 846.2 36.41 12.63
 53.54 0 28 9 1846.22 22.12 35.05 232.61 130.13 0 58 55 846.2 36.41 12.63

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0822 TRA-1.1307 TC3 -.0447 BAU .2267 SGT 2154.2 SGR 1698.6 SG3 762.1 ST 66.1 SR 40.0 SS 79.4
 RDE -.6074 RRA -.8949 RC3 .6425 FAU .09035 RRT .9031 RRF -.9917 RTF -.8950 CRT .9897 CRS .9839 CST .9486
 FDE 2.3233 FRA 4.9851 FC3-2.9714 BSP 4766 SGB 2743.3 R23 -.2727 R13 -.9535 LSA 109.5 NSA 16.4 SBA .5
 BDE 1.2410 BRA 1.4420 BC3 .6440 FSP 1241 SGI 2679.9 SGI 586.3 THA 37.56 EL1 77.1 EL2 4.9 ALF 31.06

LAUNCH DATE MAR 26 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 472.756

EARTH TO MARS

RL 149.22 LAL -0.00 LOL 184.69 VL 32.577 GAL -4.96 AZL 95.60 HCA 163.09 SMA 184.98 ECC .21110 INC 5.5977 V1 29.860
 RP 207.08 LAP -1.63 LOP 347.86 VP 23.756 GAP 10.10 AZP 84.84 TAL 330.86 TAP 133.95 RCA 145.93 APO 224.03 V2 26.449
 RC 76.180 GL -37.57 GP 20.69 ZAL 129.61 ZAP 135.48 ETS 157.02 ZAE 155.85 ETE 105.92 ZAC 121.85 ETC 276.33 LVI -34.24

PLANETOCENTRIC CONIC

C3 26.959 VHL 5.192 DLA -46.50 RAL 348.25 RAD 6645.8 VEL 12.121 PTH 7.09 VHP 5.164 DPA -.07 RAP 305.29 ECC 1.4437
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 15 21 2041.58 15.46 46.88 227.99 135.58 23 49 22 1041.6 32.17 27.68
 51.41 0 26 30 1872.37 22.49 37.84 235.09 131.84 0 57 42 872.4 37.39 15.75
 51.41 0 26 30 1872.37 22.49 37.84 235.09 131.84 0 57 42 872.4 37.39 15.75
 51.41 0 26 30 1872.37 22.49 37.84 235.09 131.84 0 57 42 872.4 37.39 15.75
 51.41 0 26 30 1872.37 22.49 37.84 235.09 131.84 0 57 42 872.4 37.39 15.75
 51.41 0 26 30 1872.37 22.49 37.84 235.09 131.84 0 57 42 872.4 37.39 15.75
 51.41 0 26 30 1872.37 22.49 37.84 235.09 131.84 0 57 42 872.4 37.39 15.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1109 TRA-1.0589 TC3 -.0553 BAU .2482 SGT 2092.2 SGR 1888.6 SG3 784.2 ST 66.4 SR 44.2 SS 82.2
 RDE -.6787 RRA -.8864 RC3 .6865 FAU .09259 RRT .8995 RRF -.9940 RTF -.8001 CRT .9848 CRS .9886 CST .9476
 FDE 2.5164 FRA 5.0346 FC3-2.9734 BSP 4877 SGB 2818.5 R23 -.2536 R13 -.9606 LSA 113.3 NSA 16.7 SBA .5
 BDE 1.3008 BRA 1.4457 BC3 .6887 FSP 1282 SGI 2747.5 SGI 628.4 THA 41.75 EL1 79.5 EL2 6.4 ALF 33.54

LAUNCH DATE MAR 26 1971

FLIGHT TIME 188.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 476.776

EARTH TO MARS

RL 149.22 LAL -0.00 LOL 184.69 VL 32.548 GAL -4.91 AZL 95.98 HCA 164.35 SMA 184.49 ECC .20880 INC 5.9632 V1 29.860
 RP 207.17 LAP -1.61 LOP 348.12 VP 23.704 GAP 9.79 AZP 84.26 TAL 330.90 TAP 135.25 RCA 145.97 APO 223.01 V2 26.439
 RC 77.718 GL -39.67 GP 22.63 ZAL 128.41 ZAP 133.27 ETS 156.48 ZAE 153.88 ETE 106.89 ZAC 123.82 ETC 276.36 LVI -35.87

PLANETOCENTRIC CONIC

C3 27.850 VHL 5.277 DLA -48.21 RAL 350.07 RAD 6646.2 VEL 12.157 PTH 7.12 VHP 5.107 DPA 1.71 RAP 304.44 ECC 1.4583
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12
 49.17 0 25 58 1899.97 22.78 40.78 238.02 133.72 0 57 38 900.0 38.33 19.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1355 TRA -.9654 TC3 -.0513 BAU .2747 SGT 1999.2 SGR 2099.9 SG3 799.1 ST 66.0 SR 49.3 SS 84.9
 RDE -.7658 RRA -1.0832 RC3 .7381 FAU .09500 RRT .8954 RRF -.9956 RTF -.8849 CRT .9795 CRS .9921 CST .9467
 FDE 2.7270 FRA 5.0258 FC3-2.9532 BSP 4892 SGB 2899.4 R23 -.2302 R13 -.9687 LSA 117.1 NSA 17.0 SBA .4
 BDE 1.3696 BRA 1.4509 BC3 .7379 FSP 1298 SGI 2822.7 SGI 662.3 THA 46.57 EL1 82.0 EL2 8.0 ALF 36.59

LAUNCH DATE MAR 26 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 480.808

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.921 GAL -4.86 AZL 96.39 HCA 165.61 SMA 184.04 ECC .20666 INC 6.3906 V1 29.860
RP 207.26 LAP -1.58 LOP 350.39 VP 23.654 GAP 9.50 AZP 83.81 TAL 330.92 TAP 136.53 RCA 146.00 APO 222.07 V2 26.428
RC 79.295 GL -41.98 GP 24.82 ZAL 127.07 ZAP 130.91 ETS 155.93 ZAE 151.63 ETE 107.82 ZAC 126.05 ETC 276.40 LVI -37.70

PLANETOCENTRIC CONIC

C3 29.081 VHL 5.393 DLA -50.05 RAL 352.25 RAD 6646.6 VEL 12.207 PTH 7.16 VHP 5.074 DPA 3.74 RAP 303.48 ECC 1.4786
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.82 0 26 51 1929.49 22.93 43.89 241.48 135.79 0 59 1 929.5 39.21 22.80
46.82 0 26 51 1929.49 22.93 43.89 241.48 135.79 0 59 1 929.5 39.21 22.80
46.82 0 26 51 1929.49 22.93 43.89 241.48 135.79 0 59 1 929.5 39.21 22.80
46.82 0 26 51 1929.49 22.93 43.89 241.48 135.79 0 59 1 929.5 39.21 22.80
46.82 0 26 51 1929.49 22.93 43.89 241.48 135.79 0 59 1 929.5 39.21 22.80
46.82 0 26 51 1929.49 22.93 43.89 241.48 135.79 0 59 1 929.5 39.21 22.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1910 TRA -.8889 TC3 -.0819 BAU .3026 SGT 1942.1 SGR 2349.7 SG3 809.0 ST 67.0 SR 56.1 SS 88.5
RDE -.8955 RRA-1.1965 RC3 .7740 FAU .09551 RRT .8856 RRF -.9968 RTF -.8745 CRT .9750 CRS .9948 CST .9476
FDE 3.0033 FRA 4.9873 FC3-2.8434 B8P 5227 SGB 3048.5 R23 -.2081 R13 -.9750 LSA 123.2 MSA 17.3 SSA .4
BDE 1.4901 BRA 1.4906 BC3 .7783 F8P 1332 SGI 2963.4 SG2 715.1 THA 51.11 EL1 86.9 EL2 9.6 ALF 39.81

LAUNCH DATE MAR 26 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 484.855

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.495 GAL -4.82 AZL 96.90 HCA 166.87 SMA 183.61 ECC .20467 INC 6.8975 V1 29.860
RP 207.37 LAP -1.56 LOP 351.65 VP 23.805 GAP 9.20 AZP 83.28 TAL 330.94 TAP 137.81 RCA 146.03 APO 221.19 V2 26.415
RC 80.909 GL -44.52 GP 27.31 ZAL 125.54 ZAP 128.38 ETS 155.38 ZAE 149.07 ETE 108.72 ZAC 128.59 ETC 276.46 LVI -39.75

PLANETOCENTRIC CONIC

C3 30.762 VHL 5.946 DLA -52.01 RAL 354.87 RAD 6647.3 VEL 12.276 PTH 7.22 VHP 5.071 DPA 6.04 RAP 302.39 ECC 1.5063
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.35 0 29 34 1961.50 22.90 47.19 245.58 138.07 1 2 16 961.5 39.96 26.82
44.35 0 29 34 1961.50 22.90 47.19 245.58 138.07 1 2 16 961.5 39.96 26.82
44.35 0 29 34 1961.50 22.90 47.19 245.58 138.07 1 2 16 961.5 39.96 26.82
44.35 0 29 34 1961.50 22.90 47.19 245.58 138.07 1 2 16 961.5 39.96 26.82
44.35 0 29 34 1961.50 22.90 47.19 245.58 138.07 1 2 16 961.5 39.96 26.82
44.35 0 29 34 1961.50 22.90 47.19 245.58 138.07 1 2 16 961.5 39.96 26.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2446 TRA -.7917 TC3 -.0961 BAU .3367 SGT 1852.0 SGR 2629.3 SG3 807.1 ST 67.3 SR 64.5 SS 92.2
RDE-1.0709 RRA-1.3159 RC3 .8130 FAU .09563 RRT .8749 RRF -.9977 RTF -.8630 CRT .9713 CRS .9967 CST .9489
FDE 3.3148 FRA 4.8640 FC3-2.6913 B8P 5302 SGB 3216.1 R23 -.1797 R13 -.9816 LSA 130.0 MSA 17.4 SSA .3
BDE 1.6419 BRA 1.5357 BC3 .8187 F8P 1337 SGI 3126.4 SG2 754.4 THA 56.12 EL1 92.5 EL2 11.2 ALF 43.74

LAUNCH DATE MAR 26 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 488.913

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.471 GAL -4.78 AZL 97.51 HCA 168.12 SMA 183.22 ECC .20282 INC 7.5084 V1 29.860
RP 207.48 LAP -1.54 LOP 352.91 VP 23.558 GAP 8.92 AZP 82.65 TAL 330.95 TAP 139.07 RCA 146.06 APO 220.38 V2 26.402
RC 82.960 GL -47.33 GP 30.14 ZAL 123.81 ZAP 125.65 ETS 154.87 ZAE 146.15 ETE 109.57 ZAC 131.48 ETC 276.54 LVI -42.06

PLANETOCENTRIC CONIC

C3 33.072 VHL 5.751 DLA -54.09 RAL 358.08 RAD 6648.2 VEL 12.369 PTH 7.29 VHP 5.107 DPA 8.67 RAP 301.15 ECC 1.5443
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
41.76 0 34 46 1996.65 22.62 50.67 250.51 140.55 1 8 2 996.6 40.52 31.23
41.76 0 34 46 1996.65 22.62 50.67 250.51 140.55 1 8 2 996.6 40.52 31.23
41.76 0 34 46 1996.65 22.62 50.67 250.51 140.55 1 8 2 996.6 40.52 31.23
41.76 0 34 46 1996.65 22.62 50.67 250.51 140.55 1 8 2 996.6 40.52 31.23
41.76 0 34 46 1996.65 22.62 50.67 250.51 140.55 1 8 2 996.6 40.52 31.23
41.76 0 34 46 1996.65 22.62 50.67 250.51 140.55 1 8 2 996.6 40.52 31.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3083 TRA -.6827 TC3 -.1092 BAU .3785 SGT 1749.1 SGR 2941.4 SG3 789.9 ST 67.5 SR 75.1 SS 96.0
RDE-1.3161 RRA-1.4395 RC3 .8492 FAU .09496 RRT .8595 RRF -.9983 RTF -.8467 CRT .9689 CRS .9980 CST .9511
FDE 3.6687 FRA 4.6377 FC3-2.4859 B8P 5819 SGB 3422.1 R23 -.1513 R13 -.9870 LSA 138.3 MSA 17.4 SSA .3
BDE 1.8557 BRA 1.5932 BC3 .8562 F8P 1309 SGI 3329.7 SG2 789.9 THA 61.15 EL1 100.2 EL2 12.5 ALF 48.12

LAUNCH DATE MAR 26 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 492.981

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.449 GAL -4.75 AZL 98.26 HCA 169.37 SMA 182.88 ECC .20111 INC 8.2604 V1 29.860
RP 207.60 LAP -1.52 LOP 354.17 VP 23.512 GAP 8.64 AZP 81.88 TAL 330.96 TAP 140.33 RCA 146.08 APO 219.63 V2 26.388
RC 84.247 GL -50.46 GP 33.37 ZAL 121.84 ZAP 122.71 ETS 154.42 ZAE 142.82 ETE 110.40 ZAC 134.76 ETC 276.65 LVI -44.63

PLANETOCENTRIC CONIC

C3 36.297 VHL 6.025 DLA -56.27 RAL 2.12 RAD 6649.4 VEL 12.498 PTH 7.38 VHP 5.198 DPA 11.65 RAP 299.74 ECC 1.5974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.09 0 43 21 2035.90 21.98 54.30 256.47 143.21 1 17 17 1035.9 40.78 36.03
39.09 0 43 21 2035.90 21.98 54.30 256.47 143.21 1 17 17 1035.9 40.78 36.03
39.09 0 43 21 2035.90 21.98 54.30 256.47 143.21 1 17 17 1035.9 40.78 36.03
39.09 0 43 21 2035.90 21.98 54.30 256.47 143.21 1 17 17 1035.9 40.78 36.03
39.09 0 43 21 2035.90 21.98 54.30 256.47 143.21 1 17 17 1035.9 40.78 36.03
39.09 0 43 21 2035.90 21.98 54.30 256.47 143.21 1 17 17 1035.9 40.78 36.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3828 TRA -.5600 TC3 -.1218 BAU .4277 SGT 1634.3 SGR 3295.5 SG3 755.7 ST 67.3 SR 89.3 SS 100.4
RDE-1.6749 RRA-1.5686 RC3 .8729 FAU .09242 RRT .8387 RRF -.9987 RTF -.8247 CRT .9680 CRS .9988 CST .9544
FDE 4.0832 FRA 4.3057 FC3-2.2044 B8P 6244 SGB 3678.5 R23 -.1240 R13 -.9913 LSA 149.3 MSA 17.1 SSA .2
BDE 2.1720 BRA 1.6656 BC3 .8814 F8P 1260 SGI 3586.4 SG2 817.9 THA 66.10 EL1 111.0 EL2 13.6 ALF 53.23

LAUNCH DATE MAR 26 1971 FLIGHT TIME 226.00 ARRIVAL DATE NOV 7 1971

Heliocentric Conic: RL 149.22 LAL -0.00 LOL 184.89 VL 32.270 GAL -4.76 AZL 82.26 HCA 186.20 SMA 179.99 ECC .18947 INC 7.7420 V1 28.860
 RP 210.33 LAP -1.10 LOP 12.82 VP 22.904 GAP 5.03 AZP 97.66 TAL 329.26 TAP 157.46 RCA 145.88 APO 214.09 V2 26.071
 RC 113.239 GL 49.08 GP -45.48 ZAL 123.59 ZAP 97.21 ETS 186.19 ZAE 124.18 ETE 221.95 ZAC 56.95 ETC 272.07 LVI 32.18

Planeto-centric Conic: C3 32.871 VHL 5.733 DLA 34.90 RAL 315.01 RAD 6648.1 VEL 12.361 PTH 7.28 VHP 5.088 DPA -67.36 RAP 311.99 ECC 1.5410
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 28 2 4002.89 -43.05 174.70 216.77 67.40 14 34 45 3002.9 -47.91 140.67
 60.00 13 4 49 4064.93 -32.53 174.37 210.86 64.77 14 12 34 3064.9 -39.74 145.81
 68.63 11 30 54 4343.65 -15.83 186.92 201.05 58.48 12 43 18 3343.7 -27.38 164.24
 68.63 11 30 54 4343.65 -15.83 186.92 201.05 58.48 12 43 18 3343.7 -27.38 164.24
 68.63 11 30 54 4343.65 -15.83 186.92 201.05 58.48 12 43 18 3343.7 -27.38 164.24
 68.63 11 30 54 4343.65 -15.83 186.92 201.05 58.48 12 43 18 3343.7 -27.38 164.24

Differential Corrections: TDE 1.3277 TRA .5980 TC3 -.8855 BAU .6974 RDE 2.8328 RRA 3.4471 RC3-1.3171 FAU .09124 PDE 4.4785 FRA 5.6463 FC3-2.4031 BSP 9419 BDE 3.1285 BRA 3.4986 BC3 1.5871 FSP 1303
 Mid-Course Execution Accuracy: SGT 1822.7 SGR 5285.8 SG3 748.1 RRT .8667 RRF .9993 RTF .8713 SGB 5391.2 R23 .0380 R13 .9986 SGI 5523.1 SGI 870.1 THA 72.92
 Orbit Determination Accuracy: ST 67.3 SR 155.7 SS 108.4 CRT .9675 CRS -.9999 CST -.9641 LSA 200.0 MSA 16.4 SSA .2 EL1 168.2 EL2 15.7 ALF 67.01

LAUNCH DATE MAR 26 1971 FLIGHT TIME 228.00 ARRIVAL DATE NOV 9 1971

Heliocentric Conic: RL 149.22 LAL -0.00 LOL 184.89 VL 32.268 GAL -4.78 AZL 83.45 HCA 189.41 SMA 179.92 ECC .18936 INC 6.5517 V1 28.860
 RP 210.57 LAP -1.07 LOP 14.04 VP 22.867 GAP 4.81 AZP 96.46 TAL 329.10 TAP 158.51 RCA 145.85 APO 213.99 V2 26.044
 RC 115.380 GL 43.94 GP -42.27 ZAL 127.02 ZAP 96.24 ETS 184.54 ZAE 125.32 ETE 218.63 ZAC 60.18 ETC 271.84 LVI 29.47

Planeto-centric Conic: C3 27.956 VHL 5.287 DLA 29.97 RAL 316.89 RAD 6646.2 VEL 12.182 PTH 7.13 VHP 4.899 DPA -64.51 RAP 308.19 ECC 1.4601
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 6 39 3841.37 -46.36 160.59 211.67 77.83 15 10 41 2841.4 -45.84 125.47
 60.00 14 2 13 3853.24 -37.61 158.74 208.76 74.31 15 6 26 2853.2 -40.06 127.88
 70.00 13 53 7 3880.08 -28.56 157.48 205.32 70.42 14 57 47 2880.1 -33.89 130.06
 79.64 12 51 57 4073.55 -15.02 165.86 199.18 63.76 13 59 50 3073.6 -24.54 142.49
 79.64 12 51 57 4073.55 -15.02 165.86 199.18 63.76 13 59 50 3073.6 -24.54 142.49
 79.64 12 51 57 4073.55 -15.02 165.86 199.18 63.76 13 59 50 3073.6 -24.54 142.49
 110.00 18 52 34 2926.89 -28.56 86.39 205.32 70.42 19 41 21 1926.9 -33.89 58.98

Differential Corrections: TDE 1.2392 TRA .7470 TC3-1.0833 BAU .6594 RDE 2.3853 RRA 3.2349 RC3-1.3924 FAU .10307 PDE 4.7236 FRA 6.7332 FC3-3.1919 BSP 9111 BDE 2.8880 BRA 3.3200 BC3 1.7642 FSP 1575
 Mid-Course Execution Accuracy: SGT 1997.2 SGR 5022.3 SG3 900.1 RRT .8912 RRF .9992 RTF .8945 SGB 5404.9 R23 .0495 R13 .9981 SGI 5337.2 SGI 852.6 THA 69.95
 Orbit Determination Accuracy: ST 68.6 SR 142.8 SS 115.9 CRT .9729 CRS -.9999 CST -.9682 LSA 195.7 MSA 15.5 SSA .3 EL1 157.8 EL2 14.4 ALF 64.72

LAUNCH DATE MAR 26 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 11 1971

Heliocentric Conic: RL 149.22 LAL -0.00 LOL 184.89 VL 32.263 GAL -4.81 AZL 84.37 HCA 190.62 SMA 179.87 ECC .18934 INC 5.6323 V1 28.860
 RP 210.82 LAP -1.04 LOP 15.26 VP 22.830 GAP 4.60 AZP 95.54 TAL 329.92 TAP 159.54 RCA 145.81 APO 213.93 V2 26.015
 RC 117.845 GL 39.36 GP -39.36 ZAL 129.99 ZAP 95.00 ETS 182.98 ZAE 125.96 ETE 215.27 ZAC 63.11 ETC 271.60 LVI 27.07

Planeto-centric Conic: C3 24.755 VHL 4.975 DLA 25.62 RAL 318.53 RAD 6644.9 VEL 12.030 PTH 7.02 VHP 4.415 DPA -61.91 RAP 305.04 ECC 1.4074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 36 25 3712.24 -47.51 148.35 206.35 87.19 15 38 17 2712.2 -43.03 114.33
 60.00 14 42 20 3886.46 -39.75 145.98 205.41 82.72 15 43 57 2696.5 -36.37 114.92
 70.00 14 52 31 3666.45 -32.46 142.08 203.93 78.73 15 53 38 2666.4 -33.78 113.43
 80.00 15 14 15 3598.22 -26.33 135.31 202.32 75.40 16 14 14 2598.2 -29.84 108.43
 90.00 16 10 13 3417.44 -23.53 121.18 201.47 73.85 17 7 11 2417.4 -28.01 95.06
 100.00 17 57 7 3072.69 -26.33 96.68 202.32 75.40 18 48 20 2072.7 -29.84 69.80
 110.00 19 51 58 2713.27 -32.46 71.00 203.93 78.73 20 37 11 1713.3 -33.78 42.34

Differential Corrections: TDE 1.1835 TRA .9008 TC3-1.2849 BAU .6387 RDE 2.0300 RRA 3.0317 RC3-1.4401 FAU .11406 PDE 4.8751 FRA 7.6937 FC3-3.9890 BSP 8766 BDE 2.3671 BRA 3.1827 BC3 1.9300 FSP 1810
 Mid-Course Execution Accuracy: SGT 2194.5 SGR 4755.8 SG3 1036.1 RRT .9106 RRF .9991 RTF .5.31 SGB 5237.7 R23 .0619 R13 .9973 SGI 5170.8 SGI 834.0 THA 66.56
 Orbit Determination Accuracy: ST 70.3 SR 131.6 SS 121.0 CRT .9781 CRS -.9997 CST -.9724 LSA 191.5 MSA 14.6 SSA .3 EL1 148.6 EL2 12.9 ALF 62.17

LAUNCH DATE MAR 26 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 13 1971

Heliocentric Conic: RL 149.22 LAL -0.00 LOL 184.89 VL 32.260 GAL -4.84 AZL 85.10 HCA 191.83 SMA 179.83 ECC .18938 INC 4.9014 V1 28.860
 RP 211.07 LAP -1.00 LOP 16.48 VP 22.793 GAP 4.39 AZP 94.80 TAL 328.73 TAP 160.56 RCA 145.77 APO 213.88 V2 25.988
 RC 118.734 GL 35.30 GP -36.74 ZAL 132.54 ZAP 93.57 ETS 181.55 ZAE 126.16 ETE 211.99 ZAC 65.76 ETC 271.37 LVI 24.95

Planeto-centric Conic: C3 22.590 VHL 4.753 DLA 21.77 RAL 319.99 RAD 6644.0 VEL 11.941 PTH 6.94 VHP 4.203 DPA -59.56 RAP 302.36 ECC 1.3718
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 0 29 3806.37 -47.37 138.13 201.72 95.05 16 0 36 2606.4 -39.91 108.10
 60.00 15 13 23 3572.01 -40.30 135.46 202.14 89.84 16 12 35 2572.0 -35.95 105.24
 70.00 15 33 49 3511.81 -33.90 130.26 201.82 85.57 16 32 21 2511.0 -32.18 101.66
 80.00 16 10 6 3398.04 -28.97 121.04 201.21 82.44 17 6 44 2398.0 -29.18 93.61
 90.00 17 16 11 3184.69 -26.98 105.04 200.89 81.20 18 9 16 2184.7 -27.96 78.07
 100.00 18 52 58 2872.51 -28.97 82.41 201.21 82.44 19 40 51 1872.5 -29.18 54.98
 110.00 20 33 16 2558.63 -33.90 59.18 201.82 85.57 21 15 54 1558.6 -32.18 30.58

Differential Corrections: TDE 1.1542 TRA 1.0628 TC3-1.4779 BAU .6250 RDE 1.8000 RRA 2.8479 RC3-1.4484 FAU .12301 PDE 4.9834 FRA 8.5499 FC3-4.7143 BSP 8544 BDE 2.1383 BRA 3.0397 BC3 2.0693 FSP 2032
 Mid-Course Execution Accuracy: SGT 2411.0 SGR 4502.3 SG3 1157.1 RRT .9262 RRF .9990 RTF .9281 SGB 5107.2 R23 .0747 R13 .9962 SGI 5042.3 SGI 811.8 THA 62.86
 Orbit Determination Accuracy: ST 72.6 SR 121.9 SS 124.7 CRT .9832 CRS -.2994 CST -.0765 LSA 188.4 MSA 13.7 SSA .4 EL1 141.4 EL2 11.4 ALF 59.42

LAUNCH DATE MAR 26 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 15 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.258 GAL -4.87 AZL 85.69 HCA 193.04 SMA 179.80 ECC .18990 INC 4.3057 V1 29.860
 RP 211.33 LAP -.97 LOP 17.69 VP 22.756 GAP 4.18 AZP 94.20 TAL 326.52 TAP 161.56 RCA 145.73 APO 213.87 V2 25.937
 RC 121.848 GL 31.70 GP -34.38 ZAL 134.73 ZAP 91.99 E78 180.24 ZAE 126.00 ETE 208.87 ZAC 68.14 ETC 271.14 LVI 23.08

Distance 572.084 Earth to Mars

Planetary Conic: C3 21.008 VHL 4.592 DLA 18.39 RAL 321.29 RAD 8645.3 VEL 11.878 PTH 6.89 VHP 4.040 DPA -37.42 RAP 300.02 ECC 1.3471
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 20 33 3318.21 -46.51 129.79 198.05 101.42 16 19 12 2518.2 -36.87 99.86
 60.00 15 38 38 3470.07 -39.97 126.81 199.40 95.69 16 36 28 2470.1 -33.37 97.83
 70.00 16 5 54 3389.82 -34.14 120.75 199.84 91.19 17 2 23 2389.8 -30.09 92.78
 80.00 16 50 4 3251.37 -29.80 110.23 199.80 88.06 17 44 15 2251.4 -27.57 83.02
 90.00 18 0 26 3024.24 -26.12 93.45 199.72 86.88 18 50 50 2024.2 -26.58 66.55
 100.00 19 32 56 2725.84 -29.80 71.59 199.80 86.06 20 18 22 1725.8 -27.57 44.39
 110.00 21 5 20 2436.64 -34.14 49.67 199.84 91.19 21 45 56 1436.6 -30.09 21.69

Differential Corrections: TDE 1.1406 TRA 1.2274 TC3-1.6646 BAU .6191 SGT 2639.4 SGR 4259.1 SG3 1262.1 ST 75.2 SR 113.3 SS 127.4
 RDE 1.6063 RRA 2.6776 RC3-1.4321 FAU .13056 RRT .9379 RRF .9988 RTF .9395 CRT .9876 CRS -.9991 CST -.9803
 FDE 5.0590 FRA 9.2961 FC3-5.3599 B8P 6376 SGB 5010.7 R23 .0875 R13 .9950 LSA 185.9 MSA 12.9 SSA .5
 BDE 1.9701 BRA 2.9455 BC3 2.1958 F8P 2229 SGI 4948.3 SG2 787.9 THA 58.96 EL1 135.6 EL2 9.9 ALF 56.55

LAUNCH DATE MAR 26 1971 FLIGHT TIME 236.00 ARRIVAL DATE NOV 17 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.257 GAL -4.91 AZL 86.19 HCA 194.25 SMA 179.78 ECC .18989 INC 3.8104 V1 29.860
 RP 211.60 LAP -.94 LOP 18.91 VP 22.720 GAP 3.97 AZP 93.69 TAL 326.30 TAP 162.55 RCA 145.67 APO 213.88 V2 25.926
 RC 124.177 GL 28.50 GP -32.25 ZAL 136.60 ZAP 90.30 E78 179.00 ZAE 125.53 ETE 205.95 ZAC 70.30 ETC 270.91 LVI 21.42

Distance 576.260 Earth to Mars

Planetary Conic: C3 20.031 VHL 4.476 DLA 15.39 RAL 322.47 RAD 8642.9 VEL 11.834 PTH 6.85 VHP 3.915 DPA -55.49 RAP 297.95 ECC 1.3297
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 37 40 3443.93 -45.29 123.05 195.28 106.49 16 35 4 2443.9 -34.03 95.03
 60.00 15 59 49 3384.98 -39.15 119.73 197.27 100.43 16 56 14 2385.0 -30.86 92.02
 70.00 16 32 6 3289.93 -33.72 112.99 198.23 95.76 17 26 58 2289.9 -27.90 85.83
 80.00 17 21 34 3134.92 -29.75 101.58 198.57 92.61 18 13 49 2134.9 -25.66 74.90
 90.00 18 34 32 2899.39 -28.25 84.33 198.63 91.45 19 22 52 1899.4 -24.60 57.84
 100.00 20 4 26 2609.40 -29.75 62.94 198.57 92.61 20 47 55 1609.4 -25.86 36.27
 110.00 21 31 32 2336.75 -33.72 41.91 198.23 95.76 22 10 29 1336.8 -27.90 14.75

Differential Corrections: TDE 1.1374 TRA 1.3923 TC3-1.8446 BAU .6207 SGT 2874.8 SGR 4023.3 SG3 1350.6 ST 77.9 SR 105.5 SS 128.9
 RDE 1.4499 RRA 2.5162 RC3-1.4033 FAU .13734 RRT .9471 RRF .9985 RTF .9485 CRT .9913 CRS -.9987 CST -.9835
 FDE 5.0888 FRA 9.9252 FC3-5.9361 B8P 8222 SGB 4944.8 R23 .0997 R13 .9936 LSA 183.5 MSA 12.1 SSA .5
 BDE 1.8428 BRA 2.8757 BC3 2.3177 F8P 2387 SGI 4886.0 SG2 760.0 THA 54.94 EL1 130.9 EL2 8.3 ALF 53.61

LAUNCH DATE MAR 26 1971 FLIGHT TIME 238.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.256 GAL -4.94 AZL 86.61 HCA 195.45 SMA 179.76 ECC .18994 INC 3.3916 V1 29.860
 RP 211.87 LAP -.90 LOP 20.12 VP 22.683 GAP 3.77 AZP 93.27 TAL 326.07 TAP 163.52 RCA 145.42 APO 213.91 V2 25.896
 RC 126.431 GL 25.66 GP -30.31 ZAL 138.21 ZAP 86.55 E78 178.03 ZAE 124.80 ETE 203.25 ZAC 72.26 ETC 270.70 LVI 18.94

Distance 580.439 Earth to Mars

Planetary Conic: C3 19.281 VHL 4.391 DLA 12.75 RAL 323.54 RAD 8642.5 VEL 11.802 PTH 6.82 VHP 3.818 DPA -53.73 RAP 296.09 ECC 1.3173
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 29 3380.80 -43.92 117.39 193.27 110.51 16 48 50 2380.8 -31.47 91.19
 60.00 16 17 57 3313.03 -38.10 113.90 195.69 104.26 17 13 10 2313.0 -28.51 87.37
 70.00 16 54 12 3206.36 -32.97 106.59 197.01 99.47 17 47 38 2206.4 -25.77 80.27
 80.00 17 47 36 3039.05 -29.25 94.30 197.61 96.29 18 38 15 2039.0 -23.73 68.44
 90.00 19 2 25 2797.56 -27.85 76.91 1.7.77 95.14 19 49 3 1797.6 -22.95 50.97
 100.00 20 30 20 2513.52 -29.25 55.87 197.61 96.29 21 12 21 1513.5 -23.73 29.81
 110.00 21 53 38 2253.18 -32.97 35.30 197.01 99.47 22 31 11 1253.2 -25.77 9.18

Differential Corrections: TDE 1.1422 TRA 1.5570 TC3-2.0167 BAU .6290 SGT 3113.9 SGR 3791.9 SG3 1421.9 ST 80.8 SR 98.2 SS 129.2
 RDE 1.3178 RRA 2.3600 RC3-1.3738 FAU .14419 RRT .9549 RRF .9982 RTF .5.62 CRT .9942 CRS -.9982 CST -.9861
 FDE 5.0784 FRA10.4291 FC3-6.4742 B8P 8055 SGB 4906.7 R23 .1100 R13 .9922 LSA 181.0 MSA 11.5 SSA .6
 BDE 1.7436 BRA 2.8273 BC3 2.4402 F8P 2489 SGI 4853.2 SG2 722.6 THA 50.87 EL1 127.0 EL2 6.7 ALF 50.55

LAUNCH DATE MAR 26 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 149.22 LAL -.00 LOL 184.69 VL 32.256 GAL -4.99 AZL 86.97 HCA 196.88 SMA 179.76 ECC .19026 INC 3.0337 V1 29.860
 RP 212.14 LAP -.87 LOP 21.32 VP 22.647 GAP 3.57 AZP 92.91 TAL 327.82 TAP 164.48 RCA 145.56 APO 213.96 V2 25.864
 RC 128.706 GL 23.12 GP -28.55 ZAL 139.59 ZAP 86.75 E78 177.10 ZAE 123.88 ETE 200.78 ZAC 74.04 ETC 270.49 LVI 18.82

Distance 584.615 Earth to Mars

Planetary Conic: C3 18.795 VHL 4.331 DLA 10.40 RAL 324.53 RAD 8642.3 VEL 11.780 PTH 6.81 VHP 3.743 DPA -52.13 RAP 294.41 ECC 1.3087
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 5 31 3326.75 -42.54 113.13 191.86 113.72 17 0 58 2326.8 -29.17 88.08
 60.00 16 33 45 3251.60 -36.96 109.08 194.57 107.35 17 27 57 2251.6 -26.36 83.58
 70.00 17 13 14 3135.45 -32.05 101.26 196.16 102.50 18 5 29 2135.4 -23.79 75.71
 80.00 18 9 45 2958.41 -28.50 88.62 196.95 99.29 18 59 3 1958.4 -21.87 63.17
 90.00 19 25 59 2712.35 -27.18 70.77 197.18 98.14 20 11 12 1712.3 -21.14 45.37
 100.00 20 52 37 2432.88 -28.50 49.99 196.95 99.29 21 33 9 1432.9 -21.87 24.54
 110.00 22 12 40 2182.26 -32.05 30.18 196.16 102.50 22 49 2 1182.3 -23.79 4.63

Differential Corrections: TDE 1.1964 TRA 1.7253 TC3-2.1763 BAU .6370 SGT 3358.6 SGR 3585.3 SG3 1483.9 ST 84.1 SR 92.3 SS 130.2
 RDE 1.2194 RRA 2.2258 RC3-1.3102 FAU .14761 RRT .9597 RRF .9978 RTF .9612 CRT .9966 CRS -.9976 CST -.9886
 FDE 5.0953 FRA10.8935 FC3-6.8133 B8P 8081 SGB 4912.6 R23 .1195 R13 .9907 LSA 180.1 MSA 10.8 SSA .7
 BDE 1.6808 BRA 2.8162 BC3 2.5403 F8P 2621 SGI 4863.1 SG2 696.2 THA 46.95 EL1 124.8 EL2 5.1 ALF 47.69

LAUNCH DATE MAR 26 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.89 VL 32.256 GAL -5.03 AZL 87.28 HCA 197.88 SMA 179.77 ECC .19064 INC 2.7232 V1 29.860
RP 212.43 LAP -.83 LOP 22.92 VP 22.611 GAP 3.37 AZP 92.59 TAL 327.57 TAP 185.42 RCA 145.50 APO 214.04 V2 25.832
RC 130.999 GL 20.85 GP -26.95 ZAL 140.80 ZAP 84.92 ETS 176.28 ZAE 122.79 ETE 198.54 ZAC 75.66 ETC 270.29 LVI 17.43

DISTANCE 588.793

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.395 VHL 4.289 DLA 8.32 RAL 325.45 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 3.685 DPA -50.66 RAP 292.88 ECC 1.3027
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 17 5 3280.21 -41.20 109.47 190.90 116.29 17 11 45 2280.2 -27.14 85.53
60.00 16 47 41 3198.75 -35.81 105.07 193.83 109.87 17 41 0 2198.8 -24.45 83.43
70.00 17 29 53 3074.63 -31.06 96.80 195.62 104.97 18 21 7 2074.6 -21.97 71.93
80.00 18 28 57 2889.60 -27.65 83.69 196.55 101.75 19 17 7 1889.6 -20.14 58.80
90.00 19 46 21 2639.85 -26.37 65.62 196.63 100.60 20 30 20 1639.8 -19.44 40.73
100.00 21 11 49 2364.07 -27.65 45.06 196.55 101.75 21 51 13 1364.1 -20.14 20.16
110.00 22 29 19 2121.45 -31.06 25.71 195.62 104.97 23 4 41 1121.4 -21.97 .85

DIFFERENTIAL CORRECTIONS

TDE 1.1759 TRA 1.8937 TC3-2.3267 BAU .6491
RDE 1.1369 RRA 2.0989 RC3-1.2480 FAU .15046
FDE 5.0970 FRA11.2712 FC3-7.0812 BSP 8140
BDE 1.6356 BRA 2.8270 BC3 2.6393 F8P 2726

MID-COURSE EXECUTION ACCURACY

SGT 3603.8 SGR 3388.1 SG3 1533.0
RRR .9635 RRF .9973 RTF .9653
SGB 4946.4 R23 .1270 R13 .9894
SG1 4901.2 SG2 667.3 THA 43.17

ORBIT DETERMINATION ACCURACY

ST 87.5 SR 87.0 SS 130.5
CRT .9983 CRS -.9968 CST -.9906
LSA 179.3 MSA 10.3 SSA .8
EL1 123.3 EL2 3.6 ALF 44.86

LAUNCH DATE MAR 26 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.89 VL 32.257 GAL -5.08 AZL 87.55 HCA 199.05 SMA 179.78 ECC .19108 INC 2.4511 V1 29.860
RP 212.72 LAP -.80 LOP 23.72 VP 22.575 GAP 3.17 AZP 92.32 TAL 327.30 TAP 166.35 RCA 145.43 APO 214.13 V2 25.799
RC 133.312 GL 18.81 GP -25.48 ZAL 141.84 ZAP 83.09 ETS 175.55 ZAE 121.59 ETE 198.51 ZAC 77.15 ETC 270.10 LVI 18.38

DISTANCE 592.988

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.160 VHL 4.261 DLA 6.46 RAL 326.31 RAD 6642.0 VEL 11.755 PTH 6.78 VHP 3.641 DPA -49.31 RAP 291.49 ECC 1.2989
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 27 26 3239.95 -39.94 106.44 190.30 118.38 17 21 26 2240.0 -25.33 83.40
60.00 17 0 7 3153.03 -34.70 101.70 193.38 111.92 17 52 40 2153.0 -22.70 77.80
70.00 17 44 38 3022.07 -30.08 93.02 195.32 107.00 18 35 0 2022.1 -20.32 68.74
80.00 18 45 52 2830.28 -26.75 79.51 196.36 103.78 19 33 2 1830.3 -18.55 55.11
90.00 20 4 13 2577.45 -25.51 61.25 196.68 102.63 20 47 10 1577.4 -17.88 36.83
100.00 21 28 44 2304.75 -26.75 40.88 196.36 103.78 22 7 8 1304.8 -18.55 16.48
110.00 22 44 4 2086.89 -30.08 21.94 195.32 107.00 23 18 33 1068.9 -20.32 357.66

DIFFERENTIAL CORRECTIONS

TDE 1.2012 TRA 2.0636 TC3-2.4664 BAU .6623
RDE 1.0735 RRA 1.9859 RC3-1.1655 FAU .15081
FDE 5.1215 FRA11.6084 FC3-7.1893 BSP 8297
BDE 1.6110 BRA 2.8639 BC3 2.7279 F8P 2645

MID-COURSE EXECUTION ACCURACY

SGT 3850.2 SGR 3207.8 SG3 1573.5
RRR .9653 RRF .9968 RTF .9678
SGB 5011.4 R23 .1341 R13 .9879
SG1 4969.2 SG2 649.1 THA 39.62

ORBIT DETERMINATION ACCURACY

ST 91.0 SR 82.7 SS 131.3
CRT .9994 CRS -.9959 CST -.9923
LSA 179.6 MSA 9.9 SSA .9
EL1 122.9 EL2 2.1 ALF 42.25

LAUNCH DATE MAR 26 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.89 VL 32.259 GAL -5.13 AZL 87.79 HCA 200.25 SMA 179.80 ECC .19157 INC 2.2107 V1 29.860
RP 213.01 LAP -.76 LOP 24.92 VP 22.539 GAP 2.97 AZP 92.07 TAL 327.02 TAP 167.27 RCA 145.36 APO 214.25 V2 25.766
RC 135.643 GL 16.98 GP -24.13 ZAL 142.78 ZAP 81.26 ETS 174.90 ZAE 120.28 ETE 194.69 ZAC 78.51 ETC 269.93 LVI 15.39

DISTANCE 597.146

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.023 VHL 4.245 DLA 4.80 RAL 327.11 RAD 6641.9 VEL 11.749 PTH 6.78 VHP 3.610 DPA -48.06 RAP 290.21 ECC 1.2966
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 38 47 3204.97 -38.78 103.89 189.95 120.08 17 30 12 2205.0 -23.73 81.60
60.00 17 11 18 3113.25 -33.66 98.85 193.16 113.62 18 3 9 2113.3 -21.18 75.36
70.00 17 57 48 2976.34 -29.12 89.80 195.21 108.68 18 47 25 1976.3 -18.83 66.03
80.00 19 0 54 2778.73 -25.87 75.94 196.34 105.46 19 47 13 1778.7 -17.10 51.97
90.00 20 20 4 2523.26 -24.66 57.52 196.70 104.31 21 2 8 1523.3 -16.45 33.49
100.00 21 43 46 2253.20 -25.87 37.31 196.34 105.46 22 21 19 1253.2 -17.10 13.33
110.00 22 57 15 2023.18 -29.12 18.72 195.21 108.68 23 30 58 1023.2 -18.83 354.95

DIFFERENTIAL CORRECTIONS

TDE 1.2271 TRA 2.2289 TC3-2.6013 BAU .6821
RDE 1.0063 RRA 1.8636 RC3-1.1167 FAU .15423
FDE 5.0358 FRA11.7960 FC3-7.4087 BSP 8341
BDE 1.5870 BRA 2.9066 BC3 2.8309 F8P 2854

MID-COURSE EXECUTION ACCURACY

SGT 4090.7 SGR 3021.3 SG3 1596.3
RRR .9686 RRF .9980 RTF .5.14
SGB 5085.5 R23 .1354 R13 .9871
SG1 5048.9 SG2 608.6 THA 36.19

ORBIT DETERMINATION ACCURACY

ST 94.4 SR 77.8 SS 130.1
CRT .9998 CRS -.9947 CST -.9937
LSA 178.3 MSA 9.7 SSA 1.0
EL1 122.3 EL2 1.1 ALF 39.47

LAUNCH DATE MAR 26 1971

FLIGHT TIME 248.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.89 VL 32.261 GAL -5.19 AZL 88.00 HCA 201.44 SMA 179.83 ECC .19213 INC 1.9968 V1 29.860
RP 213.31 LAP -.73 LOP 26.11 VP 22.503 GAP 2.78 AZP 91.86 TAL 326.74 TAP 168.17 RCA 145.28 APO 214.39 V2 25.732
RC 137.991 GL 15.32 GP -22.88 ZAL 143.58 ZAP 79.44 ETS 174.33 ZAE 118.90 ETE 193.05 ZAC 79.77 ETC 269.76 LVI 14.51

DISTANCE 601.321

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.984 VHL 4.238 DLA 3.31 RAL 327.87 RAD 6641.9 VEL 11.747 PTH 6.78 VHP 3.588 DPA -46.91 RAP 289.04 ECC 1.2956
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 45 17 3174.52 -37.71 101.75 189.81 121.48 17 38 12 2174.5 -22.32 80.08
60.00 17 21 21 3078.56 -32.68 96.42 193.12 115.03 18 12 40 2078.6 -19.81 73.65
70.00 18 9 41 2936.41 -28.22 87.05 195.27 110.09 18 58 38 1936.4 -17.50 63.71
80.00 19 14 25 2733.69 -25.01 72.86 196.47 106.86 19 59 59 1733.7 -15.79 49.26
90.00 20 34 18 2475.92 -23.82 54.30 196.85 105.71 21 15 34 1475.9 -15.15 30.62
100.00 21 57 17 2208.16 -25.01 34.23 196.47 106.86 22 34 5 1208.2 -15.79 10.63
110.00 23 9 8 1983.22 -28.22 15.96 195.27 110.09 23 42 11 983.2 -17.50 352.63

DIFFERENTIAL CORRECTIONS

TDE 1.2597 TRA 2.3979 TC3-2.7218 BAU .7007
RDE .9558 RRA 1.7605 RC3-1.0305 FAU .15483
FDE 5.0262 FRA11.9717 FC3-7.4617 BSP 8520
BDE 1.5813 BRA 2.9748 BC3 2.9175 F8P 2897

MID-COURSE EXECUTION ACCURACY

SGT 4331.9 SGR 2854.0 SG3 1614.1
RRR .9702 RRF .9952 RTF .9738
SGB 5187.6 R23 .1363 R13 .9864
SG1 5154.9 SG2 580.9 THA 33.06

ORBIT DETERMINATION ACCURACY

ST 98.1 SR 73.9 SS 129.6
CRT .9998 CRS -.9933 CST -.9948
LSA 178.3 MSA 9.5 SSA 1.1
EL1 122.8 EL2 1.3 ALF 36.96

LAUNCH DATE MAR 26 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 609.494

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.263 GAL -3.25 AZL 88.20 HCA 202.62 SMA 179.87 ECC .19273 INC 1.8048 V1 29.860
RP 213.61 LAP -.69 LOP 27.30 VP 22.467 GAP 2.38 AZP 91.67 TAL 326.44 TAP 169.06 RCA 145.20 APO 214.54 V2 25.697
RC 140.356 GL 13.81 GP -21.73 ZAL 144.31 ZAP 77.64 ETS 173.63 ZAE 117.48 ETE 191.58 ZAC 80.93 ETC 269.60 LVI 13.70

PLANETOCENTRIC CONIC

C3 17.970 VHL 4.239 DLA 1.97 RAL 326.59 RAD 6641.9 VEL 11.747 PTH 6.78 VHP 3.574 DPA -45.84 RAP 287.97 ECC 1.2957
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 53 3 3147.95 -36.75 99.94 189.84 122.65 17 45 31 2147.9 -21.08 78.77
60.00 17 30 33 3048.20 -31.79 94.34 193.22 116.20 18 21 21 2048.2 -18.59 72.01
70.00 18 20 28 2901.39 -27.38 84.67 195.45 111.26 19 8 49 1901.4 -16.30 61.70
80.00 19 26 39 2694.15 -24.21 70.21 196.71 108.03 20 11 33 1694.2 -14.61 46.92
90.00 20 47 10 2434.35 -23.03 51.51 197.11 106.89 21 27 44 1434.3 -13.98 28.14
100.00 22 9 31 2168.63 -24.21 31.57 196.71 108.03 22 45 39 1168.6 -14.61 8.29
110.00 23 19 54 1948.21 -27.38 13.59 195.45 111.26 23 52 23 948.2 -16.30 350.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TOE 1.2943 TRA 2.5656 TC3-2.8347 BAU .7211 SGT 4968.9 SGR 2695.7 SG3 1623.2 ST 101.8 SR 70.3 SS 128.9
RDE .9123 RRA 1.6612 RC3 -.9862 FAU .15487 RRT .9712 RRF .9941 RTF .9756 CRT .9992 CRS -.9918 CST -.9957
FDE 4.9930 FRA12.0919 FC3-7.4607 BSP 8714 SGB 5304.9 R23 .1355 R13 .9858 LSA 178.4 MSA 9.5 SSA 1.1
BDE 1.5835 BRA 3.0564 BC3 3.0014 FSP 2920 SGI 5275.6 SG2 556.4 THA 30.18 EL1 123.7 EL2 2.3 ALF 34.60

LAUNCH DATE MAR 26 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

DISTANCE 609.665

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.266 GAL -5.31 AZL 88.37 HCA 203.81 SMA 179.92 ECC .19340 INC 1.6317 V1 29.860
RP 213.92 LAP -.66 LOP 28.49 VP 22.431 GAP 2.39 AZP 91.49 TAL 326.13 TAP 169.94 RCA 145.12 APO 214.71 V2 25.662
RC 142.739 GL 12.44 GP -20.67 ZAL 144.97 ZAP 75.86 ETS 173.38 ZAE 116.02 ETE 190.26 ZAC 82.00 ETC 269.46 LVI 12.93

PLANETOCENTRIC CONIC

C3 18.030 VHL 4.246 DLA .76 RAL 329.28 RAD 6641.9 VEL 11.750 PTH 6.78 VHP 3.568 DPA -44.84 RAP 287.00 ECC 1.2967
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 0 12 3124.74 -35.89 98.39 189.98 123.62 17 52 16 2124.7 -19.98 77.66
60.00 17 38 58 3021.59 -30.98 92.56 193.44 117.19 18 29 20 2021.6 -17.51 70.60
70.00 18 30 18 2870.61 -26.60 82.62 195.73 112.25 19 18 9 1870.6 -15.23 59.96
80.00 19 37 47 2659.34 -23.45 67.89 197.04 109.03 20 22 6 1659.3 -13.55 44.88
90.00 20 58 51 2397.72 -22.28 49.09 197.47 107.88 21 38 49 1397.7 -12.92 25.97
100.00 22 20 38 2133.81 -23.45 29.26 197.04 109.03 22 56 12 1133.8 -13.55 6.25
110.00 23 29 45 1917.43 -26.60 11.53 195.73 112.25 24 1 42 917.4 -15.23 348.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TOE 1.3324 TRA 2.7339 TC3-2.9380 BAU .7423 SGT 4802.9 SGR 2547.4 SG3 1625.6 ST 105.6 SR 67.0 SS 128.1
RDE .8751 RRA 1.5685 RC3 -.9232 FAU .15424 RRT .9716 RRF .9929 RTF .9772 CRT .9981 CRS -.9900 CST -.9965
FDE 4.9557 FRA12.1702 FC3-7.4057 BSP 8932 SGB 5436.6 R23 .1332 R13 .9853 LSA 178.8 MSA 9.5 SSA 1.2
BDE 1.5941 BRA 3.1519 BC3 3.0796 FSP 2937 SGI 5410.3 SG2 534.8 THA 27.56 EL1 125.1 EL2 3.5 ALF 32.39

LAUNCH DATE MAR 26 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

DISTANCE 613.833

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.269 GAL -5.37 AZL 88.53 HCA 204.99 SMA 179.97 ECC .19411 INC 1.4741 V1 29.860
RP 214.24 LAP -.62 LOP 29.87 VP 22.395 GAP 2.20 AZP 91.34 TAL 325.81 TAP 170.80 RCA 145.03 APO 214.90 V2 25.627
RC 145.138 GL 11.19 GP -19.68 ZAL 145.57 ZAP 74.14 ETS 172.99 ZAE 114.54 ETE 189.08 ZAC 82.99 ETC 269.32 LVI 12.26

PLANETOCENTRIC CONIC

C3 18.138 VHL 4.259 DLA -.32 RAL 329.94 RAD 6642.0 VEL 11.754 PTH 6.78 VHP 3.568 DPA -43.92 RAP 286.12 ECC 1.2985
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 6 47 3104.46 -35.12 97.07 190.23 124.44 17 58 32 2104.5 -19.02 76.69
60.00 17 46 43 2998.26 -30.24 91.02 193.74 118.02 18 36 41 1998.3 -16.55 69.37
70.00 18 39 20 2843.32 -25.89 80.83 196.10 113.09 19 26 43 1843.5 -14.28 58.44
80.00 19 47 58 2628.61 -22.76 65.88 197.45 109.87 20 31 46 1628.6 -12.60 43.10
90.00 21 9 33 2363.37 -21.59 46.97 197.89 108.72 21 48 58 1363.4 -11.97 24.07
100.00 22 30 49 2103.09 -22.76 27.25 197.45 109.87 23 5 53 1103.1 -12.60 4.47
110.00 23 38 46 1890.34 -25.89 9.75 196.10 113.09 24 10 16 890.3 -14.28 347.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TOE 1.3711 TRA 2.9002 TC3-3.0357 BAU .7652 SGT 5031.2 SGR 2407.0 SG3 1621.0 ST 109.3 SR 64.1 SS 127.0
RDE .8424 RRA 1.4806 RC3 -.8835 FAU .15322 RRT .9715 RRF .9915 RTF .5.84 CRT .9966 CRS -.9879 CST -.9871
FDE 4.9098 FRA12.2030 FC3-7.3139 BSP 9188 SGB 5577.4 R23 .1298 R13 .9850 LSA 179.2 MSA 9.7 SSA 1.2
BDE 1.6082 BRA 3.2563 BC3 3.1561 FSP 2934 SGI 5553.4 SG2 518.9 THA 25.18 EL1 126.8 EL2 4.3 ALF 30.34

LAUNCH DATE MAR 26 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 617.999

EARTH TO MARS

RL 149.22 LAL -.00 LOL 184.69 VL 32.273 GAL -5.43 AZL 88.67 HCA 206.17 SMA 180.02 ECC .19467 INC 1.3306 V1 29.860
RP 214.55 LAP -.59 LOP 30.85 VP 22.389 GAP 2.01 AZP 91.19 TAL 325.49 TAP 171.66 RCA 144.94 APO 215.10 V2 25.591
RC 147.555 GL 10.05 GP -18.76 ZAL 146.13 ZAP 72.45 ETS 172.64 ZAE 113.05 ETE 188.02 ZAC 83.91 ETC 269.20 LVI 11.62

PLANETOCENTRIC CONIC

C3 18.282 VHL 4.276 DLA -1.31 RAL 330.57 RAD 6642.1 VEL 11.760 PTH 6.79 VHP 3.574 DPA -43.05 RAP 285.32 ECC 1.3009
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 12 54 3086.76 -34.43 95.94 190.56 125.13 18 4 20 2086.8 -18.17 75.86
60.00 17 53 52 2977.79 -29.58 89.69 194.12 118.73 18 43 29 1977.8 -15.71 68.30
70.00 18 47 38 2819.68 -25.24 79.28 196.53 113.81 19 34 38 1819.7 -13.43 57.11
80.00 19 57 19 2601.46 -22.12 64.12 197.92 110.59 20 40 41 1601.5 -11.75 41.53
90.00 21 19 22 2336.74 -20.95 45.11 198.38 109.44 21 58 18 1336.7 -11.11 22.40
100.00 22 40 11 2075.93 -22.12 25.48 197.92 110.59 23 14 47 1075.9 -11.75 2.90
110.00 23 47 4 1866.48 -25.24 8.20 196.53 113.81 24 18 11 866.5 -13.43 346.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TOE 1.4130 TRA 3.0671 TC3-3.1237 BAU .7885 SGT 5255.6 SGR 2275.8 SG3 1611.2 ST 113.1 SR 61.4 SS 126.0
RDE .8144 RRA 1.3983 RC3 -.8061 FAU .15170 RRT .9709 RRF .9897 RTF .9794 CRT .9947 CRS -.9856 CST -.9976
FDE 4.8629 FRA12.2038 FC3-7.1836 BSP 9453 SGB 5727.2 R23 .1253 R13 .9848 LSA 179.8 MSA 9.9 SSA 1.3
BDE 1.6309 BRA 3.2700 BC3 3.2260 FSP 2926 SGI 5705.2 SG2 501.6 THA 22.99 EL1 128.5 EL2 5.6 ALF 28.43

LAUNCH DATE MAR 26 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.277 GAL -5.90 AZL 88.80 HCA 207.34 SMA 180.09 ECC .19589 INC 1.1989 V1 29.060
RP 214.88 LAP -.55 LOP 32.03 VP 22.323 GAP 1.82 AZP 91.07 TAL 325.15 TAP 172.90 RCA 144.85 APO 215.33 V2 25.554
RC 149.988 GL 9.00 GP -17.91 ZAL 146.64 ZAP 70.79 ETS 172.34 ZAE 111.56 ETE 187.08 ZAC 84.77 ETC 269.09 LVI 11.02

PLANETOCENTRIC CONIC

C3 18.463 VHL 4.297 DLA -2.20 RAL 331.18 RAD 6642.1 VEL 11.768 PTH 6.79 VHP 3.584 DPA -42.24 RAP 284.60 ECC 1.3038
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 35 3071.34 -33.82 94.97 190.95 125.71 18 9 46 2071.3 -17.43 75.15
60.00 18 0 29 2959.66 -28.98 88.54 194.56 119.32 18 49 49 1959.9 -14.96 67.38
70.00 18 55 19 2798.64 -24.66 77.93 197.01 114.41 19 41 57 1798.6 -12.67 55.95
80.00 20 5 57 2577.45 -21.53 62.57 198.44 111.20 20 48 55 1577.5 -10.98 40.16
90.00 21 28 25 2311.39 -20.37 43.48 198.91 110.05 22 6 56 1311.4 -10.35 20.93
100.00 22 48 49 2081.93 -21.53 23.94 198.44 111.20 23 23 1 1051.9 -10.98 1.53
110.00 23 54 45 1845.46 -24.66 6.84 197.01 114.41 24 25 30 845.5 -12.67 344.87

DIFFERENTIAL CORRECTIONS

TDE 1.4572 TRA 3.2339 TC3-3.2032 BAU .8121
RDE .7905 RRA 1.3208 RC3 -.7510 FAU .14966
FDE 4.8164 FRA12.1744 FC3-7.0179 B8P 9733
BDE 1.6579 BRA 3.4933 BC3 3.2900 F8P 2909

DISTANCE 622.161

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 5475.0 SGR 2192.8 SG3 1596.8
RRT .9699 RRF .9877 RTF .9803
SG8 5863.1 R23 .1203 R13 .9848
SG1 5862.6 S62 489.9 THA 21.03

ORBIT DETERMINATION ACCURACY

ST 116.8 SR 59.0 SS 124.9
CRT .9923 CR8 -.9831 CST -.9980
LSA 180.6 MSA 10.1 S8A 1.3
EL1 130.7 EL2 6.5 ALF 26.68

LAUNCH DATE MAR 26 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.281 GAL -5.57 AZL 88.92 HCA 208.51 SMA 180.18 ECC .19655 INC 1.0774 V1 29.060
RP 215.21 LAP -.51 LOP 33.20 VP 22.287 GAP 1.63 AZP 90.95 TAL 324.81 TAP 173.32 RCA 144.74 APO 215.56 V2 25.518
RC 152.438 GL 8.04 GP -17.11 ZAL 147.12 ZAP 68.18 ETS 172.08 ZAE 110.07 ETE 186.23 ZAC 85.57 ETC 268.98 LVI 10.48

PLANETOCENTRIC CONIC

C3 18.675 VHL 4.321 DLA -3.00 RAL 331.77 RAD 6642.2 VEL 11.777 PTH 6.80 VHP 3.599 DPA -41.47 RAP 283.98 ECC 1.3073
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 23 53 3037.94 -33.29 94.14 191.39 126.20 18 14 51 2057.9 -16.78 74.53
60.00 18 6 39 2944.18 -28.46 87.55 195.04 119.83 18 55 43 1944.2 -14.30 66.57
70.00 19 2 26 2780.15 -24.13 76.75 197.54 114.93 19 48 46 1780.1 -12.00 54.94
80.00 20 13 57 2556.24 -21.01 61.22 199.00 111.72 20 56 33 1556.2 -10.30 38.95
90.00 21 36 47 2288.95 -19.84 42.05 199.48 110.58 22 14 56 1288.9 -9.66 19.64
100.00 22 56 48 2030.71 -21.01 22.59 199.00 111.72 23 30 39 1030.7 -10.30 .12
110.00 0 5 48 1826.97 -24.13 5.67 197.54 114.93 0 36 15 827.0 -12.00 343.85

DIFFERENTIAL CORRECTIONS

TDE 1.5024 TRA 3.3997 TC3-3.2777 BAU .8368
RDE .7695 RRA 1.2478 RC3 -.6999 FAU .14747
FDE 4.7841 FRA12.1166 FC3-6.8368 B8P 10013
BDE 1.6880 BRA 3.6213 BC3 3.3518 F8P 2882

DISTANCE 626.320

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 9889.1 SGR 2037.2 SG3 1578.1
RRT .9883 RRF .9854 RTF .9810
SG8 6042.9 R23 .1148 R13 .9845
SG1 6023.7 S62 480.9 THA 19.25

ORBIT DETERMINATION ACCURACY

ST 120.5 SR 56.7 SS 123.6
CRT .9895 CR8 -.9802 CST -.9984
LSA 181.4 MSA 10.4 S8A 1.3
EL1 133.0 EL2 7.4 ALF 25.07

LAUNCH DATE MAR 26 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.286 GAL -5.65 AZL 89.03 HCA 209.68 SMA 180.23 ECC .19746 INC .9653 V1 29.860
RP 215.54 LAP -.48 LOP 34.37 VP 22.251 GAP 1.44 AZP 90.84 TAL 324.46 TAP 174.14 RCA 144.64 APO 215.82 V2 25.480
RC 154.904 GL 7.15 GP -16.36 ZAL 147.57 ZAP 67.61 ETS 171.85 ZAE 108.60 ETE 185.46 ZAC 86.32 ETC 268.89 LVI 9.92

PLANETOCENTRIC CONIC

C3 18.916 VHL 4.349 DLA -3.74 RAL 332.34 RAD 6642.4 VEL 11.787 PTH 6.81 VHP 3.618 DPA -40.76 RAP 283.39 ECC 1.3113
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 28 50 3046.35 -32.82 93.43 191.88 126.61 18 19 37 2046.4 -16.22 74.00
60.00 18 12 23 2930.51 -27.99 86.69 195.57 120.27 19 1 14 1930.5 -13.73 65.88
70.00 19 9 3 2763.91 -23.66 75.72 198.11 115.38 19 55 7 1763.9 -11.41 54.05
80.00 20 21 21 2537.51 -20.53 60.03 199.60 112.17 21 3 39 1537.5 -9.70 37.89
90.00 21 44 33 2269.10 -19.36 40.79 200.09 111.03 22 22 22 1269.1 -9.05 18.50
100.00 23 4 13 2011.99 -20.53 21.40 199.60 112.17 23 37 45 1012.0 -9.70 359.26
110.00 0 12 25 1810.73 -23.66 4.64 198.11 115.38 0 42 36 810.7 -11.41 342.97

DIFFERENTIAL CORRECTIONS

TDE 1.5498 TRA 3.5659 TC3-3.3434 BAU .8814
RDE .7514 RRA 1.1786 RC3 -.6313 FAU .14488
FDE 4.7107 FRA12.0377 FC3-6.6309 B8P 10308
BDE 1.7223 BRA 3.7557 BC3 3.4063 F8P 2849

DISTANCE 630.476

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 5898.2 SGR 1929.2 SG3 1556.0
RRT .9861 RRF .9826 RTF .9515
SG8 6205.7 R23 .1089 R13 .9845
SG1 6187.5 S62 474.4 THA 17.64

ORBIT DETERMINATION ACCURACY

ST 124.2 SR 54.7 SS 122.3
CRT .9863 CR8 -.9771 CST -.9987
LSA 182.4 MSA 10.7 S8A 1.3
EL1 135.5 EL2 8.3 ALF 23.58

LAUNCH DATE MAR 26 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.291 GAL -5.72 AZL 89.14 HCA 210.85 SMA 180.31 ECC .19842 INC .8612 V1 29.860
RP 215.87 LAP -.44 LOP 35.53 VP 22.215 GAP 1.25 AZP 90.74 TAL 324.10 TAP 174.94 RCA 144.53 APO 216.08 V2 25.443
RC 157.385 GL 6.33 GP -15.66 ZAL 148.00 ZAP 66.09 ETS 171.65 ZAE 107.14 ETE 184.78 ZAC 87.02 ETC 268.81 LVI 9.41

PLANETOCENTRIC CONIC

C3 19.184 VHL 4.380 DLA -4.40 RAL 332.90 RAD 6642.5 VEL 11.798 PTH 6.82 VHP 3.640 DPA -40.09 RAP 282.89 ECC 1.3157
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 33 30 3038.38 -32.41 92.83 192.40 126.98 18 24 8 2036.4 -15.74 73.54
60.00 18 17 46 2918.65 -27.58 85.96 196.13 120.83 19 6 24 1918.6 -13.23 65.27
70.00 19 15 13 2749.71 -23.25 74.83 198.70 115.76 20 1 3 1749.7 -10.89 53.28
80.00 20 28 15 2521.02 -20.10 58.99 200.22 112.55 21 10 16 1521.0 -9.17 36.96
90.00 21 51 48 2251.58 -18.93 38.69 200.72 111.41 22 29 17 1251.6 -8.51 17.50
100.00 23 11 7 1995.50 -20.10 20.36 200.22 112.55 23 44 23 995.5 -9.17 358.33
110.00 0 18 35 1796.53 -23.25 3.75 198.70 115.76 0 48 32 796.5 -10.89 342.20

DIFFERENTIAL CORRECTIONS

TDE 1.5988 TRA 3.7320 TC3-3.4028 BAU .8864
RDE .7358 RRA 1.1136 RC3 -.6058 FAU .14207
FDE 4.6564 FRA11.9401 FC3-6.4113 B8P 10604
BDE 1.7800 BRA 3.8948 BC3 3.4563 F8P 2812

DISTANCE 634.827

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 8102.0 SGR 1828.4 SG3 1531.1
RRT .9835 RRF .9793 RTF .9820
SG8 6370.0 R23 .1031 R13 .9844
SG1 6352.6 S62 470.4 THA 16.19

ORBIT DETERMINATION ACCURACY

ST 127.9 SR 52.9 SS 121.0
CRT .9828 CR8 -.9737 CST -.9989
LSA 183.5 MSA 11.1 S8A 1.3
EL1 138.1 EL2 9.1 ALF 22.22

LAUNCH DATE MAR 26 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -0.00 LOL 104.69 VL 32.296 GAL -5.80 AZL 89.24 HCA 212.01 SMA 180.39 ECC .19942 INC .7843 V1 29.860
 RP 216.21 LAP -.41 LOP 36.69 VP 22.179 GAP 1.06 AZP 90.65 TAL 323.73 TAP 175.74 RCA 144.42 APO 216.38 V2 25.405
 RC 199.881 GL 3.57 GP -13.01 ZAL 148.41 ZAP 84.61 ETS 171.47 ZAE 103.70 ETE 184.16 ZAC 87.67 ETC 268.74 LVI 8.93

PLANETOCENTRIC CONIC

C3 19.477 VHL 4.413 DLA -5.01 RAL 333.44 RAD 6642.6 VEL 11.811 PTH 6.83 VHP 3.663 DPA -39.45 RAP 282.46 ECC 1.3209
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 53 3027.86 -32.06 92.32 192.95 127.25 18 28 20 2027.9 -15.33 73.16
 60.00 18 22 48 2908.41 -27.23 85.32 196.72 120.94 19 11 16 1908.4 -12.79 64.76
 70.00 19 20 59 2737.33 -22.88 74.06 199.32 116.08 20 6 36 1737.3 -10.44 52.61
 80.00 20 34 41 2506.58 -19.72 58.09 200.86 112.88 21 16 28 1506.6 -8.69 36.14
 90.00 21 58 29 2236.17 -18.54 39.72 201.38 111.74 22 35 46 1236.2 -8.03 16.62
 100.00 23 17 33 1981.03 -19.72 19.45 200.86 112.88 23 50 34 981.0 -8.69 357.51
 110.00 0 24 21 1784.15 -22.88 2.98 199.32 116.08 0 54 5 784.1 -10.44 341.52

DIFFERENTIAL CORRECTIONS

TDE 1.6497 TRA 3.8982 TC3-3.4551 BAV .9118
 RDE .7228 RRA 1.0523 RC3 -.5626 FAU .13892
 FDE 4.6039 FRA11.8268 FC3-6.1751 BSP 10911
 BDE 1.8011 BRA 4.0377 BC3 3.5006 FSP 2772

MID-COURSE EXECUTION ACCURACY

SGT 6300.6 SGR 1734.4 SG3 1504.0
 RRT .9601 RRF .9756 RTF .9823
 SGB 6534.9 R23 .0978 R13 .9843
 SGI 6518.1 SG2 468.8 THA 14.88

ORBIT DETERMINATION ACCURACY

ST 131.5 SR 51.2 SS 110.7
 CRT .9788 CRS -.9701 CST -.9991
 LSA 184.7 MSA 11.5 SSA 1.3
 EL1 140.8 EL2 9.8 ALF 20.98

LAUNCH DATE MAR 26 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -0.00 LOL 104.69 VL 32.301 GAL -5.88 AZL 89.33 HCA 213.16 SMA 180.48 ECC .20047 INC .6735 V1 29.860
 RP 216.36 LAP -.37 LOP 37.85 VP 22.143 GAP .87 AZP 90.56 TAL 323.35 TAP 176.52 RCA 144.30 APO 216.66 V2 25.366
 RC 162.390 GL 4.87 GP -14.40 ZAL 148.80 ZAP 63.18 ETS 171.33 ZAE 104.28 ETE 183.61 ZAC 88.28 ETC 268.69 LVI 8.46

PLANETOCENTRIC CONIC

C3 19.793 VHL 4.449 DLA -5.56 RAL 333.98 RAD 6642.7 VEL 11.824 PTH 6.84 VHP 3.693 DPA -38.86 RAP 282.09 ECC 1.3257
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 0 3020.71 -31.77 91.89 193.53 127.49 18 32 21 2020.7 -14.98 72.63
 60.00 18 27 31 2899.65 -26.92 84.79 197.33 121.20 19 15 51 1899.7 -12.42 64.32
 70.00 19 26 22 2728.61 -22.56 73.39 199.96 116.35 20 11 49 1726.8 -10.04 52.03
 80.00 20 40 42 2493.91 -19.39 57.30 201.53 113.16 21 22 16 1493.9 -8.28 38.43
 90.00 22 4 46 2222.66 -18.20 37.88 202.05 112.03 22 41 49 1222.7 -7.81 15.85
 100.00 23 23 34 1968.38 -19.39 18.67 201.53 113.16 23 56 22 968.4 -8.28 356.80
 110.00 0 29 45 1773.42 -22.56 2.31 199.96 116.35 0 59 18 773.4 -10.04 340.95

DIFFERENTIAL CORRECTIONS

TDE 1.7016 TRA 4.0641 TC3-3.9022 BAV .9370
 RDE .7118 RRA .9942 RC3 -.5230 FAU .13575
 FDE 4.5477 FRA11.8980 FC3-5.9378 BSP 11207
 BDE 1.8444 BRA 4.1840 BC3 3.5410 FSP 2725

MID-COURSE EXECUTION ACCURACY

SGT 6493.6 SGR 1646.6 SG3 1474.8
 RRT .9562 RRF .9713 RTF .9825
 SGB 6699.1 R23 .0920 R13 .9842
 SGI 6682.7 SG2 468.6 THA 13.70

ORBIT DETERMINATION ACCURACY

ST 135.1 SR 49.7 SS 110.3
 CRT .9745 CRS -.9561 CST -.9993
 LSA 185.9 MSA 11.9 SSA 1.3
 EL1 143.6 EL2 10.5 ALF 19.84

LAUNCH DATE MAR 26 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -0.00 LOL 104.69 VL 32.307 GAL -5.97 AZL 89.41 HCA 214.32 SMA 180.57 ECC .20156 INC .5887 V1 29.860
 RP 216.91 LAP -.33 LOP 39.00 VP 22.107 GAP .68 AZP 90.49 TAL 322.97 TAP 177.29 RCA 144.18 APO 216.97 V2 25.327
 RC 184.912 GL 4.22 GP -13.82 ZAL 149.18 ZAP 61.70 ETS 171.20 ZAE 102.89 ETE 183.11 ZAC 88.86 ETC 268.64 LVI 8.02

PLANETOCENTRIC CONIC

C3 20.132 VHL 4.487 DLA -6.06 RAL 334.47 RAD 6642.9 VEL 11.838 PTH 6.86 VHP 3.724 DPA -38.30 RAP 281.78 ECC 1.3313
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 54 3014.73 -31.52 91.84 194.13 127.69 18 38 9 2014.7 -14.69 72.57
 60.00 18 31 58 2892.24 -26.86 84.33 197.96 121.42 19 20 10 1892.2 -12.10 63.94
 70.00 19 31 26 2717.39 -22.28 72.82 200.62 116.58 20 16 43 1717.4 -9.70 51.53
 80.00 20 46 19 2482.93 -19.09 56.82 202.21 113.40 21 27 42 1482.9 -7.92 34.82
 90.00 22 10 38 2210.88 -17.90 37.19 202.74 112.27 22 47 29 1210.9 -7.24 15.18
 100.00 23 29 11 1957.41 -19.09 17.99 202.21 113.40 24 1 48 957.4 -7.92 358.19
 110.00 0 34 48 1784.21 -22.28 1.74 200.62 116.58 1 4 12 764.2 -9.70 340.45

DIFFERENTIAL CORRECTIONS

TDE 1.7550 TRA 4.2308 TC3-3.5430 BAV .9825
 RDE .7021 RRA .9394 RC3 -.4889 FAU .13239
 FDE 4.4920 FRA11.8601 FC3-5.8933 BSP 11311
 BDE 1.8903 BRA 4.3338 BC3 3.5761 FSP 2678

MID-COURSE EXECUTION ACCURACY

SGT 6681.7 SGR 1585.0 SG3 1444.1
 RRT .9515 RRF .9864 RTF .527
 SGB 6862.8 R23 .0869 R13 .9841
 SGI 6846.4 SG2 470.1 THA 12.62

ORBIT DETERMINATION ACCURACY

ST 138.6 SR 48.3 SS 110.8
 CRT .9699 CRS -.9828 CST -.9994
 LSA 187.2 MSA 12.3 SSA 1.3
 EL1 146.4 EL2 11.1 ALF 18.80

LAUNCH DATE MAR 26 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -0.00 LOL 104.69 VL 32.313 GAL -6.06 AZL 89.49 HCA 215.47 SMA 180.67 ECC .20269 INC .5090 V1 29.860
 RP 217.26 LAP -.30 LOP 40.15 VP 22.072 GAP .50 AZP 90.41 TAL 322.58 TAP 178.05 RCA 144.05 APO 217.29 V2 25.288
 RC 167.446 GL 3.62 GP -13.28 ZAL 149.55 ZAP 60.44 ETS 171.09 ZAE 101.52 ETE 182.66 ZAC 89.40 ETC 268.60 LVI 7.59

PLANETOCENTRIC CONIC

C3 20.492 VHL 4.527 DLA -6.52 RAL 334.98 RAD 6643.1 VEL 11.853 PTH 6.87 VHP 3.756 DPA -37.77 RAP 281.53 ECC 1.3373
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 36 3009.86 -31.31 91.25 194.75 127.85 18 39 46 2009.9 -14.45 72.35
 60.00 18 36 9 2886.04 -26.43 83.96 198.61 121.60 19 24 15 1886.0 -11.84 63.63
 70.00 19 36 11 2709.55 -22.04 72.34 201.30 116.78 20 21 20 1709.5 -9.41 51.11
 80.00 20 51 35 2473.48 -18.83 56.03 202.91 113.61 21 32 49 1473.5 -7.61 34.29
 90.00 22 16 8 2200.69 -17.63 36.52 203.45 112.47 22 52 49 1200.7 -6.92 14.60
 100.00 23 34 27 1947.95 -18.83 17.40 202.91 113.61 24 6 53 947.9 -7.61 355.66
 110.00 0 39 33 1756.36 -22.04 1.26 201.30 116.78 1 8 50 756.4 -9.41 340.03

DIFFERENTIAL CORRECTIONS

TDE 1.8101 TRA 4.3971 TC3-3.5780 BAV .9880
 RDE .8943 RRA .8674 RC3 -.4514 FAU .12891
 FDE 4.4354 FRA11.4115 FC3-5.4460 BSP 11814
 BDE 1.9387 BRA 4.4857 BC3 3.6064 FSP 2627

MID-COURSE EXECUTION ACCURACY

SGT 6864.4 SGR 1489.0 SG3 1412.2
 RRT .9460 RRF .9607 RTF .9828
 SGB 7024.1 R23 .0820 R13 .9840
 SGI 7008.1 SG2 472.8 THA 11.65

ORBIT DETERMINATION ACCURACY

ST 142.1 SR 47.1 SS 115.4
 CRT .9650 CRS -.9573 CST -.9995
 LSA 188.6 MSA 12.7 SSA 1.3
 EL1 149.3 EL2 11.8 ALF 17.85

LAUNCH DATE MAR 26 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.320 GAL -6.14 AZL 89.57 HCA 216.61 SMA 180.77 ECC .20387 INC .4335 V1 29.660
RP 217.61 LAP -.28 LOP 41.30 VP 22.036 GAP .31 AZP 90.33 TAL 322.18 TAP 178.80 RCA 143.92 APO 217.62 V2 25.249
RC 169.992 GL 3.05 GP -12.77 ZAL 149.91 ZAP 59.14 ETS 170.99 ZAE 100.17 ETE 182.25 ZAC 89.91 ETC 268.57 LVI 7.18

DISTANCE 655.315

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.874 VHL 4.569 DLA -6.93 RAL 335.47 RAD 6643.2 VEL 11.869 PTH 6.88 VHP 3.791 DPA -37.27 RAP 281.33 ECC 1.3435
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 53 6 3005.99 -31.15 91.03 195.38 127.97 18 43 12 2006.0 -14.26 72.17
60.00 18 40 7 2680.96 -26.25 83.65 199.27 121.75 19 28 8 1881.0 -11.62 63.38
70.00 19 40 39 2702.96 -21.83 71.94 201.99 116.94 20 25 42 1703.0 -9.17 50.76
80.00 20 56 32 2465.41 -18.61 55.54 203.62 113.78 21 37 37 1485.4 -7.34 33.84
90.00 22 21 17 2191.95 -17.40 35.98 204.18 112.65 22 57 49 1191.9 -6.65 14.11
100.00 23 39 24 1939.88 -18.61 16.90 203.62 113.78 24 11 44 939.9 -7.34 355.21
110.00 0 44 1 1749.78 -21.83 .86 201.99 116.94 1 13 11 749.8 -9.17 339.67

DIFFERENTIAL CORRECTIONS

TDE 1.8662 TRA 4.5636 TC3-3.6102 BAU 1.0143
RDE .6680 RRA .8381 RC3 -.4199 FAU .12551
FDE 4.3786 FRA11.2550 FC3-5.2055 BSP 12105
BDE 1.9890 BRA 4.6399 BC3 3.6345 FSP 2573

MID-COURSE EXECUTION ACCURACY

SGT 7042.5 SGR 1418.6 SG3 1379.5
RRT .9397 RRF .9543 RTF .9828
SGB 7183.9 R23 .0774 R13 .9839
SG1 7168.1 SG2 476.5 THA 10.77

ORBIT DETERMINATION ACCURACY

ST 145.6 SR 46.0 SS 113.9
CRT .9598 CRS -.9530 CST -.9998
LSA 190.0 MSA 13.1 SSA 1.3
EL1 152.2 EL2 12.3 ALF 16.98

LAUNCH DATE MAR 26 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.326 GAL -6.24 AZL 89.64 HCA 217.75 SMA 180.88 ECC .20509 INC .3628 V1 29.660
RP 217.97 LAP -.22 LOP 42.44 VP 22.000 GAP .12 AZP 90.29 TAL 321.78 TAP 179.53 RCA 143.78 APO 217.97 V2 25.209
RC 172.547 GL 2.53 GP -12.29 ZAL 150.26 ZAP 57.88 ETS 170.92 ZAE 98.66 ETE 181.89 ZAC 90.39 ETC 268.55 LVI 6.77

DISTANCE 659.437

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.277 VHL 4.613 DLA -7.31 RAL 335.95 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 3.828 DPA -36.80 RAP 281.18 ECC 1.3502
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 56 26 3003.04 -31.03 90.85 196.03 128.07 18 46 29 2003.0 -14.12 72.04
60.00 18 43 51 2876.91 -26.11 83.41 199.95 121.86 19 31 48 1876.9 -11.45 63.18
70.00 19 44 52 2697.54 -21.67 71.61 202.69 117.07 20 29 49 1697.5 -8.97 50.47
80.00 21 1 10 2458.83 -18.43 55.12 204.33 113.92 21 42 9 1458.6 -7.12 33.46
90.00 22 26 7 2184.54 -17.21 35.52 204.89 112.79 23 2 32 1184.5 -6.42 13.69
100.00 23 44 2 1933.10 -18.43 16.49 204.33 113.92 24 16 15 933.1 -7.12 354.83
110.00 0 48 14 1744.35 -21.67 .52 202.69 117.07 1 17 18 744.4 -8.97 339.38

DIFFERENTIAL CORRECTIONS

TDE 1.9239 TRA 4.7312 TC3-3.6361 BAU 1.0402
RDE .6830 RRA .7914 RC3 -.3906 FAU .12200
FDE 4.3215 FRA11.0931 FC3-4.9640 BSP 12396
BDE 2.0415 BRA 4.7969 BC3 3.6570 FSP 2517

MID-COURSE EXECUTION ACCURACY

SGT 7215.7 SGR 1353.4 SG3 1346.2
RRT .9326 RRF .9471 RTF .9828
SGB 7341.6 R23 .0731 R13 .9837
SG1 7325.8 SG2 481.1 THA 9.97

ORBIT DETERMINATION ACCURACY

ST 149.0 SR 45.0 SS 112.4
CRT .9544 CRS -.9482 CST -.9897
LSA 191.5 MSA 12.5 SSA 1.3
EL1 155.1 EL2 12.9 ALF 16.18

LAUNCH DATE MAR 26 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.333 GAL -6.33 AZL 89.70 HCA 218.89 SMA 180.99 ECC .20635 INC .2950 V1 29.660
RP 218.33 LAP -.19 LOP 43.58 VP 21.964 GAP -.07 AZP 90.23 TAL 321.37 TAP 180.26 RCA 143.64 APO 218.33 V2 25.169
RC 175.114 GL 2.04 GP -11.84 ZAL 150.61 ZAP 56.67 ETS 170.85 ZAE 97.57 ETE 181.55 ZAC 90.84 ETC 268.54 LVI 6.38

DISTANCE 663.552

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.700 VHL 4.658 DLA -7.65 RAL 336.42 RAD 6643.6 VEL 11.904 PTH 6.91 VHP 3.867 DPA -36.35 RAP 281.09 ECC 1.3571
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 35 3000.94 -30.94 90.73 196.69 128.14 18 49 36 2000.9 -14.01 71.95
60.00 18 47 24 2873.81 -26.00 83.22 200.63 121.95 19 35 17 1873.8 -11.32 63.02
70.00 19 48 50 2693.17 -21.53 71.34 203.40 117.18 20 33 43 1693.2 -8.81 50.23
80.00 21 5 32 2453.02 -18.27 54.77 205.06 114.03 21 46 25 1453.0 -6.93 33.15
90.00 22 30 40 2178.37 -17.05 35.14 205.62 112.91 23 6 58 1178.4 -6.22 13.34
100.00 23 48 24 1927.49 -18.27 16.14 205.06 114.03 24 20 32 927.5 -6.93 354.51
110.00 0 52 12 1739.99 -21.53 .26 203.40 117.18 1 21 12 740.0 -8.81 339.15

DIFFERENTIAL CORRECTIONS

TDE 1.9822 TRA 4.8986 TC3-3.6586 BAU 1.0686
RDE .6792 RRA .7470 RC3 -.3636 FAU .11848
FDE 4.2636 FRA10.9280 FC3-4.7269 BSP 12679
BDE 2.0953 BRA 4.9553 BC3 3.6766 FSP 2439

MID-COURSE EXECUTION ACCURACY

SGT 7383.8 SGR 1293.0 SG3 1312.4
RRT .9245 RRF .9349 RTF .5227
SGB 7496.1 R23 .0693 R13 .9835
SG1 7480.3 SG2 486.5 THA 9.24

ORBIT DETERMINATION ACCURACY

ST 152.3 SR 44.0 SS 110.9
CRT .9487 CRS -.9433 CST -.9898
LSA 193.0 MSA 13.9 SSA 1.3
EL1 158.0 EL2 13.4 ALF 15.45

LAUNCH DATE MAR 26 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 149.22 LAL -.00 LOL 184.69 VL 32.340 GAL -6.43 AZL 89.77 HCA 220.03 SMA 181.10 ECC .20785 INC .2318 V1 29.660
RP 218.69 LAP -.15 LOP 44.72 VP 21.929 GAP -.26 AZP 90.18 TAL 320.95 TAP 180.98 RCA 143.49 APO 218.70 V2 25.129
RC 177.690 GL 1.98 GP -11.42 ZAL 150.95 ZAP 55.48 ETS 170.80 ZAE 96.30 ETE 181.25 ZAC 91.26 ETC 268.54 LVI 6.00

DISTANCE 667.663

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.143 VHL 4.708 DLA -7.96 RAL 336.89 RAD 6643.8 VEL 11.922 PTH 6.93 VHP 3.907 DPA -35.93 RAP 281.04 ECC 1.3644
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 2 38 2999.63 -30.89 90.65 197.37 128.18 18 52 36 1999.6 -13.95 71.89
60.00 18 50 45 2871.57 -25.92 83.09 201.33 122.01 19 38 37 1871.6 -11.22 62.91
70.00 19 52 35 2689.80 -21.43 71.13 204.12 117.26 20 37 24 1689.8 -8.68 50.05
80.00 21 9 39 2448.51 -18.15 54.50 205.80 114.13 21 50 28 1448.5 -6.78 32.89
90.00 22 34 56 2173.34 -16.91 34.83 206.36 113.01 23 11 10 1173.3 -6.06 13.06
100.00 23 52 31 1922.98 -18.15 15.87 205.80 114.13 24 24 34 923.0 -6.78 354.26
110.00 0 55 57 1736.61 -21.43 .05 204.12 117.26 1 24 53 736.6 -8.68 338.97

DIFFERENTIAL CORRECTIONS

TDE 2.0432 TRA 5.0884 TC3-3.6743 BAU 1.0923
RDE .6768 RRA .7030 RC3 -.3380 FAU .11477
FDE 4.2088 FRA10.7586 FC3-4.4873 BSP 12971
BDE 2.1524 BRA 5.1172 BC3 3.6899 FSP 2404

MID-COURSE EXECUTION ACCURACY

SGT 7548.3 SGR 1237.6 SG3 1278.7
RRT .9154 RRF .9299 RTF .9826
SGB 7649.0 R23 .0658 R13 .9833
SG1 7633.2 SG2 492.5 THA 8.57

ORBIT DETERMINATION ACCURACY

ST 155.7 SR 43.2 SS 109.4
CRT .9430 CRS -.9383 CST -.9998
LSA 194.6 MSA 14.3 SSA 1.3
EL1 161.0 EL2 13.9 ALF 14.78

LAUNCH DATE MAR 27 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 16 1971

MELIOCENTRIC CONIC

DISTANCE 391.188

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.820 GAL -7.08 AZL 92.61 HCA 134.89 SMA 211.63 ECC .31738 INC 2.6110 V1 29.851
RP 207.27 LAP -1.85 LOP 320.60 VP 25.563 GAP 19.47 AZP 88.16 TAL 330.03 TAP 104.94 RCA 144.48 APO 276.80 V2 26.426
RC 56.362 GL -14.29 GP 4.87 ZAL 138.87 ZAP 165.07 ETS 160.95 ZAE 166.85 ETE 132.24 ZAC 106.23 ETC 275.33 LVI -19.10

PLANETOCENTRIC CONIC

C3 38.591 VHL 6.212 DLA -25.99 RAL 334.29 RAD 8650.2 VEL 12.588 PTH 7.45 VHP 8.984 DPA -15.68 RAP 308.09 ECC 1.6351
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 4 34 2781.97 -20.19 78.15 200.39 134.05 19 50 36 1762.0 -2.13 61.71
60.00 20 18 35 2565.12 -13.60 66.25 206.22 128.25 21 1 20 1565.1 2.17 48.10
70.00 21 54 6 2284.26 -7.25 48.29 211.03 123.47 22 32 10 1284.3 6.71 28.75
80.00 23 51 1 1918.29 -1.31 24.18 214.70 119.83 24 23 0 918.3 10.92 3.51
90.00 1 43 43 1567.54 1.59 359.99 216.31 118.24 2 9 50 567.5 13.01 338.78
100.00 2 37 49 1392.76 -1.31 345.55 214.70 119.83 3 1 2 392.8 10.92 324.88
110.00 2 57 28 1331.08 -7.25 337.21 211.03 123.47 3 19 39 331.1 6.71 317.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9369 TRA-1.8769 TC3 -.0928 BAU .0895 SGT 2114.0 SGR 498.2 SG3 242.3 ST 52.0 SR 23.1 SS 39.2
RDE -.5008 RRA -.0475 RC3 .1465 FAU .04406 RRT .4478 RRF -.4759 RTF -.8651 CRT .8484 CR8 .7169 CST .9765
FDE .7606 FRA 2.3607 FC3 -.9884 BSP 3671 SGB 2171.9 R23 -.0793 R13 -.8671 LSA 67.5 MSA 14.7 S8A 1.1
BDE 1.0620 BRA 1.8775 BC3 .1734 F8P 351 SGI 2126.2 SG2 442.9 THA 6.29 EL1 55.7 EL2 11.4 ALF 21.58

LAUNCH DATE MAR 27 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 18 1971

MELIOCENTRIC CONIC

DISTANCE 394.328

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.824 GAL -6.93 AZL 92.67 HCA 136.15 SMA 209.27 ECC .30915 INC 2.6684 V1 29.851
RP 207.18 LAP -1.83 LOP 321.86 VP 25.436 GAP 18.00 AZP 86.07 TAL 330.08 TAP 106.24 RCA 144.57 APO 273.96 V2 26.436
RC 56.588 GL -14.88 GP 5.12 ZAL 136.78 ZAP 164.14 ETS 161.22 ZAE 167.05 ETE 128.78 ZAC 106.44 ETC 275.42 LVI -19.46

PLANETOCENTRIC CONIC

C3 37.033 VHL 6.086 DLA -26.51 RAL 334.62 RAD 8649.6 VEL 12.527 PTH 7.41 VHP 8.727 OPA -15.35 RAP 308.40 ECC 1.6093
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 8 31 2740.07 -19.15 77.11 200.24 134.43 19 54 11 1740.1 -1.03 60.79
60.00 20 23 37 2540.32 -12.75 64.99 206.12 126.56 21 5 57 1540.3 3.26 48.92
70.00 22 0 55 2254.21 -6.12 46.70 211.03 123.67 22 38 29 1254.2 7.84 27.16
80.00 0 4 59 1878.16 .05 21.98 214.85 119.86 0 36 17 878.2 12.19 1.21
90.00 1 56 57 1517.10 3.21 357.17 216.60 118.11 2 22 14 517.1 14.46 335.78
100.00 2 47 51 1352.64 .05 343.34 214.85 119.86 3 10 24 352.6 12.19 322.57
110.00 3 4 17 1301.03 -6.12 335.62 211.03 123.67 3 25 58 301.0 7.84 316.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9380 TRA-1.8582 TC3 -.0870 BAU .0889 SGT 2147.8 SGR 501.0 SG3 257.9 ST 53.0 SR 22.9 SS 40.6
RDE -.4863 RRA -.0662 RC3 .1571 FAU .04542 RRT .4835 RRF -.5145 RTF -.8698 CRT .8573 CR8 .7261 CST .9757
FDE .7940 FRA 2.4570 FC3 -1.0618 BSP 3747 SGB 2205.5 R23 -.0866 R13 -.8721 LSA 69.1 MSA 14.6 S8A 1.1
BDE 1.0588 BRA 1.8594 BC3 .1798 F8P 377 SGI 2162.0 SG2 435.7 THA 6.71 EL1 56.7 EL2 11.0 ALF 21.18

LAUNCH DATE MAR 27 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 20 1971

MELIOCENTRIC CONIC

DISTANCE 397.552

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.784 GAL -6.79 AZL 92.73 HCA 137.42 SMA 207.08 ECC .30138 INC 2.7285 V1 29.851
RP 207.09 LAP -1.85 LOP 323.13 VP 25.318 GAP 17.54 AZP 87.99 TAL 330.13 TAP 107.55 RCA 144.68 APO 269.48 V2 26.448
RC 56.856 GL -15.50 GP 5.38 ZAL 138.07 ZAP 163.19 ETS 161.44 ZAE 167.37 ETE 125.26 ZAC 106.67 ETC 275.51 LVI -19.82

PLANETOCENTRIC CONIC

C3 35.591 VHL 5.966 DLA -27.05 RAL 334.96 RAD 8649.1 VEL 12.469 PTH 7.36 VHP 8.477 DPA -15.01 RAP 308.68 ECC 1.5857
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 12 39 2717.91 -18.09 76.07 200.15 134.79 19 57 57 1717.9 .09 59.67
60.00 20 28 86 2515.02 -11.68 63.72 206.08 128.65 21 10 51 1515.0 4.37 45.70
70.00 22 8 14 2223.03 -4.94 45.08 211.09 123.84 22 45 17 1223.0 9.00 25.49
80.00 0 16 14 1834.67 1.53 19.59 215.10 119.82 0 48 48 834.7 13.55 356.69
90.00 2 12 51 1458.59 5.08 353.89 217.08 117.86 2 37 10 458.6 16.08 332.25
100.00 2 8 6 1309.14 1.53 340.96 215.10 119.82 3 20 55 309.1 13.55 320.05
110.00 3 11 36 1289.85 -4.94 333.98 211.09 123.84 3 32 46 289.8 9.00 314.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9383 TRA-1.8381 TC3 -.0802 BAU .0888 SGT 2179.4 SGR 505.7 SG3 274.4 ST 54.0 SR 22.8 SS 42.1
RDE -.4738 RRA -.0888 RC3 .1688 FAU .04688 RRT .5206 RRF -.5844 RTF -.8744 CRT .8665 CR8 .7359 CST .9749
FDE .8289 FRA 2.5874 FC3 -1.1403 BSP 3811 SGB 2237.3 R23 -.0946 R13 -.8770 LSA 70.7 MSA 14.5 S8A 1.1
BDE 1.0510 BRA 1.8401 BC3 .1888 F8P 404 SGI 2185.9 SG2 428.5 THA 7.18 EL1 57.6 EL2 10.7 ALF 20.83

LAUNCH DATE MAR 27 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 22 1971

MELIOCENTRIC CONIC

DISTANCE 400.852

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.630 GAL -6.84 AZL 92.79 HCA 138.68 SMA 205.08 ECC .29396 INC 2.7916 V1 29.851
RP 207.01 LAP -1.84 LOP 324.39 VP 25.199 GAP 17.09 AZP 87.90 TAL 330.18 TAP 108.66 RCA 144.78 APO 265.34 V2 26.457
RC 57.225 GL -16.14 GP 5.67 ZAL 136.53 ZAP 162.22 ETS 161.60 ZAE 167.62 ETE 121.72 ZAC 106.92 ETC 275.60 LVI -20.20

PLANETOCENTRIC CONIC

C3 34.256 VHL 5.853 DLA -27.61 RAL 335.31 RAD 8648.6 VEL 12.416 PTH 7.32 VHP 8.235 DPA -14.66 RAP 308.93 ECC 1.5638
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 17 0 2695.48 -17.01 75.03 200.10 135.13 20 1 56 1695.5 1.22 58.93
60.00 20 34 34 2469.14 -10.57 62.44 206.10 129.12 21 16 3 1489.1 5.50 44.46
70.00 22 16 8 2190.50 -3.70 43.35 211.22 123.98 22 52 38 1190.5 10.21 23.74
80.00 0 29 5 1786.58 3.15 16.95 215.47 119.71 0 58 52 786.6 15.01 355.86
90.00 2 33 35 1385.07 7.41 349.73 217.80 117.37 2 56 40 385.1 18.03 327.74
100.00 3 11 57 1261.05 3.15 338.31 215.47 119.71 3 32 58 261.0 15.01 317.25
110.00 3 19 30 1237.32 -3.70 332.27 211.22 123.98 3 40 7 237.3 10.21 312.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9309 TRA-1.8091 TC3 -.0638 BAU .0879 SGT 2197.8 SGR 512.4 SG3 292.0 ST 54.5 SR 22.7 SS 43.5
RDE -.4614 RRA -1.1080 RC3 .1809 FAU .04843 RRT .5592 RRF -.5951 RTF -.8810 CRT .8754 CR8 .7465 CST .9744
FDE .8657 FRA 2.6263 FC3 -1.2239 BSP 3778 SGB 2256.8 R23 -.1009 R13 -.8839 LSA 72.0 MSA 14.3 S8A 1.1
BDE 1.0390 BRA 1.8122 BC3 .1918 F8P 433 SGI 2217.1 SG2 421.1 THA 7.71 EL1 58.2 EL2 10.3 ALF 20.65

LAUNCH DATE MAR 27 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 404.223

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.942 GAL -8.51 AZL 92.86 HCA 139.05 SMA 203.18 ECC .28697 INC 2.8570 V1 29.851
RP 206.94 LAP -1.84 LOP 323.66 VP 25.090 GAP 18.64 AZP 87.81 TAL 330.23 TAP 110.10 RCA 144.89 APO 261.49 V2 26.466
RC 57.875 GL -16.81 GP 5.97 ZAL 138.37 ZAP 161.21 ETS 161.72 ZAE 167.77 ETE 118.26 ZAC 107.19 ETC 275.68 LVI -20.59

PLANETOCENTRIC CONIC

C3 33.027 VHL 5.747 DLA -28.20 RAL 335.66 RAD 8648.2 VEL 12.367 PTH 7.29 VHP 8.001 DPA -14.29 RAP 309.15 ECC 1.5435
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 21 35 2672.79 -15.92 73.99 200.12 135.45 20 6 8 1672.8 2.36 57.68
60.00 20 40 34 2462.70 -9.43 61.13 206.18 129.37 21 21 36 1462.7 6.66 43.18
70.00 22 24 41 2156.48 -2.40 41.57 211.45 124.08 23 0 38 1156.5 11.45 21.90
80.00 0 44 13 1731.92 4.99 13.93 216.02 119.48 1 13 5 731.9 16.62 352.60
90.00 3 10 49 1259.06 11.27 342.50 219.36 116.11 3 31 48 259.1 21.07 319.75
100.00 3 27 4 1206.39 4.99 335.30 216.02 119.48 3 47 11 206.4 16.62 313.97
110.00 3 28 3 1203.30 -2.40 330.49 211.45 124.08 3 48 7 203.3 11.45 310.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.0384 TRA-1.7906 TC3 -.0609 BAU .0898 SGT 2231.1 SGR 521.8 SG3 310.5 ST 55.7 SR 22.6 SS 45.0
RDE -.4505 RRA -1.274 RC3 .1940 FAU .05011 RRT .9971 RRF -.6362 RTF -.8835 CRT .8861 CRS .7578 CST .9732
FDE 1.9037 FRA 2.7708 FC3-1.3134 B8P 3891 SGB 2291.3 R23 -.1119 R13 -.8868 LSA 73.7 MSA 14.3 S8A 1.1
BDE 1.0382 BRA 1.7951 BC3 .2033 F8P 463 SGI 2253.6 SG2 414.4 THA 8.23 EL1 59.2 EL2 9.8 ALF 20.35

LAUNCH DATE MAR 27 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 407.657

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.458 GAL -6.37 AZL 92.93 HCA 141.21 SMA 201.44 ECC .28034 INC 2.9280 V1 29.851
RP 206.87 LAP -1.83 LOP 326.93 VP 24.885 GAP 18.21 AZP 87.72 TAL 330.29 TAP 111.51 RCA 144.97 APO 257.92 V2 26.473
RC 58.203 GL -17.50 GP 6.30 ZAL 138.19 ZAP 160.18 ETS 161.79 ZAE 167.85 ETE 114.95 ZAC 107.49 ETC 275.75 LVI -21.00

PLANETOCENTRIC CONIC

C3 31.895 VHL 5.648 DLA -28.82 RAL 336.03 RAD 8647.7 VEL 12.321 PTH 7.25 VHP 7.774 DPA -13.90 RAP 309.35 ECC 1.5249
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 26 25 2649.79 -14.80 72.95 200.20 135.75 20 10 35 1649.8 3.51 57.02
60.00 20 46 57 2435.58 -8.26 59.80 206.34 129.59 21 27 32 1435.6 7.84 41.86
70.00 22 34 2 2120.59 -1.03 39.70 211.77 124.14 23 9 23 1120.6 12.75 19.93
80.00 1 3 5 1666.10 7.18 10.27 216.82 119.06 1 30 51 666.1 16.48 348.60
84.18 2 41 56 1348.37 13.50 350.15 220.15 115.71 3 4 24 348.4 22.95 326.97
100.00 3 45 56 1140.57 7.18 331.84 216.82 119.06 4 4 57 140.6 18.48 309.97
110.00 3 37 25 1167.41 -1.03 328.62 211.77 124.14 3 56 52 167.4 12.75 308.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9387 TRA-1.7697 TC3 -.0567 BAU .0919 SGT 2260.7 SGR 534.1 SG3 330.2 ST 56.7 SR 22.5 SS 48.6
RDE -.4408 RRA -1.1900 RC3 .2079 FAU .05183 RRT .6350 RRF -.6771 RTF -.8864 CRT .8971 CRS .7703 CST .9721
FDE 1.9452 FRA 2.8852 FC3-1.4068 B8P 3983 SGB 2323.0 R23 -.1234 R13 -.8901 LSA 75.4 MSA 14.2 S8A 1.1
BDE 1.0370 BRA 1.7761 BC3 .2155 F8P 497 SGI 2286.9 SG2 407.9 THA 8.61 EL1 60.3 EL2 9.4 ALF 20.12

LAUNCH DATE MAR 27 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 411.180

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.378 GAL -6.25 AZL 93.00 HCA 142.48 SMA 199.83 ECC .27406 INC 3.0020 V1 29.851
RP 206.82 LAP -1.83 LOP 328.20 VP 24.885 GAP 15.78 AZP 87.62 TAL 330.36 TAP 112.84 RCA 145.07 APO 254.60 V2 26.479
RC 58.807 GL -18.23 GP 6.66 ZAL 137.98 ZAP 159.11 ETS 161.83 ZAE 167.84 ETE 111.87 ZAC 107.82 ETC 275.83 LVI -21.42

PLANETOCENTRIC CONIC

C3 30.856 VHL 5.555 DLA -29.47 RAL 336.41 RAD 8647.3 VEL 12.279 PTH 7.22 VHP 7.534 DPA -13.49 RAP 309.51 ECC 1.5078
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 31 33 2626.44 -13.68 71.91 200.34 136.03 20 15 19 1626.4 4.68 56.04
60.00 20 53 47 2407.67 -7.04 58.44 206.58 129.78 21 33 94 1407.7 9.05 40.50
70.00 22 44 21 2082.41 .43 37.71 212.20 124.15 23 19 4 1082.4 14.12 17.82
80.00 1 30 18 1574.54 10.17 5.12 218.11 118.22 1 56 33 574.5 20.90 342.89
81.33 2 20 45 1413.07 14.04 355.19 220.14 116.19 2 44 18 413.1 23.82 331.99
100.00 4 13 10 1049.01 10.17 326.49 218.11 118.22 4 30 39 49.0 20.90 304.25
110.00 3 47 43 1129.23 .43 326.62 212.20 124.15 4 6 33 129.2 14.12 306.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9397 TRA-1.7453 TC3 -.0497 BAU .0943 SGT 2284.4 SGR 549.8 SG3 351.0 ST 57.5 SR 22.5 SS 48.2
RDE -.4320 RRA -1.1737 RC3 .2231 FAU .05368 RRT .8718 RRF -.7170 RTF -.8895 CRT .9082 CRS .7834 CST .9709
FDE 1.9865 FRA 3.0038 FC3-1.5051 B8P 4045 SGB 2349.6 R23 -.1353 R13 -.8938 LSA 77.1 MSA 14.1 S8A 1.1
BDE 1.0342 BRA 1.7538 BC3 .2285 F8P 531 SGI 2315.0 SG2 401.8 THA 9.47 EL1 61.1 EL2 8.9 ALF 19.98

LAUNCH DATE MAR 27 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 414.688

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 33.303 GAL -6.12 AZL 93.08 HCA 143.75 SMA 198.33 ECC .26812 INC 3.0804 V1 29.851
RP 206.77 LAP -1.82 LOP 329.46 VP 24.789 GAP 15.36 AZP 87.52 TAL 330.43 TAP 114.17 RCA 145.16 APO 251.51 V2 26.465
RC 59.485 GL -18.99 GP 7.05 ZAL 137.75 ZAP 158.01 ETS 161.82 ZAE 167.76 ETE 109.08 ZAC 108.18 ETC 275.89 LVI -21.86

PLANETOCENTRIC CONIC

C3 28.905 VHL 5.489 DLA -30.15 RAL 336.81 RAD 8647.0 VEL 12.241 PTH 7.19 VHP 7.342 DPA -13.06 RAP 309.64 ECC 1.4922
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 38 59 2602.71 -12.49 70.86 200.55 136.29 20 20 22 1602.7 5.87 55.04
60.00 21 1 7 2378.87 -5.79 57.05 206.90 129.95 21 40 46 1378.9 10.29 39.08
70.00 22 58 52 2041.30 2.00 35.56 212.77 124.10 23 29 53 1041.3 15.57 15.51
79.07 2 5 3 1480.43 14.57 358.98 220.20 116.69 2 29 23 460.4 24.32 335.75
79.07 2 5 3 1460.43 14.57 358.98 220.20 116.69 2 29 23 460.4 24.32 335.75
79.07 2 5 3 1460.43 14.57 358.98 220.20 116.69 2 29 23 460.4 24.32 335.75
110.00 3 59 14 1086.12 2.00 324.48 212.77 124.10 4 17 22 88.1 15.57 304.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9412 TRA-1.7198 TC3 -.0434 BAU .0972 SGT 2305.9 SGR 569.5 SG3 373.1 ST 58.4 SR 22.5 SS 49.9
RDE -.4244 RRA -1.1990 RC3 .2393 FAU .05561 RRT .7071 RRF -.7552 RTF -.8923 CRT .9194 CRS .7973 CST .9698
FDE 1.0352 FRA 3.1281 FC3-1.6099 B8P 4107 SGB 2375.2 R23 -.1464 R13 -.8973 LSA 78.8 MSA 14.0 S8A 1.1
BDE 1.0325 BRA 1.7313 BC3 .2432 F8P 568 SGI 2341.9 SG2 398.5 THA 10.20 EL1 62.0 EL2 8.3 ALF 19.91

LAUNCH DATE MAR 27 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 1 1971

MELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.88 VL 33.231 GAL -6.01 AZL 93.16 HCA 145.01 SMA 196.94 ECC .26249 INC 3.1838 V1 29.851
 RP 206.74 LAP -1.81 LOP 330.73 VP 24.898 GAP 14.95 AZP 87.41 TAL 330.50 TAP 115.51 RCA 145.24 APO 248.63 V2 26.489
 RC 80.233 GL -19.78 GP 7.47 ZAL 137.49 ZAP 156.88 ETS 161.78 ZAE 167.60 ETE 106.63 ZAC 108.57 ETC 275.95 LVI -22.32

DISTANCE 418.296 EARTH TO MARS
 C3 29.041 VHL 5.389 DLA -30.87 RAL 337.22 RAD 6648.6 VEL 12.206 PTH 7.16 VHP 7.137 DPA -12.60 RAP 309.73 ECC 1.4779
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 47 2578.54 -11.30 69.80 200.85 136.53 20 23 48 1578.5 7.08 54.02
 60.00 21 9 3 2349.03 -4.48 55.61 207.35 130.09 21 48 12 1349.0 11.57 37.60
 70.00 23 8 54 1998.31 3.71 33.21 213.50 123.98 23 42 11 996.3 17.12 12.95
 77.09 1 52 7 1499.35 15.12 2.18 220.32 117.23 2 17 6 499.3 25.03 338.93
 77.09 1 52 7 1499.35 15.12 2.18 220.32 117.23 2 17 6 499.3 25.03 338.93
 77.09 1 52 7 1499.35 15.12 2.18 220.32 117.23 2 17 6 499.3 25.03 338.93
 110.00 4 12 17 1043.13 3.71 322.12 213.50 123.98 4 29 40 43.1 17.12 301.87

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9424 TRA-1.8919 TC3 -.0365 BAU .1007 SGT 2323.2 SGR 593.6 SG3 396.2 ST 59.1 SR 22.6 SS 51.6
 RDE -.4180 RRA -.2258 RC3 .2567 FAU .05767 RRT .7401 RRF -.7910 RTF -.8950 CRT .9308 CRS .8122 CST .9686
 FDE 1.0845 FRA 3.2564 FC3-1.7191 BSP 4159 SGB 2397.9 R23 -.1624 R13 -.9007 LSA 80.4 MSA 14.0 SSA 1.1
 BDE 1.0309 BRA 1.7069 BC3 .2593 FSP 608 SG1 2365.6 SG2 392.0 THA 11.01 EL1 62.8 EL2 7.8 ALF 19.91

LAUNCH DATE MAR 27 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 3 1971

MELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.88 VL 33.164 GAL -5.89 AZL 93.25 HCA 146.28 SMA 195.64 ECC .25717 INC 3.2526 V1 29.851
 RP 206.71 LAP -1.80 LOP 332.00 VP 24.611 GAP 14.55 AZP 87.29 TAL 330.57 TAP 116.85 RCA 145.33 APO 245.95 V2 26.492
 RC 61.050 GL -20.62 GP 7.92 ZAL 137.20 ZAP 155.71 ETS 161.71 ZAE 167.37 ETE 104.56 ZAC 109.01 ETC 276.01 LVI -22.81

DISTANCE 421.939 EARTH TO MARS
 C3 28.258 VHL 5.316 DLA -31.61 RAL 337.66 RAD 6646.3 VEL 12.174 PTH 7.14 VHP 6.938 DPA -12.12 RAP 309.79 ECC 1.4691
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 49 0 2553.88 -10.08 68.73 201.23 136.75 20 31 34 1553.9 8.31 52.96
 60.00 21 17 39 2317.96 -3.12 54.12 207.87 130.20 21 56 17 1318.0 12.89 36.04
 70.00 23 24 4 1945.82 5.63 30.55 214.44 123.74 23 56 30 945.8 18.81 10.01
 75.25 1 40 56 1533.16 15.68 5.03 220.51 117.81 2 6 30 533.2 25.77 341.76
 75.25 1 40 56 1533.16 15.68 5.03 220.51 117.81 2 6 30 533.2 25.77 341.76
 75.25 1 40 56 1533.16 15.68 5.03 220.51 117.81 2 6 30 533.2 25.77 341.76
 110.00 4 27 27 6280.68 5.63 297.38 214.44 123.74 6 12 7 5280.7 18.81 276.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9439 TRA-1.6625 TC3 -.0301 BAU .1047 SGT 2337.3 SGR 622.7 SG3 420.7 ST 59.9 SR 22.8 SS 53.3
 RDE -.4130 RRA -.2545 RC3 .2755 FAU .05983 RRT .7704 RRF -.8240 RTF -.8973 CRT .9420 CRS .8276 CST .9672
 FDE 1.1372 FRA 3.3897 FC3-1.8329 BSP 4206 SGB 2418.8 R23 -.1773 R13 -.9039 LSA 82.1 MSA 14.0 SSA 1.0
 BDE 1.0303 BRA 1.6818 BC3 .2772 FSP 649 SG1 2387.4 SG2 388.7 THA 11.92 EL1 63.6 EL2 7.2 ALF 19.99

LAUNCH DATE MAR 27 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 5 1971

MELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.88 VL 33.100 GAL -5.79 AZL 93.35 HCA 147.55 SMA 194.43 ECC .25214 INC 3.3475 V1 29.851
 RP 206.69 LAP -1.80 LOP 333.27 VP 24.528 GAP 14.16 AZP 87.17 TAL 330.64 TAP 118.19 RCA 145.41 APO 243.45 V2 26.495
 RC 61.933 GL -21.49 GP 8.42 ZAL 136.89 ZAP 154.49 ETS 161.60 ZAE 167.08 ETE 102.89 ZAC 109.48 ETC 276.06 LVI -23.32

DISTANCE 425.626 EARTH TO MARS
 C3 27.556 VHL 5.249 DLA -32.39 RAL 338.12 RAD 6646.0 VEL 12.145 PTH 7.11 VHP 6.747 DPA -11.60 RAP 309.80 ECC 1.4535
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 55 40 2528.63 -8.82 67.64 201.71 136.95 20 37 49 1528.6 9.56 51.88
 60.00 21 27 4 2285.38 -1.68 52.56 208.53 130.27 22 5 9 1285.4 14.27 34.38
 70.00 23 42 26 1886.70 7.85 27.42 215.66 123.35 24 13 52 886.7 20.73 9.50
 73.50 1 30 59 1563.73 16.23 7.67 220.78 118.43 1 57 2 563.7 26.52 344.38
 73.50 1 30 59 1563.73 16.23 7.67 220.78 118.43 1 57 2 563.7 26.52 344.38
 73.50 1 30 59 1563.73 16.23 7.67 220.78 118.43 1 57 2 563.7 26.52 344.38
 110.00 4 45 48 6221.58 7.85 294.25 215.66 123.35 6 29 29 5221.6 20.73 273.32

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9404 TRA-1.8258 TC3 -.0159 BAU .1093 SGT 2338.7 SGR 657.1 SG3 448.2 ST 60.2 SR 23.0 SS 55.0
 RDE -.4092 RRA -.2848 RC3 .2963 FAU .06219 RRT .7983 RRF -.8537 RTF -.9007 CRT .9526 CRS .8432 CST .9660
 FDE 1.1922 FRA 3.5257 FC3-1.9537 BSP 4179 SGB 2429.2 R23 -.1901 R13 -.9083 LSA 83.6 MSA 14.0 SSA 1.0
 BDE 1.0255 BRA 1.8204 BC3 .2968 FSP 690 SG1 2398.4 SG2 389.9 THA 12.98 EL1 64.1 EL2 6.6 ALF 20.22

LAUNCH DATE MAR 27 1971 FLIGHT TIME 164.00 ARRIVAL DATE SEP 7 1971

MELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.88 VL 33.040 GAL -5.68 AZL 93.45 HCA 148.82 SMA 193.31 ECC .24739 INC 3.4493 V1 29.851
 RP 206.68 LAP -1.79 LOP 334.54 VP 24.448 GAP 13.77 AZP 87.05 TAL 330.72 TAP 119.53 RCA 145.48 APO 241.13 V2 26.498
 RC 62.879 GL -22.41 GP 8.96 ZAL 136.54 ZAP 153.24 ETS 161.45 ZAE 166.72 ETE 101.61 ZAC 110.01 ETC 276.11 LVI -23.87

DISTANCE 429.351 EARTH TO MARS
 C3 26.934 VHL 5.190 DLA -33.22 RAL 338.61 RAD 6645.8 VEL 12.120 PTH 7.09 VHP 6.564 DPA -11.05 RAP 309.78 ECC 1.4433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 2 52 2502.75 -7.53 66.54 202.30 137.12 20 44 34 1502.7 10.85 50.76
 60.00 21 37 25 2251.03 -1.17 50.92 209.35 130.30 22 14 56 1251.0 15.70 32.62
 70.00 0 10 28 1811.39 10.64 23.38 217.35 122.65 0 40 40 811.4 23.04 1.89
 71.81 1 22 2 1591.76 16.80 10.14 221.13 119.08 1 48 34 591.8 27.30 346.84
 71.81 1 22 2 1591.76 16.80 10.14 221.13 119.08 1 48 34 591.8 27.30 346.84
 71.81 1 22 2 1591.76 16.80 10.14 221.13 119.08 1 48 34 591.8 27.30 346.84
 110.00 5 9 55 6146.25 10.64 290.21 217.35 122.65 6 52 21 5146.3 23.04 268.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9476 TRA-1.5975 TC3 -.0178 BAU .1146 SGT 2353.5 SGR 698.3 SG3 473.2 ST 61.1 SR 23.4 SS 56.9
 RDE -.4077 RRA -.3182 RC3 .3178 FAU .06452 RRT .8213 RRF -.8801 RTF -.9012 CRT .9633 CRS .8595 CST .9644
 FDE 1.2541 FRA 3.6694 FC3-2.0738 BSP 4280 SGB 2454.9 R23 -.2091 R13 -.9103 LSA 85.6 MSA 14.1 SSA 1.0
 BDE 1.0316 BRA 1.6289 BC3 .3183 FSP 738 SG1 2424.2 SG2 386.7 THA 14.06 EL1 65.2 EL2 5.9 ALF 20.40

LAUNCH DATE MAR 27 1971 FLIGHT TIME 166.00 ARRIVAL DATE SEP 9 1971

Heliocentric Conic DISTANCE 433.113 EARTH TO MARS

RL 149.27 LAL -0.00 LOL 185.68 VL 32.984 GAL -5.59 AZL 93.56 HCA 150.08 SMA 192.26 ECC .24290 INC 3.5588 V1 29.851
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.372 GAP 13.40 AZP 86.91 TAL 330.79 TAP 120.87 RCA 145.56 APO 238.96 V2 26.496
 RC 63.888 GL -23.37 GP 9.55 ZAL 136.16 ZAP 151.94 ETS 161.28 ZAE 166.29 ETE 100.72 ZAC 110.59 ETC 276.16 LVI -24.45

PLANETOCENTRIC CONIC

C3 26.389 VHL 5.137 DLA -34.08 RAL 339.13 RAD 6645.6 VEL 12.098 PTH 7.07 VHP 6.387 DPA -10.46 RAP 309.70 ECC 1.4343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 10 40 2476.07 -6.20 65.40 203.02 137.27 20 51 56 1476.1 12.16 49.60
 60.00 21 48 58 2214.36 1.44 49.17 210.33 130.28 22 25 52 1214.4 17.22 30.70
 70.00 0 55 47 1673.31 15.59 15.75 220.50 120.78 1 23 40 673.3 26.87 352.98
 70.14 1 13 53 1618.10 17.37 12.52 221.58 119.79 1 40 51 618.1 28.09 349.21
 70.14 1 13 53 1618.10 17.37 12.52 221.58 119.79 1 40 51 618.1 28.09 349.21
 70.14 1 13 53 1618.10 17.37 12.52 221.58 119.79 1 40 51 618.1 28.09 349.21
 110.00 5 55 13 6008.16 15.59 282.57 220.50 120.78 7 35 21 5008.2 26.87 259.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.9505 TRA-1.5627 TC3 -.0139 BAU .1205 SGT 2356.4 SGR 746.2 SG3 501.3 ST 61.7 SR 23.6 SS 58.8
 RDE -.4077 RRA -.3539 RC3 .3414 FAU .06702 RRT .8416 RRF -.9030 RTF -.9025 CRT .9729 CRS .8757 CST .9628
 FDE 1.3190 FRA 3.8158 FC3-2.1987 BSP 4323 SGB 2471.7 R23 -.2259 R13 -.9133 LSA 87.4 MSA 14.1 SSA .9
 BDE 1.0343 BRA 1.6023 BC3 .3417 FSP 786 SG1 2440.9 SG2 389.1 THA 15.32 EL1 65.9 EL2 5.2 ALF 20.73

LAUNCH DATE MAR 27 1971 FLIGHT TIME 168.00 ARRIVAL DATE SEP 11 1971

Heliocentric Conic DISTANCE 436.910 EARTH TO MARS

RL 149.27 LAL -0.00 LOL 185.68 VL 32.930 GAL -5.49 AZL 93.68 HCA 151.35 SMA 191.28 ECC .23867 INC 3.6771 V1 29.851
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.299 GAP 13.03 AZP 86.77 TAL 330.86 TAP 122.22 RCA 145.63 APO 236.93 V2 26.496
 RC 64.956 GL -24.39 GP 10.20 ZAL 135.74 ZAP 150.59 ETS 161.07 ZAE 165.79 ETE 100.20 ZAC 111.22 ETC 276.19 LVI -25.08

PLANETOCENTRIC CONIC

C3 25.923 VHL 5.091 DLA -34.98 RAL 339.69 RAD 6645.4 VEL 12.078 PTH 7.06 VHP 6.218 DPA -9.82 RAP 309.58 ECC 1.4266
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 19 10 2448.44 -4.82 64.24 203.87 137.39 20 59 59 1448.4 13.52 48.38
 60.00 22 1 58 2174.69 3.19 47.28 211.53 130.20 22 38 12 1174.7 18.83 28.59
 68.49 1 6 24 1643.19 17.94 14.84 222.12 120.55 1 33 47 643.2 28.91 351.52
 68.49 1 6 24 1643.19 17.94 14.84 222.12 120.55 1 33 47 643.2 28.91 351.52
 68.49 1 6 24 1643.19 17.94 14.84 222.12 120.55 1 33 47 643.2 28.91 351.52
 68.49 1 6 24 1643.19 17.94 14.84 222.12 120.55 1 33 47 643.2 28.91 351.52
 68.49 1 6 24 1643.19 17.94 14.84 222.12 120.55 1 33 47 643.2 28.91 351.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.9521 TRA-1.5229 TC3 -.0078 BAU .1272 SGT 2350.1 SGR 801.6 SG3 530.4 ST 62.1 SR 24.4 SS 60.7
 RDE -.4097 RRA -.3923 RC3 .3671 FAU .06967 RRT .8589 RRF -.9224 RTF -.9040 CRT .9812 CRS .8915 CST .9812
 FDE 1.3886 FRA 3.9635 FC3-2.3266 BSP 4325 SGB 2483.1 R23 -.2410 R13 -.9167 LSA 89.1 MSA 14.3 SSA .9
 BDE 1.0365 BRA 1.5726 BC3 .3672 FSP 834 SG1 2451.7 SG2 393.6 THA 16.77 EL1 66.6 EL2 4.4 ALF 21.21

LAUNCH DATE MAR 27 1971 FLIGHT TIME 170.00 ARRIVAL DATE SEP 13 1971

Heliocentric Conic DISTANCE 440.738 EARTH TO MARS

RL 149.27 LAL -0.00 LOL 185.68 VL 32.880 GAL -5.40 AZL 93.81 HCA 152.62 SMA 190.37 ECC .23466 INC 3.8054 V1 29.851
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.228 GAP 12.66 AZP 86.62 TAL 330.94 TAP 123.56 RCA 145.69 APO 235.04 V2 26.494
 RC 66.082 GL -25.46 GP 10.90 ZAL 135.28 ZAP 149.19 ETS 160.83 ZAE 165.22 ETE 100.03 ZAC 111.93 ETC 276.23 LVI -25.74

PLANETOCENTRIC CONIC

C3 23.535 VHL 5.053 DLA -35.94 RAL 340.30 RAD 6645.2 VEL 12.062 PTH 7.05 VHP 6.056 DPA -9.13 RAP 309.41 ECC 1.4202
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 28 31 2419.65 -3.38 63.03 204.88 137.48 21 8 51 1419.6 14.93 47.09
 60.00 22 16 54 2130.92 5.11 45.17 212.99 130.03 22 52 25 1130.9 20.58 26.21
 66.83 0 59 31 1667.38 18.51 17.12 222.78 121.37 1 27 19 667.4 29.76 353.81
 66.83 0 59 31 1667.38 18.51 17.12 222.78 121.37 1 27 19 667.4 29.76 353.81
 66.83 0 59 31 1667.38 18.51 17.12 222.78 121.37 1 27 19 667.4 29.76 353.81
 66.83 0 59 31 1667.38 18.51 17.12 222.78 121.37 1 27 19 667.4 29.76 353.81
 66.83 0 59 31 1667.38 18.51 17.12 222.78 121.37 1 27 19 667.4 29.76 353.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.9413 TRA-1.4675 TC3 .0188 BAU .1357 SGT 2315.8 SGR 864.5 SG3 580.0 ST 61.6 SR 25.1 SS 62.5
 RDE -.4129 RRA -.4327 RC3 .3970 FAU .07276 RRT .8734 RRF -.9384 RTF -.5779 CRT .9880 CRS .9082 CST .9597
 FDE 1.4567 FRA 4.1059 FC3-2.4668 BSP 4164 SGB 2471.9 R23 -.2471 R13 -.9228 LSA 90.2 MSA 14.3 SSA .8
 BDE 1.0279 BRA 1.5300 BC3 .3974 FSP 877 SG1 2439.9 SG2 396.6 THA 18.61 EL1 66.5 EL2 3.6 ALF 22.00

LAUNCH DATE MAR 27 1971 FLIGHT TIME 172.00 ARRIVAL DATE SEP 15 1971

Heliocentric Conic DISTANCE 444.593 EARTH TO MARS

RL 149.27 LAL -0.00 LOL 185.68 VL 32.832 GAL -5.32 AZL 93.95 HCA 153.89 SMA 189.52 ECC .23091 INC 3.9452 V1 29.851
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.161 GAP 12.31 AZP 86.46 TAL 331.01 TAP 124.89 RCA 145.76 APO 233.28 V2 26.491
 RC 67.265 GL -26.80 GP 11.68 ZAL 134.79 ZAP 147.73 ETS 160.56 ZAE 164.56 ETE 100.15 ZAC 112.71 ETC 276.25 LVI -26.47

PLANETOCENTRIC CONIC

C3 25.234 VHL 5.023 DLA -36.95 RAL 340.96 RAD 6645.1 VEL 12.050 PTH 7.04 VHP 5.902 DPA -8.39 RAP 309.18 ECC 1.4153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 38 51 2389.61 -1.87 61.77 206.09 137.55 21 18 40 1389.6 16.39 45.73
 60.00 22 34 26 2081.48 7.27 42.78 214.79 129.75 23 9 7 1081.5 22.50 23.44
 65.17 0 53 14 1690.90 19.08 19.38 223.57 122.26 1 21 25 690.9 30.62 356.10
 65.17 0 53 14 1690.90 19.08 19.38 223.57 122.26 1 21 25 690.9 30.62 356.10
 65.17 0 53 14 1690.90 19.08 19.38 223.57 122.26 1 21 25 690.9 30.62 356.10
 65.17 0 53 14 1690.90 19.08 19.38 223.57 122.26 1 21 25 690.9 30.62 356.10
 65.17 0 53 14 1690.90 19.08 19.38 223.57 122.26 1 21 25 690.9 30.62 356.10

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.9650 TRA-1.4427 TC3 -.0089 BAU .1429 SGT 2334.7 SGR 940.0 SG3 592.0 ST 63.1 SR 26.2 SS 64.9
 RDE -.4224 RRA -.4805 RC3 .4236 FAU .07508 RRT .8833 RRF -.9521 RTF -.9045 CRT .9939 CRS .9218 CST .9577
 FDE 1.5514 FRA 4.2695 FC3-2.5759 BSP 4414 SGB 2516.8 R23 -.2708 R13 -.9228 LSA 93.1 MSA 14.6 SSA .8
 BDE 1.0534 BRA 1.5206 BC3 .4237 FSP 942 SG1 2482.5 SG2 414.4 THA 20.16 EL1 68.3 EL2 2.7 ALF 22.46

LAUNCH DATE MAR 27 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.787 GAL -5.24 AZL 94.10 HCA 155.15 SMA 188.73 ECC .22736 INC 4.0980 V1 29.831
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.096 GAP 11.96 AZP 86.28 TAL 331.07 TAP 126.23 RCA 145.82 APO 231.84 V2 26.487
 RC 88.302 GL -27.81 GP 12.55 ZAL 134.24 ZAP 146.21 ETS 160.25 ZAE 163.61 ETE 100.55 ZAC 113.57 ETC 276.28 LVI -27.25

DISTANCE 446.476

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.017 VHL 5.002 DLA -38.01 RAL 341.69 RAD 6645.0 VEL 12.041 PTH 7.03 VHP 5.756 DPA -7.57 RAP 308.90 ECC 1.4117
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 30 23 2357.81 -.27 60.44 207.52 137.56 21 29 40 1397.8 17.92 44.26
 60.00 22 36 0 2022.59 9.82 39.90 217.07 129.29 23 29 43 1022.6 24.72 20.05
 63.47 0 47 28 1714.09 19.64 21.66 224.50 123.22 1 16 3 714.1 31.51 358.41
 63.47 0 47 28 1714.09 19.64 21.66 224.50 123.22 1 16 3 714.1 31.51 358.41
 63.47 0 47 28 1714.09 19.64 21.66 224.50 123.22 1 16 3 714.1 31.51 358.41
 63.47 0 47 28 1714.09 19.64 21.66 224.50 123.22 1 16 3 714.1 31.51 358.41

DIFFERENTIAL CORRECTIONS

TDE -.9719 TRA-1.3967 TC3 -.0097 BAU .1524
 RDE -.4336 RRA -.5307 RC3 .4554 FAU .07795
 FDE 1.6432 FRA 4.4208 FC3-2.6975 BSP 4438
 BDE 1.0642 BRA 1.4941 BC3 .4555 FSP 997

MID-COURSE EXECUTION ACCURACY

SGT 2315.8 SGR 1024.5 SG3 623.8
 RRT .8916 RRF -.9630 RTF -.9043
 SGB 2532.3 R23 -.2816 R13 -.9264
 SG1 2495.4 SG2 430.6 THA 22.22

ORBIT DETERMINATION ACCURACY

ST 63.5 SR 27.4 SS 67.0
 CRT .9976 CRS .9354 CST .9559
 LSA 95.1 MSA 14.8 SSA .8
 EL1 69.1 EL2 1.7 ALF 23.33

LAUNCH DATE MAR 27 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.745 GAL -5.17 AZL 94.27 HCA 156.42 SMA 187.99 ECC .22403 INC 4.2661 V1 29.851
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.033 GAP 11.62 AZP 86.09 TAL 331.14 TAP 127.56 RCA 145.87 APO 230.10 V2 26.483
 RC 69.791 GL -29.09 GP 13.50 ZAL 133.63 ZAP 144.62 ETS 159.91 ZAE 162.95 ETE 101.18 ZAC 114.53 ETC 276.30 LVI -28.11

DISTANCE 452.385

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.894 VHL 4.989 DLA -39.14 RAL 342.49 RAD 6644.9 VEL 12.036 PTH 7.02 VHP 5.619 DPA -6.68 RAP 308.55 ECC 1.4097
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 3 24 2323.83 1.44 59.03 209.22 137.56 21 42 7 1323.8 19.54 42.66
 60.00 23 25 3 1945.15 13.13 36.04 220.16 126.45 23 57 28 945.2 27.50 15.36
 61.74 0 42 15 1737.10 20.20 23.97 225.59 124.26 1 11 12 737.1 32.43 .77
 61.74 0 42 15 1737.10 20.20 23.97 225.59 124.26 1 11 12 737.1 32.43 .77
 61.74 0 42 15 1737.10 20.20 23.97 225.59 124.26 1 11 12 737.1 32.43 .77
 61.74 0 42 15 1737.10 20.20 23.97 225.59 124.26 1 11 12 737.1 32.43 .77

DIFFERENTIAL CORRECTIONS

TDE -.9799 TRA-1.3468 TC3 -.0114 BAU .1631
 RDE -.4489 RRA -.5854 RC3 .4900 FAU .08094
 FDE 1.7430 FRA 4.5673 FC3-2.8147 BSP 4456
 BDE 1.0778 BRA 1.4685 BC3 .4901 FSP 1051

MID-COURSE EXECUTION ACCURACY

SGT 2289.5 SGR 1120.7 SG3 655.8
 RRT .8974 RRF -.9716 RTF -.9035
 SGB 2549.1 R23 -.2816 R13 -.9304
 SG1 2508.8 SG2 451.2 THA 24.56

ORBIT DETERMINATION ACCURACY

ST 63.7 SR 28.9 SS 69.2
 CRT .9994 CRS .9477 CST .9539
 LSA 97.2 MSA 15.1 SSA .7
 EL1 69.9 EL2 .9 ALF 24.37

LAUNCH DATE MAR 27 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.705 GAL -5.10 AZL 94.45 HCA 157.69 SMA 187.30 ECC .22089 INC 4.4521 V1 29.851
 RP 206.84 LAP -1.69 LOP 343.43 VP 23.973 GAP 11.29 AZP 85.88 TAL 331.20 TAP 128.88 RCA 145.93 APO 228.67 V2 26.477
 RC 71.130 GL -30.47 GP 14.55 ZAL 132.97 ZAP 142.95 ETS 159.54 ZAE 161.97 ETE 101.99 ZAC 115.60 ETC 276.32 LVI -29.04

DISTANCE 456.317

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.872 VHL 4.987 DLA -40.33 RAL 343.38 RAD 6644.9 VEL 12.035 PTH 7.02 VHP 5.491 DPA -5.69 RAP 308.13 ECC 1.4093
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 18 17 2287.01 3.29 57.49 211.26 137.49 21 56 24 1287.0 21.28 40.89
 59.95 0 37 33 1760.26 20.75 26.32 226.86 125.40 1 6 53 760.3 33.37 3.22
 59.95 0 37 33 1760.26 20.75 26.32 226.86 125.40 1 6 53 760.3 33.37 3.22
 59.95 0 37 33 1760.26 20.75 26.32 226.86 125.40 1 6 53 760.3 33.37 3.22
 59.95 0 37 33 1760.26 20.75 26.32 226.86 125.40 1 6 53 760.3 33.37 3.22
 59.95 0 37 33 1760.26 20.75 26.32 226.86 125.40 1 6 53 760.3 33.37 3.22

DIFFERENTIAL CORRECTIONS

TDE -.9875 TRA-1.2908 TC3 -.0109 BAU .1754
 RDE -.4692 RRA -.6453 RC3 .5273 FAU .08397
 FDE 1.8530 FRA 4.7067 FC3-2.9229 BSP 4449
 BDE 1.0933 BRA 1.4431 BC3 .5274 FSP 1104

MID-COURSE EXECUTION ACCURACY

SGT 2252.0 SGR 1230.0 SG3 687.7
 RRT .9017 RRF -.9785 RTF -.5228
 SGB 2366.0 R23 -.2792 R13 -.9354
 SG1 2321.7 SG2 425.0 THA 27.27

ORBIT DETERMINATION ACCURACY

ST 63.8 SR 30.7 SS 71.4
 CRT .9994 CRS .9589 CST .9519
 LSA 99.4 MSA 15.4 SSA .7
 EL1 70.8 EL2 .9 ALF 25.66

LAUNCH DATE MAR 27 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.668 GAL -5.03 AZL 94.86 HCA 158.95 SMA 186.88 ECC .21795 INC 4.6590 V1 29.831
 RP 206.90 LAP -1.67 LOP 344.69 VP 23.914 GAP 10.96 AZP 85.65 TAL 331.25 TAP 130.20 RCA 145.97 APO 227.34 V2 26.470
 RC 72.517 GL -31.94 GP 15.73 ZAL 132.24 ZAP 141.21 ETS 159.14 ZAE 160.85 ETE 102.94 ZAC 116.79 ETC 276.33 LVI -30.07

DISTANCE 460.269

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.965 VHL 4.997 DLA -41.60 RAL 344.38 RAD 6645.0 VEL 12.039 PTH 7.03 VHP 5.374 DPA -4.60 RAP 307.64 ECC 1.4109
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 35 38 2246.35 5.33 55.78 213.73 137.35 22 13 4 1246.3 23.18 38.68
 58.12 0 33 27 1783.62 21.27 28.74 228.35 126.63 1 3 11 783.6 34.32 5.75
 58.12 0 33 27 1783.62 21.27 28.74 228.35 126.63 1 3 11 783.6 34.32 5.75
 58.12 0 33 27 1783.62 21.27 28.74 228.35 126.63 1 3 11 783.6 34.32 5.75
 58.12 0 33 27 1783.62 21.27 28.74 228.35 126.63 1 3 11 783.6 34.32 5.75
 58.12 0 33 27 1783.62 21.27 28.74 228.35 126.63 1 3 11 783.6 34.32 5.75

DIFFERENTIAL CORRECTIONS

TDE -1.0058 TRA-1.2388 TC3 -.0253 BAU .1888
 RDE -.4975 RRA -.7125 RC3 .5652 FAU .08673
 FDE 1.9826 FRA 4.8419 FC3-3.0076 BSP 4551
 BDE 1.1221 BRA 1.4291 BC3 .5657 FSP 1163

MID-COURSE EXECUTION ACCURACY

SGT 2222.6 SGR 1355.9 SG3 719.4
 RRT .9024 RRF -.9839 RTF -.8998
 SGB 2603.5 R23 -.2929 R13 -.9397
 SG1 2553.4 SG2 508.5 THA 30.15

ORBIT DETERMINATION ACCURACY

ST 64.3 SR 32.9 SS 73.9
 CRT .9977 CRS .9680 CST .9500
 LSA 102.2 MSA 15.8 SSA .6
 EL1 72.2 EL2 2.0 ALF 27.06

LAUNCH DATE MAR 27 1971

FLIGHT TIME 102.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.68 VL 32.633 GAL -4.97 AZL 94.89 HCA 160.21 SMA 186.06 ECC .21920 INC 4.8912 V1 29.851
 RP 206.96 LAP -1.85 LOP 345.96 VP 23.858 GAP 10.64 AZP 85.40 TAL 331.30 TAP 131.52 RCA 146.02 APO 226.10 V2 26.462
 RC 73.950 GL -33.53 GP 17.04 ZAL 131.42 ZAP 139.37 ETS 158.70 ZAE 159.57 ETE 103.98 ZAC 118.12 ETC 276.34 LVI -31.20

PLANETOCENTRIC CONIC
 C3 25.189 VHL 5.019 DLA -42.98 RAL 345.50 RAD 6645.1 VEL 12.048 PTH 7.03 VHP 5.267 DPA -3.39 RAP 307.08 ECC 1.4149
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 21 56 22 2200.01 7.64 53.82 216.77 137.11 22 33 2 1200.0 25.30 36.52
 56.21 0 29 57 1807.58 21.77 31.25 230.09 127.99 1 0 5 807.6 35.29 8.42
 56.21 0 29 57 1807.58 21.77 31.25 230.09 127.99 1 0 5 807.6 35.29 8.42
 56.21 0 29 57 1807.58 21.77 31.25 230.09 127.99 1 0 5 807.6 35.29 8.42
 56.21 0 29 57 1807.58 21.77 31.25 230.09 127.99 1 0 5 807.6 35.29 8.42
 56.21 0 29 57 1807.58 21.77 31.25 230.09 127.99 1 0 5 807.6 35.29 8.42
 56.21 0 29 57 1807.58 21.77 31.25 230.09 127.99 1 0 5 807.6 35.29 8.42

DIFFERENTIAL CORRECTIONS
 YDE-1.0230 TRA-1.1782 TC3 -.0350 BAU .2043
 RDE -.5340 RRA -.7863 RC3 .6057 FAU .08943
 FDE 2.1272 FRA 4.9606 FC3-3.0735 BSP 4612
 BDE 1.1540 BRA 1.4165 BC3 .6067 FSP 1219

MID-COURSE EXECUTION ACCURACY
 SGT 2177.8 SGR 1498.6 SG3 749.7
 RRT .9023 RRF -.9880 RTF -.8969
 SGB 2643.6 R23 -.2869 R13 -.9455
 SG1 2587.0 SG2 543.7 THA 33.51

ORBIT DETERMINATION ACCURACY
 ST 64.6 SR 35.6 SS 76.5
 CRT .9945 CR3 .9759 CST .9483
 LSA 105.0 MSA 16.1 SSA .6
 EL1 73.7 EL2 3.3 ALF 28.81

LAUNCH DATE MAR 27 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.68 VL 32.600 GAL -4.91 AZL 95.15 HCA 161.48 SMA 185.50 ECC .21261 INC 5.1533 V1 29.851
 RP 207.04 LAP -1.64 LOP 347.23 VP 23.803 GAP 10.33 AZP 85.11 TAL 331.35 TAP 132.02 RCA 146.06 APO 224.94 V2 26.454
 RC 75.426 GL -35.24 GP 18.51 ZAL 130.52 ZAP 137.44 ETS 158.24 ZAE 158.10 ETE 105.06 ZAC 119.61 ETC 276.36 LVI -32.46

PLANETOCENTRIC CONIC
 C3 25.568 VHL 5.056 DLA -44.40 RAL 346.79 RAD 6645.2 VEL 12.064 PTH 7.05 VHP 5.174 DPA -2.03 RAP 306.43 ECC 1.4208
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 22 22 15 2144.46 10.40 51.43 220.64 136.69 22 57 59 1144.5 27.78 33.56
 54.22 0 27 12 1832.25 22.23 33.87 232.11 129.49 0 57 44 832.2 36.27 11.26
 54.22 0 27 12 1832.25 22.23 33.87 232.11 129.49 0 57 44 832.2 36.27 11.26
 54.22 0 27 12 1832.25 22.23 33.87 232.11 129.49 0 57 44 832.2 36.27 11.26
 54.22 0 27 12 1832.25 22.23 33.87 232.11 129.49 0 57 44 832.2 36.27 11.26
 54.22 0 27 12 1832.25 22.23 33.87 232.11 129.49 0 57 44 832.2 36.27 11.26
 54.22 0 27 12 1832.25 22.23 33.87 232.11 129.49 0 57 44 832.2 36.27 11.26

DIFFERENTIAL CORRECTIONS
 YDE-1.0431 TRA-1.1119 TC3 -.0455 BAU .2225
 RDE -.5810 RRA -.8668 RC3 .6494 FAU .09217
 FDE 2.2858 FRA 5.0519 FC3-3.1209 BSP 4684
 BDE 1.1940 BRA 1.4098 BC3 .6510 FSP 1266

MID-COURSE EXECUTION ACCURACY
 SGT 2123.4 SGR 1659.7 SG3 777.0
 RRT .9001 RRF -.9911 RTF -.8927
 SGB 2695.1 R23 -.2761 R13 -.9519
 SG1 2631.1 SG2 583.5 THA 37.27

ORBIT DETERMINATION ACCURACY
 ST 64.7 SR 38.9 SS 79.0
 CRT .9900 CR3 .9823 CST .9466
 LSA 108.0 MSA 16.5 SSA .5
 EL1 75.4 EL2 4.7 ALF 30.85

LAUNCH DATE MAR 27 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.68 VL 32.570 GAL -4.86 AZL 95.45 HCA 162.74 SMA 184.98 ECC .21020 INC 5.4521 V1 29.851
 RP 207.12 LAP -1.62 LOP 348.49 VP 23.750 GAP 10.02 AZP 84.79 TAL 331.39 TAP 134.12 RCA 146.10 APO 223.87 V2 26.444
 RC 76.944 GL -37.10 GP 20.17 ZAL 129.51 ZAP 135.39 ETS 157.75 ZAE 156.43 ETE 106.15 ZAC 121.30 ETC 276.37 LVI -33.86

PLANETOCENTRIC CONIC
 C3 26.134 VHL 5.112 DLA -45.95 RAL 348.27 RAD 6645.5 VEL 12.087 PTH 7.07 VHP 5.095 DPA -.51 RAP 305.69 ECC 1.4301
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 22 57 29 2070.47 14.05 48.18 225.92 135.94 23 31 59 1070.5 30.97 29.39
 52.14 0 25 17 1857.93 22.62 36.60 234.48 131.13 0 56 15 857.9 37.25 14.29
 52.14 0 25 17 1857.93 22.62 36.60 234.48 131.13 0 56 15 857.9 37.25 14.29
 52.14 0 25 17 1857.93 22.62 36.60 234.48 131.13 0 56 15 857.9 37.25 14.29
 52.14 0 25 17 1857.93 22.62 36.60 234.48 131.13 0 56 15 857.9 37.25 14.29
 52.14 0 25 17 1857.93 22.62 36.60 234.48 131.13 0 56 15 857.9 37.25 14.29
 52.14 0 25 17 1857.93 22.62 36.60 234.48 131.13 0 56 15 857.9 37.25 14.29

DIFFERENTIAL CORRECTIONS
 YDE-1.0674 TRA-1.0394 TC3 -.0562 BAU .2435
 RDE -.6432 RRA -.9357 RC3 .6948 FAU .09464
 FDE 2.4667 FRA 5.1143 FC3-3.1352 BSP 4775
 BDE 1.2462 BRA 1.4120 BC3 .6970 FSP 1308

MID-COURSE EXECUTION ACCURACY
 SGT 2059.6 SGR 1843.3 SG3 800.8
 RRT .8964 RRF -.9935 RTF -.8775
 SGB 2764.0 R23 -.2592 R13 -.9591
 SG1 2692.4 SG2 625.1 THA 41.46

ORBIT DETERMINATION ACCURACY
 ST 64.9 SR 42.8 SS 81.7
 CRT .9849 CR3 .9874 CST .9492
 LSA 111.5 MSA 16.9 SSA .5
 EL1 77.5 EL2 6.2 ALF 33.27

LAUNCH DATE MAR 27 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC
 RL 149.27 LAL -.00 LOL 185.68 VL 32.541 GAL -4.81 AZL 95.80 HCA 164.00 SMA 184.50 ECC .20795 INC 5.7862 V1 29.851
 RP 207.21 LAP -1.60 LOP 349.75 VP 23.699 GAP 9.72 AZP 84.43 TAL 331.42 TAP 135.42 RCA 146.14 APO 222.87 V2 26.433
 RC 78.802 GL -38.12 GP 22.03 ZAL 128.38 ZAP 133.22 ETS 157.24 ZAE 154.52 ETE 107.22 ZAC 123.20 ETC 276.39 LVI -35.43

PLANETOCENTRIC CONIC
 C3 26.934 VHL 5.190 DLA -47.61 RAL 349.99 RAD 6645.8 VEL 12.120 PTH 7.09 VHP 5.034 DPA 1.20 RAP 304.85 ECC 1.4433
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56
 49.95 0 24 23 1885.02 22.94 39.49 237.25 132.94 0 55 48 885.0 38.20 17.56

DIFFERENTIAL CORRECTIONS
 YDE-1.0875 TRA -.9508 TC3 -.0542 BAU .2691
 RDE -.7227 RRA -1.0499 RC3 .7455 FAU .09727
 FDE 2.6686 FRA 5.1213 FC3-3.1266 BSP 4782
 BDE 1.3057 BRA 1.4163 BC3 .7475 FSP 1327

MID-COURSE EXECUTION ACCURACY
 SGT 1966.8 SGR 2047.3 SG3 817.6
 RRT .8918 RRF -.9952 RTF -.8818
 SGB 2839.0 R23 -.2341 R13 -.9674
 SG1 2761.3 SG2 659.7 THA 46.29

ORBIT DETERMINATION ACCURACY
 ST 64.4 SR 47.5 SS 84.3
 CRT .9732 CR3 .9912 CST .9438
 LSA 115.0 MSA 17.1 SSA .4
 EL1 79.7 EL2 7.8 ALF 36.24

LAUNCH DATE MAR 27 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 480.305 EARTH TO MARS
 RL 149.27 LAL -.00 LOL 185.68 VL 32.314 GAL -4.78 AZL 96.20 HCA 165.25 SMA 184.06 ECC .20585 INC 6.1971 V1 29.851
 RP 207.31 LAP -1.57 LOP 351.02 VP 23.649 GAP 9.43 AZP 84.01 TAL 331.44 TAP 136.70 RCA 146.17 APO 221.94 V2 26.422
 RC 80.098 GL -41.34 GP 24.14 ZAL 127.11 ZAP 130.91 ETS 156.72 ZAE 152.35 ETE 108.24 ZAC 125.35 ETC 276.43 LVI -37.19

PLANETOCENTRIC CONIC
 C3 28.037 VHL 5.295 DLA -49.39 RAL 352.03 RAD 6646.2 VEL 12.165 PTH 7.13 VHP 4.995 DPA 3.14 RAP 303.91 ECC 1.4614
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.66 0 24 47 1913.88 23.14 42.54 240.52 134.94 0 56 41 913.9 39.10 21.12
 47.66 0 24 47 1913.88 23.14 42.54 240.52 134.94 0 56 41 913.9 39.10 21.12
 47.66 0 24 47 1913.88 23.14 42.54 240.52 134.94 0 56 41 913.9 39.10 21.12
 47.66 0 24 47 1913.88 23.14 42.54 240.52 134.94 0 56 41 913.9 39.10 21.12
 47.66 0 24 47 1913.88 23.14 42.54 240.52 134.94 0 56 41 913.9 39.10 21.12
 47.66 0 24 47 1913.88 23.14 42.54 240.52 134.94 0 56 41 913.9 39.10 21.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.1374 TRA -.8773 TC3 -.0876 BAU .2957 SGT 1910.6 SGR 2289.6 SG3 830.5 ST 65.3 SR 53.9 SS 87.9
 RDE -.8391 RRA-1.1615 RC3 .7841 FAU .09788 RRT .8816 RRF -.9966 RTF -.8708 CRT .9742 CRS .9942 CST .9443
 FDE 2.9349 FRA 5.1066 FC3-3.0225 BSP 5113 SGB 2982.0 R23 -.2122 R13 -.9739 LSA 120.8 MSA 17.5 SSA .4
 BDE 1.4134 BRA 1.4556 BC3 .7890 FSP 1367 SGI 2695.5 SG2 713.1 THA 50.83 EL1 84.1 EL2 9.4 ALF 39.37

LAUNCH DATE MAR 27 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC DISTANCE 484.357 EARTH TO MARS
 RL 149.27 LAL -.00 LOL 185.68 VL 32.489 GAL -4.72 AZL 96.67 HCA 166.51 SMA 183.64 ECC .20391 INC 6.6703 V1 29.851
 RP 207.42 LAP -1.55 LOP 352.28 VP 23.600 GAP 9.14 AZP 83.51 TAL 331.46 TAP 137.97 RCA 146.20 APO 221.09 V2 26.409
 RC 81.730 GL -43.79 GP 26.53 ZAL 125.68 ZAP 128.43 ETS 156.20 ZAE 149.87 ETE 109.20 ZAC 127.79 ETC 276.47 LVI -39.16

PLANETOCENTRIC CONIC
 C3 29.540 VHL 5.435 DLA -51.29 RAL 354.48 RAD 6646.0 VEL 12.226 PTH 7.18 VHP 4.983 DPA 5.35 RAP 302.84 ECC 1.4862
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.24 0 26 51 1945.02 23.17 45.77 244.40 137.14 0 59 16 945.0 39.90 25.02
 45.24 0 26 51 1945.02 23.17 45.77 244.40 137.14 0 59 16 945.0 39.90 25.02
 45.24 0 26 51 1945.02 23.17 45.77 244.40 137.14 0 59 16 945.0 39.90 25.02
 45.24 0 26 51 1945.02 23.17 45.77 244.40 137.14 0 59 16 945.0 39.90 25.02
 45.24 0 26 51 1945.02 23.17 45.77 244.40 137.14 0 59 16 945.0 39.90 25.02
 45.24 0 26 51 1945.02 23.17 45.77 244.40 137.14 0 59 16 945.0 39.90 25.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.1825 TRA -.7826 TC3 -.1021 BAU .3290 SGT 1818.5 SGR 2557.6 SG3 831.1 ST 65.4 SR 61.5 SS 91.3
 RDE -.9931 RRA-1.2775 RC3 .8268 FAU .09848 RRT .8700 RRF -.9975 RTF -.8585 CRT .9697 CRS .9962 CST .9450
 FDE 3.2253 FRA 5.0030 FC3-2.8862 BSP 5347 SGB 3138.2 R23 -.1834 R13 -.9807 LSA 126.8 MSA 17.7 SSA .3
 BDE 1.5442 BRA 1.4981 BC3 .8331 FSP 1372 SGI 3046.6 SG2 752.7 THA 55.89 EL1 89.1 EL2 11.0 ALF 43.20

LAUNCH DATE MAR 27 1971 FLIGHT TIME 194.00 ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC DISTANCE 488.420 EARTH TO MARS
 RL 149.27 LAL -.00 LOL 185.68 VL 32.468 GAL -4.69 AZL 97.24 HCA 167.76 SMA 183.26 ECC .20210 INC 7.2380 V1 29.851
 RP 207.54 LAP -1.53 LOP 353.54 VP 23.553 GAP 8.86 AZP 82.92 TAL 331.47 TAP 139.24 RCA 146.22 APO 220.29 V2 26.395
 RC 83.399 GL -46.49 GP 29.25 ZAL 124.04 ZAP 125.77 ETS 155.70 ZAE 147.04 ETE 110.09 ZAC 130.56 ETC 276.54 LVI -41.38

PLANETOCENTRIC CONIC
 C3 31.595 VHL 5.621 DLA -53.32 RAL 357.46 RAD 6647.6 VEL 12.309 PTH 7.24 VHP 5.007 DPA 7.86 RAP 301.63 ECC 1.5200
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.71 0 31 6 1979.14 22.98 49.20 249.03 139.55 1 4 5 979.1 40.54 29.30
 42.71 0 31 6 1979.14 22.98 49.20 249.03 139.55 1 4 5 979.1 40.54 29.30
 42.71 0 31 6 1979.14 22.98 49.20 249.03 139.55 1 4 5 979.1 40.54 29.30
 42.71 0 31 6 1979.14 22.98 49.20 249.03 139.55 1 4 5 979.1 40.54 29.30
 42.71 0 31 6 1979.14 22.98 49.20 249.03 139.55 1 4 5 979.1 40.54 29.30
 42.71 0 31 6 1979.14 22.98 49.20 249.03 139.55 1 4 5 979.1 40.54 29.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.2374 TRA -.8778 TC3 -.1169 BAU .3680 SGT 1716.4 SGR 2861.7 SG3 818.7 ST 65.4 SR 71.4 SS 95.1
 RDE-1.2101 RRA-1.4021 RC3 .8635 FAU .09784 RRT .8543 RRF -.9982 RTF -.8119 CRT .9665 CRS .9977 CST .9467
 FDE 3.5682 FRA 4.8133 FC3-2.6811 BSP 5668 SGB 3336.9 R23 -.1538 R13 -.9865 LSA 134.5 MSA 17.7 SSA .3
 BDE 1.7308 BRA 1.5574 BC3 .8713 FSP 1358 SGI 3242.7 SG2 787.4 THA 61.00 EL1 96.0 EL2 12.5 ALF 47.58

LAUNCH DATE MAR 27 1971 FLIGHT TIME 196.00 ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC DISTANCE 492.493 EARTH TO MARS
 RL 149.27 LAL -.00 LOL 185.68 VL 32.444 GAL -4.65 AZL 97.93 HCA 169.01 SMA 182.90 ECC .20042 INC 7.9321 V1 29.851
 RP 207.66 LAP -1.51 LOP 354.80 VP 23.507 GAP 8.58 AZP 82.21 TAL 331.48 TAP 140.49 RCA 146.24 APO 219.56 V2 26.381
 RC 85.104 GL -49.50 GP 32.35 ZAL 122.19 ZAP 122.91 ETS 155.26 ZAE 143.83 ETE 110.94 ZAC 133.72 ETC 276.64 LVI -43.86

PLANETOCENTRIC CONIC
 C3 34.441 VHL 5.869 DLA -55.46 RAL 1.18 RAD 6648.7 VEL 12.424 PTH 7.33 VHP 5.080 DPA 10.73 RAP 300.26 ECC 1.5668
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.08 0 38 22 2017.05 22.48 52.80 254.62 142.15 1 11 59 1017.0 40.91 33.98
 40.08 0 38 22 2017.05 22.48 52.80 254.62 142.15 1 11 59 1017.0 40.91 33.98
 40.08 0 38 22 2017.05 22.48 52.80 254.62 142.15 1 11 59 1017.0 40.91 33.98
 40.08 0 38 22 2017.05 22.48 52.80 254.62 142.15 1 11 59 1017.0 40.91 33.98
 40.08 0 38 22 2017.05 22.48 52.80 254.62 142.15 1 11 59 1017.0 40.91 33.98
 40.08 0 38 22 2017.05 22.48 52.80 254.62 142.15 1 11 59 1017.0 40.91 33.98

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE-1.3027 TRA -.5616 TC3 -.1320 BAU .4148 SGT 1605.2 SGR 3204.2 SG3 789.1 ST 65.2 SR 84.2 SS 99.2
 RDE-1.5229 RRA-1.5323 RC3 .8911 FAU .09572 RRT .8322 RRF -.9987 RTF -.8188 CRT .9649 CRS .9986 CST .9496
 FDE 3.9650 FRA 4.5152 FC3-2.4062 BSP 6077 SGB 3583.8 R23 -.1258 R13 -.9910 LSA 144.5 MSA 17.5 SSA .2
 BDE 2.0040 BRA 1.6320 BC3 .9008 FSP 1316 SGI 3489.9 SG2 812.7 THA 65.97 EL1 105.7 EL2 13.7 ALF 52.50

LAUNCH DATE MAR 27 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 496.574

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.424 GAL -4.62 AZL 98.80 HCA 170.26 SMA 182.57 ECC .19888 INC 8.8006 V1 29.851
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.461 GAP 8.30 AZP 81.32 TAL 331.47 TAP 141.73 RCA 146.26 APO 218.68 V2 26.365
 RC 86.843 GL -52.86 GP 35.86 ZAL 120.06 ZAP 119.82 ETS 154.92 ZAE 140.20 ETE 111.77 ZAC 137.30 ETC 276.78 LVI -46.61

PLANETOCENTRIC CONIC

C3 38.478 VHL 6.203 DLA -57.68 RAL 5.89 RAD 6650.1 VEL 12.584 PTH 7.45 VHP 5.220 DPA 13.98 RAP 298.70 ECC 1.6332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04
 37.39 0 49 53 2059.82 21.54 56.53 261.42 144.91 1 24 13 1059.8 40.87 39.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.3737 TRA -.4288 TC3 -.1441 BAU .4718 SGT 1480.1 SGR 3587.2 SG3 738.4 ST 64.4 SR 101.3 SS 103.8
 RDE-1.9852 RRA-1.8621 RC3 .9052 FAU .09172 RRT .8010 RRF -.9990 RTF -.7860 CRT .9647 CR8 .9992 CST .9532
 FDE 4.4082 FRA 4.0895 FC3-2.0638 BSP 6591 SGB 3880.5 R23 -.1008 R13 -.9941 LSA 157.6 MSA 17.0 SSA .2
 BDE 2.4142 BRA 1.7165 BC3 .9166 FSP 1240 SGI 3788.8 SG2 838.9 THA 70.73 EL1 119.2 EL2 14.4 ALF 57.95

LAUNCH DATE MAR 27 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 554.946

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.270 GAL -4.68 AZL 82.00 HCA 187.82 SMA 180.10 ECC .18916 INC 7.9969 V1 29.851
 RP 210.45 LAP -1.09 LOP 13.43 VP 22.898 GAP 5.00 AZP 97.92 TAL 329.74 TAP 157.57 RCA 146.03 APO 214.17 V2 26.058
 RC 114.307 GL 50.29 GP -46.30 ZAL 122.56 ZAP 96.74 ETS 185.89 ZAE 123.37 ETE 221.90 ZAC 56.13 ETC 272.11 LVI 32.88

PLANETOCENTRIC CONIC

C3 33.824 VHL 5.816 DLA 36.21 RAL 314.90 RAD 6648.5 VEL 12.399 PTH 7.31 VHP 5.165 DPA -68.09 RAP 312.95 ECC 1.3567
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 14 10 4044.38 -41.91 178.03 217.78 65.03 14 21 34 3044.4 -47.58 144.68
 60.00 12 43 11 4127.29 -30.64 178.57 210.90 62.43 13 51 58 3127.3 -39.07 150.97
 66.38 11 13 55 4388.61 -16.09 190.66 201.71 57.12 12 27 4 3388.6 -28.14 168.18
 66.38 11 13 55 4388.61 -16.09 190.66 201.71 57.12 12 27 4 3388.6 -28.14 168.18
 66.38 11 13 55 4388.61 -16.09 190.66 201.71 57.12 12 27 4 3388.6 -28.14 168.18
 66.38 11 13 55 4388.61 -16.09 190.66 201.71 57.12 12 27 4 3388.6 -28.14 168.18
 66.38 11 13 55 4388.61 -16.09 190.66 201.71 57.12 12 27 4 3388.6 -28.14 168.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4140 TRA .6185 TC3 -.8811 BAU .7147 SGT 1887.1 SGR 5341.0 SG3 715.2 ST 70.6 SR 159.1 SS 107.0
 RDE 2.9657 RRA 3.4419 RC3-1.3121 FAU .08844 RRT .8739 RRF .9993 RTF .8781 CRT .9696 CR8 -.9999 CST -.9666
 FDE 4.4455 FRA 5.3333 FC3-2.2635 BSP 9587 SGB 5664.6 R23 .0396 R13 .9986 LSA 203.7 MSA 16.5 SSA .2
 BDE 3.2856 BRA 3.4970 BC3 1.5805 FSP 1252 SGI 5596.5 SG2 875.5 THA 72.40 EL1 173.4 EL2 15.8 ALF 66.52

LAUNCH DATE MAR 27 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 559.106

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.268 GAL -4.71 AZL 83.28 HCA 189.03 SMA 180.04 ECC .18907 INC 6.7220 V1 29.851
 RP 210.70 LAP -1.05 LOP 14.85 VP 22.861 GAP 4.78 AZP 96.64 TAL 329.58 TAP 158.61 RCA 146.00 APO 214.08 V2 26.030
 RC 116.460 GL 44.93 GP -42.98 ZAL 128.12 ZAP 95.80 ETS 184.28 ZAE 124.60 ETE 218.58 ZAC 59.49 ETC 271.88 LVI 30.06

PLANETOCENTRIC CONIC

C3 28.403 VHL 5.329 DLA 31.07 RAL 316.90 RAD 6648.4 VEL 12.180 PTH 7.14 VHP 4.745 DPA -65.13 RAP 308.89 ECC 1.4674
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 56 24 3871.17 -45.90 163.31 212.93 75.78 15 0 55 2871.2 -46.31 128.19
 60.00 13 48 41 3891.78 -36.86 161.73 209.50 72.40 14 53 32 2891.8 -40.23 131.14
 70.00 13 31 41 3942.00 -27.07 161.88 209.40 68.34 14 37 23 2942.0 -33.46 134.84
 76.58 12 25 36 4148.80 -15.40 171.69 199.71 62.68 13 34 44 3148.8 -25.32 148.40
 76.58 12 25 36 4148.80 -15.40 171.69 199.71 62.68 13 34 44 3148.8 -25.32 148.40
 76.58 12 25 36 4148.80 -15.40 171.69 199.71 62.68 13 34 44 3148.8 -25.32 148.40
 110.00 18 31 7 2988.82 -27.07 90.80 205.40 68.34 19 20 56 1988.8 -33.46 63.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3056 TRA .7856 TC3-1.0879 BAU .6735 SGT 2058.6 SGR 9068.9 SG3 872.0 ST 71.7 SR 146.1 SS 115.1
 RDE 2.4720 RRA 3.2268 RC3-1.4010 FAU .10098 RRT .8983 RRF .9993 RTF .1.94 CRT .9745 CR8 -.9998 CST -.9703
 FDE 4.7106 FRA 6.4456 FC3-3.0779 BSP 9240 SGB 5471.0 R23 .0509 R13 .9980 LSA 198.8 MSA 15.6 SSA .3
 BDE 2.7956 BRA 3.3164 BC3 1.7738 FSP 1531 SGI 5403.6 SG2 856.3 THA 69.46 EL1 162.1 EL2 14.5 ALF 64.23

LAUNCH DATE MAR 27 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 563.273

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.263 GAL -4.73 AZL 84.25 HCA 190.24 SMA 179.99 ECC .18906 INC 5.7481 V1 29.851
 RP 210.95 LAP -1.02 LOP 15.87 VP 22.824 GAP 4.57 AZP 95.88 TAL 329.40 TAP 159.64 RCA 145.96 APO 214.02 V2 26.001
 RC 118.837 GL 40.16 GP -39.84 ZAL 129.21 ZAP 94.58 ETS 182.71 ZAE 125.32 ETE 215.21 ZAC 62.54 ETC 271.64 LVI 27.56

PLANETOCENTRIC CONIC

C3 24.929 VHL 4.993 DLA 26.53 RAL 318.64 RAD 6645.0 VEL 12.037 PTH 7.02 VHP 4.442 DPA -62.43 RAP 305.57 ECC 1.4103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 28 19 3734.26 -47.42 150.47 207.52 85.56 15 30 33 2734.3 -43.59 116.15
 60.00 14 32 20 3723.55 -39.49 148.24 206.25 81.21 15 34 24 2723.6 -38.77 117.10
 70.00 14 39 25 3702.64 -31.94 144.78 204.48 77.21 15 41 8 2702.6 -33.98 116.23
 80.00 14 55 43 3651.50 -25.37 138.97 202.54 73.70 15 56 34 2651.5 -29.70 112.39
 90.00 15 46 27 3487.55 -22.13 125.84 201.44 71.92 16 44 35 2487.5 -27.57 100.14
 100.00 17 38 34 3125.98 -25.37 100.34 202.54 73.70 18 30 40 2126.0 -29.70 73.75
 110.00 19 38 32 2749.46 -31.94 73.70 204.48 77.21 20 24 41 1749.5 -33.98 45.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2580 TRA .9193 TC3-1.2968 BAU .6495 SGT 2255.1 SGR 4796.1 SG3 1013.0 ST 73.2 SR 134.3 SS 120.7
 RDE 2.1093 RRA 3.0230 RC3-1.4547 FAU .11229 RRT .9146 RRF .9992 RTF .9168 CRT .9792 CR8 -.9997 CST -.9740
 FDE 4.8779 FRA 7.4369 FC3-3.8997 BSP 8907 SGB 5299.8 R23 .0632 R13 .9972 LSA 194.3 MSA 14.7 SSA .3
 BDE 2.4458 BRA 3.1597 BC3 1.9488 FSP 1777 SGI 5233.5 SG2 835.8 THA 66.08 EL1 152.4 EL2 13.1 ALF 61.67

LAUNCH DATE MAR 27 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 367.444

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.88 VL 32.280 GAL -4.78 AZL 85.02 HCA 191.45 SMA 179.95 ECC .18912 INC 4.9799 V1 29.851
 RP 211.20 LAP -.99 LOP 17.09 VP 22.787 GAP 4.36 AZP 94.88 TAL 329.20 TAP 160.69 RCA 145.92 APO 213.98 V2 25.972
 RC 120.836 GL 35.94 GP -37.21 ZAL 131.86 ZAP 93.18 ETS 181.20 ZAE 125.59 ETE 211.91 ZAC 65.28 ETC 271.40 LVI 25.34

PLANETOCENTRIC CONIC

C3 22.609 VHL 4.758 DLA 22.53 RAL 320.17 RAD 8644.0 VEL 11.941 PTH 6.94 VHP 4.217 DPA -59.98 RAP 302.79 ECC 1.3721
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 53 50 3622.82 -47.46 139.71 202.69 93.84 15 54 13 2622.8 -40.44 107.32
 60.00 15 5 28 3591.83 -40.28 137.14 202.91 88.69 16 5 20 2591.8 -36.40 106.74
 70.00 15 24 9 3536.81 -33.75 132.20 202.42 84.44 16 23 6 2536.8 -32.52 103.53
 80.00 15 50 13 3429.97 -28.66 123.36 201.67 81.26 16 55 23 2430.0 -29.41 95.96
 90.00 17 2 59 3220.85 -26.58 107.61 201.28 79.97 17 56 40 2220.8 -28.12 80.71
 100.00 18 41 5 2904.44 -28.66 84.73 201.67 81.26 19 29 29 1904.4 -29.41 57.33
 110.00 20 23 35 2583.62 -33.75 61.12 202.42 84.44 21 6 39 1583.6 -32.52 32.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1988 TRA 1.0797 TC3-1.4991 BAU .6341 SGT 2470.4 SGR 4534.9 SG3 1138.3 ST 75.3 SR 124.0 SS 124.7
 RDE 1.8403 RRA 2.8372 RC3-1.4676 FAU .12161 RRT .9289 RRF .9990 RTF .9306 CRT .9838 CR8 -.9995 CST -.9777
 FDE 4.9930 FRA 8.3183 FC3-4.8564 BSP 8677 SGB 3164.1 R23 .0760 R13 .9962 LSA 190.8 NSA 13.8 S8A .4
 BDE 2.1964 BRA 3.0357 BC3 2.0979 FSP 2008 SG1 5099.6 SG2 813.6 THA 62.40 EL1 144.6 EL2 11.6 ALF 58.93

LAUNCH DATE MAR 27 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 571.618

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.88 VL 32.258 GAL -4.80 AZL 85.64 HCA 192.66 SMA 179.92 ECC .18925 INC 4.3580 V1 29.851
 RP 211.46 LAP -.95 LOP 18.30 VP 22.751 GAP 4.15 AZP 94.25 TAL 328.99 TAP 161.65 RCA 145.87 APO 213.97 V2 25.942
 RC 123.058 GL 32.20 GP -34.76 ZAL 134.12 ZAP 91.59 ETS 179.98 ZAE 125.47 ETE 208.77 ZAC 67.76 ETC 271.17 LVI 23.38

PLANETOCENTRIC CONIC

C3 21.016 VHL 4.584 DLA 19.01 RAL 321.54 RAD 8643.3 VEL 11.875 PTH 6.89 VHP 4.047 DPA -57.77 RAP 300.38 ECC 1.3459
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 57 3530.51 -46.67 130.94 198.83 100.55 16 13 47 2530.5 -37.31 100.70
 60.00 15 32 7 3484.79 -40.06 128.05 200.05 94.85 16 30 12 2484.8 -33.77 98.87
 70.00 15 58 13 3407.94 -34.15 122.17 200.39 90.35 16 55 1 2407.9 -30.44 94.07
 80.00 16 41 7 3273.47 -29.74 111.87 200.28 87.20 17 35 41 2273.5 -27.87 84.60
 90.00 17 50 50 3048.45 -28.02 95.21 200.18 86.01 18 41 38 2048.5 -26.86 68.27
 100.00 19 23 59 2747.94 -29.74 73.23 200.28 87.20 20 9 47 1747.9 -27.87 45.96
 110.00 20 57 40 2454.76 -34.15 51.09 200.39 90.35 21 38 34 1454.8 -30.44 22.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1770 TRA 1.2416 TC3-1.6949 BAU .6289 SGT 2696.8 SGR 4279.1 SG3 1245.5 ST 77.6 SR 114.7 SS 127.1
 RDE 1.6291 RRA 2.6604 RC3-1.4619 FAU .13013 RRT .9403 RRF .9989 RTF .9417 CRT .9879 CR3 -.9992 CST -.9811
 FDE 5.0532 FRA 9.0704 FC3-5.3604 BSP 8450 SGB 3058.0 R23 .0887 R13 .9949 LSA 187.5 NSA 12.9 S8A .4
 BDE 2.0099 BRA 2.9358 BC3 2.2383 FSP 2197 SG1 4996.5 SG2 786.4 THA 58.48 EL1 138.1 EL2 10.0 ALF 56.04

LAUNCH DATE MAR 27 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

DISTANCE 575.793

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.88 VL 32.257 GAL -4.83 AZL 86.16 HCA 193.86 SMA 179.90 ECC .18945 INC 3.8439 V1 29.851
 RP 211.73 LAP -.92 LOP 19.51 VP 22.714 GAP 3.95 AZP 93.73 TAL 328.77 TAP 162.63 RCA 145.82 APO 213.99 V2 25.911
 RC 125.302 GL 28.88 GP -32.55 ZAL 136.05 ZAP 89.91 ETS 178.83 ZAE 125.04 ETE 205.82 ZAC 69.99 ETC 270.95 LVI 21.65

PLANETOCENTRIC CONIC

C3 19.903 VHL 4.461 DLA 15.91 RAL 322.77 RAD 8642.8 VEL 11.829 PTH 6.85 VHP 3.917 DPA -55.77 RAP 298.26 ECC 1.3276
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 32 50 3453.10 -45.46 123.86 195.91 105.88 16 30 23 2453.1 -34.40 95.61
 60.00 15 54 18 3395.95 -39.28 120.83 197.82 99.83 16 50 54 2396.0 -31.20 92.75
 70.00 16 25 46 3303.33 -33.81 114.02 198.72 95.15 17 20 50 2303.3 -28.21 86.75
 80.00 17 14 24 3150.98 -29.80 102.77 199.01 91.98 18 6 55 2151.0 -25.96 76.00
 90.00 18 26 58 2916.73 -28.27 85.60 199.05 90.81 19 15 35 1916.7 -25.08 59.04
 100.00 19 57 16 2625.43 -29.80 64.13 199.01 91.98 20 41 1 1625.4 -25.96 37.37
 110.00 21 25 13 2350.15 -33.81 42.94 198.72 95.15 22 4 23 1350.1 -28.21 15.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1881 TRA 1.4048 TC3-1.8828 BAU .6290 SGT 2931.1 SGR 4038.4 SG3 1337.3 ST 80.2 SR 106.6 SS 128.8
 RDE 1.4632 RRA 2.4992 RC3-1.4299 FAU .13685 RRT .9485 RRF .9986 RTF .5.98 CRT .9915 CR8 -.9988 CST -.9841
 FDE 5.0919 FRA 9.7228 FC3-5.9528 BSP 8306 SGB 4990.0 R23 .1010 R13 .9935 LSA 185.0 NSA 12.1 S8A .5
 BDE 1.8738 BRA 2.8669 BC3 2.3641 FSP 2387 SG1 4931.7 SG2 760.3 THA 54.48 EL1 133.1 EL2 8.4 ALF 53.13

LAUNCH DATE MAR 27 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 579.972

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.88 VL 32.257 GAL -4.87 AZL 86.59 HCA 195.07 SMA 179.90 ECC .18972 INC 3.4116 V1 29.851
 RP 212.01 LAP -.89 LOP 20.72 VP 22.677 GAP 3.75 AZP 93.29 TAL 328.53 TAP 163.60 RCA 145.77 APO 214.03 V2 25.880
 RC 127.566 GL 25.94 GP -30.55 ZAL 137.70 ZAP 88.15 ETS 177.79 ZAE 124.34 ETE 203.11 ZAC 72.02 ETC 270.73 LVI 20.11

PLANETOCENTRIC CONIC

C3 19.119 VHL 4.373 DLA 13.18 RAL 323.89 RAD 8642.4 VEL 11.796 PTH 6.82 VHP 3.817 DPA -53.05 RAP 286.37 ECC 1.3147
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 48 16 3387.54 -44.08 118.16 193.80 110.09 16 44 43 2387.5 -31.75 91.59
 60.00 16 13 12 3321.17 -38.24 114.55 196.17 103.84 17 8 33 2321.2 -28.79 87.89
 70.00 16 48 50 3216.32 -33.08 107.34 197.45 99.04 17 42 26 2216.3 -26.04 80.92
 80.00 17 41 38 3050.89 -29.33 95.37 198.02 95.84 18 32 29 2050.9 -23.98 69.23
 90.00 18 56 10 2810.30 -27.92 77.84 198.17 94.68 19 43 1 1810.3 -23.20 51.81
 100.00 20 24 30 2525.36 -29.33 58.74 198.02 95.84 21 6 35 1525.4 -23.98 30.59
 110.00 21 48 16 2263.14 -33.08 36.26 197.45 99.04 22 25 59 1263.1 -26.04 9.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1692 TRA 1.5688 TC3-2.0586 BAU .6366 SGT 3169.5 SGR 3800.4 SG3 1410.7 ST 82.9 SR 98.9 SS 129.1
 RDE 1.3254 RRA 2.3409 RC3-1.4015 FAU .14403 RRT .9563 RRF .9983 RTF .9574 CRT .9943 CR3 -.9983 CST -.9865
 FDE 5.0737 FRA10.2381 FC3-6.5219 BSP 8138 SGB 4948.6 R23 .1111 R13 .9921 LSA 182.2 NSA 11.5 S8A .6
 BDE 1.7874 BRA 2.8179 BC3 2.4904 FSP 2472 SG1 4896.0 SG2 719.6 THA 50.40 EL1 128.9 EL2 6.8 ALF 50.04

LAUNCH DATE MAR 27 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.257 GAL -4.92 AZL 86.96 HCA 196.27 SMA 179.90 ECC .19005 INC 3.0426 V1 29.851
RP 212.29 LAP -.85 LOP 21.92 VP 22.641 GAP 3.35 AZP 92.92 TAL 326.29 TAP 164.55 RCA 145.71 APO 214.08 V2 25.848
RC 129.850 GL 23.32 GP -28.74 ZAL 139.12 ZAP 86.35 ETS 176.88 ZAE 123.44 ETE 200.63 ZAC 73.85 ETC 270.53 LVI 18.73

PLANETOCENTRIC CONIC

C3 18.572 VHL 4.310 DLA 10.78 RAL 324.92 RAD 6642.2 VEL 11.773 PTH 6.80 VHP 3.739 DPA -52.29 RAP 294.67 ECC 1.3057
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 1 46 3331.62 -42.67 113.53 192.32 113.44 16 57 17 2331.6 -29.39 88.36
60.00 16 29 35 3257.57 -37.08 109.54 195.00 107.06 17 23 53 2257.6 -26.59 83.94
70.00 17 8 35 3142.81 -32.15 101.81 196.56 102.19 18 0 58 2142.8 -24.00 76.18
80.00 18 4 39 2967.19 -28.60 89.26 197.33 98.97 18 54 6 1967.2 -22.08 63.74
90.00 19 20 41 2721.80 -27.26 71.45 197.56 97.82 20 6 3 1721.8 -21.35 45.99
100.00 20 47 31 2441.67 -26.60 50.63 197.33 98.97 21 28 12 1441.7 -22.08 25.11
110.00 22 8 2 2189.63 -32.15 30.73 196.56 102.19 22 44 31 1189.6 -24.00 5.10

DIFFERENTIAL CORRECTIONS

YDE 1.1783 TRA 1.7338 TC3-2.2258 BAU .6454
RDE 1.2204 RRA 2.2030 RC3-1.3422 FAU .14820
FDE 5.0805 FRA10.7010 FC3-6.9084 BSP 8129
BDE 1.6964 BRA 2.8034 BC3 2.5992 FSP 2595

MID-COURSE EXECUTION ACCURACY

SGT 3411.7 SGR 3585.9 SG3 1473.4
RRT .9609 RRF .9979 RTF .9623
SGB 4949.6 R23 .1204 R13 .9907
SG1 4901.2 SG2 690.9 THA 46.48

ORBIT DETERMINATION ACCURACY

ST 85.9 SR 92.7 SS 129.8
CRT .9966 CRS -.9977 CST -.9888
LSA 180.8 MSA 10.8 SSA .7
EL1 126.3 EL2 5.2 ALF 47.17

LAUNCH DATE MAR 27 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.257 GAL -4.96 AZL 87.28 HCA 197.46 SMA 179.91 ECC .19044 INC 2.7247 V1 29.851
RP 212.57 LAP -.82 LOP 23.12 VP 22.605 GAP 3.35 AZP 92.60 TAL 328.03 TAP 165.49 RCA 145.64 APO 214.17 V2 25.815
RC 132.153 GL 20.98 GP -27.09 ZAL 140.35 ZAP 84.54 ETS 176.07 ZAE 122.37 ETE 198.38 ZAC 75.52 ETC 270.33 LVI 17.50

PLANETOCENTRIC CONIC

C3 18.199 VHL 4.266 DLA 8.61 RAL 325.87 RAD 6642.0 VEL 11.757 PTH 6.78 VHP 3.680 DPA -50.78 RAP 293.14 ECC 1.2995
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 13 42 3283.63 -41.30 109.74 191.32 116.11 17 8 26 2283.6 -27.29 85.71
60.00 16 43 59 3203.05 -35.91 105.39 194.23 109.67 17 37 22 2203.0 -24.61 80.69
70.00 17 25 48 3080.03 -31.16 97.19 196.00 104.75 18 17 8 2080.0 -22.14 72.26
80.00 18 24 31 2896.10 -27.74 84.15 196.91 101.52 19 12 47 1896.1 -20.31 59.20
90.00 19 41 45 2646.85 -26.46 66.11 197.19 100.37 20 25 52 1646.9 -19.61 41.18
100.00 21 7 23 2370.57 -27.74 45.52 196.91 101.52 21 46 54 1370.6 -20.31 20.57
110.00 22 25 14 2126.85 -31.16 26.11 196.00 104.75 23 0 41 1126.8 -22.14 1.18

DIFFERENTIAL CORRECTIONS

YDE 1.1974 TRA 1.9032 TC3-2.3783 BAU .6543
RDE 1.1417 RRA 2.0822 RC3-1.2591 FAU .14938
FDE 5.1160 FRA11.1218 FC3-7.1063 BSP 8269
BDE 1.6544 BRA 2.8209 BC3 2.6893 FSP 2740

MID-COURSE EXECUTION ACCURACY

SGT 3657.9 SGR 3391.9 SG3 1526.7
RRT .9636 RRF .9974 RTF .9654
SGB 4988.5 R23 .1290 R13 .9892
SG1 4943.2 SG2 670.8 THA 42.76

ORBIT DETERMINATION ACCURACY

ST 89.3 SR 87.6 SS 130.9
CRT .9983 CRS -.9970 CST -.9910
LSA 180.8 MSA 10.2 SSA .8
EL1 125.1 EL2 3.6 ALF 44.45

LAUNCH DATE MAR 27 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.258 GAL -5.01 AZL 87.55 HCA 198.68 SMA 179.92 ECC .19089 INC 2.4463 V1 29.851
RP 212.86 LAP -.78 LOP 24.32 VP 22.588 GAP 3.15 AZP 92.32 TAL 327.76 TAP 166.42 RCA 145.58 APO 214.27 V2 25.782
RC 134.475 GL 18.89 GP -25.58 ZAL 141.42 ZAP 82.71 ETS 175.35 ZAE 121.18 ETE 196.36 ZAC 77.04 ETC 270.15 LVI 16.39

PLANETOCENTRIC CONIC

C3 17.956 VHL 4.237 DLA 6.70 RAL 326.76 RAD 6641.9 VEL 11.747 PTH 6.78 VHP 3.635 DPA -49.39 RAP 291.74 ECC 1.2935
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 24 22 3242.22 -40.01 106.60 190.69 116.26 17 18 24 2242.2 -25.43 83.51
60.00 16 56 46 3156.00 -34.78 101.91 193.78 111.79 17 49 22 2156.0 -22.84 77.97
70.00 17 40 59 3025.93 -30.15 93.30 195.68 106.85 18 31 25 2025.9 -20.45 68.98
80.00 18 41 57 2835.02 -26.83 79.84 196.71 103.82 19 29 12 1835.0 -18.68 55.40
90.00 20 0 10 2582.58 -25.59 61.61 197.03 102.47 20 43 13 1582.6 -18.01 37.14
100.00 21 24 48 2309.49 -26.83 41.21 196.71 103.82 22 3 18 1309.5 -18.68 16.77
110.00 22 40 26 2072.75 -30.15 22.21 195.68 106.85 23 14 58 1072.8 -20.45 357.89

DIFFERENTIAL CORRECTIONS

YDE 1.2177 TRA 2.0685 TC3-2.5225 BAU .6697
RDE 1.0685 RRA 1.9614 RC3-1.1920 FAU .15157
FDE 5.1001 FRA11.4274 FC3-7.3081 BSP 8344
BDE 1.6200 BRA 2.8505 BC3 2.7900 FSP 2819

MID-COURSE EXECUTION ACCURACY

SGT 3900.2 SGR 3199.8 SG3 1564.7
RRT .9682 RRF .9969 RTF .5.85
SGB 5044.8 R23 .1348 R13 .9879
SG1 5003.7 SG2 642.6 THA 39.17

ORBIT DETERMINATION ACCURACY

ST 92.6 SR 82.6 SS 130.8
CRT .9994 CRS -.9961 CST -.9926
LSA 180.0 MSA 9.8 SSA .9
EL1 124.1 EL2 2.2 ALF 41.74

LAUNCH DATE MAR 27 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.68 VL 32.260 GAL -5.06 AZL 87.80 HCA 199.85 SMA 179.95 ECC .19139 INC 2.2012 V1 29.851
RP 213.16 LAP -.75 LOP 25.32 VP 22.532 GAP 2.96 AZP 92.07 TAL 327.48 TAP 167.33 RCA 145.51 APO 214.39 V2 25.749
RC 136.814 GL 17.00 GP -24.20 ZAL 142.35 ZAP 80.88 ETS 174.72 ZAE 119.88 ETE 194.53 ZAC 78.44 ETC 269.97 LVI 15.39

PLANETOCENTRIC CONIC

C3 17.813 VHL 4.221 DLA 5.00 RAL 327.56 RAD 6641.8 VEL 11.741 PTH 6.77 VHP 3.603 DPA -48.11 RAP 290.46 ECC 1.2932
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 58 3206.34 -38.82 103.99 190.33 120.02 17 27 25 2206.3 -23.79 81.67
60.00 17 8 13 3115.20 -33.71 98.98 193.53 113.54 18 0 9 2115.2 -21.26 75.67
70.00 17 54 31 2979.02 -29.18 89.99 195.57 108.59 18 44 10 1979.0 -18.92 66.19
80.00 18 57 24 2782.11 -25.93 76.17 196.69 105.35 19 43 46 1782.1 -17.20 52.17
90.00 20 16 28 2526.96 -24.72 57.77 197.05 104.20 20 58 35 1527.0 -16.55 33.72
100.00 21 40 15 2256.59 -25.93 37.54 196.69 105.35 22 17 52 1256.6 -17.20 13.54
110.00 22 53 58 2025.84 -29.18 18.91 195.57 108.59 23 27 43 1025.8 -18.92 355.11

DIFFERENTIAL CORRECTIONS

YDE 1.2423 TRA 2.2334 TC3-2.6583 BAU .6884
RDE 1.0020 RRA 1.8434 RC3-1.1355 FAU .15438
FDE 5.0468 FRA11.6360 FC3-7.5026 BSP 8419
BDE 1.5961 BRA 2.8959 BC3 2.8907 FSP 2846

MID-COURSE EXECUTION ACCURACY

SGT 4140.3 SGR 3013.2 SG3 1589.6
RRT .9691 RRF .9961 RTF .9718
SGB 5120.7 R23 .1365 R13 .9871
SG1 5084.8 SG2 605.1 THA 35.78

ORBIT DETERMINATION ACCURACY

ST 95.9 SR 77.8 SS 129.9
CRT .9998 CRS -.9949 CST -.9938
LSA 179.0 MSA 9.6 SSA 1.1
EL1 123.5 EL2 1.2 ALF 39.02

LAUNCH DATE MAR 27 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC

DISTANCE 600.853

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.262 GAL -5.12 AZL 88.02 HCA 201.04 SMA 179.98 ECC .19195 INC 1.9034 V1 29.851
 RP 213.46 LAP -.71 LOP 26.71 VP 22.496 GAP 2.76 AZP 91.85 TAL 327.19 TAP 168.23 RCA 145.43 APO 214.53 V2 25.714
 RC 139.171 GL 15.31 GP -22.92 ZAL 143.18 ZAP 79.07 ETS 174.16 ZAE 118.52 ETE 192.89 ZAC 79.72 ETC 269.81 LVI 14.47

PLANETOCENTRIC CONIC

C3 17.753 VHL 4.213 DLA 3.48 RAL 328.36 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 3.581 DPA -46.93 RAP 289.30 ECC 1.2922
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 42 41 3175.18 -37.74 101.80 190.19 121.45 17 35 36 2175.2 -22.35 80.11
 60.00 17 18 34 3079.70 -32.72 96.50 193.49 114.98 18 9 54 2079.7 -19.86 73.72
 70.00 18 6 41 2938.15 -28.26 87.17 195.63 110.03 18 55 40 1938.1 -17.56 63.81
 80.00 19 11 14 2736.01 -25.06 73.02 196.82 106.79 19 56 50 1736.0 -15.86 49.40
 90.00 20 31 2 2478.50 -23.87 54.47 197.20 105.64 21 12 21 1478.5 -15.22 30.78
 100.00 21 54 6 2210.49 -25.06 34.39 196.82 106.79 22 30 56 1210.5 -15.86 10.77
 110.00 23 6 8 1984.97 -28.26 16.08 195.63 110.03 23 39 13 985.0 -17.56 352.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2718 TRA 2.3992 TC3-2.7825 BAU .7074 SGT 4378.6 SGR 2842.1 SG3 1607.0 ST 99.5 SR 73.7 SS 129.2
 RDE .9492 RRA 1.7369 RC3-1.0690 FAU .15526 RRT .9707 RRF .9953 RTF .9741 CRT .9998 CRS -.9936 CST -.9949
 FDE 5.0114 FRA11.8084 FC3-7.5714 BSP 8577 SGB 5220.1 R23 .1374 R13 .9863 LSA 178.7 MSA 9.4 SSA 1.0
 BDE 1.5869 BRA 2.9619 BC3 2.9808 FSP 2883 SG1 5188.1 SG2 576.8 THA 32.67 EL1 123.8 EL2 1.3 ALF 36.52

LAUNCH DATE MAR 27 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

DISTANCE 605.025

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.264 GAL -5.18 AZL 88.21 HCA 202.23 SMA 180.02 ECC .19257 INC 1.7886 V1 29.851
 RP 213.77 LAP -.68 LOP 27.90 VP 22.460 GAP 2.57 AZP 91.66 TAL 326.89 TAP 169.11 RCA 145.35 APO 214.68 V2 25.680
 RC 141.545 GL 13.77 GP -21.75 ZAL 143.92 ZAP 77.28 ETS 173.67 ZAE 117.10 ETE 191.43 ZAC 80.91 ETC 269.65 LVI 13.64

PLANETOCENTRIC CONIC

C3 17.757 VHL 4.214 DLA 2.11 RAL 329.10 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 3.567 DPA -45.84 RAP 288.24 ECC 1.2922
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 37 3148.05 -36.76 99.95 190.22 122.65 17 43 5 2148.1 -21.08 78.78
 60.00 17 27 58 3048.71 -31.80 94.38 193.60 116.18 18 10 46 2048.7 -18.61 72.04
 70.00 18 17 42 2902.40 -27.40 84.74 195.82 111.23 19 6 5 1902.4 -16.34 61.76
 80.00 19 23 44 2695.65 -24.24 70.31 197.07 107.99 20 8 39 1695.7 -14.66 47.01
 90.00 20 44 10 2436.07 -23.06 51.63 197.47 106.84 21 24 47 1436.1 -14.03 28.24
 100.00 22 6 36 2170.13 -24.24 31.67 197.07 107.99 22 42 46 1170.1 -14.66 8.38
 110.00 23 17 9 1949.22 -27.40 13.66 195.82 111.23 23 49 38 949.2 -16.34 352.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3052 TRA 2.5659 TC3-2.8961 BAU .7275 SGT 4614.6 SGR 2682.7 SG3 1617.0 ST 103.1 SR 70.1 SS 128.6
 RDE .9053 RRA 1.8385 RC3-1.0012 FAU .15511 RRT .9715 RRF .9943 RTF .9758 CRT .9992 CRS -.9920 CST -.9958
 FDE 4.9786 FRA11.9379 FC3-7.5622 BSP 8787 SGB 5337.7 R23 .1368 R13 .9857 LSA 178.8 MSA 9.4 SSA 1.1
 BDE 1.5884 BRA 3.0444 BC3 3.0642 FSP 2914 SG1 5309.0 SG2 552.8 THA 29.81 EL1 124.6 EL2 2.3 ALF 34.19

LAUNCH DATE MAR 27 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

DISTANCE 609.195

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.267 GAL -5.24 AZL 88.39 HCA 203.41 SMA 180.06 ECC .19324 INC 1.6126 V1 29.851
 RP 214.08 LAP -.64 LOP 29.08 VP 22.424 GAP 2.38 AZP 91.48 TAL 326.58 TAP 169.99 RCA 145.27 APO 214.86 V2 25.645
 RC 143.936 GL 12.37 GP -20.67 ZAL 144.58 ZAP 75.53 ETS 173.24 ZAE 115.65 ETE 190.12 ZAC 82.00 ETC 269.51 LVI 12.87

PLANETOCENTRIC CONIC

C3 17.817 VHL 4.221 DLA .89 RAL 329.81 RAD 6641.8 VEL 11.741 PTH 6.77 VHP 3.561 DPA -44.82 RAP 287.28 ECC 1.2932
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 54 3124.41 -35.88 98.37 190.37 123.64 17 49 59 2124.4 -19.97 77.64
 60.00 17 36 33 3021.61 -30.98 92.56 193.82 117.19 18 26 54 2021.6 -17.51 70.60
 70.00 18 27 44 2871.06 -26.61 82.65 196.11 112.24 19 15 35 1871.1 -15.25 59.98
 80.00 19 35 5 2660.20 -23.47 67.95 197.41 109.00 20 19 25 1660.2 -13.58 44.93
 90.00 20 56 6 2398.78 -22.30 49.16 197.83 107.85 21 36 4 1398.8 -12.95 26.03
 100.00 22 17 56 2134.87 -23.47 29.32 197.41 109.00 22 53 31 1134.7 -13.58 6.30
 110.00 23 27 11 1917.88 -26.61 11.56 196.11 112.24 23 59 8 917.9 -15.25 348.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3399 TRA 2.7302 TC3-3.0040 BAU .7496 SGT 4845.1 SGR 2331.5 SG3 1618.8 ST 106.8 SR 68.7 SS 127.6
 RDE .8663 RRA 1.5449 RC3 -.9381 FAU .15476 RRT .9718 RRF .9930 RTF .5.72 CRT .9902 CRS -.8902 CST -.8988
 FDE 4.9320 FRA12.0119 FC3-7.5197 BSP 8996 SGB 5466.8 R23 .1346 R13 .9852 LSA 178.9 MSA 9.4 SSA 1.2
 BDE 1.5952 BRA 3.1370 BC3 3.1471 FSP 2923 SG1 5440.7 SG2 531.3 THA 27.20 EL1 125.7 EL2 3.4 ALF 32.00

LAUNCH DATE MAR 27 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

DISTANCE 613.363

EARTH TO MARS

RL 149.27 LAL -.00 LOL 185.68 VL 32.271 GAL -5.30 AZL 88.55 HCA 204.59 SMA 180.12 ECC .19396 INC 1.4536 V1 29.851
 RP 214.39 LAP -.80 LOP 30.26 VP 22.388 GAP 2.19 AZP 91.32 TAL 326.26 TAP 170.85 RCA 145.18 APO 215.05 V2 25.609
 RC 146.344 GL 11.10 GP -19.66 ZAL 145.19 ZAP 73.80 ETS 172.87 ZAE 114.18 ETE 188.95 ZAC 83.01 ETC 269.38 LVI 12.16

PLANETOCENTRIC CONIC

C3 17.823 VHL 4.234 DLA -.22 RAL 330.48 RAD 6641.9 VEL 11.745 PTH 6.77 VHP 3.561 DPA -43.88 RAP 286.41 ECC 1.2930
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 37 3103.80 -35.09 97.03 190.63 124.46 17 56 21 2103.8 -18.99 76.66
 60.00 17 44 26 2997.90 -30.23 91.00 194.13 118.03 18 34 23 1997.9 -16.54 69.35
 70.00 18 36 55 2843.52 -25.89 80.83 196.48 113.09 19 24 19 1843.5 -14.28 58.44
 80.00 19 45 26 2628.97 -22.76 65.90 197.83 109.86 20 29 15 1629.0 -12.61 43.12
 90.00 21 6 58 2365.88 -21.60 47.00 198.27 108.71 21 46 24 1365.9 -11.98 24.10
 100.00 22 28 18 2103.44 -22.76 27.27 197.83 109.86 23 3 22 1103.4 -12.61 4.49
 110.00 23 36 21 1890.34 -25.89 9.75 196.48 113.09 24 7 52 890.3 -14.28 347.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3786 TRA 2.8961 TC3-3.0995 BAU .7717 SGT 5072.6 SGR 2390.8 SG3 1614.8 ST 110.3 SR 63.7 SS 126.6
 RDE .8337 RRA 1.4579 RC3 -.8755 FAU .15355 RRT .9717 RRF .9916 RTF .9785 CRT .9967 CRS -.9882 CST -.9972
 FDE 4.8902 FRA12.0525 FC3-7.4171 BSP 9249 SGB 5607.8 R23 .1311 R13 .9849 LSA 179.4 MSA 9.5 SSA 1.2
 BDE 1.6111 BRA 3.2424 BC3 3.2208 FSP 2925 SG1 5584.3 SG2 513.0 THA 24.83 EL1 127.3 EL2 4.5 ALF 28.97

LAUNCH DATE MAR 27 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.88 VL 32.274 GAL -5.37 AZL 88.69 MCA 205.77 SMA 180.18 ECC .19473 INC 1.3085 V1 29.851
RP 214.72 LAP -.57 LOP 31.44 VP 22.352 GAP 2.00 AZP 91.18 TAL 325.93 TAP 171.69 RCA 145.09 APO 215.26 V2 25.573
RC 148.770 GL 9.94 GP -18.73 ZAL 145.74 ZAP 72.12 ETS 172.54 ZAE 112.69 ETE 187.90 ZAC 83.94 ETC 269.26 LVI 11.50

PLANETOCENTRIC CONIC

C3 18.068 VHL 4.251 DLA -1.21 RAL 331.12 RAD 6642.0 VEL 11.751 PTH 6.78 VHP 3.566 DPA -43.00 RAP 285.62 ECC 1.2974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 49 3085.84 -34.39 95.88 190.96 125.16 18 2 15 2085.8 -18.13 75.82
60.00 17 51 41 2977.14 -29.56 89.65 194.52 118.75 18 41 19 1977.1 -15.68 68.27
70.00 18 45 21 2819.32 -25.24 79.26 196.92 113.82 19 32 21 1819.3 -13.42 57.09
80.00 19 54 57 2601.43 -22.12 64.11 198.31 110.59 20 38 18 1601.4 -11.74 41.53
90.00 21 18 57 2336.84 -20.95 45.12 198.76 109.44 21 55 53 1336.8 -11.11 22.41
100.00 22 37 48 2075.90 -22.12 25.48 198.31 110.59 23 12 24 1075.9 -11.74 2.90
110.00 23 44 48 1866.14 -25.24 8.18 196.92 113.82 24 15 54 866.1 -13.42 348.01

DIFFERENTIAL CORRECTIONS

TDE 1.4188 TRA 3.0610 TC3-3.1882 BAU .7950
RDE .8081 RRA 1.3758 RC3 -.8189 FAU .15206
FDE 4.8408 FRA12.0531 FC3-7.2861 BSP 9509
BDE 1.6313 BRA 3.3559 BC3 3.2912 F8P 2915

MID-COURSE EXECUTION ACCURACY

SGT 5294.8 SGR 2258.2 SG3 1804.8
RRT .9711 RRF .9899 RTF .9795
SGB 5756.2 R23 .1265 R13 .9847
SG1 5734.7 SG2 497.5 THA 22.68

ORBIT DETERMINATION ACCURACY

ST 114.0 SR 61.0 SS 125.8
CRT .9948 CRS -.9859 CST -.9977
LSA 179.9 MSA 9.7 SSA 1.3
EL1 129.2 EL2 5.5 ALF 28.08

LAUNCH DATE MAR 27 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.88 VL 32.278 GAL -5.44 AZL 88.82 MCA 206.94 SMA 180.24 ECC .19554 INC 1.1758 V1 29.851
RP 215.04 LAP -.53 LOP 32.61 VP 22.316 GAP 1.81 AZP 91.05 TAL 325.59 TAP 172.53 RCA 145.00 APO 215.49 V2 25.536
RC 151.211 GL 8.88 GP -17.86 ZAL 146.25 ZAP 70.47 ETS 172.25 ZAE 111.21 ETE 186.96 ZAC 84.81 ETC 269.15 LVI 10.78

PLANETOCENTRIC CONIC

C3 18.249 VHL 4.272 DLA -2.12 RAL 331.74 RAD 6642.0 VEL 11.759 PTH 6.79 VHP 3.577 DPA -42.17 RAP 284.92 ECC 1.3003
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 35 3070.23 -33.78 94.90 191.36 125.75 18 7 46 2070.2 -17.38 75.09
60.00 17 58 25 2958.99 -28.96 88.49 194.96 119.35 18 47 44 1959.0 -14.92 67.33
70.00 18 53 9 2798.04 -24.84 77.89 197.41 114.43 19 39 47 1798.0 -12.65 55.92
80.00 20 3 42 2577.13 -21.53 62.55 198.84 111.20 20 46 39 1577.1 -10.97 40.14
90.00 21 26 7 2311.19 -20.36 43.47 199.31 110.06 22 4 38 1311.2 -10.34 20.92
100.00 22 48 34 2051.60 -21.53 23.92 198.84 111.20 23 20 45 1051.6 -10.97 1.51
110.00 23 52 35 1844.86 -24.64 6.81 197.41 114.43 24 23 20 844.9 -12.65 344.83

DIFFERENTIAL CORRECTIONS

TDE 1.4621 TRA 3.2287 TC3-3.2672 BAU .8184
RDE .7809 RRA 1.2989 RC3 -.7601 FAU .14997
FDE 4.7932 FRA12.0300 FC3-7.1146 BSP 9794
BDE 1.6575 BRA 3.4783 BC3 3.3544 F8P 2900

MID-COURSE EXECUTION ACCURACY

SGT 5512.9 SGR 2134.9 SG3 1590.7
RRT .9700 RRF .9878 RTF .9803
SGB 5911.8 R23 .1215 R13 .9845
SG1 5891.8 SG2 485.7 THA 20.74

ORBIT DETERMINATION ACCURACY

ST 117.7 SR 50.3 SS 124.4
CRT .9924 CRS -.9834 CST -.9981
LSA 180.7 MSA 10.0 SSA 1.3
EL1 131.3 EL2 6.5 ALF 26.34

LAUNCH DATE MAR 27 1971

FLIGHT TIME 280.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.88 VL 32.283 GAL -5.31 AZL 88.95 MCA 208.11 SMA 180.31 ECC .19641 INC 1.0533 V1 29.851
RP 215.37 LAP -.50 LOP 33.78 VP 22.280 GAP 1.62 AZP 90.93 TAL 325.24 TAP 173.35 RCA 144.90 APO 215.73 V2 25.499
RC 153.889 GL 7.90 GP -17.06 ZAL 146.74 ZAP 68.87 ETS 172.00 ZAE 109.73 ETE 186.11 ZAC 85.62 ETC 269.05 LVI 10.30

PLANETOCENTRIC CONIC

C3 18.482 VHL 4.297 DLA -2.93 RAL 332.34 RAD 6642.1 VEL 11.768 PTH 6.79 VHP 3.592 DPA -41.40 RAP 284.29 ECC 1.3038
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 58 3056.70 -33.24 94.07 191.81 126.24 18 12 54 2056.7 -16.72 74.47
60.00 18 4 39 2943.15 -28.42 87.46 193.46 119.87 18 53 42 1943.1 -14.26 66.52
70.00 19 0 21 2779.37 -24.11 76.70 197.95 114.98 19 46 40 1779.4 -11.98 54.89
80.00 20 11 47 2555.70 -20.99 61.18 199.41 111.73 20 54 23 1555.7 -10.29 38.92
90.00 21 34 35 2288.52 -19.83 42.02 199.89 110.59 22 12 44 1288.5 -9.65 19.62
100.00 22 54 39 2030.17 -20.99 22.55 199.41 111.73 23 28 29 1030.2 -10.29 .29
110.00 0 3 43 1826.18 -24.11 5.62 197.95 114.98 0 34 9 826.2 -11.98 343.81

DIFFERENTIAL CORRECTIONS

TDE 1.5058 TRA 3.3900 TC3-3.3425 BAU .8433
RDE .7594 RRA 1.2258 RC3 -.7084 FAU .14788
FDE 4.7382 FRA11.9718 FC3-6.9344 BSP 10067
BDE 1.6882 BRA 3.6049 BC3 3.4168 F8P 2870

MID-COURSE EXECUTION ACCURACY

SGT 5724.5 SGR 2018.8 SG3 1571.8
RRT .9684 RRF .8855 RTF .510
SGB 6070.0 R23 .1158 R13 .9844
SG1 6051.3 SG2 476.5 THA 18.98

ORBIT DETERMINATION ACCURACY

ST 121.3 SR 56.3 SS 123.1
CRT .9896 CRS -.9808 CST -.9984
LSA 181.4 MSA 10.3 SSA 1.3
EL1 133.5 EL2 7.4 ALF 24.79

LAUNCH DATE MAR 27 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -.00 LOL 185.88 VL 32.288 GAL -5.58 AZL 89.06 MCA 209.27 SMA 180.39 ECC .19733 INC .9404 V1 29.851
RP 215.71 LAP -.46 LOP 34.95 VP 22.244 GAP 1.43 AZP 90.82 TAL 324.89 TAP 174.16 RCA 144.79 APO 215.98 V2 25.461
RC 156.143 GL 7.01 GP -16.30 ZAL 147.19 ZAP 87.31 ETS 171.78 ZAE 108.26 ETE 185.36 ZAC 86.38 ETC 268.98 LVI 9.78

PLANETOCENTRIC CONIC

C3 18.703 VHL 4.325 DLA -3.67 RAL 332.92 RAD 6642.3 VEL 11.778 PTH 6.80 VHP 3.610 DPA -40.68 RAP 283.73 ECC 1.3078
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 59 3045.01 -32.76 93.35 192.31 126.66 18 17 44 2045.0 -16.16 73.94
60.00 18 10 28 2929.37 -27.95 86.62 196.00 120.30 18 59 17 1929.4 -13.68 65.82
70.00 19 7 3 2763.00 -23.64 75.68 198.53 115.40 19 53 6 1763.0 -11.38 54.00
80.00 20 19 17 2536.83 -20.51 59.99 200.01 112.18 21 1 34 1536.8 -9.68 37.85
90.00 21 42 26 2268.52 -19.34 40.75 200.51 111.04 22 20 15 1268.5 -9.04 18.47
100.00 23 2 9 2011.30 -20.51 21.36 200.01 112.18 23 35 40 1011.3 -9.68 359.22
110.00 0 10 25 1809.82 -23.64 4.58 198.53 115.40 0 40 35 809.8 -11.38 342.92

DIFFERENTIAL CORRECTIONS

TDE 1.5524 TRA 3.5548 TC3-3.4076 BAU .8678
RDE .7415 RRA 1.1577 RC3 -.6583 FAU .14518
FDE 4.6883 FRA11.8985 FC3-6.7202 BSP 10365
BDE 1.7204 BRA 3.7386 BC3 3.4706 F8P 2841

MID-COURSE EXECUTION ACCURACY

SGT 5932.0 SGR 1910.9 SG3 1550.1
RRT .9662 RRF .9827 RTF .9815
SGB 6232.2 R23 .1101 R13 .9843
SG1 6214.4 SG2 470.4 THA 17.39

ORBIT DETERMINATION ACCURACY

ST 124.9 SR 54.3 SS 121.9
CRT .9864 CRS -.9774 CST -.9987
LSA 182.5 MSA 10.6 SSA 1.3
EL1 136.0 EL2 8.2 ALF 23.29

LAUNCH DATE MAR 27 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 18 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL 149.27 LAL, RP 216.04 LAP, etc.

LAUNCH DATE MAR 27 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 18 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL 149.27 LAL, RP 216.39 LAP, etc.

LAUNCH DATE MAR 27 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 20 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL 149.27 LAL, RP 216.73 LAP, etc.

LAUNCH DATE MAR 27 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 22 1971

Table with columns for HELIOCENTRIC CONIC, PLANETOCENTRIC CONIC, DIFFERENTIAL CORRECTIONS, MID-COURSE EXECUTION ACCURACY, and ORBIT DETERMINATION ACCURACY. Includes parameters like RL 149.27 LAL, RP 217.08 LAP, etc.

LAUNCH DATE MAR 27 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -0.00 LOL 185.68 VL 32.316 GAL -5.99 AZL 89.52 HCA 215.05 SMA 180.84 ECC .20256 INC .4624 V1 29.851
RP 217.43 LAP -.28 LOP 40.73 VP 22.084 GAP .49 AZP 90.40 TAL 323.00 TAP 178.05 RCA 144.21 APO 217.47 V2 25.269
RC 166.717 GL 3.45 GP -13.20 ZAL 149.17 ZAP 80.19 ETS 171.06 ZAE 101.22 ETE 182.59 ZAC 89.48 ETC 266.68 LVI 7.39

PLANETOCENTRIC CONIC

C3 20.276 VHL 4.503 DLA -6.46 RAL 335.60 RAD 6643.0 VEL 11.844 PTH 6.86 VHP 3.749 DPA -37.67 RAP 281.92 ECC 1.3337
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 56 3008.46 -31.26 91.17 195.23 127.89 18 38 4 2008.5 -14.38 72.26
60.00 18 34 25 2884.81 -26.39 83.88 199.08 121.64 19 22 30 1884.8 -11.79 63.57
70.00 19 34 23 2708.52 -22.01 72.28 201.77 116.80 20 19 31 1708.5 -9.38 51.05
80.00 20 49 43 2472.65 -18.81 55.98 203.37 113.62 21 30 56 1472.7 -7.58 34.24
90.00 22 14 14 2199.95 -17.61 36.47 203.91 112.49 22 50 54 1200.0 -6.90 14.56
100.00 23 32 35 1947.12 -18.81 17.35 203.37 113.62 24 5 2 947.1 -7.58 355.61
110.00 0 37 45 1755.34 -22.01 1.20 201.77 116.80 1 7 0 755.3 -9.38 339.97

DIFFERENTIAL CORRECTIONS

TDE 1.6082 TRA 4.3781 TC3-3.6408 BAU .9946
RDE .6842 RRA .8694 RC3 -.4556 FAU .12932
FDE 4.4112 FRA11.2876 FC3-5.5214 BSP 11854
BDE 1.9333 BRA 4.4636 BC3 3.6692 FSP 2616

MID-COURSE EXECUTION ACCURACY

SGT 6890.3 SGR 1471.6 SG3 1406.9
RRT .9458 RRF .9806 RTF .9827
SGB 7045.7 R23 .0827 R13 .9839
SG1 7030.1 SG2 468.6 THA 11.47

ORBIT DETERMINATION ACCURACY

ST 142.6 SR 46.6 SS 114.9
CRT .9649 CRS -.9578 CST -.9996
LSA 188.5 MSA 12.5 SSA 1.3
EL1 149.6 EL2 11.7 ALF 17.62

LAUNCH DATE MAR 27 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -0.00 LOL 185.68 VL 32.322 GAL -6.08 AZL 89.59 HCA 216.19 SMA 180.84 ECC .20374 INC .4070 V1 29.851
RP 217.79 LAP -.24 LOP 41.87 VP 22.029 GAP .31 AZP 90.33 TAL 322.60 TAP 178.80 RCA 144.07 APO 217.80 V2 25.229
RC 171.268 GL 2.88 GP -12.89 ZAL 149.54 ZAP 58.90 ETS 170.98 ZAE 99.88 ETE 182.19 ZAC 89.99 ETC 266.65 LVI 6.97

PLANETOCENTRIC CONIC

C3 20.637 VHL 4.545 DLA -6.87 RAL 336.09 RAD 6643.1 VEL 11.860 PTH 6.87 VHP 3.783 DPA -37.17 RAP 281.73 ECC 1.3400
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 27 3004.64 -31.10 90.95 195.87 128.02 18 41 32 2004.6 -14.19 72.11
60.00 18 38 24 2879.77 -26.21 83.58 199.75 121.78 19 26 24 1879.8 -11.57 63.32
70.00 19 38 52 2701.98 -21.80 71.88 202.46 116.96 20 23 54 1702.0 -9.13 50.70
80.00 20 54 41 2484.64 -18.59 55.49 204.09 113.79 21 35 45 1464.6 -7.32 33.79
90.00 22 19 24 2191.27 -17.39 35.93 204.63 112.66 22 55 55 1191.3 -6.63 14.07
100.00 23 37 32 1939.11 -18.59 16.86 204.09 113.79 24 9 52 939.1 -7.32 355.16
110.00 0 42 14 1748.80 -21.80 .80 202.46 116.96 1 11 23 748.8 -9.13 339.62

DIFFERENTIAL CORRECTIONS

TDE 1.8638 TRA 4.5434 TC3-3.6715 BAU 1.0207
RDE .6781 RRA .8208 RC3 -.4234 FAU .12582
FDE 4.3561 FRA11.1359 FC3-5.2730 BSP 12146
BDE 1.9833 BRA 4.6170 BC3 3.6958 FSP 2562

MID-COURSE EXECUTION ACCURACY

SGT 7066.9 SGR 1401.8 SG3 1374.5
RRT .9594 RRF .9541 RTF .9827
SGB 7204.6 R23 .0783 R13 .9837
SG1 7189.1 SG2 472.6 THA 10.60

ORBIT DETERMINATION ACCURACY

ST 146.0 SR 45.5 SS 113.4
CRT .9597 CRS -.9532 CST -.9996
LSA 190.0 MSA 13.0 SSA 1.3
EL1 152.4 EL2 12.3 ALF 16.77

LAUNCH DATE MAR 27 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -0.00 LOL 185.68 VL 32.329 GAL -6.17 AZL 89.66 HCA 217.33 SMA 181.05 ECC .20496 INC .3382 V1 29.851
RP 218.15 LAP -.20 LOP 43.01 VP 21.993 GAP .12 AZP 90.27 TAL 322.20 TAP 179.53 RCA 143.94 APO 218.15 V2 25.189
RC 173.829 GL 2.36 GP -12.21 ZAL 149.89 ZAP 57.85 ETS 170.91 ZAE 98.57 ETE 181.83 ZAC 90.47 ETC 266.63 LVI 6.57

PLANETOCENTRIC CONIC

C3 21.058 VHL 4.589 DLA -7.25 RAL 336.58 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 3.820 DPA -36.70 RA 281.80 ECC 1.3468
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 47 3001.74 -30.97 90.78 196.52 128.11 18 44 49 2001.7 -14.05 71.98
60.00 18 42 9 2875.78 -26.07 83.34 200.43 121.89 19 30 5 1875.8 -11.40 63.12
70.00 19 43 5 2698.82 -21.84 71.55 203.17 117.09 20 28 2 1696.6 -8.93 50.42
80.00 20 59 20 2457.92 -18.41 55.08 204.81 113.93 21 40 18 1457.9 -7.09 33.42
90.00 22 24 15 2183.94 -17.19 35.48 205.36 112.80 23 0 39 1183.9 -6.40 13.66
100.00 23 42 12 1932.39 -18.41 16.44 204.81 113.93 24 14 24 932.4 -7.05 354.79
110.00 0 48 27 1743.44 -21.84 .47 203.17 117.09 1 15 31 743.4 -8.93 339.33

DIFFERENTIAL CORRECTIONS

TDE 1.9208 TRA 4.7097 TC3-3.6986 BAU 1.0466
RDE .6731 RRA .7747 RC3 -.3937 FAU .12230
FDE 4.2994 FRA10.9783 FC3-5.0279 BSP 12442
BDE 2.0353 BRA 4.7730 BC3 3.7176 FSP 2509

MID-COURSE EXECUTION ACCURACY

SGT 7238.9 SGR 1337.0 SG3 1341.4
RRT .9321 RRF .9487 RTF .527
SGB 7361.3 R23 .0739 R13 .9838
SG1 7345.8 SG2 477.2 THA 9.61

ORBIT DETERMINATION ACCURACY

ST 149.4 SR 44.5 SS 112.0
CRT .9542 CRS -.9484 CST -.9997
LSA 191.4 MSA 13.4 SSA 1.3
EL1 153.3 EL2 12.8 ALF 15.98

LAUNCH DATE MAR 27 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

RL 149.27 LAL -0.00 LOL 185.68 VL 32.338 GAL -6.28 AZL 89.73 HCA 218.47 SMA 181.16 ECC .20621 INC .2688 V1 29.851
RP 218.51 LAP -.17 LOP 44.15 VP 21.957 GAP -.07 AZP 90.21 TAL 321.79 TAP 180.26 RCA 143.80 APO 218.51 V2 25.149
RC 176.400 GL 1.87 GP -11.76 ZAL 150.24 ZAP 56.45 ETS 170.85 ZAE 97.28 ETE 181.50 ZAC 90.92 ETC 266.63 LVI 6.17

PLANETOCENTRIC CONIC

C3 21.479 VHL 4.635 DLA -7.59 RAL 337.06 RAD 6643.5 VEL 11.894 PTH 6.90 VHP 3.858 DPA -36.25 RAP 281.51 ECC 1.3535
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 57 58 2999.70 -30.89 90.66 197.19 128.18 18 47 58 1999.7 -13.95 71.89
60.00 18 45 42 2872.74 -25.96 83.16 201.13 121.98 19 33 35 1872.7 -11.27 62.97
70.00 19 47 3 2692.33 -21.51 71.29 203.89 117.20 20 31 56 1692.3 -8.77 50.19
80.00 21 3 42 2452.40 -18.25 54.74 205.55 114.05 21 44 34 1452.4 -6.91 33.11
90.00 22 28 48 2177.85 -17.03 35.11 206.10 112.92 23 5 5 1177.9 -6.20 13.31
100.00 23 46 34 1926.87 -18.25 16.10 205.55 114.05 24 18 41 926.9 -6.91 354.48
110.00 0 50 26 1739.15 -21.51 .21 203.89 117.20 1 19 25 739.2 -8.77 339.10

DIFFERENTIAL CORRECTIONS

TDE 1.9792 TRA 4.8768 TC3-3.7175 BAU 1.0727
RDE .6896 RRA .7311 RC3 -.3660 FAU .11867
FDE 4.2447 FRA10.8171 FC3-4.7831 BSP 12727
BDE 2.0894 BRA 4.9313 BC3 3.7355 FSP 2453

MID-COURSE EXECUTION ACCURACY

SGT 7406.4 SGR 1277.4 SG3 1308.0
RRT .9239 RRF .9385 RTF .9826
SGB 7515.8 R23 .0702 R13 .9833
SG1 7500.3 SG2 482.8 THA 9.09

ORBIT DETERMINATION ACCURACY

ST 152.7 SR 43.6 SS 110.5
CRT .9485 CRS -.9435 CST -.9996
LSA 193.0 MSA 13.8 SSA 1.3
EL1 158.2 EL2 13.3 ALF 15.26

LAUNCH DATE MAR 27 1971

FLIGHT TIME 290.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

DISTANCE 667.182

EARTH TO MARS

RL 149.27 LAL -.00 LOL 189.68 VL 32.343 GAL -6.36 AZL 89.79 HCA 219.60 SMA 181.27 ECC .20751 INC .2053 V1 29.651
 RP 218.88 LAP -.13 LOP 45.28 VP 21.921 GAP -.23 AZP 90.16 TAL 321.37 TAP 180.97 RCA 143.65 APO 218.89 V2 25.109
 RC 178.981 GL 1.41 GP -11.34 ZAL 190.58 ZAP 55.28 ETS 170.81 ZAE 96.03 ETE 181.21 ZAC 91.34 ETC 268.63 LVI 5.78

PLANETOCENTRIC CONIC

C3 21.920 VHL 4.682 DLA -7.89 RAL 337.53 RAD 6643.7 VEL 11.913 PTH 6.92 VMP 3.898 DPA -35.83 RAP 281.47 ECC 1.3607
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 18 0 59 2998.44 -30.84 90.59 197.87 128.22 18 50 58 1998.4 -13.89 71.84
 60.00 18 49 4 2870.58 -25.88 83.03 201.83 122.04 19 36 54 1870.6 -11.19 62.86
 70.00 19 50 48 2689.04 -21.40 71.09 204.61 117.27 20 35 37 1689.0 -8.65 50.01
 80.00 21 7 48 2447.98 -18.13 54.47 206.29 114.14 21 48 36 1448.0 -6.77 32.87
 90.00 22 33 4 2172.92 -16.90 34.81 206.85 113.02 23 9 17 1172.9 -6.05 13.03
 100.00 23 50 40 1922.45 -16.13 15.83 206.29 114.14 24 22 43 922.5 -6.77 354.23
 110.00 0 54 11 1735.86 -21.40 .01 204.61 117.27 1 23 7 735.9 -8.65 338.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.0390 TRA 5.0442 TC3-3.7337 BAU 1.0987 SGT 7568.9 SGR 1222.3 SG3 1274.4 ST 156.0 SR 42.8 SS 109.0
 RDE .6670 RRA .6896 RC3 -.3406 FAU .11505 RRT .9146 RRF .9293 RTF .9824 CRT .9427 CRS -.9384 CST -.9998
 FDE 4.1888 FRA10.6510 FC3-4.5440 BSP 13012 SGB 7667.0 R23 .0667 R13 .9831 LSA 194.5 MSA 14.2 SSA 1.3
 BDE 2.1454 BRA 5.0911 BC3 3.7492 FSP 2397 SG1 7651.4 SG2 488.8 THA 8.44 EL1 161.2 EL2 13.8 ALF 14.60

LAUNCH DATE MAR 28 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 387.338

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 34.012 GAL -7.09 AZL 92.54 HCA 133.27 SMA 213.74 ECC .32360 INC 2.5410 V1 29.843
RP 207.32 LAP -1.85 LOP 319.97 VP 25.678 GAP 18.80 AZP 88.26 TAL 330.49 TAP 103.77 RCA 144.58 APO 282.91 V2 26.420
RC 56.291 GL -13.81 GP 4.57 ZAL 138.45 ZAP 165.85 ETS 161.09 ZAE 166.74 ETE 133.58 ZAC 105.93 ETC 275.34 LVI -18.86

PLANETOCENTRIC CONIC

C3 39.317 VHL 6.270 DLA -25.40 RAL 334.48 RAD 6650.4 VEL 12.617 PTH 7.47 VHP 9.162 DPA -15.95 RAP 300.26 ECC 1.6471
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 58 25 2779.62 -21.04 79.01 200.77 133.72 19 44 45 1779.8 -3.02 62.45
60.00 20 11 14 2586.19 -14.69 67.33 206.53 127.96 20 34 20 1586.2 1.24 49.11
70.00 21 44 50 2311.00 -8.25 49.71 211.23 123.26 22 23 21 1311.0 5.70 30.17
80.00 23 38 32 1955.12 -2.55 26.20 214.73 119.76 24 11 7 955.1 9.74 5.60
90.00 1 28 24 1613.44 .11 2.55 216.21 118.28 1 55 18 613.4 11.63 341.47
100.00 2 25 20 1429.59 -2.55 347.57 214.73 119.76 2 49 9 429.6 9.74 326.97
110.00 2 48 12 1357.62 -8.25 338.63 211.23 123.26 3 10 50 357.8 5.70 319.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9220 TRA-1.8633 TC3 -.0945 BAU .0883 SGT 2067.9 SGR 497.8 SG3 230.6 ST 50.7 SR 23.3 SS 37.9
RDE -.5096 RRA -.0243 RC3 .1389 FAU .04310 RRT .4060 RRF -.4317 RTF -.8595 CRT .8390 CRS .7063 CST .9770
PDE .7262 FRA 2.2678 FC3 -.9491 BSP 3578 SGB 2126.9 R23 -.0714 R13 -.8613 LSA 65.8 MSA 14.9 SSA 1.1
BDE 1.0535 BRA 1.8634 BC3 .1680 FSP 332 SG1 2078.2 SG2 452.6 THA 5.86 EL1 54.6 EL2 11.8 ALF 22.15

LAUNCH DATE MAR 28 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 390.409

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.903 GAL -6.93 AZL 92.59 HCA 134.53 SMA 211.22 ECC .31501 INC 2.5942 V1 29.843
RP 207.22 LAP -1.85 LOP 321.23 VP 25.545 GAP 18.33 AZP 88.18 TAL 330.53 TAP 105.06 RCA 144.68 APO 277.76 V2 26.432
RC 56.435 GL -14.37 GP 4.80 ZAL 138.38 ZAP 164.94 ETS 161.42 ZAE 167.19 ETE 130.12 ZAC 106.11 ETC 275.44 LVI -19.19

PLANETOCENTRIC CONIC

C3 37.679 VHL 6.138 DLA -25.89 RAL 334.80 RAD 6649.9 VEL 12.552 PTH 7.42 VHP 8.899 DPA -15.64 RAP 308.58 ECC 1.6201
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 2 9 2758.25 -20.02 77.97 200.58 134.11 19 48 8 1758.2 -1.94 61.55
60.00 20 15 37 2361.97 -13.67 66.09 206.37 128.29 20 58 39 1502.0 2.31 47.95
70.00 21 51 7 2282.15 -7.17 48.18 211.15 123.48 22 29 9 1282.1 6.79 28.64
80.00 23 47 27 1918.06 -1.30 24.17 214.78 119.83 24 19 25 918.1 10.93 3.49
90.00 1 39 35 1589.10 1.54 .08 216.35 118.24 2 5 44 569.1 12.96 338.67
100.00 2 34 14 1392.54 -1.30 345.53 214.78 119.83 2 57 27 392.5 10.93 324.86
110.00 2 54 30 1328.96 -7.17 337.10 211.15 123.48 3 16 39 329.0 6.79 317.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9223 TRA-1.8453 TC3 -.0880 BAU .0872 SGT 2102.0 SGR 498.9 SG3 245.4 ST 51.7 SR 23.1 SS 39.3
RDE -.4930 RRA -.0420 RC3 .1490 FAU .04443 RRT .4400 RRF -.4681 RTF -.8647 CRT .8471 CRS .7144 CST .9762
PDE .7395 FRA 2.3603 FC3-1.0209 BSP 3647 SGB 2160.4 R23 -.0777 R13 -.8667 LSA 67.3 MSA 14.8 SSA 1.1
BDE 1.0488 BRA 1.8458 BC3 .1730 FSP 336 SG1 2114.0 SG2 445.4 THA 6.24 EL1 55.5 EL2 11.5 ALF 21.70

LAUNCH DATE MAR 28 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 393.573

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.799 GAL -6.79 AZL 92.65 HCA 135.80 SMA 208.89 ECC .30688 INC 2.6498 V1 29.843
RP 207.13 LAP -1.85 LOP 322.50 VP 25.419 GAP 17.87 AZP 88.10 TAL 330.37 TAP 106.37 RCA 144.79 APO 273.00 V2 26.443
RC 56.701 GL -14.95 GP 5.04 ZAL 138.29 ZAP 164.01 ETS 161.69 ZAE 167.56 ETE 126.54 ZAC 106.32 ETC 275.53 LVI -19.54

PLANETOCENTRIC CONIC

C3 36.160 VHL 6.013 DLA -26.40 RAL 335.13 RAD 6649.3 VEL 12.492 PTH 7.38 VHP 8.643 DPA -15.32 RAP 308.88 ECC 1.5951
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 6 3 2736.45 -18.98 76.94 200.43 134.49 19 51 40 1736.5 -.84 60.64
60.00 20 20 55 2537.32 -12.63 64.84 206.27 128.60 21 3 13 1537.3 3.39 46.77
70.00 21 57 31 2292.34 -6.05 46.60 211.13 123.68 22 35 23 1252.3 7.91 27.06
80.00 0 1 12 1878.53 .04 22.00 214.90 119.88 0 32 31 878.5 12.18 1.23
90.00 1 52 23 1519.88 3.13 357.33 216.61 118.12 2 17 45 519.9 14.38 335.95
100.00 2 44 4 1393.00 .04 343.36 214.90 119.88 3 6 37 353.0 12.18 322.60
110.00 3 1 13 1299.16 -6.05 335.92 211.13 123.68 3 22 52 299.2 7.91 318.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9224 TRA-1.8265 TC3 -.0814 BAU .0867 SGT 2134.7 SGR 501.4 SG3 261.2 ST 52.7 SR 23.0 SS 40.7
RDE -.4813 RRA -.0603 RC3 .1588 FAU .04585 RRT .4754 RRF -.8082 RTF -.8594 CRT .8557 CRS .7230 CST .9784
PDE .7921 FRA 2.4567 FC3-1.0077 BSP 3715 SGB 2192.7 R23 -.0849 R13 -.8717 LSA 68.9 MSA 14.7 SSA 1.1
BDE 1.0404 BRA 1.8275 BC3 .1793 FSP 382 SG1 2148.5 SG2 438.3 THA 6.65 EL1 56.4 EL2 11.1 ALF 21.28

LAUNCH DATE MAR 28 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 398.819

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.701 GAL -6.64 AZL 92.71 HCA 137.06 SMA 206.74 ECC .29917 INC 2.7081 V1 29.843
RP 207.05 LAP -1.84 LOP 323.76 VP 25.299 GAP 17.41 AZP 88.02 TAL 330.62 TAP 107.68 RCA 144.89 APO 268.59 V2 26.453
RC 57.030 GL -15.56 GP 5.30 ZAL 138.17 ZAP 163.05 ETS 161.90 ZAE 167.85 ETE 122.92 ZAC 106.54 ETC 275.62 LVI -19.90

PLANETOCENTRIC CONIC

C3 34.751 VHL 5.895 DLA -26.93 RAL 335.46 RAD 6648.8 VEL 12.436 PTH 7.34 VHP 8.395 DPA -14.98 RAP 309.15 ECC 1.5719
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 10 8 2714.38 -17.92 75.90 200.32 134.84 19 55 23 1714.4 .27 59.72
60.00 20 26 10 2512.14 -11.55 63.58 206.22 128.88 21 8 3 1512.1 4.50 45.57
70.00 22 5 3 2221.40 -4.87 44.97 211.18 123.85 22 42 4 1221.4 9.06 25.41
80.00 0 12 11 1835.74 1.49 19.65 215.13 119.82 0 42 47 835.7 13.51 358.75
90.00 2 7 42 1463.25 4.94 354.15 217.03 117.88 2 32 5 463.2 15.95 332.54
100.00 2 55 3 1310.21 1.49 341.02 215.13 119.82 3 16 53 310.2 13.51 320.12
110.00 3 8 25 1268.22 -4.87 333.89 211.18 123.85 3 29 34 268.2 9.06 314.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9065 TRA-1.7908 TC3 -.0562 BAU .0839 SGT 2142.9 SGR 505.5 SG3 278.0 ST 52.9 SR 22.8 SS 42.1
RDE -.4682 RRA -.0790 RC3 .1717 FAU .04731 RRT .5131 RRF -.5456 RTF -.8789 CRT .8627 CRS .7326 CST .9755
PDE .8272 FRA 2.5582 FC3-1.1788 BSP 3587 SGB 2201.7 R23 -.0882 R13 -.8814 LSA 69.8 MSA 14.5 SSA 1.1
BDE 1.0203 BRA 1.7925 BC3 .1807 FSP 410 SG1 2159.2 SG2 430.6 THA 7.19 EL1 56.6 EL2 10.8 ALF 21.20

LAUNCH DATE MAR 28 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 400.140

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.808 GAL -6.50 AZL 92.77 HCA 138.32 SMA 204.75 ECC .29187 INC 2.7692 V1 29.843
 RP 206.97 LAP -1.84 LOP 325.03 VP 25.185 GAP 16.96 AZP 87.93 TAL 330.67 TAP 109.00 RCA 144.99 APO 264.31 V2 26.462
 RC 57.440 GL -16.20 GP 5.58 ZAL 138.04 ZAP 162.07 ETS 162.06 ZAE 168.06 ETE 119.32 ZAC 106.78 ETC 275.70 LVI -20.27

PLANETOCENTRIC CONIC

C3 33.454 VHL 5.784 DLA -27.50 RAL 335.80 RAD 6648.3 VEL 12.384 PTH 7.30 VHP 8.155 DPA -14.63 RAP 309.40 ECC 1.5508
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 14 25 2692.14 -16.85 74.87 200.28 135.18 19 59 18 1692.1 1.38 58.79
 60.00 20 31 43 2486.53 -10.46 62.31 206.23 129.15 21 13 10 1486.5 5.62 44.33
 70.00 22 12 48 2189.31 -3.66 43.29 211.31 123.98 22 49 17 1189.3 10.25 23.68
 80.00 0 24 38 1788.89 3.07 17.07 215.48 119.71 0 54 27 788.9 14.94 356.00
 90.00 2 27 6 1393.98 7.13 350.24 217.70 117.44 2 50 20 394.0 17.80 328.29
 100.00 3 7 30 1263.35 3.07 338.44 215.48 119.71 3 28 34 263.4 14.94 317.37
 110.00 3 16 10 1236.13 -3.66 332.21 211.31 123.98 3 36 46 236.1 10.25 312.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9149 TRA-1.7782 TC3 -.0582 BAU .0863 SGT 2183.9 SGR 511.9 SG3 295.8 ST 54.2 SR 22.7 SS 43.6
 RDE -.4565 RRA -.0991 RC3 .1839 FAU .04893 RRT .5505 RRF -.5863 RTF -.8803 CRT .8735 CRS .7428 CST .9741
 FDE .8629 FRA 2.6628 FC3-1.2663 BSP 3753 SGB 2243.1 R23 -.0991 R13 -.8831 LSA 71.7 MSA 14.5 SSA 1.1
 BDE 1.0225 BRA 1.7810 BC3 .1929 FSP 439 SG1 2202.7 SG2 423.7 THA 7.64 EL1 57.9 EL2 10.3 ALF 20.76

LAUNCH DATE MAR 28 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 403.528

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.521 GAL -6.37 AZL 92.83 HCA 139.59 SMA 202.90 ECC .28496 INC 2.8334 V1 29.843
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.076 GAP 16.52 AZP 87.84 TAL 330.75 TAP 110.32 RCA 145.08 APO 260.72 V2 26.469
 RC 57.930 GL -16.86 GP 5.88 ZAL 137.88 ZAP 161.06 ETS 162.18 ZAE 168.18 ETE 115.84 ZAC 107.05 ETC 275.78 LVI -20.65

PLANETOCENTRIC CONIC

C3 32.256 VHL 5.679 DLA -28.08 RAL 336.15 RAD 6647.9 VEL 12.336 PTH 7.26 VHP 7.922 DPA -14.27 RAP 309.62 ECC 1.5308
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 18 56 2689.64 -15.76 73.85 200.28 135.49 20 3 26 1669.6 2.51 57.85
 60.00 20 37 37 2460.34 -9.33 61.02 206.30 129.39 21 18 37 1460.3 6.76 43.07
 70.00 22 21 11 2155.75 -2.38 41.53 211.51 124.08 22 57 7 1155.8 11.48 21.86
 80.00 0 39 12 1735.95 4.85 14.15 215.99 119.50 1 8 8 736.0 16.50 352.85
 90.00 2 57 33 1289.72 10.35 344.27 218.93 116.47 3 19 3 289.7 20.37 321.73
 100.00 3 22 4 1210.42 4.85 335.52 215.99 119.50 3 42 14 210.4 18.50 314.22
 110.00 3 24 33 1202.57 -2.38 330.45 211.51 124.08 3 44 36 202.6 11.48 310.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9194 TRA-1.7607 TC3 -.0557 BAU .0883 SGT 2217.5 SGR 520.7 SG3 314.6 ST 55.3 SR 22.6 SS 45.1
 RDE -.4457 RRA -.1201 RC3 .1971 FAU .05063 RRT .5884 RRF -.6275 RTF -.8828 CRT .8842 CRC .7541 CST .9728
 FDE .9013 FRA 2.7729 FC3-1.3588 BSP 3872 SGB 2277.8 R23 -.1100 R13 -.8860 LSA 73.5 MSA 14.4 SSA 1.1
 BDE 1.0217 BRA 1.7648 BC3 .2048 FSP 470 SG1 2239.3 SG2 416.9 THA 8.15 EL1 58.9 EL2 9.9 ALF 20.44

LAUNCH DATE MAR 28 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 406.980

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.438 GAL -6.24 AZL 92.90 HCA 140.86 SMA 201.19 ECC .27842 INC 2.9011 V1 29.843
 RP 206.85 LAP -1.83 LOP 327.56 VP 24.972 GAP 16.09 AZP 87.75 TAL 330.80 TAP 111.65 RCA 145.18 APO 257.21 V2 26.476
 RC 58.496 GL -17.54 GP 6.20 ZAL 137.70 ZAP 160.02 ETS 162.26 ZAE 168.23 ETE 112.55 ZAC 107.34 ETC 275.85 LVI -21.05

PLANETOCENTRIC CONIC

C3 31.152 VHL 5.581 DLA -28.69 RAL 336.51 RAD 6647.5 VEL 12.291 PTH 7.23 VHP 7.697 DPA -13.89 RAP 309.81 ECC 1.5127
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 23 41 2646.84 -14.65 72.82 200.35 135.79 20 7 48 1646.8 3.66 58.90
 60.00 20 43 53 2433.51 -8.17 59.70 206.45 129.60 21 24 26 1433.5 7.93 41.76
 70.00 22 30 20 2120.43 -1.03 39.69 211.81 124.14 23 5 40 1120.4 12.76 19.93
 80.00 0 57 3 1673.22 6.95 10.67 216.72 119.11 1 24 57 673.2 18.28 349.04
 84.92 2 46 0 1322.81 13.62 348.32 220.22 115.50 3 8 2 322.8 22.27 325.10
 100.00 3 39 55 1147.69 6.95 332.04 216.72 119.11 3 59 3 147.7 18.28 310.41
 110.00 3 33 42 1187.25 -1.03 328.61 211.81 124.14 3 53 9 167.3 12.76 308.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9212 TRA-1.7393 TC3 -.0500 BAU .0904 SGT 2245.1 SGR 532.4 SG3 334.6 ST 56.3 SR 22.5 SS 46.6
 RDE -.4358 RRA -.1422 RC3 .2112 FAU .05242 RRT .6263 RRF -.6685 RTF -.8858 CRT .8949 CRS .7661 CST .9717
 FDE .9419 FRA 2.8878 FC3-1.4589 BSP 3930 SGB 2307.4 R23 -.1212 R13 -.8895 LSA 75.1 MSA 14.3 SSA 1.1
 BDE 1.0191 BRA 1.7451 BC3 .2171 FSP 503 SG1 2270.6 SG2 410.4 THA 8.73 EL1 59.9 EL2 9.4 ALF 20.22

LAUNCH DATE MAR 28 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 410.490

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.359 GAL -6.11 AZL 92.97 HCA 142.12 SMA 199.60 ECC .27222 INC 2.9727 V1 29.843
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.873 GAP 15.66 AZP 87.65 TAL 330.86 TAP 112.99 RCA 145.27 APO 253.94 V2 26.482
 RC 59.137 GL -18.26 GP 6.55 ZAL 137.90 ZAP 158.95 ETS 162.29 ZAE 168.20 ETE 109.53 ZAC 107.66 ETC 275.92 LVI -21.46

PLANETOCENTRIC CONIC

C3 30.139 VHL 5.490 DLA -29.34 RAL 336.88 RAD 6647.1 VEL 12.250 PTH 7.20 VHP 7.479 DPA -13.49 RAP 309.96 ECC 1.4960
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 28 43 2623.73 -13.52 71.79 200.49 136.06 20 12 27 1623.7 4.82 55.92
 60.00 20 50 35 2405.95 -6.97 58.36 206.67 129.80 21 30 41 1405.9 9.12 40.41
 70.00 22 40 23 2082.97 .40 37.73 212.22 124.15 23 15 6 1083.0 14.10 17.89
 80.00 1 21 37 1590.04 9.67 6.00 217.86 118.39 1 48 7 590.0 20.51 343.87
 81.85 2 22 47 1394.05 14.15 353.84 220.21 115.97 2 46 1 394.1 23.64 330.59
 100.00 4 4 28 1064.51 9.67 327.37 217.86 118.39 4 22 13 64.5 20.51 305.24
 110.00 3 43 45 1129.79 .40 326.65 212.22 124.15 4 2 35 129.8 14.10 306.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9226 TRA-1.7159 TC3 -.0440 BAU .0929 SGT 2268.8 SGR 547.3 SG3 355.7 ST 57.2 SR 22.5 SS 48.2
 RDE -.4270 RRA -.1654 RC3 .2264 FAU .05428 RRT .6633 RRF -.7085 RTF -.8888 CRT .9060 CRS .7792 CST .9706
 FDE .9855 FRA 3.0076 FC3-1.5593 BSP 4018 SGB 2333.8 R23 -.1331 R13 -.8930 LSA 76.8 MSA 14.2 SSA 1.1
 BDE 1.0166 BRA 1.7234 BC3 .2306 FSP 539 SG1 2298.6 SG2 404.3 THA 9.38 EL1 60.8 EL2 9.0 ALF 20.07

LAUNCH DATE MAR 28 1971

FLIGHT TIME 156.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic: RL 149.31 LAL -0.00 LOL 186.67 VL 33.285 GAL -5.99 AZL 93.05 HCA 143.39 SMA 196.13 ECC .26635 INC 3.0484 V1 29.843
 RP 206.75 LAP -1.82 LOP 330.10 VP 24.778 GAP 15.25 AZP 87.55 TAL 330.93 TAP 114.32 RCA 145.35 APO 250.90 V2 26.487
 RC 59.850 GL -19.01 GP 6.93 ZAL 137.27 ZAP 157.85 ETS 162.29 ZAE 166.09 ETE 106.84 ZAC 108.02 ETC 275.99 LVI -21.99

Distance 414.052

Earth to Mars: DPA -13.07 RAP 310.09 ECC 1.4808

Planeto-centric Conic: C3 29.213 VHL 5.405 DLA -30.01 RAL 337.27 RAD 6646.7 VEL 12.213 PTH 7.17 VHP 7.268
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 3 2800.27 -12.37 70.75 200.69 136.32 20 17 23 1600.3 5.99 54.94
 60.00 20 57 46 2377.55 -5.73 56.99 206.98 129.96 21 37 24 1377.6 10.35 39.01
 70.00 22 51 34 2042.79 1.94 35.64 212.76 124.11 23 25 36 1042.8 15.52 15.60
 79.52 2 6 20 1443.76 14.69 357.80 220.26 116.46 2 30 24 443.8 24.33 334.52
 79.52 2 6 20 1443.76 14.69 357.80 220.26 116.46 2 30 24 443.8 24.33 334.52
 79.52 2 6 20 1443.76 14.69 357.80 220.26 116.46 2 30 24 443.8 24.33 334.52
 110.00 3 54 56 1089.61 1.94 324.56 212.76 124.11 4 13 5 89.6 15.52 304.51

Differential Corrections: TDE -.9230 TRA -1.6897 TC3 -.0386 BAU .0959 SGT 2288.5 SGR 566.1 SG3 378.1 ST 57.9 SR 22.5 SS 49.9
 RDE -.4192 RRA -.1899 RC3 .2428 FAU .05630 RRT .6989 RRF -.7471 RTF -.8916 CRT .9172 CRS .7929 CST .9694
 FDE 1.0310 FRA 3.1322 FC3 -1.6684 BSP 4073 SGB 2357.5 R23 -.1460 R13 -.8965 LSA 78.4 MSA 14.2 SSA 1.1
 BDE 1.0157 BRA 1.7004 BC3 .2456 FSP 576 SG1 2323.5 SG2 398.8 THA 10.11 EL1 61.6 EL2 8.4 ALF 20.00

Mid-course Execution Accuracy: SGT 2288.5 SGR 566.1 SG3 378.1
 RRT .6989 RRF -.7471 RTF -.8916
 SGB 2357.5 R23 -.1460 R13 -.8965
 SG1 2323.5 SG2 398.8 THA 10.11

Orbit Determination Accuracy: ST 57.9 SR 22.5 SS 49.9
 CRT .9172 CRS .7929 CST .9694
 LSA 78.4 MSA 14.2 SSA 1.1
 EL1 61.6 EL2 8.4 ALF 20.00

LAUNCH DATE MAR 28 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic: RL 149.31 LAL -0.00 LOL 186.67 VL 33.214 GAL -5.88 AZL 93.13 HCA 144.66 SMA 196.75 ECC .26080 INC 3.1289 V1 29.843
 RP 206.72 LAP -1.81 LOP 331.37 VP 24.688 GAP 14.84 AZP 87.45 TAL 331.01 TAP 115.67 RCA 145.44 APO 248.07 V2 26.491
 RC 60.633 GL -19.79 GP 7.34 ZAL 137.01 ZAP 156.71 ETS 162.26 ZAE 167.92 ETE 104.53 ZAC 108.40 ETC 276.03 LVI -22.34

Distance 417.663

Earth to Mars: DPA -12.62 RAP 310.17 ECC 1.4689

Planeto-centric Conic: C3 28.369 VHL 5.326 DLA -30.71 RAL 337.67 RAD 6646.4 VEL 12.178 PTH 7.14 VHP 7.065
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 39 44 2576.41 -11.19 69.70 200.97 136.55 20 22 40 1576.4 7.18 53.92
 60.00 21 5 31 2348.19 -4.44 55.57 207.39 130.10 21 44 39 1348.2 11.61 37.56
 70.00 23 4 10 1999.04 3.61 33.35 213.45 123.99 23 37 29 999.0 17.02 13.10
 77.50 1 52 50 1484.06 15.23 1.09 220.37 116.99 2 17 42 484.1 25.04 337.78
 77.50 1 52 50 1484.06 15.23 1.09 220.37 116.99 2 17 42 484.1 25.04 337.78
 77.50 1 52 50 1484.06 15.23 1.09 220.37 116.99 2 17 42 484.1 25.04 337.78
 110.00 4 7 32 1045.85 3.61 322.27 213.45 123.99 4 24 58 45.9 17.02 302.02

Differential Corrections: TDE -.9236 TRA -1.6624 TC3 -.0294 BAU .0994 SGT 2305.3 SGR 589.2 SG3 401.7 ST 58.7 SR 22.6 SS 51.5
 RDE -.4127 RRA -.2161 RC3 .2605 FAU .05840 RRT .7324 RRF -.7835 RTF -.8943 CRT .9285 CRS .8075 CST .9681
 FDE 1.0798 FRA 3.2621 FC3 -1.7822 BSP 4123 SGB 2379.4 R23 -.1597 R13 -.8999 LSA 80.0 MSA 14.1 SSA 1.1
 BDE 1.0118 BRA 1.6764 BC3 .2621 FSP 616 SG1 2346.5 SG2 394.2 THA 10.91 EL1 62.4 EL2 7.9 ALF 19.99

Mid-course Execution Accuracy: SGT 2305.3 SGR 589.2 SG3 401.7
 RRT .7324 RRF -.7835 RTF -.8943
 SGB 2379.4 R23 -.1597 R13 -.8999
 SG1 2346.5 SG2 394.2 THA 10.91

Orbit Determination Accuracy: ST 58.7 SR 22.6 SS 51.5
 CRT .9285 CRS .8075 CST .9681
 LSA 80.0 MSA 14.1 SSA 1.1
 EL1 62.4 EL2 7.9 ALF 19.99

LAUNCH DATE MAR 28 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic: RL 149.31 LAL -0.00 LOL 186.67 VL 33.148 GAL -5.77 AZL 93.21 HCA 145.93 SMA 195.48 ECC .25556 INC 3.2145 V1 29.843
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.601 GAP 14.44 AZP 87.34 TAL 331.08 TAP 117.01 RCA 145.52 APO 245.43 V2 26.494
 RC 61.483 GL -20.61 GP 7.79 ZAL 136.74 ZAP 155.53 ETS 162.19 ZAE 167.68 ETE 102.61 ZAC 108.83 ETC 276.10 LVI -22.81

Distance 421.320

Earth to Mars: DPA -12.15 RAP 310.22 ECC 1.4543

Planeto-centric Conic: C3 27.608 VHL 5.254 DLA -31.44 RAL 338.10 RAD 6646.1 VEL 12.147 PTH 7.11 VHP 6.868
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 45 46 2552.10 -9.99 68.65 201.33 136.76 20 28 20 1552.1 8.40 52.89
 60.00 21 13 54 2317.87 -3.10 54.11 207.90 130.20 21 52 31 1317.7 12.90 36.02
 70.00 23 18 42 1990.31 5.46 30.79 214.33 123.77 23 51 13 950.3 18.66 10.28
 75.65 1 41 30 1518.75 15.78 4.00 220.55 117.55 2 6 49 518.8 25.76 340.67
 75.65 1 41 30 1518.75 15.78 4.00 220.55 117.55 2 6 49 518.8 25.76 340.67
 75.65 1 41 30 1518.75 15.78 4.00 220.55 117.55 2 6 49 518.8 25.76 340.67
 110.00 4 22 5 6285.17 5.46 297.61 214.33 123.77 6 6 50 5285.2 18.66 877.10

Differential Corrections: TDE -.9238 TRA -1.6331 TC3 -.0222 BAU .1039 SGT 2317.9 SGR 617.1 SG3 428.5 ST 59.3 SR 22.7 SS 53.3
 RDE -.4074 RRA -.2440 RC3 .2795 FAU .06063 RRT .7831 RRF -.8171 RTF -.1.86 CRT .9397 CRS .8226 CST .9688
 FDE 1.1313 FRA 3.3968 FC3 -1.9020 BSP 4162 SGB 2398.7 R23 -.1745 R13 -.9032 LSA 81.7 MSA 14.1 SSA 1.0
 BDE 1.0097 BRA 1.6512 BC3 .2804 FSP 658 SG1 2368.6 SG2 390.6 THA 11.81 EL1 63.1 EL2 7.3 ALF 20.06

Mid-course Execution Accuracy: SGT 2317.9 SGR 617.1 SG3 428.5
 RRT .7831 RRF -.8171 RTF -.1.86
 SGB 2398.7 R23 -.1745 R13 -.9032
 SG1 2368.6 SG2 390.6 THA 11.81

Orbit Determination Accuracy: ST 59.3 SR 22.7 SS 53.3
 CRT .9397 CRS .8226 CST .9688
 LSA 81.7 MSA 14.1 SSA 1.0
 EL1 63.1 EL2 7.3 ALF 20.06

LAUNCH DATE MAR 28 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic: RL 149.31 LAL -0.00 LOL 186.67 VL 33.085 GAL -5.66 AZL 93.31 HCA 147.19 SMA 194.29 ECC .25059 INC 3.3080 V1 29.843
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.518 GAP 14.05 AZP 87.22 TAL 331.16 TAP 118.35 RCA 145.60 APO 242.97 V2 26.496
 RC 62.398 GL -21.47 GP 8.27 ZAL 136.43 ZAP 154.32 ETS 162.09 ZAE 167.38 ETE 101.11 ZAC 109.29 ETC 276.15 LVI -23.31

Distance 425.018

Earth to Mars: DPA -11.65 RAP 310.23 ECC 1.4430

Planeto-centric Conic: C3 26.919 VHL 5.188 DLA -32.21 RAL 338.54 RAD 6645.8 VEL 12.119 PTH 7.09 VHP 6.678
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 52 18 2527.25 -8.76 67.58 201.79 136.96 20 34 26 1527.2 9.63 51.82
 60.00 21 23 3 2285.77 -1.70 52.58 208.53 130.27 22 1 8 1285.8 14.25 34.40
 70.00 23 36 4 1894.01 7.58 27.81 215.47 123.40 24 7 38 894.0 20.49 6.94
 73.89 1 31 22 1549.79 16.34 6.66 220.80 118.15 1 57 12 549.8 26.51 343.31
 73.89 1 31 22 1549.79 16.34 6.66 220.80 118.15 1 57 12 549.8 26.51 343.31
 73.89 1 31 22 1549.79 16.34 6.66 220.80 118.15 1 57 12 549.8 26.51 343.31
 110.00 4 39 27 6228.87 7.58 294.64 215.47 123.40 6 23 16 5228.9 20.49 273.76

Differential Corrections: TDE -.9205 TRA -1.5978 TC3 -.0099 BAU .1082 SGT 2320.0 SGR 650.4 SG3 452.4 ST 59.7 SR 22.9 SS 55.0
 RDE -.4032 RRA -.2736 RC3 .3004 FAU .06304 RRT .7915 RRF -.8474 RTF -.8996 CRT .9504 CRS .6381 CST .9655
 FDE 1.1853 FRA 3.5345 FC3 -2.0275 BSP 4145 SGB 2409.4 R23 -.1879 R13 -.9073 LSA 83.1 MSA 14.1 SSA 1.0
 BDE 1.0050 BRA 1.6210 BC3 .3005 FSP 700 SG1 2378.0 SG2 387.8 THA 12.86 EL1 63.6 EL2 6.7 ALF 20.27

Mid-course Execution Accuracy: SGT 2320.0 SGR 650.4 SG3 452.4
 RRT .7915 RRF -.8474 RTF -.8996
 SGB 2409.4 R23 -.1879 R13 -.9073
 SG1 2378.0 SG2 387.8 THA 12.86

Orbit Determination Accuracy: ST 59.7 SR 22.9 SS 55.0
 CRT .9504 CRS .6381 CST .9655
 LSA 83.1 MSA 14.1 SSA 1.0
 EL1 63.6 EL2 6.7 ALF 20.27

LAUNCH DATE MAR 28 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 428.755

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 33.026 GAL -5.56 AZL 93.40 HCA 148.46 SMA 193.18 ECC .24591 INC 3.4040 V1 29.843
 RP 206.67 LAP -1.78 LOP 335.18 VP 24.439 GAP 13.67 AZP 87.10 TAL 331.24 TAP 119.70 RCA 145.67 APO 240.68 V2 26.496
 RC 63.376 GL -22.36 GP 8.60 ZAL 136.09 ZAP 153.06 ETS 161.96 ZAE 167.02 ETE 100.02 ZAC 109.60 ETC 276.20 LVI -23.85

PLANETOCENTRIC CONIC

C3 26.311 VHL 5.129 DLA -33.02 RAL 339.02 RAD 6645.5 VEL 12.094 PTH 7.07 VHP 6.496 DPA -11.11 RAP 310.20 ECC 1.4330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 59 18 2501.82 -7.49 66.50 202.38 137.12 20 41 0 1501.8 10.89 50.72
 60.00 21 33 5 2252.21 -.22 50.98 209.30 130.30 22 10 37 1252.2 15.65 32.68
 70.00 0 2 11 1824.35 10.17 24.08 217.01 122.78 0 32 35 824.3 22.66 2.69
 72.20 1 22 17 1578.20 16.90 9.15 221.13 118.80 1 48 35 578.2 27.27 345.78
 72.20 1 22 17 1578.20 16.90 9.15 221.13 118.80 1 48 35 578.2 27.27 345.78
 72.20 1 22 17 1578.20 16.90 9.15 221.13 118.80 1 48 35 578.2 27.27 345.78
 110.00 5 1 37 6159.21 10.17 290.91 217.01 122.78 6 44 17 5159.2 22.66 269.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9289 TRA-1.5700 TC3 -.0118 BAU .1133 SGT 2333.8 SGR 690.2 SG3 480.0 ST 60.5 SR 23.2 SS 56.9
 RDE -.4014 RRA -.3061 RC3 .3219 FAU .06542 RRT .8152 RRF -.8746 RTF -.9002 CRT .9613 CRS .8545 CST .9638
 FDE 1.2471 FRA 3.6808 FC3-2.1525 BSP 4244 SGB 2433.7 R23 -.2068 R13 -.9092 LSA 85.1 MSA 14.2 SSA 1.0
 BDE 1.0101 BRA 1.5996 BC3 .3221 FSP 749 SG1 2402.6 SG2 388.3 THA 13.93 EL1 64.6 EL2 6.0 ALF 20.44

LAUNCH DATE MAR 28 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 432.527

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.970 GAL -5.46 AZL 93.51 HCA 149.73 SMA 192.14 ECC .24149 INC 3.5093 V1 29.843
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.363 GAP 13.30 AZP 86.97 TAL 331.31 TAP 121.04 RCA 145.74 APO 238.55 V2 26.496
 RC 64.414 GL -23.31 GP 9.37 ZAL 135.72 ZAP 151.76 ETS 161.79 ZAE 166.60 ETE 99.32 ZAC 110.37 ETC 276.24 LVI -24.41

PLANETOCENTRIC CONIC

C3 25.777 VHL 5.077 DLA -33.86 RAL 339.53 RAD 6645.3 VEL 12.072 PTH 7.05 VHP 6.320 DPA -10.53 RAP 310.12 ECC 1.4242
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 6 53 2475.65 -6.18 65.39 203.04 137.27 20 48 9 1475.6 12.18 49.58
 60.00 21 44 13 2216.54 1.35 49.28 210.24 130.28 22 21 9 1216.5 17.13 30.81
 70.00 0 37 2 1717.68 14.03 18.24 219.46 121.46 1 5 40 717.7 25.71 355.91
 70.55 1 13 59 1604.84 17.46 11.55 221.56 119.49 1 40 44 604.8 28.06 348.16
 70.55 1 13 59 1604.84 17.46 11.55 221.56 119.49 1 40 44 604.8 28.06 348.16
 70.55 1 13 59 1604.84 17.46 11.55 221.56 119.49 1 40 44 604.8 28.06 348.16
 110.00 5 36 29 6052.53 14.03 285.06 219.46 121.46 7 17 21 5052.5 25.71 262.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9282 TRA-1.5348 TC3 -.0069 BAU .1192 SGT 2334.2 SGR 736.4 SG3 508.5 ST 61.0 SR 23.7 SS 58.7
 RDE -.4008 RRA -.3408 RC3 .3457 FAU .06800 RRT .8362 RRF -.8982 RTF -.9016 CRT .9710 CRS .8707 CST .9622
 FDE 1.3106 FRA 3.8286 FC3-2.2839 BSP 4271 SGB 2447.6 R23 -.2232 R13 -.9123 LSA 86.8 MSA 14.3 SSA .9
 BDE 1.0111 BRA 1.5722 BC3 .3458 FSP 797 SG1 2416.3 SG2 390.1 THA 15.18 EL1 65.2 EL2 5.3 ALF 20.78

LAUNCH DATE MAR 28 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 436.333

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.917 GAL -5.37 AZL 93.62 HCA 151.00 SMA 191.18 ECC .23731 INC 3.6229 V1 29.843
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.291 GAP 12.93 AZP 86.83 TAL 331.39 TAP 122.39 RCA 145.81 APO 236.55 V2 26.495
 RC 65.512 GL -24.30 GP 10.00 ZAL 135.32 ZAP 150.41 ETS 161.60 ZAE 166.11 ETE 98.99 ZAC 110.99 ETC 276.27 LVI -25.02

PLANETOCENTRIC CONIC

C3 25.310 VHL 5.032 DLA -34.75 RAL 340.08 RAD 6645.1 VEL 12.053 PTH 7.04 VHP 6.152 DPA -9.92 RAP 309.99 ECC 1.4167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 8 2448.62 -4.83 64.25 203.85 137.39 20 55 57 1448.6 13.51 48.39
 60.00 21 56 42 2178.14 3.04 47.44 211.38 130.21 22 33 0 1178.1 18.69 28.77
 68.91 1 6 25 1630.04 18.03 13.86 222.08 120.22 1 33 35 630.0 28.87 350.47
 68.91 1 6 25 1630.04 18.03 13.86 222.08 120.22 1 33 35 630.0 28.87 350.47
 68.91 1 6 25 1630.04 18.03 13.86 222.08 120.22 1 33 35 630.0 28.87 350.47
 68.91 1 6 25 1630.04 18.03 13.86 222.08 120.22 1 33 35 630.0 28.87 350.47
 68.91 1 6 25 1630.04 18.03 13.86 222.08 120.22 1 33 35 630.0 28.87 350.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9298 TRA-1.4964 TC3 -.0015 BAU .1250 SGT 2328.4 SGR 790.2 SG3 538.2 ST 61.4 SR 24.2 SS 60.7
 RDE -.4022 RRA -.3783 RC3 .3716 FAU .07072 RRT .8541 RRF -.9183 RTF -.929 CRT .9797 CRS .8867 CST .9609
 FDE 1.3792 FRA 3.9797 FC3-2.4184 BSP 4284 SGB 2458.8 R23 -.2389 R13 -.9156 LSA 88.5 MSA 14.4 SSA .9
 BDE 1.0129 BRA 1.5434 BC3 .3718 FSP 847 SG1 2427.0 SG2 394.3 THA 18.62 EL1 65.8 EL2 4.5 ALF 21.24

LAUNCH DATE MAR 28 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 440.169

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.867 GAL -5.29 AZL 93.75 HCA 152.27 SMA 190.29 ECC .23338 INC 3.7480 V1 29.843
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.221 GAP 12.37 AZP 86.88 TAL 331.46 TAP 123.73 RCA 145.88 APO 234.69 V2 26.493
 RC 66.667 GL -25.35 GP 10.69 ZAL 134.88 ZAP 149.00 ETS 161.37 ZAE 165.55 ETE 99.01 ZAC 111.67 ETC 276.30 LVI -25.67

PLANETOCENTRIC CONIC

C3 24.936 VHL 4.994 DLA -35.68 RAL 340.67 RAD 6645.0 VEL 12.038 PTH 7.03 VHP 5.991 DPA -9.25 RAP 309.81 ECC 1.4104
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 24 10 2420.57 -3.42 63.07 204.82 137.48 21 4 30 1420.6 14.88 47.13
 60.00 22 10 56 2136.13 4.88 45.42 212.75 130.05 22 46 32 1136.1 20.37 26.49
 67.27 0 59 27 1654.37 18.60 16.14 222.71 121.02 1 27 1 654.4 29.70 352.75
 67.27 0 59 27 1654.37 18.60 16.14 222.71 121.02 1 27 1 654.4 29.70 352.75
 67.27 0 59 27 1654.37 18.60 16.14 222.71 121.02 1 27 1 654.4 29.70 352.75
 67.27 0 59 27 1654.37 18.60 16.14 222.71 121.02 1 27 1 654.4 29.70 352.75
 67.27 0 59 27 1654.37 18.60 16.14 222.71 121.02 1 27 1 654.4 29.70 352.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9347 TRA-1.4581 TC3 -.0025 BAU .1330 SGT 2322.2 SGR 852.5 SG3 569.1 ST 61.9 SR 24.9 SS 62.7
 RDE -.4063 RRA -.4191 RC3 .3990 FAU .07348 RRT .8681 RRF -.9353 RTF -.9030 CRT .9872 CRS .9025 CST .9507
 FDE 1.4590 FRA 4.1342 FC3-2.5511 BSP 4326 SGB 2473.7 R23 -.2555 R13 -.9182 LSA 90.4 MSA 14.5 SSA .9
 BDE 1.0192 BRA 1.5171 BC3 .3990 FSP 900 SG1 2440.7 SG2 402.6 THA 18.19 EL1 66.6 EL2 3.7 ALF 21.77

LAUNCH DATE MAR 28 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 444.034

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.820 GAL -5.20 AZL 93.88 HCA 153.53 SMA 189.45 ECC .22967 INC 3.8799 V1 29.843
RP 206.73 LAP -1.73 LOP 340.25 VP 24.154 GAP 12.22 AZP 86.53 TAL 331.53 TAP 125.07 RCA 145.94 APO 232.96 V2 26.489
RC 67.877 GL -26.46 GP 11.43 ZAL 134.40 ZAP 147.54 ETS 161.11 ZAE 164.91 ETE 99.34 ZAC 112.43 ETC 276.33 LVI -26.37

PLANETOCENTRIC CONIC

C3 24.634 VHL 4.983 DLA -36.67 RAL 341.31 RAD 6644.8 VEL 12.025 PTH 7.01 VHP 5.836 DPA -8.33 RAP 309.58 ECC 1.4054
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 34 7 2391.27 -1.95 61.84 205.96 137.55 21 13 58 1391.3 16.31 45.80
60.00 22 27 32 2088.97 6.94 43.15 214.44 129.80 23 2 21 1089.0 22.21 23.87
65.62 0 53 3 1677.95 19.16 18.39 223.46 121.88 1 21 1 678.0 30.55 355.02
65.62 0 53 3 1677.95 19.16 18.39 223.46 121.88 1 21 1 678.0 30.55 355.02
65.62 0 53 3 1677.95 19.16 18.39 223.46 121.88 1 21 1 678.0 30.55 355.02
65.62 0 53 3 1677.95 19.16 18.39 223.46 121.88 1 21 1 678.0 30.55 355.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9393 TRA-1.4160 TC3 -.0027 BAU .1412 SGT 2308.5 SGR 924.0 S63 600.9 ST 62.2 SR 25.9 SS 64.7
RDE -.4130 RRA -.4637 RC3 .4287 FAU .07634 RRT .8794 RRF -.9493 RTF -.9032 CRT .9930 CRS .9174 CST .9568
FDE 1.5371 FRA 4.2901 FC3-2.6831 BSP 4350 SGB 2486.5 R23 -.2696 R13 -.9215 LSA 92.3 MSA 14.7 SSA .8
BDE 1.0261 BRA 1.4900 BC3 .4288 FSP 955 SG1 2451.8 SG2 414.1 THA 19.99 EL1 67.3 EL2 2.8 ALF 22.46

LAUNCH DATE MAR 28 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 447.925

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.776 GAL -5.13 AZL 94.03 HCA 154.80 SMA 188.67 ECC .22618 INC 4.0261 V1 29.843
RP 206.77 LAP -1.71 LOP 341.52 VP 24.089 GAP 11.87 AZP 86.36 TAL 331.60 TAP 126.40 RCA 146.00 APO 231.34 V2 26.485
RC 69.140 GL -27.64 GP 12.29 ZAL 133.88 ZAP 146.02 ETS 160.83 ZAE 164.18 ETE 99.93 ZAC 113.27 ETC 276.35 LVI -27.12

PLANETOCENTRIC CONIC

C3 24.413 VHL 4.941 DLA -37.70 RAL 342.01 RAD 6644.7 VEL 12.016 PTH 7.01 VHP 5.693 DPA -7.74 RAP 309.29 ECC 1.4018
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 45 11 2380.41 -.40 60.55 207.32 137.57 21 24 31 1360.4 17.80 44.38
60.00 22 47 35 2033.89 9.33 40.46 216.55 129.39 23 21 29 1033.9 24.30 20.71
63.95 0 47 13 1701.08 19.73 20.63 224.35 122.81 1 15 34 701.1 31.43 357.30
63.95 0 47 13 1701.08 19.73 20.65 224.35 122.81 1 15 34 701.1 31.43 357.30
63.95 0 47 13 1701.08 19.73 20.65 224.35 122.81 1 15 34 701.1 31.43 357.30
63.95 0 47 13 1701.08 19.73 20.65 224.35 122.81 1 15 34 701.1 31.43 357.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9454 TRA-1.3718 TC3 -.0049 BAU .1503 SGT 2290.1 SGR 1006.1 S63 633.6 ST 62.6 SR 27.0 SS 66.9
RDE -.4231 RRA -.5126 RC3 .4606 FAU .07925 RRT .8881 RRF -.9607 RTF -.9029 CRT .9971 CRS .9315 CST .9549
FDE 1.6281 FRA 4.4477 FC3-2.8104 BSP 4381 SGB 2501.3 R23 -.2811 R13 -.9250 LSA 94.3 MSA 14.9 SSA .8
BDE 1.0358 BRA 1.4644 BC3 .4606 FSP 1013 SG1 2464.1 SG2 429.8 THA 22.02 EL1 68.1 EL2 1.9 ALF 23.30

LAUNCH DATE MAR 28 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 451.841

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.735 GAL -5.05 AZL 94.19 HCA 156.07 SMA 187.94 ECC .22290 INC 4.1866 V1 29.843
RP 206.81 LAP -1.70 LOP 342.79 VP 24.026 GAP 11.54 AZP 86.17 TAL 331.67 TAP 127.73 RCA 146.05 APO 229.83 V2 26.480
RC 70.435 GL -28.89 GP 13.21 ZAL 133.30 ZAP 144.44 ETS 160.51 ZAE 163.34 ETE 100.74 ZAC 114.20 ETC 276.36 LVI -27.95

PLANETOCENTRIC CONIC

C3 24.280 VHL 4.928 DLA -38.80 RAL 342.78 RAD 6644.7 VEL 12.011 PTH 7.00 VHP 5.557 DPA -6.87 RAP 308.94 ECC 1.3998
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 57 37 2327.58 1.25 59.18 208.93 137.56 21 36 24 1327.6 19.37 42.84
60.00 23 13 36 1964.34 12.31 37.00 219.32 128.68 23 46 20 964.3 26.03 16.56
62.24 0 41 53 1724.05 20.28 22.94 225.40 123.81 1 10 37 724.0 32.33 359.64
62.24 0 41 53 1724.05 20.28 22.94 225.40 123.81 1 10 37 724.0 32.33 359.64
62.24 0 41 53 1724.05 20.28 22.94 225.40 123.81 1 10 37 724.0 32.33 359.64
62.24 0 41 53 1724.05 20.28 22.94 225.40 123.81 1 10 37 724.0 32.33 359.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9518 TRA-1.3225 TC3 -.0071 BAU .1808 SGT 2282.2 SGR 1099.3 S63 686.3 ST 62.7 SR 28.4 SS 69.0
RDE -.4367 RRA -.4857 RC3 .4953 FAU .08233 RRT .8942 RRF -.9698 RTF -.9021 CRT .9993 CRS .9441 CST .9827
FDE 1.7248 FRA 4.5991 FC3-2.9356 BSP 4392 SGB 2515.2 R23 -.2893 R13 -.9280 LSA 96.3 MSA 15.2 SSA .7
BDE 1.0488 BRA 1.4384 BC3 .4954 FSP 1088 SG1 2474.6 SG2 449.9 THA 24.34 EL1 68.9 EL2 1.0 ALF 24.33

LAUNCH DATE MAR 28 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 455.779

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.696 GAL -4.99 AZL 94.36 HCA 157.33 SMA 187.28 ECC .21982 INC 4.3840 V1 29.843
RP 206.87 LAP -1.68 LOP 344.08 VP 23.986 GAP 11.21 AZP 85.97 TAL 331.73 TAP 129.08 RCA 146.10 APO 228.43 V2 26.474
RC 71.818 GL -30.22 GP 14.23 ZAL 132.67 ZAP 142.78 ETS 160.16 ZAE 162.39 ETE 101.72 ZAC 115.24 ETC 276.38 LVI -28.85

PLANETOCENTRIC CONIC

C3 24.243 VHL 4.924 DLA -39.96 RAL 343.63 RAD 6644.7 VEL 12.009 PTH 7.00 VHP 5.429 DPA -5.92 RAP 308.52 ECC 1.3990
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 21 11 46 2292.19 3.03 57.70 210.85 137.50 21 49 58 1292.2 21.04 41.14
60.00 23 55 45 1852.45 17.00 31.26 223.68 127.11 24 26 37 852.4 30.58 9.47
60.50 0 37 5 1747.03 20.83 25.26 226.62 124.91 1 6 12 747.0 33.25 2.03
60.50 0 37 5 1747.03 20.83 25.26 226.62 124.91 1 6 12 747.0 33.25 2.03
60.50 0 37 5 1747.03 20.83 25.26 226.62 124.91 1 6 12 747.0 33.25 2.03
60.50 0 37 5 1747.03 20.83 25.26 226.62 124.91 1 6 12 747.0 33.25 2.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9572 TRA-1.2671 TC3 -.0074 BAU .1728 SGT 2223.0 SGR 1205.1 S63 698.9 ST 62.7 SR 30.0 SS 71.2
RDE -.4549 RRA -.6237 RC3 .5330 FAU .08548 RRT .8986 RRF -.9770 RTF -.9012 CRT .9995 CRS .9554 CST .9506
FDE 1.8310 FRA 4.7433 FC3-3.0526 BSP 4379 SGB 2528.6 R23 -.2922 R13 -.9338 LSA 98.3 MSA 15.5 SSA .7
BDE 1.0598 BRA 1.4123 BC3 .5330 FSP 1122 SG1 2484.0 SG2 473.1 THA 27.04 EL1 69.5 EL2 .8 ALF 25.59

LAUNCH DATE MAR 28 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 459.739

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.859 GAL -4.92 AZL 94.56 HCA 158.60 SMA 186.63 ECC .21693 INC 4.5610 V1 29.843
RP 206.93 LAP -1.66 LOP 345.33 VP 23.908 GAP 10.88 AZP 85.75 TAL 331.78 TAP 130.38 RCA 148.15 APO 227.12 V2 26.466
RC 75.228 GL -31.65 GP 15.37 ZAL 131.97 ZAP 141.03 ETS 159.78 ZAE 161.30 EYE 102.83 ZAC 116.39 ETC 276.39 LVI -29.84

PLANETOCENTRIC CONIC

C3 24.313 VHL 4.931 DLA -41.20 RAL 344.59 RAD 6644.7 VEL 12.012 PTH 7.00 VHP 5.311 DPA -4.87 RAP 308.03 ECC 1.4001
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 28 7 2253.42 4.97 56.08 213.16 137.38 22 5 41 1253.4 22.85 39.24
56.70 0 32 51 1770.24 21.36 27.65 228.04 126.11 1 2 21 770.2 34.19 4.52
56.70 0 32 51 1770.24 21.36 27.65 228.04 126.11 1 2 21 770.2 34.19 4.52
56.70 0 32 51 1770.24 21.36 27.65 228.04 126.11 1 2 21 770.2 34.19 4.52
56.70 0 32 51 1770.24 21.36 27.65 228.04 126.11 1 2 21 770.2 34.19 4.52
56.70 0 32 51 1770.24 21.36 27.65 228.04 126.11 1 2 21 770.2 34.19 4.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9739 TRA-1.2170 TC3 -.0238 BAU .1856 SGT 2193.9 SGR 1327.5 SG3 732.0 ST 63.2 SR 32.2 SS 73.7
RDE -.4808 RRA -.6894 RC3 .5706 FAU .08625 RRT .8995 RRF -.9827 RTF -.8980 CRT .9980 CRS .9655 CST .9486
FDE 1.9586 FRA 4.8887 FC3-3.1423 BSP 4479 SGB 2564.3 R23 -.2947 R13 -.9381 LSA 101.1 MSA 15.9 SSA .6
BDE 1.0861 BRA 1.3987 BC3 .5711 FSP 1185 SG1 2313.8 SG2 506.1 THA 29.89 EL1 70.9 EL2 1.8 ALF 26.96

LAUNCH DATE MAR 28 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 463.718

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.625 GAL -4.86 AZL 94.78 HCA 159.86 SMA 186.04 ECC .21422 INC 4.7813 V1 29.843
RP 207.00 LAP -1.64 LOP 346.59 VP 23.852 GAP 10.57 AZP 85.51 TAL 331.83 TAP 131.69 RCA 146.19 APO 225.90 V2 26.458
RC 74.683 GL -33.19 GP 16.64 ZAL 131.20 ZAP 139.22 ETS 159.38 ZAE 160.05 ETE 104.02 ZAC 117.68 ETC 276.40 LVI -30.93

PLANETOCENTRIC CONIC

C3 24.505 VHL 4.950 DLA -42.51 RAL 345.67 RAD 6644.8 VEL 12.020 PTH 7.01 VHP 5.204 DPA -3.71 RAP 307.47 ECC 1.4033
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 47 29 2209.73 7.16 54.23 215.98 137.16 22 24 18 1209.7 24.86 37.02
56.83 0 29 14 1793.90 21.86 30.12 229.70 127.42 0 59 8 793.9 35.15 7.13
56.83 0 29 14 1793.90 21.86 30.12 229.70 127.42 0 59 8 793.9 35.15 7.13
56.83 0 29 14 1793.90 21.86 30.12 229.70 127.42 0 59 8 793.9 35.15 7.13
56.83 0 29 14 1793.90 21.86 30.12 229.70 127.42 0 59 8 793.9 35.15 7.13
56.83 0 29 14 1793.90 21.86 30.12 229.70 127.42 0 59 8 793.9 35.15 7.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9878 TRA-1.1566 TC3 -.0332 BAU .2010 SGT 2146.3 SGR 1465.0 SG3 763.0 ST 63.3 SR 34.7 SS 76.1
RDE -.5133 RRA -.7603 RC3 .6127 FAU .09126 RRT .8993 RRF -.9871 RTF -.8947 CRT .9949 CRS .9738 CST .9455
FDE 2.0944 FRA 5.0118 FC3-3.2242 BSP 4523 SGB 2598.6 R23 -.2897 R13 -.9438 LSA 103.6 MSA 16.2 SSA .6
BDE 1.1133 BRA 1.3842 BC3 .6136 FSP 1238 SG1 2541.7 SG2 541.2 THA 33.24 EL1 72.1 EL2 3.1 ALF 28.65

LAUNCH DATE MAR 28 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 467.715

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.592 GAL -4.81 AZL 95.03 HCA 161.12 SMA 185.50 ECC .21169 INC 5.0297 V1 29.843
RP 207.08 LAP -1.63 LOP 347.86 VP 23.798 GAP 10.26 AZP 85.24 TAL 331.88 TAP 133.00 RCA 146.23 APO 224.76 V2 26.449
RC 76.180 GL -34.84 GP 18.06 ZAL 130.34 ZAP 137.31 ETS 158.94 ZAE 158.63 EYE 105.23 ZAC 119.13 ETC 276.40 LVI -32.14

PLANETOCENTRIC CONIC

C3 24.839 VHL 4.984 DLA -43.91 RAL 346.89 RAD 6644.9 VEL 12.034 PTH 7.02 VHP 5.109 DPA -2.41 RAP 306.82 ECC 1.4088
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 11 12 2158.46 9.71 52.04 219.52 136.81 22 47 11 1158.5 27.16 34.32
54.89 0 26 15 1818.27 22.33 32.69 231.62 128.85 0 56 34 818.3 36.12 9.90
54.89 0 26 15 1818.27 22.33 32.69 231.62 128.85 0 56 34 818.3 36.12 9.90
54.89 0 26 15 1818.27 22.33 32.69 231.62 128.85 0 56 34 818.3 36.12 9.90
54.89 0 26 15 1818.27 22.33 32.69 231.62 128.85 0 56 34 818.3 36.12 9.90
54.89 0 26 15 1818.27 22.33 32.69 231.62 128.85 0 56 34 818.3 36.12 9.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0054 TRA-1.0926 TC3 -.0461 BAU .2184 SGT 2092.4 SGR 1621.8 SG3 792.2 ST 63.4 SR 37.8 SS 78.7
RDE -.5563 RRA -.8392 RC3 .6559 FAU .09398 RRT .8971 RRF -.9905 RTF -.8504 CRT .9904 CRS .9806 CST .9448
FDE 2.2502 FRA 5.1184 FC3-3.2754 BSP 4599 SGB 2647.3 R23 -.2792 R13 -.9503 LSA 106.6 MSA 16.6 SSA .5
BDE 1.1490 BRA 1.3777 BC3 .6576 FSP 1292 SG1 2582.9 SG2 580.4 THA 36.99 EL1 73.7 EL2 4.5 ALF 30.66

LAUNCH DATE MAR 28 1971

FLIGHT TIME 186.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 471.729

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.562 GAL -4.76 AZL 95.31 HCA 162.38 SMA 184.99 ECC .20932 INC 5.3122 V1 29.843
RP 207.17 LAP -1.61 LOP 349.12 VP 23.745 GAP 9.95 AZP 84.94 TAL 331.91 TAP 134.30 RCA 146.27 APO 223.71 V2 26.439
RC 77.718 GL -36.64 GP 19.65 ZAL 129.39 ZAP 135.29 ETS 158.48 ZAE 157.01 ETE 106.44 ZAC 120.75 ETC 276.41 LVI -33.49

PLANETOCENTRIC CONIC

C3 25.345 VHL 5.034 DLA -45.41 RAL 348.29 RAD 6645.1 VEL 12.055 PTH 7.04 VHP 5.028 DPA -.95 RAP 306.09 ECC 1.4171
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 42 14 2093.30 12.93 49.19 224.19 136.20 23 17 7 1093.3 30.00 30.71
52.85 0 24 6 1843.55 22.74 35.37 233.87 130.44 0 54 49 843.5 37.10 12.84
52.85 0 24 6 1843.55 22.74 35.37 233.87 130.44 0 54 49 843.5 37.10 12.84
52.85 0 24 6 1843.55 22.74 35.37 233.87 130.44 0 54 49 843.5 37.10 12.84
52.85 0 24 6 1843.55 22.74 35.37 233.87 130.44 0 54 49 843.5 37.10 12.84
52.85 0 24 6 1843.55 22.74 35.37 233.87 130.44 0 54 49 843.5 37.10 12.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0271 TRA-1.0227 TC3 -.0604 BAU .2383 SGT 2029.7 SGR 1800.1 SG3 818.1 ST 63.5 SR 41.5 SS 81.4
RDE -.6130 RRA -.9264 RC3 .7006 FAU .09639 RRT .8931 RRF -.9930 RTF -.8848 CRT .9850 CRS .9861 CST .9430
FDE 2.4299 FRA 5.1978 FC3-3.2925 BSP 4697 SGB 2712.9 R23 -.2630 R13 -.9576 LSA 110.0 MSA 17.0 SSA .5
BDE 1.1961 BRA 1.3800 BC3 .7032 FSP 1341 SG1 2640.6 SG2 622.3 THA 41.16 EL1 75.7 EL2 6.0 ALF 33.03

LAUNCH DATE MAR 28 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -.00 LOL 186.67 VL 32.534 GAL -4.71 AZL 95.64 HCA 163.64 SMA 184.91 ECC .20711 INC 5.6361 V1 29.843
RP 207.28 LAP -1.56 LOP 350.39 VP 23.694 GAP 9.65 AZP 84.59 TAL 331.95 TAP 135.59 RCA 146.30 APO 222.73 V2 26.428
RC 79.295 GL -38.59 GP 21.45 ZAL 126.32 ZAP 133.14 ETS 158.00 ZAE 155.15 ETE 107.61 ZAC 122.58 ETC 276.43 LVI -34.99

PLANETOCENTRIC CONIC

C3 26.061 VHL 5.105 DLA -47.02 RAL 349.92 RAD 6645.4 VEL 12.084 PTH 7.06 VHP 4.963 DPA .70 RAP 305.26 ECC 1.4289
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 23 31 38 1988.42 18.02 44.44 231.38 134.81 24 4 47 988.4 34.31 24.41
50.72 0 22 52 1870.12 23.08 38.20 236.51 132.18 0 54 2 870.1 38.05 16.02
50.72 0 22 52 1870.12 23.08 38.20 236.51 132.18 0 54 2 870.1 38.05 16.02
50.72 0 22 52 1870.12 23.08 38.20 236.51 132.18 0 54 2 870.1 38.05 16.02
50.72 0 22 52 1870.12 23.08 38.20 236.51 132.18 0 54 2 870.1 38.05 16.02
50.72 0 22 52 1870.12 23.08 38.20 236.51 132.18 0 54 2 870.1 38.05 16.02
50.72 0 22 52 1870.12 23.08 38.20 236.51 132.18 0 54 2 870.1 38.05 16.02

DIFFERENTIAL CORRECTIONS

TDE-1.0417 TRA -.9348 TC3 -.0573 BAU .2634
RDE -.6831 RRA-1.0173 RC3 .7538 FAU .09944
FDE 2.6138 FRA 5.2159 FC3-3.3034 BSP 4676
BDE 1.2457 BRA 1.3816 BC3 .7560 FSP 1358

MID-COURSE EXECUTION ACCURACY

SGT 1933.7 SGR 1996.4 SG3 836.5
RRT .8883 RRF -.9949 RTF -.8787
SGB 2779.3 R23 -.2379 R13 -.9661
SG1 2700.7 SG2 656.4 THA 46.03

ORBIT DETERMINATION ACCURACY

ST 62.9 SR 45.8 SS 83.7
CRT .9789 CRS .9902 CST .9409
LSA 113.0 MSA 17.3 SSA .4
EL1 77.4 EL2 7.6 ALF 35.93

LAUNCH DATE MAR 28 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -.00 LOL 186.67 VL 32.507 GAL -4.66 AZL 96.01 HCA 164.90 SMA 184.08 ECC .20506 INC 6.0121 V1 29.843
RP 207.37 LAP -1.56 LOP 351.65 VP 23.644 GAP 9.36 AZP 84.19 TAL 331.97 TAP 136.87 RCA 146.33 APO 221.82 V2 26.415
RC 80.909 GL -40.73 GP 23.47 ZAL 127.13 ZAP 130.87 ETS 157.51 ZAE 153.05 ETE 108.71 ZAC 124.65 ETC 276.45 LVI -36.68

PLANETOCENTRIC CONIC

C3 27.051 VHL 5.201 DLA -48.75 RAL 351.84 RAD 6645.8 VEL 12.125 PTH 7.10 VHP 4.919 DPA 2.56 RAP 304.32 ECC 1.4452
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47
48.48 0 22 49 1898.38 23.32 41.19 239.60 134.10 0 54 27 898.4 38.97 19.47

DIFFERENTIAL CORRECTIONS

TDE-1.0856 TRA -.8635 TC3 -.0923 BAU .2893
RDE -.7866 RRA-1.1256 RC3 .7946 FAU .10037
FDE 2.8649 FRA 5.2185 FC3-3.2123 BSP 4986
BDE 1.3406 BRA 1.4187 BC3 .7999 FSP 1401

MID-COURSE EXECUTION ACCURACY

SGT 1876.3 SGR 2229.4 SG3 851.5
RRT .8773 RRF -.9963 RTF -.8669
SGB 2913.9 R23 -.2162 R13 -.9727
SG1 2825.9 SG2 710.5 THA 50.59

ORBIT DETERMINATION ACCURACY

ST 63.6 SR 51.7 SS 87.1
CRT .9734 CRS .9934 CST .9408
LSA 118.3 MSA 17.3 SSA .4
EL1 81.4 EL2 9.3 ALF 38.96

LAUNCH DATE MAR 28 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -.00 LOL 186.67 VL 32.485 GAL -4.63 AZL 96.45 HCA 166.15 SMA 183.67 ECC .20315 INC 6.4543 V1 29.843
RP 207.48 LAP -1.54 LOP 352.91 VP 23.595 GAP 9.08 AZP 83.73 TAL 331.99 TAP 138.14 RCA 146.36 APO 220.98 V2 26.402
RC 82.560 GL -43.08 GP 25.77 ZAL 125.77 ZAP 128.45 ETS 157.01 ZAE 150.64 ETE 109.74 ZAC 127.00 ETC 276.48 LVI -38.57

PLANETOCENTRIC CONIC

C3 28.395 VHL 5.329 DLA -50.59 RAL 354.12 RAD 6646.4 VEL 12.180 PTH 7.14 VHP 4.900 DPA 4.67 RAP 303.27 ECC 1.4673
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25
46.13 0 24 18 1928.74 23.42 44.36 243.26 136.23 0 56 24 928.7 39.81 23.25

DIFFERENTIAL CORRECTIONS

TDE-1.1242 TRA -.7718 TC3 -.1089 BAU .3211
RDE -.9229 RRA-1.2395 RC3 .8389 FAU .10119
FDE 3.1406 FRA 5.1395 FC3-3.0852 BSP 5206
BDE 1.4545 BRA 1.4601 BC3 .8459 FSP 1411

MID-COURSE EXECUTION ACCURACY

SGT 1784.1 SGR 2488.2 SG3 855.3
RRT .8650 RRF -.9973 RTF -.8338
SGB 3061.7 R23 -.1870 R13 -.9798
SG1 2968.3 SG2 750.5 THA 55.69

ORBIT DETERMINATION ACCURACY

ST 63.5 SR 58.8 SS 90.4
CRT .9681 CRS .9957 CST .9409
LSA 123.9 MSA 17.9 SSA .3
EL1 85.9 EL2 10.9 ALF 42.70

LAUNCH DATE MAR 28 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -.00 LOL 186.67 VL 32.480 GAL -4.59 AZL 96.98 HCA 167.41 SMA 183.29 ECC .20138 INC 6.9821 V1 29.843
RP 207.80 LAP -1.32 LOP 354.17 VP 23.548 GAP 8.79 AZP 83.18 TAL 331.99 TAP 139.40 RCA 146.38 APO 220.20 V2 26.388
RC 84.247 GL -45.68 GP 28.38 ZAL 124.24 ZAP 125.86 ETS 156.33 ZAE 147.91 ETE 110.68 ZAC 129.66 ETC 276.54 LVI -40.70

PLANETOCENTRIC CONIC

C3 30.225 VHL 5.498 DLA -52.57 RAL 356.90 RAD 6647.1 VEL 12.254 PTH 7.20 VHP 4.913 DPA 7.07 RAP 302.09 ECC 1.4974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39
43.65 0 27 42 1961.82 23.31 47.72 247.62 138.56 1 0 24 961.8 40.51 27.39

DIFFERENTIAL CORRECTIONS

TDE-1.1724 TRA -.8723 TC3 -.1270 BAU .3585
RDE -1.1138 RRA-1.3630 RC3 .8780 FAU .10087
FDE 3.4664 FRA 4.9799 FC3-2.8892 BSP 5517
BDE 1.6172 BRA 1.5198 BC3 .8871 FSP 1403

MID-COURSE EXECUTION ACCURACY

SGT 1689.5 SGR 2782.2 SG3 846.7
RRT .8481 RRF -.9981 RTF -.8361
SGB 3253.0 R23 -.1570 R13 -.9858
SG1 3156.3 SG2 787.2 THA 60.82

ORBIT DETERMINATION ACCURACY

ST 63.5 SR 67.8 SS 94.0
CRT .9641 CRS .9973 CST .9421
LSA 130.9 MSA 18.0 SSA .3
EL1 92.1 EL2 12.4 ALF 46.96

LAUNCH DATE MAR 28 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

DISTANCE 492.003

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.439 GAL -4.56 AZL 97.62 HCA 168.66 SMA 182.94 ECC .19974 INC 7.6235 V1 29.843
 RP 207.73 LAP -1.50 LOP 355.42 VP 23.502 GAP 8.52 AZP 82.52 TAL 332.00 TAP 140.65 RCA 146.40 APO 219.48 V2 26.373
 RC 85.969 GL -48.58 GP 31.35 ZAL 122.49 ZAP 123.08 ETS 156.10 ZAE 144.81 ETE 111.55 ZAC 132.69 ETC 276.62 LVI -43.09

PLANETOCENTRIC CONIC

C3 32.741 VHL 5.722 DLA -54.66 RAL .32 RAD 6648.1 VEL 12.355 PTH 7.28 VHP 4.969 DPA 9.82 RAP 300.75 ECC 1.5388
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.06 0 33 49 1998.44 22.92 51.28 252.86 141.10 1 7 7 998.4 40.99 31.94
 41.06 0 33 49 1998.44 22.92 51.28 252.86 141.10 1 7 7 998.4 40.99 31.94
 41.06 0 33 49 1998.44 22.92 51.28 252.86 141.10 1 7 7 998.4 40.99 31.94
 41.06 0 33 49 1998.44 22.92 51.28 252.86 141.10 1 7 7 998.4 40.99 31.94
 41.06 0 33 49 1998.44 22.92 51.28 252.86 141.10 1 7 7 998.4 40.99 31.94
 41.06 0 33 49 1998.44 22.92 51.28 252.86 141.10 1 7 7 998.4 40.99 31.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2278 TRA -.5601 TC3 -.1425 BAU .4033 SGT 1574.2 SGR 3112.2 SG3 821.5 ST 63.2 SR 79.5 SS 97.9
 RDE-1.3855 RRA-1.4925 RC3 .9102 FAU .09925 RRT .8248 RRF -.9986 RTF -.8119 CRT .9616 CRS .8984 CST .9444
 FDE 3.8425 FRA 4.7136 FC3-2.6244 BSP 5896 SGB 3487.7 R23 -.1279 R13 -.9906 LSA 139.9 MSA 17.8 SSA .2
 BDE 1.8513 BRA 1.5942 BC3 .9213 FSP 1367 SG1 3390.6 SG2 817.0 THA 65.86 EL1 100.6 EL2 13.7 ALF 51.77

LAUNCH DATE MAR 28 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 496.089

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.419 GAL -4.53 AZL 98.42 HCA 169.90 SMA 182.62 ECC .19824 INC 8.4203 V1 29.843
 RP 207.86 LAP -1.47 LOP 356.68 VP 23.456 GAP 8.25 AZP 81.71 TAL 331.99 TAP 141.89 RCA 146.42 APO 218.82 V2 26.357
 RC 87.725 GL -51.79 GP 34.73 ZAL 120.49 ZAP 120.08 ETS 155.75 ZAE 141.30 ETE 112.38 ZAC 136.14 ETC 276.75 LVI -45.75

PLANETOCENTRIC CONIC

C3 36.275 VHL 6.023 DLA -58.85 RAL 4.64 RAD 6649.4 VEL 12.497 PTH 7.38 VHP 5.086 DPA 12.94 RAP 299.24 ECC 1.5970
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 38.39 0 43 40 2039.62 22.15 54.99 259.21 143.81 1 17 39 1039.6 41.12 36.90
 38.39 0 43 40 2039.62 22.15 54.99 259.21 143.81 1 17 39 1039.6 41.12 36.90
 38.39 0 43 40 2039.62 22.15 54.99 259.21 143.81 1 17 39 1039.6 41.12 36.90
 38.39 0 43 40 2039.62 22.15 54.99 259.21 143.81 1 17 39 1039.6 41.12 36.90
 38.39 0 43 40 2039.62 22.15 54.99 259.21 143.81 1 17 39 1039.6 41.12 36.90
 38.39 0 43 40 2039.62 22.15 54.99 259.21 143.81 1 17 39 1039.6 41.12 36.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.2889 TRA -.4333 TC3 -.1554 BAU .4572 SGT 1451.4 SGR 3481.6 SG3 776.0 ST 62.3 SR 94.9 SS 102.1
 RDE-1.7843 RRA-1.6245 RC3 .9299 FAU .09579 RRT .7919 RRF -.9989 RTF -.7775 CRT .9606 CRS .9990 CST .9475
 FDE 4.2700 FRA 4.3240 FC3-2.2861 BSP 6368 SGB 3772.0 R23 -.1017 R13 -.9940 LSA 151.7 MSA 17.5 SSA .2
 BDE 2.2011 BRA 1.6813 BC3 .9428 FSP 1297 SG1 3677.5 SG2 839.1 THA 70.69 EL1 112.6 EL2 14.6 ALF 57.12

LAUNCH DATE MAR 28 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 554.479

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.269 GAL -4.61 AZL 81.72 HCA 187.45 SMA 180.21 ECC .18886 INC 8.2769 V1 29.843
 RP 210.57 LAP -1.07 LOP 14.04 VP 22.893 GAP 4.97 AZP 98.21 TAL 330.22 TAP 157.67 RCA 146.18 APO 214.25 V2 26.044
 RC 115.380 GL 51.57 GP -47.14 ZAL 121.49 ZAP 96.28 ETS 185.58 ZAE 122.53 ETE 221.84 ZAC 55.29 ETC 272.15 LVI 33.61

PLANETOCENTRIC CONIC

C3 34.938 VHL 5.911 DLA 37.57 RAL 314.74 RAD 6648.9 VEL 12.443 PTH 7.34 VHP 5.252 DPA -68.85 RAP 313.99 ECC 1.5750
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 58 55 4089.78 -40.55 181.53 218.64 62.60 14 7 5 3089.8 -47.47 14.56
 60.00 12 17 0 4202.15 -28.19 183.38 210.45 59.91 13 27 2 3202.1 -37.94 157.01
 64.16 10 57 42 4431.11 -16.31 194.25 202.40 55.67 12 11 33 3431.1 -28.90 172.01
 64.16 10 57 42 4431.11 -16.31 194.25 202.40 55.67 12 11 33 3431.1 -28.90 172.01
 64.16 10 57 42 4431.11 -16.31 194.25 202.40 55.67 12 11 33 3431.1 -28.90 172.01
 64.16 10 57 42 4431.11 -16.31 194.25 202.40 55.67 12 11 33 3431.1 -28.90 172.01
 64.16 10 57 42 4431.11 -16.31 194.25 202.40 55.67 12 11 33 3431.1 -28.90 172.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5079 TRA .6363 TC3 -.8743 BAU .7351 SGT 1952.0 SGR 5392.1 SG3 680.3 ST 74.0 SR 163.3 SS 105.3
 RDE 3.1084 RRA 3.4308 RC3-1.3087 FAU .08576 RRT .8805 RRF .9993 RTF .8245 CRT .9720 CRS -.9999 CST -.9693
 FDE 4.3979 FRA 5.0076 FC3-2.1251 BSP 9705 SGB 5734.5 R23 .0412 R13 .9985 LSA 207.3 MSA 16.8 SSA .2
 BDE 3.4548 BRA 3.4891 BC3 1.5739 FSP 1192 SG1 5666.6 SG2 880.4 THA 71.87 EL1 178.6 EL2 15.9 ALF 86.02

LAUNCH DATE MAR 28 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 558.639

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.265 GAL -4.63 AZL 83.09 HCA 188.65 SMA 180.18 ECC .18879 INC 6.9067 V1 29.843
 RP 210.82 LAP -1.04 LOP 15.26 VP 22.835 GAP 4.75 AZP 96.83 TAL 330.06 TAP 158.71 RCA 146.15 APO 214.17 V2 26.015
 RC 117.545 GL 45.98 GP -43.67 ZAL 125.19 ZAP 95.37 ETS 183.98 ZAE 123.86 ETE 218.53 ZAC 58.78 ETC 271.92 LVI 30.67

PLANETOCENTRIC CONIC

C3 28.927 VHL 5.376 DLA 32.20 RAL 316.87 RAD 6648.6 VEL 12.201 PTH 7.16 VHP 4.797 DPA -65.78 RAP 309.63 ECC 1.4761
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 45 26 3903.14 -45.32 166.18 214.17 73.63 14 50 29 2903.1 -46.74 131.16
 60.00 13 33 53 3933.95 -35.94 164.94 210.17 70.39 14 39 27 2933.9 -40.30 134.73
 70.00 13 5 27 4018.10 -25.06 166.68 205.12 66.00 14 12 25 3018.1 -32.66 140.63
 73.91 12 3 14 4210.82 -15.77 176.59 200.25 61.55 13 13 25 3210.8 -26.11 153.40
 73.91 12 3 14 4210.82 -15.77 176.59 200.25 61.55 13 13 25 3210.8 -26.11 153.40
 73.91 12 3 14 4210.82 -15.77 176.59 200.25 61.55 13 13 25 3210.8 -26.11 153.40
 110.00 18 4 54 3064.92 -25.06 95.59 205.12 66.00 18 55 59 2064.9 -32.66 69.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3760 TRA .7813 TC3-1.0911 BAU .6903 SGT 2119.9 SGR 5112.1 SG3 841.9 ST 74.8 SR 149.4 SS 114.1
 RDE 2.5623 RRA 3.2140 RC3-1.4128 FAU .09910 RRT .9011 RRF .9993 RTF .9039 CRT .9759 CRS -.9999 CST -.9721
 FDE 4.6854 FRA 6.1452 FC3-2.9660 BSP 9332 SGB 5534.2 R23 .0524 R13 .9980 LSA 201.7 MSA 15.7 SSA .2
 BDE 2.9084 BRA 3.3076 BC3 1.7851 FSP 1475 SG1 5467.0 SG2 859.6 THA 68.97 EL1 166.4 EL2 14.6 ALF 63.74

LAUNCH DATE MAR 28 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

DISTANCE 562.805

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.262 GAL -4.66 AZL 84.13 HCA 189.86 SMA 180.11 ECC .18879 INC 5.8724 V1 28.843
RP 211.07 LAP -.00 LOP 16.48 VP 22.818 GAP 4.54 AZP 95.79 TAL 329.87 TAP 159.74 RCA 146.11 APO 214.11 V2 25.988
RC 119.734 GL 41.01 GP -40.52 ZAL 128.40 ZAP 94.17 ETS 182.42 ZAE 124.67 ETE 215.15 ZAC 61.94 ETC 271.68 LVI 28.06

PLANETOCENTRIC CONIC

C3 25.142 VHL 5.014 DLA 27.47 RAL 318.72 RAD 6645.1 VEL 12.046 PTH 7.03 VHP 4.472 DPA -62.97 RAP 306.13 ECC 1.4138
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 19 48 3757.63 -47.27 152.71 208.71 83.84 15 22 26 2757.6 -44.15 118.12
60.00 14 21 43 3752.53 -39.16 150.64 207.09 79.61 15 24 15 2752.5 -39.16 119.47
70.00 14 25 12 3742.25 -31.31 147.69 204.98 75.60 15 27 34 2742.2 -34.11 119.32
80.00 14 34 4 3714.40 -24.10 143.21 202.60 71.82 15 35 58 2714.4 -29.37 117.03
90.00 15 14 49 3582.66 -19.99 131.99 201.05 69.57 16 14 31 2582.7 -26.64 106.94
100.00 17 16 56 3188.88 -24.10 104.58 202.60 71.82 18 10 4 2188.9 -29.37 78.40
110.00 19 24 38 2789.07 -31.31 76.61 204.98 75.60 20 11 7 1789.1 -34.11 48.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2960 TRA .9367 TC3-1.3065 BAU .8604 SGT 2316.3 SGR 4837.3 SG3 989.0 ST 76.2 SR 137.1 SS 120.3
RDE 2.1729 RRA 3.0141 RC3-1.4672 FAU .11037 RRT .9182 RRF .9992 RTF .9202 CRT .9803 CRS -.9997 CST -.9755
FDE 4.8779 FRA 7.1762 FC3-3.8004 BSP 9064 SGB 5363.3 R23 .0645 R13 .9972 LSA 197.2 MSA 14.8 SSA .3
BDE 2.5301 BRA 3.1563 BC3 1.9646 FSP 1745 SG1 5297.4 SG2 837.9 THA 65.62 EL1 156.4 EL2 13.2 ALF 61.18

LAUNCH DATE MAR 28 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

DISTANCE 566.976

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.260 GAL -4.69 AZL 84.94 HCA 191.07 SMA 180.07 ECC .18887 INC 5.0634 V1 29.843
RP 211.33 LAP -.97 LOP 17.69 VP 22.781 GAP 4.33 AZP 94.97 TAL 329.68 TAP 160.74 RCA 146.06 APO 214.08 V2 25.957
RC 121.945 GL 36.60 GP -37.70 ZAL 131.15 ZAP 92.76 ETS 181.00 ZAE 125.01 ETE 211.83 ZAC 64.80 ETC 271.44 LVI 25.74

PLANETOCENTRIC CONIC

C3 22.649 VHL 4.759 DLA 23.31 RAL 320.34 RAD 6644.0 VEL 11.943 PTH 6.95 VHP 4.234 DPA -60.42 RAP 303.22 ECC 1.3727
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 48 56 3640.12 -47.52 141.38 203.68 92.55 15 47 36 2640.1 -40.98 108.63
60.00 14 57 12 3612.75 -40.24 138.92 203.69 87.49 15 57 25 2612.7 -36.84 108.33
70.00 15 13 57 3563.40 -33.56 134.25 203.01 83.24 16 13 20 2563.4 -32.85 105.53
80.00 15 45 28 3464.53 -28.28 125.86 202.10 80.00 16 43 13 2464.5 -29.61 98.51
90.00 16 48 39 3260.52 -26.08 110.40 201.64 78.66 17 43 0 2260.5 -28.23 83.80
100.00 18 28 20 2939.00 -28.28 87.22 202.10 80.00 19 17 19 1939.0 -29.61 59.88
110.00 20 13 23 2610.22 -33.56 63.17 203.01 83.24 20 56 54 1610.2 -32.85 34.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2441 TRA 1.0936 TC3-1.5212 BAU .6456 SGT 2528.8 SGR 4583.5 SG3 1117.7 ST 77.9 SR 126.0 SS 124.3
RDE 1.8785 RRA 2.8222 RC3-1.4942 FAU .12072 RRT .9316 RRF .9991 RTF .9331 CRT .9844 CRS -.9995 CST -.9787
FDE 4.9883 FRA 8.0721 FC3-4.6146 BSP 8758 SGB 5217.3 R23 .0773 R13 .9961 LSA 192.9 MSA 13.9 SSA .4
BDE 2.2531 BRA 3.0266 BC3 2.1323 FSP 1970 SG1 5153.4 SG2 814.2 THA 61.93 EL1 147.7 EL2 11.7 ALF 58.43

LAUNCH DATE MAR 28 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

DISTANCE 571.150

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.259 GAL -4.72 AZL 85.59 HCA 192.27 SMA 180.05 ECC .18901 INC 4.4132 V1 29.843
RP 211.80 LAP -.94 LOP 18.91 VP 22.745 GAP 4.13 AZP 94.31 TAL 329.46 TAP 161.74 RCA 146.02 APO 214.08 V2 25.926
RC 124.177 GL 32.71 GP -35.15 ZAL 133.49 ZAP 91.19 ETS 179.72 ZAE 124.94 ETE 208.66 ZAC 67.37 ETC 271.21 LVI 23.68

PLANETOCENTRIC CONIC

C3 20.955 VHL 4.578 DLA 19.66 RAL 321.78 RAD 6643.3 VEL 11.873 PTH 6.89 VHP 4.056 DPA -58.12 RAP 300.74 ECC 1.3449
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 9 10 3943.35 -46.82 132.14 199.62 93.63 16 8 14 2543.4 -37.77 101.58
60.00 15 25 23 3900.16 -40.14 129.35 200.72 93.97 16 23 44 2500.2 -34.18 99.97
70.00 15 50 15 3426.94 -34.15 123.65 200.94 89.47 16 47 22 2426.9 -30.80 95.44
80.00 16 31 46 3298.79 -29.65 113.59 200.75 86.30 17 26 43 2298.8 -28.17 86.27
90.00 17 40 45 3074.11 -27.88 97.08 200.60 85.08 18 31 59 2074.1 -27.12 70.10
100.00 19 14 38 2771.27 -29.65 74.96 200.73 86.30 20 0 49 1771.3 -28.17 47.63
110.00 20 49 42 2473.76 -34.15 52.57 200.94 89.47 21 30 55 1473.8 -30.80 24.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2137 TRA 1.2534 TC3-1.7270 BAU .6389 SGT 2753.7 SGR 4300.3 SG3 1228.7 ST 80.0 SR 116.2 SS 126.9
RDE 1.6538 RRA 2.8440 RC3-1.4894 FAU .12945 RRT .9420 RRF .9989 RTF .532 CRT .9882 CRS -.9993 CST -.9818
FDE 5.0521 FRA 8.8472 FC3-5.3481 BSP 8529 SGB 5106.5 R23 .0901 R13 .9949 LSA 189.3 MSA 13.0 SSA .4
BDE 2.0513 BRA 2.9261 BC3 2.2803 FSP 2168 SG1 5045.3 SG2 788.0 THA 58.03 EL1 140.7 EL2 10.1 ALF 55.58

LAUNCH DATE MAR 28 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC

DISTANCE 575.325

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.258 GAL -4.76 AZL 86.12 HCA 193.48 SMA 180.03 ECC .18923 INC 3.8792 V1 29.843
RP 211.87 LAP -.90 LOP 20.12 VP 22.708 GAP 3.93 AZP 93.77 TAL 329.24 TAP 162.71 RCA 145.97 APO 214.10 V2 25.896
RC 128.431 GL 29.27 GP -32.86 ZAL 135.49 ZAP 89.51 ETS 178.57 ZAE 124.55 ETE 205.70 ZAC 69.68 ETC 270.98 LVI 21.88

PLANETOCENTRIC CONIC

C3 19.782 VHL 4.448 DLA 16.44 RAL 323.07 RAD 6642.7 VEL 11.823 PTH 6.84 VHP 3.920 DPA -56.04 RAP 298.57 ECC 1.3256
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 27 54 3462.58 -45.64 124.71 196.55 105.25 16 25 36 2462.6 -34.77 96.21
60.00 15 48 40 3407.30 -39.41 121.57 198.38 99.21 16 45 27 2407.3 -31.54 93.51
70.00 16 19 16 3317.21 -33.89 115.10 199.21 94.52 17 14 33 2317.2 -28.53 87.70
80.00 17 7 0 3167.62 -29.83 104.00 199.45 91.33 17 59 48 2167.6 -26.25 77.15
90.00 18 19 8 2934.78 -28.28 86.92 199.47 90.15 19 8 3 1934.8 -25.37 60.28
100.00 19 49 52 2642.09 -29.83 65.37 199.45 91.33 20 33 54 1642.1 -26.25 38.52
110.00 21 18 42 2364.03 -33.89 44.02 199.21 94.52 21 58 6 1364.0 -28.53 16.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1997 TRA 1.4162 TC3-1.9208 BAU .6378 SGT 2987.6 SGR 4052.7 SG3 1323.4 ST 82.4 SR 107.7 SS 128.7
RDE 1.4805 RRA 2.4808 RC3-1.4587 FAU .13650 RRT .9500 RRF .9987 RTF .9512 CRT .9916 CRS -.9989 CST -.9846
FDE 5.0919 FRA 9.5158 FC3-5.9738 BSP 8388 SGB 5034.8 R23 .1022 R13 .9935 LSA 186.5 MSA 12.2 SSA .5
BDE 1.9055 BRA 2.8566 BC3 2.4118 FSP 2344 SG1 4977.2 SG2 759.3 THA 54.03 EL1 135.3 EL2 8.5 ALF 52.63

LAUNCH DATE MAR 28 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC

DISTANCE 579.504

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.257 GAL -4.80 AZL 86.57 HCA 194.68 SMA 180.03 ECC .18990 INC 3.4324 V1 29.843
 RP 212.14 LAP -.87 LOP 21.32 VP 22.671 GAP 3.72 AZP 93.32 TAL 329.00 TAP 163.68 RCA 145.91 APO 214.14 V2 25.884
 RC 128.706 GL 26.23 GP -30.80 ZAL 137.19 ZAP 87.76 ETS 177.55 ZAE 123.88 ETE 202.97 ZAC 71.77 ETC 270.77 LVI 20.28

PLANETOCENTRIC CONIC

C3 18.961 VHL 4.354 DLA 13.81 RAL 324.23 RAD 6642.4 VEL 11.789 PTH 6.81 VHP 3.818 DPA -54.16 RAP 296.65 ECC 1.3120
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 58 3394.48 -44.24 118.75 194.32 109.66 16 40 32 2394.5 -32.04 92.00
 60.00 16 8 22 3329.51 -38.37 115.22 196.64 103.40 17 3 51 2329.5 -29.07 88.42
 70.00 16 43 21 3226.52 -33.18 108.12 197.88 98.59 17 37 8 2226.5 -26.31 81.59
 80.00 17 35 32 3083.04 -29.41 98.26 198.42 95.38 18 28 35 2083.0 -24.24 70.04
 90.00 18 49 47 2823.39 -27.99 78.79 198.56 94.21 19 38 50 1823.4 -23.45 52.69
 100.00 20 18 24 2537.51 -29.41 57.63 198.42 95.38 21 0 41 1537.5 -24.24 31.40
 110.00 21 42 48 2273.34 -33.18 37.04 197.88 98.59 22 20 41 1273.3 -26.31 10.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.1968 TRA 1.5791 TC3-2.1014 BAU .6446 SGT 3224.7 SGR 3806.7 SG3 1398.5 ST 85.0 SR 99.5 SS 128.8
 RDE 1.3324 RRA 2.3196 RC3-1.4318 FAU .14405 RRT .9577 RRF .9984 RTF .9588 CRT .9943 CR3 -.9984 C8T -.9888
 PDE 9.0867 FRA10.0399 FC3-8.5774 B8P 8207 SGB 4988.9 R23 .1121 R13 .9921 LSA 183.3 M8A 11.5 S8A .6
 BDE 1.7908 BRA 2.8061 BC3 2.5428 F8P 2448 SG1 4937.4 SG2 715.4 THA 49.94 EL1 130.7 EL2 6.9 ALF 48.51

LAUNCH DATE MAR 28 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

DISTANCE 583.679

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.257 GAL -4.84 AZL 86.95 HCA 195.88 SMA 180.03 ECC .18984 INC 3.0527 V1 29.843
 RP 212.43 LAP -.83 LOP 22.52 VP 22.635 GAP 3.53 AZP 92.94 TAL 328.75 TAP 164.63 RCA 145.85 APO 214.21 V2 25.832
 RC 130.999 GL 23.52 GP -28.93 ZAL 138.65 ZAP 85.97 ETS 176.65 ZAE 123.00 ETE 200.48 ZAC 73.68 ETC 270.57 LVI 18.83

PLANETOCENTRIC CONIC

C3 18.392 VHL 4.289 DLA 11.12 RAL 325.30 RAD 6642.1 VEL 11.765 PTH 6.79 VHP 3.736 DPA -52.45 RAP 294.94 ECC 1.3027
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 58 3336.56 -42.80 113.93 192.77 113.15 16 53 34 2336.6 -29.60 88.84
 60.00 16 25 22 3263.62 -37.20 110.01 195.42 106.76 17 19 46 2263.6 -26.80 84.31
 70.00 17 3 53 3150.29 -32.26 102.37 196.96 101.88 17 56 24 2150.3 -24.22 76.63
 80.00 17 59 29 2978.11 -28.89 89.91 197.71 98.65 18 49 5 1978.1 -22.29 64.31
 90.00 18 15 19 2731.39 -27.35 72.13 197.92 97.48 20 0 50 1731.4 -21.56 46.61
 100.00 20 42 21 2450.58 -28.69 51.27 197.71 98.65 21 23 12 1450.6 -22.29 25.68
 110.00 22 3 20 2197.11 -32.26 31.28 196.96 101.88 22 39 57 1197.1 -24.22 5.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2032 TRA 1.7446 TC3-2.2719 BAU .6500 SGT 3467.6 SGR 3596.8 SG3 1466.6 ST 88.0 SR 93.8 SS 130.4
 RDE 1.2312 RRA 2.1898 RC3-1.3517 FAU .14649 RRT .9609 RRF .9980 RTF .9623 CRT .9986 CR3 -.9979 C8T -.9893
 PDE 5.1114 FRA10.5548 FC3-8.8956 B8P 8291 SGB 4986.1 R23 .1226 R13 .9905 LSA 182.7 M8A 10.8 S8A .7
 BDE 1.7219 BRA 2.7998 BC3 2.8436 F8P 2618 SG1 4947.2 SG2 697.9 THA 46.09 EL1 128.4 EL2 5.3 ALF 46.79

LAUNCH DATE MAR 28 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

DISTANCE 587.855

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.258 GAL -4.89 AZL 87.27 HCA 197.07 SMA 180.04 ECC .19025 INC 2.7257 V1 29.843
 RP 212.72 LAP -.80 LOP 23.72 VP 22.598 GAP 3.33 AZP 92.61 TAL 328.49 TAP 165.58 RCA 145.79 APO 214.29 V2 25.799
 RC 133.312 GL 21.11 GP -27.23 ZAL 139.90 ZAP 84.15 ETS 175.86 ZAE 121.95 ETE 198.23 ZAC 75.38 ETC 270.37 LVI 17.57

PLANETOCENTRIC CONIC

C3 18.005 VHL 4.243 DLA 8.91 RAL 326.28 RAD 6641.8 VEL 11.749 PTH 6.78 VHP 3.675 DPA -50.89 RAP 293.40 ECC 1.2863
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 10 18 3287.03 -41.40 110.00 191.73 115.92 17 5 5 2287.0 -27.44 85.80
 60.00 16 40 15 3207.33 -36.01 105.71 194.62 109.47 17 33 43 2207.3 -24.77 80.94
 70.00 17 21 41 3085.42 -31.25 97.58 196.37 104.54 18 13 7 2085.4 -22.30 72.59
 80.00 18 20 3 2902.80 -27.82 84.62 197.27 101.30 19 8 26 1902.6 -20.47 59.61
 90.00 18 57 8 2653.86 -26.54 68.61 197.54 100.14 20 21 22 1653.9 -19.78 41.62
 100.00 21 2 55 2377.07 -27.82 48.99 197.27 101.30 21 42 32 1377.1 -20.47 20.98
 110.00 22 21 8 2132.24 -31.25 28.50 196.37 104.54 22 36 40 1132.2 -22.30 1.31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2182 TRA 1.9094 TC3-2.4317 BAU .6608 SGT 3710.3 SGR 3394.4 SG3 1519.9 ST 91.0 SR 88.2 SS 131.1
 RDE 1.1454 RRA 2.0844 RC3-1.2738 FAU .14848 RRT .9635 RRF .9975 RTF .553 CRT .9983 CR3 -.9972 C8T -.9914
 PDE 5.1295 FRA10.9884 FC3-7.1388 B8P 8373 SGB 5028.8 R23 .1315 R13 .9890 LSA 182.1 M8A 10.1 S8A .8
 BDE 1.6707 BRA 2.8120 BC3 2.7452 F8P 2750 SG1 4983.0 SG2 876.7 THA 42.36 EL1 126.7 EL2 3.7 ALF 44.08

LAUNCH DATE MAR 28 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

DISTANCE 592.032

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.259 GAL -4.94 AZL 87.56 HCA 198.27 SMA 180.06 ECC .19070 INC 2.4410 V1 29.843
 RP 213.01 LAP -.78 LOP 24.92 VP 22.562 GAP 3.13 AZP 92.32 TAL 328.21 TAP 166.48 RCA 145.72 APO 214.40 V2 25.766
 RC 135.843 GL 18.96 GP -25.88 ZAL 140.98 ZAP 82.33 ETS 175.18 ZAE 120.77 ETE 196.19 ZAC 76.94 ETC 270.19 LVI 16.42

PLANETOCENTRIC CONIC

C3 17.793 VHL 4.213 DLA 6.95 RAL 327.18 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 3.628 DPA -49.46 RAP 291.99 ECC 1.2822
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 17 3244.42 -40.08 106.77 191.07 118.15 17 15 22 2244.4 -25.53 83.63
 60.00 16 53 25 3158.91 -34.85 102.13 194.13 111.66 17 48 4 2158.9 -22.85 78.13
 70.00 17 37 20 3029.72 -30.23 93.57 196.04 108.71 18 27 30 2029.7 -20.57 69.20
 80.00 18 38 1 2839.68 -26.90 80.17 197.06 103.46 19 25 20 1839.7 -18.81 55.89
 90.00 19 56 7 2587.64 -23.66 61.96 197.38 102.30 20 39 14 1587.6 -18.14 37.46
 100.00 21 20 53 2314.19 -26.90 41.54 197.06 103.46 21 59 27 1314.2 -18.81 17.06
 110.00 22 36 46 2076.54 -30.23 22.48 196.04 108.71 23 11 23 1076.5 -20.57 358.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2339 TRA 2.0724 TC3-2.5812 BAU .6771 SGT 3950.2 SGR 3193.2 SG3 1556.8 ST 94.1 SR 82.7 SS 130.5
 RDE 1.0650 RRA 1.9363 RC3-1.2152 FAU .15191 RRT .9688 RRF .9989 RTF .9689 CRT .9993 CR3 -.9982 C8T -.9920
 PDE 5.0978 FRA11.2575 FC3-7.4081 B8P 8402 SGB 5079.5 R23 .1361 R13 .9878 LSA 180.6 M8A 9.7 S8A .9
 BDE 1.6297 BRA 2.8378 BC3 2.8329 F8P 2805 SG1 5039.0 SG2 639.0 THA 38.75 EL1 125.2 EL2 2.3 ALF 41.29

LAUNCH DATE MAR 28 1971 FLIGHT TIME 246.00 ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC DISTANCE 596.209 EARTH TO MARS
 RL 149.31 LAL -.00 LOL 186.67 VL 32.261 GAL -4.99 AZL 87.81 HCA 199.46 SMA 180.09 ECC .19122 INC 2.1910 V1 29.843
 RP 213.31 LAP -.73 LOP 26.11 VP 22.526 GAP 2.94 AZP 92.07 TAL 327.93 TAP 167.39 RCA 145.65 APO 214.53 V2 25.732
 RC 137.991 GL 17.03 GP -24.26 ZAL 141.93 ZAP 80.51 ETS 174.54 ZAE 119.46 ETE 194.37 ZAC 78.37 ETC 270.02 LVI 15.38

PLANETOCENTRIC CONIC
 C3 17.605 VHL 4.196 DLA 5.20 RAL 326.09 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 3.596 DPA -48.15 RAP 290.72 ECC 1.2897
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 9 3207.60 -38.87 104.08 190.71 119.96 17 24 36 2207.6 -23.85 81.74
 60.00 17 5 11 3117.04 -33.76 99.11 193.89 113.46 17 57 8 2117.0 -21.33 75.77
 70.00 17 31 14 2981.57 -29.24 90.17 195.93 108.50 18 40 56 1981.6 -19.01 66.34
 80.00 18 53 53 2785.36 -25.99 76.39 197.04 105.25 19 40 19 1785.4 -17.29 52.37
 90.00 20 12 51 2530.52 -24.78 58.01 197.39 104.09 20 55 2 1530.5 -16.64 33.94
 100.00 21 36 45 2239.83 -25.99 37.76 197.04 105.25 22 14 25 1259.8 -17.29 13.74
 110.00 22 50 41 2028.39 -29.24 19.09 195.93 108.50 23 24 29 1028.4 -19.01 355.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2555 TRA 2.2551 TC3-2.7201 BAU .6957 SGT 4188.3 SGR 3003.2 SG3 1582.2 ST 97.3 SR 77.7 SS 129.9
 RDE .9984 RRA 1.8198 RC3-1.1964 FAU .15477 RRT .9695 RRF .9962 RTF .9721 CRT .9998 CR8 -.9951 C8T -.9939
 FDE 9.0308 FRA11.4699 FC3-7.6108 B8P 8476 SGB 5153.7 R23 .1379 R13 .9870 L8A 179.4 M8A 9.5 S8A 1.0
 BDE 1.6028 BRA 2.8822 BC3 2.9557 B8P 2834 SGI 5118.4 S62 802.1 T8A 38.37 EL1 124.9 EL2 1.2 ALF 36.59

LAUNCH DATE MAR 28 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC DISTANCE 600.383 EARTH TO MARS
 RL 149.31 LAL -.00 LOL 186.67 VL 32.263 GAL -5.05 AZL 88.03 HCA 200.64 SMA 180.12 ECC .19179 INC 1.9694 V1 29.843
 RP 213.61 LAP -.69 LOP 27.30 VP 22.490 GAP 2.75 AZP 91.84 TAL 327.64 TAP 168.28 RCA 145.58 APO 214.67 V2 25.697
 RC 140.356 GL 15.29 GP -22.96 ZAL 142.77 ZAP 78.70 ETS 174.00 ZAE 118.13 ETE 192.74 ZAC 79.69 ETC 269.85 LVI 14.44

PLANETOCENTRIC CONIC
 C3 17.542 VHL 4.188 DLA 3.65 RAL 326.85 RAD 6641.7 VEL 11.729 PTH 6.76 VHP 3.574 DPA -46.94 RAP 289.56 ECC 1.2887
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 4 3175.71 -37.76 101.84 190.56 121.43 17 33 0 2175.7 -22.38 80.14
 60.00 17 15 47 3080.70 -32.74 96.57 193.85 114.94 18 7 7 2080.7 -19.90 73.77
 70.00 18 3 42 2939.74 -28.30 87.27 195.98 109.97 18 52 42 1939.7 -17.61 63.90
 80.00 19 8 4 2738.17 -25.10 73.17 197.17 106.72 19 53 42 1738.2 -15.92 49.53
 90.00 20 27 47 2480.91 -23.91 54.64 197.55 105.57 21 9 8 1480.9 -15.29 30.93
 100.00 21 50 56 2212.64 -23.10 34.54 197.17 106.72 22 27 49 1212.6 -15.92 10.90
 110.00 23 3 9 1986.55 -28.30 16.19 195.98 109.97 23 36 15 986.6 -17.61 352.82

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2634 TRA 2.3999 TC3-2.8450 BAU .7141 SGT 4425.4 SGR 2830.2 SG3 1600.4 ST 100.8 SR 73.5 SS 128.9
 RDE .9429 RRA 1.7138 RC3-1.0857 FAU .15543 RRT .9709 RRF .9954 RTF .9742 CRT .9998 CR8 -.9938 C8T -.9950
 FDE 4.9976 FRA11.6313 FC3-7.6711 B8P 8645 SGB 5253.0 R23 .1389 R13 .9862 L8A 179.1 M8A 9.3 S8A 1.0
 BDE 1.5926 BRA 2.9490 BC3 3.0451 B8P 2876 SGI 5221.5 S62 574.2 T8A 32.28 EL1 124.7 EL2 1.2 ALF 36.11

LAUNCH DATE MAR 28 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC DISTANCE 604.555 EARTH TO MARS
 RL 149.31 LAL -.00 LOL 186.67 VL 32.266 GAL -5.11 AZL 88.23 HCA 201.83 SMA 180.17 ECC .19241 INC 1.7717 V1 29.843
 RP 213.92 LAP -.66 LOP 28.49 VP 22.455 GAP 2.53 AZP 91.84 TAL 327.34 TAP 169.16 RCA 145.50 APO 214.83 V2 25.662
 RC 142.739 GL 13.72 GP -21.78 ZAL 143.51 ZAP 78.92 ETS 173.93 ZAE 116.72 ETE 191.28 ZAC 80.89 ETC 269.70 LVI 13.57

PLANETOCENTRIC CONIC
 C3 17.545 VHL 4.189 DLA 2.25 RAL 329.80 RAD 6641.7 VEL 11.729 PTH 6.76 VHP 3.580 DPA -45.83 RAP 288.51 ECC 1.2887
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 11 3148.01 -36.76 99.94 190.59 122.65 17 40 39 2148.0 -21.08 78.78
 60.00 17 25 23 3049.06 -31.82 94.40 193.96 116.17 18 16 12 2049.1 -18.63 72.06
 70.00 18 14 58 2903.24 -27.42 84.80 196.17 111.20 19 3 21 1903.2 -16.36 61.80
 80.00 19 20 50 2696.96 -24.27 70.39 197.42 107.95 20 5 47 1697.0 -14.70 47.09
 90.00 20 41 13 2437.58 -23.09 51.73 197.82 106.80 21 21 50 1437.6 -14.07 28.33
 100.00 22 3 42 2171.43 -24.27 31.76 197.42 107.95 22 39 33 1171.4 -14.70 8.43
 110.00 23 14 24 1950.06 -27.42 13.71 196.17 111.20 23 46 54 950.1 -16.36 350.72

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3148 TRA 2.5848 TC3-2.9600 BAU .7342 SGT 4659.2 SGR 2688.1 SG3 1610.3 ST 104.3 SR 69.8 SS 128.1
 RDE .8971 RRA 1.6147 RC3-1.0175 FAU .15554 RRT .9718 RRF .9944 RTF .9740 CRT .9993 CR8 -.9923 C8T -.9959
 FDE 4.9580 FRA11.7798 FC3-7.6749 B8P 8848 SGB 5369.1 R23 .1379 R13 .9856 L8A 179.1 M8A 9.2 S8A 1.1
 BDE 1.5917 BRA 3.0306 BC3 3.1300 B8P 2902 SGI 5341.0 S62 548.8 T8A 29.44 EL1 125.4 EL2 2.2 ALF 35.77

LAUNCH DATE MAR 28 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC DISTANCE 608.724 EARTH TO MARS
 RL 149.31 LAL -.00 LOL 186.67 VL 32.269 GAL -5.17 AZL 88.41 HCA 203.01 SMA 180.21 ECC .19308 INC 1.5934 V1 29.843
 RP 214.24 LAP -.62 LOP 29.67 VP 22.417 GAP 2.38 AZP 91.47 TAL 327.02 TAP 170.03 RCA 145.42 APO 215.01 V2 25.627
 RC 145.158 GL 12.30 GP -20.86 ZAL 144.18 ZAP 75.17 ETS 173.11 ZAE 115.28 ETE 189.97 ZAC 82.00 ETC 269.56 LVI 12.78

PLANETOCENTRIC CONIC
 C3 17.604 VHL 4.196 DLA 1.00 RAL 330.32 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 3.593 DPA -44.79 RAP 287.56 ECC 1.2897
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 37 3123.93 -35.86 98.34 190.75 123.66 17 47 41 2123.9 -19.94 77.62
 60.00 17 34 8 3021.46 -30.97 92.55 194.19 117.19 18 24 30 2021.5 -17.51 70.59
 70.00 18 25 11 2871.31 -26.62 82.66 196.47 112.23 19 13 3 1871.3 -15.26 59.99
 80.00 19 32 24 2660.84 -23.49 67.99 197.77 108.99 20 16 48 1660.8 -13.60 44.97
 90.00 20 53 22 2399.58 -22.32 49.21 198.10 107.83 21 33 22 1399.6 -12.97 26.00
 100.00 22 18 16 2139.31 -23.49 29.38 197.77 108.99 22 50 51 1139.3 -13.60 6.54
 110.00 23 24 38 1918.13 -26.62 11.58 196.47 112.23 23 56 36 918.1 -15.26 348.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3483 TRA 2.7280 TC3-3.0674 BAU .7558 SGT 4888.5 SGR 2515.9 SG3 1612.6 ST 107.8 SR 66.4 SS 127.2
 RDE .8579 RRA 1.5219 RC3 -.9510 FAU .15497 RRT .9721 RRF .9932 RTF .9773 CRT .9982 CR8 -.9905 C8T -.9966
 FDE 4.9138 FRA11.9614 FC3-7.6213 B8P 9086 SGB 5497.9 R23 .1389 R13 .9851 L8A 179.2 M8A 9.2 S8A 1.1
 BDE 1.8961 BRA 3.1836 BC3 3.2114 B8P 2918 SGI 5478.6 S62 527.3 T8A 28.68 EL1 126.8 EL2 3.3 ALF 31.82

LAUNCH DATE MAR 28 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

DISTANCE 612.892

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.272 GAL -9.23 AZL 88.37 HCA 204.19 SMA 180.27 ECC .19381 INC 1.4323 V1 29.843
RP 214.53 LAP -.59 LOP 30.85 VP 22.381 GAP 2.17 AZP 91.31 TAL 326.70 TAP 170.89 RCA 145.33 APO 215.21 V2 25.591
RC 147.555 GL 11.01 GP -19.84 ZAL 144.70 ZAP 73.46 ETS 172.75 ZAE 113.81 ETE 188.81 ZAC 83.03 ETC 269.43 LVI 12.05

PLANETOCENTRIC CONIC

C3 17.710 VHL 4.208 DLA -.12 RAL 331.01 RAD 8641.6 VEL 11.736 PTH 6.77 VHP 3.593 DPA -43.83 RAP 286.70 ECC 1.2913
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 2 27 3102.98 -35.06 96.98 191.01 124.50 17 54 10 2103.0 -18.95 76.67
60.00 17 42 9 2997.36 -30.21 90.96 194.51 118.05 18 32 7 1997.4 -16.52 69.32
70.00 18 34 32 2843.32 -29.89 80.82 196.85 113.10 19 21 55 1843.3 -14.27 58.43
80.00 19 42 57 2629.10 -22.77 65.91 198.20 109.86 20 26 46 1629.1 -12.61 43.13
90.00 21 4 26 2366.16 -21.61 47.02 198.64 108.70 21 43 52 1366.2 -11.99 24.12
100.00 22 25 49 2103.57 -22.77 27.28 198.20 109.86 23 0 52 1103.6 -12.61 4.49
110.00 23 33 58 1890.14 -23.89 9.74 196.85 113.10 24 5 28 890.1 -14.27 347.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3847 TRA 2.8909 TC3-3.1656 BAU .7785 SGT 5113.2 SGR 2373.1 SCS 1608.2 ST 111.3 SR 63.3 SS 126.1
RDE .8241 RRA 1.4343 RC3 -.8884 FAU .15405 RRT .9720 RRF .9917 RTF .9788 CRT .9968 CRS -.9885 CST -.9972
FDE 4.8650 FRA11.8985 FC3-7.5306 BSP 9305 SGB 5637.1 R23 .1322 R13 .9848 LSA 179.5 MSA 9.4 SSA 1.2
BDE 1.6113 BRA 3.2272 BC3 3.2878 FSP 2913 SGI 5814.1 SGT 308.3 THA 24.49 EL1 128.0 EL2 4.4 ALF 20.59

LAUNCH DATE MAR 28 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

DISTANCE 617.056

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.278 GAL -5.30 AZL 88.71 HCA 205.38 SMA 180.33 ECC .19459 INC 1.2855 V1 29.843
RP 214.88 LAP -.55 LOP 32.03 VP 22.345 GAP 1.98 AZP 91.16 TAL 326.37 TAP 171.73 RCA 145.24 APO 215.42 V2 25.554
RC 149.988 GL 9.83 GP -18.69 ZAL 145.35 ZAP 71.78 ETS 172.43 ZAE 112.33 ETE 187.76 ZAC 83.98 ETC 269.32 LVI 11.38

PLANETOCENTRIC CONIC

C3 17.856 VHL 4.226 DLA -1.13 RAL 331.67 RAD 8641.9 VEL 11.742 PTH 6.77 VHP 3.559 DPA -42.94 RAP 285.92 ECC 1.2939
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 46 3084.77 -34.35 95.82 191.36 125.20 18 0 10 2084.8 -18.08 75.77
60.00 17 49 32 2976.30 -29.53 89.60 194.91 118.78 18 39 9 1976.3 -15.64 68.23
70.00 18 43 6 2818.78 -25.22 79.22 197.30 113.83 19 30 5 1818.8 -13.40 57.06
80.00 19 52 36 2601.17 -22.11 64.10 198.69 110.59 20 35 57 1601.2 -11.74 41.52
90.00 21 14 34 2336.71 -20.95 45.11 199.14 109.44 21 53 30 1336.7 -11.11 22.40
100.00 22 35 28 2075.64 -22.11 25.46 198.69 110.99 23 10 4 1075.6 -11.74 2.89
110.00 23 42 33 1865.59 -25.22 8.14 197.30 113.83 24 13 38 865.6 -13.40 345.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4230 TRA 3.0534 TC3-3.2565 BAU .8021 SGT 5333.3 SGR 2240.0 SCS 1598.6 ST 114.8 SR 60.5 SS 125.0
RDE .7952 RRA 1.3527 RC3 -.8283 FAU .15258 RRT .9712 RRF .9900 RTF .9795 CRT .9948 CRS -.9862 CST -.9977
FDE 4.8152 FRA11.9040 FC3-7.3980 BSP 9555 SGB 5784.7 R23 .1279 R13 .9846 LSA 180.0 MSA 9.5 SSA 1.3
BDE 1.6301 BRA 3.3396 BC3 3.3602 FSP 2902 SGI 5763.6 SGT 493.6 THA 22.36 EL1 129.7 EL2 5.4 ALF 27.73

LAUNCH DATE MAR 28 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

DISTANCE 621.217

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.280 GAL -5.37 AZL 88.85 HCA 206.53 SMA 180.39 ECC .19541 INC 1.1517 V1 29.843
RP 215.21 LAP -.51 LOP 33.20 VP 22.309 GAP 1.80 AZP 91.03 TAL 326.03 TAP 172.56 RCA 145.14 APO 215.65 V2 25.518
RC 152.438 GL 8.75 GP -17.82 ZAL 145.87 ZAP 70.15 ETS 172.16 ZAE 110.86 ETE 188.83 ZAC 84.86 ETC 269.21 LVI 10.74

PLANETOCENTRIC CONIC

C3 18.037 VHL 4.247 DLA -2.04 RAL 332.30 RAD 8641.9 VEL 11.750 PTH 6.78 VHP 3.569 DPA -42.10 RAP 285.23 ECC 1.2568
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 37 3088.97 -33.73 94.83 191.77 125.79 18 5 46 2089.0 -17.32 75.04
60.00 17 58 22 2987.93 -28.92 88.42 195.36 119.39 18 45 39 1957.9 -14.88 67.28
70.00 18 51 0 2797.25 -24.62 77.84 197.81 114.45 19 37 37 1797.2 -12.62 55.87
80.00 20 1 29 2576.58 -21.51 62.51 199.23 111.22 20 44 25 1576.6 -10.96 40.11
90.00 21 23 52 2310.75 -20.35 43.44 199.70 110.07 22 2 22 1310.7 -10.33 20.90
100.00 22 44 20 2051.05 -21.51 23.88 199.23 111.22 23 18 31 1051.1 -10.96 1.48
110.00 23 50 26 1844.08 -24.62 6.78 197.81 114.45 24 21 10 844.1 -12.62 344.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4651 TRA 3.2173 TC3-3.3351 BAU .8254 SGT 5549.5 SGR 2115.8 SCS 1584.3 ST 118.4 SR 58.1 SS 123.9
RDE .7706 RRA 1.2762 RC3 -.7701 FAU .15047 RRT .9701 RRF .9880 RTF .5043 CRT .9925 CRS -.9836 CST -.9881
FDE 4.7663 FRA11.8814 FC3-7.2220 BSP 9842 SGB 5939.0 R23 .1322 R13 .9844 LSA 180.7 MSA 9.8 SSA 1.3
BDE 1.6554 BRA 3.4612 BC3 3.4229 FSP 2887 SGI 5919.4 SGT 481.5 THA 20.44 EL1 131.0 EL2 6.8 ALF 26.01

LAUNCH DATE MAR 28 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 625.375

EARTH TO MARS

RL 149.31 LAL -.00 LOL 186.67 VL 32.288 GAL -5.44 AZL 88.97 HCA 207.70 SMA 180.47 ECC .19628 INC 1.0285 V1 29.843
RP 215.34 LAP -.48 LOP 34.37 VP 22.273 GAP 1.61 AZP 90.91 TAL 325.68 TAP 173.38 RCA 145.05 APO 215.89 V2 25.480
RC 154.904 GL 7.76 GP -17.00 ZAL 146.35 ZAP 68.53 ETS 171.92 ZAE 109.39 ETE 188.00 ZAC 85.68 ETC 269.11 LVI 10.15

PLANETOCENTRIC CONIC

C3 18.250 VHL 4.272 DLA -2.87 RAL 332.91 RAD 8642.0 VEL 11.759 PTH 6.79 VHP 3.584 DPA -41.33 RAP 284.61 ECC 1.3003
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 4 3055.30 -33.18 93.98 192.23 126.29 18 10 59 2055.3 -16.66 74.41
60.00 18 2 41 2941.93 -28.38 87.41 195.87 119.91 18 51 43 1941.9 -14.21 66.46
70.00 18 58 18 2778.38 -24.08 76.64 198.36 114.98 19 44 38 1778.4 -11.94 54.84
80.00 20 9 40 2554.94 -20.97 61.13 199.81 111.75 20 52 15 1554.9 -10.26 38.84
90.00 21 32 26 2287.86 -19.81 41.98 200.29 110.60 22 10 34 1287.9 -9.63 19.50
100.00 22 32 52 2029.41 -20.97 22.50 199.81 111.75 23 26 21 1029.4 -10.26 .25
110.00 0 1 40 1825.20 -24.08 5.55 198.36 114.98 0 32 5 825.2 -11.94 343.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5087 TRA 3.3801 TC3-3.4086 BAU .8498 SGT 5780.2 SGR 2000.0 SCS 1566.0 ST 122.0 SR 55.8 SS 122.7
RDE .7495 RRA 1.2042 RC3 -.7164 FAU .14822 RRT .9884 RRF .9856 RTF .9809 CRT .9897 CRS -.9808 CST -.9985
FDE 4.7161 FRA11.8310 FC3-7.0315 BSP 10126 SGB 6097.5 R23 .1170 R13 .9843 LSA 181.5 MSA 10.1 SSA 1.4
BDE 1.6846 BRA 3.5882 BC3 3.4831 FSP 2882 SGI 6079.2 SGT 472.4 THA 18.70 EL1 134.0 EL2 7.3 ALF 24.43

LAUNCH DATE MAR 28 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 15 1971

Heliocentric Conic

RL 149.31 LAL -0.00 LOL 186.67 VL 32.290 GAL -5.51 AZL 89.09 HCA 208.86 SMA 180.54 ECC .19720 INC .9146 V1 29.843
 RP 215.87 LAP -0.44 LOP 35.53 VP 22.237 GAP 1.42 AZP 90.80 TAL 325.32 TAP 174.19 RCA 144.94 APO 216.15 V2 25.443
 RC 157.385 GL 6.85 GP -16.24 ZAL 146.80 ZAP 67.01 ETS 171.71 ZAE 107.93 ETE 185.25 ZAC 86.44 ETC 269.03 LVI 9.60

DISTANCE 629.528

EARTH TO MARS

Planetocentric Conic

C3 18.491 VHL 4.300 DLA -3.61 RAL 333.50 RAD 6642.2 VEL 11.769 PTH 6.80 VHP 3.603 DPA -40.60 RAP 284.07 ECC 1.3043
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 9 3043.52 -32.70 93.26 192.74 126.71 18 15 52 2043.5 -16.09 73.87
 60.00 18 8 34 2928.04 -27.91 86.54 196.42 120.34 18 57 22 1928.0 -13.62 65.75
 70.00 19 5 4 2781.88 -23.61 75.59 198.94 115.43 19 51 6 1761.9 -11.34 53.94
 80.00 20 17 14 2535.91 -20.49 59.93 200.43 112.21 20 59 30 1535.9 -9.65 37.80
 90.00 21 40 22 2267.69 -19.32 40.70 200.92 111.06 22 18 10 1267.7 -9.01 18.42
 100.00 23 0 6 2010.39 -20.49 21.30 200.43 112.21 23 33 37 1010.4 -9.65 359.17
 110.00 0 8 26 1808.70 -23.61 4.51 198.94 115.43 0 38 35 808.7 -11.34 342.86

Differential Corrections

TDE 1.5532 TRA 3.5421 TC3-3.4752 BAU .8747
 RDE .7310 RRA 1.1362 RC3 -.6660 FAU .14566
 FDE 4.6605 FRA11.7563 FC3-6.8199 BSP 10406
 BDE 1.7166 BRA 3.7199 BC3 3.5384 FSP 2828

MID-COURSE EXECUTION ACCURACY

SGT 5964.8 SGR 1891.5 SG3 1543.9
 RRT .9662 RRF .9827 RTF .9814
 SGB 6257.5 R23 .1112 R13 .9842
 SGI 6240.1 SG2 466.1 THA 17.13

ORBIT DETERMINATION ACCURACY

ST 125.5 SR 53.8 SS 121.3
 CRT .9864 CRS -.9777 CST -.9988
 LSA 182.4 MSA 10.4 S3A 1.3
 EL1 136.3 EL2 8.1 ALF 22.98

LAUNCH DATE MAR 28 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 17 1971

Heliocentric Conic

RL 149.31 LAL -0.00 LOL 186.67 VL 32.295 GAL -5.59 AZL 89.19 HCA 210.03 SMA 180.63 ECC .19816 INC .8096 V1 29.843
 RP 216.21 LAP -0.41 LOP 36.69 VP 22.201 GAP 1.24 AZP 90.70 TAL 324.96 TAP 174.99 RCA 144.83 APO 216.42 V2 25.405
 RC 159.881 GL 6.02 GP -15.93 ZAL 147.23 ZAP 65.50 ETS 171.53 ZAE 106.48 ETE 184.58 ZAC 87.15 ETC 268.95 LVI 9.07

DISTANCE 633.678

EARTH TO MARS

Planetocentric Conic

C3 18.758 VHL 4.331 DLA -4.29 RAL 334.07 RAD 6642.3 VEL 11.780 PTH 6.81 VHP 3.625 DPA -39.91 RAP 283.59 ECC 1.3087
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 54 3033.44 -32.29 92.65 193.28 127.06 18 20 27 2033.4 -15.60 73.41
 60.00 18 14 2 2916.04 -27.49 85.79 196.99 120.71 19 2 38 1916.0 -13.11 65.14
 70.00 19 11 21 2747.51 -23.18 74.69 199.56 115.81 19 57 9 1747.5 -10.81 53.16
 80.00 20 24 16 2519.23 -20.06 58.88 201.07 112.59 21 6 15 1519.2 -9.11 36.86
 90.00 21 47 43 2249.97 -18.89 39.59 201.57 111.45 22 25 13 1250.0 -8.46 17.41
 100.00 23 7 8 1993.70 -20.06 20.25 201.07 112.59 23 40 21 993.7 -9.11 358.23
 110.00 0 14 43 1794.33 -23.18 3.61 199.56 115.81 0 44 38 794.3 -10.81 342.08

Differential Corrections

TDE 1.6009 TRA 3.7055 TC3-3.5327 BAU .8994
 RDE .7156 RRA 1.0726 RC3 -.6181 FAU .14271
 FDE 4.6083 FRA11.6673 FC3-6.5864 BSP 10709
 BDE 1.7535 BRA 3.8576 BC3 3.5864 FSP 2794

MID-COURSE EXECUTION ACCURACY

SGT 6165.5 SGR 1790.9 SG3 1519.5
 RRT .9634 RRF .9795 RTF .9818
 SGB 6420.4 R23 .1054 R13 .9841
 SGI 6403.7 SG2 462.3 THA 15.72

ORBIT DETERMINATION ACCURACY

ST 129.1 SR 51.9 SS 120.0
 CRT .9820 CRS -.9743 CST -.9990
 LSA 183.3 MSA 10.8 S3A 1.3
 EL1 138.8 EL2 8.9 ALF 21.66

LAUNCH DATE MAR 28 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 19 1971

Heliocentric Conic

RL 149.31 LAL -0.00 LOL 186.67 VL 32.300 GAL -5.67 AZL 89.29 HCA 211.18 SMA 180.71 ECC .19916 INC .7117 V1 29.843
 RP 216.56 LAP -0.37 LOP 37.85 VP 22.165 GAP 1.05 AZP 90.61 TAL 324.59 TAP 175.77 RCA 144.72 APO 216.71 V2 25.366
 RC 162.390 GL 5.25 GP -14.87 ZAL 147.64 ZAP 64.05 ETS 171.38 ZAE 105.06 ETE 183.98 ZAC 87.81 ETC 268.89 LVI 8.57

DISTANCE 637.824

EARTH TO MARS

Planetocentric Conic

C3 19.050 VHL 4.365 DLA -4.90 RAL 334.63 RAD 6642.4 VEL 11.793 PTH 6.82 VHP 3.650 DPA -39.27 RAP 283.18 ECC 1.3135
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 22 3024.88 -31.94 92.14 193.85 127.35 18 24 47 2024.9 -15.18 73.02
 60.00 18 19 10 2905.73 -27.13 85.16 197.60 121.02 19 7 35 1905.7 -12.68 64.62
 70.00 19 17 13 2735.04 -22.81 73.92 200.20 116.14 20 2 48 1735.0 -10.35 52.48
 80.00 20 30 48 2504.65 -19.67 57.97 201.73 112.92 21 12 33 1504.6 -8.63 36.04
 90.00 21 54 33 2234.44 -18.50 39.61 202.24 111.78 22 31 47 1234.4 -7.98 18.52
 100.00 23 13 40 1979.12 -19.67 19.34 201.73 112.92 23 46 39 979.1 -8.63 357.40
 110.00 0 20 35 1781.85 -22.81 2.83 200.20 116.14 0 50 17 781.9 -10.35 341.40

Differential Corrections

TDE 1.6490 TRA 3.8678 TC3-3.5861 BAU .9250
 RDE .7019 RRA 1.0121 RC3 -.5747 FAU .13983
 FDE 4.5501 FRA11.5363 FC3-6.3543 BSP 10999
 BDE 1.7922 BRA 3.9980 BC3 3.6318 FSP 2749

MID-COURSE EXECUTION ACCURACY

SGT 6360.3 SGR 1696.7 SG3 1492.2
 RRT .9600 RRF .9756 RTF .9821
 SGB 6582.8 R23 .0994 R13 .9841
 SGI 6566.7 SG2 480.0 THA 14.44

ORBIT DETERMINATION ACCURACY

ST 132.8 SR 50.2 SS 118.6
 CRT .9788 CRS -.9705 CST -.9992
 LSA 184.5 MSA 11.2 S3A 1.3
 EL1 141.5 EL2 9.6 ALF 20.48

LAUNCH DATE MAR 28 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 21 1971

Heliocentric Conic

RL 149.31 LAL -0.00 LOL 186.67 VL 32.306 GAL -5.75 AZL 89.38 HCA 212.34 SMA 180.81 ECC .20021 INC .6206 V1 29.843
 RP 216.91 LAP -0.33 LOP 39.00 VP 22.129 GAP .86 AZP 90.52 TAL 324.21 TAP 176.54 RCA 144.61 APO 217.00 V2 25.327
 RC 164.912 GL 4.54 GP -14.25 ZAL 148.04 ZAP 62.63 ETS 171.25 ZAE 103.65 ETE 183.44 ZAC 88.44 ETC 268.84 LVI 8.09

DISTANCE 641.964

EARTH TO MARS

Planetocentric Conic

C3 19.366 VHL 4.401 DLA -5.45 RAL 335.17 RAD 6642.6 VEL 11.806 PTH 6.83 VHP 3.678 DPA -38.67 RAP 282.63 ECC 1.3187
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 34 3017.69 -31.64 91.71 194.45 127.59 18 28 52 2017.7 -14.83 72.70
 60.00 18 23 58 2896.95 -26.82 84.62 198.23 121.28 19 12 15 1896.9 -12.30 64.18
 70.00 19 22 41 2724.28 -22.49 73.25 200.86 116.41 20 8 5 1724.3 -9.96 51.90
 80.00 20 36 53 2491.97 -19.33 57.10 202.42 113.21 21 18 25 1492.0 -8.22 35.32
 90.00 22 0 54 2220.89 -18.15 37.77 202.94 112.06 22 37 55 1220.9 -7.56 15.75
 100.00 23 19 45 1966.44 -19.33 18.55 202.42 113.21 23 52 32 966.4 -9.22 356.69
 110.00 0 26 3 1771.10 -22.49 2.17 200.86 116.41 0 55 34 771.1 -9.96 340.82

Differential Corrections

TDE 1.7000 TRA 4.0313 TC3-3.6308 BAU .9501
 RDE .6910 RRA .9556 RC3 -.5329 FAU .13646
 FDE 4.4983 FRA11.4379 FC3-6.1004 BSP 11302
 BDE 1.8351 BRA 4.1430 BC3 3.6697 FSP 2705

MID-COURSE EXECUTION ACCURACY

SGT 6550.7 SGR 1609.8 SG3 1463.5
 RRT .9559 RRF .9713 RTF .9823
 SGB 6745.6 R23 .0940 R13 .9840
 SGI 6729.8 SG2 460.4 THA 13.28

ORBIT DETERMINATION ACCURACY

ST 136.1 SR 48.7 SS 117.3
 CRT .9745 CRS -.9666 CST -.9994
 LSA 185.8 MSA 11.6 S3A 1.3
 EL1 144.2 EL2 10.3 ALF 19.34

LAUNCH DATE MAR 28 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -0.00 LOL 186.67 VL 32.312 GAL -9.84 AZL 89.46 MCA 213.49 SMA 180.90 ECC .20130 INC .5352 V1 29.843
RP 217.26 LAP -.30 LOP 40.15 VP 22.093 GAP .68 AZP 90.45 TAL 323.82 TAP 177.31 RCA 144.49 APO 217.32 V2 25.288
RC 167.446 GL 3.68 GP -13.67 ZAL 148.42 ZAP 81.27 ETS 171.14 ZAE 102.27 EYE 182.96 ZAC 89.02 ETC 268.79 LVI 7.63

PLANETOCENTRIC CONIC

C3 19.703 VHL 4.439 DLA -5.95 RAL 335.70 RAD 6642.7 VEL 11.820 PTH 6.84 VHP 3.708 DPA -36.10 RAP 282.55 ECC 1.3243
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 42 31 3011.74 -31.39 91.36 195.06 127.79 18 32 43 2011.7 -14.54 72.43
60.00 18 28 28 2889.55 -26.56 84.17 198.88 121.50 19 16 38 1889.6 -11.99 63.61
70.00 19 27 48 2715.09 -22.21 72.68 201.53 116.64 20 13 3 1715.1 -9.62 51.41
80.00 20 42 34 2481.01 -19.04 56.50 203.12 113.44 21 23 55 1481.0 -7.86 34.71
90.00 22 6 50 2209.13 -17.85 37.04 203.64 112.30 22 43 39 1209.1 -7.19 15.08
100.00 23 25 26 1955.48 -19.04 17.87 203.12 113.44 23 58 1 955.5 -7.86 358.08
110.00 0 31 10 1761.91 -22.21 1.60 201.53 116.64 1 0 32 761.9 -9.62 340.33

DIFFERENTIAL CORRECTIONS

TDE 1.7516 TRA 4.1942 TC3-3.6714 BAU .9758
RDE .6816 RRA .9018 RC3 -.4951 FAU .13310
FDE 4.4414 FRA11.3046 FC3-5.8520 BSP 11597
BDE 1.8795 BRA 4.2901 BC3 3.7046 FSP 2657

MID-COURSE EXECUTION ACCURACY

SGT 6735.3 SGR 1528.7 S63 1433.0
RRT .9511 RRF .9662 RTF .9825
SGB 6906.6 R23 .0886 R13 .9839
SG1 6891.1 S62 461.7 THA 12.24

ORBIT DETERMINATION ACCURACY

ST 139.5 SR 47.4 S8 115.8
CRT .9698 CRS -.9624 CST -.9995
LSA 187.0 MSA 12.0 SSA 1.3
EL1 146.9 EL2 11.0 ALF 16.33

LAUNCH DATE MAR 28 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -0.00 LOL 186.67 VL 32.319 GAL -5.92 AZL 89.54 MCA 214.63 SMA 181.00 ECC .20244 INC .4553 V1 29.843
RP 217.61 LAP -.26 LOP 41.30 VP 22.057 GAP .49 AZP 90.37 TAL 323.43 TAP 178.06 RCA 144.36 APO 217.64 V2 25.249
RC 169.992 GL 3.27 GP -13.12 ZAL 148.79 ZAP 59.94 ETS 171.05 ZAE 100.91 EYE 182.52 ZAC 89.56 ETC 268.78 LVI 7.19

PLANETOCENTRIC CONIC

C3 20.061 VHL 4.479 DLA -6.41 RAL 336.21 RAD 6642.9 VEL 11.835 PTH 6.85 VHP 3.741 DPA -37.57 RAP 282.31 ECC 1.3302
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 18 3006.93 -31.19 91.08 195.70 127.94 18 36 23 2006.9 -14.31 72.22
60.00 18 32 42 2883.42 -26.34 83.80 199.54 121.68 19 20 46 1883.4 -11.73 63.50
70.00 19 32 36 2707.31 -21.97 72.20 202.23 116.83 20 17 43 1707.3 -9.33 50.99
80.00 20 47 53 2471.62 -18.78 55.92 203.83 113.65 21 29 4 1471.6 -7.55 34.18
90.00 22 12 22 2199.01 -17.59 36.41 204.36 112.51 22 49 1 1199.0 -6.87 14.51
100.00 23 30 45 1946.10 -18.78 17.29 203.83 113.65 24 3 11 946.1 -7.55 355.58
110.00 0 35 58 1754.13 -21.97 1.12 202.23 116.83 1 5 12 754.1 -9.33 339.91

DIFFERENTIAL CORRECTIONS

TDE 1.8033 TRA 4.3583 TC3-3.7054 BAU 1.0014
RDE .8739 RRA .8513 RC3 -.4596 FAU .12971
FDE 4.3867 FRA11.1651 FC3-5.5975 BSP 11897
BDE 1.9270 BRA 4.4407 BC3 3.7338 FSP 2607

MID-COURSE EXECUTION ACCURACY

SGT 6915.7 SGR 1453.8 S63 1401.7
RRT .9454 RRF .9604 RTF .9825
SGB 7066.8 R23 .0837 R13 .9837
SG1 7031.5 S62 464.6 THA 11.29

ORBIT DETERMINATION ACCURACY

ST 143.0 SR 46.1 S8 114.4
CRT .9648 CRS -.9580 CST -.9996
LSA 188.4 MSA 12.4 SSA 1.3
EL1 149.8 EL2 11.6 ALF 17.40

LAUNCH DATE MAR 28 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -0.00 LOL 186.67 VL 32.325 GAL -8.01 AZL 89.62 MCA 215.77 SMA 181.11 ECC .20361 INC .3801 V1 29.843
RP 217.97 LAP -.22 LOP 42.44 VP 22.021 GAP .31 AZP 90.31 TAL 323.03 TAP 178.80 RCA 144.23 APO 217.98 V2 25.209
RC 172.547 GL 2.70 GP -12.61 ZAL 149.18 ZAP 58.66 ETS 170.97 ZAE 99.58 ETE 182.13 ZAC 90.07 ETC 268.73 LVI 6.77

PLANETOCENTRIC CONIC

C3 20.440 VHL 4.521 DLA -6.82 RAL 336.71 RAD 6643.0 VEL 11.851 PTH 6.87 VHP 3.775 DPA -37.07 RAP 282.14 ECC 1.3364
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 49 48 3003.14 -31.03 90.86 196.35 128.07 18 39 51 2003.1 -14.12 72.05
60.00 18 36 42 2878.43 -26.16 83.50 200.22 121.82 19 24 40 1878.4 -11.91 63.25
70.00 19 37 6 2700.83 -21.77 71.81 202.93 116.99 20 22 7 1700.8 -9.29 50.64
80.00 20 52 51 2463.67 -18.56 55.43 204.55 113.81 21 33 55 1463.7 -7.28 33.74
90.00 22 17 33 2190.39 -17.36 35.88 205.09 112.68 22 54 4 1190.4 -6.60 14.02
100.00 23 35 43 1938.14 -18.56 16.80 204.55 113.81 24 8 1 938.1 -7.28 355.11
110.00 0 40 28 1747.65 -21.77 .73 202.93 116.99 1 9 36 747.6 -9.29 339.56

DIFFERENTIAL CORRECTIONS

TDE 1.8603 TRA 4.5225 TC3-3.7343 BAU 1.0271
RDE .8678 RRA .8032 RC3 -.4270 FAU .12621
FDE 4.3311 FRA11.0160 FC3-5.3454 BSP 12186
BDE 1.9765 BRA 4.5933 BC3 3.7587 FSP 2553

MID-COURSE EXECUTION ACCURACY

SGT 7090.7 SGR 1384.3 S63 1369.3
RRT .9390 RRF .9538 RTF .9826
SGB 7224.6 R23 .0790 R13 .9836
SG1 7209.4 S62 468.4 THA 10.43

ORBIT DETERMINATION ACCURACY

ST 146.3 SR 45.0 S8 112.9
CRT .9593 CRS -.9533 CST -.9997
LSA 189.8 MSA 12.8 SSA 1.3
EL1 152.6 EL2 12.2 ALF 16.95

LAUNCH DATE MAR 28 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 149.31 LAL -0.00 LOL 186.67 VL 32.332 GAL -6.10 AZL 89.69 MCA 216.91 SMA 181.21 ECC .20483 INC .3090 V1 29.843
RP 218.33 LAP -.19 LOP 43.58 VP 21.988 GAP .12 AZP 90.25 TAL 322.62 TAP 179.53 RCA 144.10 APO 218.33 V2 25.169
RC 175.114 GL 2.18 GP -12.13 ZAL 149.51 ZAP 57.42 ETS 170.91 ZAE 98.28 ETE 181.77 ZAC 90.55 ETC 268.72 LVI 6.35

PLANETOCENTRIC CONIC

C3 20.839 VHL 4.565 DLA -7.19 RAL 337.21 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 3.812 DPA -36.59 RAP 282.01 ECC 1.3430
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 53 10 3000.30 -30.91 90.69 197.01 128.16 18 43 10 2000.3 -13.98 71.92
60.00 18 40 28 2874.50 -26.02 83.26 200.91 121.93 19 28 22 1874.5 -11.35 63.06
70.00 19 41 20 2695.53 -21.60 71.48 203.65 117.12 20 26 15 1695.5 -8.89 50.36
80.00 20 57 31 2457.03 -18.38 55.02 205.28 113.95 21 36 28 1457.0 -7.07 33.37
90.00 22 22 24 2183.13 -17.17 35.43 205.83 112.82 22 58 47 1183.1 -6.37 13.61
100.00 23 40 23 1931.50 -18.38 16.39 205.28 113.95 24 12 34 931.5 -7.07 354.74
110.00 0 44 42 1742.35 -21.60 .40 203.65 117.12 1 13 44 742.4 -8.89 339.28

DIFFERENTIAL CORRECTIONS

TDE 1.9167 TRA 4.6674 TC3-3.7593 BAU 1.0532
RDE .8630 RRA .7579 RC3 -.3968 FAU .12263
FDE 4.2765 FRA10.8631 FC3-5.0944 BSP 12480
BDE 2.0282 BRA 4.7483 BC3 3.7802 FSP 2500

MID-COURSE EXECUTION ACCURACY

SGT 7261.6 SGR 1320.2 S63 1336.6
RRT .9316 RRF .9464 RTF .9825
SGB 7380.7 R23 .0748 R13 .9834
SG1 7365.5 S62 473.3 THA 9.65

ORBIT DETERMINATION ACCURACY

ST 149.7 SR 44.0 S8 111.5
CRT .9540 CRS -.9485 CST -.9997
LSA 191.3 MSA 13.2 SSA 1.3
EL1 155.5 EL2 12.7 ALF 15.78

LAUNCH DATE MAR 28 1971

FLIGHT TIME 278.00

ARRIVAL DATE DEC 31 1971

Heliocentric Conic

RL 149.31 LAL -.00 LOL 186.67 VL 32.339 GAL -6.20 AZL 89.76 HCA 218.05 SMA 181.33 ECC .20609 INC .2418 V1 29.843
 RP 218.69 LAP -.15 LOP 44.72 VP 21.950 GAP -.07 AZP 90.19 TAL 322.21 TAP 180.25 RCA 143.96 APO 218.69 V2 25.129
 RC 177.690 GL 1.69 GP -11.68 ZAL 149.86 ZAP 56.23 ETS 170.85 ZAE 97.00 ETE 181.45 ZAC 91.00 ETC 266.71 LVI 5.95

PLANETOCENTRIC CONIC

C3 21.258 VHL 4.611 DLA -7.53 RAL 337.69 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 3.850 DPA -36.14 RAP 281.93 ECC 1.3499
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 21 2998.32 -30.83 90.58 197.69 128.22 18 46 19 1998.3 -13.88 71.83
 60.00 18 44 1 2871.33 -25.91 83.08 201.61 122.01 19 31 53 1871.5 -11.22 62.91
 70.00 19 45 18 2691.33 -21.47 71.23 204.37 117.22 20 30 10 1691.3 -8.74 50.13
 80.00 21 1 53 2451.60 -18.23 54.69 206.02 114.06 21 42 45 1451.6 -6.89 33.07
 90.00 22 26 57 2177.14 -17.01 35.07 206.58 112.94 23 3 14 1177.1 -6.18 13.27
 100.00 23 44 45 1926.07 -18.23 16.06 206.02 114.06 24 16 51 926.1 -6.89 354.44
 110.00 0 48 41 1738.14 -21.47 .15 204.37 117.22 1 17 39 738.1 -8.74 339.05

Differential Corrections

TDE 1.9743 TRA 4.8529 TC3-3.7791 BAU 1.0791
 RDE .6594 RRA .7149 RC3 -.3688 FAU .11900
 FDE 4.2207 FRA10.7051 FC3-4.8462 BSP 12767
 BDE 2.0815 BRA 4.9053 BC3 3.7970 FSP 2445

MID-COURSE EXECUTION ACCURACY

SGT 7427.5 SGR 1261.0 SG3 1303.3
 RRT .9232 RRF .9380 RTF .9824
 SGB 7533.7 R23 .0709 R13 .9832
 SG1 7518.5 SG2 478.8 THA 8.94

ORBIT DETERMINATION ACCURACY

ST 153.0 SR 43.1 SS 110.0
 CRT .9482 CRS -.9435 CST -.9998
 LSA 192.8 MSA 13.6 SSA 1.3
 EL1 158.4 EL2 13.2 ALF 15.07

LAUNCH DATE MAR 28 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 2 1972

Heliocentric Conic

RL 149.31 LAL -.00 LOL 186.67 VL 32.346 GAL -6.30 AZL 89.82 HCA 219.18 SMA 181.44 ECC .20738 INC .1779 V1 29.843
 RP 219.06 LAP -.11 LOP 45.85 VP 21.914 GAP -.25 AZP 90.14 TAL 321.79 TAP 180.96 RCA 143.81 APO 219.07 V2 25.089
 RC 180.275 GL 1.23 GP -11.25 ZAL 150.20 ZAP 55.07 ETS 170.81 ZAE 95.75 ETE 181.16 ZAC 91.43 ETC 268.72 LVI 5.56

PLANETOCENTRIC CONIC

C3 21.697 VHL 4.658 DLA -7.84 RAL 338.16 RAD 6643.6 VEL 11.904 PTH 6.91 VHP 3.890 DPA -35.72 RAP 281.90 ECC 1.3571
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 22 2997.14 -30.78 90.51 198.37 128.26 18 49 20 1997.1 -13.83 71.78
 60.00 18 47 23 2869.45 -25.84 82.96 202.32 122.07 19 35 13 1869.4 -11.13 62.81
 70.00 19 49 3 2688.12 -21.37 71.03 205.10 117.30 20 33 52 1688.1 -8.62 49.96
 80.00 21 5 59 2447.28 -18.11 54.42 206.77 114.15 21 46 47 1447.3 -6.74 32.83
 90.00 22 31 13 2172.31 -16.88 34.77 207.33 113.03 23 7 25 1172.3 -6.03 13.00
 100.00 23 48 51 1921.75 -18.11 15.79 206.77 114.15 24 20 53 921.7 -6.74 354.19
 110.00 0 52 26 1734.94 -21.37 359.95 205.10 117.30 1 21 21 734.9 -8.62 338.88

Differential Corrections

TDE 2.0331 TRA 5.0189 TC3-3.7957 BAU 1.1035
 RDE .6569 RRA .6739 RC3 -.3434 FAU .11548
 FDE 4.1649 FRA10.5419 FC3-4.6078 BSP 13040
 BDE 2.1366 BRA 5.0639 BC3 3.8112 FSP 2386

MID-COURSE EXECUTION ACCURACY

SGT 7588.9 SGR 1206.4 SG3 1269.8
 RRT .9138 RRF .9286 RTF .9823
 SGB 7684.2 R23 .0673 R13 .9830
 SG1 7668.9 SG2 484.9 THA 8.30

ORBIT DETERMINATION ACCURACY

ST 156.2 SR 42.3 SS 108.5
 CRT .9423 CRS -.9384 CST -.9998
 LSA 194.3 MSA 14.0 SSA 1.3
 EL1 161.3 EL2 13.7 ALF 14.42

LAUNCH DATE MAR 29 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 33.985 GAL -6.94 AZL 92.53 HCA 132.91 SMA 213.28 ECC .32114 INC 2.5257 V1 29.634
 RP 207.27 LAP -1.85 LOP 320.60 VP 25.658 GAP 16.66 AZP 88.28 TAL 330.98 TAP 103.89 RCA 144.79 APO 281.79 V2 26.426
 RC 56.362 GL -13.89 GP 4.50 ZAL 137.95 ZAP 165.72 ETS 161.57 ZAE 167.30 ETE 131.47 ZAC 105.81 ETC 275.45 LVI -18.95

DISTANCE 386.534 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 36.378 VHL 6.195 DLA -25.30 RAL 334.99 RAD 6650.1 VEL 12.580 PTH 7.45 VHP 9.075 DPA -15.90 RAP 308.76 ECC 1.6316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 56 2 2775.88 -20.85 78.82 200.95 133.79 19 42 18 1775.9 -2.82 82.29
 60.00 20 8 38 2582.77 -14.55 67.15 206.67 128.01 20 51 41 1582.8 1.39 48.95
 70.00 21 41 56 2308.47 -8.15 49.58 211.34 123.20 22 20 25 1308.5 5.80 30.03
 80.00 23 35 9 1954.13 -2.52 26.15 214.81 119.76 24 7 43 954.1 9.77 5.54
 90.00 1 24 38 1613.74 .10 2.57 216.27 118.28 1 51 31 613.7 11.65 341.49
 100.00 2 21 57 1428.61 -2.32 347.51 214.81 119.76 2 45 45 428.6 9.77 326.91
 110.00 2 45 18 1355.29 -8.15 338.90 211.34 123.28 3 7 54 355.3 5.80 318.95

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9075 TRA-1.8315 TC3 -.0895 BAU .0859 SGT 2055.9 SGR 498.7 SG3 233.5 ST 50.5 SR 23.3 SS 37.9
 RDE -.5044 RRA -.0192 RC3 .1414 FAU .04348 RRT .3988 RRF -.4243 RTF -.8590 CRT .8377 CRS .7037 CST .9767
 FDE .7265 FRA 2.2664 FC3 -.9809 BSP 3553 SGB 2115.6 R23 -.0699 R13 -.8608 LSA 65.6 MSA 15.0 SSA 1.1
 BDE 1.0382 BRA 1.8316 BC3 .1674 FSP 336 SGI 2066.0 SG2 455.1 THA 5.81 EL1 54.4 EL2 11.8 ALF 22.27

LAUNCH DATE MAR 29 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 33.877 GAL -6.78 AZL 92.58 HCA 134.18 SMA 210.81 ECC .31266 INC 2.5773 V1 29.834
 RP 207.18 LAP -1.85 LOP 321.86 VP 25.527 GAP 19.19 AZP 88.20 TAL 331.02 TAP 105.19 RCA 144.90 APO 276.72 V2 26.438
 RC 56.568 GL -14.44 GP 4.72 ZAL 137.88 ZAP 164.81 ETS 161.89 ZAE 167.71 ETE 127.86 ZAC 105.99 ETC 275.55 LVI -19.28

DISTANCE 389.634 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 36.781 VHL 6.065 DLA -25.78 RAL 338.31 RAD 6649.5 VEL 12.517 PTH 7.40 VHP 8.813 DPA -15.59 RAP 309.07 ECC 1.6093
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 59 43 2754.39 -19.83 77.79 200.75 134.18 19 45 38 1754.4 -1.74 81.39
 60.00 20 13 19 2558.67 -13.53 65.92 206.51 128.33 20 55 57 1558.7 2.45 47.60
 70.00 21 48 9 2279.81 -7.08 48.06 211.26 123.50 22 26 9 1279.8 6.88 28.92
 80.00 23 43 55 1917.50 -1.28 24.13 214.84 119.83 24 15 92 917.5 10.95 3.46
 90.00 1 35 33 1570.16 1.91 .13 216.39 118.24 2 1 43 570.2 12.93 338.93
 100.00 2 30 42 1391.97 -1.28 345.50 214.84 119.83 2 53 54 392.0 10.95 324.83
 110.00 2 51 31 1326.63 -7.08 336.97 211.26 123.50 3 13 38 326.6 6.88 317.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9074 TRA-1.8138 TC3 -.0833 BAU .0851 SGT 2089.6 SGR 499.6 SG3 248.6 ST 51.5 SR 23.2 SS 39.3
 RDE -.4900 RRA -.0365 RC3 .1516 FAU .04483 RRT .4322 RRF -.4602 RTF -.8641 CRT .8457 CRS .7115 CST .9759
 FDE .7575 FRA 2.3592 FC3 -1.0552 BSP 3623 SGB 2148.5 R23 -.0763 R13 -.8660 LSA 67.1 MSA 14.9 SSA 1.1
 BDE 1.0313 BRA 1.8141 BC3 .1730 FSP 361 SGI 2101.3 SG2 448.0 THA 6.18 EL1 55.3 EL2 11.5 ALF 21.81

LAUNCH DATE MAR 29 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 33.775 GAL -6.64 AZL 92.63 HCA 135.44 SMA 208.52 ECC .30463 INC 2.6312 V1 29.834
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.402 GAP 17.73 AZP 88.12 TAL 331.06 TAP 106.50 RCA 145.00 APO 272.04 V2 26.448
 RC 56.856 GL -15.02 GP 4.96 ZAL 137.78 ZAP 163.87 ETS 162.16 ZAE 168.05 ETE 124.16 ZAC 106.19 ETC 275.63 LVI -19.62

DISTANCE 392.821 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 35.302 VHL 5.942 DLA -26.29 RAL 335.63 RAD 6649.0 VEL 12.458 PTH 7.36 VHP 8.560 DPA -15.28 RAP 309.36 ECC 1.5810
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 3 34 2732.70 -18.80 76.76 200.60 134.55 19 49 7 1732.7 -.66 80.48
 60.00 20 18 13 2534.16 -12.49 64.68 206.40 128.63 21 0 27 1534.2 3.53 46.62
 70.00 21 54 47 2250.25 -5.97 46.49 211.23 123.69 22 32 17 1250.3 7.99 26.95
 80.00 23 53 32 1878.92 .04 22.00 214.95 119.86 24 24 51 878.5 12.18 1.23
 90.00 1 48 0 1522.06 3.06 357.45 216.63 118.13 2 13 22 522.1 14.32 336.08
 100.00 2 40 20 1352.99 .04 343.36 214.95 119.86 3 2 53 353.0 12.18 322.59
 110.00 2 58 9 1297.07 -5.97 335.41 211.23 123.69 3 19 46 297.1 7.99 315.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.9072 TRA-1.7954 TC3 -.0765 BAU .0848 SGT 2122.0 SGR 501.8 SG3 264.6 ST 52.5 SR 23.0 SS 40.7
 RDE -.4764 RRA -.0345 RC3 .1625 FAU .04628 RRT .4672 RRF -.4979 RTF -.8688 CRT .8542 CRS .7199 CST .9751
 FDE .7900 FRA 2.4562 FC3 -1.1348 BSP 3693 SGB 2180.5 R23 -.0834 R13 -.8710 LSA 68.7 MSA 14.8 SSA 1.1
 BDE 1.0247 BRA 1.7962 BC3 .1796 FSP 387 SGI 2135.5 SG2 440.8 THA 6.59 EL1 56.2 EL2 11.2 ALF 21.40

LAUNCH DATE MAR 29 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 33.678 GAL -6.50 AZL 92.69 HCA 136.70 SMA 206.40 ECC .29700 INC 2.6877 V1 29.834
 RP 207.01 LAP -1.84 LOP 324.39 VP 25.283 GAP 17.28 AZP 88.04 TAL 331.12 TAP 107.82 RCA 145.10 APO 267.70 V2 26.457
 RC 57.225 GL -15.63 GP 5.22 ZAL 137.67 ZAP 162.91 ETS 162.37 ZAE 168.31 ETE 120.45 ZAC 106.41 ETC 275.72 LVI -19.97

DISTANCE 396.089 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 33.929 VHL 5.825 DLA -26.83 RAL 335.95 RAD 6648.5 VEL 12.403 PTH 7.31 VHP 8.313 DPA -14.95 RAP 309.63 ECC 1.5584
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 7 36 2710.78 -17.75 75.73 200.49 134.90 19 52 47 1710.8 .45 59.57
 60.00 20 23 24 2509.16 -11.43 63.43 206.35 128.91 21 5 13 1509.2 4.63 45.42
 70.00 22 1 52 2219.60 -4.81 44.88 211.27 123.85 22 38 52 1219.6 9.13 25.31
 80.00 0 8 12 1836.48 1.46 19.69 215.16 119.83 0 38 48 836.5 13.49 358.79
 90.00 2 2 43 1467.19 4.81 354.37 217.01 117.90 2 27 10 467.2 15.85 332.78
 100.00 2 51 4 1310.96 1.46 341.06 215.16 119.83 3 12 55 311.0 13.49 320.16
 110.00 3 5 15 1266.42 -4.81 333.80 211.27 123.85 3 26 21 266.4 9.13 314.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8920 TRA-1.7610 TC3 -.0516 BAU .0826 SGT 2131.1 SGR 505.5 SG3 281.7 ST 52.7 SR 22.8 SS 42.1
 RDE -.4633 RRA -.0728 RC3 .1746 FAU .04778 RRT .5045 RRF -.5370 RTF -.8781 CRT .8611 CRS .7292 CST .9751
 FDE .8246 FRA 2.5582 FC3 -1.2193 BSP 3575 SGB 2190.2 R23 -.0868 R13 -.8805 LSA 69.7 MSA 14.7 SSA 1.1
 BDE 1.0052 BRA 1.7625 BC3 .1820 FSP 416 SGI 2146.9 SG2 433.2 THA 7.12 EL1 56.4 EL2 10.0 ALF 21.29

LAUNCH DATE MAR 29 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 399.429

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 33.586 GAL -6.36 AZL 92.75 HCA 137.97 SMA 204.44 ECC .28980 INC 2.7468 V1 29.834
 RP 206.84 LAP -1.84 LOP 325.66 VP 25.169 GAP 16.83 AZP 87.96 TAL 331.17 TAP 109.14 RCA 145.19 APO 263.69 V2 26.466
 RC 57.675 GL -16.25 GP 5.49 ZAL 137.53 ZAP 161.92 ETS 162.53 ZAE 168.48 ETE 116.81 ZAC 106.65 ETC 275.80 LVI -20.33

PLANETOCENTRIC CONIC

C3 32.665 VHL 5.715 DLA -27.38 RAL 336.29 RAD 6648.0 VEL 12.352 PTH 7.28 VHP 8.075 DPA -14.61 RAP 309.87 ECC 1.5376
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 11 49 2688.68 -16.69 74.71 200.44 135.23 19 56 38 1688.7 1.56 53.65
 60.00 20 28 52 2483.76 -10.34 62.17 206.35 129.17 21 10 16 1483.8 5.74 44.20
 70.00 22 9 29 2187.88 -3.60 43.21 211.38 123.99 22 45 37 1187.9 10.30 23.60
 80.00 0 20 18 1790.67 3.01 17.17 215.49 119.72 0 50 9 790.7 14.88 336.10
 90.00 2 21 2 1401.31 6.90 350.65 217.61 117.49 2 44 24 401.3 17.61 328.75
 100.00 3 3 10 1265.13 3.01 338.54 215.49 119.72 3 24 15 265.1 14.88 317.47
 110.00 3 12 31 1234.70 -3.60 332.13 211.38 123.99 3 33 26 234.7 10.30 312.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8999 TRA-1.7486 TC3 -.0533 BAU .0849 SGT 2171.4 SGR 511.4 SG3 299.7 ST 54.0 SR 22.7 SS 43.6
 RDE -.4516 RRA -.0925 RC3 .1869 FAU .04943 RRT .5417 RRF -.5775 RTF -.8795 CRT .8717 CRS .7392 CST .9737
 FDE .8604 FRA 2.6640 FC3-1.3100 BSP 3741 SGB 2230.8 R23 -.0975 R13 -.8823 LSA 71.5 MSA 14.6 S5A 1.1
 BDE 1.0068 BRA 1.7511 BC3 .1943 FSP 446 SG1 2189.7 SG2 426.3 THA 7.56 EL1 57.6 EL2 10.4 ALF 20.85

LAUNCH DATE MAR 29 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 402.836

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 33.500 GAL -6.23 AZL 92.81 HCA 139.23 SMA 202.63 ECC .28297 INC 2.8090 V1 29.834
 RP 206.87 LAP -1.83 LOP 326.93 VP 25.061 GAP 16.40 AZP 87.87 TAL 331.24 TAP 110.47 RCA 145.29 APO 259.96 V2 26.473
 RC 58.203 GL -16.91 GP 5.78 ZAL 137.38 ZAP 160.90 ETS 162.64 ZAE 168.57 ETE 113.32 ZAC 106.91 ETC 275.88 LVI -20.70

PLANETOCENTRIC CONIC

C3 31.498 VHL 5.612 DLA -27.96 RAL 336.63 RAD 6647.6 VEL 12.305 PTH 7.24 VHP 7.844 DPA -14.25 RAP 310.08 ECC 1.5184
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 16 16 2666.35 -15.60 73.70 200.44 135.54 20 0 42 1666.3 2.68 57.71
 60.00 20 34 39 2457.81 -9.22 60.89 206.41 129.41 21 15 37 1457.8 6.87 42.94
 70.00 22 17 43 2154.76 -2.34 41.48 211.57 124.08 22 53 37 1154.8 11.52 21.81
 80.00 0 34 21 1739.28 4.74 14.34 215.96 119.51 1 3 20 739.3 16.40 353.05
 90.00 2 47 46 1308.98 9.76 345.38 218.66 116.67 3 9 35 309.0 19.91 322.96
 100.00 3 17 12 1213.75 4.74 335.71 215.96 119.51 3 37 26 213.8 16.40 314.42
 110.00 3 21 5 1201.58 -2.34 330.40 211.57 124.08 3 41 6 201.6 11.52 310.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9033 TRA-1.7304 TC3 -.0498 BAU .0869 SGT 2203.1 SGR 519.6 SG3 318.8 ST 55.0 SR 22.6 SS 45.1
 RDE -.4408 RRA -.1130 RC3 .2002 FAU .05117 RRT .5796 RRF -.6185 RTF -.8821 CRT .8822 CRS .7502 CST .9724
 FDE .8984 FRA 2.7744 FC3-1.4064 BSP 3847 SGB 2263.6 R23 -.1080 R13 -.8853 LSA 73.2 MSA 14.5 S5A 1.1
 BDE 1.0051 BRA 1.7341 BC3 .2063 FSP 477 SG1 2224.4 SG2 419.4 THA 8.07 EL1 58.6 EL2 10.0 ALF 20.53

LAUNCH DATE MAR 29 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 406.305

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 33.418 GAL -6.10 AZL 92.87 HCA 140.50 SMA 200.94 ECC .27651 INC 2.8745 V1 29.834
 RP 206.82 LAP -1.83 LOP 328.20 VP 24.958 GAP 15.97 AZP 87.78 TAL 331.30 TAP 111.80 RCA 145.38 APO 256.50 V2 26.479
 RC 58.807 GL -17.58 GP 6.10 ZAL 137.20 ZAP 159.88 ETS 162.72 ZAE 168.59 ETE 110.07 ZAC 107.20 ETC 275.95 LVI -21.09

PLANETOCENTRIC CONIC

C3 30.423 VHL 5.516 DLA -28.57 RAL 336.98 RAD 6647.2 VEL 12.262 PTH 7.21 VHP 7.621 DPA -13.88 RAP 310.26 ECC 1.5007
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 20 56 2643.76 -14.50 72.68 200.50 135.83 20 5 0 1643.8 3.81 56.77
 60.00 20 40 49 2431.26 -8.07 59.59 206.55 129.62 21 21 20 1431.3 8.03 41.65
 70.00 22 26 39 2119.99 -1.01 39.67 211.85 124.14 23 1 59 1120.0 12.78 19.90
 80.00 0 51 20 1679.20 6.75 11.00 216.63 119.15 1 19 20 679.2 18.12 349.41
 85.76 2 50 49 1294.59 13.74 346.31 220.28 115.30 3 12 23 294.6 22.99 323.04
 100.00 3 34 12 1133.67 6.75 332.37 216.63 119.15 3 53 26 153.7 18.12 310.78
 110.00 3 30 2 1166.81 -1.01 328.58 211.85 124.14 3 49 28 166.8 12.78 308.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9045 TRA-1.7093 TC3 -.0441 BAU .0891 SGT 2229.9 SGR 530.7 SG3 339.1 ST 55.9 SR 22.5 SS 46.8
 RDE -.4309 RRA -.1345 RC3 .2145 FAU .05300 RRT .6174 RRF -.6596 RTF -.8531 CRT .8928 CRS .7620 CST .9713
 FDE .9307 FRA 2.8900 FC3-1.5081 BSP 3929 SGB 2292.2 R23 -.1191 R13 -.8887 LSA 74.8 MSA 14.4 S5A 1.1
 BDE 1.0019 BRA 1.7148 BC3 .2190 FSP 511 SG1 2254.7 SG2 412.9 THA 8.85 EL1 59.5 EL2 9.5 ALF 20.31

LAUNCH DATE MAR 29 1971

FLIGHT TIME 154.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 409.830

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 33.340 GAL -5.98 AZL 92.94 HCA 141.77 SMA 199.38 ECC .27039 INC 2.9436 V1 29.834
 RP 206.77 LAP -1.82 LOP 329.46 VP 24.860 GAP 15.55 AZP 87.69 TAL 331.37 TAP 113.14 RCA 145.47 APO 253.29 V2 26.485
 RC 59.488 GL -18.29 GP 6.44 ZAL 137.00 ZAP 158.78 ETS 162.76 ZAE 168.53 ETE 107.14 ZAC 107.51 ETC 276.02 LVI -21.49

PLANETOCENTRIC CONIC

C3 29.438 VHL 5.425 DLA -29.20 RAL 337.34 RAD 6646.8 VEL 12.222 PTH 7.17 VHP 7.404 DPA -13.49 RAP 310.41 ECC 1.4844
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 25 52 2620.89 -13.38 71.66 200.62 136.10 20 9 33 1620.9 4.96 55.80
 60.00 20 47 23 2404.04 -6.88 58.27 206.76 129.81 21 27 27 1404.0 9.21 40.32
 70.00 22 36 28 2083.21 .39 37.75 212.24 124.15 23 11 11 1083.2 14.09 17.86
 80.00 1 13 53 1602.26 9.27 6.69 217.65 118.51 1 40 36 602.3 20.19 344.64
 82.39 2 24 55 1374.53 14.26 352.45 220.26 115.76 2 47 49 374.5 23.66 329.15
 100.00 3 56 45 1076.73 9.27 328.06 217.65 118.51 4 14 42 76.7 20.19 306.01
 110.00 3 39 50 1130.03 .39 326.66 212.24 124.15 3 58 40 130.0 14.09 306.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9053 TRA-1.6862 TC3 -.0378 BAU .0916 SGT 2253.3 SGR 544.9 SG3 360.6 ST 56.8 SR 22.5 SS 48.2
 RDE -.4220 RRA -.1571 RC3 .2298 FAU .05492 RRT .6545 RRF -.6999 RTF -.8880 CRT .9037 CRS .7747 CST .9701
 FDE .9814 FRA 3.0110 FC3-1.6153 BSP 3993 SGB 2318.2 R23 -.1310 R13 -.8922 LSA 76.4 MSA 14.3 S5A 1.1
 BDE .9988 BRA 1.6935 BC3 .2329 FSP 547 SG1 2282.3 SG2 406.7 THA 9.29 EL1 60.4 EL2 9.0 ALF 20.15

LAUNCH DATE MAR 29 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.86 VL 33.267 GAL -5.86 AZL 93.02 HCA 143.04 SMA 197.92 ECC .26460 INC 3.0169 V1 29.834
RP 206.74 LAP -1.81 LOP 330.73 VP 24.786 GAP 15.13 AZP 87.59 TAL 331.45 TAP 114.48 RCA 145.55 APO 250.29 V2 26.489
RC 80.233 GL -19.03 GP 6.81 ZAL 136.77 ZAP 157.68 ETS 162.77 ZAE 168.40 ETE 104.56 ZAC 107.85 ETC 276.08 LVI -21.91

DISTANCE 413.407

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.932 VHL 5.342 DLA -29.87 RAL 337.72 RAD 6646.4 VEL 12.185 PTH 7.14 VHP 7.195 DPA -13.07 RAP 310.53 ECC 1.4696
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 31 6 2597.69 -12.24 70.64 200.81 136.35 20 14 24 1397.7 6.12 54.83
60.00 20 54 23 2378.04 -5.66 56.91 207.05 129.87 21 34 1 1378.0 10.41 38.94
70.00 22 47 19 2043.90 1.90 35.70 212.75 124.11 23 21 23 1043.9 15.48 15.68
79.97 2 7 37 1426.96 14.80 356.60 220.30 116.24 2 31 24 427.0 24.34 333.27
79.97 2 7 37 1426.96 14.80 356.60 220.30 116.24 2 31 24 427.0 24.34 333.27
79.97 2 7 37 1426.96 14.80 356.60 220.30 116.24 2 31 24 427.0 24.34 333.27
110.00 3 50 42 1090.72 1.90 324.61 212.75 124.11 4 8 52 90.7 15.48 304.58

DIFFERENTIAL CORRECTIONS

TDE -.9081 TRA-1.6606 TC3 -.0302 BAU .0947
RDE -.4141 RRA -1.1811 RC3 .2463 FAU .05696
FDE 1.0269 FRA 3.1371 FC3-1.7283 B8P 4046
BDE .9953 BRA 1.6705 BC3 .2482 F8P 586

MID-COURSE EXECUTION ACCURACY

SGT 2272.1 SGR 562.8 SG3 383.3
RRT .6905 RRF -.7388 RTF -.8909
SGB 2340.8 R23 -.1435 R13 -.8957
SG1 2306.2 SG2 401.1 TMA 10.01

ORBIT DETERMINATION ACCURACY

ST 57.5 SR 22.5 SS 49.8
CRT .9148 CRS .7883 CST .9689
LSA 78.0 MSA 14.3 SSA 1.1
EL1 61.1 EL2 8.5 ALF 20.08

LAUNCH DATE MAR 29 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.86 VL 33.197 GAL -5.75 AZL 93.09 HCA 144.30 SMA 196.57 ECC .25913 INC 3.0944 V1 29.834
RP 206.71 LAP -1.80 LOP 332.00 VP 24.677 GAP 14.73 A2P 87.49 TAL 331.52 TAP 115.83 RCA 145.63 APO 247.51 V2 26.492
RC 81.050 GL -19.80 GP 7.21 ZAL 136.53 ZAP 156.53 ETS 162.74 ZAE 168.21 ETE 102.40 ZAC 108.23 ETC 276.14 LVI -22.35

DISTANCE 417.032

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.710 VHL 5.264 DLA -30.56 RAL 338.11 RAD 6646.1 VEL 12.152 PTH 7.12 VHP 6.993 DPA -12.64 RAP 310.61 ECC 1.4560
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 36 40 2574.14 -11.08 69.61 201.08 136.57 20 19 34 1374.1 7.30 53.83
60.00 21 1 59 2347.13 -4.40 55.52 207.43 130.10 21 41 6 1347.1 11.65 37.90
70.00 22 59 31 2001.31 3.52 35.47 213.40 123.99 23 32 52 1001.3 16.95 13.23
77.91 1 53 47 1468.69 15.34 360.00 220.40 116.76 2 18 16 468.7 25.04 336.63
77.91 1 53 47 1468.69 15.34 360.00 220.40 116.76 2 18 16 468.7 25.04 336.63
77.91 1 53 47 1468.69 15.34 360.00 220.40 116.76 2 18 16 468.7 25.04 336.63
110.00 4 2 53 1048.12 3.52 322.39 213.40 123.99 4 20 21 48.1 16.95 302.15

DIFFERENTIAL CORRECTIONS

TDE -.9048 TRA-1.6332 TC3 -.0228 BAU .0982
RDE -.4073 RRA -.2066 RC3 .2641 FAU .05914
FDE 1.0747 FRA 3.2677 FC3-1.8478 B8P 4088
BDE .9923 BRA 1.6462 BC3 .2651 F8P 625

MID-COURSE EXECUTION ACCURACY

SGT 2287.3 SGR 584.9 SG3 407.2
RRT .7243 RRF -.7756 RTF -.8934
SGB 2360.9 R23 -.1573 R13 -.8990
SG1 2327.4 SG2 396.3 TMA 10.61

ORBIT DETERMINATION ACCURACY

ST 58.2 SP 22.5 SS 51.5
CRT .9261 CRS .8025 CST .9676
LSA 79.6 MSA 14.3 SSA 1.1
EL1 61.9 EL2 8.0 ALF 20.07

LAUNCH DATE MAR 29 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.86 VL 33.132 GAL -5.84 AZL 93.18 HCA 145.57 SMA 195.31 ECC .25395 INC 3.1770 V1 29.834
RP 206.69 LAP -1.80 LOP 333.27 VP 24.591 GAP 14.34 A2P 87.38 TAL 331.60 TAP 117.17 RCA 145.71 APO 244.91 V2 26.495
RC 81.933 GL -20.60 GP 7.65 ZAL 136.25 ZAP 155.35 ETS 162.87 ZAE 167.97 ETE 100.65 ZAC 108.64 ETC 276.19 LVI -21.81

DISTANCE 420.701

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.985 VHL 5.193 DLA -31.28 RAL 338.52 RAD 6645.8 VEL 12.121 PTH 7.09 VHP 6.798 DPA -12.18 RAP 310.65 ECC 1.4438
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 42 35 2590.17 -9.89 68.57 201.42 136.78 20 25 6 1350.2 6.49 52.81
60.00 21 10 9 2317.17 -3.08 54.08 207.92 130.20 21 48 47 1317.2 12.93 36.00
70.00 23 13 29 1954.20 5.31 31.00 214.23 123.79 23 46 3 954.2 18.53 10.51
76.04 1 42 2 1504.26 15.89 2.96 220.57 117.30 2 7 6 504.3 25.76 339.57
76.04 1 42 2 1504.26 15.89 2.96 220.57 117.30 2 7 6 504.3 25.76 339.57
76.04 1 42 2 1504.26 15.89 2.96 220.57 117.30 2 7 6 504.3 25.76 339.57
110.00 4 16 51 1001.02 5.31 319.91 214.23 123.79 4 33 32 1.0 18.53 299.42

DIFFERENTIAL CORRECTIONS

TDE -.9053 TRA-1.6049 TC3 -.0168 BAU .1023
RDE -.4019 RRA -.2338 RC3 .2632 FAU .06141
FDE 1.1261 FRA 3.4040 FC3-1.9717 B8P 4135
BDE .9903 BRA 1.6219 BC3 .2837 F8P 668

MID-COURSE EXECUTION ACCURACY

SGT 2300.3 SGR 611.7 SG3 432.4
RRT .7555 RRF -.8099 RTF -.8556
SGB 2380.3 R23 -.1722 R13 -.9021
SG1 2347.7 SG2 392.7 TMA 11.69

ORBIT DETERMINATION ACCURACY

ST 58.8 SR 22.6 SS 53.2
CRT .9374 CRS .8176 CST .9662
LSA 81.3 MSA 14.2 SSA 1.0
EL1 62.6 EL2 7.4 ALF 20.13

LAUNCH DATE MAR 29 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.86 VL 33.070 GAL -5.53 AZL 93.27 HCA 146.84 SMA 194.14 ECC .24906 INC 3.2651 V1 29.834
RP 206.68 LAP -1.79 LOP 334.54 VP 24.509 GAP 13.95 A2P 87.27 TAL 331.68 TAP 118.52 RCA 145.79 APO 242.49 V2 26.496
RC 82.879 GL -21.44 GP 8.12 ZAL 135.96 ZAP 154.13 ETS 162.58 ZAE 167.67 ETE 99.34 ZAC 109.10 ETC 276.24 LVI -23.30

DISTANCE 424.411

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.295 VHL 5.128 DLA -32.04 RAL 338.96 RAD 6645.5 VEL 12.094 PTH 7.07 VHP 6.610 DPA -11.69 RAP 310.65 ECC 1.4327
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 48 56 2525.71 -8.68 67.52 201.86 136.97 20 31 2 1525.7 9.71 51.76
60.00 21 19 3 2285.90 -1.71 52.59 208.52 130.27 21 57 9 1285.9 14.25 34.41
70.00 23 29 59 1900.38 7.34 28.15 215.30 123.45 24 1 39 900.4 20.29 7.32
74.28 1 31 41 1535.87 16.44 5.66 220.80 117.89 1 57 17 535.9 26.50 342.24
74.28 1 31 41 1535.87 16.44 5.66 220.80 117.89 1 57 17 535.9 26.50 342.24
74.28 1 31 41 1535.87 16.44 5.66 220.80 117.89 1 57 17 535.9 26.50 342.24
110.00 4 33 21 6235.24 7.34 294.97 215.30 123.45 6 17 16 5235.2 20.29 274.15

DIFFERENTIAL CORRECTIONS

TDE -.9015 TRA-1.5704 TC3 -.0043 BAU .1069
RDE -.3975 RRA -.2627 RC3 .3042 FAU .06386
FDE 1.1798 FRA 3.5441 FC3-2.1026 B8P 4122
BDE .9853 BRA 1.5922 BC3 .3042 F8P 712

MID-COURSE EXECUTION ACCURACY

SGT 2302.0 SGR 643.8 SG3 458.9
RRT .7845 RRF -.8410 RTF -.8987
SGB 2390.3 R23 -.1855 R13 -.9062
SG1 2358.4 SG2 389.7 TMA 12.73

ORBIT DETERMINATION ACCURACY

ST 59.2 SR 22.8 SS 55.0
CRT .9482 CRS .8331 CST .9649
LSA 82.7 MSA 14.2 SSA 1.0
EL1 63.0 EL2 6.8 ALF 20.33

LAUNCH DATE MAR 29 1971 FLIGHT TIME 164.00 ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC DISTANCE 428.159 EARTH TO MARS
 RL 149.35 LAL -.00 LOL 187.66 VL 33.011 GAL -5.44 AZL 93.36 HCA 148.11 SMA 193.05 ECC .24444 INC 3.3594 V1 29.834
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.430 GAP 13.57 AZP 87.15 TAL 331.76 TAP 119.87 RCA 145.86 APO 240.24 V2 26.496
 RC 63.888 GL -22.33 GP 8.63 ZAL 135.63 ZAP 152.87 ETS 162.46 ZAE 167.31 ETE 98.43 ZAC 109.60 ETC 276.28 LVI -23.82

PLANETOCENTRIC CONIC
 C3 25.699 VHL 5.069 DLA -32.83 RAL 339.42 RAD 6645.3 VEL 12.069 PTH 7.05 VHP 6.428 DPA -11.17 RAP 310.61 ECC 1.4229
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 55 45 2500.72 -7.43 66.45 202.40 137.13 20 37 26 1500.7 10.95 50.67
 60.00 21 28 47 2253.12 -.26 51.02 209.26 130.30 22 6 20 1253.1 15.62 32.72
 70.00 23 50 35 1635.31 9.76 24.67 216.71 122.89 24 21 10 835.3 22.32 3.37
 72.59 1 22 26 1564.70 17.00 8.17 221.12 118.51 1 48 31 564.7 27.25 344.74
 72.59 1 22 26 1564.70 17.00 8.17 221.12 118.51 1 48 31 564.7 27.25 344.74
 72.59 1 22 26 1564.70 17.00 8.17 221.12 118.51 1 48 31 564.7 27.25 344.74
 110.00 4 53 57 6170.17 9.76 291.50 216.71 122.89 6 36 47 5170.2 22.32 270.19

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2312.5 SGR 682.0 SG3 486.7 ST 59.9 SR 23.1 SS 56.8
 RRT .8089 RRF -.8688 RTF -.8993 CRT .9591 CRS .8493 CST .9632
 SGB 2411.0 R23 -.2041 R13 -.9082 LSA 84.5 MSA 14.3 SSA 1.0
 SGI 2379.2 SG2 389.7 THA 13.79 EL1 63.9 EL2 6.1 ALF 20.50

LAUNCH DATE MAR 29 1971 FLIGHT TIME 166.00 ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC DISTANCE 431.941 EARTH TO MARS
 RL 149.35 LAL -.00 LOL 187.66 VL 32.956 GAL -5.34 AZL 93.46 HCA 149.38 SMA 192.03 ECC .24008 INC 3.4606 V1 29.834
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.355 GAP 13.20 AZP 87.02 TAL 331.84 TAP 121.22 RCA 145.93 APO 236.14 V2 26.496
 RC 64.956 GL -23.25 GP 9.19 ZAL 135.27 ZAP 151.57 ETS 162.30 ZAE 166.89 ETE 97.94 ZAC 110.15 ETC 276.32 LVI -24.37

PLANETOCENTRIC CONIC
 C3 25.176 VHL 5.018 DLA -33.66 RAL 339.92 RAD 6645.1 VEL 12.048 PTH 7.03 VHP 6.254 DPA -10.61 RAP 310.53 ECC 1.4143
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 3 7 2475.06 -6.15 65.36 203.05 137.27 20 44 22 1475.1 12.21 49.53
 60.00 21 39 32 2218.39 1.27 49.37 210.15 130.28 22 16 30 1218.4 17.05 30.91
 70.00 0 24 13 1743.95 13.09 19.70 218.80 121.83 0 53 17 744.0 24.99 357.61
 70.94 1 14 2 1591.60 17.56 10.57 221.52 119.18 1 40 33 591.6 28.03 347.12
 70.94 1 14 2 1591.60 17.56 10.57 221.52 119.18 1 40 33 591.6 28.03 347.12
 70.94 1 14 2 1591.60 17.56 10.57 221.52 119.18 1 40 33 591.6 28.03 347.12
 110.00 5 23 39 6078.81 13.09 286.52 218.80 121.83 7 4 58 5078.8 24.99 264.44

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2312.6 SGR 726.7 SG3 515.8 ST 60.4 SR 23.5 SS 58.7
 RRT .8305 RRF -.8931 RTF -.9005 CRT .9631 CRS .8655 CST .9615
 SGB 2424.1 R23 -.2211 R13 -.9111 LSA 86.2 MSA 14.4 SSA 1.0
 SGI 2392.3 SG2 391.4 THA 15.04 EL1 64.5 EL2 5.4 ALF 20.82

LAUNCH DATE MAR 29 1971 FLIGHT TIME 168.00 ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC DISTANCE 435.756 EARTH TO MARS
 RL 149.35 LAL -.00 LOL 187.66 VL 32.904 GAL -5.25 AZL 93.57 HCA 150.64 SMA 191.09 ECC .23597 INC 3.5697 V1 29.834
 RP 206.70 LAP -1.75 LOP 336.35 VP 24.282 GAP 12.83 AZP 86.89 TAL 331.92 TAP 122.56 RCA 146.00 APO 236.18 V2 26.494
 RC 66.082 GL -24.22 GP 9.81 ZAL 134.88 ZAP 150.21 ETS 162.12 ZAE 166.42 ETE 97.81 ZAC 110.75 ETC 276.35 LVI -24.95

PLANETOCENTRIC CONIC
 C3 24.725 VHL 4.972 DLA -34.52 RAL 340.45 RAD 6644.9 VEL 12.029 PTH 7.02 VHP 6.087 DPA -10.01 RAP 310.39 ECC 1.4069
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 11 6 2448.60 -4.63 64.25 203.83 137.39 20 51 55 1448.6 13.51 48.39
 60.00 21 51 32 2181.18 2.90 47.59 211.23 130.21 22 27 54 1181.2 18.57 28.94
 69.32 1 6 21 1616.97 18.12 12.89 222.02 119.90 1 33 18 617.0 28.82 349.42
 69.32 1 6 21 1616.97 18.12 12.89 222.02 119.90 1 33 18 617.0 28.82 349.42
 69.32 1 6 21 1616.97 18.12 12.89 222.02 119.90 1 33 18 617.0 28.82 349.42
 69.32 1 6 21 1616.97 18.12 12.89 222.02 119.90 1 33 18 617.0 28.82 349.42

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2304.9 SGR 778.7 SG3 546.0 ST 60.7 SR 24.0 SS 60.6
 RRT .8490 RRF -.9140 RTF -.9318 CRT .9780 CRS .8816 CST .9598
 SGB 2432.9 R23 -.2367 R13 -.9144 LSA 87.8 MSA 14.3 SSA .9
 SGI 2400.6 SG2 395.1 THA 16.46 EL1 65.1 EL2 4.7 ALF 21.27

LAUNCH DATE MAR 29 1971 FLIGHT TIME 170.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC DISTANCE 439.601 EARTH TO MARS
 RL 149.35 LAL -.00 LOL 187.66 VL 32.858 GAL -5.17 AZL 93.69 HCA 151.91 SMA 190.20 ECC .23210 INC 3.6877 V1 29.834
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.213 GAP 12.48 AZP 86.75 TAL 331.99 TAP 123.90 RCA 146.06 APO 234.35 V2 26.491
 RC 67.265 GL -25.25 GP 10.48 ZAL 134.46 ZAP 148.81 ETS 161.91 ZAE 165.87 ETE 98.03 ZAC 111.42 ETC 276.38 LVI -25.58

PLANETOCENTRIC CONIC
 C3 24.348 VHL 4.934 DLA -35.44 RAL 341.02 RAD 6644.7 VEL 12.014 PTH 7.01 VHP 5.927 DPA -9.37 RAP 310.21 ECC 1.4007
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 19 30 2421.22 -3.45 63.10 204.75 137.48 21 0 11 1421.2 14.85 47.16
 60.00 22 5 8 2140.72 4.68 45.64 212.52 130.07 22 40 49 1140.7 20.19 26.74
 67.70 0 59 20 1641.28 18.69 15.15 222.63 120.67 1 26 41 641.3 29.64 351.68
 67.70 0 59 20 1641.28 18.69 15.15 222.63 120.67 1 26 41 641.3 29.64 351.68
 67.70 0 59 20 1641.28 18.69 15.15 222.63 120.67 1 26 41 641.3 29.64 351.68
 67.70 0 59 20 1641.28 18.69 15.15 222.63 120.67 1 26 41 641.3 29.64 351.68
 67.70 0 59 20 1641.28 18.69 15.15 222.63 120.67 1 26 41 641.3 29.64 351.68

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 2299.6 SGR 839.1 SG3 577.6 ST 61.2 SR 24.7 SS 62.6
 RRT .8634 RRF -.9317 RTF -.9017 CRT .9858 CRS .8976 CST .9579
 SGB 2447.9 R23 -.2541 R13 -.9169 LSA 89.7 MSA 14.7 SSA .9
 SGI 2414.5 SG2 403.1 THA 18.01 EL1 65.8 EL2 3.8 ALF 21.78

LAUNCH DATE MAR 29 1971 FLIGHT TIME 172.00 ARRIVAL DATE SEP 17 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCN TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE MAR 29 1971 FLIGHT TIME 174.00 ARRIVAL DATE SEP 19 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCN TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE MAR 29 1971 FLIGHT TIME 176.00 ARRIVAL DATE SEP 21 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCN TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE MAR 29 1971 FLIGHT TIME 178.00 ARRIVAL DATE SEP 23 1971

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, Differential Corrections, Mid-course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCN TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, TDE, RDE, FDE, BDE, SGT, RRT, SGB, SGI, ST, CRT, LSA, EL1, EL2.

LAUNCH DATE MAR 29 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.65D GAL -4.81 AZL 94.47 HCA 198.24 SMA 186.61 ECC .21592 INC 4.4656 V1 29.834
RP 206.96 LAP -1.65 LOP 345.96 VP 23.902 GAP 10.80 AZP 85.85 TAL 332.32 TAP 130.56 RCA 146.32 APO 226.90 V2 26.462
RC 75.950 GL -31.37 GP 15.01 ZAL 131.68 ZAP 140.87 ETS 160.42 ZAE 161.74 ETE 102.78 ZAC 116.00 ETC 276.44 LVI -29.61

PLANETOCENTRIC CONIC

C3 23.681 VHL 4.868 DLA -40.80 RAL 344.80 RAD 6644.4 VEL 11.986 PTH 6.98 VHP 5.249 DPA -5.15 RAP 308.41 ECC 1.3897
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 20 51 2259.89 4.65 56.35 212.62 137.40 21 58 31 1259.9 22.55 39.56
59.27 0 32 14 1756.86 21.43 26.56 227.73 125.59 1 1 31 756.9 34.07 3.30
59.27 0 32 14 1756.86 21.43 26.56 227.73 125.59 1 1 31 756.9 34.07 3.30
59.27 0 32 14 1756.86 21.43 26.56 227.73 125.59 1 1 31 756.9 34.07 3.30
59.27 0 32 14 1756.86 21.43 26.56 227.73 125.59 1 1 31 756.9 34.07 3.30
59.27 0 32 14 1756.86 21.43 26.56 227.73 125.59 1 1 31 756.9 34.07 3.30
59.27 0 32 14 1756.86 21.43 26.56 227.73 125.59 1 1 31 756.9 34.07 3.30

DIFFERENTIAL CORRECTIONS

TDE -.9433 TRA-1.1951 TC3 -.0229 BAU .1828
RDE -.4648 RRA -.6663 RC3 .5762 FAU .08984
FDE 1.9336 FRA 4.9328 FC3-3.2845 BSP 4416
BDE 1.0516 BRA 1.3683 BC3 .5767 FSP 1207

MID-COURSE EXECUTION ACCURACY

SGT 2165.5 SGR 1299.3 SG3 744.6
RRT .8963 RRF -.9815 RTF -.8959
SGB 2525.4 R23 -.2968 R13 -.9363
SG1 2474.5 SG2 504.2 THA 29.62

ORBIT DETERMINATION ACCURACY

ST 62.1 SR 31.5 SS 73.4
CRT .9983 CRS .9627 CST .9470
LSA 100.0 MSA 16.0 SSA .6
EL1 69.6 EL2 1.6 ALF 26.85

LAUNCH DATE MAR 29 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.616 GAL -4.76 AZL 94.67 HCA 159.50 SMA 186.03 ECC .21326 INC 4.6748 V1 29.834
RP 207.04 LAP -1.64 LOP 347.23 VP 23.846 GAP 10.49 AZP 85.62 TAL 332.37 TAP 131.87 RCA 146.36 APO 225.70 V2 26.454
RC 75.426 GL -32.85 GP 16.24 ZAL 130.95 ZAP 139.06 ETS 160.04 ZAE 160.53 ETE 104.11 ZAC 117.25 ETC 276.44 LVI -30.66

PLANETOCENTRIC CONIC

C3 23.844 VHL 4.883 DLA -42.08 RAL 345.82 RAD 6644.5 VEL 11.993 PTH 6.99 VHP 5.141 DPA -4.03 RAP 307.84 ECC 1.3924
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 38 58 2218.57 6.71 54.60 215.25 137.21 22 15 57 1218.6 24.46 37.47
57.44 0 28 28 1780.25 21.94 28.99 229.31 126.85 0 58 8 780.3 35.01 5.85
57.44 0 28 28 1780.25 21.94 28.99 229.31 126.85 0 58 8 780.3 35.01 5.85
57.44 0 28 28 1780.25 21.94 28.99 229.31 126.85 0 58 8 780.3 35.01 5.85
57.44 0 28 28 1780.25 21.94 28.99 229.31 126.85 0 58 8 780.3 35.01 5.85
57.44 0 28 28 1780.25 21.94 28.99 229.31 126.85 0 58 8 780.3 35.01 5.85
57.44 0 28 28 1780.25 21.94 28.99 229.31 126.85 0 58 8 780.3 35.01 5.85

DIFFERENTIAL CORRECTIONS

TDE -.9551 TRA-1.1365 TC3 -.0343 BAU .1974
RDE -.4942 RRA -.7354 RC3 .6183 FAU .09293
FDE 2.0649 FRA 5.0662 FC3-3.3741 BSP 4458
BDE 1.0754 BRA 1.3537 BC3 .6192 FSP 1263

MID-COURSE EXECUTION ACCURACY

SGT 2117.8 SGR 1432.7 SG3 777.0
RRT .8960 RRF -.9862 RTF -.8923
SGB 2556.9 R23 -.2928 R13 -.9419
SG1 2499.4 SG2 539.1 THA 32.95

ORBIT DETERMINATION ACCURACY

ST 62.2 SR 33.8 SS 75.8
CRT .9953 CRS .9714 CST .9447
LSA 102.4 MSA 16.3 SSA .6
EL1 70.7 EL2 2.9 ALF 26.50

LAUNCH DATE MAR 29 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.584 GAL -4.70 AZL 94.91 HCA 160.77 SMA 185.49 ECC .21077 INC 4.9101 V1 29.834
RP 207.12 LAP -1.62 LOP 348.49 VP 23.792 GAP 10.18 AZP 85.38 TAL 332.41 TAP 133.18 RCA 146.40 APO 224.59 V2 26.444
RC 76.944 GL -34.46 GP 17.61 ZAL 130.14 ZAP 137.16 ETS 159.63 ZAE 159.15 ETE 105.46 ZAC 118.65 ETC 276.45 LVI -31.83

PLANETOCENTRIC CONIC

C3 24.137 VHL 4.913 DLA -43.44 RAL 346.99 RAD 6644.6 VEL 12.005 PTH 7.00 VHP 5.045 DPA -2.78 RAP 307.20 ECC 1.3972
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 0 51 2170.88 9.09 52.57 218.30 136.91 22 37 2 1170.9 26.61 34.98
55.54 0 25 20 1804.27 22.42 31.51 231.14 128.23 0 55 25 804.3 35.98 8.54
55.54 0 25 20 1804.27 22.42 31.51 231.14 128.23 0 55 25 804.3 35.98 8.54
55.54 0 25 20 1804.27 22.42 31.51 231.14 128.23 0 55 25 804.3 35.98 8.54
55.54 0 25 20 1804.27 22.42 31.51 231.14 128.23 0 55 25 804.3 35.98 8.54
55.54 0 25 20 1804.27 22.42 31.51 231.14 128.23 0 55 25 804.3 35.98 8.54
55.54 0 25 20 1804.27 22.42 31.51 231.14 128.23 0 55 25 804.3 35.98 8.54

DIFFERENTIAL CORRECTIONS

TDE -.9701 TRA-1.0737 TC3 -.0488 BAU .2142
RDE -.5328 RRA -.8120 RC3 .6819 FAU .09376
FDE 2.2145 FRA 5.1829 FC3-3.4347 BSP 4527
BDE 1.1068 BRA 1.3461 BC3 .6637 FSP 1320

MID-COURSE EXECUTION ACCURACY

SGT 2063.0 SGR 1584.3 SG3 807.5
RRT .8937 RRF -.9898 RTF -.876
SGB 2601.1 R23 -.2831 R13 -.9484
SG1 2536.0 SG2 578.3 THA 36.68

ORBIT DETERMINATION ACCURACY

ST 62.2 SR 36.7 SS 78.3
CRT .9908 CRS .9787 CST .9424
LSA 105.2 MSA 16.7 SSA .5
EL1 72.1 EL2 4.3 ALF 30.45

LAUNCH DATE MAR 29 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.555 GAL -4.65 AZL 95.18 HCA 162.03 SMA 184.99 ECC .20845 INC 5.1768 V1 29.834
RP 207.21 LAP -1.60 LOP 349.75 VP 23.739 GAP 9.88 AZP 85.07 TAL 332.45 TAP 134.47 RCA 146.43 APO 223.55 V2 26.433
RC 76.502 GL -38.19 GP 19.14 ZAL 129.25 ZAP 135.16 ETS 159.20 ZAE 157.57 ETE 106.79 ZAC 120.22 ETC 276.45 LVI -33.12

PLANETOCENTRIC CONIC

C3 24.588 VHL 4.959 DLA -44.85 RAL 348.32 RAD 6644.8 VEL 12.023 PTH 7.01 VHP 4.962 DPA -1.38 RAP 306.47 ECC 1.4047
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 28 39 2112.32 11.99 50.03 222.69 136.40 23 3 52 1112.3 29.19 31.78
53.56 0 22 56 1829.19 22.85 34.15 233.28 129.75 0 53 25 829.2 36.94 11.41
53.56 0 22 56 1829.19 22.85 34.15 233.28 129.75 0 53 25 829.2 36.94 11.41
53.56 0 22 56 1829.19 22.85 34.15 233.28 129.75 0 53 25 829.2 36.94 11.41
53.56 0 22 56 1829.19 22.85 34.15 233.28 129.75 0 53 25 829.2 36.94 11.41
53.56 0 22 56 1829.19 22.85 34.15 233.28 129.75 0 53 25 829.2 36.94 11.41
53.56 0 22 56 1829.19 22.85 34.15 233.28 129.75 0 53 25 829.2 36.94 11.41

DIFFERENTIAL CORRECTIONS

TDE -.9872 TRA-1.0041 TC3 -.0626 BAU .2339
RDE -.5831 RRA -.8957 RC3 .7087 FAU .09857
FDE 2.3813 FRA 5.2694 FC3-3.4706 BSP 4595
BDE 1.1465 BRA 1.3455 BC3 .7115 FSP 1366

MID-COURSE EXECUTION ACCURACY

SGT 1996.7 SGR 1755.5 SG3 834.5
RRT .8957 RRF -.9925 RTF -.8815
SGB 2658.7 R23 -.2674 R13 -.9558
SG1 2585.4 SG2 620.1 THA 40.67

ORBIT DETERMINATION ACCURACY

ST 62.1 SR 40.2 SS 80.9
CRT .9852 CRS .9845 CST .9403
LSA 108.2 MSA 17.1 SSA .5
EL1 73.7 EL2 5.8 ALF 32.76

LAUNCH DATE MAR 29 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.86 VL 32.927 GAL -4.61 AZL 95.48 HCA 163.29 SMA 184.53 ECC .20828 INC 5.4821 V1 29.834
 RP 207.31 LAP -1.57 LOP 351.02 VP 23.688 GAP 9.58 AZP 84.75 TAL 332.40 TAP 135.76 RCA 146.46 APO 222.59 V2 26.422
 RC 80.098 GL -38.07 GP 20.87 ZAL 128.24 ZAP 133.05 ETS 158.75 ZAE 159.77 ETE 108.07 ZAC 121.98 ETC 276.46 LVI -34.58

DISTANCE 475.250

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.230 VHL 5.023 DLA -46.45 RAL 349.86 RAD 6645.1 VEL 12.050 PTH 7.04 VHP 4.894 DPA .20 RAP 305.65 ECC 1.4152
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 8 28 2029.10 16.06 46.32 228.61 135.41 23 42 17 1029.1 32.68 26.93
 51.48 0 21 23 1855.33 23.21 36.92 235.78 131.43 0 52 18 855.3 37.90 14.50
 51.48 0 21 23 1855.33 23.21 36.92 235.78 131.43 0 52 18 855.3 37.90 14.50
 51.48 0 21 23 1855.33 23.21 36.92 235.78 131.43 0 52 18 855.3 37.90 14.50
 51.48 0 21 23 1855.33 23.21 36.92 235.78 131.43 0 52 18 855.3 37.90 14.50
 51.48 0 21 23 1855.33 23.21 36.92 235.78 131.43 0 52 18 855.3 37.90 14.50
 51.48 0 21 23 1855.33 23.21 36.92 235.78 131.43 0 52 18 855.3 37.90 14.50

DIFFERENTIAL CORRECTIONS

TDE -.9998 TRA -.9202 TC3 -.0638 BAU .2575
 RDE -.6468 RRA -.9855 RC3 .7608 FAU .10152
 FDE 2.5621 FRA 5.3099 FC3-3.4635 B8P 4596
 BDE 1.1908 BRA 1.3463 BC3 .7635 F8P 1393

MID-COURSE EXECUTION ACCURACY

SGT 1904.1 SGR 1946.9 S63 859.6
 RRT .8842 RRF -.9945 RTF -.8751
 SGB 2723.2 R23 -.2425 R13 -.9645
 S61 2643.3 S62 655.0 THA 45.72

ORBIT DETERMINATION ACCURACY

ST 61.4 SR 44.3 SS 83.3
 CRT .9788 CR8 .9890 CST .9380
 LSA 111.2 MSA 17.4 SSA .4
 EL1 75.4 EL2 7.4 ALF 35.60

LAUNCH DATE MAR 29 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.501 GAL -4.57 AZL 95.84 HCA 164.54 SMA 184.10 ECC .20427 INC 5.8352 V1 29.834
 RP 207.42 LAP -1.55 LOP 352.28 VP 23.638 GAP 9.30 AZP 84.37 TAL 332.50 TAP 137.04 RCA 146.49 APO 221.70 V2 26.409
 RC 81.730 GL -40.13 GP 22.82 ZAL 127.11 ZAP 130.82 ETS 158.28 ZAE 153.72 ETE 109.25 ZAC 123.97 ETC 276.47 LVI -36.18

DISTANCE 479.297

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.117 VHL 5.110 DLA -48.11 RAL 351.66 RAD 6645.5 VEL 12.086 PTH 7.07 VHP 4.845 DPA 1.98 RAP 304.73 ECC 1.4298
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84
 49.30 0 20 56 1882.95 23.49 39.85 238.71 133.28 0 52 19 882.9 38.83 17.84

DIFFERENTIAL CORRECTIONS

TDE -1.0388 TRA -.8506 TC3 -.1003 BAU .2822
 RDE -.7400 RRA -1.0917 RC3 .8020 FAU .10252
 FDE 2.8048 FRA 5.3348 FC3-3.3985 B8P 4894
 BDE 1.2752 BRA 1.3839 BC3 .8082 F8P 1443

MID-COURSE EXECUTION ACCURACY

SGT 1845.7 SGR 2172.7 S63 873.5
 RRT .8729 RRF -.9960 RTF -.8629
 SGB 2850.8 R23 -.2205 R13 -.8714
 S61 2761.4 S62 708.6 THA 50.32

ORBIT DETERMINATION ACCURACY

ST 62.0 SR 49.8 SS 86.6
 CRT .9727 CR8 .9926 CST .9374
 LSA 116.2 MSA 17.8 SSA .4
 EL1 79.0 EL2 9.1 ALF 38.58

LAUNCH DATE MAR 29 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.477 GAL -4.53 AZL 96.25 HCA 165.80 SMA 183.89 ECC .20240 INC 6.2486 V1 29.834
 RP 207.54 LAP -1.53 LOP 353.54 VP 23.590 GAP 9.01 AZP 83.94 TAL 332.51 TAP 138.31 RCA 146.51 APO 220.91 V2 26.395
 RC 83.399 GL -42.39 GP 25.02 ZAL 125.84 ZAP 128.44 ETS 157.82 ZAE 151.40 ETE 110.34 ZAC 126.23 ETC 276.50 LVI -37.99

DISTANCE 483.358

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.320 VHL 5.227 DLA -49.91 RAL 353.80 RAD 6645.9 VEL 12.136 PTH 7.11 VHP 4.819 DPA 4.00 RAP 303.89 ECC 1.4496
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50
 47.00 0 21 50 1912.56 23.64 42.96 242.17 135.33 0 53 43 912.6 39.69 21.50

DIFFERENTIAL CORRECTIONS

TDE -1.0678 TRA -.7580 TC3 -.1128 BAU .3133
 RDE -.8592 RRA -1.2017 RC3 .8504 FAU .10389
 FDE 3.0599 FRA 5.2733 FC3-3.2922 B8P 5080
 BDE 1.3705 BRA 1.4208 BC3 .8578 F8P 1452

MID-COURSE EXECUTION ACCURACY

SGT 1745.8 SGR 2420.9 S63 879.6
 RRT .8603 RRF -.9971 RTF -.8495
 SGB 2884.7 R23 -.1898 R13 -.8790
 S61 2890.1 S62 745.4 THA 55.57

ORBIT DETERMINATION ACCURACY

ST 61.6 SR 56.2 SS 89.6
 CRT .9688 CR8 .9931 CST .9366
 LSA 121.1 MSA 18.1 SSA .3
 EL1 82.7 EL2 10.7 ALF 42.88

LAUNCH DATE MAR 29 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.454 GAL -4.49 AZL 96.74 HCA 167.05 SMA 183.32 ECC .20068 INC 6.7398 V1 29.834
 RP 207.66 LAP -1.51 LOP 354.80 VP 23.542 GAP 8.73 AZP 83.43 TAL 332.52 TAP 139.57 RCA 146.54 APO 220.11 V2 26.381
 RC 85.104 GL -44.89 GP 27.53 ZAL 124.40 ZAP 125.91 ETS 157.36 ZAE 148.75 ETE 111.33 ZAC 128.78 ETC 276.54 LVI -40.04

DISTANCE 487.430

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.951 VHL 5.381 DLA -51.82 RAL 356.38 RAD 6646.6 VEL 12.202 PTH 7.16 VHP 4.823 DPA 6.30 RAP 302.53 ECC 1.4765
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51
 44.58 0 24 32 1944.71 23.60 46.25 246.27 137.58 0 56 56 944.7 40.45 25.51

DIFFERENTIAL CORRECTIONS

TDE -1.1124 TRA -.6654 TC3 -.1382 BAU .3483
 RDE -1.0290 RRA -1.3254 RC3 .8892 FAU .10397
 FDE 3.3752 FRA 5.1489 FC3-3.0970 B8P 5399
 BDE 1.5153 BRA 1.4830 BC3 .8999 F8P 1458

MID-COURSE EXECUTION ACCURACY

SGT 1655.1 SGR 2707.4 S63 875.6
 RRT .8420 RRF -.9979 RTF -.8305
 SGB 3173.2 R23 -.1600 R13 -.9852
 S61 3074.3 S62 786.3 THA 60.66

ORBIT DETERMINATION ACCURACY

ST 61.7 SR 64.6 SS 93.2
 CRT .9618 CR8 .9969 CST .9374
 LSA 127.8 MSA 18.2 SSA .3
 EL1 88.5 EL2 12.3 ALF 46.39

LAUNCH DATE MAR 29 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.433 GAL -4.46 AZL 97.35 HCA 168.30 SMA 182.98 ECC .19908 INC 7.3333 V1 29.834
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.496 GAP 8.46 AZP 82.82 TAL 332.52 TAP 140.82 RCA 146.55 APO 219.41 V2 26.365
 RC 86.843 GL -47.66 GP 30.38 ZAL 122.73 ZAP 123.20 ETS 156.94 ZAE 145.76 ETE 112.22 ZAC 131.69 ETC 276.61 LVI -42.33

PLANETOCENTRIC CONIC
 C3 31.180 VHL 5.584 DLA -53.87 RAL 359.55 RAD 6647.5 VEL 12.293 PTH 7.23 VHP 4.865 DPA 8.93 RAP 301.23 ECC 1.5131
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92
 42.04 0 29 37 1980.09 23.33 49.75 251.19 140.05 1 2 37 980.1 41.02 29.92

DIFFERENTIAL CORRECTIONS
 YDE-1.1608 TRA -.5588 TC3 -.1572 BAU .3903
 RDE-1.2673 RRA-1.4556 RC3 .9231 FAU .10216
 FDE 3.7358 FRA 4.9189 FC3-2.8365 BSP 5776
 BDE 1.7185 BRA 1.5591 BC3 .9364 FSP 1431

MID-COURSE EXECUTION ACCURACY
 SGT 1547.6 SGR 3028.0 SG3 855.3
 RRT .8174 RRF -.9985 RTF -.805D
 SGB 3400.5 R23 -.1301 R13 -.9902
 SG1 3300.7 SG2 817.8 THA 65.74

ORBIT DETERMINATION ACCURACY
 ST 61.3 SR 75.3 SS 97.0
 CRT .9583 CRS .9981 CST .9391
 LSA 136.0 MSA 18.2 SSA .3
 EL1 96.1 EL2 13.7 ALF 51.10

LAUNCH DATE MAR 29 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.414 GAL -4.44 AZL 98.07 HCA 169.55 SMA 182.87 ECC .19760 INC 8.0654 V1 29.834
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.451 GAP 8.19 AZP 82.07 TAL 332.51 TAP 142.06 RCA 146.57 APO 218.76 V2 26.349
 RC 88.616 GL -50.75 GP 33.62 ZAL 120.87 ZAP 120.29 ETS 156.59 ZAE 142.37 ETE 113.05 ZAC 135.00 ETC 276.72 LVI -44.90

PLANETOCENTRIC CONIC
 C3 34.282 VHL 9.855 DLA -56.02 RAL 3.52 RAD 6648.6 VEL 12.417 PTH 7.32 VHP 4.961 DPA 11.92 RAP 299.77 ECC 1.5642
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75
 39.40 0 37 58 2019.74 22.70 53.42 257.12 142.71 1 11 38 1019.7 41.29 34.75

DIFFERENTIAL CORRECTIONS
 YDE-1.2137 TRA -.4382 TC3 -.1722 BAU .4416
 RDE-1.6119 RRA-1.5888 RC3 .9479 FAU .09926
 FDE 4.1438 FRA 4.5640 FC3-2.5087 BSP 6226
 BDE 2.0175 BRA 1.6481 BC3 .9635 FSP 1386

MID-COURSE EXECUTION ACCURACY
 SGT 1428.2 SGR 3384.7 SG3 814.7
 RRT .7826 RRF -.9989 RTF -.7689
 SGB 3673.7 R23 -.1030 R13 -.9938
 SG1 3576.0 SG2 841.6 THA 70.61

ORBIT DETERMINATION ACCURACY
 ST 60.5 SR 89.2 SS 101.0
 CRT .9564 CRS .9989 CST .9417
 LSA 146.6 MSA 17.9 SSA .2
 EL1 106.8 EL2 14.8 ALF 56.31

LAUNCH DATE MAR 29 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.398 GAL -4.41 AZL 98.99 HCA 170.79 SMA 182.37 ECC .19625 INC 8.9916 V1 29.834
 RP 208.08 LAP -1.43 LOP 358.56 VP 23.407 GAP 7.93 AZP 81.12 TAL 332.49 TAP 143.28 RCA 146.58 APO 218.16 V2 26.332
 RC 90.421 GL -54.22 GP 37.29 ZAL 118.72 ZAP 117.17 ETS 156.37 ZAE 138.54 ETE 113.86 ZAC 138.75 ETC 276.87 LVI -47.74

PLANETOCENTRIC CONIC
 C3 38.721 VHL 6.223 DLA -58.23 RAL 8.58 RAD 6650.2 VEL 12.594 PTH 7.45 VHP 5.132 DPA 15.32 RAP 298.12 ECC 1.6372
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97
 36.72 0 51 0 2064.87 21.58 57.23 264.39 145.51 1 25 25 1064.9 41.10 39.97

DIFFERENTIAL CORRECTIONS
 YDE-1.2634 TRA -.2891 TC3 -.1817 BAU .5050
 RDE-2.1238 RRA-1.7173 RC3 .9584 FAU .09439
 FDE 4.5655 FRA 4.0661 FC3-2.1104 BSP 6734
 BDE 2.4712 BRA 1.7431 BC3 .9758 FSP 1259

MID-COURSE EXECUTION ACCURACY
 SGT 1295.3 SGR 3777.1 SG3 749.7
 RRT .7308 RRF -.9991 RTF -.1.50
 SGB 3993.0 R23 -.0801 R13 -.9962
 SG1 3900.1 SG2 856.2 THA 75.20

ORBIT DETERMINATION ACCURACY
 ST 58.7 SR 107.7 SS 104.9
 CRT .9558 CRS .9993 CST .9446
 LSA 160.4 MSA 17.3 SSA .2
 EL1 121.7 EL2 15.3 ALF 62.00

LAUNCH DATE MAR 29 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.288 GAL -4.53 AZL 81.41 HCA 187.07 SMA 180.33 ECC .18857 INC 8.5882 V1 29.834
 RP 210.70 LAP -1.03 LOP 14.65 VP 22.887 GAP 4.94 AZP 98.52 TAL 330.71 TAP 157.78 RCA 146.32 APO 214.33 V2 26.030
 RC 118.460 GL 82.91 GP -48.01 ZAL 120.38 ZAP 95.82 ETS 185.23 ZAE 121.67 ETE 221.77 ZAC 54.42 ETC 272.19 LVI 34.37

PLANETOCENTRIC CONIC
 C3 36.245 VHL 6.020 DLA 38.99 RAL 314.53 RAD 6649.3 VEL 12.495 PTH 7.38 VHP 5.350 DPA -69.62 RAP 315.13 ECC 1.5965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 41 58 4139.94 -38.91 185.22 219.27 80.11 13 50 58 3139.9 -47.15 153.87
 60.00 11 42 3 4301.02 -24.66 189.38 209.00 57.06 12 53 44 3301.0 -35.95 164.63
 61.95 10 42 2 4471.81 -16.48 197.74 203.11 54.15 11 56 34 3471.8 -29.63 175.78
 61.95 10 42 2 4471.81 -16.48 197.74 203.11 54.15 11 56 34 3471.8 -29.63 175.78
 61.95 10 42 2 4471.81 -16.48 197.74 203.11 54.15 11 56 34 3471.8 -29.63 175.78
 61.95 10 42 2 4471.81 -16.48 197.74 203.11 54.15 11 56 34 3471.8 -29.63 175.78
 61.95 10 42 2 4471.81 -16.48 197.74 203.11 54.15 11 56 34 3471.8 -29.63 175.78

DIFFERENTIAL CORRECTIONS
 YDE 1.6110 TRA .6516 TC3 -.8645 BAU .7584
 RDE 3.2632 RRA 3.4143 RC3-1.3047 FAU .08307
 FDE 4.3358 FRA 4.6719 FC3-1.9842 BSP 9791
 BDE 3.6392 BRA 3.4759 BC3 1.5651 FSP 1125

MID-COURSE EXECUTION ACCURACY
 SGT 2017.6 SGR 5439.7 SG3 643.4
 RRT .8867 RRF .9993 RTF .8903
 SGB 5801.8 R23 .0430 R13 .9985
 SG1 5734.0 SG2 884.9 THA 71.33

ORBIT DETERMINATION ACCURACY
 ST 77.6 SR 167.5 SS 103.3
 CRT .9739 CRS -.9999 CST -.9715
 LSA 210.9 MSA 16.7 SSA .2
 EL1 183.9 EL2 16.0 ALF 65.51

LAUNCH DATE MAR 29 1971 FLIGHT TIME 228.00 ARRIVAL DATE NOV 12 1971

Table with columns for heliocentric and planetocentric conic data, distance (598.170), and earth to mars parameters. Includes rows for RL, RP, RC, C3, LNCH AZMTH, and differential corrections.

LAUNCH DATE MAR 29 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 14 1971

Table with columns for heliocentric and planetocentric conic data, distance (562.336), and earth to mars parameters. Includes rows for RL, RP, RC, C3, LNCH AZMTH, and differential corrections.

LAUNCH DATE MAR 29 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 16 1971

Table with columns for heliocentric and planetocentric conic data, distance (566.506), and earth to mars parameters. Includes rows for RL, RP, RC, C3, LNCH AZMTH, and differential corrections.

LAUNCH DATE MAR 29 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 18 1971

Table with columns for heliocentric and planetocentric conic data, distance (570.680), and earth to mars parameters. Includes rows for RL, RP, RC, C3, LNCH AZMTH, and differential corrections.

LAUNCH DATE MAR 29 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.258 GAL -4.69 AZL 86.08 HCA 193.09 SMA 180.18 ECC .18901 INC 3.9166 V1 29.834
RP 212.01 LAP -.89 LOP 20.72 VP 22.702 GAP 3.90 AZP 93.82 TAL 329.71 TAP 162.80 RCA 146.11 APO 214.22 V2 25.880
RC 127.566 GL 29.68 GP -33.18 ZAL 134.92 ZAP 89.12 ETS 178.31 ZAE 124.06 EYE 205.57 ZAC 69.36 ETC 271.02 LVI 22.12

DISTANCE 574.856

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.667 VHL 4.435 DLA 16.98 RAL 323.34 RAD 6642.7 VEL 11.819 PTH 6.84 VHP 3.923 DPA -56.33 RAP 298.89 FCC 1.3237
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 22 50 3472.39 -45.81 125.60 197.19 104.58 16 20 42 2472.4 -35.14 98.84
60.00 15 42 52 3419.06 -39.53 122.54 198.93 99.56 16 39 51 2419.1 -31.90 94.31
70.00 16 12 34 3331.62 -33.96 116.22 199.69 93.86 17 8 6 2331.6 -28.86 88.69
80.00 16 59 22 3184.97 -29.85 105.29 199.88 90.65 17 52 27 2185.0 -26.55 78.36
90.00 18 11 2 2953.62 -28.28 88.29 199.88 89.46 19 0 16 1953.6 -25.65 61.59
100.00 19 42 14 2659.44 -29.85 66.66 199.88 90.65 20 26 33 1659.4 -26.55 39.72
110.00 21 12 1 2378.44 -33.96 45.14 199.69 93.86 21 51 39 1378.4 -28.86 17.61

DIFFERENTIAL CORRECTIONS

TDE 1.2334 TRA 1.4276 TC3-1.9558 BAU .6459
RDE 1.4961 RRA 2.4622 RC3-1.4863 FAU .13599
FDE 5.0903 FRA 9.3085 FC3-5.9863 BSP 8479
BDE 1.9390 BRA 2.8462 BC3 2.4566 FSP 2320

MID-COURSE EXECUTION ACCURACY

SGT 3044.3 SGR 4066.7 SG3 1309.1
RRT .9517 RRF .9987 RTF .9526
SCB 5080.0 R23 .1033 R13 .9934
SG1 5023.3 SG2 756.9 THA 53.57

ORBIT DETERMINATION ACCURACY

ST 84.8 SR 108.8 SS 128.5
CRT .9917 CRS -.9990 CST -.9851
LSA 188.1 MSA 12.2 SSA .5
EL1 137.7 EL2 8.6 ALF 52.12

LAUNCH DATE MAR 29 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.258 GAL -4.73 AZL 86.55 HCA 194.29 SMA 180.16 ECC .18929 INC 3.4538 V1 29.834
RP 212.29 LAP -.85 LOP 21.92 VP 22.665 GAP 3.70 AZP 93.35 TAL 329.47 TAP 163.76 RCA 146.06 APO 214.26 V2 25.848
RC 129.850 GL 26.53 GP -31.04 ZAL 136.66 ZAP 87.37 ETS 177.30 ZAE 123.42 ETE 202.82 ZAC 71.52 ETC 270.81 LVI 20.45

DISTANCE 579.035

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.806 VHL 4.337 DLA 14.06 RAL 324.56 RAD 6642.3 VEL 11.782 PTH 6.81 VHP 3.815 DPA -54.38 RAP 296.94 ECC 1.3095
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 39 35 3401.54 -44.40 119.35 194.85 109.22 16 36 16 2401.5 -32.33 92.43
60.00 16 3 26 3338.05 -38.50 115.91 197.11 102.95 16 59 4 2338.1 -29.35 88.96
70.00 16 37 46 3236.98 -33.29 108.92 198.31 98.13 17 31 43 2237.0 -26.58 82.28
80.00 17 29 18 3075.53 -29.49 97.18 198.82 94.90 18 20 33 2075.5 -24.50 70.87
90.00 18 43 15 2836.85 -28.05 79.77 198.94 93.72 19 30 32 1836.9 -23.70 53.59
100.00 20 12 10 2550.00 -29.49 58.55 198.82 94.90 20 54 40 1550.0 -24.50 32.24
110.00 21 37 12 2283.80 -33.29 37.84 198.31 98.13 22 15 16 1283.8 -26.58 11.20

DIFFERENTIAL CORRECTIONS

TDE 1.2227 TRA 1.5867 TC3-2.1476 BAU .6541
RDE 1.3365 RRA 2.2957 RC3-1.4686 FAU .14461
FDE 5.0465 FRA 9.8307 FC3-6.6569 BSP 8238
BDE 1.8114 BRA 2.7907 BC3 2.6017 FSP 2410

MID-COURSE EXECUTION ACCURACY

SGT 3278.6 SGR 3810.0 SG3 1385.3
RRT .9592 RRF .9984 RTF .9599
SCB 5026.5 R23 .1130 R13 .9920
SG1 4976.2 SG2 709.7 THA 49.47

ORBIT DETERMINATION ACCURACY

ST 87.1 SR 100.0 SS 128.3
CRT .9942 CRS -.9985 CST -.9871
LSA 184.2 MSA 11.6 SSA .5
EL1 132.4 EL2 7.0 ALF 48.97

LAUNCH DATE MAR 29 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.258 GAL -4.77 AZL 86.94 HCA 195.49 SMA 180.17 ECC .18965 INC 3.0625 V1 29.834
RP 212.57 LAP -.82 LOP 23.13 VP 22.828 GAP 3.50 AZP 92.95 TAL 329.22 TAP 164.70 RCA 146.00 APO 214.33 V2 25.815
RC 132.153 GL 23.73 GP -29.11 ZAL 138.16 ZAP 85.58 ETS 176.42 ZAE 122.56 ETE 200.32 ZAC 73.47 ETC 270.60 LVI 18.96

DISTANCE 583.209

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.213 VHL 4.268 DLA 11.48 RAL 325.87 RAD 6642.0 VEL 11.757 PTH 6.78 VHP 3.732 DPA -52.61 RAP 295.21 ECC 1.2997
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 54 6 3341.56 -42.94 114.33 193.22 112.86 16 49 48 2341.6 -29.81 88.92
60.00 16 21 5 3289.74 -37.32 110.49 195.84 106.46 17 15 35 2289.7 -27.02 84.68
70.00 16 59 7 3197.85 -32.36 102.93 197.35 101.56 17 51 45 2157.8 -24.43 77.13
80.00 17 54 13 2985.14 -28.78 90.56 198.08 98.31 18 44 0 1985.1 -22.51 64.90
90.00 19 9 52 2741.11 -27.44 72.83 198.28 97.14 19 55 33 1741.1 -21.77 47.24
100.00 20 37 7 2459.62 -28.78 51.93 198.08 98.31 21 18 6 1459.6 -22.51 26.27
110.00 21 58 33 2204.67 -32.36 31.85 197.35 101.56 22 35 18 1204.7 -24.43 6.03

DIFFERENTIAL CORRECTIONS

TDE 1.2243 TRA 1.7497 TC3-2.3257 BAU .6590
RDE 1.2315 RRA 2.1891 RC3-1.3843 FAU .14706
FDE 5.0986 FRA 10.3583 FC3-6.9904 BSP 8324
BDE 1.7365 BRA 2.7837 BC3 2.7065 FSP 2587

MID-COURSE EXECUTION ACCURACY

SGT 3319.6 SGR 3599.4 SG3 1455.3
RRT .9619 RRF .9981 RTF .9531
SCB 5031.3 R23 .1237 R13 .9904
SG1 4983.2 SG2 694.1 THA 45.63

ORBIT DETERMINATION ACCURACY

ST 89.8 SR 93.9 SS 129.9
CRT .9966 CRS -.9980 CST -.9899
LSA 183.4 MSA 10.8 SSA .7
EL1 129.8 EL2 5.4 ALF 46.30

LAUNCH DATE MAR 29 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 149.35 LAL -.00 LOL 187.66 VL 32.258 GAL -4.82 AZL 87.87 HCA 198.88 SMA 180.18 ECC .19006 INC 2.7271 V1 29.834
RP 212.88 LAP -.78 LOP 24.32 VP 22.592 GAP 3.31 AZP 92.81 TAL 328.95 TAP 165.63 RCA 145.93 APO 214.42 V2 25.788
RC 134.478 GL 21.25 GP -27.36 ZAL 139.44 ZAP 83.77 ETS 175.84 ZAE 121.83 ETE 198.08 ZAC 75.24 ETC 270.41 LVI 17.63

DISTANCE 587.385

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.811 VHL 4.280 DLA 9.80 RAL 328.88 RAD 6641.8 VEL 11.740 PTH 6.77 VHP 3.870 DPA -51.00 RAP 293.65 ECC 1.2931
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 52 3280.41 -41.50 110.26 192.13 115.74 17 1 42 2290.4 -27.59 88.08
60.00 16 38 29 3211.80 -36.11 106.03 195.00 109.27 17 30 1 2211.8 -24.92 81.13
70.00 17 17 32 3090.80 -31.34 97.97 196.73 104.32 18 9 3 2090.8 -22.46 72.92
80.00 18 15 33 2909.08 -27.91 85.08 197.62 101.07 19 4 2 1909.1 -20.64 60.02
90.00 19 32 28 2680.86 -26.63 67.10 197.88 99.90 20 16 49 1660.9 -19.95 42.07
100.00 20 58 25 2383.56 -27.91 46.45 197.62 101.07 21 38 9 1383.6 -20.64 21.39
110.00 22 16 59 2137.92 -31.34 26.89 196.73 104.32 22 52 36 1137.6 -22.46 1.84

DIFFERENTIAL CORRECTIONS

TDE 1.2356 TRA 1.9148 TC3-2.4861 BAU .6682
RDE 1.1431 RRA 2.0406 RC3-1.3019 FAU .14898
FDE 5.1130 FRA 10.7882 FC3-7.2413 BSP 8432
BDE 1.6833 BRA 2.7983 BC3 2.8063 FSP 2728

MID-COURSE EXECUTION ACCURACY

SGT 3762.0 SGR 3390.0 SG3 1510.6
RRT .9645 RRF .9976 RTF .9661
SCB 5064.1 R23 .1323 R13 .9889
SG1 5019.4 SG2 671.3 THA 41.91

ORBIT DETERMINATION ACCURACY

ST 92.8 SR 88.3 SS 130.8
CRT .9983 CRS -.9973 CST -.9915
LSA 182.8 MSA 10.1 SSA .8
EL1 128.0 EL2 3.8 ALF 43.58

LAUNCH DATE MAR 29 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.260 GAL -4.87 AZL 87.56 HCA 197.87 SMA 180.20 ECC .19053 INC 2.4360 V1 29.834
 RP 213.16 LAP -.75 LOP 25.52 VP 22.555 GAP 3.11 AZP 92.32 TAL 328.67 TAP 166.55 RCA 145.87 APO 214.53 V2 25.749
 RC 136.814 GL 19.03 GP -25.77 ZAL 140.54 ZAP 81.95 ETS 174.96 ZAE 120.36 ETE 196.03 ZAC 76.85 ETC 270.23 LVI 16.44

DISTANCE 591.562 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.550 VML 4.169 DLA 7.19 RAL 327.62 RAD 6641.7 VEL 11.729 PTH 6.76 VHP 3.623 DPA -49.53 RAP 292.25 ECC 1.2688
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 18 11 3246.54 -40.15 106.92 191.45 118.04 17 12 17 2246.5 -25.63 83.74
 60.00 16 50 3 3161.74 -34.92 102.33 194.49 111.54 17 42 45 2161.7 -23.06 78.29
 70.00 17 33 40 3033.43 -30.30 93.83 196.39 106.57 18 24 14 2033.4 -20.68 69.43
 80.00 18 34 4 2844.24 -26.98 80.49 197.40 103.31 19 21 28 1844.2 -18.93 55.97
 90.00 19 52 3 2592.60 -25.74 62.30 197.71 102.15 20 35 16 1592.6 -18.27 37.77
 100.00 21 16 56 2318.72 -26.98 41.86 197.40 103.31 21 55 35 1318.7 -18.93 17.34
 110.00 22 33 7 2080.24 -30.30 22.75 196.39 106.57 23 7 47 1080.2 -20.68 358.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2509 TRA 2.0773 TC3-2.6369 BAU .6835 SGT 4000.9 SGR 3185.7 SG3 1548.8 ST 95.8 SR 82.7 S8 130.2
 RDE 1.0609 RRA 1.9149 RC3-1.2381 FAU .15218 RRT .9676 RRF .9970 RTF .9695 CRT .9993 CRS -.9964 CST -.9929
 FDE 5.0721 FRA11.0884 FC3-7.5069 BSP 8479 SGB 5114.3 R23 .1370 R13 .9878 LSA 181.3 MSA 9.7 S8A .9
 BDE 1.6402 BRA 2.8252 BC3 2.9131 FSP 2791 SGI 5074.8 SG2 634.4 THA 38.32 EL1 126.5 EL2 2.4 ALF 40.79

LAUNCH DATE MAR 29 1971

FLIGHT TIME 246.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.262 GAL -4.92 AZL 87.82 HCA 199.06 SMA 180.23 ECC .19105 INC 2.1806 V1 29.834
 RP 213.46 LAP -.71 LOP 26.71 VP 22.519 GAP 2.92 AZP 92.06 TAL 328.39 TAP 167.45 RCA 145.80 APO 214.66 V2 25.714
 RC 139.171 GL 17.05 GP -24.32 ZAL 141.51 ZAP 80.13 ETS 174.36 ZAE 119.09 ETE 194.20 ZAC 78.31 ETC 270.06 LVI 15.37

DISTANCE 595.738 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.398 VML 4.171 DLA 5.40 RAL 328.50 RAD 6641.7 VEL 11.723 PTH 6.75 VHP 3.590 DPA -48.19 RAP 290.97 ECC 1.2663
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 28 19 3208.76 -38.90 104.16 191.07 119.90 17 21 47 2208.8 -23.91 81.79
 60.00 17 2 8 3118.76 -33.81 99.24 194.24 113.39 17 54 7 2118.8 -21.40 75.87
 70.00 17 47 57 2983.99 -29.29 90.34 196.27 108.41 18 37 41 1984.0 -19.09 66.48
 80.00 18 50 23 2788.46 -26.04 76.61 197.37 105.15 19 36 52 1788.5 -17.38 52.56
 90.00 20 9 16 2533.93 -24.83 58.25 197.72 103.98 20 51 30 1533.9 -16.73 34.14
 100.00 21 33 15 2262.93 -26.04 37.98 197.37 105.15 22 10 58 1262.9 -17.38 13.92
 110.00 22 47 24 2030.80 -29.29 19.25 196.27 108.41 23 21 14 1030.8 -19.09 355.40

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2693 TRA 2.2371 TC3-2.7807 BAU .7024 SGT 4236.6 SGR 2992.4 SG3 1574.7 ST 98.8 SR 77.5 S8 129.1
 RDE .9903 RRA 1.7958 RC3-1.1773 FAU .15514 RRT .9701 RRF .9963 RTF .9725 CRT .9998 CRS -.9953 CST -.9940
 FDE 5.0128 FRA11.3051 FC3-7.7198 BSP 8539 SGB 5186.8 R23 .1389 R13 .9869 LSA 179.9 MSA 9.4 S8A .9
 BDE 1.6099 BRA 2.8687 BC3 3.0197 FSP 2819 SGI 5152.3 SG2 597.4 THA 34.96 EL1 125.6 EL2 1.2 ALF 36.13

LAUNCH DATE MAR 29 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.265 GAL -4.98 AZL 88.04 HCA 200.25 SMA 180.27 ECC .19163 INC 1.9550 V1 29.834
 RP 213.77 LAP -.68 LOP 27.90 VP 22.483 GAP 2.73 AZP 91.83 TAL 328.09 TAP 168.34 RCA 145.72 APO 214.81 V2 25.680
 RC 141.945 GL 15.27 GP -22.99 ZAL 142.35 ZAP 78.34 ETS 173.83 ZAE 117.74 ETE 192.57 ZAC 79.65 ETC 269.90 LVI 14.39

DISTANCE 599.911 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.331 VML 4.163 DLA 3.81 RAL 329.32 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 3.567 DPA -46.95 RAP 289.82 ECC 1.2652
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 27 3176.11 -37.77 101.86 190.92 121.41 17 30 23 2176.1 -22.40 80.16
 60.00 17 13 0 3081.56 -32.77 96.63 194.20 114.91 18 4 21 2081.6 -19.93 73.82
 70.00 18 0 44 2941.15 -28.33 87.37 196.33 109.92 18 49 45 1941.2 -17.66 63.98
 80.00 19 4 55 2740.13 -25.14 73.30 197.51 106.66 19 30 35 1740.1 -15.98 49.65
 90.00 20 24 34 2483.12 -23.95 54.79 197.88 105.50 21 5 57 1483.1 -15.35 31.06
 100.00 21 47 47 2214.60 -25.14 34.67 197.51 106.66 22 24 42 1214.6 -15.98 11.02
 110.00 23 0 10 1987.97 -28.33 16.29 196.33 109.92 23 33 18 988.0 -17.66 352.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2950 TRA 2.4001 TC3-2.9078 BAU .7206 SGT 4471.9 SGR 2817.4 SG3 1593.8 ST 102.1 SR 73.3 S8 128.6
 RDE .9359 RRA 1.6902 RC3-1.1033 FAU .15571 RRT .9713 RRF .9955 RTF .5.44 CRT .9998 CRS -.9940 CST -.9951
 FDE 4.9808 FRA11.4941 FC3-7.7782 BSP 8713 SGB 5285.4 R23 .1401 R13 .9861 LSA 179.6 MSA 9.2 S8A 1.0
 BDE 1.5978 BRA 2.9355 BC3 3.1100 FSP 2867 SGI 5254.5 SG2 570.4 THA 31.88 EL1 125.7 EL2 1.2 ALF 35.68

LAUNCH DATE MAR 29 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.267 GAL -5.04 AZL 88.25 HCA 201.43 SMA 180.31 ECC .19228 INC 1.7558 V1 29.834
 RP 214.08 LAP -.64 LOP 29.08 VP 22.446 GAP 2.54 AZP 91.83 TAL 327.79 TAP 169.22 RCA 145.65 APO 214.98 V2 25.645
 RC 143.936 GL 13.67 GP -21.77 ZAL 143.11 ZAP 76.58 ETS 173.38 ZAE 116.34 ETE 191.12 ZAC 80.88 ETC 269.75 LVI 13.50

DISTANCE 604.083 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.334 VML 4.163 DLA 2.38 RAL 330.10 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 3.552 DPA -45.81 RAP 288.78 ECC 1.2653
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 45 3147.83 -36.75 99.93 190.95 122.65 17 38 13 2147.8 -21.07 78.77
 60.00 17 22 49 3049.25 -31.82 94.41 194.31 116.16 18 13 38 2049.3 -18.63 72.07
 70.00 18 12 14 2903.88 -27.44 84.84 196.52 111.18 19 0 38 1903.9 -16.39 61.84
 80.00 19 17 58 2698.04 -24.29 70.47 197.77 107.92 20 2 56 1698.0 -14.73 47.15
 90.00 20 38 17 2438.87 -23.11 51.81 198.17 106.76 21 18 56 1438.9 -14.10 28.41
 100.00 22 0 50 2172.52 -24.29 31.83 197.77 107.92 22 37 2 1172.5 -14.73 8.52
 110.00 23 11 40 1950.70 -27.44 13.76 196.52 111.18 23 44 11 950.7 -16.39 350.76

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3231 TRA 2.5614 TC3-3.0272 BAU .7413 SGT 4702.8 SGR 2652.5 SG3 1603.8 ST 105.4 SR 69.4 S8 127.7
 RDE .8885 RRA 1.5905 RC3-1.0339 FAU .15599 RRT .9721 RRF .9945 RTF .9761 CRT .9993 CRS -.9925 CST -.9960
 FDE 4.9354 FRA11.6216 FC3-7.7910 BSP 8895 SGB 5399.2 R23 .1394 R13 .9855 LSA 179.3 MSA 9.1 S8A 1.1
 BDE 1.5938 BRA 3.0150 BC3 3.1989 FSP 2889 SGI 5371.7 SG2 545.1 THA 29.06 EL1 126.2 EL2 2.2 ALF 33.37

LAUNCH DATE MAR 29 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

DISTANCE 608.252

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 32.270 GAL -5.10 AZL 88.43 HCA 202.61 SMA 180.36 ECC .19294 INC 1.5734 V1 29.834
RP 214.39 LAP -.80 LOP 30.26 VP 22.410 GAP 2.35 AZP 91.45 TAL 327.47 TAP 170.08 RCA 145.56 APO 219.16 V2 25.609
RC 148.344 GL 12.22 GP -20.65 ZAL 143.78 ZAP 74.82 ETS 172.98 ZAE 114.90 ETE 189.82 ZAC 82.01 ETC 269.82 LVI 12.69

PLANETOCENTRIC CONIC

C3 17.392 VHL 4.170 DLA 1.11 RAL 330.84 RAD 6641.7 VEL 11.723 PTH 6.75 VHP 3.546 DPA -44.76 RAP 287.84 ECC 1.2862
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 53 20 3123.29 -35.84 98.30 191.12 123.68 17 45 23 2123.3 -19.91 77.59
60.00 17 31 44 3021.13 -30.96 92.53 194.55 117.20 18 22 6 2021.1 -17.49 70.57
70.00 18 22 40 2871.35 -26.62 82.67 196.83 112.23 19 10 31 1871.4 -15.26 60.00
80.00 19 29 46 2661.25 -23.50 68.02 198.12 108.97 20 14 7 1661.2 -13.61 44.99
90.00 20 50 41 2400.15 -22.33 49.25 198.55 107.82 21 30 41 1400.2 -12.99 26.11
100.00 22 12 38 2135.72 -23.50 29.39 198.12 108.97 22 48 13 1135.7 -13.61 6.36
110.00 23 22 6 1918.17 -26.62 11.58 196.83 112.23 23 54 5 918.2 -15.26 348.91

DIFFERENTIAL CORRECTIONS

TDE 1.3551 TRA 2.7233 TC3-3.1351 BAU .7620
RDE .8484 RRA 1.4976 RC3 -.9662 FAU .15355
FDE 4.6882 FRA11.7048 FC3-7.7432 BSP 9115
BDE 1.5988 BRA 3.1079 BC3 3.2607 FSP 2901

MID-COURSE EXECUTION ACCURACY

SGT 4930.3 SGR 2488.6 SG3 1606.0
RRT .9724 RRF .9933 RTF .9775
SGB 5527.3 R23 .1370 R13 .9851
SG1 5502.5 SG2 522.7 THA 26.49

ORBIT DETERMINATION ACCURACY

ST 108.8 SR 66.0 S8 126.7
CRT .9983 CR8 -.9908 CST -.9967
LSA 179.3 HSA 9.1 S8A 1.2
EL1 127.2 EL2 3.3 ALF 31.21

LAUNCH DATE MAR 29 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

DISTANCE 612.418

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 32.274 GAL -5.16 AZL 88.59 HCA 203.78 SMA 180.42 ECC .19367 INC 1.4105 V1 29.834
RP 214.72 LAP -.57 LOP 31.44 VP 22.374 GAP 2.16 AZP 91.29 TAL 327.15 TAP 170.93 RCA 145.48 APO 215.36 V2 25.573
RC 148.770 GL 10.90 GP -19.61 ZAL 144.39 ZAP 73.11 ETS 172.63 ZAE 113.44 ETE 188.66 ZAC 83.06 ETC 269.49 LVI 11.94

PLANETOCENTRIC CONIC

C3 17.498 VHL 4.183 DLA -.03 RAL 331.54 RAD 6641.7 VEL 11.727 PTH 6.76 VHP 3.546 DPA -43.78 RAP 286.99 ECC 1.2880
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 18 3102.00 -35.02 96.91 191.39 124.54 17 52 0 2102.0 -18.90 76.58
60.00 17 39 54 2996.63 -30.19 90.91 194.88 118.08 18 29 51 1996.6 -16.49 69.28
70.00 18 32 11 2842.91 -25.87 80.79 197.22 113.11 19 19 33 1842.9 -14.26 58.40
80.00 19 40 30 2628.99 -22.77 65.90 198.56 109.88 20 24 19 1629.0 -12.61 43.12
90.00 21 1 56 2366.19 -21.61 47.02 199.00 108.70 21 41 22 1366.2 -11.99 24.12
100.00 22 23 21 2103.47 -22.77 27.27 198.56 109.86 22 58 25 1103.5 -12.61 4.49
110.00 23 31 37 1889.73 -25.87 9.71 197.22 113.11 24 3 7 889.7 -14.26 347.32

DIFFERENTIAL CORRECTIONS

TDE 1.3909 TRA 2.8856 TC3-3.2322 BAU .7848
RDE .8148 RRA 1.4111 RC3 -.8999 FAU .15433
FDE 4.8443 FRA11.7507 FC3-7.6359 BSP 9387
BDE 1.6120 BRA 3.2122 BC3 3.3551 FSP 2904

MID-COURSE EXECUTION ACCURACY

SGT 5154.0 SGR 2355.3 SG3 1602.2
RRT .9721 RRF .9916 RTF .9786
SGB 5666.8 R23 .1335 R13 .9847
SG1 5644.3 SG2 504.4 THA 24.16

ORBIT DETERMINATION ACCURACY

ST 112.3 SR 82.9 S8 125.7
CRT .9968 CR8 -.9888 CST -.9973
LSA 179.7 HSA 9.2 S8A 1.2
EL1 128.6 EL2 4.4 ALF 19.22

LAUNCH DATE MAR 29 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

DISTANCE 616.582

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 32.278 GAL -5.23 AZL 88.74 HCA 204.96 SMA 180.48 ECC .19445 INC 1.2624 V1 29.834
RP 215.04 LAP -.53 LOP 32.61 VP 22.338 GAP 1.97 AZP 91.14 TAL 326.81 TAP 171.77 RCA 145.39 APO 215.58 V2 25.536
RC 151.211 GL 9.71 GP -18.65 ZAL 144.95 ZAP 71.45 ETS 172.33 ZAE 111.98 ETE 187.83 ZAC 84.02 ETC 269.38 LVI 11.25

PLANETOCENTRIC CONIC

C3 17.644 VHL 4.200 DLA -1.05 RAL 332.21 RAD 6641.8 VEL 11.733 PTH 6.76 VHP 3.551 DPA -42.87 RAP 286.22 ECC 1.2904
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 6 43 3083.53 -34.30 95.74 191.75 125.25 17 58 6 2083.5 -18.02 75.71
60.00 17 47 24 2975.28 -29.49 89.53 195.29 118.81 18 37 0 1975.3 -15.60 68.17
70.00 18 40 53 2818.02 -25.20 79.17 197.68 113.86 19 27 51 1818.0 -13.37 57.02
80.00 19 50 18 2600.87 -22.10 64.06 199.06 110.61 20 33 38 1600.7 -11.72 41.49
90.00 21 12 13 2336.33 -20.94 45.08 199.52 109.45 21 51 9 1336.3 -11.10 22.38
100.00 22 33 10 2075.14 -22.10 25.43 199.06 110.61 23 7 45 1075.1 -11.72 2.88
110.00 23 40 19 1864.84 -25.20 8.09 197.68 113.86 24 11 24 864.8 -13.37 345.94

DIFFERENTIAL CORRECTIONS

TDE 1.4287 TRA 3.0470 TC3-3.3217 BAU .8081
RDE .7835 RRA 1.3298 RC3 -.8380 FAU .15283
FDE 4.7939 FRA11.7589 FC3-7.4990 BSP 9628
BDE 1.6304 BRA 3.3246 BC3 3.4258 FSP 2895

MID-COURSE EXECUTION ACCURACY

SGT 5372.6 SGR 2221.6 SG3 1592.7
RRT .9714 RRF .9901 RTF .5.95
SGB 5813.8 R23 .1290 R13 .9845
SG1 5793.2 SG2 489.0 THA 22.05

ORBIT DETERMINATION ACCURACY

ST 115.8 SR 60.1 S8 124.6
CRT .9949 CR8 -.9865 CST -.9978
LSA 180.1 HSA 9.4 S8A 1.3
EL1 130.3 EL2 5.4 ALF 27.37

LAUNCH DATE MAR 29 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

DISTANCE 620.742

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 32.282 GAL -5.30 AZL 88.87 HCA 206.13 SMA 180.55 ECC .19528 INC 1.1269 V1 29.834
RP 215.37 LAP -.50 LOP 33.78 VP 22.302 GAP 1.79 AZP 91.01 TAL 326.47 TAP 172.60 RCA 145.29 APO 215.81 V2 25.499
RC 153.869 GL 8.81 GP -17.76 ZAL 145.47 ZAP 69.82 ETS 172.07 ZAE 110.51 ETE 186.71 ZAC 84.91 ETC 269.27 LVI 10.60

PLANETOCENTRIC CONIC

C3 17.825 VHL 4.222 DLA -1.98 RAL 332.86 RAD 6641.9 VEL 11.741 PTH 6.77 VHP 3.582 DPA -42.03 RAP 285.54 ECC 1.2934
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 39 3067.54 -33.67 94.74 192.17 125.85 18 3 47 2067.5 -17.25 74.97
60.00 17 54 20 2956.68 -28.88 88.34 195.75 119.43 18 43 36 1956.7 -14.83 67.21
70.00 18 48 53 2796.23 -24.59 77.77 198.19 114.48 19 35 30 1796.2 -12.59 55.82
80.00 19 59 18 2575.79 -21.49 62.46 199.61 111.24 20 42 13 1575.8 -10.93 40.06
90.00 21 21 39 2310.06 -20.34 43.40 200.08 110.08 22 0 9 1310.1 -10.31 20.86
100.00 22 42 9 2050.26 -21.49 23.83 199.61 111.24 23 16 20 1050.3 -10.93 1.43
110.00 23 48 20 1843.05 -24.59 6.69 198.19 114.48 24 19 3 843.0 -12.59 344.74

DIFFERENTIAL CORRECTIONS

TDE 1.4676 TRA 3.2071 TC3-3.4051 BAU .8325
RDE .7600 RRA 1.2532 RC3 -.7805 FAU .15108
FDE 4.7377 FRA11.7331 FC3-7.3375 BSP 9885
BDE 1.6527 BRA 3.4433 BC3 3.4934 FSP 2873

MID-COURSE EXECUTION ACCURACY

SGT 5585.6 SGR 2096.1 SG3 1578.0
RRT .9702 RRF .9881 RTF .9803
SGB 5966.0 R23 .1237 R13 .9844
SG1 5946.9 SG2 476.7 THA 20.14

ORBIT DETERMINATION ACCURACY

ST 119.2 SR 57.5 S8 123.3
CRT .9925 CR8 -.9839 CST -.9982
LSA 180.6 HSA 9.6 S8A 1.3
EL1 132.2 EL2 6.3 ALF 25.67

LAUNCH DATE MAR 29 1971 FLIGHT TIME 260.00 ARRIVAL DATE DEC 14 1971

Heliocentric Conic: RL 149.35 LAL -0.00 LOL 187.66 VL 32.287 GAL -5.37 AZL 89.00 HCA 207.29 SMA 180.82 ECC .19615 INC 1.0029 V1 29.834
 RP 215.71 LAP -0.46 LOP 34.95 VP 22.266 GAP 1.60 AZP 90.89 TAL 326.12 TAP 173.41 RCA 145.19 APO 216.05 V2 25.461
 RC 156.143 GL 7.61 GP -16.94 ZAL 145.95 ZAP 68.24 ETS 171.84 ZAE 109.04 ETE 185.88 ZAC 85.74 ETC 269.18 LVI 9.99

Distance 624.899

Planetocentric Conic: C3 18.038 VHL 4.247 DLA -2.81 RAL 333.48 RAD 6642.0 VEL 11.750 PTH 6.78 VHP 3.577 DPA -41.24 RAP 284.93 ECC 1.2969
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 10 3053.73 -33.12 93.88 192.64 126.35 18 9 4 2053.7 -16.58 74.33
 60.00 18 0 44 2940.53 -26.33 87.32 196.27 119.95 18 49 44 1940.5 -14.15 66.39
 70.00 18 56 17 2777.18 -24.05 76.56 198.75 115.02 19 42 34 1777.2 -11.90 54.77
 80.00 20 7 35 2553.93 -20.95 61.07 200.21 111.78 20 50 9 1553.9 -10.23 38.82
 90.00 21 30 20 2286.94 -19.79 41.92 200.69 110.62 22 8 26 1286.9 -9.60 19.52
 100.00 22 50 27 2028.40 -20.95 22.44 200.21 111.78 23 24 15 1028.4 -10.23 .19
 110.00 23 55 43 1824.00 -24.05 5.48 198.75 115.02 24 26 7 824.0 -11.90 343.69

Differential Corrections: TDE 1.5101 TRA 3.3688 TC3-3.4773 BAU .8566 RDE .7387 RRA 1.1819 RC3 -.7247 FAU .14866 FDE 4.6872 FRA11.6875 FC3-7.1351 BSP 10174 BDE 1.6811 BRA 3.9701 BC3 3.5520 FSP 2850

Mid-course Execution Accuracy: SGT 5794.6 SGR 1980.0 SCS 1559.8 RRT .9685 RRF .9857 RTF .9809 SGB 6123.6 R23 .1182 R13 .9842 SGI 6105.7 S62 468.0 THA 18.42

Orbit Determination Accuracy: ST 122.7 SR 55.3 SS 122.1 CRT .9897 CRS -.9811 CST -.9985 LSA 181.4 MSA 9.9 SSA 1.3 EL1 134.4 EL2 7.2 ALF 24.11

LAUNCH DATE MAR 29 1971 FLIGHT TIME 262.00 ARRIVAL DATE DEC 16 1971

Heliocentric Conic: RL 149.35 LAL -0.00 LOL 187.66 VL 32.292 GAL -5.45 AZL 89.11 HCA 208.46 SMA 180.70 ECC .19707 INC .8888 V1 29.834
 RP 216.04 LAP -0.42 LOP 36.11 VP 22.230 GAP 1.41 AZP 90.78 TAL 325.76 TAP 174.22 RCA 145.09 APO 216.31 V2 25.424
 RC 158.631 GL 6.70 GP -16.17 ZAL 146.41 ZAP 66.70 ETS 171.65 ZAE 107.59 ETE 185.14 ZAC 86.51 ETC 269.10 LVI 9.43

Distance 629.052

Planetocentric Conic: C3 18.279 VHL 4.275 DLA -3.56 RAL 334.08 RAD 6642.1 VEL 11.760 PTH 6.79 VHP 3.595 DPA -40.50 RAP 284.40 ECC 1.3008
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 19 3041.86 -32.64 93.16 193.16 126.77 18 14 1 2041.9 -16.01 73.79
 60.00 18 6 40 2926.53 -27.85 86.44 196.83 120.39 18 55 27 1926.5 -13.56 65.67
 70.00 19 3 7 2760.56 -23.57 75.51 199.35 115.47 19 49 8 1760.6 -11.29 53.87
 80.00 20 15 14 2534.78 -20.46 59.86 200.83 112.23 20 57 29 1534.8 -9.61 37.73
 90.00 21 38 20 2266.82 -19.30 40.64 201.32 111.08 22 16 7 1266.6 -8.98 18.36
 100.00 22 58 6 2009.23 -20.46 21.23 200.83 112.23 23 31 35 1009.2 -9.61 359.10
 110.00 0 6 29 1807.38 -23.57 4.43 199.35 115.47 0 36 37 807.4 -11.29 342.78

Differential Corrections: TDE 1.5545 TRA 3.5302 TC3-3.5417 BAU .8810 RDE .7204 RRA 1.1147 RC3 -.6727 FAU .14600 FDE 4.6336 FRA11.6178 FC3-6.9148 BSP 10467 BDE 1.7133 BRA 3.7020 BC3 3.6050 FSP 2818

Mid-course Execution Accuracy: SGT 5998.2 SGR 1871.6 SCS 1538.0 RRT .9663 RRF .9828 RTF .9814 SGB 6283.4 R23 .1122 R13 .9841 SGI 6266.5 S62 481.5 THA 18.87

Orbit Determination Accuracy: ST 126.2 SR 53.2 SS 120.8 CRT .9865 CRS -.9779 CST -.9988 LSA 182.3 MSA 10.3 SSA 1.3 EL1 136.7 EL2 8.1 ALF 22.68

LAUNCH DATE MAR 29 1971 FLIGHT TIME 264.00 ARRIVAL DATE DEC 18 1971

Heliocentric Conic: RL 149.35 LAL -0.00 LOL 187.66 VL 32.297 GAL -5.52 AZL 89.22 HCA 209.61 SMA 180.79 ECC .19804 INC .7830 V1 29.834
 RP 216.39 LAP -0.39 LOP 37.27 VP 22.194 GAP 1.23 AZP 90.68 TAL 325.39 TAP 175.01 RCA 144.98 APO 216.59 V2 25.365
 RC 161.134 GL 5.85 GP -15.45 ZAL 146.84 ZAP 65.21 ETS 171.48 ZAE 106.15 ETE 184.48 ZAC 87.23 ETC 269.02 LVI 8.89

Distance 633.201

Planetocentric Conic: C3 18.547 VHL 4.307 DLA -4.24 RAL 334.68 RAD 6642.2 VEL 11.772 PTH 6.80 VHP 3.617 DPA -39.82 RAP 283.94 ECC 1.3052
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 7 3031.73 -32.22 92.55 193.71 127.12 18 18 39 2031.7 -15.51 73.33
 60.00 18 12 13 2914.46 -27.44 85.70 197.42 120.76 19 0 47 1914.5 -13.05 65.06
 70.00 19 9 28 2746.10 -23.14 74.61 199.98 115.85 19 55 14 1746.1 -10.76 53.08
 80.00 20 22 19 2517.99 -20.02 58.80 201.48 112.62 21 4 17 1518.0 -9.07 36.79
 90.00 21 45 45 2248.80 -18.86 39.51 201.98 111.47 22 23 14 1248.8 -8.43 17.34
 100.00 23 5 11 1992.46 -20.02 20.17 201.48 112.62 23 38 24 992.5 -9.07 358.16
 110.00 0 12 50 1792.88 -23.14 3.32 199.98 115.85 0 42 43 792.9 -10.76 342.00

Differential Corrections: TDE 1.6010 TRA 3.8918 TC3-3.5995 BAU .9058 RDE .7050 RRA 1.0517 RC3 -.6241 FAU .14307 FDE 4.9818 FRA11.5314 FC3-6.6781 BSP 10764 BDE 1.7493 BRA 3.8387 BC3 3.6532 FSP 2784

Mid-course Execution Accuracy: SGT 6197.2 SGR 1771.2 SCS 1513.6 RRT .9634 RRF .9795 RTF .5.17 SGB 6445.3 R23 .1064 R13 .9840 SGI 6429.0 S62 457.9 THA 15.47

Orbit Determination Accuracy: ST 129.7 SR 51.4 SS 119.5 CRT .9828 CRS -.9745 CST -.9990 LSA 183.4 MSA 10.6 SSA 1.3 EL1 139.2 EL2 8.8 ALF 21.37

LAUNCH DATE MAR 29 1971 FLIGHT TIME 266.00 ARRIVAL DATE DEC 20 1971

Heliocentric Conic: RL 149.35 LAL -0.00 LOL 187.66 VL 32.303 GAL -5.60 AZL 89.32 HCA 210.77 SMA 180.88 ECC .19904 INC .6849 V1 29.834
 RP 216.73 LAP -0.35 LOP 38.43 VP 22.158 GAP 1.04 AZP 90.59 TAL 325.02 TAP 175.79 RCA 144.87 APO 216.88 V2 25.347
 RC 163.649 GL 5.08 GP -14.79 ZAL 147.25 ZAP 63.76 ETS 171.34 ZAE 104.73 ETE 183.89 ZAC 87.90 ETC 268.96 LVI 8.38

Distance 637.346

Planetocentric Conic: C3 18.839 VHL 4.340 DLA -4.85 RAL 335.22 RAD 6642.3 VEL 11.784 PTH 6.81 VHP 3.643 DPA -39.17 RAP 283.54 ECC 1.3100
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 38 3023.14 -31.87 92.04 194.29 127.41 18 23 1 2023.1 -15.10 72.94
 60.00 18 17 23 2904.12 -27.08 85.06 198.03 121.07 19 5 47 1904.1 -12.61 64.54
 70.00 19 15 22 2733.59 -22.77 73.83 200.62 116.17 20 0 56 1733.6 -10.30 52.40
 80.00 20 28 54 2503.36 -19.64 57.89 202.16 112.95 21 10 38 1503.4 -8.59 35.96
 90.00 21 52 38 2233.22 -18.47 38.54 202.67 111.81 22 29 51 1233.2 -7.94 16.45
 100.00 23 11 46 1977.83 -19.64 19.26 202.16 112.95 23 44 44 977.8 -8.59 357.33
 110.00 0 18 45 1780.41 -22.77 2.74 200.62 116.17 0 48 25 780.4 -10.30 341.32

Differential Corrections: TDE 1.6485 TRA 3.8526 TC3-3.6516 BAU .9312 RDE .6914 RRA .9919 RC3 -.5797 FAU .14012 FDE 4.5246 FRA11.4242 FC3-6.4394 BSP 11055 BDE 1.7876 BRA 3.9783 BC3 3.6973 FSP 2740

Mid-course Execution Accuracy: SGT 6390.2 SGR 1677.3 SCS 1486.5 RRT .9599 RRF .9757 RTF .9821 SGB 6606.6 R23 .1004 R13 .9840 SGI 6590.9 S62 455.7 THA 14.21

Orbit Determination Accuracy: ST 133.1 SR 49.7 SS 118.1 CRT .9788 CRS -.9708 CST -.9992 LSA 164.4 MSA 11.0 SSA 1.3 EL1 141.8 EL2 9.6 ALF 20.17

LAUNCH DATE MAR 29 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.309 GAL -5.69 AZL 89.41 HCA 211.92 SMA 180.97 ECC .20009 INC .5931 V1 29.834
 RP 217.08 LAP -.31 LOP 39.58 VP 22.122 GAP .86 AZP 90.50 TAL 324.64 TAP 176.56 RCA 144.76 APO 217.18 V2 25.308
 RC 166.178 GL 4.36 GP -14.16 ZAL 147.65 ZAP 62.36 ETS 171.22 ZAE 103.33 ETE 183.36 ZAC 88.52 ETC 268.91 LVI 7.89

PLANETOCENTRIC CONIC
 C3 19.153 VHL 4.376 DLA -5.41 RAL 335.77 RAD 6642.5 VEL 11.797 PTH 6.82 VHP 3.670 DPA -38.56 RAP 283.20 ECC 1.3152
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 52 3015.95 -31.57 91.61 194.89 127.65 18 27 8 2016.0 -14.75 72.62
 60.00 18 22 13 2893.34 -26.77 84.52 198.67 121.33 19 10 28 1895.3 -12.24 64.10
 70.00 19 20 53 2722.83 -22.44 73.16 201.29 116.45 20 6 16 1722.8 -9.90 51.82
 80.00 20 35 2 2490.67 -19.30 57.10 202.85 113.23 21 16 33 1490.7 -8.17 35.23
 90.00 21 59 2 2219.65 -18.12 37.69 203.37 112.09 22 36 1 1219.7 -7.52 15.68
 100.00 23 17 54 1965.14 -19.30 18.47 202.85 113.23 23 50 39 965.1 -8.17 356.62
 110.00 0 24 15 1769.65 -22.44 2.08 201.29 116.45 0 53 45 769.6 -9.90 340.74

DIFFERENTIAL CORRECTIONS
 TDE 1.6974 TRA 4.0137 TC3-3.6979 BAU .9569 SGT 6578.2 SGR 1590.3 SG3 1457.7 ST 136.5 SR 48.2 SS 116.7
 RDE .6802 RRA .9358 RC3 -.5380 FAU .13691 RRT .9557 RRF .9712 RTF .9822 CRT .9744 CR8 -.9668 CST -.9994
 FDE 4.4687 FRA11.3070 FC3-6.1883 BSP 11344 SGB 6767.7 R23 .0949 R13 .9838 LSA 185.6 MSA 11.4 S5A 1.3
 BDE 1.8286 BRA 4.1213 BC3 3.7368 FSP 2694 SG1 6752.4 SG2 455.9 THA 13.07 EL1 144.4 EL2 10.3 ALF 19.08

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 29 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.315 GAL -5.77 AZL 89.49 HCA 213.07 SMA 181.07 ECC .20119 INC .5074 V1 29.834
 RP 217.43 LAP -.28 LOP 40.73 VP 22.086 GAP .68 AZP 90.43 TAL 324.25 TAP 177.32 RCA 144.64 APO 217.49 V2 25.269
 RC 168.717 GL 3.70 GP -13.58 ZAL 148.03 ZAP 61.01 ETS 171.12 ZAE 101.96 ETE 182.88 ZAC 89.10 ETC 268.87 LVI 7.43

PLANETOCENTRIC CONIC
 C3 19.490 VHL 4.415 DLA -5.91 RAL 336.30 RAD 6642.6 VEL 11.811 PTH 6.83 VHP 3.701 DPA -38.00 RAP 282.93 ECC 1.3207
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 51 3010.03 -31.32 91.26 195.52 127.84 18 31 1 2010.0 -14.46 72.35
 60.00 18 26 45 2887.96 -26.50 84.08 199.33 121.55 19 14 53 1888.0 -11.92 63.73
 70.00 19 26 1 2713.66 -22.16 72.59 201.98 116.68 20 11 15 1713.7 -9.57 51.33
 80.00 20 40 45 2479.73 -19.00 56.42 203.56 113.47 21 22 4 1479.7 -7.81 34.64
 90.00 22 4 59 2207.92 -17.82 36.96 204.09 112.33 22 41 47 1207.9 -7.15 15.01
 100.00 23 23 36 1954.20 -19.00 17.79 203.56 113.47 23 56 11 954.2 -7.91 356.01
 110.00 0 29 24 1760.47 -22.16 1.51 201.98 116.68 0 58 44 760.5 -9.57 340.25

DIFFERENTIAL CORRECTIONS
 TDE 1.7483 TRA 4.1751 TC3-3.7380 BAU .9828 SGT 6781.4 SGR 1509.7 SG3 1427.4 ST 139.9 SR 46.8 SS 115.3
 RDE .6709 RRA .8828 RC3 -.4994 FAU .13359 RRT .9508 RPF .9681 RTF .9823 CRT .9696 CR8 -.9626 CST -.9995
 FDE 4.4138 FRA11.1773 FC3-5.9339 BSP 11636 SGB 6927.9 R23 .0896 R13 .9837 LSA 186.8 MSA 11.9 S5A 1.3
 BDE 1.8726 BRA 4.2674 BC3 3.7712 FSP 2646 SG1 6912.8 SG2 457.5 THA 12.04 EL1 147.1 EL2 10.9 ALF 18.09

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 29 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.321 GAL -5.88 AZL 89.57 HCA 214.21 SMA 181.17 ECC .20232 INC .4277 V1 29.834
 RP 217.79 LAP -.24 LOP 41.87 VP 22.050 GAP .49 AZP 90.35 TAL 323.85 TAP 178.07 RCA 144.51 APO 217.82 V2 25.229
 RC 171.268 GL 3.09 GP -13.03 ZAL 148.41 ZAP 59.89 ETS 171.03 ZAE 100.81 ETE 182.45 ZAC 89.65 ETC 268.84 LVI 6.98

PLANETOCENTRIC CONIC
 C3 19.847 VHL 4.455 DLA -6.37 RAL 336.82 RAD 6642.8 VEL 11.826 PTH 6.85 VHP 3.733 DPA -37.46 RAP 282.71 ECC 1.3266
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 37 3005.25 -31.12 90.98 196.16 128.00 18 34 42 2005.2 -14.22 72.14
 60.00 18 31 0 2881.87 -26.29 83.71 200.00 121.72 19 19 2 1881.9 -11.66 63.42
 70.00 19 30 50 2705.92 -21.93 72.12 202.68 116.87 20 15 56 1705.9 -9.28 50.92
 80.00 20 46 4 2470.39 -18.75 55.84 204.28 113.67 21 27 15 1470.4 -7.51 34.12
 90.00 22 10 33 2197.84 -17.56 36.34 204.81 112.53 22 47 11 1197.8 -6.83 11.44
 100.00 23 28 56 1944.86 -18.75 17.21 204.28 113.67 24 1 21 944.9 -7.51 355.48
 110.00 0 34 13 1752.74 -21.93 1.04 202.68 116.87 1 3 25 752.7 -9.28 339.33

DIFFERENTIAL CORRECTIONS
 TDE 1.8013 TRA 4.3378 TC3-3.7710 BAU 1.0081 SGT 6940.3 SGR 1435.2 SG3 1396.2 ST 143.3 SR 45.8 SS 113.8
 RDE .6633 RRA .8328 RC3 -.4636 FAU .13013 RRT .9451 RRF .9602 RTF .9524 CRT .9646 CR8 -.9581 CST -.9996
 FDE 4.3589 FRA11.0409 FC3-5.6762 BSP 11933 SGB 7087.2 R23 .0844 R13 .9836 LSA 188.2 MSA 12.3 S5A 1.3
 BDE 1.9198 BRA 4.4170 BC3 3.7994 FSP 2594 SG1 7072.2 SG2 460.2 THA 11.11 EL1 149.9 EL2 11.5 ALF 17.17

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 29 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
 RL 149.35 LAL -.00 LOL 187.66 VL 32.328 GAL -5.95 AZL 89.65 HCA 215.35 SMA 181.27 ECC .20349 INC .3525 V1 29.834
 RP 218.15 LAP -.20 LOP 43.01 VP 22.014 GAP .31 AZP 90.29 TAL 323.45 TAP 178.80 RCA 144.39 APO 218.16 V2 25.188
 RC 173.829 GL 2.52 GP -12.52 ZAL 148.77 ZAP 58.42 ETS 170.96 ZAE 99.28 ETE 182.06 ZAC 90.16 ETC 268.82 LVI 6.58

PLANETOCENTRIC CONIC
 C3 20.224 VHL 4.497 DLA -6.78 RAL 337.33 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 3.767 DPA -36.96 RAP 282.54 ECC 1.3328
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 10 3001.51 -30.98 90.76 196.82 128.12 18 38 12 2001.5 -14.04 71.97
 60.00 18 35 1 2876.93 -26.11 83.41 200.69 121.86 19 22 57 1876.9 -11.45 63.10
 70.00 19 35 21 2699.50 -21.73 71.73 203.39 117.02 20 20 21 1699.5 -9.04 50.57
 80.00 20 51 4 2462.50 -18.53 55.36 205.01 113.84 21 32 6 1462.5 -7.25 33.67
 90.00 22 15 44 2189.28 -17.33 35.81 205.55 112.70 22 52 13 1189.3 -6.57 13.96
 100.00 23 33 55 1936.97 -18.53 16.72 205.01 113.84 24 6 12 937.0 -7.25 355.04
 110.00 0 38 44 1746.31 -21.73 .64 203.39 117.02 1 7 50 746.3 -9.04 339.49

DIFFERENTIAL CORRECTIONS
 TDE 1.8557 TRA 4.5009 TC3-3.7993 BAU 1.0338 SGT 7114.3 SGR 1366.3 SG3 1364.1 ST 146.6 SR 44.5 SS 112.4
 RDE .6572 RRA .7856 RC3 -.4304 FAU .12658 RRT .9385 RRF .9535 RTF .9824 CRT .9592 CR8 -.9534 CST -.9997
 FDE 4.3041 FRA10.8966 FC3-5.4183 BSP 12226 SGB 7244.3 R23 .0798 R13 .9834 LSA 189.6 MSA 12.7 S5A 1.3
 BDE 1.9687 BRA 4.5689 BC3 3.8236 FSP 2542 SG1 7229.5 SG2 464.2 THA 10.26 EL1 152.8 EL2 12.1 ALF 16.34

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 29 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

DISTANCE 657.994

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 32.335 GAL -6.04 AZL 89.72 HCA 216.49 SMA 181.38 ECC .20471 INC .2612 V1 29.834
 RP 218.51 LAP -.17 LOP 44.15 VP 21.978 GAP .12 AZP 90.25 TAL 323.04 TAP 179.53 RCA 144.25 APO 218.51 V2 25.149
 RC 176.40D GL 1.99 GP -12.04 ZAL 149.13 ZAP 57.20 ETS 170.91 ZAE 97.99 ETE 181.71 ZAC 90.64 ETC 268.80 LVI 6.14

PLANETOCENTRIC CONIC

C3 20.622 VHL 4.541 DLA -7.15 RAL 337.83 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 3.804 DPA -36.48 RAP 282.42 ECC 1.3394
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 32 2998.73 -30.85 90.60 197.49 128.21 18 41 31 1998.7 -13.90 71.85
 60.00 18 38 47 2873.06 -25.97 83.18 201.39 121.97 19 26 40 1873.1 -11.29 62.99
 70.00 19 39 36 2694.27 -21.57 71.41 204.11 117.15 20 24 30 1694.3 -8.85 50.29
 80.00 20 55 44 2455.94 -18.35 54.95 205.75 113.97 21 36 39 1455.9 -7.03 33.31
 90.00 22 20 36 2182.12 -17.14 35.37 206.30 112.84 22 56 58 1182.1 -6.34 13.55
 100.00 23 38 35 1930.41 -18.35 16.32 205.75 113.97 24 10 46 930.4 -7.03 354.68
 110.00 0 42 58 1741.09 -21.57 .32 204.11 117.15 1 11 59 741.1 -8.85 339.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9111 TRA 4.664D TC3-3.8238 BAU 1.0599 SGT 7283.4 SGR 1302.6 SG3 1331.4 ST 149.9 SR 43.5 SS 110.9
 RDE .6525 RRA .7407 RC3 -.3998 FAU .12301 RRT .9309 RRF .9459 RTF .9824 CRT .9536 CRS -.9486 CST -.9998
 FDE 4.2498 FRA10.7461 FC3-5.1642 BSP 12511 SGB 7398.9 R23 .0756 R13 .9832 LSA 191.1 MSA 13.1 SSA 1.3
 BDE 2.0194 BRA 4.7224 BC3 3.8446 F8P 2489 SG1 7384.1 SG2 469.2 THA 9.49 EL1 155.6 EL2 12.6 ALF 15.58

LAUNCH DATE MAR 29 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

DISTANCE 662.106

EARTH TO MARS

RL 149.35 LAL -.00 LOL 187.66 VL 32.342 GAL -6.13 AZL 89.79 HCA 217.62 SMA 181.50 ECC .20596 INC .2143 V1 29.834
 RP 218.88 LAP -.13 LOP 45.28 VP 21.942 GAP -.06 AZP 90.17 TAL 322.63 TAP 180.25 RCA 144.12 APO 218.88 V2 25.109
 RC 176.981 GL 1.50 GP -11.59 ZAL 149.48 ZAP 56.01 ETS 170.86 ZAE 96.72 ETE 181.40 ZAC 91.09 ETC 268.80 LVI 5.73

PLANETOCENTRIC CONIC

C3 21.039 VHL 4.567 DLA -7.48 RAL 338.32 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 3.842 DPA -36.03 RAP 282.35 ECC 1.3462
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 44 2996.82 -30.77 90.49 198.17 128.27 18 44 41 1996.8 -13.81 71.76
 60.00 18 42 21 2870.17 -25.87 83.00 202.09 122.05 19 30 11 1870.2 -11.16 62.84
 70.00 19 43 35 2690.15 -21.44 71.16 204.84 117.25 20 28 25 1690.1 -8.69 50.07
 80.00 21 0 6 2450.60 -18.20 54.63 206.50 114.08 21 40 57 1450.6 -6.85 33.01
 90.00 22 25 8 2176.22 -16.99 35.01 207.05 112.95 23 1 24 1176.2 -6.15 13.22
 100.00 23 42 58 1925.07 -18.20 15.99 206.50 114.08 24 15 3 925.1 -6.85 354.38
 110.00 0 48 57 1738.96 -21.44 .07 204.84 117.25 1 15 54 737.0 -8.69 338.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9685 TRA 4.8265 TC3-3.8430 BAU 1.0860 SGT 7448.5 SGR 1244.1 SG3 1298.5 ST 153.2 SR 42.6 SS 109.5
 RDE .6491 RRA .6983 RC3 -.3718 FAU .11946 RRT .9225 RRF .9374 RTF .9823 CRT .9478 CRS -.9435 CST -.9998
 FDE 4.1959 FRA10.5915 FC3-4.9159 BSP 12796 SGB 7551.7 R23 .0715 R13 .9830 LSA 192.6 MSA 13.5 SSA 1.3
 BDE 2.0727 BRA 4.8787 BC3 3.8610 F8P 2433 SG1 7536.8 SG2 474.7 THA 8.79 EL1 158.5 EL2 13.1 ALF 14.88

LAUNCH DATE MAR 29 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

DISTANCE 666.214

EARTH TO MARS

RL 149.38 LAL -.00 LOL 187.66 VL 32.348 GAL -6.23 AZL 89.85 HCA 218.75 SMA 181.61 ECC .20725 INC .1510 V1 29.834
 RP 219.25 LAP -.09 LOP 46.41 VP 21.907 GAP -.25 AZP 90.12 TAL 322.20 TAP 180.98 RCA 143.97 APO 219.25 V2 25.068
 RC 181.572 GL 1.05 GP -11.16 ZAL 149.82 ZAP 54.86 ETS 170.83 ZAE 95.47 ETE 181.11 ZAC 91.52 ETC 268.80 LVI 5.34

PLANETOCENTRIC CONIC

C3 21.475 VHL 4.634 DLA -7.78 RAL 338.80 RAD 6643.5 VEL 11.894 PTH 6.90 VHP 3.881 DPA -35.61 RAP 282.33 ECC 1.3534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 48 2995.71 -30.72 90.43 198.87 128.30 18 47 42 1995.7 -13.76 71.72
 60.00 18 45 43 2868.17 -25.79 82.88 202.81 122.11 19 33 32 1868.2 -11.08 62.74
 70.00 19 47 20 2687.03 -21.34 70.97 205.58 117.32 20 32 7 1687.0 -8.58 49.90
 80.00 21 4 12 2446.38 -18.09 54.37 207.25 114.17 21 44 58 1446.4 -6.71 32.78
 90.00 22 29 24 2171.51 -16.86 34.72 207.81 113.04 23 5 35 1171.5 -6.00 12.95
 100.00 23 47 4 1920.85 -18.09 15.74 207.25 114.17 24 19 5 920.9 -6.71 354.14
 110.00 0 50 42 1733.85 -21.34 359.88 205.58 117.32 1 19 36 733.9 -8.58 336.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.0267 TRA 4.9936 TC3-3.8584 BAU 1.1122 SGT 7609.1 SGR 1190.2 SG3 1265.4 ST 156.4 SR 41.8 SS 106.0
 RDE .6467 RRA .6581 RC3 -.3458 FAU .11584 RRT .9129 RRF .9279 RTF .521 CRT .9418 CRS -.9384 CST -.9998
 FDE 4.1411 FRA10.4347 FC3-4.6697 BSP 13072 SGB 7701.6 R23 .0680 R13 .9828 LSA 194.1 MSA 13.9 SSA 1.3
 BDE 2.1274 BRA 5.0368 BC3 3.8738 F8P 2377 SG1 7686.6 SG2 480.9 THA 8.16 EL1 161.3 EL2 13.6 ALF 14.24

LAUNCH DATE MAR 30 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 362.706 EARTH TO MARS
 RL 149.39 LAL -0.00 LOL 188.65 VL 34.071 GAL -6.94 AZL 92.46 HCA 131.30 SMA 215.49 ECC .32755 INC 2.4625 V1 29.826
 RP 207.32 LAP -1.85 LOP 319.97 VP 25.776 GAP 19.00 AZP 88.37 TAL 331.43 TAP 102.72 RCA 144.91 APO 286.07 V2 26.420
 RC 56.291 GL -13.43 GP 4.23 ZAL 137.50 ZAP 166.49 ETS 161.68 ZAE 167.38 ETE 132.82 ZAC 105.53 ETC 275.47 LVI -18.72

PLANETOCENTRIC CONIC

C3 39.133 VHL 6.256 DLA -24.74 RAL 335.17 RAD 6650.4 VEL 12.610 PTH 7.47 VHP 9.256 DPA -16.14 RAP 308.91 ECC 1.6440
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 50 7 2793.03 -21.66 79.66 201.36 133.46 19 36 40 1793.0 -3.68 63.01
 60.00 20 1 38 2602.81 -15.38 88.18 207.02 127.72 20 45 1 1602.0 .51 49.91
 70.00 21 33 16 2333.44 -9.08 50.91 211.59 123.07 22 12 9 1333.4 4.85 31.35
 80.00 23 23 53 1987.24 -3.64 27.97 214.93 119.66 23 57 0 987.2 8.70 7.41
 90.00 1 11 20 1653.34 -1.17 4.78 216.30 118.26 1 38 53 653.3 10.46 343.79
 100.00 2 10 40 1461.71 -3.64 349.34 214.93 119.66 2 35 2 461.7 8.70 328.78
 110.00 2 36 38 1380.25 -9.08 339.83 211.59 123.07 2 59 38 380.3 4.85 320.26

DIFFERENTIAL CORRECTIONS

TDE -.8933 TRA -1.8168 TC3 -.0915 BAU .0850
 RDE -.5144 RRA .0022 RC3 .1342 FAU .04253
 FDE .6954 FRA 2.1759 FC3 -.9408 BSP 3462
 BDE 1.0308 BRA 1.8168 BC3 .1624 FSP 318

MID-COURSE EXECUTION ACCURACY

SGT 2009.9 SGR 500.2 SG3 222.1
 RRT .3602 RRF -.3834 RTF -.8531
 SGB 2071.2 R23 -.0629 R13 -.8547
 SG1 2018.4 SG2 464.6 THA 5.41

ORBIT DETERMINATION ACCURACY

ST 49.3 SR 23.6 SS 36.7
 CRT .8292 CRS .6941 CST .9771
 LSA 64.0 MSA 15.2 SFA 1.1
 EL1 53.2 EL2 12.2 ALF 22.89

LAUNCH DATE MAR 30 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 385.737 EARTH TO MARS
 RL 149.39 LAL -0.00 LOL 188.65 VL 33.958 GAL -6.78 AZL 92.51 HCA 132.56 SMA 212.84 ECC .31870 INC 2.5104 V1 29.826
 RP 207.22 LAP -1.85 LOP 321.23 VP 25.639 GAP 18.53 AZP 88.30 TAL 331.46 TAP 104.02 RCA 145.01 APO 280.67 V2 26.432
 RC 56.455 GL -13.97 GP 4.43 ZAL 137.44 ZAP 165.59 ETS 162.06 ZAE 167.83 ETE 129.20 ZAC 105.69 ETC 275.56 LVI -19.04

PLANETOCENTRIC CONIC

C3 37.456 VHL 6.120 DLA -25.20 RAL 335.48 RAD 6649.8 VEL 12.544 PTH 7.42 VHP 8.988 DPA -15.85 RAP 309.24 ECC 1.6164
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 53 37 2771.80 -20.66 78.62 201.11 133.87 19 39 49 1771.8 -2.62 62.12
 60.00 20 6 2 2579.18 -14.39 66.97 206.81 128.06 20 49 2 1579.2 1.55 48.78
 70.00 21 39 3 2305.74 -8.05 49.43 211.45 123.30 22 17 29 1305.7 5.90 29.69
 80.00 23 31 48 1952.84 -2.48 26.08 214.88 119.76 24 4 21 952.8 9.81 5.47
 90.00 1 20 54 1613.64 .11 2.56 216.31 118.28 1 47 48 613.6 11.65 341.48
 100.00 2 18 36 1427.31 -2.48 347.44 214.88 119.76 2 42 23 427.3 9.81 326.84
 110.00 2 42 25 1352.55 -8.05 338.35 211.45 123.30 3 4 58 327.6 5.90 318.81

DIFFERENTIAL CORRECTIONS

TDE -.8931 TRA -1.8005 TC3 -.0854 BAU .0838
 RDE -.4992 RRA -.0142 RC3 .1439 FAU .04384
 FDE .7247 FRA 2.2651 FC3 -1.0132 BSP 3536
 BDE 1.0232 BRA 1.8005 BC3 .1673 FSP 341

MID-COURSE EXECUTION ACCURACY

SGT 2044.7 SGR 499.7 SG3 236.5
 RRT .3913 RRF -.4168 RTF -.8584
 SGB 2104.8 R23 -.0686 R13 -.8602
 SG1 2054.5 SG2 457.7 THA 5.75

ORBIT DETERMINATION ACCURACY

ST 50.3 SR 23.4 SS 38.0
 CRT .8365 CRS .7010 CST .9764
 LSA 65.5 MSA 15.1 SFA 1.1
 EL1 54.2 EL2 11.9 ALF 22.38

LAUNCH DATE MAR 30 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 388.862 EARTH TO MARS
 RL 149.39 LAL -0.00 LOL 186.65 VL 33.852 GAL -6.63 AZL 92.56 HCA 133.82 SMA 210.40 ECC .31032 INC 2.5605 V1 29.826
 RP 207.13 LAP -1.85 LOP 322.50 VP 25.509 GAP 18.06 AZP 88.23 TAL 331.51 TAP 105.33 RCA 145.11 APO 275.69 V2 26.443
 RC 56.701 GL -14.52 GP 4.65 ZAL 137.37 ZAP 164.67 ETS 162.37 ZAE 168.21 ETE 125.45 ZAC 105.87 ETC 275.63 LVI -19.36

PLANETOCENTRIC CONIC

C3 35.900 VHL 5.992 DLA -25.69 RAL 335.80 RAD 6649.2 VEL 12.482 PTH 7.37 VHP 8.728 DPA -15.55 RAP 309.55 ECC 1.5908
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 16 2750.39 -19.64 77.60 200.91 134.25 19 43 6 1750.4 -1.54 61.22
 60.00 20 10 39 2555.19 -13.38 65.75 206.64 128.38 20 53 15 1555.2 2.60 47.63
 70.00 21 45 11 2277.26 -6.98 47.92 211.35 123.52 22 23 8 1277.3 6.97 28.38
 80.00 23 40 25 1918.60 -1.25 24.09 214.90 119.83 24 12 22 916.6 10.98 3.41
 90.00 1 31 35 1570.78 1.49 .17 216.42 118.24 1 57 46 570.8 12.91 338.97
 100.00 2 27 15 1391.08 -1.25 345.45 214.90 119.83 2 50 24 391.1 10.98 324.78
 110.00 2 48 33 1324.08 -6.98 336.84 211.35 123.52 3 10 37 324.1 6.97 317.30

DIFFERENTIAL CORRECTIONS

TDE -.8925 TRA -1.7831 TC3 -.0781 BAU .0830
 RDE -.4849 RRA -.0312 RC3 .1543 FAU .04524
 FDE .7555 FRA 2.3583 FC3 -1.0909 BSP 3603
 BDE 1.0158 BRA 1.7833 BC3 .1729 FSP 366

MID-COURSE EXECUTION ACCURACY

SGT 2077.8 SGR 500.3 SG3 251.8
 RRT .4243 RRF -.4323 RTF -.8335
 SGB 2137.2 R23 -.0749 R13 -.8655
 SG1 2089.1 SG2 450.5 THA 6.12

ORBIT DETERMINATION ACCURACY

ST 51.3 SR 23.2 SS 39.3
 CRT .8442 CRS .7085 CST .9756
 LSA 67.0 MSA 15.0 SFA 1.1
 EL1 55.1 EL2 11.6 ALF 21.93

LAUNCH DATE MAR 30 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 392.072 EARTH TO MARS
 RL 149.39 LAL -0.00 LOL 188.65 VL 33.751 GAL -6.49 AZL 92.61 HCA 135.08 SMA 208.15 ECC .30238 INC 2.6127 V1 29.826
 RP 207.05 LAP -1.84 LOP 323.76 VP 25.383 GAP 17.60 AZP 88.15 TAL 331.56 TAP 106.64 RCA 145.21 APO 271.09 V2 26.453
 RC 57.030 GL -15.09 GP 4.88 ZAL 137.27 ZAP 163.73 ETS 162.63 ZAE 168.51 ETE 121.64 ZAC 106.06 ETC 275.74 LVI -19.70

PLANETOCENTRIC CONIC

C3 34.459 VHL 5.870 DLA -26.19 RAL 336.11 RAD 6648.7 VEL 12.424 PTH 7.33 VHP 8.476 DPA -15.24 RAP 309.84 ECC 1.5671
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 1 4 2728.81 -18.62 76.58 200.76 134.61 19 46 33 1728.8 -4.46 60.32
 60.00 20 15 30 2530.83 -12.35 64.52 206.53 128.67 20 57 41 1530.8 3.58 46.46
 70.00 21 51 43 2247.94 -5.88 46.37 211.32 123.70 22 29 11 1247.9 8.07 28.82
 80.00 23 49 52 1878.14 .05 21.97 215.00 119.86 24 21 10 878.1 12.19 1.20
 90.00 1 43 43 1523.66 3.00 357.54 216.63 118.13 2 9 6 523.7 14.27 336.17
 100.00 2 36 39 1352.62 .05 343.34 215.00 119.86 2 59 12 352.6 12.19 322.57
 110.00 2 55 5 1294.75 -5.88 335.29 211.32 123.70 3 16 40 294.8 8.07 315.74

DIFFERENTIAL CORRECTIONS

TDE -.8920 TRA -1.7647 TC3 -.0708 BAU .0828
 RDE -.4714 RRA -.0487 RC3 .1653 FAU .04672
 FDE .7876 FRA 2.4557 FC3 -1.1739 BSP 3671
 BDE 1.0089 BRA 1.7653 BC3 .1798 FSP 393

MID-COURSE EXECUTION ACCURACY

SGT 2109.4 SGR 502.1 SG3 268.1
 RRT .4590 RRF -.4896 RTF -.8682
 SGB 2168.3 R23 -.0817 R13 -.8704
 SG1 2122.5 SG2 443.4 THA 6.52

ORBIT DETERMINATION ACCURACY

ST 52.2 SR 23.0 SS 40.7
 CRT .8525 CRS .7167 CST .9747
 LSA 68.5 MSA 14.9 SFA 1.1
 EL1 55.9 EL2 11.2 ALF 21.52

LAUNCH DATE MAR 30 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 395.361

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 33.655 GAL -6.35 AZL 92.67 HCA 136.35 SMA 206.06 ECC .29485 INC 2.6673 V1 29.826
 RP 206.97 LAP -1.84 LOP 325.03 VP 25.267 GAP 17.15 AZP 88.07 TAL 331.62 TAP 107.96 RCA 145.31 APO 266.82 V2 26.462
 RC 57.440 GL -15.69 GP 5.13 ZAL 137.13 ZAP 162.76 ETS 162.83 ZAE 168.73 ETE 117.85 ZAC 106.28 ETC 275.82 LVI -20.04

PLANETOCENTRIC CONIC

C3 33.122 VHL 5.755 DLA -26.72 RAL 336.43 RAD 6646.2 VEL 12.371 PTH 7.29 VHP 8.232 DPA -14.92 RAP 310.10 ECC 1.5451
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 9 2 2707.01 -17.37 75.56 200.64 134.96 19 50 9 1707.0 .64 59.41
 60.00 20 20 37 2506.00 -11.29 63.27 206.46 128.95 21 2 23 1506.0 4.76 45.27
 70.00 21 58 42 2217.58 -4.73 44.77 211.34 123.86 22 35 40 1217.6 9.20 25.20
 80.00 0 4 17 1836.81 1.45 19.71 215.18 119.83 0 34 53 836.8 13.48 358.81
 90.00 1 57 55 1470.37 4.71 354.55 216.98 117.92 2 22 25 470.4 15.76 332.97
 100.00 2 47 9 1311.28 1.45 341.07 215.18 119.83 3 9 0 311.3 13.48 320.18
 110.00 3 2 4 1284.40 -4.73 333.69 211.34 123.86 3 23 9 264.4 9.20 314.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8775 TRA -1.7312 TC3 -.0465 BAU .0812 SGT 2118.8 SGR 505.5 SG3 285.3 ST 52.4 SR 22.8 SS 42.1
 RDE -.4584 RRA -.0667 RC3 .1775 FAU .04828 RRT .4959 RRF -.5283 RTF -.8772 CRT .8595 CRS .7258 CST .9747
 FDE .8217 FRA 2.5577 FC3 -1.2619 BSP 3564 SGB 2178.3 R23 -.0833 R13 -.8796 LSA 69.4 MSA 14.8 S8A 1.1
 BDE .9900 BRA 1.7525 BC3 .1835 FSP 422 SG1 2134.3 SG2 435.8 THA 7.04 EL1 56.1 EL2 10.9 ALF 21.39

LAUNCH DATE MAR 30 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 398.721

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 33.565 GAL -6.22 AZL 92.72 HCA 137.61 SMA 204.14 ECC .28774 INC 2.7246 V1 29.026
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.154 GAP 16.71 AZP 87.99 TAL 331.68 TAP 109.29 RCA 145.40 APO 262.87 V2 26.469
 RC 57.930 GL -16.31 GP 5.40 ZAL 137.02 ZAP 161.77 ETS 162.99 ZAE 168.87 ETE 114.18 ZAC 106.51 ETC 275.90 LVI -20.39

PLANETOCENTRIC CONIC

C3 31.890 VHL 5.647 DLA -27.27 RAL 336.76 RAD 6647.7 VEL 12.321 PTH 7.25 VHP 7.996 DPA -14.59 RAP 310.33 ECC 1.5248
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 9 12 2685.07 -16.51 74.55 200.58 135.28 19 53 57 1685.1 1.74 58.50
 60.00 20 26 0 2480.81 -10.21 62.02 206.46 129.20 21 7 20 1480.8 5.87 44.06
 70.00 22 6 11 2186.20 -3.54 43.13 211.44 123.99 22 42 37 1186.2 10.36 23.51
 80.00 0 16 4 1791.97 2.97 17.24 215.48 119.72 0 45 56 792.0 14.85 356.18
 90.00 2 13 20 1407.32 6.71 350.99 217.53 117.54 2 38 47 407.3 17.45 329.12
 100.00 2 58 55 1266.41 2.97 338.61 215.48 119.72 3 20 2 266.4 14.85 317.55
 110.00 3 9 33 1233.02 -3.54 332.04 211.44 123.99 3 30 6 233.0 10.36 312.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8837 TRA -1.7179 TC3 -.0467 BAU .0834 SGT 2156.9 SGR 510.9 SG3 303.6 ST 53.6 SR 22.7 SS 43.6
 RDE -.4467 RRA -.0858 RC3 .1900 FAU .04998 RRT .5328 RRF -.5685 RTF -.8788 CRT .8697 CRS .7353 CST .9732
 FDE .8569 FRA 2.6638 FC3 -1.3568 BSP 3714 SGB 2216.6 R23 -.0958 R13 -.8816 LSA 71.2 MSA 14.7 S8A 1.1
 BDE .9902 BRA 1.7201 BC3 .1956 FSP 432 SG1 2174.7 SG2 428.8 THA 7.49 EL1 57.3 EL2 10.5 ALF 20.9

LAUNCH DATE MAR 30 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 402.146

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 33.479 GAL -6.09 AZL 92.78 HCA 138.88 SMA 202.35 ECC .28100 INC 2.7848 V1 29.826
 RP 206.85 LAP -1.83 LOP 327.56 VP 25.047 GAP 16.27 AZP 87.90 TAL 331.74 TAP 110.62 RCA 145.49 APO 259.21 V2 26.476
 RC 58.496 GL -18.96 GP 5.69 ZAL 136.86 ZAP 160.74 ETS 163.11 ZAE 168.93 ETE 110.71 ZAC 106.77 ETC 275.97 LVI -20.76

PLANETOCENTRIC CONIC

C3 30.753 VHL 5.546 DLA -27.85 RAL 337.09 RAD 6647.3 VEL 12.275 PTH 7.22 VHP 7.767 DPA -14.24 RAP 310.54 ECC 1.5061
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 13 34 2662.92 -15.44 73.54 200.58 135.58 19 57 57 1662.9 2.85 57.57
 60.00 20 31 42 2455.11 -9.10 60.76 206.51 129.43 21 12 37 1455.1 6.99 42.81
 70.00 22 14 15 2153.51 -2.29 41.42 211.62 124.09 22 50 9 1153.5 11.56 21.74
 80.00 0 29 38 1741.97 4.65 14.49 215.92 119.53 0 58 40 742.0 16.33 353.21
 90.00 2 39 32 1323.07 9.33 346.19 216.44 116.82 3 1 35 323.1 19.58 323.85
 100.00 3 12 30 1216.44 4.65 335.85 215.92 119.53 3 32 46 216.4 16.33 314.58
 110.00 3 17 37 1200.32 -2.29 330.33 211.62 124.09 3 37 38 200.3 11.56 310.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8867 TRA -1.7005 TC3 -.0433 BAU .0855 SGT 2188.6 SGR 518.6 SG3 323.1 ST 54.7 SR 22.6 SS 45.1
 RDE -.4358 RRA -.1059 RC3 .2034 FAU .05175 RRT .5705 RRF -.6095 RTF -.8814 CRT .8800 CRS .7459 CST .9720
 FDE .8946 FRA 2.7755 FC3 -1.4569 BSP 3821 SGB 2249.2 R23 -.1061 R13 -.8846 LSA 72.9 MSA 14.6 S8A 1.1
 BDE .9880 BRA 1.7038 BC3 .2079 FSP 484 SG1 2209.3 SG2 422.0 THA 7.99 EL1 58.3 EL2 10.1 ALF 20.64

LAUNCH DATE MAR 30 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 405.632

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 33.398 GAL -5.98 AZL 92.85 HCA 140.18 SMA 200.89 ECC .27462 INC 2.8480 V1 29.826
 RP 206.80 LAP -1.82 LOP 328.83 VP 24.948 GAP 15.85 AZP 87.81 TAL 331.82 TAP 111.96 RCA 145.58 APO 258.81 V2 26.482
 RC 58.137 GL -17.63 GP 6.00 ZAL 136.69 ZAP 159.89 ETS 163.19 ZAE 168.92 ETE 107.52 ZAC 107.05 ETC 276.04 LVI -21.13

PLANETOCENTRIC CONIC

C3 29.706 VHL 5.450 DLA -28.45 RAL 337.43 RAD 6646.9 VEL 12.233 PTH 7.18 VHP 7.545 DPA -13.87 RAP 310.72 FCC 1.4889
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 18 10 2640.54 -14.35 72.53 200.63 135.87 20 2 10 1640.5 3.97 56.63
 60.00 20 37 45 2428.84 -7.96 59.47 206.63 129.64 21 18 13 1428.8 8.13 41.53
 70.00 22 23 0 2119.26 -.98 39.63 211.88 124.14 22 58 20 1119.3 12.80 19.86
 80.00 0 45 52 1684.19 6.58 11.28 216.55 119.19 1 13 57 684.2 17.98 349.71
 86.76 2 56 59 1261.80 13.85 343.97 220.33 115.10 3 18 1 261.8 23.02 320.65
 100.00 3 28 44 1158.66 6.58 332.65 216.55 119.19 3 48 3 158.7 17.98 311.08
 110.00 3 26 23 1166.08 -.98 328.55 211.88 124.14 3 45 49 166.1 12.80 308.78

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8875 TRA -1.6794 TC3 -.0375 BAU .0878 SGT 2214.5 SGR 529.0 SG3 343.7 ST 55.5 SR 22.5 SS 46.6
 RDE -.4259 RRA -.1269 RC3 .2178 FAU .05362 RRT .6083 RRF -.6505 RTF -.8843 CRT .8905 CRS .7575 CST .9708
 FDE .9344 FRA 2.8919 FC3 -1.5625 BSP 3897 SGB 2276.8 R23 -.1170 R13 -.8880 LSA 74.5 MSA 14.5 S8A 1.1
 BDE .9844 BRA 1.6842 BC3 .2210 FSP 518 SG1 2238.6 SG2 415.3 THA 8.56 EL1 59.1 EL2 9.6 ALF 20.41

LAUNCH DATE MAR 30 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.68 VL 33.084 GAL -5.41 AZL 93.22 HCA 146.49 SMA 194.00 ECC .24754 INC 3.2247 V1 29.826
RP 206.67 LAP -1.78 LOP 335.18 VP 24.499 GAP 13.84 AZP 87.31 TAL 332.21 TAP 118.70 RCA 145.98 APO 242.02 V2 26.496
RC 63.376 GL -21.42 GP 7.97 ZAL 135.47 ZAP 153.94 ETS 163.07 ZAE 167.94 ETE 97.56 ZAC 108.91 ETC 276.32 LVI -23.29

PLANETOCENTRIC CONIC

C3 25.682 VHL 5.068 DLA -31.87 RAL 339.36 RAD 6645.3 VEL 12.068 PTH 7.05 VHP 6.541 DPA -11.74 RAP 311.07 ECC 1.4227
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 45 34 2524.02 -8.60 67.44 201.92 136.98 20 27 38 1524.0 9.79 51.68
60.00 21 15 5 2265.80 -1.70 52.58 208.51 130.27 21 53 10 1285.8 14.25 34.41
70.00 23 24 6 1905.92 7.13 28.45 215.13 123.49 23 55 52 905.9 20.11 7.65
74.67 1 31 57 1521.97 16.54 4.66 220.79 117.63 1 57 19 522.0 26.48 341.18
74.67 1 31 57 1521.97 16.54 4.66 220.79 117.63 1 57 19 522.0 25.48 341.18
74.67 1 31 57 1521.97 16.54 4.66 220.79 117.63 1 57 19 522.0 26.48 341.18
110.00 4 27 29 6240.78 7.13 295.27 215.13 123.49 6 11 29 5240.8 20.11 274.48

DIFFERENTIAL CORRECTIONS

TDE -.8821 TRA-1.5425 TC3 .0020 BAU .1058
RDE -.3917 RRA -.2517 RC3 .3081 FAU .06475
FDE 1.1722 FRA 3.5520 FC3-2.1828 BSP 4089
BDE .9651 BRA 1.5629 BC3 .3082 FSP 722

MID-COURSE EXECUTION ACCURACY

SGT 2282.8 SGR 637.1 SG3 465.4
RRT .7772 RRF -.8341 RTF -.8976
SGB 2370.1 R23 -.1833 R13 -.9051
SG1 2337.5 SG2 391.5 THA 12.60

ORBIT DETERMINATION ACCURACY

ST 58.6 SR 22.7 SS 54.9
CRT .9458 CRS .8276 CST .9643
LSA 82.2 MSA 14.4 SSA 1.0
EL1 62.5 EL2 6.9 ALF 20.19

LAUNCH DATE MAR 30 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.997 GAL -5.31 AZL 93.32 HCA 147.76 SMA 192.92 ECC .24299 INC 3.1513 V1 29.826
RP 206.68 LAP -1.77 LOP 336.45 VP 24.421 GAP 13.47 AZP 87.19 TAL 332.29 TAP 120.04 RCA 146.05 APO 239.80 V2 26.496
RC 64.414 GL -22.29 GP 8.47 ZAL 135.15 ZAP 152.68 ETS 162.96 ZAE 167.59 ETE 96.87 ZAC 109.39 ETC 276.36 LVI -23.79

PLANETOCENTRIC CONIC

C3 25.100 VHL 5.010 DLA -32.64 RAL 339.81 RAD 6645.0 VEL 12.044 PTH 7.03 VHP 6.361 DPA -11.23 RAP 311.02 ECC 1.4131
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 52 12 2499.46 -7.37 66.40 202.43 137.14 20 33 51 1499.5 11.01 50.62
60.00 21 24 31 2253.76 -.29 51.05 209.21 130.30 22 2 4 1293.8 15.59 32.76
70.00 23 43 22 1844.69 9.41 25.18 216.43 122.98 24 14 7 844.7 22.04 3.95
72.98 1 22 34 1551.13 17.10 7.19 221.10 118.24 1 48 25 551.1 27.23 343.69
72.98 1 22 34 1551.13 17.10 7.19 221.10 118.24 1 48 25 551.1 27.23 343.69
72.98 1 22 34 1551.13 17.10 7.19 221.10 118.24 1 48 25 551.1 27.23 343.69
110.00 4 48 44 6179.55 9.41 292.00 216.43 122.98 6 29 44 5179.6 22.04 270.77

DIFFERENTIAL CORRECTIONS

TDE -.8853 TRA-1.5141 TC3 .0017 BAU .1108
RDE -.3888 RRA -.2823 RC3 .3308 FAU .06730
FDE 1.2305 FRA 3.7008 FC3-2.3214 BSP 4182
BDE .9670 BRA 1.5401 BC3 .3302 FSP 771

MID-COURSE EXECUTION ACCURACY

SGT 2292.1 SGR 673.9 SG3 493.7
RRT .8022 RRF -.8627 RTF -.8982
SGB 2369.1 R23 -.2018 R13 -.9071
SG1 2356.8 SG2 391.3 THA 13.68

ORBIT DETERMINATION ACCURACY

ST 59.3 SR 23.0 SS 56.7
CRT .9569 CRS .8437 CST .9823
LSA 84.0 MSA 14.4 SSA 1.0
EL1 63.3 EL2 6.3 ALF 20.55

LAUNCH DATE MAR 30 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.942 GAL -5.22 AZL 93.41 HCA 149.02 SMA 191.92 ECC .23869 INC 3.4126 V1 29.826
RP 206.69 LAP -1.76 LOP 337.72 VP 24.348 GAP 13.10 AZP 87.07 TAL 332.37 TAP 121.39 RCA 146.11 APO 237.73 V2 26.495
RC 65.512 GL -23.19 GP 9.02 ZAL 134.81 ZAP 151.37 ETS 162.82 ZAE 167.18 ETE 96.58 ZAC 109.93 ETC 276.39 LVI -24.32

PLANETOCENTRIC CONIC

C3 24.587 VHL 4.959 DLA -33.45 RAL 340.29 RAD 6644.8 VEL 12.023 PTH 7.01 VHP 6.189 DPA -10.69 RAP 310.93 ECC 1.4046
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 59 21 2474.29 -6.11 65.33 203.05 137.28 20 40 35 1474.3 12.25 49.52
60.00 21 34 54 2219.93 1.20 49.44 210.05 130.29 22 11 54 1219.9 16.99 30.99
70.00 0 13 37 1763.37 12.39 20.76 216.27 122.08 0 43 0 763.4 24.44 358.86
71.34 1 14 2 1578.29 17.65 9.60 221.48 118.89 1 40 20 578.3 28.00 346.07
71.34 1 14 2 1578.29 17.65 9.60 221.48 118.89 1 40 20 578.3 28.00 346.07
71.34 1 14 2 1578.29 17.65 9.60 221.48 118.89 1 40 20 578.3 28.00 346.07
110.00 5 13 3 6098.23 12.39 287.59 216.27 122.08 6 54 41 5098.2 24.44 285.68

DIFFERENTIAL CORRECTIONS

TDE -.8857 TRA-1.4800 TC3 .0054 BAU .1184
RDE -.3874 RRA -.3151 RC3 .3542 FAU .06999
FDE 1.2925 FRA 3.8532 FC3-2.4643 BSP 4188
BDE .9667 BRA 1.5132 BC3 .3542 FSP 822

MID-COURSE EXECUTION ACCURACY

SGT 2291.0 SGR 717.1 SG3 523.3
RRT .8245 RRF -.8878 RTF -.9094
SGB 2400.6 R23 -.2187 R13 -.9099
SG1 2366.3 SG2 392.6 THA 14.89

ORBIT DETERMINATION ACCURACY

ST 59.7 SR 23.3 SS 58.6
CRT .9670 CRS .8600 CST .9808
LSA 85.6 MSA 14.5 SSA 1.0
EL1 63.9 EL2 5.6 ALF 20.86

LAUNCH DATE MAR 30 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.891 GAL -5.13 AZL 93.52 HCA 150.29 SMA 190.99 ECC .23464 INC 3.5173 V1 29.826
RP 206.71 LAP -1.74 LOP 338.99 VP 24.274 GAP 12.74 AZP 86.94 TAL 332.45 TAP 122.74 RCA 146.18 APO 235.80 V2 26.493
RC 66.687 GL -24.14 GP 9.61 ZAL 134.43 ZAP 150.01 ETS 162.65 ZAE 166.72 ETE 96.68 ZAC 110.52 ETC 276.42 LVI -24.89

PLANETOCENTRIC CONIC

C3 24.145 VHL 4.914 DLA -34.30 RAL 340.81 RAD 6644.6 VEL 12.005 PTH 7.00 VHP 6.023 DPA -10.11 RAP 310.79 ECC 1.3974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 7 6 2448.40 -4.82 64.24 203.80 137.39 20 47 54 1448.4 13.52 48.38
60.00 21 46 27 2183.84 2.79 47.71 211.07 130.22 22 22 51 1183.8 18.46 29.08
69.72 1 6 15 1603.87 18.21 11.92 221.95 119.59 1 32 59 603.9 28.78 348.38
69.72 1 6 15 1603.87 18.21 11.92 221.95 119.59 1 32 59 603.9 28.78 348.38
69.72 1 6 15 1603.87 18.21 11.92 221.95 119.59 1 32 59 603.9 28.78 348.38
69.72 1 6 15 1603.87 18.21 11.92 221.95 119.59 1 32 59 603.9 28.78 348.38
69.72 1 6 15 1603.87 18.21 11.92 221.95 119.59 1 32 59 603.9 28.78 348.38

DIFFERENTIAL CORRECTIONS

TDE -.8851 TRA-1.4424 TC3 .0104 BAU .1228
RDE -.3877 RRA -.3505 RC3 .3804 FAU .07286
FDE 1.3587 FRA 4.0092 FC3-2.6125 BSP 4192
BDE .9663 BRA 1.4843 BC3 .3805 FSP 874

MID-COURSE EXECUTION ACCURACY

SGT 2282.6 SGR 767.3 SG3 554.1
RRT .8436 RRF -.9095 RTF -.9006
SGB 2408.2 R23 -.2347 R13 -.9131
SG1 2375.4 SG2 396.0 THA 16.30

ORBIT DETERMINATION ACCURACY

ST 60.0 SR 23.8 SS 60.5
CRT .9762 CRS .8763 CST .9590
LSA 87.2 MSA 14.6 SS .9
EL1 64.3 EL2 4.8 ALF 21.30

LAUNCH DATE MAR 30 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.85 VL 32.843 GAL -5.05 AZL 93.83 HCA 191.56 SMA 190.12 ECC .23083 INC 3.6305 V1 29.826
 RP 206.73 LAP -1.73 LOP 340.25 VP 24.205 GAP 12.38 AZP 86.81 TAL 332.53 TAP 124.09 RCA 146.23 APO 234.01 V2 26.439
 RC 87.877 GL -25.14 GP 10.26 ZAL 134.03 ZAP 148.61 ETS 162.45 ZAE 166.19 ETE 97.09 ZAC 111.17 ETC 276.45 LVI -25.50

PLANETOCENTRIC CONIC
 C3 23.773 VHL 4.876 DLA -35.20 RAL 341.36 RAD 6644.5 VEL 11.990 PTH 6.99 VHP 5.864 DPA -9.49 RAP 310.60 ECC 1.3912
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 32 2421.66 -3.48 63.11 204.68 137.48 20 55 53 1421.7 14.83 47.18
 60.00 21 59 28 2144.82 4.50 45.84 212.30 130.09 22 35 13 1144.8 20.02 26.97
 68.12 0 59 8 1628.26 18.77 14.18 222.53 120.33 1 26 17 628.3 29.59 350.63
 68.12 0 59 8 1628.26 18.77 14.18 222.53 120.33 1 26 17 628.3 29.59 350.63
 68.12 0 59 8 1628.26 18.77 14.18 222.53 120.33 1 26 17 628.3 29.59 350.63
 68.12 0 59 8 1628.26 18.77 14.18 222.53 120.33 1 26 17 628.3 29.59 350.63

DIFFERENTIAL CORRECTIONS
 TDE -.8886 TRA-1.4059 TC3 .0078 BAU .1297 SGT 2275.4 SGR 825.7 SG3 586.2 ST 60.4 SR 24.4 SS 62.4
 RDE -.3902 RRA -.3891 RC3 .4081 FAU .07577 RRT .8586 RRF -.9278 RTF -.9004 CRT .9844 CRS .8925 CST .9569
 FDE 1.4314 FRA 4.1700 FC3-2.7593 BSP 4232 SGB 2420.6 R23 -.2525 R13 -.9155 LSA 89.6 MSA 14.8 SSA .9
 BDE .9705 BRA 1.4587 BC3 .4082 FSP 929 SGI 2386.7 SG2 403.5 THA 17.83 EL1 65.0 EL2 4.0 ALF 21.80

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 30 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.85 VL 32.797 GAL -4.97 AZL 93.75 HCA 152.83 SMA 189.31 ECC .22724 INC 3.7532 V1 29.826
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.138 GAP 12.04 AZP 86.86 TAL 332.60 TAP 125.43 RCA 146.29 APO 232.33 V2 26.485
 RC 69.140 GL -26.20 GP 10.98 ZAL 133.59 ZAP 147.15 ETS 162.22 ZAE 165.59 ETE 97.82 ZAC 111.89 ETC 276.47 LVI -26.15

PLANETOCENTRIC CONIC
 C3 23.472 VHL 4.845 DLA -36.13 RAL 341.96 RAD 6644.3 VEL 11.977 PTH 6.97 VHP 5.713 DPA -8.81 RAP 310.36 ECC 1.3863
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 24 46 2393.86 -2.08 61.95 205.71 137.54 21 4 40 1393.9 16.18 45.92
 60.00 22 14 24 2101.76 6.38 43.77 213.79 129.88 22 49 25 1101.8 21.72 24.59
 66.51 0 52 35 1651.94 19.33 16.41 223.22 121.14 1 20 6 651.9 30.41 352.87
 66.51 0 52 35 1651.94 19.33 16.41 223.22 121.14 1 20 6 651.9 30.41 352.87
 66.51 0 52 35 1651.94 19.33 16.41 223.22 121.14 1 20 6 651.9 30.41 352.87
 66.51 0 52 35 1651.94 19.33 16.41 223.22 121.14 1 20 6 651.9 30.41 352.87

DIFFERENTIAL CORRECTIONS
 TDE -.8906 TRA-1.3649 TC3 .0070 BAU .1376 SGT 2259.1 SGR 892.6 SG3 619.2 ST 60.6 SR 25.2 SS 64.4
 RDE -.5949 RRA -.4310 RC3 .4383 FAU .07884 RRT .8708 RRF -.9431 RTF -.9003 CRT .9909 CRS .9080 CST .9548
 FDE 1.5008 FRA 4.3324 FC3-2.9078 BSP 4250 SGB 2429.1 R23 -.2676 R13 -.9185 LSA 90.7 MSA 15.0 SSA .8
 BDE .9742 BRA 1.4314 BC3 .4383 FSP 988 SGI 2393.5 SG2 414.1 THA 19.60 EL1 65.6 EL2 3.1 ALF 22.46

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 30 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.85 VL 32.754 GAL -4.90 AZL 93.89 HCA 154.09 SMA 188.55 ECC .22386 INC 3.8869 V1 29.826
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.074 GAP 11.70 AZP 86.50 TAL 332.67 TAP 126.76 RCA 146.34 APO 230.76 V2 26.480
 RC 70.495 GL -27.31 GP 11.77 ZAL 133.10 ZAP 145.63 ETS 161.97 ZAE 164.90 ETE 98.81 ZAC 112.68 ETC 276.48 LVI -26.86

PLANETOCENTRIC CONIC
 C3 23.246 VHL 4.821 DLA -37.12 RAL 342.61 RAD 6644.3 VEL 11.968 PTH 6.97 VHP 5.569 DPA -8.07 RAP 310.06 ECC 1.3826
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 34 59 2364.77 -.62 60.74 206.93 137.57 21 14 23 1364.8 17.59 44.59
 60.00 22 31 59 2032.82 8.31 41.39 215.61 129.54 23 6 12 1052.8 23.59 21.81
 64.89 0 46 34 1675.04 19.89 18.64 224.04 122.01 1 14 29 675.0 31.26 355.10
 64.89 0 46 34 1675.04 19.89 18.64 224.04 122.01 1 14 29 675.0 31.26 355.10
 64.89 0 46 34 1675.04 19.89 18.64 224.04 122.01 1 14 29 675.0 31.26 355.10
 64.89 0 46 34 1675.04 19.89 18.64 224.04 122.01 1 14 29 675.0 31.26 355.10

DIFFERENTIAL CORRECTIONS
 TDE -.8942 TRA-1.3218 TC3 .0033 BAU .1462 SGT 2237.9 SGR 969.5 SG3 653.2 ST 60.8 SR 26.2 SS 66.5
 RDE -.4027 RRA -.4770 RC3 .4705 FAU .08192 RRT .8802 RRF -.9556 RTF -.9297 CRT .9958 CRS .9228 CST .9528
 FDE 1.5947 FRA 4.4971 FC3-3.0509 BSP 4267 SGB 2438.9 R23 -.2607 R13 -.9218 LSA 92.6 MSA 15.2 SSA .8
 BDE .9808 BRA 1.4050 BC3 .4705 FSP 1045 SGI 2400.9 SG2 428.9 THA 21.60 EL1 66.2 EL2 2.2 ALF 23.26

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 30 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.85 VL 32.714 GAL -4.83 AZL 94.03 HCA 155.36 SMA 187.85 ECC .22069 INC 4.0333 V1 20.826
 RP 206.87 LAP -1.68 LOP 344.08 VP 24.012 GAP 11.37 AZP 86.33 TAL 332.74 TAP 128.09 RCA 146.39 APO 229.31 V2 26.474
 RC 71.818 GL -28.49 GP 12.64 ZAL 132.58 ZAP 144.05 ETS 161.89 ZAE 164.11 ETE 100.00 ZAC 113.56 ETC 276.49 LVI -27.63

PLANETOCENTRIC CONIC
 C3 23.099 VHL 4.808 DLA -38.16 RAL 343.33 RAD 6644.2 VEL 11.962 PTH 6.96 VHP 5.433 DPA -7.27 RAP 309.70 ECC 1.3902
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 46 21 2334.06 .92 59.45 208.38 137.57 21 25 15 1334.1 19.06 43.13
 60.00 22 53 40 1994.31 11.03 38.50 217.92 129.01 23 26 54 994.3 25.76 18.37
 63.24 0 41 4 1697.85 20.44 20.88 224.99 122.95 1 9 22 697.9 32.13 357.37
 63.24 0 41 4 1697.85 20.44 20.88 224.99 122.95 1 9 22 697.9 32.13 357.37
 63.24 0 41 4 1697.85 20.44 20.88 224.99 122.95 1 9 22 697.9 32.13 357.37
 63.24 0 41 4 1697.85 20.44 20.88 224.99 122.95 1 9 22 697.9 32.13 357.37

DIFFERENTIAL CORRECTIONS
 TDE -.8978 TRA-1.2741 TC3 -.0009 BAU .1561 SGT 2208.3 SGR 1037.2 SG3 687.7 ST 60.9 SR 27.4 SS 68.6
 RDE -.4136 RRA -.5271 RC3 .5054 FAU .08514 RRT .8870 RRF -.9658 RTF -.8986 CRT .9987 CRS .9364 CST .9503
 FDE 1.6876 FRA 4.6594 FC3-3.1910 BSP 4278 SGB 2448.3 R23 -.2903 R13 -.9256 LSA 94.5 MSA 15.4 SSA .8
 BDE .9883 BRA 1.3788 BC3 .5054 FSP 1104 SGI 2407.0 SG2 447.8 THA 23.89 EL1 66.7 EL2 1.3 ALF 24.24

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE MAR 30 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 454.704

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.68 VL 32.676 GAL -4.77 AZL 94.19 HCA 156.62 SMA 187.19 ECC .21771 INC 4.1945 V1 29.826
RP 208.93 LAP -1.66 LOP 345.33 VP 23.953 GAP 11.04 AZP 86.15 TAL 332.80 TAP 129.42 RCA 146.44 APO 227.95 V2 26.466
RC 73.228 GL -29.75 GP 13.59 ZAL 132.01 ZAP 142.40 ETS 161.39 ZAE 163.21 ETE 101.34 ZAC 114.53 ETC 276.49 LVI -28.46

PLANETOCENTRIC CONIC

C3 23.036 VHL 4.800 DLA -39.26 RAL 344.12 RAD 6644.2 VEL 11.959 PTH 6.96 VHP 5.306 DPA -6.39 RAP 309.27 ECC 1.3791
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 59 10 2301.28 2.57 58.08 210.08 137.52 21 37 31 1301.3 20.61 41.58
60.00 23 23 8 1916.30 14.35 34.57 221.05 128.07 23 55 5 916.3 28.49 13.58
61.56 0 36 4 1720.58 20.98 23.15 226.11 123.97 1 4 45 720.6 33.03 359.69
61.56 0 36 4 1720.58 20.98 23.15 226.11 123.97 1 4 45 720.6 33.03 359.69
61.56 0 36 4 1720.58 20.98 23.15 226.11 123.97 1 4 45 720.6 33.03 359.69
61.56 0 36 4 1720.58 20.98 23.15 226.11 123.97 1 4 45 720.6 33.03 359.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8999 TRA-1.2208 TC3 -.0024 BAU .1674 SGT 2167.0 SGR 1156.6 SG3 722.2 ST 60.7 SR 28.9 SS 70.7
RDE -.4280 RRA -.5817 RC3 .5438 FAU .08852 RRT .8920 RRF -.9738 RTF -.8975 CRT .9996 CRS .9485 CST .9478
PDE 1.7866 FRA 4.8160 FC3-3.3265 BSP 4252 SGB 2456.3 R23 -.2945 R13 -.9304 LSA 96.3 MSA 15.7 SSA .7
BDE .9965 BRA 1.3523 BC3 .5436 FSP 1162 SG1 2411.0 SG2 470.0 THA 26.54 EL1 67.2 EL2 .7 ALF 25.45

LAUNCH DATE MAR 30 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 458.676

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.641 GAL -4.71 AZL 94.37 HCA 157.89 SMA 186.58 ECC .21492 INC 4.3728 V1 29.826
RP 207.00 LAP -1.84 LOP 346.59 VP 23.895 GAP 10.73 AZP 85.95 TAL 332.85 TAP 130.74 RCA 146.48 APO 226.69 V2 26.458
RC 74.683 GL -31.09 GP 14.66 ZAL 131.38 ZAP 140.68 ETS 161.06 ZAE 162.18 ETE 102.78 ZAC 115.62 ETC 276.49 LVI -29.38

PLANETOCENTRIC CONIC

C3 23.068 VHL 4.803 DLA -40.42 RAL 344.99 RAD 6644.2 VEL 11.980 PTH 6.96 VHP 5.188 DPA -5.42 RAP 308.78 ECC 1.3796
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 13 47 2265.82 4.35 56.60 212.11 137.42 21 51 33 1265.8 22.27 39.85
59.83 0 31 37 1743.42 21.51 25.47 227.41 125.08 1 0 40 743.4 33.94 2.09
59.83 0 31 37 1743.42 21.51 25.47 227.41 125.08 1 0 40 743.4 33.94 2.09
59.83 0 31 37 1743.42 21.51 25.47 227.41 125.08 1 0 40 743.4 33.94 2.09
59.83 0 31 37 1743.42 21.51 25.47 227.41 125.08 1 0 40 743.4 33.94 2.09
59.83 0 31 37 1743.42 21.51 25.47 227.41 125.08 1 0 40 743.4 33.94 2.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9126 TRA-1.1719 TC3 -.00209 BAU .1796 SGT 2134.9 SGR 1270.9 SG3 757.1 ST 61.0 SR 30.8 SS 73.1
RDE -.4490 RRA -.8432 RC3 .5821 FAU .09154 RRT .8929 RRF -.9802 RTF -.8937 CRT .9986 CRS .9595 CST .9453
PDE 1.9056 FRA 4.9732 FC3-3.4357 BSP 4340 SGB 2484.6 R23 -.2990 R13 -.9344 LSA 98.8 MSA 16.1 SSA .7
BDE 1.0171 BRA 1.3368 BC3 .5824 FSP 1227 SG1 2433.3 SG2 502.1 THA 29.38 EL1 68.3 EL2 1.5 ALF 26.74

LAUNCH DATE MAR 30 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 462.667

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.807 GAL -4.85 AZL 94.57 HCA 159.15 SMA 186.02 ECC .21231 INC 4.5715 V1 29.826
RP 207.08 LAP -1.83 LOP 347.86 VP 23.839 GAP 10.41 AZP 85.73 TAL 332.90 TAP 132.05 RCA 146.32 APO 225.51 V2 26.449
RC 76.180 GL -32.53 GP 15.84 ZAL 130.69 ZAP 136.88 ETS 160.70 ZAE 161.00 ETE 104.27 ZAC 116.83 ETC 276.49 LVI -30.39

PLANETOCENTRIC CONIC

C3 23.204 VHL 4.817 DLA -41.65 RAL 345.98 RAD 6644.2 VEL 11.986 PTH 6.97 VHP 5.079 DPA -4.34 RAP 308.21 ECC 1.3810
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 30 48 2226.62 6.31 54.94 214.56 137.26 22 7 55 1226.6 24.09 37.89
58.04 0 27 43 1766.57 22.02 27.86 228.92 126.30 0 57 9 766.6 34.87 4.58
58.04 0 27 43 1766.57 22.02 27.86 228.92 126.30 0 57 9 766.6 34.87 4.58
58.04 0 27 43 1766.57 22.02 27.86 228.92 126.30 0 57 9 766.6 34.87 4.58
58.04 0 27 43 1766.57 22.02 27.86 228.92 126.30 0 57 9 766.6 34.87 4.58
58.04 0 27 43 1766.57 22.02 27.86 228.92 126.30 0 57 9 766.6 34.87 4.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9219 TRA-1.1139 TC3 -.0331 BAU .1940 SGT 2085.2 SGR 1399.8 SG3 790.6 ST 60.9 SR 33.0 SS 78.4
RDE -.4754 RRA -.7100 RC3 .6248 FAU .09475 RRT .8926 RRF -.9852 RTF -.8999 CRT .9957 CRS .9688 CST .9427
PDE 2.0318 FRA 5.1141 FC3-3.5358 BSP 4372 SGB 2511.4 R23 -.2956 R13 -.9401 LSA 101.1 MSA 16.4 SSA .6
BDE 1.0372 BRA 1.3210 BC3 .6254 FSP 1286 SG1 2453.5 SG2 536.4 THA 32.69 EL1 69.2 EL2 2.7 ALF 28.37

LAUNCH DATE MAR 30 1971

FLIGHT TIME 184.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 466.676

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.576 GAL -4.80 AZL 94.79 HCA 160.41 SMA 186.49 ECC .20987 INC 4.7944 V1 29.826
RP 207.17 LAP -1.81 LOP 349.12 VP 23.785 GAP 10.11 AZP 85.48 TAL 332.95 TAP 133.36 RCA 146.56 APO 224.42 V2 26.459
RC 77.718 GL -34.06 GP 17.16 ZAL 129.92 ZAP 137.00 ETS 160.32 ZAE 159.65 ETE 105.76 ZAC 118.17 ETC 276.49 LVI -31.51

PLANETOCENTRIC CONIC

C3 23.461 VHL 4.844 DLA -42.97 RAL 347.09 RAD 6644.3 VEL 11.977 PTH 6.97 VHP 4.982 DPA -3.14 RAP 307.57 ECC 1.3861
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 51 5 2182.01 8.54 53.05 217.56 136.99 22 27 27 1182.0 26.11 35.57
56.19 0 24 24 1790.35 22.50 30.34 230.66 127.63 0 54 14 790.3 35.82 7.21
56.19 0 24 24 1790.35 22.50 30.34 230.66 127.63 0 54 14 790.3 35.82 7.21
56.19 0 24 24 1790.35 22.50 30.34 230.66 127.63 0 54 14 790.3 35.82 7.21
56.19 0 24 24 1790.35 22.50 30.34 230.66 127.63 0 54 14 790.3 35.82 7.21
56.19 0 24 24 1790.35 22.50 30.34 230.66 127.63 0 54 14 790.3 35.82 7.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9348 TRA-1.0528 TC3 -.0490 BAU .2104 SGT 2030.3 SGR 1546.6 SG3 822.5 ST 60.9 SR 35.7 SS 77.9
RDE -.5103 RRA -.7843 RC3 .6689 FAU .09777 RRT .8901 RRF -.9890 RTF -.8848 CRT .9912 CRS .9766 CST .9401
PDE 2.1759 FRA 5.2412 FC3-3.6078 BSP 4431 SGB 2552.2 R23 -.2868 R13 -.9465 LSA 103.8 MSA 16.8 SSA .6
BDE 1.0651 BRA 1.3128 BC3 .6707 FSP 1343 SG1 2486.5 SG2 575.6 THA 36.40 EL1 70.5 EL2 4.1 ALF 30.26

LAUNCH DATE MAR 30 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 186.65 VL 32.547 GAL -4.55 AZL 95.05 MCA 161.67 SMA 185.00 ECC .20759 INC 5.0465 V1 29.828
 RP 207.26 LAP -1.58 LOP 350.39 VP 23.733 GAP 9.81 AZP 85.21 TAL 332.98 TAP 134.65 RCA 146.59 APO 223.40 V2 26.428
 RC 79.295 GL -35.75 GP 18.64 ZAL 129.07 ZAP 135.02 ETS 159.91 ZAE 198.11 ETE 107.21 ZAC 119.69 ETC 276.49 LVI -32.75

DISTANCE 470.700

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.861 VHL 4.885 DLA -44.38 RAL 348.35 RAD 6644.5 VEL 11.993 PTH 6.99 VHP 4.897 DPA -1.80 RAP 306.85 ECC 1.3927
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 16 17 2128.66 11.18 50.75 221.35 136.55 22 51 45 1128.7 28.48 32.69
 54.25 0 21 47 1814.91 22.95 32.93 232.70 129.09 0 52 2 814.9 36.78 10.00
 54.25 0 21 47 1814.91 22.95 32.93 232.70 129.09 0 52 2 814.9 36.78 10.00
 54.25 0 21 47 1814.91 22.95 32.93 232.70 129.09 0 52 2 814.9 36.78 10.00
 54.25 0 21 47 1814.91 22.95 32.93 232.70 129.09 0 52 2 814.9 36.78 10.00
 54.25 0 21 47 1814.91 22.95 32.93 232.70 129.09 0 52 2 814.9 36.78 10.00

DIFFERENTIAL CORRECTIONS

TDE -1.9485 TRA -.9843 TC3 -.0643 BAU .2293
 RDE -.5554 RRA -.8656 RC3 .7158 FAU .10064
 FDE 2.3361 FRA 5.3410 FC3-3.8515 B8P 4495
 BDE 1.0992 BRA 1.3107 BC3 .7187 F8P 1394

MID-COURSE EXECUTION ACCURACY

SGT 1962.3 SGR 1712.1 SG3 851.2
 RRT .8856 RRF -.9919 RTF -.8784
 SGB 2604.2 R23 -.2712 R13 -.9541
 SG1 2530.1 SG2 816.7 THA 40.61

ORBIT DETERMINATION ACCURACY

ST 60.7 SR 38.9 SS 80.4
 CRT .9854 CRS .9829 CST .9376
 LSA 106.6 MSA 17.2 SSA .5
 EL1 71.9 EL2 5.6 ALF 32.53

LAUNCH DATE MAR 30 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 186.65 VL 32.520 GAL -4.51 AZL 95.33 MCA 162.93 SMA 184.54 ECC .20547 INC 5.3341 V1 29.826
 RP 207.37 LAP -1.56 LOP 351.65 VP 23.682 GAP 9.52 AZP 84.90 TAL 333.01 TAP 135.94 RCA 146.62 APO 222.46 V2 26.415
 RC 80.909 GL -37.57 GP 20.30 ZAL 128.13 ZAP 132.93 ETS 159.49 ZAE 156.36 ETE 108.58 ZAC 121.39 ETC 276.49 LVI -34.13

DISTANCE 474.741

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.436 VHL 4.943 DLA -45.88 RAL 349.81 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 4.827 DPA -2.29 RAP 306.03 ECC 1.4022
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 50 17 2057.98 14.66 47.62 226.46 135.79 23 24 35 1058.0 31.49 28.66
 52.23 0 19 58 1840.55 23.33 35.64 235.07 130.70 0 50 38 840.5 37.74 13.00
 52.23 0 19 58 1840.55 23.33 35.64 235.07 130.70 0 50 38 840.5 37.74 13.00
 52.23 0 19 58 1840.55 23.33 35.64 235.07 130.70 0 50 38 840.5 37.74 13.00
 52.23 0 19 58 1840.55 23.33 35.64 235.07 130.70 0 50 38 840.5 37.74 13.00
 52.23 0 19 58 1840.55 23.33 35.64 235.07 130.70 0 50 38 840.5 37.74 13.00
 52.23 0 19 58 1840.55 23.33 35.64 235.07 130.70 0 50 38 840.5 37.74 13.00

DIFFERENTIAL CORRECTIONS

TDE -.9585 TRA -.9028 TC3 -.0684 BAU .2519
 RDE -.6126 RRA -.9531 RC3 .7680 FAU .10368
 FDE 2.5093 FRA 5.3977 FC3-3.6734 B8P 4501
 BDE 1.1375 BRA 1.3129 BC3 .7710 F8P 1426

MID-COURSE EXECUTION ACCURACY

SGT 1870.4 SGR 1897.2 SG3 874.4
 RRT .8801 RRF -.9940 RTF -.8714
 SGB 2664.2 R23 -.2467 R13 -.9630
 SG1 2583.1 SG2 652.2 THA 45.46

ORBIT DETERMINATION ACCURACY

ST 59.9 SR 42.8 SS 82.7
 CRT .9787 CRS .9877 CST .9348
 LSA 109.4 MSA 17.5 SSA .5
 EL1 73.3 EL2 7.2 ALF 35.31

LAUNCH DATE MAR 30 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 186.65 VL 32.494 GAL -4.47 AZL 95.67 MCA 164.19 SMA 184.12 ECC .20350 INC 5.6656 V1 29.826
 RP 207.48 LAP -1.54 LOP 352.91 VP 23.632 GAP 9.23 AZP 84.55 TAL 333.03 TAP 137.22 RCA 146.65 APO 221.58 V2 26.402
 RC 82.560 GL -39.55 GP 22.17 ZAL 127.07 ZAP 130.73 ETS 159.06 ZAE 154.38 ETE 109.85 ZAC 123.30 ETC 276.49 LVI -35.68

DISTANCE 478.792

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.232 VHL 5.023 DLA -47.50 RAL 351.51 RAD 6645.1 VEL 12.050 PTH 7.04 VHP 4.774 DPA 1.41 RAP 305.12 ECC 1.4153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 0 1 51 1910.63 21.71 40.73 235.90 133.44 0 33 41 910.6 37.23 19.30
 50.10 0 19 10 1867.57 23.64 38.51 237.84 132.48 0 50 17 867.6 38.67 16.23
 50.10 0 19 10 1867.57 23.64 38.51 237.84 132.48 0 50 17 867.6 38.67 16.23
 50.10 0 19 10 1867.57 23.64 38.51 237.84 132.48 0 50 17 867.6 38.67 16.23
 50.10 0 19 10 1867.57 23.64 38.51 237.84 132.48 0 50 17 867.6 38.67 16.23
 50.10 0 19 10 1867.57 23.64 38.51 237.84 132.48 0 50 17 867.6 38.67 16.23
 50.10 0 19 10 1867.57 23.64 38.51 237.84 132.48 0 50 17 867.6 38.67 16.23

DIFFERENTIAL CORRECTIONS

TDE -.9930 TRA -.8355 TC3 -.1076 BAU .2759
 RDE -.6935 RRA -1.0582 RC3 .8108 FAU .10496
 FDE 2.7366 FRA 5.4397 FC3-3.6014 B8P 4782
 BDE 1.2123 BRA 1.3487 BC3 .8179 F8P 1478

MID-COURSE EXECUTION ACCURACY

SGT 1812.2 SGR 2114.7 SG3 894.5
 RRT .8677 RRF -.9957 RTF -.8781
 SGB 2785.0 R23 -.2253 R13 -.9700
 SG1 2893.7 SG2 707.1 THA 50.06

ORBIT DETERMINATION ACCURACY

ST 60.5 SR 47.9 SS 83.9
 CRT .9720 CRS .9916 CU1 .9337
 LSA 114.0 MSA 18.0 SSA .4
 EL1 76.6 EL2 8.9 ALF 38.18

LAUNCH DATE MAR 30 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 186.65 VL 32.471 GAL -4.43 AZL 96.05 MCA 165.44 SMA 183.72 ECC .20167 INC 6.0523 V1 29.826
 RP 207.60 LAP -1.52 LOP 354.17 VP 23.584 GAP 8.95 AZP 84.14 TAL 333.04 TAP 138.48 RCA 146.67 APO 220.77 V2 26.388
 RC 84.247 GL -41.72 GP 24.29 ZAL 125.87 ZAP 128.40 ETS 158.82 ZAE 152.12 ETE 111.01 ZAC 125.47 ETC 276.51 LVI -37.42

DISTANCE 482.857

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.309 VHL 5.129 DLA -49.23 RAL 353.51 RAD 6645.5 VEL 12.094 PTH 7.07 VHP 4.742 DPA 3.34 RAP 304.10 ECC 1.4330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77
 47.86 0 19 34 1896.48 23.83 41.55 241.11 134.45 0 51 10 896.5 39.56 19.77

DIFFERENTIAL CORRECTIONS

TDE -1.0211 TRA -.7495 TC3 -.1281 BAU .3052
 RDE -.8028 RRA -1.1634 RC3 .8582 FAU .10627
 FDE 2.9873 FRA 5.4080 FC3-3.4971 B8P 4978
 BDE 1.2989 BRA 1.3856 BC3 .8677 F8P 1499

MID-COURSE EXECUTION ACCURACY

SGT 1721.1 SGR 2356.6 SG3 904.4
 RRT .8538 RRF -.9969 RTF -.8434
 SGB 2918.2 R23 -.1952 R13 -.9777
 SG1 2820.5 SG2 748.5 THA 55.26

ORBIT DETERMINATION ACCURACY

ST 60.2 SR 53.9 SS 88.9
 CRT .9652 CRS .9944 CST .9325
 LSA 118.8 MSA 18.3 SSA .4
 EL1 80.1 EL2 10.6 ALF 41.74

LAUNCH DATE MAR 30 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

DISTANCE 486.934

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.449 GAL -4.40 AZL 96.51 HCA 186.89 SMA 183.36 ECC .19998 INC 6.5096 V1 29.826
RP 207.73 LAP -1.50 LOP 355.42 VP 23.537 GAP 8.67 AZP 83.66 TAL 333.05 TAP 139.74 RCA 146.69 APO 220.03 V2 26.373
RC 85.969 GL -44.11 GP 26.69 ZAL 124.52 ZAP 123.93 ETS 158.18 ZAE 149.57 ETE 112.05 ZAC 127.92 ETC 276.54 LVI -39.38

PLANETOCENTRIC CONIC

C3 27.764 VHL 5.269 DLA -51.09 RAL 355.91 RAD 6646.1 VEL 12.154 PTH 7.12 VHP 4.737 DPA 5.54 RAP 302.96 ECC 1.4569
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.50 0 21 35 1927.70 23.87 44.78 244.97 136.62 0 53 43 927.7 40.36 23.64
45.50 0 21 35 1927.70 23.87 44.78 244.97 136.62 0 53 43 927.7 40.36 23.64
45.50 0 21 35 1927.70 23.87 44.78 244.97 136.62 0 53 43 927.7 40.36 23.64
45.50 0 21 35 1927.70 23.87 44.78 244.97 136.62 0 53 43 927.7 40.36 23.64
45.50 0 21 35 1927.70 23.87 44.78 244.97 136.62 0 53 43 927.7 40.36 23.64
45.50 0 21 35 1927.70 23.87 44.78 244.97 136.62 0 53 43 927.7 40.36 23.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0554 TRA -.6557 TC3 -.1493 BAU .3398 SGT 1621.8 SGR 2629.2 SG3 902.7 ST 59.9 SR 61.5 SS 92.1
RDE -.9496 RRA-1.2839 RC3 .9032 FAU .10672 RRT .8345 RRF -.9978 RTF -.8233 CRT .9593 CRS .9964 CST .9321
FDE 3.2753 FRA 5.2997 FC3-3.3276 BSP 5244 SGB 3089.2 R23 -.1637 R13 -.9844 LSA 124.5 MSA 18.5 SSA .3
BDE 1.4197 BRA 1.4416 BC3 .9154 FSP 1500 SG1 2987.4 SG2 786.5 THA 60.52 EL1 84.9 EL2 12.2 ALF 45.80

LAUNCH DATE MAR 30 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 491.020

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.428 GAL -4.37 AZL 97.06 HCA 167.94 SMA 183.02 ECC .19842 INC 7.0593 V1 29.826
RP 207.86 LAP -1.47 LOP 356.68 VP 23.491 GAP 8.40 AZP 83.09 TAL 333.04 TAP 140.99 RCA 146.71 APO 219.34 V2 26.357
RC 87.725 GL -46.77 GP 29.42 ZAL 122.97 ZAP 123.28 ETS 157.78 ZAE 146.67 ETE 112.97 ZAC 130.71 ETC 276.59 LVI -41.58

PLANETOCENTRIC CONIC

C3 29.741 VHL 5.454 DLA -53.08 RAL 358.85 RAD 6646.9 VEL 12.234 PTH 7.18 VHP 4.767 DPA 8.05 RAP 301.69 ECC 1.4895
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.01 0 25 43 1962.00 23.69 48.21 249.58 139.01 0 58 25 962.0 41.01 27.91
43.01 0 25 43 1962.00 23.69 48.21 249.58 139.01 0 58 25 962.0 41.01 27.91
43.01 0 25 43 1962.00 23.69 48.21 249.58 139.01 0 58 25 962.0 41.01 27.91
43.01 0 25 43 1962.00 23.69 48.21 249.58 139.01 0 58 25 962.0 41.01 27.91
43.01 0 25 43 1962.00 23.69 48.21 249.58 139.01 0 58 25 962.0 41.01 27.91
43.01 0 25 43 1962.00 23.69 48.21 249.58 139.01 0 58 25 962.0 41.01 27.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.0951 TRA -.5517 TC3 -.1683 BAU .3804 SGT 1512.8 SGR 2936.7 SG3 886.3 ST 59.3 SR 71.1 SS 95.7
RDE-1.1580 RRA-1.4115 RC3 .9419 FAU .10586 RRT .8082 RRF -.9984 RTF -.7961 CRT .9547 CRS .9978 CST .9329
FDE 3.6130 FRA 5.0988 FC3-3.0814 BSP 5584 SGB 3303.5 R23 -.1325 R13 -.9897 LSA 131.9 MSA 18.5 SSA .3
BDE 1.5924 BRA 1.5154 BC3 .9568 FSP 1477 SG1 3200.7 SG2 817.3 THA 65.71 EL1 91.6 EL2 13.7 ALF 50.42

LAUNCH DATE MAR 30 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 495.115

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.409 GAL -4.35 AZL 97.73 HCA 189.19 SMA 182.71 ECC .19699 INC 7.7330 V1 29.826
RP 208.01 LAP -1.45 LOP 357.93 VP 23.448 GAP 8.13 AZP 82.40 TAL 333.03 TAP 142.22 RCA 146.72 APO 218.70 V2 26.340
RC 89.514 GL -49.74 GP 32.53 ZAL 121.21 ZAP 120.46 ETS 157.43 ZAE 143.39 ETE 113.80 ZAC 133.89 ETC 276.68 LVI -44.05

PLANETOCENTRIC CONIC

C3 32.469 VHL 5.698 DLA -55.19 RAL 2.49 RAD 6648.0 VEL 12.344 PTH 7.27 VHP 4.844 DPA 10.92 RAP 300.27 ECC 1.5344
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.41 0 32 45 2000.21 23.19 51.84 255.14 141.60 1 6 6 1000.2 41.40 32.61
40.41 0 32 45 2000.21 23.19 51.84 255.14 141.60 1 6 6 1000.2 41.40 32.61
40.41 0 32 45 2000.21 23.19 51.84 255.14 141.60 1 6 6 1000.2 41.40 32.61
40.41 0 32 45 2000.21 23.19 51.84 255.14 141.60 1 6 6 1000.2 41.40 32.61
40.41 0 32 45 2000.21 23.19 51.84 255.14 141.60 1 6 6 1000.2 41.40 32.61
40.41 0 32 45 2000.21 23.19 51.84 255.14 141.60 1 6 6 1000.2 41.40 32.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1399 TRA -.4380 TC3 -.1850 BAU .4291 SGT 1395.7 SGR 3281.2 SG3 851.0 ST 58.5 SR 83.7 SS 99.5
RDE-1.4533 RRA-1.5451 RC3 .9710 FAU .10338 RRT .7712 RRF -.9988 RTF -.779 CRT .9517 CRS .9987 CST .9348
FDE 4.0027 FRA 4.7821 FC3-2.7586 BSP 6006 SGB 3565.7 R23 -.1041 R13 -.9936 LSA 141.4 MSA 18.3 SSA .2
BDE 1.8470 BRA 1.6035 BC3 .9885 FSP 1422 SG1 3465.0 SG2 841.4 THA 70.65 EL1 101.0 EL2 14.9 ALF 55.54

LAUNCH DATE MAR 30 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 499.216

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.392 GAL -4.32 AZL 98.58 HCA 170.43 SMA 182.43 ECC .19567 INC 8.5786 V1 29.826
RP 208.16 LAP -1.42 LOP 359.19 VP 23.401 GAP 7.87 AZP 81.54 TAL 333.01 TAP 143.45 RCA 146.73 APO 218.12 V2 26.323
RC 91.337 GL -53.07 GP 36.06 ZAL 119.18 ZAP 117.44 ETS 157.19 ZAE 139.70 ETE 114.59 ZAC 137.49 ETC 276.82 LVI -46.80

PLANETOCENTRIC CONIC

C3 36.330 VHL 6.027 DLA -57.38 RAL 7.12 RAD 6649.4 VEL 12.499 PTH 7.39 VHP 4.987 DPA 14.18 RAP 298.67 ECC 1.5979
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
37.74 0 43 55 2043.48 22.26 55.63 261.91 144.38 1 17 58 1043.5 41.40 37.73
37.74 0 43 55 2043.48 22.26 55.63 261.91 144.38 1 17 58 1043.5 41.40 37.73
37.74 0 43 55 2043.48 22.26 55.63 261.91 144.38 1 17 58 1043.5 41.40 37.73
37.74 0 43 55 2043.48 22.26 55.63 261.91 144.38 1 17 58 1043.5 41.40 37.73
37.74 0 43 55 2043.48 22.26 55.63 261.91 144.38 1 17 58 1043.5 41.40 37.73
37.74 0 43 55 2043.48 22.26 55.63 261.91 144.38 1 17 58 1043.5 41.40 37.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE-1.1845 TRA -.3056 TC3 -.1982 BAU .4872 SGT 1270.9 SGR 3666.5 SG3 793.2 ST 56.9 SR 100.5 SS 103.6
RDE-1.8956 RRA-1.6813 RC3 .9833 FAU .09864 RRT .7175 RRF -.9991 RTF -.7025 CRT .9502 CRS .9992 CST .9374
FDE 4.4428 FRA 4.3343 FC3-2.3506 BSP 6539 SGB 3880.5 R23 -.0800 R13 -.9961 LSA 154.1 MSA 17.8 SSA .2
BDE 2.2352 BRA 1.7088 BC3 1.0031 FSP 1333 SG1 3784.5 SG2 857.7 THA 75.26 EL1 114.4 EL2 15.6 ALF 61.14

LAUNCH DATE MAR 30 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.268 GAL -4.45 AZL 81.07 HCA 186.89 SMA 180.44 ECC .18829 INC 8.9300 V1 29.826
 RP 210.82 LAP -1.04 LOP 15.26 VP 22.881 GAP 4.91 AZP 98.87 TAL 331.20 TAP 157.89 RCA 146.47 APO 214.42 V2 26.015
 RC 117.545 GL 34.33 GP -48.91 ZAL 119.24 ZAP 95.37 ETS 184.92 ZAE 120.79 ETE 221.70 ZAC 53.51 ETC 272.23 LVI 35.15

DISTANCE 553.542

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 37.787 VHL 6.147 DLA 40.48 RAL 314.25 RAD 6649.9 VEL 12.557 PTH 7.43 VHP 5.461 DPA -70.41 RAP 316.39 ECC 1.6219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 22 48 4196.05 -36.93 189.12 219.60 57.56 13 32 44 3196.1 -46.53 159.15
 59.74 10 26 44 4511.41 -16.58 201.16 203.85 52.53 11 41 56 3511.4 -30.34 179.54
 59.74 10 26 44 4511.41 -16.58 201.16 203.85 52.53 11 41 56 3511.4 -30.34 179.54
 59.74 10 26 44 4511.41 -16.58 201.16 203.85 52.53 11 41 56 3511.4 -30.34 179.54
 59.74 10 26 44 4511.41 -16.58 201.16 203.85 52.53 11 41 56 3511.4 -30.34 179.54
 59.74 10 26 44 4511.41 -16.58 201.16 203.85 52.53 11 41 56 3511.4 -30.34 179.54
 59.74 10 26 44 4511.41 -16.58 201.16 203.85 52.53 11 41 56 3511.4 -30.34 179.54

DIFFERENTIAL CORRECTIONS

TDE 1.7289 TRA .6858 TC3 -.8511 BAU .7793
 RDE 3.4455 RRA 3.4047 RC3-1.2866 FAU .07981
 FDE 4.2739 FRA 4.3425 FC3-1.8240 BSP 9989
 BDE 3.8540 BRA 3.4692 BC3 1.5426 FSP 1068

MID-COURSE EXECUTION ACCURACY

SGT 2086.0 SGR 5497.5 SG3 606.1
 RRT .8919 RRF .9994 RTF .8952
 SGB 5879.9 R23 .0448 R13 .9984
 SG1 5811.8 SG2 892.2 THA 70.83

ORBIT DETERMINATION ACCURACY

ST 81.4 SR 172.4 SS 101.3
 CRT .9757 CRS-1.0000 CST -.9736
 LSA 215.2 MSA 16.8 SSA .2
 EL1 189.9 EL2 16.2 ALF 65.06

LAUNCH DATE MAR 30 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.264 GAL -4.48 AZL 82.67 HCA 187.90 SMA 180.39 ECC .18824 INC 7.3280 V1 29.826
 RP 211.07 LAP -1.00 LOP 16.48 VP 22.843 GAP 4.69 AZP 97.26 TAL 331.03 TAP 158.92 RCA 146.43 APO 214.35 V2 25.986
 RC 119.734 GL 48.23 GP -45.17 ZAL 123.24 ZAP 94.52 ETS 183.35 ZAE 122.35 ETE 218.42 ZAC 57.27 ETC 272.00 LVI 31.96

DISTANCE 557.700

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.261 VHL 5.501 DLA 34.63 RAL 316.70 RAD 6647.1 VEL 12.255 PTH 7.20 VHP 4.919 DPA -67.13 RAP 311.30 ECC 1.4980
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 20 57 3974.94 -43.76 172.38 216.50 69.07 14 27 12 2974.9 -47.38 137.98
 60.00 12 59 10 4033.15 -33.43 172.15 211.06 66.05 14 6 23 3033.2 -39.98 143.14
 69.13 11 24 46 4314.11 -16.45 184.99 201.40 59.09 12 36 40 3314.1 -27.70 162.06
 69.13 11 24 46 4314.11 -16.45 184.98 201.40 59.09 12 36 40 3314.1 -27.70 162.06
 69.13 11 24 46 4314.11 -16.45 184.98 201.40 59.09 12 36 40 3314.1 -27.70 162.06
 69.13 11 24 46 4314.11 -16.45 184.98 201.40 59.09 12 36 40 3314.1 -27.70 162.06
 69.13 11 24 46 4314.11 -16.45 184.98 201.40 59.09 12 36 40 3314.1 -27.70 162.06

DIFFERENTIAL CORRECTIONS

TDE 1.5342 TRA .8062 TC3-1.0903 BAU .7265
 RDE 2.7695 RRA 3.1838 RC3-1.4271 FAU .09478
 FDE 4.6180 FRA 5.3264 FC3-2.7115 BSP 9504
 BDE 3.1661 BRA 3.2843 BC3 1.7959 FSP 1357

MID-COURSE EXECUTION ACCURACY

SGT 2243.5 SGR 5198.8 SG3 777.4
 RRT .9093 RRF .9994 RTF .9116
 SGB 5662.2 R23 .0555 R13 .9978
 SG1 5595.3 SG2 867.7 THA 68.02

ORBIT DETERMINATION ACCURACY

ST 81.4 SR 156.4 SS 111.5
 CRT .9785 CRS -.9999 CST -.9754
 LSA 208.0 MSA 15.9 SSA .2
 EL1 175.7 EL2 14.9 ALF 62.81

LAUNCH DATE MAR 30 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.262 GAL -4.50 AZL 83.85 HCA 189.10 SMA 180.35 ECC .18828 INC 6.1508 V1 29.826
 RP 211.33 LAP -.97 LOP 17.70 VP 22.808 GAP 4.49 AZP 96.07 TAL 330.84 TAP 159.94 RCA 146.39 APO 214.31 V2 25.957
 RC 121.945 GL 42.82 GP -41.76 ZAL 126.71 ZAP 93.35 ETS 181.84 ZAE 123.34 ETE 215.02 ZAC 60.70 ETC 271.75 LVI 29.11

DISTANCE 561.865

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.708 VHL 5.070 DLA 29.48 RAL 318.79 RAD 6645.3 VEL 12.070 PTH 7.05 VHP 4.543 DPA -64.10 RAP 307.34 ECC 1.4231
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 1 20 3809.04 -46.78 157.58 211.13 80.12 15 4 49 2809.0 -45.25 122.58
 60.00 13 58 15 3817.26 -38.24 155.89 208.70 76.16 15 1 52 2817.3 -39.82 124.85
 70.00 13 52 7 3835.33 -29.54 154.36 205.72 72.02 14 56 3 2835.3 -34.08 126.58
 80.00 13 26 33 3915.95 -19.21 156.17 201.46 66.70 14 31 49 2916.0 -27.14 131.57
 81.32 12 56 43 4011.48 -15.40 161.44 199.85 64.55 14 3 35 3011.5 -24.57 137.89
 100.00 16 9 25 3390.42 -19.21 117.54 201.46 66.70 17 5 55 2390.4 -27.14 92.94
 110.00 18 31 34 2882.15 -29.54 83.28 205.72 72.02 19 39 36 1882.2 -34.08 55.50

DIFFERENTIAL CORRECTIONS

TDE 1.4194 TRA .9623 TC3-1.3251 BAU .6872
 RDE 2.3087 RRA 2.9874 RC3-1.4972 FAU .10687
 FDE 4.8533 FRA 6.6242 FC3-3.5988 BSP 9279
 BDE 2.7101 BRA 3.1385 BC3 1.9993 FSP 1654

MID-COURSE EXECUTION ACCURACY

SGT 2436.8 SGR 4914.1 SG3 935.9
 RRT .9243 RRF .9993 RTF .5.59
 SGB 5485.1 R23 .0673 R13 .9970
 SG1 5419.9 SG2 843.4 THA 64.72

ORBIT DETERMINATION ACCURACY

ST 82.4 SR 142.8 SS 119.0
 CRT .9820 CRS -.9998 CST -.9780
 LSA 202.8 MSA 15.0 SSA .3
 EL1 164.3 EL2 13.5 ALF 60.25

LAUNCH DATE MAR 30 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

RL 149.39 LAL -.00 LOL 188.65 VL 32.260 GAL -4.54 AZL 84.75 HCA 190.30 SMA 180.38 ECC .18838 INC 5.2484 V1 29.826
 RP 211.60 LAP -.94 LOP 18.91 VP 22.769 GAP 4.28 AZP 95.16 TAL 330.63 TAP 160.94 RCA 146.35 APO 214.29 V2 25.926
 RC 124.177 GL 38.03 GP -38.70 ZAL 129.60 ZAP 91.96 ETS 180.43 ZAE 123.82 ETE 211.65 ZAC 63.78 ETC 271.51 LVI 26.58

DISTANCE 566.035

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.800 VHL 4.775 DLA 24.98 RAL 320.60 RAD 6644.1 VEL 11.949 PTH 6.95 VHP 4.274 DPA -61.34 RAP 304.15 ECC 1.3752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 32 13 3677.63 -47.58 145.01 205.75 89.76 15 33 30 2677.6 -42.08 111.55
 60.00 14 39 26 3658.38 -40.03 142.79 205.26 84.87 15 40 25 2658.4 -37.72 111.89
 70.00 14 51 39 3622.39 -32.99 138.76 204.15 80.63 15 52 1 2622.4 -33.45 110.03
 80.00 15 18 38 3543.98 -27.21 131.52 202.84 77.21 16 15 42 2544.0 -29.84 104.40
 90.00 16 15 14 3354.72 -24.65 116.93 202.15 75.69 17 11 9 2354.7 -28.23 90.49
 100.00 17 59 30 3018.45 -27.21 92.88 202.84 77.21 18 49 48 2018.5 -29.84 65.77
 110.00 19 51 5 2669.21 -32.99 67.68 204.15 80.63 20 35 34 1669.2 -33.45 38.95

DIFFERENTIAL CORRECTIONS

TDE 1.3430 TRA 1.1182 TC3-1.5595 BAU .6677
 RDE 1.9658 RRA 2.7922 RC3-1.5380 FAU .11816
 FDE 4.9818 FRA 7.5741 FC3-4.4865 BSP 8964
 BDE 2.3808 BRA 3.0078 BC3 2.1903 FSP 1898

MID-COURSE EXECUTION ACCURACY

SGT 2646.7 SGR 4623.6 SG3 1074.2
 RRT .9363 RRF .9992 RTF .9375
 SGB 5327.6 R23 .0798 R13 .9960
 SG1 5264.7 SG2 816.4 THA 61.05

ORBIT DETERMINATION ACCURACY

ST 83.6 SR 130.5 SS 123.6
 CRT .9855 CRS -.9996 CST -.9806
 LSA 197.6 MSA 14.1 SSA .3
 EL1 154.4 EL2 12.0 ALF 57.48

LAUNCH DATE MAR 30 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC DISTANCE 570.209 EARTH TO MARS
 RL 149.39 LAL -.00 LOL 188.65 VL 32.259 GAL -4.57 AZL 85.47 HCA 191.50 SMA 180.30 ECC .18856 INC 4.5347 V1 29.826
 RP 211.87 LAP -.90 LOP 20.12 VP 22.732 GAP 4.08 AZP 94.44 TAL 330.42 TAP 161.82 RCA 146.31 APO 214.30 V2 25.896
 RC 126.431 GL 33.81 GP -35.95 ZAL 132.20 ZAP 90.40 ETS 179.17 ZAE 123.87 ETE 208.44 ZAC 66.56 ETC 271.28 LVI 24.34
 PLANETOCENTRIC CONIC
 C3 20.871 VHL 4.568 DLA 21.00 RAL 322.19 RAD 6843.2 VEL 11.869 PTH 6.88 VHP 4.076 DPA -58.85 RAP 301.49 ECC 1.3435
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 57 3 3570.82 -47.10 134.73 201.26 97.65 15 56 33 2570.8 -38.73 103.51
 60.00 15 11 11 3533.14 -40.26 132.15 202.06 92.08 16 10 5 2333.1 -35.03 102.36
 70.00 15 33 19 3467.97 -34.08 126.85 202.04 87.58 16 31 7 2468.0 -31.51 98.42
 80.00 16 11 39 3347.78 -29.36 117.35 201.65 84.34 17 7 27 2347.8 -28.73 89.95
 90.00 17 18 54 3130.66 -27.49 101.17 201.41 83.07 18 11 5 2130.7 -27.61 74.16
 100.00 18 54 31 2822.25 -29.36 78.72 201.65 84.34 19 41 33 1822.2 -28.73 51.32
 110.00 20 32 45 2514.79 -34.08 55.77 202.04 87.58 21 14 40 1514.8 -31.51 27.34
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2948 TRA 1.2766 TC3-1.7834 BAU .6573 SGT 2869.4 SGR 4346.0 SG3 1193.7 ST 85.2 SR 119.5 SS 126.6
 RDE 1.7101 RRA 2.6117 RC3-1.5391 FAU .12753 RRT .9456 RRF .9990 RTF .9465 CRT .9888 CRS -.9994 CST -.9832
 FDE 5.0560 FRA 8.3996 FC3-5.2899 BSP 8736 SGB 5207.8 R23 .0925 R13 .9947 LSA 193.4 MSA 13.1 SSA .4
 BDE 2.1449 BRA 2.9070 BC3 2.3557 FSP 2115 SG1 5147.7 SG2 788.4 THA 57.16 EL1 146.4 EL2 10.4 ALF 54.60

LAUNCH DATE MAR 30 1971 FLIGHT TIME 236.00 ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC DISTANCE 574.384 EARTH TO MARS
 RL 149.39 LAL -.00 LOL 188.65 VL 32.258 GAL -4.61 AZL 86.04 HCA 192.70 SMA 180.29 ECC .18879 INC 3.9556 V1 29.826
 RP 212.14 LAP -.87 LOP 21.32 VP 22.695 GAP 3.88 AZP 93.86 TAL 330.18 TAP 162.89 RCA 146.25 APO 214.33 V2 25.864
 RC 128.706 GL 30.10 GP -33.49 ZAL 134.33 ZAP 88.73 ETS 178.05 ZAE 123.56 ETE 205.44 ZAC 69.04 ETC 271.06 LVI 22.37
 PLANETOCENTRIC CONIC
 C3 19.560 VHL 4.423 DLA 17.54 RAL 323.60 RAD 6842.6 VEL 11.814 PTH 6.83 VHP 3.927 DPA -56.61 RAP 299.21 ECC 1.3219
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 17 39 3482.58 -45.98 126.52 197.84 103.89 16 15 41 2482.6 -35.53 97.50
 60.00 15 36 55 3431.26 -39.65 123.56 199.50 97.88 16 34 6 2431.3 -32.26 95.14
 70.00 16 5 40 3346.60 -34.02 117.38 200.18 93.18 17 1 27 2346.6 -29.19 89.73
 80.00 16 51 28 3203.08 -29.86 106.64 200.31 89.95 17 44 51 2203.1 -26.84 79.62
 90.00 18 2 38 2973.33 -28.25 89.73 200.29 88.74 18 52 12 1973.3 -25.93 62.97
 100.00 19 34 20 2677.56 -29.86 68.01 200.31 89.95 20 18 57 1677.6 -26.84 40.99
 110.00 21 5 7 2393.42 -34.02 46.30 200.18 93.18 21 45 0 1393.4 -29.19 18.65
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2646 TRA 1.4345 TC3-1.9976 BAU .6580 SGT 3099.1 SGR 4079.6 SG3 1294.0 ST 87.0 SR 109.8 SS 128.2
 RDE 1.5112 RRA 2.4420 RC3-1.5175 FAU .13971 RRT .9527 RRF .9988 RTF .9536 CRT .9018 CRS -.9991 CST -.9856
 FDE 5.0833 FRA 9.0953 FC3-6.0066 BSP 8535 SGB 5123.2 R23 .1047 R13 .9933 LSA 189.5 MSA 12.3 SSA .5
 BDE 1.9705 BRA 2.8322 BC3 2.5086 FSP 2290 SG1 5066.8 SG2 758.0 THA 53.14 EL1 139.9 EL2 8.7 ALF 51.66

LAUNCH DATE MAR 30 1971 FLIGHT TIME 238.00 ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC DISTANCE 578.561 EARTH TO MARS
 RL 149.39 LAL -.00 LOL 188.65 VL 32.258 GAL -4.65 AZL 86.52 HCA 193.90 SMA 180.29 ECC .18910 INC 3.4761 V1 29.826
 RP 212.43 LAP -.83 LOP 22.52 VP 22.658 GAP 3.68 AZP 93.37 TAL 329.94 TAP 163.84 RCA 146.20 APO 214.38 V2 25.832
 RC 130.999 GL 26.83 GP -31.28 ZAL 136.13 ZAP 86.99 ETS 177.06 ZAE 122.96 ETE 202.67 ZAC 71.28 ETC 270.84 LVI 20.63
 PLANETOCENTRIC CONIC
 C3 18.657 VHL 4.319 DLA 14.50 RAL 324.87 RAD 6842.2 VEL 11.776 PTH 6.80 VHP 3.815 DPA -54.59 RAP 297.23 ECC 1.3071
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 7 3408.83 -44.56 119.98 195.37 108.76 16 31 56 2408.8 -32.62 92.86
 60.00 15 58 24 3346.83 -38.64 116.62 197.59 102.49 16 54 11 2346.8 -29.64 89.53
 70.00 16 32 5 3247.74 -33.39 109.74 198.74 97.65 17 26 12 2247.7 -26.86 82.99
 80.00 17 22 56 3088.39 -29.56 98.13 199.21 94.41 18 14 24 2088.4 -24.76 71.74
 90.00 18 36 34 2850.73 -28.11 80.78 199.32 93.22 19 24 5 1850.7 -23.96 54.53
 100.00 20 5 48 2562.86 -29.56 59.50 199.21 94.41 20 48 31 1562.9 -24.76 33.11
 110.00 21 31 31 2294.56 -33.39 38.66 198.74 97.65 22 9 45 1294.6 -26.86 11.91
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2488 TRA 1.5932 TC3-2.1976 BAU .6600 SGT 3333.6 SGR 3829.2 SG3 1377.0 ST 89.1 SR 101.5 SS 129.1
 RDE 1.3559 RRA 2.2856 RC3-1.4741 FAU .14231 RRT .9583 RRF .9985 RTF .9592 CRT .9944 CRS -.9987 CST -.9878
 FDE 5.0878 FRA 9.6807 FC3-6.6033 BSP 8411 SGB 5077.0 R23 .1158 R13 .9918 LSA 186.5 MSA 11.5 SSA .5
 BDE 1.8433 BRA 2.7861 BC3 2.6462 FSP 2439 SG1 5024.8 SG2 726.1 THA 49.13 EL1 134.9 EL2 7.1 ALF 48.73

LAUNCH DATE MAR 30 1971 FLIGHT TIME 240.00 ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC DISTANCE 582.738 EARTH TO MARS
 RL 149.39 LAL -.00 LOL 188.65 VL 32.259 GAL -4.70 AZL 86.93 HCA 195.10 SMA 180.30 ECC .18946 INC 3.0728 V1 29.826
 RP 212.72 LAP -.80 LOP 23.72 VP 22.622 GAP 3.48 AZP 92.97 TAL 329.68 TAP 164.78 RCA 146.14 APO 214.46 V2 25.799
 RC 133.312 GL 23.94 GP -29.29 ZAL 137.66 ZAP 85.20 ETS 176.19 ZAE 122.12 ETE 200.16 ZAC 73.29 ETC 270.64 LVI 19.08
 PLANETOCENTRIC CONIC
 C3 18.037 VHL 4.247 DLA 11.84 RAL 326.02 RAD 6842.0 VEL 11.750 PTH 6.78 VHP 3.730 DPA -52.76 RAP 295.47 ECC 1.2988
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 12 3346.62 -43.07 114.75 193.66 112.56 16 45 58 2346.6 -30.03 89.21
 60.00 16 16 45 3275.94 -37.44 110.97 196.23 106.15 17 11 21 2275.9 -27.24 85.06
 70.00 16 54 17 3165.51 -32.47 103.51 197.73 101.23 17 47 2 2165.5 -24.65 77.62
 80.00 17 48 56 2994.31 -28.87 91.23 198.43 97.97 18 38 50 1994.3 -22.72 65.50
 90.00 19 4 19 2750.99 -27.52 73.54 198.63 96.80 19 10 10 1751.0 -21.99 47.89
 100.00 20 31 48 2468.78 -28.87 52.60 198.43 97.97 21 12 56 1468.8 -22.72 26.87
 110.00 21 53 43 2212.33 -32.47 32.42 197.73 101.23 22 30 36 1212.3 -24.65 6.54
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2468 TRA 1.7552 TC3-2.3773 BAU .6675 SGT 3572.1 SGR 3593.9 SG3 1444.0 ST 91.7 SR 94.1 SS 129.4
 RDE 1.2316 RRA 2.1405 RC3-1.4178 FAU .14764 RRT .9631 RRF .9981 RTF .9641 CRT .9965 CRS -.9981 CST -.9897
 FDE 5.0730 FRA10.1633 FC3-7.0866 BSP 8369 SGB 5067.2 R23 .1244 R13 .9904 LSA 184.1 MSA 10.8 SSA .6
 BDE 1.7526 BRA 2.7681 BC3 2.7680 FSP 2558 SG1 5020.3 SG2 687.9 THA 45.18 EL1 131.3 EL2 5.5 ALF 45.77

LAUNCH DATE MAR 30 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 27 1971

Heliocentric Conic: RL 149.39 LAL -.00 LOL 188.65 VL 32.260 GAL -4.75 AZL 87.27 HCA 186.29 SMA 180.32 ECC .16988 INC 2.7280 V1 29.826
 RP 213.01 LAP -.76 LOP 24.92 VP 22.585 GAP 3.29 AZP 92.82 TAL 329.42 TAP 165.71 RCA 146.04 APO 214.55 V2 25.766
 RC 135.643 GL 21.38 GP -27.49 ZAL 136.97 ZAP 83.39 ETS 175.42 ZAE 121.10 ETE 197.89 ZAC 75.11 ETC 270.45 LVI 17.70

Distance 586.914 Earth to Mars

Planetary Centric Conic: C3 17.619 VHL 4.197 DLA 9.49 RAL 327.08 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 3.665 DPA -51.10 RAP 293.90 ECC 1.2900
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 3 24 3293.77 -41.60 110.52 192.52 115.56 16 58 17 2293.8 -27.74 86.26
 60.00 16 32 41 3215.03 -36.20 106.35 195.37 109.07 17 26 17 2215.8 -25.08 81.44
 70.00 17 13 21 3096.15 -31.43 98.36 197.08 104.11 18 4 58 2096.2 -22.63 73.26
 80.00 18 11 1 2915.56 -27.99 85.54 197.95 100.84 18 39 36 1915.6 -20.81 60.43
 90.00 19 27 46 2667.83 -26.71 67.60 198.21 99.67 20 12 14 1667.8 -20.12 42.51
 100.00 20 53 52 2390.03 -27.99 48.91 197.95 100.84 21 33 42 1390.0 -20.81 21.80
 110.00 22 12 48 2142.97 -31.43 27.28 197.08 104.11 22 48 31 1143.0 -22.63 2.17

Differential Corrections: TDE 1.2317 TRA 1.9158 TC3-2.5473 BAU .6782 SGT 3810.8 SGR 3378.5 SG3 1498.6 ST 94.3 SR 86.0 SS 129.8
 RDE 1.1351 RRA 2.0107 RC3-1.3423 FAU .15071 RRT .9659 RRF .9977 RTF .9672 CRT .9982 CR5 -.9974 C8T -.9915
 FDE 5.0673 FRA10.5766 FC3-7.4053 BSP 6416 SGB 5092.8 R23 .1325 R13 .9889 LSA 182.7 MSA .01 S5A .7
 BDE 1.6897 BRA 2.7773 BC3 2.8793 FSP 2676 SGI 3049.8 SG2 660.5 THA 41.44 EL1 128.9 EL2 3.9 ALF 43.03

LAUNCH DATE MAR 30 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 29 1971

Heliocentric Conic: RL 149.39 LAL -.00 LOL 188.65 VL 32.261 GAL -4.80 AZL 87.57 HCA 197.48 SMA 180.34 ECC .19036 INC 2.4300 V1 29.626
 RP 213.31 LAP -.73 LOP 26.11 VP 22.549 GAP 3.10 AZP 92.32 TAL 329.14 TAP 166.82 RCA 146.01 APO 214.67 V2 25.732
 RC 137.991 GL 19.10 GP -25.86 ZAL 140.10 ZAP 81.57 ETS 174.76 ZAE 119.95 ETE 195.85 ZAC 76.76 ETC 270.27 LVI 16.46

Distance 591.090 Earth to Mars

Planetary Centric Conic: C3 17.349 VHL 4.165 DLA 7.42 RAL 328.05 RAD 6641.8 VEL 11.721 PTH 6.75 VHP 3.617 DPA -49.59 RAP 292.50 ECC 1.2855
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 15 4 3248.59 -40.22 107.08 191.81 117.94 17 9 12 2248.6 -25.72 83.85
 60.00 16 46 40 3164.48 -34.99 102.53 194.84 111.42 17 39 25 2164.5 -23.16 78.48
 70.00 17 30 0 3037.03 -30.37 94.09 196.72 105.43 18 20 37 2037.0 -20.80 69.64
 80.00 18 30 7 2846.71 -27.05 80.80 197.72 103.16 19 17 36 1846.7 -19.05 58.25
 90.00 19 47 59 2597.45 -25.81 62.64 198.03 101.99 20 31 16 1597.4 -18.39 38.07
 100.00 21 12 59 2323.18 -27.05 42.17 197.72 103.16 21 51 42 1323.2 -19.05 17.61
 110.00 22 29 26 2083.85 -30.37 23.00 196.72 106.43 23 4 10 1083.9 -20.80 358.56

Differential Corrections: TDE 1.2647 TRA 2.0774 TC3-2.7009 BAU .6919 SGT 4048.9 SGR 3174.8 SG3 1539.5 ST 97.2 SR 82.5 SS 129.6
 RDE 1.0544 RRA 1.8884 RC3-1.2667 FAU .15307 RRT .9683 RRF .9971 RTF .9701 CRT .9993 CR5 -.9966 C8T -.9930
 FDE 5.0446 FRA10.9052 FC3-7.6382 BSP 8503 SGB 5145.2 R23 .1379 R13 .9877 LSA 181.5 MSA 3.7 S5A .8
 BDE 1.6466 BRA 2.8074 BC3 2.9832 FSP 2762 SGI 3106.6 SG2 629.1 THA 37.88 EL1 127.5 EL2 2.4 ALF 40.32

LAUNCH DATE MAR 30 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 1 1971

Heliocentric Conic: RL 149.39 LAL -.00 LOL 188.65 VL 32.263 GAL -4.85 AZL 87.83 HCA 198.67 SMA 180.37 ECC .19089 INC 2.1698 V1 29.826
 RP 213.61 LAP -.69 LOP 27.30 VP 22.312 GAP 2.90 AZP 92.06 TAL 328.85 TAP 167.52 RCA 145.94 APO 214.80 V2 25.697
 RC 140.358 GL 17.07 GP -24.37 ZAL 141.08 ZAP 79.76 ETS 174.18 ZAE 118.69 ETE 194.03 ZAC 78.26 ETC 270.11 LVI 13.33

Distance 595.265 Earth to Mars

Planetary Centric Conic: C3 17.191 VHL 4.146 DLA 5.59 RAL 328.95 RAD 6641.8 VEL 11.714 PTH 6.75 VHP 3.583 DPA -48.21 RAP 291.23 ECC 1.2829
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 23 28 3209.80 -38.94 104.24 191.42 119.85 17 18 58 2209.8 -23.95 81.85
 60.00 16 59 5 3120.35 -33.85 99.35 194.59 113.32 17 51 6 2120.4 -21.46 75.96
 70.00 17 44 41 2986.25 -29.34 90.50 196.60 108.33 18 34 27 1986.3 -19.16 66.62
 80.00 18 46 54 2791.39 -26.09 76.81 197.70 105.05 19 33 25 1791.4 -17.46 52.73
 90.00 20 5 41 2537.16 -24.89 58.47 198.04 103.88 20 47 58 1537.2 -16.82 34.34
 100.00 21 29 46 2265.86 -26.09 38.18 197.70 105.05 22 7 32 1265.9 -17.46 14.10
 110.00 22 44 7 2033.07 -29.34 19.41 196.60 108.33 23 18 0 1033.1 -19.16 355.53

Differential Corrections: TDE 1.2830 TRA 2.2383 TC3-2.8425 BAU .7088 SGT 4284.8 SGR 2981.7 SG3 1567.7 ST 100.2 SR 77.4 SS 128.9
 RDE .9848 RRA 1.7722 RC3-1.1982 FAU .15525 RRT .9705 RRF .9965 RTF .5.27 CRT .9998 CR5 -.9955 C8T -.9942
 FDE 4.9996 FRA11.1455 FC3-7.8182 BSP 8615 SGB 5220.0 R23 .1402 R13 .9868 LSA 180.4 MSA 9.3 S5A .9
 BDE 1.6173 BRA 2.8549 BC3 3.0840 FSP 2813 SGI 3186.1 SG2 594.3 THA 34.55 EL1 126.6 EL2 1.3 ALF 37.69

LAUNCH DATE MAR 30 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 3 1971

Heliocentric Conic: RL 149.39 LAL -.00 LOL 188.65 VL 32.266 GAL -4.91 AZL 88.06 HCA 199.85 SMA 180.41 ECC .19147 INC 1.9398 V1 29.826
 RP 213.92 LAP -.66 LOP 28.49 VP 22.476 GAP 2.71 AZP 91.82 TAL 328.55 TAP 168.40 RCA 145.87 APO 214.96 V2 25.682
 RC 142.739 GL 15.25 GP -23.01 ZAL 141.93 ZAP 77.97 ETS 173.67 ZAE 117.35 ETE 192.41 ZAC 79.63 ETC 269.95 LVI 14.34

Distance 599.438 Earth to Mars

Planetary Centric Conic: C3 17.122 VHL 4.138 DLA 3.96 RAL 329.80 RAD 6641.5 VEL 11.711 PTH 6.74 VHP 3.580 DPA -46.95 RAP 290.08 ECC 1.2818
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 34 51 3176.37 -37.78 101.88 191.27 121.40 17 27 47 2176.4 -22.41 80.17
 60.00 17 10 13 3082.25 -32.79 96.88 194.54 114.88 18 1 35 2082.3 -19.96 73.86
 70.00 17 57 46 2942.39 -28.36 87.46 196.66 109.88 18 46 49 1942.4 -17.70 64.05
 80.00 19 1 47 2741.89 -25.17 73.42 197.84 106.61 19 47 29 1741.9 -16.03 49.75
 90.00 20 21 22 2485.12 -23.99 54.92 198.21 105.44 21 2 47 1485.1 -15.71 31.18
 100.00 21 44 39 2216.36 -25.17 34.79 197.84 106.61 22 21 36 1216.4 -16.03 11.12
 110.00 22 57 12 1989.21 -28.36 16.37 196.66 109.88 23 30 22 989.2 -17.70 352.97

Differential Corrections: TDE 1.3043 TRA 2.3974 TC3-2.9761 BAU .7282 SGT 4516.7 SGR 2801.9 SG3 1586.2 ST 103.2 SR 72.9 SS 128.0
 RDE .9269 RRA 1.6646 RC3-1.1241 FAU .15642 RRT .9717 RRF .9956 RTF .9747 CRT .9998 CR5 -.9942 C8T -.9952
 FDE 4.9526 FRA11.3271 FC3-7.9089 BSP 8751 SGB 5315.2 R23 .1412 R13 .9860 LSA 179.7 MSA 9.1 S5A 1.0
 BDE 1.6001 BRA 2.9186 BC3 3.1813 FSP 2847 SGI 3285.0 SG2 565.7 THA 31.48 EL1 126.4 EL2 1.2 ALF 35.24

LAUNCH DATE MAR 30 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC				DISTANCE 805.609				EARTH TO MARS			
RL 149.39	LAL -.00	LOL 188.65	VL 32.269	GAL -4.97	AZL 88.26	HCA 201.03	SMA 180.46	ECC .19211	INC 1.7356	V1 29.826	
RP 214.24	LAP -.62	LOP 29.67	VP 22.439	GAP 2.52	AZP 91.62	TAL 328.24	TAP 169.27	RCA 145.79	APO 215.13	V2 25.827	
RC 145.138	GL 13.61	GP -21.77	ZAL 142.69	ZAP 78.20	ETS 173.23	ZAE 115.96	ETE 190.96	ZAC 80.88	ETC 269.80	LV2 13.43	
PLANETOCENTRIC CONIC											
C3 17.123	VHL 4.138	DLA 2.51	RAL 330.59	RAD 6641.5	VEL 11.711	PTH 6.74	VHP 3.545	DPA -45.79	RAP 289.04	ECC 1.2818	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	16 43 20	3147.48	-36.74	99.91	191.31	122.67	17 35 47	2147.5	-21.06	78.75	
60.00	17 20 15	3049.26	-31.82	94.41	194.66	116.16	18 11 4	2049.3	-18.64	72.07	
70.00	18 9 32	2904.32	-27.45	84.87	196.86	111.17	18 57 56	1904.3	-16.40	61.87	
80.00	19 15 8	2698.90	-24.31	70.52	198.10	107.90	20 0 7	1698.9	-14.76	47.20	
90.00	20 35 23	2439.91	-23.14	51.88	198.50	106.73	21 16 3	1439.9	-14.13	28.47	
100.00	21 58 0	2173.37	-24.31	31.89	198.10	107.90	22 34 13	1173.4	-14.78	8.57	
110.00	23 8 58	1951.14	-27.45	13.79	196.86	111.17	23 41 29	951.1	-16.40	350.78	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.3313	TRA 2.5581	TC3-3.0954	BAU .7484	SGT 4746.6	SGR 2635.8	SG3 1598.7	ST 106.5	SR 69.0	SS 127.2		
RDE .8791	RRA 1.5656	RC3-1.0515	FAU .15651	RRT .9724	RRF .9946	RTF .9763	CRT .9993	CRS -.9927	CST -.9960		
FDE 4.9088	FRA11.4626	FC3-7.9183	BSP 8949	SGB 5429.4	R23 .1404	R13 .9854	LSA 179.4	MSA 9.0	SSA 1.1		
BDE 1.5953	BRA 2.9992	BC3 3.2692	FSP 2875	SG1 5402.4	SG2 540.0	THA 28.68	EL1 126.9	EL2 2.1	ALF 32.95		

LAUNCH DATE MAR 30 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC				DISTANCE 607.778				EARTH TO MARS			
RL 149.39	LAL -.00	LOL 188.65	VL 32.272	GAL -5.03	AZL 88.45	HCA 202.21	SMA 180.51	ECC .19280	INC 1.5525	V1 29.826	
RP 214.55	LAP -.59	LOP 30.85	VP 22.403	GAP 2.34	AZP 91.44	TAL 327.92	TAP 170.13	RCA 145.71	APO 215.31	V2 25.591	
RC 147.555	GL 12.13	GP -20.62	ZAL 143.37	ZAP 74.47	ETS 172.85	ZAE 114.53	ETE 189.67	ZAC 82.03	ETC 269.67	LV2 12.59	
PLANETOCENTRIC CONIC											
C3 17.180	VHL 4.145	DLA 1.21	RAL 331.35	RAD 6641.6	VEL 11.714	PTH 6.75	VHP 3.538	DPA -44.71	RAP 288.11	ECC 1.2827	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	16 51 4	3122.48	-35.81	98.25	191.48	123.71	17 43 6	2122.5	-19.88	77.55	
60.00	17 29 22	3020.61	-30.94	92.49	194.90	117.22	18 19 42	2020.6	-17.47	70.54	
70.00	18 20 10	2871.18	-26.62	82.65	197.18	112.24	19 8 1	1871.2	-15.25	59.99	
80.00	19 27 9	2661.42	-23.50	68.03	198.47	108.97	20 11 31	1661.4	-13.61	45.00	
90.00	20 48 1	2400.47	-22.34	49.27	198.89	107.81	21 28 2	1400.5	-13.00	26.13	
100.00	22 10 1	2135.89	-23.50	29.40	198.47	108.97	22 45 37	1135.9	-13.61	6.37	
110.00	23 19 37	1918.00	-26.62	11.57	197.18	112.24	23 51 35	918.0	-15.25	348.91	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.3615	TRA 2.7180	TC3-3.2045	BAU .7698	SGT 4972.0	SGR 2480.4	SG3 1599.3	ST 109.8	SR 65.5	SS 126.2		
RDE .8386	RRA 1.4730	RC3 -.9810	FAU .15609	RRT .9726	RRF .9934	RTF .9776	CRT .9984	CRS -.9910	CST -.9968		
FDE 4.8622	FRA11.5489	FC3-7.8635	BSP 9168	SGB 5556.4	R23 .1381	R13 .9850	LSA 179.4	MSA 9.0	SSA 1.2		
BDE 1.5990	BRA 3.0914	BC3 3.3513	FSP 2888	SG1 5532.2	SG2 518.1	THA 26.13	EL1 127.8	EL2 3.2	ALF 30.82		

LAUNCH DATE MAR 30 1971 FLIGHT TIME 254.00 ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC				DISTANCE 611.943				EARTH TO MARS			
RL 149.39	LAL -.00	LOL 188.65	VL 32.278	GAL -5.09	AZL 88.61	HCA 203.38	SMA 180.57	ECC .19354	INC 1.3877	V1 29.826	
RP 214.88	LAP -.55	LOP 32.03	VP 22.367	GAP 2.15	AZP 91.27	TAL 327.59	TAP 170.98	RCA 145.62	APO 215.52	V2 25.554	
RC 149.988	GL 10.79	GP -19.57	ZAL 143.99	ZAP 72.77	ETS 172.52	ZAE 113.08	ETE 188.52	ZAC 83.09	ETC 269.55	LV2 11.82	
PLANETOCENTRIC CONIC											
C3 17.286	VHL 4.158	DLA .06	RAL 332.07	RAD 6641.6	VEL 11.718	PTH 6.75	VHP 3.538	DPA -43.72	RAP 287.27	ECC 1.2845	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	16 58 9	3100.84	-34.98	96.84	191.76	124.58	17 49 50	2100.8	-18.85	76.52	
60.00	17 37 41	2995.71	-30.16	90.85	195.24	118.11	18 27 36	1995.7	-16.45	69.24	
70.00	18 29 51	2842.28	-25.86	80.75	197.58	113.13	19 17 13	1842.3	-14.23	58.37	
80.00	19 38 5	2628.63	-22.76	65.88	198.92	109.87	20 21 53	1628.6	-12.60	43.10	
90.00	20 59 29	2365.95	-21.60	47.01	199.35	108.71	21 38 55	1366.0	-11.98	24.10	
100.00	22 20 56	2103.11	-22.76	27.25	198.92	109.87	22 55 59	1103.1	-12.60	4.47	
110.00	23 29 17	1889.09	-25.86	9.67	197.58	113.13	24 0 46	889.1	-14.23	347.28	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.3954	TRA 2.8788	TC3-3.3023	BAU .7918	SGT 5193.7	SGR 2336.3	SG3 1595.8	ST 113.1	SR 62.4	SS 125.2		
RDE .8044	RRA 1.3871	RC3 -.9125	FAU .15483	RRT .9723	RRF .9920	RTF .9786	CRT .9969	CRS -.9890	CST -.9974		
FDE 4.8160	FRA11.5997	FC3-7.7543	BSP 9417	SGB 5695.0	R23 .1348	R13 .9846	LSA 179.7	MSA 9.1	SSA 1.2		
BDE 1.6107	BRA 3.1953	BC3 3.4261	FSP 2893	SG1 5673.0	SG2 500.0	THA 23.82	EL1 129.1	EL2 4.3	ALF 28.84		

LAUNCH DATE MAR 30 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC				DISTANCE 616.106				EARTH TO MARS			
RL 149.39	LAL -.00	LOL 188.65	VL 32.280	GAL -5.16	AZL 88.76	HCA 204.58	SMA 180.63	ECC .19432	INC 1.2380	V1 29.826	
RP 215.21	LAP -.51	LOP 33.20	VP 22.331	GAP 1.96	AZP 91.13	TAL 327.26	TAP 171.81	RCA 145.53	APO 215.73	V2 25.518	
RC 152.438	GL 9.58	GP -18.80	ZAL 144.55	ZAP 71.11	ETS 172.23	ZAE 111.62	ETE 187.49	ZAC 84.07	ETC 269.43	LV2 11.11	
PLANETOCENTRIC CONIC											
C3 17.433	VHL 4.175	DLA -.98	RAL 332.75	RAD 6641.7	VEL 11.724	PTH 6.76	VHP 3.544	DPA -42.80	RAP 286.52	ECC 1.2869	
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	
50.00	17 4 41	3082.11	-34.25	95.65	192.13	125.30	17 56 3	2082.1	-17.95	75.65	
60.00	17 43 18	2974.05	-29.45	89.45	195.66	118.85	18 34 52	1974.1	-15.55	68.11	
70.00	18 38 42	2817.03	-25.17	79.11	198.05	113.88	19 25 39	1817.0	-13.33	56.56	
80.00	19 48 2	2599.92	-22.08	64.02	199.43	110.63	20 31 22	1599.9	-11.70	41.45	
90.00	21 9 55	2335.68	-20.93	45.04	199.88	109.47	21 48 51	1335.7	-11.08	22.34	
100.00	22 30 54	2074.39	-22.08	25.38	199.43	110.63	23 5 28	1074.4	-11.70	2.81	
110.00	23 38 8	1863.85	-25.17	8.03	198.05	113.88	24 9 12	863.8	-13.33	345.88	
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY			
TDE 1.4312	TRA 3.0378	TC3-3.3929	BAU .8151	SGT 5409.9	SGR 2201.3	SG3 1586.2	ST 116.5	SR 59.6	SS 124.0		
RDE .7746	RRA 1.3061	RC3 -.8490	FAU .15332	RRT .9715	RRF .9902	RTF .9795	CRT .9950	CRS -.9867	CST -.9979		
FDE 4.7634	FRA11.6092	FC3-7.6141	BSP 9671	SGB 5840.6	R23 .1303	R13 .9844	LSA 180.0	MSA 9.2	SSA 1.3		
BDE 1.6274	BRA 3.3066	BC3 3.4975	FSP 2882	SG1 5820.5	SG2 484.7	THA 21.73	EL1 130.7	EL2 5.3	ALF 27.02		

LAUNCH DATE MAR 30 1971

FLIGHT TIME 259.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 620.266

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.284 GAL -5.23 AZL 88.90 HCA 205.72 SMA 180.70 ECC .19515 INC 1.1014 V1 29.826
RP 215.54 LAP -.46 LOP 34.37 VP 22.295 GAP 1.78 AZP 90.99 TAL 326.91 TAP 172.84 RCA 145.44 APO 215.97 V2 25.480
RC 154.904 GL 8.47 GP -17.70 ZAL 145.07 ZAP 69.50 ETS 171.98 ZAE 110.15 ETE 186.58 ZAC 84.97 ETC 269.33 LVI 10.45

PLANETOCENTRIC CONIC

C3 17.614 VHL 4.197 DLA -1.92 RAL 333.41 RAD 8641.8 VEL 11.732 PTH 6.76 VHP 3.554 DPA -41.94 RAP 285.85 ECC 1.2899
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 42 3065.93 -33.61 94.64 192.56 125.90 18 1 48 2065.9 -17.17 74.90
60.00 17 52 19 2955.24 -28.83 88.25 196.14 119.48 18 41 34 1955.2 -14.77 67.14
70.00 18 46 49 2794.98 -24.56 77.69 198.57 114.52 19 33 24 1795.0 -12.54 55.75
80.00 19 37 9 2574.74 -21.47 62.40 199.99 111.26 20 40 4 1574.7 -10.90 40.00
90.00 21 19 29 2309.09 -20.31 43.33 200.46 110.11 21 57 58 1309.1 -10.28 20.80
100.00 22 40 1 2049.21 -21.47 23.77 199.99 111.26 23 14 10 1049.2 -10.90 1.37
110.00 23 46 15 1841.80 -24.56 6.61 198.57 114.52 24 16 57 841.8 -12.54 344.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4695 TRA 3.1969 TC3-3.4750 BAU .8392 SGT 5621.5 SGR 2075.8 SG3 1571.8 ST 119.9 SR 57.0 SS 122.8
RDE .7492 RRA 1.2302 RC3 -.7895 FAU .15147 RRT .9703 RRF .9882 RTF .9803 CRT .9926 CRS -.9842 CST -.9983
FDE 4.7099 FRA11.5885 FC3-7.4445 B5P 9937 SGB 5992.2 R23 .1250 R13 .9842 LSA 180.6 MSA 9.5 SSA 1.3
BDE 1.6494 BRA 3.4254 BC3 3.5636 F5P 2863 SGI 5973.9 SG2 472.5 THA 19.84 EL1 132.6 EL2 6.3 ALF 25.33

LAUNCH DATE MAR 30 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

DISTANCE 624.422

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.289 GAL -5.30 AZL 89.02 HCA 206.89 SMA 180.78 ECC .19603 INC .9766 V1 29.826
RP 215.87 LAP -.44 LOP 35.53 VP 22.250 GAP 1.59 AZP 90.87 TAL 326.56 TAP 173.45 RCA 145.34 APO 216.22 V2 25.443
RC 157.385 GL 7.46 GP -16.87 ZAL 145.55 ZAP 67.93 ETS 171.77 ZAE 108.70 ETE 185.76 ZAC 85.81 ETC 269.24 LVI 9.83

PLANETOCENTRIC CONIC

C3 17.828 VHL 4.222 DLA -2.76 RAL 334.04 RAD 8641.9 VEL 11.741 PTH 6.77 VHP 3.569 DPA -41.15 RAP 285.26 ECC 1.2934
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 18 3031.99 -33.05 93.78 193.04 126.41 18 7 10 2052.0 -16.50 74.25
60.00 17 58 48 2938.93 -28.26 87.22 196.67 120.00 18 47 47 1938.9 -14.08 66.30
70.00 18 54 17 2775.75 -24.01 76.47 199.15 115.05 19 40 33 1775.8 -11.84 54.70
80.00 20 5 32 2552.67 -20.92 60.99 200.39 111.81 20 48 5 1552.7 -10.19 38.75
90.00 21 28 16 2285.76 -19.76 41.85 201.07 110.65 22 6 21 1285.8 -9.57 19.46
100.00 22 48 24 2027.15 -20.92 22.36 200.59 111.81 23 22 11 1027.1 -10.19 .12
110.00 23 53 44 1822.97 -24.01 5.39 199.15 115.05 24 24 6 822.6 -11.84 343.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5106 TRA 3.3565 TC3-3.5479 BAU .8634 SGT 5828.5 SGR 1959.2 SG3 1553.5 ST 123.3 SR 54.7 SS 121.5
RDE .7277 RRA 1.1593 RC3 -.7328 FAU .14911 RRT .9865 RRF .9857 RTF .9808 CRT .9897 CRS -.9813 CST -.9886
FDE 4.6574 FRA11.5437 FC3-7.2409 B5P 10220 SGB 6149.0 R23 .1194 R13 .9841 LSA 181.3 MSA 9.8 SSA 1.3
BDE 1.6767 BRA 3.5510 BC3 3.6228 F5P 2839 SGI 6131.5 SG2 483.6 THA 18.14 EL1 134.7 EL2 7.2 ALF 23.79

LAUNCH DATE MAR 30 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

DISTANCE 626.574

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.294 GAL -5.38 AZL 89.14 HCA 208.05 SMA 180.86 ECC .19695 INC .8617 V1 29.826
RP 216.21 LAP -.41 LOP 36.69 VP 22.222 GAP 1.41 AZP 90.76 TAL 326.20 TAP 174.25 RCA 145.24 APO 216.48 V2 25.405
RC 159.881 GL 6.53 GP -16.09 ZAL 146.01 ZAP 66.40 ETS 171.59 ZAE 107.25 ETE 185.03 ZAC 86.59 ETC 269.16 LVI 9.25

PLANETOCENTRIC CONIC

C3 18.069 VHL 4.251 DLA -3.52 RAL 334.85 RAD 8642.0 VEL 11.781 PTH 6.78 VHP 3.588 DPA -40.40 RAP 284.74 ECC 1.2974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 30 3040.03 -32.56 93.05 193.57 126.83 18 12 10 2040.0 -15.92 73.71
60.00 18 4 49 2924.83 -27.80 86.34 197.23 120.44 18 53 33 1924.8 -13.49 65.59
70.00 19 1 12 2759.01 -23.52 75.41 199.75 115.51 19 47 11 1759.0 -11.23 53.78
80.00 20 13 16 2533.38 -20.42 59.77 201.23 112.27 20 55 30 1533.4 -9.57 37.65
90.00 21 36 21 2265.29 -19.27 40.55 201.72 111.11 22 14 6 1265.3 -8.94 18.28
100.00 22 56 8 2007.83 -20.42 21.14 201.23 112.27 23 29 36 1007.8 -9.57 359.02
110.00 0 4 34 1805.82 -23.52 4.33 199.75 115.51 0 34 40 805.8 -11.23 342.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5541 TRA 3.5164 TC3-3.6121 BAU .8879 SGT 6030.5 SGR 1851.0 SG3 1531.9 ST 126.7 SR 52.7 SS 120.2
RDE .7093 RRA 1.0928 RC3 -.6798 FAU .14644 RRT .9862 RRF .9829 RTF .9813 CRT .9865 CRS -.9781 CST -.9989
FDE 4.6042 FRA11.4783 FC3-7.0164 B5P 10508 SGB 6308.2 R23 .1134 R13 .9840 LSA 182.2 MSA 10.1 SSA 1.3
BDE 1.7083 BRA 3.6823 BC3 3.6755 F5P 2806 SGI 6291.6 SG2 457.2 THA 16.61 EL1 137.0 EL2 8.0 ALF 22.38

LAUNCH DATE MAR 30 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 632.722

EARTH TO MARS

RL 149.39 LAL -.00 LOL 188.65 VL 32.299 GAL -5.46 AZL 89.24 HCA 209.20 SMA 180.95 ECC .19792 INC .7552 V1 29.826
RP 216.58 LAP -.37 LOP 37.85 VP 22.186 GAP 1.22 AZP 90.66 TAL 325.83 TAP 175.03 RCA 145.13 APO 216.76 V2 25.368
RC 162.390 GL 5.68 GP -15.37 ZAL 146.44 ZAP 64.92 ETS 171.43 ZAE 105.82 ETE 184.38 ZAC 87.31 ETC 269.09 LVI 8.70

PLANETOCENTRIC CONIC

C3 18.336 VHL 4.282 DLA -4.20 RAL 335.24 RAD 8642.1 VEL 11.783 PTH 6.79 VHP 3.610 DPA -39.71 RAP 284.28 ECC 1.3018
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 21 3029.85 -32.14 92.44 194.13 127.18 18 18 51 2020.8 -15.42 73.25
60.00 18 10 24 2912.70 -27.38 85.59 197.83 120.81 18 58 57 1912.7 -12.97 64.97
70.00 19 7 37 2744.48 -23.09 74.50 200.39 115.89 19 53 21 1744.5 -10.70 52.99
80.00 20 20 25 2516.50 -19.98 58.71 201.89 112.66 21 2 22 1516.5 -9.02 36.70
90.00 21 43 50 2247.37 -18.82 39.42 202.39 111.50 22 21 17 1247.4 -8.38 17.26
100.00 23 3 17 1990.97 -19.98 20.08 201.89 112.66 23 36 28 991.0 -9.02 358.07
110.00 0 10 59 1791.29 -23.09 3.42 200.39 115.89 0 40 50 791.3 -10.70 341.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5985 TRA 3.6754 TC3-3.6711 BAU .9131 SGT 6226.9 SGR 1750.2 SG3 1507.3 ST 130.1 SR 50.8 SS 118.9
RDE .6936 RRA 1.0301 RC3 -.6308 FAU .14362 RRT .9833 RRF .9795 RTF .9816 CRT .9828 CRS -.9747 CST -.9991
FDE 4.5491 FRA11.3915 FC3-6.7807 B5P 10797 SGB 6468.2 R23 .1075 R13 .9839 LSA 183.1 MSA 10.5 SSA 1.3
BDE 1.7425 BRA 3.8170 BC3 3.7249 F5P 2769 SGI 6452.2 SG2 453.4 THA 15.23 EL1 139.4 EL2 8.8 ALF 21.09

LAUNCH DATE MAR 30 1971 FLIGHT TIME 266.00 ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.85 VL 32.305 GAL -5.54 AZL 89.34 HCA 210.36 SMA 181.04 ECC .19893 INC .6569 V1 29.826
 RP 216.91 LAP -.33 LOP 39.00 VP 22.150 GAP 1.04 AZP 90.57 TAL 325.45 TAP 175.81 RCA 145.02 APO 217.05 V2 25.327
 RC 164.912 GL 4.90 GP -14.70 ZAL 148.85 ZAP 63.48 ETS 171.30 ZAE 104.41 ETE 183.80 ZAC 87.98 ETC 269.04 LVI 8.19

DISTANCE 636.866 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 18.628 VHL 4.316 DLA -4.82 RAL 335.81 RAD 6642.2 VEL 11.775 PTH 6.80 VHP 3.635 DPA -39.06 RAP 283.90 ECC 1.3066
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 54 3021.24 -31.79 91.92 194.72 127.47 18 21 15 2021.2 -15.00 72.86
 60.00 18 15 37 2902.33 -27.01 84.95 198.46 121.12 19 3 59 1902.3 -12.53 64.45
 70.00 19 13 34 2731.93 -22.72 73.72 201.05 116.22 19 59 6 1731.9 -10.24 52.32
 80.00 20 27 3 2501.83 -19.60 57.79 202.58 112.99 21 8 45 1501.8 -8.54 35.88
 90.00 21 50 46 2231.75 -16.43 38.45 203.09 111.84 22 27 58 1231.7 -7.90 16.37
 100.00 23 9 55 1976.30 -19.60 19.16 202.58 112.99 23 42 52 976.3 -8.54 357.25
 110.00 0 16 56 1778.75 -22.72 2.64 201.05 116.22 0 46 35 778.7 -10.24 341.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6457 TRA 3.8356 TC3-3.7213 BAU .9381 SGT 6418.9 SGR 1656.8 SG3 1480.5 ST 133.5 SR 49.2 SS 117.5
 RDE .6803 RRA .9713 RC3 -.5849 FAU .14052 RRT .9598 RRF .9756 RTF .9819 CRT .9787 CRS -.9710 CST -.9993
 FDE 4.4945 FRA11.2907 FC3-6.5310 BSP 11094 SGB 6629.3 R23 .1015 R13 .9838 LSA 184.2 MSA 10.9 SSA 1.3
 BDE 1.7808 BRA 3.9567 BC3 3.7670 FSP 2728 SG1 6613.9 SG2 451.4 THA 13.98 EL1 142.0 EL2 9.5 ALF 19.91

LAUNCH DATE MAR 30 1971 FLIGHT TIME 268.00 ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.65 VL 32.311 GAL -5.62 AZL 89.43 HCA 211.51 SMA 181.13 ECC .19998 INC .5648 V1 29.826
 RP 217.26 LAP -.30 LOP 40.15 VP 22.114 GAP .86 AZP 90.48 TAL 325.07 TAP 176.58 RCA 144.91 APO 217.35 V2 25.288
 RC 167.446 GL 4.18 GP -14.07 ZAL 147.25 ZAP 62.09 ETS 171.19 ZAE 103.02 ETE 183.27 ZAC 88.61 ETC 268.99 LVI 7.69

DISTANCE 641.004 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 18.942 VHL 4.352 DLA -5.37 RAL 336.36 RAD 6642.4 VEL 11.788 PTH 6.81 VHP 3.663 DPA -38.45 RAP 283.57 ECC 1.3117
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 10 3014.06 -31.49 91.50 195.34 127.71 18 25 24 2014.1 -14.65 72.54
 60.00 18 20 29 2893.55 -26.70 84.41 199.11 121.38 19 8 42 1893.5 -12.16 64.01
 70.00 19 19 6 2721.17 -22.39 73.06 201.73 116.49 20 4 27 1721.2 -9.84 51.73
 80.00 20 33 13 2489.13 -19.26 57.00 203.28 113.27 21 14 42 1489.1 -8.12 35.16
 90.00 21 57 12 2218.17 -18.08 37.60 203.80 112.12 22 34 10 1218.2 -7.47 15.60
 100.00 23 16 5 1963.60 -19.26 18.37 203.28 113.27 23 48 49 963.6 -8.12 356.53
 110.00 0 22 29 1767.99 -22.39 1.97 201.73 116.49 0 51 57 768.0 -9.84 340.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6936 TRA 3.9950 TC3-3.7674 BAU .9639 SGT 6605.3 SGR 1570.1 SG3 1451.8 ST 136.9 SR 47.6 SS 116.1
 RDE .6691 RRA .9158 RC3 -.5429 FAU .13737 RRT .9555 RRF .9711 RTF .9821 CRT .9742 CRS -.9659 CST -.9994
 FDE 4.4384 FRA11.1750 FC3-6.2786 BSP 11381 SGB 6789.4 R23 .0959 R13 .9837 LSA 185.3 MSA 11.3 SSA 1.3
 BDE 1.8210 BRA 4.0988 BC3 3.8063 FSP 2681 SG1 6774.3 SG2 451.5 THA 12.85 EL1 144.6 EL2 10.2 ALF 18.83

LAUNCH DATE MAR 30 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.65 VL 32.317 GAL -5.70 AZL 89.52 HCA 212.65 SMA 181.23 ECC .20107 INC .4795 V1 29.826
 RP 217.61 LAP -.26 LOP 41.30 VP 22.078 GAP .67 AZP 90.40 TAL 324.66 TAP 177.33 RCA 144.79 APO 217.67 V2 25.249
 RC 169.992 GL 3.52 GP -13.49 ZAL 147.64 ZAP 60.75 ETS 171.10 ZAE 101.65 ETE 182.80 ZAC 89.19 ETC 268.95 LVI 7.22

DISTANCE 645.138 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.277 VHL 4.391 DLA -5.87 RAL 336.90 RAD 6642.5 VEL 11.802 PTH 6.82 VHP 3.693 DPA -37.88 RAP 283.31 ECC 1.3173
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 11 3008.16 -31.24 91.15 195.97 127.90 18 29 19 2008.2 -14.37 72.27
 60.00 18 23 2 2886.20 -26.44 83.97 199.77 121.60 19 13 9 1886.2 -11.85 63.84
 70.00 19 24 17 2712.02 -22.11 72.49 202.42 116.72 20 9 29 1712.0 -9.50 51.24
 80.00 20 38 57 2478.22 -18.96 56.33 204.00 113.50 21 20 16 1478.2 -7.76 34.55
 90.00 22 3 11 2206.46 -17.78 36.87 204.52 112.36 22 39 57 1206.5 -7.11 14.93
 100.00 23 21 49 1952.69 -18.96 17.69 204.00 113.50 23 54 22 952.7 -7.76 355.92
 110.00 0 27 39 1758.84 -22.11 1.41 202.42 116.72 0 56 58 758.8 -9.50 340.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.7448 TRA 4.1561 TC3-3.8049 BAU .9891 SGT 6787.7 SGR 1490.3 SG3 1422.0 ST 140.3 SR 46.3 SS 114.7
 RDE .6600 RRA .8637 RC3 -.5033 FAU .13393 RRT .9505 RRF .9659 RTF .9822 CRT .9694 CRS -.9627 CST -.9995
 FDE 4.3856 FRA11.0522 FC3-8.0149 BSP 11682 SGB 6949.4 R23 .0905 R13 .9836 LSA 186.6 MSA 11.7 SSA 1.3
 BDE 1.8652 BRA 4.2449 BC3 3.8380 FSP 2638 SG1 6934.6 SG2 453.2 THA 11.84 EL1 147.3 EL2 10.8 ALF 17.85

LAUNCH DATE MAR 30 1971 FLIGHT TIME 272.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 149.39 LAL -.00 LOL 188.65 VL 32.324 GAL -5.79 AZL 89.60 HCA 213.80 SMA 181.33 ECC .20220 INC .3593 V1 29.826
 RP 217.97 LAP -.22 LOP 42.44 VP 22.042 GAP .49 AZP 90.33 TAL 324.28 TAP 178.07 RCA 144.67 APO 218.00 V2 25.209
 RC 172.547 GL 2.90 GP -12.94 ZAL 148.01 ZAP 59.44 ETS 171.02 ZAE 100.30 ETE 182.38 ZAC 89.74 ETC 268.92 LVI 6.77

DISTANCE 649.267 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.633 VHL 4.431 DLA -6.33 RAL 337.43 RAD 6642.7 VEL 11.817 PTH 6.84 VHP 3.725 DPA -37.34 RAP 283.10 ECC 1.3231
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 58 3003.42 -31.04 90.87 196.62 128.06 18 33 2 2003.4 -14.13 72.06
 60.00 18 29 19 2880.14 -26.22 83.60 200.45 121.77 19 17 19 1880.1 -11.59 63.34
 70.00 19 29 7 2704.33 -21.88 72.02 203.13 116.91 20 14 11 1704.3 -9.22 50.83
 80.00 20 44 18 2468.93 -18.71 55.75 204.73 113.70 21 25 27 1468.9 -7.46 34.03
 90.00 22 8 45 2196.44 -17.52 36.25 205.26 112.56 22 45 22 1196.4 -6.79 14.36
 100.00 23 27 10 1943.40 -18.71 17.12 204.73 113.70 23 59 34 943.4 -7.46 355.40
 110.00 0 32 29 1751.15 -21.88 .94 203.13 116.91 1 1 40 751.1 -9.22 339.75

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.7964 TRA 4.3169 TC3-3.8382 BAU 1.0149 SGT 6964.7 SGR 1416.1 SG3 1390.8 ST 143.6 SR 45.1 SS 113.3
 RDE .6524 RRA .8143 RC3 -.4671 FAU .13050 RRT .9447 RRF .9600 RTF .9823 CRT .9643 CRS -.9582 CST -.9996
 FDE 4.3305 FRA10.9181 FC3-5.7543 BSP 11974 SGB 7107.2 R23 .0854 R13 .9834 LSA 187.9 MSA 12.1 SSA 1.3
 BDE 1.9112 BRA 4.3930 BC3 3.8665 FSP 2584 SG1 7092.6 SG2 456.0 THA 10.92 EL1 150.0 EL2 11.4 ALF 16.95

LAUNCH DATE MAR 30 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 29 1971

Heliocentric Conic: RL 149.39 LAL -0.00 LOL 188.85 VL 32.330 GAL -5.88 AZL 89.68 HCA 214.83 SMA 181.44 ECC .20338 INC .3244 V1 29.826
 RP 218.33 LAP -0.19 LOP 43.58 VP 22.006 GAP .30 AZP 90.27 TAL 323.87 TAP 178.81 RCA 144.54 APO 218.34 V2 25.189
 RC 175.114 GL 2.33 GP -12.42 ZAL 148.38 ZAP 56.18 ETS 170.96 ZAE 98.99 ETE 182.00 ZAC 90.26 ETC 268.90 LVI 6.33

Planetocentric Conic: C3 20.009 VHL 4.473 DLA -6.74 RAL 337.95 RAD 6642.8 VEL 11.833 PTH 6.85 VHP 3.759 DPA -36.84 RAP 282.94 ECC 1.3293
 LNCX AZMTH LNCX TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 33 2999.73 -30.89 90.66 197.29 128.18 18 36 32 1999.7 -13.95 71.89
 60.00 18 33 21 2875.27 -26.05 83.31 201.15 121.91 19 21 16 1875.3 -11.38 63.10
 70.00 19 33 38 2697.97 -21.68 71.63 203.85 117.06 20 18 36 1698.0 -8.98 50.49
 80.00 20 49 18 2461.11 -18.49 55.27 205.46 113.87 21 30 19 1461.1 -7.20 33.60
 90.00 22 13 58 2187.96 -17.30 35.73 206.00 112.73 22 50 25 1188.0 -6.52 13.88
 100.00 23 32 10 1935.58 -18.49 16.64 205.46 113.87 24 4 25 935.6 -7.20 354.97
 110.00 0 37 1 1744.79 -21.68 .55 203.85 117.06 1 6 6 744.8 -9.98 339.41

Differential Corrections: TDE 1.8503 TRA 4.4789 TC3-3.8850 BAU 1.0404 SGT 7137.6 SGR 1347.8 SG3 1359.0 ST 146.9 SR 44.0 SS 111.8
 RDE .6465 RRA .7878 RC3 -.4334 FAU .12891 RRT .9580 RRF .9532 RTF .9823 CRT .9589 CRS -.9535 CST -.9997
 FDE 4.2774 FRA10.7783 FC3-5.4907 B8P 12287 SGB 7263.7 R23 .0807 R13 .9833 LSA 189.4 MSA 12.6 SSA 1.3
 BDE 1.9800 BRA 4.5442 BC3 3.8892 F8P 2534 SGI 7249.1 SGI 460.1 THA 10.09 EL1 152.9 EL2 12.0 ALF 16.12

LAUNCH DATE MAR 30 1971

FLIGHT TIME 276.00

ARRIVAL DATE DEC 31 1971

Heliocentric Conic: RL 149.39 LAL -0.00 LOL 188.85 VL 32.337 GAL -5.97 AZL 89.75 HCA 216.07 SMA 181.55 ECC .20459 INC .2534 V1 29.826
 RP 218.69 LAP -0.15 LOP 44.72 VP 21.971 GAP .12 AZP 90.20 TAL 323.46 TAP 179.53 RCA 144.41 APO 218.70 V2 25.129
 RC 177.690 GL 1.80 GP -11.94 ZAL 148.74 ZAP 56.97 ETS 170.91 ZAE 97.70 ETE 181.65 ZAC 90.74 ETC 268.89 LVI 5.91

Planetocentric Conic: C3 20.405 VHL 4.517 DLA -7.11 RAL 338.45 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 3.795 DPA -36.36 RAP 282.83 ECC 1.3358
 LNCX AZMTH LNCX TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 55 2997.01 -30.78 90.50 197.97 128.26 18 39 53 1997.0 -13.82 71.77
 60.00 18 37 8 2871.47 -25.91 83.08 201.85 122.02 19 24 59 1871.5 -11.22 62.91
 70.00 19 37 53 2692.82 -21.52 71.32 204.58 117.18 20 22 46 1692.8 -8.79 50.21
 80.00 20 53 58 2454.63 -18.32 54.87 206.21 114.00 21 34 53 1454.6 -6.99 33.24
 90.00 22 18 49 2180.88 -17.11 35.30 206.76 112.86 22 55 10 1180.9 -6.30 13.48
 100.00 23 38 50 1929.11 -18.32 16.24 206.21 114.00 24 8 59 929.1 -6.99 354.60
 110.00 0 41 16 1739.64 -21.52 .24 204.58 117.18 1 10 15 739.6 -8.79 339.13

Differential Corrections: TDE 1.9052 TRA 4.6413 TC3-3.8886 BAU 1.0665 SGT 7305.9 SGR 1284.8 SG3 1326.6 ST 150.2 SR 43.0 SS 110.4
 RDE .8419 RRA .7237 RC3 -.4026 FAU .12336 RRT .9303 RRF .9455 RTF .9822 CRT .9532 CRS -.9486 CST -.9998
 FDE 4.2233 FRA10.6323 FC3-5.2340 B8P 12553 SGB 7418.0 R23 .0763 R13 .9831 LSA 190.8 MSA 13.0 SSA 1.3
 BDE 2.0104 BRA 4.6974 BC3 3.9094 F8P 2480 SGI 7403.4 SGI 465.0 THA 9.33 EL1 155.7 EL2 12.5 ALF 15.38

LAUNCH DATE MAR 30 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 2 1972

Heliocentric Conic: RL 149.39 LAL -0.00 LOL 188.85 VL 32.344 GAL -6.07 AZL 89.81 HCA 217.20 SMA 181.67 ECC .20564 INC .1866 V1 29.826
 RP 219.06 LAP -0.11 LOP 45.85 VP 21.935 GAP -.06 AZP 90.15 TAL 323.05 TAP 180.25 RCA 144.27 APO 219.06 V2 25.089
 RC 180.275 GL 1.31 GP -11.49 ZAL 149.09 ZAP 55.79 ETS 170.87 ZAE 96.43 ETE 181.34 ZAC 91.19 ETC 268.89 LVI 5.51

Planetocentric Conic: C3 20.820 VHL 4.583 DLA -7.44 RAL 338.94 RAD 6643.2 VEL 11.887 PTH 6.88 VHP 3.833 DPA -35.91 RAP 282.77 ECC 1.3426
 LNCX AZMTH LNCX TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 8 2995.17 -30.70 90.40 198.66 128.32 18 43 3 1995.2 -13.73 71.69
 60.00 18 40 42 2868.85 -25.81 82.91 202.57 122.09 19 28 31 1868.7 -11.10 62.77
 70.00 19 41 53 2688.79 -21.39 71.07 205.31 117.28 20 26 41 1688.8 -8.64 50.00
 80.00 20 58 21 2449.40 -18.17 54.55 206.96 114.11 21 39 10 1449.4 -6.81 32.94
 90.00 22 23 22 2175.09 -16.96 34.94 207.52 112.97 22 59 37 1175.1 -6.12 13.18
 100.00 23 41 13 1923.87 -18.17 15.92 206.96 114.11 24 13 16 923.9 -6.81 354.31
 110.00 0 45 15 1735.61 -21.39 359.89 205.31 117.28 1 14 10 735.6 -8.64 338.82

Differential Corrections: TDE 1.9618 TRA 4.8038 TC3-3.9075 BAU 1.0928 SGT 7469.1 SGR 1226.7 SG3 1293.7 ST 153.4 SR 42.1 SS 108.8
 RDE .8389 RRA .6818 RC3 -.3743 FAU .11982 RRT .9217 RRF .9388 RTF .5221 CRT .9474 CRS -.9435 CST -.9998
 FDE 4.1886 FRA10.4801 FC3-4.9823 B8P 12832 SGB 7589.2 R23 .0722 R13 .9829 LSA 192.3 MSA 13.4 SSA 1.3
 BDE 2.0828 BRA 4.8518 BC3 3.9233 F8P 2424 SGI 7534.5 SGI 470.5 THA 8.64 EL1 158.5 EL2 13.1 ALF 14.69

LAUNCH DATE MAR 30 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 4 1972

Heliocentric Conic: RL 149.39 LAL -0.00 LOL 188.85 VL 32.352 GAL -6.16 AZL 89.88 HCA 218.33 SMA 181.78 ECC .20713 INC .1217 V1 29.826
 RP 219.43 LAP -0.08 LOP 46.97 VP 21.899 GAP -.25 AZP 90.10 TAL 322.62 TAP 180.95 RCA 144.13 APO 219.44 V2 25.048
 RC 182.871 GL .86 GP -11.07 ZAL 148.44 ZAP 54.85 ETS 170.85 ZAE 95.19 ETE 181.06 ZAC 91.61 ETC 268.89 LVI 5.11

Planetocentric Conic: C3 21.284 VHL 4.610 DLA -7.74 RAL 339.43 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 3.872 DPA -35.49 RAP 282.76 ECC 1.3488
 LNCX AZMTH LNCX TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 10 2994.14 -30.65 90.34 199.36 128.35 18 46 5 1994.1 -13.68 71.65
 60.00 18 44 5 2868.74 -25.74 82.80 203.28 122.15 19 31 51 1866.7 -11.01 62.67
 70.00 19 45 37 2685.77 -21.30 70.89 206.06 117.35 20 30 23 1685.8 -8.53 49.84
 80.00 21 2 27 2445.29 -18.06 54.30 207.72 114.19 21 43 12 1445.3 -6.68 32.72
 90.00 22 27 37 2170.49 -16.84 34.66 208.28 113.06 23 3 47 1170.3 -5.97 12.90
 100.00 23 45 18 1919.76 -18.06 15.87 207.72 114.19 24 17 18 919.8 -6.63 354.08
 110.00 0 49 0 1732.59 -21.30 359.81 206.06 117.35 1 17 52 732.6 -6.53 338.75

Differential Corrections: TDE 2.0188 TRA 4.9674 TC3-3.9226 BAU 1.1190 SGT 7628.4 SGR 1173.4 SG3 1260.8 ST 156.5 SR 41.3 SS 107.5
 RDE .8382 RRA .6421 RC3 -.3482 FAU .11623 RRT .9119 RRF .9271 RTF .9820 CRT .9413 CRS -.9383 CST -.9999
 FDE 4.1150 FRA10.3281 FC3-4.7345 B8P 13100 SGB 7718.1 R23 .0687 R13 .9826 LSA 193.8 MSA 13.8 SSA 1.3
 BDE 2.1167 BRA 5.0088 BC3 3.9380 F8P 2367 SGI 7703.3 SGI 476.9 THA 8.02 EL1 161.3 EL2 13.5 ALF 14.06

LAUNCH DATE MAR 31 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC

DISTANCE 378.929

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 34.160 GAL -6.94 AZL 92.40 HCA 129.88 SMA 217.83 ECC .33425 INC 2.4039 V1 29.817
RP 207.38 LAP -1.85 LOP 319.34 VP 23.897 GAP 19.34 AZP 88.46 TAL 331.88 TAP 101.56 RCA 145.02 APO 290.64 V2 26.414
RC 56.241 GL -13.01 GP 3.98 ZAL 137.02 ZAP 167.24 ETS 161.73 ZAE 167.43 ETE 134.18 ZAC 105.27 ETC 275.48 LVI -18.51

PLANETOCENTRIC CONIC

C3 39.945 VHL 6.320 DLA -24.22 RAL 335.36 RAD 6650.6 VEL 12.642 PTH 7.49 VHP 9.441 DPA -16.37 RAP 309.06 ECC 1.6974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 23 2809.75 -22.44 80.48 201.80 133.13 19 31 12 1809.0 -4.52 63.71
60.00 19 54 54 2622.19 -16.19 69.19 207.40 127.43 20 38 36 1622.2 -.34 50.83
70.00 21 25 2 2337.23 -9.96 52.19 211.89 122.84 22 4 19 1357.2 3.95 32.60
80.00 23 13 26 2017.97 -4.67 29.66 215.12 119.52 23 47 4 1018.0 7.69 9.14
90.00 0 59 17 1689.23 -2.33 6.78 216.41 118.19 1 27 26 689.2 9.36 345.85
100.00 2 0 13 1492.44 -4.67 351.03 215.12 119.52 2 25 6 492.4 7.69 330.90
110.00 2 26 24 1404.05 -9.96 341.11 211.89 122.84 2 31 48 404.0 3.95 321.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8794 TRA-1.8013 TC3 -.0930 BAU .0843
RDE -.5249 RRA -.0224 RC3 .1275 FAU .04162
FDE .6658 FRA 2.0886 FC3 -.9020 BSP 3370
BDE 1.0241 BRA 1.8015 BC3 .1578 FSP 300

SGT 1963.5 SGR 502.9 SG3 211.2
RRT .3246 RRF -.3456 RTF -.8469
SGB 2026.9 R23 -.0567 R13 -.8483
SG1 1970.7 SG2 473.9 THA 5.05

ST 48.1 SR 23.8 SS 35.4
CRT .8213 CRS .6856 CST .9775
LSA 62.4 MSA 15.4 SSA 1.1
EL1 52.2 EL2 12.5 ALF 23.56

LAUNCH DATE MAR 31 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 381.686

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 34.043 GAL -6.78 AZL 92.45 HCA 130.94 SMA 215.00 ECC .32502 INC 2.4486 V1 29.817
RP 207.27 LAP -1.85 LOP 320.60 VP 25.755 GAP 18.86 AZP 88.39 TAL 331.91 TAP 102.85 RCA 145.12 APO 284.88 V2 26.426
RC 56.362 GL -13.52 GP 4.16 ZAL 136.98 ZAP 166.36 ETS 162.17 ZAE 167.92 ETE 130.56 ZAC 105.41 ETC 275.57 LVI -18.81

PLANETOCENTRIC CONIC

C3 38.184 VHL 6.179 DLA -24.66 RAL 335.66 RAD 6650.0 VEL 12.572 PTH 7.44 VHP 9.167 DPA -16.09 RAP 309.47 ECC 1.6284
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 47 43 2788.74 -21.45 79.45 201.51 133.54 19 34 12 1788.7 -3.47 62.83
60.00 19 59 4 2598.96 -15.22 67.98 207.15 127.78 20 42 23 1599.0 .68 49.72
70.00 21 30 26 2330.34 -8.97 50.75 211.69 123.09 22 9 17 1330.3 4.97 31.18
80.00 23 20 40 1985.34 -3.57 27.86 215.00 119.66 23 53 46 985.3 7.76 7.31
90.00 1 7 51 1652.36 -1.14 4.72 216.35 118.26 1 35 23 652.4 10.49 343.73
100.00 2 7 28 1459.81 -3.57 349.23 215.00 119.66 2 31 48 459.8 8.76 328.67
110.00 2 33 49 1377.16 -8.97 339.67 211.69 123.09 2 56 46 377.2 4.97 320.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8789 TRA-1.7835 TC3 -.0864 BAU .0825
RDE -.5090 RRA -.0068 RC3 .1367 FAU .04290
FDE .6933 FRA 2.1738 FC3 -.9727 BSP 3439
BDE 1.0157 BRA 1.7835 BC3 .1617 FSP 322

SGT 1998.5 SGR 501.4 SG3 224.9
RRT .3533 RRF -.3763 RTF -.8526
SGB 2060.4 R23 -.0616 R13 -.8541
SG1 2006.8 SG2 467.1 THA 5.36

ST 49.1 SR 23.6 SS 36.7
CRT .8280 CRS .6915 CST .9768
LSA 63.8 MSA 15.3 SSA 1.1
EL1 53.0 EL2 12.2 ALF 23.01

LAUNCH DATE MAR 31 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

DISTANCE 384.943

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 33.932 GAL -6.63 AZL 92.50 HCA 132.20 SMA 212.40 ECC .31628 INC 2.4952 V1 29.817
RP 207.18 LAP -1.85 LOP 321.86 VP 25.619 GAP 18.39 AZP 88.32 TAL 331.95 TAP 104.16 RCA 145.22 APO 279.57 V2 26.438
RC 56.568 GL -14.05 GP 4.36 ZAL 136.92 ZAP 165.46 ETS 162.54 ZAE 168.35 ETE 128.78 ZAC 105.57 ETC 275.67 LVI -19.13

PLANETOCENTRIC CONIC

C3 36.549 VHL 6.046 DLA -25.12 RAL 335.97 RAD 6649.5 VEL 12.508 PTH 7.39 VHP 8.901 DPA -15.81 RAP 309.73 ECC 1.6015
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 51 11 2767.58 -20.46 78.42 201.27 133.94 19 37 18 1767.6 -2.41 61.94
60.00 20 3 26 2575.43 -14.24 66.78 206.93 128.11 20 46 21 1575.4 1.71 48.60
70.00 21 36 10 2302.78 -7.94 49.28 211.54 123.33 22 14 32 1302.8 6.01 29.73
80.00 23 28 29 1951.23 -2.42 25.99 214.94 119.77 24 1 0 951.2 9.87 5.38
90.00 1 17 15 1613.13 .12 2.53 216.35 118.28 1 44 8 613.1 11.66 341.45
100.00 2 15 17 1425.70 -2.42 347.36 214.94 119.77 2 39 3 425.7 9.87 326.75
110.00 2 39 32 1349.60 -7.94 338.19 211.54 123.33 3 2 1 349.6 6.01 318.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8782 TRA-1.7693 TC3 -.0799 BAU .0815
RDE -.4940 RRA -.0093 RC3 .1465 FAU .04423
FDE .7222 FRA 2.2634 FC3-1.0478 BSP 3513
BDE 1.0076 BRA 1.7693 BC3 .1669 FSP 346

SGT 2032.6 SGR 500.7 SG3 239.5
RRT .3839 RRF -.4092 RTF -.8779
SGB 2093.4 R23 -.0672 R13 -.8596
SG1 2042.2 SG2 460.1 THA 5.69

ST 50.0 SR 23.4 SS 38.0
CRT .8351 CRS .6980 CST .9760
LSA 65.3 MSA 15.2 SSA 1.1
EL1 53.9 EL2 11.9 ALF 22.51

LAUNCH DATE MAR 31 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 388.093

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 33.828 GAL -6.48 AZL 92.54 HCA 133.48 SMA 210.00 ECC .30800 INC 2.5437 V1 29.817
RP 207.09 LAP -1.85 LOP 323.13 VP 25.490 GAP 17.92 AZP 88.25 TAL 332.00 TAP 103.47 RCA 145.32 APO 274.68 V2 26.448
RC 56.856 GL -14.60 GP 4.57 ZAL 136.84 ZAP 164.53 ETS 162.85 ZAE 168.69 ETE 122.89 ZAC 105.74 ETC 275.76 LVI -19.44

PLANETOCENTRIC CONIC

C3 35.034 VHL 5.919 DLA -25.60 RAL 336.27 RAD 6648.9 VEL 12.447 PTH 7.35 VHP 8.643 DPA -15.51 RAP 310.03 ECC 1.5766
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 54 47 2748.26 -19.45 77.40 201.06 134.32 19 40 33 1746.3 -1.34 61.05
60.00 20 7 59 2551.56 -13.23 65.56 206.76 128.42 20 50 31 1551.6 2.76 47.46
70.00 21 42 13 2274.50 -6.88 47.77 211.44 123.54 22 20 8 1274.5 7.08 28.24
80.00 23 36 58 1915.38 -1.21 24.02 214.95 119.84 24 8 53 915.4 11.02 3.34
90.00 1 27 42 1570.90 1.48 .18 216.44 118.24 1 53 53 570.9 12.91 338.97
100.00 2 23 45 1389.85 -1.21 345.39 214.95 119.84 2 46 55 389.8 11.02 324.71
110.00 2 45 36 1321.31 -6.88 336.69 211.44 123.54 3 7 37 321.3 7.08 317.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8774 TRA-1.7520 TC3 -.0725 BAU .0810
RDE -.4798 RRA -.0259 RC3 .1569 FAU .04567
FDE .7527 FRA 2.3569 FC3-1.1285 BSP 3579
BDE 1.0000 BRA 1.7522 BC3 .1729 FSP 371

SGT 2065.2 SGR 501.0 SG3 255.1
RRT .4164 RRF -.4442 RTF -.8630
SGB 2125.1 R23 -.0733 R13 -.8649
SG1 2076.2 SG2 453.1 THA 6.06

ST 51.0 SR 23.2 SS 39.3
CRT .8427 CRS .7053 CST .9752
LSA 66.7 MSA 15.1 SSA 1.1
EL1 54.8 EL2 11.6 ALF 22.05

LAUNCH DATE MAR 31 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

DISTANCE 391.326

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 33.727 GAL -6.34 AZL 92.59 HCA 134.73 SMA 207.78 ECC .30015 INC 2.5942 VI 29.817
RP 207.01 LAP -1.84 LOP 324.39 VP 25.367 GAP 17.47 AZP 88.17 TAL 332.06 TAP 106.79 RCA 145.42 APO 270.15 V2 26.457
RC 57.225 GL -15.17 GP 4.80 ZAL 136.75 ZAP 163.58 ETS 163.10 ZAE 168.95 ETE 118.97 ZAC 105.93 ETC 275.84 LVI -18.77

PLANETOCENTRIC CONIC

C3 33.630 VHL 5.799 DLA -26.10 RAL 336.58 RAD 6648.4 VEL 12.391 PTH 7.31 VHP 8.393 DPA -15.21 RAP 310.31 ECC 1.5535
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 58 32 2724.79 -18.42 76.39 200.90 134.68 19 43 57 1724.8 -.26 60.15
60.00 20 12 46 2527.33 -12.20 64.34 206.64 128.71 20 54 54 1527.3 3.83 46.30
70.00 21 48 40 2245.40 -5.78 46.24 211.39 123.72 22 26 5 1245.4 8.17 26.69
80.00 23 46 14 1877.41 .08 21.93 215.03 119.86 24 17 31 877.4 12.22 1.16
90.00 1 39 32 1524.71 2.97 357.60 216.63 118.14 2 4 56 524.7 14.24 336.24
100.00 2 33 2 1351.88 .08 343.30 215.03 119.86 2 55 34 351.9 12.22 321.53
110.00 2 52 2 1292.21 -5.78 335.15 211.39 123.72 3 13 34 292.2 8.17 315.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8764 TRA-1.7335 TC3 -.0647 BAU .0810 SGT 2095.9 SGR 502.5 S63 271.6 ST 51.9 SR 23.0 S8 40.7
RDE -.4863 RRA -.0431 RC3 .1681 FAU .04720 RRT .4507 RRF -.4811 RTF -.8676 CRT .8508 CRS .7132 CST .9743
FDE .7845 FRA 2.4545 FC3-1.2150 B8P 3645 SGB 2155.3 R23 -.0801 R13 -.8698 LSA 68.2 MSA 15.0 SSA 1.1
BDE .9927 BRA 1.7341 BC3 .1801 F8P 398 S61 2108.7 S62 445.9 THA 6.46 EL1 55.6 EL2 11.3 ALF 21.64

LAUNCH DATE MAR 31 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 394.636

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 33.632 GAL -6.21 AZL 92.65 HCA 135.99 SMA 205.73 ECC .29272 INC 2.6471 VI 29.817
RP 206.94 LAP -1.84 LOP 325.66 VP 25.250 GAP 17.02 AZP 88.10 TAL 332.12 TAP 108.12 RCA 145.51 APO 265.95 V2 26.466
RC 57.675 GL -15.76 GP 5.05 ZAL 136.63 ZAP 162.61 ETS 163.30 ZAE 169.14 ETE 115.13 ZAC 106.14 ETC 275.92 LVI -20.10

PLANETOCENTRIC CONIC

C3 32.329 VHL 5.686 DLA -26.62 RAL 336.89 RAD 6647.9 VEL 12.339 PTH 7.27 VHP 8.151 DPA -14.69 RAP 310.57 ECC 1.5321
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 2 27 2703.12 -17.38 75.38 200.78 135.02 19 47 30 1703.1 .83 59.25
60.00 20 17 49 2502.68 -11.15 63.11 206.57 128.98 20 59 31 1502.7 4.91 45.11
70.00 21 55 32 2215.32 -4.64 44.65 211.41 123.87 22 32 28 1215.3 9.29 25.08
80.00 0 0 25 1836.73 1.46 19.70 215.20 119.83 0 31 2 836.7 13.48 358.81
90.00 1 53 16 1472.82 4.63 354.69 216.95 117.93 2 17 49 472.8 15.69 333.12
100.00 2 43 17 1311.20 1.46 341.07 215.20 119.83 3 5 8 311.2 13.48 320.17
110.00 2 58 55 1262.14 -4.64 333.57 211.41 123.87 3 19 57 262.1 9.29 314.00

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8626 TRA-1.7019 TC3 -.0413 BAU .0800 SGT 2106.7 SGR 505.5 S63 289.1 ST 52.1 SR 22.9 S8 42.1
RDE -.4534 RRA -.0607 RC3 .1804 FAU .04878 RRT .4871 RRF -.5195 RTF -.8763 CRT .8578 CRS .7218 CST .9742
FDE .6183 FRA 2.5973 FC3-1.3082 B8P 3552 SGB 2168.5 R23 -.0859 R13 -.8787 LSA 69.2 MSA 14.9 SSA 1.1
BDE .9745 BRA 1.7030 BC3 .1850 F8P 428 S61 2121.7 S62 438.3 THA 6.96 EL1 55.9 EL2 11.0 ALF 21.49

LAUNCH DATE MAR 31 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 398.015

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 33.943 GAL -6.07 AZL 92.70 HCA 137.26 SMA 203.83 ECC .28569 INC 2.7025 VI 29.817
RP 206.87 LAP -1.83 LOP 326.93 VP 25.139 GAP 16.58 AZP 88.71 TAL 332.19 TAP 109.45 RCA 145.60 APO 262.07 V2 26.473
RC 58.203 GL -16.37 GP 5.31 ZAL 136.50 ZAP 161.61 ETS 163.46 ZAE 169.24 ETE 111.44 ZAC 106.37 ETC 276.00 LVI -20.45

PLANETOCENTRIC CONIC

C3 31.129 VHL 5.579 DLA -27.17 RAL 337.21 RAD 6647.4 VEL 12.290 PTH 7.23 VHP 7.916 DPA -14.56 RAP 310.80 ECC 1.5123
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 6 33 2681.33 -16.33 74.38 200.72 135.33 19 51 15 1681.3 1.93 58.34
60.00 20 23 7 2477.69 -10.08 61.87 206.55 129.23 21 4 25 1477.7 6.00 43.91
70.00 22 2 54 2184.28 -3.46 43.03 211.50 124.00 22 39 18 1184.3 10.44 23.41
80.00 0 11 34 1792.82 2.94 17.28 215.47 119.73 0 41 47 792.8 14.82 356.23
90.00 2 9 34 1412.21 6.55 351.27 217.45 117.57 2 33 27 412.2 17.32 329.42
100.00 2 54 46 1267.22 2.94 338.65 215.47 119.73 3 15 53 267.2 14.82 317.60
110.00 3 6 16 1231.10 -3.46 331.94 211.50 124.00 3 26 47 231.1 10.44 312.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8683 TRA-1.6885 TC3 -.0411 BAU .0821 SGT 2143.8 SGR 510.5 S63 307.7 ST 53.3 SR 22.7 S8 43.6
RDE -.4418 RRA -.0794 RC3 .1930 FAU .05050 RRT .5238 RRF -.5594 RTF -.8781 CRT .8678 CRS .7313 CST .9728
FDE .8533 FRA 2.6643 FC3-1.4045 B8P 3698 SGB 2203.8 R23 -.0839 R13 -.8808 LSA 71.0 MSA 14.8 SSA 1.1
BDE .9742 BRA 1.6904 BC3 .1973 F8P 459 S61 2161.1 S62 431.3 THA 7.41 EL1 57.0 EL2 10.6 ALF 21.06

LAUNCH DATE MAR 31 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 401.458

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 33.458 GAL -5.95 AZL 92.76 HCA 138.53 SMA 202.08 ECC .27904 INC 2.7607 VI 29.817
RP 206.82 LAP -1.83 LOP 328.20 VP 25.033 GAP 16.15 AZP 87.93 TAL 332.28 TAP 110.78 RCA 145.69 APO 258.46 V2 26.479
RC 58.807 GL -17.01 GP 5.59 ZAL 136.34 ZAP 160.58 ETS 163.57 ZAE 169.27 ETE 108.01 ZAC 106.62 ETC 276.07 LVI -20.80

PLANETOCENTRIC CONIC

C3 30.022 VHL 5.479 DLA -27.74 RAL 337.54 RAD 6647.0 VEL 12.246 PTH 7.19 VHP 7.689 DPA -14.22 RAP 310.99 ECC 1.4941
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 10 51 2659.36 -15.26 73.38 200.71 135.63 19 53 10 1659.4 3.03 57.42
60.00 20 28 43 2432.23 -8.98 60.62 206.60 129.46 21 9 35 1452.2 7.11 42.67
70.00 22 10 49 2152.00 -2.23 41.34 211.66 124.09 22 46 41 1152.0 11.62 21.65
80.00 0 25 3 1744.05 4.58 14.60 215.88 119.54 0 54 7 744.0 16.27 353.33
90.00 2 32 13 1333.95 8.99 346.82 218.27 116.92 2 54 27 333.9 19.31 324.54
100.00 3 7 55 1218.52 4.58 335.97 215.88 119.54 3 28 13 218.5 16.27 314.70
110.00 3 14 11 1198.82 -2.23 330.25 211.66 124.09 3 34 10 198.8 11.62 310.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8703 TRA-1.6704 TC3 -.0368 BAU .0842 SGT 2173.6 SGR 517.6 S63 327.4 ST 54.3 SR 22.6 S8 45.0
RDE -.4309 RRA -.0989 RC3 .2066 FAU .05233 RRT .5613 RRF -.6002 RTF -.8807 CRT .8779 CRS .7416 CST .9716
FDE .8907 FRA 2.7762 FC3-1.5090 B8P 3795 SGB 2234.4 R23 -.1042 R13 -.8838 LSA 72.6 MSA 14.7 SSA 1.1
BDE .9712 BRA 1.6733 BC3 .2098 F8P 491 S61 2193.7 S62 424.4 THA 7.91 EL1 57.9 EL2 10.1 ALF 20.74

LAUNCH DATE MAR 31 1971 FLIGHT TIME 152.00 ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC DISTANCE 404.980 EARTH TO MARS
 RL 149.44 LAL -.00 LOL 189.64 VL 33.378 GAL -5.82 AZL 92.82 HCA 139.79 SMA 200.44 ECC .27274 INC 2.8218 V1 26.817
 RP 206.77 LAP -1.82 LOP 329.46 VP 24.931 GAP 15.73 AZP 87.84 TAL 332.33 TAP 112.13 RCA 145.78 APO 255.11 V2 26.485
 RC 39.485 GL -17.67 GP 5.69 ZAL 136.17 ZAP 159.52 ETS 163.65 ZAE 169.23 ETE 104.91 ZAC 106.89 ETC 276.14 LVI -21.17

PLANETOCENTRIC CONIC
 C3 29.003 VHL 5.385 DLA -28.35 RAL 337.87 RAD 6646.8 VEL 12.204 PTH 7.16 VHP 7.469 DPA -13.86 RAP 311.16 ECC 1.4773
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 15 22 2637.18 -14.18 72.38 200.75 135.91 19 59 19 1637.2 4.14 56.49
 60.00 20 34 40 2426.24 -7.85 39.35 206.71 129.66 21 15 6 1426.2 8.24 41.41
 70.00 22 19 23 2118.26 -.95 39.58 211.90 124.14 22 54 41 118.3 12.84 19.81
 80.00 0 40 37 1688.30 6.44 11.51 216.46 119.22 1 8 46 688.3 17.86 349.96
 88.17 3 6 34 1217.72 13.97 340.80 220.37 114.90 3 26 51 217.7 23.05 317.43
 100.00 3 23 29 1162.77 6.44 332.88 216.46 119.22 3 42 52 162.8 17.86 311.33
 110.00 3 22 45 1165.08 -.95 328.49 211.90 124.14 3 42 10 165.1 12.84 308.72

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8707 TRA-1.6498 TC3 -.0309 BAU .0866 SGT 2199.1 SGR 327.3 SG3 348.3 ST 55.1 SR 22.5 SS 46.6
 RDE -.4209 RRA -.1194 RC3 .2211 FAU .05424 RRT .3990 RRF -.6411 RTF -.8835 CRT .8882 CRS .7528 CST .9703
 FDE .9298 FRA 2.8935 FC3-1.6192 BSP 3869 SGB 2261.4 R23 -.1149 R13 -.8871 LSA 74.1 MSA 14.6 SSA 1.1
 BDE .9671 BRA 1.6541 BC3 .2232 FSP 526 SG1 2222.5 SG2 417.8 THA 8.48 EL1 58.8 EL2 9.7 ALF 20.51

LAUNCH DATE MAR 31 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 408.516 EARTH TO MARS
 RL 149.44 LAL -.00 LOL 189.64 VL 33.302 GAL -5.71 AZL 92.89 HCA 141.06 SMA 198.93 ECC .26678 INC 2.8862 V1 29.817
 RP 206.74 LAP -1.81 LOP 330.73 VP 24.835 GAP 15.31 AZP 87.75 TAL 332.41 TAP 113.47 RCA 145.86 APO 252.00 V2 26.489
 RC 60.233 GL -18.36 GP 6.22 ZAL 135.97 ZAP 158.44 ETS 163.69 ZAE 169.13 ETE 102.20 ZAC 107.19 ETC 276.20 LVI -21.55

PLANETOCENTRIC CONIC
 C3 28.066 VHL 5.298 DLA -28.95 RAL 338.22 RAD 6646.2 VEL 12.166 PTH 7.13 VHP 7.256 DPA -13.49 RAP 311.30 ECC 1.4619
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 20 7 2614.77 -13.08 71.39 200.85 136.16 20 3 42 1614.8 5.27 55.55
 60.00 20 40 59 2399.67 -6.69 58.06 206.89 129.83 21 20 58 1399.7 9.39 40.11
 70.00 22 28 44 2082.75 .41 37.72 212.25 124.13 23 3 27 1082.8 14.11 17.84
 80.00 1 0 18 1620.27 8.69 7.71 217.31 118.68 1 27 18 620.3 19.72 345.77
 83.52 2 29 35 1333.53 14.50 349.54 220.33 115.34 2 51 49 333.5 23.70 326.14
 100.00 3 43 10 1094.74 8.69 329.08 217.31 118.68 4 1 25 94.7 19.72 307.13
 110.00 3 32 6 1129.57 .41 326.64 212.25 124.13 3 50 56 129.6 14.11 306.76

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8701 TRA-1.6266 TC3 -.0233 BAU .0893 SGT 2219.9 SGR 540.0 SG3 370.5 ST 55.9 SR 22.4 SS 48.1
 RDE -.4118 RRA -.1409 RC3 .2368 FAU .05628 RRT .6365 RRF -.6818 RTF -.8865 CRT .8989 CRS .7650 CST .9691
 FDE .9716 FRA 3.0159 FC3-1.7361 BSP 3927 SGB 2284.7 R23 -.1263 R13 -.8906 LSA 75.7 MSA 14.6 SSA 1.1
 BDE .9626 BRA 1.6327 BC3 .2379 FSP 563 SG1 2247.3 SG2 411.5 THA 9.11 EL1 59.5 EL2 9.2 ALF 20.35

LAUNCH DATE MAR 31 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 412.122 EARTH TO MARS
 RL 149.44 LAL -.00 LOL 189.64 VL 33.231 GAL -5.59 AZL 92.95 HCA 142.33 SMA 197.52 ECC .26115 INC 2.9514 V1 29.817
 RP 206.71 LAP -1.80 LOP 332.00 VP 24.742 GAP 14.91 AZP 87.76 TAL 332.49 TAP 114.82 RCA 145.94 APO 249.10 V2 26.492
 RC 61.050 GL -19.07 GP 6.57 ZAL 135.75 ZAP 157.32 ETS 163.71 ZAE 168.97 ETE 99.92 ZAC 107.52 ETC 276.26 LVI -21.95

PLANETOCENTRIC CONIC
 C3 27.209 VHL 5.216 DLA -29.60 RAL 338.58 RAD 6645.9 VEL 12.131 PTH 7.10 VHP 7.030 DPA -13.10 RAP 311.40 ECC 1.4478
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 25 9 2592.11 -11.97 70.39 201.02 136.40 20 8 21 1592.1 6.40 54.59
 60.00 20 47 43 2372.44 -5.50 56.74 207.15 129.99 21 27 16 1372.4 10.57 38.76
 70.00 22 39 1 2045.06 1.85 35.76 212.70 124.11 23 13 6 1045.1 15.44 15.72
 80.00 1 30 20 1520.19 11.90 2.02 218.73 117.59 1 55 40 320.2 22.24 339.40
 80.88 2 10 8 1392.90 15.03 354.19 220.35 115.80 2 33 21 392.9 24.37 330.75
 100.00 4 13 12 6282.70 11.90 301.29 218.73 117.59 5 57 55 5282.7 22.24 278.68
 110.00 3 42 23 1091.88 1.85 324.67 212.70 124.11 4 0 35 91.9 15.44 304.64

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8687 TRA-1.6016 TC3 -.0156 BAU .0924 SGT 2237.1 SGR 556.2 SG3 393.9 ST 56.5 SR 22.4 SS 49.7
 RDE -.4037 RRA -.1638 RC3 .2536 FAU .05844 RRT .8728 RRF -.7213 RTF -.8593 CRT .9098 CRS .7780 CST .9678
 FDE 1.0158 FRA 3.1439 FC3-1.8593 BSP 3974 SGB 2305.2 R23 -.1387 R13 -.8940 LSA 77.2 MSA 14.5 SSA 1.1
 BDE .9580 BRA 1.6100 BC3 .2541 FSP 602 SG1 2269.2 SG2 405.7 THA 9.81 EL1 60.2 EL2 8.7 ALF 20.26

LAUNCH DATE MAR 31 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC DISTANCE 415.773 EARTH TO MARS
 RL 149.44 LAL -.00 LOL 189.64 VL 33.163 GAL -5.49 AZL 93.03 HCA 143.60 SMA 196.21 ECC .25582 INC 3.0266 V1 29.817
 RP 206.69 LAP -1.80 LOP 333.27 VP 24.654 GAP 14.51 AZP 87.56 TAL 332.57 TAP 116.17 RCA 146.02 APO 246.40 V2 26.495
 RC 61.933 GL -19.82 GP 6.95 ZAL 135.52 ZAP 156.18 ETS 163.69 ZAE 168.76 ETE 98.09 ZAC 107.88 ETC 276.31 LVI -22.37

PLANETOCENTRIC CONIC
 C3 26.427 VHL 5.141 DLA -30.27 RAL 338.95 RAD 6645.6 VEL 12.099 PTH 7.08 VHP 6.851 DPA -12.69 RAP 311.47 ECC 1.4349
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 30 28 2569.16 -10.84 69.39 201.26 136.62 20 13 18 1569.2 7.55 53.62
 60.00 20 54 56 2344.42 -4.28 55.39 207.50 130.11 21 34 1 1344.4 11.77 37.37
 70.00 22 50 27 2004.57 3.40 33.64 213.28 124.00 23 23 52 1004.6 16.84 13.42
 78.73 1 55 17 1437.79 15.56 357.80 220.42 116.29 2 19 15 437.8 25.06 334.33
 78.73 1 55 17 1437.79 15.56 357.80 220.42 116.29 2 19 15 437.8 25.06 334.33
 78.73 1 55 17 1437.79 15.56 357.80 220.42 116.29 2 19 15 437.8 25.06 334.33
 110.00 3 53 49 1051.39 3.40 322.56 213.28 124.00 4 11 21 51.4 16.84 302.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8681 TRA-1.5757 TC3 -.0090 BAU .0960 SGT 2251.9 SGR 576.4 SG3 418.6 ST 57.2 SR 22.4 SS 51.4
 RDE -.3967 RRA -.1878 RC3 .2715 FAU .06069 RRT .7074 RRF -.7591 RTF -.8917 CRT .9211 CRS .7920 CST .9665
 FDE 1.0629 FRA 3.2777 FC3-1.9880 BSP 4024 SGB 2324.5 R23 -.1523 R13 -.8971 LSA 78.8 MSA 14.5 SSA 1.1
 BDE .9544 BRA 1.5869 BC3 .2717 FSP 644 SG1 2289.7 SG2 400.7 THA 10.59 EL1 60.8 EL2 8.2 ALF 20.23

LAUNCH DATE MAR 31 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 33.100 GAL -5.38 AZL 93.10 HCA 144.87 SMA 194.99 ECC .25079 INC 3.1032 V1 29.817
 RP 206.68 LAP -1.79 LOP 334.54 VP 24.569 GAP 14.12 AZP 87.46 TAL 332.66 TAP 117.52 RCA 146.09 APO 243.89 V2 26.496
 RC 62.079 GL -20.60 GP 7.37 ZAL 135.26 ZAP 154.97 ETS 163.64 ZAE 168.50 ETE 96.72 ZAC 108.28 ETC 276.36 LVI -22.81

DISTANCE 419.467

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.719 VHL 5.071 DLA -30.97 RAL 339.34 RAD 6645.3 VEL 12.070 PTH 7.03 VHP 6.659 DPA -12.25 RAP 311.50 ECC 1.4233
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 36 8 2345.87 -9.68 68.38 201.57 136.81 20 18 34 1545.9 6.71 52.92
 60.00 21 2 43 2315.50 -3.01 54.00 207.94 130.21 21 41 18 1315.5 13.00 35.91
 70.00 23 3 24 1960.33 5.08 31.32 214.02 123.82 23 36 4 960.3 16.33 10.86
 76.82 1 42 55 1475.20 16.10 .88 220.56 116.82 2 7 31 475.2 25.76 337.38
 76.82 1 42 55 1475.20 16.10 .88 220.56 116.82 2 7 31 475.2 25.76 337.38
 76.82 1 42 55 1475.20 16.10 .88 220.56 116.82 2 7 31 475.2 25.76 337.38
 110.00 4 6 46 1007.14 5.08 320.24 214.02 123.82 4 23 34 7.1 18.33 299.78

DIFFERENTIAL CORRECTIONS

TDE -.8666 TRA-1.5473 TC3 -.0022 BAU .1000
 RDE -.3907 RRA -.2135 RC3 .2910 FAU .06309
 FDE 1.1122 FRA 3.4161 FC3-2.1237 BSP 4058
 BDE .9507 BRA 1.5620 BC3 .2910 FSP 688

MID-COURSE EXECUTION ACCURACY

SGT 2261.7 SGR 600.9 SG3 444.6
 RRT .7396 RRF -.7945 RTF -.8938
 SGB 2340.2 R23 -.1670 R13 -.9002
 SG1 2306.3 SG2 396.6 THA 11.46

ORBIT DETERMINATION ACCURACY

ST 57.7 SR 22.5 SS 53.1
 CRT .9323 CRS .8066 CST .9650
 LSA 80.3 MSA 14.5 S3A 1.1
 EL1 61.5 EL2 7.6 ALF 20.28

LAUNCH DATE MAR 31 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 33.039 GAL -5.28 AZL 93.18 HCA 146.13 SMA 193.85 ECC .24603 INC 3.1848 V1 29.817
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.488 GAP 13.74 AZP 87.35 TAL 332.74 TAP 118.87 RCA 146.16 APO 241.55 V2 26.496
 RC 63.888 GL -21.41 GP 7.82 ZAL 134.97 ZAP 153.74 ETS 163.56 ZAE 168.20 ETE 95.80 ZAC 108.71 ETC 276.40 LVI -23.27

DISTANCE 423.200

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.080 VHL 5.008 DLA -31.70 RAL 339.75 RAD 6645.0 VEL 12.044 PTH 7.03 VHP 6.473 DPA -11.79 RAP 311.48 ECC 1.4128
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 42 10 2522.17 -8.50 67.36 201.97 136.99 20 24 12 1522.2 9.88 51.60
 60.00 21 11 7 2285.46 -1.69 52.57 208.48 130.27 21 49 13 1285.5 14.26 34.39
 70.00 23 18 25 1910.72 6.95 28.70 214.96 123.52 23 50 16 910.7 19.56 7.94
 75.04 1 32 10 1508.01 16.65 3.65 220.77 117.37 1 57 18 508.0 26.48 340.12
 75.04 1 32 10 1508.01 16.65 3.65 220.77 117.37 1 57 18 508.0 26.48 340.12
 75.04 1 32 10 1508.01 16.65 3.65 220.77 117.37 1 57 18 508.0 26.48 340.12
 110.00 4 21 47 6245.58 6.95 295.52 214.96 123.52 6 5 53 5245.6 19.96 274.76

DIFFERENTIAL CORRECTIONS

TDE -.8627 TRA-1.5146 TC3 .0086 BAU .1047
 RDE -.3859 RRA -.2409 RC3 .3121 FAU .06565
 FDE 1.1644 FRA 3.5596 FC3-2.2662 BSP 4056
 BDE .9451 BRA 1.5337 BC3 .3122 FSP 734

MID-COURSE EXECUTION ACCURACY

SGT 2263.3 SGR 630.5 SG3 472.0
 RRT .7696 RRF -.8270 RTF -.8965
 SGB 2349.5 R23 -.1809 R13 -.9039
 SG1 2316.3 SG2 393.4 THA 12.47

ORBIT DETERMINATION ACCURACY

ST 58.0 SR 22.6 SS 54.8
 CRT .9433 CRS .8219 CST .9636
 LSA 81.7 MSA 14.5 S3A 1.0
 EL1 61.9 EL2 7.0 ALF 20.45

LAUNCH DATE MAR 31 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 32.982 GAL -5.19 AZL 93.27 HCA 147.40 SMA 192.80 ECC .24155 INC 3.2720 V1 29.817
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.411 GAP 13.37 AZP 87.24 TAL 332.82 TAP 120.23 RCA 146.23 APO 239.37 V2 26.496
 RC 64.956 GL -22.25 GP 8.30 ZAL 134.67 ZAP 152.47 ETS 163.46 ZAE 167.86 ETE 95.32 ZAC 109.19 ETC 276.44 LVI -23.75

DISTANCE 426.968

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.512 VHL 4.991 DLA -32.46 RAL 340.19 RAD 6644.8 VEL 12.020 PTH 7.01 VHP 6.295 DPA -11.30 RAP 311.43 ECC 1.4034
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 48 38 2498.04 -7.30 66.34 202.46 137.15 20 30 16 1498.0 11.08 50.56
 60.00 21 20 16 2254.14 -.31 51.07 209.15 130.30 21 57 50 1254.1 15.57 32.78
 70.00 23 36 32 1852.77 9.12 25.61 216.17 123.06 24 7 25 852.8 21.79 4.44
 73.36 1 22 35 1537.68 17.20 6.21 221.06 117.96 1 48 13 537.7 27.21 342.65
 73.36 1 22 35 1537.68 17.20 6.21 221.06 117.96 1 48 13 537.7 27.21 342.65
 73.36 1 22 35 1537.68 17.20 6.21 221.06 117.96 1 48 13 537.7 27.21 342.65
 110.00 4 39 55 6187.63 9.12 292.44 216.17 123.06 6 23 2 5187.6 21.79 271.26

DIFFERENTIAL CORRECTIONS

TDE -.8647 TRA-1.4859 TC3 .0091 BAU .1096
 RDE -.3826 RRA -.2706 RC3 .3344 FAU .06829
 FDE 1.2214 FRA 3.7097 FC3-2.4119 BSP 4119
 BDE .9456 BRA 1.5103 BC3 .3345 FSP 783

MID-COURSE EXECUTION ACCURACY

SGT 2270.5 SGR 665.9 SG3 500.7
 RRT .7953 RRF -.8564 RTF -.8472
 SGB 2366.1 R23 -.1991 R13 -.9060
 SG1 2333.3 SG2 392.8 THA 13.52

ORBIT DETERMINATION ACCURACY

ST 58.6 SR 22.8 SS 56.6
 CRT .9545 CRS .8379 CST .9618
 LSA 83.4 MSA 14.6 S3A 1.0
 EL1 62.6 EL2 6.4 ALF 20.61

LAUNCH DATE MAR 31 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 32.929 GAL -5.10 AZL 93.37 HCA 148.67 SMA 191.81 ECC .23732 INC 3.3654 V1 29.817
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.336 GAP 13.00 AZP 87.12 TAL 332.91 TAP 121.58 RCA 146.29 APO 237.33 V2 26.494
 RC 66.082 GL -23.14 GP 8.84 ZAL 134.33 ZAP 151.16 ETS 163.32 ZAE 167.48 ETE 95.24 ZAC 109.71 ETC 276.47 LVI -24.27

DISTANCE 430.771

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.010 VHL 4.900 DLA -33.26 RAL 340.66 RAD 6644.6 VEL 12.000 PTH 6.99 VHP 6.123 DPA -10.77 RAP 311.33 ECC 1.3952
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 55 35 2473.35 -6.07 65.29 203.05 137.28 20 36 48 1473.4 12.30 49.48
 60.00 21 30 19 2221.18 1.14 49.50 209.96 130.29 22 7 20 1221.2 16.94 31.06
 70.00 0 4 17 1778.81 11.83 21.61 217.83 122.27 0 33 56 778.8 24.00 359.84
 71.72 1 13 57 1565.06 17.75 8.63 221.42 118.60 1 40 2 565.1 27.97 345.04
 71.72 1 13 57 1565.06 17.75 8.63 221.42 118.60 1 40 2 565.1 27.97 345.04
 71.72 1 13 57 1565.06 17.75 8.63 221.42 118.60 1 40 2 565.1 27.97 345.04
 110.00 5 3 43 6113.67 11.83 288.43 217.83 122.27 6 45 37 5113.7 24.00 266.66

DIFFERENTIAL CORRECTIONS

TDE -.8645 TRA-1.4528 TC3 .0119 BAU .1151
 RDE -.3808 RRA -.3025 RC3 .3585 FAU .07105
 FDE 1.2821 FRA 3.8645 FC3-2.5618 BSP 4147
 BDE .9447 BRA 1.4840 BC3 .3587 FSP 835

MID-COURSE EXECUTION ACCURACY

SGT 2269.2 SGR 707.5 SG3 530.9
 RRT .8181 RRF -.8822 RTF -.8982
 SGB 2376.9 R23 -.2165 R13 -.9086
 SG1 2344.1 S2 393.8 THA 14.74

ORBIT DETERMINATION ACCURACY

ST 59.0 SR 23.2 SS 58.4
 CRT .9649 CRS .8542 CST .9600
 LSA 85.0 MSA 14.7 S3A 1.0
 EL1 63.1 EL2 5.7 ALF 20.91

LAUNCH DATE MAR 31 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 434.605

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.878 GAL -5.01 AZL 93.47 HCA 149.94 SMA 190.89 ECC .23333 INC 3.4638 V1 29.817
RP 206.72 LAP -1.74 LOP 339.62 VP 24.285 GAP 12.64 AZP 87.00 TAL 332.99 TAP 122.93 RCA 146.35 APO 235.44 V2 26.491
RC 67.265 GL -24.07 GP 9.42 ZAL 133.97 ZAP 149.80 ETS 163.17 ZAE 167.01 ETE 95.95 ZAC 110.28 ETC 276.50 LVI -24.82

PLANETOCENTRIC CONIC

C3 23.576 VHL 4.856 DLA -34.09 RAL 341.15 RAD 6644.4 VEL 11.982 PTH 6.98 VHP 5.959 DPA -10.21 RAP 311.18 ECC 1.3880
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 3 5 2448.00 -4.80 64.22 203.76 137.39 20 43 53 1448.0 13.54 48.36
60.00 21 41 26 2186.15 2.68 47.82 210.92 130.23 22 17 52 1186.1 18.37 29.20
70.00 0 49 33 1641.18 16.70 13.92 220.92 120.23 1 16 54 641.2 27.67 350.83
70.12 1 6 5 1590.77 18.30 10.95 221.88 119.27 1 32 36 590.8 28.74 347.34
70.12 1 6 5 1590.77 18.30 10.95 221.88 119.27 1 32 36 590.8 28.74 347.34
70.12 1 6 5 1590.77 18.30 10.95 221.88 119.27 1 32 36 590.8 28.74 347.34
110.00 5 49 0 5976.03 16.70 280.75 220.92 120.23 7 28 36 4976.0 27.67 257.65

DIFFERENTIAL CORRECTIONS

TDE -.8623 TRA-1.4147 TC3 .0184 BAU .1215
RDE -.3803 RRA -.3367 RC3 .3850 FAU .07404
FDE 1.3459 FRA 4.0219 FC3-2.7190 BSP 4135
BDE .9424 BRA 1.4542 BC3 .3855 FSP 886

MID-COURSE EXECUTION ACCURACY

SGT 2258.1 SGR 755.9 SG3 582.2
RRT .8380 RRF -.9046 RTF -.8994
SGB 2381.2 R23 -.2323 R13 -.9119
SG1 2348.0 S62 396.7 THA 16.14

ORBIT DETERMINATION ACCURACY

ST 59.2 SR 23.6 SS 60.3
CRT .9743 CRS .8705 CST .9581
LSA 86.4 MSA 14.8 SSA .9
EL1 63.5 EL2 4.9 ALF 21.35

LAUNCH DATE MAR 31 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 438.467

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.831 GAL -4.93 AZL 93.57 HCA 151.21 SMA 190.04 ECC .22958 INC 3.5743 V1 29.817
RP 206.75 LAP -1.72 LOP 340.89 VP 24.196 GAP 12.29 AZP 86.87 TAL 333.06 TAP 124.27 RCA 146.41 APO 233.67 V2 26.487
RC 69.502 GL -25.04 GP 10.05 ZAL 133.58 ZAP 148.39 ETS 162.98 ZAE 166.50 ETE 96.19 ZAC 110.92 ETC 276.52 LVI -25.41

PLANETOCENTRIC CONIC

C3 23.209 VHL 4.818 DLA -34.96 RAL 341.69 RAD 6644.2 VEL 11.966 PTH 6.97 VHP 5.801 DPA -9.61 RAP 310.99 ECC 1.3820
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 11 14 2421.89 -3.49 63.12 204.60 137.48 20 51 36 1421.9 11.82 47.19
60.00 21 53 54 2148.48 4.34 46.02 212.08 130.11 22 29 43 1148.5 19.88 27.17
68.53 0 58 54 1615.25 18.86 13.20 222.43 120.00 1 25 49 615.2 29.53 349.58
68.53 0 58 54 1615.25 18.86 13.20 222.43 120.00 1 25 49 615.2 29.53 349.58
68.53 0 58 54 1615.25 18.86 13.20 222.43 120.00 1 25 49 615.2 29.53 349.58
68.53 0 58 54 1615.25 18.86 13.20 222.43 120.00 1 25 49 615.2 29.53 349.58
68.53 0 58 54 1615.25 18.86 13.20 222.43 120.00 1 25 49 615.2 29.53 349.58

DIFFERENTIAL CORRECTIONS

TDE -.8654 TRA-1.3794 TC3 .0140 BAU .1281
RDE -.3823 RRA -.3743 RC3 .4127 FAU .07698
FDE 1.4178 FRA 4.1866 FC3-2.8714 BSP 4186
BDE .9460 BRA 1.4293 BC3 .4129 FSP 944

MID-COURSE EXECUTION ACCURACY

SGT 2250.9 SGR 812.3 SG3 594.9
RRT .8355 RRF -.9238 RTF -.8991
SGB 2392.9 R23 -.2507 R13 -.9141
SG1 2358.6 S62 403.9 THA 17.65

ORBIT DETERMINATION ACCURACY

ST 59.6 SR 24.2 SS 62.3
CRT .9828 CRS .8870 CST .9560
LSA 88.2 MSA 14.9 SSA .9
EL1 64.2 EL2 4.1 ALF 21.82

LAUNCH DATE MAR 31 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 442.356

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.788 GAL -4.86 AZL 93.69 HCA 152.47 SMA 189.24 ECC .22604 INC 3.6917 V1 29.817
RP 206.79 LAP -1.71 LOP 342.16 VP 24.130 GAP 11.95 AZP 86.73 TAL 333.14 TAP 125.61 RCA 146.46 APO 232.02 V2 26.483
RC 69.791 GL -26.07 GP 10.75 ZAL 133.16 ZAP 146.93 ETS 162.77 ZAE 165.92 ETE 97.13 ZAC 111.62 ETC 276.53 LVI -26.04

PLANETOCENTRIC CONIC

C3 22.911 VHL 4.787 DLA -35.87 RAL 342.27 RAD 6644.1 VEL 11.954 PTH 6.96 VHP 5.651 DPA -8.95 RAP 310.74 ECC 1.3771
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 20 9 2394.81 -2.13 61.99 205.58 137.54 21 0 4 1394.8 16.14 45.97
60.00 22 8 6 2107.20 6.15 44.03 213.48 129.91 22 43 13 1107.2 21.51 24.89
66.94 0 52 16 1638.91 19.41 15.42 223.09 120.78 1 19 35 638.9 30.35 351.79
66.94 0 52 16 1638.91 19.41 15.42 223.09 120.78 1 19 35 638.9 30.35 351.79
66.94 0 52 16 1638.91 19.41 15.42 223.09 120.78 1 19 35 638.9 30.35 351.79
66.94 0 52 16 1638.91 19.41 15.42 223.09 120.78 1 19 35 638.9 30.35 351.79
66.94 0 52 16 1638.91 19.41 15.42 223.09 120.78 1 19 35 638.9 30.35 351.79

DIFFERENTIAL CORRECTIONS

TDE -.8670 TRA-1.3394 TC3 .0119 BAU .1357
RDE -.3863 RRA -.4150 RC3 .4428 FAU .08010
FDE 1.4945 FRA 4.3529 FC3-3.0265 BSP 4201
BDE .9492 BRA 1.4023 BC3 .4430 FSP 1003

MID-COURSE EXECUTION ACCURACY

SGT 2234.4 SGR 877.2 SG3 628.7
RRT .8663 RRF -.9397 RTF -.8788
SGB 2400.4 R23 -.2665 R13 -.9170
SG1 2364.4 S62 414.1 THA 19.40

ORBIT DETERMINATION ACCURACY

ST 59.8 SR 24.9 SS 64.3
CRT .9898 CRS .9029 CST .9538
LSA 90.0 MSA 15.1 SSA .9
EL1 64.7 EL2 3.3 ALF 22.46

LAUNCH DATE MAR 31 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 446.270

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.744 GAL -4.79 AZL 93.82 HCA 153.74 SMA 188.50 ECC .22272 INC 3.8196 V1 29.817
RP 206.84 LAP -1.69 LOP 343.43 VP 24.067 GAP 11.61 AZP 86.57 TAL 333.21 TAP 126.95 RCA 146.52 APO 230.48 V2 26.477
RC 71.130 GL -27.15 GP 11.51 ZAL 132.70 ZAP 145.41 ETS 162.54 ZAE 165.25 ETE 98.32 ZAC 112.39 ETC 276.54 LVI -26.72

PLANETOCENTRIC CONIC

C3 22.684 VHL 4.763 DLA -36.83 RAL 342.90 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 5.508 DPA -8.24 RAP 310.43 ECC 1.3733
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 29 57 2366.56 -.71 60.81 206.74 137.57 21 9 24 1366.6 17.50 44.67
60.00 22 24 40 2060.80 8.17 41.78 215.19 129.60 22 59 0 1060.8 23.29 22.27
65.35 0 46 10 1662.02 19.96 17.63 223.87 121.62 1 13 52 662.0 31.18 354.01
65.35 0 46 10 1662.02 19.96 17.63 223.87 121.62 1 13 52 662.0 31.18 354.01
65.35 0 46 10 1662.02 19.96 17.63 223.87 121.62 1 13 52 662.0 31.18 354.01
65.35 0 46 10 1662.02 19.96 17.63 223.87 121.62 1 13 52 662.0 31.18 354.01
65.35 0 46 10 1662.02 19.96 17.63 223.87 121.62 1 13 52 662.0 31.18 354.01

DIFFERENTIAL CORRECTIONS

TDE -.8692 TRA-1.2965 TC3 .0076 BAU .1441
RDE -.3929 RRA -.4595 RC3 .4753 FAU .08330
FDE 1.5774 FRA 4.5209 FC3-3.1790 BSP 4211
BDE .9538 BRA 1.3755 BC3 .4753 FSP 1062

MID-COURSE EXECUTION ACCURACY

SGT 2211.6 SGR 951.5 SG3 663.3
RRT .8760 RRF -.9529 RTF -.8980
SGB 2407.5 R23 -.2803 R13 -.9201
SG1 2369.1 S62 428.4 THA 21.38

ORBIT DETERMINATION ACCURACY

ST 59.9 SR 25.8 SS 66.3
CRT .9950 CRS .9180 CST .9514
LSA 91.7 MSA 15.3 SSA .8
EL1 65.2 EL2 2.4 ALF 23.24

LAUNCH DATE MAR 31 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 450.208

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.704 GAL -4.72 AZL 93.96 HCA 155.00 SMA 187.81 ECC .21960 INC 3.9593 V1 29.817
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.005 GAP 11.28 AZP 86.41 TAL 333.28 TAP 128.28 RCA 146.56 APO 229.05 V2 26.470
 RC 72.517 GL -28.30 GP 12.35 ZAL 132.20 ZAP 143.84 ETS 162.28 ZAE 164.49 ETE 99.71 ZAC 113.24 ETC 276.55 LVI -27.46

PLANETOCENTRIC CONIC

C3 22.531 VHL 4.747 DLA -37.85 RAL 343.59 RAD 6643.9 VEL 11.938 PTH 6.94 VHP 5.373 DPA -7.47 RAP 310.07 ECC 1.3708
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 40 51 2336.84 .78 59.57 208.11 137.97 21 19 47 1336.8 18.92 43.28
 60.00 22 44 42 2006.40 10.52 39.10 217.31 129.13 23 18 9 1006.4 25.32 19.09
 63.73 0 40 38 1684.71 20.51 19.85 224.78 122.53 1 8 41 684.7 32.04 356.25
 63.73 0 40 36 1684.71 20.51 19.85 224.78 122.53 1 8 41 684.7 32.04 356.25
 63.73 0 40 36 1684.71 20.51 19.85 224.78 122.53 1 8 41 684.7 32.04 356.25
 63.73 0 40 36 1684.71 20.51 19.85 224.78 122.53 1 8 41 684.7 32.04 356.25
 63.73 0 40 36 1684.71 20.51 19.85 224.78 122.53 1 8 41 684.7 32.04 356.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8721 TRA-1.2500 TC3 .0017 BAU .1537 SGT 2181.5 SGR 1036.3 SG3 698.6 ST 59.9 SR 27.0 SS 68.4
 RDE -.4026 RRA -.5081 RC3 .5101 FAU .08656 RRT .8831 RRF -.9635 RTF -.8967 CRT .9983 CRS .9320 CST .9489
 FDE 1.6684 FRA 4.6881 FC3-3.3261 BSP 4218 SGB 2415.2 R23 -.2909 R13 -.9238 LSA 93.6 MSA 15.6 SSA .8
 BDE .9605 BRA 1.3493 BC3 .5101 FSP 1123 SG1 2373.4 S62 447.0 THA 23.65 EL1 65.7 EL2 1.4 ALF 24.19

LAUNCH DATE MAR 31 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 454.167

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.667 GAL -4.66 AZL 94.11 HCA 156.27 SMA 187.16 ECC .21668 INC 4.1129 V1 29.817
 RP 206.96 LAP -1.65 LOP 345.96 VP 23.946 GAP 10.96 AZP 86.23 TAL 333.34 TAP 129.61 RCA 146.61 APO 227.71 V2 26.462
 RC 73.950 GL -29.52 GP 13.28 ZAL 131.65 ZAP 142.19 ETS 161.99 ZAE 163.61 ETE 101.24 ZAC 114.18 ETC 276.55 LVI -28.27

PLANETOCENTRIC CONIC

C3 22.457 VHL 4.739 DLA -38.91 RAL 344.34 RAD 6643.9 VEL 11.935 PTH 6.94 VHP 5.246 DPA -6.62 RAP 309.64 ECC 1.3696
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 53 3 2305.24 2.37 58.25 209.72 137.53 21 31 29 1305.2 20.42 41.78
 60.00 23 10 49 1937.15 13.47 35.63 220.10 128.35 23 43 6 937.1 27.78 14.89
 62.07 0 35 31 1707.35 21.05 22.10 225.85 123.51 1 3 58 707.3 32.91 358.53
 62.07 0 35 31 1707.35 21.05 22.10 225.85 123.51 1 3 58 707.3 32.91 358.53
 62.07 0 35 31 1707.35 21.05 22.10 225.85 123.51 1 3 58 707.3 32.91 358.53
 62.07 0 35 31 1707.35 21.05 22.10 225.85 123.51 1 3 58 707.3 32.91 358.53
 62.07 0 35 31 1707.35 21.05 22.10 225.85 123.51 1 3 58 707.3 32.91 358.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8723 TRA-1.1967 TC3 .0007 BAU .1648 SGT 2137.8 SGR 1132.3 SG3 733.9 ST 59.7 SR 28.3 SS 70.4
 RDE -.4152 RRA -.5608 RC3 .5490 FAU .09013 RRT .8883 RRF -.9720 RTF -.8954 CRT .9996 CRS .9446 CST .9462
 FDE 1.7632 FRA 4.8486 FC3-3.4745 BSP 4184 SGB 2419.1 R23 -.2958 R13 -.9286 LSA 95.2 MSA 15.8 SSA .7
 BDE .9660 BRA 1.3216 BC3 .5490 FSP 1181 SG1 2373.4 S62 468.4 THA 26.30 EL1 66.0 EL2 .7 ALF 25.38

LAUNCH DATE MAR 31 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 458.145

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.632 GAL -4.60 AZL 94.28 HCA 157.53 SMA 186.56 ECC .21394 INC 4.2826 V1 29.817
 RP 207.04 LAP -1.64 LOP 347.23 VP 23.888 GAP 10.65 AZP 86.04 TAL 333.39 TAP 130.93 RCA 146.65 APO 226.47 V2 26.454
 RC 75.426 GL -30.82 GP 14.31 ZAL 131.05 ZAP 140.48 ETS 161.68 ZAE 162.61 ETE 102.85 ZAC 115.23 ETC 276.54 LVI -29.15

PLANETOCENTRIC CONIC

C3 22.472 VHL 4.740 DLA -40.04 RAL 345.19 RAD 6643.9 VEL 11.936 PTH 6.94 VHP 5.127 DPA -5.69 RAP 309.14 ECC 1.3698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 6 55 2271.26 4.08 56.83 211.63 137.44 21 44 46 1271.3 22.02 40.12
 60.00 23 54 29 1821.64 18.26 29.63 224.56 126.57 24 24 50 821.6 31.54 7.41
 60.38 0 30 58 1729.98 21.58 24.38 227.09 124.58 0 59 48 730.0 33.81 .88
 60.38 0 30 58 1729.98 21.58 24.38 227.09 124.58 0 59 48 730.0 33.81 .88
 60.38 0 30 58 1729.98 21.58 24.38 227.09 124.58 0 59 48 730.0 33.81 .88
 60.38 0 30 58 1729.98 21.58 24.38 227.09 124.58 0 59 48 730.0 33.81 .88
 60.38 0 30 58 1729.98 21.58 24.38 227.09 124.58 0 59 48 730.0 33.81 .88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8833 TRA-1.1492 TC3 -.0202 BAU .1769 SGT 2105.2 SGR 1243.2 SG3 770.0 ST 59.9 SR 30.1 SS 72.8
 RDE -.4342 RRA -.6207 RC3 .5872 FAU .09317 RRT .8893 RRF -.9788 RTF -.8914 CRT .9988 CRS .9562 CST .9438
 FDE 1.8790 FRA 5.0146 FC3-3.5893 BSP 4273 SGB 2444.8 R23 -.3012 R13 -.9325 LSA 97.7 MSA 16.2 SSA .7
 BDE .9843 BRA 1.3061 BC3 .5875 FSP 1250 SG1 2393.1 S62 500.1 THA 29.10 EL1 67.0 EL2 1.3 ALF 26.65

LAUNCH DATE MAR 31 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 462.141

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.599 GAL -4.54 AZL 94.47 HCA 158.80 SMA 186.00 ECC .21137 INC 4.4711 V1 29.817
 RP 207.12 LAP -1.62 LOP 348.49 VP 23.833 GAP 10.34 AZP 85.83 TAL 333.44 TAP 132.24 RCA 146.69 APO 225.32 V2 26.444
 RC 76.944 GL -32.21 GP 15.45 ZAL 130.40 ZAP 138.69 ETS 161.35 ZAE 161.46 ETE 104.49 ZAC 116.40 ETC 276.54 LVI -30.12

PLANETOCENTRIC CONIC

C3 22.584 VHL 4.752 DLA -41.24 RAL 346.13 RAD 6644.0 VEL 11.940 PTH 6.94 VHP 5.019 DPA -4.65 RAP 308.58 ECC 1.3717
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 22 55 2233.99 5.94 55.26 213.91 137.29 22 0 9 1234.0 23.75 38.26
 58.63 0 26 55 1752.97 22.10 26.73 228.52 125.75 0 56 8 753.0 34.73 3.32
 58.63 0 26 55 1752.97 22.10 26.73 228.52 125.75 0 56 8 753.0 34.73 3.32
 58.63 0 26 55 1752.97 22.10 26.73 228.52 125.75 0 56 8 753.0 34.73 3.32
 58.63 0 26 55 1752.97 22.10 26.73 228.52 125.75 0 56 8 753.0 34.73 3.32
 58.63 0 26 55 1752.97 22.10 26.73 228.52 125.75 0 56 8 753.0 34.73 3.32
 58.63 0 26 55 1752.97 22.10 26.73 228.52 125.75 0 56 8 753.0 34.73 3.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8905 TRA-1.0920 TC3 -.0336 BAU .1906 SGT 2054.1 SGR 1367.5 SG3 804.4 ST 59.8 SR 32.1 SS 75.1
 RDE -.4576 RRA -.6851 RC3 .6303 FAU .09656 RRT .8888 RRF -.9841 RTF -.8871 CRT .9961 CRS .9660 CST .9405
 FDE 1.9991 FRA 5.1614 FC3-3.7021 BSP 4296 SGB 2467.7 R23 -.2990 R13 -.9380 LSA 99.8 MSA 16.6 SSA .6
 BDE 1.0012 BRA 1.2891 BC3 .6312 FSP 1309 SG1 2409.1 S62 534.4 THA 32.40 EL1 67.8 EL2 2.5 ALF 28.22

LAUNCH DATE MAR 31 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 486.155

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.568 GAL -4.49 AZL 94.68 HCA 160.06 SMA 185.48 ECC .20898 INC 4.6823 V1 29.817
RP 207.21 LAP -1.60 LOP 349.75 VP 23.779 GAP 10.03 AZP 85.60 TAL 333.49 TAP 133.54 RCA 146.72 APO 224.24 V2 26.433
RC 78.502 GL -33.71 GP 16.72 ZAL 129.68 ZAP 136.82 ETS 161.00 ZAE 160.14 ETE 106.12 ZAC 117.71 ETC 276.53 LVI -31.19

PLANETOCENTRIC CONIC

C3 22.809 VHL 4.778 DLA -42.52 RAL 347.18 RAD 6644.1 VEL 11.950 PTH 6.95 VHP 4.921 DPA -3.50 RAP 307.94 ECC 1.3754
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 41 47 2192.08 8.04 53.48 216.69 137.05 22 18 19 1192.1 25.66 36.10
56.82 0 23 29 1776.38 22.58 29.17 230.19 127.03 0 53 5 776.4 35.67 5.88
56.82 0 23 29 1776.38 22.58 29.17 230.19 127.03 0 53 5 776.4 35.67 5.88
56.82 0 23 29 1776.38 22.58 29.17 230.19 127.03 0 53 5 776.4 35.67 5.88
56.82 0 23 29 1776.38 22.58 29.17 230.19 127.03 0 53 5 776.4 35.67 5.88
56.82 0 23 29 1776.38 22.58 29.17 230.19 127.03 0 53 5 776.4 35.67 5.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9009 TRA -1.0314 TC3 -.0505 BAU .2084 SGT 1997.2 SGR 1509.3 SG3 837.7 ST 59.6 SR 34.7 SS 77.5
RDE -.4891 RRA -.7570 RC3 .6748 FAU .09968 RRT .8663 RRF -.9881 RTF -.8818 CRT .9916 CRS .9743 CST .9377
FDE 2.1384 FRA 5.2981 FC3-3.7837 BSP 4345 SGB 2503.3 R23 -.2906 R13 -.9445 LSA 102.3 MSA 17.0 SSA .6
BDE 1.0251 BRA 1.2794 BC3 .6767 FSP 1369 SG1 2436.9 S62 572.9 THA 36.12 EL1 68.9 EL2 3.9 ALF 30.09

LAUNCH DATE MAR 31 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 470.185

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.540 GAL -4.45 AZL 94.92 HCA 161.32 SMA 185.00 ECC .20675 INC 4.9205 V1 29.817
RP 207.31 LAP -1.57 LOP 351.02 VP 23.727 GAP 9.74 AZP 85.34 TAL 333.52 TAP 134.84 RCA 146.75 APO 223.25 V2 26.422
RC 80.098 GL -35.32 GP 18.14 ZAL 128.88 ZAP 134.86 ETS 160.62 ZAE 158.65 ETE 107.69 ZAC 119.16 ETC 276.52 LVI -32.38

PLANETOCENTRIC CONIC

C3 23.164 VHL 4.813 DLA -43.88 RAL 348.39 RAD 6644.2 VEL 11.964 PTH 6.96 VHP 4.834 DPA -2.22 RAP 307.21 ECC 1.3812
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 4 49 2142.98 10.48 51.37 220.15 136.68 22 40 32 1143.0 27.85 33.48
54.94 0 20 39 1800.61 23.04 31.71 232.12 128.44 0 50 40 800.6 36.61 8.60
54.94 0 20 39 1800.61 23.04 31.71 232.12 128.44 0 50 40 800.6 36.61 8.60
54.94 0 20 39 1800.61 23.04 31.71 232.12 128.44 0 50 40 800.6 36.61 8.60
54.94 0 20 39 1800.61 23.04 31.71 232.12 128.44 0 50 40 800.6 36.61 8.60
54.94 0 20 39 1800.61 23.04 31.71 232.12 128.44 0 50 40 800.6 36.61 8.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9127 TRA -.9652 TC3 -.0683 BAU .2246 SGT 1930.2 SGR 1669.5 SG3 868.1 ST 59.4 SR 37.7 SS 79.9
RDE -.5296 RRA -.8361 RC3 .7222 FAU .10270 RRT .8814 RRF -.9912 RTF -.8748 CRT .9857 CRS .9810 CST .9348
FDE 2.2923 FRA 5.4110 FC3-3.8385 BSP 4406 SGB 2552.1 R23 -.2759 R13 -.9521 LSA 105.0 MSA 17.4 SSA .5
BDE 1.0553 BRA 1.2770 BC3 .7254 FSP 1423 SG1 2477.0 S62 614.6 THA 40.31 EL1 70.1 EL2 5.4 ALF 32.29

LAUNCH DATE MAR 31 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 474.230

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.513 GAL -4.41 AZL 95.19 HCA 162.57 SMA 184.55 ECC .20467 INC 5.1914 V1 29.817
RP 207.42 LAP -1.55 LOP 352.28 VP 23.676 GAP 9.45 AZP 85.05 TAL 333.55 TAP 136.12 RCA 146.78 APO 222.32 V2 26.409
RC 81.730 GL -37.07 GP 19.74 ZAL 127.99 ZAP 132.80 ETS 160.23 ZAE 156.95 ETE 109.17 ZAC 120.80 ETC 276.51 LVI -33.71

PLANETOCENTRIC CONIC

C3 23.678 VHL 4.866 DLA -45.33 RAL 349.78 RAD 6644.4 VEL 11.986 PTH 6.98 VHP 4.762 DPA -.77 RAP 306.40 ECC 1.3897
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 34 42 2080.91 13.54 48.65 224.66 136.06 23 9 23 1080.9 30.53 30.00
52.96 0 18 36 1825.75 23.44 34.37 234.37 129.98 0 49 2 825.8 37.57 11.51
52.96 0 18 36 1825.75 23.44 34.37 234.37 129.98 0 49 2 825.8 37.57 11.51
52.96 0 18 36 1825.75 23.44 34.37 234.37 129.98 0 49 2 825.8 37.57 11.51
52.96 0 18 36 1825.75 23.44 34.37 234.37 129.98 0 49 2 825.8 37.57 11.51
52.96 0 18 36 1825.75 23.44 34.37 234.37 129.98 0 49 2 825.8 37.57 11.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9186 TRA -.8843 TC3 -.0724 BAU .2488 SGT 1835.4 SGR 1847.3 SG3 892.8 ST 58.5 SR 41.2 SS 82.1
RDE -.3798 RRA -.9202 RC3 .7762 FAU .10609 RRT .8754 RRF -.9936 RTF -.5672 CRT .9785 CRS .9862 CST .9313
FDE 2.4523 FRA 5.4777 FC3-3.8790 BSP 4387 SGB 2604.1 R23 -.2914 R13 -.9612 LSA 107.5 MSA 17.7 SSA .5
BDE 1.0883 BRA 1.2762 BC3 .7796 FSP 1454 SG1 2321.7 S62 649.8 THA 45.21 EL1 71.2 EL2 7.0 ALF 35.00

LAUNCH DATE MAR 31 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 478.286

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.488 GAL -4.37 AZL 95.50 HCA 163.83 SMA 184.14 ECC .20274 INC 5.5029 V1 29.817
RP 207.54 LAP -1.53 LOP 353.54 VP 23.626 GAP 9.16 AZP 84.71 TAL 333.57 TAP 137.40 RCA 146.80 APO 221.47 V2 26.395
RC 83.399 GL -36.98 GP 21.54 ZAL 126.99 ZAP 130.63 ETS 159.82 ZAE 155.01 ETE 110.53 ZAC 122.64 ETC 276.51 LVI -35.19

PLANETOCENTRIC CONIC

C3 24.391 VHL 4.939 DLA -46.89 RAL 351.38 RAD 6644.7 VEL 12.015 PTH 7.01 VHP 4.705 DPA .85 RAP 305.50 ECC 1.4014
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 20 37 1984.81 18.20 44.27 231.39 134.75 23 53 41 984.8 34.45 24.18
50.90 0 17 26 1852.31 23.77 37.17 237.00 131.69 0 48 18 852.3 38.50 14.65
50.90 0 17 26 1852.31 23.77 37.17 237.00 131.69 0 48 18 852.3 38.50 14.65
50.90 0 17 26 1852.31 23.77 37.17 237.00 131.69 0 48 18 852.3 38.50 14.65
50.90 0 17 26 1852.31 23.77 37.17 237.00 131.69 0 48 18 852.3 38.50 14.65
50.90 0 17 26 1852.31 23.77 37.17 237.00 131.69 0 48 18 852.3 38.50 14.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9500 TRA -.8198 TC3 -.1153 BAU .2698 SGT 1778.9 SGR 2057.9 SG3 915.6 ST 58.9 SR 46.0 SS 85.3
RDE -.6544 RRA -1.0209 RC3 .8192 FAU .10744 RRT .8623 RRF -.9954 RTF -.8531 CRT .9713 CRS .9906 CST .9297
FDE 2.6741 FRA 5.5411 FC3-3.8134 BSP 4668 SGB 2720.2 R23 -.2302 R13 -.9684 LSA 112.0 MSA 18.1 SSA .4
BDE 1.1535 BRA 1.3094 BC3 .8273 FSP 1514 SG1 2627.1 S62 705.7 THA 49.81 EL1 74.3 EL2 8.7 ALF 37.79

LAUNCH DATE MAR 31 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 482.356

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.465 GAL -4.33 AZL 95.86 HCA 165.08 SMA 183.75 ECC .20095 INC 5.8648 V1 29.817
 RP 207.66 LAP -1.51 LOP 354.80 VP 23.578 GAP 8.88 AZP 84.33 TAL 333.58 TAP 138.66 RCA 146.82 APO 220.68 V2 26.381
 RC 85.104 GL -41.06 GP 23.57 ZAL 125.87 ZAP 128.34 ETS 159.41 ZAE 152.83 ETE 111.75 ZAC 124.72 ETC 276.52 LVI -36.85

PLANETOCENTRIC CONIC

C3 25.356 VHL 5.035 DLA -48.57 RAL 353.24 RAD 6645.1 VEL 12.055 PTH 7.04 VHP 4.868 DPA 2.70 RAP 304.50 ECC 1.4173
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.71 0 17 24 1880.49 24.01 40.15 240.08 133.58 0 48 45 880.5 39.41 18.06
 48.71 0 17 24 1880.49 24.01 40.15 240.08 133.58 0 48 45 880.5 39.41 18.06
 48.71 0 17 24 1880.49 24.01 40.15 240.08 133.58 0 48 45 880.5 39.41 18.06
 48.71 0 17 24 1880.49 24.01 40.15 240.08 133.58 0 48 45 880.5 39.41 18.06
 48.71 0 17 24 1880.49 24.01 40.15 240.08 133.58 0 48 45 880.5 39.41 18.06
 48.71 0 17 24 1880.49 24.01 40.15 240.08 133.58 0 48 45 880.5 39.41 18.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.9730 TRA -.7354 TC3 -.1371 BAU .2981 SGT 1686.3 SGR 2290.7 SG3 928.2 ST 58.5 SR 51.6 SS 88.1
 RDE -1.7491 RRA-1.1270 RC3 .8685 FAU .10904 RRT .8474 RRF -.9966 RTF -.8373 CRT .9638 CRS .9936 CST .9278
 FDE 2.9083 FRA 5.5295 FC3-3.7229 BSP 4849 SGB 2844.4 R23 -.1995 R13 -.9766 LSA 116.2 MSA 18.5 SSA .4
 BDE 1.2279 BRA 1.3457 BC3 .8793 FSP 1539 SG1 2744.5 SG2 747.3 THA 55.08 EL1 77.3 EL2 10.4 ALF 41.27

LAUNCH DATE MAR 31 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 486.437

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.443 GAL -4.30 AZL 96.29 HCA 166.34 SMA 183.39 ECC .19930 INC 6.2909 V1 29.817
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.531 GAP 8.61 AZP 83.89 TAL 333.58 TAP 139.92 RCA 146.84 APO 219.94 V2 26.365
 RC 86.843 GL -43.36 GP 25.87 ZAL 124.60 ZAP 125.91 ETS 159.00 ZAE 150.35 ETE 112.84 ZAC 127.08 ETC 276.53 LVI -38.72

PLANETOCENTRIC CONIC

C3 26.655 VHL 5.163 DLA -50.37 RAL 355.48 RAD 6645.7 VEL 12.108 PTH 7.08 VHP 4.655 DPA 4.80 RAP 303.38 ECC 1.4387
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80
 46.41 0 18 48 1910.90 24.11 43.31 243.72 135.67 0 50 39 910.9 40.25 21.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0012 TRA -.6440 TC3 -.1600 BAU .3312 SGT 1586.6 SGR 2553.2 SG3 929.9 ST 58.0 SR 58.5 SS 91.2
 RDE -.8778 RRA-1.2428 RC3 .9156 FAU .10977 RRT .8268 RRF -.9976 RTF -.8159 CRT .9568 CRS .9959 CST .9266
 FDE 3.1792 FRA 5.4472 FC3-3.5654 BSP 5098 SGB 3006.0 R23 -.1671 R13 -.9836 LSA 121.5 MSA 18.7 SSA .3
 BDE 1.3315 BRA 1.3997 BC3 .9295 FSP 1546 SG1 2901.6 SG2 785.4 THA 60.43 EL1 81.5 EL2 12.1 ALF 45.25

LAUNCH DATE MAR 31 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 490.527

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.423 GAL -4.28 AZL 96.80 HCA 167.59 SMA 183.08 ECC .19778 INC 6.8005 V1 29.817
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.485 GAP 8.34 AZP 83.36 TAL 333.57 TAP 141.18 RCA 146.86 APO 219.57 V2 26.349
 RC 88.616 GL -45.91 GP 28.49 ZAL 123.16 ZAP 123.33 ETS 158.61 ZAE 147.55 ETE 113.79 ZAC 129.76 ETC 276.57 LVI -40.83

PLANETOCENTRIC CONIC

C3 28.410 VHL 5.330 DLA -52.30 RAL 358.20 RAD 6646.4 VEL 12.180 PTH 7.14 VHP 4.674 DPA 7.19 RAP 302.14 ECC 1.4676
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93
 43.98 0 22 5 1944.12 24.01 46.68 248.05 137.98 0 54 29 944.1 40.96 25.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0351 TRA -.3440 TC3 -.1819 BAU .3700 SGT 1479.9 SGR 2850.1 SG3 917.8 ST 57.5 SR 67.4 SS 94.5
 RDE -1.0581 RRA-1.3686 RC3 .9571 FAU .10928 RRT .7988 RRF -.9983 RTF -.7699 CRT .9510 CRS .9974 CST .9265
 FDE 3.4992 FRA 5.2787 FC3-3.3293 BSP 5423 SGB 3211.4 R23 -.1349 R13 -.9893 LSA 128.1 MSA 18.8 SSA .3
 BDE 1.4802 BRA 1.4728 BC3 .9742 FSP 1530 SG1 3105.7 SG2 817.4 THA 65.68 EL1 87.5 EL2 13.7 ALF 49.77

LAUNCH DATE MAR 31 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 494.625

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.404 GAL -4.25 AZL 97.42 HCA 168.83 SMA 182.76 ECC .19638 INC 7.4213 V1 29.817
 RP 208.08 LAP -1.43 LOP 358.56 VP 23.440 GAP 8.08 AZP 82.72 TAL 333.56 TAP 142.39 RCA 146.87 APO 218.65 V2 26.332
 RC 90.421 GL -48.78 GP 31.46 ZAL 121.50 ZAP 120.58 ETS 158.28 ZAE 144.39 ETE 114.63 ZAC 132.80 ETC 276.65 LV -43.20

PLANETOCENTRIC CONIC

C3 30.814 VHL 5.551 DLA -54.36 RAL 1.55 RAD 6647.3 VEL 12.278 PTH 7.22 VHP 4.735 DPA 9.93 RAP 300.76 ECC 1.5071
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48
 41.43 0 27 59 1980.92 23.64 50.25 253.25 140.50 1 1 0 980.9 41.46 30.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0749 TRA -.4348 TC3 -.2039 BAU .4148 SGT 1369.5 SGR 3187.2 SG3 188.9 ST 56.7 SR 78.9 SS 98.4
 RDE -1.3185 RRA-1.5051 RC3 .9859 FAU .10674 RRT .7596 RRF -.9988 RTF -.7470 CRT .9470 CRS .9985 CST .9279
 FDE 3.8803 FRA 5.0091 FC3-2.9988 BSP 5873 SGB 3469.0 R23 -.1056 R13 -.9933 LSA 137.0 MSA 18.7 SSA .2
 BDE 1.7011 BRA 1.5666 BC3 1.0068 FSP 1495 SG1 3364.8 SG2 843.6 THA 70.66 EL1 96.0 EL2 15.0 ALF 54.81

LAUNCH DATE MAR 31 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 17 1971

MELIOCENTRIC CONIC
 RL 149.44 LAL -.00 LOL 189.84 VL 32.387 GAL -4.23 AZL 98.19 HCA 170.08 SMA 182.48 ECC .19509 INC 8.1942 V1 29.817
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.396 GAP 7.82 AZP 81.93 TAL 333.53 TAP 143.61 RCA 146.88 APO 218.08 V2 26.313
 RC 92.259 GL -51.94 GP 34.85 ZAL 119.60 ZAP 117.65 ETS 158.03 ZAE 140.82 ETE 119.40 ZAC 138.25 ETC 276.76 LVI -45.89

DISTANCE 498.731
 EARTH TO MARS
 ST 55.1 SR 93.9 SS 102.1
 CRT .9443 CRS .9991 RTF -.6881
 LSA 148.1 MSA 18.3 SSA .2
 EL1 107.7 EL2 15.8 ALF 60.27

PLANETOCENTRIC CONIC
 C3 34.182 VHL 5.847 DLA -56.53 RAL 5.78 RAD 6648.6 VEL 12.413 PTH 7.32 VHP 4.854 DPA 13.06 RAP 299.21 ECC 1.5626
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48
 38.78 0 37 28 2022.47 22.88 54.01 259.56 143.23 1 11 10 1022.5 41.63 35.48

DIFFERENTIAL CORRECTIONS
 TDE -1.1127 TRA -.3100 TC3 -.2180 BAU .4709 SGT 1248.0 SGR 3556.0 SG3 836.0
 RDE -1.6947 RRA -1.6409 RC3 1.0072 FAU .10293 RRT .7023 RRF -.9991 RTF -.6881
 FDE 4.2954 FRA 4.5936 FC3 -2.6069 BSP 6347 SGB 3768.7 R23 -.0803 R13 -.9960
 BDE 2.0273 BRA 1.6700 BC3 1.0305 FSP 1405 SG1 3689.0 SG2 861.1 THA 75.33

ORBIT DETERMINATION ACCURACY
 ST 55.1 SR 93.9 SS 102.1
 CRT .9443 CRS .9991 RTF -.6881
 LSA 148.1 MSA 18.3 SSA .2
 EL1 107.7 EL2 15.8 ALF 60.27

LAUNCH DATE MAR 31 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 19 1971

MELIOCENTRIC CONIC
 RL 149.44 LAL -.00 LOL 189.84 VL 32.371 GAL -4.22 AZL 99.18 HCA 171.32 SMA 182.23 ECC .19392 INC 9.1842 V1 29.817
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.352 GAP 7.56 AZP 80.92 TAL 333.50 TAP 144.82 RCA 146.89 APO 217.56 V2 26.294
 RC 94.128 GL -55.53 GP 38.69 ZAL 117.41 ZAP 114.52 ETS 157.93 ZAE 136.82 ETE 116.14 ZAC 140.17 ETC 276.94 LVI -48.78

DISTANCE 502.843
 EARTH TO MARS
 ST 52.5 SR 114.0 SS 105.9
 CRT .9425 CRS .9995 CST .9314
 LSA 163.2 MSA 17.6 SSA .2
 EL1 124.4 EL2 16.1 ALF 66.13

PLANETOCENTRIC CONIC
 C3 39.062 VHL 6.250 DLA -58.74 RAL 11.23 RAD 6650.3 VEL 12.607 PTH 7.46 VHP 5.058 DPA 16.61 RAP 297.47 ECC 1.6429
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86
 36.10 0 52 6 2070.14 21.58 57.89 267.32 146.08 1 26 36 1070.1 41.26 40.86

DIFFERENTIAL CORRECTIONS
 TDE -1.1402 TRA -.1681 TC3 -.2269 BAU .5394 SGT 1123.1 SGR 3963.0 SG3 757.1
 RDE -2.2653 RRA -1.7726 RC3 1.0077 FAU .09653 RRT .8164 RRF -.9993 RTF -.5997
 FDE 4.7428 FRA 4.0315 FC3 -2.1394 BSP 6928 SGB 4119.1 R23 -.0603 R13 -.9977
 BDE 2.5361 BRA 1.7806 BC3 1.0329 FSP 1276 SG1 4026.1 SG2 870.5 THA 79.60

ORBIT DETERMINATION ACCURACY
 ST 52.5 SR 114.0 SS 105.9
 CRT .9425 CRS .9995 CST .9314
 LSA 163.2 MSA 17.6 SSA .2
 EL1 124.4 EL2 16.1 ALF 66.13

LAUNCH DATE MAR 31 1971

FLIGHT TIME 226.00

ARRIVAL DATE NOV 12 1971

MELIOCENTRIC CONIC
 RL 149.44 LAL -.00 LOL 189.84 VL 32.267 GAL -4.38 AZL 80.69 HCA 186.32 SMA 180.55 ECC .18802 INC 9.3136 V1 29.817
 RP 210.95 LAP -1.02 LOP 15.87 VP 22.875 GAP 4.88 AZP 99.26 TAL 331.68 TAP 158.00 RCA 146.61 APO 214.50 V2 26.001
 RC 118.637 GL 55.82 GP -49.84 ZAL 118.04 ZAP 94.93 ETS 184.57 ZAE 119.90 ETE 221.62 ZAC 142.56 ETC 272.27 LVI 35.96

DISTANCE 553.072
 EARTH TO MARS
 ST 85.2 SR 176.7 SS 98.5
 CRT .9773 CRS -1.0000 CST -.9754
 LSA 218.9 MSA 16.9 SSA .2
 EL1 195.5 EL2 16.3 ALF 64.57

PLANETOCENTRIC CONIC
 C3 39.617 VHL 6.294 DLA 42.04 RAL 313.90 RAD 6650.5 VEL 12.629 PTH 7.48 VHP 5.588 DPA -71.23 RAP 317.78 ECC 1.6520
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 0 37 4260.03 -34.51 193.32 219.48 54.96 13 11 37 3260.0 -45.52 164.98
 57.49 10 11 40 4550.37 -16.61 204.54 204.60 50.81 11 27 31 3550.4 -31.00 183.33
 57.49 10 11 40 4550.37 -16.61 204.54 204.60 50.81 11 27 31 3550.4 -31.00 183.33
 57.49 10 11 40 4550.37 -16.61 204.54 204.60 50.81 11 27 31 3550.4 -31.00 183.33
 57.49 10 11 40 4550.37 -16.61 204.54 204.60 50.81 11 27 31 3550.4 -31.00 183.33
 57.49 10 11 40 4550.37 -16.61 204.54 204.60 50.81 11 27 31 3550.4 -31.00 183.33
 57.49 10 11 40 4550.37 -16.61 204.54 204.60 50.81 11 27 31 3550.4 -31.00 183.33

DIFFERENTIAL CORRECTIONS
 TDE 1.8524 TRA .6737 TC3 -.8366 BAU .8098 SGT 2152.7 SGR 5538.9 SG3 565.6
 RDE 3.6346 RRA 3.3777 RC3 -1.2793 FAU .07679 RRT .8988 RRF .9994 RTF .2597
 FDE 4.1801 FRA 3.9894 FC3 -1.6781 BSP 9980 SGB 5942.6 R23 -.0468 R13 .9983
 BDE 4.0794 BRA 3.4442 BC3 1.5285 FSP 987 SG1 5874.3 SG2 898.0 THA 70.30

ORBIT DETERMINATION ACCURACY
 ST 85.2 SR 176.7 SS 98.5
 CRT .9773 CRS -1.0000 CST -.9754
 LSA 218.9 MSA 16.9 SSA .2
 EL1 195.5 EL2 16.3 ALF 64.57

LAUNCH DATE MAR 31 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 14 1971

MELIOCENTRIC CONIC
 RL 149.44 LAL -.00 LOL 189.84 VL 32.264 GAL -4.40 AZL 82.43 HCA 187.52 SMA 180.51 ECC .18799 INC 7.5701 V1 29.817
 RP 211.20 LAP -.99 LOP 17.09 VP 22.837 GAP 4.66 AZP 97.51 TAL 331.51 TAP 159.03 RCA 146.57 APO 214.44 V2 25.972
 RC 120.836 GL 49.45 GP -45.96 ZAL 122.21 ZAP 94.10 ETS 183.03 ZAE 121.57 ETE 218.36 ZAC 56.48 ETC 272.04 LVI 32.64

DISTANCE 557.229
 EARTH TO MARS
 ST 85.0 SR 160.4 SS 110.1
 CRT .9798 CRS -.9999 CST -.9770
 LSA 211.7 MSA 16.0 SSA .2
 EL1 180.9 EL2 15.1 ALF 62.34

PLANETOCENTRIC CONIC
 C3 31.106 VHL 5.577 DLA 35.92 RAL 316.54 RAD 6647.4 VEL 12.290 PTH 7.23 VHP 4.992 DPA -67.84 RAP 312.23 ECC 1.5119
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 7 6 4015.62 -42.71 175.73 217.54 66.66 14 14 2 3015.6 -47.55 141.90
 60.00 12 38 0 4093.46 -31.69 176.31 211.15 63.67 13 46 14 3093.5 -39.46 148.18
 66.86 11 7 21 4359.66 -16.75 188.78 202.01 57.75 12 20 1 3359.7 -28.50 166.04
 66.86 11 7 21 4359.66 -16.75 188.78 202.01 57.75 12 20 1 3359.7 -28.50 166.04
 66.86 11 7 21 4359.66 -16.75 188.78 202.01 57.75 12 20 1 3359.7 -28.50 166.04
 66.86 11 7 21 4359.66 -16.75 188.78 202.01 57.75 12 20 1 3359.7 -28.50 166.04
 66.86 11 7 21 4359.66 -16.75 188.78 202.01 57.75 12 20 1 3359.7 -28.50 166.04

DIFFERENTIAL CORRECTIONS
 TDE 1.6269 TRA .8182 TC3 -1.0820 BAU .7438 SGT 2308.1 SGR 5246.9 SG3 743.5
 RDE 2.8926 RRA 3.1704 RC3 -1.4243 FAU .09203 RRT .9132 RRF .9994 RTF .9152
 FDE 4.5795 FRA 5.2147 FC3 -2.5613 BSP 9643 SGB 5732.1 R23 .0571 R13 .9978
 BDE 3.3187 BRA 3.2743 BC3 1.7887 FSP 1301 SG1 5665.5 SG2 871.3 THA 67.56

ORBIT DETERMINATION ACCURACY
 ST 85.0 SR 160.4 SS 110.1
 CRT .9798 CRS -.9999 CST -.9770
 LSA 211.7 MSA 16.0 SSA .2
 EL1 180.9 EL2 15.1 ALF 62.34

LAUNCH DATE MAR 31 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 561.393

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.262 GAL -4.43 AZL 83.69 HCA 188.72 SMA 180.47 ECC .18803 INC 6.3075 V1 29.817
 RP 211.46 LAP -.95 LOP 18.30 VP 22.800 GAP 4.46 AZP 96.24 TAL 331.32 TAP 160.04 RCA 146.54 APO 214.40 V2 25.942
 RC 123.058 GL 43.79 GP -42.42 ZAL 125.82 ZAP 92.95 ETS 181.53 ZAE 122.66 ETE 214.95 ZAC 60.04 ETC 271.79 LVI 29.66

PLANETOCENTRIC CONIC

C3 26.076 VHL 5.107 DLA 30.54 RAL 318.77 RAD 6645.4 VEL 12.085 PTH 7.06 VHP 4.585 DPA -64.69 RAP 308.00 ECC 1.4292
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 51 14 3837.49 -46.42 160.23 212.36 78.10 14 55 12 2837.5 -45.77 125.12
 60.00 13 45 8 3853.78 -37.60 158.78 209.45 74.28 14 49 22 2853.8 -40.07 127.92
 70.00 13 32 11 3892.01 -28.28 158.29 205.87 70.00 14 37 3 2892.0 -33.83 130.99
 77.96 12 27 17 4096.11 -15.81 167.95 200.11 63.52 13 35 33 3096.1 -25.35 144.46
 77.96 12 27 17 4096.11 -15.81 167.95 200.11 63.52 13 35 33 3096.1 -25.35 144.46
 77.96 12 27 17 4096.11 -15.81 167.95 200.11 63.52 13 35 33 3096.1 -25.35 144.46
 110.00 18 31 38 2938.83 -28.28 87.21 205.87 70.00 19 20 36 1938.8 -33.83 59.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4864 TRA .9712 TC3-1.3319 BAU .7031 SGT 2496.5 SGR 4949.4 SG3 906.8 ST 85.5 SR 145.7 SS 118.0
 RDE 2.3818 RRA 2.9691 RC3-1.5146 FAU .10526 RRT .9271 RRF .9993 RTF .9285 CRT .9828 CRS -.9998 CST -.9791
 FDE 4.8278 FRA 6.3328 FC3-3.4945 BSP 9346 SGB 5543.4 R23 .0687 R13 .9970 LSA 205.5 MSA 15.1 SSA .3
 BDE 2.8076 BRA 3.1239 BC3 2.0169 FSP 1597 SG1 5478.5 SG2 845.5 THA 64.28 EL1 168.4 EL2 13.7 ALF 59.79

LAUNCH DATE MAR 31 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

DISTANCE 565.563

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.262 GAL -4.46 AZL 84.65 HCA 189.92 SMA 180.44 ECC .18815 INC 5.3508 V1 29.817
 RP 211.73 LAP -.92 LOP 19.51 VP 22.762 GAP 4.25 AZP 95.27 TAL 331.12 TAP 161.04 RCA 146.49 APO 214.40 V2 25.911
 RC 125.302 GL 38.79 GP -39.23 ZAL 128.91 ZAP 91.57 ETS 180.14 ZAE 123.22 ETE 211.57 ZAC 63.25 ETC 271.55 LVI 27.01

PLANETOCENTRIC CONIC

C3 22.919 VHL 4.787 DLA 25.83 RAL 320.69 RAD 6644.1 VEL 11.954 PTH 6.96 VHP 4.298 DPA -61.82 RAP 304.65 ECC 1.3772
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 24 21 3698.04 -47.55 146.98 206.82 88.24 15 25 59 2698.0 -42.65 113.18
 60.00 14 29 50 3683.41 -39.86 144.89 206.05 83.45 15 31 14 2683.4 -38.16 113.87
 70.00 14 39 20 3655.42 -32.60 141.26 204.68 79.20 15 40 16 2655.4 -33.71 112.57
 80.00 14 59 55 3590.79 -26.46 134.79 203.11 75.64 15 59 46 2590.8 -29.85 107.88
 90.00 15 54 53 3413.26 -23.61 120.90 202.25 73.97 16 51 46 2413.3 -28.03 94.76
 100.00 17 42 47 3065.27 -26.46 96.16 203.11 75.64 18 33 52 2065.3 -29.85 69.25
 110.00 19 38 46 2702.23 -32.60 70.17 204.68 79.20 20 23 49 1702.2 -33.71 41.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3942 TRA 1.1258 TC3-1.5795 BAU .6814 SGT 2704.1 SGR 4650.0 SG3 1050.1 ST 86.4 SR 132.4 SS 122.9
 RDE 2.0101 RRA 2.7725 RC3-1.5653 FAU .11721 RRT .9383 RRF .9992 RTF .9394 CRT .9859 CRS -.9997 CST -.9814
 FDE 4.9648 FRA 7.3092 FC3-4.4274 BSP 9018 SGB 5379.1 R23 .0812 R13 .9959 LSA 199.8 MSA 14.2 SSA .3
 BDE 2.4463 BRA 2.9923 BC3 2.2237 FSP 1848 SG1 5316.6 SG2 817.6 THA 60.62 EL1 157.6 EL2 12.2 ALF 57.02

LAUNCH DATE MAR 31 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

DISTANCE 569.736

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.259 GAL -4.50 AZL 85.40 HCA 191.12 SMA 180.43 ECC .18834 INC 4.6011 V1 29.817
 RP 212.01 LAP -.89 LOP 20.72 VP 22.725 GAP 4.05 AZP 94.52 TAL 330.90 TAP 162.01 RCA 146.45 APO 214.41 V2 25.880
 RC 127.566 GL 34.40 GP -36.37 ZAL 131.53 ZAP 90.02 ETS 178.89 ZAE 123.33 ETE 208.33 ZAC 66.14 ETC 271.31 LVI 24.68

PLANETOCENTRIC CONIC

C3 20.851 VHL 4.566 DLA 21.70 RAL 322.37 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 4.088 DPA -59.23 RAP 301.88 ECC 1.3432
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 40 3585.55 -47.23 136.14 202.11 96.58 15 50 25 2585.6 -39.23 104.57
 60.00 15 3 41 3550.88 -40.29 133.66 202.75 91.06 16 2 51 2550.9 -35.46 103.66
 70.00 15 24 16 3490.23 -34.00 128.59 202.58 86.56 16 22 26 2490.2 -31.86 100.06
 80.00 16 0 45 3375.86 -29.16 119.42 202.08 83.27 16 57 0 2375.9 -29.00 91.99
 90.00 17 6 56 3162.14 -27.21 103.43 201.79 81.97 17 59 38 2162.1 -27.83 76.44
 100.00 18 43 36 2850.33 -29.16 80.78 202.08 83.27 19 31 7 1850.3 -29.00 53.36
 110.00 20 23 42 2537.05 -34.00 57.50 202.58 86.56 21 5 59 1537.0 -31.86 28.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3358 TRA 1.2840 TC3-1.8139 BAU .6688 SGT 2925.8 SGR 4366.4 SG3 1174.6 ST 87.8 SR 121.0 SS 126.2
 RDE 1.7378 RRA 2.9924 RC3-1.5692 FAU .12690 RRT .9471 RRF .9991 RTF .9799 CRT .9890 CRS -.9995 CST -.9838
 FDE 5.0472 FRA 8.1839 FC3-5.2888 BSP 8801 SGB 5256.0 R23 .0938 R13 .9947 LSA 195.2 MSA 13.2 SSA .4
 BDE 2.1918 BRA 2.8930 BC3 2.3984 FSP 2077 SG1 5196.4 SG2 788.9 THA 58.73 EL1 149.1 EL2 10.5 ALF 54.14

LAUNCH DATE MAR 31 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 573.911

EARTH TO MARS

RL 149.44 LAL -.00 LOL 189.64 VL 32.259 GAL -4.54 AZL 86.00 HCA 192.32 SMA 180.42 ECC .18859 INC 3.9971 V1 29.817
 RP 212.29 LAP -.85 LOP 21.92 VP 22.688 GAP 3.85 AZP 93.91 TAL 330.86 TAP 162.98 RCA 146.40 APO 214.45 V2 25.848
 RC 129.850 GL 30.54 GP -33.82 ZAL 133.73 ZAP 88.35 ETS 177.78 ZAE 123.06 ETE 205.30 ZAC 68.71 ETC 271.09 LVI 22.62

PLANETOCENTRIC CONIC

C3 19.460 VHL 4.411 DLA 18.10 RAL 323.83 RAD 6642.6 VEL 11.810 PTH 6.83 VHP 3.932 DPA -56.90 RAP 299.54 ECC 1.3203
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 19 3493.16 -46.15 127.49 198.50 103.16 16 10 32 2493.2 -35.94 98.19
 60.00 15 30 47 3443.95 -39.77 124.62 200.06 97.16 16 28 11 2444.0 -32.63 96.01
 70.00 15 58 33 3362.22 -34.08 118.60 200.66 92.46 16 54 35 2362.2 -29.52 90.83
 80.00 16 43 17 3222.04 -29.85 108.05 200.73 89.21 17 36 59 2222.0 -27.14 80.95
 90.00 17 53 55 2994.02 -28.21 91.25 200.68 87.99 18 43 49 1994.0 -26.20 64.42
 100.00 19 28 8 2696.51 -29.85 69.42 200.73 89.21 20 11 5 1696.5 -27.14 42.32
 110.00 20 58 0 2409.04 -34.08 47.52 200.66 92.46 21 38 9 1409.0 -29.52 19.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.2982 TRA 1.4415 TC3-2.0362 BAU .6652 SGT 3154.5 SGR 4092.9 SG3 1278.6 ST 89.4 SR 111.0 SS 128.0
 RDE 1.3278 RRA 2.4219 RC3-1.5465 FAU .13520 RRT .9539 RRF .9989 RTF .9547 CRT .9919 CRS -.9992 CST -.9860
 FDE 5.0786 FRA 8.8825 FC3-6.0145 BSP 8611 SGB 5167.4 R23 .1060 R13 .9932 LSA 191.1 MSA 12.3 SSA .4
 BDE 2.0049 BRA 2.8185 BC3 2.5569 FSP 2264 SG1 5111.6 SG2 757.8 THA 52.72 EL1 142.2 EL2 8.9 ALF 51.20

LAUNCH DATE MAR 31 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic Data: RL 149.44 LAL -.00 LOL 189.64 VL 32.259 GAL -4.58 AZL 86.50 HCA 193.51 SMA 180.42 ECC .18890 INC 3.5001 V1 29.817
 RP 212.57 LAP -.82 LOP 23.13 VP 22.652 GAP 3.66 AZP 93.40 TAL 330.41 TAP 183.93 RCA 146.34 APO 214.51 V2 25.815
 RC 132.153 GL 27.15 GP -31.53 ZAL 135.59 ZAP 86.61 ETS 176.80 ZAE 122.49 ETE 202.52 ZAC 71.03 ETC 270.68 LVI 20.80

Planeto-centric Conic Data: C3 18.511 VHL 4.302 DLA 14.96 RAL 325.17 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 3.815 DPA -54.61 RAP 297.52 ECC 1.3047
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 34 3418.31 -44.73 120.63 195.89 108.28 16 27 30 2416.3 -32.93 93.32
 60.00 15 53 17 3355.85 -38.77 117.35 198.06 102.01 16 49 12 2355.9 -29.93 90.11
 70.00 16 26 19 3258.80 -33.48 110.59 199.16 97.16 17 20 34 2258.8 -27.13 83.73
 80.00 17 16 24 3101.64 -29.63 99.11 199.60 93.90 18 8 6 2101.6 -25.03 72.63
 90.00 18 29 42 2865.04 -28.16 81.82 199.69 92.70 19 17 28 1865.0 -24.22 55.50
 100.00 19 59 16 2576.11 -29.63 60.48 199.60 93.90 20 42 12 1576.1 -25.03 34.00
 110.00 21 25 41 2305.82 -33.48 39.51 199.16 97.16 22 4 7 1305.6 -27.13 12.65

Differential Corrections: TDE 1.2785 TRA 1.6014 TC3-2.2400 BAU .6668 SGT 3389.2 SGR 3838.7 SG3 1365.4 ST 91.4 SR 102.4 SS 129.2
 RDE 1.3667 RRA 2.2668 RC3-1.4976 FAU .14159 RRT .9592 RRF .9986 RTF .9600 CRT .9945 CRS -.9988 CST -.9081
 FDE 5.0913 FRA 9.4951 FC3-6.6216 BSP 8523 SGB 5120.7 R23 .1170 R13 .9917 LSA 188.1 MSA 11.5 SSA .3
 BDE 1.8714 BRA 2.7754 BC3 2.6945 FSP 2429 SG1 5069.1 SG2 725.4 THA 48.71 EL1 137.0 EL2 7.2 ALF 48.26

LAUNCH DATE MAR 31 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic Data: RL 149.44 LAL -.00 LOL 189.64 VL 32.259 GAL -4.63 AZL 86.92 HCA 194.71 SMA 180.43 ECC .18928 INC 3.0836 V1 29.817
 RP 212.86 LAP -.78 LOP 24.32 VP 22.615 GAP 3.46 AZP 92.98 TAL 330.15 TAP 164.86 RCA 146.28 APO 214.59 V2 25.782
 RC 134.475 GL 24.16 GP -29.47 ZAL 137.16 ZAP 84.82 ETS 175.95 ZAE 121.68 ETE 199.99 ZAC 73.10 ETC 270.68 LVI 19.19

Planeto-centric Conic Data: C3 17.863 VHL 4.226 DLA 12.20 RAL 326.37 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 3.727 DPA -52.92 RAP 295.74 ECC 1.2940
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 46 14 3351.75 -43.20 115.17 194.09 112.26 16 42 6 2351.7 -30.25 89.50
 60.00 16 12 22 3282.23 -37.56 111.47 196.65 105.83 17 7 4 2282.2 -27.46 85.45
 70.00 16 49 23 3173.29 -32.57 104.09 198.10 100.90 17 42 16 2173.3 -24.87 78.12
 80.00 17 43 32 3003.62 -28.95 91.91 198.78 97.62 18 33 36 2003.6 -22.94 66.11
 90.00 18 58 42 2761.02 -27.60 74.27 198.97 96.44 19 44 43 1761.0 -22.20 48.55
 100.00 20 26 24 2478.09 -28.95 53.28 198.78 97.62 21 7 42 1478.1 -22.94 27.47
 110.00 21 48 49 2220.11 -32.57 33.01 198.10 100.90 22 25 49 1220.1 -24.87 7.04

Differential Corrections: TDE 1.2695 TRA 1.7596 TC3-2.4302 BAU .6750 SGT 3824.6 SGR 3595.4 SG3 1433.8 ST 93.6 SR 94.6 SS 129.3
 RDE 1.2348 RRA 2.1188 RC3-1.4433 FAU .14740 RRT .9637 RRF .9982 RTF .9646 CRT .9965 CRS -.9982 CST -.9899
 FDE 5.0670 FRA 9.9837 FC3-7.1439 BSP 8446 SGB 5105.3 R23 .1259 R13 .9903 LSA 185.2 MSA 10.8 SSA .6
 BDE 1.7710 BRA 2.7542 BC3 2.8265 FSP 2545 SG1 5058.8 SG2 687.6 THA 44.76 EL1 132.9 EL2 5.6 ALF 45.32

LAUNCH DATE MAR 31 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic Data: RL 149.44 LAL -.00 LOL 189.64 VL 32.261 GAL -4.66 AZL 87.27 HCA 195.90 SMA 180.45 ECC .18957 INC 2.7292 V1 29.817
 RP 213.16 LAP -.75 LOP 25.52 VP 22.578 GAP 3.24 AZP 92.63 TAL 329.99 TAP 165.89 RCA 146.25 APO 214.66 V2 25.749
 RC 136.814 GL 21.56 GP -27.81 ZAL 138.39 ZAP 82.84 ETS 175.11 ZAE 120.52 ETE 197.59 ZAC 74.99 ETC 270.44 LVI 17.82

Planeto-centric Conic Data: C3 17.365 VHL 4.167 DLA 9.79 RAL 327.35 RAD 6641.6 VEL 11.722 PTH 6.75 VHP 3.661 DPA -51.23 RAP 293.89 ECC 1.2858
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 27 3296.34 -41.68 110.72 192.73 115.42 16 54 23 2296.3 -27.85 86.40
 60.00 16 28 24 3219.30 -36.28 106.81 195.56 108.91 17 22 3 2219.3 -25.21 81.64
 70.00 17 8 42 3100.75 -31.51 98.70 197.25 103.92 18 0 22 2100.8 -22.76 73.54
 80.00 18 5 59 2921.30 -28.06 85.95 198.11 100.63 18 54 40 1921.3 -20.95 60.80
 90.00 19 22 34 2674.12 -26.78 68.04 198.37 99.45 20 7 8 1674.1 -20.26 42.91
 100.00 20 48 51 2395.77 -28.06 47.32 198.11 100.63 21 28 47 1395.8 -20.95 22.17
 110.00 22 8 8 2147.57 -31.51 27.62 197.25 103.92 22 43 56 1147.6 -22.76 2.46

Differential Corrections: TDE 1.1335 TRA 1.7487 TC3-2.7911 BAU .9240 SGT 3733.8 SGR 3111.2 SG3 1402.5 ST 86.2 SR 45.0 SS 63.1
 RDE .5035 RRA 1.3613 RC3-2.8375 FAU .30016 RRT .9705 RRF .9979 RTF .5353 CRT .9684 CRS -.9847 CST -.9102
 FDE 1.8763 FRA 7.2141 FC-14.9640 BSP 4873 SGB 4844.8 R23 .1970 R13 .9798 LSA 113.8 MSA 22.0 SSA .2
 BDE 1.2403 BRA 2.2161 BC3 3.9801 FSP -794 SG1 4810.1 SG2 578.7 THA 39.80 EL1 96.7 EL2 10.0 ALF 27.13

LAUNCH DATE MAR 31 1971

FLIGHT TIME 244.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic Data: RL 149.44 LAL -.00 LOL 189.64 VL 32.262 GAL -4.73 AZL 87.58 HCA 197.09 SMA 180.48 ECC .19019 INC 2.4241 V1 29.817
 RP 213.46 LAP -.71 LOP 26.71 VP 22.542 GAP 3.08 AZP 92.32 TAL 329.60 TAP 166.69 RCA 146.15 APO 214.81 V2 25.714
 RC 139.171 GL 19.17 GP -25.94 ZAL 139.65 ZAP 81.19 ETS 174.56 ZAE 119.54 ETE 195.68 ZAC 76.67 ETC 270.32 LVI 16.48

Planeto-centric Conic Data: C3 17.149 VHL 4.141 DLA 7.65 RAL 328.46 RAD 6641.5 VEL 11.712 PTH 6.74 VHP 3.612 DPA -49.65 RAP 292.75 ECC 1.2822
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 55 3250.56 -40.28 107.22 192.17 117.84 17 6 6 2250.6 -25.81 83.95
 60.00 16 43 17 3167.13 -35.06 102.73 195.18 111.30 17 36 4 2167.1 -23.26 78.60
 70.00 17 26 19 3040.54 -30.44 94.34 197.05 106.30 18 16 59 2040.5 -20.91 69.85
 80.00 18 26 10 2853.06 -27.11 81.11 198.04 103.01 19 13 43 1853.1 -19.17 56.52
 90.00 19 43 54 2602.19 -25.87 62.97 198.35 101.84 20 27 16 1602.2 -18.51 38.37
 100.00 21 9 2 2327.53 -27.11 42.48 198.04 103.01 21 47 49 1327.5 -19.17 17.88
 110.00 22 25 45 2087.36 -30.44 23.26 197.05 106.30 23 0 32 1087.4 -20.91 358.77

Differential Corrections: TDE 1.2807 TRA 2.0794 TC3-2.7617 BAU .6989 SGT 4098.6 SGR 3166.1 SG3 1531.5 ST 98.8 SR 82.5 SS 129.3
 RDE 1.0497 RRA 1.8641 RC3-1.2906 FAU .15339 RRT .9689 RRF .9972 RTF .9705 CRT .9992 CRS -.9968 CST -.9931
 FDE 5.0285 FRA10.7370 FC3-7.7437 BSP 8572 SGB 5179.1 R23 .1390 R13 .9877 LSA 182.2 MSA 9.6 SSA .8
 BDE 1.6559 BRA 2.7927 BC3 3.0484 FSP 2749 SG1 5141.3 SG2 624.7 THA 37.46 EL1 128.7 EL2 2.5 ALF 39.85

LAUNCH DATE MAR 31 1971 FLIGHT TIME 246.00 ARRIVAL DATE DEC 2 1971

Heliocentric Conic: RL 149.44 LAL -.00 LOL 189.64 VL 32.265 GAL -4.78 AZL 87.84 HCA 198.27 SMA 180.51 ECC .19074 INC 2.1979 V1 29.817
 RP 213.77 LAP -.68 LOP 27.90 VP 22.505 GAP 2.89 AZP 92.05 TAL 329.31 TAP 167.58 RCA 146.08 APO 214.95 V2 25.680
 RC 141.545 GL 17.08 GP -24.42 ZAL 140.64 ZAP 79.39 ETS 174.00 ZAE 118.29 ETE 193.86 ZAC 78.21 ETC 270.15 LVI 15.33

Planetocentric Conic: C3 16.987 VHL 4.122 DLA 5.77 RAL 329.40 RAD 6641.5 VEL 11.705 PTH 6.74 VHP 3.576 DPA -48.24 RAP 291.48 ECC 1.2796
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 22 38 3210.73 -38.97 104.31 191.77 119.81 17 16 9 2210.7 -24.00 81.89
 60.00 16 56 3 3121.82 -33.89 99.45 194.92 113.26 17 48 5 2121.8 -21.52 76.04
 70.00 17 41 25 2988.38 -29.38 90.64 196.93 108.25 18 31 13 1988.4 -19.23 66.74
 80.00 18 43 26 2794.17 -26.14 77.00 198.02 104.96 19 30 0 1794.2 -17.54 52.90
 90.00 20 2 7 2540.23 -24.94 58.68 198.36 103.79 20 44 27 1540.2 -16.90 34.53
 100.00 21 26 18 2268.64 -26.14 36.37 198.02 104.96 22 4 6 1268.6 -17.54 14.27
 110.00 22 40 51 2035.20 -29.38 19.56 196.93 108.25 23 14 47 1035.2 -19.23 355.66

Differential Corrections: TDE 1.2985 TRA 2.2417 TC3-2.9026 BAU .7127 SGT 4335.2 SGR 2980.7 SG3 1565.7 ST 101.8 SR 78.0 SS 129.8
 RDE .9882 RRA 1.7575 RC3-1.1930 FAU .15273 RRT .9692 RRF .9966 RTF .9717 CRT .9998 CRS -.9958 CST -.9946
 FDE 5.0418 FRA11.0438 FC3-7.7839 BSP 8780 SGB 5261.0 R23 .1452 R13 .9862 LSA 182.2 MSA 9.1 SSA 1.0
 BDE 1.6318 BRA 2.8485 BC3 3.1382 FSP 2866 SG1 5225.7 SG2 608.7 THA 34.21 EL1 128.2 EL2 1.3 ALF 37.44

LAUNCH DATE MAR 31 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 4 1971

Heliocentric Conic: RL 149.44 LAL -.00 LOL 189.64 VL 32.267 GAL -4.84 AZL 88.08 HCA 199.45 SMA 180.56 ECC .19133 INC 1.9238 V1 29.817
 RP 214.08 LAP -.64 LOP 29.08 VP 22.469 GAP 2.70 AZP 91.81 TAL 329.01 TAP 168.46 RCA 146.01 APO 215.10 V2 25.645
 RC 143.936 GL 15.22 GP -23.03 ZAL 141.51 ZAP 77.60 ETS 173.51 ZAE 116.96 ETE 192.24 ZAC 79.61 ETC 270.00 LVI 14.29

Planetocentric Conic: C3 16.913 VHL 4.113 DLA 4.11 RAL 330.28 RAD 6641.4 VEL 11.703 PTH 6.74 VHP 3.552 DPA -46.94 RAP 290.34 ECC 1.2784
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 32 14 3176.47 -37.78 101.89 191.61 121.40 17 25 11 2176.5 -22.41 80.17
 60.00 17 7 27 3082.78 -32.80 96.71 194.87 114.86 17 58 50 2082.8 -19.98 73.88
 70.00 17 54 50 2943.43 -28.38 87.53 196.98 109.85 18 43 53 1943.4 -17.73 64.11
 80.00 18 58 41 2743.43 -25.20 73.53 198.15 106.56 19 44 25 1743.4 -16.08 49.84
 90.00 20 18 11 2486.89 -24.02 55.04 198.53 105.39 20 59 38 1486.9 -15.45 31.29
 100.00 21 41 33 2217.91 -25.20 34.89 198.15 106.56 22 18 31 1217.9 -16.08 11.21
 110.00 22 54 16 1990.25 -28.38 16.45 196.98 109.85 23 27 26 990.2 -17.73 353.03

Differential Corrections: TDE 1.3134 TRA 2.3944 TC3-3.0455 BAU .7356 SGT 4561.6 SGR 2786.6 SG3 1579.2 ST 104.4 SR 72.6 SS 127.5
 RDE .9183 RRA 1.6394 RC3-1.1436 FAU .15695 RRT .9720 RRF .9957 RTF .9749 CRT .9998 CRS -.9944 CST -.9953
 FDE 4.9281 FRA11.1663 FC3-8.0339 BSP 8801 SGB 5345.4 R23 .1426 R13 .9859 LSA 179.9 MSA 9.0 SSA 1.0
 BDE 1.6026 BRA 2.9019 BC3 3.2531 FSP 2834 SG1 5315.8 SG2 561.8 THA 31.09 EL1 127.2 EL2 1.1 ALF 34.82

LAUNCH DATE MAR 31 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 6 1971

Heliocentric Conic: RL 149.44 LAL -.00 LOL 189.64 VL 32.270 GAL -4.90 AZL 88.28 HCA 200.63 SMA 180.60 ECC .19197 INC 1.7165 V1 29.817
 RP 214.39 LAP -.60 LOP 30.26 VP 22.432 GAP 2.51 AZP 91.61 TAL 328.70 TAP 169.33 RCA 145.93 APO 215.28 V2 25.609
 RC 146.344 GL 13.55 GP -21.76 ZAL 142.27 ZAP 75.84 ETS 173.08 ZAE 115.58 ETE 190.79 ZAC 80.89 ETC 269.85 LVI 13.34

Planetocentric Conic: C3 16.912 VHL 4.112 DLA 2.63 RAL 331.08 RAD 6641.4 VEL 11.702 PTH 6.74 VHP 3.538 DPA -45.75 RAP 289.31 ECC 1.2783
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 55 3146.97 -36.72 99.87 191.65 122.69 17 33 22 2147.0 -21.03 78.73
 60.00 17 17 43 3049.07 -31.82 94.40 195.00 110.17 18 8 32 2049.1 -18.63 72.08
 70.00 18 6 31 2904.54 -27.46 84.88 197.19 111.16 18 55 16 1904.5 -16.41 61.88
 80.00 19 12 19 2699.52 -24.32 70.56 198.43 107.88 19 57 19 1699.5 -14.77 47.24
 90.00 20 32 32 2440.71 -23.15 51.94 198.83 106.71 21 13 12 1440.7 -14.16 26.52
 100.00 21 55 11 2173.99 -24.32 31.93 198.43 107.88 22 31 25 1174.0 -14.77 8.61
 110.00 23 6 18 1951.36 -27.46 13.80 197.19 111.16 23 38 49 951.4 -16.41 350.80

Differential Corrections: TDE 1.3390 TRA 2.5339 TC3-3.1847 BAU .7551 SGT 4789.8 SGR 2618.5 SG3 1590.0 ST 107.6 SR 68.8 SS 128.7
 RDE .8699 RRA 1.5407 RC3-1.0671 FAU .15696 RRT .9728 RRF .9947 RTF .5.84 CRT .9994 CRS -.9930 CST -.9961
 FDE 4.8851 FRA11.3070 FC3-8.0346 BSP 9004 SGB 5458.8 R23 .1418 R13 .9853 LSA 179.6 MSA 8.9 SSA 1.1
 BDE 1.5967 BRA 2.9827 BC3 3.3398 FSP 2864 SG1 5432.5 SG2 536.2 THA 28.30 EL1 127.6 EL2 2.1 ALF 32.54

LAUNCH DATE MAR 31 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 8 1971

Heliocentric Conic: RL 149.44 LAL -.00 LOL 189.64 VL 32.274 GAL -4.96 AZL 88.47 HCA 201.81 SMA 180.66 ECC .19287 INC 1.5310 V1 29.817
 RP 214.72 LAP -.57 LOP 31.44 VP 22.398 GAP 2.32 AZP 91.42 TAL 328.37 TAP 170.18 RCA 145.85 APO 215.47 V2 25.573
 RC 148.770 GL 12.04 GP -20.60 ZAL 142.98 ZAP 74.12 ETS 172.72 ZAE 114.15 ETE 189.51 ZAC 82.06 ETC 269.72 LVI 12.48

Planetocentric Conic: C3 16.970 VHL 4.119 DLA 1.31 RAL 331.85 RAD 6641.5 VEL 11.705 PTH 6.74 VHP 3.531 DPA -44.66 RAP 288.39 ECC 1.2793
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 48 49 3121.50 -35.77 98.18 191.83 123.75 17 40 50 2121.5 -19.83 77.50
 60.00 17 27 0 3019.88 -30.92 92.45 195.25 117.25 18 17 20 2019.9 -17.44 71.51
 70.00 18 17 42 2870.78 -26.61 82.63 197.51 112.25 19 5 33 1870.8 -15.24 59.96
 80.00 19 24 36 2681.33 -23.50 68.03 198.81 108.97 20 8 57 1661.3 -13.61 45.00
 90.00 20 45 25 2400.52 -22.34 49.27 199.22 107.81 21 25 25 1400.5 -13.00 26.13
 100.00 22 7 27 2135.80 -23.50 29.39 198.81 108.97 22 43 3 1135.8 -13.61 6.37
 110.00 23 17 9 1917.60 -26.61 11.55 197.51 112.25 23 49 6 917.6 -15.24 348.88

Differential Corrections: TDE 1.3672 TRA 2.7122 TC3-3.2748 BAU .7765 SGT 5013.3 SGR 2461.6 SG3 1592.9 ST 110.7 SR 65.1 SS 125.7
 RDE .8283 RRA 1.4484 RC3 -.9950 FAU .15652 RRT .9728 RRF .9935 RTF .9777 CRT .9984 CRS -.9912 CST -.9968
 FDE 4.8346 FRA11.3969 FC3-7.9851 BSP 9220 SGB 5585.1 R23 .1394 R13 .9849 LSA 179.5 MSA 8.8 SSA 1.2
 BDE 1.5985 BRA 3.0747 BC3 3.4227 FSP 2875 SG1 5561.4 SG2 513.6 THA 25.77 EL1 128.4 EL2 3.2 ALF 30.42

LAUNCH DATE MAR 31 1971

FLIGHT TIME 294.00

ARRIVAL DATE DEC 10 1971

Heliocentric Conic

RL 149.44 LAL -.00 LOL 189.64 VL 32.277 GAL -5.03 AZL 88.64 HCA 202.98 SMA 180.72 ECC .19341 INC 1.3644 V1 29.817
 RP 215.04 LAP -.53 LOP 32.61 VP 22.360 GAP 2.14 AZP 91.26 TAL 328.04 TAP 171.03 RCA 145.77 APO 215.67 V2 25.936
 RC 151.211 GL 10.68 GP -19.53 ZAL 143.57 ZAP 72.43 ET8 172.40 ZAE 112.71 ETE 188.37 ZAC 83.13 ETC 269.60 LVI 11.69

DISTANCE 611.467

EARTH TO MARS

Planetocentric Conic

C3 17.078 VHL 4.132 DLA .13 RAL 332.59 RAD 6641.5 VEL 11.709 PTH 6.74 VHP 3.531 DPA -43.65 RAP 287.56 ECC 1.2810
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 56 2 3099.50 -34.93 96.75 192.12 124.63 17 47 41 2099.5 -18.78 76.46
 60.00 17 35 28 2994.57 -30.12 90.78 195.60 118.15 18 25 23 1994.6 -16.40 69.18
 70.00 18 27 33 2841.40 -25.83 80.69 197.93 113.16 19 14 55 1841.4 -14.20 58.32
 80.00 19 35 42 2626.01 -22.74 65.84 199.26 109.89 20 19 30 1628.0 -12.58 43.06
 90.00 20 57 4 2365.44 -21.59 46.97 199.70 108.72 21 36 30 1365.4 -11.97 24.07
 100.00 22 18 34 2102.48 -22.74 27.21 199.26 109.89 22 53 36 1102.5 -12.58 4.43
 110.00 23 26 59 1888.22 -25.83 9.61 197.93 113.16 23 58 28 888.2 -14.20 347.24

Differential Corrections

TDE 1.4000 TRA 2.8715 TC3-3.3727 BAU .7983
 RDE .7940 RRA 1.3629 RC3 -.9242 FAU .15521
 FDE 4.7896 FRA11.4509 FC3-7.8693 BSP 9475
 BDE 1.6094 BRA 3.1785 BC3 3.4971 FSP 2882

Mid-Course Execution Accuracy

SGT 5233.5 SGR 2316.6 SG3 1589.6
 RRT .9725 RRF .9921 RTF .9787
 SGB 5723.3 R23 .1360 R13 .9845
 SG1 5701.8 SG2 495.5 THA 23.48

Orbit Determination Accuracy

ST 114.0 SR 61.9 SS 124.7
 CRT .9969 CR8 -.9893 CST -.9974
 LSA 179.7 MSA 8.9 SSA 1.2
 EL1 129.7 EL2 4.3 ALF 28.46

LAUNCH DATE MAR 31 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 12 1971

Heliocentric Conic

RL 149.44 LAL -.00 LOL 189.64 VL 32.282 GAL -5.09 AZL 88.79 HCA 204.15 SMA 180.79 ECC .19420 INC 1.2129 V1 29.817
 RP 215.37 LAP -.50 LOP 33.78 VP 22.323 GAP 1.95 AZP 91.11 TAL 327.70 TAP 171.86 RCA 145.68 APO 215.89 V2 25.499
 RC 153.669 GL 9.44 GP -18.54 ZAL 144.14 ZAP 70.78 ET8 172.13 ZAE 111.26 ETE 187.35 ZAC 84.13 ETC 269.49 LVI 10.97

DISTANCE 615.629

EARTH TO MARS

Planetocentric Conic

C3 17.222 VHL 4.150 DLA -.92 RAL 333.28 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 3.536 DPA -42.72 RAP 286.82 ECC 1.2834
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 39 3080.50 -34.18 95.55 192.50 125.36 17 54 0 2080.5 -17.87 75.57
 60.00 17 43 13 2972.61 -29.41 89.36 196.02 118.90 18 32 45 1972.6 -15.49 68.03
 70.00 18 36 32 2815.80 -23.14 79.03 198.41 113.92 19 23 28 1815.8 -13.29 56.90
 80.00 19 45 49 2598.89 -22.06 63.95 199.79 110.65 20 29 8 1598.9 -11.66 41.35
 90.00 21 7 40 2334.74 -20.91 44.98 200.24 109.49 21 46 35 1334.7 -11.05 22.29
 100.00 22 28 41 2073.36 -22.06 25.32 199.79 110.65 23 3 14 1073.4 -11.66 2.75
 110.00 23 35 59 1862.62 -25.14 7.95 198.41 113.92 24 7 1 862.6 -13.29 345.81

Differential Corrections

TDE 1.4331 TRA 3.0279 TC3-3.4661 BAU .8223
 RDE .7633 RRA 1.2818 RC3 -.8606 FAU .15397
 FDE 4.7308 FRA11.4591 FC3-7.7397 BSP 9712
 BDE 1.6237 BRA 3.2880 BC3 3.5714 FSP 2867

Mid-Course Execution Accuracy

SGT 5447.1 SGR 2180.3 SG3 1579.7
 RRT .9717 RRF .9903 RTF .9796
 SGB 5867.3 R23 .1314 R13 .9843
 SG1 5847.6 SG2 479.7 THA 21.40

Orbit Determination Accuracy

ST 117.2 SR 59.0 SS 123.4
 CRT .9950 CR8 -.9869 CST -.9979
 LSA 179.9 MSA 9.1 SSA 1.3
 EL1 131.1 EL2 5.3 ALF 26.65

LAUNCH DATE MAR 31 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 14 1971

Heliocentric Conic

RL 149.44 LAL -.00 LOL 189.64 VL 32.286 GAL -5.16 AZL 88.92 HCA 205.32 SMA 180.86 ECC .19503 INC 1.0752 V1 29.817
 RP 215.71 LAP -.46 LOP 34.99 VP 22.287 GAP 1.77 AZP 90.97 TAL 327.36 TAP 172.67 RCA 145.58 APO 216.13 V2 25.461
 RC 156.143 GL 8.32 GP -17.83 ZAL 144.66 ZAP 69.17 ET8 171.90 ZAE 109.80 ETE 186.45 ZAC 85.04 ETC 269.40 LVI 10.29

DISTANCE 619.788

EARTH TO MARS

Planetocentric Conic

C3 17.404 VHL 4.172 DLA -1.87 RAL 333.95 RAD 6641.7 VEL 11.723 PTH 6.75 VHP 3.547 DPA -41.85 RAP 286.16 ECC 1.2864
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 46 3064.13 -33.53 94.53 192.94 125.97 17 59 50 2064.1 -17.08 74.81
 60.00 17 50 20 2953.58 -28.77 88.14 196.51 119.53 18 39 33 1953.6 -14.70 67.05
 70.00 18 44 46 2793.50 -24.51 77.60 198.95 114.56 19 31 20 1793.5 -12.49 55.67
 80.00 19 55 3 2573.42 -21.43 62.31 200.36 111.30 20 37 57 1373.4 -10.85 39.93
 90.00 21 17 22 2307.85 -20.29 43.25 200.83 110.14 21 55 49 1307.8 -10.24 20.73
 100.00 22 37 55 2047.89 -21.43 23.68 200.36 111.30 23 12 3 1047.9 -10.85 1.30
 110.00 23 44 12 1840.32 -24.51 6.52 198.95 114.56 24 14 53 840.3 -12.49 344.58

Differential Corrections

TDE 1.4700 TRA 3.1852 TC3-3.5479 BAU .8462
 RDE .7376 RRA 1.2064 RC3 -.7993 FAU .15205
 FDE 4.6761 FRA11.4405 FC3-7.5634 BSP 9979
 BDE 1.6447 BRA 3.4060 BC3 3.6368 FSP 2848

Mid-Course Execution Accuracy

SGT 5656.5 SGR 2054.1 SG3 1565.3
 RRT .9704 RRF .9883 RTF .5003
 SGB 6017.9 R23 .1260 R13 .9841
 SG1 5999.7 SG2 467.5 THA 19.54

Orbit Determination Accuracy

ST 120.5 SR 56.4 SS 122.1
 CRT .9926 CR8 -.9844 CST -.9983
 LSA 180.4 MSA 9.3 SSA 1.3
 EL1 132.9 EL2 6.2 ALF 24.99

LAUNCH DATE MAR 31 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 16 1971

Heliocentric Conic

RL 149.44 LAL -.00 LOL 189.64 VL 32.291 GAL -5.24 AZL 89.05 HCA 206.48 SMA 180.94 ECC .19592 INC .9495 V1 29.817
 RP 216.04 LAP -.42 LOP 36.11 VP 22.251 GAP 1.58 AZP 90.85 TAL 327.00 TAP 173.48 RCA 145.49 APO 216.38 V2 25.424
 RC 158.631 GL 7.30 GP -16.79 ZAL 145.14 ZAP 67.61 ET8 171.70 ZAE 108.35 ETE 185.64 ZAC 85.89 ETC 269.31 LVI 9.66

DISTANCE 623.943

EARTH TO MARS

Planetocentric Conic

C3 17.618 VHL 4.197 DLA -2.72 RAL 334.60 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 3.562 DPA -41.05 RAP 285.58 ECC 1.2899
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 26 3050.06 -32.97 93.66 193.44 126.48 18 5 18 2050.1 -16.40 74.17
 60.00 17 56 54 2937.11 -28.22 87.11 197.05 120.06 18 45 51 1937.1 -14.00 66.21
 70.00 18 52 20 2774.08 -23.96 76.36 199.53 115.10 19 38 34 1774.1 -11.78 54.60
 80.00 20 3 32 2551.15 -20.88 60.89 200.98 111.84 20 46 4 1551.1 -10.14 38.66
 90.00 21 26 15 2284.29 -19.73 41.75 201.45 110.60 22 4 19 1294.3 -9.52 19.37
 100.00 22 46 24 2025.62 -20.88 22.26 200.98 111.84 23 20 10 1025.6 -10.14 .03
 110.00 23 51 47 1820.90 -23.96 5.28 199.53 115.10 24 22 8 820.9 -11.78 343.52

Differential Corrections

TDE 1.5104 TRA 3.3440 TC3-3.6193 BAU .8701
 RDE .7163 RRA 1.1365 RC3 -.7407 FAU .14956
 FDE 4.6258 FRA11.4022 FC3-7.3495 BSP 10269
 BDE 1.6716 BRA 3.5319 BC3 3.6943 FSP 2827

Mid-Course Execution Accuracy

SGT 5862.2 SGR 1937.8 SG3 1547.3
 RRT .9686 RRF .9858 RTF .9808
 SGB 6174.2 R23 .1205 R13 .9840
 SG1 6157.1 SG2 458.8 THA 17.86

Orbit Determination Accuracy

ST 123.9 SR 54.2 SS 120.9
 CRT .9897 CR8 -.9815 CST -.9986
 LSA 181.1 MSA 9.6 SSA 1.3
 EL1 135.0 EL2 7.1 ALF 23.47

LAUNCH DATE MAR 31 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 18 1971

Heliocentric Conic: RL 149.44 LAL -0.00 LOL 189.84 VL 32.298 GAL -5.31 AZL 89.17 HCA 207.64 SMA 181.02 ECC .19664 INC .8341 V1 29.817
 RP 216.39 LAP -0.39 LOP 37.27 VP 22.213 GAP 1.40 AZP 90.74 TAL 326.64 TAP 174.28 RCA 145.39 APO 216.65 V2 25.385
 RC 161.134 GL 8.36 GP -16.01 ZAL 145.60 ZAP 66.10 ETS 171.53 ZAE 106.91 ETE 184.92 ZAC 86.67 ETC 269.23 LVI 9.07

Distance 628.094 Earth to Mars

Planeto-centric Conic: C3 17.859 VHL 4.226 DLA -3.48 RAL 335.22 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 3.580 DPA -40.30 RAP 265.07 ECC 1.2939
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 42 3038.02 -32.40 92.93 193.97 126.90 18 10 20 2038.0 -15.82 73.62
 60.00 18 2 58 2922.91 -27.73 86.22 197.63 120.50 18 51 41 1922.9 -13.41 65.49
 70.00 18 59 19 2757.22 -23.47 75.30 200.15 115.56 19 45 17 1757.2 -11.17 53.69
 80.00 20 11 21 2531.70 -20.38 59.66 201.62 112.31 20 53 33 1531.7 -9.51 37.56
 90.00 21 34 25 2263.68 -19.23 40.45 202.11 111.15 22 12 9 1263.7 -8.89 18.19
 100.00 22 54 13 2006.17 -20.38 21.03 201.62 112.31 23 27 39 1006.2 -9.51 358.93
 110.00 0 2 42 1804.04 -23.47 4.22 200.15 115.56 0 32 46 804.0 -11.17 342.60

Differential Corrections: TDE 1.5528 TRA 3.5023 TC3-3.6831 BAU .8945 SGT 6062.4 SGR 1829.5 SG3 1525.8 ST 127.3 SR 52.1 SS 119.6
 RDE .6980 RRA 1.0706 RC3 -.6865 FAU .14687 RRT .9662 RRF .9829 RTF .9813 CRT .9864 CRS -.9783 CST -.9989
 FDE 4.5732 FRA11.3388 FC3-7.1197 BSP 10556 SGB 6332.4 R23 .1145 R13 .9839 LSA 182.0 MSA 10.0 SSA 1.3
 BDE 1.7025 BRA 3.6623 BC3 3.7465 FSP 2795 SG1 6316.3 SG2 452.5 THA 16.34 EL1 137.3 EL2 7.9 ALF 22.07

LAUNCH DATE MAR 31 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 20 1971

Heliocentric Conic: RL 149.44 LAL -0.00 LOL 189.64 VL 32.302 GAL -5.39 AZL 89.27 HCA 208.79 SMA 181.11 ECC .19781 INC .7274 V1 29.817
 RP 216.73 LAP -0.35 LOP 38.43 VP 22.179 GAP 1.22 AZP 90.64 TAL 326.27 TAP 175.06 RCA 145.28 APO 216.93 V2 25.347
 RC 163.649 GL 5.50 GP -15.28 ZAL 146.04 ZAP 64.63 ETS 171.38 ZAE 105.49 ETE 184.28 ZAC 87.40 ETC 269.16 LVI 8.51

Distance 632.241 Earth to Mars

Planeto-centric Conic: C3 18.127 VHL 4.258 DLA -4.17 RAL 335.81 RAD 6642.0 VEL 11.754 PTH 6.78 VHP 3.602 DPA -39.60 RAP 284.63 ECC 1.2983
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 36 3027.79 -32.06 92.31 194.55 127.25 18 15 4 2027.8 -15.32 73.15
 60.00 18 8 37 2910.73 -27.31 85.47 198.24 120.87 18 57 8 1910.7 -12.89 64.87
 70.00 19 5 47 2742.62 -23.04 74.39 200.79 115.94 19 51 30 1742.6 -10.63 52.89
 80.00 20 18 34 2514.75 -19.94 58.60 202.30 112.70 21 0 29 1514.8 -8.96 36.60
 90.00 21 41 58 2245.68 -18.78 39.32 202.80 111.54 22 19 23 1245.7 -8.33 17.16
 100.00 23 1 26 1989.22 -19.94 19.97 202.30 112.70 23 34 35 989.2 -8.96 357.97
 110.00 0 9 9 1789.44 -23.04 3.31 200.79 115.94 0 38 59 789.4 -10.63 341.81

Differential Corrections: TDE 1.5969 TRA 3.6804 TC3-3.7407 BAU .9195 SGT 6257.7 SGR 1729.0 SG3 1501.4 ST 130.6 SR 50.3 SS 118.3
 RDE .6823 RRA 1.0088 RC3 -.6365 FAU .14402 RRT .9633 RRF .9796 RTF .9816 CRT .9827 CRS -.9749 CST -.9991
 FDE 4.5189 FRA11.2564 FC3-6.8786 BSP 10849 SGB 6492.2 R23 .1084 R13 .9838 LSA 182.9 MSA 10.3 SSA 1.3
 BDE 1.7365 BRA 3.7969 BC3 3.7945 FSP 2759 SG1 6476.6 SG2 448.6 THA 14.98 EL1 139.7 EL2 6.7 ALF 20.80

LAUNCH DATE MAR 31 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 22 1971

Heliocentric Conic: RL 149.44 LAL -0.00 LOL 189.64 VL 32.307 GAL -5.47 AZL 89.37 HCA 209.94 SMA 181.20 ECC .19882 INC .6286 V1 29.817
 RP 217.08 LAP -0.31 LOP 39.58 VP 22.143 GAP 1.03 AZP 90.54 TAL 325.89 TAP 175.83 RCA 145.17 APO 217.22 V2 25.308
 RC 166.178 GL 4.72 GP -14.61 ZAL 146.45 ZAP 63.20 ETS 171.26 ZAE 104.08 ETE 183.70 ZAC 68.07 ETC 269.11 LVI 7.99

Distance 636.384 Earth to Mars

Planeto-centric Conic: C3 18.418 VHL 4.292 DLA -4.79 RAL 336.39 RAD 6642.1 VEL 11.766 PTH 6.79 VHP 3.627 DPA -38.94 RAP 284.25 ECC 1.3031
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 12 3019.17 -31.70 91.80 195.15 127.54 18 19 31 2019.2 -14.90 72.77
 60.00 18 13 52 2900.34 -26.94 84.83 198.88 121.18 19 2 13 1900.3 -12.45 64.35
 70.00 19 11 47 2730.05 -22.66 73.61 201.46 116.26 19 37 17 1730.0 -10.17 52.21
 80.00 20 25 15 2500.05 -19.55 57.68 202.99 113.03 21 6 55 1500.0 -8.48 35.78
 90.00 21 48 58 2230.01 -18.38 38.34 203.50 111.87 22 26 6 1230.0 -7.4 16.27
 100.00 23 8 7 1974.52 -19.55 19.05 202.99 113.03 23 41 1 974.5 -8.48 357.15
 110.00 0 15 9 1776.87 -22.66 2.52 201.46 116.26 0 44 46 776.9 -10.17 341.13

Differential Corrections: TDE 1.6428 TRA 3.8190 TC3-3.7909 BAU .9447 SGT 6447.9 SGR 1636.0 SG3 1474.8 ST 133.9 SR 48.6 SS 116.9
 RDE .6691 RRA .9507 RC3 -.5897 FAU .14088 RRT .9596 RRF .9756 RTF .518 CRT .9786 CRS -.9711 CST -.9993
 FDE 4.4643 FRA11.1594 FC3-6.8221 BSP 11142 SGB 6652.2 R23 .1026 R13 .9837 LSA 184.0 MSA 10.7 SSA 1.3
 BDE 1.7738 BRA 3.9355 BC3 3.8365 FSP 2718 SG1 6637.2 SG2 446.9 THA 13.75 EL1 142.2 EL2 9.4 ALF 19.63

LAUNCH DATE MAR 31 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 24 1971

Heliocentric Conic: RL 149.44 LAL -0.00 LOL 189.84 VL 32.314 GAL -5.55 AZL 89.46 HCA 211.09 SMA 181.29 ECC .19987 INC .5381 V1 29.817
 RP 217.43 LAP -0.28 LOP 40.73 VP 22.107 GAP .85 AZP 90.46 TAL 325.50 TAP 176.59 RCA 145.06 APO 217.53 V2 25.269
 RC 168.717 GL 3.99 GP -13.98 ZAL 146.85 ZAP 61.82 ETS 171.16 ZAE 102.70 ETE 183.19 ZAC 88.70 ETC 269.06 LVI 7.49

Distance 640.522 Earth to Mars

Planeto-centric Conic: C3 18.731 VHL 4.328 DLA -5.34 RAL 336.96 RAD 6642.3 VEL 11.779 PTH 6.80 VHP 3.655 DPA -38.33 RAP 283.94 ECC 1.3083
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 30 3011.99 -31.40 91.38 195.77 127.78 18 23 42 2012.0 -14.55 72.44
 60.00 18 18 46 2891.57 -26.63 84.29 199.54 121.44 19 6 58 1891.6 -12.08 63.51
 70.00 19 17 22 2719.29 -22.33 72.94 202.15 116.54 20 2 41 1719.3 -9.77 51.63
 80.00 20 31 27 2487.35 -19.21 56.89 203.70 113.31 21 12 54 1487.4 -8.06 35.07
 90.00 21 55 25 2216.44 -18.04 37.49 204.22 112.16 22 32 21 1216.4 -7.42 15.00
 100.00 23 14 19 1961.82 -19.21 18.26 203.70 113.31 23 47 0 961.8 -8.06 356.43
 110.00 0 20 44 1766.11 -22.33 1.86 202.15 116.54 0 50 10 766.1 -9.77 340.55

Differential Corrections: TDE 1.6899 TRA 3.9768 TC3-3.8372 BAU .9706 SGT 6633.0 SGR 1549.7 SG3 1446.3 ST 137.2 SR 47.1 SS 115.5
 RDE .6579 RRA .8958 RC3 -.5474 FAU .13780 RRT .9553 RRF .9710 RTF .9820 CRT .9740 CRS -.9670 CST -.9995
 FDE 4.4085 FRA11.0472 FC3-6.3689 BSP 11423 SGB 6811.6 R23 .0968 R13 .9836 LSA 185.1 MSA 11.2 SSA 1.3
 BDE 1.8134 BRA 4.0764 BC3 3.8761 FSP 2670 SG1 6796.9 SG2 447.0 THA 12.64 EL1 144.7 EL2 10.1 ALF 18.57

LAUNCH DATE MAR 31 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 32.320 GAL -5.84 AZL 89.55 HCA 212.24 SMA 181.40 ECC .20096 INC .4507 V1 29.817
RP 217.79 LAP -.24 LOP 41.87 VP 22.071 GAP .87 AZP 90.38 TAL 325.11 TAP 177.34 RCA 144.94 APO 217.85 V2 23.229
RC 171.260 GL 3.32 GP -13.39 ZAL 147.23 ZAP 80.49 ETS 171.08 ZAE 101.34 ETE 182.72 ZAC 89.29 ETC 269.03 LVI 7.01

PLANETOCENTRIC CONIC

C3 19.066 VHL 4.366 DLA -3.85 RAL 337.50 RAD 6642.4 VEL 11.793 PTH 6.82 VHP 3.685 DPA -37.76 RAP 283.68 ECC 1.3138
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 37 32 3006.12 -31.16 91.03 196.42 127.97 18 27 38 2006.1 -14.27 72.18
60.00 18 23 22 2884.25 -26.37 83.85 200.21 121.65 19 11 26 1884.2 -11.76 63.54
70.00 19 22 34 2710.17 -22.06 72.38 202.85 116.76 20 7 44 1710.2 -9.44 51.14
80.00 20 37 13 2476.47 -18.92 56.22 204.43 113.54 21 18 29 1476.5 -7.71 34.46
90.00 22 1 25 2204.76 -17.74 36.77 204.95 112.39 22 38 10 1204.8 -7.05 14.83
100.00 23 20 4 1950.94 -18.92 17.59 204.43 113.54 23 52 35 950.9 -7.71 355.82
110.00 0 25 56 1756.99 -22.06 1.30 202.85 116.76 0 55 13 757.0 -9.44 340.06

DIFFERENTIAL CORRECTIONS

TDE 1.7401 TRA 4.1365 TC3-3.8734 BAU .9957
RDE .6490 RRA .8444 RC3 -.5071 FAU .13432
FDE 4.3568 FRA10.9279 FC3-6.0990 B8P 11725
BDE 1.8572 BRA 4.2219 BC3 3.9065 F8P 2625

MID-COURSE EXECUTION ACCURACY

SGT 6813.7 SGR 1470.3 SG3 1416.6
RRT .9502 RRF .9658 RTF .9821
SGB 6970.6 R23 .0914 R13 .9834
SG1 6956.1 SG2 448.8 THA 11.64

ORBIT DETERMINATION ACCURACY

ST 140.6 SR 45.7 SS 114.1
CRT .9692 CRS -.9628 CST -.9996
LSA 186.4 MSA 11.6 SSA 1.3
EL1 147.4 EL2 10.7 ALF 17.60

LAUNCH DATE MAR 31 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 32.326 GAL -5.72 AZL 89.63 HCA 213.38 SMA 181.90 ECC .20210 INC .3704 V1 29.817
RP 218.15 LAP -.20 LOP 43.01 VP 22.035 GAP .48 AZP 90.31 TAL 324.71 TAP 178.08 RCA 144.82 APO 218.18 V2 23.189
RC 173.829 GL 2.71 GP -12.84 ZAL 147.61 ZAP 59.19 ETS 171.01 ZAE 100.00 ETE 182.31 ZAC 89.84 ETC 269.00 LVI 6.53

PLANETOCENTRIC CONIC

C3 19.421 VHL 4.407 DLA -6.30 RAL 338.04 RAD 6642.6 VEL 11.808 PTH 6.83 VHP 3.717 DPA -37.22 RAP 283.48 ECC 1.3196
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 41 20 3001.43 -30.96 90.78 197.08 128.12 18 31 22 2001.4 -14.04 71.97
60.00 18 27 40 2878.24 -26.16 83.49 200.90 121.82 19 15 38 1878.2 -11.51 63.24
70.00 19 27 25 2702.53 -21.82 71.91 203.57 116.95 20 12 27 1702.5 -9.15 50.73
80.00 20 42 34 2467.24 -18.66 55.65 205.17 113.74 21 23 42 1467.2 -7.40 33.94
90.00 22 7 1 2194.80 -17.48 36.15 205.70 112.59 22 43 36 1194.8 -6.74 14.27
100.00 23 25 26 1941.71 -18.66 17.02 205.17 113.74 23 57 48 941.7 -7.40 355.31
110.00 0 30 47 1749.35 -21.82 .83 203.57 116.95 0 59 57 749.4 -9.15 339.65

DIFFERENTIAL CORRECTIONS

TDE 1.7906 TRA 4.2956 TC3-3.9067 BAU 1.0217
RDE .6413 RRA .7956 RC3 -.4707 FAU .13095
FDE 4.2998 FRA10.7952 FC3-5.8375 B8P 12010
BDE 1.9020 BRA 4.3686 BC3 3.9349 F8P 2573

MID-COURSE EXECUTION ACCURACY

SGT 6989.1 SGR 1396.5 SG3 1385.4
RRT .9443 RRF .9597 RTF .9822
SGB 7127.2 R23 .0861 R13 .9833
SG1 7112.9 SG2 451.5 THA 10.73

ORBIT DETERMINATION ACCURACY

ST 143.8 SR 44.5 SS 112.7
CRT .9640 CRS -.9582 CST -.9997
LSA 187.6 MSA 12.0 SSA 1.3
EL1 150.1 EL2 11.3 ALF 16.71

LAUNCH DATE MAR 31 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 32.333 GAL -5.81 AZL 89.70 HCA 214.31 SMA 181.61 ECC .20327 INC .2955 V1 29.817
RP 218.51 LAP -.17 LOP 44.15 VP 21.999 GAP .30 AZP 90.24 TAL 324.30 TAP 178.82 RCA 144.69 APO 218.52 V2 23.149
RC 176.400 GL 2.14 GP -12.32 ZAL 147.98 ZAP 57.94 ETS 170.96 ZAE 98.69 ETE 181.93 ZAC 90.36 ETC 268.98 LVI 6.11

PLANETOCENTRIC CONIC

C3 19.795 VHL 4.449 DLA -6.71 RAL 338.58 RAD 6642.7 VEL 11.824 PTH 6.84 VHP 3.751 DPA -36.71 RAP 283.34 ECC 1.3258
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 44 56 2997.80 -30.81 90.53 197.75 128.24 18 34 54 1997.8 -13.86 71.81
60.00 18 31 42 2873.43 -25.98 83.20 201.60 121.96 19 19 35 1873.4 -11.30 63.00
70.00 19 31 57 2696.24 -21.63 71.53 204.30 117.10 20 16 54 1696.2 -8.92 50.40
80.00 20 47 35 2459.49 -18.43 55.17 205.91 113.90 21 28 34 1459.5 -7.15 33.51
90.00 22 12 13 2186.40 -17.26 35.63 206.45 112.76 22 48 40 1186.4 -6.47 13.80
100.00 23 30 27 1933.97 -18.45 16.54 205.91 113.90 24 2 41 934.0 -7.15 354.88
110.00 0 35 20 1743.06 -21.63 .45 204.30 117.10 1 4 23 743.1 -8.92 339.31

DIFFERENTIAL CORRECTIONS

TDE 1.8439 TRA 4.4563 TC3-3.9327 BAU 1.0472
RDE .6356 RRA .7498 RC3 -.4363 FAU .12728
FDE 4.2488 FRA10.6599 FC3-5.5665 B8P 12304
BDE 1.9504 BRA 4.5189 BC3 3.9568 F8P 2523

MID-COURSE EXECUTION ACCURACY

SGT 7160.5 SGR 1328.8 SG3 1353.8
RRT .9374 RRF .9528 RTF .9821
SGB 7282.7 R23 .0815 R13 .9831
SG1 7268.5 SG2 455.8 THA 9.01

ORBIT DETERMINATION ACCURACY

ST 147.1 SR 43.4 SS 111.3
CRT .9585 CRS -.9953 CST -.9997
LSA 189.1 MSA 12.4 SSA 1.3
EL1 152.9 EL2 11.9 ALF 15.91

LAUNCH DATE MAR 31 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

RL 149.44 LAL -.00 LOL 189.64 VL 32.340 GAL -5.90 AZL 89.78 HCA 215.65 SMA 181.72 ECC .20448 INC .2242 V1 29.817
RP 218.88 LAP -.13 LOP 45.28 VP 21.963 GAP .12 AZP 90.18 TAL 323.89 TAP 179.54 RCA 144.56 APO 218.88 V2 23.109
RC 178.981 GL 1.81 GP -11.84 ZAL 148.34 ZAP 56.74 ETS 170.92 ZAE 97.40 ETE 181.59 ZAC 90.84 ETC 268.97 LVI 5.69

PLANETOCENTRIC CONIC

C3 20.189 VHL 4.493 DLA -7.07 RAL 339.07 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 3.787 DPA -36.24 RAP 283.24 ECC 1.3323
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 48 19 2995.15 -30.70 90.39 198.44 128.32 18 38 15 1995.2 -13.73 71.69
60.00 18 35 30 2869.70 -25.85 82.97 202.32 122.07 19 23 19 1869.7 -11.14 62.82
70.00 19 36 12 2691.18 -21.47 71.22 205.04 117.22 20 21 4 1691.2 -8.73 50.13
80.00 20 52 15 2453.11 -18.27 54.78 206.67 114.03 21 33 8 1453.1 -6.94 33.55
90.00 22 17 5 2179.42 -17.07 35.21 207.21 112.89 22 53 24 1179.4 -6.25 13.40
100.00 23 35 7 1927.59 -18.27 16.15 206.67 114.03 24 7 15 927.6 -6.94 354.52
110.00 0 39 35 1738.00 -21.47 .14 205.04 117.22 1 8 33 738.0 -8.73 339.04

DIFFERENTIAL CORRECTIONS

TDE 1.8978 TRA 4.6167 TC3-3.9555 BAU 1.0732
RDE .6310 RRA .7062 RC3 -.4053 FAU .12377
FDE 4.1947 FRA10.5159 FC3-5.3072 B8P 12584
BDE 2.0000 BRA 4.6704 BC3 3.9763 F8P 2469

MID-COURSE EXECUTION ACCURACY

SGT 7326.8 SGR 1266.3 SG3 1321.5
RRT .9296 RRF .9450 RTF .9821
SGB 7435.5 R23 .0771 R13 .9829
SG1 7421.2 SG2 460.8 THA 9.16

ORBIT DETERMINATION ACCURACY

ST 150.3 SR 42.5 SS 109.8
CRT .9528 CRS -.9485 CST -.9998
LSA 190.5 MSA 12.8 SSA 1.3
EL1 155.7 EL2 12.5 ALF 15.17

LAUNCH DATE MAR 31 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC										DISTANCE 661.131										EARTH TO MARS																																													
RL	149.44	LAL	-.00	LOL	189.64	VL	32.347	GAL	-6.00	AZL	89.84	HCA	216.78	SMA	181.84	ECC	.20573	INC	.1575	V1	29.817	RP	219.25	LAP	-.09	LOP	46.41	VP	21.927	GAP	-.06	AZP	90.13	TAL	323.47	TAP	180.25	RCA	144.43	APO	219.25	V2	25.068	RC	181.572	GL	1.12	GP	-11.39	ZAL	148.69	ZAP	55.37	ETS	170.89	ZAE	96.15	ETE	181.29	ZAC	91.29	ETC	268.97	LVI	5.20
PLANETOCENTRIC CONIC																																																																	
C3	20.602	VHL	4.539	DLA	-7.40	RAL	339.56	RAD	6643.1	VEL	11.858	PTH	6.87	VHP	3.825	DPA	-35.79	RAP	283.19	ECC	1.3391	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																		
	50.00		17	51	32		2993.39		-30.62		90.29		199.13		128.38		18	41	26		1993.4		-13.64		71.61		60.00		18	39	4		2868.97		-25.75		82.81		203.04		122.14		19	26	51		1667.0		-11.02		62.68														
	70.00		19	40	12		2687.24		-21.35		70.98		205.78		117.32		20	24	59		1687.2		-8.58		49.91		80.00		20	56	37		2447.98		-18.13		54.47		207.43		114.14		21	37	25		1446.0		-6.77		32.87														
	90.00		22	21	37		2173.74		-16.92		34.86		207.98		113.00		22	57	51		1173.7		-6.07		13.08		100.00		23	39	29		1922.46		-18.13		15.83		207.43		114.14		24	11	32		922.5		-6.77		354.23														
	110.00		0	43	34		1734.06		-21.35		359.90		205.78		117.32		1	12	28		734.1		-8.58		338.83																																								
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
TDE	1.9536	TRA	4.7787	TC3	-3.9741	BAU	1.0995	SGT	7489.9	SGR	1209.0	SG3	1289.0	ST	153.5	SR	41.6	SS	108.4	RDE	.6278	RRA	.6651	RC3	-.3768	FAU	.12022	RRT	.9208	RRF	.9362	RTF	.9820	CRT	.9468	CRS	-.9434	CST	-.9998	FDE	4.1420	FRA10	3.693	FC3	-5.0517	BSP	12860	SG8	7586.8	R23	.0730	R13	.9827	LSA	192.0	MSA	13.3	SSA	1.3						
BDE	2.0520	BRA	4.8247	BC3	3.9920	FSP	2413	SG1	7572.5	SG2	466.5	THA	8.49	EL1	158.5	EL2	13.0	ALF	14.50																																														

LAUNCH DATE MAR 31 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC										DISTANCE 665.238										EARTH TO MARS																																													
RL	149.44	LAL	-.00	LOL	189.64	VL	32.355	GAL	-6.10	AZL	89.91	HCA	217.90	SMA	181.96	ECC	.20701	INC	.0938	V1	29.817	RP	219.62	LAP	-.06	LOP	47.54	VP	21.891	GAP	-.25	AZP	90.07	TAL	323.05	TAP	180.95	RCA	144.29	APO	219.62	V2	25.028	RC	184.172	GL	.67	GP	-10.97	ZAL	149.04	ZAP	54.44	ETS	170.87	ZAE	94.91	ETE	181.01	ZAC	91.72	ETC	268.98	LVI	4.88
PLANETOCENTRIC CONIC																																																																	
C3	21.034	VHL	4.586	DLA	-7.70	RAL	340.05	RAD	6643.3	VEL	11.876	PTH	6.89	VHP	3.864	DPA	-35.36	RAP	283.18	ECC	1.3462	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																		
	50.00		17	54	35		2992.44		-30.58		90.24		199.84		128.41		18	44	28		1992.4		-13.60		71.57		60.00		18	42	27		2865.15		-25.68		82.70		203.77		122.19		19	30	12		1865.2		-10.95		62.59														
	70.00		19	43	57		2684.33		-21.26		70.80		206.53		117.38		20	28	41		1684.3		-8.48		49.76		80.00		21	0	43		2444.00		-18.02		54.22		208.19		114.22		21	41	27		1444.0		-6.63		32.64														
	90.00		22	25	52		2169.26		-16.80		34.58		208.75		113.09		23	2	1		1169.3		-5.93		12.83		100.00		23	43	35		1918.47		-18.02		15.59		208.19		114.22		24	15	33		918.5		-6.63		354.01														
	110.00		0	47	19		1731.15		-21.26		359.72		206.53		117.38		1	16	10		731.2		-8.48		338.68																																								
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
TDE	2.0112	TRA	4.9418	TC3	-3.9868	BAU	1.1254	SGT	7648.4	SGR	1156.4	SG3	1256.4	ST	156.7	SR	40.8	SS	107.0	RDE	.6257	RRA	.6261	RC3	-.3502	FAU	.11655	RRT	.9108	RRF	.9263	RTF	.9818	CRT	.9407	CRS	-.9382	CST	-.9999	FDE	4.0902	FRA10	2.197	FC3	-4.7971	BSP	13143	SG8	7735.3	R23	.0694	R13	.9824	LSA	193.6	MSA	13.7	SSA	1.3						
BDE	2.1063	BRA	4.9813	BC3	4.0021	FSP	2360	SG1	7720.8	SG2	472.8	THA	7.87	EL1	161.3	EL2	13.5	ALF	13.88																																														

LAUNCH DATE APR 1 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC										DISTANCE 378.083										EARTH TO MARS																																																																																				
RL	149.48	LAL	-.00	LOL	190.82	VL	34.131	GAL	-6.78	AZL	92.39	HCA	129.32	SMA	217.29	ECC	.33163	INC	2.3914	V1	29.809	RP	207.32	LAP	-1.85	LOP	319.97	VP	25.879	GAP	18.20	AZP	88.48	TAL	332.37	TAP	101.69	RCA	145.23	APO	289.35	V2	26.420	RC	56.291	GL	-13.09	GP	3.91	ZAL	136.49	ZAP	167.11	ETS	162.24	ZAE	167.99	ETE	131.94	ZAC	105.15	ETC	275.59	LVI	-18.60																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	38.967	VHL	6.242	DLA	-24.13	RAL	335.84	RAD	6650.3	VEL	12.603	PTH	7.46	VHP	9.350	DPA	-16.32	RAP	309.55	ECC	1.6413	ST	47.9	SR	23.8	SS	35.4	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	18	41	59	2805.27	-22.23	80.26	201.94	133.22	19	28	44	1605.3	-4.30	63.52	60.00	19	52	22	2618.11	-16.02	68.98	207.52	127.49	20	36	0	1618.1	-1.16	50.64	70.00	21	22	16	2353.61	-9.84	52.01	211.99	122.87	22	1	29	1353.8	4.08	32.42	80.00	23	10	20	2015.57	-4.59	29.53	215.19	119.54	23	43	56	1019.6	7.77	9.00	90.00	0	55	58	1667.55	-2.28	6.69	216.47	118.20	1	24	6	687.6	9.41	345.76	100.00	1	57	8	1490.04	-4.59	350.90	215.19	119.54	2	21	58	490.0	7.77	330.37	110.00	2	25	38	1400.63	-9.84	340.93	211.99	122.87	2	48	58	400.6	4.08	321.33

LAUNCH DATE APR 1 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC										DISTANCE 381.069										EARTH TO MARS																																																																																				
RL	149.48	LAL	-.00	LOL	190.82	VL	34.015	GAL	-6.63	AZL	92.43	HCA	130.58	SMA	214.51	ECC	.32251	INC	2.4348	V1	29.809	RP	207.22	LAP	-1.85	LOP	321.23	VP	25.734	GAP	18.72	AZP	88.42	TAL	332.40	TAP	102.99	RCA	145.33	APO	283.70	V2	26.432	RC	56.455	GL	-13.60	GP	4.09	ZAL	136.45	ZAP	166.22	ETS	162.67	ZAE	168.45	ETE	128.14	ZAC	105.30	ETC	275.68	LVI	-18.90																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	37.251	VHL	6.103	DLA	-24.57	RAL	336.14	RAD	6649.7	VEL	12.535	PTH	7.41	VHP	9.078	DPA	-16.04	RAP	309.89	ECC	1.6131	ST	48.8	SR	23.6	SS	36.7	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	18	45	17	2784.31	-21.25	79.23	201.66	133.63	19	31	42	1784.3	-3.25	62.64	60.00	19	56	29	2594.96	-15.06	67.78	207.26	127.84	20	39	44	1595.0	.86	49.53	70.00	21	27	37	2327.03	-8.85	50.57	211.78	123.12	22	6	24	1327.0	5.10	31.01	80.00	23	17	30	1983.15	-3.50	27.74	215.06	119.67	23	50	33	983.2	8.83	7.18	90.00	1	4	24	1651.02	-1.10	4.65	216.39	118.26	1	31	55	651.0	10.53	343.65	100.00	2	4	17	1457.63	-3.50	349.11	215.06	119.67	2	28	35	457.6	8.83	328.55	110.00	2	30	59	1373.85	-8.85	339.49	211.78	123.12	2	53	53	373.9	5.10	319.93

LAUNCH DATE APR 1 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC										DISTANCE 384.153										EARTH TO MARS																																																																																				
RL	149.48	LAL	-.00	LOL	190.82	VL	33.905	GAL	-6.48	AZL	92.48	HCA	131.85	SMA	211.96	ECC	.31387	INC	2.4799	V1	29.809	RP	207.13	LAP	-1.85	LOP	322.50	VP	25.599	GAP	18.25	AZP	88.34	TAL	332.45	TAP	104.30	RCA	145.43	APO	278.48	V2	26.443	RC	56.701	GL	-14.13	GP	4.29	ZAL	136.39	ZAP	165.32	ETS	163.02	ZAE	168.83	ETE	124.19	ZAC	105.45	ETC	275.77	LVI	-19.21																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	35.660	VHL	5.972	DLA	-25.03	RAL	336.44	RAD	6649.1	VEL	12.472	PTH	7.37	VHP	8.814	DPA	-15.76	RAP	310.21	ECC	1.5869	ST	49.8	SR	23.4	SS	38.0	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	18	48	43	2763.22	-20.25	78.21	201.41	134.02	19	34	46	1763.2	-2.19	61.76	60.00	20	0	48	2571.51	-14.07	66.58	207.04	128.16	20	43	39	1571.5	1.89	48.41	70.00	21	33	16	2299.62	-7.82	49.11	211.62	123.35	22	11	36	1299.6	6.13	29.57	80.00	23	25	12	1949.32	-2.36	25.88	214.99	119.77	23	57	41	949.3	9.93	5.27	90.00	1	13	39	1612.22	.15	2.48	216.38	118.28	1	40	31	612.2	11.69	341.40	100.00	2	12	0	1423.79	-2.36	347.25	214.99	119.77	2	35	43	423.8	9.93	326.64	110.00	2	36	39	1346.44	-7.82	338.03	211.62	123.35	2	59	5	346.4	6.13	318.48

LAUNCH DATE APR 1 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC										DISTANCE 387.327										EARTH TO MARS																																																																																				
RL	149.48	LAL	-.00	LOL	190.82	VL	33.801	GAL	-6.34	AZL	92.53	HCA	133.11	SMA	209.80	ECC	.30568	INC	2.5268	V1	29.809	RP	207.03	LAP	-1.84	LOP	323.78	VP	25.471	GAP	17.79	AZP	88.27	TAL	332.50	TAP	105.61	RCA	145.53	APO	273.67	V2	26.453	RC	57.030	GL	-14.67	GP	4.50	ZAL	136.31	ZAP	164.38	ETS	163.32	ZAE	169.14	ETE	120.17	ZAC	105.62	ETC	275.86	LVI	-19.52																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	34.184	VHL	5.847	DLA	-25.51	RAL	336.74	RAD	6648.6	VEL	12.413	PTH	7.32	VHP	8.558	DPA	-15.47	RAP	310.51	ECC	1.5626	ST	50.7	SR	23.3	SS	39.3	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	18	52	17	2741.99	-19.24	77.20	201.20	134.39	19	37	59	1742.0	-1.12	60.87	60.00	20	5	18	2547.75	-13.07	65.37	206.87	128.47	20	47	46	1547.8	2.93	47.27	70.00	21	39	16	2271.51	-8.77	47.62	211.51	123.56	22	17	7	1271.5	7.19	28.08	80.00	23	33	33	1913.82	-1.16	23.93	214.98	119.84	24	5	26	913.8	11.07	3.25	90.00	1	23	54	1570.59	1.49	.16	216.45	118.24	1	50	5	570.6	12.92	338.96	100.00	2	20	20	1388.29	-1.16	345.30	214.98	119.84	2	43	29	388.3	11.07	324.62	110.00	2	42	38	1318.33	-8.77	336.53	211.51	123.56	3	4	36	318.3	7.19	316.99

LAUNCH DATE APR 1 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 390.563 EARTH TO MARS
 RL 149.48 LAL -.00 LOL 190.62 VL 33.702 GAL -6.20 AZL 92.58 HCA 134.37 SMA 207.42 ECC .29794 INC 2.5758 V1 29.809
 RP 206.97 LAP -1.84 LOP 325.03 VP 25.350 GAP 17.33 AZP 88.20 TAL 332.56 TAP 106.94 RCA 145.62 APO 269.21 V2 26.462
 RC 57.440 GL -15.24 GP 4.72 ZAL 136.21 ZAP 163.43 ETS 163.57 ZAE 169.36 ETE 116.16 ZAC 105.80 ETC 275.94 LVI -19.84

PLANETOCENTRIC CONIC

C3 32.817 VHL 5.729 DLA -26.01 RAL 337.04 RAD 6648.1 VEL 12.359 PTH 7.28 VHP 8.311 DPA -15.18 RAP 310.78 ECC 1.5401
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 55 59 2720.62 -18.22 78.19 201.03 134.75 19 41 19 1720.6 1.05 59.98
 60.00 20 10 2 2523.67 -12.05 64.16 206.74 128.75 20 52 5 1523.7 3.99 46.12
 70.00 21 45 37 2242.63 -5.68 46.09 211.46 123.74 22 23 0 1242.6 8.27 26.54
 80.00 23 42 39 1876.32 .11 21.87 215.05 119.86 24 13 55 876.3 12.25 1.10
 90.00 1 35 27 1525.24 2.95 357.63 216.62 118.14 2 0 52 525.2 14.23 336.27
 100.00 2 29 27 1350.79 .11 343.24 215.05 119.86 2 51 58 350.8 12.25 322.47
 110.00 2 48 59 1269.45 -5.68 335.01 211.46 123.74 3 10 29 289.4 8.27 315.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8611 TRA-1.7035 TC3 -.0590 BAU .0793 SGT 2083.3 SGR 502.9 SG3 275.1 ST 51.6 SR 23.1 SF 40.7
 RDE -.4613 RRA -.0376 RC3 .1709 FAU .04766 RRT .4422 RRF -.4725 RTF -.8670 CRT .8490 CRS .7095 CST .9739
 FDE .7813 FRA 2.4337 FC3-1.2572 BSP 3624 SGB 2143.1 R23 -.0786 R13 -.8691 LSA 68.0 MSA 15.1 SSA 1.2
 BDE .9768 BRA 1.7039 BC3 .1808 FSP 404 SG1 2095.7 SG2 448.4 THA 6.39 EL1 55.4 EL2 11.4 ALF 21.75

LAUNCH DATE APR 1 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 393.914 EARTH TO MARS
 RL 149.48 LAL -.00 LOL 190.62 VL 33.609 GAL -6.06 AZL 92.63 HCA 135.64 SMA 205.40 ECC .29060 INC 2.6269 V1 29.809
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.234 GAP 16.89 AZP 88.12 TAL 332.63 TAP 108.27 RCA 145.71 APO 265.09 V2 26.469
 RC 57.930 GL -15.83 GP 4.96 ZAL 136.09 ZAP 162.45 ETS 163.77 ZAE 169.51 ETE 112.28 ZAC 106.01 ETC 276.02 LVI -20.16

PLANETOCENTRIC CONIC

C3 31.550 VHL 5.617 DLA -26.53 RAL 337.35 RAD 6647.6 VEL 12.307 PTH 7.24 VHP 8.070 DPA -14.87 RAP 311.03 ECC 1.5192
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 59 51 2699.08 -17.19 75.19 200.91 135.08 19 44 50 1699.1 1.03 59.08
 60.00 20 15 0 2499.19 -11.00 62.94 206.66 129.02 20 56 39 1499.2 5.06 44.94
 70.00 21 52 23 2212.83 -4.55 44.52 211.46 123.89 22 29 16 1212.8 9.38 24.95
 80.00 23 52 42 1836.25 1.47 19.68 215.20 119.82 24 23 18 836.3 13.50 358.78
 90.00 1 48 46 1474.61 4.57 354.79 216.92 117.94 2 13 21 474.6 15.64 333.23
 100.00 2 39 30 1310.73 1.47 341.04 215.20 119.82 3 1 20 310.7 13.50 320.15
 110.00 2 55 46 1259.65 -4.55 333.44 211.46 123.89 3 16 45 259.6 9.38 313.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8476 TRA-1.6722 TC3 -.0351 BAU .0788 SGT 2093.8 SGR 505.5 SG3 292.9 ST 51.8 SR 22.9 SF 42.1
 RDE -.4484 RRA -.0547 RC3 .1834 FAU .04932 RRT .4783 RRF -.5105 RTF -.8755 CRT .8538 CRS .7178 CST .9737
 FDE .8144 FRA 2.5564 FC3-1.3533 BSP 3533 SGB 2153.9 R23 -.0823 R13 -.8778 LSA 69.0 MSA 15.0 SSA 1.1
 BDE .9589 BRA 1.6731 BC3 .1867 FSP 433 SG1 2108.3 SG2 440.9 THA 6.89 EL1 55.6 EL2 11.0 ALF 21.60

LAUNCH DATE APR 1 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 397.312 EARTH TO MARS
 RL 149.48 LAL -.00 LOL 190.62 VL 33.521 GAL -5.93 AZL 92.68 HCA 136.91 SMA 203.53 ECC .28366 INC 2.6805 V1 29.809
 RP 206.85 LAP -1.83 LOP 327.56 VP 25.123 GAP 16.45 AZP 88.04 TAL 332.70 TAP 109.61 RCA 145.80 APO 261.27 V2 26.476
 RC 58.496 GL -16.43 GP 5.21 ZAL 135.96 ZAP 161.44 ETS 163.92 ZAE 169.58 ETE 108.61 ZAC 106.23 ETC 276.10 LVI -20.50

PLANETOCENTRIC CONIC

C3 30.383 VHL 5.512 DLA -27.07 RAL 337.66 RAD 6647.2 VEL 12.260 PTH 7.20 VHP 7.837 DPA -14.54 RAP 311.25 ECC 1.5000
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 3 53 2677.46 -16.14 74.20 200.84 135.39 19 48 30 1677.5 2.12 58.18
 60.00 20 20 13 2474.40 -9.94 61.71 206.64 129.26 21 1 28 1474.4 6.15 43.75
 70.00 21 59 37 2182.11 -3.38 42.91 211.54 124.01 22 35 59 1182.1 10.52 23.29
 80.00 0 7 50 1793.21 2.93 17.30 215.46 119.73 0 37 43 793.2 14.81 356.25
 90.00 2 4 44 1416.10 5.43 351.49 217.38 117.60 2 28 20 416.1 17.22 329.66
 100.00 2 50 42 1267.56 2.93 338.67 215.46 119.73 3 11 49 267.6 14.81 317.62
 110.00 3 3 0 1228.93 -3.38 331.83 211.54 124.01 3 23 28 228.9 10.52 312.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8522 TRA-1.6584 TC3 -.0341 BAU .0809 SGT 2129.3 SGR 510.0 SG3 311.0 ST 53.0 SR 22.7 SF 43.5
 RDE -.4367 RRA -.0729 RC3 .1961 FAU .05109 RRT .5146 RRF -.5501 RTF -.572 CRT .8657 CRS .7269 CST .9723
 FDE .8488 FRA 2.8633 FC3-1.4559 BSP 3671 SGB 2189.5 R23 -.0922 R13 -.8799 LSA 70.6 MSA 14.9 SSA 1.1
 BDE .9576 BRA 1.6600 BC3 .1991 FSP 465 SG1 2146.1 SG2 433.9 THA 7.33 EL1 56.6 EL2 10.6 ALF 21.17

LAUNCH DATE APR 1 1971

FLIGHT TIME 150.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 400.772 EARTH TO MARS
 RL 149.48 LAL -.00 LOL 190.62 VL 33.437 GAL -5.81 AZL 92.74 HCA 138.17 SMA 201.80 ECC .27709 INC 2.7367 V1 29.809
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.018 GAP 18.03 AZP 87.96 TAL 332.77 TAP 110.99 RCA 145.89 APO 257.72 V2 26.482
 RC 59.137 GL -17.06 GP 5.49 ZAL 135.80 ZAP 160.41 ETS 164.03 ZAE 169.58 ETE 105.24 ZAC 106.47 ETC 276.17 LVI -20.85

PLANETOCENTRIC CONIC

C3 29.305 VHL 5.413 DLA -27.64 RAL 337.98 RAD 6646.7 VEL 12.217 PTH 7.17 VHP 7.612 DPA -14.21 RAP 311.45 ECC 1.4823
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 8 6 2655.66 -15.08 73.21 200.82 135.68 19 52 22 1655.7 3.22 57.26
 60.00 20 25 44 2449.17 -8.85 60.47 206.67 129.48 21 6 33 1449.2 7.25 42.52
 70.00 22 7 24 2150.23 -2.17 41.24 211.69 124.09 22 43 14 1150.2 11.68 21.56
 80.00 0 20 35 1745.56 4.53 14.68 215.84 119.54 0 49 41 745.6 16.22 353.42
 90.00 2 25 34 1342.53 8.73 347.31 218.11 117.01 2 47 56 342.5 19.10 325.08
 100.00 3 3 27 1220.03 4.53 336.05 215.84 119.54 3 23 47 220.0 16.22 314.79
 110.00 3 10 46 1197.05 -2.17 330.16 211.69 124.09 3 30 43 197.1 11.68 310.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8539 TRA-1.6408 TC3 -.0300 BAU .0830 SGT 2158.9 SGR 516.6 SG3 331.8 ST 53.9 SR 22.6 SF 45.0
 RDE -.4259 RRA -.0920 RC3 .2098 FAU .05295 RRT .5519 RRF -.5907 RTF -.8798 CRT .8756 CRS .7370 CST .9710
 FDE .8858 FRA 2.7765 FC3-1.5641 BSP 3770 SGB 2219.8 R23 -.1023 R13 -.8829 LSA 72.3 MSA 14.8 SSA 1.1
 BDE .9542 BRA 1.6434 BC3 .2119 FSP 498 SG1 2178.4 SG2 427.0 THA 7.83 EL1 57.6 EL2 10.2 ALF 20.85

LAUNCH DATE APR 1 1971

FLIGHT TIME 152.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic Data:

HELIOCENTRIC CONIC		DISTANCE 404.291										EARTH TO MARS								
RL	149.48 LAL	-.00	LOL 190.62	VL	33.390	GAL	-5.69	AZL	92.80	HCA	139.44	SMA	200.20	ECC	.27087	INC	2.7957	V1	29.809	
RP	206.75 LAP	-1.82	LOP 330.10	VP	24.917	GAP	15.61	AZP	87.88	TAL	332.83	TAP	112.29	RCA	145.97	APO	254.43	V2	26.487	
RC	59.890 GL	-17.71	GP	5.79	ZAL	135.63	ZAP	159.35	ETS	164.11	ZAE	169.51	ETE	102.24	ZAC	106.74	ETC	276.23	LVI	-21.21

Planetocentric Conic Data:

PLANETOCENTRIC CONIC		C3		DLA -28.22		RAL 338.30		RAD 6646.3		VEL 12.176		PTH 7.14		VHP 7.393		DPA -13.06		RAP 311.61		ECC 1.4659	
LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH
50.00	19 12 33	2633.68																			
60.00	20 31 34	2423.47																			
70.00	22 15 47	2116.98																			
80.00	0 35 34	1691.62																			
90.00	3 4 13	1212.12																			
100.00	3 18 26	1166.09																			
110.00	3 19 9	1163.00																			

Differential Corrections:

DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.8538	TRA	-1.6201	TC3	-.0235	BAU	.0854	SGT	2183.0	SGR	525.7	SG3	353.0	ST	54.7	SR	22.5	SS	46.5
RDE	-.4159	RRA	-.1119	RC3	.2245	FAU	.05491	RRT	.5895	RFF	-.6316	RTF	-.8027	CRT	.8858	CRS	.7479	CST	.9698
FDE	.9246	FRA	2.8945	FC3	-1.6790	BSP	3842	SGB	2245.4	R23	-.1128	R13	-.8062	LSA	75.8	MSA	14.8	SSA	1.1
BDE	.9495	BRA	1.6240	BC3	.2257	FSP	534	SG1	2205.7	SG2	420.2	THA	8.39	EL1	58.3	EL2	9.8	ALF	20.61

LAUNCH DATE APR 1 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic Data:

HELIOCENTRIC CONIC		DISTANCE 407.862										EARTH TO MARS								
RL	149.48 LAL	-.00	LOL 190.62	VL	33.284	GAL	-5.57	AZL	92.86	HCA	140.71	SMA	198.71	ECC	.26500	INC	2.8579	V1	29.809	
RP	206.72 LAP	-1.81	LOP 331.37	VP	24.821	GAP	15.20	AZP	87.79	TAL	332.93	TAP	113.84	RCA	146.05	APO	251.36	V2	26.491	
RC	60.633 GL	-18.39	GP	6.11	ZAL	135.44	ZAP	158.25	ETS	164.16	ZAE	169.39	ETE	99.68	ZAC	107.03	ETC	276.29	LVI	-21.58

Planetocentric Conic Data:

PLANETOCENTRIC CONIC		C3		DLA -28.84		RAL 338.84		RAD 6646.0		VEL 12.139		PTH 7.11		VHP 7.182		DPA -13.49		RAP 311.74		ECC 1.4509	
LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH
50.00	19 17 13	2611.51																			
60.00	20 37 46	2397.22																			
70.00	22 24 55	2082.08																			
80.00	0 54 9	1626.94																			
84.12	2 32 12	1311.83																			
100.00	3 37 1	1101.41																			
110.00	3 28 17	1128.89																			

Differential Corrections:

DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.8524	TRA	-1.5972	TC3	-.0161	BAU	.0882	SGT	2203.2	SGR	537.6	SG3	375.5	ST	55.4	SR	22.4	SS	48.1
RDE	-.4067	RRA	-.1329	RC3	.2402	FAU	.05698	RRT	.6270	RFF	-.6723	RTF	-.8857	CRT	.8963	CRS	.7598	CST	.9686
FDE	.9659	FRA	3.0180	FC3	-1.8002	BSP	3899	SGB	2257.8	R23	-.1241	R13	-.8897	LSA	75.3	MSA	14.7	SSA	1.1
BDE	.9445	BRA	1.6028	BC3	.2408	FSP	572	SG1	2269.7	SG2	413.8	THA	9.01	EL1	59.1	EL2	9.3	ALF	20.45

LAUNCH DATE APR 1 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic Data:

HELIOCENTRIC CONIC		DISTANCE 411.481										EARTH TO MARS								
RL	149.48 LAL	-.00	LOL 190.62	VL	33.213	GAL	-5.46	AZL	92.92	HCA	141.98	SMA	197.32	ECC	.25944	INC	2.9236	V1	29.809	
RP	206.70 LAP	-1.80	LOP 332.64	VP	24.730	GAP	14.79	AZP	87.70	TAL	333.02	TAP	115.00	RCA	146.13	APO	248.51	V2	26.494	
RC	61.483 GL	-19.10	GP	6.45	ZAL	135.23	ZAP	157.13	ETS	164.17	ZAE	169.22	ETE	97.57	ZAC	107.35	ETC	276.35	LVI	-21.97

Planetocentric Conic Data:

PLANETOCENTRIC CONIC		C3		DLA -29.47		RAL 338.99		RAD 6645.8		VEL 12.105		PTH 7.08		VHP 6.978		DPA -13.11		RAP 311.83		ECC 1.4372	
LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH
50.00	19 22 8	2589.11																			
60.00	20 44 22	2370.35																			
70.00	22 34 56	2045.14																			
80.00	1 20 47	1537.57																			
81.34	2 11 25	1375.50																			
100.00	4 3 39	1012.04																			
110.00	3 38 18	1091.95																			

Differential Corrections:

DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.8512	TRA	-1.5730	TC3	-.0088	BAU	.0914	SGT	2220.3	SGR	533.0	SG3	399.3	ST	56.1	SR	22.4	SS	49.7
RDE	-.3986	RRA	-.1551	RC3	.2371	FAU	.05918	RRT	.6635	RFF	-.7122	RTF	-.8083	CRT	.9073	CRS	.7726	CST	.9672
FDE	1.0095	FRA	3.1473	FC3	-1.9285	BSP	3949	SGB	2288.1	R23	-.1365	R13	-.8930	LSA	76.8	MSA	14.7	SSA	1.1
BDE	.9399	BRA	1.5807	BC3	.2373	FSP	612	SG1	2251.5	SG2	408.0	THA	9.71	EL1	59.7	EL2	8.8	ALF	20.34

LAUNCH DATE APR 1 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic Data:

HELIOCENTRIC CONIC		DISTANCE 415.145										EARTH TO MARS								
RL	149.48 LAL	-.00	LOL 190.62	VL	33.146	GAL	-5.36	AZL	92.99	HCA	143.23	SMA	196.03	ECC	.25419	INC	2.9931	V1	29.809	
RP	206.68 LAP	-1.79	LOP 333.91	VP	24.642	GAP	14.40	AZP	87.80	TAL	333.10	TAP	116.33	RCA	146.20	APO	245.86	V2	26.496	
RC	62.398 GL	-19.83	GP	6.82	ZAL	134.99	ZAP	155.97	ETS	164.16	ZAE	169.01	ETE	95.93	ZAC	107.71	ETC	276.40	LVI	-22.37

Planetocentric Conic Data:

PLANETOCENTRIC CONIC		C3		DLA -30.13		RAL 339.35		RAD 6645.3		VEL 12.073		PTH 7.05		VHP 6.780		DPA -12.71		RAP 311.89		ECC 1.4247	
LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH	LNCH TIME	L-I TIME	LNCH	AZMTH
50.00	19 27 21	2566.45																			
60.00	20 51 25	2342.77																			
70.00	22 46 2	2005.60																			
79.14	1 55 59	1422.21																			
79.14	1 55 59	1422.21																			
79.14	1 55 59	1422.21																			
110.00	3 49 24	1052.42																			

Differential Corrections:

DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY													
TDE	-.8489	TRA	-1.5466	TC3	-.0006	BAU	.0950	SGT	2232.7	SGR	572.1	SG3	424.4	ST	56.6	SR	22.3	SS	51.3
RDE	-.3913	RRA	-.1786	RC3	.2754	FAU	.06154	RRT	.6984	RFF	-.7503	RTF	-.8908	CRT	.9183	CRS	.7861	CST	.9658
FDE	1.0548	FRA	3.2812	FC3	-2.0647	BSP	3984	SGB	2304.8	R23	-.1498	R13	-.8962	LSA	78.2	MSA	14.6	SSA	1.1
BDE	.9348	BRA	1.5568	BC3	.2754	FSP	653	SG1	2269.4	SG2	402.6	THA	10.48	EL1	60.3	EL2	8.3	ALF	20.32

LAUNCH DATE APR 1 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 418.851

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.82 VL 33.084 GAL -5.25 AZL 93.07 HCA 144.91 SMA 194.03 ECC .24923 INC 3.0669 V1 29.809
RP 206.67 LAP -1.78 LOP 335.18 VP 24.538 GAP 14.01 AZP 87.30 TAL 333.19 TAP 117.70 RCA 146.27 APO 243.39 V2 26.498
RC 63.376 GL -20.59 GP 7.23 ZAL 134.74 ZAP 154.77 ETS 164.12 ZAE 168.75 ETE 94.76 ZAC 108.09 ETC 276.44 LVI -22.79

PLANETOCENTRIC CONIC

C3 25.113 VHL 5.011 DLA -30.82 RAL 339.73 RAD 8645.0 VEL 12.045 PTH 7.03 VHP 6.590 DPA -12.29 RAP 311.91 ECC 1.4133
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 32 53 2543.49 -9.56 68.28 201.63 136.83 20 15 16 1543.5 8.82 52.52
60.00 20 59 0 2314.34 -2.96 53.95 207.93 130.21 21 37 34 1314.3 13.05 35.86
70.00 22 58 31 1962.64 4.99 31.44 213.91 123.83 23 31 14 962.6 18.25 11.00
77.20 1 43 16 1460.69 16.21 359.85 220.54 116.58 2 7 37 460.7 25.76 336.29
77.20 1 43 16 1460.69 16.21 359.85 220.54 116.58 2 7 37 460.7 25.76 336.29
77.20 1 43 16 1460.69 16.21 359.85 220.54 116.58 2 7 37 460.7 25.76 336.29
110.00 4 1 53 1009.46 4.99 320.36 213.91 123.83 4 18 43 9.5 18.25 299.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8475 TRA-1.3188 TC3 .0058 BAU .0990 SGT 2242.2 SGR 595.6 SG3 450.8 ST 57.2 SR 22.4 SS 53.0
RDE -.3852 RRA -.2036 RC3 .2949 FAU .06399 RRT .7312 RRF -.7863 RTF -.8928 CRT .9297 CRS .8007 CST .9643
FDE 1.1041 FRA 3.4212 FC3-2.2058 BSP 4020 SGB 2320.0 R23 -.1644 R13 -.8991 LSA 79.8 MSA 14.6 SSA 1.1
BDE .9309 BRA 1.5323 BC3 .2950 FSP 698 SGI 2285.5 SG2 398.6 THA 11.34 EL1 60.9 EL2 7.7 ALF 20.36

LAUNCH DATE APR 1 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 422.595

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.82 VL 33.024 GAL -5.16 AZL 93.15 HCA 145.78 SMA 193.71 ECC .24454 INC 3.1454 V1 29.809
RP 206.66 LAP -1.77 LOP 336.45 VP 24.478 GAP 13.63 AZP 87.40 TAL 333.28 TAP 119.06 RCA 146.34 APO 241.08 V2 26.496
RC 64.414 GL -21.39 GP 7.66 ZAL 134.46 ZAP 153.54 ETS 164.05 ZAE 168.46 ETE 94.06 ZAC 108.51 ETC 276.48 LVI -23.24

PLANETOCENTRIC CONIC

C3 24.491 VHL 4.949 DLA -31.54 RAL 340.13 RAD 6644.8 VEL 12.019 PTH 7.01 VHP 6.406 DPA -11.84 RAP 311.89 ECC 1.4031
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 38 46 2520.18 -8.40 67.28 202.01 137.01 20 20 46 1520.2 9.98 51.52
60.00 21 7 11 2284.90 -1.66 52.54 208.45 130.27 21 45 16 1284.9 14.29 34.36
70.00 23 12 54 1914.85 6.79 28.92 214.80 123.55 23 44 49 914.8 19.83 8.18
75.42 1 32 18 1494.09 16.75 2.65 220.74 117.12 1 57 12 494.1 26.47 339.06
75.42 1 32 18 1494.09 16.75 2.65 220.74 117.12 1 57 12 494.1 26.47 339.06
75.42 1 32 18 1494.09 16.75 2.65 220.74 117.12 1 57 12 494.1 26.47 339.06
110.00 4 16 16 6249.71 6.79 295.74 214.80 123.55 6 0 26 5249.7 19.83 775.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8435 TRA-1.4870 TC3 .0157 BAU .1036 SGT 2243.7 SGR 624.0 SG3 478.7 ST 57.5 SR 22.5 SS 54.7
RDE -.3801 RRA -.2302 RC3 .3161 FAU .06661 RRT .7617 RRF -.8195 RTF -.8953 CRT .9408 CRS .8158 CST .9628
FDE 1.1553 FRA 3.5664 FC3-2.3547 BSP 4020 SGB 2326.8 R23 -.1786 R13 -.9026 LSA 81.1 MSA 14.7 SSA 1.0
BDE .9251 BRA 1.5047 BC3 .3165 FSP 745 SGI 2295.0 SG2 395.3 THA 12.33 EL1 61.3 EL2 7.2 ALF 20.51

LAUNCH DATE APR 1 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 426.374

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.82 VL 32.968 GAL -5.07 AZL 93.23 HCA 147.05 SMA 192.67 ECC .24012 INC 3.2292 V1 29.809
RP 206.69 LAP -1.78 LOP 337.72 VP 24.401 GAP 13.26 AZP 87.29 TAL 333.36 TAP 120.41 RCA 146.41 APO 238.94 V2 26.495
RC 65.512 GL -22.22 GP 8.14 ZAL 134.16 ZAP 152.27 ETS 163.95 ZAE 168.12 ETE 93.79 ZAC 108.98 ETC 276.52 LVI -23.71

PLANETOCENTRIC CONIC

C3 23.936 VHL 4.892 DLA -32.29 RAL 340.55 RAD 6644.5 VEL 11.996 PTH 6.99 VHP 6.229 DPA -11.36 RAP 311.83 ECC 1.3939
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 45 3 2496.47 -7.22 66.27 202.48 137.16 20 26 40 1496.5 11.16 50.49
60.00 21 18 3 2254.27 -.31 51.08 209.09 130.30 21 53 38 1254.3 15.57 32.78
70.00 23 30 1 1859.77 8.86 25.99 215.93 123.12 24 1 1 859.8 21.57 4.87
73.73 1 22 35 1524.13 17.30 5.23 221.01 117.70 1 47 59 524.1 27.19 341.61
73.73 1 22 35 1524.13 17.30 5.23 221.01 117.70 1 47 59 524.1 27.19 341.61
73.73 1 22 35 1524.13 17.30 5.23 221.01 117.70 1 47 59 524.1 27.19 341.61
110.00 4 33 23 6194.63 8.86 292.81 215.93 123.12 6 16 38 5194.6 21.57 271.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8449 TRA-1.4587 TC3 .0156 BAU .1084 SGT 2250.1 SGR 658.0 SG3 508.0 ST 58.0 SR 22.7 SS 56.5
RDE -.3765 RRA -.2591 RC3 .3384 FAU .06928 RRT .7880 RRF -.8497 RTF -.8539 CRT .9521 CRS .8319 CST .9610
FDE 1.2119 FRA 3.7188 FC3-2.5060 BSP 4083 SGB 2344.3 R23 -.1968 R13 -.9046 LSA 82.8 MSA 14.7 SSA 1.0
BDE .9250 BRA 1.4816 BC3 .3388 FSP 796 SGI 2310.9 SG2 394.4 THA 13.37 EL1 62.0 EL2 6.5 ALF 20.67

LAUNCH DATE APR 1 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 430.187

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.82 VL 32.915 GAL -4.98 AZL 93.32 HCA 148.32 SMA 191.70 ECC .23596 INC 3.3188 V1 29.809
RP 206.71 LAP -1.74 LOP 338.99 VP 24.327 GAP 12.90 AZP 87.17 TAL 333.45 TAP 121.77 RCA 146.47 APO 236.94 V2 26.493
RC 66.467 GL -23.08 GP 8.66 ZAL 133.84 ZAP 150.95 ETS 163.83 ZAE 167.74 ETE 93.94 ZAC 109.49 ETC 276.55 LVI -24.21

PLANETOCENTRIC CONIC

C3 23.445 VHL 4.842 DLA -33.07 RAL 341.00 RAD 6644.3 VEL 11.976 PTH 6.97 VHP 6.058 DPA -10.86 RAP 311.73 ECC 1.3858
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 51 48 2472.25 -6.01 65.24 203.04 137.29 20 33 0 1472.3 12.35 49.43
60.00 21 25 46 2222.13 1.10 49.54 209.85 130.29 22 2 48 1222.1 16.90 31.11
70.00 23 51 52 1791.54 11.37 22.30 217.43 122.42 24 21 43 791.5 23.63 .64
72.10 1 13 50 1551.78 17.84 7.66 221.35 118.31 1 39 42 551.8 27.94 344.00
72.10 1 13 50 1551.78 17.84 7.66 221.35 118.31 1 39 42 551.8 27.94 344.00
72.10 1 13 50 1551.78 17.84 7.66 221.35 118.31 1 39 42 551.8 27.94 344.00
110.00 4 55 14 6126.39 11.37 289.13 217.43 122.42 6 37 20 5126.4 23.63 267.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8433 TRA-1.4251 TC3 .0199 BAU .1139 SGT 2246.2 SGR 697.9 SG3 538.5 ST 58.3 SR 23.0 SS 58.3
RDE -.3741 RRA -.2899 RC3 .3630 FAU .07219 RRT .8116 RRF -.8763 RTF -.8970 CRT .9626 CRS .8480 CST .9590
FDE 1.2704 FRA 3.8743 FC3-2.6656 BSP 4096 SGB 2352.1 R23 -.2140 R13 -.9073 LSA 84.3 MSA 14.8 SSA 1.0
BDE .9226 BRA 1.4543 BC3 .3635 FSP 847 SGI 2318.7 SG2 395.0 THA 14.59 EL1 62.4 EL2 5.8 ALF 20.96

LAUNCH DATE APR 1 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 149.48 LAL -.00 LOL 190.62 VL 32.868 GAL -4.89 AZL 93.42 HCA 148.59 SMA 190.80 ECC .23203 INC 3.4152 V1 29.809
 RP 206.73 LAP -1.73 LOP 340.28 VP 24.256 GAP 12.59 AZP 87.05 TAL 333.53 TAP 123.12 RCA 146.53 APO 235.07 V2 26.489
 RC 87.877 GL -23.99 GP 9.22 ZAL 133.49 ZAP 149.58 ETS 163.68 ZAE 167.30 ETE 94.46 ZAC 110.05 ETC 276.57 LVI -24.74

Planetocentric Conic: C3 23.019 VHL 4.798 DLA -33.88 RAL 341.49 RAD 6644.2 VEL 11.958 PTH 6.98 VHP 5.893 DPA -10.31 RAP 311.57 ECC 1.3788
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 59 5 2447.44 -4.77 64.20 203.71 137.39 20 39 52 1447.4 13.57 48.33
 60.00 21 36 29 2188.12 2.60 47.92 210.77 130.23 22 12 57 1188.1 18.29 29.31
 70.00 0 30 9 1686.75 15.12 16.51 219.81 120.99 0 58 15 686.7 26.52 353.88
 70.51 1 5 52 1577.68 18.39 9.98 221.78 118.97 1 32 9 577.7 28.70 346.30
 70.51 1 5 52 1577.68 18.39 9.98 221.78 118.97 1 32 9 577.7 28.70 346.30
 70.51 1 5 52 1577.68 18.39 9.98 221.78 118.97 1 32 9 577.7 28.70 346.30
 110.00 5 29 35 8021.60 15.12 283.33 219.81 120.99 7 9 57 5021.6 26.52 260.70

Differential Corrections: TDE -.8407 TRA -1.3681 TC3 .0239 BAU .1200 SGT 2235.0 SGR 744.6 SG3 570.5 ORBIT DETERMINATION ACCURACY
 RDE -.3733 RRA -.3233 RC3 .3891 FAU .07513 RRT .8920 RRF -.8995 RTF -.8981 CRT .9723 CRS .8646 CST .9572
 FDE 1.3342 FRA 4.0358 FC3 -2.8258 BSP 4091 SGB 2355.8 R23 -.2302 R13 -.9105 LSA 85.8 MSA 14.9 SSA .9
 BDE .9198 BRA 1.4252 BC3 .3899 FSP 901 SG1 2322.0 SG2 397.6 THA 15.97 EL1 62.7 EL2 5.1 ALF 21.30

LAUNCH DATE APR 1 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 16 1971

Heliocentric Conic: RL 149.48 LAL -.00 LOL 190.62 VL 32.818 GAL -4.82 AZL 93.92 HCA 150.89 SMA 189.96 ECC .22834 INC 3.5191 V1 29.809
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.188 GAP 12.20 AZP 86.93 TAL 333.61 TAP 124.46 RCA 146.58 APO 233.33 V2 26.485
 RC 69.140 GL -24.94 GP 9.84 ZAL 133.12 ZAP 148.17 ETS 163.51 ZAE 166.81 ETE 95.33 ZAC 110.66 ETC 276.59 LVI -25.31

Planetocentric Conic: C3 22.658 VHL 4.760 DLA -34.73 RAL 342.00 RAD 6644.0 VEL 11.943 PTH 6.95 VHP 5.738 DPA -9.73 RAP 311.37 ECC 1.3729
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 6 58 2421.93 -3.49 63.13 204.51 137.48 20 47 20 1421.9 14.82 47.19
 60.00 21 48 26 2151.71 4.20 46.17 211.87 130.12 22 24 18 1151.7 19.75 27.34
 68.94 0 58 34 1602.29 18.94 12.23 222.31 119.67 1 25 17 602.3 29.48 348.53
 68.94 0 58 34 1602.29 18.94 12.23 222.31 119.67 1 25 17 602.3 29.48 348.53
 68.94 0 58 34 1602.29 18.94 12.23 222.31 119.67 1 25 17 602.3 29.48 348.53
 68.94 0 58 34 1602.29 18.94 12.23 222.31 119.67 1 25 17 602.3 29.48 348.53
 68.94 0 58 34 1602.29 18.94 12.23 222.31 119.67 1 25 17 602.3 29.48 348.53

Differential Corrections: TDE -.8432 TRA -1.3536 TC3 .0191 BAU .1264 SGT 2227.3 SGR 799.1 SG3 603.8 ORBIT DETERMINATION ACCURACY
 RDE -.3746 RRA -.3597 RC3 .4170 FAU .07816 RRT .8481 RRF -.9194 RTF -.8976 CRT .9812 CRS .8812 CST .9549
 FDE 1.4043 FRA 4.2030 FC3 -2.9873 BSP 4138 SGB 2366.3 R23 -.2492 R13 -.9125 LSA 87.5 MSA 15.0 SSA .9
 BDE .9227 BRA 1.4005 BC3 .4174 FSP 960 SG1 2331.4 SG2 404.5 THA 17.47 EL1 63.3 EL2 4.3 ALF 21.84

LAUNCH DATE APR 1 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 20 1971

Heliocentric Conic: RL 149.48 LAL -.00 LOL 190.62 VL 32.774 GAL -4.74 AZL 93.63 HCA 152.12 SMA 189.17 ECC .22486 INC 3.6315 V1 29.809
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.122 GAP 11.86 AZP 86.79 TAL 333.68 TAP 125.81 RCA 146.64 APO 231.71 V2 26.480
 RC 70.455 GL -25.94 GP 10.51 ZAL 132.71 ZAP 146.71 ETS 163.32 ZAE 166.25 ETE 96.49 ZAC 111.34 ETC 276.80 LVI -25.92

Planetocentric Conic: C3 22.363 VHL 4.729 DLA -35.82 RAL 342.56 RAD 6643.9 VEL 11.931 PTH 6.94 VHP 5.589 DPA -9.10 RAP 311.11 ECC 1.3680
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 33 2395.55 -2.17 62.02 205.45 137.54 20 55 29 1395.5 16.10 46.00
 60.00 22 1 58 2112.09 5.93 44.27 213.19 129.94 22 37 10 1112.1 21.32 25.16
 67.37 0 51 52 1625.97 19.49 14.44 222.94 120.43 1 18 58 626.0 30.28 350.73
 67.37 0 51 52 1625.97 19.49 14.44 222.94 120.43 1 18 58 626.0 30.28 350.73
 67.37 0 51 52 1625.97 19.49 14.44 222.94 120.43 1 18 58 626.0 30.28 350.73
 67.37 0 51 52 1625.97 19.49 14.44 222.94 120.43 1 18 58 626.0 30.28 350.73
 67.37 0 51 52 1625.97 19.49 14.44 222.94 120.43 1 18 58 626.0 30.28 350.73

Differential Corrections: TDE -.8438 TRA -1.3137 TC3 .0161 BAU .1338 SGT 2209.1 SGR 861.6 SG3 638.2 ORBIT DETERMINATION ACCURACY
 RDE -.3778 RRA -.3991 RC3 .4473 FAU .08139 RRT .8613 RRF -.8981 RTF -.8771 CRT .9885 CRS .8974 CST .9526
 FDE 1.4787 FRA 4.3718 FC3 -3.1511 BSP 4149 SGB 2371.2 R23 -.2658 R13 -.9152 LSA 89.2 MSA 15.2 SSA .9
 BDE .9245 BRA 1.3730 BC3 .4476 FSP 1019 SG1 2334.7 SG2 414.3 THA 19.20 EL1 63.8 EL2 3.4 ALF 22.46

LAUNCH DATE APR 1 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 22 1971

Heliocentric Conic: RL 149.48 LAL -.00 LOL 190.62 VL 32.733 GAL -4.67 AZL 93.75 HCA 153.39 SMA 188.44 ECC .22160 INC 3.7536 V1 29.809
 RP 206.87 LAP -1.68 LOP 344.08 VP 24.059 GAP 11.53 AZP 86.84 TAL 333.76 TAP 127.14 RCA 146.68 APO 230.20 V2 26.474
 RC 71.818 GL -27.00 GP 11.25 ZAL 132.27 ZAP 145.19 ETS 163.10 ZAE 165.60 ETE 97.89 ZAC 112.09 ETC 276.60 LVI -25.58

Planetocentric Conic: C3 22.134 VHL 4.705 DLA -36.56 RAL 343.17 RAD 6643.8 VEL 11.922 PTH 6.93 VHP 5.447 DPA -8.41 RAP 310.80 ECC 1.3643
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 24 59 2368.10 -.79 60.87 206.55 137.57 21 4 27 1368.1 17.43 44.74
 60.00 22 17 36 2067.97 7.85 42.13 214.78 129.66 22 52 4 1068.0 23.02 22.68
 65.80 0 45 43 1649.01 20.04 16.63 223.68 121.24 1 13 12 649.0 31.10 352.93
 65.80 0 45 43 1649.01 20.04 16.63 223.68 121.24 1 13 12 649.0 31.10 352.93
 65.80 0 45 43 1649.01 20.04 16.63 223.68 121.24 1 13 12 649.0 31.10 352.93
 65.80 0 45 43 1649.01 20.04 16.63 223.68 121.24 1 13 12 649.0 31.10 352.93
 65.80 0 45 43 1649.01 20.04 16.63 223.68 121.24 1 13 12 649.0 31.10 352.93

Differential Corrections: TDE -.8443 TRA -1.2707 TC3 .0127 BAU .1422 SGT 2183.9 SGR 933.4 SG3 673.5 ORBIT DETERMINATION ACCURACY
 RDE -.3832 RRA -.4421 RC3 .4803 FAU .08476 RRT .8715 RRF -.9499 RTF -.8963 CRT .9941 CRS .9127 CST .9531
 FDE 1.5584 FRA 4.5423 FC3 -3.3152 BSP 4151 SGB 2375.0 R23 -.2799 R13 -.9184 LSA 90.8 MSA 15.5 SSA .8
 BDE .9272 BRA 1.3454 BC3 .4804 FSP 1079 SG1 2336.1 SG2 427.8 THA 21.17 EL1 64.2 EL2 2.5 ALF 23.23

LAUNCH DATE APR 1 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 449.663

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.894 GAL -4.61 AZL 93.89 HCA 154.65 SMA 187.78 ECC .21853 INC 3.8869 V1 29.809
RP 206.93 LAP -1.66 LOP 345.33 VP 23.997 GAP 11.20 AZP 86.49 TAL 333.82 TAP 128.48 RCA 146.73 APO 228.79 V2 26.466
RC 73.228 GL -28.11 GP 12.06 ZAL 131.79 ZAP 143.61 ETS 162.86 ZAE 164.86 ETE 99.48 ZAC 112.92 ETC 276.60 LVI -27.29

PLANETOCENTRIC CONIC

C3 21.977 VHL 4.688 DLA -37.54 RAL 343.83 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 5.313 DPA -7.67 RAP 310.43 ECC 1.3617
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 35 25 2339.32 .66 59.67 207.85 137.57 21 14 24 1339.3 16.81 43.40
60.00 22 36 14 2017.07 10.06 39.63 216.74 129.23 23 9 51 1017.1 24.93 19.72
64.21 0 40 4 1671.69 20.58 18.83 224.56 122.12 1 7 55 671.7 31.94 355.14
64.21 0 40 4 1671.69 20.58 18.83 224.56 122.12 1 7 55 671.7 31.94 355.14
64.21 0 40 4 1671.69 20.58 18.83 224.56 122.12 1 7 55 671.7 31.94 355.14
64.21 0 40 4 1671.69 20.58 18.83 224.56 122.12 1 7 55 671.7 31.94 355.14
64.21 0 40 4 1671.69 20.58 18.83 224.56 122.12 1 7 55 671.7 31.94 355.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8456 TRA-1.2244 TC3 .0068 BAU .1515 SGT 2151.7 SGR 1015.2 SG3 709.5 ST 58.9 SR 26.5 S8 68.1
RDE -.3915 RRA -.4890 RC3 .5155 FAU .08816 RRT .8790 RRF -.9611 RTF -.8948 CRT .9978 CRS .9272 CST .9474
FDE 1.6459 FRA 4.7130 FC3-3.4731 BSP 4149 SGB 2379.2 R23 -.2911 R13 -.9219 LSA 92.5 MSA 15.7 SSA .8
BDE .9318 BRA 1.3184 BC3 .5155 FSP 1140 SG1 2337.1 SG2 445.7 THA 23.43 EL1 64.6 EL2 1.6 ALF 24.16

LAUNCH DATE APR 1 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 453.629

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.657 GAL -4.55 AZL 94.03 HCA 155.92 SMA 187.13 ECC .21566 INC 4.0332 V1 29.809
RP 207.00 LAP -1.64 LOP 346.59 VP 23.938 GAP 10.88 AZP 86.32 TAL 333.89 TAP 129.80 RCA 146.77 APO 227.48 V2 26.458
RC 74.683 GL -29.30 GP 12.96 ZAL 131.28 ZAP 141.97 ETS 162.59 ZAE 164.01 ETE 101.19 ZAC 113.84 ETC 276.60 LVI -28.07

PLANETOCENTRIC CONIC

C3 21.894 VHL 4.679 DLA -38.58 RAL 344.58 RAD 6643.7 VEL 11.912 PTH 6.92 VHP 5.186 DPA -6.85 RAP 310.00 ECC 1.3603
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 47 3 2308.85 2.19 58.40 209.36 137.54 21 25 32 1308.8 20.25 41.95
60.00 22 59 48 1954.44 12.74 36.51 219.26 128.57 23 32 21 954.4 27.18 15.95
62.58 0 34 55 1694.12 21.12 21.04 225.58 123.06 1 3 9 694.1 32.80 357.38
62.58 0 34 55 1694.12 21.12 21.04 225.58 123.06 1 3 9 694.1 32.80 357.38
62.58 0 34 55 1694.12 21.12 21.04 225.58 123.06 1 3 9 694.1 32.80 357.38
62.58 0 34 55 1694.12 21.12 21.04 225.58 123.06 1 3 9 694.1 32.80 357.38
62.58 0 34 55 1694.12 21.12 21.04 225.58 123.06 1 3 9 694.1 32.80 357.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8450 TRA-1.1726 TC3 .0027 BAU .1621 SGT 2108.2 SGR 1108.2 SG3 745.7 ST 58.6 SR 27.7 S8 70.1
RDE -.4028 RRA -.5402 RC3 .5539 FAU .09173 RRT .8843 RRF -.9701 RTF -.8932 CRT .9995 CRS .9404 CST .9445
FDE 1.7386 FRA 4.8801 FC3-3.6271 BSP 4120 SGB 2381.7 R23 -.2972 R13 -.9265 LSA 94.2 MSA 16.0 SSA .7
BDE .9361 BRA 1.2911 BC3 .5539 FSP 1201 SG1 2335.4 SG2 467.1 THA 26.05 EL1 64.8 EL2 .8 ALF 25.33

LAUNCH DATE APR 1 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 457.613

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.623 GAL -4.49 AZL 94.19 HCA 157.18 SMA 186.54 ECC .21297 INC 4.1945 V1 29.809
RP 207.08 LAP -1.63 LOP 347.86 VP 23.881 GAP 10.57 AZP 86.13 TAL 333.94 TAP 131.12 RCA 146.81 APO 226.26 V2 26.449
RC 76.180 GL -30.56 GP 13.96 ZAL 130.71 ZAP 140.27 ETS 162.31 ZAE 163.03 ETE 102.98 ZAC 114.85 ETC 276.59 LVI -28.92

PLANETOCENTRIC CONIC

C3 21.894 VHL 4.679 DLA -39.67 RAL 345.37 RAD 6643.7 VEL 11.912 PTH 6.92 VHP 5.068 DPA -5.96 RAP 309.50 ECC 1.3603
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 0 12 2278.26 3.83 57.04 211.16 137.46 21 38 8 1276.3 21.79 40.37
60.00 23 34 12 1863.91 16.53 31.86 222.87 127.30 24 5 16 863.9 30.22 10.22
60.93 0 30 17 1716.57 21.65 23.30 226.76 124.09 0 58 53 716.6 33.68 359.68
60.93 0 30 17 1716.57 21.65 23.30 226.76 124.09 0 58 53 716.6 33.68 359.68
60.93 0 30 17 1716.57 21.65 23.30 226.76 124.09 0 58 53 716.6 33.68 359.68
60.93 0 30 17 1716.57 21.65 23.30 226.76 124.09 0 58 53 716.6 33.68 359.68
60.93 0 30 17 1716.57 21.65 23.30 226.76 124.09 0 58 53 716.6 33.68 359.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8548 TRA-1.1261 TC3 -.0201 BAU .1736 SGT 2074.9 SGR 1215.1 SG3 782.6 ST 58.8 SR 29.4 S8 72.3
RDE -.4196 RRA -.5979 RC3 .5927 FAU .09494 RRT .8851 RRF -.9773 RTF -.8886 CRT .9991 CRS .9525 CST .9415
FDE 1.8498 FRA 5.0310 FC3-3.7343 BSP 4197 SGB 2404.5 R23 -.3042 R13 -.9301 LSA 96.5 MSA 16.3 SSA .7
BDE .9522 BRA 1.2750 BC3 .5930 FSP 1270 SG1 2352.2 SG2 498.9 THA 28.62 EL1 65.8 EL2 1.1 ALF 26.54

LAUNCH DATE APR 1 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 481.615

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.590 GAL -4.44 AZL 94.37 HCA 158.44 SMA 185.99 ECC .21045 INC 4.3736 V1 29.809
RP 207.17 LAP -1.61 LOP 349.12 VP 23.826 GAP 10.26 AZP 85.93 TAL 333.99 TAP 132.43 RCA 146.85 APO 225.13 V2 26.439
RC 77.718 GL -31.90 GP 15.06 ZAL 130.09 ZAP 138.49 ETS 162.00 ZAE 161.91 ETE 104.78 ZAC 115.98 ETC 276.58 LVI -29.85

PLANETOCENTRIC CONIC

C3 21.985 VHL 4.889 DLA -40.84 RAL 346.27 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 4.959 DPA -4.96 RAP 308.93 ECC 1.3618
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 15 16 2240.75 5.61 55.34 213.29 137.32 21 52 37 1240.8 23.44 38.60
59.22 0 26 6 1739.36 22.16 25.62 228.13 125.22 0 55 6 739.4 34.58 2.07
59.22 0 26 6 1739.36 22.16 25.62 228.13 125.22 0 55 6 739.4 34.58 2.07
59.22 0 26 6 1739.36 22.16 25.62 228.13 125.22 0 55 6 739.4 34.58 2.07
59.22 0 26 6 1739.36 22.16 25.62 228.13 125.22 0 55 6 739.4 34.58 2.07
59.22 0 26 6 1739.36 22.16 25.62 228.13 125.22 0 55 6 739.4 34.58 2.07
59.22 0 26 6 1739.36 22.16 25.62 228.13 125.22 0 55 6 739.4 34.58 2.07

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8608 TRA-1.0701 TC3 -.0348 BAU .1870 SGT 2023.6 SGR 1335.8 SG3 818.5 ST 58.6 SR 31.4 S8 74.7
RDE -.4410 RRA -.6607 RC3 .6354 FAU .09835 RRT .8849 RRF -.9829 RTF -.8843 CRT .9965 CRS .9629 CST .9384
FDE 1.9688 FRA 5.2087 FC3-3.8731 BSP 4224 SGB 2424.7 R23 -.3024 R13 -.9357 LSA 98.6 MSA 16.7 SSA .6
BDE .9672 BRA 1.2577 BC3 .6364 FSP 1334 SG1 2355.6 SG2 532.3 THA 32.11 EL1 66.5 EL2 2.3 ALF 28.09

LAUNCH DATE APR 1 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 465.635

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.560 GAL -4.39 AZL 94.97 HCA 159.70 SMA 185.48 ECC .2081D INC 4.5735 V1 29.809
 RP 207.26 LAP -1.58 LOP 350.39 VP 23.772 GAP 9.96 AZP 85.71 TAL 334.03 TAP 133.73 RCA 146.88 APO 224.08 V2 26.428
 RC 79.295 GL -33.35 GP 16.28 ZAL 129.41 ZAP 136.63 ETS 161.67 ZAE 160.63 ETE 106.55 ZAC 117.24 ETC 276.57 LVI -30.87

PLANETOCENTRIC CONIC

C3 22.179 VHL 4.709 DLA -42.07 RAL 347.28 RAD 6643.8 VEL 11.924 PTH 6.93 VHP 4.860 DPA -3.86 RAP 308.29 ECC 1.3650
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 32 53 2201.23 7.58 53.87 215.87 137.11 22 9 34 1201.2 25.25 36.58
 57.45 0 22 32 1762.46 22.66 28.00 229.72 126.45 0 51 54 762.5 35.51 4.57
 57.45 0 22 32 1762.46 22.66 28.00 229.72 126.45 0 51 54 762.5 35.51 4.57
 57.45 0 22 32 1762.46 22.66 28.00 229.72 126.45 0 51 54 762.5 35.51 4.57
 57.45 0 22 32 1762.46 22.66 28.00 229.72 126.45 0 51 54 762.5 35.51 4.57
 57.45 0 22 32 1762.46 22.66 28.00 229.72 126.45 0 51 54 762.5 35.51 4.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8687 TRA -1.0101 TC3 -.0529 BAU .2026 SGT 1964.7 SGR 1472.1 S63 852.8 ST 58.4 SR 33.7 S5 77.0
 RDE -.4687 RRA -.7297 RC3 .6811 FAU .10174 RRT .8819 RRF -.9872 RTF -.8782 CRT .9921 CRS .9717 CST .9351
 FDE 2.0989 FRA 5.3507 FC3-3.9713 BSP 4260 SGB 2455.0 R23 -.2952 R13 -.9422 LSA 100.9 HSA 17.1 S5A .6
 BDE .9870 BRA 1.2461 BC3 .6832 FSP 1393 S61 2387.7 S62 571.1 THA 35.82 EL1 67.3 EL2 3.7 ALF 29.89

LAUNCH DATE APR 1 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 469.669

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.532 GAL -4.35 AZL 94.80 HCA 160.96 SMA 185.00 ECC .20592 INC 4.7986 V1 29.809
 RP 207.37 LAP -1.56 LOP 351.65 VP 23.720 GAP 9.67 AZP 85.46 TAL 334.06 TAP 135.03 RCA 146.91 APO 223.10 V2 26.415
 RC 80.909 GL -34.90 GP 17.65 ZAL 128.66 ZAP 134.68 ETS 161.32 ZAE 159.17 ETE 108.24 ZAC 118.65 ETC 276.55 LVI -32.01

PLANETOCENTRIC CONIC

C3 22.494 VHL 4.743 DLA -43.39 RAL 348.42 RAD 6643.9 VEL 11.937 PTH 6.94 VHP 4.773 DPA -2.63 RAP 307.57 ECC 1.3702
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 54 4 2155.72 9.84 51.92 219.04 136.79 22 29 59 1155.7 27.29 34.17
 55.61 0 19 33 1786.29 23.12 30.49 231.55 127.80 0 49 19 786.3 36.44 7.22
 55.61 0 19 33 1786.29 23.12 30.49 231.55 127.80 0 49 19 786.3 36.44 7.22
 55.61 0 19 33 1786.29 23.12 30.49 231.55 127.80 0 49 19 786.3 36.44 7.22
 55.61 0 19 33 1786.29 23.12 30.49 231.55 127.80 0 49 19 786.3 36.44 7.22
 55.61 0 19 33 1786.29 23.12 30.49 231.55 127.80 0 49 19 786.3 36.44 7.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8777 TRA -.9449 TC3 -.0721 BAU .2203 SGT 1896.5 SGR 1626.6 S63 884.6 ST 58.0 SR 36.5 S5 79.4
 RDE -.5048 RRA -.8062 RC3 .7289 FAU .10490 RRT .8767 RRF -.9905 RTF -.8708 CRT .9860 CRS .9789 CST .9317
 FDE 2.2450 FRA 5.4743 FC3-4.0376 BSP 4309 SGB 2498.3 R23 -.2810 R13 -.9499 LSA 103.4 HSA 17.5 S5A .5
 BDE 1.0125 BRA 1.2420 BC3 .7325 FSP 1450 S61 2422.1 S62 612.7 THA 40.02 EL1 68.4 EL2 5.2 ALF 32.04

LAUNCH DATE APR 1 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 473.719

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.506 GAL -4.30 AZL 95.05 HCA 162.22 SMA 184.56 ECC .20388 INC 5.0542 V1 29.809
 RP 207.48 LAP -1.54 LOP 352.91 VP 23.669 GAP 9.38 AZP 85.19 TAL 334.09 TAP 136.31 RCA 146.93 APO 222.19 V2 26.402
 RC 82.560 GL -36.59 GP 19.19 ZAL 127.82 ZAP 132.64 ETS 160.95 ZAE 157.51 ETE 109.83 ZAC 120.22 ETC 276.54 LVI -33.28

PLANETOCENTRIC CONIC

C3 22.952 VHL 4.791 DLA -47.79 RAL 349.73 RAD 6644.1 VEL 11.956 PTH 6.96 VHP 4.698 DPA -1.25 RAP 306.77 ECC 1.3777
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 20 47 2100.09 12.59 49.49 223.08 136.27 22 55 47 1100.1 29.71 31.09
 53.69 0 17 14 1811.10 23.54 33.10 233.69 129.28 0 47 25 811.1 37.39 10.04
 53.69 0 17 14 1811.10 23.54 33.10 233.69 129.28 0 47 25 811.1 37.39 10.04
 53.69 0 17 14 1811.10 23.54 33.10 233.69 129.28 0 47 25 811.1 37.39 10.04
 53.69 0 17 14 1811.10 23.54 33.10 233.69 129.28 0 47 25 811.1 37.39 10.04
 53.69 0 17 14 1811.10 23.54 33.10 233.69 129.28 0 47 25 811.1 37.39 10.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8815 TRA -.8664 TC3 -.0790 BAU .2413 SGT 1802.5 SGR 1799.2 S63 911.7 ST 57.1 SR 39.8 S5 81.6
 RDE -.9501 RRA -.8686 RC3 .7823 FAU .10827 RRT .8708 RRF -.9930 RTF -.8529 CRT .9786 CRS .9846 CST .9279
 FDE 2.4013 FRA 5.3599 FC3-4.0837 BSP 4296 SGB 2546.8 R23 -.2563 R13 -.9594 LSA 105.8 HSA 17.8 S5A .5
 BDE 1.0390 BRA 1.2411 BC3 .7863 FSP 1489 S61 2463.0 S62 647.9 THA 44.94 EL1 69.3 EL2 6.8 ALF 34.72

LAUNCH DATE APR 1 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 477.780

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.481 GAL -4.27 AZL 95.35 HCA 163.47 SMA 184.18 ECC .20199 INC 5.3467 V1 29.809
 RP 207.60 LAP -1.52 LOP 354.17 VP 23.620 GAP 9.10 AZP 84.87 TAL 334.11 TAP 137.38 RCA 146.96 APO 221.35 V2 26.388
 RC 84.247 GL -38.42 GP 20.91 ZAL 126.89 ZAP 130.50 ETS 160.57 ZAE 155.63 ETE 111.27 ZAC 122.00 ETC 276.53 LVI -34.70

PLANETOCENTRIC CONIC

C3 23.592 VHL 4.857 DLA -46.30 RAL 351.23 RAD 6644.4 VEL 11.982 PTH 6.98 VHP 4.638 DPA .30 RAP 305.88 ECC 1.3883
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 58 12 2022.92 16.38 46.03 228.68 135.33 23 31 55 1022.9 32.93 26.55
 51.68 0 15 47 1837.04 23.89 35.84 236.18 130.92 0 46 24 837.0 38.33 13.07
 51.68 0 15 47 1837.04 23.89 35.84 236.18 130.92 0 46 24 837.0 38.33 13.07
 51.68 0 15 47 1837.04 23.89 35.84 236.18 130.92 0 46 24 837.0 38.33 13.07
 51.68 0 15 47 1837.04 23.89 35.84 236.18 130.92 0 46 24 837.0 38.33 13.07
 51.68 0 15 47 1837.04 23.89 35.84 236.18 130.92 0 46 24 837.0 38.33 13.07

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9079 TRA -.8015 TC3 -.1217 BAU .2639 SGT 1741.8 SGR 2000.9 S63 936.2 ST 57.4 SR 44.2 S5 84.6
 RDE -.6159 RRA -.9851 RC3 .8277 FAU .11000 RRT .8565 RRF -.9950 RTF -.8477 CRT .9707 CRS .9893 CST .9255
 FDE 2.6088 FRA 5.6348 FC3-4.0366 BSP 4542 SGB 2652.8 R23 -.2350 R13 -.9668 LSA 109.8 HSA 18.3 S5A .4
 BDE 1.0971 BRA 1.2700 BC3 .8366 FSP 1548 S61 2557.9 S62 703.3 THA 49.61 EL1 71.9 EL2 8.5 ALF 37.44

LAUNCH DATE APR 1 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

DISTANCE 481.854

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.82 VL 32.458 GAL -4.24 AZL 95.89 HCA 184.73 SMA 103.78 ECC .20024 INC 5.6856 V1 29.809
RP 207.73 LAP -1.30 LOP 355.42 VP 23.572 GAP 8.82 AZP 84.51 TAL 334.12 TAP 130.84 RCA 146.98 APO 220.58 V2 26.373
RC 85.989 GL -40.43 GP 22.86 ZAL 125.84 ZAP 128.24 ETS 160.19 ZAE 153.51 ETE 112.56 ZAC 123.99 ETC 276.52 LVI -36.29

PLANETOCENTRIC CONIC

C3 24.456 VHL 4.945 DLA -47.92 RAL 353.00 RAD 6644.8 VEL 12.018 PTH 7.01 VHP 4.597 DPA 2.06 RAP 304.88 ECC 1.4025
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.55 0 15 21 1864.61 24.16 38.75 239.09 132.73 0 46 25 864.6 39.25 16.37
49.55 0 15 21 1864.61 24.16 38.75 239.09 132.73 0 46 25 864.6 39.25 16.37
49.55 0 15 21 1864.61 24.16 38.75 239.09 132.73 0 46 25 864.6 39.25 16.37
49.55 0 15 21 1864.61 24.16 38.75 239.09 132.73 0 46 25 864.6 39.25 16.37
49.55 0 15 21 1864.61 24.16 38.75 239.09 132.73 0 46 25 864.6 39.25 16.37
49.55 0 15 21 1864.61 24.16 38.75 239.09 132.73 0 46 25 864.6 39.25 16.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9279 TRA -.7207 TC3 -.1476 BAU .2907 SGT 1652.1 SGR 2226.7 SG3 952.2 ST 56.9 SR 49.5 SS 87.4
RDE -.7005 RRA-1.0894 RC3 .8768 FAU .11163 RRT .8407 RRF -.9964 RTF -.8309 CRT .9624 CRS .9928 CST .9230
FDE 2.8346 FRA 5.6498 FC3-3.9515 BSP 4733 SGB 2772.6 R23 -.2040 R13 -.9753 LSA 113.9 MSA 18.7 SSA .4
BDE 1.1627 BRA 1.3062 BC3 .8891 FSP 1583 SG1 2670.4 SG2 746.1 THA 54.91 EL1 74.7 EL2 10.2 ALF 40.84

LAUNCH DATE APR 1 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 485.939

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.437 GAL -4.21 AZL 96.08 HCA 165.98 SMA 103.43 ECC .19863 INC 6.0828 V1 29.809
RP 207.86 LAP -1.47 LOP 356.68 VP 23.525 GAP 8.55 AZP 84.10 TAL 334.12 TAP 140.10 RCA 146.99 APO 219.86 V2 26.357
RC 87.725 GL -42.63 GP 25.06 ZAL 124.65 ZAP 125.86 ETS 159.81 ZAE 151.10 ETE 113.70 ZAC 126.25 ETC 276.53 LVI -38.07

PLANETOCENTRIC CONIC

C3 25.616 VHL 5.061 DLA -49.66 RAL 355.09 RAD 6645.2 VEL 12.066 PTH 7.05 VHP 4.577 DPA 4.06 RAP 303.79 ECC 1.4216
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.31 0 16 11 1894.22 24.31 41.84 242.51 134.74 0 47 45 894.2 40.11 19.99
47.31 0 16 11 1894.22 24.31 41.84 242.51 134.74 0 47 45 894.2 40.11 19.99
47.31 0 16 11 1894.22 24.31 41.84 242.51 134.74 0 47 45 894.2 40.11 19.99
47.31 0 16 11 1894.22 24.31 41.84 242.51 134.74 0 47 45 894.2 40.11 19.99
47.31 0 16 11 1894.22 24.31 41.84 242.51 134.74 0 47 45 894.2 40.11 19.99
47.31 0 16 11 1894.22 24.31 41.84 242.51 134.74 0 47 45 894.2 40.11 19.99

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9505 TRA -.6308 TC3 -.1712 BAU .3228 SGT 1550.8 SGR 2478.7 SG3 956.9 ST 56.3 SR 55.8 SS 90.2
RDE -.8130 RRA-1.2016 RC3 .9270 FAU .11281 RRT .8185 RRF -.9974 RTF -.8079 CRT .9542 CRS .9952 CST .9207
FDE 3.0869 FRA 5.5894 FC3-3.8127 BSP 4946 SGB 2923.9 R23 -.1706 R13 -.9828 LSA 118.6 MSA 10.9 SSA .3
BDE 1.2508 BRA 1.3571 BC3 .9427 FSP 1590 SG1 2816.8 SG2 784.1 THA 60.36 EL1 78.3 EL2 12.0 ALF 44.74

LAUNCH DATE APR 1 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 490.033

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.418 GAL -4.18 AZL 96.36 HCA 167.23 SMA 103.11 ECC .19714 INC 6.5556 V1 29.809
RP 208.01 LAP -1.45 LOP 357.93 VP 23.479 GAP 8.28 AZP 83.61 TAL 334.11 TAP 141.34 RCA 147.01 APO 219.20 V2 26.340
RC 89.514 GL -45.08 GP 27.57 ZAL 123.30 ZAP 123.34 ETS 159.45 ZAE 148.39 ETE 114.69 ZAC 128.82 ETC 276.56 LVI -40.09

PLANETOCENTRIC CONIC

C3 27.177 VHL 5.213 DLA -51.54 RAL 357.61 RAD 6645.9 VEL 12.130 PTH 7.10 VHP 4.586 DPA 6.35 RAP 302.57 ECC 1.4473
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.94 0 18 44 1926.41 24.29 45.14 246.58 136.96 0 50 50 926.4 40.88 23.97
44.94 0 18 44 1926.41 24.29 45.14 246.58 136.96 0 50 50 926.4 40.88 23.97
44.94 0 18 44 1926.41 24.29 45.14 246.58 136.96 0 50 50 926.4 40.88 23.97
44.94 0 18 44 1926.41 24.29 45.14 246.58 136.96 0 50 50 926.4 40.88 23.97
44.94 0 18 44 1926.41 24.29 45.14 246.58 136.96 0 50 50 926.4 40.88 23.97
44.94 0 18 44 1926.41 24.29 45.14 246.58 136.96 0 50 50 926.4 40.88 23.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9802 TRA -.9351 TC3 -.1976 BAU .3593 SGT 1448.2 SGR 2766.8 SG3 949.7 ST 55.7 SR 64.0 SS 93.6
RDE -.9717 RRA-1.3265 RC3 .9690 FAU .11237 RRT .7883 RRF -.9981 RTF -.7770 CRT .9473 CRS .9970 CST .9199
FDE 3.3947 FRA 5.4571 FC3-3.5797 BSP 5285 SGB 3122.8 R23 -.1375 R13 -.9887 LSA 124.8 MSA 19.1 SSA .3
BDE 1.3803 BRA 1.4304 BC3 .9890 FSP 1590 SG1 3013.8 SG2 817.9 THA 65.67 EL1 83.7 EL2 13.6 ALF 49.16

LAUNCH DATE APR 1 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 494.136

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.399 GAL -4.16 AZL 97.13 HCA 168.48 SMA 102.81 ECC .19578 INC 7.1282 V1 29.809
RP 208.16 LAP -1.42 LOP 359.19 VP 23.434 GAP 8.02 AZP 83.01 TAL 334.09 TAP 142.58 RCA 147.02 APO 218.60 V2 26.323
RC 91.337 GL -47.80 GP 30.42 ZAL 121.75 ZAP 120.67 ETS 159.12 ZAE 145.34 ETE 115.54 ZAC 131.73 ETC 276.61 LVI -42.16

PLANETOCENTRIC CONIC

C3 29.298 VHL 5.413 DLA -53.54 RAL .70 RAD 6646.7 VEL 12.216 PTH 7.17 VHP 4.633 DPA 8.96 RAP 301.22 ECC 1.4822
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
42.44 0 23 33 1961.97 24.03 48.65 251.45 139.41 0 56 15 962.0 41.47 28.37
42.44 0 23 33 1961.97 24.03 48.65 251.45 139.41 0 56 15 962.0 41.47 28.37
42.44 0 23 33 1961.97 24.03 48.65 251.45 139.41 0 56 15 962.0 41.47 28.37
42.44 0 23 33 1961.97 24.03 48.65 251.45 139.41 0 56 15 962.0 41.47 28.37
42.44 0 23 33 1961.97 24.03 48.65 251.45 139.41 0 56 15 962.0 41.47 28.37
42.44 0 23 33 1961.97 24.03 48.65 251.45 139.41 0 56 15 962.0 41.47 28.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -1.0119 TRA -.4287 TC3 -.2197 BAU .4027 SGT 1336.8 SGR 3089.5 SG3 925.1 ST 54.8 SR 74.3 SS 97.1
RDE -1.1949 RRA-1.4599 RC3 1.0043 FAU .11058 RRT .7463 RRF -.9967 RTF -.7340 CRT .9417 CRS .9982 CST .9199
FDE 3.7476 FRA 5.2179 FC3-3.2676 BSP 5683 SGB 3366.3 R23 -.1067 R13 -.9931 LSA 132.6 MSA 19.1 SSA .3
BDE 1.5658 BRA 1.5216 BC3 1.0280 FSP 1555 SG1 3258.9 SG2 843.5 THA 70.77 EL1 91.1 EL2 15.0 ALF 54.11

LAUNCH DATE APR 1 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

RL 149.48 LAL -.00 LOL 190.62 VL 32.363 GAL -4.14 AZL 97.84 HCA 189.72 SMA 182.54 ECC .19453 INC 7.8359 V1 29.809
RP 208.32 LAP -1.39 LOP .44 VP 23.390 GAP 7.76 AZP 82.29 TAL 334.06 TAP 143.78 RCA 147.03 APO 218.04 V2 26.304
RC 93.190 GL -50.85 GP 33.66 ZAL 119.97 ZAP 117.82 ETS 158.87 ZAE 141.90 ETE 116.29 ZAC 135.04 ETC 276.70 LVI -44.91

PLANETOCENTRIC CONIC

C3 32.243 VHL 5.678 DLA -55.67 RAL 4.57 RAD 6647.9 VEL 12.335 PTH 7.26 VHP 4.731 DPA 11.95 RAP 299.72 ECC 1.5306
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.83 0 31 34 2001.84 23.43 52.36 257.34 142.07 1 4 56 1001.8 41.78 33.23
39.83 0 31 34 2001.84 23.43 52.36 257.34 142.07 1 4 56 1001.8 41.78 33.23
39.83 0 31 34 2001.84 23.43 52.36 257.34 142.07 1 4 56 1001.8 41.78 33.23
39.83 0 31 34 2001.84 23.43 52.36 257.34 142.07 1 4 56 1001.8 41.78 33.23
39.83 0 31 34 2001.84 23.43 52.36 257.34 142.07 1 4 56 1001.8 41.78 33.23
39.83 0 31 34 2001.84 23.43 52.36 257.34 142.07 1 4 56 1001.8 41.78 33.23

DIFFERENTIAL CORRECTIONS

TDE-1.0444 TRA -.3097 TC3 -.2370 BAU .4562
RDE-1.5165 RRA-1.5957 RC3 1.0314 FAU .10739
FDE 4.1428 FRA 4.8401 FC3-2.8834 BSP 6137
BDE 1.8413 BRA 1.6255 BC3 1.0583 FSP 1474

MID-COURSE EXECUTION ACCURACY

SGT 1220.6 SGR 3444.3 SG3 877.6
RRY .6847 RRF -.9990 RTF -.6711
SGB 3654.2 R23 -.0805 R13 -.9959
SG1 3550.9 SG2 862.9 THA 75.48

ORBIT DETERMINATION ACCURACY

ST 53.3 SR 87.7 SS 100.6
CRT .9377 CRS .9990 CST .9208
LSA 142.5 MSA 18.8 SSA .2
EL1 101.4 EL2 16.0 ALF 59.46

LAUNCH DATE APR 1 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

RL 149.48 LAL -.00 LOL 190.62 VL 32.367 GAL -4.13 AZL 98.73 HCA 170.96 SMA 182.29 ECC .19340 INC 8.7346 V1 29.809
RP 208.49 LAP -1.37 LOP 1.68 VP 23.346 GAP 7.51 AZP 81.37 TAL 334.03 TAP 144.98 RCA 147.03 APO 217.54 V2 26.284
RC 95.074 GL -54.29 GP 37.34 ZAL 117.92 ZAP 114.79 ETS 158.75 ZAE 138.03 ETE 116.99 ZAC 138.81 ETC 276.85 LVI -47.75

PLANETOCENTRIC CONIC

C3 36.456 VHL 6.038 DLA -57.87 RAL 9.52 RAD 6649.4 VEL 12.504 PTH 7.39 VHP 4.902 DPA 15.36 RAP 298.04 ECC 1.6000
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
37.15 0 44 5 2047.43 22.34 56.24 264.55 144.90 1 18 12 1047.4 41.63 38.52
37.15 0 44 5 2047.43 22.34 56.24 264.55 144.90 1 18 12 1047.4 41.63 38.52
37.15 0 44 5 2047.43 22.34 56.24 264.55 144.90 1 18 12 1047.4 41.63 38.52
37.15 0 44 5 2047.43 22.34 56.24 264.55 144.90 1 18 12 1047.4 41.63 38.52
37.15 0 44 5 2047.43 22.34 56.24 264.55 144.90 1 18 12 1047.4 41.63 38.52
37.15 0 44 5 2047.43 22.34 56.24 264.55 144.90 1 18 12 1047.4 41.63 38.52

DIFFERENTIAL CORRECTIONS

TDE-1.0696 TRA -.1760 TC3 -.2489 BAU .5184
RDE-2.0056 RRA-1.7372 RC3 1.0341 FAU .10112
FDE 4.5946 FRA 4.3330 FC3-2.4014 BSP 6745
BDE 2.2731 BRA 1.7461 BC3 1.0636 FSP 1365

MID-COURSE EXECUTION ACCURACY

SGT 1104.2 SGR 3845.8 SG3 806.8
RRY .5958 RRF -.9993 RTF -.5801
SGB 4001.2 R23 -.0592 R13 -.9977
SG1 3904.7 SG2 873.5 THA 79.78

ORBIT DETERMINATION ACCURACY

ST 51.0 SR 105.9 SS 104.6
CRT .9349 CRS .9994 CST .9221
LSA 156.3 MSA 18.2 SSA .2
EL1 116.4 EL2 16.5 ALF 65.25

LAUNCH DATE APR 1 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

RL 149.48 LAL -.00 LOL 190.62 VL 32.264 GAL -4.32 AZL 82.16 HCA 187.14 SMA 180.62 ECC .18774 INC 7.8374 V1 29.809
RP 211.33 LAP -.97 LOP 17.70 VP 22.830 GAP 4.64 AZP 97.78 TAL 332.00 TAP 159.14 RCA 146.71 APO 214.53 V2 25.957
RC 121.945 GL 50.74 GP -46.78 ZAL 121.14 ZAP 93.69 ETS 182.70 ZAE 120.76 ETE 218.30 ZAC 55.65 ETC 272.08 LVI 33.36

PLANETOCENTRIC CONIC

C3 32.102 VHL 5.666 DLA 37.28 RAL 316.33 RAD 6647.8 VEL 12.330 PTH 7.26 VHP 5.074 DPA -68.58 RAP 313.25 ECC 1.5283
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 12 51 52 4060.30 -41.45 179.27 218.44 64.16 13 59 33 3060.3 -47.56 146.22
60.00 12 12 39 4165.39 -29.42 181.05 210.82 61.11 13 22 4 3165.4 -38.54 154.07
64.63 10 50 42 4402.71 -17.01 192.43 202.65 56.32 12 4 4 3402.7 -29.29 163.90
64.63 10 50 42 4402.71 -17.01 192.43 202.65 56.32 12 4 4 3402.7 -29.29 169.90
64.63 10 50 42 4402.71 -17.01 192.43 202.65 56.32 12 4 4 3402.7 -29.29 169.90
64.63 10 50 42 4402.71 -17.01 192.43 202.65 56.32 12 4 4 3402.7 -29.29 169.90

DIFFERENTIAL CORRECTIONS

TDE 1.7282 TRA .8276 TC3-1.0709 BAU .7614
RDE 3.0318 RRA 3.1573 RC3-1.4144 FAU .08890
FDE 4.5363 FRA 4.8998 FC3-2.3975 BSP 9817
BDE 3.4897 BRA 3.2640 BC3 1.7741 FSP 1247

MID-COURSE EXECUTION ACCURACY

SGT 2373.4 SGR 5298.0 SG3 708.3
RRY .9164 RRF .9994 RTF .5.81
SGB 5805.3 R23 .0587 R13 .9977
SG1 5738.7 SG2 877.0 THA 67.11

ORBIT DETERMINATION ACCURACY

ST 88.8 SR 164.7 SS 108.6
CRT .9809 CRS -.9999 CST -.9784
LSA 215.7 MSA 16.1 SSA .2
EL1 186.5 EL2 15.2 ALF 61.92

LAUNCH DATE APR 1 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

RL 149.48 LAL -.00 LOL 190.62 VL 32.262 GAL -4.35 AZL 83.52 HCA 188.34 SMA 180.58 ECC .18780 INC 8.4785 V1 29.809
RP 211.60 LAP -.94 LOP 18.91 VP 22.793 GAP 4.43 AZP 96.41 TAL 331.81 TAP 160.15 RCA 146.68 APO 214.50 V2 25.926
RC 124.177 GL 44.82 GP -43.09 ZAL 124.91 ZAP 92.58 ETS 181.22 ZAE 121.96 ETE 214.88 ZAC 59.36 ETC 271.83 LVI 30.24

PLANETOCENTRIC CONIC

C3 26.513 VHL 5.149 DLA 31.65 RAL 318.72 RAD 6645.6 VEL 12.103 PTH 7.08 VHP 4.632 DPA -65.30 RAP 308.71 ECC 1.4363
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 40 28 3868.09 -45.95 163.04 213.58 75.99 14 44 56 2868.1 -48.26 127.91
60.00 13 30 50 3893.78 -36.82 161.89 210.12 72.30 14 35 44 2893.8 -40.24 131.31
70.00 13 8 30 3959.84 -26.62 162.87 205.78 67.77 14 14 30 2959.8 -33.30 135.21
75.16 12 3 16 4162.92 -16.21 173.19 200.60 62.44 13 12 38 3162.9 -26.15 149.78
75.16 12 3 16 4162.92 -16.21 173.19 200.60 62.44 13 12 38 3162.9 -26.15 149.78
75.16 12 3 16 4162.92 -16.21 173.19 200.60 62.44 13 12 38 3162.9 -26.15 149.78
110.00 18 7 56 3006.66 -26.62 91.78 205.78 67.77 18 58 3 2006.7 -33.30 65.13

DIFFERENTIAL CORRECTIONS

TDE 1.5612 TRA .9806 TC3-1.3333 BAU .7160
RDE 2.4695 RRA 2.9574 RC3-1.5173 FAU .10271
FDE 4.8135 FRA 6.0513 FC3-3.3539 BSP 9511
BDE 2.9216 BRA 3.1157 BC3 2.0199 FSP 1555

MID-COURSE EXECUTION ACCURACY

SGT 2558.6 SGR 4993.7 SG3 877.7
RRY .9294 RRF .9994 RTF .9306
SGB 5611.0 R23 .0700 R13 .9969
SG1 5546.2 SG2 850.3 THA 63.88

ORBIT DETERMINATION ACCURACY

ST 89.0 SR 149.1 SS 117.3
CRT .9836 CRS -.9998 CST -.9802
LSA 209.0 MSA 15.2 SSA .2
EL1 173.1 EL2 13.8 ALF 59.38

LAUNCH DATE APR 1 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 149.48 LAL -0.00 LOL 190.62 VL 32.260 GAL -4.39 AZL 84.54 HCA 189.54 SMA 180.57 ECC .18793 INC 5.4612 V1 29.809
 RP 211.87 LAP -0.90 LOP 20.12 VP 22.756 GAP 4.23 AZP 95.39 TAL 331.60 TAP 161.14 RCA 146.63 APO 214.50 V2 25.098
 RC 126.431 GL 39.60 GP -39.77 ZAL 129.12 ZAP 91.18 ETS 179.84 ZAE 122.60 ETE 211.48 ZAC 62.71 ETC 271.59 LVI 27.47

Planeto-centric Conic: C3 23.070 VHL 4.803 DLA 26.73 RAL 320.76 RAD 6644.2 VEL 11.961 PTH 6.96 VHP 4.324 DPA -62.32 RAP 305.16 ECC 1.3797
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 16 6 3719.74 -47.49 149.07 207.93 86.63 15 18 5 2719.7 -43.22 114.95
 60.00 14 19 41 3710.18 -39.62 147.13 206.84 81.95 15 21 31 2710.2 -38.58 116.02
 70.00 14 26 3 3691.40 -32.11 143.95 205.18 77.68 15 27 34 2691.4 -33.93 115.36
 80.00 14 40 57 3644.60 -25.50 138.50 203.27 73.92 15 41 42 2644.6 -29.73 111.87
 90.00 15 30 9 3485.61 -22.17 125.71 202.15 71.98 16 28 15 2485.6 -27.58 100.00
 100.00 17 23 49 3119.07 -25.50 99.87 203.27 73.92 18 15 48 2119.1 -29.73 73.24
 110.00 19 25 29 2738.22 -32.11 72.87 205.18 77.68 20 11 7 1738.2 -33.93 44.28

Differential Corrections: TDE 1.4482 TRA 1.1315 TC3-1.5980 BAU .6950 SGT 2761.2 SGR 4677.7 SG3 1025.2 ST 89.3 SR 134.6 SS 122.2
 RDE 2.0589 RRA 2.7531 RC3-1.5868 FAU .11595 RRT .9401 RRF .9993 RTF .9409 CRT .9863 CRS -.9997 CST -.9821
 FDE 4.9481 FRA 7.0430 FC3-4.3513 BSP 9077 SGB 5431.9 R23 .0825 R13 .9959 LSA 202.1 MSA 14.3 SSA .3
 BDE 2.5172 BRA 2.9765 BC3 2.2534 FSP 1799 SGI 5369.6 SG2 820.3 THA 60.21 EL1 161.1 EL2 12.3 ALF 56.58

LAUNCH DATE APR 1 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 149.48 LAL -0.00 LOL 190.62 VL 32.259 GAL -4.42 AZL 85.33 HCA 190.73 SMA 180.55 ECC .18813 INC 4.6720 V1 29.809
 RP 212.14 LAP -0.87 LOP 21.32 VP 22.719 GAP 4.03 AZP 94.59 TAL 331.38 TAP 162.11 RCA 146.59 APO 214.52 V2 25.864
 RC 128.706 GL 35.01 GP -36.80 ZAL 130.84 ZAP 89.63 ETS 178.60 ZAE 122.78 ETE 208.21 ZAC 65.70 ETC 271.35 LVI 25.03

Planeto-centric Conic: C3 20.848 VHL 4.566 DLA 22.43 RAL 322.53 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 4.102 DPA -59.62 RAP 302.28 ECC 1.3431
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 44 2 3601.06 -47.34 137.62 202.98 95.44 15 44 3 2601.1 -39.74 105.70
 60.00 14 55 51 3569.60 -40.30 135.25 203.44 89.97 15 55 20 2569.6 -35.90 105.06
 70.00 15 14 46 3513.86 -33.89 130.42 203.12 85.48 16 13 20 2513.9 -32.21 101.81
 80.00 15 49 9 3406.05 -28.90 121.62 202.49 82.14 16 45 55 2406.1 -29.25 94.20
 90.00 16 54 8 3196.32 -26.86 105.87 202.14 80.80 17 47 22 2196.3 -28.02 78.92
 100.00 18 32 1 2880.52 -26.90 82.99 202.49 82.14 19 20 1 1880.5 -29.25 55.57
 110.00 20 14 12 2560.68 -33.89 59.34 203.12 85.48 20 56 53 1560.7 -32.21 30.73

Differential Corrections: TDE 1.3783 TRA 1.2698 TC3-1.8435 BAU .6800 SGT 2981.7 SGR 4385.5 SG3 1154.3 ST 90.4 SR 122.6 SS 125.7
 RDE 1.7667 RRA 2.5717 RC3-1.5978 FAU .12612 RRT .9485 RRF .9991 RTF .9492 CRT .9892 CRS -.9995 CST -.9843
 FDE 5.0356 FRA 7.9230 FC3-5.2371 BSP 8861 SGB 5303.1 R23 .0951 R13 .9946 LSA 197.1 MSA 13.3 SSA .4
 BDE 2.2408 BRA 2.8769 BC3 2.4397 FSP 2037 SGI 5244.0 SG2 789.8 THA 56.32 EL1 152.0 EL2 10.7 ALF 53.66

LAUNCH DATE APR 1 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 149.48 LAL -0.00 LOL 190.62 VL 32.259 GAL -4.46 AZL 85.96 HCA 191.93 SMA 180.55 ECC .18839 INC 4.0412 V1 29.809
 RP 212.43 LAP -0.83 LOP 22.53 VP 22.682 GAP 3.83 AZP 93.95 TAL 331.14 TAP 163.07 RCA 146.54 APO 214.63 V2 25.832
 RC 130.999 GL 31.00 GP -34.15 ZAL 133.12 ZAP 87.97 ETS 177.51 ZAE 122.56 ETE 205.16 ZAC 68.38 ETC 271.13 LVI 22.88

Planeto-centric Conic: C3 19.370 VHL 4.401 DLA 18.68 RAL 324.08 RAD 6642.6 VEL 11.806 PTH 6.83 VHP 3.938 DPA -57.20 RAP 299.87 ECC 1.3188
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 6 50 3504.18 -46.31 128.50 199.17 102.40 16 5 14 2504.2 -36.35 98.92
 60.00 15 24 29 3457.18 -39.87 125.73 200.63 96.42 16 22 6 2457.2 -33.01 96.93
 70.00 15 51 11 3378.54 -34.12 119.87 201.14 91.71 16 47 30 2378.5 -29.86 91.98
 80.00 16 34 46 3241.95 -29.82 109.33 201.14 88.43 17 28 48 2241.9 -27.44 82.36
 90.00 17 44 49 3015.81 -26.15 92.84 201.07 87.19 18 35 5 2015.8 -26.48 65.95
 100.00 19 17 38 2716.42 -29.82 70.89 201.14 88.43 20 2 54 1716.4 -27.44 43.72
 110.00 20 50 38 2425.36 -34.12 48.79 201.14 91.71 21 31 3 1425.4 -29.86 20.89

Differential Corrections: TDE 1.3339 TRA 1.4482 TC3-2.0728 BAU .6741 SGT 3210.3 SGR 4106.9 SG3 1262.9 ST 91.9 SR 112.2 SS 127.8
 RDE 1.5456 RRA 2.4020 RC3-1.5748 FAU .13458 RRT .9552 RRF .9989 RTF .5357 CRT .9920 CRS -.9992 CST -.9864
 FDE 5.0742 FRA 8.6703 FC3-6.0149 BSP 8699 SGB 5212.7 R23 .1072 R13 .9932 LSA 192.9 MSA 12.4 SSA .4
 BDE 2.0416 BRA 2.8048 BC3 2.6032 FSP 2237 SGI 5157.5 SG2 756.8 THA 52.30 EL1 144.7 EL2 9.0 ALF 50.73

LAUNCH DATE APR 1 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 149.48 LAL -0.00 LOL 190.62 VL 32.259 GAL -4.51 AZL 86.47 HCA 193.12 SMA 180.56 ECC .18872 INC 3.5232 V1 29.809
 RP 212.72 LAP -0.80 LOP 23.72 VP 22.645 GAP 3.63 AZP 93.43 TAL 330.89 TAP 164.01 RCA 146.48 APO 214.63 V2 25.799
 RC 133.312 GL 27.48 GP -31.78 ZAL 135.04 ZAP 86.22 ETS 176.55 ZAE 122.02 ETE 202.36 ZAC 70.77 ETC 270.92 LVI 20.98

Planeto-centric Conic: C3 18.370 VHL 4.286 DLA 15.42 RAL 325.46 RAD 6642.1 VEL 11.764 PTH 6.79 VHP 3.816 DPA -55.03 RAP 297.80 ECC 1.3023
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 25 55 3424.00 -44.89 121.30 196.42 107.79 16 22 59 2424.0 -33.04 93.79
 60.00 15 48 2 3365.14 -38.89 118.10 198.52 101.51 16 44 7 2365.1 -30.23 90.72
 70.00 16 20 17 3270.20 -33.58 111.47 199.57 96.65 17 14 47 2270.2 -27.42 84.50
 80.00 17 9 43 3115.32 -29.68 100.12 199.97 93.37 18 1 38 2115.3 -25.09 73.56
 90.00 18 22 40 2879.85 -26.20 82.90 200.06 92.16 19 10 40 1879.8 -24.47 56.51
 100.00 19 52 35 2589.79 -29.68 61.49 199.97 93.37 20 35 44 1589.8 -25.29 34.93
 110.00 21 19 43 2317.02 -33.58 40.38 199.57 96.65 21 58 20 1317.0 -27.42 13.42

Differential Corrections: TDE 1.3066 TRA 1.6059 TC3-2.2864 BAU .6757 SGT 3442.6 SGR 3842.8 SG3 1351.7 ST 93.5 SR 103.0 SS 128.8
 RDE 1.3736 RRA 2.2430 RC3-1.5302 FAU .14161 RRT .9604 RRF .9986 RTF .9610 CRT .9944 CRS -.9989 CST -.9884
 FDE 5.0775 FRA 9.2900 FC3-6.6739 BSP 8579 SGB 5159.3 R23 .1180 R13 .9917 LSA 189.2 MSA 11.5 SSA .5
 BDE 1.8958 BRA 2.7586 BC3 2.7512 FSP 2399 SGI 5108.5 SG2 721.8 THA 48.27 EL1 139.0 EL2 7.3 ALF 47.77

LAUNCH DATE APR 1 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.260 GAL -4.55 AZL 86.91 HCA 194.32 SMA 180.57 ECC .18910 INC 3.0940 V1 29.809
 RP 213.01 LAP -.76 LOP 24.92 VP 22.608 GAP 3.44 AZP 93.00 TAL 330.63 TAP 164.94 RCA 146.42 APO 214.71 V2 25.766
 RC 135.643 GL 24.38 GP -29.65 ZAL 136.65 ZAP 84.44 ETS 175.71 ZAE 121.23 ETE 199.82 ZAC 72.92 ETC 270.72 LVI 19.30

DISTANCE 581.790
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.692 VHL 4.206 DLA 12.57 RAL 326.71 RAD 6641.6 VEL 11.735 PTH 6.77 VHP 3.724 DPA -53.07 RAP 296.00 ECC 1.2912
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 42 13 3356.95 -43.34 115.60 194.52 111.95 16 38 10 2357.0 -30.47 89.80
 60.00 16 7 54 3288.60 -37.68 111.97 197.05 103.51 17 2 43 2288.6 -27.68 85.84
 70.00 16 44 24 3181.19 -32.67 104.68 198.46 100.56 17 37 25 2181.2 -25.09 78.63
 80.00 17 38 3 3013.09 -29.04 92.60 199.13 97.27 18 28 17 2013.1 -23.15 66.73
 90.00 18 53 0 2771.23 -27.67 75.00 199.31 96.08 19 39 11 1771.2 -22.41 49.22
 100.00 20 20 55 2487.56 -29.04 53.97 199.13 97.27 21 2 23 1487.6 -23.15 28.09
 110.00 21 43 51 2228.00 -32.67 33.60 198.46 100.56 22 20 59 1228.0 -25.09 7.55

DIFFERENTIAL CORRECTIONS
 TDE 1.2915 TRA 1.7622 TC3-2.4853 BAU .6834
 RDE 1.2361 RRA 2.0945 RC3-1.4737 FAU .14758
 FDE 5.0520 FRA 9.7938 FC3-7.2216 BSP 8497
 BDE 1.7877 BRA 2.7372 BC3 2.8894 FSP 2520

MID-COURSE EXECUTION ACCURACY
 SGT 3676.2 SGR 3594.0 SG3 1422.6
 RRT .9645 RRF .9983 RTF .9652
 SGB 5141.1 R23 .1271 R13 .9902
 SG1 5095.3 SG2 684.9 THA 44.33

ORBIT DETERMINATION ACCURACY
 ST 95.4 SR 94.9 SS 128.9
 CRT .9965 CRS -.9984 CST -.9901
 LSA 186.1 MSA 10.8 SSA .6
 EL1 134.5 EL2 5.7 ALF 44.85

LAUNCH DATE APR 1 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.262 GAL -4.60 AZL 87.27 HCA 195.51 SMA 180.59 ECC .18954 INC 2.7304 V1 29.809
 RP 213.31 LAP -.73 LOP 26.11 VP 22.571 GAP 3.25 AZP 92.63 TAL 330.35 TAP 165.86 RCA 146.36 APO 214.82 V2 25.732
 RC 137.991 GL 21.65 GP -27.74 ZAL 138.02 ZAP 82.63 ETS 174.99 ZAE 120.26 ETE 197.54 ZAC 74.85 ETC 270.53 LVI 17.81

DISTANCE 585.965
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.240 VHL 4.152 DLA 10.07 RAL 327.84 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 3.656 DPA -51.31 RAP 294.41 ECC 1.2437
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 56 22 3300.43 -41.80 111.04 193.28 115.19 16 51 22 2300.4 -28.03 86.62
 60.00 16 24 59 3224.26 -36.39 106.99 196.08 108.67 17 18 43 2224.3 -25.39 81.94
 70.00 17 4 54 3106.82 -31.61 99.15 197.75 103.68 17 56 41 2106.8 -22.95 73.92
 80.00 18 1 50 2928.47 -28.15 86.47 198.60 100.38 18 50 38 1928.5 -21.13 61.25
 90.00 19 18 16 2681.81 -26.86 68.59 198.85 99.19 20 2 57 1681.8 -20.44 43.41
 100.00 20 44 42 2402.94 -28.15 47.84 198.60 100.38 21 24 45 1402.9 -21.13 22.52
 110.00 22 4 20 2153.63 -31.61 28.06 197.75 103.68 22 40 14 1153.6 -22.95 2.84

DIFFERENTIAL CORRECTIONS
 TDE 1.2898 TRA 1.9217 TC3-2.6623 BAU .6922
 RDE 1.1329 RRA 1.9648 RC3-1.3899 FAU .15057
 FDE 5.0483 FRA 10.2376 FC3-7.5614 BSP 8566
 BDE 1.7167 BRA 2.7484 BC3 3.0033 FSP 2653

MID-COURSE EXECUTION ACCURACY
 SGT 3912.8 SGR 3370.4 SG3 1481.0
 RRT .9669 RRF .9979 RTF .9680
 SGB 5164.2 R23 .1353 R13 .9887
 SG1 5122.3 SG2 656.8 THA 40.60

ORBIT DETERMINATION ACCURACY
 ST 97.8 SR 88.4 SS 129.4
 CRT .9981 CRS -.9977 CST -.9919
 LSA 184.4 MSA 10.1 SSA .7
 EL1 131.8 EL2 4.0 ALF 42.12

LAUNCH DATE APR 1 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.263 GAL -4.65 AZL 87.58 HCA 196.69 SMA 180.62 ECC .19004 INC 2.4175 V1 29.809
 RP 213.61 LAP -.69 LOP 27.30 VP 22.534 GAP 3.06 AZP 92.32 TAL 330.07 TAP 166.78 RCA 146.29 APO 214.94 V2 25.697
 RC 140.356 GL 19.24 GP -26.02 ZAL 139.19 ZAP 80.82 ETS 174.36 ZAE 119.13 ETE 195.50 ZAC 76.59 ETC 270.36 LVI 16.49

DISTANCE 590.140
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.950 VHL 4.117 DLA 7.88 RAL 328.87 RAD 6641.4 VEL 11.704 PTH 6.74 VHP 3.606 DPA -40.71 RAP 293.00 ECC 1.2789
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 8 46 3252.44 -40.34 107.37 192.51 117.74 17 2 59 2252.4 -25.89 84.05
 60.00 16 39 52 3169.69 -35.12 102.91 195.51 111.19 17 32 42 2169.7 -23.36 78.75
 70.00 17 22 37 3043.93 -30.50 94.58 197.37 106.17 18 13 21 2043.9 -21.02 70.06
 80.00 18 22 13 2857.29 -27.18 81.41 198.35 102.87 19 9 50 1857.3 -19.28 56.78
 90.00 19 39 50 2606.80 -25.94 63.30 198.65 101.69 20 23 16 1606.8 -18.63 38.65
 100.00 21 5 4 2331.78 -27.18 42.77 198.35 102.87 21 43 56 1331.8 -19.28 18.15
 110.00 22 22 3 2090.75 -30.50 23.50 197.37 106.17 22 56 54 1090.8 -21.02 358.98

DIFFERENTIAL CORRECTIONS
 TDE 1.2940 TRA 2.0781 TC3-2.8282 BAU .7089
 RDE 1.0433 RRA 1.8382 RC3-1.3188 FAU .15395
 FDE 5.0030 FRA 10.5624 FC3-7.8631 BSP 8612
 BDE 1.6622 BRA 2.7744 BC3 3.1197 FSP 2728

MID-COURSE EXECUTION ACCURACY
 SGT 4146.1 SGR 3154.9 SG3 1522.7
 RRT .9694 RRF .9973 RTF .1.09
 SGB 5210.0 R23 .1403 R13 .9875
 SG1 5172.8 SG2 621.2 THA 37.04

ORBIT DETERMINATION ACCURACY
 ST 100.2 SR 82.3 SS 128.8
 CRT .9992 CRS -.9989 CST -.9932
 LSA 182.5 MSA 9.6 SSA .8
 EL1 129.6 EL2 2.6 ALF 39.40

LAUNCH DATE APR 1 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.266 GAL -4.71 AZL 87.85 HCA 197.88 SMA 180.66 ECC .19059 INC 2.1458 V1 29.809
 RP 213.92 LAP -.66 LOP 28.49 VP 22.498 GAP 2.87 AZP 92.04 TAL 329.77 TAP 167.65 RCA 146.23 APO 215.09 V2 25.662
 RC 142.739 GL 17.09 GP -24.46 ZAL 140.20 ZAP 79.02 ETS 173.82 ZAE 117.89 ETE 193.68 ZAC 78.16 ETC 270.20 LVI 15.30

DISTANCE 594.311
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.782 VHL 4.097 DLA 5.95 RAL 329.83 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 3.570 DPA -48.25 RAP 291.73 ECC 1.2762
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 47 3211.51 -39.00 104.36 192.10 119.77 17 13 19 2211.5 -24.03 81.93
 60.00 16 53 1 3123.11 -33.92 99.55 195.24 113.21 17 45 4 2123.1 -21.57 76.11
 70.00 17 38 9 2990.32 -29.42 90.78 197.24 108.18 18 28 0 1990.3 -19.29 66.86
 80.00 18 39 58 2796.73 -26.19 77.18 198.32 104.88 19 26 35 1796.7 -17.61 53.06
 90.00 19 58 34 2543.08 -24.98 58.80 198.66 103.70 20 40 57 1543.1 -16.98 34.71
 100.00 21 22 50 2271.21 -26.19 38.55 198.32 104.88 22 0 41 1271.2 -17.61 14.43
 110.00 22 37 36 2037.14 -29.42 19.70 197.24 108.18 23 11 33 1037.1 -19.29 355.77

DIFFERENTIAL CORRECTIONS
 TDE 1.3097 TRA 2.2395 TC3-2.9707 BAU .7202
 RDE .9798 RRA 1.7312 RC3-1.2164 FAU .15340
 FDE 5.0134 FRA 10.8741 FC3-7.9134 BSP 8822
 BDE 1.6356 BRA 2.8306 BC3 3.2101 FSP 2845

MID-COURSE EXECUTION ACCURACY
 SGT 4381.4 SGR 2966.0 SG3 1557.7
 RRT .9697 RRF .9967 RTF .9720
 SGB 5291.0 R23 .1464 R13 .9861
 SG1 5256.4 SG2 603.6 THA 33.79

ORBIT DETERMINATION ACCURACY
 ST 103.1 SR 77.7 SS 129.3
 CRT .9998 CRS -.9960 CST -.9946
 LSA 182.4 MSA 9.0 SSA .9
 EL1 129.1 EL2 1.3 ALF 36.98

LAUNCH DATE APR 1 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 5 1971

MELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.268 GAL -4.77 AZL 88.09 HCA 199.06 SMA 180.70 ECC .19119 INC 1.9077 V1 29.809
 RP 214.24 LAP -.62 LOP 29.67 VP 22.461 GAP 2.68 AZP 91.80 TAL 329.47 TAP 168.52 RCA 146.15 APO 215.25 V2 25.627
 RC 145.138 GL 13.18 GP -23.04 ZAL 141.07 ZAP 77.23 ETS 173.35 ZAE 116.57 ETE 192.06 ZAC 79.80 ETC 270.04 LVI 14.23

DISTANCE 598.486 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.705 VHL 4.087 DLA 4.25 RAL 330.73 RAD 6641.3 VEL 11.694 PTH 6.73 VHP 3.545 DPA -46.93 RAP 290.59 ECC 1.2749
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 38 3176.42 -37.78 101.88 191.94 121.40 17 22 34 2176.4 -22.41 80.17
 60.00 17 4 42 3083.12 -32.81 96.74 195.19 114.84 17 56 5 2083.1 -19.99 73.90
 70.00 17 51 54 2944.26 -28.40 87.59 197.30 109.82 18 40 59 1944.3 -17.76 64.16
 80.00 18 55 37 2744.75 -25.23 73.62 198.46 106.52 19 41 22 1744.7 -16.12 49.92
 90.00 20 15 3 2488.42 -24.05 55.14 198.84 105.35 20 56 31 1488.4 -15.50 31.38
 100.00 21 38 29 2219.22 -23.23 34.98 198.46 106.52 22 15 28 1219.2 -16.12 11.29
 110.00 22 51 21 1991.08 -28.40 16.50 197.30 109.82 23 24 32 991.1 -17.76 353.08

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3240 TRA 2.3929 TC3-3.1119 BAU .7417 SGT 4607.5 SGR 2772.3 SGB 1573.1 ST 105.7 SR 72.4 SS 127.3
 RDE .9108 RRA 1.8155 RC3-1.1593 FAU .15700 RRT .9723 RRF .9958 RTF .9750 CRT .9998 CRS -.9947 CST -.9954
 FDE 4.9126 FRA11.0171 FC3-8.1363 BSP 8881 SGB 5377.2 R23 .1441 R13 .9858 LSA 180.4 MSA 8.9 SSA 1.0
 BDE 1.6070 BRA 2.8872 BC3 3.3208 FSP 2830 SGI 5348.1 SGI 558.7 THA 30.70 EL1 128.1 EL2 1.1 ALF 34.40

LAUNCH DATE APR 1 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 7 1971

MELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.272 GAL -4.83 AZL 88.30 HCA 200.24 SMA 180.75 ECC .19184 INC 1.6968 V1 29.809
 RP 214.55 LAP -.59 LOP 30.85 VP 22.425 GAP 2.49 AZP 91.59 TAL 329.15 TAP 169.39 RCA 146.08 APO 215.43 V2 25.591
 RC 147.555 GL 13.47 GP -21.74 ZAL 141.85 ZAP 75.48 ETS 172.94 ZAE 115.19 ETE 190.63 ZAC 80.90 ETC 269.90 LVI 13.26

DISTANCE 602.656 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.703 VHL 4.087 DLA 2.73 RAL 331.56 RAD 6641.3 VEL 11.694 PTH 6.73 VHP 3.530 DPA -45.72 RAP 289.57 ECC 1.2749
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 38 31 3146.27 -36.69 99.83 191.98 122.72 17 30 57 2146.3 -21.00 78.69
 60.00 17 15 12 3048.69 -31.80 94.38 195.32 116.18 18 6 0 2048.7 -18.61 72.04
 70.00 18 4 12 2904.54 -27.46 84.88 197.51 111.16 18 52 37 1904.5 -16.41 61.88
 80.00 19 9 33 2699.88 -24.33 70.59 198.75 107.87 19 54 33 1699.9 -14.78 47.26
 90.00 20 29 43 2441.23 -23.16 51.97 199.14 106.70 21 10 24 1441.2 -14.17 28.55
 100.00 21 52 25 2174.35 -24.33 31.96 198.75 107.87 22 28 40 1174.4 -14.78 8.63
 110.00 23 3 39 1951.35 -27.46 13.80 197.51 111.16 23 36 10 951.4 -16.41 350.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3459 TRA 2.5490 TC3-3.2357 BAU .7619 SGT 4632.6 SGR 2600.6 SGB 1583.5 ST 108.6 SR 68.2 SS 126.2
 RDE .8602 RRA 1.5157 RC3-1.0829 FAU .15735 RRT .9729 RRF .9948 RTF .9765 CRT .9994 CRS -.9932 CST -.9962
 FDE 4.8600 FRA11.1335 FC3-8.1553 BSP 9050 SGB 5488.0 R23 .1432 R13 .9852 LSA 179.8 MSA 8.7 SSA 1.1
 BDE 1.5973 BRA 2.9656 BC3 3.4121 FSP 2852 SGI 5482.1 SGI 532.2 THA 27.92 EL1 128.3 EL2 2.0 ALF 32.13

LAUNCH DATE APR 1 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 9 1971

MELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.275 GAL -4.89 AZL 88.49 HCA 201.41 SMA 180.81 ECC .19254 INC 1.5086 V1 29.809
 RP 214.88 LAP -.55 LOP 32.03 VP 22.389 GAP 2.31 AZP 91.40 TAL 328.83 TAP 170.24 RCA 145.79 APO 215.62 V2 25.554
 RC 149.988 GL 11.94 GP -20.56 ZAL 142.53 ZAP 73.78 ETS 172.59 ZAE 113.78 ETE 189.35 ZAC 82.09 ETC 269.78 LVI 12.37

DISTANCE 606.823 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.760 VHL 4.094 DLA 1.39 RAL 332.35 RAD 6641.4 VEL 11.696 PTH 6.73 VHP 3.523 DPA -44.60 RAP 288.66 ECC 1.2758
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 46 34 3120.32 -35.72 98.10 192.17 123.80 17 38 34 2120.3 -19.77 77.45
 60.00 17 24 40 3018.94 -30.89 92.38 195.58 117.28 18 14 59 2018.9 -17.40 70.46
 70.00 18 13 16 2870.13 -26.59 82.58 197.84 112.27 19 3 6 1870.1 -15.22 59.93
 80.00 19 22 4 2660.96 -23.49 68.00 199.13 108.98 20 6 25 1661.0 -13.60 44.98
 90.00 20 42 51 2400.29 -22.33 49.26 199.55 107.81 21 22 51 1400.3 -12.99 26.12
 100.00 22 4 56 2135.43 -23.49 29.37 199.13 108.98 22 40 31 1135.4 -13.60 6.35
 110.00 23 14 43 1916.95 -26.59 11.50 197.84 112.27 23 46 40 917.0 -15.22 348.85

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3721 TRA 2.7054 TC3-3.3479 BAU .7834 SGT 5054.3 SGR 2442.3 SGB 1586.7 ST 111.6 SR 64.6 SS 125.2
 RDE .8181 RRA 1.4238 RC3-1.0085 FAU .15692 RRT .9730 RRF .9936 RTF .5.77 CRT .9984 CRS -.9915 CST -.9969
 FDE 4.8088 FRA11.2487 FC3-8.1055 BSP 9273 SGB 5613.5 R23 .1409 R13 .9847 LSA 179.5 MSA 8.7 SSA 1.2
 BDE 1.5974 BRA 3.0371 BC3 3.4965 FSP 2865 SGI 5590.3 SGI 509.9 THA 25.41 EL1 128.9 EL2 3.1 ALF 30.04

LAUNCH DATE APR 1 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 11 1971

MELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.279 GAL -4.96 AZL 88.66 HCA 202.58 SMA 180.87 ECC .19329 INC 1.3400 V1 29.809
 RP 215.21 LAP -.51 LOP 33.20 VP 22.352 GAP 2.12 AZP 91.24 TAL 328.50 TAP 171.08 RCA 145.91 APO 215.83 V2 25.518
 RC 152.438 GL 10.55 GP -19.47 ZAL 143.15 ZAP 72.08 ETS 172.29 ZAE 112.34 ETE 188.22 ZAC 83.18 ETC 269.66 LVI 11.56

DISTANCE 610.988 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.866 VHL 4.107 DLA .20 RAL 333.10 RAD 6641.4 VEL 11.700 PTH 6.73 VHP 3.523 DPA -43.58 RAP 287.84 ECC 1.2776
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 53 55 3097.96 -34.87 96.66 192.47 124.69 17 45 33 2098.0 -18.71 76.59
 60.00 17 33 17 2993.22 -30.08 90.69 195.94 118.20 18 23 10 1993.2 -16.34 69.11
 70.00 18 25 18 2840.27 -25.80 80.62 198.27 113.19 19 12 38 1840.3 -14.16 58.26
 80.00 19 33 22 2627.10 -22.72 65.78 199.60 109.91 20 17 9 1627.1 -12.55 43.01
 90.00 20 54 43 2364.63 -21.57 46.92 200.04 108.74 21 34 7 1364.6 -11.94 24.03
 100.00 22 16 14 2101.57 -22.72 27.15 199.60 109.91 22 51 16 1101.6 -12.55 4.38
 110.00 23 24 44 1887.09 -25.80 9.54 198.27 113.19 23 56 11 887.1 -14.16 347.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4027 TRA 2.8624 TC3-3.4475 BAU .8056 SGT 5272.2 SGR 2295.5 SGB 1583.1 ST 114.8 SR 61.4 SS 124.1
 RDE .7827 RRA 1.3379 RC3 -.9375 FAU .15587 RRT .9727 RRF .9922 RTF .9788 CRT .9970 CRS -.9895 CST -.9975
 FDE 4.7580 FRA11.2990 FC3-8.0010 BSP 9521 SGB 5750.3 R23 .1372 R13 .9844 LSA 179.6 MSA 8.8 SSA 1.2
 BDE 1.6063 BRA 3.1597 BC3 3.5727 FSP 2868 SGI 5729.3 SGI 490.6 THA 23.13 EL1 130.1 EL2 4.2 ALF 28.09

LAUNCH DATE APR 1 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

DISTANCE 619.150

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.283 GAL -8.02 AZL 88.81 HCA 203.75 SMA 100.94 ECC .19408 INC 1.1871 V1 29.809
RP 215.34 LAP -.48 LOP 34.37 VP 22.316 GAP 1.94 AZP 91.09 TAL 328.15 TAP 171.90 RCA 145.82 APO 216.06 V2 25.480
RC 154.904 GL 9.30 GP -18.47 ZAL 143.72 ZAP 70.44 ETS 172.04 ZAE 110.90 ETE 187.21 ZAC 84.19 ETC 269.55 LVI 10.82

PLANETOCENTRIC CONIC

C3 17.013 VHL 4.125 DLA -.87 RAL 333.81 RAD 6641.5 VEL 11.707 PTH 6.74 VHP 3.529 DPA -42.63 RAP 287.11 ECC 1.2800
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 39 3078.70 -34.11 95.43 192.86 125.43 17 51 58 2078.7 -17.78 75.49
60.00 17 41 9 2970.95 -29.35 89.25 196.38 118.96 18 30 40 1971.0 -15.42 67.95
70.00 18 34 25 2814.32 -25.10 78.93 198.76 113.96 19 21 19 1814.3 -13.24 56.81
80.00 19 43 38 2597.58 -22.02 63.86 200.14 110.69 20 26 56 1597.6 -11.62 41.31
90.00 21 5 29 2333.50 -20.88 44.90 200.59 109.52 21 44 22 1333.5 -11.01 22.21
100.00 22 26 30 2072.05 -22.02 25.23 200.14 110.69 23 1 2 1072.0 -11.62 2.68
110.00 23 33 51 1861.14 -25.10 7.85 198.76 113.96 24 4 53 861.1 -13.24 345.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4349 TRA 3.0179 TC3-3.5394 BAU .8291 SGT 5484.2 SGR 2158.7 SG3 1573.4 ST 117.9 SR 58.4 SS 122.8
RDE .7320 RRA 1.2575 RC3 -.8713 FAU .15448 RRT .9719 RRF .9904 RTF .9796 CRT .9950 CRS -.9872 CST -.9980
FDE 4.7003 FRA11.3115 FC3-7.8613 B8P 9763 SGB 5893.8 R23 .1324 R13 .9842 LSA 179.8 MSA 0.9 SSA 1.3
BDE 1.6200 BRA 3.2694 BC3 3.6451 F8P 2854 SGI 9874.6 SG2 474.7 THA 21.08 EL1 131.5 EL2 5.2 ALF 26.29

LAUNCH DATE APR 1 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

DISTANCE 619.308

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.288 GAL -5.09 AZL 88.95 HCA 204.91 SMA 181.01 ECC .19492 INC 1.0486 V1 29.809
RP 215.87 LAP -.44 LOP 35.53 VP 22.280 GAP 1.76 AZP 90.95 TAL 327.80 TAP 172.71 RCA 145.73 APO 216.30 V2 25.443
RC 157.385 GL 8.16 GP -17.55 ZAL 144.24 ZAP 68.85 ETS 171.82 ZAE 109.45 ETE 186.32 ZAC 85.11 ETC 269.46 LVI 10.12

PLANETOCENTRIC CONIC

C3 17.195 VHL 4.147 DLA -1.83 RAL 334.50 RAD 6641.6 VEL 11.714 PTH 6.75 VHP 3.539 DPA -41.75 RAP 286.46 ECC 1.2830
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 6 51 3062.14 -33.45 94.40 193.31 126.04 17 57 54 2062.1 -16.99 74.72
60.00 17 48 22 2951.70 -28.71 88.02 196.88 119.59 18 37 34 1951.7 -14.62 66.96
70.00 18 42 46 2791.76 -24.47 77.49 199.31 114.61 19 29 18 1791.8 -12.42 55.57
80.00 19 53 1 2571.81 -21.40 62.21 200.72 111.34 20 35 52 1571.8 -10.80 39.84
90.00 21 15 18 2306.30 -20.25 43.16 201.19 110.17 21 53 44 1306.3 -10.19 20.64
100.00 22 35 52 2046.29 -21.40 23.58 200.72 111.34 23 9 59 1046.3 -10.80 1.21
110.00 23 42 12 1838.58 -24.47 6.41 199.31 114.61 24 12 51 838.6 -12.42 344.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4713 TRA 3.1746 TC3-3.6196 BAU .8525 SGT 5692.5 SGR 2032.7 SG3 1559.4 ST 121.2 SR 55.9 SS 121.6
RDE .7266 RRA 1.1633 RC3 -.8072 FAU .15233 RRT .9705 RRF .9884 RTF .9802 CRT .9926 CRS -.9846 CST -.9984
FDE 4.6489 FRA11.3006 FC3-7.6696 B8P 10041 SGB 6044.5 R23 .1274 R13 .9840 LSA 180.3 MSA 9.2 SSA 1.3
BDE 1.6410 BRA 3.3880 BC3 3.7085 F8P 2841 SGI 6026.7 SG2 463.1 THA 19.23 EL1 133.3 EL2 6.2 ALF 24.65

LAUNCH DATE APR 1 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

DISTANCE 623.482

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.293 GAL -5.17 AZL 89.08 HCA 206.07 SMA 181.09 ECC .19581 INC .9220 V1 29.809
RP 216.21 LAP -.41 LOP 36.89 VP 22.243 GAP 1.57 AZP 90.83 TAL 327.44 TAP 173.52 RCA 145.63 APO 216.55 V2 25.405
RC 159.881 GL 7.12 GP -16.70 ZAL 144.73 ZAP 67.30 ETS 171.63 ZAE 108.00 ETE 185.52 ZAC 85.97 ETC 269.37 LVI 9.48

PLANETOCENTRIC CONIC

C3 17.409 VHL 4.172 DLA -2.68 RAL 335.15 RAD 6641.7 VEL 11.723 PTH 6.75 VHP 3.554 DPA -40.94 RAP 285.89 ECC 1.2865
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 36 3047.94 -32.88 93.53 195.82 126.55 18 3 24 2047.9 -16.30 74.07
60.00 17 55 1 2935.08 -28.15 86.98 197.43 120.12 18 43 56 1935.1 -13.92 66.11
70.00 18 50 25 2772.17 -23.90 76.24 199.91 115.15 19 36 38 1772.2 -11.71 54.50
80.00 20 1 36 2549.34 -20.83 60.78 201.35 111.89 20 44 5 1549.3 -10.08 38.56
90.00 21 24 17 2282.53 -19.68 41.64 201.83 110.72 22 2 19 1282.5 -9.47 19.27
100.00 22 44 27 2023.81 -20.83 22.15 201.35 111.89 23 18 11 1023.8 -10.08 359.93
110.00 23 49 52 1818.98 -23.90 5.16 199.91 115.15 24 20 11 819.0 -11.71 343.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5100 TRA 3.3314 TC3-3.6918 BAU .8767 SGT 5896.0 SGR 1915.7 SG3 1341.3 ST 124.5 SR 53.6 SS 120.3
RDE .7047 RRA 1.1136 RC3 -.7482 FAU .13000 RRT .9887 RRF .9859 RTF .5008 CRT .9897 CRS -.9817 CST -.9987
FDE 4.5940 FRA11.2622 FC3-7.4594 B8P 10323 SGB 6199.5 R23 .1215 R13 .9839 LSA 181.0 MSA 9.5 SSA 1.3
BDE 1.6663 BRA 3.5126 BC3 3.7667 F8P 2816 SGI 6182.8 SG2 453.8 THA 17.57 EL1 135.3 EL2 7.0 ALF 23.14

LAUNCH DATE APR 1 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 627.612

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.298 GAL -5.24 AZL 89.19 HCA 207.23 SMA 181.18 ECC .19673 INC .8055 V1 29.809
RP 216.56 LAP -.37 LOP 37.85 VP 22.207 GAP 1.39 AZP 90.72 TAL 327.08 TAP 174.31 RCA 145.53 APO 216.82 V2 25.366
RC 162.390 GL 6.18 GP -15.92 ZAL 145.19 ZAP 65.79 ETS 171.48 ZAE 106.57 ETE 184.81 ZAC 86.76 ETC 269.30 LVI 8.88

PLANETOCENTRIC CONIC

C3 17.651 VHL 4.201 DLA -3.45 RAL 335.78 RAD 6641.8 VEL 11.734 PTH 6.76 VHP 3.573 DPA -40.18 RAP 285.40 ECC 1.2905
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 55 3035.82 -32.39 92.80 194.37 126.98 18 8 31 2035.8 -15.71 73.52
60.00 18 1 10 2920.79 -27.66 86.09 198.02 120.57 18 49 51 1920.8 -13.32 65.38
70.00 18 57 29 2755.19 -23.41 75.17 200.53 115.61 19 43 24 1755.2 -11.09 53.57
80.00 20 9 29 2529.75 -20.33 59.54 202.01 112.35 20 51 39 1529.8 -9.45 37.45
90.00 21 32 32 2261.78 -19.18 40.33 202.50 111.19 22 10 14 1261.8 -8.83 18.08
100.00 22 52 21 2004.23 -20.33 20.91 202.01 112.35 23 25 45 1004.2 -9.45 350.82
110.00 0 0 51 1802.01 -23.41 4.09 200.53 115.61 0 30 53 802.0 -11.09 342.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5503 TRA 3.4871 TC3-3.7572 BAU .9016 SGT 6093.9 SGR 1807.2 SG3 1319.6 ST 127.7 SR 51.5 SS 119.0
RDE .6862 RRA 1.0482 RC3 -.6933 FAU .14737 RRT .9662 RRF .9830 RTF .9812 CRT .9864 CRS -.9785 CST -.9990
FDE 4.5395 FRA11.1994 FC3-7.2284 B8P 10601 SGB 6356.2 R23 .1156 R13 .9837 LSA 181.7 MSA 9.8 SSA 1.3
BDE 1.6954 BRA 3.6412 BC3 3.8207 F8P 2783 SGI 6340.4 SG2 447.6 THA 16.07 EL1 137.5 EL2 7.9 ALF 21.77

LAUNCH DATE APR 1 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.304 GAL -5.32 AZL 89.30 HCA 208.38 SMA 181.27 ECC .19770 INC .6982 V1 29.809
 RP 216.91 LAP -.33 LOP 39.00 VP 22.171 GAP 1.21 AZP 90.61 TAL 326.70 TAP 175.09 RCA 145.43 APO 217.10 V2 25.327
 RC 164.912 GL 5.32 GP -15.18 ZAL 145.62 ZAP 64.33 ETS 171.34 ZAE 105.15 ETE 184.17 ZAC 87.49 ETC 269.24 LVI 8.32

PLANETOCENTRIC CONIC
 C3 17.918 VHL 4.233 DLA -4.14 RAL 336.39 RAD 6641.9 VEL 11.745 PTH 6.77 VHP 3.595 DPA -39.48 RAP 284.97 ECC 1.2949
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 32 3025.55 -31.97 92.18 194.96 127.35 18 13 18 2025.5 -15.21 73.05
 60.00 18 6 52 2908.55 -27.23 85.33 198.64 120.94 18 55 20 1908.6 -12.80 64.76
 70.00 19 4 0 2740.52 -22.97 74.26 201.19 116.00 19 49 41 1740.5 -10.56 52.78
 80.00 20 16 46 2512.73 -19.89 58.47 202.69 112.74 20 58 38 1512.7 -8.90 36.49
 90.00 21 40 8 2243.69 -18.73 39.19 203.19 111.58 22 17 32 1243.7 -8.27 17.05
 100.00 22 59 37 1987.21 -19.89 19.84 202.69 112.74 23 32 45 987.2 -8.90 357.86
 110.00 0 7 22 1787.34 -22.97 3.17 201.19 116.00 0 37 10 787.3 -10.56 341.70

MID-COURSE EXECUTION ACCURACY
 SGT 6287.0 SGR 1706.7 S63 1495.2
 RRT .9832 RRF .9796 RTF .9815
 SGB 6514.5 R23 .1094 R13 .9837
 S61 6499.4 S62 443.7 THA 14.72

ORBIT DETERMINATION ACCURACY
 ST 130.9 SR 49.6 S5 117.8
 CRT .9826 CRS -.9750 CST -.9992
 LSA 182.6 MSA 10.2 SSA 1.3
 EL1 139.8 EL2 8.6 ALF 20.51

DIFFERENTIAL CORRECTIONS
 TDE 1.5929 TRA 3.6432 TC3-3.8151 BAU .9288
 RDE .6703 RRA .9868 RC3 -.6428 FAU .14460
 FDE 4.4832 FRA11.1183 FC3-6.9866 BSP 10882
 BDE 1.7282 BRA 3.7745 BC3 3.8689 FSP 2744

LAUNCH DATE APR 1 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.310 GAL -5.40 AZL 89.40 HCA 209.53 SMA 181.36 ECC .19871 INC .5995 V1 29.809
 RP 217.26 LAP -.30 LOP 40.15 VP 22.135 GAP 1.03 AZP 90.52 TAL 326.32 TAP 175.85 RCA 145.32 APO 217.40 V2 25.288
 RC 167.446 GL 4.52 GP -14.50 ZAL 146.04 ZAP 62.92 ETS 171.23 ZAE 103.75 ETE 183.61 ZAC 88.17 ETC 269.18 LVI 7.78

PLANETOCENTRIC CONIC
 C3 18.209 VHL 4.267 DLA -4.76 RAL 336.97 RAD 6642.0 VEL 11.757 PTH 6.78 VHP 3.620 DPA -38.82 RAP 284.61 ECC 1.2997
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 30 3016.92 -31.61 91.67 195.57 127.62 18 17 47 2016.9 -14.79 72.66
 60.00 18 12 9 2898.15 -26.86 84.69 199.29 121.25 19 0 28 1898.1 -12.36 64.24
 70.00 19 10 3 2727.93 -22.60 73.47 201.87 116.32 19 55 31 1727.9 -10.09 52.10
 80.00 20 23 29 2498.00 -19.49 57.55 203.40 113.07 21 5 7 1498.0 -8.41 35.66
 90.00 21 47 10 2228.00 -18.33 38.21 203.91 111.92 22 24 18 1228.0 -7.78 16.15
 100.00 23 6 21 1972.47 -19.49 18.92 203.40 113.07 23 39 13 972.5 -8.41 357.03
 110.00 0 13 25 1774.75 -22.60 2.39 201.87 116.32 0 43 0 774.7 -10.09 341.02

MID-COURSE EXECUTION ACCURACY
 SGT 6476.2 SGR 1614.3 S63 1468.9
 RRT .9595 RRF .9756 RTF .9817
 SGB 6674.4 R23 .1036 R13 .9835
 S61 6659.7 S62 442.3 THA 13.51

ORBIT DETERMINATION ACCURACY
 ST 134.3 SR 48.0 S5 116.3
 CRT .9784 CRS -.9712 CST -.9994
 LSA 183.7 MSA 10.6 SSA 1.3
 EL1 142.3 EL2 9.4 ALF 19.36

DIFFERENTIAL CORRECTIONS
 TDE 1.6391 TRA 3.8013 TC3-3.8624 BAU .9513
 RDE .6576 RRA .9297 RC3 -.5945 FAU .14128
 FDE 4.4328 FRA11.0273 FC3-6.7174 BSP 11186
 BDE 1.7660 BRA 3.9133 BC3 3.9079 FSP 2706

LAUNCH DATE APR 1 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.316 GAL -5.48 AZL 89.49 HCA 210.68 SMA 181.48 ECC .19977 INC .5071 V1 29.809
 RP 217.61 LAP -.26 LOP 41.30 VP 22.099 GAP .84 AZP 90.44 TAL 325.94 TAP 176.81 RCA 145.21 APO 217.71 V2 25.249
 RC 169.992 GL 3.80 GP -13.87 ZAL 146.44 ZAP 61.55 ETS 171.14 ZAE 102.38 ETE 183.10 ZAC 88.81 ETC 269.14 LVI 7.27

PLANETOCENTRIC CONIC
 C3 18.522 VHL 4.304 DLA -5.32 RAL 337.54 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 3.647 DPA -38.21 RAP 284.30 ECC 1.3048
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 50 3009.76 -31.31 91.25 196.20 127.85 18 22 0 2009.9 -14.44 72.34
 60.00 18 17 6 2889.39 -26.95 84.16 199.96 121.50 19 5 15 1889.4 -11.98 63.80
 70.00 19 15 39 2717.18 -22.27 72.81 202.57 116.59 20 0 57 1717.2 -9.70 51.52
 80.00 20 29 43 2485.32 -19.15 56.77 204.12 113.35 21 11 8 1485.3 -8.00 34.95
 90.00 21 53 40 2214.43 -17.99 37.37 204.64 112.20 22 30 35 1214.4 -7.36 15.38
 100.00 23 12 35 1959.79 -19.15 18.13 204.12 113.35 23 45 15 959.8 -8.00 356.32
 110.00 0 19 2 1764.00 -22.27 1.73 202.57 116.59 0 48 26 764.0 -9.70 340.44

MID-COURSE EXECUTION ACCURACY
 SGT 6659.2 SGR 1528.4 S63 1440.4
 RRT .9551 RRF .9709 RTF .9519
 SGB 6832.3 R23 .0977 R13 .9834
 S61 6818.0 S62 442.4 THA 12.42

ORBIT DETERMINATION ACCURACY
 ST 137.5 SR 46.5 S5 114.9
 CRT .9738 CRS -.9671 CST -.9995
 LSA 184.8 MSA 11.0 SSA 1.3
 EL1 144.8 EL2 10.0 ALF 18.31

DIFFERENTIAL CORRECTIONS
 TDE 1.6848 TRA 3.9576 TC3-3.9078 BAU .9772
 RDE .6463 RRA .8755 RC3 -.3513 FAU .13816
 FDE 4.3761 FRA10.9177 FC3-6.4577 BSP 11463
 BDE 1.8045 BRA 4.0533 BC3 3.9463 FSP 2658

LAUNCH DATE APR 1 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 149.48 LAL -.00 LOL 190.62 VL 32.322 GAL -5.57 AZL 89.58 HCA 211.82 SMA 181.58 ECC .20086 INC .4212 V1 29.809
 RP 217.97 LAP -.22 LOP 42.44 VP 22.063 GAP .66 AZP 90.36 TAL 325.54 TAP 177.38 RCA 145.09 APO 218.03 V2 25.209
 RC 172.547 GL 3.12 GP -13.28 ZAL 146.83 ZAP 60.22 ETS 171.07 ZAE 101.02 ETE 182.64 ZAC 89.40 ETC 269.10 LVI 6.79

PLANETOCENTRIC CONIC
 C3 18.855 VHL 4.342 DLA -5.83 RAL 338.10 RAD 6642.3 VEL 11.785 PTH 6.81 VHP 3.677 DPA -37.63 RAP 284.06 ECC 1.3103
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 54 3003.92 -31.07 90.90 196.85 128.04 18 25 58 2003.9 -14.16 72.08
 60.00 18 21 42 2882.10 -26.29 83.72 200.64 121.71 19 9 44 1882.1 -11.67 63.44
 70.00 19 20 53 2708.10 -21.99 72.25 203.28 116.81 20 6 1 1708.1 -9.36 51.03
 80.00 20 35 30 2474.48 -18.86 56.09 204.86 113.58 21 16 45 1474.5 -7.64 34.34
 90.00 21 59 42 2202.80 -17.69 36.65 205.38 112.43 22 36 25 1202.8 -6.99 14.72
 100.00 23 18 22 1948.95 -18.86 17.46 204.86 113.58 23 50 51 948.9 -7.64 355.71
 110.00 0 24 15 1754.92 -21.99 1.17 203.28 116.81 0 53 30 754.9 -9.36 339.95

MID-COURSE EXECUTION ACCURACY
 SGT 6838.5 SGR 1449.4 S63 1410.8
 RRT .9499 RRF .9656 RTF .9820
 SGB 6990.4 R23 .0923 R13 .9833
 S61 6976.3 S62 444.2 THA 11.43

ORBIT DETERMINATION ACCURACY
 ST 140.8 SR 45.1 S5 113.5
 CRT .9689 CRS -.9628 CST -.9996
 LSA 186.0 MSA 11.4 SSA 1.3
 EL1 147.4 EL2 10.7 ALF 17.36

DIFFERENTIAL CORRECTIONS
 TDE 1.7336 TRA 4.1153 TC3-3.9452 BAU 1.0028
 RDE .6374 RRA .8247 RC3 -.5109 FAU .13479
 FDE 4.3234 FRA10.8004 FC3-6.1888 BSP 11758
 BDE 1.8471 BRA 4.1971 BC3 3.9781 FSP 2612

LAUNCH DATE APR 1 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

DISTANCE 648.296

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.329 GAL -5.66 AZL 89.66 HCA 212.96 SMA 181.67 ECC .20109 INC .3410 V1 29.809	ST 144.0 SR 43.9 SS 112.1
RP 218.33 LAP -.19 LOP 43.58 VP 22.027 GAP .48 AZP 90.29 TAL 325.14 TAP 178.10 RCA 144.97 APO 218.36 V2 25.169	CRT .9636 CRS -.9582 CST -.9997
RC 175.114 GL 2.51 GP -12.73 ZAL 147.20 ZAP 58.94 ETS 171.01 ZAE 99.69 ETE 182.23 ZAC 89.95 ETC 269.08 LVI 6.33	LSA 187.3 MSA 11.9 SSA 1.3
	EL1 150.1 EL2 11.3 ALF 16.48

PLANETOCENTRIC CONIC

C3 19.209 VHL 4.383 DLA -6.28 RAL 338.64 RAD 6642.5 VEL 11.799 PTH 6.02 VHP 3.709 DPA -37.09 RAP 283.87 ECC 1.3181	PO CST TIM INJ 2 LAT INJ 2 LONG
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	
50.00 17 39 44 2999.28 -30.87 90.63 197.52 128.19 18 29 43 1999.3 -13.93 71.87	
60.00 18 26 1 2876.15 -26.08 83.36 201.34 121.88 19 13 57 1876.2 -11.42 63.14	
70.00 19 25 45 2700.52 -21.76 71.79 204.01 117.00 20 10 46 1700.5 -9.08 50.63	
80.00 20 40 53 2465.30 -18.61 55.53 205.60 113.78 21 21 58 1465.3 -7.34 33.83	
90.00 22 5 19 2192.90 -17.43 36.04 206.13 112.63 22 41 52 1192.9 -6.68 14.16	
100.00 23 23 45 1939.78 -18.61 16.90 205.60 113.78 23 56 5 939.8 -7.34 355.20	
110.00 0 29 7 1747.34 -21.76 .71 204.01 117.00 0 58 15 747.3 -9.08 339.54	

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7839 TRA 4.2737 TC3-3.9761 BAU 1.0283	SGT 7012.6 SGR 1376.3 SG3 1380.0	ST 144.0 SR 43.9 SS 112.1
RDE .6300 RRA .7768 RC3 -.4736 FAU .13128	RRT .9438 RRF .9594 RTF .9820	CRT .9636 CRS -.9582 CST -.9997
FDE 4.2695 FRA10.6741 FC3-5.9168 BSP 12046	SGB 7146.4 R23 .0871 R13 .9831	LSA 187.3 MSA 11.9 SSA 1.3
BDE 1.8919 BRA 4.3437 BC3 4.0042 FSP 2563	SG1 7132.4 SG2 447.2 THA 10.54	EL1 150.1 EL2 11.3 ALF 16.48

LAUNCH DATE APR 1 1971

FLIGHT TIME 274.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

DISTANCE 652.417

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.336 GAL -5.75 AZL 89.73 HCA 214.05 SMA 181.78 ECC .20316 INC .2657 V1 29.809	ST 147.2 SR 42.9 SS 110.7
RP 218.69 LAP -.15 LOP 44.72 VP 21.991 GAP .30 AZP 90.22 TAL 324.73 TAP 178.82 RCA 144.85 APO 218.71 V2 25.129	CRT .9580 CRS -.9534 CST -.9998
RC 177.690 GL 1.94 GP -12.22 ZAL 147.57 ZAP 57.71 ETS 170.97 ZAE 98.39 ETE 181.87 ZAC 90.46 ETC 269.07 LVI 5.88	LSA 188.7 MSA 12.3 SSA 1.3
	EL1 152.9 EL2 11.8 ALF 15.69

PLANETOCENTRIC CONIC

C3 19.582 VHL 4.425 DLA -6.68 RAL 339.16 RAD 6642.7 VEL 11.815 PTH 6.84 VHP 3.743 DPA -36.58 RAP 283.73 ECC 1.3223	PO CST TIM INJ 2 LAT INJ 2 LONG
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	
50.00 17 43 20 2995.71 -30.72 90.43 198.20 128.30 18 33 16 1995.7 -13.76 71.72	
60.00 18 30 4 2871.41 -25.91 83.08 202.05 122.02 19 17 56 1871.4 -11.21 62.90	
70.00 19 30 18 2694.31 -21.57 71.41 204.74 117.15 20 15 12 1694.3 -8.85 50.29	
80.00 20 45 54 2457.65 -18.40 55.06 206.35 113.94 21 26 51 1457.6 -7.09 33.40	
90.00 22 10 32 2184.59 -17.21 35.52 206.89 112.79 22 46 56 1184.6 -6.42 13.69	
100.00 23 28 46 1932.12 -18.40 16.43 206.35 113.94 24 0 58 932.1 -7.09 354.77	
110.00 0 33 40 1741.13 -21.57 .33 204.74 117.15 1 2 41 741.1 -8.85 339.21	

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8361 TRA 4.4326 TC3-4.0028 BAU 1.0542	SGT 7182.7 SGR 1309.2 SG3 1348.5	ST 147.2 SR 42.9 SS 110.7
RDE .6243 RRA .7315 RC3 -.4394 FAU .12776	RRT .9368 RRF .9524 RTF .9820	CRT .9580 CRS -.9534 CST -.9998
FDE 4.2173 FRA10.5399 FC3-5.6484 BSP 12332	SGB 7301.1 R23 .0822 R13 .9829	LSA 188.7 MSA 12.3 SSA 1.3
BDE 1.9394 BRA 4.4925 BC3 4.0268 FSP 2510	SG1 7287.1 SG2 451.4 THA 9.73	EL1 152.9 EL2 11.8 ALF 15.69

LAUNCH DATE APR 1 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

DISTANCE 656.533

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.343 GAL -5.84 AZL 89.80 HCA 215.22 SMA 181.89 ECC .20437 INC .1947 V1 29.809	ST 150.4 SR 41.9 SS 109.2
RP 219.06 LAP -.11 LOP 45.85 VP 21.955 GAP .12 AZP 90.16 TAL 324.32 TAP 179.54 RCA 144.72 APO 219.06 V2 25.089	CRT .9522 CRS -.9484 CST -.9998
RC 180.275 GL 1.41 GP -11.74 ZAL 147.93 ZAP 56.51 ETS 170.94 ZAE 97.11 ETE 181.53 ZAC 90.94 ETC 269.06 LVI 5.46	LSA 190.1 MSA 12.7 SSA 1.3
	EL1 155.6 EL2 12.4 ALF 14.96

PLANETOCENTRIC CONIC

C3 19.975 VHL 4.469 DLA -7.05 RAL 339.68 RAD 6642.8 VEL 11.832 PTH 6.83 VHP 3.779 DPA -36.10 RAP 283.64 ECC 1.3287	PO CST TIM INJ 2 LAT INJ 2 LONG
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	
50.00 17 46 44 2993.14 -30.61 90.28 198.90 128.39 18 36 37 1993.1 -13.63 71.60	
60.00 18 33 53 2867.76 -25.78 82.86 202.77 122.12 19 21 40 1867.8 -11.06 62.72	
70.00 19 34 33 2689.34 -21.41 71.11 205.49 117.27 20 19 23 1689.3 -8.66 50.03	
80.00 20 50 34 2451.37 -18.23 54.67 207.12 114.07 21 31 26 1451.4 -6.88 33.05	
90.00 22 15 23 2177.72 -17.03 35.10 207.66 112.92 22 51 41 1177.7 -6.20 13.30	
100.00 23 33 26 1925.84 -18.23 16.04 207.12 114.07 24 5 32 925.8 -6.88 354.42	
110.00 0 37 56 1736.16 -21.41 .02 203.49 117.27 1 6 52 736.2 -8.66 338.94	

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8894 TRA 4.5922 TC3-4.0249 BAU 1.0802	SGT 7348.2 SGR 1247.3 SG3 1316.5	ST 150.4 SR 41.9 SS 109.2
RDE .6198 RRA .6887 RC3 -.4079 FAU .12421	RRT .9289 RRF .9444 RTF .9819	CRT .9522 CRS -.9484 CST -.9998
FDE 4.1640 FRA10.4008 FC3-5.3834 BSP 12615	SGB 7453.3 R23 .0778 R13 .9827	LSA 190.1 MSA 12.7 SSA 1.3
BDE 1.9885 BRA 4.6436 BC3 4.0451 FSP 2458	SG1 7439.4 SG2 456.4 THA 8.99	EL1 155.6 EL2 12.4 ALF 14.96

LAUNCH DATE APR 1 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

DISTANCE 660.643

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.62 VL 32.350 GAL -5.93 AZL 89.87 HCA 216.35 SMA 182.01 ECC .20562 INC .1284 V1 29.809	ST 153.6 SR 41.1 SS 107.8
RP 219.43 LAP -.08 LOP 46.97 VP 21.919 GAP -.08 AZP 90.10 TAL 323.90 TAP 180.25 RCA 144.58 APO 219.43 V2 25.040	CRT .9462 CRS -.9432 CST -.9998
RC 182.871 GL .92 GP -11.28 ZAL 148.29 ZAP 55.35 ETS 170.91 ZAE 95.86 ETE 181.24 ZAC 91.40 ETC 269.06 LVI 5.04	LSA 191.6 MSA 13.1 SSA 1.3
	EL1 158.5 EL2 12.9 ALF 14.30

PLANETOCENTRIC CONIC

C3 20.385 VHL 4.518 DLA -7.37 RAL 340.18 RAD 6643.0 VEL 11.849 PTH 6.86 VHP 3.816 DPA -35.65 RAP 283.60 ECC 1.3355	PO CST TIM INJ 2 LAT INJ 2 LONG
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	
50.00 17 49 57 2991.45 -30.54 90.18 199.60 128.44 18 39 49 1991.5 -13.55 71.53	
60.00 18 37 27 2865.12 -25.68 82.70 203.50 122.19 19 25 13 1865.1 -10.95 62.59	
70.00 19 38 33 2685.50 -21.29 70.87 206.24 117.36 20 23 18 1685.5 -8.52 49.82	
80.00 20 54 56 2446.35 -18.09 54.37 207.88 114.17 21 35 43 1446.4 -6.71 32.77	
90.00 22 19 55 2172.16 -16.88 34.76 208.43 113.03 22 56 7 1172.2 -6.02 12.99	
100.00 23 37 48 1920.82 -18.09 15.73 207.88 114.17 24 9 49 920.8 -6.71 354.14	
110.00 0 41 55 1732.32 -21.29 359.79 206.24 117.36 1 10 47 732.3 -8.52 338.74	

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9451 TRA 4.7532 TC3-4.0405 BAU 1.1060	SGT 7509.8 SGR 1190.8 SG3 1284.2	ST 153.6 SR 41.1 SS 107.8
RDE .6169 RRA .6483 RC3 -.3787 FAU .12052	RRT .9198 RRF .9354 RTF .9818	CRT .9462 CRS -.9432 CST -.9998
FDE 4.1139 FRA10.2589 FC3-5.1182 BSP 12897	SGB 7603.7 R23 .0738 R13 .9825	LSA 191.6 MSA 13.1 SSA 1.3
BDE 2.0406 BRA 4.7972 BC3 4.0582 FSP 2405	SG1 7589.6 SG2 462.3 THA 8.33	EL1 158.5 EL2 12.9 ALF 14.30

LAUNCH DATE APR 1 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

DISTANCE 664.747

EARTH TO MARS

RL 149.48 LAL -.00 LOL 190.82 VL 32.358 GAL -6.03 AZL 89.93 MCA 217.47 SMA 182.13 ECC .20697 INC .0660 V1 29.809
 RP 219.80 LAP -.04 LOP 48.10 VP 21.884 GAP -.25 AZP 90.05 TAL 323.47 TAP 180.94 RCA 144.44 APO 219.81 V2 25.007
 RC 185.475 GL .47 GP -10.86 ZAL 148.64 ZAP 54.23 ET8 170.90 ZAE 94.63 ETE 180.97 ZAC 91.82 ETC 269.07 LVI 4.64

PLANETOCENTRIC CONIC

C3 20.815 VHL 4.582 DLA -7.67 RAL 340.67 RAD 6643.2 VEL 11.867 PTM 6.88 VHP 3.855 DPA -35.23 RAP 283.60 ECC 1.3426
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 1 2990.59 -30.50 90.13 200.31 128.47 18 42 51 1990.6 -13.51 71.49
 60.00 18 40 50 2863.40 -25.62 82.60 204.24 122.24 19 28 33 1863.4 -10.87 62.51
 70.00 19 42 17 2682.71 -21.20 70.70 207.00 117.42 20 27 0 1682.7 -8.42 49.67
 80.00 20 59 1 2442.49 -17.98 54.13 208.65 114.25 21 39 44 1442.5 -6.58 32.56
 90.00 22 24 9 2167.81 -16.76 34.49 209.21 113.11 23 0 17 1167.8 -5.89 12.75
 100.00 23 41 53 1916.96 -17.98 15.50 208.65 114.25 24 13 50 917.0 -6.58 353.93
 110.00 0 45 40 1729.52 -21.20 359.62 207.00 117.42 1 14 29 729.5 -8.42 338.59

DIFFERENTIAL CORRECTIONS

TDE 2.0018 TRA 4.9152 TC3-4.0530 BAU 1.1321
 RDE .6149 RRA .6099 RC3 -.3522 FAU .11692
 FDE 4.0622 FRA10.1127 FC3-4.8631 BSP 13176
 BDE 2.0941 BRA 4.9529 BC3 4.0683 FSP 2351

MID-COURSE EXECUTION ACCURACY

SGT 7667.5 SGR 1138.9 SC3 1251.8
 RRT .9097 RRF .9254 RTF .9816
 SGB 7751.6 R23 .0700 R13 .9822
 SG1 7737.4 SG2 468.7 THA 7.72

ORBIT DETERMINATION ACCURACY

ST 156.7 SR 40.3 SS 106.4
 CRT .9400 CRS -.9379 CST -.9999
 LSA 193.2 MSA 13.6 SSA 1.3
 EL1 161.3 EL2 13.4 ALF 13.69

LAUNCH DATE APR 2 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC

DISTANCE 374.334

EARTH TO MARS

RL 149.52 LAL -.00 LOL 101.61 VL 34.223 GAL -6.78 AZL 92.34 HCA 127.71 SMA 219.73 ECC .33054 INC 2.3384 V1 29.800
RP 207.38 LAP -1.05 LOP 319.34 VP 25.999 GAP 19.53 AZP 88.57 TAL 332.82 TAP 100.53 RCA 145.35 APO 294.12 V2 26.414
RC 56.241 GL -12.70 GP 3.88 ZAL 135.98 ZAP 167.85 ETS 162.25 ZAE 168.03 ETE 133.31 ZAC 104.91 ETC 275.60 LVI -10.41

PLANETOCENTRIC CONIC

C3 39.807 VHL 6.309 DLA -23.64 RAL 336.02 RAD 6650.6 VEL 12.638 PTH 7.49 VHP 9.538 DPA -16.52 RAP 309.69 ECC 1.6551
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 36 25 2021.43 -22.98 81.06 202.40 132.88 19 23 26 1821.4 -5.11 64.20
60.00 19 45 53 2636.68 -16.79 69.95 207.93 127.19 20 29 49 1636.7 -1.98 51.52
70.00 21 14 27 2376.30 -10.67 53.22 212.32 122.64 21 54 3 1376.3 3.22 33.59
80.00 23 0 39 2043.92 -5.54 31.10 215.43 119.39 23 34 43 1043.9 6.83 10.58
90.00 0 45 1 1719.99 -3.32 8.50 216.66 118.10 1 13 41 720.0 8.41 347.61
100.00 1 47 27 1518.39 -5.54 352.47 215.43 119.39 2 12 45 518.4 6.83 331.95
110.00 2 17 49 1423.12 -10.67 342.14 212.32 122.64 2 41 32 433.1 3.22 322.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8517 TRA-1.7536 TC3 -.0894 BAU .0811 SGT 1906.0 SGR 507.9 SG3 203.3 ST 46.6 SR 24.1 SS 34.2
RDE -.5301 RRA .0452 RC3 .1234 FAU .04107 RRT .2860 RRF -.3046 RTF -.8399 CRT .8131 CRS .6752 CST .9775
FDE .6348 FRA 2.0011 FC3 -.8932 BSP 3253 SGB 1972.5 R23 -.0499 R13 -.8411 LSA 60.6 MSA 15.7 SSA 1.1
BDE 1.0032 BRA 1.7542 BC3 .1524 FSP 287 SG1 1911.9 SG2 485.2 THA 4.66 EL1 50.9 EL2 12.8 ALF 24.43

LAUNCH DATE APR 2 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 377.242

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 34.102 GAL -6.62 AZL 92.38 HCA 128.97 SMA 216.76 ECC .32902 INC 2.3789 V1 29.800
RP 207.27 LAP -1.85 LOP 320.60 VP 25.852 GAP 19.05 AZP 88.50 TAL 332.86 TAP 101.82 RCA 145.44 APO 288.08 V2 26.426
RC 56.362 GL -13.18 GP 3.84 ZAL 135.95 ZAP 166.98 ETS 162.74 ZAE 168.52 ETE 129.52 ZAC 105.04 ETC 275.69 LVI -18.70

PLANETOCENTRIC CONIC

C3 38.007 VHL 6.165 DLA -24.06 RAL 336.32 RAD 6650.0 VEL 12.565 PTH 7.43 VHP 9.260 DPA -16.26 RAP 310.04 ECC 1.6255
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 34 2800.65 -22.01 80.03 202.08 133.31 19 26 15 1800.6 -4.07 63.33
60.00 19 49 48 2613.86 -13.84 68.75 207.63 127.55 20 33 22 1613.9 .02 50.43
70.00 21 19 29 2350.19 -9.70 51.81 212.07 122.91 21 58 40 1350.2 4.22 32.23
80.00 23 7 16 2012.89 -4.50 29.38 215.25 119.55 23 40 49 1012.9 7.85 6.85
90.00 0 52 41 1685.54 -2.21 6.57 216.51 118.20 1 20 47 685.5 9.47 345.64
100.00 1 54 4 1487.36 -4.50 350.75 215.25 119.55 2 18 51 487.4 7.85 330.22
110.00 2 22 52 1397.00 -9.70 340.73 212.07 122.91 2 46 9 397.0 4.22 321.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8508 TRA-1.7390 TC3 -.0831 BAU .0794 SGT 1941.3 SGR 505.5 SG3 216.6 ST 47.6 SR 23.9 SS 35.4
RDE -.5138 RRA .0306 RC3 .1323 FAU .04232 RRT .3116 RRF -.3322 RTF -.8458 CRT .8190 CRS .6801 CST .9767
FDE .6606 FRA 2.0831 FC3 -.9639 BSP 3325 SGB 2006.0 R23 -.0543 R13 -.8472 LSA 62.0 MSA 15.6 SSA 1.2
BDE .9939 BRA 1.7393 BC3 .1562 FSP 308 SG1 1948.1 SG2 478.7 THA 4.94 EL1 51.8 EL2 12.6 ALF 23.83

LAUNCH DATE APR 2 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

DISTANCE 380.256

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 33.987 GAL -6.47 AZL 92.42 HCA 130.23 SMA 214.03 ECC .32000 INC 2.4210 V1 29.800
RP 207.18 LAP -1.85 LOP 321.86 VP 25.712 GAP 18.58 AZP 88.44 TAL 332.90 TAP 103.13 RCA 145.54 APO 282.53 V2 26.438
RC 56.568 GL -13.69 GP 4.02 ZAL 135.91 ZAP 166.09 ETS 163.18 ZAE 168.95 ETE 125.53 ZAC 105.18 ETC 275.79 LVI -18.99

PLANETOCENTRIC CONIC

C3 36.336 VHL 6.028 DLA -24.49 RAL 336.61 RAD 6649.4 VEL 12.499 PTH 7.39 VHP 8.990 DPA -16.00 RAP 310.38 ECC 1.5980
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 42 50 2779.74 -21.03 79.01 201.79 133.72 19 29 10 1779.7 -3.02 62.45
60.00 19 53 53 2590.78 -14.88 67.56 207.36 127.90 20 37 4 1590.8 1.04 49.33
70.00 21 24 46 2323.51 -8.71 50.38 211.86 123.15 22 3 31 1323.5 5.23 30.82
80.00 23 14 20 1980.67 -3.42 27.61 215.11 119.68 23 47 21 980.7 8.91 7.04
90.00 1 1 1 1649.31 -1.04 4.55 216.42 118.26 1 28 30 649.3 10.58 343.55
100.00 2 1 8 1455.15 -3.42 348.98 215.11 119.68 2 25 23 455.1 8.91 328.41
110.00 2 28 10 1370.33 -8.71 339.30 211.86 123.15 2 51 0 370.3 5.23 319.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8498 TRA-1.7236 TC3 -.0759 BAU .0781 SGT 1975.4 SGR 503.7 SG3 230.7 ST 48.8 SR 23.7 SS 36.7
RDE -.4983 RRA .0156 RC3 .1417 FAU .04386 RRT .3593 RRF -.3619 RTF -.5115 CRT .8254 CRS .6856 CST .9760
FDE .6878 FRA 2.1890 FC3 -1.0402 BSP 3396 SGB 2038.8 R23 -.0591 R13 -.8530 LSA 63.4 MSA 15.5 SSA 1.2
BDE .9851 BRA 1.7237 BC3 .1608 FSP 331 SG1 1983.2 SG2 472.0 THA 5.24 EL1 52.6 EL2 12.3 ALF 23.27

LAUNCH DATE APR 2 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 383.367

EARTH TO MARS

RL 149.52 LAL -.00 LOL 101.61 VL 33.879 GAL -6.33 AZL 92.48 HCA 131.49 SMA 211.52 ECC .31147 INC 2.4648 V1 29.800
RP 207.09 LAP -1.85 LOP 323.13 VP 25.979 GAP 18.11 AZP 88.37 TAL 332.95 TAP 104.44 RCA 145.64 APO 277.40 V2 26.448
RC 56.856 GL -14.21 GP 4.21 ZAL 135.84 ZAP 165.17 ETS 163.51 ZAE 169.29 ETE 121.43 ZAC 105.33 ETC 275.87 LVI -19.29

PLANETOCENTRIC CONIC

C3 34.786 VHL 5.898 DLA -24.95 RAL 336.90 RAD 6648.8 VEL 12.437 PTH 7.34 VHP 8.728 DPA -15.72 RAP 310.69 ECC 1.5725
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 46 14 2758.71 -20.04 77.99 201.54 134.10 19 32 12 1758.7 -1.96 61.57
60.00 19 58 9 2567.42 -13.90 66.37 207.14 128.22 20 40 57 1567.4 2.07 48.21
70.00 21 30 23 2296.24 -7.70 48.93 211.69 123.38 22 8 40 1296.2 6.26 29.39
80.00 23 21 57 1947.10 -2.28 25.76 215.03 119.78 23 54 24 947.1 10.00 5.15
90.00 1 10 7 1610.93 .19 2.41 216.40 118.28 1 36 57 610.9 11.73 341.32
100.00 2 8 44 1421.58 -2.28 347.13 215.03 119.78 2 32 26 421.6 10.00 326.51
110.00 2 33 46 1343.06 -7.70 337.85 211.69 123.38 2 56 9 343.1 6.26 318.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8487 TRA-1.7080 TC3 -.0686 BAU .0774 SGT 2008.8 SGR 502.6 SG3 245.8 ST 49.5 SR 23.5 SS 38.0
RDE -.4835 RRA .0002 RC3 .1517 FAU .04507 RRT .3688 RRF -.3939 RTF -.8567 CRT .8322 CRS .6917 CST .9752
FDE .7164 FRA 2.2592 FC3 -1.1217 BSP 3467 SGB 2070.7 R23 -.0645 R13 -.8584 LSA 64.9 MSA 15.4 SSA 1.2
BDE .9768 BRA 1.7080 BC3 .1665 FSP 356 SG1 2017.8 SG2 465.1 THA 5.57 EL1 53.5 EL2 12.1 ALF 22.76

LAUNCH DATE APR 2 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

DISTANCE 386.565

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 33.776 GAL -6.19 AZL 92.51 HCA 132.76 SMA 209.20 ECC .30339 INC 2.5100 V1 29.800
RP 207.01 LAP -1.84 LOP 324.39 VP 25.452 GAP 17.65 AZP 88.30 TAL 333.01 TAP 105.77 RCA 145.73 APO 272.67 V2 26.457
RC 57.225 GL -14.75 GP 4.42 ZAL 135.76 ZAP 164.25 ETS 163.80 ZAE 169.56 ETE 117.28 ZAC 105.49 ETC 275.96 LVI -19.59

PLANETOCENTRIC CONIC

C3 33.350 VHL 5.775 DLA -25.43 RAL 337.19 RAD 6646.3 VEL 12.380 PTH 7.30 VHP 8.474 DPA -15.44 RAP 310.98 ECC 1.5489
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 49 45 2737.57 -19.03 76.99 201.32 134.47 19 35 22 1737.6 -.90 60.69
60.00 20 2 38 2543.78 -12.90 65.17 206.96 128.52 20 45 0 1543.8 3.11 47.08
70.00 21 38 18 2260.30 -6.65 47.45 211.57 123.58 22 14 6 1268.3 7.31 27.91
80.00 23 30 10 1911.94 -1.09 23.83 215.01 119.84 24 2 2 911.9 11.13 3.14
90.00 1 20 10 1569.85 1.52 .12 216.46 118.24 1 46 20 569.8 12.94 338.91
100.00 2 16 57 1386.41 -1.09 345.20 215.01 119.84 2 40 4 386.4 11.13 324.51
110.00 2 39 40 1315.12 -6.65 356.36 211.57 123.58 3 1 36 315.1 7.31 316.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8468 TRA -1.6906 TC3 -.0604 BAU .0773 SGT 2039.6 SGR 502.4 SG3 261.8 ST 50.4 SR 23.3 SS 39.3
RDE -.4694 RRA -.0137 RC3 .1624 FAU .04657 RRT .4003 RRF -.4278 RTF -.8617 CRT .8394 CRS .6982 CST .9744
FDE .7459 FRA 2.3531 FC3 -1.2090 BSP 3530 SGB 2100.6 R23 -.0704 R13 -.8836 LSA 66.3 MSA 15.3 SSA 1.2
BDE .9682 BRA 1.6907 BC3 .1733 FSP 382 SGT 2050.0 SGT 458.1 THA 5.93 EL1 54.3 EL2 11.8 ALF 22.30

LAUNCH DATE APR 2 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 389.843

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 33.678 GAL -6.05 AZL 92.56 HCA 134.02 SMA 207.06 ECC .29574 INC 2.5574 V1 29.800
RP 206.94 LAP -1.84 LOP 325.66 VP 25.332 GAP 17.20 AZP 88.22 TAL 333.07 TAP 107.10 RCA 145.82 APO 268.29 V2 26.466
RC 57.675 GL -15.31 GP 4.63 ZAL 135.66 ZAP 163.27 ETS 164.04 ZAE 169.75 ETE 113.21 ZAC 105.67 ETC 276.04 LVI -19.90

PLANETOCENTRIC CONIC

C3 32.019 VHL 5.659 DLA -25.92 RAL 337.49 RAD 6647.8 VEL 12.326 PTH 7.26 VHP 8.228 DPA -15.14 RAP 311.25 ECC 1.5270
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 53 24 2716.32 -18.02 75.99 201.15 134.81 19 38 40 1716.3 .17 59.80
60.00 20 7 16 2519.84 -11.88 63.97 206.82 128.80 20 49 16 1519.8 4.16 45.94
70.00 21 42 34 2239.64 -5.57 45.93 211.51 123.75 22 19 54 1239.6 8.38 26.38
80.00 23 39 7 1874.88 .16 21.80 215.06 119.86 24 10 22 874.9 12.30 1.02
90.00 1 31 27 1525.27 2.95 357.63 216.61 118.14 1 56 52 525.3 14.22 336.27
100.00 2 25 54 1349.35 .16 343.16 215.06 119.86 2 48 24 349.3 12.30 322.38
110.00 2 45 57 1286.46 -5.57 334.85 211.51 123.75 3 7 23 286.5 8.38 315.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8453 TRA -1.6729 TC3 -.0521 BAU .0777 SGT 2069.6 SGR 503.3 SG3 278.8 ST 51.3 SR 23.1 SS 40.0
RDE -.4561 RRA -.0321 RC3 .1739 FAU .04817 RRT .4337 RRF -.4638 RTF -.8664 CRT .8471 CRS .7056 CST .9735
FDE .7772 FRA 2.4519 FC3 -1.3023 BSP 3593 SGB 2129.9 R23 -.0769 R13 -.8685 LSA 67.7 MSA 15.2 SSA 1.2
BDE .9605 BRA 1.6732 BC3 .1815 FSP 410 SGT 2081.6 SGT 450.9 THA 6.32 EL1 55.1 EL2 11.4 ALF 21.88

LAUNCH DATE APR 2 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 393.194

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 33.586 GAL -5.92 AZL 92.61 HCA 135.29 SMA 205.07 ECC .28849 INC 2.6068 V1 29.800
RP 206.87 LAP -1.83 LOP 326.93 VP 25.217 GAP 16.76 AZP 88.15 TAL 333.14 TAP 108.43 RCA 145.91 APO 264.23 V2 26.473
RC 58.203 GL -15.89 GP 4.87 ZAL 135.55 ZAP 162.28 ETS 164.23 ZAE 169.85 ETE 109.31 ZAC 105.87 ETC 276.12 LVI -20.22

PLANETOCENTRIC CONIC

C3 30.786 VHL 5.549 DLA -26.44 RAL 337.79 RAD 6647.3 VEL 12.277 PTH 7.22 VHP 7.989 DPA -14.84 RAP 311.49 ECC 1.5067
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 57 12 2694.92 -16.99 75.00 201.03 135.14 19 42 7 1694.9 1.24 58.91
60.00 20 12 10 2495.53 -10.84 62.75 206.74 129.06 20 53 46 1495.5 5.22 44.77
70.00 21 49 15 2210.10 -4.45 44.38 211.51 123.90 22 26 5 1210.1 9.48 24.80
80.00 23 48 58 1835.39 1.50 19.63 215.20 119.82 24 19 33 835.4 13.52 358.73
90.00 1 44 24 1475.78 4.54 354.85 216.88 117.94 2 9 0 475.8 15.61 333.30
100.00 2 35 45 1309.86 1.50 341.00 215.20 119.82 2 57 35 309.9 13.52 320.10
110.00 2 52 37 1256.92 -4.45 333.30 211.51 123.90 3 13 34 256.9 9.48 313.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8320 TRA -1.6425 TC3 -.0284 BAU .0778 SGT 2080.2 SGR 505.3 SG3 296.8 ST 51.5 SR 22.9 SS 42.0
RDE -.4433 RRA -.0488 RC3 .1884 FAU .04987 RRT .4692 RRF -.5013 RTF -.8446 CRT .8537 CRS .7134 CST .9732
FDE .8096 FRA 2.3547 FC3 -1.4025 BSP 3514 SGB 2140.7 R23 -.0808 R13 -.8769 LSA 68.7 MSA 15.1 SSA 1.1
BDE .9427 BRA 1.6432 BC3 .1886 FSP 440 SGT 2094.3 SGT 443.4 THA 6.81 EL1 55.3 EL2 11.1 ALF 21.72

LAUNCH DATE APR 2 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 398.811

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 33.499 GAL -5.79 AZL 92.86 HCA 136.55 SMA 203.24 ECC .28184 INC 2.6586 V1 29.800
RP 206.82 LAP -1.83 LOP 328.20 VP 25.107 GAP 16.33 AZP 88.07 TAL 333.22 TAP 109.77 RCA 146.00 APO 260.47 V2 26.479
RC 58.807 GL -16.49 GP 5.12 ZAL 135.41 ZAP 161.27 ETS 164.38 ZAE 169.89 ETE 105.68 ZAC 106.09 ETC 276.19 LVI -20.55

PLANETOCENTRIC CONIC

C3 29.650 VHL 5.445 DLA -26.98 RAL 338.09 RAD 6646.9 VEL 12.231 PTH 7.18 VHP 7.759 DPA -14.52 RAP 311.71 ECC 1.4880
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 1 11 2673.44 -15.95 74.02 200.95 135.44 19 45 44 1673.4 2.32 58.01
60.00 20 17 19 2470.94 -9.79 61.54 206.71 129.29 20 58 30 1470.9 6.30 43.56
70.00 21 56 21 2179.71 -3.29 42.79 211.57 124.01 22 32 41 1179.7 10.60 23.16
80.00 0 3 50 1793.21 2.93 17.30 215.44 119.73 0 33 43 793.2 14.81 356.24
90.00 1 59 46 1419.12 6.33 351.66 217.30 117.62 2 23 25 419.1 17.14 329.84
100.00 2 46 42 1267.47 2.93 338.67 215.44 119.73 3 7 49 267.5 14.81 317.61
110.00 2 59 44 1226.53 -3.29 331.70 211.57 124.01 3 20 10 226.5 10.60 312.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8362 TRA -1.6290 TC3 -.0279 BAU .0797 SGT 2115.3 SGR 509.5 SG3 316.0 ST 52.6 SR 22.7 SS 43.5
RDE -.4317 RRA -.0666 RC3 .1992 FAU .05166 RRT .5052 RRF -.5405 RTF -.8764 CRT .8635 CRS .7223 CST .9718
FDE .8440 FRA 2.6630 FC3 -1.5084 BSP 3651 SGB 2175.8 R23 -.0905 R13 -.8790 LSA 70.3 MSA 15.0 SSA 1.1
BDE .9411 BRA 1.6303 BC3 .2012 FSP 471 SGT 2131.6 SGT 436.4 THA 7.24 EL1 56.3 EL2 10.7 ALF 21.28

LAUNCH DATE APR 2 1971 FLIGHT TIME 150.00 ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC										DISTANCE 400.089										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	33.417	GAL	-5.67	AZL	92.71	HCA	137.82	SMA	201.93	ECC	.27516	INC	2.7128	V1	29.800	RP	206.77	LAP	-1.82	LOP	329.46	VP	25.003	GAP	15.90	AZP	87.99	TAL	333.30	TAP	111.12	RCA	146.08	APO	256.99	V2	26.485	RC	59.485	GL	-17.12	GP	5.39	ZAL	135.26	ZAP	160.23	ETS	164.50	ZAE	169.86	ETE	102.39	ZAC	106.33	ETC	276.26	LVI	-20.89
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	28.601	VHL	5.348	DLA	-27.54	RAL	338.40	RAD	6646.5	VEL	12.188	PTH	7.15	VHP	7.535	DPA	-14.20	RAP	311.89	ECC	1.4707	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	ST	53.5	SR	22.6	SS	44.9																									
50.00	19	5	20	2691.82	-14.90	73.04	200.93	135.75	19	49	32	1651.8	3.41	57.10	RRT	.5422	RRF	-.5809	RTF	-.8790	CRT	.8752	CRS	.7321	CST	.9705																																							
60.00	20	22	44	2445.95	-8.71	60.31	206.74	129.51	21	3	30	1446.0	7.39	42.37	SGB	2205.3	R23	-.1005	R13	-.8820	LSA	71.9	MSA	15.0	SSA	1.1																																							
70.00	22	3	59	2148.22	-2.09	41.14	211.70	124.10	22	39	47	1148.2	11.75	21.45	SG1	2163.1	SG2	429.5	THA	7.74	EL1	57.2	EL2	10.3	ALF	20.95																																							
80.00	0	16	14	1746.54	4.50	14.74	215.79	119.55	0	45	20	746.5	16.19	353.48																																																			
90.00	2	19	24	1349.35	8.52	347.70	217.97	117.07	2	41	53	349.3	18.93	325.51																																																			
100.00	2	59	5	1221.01	4.50	336.11	215.79	119.55	3	19	26	221.0	16.19	314.85																																																			
110.00	3	7	21	1195.03	-2.09	330.06	211.70	124.10	3	27	16	195.0	11.75	310.37																																																			

LAUNCH DATE APR 2 1971 FLIGHT TIME 152.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC										DISTANCE 403.623										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	33.339	GAL	-5.55	AZL	92.77	HCA	139.09	SMA	199.95	ECC	.26903	INC	2.7698	V1	29.800	RP	206.74	LAP	-1.81	LOP	330.73	VP	24.903	GAP	15.49	AZP	87.91	TAL	333.38	TAP	112.47	RCA	146.16	APO	253.75	V2	26.479	RC	60.233	GL	-17.76	GP	5.68	ZAL	135.08	ZAP	159.16	ETS	164.58	ZAE	169.77	ETE	99.53	ZAC	106.59	ETC	276.32	LVI	-21.24
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	27.634	VHL	5.257	DLA	-28.12	RAL	338.72	RAD	6646.1	VEL	12.148	PTH	7.12	VHP	7.318	DPA	-13.86	RAP	312.05	ECC	1.4548	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	ST	54.3	SR	22.5	SS	46.4																									
50.00	19	9	42	2630.05	-13.83	72.07	200.95	135.99	19	53	32	1630.0	4.50	56.19	RRT	.5799	RRF	-.6218	RTF	-.8819	CRT	.8833	CRS	.7427	CST	.9692																																							
60.00	20	28	28	2420.51	-7.60	59.07	206.83	129.70	21	8	49	1420.5	8.49	41.13	SGB	2229.4	R23	-.1107	R13	-.8854	LSA	73.4	MSA	14.9	SSA	1.1																																							
70.00	22	12	13	2115.43	-.84	39.43	211.92	124.14	22	47	28	1115.4	12.94	19.65	SG1	2188.9	SG2	422.7	THA	8.29	EL1	57.9	EL2	9.9	ALF	20.72																																							
80.00	0	30	40	1694.22	6.25	11.84	216.29	119.26	0	58	54	694.2	17.69	350.32																																																			
90.00	2	51	2	1241.53	11.79	341.48	219.22	115.89	3	11	43	241.5	21.46	318.62																																																			
100.00	3	13	32	1168.69	6.25	333.21	216.29	119.26	3	33	1	108.7	17.69	311.69																																																			
110.00	3	15	35	1162.25	-.84	328.35	211.92	124.14	3	34	57	162.3	12.94	308.57																																																			

LAUNCH DATE APR 2 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC										DISTANCE 407.208										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	33.265	GAL	-5.44	AZL	92.83	HCA	140.36	SMA	198.49	ECC	.26323	INC	2.8298	V1	29.800	RP	206.71	LAP	-1.80	LOP	332.00	VP	24.808	GAP	15.08	AZP	87.82	TAL	333.46	TAP	113.82	RCA	146.24	APO	250.73	V2	26.492	RC	61.050	GL	-18.43	GP	5.99	ZAL	134.89	ZAP	158.07	ETS	164.62	ZAE	169.64	ETE	97.13	ZAC	106.87	ETC	276.38	LVI	-21.60
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	26.747	VHL	5.172	DLA	-28.72	RAL	339.04	RAD	6645.7	VEL	12.112	PTH	7.09	VHP	7.109	DPA	-13.50	RAP	312.17	ECC	1.4402	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	ST	55.0	SR	22.4	SS	48.0																									
50.00	19	14	17	2608.11	-12.76	71.09	201.04	136.24	19	57	45	1608.1	5.60	55.27	RRT	.6173	RRF	-.6626	RTF	-.8548	CRT	.8937	CRS	.7543	CST	.9679																																							
60.00	20	34	33	2394.58	-8.47	57.81	206.98	129.87	21	14	27	1394.6	9.61	39.86	SGB	2212.2	R23	-.1219	R13	-.8888	LSA	74.9	MSA	14.8	SSA	1.1																																							
70.00	22	21	8	2081.11	.47	37.64	212.22	124.15	22	55	49	1081.1	14.17	17.75	SG1	2212.2	SG2	418.2	THA	8.91	EL1	58.6	EL2	9.4	ALF	20.55																																							
80.00	0	48	20	1632.39	8.29	8.39	217.01	118.79	1	15	32	632.4	19.39	346.52																																																			
84.76	2	35	5	1289.10	14.74	346.39	220.34	114.93	2	56	34	289.1	23.76	322.89																																																			
100.00	3	31	12	1106.86	8.29	329.76	217.01	118.79	3	49	39	106.9	19.39	307.89																																																			
110.00	3	24	30	1127.92	.47	326.56	212.22	124.15	3	43	18	127.9	14.17	306.66																																																			

LAUNCH DATE APR 2 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC										DISTANCE 410.842										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	33.193	GAL	-5.33	AZL	92.89	HCA	141.83	SMA	197.12	ECC	.25775	INC	2.8930	V1	29.800	RP	206.69	LAP	-1.80	LOP	333.27	VP	24.717	GAP	14.68	AZP	87.73	TAL	333.55	TAP	115.18	RCA	146.31	APO	247.93	V2	26.495	RC	61.933	GL	-19.12	GP	6.33	ZAL	134.68	ZAP	156.93	ETS	164.84	ZAE	169.46	ETE	95.21	ZAC	107.19	ETC	276.43	LVI	-21.98
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	25.934	VHL	5.093	DLA	-29.35	RAL	339.38	RAD	6645.4	VEL	12.079	PTH	7.06	VHP	6.906	DPA	-13.13	RAP	312.26	ECC	1.4268	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG	ST	55.6	SR	22.3	SS	49.6																									
50.00	19	19	6	2585.97	-11.67	70.12	201.18	136.46	20	2	12	1586.0	6.71	54.33	RRT	.6539	RRF	-.7026	RTF	-.8874	CRT	.9044	CRS	.7667	CST	.9666																																							
60.00	20	41	0	2368.08	-5.31	56.53	207.21	130.01	21	20	28	1368.1	10.75	38.55	SGB	2269.0	R23	-.1341	R13	-.8920	LSA	76.3	MSA	14.8	SSA	1.1																																							
70.00	22	30	53	2044.88	1.86	35.75	212.62	124.11	23	4	58	1044.9	15.44	15.71	SG1	2231.6	SG2	410.3	THA	9.60	EL1	59.2	EL2	8.9	ALF	20.45																																							
80.00	1	12	32	1550.60	10.94	3.76	218.11	117.96	1	38	23	550.6	21.50	341.36																																																			
81.80	2	12	40	1357.95	15.26	351.72	220.34	115.38	2	35	18	358.0	24.41	328.18																																																			
100.00	3	55	24	1025.07	10.94	325.13	218.11	117.96	4	12	29	258.0	21.50	302.73																																																			
110.00	3	34	15	1091.70	1.86	324.66	212.62	124.11	3	52	27	91.7	15.44	304.63																																																			

LAUNCH DATE APR 2 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 7 1971

MELIOCENTRIC CONIC DISTANCE 414.519 EARTH TO MARS
 RL 149.52 LAL -.00 LOL 191.61 VL 33.130 GAL -5.23 AZL 92.96 HCA 142.89 SMA 195.85 ECC .25257 INC 2.9800 V1 29.800
 RP 206.68 LAP -1.79 LOP 334.94 VP 24.630 GAP 14.29 AZP 87.64 TAL 333.64 TAP 116.53 RCA 146.39 APO 245.32 V2 26.496
 RC 62.879 GL -19.84 GP 6.69 ZAL 134.46 ZAP 155.77 ETS 164.63 ZAE 169.24 ETE 93.77 ZAC 107.53 ETC 276.46 LVI -22.37

PLANETOCENTRIC CONIC
 C3 25.193 VHL 5.019 DLA -30.00 RAL 339.73 RAD 6645.1 VEL 12.048 PTH 7.03 VHP 6.710 DPA -12.74 RAP 312.31 ECC 1.4146
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 24 12 2563.60 -10.56 69.15 201.39 136.61 20 6 56 1563.6 7.82 53.38
 60.00 20 47 54 2340.92 -4.12 55.22 207.52 130.13 21 26 55 1340.9 11.92 37.19
 70.00 22 41 40 2006.26 3.33 33.73 213.14 124.01 23 15 6 1006.3 16.78 13.52
 79.54 1 56 38 1406.63 15.79 355.59 220.39 115.85 2 20 4 406.6 25.08 332.02
 79.54 1 56 38 1406.63 15.79 355.59 220.39 115.85 2 20 4 406.6 25.08 332.02
 79.54 1 56 38 1406.63 15.79 355.59 220.39 115.85 2 20 4 406.6 25.08 332.02
 110.00 3 45 2 1053.07 3.33 322.65 213.14 124.01 4 2 35 53.1 16.78 302.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8303 TRA-1.5176 TC3 .0076 BAU .0941 SGT 2213.6 SGR 567.9 SG3 430.3 ST 56.1 SR 22.3 SS 51.2
 RDE -.3859 RRA -.1694 RC3 .2792 FAU .06239 RRT .6892 RRF -.7413 RTF -.8898 CRT .9155 CRS .7800 CST .9651
 FDE 1.0468 FRA 3.2845 FC3-2.1441 BSP 3946 SGB 2285.3 R23 -.1473 R13 -.8951 LSA 77.7 MSA 14.8 SSA 1.1
 BDE .9156 BRA 1.5270 BC3 .2793 FSP 663 SG1 2249.1 SG2 405.0 THA 10.37 EL1 59.8 EL2 8.4 ALF 20.41

LAUNCH DATE APR 2 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 9 1971

MELIOCENTRIC CONIC DISTANCE 418.236 EARTH TO MARS
 RL 149.52 LAL -.00 LOL 191.61 VL 33.068 GAL -5.13 AZL 93.03 HCA 144.16 SMA 194.67 ECC .24768 INC 3.0310 V1 29.800
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.547 GAP 13.91 AZP 87.54 TAL 333.73 TAP 117.89 RCA 146.46 APO 242.89 V2 26.496
 RC 63.888 GL -20.59 GP 7.08 ZAL 134.21 ZAP 154.57 ETS 164.59 ZAE 168.99 ETE 92.82 ZAC 107.90 ETC 276.52 LVI -22.78

PLANETOCENTRIC CONIC
 C3 24.520 VHL 4.952 DLA -30.68 RAL 340.10 RAD 6644.8 VEL 12.021 PTH 7.01 VHP 6.521 DPA -12.33 RAP 312.32 ECC 1.4035
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 29 36 2540.98 -9.44 68.17 201.68 136.85 20 11 57 1541.0 8.95 52.41
 60.00 20 55 17 2312.99 -2.90 53.88 207.92 130.21 21 33 50 1313.0 13.10 35.79
 70.00 22 53 44 1964.49 4.92 31.54 213.80 123.84 23 26 28 964.5 18.19 11.11
 77.58 1 43 34 1446.13 16.32 358.81 220.51 116.34 2 7 41 446.1 25.77 335.20
 77.58 1 43 34 1446.13 16.32 358.81 220.51 116.34 2 7 41 446.1 25.77 335.20
 77.58 1 43 34 1446.13 16.32 358.81 220.51 116.34 2 7 41 446.1 25.77 335.20
 110.00 3 57 6 1011.31 4.92 320.45 213.80 123.84 4 13 57 11.3 18.19 300.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8284 TRA-1.4905 TC3 .0134 BAU .0980 SGT 2222.7 SGR 590.3 SG3 457.2 ST 56.6 SR 22.3 SS 52.9
 RDE -.3797 RRA -.1938 RC3 .2987 FAU .06487 RRT .7224 RRF -.7779 RTF -.8918 CRT .9269 CRS .7946 CST .9636
 FDE 1.0958 FRA 3.4265 FC3-2.2903 BSP 3981 SGB 2299.7 R23 -.1618 R13 -.8981 LSA 79.2 MSA 14.8 SSA 1.1
 BDE .9113 BRA 1.5030 BC3 .2990 FSP 709 SG1 2264.6 SG2 400.6 THA 11.22 EL1 60.3 EL2 7.9 ALF 20.44

LAUNCH DATE APR 2 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 11 1971

MELIOCENTRIC CONIC DISTANCE 421.992 EARTH TO MARS
 RL 149.52 LAL -.00 LOL 191.61 VL 33.009 GAL -5.03 AZL 93.11 HCA 145.43 SMA 193.57 ECC .24307 INC 3.1064 V1 29.800
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.467 GAP 13.53 AZP 87.44 TAL 333.82 TAP 119.25 RCA 146.52 APO 240.62 V2 26.496
 RC 64.956 GL -21.37 GP 7.51 ZAL 133.94 ZAP 153.33 ETS 164.53 ZAE 168.70 ETE 92.34 ZAC 108.32 ETC 276.56 LVI -23.21

PLANETOCENTRIC CONIC
 C3 23.913 VHL 4.890 DLA -31.39 RAL 340.49 RAD 6644.5 VEL 11.996 PTH 6.99 VHP 6.339 DPA -11.89 RAP 312.30 ECC 1.3936
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 35 21 2518.03 -8.30 67.19 202.04 137.02 20 17 19 1518.0 10.09 51.42
 60.00 21 3 15 2284.12 -1.63 52.50 208.41 130.27 21 41 19 1284.1 14.32 34.32
 70.00 23 7 31 1918.36 6.66 29.10 214.63 123.58 23 39 29 918.4 19.71 8.39
 75.79 1 32 23 1480.21 16.86 1.66 220.69 116.87 1 57 3 480.2 26.46 338.01
 75.79 1 32 23 1480.21 16.86 1.66 220.69 116.87 1 57 3 480.2 26.46 338.01
 75.79 1 32 23 1480.21 16.86 1.66 220.69 116.87 1 57 3 480.2 26.46 338.01
 110.00 4 10 53 6253.22 6.66 295.93 214.63 123.58 5 55 6 5253.2 19.71 275.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8239 TRA-1.4589 TC3 .0233 BAU .1026 SGT 2223.0 SGR 617.4 SG3 485.4 ST 56.8 SR 22.4 SS 54.6
 RDE -.3742 RRA -.2198 RC3 .3202 FAU .06761 RRT .7533 RRF -.8117 RTF -.8441 CRT .9380 CRS .8093 CST .9619
 FDE 1.1452 FRA 3.5720 FC3-2.4478 BSP 3983 SGB 2307.2 R23 -.1762 R13 -.9014 LSA 80.6 MSA 14.8 SSA 1.0
 BDE .9049 BRA 1.4734 BC3 .3210 FSP 736 SG1 2272.7 SG2 397.1 THA 12.19 EL1 60.7 EL2 7.3 ALF 20.59

LAUNCH DATE APR 2 1971 FLIGHT TIME 164.00 ARRIVAL DATE SEP 13 1971

MELIOCENTRIC CONIC DISTANCE 425.781 EARTH TO MARS
 RL 149.52 LAL -.00 LOL 191.61 VL 32.954 GAL -4.94 AZL 93.19 HCA 146.70 SMA 192.55 ECC .23671 INC 3.1869 V1 29.800
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.391 GAP 13.16 AZP 87.34 TAL 333.90 TAP 120.60 RCA 146.58 APO 238.51 V2 26.494
 RC 66.082 GL -22.18 GP 7.97 ZAL 133.65 ZAP 152.05 ETS 164.44 ZAE 168.37 ETE 92.29 ZAC 108.77 ETC 276.59 LVI -23.67

PLANETOCENTRIC CONIC
 C3 23.371 VHL 4.834 DLA -32.12 RAL 340.90 RAD 6644.3 VEL 11.973 PTH 6.97 VHP 6.163 DPA -11.43 RAP 312.23 ECC 1.3846
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 41 28 2494.73 -7.14 66.20 202.48 137.17 20 23 3 1494.7 11.24 50.41
 60.00 21 11 52 2254.15 -.31 51.07 209.01 130.30 21 49 26 1254.2 15.57 32.78
 70.00 23 23 45 1865.80 8.63 26.31 215.69 123.17 23 54 51 865.8 21.39 5.24
 74.10 1 22 29 1510.69 17.40 4.26 220.94 117.43 1 47 40 510.7 27.18 340.58
 74.10 1 22 29 1510.69 17.40 4.26 220.94 117.43 1 47 40 510.7 27.18 340.58
 74.10 1 22 29 1510.69 17.40 4.26 220.94 117.43 1 47 40 510.7 27.18 340.58
 110.00 4 27 7 6200.66 8.63 293.13 215.69 123.17 6 10 28 5200.7 21.39 272.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8240 TRA-1.4302 TC3 .0242 BAU .1073 SGT 2227.1 SGR 649.9 SG3 515.2 ST 57.3 SR 22.6 SS 56.3
 RDE -.3703 RRA -.2476 RC3 .3427 FAU .07036 RRT .7805 RRF -.8426 RTF -.8948 CRT .9494 CRS .8252 CST .9600
 FDE 1.2002 FRA 3.7256 FC3-2.6064 BSP 4031 SGB 2320.0 R23 -.1941 R13 -.9034 LSA 82.1 MSA 14.9 SSA 1.0
 BDE .9033 BRA 1.4515 BC3 .3435 FSP 807 SG1 2285.9 SG2 395.9 THA 13.24 EL1 61.2 EL2 6.6 ALF 20.74

LAUNCH DATE APR 2 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 429.603

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.902 GAL -4.86 AZL 93.27 HCA 147.97 SMA 191.59 ECC .23461 INC 3.2729 V1 29.800
RP 206.72 LAP -1.74 LOP 339.62 VP 24.317 GAP 12.80 AZP 87.22 TAL 333.99 TAP 121.96 RCA 146.64 APO 236.34 V2 26.491
RC 67.265 GL -23.03 GP 8.47 ZAL 133.34 ZAP 150.73 ETS 164.33 ZAE 168.01 ETE 92.67 ZAC 109.27 ETC 276.62 LVI -24.15

PLANETOCENTRIC CONIC

C3 22.892 VHL 4.785 DLA -32.88 RAL 341.34 RAD 6644.1 VEL 11.953 PTH 6.95 VHP 5.994 DPA -10.94 RAP 312.11 ECC 1.3767
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 48 1 2470.99 -5.95 65.19 203.02 137.29 20 29 12 1471.0 12.41 49.38
60.00 21 21 16 2222.82 1.07 49.58 209.74 130.29 21 58 19 1222.8 16.87 31.14
70.00 23 43 59 1802.23 10.98 22.89 217.07 122.55 24 14 1 802.2 23.32 1.31
72.48 1 13 38 1538.57 17.94 6.70 221.27 118.03 1 39 16 538.6 27.91 342.98
72.48 1 13 38 1538.57 17.94 6.70 221.27 118.03 1 39 16 538.6 27.91 342.98
72.48 1 13 38 1538.57 17.94 6.70 221.27 118.03 1 39 16 538.6 27.91 342.98
110.00 4 47 22 6137.09 10.98 289.71 217.07 122.55 6 29 39 5137.1 23.32 268.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8226 TRA-1.3977 TC3 .0265 BAU .1126 SGT 2223.4 SGR 688.3 SG3 546.3 ST 57.6 SR 22.8 SS 58.1
RDE -.3676 RRA -.2775 RC3 .3671 FAU .07329 RRT .8045 RRF -.8701 RTF -.8956 CRT .9602 CRS .8416 CST .9581
FDE 1.2586 FRA 3.8838 FC3-2.7716 BSP 4054 SGB 2327.5 R23 -.2118 R13 -.9059 LSA 83.6 MSA 14.9 SSA 1.0
BDE .9010 BRA 1.4250 BC3 .3681 FSP 860 SG1 2293.5 SGT 396.3 THA 14.43 EL1 61.7 EL2 5.9 ALF 21.01

LAUNCH DATE APR 2 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 433.455

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.852 GAL -4.78 AZL 93.37 HCA 149.24 SMA 190.70 ECC .23075 INC 3.3654 V1 29.800
RP 206.75 LAP -1.72 LOP 340.89 VP 24.247 GAP 12.45 AZP 87.11 TAL 334.07 TAP 123.31 RCA 146.70 APO 234.71 V2 26.487
RC 68.502 GL -23.92 GP 9.02 ZAL 133.00 ZAP 149.36 ETS 164.20 ZAE 167.59 ETE 93.42 ZAC 109.81 ETC 276.64 LVI -24.67

PLANETOCENTRIC CONIC

C3 22.474 VHL 4.741 DLA -33.68 RAL 341.81 RAD 6643.9 VEL 11.936 PTH 6.94 VHP 5.832 DPA -10.41 RAP 311.95 ECC 1.3699
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 55 5 2446.70 -4.73 64.17 203.66 137.40 20 35 51 1446.7 13.61 48.30
60.00 21 31 35 2189.76 2.53 48.00 210.61 130.24 22 8 5 1189.8 18.22 29.39
70.00 0 17 4 1712.97 14.20 17.98 219.10 121.39 0 45 37 713.0 25.83 355.60
70.90 1 5 34 1564.63 18.48 9.02 221.68 118.67 1 31 39 564.6 28.66 345.27
70.90 1 5 34 1564.63 18.48 9.02 221.68 118.67 1 31 39 564.6 28.66 345.27
70.90 1 5 34 1564.63 18.48 9.02 221.68 118.67 1 31 39 564.6 28.66 345.27
110.00 5 16 30 6047.83 14.20 284.80 219.10 121.39 6 57 18 5047.8 23.83 262.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8190 TRA-1.3607 TC3 .0315 BAU .1186 SGT 2210.4 SGR 733.3 SG3 578.8 ST 57.7 SR 23.2 SS 60.0
RDE -.3663 RRA -.3098 RC3 .3935 FAU .07634 RRT .8258 RRF -.8941 RTF -.8968 CRT .9702 CRS .8582 CST .9581
FDE 1.3210 FRA 4.0472 FC3-2.9406 BSP 4041 SGB 2328.9 R23 -.2278 R13 -.9091 LSA 85.0 MSA 15.0 SSA .9
BDE .8972 BRA 1.3955 BC3 .3948 FSP 915 SG1 2294.5 SGT 396.3 THA 15.81 EL1 61.9 EL2 5.2 ALF 21.43

LAUNCH DATE APR 2 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 437.334

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.806 GAL -4.70 AZL 93.46 HCA 150.50 SMA 189.88 ECC .22711 INC 3.4648 V1 29.800
RP 206.79 LAP -1.71 LOP 342.16 VP 24.179 GAP 12.11 AZP 86.98 TAL 334.16 TAP 124.66 RCA 146.75 APO 233.00 V2 26.483
RC 69.791 GL -24.84 GP 9.62 ZAL 132.64 ZAP 147.94 ETS 164.04 ZAE 167.12 ETE 94.31 ZAC 110.41 ETC 276.65 LVI -25.21

PLANETOCENTRIC CONIC

C3 22.119 VHL 4.703 DLA -34.51 RAL 342.31 RAD 6643.8 VEL 11.921 PTH 6.93 VHP 5.678 DPA -9.85 RAP 311.75 ECC 1.3640
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 2 42 2421.78 -3.48 63.12 204.42 137.48 20 43 4 1421.8 14.82 47.19
60.00 21 43 3 2154.55 4.07 46.31 211.65 130.13 22 18 58 1154.6 19.64 27.50
69.34 0 58 12 1589.35 19.03 11.26 222.18 119.35 1 24 41 589.3 29.43 347.50
69.34 0 58 12 1589.35 19.03 11.26 222.18 119.35 1 24 41 589.3 29.43 347.50
69.34 0 58 12 1589.35 19.03 11.26 222.18 119.35 1 24 41 589.3 29.43 347.50
69.34 0 58 12 1589.35 19.03 11.26 222.18 119.35 1 24 41 589.3 29.43 347.50
69.34 0 58 12 1589.35 19.03 11.26 222.18 119.35 1 24 41 589.3 29.43 347.50

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8208 TRA-1.3267 TC3 .0257 BAU .1249 SGT 2201.7 SGR 785.8 SG3 612.7 ST 58.0 SR 23.6 SS 61.9
RDE -.3670 RRA -.3451 RC3 .4215 FAU .07948 RRT .8424 RRF -.9148 RTF -.8961 CRT .9794 CRS .8750 CST .9538
FDE 1.3891 FRA 4.2168 FC3-3.1108 BSP 4083 SGB 2337.8 R23 -.2475 R13 -.9109 LSA 86.7 MSA 15.2 SSA .9
BDE .8991 BRA 1.3709 BC3 .4223 FSP 975 SG1 2302.4 SGT 404.9 THA 17.28 EL1 62.5 EL2 4.4 ALF 21.87

LAUNCH DATE APR 2 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 441.239

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.783 GAL -4.83 AZL 93.57 HCA 151.77 SMA 189.11 ECC .22370 INC 3.5723 V1 29.800
RP 206.84 LAP -1.69 LOP 343.43 VP 24.113 GAP 11.77 AZP 86.85 TAL 334.23 TAP 126.00 RCA 146.80 APO 231.41 V2 26.477
RC 71.130 GL -25.82 GP 10.27 ZAL 132.25 ZAP 146.48 ETS 163.88 ZAE 166.57 ETE 95.00 ZAC 111.07 ETC 276.66 LVI -25.80

PLANETOCENTRIC CONIC

C3 21.828 VHL 4.672 DLA -35.38 RAL 342.85 RAD 6643.6 VEL 11.909 PTH 6.92 VHP 5.528 DPA -9.24 RAP 311.48 ECC 1.3592
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 10 59 2396.08 -2.19 62.04 205.32 137.54 20 50 55 1396.1 16.07 46.02
60.00 21 55 58 2116.46 5.74 44.48 212.90 129.96 22 31 14 1116.5 21.14 25.41
67.80 0 51 26 1613.01 19.57 13.46 222.78 120.08 1 18 19 613.0 30.21 349.68
67.80 0 51 26 1613.01 19.57 13.46 222.78 120.08 1 18 19 613.0 30.21 349.68
67.80 0 51 26 1613.01 19.57 13.46 222.78 120.08 1 18 19 613.0 30.21 349.68
67.80 0 51 26 1613.01 19.57 13.46 222.78 120.08 1 18 19 613.0 30.21 349.68

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8200 TRA-1.2870 TC3 .0228 BAU .1321 SGT 2181.6 SGR 846.0 SG3 647.6 ST 58.1 SR 24.2 SS 63.8
RDE -.3692 RRA -.3832 RC3 .4522 FAU .08282 RRT .8561 RRF -.9322 RTF -.8954 CRT .9871 CRS .8913 CST .9513
FDE 1.4604 FRA 4.3878 FC3-3.2852 BSP 4088 SGB 2339.9 R23 -.2645 R13 -.9135 LSA 88.3 MSA 15.4 SSA .9
BDE .8993 BRA 1.3429 BC3 .4528 FSP 1034 SG1 2303.0 SGT 414.2 THA 19.00 EL1 62.8 EL2 3.6 ALF 22.48

LAUNCH DATE APR 2 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 445.168

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.722 GAL -4.56 AZL 93.69 HCA 153.03 SMA 188.39 ECC .22049 INC 3.6360 V1 29.800
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.050 GAP 11.44 AZP 86.71 TAL 334.31 TAP 127.34 NCA 146.85 APO 229.92 V2 26.470
 RC 72.517 GL -26.85 GP 10.99 ZAL 131.83 ZAP 144.96 ETS 163.66 ZAE 165.95 ETE 97.51 ZAC 111.80 ETC 276.66 LVI -26.44

PLANETOCENTRIC CONIC

C3 21.598 VHL 4.647 DLA -36.29 RAL 343.43 RAD 6643.5 VEL 11.899 PTH 6.91 VHP 5.387 DPA -8.59 RAP 311.17 ECC 1.3554
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 20 3 2369.40 -.85 60.93 206.36 137.57 20 59 32 1369.4 17.36 44.80
 60.00 22 10 45 2074.41 7.57 42.44 214.39 129.70 22 45 19 1074.4 22.77 23.04
 66.24 0 45 12 1636.05 20.12 15.64 223.49 120.86 1 12 28 636.0 31.02 351.85
 66.24 0 45 12 1636.05 20.12 15.64 223.49 120.86 1 12 28 636.0 31.02 351.85
 66.24 0 45 12 1636.05 20.12 15.64 223.49 120.86 1 12 28 636.0 31.02 351.85
 66.24 0 45 12 1636.05 20.12 15.64 223.49 120.86 1 12 28 636.0 31.02 351.85
 66.24 0 45 12 1636.05 20.12 15.64 223.49 120.86 1 12 28 636.0 31.02 351.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8205 TRA-1.2453 TC3 .0162 BAU .1400 SGT 2157.0 SGR 915.4 SG3 683.8 ST 58.1 SR 25.0 SS 65.8
 RDE -1.3740 RRA -.4250 RC3 .4846 FAU .08615 RRT .8668 RRF -.9467 RTF -.8943 CRT .9931 CR8 .9073 CST .9487
 FDE 1.5401 FRA 4.5639 FC3-3.4533 BSP 4095 SGB 2343.2 R23 -.2797 R13 -.9165 LSA 89.9 MSA 15.6 SSA .8
 BDE .9017 BRA 1.3160 BC3 .4849 FSP 1097 SG1 2303.9 SG2 427.4 THA 20.95 EL1 63.2 EL2 2.7 ALF 23.22

LAUNCH DATE APR 2 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 449.119

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.683 GAL -4.50 AZL 93.82 HCA 154.30 SMA 187.72 ECC .21747 INC 3.8161 V1 29.800
 RP 206.96 LAP -1.65 LOP 345.96 VP 23.990 GAP 11.12 AZP 86.56 TAL 334.37 TAP 128.67 RCA 146.89 APO 228.54 V2 26.462
 RC 73.950 GL -27.93 GP 11.78 ZAL 131.38 ZAP 143.38 ETS 163.43 ZAE 165.23 ETE 99.31 ZAC 112.60 ETC 276.66 LVI -27.12

PLANETOCENTRIC CONIC

C3 21.437 VHL 4.630 DLA -37.25 RAL 344.07 RAD 6643.5 VEL 11.893 PTH 6.90 VHP 5.253 DPA -7.87 RAP 310.79 ECC 1.3528
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 30 2 2341.53 .55 59.77 207.59 137.57 21 9 4 1341.5 18.70 43.50
 60.00 22 28 10 2026.56 9.65 40.10 216.21 129.32 23 1 56 1026.6 24.58 20.28
 64.68 0 39 31 1658.53 20.66 17.81 224.33 121.71 1 7 10 658.5 31.84 354.02
 64.68 0 39 31 1658.53 20.66 17.81 224.33 121.71 1 7 10 658.5 31.84 354.02
 64.68 0 39 31 1658.53 20.66 17.81 224.33 121.71 1 7 10 658.5 31.84 354.02
 64.68 0 39 31 1658.53 20.66 17.81 224.33 121.71 1 7 10 658.5 31.84 354.02
 64.68 0 39 31 1658.53 20.66 17.81 224.33 121.71 1 7 10 658.5 31.84 354.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8205 TRA-1.1998 TC3 .0098 BAU .1491 SGT 2123.7 SGR 994.5 SG3 720.6 ST 58.0 SR 26.0 SS 67.8
 RDE -.3810 RRA -.4704 RC3 .5202 FAU .08971 RRT .8743 RRF -.9585 RTF -.8927 CRT .9973 CR8 .9222 CST .9458
 FDE 1.6242 FRA 4.7385 FC3-3.6229 BSP 4090 SGB 2345.0 R23 -.2918 R13 -.9199 LSA 91.6 MSA 15.8 SSA .8
 BDE .9047 BRA 1.2887 BC3 .5203 FSP 1160 SG1 2302.4 SG2 444.9 THA 23.19 EL1 63.5 EL2 1.7 ALF 24.13

LAUNCH DATE APR 2 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 453.091

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.647 GAL -4.44 AZL 93.96 HCA 155.56 SMA 187.09 ECC .21465 INC 3.9554 V1 29.800
 RP 207.04 LAP -1.64 LOP 347.23 VP 23.931 GAP 10.80 AZP 86.40 TAL 334.43 TAP 130.00 RCA 146.93 APO 227.25 V2 26.454
 RC 75.426 GL -29.08 GP 12.65 ZAL 130.88 ZAP 141.74 ETS 163.19 ZAE 164.40 ETE 101.22 ZAC 113.49 ETC 276.65 LVI -27.87

PLANETOCENTRIC CONIC

C3 21.346 VHL 4.620 DLA -38.25 RAL 344.77 RAD 6643.4 VEL 11.889 PTH 6.90 VHP 5.127 DPA -7.09 RAP 310.35 ECC 1.3513
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 41 9 2312.13 2.03 58.54 209.02 137.54 21 19 41 1312.1 20.10 42.11
 60.00 22 49 38 1969.20 12.11 37.25 218.51 128.74 23 22 27 969.2 26.66 16.86
 63.09 0 34 16 1680.90 21.19 20.00 225.30 122.62 1 2 17 680.9 32.69 356.23
 63.09 0 34 16 1680.90 21.19 20.00 225.30 122.62 1 2 17 680.9 32.69 356.23
 63.09 0 34 16 1680.90 21.19 20.00 225.30 122.62 1 2 17 680.9 32.69 356.23
 63.09 0 34 16 1680.90 21.19 20.00 225.30 122.62 1 2 17 680.9 32.69 356.23
 63.09 0 34 16 1680.90 21.19 20.00 225.30 122.62 1 2 17 680.9 32.69 356.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8179 TRA-1.1475 TC3 .0066 BAU .1596 SGT 2076.7 SGR 1084.0 SG3 757.4 ST 57.5 SR 27.2 SS 69.8
 RDE -.3906 RRA -.5193 RC3 .5594 FAU .09349 RRT .8802 RRF -.9680 RTF -.8409 CRT .9994 CR8 .9357 CST .9428
 FDE 1.7118 FRA 4.9079 FC3-3.7916 BSP 4044 SGB 2342.6 R23 -.2985 R13 -.9245 LSA 93.1 MSA 16.1 SSA .7
 BDE .9064 BRA 1.2596 BC3 .5594 FSP 1219 SG1 2295.9 SG2 465.4 THA 25.81 EL1 63.6 EL2 .9 ALF 25.27

LAUNCH DATE APR 2 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 457.081

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.614 GAL -4.38 AZL 94.11 HCA 156.83 SMA 186.51 ECC .21201 INC 4.1088 V1 29.800
 RP 207.12 LAP -1.62 LOP 348.49 VP 23.874 GAP 10.49 AZP 86.22 TAL 334.49 TAP 131.32 RCA 146.97 APO 226.06 V2 26.444
 RC 76.944 GL -30.30 GP 13.61 ZAL 130.35 ZAP 140.04 ETS 162.92 ZAE 163.45 ETE 103.18 ZAC 114.47 ETC 276.64 LVI -28.68

PLANETOCENTRIC CONIC

C3 21.332 VHL 4.619 DLA -39.32 RAL 345.54 RAD 6643.4 VEL 11.888 PTH 6.90 VHP 5.010 DPA -6.23 RAP 309.85 ECC 1.3511
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 53 38 2280.83 3.60 57.23 210.71 137.47 21 31 38 1280.8 21.57 40.59
 60.00 23 18 52 1892.40 15.34 33.34 221.61 127.73 23 50 24 892.4 29.29 12.06
 61.46 0 29 32 1703.21 21.72 22.22 226.43 123.62 0 57 56 703.2 33.55 358.49
 61.46 0 29 32 1703.21 21.72 22.22 226.43 123.62 0 57 56 703.2 33.55 358.49
 61.46 0 29 32 1703.21 21.72 22.22 226.43 123.62 0 57 56 703.2 33.55 358.49
 61.46 0 29 32 1703.21 21.72 22.22 226.43 123.62 0 57 56 703.2 33.55 358.49
 61.46 0 29 32 1703.21 21.72 22.22 226.43 123.62 0 57 56 703.2 33.55 358.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8260 TRA-1.1016 TC3 -.0169 BAU .1707 SGT 2042.1 SGR 1187.3 SG3 795.4 ST 57.7 SR 28.7 SS 72.1
 RDE -.4055 RRA -.5753 RC3 .5984 FAU .09684 RRT .8811 RRF -.9756 RTF -.8861 CRT .9992 CR8 .9484 CST .9394
 FDE 1.8192 FRA 5.0848 FC3-3.9299 BSP 4114 SGB 2362.2 R23 -.3063 R13 -.9280 LSA 95.3 MSA 16.5 SSA .7
 BDE .9202 BRA 1.2428 BC3 .5987 FSP 1290 SG1 2309.4 SG2 496.5 THA 28.57 EL1 64.4 EL2 1.0 ALF 26.46

LAUNCH DATE APR 2 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 481.089

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.582 GAL -4.33 AZL 94.28 HCA 158.09 SMA 189.97 ECC .20954 INC 4.2787 V1 29.800
RP 207.21 LAP -1.60 LOP 349.75 VP 23.619 GAP 10.19 AZP 86.03 TAL 334.54 TAP 132.83 RCA 147.01 APO 224.94 V2 26.433
RC 78.502 GL -31.60 GP 14.67 ZAL 129.76 ZAP 138.27 ETS 162.83 ZAE 182.35 ETE 105.15 ZAC 115.57 ETC 276.62 LVI -29.57

PLANETOCENTRIC CONIC

C3 21.404 VHL 4.626 DLA -40.44 RAL 346.40 RAD 6643.5 VEL 11.891 PTH 6.90 VHP 4.901 DPA -5.28 RAP 309.28 ECC 1.3522
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 7 51 2246.96 5.29 55.80 212.71 137.35 21 45 18 1247.0 23.15 38.91
59.79 0 25 17 1725.70 22.23 24.50 227.73 124.70 0 54 3 725.7 34.44 .83
59.79 0 25 17 1725.70 22.23 24.50 227.73 124.70 0 54 3 725.7 34.44 .83
59.79 0 25 17 1725.70 22.23 24.50 227.73 124.70 0 54 3 725.7 34.44 .83
59.79 0 25 17 1725.70 22.23 24.50 227.73 124.70 0 54 3 725.7 34.44 .83
59.79 0 25 17 1725.70 22.23 24.50 227.73 124.70 0 54 3 725.7 34.44 .83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8301 TRA -1.0463 TC3 -.0334 BAU .1839 SGT 1989.1 SGR 1303.4 SG3 832.1 ST 57.4 SR 30.5 SS 74.2
RDE -.4243 RRA -.6357 RC3 .6417 FAU .10041 RRT .8806 RRF -.9816 RTF -.8812 CRT .9969 CRS .9594 CST .9359
FDE 1.9314 FRA 5.2476 FC3-4.0618 BSP 4131 SGB 2378.1 R23 -.3057 R13 -.9334 LSA 97.2 MSA 16.8 SSA .6
BDE .9322 BRA 1.2243 BC3 .6426 FSP 1354 SG1 2318.3 SG2 529.0 THA 31.85 EL1 65.0 EL2 2.1 ALF 27.96

LAUNCH DATE APR 2 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 465.114

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.552 GAL -4.29 AZL 94.47 HCA 159.35 SMA 185.47 ECC .20724 INC 4.4682 V1 29.800
RP 207.31 LAP -1.57 LOP 351.02 VP 23.765 GAP 9.89 AZP 85.82 TAL 334.58 TAP 133.93 RCA 147.04 APO 223.91 V2 26.422
RC 80.098 GL -32.99 GP 15.85 ZAL 129.12 ZAP 136.42 ETS 162.33 ZAE 161.10 ETE 107.06 ZAC 116.78 ETC 276.60 LVI -30.56

PLANETOCENTRIC CONIC

C3 21.571 VHL 4.644 DLA -41.63 RAL 347.37 RAD 6643.5 VEL 11.898 PTH 6.91 VHP 4.801 DPA -4.22 RAP 308.64 ECC 1.3550
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 24 20 2209.59 7.16 54.22 215.10 137.16 22 1 9 1209.6 24.87 37.01
58.07 0 21 34 1748.58 22.72 26.84 229.24 125.88 0 50 43 748.6 35.35 3.27
58.07 0 21 34 1748.58 22.72 26.84 229.24 125.88 0 50 43 748.6 35.35 3.27
58.07 0 21 34 1748.58 22.72 26.84 229.24 125.88 0 50 43 748.6 35.35 3.27
58.07 0 21 34 1748.58 22.72 26.84 229.24 125.88 0 50 43 748.6 35.35 3.27
58.07 0 21 34 1748.58 22.72 26.84 229.24 125.88 0 50 43 748.6 35.35 3.27

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8374 TRA -.9886 TC3 -.0556 BAU .1986 SGT 1932.1 SGR 1435.9 SG3 868.3 ST 57.2 SR 32.8 SS 76.6
RDE -.4497 RRA -.7033 RC3 .6863 FAU .10368 RRT .8776 RRF -.9862 RTF -.8748 CRT .9926 CRS .9689 CST .9324
FDE 2.0817 FRA 5.4046 FC3-4.1614 BSP 4180 SGB 2407.2 R23 -.2994 R13 -.9399 LSA 99.6 MSA 17.2 SSA .6
BDE .9505 BRA 1.2133 BC3 .6886 FSP 1422 SG1 2339.1 SG2 568.7 THA 35.53 EL1 65.8 EL2 3.5 ALF 29.73

LAUNCH DATE APR 2 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 469.153

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.525 GAL -4.24 AZL 94.68 HCA 160.61 SMA 185.01 ECC .20510 INC 4.6808 V1 29.800
RP 207.42 LAP -1.55 LOP 352.28 VP 23.713 GAP 9.60 AZP 85.58 TAL 334.61 TAP 135.22 RCA 147.06 APO 222.95 V2 26.409
RC 81.730 GL -34.49 GP 17.17 ZAL 128.42 ZAP 134.48 ETS 162.01 ZAE 159.68 ETE 108.87 ZAC 118.14 ETC 276.58 LVI -31.65

PLANETOCENTRIC CONIC

C3 21.849 VHL 4.674 DLA -42.91 RAL 348.45 RAD 6643.7 VEL 11.910 PTH 6.92 VHP 4.713 DPA -3.04 RAP 307.93 ECC 1.3596
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 43 54 2167.15 9.28 52.41 218.02 136.88 22 20 1 1167.2 26.78 34.78
56.28 0 18 25 1772.07 23.19 29.28 230.99 127.17 0 47 57 772.1 36.27 5.85
56.28 0 18 25 1772.07 23.19 29.28 230.99 127.17 0 47 57 772.1 36.27 5.85
56.28 0 18 25 1772.07 23.19 29.28 230.99 127.17 0 47 57 772.1 36.27 5.85
56.28 0 18 25 1772.07 23.19 29.28 230.99 127.17 0 47 57 772.1 36.27 5.85
56.28 0 18 25 1772.07 23.19 29.28 230.99 127.17 0 47 57 772.1 36.27 5.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8437 TRA -.9238 TC3 -.0757 BAU .2199 SGT 1861.4 SGR 1584.4 SG3 901.4 ST 56.7 SR 35.4 SS 78.9
RDE -.4816 RRA -.7768 RC3 .7391 FAU .10710 RRT .8719 RRF -.9898 RTF -.8567 CRT .9864 CRS .9786 CST .9283
FDE 2.1992 FRA 5.5363 FC3-4.2436 BSP 4213 SGB 2444.4 R23 -.2858 R13 -.9476 LSA 101.9 MSA 17.6 SSA .5
BDE .9715 BRA 1.2070 BC3 .7390 FSP 1478 SG1 2367.1 SG2 610.1 THA 39.74 EL1 66.6 EL2 4.9 ALF 31.83

LAUNCH DATE APR 2 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 473.208

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.499 GAL -4.20 AZL 94.92 HCA 161.86 SMA 184.58 ECC .20310 INC 4.9215 V1 29.800
RP 207.54 LAP -1.53 LOP 353.54 VP 23.663 GAP 9.31 AZP 85.32 TAL 334.64 TAP 136.50 RCA 147.09 APO 222.06 V2 26.395
RC 83.399 GL -36.11 GP 18.64 ZAL 127.63 ZAP 132.48 ETS 161.87 ZAE 158.06 ETE 110.56 ZAC 119.65 ETC 276.58 LVI -32.86

PLANETOCENTRIC CONIC

C3 22.258 VHL 4.718 DLA -44.27 RAL 349.69 RAD 6643.8 VEL 11.927 PTH 6.93 VHP 4.636 DPA -1.73 RAP 307.12 ECC 1.3663
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 8 4 2116.60 11.78 50.22 221.67 136.44 22 43 21 1116.6 29.00 32.02
54.41 0 15 55 1796.39 23.62 31.83 233.01 128.59 0 45 51 796.4 37.21 8.58
54.41 0 15 55 1796.39 23.62 31.83 233.01 128.59 0 45 51 796.4 37.21 8.58
54.41 0 15 55 1796.39 23.62 31.83 233.01 128.59 0 45 51 796.4 37.21 8.58
54.41 0 15 55 1796.39 23.62 31.83 233.01 128.59 0 45 51 796.4 37.21 8.58
54.41 0 15 55 1796.39 23.62 31.83 233.01 128.59 0 45 51 796.4 37.21 8.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8451 TRA -.8466 TC3 -.0841 BAU .2364 SGT 1766.7 SGR 1750.1 SG3 929.9 ST 55.7 SR 38.4 SS 80.9
RDE -.5213 RRA -.8558 RC3 .7899 FAU .11078 RRT .8650 RRF -.9924 RTF -.8578 CRT .9786 CRS .9928 CST .9240
FDE 2.3442 FRA 5.6310 FC3-4.3087 BSP 4186 SGB 2486.8 R23 -.2617 R13 -.9573 LSA 103.9 MSA 18.0 SSA .5
BDE .9929 BRA 1.2038 BC3 .7944 FSP 1517 SG1 2401.4 SG2 646.0 THA 44.69 EL1 67.3 EL2 6.5 ALF 34.42

LAUNCH DATE APR 2 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 477.273

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.475 GAL -4.17 AZL 95.20 HCA 163.12 SMA 184.18 ECC .20126 INC 5.1965 V1 29.800
RP 207.66 LAP -1.31 LOP 354.80 VP 23.613 GAP 9.03 AZP 85.03 TAL 334.65 TAP 137.77 RCA 147.11 APO 221.24 V2 26.381
RC 85.104 GL -37.68 GP 20.30 ZAL 126.78 ZAP 130.35 ETS 161.32 ZAE 156.23 ETE 112.09 ZAC 121.36 ETC 276.54 LVI -34.21

PLANETOCENTRIC CONIC

C3 22.831 VHL 4.778 DLA -45.72 RAL 351.11 RAD 6644.1 VEL 11.951 PTH 6.95 VHP 4.574 DPA -.24 RAP 306.24 ECC 1.3757
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 40 8 2050.87 15.00 47.30 226.52 135.70 23 14 18 1050.9 31.79 28.24
52.45 0 14 10 1821.88 24.00 34.52 235.37 130.16 0 44 32 821.9 38.14 11.52
52.45 0 14 10 1821.88 24.00 34.52 235.37 130.16 0 44 32 821.9 38.14 11.52
52.45 0 14 10 1821.88 24.00 34.52 235.37 130.16 0 44 32 821.9 38.14 11.52
52.45 0 14 10 1821.88 24.00 34.52 235.37 130.16 0 44 32 821.9 38.14 11.52
52.45 0 14 10 1821.88 24.00 34.52 235.37 130.16 0 44 32 821.9 38.14 11.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8684 TRA -.7835 TC3 -.1296 BAU .2580 SGT 1706.0 SGR 1945.2 SG3 957.0 ST 55.8 SR 42.6 SS 63.9
RDE -.5804 RRA -.9500 RC3 .8351 FAU .11253 RRT .8503 RRF -.9945 RTF -.8419 CRT .9701 CR8 .9879 CST .9211
FDE 2.5454 FRA 5.7266 FC3-4.2671 BSP 4428 SGB 2587.4 R23 -.2402 R13 -.9651 LSA 107.8 MSA 18.5 S8A .5
BDE 1.0445 BRA 1.2314 BC3 .8451 FSP 1584 SG1 2490.5 SG2 701.4 THA 49.40 EL1 69.7 EL2 8.3 ALF 37.09

LAUNCH DATE APR 2 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 481.351

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.452 GAL -4.14 AZL 95.51 HCA 164.37 SMA 183.81 ECC .19955 INC 5.5137 V1 29.800
RP 207.80 LAP -1.48 LOP 356.05 VP 23.565 GAP 8.76 AZP 84.69 TAL 334.66 TAP 139.03 RCA 147.13 APO 220.48 V2 26.365
RC 86.843 GL -39.80 GP 22.16 ZAL 125.77 ZAP 128.13 ETS 160.96 ZAE 154.16 ETE 113.45 ZAC 123.28 ETC 276.53 LVI -35.73

PLANETOCENTRIC CONIC

C3 23.605 VHL 4.858 DLA -47.29 RAL 352.77 RAD 6644.4 VEL 11.983 PTH 6.98 VHP 4.528 DPA 1.44 RAP 305.26 ECC 1.3885
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 35 36 1933.18 20.65 41.82 234.45 133.87 24 7 49 933.2 36.42 20.83
50.38 0 13 23 1848.78 24.30 37.35 238.12 131.90 0 44 12 848.8 39.07 14.71
50.38 0 13 23 1848.78 24.30 37.35 238.12 131.90 0 44 12 848.8 39.07 14.71
50.38 0 13 23 1848.78 24.30 37.35 238.12 131.90 0 44 12 848.8 39.07 14.71
50.38 0 13 23 1848.78 24.30 37.35 238.12 131.90 0 44 12 848.8 39.07 14.71
50.38 0 13 23 1848.78 24.30 37.35 238.12 131.90 0 44 12 848.8 39.07 14.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8848 TRA -.7040 TC3 -.1573 BAU .2842 SGT 1615.6 SGR 2161.3 SG3 975.1 ST 55.3 SR 47.3 SS 86.6
RDE -.6544 RRA -1.0502 RC3 .8869 FAU .11458 RRT .8328 RRF -.9960 RTF -.8234 CRT .9609 CR8 .9917 CST .9176
FDE 2.7546 FRA 5.7363 FC3-4.2024 BSP 4592 SGB 2698.4 R23 -.2090 R13 -.9739 LSA 111.5 MSA 18.9 SSA .4
BDE 1.1005 BRA 1.2643 BC3 .9007 FSP 1618 SG1 2593.4 SG2 745.4 THA 54.76 EL1 72.1 EL2 10.1 ALF 40.38

LAUNCH DATE APR 2 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 485.440

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.432 GAL -4.11 AZL 95.88 HCA 165.62 SMA 183.46 ECC .19797 INC 5.8842 V1 29.800
RP 207.94 LAP -1.46 LOP 357.31 VP 23.518 GAP 8.49 AZP 84.30 TAL 334.65 TAP 140.28 RCA 147.14 APO 219.78 V2 26.349
RC 88.616 GL -41.92 GP 24.27 ZAL 124.66 ZAP 125.79 ETS 160.61 ZAE 151.83 ETE 114.64 ZAC 125.44 ETC 276.53 LVI -37.43

PLANETOCENTRIC CONIC

C3 24.642 VHL 4.964 DLA -48.97 RAL 354.73 RAD 6644.8 VEL 12.026 PTH 7.02 VHP 4.502 DPA 3.34 RAP 304.18 ECC 1.4055
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.20 0 13 43 1877.65 24.50 40.38 241.35 133.83 0 45 1 877.6 39.95 18.20
48.20 0 13 43 1877.65 24.50 40.38 241.35 133.83 0 45 1 877.6 39.95 18.20
48.20 0 13 43 1877.65 24.50 40.38 241.35 133.83 0 45 1 877.6 39.95 18.20
48.20 0 13 43 1877.65 24.50 40.38 241.35 133.83 0 45 1 877.6 39.95 18.20
48.20 0 13 43 1877.65 24.50 40.38 241.35 133.83 0 45 1 877.6 39.95 18.20
48.20 0 13 43 1877.65 24.50 40.38 241.35 133.83 0 45 1 877.6 39.95 18.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9033 TRA -.8188 TC3 -.1837 BAU .3151 SGT 1515.4 SGR 2404.1 SG3 983.2 ST 54.6 SR 53.2 SS 89.2
RDE -.7331 RRA -1.1594 RC3 .9388 FAU .11604 RRT .8089 RRF -.9972 RTF -.8086 CRT .9517 CR8 .9945 CST .9144
FDE 2.9924 FRA 5.7210 FC3-4.0768 BSP 4797 SGB 2841.8 R23 -.1746 R13 -.9818 LSA 115.8 MSA 19.2 S8A .4
BDE 1.1761 BRA 1.3133 BC3 .9566 FSP 1632 SG1 2731.5 SG2 784.2 THA 60.29 EL1 75.3 EL2 11.8 ALF 44.19

LAUNCH DATE APR 2 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 489.538

EARTH TO MARS

RL 149.52 LAL -.00 LOL 191.61 VL 32.412 GAL -4.09 AZL 96.32 HCA 166.87 SMA 183.15 ECC .19652 INC 6.3232 V1 29.800
RP 208.08 LAP -1.43 LOP 358.56 VP 23.472 GAP 8.22 AZP 83.84 TAL 334.64 TAP 141.52 RCA 147.15 APO 219.14 V2 26.332
RC 90.421 GL -44.26 GP 26.67 ZAL 123.40 ZAP 123.32 ETS 160.27 ZAE 149.20 ETE 115.66 ZAC 127.90 ETC 276.54 LVI -39.36

PLANETOCENTRIC CONIC

C3 26.030 VHL 5.102 DLA -50.78 RAL 357.07 RAD 6645.4 VEL 12.083 PTH 7.06 VHP 4.502 DPA 5.52 RAP 302.98 ECC 1.4284
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.89 0 15 35 1908.89 24.54 43.60 245.17 135.97 0 47 24 908.9 40.76 22.03
45.89 0 15 35 1908.89 24.54 43.60 245.17 135.97 0 47 24 908.9 40.76 22.03
45.89 0 15 35 1908.89 24.54 43.60 245.17 135.97 0 47 24 908.9 40.76 22.03
45.89 0 15 35 1908.89 24.54 43.60 245.17 135.97 0 47 24 908.9 40.76 22.03
45.89 0 15 35 1908.89 24.54 43.60 245.17 135.97 0 47 24 908.9 40.76 22.03
45.89 0 15 35 1908.89 24.54 43.60 245.17 135.97 0 47 24 908.9 40.76 22.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.9266 TRA -.5229 TC3 -.2110 BAU .3505 SGT 1411.4 SGR 2680.0 SG3 979.6 ST 53.9 SR 60.5 SS 92.3
RDE -.8904 RRA -1.2805 RC3 .9848 FAU .11609 RRT .7764 RRF -.9980 RTF -.7653 CRT .9432 CR8 .9965 CST .9123
FDE 3.2779 FRA 5.6152 FC3-3.8612 BSP 5095 SGB 3028.9 R23 -.1401 R13 -.9882 LSA 121.3 MSA 19.4 S8A .3
BDE 1.2851 BRA 1.3832 BC3 1.0071 FSP 1633 SG1 2916.5 SG2 817.4 THA 65.73 EL1 79.9 EL2 13.6 ALF 48.54

LAUNCH DATE APR 2 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.398 GAL -4.07 AZL 96.85 HCA 168.12 SMA 182.86 ECC .19519 INC 6.8516 V1 29.800
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.427 GAP 7.96 AZP 83.29 TAL 334.82 TAP 142.74 RCA 147.16 APO 218.55 V2 26.715
 RC 92.259 GL -46.87 GP 29.39 ZAL 121.96 ZAP 120.71 ETS 159.96 ZAE 146.25 ETE 116.53 ZAC 130.69 ETC 276.58 LVI -41.53

PLANETOCENTRIC CONIC

C3 27.906 VHL 5.283 DLA -52.73 RAL 359.92 RAD 6646.2 VEL 12.160 PTH 7.12 VHP 4.536 DPA 8.01 RAP 301.66 ECC 1.4593
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.44 0 19 30 1943.21 24.38 47.04 249.73 138.33 0 51 53 943.2 41.43 26.28
 43.44 0 19 30 1943.21 24.38 47.04 249.73 138.33 0 51 53 943.2 41.43 26.28
 43.44 0 19 30 1943.21 24.38 47.04 249.73 138.33 0 51 53 943.2 41.43 26.28
 43.44 0 19 30 1943.21 24.38 47.04 249.73 138.33 0 51 53 943.2 41.43 26.28
 43.44 0 19 30 1943.21 24.38 47.04 249.73 138.33 0 51 53 943.2 41.43 26.28
 43.44 0 19 30 1943.21 24.38 47.04 249.73 138.33 0 51 53 943.2 41.43 26.28

DIFFERENTIAL CORRECTIONS

TDE -.9531 TRA -.4199 TC3 -.2358 BAU .3927
 RDE -1.0817 RRA -1.4100 RC3 1.0259 FAU .11499
 FDE 3.6055 FRA 5.4051 FC3 -3.5673 BSP 5459
 BDE 1.4417 BRA 1.4712 BC3 1.0527 FSP 1601

MID-COURSE EXECUTION ACCURACY

SGT 1302.4 SGR 2988.1 SG3 959.1
 RRT .7303 RRF -.9986 RTF -.7183
 SGB 3259.6 R23 -.1082 R13 -.9928
 SG1 3148.3 SG2 844.5 THA 70.92

ORBIT DETERMINATION ACCURACY

ST 52.9 SR 69.8 SS 95.5
 CRT .9360 CRS .9979 CST .9111
 LSA 128.1 MSA 19.5 SSA .3
 EL1 86.3 EL2 15.1 ALF 53.37

LAUNCH DATE APR 2 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.378 GAL -4.05 AZL 97.50 HCA 169.36 SMA 182.59 ECC .19398 INC 7.5011 V1 29.600
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.383 GAP 7.71 AZP 82.63 TAL 334.59 TAP 143.95 RCA 147.17 APO 218.01 V2 26.294
 RC 94.128 GL -49.78 GP 32.49 ZAL 120.30 ZAP 117.94 ETS 159.72 ZAE 142.93 ETE 117.27 ZAC 133.86 ETC 276.65 LVI -43.98

PLANETOCENTRIC CONIC

C3 30.486 VHL 5.521 DLA -54.81 RAL 3.47 RAD 6647.2 VEL 12.264 PTH 7.21 VHP 4.616 DPA 10.86 RAP 300.21 ECC 1.5017
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.88 0 26 11 1981.56 23.92 50.70 255.22 140.92 0 59 12 981.6 41.86 30.99
 40.88 0 26 11 1981.56 23.92 50.70 255.22 140.92 0 59 12 981.6 41.86 30.99
 40.88 0 26 11 1981.56 23.92 50.70 255.22 140.92 0 59 12 981.6 41.86 30.99
 40.88 0 26 11 1981.56 23.92 50.70 255.22 140.92 0 59 12 981.6 41.86 30.99
 40.88 0 26 11 1981.56 23.92 50.70 255.22 140.92 0 59 12 981.6 41.86 30.99
 40.88 0 26 11 1981.56 23.92 50.70 255.22 140.92 0 59 12 981.6 41.86 30.99

DIFFERENTIAL CORRECTIONS

TDE -.9799 TRA -.3053 TC3 -.2555 BAU .4414
 RDE -1.3612 RRA -1.5498 RC3 1.0525 FAU .11164
 FDE 3.9958 FRA 5.0834 FC3 -3.1703 BSP 5939
 BDE 1.6772 BRA 1.5796 BC3 1.0831 FSP 1543

MID-COURSE EXECUTION ACCURACY

SGT 1189.9 SGR 3336.6 SG3 919.4
 RRT .6656 RRF -.9990 RTF -.6524
 SGB 3542.4 R23 -.0803 R13 -.9959
 SG1 3435.9 SG2 862.4 THA 75.73

ORBIT DETERMINATION ACCURACY

ST 51.5 SR 82.1 SS 99.2
 CRT .0304 CRS .9988 CST .9110
 LSA 137.3 MSA 19.3 SSA .2
 EL1 95.6 EL2 16.2 ALF 58.73

LAUNCH DATE APR 2 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.363 GAL -4.04 AZL 98.32 HCA 170.60 SMA 182.35 ECC .19288 INC 8.3102 V1 29.800
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.340 GAP 7.48 AZP 81.79 TAL 334.55 TAP 145.15 RCA 147.18 APO 217.92 V2 26.274
 RC 96.027 GL -93.07 GP 36.02 ZAL 118.38 ZAP 115.00 ETS 159.58 ZAE 139.20 ETE 117.93 ZAC 137.47 ETC 276.77 LVI -46.72

PLANETOCENTRIC CONIC

C3 34.134 VHL 5.842 DLA -56.99 RAL 7.97 RAD 6648.6 VEL 12.411 PTH 7.32 VHP 4.760 DPA 14.12 RAP 298.58 ECC 1.5618
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 38.22 0 36 48 2025.17 23.03 54.55 261.92 143.70 1 10 33 1025.2 41.91 36.16
 38.22 0 36 48 2025.17 23.03 54.55 261.92 143.70 1 10 33 1025.2 41.91 36.16
 38.22 0 36 48 2025.17 23.03 54.55 261.92 143.70 1 10 33 1025.2 41.91 36.16
 38.22 0 36 48 2025.17 23.03 54.55 261.92 143.70 1 10 33 1025.2 41.91 36.16
 38.22 0 36 48 2025.17 23.03 54.55 261.92 143.70 1 10 33 1025.2 41.91 36.16
 38.22 0 36 48 2025.17 23.03 54.55 261.92 143.70 1 10 33 1025.2 41.91 36.16

DIFFERENTIAL CORRECTIONS

TDE -1.0016 TRA -.1781 TC3 -.2702 BAU .5018
 RDE -1.7726 RRA -1.6901 RC3 1.0659 FAU .10643
 FDE 4.4233 FRA 4.6099 FC3 -2.6993 BSP 6483
 BDE 2.0360 BRA 1.6995 BC3 1.0996 FSP 1438

MID-COURSE EXECUTION ACCURACY

SGT 1080.4 SGR 3718.8 SG3 833.7
 RRT .5699 RRF -.9992 RTF -.5051
 SGB 3872.6 R23 -.0581 R13 -.9977
 SG1 3772.4 SG2 875.2 THA 80.06

ORBIT DETERMINATION ACCURACY

ST 49.4 SR 98.2 SS 102.9
 CRT .9261 CRS .9993 CST .9113
 LSA 149.3 MSA 18.8 SSA .2
 EL1 108.6 EL2 16.8 ALF 64.38

LAUNCH DATE APR 2 1971

FLIGHT TIME 204.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.349 GAL -4.03 AZL 99.38 HCA 171.84 SMA 182.12 ECC .19188 INC 9.3786 V1 29.800
 RP 208.78 LAP -1.33 LOP 3.55 VP 23.297 GAP 7.21 AZP 80.71 TAL 334.50 TAP 146.34 RCA 147.18 APO 217.07 V2 26.254
 RC 97.955 GL -56.80 GP 40.03 ZAL 116.15 ZAP 111.88 ETS 159.61 ZAE 135.03 ETE 118.58 ZAC 141.55 ETC 276.97 LVI -49.74

PLANETOCENTRIC CONIC

C3 39.495 VHL 6.285 DLA -59.21 RAL 13.82 RAD 6650.5 VEL 12.624 PTH 7.48 VHP 4.999 DPA 17.84 RAP 296.77 ECC 1.6500
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 35.54 0 53 7 2075.70 21.53 58.53 270.20 146.61 1 27 42 1075.7 41.37 41.73
 35.54 0 53 7 2075.70 21.53 58.53 270.20 146.61 1 27 42 1075.7 41.37 41.73
 35.54 0 53 7 2075.70 21.53 58.53 270.20 146.61 1 27 42 1075.7 41.37 41.73
 35.54 0 53 7 2075.70 21.53 58.53 270.20 146.61 1 27 42 1075.7 41.37 41.73
 35.54 0 53 7 2075.70 21.53 58.53 270.20 146.61 1 27 42 1075.7 41.37 41.73
 35.54 0 53 7 2075.70 21.53 58.53 270.20 146.61 1 27 42 1075.7 41.37 41.73

DIFFERENTIAL CORRECTIONS

TDE -1.0014 TRA -.0331 TC3 -.2764 BAU .5758
 RDE -2.4046 RRA -1.8251 RC3 1.0549 FAU .09834
 FDE 4.8704 FRA 3.9809 FC3 -2.1555 BSP 7122
 BDE 2.6048 BRA 1.8254 BC3 1.0905 FSP 1283

MID-COURSE EXECUTION ACCURACY

SGT 978.6 SGR 4138.6 SG3 759.7
 RRT .4277 RRF -.9994 RTF -.4102
 SGB 4252.8 R23 -.0414 R13 -.9987
 SG1 4160.7 SG2 879.9 THA 83.95

ORBIT DETERMINATION ACCURACY

ST 45.7 SR 120.0 SS 106.3
 CRT .9210 CRS .9996 CST .9097
 LSA 165.7 MSA 17.8 SSA .2
 EL1 127.3 EL2 16.8 ALF 70.33

LAUNCH DATE APR 2 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.263 GAL -4.25 AZL 81.87 HCA 186.76 SMA 180.74 ECC .18750 INC 8.1339 V1 29.800
 RP 211.46 LAP -.95 LOP 18.30 VP 22.824 GAP 4.61 AZP 98.08 TAL 332.49 TAP 159.25 RCA 146.85 APO 214.63 V2 25.942
 RC 123.058 GL 52.10 GP -47.64 ZAL 120.03 ZAP 93.29 ETS 182.36 ZAE 119.94 EYE 218.24 ZAC 54.79 ETC 272.12 LVI 34.10

DISTANCE 558.282 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 33.281 VHL 5.789 DLA 38.70 RAL 316.05 RAD 6648.3 VEL 12.377 PTH 7.29 VHP 5.168 DPA -69.34 RAP 314.38 ECC 1.5477
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 34 36 4109.82 -39.91 183.02 219.13 61.58 13 43 25 3109.8 -47.37 150.99
 60.00 11 39 39 4258.31 -26.22 186.84 209.70 58.23 12 50 37 3258.3 -36.87 161.40
 62.40 10 34 32 4444.14 -17.22 195.99 203.31 54.79 11 48 36 3444.1 -30.07 173.72
 62.40 10 34 32 4444.14 -17.22 195.99 203.31 54.79 11 48 36 3444.1 -30.07 173.72
 62.40 10 34 32 4444.14 -17.22 195.99 203.31 54.79 11 48 36 3444.1 -30.07 173.72
 62.40 10 34 32 4444.14 -17.22 195.99 203.31 54.79 11 48 36 3444.1 -30.07 173.72
 62.40 10 34 32 4444.14 -17.22 195.99 203.31 54.79 11 48 36 3444.1 -30.07 173.72

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.8378 TRA .8322 TC3-1.0582 BAU .7826 SGT 2438.0 SGR 5346.3 SG3 670.8 ST 92.7 SR 160.1 SS 106.7
 RDE 3.1835 RRA 3.1391 RC3-1.4049 FAU .08585 RRT .9192 RRF .9994 RTF .9206 CRT .9820 CRS -.9999 CST -.9797
 FDE 4.4779 FRA 4.5728 FC3-2.2332 BSP 9941 SGB 5875.9 R23 .0804 R13 .9976 LSA 219.7 MSA 16.2 SSA .2
 BDE 3.6759 BRA 3.2476 BC3 1.7588 FSP 1182 SGI 5809.1 SG2 883.7 THA 66.69 EL1 192.2 EL2 15.4 ALF 61.51

LAUNCH DATE APR 2 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.261 GAL -4.28 AZL 83.33 HCA 187.95 SMA 180.71 ECC .18757 INC 6.6652 V1 29.800
 RP 211.73 LAP -.92 LOP 19.51 VP 22.786 GAP 4.40 AZP 96.60 TAL 332.30 TAP 160.25 RCA 146.81 APO 214.61 V2 25.911
 RC 125.302 GL 45.91 GP -43.80 ZAL 123.95 ZAP 92.17 ETS 180.90 ZAE 121.25 ETE 214.82 ZAC 58.65 ETC 271.87 LVI 30.84

DISTANCE 560.445 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 27.031 VHL 5.199 DLA 32.81 RAL 318.62 RAD 6645.8 VEL 12.124 PTH 7.10 VHP 4.685 DPA -65.94 RAP 309.47 ECC 1.4449
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 28 54 3901.17 -45.36 166.01 214.77 73.76 14 33 55 2901.2 -46.71 130.98
 60.00 13 15 5 3938.04 -35.85 165.25 210.70 70.20 14 20 44 2938.0 -40.30 135.08
 70.00 12 38 0 4047.90 -24.22 168.58 205.20 65.15 13 45 28 3047.9 -32.26 142.87
 72.62 11 42 6 4220.19 -16.60 177.78 201.10 61.28 12 52 26 3220.2 -26.97 154.46
 72.62 11 42 6 4220.19 -16.60 177.78 201.10 61.28 12 52 26 3220.2 -26.97 154.46
 72.62 11 42 6 4220.19 -16.60 177.78 201.10 61.28 12 52 26 3220.2 -26.97 154.46
 110.00 17 37 27 3094.72 -24.22 97.50 205.20 65.15 18 29 2 2094.7 -32.26 71.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6398 TRA .9856 TC3-1.3337 BAU .7331 SGT 2618.8 SGR 5031.1 SG3 845.8 ST 92.4 SR 152.4 SS 116.0
 RDE 2.5582 RRA 2.9378 RC3-1.5284 FAU .10071 RRT .9317 RRF .9994 RTF .9327 CRT .9842 CRS -.9999 CST -.9812
 FDE 4.7799 FRA 5.7300 FC3-3.2254 BSP 9591 SGB 5671.9 R23 .0715 R13 .9968 LSA 212.1 MSA 15.3 SSA .2
 BDE 3.0386 BRA 3.0987 BC3 2.0285 FSP 1495 SGI 5607.4 SG2 853.3 THA 63.46 EL1 177.7 EL2 14.0 ALF 58.95

LAUNCH DATE APR 2 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.260 GAL -4.31 AZL 84.42 HCA 189.15 SMA 180.69 ECC .18772 INC 5.5811 V1 29.800
 RP 212.01 LAP -.89 LOP 20.72 VP 22.749 GAP 4.20 AZP 95.51 TAL 332.09 TAP 161.24 RCA 146.77 APO 214.61 V2 25.880
 RC 127.586 GL 40.44 GP -40.33 ZAL 127.30 ZAP 90.80 ETS 179.53 ZAE 121.98 ETE 211.39 ZAC 62.14 ETC 271.62 LVI 27.94

DISTANCE 564.614 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 23.260 VHL 4.823 DLA 27.66 RAL 320.79 RAD 6644.3 VEL 11.968 PTH 6.97 VHP 4.353 DPA -62.83 RAP 305.71 ECC 1.3828
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 7 24 3742.87 -47.37 151.30 209.05 84.92 15 9 47 2742.9 -43.80 116.87
 60.00 14 8 52 3738.95 -39.32 149.52 207.62 80.36 15 11 11 2739.0 -38.98 118.36
 70.00 14 11 34 3731.00 -31.50 146.87 205.62 76.05 15 13 45 2731.0 -34.08 118.44
 80.00 14 18 36 3708.89 -24.21 142.84 203.26 71.98 15 20 25 2708.9 -29.41 116.62
 90.00 14 55 56 3588.19 -19.86 132.34 201.62 69.44 15 55 44 2588.2 -26.58 107.34
 100.00 17 1 28 3183.36 -24.21 104.21 203.26 71.98 17 54 31 2183.4 -29.41 77.99
 110.00 19 11 0 2777.82 -31.50 75.79 205.62 76.05 19 57 18 1777.8 -34.08 47.36

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5102 TRA 1.1400 TC3-1.6079 BAU .7048 SGT 2821.8 SGR 4715.3 SG3 1001.0 ST 92.6 SR 137.5 SS 122.0
 RDE 2.1199 RRA 2.7411 RC3-1.5972 FAU .11367 RRT .9417 RRF .9993 RTF .5-24 CRT .9868 CRS -.9997 CST -.9800
 FDE 4.9489 FRA 6.7920 FC3-4.2308 BSP 9255 SGB 5495.2 R23 .0837 R13 .9958 LSA 205.3 MSA 14.4 SSA .3
 BDE 2.6028 BRA 2.9687 BC3 2.2664 FSP 1771 SGI 5433.0 SG2 823.9 THA 59.83 EL1 165.3 EL2 12.5 ALF 56.17

LAUNCH DATE APR 2 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.259 GAL -4.35 AZL 85.25 HCA 190.35 SMA 180.68 ECC .18793 INC 4.7482 V1 29.800
 RP 212.29 LAP -.85 LOP 21.92 VP 22.712 GAP 4.00 AZP 94.67 TAL 331.86 TAP 162.21 RCA 146.72 APO 214.63 V2 25.848
 RC 129.830 GL 35.66 GP -37.84 ZAL 130.13 ZAP 89.26 ETS 178.31 ZAE 122.22 ETE 208.10 ZAC 65.26 ETC 271.39 LVI 25.39

DISTANCE 568.786 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.864 VHL 4.588 DLA 23.18 RAL 322.66 RAD 6643.2 VEL 11.869 PTH 6.88 VHP 4.117 DPA -60.02 RAP 302.70 ECC 1.3434
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 37 9 3617.41 -47.43 139.19 203.88 94.24 15 37 27 2617.4 -40.27 106.92
 60.00 14 47 40 3589.41 -40.29 136.94 204.15 88.83 15 47 29 2509.4 -36.34 106.55
 70.00 15 4 45 3539.06 -33.74 132.37 203.66 84.33 16 3 44 2539.1 -32.55 103.70
 80.00 15 36 44 3438.76 -28.57 124.00 202.88 80.93 16 34 3 2438.8 -29.47 96.61
 90.00 16 40 12 3233.82 -26.42 108.53 202.46 79.54 17 34 6 2233.8 -28.17 81.65
 100.00 18 19 36 2913.23 -28.57 85.37 202.88 80.93 19 8 9 1913.2 -29.47 57.98
 110.00 20 4 12 2585.88 -33.74 61.29 203.66 84.33 20 47 17 1585.9 -32.55 32.62

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4254 TRA 1.2961 TC3-1.8681 BAU .6896 SGT 3039.3 SGR 4410.3 SG3 1134.5 ST 53.3 SR 124.5 SS 125.5
 RDE 1.8018 RRA 2.5549 RC3-1.6195 FAU .12476 RRT .9498 RRF .9992 RTF .9503 CRT .9895 CRS -.9996 CST -.9849
 FDE 5.0345 FRA 7.6922 FC3-5.1768 BSP 8982 SGB 5356.2 R23 .0963 R13 .9945 LSA 199.5 MSA 13.4 SSA .3
 BDE 2.2975 BRA 2.8649 BC3 2.4724 FSP 2009 SGI 5297.4 SG2 791.5 THA 55.93 EL1 155.2 EL2 10.8 ALF 53.25

LAUNCH DATE APR 2 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.259 GAL -4.39 AZL 85.91 MCA 191.54 SMA 180.68 ECC .18821 INC 4.0877 V1 29.800
 RP 212.57 LAP -.82 LOP 23.13 VP 22.675 GAP 3.80 AZP 94.01 TAL 331.62 TAP 163.16 RCA 146.67 APO 214.68 V2 25.815
 RC 132.153 GL 31.47 GP -34.48 ZAL 132.49 ZAP 87.59 E78 177.23 ZAE 122.05 ETE 205.02 ZAC 68.04 ETC 271.16 LVI 23.14

DISTANCE 572.961 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.289 VHL 4.392 DLA 19.28 RAL 324.29 RAD 6642.5 VEL 11.803 PTH 6.82 VHP 3.945 DPA -57.51 RAP 300.21 ECC 1.3175
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 1 11 3515.68 -46.48 129.56 199.85 101.60 15 59 47 2513.7 -36.77 99.69
 60.00 15 17 58 3471.00 -39.97 126.89 201.20 95.64 16 15 49 2471.0 -33.39 97.90
 70.00 15 43 34 3395.64 -34.14 121.21 201.62 90.92 16 40 9 2395.6 -30.20 93.19
 80.00 16 25 54 3262.92 -29.77 111.08 201.55 87.61 17 20 17 2262.9 -27.73 83.64
 90.00 17 35 19 3038.85 -28.06 94.52 201.45 86.35 18 25 58 2038.8 -26.75 67.59
 100.00 19 8 46 2737.39 -29.77 72.45 201.55 87.61 19 54 23 1737.4 -27.73 45.21
 110.00 20 43 0 2442.45 -34.14 50.13 201.62 90.92 21 23 43 1442.5 -30.20 22.11

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3676 TRA 1.4505 TC3-2.1148 BAU .6849 SGT 3263.8 SGR 4119.4 SG3 1246.2 ST 94.2 SR 113.3 SS 127.4
 RDE 1.5628 RRA 2.3803 RC3-1.6064 FAU .13417 RRT .9560 RRF .9990 RTF .9564 CRT .9921 CR3 -.9993 CST -.9868
 FDE 5.0631 FRA 8.4512 FC3-6.0216 BSP 8749 SGB 3255.7 R23 .1086 R13 .9931 LSA 194.4 NSA 12.5 SSA .4
 BDE 2.0767 BRA 2.7874 BC3 2.6557 F8P 2204 SC1 5200.6 SG2 758.5 THA 51.90 EL1 147.0 EL2 9.1 ALF 50.30

LAUNCH DATE APR 2 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.260 GAL -4.43 AZL 86.45 MCA 192.74 SMA 180.69 ECC .18854 INC 3.5533 V1 29.800
 RP 212.86 LAP -.78 LOP 24.32 VP 22.638 GAP 3.61 AZP 93.46 TAL 331.36 TAP 164.10 RCA 146.62 APO 214.5 V2 25.782
 RC 134.475 GL 27.81 GP -32.03 ZAL 134.47 ZAP 85.85 E78 176.29 ZAE 121.55 ETE 202.20 ZAC 70.52 ETC 270.95 LVI 21.16

DISTANCE 577.137 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 18.234 VHL 4.270 DLA 15.89 RAL 325.74 RAD 6642.0 VEL 11.758 PTH 6.79 VHP 3.817 DPA -55.25 RAP 298.13 ECC 1.3001
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 21 10 3431.95 -45.05 121.99 196.94 107.27 16 18 22 2431.9 -33.56 94.28
 60.00 15 42 40 3374.71 -39.02 118.89 198.98 100.99 16 38 55 2374.7 -30.53 91.35
 70.00 16 14 11 3281.98 -33.67 112.37 199.98 96.12 17 8 53 2282.0 -27.71 85.29
 80.00 17 2 50 3129.48 -29.74 101.17 200.35 92.82 17 55 0 2129.5 -25.56 74.53
 90.00 18 15 28 2995.19 -28.24 84.02 200.41 91.60 19 3 41 1895.2 -24.73 57.56
 100.00 19 45 42 2803.95 -29.74 62.54 200.35 92.82 20 29 6 1604.0 -23.56 35.90
 110.00 21 13 37 2328.79 -33.67 41.29 199.98 96.12 21 52 26 1328.8 -27.71 14.21

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3331 TRA 1.6092 TC3-2.3340 BAU .6841 SGT 3498.0 SGR 3890.0 SG3 1338.8 ST 95.7 SR 103.8 SS 128.6
 RDE 1.3831 RRA 2.2218 RC3-1.5578 FAU .14116 RRT .9610 RRF .9987 RTF .9615 CRT .9944 CR3 -.9990 CST -.9867
 FDE 5.0722 FRA 9.0964 FC3-6.7019 BSP 8659 SGB 5200.4 R23 .1195 R13 .9916 LSA 190.7 NSA 11.6 SSA .5
 BDE 1.9224 BRA 2.7434 BC3 2.8081 F8P 2380 SC1 5150.0 SG2 722.3 THA 47.87 EL1 141.0 EL2 7.4 ALF 47.33

LAUNCH DATE APR 2 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.261 GAL -4.48 AZL 86.89 MCA 193.93 SMA 180.70 ECC .18894 INC 3.1065 V1 29.800
 RP 213.16 LAP -.75 LOP 25.52 VP 22.601 GAP 3.42 AZP 93.02 TAL 331.10 TAP 165.03 RCA 146.56 APO 214.54 V2 25.749
 RC 136.814 GL 24.81 GP -29.83 ZAL 136.13 ZAP 84.06 E78 175.47 ZAE 120.79 ETE 199.65 ZAC 72.74 ETC 270.76 LVI 19.42

DISTANCE 581.314 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.924 VHL 4.188 DLA 12.94 RAL 327.03 RAD 6641.7 VEL 11.728 PTH 6.76 VHP 3.722 DPA -53.22 RAP 296.27 ECC 1.2884
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 9 3382.24 -43.47 116.03 194.95 111.64 16 34 11 2382.2 -30.69 90.11
 60.00 16 3 22 3295.08 -37.79 112.48 197.43 105.18 16 58 18 2295.1 -27.90 86.25
 70.00 16 39 21 3189.21 -32.77 105.29 198.82 100.22 17 32 30 2189.2 -25.31 79.15
 80.00 17 32 30 3022.72 -29.12 93.30 199.46 96.91 18 22 52 2022.7 -23.37 67.36
 90.00 18 47 12 2781.82 -27.74 75.76 199.63 95.71 19 33 33 1781.8 -22.63 49.91
 100.00 20 15 21 2497.19 -29.12 54.87 199.46 96.91 20 56 59 1497.2 -23.37 28.73
 110.00 21 38 47 2236.03 -32.77 34.21 198.82 100.22 22 16 3 1236.0 -23.31 8.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3137 TRA 1.7636 TC3-2.5411 BAU .6923 SGT 3727.4 SGR 3591.2 SG3 1410.8 ST 97.3 SR 95.2 SS 128.4
 RDE 1.2387 RRA 2.0689 RC3-1.5080 FAU .14808 RRT .9655 RRF .9984 RTF .560 CRT .9964 CR3 -.9990 CST -.9903
 FDE 5.0290 FRA 9.5997 FC3-7.3147 BSP 8336 SGB 5175.8 R23 .1281 R13 .9902 LSA 186.8 NSA 10.8 SSA .8
 BDE 1.8038 BRA 2.7186 BC3 2.9549 F8P 2490 SC1 5131.1 SG2 679.8 THA 43.90 EL1 136.0 EL2 5.8 ALF 44.33

LAUNCH DATE APR 2 1971

FLIGHT TIME 242.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 149.82 LAL -.00 LOL 191.61 VL 32.282 GAL -4.83 AZL 87.27 MCA 195.11 SMA 180.73 ECC .18939 INC 2.7317 V1 29.800
 RP 213.46 LAP -.71 LOP 26.71 VP 22.584 GAP 3.23 AZP 92.84 TAL 330.82 TAP 165.94 RCA 146.50 APO 214.93 V2 25.714
 RC 139.171 GL 21.79 GP -27.86 ZAL 137.53 ZAP 82.25 E78 174.77 ZAE 119.83 ETE 197.36 ZAC 74.72 ETC 270.57 LVI 17.87

DISTANCE 589.489 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.052 VHL 4.129 DLA 10.36 RAL 328.21 RAD 6641.5 VEL 11.708 PTH 6.74 VHP 3.692 DPA -51.40 RAP 294.66 ECC 1.2808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 52 48 3303.72 -41.89 111.30 193.64 115.01 16 47 51 2303.7 -28.17 86.80
 60.00 16 21 5 3228.43 -36.48 107.31 196.43 108.47 17 14 53 2228.4 -25.54 82.19
 70.00 17 0 37 3112.11 -31.69 99.54 198.08 103.46 17 52 29 2112.1 -23.10 74.25
 80.00 17 57 11 2934.90 -28.23 86.93 198.91 100.15 18 46 6 1934.9 -21.29 61.66
 90.00 19 13 27 2688.77 -26.94 69.09 199.16 98.96 19 58 16 1688.8 -20.60 43.85
 100.00 20 40 3 2409.38 -28.23 48.30 198.91 100.15 21 20 12 1409.4 -21.29 23.03
 110.00 22 0 3 2158.93 -31.69 28.45 198.08 103.46 22 36 2 1158.9 -23.10 3.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3075 TRA 1.9216 TC3-2.7235 BAU .7008 SGT 3861.9 SGR 3360.2 SG3 1470.0 ST 99.5 SR 88.3 SS 128.6
 RDE 1.1268 RRA 1.9365 RC3-1.4252 FAU .15160 RRT .9680 RRF .9979 RTF .9689 CRT .9980 CR3 -.9978 CST -.9919
 FDE 5.0142 FRA10.0434 FC3-7.6967 BSP 8594 SGB 5195.0 R23 .1357 R13 .9887 LSA 184.7 NSA 10.1 SSA .7
 BDE 1.7260 BRA 2.7281 BC3 3.0739 F8P 2617 SC1 5154.4 SG2 647.7 THA 40.15 EL1 132.9 EL2 4.2 ALF 41.59

LAUNCH DATE APR 2 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC										DISTANCE 589.663										EARTH TO MARS																																													
RL	149.32	LAL	-.00	LOL	191.61	VL	32.284	GAL	-4.58	AZL	87.59	HCA	198.30	SMA	180.78	ECC	.18989	INC	2.4107	V1	29.800	RP	213.77	LAP	-.68	LOP	27.90	VP	22.527	GAP	3.04	AZP	92.31	TAL	330.53	TAP	166.83	RCA	146.43	APO	215.06	V2	25.680	RC	141.545	GL	19.30	GP	-26.09	ZAL	138.72	ZAP	80.44	ETS	174.16	ZAE	118.72	ETE	195.32	ZAC	76.51	ETC	270.40	LVI	16.49
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	16.752	VHL	4.093	DLA	8.10	RAL	329.28	RAD	6641.4	VEL	11.696	PTH	6.73	VHP	3.600	DPA	-49.76	RAP	293.24	ECC	1.2757	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																		
50.00	16	5	37	3254.23	-40.40	107.50	192.85	117.65	16	59	51	2254.2	-25.97	84.14	ST	101.7	SR	82.2	SS	128.3																																													
60.00	16	36	28	3172.13	-35.18	103.09	195.83	111.08	17	29	20	2172.1	-23.45	78.89	CRT	.9991	CRS	-.9971	CST	-.9933																																													
70.00	17	18	55	3047.21	-30.56	94.82	197.68	106.04	18	9	43	2047.2	-21.12	70.26	LSA	182.9	MBA	9.5	SSA	.8																																													
80.00	18	18	15	2861.39	-27.24	81.69	198.65	102.73	19	5	56	1861.4	-19.39	57.03	EL1	130.7	EL2	2.6	ALF	38.94																																													
90.00	19	35	45	2611.28	-26.00	63.61	198.95	101.54	20	19	16	1611.3	-18.74	38.93																																																			
100.00	21	1	7	2335.86	-27.24	43.06	198.65	102.73	21	40	3	1335.9	-19.39	18.40																																																			
110.00	22	18	22	2094.03	-30.56	23.73	197.68	106.04	22	53	16	1094.0	-21.12	359.18																																																			

LAUNCH DATE APR 2 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC										DISTANCE 593.834										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	32.267	GAL	-4.64	AZL	87.87	HCA	197.48	SMA	180.80	ECC	.19045	INC	2.1335	V1	29.800	RP	214.08	LAP	-.64	LOP	29.08	VP	22.491	GAP	2.85	AZP	92.04	TAL	330.23	TAP	167.72	RCA	146.37	APO	215.23	V2	25.645	RC	143.936	GL	17.10	GP	-24.49	ZAL	139.75	ZAP	78.64	ETS	173.64	ZAE	117.49	ETE	193.50	ZAC	78.13	ETC	270.24	LVI	15.26
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	16.578	VHL	4.072	DLA	8.12	RAL	330.27	RAD	6641.3	VEL	11.688	PTH	6.72	VHP	3.563	DPA	-48.26	RAP	291.98	ECC	1.2728	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																		
50.00	16	16	56	3212.15	-39.02	104.41	192.42	119.74	17	10	28	2212.2	-24.06	81.97	ST	104.5	SR	77.3	SS	128.6																																													
60.00	16	49	58	3124.25	-33.95	99.63	195.55	113.16	17	42	3	2124.3	-21.61	76.18	CRT	.9998	CRS	-.9961	CST	-.9946																																													
70.00	17	34	54	2992.08	-29.46	90.90	197.34	108.11	18	24	46	1992.1	-19.35	66.96	LSA	182.6	MBA	9.0	SSA	.9																																													
80.00	18	36	31	2799.10	-26.23	77.34	198.62	104.80	19	23	10	1799.1	-17.68	53.20	EL1	129.9	EL2	1.4	ALF	36.49																																													
90.00	19	55	2	2543.73	-23.02	59.06	198.96	103.62	20	37	28	1545.7	-17.05	34.87																																																			
100.00	21	19	23	2273.57	-26.23	38.71	198.62	104.80	21	57	17	1273.6	-17.68	14.57																																																			
110.00	22	34	21	2038.90	-29.46	19.82	197.34	108.11	23	8	20	1038.9	-19.35	355.88																																																			

LAUNCH DATE APR 2 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC										DISTANCE 598.008										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	32.270	GAL	-4.70	AZL	88.11	HCA	198.66	SMA	180.84	ECC	.19106	INC	1.8905	V1	29.800	RP	214.39	LAP	-.60	LOP	30.26	VP	22.454	GAP	2.66	AZP	91.79	TAL	329.93	TAP	168.59	RCA	146.29	APO	215.40	V2	25.609	RC	146.344	GL	15.14	GP	-23.04	ZAL	140.63	ZAP	78.87	ETS	173.19	ZAE	116.18	ETE	191.88	ZAC	79.59	ETC	270.09	LVI	14.16
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	16.498	VHL	4.062	DLA	4.38	RAL	331.18	RAD	6641.2	VEL	11.685	PTH	6.72	VHP	3.538	DPA	-46.91	RAP	290.85	ECC	1.2715	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																		
50.00	16	27	2	3178.19	-37.77	101.87	192.26	121.41	17	19	58	2176.2	-22.40	80.16	ST	106.8	SR	72.0	SS	128.8																																													
60.00	17	1	58	3083.27	-32.82	98.75	195.50	114.84	17	53	21	2083.3	-20.00	73.91	CRT	.9998	CRS	-.9948	CST	-.9959																																													
70.00	17	49	1	2944.88	-28.42	87.63	197.60	109.80	18	38	6	1944.9	-17.78	64.20	LSA	180.5	MBA	8.8	SSA	1.0																																													
80.00	18	52	34	2745.82	-25.25	73.69	198.77	106.49	19	38	20	1745.8	-16.15	49.99	EL1	128.8	EL2	1.1	ALF	33.98																																													
90.00	20	11	57	2489.69	-24.07	55.23	199.13	105.31	20	53	26	1489.7	-15.53	31.46																																																			
100.00	21	35	26	2220.29	-25.25	35.06	198.77	106.49	22	12	27	1220.3	-16.15	11.36																																																			
110.00	22	48	27	1991.70	-28.42	16.55	197.60	109.80	23	21	39	991.7	-17.78	353.12																																																			

LAUNCH DATE APR 2 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC										DISTANCE 602.177										EARTH TO MARS																																													
RL	149.52	LAL	-.00	LOL	191.61	VL	32.273	GAL	-4.76	AZL	88.32	HCA	199.84	SMA	180.90	ECC	.19171	INC	1.8763	V1	29.800	RP	214.72	LAP	-.57	LOP	31.44	VP	22.417	GAP	2.48	AZP	91.58	TAL	329.61	TAP	169.45	RCA	146.22	APO	215.58	V2	25.573	RC	148.770	GL	13.40	GP	-21.72	ZAL	141.41	ZAP	75.12	ETS	172.80	ZAE	114.81	ETE	190.46	ZAC	80.92	ETC	269.96	LVI	13.18
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	16.495	VHL	4.061	DLA	2.83	RAL	332.04	RAD	6641.2	VEL	11.685	PTH	6.72	VHP	3.523	DPA	-45.67	RAP	289.83	ECC	1.2715	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																		
50.00	16	36	7	3145.39	-36.66	99.77	192.31	122.76	17	28	32	2145.4	-20.96	78.65	ST	109.6	SR	67.8	SS	125.7																																													
60.00	17	12	42	3048.08	-31.79	84.34	195.64	116.21	18	3	30	2048.1	-18.59	72.01	CRT	.9994	CRS	-.9934	CST	-.9963																																													
70.00	18	1	35	2904.28	-27.45	84.87	197.82	111.17	18	49	59	1904.3	-16.40	61.86	LSA	179.8	MBA	8.6	SSA	1.1																																													
80.00	19	6	50	2699.97	-24.33	70.59	199.05	107.86	19	51	50	1700.0	-14.79	47.26	EL1	128.9	EL2	2.0	ALF	31.72																																													
90.00	20	28	56	2441.47	-23.17	51.99	199.45	106.69	21	7	38	1441.5	-14.18	28.56																																																			
100.00	21	49	42	2174.44	-24.33	31.98	199.05	107.86	22	25	56	1174.4	-14.79	8.63																																																			
110.00	23	1	1	1951.10	-27.45	13.78	197.82	111.17	23	33	33	951.1	-16.40	350.78																																																			

LAUNCH DATE APR 2 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.277 GAL -4.82 AZL 88.51 HCA 201.01 SMA 180.96 ECC .19242 INC 1.4855 V1 29.800
 RP 215.04 LAP -.53 LOP 32.61 VP 22.381 GAP 2.29 AZP 91.39 TAL 329.28 TAP 170.29 RCA 146.14 APO 215.78 V2 25.536
 RC 151.211 GL 11.83 GP -20.52 ZAL 142.11 ZAP 73.41 ETS 172.47 ZAE 113.41 ETE 189.19 ZAC 82.13 ETC 269.83 LVI 12.25

PLANETOCENTRIC CONIC
 C3 16.591 VHL 4.088 DLA 1.47 RAL 332.85 RAD 8641.3 VEL 11.687 PTH 6.72 VHP 3.516 DPA -44.54 RAP 288.93 ECC 1.2724
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 20 3118.94 -35.87 88.01 192.50 123.86 17 36 19 2118.9 -19.71 77.38
 60.00 17 22 22 3017.78 -30.86 92.31 195.91 117.33 18 12 40 2017.8 -17.35 70.40
 70.00 18 12 52 2869.23 -26.57 82.53 198.17 112.30 19 0 42 1869.2 -15.18 59.88
 80.00 19 19 35 2660.31 -23.47 87.96 199.45 109.00 20 3 56 1660.3 -13.58 44.94
 90.00 20 40 20 2399.75 -22.32 49.22 199.87 107.83 21 20 20 1399.7 -12.98 26.09
 100.00 22 2 27 2134.78 -23.47 29.33 199.45 109.00 22 38 2 1134.8 -13.58 6.31
 110.00 23 12 19 1916.05 -26.57 11.44 198.17 112.30 23 44 15 916.0 -15.18 348.80

DIFFERENTIAL CORRECTIONS
 TDE 1.3765 TRA 2.6981 TC3-3.4215 BAU .7901
 RDE .8073 RRA 1.3984 RC3-1.0219 FAU .15732
 FDE 4.7801 FRA11.0967 FC3-8.2289 BSP 9329
 BDE 1.5958 BRA 3.0390 BC3 3.5708 FSP 2855

MID-COURSE EXECUTION ACCURACY
 SGT 5094.8 SGR 2421.8 SG3 1580.3
 RRT .9732 RRF .9938 RTF .9778
 SGB 5641.1 R23 .1423 R13 .9846
 SG1 5618.4 SG2 505.5 THA 25.04

ORBIT DETERMINATION ACCURACY
 ST 112.5 SR 64.1 SS 124.7
 CRT .9985 CRS -.9917 CST -.9970
 LSA 179.5 MSA 8.6 SSA 1.2
 EL1 129.5 EL2 3.1 ALF 29.64

LAUNCH DATE APR 2 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.281 GAL -4.89 AZL 88.69 HCA 202.18 SMA 181.02 ECC .19317 INC 1.3148 V1 29.800
 RP 215.37 LAP -.50 LOP 33.78 VP 22.345 GAP 2.11 AZP 91.22 TAL 328.95 TAP 171.13 RCA 146.05 APO 215.99 V2 25.499
 RC 153.669 GL 10.42 GP -19.41 ZAL 142.73 ZAP 71.74 ETS 172.19 ZAE 111.98 ETE 188.07 ZAC 83.24 ETC 269.72 LVI 11.42

PLANETOCENTRIC CONIC
 C3 16.657 VHL 4.081 DLA .25 RAL 333.61 RAD 8641.3 VEL 11.692 PTH 6.73 VHP 3.516 DPA -43.49 RAP 288.12 ECC 1.2741
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 49 3096.21 -34.80 96.54 192.81 124.76 17 43 29 2096.2 -18.62 76.30
 60.00 17 31 8 2991.63 -30.03 90.59 196.28 118.25 18 21 0 1991.6 -16.28 69.02
 70.00 18 23 5 2836.88 -25.77 80.53 198.60 113.23 19 10 23 1838.9 -14.11 58.18
 80.00 19 31 6 2625.90 -22.69 85.70 199.93 109.94 20 14 51 1625.9 -12.91 42.94
 90.00 20 52 24 2363.51 -21.55 48.85 200.37 108.77 21 31 48 1363.5 -11.91 23.96
 100.00 22 13 57 2100.37 -22.89 27.07 199.93 109.94 22 48 58 1100.4 -12.51 4.31
 110.00 23 22 31 1885.70 -25.77 9.48 198.60 113.23 23 53 57 885.7 -14.11 347.10

DIFFERENTIAL CORRECTIONS
 TDE 1.4048 TRA 2.8531 TC3-3.5224 BAU .8124
 RDE .7711 RRA 1.3129 RC3 -.9492 FAU .15633
 FDE 4.7252 FRA11.1506 FC3-8.1249 BSP 9568
 BDE 1.6025 BRA 3.1407 BC3 3.6481 FSP 2856

MID-COURSE EXECUTION ACCURACY
 SGT 5310.3 SGR 2273.6 SG3 1576.7
 RRT .9728 RRF .9923 RTF .9788
 SGB 5776.6 R23 .1386 R13 .9843
 SG1 5758.1 SG2 488.0 THA 22.78

ORBIT DETERMINATION ACCURACY
 ST 115.5 SR 60.8 SS 123.5
 CRT .9970 CRS -.9897 CST -.9976
 LSA 179.5 MSA 8.6 SSA 1.2
 EL1 130.5 EL2 4.1 ALF 27.71

LAUNCH DATE APR 2 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.285 GAL -4.95 AZL 88.84 HCA 203.34 SMA 181.09 ECC .19397 INC 1.1805 V1 29.800
 RP 215.71 LAP -.46 LOP 34.95 VP 22.308 GAP 1.93 AZP 91.07 TAL 328.60 TAP 171.95 RCA 145.96 APO 216.22 V2 25.461
 RC 156.143 GL 9.15 GP -18.40 ZAL 143.30 ZAP 70.11 ETS 171.95 ZAE 110.54 ETE 187.07 ZAC 84.28 ETC 269.61 LVI 10.66

PLANETOCENTRIC CONIC
 C3 16.804 VHL 4.099 DLA -.83 RAL 334.34 RAD 8641.4 VEL 11.698 PTH 6.73 VHP 3.521 DPA -42.53 RAP 287.40 ECC 1.2766
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 40 3076.69 -34.03 95.31 193.21 125.51 17 49 57 2076.7 -17.69 75.39
 60.00 17 39 8 2969.08 -29.29 89.13 196.73 119.02 18 28 37 1969.1 -15.34 67.65
 70.00 18 32 21 2812.57 -25.05 78.82 199.11 114.01 19 19 13 1812.6 -13.17 56.72
 80.00 19 41 31 2595.97 -21.99 83.76 200.48 110.73 20 24 47 1596.0 -11.57 41.22
 90.00 21 3 20 2331.96 -20.84 44.80 200.93 109.56 21 42 12 1332.0 -10.97 22.12
 100.00 22 24 23 2070.44 -21.99 25.13 200.48 110.73 22 58 53 1070.4 -11.57 2.59
 110.00 23 31 47 1839.39 -25.05 7.74 199.11 114.01 24 2 46 859.4 -13.17 345.64

DIFFERENTIAL CORRECTIONS
 TDE 1.4358 TRA 3.0072 TC3-3.6149 BAU .8359
 RDE .7404 RRA 1.2333 RC3 -.8809 FAU .15487
 FDE 4.6893 FRA11.1876 FC3-7.9785 BSP 9814
 BDE 1.6155 BRA 3.2503 BC3 3.7207 FSP 2844

MID-COURSE EXECUTION ACCURACY
 SGT 5521.0 SGR 2136.4 SG3 1567.3
 RRT .9719 RRF .9905 RTF .5.96
 SGB 5920.0 R23 .1340 R13 .9840
 SG1 5901.2 SG2 470.5 THA 20.75

ORBIT DETERMINATION ACCURACY
 ST 118.6 SR 57.9 SS 122.2
 CRT .9951 CRS -.9874 CST -.9980
 LSA 179.6 MSA 8.8 SSA 1.3
 EL1 131.9 EL2 5.2 ALF 25.94

LAUNCH DATE APR 2 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
 RL 149.52 LAL -.00 LOL 191.61 VL 32.290 GAL -5.03 AZL 88.98 HCA 204.51 SMA 181.17 ECC .19482 INC 1.0209 V1 29.800
 RP 216.04 LAP -.42 LOP 36.11 VP 22.272 GAP 1.74 AZP 90.93 TAL 328.25 TAP 172.76 RCA 145.87 APO 216.46 V2 25.424
 RC 158.631 GL 7.99 GP -17.47 ZAL 143.82 ZAP 68.52 ETS 171.74 ZAE 109.09 ETE 186.18 ZAC 85.20 ETC 269.52 LVI 9.95

PLANETOCENTRIC CONIC
 C3 16.987 VHL 4.122 DLA -1.80 RAL 335.04 RAD 8641.5 VEL 11.706 PTH 6.74 VHP 3.532 DPA -41.65 RAP 286.77 ECC 1.2798
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 58 3059.94 -33.37 94.27 193.68 126.12 17 55 58 2059.9 -16.88 74.62
 60.00 17 46 27 2949.59 -28.64 87.89 197.24 119.66 18 35 36 1949.8 -14.53 66.85
 70.00 18 40 48 2789.75 -24.41 77.38 199.67 114.67 19 27 18 1789.8 -12.35 55.46
 80.00 19 51 1 2589.91 -21.35 82.09 201.08 111.38 20 33 51 1569.9 -10.74 39.73
 90.00 21 13 17 2304.45 -20.21 43.04 201.94 110.22 21 51 41 1304.4 -10.14 20.53
 100.00 22 33 53 2044.39 -21.35 23.46 201.08 111.38 23 7 57 1044.4 -10.74 1.10
 110.00 23 40 14 1836.57 -24.41 6.28 199.67 114.67 24 10 51 836.6 -12.35 344.38

DIFFERENTIAL CORRECTIONS
 TDE 1.4712 TRA 3.1626 TC3-3.6945 BAU .8593
 RDE .7148 RRA 1.1595 RC3 -.8159 FAU .15281
 FDE 4.6169 FRA11.1590 FC3-7.7879 BSP 10091
 BDE 1.6356 BRA 3.3685 BC3 3.7836 FSP 2829

MID-COURSE EXECUTION ACCURACY
 SGT 5727.6 SGR 2010.1 SG3 1553.5
 RRT .9706 RRF .9885 RTF .9802
 SGB 6070.1 R23 .1286 R13 .9839
 SG1 6052.8 SG2 458.2 THA 18.92

ORBIT DETERMINATION ACCURACY
 ST 121.8 SR 55.3 SS 121.0
 CRT .9926 CRS -.9848 CST -.9984
 LSA 180.1 MSA 9.0 SSA 1.3
 EL1 133.6 EL2 6.1 ALF 24.31

LAUNCH DATE APR 2 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.299 GAL -5.10 AZL 89.11 HCA 205.66 SMA 181.25 ECC .19570 INC .8933 V1 29.800
RP 216.39 LAP -.39 LOP 37.27 VP 22.236 GAP 1.56 AZP 90.81 TAL 327.69 TAP 173.55 RCA 145.78 APO 216.72 V2 25.385
RC 161.134 GL 6.95 GP -16.61 ZAL 144.31 ZAP 66.98 ETS 171.57 ZAE 107.66 ETE 185.40 ZAC 86.06 ETC 269.44 LVI 9.30

PLANETOCENTRIC CONIC

C3 17.201 VHL 4.147 DLA -2.66 RAL 335.70 RAD 6641.6 VEL 11.715 PTH 6.75 VHP 3.547 DPA -40.82 RAP 266.21 ECC 1.2631
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 46 3045.62 -32.79 93.39 194.20 126.63 18 1 32 2045.6 -16.19 73.96
60.00 17 53 11 2932.83 -28.07 86.84 197.81 120.19 18 42 3 1932.8 -13.82 65.99
70.00 18 48 33 2769.99 -23.84 76.11 200.28 115.21 19 34 43 1770.0 -11.63 54.38
80.00 19 59 42 2547.24 -20.78 60.65 201.72 111.94 20 42 9 1547.2 -10.01 38.44
90.00 21 22 22 2280.47 -19.63 41.51 202.20 110.77 22 0 23 1280.5 -9.40 19.15
100.00 22 42 34 2021.71 -20.78 22.01 201.72 111.94 23 16 15 1021.7 -10.01 359.81
110.00 23 48 0 1816.81 -23.84 5.02 200.28 115.21 24 18 16 816.8 -11.63 343.30

DIFFERENTIAL CORRECTIONS

TDE 1.5082 TRA 3.3172 TC3-3.7668 BAU .0835
RDE .6930 RRA 1.0905 RC3 -.7552 FAU .15038
FDE 4.5629 FRA11.1228 FC3-7.5688 BSP 10367
BDE 1.6598 BRA 3.4918 BC3 3.8418 FSP 2803

MID-COURSE EXECUTION ACCURACY

SGT 5928.7 SGR 1892.9 SG3 1535.3
RRT .9686 RRF .9880 RTF .9807
SGB 6223.5 R23 .1230 R13 .9837
SG1 6207.3 SG2 449.5 THA 17.28

ORBIT DETERMINATION ACCURACY

ST 124.9 SR 53.0 SS 119.7
CRT .9897 CRS -.9819 CST -.9988
LSA 180.7 MSA 9.3 S3A 1.3
EL1 135.5 EL2 7.0 ALF 22.82

LAUNCH DATE APR 2 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.301 GAL -5.17 AZL 89.22 HCA 206.82 SMA 181.33 ECC .19663 INC .7765 V1 29.800
RP 216.73 LAP -.35 LOP 38.43 VP 22.199 GAP 1.38 AZP 90.69 TAL 327.32 TAP 174.34 RCA 145.68 APO 216.99 V2 25.347
RC 163.649 GL 5.99 GP -15.82 ZAL 144.77 ZAP 65.49 ETS 171.43 ZAE 106.23 ETE 184.69 ZAC 86.86 ETC 269.37 LVI 8.69

PLANETOCENTRIC CONIC

C3 17.443 VHL 4.177 DLA -3.44 RAL 336.34 RAD 6641.7 VEL 11.725 PTH 6.76 VHP 3.565 DPA -40.06 RAP 285.73 ECC 1.2871
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 9 3033.42 -32.29 92.65 194.76 127.06 18 6 43 2033.4 -15.60 73.41
60.00 17 59 23 2916.44 -27.58 85.94 198.41 120.64 18 48 2 1916.4 -13.22 65.26
70.00 18 55 41 2752.90 -23.34 75.03 200.92 115.67 19 41 34 1752.9 -11.01 53.45
80.00 20 7 40 2527.53 -20.27 59.40 202.39 112.40 20 49 47 1527.5 -9.38 37.33
90.00 21 30 42 2259.58 -19.12 40.19 202.88 111.24 22 8 22 1259.6 -8.76 17.96
100.00 22 50 32 2002.00 -20.27 20.77 202.39 112.40 23 23 54 1002.0 -9.3P 358.69
110.00 23 55 7 1799.72 -23.34 3.95 200.92 115.67 24 25 7 799.7 -11.01 342.37

DIFFERENTIAL CORRECTIONS

TDE 1.5482 TRA 3.4725 TC3-3.8302 BAU .9080
RDE .6746 RRA 1.0259 RC3 -.6989 FAU .14768
FDE 4.5093 FRA11.0656 FC3-7.3295 BSP 10653
BDE 1.6888 BRA 3.6209 BC3 3.8935 FSP 2774

MID-COURSE EXECUTION ACCURACY

SGT 6125.6 SGR 1784.7 SG3 1513.9
RRT .9661 RRF .9830 RTF .9811
SGB 6380.3 R23 .1169 R13 .9838
SG1 6364.8 SG2 443.3 THA 15.80

ORBIT DETERMINATION ACCURACY

ST 128.2 SR 80.9 SS 118.4
CRT .9863 CRS -.9787 CST -.9990
LSA 181.5 MSA 9.7 S3A 1.3
EL1 137.7 EL2 7.8 ALF 21.46

LAUNCH DATE APR 2 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.306 GAL -5.25 AZL 89.33 HCA 207.97 SMA 181.43 ECC .19760 INC .6689 V1 29.800
RP 217.08 LAP -.31 LOP 39.58 VP 22.163 GAP 1.20 AZP 90.59 TAL 327.14 TAP 175.11 RCA 145.57 APO 217.28 V2 25.308
RC 166.178 GL 5.12 GP -15.08 ZAL 145.20 ZAP 64.04 ETS 171.31 ZAE 104.82 ETE 184.07 ZAC 87.59 ETC 269.31 LVI 8.11

PLANETOCENTRIC CONIC

C3 17.710 VHL 4.208 DLA -4.13 RAL 336.98 RAD 6641.8 VEL 11.736 PTH 6.77 VHP 3.587 DPA -39.35 RAP 285.31 ECC 1.2915
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 10 3023.11 -31.87 92.04 195.36 127.41 18 11 33 2023.1 -15.10 72.94
60.00 18 5 8 2908.16 -27.15 85.19 199.04 121.01 18 53 34 1906.2 -12.70 64.64
70.00 19 2 16 2736.18 -22.90 74.11 201.59 116.06 19 47 54 1738.2 -10.47 52.65
80.00 20 15 0 2510.44 -19.82 58.33 203.09 112.79 20 56 50 1510.4 -8.82 36.36
90.00 21 38 23 2241.42 -18.67 39.05 203.50 111.63 22 15 44 1241.4 -8.20 16.92
100.00 22 57 52 1984.91 -19.82 19.70 203.09 112.79 23 30 57 984.9 -8.82 357.73
110.00 0 5 38 1785.00 -22.90 3.03 201.59 116.06 0 35 23 785.0 -10.47 341.57

DIFFERENTIAL CORRECTIONS

TDE 1.5900 TRA 3.6274 TC3-3.8870 BAU .9330
RDE .6589 RRA .9654 RC3 -.6469 FAU .14479
FDE 4.4546 FRA10.9889 FC3-7.0775 BSP 10941
BDE 1.7211 BRA 3.7537 BC3 3.9404 FSP 2738

MID-COURSE EXECUTION ACCURACY

SGT 6317.1 SGR 1684.6 SG3 1489.7
RRT .9630 RRF .9796 RTF .9714
SGB 6537.9 R23 .1108 R13 .9835
SG1 6523.1 SG2 439.5 THA 14.47

ORBIT DETERMINATION ACCURACY

ST 131.4 SR 49.0 SS 117.1
CRT .9825 CRS -.9752 CST -.9992
LSA 182.4 MSA 10.1 S3A 1.3
EL1 139.9 EL2 8.6 ALF 20.22

LAUNCH DATE APR 2 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 149.52 LAL -.00 LOL 191.61 VL 32.312 GAL -5.33 AZL 89.43 HCA 209.12 SMA 181.52 ECC .19862 INC .5692 V1 29.800
RP 217.43 LAP -.28 LOP 40.73 VP 22.127 GAP 1.02 AZP 90.50 TAL 326.76 TAP 175.88 RCA 145.47 APO 217.57 V2 25.269
RC 168.717 GL 4.32 GP -14.40 ZAL 145.62 ZAP 62.64 ETS 171.21 ZAE 103.43 ETE 183.51 ZAC 86.28 ETC 269.26 LVI 7.57

PLANETOCENTRIC CONIC

C3 18.001 VHL 4.243 DLA -4.75 RAL 337.55 RAD 6641.9 VEL 11.748 PTH 6.78 VHP 3.612 DPA -38.69 RAP 284.96 ECC 1.2962
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 30 3014.48 -31.51 91.52 195.98 127.70 18 16 4 2014.5 -14.67 72.55
60.00 18 10 28 2895.75 -26.78 84.55 199.70 121.32 18 58 44 1895.7 -12.25 64.12
70.00 19 8 21 2725.57 -22.52 73.33 202.28 116.38 19 53 46 1725.6 -10.01 51.97
80.00 20 21 46 2495.68 -19.43 57.41 203.80 113.12 21 3 22 1495.7 -8.34 35.53
90.00 21 45 27 2225.70 -18.28 38.07 204.31 111.96 22 22 33 1225.7 -7.71 16.02
100.00 23 4 36 1970.15 -19.43 18.78 203.80 113.12 23 37 28 970.2 -8.34 356.80
110.00 0 11 43 1772.39 -22.52 2.25 202.28 116.38 0 41 15 772.4 -10.01 340.89

DIFFERENTIAL CORRECTIONS

TDE 1.6332 TRA 3.7822 TC3-3.9378 BAU .9586
RDE .6456 RRA .9083 RC3 -.5996 FAU .14184
FDE 4.3975 FRA10.8954 FC3-6.8215 BSP 11221
BDE 1.7562 BRA 3.8898 BC3 3.9832 FSP 2695

MID-COURSE EXECUTION ACCURACY

SGT 6503.7 SGR 1592.0 SG3 1463.1
RRT .9593 RRF .9755 RTF .9816
SGB 6695.7 R23 .1046 R13 .9834
SG1 6681.4 SG2 437.6 THA 13.27

ORBIT DETERMINATION ACCURACY

ST 134.5 SR 47.3 SS 115.6
CRT .9782 CRS -.9713 CST -.9994
LSA 183.3 MSA 10.5 S3A 1.3
EL1 142.3 EL2 9.3 ALF 19.08

LAUNCH DATE APR 2 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 26 1971

Heliocentric Conic

RL 149.32 LAL -0.00 LOL 191.61 VL 32.318 GAL -5.42 AZL 89.32 HCA 210.26 SMA 181.62 ECC .19967 INC .4771 V1 29.800
 RP 217.79 LAP -2.24 LOP 41.87 VP 22.091 GAP .84 AZP 90.41 TAL 326.37 TAP 176.63 RCA 145.36 APO 217.88 V2 25.229
 RC 171.268 GL 3.59 GP -13.76 ZAL 146.02 ZAP 61.26 ETS 171.13 ZAE 102.06 ETE 183.01 ZAC 18.91 ETC 269.21 LV1 7.08

DISTANCE 639.590

EARTH TO MARS

Planetocentric Conic

C3 18.313 VHL 4.279 DLA -5.31 RAL 338.13 RAD 6642.1 VEL 11.762 PTH 6.79 VHP 3.640 DPA -38.07 RAP 284.67 ECC 1.3014
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 12 3007.34 -31.21 91.10 196.62 127.93 18 20 19 2007.3 -14.33 72.23
 60.00 18 15 28 2887.00 -26.47 84.02 200.37 121.57 19 3 33 1887.0 -11.88 63.68
 70.00 19 13 59 2714.84 -22.20 72.67 202.98 116.65 19 59 14 1714.8 -9.61 51.39
 80.00 20 28 2 2483.01 -19.09 56.82 204.53 113.40 21 9 25 1483.0 -7.92 34.82
 90.00 21 51 89 2212.15 -17.93 37.23 205.05 112.24 22 28 51 1212.2 -7.20 15.25
 100.00 23 10 54 1957.49 -19.09 17.99 204.53 113.40 23 43 31 957.5 -7.92 356.19
 110.00 0 17 22 1761.66 -22.20 1.58 202.98 116.65 0 46 43 761.7 -9.61 340.31

Differential Corrections

TDE 1.6795 TRA 3.9386 TC3-3.9798 BAW .9838
 RDE .6348 RRA .8553 RC3 -5.549 FAU .13851
 FDE 4.3452 FRA10.7927 FC3-6.5479 B8P 11514
 BDE 1.7955 BRA 4.0304 BC3 4.0183 F8P 2650

Mid-Course Execution Accuracy

SGT 6866.3 SGR 1506.9 SG3 1435.0
 RRT .9548 RRF .9708 RTF .9818
 SGB 6854.0 R23 .0988 R13 .9832
 SG1 6840.0 S62 437.9 THA 12.19

Orbit Determination Accuracy

ST 137.8 SR 45.9 SS 114.3
 CRT .9736 CR8 -.9672 CST -.9995
 LSA 184.5 MSA 10.9 SSA 1.3
 EL1 144.9 EL2 10.0 ALF 18.05

LAUNCH DATE APR 2 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 28 1971

Heliocentric Conic

RL 149.52 LAL -0.00 LOL 191.61 VL 32.325 GAL -5.50 AZL 89.61 HCA 211.40 SMA 181.72 ECC .20078 INC .3917 V1 29.800
 RP 218.13 LAP -2.20 LOP 43.01 VP 22.055 GAP .66 AZP 90.33 TAL 325.97 TAP 177.38 RCA 145.24 APO 218.21 V2 25.189
 RC 173.829 GL 2.92 GP -13.17 ZAL 146.41 ZAP 59.96 ETS 171.07 ZAE 100.71 ETE 182.56 ZAC 89.51 ETC 269.18 LV1 6.57

DISTANCE 643.681

EARTH TO MARS

Planetocentric Conic

C3 18.648 VHL 4.318 DLA -5.81 RAL 338.69 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 3.669 DPA -37.49 RAP 284.43 ECC 1.3069
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 17 3001.54 -30.97 90.77 197.29 128.12 18 24 19 2001.5 -14.04 71.98
 60.00 18 20 4 2879.76 -26.21 83.58 201.07 121.78 19 8 4 1879.8 -11.57 63.32
 70.00 19 19 14 2705.80 -21.92 72.11 203.71 116.87 20 4 20 1705.8 -9.27 50.91
 80.00 20 33 51 2472.22 -18.80 55.96 205.28 113.63 21 15 3 1472.2 -7.57 34.22
 90.00 21 58 2 2200.56 -17.63 36.51 205.80 112.48 22 34 43 1200.6 -6.92 14.60
 100.00 23 16 42 1946.69 -18.80 17.32 205.28 113.63 23 49 9 946.7 -7.57 355.59
 110.00 0 22 36 1752.62 -21.92 1.03 203.71 116.87 0 51 49 752.6 -9.27 339.83

Differential Corrections

TDE 1.7278 TRA 4.0952 TC3-4.0152 BAW 1.0091
 RDE .6280 RRA .8052 RC3 -5.5139 FAU .13509
 FDE 4.2930 FRA10.6779 FC3-6.2724 B8P 11807
 BDE 1.8377 BRA 4.1736 BC3 4.0480 F8P 2603

Mid-Course Execution Accuracy

SGT 6863.9 SGR 1428.3 SG3 1405.5
 RRT .9495 RRF .9653 RTF .9819
 SGB 7011.0 R23 .0932 R13 .9831
 SG1 6897.2 S62 439.7 THA 11.22

Orbit Determination Accuracy

ST 141.0 SR 44.5 SS 112.9
 CRT .9606 CR8 -.9628 CST -.9996
 LSA 185.7 MSA 11.3 SSA 1.3
 EL1 147.5 EL2 10.6 ALF 17.11

LAUNCH DATE APR 2 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 30 1971

Heliocentric Conic

RL 149.52 LAL -0.00 LOL 191.61 VL 32.331 GAL -5.59 AZL 89.69 HCA 212.54 SMA 181.83 ECC .20189 INC .3107 V1 29.800
 RP 218.51 LAP -1.17 LOP 44.15 VP 22.019 GAP .48 AZP 90.26 TAL 325.57 TAP 178.11 RCA 145.12 APO 218.54 V2 25.149
 RC 176.400 GL 2.30 GP -12.62 ZAL 146.79 ZAP 58.69 ETS 171.02 ZAE 99.39 ETE 182.16 ZAC 90.08 ETC 269.16 LV1 6.10

DISTANCE 647.807

EARTH TO MARS

Planetocentric Conic

C3 18.999 VHL 4.359 DLA -6.26 RAL 339.24 RAD 6642.4 VEL 11.791 PTH 6.81 VHP 3.701 DPA -36.95 RAP 284.26 ECC 1.3127
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 8 2998.96 -30.77 90.50 197.96 128.26 18 28 5 1997.0 -13.82 71.77
 60.00 18 24 24 2873.87 -26.00 83.22 201.78 121.95 19 12 18 1873.9 -11.32 63.03
 70.00 19 24 7 2698.29 -21.69 71.65 204.44 117.05 20 9 5 1698.3 -9.00 50.51
 80.00 20 39 14 2463.12 -18.55 55.39 206.03 113.82 21 20 17 1463.1 -7.27 33.71
 90.00 22 3 39 2190.74 -17.37 35.90 206.36 112.67 22 40 10 1190.7 -6.61 14.04
 100.00 23 22 6 1937.59 -18.55 16.76 206.03 113.82 23 54 24 937.6 -7.27 355.08
 110.00 0 27 29 1745.11 -21.69 .57 204.44 117.05 0 56 35 745.1 -9.00 339.42

Differential Corrections

TDE 1.7766 TRA 4.2514 TC3-4.0478 BAW 1.0352
 RDE .8187 RRA .7578 RC3 -4.4764 FAU .13165
 FDE 4.2389 FRA10.8337 FC3-5.9992 B8P 12084
 BDE 1.8813 BRA 4.3184 BC3 4.0758 F8P 2553

Mid-Course Execution Accuracy

SGT 7036.5 SGR 1355.8 SG3 1374.7
 RRT .9433 RRF .9591 RTF .5.19
 SGB 7165.9 R23 .0881 R13 .9829
 SG1 7152.2 S62 442.9 THA 10.34

Orbit Determination Accuracy

ST 144.1 SR 43.4 SS 111.5
 CRT .9632 CR8 -.9581 CST -.9997
 LSA 186.9 MSA 11.7 SSA 1.3
 EL1 150.1 EL2 11.2 ALF 16.25

LAUNCH DATE APR 2 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic

RL 149.52 LAL -0.00 LOL 191.61 VL 32.338 GAL -5.68 AZL 89.78 HCA 213.67 SMA 181.94 ECC .20308 INC .2385 V1 29.800
 RP 218.88 LAP -1.13 LOP 45.28 VP 21.983 GAP .30 AZP 90.20 TAL 325.16 TAP 178.83 RCA 145.00 APO 218.89 V2 25.109
 RC 178.981 GL 1.73 GP -12.10 ZAL 147.16 ZAP 57.47 ETS 170.98 ZAE 98.09 ETE 181.80 ZAC 90.57 ETC 269.15 LV1 5.65

DISTANCE 651.927

EARTH TO MARS

Planetocentric Conic

C3 19.370 VHL 4.401 DLA -6.67 RAL 339.77 RAD 6642.6 VEL 11.806 PTH 6.83 VHP 3.735 DPA -36.44 RAP 284.13 ECC 1.3188
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 45 2993.46 -30.63 90.30 198.65 128.38 18 31 38 1993.5 -13.65 71.67
 60.00 18 28 28 2869.20 -25.83 82.94 202.49 122.08 19 16 17 1869.2 -11.12 62.79
 70.00 19 28 41 2692.16 -21.50 71.26 205.18 117.20 20 13 33 1692.2 -8.77 50.18
 80.00 20 44 15 2455.56 -18.34 54.93 206.79 113.98 21 25 11 1455.6 -7.02 33.29
 90.00 22 8 53 2182.53 -17.16 35.40 207.33 112.83 22 45 15 1182.5 -6.35 13.56
 100.00 23 27 7 1930.03 -18.34 16.30 206.79 113.98 23 59 17 930.0 -7.02 354.66
 110.00 0 32 3 1738.98 -21.50 .20 205.18 117.20 1 1 2 739.0 -8.77 339.10

Differential Corrections

TDE 1.8278 TRA 4.4090 TC3-4.0733 BAW 1.0610
 RDE .8130 RRA .7133 RC3 -4.4419 FAU .12816
 FDE 4.1862 FRA10.4234 FC3-5.7278 B8P 12368
 BDE 1.9278 BRA 4.4663 BC3 4.0972 F8P 2501

Mid-Course Execution Accuracy

SGT 7205.0 SGR 1289.2 SG3 1343.4
 RRT .9362 RRF .9919 RTF .9818
 SGB 7319.5 R23 .0831 R13 .9827
 SG1 7305.8 S62 447.0 THA 9.55

Orbit Determination Accuracy

ST 147.3 SR 42.3 SS 110.1
 CRT .9575 CR8 -.9533 CST -.9998
 LSA 188.3 MSA 12.2 SSA 1.3
 EL1 152.8 EL2 11.8 ALF 15.47

LAUNCH DATE APR 2 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC DISTANCE 656.042 EARTH TO MARS
RL 149.52 LAL -.00 LOL 191.61 VL 32.346 GAL -5.77 AZL 89.83 HCA 214.80 SMA 182.06 ECC .20427 INC .1654 V1 29.800

PLANETOCENTRIC CONIC
C3 19.761 VHL 4.445 DLA -7.03 RAL 340.29 RAD 6642.7 VEL 11.823 PTH 6.84 VHP 3.771 DPA -35.97 RAP 284.05 ECC 1.3252
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.0811 TRA 4.5682 TC3-4.0927 BAU 1.0866 SGT 7369.8 SGR 1228.2 SG3 1311.6 ST 150.5 SR 41.4 88 106.7

LAUNCH DATE APR 2 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC DISTANCE 660.150 EARTH TO MARS
RL 149.52 LAL -.00 LOL 191.61 VL 32.353 GAL -5.86 AZL 89.90 HCA 215.93 SMA 182.10 ECC .20551 INC .0984 V1 29.800

PLANETOCENTRIC CONIC
C3 20.170 VHL 4.491 DLA -7.35 RAL 340.79 RAD 6642.9 VEL 11.840 PTH 6.86 VHP 3.808 DPA -35.52 RAP 284.01 ECC 1.3319
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.9354 TRA 4.7274 TC3-4.1089 BAU 1.1127 SGT 7529.7 SGR 1172.1 SG3 1279.5 ST 153.6 SR 40.5 88 107.2

LAUNCH DATE APR 2 1971 FLIGHT TIME 280.00 ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC DISTANCE 664.254 EARTH TO MARS
RL 149.52 LAL -.00 LOL 191.61 VL 32.360 GAL -5.96 AZL 89.96 HCA 217.05 SMA 182.30 ECC .20679 INC .0343 V1 29.800

PLANETOCENTRIC CONIC
C3 20.598 VHL 4.538 DLA -7.64 RAL 341.29 RAD 6643.1 VEL 11.858 PTH 6.87 VHP 3.848 DPA -35.09 RAP 284.03 ECC 1.3390
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.9915 TRA 4.8878 TC3-4.1209 BAU 1.1389 SGT 7686.0 SGR 1120.9 SG3 1247.3 ST 156.7 SR 39.8 88 105.8

LAUNCH DATE APR 3 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 34.193 GAL -6.62 AZL 92.33 HCA 127.35 SMA 219.16 ECC .33583 INC 2.3272 V1 29.792
RP 207.32 LAP -1.85 LOP 319.97 VP 25.975 GAP 19.39 AZP 88.59 TAL 333.31 TAP 100.66 RCA 145.56 APO 292.76 V2 26.420
RC 56.291 GL -12.79 GP 3.61 ZAL 135.43 ZAP 167.72 ETS 162.78 ZAE 168.57 ETE 130.91 ZAC 104.80 ETC 275.70 LVI -16.50

PLANETOCENTRIC CONIC

C3 36.817 VHL 6.230 DLA -23.57 RAL 336.49 RAD 6650.3 VEL 12.597 PTH 7.46 VHP 9.446 DPA -16.47 RAP 310.18 ECC 1.6368
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 18 34 0 2816.63 -22.76 80.82 202.52 132.98 19 20 57 1816.6 -4.87 64.00
60.00 19 43 20 2832.22 -18.60 89.71 208.03 127.27 20 27 12 1632.2 -.79 51.31
70.00 21 11 43 2372.39 -10.92 93.01 212.40 122.68 21 51 15 1372.4 3.37 33.39
80.00 22 57 40 2040.82 -5.44 30.93 215.49 119.40 23 31 41 1040.8 6.93 10.41
90.00 0 41 52 1717.43 -3.24 8.36 216.70 118.11 1 10 29 717.4 8.49 347.47
100.00 1 44 28 1519.29 -5.44 352.30 215.49 119.40 2 9 43 515.3 6.93 331.78
110.00 2 15 5 1419.21 -10.52 341.93 212.40 122.68 2 38 45 419.2 3.37 322.31

DIFFERENTIAL CORRECTIONS

TDE -.8378 TRA-1.7227 TC3 -.0848 BAU .0788
RDE -.5243 RRA .0489 RC3 .1257 FAU .04140
FDE .6322 FRA 1.9978 FC3 -.9234 BSP 3231
BDE .9884 BRA 1.7234 BC3 .1515 FSP 291

MID-COURSE EXECUTION ACCURACY

SGT 1895.3 SGR 909.4 SG3 205.9
RRT .2799 RRF -.2985 RTF -.8393
SGB 1962.6 R23 -.0488 R13 -.8405
SG1 1901.1 SG2 487.5 THA 4.61

ORBIT DETERMINATION ACCURACY

ST 46.4 SR 24.1 SS 34.2
CRT .8121 CR8 .6726 C8T .9771
LSA 60.5 MSA 15.8 SSA 1.1
EL1 50.7 EL2 12.9 ALF 24.56

LAUNCH DATE APR 3 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 34.073 GAL -6.47 AZL 92.37 HCA 128.61 SMA 216.24 ECC .32643 INC 2.3664 V1 29.792
RP 207.22 LAP -1.85 LOP 321.23 VP 25.829 GAP 18.91 AZP 88.52 TAL 333.35 TAP 101.97 RCA 145.65 APO 286.83 V2 26.432
RC 56.455 GL -13.27 GP 3.78 ZAL 135.40 ZAP 166.84 ETS 163.25 ZAE 169.04 ETE 126.91 ZAC 104.92 ETC 275.80 LVI -18.78

PLANETOCENTRIC CONIC

C3 37.065 VHL 6.088 DLA -23.98 RAL 336.78 RAD 6649.6 VEL 12.528 PTH 7.41 VHP 9.169 DPA -16.21 RAP 310.53 ECC 1.6100
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 37 8 2795.88 -21.79 79.80 202.20 133.41 19 23 44 1795.9 -3.83 63.13
60.00 19 47 14 2609.45 -15.66 68.53 207.72 127.62 20 30 43 1609.4 .22 50.22
70.00 21 16 43 2346.35 -9.56 51.61 212.14 122.94 21 55 49 1346.4 4.36 32.02
80.00 23 4 13 2009.93 -4.40 29.22 215.29 119.56 23 37 43 1009.9 7.95 8.69
90.00 0 49 27 1683.20 -2.14 6.44 216.54 118.21 1 17 30 683.2 9.55 345.51
100.00 1 51 0 1484.40 -4.40 350.59 215.29 119.56 2 15 45 484.4 7.95 330.05
110.00 2 20 5 1393.17 -9.56 340.52 212.14 122.94 2 43 18 393.2 4.36 320.94

DIFFERENTIAL CORRECTIONS

TDE -.8369 TRA-1.7088 TC3 -.0781 BAU .0771
RDE -.5082 RRA .0345 RC3 .1347 FAU .04269
FDE .6578 FRA 2.0802 FC3 -.9971 BSP 3306
BDE .9792 BRA 1.7092 BC3 .1557 FSP 312

MID-COURSE EXECUTION ACCURACY

SGT 1930.7 SGR 906.9 SG3 219.4
RRT .3050 RRF -.3255 RTF -.8452
SGB 1986.2 R23 -.0532 R13 -.8465
SG1 1937.3 SG2 481.1 THA 4.88

ORBIT DETERMINATION ACCURACY

ST 47.4 SR 23.9 SS 35.4
CRT .8179 CR8 .6773 C8T .9763
LSA 61.8 MSA 15.7 SSA 1.2
EL1 51.6 EL2 12.7 ALF 23.96

LAUNCH DATE APR 3 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 33.980 GAL -6.32 AZL 92.41 HCA 129.88 SMA 213.56 ECC .31752 INC 2.4071 V1 29.792
RP 207.13 LAP -1.85 LOP 322.50 VP 25.891 GAP 18.44 AZP 88.46 TAL 333.40 TAP 103.28 RCA 145.75 APO 281.37 V2 26.443
RC 56.701 GL -13.78 GP 3.95 ZAL 135.38 ZAP 165.94 ETS 163.66 ZAE 169.42 ETE 122.74 ZAC 105.06 ETC 275.89 LVI -19.07

PLANETOCENTRIC CONIC

C3 35.438 VHL 5.953 DLA -24.42 RAL 337.08 RAD 6649.1 VEL 12.463 PTH 7.36 VHP 8.902 DPA -15.95 RAP 310.86 ECC 1.5832
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 40 22 2775.02 -20.81 78.78 201.90 133.81 19 26 37 1775.0 -2.78 62.25
60.00 19 51 16 2586.43 -14.70 67.34 207.45 127.96 20 34 23 1586.4 1.23 49.12
70.00 21 21 58 2319.78 -8.58 50.18 211.92 123.19 22 0 38 1319.8 5.37 30.63
80.00 23 11 12 1977.90 -3.32 27.45 215.14 119.69 23 44 10 977.9 9.00 6.89
90.00 0 57 39 1647.25 -0.98 4.44 216.44 118.26 1 25 7 647.3 10.64 343.43
100.00 1 58 0 1452.37 -3.32 348.82 215.14 119.69 2 22 13 452.4 9.00 328.25
110.00 2 25 21 1366.60 -8.58 339.10 211.92 123.19 2 48 7 366.6 5.37 319.55

DIFFERENTIAL CORRECTIONS

TDE -.8352 TRA-1.6936 TC3 -.0707 BAU .0761
RDE -.4928 RRA .0199 RC3 .1442 FAU .04408
FDE .6845 FRA 2.1664 FC3 -1.0760 BSP 3377
BDE .9697 BRA 1.6937 BC3 .1608 FSP 336

MID-COURSE EXECUTION ACCURACY

SGT 1984.2 SGR 904.9 SG3 233.7
RRT .3320 RRF -.3546 RTF -.8508
SGB 2028.0 R23 -.0579 R13 -.8523
SG1 1971.7 SG2 474.4 THA 5.18

ORBIT DETERMINATION ACCURACY

ST 48.3 SR 23.7 SS 36.6
CRT .8240 CR8 .6823 C8T .9796
LSA 63.2 MSA 15.6 SSA 1.2
EL1 52.4 EL2 12.4 ALF 23.40

LAUNCH DATE APR 3 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 33.882 GAL -6.18 AZL 92.45 HCA 131.14 SMA 211.09 ECC .30909 INC 2.4493 V1 29.792
RP 207.09 LAP -1.84 LOP 323.78 VP 25.559 GAP 17.97 AZP 88.39 TAL 333.48 TAP 104.60 RCA 145.84 APO 276.33 V2 26.453
RC 57.830 GL -14.30 GP 4.14 ZAL 135.29 ZAP 165.92 ETS 163.99 ZAE 169.73 ETE 118.48 ZAC 105.20 ETC 275.96 LVI -19.36

PLANETOCENTRIC CONIC

C3 33.930 VHL 5.825 DLA -24.88 RAL 337.35 RAD 6648.5 VEL 12.403 PTH 7.31 VHP 8.642 DPA -15.68 RAP 311.17 ECC 1.5584
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 43 43 2754.07 -19.82 77.77 201.65 134.19 19 29 37 1754.1 -1.73 61.38
60.00 19 55 29 2563.17 -13.72 66.15 207.22 128.27 20 38 13 1563.2 2.25 48.01
70.00 21 27 30 2292.64 -7.58 48.74 211.75 123.41 22 5 43 1292.6 6.40 29.20
80.00 23 18 43 1944.58 -2.20 25.62 215.05 119.78 23 51 7 944.6 10.08 5.00
90.00 1 6 37 1609.25 .25 2.32 216.41 118.26 1 33 28 609.2 11.78 341.22
100.00 2 5 31 1419.05 -2.20 348.99 215.05 119.78 2 29 10 419.1 10.08 326.37
110.00 2 30 52 1339.46 -7.58 337.65 211.75 123.41 2 53 12 339.5 6.40 318.11

DIFFERENTIAL CORRECTIONS

TDE -.8337 TRA-1.6772 TC3 -.0626 BAU .0756
RDE -.4782 RRA .0048 RC3 .1544 FAU .04550
FDE .7127 FRA 2.2564 FC3 -1.1609 BSP 3443
BDE .9611 BRA 1.6772 BC3 .1666 FSP 361

MID-COURSE EXECUTION ACCURACY

SGT 1996.2 SGR 903.6 SG3 249.0
RRT .3612 RRF -.3860 RTF -.8561
SGB 2058.7 R23 -.0631 R13 -.8578
SG1 2004.9 SG2 467.5 THA 5.51

ORBIT DETERMINATION ACCURACY

ST 49.2 SR 23.5 SS 37.9
CRT .8307 CR8 .6882 C8T .9748
LSA 64.6 MSA 15.5 SSA 1.2
EL1 53.2 EL2 12.1 ALF 22.89

LAUNCH DATE APR 3 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 33.751 GAL -6.04 AZL 92.49 HCA 132.40 SMA 208.80 ECC .30111 INC 2.4933 V1 29.792
RP 206.97 LAP -1.84 LOP 323.03 VP 25.433 GAP 17.52 AZP 88.32 TAL 333.52 TAP 105.92 RCA 145.93 APO 271.68 V2 26.462
RC 57.440 GL -14.83 GP 4.34 ZAL 135.21 ZAP 164.08 ETS 164.28 ZAE 169.93 EYE 114.24 ZAC 105.36 ETC 276.06 LVI -19.66

PLANETOCENTRIC CONIC

C3 32.531 VHL 5.704 DLA -25.35 RAL 337.63 RAD 6648.0 VEL 12.347 PTH 7.27 VHP 8.390 DPA -15.40 RAP 311.45 ECC 1.9354
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 47 11 2733.02 -18.82 76.78 201.43 134.54 19 32 44 1733.0 -1.67 60.50
60.00 19 59 34 2539.64 -12.73 64.96 207.04 128.57 20 42 13 1539.6 3.29 46.89
70.00 21 33 21 2264.88 -6.52 47.26 211.62 123.60 22 11 6 1264.9 7.44 27.73
80.00 23 26 49 1909.74 -1.02 23.71 215.03 119.84 23 58 39 909.7 11.20 3.02
90.00 1 16 30 1568.68 1.56 .05 216.46 118.24 1 42 39 568.7 12.97 336.84
100.00 2 13 37 1384.21 -1.02 345.08 215.03 119.84 2 36 41 384.2 11.20 324.39
110.00 2 36 43 1311.69 -6.52 336.18 211.62 123.60 2 58 35 311.7 7.44 316.64

DIFFERENTIAL CORRECTIONS

TDE -.8314 TRA-1.6603 TC3 -.0538 BAU .0756
RDE -.4642 RRA -.0107 RC3 .1652 FAU .04705
FDE .7419 FRA 2.3509 FC3-1.2521 BSP 3506
BDE .9522 BRA 1.6603 BC3 .1738 FSP 387

MID-COURSE EXECUTION ACCURACY

SGT 2026.7 SGR 503.1 SG3 265.2
RRT .3921 RRF -.4194 RTF -.8611
SGB 2088.2 R23 -.0689 R13 -.8630
SG1 2036.8 SG2 460.5 THA 5.86

ORBIT DETERMINATION ACCURACY

ST 50.1 SR 23.3 SS 39.2
CRT .8376 CRS .6944 CST .9759
LSA 66.0 MSA 15.4 SSA 1.2
EL1 54.0 EL2 11.8 ALF 22.43

LAUNCH DATE APR 3 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 33.655 GAL -5.90 AZL 92.54 HCA 133.67 SMA 206.70 ECC .29355 INC 2.5390 V1 29.792
RP 206.90 LAP -1.84 LOP 326.29 VP 25.314 GAP 17.07 AZP 88.25 TAL 333.59 TAP 107.26 RCA 146.02 APO 267.37 V2 26.469
RC 57.930 GL -15.39 GP 4.55 ZAL 135.11 ZAP 163.11 ETS 164.51 ZAE 170.10 ETE 110.12 ZAC 105.54 ETC 276.14 LVI -19.96

PLANETOCENTRIC CONIC

C3 31.237 VHL 5.589 DLA -25.84 RAL 337.92 RAD 6647.5 VEL 12.295 PTH 7.23 VHP 8.146 DPA -15.11 RAP 311.71 ECC 1.5141
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 50 47 2711.88 -17.80 75.79 201.26 134.88 19 35 59 1711.9 .39 59.62
60.00 20 4 30 2515.84 -11.71 63.77 206.90 128.84 20 46 26 1515.8 4.33 45.74
70.00 21 39 32 2236.42 -5.44 45.76 211.55 123.77 22 16 48 1236.4 8.50 26.21
80.00 23 35 37 1873.09 .22 21.70 215.07 119.86 24 6 50 873.1 12.35 .91
90.00 1 27 32 1524.82 2.97 357.60 216.59 118.14 1 52 57 524.8 14.24 336.24
100.00 2 22 25 1347.56 .22 343.07 215.07 119.86 2 44 52 347.6 12.35 322.28
110.00 2 42 54 1283.24 -8.44 334.68 211.55 123.77 3 4 17 283.2 8.50 315.13

DIFFERENTIAL CORRECTIONS

TDE -.8293 TRA-1.6425 TC3 -.0450 BAU .0762
RDE -.4510 RRA -.0287 RC3 .1788 FAU .04888
FDE .7725 FRA 2.4498 FC3-1.3493 BSP 3569
BDE .9440 BRA 1.6427 BC3 .1824 FSP 416

MID-COURSE EXECUTION ACCURACY

SGT 2055.6 SGR 503.7 SG3 282.5
RRT .4250 RRF -.4548 RTF -.8657
SGB 2116.5 R23 -.0752 R13 -.8678
SG1 2067.3 SG2 453.4 THA 6.25

ORBIT DETERMINATION ACCURACY

ST 50.9 SR 23.1 SS 40.8
CRT .8452 CRS .7013 CST .9729
LSA 67.4 MSA 15.3 SSA 1.2
EL1 54.7 EL2 11.5 ALF 22.01

LAUNCH DATE APR 3 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 33.564 GAL -5.77 AZL 92.59 HCA 134.94 SMA 204.75 ECC .28640 INC 2.5868 V1 29.792
RP 206.85 LAP -1.83 LOP 327.56 VP 25.200 GAP 16.63 AZP 88.17 TAL 333.66 TAP 108.60 RCA 146.11 APO 263.38 V2 26.476
RC 58.496 GL -15.98 GP 4.78 ZAL 134.99 ZAP 162.12 ETS 164.70 ZAE 170.17 EYE 106.23 ZAC 105.73 ETC 276.21 LVI -20.28

PLANETOCENTRIC CONIC

C3 30.037 VHL 5.481 DLA -26.36 RAL 338.21 RAD 6647.0 VEL 12.246 PTH 7.19 VHP 7.909 DPA -14.81 RAP 311.95 ECC 1.4943
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 54 33 2690.81 -18.78 74.80 201.13 135.20 19 39 23 1690.6 1.48 58.73
60.00 20 9 20 2491.71 -10.68 62.56 206.81 129.09 20 50 51 1491.7 5.39 44.58
70.00 21 46 8 2207.15 -4.33 44.22 211.54 123.91 22 22 53 1207.1 9.59 24.64
80.00 23 45 16 1834.15 1.54 19.56 215.19 119.82 24 15 51 834.1 13.56 358.68
90.00 1 40 9 1478.36 4.52 354.89 218.83 117.93 2 4 45 478.4 15.59 333.33
100.00 2 32 4 1308.62 1.54 340.93 215.19 119.82 2 53 53 308.6 13.56 320.02
110.00 2 49 29 1253.97 -4.33 333.14 211.54 123.91 3 10 22 254.0 9.59 313.56

DIFFERENTIAL CORRECTIONS

TDE -.8188 TRA-1.8135 TC3 -.0221 BAU .0768
RDE -.4383 RRA -.0431 RC3 .1894 FAU .05043
FDE .8047 FRA 2.5534 FC3-1.4535 BSP 3500
BDE .9269 BRA 1.6141 BC3 .1907 FSP 446

MID-COURSE EXECUTION ACCURACY

SGT 2067.2 SGR 505.6 SG3 300.8
RRT .4600 RRF -.4920 RTF -.8737
SGB 2128.1 R23 -.0793 R13 -.8759
SG1 2080.9 SG2 445.9 THA 6.73

ORBIT DETERMINATION ACCURACY

ST 31.2 SR 22.9 SS 42.0
CRT .8517 CRS .7089 CST .9726
LSA 68.4 MSA 15.2 SSA 1.1
EL1 55.0 EL2 11.2 ALF 21.63

LAUNCH DATE APR 3 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 33.477 GAL -5.85 AZL 92.64 HCA 136.20 SMA 202.94 ECC .27964 INC 2.6367 V1 29.792
RP 206.80 LAP -1.82 LOP 328.83 VP 25.091 GAP 16.20 AZP 88.10 TAL 333.74 TAP 109.94 RCA 146.19 APO 259.69 V2 26.482
RC 59.137 GL -16.56 GP 5.02 ZAL 134.85 ZAP 161.10 ETS 164.85 ZAE 170.17 ETE 102.66 ZAC 105.94 ETC 276.28 LVI -20.59

PLANETOCENTRIC CONIC

C3 28.931 VHL 5.379 DLA -26.89 RAL 336.51 RAD 6646.6 VEL 12.201 PTH 7.18 VHP 7.680 DPA -14.51 RAP 312.16 ECC 1.4761
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 58 27 2689.29 -15.75 73.83 201.05 135.50 19 42 57 1669.3 2.53 57.84
60.00 20 14 24 2467.31 -9.63 61.36 206.77 129.33 20 55 31 1467.3 6.46 43.40
70.00 21 53 6 2177.06 -3.19 42.65 211.59 124.02 22 29 23 1177.1 10.70 23.02
80.00 23 55 58 1792.53 2.95 17.27 215.41 119.72 24 25 51 792.5 14.83 356.21
90.00 1 54 59 1421.33 6.27 351.79 217.22 117.63 2 18 41 421.3 17.08 329.98
100.00 2 42 46 1266.94 2.95 338.64 215.41 119.72 3 3 53 266.9 14.83 317.58
110.00 2 56 28 1223.88 -3.19 331.57 211.59 124.02 3 16 52 223.9 10.70 311.93

DIFFERENTIAL CORRECTIONS

TDE -.8201 TRA-1.5998 TC3 -.0205 BAU .0787
RDE -.4267 RRA -.0684 RC3 .2024 FAU .05227
FDE .8386 FRA 2.6620 FC3-1.5642 BSP 3627
BDE .9245 BRA 1.6008 BC3 .2034 FSP 478

MID-COURSE EXECUTION ACCURACY

SGT 2100.9 SGR 509.1 SG3 320.2
RRT .4957 RRF -.5309 RTF -.8755
SGB 2161.7 R23 -.0888 R13 -.8781
SG1 2116.7 SG2 438.9 THA 7.16

ORBIT DETERMINATION ACCURACY

ST 52.2 SR 22.8 SS 43.4
CRT .8612 CRS .7175 CST .9712
LSA 70.0 MSA 15.1 SSA 1.1
EL1 56.0 EL2 10.8 ALF 21.40

LAUNCH DATE APR 3 1971		FLIGHT TIME 190.00		ARRIVAL DATE AUG 31 1971													
HELIOCENTRIC CONIC																	
RL	149.56 LAL	-.00 LOL	192.60 VL	33.396 GAL	-5.53 AZL	92.69 HCA	137.47 SMA	201.27 ECC	.27324 INC	2.6891 V1	29.792						
RP	206.75 LAP	-1.82 LOP	330.10 VP	24.988 GAP	15.78 AZP	88.02 TAL	333.82 TAP	111.29 RCA	146.27 APO	256.26 V2	26.487						
RC	59.850 GL	-17.17 GP	5.29 ZAL	134.70 ZAP	180.05 ETS	164.96 ZAE	170.12 ETE	99.49 ZAC	106.18 ETC	276.35 LVI	-20.92						
PLANETOCENTRIC CONIC																	
C3	27.910 VHL	5.283 DLA	-27.44 RAL	339.81 RAD	6646.2 VEL	12.160 PTH	7.12 VHP	7.458 DPA	-14.19 RAP	312.33 ECC	1.4593						
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG						
50.00	19 2 33	2647.85	-14.70	72.86	201.02	135.78	19 46 41	1647.8	3.61	56.94							
60.00	20 19 44	2442.55	-8.56	60.14	206.79	129.53	21 0 26	1442.6	7.54	42.20							
70.00	22 0 36	2145.95	-2.00	41.02	211.71	124.10	22 36 22	1145.9	11.84	21.32							
80.00	0 11 58	1747.00	4.48	14.76	215.73	119.55	0 41 5	747.0	16.18	353.31							
90.00	2 13 36	1354.72	8.35	348.01	217.83	117.12	2 36 11	354.7	18.80	325.85							
100.00	2 54 50	1221.47	4.48	336.13	215.73	119.55	3 15 11	221.5	16.18	314.88							
110.00	3 3 58	1192.77	-2.00	329.94	211.71	124.10	3 23 51	192.8	11.84	310.24							
DIFFERENTIAL CORRECTIONS						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY					
TDE	-.8209 TRA	-1.5821 TC3	-.0158 BAU	.0809	SGT	2128.6 SGR	514.7 SG3	340.9	ST	53.1 SR	22.0 SS	44.9					
RDE	-.4159 RRA	-.0786 RC3	.2163 FAU	.05419	RRT	.5325 RRF	-.5710 RTF	-.8781	CRT	.8708 CRS	.7270 CST	.9699					
FDE	.8749 FRA	2.7765 FC3	-1.6810 BSP	3719	SG8	2190.0 R23	-.0984 R13	-.8811	LSA	71.5 MSA	15.1 SSA	1.1					
BDE	.9202 BRA	1.5841 BC3	.2168 FSP	513	SG1	2147.0 SG2	431.9 THA	7.65	EL1	56.8 EL2	10.4 ALF	21.07					

LAUNCH DATE APR 3 1971		FLIGHT TIME 152.00		ARRIVAL DATE SEP 2 1971													
HELIOCENTRIC CONIC																	
RL	149.56 LAL	-.00 LOL	192.60 VL	33.319 GAL	-5.41 AZL	92.74 HCA	138.74 SMA	199.71 ECC	.26719 INC	2.7440 V1	29.792						
RP	206.72 LAP	-1.81 LOP	331.37 VP	24.889 GAP	15.37 AZP	87.94 TAL	333.91 TAP	112.65 RCA	146.35 APO	253.07 V2	26.491						
RC	60.633 GL	-17.81 GP	5.57 ZAL	134.53 ZAP	158.98 ETS	165.04 ZAE	170.01 ETE	96.78 ZAC	106.43 ETC	276.41 LVI	-21.26						
PLANETOCENTRIC CONIC																	
C3	26.970 VHL	5.193 DLA	-28.02 RAL	339.12 RAD	6645.8 VEL	12.121 PTH	7.09 VHP	7.244 DPA	-13.85 RAP	312.48 ECC	1.4439						
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG						
50.00	19 6 50	2626.28	-13.65	71.90	201.04	136.04	19 50 36	1626.3	4.69	56.03							
60.00	20 25 21	2417.39	-7.47	58.92	206.87	129.72	21 5 39	1417.4	8.63	40.97							
70.00	22 8 39	2113.62	-7.77	39.33	211.91	124.15	22 43 53	1113.6	13.01	19.55							
80.00	0 25 55	1696.15	6.18	11.95	216.20	119.27	0 54 11	696.2	17.64	350.44							
90.00	2 41 27	1259.08	11.27	342.50	218.90	116.11	3 2 26	259.1	21.07	319.76							
100.00	3 8 47	1170.62	6.18	333.32	216.20	119.27	3 28 18	170.6	17.64	311.81							
110.00	3 12 1	1160.44	-7.77	328.25	211.91	124.15	3 31 22	160.4	13.01	308.47							
DIFFERENTIAL CORRECTIONS						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY					
TDE	-.8193 TRA	-1.5616 TC3	-.0080 BAU	.0834	SGT	2150.8 SGR	522.5 SG3	362.8	ST	53.8 SR	22.5 SS	46.4					
RDE	-.4058 RRA	-.0975 RC3	.2313 FAU	.05628	RRT	.5699 RRF	-.6118 RTF	-.8811	CRT	.8607 CRS	.7372 CST	.9686					
FDE	.9122 FRA	2.8958 FC3	-1.8067 BSP	3783	SG8	2213.3 R23	-1.086 R13	-.8845	LSA	73.0 MSA	15.0 SSA	1.1					
BDE	.9143 BRA	1.5646 BC3	.2314 FSP	549	SG1	2172.1 SG2	425.1 THA	8.20	EL1	57.5 EL2	10.0 /LF	20.83					

LAUNCH DATE APR 3 1971		FLIGHT TIME 154.00		ARRIVAL DATE SEP 4 1971													
HELIOCENTRIC CONIC																	
RL	149.56 LAL	-.00 LOL	192.60 VL	33.246 GAL	-5.30 AZL	92.80 HCA	140.01 SMA	198.27 ECC	.28147 INC	2.8019 V1	29.792						
RP	206.70 LAP	-1.80 LOP	332.84 VP	24.795 GAP	14.98 AZP	87.85 TAL	334.00 TAP	114.00 RCA	146.43 APO	250.11 V2	26.494						
RC	61.483 GL	-18.46 GP	5.87 ZAL	134.34 ZAP	157.87 ETS	165.09 ZAE	169.88 ETE	94.56 ZAC	106.71 ETC	276.47 LVI	-21.82						
PLANETOCENTRIC CONIC																	
C3	26.106 VHL	5.109 DLA	-28.82 RAL	339.43 RAD	6645.4 VEL	12.086 PTH	7.06 VHP	7.036 DPA	-13.51 RAP	312.60 ECC	1.4296						
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG						
50.00	19 11 19	2604.57	-12.58	70.94	201.11	136.27	19 54 44	1604.6	5.78	55.12							
60.00	20 31 19	2391.77	-6.33	57.67	207.01	129.86	21 11 11	1391.8	9.73	39.72							
70.00	22 17 22	2079.85	.52	37.57	212.19	124.15	22 52 2	1079.8	14.21	17.68							
80.00	0 42 46	1636.80	8.15	8.64	216.87	118.82	1 10 3	636.8	19.28	346.79							
85.44	2 38 18	1264.99	14.85	344.68	220.32	114.74	2 59 23	265.0	23.79	321.13							
100.00	3 25 38	1111.27	8.15	330.00	216.87	118.82	3 44 10	111.3	19.28	308.16							
110.00	3 20 45	1126.67	.52	326.49	212.19	124.15	3 39 31	126.7	14.21	306.59							
DIFFERENTIAL CORRECTIONS						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY					
TDE	-.8171 TRA	-1.5388 TC3	.0001 BAU	.0863	SGT	2168.7 SGR	533.0 SG3	386.0	ST	54.5 SR	22.3 SS	47.9					
RDE	-.3965 RRA	-.1173 RC3	.2473 FAU	.05848	RRT	.6074 RRF	-.6526 RTF	-.8339	CRT	.8909 CRS	.7485 CST	.9673					
FDE	.9523 FRA	3.0206 FC3	-1.9392 BSP	3832	SG8	2233.2 R23	-.1196 R13	-.8878	LSA	74.4 MSA	15.0 SSA	1.1					
BDE	.9083 BRA	1.5432 BC3	.2473 FSP	588	SG1	2193.7 SG2	418.6 THA	8.81	EL1	58.1 EL2	9.5 ALF	20.66					

LAUNCH DATE APR 3 1971		FLIGHT TIME 156.00		ARRIVAL DATE SEP 6 1971													
HELIOCENTRIC CONIC																	
RL	149.56 LAL	-.00 LOL	192.60 VL	33.178 GAL	-5.20 AZL	92.86 HCA	141.28 SMA	196.82 ECC	.25607 INC	2.8628 V1	29.792						
RP	206.68 LAP	-1.79 LOP	333.91 VP	24.704 GAP	14.97 AZP	87.77 TAL	334.09 TAP	115.36 RCA	146.50 APO	247.35 V2	26.496						
RC	62.398 GL	-19.15 GP	6.20 ZAL	134.13 ZAP	156.73 ETS	165.11 ZAE	169.68 ETE	92.84 ZAC	107.02 ETC	276.52 LVI	-21.98						
PLANETOCENTRIC CONIC																	
C3	25.315 VHL	5.031 DLA	-29.23 RAL	339.76 RAD	6645.1 VEL	12.053 PTH	7.04 VHP	6.835 DPA	-13.15 RAP	312.68 ECC	1.4166						
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG						
50.00	19 16 3	2582.69	-11.50	69.98	201.24	136.49	19 59 6	1582.7	6.87	54.19							
60.00	20 37 38	2365.63	-5.21	56.41	207.23	130.02	21 17 4	1365.6	10.86	38.42							
70.00	22 26 53	2044.31	1.88	35.72	212.57	124.11	23 0 57	1044.3	15.46	15.68							
80.00	1 5 8	1580.79	10.61	4.34	217.86	118.07	1 31 8	560.8	21.25	342.01							
82.27	2 13 56	1340.20	15.38	350.47	220.31	115.17	2 36 16	340.2	24.43	326.88							
100.00	3 47 59	1035.26	10.61	325.71	217.86	118.07	4 5 15	35.3	21.25	303.38							
110.00	3 30 15	1091.13	1.88	324.63	212.57	124.11	3 48 26	91.1	15.46	304.60							
DIFFERENTIAL CORRECTIONS						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY					
TDE	-.8146 TRA	-1.5147 TC3	.0082 BAU	.0896	SGT	2183.5 SGR	546.6 SG3	410.4	ST	55.0 SR	22.3 SS	49.5					
RDE	-.3881 RRA	-.1382 RC3	.2645 FAU	.06081	RRT	.6442 RRF	-.6929 RTF	-.8865	CRT	.9016 CRS	.7607 CST	.9658					
FDE	.9941 FRA	3.1509 FC3	-2.0794 BSP	3875	SG8	2250.8 R23	-.1316 R13	-.8910	LSA	75.8 MSA	14.9 SSA	1.1					
BDE	.9023 BRA	1.5210 BC3	.2646 FSP	629	SG1	2212.7 SG2	412.5 THA	9.49	EL1	58.7 EL2	9.0 ALF	20.55					

LAUNCH DATE APR 3 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC DISTANCE 413.093 EARTH TO MARS
RL 149.86 LAL -.00 LOL 192.60 VL 33.113 GAL -8.10 AZL 92.93 HCA 142.54 SMA 195.68 ECC .28097 INC 2.9272 V1 29.792

PLANETOCENTRIC CONIC
CS 24.594 VHL 4.959 DLA -29.88 RAL 340.11 RAD 6644.8 VEL 12.024 PTH 7.01 VHP 6.640 DPA -12.77 RAP 312.72 ECC 1.4048

DIFFERENTIAL CORRECTIONS
TDE -.8121 TRA-1.4894 TC3 .0150 BAV .0931
RDE -.3806 RRA -.1604 RC3 .2829 FAU .06324

LAUNCH DATE APR 3 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC DISTANCE 417.624 EARTH TO MARS
RL 149.86 LAL -.00 LOL 192.60 VL 33.052 GAL -5.00 AZL 93.00 HCA 143.81 SMA 194.51 ECC .24614 INC 2.9954 V1 29.792

PLANETOCENTRIC CONIC
CS 23.936 VHL 4.892 DLA -30.55 RAL 340.46 RAD 6644.8 VEL 11.996 PTH 6.99 VHP 6.453 DPA -18.37 RAP 312.73 ECC 1.3659

DIFFERENTIAL CORRECTIONS
TDE -.7937 TRA-1.4465 TC3 .0480 BAV .0988
RDE -.3733 RRA -.1832 RC3 .3041 FAU .06610

LAUNCH DATE APR 3 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC DISTANCE 421.389 EARTH TO MARS
RL 149.86 LAL -.00 LOL 192.60 VL 32.994 GAL -4.91 AZL 93.07 HCA 145.08 SMA 193.43 ECC .24160 INC 3.0680 V1 29.792

PLANETOCENTRIC CONIC
CS 23.347 VHL 4.832 DLA -31.24 RAL 340.84 RAD 6644.3 VEL 11.972 PTH 6.97 VHP 6.272 DPA -11.95 RAP 312.69 ECC 1.3842

DIFFERENTIAL CORRECTIONS
TDE -.8045 TRA-1.4313 TC3 .0309 BAV .1018
RDE -.3665 RRA -.2091 RC3 .3241 FAU .06860

LAUNCH DATE APR 3 1971 FLIGHT TIME 164.00 ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC DISTANCE 425.189 EARTH TO MARS
RL 149.86 LAL -.00 LOL 192.60 VL 32.939 GAL -4.82 AZL 93.15 HCA 146.35 SMA 192.42 ECC .23732 INC 3.1452 V1 29.792

PLANETOCENTRIC CONIC
CS 22.818 VHL 4.777 DLA -31.96 RAL 341.24 RAD 6644.1 VEL 11.950 PTH 6.95 VHP 6.098 DPA -11.80 RAP 312.82 ECC 1.3759

DIFFERENTIAL CORRECTIONS
TDE -.8045 TRA-1.4033 TC3 .0306 BAV .1062
RDE -.3643 RRA -.2363 RC3 .3466 FAU .07140

LAUNCH DATE APR 3 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 16 1971

DISTANCE 429.020 EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.888 GAL -4.74 AZL 93.23 HCA 147.62 SMA 191.49 ECC .23280 INC 3.2277 V1 29.792
 RP 206.73 LAP -1.73 LOP 340.25 VP 24.307 GAP 12.71 AZP 87.27 TAL 334.54 TAP 122.18 RCA 146.82 APO 236.16 V2 26.489
 RC 67.877 GL -22.98 GP 8.29 ZAL 132.82 ZAP 190.50 ETS 164.83 ZAE 168.27 ETE 91.43 ZAC 109.04 ETC 276.69 LVI -24.09

PLANETOCENTRIC CONIC

C3	22.350	VHL	4.728	DLA	-32.70	RAL	341.66	RAD	6643.9	VEL	11.931	PTH	6.94	VHP	5.930	DPA	-11.03	RAP	312.50	ECC	1.3678
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG											
50.00	19 44 14	2469.57	-5.88	65.13	202.99	137.30	20 25 24	1469.6	12.48	49.31											
60.00	21 16 47	2223.24	1.05	49.60	209.63	130.29	21 53 50	1223.2	16.85	31.17											
70.00	23 36 35	1811.35	10.65	23.38	216.74	122.65	24 6 47	811.3	23.05	1.88											
72.85	1 13 21	1525.39	18.04	5.74	221.17	117.75	1 38 47	525.4	27.89	341.96											
72.85	1 13 21	1525.39	18.04	5.74	221.17	117.75	1 38 47	525.4	27.89	341.96											
72.85	1 13 21	1525.39	18.04	5.74	221.17	117.75	1 38 47	525.4	27.89	341.96											
110.00	4 39 58	6146.20	10.65	290.20	216.74	122.65	6 22 24	5146.2	23.05	268.71											

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

SGT 2200.9 SGR 678.9 SG3 554.2 ST 56.9 SR 22.6 SS 57.9
 RRT .7972 RRF -.8635 RTF -.8941 CRT .9577 CR3 .8348 CST .9570
 SGB 2303.2 R23 -.2096 R13 -.9043 LSA 83.0 MSA 15.1 S8A 1.0
 SG1 2268.7 SG2 397.6 THA 14.26 EL1 61.0 EL2 6.1 ALF 21.07

LAUNCH DATE APR 3 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 18 1971

DISTANCE 432.881 EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.840 GAL -4.86 AZL 93.32 HCA 148.88 SMA 190.61 ECC .22948 INC 3.3163 V1 29.792
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.237 GAP 12.38 AZP 87.16 TAL 334.63 TAP 123.51 RCA 146.87 APO 234.35 V2 26.485
 RC 69.140 GL -23.84 GP 8.82 ZAL 132.49 ZAP 149.13 ETS 164.71 ZAE 167.87 ETE 92.43 ZAC 109.57 ETC 276.71 LVI -24.99

PLANETOCENTRIC CONIC

C3	21.941	VHL	4.684	DLA	-33.48	RAL	342.11	RAD	6643.7	VEL	11.914	PTH	6.92	VHP	5.769	DPA	-10.52	RAP	312.33	ECC	1.3611
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG											
50.00	19 51 4	2445.79	-4.69	64.13	203.60	137.40	20 31 50	1445.8	13.65	48.26											
60.00	21 26 45	2191.10	2.47	48.06	210.45	130.24	22 3 16	1191.1	18.17	29.47											
70.00	0 6 15	1732.19	13.52	19.05	218.52	121.67	0 35 7	732.2	25.31	356.85											
71.28	1 5 12	1551.61	18.57	8.06	221.56	118.37	1 31 4	551.6	26.62	344.25											
71.28	1 5 12	1551.61	18.57	8.06	221.56	118.37	1 31 4	551.6	26.62	344.25											
71.28	1 5 12	1551.61	18.57	8.06	221.56	118.37	1 31 4	551.6	26.62	344.25											
110.00	5 5 41	6067.05	13.52	285.87	218.52	121.67	6 46 48	5067.0	25.31	263.68											

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

SGT 2186.1 SGR 722.1 SG3 587.3 ST 56.9 SR 22.9 SS 59.7
 RRT .8193 RRF -.8884 RTF -.8954 CRT .9679 CR3 .8513 CST .9550
 SGB 2302.3 R23 -.2255 R13 -.9076 LSA 84.3 MSA 15.2 S8A 1.0
 SG1 2267.4 SG2 399.2 THA 15.64 EL1 61.1 EL2 5.4 ALF 21.48

LAUNCH DATE APR 3 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 20 1971

DISTANCE 436.768 EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.794 GAL -4.58 AZL 93.41 HCA 150.15 SMA 189.80 ECC .22591 INC 3.4115 V1 29.792
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.170 GAP 12.02 AZP 87.04 TAL 334.71 TAP 124.86 RCA 146.92 APO 232.67 V2 26.480
 RC 70.455 GL -24.75 GP 9.40 ZAL 132.18 ZAP 147.71 ETS 164.56 ZAE 167.42 ETE 93.75 ZAC 110.16 ETC 276.72 LVI -25.11

PLANETOCENTRIC CONIC

C3	21.592	VHL	4.647	DLA	-34.29	RAL	342.60	RAD	6643.5	VEL	11.899	PTH	6.91	VHP	5.615	DPA	-9.98	RAP	312.12	ECC	1.3553
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG											
50.00	19 58 26	2421.46	-3.47	63.11	204.33	137.48	20 38 48	1421.5	14.84	47.17											
60.00	21 37 45	2157.03	3.96	46.43	211.44	130.14	22 13 42	1157.0	19.54	27.63											
69.74	0 57 47	1576.32	19.11	10.30	222.04	119.03	1 24 3	576.3	29.38	346.46											
69.74	0 57 47	1576.32	19.11	10.30	222.04	119.03	1 24 3	576.3	29.38	346.46											
69.74	0 57 47	1576.32	19.11	10.30	222.04	119.03	1 24 3	576.3	29.38	346.46											
69.74	0 57 47	1576.32	19.11	10.30	222.04	119.03	1 24 3	576.3	29.38	346.46											
69.74	0 57 47	1576.32	19.11	10.30	222.04	119.03	1 24 3	576.3	29.38	346.46											

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

SGT 2176.0 SGR 772.5 SG3 621.8 ST 57.2 SR 23.4 SS 61.6
 RRT .8363 RRF -.9099 RTF -.8444 CRT .9774 CR3 .8683 CST .9523
 SGB 2309.0 R23 -.2459 R13 -.9092 LSA 85.9 MSA 15.3 S8A .9
 SG1 2273.1 SG2 405.4 THA 17.10 EL1 61.6 EL2 4.6 ALF 21.90

LAUNCH DATE APR 3 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 22 1971

DISTANCE 440.681 EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.751 GAL -4.51 AZL 93.51 HCA 151.42 SMA 189.04 ECC .22254 INC 3.5142 V1 29.792
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.105 GAP 11.68 AZP 86.91 TAL 334.78 TAP 126.20 RCA 146.97 APO 231.11 V2 26.474
 RC 71.818 GL -25.70 GP 10.04 ZAL 131.77 ZAP 146.24 ETS 164.40 ZAE 166.89 ETE 95.36 ZAC 110.80 ETC 276.72 LVI -25.68

PLANETOCENTRIC CONIC

C3	21.303	VHL	4.615	DLA	-35.14	RAL	343.12	RAD	6643.4	VEL	11.887	PTH	6.90	VHP	5.468	DPA	-9.39	RAP	311.85	ECC	1.3506
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG											
50.00	20 6 26	2396.41	-2.21	62.06	205.17	137.54	20 46 22	1396.4	16.06	46.04											
60.00	21 50 4	2120.36	5.57	44.66	212.61	129.98	22 25 25	1120.4	20.99	25.62											
68.21	0 50 56	1600.07	19.65	12.48	222.61	119.74	1 17 36	600.1	30.15	348.63											
68.21	0 50 56	1600.07	19.65	12.48	222.61	119.74	1 17 36	600.1	30.15	348.63											
68.21	0 50 56	1600.07	19.65	12.48	222.61	119.74	1 17 36	600.1	30.15	348.63											
68.21	0 50 56	1600.07	19.65	12.48	222.61	119.74	1 17 36	600.1	30.15	348.63											
68.21	0 50 56	1600.07	19.65	12.48	222.61	119.74	1 17 36	600.1	30.15	348.63											

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

SGT 2156.4 SGR 830.7 SG3 657.5 ST 57.3 SR 23.9 SS 63.6
 RRT .8509 RRF -.9281 RTF -.8936 CRT .9856 CR3 .8851 CST .9499
 SGB 2310.9 R23 -.2636 R13 -.9117 LSA 87.5 MSA 15.5 S8A .9
 SG1 2273.4 SG2 414.3 THA 18.79 EL1 61.9 EL2 3.7 ALF 22.48

LAUNCH DATE APR 3 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 444.617

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.711 GAL -4.45 AZL 93.63 HCA 152.68 SMA 188.33 ECC .21939 INC 3.8256 V1 29.792
RP 206.93 LAP -1.68 LOP 345.33 VP 24.042 GAP 11.35 AZP 86.78 TAL 334.86 TAP 127.54 RCA 147.01 APO 229.65 V2 26.466
RC 73.228 GL -26.68 GP 10.73 ZAL 131.37 ZAP 144.72 ETS 164.21 ZAE 166.29 ETE 97.20 ZAC 111.51 ETC 276.72 LVI -26.29

PLANETOCENTRIC CONIC

C3 21.075 VHL 4.591 DLA -36.03 RAL 343.68 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 5.328 DPA -6.76 RAP 311.52 ECC 1.3468
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 15 9 2370.49 -.91 60.97 206.17 137.57 20 54 39 1370.5 17.31 44.85
60.00 22 4 5 2080.21 7.32 42.72 214.01 129.74 22 38 46 1080.2 22.55 23.37
66.68 0 44 40 1623.03 20.19 14.64 223.29 120.50 1 11 43 623.0 30.94 350.77
66.68 0 44 40 1623.03 20.19 14.64 223.29 120.50 1 11 43 623.0 30.94 350.77
66.68 0 44 40 1623.03 20.19 14.64 223.29 120.50 1 11 43 623.0 30.94 350.77
66.68 0 44 40 1623.03 20.19 14.64 223.29 120.50 1 11 43 623.0 30.94 350.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7970 TRA-1.2200 TC3 .0200 BAU .1379 SGT 2129.5 SGR 897.5 SG3 694.2 ST 57.2 SR 24.7 SS 65.6
RDE -.3649 RRA -.4080 RC3 .4891 FAU .08762 RRT .8616 RRF -.9433 RTF -.8922 CRT .9921 CRS .9014 CST .9472
PDE 1.5203 FRA 4.5836 FC3-3.5996 B8P 4039 SGB 2310.9 R23 -.2796 R13 -.9144 LSA 89.0 MSA 15.7 SSA .8
BDE .8766 BRA 1.2664 BC3 .4893 F8P 1115 SC1 2271.0 SG2 427.1 THA 20.73 EL1 62.2 EL2 2.9 ALF 23.21

LAUNCH DATE APR 3 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 448.575

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.673 GAL -4.39 AZL 93.75 HCA 153.95 SMA 187.67 ECC .21643 INC 3.7469 V1 29.792
RP 207.00 LAP -1.64 LOP 346.59 VP 23.982 GAP 11.03 AZP 86.63 TAL 334.93 TAP 128.87 RCA 147.06 APO 228.29 V2 26.458
RC 74.683 GL -27.75 GP 11.49 ZAL 130.94 ZAP 143.14 ETS 164.00 ZAE 165.59 ETE 99.21 ZAC 112.28 ETC 276.71 LVI -26.93

PLANETOCENTRIC CONIC

C3 20.910 VHL 4.573 DLA -36.96 RAL 344.29 RAD 6643.2 VEL 11.871 PTH 6.88 VHP 5.195 DPA -8.07 RAP 311.14 ECC 1.3441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 24 43 2343.48 .45 59.85 207.33 137.57 21 3 46 1343.5 18.61 43.59
60.00 22 20 25 2035.05 9.28 40.51 215.71 129.40 22 54 20 1035.1 24.26 20.78
65.14 0 38 54 1645.46 20.73 16.79 224.09 121.31 1 6 19 645.5 31.75 352.92
65.14 0 38 54 1645.46 20.73 16.79 224.09 121.31 1 6 19 645.5 31.75 352.92
65.14 0 38 54 1645.46 20.73 16.79 224.09 121.31 1 6 19 645.5 31.75 352.92
65.14 0 38 54 1645.46 20.73 16.79 224.09 121.31 1 6 19 645.5 31.75 352.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7959 TRA-1.1750 TC3 .0127 BAU .1467 SGT 2095.1 SGR 973.9 SG3 731.9 ST 57.0 SR 25.6 SS 67.5
RDE -.3709 RRA -.4520 RC3 .5247 FAU .09127 RRT .8698 RRF -.9557 RTF -.8904 CRT .9966 CRS .9167 CST .9441
PDE 1.6020 FRA 4.7631 FC3-3.7787 B8P 4028 SGB 2310.4 R23 -.2924 R13 -.9177 LSA 90.6 MSA 16.0 SSA .8
BDE .8761 BRA 1.2589 BC3 .5249 F8P 1179 SC1 2267.3 SG2 444.0 THA 22.95 EL1 62.4 EL2 1.9 ALF 24.10

LAUNCH DATE APR 3 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 452.553

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.638 GAL -4.33 AZL 93.88 HCA 155.21 SMA 187.08 ECC .21366 INC 3.8795 V1 29.792
RP 207.08 LAP -1.63 LOP 347.86 VP 23.923 GAP 10.72 AZP 86.48 TAL 334.99 TAP 130.20 RCA 147.09 APO 227.03 V2 26.449
RC 78.180 GL -28.88 GP 12.33 ZAL 130.47 ZAP 141.50 ETS 163.78 ZAE 164.79 ETE 101.31 ZAC 113.14 ETC 276.70 LVI -27.66

PLANETOCENTRIC CONIC

C3 20.812 VHL 4.562 DLA -37.94 RAL 344.97 RAD 6643.2 VEL 11.867 PTH 6.88 VHP 5.069 DPA -7.32 RAP 310.70 ECC 1.3425
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 35 19 2315.10 1.88 58.66 208.68 137.55 21 13 54 1315.1 19.96 42.25
60.00 22 40 9 1982.03 11.56 37.89 217.81 128.88 23 13 12 982.0 26.20 17.63
63.58 0 33 35 1667.69 21.26 18.95 225.01 122.19 1 1 23 667.7 32.58 355.09
63.58 0 33 35 1667.69 21.26 18.95 225.01 122.19 1 1 23 667.7 32.58 355.09
63.58 0 33 35 1667.69 21.26 18.95 225.01 122.19 1 1 23 667.7 32.58 355.09
63.58 0 33 35 1667.69 21.26 18.95 225.01 122.19 1 1 23 667.7 32.58 355.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7926 TRA-1.1234 TC3 .0081 BAU .1569 SGT 2047.3 SGR 1080.3 SG3 769.6 ST 58.5 SR 26.6 SS 69.5
RDE -.3792 RRA -.4993 RC3 .5630 FAU .09512 RRT .8757 RRF -.9657 RTF -.8585 CRT .9991 CRS .9308 CST .9408
PDE 1.6875 FRA 4.9371 FC3-3.9569 B8P 3976 SGB 2305.6 R23 -.3000 R13 -.9222 LSA 92.0 MSA 16.2 SSA .8
BDE .8787 BRA 1.2295 BC3 .5639 F8P 1240 SC1 2258.4 SG2 464.1 THA 25.55 EL1 62.5 EL2 1.0 ALF 25.22

LAUNCH DATE APR 3 1971

FLIGHT TIME 180.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 456.549

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.605 GAL -4.28 AZL 94.03 HCA 156.47 SMA 186.49 ECC .21107 INC 4.0254 V1 29.792
RP 207.17 LAP -1.61 LOP 349.12 VP 23.866 GAP 10.41 AZP 86.31 TAL 335.04 TAP 131.52 RCA 147.13 APO 225.85 V2 26.439
RC 77.718 GL -30.04 GP 13.26 ZAL 129.97 ZAP 139.80 ETS 163.53 ZAE 163.86 ETE 103.46 ZAC 114.10 ETC 276.69 LVI -28.44

PLANETOCENTRIC CONIC

C3 20.787 VHL 4.559 DLA -38.97 RAL 345.71 RAD 6643.2 VEL 11.866 PTH 6.88 VHP 4.952 DPA -6.49 RAP 310.20 ECC 1.3421
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 47 11 2285.03 3.39 57.40 210.27 137.48 21 25 16 1285.0 21.38 40.80
60.00 23 5 50 1914.54 14.42 34.46 220.56 128.05 23 37 44 914.5 28.55 13.47
61.99 0 28 47 1689.78 21.78 21.14 226.09 123.15 0 56 57 689.8 33.43 357.31
61.99 0 28 47 1689.78 21.78 21.14 226.09 123.15 0 56 57 689.8 33.43 357.31
61.99 0 28 47 1689.78 21.78 21.14 226.09 123.15 0 56 57 689.8 33.43 357.31
61.99 0 28 47 1689.78 21.78 21.14 226.09 123.15 0 56 57 689.8 33.43 357.31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7996 TRA-1.0783 TC3 -.0178 BAU .1678 SGT 2012.2 SGR 1160.1 SG3 808.6 ST 56.6 SR 28.1 SS 71.7
RDE -.3925 RRA -.5533 RC3 .6028 FAU .09855 RRT .8766 RRF -.9738 RTF -.8832 CRT .9994 CRS .9442 CST .9373
PDE 1.7918 FRA 5.1210 FC3-4.1043 B8P 4047 SGB 2322.6 R23 -.3091 R13 -.9255 LSA 94.2 MSA 16.6 SSA .7
BDE .8907 BRA 1.2123 BC3 .6031 F8P 1314 SC1 2269.3 SG2 494.9 THA 28.28 EL1 63.2 EL2 .9 ALF 26.37

LAUNCH DATE APR 3 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.874 GAL -4.23 AZL 94.19 HCA 157.73 SMA 185.86 ECC .20865 INC 4.1865 V1 29.792
RP 207.26 LAP -1.58 LOP 350.39 VP 23.811 GAP 10.11 AZP 86.12 TAL 335.09 TAP 132.82 RCA 147.16 APO 224.76 V2 26.428
RC 79.295 GL -31.30 GP 14.28 ZAL 129.42 ZAP 138.03 ETS 163.27 ZAE 162.79 ETE 105.59 ZAC 115.15 ETC 276.66 LVI -29.30

DISTANCE 460.563

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.841 VHL 4.565 DLA -40.06 RAL 346.53 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 4.843 DPA -5.58 RAP 309.63 ECC 1.3430
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 0 37 2252.67 5.01 56.04 212.14 137.37 21 38 9 1252.7 22.69 39.20
60.00 23 48 51 1801.22 19.08 28.53 224.92 126.20 24 18 52 801.2 32.15 6.03
60.36 0 24 26 1712.08 22.29 23.38 227.34 124.18 0 52 58 712.1 34.29 359.60
60.36 0 24 26 1712.08 22.29 23.38 227.34 124.18 0 52 58 712.1 34.29 359.60
60.36 0 24 26 1712.08 22.29 23.38 227.34 124.18 0 52 58 712.1 34.29 359.60
60.36 0 24 26 1712.08 22.29 23.38 227.34 124.18 0 52 58 712.1 34.29 359.60
60.36 0 24 26 1712.08 22.29 23.38 227.34 124.18 0 52 58 712.1 34.29 359.60

DIFFERENTIAL CORRECTIONS

TDE -.8023 TRA -1.0240 TC3 -.0360 BAU .1803
RDE -.4091 RRA -.6119 RC3 .6461 FAU .10222
FDE 1.9000 FRA 5.2910 FC3 -4.2462 BSP 4059
BDE .9006 BRA 1.1929 BC3 .6471 FSP 1381

MID-COURSE EXECUTION ACCURACY

SGT 1958.1 SGR 1272.1 SG3 846.5
RRT .8761 RRF -.9802 RTF -.8779
SG8 2335.1 R23 -.3096 R13 -.9308
SG1 2274.6 SG2 528.1 THA 31.54

ORBIT DETERMINATION ACCURACY

ST 56.3 SR 29.8 SS 73.9
CRT .9973 CRS .9537 CST .9335
LSA 96.1 MSA 17.0 SSA .7
EL1 63.7 EL2 1.9 ALF 27.84

LAUNCH DATE APR 3 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.544 GAL -4.18 AZL 94.37 HCA 158.99 SMA 185.47 ECC .20639 INC 4.3658 V1 29.792
RP 207.37 LAP -1.56 LOP 351.65 VP 23.758 GAP 9.82 AZP 85.92 TAL 335.13 TAP 134.12 RCA 147.19 APO 223.75 V2 26.415
RC 80.909 GL -32.64 GP 15.42 ZAL 128.81 ZAP 136.19 ETS 162.98 ZAE 161.56 ETE 107.64 ZAC 116.33 ETC 276.64 LVI -30.24

DISTANCE 464.592

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.983 VHL 4.581 DLA -41.21 RAL 347.45 RAD 6643.3 VEL 11.874 PTH 6.89 VHP 4.743 DPA -4.58 RAP 308.98 ECC 1.3453
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 16 4 2217.25 6.78 54.55 214.37 137.21 21 53 1 1217.3 24.52 37.41
58.68 0 20 36 1734.68 22.78 25.69 228.77 125.32 0 49 31 734.7 35.19 1.98
58.68 0 20 36 1734.68 22.78 25.69 228.77 125.32 0 49 31 734.7 35.19 1.98
58.68 0 20 36 1734.68 22.78 25.69 228.77 125.32 0 49 31 734.7 35.19 1.98
58.68 0 20 36 1734.68 22.78 25.69 228.77 125.32 0 49 31 734.7 35.19 1.98
58.68 0 20 36 1734.68 22.78 25.69 228.77 125.32 0 49 31 734.7 35.19 1.98
58.68 0 20 36 1734.68 22.78 25.69 228.77 125.32 0 49 31 734.7 35.19 1.98

DIFFERENTIAL CORRECTIONS

TDE -.8060 TRA -.9655 TC3 -.0564 BAU .1949
RDE -.4309 RRA -.6762 RC3 .6926 FAU .10591
FDE 2.0184 FRA 5.4497 FC3 -4.3697 BSP 4078
BDE .9139 BRA 1.1787 BC3 .6949 FSP 1444

MID-COURSE EXECUTION ACCURACY

SGT 1896.2 SGR 1398.9 SG3 883.2
RRT .8728 RRF -.9851 RTF -.8710
SG8 2356.4 R23 -.3039 R13 -.9373
SG1 2287.4 SG2 566.1 THA 35.26

ORBIT DETERMINATION ACCURACY

ST 55.9 SR 31.8 SS 76.1
CRT .9931 CRS .9656 CST .9294
LSA 98.1 MSA 17.4 SSA .6
EL1 64.2 EL2 3.3 ALF 29.57

LAUNCH DATE APR 3 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.517 GAL -4.14 AZL 94.57 HCA 160.25 SMA 185.01 ECC .20429 INC 4.5668 V1 29.792
RP 207.48 LAP -1.54 LOP 352.91 VP 23.708 GAP 9.53 AZP 85.70 TAL 335.16 TAP 135.41 RCA 147.22 APO 222.81 V2 26.402
RC 82.860 GL -34.09 GP 16.69 ZAL 128.15 ZAP 134.27 ETS 162.69 ZAE 160.17 ETE 109.58 ZAC 117.63 ETC 276.61 LVI -31.28

DISTANCE 468.637

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.228 VHL 4.607 DLA -42.44 RAL 348.48 RAD 6643.4 VEL 11.884 PTH 6.90 VHP 4.654 DPA -3.45 RAP 308.27 ECC 1.3494
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 34 13 2177.51 8.76 52.85 217.07 136.95 22 10 31 1177.5 26.31 35.34
56.93 0 17 18 1757.83 23.26 28.08 230.43 126.56 0 46 36 757.8 36.09 4.49
56.93 0 17 18 1757.83 23.26 28.08 230.43 126.56 0 46 36 757.8 36.09 4.49
56.93 0 17 18 1757.83 23.26 28.08 230.43 126.56 0 46 36 757.8 36.09 4.49
56.93 0 17 18 1757.83 23.26 28.08 230.43 126.56 0 46 36 757.8 36.09 4.49
56.93 0 17 18 1757.83 23.26 28.08 230.43 126.56 0 46 36 757.8 36.09 4.49
56.93 0 17 18 1757.83 23.26 28.08 230.43 126.56 0 46 36 757.8 36.09 4.49

DIFFERENTIAL CORRECTIONS

TDE -.8114 TRA -.9024 TC3 -.0797 BAU .2119
RDE -.4387 RRA -.7476 RC3 .7409 FAU .10931
FDE 2.1338 FRA 5.5950 FC3 -4.4581 BSP 4119
BDE .9326 BRA 1.1719 BC3 .7451 FSP 1507

MID-COURSE EXECUTION ACCURACY

SGT 1826.5 SGR 1542.7 SG3 918.2
RRT .8668 RRF -.9889 RTF -.8723
SG8 2390.8 R23 -.2910 R13 -.9452
SG1 2312.3 SG2 607.6 THA 39.46

ORBIT DETERMINATION ACCURACY

ST 55.4 SR 34.3 SS 78.4
CRT .9868 CRS .9740 CST .9231
LSA 100.3 MSA 17.8 SSA .6
EL1 65.0 EL2 4.7 ALF 31.61

LAUNCH DATE APR 3 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.492 GAL -4.10 AZL 94.79 HCA 161.81 SMA 184.59 ECC .20234 INC 4.7935 V1 29.792
RP 207.60 LAP -1.52 LOP 354.17 VP 23.658 GAP 9.24 AZP 85.45 TAL 335.19 TAP 136.69 RCA 147.24 APO 221.94 V2 26.388
RC 84.247 GL -35.89 GP 18.10 ZAL 127.41 ZAP 132.27 ETS 162.38 ZAE 158.59 ETE 111.37 ZAC 119.09 ETC 276.58 LVI -32.43

DISTANCE 472.698

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.593 VHL 4.647 DLA -43.75 RAL 349.86 RAD 6643.5 VEL 11.899 PTH 6.91 VHP 4.576 DPA -2.20 RAP 307.47 ECC 1.3554
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 56 15 2131.13 11.06 50.85 220.39 136.58 22 31 46 1131.1 28.37 32.83
55.11 0 14 36 1781.77 23.70 30.57 232.35 127.92 0 44 18 781.8 37.02 7.15
55.11 0 14 36 1781.77 23.70 30.57 232.35 127.92 0 44 18 781.8 37.02 7.15
55.11 0 14 36 1781.77 23.70 30.57 232.35 127.92 0 44 18 781.8 37.02 7.15
55.11 0 14 36 1781.77 23.70 30.57 232.35 127.92 0 44 18 781.8 37.02 7.15
55.11 0 14 36 1781.77 23.70 30.57 232.35 127.92 0 44 18 781.8 37.02 7.15
55.11 0 14 36 1781.77 23.70 30.57 232.35 127.92 0 44 18 781.8 37.02 7.15

DIFFERENTIAL CORRECTIONS

TDE -.8107 TRA -.8266 TC3 -.0904 BAU .2314
RDE -.4848 RRA -.8238 RC3 .7964 FAU .11322
FDE 2.2894 FRA 5.7008 FC3 -4.5395 BSP 4085
BDE .9497 BRA 1.1670 BC3 .8015 FSP 1548

MID-COURSE EXECUTION ACCURACY

SGT 1731.3 SGR 1702.1 SG3 948.2
RRT .8591 RRF -.9918 RTF -.8525
SG8 2427.8 R23 -.2673 R13 -.9551
SG1 2340.8 SG2 644.3 THA 44.43

ORBIT DETERMINATION ACCURACY

ST 54.3 SR 37.1 SS 80.3
CRT .9786 CRS .9807 CST .9199
LSA 102.2 MSA 18.1 SSA .5
EL1 65.4 EL2 6.3 ALF 34.14

LAUNCH DATE APR 3 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 10 1971

Heliocentric Conic: RL 149.56 LAL -0.00 LOL 192.60 VL 32.460 GAL -4.07 AZL 95.03 HCA 162.76 SMA 184.20 ECC .20034 INC 5.0820 V1 29.792
 RP 207.73 LAP -1.50 LOP 355.42 VP 23.607 GAP 8.97 AZP 85.17 TAL 335.20 TAP 137.96 RCA 147.26 APO 221.14 V2 26.373
 RC 85.969 GL -37.34 GP 19.69 ZAL 126.60 ZAP 130.16 ETS 162.05 ZAE 156.80 ETE 112.98 ZAC 120.73 ETC 276.56 LVI -33.72

Planetocentric Conic: C3 22.105 VHL 4.702 DLA -45.15 RAL 351.00 RAD 6643.8 VEL 11.920 PTH 6.93 VHP 4.511 DPA -0.78 RAP 306.59 ECC 1.3638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 24 27 2073.36 13.90 48.31 224.68 135.97 22 59 0 1073.4 30.85 29.56
 53.21 0 12 38 1806.71 24.09 33.19 234.58 129.42 0 42 44 806.7 37.95 9.99
 53.21 0 12 38 1806.71 24.09 33.19 234.58 129.42 0 42 44 806.7 37.95 9.99
 53.21 0 12 38 1806.71 24.09 33.19 234.58 129.42 0 42 44 806.7 37.95 9.99
 53.21 0 12 38 1806.71 24.09 33.19 234.58 129.42 0 42 44 806.7 37.95 9.99
 53.21 0 12 38 1806.71 24.09 33.19 234.58 129.42 0 42 44 806.7 37.95 9.99

Differential Corrections: TDE -0.8310 TRA -0.7649 TC3 -1.1361 BAW .2523 SGT 1670.2 SGR 1690.1 SG3 977.7 ORBIT DETERMINATION ACCURACY ST 54.4 SR 40.9 SS 83.2
 RDE -0.5472 RRA -0.9150 RC3 .8425 FAU .11516 RRT .8434 RRF -0.9940 RTF -0.8355 CRT .9696 CRS .9664 CST .9164
 FDE 2.4813 FRA 5.8134 FC3 -4.5101 B8P 4310 SGB 2522.3 R23 -2.458 R13 -0.9632 LSA 105.9 HSA 18.6 SSA .5
 BDE .9950 BRA 1.1926 BC3 .8537 F8P 1618 SG1 2423.3 S62 699.9 THA 49.18 EL1 67.6 EL2 8.1 ALF 36.74

LAUNCH DATE APR 3 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 12 1971

Heliocentric Conic: RL 149.56 LAL -0.00 LOL 192.60 VL 32.446 GAL -4.04 AZL 95.35 HCA 164.02 SMA 183.83 ECC .19887 INC 5.3491 V1 29.792
 RP 207.86 LAP -1.47 LOP 356.68 VP 23.559 GAP 8.69 AZP 84.86 TAL 335.20 TAP 139.22 RCA 147.28 APO 220.39 V2 26.357
 RC 87.725 GL -39.19 GP 21.48 ZAL 125.68 ZAP 127.98 ETS 161.73 ZAE 154.79 ETE 114.41 ZAC 122.57 ETC 276.54 LVI -35.17

Planetocentric Conic: C3 22.799 VHL 4.775 DLA -46.66 RAL 352.56 RAD 6644.1 VEL 11.949 PTH 6.95 VHP 4.461 DPA .82 RAP 305.62 ECC 1.3752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 5 54 1987.97 18.05 44.42 230.82 134.80 23 39 2 988.0 34.38 24.38
 51.20 0 11 28 1833.09 24.42 35.97 237.18 131.09 0 42 2 833.1 36.87 13.07
 51.20 0 11 28 1833.09 24.42 35.97 237.18 131.09 0 42 2 833.1 36.87 13.07
 51.20 0 11 28 1833.09 24.42 35.97 237.18 131.09 0 42 2 833.1 36.87 13.07
 51.20 0 11 28 1833.09 24.42 35.97 237.18 131.09 0 42 2 833.1 36.87 13.07
 51.20 0 11 28 1833.09 24.42 35.97 237.18 131.09 0 42 2 833.1 36.87 13.07
 51.20 0 11 28 1833.09 24.42 35.97 237.18 131.09 0 42 2 833.1 36.87 13.07

Differential Corrections: TDE -0.8444 TRA -0.6871 TC3 -1.1692 BAW .2775 SGT 1579.9 SGR 2098.0 SG3 998.3 ORBIT DETERMINATION ACCURACY ST 53.8 SR 45.4 SS 85.8
 RDE -0.6127 RRA -1.0120 RC3 .8947 FAU .11735 RRT .8244 RRF -0.9957 RTF -0.8134 CRT .9595 CRS .9905 CST .9121
 FDE 2.6802 FRA 5.8623 FC3 -4.4362 B8P 4488 SGB 2626.3 R23 -2.2142 R13 -0.9724 LSA 109.3 HSA 19.0 SSA .4
 BDE 1.0433 BRA 1.2232 BC3 .9106 F8P 1659 SG1 2518.5 S62 744.8 THA 54.81 EL1 69.7 EL2 9.9 ALF 39.95

LAUNCH DATE APR 3 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 14 1971

Heliocentric Conic: RL 149.56 LAL -0.00 LOL 192.60 VL 32.426 GAL -4.02 AZL 95.69 HCA 165.27 SMA 183.50 ECC .19733 INC 5.6948 V1 29.792
 RP 208.01 LAP -1.45 LOP 357.93 VP 23.512 GAP 8.43 AZP 84.49 TAL 335.20 TAP 140.46 RCA 147.29 APO 219.71 V2 26.340
 RC 89.514 GL -41.22 GP 23.49 ZAL 124.64 ZAP 129.68 ETS 161.40 ZAE 152.53 ETE 115.66 ZAC 124.64 ETC 276.52 LVI -36.80

Planetocentric Conic: C3 23.726 VHL 4.871 DLA -48.29 RAL 354.39 RAD 6644.5 VEL 11.988 PTH 6.98 VHP 4.431 DPA 2.63 RAP 304.56 ECC 1.3905
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43
 49.08 0 11 23 1861.19 24.66 38.92 240.22 132.93 0 42 24 861.2 39.77 16.43

Differential Corrections: TDE -0.8595 TRA -0.6021 TC3 -1.1979 BAW .3072 SGT 1480.6 SGR 2332.0 SG3 1009.8 ORBIT DETERMINATION ACCURACY ST 53.0 SR 50.7 SS 88.4
 RDE -0.6995 RRA -1.1183 RC3 .9480 FAU .11904 RRT .7988 RRF -0.9969 RTF -1.1086 CRT .9492 CRS .9937 CST .9079
 FDE 2.9053 FRA 5.8517 FC3 -4.3437 B8P 4668 SGB 2782.3 R23 -1.787 R13 -0.9808 LSA 113.2 HSA 19.4 SSA .4
 BDE 1.1082 BRA 1.2701 BC3 .9684 F8P 1681 SG1 2648.6 S62 784.2 THA 60.24 EL1 72.4 EL2 11.7 ALF 43.67

LAUNCH DATE APR 3 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 16 1971

Heliocentric Conic: RL 149.56 LAL -0.00 LOL 192.60 VL 32.407 GAL -3.99 AZL 96.10 HCA 166.52 SMA 183.19 ECC .19591 INC 6.1028 V1 29.792
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.466 GAP 8.17 AZP 84.06 TAL 335.18 TAP 141.70 RCA 147.30 APO 219.08 V2 26.323
 RC 91.337 GL -43.46 GP 25.78 ZAL 123.47 ZAP 123.26 ETS 161.09 ZAE 149.98 ETE 116.71 ZAC 126.99 ETC 276.92 LVI -38.63

Planetocentric Conic: C3 24.962 VHL 4.998 DLA -50.04 RAL 356.56 RAD 6645.0 VEL 12.039 PTH 7.03 VHP 4.423 DPA 4.71 RAP 303.38 ECC 1.4108
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13
 46.83 0 12 39 1891.50 24.77 42.06 243.81 134.98 0 44 11 891.5 40.61 20.13

Differential Corrections: TDE -0.8782 TRA -0.5103 TC3 -0.2277 BAW .3407 SGT 1377.0 SGR 2597.7 SG3 1010.3 ORBIT DETERMINATION ACCURACY ST 52.2 SR 57.5 SS 91.3
 RDE -0.8196 RRA -1.2366 RC3 .9953 FAU .11930 RRT .7838 RRF -0.9978 RTF -0.7530 CRT .9393 CRS .9959 CST .9046
 FDE 3.1756 FRA 5.7760 FC3 -4.1378 B8P 4953 SGB 2940.1 R23 -1.1427 R13 -0.9876 LSA 118.3 HSA 19.7 SSA .7
 BDE 1.2013 BRA 1.3378 BC3 1.0211 F8P 1691 SG1 2824.2 S62 817.6 THA 65.80 EL1 76.5 EL2 13.5 ALF 47.96

LAUNCH DATE APR 3 1971 FLIGHT TIME 198.00 ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC DISTANCE 493.152 EARTH TO MARS
 RL 149.56 LAL -.00 LOL 192.60 VL 32.390 GAL -3.98 AZL 96.59 MCA 167.76 SMA 182.91 ECC .19462 INC 6.5912 V1 29.792
 RP 208.32 LAP -1.39 LOP .44 VP 23.421 GAP 7.91 AZP 83.56 TAL 335.16 TAP 142.92 RCA 147.31 APO 218.50 V2 26.304
 RC 93.190 GL -45.96 GP 28.38 ZAL 122.12 ZAP 120.71 ETS 160.80 ZAE 147.12 ETE 117.60 ZAC 129.66 ETC 276.54 LVI -40.71

PLANETOCENTRIC CONIC
 C3 26.622 VHL 5.160 DLA -51.93 RAL 359.20 RAD 6645.7 VEL 12.107 PTH 7.08 VHP 4.446 DPA 7.08 RAP 302.09 ECC 1.4381
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.45 0 15 43 1924.71 24.69 45.43 248.08 137.26 0 47 48 924.7 41.34 24.22
 44.45 0 15 43 1924.71 24.69 45.43 248.08 137.26 0 47 48 924.7 41.34 24.22
 44.45 0 15 43 1924.71 24.69 45.43 248.08 137.26 0 47 48 924.7 41.34 24.22
 44.45 0 15 43 1924.71 24.69 45.43 248.08 137.26 0 47 48 924.7 41.34 24.22
 44.45 0 15 43 1924.71 24.69 45.43 248.08 137.26 0 47 48 924.7 41.34 24.22
 44.45 0 15 43 1924.71 24.69 45.43 248.08 137.26 0 47 48 924.7 41.34 24.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.9000 TRA -1.4108 TC3 -.2553 BAU .3805 SGT 1271.0 SGR 2896.3 S63 995.2 ST 51.2 SR 66.0 SS 94.4
 RDE -1.9862 RRA-1.3649 RC3 1.0302 FAU .11841 RRT .7145 RRF -.9984 RTF -.7029 CRT .9303 CR8 .9975 CST .9021
 FDE 3.4877 FRA 5.6051 FC3-3.8507 BSP 5312 SGB 3162.9 R23 -.1094 R13 -.9925 LSA 124.5 MSA 19.8 SSA .3
 BDE 1.3351 BRA 1.4254 BC3 1.0691 FSP 1671 SGI 3047.9 S62 844.9 THA 71.08 EL1 82.2 EL2 15.1 ALF 52.73

LAUNCH DATE APR 3 1971 FLIGHT TIME 200.00 ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC DISTANCE 497.270 EARTH TO MARS
 RL 149.56 LAL -.00 LOL 192.60 VL 32.374 GAL -3.96 AZL 97.19 MCA 169.00 SMA 182.64 ECC .19344 INC 7.1872 V1 29.792
 RP 208.49 LAP -1.37 LOP 1.68 VP 23.377 GAP 7.66 AZP 82.94 TAL 335.12 TAP 144.13 RCA 147.31 APO 217.98 V2 26.284
 RC 95.074 GL -48.75 GP 31.35 ZAL 120.58 ZAP 118.01 ETS 160.57 ZAE 143.92 ETE 118.34 ZAC 132.70 ETC 276.59 LVI -43.05

PLANETOCENTRIC CONIC
 C3 28.867 VHL 5.375 DLA -53.95 RAL 2.45 RAD 6646.6 VEL 12.200 PTH 7.16 VHP 4.509 DPA 9.79 RAP 300.67 ECC 1.4754
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.93 0 21 13 1961.63 24.35 49.02 253.21 139.76 0 53 55 961.6 41.88 28.76
 41.93 0 21 13 1961.63 24.35 49.02 253.21 139.76 0 53 55 961.6 41.88 28.76
 41.93 0 21 13 1961.63 24.35 49.02 253.21 139.76 0 53 55 961.6 41.88 28.76
 41.93 0 21 13 1961.63 24.35 49.02 253.21 139.76 0 53 55 961.6 41.88 28.76
 41.93 0 21 13 1961.63 24.35 49.02 253.21 139.76 0 53 55 961.6 41.88 28.76
 41.93 0 21 13 1961.63 24.35 49.02 253.21 139.76 0 53 55 961.6 41.88 28.76

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.9216 TRA -1.3002 TC3 -.2772 BAU .4280 SGT 1161.8 SGR 3228.7 S63 960.0 ST 49.8 SR 76.9 SS 97.7
 RDE -1.2232 RRA-1.5010 RC3 1.0730 FAU .11600 RRT .6442 RRF -.9989 RTF -.6315 CRT .9227 CR8 .9985 CST .9004
 FDE 3.8471 FRA 5.3143 FC3-3.4766 BSP 5741 SGB 3431.4 R23 -.0804 R13 -.9958 LSA 132.5 MSA 19.7 SSA .2
 BDE 1.5315 BRA 1.5308 BC3 1.1083 FSP 1614 SGI 3320.9 S62 864.0 THA 75.98 EL1 90.2 EL2 16.4 ALF 57.97

LAUNCH DATE APR 3 1971 FLIGHT TIME 202.00 ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC DISTANCE 501.393 EARTH TO MARS
 RL 149.56 LAL -.00 LOL 192.60 VL 32.359 GAL -3.95 AZL 97.93 MCA 170.24 SMA 182.41 ECC .19237 INC 7.9317 V1 29.792
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.334 GAP 7.41 AZP 82.18 TAL 335.08 TAP 145.32 RCA 147.32 APO 217.50 V2 26.264
 RC 96.988 GL -51.89 GP 34.73 ZAL 118.78 ZAP 115.16 ETS 160.42 ZAE 140.32 ETE 118.97 ZAC 136.15 ETC 276.69 LVI -45.68

PLANETOCENTRIC CONIC
 C3 32.054 VHL 5.662 DLA -56.10 RAL 6.56 RAD 6647.8 VEL 12.328 PTH 7.26 VHP 4.628 DPA 12.91 RAP 299.10 ECC 1.5275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.30 0 30 11 2003.36 23.64 52.83 259.44 142.49 1 3 35 1003.4 42.11 33.79
 39.30 0 30 11 2003.36 23.64 52.83 259.44 142.49 1 3 35 1003.4 42.11 33.79
 39.30 0 30 11 2003.36 23.64 52.83 259.44 142.49 1 3 35 1003.4 42.11 33.79
 39.30 0 30 11 2003.36 23.64 52.83 259.44 142.49 1 3 35 1003.4 42.11 33.79
 39.30 0 30 11 2003.36 23.64 52.83 259.44 142.49 1 3 35 1003.4 42.11 33.79
 39.30 0 30 11 2003.36 23.64 52.83 259.44 142.49 1 3 35 1003.4 42.11 33.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.9406 TRA -1.1791 TC3 -.2956 BAU .4840 SGT 1060.1 SGR 3601.0 S63 901.7 ST 47.8 SR 91.4 SS 101.4
 RDE -1.5744 RRA-1.6448 RC3 1.0900 FAU .11111 RRT .9431 RRF -.9992 RTF -.5590 CRT .9167 CR8 .9992 CST .9096
 FDE 4.2633 FRA 4.8916 FC3-3.0010 BSP 6290 SGB 3753.8 R23 -.0570 R13 -.9977 LSA 143.3 MSA 19.3 SSA .2
 BDE 1.8340 BRA 1.6545 BC3 1.1294 FSP 1523 SGI 3649.7 S62 878.3 THA 80.35 EL1 101.7 EL2 17.2 ALF 63.55

LAUNCH DATE APR 3 1971 FLIGHT TIME 204.00 ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC DISTANCE 505.520 EARTH TO MARS
 RL 149.56 LAL -.00 LOL 192.60 VL 32.346 GAL -3.94 AZL 98.89 MCA 171.48 SMA 182.19 ECC .19140 INC 8.8885 V1 29.792
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.291 GAP 7.16 AZP 81.21 TAL 335.03 TAP 146.51 RCA 147.32 APO 217.06 V2 26.243
 RC 98.929 GL -55.45 GP 38.57 ZAL 116.70 ZAP 112.14 ETS 160.41 ZAE 136.30 ETE 119.55 ZAC 140.08 ETC 276.86 LVI -48.61

PLANETOCENTRIC CONIC
 C3 36.643 VHL 6.053 DLA -58.32 RAL 11.85 RAD 6648.5 VEL 12.511 PTH 7.39 VHP 4.830 DPA 16.47 RAP 297.35 ECC 1.6031
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.61 0 44 6 2051.48 22.39 56.81 267.11 145.39 1 18 17 1051.5 41.82 39.27
 36.61 0 44 6 2051.48 22.39 56.81 267.11 145.39 1 18 17 1051.5 41.82 39.27
 36.61 0 44 6 2051.48 22.39 56.81 267.11 145.39 1 18 17 1051.5 41.82 39.27
 36.61 0 44 6 2051.48 22.39 56.81 267.11 145.39 1 18 17 1051.5 41.82 39.27
 36.61 0 44 6 2051.48 22.39 56.81 267.11 145.39 1 18 17 1051.5 41.82 39.27
 36.61 0 44 6 2051.48 22.39 56.81 267.11 145.39 1 18 17 1051.5 41.82 39.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -1.9415 TRA -1.0408 TC3 -.3036 BAU .5506 SGT 966.7 SGR 4014.6 S63 816.1 ST 44.6 SR 111.0 SS 125.2
 RDE -2.1110 RRA-1.7900 RC3 1.0822 FAU .10324 RRT .9357 RRF -.9994 RTF -.3797 CRT .9100 CR8 .9995 CST .8970
 FDE 4.7197 FRA 4.3174 FC3-2.4391 BSP 6961 SGB 4129.4 R23 -.0392 R13 -.9988 LSA 158.2 MSA 18.6 SSA .2
 BDE 2.3114 BRA 1.7905 BC3 1.1240 FSP 1390 SGI 4033.7 S62 883.6 THA 84.28 EL1 116.4 EL2 17.3 ALF 69.47

LAUNCH DATE APR 3 1971 FLIGHT TIME 220.00 ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC DISTANCE 595.607 EARTH TO MARS
RL 149.56 LAL -.00 LOL 192.60 VL 32.263 GAL -4.17 AZL 81.53 HCA 186.38 SMA 180.86 ECC .18726 INC 8.4649 V1 29.792
RP 211.60 LAP -.94 LOP 18.91 VP 22.817 GAP 4.58 AZP 96.41 TAL 332.98 TAP 159.36 RCA 146.99 APO 214.73 V2 25.926
RC 124.177 GL 53.54 GP -46.54 ZAL 118.87 ZAP 92.90 ETS 182.01 ZAE 119.10 ETE 218.18 ZAC 53.89 ETC 272.17 LVI 34.87
PLANETOCENTRIC CONIC
C3 34.684 VHL 5.889 DLA 40.20 RAL 315.71 RAD 6848.8 VEL 12.433 PTH 7.34 VHP 5.274 DPA -70.13 RAP 315.63 ECC 1.5708
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 15 45 4165.42 -38.03 187.02 219.53 58.92 13.25 10 3165.4 -46.90 156.28
60.00 10 37 40 4431.19 -19.64 196.72 205.77 54.07 11 51 32 3431.2 -32.56 174.02
60.15 10 18 43 4484.47 -17.37 199.49 204.00 53.16 11 33 28 3484.5 -30.82 177.54
60.15 10 18 43 4484.47 -17.37 199.49 204.00 53.16 11 33 28 3484.5 -30.82 177.54
60.15 10 18 43 4484.47 -17.37 199.49 204.00 53.16 11 33 28 3484.5 -30.82 177.54
60.15 10 18 43 4484.47 -17.37 199.49 204.00 53.16 11 33 28 3484.5 -30.82 177.54
60.15 10 18 43 4484.47 -17.37 199.49 204.00 53.16 11 33 28 3484.5 -30.82 177.54
60.15 10 18 43 4484.47 -17.37 199.49 204.00 53.16 11 33 28 3484.5 -30.82 177.54
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.9552 TRA .8294 TC3-1.0452 BAU .8105 SGT 2499.9 SGR 5384.8 SG3 630.5 ST 96.4 SR 173.2 SS 104.1
RDE 3.3441 RRA 3.1099 RC3-1.4010 FAU .08314 RRT .9214 RRF .9994 RTF .9226 CRT .9829 CR3 -.9999 CST -.9808
FDE 4.3944 FRA 4.2277 FC3-2.0753 BSP 9944 SGB 5936.9 R23 .0623 R13 .9975 LSA 225.3 HSA 16.3 SSA .2
BDE 4.3757 BRA 3.2186 BC3 1.7479 FSP 1101 SGI 5869.6 SG2 891.1 THA 66.26 EL1 197.6 EL2 15.6 ALF 61.11

LAUNCH DATE APR 3 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC DISTANCE 559.969 EARTH TO MARS
RL 149.56 LAL -.00 LOL 192.60 VL 32.261 GAL -4.20 AZL 83.13 HCA 187.57 SMA 180.83 ECC .18735 INC 6.8700 V1 29.792
RP 211.87 LAP -.90 LOP 20.12 VP 22.779 GAP 4.37 AZP 96.81 TAL 332.79 TAP 180.36 RCA 146.95 APO 214.71 V2 25.896
RC 126.431 GL 47.06 GP -44.54 ZAL 122.97 ZAP 91.80 ETS 180.57 ZAE 120.52 ETE 214.75 ZAC 57.91 ETC 271.91 LVI 31.47
PLANETOCENTRIC CONIC
C3 27.646 VHL 5.258 DLA 34.03 RAL 318.47 RAD 6646.1 VEL 12.149 PTH 7.12 VHP 4.745 DPA -66.61 RAP 310.29 ECC 1.4550
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 18 24 3937.12 -44.63 169.16 215.93 71.43 14 22 1 2937.1 -47.10 134.37
60.00 12 57 29 3987.66 -34.64 168.90 211.14 67.97 14 3 57 2987.7 -40.21 139.29
70.00 11 43 17 4208.73 -19.27 178.43 202.99 61.24 12 53 26 3208.7 -29.41 154.32
70.23 11 22 40 4271.62 -16.97 181.97 201.63 60.05 12 33 52 3271.6 -27.79 158.78
70.23 11 22 40 4271.62 -16.97 181.97 201.63 60.05 12 33 52 3271.6 -27.79 158.78
70.23 11 22 40 4271.62 -16.97 181.97 201.63 60.05 12 33 52 3271.6 -27.79 158.78
110.00 16 42 44 3255.55 -19.27 107.35 202.99 61.24 17 36 59 2255.5 -29.41 83.43
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.7211 TRA .9844 TC3-1.3355 BAU .7539 SGT 2676.7 SGR 5064.9 SG3 811.8 ST 95.8 SR 155.5 SS 114.5
RDE 2.6522 RRA 2.9131 RC3-1.5418 FAU .09885 RRT .9334 RRF .9994 RTF .9342 CRT .9848 CR3 -.9999 CST -.9820
FDE 4.7331 FRA 5.4357 FC3-3.0854 BSP 9600 SGB 5728.7 R23 .0731 R13 .9987 LSA 215.0 HSA 15.5 SSA .2
BDE 3.1817 BRA 3.0750 BC3 2.0397 FSP 1423 SGI 5864.0 SG2 858.6 THA 63.07 EL1 182.1 EL2 14.2 ALF 58.55

LAUNCH DATE APR 3 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC DISTANCE 564.137 EARTH TO MARS
RL 149.56 LAL -.00 LOL 192.60 VL 32.260 GAL -4.23 AZL 84.29 HCA 188.77 SMA 180.81 ECC .18751 INC 5.7112 V1 29.792
RP 212.14 LAP -.87 LOP 21.32 VP 22.742 GAP 4.17 AZP 95.64 TAL 332.57 TAP 161.34 RCA 146.91 APO 214.72 V2 25.864
RC 128.706 GL 41.34 GP -40.92 ZAL 126.46 ZAP 90.43 ETS 179.22 ZAE 121.35 ETE 211.30 ZAC 61.55 ETC 271.66 LVI 28.44
PLANETOCENTRIC CONIC
C3 23.494 VHL 4.847 DLA 28.64 RAL 320.79 RAD 6644.4 VEL 11.978 PTH 6.98 VHP 4.386 DPA -63.36 RAP 306.29 ECC 1.3867
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 58 12 3767.63 -47.19 153.67 210.21 83.11 15 1 0 2767.6 -44.38 118.97
60.00 13 57 18 3770.04 -38.94 152.07 208.39 78.68 15 0 8 2770.0 -39.36 120.92
70.00 13 55 35 3775.11 -30.73 150.08 205.99 74.30 14 58 30 2775.1 -34.15 121.88
80.00 13 50 15 3791.93 -22.36 148.31 202.95 69.68 14 53 26 2791.9 -28.72 122.70
89.28 13 20 37 3887.45 -15.62 152.41 200.03 65.68 14 25 25 2887.5 -24.31 128.67
100.00 16 33 6 3266.40 -22.36 109.68 202.95 69.68 17 27 33 2266.4 -28.72 84.07
110.00 18 55 2 2821.93 -30.73 79.00 205.99 74.30 19 42 3 1821.9 -34.15 50.60
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.5759 TRA 1.1483 TC3-1.6155 BAU .7158 SGT 2882.1 SGR 4752.8 SG3 975.3 ST 96.0 SR 140.4 SS 121.5
RDE 2.1848 RRA 2.7274 RC3-1.6064 FAU .11143 RRT .9433 RRF .9993 RTF .9438 CRT .9873 CR3 -.9999 CST -.9837
FDE 4.9434 FRA 6.5330 FC3-4.1062 BSP 9414 SGB 5558.4 R23 .0850 R13 .9937 LSA 208.5 HSA 14.5 SSA .3
BDE 2.6939 BRA 2.9585 BC3 2.2782 FSP 1735 SGI 5496.5 SG2 827.3 THA 59.46 EL1 169.6 EL2 12.6 ALF 55.78

LAUNCH DATE APR 3 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC DISTANCE 568.309 EARTH TO MARS
RL 149.56 LAL -.00 LOL 192.60 VL 32.260 GAL -4.27 AZL 85.17 HCA 189.98 SMA 180.81 ECC .18774 INC 4.8296 V1 29.792
RP 212.43 LAP -.83 LOP 22.53 VP 22.704 GAP 3.98 AZP 94.76 TAL 332.34 TAP 162.31 RCA 146.86 APO 214.75 V2 25.832
RC 130.999 GL 36.33 GP -37.70 ZAL 129.40 ZAP 88.89 ETS 178.01 ZAE 121.66 ETE 211.42 LVI 25.76
PLANETOCENTRIC CONIC
C3 20.901 VHL 4.578 DLA 23.96 RAL 322.77 RAD 6643.2 VEL 11.870 PTH 6.88 VHP 4.134 DPA -60.44 RAP 303.13 ECC 1.3440
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 29 59 3634.71 -47.51 140.86 204.81 92.96 15 30 33 2634.7 -40.81 108.22
60.00 14 39 6 3610.43 -40.24 138.72 204.86 87.62 15 39 16 2610.4 -36.79 108.16
70.00 14 54 9 3566.06 -33.54 134.46 204.18 83.12 15 53 35 2566.1 -32.88 105.73
80.00 15 23 20 3474.50 -28.16 126.57 203.23 79.64 16 21 15 2474.5 -29.65 99.25
90.00 16 24 58 3275.47 -25.87 111.45 202.73 78.17 17 19 34 2275.5 -28.26 84.69
100.00 18 6 12 2948.97 -28.16 87.94 203.23 79.64 18 55 21 1949.0 -29.65 60.62
110.00 19 53 35 2612.88 -33.54 63.37 204.18 83.12 20 37 8 1612.9 -32.88 34.65
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.4698 TRA 1.2963 TC3-1.8989 BAU .7035 SGT 3093.3 SGR 4427.6 SG3 1111.9 ST 95.9 SR 126.1 SS 124.8
RDE 1.8324 RRA 2.5308 RC3-1.6531 FAU .12423 RRT .9510 RRF .9992 RTF .9513 CRT .9896 CR3 -.9999 CST -.9853
FDE 5.0118 FRA 7.4375 FC3-5.1455 BSP 8996 SGB 5401.1 R23 .0976 R13 .9944 LSA 201.2 HSA 13.5 SSA .3
BDE 2.3491 BRA 2.8434 BC3 2.5178 FSP 1956 SGI 5342.6 SG2 792.7 THA 55.53 EL1 158.0 EL2 11.0 ALF 52.82

LAUNCH DATE APR 3 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 149.56 LAL -.00 LOL 192.60 VL 32.260 GAL -4.31 AZL 85.86 HCA 191.16 SMA 180.81 ECC .18802 INC 4.1376 V1 29.792
 RP 212.72 LAP -.80 LOP 23.72 VP 22.667 GAP 3.78 AZP 94.06 TAL 332.10 TAP 163.25 RCA 146.81 APO 214.80 V2 25.799
 RC 133.312 GL 31.97 GP -34.83 ZAL 131.85 ZAP 87.22 ETS 176.95 ZAE 121.54 ETE 204.86 ZAC 67.69 ETC 271.20 LVI 23.41

PLANETOCENTRIC CONIC
 C3 19.219 VHL 4.384 DLA 19.89 RAL 324.49 RAD 6642.5 VEL 11.800 PTH 6.82 VHP 3.952 DPA -57.82 RAP 300.56 ECC 1.3163
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 55 22 3527.72 -46.63 130.68 200.54 100.75 15 54 10 2527.7 -37.21 100.51
 60.00 15 11 14 3485.47 -40.06 128.11 201.78 94.81 16 9 19 2485.5 -33.79 98.92
 70.00 15 35 38 3413.61 -34.15 122.61 202.10 90.09 16 32 32 2413.6 -30.55 95.48
 80.00 16 16 38 3285.11 -29.70 112.73 201.95 86.75 17 11 23 2285.1 -28.02 85.43
 90.00 17 25 20 3063.32 -27.94 96.30 201.81 85.47 18 16 23 2063.3 -27.01 69.35
 100.00 18 39 29 2759.58 -29.70 74.10 201.95 86.75 19 45 29 1759.6 -28.02 46.80
 110.00 20 35 5 2460.43 -34.15 51.53 202.10 90.09 21 16 5 1460.4 -30.55 23.39

DIFFERENTIAL CORRECTIONS
 TDE 1.4048 TRA 1.4535 TC3-2.1517 BAU .6946
 RDE 1.5813 RRA 2.3581 RC3-1.6364 FAU .13356
 FDE 5.0526 FRA 8.2501 FC3-6.0163 BSP 8820
 BDE 2.1152 BRA 2.7701 BC3 2.7033 FSP 2171

MID-COURSE EXECUTION ACCURACY
 SGT 3318.3 SGR 4131.8 SG3 1228.8
 RRT .9571 RRF .9990 RTF .9574
 SGB 5299.3 R23 .1097 R13 .9930
 SGI 5244.9 SG2 757.5 THA 51.50

ORBIT DETERMINATION ACCURACY
 ST 96.7 SR 114.5 SS 127.1
 CRT .9921 CR8 -.9994 CST -.9871
 LSA 196.1 MSA 12.5 SSA .4
 EL1 149.6 EL2 9.3 ALF 49.84

LAUNCH DATE APR 3 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 149.56 LAL -.00 LOL 192.60 VL 32.260 GAL -4.36 AZL 86.42 HCA 192.35 SMA 180.82 ECC .18837 INC 3.5793 V1 29.792
 RP 213.01 LAP -.76 LOP 24.92 VP 22.630 GAP 3.59 AZP 93.50 TAL 331.84 TAP 164.19 RCA 146.76 APO 214.88 V2 25.766
 RC 135.643 GL 26.16 GP -32.28 ZAL 133.90 ZAP 85.47 ETS 176.02 ZAE 121.08 ETE 202.04 ZAC 70.26 ETC 270.99 LVI 21.35

PLANETOCENTRIC CONIC
 C3 18.104 VHL 4.255 DLA 16.37 RAL 326.00 RAD 6642.0 VEL 11.753 PTH 6.78 VHP 3.819 DPA -53.47 RAP 298.39 ECC 1.2979
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 19 3440.15 -45.21 122.72 197.47 106.74 16 13 39 2440.2 -33.88 94.79
 60.00 15 37 11 3384.61 -39.15 119.70 199.45 100.45 16 33 36 2384.6 -30.84 92.00
 70.00 16 7 55 3294.16 -33.75 113.32 200.39 95.57 17 2 49 2294.2 -28.00 86.12
 80.00 16 55 46 3144.17 -29.78 102.26 200.71 92.25 17 48 11 2144.2 -25.83 75.53
 90.00 18 7 58 2911.13 -28.26 85.19 200.76 91.02 18 56 29 1911.1 -25.00 58.65
 100.00 19 38 38 2618.64 -29.78 63.63 200.71 92.25 20 22 17 1618.6 -25.83 36.90
 110.00 21 7 21 2340.98 -33.75 42.23 200.39 95.57 21 46 22 1341.0 -28.00 15.04

DIFFERENTIAL CORRECTIONS
 TDE 1.3635 TRA 1.6107 TC3-2.3827 BAU .6931
 RDE 1.3917 RRA 2.1989 RC3-1.5885 FAU .14090
 FDE 5.0607 FRA 8.8962 FC3-6.7381 BSP 8720
 BDE 1.9483 BRA 2.7257 BC3 2.8637 FSP 2353

MID-COURSE EXECUTION ACCURACY
 SGT 3548.6 SGR 3855.3 SG3 1325.1
 RRT .9618 RRF .9988 RTF .9621
 SGB 5239.9 R23 .1208 R13 .9915
 SGI 5189.9 SG2 721.8 THA 47.47

ORBIT DETERMINATION ACCURACY
 ST 97.9 SR 104.5 SS 128.3
 CRT .9944 CR8 -.9990 CST -.9889
 LSA 192.0 MSA 11.6 SSA .5
 EL1 143.0 EL2 7.5 ALF 46.88

LAUNCH DATE APR 3 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 149.56 LAL -.00 LOL 192.60 VL 32.260 GAL -4.41 AZL 86.88 HCA 193.54 SMA 180.84 ECC .18878 INC 3.1186 V1 29.792
 RP 213.31 LAP -.73 LOP 26.11 VP 22.593 GAP 3.40 AZP 93.03 TAL 331.57 TAP 165.11 RCA 146.70 APO 214.88 V2 25.732
 RC 137.991 GL 24.84 GP -30.01 ZAL 135.61 ZAP 83.68 ETS 175.23 ZAE 120.34 ETE 199.47 ZAC 72.55 ETC 270.79 LVI 19.53

PLANETOCENTRIC CONIC
 C3 17.358 VHL 4.166 DLA 13.31 RAL 327.35 RAD 6641.6 VEL 11.721 PTH 6.75 VHP 3.720 DPA -53.38 RAP 296.53 ECC 1.2857
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 0 3367.62 -43.60 116.48 195.37 111.31 16 30 8 2367.6 -30.92 90.42
 60.00 15 58 47 3301.67 -37.91 113.00 197.82 104.84 16 53 48 2301.7 -28.13 86.66
 70.00 16 34 13 3197.38 -32.86 105.91 199.17 99.86 17 27 31 2197.4 -25.53 79.68
 80.00 17 28 50 3032.53 -29.20 94.02 199.79 96.54 18 17 23 2032.5 -23.59 68.01
 90.00 18 41 17 2792.23 -27.81 76.52 199.95 95.33 19 27 50 1792.2 -22.84 50.61
 100.00 20 9 42 2507.01 -29.20 55.39 199.79 96.54 20 51 29 1507.0 -23.59 29.36
 110.00 21 33 40 2244.20 -32.86 34.82 199.17 99.86 22 11 4 1244.2 -25.53 8.60

DIFFERENTIAL CORRECTIONS
 TDE 1.3348 TRA 1.7628 TC3-2.6001 BAU .7016
 RDE 1.2384 RRA 2.0426 RC3-1.5424 FAU .14849
 FDE 5.0056 FRA 9.4036 FC3-7.4056 BSP 8566
 BDE 1.8188 BRA 2.6979 BC3 3.0232 FSP 2458

MID-COURSE EXECUTION ACCURACY
 SGT 3777.3 SGR 3587.5 SG3 1398.7
 RRT .9682 RRF .9984 RTF .568
 SGB 5209.4 R23 .1292 R13 .9901
 SGI 5165.3 SG2 676.3 THA 43.47

ORBIT DETERMINATION ACCURACY
 ST 99.1 SR 93.4 SS 127.9
 CRT .9963 CR8 -.9988 CST -.9904
 LSA 187.5 MSA 10.9 SSA .6
 EL1 137.4 EL2 3.9 ALF 43.88

LAUNCH DATE APR 3 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 149.56 LAL -.00 LOL 192.60 VL 32.263 GAL -4.46 AZL 87.27 HCA 194.72 SMA 180.86 ECC .18923 INC 2.7326 V1 29.792
 RP 213.61 LAP -.69 LOP 27.30 VP 22.586 GAP 3.21 AZP 92.64 TAL 331.29 TAP 166.02 RCA 146.64 APO 215.09 V2 25.697
 RC 140.386 GL 21.93 GP -27.98 ZAL 137.04 ZAP 81.87 ETS 174.54 ZAE 119.40 ETE 197.17 ZAC 74.60 ETC 270.51 LVI 17.92

PLANETOCENTRIC CONIC
 C3 16.868 VHL 4.107 DLA 10.65 RAL 328.58 RAD 6641.4 VEL 11.701 PTH 6.73 VHP 3.647 DPA -51.49 RAP 294.91 ECC 1.2776
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 49 12 3308.98 -41.98 111.56 194.00 114.83 16 44 19 2307.0 -28.32 86.98
 60.00 16 17 9 3232.58 -36.37 107.62 196.76 108.27 17 11 2 2232.6 -25.69 82.43
 70.00 16 56 18 3117.38 -31.77 99.93 198.39 103.24 17 48 15 2117.4 -23.26 74.58
 80.00 17 52 30 2941.32 -28.31 87.39 199.21 99.91 18 41 32 1941.3 -21.45 62.07
 90.00 19 8 38 2693.71 -27.01 69.58 199.45 98.72 19 53 32 1693.7 -20.76 44.30
 100.00 20 35 22 2415.79 -28.31 48.78 199.21 99.91 21 15 38 1415.8 -21.45 23.44
 110.00 21 55 44 2164.20 -31.77 28.84 198.39 103.24 22 31 49 1164.2 -23.26 3.50

DIFFERENTIAL CORRECTIONS
 TDE 1.3220 TRA 1.9172 TC3-2.7921 BAU .7118
 RDE 1.1154 RRA 1.9028 RC3-1.4732 FAU .15380
 FDE 4.9539 FRA 9.8245 FC3-7.8945 BSP 8551
 BDE 1.7297 BRA 2.7012 BC3 3.1569 FSP 2553

MID-COURSE EXECUTION ACCURACY
 SGT 4008.5 SGR 3344.0 SG3 1456.8
 RRT .9696 RRF .9980 RTF .9702
 SGB 5220.2 R23 .1353 R13 .9889
 SGI 5181.7 SG2 633.2 THA 39.68

ORBIT DETERMINATION ACCURACY
 ST 100.9 SR 87.7 SS 127.3
 CRT .9979 CR8 -.9979 CST -.9918
 LSA 184.4 MSA 10.2 SSA .6
 EL1 133.7 EL2 4.3 ALF 41.00

LAUNCH DATE APR 3 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.265 GAL -4.51 AZL 87.60 HCA 195.91 SMA 180.90 ECC .18975 INC 2.4037 V1 29.792
 RP 213.92 LAP -.66 LOP 28.49 VP 22.520 GAP 3.02 AZP 92.31 TAL 331.00 TAP 166.91 RCA 146.57 APO 215.22 V2 25.662
 RC 142.739 GL 19.38 GP -26.16 ZAL 138.25 ZAP 80.07 ETS 173.96 ZAE 118.31 ETE 195.13 ZAC 76.44 ETC 270.44 LVI 15.50

DISTANCE 599.184

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.555 VHL 4.069 DLA 8.32 RAL 329.67 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.594 DPA -49.80 RAP 293.49 ECC 1.2725
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 2 26 3259.92 -40.45 107.63 193.17 117.56 16 56 42 2255.9 -26.05 84.23
 60.00 16 33 2 3174.48 -35.24 103.27 196.14 110.97 17 25 57 2174.5 -23.54 79.02
 70.00 17 15 13 3050.37 -30.62 95.04 197.97 105.92 18 6 4 2050.4 -21.22 70.45
 80.00 18 14 17 2865.36 -27.30 81.97 198.94 102.59 19 2 3 1865.4 -19.50 57.28
 90.00 19 31 40 2615.62 -26.06 63.91 199.24 101.40 20 15 16 1615.6 -18.85 39.21
 100.00 20 57 9 2339.83 -27.30 43.34 198.94 102.59 21 36 9 1339.8 -19.50 18.65
 110.00 22 14 40 2097.19 -30.62 23.96 197.97 105.92 22 49 37 1097.2 -21.22 359.37

DIFFERENTIAL CORRECTIONS

TDE 1.3230 TRA 2.0760 TC3-2.9588 BAU .7208
 RDE 1.0333 RRA 1.7887 RC3-1.3610 FAU .15409
 FDE 4.9717 FRA10.2349 FC3-8.0579 BSP 8744
 BDE 1.6787 BRA 2.7403 BC3 3.2568 FSP 2707

MID-COURSE EXECUTION ACCURACY

SGT 4242.3 SGR 3134.4 SG3 1506.9
 RRT .9700 RRF .9975 RTF .9713
 SGB 5274.6 R23 .1434 R13 .9873
 SG1 5238.4 SG2 616.6 THA 36.21

ORBIT DETERMINATION ACCURACY

ST 103.2 SR 82.2 SS 128.2
 CRT .9991 CRS -.9972 CST -.9935
 LSA 183.7 MSA 9.4 SSA .8
 EL1 131.9 EL2 2.7 ALF 38.52

LAUNCH DATE APR 3 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.268 GAL -4.57 AZL 87.88 HCA 197.09 SMA 180.94 ECC .19032 INC 2.1203 V1 29.792
 RP 214.24 LAP -.62 LOP 29.67 VP 22.483 GAP 2.83 AZP 92.03 TAL 330.70 TAP 167.79 RCA 146.50 APO 215.38 V2 25.627
 RC 145.138 GL 17.10 GP -24.52 ZAL 139.29 ZAP 78.27 ETS 175.46 ZAE 117.09 ETE 193.31 ZAC 78.09 ETC 270.29 LVI 15.23

DISTANCE 593.355

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.375 VHL 4.047 DLA 6.29 RAL 330.69 RAD 6641.2 VEL 11.680 PTH 6.72 VHP 3.556 DPA -48.27 RAP 292.23 ECC 1.2695
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 5 3212.64 -39.04 104.44 192.73 119.71 17 7 38 2212.6 -24.08 81.99
 60.00 16 46 57 3125.22 -33.98 99.70 195.85 113.12 17 39 2 2125.2 -21.65 76.23
 70.00 17 31 40 2993.65 -29.49 91.01 197.83 108.06 18 21 34 1993.6 -19.40 67.05
 80.00 18 33 6 2801.26 -26.27 77.49 198.91 104.73 19 19 47 1801.3 -17.74 53.33
 90.00 19 51 32 2548.15 -25.06 59.22 199.24 103.55 20 34 0 1548.1 -17.11 35.02
 100.00 21 15 58 2275.73 -26.27 38.86 198.91 104.73 21 53 54 1275.7 -17.74 14.70
 110.00 22 31 7 2040.47 -29.49 19.93 197.83 108.06 23 5 7 1040.5 -19.40 355.97

DIFFERENTIAL CORRECTIONS

TDE 1.3318 TRA 2.2335 TC3-3.1083 BAU .7347
 RDE .9611 RRA 1.6770 RC3-1.2654 FAU .15492
 FDE 4.9502 FRA10.5342 FC3-8.1909 BSP 8914
 BDE 1.6424 BRA 2.7930 BC3 3.3561 FSP 2800

MID-COURSE EXECUTION ACCURACY

SGT 4472.9 SGR 2933.8 SG3 1541.3
 RRT .9711 RRF .9969 RTF .9730
 SGB 5349.2 R23 .1477 R13 .9861
 SG1 5316.6 SG2 589.6 THA 32.95

ORBIT DETERMINATION ACCURACY

ST 105.7 SR 76.9 SS 128.0
 CRT .9997 CRS -.9963 CST -.9947
 LSA 182.8 MSA 8.9 SSA .9
 EL1 130.8 EL2 1.4 ALF 36.03

LAUNCH DATE APR 3 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.271 GAL -4.63 AZL 88.13 HCA 198.26 SMA 180.99 ECC .19093 INC 1.8724 V1 29.792
 RP 214.55 LAP -.59 LOP 30.85 VP 22.448 GAP 2.65 AZP 91.78 TAL 330.39 TAP 168.65 RCA 146.43 APO 215.54 V2 25.591
 RC 147.555 GL 19.10 GP -23.04 ZAL 140.19 ZAP 76.50 ETS 173.03 ZAE 115.79 ETE 191.70 ZAC 79.59 ETC 270.14 LVI 14.09

DISTANCE 597.528

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.292 VHL 4.036 DLA 4.50 RAL 331.63 RAD 6641.1 VEL 11.676 PTH 6.71 VHP 3.531 DPA -46.88 RAP 291.10 ECC 1.2681
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 24 27 3175.78 -37.76 101.84 192.57 121.43 17 17 23 2175.8 -22.38 80.14
 60.00 16 59 13 3085.22 -32.82 96.74 195.80 114.84 17 50 38 2083.2 -20.00 73.91
 70.00 17 46 9 2945.26 -28.43 87.65 197.90 109.78 18 35 14 1945.3 -17.80 64.22
 80.00 18 49 34 2746.63 -25.27 73.74 199.06 106.46 19 35 21 1746.6 -16.17 50.04
 90.00 20 8 53 2490.69 -24.09 55.30 199.42 105.28 20 50 23 1490.7 -15.56 31.52
 100.00 21 32 26 2221.10 -25.27 35.11 199.06 106.46 22 9 27 1221.1 -16.17 11.40
 110.00 22 45 35 1992.08 -28.43 16.57 197.90 109.78 23 18 47 992.1 -17.80 353.14

DIFFERENTIAL CORRECTIONS

TDE 1.3390 TRA 2.3822 TC3-3.2594 BAU .7563
 RDE .8914 RRA 1.5631 RC3-1.1978 FAU .15801
 FDE 4.8366 FRA10.6980 FC3-8.3962 BSP 8968
 BDE 1.6085 BRA 2.8492 BC3 3.4723 FSP 2800

MID-COURSE EXECUTION ACCURACY

SGT 4694.9 SGR 2736.7 SG3 1558.6
 RRT .9728 RRF .9960 RTF .5553
 SGB 5434.2 R23 .1469 R13 .9855
 SG1 5406.2 SG2 580.8 THA 29.90

ORBIT DETERMINATION ACCURACY

ST 107.9 SR 71.5 SS 126.2
 CRT .9998 CRS -.9950 CST -.9955
 LSA 180.6 MSA 8.7 SSA 1.0
 EL1 123.4 EL2 1.0 ALF 33.55

LAUNCH DATE APR 3 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.273 GAL -4.89 AZL 88.34 HCA 199.44 SMA 181.04 ECC .19159 INC 1.6549 V1 29.792
 RP 214.88 LAP -.35 LOP 32.03 VP 22.410 GAP 2.46 AZP 91.36 TAL 330.07 TAP 169.51 RCA 146.36 APO 215.73 V2 25.554
 RC 149.988 GL 13.31 GP -21.69 ZAL 140.97 ZAP 74.76 ETS 172.66 ZAE 114.43 ETE 190.28 ZAC 80.95 ETC 270.01 LVI 13.06

DISTANCE 601.696

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.287 VHL 4.036 DLA 2.93 RAL 332.51 RAD 6641.1 VEL 11.676 PTH 6.71 VHP 3.516 DPA -45.61 RAP 290.09 ECC 1.2680
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 44 3144.31 -36.82 99.69 192.62 122.80 17 26 9 2144.3 -20.91 78.60
 60.00 17 10 13 3047.26 -31.76 94.28 195.94 116.24 18 1 0 2047.3 -18.55 71.96
 70.00 17 59 0 2903.78 -27.44 84.83 198.13 111.18 18 47 24 1903.8 -16.38 61.83
 80.00 19 4 9 2699.77 -24.32 70.58 199.35 107.87 19 49 9 1699.8 -14.78 47.25
 90.00 20 24 13 2441.41 -23.16 51.98 199.75 106.69 21 4 54 1441.4 -14.18 28.56
 100.00 21 47 1 2174.24 -24.32 31.95 199.35 107.87 22 23 15 1174.2 -14.78 8.62
 110.00 22 58 27 1950.59 -27.44 13.75 198.13 111.18 23 30 57 950.6 -16.38 350.75

DIFFERENTIAL CORRECTIONS

TDE 1.3578 TRA 2.5387 TC3-3.3837 BAU .7757
 RDE .8397 RRA 1.4646 RC3-1.1145 FAU .15819
 FDE 4.8058 FRA10.8492 FC3-8.4084 BSP 9167
 BDE 1.5964 BRA 2.9292 BC3 3.5625 FSP 2831

MID-COURSE EXECUTION ACCURACY

SGT 4917.2 SGR 2562.2 SG3 1570.7
 RRT .9733 RRF .9951 RTF .9767
 SGB 5544.7 R23 .1460 R13 .9849
 SG1 5519.9 SG2 523.9 THA 27.16

ORBIT DETERMINATION ACCURACY

ST 110.6 SR 67.3 SS 125.2
 CRT .9994 CRS -.9936 CST -.9964
 LSA 179.9 MSA 8.5 SSA 1.1
 EL1 129.5 EL2 1.9 ALF 31.32

LAUNCH DATE APR 3 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic

RL 149.56 LAL -.00 LOL 192.60 VL 32.270 GAL -4.75 AZL 88.54 HCA 200.61 SMA 181.10 ECC .19231 INC 1.4619 V1 29.792
RP 215.21 LAP -.51 LOP 33.20 VP 22.373 GAP 2.26 AZP 91.37 TAL 329.74 TAP 170.33 RCA 146.28 APO 215.93 V2 25.518
RC 152.438 GL 11.71 GP -20.46 ZAL 141.67 ZAP 73.06 ETS 172.35 ZAE 113.03 ETE 189.02 ZAC 82.18 ETC 269.88 LVI 12.12

Planetocentric Conic

C3 16.343 VHL 4.043 DLA 1.53 RAL 333.34 RAD 6641.2 VEL 11.676 PTH 6.71 VHP 3.508 DPA -44.46 RAP 289.20 ECC 1.2690
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 8 3117.36 -35.61 97.91 192.82 123.92 17 34 5 2117.4 -19.63 77.30
60.00 17 20 5 3016.38 -30.81 92.21 196.22 117.38 18 10 22 2016.4 -17.30 70.32
70.00 18 10 31 2888.06 -26.54 82.45 198.48 112.34 18 58 19 1868.1 -15.14 59.81
80.00 19 17 10 2659.36 -23.45 67.90 199.76 109.03 20 1 29 1659.4 -13.55 44.88
90.00 20 37 53 2398.89 -22.31 49.16 200.18 107.85 21 17 52 1398.9 -12.95 26.04
100.00 22 0 2 2133.83 -23.45 29.26 199.76 109.03 22 35 36 1133.8 -13.55 6.25
110.00 23 9 57 1914.87 -26.54 11.36 198.48 112.34 23 41 52 914.9 -15.14 348.73

Differential Corrections

TDE 1.3812 TRA 2.6914 TC3-3.4947 BAU .7963
RDE .7964 RRA 1.3733 RC3-1.0345 FAU .15763
FDE 4.7527 FRA10.9511 FC3-8.3501 BSP 9399
BDE 1.5944 BRA 3.0215 BC3 3.6446 FSP 2849

Mid-course Execution Accuracy

SGT 5135.8 SGR 2401.0 SG3 1574.3
RRT .9734 RRF .9939 RTF .9778
SG8 5669.3 R23 .1435 R13 .9845
SG1 5647.1 SG2 500.6 THA 24.67

Orbit Determination Accuracy

ST 113.5 SR 63.6 SS 124.2
CRT .9985 CRS -.9919 CST -.9970
LSA 179.6 MSA 8.4 SSA 1.2
EL1 130.0 EL2 3.0 ALF 29.24

LAUNCH DATE APR 3 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 13 1971

Heliocentric Conic

RL 149.56 LAL -.00 LOL 192.60 VL 32.283 GAL -4.92 AZL 88.71 HCA 201.77 SMA 181.17 ECC .19306 INC 1.2887 V1 29.792
RP 215.54 LAP -.48 LOP 34.37 VP 22.337 GAP 2.10 AZP 91.20 TAL 329.40 TAP 171.18 RCA 146.19 APO 216.15 V2 25.480
RC 154.904 GL 10.28 GP -19.34 ZAL 142.30 ZAP 71.39 ETS 172.08 ZAE 111.61 ETE 187.91 ZAC 83.31 ETC 269.77 LVI 11.27

Planetocentric Conic

C3 16.449 VHL 4.056 DLA .30 RAL 334.12 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 3.508 DPA -43.40 RAP 288.40 ECC 1.2707
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 45 3094.26 -34.72 96.42 193.15 124.84 17 41 19 2094.3 -18.53 76.21
60.00 17 29 1 2989.80 -29.97 90.47 196.60 118.31 18 18 51 1989.8 -16.20 68.93
70.00 18 20 54 2837.21 -25.72 80.42 198.93 113.28 19 8 11 1817.2 -14.05 58.08
80.00 19 28 52 2624.38 -22.66 65.60 200.26 109.98 20 12 36 1624.4 -12.47 42.85
90.00 20 50 10 2362.06 -21.52 46.75 200.69 108.81 21 29 32 1362.1 -11.87 23.88
100.00 22 11 44 2098.85 -22.66 26.97 200.26 109.98 22 46 43 1098.9 -12.47 4.22
110.00 23 20 20 1884.03 -25.72 9.34 198.93 113.28 23 51 44 884.0 -14.05 347.00

Differential Corrections

TDE 1.4064 TRA 2.8433 TC3-3.5994 BAU .8193
RDE .7594 RRA 1.2878 RC3 -.9609 FAU .15681
FDE 4.6934 FRA11.0043 FC3-8.2532 BSP 9619
BDE 1.5983 BRA 3.1213 BC3 3.7255 FSP 2846

Mid-course Execution Accuracy

SGT 5348.5 SGR 2251.3 SG3 1570.6
RRT .9729 RRF .9924 RTF .9788
SG8 5803.0 R23 .1399 R13 .9842
SG1 5783.0 SG2 481.3 THA 22.43

Orbit Determination Accuracy

ST 116.3 SR 60.2 SS 122.9
CRT .9971 CRS -.9899 CST -.9976
LSA 179.4 MSA 8.5 SSA 1.2
EL1 130.9 EL2 4.1 ALF 27.33

LAUNCH DATE APR 3 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 15 1971

Heliocentric Conic

RL 149.56 LAL -.00 LOL 192.60 VL 32.287 GAL -4.89 AZL 88.87 HCA 202.94 SMA 181.24 ECC .19387 INC 1.1331 V1 29.792
RP 215.87 LAP -.44 LOP 35.53 VP 22.300 GAP 1.91 AZP 91.04 TAL 329.05 TAP 171.99 RCA 146.11 APO 216.38 V2 25.443
RC 157.385 GL 8.98 GP -18.32 ZAL 142.87 ZAP 69.77 ETS 171.86 ZAE 110.18 ETE 186.92 ZAC 84.34 ETC 269.67 LVI 10.49

Planetocentric Conic

C3 16.597 VHL 4.074 DLA -.80 RAL 334.88 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.513 DPA -42.43 RAP 287.69 ECC 1.2731
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 56 42 3074.46 -33.95 95.17 193.96 125.59 17 47 57 2074.5 -17.58 75.29
60.00 17 37 8 2968.93 -29.22 88.99 197.07 119.09 18 26 55 1966.9 -15.25 67.74
70.00 18 30 19 2810.94 -24.99 78.89 199.44 114.07 19 17 9 1810.5 -13.10 56.61
80.00 19 39 27 2594.04 -21.94 63.84 200.82 110.78 20 22 41 1594.0 -11.51 41.11
90.00 21 1 15 2330.08 -20.80 44.68 201.27 109.60 21 40 6 1330.1 -10.91 22.82
100.00 22 22 19 2068.52 -21.94 25.00 200.82 110.78 22 56 48 1068.5 -11.51 2.48
110.00 23 29 45 1857.36 -24.99 7.81 199.44 114.07 24 0 42 857.4 -13.10 345.52

Differential Corrections

TDE 1.4383 TRA 2.9963 TC3-3.6908 BAU .8424
RDE .7286 RRA 1.2088 RC3 -.8903 FAU .15528
FDE 4.6376 FRA11.0250 FC3-8.0997 BSP 9870
BDE 1.6106 BRA 3.2309 BC3 3.7967 FSP 2838

Mid-course Execution Accuracy

SGT 5597.4 SGR 2113.5 SG3 1561.3
RRT .9720 RRF .9906 RTF .5.99
SG8 5945.7 R23 .1353 R13 .9839
SG1 5927.5 SG2 485.6 THA 20.42

Orbit Determination Accuracy

ST 119.2 SR 57.2 SS 121.6
CRT .9951 CRS -.9876 CST -.9981
LSA 179.5 MSA 8.6 SSA 1.3
EL1 132.2 EL2 5.1 ALF 25.57

LAUNCH DATE APR 3 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 17 1971

Heliocentric Conic

RL 149.56 LAL -.00 LOL 192.60 VL 32.292 GAL -4.96 AZL 89.01 HCA 204.10 SMA 181.32 ECC .19471 INC .9922 V1 29.792
RP 216.21 LAP -.41 LOP 36.69 VP 22.264 GAP 1.73 AZP 90.91 TAL 328.70 TAP 172.80 RCA 146.02 APO 216.63 V2 25.405
RC 159.881 GL 7.82 GP -17.38 ZAL 143.39 ZAP 68.20 ETS 171.87 ZAE 108.74 ETE 186.05 ZAC 85.28 ETC 269.58 LVI 9.77

Planetocentric Conic

C3 16.780 VHL 4.096 DLA -1.78 RAL 335.57 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 3.524 DPA -41.53 RAP 287.07 ECC 1.2762
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 5 3057.53 -33.27 94.12 194.04 126.21 17 54 3 2057.5 -16.76 74.51
60.00 17 44 33 2947.24 -28.56 87.74 197.60 119.74 18 33 40 1947.2 -14.43 66.73
70.00 18 38 53 2787.47 -24.34 77.21 200.02 114.73 19 25 20 1787.5 -12.27 55.34
80.00 19 49 4 2567.70 -21.29 61.95 201.43 111.44 20 31 52 1567.7 -10.67 39.60
90.00 21 11 20 2302.27 -20.15 42.90 201.89 110.27 21 49 42 1302.3 -10.07 20.41
100.00 22 31 56 2042.17 -21.29 23.32 201.43 111.44 23 5 58 1042.2 -10.67 .97
110.00 23 38 19 1834.29 -24.34 6.13 200.02 114.73 24 8 54 834.3 -12.27 344.25

Differential Corrections

TDE 1.4696 TRA 3.1497 TC3-3.7716 BAU .8661
RDE .7026 RRA 1.1354 RC3 -.8241 FAU .15327
FDE 4.5820 FRA11.0175 FC3-7.9077 BSP 10137
BDE 1.6289 BRA 3.3481 BC3 3.8606 FSP 2817

Mid-course Execution Accuracy

SGT 5761.9 SGR 1986.5 SG3 1547.4
RRT .9706 RRF .9885 RTF .9802
SG8 6094.8 R23 .1299 R13 .9837
SG1 6077.9 SG2 453.4 THA 18.61

Orbit Determination Accuracy

ST 122.3 SR 54.6 SS 120.4
CRT .9926 CRS -.9850 CST -.9985
LSA 179.8 MSA 8.9 SSA 1.3
EL1 133.8 EL2 6.1 ALF 23.96

LAUNCH DATE APR 3 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 622.494

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.297 GAL -5.03 AZL 89.14 HCA 205.26 SMA 181.40 ECC .19560 INC .8637 V1 29.792
RP 216.56 LAP -.37 LOP 37.85 VP 22.228 GAP 1.55 AZP 90.78 TAL 328.34 TAP 173.59 RCA 145.92 APO 216.89 V2 25.366
RC 162.390 GL 6.76 GP -16.51 ZAL 143.88 ZAP 66.67 ETS 171.51 ZAE 107.31 ETE 185.27 ZAC 86.16 ETC 269.50 LVI 9.11

PLANETOCENTRIC CONIC

C3 16.995 VHL 4.122 DLA -2.65 RAL 336.25 RAD 6641.5 VEL 11.706 PTH 6.74 VHP 3.539 DPA -40.70 RAP 286.53 ECC 1.2797
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 59 3043.08 -32.69 93.24 194.57 126.72 17 59 42 2043.1 -16.07 73.85
60.00 17 51 22 2930.33 -27.99 86.68 198.17 120.27 18 40 12 1930.3 -13.72 65.87
70.00 18 46 44 2767.54 -23.77 75.95 200.64 115.28 19 32 51 1767.5 -11.55 54.25
80.00 19 57 51 2544.83 -20.72 60.49 202.08 111.99 20 40 16 1544.8 -9.94 38.30
90.00 21 20 32 2278.08 -19.58 41.36 202.56 110.82 21 58 30 1278.1 -9.33 19.02
100.00 22 40 43 2019.30 -20.72 21.86 202.08 111.99 23 14 22 1019.3 -9.94 359.67
110.00 23 46 10 1814.36 -23.77 4.87 200.64 115.28 24 16 24 814.4 -11.55 343.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5054 TRA 3.3025 TC3-3.8442 BAU .8904 SGT 5961.2 SGR 1869.3 SG3 1529.3 ST 125.4 SR 52.3 SS 119.1
RDE .6808 RRA 1.0670 RC3 -.7624 FAU .15069 RRT .9686 RRF .9860 RTF .9806 CRT .9897 CRS -.9821 CST -.9988
FDE 4.5279 FRA10.9837 FC3-7.6864 BSP 10410 SGB 6247.4 R23 .1242 R13 .9836 LSA 180.4 MSA 9.2 SBA 1.3
BDE 1.6522 BRA 3.4706 BC3 3.9190 FSP 2793 SG1 6231.5 SG2 444.6 THA 16.98 EL1 135.7 EL2 6.9 ALF 22.49

LAUNCH DATE APR 3 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

DISTANCE 626.643

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.303 GAL -5.11 AZL 89.25 HCA 206.41 SMA 181.49 ECC .19654 INC .7466 V1 29.792
RP 216.91 LAP -.33 LOP 39.00 VP 22.192 GAP 1.37 AZP 90.67 TAL 327.97 TAP 174.37 RCA 145.92 APO 217.16 V2 25.327
RC 164.912 GL 9.79 GP -15.71 ZAL 144.34 ZAP 65.18 ETS 171.38 ZAE 105.89 ETE 184.58 ZAC 86.96 ETC 269.43 LVI 8.48

PLANETOCENTRIC CONIC

C3 17.237 VHL 4.152 DLA -3.43 RAL 336.90 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 3.558 DPA -39.93 RAP 286.06 ECC 1.2837
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 25 3030.82 -32.18 92.50 195.14 127.15 18 4 56 2030.8 -15.47 73.29
60.00 17 57 38 2915.86 -27.49 85.78 198.79 120.72 18 46 14 1915.9 -13.11 65.13
70.00 18 53 56 2750.34 -23.27 74.87 201.29 115.74 19 39 46 1750.3 -10.92 53.31
80.00 20 5 54 2525.00 -20.21 59.24 202.76 112.46 20 47 59 1525.0 -9.29 37.18
90.00 21 28 56 2257.06 -19.06 40.03 203.25 111.29 22 6 33 1257.1 -8.68 17.81
100.00 22 48 46 1999.47 -20.21 20.61 202.76 112.46 23 22 5 999.5 -9.29 358.55
110.00 23 53 22 1797.16 -23.27 3.79 201.29 115.74 24 23 19 797.2 -10.92 342.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5442 TRA 3.4565 TC3-3.9068 BAU .9148 SGT 6156.3 SGR 1761.0 SG3 1507.8 ST 128.5 SR 50.2 SS 117.7
RDE .6621 RRA 1.0031 RC3 -.7052 FAU .14822 RRT .9661 RRF .9830 RTF .9810 CRT .9862 CRS -.9788 CST -.9991
FDE 4.4719 FRA10.9280 FC3-7.4445 BSP 10697 SGB 6403.2 R23 .1178 R13 .9835 LSA 181.1 MSA 9.5 SBA 1.3
BDE 1.6601 BRA 3.5991 BC3 3.9699 FSP 2761 SG1 6388.2 SG2 438.0 THA 15.52 EL1 137.8 EL2 7.7 ALF 21.14

LAUNCH DATE APR 3 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

DISTANCE 630.787

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.308 GAL -5.18 AZL 89.36 HCA 207.56 SMA 181.58 ECC .19751 INC .6383 V1 25.792
RP 217.26 LAP -.30 LOP 40.15 VP 22.155 GAP 1.19 AZP 90.57 TAL 327.59 TAP 175.14 RCA 145.72 APO 217.45 V2 25.288
RC 167.446 GL 4.92 GP -14.97 ZAL 144.78 ZAP 63.75 ETS 171.28 ZAE 104.48 ETE 183.96 ZAC 87.70 ETC 269.38 LVI 7.90

PLANETOCENTRIC CONIC

C3 17.504 VHL 4.184 DLA -4.13 RAL 337.52 RAD 6641.7 VEL 11.728 PTH 6.76 VHP 3.580 DPA -39.22 RAP 285.65 ECC 1.2861
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 28 3020.48 -31.76 91.88 195.75 127.50 18 9 49 2020.5 -14.97 72.82
60.00 18 3 26 2903.54 -27.05 85.02 199.43 121.09 18 51 50 1903.5 -12.58 64.51
70.00 19 0 34 2735.56 -22.83 73.95 201.97 116.12 19 46 9 1735.6 -10.37 52.51
80.00 20 13 18 2507.85 -19.76 58.17 203.47 112.85 20 55 6 1507.8 -8.74 36.22
90.00 21 36 40 2238.84 -18.61 38.89 203.97 111.69 22 13 59 1238.8 -8.12 16.77
100.00 22 56 10 1982.32 -19.76 19.54 203.47 112.85 23 29 12 982.3 -8.74 357.58
110.00 0 3 56 1782.39 -22.83 2.87 201.97 116.12 0 33 38 782.4 -10.37 341.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5846 TRA 3.6098 TC3-3.9634 BAU .9400 SGT 6346.1 SGR 1661.2 SG3 1483.7 ST 131.6 SR 48.4 SS 116.4
RDE .6466 RRA .9433 RC3 -.6523 FAU .14531 RRT .9829 RRF .9795 RTF .5.13 CRT .9923 CRS -.9752 CST -.9993
FDE 4.4183 FRA10.8549 FC3-7.1867 BSP 10978 SGB 6559.9 R23 .1118 R13 .9833 LSA 182.0 MSA 9.9 SBA 1.4
BDE 1.7115 BRA 3.7310 BC3 4.0168 FSP 2724 SG1 6545.5 SG2 434.6 THA 14.21 EL1 140.0 EL2 6.5 ALF 19.92

LAUNCH DATE APR 3 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

DISTANCE 634.927

EARTH TO MARS

RL 149.56 LAL -.00 LOL 192.60 VL 32.314 GAL -5.27 AZL 89.46 HCA 208.70 SMA 181.68 ECC .19852 INC .5385 V1 29.792
RP 217.61 LAP -.26 LOP 41.30 VP 22.119 GAP 1.01 AZP 90.47 TAL 327.20 TAP 175.91 RCA 145.81 APO 217.75 V2 25.249
RC 169.992 GL 4.11 GP -14.28 ZAL 145.19 ZAP 62.35 ETS 171.19 ZAE 103.10 ETE 183.41 ZAC 88.39 ETC 269.33 LVI 7.35

PLANETOCENTRIC CONIC

C3 17.794 VHL 4.218 DLA -4.75 RAL 338.13 RAD 6641.8 VEL 11.740 PTH 6.77 VHP 3.604 DPA -38.95 RAP 285.31 ECC 1.2928
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 24 11 3011.85 -31.40 91.37 196.38 127.78 18 14 22 2011.8 -14.55 72.44
60.00 18 8 49 2893.12 -26.69 84.39 200.10 121.40 18 57 2 1893.1 -12.14 63.99
70.00 19 6 41 2722.95 -22.45 73.17 202.67 116.44 19 52 4 1723.0 -9.91 51.83
80.00 20 20 7 2493.08 -19.36 57.25 204.20 113.18 21 1 40 1493.1 -8.25 35.39
90.00 21 43 47 2223.10 -18.21 37.91 204.71 112.02 22 20 50 1223.1 -7.63 15.88
100.00 23 2 58 1967.55 -19.36 18.62 204.20 113.18 23 35 46 967.6 -8.25 356.75
110.00 0 10 3 1769.77 -22.45 2.09 202.67 116.44 0 39 33 769.8 -9.91 340.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6275 TRA 3.7637 TC3-4.0125 BAU .9653 SGT 6531.4 SGR 1569.2 SG3 1457.4 ST 134.8 SR 46.7 SS 115.0
RDE .6336 RRA .8873 RC3 -.6037 FAU .14224 RRT .9591 RRF .9754 RTF .9815 CRT .9780 CRS -.9714 CST -.9994
FDE 4.3636 FRA10.7661 FC3-6.9201 BSP 11266 SGB 6717.3 R23 .1057 R13 .9832 LSA 182.9 MSA 10.3 SBA 1.4
BDE 1.7464 BRA 3.6669 BC3 4.0577 FSP 2684 SG1 6703.3 SG2 432.9 THA 13.03 EL1 142.3 EL2 9.2 ALF 18.80

LAUNCH DATE APR 3 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.321 GAL -5.35 AZL 89.55 HCA 209.85 SMA 181.78 ECC .19958 INC .4464 V1 29.792
 RP 217.97 LAP -.22 LOP 42.44 VP 22.083 GAP .83 AZP 90.39 TAL 326.81 TAP 176.65 RCA 145.50 PO 218.06 V2 25.209
 RC 172.547 GL 3.38 GP -13.65 ZAL 145.60 ZAP 61.01 ETS 171.12 ZAE 101.73 ETE 182.92 ZAC 89.0 ETC 269.29 LVI 6.83

DISTANCE 639.082

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.106 VHL 4.255 DLA -5.31 RAL 339.71 RAD 6642.0 VEL 11.753 PTH 6.78 VHP 3.632 DPA -37.93 RAP 285.03 ECC 1.2900
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 34 3004.73 -31.10 90.95 197.04 128.01 18 18 39 2004.7 -14.20 72.12
 60.00 18 13 49 2884.41 -26.38 83.86 200.78 121.65 19 1 53 1884.4 -11.77 63.55
 70.00 19 12 22 2712.25 -22.12 72.51 203.39 116.71 19 57 34 1712.3 -9.51 51.26
 80.00 20 26 24 2480.44 -19.02 56.46 204.94 113.46 21 7 45 1480.4 -7.84 34.68
 90.00 21 50 21 2209.58 -17.86 37.07 205.46 112.30 22 27 11 1209.6 -7.20 15.11
 100.00 23 9 16 1954.91 -19.02 17.83 204.94 113.46 23 41 51 954.9 -7.84 356.05
 110.00 0 15 44 1759.07 -22.12 1.43 203.39 116.71 0 45 3 759.1 -9.51 340.17

DIFFERENTIAL CORRECTIONS

TDE 1.6730 TRA 3.9184 TC3-4.0540 BAU .9906
 RDE .6230 RRA .8348 RC3 -.5584 FAU .13890
 FDE 4.3123 FRA10.6657 FC3-6.6416 BSP 11554
 BDE 1.7852 BRA 4.0063 BC3 4.0922 FSP 2640

MID-COURSE EXECUTION ACCURACY

SGT 6712.4 SGR 1484.5 SG3 1429.4
 RRT .9545 RRF .9706 RTF .9816
 SGB 6874.6 R23 .0998 R13 .9831
 SGI 6860.9 SG2 433.3 THA 11.97

ORBIT DETERMINATION ACCURACY

ST 138.0 SR 45.2 SS 113.6
 CRT .9733 CRS -.9672 CST -.9998
 LSA 184.1 MSA 10.7 SSA 1.3
 EL1 144.8 EL2 9.9 ALF 17.79

LAUNCH DATE APR 3 1971

FLIGHT TIME 270.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.327 GAL -5.43 AZL 89.64 HCA 210.98 SMA 181.89 ECC .20067 INC .3601 V1 29.792
 RP 218.33 LAP -.19 LOP 43.58 VP 22.047 GAP .65 AZP 90.31 TAL 326.41 TAP 177.39 RCA 145.59 APO 218.39 V2 25.189
 RC 175.114 GL 2.70 GP -13.05 ZAL 145.99 ZAP 59.70 ETS 171.07 ZAE 100.39 ETE 182.48 ZAC 89.82 ETC 269.26 LVI 6.34

DISTANCE 643.192

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.438 VHL 4.294 DLA -5.81 RAL 339.28 RAD 6642.1 VEL 11.787 PTH 6.79 VHP 3.682 DPA -37.35 RAP 284.81 ECC 1.3034
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 41 2998.98 -30.86 90.62 197.71 128.20 18 22 40 1999.0 -13.92 71.86
 60.00 18 18 28 2877.21 -26.12 83.43 201.49 121.85 19 6 25 1877.2 -11.46 63.19
 70.00 19 17 38 2703.27 -21.84 71.96 204.12 116.93 20 2 41 1703.3 -9.18 50.77
 80.00 20 32 14 2469.70 -18.73 55.80 205.69 113.69 21 13 24 1469.7 -7.48 34.08
 90.00 21 56 26 2198.05 -17.56 36.38 206.22 112.53 22 33 4 1198.0 -6.84 14.43
 100.00 23 15 6 1944.17 -18.73 17.17 205.69 113.69 23 47 30 944.2 -7.48 355.45
 110.00 0 21 0 1750.09 -21.84 .87 204.12 116.93 0 50 10 750.1 -9.18 339.69

DIFFERENTIAL CORRECTIONS

TDE 1.7190 TRA 4.0727 TC3-4.0912 BAU 1.0165
 RDE .6139 RRA .7851 RC3 -.5175 FAU .13564
 FDE 4.2562 FRA10.5518 FC3-6.3688 BSP 11835
 BDE 1.8253 BRA 4.1477 BC3 4.1238 FSP 2591

MID-COURSE EXECUTION ACCURACY

SGT 6887.9 SGR 1406.2 SG3 1399.7
 RRT .9491 RRF .9651 RTF .9817
 SGB 7030.0 R23 .0941 R13 .9829
 SGI 7016.5 SG2 435.0 THA 11.01

ORBIT DETERMINATION ACCURACY

ST 141.0 SR 43.9 SS 112.2
 CRT .9681 CRS -.9627 CST -.9997
 LSA 185.2 MSA 11.2 SSA 1.3
 EL1 147.3 EL2 10.5 ALF 16.86

LAUNCH DATE APR 3 1971

FLIGHT TIME 272.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.334 GAL -5.52 AZL 89.72 HCA 212.12 SMA 182.00 ECC .20180 INC .2801 V1 29.792
 RP 218.69 LAP -.15 LOP 44.72 VP 22.011 GAP .47 AZP 90.24 TAL 326.00 TAP 178.12 RCA 145.27 APO 218.72 V2 25.129
 RC 177.890 GL 2.08 GP -12.50 ZAL 146.37 ZAP 58.44 ETS 171.03 ZAE 99.08 ETE 182.09 ZAC 90.18 ETC 269.24 LVI 5.86

DISTANCE 647.317

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.789 VHL 4.335 DLA -6.26 RAL 339.83 RAD 6642.3 VEL 11.782 PTH 6.81 VHP 3.693 DPA -36.81 RAP 284.64 ECC 1.3092
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 33 2994.46 -30.67 90.35 198.40 128.34 18 28 27 1994.5 -13.70 71.66
 60.00 18 22 49 2871.39 -25.91 83.08 202.20 122.02 19 10 41 1871.4 -11.21 62.90
 70.00 19 22 32 2695.83 -21.61 71.50 204.87 117.11 20 7 27 1695.8 -8.90 50.37
 80.00 20 37 38 2460.68 -18.48 55.24 206.45 113.87 21 18 39 1460.7 -7.19 33.57
 90.00 22 2 3 2188.31 -17.31 35.75 206.99 112.72 22 38 32 1188.3 -6.53 13.90
 100.00 23 20 30 1935.15 -18.48 16.61 206.45 113.87 23 52 45 935.2 -7.19 354.94
 110.00 0 25 54 1742.65 -21.61 .42 204.87 117.11 0 54 56 742.7 -8.90 339.29

DIFFERENTIAL CORRECTIONS

TDE 1.7663 TRA 4.2288 TC3-4.1202 BAU 1.0419
 RDE .6070 RRA .7387 RC3 -.4790 FAU .13205
 FDE 4.2060 FRA10.4335 FC3-6.0843 BSP 12123
 BDE 1.8686 BRA 4.2929 BC3 4.1479 FSP 2542

MID-COURSE EXECUTION ACCURACY

SGT 7059.9 SGR 1334.6 SG3 1369.4
 RRT .9427 RRF .9587 RTF .9817
 SGB 7184.9 R23 .0889 R13 .9827
 SGI 7171.5 SG2 438.3 THA 10.14

ORBIT DETERMINATION ACCURACY

ST 144.2 SR 42.7 SS 110.8
 CRT .9627 CRS -.9580 CST -.9997
 LSA 186.5 MSA 11.6 SSA 1.3
 EL1 150.0 EL2 11.1 ALF 16.01

LAUNCH DATE APR 3 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 149.56 LAL -.00 LOL 192.60 VL 32.341 GAL -5.61 AZL 89.79 HCA 213.28 SMA 182.11 ECC .20297 INC .2049 V1 29.792
 RP 219.08 LAP -.11 LOP 45.88 VP 21.975 GAP .29 AZP 90.17 TAL 325.59 TAP 178.84 RCA 145.15 APO 219.07 V2 25.089
 RC 180.275 GL 1.51 GP -11.99 ZAL 146.74 ZAP 57.23 ETS 171.00 ZAE 97.78 ETE 181.73 ZAC 90.69 ETC 269.23 LVI 5.41

DISTANCE 651.436

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.180 VHL 4.377 DLA -6.86 RAL 340.37 RAD 6642.5 VEL 11.797 PTH 6.82 VHP 3.727 DPA -36.30 RAP 284.52 ECC 1.3153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 11 2991.04 -30.52 90.16 199.10 128.45 18 30 2 1991.0 -13.53 71.51
 60.00 18 26 53 2866.80 -25.74 82.80 202.93 122.15 19 14 40 1866.8 -11.02 62.67
 70.00 19 27 5 2689.80 -21.43 71.13 205.62 117.26 20 11 55 1689.8 -8.68 50.05
 80.00 20 42 40 2453.22 -18.28 54.79 207.22 114.03 21 23 33 1453.2 -6.94 33.16
 90.00 22 7 17 2180.20 -17.09 35.25 207.78 112.88 22 43 37 1180.2 -6.28 13.44
 100.00 23 25 31 1927.69 -18.28 16.15 207.22 114.03 23 57 39 927.7 -6.94 354.53
 110.00 0 30 28 1736.61 -21.43 .05 205.62 117.26 0 59 24 736.6 -8.68 338.97

DIFFERENTIAL CORRECTIONS

TDE 1.8189 TRA 4.3854 TC3-4.1443 BAU 1.0676
 RDE .6015 RRA .6950 RC3 -.4438 FAU .12846
 FDE 4.1549 FRA10.3080 FC3-5.8044 BSP 12408
 BDE 1.9158 BRA 4.4402 BC3 4.1680 FSP 2492

MID-COURSE EXECUTION ACCURACY

SGT 7227.2 SGR 1268.7 SG3 1338.3
 RRT .9354 RRF .9514 RTF .9816
 SGB 7337.7 R23 .0840 R13 .9825
 SGI 7324.4 SG2 442.6 THA 9.36

ORBIT DETERMINATION ACCURACY

ST 147.4 SR 41.7 SS 109.5
 CRT .9570 CRS -.9531 CST -.9998
 LSA 187.9 MSA 12.1 SSA 1.3
 EL1 152.7 EL2 11.7 ALF 15.24

LAUNCH DATE APR 3 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC										DISTANCE 655.550										EARTH TO MARS																																													
RL	149.56	LAL	-0.00	LQL	192.60	VL	32.348	GAL	-5.70	AZL	89.86	HCA	214.38	SMA	182.23	ECC	.20417	INC	.1336	V1	29.792	RP	219.43	LAP	-0.08	LOP	46.97	VP	21.939	GAP	.11	AZP	90.11	TAL	325.17	TAP	179.55	RCA	145.02	APO	219.43	V2	25.048	RC	182.871	GL	.98	GP	-11.50	ZAL	147.10	ZAP	56.03	ETS	170.98	ZAE	96.52	ETE	181.42	ZAC	91.17	ETC	269.23	LVI	4.98
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.548	VHL	4.421	DLA	-7.02	RAL	340.89	RAD	6642.6	VEL	11.814	PTH	6.83	VHP	3.762	DPA	-35.82	RAP	284.45	ECC	1.3217	SGT	7390.2	SGR	1208.3	SG3	1306.6	ST	150.4	SR	40.8	SS	106.0																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9271	RRF	.9431	RTF	.9816	CRT	.9509	CRS	-.9480	CST	-.9998																												
50.00	17	43	36	2988.62	-30.42	90.02	199.80	128.53	18	33	25	1988.6	-13.41	71.40	SGB	7488.3	R23	.0793	R13	.9823	LSA	189.2	MSA	12.5	SSA	1.3																																							
60.00	18	30	42	2863.34	-25.62	82.59	203.67	122.24	19	18	26	1885.0	-8.50	62.50	SG1	7474.9	SG2	447.7	THA	8.63	EL1	155.4	EL2	12.2	ALF	14.54																																							
70.00	19	31	21	2685.03	-21.28	70.84	206.38	117.37	20	16	6	1447.2	-6.74	32.82																																																			
80.00	20	47	20	2447.17	-18.11	54.42	208.00	114.15	21	28	7	1173.6	-6.07	13.07																																																			
90.00	22	12	8	2173.56	-16.92	34.85	208.54	113.00	22	48	21	921.6	-6.74	354.19																																																			
100.00	23	30	12	1921.64	-18.11	15.78	208.00	114.15	24	2	13	731.8	-8.50	338.71																																																			
110.00	0	34	43	1731.85	-21.28	359.76	206.38	117.37	1	3	35																																																						

LAUNCH DATE APR 3 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC										DISTANCE 659.657										EARTH TO MARS																																													
RL	149.56	LAL	-0.00	LQL	192.60	VL	32.356	GAL	-5.80	AZL	89.93	HCA	215.50	SMA	182.35	ECC	.20541	INC	.0696	V1	29.792	RP	219.80	LAP	-0.04	LOP	46.10	VP	21.904	GAP	-0.07	AZP	90.06	TAL	324.75	TAP	180.25	RCA	144.89	APO	219.80	V2	25.007	RC	185.475	GL	.50	GP	-11.05	ZAL	147.46	ZAP	54.91	ETS	170.97	ZAE	95.28	ETE	181.13	ZAC	91.62	ETC	269.24	LVI	4.56
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.955	VHL	4.467	DLA	-7.34	RAL	341.40	RAD	6642.8	VEL	11.831	PTH	6.85	VHP	3.799	DPA	-35.37	RAP	284.43	ECC	1.3284	SGT	7549.9	SGR	1153.1	SG3	1274.8	ST	153.6	SR	40.0	SS	106.7																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9177	RRF	.9338	RTF	.9814	CRT	.9447	CRS	-.9427	CST	-.9999																												
50.00	17	46	50	2987.11	-30.36	89.93	200.52	128.57	18	36	37	1987.1	-13.34	71.33	SGB	7637.4	R23	.0752	R13	.9821	LSA	190.8	MSA	12.9	SSA	1.3																																							
60.00	18	34	18	2860.90	-25.53	82.45	204.41	122.31	19	21	58	1860.9	-10.76	62.30	SG1	7623.9	SG2	453.7	THA	8.01	EL1	158.2	EL2	12.7	ALF	13.90																																							
70.00	19	35	20	2681.42	-21.16	70.63	207.14	117.45	20	20	2	1681.4	-8.37	49.60																																																			
80.00	20	51	41	2442.40	-17.98	54.12	208.78	114.25	21	32	23	1442.4	-6.38	32.55																																																			
90.00	22	16	39	2168.27	-16.78	34.52	209.33	113.10	22	52	47	1160.3	-5.90	12.77																																																			
100.00	23	34	33	1916.87	-17.98	15.49	208.78	114.25	24	6	30	916.9	-6.58	353.92																																																			
110.00	0	38	42	1726.23	-21.16	359.54	207.14	117.45	1	7	31	728.2	-8.37	338.52																																																			

LAUNCH DATE APR 3 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC										DISTANCE 663.759										EARTH TO MARS																																													
RL	149.56	LAL	-0.00	LQL	192.60	VL	32.383	GAL	-5.89	AZL	89.99	HCA	216.82	SMA	182.47	ECC	.20669	INC	.0121	V1	29.792	RP	220.18	LAP	-0.00	LOP	49.22	VP	21.868	GAP	-0.25	AZP	90.01	TAL	324.32	TAP	180.94	RCA	144.76	APO	220.18	V2	24.968	RC	188.089	GL	.05	GP	-10.63	ZAL	147.82	ZAP	53.81	ETS	170.97	ZAE	94.07	ETE	180.87	ZAC	92.04	ETC	269.25	LVI	4.75
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	20.379	VHL	4.514	DLA	-7.62	RAL	341.91	RAD	6643.0	VEL	11.848	PTH	6.86	VHP	3.837	DPA	-34.95	RAP	284.44	ECC	1.3334	SGT	7704.9	SGR	1102.8	SG3	1242.8	ST	156.7	SR	39.2	SS	105.3																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9071	RRF	.9233	RTF	.9812	CRT	.9383	CRS	-.9373	CST	-.9999																												
50.00	17	49	54	2986.44	-30.33	89.89	201.25	128.60	18	39	40	1986.4	-13.30	71.30	SGB	7783.4	R23	.0714	R13	.9818	LSA	192.3	MSA	13.3	SSA	1.3																																							
60.00	18	37	40	2859.38	-25.47	82.36	205.16	122.35	19	25	19	1859.4	-10.70	62.31	SG1	7769.8	SG2	460.2	THA	7.42	EL1	161.0	EL2	13.2	ALF	13.31																																							
70.00	19	39	4	2678.86	-21.08	70.47	207.91	117.51	20	23	43	1878.9	-8.27	49.47																																																			
80.00	20	55	45	2438.81	-17.87	53.91	209.58	114.32	21	38	24	1438.8	-6.46	32.36																																																			
90.00	22	20	51	2164.21	-16.67	34.27	210.12	113.18	22	56	55	1184.2	-5.77	12.54																																																			
100.00	23	38	37	1913.28	-17.87	15.27	209.58	114.32	24	10	30	913.3	-6.46	353.72																																																			
110.00	0	42	26	1725.68	-21.08	359.39	207.91	117.51	1	11	12	725.7	-8.27	338.38																																																			

LAUNCH DATE APR 4 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 14 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 34.287 GAL -6.61 AZL 92.29 HCA 129.74 SMA 221.71 ECC .34296 INC 2.2791 V1 29.784
 RP 207.38 LAP -1.85 LOP 319.34 VP 26.102 GAP 19.73 AZP 80.67 TAL 333.77 TAP 99.81 RCA 145.67 APO 297.75 V2 26.414
 RC 56.241 GL -12.42 GP 3.40 ZAL 134.89 ZAP 168.45 ETS 162.75 ZAE 166.60 ETE 132.32 ZAC 104.58 ETC 275.71 LVI -16.32

Distance 369.745

Planeto-centric Conic: C3 39.686 VNL 6.300 DLA -23.10 RAL 336.66 RAD 6650.6 VEL 12.632 PTH 7.48 VHP 9.636 DPA -16.66 RAP 310.31 ECC 1.6531
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 18 28 33 2832.29 -23.48 81.61 203.00 132.65 19 15 46 1832.3 -5.65 64.66
 60.00 19 37 4 2650.08 -17.34 70.65 208.45 126.97 20 21 14 1650.1 -1.57 52.16
 70.00 21 4 16 2393.76 -11.31 54.17 212.76 122.44 21 44 9 1393.8 2.56 34.51
 80.00 22 48 36 2067.22 -6.32 32.39 215.77 119.24 23 23 3 1067.2 6.06 11.88
 90.00 0 31 45 1747.17 -4.19 10.02 216.94 117.99 1 0 52 747.2 7.57 349.16
 100.00 1 35 23 1541.69 -6.32 353.76 215.77 119.24 2 1 5 541.7 6.06 333.25
 110.00 2 7 38 1440.97 -11.31 343.09 212.76 122.44 2 31 38 440.6 2.56 323.43

Differential Corrections: TDE -.0250 TRA-1.7060 TC3 -.0860 BAU .0781 SGT 1849.4 SGR 513.8 S63 195.7 ST 45.3 SR 24.4 SS 32.9
 RDE -.5353 RRA .0662 RC3 .1195 FAU .04052 RRT .2510 RRF -.2676 RTF -.8324 CRT .8058 CRS .6657 CST .9773
 PDE .6047 FRA 1.9156 FC3 -.8840 BSP 3139 SGB 1919.4 R23 -.0439 R13 -.8335 LSA 58.9 MSA 15.9 SSA 1.1
 BDE .9834 BRA 1.7072 BC3 .1473 FSP 274 S61 1854.2 S62 496.0 THA 4.30 EL1 49.7 EL2 13.1 ALF 25.35

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 4 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 16 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 34.162 GAL -6.46 AZL 92.32 HCA 127.00 SMA 218.59 ECC .33314 INC 2.3158 V1 29.784
 RP 207.27 LAP -1.85 LOP 320.60 VP 25.951 GAP 19.24 AZP 88.61 TAL 333.81 TAP 100.81 RCA 145.77 APO 291.41 V2 26.426
 RC 56.362 GL -12.88 GP 3.55 ZAL 134.87 ZAP 167.59 ETS 163.30 ZAE 169.10 ETE 128.32 ZAC 104.69 ETC 275.81 LVI -18.59

Distance 372.603

Planeto-centric Conic: C3 37.847 VNL 6.152 DLA -23.50 RAL 336.94 RAD 6649.9 VEL 12.559 PTH 7.43 VHP 9.354 DPA -16.42 RAP 310.67 ECC 1.6229
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 18 31 34 2811.67 -22.53 80.58 202.63 133.09 19 18 25 1811.7 -4.62 63.79
 60.00 19 40 47 2627.58 -16.41 69.47 208.11 127.34 20 24 34 1627.6 -.58 51.09
 70.00 21 8 59 2368.26 -10.37 52.79 212.46 122.72 21 48 28 1368.3 3.53 33.17
 80.00 22 54 42 2037.43 -5.32 30.74 215.53 119.42 23 28 39 1037.4 7.04 10.22
 90.00 0 38 44 1714.55 -3.14 8.19 216.73 118.12 1 7 19 714.5 8.58 347.30
 100.00 1 41 30 1511.91 -5.32 352.11 215.53 119.42 2 6 41 511.9 7.04 331.59
 110.00 2 12 22 1415.08 -10.37 341.71 212.46 122.72 2 35 57 415.1 3.53 322.09

Differential Corrections: TDE -.8237 TRA-1.6924 TC3 -.0795 BAU .0763 SGT 1884.7 SGR 510.8 S63 208.6 ST 46.2 SR 24.2 SS 34.1
 RDE -.5186 RRA .0524 RC3 .1261 FAU .04176 RRT .2738 RRF -.2921 RTF -.8387 CRT .8110 CRS .6696 CST .9766
 PDE .6290 FRA 1.9944 FC3 -.9552 BSP 3211 SGB 1952.7 R23 -.0477 R13 -.8399 LSA 60.3 MSA 15.8 SSA 1.2
 BDE .9734 BRA 1.6932 BC3 .1507 FSP 295 S61 1890.3 S62 489.9 THA 4.55 EL1 50.5 EL2 12.9 ALF 24.70

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 4 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 34.044 GAL -6.31 AZL 92.35 HCA 128.26 SMA 215.72 ECC .32385 INC 2.3538 V1 29.784
 RP 207.18 LAP -1.85 LOP 321.86 VP 25.806 GAP 18.76 AZP 88.54 TAL 333.85 TAP 102.11 RCA 145.86 APO 285.58 V2 26.438
 RC 56.588 GL -13.37 GP 3.71 ZAL 134.84 ZAP 168.70 ETS 165.78 ZAE 169.52 ETE 124.11 ZAC 104.80 ETC 275.90 LVI -18.87

Distance 375.572

Planeto-centric Conic: C3 36.141 VNL 6.012 DLA -23.92 RAL 337.22 RAD 6649.3 VEL 12.491 PTH 7.38 VHP 9.080 DPA -16.18 RAP 311.01 ECC 1.5948
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 18 34 40 2790.96 -21.56 79.55 202.30 133.50 19 21 11 1791.0 -3.58 62.92
 60.00 19 44 38 2604.86 -15.47 68.29 207.60 127.69 20 28 3 1604.9 .42 50.00
 70.00 21 13 57 2342.30 -9.41 51.39 212.19 122.98 21 52 59 1342.3 4.52 31.81
 80.00 23 1 11 2006.68 -4.29 29.04 215.32 119.58 23 34 38 1006.7 8.06 8.50
 90.00 0 46 14 1680.92 -2.05 6.29 216.56 118.21 1 14 15 680.5 9.63 345.35
 100.00 1 47 59 1481.15 -4.29 350.41 215.32 119.58 2 12 40 481.2 8.06 329.87
 110.00 2 17 19 1389.12 -9.41 340.31 212.19 122.98 2 40 28 389.1 4.52 320.73

Differential Corrections: TDE -.8221 TRA-1.6781 TC3 -.0720 BAU .0749 SGT 1919.0 SGR 508.2 S63 222.2 ST 47.2 SR 24.0 SS 35.3
 RDE -.5026 RRA .0384 RC3 .1372 FAU .04308 RRT .2984 RRF -.3187 RTF -.2.46 CRT .8165 CRS .6740 CST .9759
 PDE .6542 FRA 2.0768 FC3-1.0320 BSP 3285 SGB 1985.2 R23 -.0519 R13 -.8459 LSA 61.6 MSA 15.8 SSA 1.2
 BDE .9636 BRA 1.6786 BC3 .1549 FSP 317 S61 1925.4 S62 483.5 THA 4.82 EL1 51.3 EL2 12.7 ALF 24.10

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 4 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 20 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 33.932 GAL -6.16 AZL 92.39 HCA 129.52 SMA 213.08 ECC .31905 INC 2.3931 V1 29.784
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.669 GAP 18.30 AZP 88.48 TAL 333.91 TAP 103.43 RCA 145.95 APO 280.22 V2 26.448
 RC 56.858 GL -13.86 GP 3.88 ZAL 134.79 ZAP 165.79 ETS 164.15 ZAE 169.87 ETE 119.76 ZAC 104.93 ETC 275.98 LVI -19.15

Distance 378.643

Planeto-centric Conic: C3 34.587 VNL 5.879 DLA -24.35 RAL 337.50 RAD 6649.7 VEL 12.428 PTH 7.35 VHP 8.814 DPA -15.90 RAP 311.34 ECC 1.5687
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 18 37 52 2770.16 -20.58 78.54 202.01 133.90 19 24 2 1770.2 -2.54 62.05
 60.00 19 48 38 2581.91 -14.51 67.11 207.53 128.02 20 31 40 1581.9 1.43 48.91
 70.00 21 19 9 2315.83 -8.43 49.97 211.97 123.22 21 57 45 1315.8 5.52 30.42
 80.00 23 8 6 1974.84 -3.22 27.29 215.17 119.70 23 41 1 974.8 9.10 6.71
 90.00 0 54 21 1644.94 -.90 4.30 216.46 118.27 1 21 46 644.8 10.71 343.29
 100.00 1 54 54 1449.31 -3.22 348.65 215.17 119.70 2 19 3 449.3 9.10 328.08
 110.00 2 22 31 1362.65 -8.43 338.89 211.97 123.22 2 45 14 362.6 5.52 319.34

Differential Corrections: TDE -.8205 TRA-1.6631 TC3 -.0644 BAU .0741 SGT 1952.2 SGR 506.1 S63 236.8 ST 48.1 SR 23.8 SS 36.6
 RDE -.4874 RRA .0241 RC3 .1468 FAU .04448 RRT .3249 RRF -.3473 RTF -.8502 CRT .8225 CRS .6789 CST .9751
 PDE .6806 FRA 2.1630 FC3-1.1142 BSP 3351 SGB 2016.7 R23 -.0566 R13 -.8516 LSA 63.0 MSA 15.7 SSA 1.2
 BDE .9544 BRA 1.6633 BC3 .1603 FSP 340 S61 1959.5 S62 476.8 THA 5.12 EL1 52.2 EL2 12.5 ALF 25.54

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 4 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

RL 149.81 LAL -.00 LOL 193.98 VL 33.826 GAL -6.02 AZL 92.43 HCA 130.79 BMA 210.66 ECC .30672 INC 2.4340 V1 29.784
RP 207.01 LAP -1.84 LOP 324.39 VP 25.538 GAP 17.84 AZP 88.41 TAL 333.97 TAP 104.75 RCA 146.04 APO 275.27 V2 26.457
RC 57.225 GL -14.38 GP 4.06 ZAL 134.72 ZAP 164.87 ETS 164.48 ZAE 170.13 ETE 115.37 ZAC 105.07 ETC 276.08 LVI -19.43

PLANETOCENTRIC CONIC

C3 33.089 VHL 5.752 DLA -24.81 RAL 337.78 RAD 6648.2 VEL 12.369 PTH 7.29 VHP 8.556 DPA -15.64 RAP 311.64 ECC 1.5446
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 41 10 2749.28 -19.59 77.54 201.75 134.27 19 26 59 1749.3 -1.49 61.18
60.00 19 52 49 2558.74 -13.53 65.93 207.29 128.33 20 35 27 1558.7 2.45 47.80
70.00 21 24 37 2288.62 -7.42 48.53 211.79 123.43 22 2 46 1288.8 6.54 28.99
80.00 23 15 31 1941.75 -2.10 25.47 215.07 119.79 23 47 53 941.8 10.17 4.64
90.00 1 3 11 1607.19 .31 2.20 216.41 118.28 1 29 58 607.2 11.84 341.10
100.00 2 2 19 1416.22 -2.10 346.83 215.07 119.79 2 25 55 416.2 10.17 326.21
110.00 2 27 59 1335.64 -7.42 337.45 211.79 123.43 2 50 15 335.6 6.54 317.91

DIFFERENTIAL CORRECTIONS

TDE -.8185 TRA-1.6471 TC3 -.0560 BAU .0738 SGT 1983.8 SGR 504.6 SG3 252.3 ST 49.0 SR 23.5 SS 37.9
RDE -.4728 RRA .0094 RC3 .1571 FAU .04597 RRT .3534 RRF -.3780 RTF -.8554 CRT .8289 CRS .6842 CST .9742
FDE .7063 FRA 2.2535 FC3-1.2026 BSP 3421 SGB 2046.9 R23 -.0617 R13 -.8570 LSA 64.3 MSA 15.6 SSA 1.2
BDE .9452 BRA 1.6472 BC3 .1668 FSP 366 SG1 1992.2 SG2 470.0 THA 5.44 EL1 52.9 EL2 12.2 ALF 23.03

LAUNCH DATE APR 4 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

RL 149.81 LAL -.00 LOL 193.98 VL 33.726 GAL -5.89 AZL 92.48 HCA 132.05 BMA 208.41 ECC .29884 INC 2.4764 V1 29.784
RP 206.94 LAP -1.84 LOP 325.66 VP 25.414 GAP 17.38 AZP 88.34 TAL 334.04 TAP 106.09 RCA 146.13 APO 270.70 V2 26.466
RC 57.675 GL -14.91 GP 4.25 ZAL 134.64 ZAP 163.92 ETS 164.75 ZAE 170.31 ETE 111.04 ZAC 105.23 ETC 276.16 LVI -19.72

PLANETOCENTRIC CONIC

C3 31.729 VHL 5.633 DLA -25.28 RAL 338.06 RAD 6647.7 VEL 12.315 PTH 7.25 VHP 8.306 DPA -15.36 RAP 311.92 ECC 1.5222
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 36 2728.33 -18.59 76.55 201.53 134.62 19 30 4 1728.3 -.44 90.30
60.00 19 57 10 2535.33 -12.54 64.74 207.10 128.62 20 39 25 1535.3 3.48 46.68
70.00 21 30 23 2261.23 -6.38 47.07 211.66 123.62 22 8 5 1261.2 7.58 27.53
80.00 23 23 30 1907.22 -.93 23.57 215.03 119.84 23 55 17 907.2 11.28 2.87
90.00 1 12 53 1567.10 1.61 359.96 216.44 118.24 1 39 1 567.1 13.02 338.75
100.00 2 10 18 1381.69 -.93 344.94 215.03 119.84 2 33 19 381.7 11.28 324.24
110.00 2 33 46 1308.05 -6.38 335.99 211.66 123.62 2 55 34 308.0 7.58 316.45

DIFFERENTIAL CORRECTIONS

TDE -.8165 TRA-1.6308 TC3 -.0477 BAU .0741 SGT 2014.2 SGR 503.8 SG3 268.8 ST 49.8 SR 23.3 SS 39.2
RDE -.4590 RRA -.0058 RC3 .1680 FAU .04753 RRT .3839 RRF -.4109 RTF -.8603 CRT .8358 CRS .6903 CST .9733
FDE .7374 FRA 2.3485 FC3-1.2969 BSP 3485 SGB 2076.3 R23 -.0674 R13 -.8621 LSA 65.7 MSA 15.5 SSA 1.2
BDE .9367 BRA 1.6308 BC3 .1747 FSP 393 SG1 2024.0 SG2 463.0 THA 5.79 EL1 53.7 EL2 11.9 ALF 22.56

LAUNCH DATE APR 4 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

RL 149.81 LAL -.00 LOL 193.98 VL 33.831 GAL -5.76 AZL 92.52 HCA 133.32 BMA 206.34 ECC .29138 INC 2.5207 V1 29.784
RP 206.87 LAP -1.83 LOP 326.93 VP 25.296 GAP 16.94 AZP 88.27 TAL 334.11 TAP 107.43 RCA 146.22 APO 266.47 V2 26.473
RC 58.203 GL -15.46 GP 4.46 ZAL 134.83 ZAP 162.94 ETS 164.98 ZAE 170.42 ETE 106.90 ZAC 105.40 ETC 276.24 LVI -20.02

PLANETOCENTRIC CONIC

C3 30.469 VHL 5.920 DLA -25.77 RAL 338.34 RAD 6647.2 VEL 12.264 PTH 7.21 VHP 8.064 DPA -15.08 RAP 312.17 ECC 1.5014
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 9 2707.30 -17.58 75.57 201.35 134.95 19 33 17 1707.3 .62 59.42
60.00 20 1 42 2511.67 -11.53 63.56 206.95 128.89 20 43 34 1511.7 4.52 45.54
70.00 21 36 30 2232.98 -5.31 45.58 211.58 123.79 22 13 43 1233.0 8.63 26.03
80.00 23 32 10 1870.96 .30 21.58 215.06 119.86 24 3 20 871.0 12.42 .79
90.00 1 23 42 1523.89 3.00 357.55 216.56 118.13 1 49 6 523.9 14.26 336.19
100.00 2 18 57 1345.43 .30 342.95 215.06 119.86 2 41 23 345.4 12.42 322.16
110.00 2 39 52 1279.80 -5.31 334.50 211.58 123.79 3 1 12 279.8 8.63 314.84

DIFFERENTIAL CORRECTIONS

TDE -.8138 TRA-1.6127 TC3 -.0377 BAU .0748 SGT 2042.2 SGR 504.1 SG3 286.3 ST 50.6 SR 23.1 SS 40.3
RDE -.4459 RRA -.0214 RC3 .1708 FAU .04923 RRT .4182 RRF -.4459 RTF -.8590 CRT .8432 CRS .6969 CST .9724
FDE .7676 FRA 2.4475 FC3-1.3988 BSP 3544 SGB 2103.5 R23 -.0737 R13 -.8670 LSA 67.1 MSA 15.4 SSA 1.2
BDE .9279 BRA 1.6128 BC3 .1837 FSP 422 SG1 2053.8 SG2 455.9 THA 6.17 EL1 54.4 EL2 11.6 ALF 22.14

LAUNCH DATE APR 4 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 149.81 LAL -.00 LOL 193.98 VL 33.941 GAL -5.83 AZL 92.57 HCA 134.58 BMA 204.42 ECC .28432 INC 2.5668 V1 29.784
RP 206.82 LAP -1.83 LOP 328.20 VP 25.183 GAP 16.50 AZP 88.20 TAL 334.19 TAP 108.77 RCA 146.30 APO 262.54 V2 26.479
RC 58.807 GL -16.03 GP 4.69 ZAL 134.41 ZAP 161.94 ETS 165.16 ZAE 170.46 ETE 103.05 ZAC 103.59 ETC 276.31 LVI -20.32

PLANETOCENTRIC CONIC

C3 29.302 VHL 5.413 DLA -26.28 RAL 338.62 RAD 6646.7 VEL 12.216 PTH 7.17 VHP 7.829 DPA -14.79 RAP 312.40 ECC 1.4822
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 51 51 2686.17 -16.56 74.60 201.22 135.27 19 36 37 1686.2 1.68 58.54
60.00 20 6 28 2487.71 -10.51 62.37 206.86 129.13 20 47 56 1487.7 5.57 44.39
70.00 21 42 58 2203.96 -4.21 44.06 211.56 123.92 22 19 42 1204.0 9.71 24.47
80.00 23 41 38 1832.53 1.60 19.47 215.17 119.82 24 12 11 832.5 13.61 358.56
90.00 1 36 0 1476.38 4.52 354.89 216.78 117.95 2 0 37 476.4 15.59 333.34
100.00 2 28 26 1307.00 1.60 340.84 215.17 119.82 2 50 13 307.0 13.61 319.93
110.00 2 46 20 1250.78 -4.21 332.97 211.56 123.92 3 7 11 250.8 9.71 313.39

DIFFERENTIAL CORRECTIONS

TDE -.8013 TRA-1.5845 TC3 -.0152 BAU .0758 SGT 2033.8 SGR 505.6 SG3 304.8 ST 50.8 SR 22.9 SS 41.9
RDE -.4332 RRA -.0374 RC3 .1925 FAU .05102 RRT .4507 RRF -.4825 RTF -.8727 CRT .8495 CRS .7041 CST .9720
FDE .7991 FRA 2.5513 FC3-1.5073 BSP 3480 SGB 2115.1 R23 -.0779 R13 -.8749 LSA 68.0 MSA 15.3 SSA 1.1
BDE .9109 BRA 1.5849 BC3 .1931 FSP 452 SG1 2067.0 SG2 448.5 THA 6.65 EL1 54.6 EL2 11.3 ALF 21.95

LAUNCH DATE APR 4 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC										DISTANCE 395.215										EARTH TO MARS																																																																																																												
RL	149.61	LAL	-.00	LLOL	193.58	VL	33.456	GAL	-5.51	AZL	92.62	HCA	135.85	SMA	202.65	ECC	.27765	INC	2.6150	V1	29.784	RP	206.77	LAP	-1.02	LOP	329.46	VP	25.075	GAP	16.08	AZP	88.12	TAL	334.27	TAP	110.12	RCA	146.38	APO	258.91	V2	26.485	RC	59.485	GL	-16.62	GP	4.92	ZAL	134.28	ZAP	160.92	ETS	165.31	ZAE	170.43	ETE	99.58	ZAC	105.80	ETC	276.38	LVI	-20.64																																																															
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																												
C3	28.226	VHL	5.313	DLA	-26.81	RAL	338.91	RAD	6646.3	VEL	12.173	PTH	7.13	VHP	7.602	DPA	-14.49	RAP	312.60	ECC	1.4645	SGT	2086.5	SGR	508.7	SG3	324.6	ST	51.9	SR	22.8	SS	43.3	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.8588	CRS	.7123	CST	.9705																																																															
50.00	18	58	42	2865.00	-15.54	73.64	201.13	135.56	19	40	7	1665.0	2.75	57.66	RRY	.4860	RRF	-.3211	RTF	-.8746	LSA	69.6	MSA	15.3	SSA	1.1	60.00	20	11	27	2463.51	-9.47	61.17	206.82	129.36	20	52	31	1463.5	6.62	43.22	SG1	2101.8	SG2	441.4	THA	7.07	EL1	55.6	EL2	10.9	ALF	21.52	70.00	21	49	51	2174.18	-3.08	42.50	211.60	124.03	22	26	6	1174.2	10.81	22.86	80.00	23	52	6	1791.55	2.98	17.22	215.37	119.72	24	21	58	791.5	14.86	356.15	90.00	1	50	22	1422.80	6.22	351.87	217.14	117.64	2	14	5	422.8	17.04	330.07	100.00	2	38	54	1265.99	2.98	338.59	215.37	119.72	3	0	0	266.0	14.86	317.52	110.00	2	53	14	1221.00	-3.08	331.41	211.60	124.03	3	13	35	221.0	10.81	311.78

LAUNCH DATE APR 4 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC										DISTANCE 398.727										EARTH TO MARS																																																																																																												
RL	149.61	LAL	-.00	LLOL	193.58	VL	33.378	GAL	-5.39	AZL	92.67	HCA	137.12	SMA	201.00	ECC	.27134	INC	2.8654	V1	29.784	RP	206.74	LAP	-1.81	LOP	330.73	VP	24.973	GAP	15.66	AZP	88.05	TAL	334.36	TAP	111.47	RCA	146.46	APO	255.54	V2	26.489	RC	60.233	GL	-17.22	GP	5.16	ZAL	134.12	ZAP	159.87	ETS	165.42	ZAE	170.35	ETE	96.55	ZAC	106.02	ETC	276.44	LVI	-20.96																																																															
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																												
C3	27.233	VHL	5.219	DLA	-27.36	RAL	339.20	RAD	6645.9	VEL	12.132	PTH	7.10	VHP	7.382	DPA	-14.18	RAP	312.77	ECC	1.4482	SGT	2112.2	SGR	513.7	SG3	345.5	ST	52.7	SR	22.6	SS	44.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.8682	CRS	.7214	CST	.9692																																																															
50.00	18	59	44	2843.74	-14.50	72.60	201.09	135.83	19	43	47	1643.7	3.81	56.77	RRY	.5225	RRF	-.5609	RTF	-.8773	LSA	71.1	MSA	15.2	SSA	1.1	60.00	20	16	42	2438.98	-8.40	59.97	206.83	129.56	20	57	21	1439.0	7.69	42.03	SG1	2130.0	SG2	434.4	THA	7.56	EL1	56.4	EL2	10.5	ALF	21.19	70.00	21	57	13	2143.43	-1.91	40.89	211.71	124.11	22	32	56	1143.4	11.93	21.19	80.00	0	7	47	1746.97	4.48	14.78	215.67	119.55	0	36	54	747.0	16.18	353.51	90.00	2	8	8	1358.87	8.22	348.24	217.70	117.15	2	30	47	358.9	18.69	328.11	100.00	2	50	39	1221.44	4.48	336.13	215.67	119.55	3	11	1	221.4	16.18	314.88	110.00	3	0	35	1190.25	-1.91	329.81	211.71	124.11	3	20	25	190.2	11.93	310.10

LAUNCH DATE APR 4 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC										DISTANCE 402.292										EARTH TO MARS																																																																																																												
RL	149.61	LAL	-.00	LLOL	193.58	VL	33.300	GAL	-5.28	AZL	92.72	HCA	138.39	SMA	199.47	ECC	.26537	INC	2.7184	V1	29.784	RP	206.71	LAP	-1.80	LOP	332.00	VP	24.875	GAP	15.25	AZP	87.97	TAL	334.44	TAP	112.83	RCA	146.54	APO	252.40	V2	26.492	RC	61.050	GL	-17.85	GP	5.46	ZAL	133.95	ZAP	158.78	ETS	165.50	ZAE	170.23	ETE	94.01	ZAC	106.27	ETC	276.50	LVI	-21.29																																																															
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																												
C3	26.319	VHL	5.130	DLA	-27.92	RAL	339.50	RAD	6645.5	VEL	12.095	PTH	7.07	VHP	7.169	DPA	-13.85	RAP	312.91	ECC	1.4331	SGT	2133.9	SGR	520.9	SG3	367.8	ST	53.4	SR	22.4	SS	46.2	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.8779	CRS	.7313	CST	.9679																																																															
50.00	19	3	56	2622.37	-13.46	71.72	201.10	136.06	19	47	38	1622.4	4.88	55.87	RRY	.5596	RRF	-.6015	RTF	-.801	LSA	72.5	MSA	15.2	SSA	1.1	60.00	20	22	14	2414.09	-7.32	58.76	206.89	129.74	21	2	28	1414.1	8.77	40.81	SG1	2154.6	SG2	427.5	THA	8.10	EL1	57.0	EL2	10.1	ALF	20.94	70.00	22	5	7	2111.54	-0.69	39.23	211.89	124.15	22	40	18	1111.5	13.08	19.44	80.00	0	21	18	1697.46	6.14	12.02	216.11	119.28	0	49	36	697.5	17.60	350.52	90.00	2	33	24	1271.45	10.90	343.22	218.64	116.26	2	54	35	271.5	20.79	320.55	100.00	3	4	10	1171.93	6.14	333.39	216.11	119.28	3	23	42	171.9	17.60	311.89	110.00	3	8	29	1158.36	-0.69	328.14	211.89	124.15	3	27	47	158.4	13.08	308.35

LAUNCH DATE APR 4 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC										DISTANCE 405.907										EARTH TO MARS																																																																																																												
RL	149.61	LAL	-.00	LLOL	193.58	VL	33.228	GAL	-5.17	AZL	92.77	HCA	139.68	SMA	198.05	ECC	.25974	INC	2.7741	V1	29.784	RP	206.69	LAP	-1.80	LOP	333.27	VP	24.781	GAP	14.85	AZP	87.88	TAL	334.54	TAP	114.19	RCA	146.61	APO	249.49	V2	26.495	RC	61.933	GL	-18.50	GP	5.75	ZAL	133.77	ZAP	157.67	ETS	165.55	ZAE	170.07	ETE	91.99	ZAC	106.55	ETC	276.55	LVI	-21.63																																																															
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																												
C3	25.479	VHL	5.048	DLA	-28.51	RAL	339.81	RAD	6645.2	VEL	12.060	PTH	7.04	VHP	6.983	DPA	-13.52	RAP	313.02	ECC	1.4193	SGT	2151.7	SGR	530.6	SG3	391.3	ST	54.0	SR	22.3	SS	47.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.8881	CRS	.7424	CST	.9665																																																															
50.00	19	8	20	2600.89	-12.40	70.78	201.17	136.31	19	51	41	1600.9	5.96	54.96	RRY	.5970	RRF	-.6423	RTF	-.8828	LSA	73.9	MSA	15.1	SSA	1.1	60.00	20	28	4	2388.78	-6.22	57.53	207.03	129.90	21	7	53	1388.8	9.86	39.57	SG1	2175.8	SG2	421.0	THA	8.70	EL1	57.6	EL2	9.6	ALF	20.76	70.00	22	13	38	2078.31	.58	37.49	212.16	124.15	22	48	17	1078.3	14.27	17.59	80.00	0	37	27	1640.29	8.03	8.83	216.73	118.85	1	4	47	640.3	19.18	347.01	86.20	2	42	11	1238.58	14.98	342.80	220.29	114.55	3	2	50	238.6	23.82	319.21	100.00	3	20	18	1114.76	8.03	330.20	216.73	118.85	3	38	53	114.8	19.18	308.38	110.00	3	17	1	1125.13	.58	326.41	212.16	124.15	3	35	46	125.1	14.27	306.51

LAUNCH DATE APR 4 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 7 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 33.160 GAL -5.07 AZL 92.83 HCA 140.93 SMA 196.75 ECC .25441 INC 2.8328 V1 29.784
 RP 206.68 LAP -1.79 LOP 334.54 VP 24.691 GAP 14.46 AZP 87.80 TAL 334.63 TAP 115.55 RCA 146.68 APO 246.78 V2 26.496
 RC 62.879 GL -19.17 GP 6.07 ZAL 133.56 ZAP 156.53 ETS 165.57 ZAE 169.88 ETE 90.48 ZAC 106.84 ETC 276.60 LVI -21.98

Planetary Centric Conic: C3 24.709 VHL 4.971 DLA -29.12 RAL 340.13 RAD 6644.9 VEL 12.028 PTH 7.02 VHP 6.764 DPA -13.17 RAP 313.09 ECC 1.4066
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 58 2579.27 -11.34 69.83 201.29 136.53 19 55 57 1579.3 7.04 54.05
 60.00 20 34 16 2362.99 -5.09 56.28 207.23 130.03 21 13 39 1363.0 10.97 38.29
 70.00 22 22 55 2043.43 1.91 35.67 212.51 124.11 22 56 58 1043.4 15.49 15.63
 80.00 0 58 19 1568.89 10.35 4.80 217.63 118.16 1 24 28 568.9 21.04 342.53
 82.73 2 15 11 1322.29 15.49 349.20 220.27 114.97 2 37 13 322.3 24.46 325.56
 100.00 3 41 10 1043.36 10.35 326.17 217.63 118.16 3 58 34 43.4 21.04 303.90
 110.00 3 26 17 1090.25 1.91 324.59 212.51 124.11 3 44 27 90.2 15.49 304.55

Differential Corrections: TDE -.7982 TRA-1.4857 TC3 .0185 BAU .0887 SGT 2164.8 SGR 543.3 SG3 416.1 ORBIT DETERMINATION ACCURACY ST 54.5 SR 22.2 SS 49.3
 RDE -.3829 RRA -.1299 RC3 .2681 FAU .06164 RRT .6339 RRF -.6827 RTF -.8854 CRT .8988 CRS .7542 CST .9650
 FDE .9850 FRA 3.1519 FC3-2.1598 BSP 3837 SGB 2231.7 R23 -.1294 R13 -.8898 LSA 75.3 MSA 15.1 S3A 1.1
 BDE .8835 BRA 1.4914 BC3 .2686 FSP 636 SG1 2192.9 SG2 414.8 THA 9.38 EL1 58.1 EL2 9.1 ALF 20.65

LAUNCH DATE APR 4 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 9 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 33.096 GAL -4.97 AZL 92.89 HCA 142.19 SMA 195.50 ECC .24938 INC 2.8947 V1 29.784
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.806 GAP 14.07 AZP 87.71 TAL 334.72 TAP 116.92 RCA 146.75 APO 244.25 V2 26.496
 RC 63.888 GL -19.87 GP 6.42 ZAL 133.34 ZAP 155.35 ETS 165.57 ZAE 169.67 ETE 89.49 ZAC 107.17 ETC 276.64 LVI -22.33

Planetary Centric Conic: C3 24.007 VHL 4.900 DLA -29.76 RAL 340.46 RAD 6644.6 VEL 11.999 PTH 6.99 VHP 6.571 DPA -12.00 RAP 313.13 ECC 1.3951
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 17 51 2557.49 -10.26 68.88 201.48 136.72 20 0 28 1557.5 8.13 53.12
 60.00 20 40 51 2336.66 -3.94 55.02 207.50 130.14 21 19 48 1336.7 12.10 36.98
 70.00 22 33 5 2006.50 3.32 33.74 212.98 124.01 23 6 32 1006.5 16.77 13.53
 80.00 1 34 35 1449.38 14.10 357.91 219.34 116.59 1 58 44 449.4 23.85 334.76
 80.33 1 57 44 1375.43 16.02 353.39 220.30 115.42 2 20 39 375.4 25.11 329.71
 100.00 4 17 27 8211.90 14.10 297.19 219.34 116.59 6 0 59 5211.9 23.85 274.03
 110.00 3 36 27 1053.31 3.32 322.66 212.98 124.01 3 54 1 53.3 16.77 302.45

Differential Corrections: TDE -.7932 TRA-1.4802 TC3 .0244 BAU .0924 SGT 2174.8 SGR 559.6 SG3 442.4 ORBIT DETERMINATION ACCURACY ST 55.0 SR 22.2 SS 50.9
 RDE -.3753 RRA -.1515 RC3 .2887 FAU .06418 RRT .8697 RRF -.7221 RTF -.8876 CRT .9097 CRS .7670 CST .9635
 FDE 1.0286 FRA 3.2890 FC3-2.3145 BSP 3872 SGB 2245.7 R23 -.1424 R13 -.8928 LSA 76.7 MSA 15.1 S3A 1.1
 BDE .8775 BRA 1.4681 BC3 .2878 FSP 683 SG1 2208.0 SG2 409.3 THA 10.13 EL1 58.6 EL2 8.6 ALF 20.60

LAUNCH DATE APR 4 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 11 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 33.036 GAL -4.87 AZL 92.96 HCA 143.46 SMA 194.36 ECC .24463 INC 2.9803 V1 29.784
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.524 GAP 13.89 AZP 87.62 TAL 334.92 TAP 118.28 RCA 146.81 APO 241.90 V2 26.496
 RC 64.956 GL -20.59 GP 6.79 ZAL 133.10 ZAP 154.14 ETS 165.55 ZAE 169.43 ETE 88.99 ZAC 107.53 ETC 276.68 LVI -22.74

Planetary Centric Conic: C3 23.387 VHL 4.834 DLA -30.41 RAL 340.81 RAD 6644.3 VEL 11.973 PTH 6.97 VHP 6.388 DPA -12.41 RAP 313.13 ECC 1.3846
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 23 0 2535.47 -9.16 67.93 201.73 136.90 20 5 15 1535.5 9.22 52.18
 60.00 20 47 53 2309.61 -2.75 53.72 207.86 130.22 21 26 23 1309.6 13.25 35.62
 70.00 22 44 24 1988.02 4.83 31.66 213.57 123.85 23 17 11 966.8 18.11 11.24
 78.31 1 43 54 1417.30 16.54 356.77 220.39 115.89 2 7 31 417.3 25.78 333.05
 78.31 1 43 54 1417.30 16.54 356.77 220.39 115.89 2 7 31 417.3 25.78 333.05
 78.31 1 43 54 1417.30 16.54 356.77 220.39 115.89 2 7 31 417.3 25.78 333.05
 110.00 3 47 46 1013.63 4.83 320.58 213.57 123.85 4 4 40 13.6 18.11 300.16

Differential Corrections: TDE -.7764 TRA-1.4199 TC3 .0544 BAU .0977 SGT 2158.3 SGR 579.4 SG3 469.8 ORBIT DETERMINATION ACCURACY ST 54.5 SR 22.1 SS 52.4
 RDE -.3678 RRA -.1737 RC3 .3078 FAU .06705 RRT .7060 RRF -.7593 RTF -.8336 CRT .9194 CRS .7787 CST .9664
 FDE 1.0689 FRA 3.4279 FC3-2.4841 BSP 3731 SGB 2234.7 R23 -.1491 R13 -.8995 LSA 77.4 MSA 15.0 S3A 1.1
 BDE .8591 BRA 1.4305 BC3 .3128 FSP 724 SG1 2198.1 SG2 402.9 THA 11.11 EL1 58.3 EL2 8.1 ALF 20.88

LAUNCH DATE APR 4 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 13 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 32.979 GAL -4.78 AZL 93.03 HCA 144.73 SMA 193.29 ECC .24016 INC 3.0299 V1 29.784
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.443 GAP 13.33 AZP 87.53 TAL 334.91 TAP 119.64 RCA 146.87 APO 239.71 V2 26.494
 RC 66.082 GL -21.34 GP 7.19 ZAL 132.85 ZAP 152.89 ETS 165.50 ZAE 169.16 ETE 88.97 ZAC 107.92 ETC 276.71 LVI -23.15

Planetary Centric Conic: C3 22.793 VHL 4.774 DLA -31.09 RAL 341.17 RAD 6644.1 VEL 11.949 PTH 6.95 VHP 6.206 DPA -12.00 RAP 313.09 ECC 1.3751
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 28 27 2513.31 -8.06 66.99 202.06 137.05 20 10 20 1513.3 10.32 51.22
 60.00 20 55 25 2281.90 -1.53 52.40 208.30 130.28 21 33 27 1281.9 14.41 34.21
 70.00 22 57 7 1923.73 6.46 29.39 214.31 123.61 23 29 11 923.7 19.54 8.71
 76.51 1 32 17 1452.58 17.07 359.69 220.55 116.39 1 56 30 452.6 26.46 335.92
 76.51 1 32 17 1452.58 17.07 359.69 220.55 116.39 1 56 30 452.6 26.46 335.92
 76.51 1 32 17 1452.58 17.07 359.69 220.55 116.39 1 56 30 452.6 26.46 335.92
 110.00 4 0 30 6258.59 6.46 296.21 214.31 123.61 5 44 48 5258.6 19.54 275.54

Differential Corrections: TDE -.7854 TRA-1.4035 TC3 .0387 BAU .1007 SGT 2181.5 SGR 604.4 SG3 499.3 ORBIT DETERMINATION ACCURACY ST 55.6 SR 22.2 SS 54.2
 RDE -.3628 RRA -.1987 RC3 .3281 FAU .06964 RRT .7356 RRF -.7949 RTF -.8914 CRT .9322 CRS .7954 CST .9600
 FDE 1.1231 FRA 3.5819 FC3-2.6452 BSP 3904 SGB 2263.6 R23 -.1715 R13 -.8986 LSA 79.3 MSA 15.1 S3A 1.0
 BDE .8651 BRA 1.4175 BC3 .3303 FSP 778 SG1 2227.9 SG2 400.9 THA 11.91 EL1 59.4 EL2 7.5 ALF 20.74

LAUNCH DATE APR 4 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 15 1971

Heliocentric Conic

RL 149.81 LAL -.00 LOL 193.50 VL 32.925 GAL -4.70 AZL 93.10 HCA 146.00 SMA 192.30 ECC .23594 INC 3.1041 V1 29.784
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.370 GAP 12.96 AZP 87.43 TAL 335.00 TAP 121.00 RCA 146.93 APO 237.67 V2 26.491
 RC 67.265 GL -22.12 GP 7.63 ZAL 132.50 ZAP 151.59 ETS 165.42 ZAE 168.86 ETE 89.40 ZAC 106.35 ETC 276.74 LVI -23.57

DISTANCE 424.597

EARTH TO MARS

Planetocentric Conic

C3 22.277 VHL 4.720 DLA -31.80 RAL 341.56 RAD 6643.8 VEL 11.928 PTH 6.93 VHP 6.033 DPA -11.57 RAP 313.01 ECC 1.3666
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 15 2490.83 -6.94 86.03 202.46 137.19 20 15 46 1490.8 11.43 50.24
 60.00 21 3 32 2283.23 -.27 51.03 208.85 130.30 21 41 5 1253.2 15.61 32.73
 70.00 23 11 51 1875.48 8.27 26.83 215.23 123.26 23 43 6 875.5 21.08 5.82
 74.82 1 22 6 1483.85 17.60 2.33 220.77 116.92 1 46 50 483.9 27.16 338.53
 74.82 1 22 6 1483.85 17.60 2.33 220.77 116.92 1 46 50 483.9 27.16 338.53
 74.82 1 22 6 1483.85 17.60 2.33 220.77 116.92 1 46 50 483.9 27.16 338.53
 110.00 4 15 13 6210.33 8.27 293.65 215.23 123.26 5 58 43 5210.3 21.08 272.65

Differential Corrections

TDE -.7847 TRA-1.3757 TC3 .0390 BAW .1051
 RDE -.3583 RRA -.2251 RC3 .3508 FAU .07253
 FDE 1.1769 FRA 3.7397 FC3-2.8188 BSP 3950
 BDE .8626 BRA 1.3940 BC3 .3529 FSP 832

Mid-Course Execution Accuracy

SGT 2184.0 SGR 634.2 SG3 530.2
 RRT .7641 RRF -.8274 RTF -.8921
 SGB 2274.2 R23 -.1893 R13 -.9006
 SG1 2238.9 SG2 399.1 THA 12.93

Orbit Determination Accuracy

ST 56.0 SR 22.3 SS 56.0
 CRT .9439 CRS .8114 CST .9581
 LSA 80.9 MSA 15.2 S3A 1.0
 EL1 59.9 EL2 6.9 ALF 20.87

LAUNCH DATE APR 4 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic

RL 149.61 LAL -.00 LOL 193.58 VL 32.875 GAL -4.61 AZL 93.18 HCA 147.27 SMA 191.38 ECC .23197 INC 3.1832 V1 29.784
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.297 GAP 12.81 AZP 87.32 TAL 335.09 TAP 122.36 RCA 146.99 APO 235.77 V2 26.482
 RC 68.502 GL -22.93 GP 8.11 ZAL 132.28 ZAP 150.26 ETS 165.33 ZAE 168.53 ETE 90.25 ZAC 108.82 ETC 276.76 LVI -24.02

DISTANCE 428.438

EARTH TO MARS

Planetocentric Conic

C3 21.819 VHL 4.671 DLA -32.53 RAL 341.97 RAD 6643.6 VEL 11.909 PTH 6.92 VHP 5.867 DPA -11.11 RAP 312.88 ECC 1.3591
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 40 26 2467.99 -5.80 85.06 202.95 137.31 20 21 34 1468.0 12.56 49.24
 60.00 21 12 20 2223.40 1.05 49.60 209.51 130.29 21 49 23 1223.4 16.84 31.17
 70.00 23 29 34 1819.14 10.36 23.80 216.42 122.73 23 59 53 819.1 22.81 2.37
 73.21 1 13 0 1512.27 18.13 4.78 221.06 117.48 1 38 12 512.3 27.86 340.94
 73.21 1 13 0 1512.27 18.13 4.78 221.06 117.48 1 38 12 512.3 27.86 340.94
 73.21 1 13 0 1512.27 18.13 4.78 221.06 117.48 1 38 12 512.3 27.86 340.94
 110.00 4 32 56 8154.00 10.36 290.63 216.42 122.73 6 15 30 5154.0 22.81 269.19

Differential Corrections

TDE -.7811 TRA-1.3431 TC3 .0419 BAW .1102
 RDE -.3548 RRA -.2532 RC3 .3755 FAU .07565
 FDE 1.2315 FRA 3.9007 FC3-3.0014 BSP 3954
 BDE .8579 BRA 1.3668 BC3 .3778 FSP 886

Mid-Course Execution Accuracy

SGT 2176.7 SGR 669.4 SG3 562.3
 RRT .7895 RRF -.8565 RTF -.8928
 SGB 2277.3 R23 -.2070 R13 -.9029
 SG1 2242.1 SG2 398.9 THA 14.10

Orbit Determination Accuracy

ST 56.2 SR 22.5 SS 57.7
 CRT .9550 CRS .8274 CST .9559
 LSA 82.2 MSA 15.2 S3A 1.0
 EL1 60.2 EL2 6.2 ALF 21.13

LAUNCH DATE APR 4 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic

RL 149.61 LAL -.00 LOL 193.58 VL 32.827 GAL -4.54 AZL 93.27 HCA 148.53 SMA 190.52 ECC .22823 INC 3.2679 V1 29.784
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.227 GAP 12.86 AZP 87.21 TAL 335.18 TAP 123.71 RCA 147.04 APO 234.00 V2 26.483
 RC 69.791 GL -23.77 GP 8.82 ZAL 131.97 ZAP 148.86 ETS 165.22 ZAE 168.15 ETE 91.48 ZAC 109.34 ETC 276.77 LVI -24.50

DISTANCE 432.307

EARTH TO MARS

Planetocentric Conic

C3 21.419 VHL 4.628 DLA -33.29 RAL 342.40 RAD 6643.5 VEL 11.892 PTH 6.90 VHP 5.707 DPA -10.63 RAP 312.70 ECC 1.3525
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 47 3 2444.71 -4.83 84.08 203.53 137.40 20 27 48 1444.7 13.70 48.21
 60.00 21 21 58 2192.15 2.42 48.11 210.29 130.24 21 58 29 1192.1 16.12 29.52
 70.00 23 52 47 1747.38 12.97 19.88 218.02 121.88 24 21 54 747.4 24.89 357.83
 71.65 1 4 46 1538.64 18.86 7.11 221.43 118.08 1 30 25 538.6 28.59 343.23
 71.65 1 4 46 1538.64 18.86 7.11 221.43 118.08 1 30 25 538.6 28.59 343.23
 71.65 1 4 46 1538.64 18.86 7.11 221.43 118.08 1 30 25 538.6 28.59 343.23
 110.00 4 58 9 8082.24 12.97 288.71 218.02 121.88 6 37 31 5082.2 24.89 284.66

Differential Corrections

TDE -.7747 TRA-1.3052 TC3 .0488 BAW .1161
 RDE -.3523 RRA -.2832 RC3 .4026 FAU .07898
 FDE 1.2881 FRA 4.0652 FC3-3.1923 BSP 3921
 BDE .8510 BRA 1.3355 BC3 .4056 FSP 941

Mid-Course Execution Accuracy

SGT 2158.4 SGR 710.6 SG3 .593.6
 RRT .8122 RRF -.8822 RTF -.8940
 SGB 2272.3 R23 -.2230 R13 -.9061
 SG1 2236.9 SG2 400.0 THA 15.48

Orbit Determination Accuracy

ST 56.0 SR 22.7 SS 59.4
 CRT .9653 CRS .8438 CST .9338
 LSA 83.4 MSA 15.3 S3A 1.0
 EL1 60.2 EL2 5.5 ALF 21.55

LAUNCH DATE APR 4 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic

RL 149.61 LAL -.00 LOL 193.58 VL 32.782 GAL -4.47 AZL 93.38 HCA 149.80 SMA 189.72 ECC .22471 INC 3.3590 V1 29.784
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.180 GAP 11.93 AZP 87.10 TAL 335.26 TAP 125.06 RCA 147.09 APO 232.35 V2 26.477
 RC 71.130 GL -24.65 GP 9.18 ZAL 131.64 ZAP 147.46 ETS 165.08 ZAE 167.72 ETE 93.04 ZAC 109.90 ETC 276.78 LVI -25.01

DISTANCE 438.203

EARTH TO MARS

Planetocentric Conic

C3 21.077 VHL 4.591 DLA -34.09 RAL 342.87 RAD 6643.3 VEL 11.878 PTH 6.89 VHP 5.554 DPA -10.10 RAP 312.48 ECC 1.3469
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 54 11 2420.96 -3.44 83.09 204.22 137.48 20 34 32 1421.0 14.86 47.15
 60.00 21 32 31 2159.15 3.87 46.53 211.22 130.15 22 8 30 1159.2 19.45 27.75
 70.00 0 40 9 1615.65 17.57 12.45 220.93 119.77 1 7 4 615.7 28.27 349.09
 70.13 0 57 17 1563.41 19.20 9.34 221.88 118.72 1 23 20 563.4 29.33 345.43
 70.13 0 57 17 1563.41 19.20 9.34 221.88 118.72 1 23 20 563.4 29.33 345.43
 70.13 0 57 17 1563.41 19.20 9.34 221.88 118.72 1 23 20 563.4 29.33 345.43
 110.00 5 39 35 5950.51 17.57 279.28 220.93 119.77 7 18 46 4950.5 28.27 255.91

Differential Corrections

TDE -.7762 TRA-1.2734 TC3 .0388 BAW .1218
 RDE -.3519 RRA -.3164 RC3 .4305 FAU .08221
 FDE 1.3543 FRA 4.2415 FC3-3.3767 BSP 3974
 BDE .8523 BRA 1.3122 BC3 .4322 FSP 1004

Mid-Course Execution Accuracy

SGT 2149.9 SGR 759.2 SG3 630.9
 RRT .8298 RRF -.9046 RTF -.8926
 SGB 2280.0 R23 -.2443 R13 -.9074
 SG1 2243.6 SG2 406.0 THA 16.90

Orbit Determination Accuracy

ST 56.3 SR 23.1 SS 61.4
 CRT .9753 CRS .8611 CST .9511
 LSA 85.1 MSA 15.5 S3A .9
 EL1 60.7 EL2 4.7 ALF 21.94

LAUNCH DATE APR 4 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 440.123

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.98 VL 32.740 GAL -4.40 AZL 93.46 HCA 151.07 SMA 188.97 ECC .22141 INC 3.4572 V1 29.784
RP 206.90 LAP -1.67 LOP 344.69 VP 24.096 GAP 11.59 AZP 86.97 TAL 335.34 TAP 126.41 RCA 147.13 APO 230.61 V2 26.470
RC 72.917 GL -25.58 GP 9.80 ZAL 131.28 ZAP 145.99 ETS 164.93 ZAE 167.21 ETE 94.89 ZAC 110.53 ETC 276.78 LVI -25.55

PLANETOCENTRIC CONIC

C3 20.791 VHL 4.560 DLA -34.91 RAL 343.37 RAD 6643.2 VEL 11.866 PTH 6.88 VHP 5.408 DPA -9.54 RAP 312.21 ECC 1.3422
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 1 53 2398.55 -2.22 62.06 205.03 137.54 20 41 50 1396.5 16.05 46.05
60.00 21 44 18 2123.83 5.42 44.83 212.33 130.00 22 19 41 1123.8 20.86 25.81
68.62 0 50 23 1587.17 19.73 11.51 222.43 119.40 1 16 50 587.2 30.08 347.58
68.62 0 50 23 1587.17 19.73 11.51 222.43 119.40 1 16 50 587.2 30.08 347.58
68.62 0 50 23 1587.17 19.73 11.51 222.43 119.40 1 16 50 587.2 30.08 347.58
68.62 0 50 23 1587.17 19.73 11.51 222.43 119.40 1 16 50 587.2 30.08 347.58
68.62 0 50 23 1587.17 19.73 11.51 222.43 119.40 1 16 50 587.2 30.08 347.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7744 TRA-1.2349 TC3 .0340 BAU .1285 SGT 2128.1 SGR 815.2 SG3 667.3 ST 56.3 SR 23.6 SS 63.3
RDE -.3529 RRA -.3521 RC3 .4611 FAU .08567 RRT .8448 RRF -.9236 RTF -.8918 CRT .9839 CR3 .8782 CST .9484
FDE 1.4235 FRA 4.4194 FC3-3.5673 BSP 3977 SGB 2278.9 R23 -.2623 R13 -.9098 LSA 86.5 MSA 15.7 S5A .9
BDE .8511 BRA 1.2842 BC3 .4623 FSP 1067 SG1 2240.9 SG2 414.3 THA 18.59 EL1 61.0 EL2 3.9 ALF 22.51

LAUNCH DATE APR 4 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 444.066

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.98 VL 32.700 GAL -4.33 AZL 93.56 HCA 152.33 SMA 188.28 ECC .21831 INC 3.5635 V1 29.784
RP 206.96 LAP -1.65 LOP 345.96 VP 24.033 GAP 11.27 AZP 86.84 TAL 335.42 TAP 127.75 RCA 147.18 APO 229.38 V2 26.462
RC 73.950 GL -26.55 GP 10.47 ZAL 130.90 ZAP 144.46 ETS 164.76 ZAE 166.63 ETE 96.95 ZAC 111.21 ETC 276.78 LVI -26.14

PLANETOCENTRIC CONIC

C3 20.564 VHL 4.535 DLA -35.77 RAL 343.92 RAD 6643.1 VEL 11.836 PTH 6.87 VHP 5.269 DPA -8.93 RAP 311.88 ECC 1.3384
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 10 16 2371.36 -.95 61.01 205.97 137.57 20 49 47 1371.4 17.27 44.89
60.00 21 57 36 2085.42 7.10 42.97 213.65 129.78 22 32 21 1085.4 22.35 23.67
67.11 0 44 2 1610.07 20.26 13.65 223.08 120.14 1 10 53 610.1 30.86 349.71
67.11 0 44 2 1610.07 20.26 13.65 223.08 120.14 1 10 53 610.1 30.86 349.71
67.11 0 44 2 1610.07 20.26 13.65 223.08 120.14 1 10 53 610.1 30.86 349.71
67.11 0 44 2 1610.07 20.26 13.65 223.08 120.14 1 10 53 610.1 30.86 349.71
67.11 0 44 2 1610.07 20.26 13.65 223.08 120.14 1 10 53 610.1 30.86 349.71

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7734 TRA-1.1944 TC3 .0291 BAU .1359 SGT 2101.3 SGR 879.7 SG3 704.8 ST 56.3 SR 24.3 SS 65.2
RDE -.3559 RRA -.3912 RC3 .4937 FAU .08920 RRT .8562 RRF -.9396 RTF -.8901 CRT .9908 CR3 .8949 CST .9455
FDE 1.4965 FRA 4.6018 FC3-3.7554 BSP 3982 SGB 2278.0 R23 -.2792 R13 -.9123 LSA 86.1 MSA 15.9 S5A .9
BDE .8514 BRA 1.2569 BC3 .4944 FSP 1133 SG1 2237.7 SG2 426.7 THA 20.50 EL1 61.2 EL2 3.0 ALF 23.21

LAUNCH DATE APR 4 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 448.031

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.98 VL 32.663 GAL -4.27 AZL 93.68 HCA 153.60 SMA 187.63 ECC .21540 INC 3.6790 V1 29.784
RP 207.04 LAP -1.64 LOP 347.23 VP 23.973 GAP 10.95 AZP 86.70 TAL 335.48 TAP 129.08 RCA 147.21 APO 228.05 V2 26.454
RC 75.426 GL -27.57 GP 11.21 ZAL 130.49 ZAP 142.89 ETS 164.57 ZAE 165.96 ETE 99.18 ZAC 111.97 ETC 276.77 LVI -26.77

PLANETOCENTRIC CONIC

C3 20.397 VHL 4.516 DLA -36.68 RAL 344.51 RAD 6643.0 VEL 11.849 PTH 6.87 VHP 5.137 DPA -8.27 RAP 311.49 ECC 1.3357
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 19 27 2345.19 .36 59.92 207.07 137.57 20 58 32 1345.2 16.52 43.67
60.00 22 12 57 2042.67 8.95 40.69 215.23 129.46 22 47 0 1042.7 23.98 21.22
65.60 0 38 13 1632.44 20.79 15.78 223.84 120.92 1 5 25 632.4 31.65 351.83
65.60 0 38 13 1632.44 20.79 15.78 223.84 120.92 1 5 25 632.4 31.65 351.83
65.60 0 38 13 1632.44 20.79 15.78 223.84 120.92 1 5 25 632.4 31.65 351.83
65.60 0 38 13 1632.44 20.79 15.78 223.84 120.92 1 5 25 632.4 31.65 351.83
65.60 0 38 13 1632.44 20.79 15.78 223.84 120.92 1 5 25 632.4 31.65 351.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7714 TRA-1.1486 TC3 .0186 BAU .1445 SGT 2065.1 SGR 953.1 SG3 743.0 ST 56.0 SR 25.1 SS 67.2
RDE -.3608 RRA -.4334 RC3 .5286 FAU .09289 RRT .8646 RRF -.9526 RTF -.8779 CRT .9959 CR3 .9106 CST .9422
FDE 1.5766 FRA 4.7832 FC3-3.9460 BSP 3959 SGB 2274.5 R23 -.2932 R13 -.9154 LSA 89.6 MSA 16.1 S5A .8
BDE .8518 BRA 1.2268 BC3 .5299 FSP 1197 SG1 2250.8 SG2 443.3 THA 22.70 EL1 61.4 EL2 2.1 ALF 24.08

LAUNCH DATE APR 4 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 452.015

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.98 VL 32.628 GAL -4.22 AZL 93.81 HCA 154.88 SMA 187.03 ECC .21288 INC 3.8053 V1 29.784
RP 207.12 LAP -1.68 LOP 348.49 VP 23.918 GAP 10.64 AZP 86.58 TAL 335.58 TAP 130.40 RCA 147.25 APO 226.81 V2 26.444
RC 76.844 GL -28.65 GP 12.02 ZAL 130.04 ZAP 141.25 ETS 164.36 ZAE 165.17 ETE 101.49 ZAC 112.80 ETC 276.75 LVI -27.46

PLANETOCENTRIC CONIC

C3 20.293 VHL 4.508 DLA -37.63 RAL 345.15 RAD 6643.0 VEL 11.848 PTH 6.86 VHP 5.012 DPA -7.55 RAP 311.04 ECC 1.3340
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 29 34 2317.79 1.74 58.77 208.35 137.55 21 8 12 1317.0 19.83 42.38
60.00 22 31 13 1993.33 11.00 38.45 217.17 129.00 23 4 26 993.3 25.79 18.31
64.07 0 32 52 1654.46 21.32 17.91 224.72 121.77 1 0 27 654.5 32.47 353.96
64.07 0 32 52 1654.46 21.32 17.91 224.72 121.77 1 0 27 654.5 32.47 353.96
64.07 0 32 52 1654.46 21.32 17.91 224.72 121.77 1 0 27 654.5 32.47 353.96
64.07 0 32 52 1654.46 21.32 17.91 224.72 121.77 1 0 27 654.5 32.47 353.96
64.07 0 32 52 1654.46 21.32 17.91 224.72 121.77 1 0 27 654.5 32.47 353.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7667 TRA-1.0984 TC3 .0116 BAU .1544 SGT 2015.6 SGR 1036.4 SG3 781.6 ST 55.5 SR 26.1 SS 69.1
RDE -.3678 RRA -.4793 RC3 .5688 FAU .09695 RRT .8710 RRF -.9632 RTF -.8859 CRT .9988 CR3 .9233 CST .9386
FDE 1.6586 FRA 4.9622 FC3-4.1361 BSP 3904 SGB 2266.4 R23 -.3014 R13 -.9199 LSA 90.9 MSA 16.4 S5A .8
BDE .8503 BRA 1.1984 BC3 .5690 FSP 1260 SG1 2218.7 SG2 462.6 THA 25.30 EL1 61.3 EL2 1.1 ALF 25.18

LAUNCH DATE APR 4 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 456.017

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.596 GAL -4.17 AZL 93.94 HCA 156.12 SMA 186.47 ECC .21014 INC 3.9438 V1 29.784
RP 207.21 LAP -1.60 LOP 349.75 VP 23.858 GAP 10.33 AZP 86.39 TAL 335.60 TAP 131.72 RCA 147.28 APO 225.65 V2 26.433
RC 78.502 GL -29.79 GP 12.91 ZAL 129.57 ZAP 139.55 ETS 164.13 ZAE 164.26 ETE 103.82 ZAC 113.72 ETC 276.73 LVI -26.20

PLANETOCENTRIC CONIC

C3 20.258 VHL 4.501 DLA -38.63 RAL 345.88 RAD 6643.0 VEL 11.843 PTH 6.86 VHP 4.895 DPA -6.76 RAP 310.54 ECC 1.3334
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 40 51 2288.88 3.19 57.56 209.85 137.49 21 19 0 1288.9 21.20 40.98
60.00 22 54 12 1932.75 13.65 35.41 219.63 128.29 23 26 25 932.7 27.93 14.61
62.52 0 27 59 1676.43 21.84 20.07 225.75 122.69 0 55 55 676.4 33.30 356.14
62.52 0 27 59 1676.43 21.84 20.07 225.75 122.69 0 55 55 676.4 33.30 356.14
62.52 0 27 59 1676.43 21.84 20.07 225.75 122.69 0 55 55 676.4 33.30 356.14
62.52 0 27 59 1676.43 21.84 20.07 225.75 122.69 0 55 55 676.4 33.30 356.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7730 TRA-1.0540 TC3 -.0168 BAU .1647 SGT 1979.5 SGR 1132.4 SG3 821.4 ST 55.5 SR 27.4 SS 71.3
RDE -.3795 RRA -.5313 RC3 .6079 FAU .10048 RRT .8717 RRF -.9718 RTF -.8799 CRT .9995 CRS .9393 CST .9349
FDE 1.7597 FRA 5.1505 FC3-4.2942 B8P 3972 SGB 2280.5 R23 -3121 R13 -.9228 LSA 93.0 MSA 16.8 SSA .7
BDE .8611 BRA 1.1804 BC3 .6082 F8P 1355 SG1 2226.5 SG2 493.3 THA 28.00 EL1 61.9 EL2 .8 ALF 26.28

LAUNCH DATE APR 4 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 460.036

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.565 GAL -4.12 AZL 94.10 HCA 157.38 SMA 185.95 ECC .20777 INC 4.0967 V1 29.784
RP 207.31 LAP -1.57 LOP 351.02 VP 23.804 GAP 10.04 AZP 86.22 TAL 335.65 TAP 133.03 RCA 147.32 APO 224.58 V2 26.422
RC 80.098 GL -31.00 GP 13.90 ZAL 129.05 ZAP 137.78 ETS 163.89 ZAE 163.22 ETE 106.11 ZAC 114.74 ETC 276.70 LVI -29.02

PLANETOCENTRIC CONIC

C3 20.295 VHL 4.505 DLA -39.68 RAL 346.65 RAD 6643.0 VEL 11.845 PTH 6.86 VHP 4.786 DPA -5.89 RAP 309.96 ECC 1.3340
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 53 33 2257.93 4.74 56.27 211.60 137.40 21 31 11 1257.9 22.64 39.46
60.00 23 27 39 1845.30 17.29 30.88 223.13 126.99 23 58 24 845.3 30.81 8.99
60.92 0 23 33 1698.47 22.34 22.27 226.93 123.68 0 51 52 698.5 34.15 358.38
60.92 0 23 33 1698.47 22.34 22.27 226.93 123.68 0 51 52 698.5 34.15 358.38
60.92 0 23 33 1698.47 22.34 22.27 226.93 123.68 0 51 52 698.5 34.15 358.38
60.92 0 23 33 1698.47 22.34 22.27 226.93 123.68 0 51 52 698.5 34.15 358.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7748 TRA-1.0010 TC3 -.0376 BAU .1769 SGT 1925.7 SGR 1240.7 SG3 860.6 ST 55.2 SR 29.0 SS 73.5
RDE -.3943 RRA -.5879 RC3 .6511 FAU .10422 RRT .8711 RRF -.9786 RTF -.8742 CRT .9977 CRS .9516 CST .9308
FDE 1.8651 FRA 5.3293 FC3-4.4455 B8P 3983 SGB 2290.8 R23 -.3137 R13 -.9280 LSA 94.8 MSA 17.1 SSA .7
BDE .8693 BRA 1.1609 BC3 .6521 F8P 1405 SG1 2229.5 SG2 526.3 THA 31.24 EL1 62.3 EL2 1.7 ALF 27.71

LAUNCH DATE APR 4 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 464.071

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.537 GAL -4.08 AZL 94.27 HCA 158.64 SMA 185.47 ECC .20556 INC 4.2664 V1 29.784
RP 207.42 LAP -1.55 LOP 352.28 VP 23.751 GAP 9.74 AZP 86.03 TAL 335.68 TAP 134.33 RCA 147.34 APO 223.59 V2 26.409
RC 81.730 GL -32.30 GP 14.99 ZAL 128.48 ZAP 135.95 ETS 163.63 ZAE 162.02 ETE 108.30 ZAC 115.87 ETC 276.67 LVI -29.92

PLANETOCENTRIC CONIC

C3 20.416 VHL 4.518 DLA -40.79 RAL 347.53 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 4.686 DPA -4.93 RAP 309.32 ECC 1.3360
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 8 4 2224.30 6.43 54.85 213.68 137.24 21 45 8 1224.3 24.19 37.77
59.28 0 19 37 1720.75 22.84 24.53 228.30 124.77 0 48 18 720.8 35.02 .70
59.28 0 19 37 1720.75 22.84 24.53 228.30 124.77 0 48 18 720.8 35.02 .70
59.28 0 19 37 1720.75 22.84 24.53 228.30 124.77 0 48 18 720.8 35.02 .70
59.28 0 19 37 1720.75 22.84 24.53 228.30 124.77 0 48 18 720.8 35.02 .70
59.28 0 19 37 1720.75 22.84 24.53 228.30 124.77 0 48 18 720.8 35.02 .70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7768 TRA -.9430 TC3 -.0598 BAU .1912 SGT 1862.2 SGR 1362.7 SG3 898.5 ST 54.7 SR 30.9 SS 75.6
RDE -.4133 RRA -.6497 RC3 .6979 FAU .10807 RRT .8675 RRF -.9839 RTF -.8667 CRT .9936 CRS .9621 CST .9262
FDE 1.9775 FRA 5.4946 FC3-4.5827 B8P 3988 SGB 2307.0 R23 -.3090 R13 -.9345 LSA 96.7 MSA 17.5 SSA .6
BDE .8799 BRA 1.1452 BC3 .7004 F8P 1469 SG1 2237.5 SG2 564.2 THA 34.95 EL1 62.7 EL2 3.0 ALF 29.39

LAUNCH DATE APR 4 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 468.120

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.510 GAL -4.04 AZL 94.46 HCA 159.90 SMA 185.02 ECC .20350 INC 4.4563 V1 29.784
RP 207.54 LAP -1.53 LOP 353.54 VP 23.699 GAP 9.46 AZP 85.81 TAL 335.71 TAP 135.61 RCA 147.37 APO 222.67 V2 26.395
RC 83.399 GL -33.69 GP 16.21 ZAL 127.86 ZAP 134.04 ETS 163.36 ZAE 160.65 ETE 110.37 ZAC 117.13 ETC 276.64 LVI -30.91

PLANETOCENTRIC CONIC

C3 20.630 VHL 4.542 DLA -41.98 RAL 348.51 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 4.596 DPA -3.86 RAP 308.60 ECC 1.3395
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 24 57 2186.95 8.29 53.26 216.17 137.02 22 1 24 1187.0 25.89 35.83
57.58 0 16 12 1743.57 23.32 26.87 229.88 125.95 0 45 15 743.6 35.92 3.14
57.58 0 16 12 1743.57 23.32 26.87 229.88 125.95 0 45 15 743.6 35.92 3.14
57.58 0 16 12 1743.57 23.32 26.87 229.88 125.95 0 45 15 743.6 35.92 3.14
57.58 0 16 12 1743.57 23.32 26.87 229.88 125.95 0 45 15 743.6 35.92 3.14
57.58 0 16 12 1743.57 23.32 26.87 229.88 125.95 0 45 15 743.6 35.92 3.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7804 TRA -.8808 TC3 -.0845 BAU .2072 SGT 1791.3 SGR 1500.9 SG3 934.8 ST 54.1 SR 33.2 SS 77.8
RDE -.4368 RRA -.7185 RC3 .7466 FAU .11165 RRT .8610 RRF -.9880 RTF -.8573 CRT .9872 CRS .9711 CST .9215
FDE 2.1061 FRA 5.6486 FC3-4.6852 B8P 4019 SGB 2337.0 R23 -.2968 R13 -.9424 LSA 98.8 MSA 17.9 SSA .6
BDE .8953 BRA 1.1366 BC3 .7514 F8P 1534 SG1 2257.1 SG2 605.7 THA 39.17 EL1 63.3 EL2 4.5 ALF 31.39

LAUNCH DATE APR 4 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 472.184

EARTH TO MARS

RL 149.81 LAL -.00 LOL 193.58 VL 32.485 GAL -4.00 AZL 94.67 MCA 161.15 SMA 184.80 ECC .20159 INC 4.6700 V1 29.784
RP 207.66 LAP -1.31 LOP 354.80 VP 23.649 GAP 9.18 AZP 85.58 TAL 335.74 TAP 136.89 RCA 147.39 APO 221.02 V2 26.381
RC 85.104 GL -35.20 GP 17.57 ZAL 127.17 ZAP 132.05 ETS 163.07 ZAE 159.10 ETE 112.26 ZAC 118.94 ETC 276.80 LVI -32.01

PLANETOCENTRIC CONIC

C3 20.954 VHL 4.578 DLA -43.25 RAL 349.62 RAD 6643.3 VEL 11.873 PTH 6.89 VHP 4.517 DPA -2.66 RAP 307.81 ECC 1.3449
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 21 45 10 2144.07 10.42 51.41 219.22 136.69 22 20 54 1144.1 27.80 33.54
55.81 0 13 18 1767.14 23.76 29.32 231.69 127.26 0 42 45 767.1 36.83 5.72
55.81 0 13 18 1767.14 23.76 29.32 231.69 127.26 0 42 45 767.1 36.83 5.72
55.81 0 13 18 1767.14 23.76 29.32 231.69 127.26 0 42 45 767.1 36.83 5.72
55.81 0 13 18 1767.14 23.76 29.32 231.69 127.26 0 42 45 767.1 36.83 5.72
55.81 0 13 18 1767.14 23.76 29.32 231.69 127.26 0 42 45 767.1 36.83 5.72
55.81 0 13 18 1767.14 23.76 29.32 231.69 127.26 0 42 45 767.1 36.83 5.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7772 TRA -.8038 TC3 -.0958 BAU .2264 SGT 1694.5 SGR 1654.6 SG3 966.7 ST 52.9 SR 35.8 S8 79.7
RDE -.4695 RRA -.7921 RC3 .8026 FAU .11572 RRT .8531 RRF -.9911 RTF -.8470 CRT .9788 CRS .9783 CBT .9156
FDE 2.2345 FRA 5.7672 FCS-4.7811 B8P 3973 SGB 2368.4 R23 -.2727 R13 -.9528 LSA 100.5 MSA 18.3 S8A .5
BDE .9080 BRA 1.1299 BC3 .8083 F8P 1578 SG1 2279.8 SG2 641.7 THA 44.20 EL1 63.6 EL2 6.1 ALF 33.88

LAUNCH DATE APR 4 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 476.258

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.462 GAL -3.97 AZL 94.91 MCA 162.41 SMA 184.22 ECC .19983 INC 4.9128 V1 29.784
RP 207.80 LAP -1.48 LOP 356.05 VP 23.600 GAP 8.90 AZP 85.32 TAL 335.75 TAP 138.16 RCA 147.41 APO 221.03 V2 26.365
RC 86.843 GL -36.82 GP 19.09 ZAL 126.41 ZAP 129.98 ETS 162.78 ZAE 157.36 ETE 113.96 ZAC 120.11 ETC 276.57 LVI -33.24

PLANETOCENTRIC CONIC

C3 21.413 VHL 4.627 DLA -44.60 RAL 350.89 RAD 6643.5 VEL 11.892 PTH 6.90 VHP 4.450 DPA -1.31 RAP 306.94 ECC 1.3524
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 22 10 21 2092.37 12.97 49.15 223.05 136.19 22 45 13 1092.4 30.04 30.65
53.95 0 11 6 1791.61 24.17 31.88 233.80 126.70 0 40 58 791.6 37.74 8.48
53.95 0 11 6 1791.61 24.17 31.88 233.80 126.70 0 40 58 791.6 37.74 8.48
53.95 0 11 6 1791.61 24.17 31.88 233.80 126.70 0 40 58 791.6 37.74 8.48
53.95 0 11 6 1791.61 24.17 31.88 233.80 126.70 0 40 58 791.6 37.74 8.48
53.95 0 11 6 1791.61 24.17 31.88 233.80 126.70 0 40 58 791.6 37.74 8.48
53.95 0 11 6 1791.61 24.17 31.88 233.80 126.70 0 40 58 791.6 37.74 8.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7959 TRA -.7456 TC3 -.1477 BAU .2467 SGT 1634.2 SGR 1835.3 SG3 998.1 ST 53.0 SR 39.4 S8 82.5
RDE -.5165 RRA -.8800 RC3 .8491 FAU .11779 RRT .8358 RRF -.9935 RTF -.8283 CRT .9692 CRS .9846 CBT .9114
FDE 2.4185 FRA 5.8943 FCS-4.7622 B8P 4200 SGB 2457.4 R23 -.2521 R13 -.9810 LSA 104.0 MSA 16.0 S8A .5
BDE .9467 BRA 1.1534 BC3 .8618 F8P 1654 SG1 2356.0 SG2 698.9 THA 48.98 EL1 65.5 EL2 7.6 ALF 36.38

LAUNCH DATE APR 4 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 480.344

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.441 GAL -3.94 AZL 95.19 MCA 163.66 SMA 183.86 ECC .19820 INC 5.1911 V1 29.784
RP 207.94 LAP -1.46 LOP 357.31 VP 23.552 GAP 8.63 AZP 85.02 TAL 335.75 TAP 139.41 RCA 147.42 APO 220.30 V2 26.349
RC 86.816 GL -36.80 GP 20.80 ZAL 125.55 ZAP 127.82 ETS 162.48 ZAE 155.40 ETE 115.46 ZAC 121.97 ETC 276.54 LVI -34.62

PLANETOCENTRIC CONIC

C3 22.034 VHL 4.694 DLA -46.05 RAL 352.38 RAD 6643.7 VEL 11.918 PTH 6.92 VHP 4.397 DPA .21 P 305.98 ECC 1.3626
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
50.00 22 44 42 2022.47 16.38 46.01 228.23 135.32 23 18 25 1022.5 32.93 26.53
52.00 0 9 39 1817.41 24.52 34.58 236.26 130.29 0 39 57 817.4 38.67 11.45
52.00 0 9 39 1817.41 24.52 34.58 236.26 130.29 0 39 57 817.4 38.67 11.45
52.00 0 9 39 1817.41 24.52 34.58 236.26 130.29 0 39 57 817.4 38.67 11.45
52.00 0 9 39 1817.41 24.52 34.58 236.26 130.29 0 39 57 817.4 38.67 11.45
52.00 0 9 39 1817.41 24.52 34.58 236.26 130.29 0 39 57 817.4 38.67 11.45
52.00 0 9 39 1817.41 24.52 34.58 236.26 130.29 0 39 57 817.4 38.67 11.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8046 TRA -.8679 TC3 -.1783 BAU .2716 SGT 1540.3 SGR 2033.4 SG3 1020.4 ST 52.2 SR 43.4 S8 84.8
RDE -.5727 RRA -.9724 RC3 .9047 FAU .12055 RRT .8132 RRF -.9933 RTF -.8269 CRT .9581 CRS .9891 CBT .9058
FDE 2.5982 FRA 5.9537 FCS-4.7366 B8P 4317 SGB 2351.0 R23 -.2194 R13 -.9708 LSA 106.9 MSA 19.2 S8A .4
BDE .9876 BRA 1.1796 BC3 .9221 F8P 1690 SG1 2440.3 SG2 743.3 THA 54.92 EL1 67.2 EL2 9.7 ALF 39.52

LAUNCH DATE APR 4 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 484.440

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.58 VL 32.421 GAL -3.92 AZL 95.51 MCA 164.91 SMA 183.53 ECC .19669 INC 5.5138 V1 29.784
RP 208.08 LAP -1.43 LOP 358.56 VP 23.505 GAP 8.37 AZP 84.67 TAL 335.74 TAP 140.65 RCA 147.43 APO 219.63 V2 26.352
RC 90.421 GL -40.54 GP 22.73 ZAL 124.59 ZAP 125.55 ETS 162.18 ZAE 153.19 ETE 116.75 ZAC 123.86 ETC 276.51 LVI -36.17

PLANETOCENTRIC CONIC

C3 22.862 VHL 4.781 DLA -47.62 RAL 354.07 RAD 6644.1 VEL 11.952 PTH 6.95 VHP 4.362 DPA 1.94 RAP 304.92 ECC 1.3763
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69
49.94 0 9 11 1844.78 24.80 37.46 239.12 132.05 0 39 55 844.8 39.57 14.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8166 TRA -.5847 TC3 -.2107 BAU .3000 SGT 1441.8 SGR 2258.3 SG3 1035.0 ST 51.4 SR 48.3 S8 87.4
RDE -.6489 RRA -1.0754 RC3 .9585 FAU .12236 RRT .7873 RRF -.9966 RTF -.7776 CRT .9464 CRS .9926 CBT .9006
FDE 2.8114 FRA 5.9671 FCS-4.6334 B8P 4506 SGB 2679.3 R23 -.1828 R13 -.9798 LSA 110.5 MSA 19.6 S8A .4
BDE 1.0431 BRA 1.2241 BC3 .9814 F8P 1719 SG1 2562.2 SG2 783.5 THA 60.26 EL1 69.6 EL2 11.5 ALF 43.17

LAUNCH DATE APR 4 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.402 GAL -3.90 AZL 95.89 HCA 166.16 SMA 183.23 ECC .19532 INC 5.8927 V1 29.784
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.499 GAP 8.11 AZP 84.28 TAL 335.72 TAP 141.88 RCA 147.44 APO 219.02 V2 26.313
 RC 92.259 GL -42.69 GP 24.91 ZAL 123.50 ZAP 123.17 ETS 161.89 ZAE 150.72 ETE 117.84 ZAC 126.11 ETC 276.50 LVI -37.91

PLANETOCENTRIC CONIC
 C3 23.984 VHL 4.895 DLA -49.31 RAL 356.10 RAD 6644.6 VEL 11.996 PTH 6.99 VHP 4.348 DPA 3.90 RAP 303.77 ECC 1.3944
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.76 0 9 54 1874.24 24.96 40.52 242.50 134.02 0 41 8 874.2 40.44 18.24
 47.76 0 9 54 1874.24 24.96 40.52 242.50 134.02 0 41 8 874.2 40.44 18.24
 47.76 0 9 54 1874.24 24.96 40.52 242.50 134.02 0 41 8 874.2 40.44 18.24
 47.76 0 9 54 1874.24 24.96 40.52 242.50 134.02 0 41 8 874.2 40.44 18.24
 47.76 0 9 54 1874.24 24.96 40.52 242.50 134.02 0 41 8 874.2 40.44 18.24
 47.76 0 9 54 1874.24 24.96 40.52 242.50 134.02 0 41 8 874.2 40.44 18.24

DIFFERENTIAL CORRECTIONS
 TDE -.8323 TRA -.4961 TC3 -.2438 BAU .3328 SGT 1341.3 SGR 2512.8 SG3 1039.0 ORBIT DETERMINATION ACCURACY
 RDE -.7528 RRA-1.1896 RC3 1.0097 FAU .12316 RRT .7489 RRF -.9976 RTF -.7384 CRT .9350 CRS .9952 CST .8959
 FDE 3.0617 FRA 5.9158 FC3-4.4493 BSP 4768 SGB 2848.4 R23 -.1458 R13 -.9870 LSA 115.1 MSA 19.9 S8A .3
 BDE 1.1222 BRA 1.2689 BC3 1.0387 FSP 1731 SGI 2728.2 SG2 818.6 THA 65.90 EL1 75.1 EL2 13.4 ALF 47.32

LAUNCH DATE APR 4 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.385 GAL -3.88 AZL 96.34 HCA 167.40 SMA 182.95 ECC .19406 INC 6.3444 V1 29.784
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.414 GAP 7.85 AZP 83.81 TAL 335.70 TAP 143.10 RCA 147.45 APO 218.46 V2 26.294
 RC 94.128 GL -45.07 GP 27.39 ZAL 122.25 ZAP 120.67 ETS 161.63 ZAE 147.96 ETE 118.75 ZAC 128.66 ETC 276.51 LVI -39.89

PLANETOCENTRIC CONIC
 C3 25.435 VHL 5.043 DLA -51.13 RAL 358.54 RAD 6645.2 VEL 12.058 PTH 7.04 VHP 4.360 DPA 6.16 RAP 302.50 ECC 1.4186
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.44 0 12 12 1906.41 24.96 43.81 246.49 136.20 0 43 58 906.4 41.22 22.18
 45.44 0 12 12 1906.41 24.96 43.81 246.49 136.20 0 43 58 906.4 41.22 22.18
 45.44 0 12 12 1906.41 24.96 43.81 246.49 136.20 0 43 58 906.4 41.22 22.18
 45.44 0 12 12 1906.41 24.96 43.81 246.49 136.20 0 43 58 906.4 41.22 22.18
 45.44 0 12 12 1906.41 24.96 43.81 246.49 136.20 0 43 58 906.4 41.22 22.18
 45.44 0 12 12 1906.41 24.96 43.81 246.49 136.20 0 43 58 906.4 41.22 22.18

DIFFERENTIAL CORRECTIONS
 TDE -.8499 TRA -.3993 TC3 -.2748 BAU .3709 SGT 1237.7 SGR 2798.9 SG3 1028.3 ORBIT DETERMINATION ACCURACY
 RDE -.8963 RRA-1.3144 RC3 1.0557 FAU .12265 RRT .6952 RRF -.9983 RTF -.6838 CRT .9242 CRS .9970 CST .8919
 FDE 3.3540 FRA 5.7773 FC3-4.1745 BSP 5109 SGB 3060.3 R23 -.1109 R13 -.9922 LSA 120.7 MSA 20.1 S8A .3
 BDE 1.2352 BRA 1.3737 BC3 1.0909 FSP 1719 SGI 2940.9 SG2 846.7 THA 71.30 EL1 78.0 EL2 15.1 ALF 52.01

LAUNCH DATE APR 4 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.370 GAL -3.87 AZL 96.89 HCA 168.85 SMA 182.70 ECC .19291 INC 6.8924 V1 29.784
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.370 GAP 7.60 AZP 83.24 TAL 335.66 TAP 144.30 RCA 147.45 APO 217.94 V2 26.274
 RC 96.027 GL -47.74 GP 30.22 ZAL 120.81 ZAP 118.05 ETS 161.41 ZAE 144.86 ETE 119.49 ZAC 131.56 ETC 276.54 LVI -42.13

PLANETOCENTRIC CONIC
 C3 27.427 VHL 5.237 DLA -53.10 RAL 1.53 RAD 6646.0 VEL 12.140 PTH 7.11 VHP 4.409 DPA 8.74 RAP 301.12 ECC 1.4514
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.98 0 16 40 1941.97 24.73 47.33 251.28 138.62 0 49 2 942.0 41.85 26.56
 42.98 0 16 40 1941.97 24.73 47.33 251.28 138.62 0 49 2 942.0 41.85 26.56
 42.98 0 16 40 1941.97 24.73 47.33 251.28 138.62 0 49 2 942.0 41.85 26.56
 42.98 0 16 40 1941.97 24.73 47.33 251.28 138.62 0 49 2 942.0 41.85 26.56
 42.98 0 16 40 1941.97 24.73 47.33 251.28 138.62 0 49 2 942.0 41.85 26.56
 42.98 0 16 40 1941.97 24.73 47.33 251.28 138.62 0 49 2 942.0 41.85 26.56

DIFFERENTIAL CORRECTIONS
 TDE -.8673 TRA -.2925 TC3 -.3002 BAU .4155 SGT 1132.8 SGR 3120.4 SG3 999.5 ORBIT DETERMINATION ACCURACY
 RDE -1.1003 RRA-1.4497 RC3 1.0927 FAU .12049 RRT .8196 RRF -.9988 RTF -.5473 CRT .9145 CRS .9982 CST .8886
 FDE 3.6971 FRA 5.5318 FC3-3.8021 BSP 5541 SGB 3319.7 R23 -.0803 R13 -.9957 LSA 127.9 MSA 20.1 S8A .3
 BDE 1.4010 BRA 1.4789 BC3 1.1332 FSP 1680 SGI 3204.8 SG2 885.7 THA 76.30 EL1 85.1 EL2 16.5 ALF 57.21

LAUNCH DATE APR 4 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.355 GAL -3.86 AZL 97.57 HCA 169.88 SMA 182.47 ECC .19187 INC 7.5716 V1 29.784
 RP 208.78 LAP -1.33 LOP 3.55 VP 23.327 GAP 7.36 AZP 82.54 TAL 335.61 TAP 145.50 RCA 147.46 APO 217.48 V2 26.254
 RC 97.955 GL -50.74 GP 33.45 ZAL 119.14 ZAP 115.27 ETS 161.28 ZAE 141.39 ETE 120.09 ZAC 134.86 ETC 276.62 LVI -44.65

PLANETOCENTRIC CONIC
 C3 30.184 VHL 5.494 DLA -55.20 RAL 5.27 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 4.507 DPA 11.71 RAP 299.59 ECC 1.4968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.39 0 24 9 1981.95 24.17 51.09 257.08 141.28 0 57 11 981.9 42.22 31.43
 40.39 0 24 9 1981.95 24.17 51.09 257.08 141.28 0 57 11 981.9 42.22 31.43
 40.39 0 24 9 1981.95 24.17 51.09 257.08 141.28 0 57 11 981.9 42.22 31.43
 40.39 0 24 9 1981.95 24.17 51.09 257.08 141.28 0 57 11 981.9 42.22 31.43
 40.39 0 24 9 1981.95 24.17 51.09 257.08 141.28 0 57 11 981.9 42.22 31.43
 40.39 0 24 9 1981.95 24.17 51.09 257.08 141.28 0 57 11 981.9 42.22 31.43

DIFFERENTIAL CORRECTIONS
 TDE -.8823 TRA -.1755 TC3 -.3201 BAU .4690 SGT 1035.9 SGR 3478.0 SG3 947.5 ORBIT DETERMINATION ACCURACY
 RDE -1.3971 RRA-1.5922 RC3 1.1174 FAU .11631 RRT .5113 RRF -.9991 RTF -.4978 CRT .9061 CRS .9990 CST .8862
 FDE 4.0901 FRA 5.1514 FC3-3.3361 BSP 6043 SGB 3629.0 R23 -.0557 R13 -.9977 LSA 137.4 MSA 19.9 S8A .2
 BDE 1.6523 BRA 1.6018 BC3 1.1623 FSP 1594 SGI 3520.8 SG2 879.5 THA 80.76 EL1 95.1 EL2 17.5 ALF 62.74

LAUNCH DATE APR 4 1971 FLIGHT TIME 204.00 ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC DISTANCE 505.038 EARTH TO MARS
RL 149.61 LAL -.00 LOL 193.58 VL 32.342 GAL -3.85 AZL 98.44 HCA 171.12 SMA 182.25 ECC .19094 INC 8.4364 V1 29.784
PLANETOCENTRIC CONIC
C3 34.126 VHL 5.842 DLA -57.41 RAL 10.07 RAD 8648.6 VEL 12.411 PTH 7.32 VHP 4.677 DPA 15.12 RAP 297.91 ECC 1.5818
DIFFERENTIAL CORRECTIONS
TDE -.8848 TRA -.0454 TC3 -.3324 BAU .5327
RDE -1.8462 RRA -1.7395 RC3 1.1194 FAU .10932
FDE 4.3323 FRA 4.6224 FC3 -2.7733 B8P 6670
BDE 2.0473 BRA 1.7401 BC3 1.1677 F8P 1470

LAUNCH DATE APR 4 1971 FLIGHT TIME 228.00 ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 555.331 EARTH TO MARS
RL 149.61 LAL -.00 LOL 193.58 VL 32.262 GAL -4.09 AZL 81.16 HCA 186.00 SMA 180.97 ECC .18704 INC 8.8374 V1 29.784
PLANETOCENTRIC CONIC
C3 36.384 VHL 6.030 DLA 41.77 RAL 315.29 RAD 8649.4 VEL 12.500 PTH 7.39 VHP 5.397 DPA -70.94 RAP 317.03 ECC 1.5885
DIFFERENTIAL CORRECTIONS
TDE 2.0882 TRA .8243 TC3 -1.0261 BAU .8395
RDE 3.3295 RRA 3.0791 RC3 -1.3888 FAU .07999
FDE 4.3016 FRA 3.8792 FC3 -1.9044 B8P 9977
BDE 4.1010 BRA 3.1875 BC3 1.7268 F8P 1022

LAUNCH DATE APR 4 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC DISTANCE 559.492 EARTH TO MARS
RL 149.61 LAL -.00 LOL 193.58 VL 32.261 GAL -4.12 AZL 82.90 HCA 187.19 SMA 180.95 ECC .18714 INC 7.0965 V1 29.784
PLANETOCENTRIC CONIC
C3 28.375 VHL 5.327 DLA 35.31 RAL 318.28 RAD 8646.4 VEL 12.179 PTH 7.14 VHP 4.813 DPA -87.30 RAP 311.19 ECC 1.4670
DIFFERENTIAL CORRECTIONS
TDE 1.8125 TRA .9828 TC3 -1.3303 BAU .7734
RDE 2.7617 RRA 2.8911 RC3 -1.5451 FAU .09638
FDE 4.6883 FRA 5.1230 FC3 -2.9406 B8P 9671
BDE 3.3033 BRA 3.0536 BC3 2.0389 F8P 1358

LAUNCH DATE APR 4 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC DISTANCE 563.859 EARTH TO MARS
RL 149.61 LAL -.00 LOL 193.58 VL 32.260 GAL -4.16 AZL 84.18 HCA 188.38 SMA 180.94 ECC .18731 INC 5.8519 V1 29.784
PLANETOCENTRIC CONIC
C3 23.780 VHL 4.876 DLA 29.86 RAL 320.75 RAD 8644.5 VEL 11.890 PTH 6.99 VHP 4.424 DPA -83.92 RAP 306.90 ECC 1.3914
DIFFERENTIAL CORRECTIONS
TDE 1.6372 TRA 1.1416 TC3 -1.6325 BAU .7349
RDE 2.2410 RRA 2.6990 RC3 -1.6366 FAU .11056
FDE 4.9016 FRA 6.2359 FC3 -4.0249 B8P 9375
BDE 2.7754 BRA 2.9305 BC3 2.3117 F8P 1661

LAUNCH DATE APR 4 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 149.61 LAL -.00 LOL 193.58 VL 32.260 GAL -4.20 AZL 85.08 HCA 189.58 SMA 180.93 ECC .18755 INC 4.9176 V1 29.784
 RP 212.57 LAP -.82 LOP 23.13 VP 22.697 GAP 3.95 AZP 94.85 TAL 332.83 TAP 162.41 RCA 147.00 APO 214.87 V2 25.815
 RC 132.153 GL 37.05 GP -38.17 ZAL 128.65 ZAP 88.52 ETS 177.70 ZAE 121.09 ETE 207.87 ZAC 64.32 ETC 271.46 LVI 26.15

Planetary Centric Conic: C3 20.963 VHL 4.579 DLA 24.77 RAL 322.85 RAD 6643.3 VEL 11.873 PTH 6.89 VHP 4.154 DPA -60.87 RAP 303.59 ECC 1.3480
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 22 29 3653.07 -47.58 142.63 205.76 91.59 15 23 22 2653.1 -41.37 109.63
 60.00 14 30 5 3632.83 -40.16 140.62 205.58 86.33 15 30 38 2632.8 -37.24 109.69
 70.00 14 42 52 3595.15 -33.28 136.69 204.69 81.82 15 42 47 2595.2 -33.20 107.95
 80.00 15 8 43 3514.00 -27.64 129.39 203.54 78.24 16 7 17 2514.0 -29.79 102.18
 90.00 16 7 59 3322.60 -25.18 114.72 202.92 76.68 17 3 22 2322.6 -28.27 88.14
 100.00 17 51 35 2988.48 -27.64 90.76 203.54 78.24 18 41 24 1988.5 -29.79 63.54
 110.00 19 42 18 2641.97 -33.28 65.60 204.69 81.82 20 26 20 1642.0 -33.20 7.86

Differential Corrections: TDE 1.5187 TRA 1.2967 TC3-1.9248 BAU .7158 SGT 3148.4 SGR 4450.1 SG3 1089.5 ORBIT DETERMINATION ACCURACY
 RDE 1.8695 RRA 2.5102 RC3-1.6786 FAU .12307 RRT .9520 RRF .9992 RTF .9522 ST 98.8 SR 126.0 SS 124.3
 FDE 4.9988 FRA 7.1913 FC3-5.0826 BSP 9067 SGB 5451.2 R23 .0990 R13 .9943 CRT .9899 CRS -.9997 CST -.9858
 BDE 2.4087 BRA 2.8253 BC3 2.5540 FSP 1914 SG1 5392.9 SG2 795.5 THA 55.17 LSA 203.5 MSA 13.6 SSA .3
 EL1 161.3 EL2 11.2 ALF 52.41

LAUNCH DATE APR 4 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 149.61 LAL -.00 LOL 193.58 VL 32.260 GAL -4.24 AZL 85.81 HCA 190.77 SMA 180.94 ECC .18785 INC 4.1909 V1 29.784
 RP 212.86 LAP -.78 LOP 24.32 VP 22.660 GAP 3.76 AZP 94.12 TAL 332.58 TAP 163.35 RCA 146.95 APO 214.93 V2 25.782
 RC 134.475 GL 32.49 GP -35.19 ZAL 131.20 ZAP 86.85 ETS 176.66 ZAE 121.03 ETE 204.74 ZAC 67.33 ETC 271.24 LVI 23.69

Planetary Centric Conic: C3 19.181 VHL 4.377 DLA 20.52 RAL 324.86 RAD 6642.8 VEL 11.797 PTH 6.82 VHP 3.961 DPA -58.14 RAP 300.91 ECC 1.3153
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 49 22 3540.35 -46.79 131.86 201.26 99.85 15 48 22 2540.3 -37.66 101.38
 60.00 15 4 15 3500.67 -40.14 129.40 202.36 93.94 16 2 36 2500.7 -34.20 100.00
 70.00 15 27 23 3432.57 -34.15 124.09 202.57 89.21 16 24 36 2432.6 -30.90 95.84
 80.00 16 6 54 3308.66 -29.59 114.47 202.34 85.84 17 2 3 2308.7 -28.31 87.12
 90.00 17 14 48 3089.46 -27.79 98.19 202.17 84.53 18 6 18 2089.5 -27.27 71.20
 100.00 18 49 46 2783.15 -29.59 75.84 202.34 85.84 19 36 9 1783.1 -28.31 48.49
 110.00 20 26 49 2479.39 -34.15 53.01 202.57 89.21 21 8 9 1479.4 -30.90 24.76

Differential Corrections: TDE 1.4430 TRA 1.4548 TC3-2.1888 BAU .7044 SGT 3372.4 SGR 4146.1 SG3 1211.3 ORBIT DETERMINATION ACCURACY
 RDE 1.6022 RRA 2.3370 RC3-1.6646 FAU .13276 RRT .9580 RRF .9991 RTF .9581 ST 99.3 SR 115.8 SS 126.8
 FDE 5.0448 FRA 8.0117 FC3-5.9986 BSP 8898 SGB 5344.5 R23 .1110 R13 .9929 CRT .9922 CRS -.9994 CST -.9875
 BDE 2.1562 BRA 2.7528 BC3 2.7499 FSP 2140 SG1 5290.4 SG2 758.3 THA 51.13 LSA 197.9 MSA 12.6 SSA .4
 EL1 152.2 EL2 9.4 ALF 49.42

LAUNCH DATE APR 4 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 149.61 LAL -.00 LOL 193.58 VL 32.261 GAL -4.29 AZL 86.39 HCA 191.96 SMA 180.95 ECC .18821 INC 3.6808 V1 29.784
 RP 213.16 LAP -.73 LOP 25.52 VP 22.623 GAP 3.56 AZP 93.53 TAL 332.32 TAP 164.28 RCA 146.89 APO 215.01 V2 25.749
 RC 136.814 GL 28.53 GP -32.54 ZAL 133.31 ZAP 85.10 ETS 175.76 ZAE 120.61 ETE 201.88 ZAC 70.00 ETC 271.03 LVI 21.53

Planetary Centric Conic: C3 17.979 VHL 4.240 DLA 16.86 RAL 326.25 RAD 6641.9 VEL 11.748 PTH 6.78 VHP 3.821 DPA -55.70 RAP 298.69 ECC 1.2959
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 21 3448.66 -45.38 123.47 198.00 106.17 16 8 50 2448.7 -34.22 95.33
 60.00 15 31 34 3394.87 -39.27 120.54 199.91 99.89 16 28 8 2394.9 -31.16 92.68
 70.00 16 1 29 3306.80 -33.83 114.29 200.79 95.00 16 56 35 2306.8 -28.29 86.98
 80.00 16 48 30 3159.45 -29.82 103.40 201.07 91.65 17 41 9 2159.5 -26.11 76.59
 90.00 18 0 17 2927.75 -28.28 86.40 201.10 90.41 18 49 4 1927.7 -25.26 59.80
 100.00 19 31 22 2633.92 -29.82 64.77 201.07 91.65 20 15 15 1633.9 -26.11 37.96
 110.00 21 0 55 2353.62 -33.83 43.21 200.79 95.00 21 40 9 1353.6 -28.29 15.90

Differential Corrections: TDE 1.3919 TRA 1.6102 TC3-2.4330 BAU .7029 SGT 3600.4 SGR 3659.6 SG3 1310.8 ORBIT DETERMINATION ACCURACY
 RDE 1.3997 RRA 2.1744 RC3-1.6224 FAU .14086 RRT .9626 RRF .9988 RTF .528 CRT .9944 CRS -.9991 CST -.9892
 FDE 5.0449 FRA 8.6902 FC3-6.7826 BSP 8766 SGB 5276.2 R23 .1220 R13 .9914 LSA 193.2 MSA 11.7 SSA .5
 BDE 1.9740 BRA 2.7057 BC3 2.9243 FSP 2322 SG1 5228.8 SG2 720.3 THA 47.07 EL1 145.0 EL2 7.7 ALF 46.44

LAUNCH DATE APR 4 1971

FLIGHT TIME 240.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 149.61 LAL -.00 LOL 193.58 VL 32.262 GAL -4.33 AZL 86.87 HCA 193.15 SMA 180.97 ECC .18862 INC 3.1319 V1 29.784
 RP 213.46 LAP -.71 LOP 26.71 VP 22.586 GAP 3.37 AZP 93.05 TAL 332.05 TAP 165.20 RCA 146.84 APO 215.11 V2 25.714
 RC 139.171 GL 25.08 GP -30.19 ZAL 135.07 ZAP 83.30 ETS 174.98 ZAE 119.90 ETE 199.29 ZAC 72.37 ETC 270.83 LVI 19.64

Planetary Centric Conic: C3 17.196 VHL 4.147 DLA 13.68 RAL 327.65 RAD 6641.6 VEL 11.714 PTH 6.75 VHP 3.719 DPA -53.53 RAP 296.80 ECC 1.2830
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 29 48 3373.11 -43.74 116.94 195.78 110.98 16 26 1 2373.1 -31.15 90.74
 60.00 15 54 7 3308.39 -38.02 113.53 198.19 104.50 16 49 15 2308.4 -28.36 87.08
 70.00 16 29 0 3205.71 -32.96 106.54 199.52 99.50 17 22 26 2205.7 -23.76 80.22
 80.00 17 21 5 3042.56 -29.27 94.76 200.11 96.16 18 11 47 2042.6 -23.80 68.67
 90.00 18 35 17 2803.06 -27.88 77.31 200.26 94.94 19 22 0 1803.1 -23.06 51.33
 100.00 20 3 56 2517.03 -29.27 56.12 200.11 96.16 20 45 53 1517.0 -23.80 30.04
 110.00 21 28 27 2252.53 -32.96 35.45 199.52 99.50 22 5 59 1252.5 -25.76 9.14

Differential Corrections: TDE 1.3583 TRA 1.7630 TC3-2.6552 BAU .7097 SGT 3828.4 SGR 3584.8 SG3 1386.9 ORBIT DETERMINATION ACCURACY
 RDE 1.2362 RRA 2.0172 RC3-1.5744 FAU .14864 RRT .9671 RRF .9985 RTF .9673 ST 101.1 SR 95.7 SS 127.5
 FDE 4.8969 FRA 9.2136 FC3-7.4831 BSP 8626 SGB 5244.8 R23 .1300 R13 .9900 CRT .9963 CRS -.9987 CST -.9906
 BDE 1.8366 BRA 2.6790 BC3 3.0869 FSP 2433 SG1 5201.6 SG2 671.3 THA 43.05 LSA 188.4 MSA 10.9 SSA .5
 EL1 139.1 EL2 6.0 ALF 43.40

LAUNCH DATE APR 4 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC

RL 149.61 LAL -.00 LOL 193.58 VL 32.264 GAL -4.36 AZL 87.27 HCA 194.33 SMA 181.00 ECC .18909 INC 2.7337 V1 29.784
 RP 213.77 LAP -.68 LOP 27.90 VP 22.549 GAP 3.19 AZP 92.65 TAL 331.77 TAP 166.10 RCA 146.78 APO 215.23 V2 25.650
 RC 141.545 GL 22.07 GP -28.10 ZAL 136.54 ZAP 81.50 ETS 174.32 ZAE 118.98 ETE 196.99 ZAC 74.48 ETC 270.65 LVI 17.97

DISTANCE 584,530

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.684 VHL 4.085 DLA 10.93 RAL 328.91 RAD 6641.3 VEL 11.693 PTH 6.73 VHP 3.643 DPA -51.58 RAP 295.17 ECC 1.2748
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 45 34 3310.24 -42.08 111.82 194.34 114.65 16 40 44 2310.2 -28.46 87.16
 60.00 16 13 12 3236.72 -36.65 107.94 197.09 108.07 17 7 8 2236.7 -23.84 82.68
 70.00 16 51 58 3122.66 -31.85 100.31 198.70 103.03 17 44 0 2122.7 -23.42 74.91
 80.00 17 47 48 2947.73 -28.38 87.85 199.51 99.68 18 36 56 1947.7 -21.61 62.49
 90.00 19 3 44 2702.66 -27.08 70.08 199.74 98.48 19 48 47 1702.7 -20.92 44.75
 100.00 20 30 40 2422.21 -28.38 49.22 199.51 99.68 21 11 2 1422.2 -21.61 23.85
 110.00 21 51 24 2169.47 -31.85 29.23 198.70 103.03 22 27 33 1169.5 -23.42 3.83

DIFFERENTIAL CORRECTIONS

TDE 1.3411 TRA 1.9176 TC3-2.8534 BAU .7172
 RDE 1.1198 RRA 1.8851 RC3-1.4823 FAU .15218
 FDE 4.9727 FRA 9.8678 FC3-7.8966 B8P 8683
 BDE 1.7472 BRA 2.6890 BC3 3.2154 F8P 2575

MID-COURSE EXECUTION ACCURACY

SGT 4059.3 SGR 3344.8 SG3 1450.5
 RRT .9690 RRF .9981 RTF .9696
 SGB 5259.7 R23 .1385 R13 .9885
 SG1 5220.2 SG2 642.8 THA 39.31

ORBIT DETERMINATION ACCURACY

ST 102.7 SR 88.3 SS 127.8
 CRT .9979 CRS -.9981 CST -.9921
 LSA 186.0 MSA 10.1 S8A .8
 EL1 135.4 EL2 4.3 ALF 40.89

LAUNCH DATE APR 4 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 149.61 LAL -.00 LOL 193.58 VL 32.268 GAL -4.44 AZL 87.60 HCA 195.51 SMA 181.04 ECC .18962 INC 2.3962 V1 29.784
 RP 214.08 LAP -.64 LOP 29.08 VP 22.512 GAP 3.00 AZP 92.31 TAL 331.47 TAP 166.98 RCA 146.71 APO 215.37 V2 25.645
 RC 143.936 GL 19.42 GP -26.22 ZAL 137.78 ZAP 79.69 ETS 173.76 ZAE 117.90 ETE 194.94 ZAC 76.37 ETC 270.49 LVI 16.49

DISTANCE 588,701

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.361 VHL 4.045 DLA 8.54 RAL 330.06 RAD 6641.2 VEL 11.679 PTH 6.71 VHP 3.589 DPA -49.84 RAP 293.74 ECC 1.2695
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 15 3257.51 -40.50 107.75 193.48 117.48 16 53 33 2257.5 -26.12 84.32
 60.00 16 29 37 3176.71 -35.29 103.43 196.44 110.87 17 22 34 2176.7 -23.62 79.15
 70.00 17 11 32 3053.41 -30.68 95.26 198.26 105.80 18 2 25 2053.4 -21.31 70.63
 80.00 18 10 20 2869.20 -27.35 82.25 199.22 102.46 18 58 9 1869.2 -19.60 57.32
 90.00 19 27 37 2619.82 -26.11 64.21 199.51 101.26 20 11 16 1619.8 -18.85 39.47
 100.00 20 53 12 2345.87 -27.35 43.61 199.22 102.46 21 32 16 1343.7 -19.60 18.89
 110.00 22 10 58 2100.23 -30.68 24.18 198.26 105.80 22 45 58 1100.2 -21.31 339.55

DIFFERENTIAL CORRECTIONS

TDE 1.3398 TRA 2.0768 TC3-3.0217 BAU .7251
 RDE 1.0360 RRA 1.7720 RC3-1.3632 FAU .15208
 FDE 4.9999 FRA10.1197 FC3-8.0464 B8P 8889
 BDE 1.6937 BRA 2.7301 BC3 3.3150 F8P 2745

MID-COURSE EXECUTION ACCURACY

SGT 4292.7 SGR 3132.5 SG3 1503.1
 RRT .9691 RRF .9976 RTF .9705
 SGB 5314.1 R23 .1475 R13 .9888
 SG1 5276.8 SG2 628.1 THA 35.86

ORBIT DETERMINATION ACCURACY

ST 104.9 SR 82.7 SS 128.9
 CRT .9991 CRS -.9974 CST -.9938
 LSA 185.4 MSA 9.3 S8A .8
 EL1 133.6 EL2 2.7 ALF 38.23

LAUNCH DATE APR 4 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 149.61 LAL -.00 LOL 193.58 VL 32.269 GAL -4.50 AZL 87.89 HCA 196.89 SMA 181.08 ECC .19019 INC 2.1060 V1 29.784
 RP 214.39 LAP -.60 LOP 30.26 VP 22.473 GAP 2.81 AZP 92.02 TAL 331.17 TAP 167.86 RCA 146.64 APO 215.52 V2 25.609
 RC 146.344 GL 17.10 GP -24.54 ZAL 138.83 ZAP 77.90 ETS 173.28 ZAE 116.69 ETE 193.12 ZAC 78.07 ETC 270.33 LVI 15.18

DISTANCE 592,875

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.173 VHL 4.022 DLA 6.45 RAL 331.11 RAD 6641.1 VEL 11.671 PTH 6.71 VHP 3.550 DPA -48.27 RAP 292.47 ECC 1.2662
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 15 3212.97 -39.05 104.47 193.03 119.70 17 4 47 2213.0 -24.10 82.01
 60.00 16 43 55 3126.02 -34.00 99.75 196.14 113.08 17 36 1 2126.0 -21.68 76.27
 70.00 17 28 27 2995.01 -29.52 91.11 198.11 108.01 18 18 22 1995.0 -19.45 67.13
 80.00 18 29 42 2803.18 -26.30 77.63 199.18 104.67 19 16 25 1803.2 -17.79 53.45
 90.00 19 48 3 2550.33 -25.10 59.37 199.52 103.48 20 30 34 1550.3 -17.11 35.15
 100.00 21 12 34 2277.66 -26.30 38.99 199.18 104.67 21 50 32 1277.7 -17.79 14.82
 110.00 22 27 54 2041.83 -29.52 20.03 198.11 108.01 23 1 56 1041.8 -19.45 336.05

DIFFERENTIAL CORRECTIONS

TDE 1.3391 TRA 2.2263 TC3-3.1870 BAU .7437
 RDE .9498 RRA 1.6481 RC3-1.2942 FAU .15616
 FDE 4.9089 FRA10.3562 FC3-8.3594 B8P 8922
 BDE 1.6418 BRA 2.7699 BC3 3.4397 F8P 2769

MID-COURSE EXECUTION ACCURACY

SGT 4516.6 SGR 2915.3 SG3 1532.7
 RRT .9716 RRF .9970 RTF .5.33
 SGB 5375.7 R23 .1486 R13 .9860
 SG1 5344.0 SG2 583.1 THA 32.53

ORBIT DETERMINATION ACCURACY

ST 108.8 SR 76.4 SS 127.2
 CRT .9997 CRS -.9964 CST -.9947
 LSA 182.6 MSA 8.9 S8A .9
 EL1 131.3 EL2 1.4 ALF 35.88

LAUNCH DATE APR 4 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 149.61 LAL -.00 LOL 193.58 VL 32.272 GAL -4.55 AZL 88.15 HCA 197.87 SMA 181.13 ECC .19081 INC 1.8936 V1 29.784
 RP 214.72 LAP -.57 LOP 31.44 VP 22.439 GAP 2.63 AZP 91.76 TAL 330.85 TAP 168.72 RCA 146.57 APO 215.69 V2 25.573
 RC 148.770 GL 15.04 GP -23.02 ZAL 139.73 ZAP 76.13 ETS 172.87 ZAE 115.40 ETE 191.52 ZAC 79.60 ETC 270.19 LVI 14.01

DISTANCE 597,046

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.087 VHL 4.011 DLA 4.82 RAL 332.08 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 3.524 DPA -46.84 RAP 291.35 ECC 1.2648
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 21 52 3175.19 -37.74 101.80 192.86 121.45 17 14 48 2175.2 -22.35 80.11
 60.00 16 56 33 3082.95 -32.81 96.72 196.09 114.85 17 47 55 2082.9 -19.99 73.89
 70.00 17 43 18 2945.40 -28.43 87.66 198.18 109.78 18 32 24 1945.4 -17.80 64.23
 80.00 18 46 36 2747.16 -25.28 73.78 199.34 106.45 19 32 23 1747.2 -16.19 50.07
 90.00 20 5 52 2491.40 -24.10 55.35 199.70 105.26 20 47 23 1491.4 -15.58 31.56
 100.00 21 29 28 2221.67 -25.28 35.15 199.34 106.45 22 6 30 1221.6 -16.19 11.44
 110.00 22 42 45 1992.22 -28.43 16.58 198.18 109.78 23 15 57 992.2 -17.80 333.15

DIFFERENTIAL CORRECTIONS

TDE 1.3453 TRA 2.3751 TC3-3.3388 BAU .7640
 RDE .8808 RRA 1.5361 RC3-1.2179 FAU .15864
 FDE 4.8256 FRA10.5386 FC3-8.5372 B8P 9009
 BDE 1.6080 BRA 2.8286 BC3 3.5522 F8P 2784

MID-COURSE EXECUTION ACCURACY

SGT 4737.6 SGR 2717.4 SG3 1551.7
 RRT .9730 RRF .9962 RTF .9754
 SGB 5461.6 R23 .1483 R13 .9854
 SG1 5434.2 SG2 546.4 THA 29.49

ORBIT DETERMINATION ACCURACY

ST 108.9 SR 71.1 SS 125.6
 CRT .9999 CRS -.9952 CST -.9956
 LSA 180.6 MSA 8.6 S8A 1.0
 EL1 130.0 EL2 1.0 ALF 33.13

LAUNCH DATE APR 4 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.276 GAL -4.62 AZL 88.37 HCA 199.04 SMA 181.19 ECC .19148 INC 1.6324 V1 29.784
 RP 215.04 LAP -.83 LOP 32.61 VP 22.402 GAP 2.45 AZP 91.54 TAL 330.83 TAP 169.57 RCA 146.49 APO 215.88 V2 25.536
 RC 131.211 GL 13.21 GP -21.65 ZAL 140.93 ZAP 74.40 ETS 172.53 ZAE 114.05 ETE 190.10 ZAC 80.98 ETC 270.06 LVI 12.95

PLANETOCENTRIC CONIC
 C3 16.080 VHL 4.010 DLA 3.01 RAL 332.98 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 3.508 DPA -45.55 RAP 290.35 ECC 1.2646
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 31 23 3143.01 -36.57 99.61 192.92 122.86 17 23 46 2143.0 -20.85 78.54
 60.00 17 7 46 3046.19 -31.73 94.21 196.24 116.28 17 58 33 2046.2 -18.51 71.91
 70.00 17 56 28 2902.99 -27.42 84.78 198.42 111.21 18 44 51 1903.0 -16.36 61.79
 80.00 19 1 31 2699.26 -24.31 70.55 199.64 107.89 19 46 30 1699.3 -14.77 47.22
 90.00 20 21 33 2441.03 -23.16 51.96 200.04 106.70 21 2 14 1441.0 -14.17 28.54
 100.00 21 44 23 2173.73 -24.31 31.92 199.64 107.89 22 20 37 1173.7 -14.77 8.59
 110.00 22 55 54 1949.81 -27.42 13.70 198.42 111.21 23 28 24 949.8 -16.36 380.71

DIFFERENTIAL CORRECTIONS
 TDE 1.3612 TRA 2.5280 TC3-3.4633 BAU .7833 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .8280 RRA 1.4378 RC3-1.1318 FAU .15886 SGT 4957.9 SGR 2540.8 SG3 1563.8 ST 111.4 SR 66.7 SS 124.6
 PDE 4.7710 FRA10.6936 FC3-0.5524 BSP 9204 RRT .9735 RRF .9952 RTF .9767 CRT .9995 CRS -.9920 CST -.9964
 BDE 1.5933 BRA 2.9063 BC3 3.6435 FSP 2815 SGB 5571.0 R23 .1475 R13 .9848 LSA 179.8 MSA 8.4 SSA 1.1
 SG1 5546.8 SG2 519.3 THA 26.77 EL1 129.9 EL2 1.9 ALF 30.91

LAUNCH DATE APR 4 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.280 GAL -4.68 AZL 88.58 HCA 200.21 SMA 181.25 ECC .19220 INC 1.4365 V1 29.784
 RP 215.37 LAP -.50 LOP 33.78 VP 22.366 GAP 2.26 AZP 91.35 TAL 330.20 TAP 170.41 RCA 146.42 APO 216.09 V2 25.499
 RC 153.669 GL 11.59 GP -20.40 ZAL 141.23 ZAP 72.70 ETS 172.23 ZAE 112.66 ETE 188.65 ZAC 82.24 ETC 269.94 LVI 11.99

PLANETOCENTRIC CONIC
 C3 16.136 VHL 4.017 DLA 1.59 RAL 333.83 RAD 6641.1 VEL 11.670 PTH 6.71 VHP 3.501 DPA -44.38 RAP 289.47 ECC 1.2656
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 39 56 3115.55 -35.54 97.79 193.14 124.00 17 31 52 2115.5 -19.55 77.22
 60.00 17 17 50 3014.72 -30.76 92.10 196.53 117.44 18 8 5 2014.7 -17.23 70.23
 70.00 18 6 12 2866.99 -26.90 82.35 198.78 112.38 18 55 39 1866.6 -15.09 59.73
 80.00 19 14 48 2636.06 -23.43 67.81 200.06 109.06 19 59 6 1658.1 -13.51 41.81
 90.00 20 35 29 2397.70 -22.28 49.09 200.48 107.88 21 15 27 1397.7 -12.92 25.97
 100.00 21 57 40 2132.55 -23.43 29.18 200.06 109.06 22 33 12 1132.5 -13.51 6.18
 110.00 23 7 39 1913.41 -26.90 11.27 198.78 112.38 23 39 32 913.4 -15.09 346.65

DIFFERENTIAL CORRECTIONS
 TDE 1.3616 TRA 2.6802 TC3-3.5775 BAU .8043 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .7836 RRA 1.3464 RC3-1.0505 FAU .15848 SGT 5173.9 SGR 2377.5 SG3 1567.4 ST 114.1 SR 62.9 SS 123.4
 PDE 4.7126 FRA10.7952 FC3-8.5029 BSP 9420 RRT .9735 RRF .9940 RTF .9779 CRT .9985 CRS -.9920 CST -.9971
 BDE 1.5884 BRA 2.9994 BC3 3.7285 FSP 2829 SGB 5694.0 R23 .1449 R13 .9844 LSA 179.2 MSA 8.3 SSA 1.2
 SG1 5672.4 SG2 495.6 THA 24.30 EL1 130.2 EL2 3.0 ALF 28.85

LAUNCH DATE APR 4 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.284 GAL -4.75 AZL 88.74 HCA 201.37 SMA 181.32 ECC .19296 INC 1.2615 V1 29.784
 RP 215.71 LAP -.46 LOP 34.95 VP 22.329 GAP 2.08 AZP 91.18 TAL 329.86 TAP 171.23 RCA 146.33 APO 216.31 V2 25.461
 RC 156.143 GL 10.13 GP -19.27 ZAL 141.86 ZAP 71.05 ETS 171.99 ZAE 111.24 ETE 187.75 ZAC 83.38 ETC 269.83 LVI 11.12

PLANETOCENTRIC CONIC
 C3 16.243 VHL 4.030 DLA .33 RAL 334.63 RAD 6641.1 VEL 11.674 PTH 6.71 VHP 3.500 DPA -43.30 RAP 288.68 ECC 1.2673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 42 3092.07 -34.84 96.28 193.47 124.92 17 39 14 2092.1 -18.43 78.11
 60.00 17 26 56 2987.72 -29.90 90.33 196.92 118.39 18 16 43 1987.7 -16.12 68.82
 70.00 18 16 46 2835.23 -25.67 80.29 199.24 113.34 19 6 2 1835.2 -13.98 57.98
 80.00 19 26 42 2622.54 -22.62 65.48 200.57 110.03 20 10 25 1622.5 -12.41 42.75
 90.00 20 47 59 2360.27 -21.48 46.64 201.01 108.85 21 27 19 1360.3 -11.81 23.77
 100.00 22 9 34 2097.01 -22.62 26.85 200.57 110.03 22 44 31 1097.0 -12.41 4.12
 110.00 23 18 13 1882.07 -25.67 9.21 199.24 113.34 23 49 35 882.1 -13.98 346.89

DIFFERENTIAL CORRECTIONS
 TDE 1.4060 TRA 2.8316 TC3-3.6804 BAU .8267 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .7467 RRA 1.2619 RC3 -.9732 FAU .15744 SGT 5385.3 SGR 2227.3 SG3 1584.1 ST 116.9 SR 59.5 SS 122.2
 PDE 4.6354 FRA10.8351 FC3-8.3918 BSP 9632 RRT .9730 RRF .9925 RTF .5.88 CRT .9971 CRS -.9900 CST -.9977
 BDE 1.5920 BRA 3.1001 BC3 3.8069 FSP 2830 SGB 5827.8 R23 .1413 R13 .9840 LSA 179.0 MSA 8.3 SSA 1.2
 SG1 5808.3 SG2 476.4 THA 22.08 EL1 131.1 EL2 4.1 ALF 26.95

LAUNCH DATE APR 4 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
 RL 149.61 LAL -.00 LOL 193.58 VL 32.289 GAL -4.82 AZL 88.90 HCA 202.53 SMA 181.40 ECC .19377 INC 1.1046 V1 29.784
 RP 216.04 LAP -.42 LOP 36.11 VP 22.293 GAP 1.90 AZP 91.02 TAL 329.51 TAP 172.04 RCA 146.25 APO 216.54 V2 25.424
 RC 158.631 GL 8.81 GP -18.23 ZAL 142.43 ZAP 69.44 ETS 171.78 ZAE 109.81 ETE 186.77 ZAC 84.43 ETC 269.73 LVI 10.32

PLANETOCENTRIC CONIC
 C3 16.391 VHL 4.049 DLA -.78 RAL 335.38 RAD 6641.2 VEL 11.680 PTH 6.72 VHP 3.506 DPA -42.31 RAP 287.98 ECC 1.2698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 54 46 3072.01 -33.85 95.02 193.90 125.68 17 45 58 2072.0 -17.46 75.18
 60.00 17 35 10 2964.53 -29.14 88.84 197.40 119.17 18 24 35 1964.5 -15.15 67.62
 70.00 18 26 20 2808.22 -24.93 78.54 199.77 114.14 19 15 8 1808.2 -13.02 56.48
 80.00 19 37 27 2591.79 -21.88 63.49 201.15 110.83 20 20 39 1591.8 -11.44 40.98
 90.00 20 59 15 2327.86 -20.75 44.54 201.60 109.66 21 38 2 1327.9 -10.84 21.89
 100.00 22 20 19 2086.26 -21.88 24.66 201.15 110.83 22 54 45 1066.3 -11.44 2.35
 110.00 23 27 46 1855.04 -24.93 7.46 199.77 114.14 23 58 41 855.0 -13.02 345.40

DIFFERENTIAL CORRECTIONS
 TDE 1.4351 TRA 2.9837 TC3-3.7709 BAU .8495 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .7160 RRA 1.1837 RC3 -.9003 FAU .15584 SGT 5592.9 SGR 2089.3 SG3 1555.2 ST 119.8 SR 56.6 SS 121.0
 PDE 4.6014 FRA10.8808 FC3-8.2312 BSP 9915 RRT .9721 RRF .9907 RTF .9795 CRT .9951 CRS -.9878 CST -.9982
 BDE 1.6038 BRA 3.2099 BC3 3.8769 FSP 2824 SGB 5970.4 R23 .1366 R13 .9838 LSA 179.2 MSA 8.5 SSA 1.3
 SG1 5952.6 SG2 460.7 THA 20.08 EL1 132.4 EL2 5.1 ALF 25.21

LAUNCH DATE APR 4 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 617.857

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.98 VL 32.294 GAL -4.89 AZL 89.04 HCA 203.69 SMA 181.40 ECC .19462 INC .9624 V1 29.784
RP 216.39 LAP -.39 LOP 37.27 VP 22.256 GAP 1.72 AZP 90.88 TAL 329.15 TAP 172.84 RCA 146.16 APO 216.79 V2 25.365
RC 181.134 GL 7.63 GP -17.28 ZAL 142.95 ZAP 67.87 ETS 171.61 ZAE 108.38 ETE 185.91 ZAC 85.38 ETC 269.64 LVI 9.59

PLANETOCENTRIC CONIC

C3 16.575 VHL 4.071 DLA -1.77 RAL 336.10 RAD 6641.3 VEL 11.688 PTH 6.72 VHP 3.516 DPA -41.40 RAP 267.37 ECC 1.2728
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 15 3054.89 -33.16 93.96 194.39 126.30 17 52 10 2054.9 -16.64 74.39
60.00 17 42 42 2944.63 -28.47 87.58 197.94 119.82 18 31 46 1944.6 -14.32 66.60
70.00 18 37 1 2784.90 -24.27 77.05 200.36 114.80 19 23 26 1784.9 -12.18 55.20
80.00 19 47 12 2565.16 -21.23 61.78 201.77 111.50 20 29 57 1565.2 -10.59 39.46
90.00 21 9 27 2299.74 -20.09 42.74 202.24 110.33 21 47 47 1299.7 -9.99 20.26
100.00 22 30 3 2039.63 -21.23 23.15 201.77 111.50 23 4 3 1039.6 -10.59 .83
110.00 23 36 27 1831.72 -24.27 5.97 200.36 114.80 24 6 59 831.7 -12.18 344.11

DIFFERENTIAL CORRECTIONS

TDE 1.4661 TRA 3.1351 TC3-3.8526 BAU .8734
RDE .6997 RRA 1.1109 RC3 -.8330 FAU .15390
FDE 4.5429 FRA10.8747 FC3-8.0387 BSP 10172
BDE 1.6202 BRA 3.3261 BC3 3.9417 FSP 2803

MID-COURSE EXECUTION ACCURACY

SGT 5795.2 SGR 1961.8 SG3 1541.1
RRT .9706 RRF .9886 RTF .9801
SGB 6118.2 R23 .1311 R13 .9836
SG1 6101.8 S62 448.3 THA 18.29

ORBIT DETERMINATION ACCURACY

ST 122.7 SR 53.9 SS 119.6
CRT .9926 CRS -.9851 CST -.9985
LSA 179.4 MSA 8.7 SSA 1.3
EL1 133.9 EL2 6.0 ALF 23.62

LAUNCH DATE APR 4 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 622.008

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.98 VL 32.299 GAL -4.96 AZL 89.17 HCA 204.85 SMA 181.56 ECC .19351 INC .8332 V1 29.784
RP 216.73 LAP -.35 LOP 38.43 VP 22.220 GAP 1.54 AZP 90.76 TAL 328.78 TAP 173.83 RCA 146.06 APO 217.06 V2 25.347
RC 183.649 GL 6.56 GP -16.40 ZAL 143.44 ZAP 66.35 ETS 171.46 ZAE 106.96 ETE 185.14 ZAC 86.26 ETC 269.57 LVI 8.91

PLANETOCENTRIC CONIC

C3 16.790 VHL 4.098 DLA -2.65 RAL 336.79 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 3.531 DPA -40.57 RAP 286.84 ECC 1.2763
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 7 12 3040.33 -32.57 93.07 194.93 126.82 17 57 52 2040.3 -15.93 73.72
60.00 17 49 35 2927.59 -27.89 86.51 198.53 120.36 18 38 23 1927.6 -13.60 65.73
70.00 18 44 57 2764.80 -23.69 75.78 200.99 115.35 19 31 2 1764.8 -11.45 54.10
80.00 19 56 4 2542.10 -20.65 60.32 202.44 112.06 20 38 27 1542.1 -9.85 38.15
90.00 21 18 45 2275.35 -19.51 41.19 202.91 110.89 21 56 40 1275.3 -9.25 18.86
100.00 22 38 56 2016.57 -20.65 21.69 202.44 112.06 23 12 33 1016.6 -9.85 359.52
110.00 23 44 23 1811.62 -23.69 4.70 200.99 115.35 24 14 35 811.6 -11.45 343.02

DIFFERENTIAL CORRECTIONS

TDE 1.5012 TRA 3.2871 TC3-3.9236 BAU .8975
RDE .6680 RRA 1.0432 RC3 -.7695 FAU .15143
FDE 4.4893 FRA10.8445 FC3-7.8083 BSP 10451
BDE 1.6431 BRA 3.4487 BC3 3.9984 FSP 2780

MID-COURSE EXECUTION ACCURACY

SGT 5993.1 SGR 1844.6 SG3 1523.2
RRT .9886 RRF .9861 RTF .9806
SGB 6270.5 R23 .1253 R13 .9834
SG1 6255.1 S62 439.5 THA 16.69

ORBIT DETERMINATION ACCURACY

ST 125.7 SR 51.6 SS 118.3
CRT .9096 CRS -.8822 CST -.9989
LSA 180.0 MSA 9.0 SSA 1.3
EL1 135.7 EL2 6.9 ALF 22.18

LAUNCH DATE APR 4 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 626.156

EARTH TO MARS

RL 149.31 LAL -.00 LOL 193.98 VL 32.305 GAL -5.04 AZL 89.28 HCA 206.00 SMA 181.65 ECC .19644 INC .7154 V1 29.784
RP 217.08 LAP -.31 LOP 39.58 VP 22.184 GAP 1.36 AZP 90.64 TAL 328.41 TAP 174.41 RCA 145.97 APO 217.33 V2 25.308
RC 186.178 GL 6.56 GP -15.60 ZAL 143.90 ZAP 64.88 ETS 171.35 ZAE 105.55 ETE 184.46 ZAC 87.07 ETC 269.50 LVI 8.27

PLANETOCENTRIC CONIC

C3 17.032 VHL 4.127 DLA -3.43 RAL 337.45 RAD 6641.5 VEL 11.708 PTH 6.74 VHP 3.550 DPA -39.79 RAP 286.38 ECC 1.2803
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 42 3028.00 -32.07 92.33 195.92 127.24 18 3 10 2028.0 -15.33 73.16
60.00 17 55 56 2913.04 -27.39 85.61 199.16 120.80 18 44 29 1913.0 -12.99 64.99
70.00 18 52 13 2747.51 -23.18 74.69 201.66 115.81 19 38 1 1747.5 -10.81 53.16
80.00 20 4 12 2522.15 -20.13 59.06 203.13 112.53 20 46 14 1522.2 -9.20 37.02
90.00 21 27 14 2254.21 -18.99 39.85 203.62 111.38 22 4 48 1254.2 -8.59 17.65
100.00 22 47 4 1996.82 -20.13 20.43 203.13 112.53 23 20 20 996.8 -9.20 358.39
110.00 23 51 39 1794.33 -23.18 3.61 201.66 115.81 24 21 34 794.3 -10.81 342.08

DIFFERENTIAL CORRECTIONS

TDE 1.5391 TRA 3.4395 TC3-3.9852 BAU .9217
RDE .6498 RRA .9802 RC3 -.7104 FAU .14861
FDE 4.4370 FRA10.7936 FC3-7.5538 BSP 10730
BDE 1.6706 BRA 3.5784 BC3 4.0481 FSP 2731

MID-COURSE EXECUTION ACCURACY

SGT 6186.2 SGR 1736.7 SG3 1501.9
RRT .9660 RRF .9831 RTF .509
SGB 6425.4 R23 .1193 R13 .9833
SG1 6410.7 S62 433.5 THA 15.24

ORBIT DETERMINATION ACCURACY

ST 128.8 SR 49.3 SS 117.1
CRT .9861 CRS -.9789 CST -.9991
LSA 180.7 MSA 9.4 SSA 1.4
EL1 137.8 EL2 7.7 ALF 20.84

LAUNCH DATE APR 4 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

DISTANCE 630.299

EARTH TO MARS

RL 149.61 LAL -.00 LOL 193.88 VL 32.311 GAL -5.12 AZL 89.39 HCA 207.15 SMA 181.74 ECC .19742 INC .8065 V1 29.784
RP 217.43 LAP -.28 LOP 40.73 VP 22.147 GAP 1.18 AZP 90.54 TAL 328.03 TAP 175.18 RCA 145.86 APO 217.62 V2 25.289
RC 186.717 GL 4.70 GP -14.88 ZAL 144.34 ZAP 63.45 ETS 171.25 ZAE 104.15 ETE 183.85 ZAC 87.82 ETC 269.45 LVI 7.68

PLANETOCENTRIC CONIC

C3 17.299 VHL 4.159 DLA -4.13 RAL 338.08 RAD 6641.6 VEL 11.719 PTH 6.75 VHP 3.572 DPA -39.07 RAP 285.99 ECC 1.2847
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 48 3017.64 -31.94 91.71 196.14 127.59 18 8 6 2017.6 -14.83 72.70
60.00 18 1 47 2900.68 -26.85 84.85 199.81 121.17 18 50 7 1900.7 -12.46 64.37
70.00 18 58 54 2732.70 -22.74 73.77 202.35 116.20 19 44 27 1732.7 -10.27 52.36
80.00 20 11 39 2504.95 -19.68 57.99 203.85 112.92 20 53 24 1504.9 -8.64 36.05
90.00 21 35 1 2235.93 -18.53 38.71 204.35 111.75 22 12 17 1235.9 -8.03 16.61
100.00 22 54 31 1979.42 -19.68 19.35 203.85 112.92 23 27 30 979.4 -8.64 357.42
110.00 0 2 16 1779.51 -22.74 2.69 202.35 116.20 0 31 56 779.5 -10.27 341.27

DIFFERENTIAL CORRECTIONS

TDE 1.5771 TRA 3.5902 TC3-4.0440 BAU .9476
RDE .6397 RRA .9207 RC3 -.6578 FAU .14593
FDE 4.3766 FRA10.7182 FC3-7.3031 BSP 11002
BDE 1.6997 BRA 3.7064 BC3 4.0972 FSP 2709

MID-COURSE EXECUTION ACCURACY

SGT 6373.8 SGR 1636.6 SG3 1477.4
RRT .9628 RRF .9795 RTF .9812
SGB 6580.5 R23 .1129 R13 .9832
SG1 6566.5 S62 429.5 THA 13.95

ORBIT DETERMINATION ACCURACY

ST 131.8 SR 47.6 SS 115.6
CRT .9821 CRS -.9752 CST -.9993
LSA 181.4 MSA 9.8 SSA 1.4
EL1 139.8 EL2 8.5 ALF 19.63

LAUNCH DATE APR 4 1971 FLIGHT TIME 266.00 ARRIVAL DATE DEC 26 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 32.317 GAL -5.20 AZL 89.49 HCA 208.29 SMA 181.84 ECC .19843 INC .5067 V1 29.784
 RP 217.78 LAP -2.24 LOP 41.87 VP 22.111 GAP 1.01 AZP 90.45 TAL 327.64 TAP 175.93 RCA 145.76 APO 218.73 V2 25.229
 RC 171.268 GL 3.90 GP -14.16 ZAL 144.76 ZAP 62.07 ETS 171.17 ZAE 102.77 ETE 183.31 ZAC 88.51 ETC 269.40 LVI 7.13

Distance 634.438 Earth to Mars
 Planetary Centric Conic: C3 17.589 VHL 4.194 DLA -4.76 RAL 338.70 RAD 6641.7 VEL 11.731 PTH 6.76 VHP 3.597 DPA -38.40 RAP 285.66 ECC 1.2895
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 33 3009.01 -31.28 91.20 196.78 127.88 18 12 42 2009.0 -14.41 72.31
 60.00 18 7 11 2890.27 -26.59 84.21 200.49 121.48 18 55 22 1890.3 -12.02 63.85
 70.00 19 5 4 2720.07 -22.36 72.99 203.06 116.52 19 50 24 1720.1 -9.80 51.68
 80.00 20 18 30 2490.17 -19.29 57.07 204.59 113.25 21 0 0 1490.2 -8.16 38.22
 90.00 21 42 11 2220.18 -18.13 37.73 205.10 112.08 22 19 11 1220.2 -7.53 15.71
 100.00 23 1 22 1964.65 -19.29 18.43 204.59 113.25 23 34 7 964.6 -8.16 356.59
 110.00 0 8 26 1766.89 -22.36 1.91 203.06 116.52 0 37 53 766.9 -9.60 340.59

Differential Corrections: TDE 1.6197 TRA 3.7435 TC3-4.0909 BAU .9725 SGT 6557.9 SGR 1545.3 SG3 1451.4 ST 134.9 SR 46.0 SS 114.3
 RDE .6210 RRA .8656 RC3 -.6080 FAU .14277 RRT .9588 RRF .9753 RTF .9814 CRT .9777 CR8 -.9713 CST -.9995
 FDE 4.3250 FRA10.6344 FC3-7.0270 BSP 11295 SGB 6737.5 R23 .1067 R13 .9830 LSA 182.4 MSA 10.2 SSA 1.4
 BDE 1.7347 BRA 3.8422 BC3 4.1358 FSP 2670 SG1 6723.9 SG2 428.0 THA 12.78 EL1 142.2 EL2 9.2 ALF 18.52

LAUNCH DATE APR 4 1971 FLIGHT TIME 268.00 ARRIVAL DATE DEC 28 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 32.323 GAL -5.28 AZL 89.59 HCA 209.43 SMA 181.95 ECC .19949 INC .4137 V1 29.784
 RP 218.15 LAP -2.20 LOP 43.01 VP 22.075 GAP .83 AZP 90.36 TAL 327.25 TAP 176.88 RCA 145.65 APO 218.24 V2 25.189
 RC 173.829 GL 3.16 GP -13.52 ZAL 145.16 ZAP 60.75 ETS 171.12 ZAE 101.41 ETE 182.83 ZAC 89.15 ETC 269.37 LVI 6.60

Distance 638.572 Earth to Mars
 Planetary Centric Conic: C3 17.900 VHL 4.231 DLA -5.32 RAL 339.29 RAD 6641.9 VEL 11.744 PTH 6.77 VHP 3.624 DPA -37.78 RAP 285.39 ECC 1.2946
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 58 3001.93 -30.98 90.79 197.45 128.11 18 17 0 2001.9 -14.06 71.99
 60.00 18 12 13 2881.58 -26.28 83.69 201.19 121.73 19 0 15 1881.6 -11.65 63.41
 70.00 19 10 46 2709.41 -22.03 72.33 203.79 116.78 19 55 56 1709.4 -9.41 51.10
 80.00 20 24 50 2477.57 -18.94 56.29 205.34 113.52 21 6 7 1477.6 -7.74 34.52
 90.00 21 48 47 2206.70 -17.79 36.89 205.86 112.35 22 25 33 1206.7 -7.11 14.94
 100.00 23 7 41 1952.04 -18.94 17.65 205.34 113.52 23 40 13 952.0 -7.74 355.89
 110.00 0 14 9 1756.22 -22.03 1.25 203.79 116.78 0 43 25 756.2 -9.4 340.02

Differential Corrections: TDE 1.6636 TRA 3.8960 TC3-4.1328 BAU .9981 SGT 6736.7 SGR 1481.0 SG3 1423.4 ST 138.0 SR 44.5 SS 112.9
 RDE .6104 RRA .8137 RC3 -.5823 FAU .13948 RRT .9541 RRF .9704 RTF .9815 CRT .9729 CR8 -.9871 CST -.9996
 FDE 4.2727 FRA10.5356 FC3-6.7460 BSP 11577 SGB 6893.3 R23 .1008 R13 .9829 LSA 183.4 MSA 10.6 SSA 1.4
 BDE 1.7721 BRA 3.9801 BC3 4.1707 FSP 2625 SG1 6880.0 SG2 428.5 THA 11.74 EL1 144.6 EL2 9.2 ALF 17.52

LAUNCH DATE APR 4 1971 FLIGHT TIME 270.00 ARRIVAL DATE DEC 30 1971

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 32.330 GAL -5.37 AZL 89.67 HCA 210.57 SMA 182.05 ECC .20058 INC .3284 V1 29.784
 RP 218.51 LAP -1.17 LOP 44.15 VP 22.039 GAP .65 AZP 90.28 TAL 326.85 TAP 177.41 RCA 145.54 APO 218.57 V2 25.149
 RC 178.400 GL 2.48 GP -12.93 ZAL 145.55 ZAP 59.44 ETS 171.07 ZAE 100.08 ETE 182.40 ZAC 89.75 ETC 269.34 LVI 6.10

Distance 642.701 Earth to Mars
 Planetary Centric Conic: C3 18.231 VHL 4.270 DLA -5.81 RAL 339.86 RAD 6642.0 VEL 11.758 PTH 6.79 VHP 3.654 DPA -37.20 RAP 285.18 ECC 1.3000
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 6 2986.24 -30.74 90.46 198.13 128.29 18 21 3 1996.2 -13.78 71.74
 60.00 18 16 54 2874.45 -26.02 83.26 201.90 121.93 19 4 48 1874.4 -11.34 63.05
 70.00 19 16 4 2700.48 -21.76 71.79 204.53 117.00 20 1 4 1700.5 -9.08 50.62
 80.00 20 30 40 2466.90 -18.85 55.63 206.10 113.74 21 11 47 1466.9 -7.39 33.92
 90.00 21 54 52 2195.24 -17.49 36.18 206.63 112.58 22 31 27 1195.2 -6.75 14.30
 100.00 23 13 32 1941.37 -18.65 17.00 206.10 113.74 23 45 53 941.4 -7.39 355.29
 110.00 0 19 26 1747.30 -21.76 .70 204.53 117.00 0 48 33 747.3 -9.08 339.54

Differential Corrections: TDE 1.7105 TRA 4.0510 TC3-4.1663 BAU 1.0234 SGT 6912.5 SGR 1393.9 SG3 1394.4 ST 141.1 SR 43.3 SS 111.5
 RDE .6019 RRA .7853 RC3 -.5199 FAU .13599 RRT .9486 RRF .9648 RTF .9815 CRT .9677 CR8 -.9826 CST -.9997
 FDE 4.2222 FRA10.4309 FC3-6.4577 BSP 11874 SGB 7049.7 R23 .0952 R13 .9827 LSA 184.7 MSA 11.1 SSA 1.4
 BDE 1.8133 BRA 4.1226 BC3 4.1986 FSP 2581 SG1 7036.5 SG2 430.4 THA 10.79 EL1 147.2 EL2 10.5 ALF 16.61

LAUNCH DATE APR 4 1971 FLIGHT TIME 272.00 ARRIVAL DATE JAN 1 1972

Heliocentric Conic: RL 149.61 LAL -0.00 LOL 193.58 VL 32.337 GAL -5.45 AZL 89.75 HCA 211.70 SMA 182.16 ECC .20171 INC .2485 V1 29.784
 RP 218.88 LAP -1.13 LOP 45.28 VP 22.003 GAP .47 AZP 90.21 TAL 326.44 TAP 178.14 RCA 145.42 APO 218.91 V2 25.109
 RC 178.981 GL 1.86 GP -12.38 ZAL 145.94 ZAP 58.19 ETS 171.04 ZAE 98.77 ETE 182.01 ZAC 90.30 ETC 269.32 LVI 5.62

Distance 646.824 Earth to Mars
 Planetary Centric Conic: C3 18.581 VHL 4.311 DLA -6.26 RAL 340.42 RAD 6642.2 VEL 11.773 PTH 6.80 VHP 3.685 DPA -36.66 RAP 285.02 ECC 1.3058
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 34 59 2991.78 -30.55 90.20 198.82 128.43 18 24 51 1991.8 -13.56 71.54
 60.00 18 21 16 2868.70 -25.81 82.91 202.63 122.09 19 9 4 1868.7 -11.10 62.77
 70.00 19 20 58 2693.13 -21.53 71.34 205.28 117.18 20 5 51 1693.1 -8.80 50.23
 80.00 20 36 5 2437.97 -18.41 53.08 206.87 113.93 21 17 3 1458.0 -7.10 33.42
 90.00 22 0 30 2185.59 -17.24 35.59 207.40 112.77 22 36 56 1185.6 -6.45 13.75
 100.00 23 18 57 1932.44 -18.41 16.45 206.87 113.93 23 51 9 932.4 -7.10 354.79
 110.00 0 24 20 1739.95 -21.53 .26 205.28 117.18 0 53 20 739.9 -8.80 339.15

Differential Corrections: TDE 1.7587 TRA 4.2055 TC3-4.1945 BAU 1.0488 SGT 7082.6 SGR 1312.8 SG3 1364.1 ST 144.2 SR 42.1 SS 110.2
 RDE .5951 RRA .7195 RC3 -.4813 FAU .13245 RRT .9421 RRF .9583 RTF .9815 CRT .9621 CR8 -.98579 CST -.9998
 FDE 4.1718 FRA10.3140 FC3-6.1711 BSP 12159 SGB 7203.3 R23 .0898 R13 .9825 LSA 186.0 MSA 11.5 SSA 1.3
 BDE 1.8567 BRA 4.2666 BC3 4.2221 FSP 2532 SG1 7190.2 SG2 433.7 THA 9.94 EL1 149.9 EL2 11.0 ALF 15.78

LAUNCH DATE APR 4 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC										DISTANCE 650.942										EARTH TO MARS																																													
RL	149.81	LAL	-.00	LOL	193.58	VL	32.344	GAL	-5.54	AZL	89.83	HCA	212.83	SMA	182.28	ECC	.20287	INC	.1729	V1	29.784	RP	219.25	LAP	-.09	LOP	46.41	VP	21.967	GAP	.29	AZP	90.15	TAL	326.03	TAP	178.85	RCA	145.30	APO	219.26	V2	25.068	RC	181.372	GL	1.29	GP	-11.86	ZAL	146.31	ZAP	56.99	ETS	171.02	ZAE	97.49	ETE	181.67	ZAC	90.81	ETC	269.31	LVI	5.17
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	18.950	VHL	4.353	DLA	-6.66	RAL	340.96	RAD	6642.4	VEL	11.788	PTH	6.61	VHP	3.719	DPA	-36.15	RAP	284.91	ECC	1.3119	ST	147.3	SR	41.1	SS	108.8																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9563	CRS	-.9529	CST	-.9998																																		
50.00	17	38	38	2988.44	-30.41	90.01	199.53	128.53	18	28	26	1988.4	-13.40	71.59	LSA	187.3	MSA	11.9	SSA	1.3																																													
60.00	18	25	20	2864.20	-25.65	82.65	203.36	122.22	19	13	5	1864.2	-10.91	62.55	EL1	152.5	EL2	11.6	ALF	15.02																																													
70.00	19	25	32	2687.19	-21.34	70.98	206.04	117.32	20	10	20	1687.2	-8.58	49.91																																																			
80.00	20	41	7	2450.62	-16.20	54.63	207.65	114.08	21	21	57	1450.6	-6.85	33.01																																																			
90.00	22	5	44	2177.60	-17.02	35.09	208.19	112.93	22	42	1	1177.6	-6.20	13.30																																																			
100.00	23	23	58	1923.09	-18.20	16.00	207.69	114.08	23	56	3	925.1	-6.85	354.38																																																			
110.00	0	28	55	1734.01	-21.34	359.89	206.04	117.32	0	57	49	734.0	-8.58	336.83																																																			

LAUNCH DATE APR 4 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC										DISTANCE 655.055										EARTH TO MARS																																													
RL	149.61	LAL	-.00	LOL	193.58	VL	32.351	GAL	-5.63	AZL	89.90	HCA	213.95	SMA	182.39	ECC	.20408	INC	.1016	V1	29.784	RP	219.62	LAP	-.06	LOP	47.54	VP	21.931	GAP	.11	AZP	90.09	TAL	325.61	TAP	179.56	RCA	145.17	APO	219.62	V2	25.028	RC	184.172	GL	.78	GP	-11.38	ZAL	146.68	ZAP	55.82	ETS	171.01	ZAE	96.23	ETE	181.36	ZAC	91.29	ETC	269.31	LVI	4.73
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.337	VHL	4.397	DLA	-7.01	RAL	341.49	RAD	6642.5	VEL	11.805	PTH	6.63	VHP	3.754	DPA	-35.67	RAP	284.85	ECC	1.3182	ST	150.4	SR	40.2	SS	107.4																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9902	CRS	-.9477	CST	-.9999																																		
50.00	17	42	3	2986.11	-30.31	89.87	200.25	128.61	18	31	50	1986.1	-13.29	71.29	LSA	188.7	MSA	12.4	SSA	1.3																																													
60.00	18	29	10	2860.84	-25.53	82.44	204.10	122.31	19	16	50	1860.8	-10.76	62.38	EL1	155.2	EL2	12.1	ALF	14.33																																													
70.00	19	29	48	2682.54	-21.20	70.69	206.81	117.43	20	14	31	1682.5	-8.41	49.66																																																			
80.00	20	45	47	2444.89	-18.04	54.26	208.43	114.20	21	26	31	1444.7	-6.66	32.68																																																			
90.00	22	10	34	2171.09	-16.85	34.69	208.98	113.05	22	46	46	1171.1	-5.99	12.93																																																			
100.00	23	28	38	1919.16	-18.04	15.83	208.43	114.20	24	0	38	919.2	-6.66	354.05																																																			
110.00	0	33	10	1729.36	-21.20	359.61	206.81	117.43	1	2	0	729.4	-8.41	338.58																																																			

LAUNCH DATE APR 4 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC										DISTANCE 659.161										EARTH TO MARS																																													
RL	149.61	LAL	-.00	LOL	193.58	VL	32.358	GAL	-5.73	AZL	89.96	HCA	215.08	SMA	182.52	ECC	.20531	INC	.0328	V1	29.784	RP	219.99	LAP	-.02	LOP	48.66	VP	21.886	GAP	-.07	AZP	90.03	TAL	325.18	TAP	180.26	RCA	145.04	APO	219.99	V2	24.987	RC	186.781	GL	.28	GP	-10.93	ZAL	147.04	ZAP	54.89	ETS	171.01	ZAE	94.99	ETE	181.08	ZAC	91.74	ETC	269.32	LVI	4.31
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.741	VHL	4.443	DLA	-7.33	RAL	342.01	RAD	6642.7	VEL	11.822	PTH	6.64	VHP	3.791	DPA	-35.22	RAP	284.84	ECC	1.3249	ST	153.5	SR	39.4	SS	106.0																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9438	CRS	-.9424	CST	-.9999																																		
50.00	17	45	18	2984.70	-30.25	89.79	200.97	128.65	18	35	2	1984.7	-13.22	71.23	LSA	190.2	MSA	12.8	SSA	1.3																																													
60.00	18	32	45	2858.51	-25.44	82.31	204.85	122.37	19	20	23	1858.5	-10.66	62.26	EL1	157.9	EL2	12.6	ALF	13.70																																													
70.00	19	33	47	2679.05	-21.09	70.48	207.58	117.51	20	18	26	1679.1	-8.28	49.48																																																			
80.00	20	50	7	2440.08	-17.91	53.98	209.22	114.30	21	30	47	1440.1	-6.50	32.42																																																			
90.00	22	15	5	2163.94	-16.71	34.38	209.77	113.15	22	51	11	1185.9	-5.83	12.84																																																			
100.00	23	32	50	1914.53	-17.91	15.35	209.22	114.30	24	4	54	914.5	-6.50	353.79																																																			
110.00	0	37	9	1725.87	-21.09	359.40	207.58	117.51	1	5	55	725.9	-8.28	338.40																																																			

LAUNCH DATE APR 4 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC										DISTANCE 663.262										EARTH TO MARS																																													
RL	149.61	LAL	-.00	LOL	193.58	VL	32.366	GAL	-5.83	AZL	90.02	HCA	216.19	SMA	182.64	ECC	.20659	INC	.0099	V1	29.784	RP	220.36	LAP	.01	LOP	49.78	VP	21.860	GAP	-.25	AZP	89.98	TAL	324.75	TAP	180.94	RCA	144.91	APO	220.37	V2	24.946	RC	189.399	GL	-.17	GP	-10.51	ZAL	147.40	ZAP	53.60	ETS	171.01	ZAE	93.79	ETE	180.82	ZAC	92.16	ETC	269.34	LVI	3.90
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	20.183	VHL	4.490	DLA	-7.61	RAL	342.52	RAD	6642.9	VEL	11.839	PTH	6.66	VHP	3.828	DPA	-34.79	RAP	284.86	ECC	1.3318	ST	156.5	SR	38.7	SS	104.6																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9373	CRS	-.9369	CST	-.9999																																		
50.00	17	48	21	2984.13	-30.23	89.76	201.70	128.67	18	38	6	1984.1	-13.19	71.20	LSA	191.7	MSA	13.2	SSA	1.3																																													
60.00	18	36	7	2857.11	-25.39	82.22	205.61	122.41	19	23	44	1857.1	-10.60	62.19	EL1	160.7	EL2	13.1	ALF	13.12																																													
70.00	19	37	30	2676.82	-21.01	70.34	208.36	117.56	20	22	7	1676.6	-8.19	49.35																																																			
80.00	20	54	10	2436.62	-17.81	53.77	210.01	114.37	21	34	47	1436.6	-6.39	32.23																																																			
90.00	22	19	16	2162.03	-16.61	34.14	210.57	113.22	22	55	18	1162.0	-5.70	12.42																																																			
100.00	23	37	2	1911.09	-17.81	15.14	210.01	114.37	24	8	53	911.1	-6.39	353.60																																																			
110.00	0	40	52	1723.44	-21.01	359.25	208.36	117.56	1	9	36	723.4	-8.19	338.27																																																			

LAUNCH DATE APR 5 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 368.835

EARTH TO MARS

RL 149.65 LAL -.00 LOL 194.57 VL 34.255 GAL -8.45 AZL 92.27 HCA 125.38 SMA 221.09 ECC .34017 INC 2.2689 V1 29.775
 RP 207.32 LAP -1.85 LOP 319.97 VP 26.077 GAP 19.58 AZP 88.69 TAL 334.27 TAP 99.65 RCA 145.80 APO 296.29 V2 26.420
 RC 56.291 GL -12.81 GP 3.33 ZAL 134.32 ZAP 168.32 ETS 163.30 ZAE 169.14 ETE 129.75 ZAC 104.46 ETC 275.82 LVI -18.41

PLANETOCENTRIC CONIC

C3 36.686 VHL 6.820 DLA -23.04 RAL 337.11 RAD 6650.2 VEL 12.592 PTH 7.45 VHP 9.542 DPA -16.60 RAP 310.60 ECC 1.6367
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 7 2827.17 -23.24 81.35 203.09 132.76 19 13 14 1827.2 -5.40 64.44
 60.00 19 34 32 2645.28 -17.14 70.40 208.53 127.05 20 18 37 1645.2 -1.36 51.93
 70.00 21 1 34 2389.37 -11.15 53.93 212.81 122.49 21 41 23 1389.4 2.73 34.28
 80.00 22 45 42 2063.48 -6.19 32.19 215.81 119.27 23 20 5 1063.5 6.18 11.67
 90.00 0 28 43 1743.84 -4.08 9.84 216.97 118.01 0 57 47 743.8 7.67 348.97
 100.00 1 32 29 1537.95 -6.19 353.53 215.81 119.27 1 58 7 537.9 6.18 333.04
 110.00 2 4 56 1436.19 -11.15 342.85 212.81 122.49 2 28 52 436.2 2.73 323.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8113 TRA -1.6759 TC3 -.0810 BAU .0756 SGT 1839.4 SGR 515.3 SG3 198.2 ST 45.1 SR 24.4 SS 32.9
 RDE -.9293 RRA .0694 RC3 .1218 FAU .04085 RRT .2454 RRF -.2619 RTF -.8319 CRT .8048 CRS .6629 CST .9769
 FDE .6016 FRA 1.9119 FC3 -.9142 BSP 3124 SGB 1910.2 R23 -.0428 R13 -.8329 LSA 58.8 MSA 16.0 S5A 1.1
 BDE .9687 BRA 1.6774 BC3 .1463 FSP 278 SG1 1844.1 SG2 498.3 THA 4.24 EL1 49.5 EL2 13.2 ALF 25.49

LAUNCH DATE APR 5 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 371.745

EARTH TO MARS

RL 149.65 LAL -.00 LOL 194.57 VL 34.132 GAL -8.30 AZL 92.30 HCA 126.84 SMA 218.02 ECC .33047 INC 2.3044 V1 29.775
 RP 207.22 LAP -1.85 LOP 321.23 VP 25.928 GAP 19.09 AZP 88.62 TAL 334.31 TAP 100.95 RCA 145.97 APO 290.07 V2 26.432
 RC 56.455 GL -12.98 GP 3.48 ZAL 134.31 ZAP 167.45 ETS 163.82 ZAE 169.60 ETE 125.52 ZAC 104.57 ETC 275.91 LVI -18.60

PLANETOCENTRIC CONIC

C3 36.896 VHL 6.074 DLA -23.44 RAL 337.38 RAD 6649.6 VEL 12.521 PTH 7.40 VHP 9.262 DPA -16.36 RAP 311.16 ECC 1.6072
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 6 2806.57 -22.29 80.32 202.73 133.19 19 15 52 1806.6 -4.36 63.58
 60.00 19 38 12 2622.78 -16.21 69.22 208.18 127.42 20 21 55 1622.8 -.37 50.86
 70.00 21 6 15 2363.93 -10.21 52.55 212.50 122.77 21 45 39 1363.9 3.70 32.95
 80.00 22 51 45 2033.78 -5.20 30.54 215.55 119.44 23 23 38 1033.8 7.17 10.02
 90.00 0 35 39 1711.35 -3.04 8.02 216.74 118.13 1 4 10 711.3 6.68 347.12
 100.00 1 38 32 1508.25 -5.20 351.91 215.55 119.44 2 3 41 508.2 7.17 331.39
 110.00 2 9 38 1410.74 -10.21 341.47 212.50 122.77 2 33 8 410.7 3.70 321.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8008 TRA -1.6624 TC3 -.0741 BAU .0740 SGT 1874.1 SGR 512.3 SG3 211.3 ST 46.0 SR 24.2 SS 34.1
 RDE -.5128 RRA .0559 RC3 .1305 FAU .04213 RRT .2676 RRF -.2858 RTF -.8380 CRT .8098 CRS .6663 CST .9762
 FDE .6254 FRA 1.9907 FC3 -.9885 BSP 3194 SGB 1942.9 R23 -.0467 R13 -.8392 LSA 60.1 MSA 15.9 S5A 1.2
 BDE .9584 BRA 1.6633 BC3 .1500 FSP 299 SG1 1879.5 SG2 492.2 THA 4.49 EL1 50.3 EL2 13.0 ALF 24.84

LAUNCH DATE APR 5 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 374.745

EARTH TO MARS

RL 149.65 LAL -.00 LOL 194.57 VL 34.018 GAL -6.15 AZL 92.34 HCA 127.91 SMA 215.21 ECC .32128 INC 2.3412 V1 29.775
 RP 207.13 LAP -1.85 LOP 322.50 VP 25.783 GAP 18.82 AZP 88.56 TAL 334.36 TAP 102.27 RCA 146.06 APO 284.35 V2 26.443
 RC 56.701 GL -13.46 GP 3.84 ZAL 134.27 ZAP 166.55 ETS 164.27 ZAE 169.98 ETE 121.10 ZAC 104.68 ETC 276.01 LVI -18.95

PLANETOCENTRIC CONIC

C3 35.235 VHL 5.936 DLA -23.86 RAL 337.66 RAD 6649.0 VEL 12.455 PTH 7.35 VHP 8.990 DPA -16.11 RAP 311.49 ECC 1.5799
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 32 10 2785.90 -21.32 79.31 202.39 133.60 19 18 36 1785.9 -3.33 62.71
 60.00 19 42 1 2600.10 -15.27 68.04 207.86 127.76 20 25 22 1600.1 .63 49.76
 70.00 21 11 10 2338.03 -9.25 51.16 212.23 123.02 21 50 8 1338.0 4.68 31.59
 80.00 22 58 10 2003.15 -4.17 28.85 215.34 119.59 23 31 33 1003.1 6.17 8.31
 90.00 0 43 4 1677.50 -1.95 6.12 216.57 118.22 1 11 2 677.5 9.72 345.18
 100.00 1 44 58 1477.62 -4.17 350.21 215.34 119.59 2 9 36 477.6 6.17 329.67
 110.00 2 14 32 1384.85 -9.25 340.08 212.23 123.02 2 37 37 384.9 4.68 320.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8076 TRA -1.6480 TC3 -.0662 BAU .0728 SGT 1907.7 SGR 509.5 SG3 225.1 ST 46.9 SR 24.0 SS 35.3
 RDE -.4970 RRA .0422 RC3 .1397 FAU .04349 RRT .2916 RRF -.3118 RTF -.8440 CRT .8151 CRS .6705 CST .9754
 FDE .6503 FRA 2.0732 FC3 -1.0685 BSP 3261 SGB 1974.5 R23 -.0508 R13 -.8452 LSA 61.4 MSA 15.9 S5A 1.2
 BDE .9483 BRA 1.6488 BC3 .1545 FSP 321 SG1 1913.8 SG2 485.8 THA 4.76 EL1 51.1 EL2 12.8 ALF 24.25

LAUNCH DATE APR 5 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 377.842

EARTH TO MARS

RL 149.65 LAL -.00 LOL 194.57 VL 33.904 GAL -6.01 AZL 92.38 HCA 129.17 SMA 212.82 ECC .31259 INC 2.3792 V1 29.775
 RP 207.05 LAP -1.84 LOP 323.76 VP 25.647 GAP 18.18 AZP 88.50 TAL 334.42 TAP 103.69 RCA 146.15 APO 279.08 V2 26.453
 RC 57.030 GL -13.95 GP 3.80 ZAL 134.21 ZAP 165.84 ETS 164.85 ZAE 170.28 ETE 116.58 ZAC 104.81 ETC 276.09 LVI -19.22

PLANETOCENTRIC CONIC

C3 33.694 VHL 5.805 DLA -24.29 RAL 337.93 RAD 6648.4 VEL 12.394 PTH 7.31 VHP 8.726 DPA -15.86 RAP 311.81 ECC 1.5545
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 35 20 2765.16 -20.34 76.50 202.10 133.99 19 21 25 1765.2 -2.29 61.84
 60.00 19 45 59 2577.23 -14.31 66.87 207.59 128.09 20 28 57 1577.2 1.64 48.68
 70.00 21 16 19 2311.66 -8.27 49.75 212.00 123.26 21 54 51 1311.7 5.68 30.20
 80.00 23 5 1 1971.48 -3.11 27.10 215.18 119.71 23 37 52 971.5 9.21 6.52
 90.00 0 51 5 1642.07 -.81 4.15 216.46 118.27 1 18 27 642.1 10.80 343.13
 100.00 1 51 49 1445.95 -3.11 348.47 215.18 119.71 2 15 55 445.9 9.21 327.89
 110.00 2 19 41 1358.48 -8.27 338.67 212.00 123.26 2 42 20 358.5 5.68 319.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8057 TRA -1.6331 TC3 -.0580 BAU .0722 SGT 1940.3 SGR 507.3 SG3 239.9 ST 47.8 SR 23.8 SS 36.5
 RDE -.4819 RRA .0282 RC3 .1494 FAU .04491 RRT .3177 RRF -.3399 RTF -.8495 CRT .8210 CRS .6752 CST .9746
 FDE .6785 FRA 2.1597 FC3 -1.1540 BSP 3329 SGB 2005.5 R23 -.0553 R13 -.8509 LSA 62.7 MSA 15.8 S5A 1.2
 BDE .9389 BRA 1.6333 BC3 .1603 FSP 345 SG1 1947.4 SG2 479.2 THA 5.05 EL1 51.9 EL2 12.5 ALF 23.68

LAUNCH DATE APR 5 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 149.65 LAL -1.00 LOL 194.57 VL 33.000 GAL -5.87 AZL 92.42 HCA 130.43 SMA 210.23 ECC .30437 INC 2.4187 V1 29.775
 RP 206.97 LAP -1.84 LOP 325.03 VP 25.518 GAP 17.70 AZP 88.43 TAL 334.48 TAP 104.92 RCA 146.24 APO 274.22 V2 26.462
 RC 57.440 GL -14.47 GP 3.98 ZAL 134.14 ZAP 164.71 ETS 164.96 ZAE 170.50 ETE 112.07 ZAC 104.95 ETC 276.16 LVI -19.50

Distance 381.029 Earth to Mars

Planetary Corrections: C3 32.266 VHL 5.680 DLA -24.74 RAL 338.20 RAD 6647.9 VEL 12.336 PTH 7.26 VHP 8.471 DPA -15.60 RAP 312.11 ECC 1.5310
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 38 36 2744.36 -19.36 77.31 201.84 134.35 19 24 20 1744.4 -1.24 60.97
 60.00 19 50 7 2554.15 -13.34 65.69 207.35 128.39 20 32 41 1554.1 2.65 47.58
 70.00 21 21 44 2284.79 -7.27 48.32 211.82 123.46 21 59 49 1284.8 6.69 28.78
 80.00 23 12 20 1938.62 -2.00 25.29 215.07 119.80 23 44 39 938.6 10.27 4.66
 90.00 0 59 47 1604.75 .39 2.06 216.40 118.28 -1 26 32 604.7 11.91 340.96
 100.00 1 59 8 1413.09 -2.00 346.66 215.07 119.80 2 22 41 413.1 10.27 328.03
 110.00 2 25 6 1331.61 -7.27 337.24 211.82 123.46 2 47 18 331.6 6.69 317.70

Differential Corrections: TDE -.8032 TRA-1.6172 TC3 -.0495 BAU .0722 SGT 1971.2 SGR 505.5 SG3 255.6 ST 48.6 SR 23.6 SS 37.8
 RDE -.4675 RRA .0138 RC3 .1598 FAU .04643 RRT .3455 RRF -.3700 RTF -.8547 CRT .8271 CRS .6803 CST .9737
 FDE .7037 FRA 2.2503 FC3-1.2458 BSP 3396 SGB 2035.0 R23 -.0804 R13 -.8563 LSA 64.1 MSA 15.7 SSA 1.2
 BDE .9293 BRA 1.6173 BC3 .1873 FSP 371 SG1 1979.4 SG2 472.4 THA 5.37 EL1 52.7 EL2 12.2 ALF 23.17

LAUNCH DATE APR 5 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 25 1971

Heliocentric Conic: RL 149.65 LAL -1.00 LOL 194.57 VL 33.701 GAL -5.74 AZL 92.46 HCA 131.70 SMA 208.03 ECC .29659 INC 2.4597 V1 29.775
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.395 GAP 17.25 AZP 88.36 TAL 334.56 TAP 106.26 RCA 146.33 APO 269.72 V2 26.469
 RC 57.930 GL -14.99 GP 4.17 ZAL 134.06 ZAP 163.75 ETS 165.23 ZAE 170.64 ETE 107.70 ZAC 105.10 ETC 276.26 LVI -19.79

Distance 384.297 Earth to Mars

Planetary Corrections: C3 30.942 VHL 5.563 DLA -25.21 RAL 338.47 RAD 6647.4 VEL 12.283 PTH 7.22 VHP 8.223 DPA -15.33 RAP 312.38 ECC 1.5092
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 41 59 2723.50 -18.36 76.33 201.61 134.70 19 27 22 1723.5 -1.19 60.10
 60.00 19 54 25 2530.85 -12.35 64.52 207.16 128.67 20 36 36 1530.9 3.67 46.46
 70.00 21 27 26 2257.36 -6.23 46.87 211.68 123.65 22 5 3 1257.4 7.72 27.33
 80.00 23 20 13 1904.38 -.84 23.41 215.03 119.85 23 51 57 904.4 11.37 2.71
 90.00 1 9 21 1565.11 1.67 359.85 216.42 118.23 1 35 26 565.1 13.08 338.63
 100.00 2 7 1 1378.85 -.84 344.78 215.03 119.85 2 30 0 378.9 11.37 324.08
 110.00 2 30 48 1304.18 -6.23 335.79 211.68 123.65 2 52 33 304.2 7.72 316.24

Differential Corrections: TDE -.8010 TRA-1.6011 TC3 -.0405 BAU .0727 SGT 2001.3 SGR 504.6 SG3 272.3 ST 49.5 SR 23.4 SS 39.1
 RDE -.4538 RRA -.0010 RC3 .1709 FAU .04804 RRT .3754 RRF -.4023 RTF -.8596 CRT .8339 CRS .6859 CST .9728
 FDE .7324 FRA 2.3456 FC3-1.3441 BSP 3482 SGB 2084.0 R23 -.0860 R13 -.8613 LSA 65.4 MSA 15.6 SSA 1.2
 BDE .9206 BRA 1.6011 BC3 .1756 FSP 399 SG1 2010.8 SG2 465.5 THA 5.71 EL1 53.4 EL2 12.0 ALF 22.69

LAUNCH DATE APR 5 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 149.65 LAL -1.00 LOL 194.57 VL 33.607 GAL -5.81 AZL 92.50 HCA 132.97 SMA 205.99 ECC .28923 INC 2.5023 V1 29.775
 RP 206.85 LAP -1.83 LOP 327.56 VP 25.277 GAP 16.81 AZP 88.29 TAL 334.63 TAP 107.60 RCA 146.41 APO 265.57 V2 26.476
 RC 58.498 GL -15.54 GP 4.37 ZAL 133.95 ZAP 162.77 ETS 165.45 ZAE 170.71 ETE 103.56 ZAC 105.27 ETC 276.33 LVI -20.08

Distance 387.639 Earth to Mars

Planetary Corrections: C3 29.717 VHL 5.451 DLA -25.70 RAL 338.75 RAD 6648.9 VEL 12.233 PTH 7.18 VHP 7.983 DPA -15.05 RAP 312.63 ECC 1.4891
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 45 29 2702.59 -17.36 75.36 201.43 135.03 19 30 32 1702.6 .86 59.23
 60.00 19 58 54 2507.34 -11.35 63.34 207.01 128.81 20 40 41 1507.3 4.71 45.33
 70.00 21 33 27 2229.32 -5.17 45.39 211.60 123.81 22 10 37 1229.3 8.77 25.83
 80.00 23 28 44 1868.49 .38 21.45 215.04 119.86 23 59 53 868.5 12.90 .65
 90.00 1 19 57 1522.31 3.04 357.47 216.52 118.13 1 45 20 522.5 14.30 336.11
 100.00 2 15 32 1342.97 .38 342.81 215.04 119.86 2 37 55 343.0 12.50 322.02
 110.00 2 38 50 1276.13 -5.17 334.31 211.60 123.81 2 58 6 276.1 6.77 314.73

Differential Corrections: TDE -.7981 TRA-1.5834 TC3 -.0308 BAU .0736 SGT 2028.7 SGR 504.6 SG3 290.1 ST 50.3 SR 23.2 SS 40.5
 RDE -.4407 RRA -.0162 RC3 .1827 FAU .04977 RRT .4072 RRF -.4367 RTF -.8541 CRT .8410 CRS .6923 CST .9718
 FDE .7621 FRA 2.4451 FC3-1.4499 BSP 3520 SGB 2090.5 R23 -.0721 R13 -.8661 LSA 66.8 MSA 15.6 SSA 1.2
 BDE .9117 BRA 1.5835 BC3 .1852 FSP 428 SG1 2039.6 SG2 458.4 THA 6.09 EL1 54.1 EL2 11.6 ALF 22.27

LAUNCH DATE APR 5 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 149.65 LAL -1.00 LOL 194.57 VL 33.518 GAL -5.49 AZL 92.55 HCA 134.23 SMA 204.10 ECC .28226 INC 2.5468 V1 29.775
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.165 GAP 16.38 AZP 88.22 TAL 334.72 TAP 108.85 RCA 146.49 APO 261.71 V2 26.482
 RC 59.137 GL -16.10 GP 4.59 ZAL 133.83 ZAP 161.76 ETS 165.63 ZAE 170.71 ETE 99.79 ZAC 105.45 ETC 276.40 LVI -20.37

Distance 391.049 Earth to Mars

Planetary Corrections: C3 28.582 VHL 5.346 DLA -26.20 RAL 339.02 RAD 6646.4 VEL 12.187 PTH 7.15 VHP 7.750 DPA -14.77 RAP 312.85 ECC 1.4704
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 49 8 2681.59 -16.34 74.39 201.29 135.33 19 33 50 1681.6 1.91 58.35
 60.00 20 3 35 2463.54 -10.33 62.16 206.90 129.17 20 44 59 1483.5 5.75 44.19
 70.00 21 39 50 2200.55 -4.08 43.88 211.57 123.94 22 16 31 1200.5 9.84 24.29
 80.00 23 38 3 1930.55 1.67 19.38 215.14 119.82 24 8 34 830.6 13.67 358.45
 90.00 1 31 58 1475.86 4.53 354.86 216.72 117.94 1 56 34 475.9 15.61 333.30
 100.00 2 24 51 1305.02 1.67 340.73 215.14 119.82 2 46 36 305.0 13.67 319.81
 110.00 2 43 13 1247.36 -4.08 332.80 211.57 123.94 3 4 0 247.4 9.84 313.20

Differential Corrections: TDE -.7861 TRA-1.5562 TC3 -.0084 BAU .0748 SGT 2040.9 SGR 505.7 SG3 309.0 ST 50.5 SR 23.0 SS 41.8
 RDE -.4282 RRA -.0318 RC3 .1955 FAU .05160 RRT .4413 RRF -.4729 RTF -.8717 CRT .8473 CRS .6991 CST .9713
 FDE .7933 FRA 2.5495 FC3-1.5829 BSP 3488 SGB 2102.6 R23 -.0764 R13 -.8739 LSA 67.7 MSA 15.5 SSA 1.1
 BDE .8952 BRA 1.5565 BC3 .1957 FSP 459 SG1 2053.7 SG2 451.0 THA 6.56 EL1 54.3 EL2 11.3 ALF 22.07

LAUNCH DATE APR 5 1971

FLIGHT TIME 148.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC										DISTANCE 394.521										EARTH TO MARS																																																																																				
RL	149.85	LAL	-.00	LOL	194.57	VL	33.434	GAL	-5.37	AZL	92.59	HCA	135.90	SMA	202.36	ECC	.27560	INC	2.5933	V1	29.775	RP	206.75	LAP	-1.82	LOP	330.10	VP	25.059	GAP	15.96	AZP	88.15	TAL	334.80	TAP	110.30	RCA	146.57	APO	258.14	V2	26.487	RC	59.850	GL	-16.68	GP	4.83	ZAL	133.69	ZAP	180.73	ETS	165.77	ZAE	170.86	ETE	96.44	ZAC	105.65	ETC	276.47	LVI	-20.67																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	27.536	VHL	5.247	DLA	-26.73	RAL	339.30	RAD	6646.0	VEL	12.144	PTH	7.11	VHP	7.524	DPA	-14.46	RAP	313.04	ECC	1.4532	ST	51.5	SR	22.8	SS	43.2	SGT	2071.8	SGR	508.4	SG3	329.0	SG6	2133.3	R23	-0.854	R13	-0.8761	SG1	2086.6	SG2	443.9	THA	6.98	CRT	.8564	CRS	.7070	CST	.9698	LSA	69.3	MSA	15.4	SSA	1.1	EL1	55.2	EL2	11.0	ALF	21.64																																									
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																						
50.00	18	52	55	2660.58	-15.32	73.44	201.20	135.61	19	37	16	1680.6	2.97	57.47	60.00	20	8	30	2439.54	-9.29	60.98	206.85	129.39	20	49	30	1459.5	6.80	43.03	70.00	21	46	37	2171.06	-2.96	42.33	211.60	124.04	22	22	48	1171.1	10.92	22.69	80.00	23	48	18	1790.18	3.03	17.14	215.32	119.72	24	18	8	790.2	14.90	356.08	90.00	1	45	54	1423.59	6.19	351.91	217.05	117.65	2	9	38	423.6	17.02	330.12	100.00	2	35	6	1264.64	3.03	338.51	215.32	119.72	2	56	10	264.6	14.90	317.44	110.00	2	49	59	1217.88	-2.96	331.25	211.60	124.04	3	10	17	217.9	10.92	311.61

LAUNCH DATE APR 5 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC										DISTANCE 398.049										EARTH TO MARS																																																																																				
RL	149.85	LAL	-.00	LOL	194.57	VL	33.355	GAL	-5.25	AZL	92.64	HCA	136.77	SMA	200.74	ECC	.26946	INC	2.6420	V1	29.775	RP	206.72	LAP	-1.81	LOP	331.37	VP	24.957	GAP	15.54	AZP	88.07	TAL	334.89	TAP	111.66	RCA	146.65	APO	254.82	V2	26.491	RC	60.633	GL	-17.28	GP	5.08	ZAL	133.54	ZAP	159.87	ETS	165.88	ZAE	170.56	ETE	93.57	ZAC	105.87	ETC	276.53	LVI	-20.99																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	26.570	VHL	5.155	DLA	-27.27	RAL	339.58	RAD	6645.6	VEL	12.105	PTH	7.08	VHP	7.306	DPA	-14.17	RAP	313.21	ECC	1.4373	ST	51.5	SR	22.8	SS	44.6	SGT	2096.6	SGR	512.8	SG3	350.2	SG6	2158.4	R23	-0.947	R13	-0.8791	SG1	2113.7	SG2	436.9	THA	7.48	CRT	.8655	CRS	.7157	CST	.9685	LSA	70.7	MSA	15.3	SSA	1.1	EL1	55.9	EL2	10.6	ALF	21.31																																									
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																						
50.00	18	56	53	2659.50	-14.30	72.49	201.16	135.88	19	40	52	1639.5	4.03	56.59	60.00	20	13	40	2435.24	-8.24	59.79	206.85	129.59	20	54	15	1435.2	7.85	41.85	70.00	21	53	51	2140.67	-1.80	40.74	211.69	124.11	22	29	31	1140.7	12.03	21.04	80.00	0	3	42	1746.48	4.50	14.73	215.60	119.55	0	32	48	746.5	16.19	353.48	90.00	2	2	56	1361.96	6.13	348.42	217.57	117.18	2	25	38	362.0	18.62	326.30	100.00	2	46	34	1220.95	4.50	336.10	215.60	119.55	3	6	55	220.9	16.19	314.85	110.00	2	57	13	1187.48	-1.80	329.66	211.69	124.11	3	17	0	187.5	12.03	309.95

LAUNCH DATE APR 5 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC										DISTANCE 401.630										EARTH TO MARS																																																																																				
RL	149.85	LAL	-.00	LOL	194.57	VL	33.280	GAL	-5.14	AZL	92.69	HCA	138.04	SMA	199.23	ECC	.26357	INC	2.6930	V1	29.775	RP	206.70	LAP	-1.80	LOP	332.64	VP	24.860	GAP	15.13	AZP	88.00	TAL	334.98	TAP	113.02	RCA	146.72	APO	251.74	V2	26.494	RC	61.483	GL	-17.90	GP	5.34	ZAL	133.37	ZAP	158.58	ETS	165.96	ZAE	170.43	ETE	91.23	ZAC	106.11	ETC	276.58	LVI	-21.31																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	25.681	VHL	5.068	DLA	-27.83	RAL	339.87	RAD	6645.3	VEL	12.068	PTH	7.05	VHP	7.095	DPA	-13.86	RAP	313.34	ECC	1.4226	ST	53.0	SR	22.4	SS	46.1	SGT	2117.9	SGR	519.4	SG3	372.9	SG6	2180.6	R23	-1.045	R13	-0.8825	SG1	2137.8	SG2	430.0	THA	8.00	CRT	.8752	CRS	.7256	CST	.9671	LSA	72.1	MSA	15.3	SSA	1.1	EL1	56.6	EL2	10.1	ALF	21.05																																									
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																						
50.00	19	1	0	2618.34	-13.26	71.55	201.16	136.13	19	44	39	1618.3	5.09	55.70	60.00	20	19	6	2410.82	-7.17	56.59	206.91	129.77	20	59	16	1410.6	8.92	40.84	70.00	22	1	35	2109.21	-6.0	39.10	211.86	124.15	22	38	44	1109.2	13.16	19.31	80.00	0	16	48	1698.19	6.12	12.06	216.01	119.28	0	45	6	698.2	17.58	350.57	90.00	2	26	17	1280.85	10.82	343.75	218.41	116.36	2	47	37	280.6	20.56	321.15	100.00	2	59	40	1172.66	6.12	333.43	216.01	119.28	3	19	13	172.7	17.58	311.93	110.00	3	4	57	1156.03	-6.0	328.02	211.86	124.15	3	24	13	156.0	13.16	308.22

LAUNCH DATE APR 5 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC										DISTANCE 405.259										EARTH TO MARS																																																																																				
RL	149.85	LAL	-.00	LOL	194.57	VL	33.209	GAL	-5.03	AZL	92.75	HCA	139.31	SMA	197.83	ECC	.25801	INC	2.7466	V1	29.775	RP	206.68	LAP	-1.79	LOP	333.91	VP	24.767	GAP	14.74	AZP	87.92	TAL	335.08	TAP	114.39	RCA	146.79	APO	248.88	V2	26.496	RC	62.398	GL	-18.54	GP	5.63	ZAL	133.18	ZAP	157.47	ETS	166.01	ZAE	170.26	ETE	89.42	ZAC	106.38	ETC	276.64	LVI	-21.64																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	24.864	VHL	4.986	DLA	-28.42	RAL	340.17	RAD	6644.9	VEL	12.035	PTH	7.02	VHP	6.891	DPA	-13.53	RAP	313.44	ECC	1.4092	ST	53.5	SR	22.3	SS	47.7	SGT	2134.2	SGR	528.4	SG3	396.7	SG6	2198.6	R23	-1.153	R13	-0.8856	SG1	2157.5	SG2	423.3	THA	8.59	CRT	.8851	CRS	.7360	CST	.9657	LSA	73.5	MSA	15.3	SSA	1.1	EL1	57.1	EL2	9.7	ALF	20.87																																									
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																						
50.00	19	5	19	2597.09	-12.21	70.61	201.22	136.35	19	48	37	1597.1	6.15	54.80	60.00	20	24	49	2385.61	-6.08	57.38	207.03	129.92	21	4	35	1385.6	10.00	39.41	70.00	22	9	56	2076.50	.65	37.40	212.11	124.15	22	44	32	1076.5	14.33	17.49	80.00	0	32	19	1642.95	7.94	8.98	216.59	118.88	0	59	41	643.0	19.11	347.18	90.00	2	47	8	1208.45	15.10	340.65	220.24	114.36	3	7	17	208.5	23.85	317.01	100.00	3	15	10	1117.42	7.94	330.35	216.59	118.88	3	33	48	117.4	19.11	308.54	110.00	3	13	18	1123.32	.65	326.31	212.11	124.15	3	32	1	123.3	14.33	306.41

LAUNCH DATE APR 5 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 8 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like LAL, LOP, LOP, ZAL, ZAP, etc.

LAUNCH DATE APR 5 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 10 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like LAL, LOP, LOP, ZAL, ZAP, etc.

LAUNCH DATE APR 5 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 12 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like LAL, LOP, LOP, ZAL, ZAP, etc.

LAUNCH DATE APR 5 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 14 1971

Table with columns for Heliocentric Conic, Planetary Conic, and Differential Corrections. Includes parameters like LAL, LOP, LOP, ZAL, ZAP, etc.

LAUNCH DATE APR 5 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.911 GAL -4.57 AZL 93.06 HCA 149.65 SMA 192.18 ECC .23458 INC 3.0635 V1 29.775
RP 206.73 LAP -1.73 LOP 340.26 VP 24.359 GAP 12.87 AZP 87.47 TAL 335.56 TAP 121.21 RCA 147.10 APO 237.26 V2 26.489
RC 67.877 GL -22.08 GP 7.46 ZAL 132.02 ZAP 151.36 ETS 165.91 ZAE 169.10 ETE 88.00 ZAC 108.14 ETC 276.81 LVI -23.52

PLANETOCENTRIC CONIC

C3 21.747 VHL 4.663 DLA -31.65 RAL 341.87 RAD 6643.6 VEL 11.906 PTH 6.91 VHP 5.968 DPA -11.65 RAP 315.39 ECC 1.3579
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 30 37 2488.65 -8.83 65.94 202.43 137.20 20 12 5 1488.7 11.54 50.15
60.00 20 59 23 2252.43 -.23 90.99 208.75 130.30 21 38 55 1252.4 15.84 32.69
70.00 23 6 9 1879.27 0.13 27.03 215.01 123.29 23 37 28 879.3 20.96 6.05
75.17 1 21 47 1470.55 17.70 1.37 220.66 116.67 1 46 17 470.6 27.15 337.51
75.17 1 21 47 1470.55 17.70 1.37 220.66 116.67 1 46 17 470.6 27.15 337.51
75.17 1 21 47 1470.55 17.70 1.37 220.66 116.67 1 46 17 470.6 27.15 337.51
110.00 4 9 31 6214.13 0.13 293.85 215.01 123.29 5 53 5 5214.1 20.96 272.88

DIFFERENTIAL CORRECTIONS

TDE -.7648 TRA-1.3482 TC3 .0467 BAV .1040
RDE -.3524 RRA -.2140 RC3 .3547 FAV .07368
FDE 1.1635 FRA 3.7451 FC3-2.9323 BSP 3908
BDE .0421 BRA 1.3651 BC3 .3578 FSP 845

MID-COURSE EXECUTION ACCURACY

SGT 2161.2 SGR 626.3 SG3 537.7
RRT .7552 RRF -.8192 RTF -.8906
SGB 2250.2 R23 -.1869 R13 -.8990
SG1 2214.2 SG2 400.7 THA 12.77

ORBIT DETERMINATION ACCURACY

ST 55.3 SR 22.1 SS 55.8
CRT .9409 CRS .8037 CST .9569
LSA 80.2 MSA 15.3 S8A 1.0
EL1 59.2 EL2 7.0 ALF 20.95

LAUNCH DATE APR 5 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.861 GAL -4.49 AZL 93.14 HCA 146.92 SMA 191.27 ECC .23067 INC 3.1392 V1 29.775
RP 206.77 LAP -1.71 LOP 341.52 VP 24.287 GAP 12.51 AZP 87.37 TAL 335.65 TAP 122.57 RCA 147.15 APO 235.39 V2 26.485
RC 69.140 GL -22.08 GP 7.92 ZAL 131.74 ZAP 150.02 ETS 165.83 ZAE 168.79 ETE 89.10 ZAC 108.59 ETC 276.82 LVI -23.95

PLANETOCENTRIC CONIC

C3 21.300 VHL 4.615 DLA -32.36 RAL 342.26 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 5.804 DPA -11.20 RAP 313.25 ECC 1.3506
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 36 37 2466.26 -5.71 64.99 202.90 137.31 20 17 43 1466.3 12.65 49.17
60.00 21 7 54 2223.32 1.05 49.60 209.38 130.29 21 44 57 1223.3 16.85 31.17
70.00 23 22 51 1825.85 10.11 24.16 216.11 122.80 23 53 17 825.9 22.61 2.78
73.57 1 12 34 1499.22 18.23 3.84 220.94 117.22 1 37 34 499.2 27.84 339.94
73.57 1 12 34 1499.22 18.23 3.84 220.94 117.22 1 37 34 499.2 27.84 339.94
73.57 1 12 34 1499.22 18.23 3.84 220.94 117.22 1 37 34 499.2 27.84 339.94
110.00 4 26 14 6160.71 10.11 290.99 216.11 122.80 6 8 54 5160.7 22.61 269.61

DIFFERENTIAL CORRECTIONS

TDE -.7610 TRA-1.3160 TC3 .0494 BAV .1090
RDE -.3485 RRA -.2412 RC3 .3798 FAV .07688
FDE 1.2167 FRA 3.9075 FC3-3.1245 BSP 3912
BDE .0370 BRA 1.3380 BC3 .3828 FSP 899

MID-COURSE EXECUTION ACCURACY

SGT 2153.1 SGR 660.0 SG3 570.4
RRT .7814 RRF -.8491 RTF -.8912
SGB 2252.0 R23 -.2048 R13 -.9012
SG1 2216.2 SG2 400.2 THA 13.93

ORBIT DETERMINATION ACCURACY

ST 55.4 SR 22.3 SS 57.5
CRT .9522 CRS .8197 CST .9546
LSA 81.5 MSA 15.4 S8A 1.0
EL1 59.4 EL2 6.4 ALF 21.20

LAUNCH DATE APR 5 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.814 GAL -4.42 AZL 93.22 HCA 148.18 SMA 190.43 ECC .22699 INC 3.2203 V1 29.775
RP 206.81 LAP -1.70 LOP 342.79 VP 24.218 GAP 12.17 AZP 87.26 TAL 335.74 TAP 123.92 RCA 147.20 APO 233.65 V2 26.480
RC 70.455 GL -23.70 GP 8.42 ZAL 131.43 ZAP 148.63 ETS 165.72 ZAE 168.43 ETE 90.58 ZAC 109.10 ETC 276.84 LVI -24.41

PLANETOCENTRIC CONIC

C3 20.909 VHL 4.573 DLA -33.11 RAL 342.88 RAD 6643.2 VEL 11.871 PTH 6.88 VHP 5.648 DPA -10.73 RAP 313.07 ECC 1.3441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 43 2 2443.49 -4.57 64.03 203.45 137.41 20 23 46 1443.5 13.76 48.16
60.00 21 17 10 2192.92 2.39 48.15 210.12 130.24 21 53 43 1192.9 18.09 29.56
70.00 23 44 5 1759.86 12.52 20.57 217.56 122.04 24 13 25 759.9 24.54 358.63
72.02 1 4 15 1525.72 18.75 6.16 221.29 117.80 1 29 41 525.7 28.56 342.22
72.02 1 4 15 1525.72 18.75 6.16 221.29 117.80 1 29 41 525.7 28.56 342.22
72.02 1 4 15 1525.72 18.75 6.16 221.29 117.80 1 29 41 525.7 28.56 342.22
110.00 4 47 27 6094.71 12.52 287.40 217.56 122.04 6 29 2 5094.7 24.54 265.46

DIFFERENTIAL CORRECTIONS

TDE -.7540 TRA-1.2788 TC3 .0552 BAV .1147
RDE -.3458 RRA -.2703 RC3 .4066 FAV .08024
FDE 1.2728 FRA 4.0749 FC3-3.3225 BSP 3871
BDE .0295 BRA 1.3089 BC3 .4103 FSP 936

MID-COURSE EXECUTION ACCURACY

SGT 2133.9 SGR 699.5 SG3 604.4
RRT .8048 RRF -.8757 RTF -.8923
SGB 2245.7 R23 -.2210 R13 -.9043
SG1 2209.6 SG2 401.0 THA 15.29

ORBIT DETERMINATION ACCURACY

ST 55.3 SR 22.5 SS 59.2
CRT .9628 CRS .8362 CST .9523
LSA 82.6 MSA 15.5 S8A 1.0
EL1 59.4 EL2 5.7 ALF 21.60

LAUNCH DATE APR 5 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.770 GAL -4.35 AZL 93.31 HCA 149.45 SMA 189.64 ECC .22353 INC 3.3073 V1 29.775
RP 206.87 LAP -1.68 LOP 344.06 VP 24.181 GAP 11.83 AZP 87.15 TAL 335.82 TAP 125.27 RCA 147.25 APO 232.03 V2 26.474
RC 71.818 GL -24.56 GP 8.97 ZAL 131.11 ZAP 147.21 ETS 165.60 ZAE 168.01 ETE 92.39 ZAC 109.65 ETC 276.84 LVI -24.90

PLANETOCENTRIC CONIC

C3 20.573 VHL 4.536 DLA -33.88 RAL 343.13 RAD 6643.1 VEL 11.857 PTH 6.87 VHP 5.494 DPA -10.23 RAP 312.84 ECC 1.3386
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 49 55 2420.29 -3.41 63.06 204.11 137.48 20 30 16 1420.3 14.90 47.12
60.00 21 27 20 2160.95 3.79 46.62 211.00 130.15 22 3 21 1161.0 19.38 27.85
70.00 0 21 2 1659.45 16.07 14.96 219.81 120.55 0 48 42 659.5 27.22 352.06
70.51 0 56 41 1550.62 19.28 8.39 221.72 118.42 1 22 31 550.6 29.28 344.42
70.51 0 56 41 1550.62 19.28 8.39 221.72 118.42 1 22 31 550.6 29.28 344.42
70.51 0 56 41 1550.62 19.28 8.39 221.72 118.42 1 22 31 550.6 29.28 344.42
110.00 5 20 29 5994.31 16.07 281.79 219.81 120.55 7 0 23 4994.3 27.22 258.88

DIFFERENTIAL CORRECTIONS

TDE -.7552 TRA-1.2472 TC3 .0444 BAV .1202
RDE -.3447 RRA -.3024 RC3 .4346 FAV .08360
FDE 1.3367 FRA 4.2529 FC3-3.5179 BSP 3925
BDE .8301 BRA 1.2834 BC3 .4369 FSP 1020

MID-COURSE EXECUTION ACCURACY

SGT 2124.5 SGR 746.1 SG3 640.2
RRT .8229 RRF -.8990 RTF -.8906
SGB 2251.7 R23 -.2430 R13 -.9053
SG1 2214.6 SG2 406.7 THA 16.70

ORBIT DETERMINATION ACCURACY

ST 55.5 SR 22.8 SS 61.1
CRT .9731 CRS .8537 CST .9496
LSA 84.2 MSA 15.7 S8A .9
EL1 59.9 EL2 4.9 ALF 21.97

LAUNCH DATE APR 5 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 439.566

EARTH TO MARS

RL 149.65 LAL -0.00 LOL 194.57 VL 32.720 GAL -4.28 AZL 93.40 HCA 150.72 SMA 188.91 ECC .22029 INC 3.4012 V1 29.775
RP 206.93 LAP -1.66 LOP 345.33 VP 24.087 GAP 11.51 AZP 87.03 TAL 335.90 TAP 126.62 RCA 147.29 APO 230.52 V2 26.466
RC 73.228 GL -23.48 GP 9.56 ZAL 130.77 ZAP 145.73 ETS 165.46 ZAE 167.53 ETE 94.48 ZAC 110.25 ETC 276.84 LVI -25.42

PLANETOCENTRIC CONIC

C3 20.292 VHL 4.505 DLA -34.69 RAL 343.62 RAD 6643.0 VEL 11.845 PTH 6.86 VHP 5.349 DPA -9.69 RAP 312.56 ECC 1.3339
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 57 21 2396.51 -2.21 62.06 204.88 137.54 20 37 18 1396.5 16.05 26.04
60.00 21 38 36 2126.90 5.28 44.98 212.05 130.01 22 14 3 1126.9 20.73 25.98
69.02 0 49 45 1574.29 19.81 10.55 222.24 119.08 1 15 59 574.3 30.02 346.55
69.02 0 49 45 1574.29 19.81 10.55 222.24 119.08 1 15 59 574.3 30.02 346.55
69.02 0 49 45 1574.29 19.81 10.55 222.24 119.08 1 15 59 574.3 30.02 346.55
69.02 0 49 45 1574.29 19.81 10.55 222.24 119.08 1 15 59 574.3 30.02 346.55
69.02 0 49 45 1574.29 19.81 10.55 222.24 119.08 1 15 59 574.3 30.02 346.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7527 TRA-1.2090 TC3 .0382 BAU .1266 SGT 2101.3 SGR 799.9 SCS 677.2 ST 55.5 SR 23.3 SS 63.0
RDE -.3451 RRA -.3369 RC3 .4651 FAU .08710 RRT .8384 RRF -.9189 RTF -.8896 CRT .9821 CR8 .8710 C8T .9468
FDE 1.4045 FRA 4.4336 FC3-3.7162 B8P 3924 SGB 2248.4 R23 -.2615 R13 -.9076 LSA 85.7 MSA 15.8 S8A .9
BDE .8281 BRA 1.2551 BC3 .4667 F8P 1085 SGI 2209.9 SGI 414.5 THA 18.37 EL1 60.0 EL2 4.1 ALF 22.53

LAUNCH DATE APR 5 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 443.516

EARTH TO MARS

RL 149.65 LAL -0.00 LOL 194.57 VL 32.690 GAL -4.22 AZL 93.50 HCA 151.98 SMA 188.22 ECC .21724 INC 3.5026 V1 29.775
RP 207.00 LAP -1.64 LOP 346.59 VP 24.025 GAP 11.18 AZP 86.91 TAL 335.98 TAP 127.96 RCA 147.33 APO 229.11 V2 26.458
RC 74.683 GL -26.40 GP 10.21 ZAL 130.41 ZAP 144.20 ETS 165.30 ZAE 166.97 ETE 96.78 ZAC 110.92 ETC 276.83 LVI -25.99

PLANETOCENTRIC CONIC

C3 20.066 VHL 4.479 DLA -35.53 RAL 344.14 RAD 6642.9 VEL 11.835 PTH 6.85 VHP 5.210 DPA -9.11 RAP 312.22 ECC 1.3302
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 5 25 2372.03 -.98 61.04 205.77 137.57 20 44 57 1372.0 17.24 44.92
60.00 21 51 15 2090.10 6.89 43.20 213.29 129.81 22 26 5 1090.1 22.17 23.93
67.54 0 43 22 1597.14 20.33 12.67 222.85 119.78 1 9 59 597.1 30.78 348.65
67.54 0 43 22 1597.14 20.33 12.67 222.85 119.78 1 9 59 597.1 30.78 348.65
67.54 0 43 22 1597.14 20.33 12.67 222.85 119.78 1 9 59 597.1 30.78 348.65
67.54 0 43 22 1597.14 20.33 12.67 222.85 119.78 1 9 59 597.1 30.78 348.65
67.54 0 43 22 1597.14 20.33 12.67 222.85 119.78 1 9 59 597.1 30.78 348.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7508 TRA-1.1688 TC3 .0290 BAU .1338 SGT 2073.0 SGR 861.8 SCS 715.4 ST 55.4 SR 23.9 SS 64.9
RDE -.3472 RRA -.3745 RC3 .4980 FAU .09078 RRT .8504 RRF -.9356 RTF -.8878 CRT .9895 CR8 .8880 C8T .9437
FDE 1.4764 FRA 4.6185 FC3-3.9166 B8P 3918 SGB 2245.0 R23 -.2792 R13 -.9100 LSA 87.1 MSA 16.0 S8A .9
BDE .8272 BRA 1.2274 BC3 .4989 F8P 1150 SGI 2204.2 SGI 426.5 THA 20.28 EL1 60.2 EL2 3.2 ALF 23.21

LAUNCH DATE APR 5 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 447.487

EARTH TO MARS

RL 149.65 LAL -0.00 LOL 194.57 VL 32.683 GAL -4.16 AZL 93.61 HCA 153.24 SMA 187.58 ECC .21439 INC 3.6126 V1 29.775
RP 207.08 LAP -1.63 LOP 347.86 VP 23.985 GAP 10.87 AZP 86.77 TAL 336.04 TAP 129.29 RCA 147.37 APO 227.81 V2 26.449
RC 76.180 GL -27.39 GP 10.92 ZAL 130.02 ZAP 142.62 ETS 165.12 ZAE 166.31 ETE 99.22 ZAC 111.65 ETC 276.82 LVI -26.59

PLANETOCENTRIC CONIC

C3 19.897 VHL 4.461 DLA -36.41 RAL 344.71 RAD 6642.8 VEL 11.828 PTH 6.85 VHP 5.079 DPA -8.48 RAP 311.83 ECC 1.3275
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 14 13 2346.87 .29 59.98 216.81 137.58 20 53 19 1346.7 18.45 43.74
60.00 22 5 43 2049.53 8.86 41.22 214.77 129.52 22 39 52 1049.5 23.72 21.62
66.05 0 37 29 1619.41 20.86 14.77 223.58 120.54 1 4 28 619.4 31.56 350.74
66.05 0 37 29 1619.41 20.86 14.77 223.58 120.54 1 4 28 619.4 31.56 350.74
66.05 0 37 29 1619.41 20.86 14.77 223.58 120.54 1 4 28 619.4 31.56 350.74
66.05 0 37 29 1619.41 20.86 14.77 223.58 120.54 1 4 28 619.4 31.56 350.74
66.05 0 37 29 1619.41 20.86 14.77 223.58 120.54 1 4 28 619.4 31.56 350.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7476 TRA-1.1245 TC3 .0198 BAU .1421 SGT 2035.5 SGR 932.5 SCS 784.5 ST 55.0 SR 24.7 SS 66.8
RDE -.3511 RRA -.4153 RC3 .5339 FAU .09465 RRT .8592 RRF -.9494 RTF -.8554 CRT .9950 CR8 .9042 C8T .9402
FDE 1.5515 FRA 4.8039 FC3-4.1184 B8P 3892 SGB 2239.0 R23 -.2939 R13 -.9129 LSA 88.5 MSA 16.3 S8A .8
BDE .8260 BRA 1.1988 BC3 .5343 F8P 1216 SGI 2194.8 SGI 442.4 THA 22.45 EL1 60.3 EL2 2.2 ALF 24.05

LAUNCH DATE APR 5 1971

FLIGHT TIME 178.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 451.477

EARTH TO MARS

RL 149.65 LAL -0.00 LOL 194.57 VL 32.619 GAL -4.11 AZL 93.73 HCA 154.51 SMA 187.00 ECC .21172 INC 3.7327 V1 29.775
RP 207.17 LAP -1.61 LOP 349.12 VP 23.907 GAP 10.58 AZP 86.63 TAL 336.11 TAP 130.61 RCA 147.41 APO 226.59 V2 26.439
RC 77.718 GL -28.44 GP 11.71 ZAL 129.60 ZAP 140.98 ETS 164.93 ZAE 165.55 ETE 101.74 ZAC 112.46 ETC 276.80 LVI -27.25

PLANETOCENTRIC CONIC

C3 19.788 VHL 4.448 DLA -37.33 RAL 345.33 RAD 6642.7 VEL 11.824 PTH 6.84 VHP 4.955 DPA -7.79 RAP 311.38 ECC 1.3257
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 23 53 2320.20 1.82 58.87 208.02 137.56 21 2 33 1320.2 19.72 42.49
60.00 22 22 42 2003.37 10.65 38.95 216.56 129.10 22 56 6 1003.4 25.43 18.91
64.55 0 32 5 1641.32 21.38 16.88 224.42 121.36 0 59 26 641.3 32.35 352.84
64.55 0 32 5 1641.32 21.38 16.88 224.42 121.36 0 59 26 641.3 32.35 352.84
64.55 0 32 5 1641.32 21.38 16.88 224.42 121.36 0 59 26 641.3 32.35 352.84
64.55 0 32 5 1641.32 21.38 16.88 224.42 121.36 0 59 26 641.3 32.35 352.84
64.55 0 32 5 1641.32 21.38 16.88 224.42 121.36 0 59 26 641.3 32.35 352.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7419 TRA-1.0738 TC3 .0135 BAU .1517 SGT 1984.5 SGR 1012.6 SCS 793.9 ST 54.4 SR 25.6 SS 68.7
RDE -.3569 RRA -.4595 RC3 .5733 FAU .09876 RRT .8658 RRF -.9606 RTF -.8830 CRT .9984 CR8 .9193 C8T .9363
FDE 1.6299 FRA 4.9866 FC3-4.3207 B8P 3832 SGB 2228.0 R23 -.3031 R13 -.9173 LSA 89.8 MSA 16.5 S8A .8
BDE .8232 BRA 1.1680 BC3 .5735 F8P 1280 SGI 2179.7 SGI 461.3 THA 25.03 EL1 60.1 EL2 1.3 ALF 25.13

LAUNCH DATE APR 5 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC
 RL 149.68 LAL -.00 LOL 194.57 VL 32.587 GAL -4.06 AZL 93.86 HCA 155.77 SMA 186.45 ECC .20923 INC 3.8643 V1 29.775
 RP 207.26 LAP -1.58 LOP 350.39 VP 23.850 GAP 10.26 AZP 86.48 TAL 336.16 TAP 131.93 RCA 147.44 APO 225.46 V2 26.428
 RC 79.295 GL -29.54 GP 12.57 ZAL 129.15 ZAP 139.29 ETS 164.73 ZAE 164.66 ETE 104.26 ZAC 113.35 ETC 276.77 LVI -27.96

DISTANCE 455.485
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.743 VHL 4.443 DLA -36.29 RAL 346.01 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 4.839 DPA -7.03 RAP 310.87 ECC 1.3249
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 34 37 2292.40 3.02 57.71 209.43 137.50 21 12 49 1292.4 21.03 41.15
 60.00 22 43 33 1948.24 13.00 36.19 218.80 128.49 23 16 1 948.2 27.40 15.57
 63.03 0 27 9 1663.02 21.89 19.00 225.40 122.24 0 54 52 663.0 33.17 354.97
 63.03 0 27 9 1663.02 21.89 19.00 225.40 122.24 0 54 52 663.0 33.17 354.97
 63.03 0 27 9 1663.02 21.89 19.00 225.40 122.24 0 54 52 663.0 33.17 354.97
 63.03 0 27 9 1663.02 21.89 19.00 225.40 122.24 0 54 52 663.0 33.17 354.97

DIFFERENTIAL CORRECTIONS
 TDE -.7471 TRA -1.0299 TC3 -.0168 BAU .1617 SGT 1947.1 SGR 1105.0 SG3 834.5 ST 54.4 SR 26.8 SS 70.9
 RDE -.3670 RRA -.5096 RC3 .6123 FAU .10236 RRT .8668 RRF -.9697 RTF -.8766 CRT .9995 CRS .9341 CST .9323
 FDE 1.7279 FRA 5.1799 FC3 -4.4883 BSP 3895 SGB 2238.8 R23 -.3151 R13 -.9200 LSA 91.8 MSA 16.9 SSA .7
 BDE .8324 BRA 1.1491 BC3 .6125 FSP 1358 SG1 2184.1 SG2 491.6 THA 27.71 EL1 60.7 EL2 .7 ALF 26.20

LAUNCH DATE APR 5 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.557 GAL -4.01 AZL 94.01 HCA 157.03 SMA 185.94 ECC .20690 INC 4.0093 V1 29.775
 RP 207.37 LAP -1.56 LOP 351.65 VP 23.796 GAP 9.96 AZP 86.31 TAL 336.20 TAP 133.23 RCA 147.47 APO 224.41 V2 26.415
 RC 80.909 GL -30.71 GP 13.52 ZAL 128.66 ZAP 137.52 ETS 164.50 ZAE 163.63 ETE 106.71 ZAC 114.33 ETC 276.74 LVI -28.74

DISTANCE 459.509
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.767 VHL 4.446 DLA -39.31 RAL 346.76 RAD 6642.7 VEL 11.823 PTH 6.84 VHP 4.730 DPA -6.20 RAP 310.29 ECC 1.3253
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 46 38 2262.78 4.90 56.47 211.08 137.41 21 24 21 1262.8 22.42 39.70
 60.00 23 11 45 1874.69 16.08 32.42 221.79 127.47 23 43 0 874.7 29.87 10.92
 61.47 0 22 39 1684.83 22.40 21.16 226.53 123.19 0 50 44 684.8 34.00 357.17
 61.47 0 22 39 1684.83 22.40 21.16 226.53 123.19 0 50 44 684.8 34.00 357.17
 61.47 0 22 39 1684.83 22.40 21.16 226.53 123.19 0 50 44 684.8 34.00 357.17
 61.47 0 22 39 1684.83 22.40 21.16 226.53 123.19 0 50 44 684.8 34.00 357.17

DIFFERENTIAL CORRECTIONS
 TDE -.7475 TRA -.9770 TC3 -.0387 BAU .1736 SGT 1891.4 SGR 1209.1 SG3 874.7 ST 54.0 SR 28.3 SS 73.0
 RDE -.3799 RRA -.5640 RC3 .6558 FAU .10626 RRT .8658 RRF -.9789 RTF -.8703 CRT .9981 CRS .9470 CST .9279
 FDE 1.8283 FRA 5.3635 FC3 -4.6539 BSP 3897 SGB 2244.9 R23 -.3178 R13 -.9251 LSA 93.5 MSA 17.3 SSA .7
 BDE .8385 BRA 1.1281 BC3 .6569 FSP 1429 SG1 2182.8 SG2 524.2 THA 30.99 EL1 60.9 EL2 1.6 ALF 27.60

LAUNCH DATE APR 5 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.529 GAL -3.97 AZL 94.17 HCA 158.29 SMA 185.46 ECC .20474 INC 4.1699 V1 29.775
 RP 207.46 LAP -1.54 LOP 352.91 VP 23.743 GAP 9.67 AZP 86.12 TAL 336.24 TAP 134.53 RCA 147.49 APO 223.43 V2 26.402
 RC 82.560 GL -31.96 GP 14.57 ZAL 128.13 ZAP 135.70 ETS 164.27 ZAE 162.46 ETE 109.06 ZAC 115.42 ETC 276.70 LVI -29.60

DISTANCE 463.549
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.867 VHL 4.457 DLA -40.39 RAL 347.60 RAD 6642.8 VEL 11.827 PTH 6.85 VHP 4.630 DPA -5.28 RAP 309.65 ECC 1.3270
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 0 17 2230.81 6.10 55.12 213.02 137.28 21 37 28 1230.8 23.90 38.10
 59.87 0 18 37 1706.87 22.89 23.38 227.83 124.23 0 47 4 706.9 34.86 359.43
 59.87 0 18 37 1706.87 22.89 23.38 227.83 124.23 0 47 4 706.9 34.86 359.43
 59.87 0 18 37 1706.87 22.89 23.38 227.83 124.23 0 47 4 706.9 34.86 359.43
 59.87 0 18 37 1706.87 22.89 23.38 227.83 124.23 0 47 4 706.9 34.86 359.43
 59.87 0 18 37 1706.87 22.89 23.38 227.83 124.23 0 47 4 706.9 34.86 359.43

DIFFERENTIAL CORRECTIONS
 TDE -.7491 TRA -.9210 TC3 -.0644 BAU .1872 SGT 1829.3 SGR 1327.1 SG3 914.1 ST 53.5 SR 30.0 SS 75.1
 RDE -.3970 RRA -.6240 RC3 .7020 FAU .11011 RRT .8619 RRF -.9826 RTF -.8722 CRT .9941 CRS .9583 CST .9230
 FDE 1.9390 FRA 5.5404 FC3 -4.7983 BSP 3911 SGB 2260.0 R23 -.3143 R13 -.9314 LSA 95.4 MSA 17.6 SSA .6
 BDE .8478 BRA 1.1125 BC3 .7049 FSP 1490 SG1 2188.9 SG2 562.4 THA 34.63 EL1 61.3 EL2 2.8 ALF 29.23

LAUNCH DATE APR 5 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.503 GAL -3.94 AZL 94.35 HCA 159.55 SMA 185.02 ECC .20272 INC 4.3492 V1 29.775
 RP 207.60 LAP -1.82 LOP 354.17 VP 23.691 GAP 9.39 AZP 85.92 TAL 336.27 TAP 135.82 RCA 147.52 APO 222.53 V2 26.388
 RC 84.247 GL -33.31 GP 15.74 ZAL 127.94 ZAP 133.80 ETS 164.02 ZAE 161.12 ETE 111.24 ZAC 116.64 ETC 276.66 LVI -30.54

DISTANCE 467.603
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.055 VHL 4.478 DLA -41.53 RAL 348.53 RAD 6642.9 VEL 11.835 PTH 6.85 VHP 4.540 DPA -4.26 RAP 308.93 ECC 1.3300
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 18 3 2195.61 7.86 53.63 215.33 137.08 21 52 38 1195.6 25.50 36.29
 58.22 0 15 3 1729.39 23.37 25.68 229.32 125.37 0 43 53 729.4 35.73 1.81
 58.22 0 15 3 1729.39 23.37 25.68 229.32 125.37 0 43 53 729.4 35.73 1.81
 58.22 0 15 3 1729.39 23.37 25.68 229.32 125.37 0 43 53 729.4 35.73 1.81
 58.22 0 15 3 1729.39 23.37 25.68 229.32 125.37 0 43 53 729.4 35.73 1.81
 58.22 0 15 3 1729.39 23.37 25.68 229.32 125.37 0 43 53 729.4 35.73 1.81

DIFFERENTIAL CORRECTIONS
 TDE -.7503 TRA -.8587 TC3 -.0896 BAU .2029 SGT 1755.5 SGR 1459.8 SG3 951.6 ST 52.8 SR 32.1 SS 77.2
 RDE -.4192 RRA -.6899 RC3 .7516 FAU .11395 RRT .8551 RRF -.9870 RTF -.8522 CRT .9878 CRS .9679 CST .9176
 FDE 2.0593 FRA 5.7012 FC3 -4.9193 BSP 3920 SGB 2283.2 R23 -.3025 R13 -.9396 LSA 97.3 MSA 18.1 SSA .6
 BDE .8594 BRA 1.1015 BC3 .7569 FSP 1563 SG1 2202.0 SG2 603.5 THA 38.88 EL1 61.7 EL2 4.3 ALF 31.18

LAUNCH DATE APR 5 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 10 1971

Heliocentric Conic

DISTANCE 471.671

EARTH TO MARS

RL 149.83 LAL -.00 LOL 194.57 VL 32.478 GAL -3.90 AZL 94.55 HCA 160.80 SMA 184.62 ECC .20085 INC 4.5505 V1 29.775
 RP 207.73 LAP -1.30 LOP 355.42 VP 23.841 GAP 9.11 AZP 85.70 TAL 336.29 TAP 137.09 RCA 147.54 APO 221.70 V2 26.375
 RC 85.989 GL -34.75 GP 17.04 ZAL 126.90 ZAP 131.82 ETS 163.76 ZAE 159.60 ETE 113.24 ZAC 117.99 ETC 276.62 LVI -31.59

Planetocentric Conic

C3 20.342 VHL 4.510 DLA -42.75 RAL 349.59 RAD 8643.0 VEL 11.847 PTH 6.86 VHP 4.459 DPA -3.12 RAP 308.14 ECC 1.3348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 30.00 21 34 40 2155.75 9.84 51.92 218.12 136.79 22 10 36 1155.8 27.28 34.17
 36.49 0 12 1 1752.53 23.82 28.07 231.05 126.62 0 41 14 752.5 36.63 4.32
 36.49 0 12 1 1752.53 23.82 28.07 231.05 126.62 0 41 14 752.5 36.63 4.32
 36.49 0 12 1 1752.53 23.82 28.07 231.05 126.62 0 41 14 752.5 36.63 4.32
 36.49 0 12 1 1752.53 23.82 28.07 231.05 126.62 0 41 14 752.5 36.63 4.32
 36.49 0 12 1 1752.53 23.82 28.07 231.05 126.62 0 41 14 752.5 36.63 4.32

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7481 TRA -.7853 TC3 -.1047 BAU .2214 SGT 1659.3 SGR 1607.5 SG3 985.1 ST 51.6 SR 34.6 SS 79.1
 RDE -.4462 RRA -.7608 RC3 .8074 FAU .11813 RRT .8461 RRF -.9903 RTF -.8406 CRT .9790 CRS .9757 CST .9111
 FDE 2.1810 FRA 5.8306 FC3-5.0275 BSP 3880 SGB 2310.3 R23 -.2793 R13 -.9501 LSA 98.8 MSA 18.4 S8A .5
 BDE .8694 BRA 1.0934 BC3 .8142 FSP 1611 SGI 2219.7 SG2 640.6 THA 43.93 EL1 61.8 EL2 5.9 ALF 33.60

LAUNCH DATE APR 5 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 12 1971

Heliocentric Conic

DISTANCE 475.749

EARTH TO MARS

RL 149.83 LAL -.00 LOL 194.57 VL 32.456 GAL -3.87 AZL 94.78 HCA 162.05 SMA 184.24 ECC .19913 INC 4.7787 V1 29.775
 RP 207.86 LAP -1.47 LOP 356.68 VP 23.592 GAP 8.84 AZP 85.45 TAL 336.30 TAP 138.35 RCA 147.55 APO 220.93 V2 26.357
 RC 87.725 GL -36.31 GP 18.50 ZAL 126.19 ZAP 129.77 ETS 163.49 ZAE 157.89 ETE 115.02 ZAC 119.50 ETC 276.58 LVI -32.76

Planetocentric Conic

C3 20.751 VHL 4.555 DLA -44.05 RAL 350.79 RAD 8643.2 VEL 11.964 PTH 6.88 VHP 4.391 DPA -1.84 RAP 307.27 ECC 1.3415
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 30.00 21 57 24 2108.85 12.16 49.88 221.59 136.36 22 32 33 1108.8 29.34 31.59
 34.69 0 9 38 1776.53 24.24 30.56 233.04 127.99 0 39 14 776.5 37.54 6.98
 34.69 0 9 38 1776.53 24.24 30.56 233.04 127.99 0 39 14 776.5 37.54 6.98
 34.69 0 9 38 1776.53 24.24 30.56 233.04 127.99 0 39 14 776.5 37.54 6.98
 34.69 0 9 38 1776.53 24.24 30.56 233.04 127.99 0 39 14 776.5 37.54 6.98
 34.69 0 9 38 1776.53 24.24 30.56 233.04 127.99 0 39 14 776.5 37.54 6.98

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7619 TRA -.7253 TC3 -.1577 BAU .2411 SGT 1997.0 SGR 1781.0 SG3 1018.4 ST 51.6 SR 37.9 SS 61.9
 RDE -.4878 RRA -.8454 RC3 .8548 FAU .12041 RRT .8277 RRF -.9929 RTF -.8207 CRT .9688 CRS .9826 CST .9062
 FDE 2.3564 FRA 5.9710 FC3-5.0235 BSP 4084 SGB 2392.1 R23 -.2583 R13 -.9587 LSA 102.2 MSA 19.0 S8A .5
 BDE .9046 BRA 1.1139 BC3 .8692 FSP 1690 SGI 2288.2 SG2 697.5 THA 48.76 EL1 63.3 EL2 7.6 ALF 36.04

LAUNCH DATE APR 5 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 14 1971

Heliocentric Conic

DISTANCE 479.839

EARTH TO MARS

RL 149.83 LAL -.00 LOL 194.57 VL 32.435 GAL -3.85 AZL 95.04 HCA 163.31 SMA 183.89 ECC .19754 INC 5.0393 V1 29.775
 RP 208.01 LAP -1.45 LOP 357.93 VP 23.545 GAP 8.57 AZP 85.17 TAL 336.30 TAP 139.61 RCA 147.57 APO 220.22 V2 26.340
 RC 89.514 GL -38.01 GP 20.13 ZAL 125.40 ZAP 127.62 ETS 163.22 ZAE 155.98 ETE 116.59 ZAC 121.19 ETC 276.54 LVI -34.07

Planetocentric Conic

C3 21.307 VHL 4.616 DLA -45.45 RAL 352.17 RAD 8643.4 VEL 11.887 PTH 6.90 VHP 4.335 DPA -3.39 RAP 306.32 ECC 1.3507
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 30.00 22 27 2 2048.88 15.10 47.21 226.10 135.87 23 1 11 1048.9 31.87 28.12
 32.80 0 7 55 1801.76 24.61 33.20 235.36 129.51 0 37 56 801.8 38.45 9.85
 32.80 0 7 55 1801.76 24.61 33.20 235.36 129.51 0 37 56 801.8 38.45 9.85
 32.80 0 7 55 1801.76 24.61 33.20 235.36 129.51 0 37 56 801.8 38.45 9.85
 32.80 0 7 55 1801.76 24.61 33.20 235.36 129.51 0 37 56 801.8 38.45 9.85
 32.80 0 7 55 1801.76 24.61 33.20 235.36 129.51 0 37 56 801.8 38.45 9.85

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7693 TRA -.8303 TC3 -.1936 BAU .2650 SGT 1906.0 SGR 1972.0 SG3 1043.5 ST 50.8 SR 41.6 SS 84.1
 RDE -.5376 RRA -.9351 RC3 .9098 FAU .12318 RRT .8052 RRF -.9948 RTF -.7788 CRT .9569 CRS .9876 CST .8997
 FDE 2.9280 FRA 6.0518 FC3-5.0050 BSP 4208 SGB 2481.3 R23 -.2256 R13 -.9689 LSA 104.9 MSA 19.4 S8A .4
 BDE .9388 BRA 1.1390 BC3 .9302 FSP 1735 SGI 2367.1 SG2 744.0 THA 54.36 EL1 65.0 EL2 9.4 ALF 39.09

LAUNCH DATE APR 5 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 16 1971

Heliocentric Conic

DISTANCE 483.939

EARTH TO MARS

RL 149.83 LAL -.00 LOL 194.57 VL 32.415 GAL -3.82 AZL 95.34 HCA 164.55 SMA 183.57 ECC .19607 INC 5.3405 V1 29.775
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.498 GAP 8.31 AZP 84.85 TAL 336.29 TAP 140.84 RCA 147.58 APO 219.56 V2 26.323
 RC 91.337 GL -39.88 GP 21.97 ZAL 124.50 ZAP 125.39 ETS 162.95 ZAE 153.83 ETE 117.93 ZAC 123.09 ETC 276.51 LVI -35.54

Planetocentric Conic

C3 22.048 VHL 4.698 DLA -46.96 RAL 353.77 RAD 8643.7 VEL 11.918 PTH 6.92 VHP 4.296 DPA 1.25 RAP 305.28 ECC 1.3629
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 30.00 23 13 10 1953.54 19.69 42.80 232.85 134.23 23 45 44 953.5 35.66 22.17
 30.80 0 7 4 1828.48 24.91 36.00 238.06 131.19 0 37 32 828.5 39.36 12.97
 30.80 0 7 4 1828.48 24.91 36.00 238.06 131.19 0 37 32 828.5 39.36 12.97
 30.80 0 7 4 1828.48 24.91 36.00 238.06 131.19 0 37 32 828.5 39.36 12.97
 30.80 0 7 4 1828.48 24.91 36.00 238.06 131.19 0 37 32 828.5 39.36 12.97
 30.80 0 7 4 1828.48 24.91 36.00 238.06 131.19 0 37 32 828.5 39.36 12.97

Differential Corrections

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7774 TRA -.5677 TC3 -.2262 BAU .2927 SGT 1405.4 SGR 2186.6 SG3 1060.4 ST 49.8 SR 46.1 SS 86.4
 RDE -.6033 RRA -1.0335 RC3 .9670 FAU .12555 RRT .7748 RRF -.9963 RTF -.7653 CRT .9438 CRS .9915 CST .8930
 FDE 2.7227 FRA 6.0796 FC3-4.9297 BSP 4361 SGB 2599.3 R23 -.1875 R13 -.9785 LSA 108.1 MSA 19.8 S8A .4
 BDE .9841 BRA 1.1791 BC3 .9931 FSP 1761 SGI 2478.2 SG2 783.9 THA 60.25 EL1 66.9 EL2 11.3 ALF 42.65

LAUNCH DATE APR 5 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.397 GAL -3.81 AZL 95.69 HCA 169.80 BMA 183.27 ECC .19473 INC 3.6929 V1 29.775
 RP 208.32 LAP -1.39 LOP .44 VP 23.452 GAP 8.05 AZP 84.48 TAL 336.27 TAP 142.07 RCA 147.58 APO 218.96 V2 26.304
 RC 93.190 GL -41.93 GP 24.06 ZAL 123.49 ZAP 123.05 ETS 162.69 ZAE 151.43 ETE 119.06 ZAC 125.24 ETC 276.48 LVI -37.20

PLANETOCENTRIC CONIC
 C3 23.030 VHL 4.799 DLA -48.59 RAL 355.66 RAD 8644.2 VEL 11.959 PTH 6.96 VHP 4.275 DPA 3.11 RAP 304.14 ECC 1.3790
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.68 0 7 18 1857.12 25.12 38.99 241.23 133.07 0 38 15 857.1 40.24 16.39
 48.68 0 7 18 1857.12 25.12 38.99 241.23 133.07 0 38 15 857.1 40.24 16.39
 48.68 0 7 18 1857.12 25.12 38.99 241.23 133.07 0 38 15 857.1 40.24 16.39
 48.68 0 7 18 1857.12 25.12 38.99 241.23 133.07 0 38 15 857.1 40.24 16.39
 48.68 0 7 18 1857.12 25.12 38.99 241.23 133.07 0 38 15 857.1 40.24 16.39
 48.68 0 7 18 1857.12 25.12 38.99 241.23 133.07 0 38 15 857.1 40.24 16.39

DIFFERENTIAL CORRECTIONS
 TDE -.7698 TRA -.4806 TC3 -.2614 BAU .3244 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.6934 RRA-1.1437 RC3 1.0206 FAU .12672 SGT 1305.3 SGR 243D.5 SG3 1067.8 ST 48.9 SR 51.7 SS 89.0
 FDE 2.9564 FRA 6.0531 FC3-4.7636 BSP 4604 RRT .7330 RRF -.9973 RTF -.7227 CRT .9306 CRS .9944 CST .8860
 BDE 1.0507 BRA 1.2406 BC3 1.0535 F8P 1778 SGB 2758.8 R23 -.1487 R13 -.9063 LSA 112.2 MSA 20.2 SSA .4
 SG1 2834.4 S2 819.2 THA 66.05 EL1 69.9 EL2 13.2 ALF 46.73

LAUNCH DATE APR 5 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.380 GAL -3.79 AZL 96.11 HCA 167.05 BMA 183.00 ECC .19351 INC 6.3109 V1 29.775
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.407 GAP 7.80 AZP 84.04 TAL 336.24 TAP 143.28 RCA 147.59 APO 218.41 V2 26.284
 RC 95.074 GL -44.21 GP 26.42 ZAL 122.33 ZAP 120.60 ETS 162.45 ZAE 148.75 ETE 119.98 ZAC 127.67 ETC 276.47 LVI -39.08

PLANETOCENTRIC CONIC
 C3 24.335 VHL 4.933 DLA -50.35 RAL 357.92 RAD 8644.7 VEL 12.013 PTH 7.00 VHP 4.280 DPA 5.25 RAP 302.90 ECC 1.4008
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.43 0 8 57 1888.24 25.19 42.20 244.97 135.16 0 40 25 888.2 41.07 20.17
 46.43 0 8 57 1888.24 25.19 42.20 244.97 135.16 0 40 25 888.2 41.07 20.17
 46.43 0 8 57 1888.24 25.19 42.20 244.97 135.16 0 40 25 888.2 41.07 20.17
 46.43 0 8 57 1888.24 25.19 42.20 244.97 135.16 0 40 25 888.2 41.07 20.17
 46.43 0 8 57 1888.24 25.19 42.20 244.97 135.16 0 40 25 888.2 41.07 20.17
 46.43 0 8 57 1888.24 25.19 42.20 244.97 135.16 0 40 25 888.2 41.07 20.17

DIFFERENTIAL CORRECTIONS
 TDE -.6041 TRA -.3872 TC3 -.2987 BAU .3604 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.8187 RRA-1.2668 RC3 1.0672 FAU .12630 SGT 1206.0 SGR 2707.4 SG3 1062.6 ST 47.9 SR 58.8 SS 91.9
 FDE 3.2363 FRA 5.9544 FC3-4.4932 BSP 4950 RRT .6753 RRF -.9981 RTF -.8642 CRT .9180 CRS .9965 CST .8815
 BDE 1.1475 BRA 1.3246 BC3 1.1076 F8P 1782 SGB 2963.9 R23 -.1122 R13 -.9919 LSA 117.4 MSA 20.5 SSA .3
 SG1 2840.0 S2 848.0 THA 71.55 EL1 74.3 EL2 15.0 ALF 51.36

LAUNCH DATE APR 5 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.385 GAL -3.78 AZL 96.62 HCA 168.29 BMA 182.75 ECC .19239 INC 6.6130 V1 29.775
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.363 GAP 7.55 AZP 83.52 TAL 336.20 TAP 144.48 RCA 147.59 APO 217.91 V2 26.264
 RC 96.988 GL -46.75 GP 29.12 ZAL 120.99 ZAP 118.04 ETS 162.24 ZAE 145.76 ETE 120.72 ZAC 130.44 ETC 276.49 LVI -41.21

PLANETOCENTRIC CONIC
 C3 26.090 VHL 5.108 DLA -52.26 RAL .68 RAD 8645.4 VEL 12.085 PTH 7.06 VHP 4.316 DPA 7.71 RAP 301.35 ECC 1.4294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.03 0 12 29 1922.55 25.06 45.64 249.44 137.49 0 44 31 922.5 41.77 24.38
 44.03 0 12 29 1922.55 25.06 45.64 249.44 137.49 0 44 31 922.5 41.77 24.38
 44.03 0 12 29 1922.55 25.06 45.64 249.44 137.49 0 44 31 922.5 41.77 24.38
 44.03 0 12 29 1922.55 25.06 45.64 249.44 137.49 0 44 31 922.5 41.77 24.38
 44.03 0 12 29 1922.55 25.06 45.64 249.44 137.49 0 44 31 922.5 41.77 24.38
 44.03 0 12 29 1922.55 25.06 45.64 249.44 137.49 0 44 31 922.5 41.77 24.38

DIFFERENTIAL CORRECTIONS
 TDE -.8179 TRA -.2837 TC3 -.3254 BAU .4033 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE -.9924 RRA-1.3983 RC3 1.1095 FAU .12474 SGT 1105.7 SGR 3015.1 SG3 1036.7 ST 46.5 SR 67.7 SS 94.8
 FDE 3.5337 FRA 5.7430 FC3-4.1394 BSP 5348 RRT .5930 RRF -.9987 RTF -.5.11 CRT .9059 CRS .9979 CST .8763
 BDE 1.2880 BRA 1.4268 BC3 1.1582 F8P 1746 SGB 3211.4 R23 -.0002 R13 -.9955 LSA 123.8 MSA 20.6 SSA .3
 SG1 3091.8 S2 868.2 THA 76.66 EL1 80.4 EL2 16.6 ALF 56.47

LAUNCH DATE APR 5 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.351 GAL -3.77 AZL 97.24 HCA 169.53 BMA 182.53 ECC .19139 INC 7.2355 V1 29.775
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.320 GAP 7.30 AZP 82.88 TAL 336.14 TAP 145.87 RCA 147.59 APO 217.46 V2 26.243
 RC 98.929 GL -49.61 GP 32.20 ZAL 119.45 ZAP 115.34 ETS 162.10 ZAE 142.41 ETE 121.31 ZAC 133.60 ETC 276.54 LVI -43.63

PLANETOCENTRIC CONIC
 C3 28.495 VHL 5.338 DLA -54.31 RAL 4.10 RAD 8646.4 VEL 12.184 PTH 7.14 VHP 4.386 DPA 10.53 RAP 300.06 ECC 1.4690
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.49 0 18 39 1960.93 24.65 49.33 254.84 140.06 0 51 19 960.9 42.26 29.08
 41.49 0 18 39 1960.93 24.65 49.33 254.84 140.06 0 51 19 960.9 42.26 29.08
 41.49 0 18 39 1960.93 24.65 49.33 254.84 140.06 0 51 19 960.9 42.26 29.08
 41.49 0 18 39 1960.93 24.65 49.33 254.84 140.06 0 51 19 960.9 42.26 29.08
 41.49 0 18 39 1960.93 24.65 49.33 254.84 140.06 0 51 19 960.9 42.26 29.08
 41.49 0 18 39 1960.93 24.65 49.33 254.84 140.06 0 51 19 960.9 42.26 29.08

DIFFERENTIAL CORRECTIONS
 TDE -.8288 TRA -.1703 TC3 -.3474 BAU .4548 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE-1.2420 RRA-1.5379 RC3 1.1422 FAU .12146 SGT 1013.5 SGR 3356.8 SG3 992.5 ST 44.7 SR 79.0 SS 97.9
 FDE 3.9177 FRA 5.4015 FC3-3.6903 BSP 5812 RRT .4763 RRF -.9991 RTF -.4633 CRT .8947 CRS .9988 CST .8715
 BDE 1.4931 BRA 1.5473 BC3 1.1938 F8P 1667 SGB 3506.5 R23 -.0542 R13 -.9977 LSA 132.0 MSA 20.4 SSA .2
 SG1 3393.9 S2 881.4 THA 81.22 EL1 89.1 EL2 17.7 ALF 61.93

LAUNCH DATE APR 5 1971

FLIGHT TIME 204.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC
 RL 149.85 LAL -.00 LOL 194.57 VL 32.339 GAL -3.76 AZL 98.02 HCA 170.76 SMA 182.32 ECC .19048 INC 8.0189 V1 29.775
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.277 GAP 7.07 AZP 92.06 TAL 336.08 TAP 148.84 RCA 147.59 APO 217.05 V2 26.221
 RC 100.898 GL -52.86 GP 35.72 ZAL 117.64 ZAP 112.50 ETS 162.06 ZAE 138.67 ETE 121.78 ZAC 137.19 ETC 276.65 LVI -46.35

DISTANCE 504.554 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 31.891 VHL 5.647 DLA -56.48 RAL 8.44 RAD 6647.7 VEL 12.321 PTH 7.25 VHP 4.537 DPA 13.78 RAP 298.43 ECC 1.5248
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 38.83 0 28 33 2004.68 23.82 53.25 261.43 142.87 1 1 58 1004.7 42.40 34.29
 38.83 0 28 33 2004.68 23.82 53.25 261.43 142.87 1 1 58 1004.7 42.40 34.29
 38.83 0 28 33 2004.68 23.82 53.25 261.43 142.87 1 1 58 1004.7 42.40 34.29
 38.83 0 28 33 2004.68 23.82 53.25 261.43 142.87 1 1 58 1004.7 42.40 34.29
 38.83 0 28 33 2004.68 23.82 53.25 261.43 142.87 1 1 58 1004.7 42.40 34.29
 38.83 0 28 33 2004.68 23.82 53.25 261.43 142.87 1 1 58 1004.7 42.40 34.29

DIFFERENTIAL CORRECTIONS
 TDE -.8311 TRA -.0457 TC3 -.3624 BAU .5144 SGT 941.1 SGR 3742.0 SG3 921.5 ST 42.2 SR 94.5 SS 101.5
 RDE -1.6203 RRA -1.6874 RC3 1.1508 FAU .11503 RRT .3165 RRF -.9993 RTF -.3025 CRT .8841 CRS .9993 CST .8864
 FDE 4.3480 FRA 4.9244 FC3 -3.1227 BSP 6423 SGB 3858.6 R23 -.0345 R13 -.9988 LSA 143.6 MSA 19.9 SSA .2
 BDE 1.8210 BRA 1.6880 BC3 1.2065 FSP 1557 SG1 3754.6 SG2 889.7 THA 85.10 EL1 101.8 EL2 18.3 ALF 67.70

LAUNCH DATE APR 5 1971

FLIGHT TIME 206.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC
 RL 149.85 LAL -.00 LOL 194.57 VL 32.327 GAL -3.76 AZL 99.04 HCA 171.99 SMA 182.13 ECC .18967 INC 9.0390 V1 29.775
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.235 GAP 6.83 AZP 81.05 TAL 336.01 TAP 148.01 RCA 147.59 APO 216.68 V2 26.198
 RC 102.893 GL -56.56 GP 39.73 ZAL 115.53 ZAP 109.52 ETS 162.18 ZAE 134.51 ETE 122.22 ZAC 141.28 ETC 276.83 LVI -49.38

DISTANCE 508.691 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 36.886 VHL 6.073 DLA -58.72 RAL 14.10 RAD 6649.6 VEL 12.521 PTH 7.40 VHP 4.769 DPA 17.50 RAP 296.63 ECC 1.6070
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.12 0 43 57 2055.58 22.40 57.34 269.59 145.84 1 18 12 1055.6 41.96 39.99
 36.12 0 43 57 2055.58 22.40 57.34 269.59 145.84 1 18 12 1055.6 41.96 39.99
 36.12 0 43 57 2055.58 22.40 57.34 269.59 145.84 1 18 12 1055.6 41.96 39.99
 36.12 0 43 57 2055.58 22.40 57.34 269.59 145.84 1 18 12 1055.6 41.96 39.99
 36.12 0 43 57 2055.58 22.40 57.34 269.59 145.84 1 18 12 1055.6 41.96 39.99
 36.12 0 43 57 2055.58 22.40 57.34 269.59 145.84 1 18 12 1055.6 41.96 39.99

DIFFERENTIAL CORRECTIONS
 TDE -.8048 TRA .0958 TC3 -.3651 BAU .5890 SGT 896.3 SGR 4158.1 SG3 818.6 ST 38.1 SR 115.2 SS 104.8
 RDE -2.2003 RRA -1.8312 RC3 1.1372 FAU .10598 RRT .1030 RRF -.9995 RTF -.0675 CRT .8687 CRS .9996 CST .8551
 FDE 4.7945 FRA 4.2692 FC3 -2.4875 BSP 7087 SGB 4233.7 R23 -.0205 R13 -.9994 LSA 159.2 MSA 18.9 SSA .1
 BDE 2.3428 BRA 1.8337 BC3 1.1944 FSP 1386 SG1 4159.2 SG2 891.3 THA 88.67 EL1 119.9 EL2 18.1 ALF 73.60

LAUNCH DATE APR 5 1971

FLIGHT TIME 228.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 149.85 LAL -.00 LOL 194.57 VL 32.262 GAL -4.02 AZL 80.74 HCA 185.62 SMA 181.09 ECC .18683 INC 9.2597 V1 29.775
 RP 211.87 LAP -.90 LOP 20.12 VP 22.802 GAP 4.52 AZP 99.22 TAL 333.97 TAP 159.59 RCA 147.26 APO 214.92 V2 25.896
 RC 126.431 GL 56.70 GP -90.46 ZAL 116.42 ZAP 92.15 ETS 181.29 ZAE 117.33 ETE 218.06 ZAC 51.96 ETC 272.27 LVI 36.52

DISTANCE 554.855 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 38.394 VHL 6.196 DLA 43.44 RAL 314.79 RAD 6650.1 VEL 12.581 PTH 7.45 VHP 5.539 DPA -71.79 RAP 318.61 ECC 1.6319
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 11 26 48 4304.14 -32.75 196.06 218.85 53.34 12 38 32 3304.1 -44.63 168.86
 55.54 9 47 31 4564.12 -17.42 206.46 205.46 49.55 11 3 35 3564.1 -32.20 185.38
 55.54 9 47 31 4564.12 -17.42 206.46 205.46 49.55 11 3 35 3564.1 -32.20 185.38
 55.54 9 47 31 4564.12 -17.42 206.46 205.46 49.55 11 3 35 3564.1 -32.20 185.38
 55.54 9 47 31 4564.12 -17.42 206.46 205.46 49.55 11 3 35 3564.1 -32.20 185.38
 55.54 9 47 31 4564.12 -17.42 206.46 205.46 49.55 11 3 35 3564.1 -32.20 185.38

DIFFERENTIAL CORRECTIONS
 TDE 2.2382 TRA .8146 TC3 -1.0024 BAU .8716 SGT 2627.2 SGR 5466.1 SG3 544.7 ST 104.7 SR 182.5 SS 98.2
 RDE 3.7410 RRA 3.0441 RC3 -1.3705 FAU .07653 RRT .9254 RRF .9994 RTF .5298 CRT .9847 CRS -.9999 CST -.9892
 FDE 4.1918 FRA 3.5251 FC3 -1.7257 BSP 9990 SGB 8064.7 R23 .0867 R13 .9972 LSA 231.6 MSA 16.5 SSA .2
 BDE 4.3594 BRA 3.1512 BC3 1.6980 FSP 938 SG1 5986.4 SG2 907.4 THA 85.42 EL1 209.8 EL2 15.9 ALF 60.38

LAUNCH DATE APR 5 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 149.85 LAL -.00 LOL 194.57 VL 32.261 GAL -4.05 AZL 82.85 HCA 186.81 SMA 181.07 ECC .18694 INC 7.3483 V1 29.775
 RP 212.14 LAP -.87 LOP 21.32 VP 22.785 GAP 4.32 AZP 97.30 TAL 333.77 TAP 160.58 RCA 147.22 APO 214.92 V2 25.864
 RC 128.706 GL 49.57 GP -46.12 ZAL 120.87 ZAP 91.07 ETS 179.89 ZAE 119.01 ETE 214.63 ZAC 56.33 ETC 272.00 LVI 32.82

DISTANCE 559.013 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.243 VHL 5.408 DLA 36.65 RAL 318.02 RAD 6646.7 VEL 12.214 PTH 7.17 VHP 4.889 DPA -68.02 RAP 312.18 ECC 1.4813
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 47 49 4019.77 -42.60 178.07 217.99 66.42 13 54 49 3019.8 -47.55 142.30
 60.00 12 13 40 4111.20 -31.15 177.50 211.24 63.01 13 22 11 3111.2 -39.26 149.65
 65.64 10 47 0 4363.77 -17.62 189.69 202.76 57.33 11 59 44 3363.8 -29.46 166.83
 65.64 10 47 0 4363.77 -17.62 189.69 202.76 57.33 11 59 44 3363.8 -29.46 166.83
 65.64 10 47 0 4363.77 -17.62 189.69 202.76 57.33 11 59 44 3363.8 -29.46 166.83
 65.64 10 47 0 4363.77 -17.62 189.69 202.76 57.33 11 59 44 3363.8 -29.46 166.83

DIFFERENTIAL CORRECTIONS
 TDE 1.9155 TRA .9806 TC3 -1.3178 BAU .7928 SGT 2797.7 SGR 5146.1 SG3 740.2 ST 103.3 SR 163.1 SS 111.3
 RDE 2.8853 RRA 2.8690 RC3 -1.5418 FAU .09354 RRT .9368 RRF .9995 RTF .9371 CRT .9861 CRS -.9999 CST -.9837
 FDE 4.6374 FRA 4.8060 FC3 -2.7692 BSP 9771 SGB 5857.4 R23 .0762 R13 .9965 LSA 222.3 MSA 15.7 SSA .2
 BDE 3.4633 BRA 3.0320 BC3 2.0280 FSP 1292 SG1 5792.5 SG2 869.4 THA 62.33 EL1 192.5 EL2 14.5 ALF 57.80

LAUNCH DATE APR 8 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.260 GAL -4.08 AZL 83.99 HCA 188.00 SMA 181.08 ECC .18713 INC 6.0088 V1 29.775
 RP 212.43 LAP -.83 LOP 22.53 VP 22.727 GAP 4.12 AZP 95.95 TAL 333.55 TAP 161.55 RCA 147.18 APO 214.94 V2 25.832
 RC 130.999 GL 43.28 GP -42.17 ZAL 124.68 ZAP 89.71 ETS 178.57 ZAE 120.04 ETE 211.14 ZAC 80.29 ETC 271.74 LVI 29.49

DISTANCE 563,180
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 24.126 VHL 4.912 DLA 30.74 RAL 320.88 RAD 6644.6 VEL 12.004 PTH 7.00 VHP 4.465 DPA -64.50 RAP 307.56 ECC 1.3970
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 38 2 3622.95 -46.61 158.88 212.57 79.13 14 41 45 2823.0 -45.51 123.62
 60.00 13 31 20 3640.82 -37.84 157.76 209.84 74.94 14 35 21 2840.8 -39.99 126.83
 70.00 13 18 56 3683.33 -28.48 157.70 206.35 70.30 14 21 40 2883.3 -33.88 130.32
 77.43 12 11 23 4089.14 -16.48 167.78 200.85 63.69 13 19 32 3089.1 -25.90 144.12
 77.43 12 11 23 4089.14 -16.48 167.78 200.85 63.69 13 19 32 3089.1 -25.90 144.12
 77.43 12 11 23 4089.14 -16.48 167.78 200.85 63.69 13 19 32 3089.1 -25.90 144.12
 110.00 18 16 23 2930.15 -28.48 86.82 206.35 70.30 19 5 13 1930.2 -33.88 59.23

DIFFERENTIAL CORRECTIONS
 TDE 1.7111 TRA 1.1423 TC3-1.6353 BAU .7489 SGT 2994.6 SGR 4809.8 SG3 915.9 ST 102.5 SR 145.6 SS 119.4
 RDE 2.3137 RRA 2.6800 RC3-1.6482 FAU .10845 RRT .9460 RRF .9994 RTF .9462 CRT .9880 CR8 -.9998 CST -.9849
 FDE 4.8794 FRA 5.9568 FC3-3.8918 BSP 9490 SGB 5665.9 R23 .0877 R13 .9955 LSA 213.9 MSA 14.7 SSA .2
 BDE 2.8777 BRA 2.9133 BC3 2.3218 FSP 1611 SG1 5604.3 SG2 832.8 THA 58.73 EL1 177.6 EL2 13.0 ALF 54.96

LAUNCH DATE APR 5 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.260 GAL -4.12 AZL 84.99 HCA 189.19 SMA 181.08 ECC .18737 INC 5.0134 V1 29.775
 RP 212.72 LAP -.80 LOP 23.72 VP 22.690 GAP 3.92 AZP 94.95 TAL 333.32 TAP 162.51 RCA 147.13 APO 214.98 V2 25.799
 RC 133.312 GL 37.80 GP -38.66 ZAL 127.88 ZAP 88.16 ETS 177.39 ZAE 120.51 ETE 207.76 ZAC 63.83 ETC 271.50 LVI 26.55

DISTANCE 567,351
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.052 VHL 4.588 DLA 25.61 RAL 322.91 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 4.176 DPA -61.31 RAP 304.08 ECC 1.3465
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 14 37 3672.63 -47.58 144.52 206.75 90.14 15 15 50 2672.6 -41.94 111.15
 60.00 14 20 33 3656.81 -40.04 142.65 206.30 84.96 15 21 30 2656.8 -37.69 111.76
 70.00 14 30 46 3626.72 -32.95 139.09 205.17 80.44 15 31 13 2626.7 -33.49 110.36
 80.00 14 52 33 3558.35 -26.99 132.53 203.78 76.72 15 51 51 2558.3 -29.86 105.47
 90.00 15 48 33 3377.44 -24.26 118.48 203.02 75.01 16 44 51 2377.4 -26.17 92.15
 100.00 17 35 25 3032.82 -26.99 93.89 203.78 76.72 18 25 57 2032.8 -29.86 66.84
 110.00 19 30 12 2673.54 -32.95 68.01 205.17 80.44 20 14 48 1673.5 -33.49 39.28

DIFFERENTIAL CORRECTIONS
 TDE 1.5751 TRA 1.2998 TC3-1.9407 BAU .7253 SGT 3208.2 SGR 4477.2 SG3 1066.9 ST 102.0 SR 130.2 SS 124.0
 RDE 1.9137 RRA 2.4926 RC3-1.6954 FAU .12127 RRT .9532 RRF .9993 RTF .9533 CRT .9901 CR8 -.9997 CST -.9863
 FDE 4.9948 FRA 6.9507 FC3-4.9872 BSP 9208 SGB 5506.8 R23 .1000 R13 .9943 LSA 206.3 MSA 13.7 SSA .3
 BDE 2.4785 BRA 2.8112 BC3 2.5770 FSP 1883 SG1 5449.0 SG2 796.2 THA 54.82 EL1 165.1 EL2 11.3 ALF 52.00

LAUNCH DATE APR 5 1971 FLIGHT TIME 236.00 ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.260 GAL -4.17 AZL 85.75 HCA 190.38 SMA 181.07 ECC .18769 INC 4.2479 V1 29.775
 RP 213.01 LAP -.76 LOP 24.92 VP 22.652 GAP 3.73 AZP 94.18 TAL 333.07 TAP 163.45 RCA 147.08 APO 215.05 V2 25.766
 RC 135.643 GL 33.04 GP -35.55 ZAL 130.53 ZAP 86.48 ETS 176.37 ZAE 120.51 ETE 204.60 ZAC 66.96 ETC 271.27 LVI 25.98

DISTANCE 571,524
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.116 VHL 4.372 DLA 21.18 RAL 324.82 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.972 DPA -58.47 RAP 301.28 ECC 1.3146
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 43 8 3553.64 -48.94 133.11 201.99 98.90 15 42 22 2553.6 -38.13 102.30
 60.00 14 57 1 3516.70 -40.21 130.78 202.96 93.02 15 55 37 2516.7 -34.61 101.16
 70.00 15 18 46 3492.64 -34.12 125.66 203.05 88.29 16 16 18 2492.6 -31.25 97.30
 80.00 15 56 39 3333.85 -29.45 116.33 202.72 84.87 16 52 13 2333.9 -26.59 86.94
 90.00 17 3 39 3117.55 -27.59 100.22 202.50 83.54 17 55 36 2117.5 -27.51 73.22
 100.00 18 39 31 2808.32 -29.45 77.70 202.72 84.87 19 26 19 1808.3 -28.59 50.31
 110.00 20 18 12 2499.46 -34.12 54.58 203.05 88.29 20 59 51 1499.5 -31.25 26.22

DIFFERENTIAL CORRECTIONS
 TDE 1.4817 TRA 1.4537 TC3-2.2269 BAU .7151 SGT 3425.7 SGR 4159.9 SG3 1193.0 ST 101.8 SR 117.1 SS 126.4
 RDE 1.6236 RRA 2.3147 RC3-1.6945 FAU .13205 RRT .9587 RRF .9991 RTF .9588 CRT .9922 CR8 -.9995 CST -.9878
 FDE 5.0328 FRA 7.7883 FC3-3.9802 BSP 8066 SGB 5388.9 R23 .1123 R13 .9928 LSA 199.8 MSA 12.7 SSA .4
 BDE 2.1981 BRA 2.7333 BC3 2.7983 FSP 2107 SG1 5355.1 SG2 759.6 THA 50.76 EL1 154.9 EL2 9.6 ALF 49.01

LAUNCH DATE APR 5 1971 FLIGHT TIME 238.00 ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC
 RL 149.65 LAL -.00 LOL 194.57 VL 32.261 GAL -4.21 AZL 86.36 HCA 191.57 SMA 181.08 ECC .18805 INC 3.6400 V1 29.775
 RP 213.31 LAP -.73 LOP 26.11 VP 22.615 GAP 3.54 AZP 93.57 TAL 332.80 TAP 164.37 RCA 147.03 APO 215.13 V2 25.732
 RC 137.991 GL 28.91 GP -32.80 ZAL 132.72 ZAP 84.73 ETS 175.49 ZAE 120.13 ETE 201.71 ZAC 69.73 ETC 271.06 LVI 21.73

DISTANCE 575,899
EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.861 VHL 4.226 DLA 17.36 RAL 326.48 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 3.825 DPA -55.93 RAP 299.00 ECC 1.2939
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 6 16 3457.50 -45.94 124.26 198.53 105.59 16 3 54 2457.5 -34.57 95.88
 60.00 15 25 47 3405.52 -39.39 121.42 200.37 99.31 16 22 33 2405.5 -31.49 93.39
 70.00 15 54 51 3319.95 -33.90 115.31 201.20 94.40 16 50 11 2319.9 -28.60 87.89
 80.00 16 40 59 3175.40 -29.84 104.58 201.42 91.03 17 33 54 2175.4 -26.39 77.69
 90.00 17 52 19 2945.12 -28.28 87.67 201.43 89.77 18 41 24 1945.1 -25.52 61.00
 100.00 19 23 51 2649.87 -29.84 65.95 201.42 91.03 20 8 0 1849.9 -26.39 39.06
 110.00 20 54 18 2366.77 -33.90 44.23 201.20 94.40 21 33 45 1366.8 -28.60 16.80

DIFFERENTIAL CORRECTIONS
 TDE 1.4199 TRA 1.6073 TC3-2.4852 BAU .7131 SGT 3651.1 SGR 3863.2 SG3 1295.6 ST 102.2 SR 105.9 SS 127.5
 RDE 1.4079 RRA 2.1496 RC3-1.6559 FAU .14071 RRT .9631 RRF .9989 RTF .9633 CRT .9944 CR8 -.9992 CST -.9894
 FDE 5.0271 FRA 8.4830 FC3-6.8204 BSP 8805 SGB 5315.6 R23 .1234 R13 .9912 LSA 194.4 MSA 11.7 SSA .4
 BDE 1.9996 BRA 2.6841 BC3 2.9864 FSP 2290 SG1 5266.5 SG2 720.4 THA 46.68 EL1 147.0 EL2 7.8 ALF 46.01

LAUNCH DATE APR 5 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.263 GAL -4.26 AZL 86.85 HCA 192.75 SMA 181.11 ECC .18848 INC 3.1456 V1 29.775
RP 213.81 LAP -.89 LOP 27.30 VP 22.578 GAP 3.35 AZP 93.07 TAL 332.53 TAP 165.28 RCA 146.97 APO 215.24 V2 25.697
RC 140.356 GL 25.35 GP -30.37 ZAL 134.52 ZAP 82.93 ETS 174.74 ZAE 119.49 ETE 199.11 ZAC 72.19 ETC 270.87 LVI 18.75

DISTANCE 579.876

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.037 VHL 4.128 DLA 14.06 RAL 327.94 RAD 6641.5 VEL 11.708 PTH 6.74 VHP 3.717 DPA -53.68 RAP 297.07 ECC 1.2804
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 25 32 3378.71 -43.87 117.41 196.19 110.64 16 21 50 2378.7 -31.38 91.07
60.00 15 49 22 3315.25 -38.14 114.08 198.57 104.14 16 44 37 2315.2 -28.59 87.51
70.00 16 23 42 3214.22 -33.05 107.18 199.85 99.13 17 17 18 2214.2 -25.98 80.78
80.00 17 15 13 3052.81 -29.35 95.51 200.42 95.77 18 6 6 2052.8 -24.02 69.35
90.00 18 29 9 2814.15 -27.94 78.11 200.56 94.54 19 16 3 1814.1 -23.27 52.07
100.00 19 58 5 2527.28 -29.35 56.88 200.42 95.77 20 40 12 1527.3 -24.02 30.72
110.00 21 23 8 2261.04 -33.05 36.10 199.85 99.13 22 0 49 1261.0 -25.98 9.70

DIFFERENTIAL CORRECTIONS

TDE 1.3601 TRA 1.7599 TC3-2.7151 BAW .7191
RDE 1.2353 RRA 1.9895 RC3-1.6115 FAU .14916
FDE 4.9598 FRA 9.0146 FC3-7.5797 B8P 8650
BDE 1.8522 BRA 2.6562 BC3 3.1573 F8P 2397

MID-COURSE EXECUTION ACCURACY

SGT 3877.7 SGR 3579.8 SG3 1374.2
RRT .9680 RRF .9986 RTF .9680
SGB 5277.5 R23 .1309 R13 .9900
SG1 5235.3 S62 665.8 THA 42.64

ORBIT DETERMINATION ACCURACY

ST 103.0 SR 95.8 SS 126.9
CRT .9962 CR8 -.9987 CST -.9907
LSA 189.1 MSA 10.9 SSA .5
EL1 140.6 EL2 6.1 ALF 42.91

LAUNCH DATE APR 5 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.265 GAL -4.31 AZL 87.26 HCA 193.94 SMA 181.14 ECC .18896 INC 2.7346 V1 29.775
RP 213.92 LAP -.66 LOP 28.49 VP 22.541 GAP 3.16 AZP 92.65 TAL 332.24 TAP 166.18 RCA 146.91 APO 215.36 V2 25.682
RC 142.739 GL 22.21 GP -28.21 ZAL 136.03 ZAP 81.12 ETS 174.10 ZAE 118.55 ETE 196.79 ZAC 74.37 ETC 270.69 LVI 18.02

DISTANCE 584.049

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.502 VHL 4.082 DLA 11.22 RAL 329.25 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 3.639 DPA -51.67 RAP 295.42 ECC 1.2716
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 41 54 3313.47 -42.17 112.07 194.68 114.47 16 37 8 2313.5 -28.60 87.34
60.00 16 9 12 3240.84 -36.74 108.26 197.40 107.88 17 3 13 2240.8 -25.99 82.93
70.00 16 47 35 3127.90 -31.93 100.70 199.00 102.81 17 39 43 2127.9 -23.57 75.24
80.00 17 43 3 2954.13 -28.45 88.32 199.79 99.45 18 32 17 1954.1 -21.77 62.90
90.00 18 58 49 2709.60 -27.15 70.57 200.02 98.24 19 43 59 1709.6 -21.08 45.19
100.00 20 25 55 2428.60 -26.45 49.68 199.79 99.45 21 6 23 1428.6 -21.77 24.26
110.00 21 47 1 2174.72 -31.93 29.62 199.00 102.81 22 23 16 1174.7 -23.57 4.16

DIFFERENTIAL CORRECTIONS

TDE 1.3565 TRA 1.8126 TC3-2.9227 BAW .7265
RDE 1.1137 RRA 1.8568 RC3-1.5169 FAU .15298
FDE 4.9401 FRA 9.5005 FC3-8.0257 B8P 8701
BDE 1.7551 BRA 2.6656 BC3 3.2929 F8P 2544

MID-COURSE EXECUTION ACCURACY

SGT 4106.3 SGR 3333.9 SG3 1439.8
RRT .9696 RRF .9982 RTF .9701
SGB 5289.3 R23 .1395 R13 .9884
SG1 5250.7 S62 637.6 THA 38.89

ORBIT DETERMINATION ACCURACY

ST 104.2 SR 88.2 SS 127.1
CRT .9978 CR8 -.9982 CST -.9922
LSA 186.3 MSA 10.1 SSA .6
EL1 136.5 EL2 4.4 ALF 40.22

LAUNCH DATE APR 5 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.267 GAL -4.37 AZL 87.61 HCA 195.12 SMA 181.18 ECC .18949 INC 2.3880 V1 29.775
RP 214.24 LAP -.62 LOP 29.67 VP 22.504 GAP 2.98 AZP 92.31 TAL 331.94 TAP 167.06 RCA 146.85 APO 215.51 V2 25.627
RC 145.138 GL 19.48 GP -26.28 ZAL 137.29 ZAP 79.32 ETS 173.56 ZAE 117.49 ETE 194.74 ZAC 76.31 ETC 270.53 LVI 16.49

DISTANCE 588.820

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.188 VHL 4.021 DLA 8.75 RAL 330.44 RAD 6641.1 VEL 11.671 PTH 6.71 VHP 3.583 DPA -49.87 RAP 293.98 ECC 1.2661
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 56 3 3258.98 -40.84 107.86 193.78 117.41 16 50 22 2259.0 -26.19 84.40
60.00 16 26 11 3178.80 -35.34 103.59 196.73 110.78 17 19 9 2178.8 -23.70 79.27
70.00 17 7 49 3056.29 -30.73 95.47 198.54 105.69 17 58 45 2056.3 -21.40 70.81
80.00 18 6 23 2872.86 -27.41 82.50 199.49 102.33 18 54 16 1872.9 -19.70 57.75
90.00 19 23 32 2623.85 -26.17 64.49 199.78 101.13 20 7 16 1623.8 -19.05 39.72
100.00 20 49 15 2347.33 -27.41 43.87 199.49 102.33 21 28 22 1347.3 -19.70 19.12
110.00 22 7 16 2103.11 -30.73 24.39 198.54 105.69 22 42 19 1103.1 -21.40 359.73

DIFFERENTIAL CORRECTIONS

TDE 1.3499 TRA 2.0698 TC3-3.0977 BAW .7348
RDE 1.0248 RRA 1.7409 RC3-1.3994 FAU .18358
FDE 4.9506 FRA 9.9269 FC3-8.2248 B8P 8890
BDE 1.6947 BRA 2.7044 BC3 3.3992 F8P 2702

MID-COURSE EXECUTION ACCURACY

SGT 4337.0 SGR 3114.1 SG3 1492.4
RRT .9700 RRF .9977 RTF .5.12
SGB 5339.2 R23 .1478 R13 .9868
SG1 5303.2 S62 618.8 THA 35.41

ORBIT DETERMINATION ACCURACY

ST 106.2 SR 82.2 SS 127.8
CRT .9991 CR8 -.9975 CST -.9938
LSA 185.1 MSA 9.3 SSA .8
EL1 134.2 EL2 2.8 ALF 37.73

LAUNCH DATE APR 5 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.270 GAL -4.42 AZL 87.91 HCA 196.29 SMA 181.22 ECC .19007 INC 2.0914 V1 29.775
RP 214.35 LAP -.59 LOP 30.85 VP 22.468 GAP 2.79 AZP 92.01 TAL 331.64 TAP 167.93 RCA 146.78 APO 215.67 V2 25.591
RC 147.555 GL 17.09 GP -24.56 ZAL 138.38 ZAP 77.53 ETS 173.10 ZAE 116.29 ETE 192.93 ZAC 78.05 ETC 270.38 LVI 15.13

DISTANCE 592.393

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.971 VHL 3.998 DLA 6.80 RAL 331.52 RAD 6641.0 VEL 11.663 PTH 6.70 VHP 3.543 DPA -48.26 RAP 292.71 ECC 1.2628
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 8 24 3213.14 -39.05 104.48 193.31 119.69 17 1 57 2213.1 -24.11 82.02
60.00 16 40 55 3126.62 -34.02 99.80 196.42 113.08 17 33 2 2126.6 -21.70 76.31
70.00 17 25 16 2996.17 -29.55 91.19 198.38 107.98 18 15 12 1996.2 -19.48 67.20
80.00 18 26 20 2804.87 -26.33 77.74 199.45 104.61 19 13 5 1804.9 -17.84 53.55
90.00 19 44 37 2552.27 -25.13 59.51 199.78 103.42 20 27 9 1552.3 -17.22 35.27
100.00 21 9 12 2279.35 -26.33 39.11 199.45 104.61 21 47 11 1279.3 -17.84 14.92
110.00 22 24 42 2042.98 -29.55 20.11 198.38 107.98 22 58 45 1043.0 -19.48 356.12

DIFFERENTIAL CORRECTIONS

TDE 1.3475 TRA 2.2198 TC3-3.2632 BAW .7516
RDE .9390 RRA 1.6197 RC3-1.3201 FAU .15704
FDE 4.8716 FRA 10.1883 FC3-8.5125 B8P 8951
BDE 1.6424 BRA 2.7479 BC3 3.5201 F8P 2743

MID-COURSE EXECUTION ACCURACY

SGT 4560.5 SGR 2896.6 SG3 1524.4
RRT .9721 RRF .9971 RTF .9737
SGB 5402.7 R23 .1495 R13 .9860
SG1 5371.8 S62 576.6 THA 32.11

ORBIT DETERMINATION ACCURACY

ST 108.0 SR 75.9 SS 126.5
CRT .9997 CR8 -.9965 CST -.9946
LSA 182.6 MSA 8.8 SSA .9
EL1 132.0 EL2 1.5 ALF 35.11

LAUNCH DATE APR 5 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC										DISTANCE 598.563										EARTH TO MARS																																													
RL	149.65	LAL	-.00	LOL	194.57	VL	32.274	GAL	-4.48	AZL	88.17	HCA	197.47	SMA	181.28	ECC	.19070	INC	1.8345	V1	29.775	RP	214.88	LAP	-.55	LOP	32.03	VP	22.431	GAP	2.61	AZP	91.75	TAL	331.32	TAP	168.79	RCA	146.71	APO	215.84	V2	25.554	RC	149.988	GL	14.98	GP	-23.00	ZAL	139.28	ZAP	75.77	ETS	172.72	ZAE	115.01	ETE	181.33	ZAC	79.61	ETC	270.24	LVI	13.92
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.883	VHL	3.985	DLA	4.72	RAL	332.52	RAD	6640.9	VEL	11.659	PTH	6.70	VHP	3.516	DPA	-46.80	RAP	291.60	ECC	1.2614	SGT	4781.7	SGR	2699.3	SG3	1945.7	ST	110.1	SR	70.7	SS	125.2	CRT	.9999	CR3	-.9954	CST	-.9957	CR1	110.1	CR2	70.7	CR3	125.2																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9733	RRF	.9963	RTF	.9755	CR2	110.1	CR3	70.7	CR4	125.2	LSA	180.9	MSA	8.5	SSA	1.0	CR3	110.1	CR4	70.7	CR5	125.2																
50.00	16	19	19	3174.39	-37.71	101.74	193.15	121.49	17	12	13	2174.4	-22.32	80.07	SG6	5491.0	R23	.1487	R13	.9853	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											
60.00	16	53	52	3082.45	-32.79	98.69	196.37	114.87	17	45	14	2082.5	-19.97	73.87	SG7	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											
70.00	17	40	30	2945.28	-28.43	87.65	198.46	109.78	18	29	35	1945.3	-17.80	64.22	SG8	5491.0	R23	.1487	R13	.9853	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											
80.00	18	43	41	2747.40	-25.28	73.80	199.61	106.44	19	29	28	1747.4	-16.19	50.08	SG9	5491.0	R23	.1487	R13	.9853	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											
90.00	20	2	53	2491.81	-24.11	55.37	199.97	105.25	20	44	25	1491.8	-15.59	31.58	SG10	5491.0	R23	.1487	R13	.9853	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											
100.00	21	26	33	2221.87	-25.28	35.18	199.61	106.44	22	3	38	1221.9	-16.19	11.45	SG11	5491.0	R23	.1487	R13	.9853	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											
110.00	22	39	56	1992.09	-28.43	16.57	198.46	109.78	23	13	9	992.1	-17.80	353.14	SG12	5491.0	R23	.1487	R13	.9853	EL1	130.8	EL2	1.0	ALF	32.70	SG1	5464.2	SG2	542.2	THA	29.10	EL1	130.8	EL2	1.0	ALF	32.70																											

LAUNCH DATE APR 5 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC										DISTANCE 600.730										EARTH TO MARS																																													
RL	149.65	LAL	-.00	LOL	194.57	VL	32.277	GAL	-4.55	AZL	88.39	HCA	198.64	SMA	181.33	ECC	.19137	INC	1.6093	V1	29.775	RP	215.21	LAP	-.51	LOP	33.20	VP	22.394	GAP	2.43	AZP	91.53	TAL	330.99	TAP	168.63	RCA	146.63	APO	216.04	V2	25.518	RC	152.438	GL	13.11	GP	-21.60	ZAL	140.07	ZAP	74.04	ETS	172.39	ZAE	113.67	ETE	189.92	ZAC	81.02	ETC	270.11	LVI	12.83
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.875	VHL	3.984	DLA	3.08	RAL	333.45	RAD	6640.9	VEL	11.658	PTH	6.70	VHP	3.500	DPA	-45.48	RAP	290.61	ECC	1.2613	SGT	4998.9	SGR	2518.9	SG3	1557.4	ST	112.3	SR	66.1	SS	124.0	CRT	.9995	CR3	-.9939	CST	-.9965	CR1	112.3	CR2	66.1	CR3	124.0																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9737	RRF	.9953	RTF	.9769	CR2	112.3	CR3	66.1	CR4	124.0	LSA	179.7	MSA	8.2	SSA	1.1	CR3	112.3	CR4	66.1	CR5	124.0																
50.00	16	29	2	3141.50	-36.52	99.51	193.21	122.92	17	21	24	2141.5	-20.77	78.46	SG6	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											
60.00	17	5	21	3044.88	-31.69	94.12	196.52	116.33	17	56	6	2044.9	-18.46	71.84	SG7	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											
70.00	17	53	58	2901.93	-27.39	84.71	198.70	111.25	18	42	19	1901.9	-16.32	61.73	SG8	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											
80.00	18	58	56	2698.43	-24.30	70.49	199.92	107.91	19	43	55	1698.4	-14.74	47.17	SG9	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											
90.00	20	18	56	2440.30	-23.14	51.91	200.32	106.72	20	59	36	1440.3	-14.15	28.49	SG10	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											
100.00	21	41	48	2172.90	-24.30	31.86	199.92	107.91	22	18	1	1172.9	-14.74	8.54	SG11	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											
110.00	22	53	24	1948.74	-27.39	13.63	198.70	111.25	23	25	53	948.7	-16.32	350.65	SG12	5597.7	R23	.1487	R13	.9847	EL1	130.3	EL2	1.8	ALF	30.49	SG1	5574.0	SG2	514.2	THA	26.38	EL1	130.3	EL2	1.8	ALF	30.49																											

LAUNCH DATE APR 5 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC										DISTANCE 604.895										EARTH TO MARS																																													
RL	149.65	LAL	-.00	LOL	194.57	VL	32.281	GAL	-4.61	AZL	88.59	HCA	199.80	SMA	181.40	ECC	.19210	INC	1.4109	V1	29.775	RP	215.54	LAP	-.48	LOP	34.37	VP	22.358	GAP	2.25	AZP	91.33	TAL	330.66	TAP	170.46	RCA	146.55	APO	216.25	V2	25.480	RC	154.904	GL	11.45	GP	-20.34	ZAL	140.78	ZAP	72.35	ETS	172.12	ZAE	112.28	ETE	188.68	ZAC	82.30	ETC	269.99	LVI	11.85
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.930	VHL	3.991	DLA	1.63	RAL	334.31	RAD	6641.0	VEL	11.661	PTH	6.70	VHP	3.493	DPA	-44.28	RAP	289.73	ECC	1.2622	SGT	5213.6	SGR	2355.1	SG3	1561.7	ST	114.9	SR	62.3	SS	122.9	CRT	.9986	CR3	-.9922	CST	-.9972	CR1	114.9	CR2	62.3	CR3	122.9																				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9736	RRF	.9941	RTF	.979	CR2	114.9	CR3	62.3	CR4	122.9	LSA	179.2	MSA	8.1	SSA	1.2	CR3	114.9	CR4	62.3	CR5	122.9																
50.00	16	37	47	3113.51	-35.46	97.66	193.44	124.08	17	29	40	2113.5	-19.45	77.12	SG6	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											
60.00	17	15	38	3012.81	-30.70	91.98	196.82	117.51	18	5	51	2012.8	-17.15	70.13	SG7	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											
70.00	18	5	57	2884.83	-26.45	82.23	199.08	112.44	18	53	41	1864.8	-15.03	59.63	SG8	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											
80.00	19	12	29	2656.46	-23.39	67.70	200.36	109.11	19	56	45	1656.5	-13.46	44.71	SG9	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											
90.00	20	33	9	2396.13	-22.25	48.98	200.77	107.92	21	13	5	1396.1	-12.87	25.88	SG10	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											
100.00	21	55	21	2130.93	-23.39	29.07	200.36	109.11	22	30	52	1130.9	-13.46	6.09	SG11	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											
110.00	23	5	23	1911.65	-26.45	11.15	199.08	112.44	23	37	15	911.6	-15.03	348.55	SG12	5699.7	R23	.1465	R13	.9842	EL1	130.7	EL2	2.9	ALF	28.45	SG1	5699.7	SG2	491.5	THA	23.93	EL1	130.7	EL2	2.9	ALF	28.45																											

LAUNCH DATE APR 5 1971

LAUNCH DATE APR 5 1971

FLIGHT TIME 296.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.291 GAL -4.75 AZL 88.92 HCA 202.13 SMA 181.55 ECC .19367 INC 1.0748 V1 29.775
RP 216.21 LAP -.41 LOP 36.89 VP 22.285 GAP 1.89 AZP 91.00 TAL 329.96 TAP 172.09 RCA 146.39 APO 216.71 V2 25.405
RC 159.881 GL 8.63 GP -18.13 ZAL 141.98 ZAP 89.10 ETS 171.70 ZAE 100.45 ETE 186.62 ZAC 84.92 ETC 269.79 LVI 10.14

DISTANCE 613.219

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.186 VHL 4.023 DLA -.77 RAL 335.90 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 3.498 DPA -42.19 RAP 288.27 ECC 1.2664
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 52 52 3069.32 -33.74 94.85 194.22 125.78 17 44 1 2069.3 -17.33 75.05
60.00 17 33 15 2961.87 -29.05 88.67 197.72 119.26 18 22 37 1961.9 -15.04 67.48
70.00 18 26 24 2805.59 -24.85 78.37 200.09 114.22 19 13 9 1805.6 -12.92 56.33
80.00 19 35 30 2589.19 -21.82 63.32 201.47 110.90 20 18 40 1589.2 -11.36 40.83
90.00 20 57 18 2325.27 -20.69 44.37 201.92 109.72 21 36 3 1325.3 -10.77 21.74
100.00 22 18 22 2063.66 -21.82 24.69 201.47 110.90 22 52 46 1063.7 -11.36 2.20
110.00 23 25 50 1852.41 -24.85 7.29 200.10 114.22 23 56 43 852.4 -12.92 345.25

DIFFERENTIAL CORRECTIONS

TDE 1.4323 TRA 2.9701 TC3-3.8536 BAU .8568
RDE .7031 RRA 1.1585 RC3 -.9097 FAU .15636
FDE 4.5634 FRA10.7383 FC3-8.3633 BSP 9947
BDE 1.5955 BRA 3.1880 BC3 3.9595 FSP 2809

MID-COURSE EXECUTION ACCURACY

SGT 5627.6 SGR 2064.2 SG3 1549.0
RRT .9721 RRF .9908 RTF .9794
SGB 5994.2 R23 .1382 R13 .9836
SG1 5976.8 SG2 456.2 THA 19.74

ORBIT DETERMINATION ACCURACY

ST 120.2 SR 55.9 SS 120.3
CRT .9951 CRS -.9879 CST -.9982
LSA 178.8 MSA 8.3 SSA 1.3
EL1 132.5 EL2 5.0 ALF 24.85

LAUNCH DATE APR 5 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.296 GAL -4.82 AZL 89.07 HCA 203.29 SMA 181.63 ECC .19453 INC .9316 V1 29.775
RP 216.56 LAP -.37 LOP 37.85 VP 22.248 GAP 1.71 AZP 90.86 TAL 329.60 TAP 172.89 RCA 146.30 APO 216.96 V2 25.366
RC 162.390 GL 7.44 GP -17.17 ZAL 142.51 ZAP 67.55 ETS 171.54 ZAE 108.03 ETE 185.77 ZAC 85.49 ETC 269.71 LVI 9.39

DISTANCE 617.369

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.370 VHL 4.046 DLA -1.77 RAL 336.63 RAD 6641.2 VEL 11.679 PTH 6.71 VHP 3.508 DPA -41.27 RAP 287.67 ECC 1.2694
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 59 25 3052.03 -33.05 93.78 194.73 126.41 17 50 18 2052.0 -16.50 74.26
60.00 17 40 53 2941.76 -28.38 87.40 198.28 119.91 18 29 54 1941.8 -14.20 66.15
70.00 18 35 12 2782.02 -24.19 76.87 200.70 114.88 19 21 34 1782.0 -12.07 55.04
80.00 19 45 23 2562.28 -21.16 61.60 202.11 111.57 20 28 5 1562.3 -10.50 39.29
90.00 21 7 38 2296.85 -20.03 42.55 202.57 110.39 21 45 55 1296.9 -9.90 20.10
100.00 22 28 15 2036.75 -21.16 22.97 202.11 111.57 23 2 11 1036.7 -10.50 .66
110.00 23 34 38 1828.84 -24.19 5.79 200.70 114.88 24 5 7 828.8 -12.07 343.96

DIFFERENTIAL CORRECTIONS

TDE 1.4620 TRA 3.1196 YC3-3.9356 BAU .8808
RDE .6765 RRA 1.0859 RC3 -.8414 FAU .15453
FDE 4.5029 FRA10.7312 FC3-8.1724 BSP 10207
BDE 1.6109 BRA 3.3032 BC3 4.0245 FSP 2789

MID-COURSE EXECUTION ACCURACY

SGT 5827.8 SGR 1938.1 SG3 1334.8
RRT .9706 RRF .9887 RTF .9801
SGB 6141.0 R23 .1324 R13 .9834
SG1 6125.0 SG2 443.2 THA 17.97

ORBIT DETERMINATION ACCURACY

ST 123.0 SR 53.2 SS 118.9
CRT .9925 CRS -.9852 CST -.9986
LSA 178.9 MSA 8.6 SSA 1.3
EL1 133.9 EL2 6.0 ALF 23.27

LAUNCH DATE APR 5 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.301 GAL -4.89 AZL 89.20 HCA 204.44 SMA 181.72 ECC .19542 INC .8020 V1 29.775
RP 216.91 LAP -.33 LOP 39.00 VP 22.212 GAP 1.53 AZP 90.73 TAL 329.23 TAP 173.67 RCA 146.20 APO 217.23 V2 25.327
RC 164.912 GL 6.35 GP -16.28 ZAL 143.00 ZAP 66.04 ETS 171.42 ZAE 106.61 ETE 185.01 ZAC 86.37 ETC 269.63 LVI 8.70

DISTANCE 621.920

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.586 VHL 4.073 DLA -2.66 RAL 337.33 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.523 DPA -40.42 RAP 287.15 ECC 1.2730
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 9 27 3037.35 -32.45 92.89 195.29 126.92 17 56 5 2037.4 -15.79 73.59
60.00 17 47 51 2924.58 -27.79 86.32 198.88 120.45 18 36 36 1924.6 -13.48 65.57
70.00 18 43 13 2761.76 -23.60 75.59 201.34 115.43 19 29 15 1761.8 -11.33 53.93
80.00 19 54 21 2539.03 -20.57 60.13 202.79 112.13 20 36 40 1539.0 -9.75 37.98
90.00 21 17 2 2272.27 -19.44 40.99 203.26 110.96 21 54 54 1272.3 -9.15 18.68
100.00 22 37 13 2013.50 -20.57 21.49 202.79 112.13 23 10 47 1013.5 -9.75 359.34
110.00 23 42 40 1808.58 -23.60 4.50 201.34 115.43 24 12 48 808.6 -11.33 342.85

DIFFERENTIAL CORRECTIONS

TDE 1.4963 TRA 3.2711 TC3-4.0044 BAU .9044
RDE .8591 RRA 1.0193 RC3 -.7756 FAU .15188
FDE 4.4316 FRA10.7088 FC3-7.9276 BSP 10492
BDE 1.6334 BRA 3.4262 BC3 4.0789 FSP 2768

MID-COURSE EXECUTION ACCURACY

SGT 6024.5 SGR 1819.2 SG3 1317.1
RRT .9665 RRF .9861 RTF .9505
SGB 6293.1 R23 .1267 R13 .9833
SG1 6278.1 SG2 434.7 THA 16.38

ORBIT DETERMINATION ACCURACY

ST 126.0 SR 50.9 SS 117.6
CRT .9895 CRS -.9823 CST -.9989
LSA 179.5 MSA 8.9 SSA 1.3
EL1 135.7 EL2 6.8 ALF 21.83

LAUNCH DATE APR 5 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

RL 149.65 LAL -.00 LOL 194.57 VL 32.307 GAL -4.97 AZL 89.32 HCA 205.59 SMA 181.81 ECC .19636 INC .6631 V1 29.775
RP 217.26 LAP -.30 LOP 40.15 VP 22.176 GAP 1.35 AZP 90.62 TAL 328.86 TAP 174.45 RCA 146.11 APO 217.51 V2 25.288
RC 167.446 GL 5.37 GP -15.47 ZAL 143.46 ZAP 64.58 ETS 171.31 ZAE 105.20 EYE 184.34 ZAC 87.19 ETC 269.57 LVI 8.06

DISTANCE 625.667

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.828 VHL 4.102 DLA -3.44 RAL 338.00 RAD 6641.4 VEL 11.699 PTH 6.73 VHP 3.542 DPA -39.64 RAP 286.71 ECC 1.2770
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 1 3024.96 -31.94 92.15 195.89 127.35 18 1 26 2025.0 -15.19 73.03
60.00 17 54 15 2909.96 -27.28 85.42 199.52 120.90 18 42 45 1910.0 -12.06 64.83
70.00 18 50 34 2744.38 -23.09 74.50 202.02 115.90 19 36 18 1744.4 -10.70 52.99
80.00 20 2 33 2518.98 -20.05 58.86 203.49 112.60 20 44 32 1519.0 -9.10 36.84
90.00 21 25 36 2251.01 -18.91 39.65 203.98 111.42 22 3 7 1251.0 -8.49 17.47
100.00 22 45 25 1993.45 -20.05 20.23 203.49 112.60 23 18 38 993.5 -9.10 358.21
110.00 23 50 0 1791.20 -23.09 3.42 202.02 115.90 24 19 51 791.2 -10.70 341.91

DIFFERENTIAL CORRECTIONS

TDE 1.5320 TRA 3.4213 TC3-4.0684 BAU .9294
RDE .6386 RRA .9568 RC3 -.7168 FAU .14931
FDE 4.3951 FRA10.6566 FC3-7.6812 BSP 10766
BDE 1.6590 BRA 3.5526 BC3 4.1311 FSP 2736

MID-COURSE EXECUTION ACCURACY

SGT 6215.9 SGR 1711.3 SG3 1495.8
RRT .9659 RRF .9831 RTF .9808
SGB 6447.2 R23 .1204 R13 .9831
SG1 6432.9 SG2 428.3 THA 14.96

ORBIT DETERMINATION ACCURACY

ST 129.0 SR 48.8 SS 116.3
CRT .9859 CRS -.9790 CST -.9992
LSA 180.1 MSA 9.2 SSA 1.4
EL1 137.7 EL2 7.6 ALF 20.52

LAUNCH DATE APR 5 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC												DISTANCE 662.763			EARTH TO MARS						
RL 149.65	LAL	-.00	LOL 194.97	VL 32.369	GAL	-5.76	AZL 90.06	HCA 215.77	BMA 182.81	ECC .20649	INC .0495	V1 29.775									
RP 220.96	LAP	.03	LOP 90.33	VP 21.852	GAP	-.25	AZP 89.96	TAL 325.18	TAP 180.99	RCA 149.06	APO 220.56	V2 24.925									
RC 190.711	GL	-.40	GP -10.38	ZAL 146.97	ZAP	83.39	ETB 171.06	ZAE 93.50	ETE 180.78	ZAC 92.29	E1C 269.43	LVI 3.64									
PLANETOCENTRIC CONIC																					
CS 19.948	VHL 4.488	DLA -7.60	RAL 343.12	RAD 6642.8	VEL 11.630	PTH 6.85	VHP 3.820	DPA -34.84	RAP 293.28	ECC 1.3263											
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG											
80.00	17 46 50	2981.65	-30.12	89.62	202.16	128.74	18 36 32	1981.7	-13.07	71.09											
60.00	18 34 35	2934.65	-25.30	82.08	206.06	122.48	19 22 10	1884.6	-10.90	62.07											
70.00	19 33 58	2874.18	-20.94	70.19	208.80	117.62	20 20 32	1674.2	-6.10	46.22											
80.00	20 52 38	2434.18	-17.74	53.62	210.45	114.41	21 33 12	1434.2	-6.31	32.10											
90.00	22 17 44	2159.61	-16.54	33.99	211.01	113.27	22 53 43	1159.6	-5.63	12.26											
100.00	23 35 30	1908.65	-17.74	14.99	210.45	114.41	24 7 18	908.7	-6.31	353.47											
110.00	0 39 20	1720.99	-20.94	359.11	208.80	117.62	1 8 1	721.0	-6.10	336.14											
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY						
TDE 1.9543	TRA 4.8035	TC3-4.3340	BAU 1.1598	SGT 7740.9	SGR 1064.9	SG3 1233.7	ST 156.3	SR 38.1	SS 104.0												
RDE .5702	RRA .5441	RC3 -.3578	FAU .11848	RRT .9040	RRF .9208	RTF .9808	CRT .9362	CRB -.9364	CST -.9999												
FDE 3.9414	FRA 9.6889	FC3 5.1418	BSP 13289	SGB 7813.8	R23 .0729	R13 .9814	LSA 191.1	MSA 13.1	SSA 1.3												
BDE 2.0358	BRA 4.8343	BC3 1.3488	FSP 2313	SG1 7800.7	SG2 451.6	THA 7.11	EL1 160.4	EL2 13.0	ALF 12.93												

LAUNCH DATE APR 6 1971 FLIGHT TIME 130.00 ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC DISTANCE 365.164 EARTH TO MARS
RL 149.69 LAL -0.00 LOL 195.55 VL 34.352 GAL -6.44 AZL 92.23 HCA 123.77 SMA 223.75 ECC .34752 INC 2.2254 V1 29.767
PLANETOCENTRIC CONIC
C3 39.583 VHL 6.291 DLA -22.60 RAL 337.27 RAD 6650.5 VEL 12.629 PTH 7.46 VHP 9.736 DPA -16.78 RAP 310.92 ECC 1.6514
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7902 TRA-1.6583 TC3 -.0819 BAU .0751 SGT 1793.1 SGR 520.1 S63 188.4 ST 43.9 SR 24.6 S5 31.7

LAUNCH DATE APR 6 1971 FLIGHT TIME 132.00 ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC DISTANCE 367.970 EARTH TO MARS
RL 149.69 LAL -0.00 LOL 195.55 VL 34.223 GAL -6.29 AZL 92.26 HCA 125.03 SMA 220.47 ECC .33739 INC 2.2586 V1 29.767
PLANETOCENTRIC CONIC
C3 37.705 VHL 6.140 DLA -22.98 RAL 337.54 RAD 6649.9 VEL 12.553 PTH 7.43 VHP 9.449 DPA -16.55 RAP 311.20 ECC 1.6205
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7971 TRA-1.6458 TC3 -.0756 BAU .0732 SGT 1828.7 SGR 516.8 S63 200.8 ST 44.8 SR 24.4 S5 32.8

LAUNCH DATE APR 6 1971 FLIGHT TIME 134.00 ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC DISTANCE 370.893 EARTH TO MARS
RL 149.69 LAL -0.00 LOL 195.55 VL 34.102 GAL -6.14 AZL 92.29 HCA 126.29 SMA 217.46 ECC .32780 INC 2.2930 V1 29.767
PLANETOCENTRIC CONIC
C3 35.963 VHL 5.997 DLA -23.38 RAL 337.81 RAD 6649.2 VEL 12.484 PTH 7.37 VHP 9.170 DPA -16.31 RAP 311.64 ECC 1.5919
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7953 TRA-1.6323 TC3 -.0682 BAU .0710 SGT 1863.0 SGR 513.7 S63 214.0 ST 45.7 SR 24.2 S5 34.1

LAUNCH DATE APR 6 1971 FLIGHT TIME 136.00 ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC DISTANCE 373.921 EARTH TO MARS
RL 149.69 LAL -0.00 LOL 195.55 VL 33.886 GAL -6.00 AZL 92.33 HCA 127.55 SMA 214.70 ECC .31874 INC 2.3285 V1 29.767
PLANETOCENTRIC CONIC
C3 34.347 VHL 5.861 DLA -23.80 RAL 338.08 RAD 6648.7 VEL 12.420 PTH 7.33 VHP 8.901 DPA -16.07 RAP 311.97 ECC 1.5653
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7933 TRA-1.6184 TC3 -.0604 BAU .0709 SGT 1896.5 SGR 510.9 S63 228.1 ST 46.7 SR 24.0 S5 35.3

LAUNCH DATE APR 6 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 33.877 GAL -3.86 AZL 92.37 HCA 128.02 SMA 212.15 ECC .31015 INC 2.3652 V1 29.767
 RP 207.01 LAP -1.84 LOP 324.39 VP 25.625 GAP 18.02 AZP 88.52 TAL 334.93 TAP 103.75 RCA 146.35 APO 277.95 V2 26.457
 RC 57.225 GL -14.04 GP 3.73 ZAL 133.63 ZAP 185.48 ETS 165.14 ZAE 170.66 ETE 113.21 ZAC 104.68 ETC 276.19 LVI -19.30

DISTANCE 377.046
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 32.848 VHL 5.731 DLA -24.23 RAL 338.34 RAD 6648.1 VEL 12.360 PTH 7.28 VHP 8.639 DPA -15.82 RAP 312.28 ECC 1.9406
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 32 46 2780.01 -20.10 78.06 202.17 134.08 19 18 46 1760.0 -2.03 61.63
 60.00 19 43 19 2572.37 -14.11 66.62 207.64 128.15 20 26 12 1572.4 1.85 48.45
 70.00 21 13 29 2307.28 -8.11 49.52 212.03 123.29 21 51 57 1307.3 5.84 29.97
 80.00 23 1 57 1967.82 -2.98 26.90 215.18 119.72 23 34 45 967.8 9.33 6.32
 90.00 0 47 51 1638.94 -.71 3.97 216.44 118.27 1 15 10 638.9 10.89 342.95
 100.00 1 48 45 1442.30 -2.98 348.27 215.18 119.72 2 12 47 442.3 9.33 327.69
 110.00 2 16 52 1354.10 -8.11 338.43 212.03 123.29 2 39 26 354.1 5.84 318.89

DIFFERENTIAL CORRECTIONS
 TDE -.7909 TRA-1.6033 TC3 -.0516 BAU .0705
 RDE -.4764 RRA .0322 RC3 .1521 FAU .04533
 FDE .6720 FRA 2.1561 FC3-1.1952 BSP 3309
 BDE .9233 BRA 1.6037 BC3 .1606 F8P 351

MID-COURSE EXECUTION ACCURACY
 SGT 1928.3 SGR 508.4 SG3 243.1
 RRT .3103 RRF -.3323 RTF -.8488
 SGB 1994.2 R23 -.0541 R13 -.8502
 SG1 1935.1 SG2 481.6 THA 4.99

ORBIT DETERMINATION ACCURACY
 ST 47.5 SR 23.8 S8 36.5
 CRT .8193 CRS .6713 CST .9740
 LSA 62.5 MSA 15.9 S8A 1.2
 EL1 51.6 EL2 12.6 ALF 23.83

LAUNCH DATE APR 6 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 33.773 GAL -5.72 AZL 92.40 HCA 130.08 SMA 209.81 ECC .30204 INC 2.4033 V1 29.767
 RP 206.94 LAP -1.84 LOP 325.68 VP 25.497 GAP 17.56 AZP 88.45 TAL 335.00 TAP 105.09 RCA 146.44 APO 273.18 V2 26.466
 RC 57.675 GL -14.55 GP 3.90 ZAL 133.55 ZAP 184.54 ETS 165.45 ZAE 170.84 ETE 108.61 ZAC 104.82 ETC 276.27 LVI -19.57

DISTANCE 380.257
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 31.459 VHL 5.609 DLA -24.68 RAL 338.61 RAD 6647.6 VEL 12.304 PTH 7.24 VHP 8.385 DPA -15.56 RAP 312.57 ECC 1.9177
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 36 0 2739.29 -19.12 77.07 201.91 134.44 19 21 39 1739.3 -.99 80.76
 60.00 19 47 24 2549.38 -13.14 65.45 207.39 128.45 20 29 53 1549.4 2.86 47.35
 70.00 21 18 51 2280.53 -7.11 48.09 211.84 123.49 21 56 51 1280.5 6.85 28.56
 80.00 23 9 11 1935.18 -1.88 25.11 215.07 119.80 23 41 27 935.2 10.38 4.47
 90.00 0 56 27 1601.93 .48 1.91 216.38 118.28 1 23 9 601.9 12.00 340.80
 100.00 1 55 59 1409.65 -1.88 346.47 215.07 119.80 2 19 29 409.7 10.38 325.84
 110.00 2 22 13 1327.35 -7.11 337.01 211.84 123.49 2 44 20 327.4 6.85 317.47

DIFFERENTIAL CORRECTIONS
 TDE -.7882 TRA-1.5878 TC3 -.0425 BAU .0707
 RDE -.4621 RRA .0181 RC3 .1626 FAU .04691
 FDE .6986 FRA 2.2469 FC3-1.2911 BSP 3371
 BDE .9137 BRA 1.5879 BC3 .1681 F8P 376

MID-COURSE EXECUTION ACCURACY
 SGT 1958.8 SGR 506.5 SG3 259.0
 RRT .3376 RRF -.3619 RTF -.8539
 SGB 2023.3 R23 -.0590 R13 -.8555
 SG1 1966.7 SG2 474.8 THA 5.30

ORBIT DETERMINATION ACCURACY
 ST 48.3 SR 23.6 S8 37.7
 CRT .8253 CRS .6759 CST .9731
 LSA 63.8 MSA 15.8 S8A 1.2
 EL1 52.4 EL2 12.3 ALF 23.31

LAUNCH DATE APR 6 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 33.676 GAL -5.59 AZL 92.44 HCA 131.35 SMA 207.64 ECC .29436 INC 2.4429 V1 29.767
 RP 206.87 LAP -1.83 LOP 326.93 VP 25.375 GAP 17.12 AZP 88.39 TAL 335.08 TAP 106.43 RCA 146.52 APO 268.76 V2 26.473
 RC 58.203 GL -15.07 GP 4.09 ZAL 133.46 ZAP 183.58 ETS 165.70 ZAE 170.94 ETE 104.21 ZAC 104.96 ETC 276.35 LVI -19.84

DISTANCE 383.548
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 30.171 VHL 5.493 DLA -25.15 RAL 338.87 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 8.140 DPA -15.30 RAP 312.84 ECC 1.4965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 39 20 2718.52 -18.12 76.10 201.68 134.78 19 24 39 1718.5 .06 59.89
 60.00 19 51 39 2528.20 -12.15 64.28 207.20 128.73 20 33 45 1526.2 3.88 46.24
 70.00 21 24 29 2253.26 -6.08 46.65 211.69 123.67 22 2 2 1253.3 7.87 27.11
 80.00 23 16 58 1901.22 -.73 23.24 215.01 119.85 23 48 39 901.2 11.47 2.53
 90.00 1 5 51 1562.71 1.75 359.72 216.39 118.23 1 31 54 562.7 13.15 338.49
 100.00 2 3 45 1375.69 -.73 344.61 215.01 119.85 2 26 41 375.7 11.47 323.90
 110.00 2 27 51 1300.08 -6.08 335.57 211.69 123.67 2 49 31 300.1 7.87 316.03

DIFFERENTIAL CORRECTIONS
 TDE -.7855 TRA-1.5715 TC3 -.0328 BAU .0713
 RDE -.4485 RRA .0037 RC3 .1738 FAU .04837
 FDE .7271 FRA 2.3424 FC3-1.3937 BSP 3434
 BDE .9045 BRA 1.5715 BC3 .1768 F8P 405

MID-COURSE EXECUTION ACCURACY
 SGT 1987.9 SGR 505.3 SG3 276.0
 RRT .3670 RRF -.3937 RTF -.8588
 SGB 2051.1 R23 -.0645 R13 -.8606
 SG1 1997.0 SG2 467.9 THA 5.64

ORBIT DETERMINATION ACCURACY
 ST 49.2 SR 23.4 S8 39.0
 CRT .8319 CRS .6814 CST .9722
 LSA 65.1 MSA 15.7 S8A 1.2
 EL1 53.1 EL2 12.0 ALF 22.84

LAUNCH DATE APR 6 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 33.583 GAL -5.46 AZL 92.48 HCA 132.62 SMA 205.84 ECC .28709 INC 2.4841 V1 29.767
 RP 206.82 LAP -1.83 LOP 328.20 VP 25.259 GAP 16.68 AZP 88.32 TAL 335.18 TAP 107.78 RCA 146.60 APO 264.68 V2 26.479
 RC 58.807 GL -15.61 GP 4.28 ZAL 133.35 ZAP 182.59 ETS 165.92 ZAE 170.97 ETE 100.13 ZAC 105.13 ETC 276.42 LVI -20.13

DISTANCE 386.910
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.980 VHL 5.383 DLA -25.63 RAL 339.14 RAD 6646.6 VEL 12.203 PTH 7.16 VHP 7.902 DPA -15.03 RAP 313.08 ECC 1.4769
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 42 48 2697.73 -17.12 75.13 201.50 135.10 19 27 45 1697.7 1.10 59.02
 60.00 19 56 4 2502.83 -11.16 63.12 207.04 128.98 20 37 47 1502.8 4.90 45.12
 70.00 21 30 25 2225.42 -5.03 45.18 211.60 123.83 22 7 31 1225.4 8.91 25.62
 80.00 23 25 22 1865.69 .47 21.29 215.02 119.85 23 56 27 865.7 12.58 .49
 90.00 1 16 16 1520.67 3.10 357.37 216.47 118.12 1 41 37 520.7 14.36 336.00
 100.00 2 12 9 1340.16 .47 342.66 215.02 119.85 2 34 29 340.2 12.58 321.85
 110.00 2 33 48 1272.24 -5.03 334.10 211.60 123.83 2 55 0 272.2 8.91 314.54

DIFFERENTIAL CORRECTIONS
 TDE -.7821 TRA-1.5538 TC3 -.0228 BAU .0725
 RDE -.4355 RRA -.0111 RC3 .1857 FAU .05033
 FDE .7563 FRA 2.4421 FC3-1.8036 BSP 3491
 BDE .8952 BRA 1.5538 BC3 .1871 F8P 434

MID-COURSE EXECUTION ACCURACY
 SGT 2014.4 SGR 503.0 SG3 294.0
 RRT .3982 RRF -.4275 RTF -.8634
 SGB 2076.8 R23 -.0705 R13 -.8653
 SG1 2025.0 SG2 460.8 THA 6.01

ORBIT DETERMINATION ACCURACY
 ST 49.9 SR 23.2 S8 40.4
 CRT .8388 CRS .6874 CST .9712
 LSA 66.4 MSA 15.7 S8A 1.2
 EL1 53.8 EL2 11.7 ALF 22.41

LAUNCH DATE APR 6 1971

FLIGHT TIME 146.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 390.340

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 33.496 GAL -5.34 AZL 92.53 HCA 133.88 SMA 203.78 ECC .28022 INC 2.5270 V1 29.767
RP 206.77 LAP -1.82 LOP 329.46 VP 25.148 GAP 16.25 AZP 88.25 TAL 335.25 TAP 109.13 RCA 146.68 APO 260.89 V2 26.485
RC 59.485 GL -16.17 GP 4.50 ZAL 133.23 ZAP 161.58 ETS 166.09 ZAE 170.94 ETE 96.45 ZAC 105.31 ETC 276.49 LVI -20.41

PLANETOCENTRIC CONIC

C3 27.876 VHL 5.280 DLA -26.14 RAL 339.40 RAD 6646.2 VEL 12.158 PTH 7.12 VHP 7.671 DPA -14.75 RAP 313.29 ECC 1.4588
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 46 23 2676.87 -16.11 74.17 201.35 135.40 19 31 0 1676.9 2.15 58.15
60.00 20 0 42 2479.21 -10.14 61.95 206.93 129.22 20 42 1 1479.2 5.94 43.98
70.00 21 36 43 2196.90 -3.94 43.69 211.56 123.95 22 13 20 1196.9 9.97 24.09
80.00 23 34 30 1828.21 1.74 19.23 215.10 119.81 24 4 59 828.2 13.74 358.31
90.00 1 28 1 1474.82 4.57 354.80 216.66 117.94 1 52 36 474.8 15.64 333.24
100.00 2 21 18 1302.68 1.74 340.60 215.10 119.81 2 43 1 302.7 13.74 319.68
110.00 2 40 5 1243.71 -3.94 332.60 211.56 123.95 3 0 49 243.7 9.97 313.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7706 TRA-1.5272 TC3 -.0007 BAU .0740 SGT 2026.6 SGR 505.8 SG3 313.2 ST 50.1 SR 23.0 SS 41.7
RDE -.4231 RRA -.0263 RC3 .1986 FAU .05222 RRT .4317 RRF -.4632 RTF -.8706 CRT .8449 CRS .6939 CST .9706
FDE .7867 FRA 2.5466 FC3-1.6218 BSP 3442 SGB 2088.8 R23 -.0748 R13 -.8728 LSA 67.4 MSA 15.6 SSA 1.1
BDE .8791 BRA 1.5274 BC3 .1986 FSP 465 SG1 2039.0 SG2 453.4 THA 6.47 EL1 54.0 EL2 11.4 ALF 22.20

LAUNCH DATE APR 6 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

DISTANCE 393.829

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 33.413 GAL -5.23 AZL 92.57 HCA 135.15 SMA 202.07 ECC .27372 INC 2.5717 V1 29.767
RP 206.74 LAP -1.81 LOP 330.73 VP 25.042 GAP 15.83 AZP 88.18 TAL 335.34 TAP 110.49 RCA 146.76 APO 257.38 V2 28.489
RC 60.233 GL -16.74 GP 4.72 ZAL 133.09 ZAP 160.54 ETS 166.23 ZAE 170.86 ETE 93.26 ZAC 105.30 ETC 276.56 LVI -20.71

PLANETOCENTRIC CONIC

C3 26.859 VHL 5.183 DLA -26.66 RAL 339.67 RAD 6645.8 VEL 12.117 PTH 7.09 VHP 7.447 DPA -14.46 RAP 313.48 ECC 1.4420
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 50 7 2656.02 -15.10 73.23 201.26 135.67 19 34 23 1656.0 3.20 57.28
60.00 20 5 32 2455.40 -9.12 60.77 206.87 129.43 20 46 20 1455.4 6.98 42.83
70.00 21 43 25 2167.70 -2.83 42.16 211.58 124.05 22 19 31 1167.7 11.04 22.51
80.00 23 44 33 1788.43 3.09 17.05 215.26 119.71 24 14 21 788.4 14.95 355.97
90.00 1 41 34 1423.72 6.19 351.92 216.96 117.65 2 5 18 423.7 17.02 330.13
100.00 2 31 21 1262.89 3.09 338.42 215.26 119.71 2 52 24 262.9 14.95 317.34
110.00 2 46 45 1214.52 -2.83 331.08 211.58 124.05 3 7 0 214.5 11.04 311.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7718 TRA-1.5127 TC3 .0026 BAU .0761 SGT 2056.6 SGR 508.0 SG3 333.5 ST 51.1 SR 22.8 SS 43.1
RDE -.4116 RRA -.0423 RC3 .2119 FAU .05421 RRT .4660 RRF -.5008 RTF -.8726 CRT .8538 CRS .7014 CST .9691
FDE .8190 FRA 2.6564 FC3-1.7472 BSP 3552 SGB 2118.4 R23 -.0837 R13 -.8751 LSA 68.9 MSA 15.5 SSA 1.2
BDE .8747 BRA 1.5132 BC3 .2120 FSP 499 SG1 2070.8 SG2 446.4 THA 6.89 EL1 54.8 EL2 11.0 ALF 21.77

LAUNCH DATE APR 6 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

DISTANCE 397.373

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 33.335 GAL -5.11 AZL 92.62 HCA 136.42 SMA 200.47 ECC .26759 INC 2.6186 V1 29.767
RP 206.71 LAP -1.80 LOP 332.00 VP 24.941 GAP 15.42 AZP 88.10 TAL 335.43 TAP 111.85 RCA 146.83 APO 254.12 V2 26.492
RC 61.030 GL -17.33 GP 4.97 ZAL 132.94 ZAP 159.47 ETS 166.34 ZAE 170.74 ETE 90.58 ZAC 105.72 ETC 276.62 LVI -21.01

PLANETOCENTRIC CONIC

C3 25.920 VHL 5.091 DLA -27.19 RAL 339.95 RAD 6645.4 VEL 12.078 PTH 7.06 VHP 7.231 DPA -14.17 RAP 313.63 ECC 1.4266
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 54 0 2635.12 -14.08 72.29 201.21 135.93 19 37 55 1635.1 4.25 56.40
60.00 20 10 36 2431.33 -8.07 59.60 206.86 129.62 20 51 8 1431.3 8.02 41.66
70.00 21 50 29 2137.66 -1.69 40.59 211.67 124.12 22 26 7 1137.7 12.14 20.87
80.00 23 55 45 1745.53 4.53 14.68 215.52 119.54 24 24 50 745.5 16.22 353.42
90.00 1 57 57 1364.11 8.06 348.54 217.44 117.20 2 20 41 364.1 18.56 326.43
100.00 2 42 33 1220.00 4.53 336.05 215.52 119.54 3 2 53 220.0 16.22 314.79
110.00 2 53 51 1184.47 -1.69 329.51 211.67 124.12 3 13 36 184.5 12.14 309.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7703 TRA-1.4947 TC3 .0090 BAU .0785 SGT 2080.4 SGR 511.9 SG3 335.1 ST 51.8 SR 22.6 SS 44.5
RDE -.4008 RRA -.0590 RC3 .2263 FAU .05631 RRT .3018 RRF -.5399 RTF -.8753 CRT .8628 CRS .7098 CST .9877
FDE .8331 FRA 2.7718 FC3-1.8809 BSP 3630 SGB 2142.4 R23 -.0927 R13 -.8781 LSA 70.2 MSA 15.5 SSA 1.1
BDE .8683 BRA 1.4938 BC3 .2265 FSP 536 SG1 2096.9 SG2 439.3 THA 7.36 EL1 55.5 EL2 10.7 ALF 21.44

LAUNCH DATE APR 6 1971

FLIGHT TIME 182.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 400.969

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 33.261 GAL -5.00 AZL 92.67 HCA 137.89 SMA 198.99 ECC .26179 INC 2.6677 V1 29.767
RP 206.69 LAP -1.80 LOP 333.27 VP 24.845 GAP 15.02 AZP 88.03 TAL 335.53 TAP 113.22 RCA 146.90 APO 251.09 V2 26.495
RC 61.933 GL -17.94 GP 5.23 ZAL 132.77 ZAP 158.38 ETS 166.42 ZAE 170.60 ETE 88.45 ZAC 105.95 ETC 276.57 LVI -21.32

PLANETOCENTRIC CONIC

C3 25.055 VHL 5.006 DLA -27.75 RAL 340.23 RAD 6645.0 VEL 12.043 PTH 7.03 VHP 7.021 DPA -13.86 RAP 313.76 ECC 1.4123
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 58 3 2614.16 -13.05 71.36 201.20 136.17 19 41 37 1614.2 5.30 55.52
60.00 20 15 56 2406.97 -7.01 58.41 206.91 129.79 20 56 3 1407.0 9.08 40.46
70.00 21 58 4 2106.62 -.50 38.97 211.82 124.15 22 33 11 1106.6 13.26 19.16
80.00 0 12 25 1698.36 6.11 12.07 215.91 119.28 0 40 43 698.4 17.58 350.58
90.00 2 19 48 1287.56 10.41 344.15 218.20 116.44 2 41 15 287.6 20.42 321.59
100.00 2 35 16 1172.84 6.11 333.44 215.91 119.28 3 14 49 172.8 17.58 311.94
110.00 3 1 27 1153.44 -.50 327.89 211.82 124.15 3 20 40 153.4 13.26 308.08

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7678 TRA-1.4750 TC3 .0175 BAU .0811 SGT 2100.5 SGR 517.8 SG3 378.0 ST 52.4 SR 22.4 SS 46.0
RDE -.3906 RRA -.0764 RC3 .2415 FAU .05853 RRT .5385 RRF -.5801 RTF -.8781 CRT .8721 CRS .7190 CST .9663
FDE .8890 FRA 2.8939 FC3-2.0225 BSP 3686 SGB 2163.4 R23 -.1025 R13 -.8814 LSA 71.6 MSA 15.4 SSA 1.1
BDE .8614 BRA 1.4770 BC3 .2422 FSP 574 SG1 2119.8 SG2 432.4 THA 7.89 EL1 56.1 EL2 10.2 ALF 21.18

LAUNCH DATE APR 6 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC										DISTANCE 404.612										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	33.191	GAL	-4.90	AZL	92.72	HCA	136.96	SMA	197.62	ECC	.25631	INC	2.7192	V1	29.767	RP	206.68	LAP	-1.79	LOP	334.54	VP	24.753	GAP	14.62	AZP	87.95	TAL	335.63	TAP	114.39	RCA	146.97	APO	248.27	V2	26.496	RC	62.879	GL	-18.57	GP	5.51	ZAL	132.58	ZAP	157.25	ETS	166.47	ZAE	170.43	ETE	86.86	ZAC	106.21	ETC	276.72	LVI	-21.64
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	24.261	VHL	4.926	DLA	-28.33	RAL	340.52	RAD	6644.7	VEL	12.010	PTH	7.00	VHP	6.819	DPA	-13.54	RAP	313.65	ECC	1.3993	ST	53.0	SR	22.3	SS	47.5																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.8821	CRS	.7294	CST	.9648																																		
50.00	19	2	17	2593.14	-12.02	70.44	201.25	136.39	19	45	30	1593.1	6.35	54.63	LSA	73.0	MSA	15.4	SSA	1.1																																													
60.00	20	21	33	2382.27	-5.93	57.21	207.02	129.94	21	1	16	1382.3	10.14	39.25	EL1	56.6	EL2	9.8	ALF	20.99																																													
70.00	22	6	14	2074.41	.73	37.29	212.05	124.15	22	40	49	1074.4	14.4	17.37																																																			
80.00	0	27	21	1644.86	7.88	9.09	216.44	118.89	0	54	46	644.9	19.06	347.29																																																			
88.33	2	54	57	1168.88	15.22	337.81	220.18	114.18	3	14	26	168.9	23.89	314.13																																																			
100.00	3	10	13	1119.33	7.88	330.46	216.44	118.89	3	28	52	119.3	19.06	308.66																																																			
110.00	3	9	36	1121.23	.73	326.21	212.05	124.15	3	28	18	121.2	14.40	306.29																																																			

LAUNCH DATE APR 6 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC										DISTANCE 408.299										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	33.125	GAL	-4.80	AZL	92.77	HCA	140.23	SMA	196.34	ECC	.25114	INC	2.7735	V1	29.767	RP	206.67	LAP	-1.77	LOP	335.81	VP	24.665	GAP	14.24	AZP	87.87	TAL	335.73	TAP	115.95	RCA	147.03	APO	245.65	V2	26.496	RC	63.888	GL	-19.22	GP	5.81	ZAL	132.39	ZAP	156.10	ETS	166.50	ZAE	170.25	ETE	85.81	ZAC	106.50	ETC	276.76	LVI	-21.98
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	23.533	VHL	4.851	DLA	-28.92	RAL	340.82	RAD	6644.4	VEL	11.980	PTH	6.98	VHP	6.623	DPA	-13.21	RAP	313.91	ECC	1.3873	ST	53.0	SR	22.1	SS	49.0																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.8924	CRS	.7405	CST	.9633																																		
50.00	19	6	43	2572.05	-10.98	69.51	201.36	136.59	19	49	35	1572.0	7.40	53.74	LSA	74.2	MSA	15.4	SSA	1.1																																													
60.00	20	27	29	2357.18	-4.84	56.01	207.20	130.06	21	6	46	1357.2	11.22	36.00	EL1	57.1	EL2	9.3	ALF	20.67																																													
70.00	22	15	4	2040.78	2.02	35.53	212.37	124.10	22	49	5	1040.8	15.59	15.48																																																			
80.00	0	45	56	1580.50	9.98	5.46	217.21	118.29	1	12	17	580.5	20.75	343.26																																																			
83.69	2	17	44	1285.64	15.73	346.61	220.14	114.58	2	39	10	285.6	24.52	322.88																																																			
100.00	3	28	48	1054.97	9.98	326.83	217.21	118.29	3	46	23	55.0	20.75	304.63																																																			
110.00	3	18	26	1087.60	2.02	324.45	212.37	124.10	3	36	34	87.6	15.59	304.40																																																			

LAUNCH DATE APR 6 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC										DISTANCE 412.025										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	33.063	GAL	-4.71	AZL	92.83	HCA	141.50	SMA	195.15	ECC	.24626	INC	2.8306	V1	29.767	RP	206.68	LAP	-1.76	LOP	337.08	VP	24.581	GAP	13.86	AZP	87.78	TAL	335.83	TAP	117.32	RCA	147.10	APO	243.21	V2	26.496	RC	64.956	GL	-19.89	GP	6.14	ZAL	132.17	ZAP	154.90	ETS	166.50	ZAE	170.05	ETE	85.28	ZAC	106.81	ETC	276.80	LVI	-22.32
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	22.869	VHL	4.782	DLA	-29.53	RAL	341.13	RAD	6644.1	VEL	11.952	PTH	6.95	VHP	6.433	DPA	-12.86	RAP	313.93	ECC	1.3764	ST	53.8	SR	22.0	SS	50.6																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9032	CRS	.7526	CST	.9616																																		
50.00	19	11	23	2550.85	-9.93	68.60	201.52	136.77	19	53	54	1550.8	8.46	52.84	LSA	75.5	MSA	15.4	SSA	1.1																																													
60.00	20	33	46	2331.65	-3.72	54.78	207.44	130.16	21	12	30	1331.6	12.31	36.73	EL1	57.5	EL2	8.9	ALF	20.81																																													
70.00	22	24	41	2005.39	3.36	33.68	212.78	124.01	22	58	7	1005.4	16.81	13.47																																																			
80.00	1	13	2	1489.96	12.85	.27	218.44	117.18	1	37	52	490.0	22.94	337.43																																																			
81.11	1	58	33	1344.30	16.25	351.19	220.16	115.01	2	20	57	344.3	25.16	327.41																																																			
100.00	3	55	54	6252.47	12.85	299.55	218.44	117.18	5	40	6	5252.5	22.94	276.71																																																			
110.00	3	28	4	1052.21	3.36	322.60	212.78	124.01	3	45	36	52.2	16.81	302.39																																																			

LAUNCH DATE APR 6 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC										DISTANCE 415.789										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	33.004	GAL	-4.62	AZL	92.89	HCA	142.78	SMA	194.05	ECC	.24185	INC	2.8911	V1	29.767	RP	206.70	LAP	-1.75	LOP	338.35	VP	24.500	GAP	13.48	AZP	87.70	TAL	335.93	TAP	118.69	RCA	147.16	APO	240.94	V2	26.494	RC	66.082	GL	-20.59	GP	6.49	ZAL	131.94	ZAP	153.68	ETS	166.49	ZAE	169.83	ETE	85.27	ZAC	107.15	ETC	276.83	LVI	-22.68
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	22.263	VHL	4.718	DLA	-30.17	RAL	341.45	RAD	6643.8	VEL	11.927	PTH	6.93	VHP	6.250	DPA	-12.50	RAP	313.92	ECC	1.3664	ST	53.4	SR	21.9	SS	52.1																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9131	CRS	.7648	CST	.9602																																		
50.00	19	16	17	2529.48	-8.87	67.68	201.74	136.94	19	58	27	1529.5	9.52	51.92	LSA	76.2	MSA	15.3	SSA	1.1																																													
60.00	20	40	28	2305.53	-2.57	53.53	207.75	130.23	21	18	53	1305.5	13.42	35.41	EL1	57.2	EL2	8.4	ALF	21.02																																													
70.00	22	35	18	1967.67	4.80	31.70	213.31	123.86	23	8	6	967.7	18.08	11.29																																																			
79.03	1	43	56	1388.58	16.76	354.74	220.22	115.45	2	7	5	388.6	25.81	330.91																																																			
79.03	1	43	56	1388.58	16.76	354.74	220.22	115.45	2	7	5	388.6	25.81	330.91																																																			
79.03	1	43	56	1388.58	16.76	354.74	220.22	115.45	2	7	5	388.6	25.81	330.91																																																			
110.00	3	38	40	1014.49	4.80	320.62	213.31	123.86	3	55	35	14.5	18.08	300.21																																																			

LAUNCH DATE APR 6 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 419.586

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.949 GAL -4.53 AZL 92.96 HCA 144.03 SMA 193.02 ECC .23731 INC 2.9552 V1 29.767
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.422 GAP 13.12 AZP 87.61 TAL 336.02 TAP 120.06 RCA 147.21 APO 236.82 V2 26.491
 RC 67.265 GL -21.31 GP 6.87 ZAL 131.70 ZAP 152.41 ETS 166.45 ZAE 169.60 ETE 85.73 ZAC 107.92 ETC 276.86 LVI -23.06

PLANETOCENTRIC CONIC

C3 21.718 VHL 4.660 DLA -30.82 RAL 341.80 RAD 6643.6 VEL 11.904 PTH 6.91 VHP 6.074 DPA -12.12 RAP 313.86 ECC 1.3574
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 21 28 2508.03 -7.80 66.76 202.03 137.09 20 3 16 1508.0 10.58 50.99
 60.00 20 47 36 2278.87 -1.40 52.25 208.16 130.28 21 25 34 1278.9 14.54 34.05
 70.00 22 47 7 1927.14 6.33 29.57 213.97 123.63 23 19 14 927.1 19.43 8.91
 77.20 1 31 50 1425.30 17.28 357.74 220.35 115.93 1 55 36 425.3 26.47 333.87
 77.20 1 31 50 1425.30 17.28 357.74 220.35 115.93 1 55 36 425.3 26.47 333.87
 77.20 1 31 50 1425.30 17.28 357.74 220.35 115.93 1 55 36 425.3 26.47 333.87
 110.00 3 50 30 6262.00 6.33 296.39 213.97 123.63 5 34 52 5262.0 19.43 275.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7481 TRA-1.3492 TC3 .0538 BAU .0987 SGT 2140.0 SGR 591.6 SG3 513.7 ST 54.4 SR 22.0 SS 53.8
 RDE -.3516 RRA -.1785 RC3 .3356 FAU .07176 RRT .7163 RRF -.7765 RTF -.8885 CRT .9260 CRS .7803 CST .9579
 FDE 1.0992 FRA 3.5903 FC3-2.8606 BSP 3832 SGB 2220.3 R23 -.1669 R13 -.8955 LSA 78.1 MSA 15.4 S5A 1.1
 BDE .8266 BRA 1.3610 BC3 .3399 FSP 803 SC1 2183.1 SG2 404.7 THA 11.61 EL1 58.1 EL2 7.8 ALF 20.90

LAUNCH DATE APR 6 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 423.416

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.897 GAL -4.45 AZL 93.02 HCA 145.30 SMA 192.06 ECC .23323 INC 3.0233 V1 29.767
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.348 GAP 12.77 AZP 87.51 TAL 336.12 TAP 121.42 RCA 147.27 APO 236.85 V2 26.487
 RC 68.502 GL -22.05 GP 7.29 ZAL 131.45 ZAP 151.11 ETS 166.39 ZAE 169.33 ETE 86.65 ZAC 107.92 ETC 276.88 LVI -23.46

PLANETOCENTRIC CONIC

C3 21.229 VHL 4.607 DLA -31.50 RAL 342.16 RAD 6643.4 VEL 11.884 PTH 6.90 VHP 5.904 DPA -11.72 RAP 313.76 ECC 1.3494
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 26 57 2486.34 -6.72 65.84 202.39 137.21 20 8 24 1486.3 11.66 50.05
 60.00 20 55 15 2251.41 -.19 50.94 208.65 130.30 21 32 46 1251.4 15.69 32.64
 70.00 23 0 35 1882.45 8.01 27.20 214.78 123.31 23 31 58 882.4 20.86 6.24
 75.51 1 21 22 1457.34 17.80 .43 220.54 116.43 1 45 39 457.3 27.14 336.51
 75.51 1 21 22 1457.34 17.80 .43 220.54 116.43 1 45 39 457.3 27.14 336.51
 75.51 1 21 22 1457.34 17.80 .43 220.54 116.43 1 45 39 457.3 27.14 336.51
 110.00 4 3 58 6217.31 8.01 294.02 214.78 123.31 5 47 35 5217.3 20.86 273.07

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7452 TRA-1.3208 TC3 .0549 BAU .1030 SGT 2138.3 SGR 618.6 SG3 545.5 ST 54.6 SR 22.0 SS 55.6
 RDE -.3465 RRA -.2031 RC3 .3586 FAU .07483 RRT .7460 RRF -.8105 RTF -.8891 CRT .9377 CRS .7956 CST .9557
 FDE 1.1497 FRA 3.7499 FC3-3.0515 BSP 3864 SGB 2226.0 R23 -.1844 R13 -.8974 LSA 79.4 MSA 15.5 S5A 1.0
 BDE .8219 BRA 1.3363 BC3 .3628 FSP 858 SC1 2189.3 SG2 402.3 THA 12.61 EL1 58.4 EL2 7.1 ALF 21.03

LAUNCH DATE APR 6 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 427.275

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.848 GAL -4.37 AZL 93.10 HCA 146.57 SMA 191.17 ECC .22938 INC 3.0959 V1 29.767
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.276 GAP 12.42 AZP 87.42 TAL 336.21 TAP 122.78 RCA 147.32 APO 235.02 V2 26.483
 RC 69.791 GL -22.82 GP 7.73 ZAL 131.17 ZAP 149.78 ETS 166.32 ZAE 169.04 ETE 89.00 ZAC 108.37 ETC 276.89 LVI -23.68

PLANETOCENTRIC CONIC

C3 20.793 VHL 4.560 DLA -32.20 RAL 342.54 RAD 6643.2 VEL 11.866 PTH 6.88 VHP 5.741 DPA -11.30 RAP 313.62 ECC 1.3422
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 32 47 2464.39 -5.62 64.91 202.84 137.32 20 13 51 1464.4 12.74 49.08
 60.00 21 3 29 2223.00 1.06 49.59 209.24 130.29 21 40 32 1223.0 16.86 31.15
 70.00 23 16 24 1831.62 9.90 24.47 215.81 122.86 23 46 55 831.6 22.44 3.14
 73.91 1 12 3 1486.24 18.32 2.90 220.80 116.96 1 36 49 486.2 27.82 338.94
 73.91 1 12 3 1486.24 18.32 2.90 220.80 116.96 1 36 49 486.2 27.82 338.94
 73.91 1 12 3 1486.24 18.32 2.90 220.80 116.96 1 36 49 486.2 27.82 338.94
 110.00 4 19 46 6186.48 9.90 291.30 215.81 122.86 6 2 32 5166.5 22.44 269.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7411 TRA-1.2893 TC3 .0562 BAU .1077 SGT 2129.6 SGR 650.6 SG3 578.7 ST 54.7 SR 22.1 SS 57.3
 RDE -.3423 RRA -.2294 RC3 .3834 FAU .07808 RRT .7727 RRF -.8414 RTF -.8995 CRT .9492 CRS .8117 CST .9933
 FDE 1.2017 FRA 3.9147 FC3-3.2510 BSP 3867 SGB 2226.7 R23 -.2025 R13 -.8995 LSA 80.7 MSA 15.6 S5A 1.0
 BDE .8163 BRA 1.3095 BC3 .3875 FSP 914 SC1 2190.2 SG2 401.5 THA 13.78 EL1 58.6 EL2 6.5 ALF 21.26

LAUNCH DATE APR 6 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 431.162

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.801 GAL -4.30 AZL 93.17 HCA 147.83 SMA 190.34 ECC .22576 INC 3.1734 V1 29.767
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.207 GAP 12.08 AZP 87.31 TAL 336.30 TAP 124.14 RCA 147.37 APO 233.31 V2 26.477
 RC 71.130 GL -23.63 GP 8.22 ZAL 130.88 ZAP 148.38 ETS 166.22 ZAE 168.70 ETE 89.74 ZAC 108.86 ETC 276.90 LVI -24.32

PLANETOCENTRIC CONIC

C3 20.410 VHL 4.518 DLA -32.93 RAL 342.94 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 5.584 DPA -10.84 RAP 313.43 ECC 1.3359
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 39 0 2442.10 -4.50 63.97 203.36 137.41 20 19 42 1442.1 13.83 48.10
 60.00 21 12 26 2193.42 2.36 48.17 209.94 130.24 21 48 59 1193.4 18.07 29.59
 70.00 23 36 1 1770.30 12.14 21.14 217.14 122.17 24 5 31 770.3 24.24 359.30
 72.38 1 3 39 1512.90 18.84 5.22 221.13 117.52 1 28 52 512.9 28.52 341.23
 72.38 1 3 39 1512.90 18.84 5.22 221.13 117.52 1 28 52 512.9 28.52 341.23
 72.38 1 3 39 1512.90 18.84 5.22 221.13 117.52 1 28 52 512.9 28.52 341.23
 110.00 4 39 23 6105.16 12.14 287.97 217.14 122.17 6 21 8 5105.2 24.24 266.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7325 TRA-1.2513 TC3 .0641 BAU .1134 SGT 2107.4 SGR 688.3 SG3 613.2 ST 54.4 SR 22.3 SS 58.9
 RDE -.3389 RRA -.2574 RC3 .4108 FAU .08163 RRT .7970 RRF -.8688 RTF -.8907 CRT .9599 CRS .8279 CST .9509
 FDE 1.2544 FRA 4.0824 FC3-3.4624 BSP 3814 SGB 2217.0 R23 -.2184 R13 -.9027 LSA 81.8 MSA 15.6 S5A 1.0
 BDE .8071 BRA 1.2775 BC3 .4158 FSP 970 SC1 2180.3 SG2 401.8 THA 15.12 EL1 58.5 EL2 5.8 ALF 21.67

LAUNCH DATE APR 6 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC										DISTANCE 438.073										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	32.758	GAL	-4.23	AZL	93.26	HCA	149.10	SMA	189.58	ECC	.22237	INC	3.2566	V1	29.767	RP	206.90	LAP	-1.67	LOP	344.69	VP	24.141	GAP	11.74	AZP	87.20	TAL	336.39	TAP	125.49	RCA	147.41	APO	231.72	V2	26.470	RC	72.517	GL	-24.47	GP	8.75	ZAL	130.57	ZAP	146.94	ETS	166.11	ZAE	168.31	ETE	91.80	ZAC	109.39	ETC	276.90	LVI	-24.79
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	20.081	VHL	4.481	DLA	-33.69	RAL	343.38	RAD	6642.9	VEL	11.836	PTH	6.85	VHP	5.434	DPA	-10.36	RAP	313.19	ECC	1.3305	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	54.7	SR	22.6	SS	60.8																								
50.00	19 45 40	2419.45	-3.37	63.02	203.99	137.49	20 25 59	1419.5	14.94	47.08	CR	.9707	CRS	.8456	CST	.9480																																																	
60.00	21 22 12	2162.44	3.73	48.69	210.78	130.16	21 58 15	1162.4	19.32	27.93	LSA	83.3	MSA	15.8	SSA	.9																																																	
70.00	0 7 54	1684.98	15.19	16.41	219.06	120.97	0 35 59	685.0	26.57	353.76	EL1	59.0	EL2	5.0	ALF	22.02																																																	
70.89	0 56 1	1537.82	19.36	7.44	221.54	118.12	1 21 39	537.8	29.24	343.40																																																							
70.89	0 56 1	1537.82	19.36	7.44	221.54	118.12	1 21 39	537.8	29.24	343.40																																																							
70.89	0 56 1	1537.82	19.36	7.44	221.54	118.12	1 21 39	537.8	29.24	343.40																																																							
110.00	5 7 20	6019.84	15.19	283.23	219.06	120.97	6 47 40	5019.8	26.57	260.58																																																							

LAUNCH DATE APR 6 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC										DISTANCE 439.008										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	32.717	GAL	-4.17	AZL	93.35	HCA	150.37	SMA	188.84	ECC	.21918	INC	3.3461	V1	29.767	RP	206.96	LAP	-1.65	LOP	345.96	VP	24.077	GAP	11.42	AZP	87.09	TAL	336.47	TAP	126.83	RCA	147.49	APO	230.23	V2	26.462	RC	73.950	GL	-25.34	GP	9.32	ZAL	130.25	ZAP	145.46	ETS	165.99	ZAE	167.85	ETE	94.13	ZAC	109.98	ETC	276.89	LVI	-25.29
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.804	VHL	4.450	DLA	-34.47	RAL	343.84	RAD	6642.7	VEL	11.824	PTH	6.84	VHP	5.290	DPA	-9.84	RAP	312.90	ECC	1.3259	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	54.6	SR	23.0	SS	62.7																								
50.00	19 52 50	2396.29	-2.20	62.05	204.72	137.54	20 32 46	1396.3	16.06	46.03	CR	.9801	CRS	.8632	CST	.9450																																																	
60.00	21 32 59	2129.59	5.17	45.11	211.77	130.02	22 8 29	1129.6	20.63	26.13	LSA	84.7	MSA	16.0	SSA	.9																																																	
69.42	0 49 3	1561.47	19.89	9.58	222.03	118.75	1 15 4	561.5	29.96	345.52	EL1	59.1	EL2	4.2	ALF	22.55																																																	
69.42	0 49 3	1561.47	19.89	9.58	222.03	118.75	1 15 4	561.5	29.96	345.52																																																							
69.42	0 49 3	1561.47	19.89	9.58	222.03	118.75	1 15 4	561.5	29.96	345.52																																																							
69.42	0 49 3	1561.47	19.89	9.58	222.03	118.75	1 15 4	561.5	29.96	345.52																																																							
69.42	0 49 3	1561.47	19.89	9.58	222.03	118.75	1 15 4	561.5	29.96	345.52																																																							
69.42	0 49 3	1561.47	19.89	9.58	222.03	118.75	1 15 4	561.5	29.96	345.52																																																							

LAUNCH DATE APR 6 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC										DISTANCE 442.965										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	32.679	GAL	-4.11	AZL	93.44	HCA	151.63	SMA	188.17	ECC	.21619	INC	3.4420	V1	29.767	RP	207.04	LAP	-1.64	LOP	347.23	VP	24.015	GAP	11.10	AZP	86.97	TAL	336.54	TAP	128.17	RCA	147.49	APO	228.85	V2	26.454	RC	75.426	GL	-26.23	GP	9.95	ZAL	129.90	ZAP	143.93	ETS	165.84	ZAE	167.31	ETE	96.68	ZAC	110.63	ETC	276.88	LVI	-25.83
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.580	VHL	4.425	DLA	-35.29	RAL	344.35	RAD	6642.6	VEL	11.815	PTH	6.84	VHP	5.153	DPA	-9.29	RAP	312.56	ECC	1.3222	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	54.4	SR	23.5	SS	64.3																								
50.00	20 0 35	2372.50	-1.01	61.06	205.57	137.57	20 40 7	1372.5	17.21	44.94	CR	.9880	CRS	.8804	CST	.9417																																																	
60.00	21 45 2	2094.30	6.71	43.40	212.93	129.83	22 19 56	1094.3	22.01	24.17	LSA	86.1	MSA	16.2	SSA	.9																																																	
67.96	0 42 36	1584.28	20.40	11.69	222.62	119.44	1 9 1	584.3	30.71	347.60	EL1	59.2	EL2	3.3	ALF	23.22																																																	
67.96	0 42 36	1584.28	20.40	11.69	222.62	119.44	1 9 1	584.3	30.71	347.60																																																							
67.96	0 42 36	1584.28	20.40	11.69	222.62	119.44	1 9 1	584.3	30.71	347.60																																																							
67.96	0 42 36	1584.28	20.40	11.69	222.62	119.44	1 9 1	584.3	30.71	347.60																																																							
67.96	0 42 36	1584.28	20.40	11.69	222.62	119.44	1 9 1	584.3	30.71	347.60																																																							

LAUNCH DATE APR 6 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC										DISTANCE 446.943										EARTH TO MARS																																													
RL	149.69	LAL	-.00	LOL	195.55	VL	32.643	GAL	-4.05	AZL	93.55	HCA	152.89	SMA	187.58	ECC	.21339	INC	3.5476	V1	29.767	RP	207.12	LAP	-1.62	LOP	348.49	VP	23.956	GAP	10.79	AZP	86.84	TAL	336.61	TAP	129.50	RCA	147.53	APO	227.57	V2	26.444	RC	76.944	GL	-27.22	GP	10.64	ZAL	129.53	ZAP	142.35	ETS	165.68	ZAE	166.67	ETE	99.35	ZAC	111.34	ETC	276.86	LVI	-26.41
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	19.410	VHL	4.406	DLA	-36.14	RAL	344.89	RAD	6642.6	VEL	11.808	PTH	6.83	VHP	5.023	DPA	-8.68	RAP	312.16	ECC	1.3194	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	54.0	SR	24.2	SS	66.4																								
50.00	20 9 1	2347.93	.23	60.03	206.55	137.58	20 48 8	1347.9	18.39	43.80	CR	.9940	CRS	.8972	CST	.9381																																																	
60.00	21 58 41	2055.70	8.39	41.53	214.32	129.56	22 32 57	1055.7	23.48	21.97	LSA	87.5	MSA	16.4	SSA	.8																																																	
66.50	0 36 41	1606.43	20.92	13.77	223.31	120.16	1 3 28	606.4	31.47	349.66	EL1	59.2	EL2	2.4	ALF	24.05																																																	
66.50	0 36 41	1606.43	20.92	13.77	223.31	120.16	1 3 28	606.4	31.47	349.66																																																							
66.50	0 36 41	1606.43	20.92	13.77	223.31	120.16	1 3 28	606.4	31.47	349.66																																																							
66.50	0 36 41	1606.43	20.92	13.77	223.31	120.16	1 3 28	606.4	31.47	349.66																																																							
66.50	0 36 41	1606.43	20.92	13.77	223.31	120.16	1 3 28	606.4	31.47	349.66																																																							

LAUNCH DATE APR 6 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.609 GAL -4.00 AZL 93.66 HCA 154.16 SMA 186.97 ECC .21077 INC 3.6618 V1 29.767
 RP 207.21 LAP -1.60 LOP 349.75 VP 23.898 GAP 10.48 AZP 86.70 TAL 336.67 TAP 130.83 RCA 147.56 APO 226.37 V2 26.433
 RC 78.502 GL -28.23 GP 11.39 ZAL 129.13 ZAP 140.71 ETS 165.50 ZAE 163.92 ETE 102.08 ZAC 112.12 ETC 276.64 LVI -27.04

DISTANCE 450.939 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.296 VHL 4.393 DLA -37.03 RAL 345.49 RAD 6642.5 VEL 11.803 PTH 6.83 VHP 4.899 DPA -8.02 RAP 311.71 INC 1.3176
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 18 15 2322.37 1.51 58.97 207.69 137.56 20 56 57 1322.4 19.61 42.59
 60.00 22 14 32 2012.35 10.26 39.40 215.98 129.19 22 48 5 1012.3 25.10 19.44
 65.03 0 31 14 1628.19 21.43 15.85 224.11 120.95 0 58 22 628.2 32.24 351.73
 65.03 0 31 14 1628.19 21.43 15.85 224.11 120.95 0 58 22 628.2 32.24 351.73
 65.03 0 31 14 1628.19 21.43 15.85 224.11 120.95 0 58 22 628.2 32.24 351.73
 65.03 0 31 14 1628.19 21.43 15.85 224.11 120.95 0 58 22 628.2 32.24 351.73

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7182 TRA -1.0494 TC3 .0147 BAU .1490 SGT 1953.8 SGR 989.2 SG3 806.3 ST 53.4 SR 25.1 SS 68.3
 RDE -.3465 RRA -.4400 RC3 .5773 FAU .10056 RRT .8603 RRF -.9577 RTF -.8799 CRT .9979 CRS .9130 CST .9340
 FDE 1.6022 FRA 5.0101 FC3 -4.5116 BSP 3763 SGB 2190.0 R23 -.3049 R13 -.9145 LSA 88.7 MSA 16.7 SSA .8
 BDE .7974 BRA 1.1379 BC3 .5775 FSP 1302 SG1 2141.1 SG2 460.1 THA 24.76 EL1 59.0 EL2 1.5 ALF 25.09

LAUNCH DATE APR 6 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.578 GAL -3.95 AZL 93.79 HCA 155.42 SMA 186.43 ECC .20833 INC 3.7866 V1 29.767
 RP 207.31 LAP -1.57 LOP 351.02 VP 23.842 GAP 10.16 AZP 86.56 TAL 336.72 TAP 132.14 RCA 147.59 APO 225.26 V2 26.422
 RC 80.098 GL -29.29 GP 12.22 ZAL 128.71 ZAP 139.01 ETS 165.31 ZAE 165.05 ETE 104.79 ZAC 112.98 ETC 276.81 LVI -27.72

DISTANCE 454.952 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.243 VHL 4.387 DLA -37.97 RAL 346.14 RAD 6642.5 VEL 11.801 PTH 6.82 VHP 4.784 DPA -7.30 RAP 311.19 ECC 1.3167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 28 27 2295.62 2.85 57.85 209.02 137.51 21 6 43 1295.6 20.88 41.31
 60.00 22 33 37 1961.69 12.43 36.87 218.03 128.65 23 6 18 961.7 26.92 16.40
 63.54 0 26 16 1649.67 21.94 17.94 225.04 121.79 0 53 45 649.7 33.04 353.82
 63.54 0 26 16 1649.67 21.94 17.94 225.04 121.79 0 53 45 649.7 33.04 353.82
 63.54 0 26 16 1649.67 21.94 17.94 225.04 121.79 0 53 45 649.7 33.04 353.82
 63.54 0 26 16 1649.67 21.94 17.94 225.04 121.79 0 53 45 649.7 33.04 353.82

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7220 TRA -1.0056 TC3 -.0163 BAU .1587 SGT 1914.4 SGR 1077.9 SG3 847.8 ST 53.4 SR 26.2 SS 70.4
 RDE -.3551 RRA -.4882 RC3 .6167 FAU .10435 RRT .8611 RRF -.9674 RTF -.8731 CRT .9995 CRS .9283 CST .9296
 FDE 1.6952 FRA 5.2072 FC3 -4.6946 BSP 3816 SGB 2197.0 R23 -.3181 R13 -.9170 LSA 90.6 MSA 17.1 SSA .7
 BDE .8046 BRA 1.1178 BC3 .6169 FSP 1380 SG1 2141.7 SG2 469.9 THA 27.42 EL1 59.4 EL2 .7 ALF 26.13

LAUNCH DATE APR 6 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.548 GAL -3.91 AZL 93.92 HCA 156.68 SMA 185.93 ECC .20605 INC 3.9241 V1 29.767
 RP 207.42 LAP -1.55 LOP 352.28 VP 23.788 GAP 9.89 AZP 86.40 TAL 336.77 TAP 133.44 RCA 147.62 APO 224.24 V2 26.409
 RC 81.730 GL -30.43 GP 13.14 ZAL 128.25 ZAP 137.25 ETS 165.11 ZAE 164.04 ETE 107.41 ZAC 113.93 ETC 276.77 LVI -28.46

DISTANCE 458.982 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.255 VHL 4.388 DLA -38.95 RAL 346.86 RAD 6642.5 VEL 11.801 PTH 6.82 VHP 4.675 DPA -6.51 RAP 310.61 ECC 1.3169
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 39 51 2287.25 4.28 56.66 210.57 137.43 21 17 38 1267.3 22.21 39.92
 60.00 22 58 14 1897.45 15.13 33.60 220.66 127.81 23 29 52 897.5 29.12 12.38
 62.02 0 21 42 1671.23 22.45 20.06 226.11 122.71 0 49 33 671.2 33.86 355.96
 62.02 0 21 42 1671.23 22.45 20.06 226.11 122.71 0 49 33 671.2 33.86 355.96
 62.02 0 21 42 1671.23 22.45 20.06 226.11 122.71 0 49 33 671.2 33.86 355.96
 62.02 0 21 42 1671.23 22.45 20.06 226.11 122.71 0 49 33 671.2 33.86 355.96

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7216 TRA -.9535 TC3 -.0406 BAU .1702 SGT 1858.0 SGR 1178.1 SG3 889.0 ST 52.9 SR 27.5 SS 72.5
 RDE -.3663 RRA -.5405 RC3 .6600 FAU .10833 RRT .8602 RRF -.9731 RTF -.8583 CRT .9984 CRS .9419 CST .9248
 FDE 1.7923 FRA 5.3974 FC3 -4.8707 BSP 3817 SGB 2200.0 R23 -.3221 R13 -.9218 LSA 92.2 MSA 17.4 SSA .7
 BDE .8092 BRA 1.0961 BC3 .6612 FSP 1494 SG1 2137.1 SG2 522.2 THA 30.84 EL1 59.6 EL2 1.4 ALF 27.48

LAUNCH DATE APR 6 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.521 GAL -3.87 AZL 94.08 HCA 157.94 SMA 185.48 ECC .20393 INC 4.0761 V1 29.767
 RP 207.54 LAP -1.53 LOP 353.54 VP 23.735 GAP 9.60 AZP 86.22 TAL 336.80 TAP 134.74 RCA 147.64 APO 223.28 V2 26.395
 RC 83.399 GL -31.83 GP 14.15 ZAL 127.75 ZAP 135.43 ETS 164.90 ZAE 162.89 ETE 109.90 ZAC 114.98 ETC 276.73 LVI -29.28

DISTANCE 463.027 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.337 VHL 4.397 DLA -39.99 RAL 347.68 RAD 6642.5 VEL 11.805 PTH 6.83 VHP 4.575 DPA -5.84 RAP 309.96 ECC 1.3182
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 52 42 2236.81 5.60 55.38 212.38 137.31 21 29 59 1236.8 23.62 38.40
 60.00 23 37 53 1793.79 19.38 28.13 224.69 126.05 24 7 47 793.8 32.37 5.52
 60.46 0 17 34 1693.03 22.94 22.24 227.35 123.71 0 45 47 693.0 34.69 358.18
 60.46 0 17 34 1693.03 22.94 22.24 227.35 123.71 0 45 47 693.0 34.69 358.18
 60.46 0 17 34 1693.03 22.94 22.24 227.35 123.71 0 45 47 693.0 34.69 358.18
 60.46 0 17 34 1693.03 22.94 22.24 227.35 123.71 0 45 47 693.0 34.69 358.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7208 TRA -.8968 TC3 -.0664 BAU .1835 SGT 1792.1 SGR 1291.0 SG3 929.3 ST 52.2 SR 29.1 SS 74.5
 RDE -.3810 RRA -.5979 RC3 .7068 FAU .11239 RRT .8561 RRF -.9811 RTF -.8576 CRT .9947 CRS .9539 CST .9194
 FDE 1.8956 FRA 5.5782 FC3 -5.0318 BSP 3810 SGB 2208.7 R23 -.3192 R13 -.9284 LSA 93.9 MSA 17.8 SSA .7
 BDE .8153 BRA 1.0779 BC3 .7099 FSP 1523 SG1 2136.7 SG2 559.6 THA 34.35 EL1 59.8 EL2 2.6 ALF 29.09

LAUNCH DATE APR 6 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -0.00 LOL 195.58 VL 32.495 GAL -3.83 AZL 94.23 HCA 159.19 SMA 185.03 ECC .20196 INC 4.2453 V1 29.767
 RP 207.66 LAP -1.51 LOP 354.80 VP 23.684 GAP 9.32 AZP 86.03 TAL 336.83 TAP 136.02 RCA 147.66 APO 222.40 V2 26.361
 RC 85.104 GL -32.92 GP 15.27 ZAL 127.21 ZAP 133.53 ETS 164.67 ZAE 161.57 ETE 112.21 ZAC 116.15 ETC 276.69 LVI -30.18

DISTANCE 467.085
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.499 VHL 4.416 DLA -41.09 RAL 348.55 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 4.484 DPA -4.66 RAP 309.25 ECC 1.3209
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 7 26 2203.57 7.46 33.97 214.53 137.13 21 44 9 1203.6 25.14 36.70
 58.84 0 13 55 1715.18 23.41 24.49 228.77 124.79 0 42 30 715.2 35.55 .49
 58.84 0 13 55 1715.18 23.41 24.49 228.77 124.79 0 42 30 715.2 35.55 .49
 58.84 0 13 55 1715.18 23.41 24.49 228.77 124.79 0 42 30 715.2 35.55 .49
 58.84 0 13 55 1715.18 23.41 24.49 228.77 124.79 0 42 30 715.2 35.55 .49
 58.84 0 13 55 1715.18 23.41 24.49 228.77 124.79 0 42 30 715.2 35.55 .49
 58.84 0 13 55 1715.18 23.41 24.49 228.77 124.79 0 42 30 715.2 35.55 .49

DIFFERENTIAL CORRECTIONS
 TDE -.7215 TRA -.8363 TC3 -.0958 BAU .1987 SGT 1719.5 SGR 1418.7 SG3 968.2 ST 51.5 SR 31.1 SS 76.6
 RDE -.4005 RRA -.6614 RC3 .7561 FAU .11631 RRT .8484 RRF -.9858 RTF -.8464 CRT .9883 CRS .9643 CST .9135
 FDE 2.0113 FRA 5.7490 FC3-5.1637 BSP 3821 SGB 2229.2 R23 -.3090 R13 -.9363 LSA 95.7 MSA 18.2 SSA .6
 BDE .8252 BRA 1.0662 BC3 .7622 FSP 1591 SG1 2146.5 SG2 801.7 THA 36.56 EL1 60.1 EL2 4.1 ALF 30.97

LAUNCH DATE APR 6 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -0.00 LOL 195.55 VL 32.471 GAL -3.80 AZL 94.43 HCA 160.45 SMA 184.63 ECC .20013 INC 4.4349 V1 29.767
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.634 GAP 9.04 AZP 85.82 TAL 336.85 TAP 137.30 RCA 147.68 APO 221.58 V2 26.365
 RC 86.843 GL -34.31 GP 16.52 ZAL 126.61 ZAP 131.57 ETS 164.44 ZAE 160.08 ETE 114.31 ZAC 117.44 ETC 276.64 LVI -31.17

DISTANCE 471.158
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.754 VHL 4.445 DLA -42.27 RAL 349.55 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 4.403 DPA -3.58 RAP 308.46 ECC 1.3251
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 24 39 2166.36 9.32 52.38 217.10 136.87 22 0 46 1166.4 26.81 34.74
 57.17 0 10 45 1737.94 23.87 26.82 230.40 125.98 0 39 43 737.9 36.43 2.92
 57.17 0 10 45 1737.94 23.87 26.82 230.40 125.98 0 39 43 737.9 36.43 2.92
 57.17 0 10 45 1737.94 23.87 26.82 230.40 125.98 0 39 43 737.9 36.43 2.92
 57.17 0 10 45 1737.94 23.87 26.82 230.40 125.98 0 39 43 737.9 36.43 2.92
 57.17 0 10 45 1737.94 23.87 26.82 230.40 125.98 0 39 43 737.9 36.43 2.92
 57.17 0 10 45 1737.94 23.87 26.82 230.40 125.98 0 39 43 737.9 36.43 2.92

DIFFERENTIAL CORRECTIONS
 TDE -.7157 TRA -.7640 TC3 -.1129 BAU .2166 SGT 1822.6 SGR 1560.7 SG3 1003.3 ST 50.3 SR 33.3 SS 78.4
 RDE -.4240 RRA -.7296 RC3 .8123 FAU .12066 RRT .8386 RRF -.9894 RTF -.8338 CRT .9793 CRS .9727 CST .9063
 FDE 2.1254 FRA 5.8889 FC3-5.2881 BSP 3771 SGB 2251.4 R23 -.2859 R13 -.9472 LSA 97.2 MSA 18.6 SSA .6
 BDE .8319 BRA 1.0564 BC3 .8201 FSP 1641 SG1 2158.8 SG2 639.0 THA 43.67 EL1 60.1 EL2 5.6 ALF 33.34

LAUNCH DATE APR 6 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -0.00 LOL 195.55 VL 32.449 GAL -3.77 AZL 94.65 HCA 161.70 SMA 184.26 ECC .19845 INC 4.6492 V1 29.767
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.585 GAP 8.77 AZP 85.58 TAL 336.86 TAP 138.56 RCA 147.69 APO 220.83 V2 26.348
 RC 86.616 GL -35.81 GP 17.91 ZAL 125.93 ZAP 129.53 ETS 164.19 ZAE 158.40 ETE 116.17 ZAC 118.89 ETC 276.59 LVI -32.28

DISTANCE 475.240
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.119 VHL 4.485 DLA -43.52 RAL 350.69 RAD 6642.9 VEL 11.838 PTH 6.86 VHP 4.333 DPA -2.36 RAP 307.59 ECC 1.3311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 45 21 2123.42 11.44 50.52 220.25 136.50 22 20 44 1123.4 28.70 32.40
 55.42 0 8 10 1761.51 24.29 29.26 232.29 127.29 0 37 31 761.5 37.32 5.50
 55.42 0 8 10 1761.51 24.29 29.26 232.29 127.29 0 37 31 761.5 37.32 5.50
 55.42 0 8 10 1761.51 24.29 29.26 232.29 127.29 0 37 31 761.5 37.32 5.50
 55.42 0 8 10 1761.51 24.29 29.26 232.29 127.29 0 37 31 761.5 37.32 5.50
 55.42 0 8 10 1761.51 24.29 29.26 232.29 127.29 0 37 31 761.5 37.32 5.50
 55.42 0 8 10 1761.51 24.29 29.26 232.29 127.29 0 37 31 761.5 37.32 5.50

DIFFERENTIAL CORRECTIONS
 TDE -.7292 TRA -.7049 TC3 -.1686 BAU .2359 SGT 1559.7 SGR 1726.5 SG3 1038.2 ST 50.2 SR 36.4 SS 81.1
 RDE -.4603 RRA -.8105 RC3 .8608 FAU .12322 RRT .8185 RRF -.9922 RTF -.8220 CRT .9685 CRS .9802 CST .9004
 FDE 2.2892 FRA 6.0398 FC3-5.3024 BSP 3980 SGB 2326.7 R23 -.2855 R13 -.9361 LSA 100.2 MSA 19.1 SSA .5
 BDE .8624 BRA 1.0742 BC3 .8772 FSP 1721 SG1 2219.9 SG2 697.0 THA 48.55 EL1 61.5 EL2 7.4 ALF 35.69

LAUNCH DATE APR 6 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -0.00 LOL 195.55 VL 32.429 GAL -3.75 AZL 94.89 HCA 162.95 SMA 183.92 ECC .19689 INC 4.8935 V1 29.767
 RP 208.08 LAP -1.43 LOP 358.56 VP 23.537 GAP 8.51 AZP 85.32 TAL 336.85 TAP 139.80 RCA 147.71 APO 220.13 V2 26.332
 RC 90.421 GL -37.44 GP 19.47 ZAL 125.21 ZAP 127.41 ETS 163.95 ZAE 156.53 ETE 117.80 ZAC 120.51 ETC 276.54 LVI -33.52

DISTANCE 479.333
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.616 VHL 4.540 DLA -44.87 RAL 351.99 RAD 6643.1 VEL 11.858 PTH 6.87 VHP 4.275 DPA -.99 RAP 306.65 ECC 1.3393
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 11 27 2070.58 14.04 48.19 224.24 135.94 22 45 58 1070.6 30.97 29.40
 53.59 0 6 12 1786.18 24.68 31.83 234.48 128.74 0 35 59 786.2 38.23 8.27
 53.59 0 6 12 1786.18 24.68 31.83 234.48 128.74 0 35 59 786.2 38.23 8.27
 53.59 0 6 12 1786.18 24.68 31.83 234.48 128.74 0 35 59 786.2 38.23 8.27
 53.59 0 6 12 1786.18 24.68 31.83 234.48 128.74 0 35 59 786.2 38.23 8.27
 53.59 0 6 12 1786.18 24.68 31.83 234.48 128.74 0 35 59 786.2 38.23 8.27
 53.59 0 6 12 1786.18 24.68 31.83 234.48 128.74 0 35 59 786.2 38.23 8.27

DIFFERENTIAL CORRECTIONS
 TDE -.7343 TRA -.6304 TC3 -.2057 BAU .2588 SGT 1467.5 SGR 1910.3 SG3 1065.9 ST 49.3 SR 39.9 SS 83.4
 RDE -.5045 RRA -.8972 RC3 .9162 FAU .12613 RRT .7946 RRF -.9943 RTF -.7866 CRT .9556 CRS .9858 CST .8930
 FDE 2.4548 FRA 6.1389 FC3-5.2965 BSP 4070 SGB 2408.9 R23 -.2313 R13 -.9671 LSA 102.9 MSA 19.6 SSA .5
 BDE .8909 BRA 1.0965 BC3 .9390 FSP 1772 SG1 2291.6 SG2 742.7 THA 54.26 EL1 62.7 EL2 9.2 ALF 38.69

LAUNCH DATE APR 6 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 149.69 LAL -.00 LOL 195.55 VL 32.410 GAL -3.73 AZL 95.17 HCA 164.20 SMA 183.61 ECC .19546 INC 5.1747 V1 29.767
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.491 GAP 8.25 AZP 85.02 TAL 336.84 TAP 141.04 RCA 147.72 APO 219.49 V2 26.313
 RC 92.259 GL -39.22 GP 21.23 ZAL 124.38 ZAP 125.20 ETS 163.71 ZAE 154.43 ETE 119.19 ZAC 122.33 ETC 276.50 LVI -34.92

DISTANCE 483.437

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.279 VHL 4.613 DLA -46.32 RAL 353.49 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 4.232 DPA .57 RAP 305.62 ECC 1.3502
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 48 2 1996.61 17.63 44.82 229.74 134.94 23 21 18 896.6 33.99 24.93
 51.65 0 5 3 1812.24 25.01 34.55 237.02 130.35 0 35 15 812.2 39.13 11.27
 51.65 0 5 3 1812.24 25.01 34.55 237.02 130.35 0 35 15 812.2 39.13 11.27
 51.65 0 5 3 1812.24 25.01 34.55 237.02 130.35 0 35 15 812.2 39.13 11.27
 51.65 0 5 3 1812.24 25.01 34.55 237.02 130.35 0 35 15 812.2 39.13 11.27
 51.65 0 5 3 1812.24 25.01 34.55 237.02 130.35 0 35 15 812.2 39.13 11.27

DIFFERENTIAL CORRECTIONS

TDE -.7410 TRA -.5508 TC3 -.2437 BAW .2853
 RDE -.5623 RRA -.9931 RC3 .9727 FAU .12851
 FDE 2.6406 FRA 6.1930 FC3-5.2283 BSP 4235
 BDE .9302 BRA 1.1356 BC3 1.0028 FSP 1811

MID-COURSE EXECUTION ACCURACY

SGT 1370.7 SGR 2117.3 SG3 1086.3
 RRT .7616 RRF -.9959 RTF -.7524
 SGB 2922.3 R23 -.1923 R13 -.9772
 SGI 2397.1 SG2 784.6 THA 60.25

ORBIT DETERMINATION ACCURACY

ST 48.4 SR 44.0 SS 85.6
 CRT .9414 CRS .9902 CST .9853
 LSA 105.9 MSA 20.0 SSA .4
 EL1 64.4 EL2 11.1 ALF 42.16

LAUNCH DATE APR 6 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 149.69 LAL -.00 LOL 195.55 VL 32.392 GAL -3.71 AZL 95.50 HCA 165.45 SMA 183.32 ECC .19416 INC 5.5025 V1 29.767
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.445 GAP 7.99 AZP 84.67 TAL 336.82 TAP 142.26 RCA 147.72 APO 218.91 V2 26.294
 RC 94.128 GL -41.19 GP 23.22 ZAL 123.44 ZAP 122.90 ETS 163.47 ZAE 152.10 ETE 120.35 ZAC 124.39 ETC 276.46 LVI -36.49

DISTANCE 487.549

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.155 VHL 4.707 DLA -47.89 RAL 355.26 RAD 6643.8 VEL 11.923 PTH 6.93 VHP 4.207 DPA 2.34 RAP 304.50 ECC 1.3646
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.60 0 4 50 1840.12 25.26 37.47 240.00 132.14 0 35 30 840.1 40.03 14.56
 49.60 0 4 50 1840.12 25.26 37.47 240.00 132.14 0 35 30 840.1 40.03 14.56
 49.60 0 4 50 1840.12 25.26 37.47 240.00 132.14 0 35 30 840.1 40.03 14.56
 49.60 0 4 50 1840.12 25.26 37.47 240.00 132.14 0 35 30 840.1 40.03 14.56
 49.60 0 4 50 1840.12 25.26 37.47 240.00 132.14 0 35 30 840.1 40.03 14.56
 49.60 0 4 50 1840.12 25.26 37.47 240.00 132.14 0 35 30 840.1 40.03 14.56

DIFFERENTIAL CORRECTIONS

TDE -.7498 TRA -.4650 TC3 -.2816 BAW .3155
 RDE -.6408 RRA -1.0996 RC3 1.0275 FAU .12991
 FDE 2.8604 FRA 6.1915 FC3-5.0783 BSP 4486
 BDE .9883 BRA 1.1939 BC3 1.0654 FSP 1835

MID-COURSE EXECUTION ACCURACY

SGT 1271.1 SGR 2351.2 SG3 1097.2
 RRT .7161 RRF -.9971 RTF -.7060
 SGB 2672.8 R23 -.1516 R13 -.9856
 SGI 2543.9 SG2 819.9 THA 66.21

ORBIT DETERMINATION ACCURACY

ST 47.4 SR 49.2 SS 88.1
 CRT .9265 CRS .9934 CST .8775
 LSA 109.6 MSA 20.4 SSA .4
 EL1 67.0 EL2 13.1 ALF 46.17

LAUNCH DATE APR 6 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 149.69 LAL -.00 LOL 195.55 VL 32.376 GAL -3.70 AZL 95.89 HCA 166.69 SMA 183.05 ECC .19297 INC 5.8892 V1 29.767
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.400 GAP 7.74 AZP 84.27 TAL 336.78 TAP 143.47 RCA 147.73 APO 218.37 V2 26.274
 RC 96.027 GL -43.36 GP 25.47 ZAL 122.37 ZAP 120.50 ETS 163.26 ZAE 149.50 ETE 121.29 ZAC 126.71 ETC 276.44 LVI -38.28

DISTANCE 491.670

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.313 VHL 4.828 DLA -49.58 RAL 357.35 RAD 6644.3 VEL 11.971 PTH 6.97 VHP 4.203 DPA 4.36 RAP 303.28 ECC 1.3837
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.41 0 5 53 1870.28 25.39 40.58 243.50 134.14 0 37 4 870.3 40.88 18.19
 47.41 0 5 53 1870.28 25.39 40.58 243.50 134.14 0 37 4 870.3 40.88 18.19
 47.41 0 5 53 1870.28 25.39 40.58 243.50 134.14 0 37 4 870.3 40.88 18.19
 47.41 0 5 53 1870.28 25.39 40.58 243.50 134.14 0 37 4 870.3 40.88 18.19
 47.41 0 5 53 1870.28 25.39 40.58 243.50 134.14 0 37 4 870.3 40.88 18.19
 47.41 0 5 53 1870.28 25.39 40.58 243.50 134.14 0 37 4 870.3 40.88 18.19

DIFFERENTIAL CORRECTIONS

TDE -.7613 TRA -.3738 TC3 -.3201 BAW .3507
 RDE -.7477 RRA -1.2172 RC3 1.0788 FAU .13016
 FDE 3.1151 FRA 6.1153 FC3-4.8335 BSP 4777
 BDE 1.0670 BRA 1.2733 BC3 1.1253 FSP 1838

MID-COURSE EXECUTION ACCURACY

SGT 1174.3 SGR 2614.6 SG3 1095.4
 RRT .8523 RRF -.9979 RTF -.6.14
 SGB 2866.2 R23 -.1135 R13 -.9915
 SGI 2737.2 SG2 850.3 THA 71.86

ORBIT DETERMINATION ACCURACY

ST 46.3 SR 55.6 SS 90.7
 CRT .9114 CRS .9958 CST .8700
 LSA 114.2 MSA 20.8 SSA .5
 EL1 70.8 EL2 15.0 ALF 50.67

LAUNCH DATE APR 6 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 149.69 LAL -.00 LOL 195.55 VL 32.361 GAL -3.69 AZL 96.35 HCA 167.93 SMA 182.81 ECC .19188 INC 6.3536 V1 29.767
 RP 208.76 LAP -1.33 LOP 3.55 VP 23.356 GAP 7.50 AZP 83.79 TAL 336.74 TAP 144.87 RCA 147.73 APO 217.89 V2 26.254
 RC 97.955 GL -45.79 GP 28.04 ZAL 121.13 ZAP 117.99 ETS 163.07 ZAE 146.81 ETE 122.04 ZAC 129.35 ETC 276.44 LVI -40.30

DISTANCE 495.797

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.860 VHL 4.988 DLA -51.42 RAL 359.89 RAD 6644.9 VEL 12.035 PTH 7.02 VHP 4.229 DPA 6.69 RAP 301.96 ECC 1.4091
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.08 0 8 36 1903.38 25.34 43.94 247.68 136.37 0 40 19 903.4 41.64 22.23
 45.08 0 8 36 1903.38 25.34 43.94 247.68 136.37 0 40 19 903.4 41.64 22.23
 45.08 0 8 36 1903.38 25.34 43.94 247.68 136.37 0 40 19 903.4 41.64 22.23
 45.08 0 8 36 1903.38 25.34 43.94 247.68 136.37 0 40 19 903.4 41.64 22.23
 45.08 0 8 36 1903.38 25.34 43.94 247.68 136.37 0 40 19 903.4 41.64 22.23
 45.08 0 8 36 1903.38 25.34 43.94 247.68 136.37 0 40 19 903.4 41.64 22.23

DIFFERENTIAL CORRECTIONS

TDE -.7720 TRA -.2733 TC3 -.3524 BAW .3912
 RDE -.8975 RRA -1.3469 RC3 1.1229 FAU .12882
 FDE 3.4170 FRA 5.9473 FC3-4.4860 BSP 5169
 BDE 1.1838 BRA 1.3744 BC3 1.1769 FSP 1816

MID-COURSE EXECUTION ACCURACY

SGT 1079.0 SGR 2911.8 SG3 1077.6
 RRT .8639 RRF -.9985 RTF -.5522
 SGB 3105.3 R23 -.0798 R13 -.9954
 SGI 2980.8 SG2 870.5 THA 77.08

ORBIT DETERMINATION ACCURACY

ST 45.0 SR 63.6 SS 93.6
 CRT .8968 CRS .9974 CST .8629
 LSA 120.0 MSA 20.9 SSA .3
 EL1 76.1 EL2 16.6 ALF 55.75

LAUNCH DATE APR 6 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

DISTANCE 499.930

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.347 GAL -3.68 AZL 96.92 HCA 169.17 SMA 182.89 ECC .18091 INC 9.8212 V1 29.767
RP 208.94 LAP -1.30 LOP 4.00 VP 23.313 GAP 7.25 AZP 83.20 TAL 336.66 TAP 145.88 RCA 147.73 APO 217.44 V2 26.232
RC 99.910 GL -48.52 GP 30.97 ZAL 119.70 ZAP 119.36 ETS 162.94 ZAE 143.38 ETE 122.61 ZAC 132.36 ETC 276.47 LVI -42.61

PLANETOCENTRIC CONIC

C3 26.983 VHL 5.193 DLA -53.41 RAL 3.02 RAD 6645.8 VEL 12.121 PTH 7.09 VHP 4.292 DPA 9.37 RAP 300.51 ECC 1.4437
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
42.60 0 13 36 1940.24 25.05 47.55 252.70 138.86 0 45 56 940.2 42.23 26.75
42.60 0 13 36 1940.24 25.05 47.55 252.70 138.86 0 45 56 940.2 42.23 26.75
42.60 0 13 36 1940.24 25.05 47.55 252.70 138.86 0 45 56 940.2 42.23 26.75
42.60 0 13 36 1940.24 25.05 47.55 252.70 138.86 0 45 56 940.2 42.23 26.75
42.60 0 13 36 1940.24 25.05 47.55 252.70 138.86 0 45 56 940.2 42.23 26.75
42.60 0 13 36 1940.24 25.05 47.55 252.70 138.86 0 45 56 940.2 42.23 26.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7806 TRA -.1640 TC3 -.3780 BAU .4393 SGT 994.0 SGR 3243.5 SG3 1038.6 ST 43.3 SR 73.9 SS 96.6
RDE -1.1106 RRA -1.4863 RC3 1.1586 FAU .12586 RRT .4400 RRF -.9990 RTF -.4276 CRT .8829 CRS .9985 CST .8560
FDE 3.7645 FRA 5.6562 FC3 -4.0411 BSP 5642 SGB 3392.5 R23 -.0525 R13 -.9977 LSA 127.4 MSA 20.9 SSA .2
BDE 1.3575 BRA 1.4954 BC3 1.2187 FSP 1755 SG1 3275.3 SG2 884.0 THA 81.71 EL1 83.8 EL2 17.9 ALF 61.20

LAUNCH DATE APR 6 1971

FLIGHT TIME 204.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 504.068

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.335 GAL -3.67 AZL 97.63 HCA 170.40 SMA 182.39 ECC .19003 INC 7.6318 V1 29.767
RP 209.14 LAP -1.27 LOP 6.04 VP 23.270 GAP 7.02 AZP 82.47 TAL 336.62 TAP 147.02 RCA 147.73 APO 217.05 V2 26.209
RC 101.892 GL -51.61 GP 34.33 ZAL 118.03 ZAP 112.60 ETS 162.89 ZAE 139.78 ETE 123.05 ZAC 135.79 ETC 276.55 LVI -45.21

PLANETOCENTRIC CONIC

C3 29.897 VHL 5.468 DLA -55.54 RAL 6.96 RAD 6647.0 VEL 12.241 PTH 7.19 VHP 4.409 DPA 12.47 RAP 298.93 ECC 1.4920
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.97 0 21 52 1982.00 24.41 51.41 258.81 141.59 0 54 54 982.0 42.54 31.79
39.97 0 21 52 1982.00 24.41 51.41 258.81 141.59 0 54 54 982.0 42.54 31.79
39.97 0 21 52 1982.00 24.41 51.41 258.81 141.59 0 54 54 982.0 42.54 31.79
39.97 0 21 52 1982.00 24.41 51.41 258.81 141.59 0 54 54 982.0 42.54 31.79
39.97 0 21 52 1982.00 24.41 51.41 258.81 141.59 0 54 54 982.0 42.54 31.79
39.97 0 21 52 1982.00 24.41 51.41 258.81 141.59 0 54 54 982.0 42.54 31.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7805 TRA -.0426 TC3 -.3941 B .4977 SGT 927.8 SGR 3606.5 SG3 972.6 ST 40.9 SR 87.2 SS 99.6
RDE -1.4227 RRA -1.6302 RC3 1.1813 FAU .12088 RRT .2691 RRF -.9993 RTF -.2559 CRT .8686 CRS .9992 CST .8478
FDE 4.1556 FRA 5.2101 FC3 -3.5002 BSP 6155 SGB 3723.9 R23 -.0317 R13 -.9989 LSA 137.1 MSA 20.5 SSA .2
BDE 1.6227 BRA 1.6307 BC3 1.2453 FSP 1637 SG1 3615.7 SG2 891.3 THA 85.78 EL1 94.5 EL2 18.7 ALF 66.88

LAUNCH DATE APR 6 1971

FLIGHT TIME 206.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 508.209

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.324 GAL -3.67 AZL 98.55 HCA 171.63 SMA 182.20 ECC .18925 INC 8.5482 V1 29.767
RP 209.34 LAP -1.24 LOP 7.28 VP 23.228 GAP 6.78 AZP 81.54 TAL 336.54 TAP 148.17 RCA 147.72 APO 216.69 V2 26.186
RC 103.900 GL -55.14 GP 38.17 ZAL 116.97 ZAP 109.72 ETS 162.98 ZAE 135.77 ETE 123.41 ZAC 139.71 ETC 276.70 LVI -48.14

PLANETOCENTRIC CONIC

C3 34.148 VHL 5.844 DLA -57.78 RAL 12.06 RAD 6648.6 VEL 12.412 PTH 7.32 VHP 4.604 DPA 16.02 RAP 297.19 ECC 1.5620
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
37.26 0 34 51 2030.35 23.24 55.50 266.35 144.53 1 8 41 1030.3 42.37 37.37
37.26 0 34 51 2030.35 23.24 55.50 266.35 144.53 1 8 41 1030.3 42.37 37.37
37.26 0 34 51 2030.35 23.24 55.50 266.35 144.53 1 8 41 1030.3 42.37 37.37
37.26 0 34 51 2030.35 23.24 55.50 266.35 144.53 1 8 41 1030.3 42.37 37.37
37.26 0 34 51 2030.35 23.24 55.50 266.35 144.53 1 8 41 1030.3 42.37 37.37
37.26 0 34 51 2030.35 23.24 55.50 266.35 144.53 1 8 41 1030.3 42.37 37.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7800 TRA .0918 TC3 -.3999 BAU .5864 SGT 895.7 SGR 4013.3 SG3 878.8 ST 37.3 SR 105.6 SS 103.1
RDE -1.9069 RRA -1.7809 RC3 1.1745 FAU .11234 RRT .0552 RRF -.9995 RTF -.1-.12 CRT .8509 CRS .9996 CST .8391
FDE 4.6038 FRA 4.6137 FC3 -2.8482 BSP 6825 SGB 4112.1 R23 -.0169 R13 -.9994 LSA 151.0 MSA 19.7 SSA .2
BDE 2.0528 BRA 1.7833 BC3 1.2408 FSP 1487 SG1 4013.6 SG2 894.2 THA 89.26 EL1 110.5 EL2 18.8 ALF 72.74

LAUNCH DATE APR 6 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

DISTANCE 558.553

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.261 GAL -3.97 AZL 82.37 HCA 186.43 SMA 181.19 ECC .18673 INC 7.6295 V1 29.767
RP 212.29 LAP -.85 LOP 21.92 VP 22.757 GAP 4.29 AZP 97.58 TAL 334.26 TAP 180.69 RCA 147.35 APO 215.03 V2 25.848
RC 129.850 GL 30.95 GP -46.97 ZAL 119.76 ZAP 90.72 ETS 179.53 ZAE 118.23 ETE 214.58 ZAC 55.47 ETC 272.05 LVI 33.55

PLANETOCENTRIC CONIC

C3 30.281 VHL 5.503 DLA 38.07 RAL 317.70 RAD 6647.1 VEL 12.256 PTH 7.20 VHP 4.977 DPA -68.77 RAP 3:3.27 ECC 1.4984
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 31 8 4067.98 -41.22 179.87 218.79 83.75 13 38 56 3068.0 -47.55 148.96
60.00 11 43 57 4194.56 -28.44 182.91 210.53 60.15 12 53 52 3194.6 -38.07 156.41
63.37 10 30 7 4406.66 -17.89 193.37 203.37 55.82 11 43 34 3406.7 -30.29 170.74
63.37 10 30 7 4406.66 -17.89 193.37 203.37 55.82 11 43 34 3406.7 -30.29 170.74
63.37 10 30 7 4406.66 -17.89 193.37 203.37 55.82 11 43 34 3406.7 -30.29 170.74
63.37 10 30 7 4406.66 -17.89 193.37 203.37 55.82 11 43 34 3406.7 -30.29 170.74

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.0254 TRA .9713 TC3 -1.3047 BAU .8160 SGT 2856.5 SGR 5186.6 SG3 701.4 ST 107.2 SR 167.2 SS 109.3
RDE 3.0226 RRA 2.8428 RC3 -1.5363 FAU .09063 RRT .9379 RRF -.9995 RTF .9379 CRT .9867 CRS -.9999 CST -.9845
FDE 4.5739 FRA 4.4785 FC3 -2.5910 BSP 9827 SGB 5921.1 R23 .0780 R13 .9964 LSA 226.1 MSA 15.8 SSA .2
BDE 3.6384 BRA 3.0041 BC3 2.0156 FSP 1220 SG1 5855.7 SG2 877.9 THA 62.00 EL1 198.1 EL2 14.7 ALF 57.47

LAUNCH DATE APR 6 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 24 1971

Heliocentric Conic: RL 149.69 LAL -.00 LOL 195.55 VL 32.260 GAL -4.01 AZL 83.82 HCA 187.62 SMA 181.18 ECC .18694 INC 6.1766 V1 29.767
 RP 212.57 LAP -.82 LOP 23.13 VP 22.719 GAP 4.09 AZP 96.12 TAL 334.04 TAP 161.66 RCA 147.31 APO 215.05 V2 25.815
 RC 132.153 GL 44.35 GP -42.84 ZAL 123.74 ZAP 89.37 ETS 178.23 ZAE 119.37 EYE 211.06 ZAC 59.61 ETC 271.78 LVI 30.06

Distance 562.699 Earth to Mars

Planetary Centric Conic: C3 24.543 VHL 4.954 DLA 31.86 RAL 320.55 RAD 6644.8 VEL 12.022 PTH 7.01 VHP 4.513 DPA -65.10 RAP 308.27 ECC 1.4039
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 26 51 3854.11 -46.17 161.76 213.76 76.99 14 31 5 2854.1 -46.05 126.63
 60.00 13 16 30 3881.71 -37.06 160.96 210.48 72.89 14 21 12 2881.7 -40.20 130.29
 70.00 12 51 59 3954.23 -26.78 162.49 206.17 67.94 13 57 53 2954.2 -33.35 135.78
 74.67 11 47 39 4154.13 -16.91 172.91 201.29 62.59 12 56 53 3154.1 -26.73 149.32
 74.67 11 47 39 4154.13 -16.91 172.91 201.29 62.59 12 56 53 3154.1 -26.73 149.32
 74.67 11 47 39 4154.13 -16.91 172.91 201.29 62.59 12 56 53 3154.1 -26.73 149.32
 110.00 17 51 26 3001.05 -26.76 91.41 206.17 67.94 18 41 27 2001.0 -33.35 64.70

Differential Corrections: TDE 1.7867 TRA 1.1364 TC3-1.6401 BAU .7657 SGT 3030.5 SGR 4842.9 S63 884.5 ST 105.9 SR 148.6 S8 118.3
 RDE 2.3918 RRA 2.6577 RC3-1.6599 FAU .10637 RRT .9469 RRF .9994 RTF .9468 CRT .9883 CRS -.9998 CST -.9855
 FDE 4.8479 FRA 5.6663 FC3-3.7520 BSP 9594 SGB 5723.6 R23 .0892 R13 .9954 LSA 217.0 MSA 14.8 S8A .2
 BDE 2.9854 BRA 2.8905 BC3 2.3335 FSP 1552 S61 5661.7 S62 836.9 THA 58.41 EL1 182.0 EL2 13.2 ALF 54.62

LAUNCH DATE APR 6 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 26 1971

Heliocentric Conic: RL 149.69 LAL -.00 LOL 195.55 VL 32.260 GAL -4.05 AZL 84.88 HCA 188.81 SMA 181.18 ECC .18721 INC 5.1172 V1 29.767
 RP 212.86 LAP -.78 LOP 24.32 VP 22.682 GAP 3.90 AZP 95.06 TAL 333.80 TAP 162.61 RCA 147.27 APO 215.10 V2 25.782
 RC 134.475 GL 38.59 GP -39.17 ZAL 127.08 ZAP 87.81 ETS 177.07 ZAE 119.93 ETE 207.65 ZAC 63.31 ETC 271.54 LVI 26.98

Distance 566.870 Earth to Mars

Planetary Centric Conic: C3 21.173 VHL 4.601 DLA 26.48 RAL 322.93 RAD 6643.4 VEL 11.882 PTH 6.89 VHP 4.201 DPA -61.78 RAP 304.56 ECC 1.3485
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 6 21 3693.54 -47.56 146.54 207.77 88.58 15 7 54 2693.5 -42.53 112.82
 60.00 14 10 27 3682.59 -39.86 144.82 207.03 83.50 15 11 50 2682.6 -38.14 113.81
 70.00 14 17 42 3661.24 -32.52 141.69 205.63 78.95 15 18 43 2661.2 -33.75 113.02
 80.00 14 34 16 3609.20 -26.14 136.07 203.94 75.04 15 34 26 2609.2 -29.82 109.25
 90.00 15 25 19 3444.26 -23.01 122.98 202.96 73.09 16 22 44 2444.3 -27.87 97.01
 100.00 17 17 8 3083.67 -26.14 97.44 203.94 75.04 18 8 32 2083.7 -29.82 70.62
 110.00 19 17 8 2708.06 -32.52 70.61 205.63 78.95 20 2 16 1708.1 -33.75 41.94

Differential Corrections: TDE 1.6333 TRA 1.2997 TC3-1.9567 BAU .7356 SGT 3263.1 SGR 4505.9 S63 1043.3 ST 105.3 SR 132.6 S8 123.7
 RDE 1.9618 RRA 2.4753 RC3-1.7101 FAU .11933 RRT .9541 RRF .9993 RTF .9540 CRT .9903 CRS -.9997 CST -.9868
 FDE 4.9892 FRA 6.7072 FC3-4.8792 BSP 9343 SGB 5563.4 R23 .1013 R13 .9942 LSA 209.2 MSA 13.8 S8A .3
 BDE 2.5527 BRA 2.7958 BC3 2.5987 FSP 1849 S61 5505.6 S62 799.7 THA 54.49 EL1 168.9 EL2 11.5 ALF 51.62

LAUNCH DATE APR 6 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 28 1971

Heliocentric Conic: RL 149.69 LAL -.00 LOL 195.55 VL 32.261 GAL -4.09 AZL 85.69 HCA 189.99 SMA 181.19 ECC .18753 INC 4.3094 V1 29.767
 RP 213.16 LAP -.75 LOP 25.52 VP 22.645 GAP 3.71 AZP 94.24 TAL 333.55 TAP 163.55 RCA 147.22 APO 215.17 V2 25.749
 RC 136.814 GL 33.61 GP -35.93 ZAL 129.84 ZAP 86.13 ETS 176.07 ZAE 119.99 ETE 204.46 ZAC 66.58 ETC 271.31 LVI 24.28

Distance 571.043 Earth to Mars

Planetary Centric Conic: C3 19.086 VHL 4.369 DLA 21.85 RAL 324.95 RAD 6642.4 VEL 11.794 PTH 6.82 VHP 3.983 DPA -58.81 RAP 301.66 ECC 1.3141
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 36 41 3567.67 -47.07 134.44 202.74 97.88 15 36 9 2567.7 -38.62 103.29
 60.00 14 49 28 3533.65 -40.26 132.19 203.96 92.05 15 48 21 2533.6 -35.04 102.39
 70.00 15 9 43 3473.97 -34.06 127.32 203.52 87.31 16 7 37 2474.0 -31.60 98.86
 80.00 15 45 47 3380.89 -29.27 118.32 203.08 83.84 16 41 48 2360.9 -28.86 90.90
 90.00 16 51 44 3147.95 -27.34 102.41 202.82 82.47 17 44 12 2147.9 -27.74 75.41
 100.00 18 28 39 2835.36 -29.27 79.69 203.08 83.84 19 15 54 1835.4 -28.86 52.27
 110.00 20 9 9 2520.79 -34.06 56.24 203.52 87.31 20 51 10 1520.8 -31.60 27.78

Differential Corrections: TDE 1.5225 TRA 1.4512 TC3-2.2629 BAU .7260 SGT 3478.7 SGR 4172.9 S63 1173.5 ST 104.5 SR 118.4 S8 126.0
 RDE 1.6459 RRA 2.2914 RC3-1.7246 FAU .13128 RRT .9595 RRF .9992 RTF .9594 CRT .9923 CRS -.9995 CST -.9881
 FDE 5.0178 FRA 7.5597 FC3-5.9548 BSP 9028 SGB 5432.7 R23 .1135 R13 .9927 LSA 201.6 MSA 12.8 S8A .3
 BDE 2.2421 BRA 2.7122 BC3 2.8452 FSP 2069 S61 5379.3 S62 759.9 THA 50.40 EL1 157.6 EL2 9.7 ALF 48.59

LAUNCH DATE APR 6 1971

FLIGHT TIME 238.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 149.69 LAL -.00 LOL 195.55 VL 32.262 GAL -4.14 AZL 86.33 HCA 191.18 SMA 181.21 ECC .18791 INC 3.6736 V1 29.767
 RP 213.46 LAP -.71 LOP 26.71 VP 22.607 GAP 3.52 AZP 93.60 TAL 333.29 TAP 164.46 RCA 147.16 APO 215.26 V2 25.714
 RC 139.171 GL 29.30 GP -33.07 ZAL 132.10 ZAP 84.38 ETS 175.21 ZAE 119.65 ETE 201.54 ZAC 69.46 ETC 271.10 LVI 21.92

Distance 575.217 Earth to Mars

Planetary Centric Conic: C3 17.750 VHL 4.213 DLA 17.87 RAL 326.69 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 3.828 DPA -56.17 RAP 299.31 ECC 1.2921
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 1 3 3466.70 -45.71 125.08 199.08 104.97 15 58 50 2466.7 -34.93 96.47
 60.00 15 19 51 3416.82 -39.51 122.34 200.84 98.69 16 16 48 2416.6 -31.82 94.14
 70.00 15 48 2 3333.87 -33.97 116.58 201.59 93.77 16 43 36 2333.7 -28.91 88.83
 80.00 16 33 12 3192.10 -29.86 105.82 201.77 90.38 17 26 24 2192.1 -26.66 78.85
 90.00 17 44 4 2963.35 -28.27 89.00 201.76 89.11 18 33 27 1963.3 -25.79 62.27
 100.00 19 16 4 2666.57 -29.86 67.19 201.77 90.38 20 0 31 1666.6 -26.66 40.22
 110.00 20 47 28 2380.49 -33.97 45.30 201.59 93.77 21 27 9 1380.5 -28.91 17.75

Differential Corrections: TDE 1.4506 TRA 1.6052 TC3-2.5334 BAU .7221 SGT 3702.6 SGR 3869.0 S63 1280.8 ST 104.5 SR 106.7 S8 127.2
 RDE 1.4183 RRA 2.1264 RC3-1.6855 FAU .14019 RRT .9637 RRF .9989 RTF .9637 CRT .9943 CRS -.9993 CST -.9896
 FDE 5.0151 FRA 8.2823 FC3-6.8375 BSP 8874 SGB 5355.2 R23 .1248 R13 .9911 LSA 195.8 MSA 11.8 S8A .4
 BDE 2.0288 BRA 2.6642 BC3 3.0428 FSP 2264 S61 5306.5 S62 720.5 THA 46.31 EL1 149.1 EL2 7.9 ALF 45.59

LAUNCH DATE APR 6 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

DISTANCE 596.078

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.275 GAL -4.41 AZL 88.19 HCA 197.07 SMA 181.42 ECC .19059 INC 1.8139 V1 29.787
 RP 215.04 LAP -.53 LOP 32.61 VP 22.423 GAP 2.59 AZP 91.73 TAL 331.79 TAP 168.86 RCA 146.84 APO 216.00 V2 25.536
 RC 151.211 GL 14.91 GP -22.98 ZAL 138.81 ZAP 75.40 ETS 172.56 ZAE 114.82 EYE 191.14 ZAC 79.64 ETC 270.28 LVI 13.82

PLANETOCENTRIC CONIC

C3 15.679 VHL 3.960 DLA 4.82 RAL 332.96 RAD 6640.9 VEL 11.650 PTH 6.69 VHP 3.509 DPA -46.75 RAP 291.84 ECC 1.2580
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 16 46 3173.38 -37.67 101.67 193.42 121.54 17 9 39 2173.4 -22.27 80.02
 60.00 16 51 13 3081.72 -32.77 96.64 196.64 114.90 17 42 35 2081.7 -19.94 73.83
 70.00 17 37 44 2944.88 -28.42 87.63 198.72 109.80 18 26 49 1944.9 -17.78 64.20
 80.00 18 40 49 2747.33 -25.28 73.79 199.87 106.44 19 26 36 1747.3 -16.19 50.08
 90.00 19 59 58 2491.89 -24.11 55.36 200.23 105.24 20 41 30 1491.9 -15.59 31.59
 100.00 21 23 41 2221.81 -25.28 35.16 199.87 106.44 22 0 42 1221.8 -16.19 11.45
 110.00 22 37 11 1991.70 -28.42 16.55 198.72 109.80 23 10 22 991.7 -17.78 353.12

DIFFERENTIAL CORRECTIONS

TDE 1.3585 TRA 2.3621 TC3-3.4900 BAU .7772
 RDE .8603 RRA 1.4840 RC3-1.2519 FAU .15917
 FDE 4.7726 FRA10.2411 FC3-8.7887 BSP 9132
 BDE 1.6080 BRA 2.7896 BC3 3.7077 FSP 2768

MID-COURSE EXECUTION ACCURACY

SGT 4823.7 SGR 2878.9 SG3 1539.0
 RRT .9734 RRF .9964 RTF .9755
 SGB 5517.7 R23 .1515 R13 .9851
 SG1 5491.3 SG2 538.9 THA 28.70

ORBIT DETERMINATION ACCURACY

ST 111.0 SR 70.2 SS 124.7
 CRT .9999 CRS -.9955 CST -.9958
 LSA 180.9 MSA 8.4 SSA 1.0
 EL1 131.3 EL2 1.0 ALF 32.29

LAUNCH DATE APR 6 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

DISTANCE 600.245

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.279 GAL -4.47 AZL 88.41 HCA 198.24 SMA 181.48 ECC .19127 INC 1.5851 V1 29.767
 RP 215.37 LAP -.50 LOP 33.78 VP 22.386 GAP 2.41 AZP 91.51 TAL 331.46 TAP 169.70 RCA 146.77 APO 216.19 V2 25.499
 RC 153.669 GL 13.00 GP -21.55 ZAL 139.61 ZAP 73.68 ETS 172.26 ZAE 113.28 ETE 189.74 ZAC 81.08 ETC 270.16 LVI 12.71

PLANETOCENTRIC CONIC

C3 15.670 VHL 3.959 DLA 3.14 RAL 333.91 RAD 6640.8 VEL 11.650 PTH 6.69 VHP 3.493 DPA -45.40 RAP 290.86 ECC 1.2579
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 26 43 3139.75 -36.45 99.39 193.49 123.00 17 19 3 2139.7 -20.69 78.38
 60.00 17 2 58 3043.30 -31.64 94.01 196.80 116.39 17 53 42 2043.3 -18.39 71.75
 70.00 17 51 30 2900.55 -27.36 84.62 198.97 111.29 18 39 51 1900.6 -16.27 61.65
 80.00 18 56 25 2697.26 -24.27 70.41 200.20 107.94 19 41 23 1697.3 -14.71 47.10
 90.00 20 16 23 2439.23 -23.12 51.84 200.59 106.75 20 57 2 1439.2 -14.12 28.43
 100.00 21 39 17 2171.73 -24.27 31.78 200.20 107.94 22 15 29 1171.7 -14.71 8.47
 110.00 22 50 57 1947.37 -27.36 13.53 198.97 111.29 23 23 24 947.4 -16.27 350.57

DIFFERENTIAL CORRECTIONS

TDE 1.3680 TRA 2.5107 TC3-3.6240 BAU .7973
 RDE .8045 RRA 1.3848 RC3-1.1631 FAU .15983
 FDE 4.7066 FRA10.3960 FC3-8.8303 BSP 9304
 BDE 1.5871 BRA 2.8673 BC3 3.8060 FSP 2793

MID-COURSE EXECUTION ACCURACY

SGT 5039.6 SGR 2496.7 SG3 1551.3
 RRT .9739 RRF .9954 RTF .9769
 SGB 5624.2 R23 .1504 R13 .9845
 SG1 5601.0 SG2 510.4 THA 25.99

ORBIT DETERMINATION ACCURACY

ST 113.1 SR 65.6 SS 123.4
 CRT .9995 CRS -.9941 CST -.9966
 LSA 179.6 MSA 8.1 SSA 1.1
 EL1 130.8 EL2 1.8 ALF 30.09

LAUNCH DATE APR 6 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

DISTANCE 604.409

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.283 GAL -4.54 AZL 88.62 HCA 199.40 SMA 181.55 ECC .19200 INC 1.3837 V1 29.767
 RP 215.71 LAP -.46 LOP 34.95 VP 22.350 GAP 2.23 AZP 91.31 TAL 331.12 TAP 170.52 RCA 146.69 APO 216.41 V2 25.461
 RC 156.143 GL 11.30 GP -20.26 ZAL 140.32 ZAP 72.00 ETS 172.01 ZAE 111.91 ETE 188.51 ZAC 82.37 ETC 270.04 LVI 11.70

PLANETOCENTRIC CONIC

C3 15.726 VHL 3.966 DLA 1.66 RAL 334.79 RAD 6640.9 VEL 11.652 PTH 6.69 VHP 3.485 DPA -44.18 RAP 290.00 ECC 1.2588
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 35 38 3111.22 -35.38 97.51 193.73 124.17 17 27 29 2111.2 -19.34 77.01
 60.00 17 13 27 3010.61 -30.63 91.83 197.11 117.50 18 3 38 2010.6 -17.06 70.02
 70.00 18 3 44 2862.75 -26.40 82.10 199.36 112.50 18 31 27 1862.7 -14.96 59.31
 80.00 19 10 14 2634.49 -23.35 67.57 200.64 109.16 19 54 29 1654.5 -13.40 44.60
 90.00 20 30 54 2394.22 -22.21 48.86 201.06 107.97 21 10 48 1394.2 -12.82 25.76
 100.00 21 53 6 2128.96 -23.35 28.94 200.64 109.16 22 28 33 1129.0 -13.40 5.97
 110.00 23 3 10 1909.56 -26.40 11.01 199.36 112.50 23 35 0 909.6 -14.96 348.43

DIFFERENTIAL CORRECTIONS

TDE 1.3838 TRA 2.6394 TC3-3.7406 BAU .8183
 RDE .7588 RRA 1.2937 RC3-1.0769 FAU .15951
 FDE 4.6429 FRA10.5013 FC3-8.7813 BSP 9513
 BDE 1.5782 BRA 2.9574 BC3 3.8925 FSP 2805

MID-COURSE EXECUTION ACCURACY

SGT 5251.3 SGR 2329.9 SG3 1555.0
 RRT .9738 RRF .9942 RTF .579
 SGB 5744.9 R23 .1478 R13 .9841
 SG1 5724.3 SG2 486.0 THA 23.55

ORBIT DETERMINATION ACCURACY

ST 115.5 SR 61.6 SS 122.1
 CRT .9986 CRS -.9924 CST -.9972
 LSA 178.8 MSA 8.0 SSA 1.2
 EL1 130.9 EL2 2.9 ALF 28.05

LAUNCH DATE APR 6 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

DISTANCE 608.569

EARTH TO MARS

RL 149.69 LAL -.00 LOL 195.55 VL 32.287 GAL -4.61 AZL 88.79 HCA 200.56 SMA 181.62 ECC .19277 INC 1.2048 V1 29.767
 RP 216.04 LAP -.42 LOP 36.11 VP 22.313 GAP 2.05 AZP 91.13 TAL 330.77 TAP 171.34 RCA 146.61 APO 216.63 V2 25.424
 RC 158.631 GL 9.79 GP -19.09 ZAL 140.98 ZAP 70.36 ETS 171.80 ZAE 110.50 ETE 187.42 ZAC 83.55 ETC 269.94 LVI 10.79

PLANETOCENTRIC CONIC

C3 15.833 VHL 3.979 DLA .37 RAL 335.62 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 3.484 DPA -43.07 RAP 289.23 ECC 1.2606
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 41 3086.98 -34.44 95.96 194.09 125.12 17 35 8 2087.0 -18.18 75.87
 60.00 17 22 52 2982.73 -29.74 90.01 197.53 118.56 18 12 35 1982.7 -15.91 68.56
 70.00 18 14 40 2830.39 -25.54 79.98 199.85 113.49 19 1 51 1830.4 -13.81 57.70
 80.00 19 22 34 2617.79 -22.50 65.17 201.18 110.16 20 6 12 1617.8 -12.26 42.47
 90.00 20 43 49 2355.58 -21.37 46.33 201.61 108.97 21 23 5 1355.6 -11.68 23.50
 100.00 22 5 26 2092.27 -22.50 26.54 201.18 110.16 22 40 18 1092.3 -12.26 3.84
 110.00 23 14 7 1877.20 -25.54 8.89 199.85 113.49 23 45 24 877.2 -13.81 346.62

DIFFERENTIAL CORRECTIONS

TDE 1.4049 TRA 2.8083 TC3-3.8439 BAU .8404
 RDE .7213 RRA 1.2102 RC3 -.9950 FAU .15845
 FDE 4.5843 FRA10.5667 FC3-8.6643 BSP 9748
 BDE 1.5793 BRA 3.0580 BC3 3.9706 FSP 2807

MID-COURSE EXECUTION ACCURACY

SGT 5459.2 SGR 2177.7 SG3 1551.9
 RRT .9732 RRF .9927 RTF .9788
 SGB 5877.5 R23 .1441 R13 .9837
 SG1 5859.0 SG2 466.4 THA 21.36

ORBIT DETERMINATION ACCURACY

ST 118.0 SR 58.2 SS 120.9
 CRT .9971 CRS -.9904 CST -.9978
 LSA 178.5 MSA 8.0 SSA 1.2
 EL1 131.5 EL2 4.0 ALF 26.19

LAUNCH DATE APR 6 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 18 1971

Heliocentric Conic

RL 149.69 LAL -.00 LOL 195.55 VL 32.292 GAL -4.68 AZL 88.95 HCA 201.72 SMA 181.70 ECC .19359 INC 1.0447 V1 29.767
 RP 216.39 LAP -.39 LOP 37.27 VP 22.277 GAP 1.88 AZP 90.97 TAP 330.42 TAP 172.14 RCA 146.53 APO 216.87 V2 25.389
 RC 161.134 GL 8.44 GP -18.02 ZAL 141.93 ZAP 68.77 ETS 171.63 ZAE 109.09 ETE 186.47 ZAC 84.62 ETC 269.65 LVI 9.95

DISTANCE 612.727

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.982 VHL 3.998 DLA -.77 RAL 336.41 RAD 6641.0 VEL 11.663 PTH 6.70 VMP 3.490 DPA -42.06 RAP 288.56 ECC 1.2630
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 59 3066.39 -33.62 94.67 194.54 125.89 17 42 5 2066.4 -17.19 74.92
 60.00 17 31 23 2958.93 -28.95 88.48 198.04 119.36 18 20 41 1958.9 -14.92 67.33
 70.00 18 24 31 2802.64 -24.77 78.18 200.41 114.30 19 11 14 1802.6 -12.82 56.17
 80.00 19 33 38 2586.23 -21.75 63.13 201.78 110.98 20 16 44 1586.2 -11.26 40.66
 90.00 20 55 26 2322.31 -20.62 44.18 202.23 109.79 21 34 8 1322.3 -10.68 21.57
 100.00 22 16 30 2060.70 -21.75 24.50 201.78 110.98 22 50 51 1060.7 -11.26 2.03
 110.00 23 23 58 1849.45 -24.77 7.10 200.41 114.30 23 54 47 849.5 -12.82 345.09

Differential Corrections

TDE 1.4305 TRA 2.9577 TC3-3.9342 BAU .8632 SGT 5663.0 SGR 2038.8 SG3 1543.4 ST 120.7 SR 55.2 SS 119.6
 RDE .6904 RRA 1.1335 RC3 -.9177 FAU .15672 RRT .9721 RRF .9909 RTF .9794 CRT .9951 CRS -.9881 CST -.9983
 FDE 4.5294 FRA10.6010 FC3-8.4897 BSP 10008 SGB 6018.9 R23 .1396 R13 .9834 LSA 178.5 MSA 8.2 SSA 1.3
 BDE 1.5884 BRA 3.1674 BC3 4.0398 FSP 2802 SG1 6001.9 S62 451.1 THA 19.40 EL1 132.6 EL2 5.0 ALF 24.49

LAUNCH DATE APR 6 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 20 1971

Heliocentric Conic

RL 149.69 LAL -.00 LOL 195.55 VL 32.298 GAL -4.75 AZL 89.10 HCA 202.88 SMA 181.78 ECC .19444 INC .9005 V1 29.767
 RP 216.73 LAP -.35 LOP 38.43 VP 22.240 GAP 1.70 AZP 90.83 TAP 330.05 TAP 172.93 RCA 146.44 APO 217.13 V2 25.347
 RC 163.649 GL 7.23 GP -17.05 ZAL 142.06 ZAP 67.22 ETS 171.49 ZAE 107.67 ETE 185.63 ZAC 85.60 ETC 269.77 LVI 9.19

DISTANCE 616.880

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.167 VHL 4.021 DLA -1.78 RAL 337.15 RAD 6641.1 VEL 11.671 PTH 6.71 VHP 3.501 DPA -41.13 RAP 287.97 ECC 1.2661
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 38 3048.91 -32.92 93.59 195.06 126.52 17 48 27 2048.9 -16.35 74.11
 60.00 17 39 6 2938.61 -28.27 87.20 198.61 120.01 18 28 5 1938.6 -14.07 66.29
 70.00 18 33 26 2778.82 -24.10 76.66 201.03 114.97 19 19 45 1778.8 -11.96 54.86
 80.00 19 43 38 2559.04 -21.08 61.39 202.43 111.65 20 26 17 1559.0 -10.39 39.11
 90.00 21 5 54 2293.60 -19.95 42.35 202.90 110.47 21 44 7 1293.6 -9.80 19.91
 100.00 22 26 30 2033.51 -21.08 22.76 202.43 111.65 23 0 23 1033.5 -10.39 .48
 110.00 23 32 53 1825.64 -24.10 5.58 201.03 114.97 24 3 18 825.6 -11.96 343.78

Differential Corrections

TDE 1.4589 TRA 3.1060 TC3-4.0159 BAU .8871 SGT 5861.7 SGR 1910.5 SG3 1529.2 ST 123.4 SR 52.5 SS 118.2
 RDE .6638 RRA 1.0617 RC3 -.8475 FAU .15482 RRT .9706 RRF .9888 RTF .9800 CRT .9925 CRS -.9854 CST -.9987
 FDE 4.4687 FRA10.5975 FC3-8.2903 BSP 10267 SGB 6165.2 R23 .1339 R13 .9833 LSA 178.6 MSA 8.4 SSA 1.3
 BDE 1.6028 BRA 3.2824 BC3 4.1043 FSP 2783 SG1 6149.6 S62 438.4 THA 17.65 EL1 134.0 EL2 5.9 ALF 22.92

LAUNCH DATE APR 6 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 22 1971

Heliocentric Conic

RL 149.69 LAL -.00 LOL 195.55 VL 32.303 GAL -4.82 AZL 89.23 HCA 204.03 SMA 181.87 ECC .19534 INC .7698 V1 29.767
 RP 217.08 LAP -.31 LOP 39.58 VP 22.204 GAP 1.52 AZP 90.70 TAP 329.68 TAP 173.71 RCA 146.34 APO 217.40 V2 25.308
 RC 166.178 GL 6.14 GP -16.16 ZAL 142.55 ZAP 65.72 ETS 171.37 ZAE 106.26 ETE 184.88 ZAC 86.50 ETC 269.70 LVI 8.49

DISTANCE 621.030

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.383 VHL 4.048 DLA -2.68 RAL 337.87 RAD 6641.2 VEL 11.680 PTH 6.72 VHP 3.516 DPA -40.27 RAP 287.46 ECC 1.2698
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 44 3034.13 -32.32 92.69 195.64 127.03 17 54 18 2034.1 -15.63 73.44
 60.00 17 46 9 2921.30 -27.67 86.12 199.22 120.55 18 34 51 1921.3 -13.34 65.41
 70.00 18 41 33 2758.41 -23.50 75.38 201.68 115.52 19 27 31 1758.4 -11.21 53.75
 80.00 19 52 42 2535.61 -20.48 59.91 203.13 112.21 20 34 58 1535.6 -9.64 37.78
 90.00 21 15 23 2268.82 -19.35 40.77 203.60 111.03 21 53 12 1268.8 -9.04 18.48
 100.00 22 35 34 2010.08 -20.48 21.28 203.13 112.21 23 9 4 1010.1 -9.64 359.15
 110.00 23 40 59 1805.23 -23.50 4.29 201.68 115.52 24 11 4 805.2 -11.21 342.67

Differential Corrections

TDE 1.4907 TRA 3.2346 TC3-4.0870 BAU .9114 SGT 6055.6 SGR 1793.0 SG3 1511.1 ST 126.3 SR 50.1 SS 116.9
 RDE .6418 RRA .9951 RC3 -.7821 FAU .15246 RRT .9868 RRF .9862 RTF .5004 CRT .9894 CRS -.9824 CST -.9990
 FDE 4.4109 FRA10.5698 FC3-8.0364 BSP 10534 SGB 6315.5 R23 .1278 R13 .9831 LSA 179.0 MSA 8.7 SSA 1.4
 BDE 1.6230 BRA 3.4034 BC3 4.1811 FSP 2755 SG1 6300.9 S62 429.1 THA 16.08 EL1 135.7 EL2 6.8 ALF 21.50

LAUNCH DATE APR 6 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 24 1971

Heliocentric Conic

RL 149.69 LAL -.00 LOL 195.55 VL 32.309 GAL -4.90 AZL 89.39 HCA 205.18 SMA 181.96 ECC .19628 INC .6503 V1 29.767
 RP 217.43 LAP -.28 LOP 40.73 VP 22.167 GAP 1.34 AZP 90.59 TAP 329.31 TAP 174.48 RCA 146.25 APO 217.68 V2 25.269
 RC 168.717 GL 5.15 GP -15.34 ZAL 143.01 ZAP 64.27 ETS 171.28 ZAE 104.86 ETE 184.22 ZAC 87.32 ETC 269.64 LVI 7.83

DISTANCE 629.176

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.626 VHL 4.077 DLA -3.47 RAL 338.55 RAD 6641.3 VEL 11.690 PTH 6.72 VHP 3.534 DPA -39.49 RAP 287.03 ECC 1.2736
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 21 3021.69 -31.81 91.95 196.25 127.46 17 59 43 2021.7 -15.03 72.88
 60.00 17 52 37 2908.61 -27.16 85.21 199.88 121.00 18 41 4 1906.6 -12.72 64.67
 70.00 18 48 57 2740.95 -22.99 74.28 202.38 115.98 19 34 38 1741.0 -10.57 52.80
 80.00 20 0 58 2515.46 -19.96 58.64 203.85 112.68 20 42 54 1515.5 -8.98 36.64
 90.00 21 24 2 2247.46 -18.82 39.43 204.34 111.50 22 1 29 1247.5 -8.38 17.26
 100.00 22 43 50 1989.93 -19.96 20.01 203.85 112.68 23 17 0 989.9 -8.98 358.01
 110.00 23 48 24 1787.77 -22.99 3.20 202.38 115.98 24 18 11 787.8 -10.57 341.72

Differential Corrections

TDE 1.5251 TRA 3.4032 TC3-4.1507 BAU .9364 SGT 6245.1 SGR 1685.2 SG3 1489.7 ST 129.1 SR 48.0 SS 115.5
 RDE .6234 RRA .9333 RC3 -.7220 FAU .14985 RRT .9658 RRF .9831 RTF .9808 CRT .9857 CRS -.9790 CST -.9992
 FDE 4.3546 FRA10.5210 FC3-7.8031 BSP 10805 SGB 6468.5 R23 .1214 R13 .9830 LSA 179.5 MSA 9.1 SSA 1.4
 BDE 1.6476 BRA 3.5288 BC3 4.2130 FSP 2723 SG1 6454.7 S62 422.9 THA 14.67 EL1 137.6 EL2 7.6 ALF 20.20

LAUNCH DATE APR 6 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.315 GAL -4.98 AZL 89.46 HCA 206.32 SMA 182.06 ECC .19725 INC .5417 V1 29.767
 RP 217.79 LAP -.24 LOP 41.87 VP 22.131 GAP 1.17 AZP 90.49 TAL 328.92 TAP 175.24 RCA 146.15 APO 217.97 V2 25.229
 RC 171.268 GL 4.23 GP -14.59 ZAL 143.45 ZAP 62.87 ETS 171.21 ZAE 103.48 ETE 183.64 ZAC 88.07 ETC 269.59 LVI 7.23

DISTANCE 629.317 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.893 VHL 4.310 DLA -4.17 RAL 339.20 RAD 6641.4 VEL 11.702 PTH 6.73 VHP 3.956 DPA -38.76 RAP 286.66 ECC 1.2780
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 33 3011.30 -31.37 91.34 196.89 127.80 18 4 44 2011.3 -14.52 72.41
 60.00 17 58 34 2894.21 -26.73 84.45 200.56 121.36 18 46 48 1894.2 -12.19 64.04
 70.00 18 55 45 2728.08 -22.54 73.36 203.09 116.37 19 41 11 1726.1 -10.02 52.00
 80.00 20 8 32 2498.18 -19.50 57.56 204.59 113.07 20 50 10 1498.2 -8.42 35.67
 90.00 21 31 56 2229.09 -18.36 38.28 205.09 111.89 22 9 5 1229.1 -7.81 16.22
 100.00 22 51 24 1972.65 -19.50 18.93 204.59 113.07 23 24 16 972.7 -6.42 357.04
 110.00 23 55 11 1772.90 -22.54 2.28 203.09 116.37 24 24 44 772.9 -10.02 340.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5633 TRA 3.5534 TC3-4.2032 BAU .9611 SGT 6430.8 SGR 1586.8 SG3 1466.0 ST 132.1 SR 46.2 SS 114.2
 RDE .6083 RRA .8760 RC3 -.6650 FAU .14680 RRT .9624 RRF .9794 RTF .9810 CRT .9816 CRS -.9753 CST -.9994
 FDE 4.3026 FRA10.4586 FC3-7.5233 BSP 11093 SGB 6623.6 R23 .1151 R13 .9820 LSA 180.4 MSA 9.5 S8A 1.4
 BDE 1.6775 BRA 3.6598 BC3 4.2556 FSP 2687 SG1 6610.4 SG2 419.4 THA 13.41 EL1 139.7 EL2 8.3 ALF 19.02

LAUNCH DATE APR 6 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.321 GAL -5.06 AZL 89.56 HCA 207.46 SMA 182.16 ECC .19827 INC .4413 V1 29.767
 RP 218.15 LAP -.20 LOP 43.01 VP 22.095 GAP .99 AZP 90.39 TAL 328.53 TAP 175.99 RCA 146.05 APO 218.28 V2 25.189
 RC 173.829 GL 3.44 GP -13.89 ZAL 143.87 ZAP 61.51 ETS 171.16 ZAE 102.11 ETE 183.12 ZAC 88.77 ETC 269.55 LVI 6.66

DISTANCE 633.454 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.183 VHL 4.145 DLA -4.80 RAL 339.83 RAD 6641.6 VEL 11.714 PTH 6.75 VHP 3.981 DPA -38.08 RAP 286.35 ECC 1.2828
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 21 3002.71 -31.02 90.83 197.56 128.08 18 9 24 2002.7 -14.10 72.03
 60.00 18 4 3 2883.83 -26.36 83.82 201.26 121.66 18 52 7 1883.8 -11.75 63.52
 70.00 19 1 59 2713.48 -22.16 72.58 203.83 116.68 19 47 13 1713.5 -9.56 51.32
 80.00 20 15 28 2483.43 -19.10 56.65 205.35 113.39 20 56 51 1483.4 -7.94 34.85
 90.00 21 39 10 2213.37 -17.96 37.30 205.66 112.22 22 16 3 1213.4 -7.32 15.32
 100.00 22 58 20 1957.90 -19.10 18.02 205.35 113.39 23 30 58 957.9 -7.94 356.21
 110.00 0 5 21 1760.30 -22.16 1.50 203.83 116.68 0 34 42 760.3 -9.56 340.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6032 TRA 3.7033 TC3-4.2497 BAU .9864 SGT 6611.4 SGR 1496.2 SG3 1440.0 ST 135.1 SR 44.6 SS 112.8
 RDE .5958 RRA .8222 RC3 -.6146 FAU .14364 RRT .9582 RRF .9751 RTF .9811 CRT .9770 CRS -.9713 CST -.9995
 FDE 4.2500 FRA10.3786 FC3-7.2373 BSP 11375 SGB 6778.6 R23 .1089 R13 .9827 LSA 181.3 MSA 9.9 S8A 1.4
 BDE 1.7104 BRA 3.7935 BC3 4.2939 FSP 2648 SG1 6765.7 SG2 418.1 THA 12.28 EL1 141.9 EL2 9.0 ALF 17.95

LAUNCH DATE APR 6 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.328 GAL -5.14 AZL 89.65 HCA 208.60 SMA 182.27 ECC .19932 INC .3492 V1 29.767
 RP 218.51 LAP -.17 LOP 44.15 VP 22.059 GAP .81 AZP 90.31 TAL 328.13 TAP 176.73 RCA 145.94 APO 218.60 V2 25.149
 RC 176.400 GL 2.69 GP -13.25 ZAL 144.27 ZAP 60.19 ETS 171.12 ZAE 100.77 ETE 182.65 ZAC 89.41 ETC 269.52 LVI 6.12

DISTANCE 637.586 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.492 VHL 4.182 DLA -5.36 RAL 340.43 RAD 6641.7 VEL 11.727 PTH 6.78 VHP 3.608 DPA -37.46 RAP 286.11 ECC 1.2879
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 50 2995.71 -30.72 90.43 198.25 128.30 18 13 46 1995.7 -13.76 71.72
 60.00 18 9 8 2875.24 -26.05 83.31 201.98 121.91 18 57 3 1875.2 -11.38 63.09
 70.00 19 7 44 2702.91 -21.83 71.93 204.58 116.94 19 52 47 1702.9 -9.17 50.75
 80.00 20 21 50 2470.92 -18.76 55.87 206.12 113.66 21 3 1 1470.9 -7.52 34.15
 90.00 21 45 49 2199.98 -17.61 36.47 206.64 112.49 22 22 29 1200.0 -6.90 14.56
 100.00 23 4 42 1945.39 -18.76 17.24 206.12 113.66 23 37 8 945.4 -7.52 355.51
 110.00 0 11 7 1749.73 -21.83 .85 204.58 116.94 0 40 16 749.7 -9.17 339.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6462 TRA 3.8544 TC3-4.2875 BAU 1.0114 SGT 6787.8 SGR 1413.2 SG3 1412.3 ST 138.1 SR 43.2 SS 111.5
 RDE .5855 RRA .7720 RC3 -.5676 FAU .14031 RRT .9533 RRF .9700 RTF .9813 CRT .9720 CRS -.9669 CST -.9997
 FDE 4.1989 FRA10.2873 FC3-6.9442 BSP 11685 SGB 6933.3 R23 .1026 R13 .9826 LSA 182.4 MSA 10.4 S8A 1.4
 BDE 1.7472 BRA 3.9309 BC3 4.3249 FSP 2604 SG1 6920.7 SG2 418.4 THA 11.27 EL1 144.4 EL2 9.7 ALF 16.98

LAUNCH DATE APR 6 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC
 RL 149.69 LAL -.00 LOL 195.55 VL 32.334 GAL -5.23 AZL 89.74 HCA 209.73 SMA 182.38 ECC .20041 INC .2832 V1 29.767
 RP 218.88 LAP -.13 LOP 45.28 VP 22.023 GAP .64 AZP 90.23 TAL 327.72 TAP 177.46 RCA 145.83 APO 218.93 V2 25.109
 RC 178.981 GL 2.01 GP -12.86 ZAL 144.67 ZAP 58.92 ETS 171.10 ZAE 99.45 ETE 182.24 ZAC 90.01 ETC 269.50 LVI 5.61

DISTANCE 641.712 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.822 VHL 4.222 DLA -5.85 RAL 341.02 RAD 6641.9 VEL 11.741 PTH 6.77 VHP 3.638 DPA -36.87 RAP 285.92 ECC 1.2933
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 1 2990.14 -30.49 90.10 198.95 128.48 18 17 51 1990.1 -13.48 71.47
 60.00 18 13 51 2868.24 -25.80 82.89 202.71 122.11 19 1 39 1868.2 -11.08 62.75
 70.00 19 13 3 2694.14 -21.56 71.40 205.34 117.15 19 57 58 1694.1 -8.84 50.28
 80.00 20 27 43 2460.41 -18.48 55.23 206.91 113.88 21 8 43 1460.4 -7.18 33.56
 90.00 21 51 56 2188.69 -17.32 35.78 207.43 112.71 22 28 24 1188.7 -6.55 13.92
 100.00 23 10 35 1934.88 -18.48 16.60 206.91 113.88 23 42 49 934.9 -7.18 354.93
 110.00 0 16 26 1740.98 -21.56 .32 205.34 117.15 0 45 27 741.0 -8.84 339.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6904 TRA 4.0053 TC3-4.3210 BAU 1.0371 SGT 6959.5 SGR 1337.1 SG3 1383.2 ST 141.1 SR 41.9 SS 110.1
 RDE .5772 RRA .7248 RC3 -.5247 FAU .13691 RRT .9475 RRF .9641 RTF .9813 CRT .9666 CRS -.9623 CST -.9997
 FDE 4.1477 FRA10.1849 FC3-6.6507 BSP 11947 SGB 7086.7 R23 .0967 R13 .9824 LSA 183.5 MSA 10.8 S8A 1.4
 BDE 1.7862 BRA 4.0703 BC3 4.3528 FSP 2558 SG1 7074.3 SG2 420.5 THA 10.35 EL1 146.8 EL2 10.3 ALF 16.09

LAUNCH DATE APR 8 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

RL 149.89 LAL	-.00 LOL	195.55 VL	32.341 GAL	-5.32 AZL	89.82 MCA	210.86 SMA	182.49 ECC	.20154 INC	.1835 V1	29.767
RP 219.25 LAP	-.09 LOP	46.41 VP	21.987 GAP	.46 AZP	90.16 TAL	327.31 TAP	178.17 RCA	145.71 APO	219.27 V2	25.068
RC 181.572 GL	1.39 GP	-12.10 ZAL	145.05 ZAP	57.69 ETS	171.09 ZAE	98.15 ETE	181.87 ZAC	90.56 ETC	269.48 LVI	5.12

DISTANCE 645.834

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.170 VHL	4.263 DLA	-6.30 RAL	341.59 RAD	6642.0 VEL	11.756 PTH	6.78 VHP	3.660 DPA	-36.33 RAP	285.78 ECC	1.2990
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 31 55	2985.85	-30.30	89.86	199.68	128.61	18 21 41	1985.8	-13.27	71.28
60.00	18 18 14	2862.67	-25.59	82.55	203.45	122.26	19 5 58	1862.7	-10.84	62.47
70.00	19 17 59	2686.98	-21.34	70.96	206.11	117.32	20 2 46	1687.0	-8.57	49.90
80.00	20 33 8	2451.69	-18.23	54.69	207.69	114.06	21 14 0	1451.7	-6.89	33.07
90.00	21 57 34	2179.26	-17.07	35.20	208.23	112.89	22 33 54	1179.3	-6.25	13.39
100.00	23 16 0	1926.16	-18.23	16.06	207.69	114.06	23 48 6	926.2	-6.89	354.44
110.00	0 21 21	1733.79	-21.34	359.88	206.11	117.32	0 50 15	733.8	-8.57	338.82

DIFFERENTIAL CORRECTIONS

TDE 1.7369 TRA 4.1575 TC3-4.3476 BAU 1.0626
 RDE .5707 RRA .6805 RC3 -.4852 FAU .13334
 FDE 4.0987 FRA10.0756 FC3-6.3535 BSP 12230
 BDE 1.8283 BRA 4.2128 BC3 4.3746 FSP 2510

MID-COURSE EXECUTION ACCURACY

SGT 7127.3 SGR 1267.5 SG3 1353.3
 RRT .9407 RRF .9573 RTF .9812
 SGB 7239.1 R23 .0913 R13 .9822
 SG1 7226.7 SG2 424.0 THA 9.53

ORBIT DETERMINATION ACCURACY

ST 144.1 SR 40.8 SS 108.8
 CRT .9608 CR8 -.9574 CST -.9998
 LSA 184.8 MSA 11.3 SSA 1.4
 EL1 149.4 EL2 10.9 ALF 15.29

LAUNCH DATE APR 8 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

RL 149.69 LAL	-.00 LOL	195.55 VL	32.349 GAL	-5.41 AZL	89.89 MCA	211.98 SMA	182.61 ECC	.20270 INC	.1079 V1	29.767
RP 219.62 LAP	-.06 LOP	47.54 VP	21.951 GAP	.28 AZP	90.09 TAL	326.90 TAP	178.88 RCA	145.59 APO	219.63 V2	25.028
RC 184.172 GL	.82 GP	-11.59 ZAL	145.43 ZAP	56.51 ETS	171.08 ZAE	96.88 ETE	181.54 ZAC	91.08 ETC	269.48 LVI	4.66

DISTANCE 649.950

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.535 VHL	4.305 DLA	-6.69 RAL	342.15 RAD	6642.2 VEL	11.771 PTH	6.80 VHP	3.703 DPA	-35.82 RAP	285.69 ECC	1.3050
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 35 35	2982.69	-30.17	89.68	200.39	128.71	18 25 17	1982.7	-13.12	71.14
60.00	18 22 19	2858.37	-25.44	82.30	204.20	122.38	19 9 58	1858.4	-10.66	62.26
70.00	19 22 33	2681.27	-21.16	70.62	206.88	117.46	20 7 15	1681.3	-8.36	49.60
80.00	20 38 9	2444.59	-18.04	54.26	208.49	114.21	21 18 54	1444.6	-6.65	32.68
90.00	22 2 47	2171.53	-16.86	34.72	209.03	113.04	22 38 59	1171.5	-6.00	12.96
100.00	23 21 1	1919.06	-18.04	15.63	208.49	114.21	23 53 0	919.1	-6.65	354.05
110.00	0 25 56	1726.08	-21.16	359.53	206.88	117.46	0 54 44	726.1	-8.36	338.51

DIFFERENTIAL CORRECTIONS

TDE 1.7849 TRA 4.3101 TC3-4.3700 BAU 1.0886
 RDE .5658 RRA .6389 RC3 -.4491 FAU .12975
 FDE 4.0499 FRA 9.9596 FC3-6.0601 BSP 12503
 BDE 1.8724 BRA 4.3572 BC3 4.3930 FSP 2459

MID-COURSE EXECUTION ACCURACY

SGT 7290.7 SGR 1203.9 SG3 1322.7
 RRT .9328 RRF .9495 RTF .9811
 SGB 7389.4 R23 .0864 R13 .9819
 SG1 7377.0 SG2 428.7 THA 8.79

ORBIT DETERMINATION ACCURACY

ST 147.1 SR 39.8 SS 107.4
 CRT .9547 CR8 -.9523 CST -.9998
 LSA 186.1 MSA 11.7 SSA 1.3
 EL1 152.0 EL2 11.5 ALF 14.56

LAUNCH DATE APR 8 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

RL 149.69 LAL	-.00 LOL	195.55 VL	32.356 GAL	-5.50 AZL	89.96 MCA	213.11 SMA	182.73 ECC	.20390 INC	.0335 V1	29.767
RP 219.99 LAP	-.02 LOP	48.66 VP	21.915 GAP	.11 AZP	90.03 TAL	326.47 TAP	179.58 RCA	145.47 APO	219.99 V2	24.987
RC 186.781 GL	.30 GP	-11.11 ZAL	145.80 ZAP	55.36 ETS	171.09 ZAE	95.63 ETE	181.24 ZAC	91.56 ETC	269.48 LVI	4.22

DISTANCE 654.060

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.918 VHL	4.350 DLA	-7.03 RAL	342.69 RAD	6642.4 VEL	11.787 PTH	6.81 VHP	3.737 DPA	-35.34 RAP	285.65 ECC	1.3113
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 39 1	2980.36	-30.08	89.55	201.12	128.78	18 28 42	1980.6	-13.01	71.04
60.00	18 28 9	2855.23	-25.32	82.11	204.96	122.46	19 13 44	1855.2	-10.52	62.10
70.00	19 26 49	2676.86	-21.02	70.35	207.66	117.56	20 11 25	1676.9	-8.20	49.36
80.00	20 42 48	2438.94	-17.88	53.91	209.29	114.32	21 23 27	1438.9	-6.47	32.36
90.00	22 7 37	2165.31	-16.70	34.34	209.83	113.16	22 43 42	1165.3	-5.81	12.60
100.00	23 25 40	1913.41	-17.88	15.28	209.29	114.32	23 57 34	913.4	-6.47	353.73
110.00	0 30 11	1723.68	-21.02	359.27	207.66	117.56	0 58 55	723.7	-8.20	338.28

DIFFERENTIAL CORRECTIONS

TDE 1.8350 TRA 4.4639 TC3-4.3874 BAU 1.1148
 RDE .5822 RRA .5998 RC3 -.4164 FAU .12620
 FDE 4.0020 FRA 9.8381 FC3-5.7749 BSP 12778
 BDE 1.9192 BRA 4.5040 BC3 4.4071 FSP 2408

MID-COURSE EXECUTION ACCURACY

SGT 7450.7 SGR 1145.9 SG3 1291.8
 RRT .9239 RRF .9407 RTF .9810
 SGB 7538.3 R23 .0816 R13 .9817
 SG1 7525.8 SG2 434.1 THA 8.11

ORBIT DETERMINATION ACCURACY

ST 150.1 SR 38.9 SS 106.1
 CRT .9483 CR8 -.9469 CST -.9999
 LSA 187.5 MSA 12.2 SSA 1.3
 EL1 154.6 EL2 12.0 ALF 13.89

LAUNCH DATE APR 8 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

RL 149.69 LAL	-.00 LOL	195.55 VL	32.364 GAL	-5.59 AZL	90.03 MCA	214.22 SMA	182.89 ECC	.20513 INC	.0000 V1	29.767
RP 220.38 LAP	.01 LOP	49.78 VP	21.880 GAP	-.07 AZP	89.98 TAL	326.05 TAP	180.27 RCA	145.34 APO	220.38 V2	24.946
RC 189.399 GL	-.19 GP	-10.66 ZAL	146.17 ZAP	54.25 ETS	171.10 ZAE	94.41 ETE	180.97 ZAC	92.00 ETC	269.50 LVI	3.79

DISTANCE 658.184

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.318 VHL	4.395 DLA	-7.34 RAL	343.21 RAD	6642.5 VEL	11.804 PTH	6.83 VHP	3.773 DPA	-34.89 RAP	285.65 ECC	1.3179
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	17 42 16	2979.36	-30.03	89.49	201.86	128.81	18 31 55	1979.4	-12.95	70.99
60.00	18 29 44	2853.14	-25.25	81.99	205.73	122.52	19 17 17	1853.1	-10.43	62.00
70.00	19 30 46	2673.64	-20.92	70.16	208.45	117.63	20 15 20	1673.6	-8.08	49.19
80.00	20 47 7	2434.62	-17.76	53.65	210.09	114.40	21 27 42	1434.6	-6.32	32.12
90.00	22 12 5	2160.48	-16.57	34.05	210.64	113.25	22 48 6	1160.5	-5.65	12.33
100.00	23 29 59	1909.09	-17.76	15.02	210.09	114.40	24 1 48	909.1	-6.32	353.49
110.00	0 34 9	1720.46	-20.92	359.07	208.45	117.63	1 2 49	720.5	-8.08	338.11

DIFFERENTIAL CORRECTIONS

TDE 1.8864 TRA 4.6186 TC3-4.3996 BAU 1.1407
 RDE .5598 RRA .5623 RC3 -.3862 FAU .12254
 FDE 3.9538 FRA 9.7118 FC3-5.4913 BSP 13050
 BDE 1.9677 BRA 4.6527 BC3 4.4166 FSP 2356

MID-COURSE EXECUTION ACCURACY

SGT 7606.3 SGR 1092.8 SG3 1260.4
 RRT .9137 RRF .9306 RTF .9808
 SGB 7684.4 R23 .0774 R13 .9814
 SG1 7671.7 SG2 440.3 THA 7.50

ORBIT DETERMINATION ACCURACY

ST 153.1 SR 38.1 SS 104.7
 CRT .9417 CR8 -.9414 CST -.9999
 LSA 188.9 MSA 12.6 SSA 1.3
 EL1 157.3 EL2 12.5 ALF 13.29

LAUNCH DATE APR 6 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC										DISTANCE 662.263										EARTH TO MARS																																																																																																																																												
RL	149.69	LAL	-.00	LOL	195.55	VL	32.371	GAL	-5.69	AZL	90.09	HCA	215.34	SMA	182.98	ECC	.20640	INC	.0842	V1	29.767	RP	220.74	LAP	.05	LOP	30.89	VP	21.844	GAP	-.25	AZP	89.93	TAL	325.61	TAP	180.95	RCA	145.21	APO	220.75	V2	24.904	RC	192.025	GL	-.63	GP	-10.25	ZAL	146.53	ZAP	53.18	ETS	171.11	ZAE	93.22	ETE	180.73	ZAC	92.42	ETC	269.52	LVI	3.38																																																																																															
PLANETOCENTRIC CONIC																																																																																																																																																																
C3	19.735	VNL	4.442	DLA	-7.61	RAL	343.73	RAD	6642.7	VEL	11.821	PTH	6.84	VMP	3.811	DPA	-34.47	RAP	285.69	ECC	1.3248	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																																																																	
	50.00		17	45	19	2979.01	-30.01		89.47		202.60		128.82		18	34	58	1979.0		-12.94		70.98		60.00		18	33	5	2851.99	-25.20		81.92		206.50		122.55		19	20	37	1852.0		-10.38		61.94		70.00		19	34	28	2671.50	-20.85		70.03		209.24		117.68		20	19	0	1671.5		-8.00		49.08		80.00		20	51	8	2431.49	-17.67		53.46		210.89		114.47		21	31	40	1431.5		-6.22		31.95		90.00		22	16	14	2156.91	-16.47		33.83		211.44		113.32		22	52	11	1156.9		-5.54		12.13		100.00		23	34	0	1905.96	-17.67		14.85		210.89		114.47		24	5	46	906.0		-6.22		353.32		110.00		0	37	50	1718.32	-20.85		358.94		209.24		117.68		1	6	29	718.3		-8.00		337.99
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																												
TDE	1.9403	TRA	4.7749	TC3	-4.4067	BAU	1.1665	SGT	7750.5	SGR	1044.8	SG3	1229.1	ST	156.1	SR	37.5	SS	103.4	RDE	.5586	RRA	.5274	RC3	-.3586	FAU	.11886	RRT	.9023	RRF	.9194	RTF	.9806	CRT	.9350	CRS	-.9358	CST	-.9999	FDE	3.9077	FRA	9.5834	FC3	-5.2141	BSP	13319	SG8	7828.5	R23	.0734	R13	.9811	LSA	190.5	MSA	13.0	SSA	1.3	BDE	2.0191	BRA	4.8039	BC3	4.4213	FSP	2303	SG1	7815.7	SG2	447.0	THA	6.95	EL1	160.0	EL2	13.0	ALF	12.73																																																																																	

LAUNCH DATE APR 7 1971 FLIGHT TIME 130.00 ARRIVAL DATE AUG 15 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 34.319 GAL -6.28 AZL 92.22 HCA 123.42 SMA 223.08 ECC .34463 INC 2.2161 V1 29.758
 RP 207.32 LAP -1.85 LOP 319.97 VP 26.178 GAP 19.78 AZP 88.78 TAL 335.23 TAP 98.84 RCA 146.20 APO 299.96 V2 26.420
 RC 56.291 GL -12.26 GP 3.07 ZAL 133.17 ZAP 168.91 ETS 163.81 ZAE 169.68 ETE 126.43 ZAC 104.14 ETC 275.84 LVI -18.34

Planetocentric Conic: C3 38.571 VHL 6.211 DLA -22.58 RAL 337.69 RAD 6650.2 VEL 12.588 PTH 7.49 VHP 9.640 DPA -16.72 RAP 311.41 ECC 1.6348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 19 2636.96 -23.70 81.84 203.64 132.55 19 5 36 1837.0 -5.89 64.86
 60.00 19 25 53 2657.28 -17.63 71.03 209.02 126.85 20 10 10 1657.3 -1.89 52.51
 70.00 20 51 44 2404.92 -11.71 54.78 213.23 122.31 21 31 49 1404.9 2.13 35.09
 80.00 22 34 18 2083.91 -6.87 33.32 216.15 119.13 23 9 2 1083.9 5.93 12.81
 90.00 0 16 22 1767.38 -4.83 11.16 217.26 117.90 0 45 49 767.4 6.93 350.31
 100.00 1 21 6 1559.38 -6.87 354.69 216.15 119.13 1 47 4 558.4 5.90 334.17
 110.00 1 55 6 1451.74 -11.71 343.70 213.23 122.31 2 19 18 451.7 2.13 324.01

Differential Corrections: TDE -.7845 TRA-1.6284 TC3 -.0769 BAU .0727 SGT 1783.0 SGR 521.7 S63 190.8 ST 43.6 SR 24.7 SS 31.7
 RDE -.5342 RRA .0883 RC3 .1181 FAU .04032 RRT .2142 RRF -.2289 RTF -.8241 CRT .7979 CRS .6535 CST .9766
 FDE .5714 FRA 1.8279 FC3 -.9049 B8P 3004 SGB 1857.8 R23 -.0376 R13 -.8250 LSA 57.0 MSA 16.2 S8A 1.1
 BDE .9492 BRA 1.6308 BC3 .1409 F8P 265 SG1 1786.8 S62 508.5 THA 3.90 EL1 48.3 EL2 13.4 ALF 26.49

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971 FLIGHT TIME 132.00 ARRIVAL DATE AUG 17 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 34.192 GAL -6.13 AZL 92.25 HCA 124.68 SMA 219.86 ECC .33463 INC 2.2483 V1 29.758
 RP 207.22 LAP -1.85 LOP 321.23 VP 26.024 GAP 19.28 AZP 88.72 TAL 335.27 TAP 99.95 RCA 146.29 APO 293.43 V2 26.432
 RC 56.435 GL -12.71 GP 3.20 ZAL 133.16 ZAP 168.04 ETS 164.38 ZAE 170.13 ETE 123.94 ZAC 104.23 ETC 276.03 LVI -18.59

Planetocentric Conic: C3 36.744 VHL 6.062 DLA -22.93 RAL 337.98 RAD 6649.5 VEL 12.515 PTH 7.40 VHP 9.355 DPA -16.49 RAP 311.77 ECC 1.6047
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 21 10 2616.47 -22.75 80.81 203.24 132.99 19 8 6 1816.5 -4.86 63.99
 60.00 19 29 23 2635.04 -16.72 69.86 208.63 127.22 20 13 18 1635.0 -.91 51.44
 70.00 20 56 9 2379.95 -10.80 53.42 212.88 122.60 21 35 49 1380.0 3.09 33.79
 80.00 22 39 56 2055.15 -5.91 31.72 215.84 119.32 23 14 11 1055.2 6.46 11.21
 90.00 0 22 45 1736.23 -3.84 9.41 216.98 118.04 0 51 41 736.2 7.91 348.54
 100.00 1 26 44 1529.63 -5.91 353.09 215.84 119.32 1 52 14 529.6 6.46 332.58
 110.00 1 59 32 1426.77 -10.80 342.34 212.88 122.60 2 23 18 426.8 3.09 322.70

Differential Corrections: TDE -.7830 TRA-1.6161 TC3 -.0699 BAU .0710 SGT 1818.3 SGR 518.4 S63 203.4 ST 44.6 SR 24.5 SS 32.8
 RDE -.5174 RRA .0755 RC3 .1264 FAU .04157 RRT .2338 RRF -.2500 RTF -.8308 CRT .8024 CRS .6563 CST .9759
 FDE .5938 FRA 1.9034 FC3 -.9795 B8P 3080 SGB 1890.7 R23 -.0409 R13 -.8315 LSA 58.3 MSA 16.2 S8A 1.2
 BDE .9385 BRA 1.6179 BC3 .1445 F8P 286 SG1 1822.6 S62 502.8 THA 4.13 EL1 49.1 EL2 13.3 ALF 25.80

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971 FLIGHT TIME 134.00 ARRIVAL DATE AUG 19 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 34.071 GAL -5.98 AZL 92.28 HCA 125.94 SMA 218.91 ECC .32516 INC 2.2814 V1 29.758
 RP 207.13 LAP -1.85 LOP 322.50 VP 25.877 GAP 18.81 AZP 88.66 TAL 335.33 TAP 101.27 RCA 146.38 APO 287.44 V2 26.443
 RC 56.701 GL -13.17 GP 3.34 ZAL 133.13 ZAP 167.15 ETS 164.87 ZAE 170.31 ETE 119.24 ZAC 104.33 ETC 276.12 LVI -18.84

Planetocentric Conic: C3 35.049 VHL 5.920 DLA -23.33 RAL 338.23 RAD 6648.9 VEL 12.448 PTH 7.35 VHP 9.079 DPA -16.26 RAP 312.12 ECC 1.5768
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 24 5 2795.93 -21.79 79.80 202.87 133.40 19 10 41 1795.9 -3.83 63.13
 60.00 19 33 0 2612.64 -15.79 68.89 208.28 127.57 20 16 33 1612.6 .08 50.37
 70.00 21 0 46 2354.60 -9.87 52.05 212.56 122.86 21 40 1 1354.6 4.03 32.46
 80.00 22 45 53 2025.62 -4.93 30.09 215.57 119.49 23 19 39 1025.6 7.44 9.56
 90.00 0 29 33 1703.97 -2.80 7.60 216.74 118.15 0 57 57 704.0 8.91 348.70
 100.00 1 32 41 1500.09 -4.93 351.46 215.57 119.49 1 57 41 500.1 7.44 330.93
 110.00 2 4 9 1401.41 -9.87 340.97 212.56 122.86 2 27 30 401.4 4.03 321.38

Differential Corrections: TDE -.7811 TRA-1.6028 TC3 -.0623 BAU .0698 SGT 1852.2 SGR 515.2 S63 216.8 ST 45.5 SR 24.3 SS 34.0
 RDE -.5013 RRA .0626 RC3 .1383 FAU .04290 RRT .2351 RRF -.2729 RTF -.8387 CRT .8071 CRS .6595 CST .9781
 FDE .6172 FRA 1.9823 FC3 -1.0597 B8P 3149 SGB 1822.5 R23 -.0448 R13 -.8377 LSA 59.6 MSA 16.1 S8A 1.2
 BDE .9281 BRA 1.6040 BC3 .1480 F8P 307 SG1 1887.2 S62 496.8 THA 4.37 EL1 49.9 EL2 13.1 ALF 25.14

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971 FLIGHT TIME 136.00 ARRIVAL DATE AUG 21 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 33.937 GAL -5.84 AZL 92.32 HCA 127.20 SMA 214.19 ECC .31620 INC 2.3157 V1 29.758
 RP 207.05 LAP -1.84 LOP 323.76 VP 25.737 GAP 18.34 AZP 88.60 TAL 335.39 TAP 102.59 RCA 146.46 APO 281.92 V2 26.453
 RC 37.030 GL -13.65 GP 3.49 ZAL 133.09 ZAP 166.25 ETS 165.20 ZAE 170.80 ETE 114.44 ZAC 104.44 ETC 276.21 LVI -19.10

Planetocentric Conic: C3 33.477 VHL 5.786 DLA -23.75 RAL 338.49 RAD 6648.3 VEL 12.385 PTH 7.30 VHP 8.812 DPA -16.02 RAP 312.44 ECC 1.5509
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 27 5 2775.34 -20.82 78.79 202.53 133.80 19 13 20 1775.3 -2.80 62.27
 60.00 19 36 45 2590.06 -14.85 67.53 207.95 127.91 20 19 55 1590.1 1.07 49.30
 70.00 21 5 36 2328.84 -8.91 50.67 212.28 123.11 21 44 25 1328.8 5.03 31.11
 80.00 22 52 12 1995.22 -3.91 28.41 215.35 119.62 23 25 27 995.2 8.43 7.86
 90.00 0 36 50 1670.44 -1.72 5.73 216.56 118.23 1 4 40 670.4 9.94 344.77
 100.00 1 39 0 1469.70 -3.91 349.78 215.35 119.62 2 3 30 469.7 8.43 329.23
 110.00 2 8 58 1375.66 -8.91 339.59 212.28 123.11 2 31 54 375.7 5.03 320.02

Differential Corrections: TDE -.7785 TRA-1.5886 TC3 -.0534 BAU .0690 SGT 1884.6 SGR 512.2 S63 231.1 ST 46.4 SR 24.1 SS 35.2
 RDE -.4858 RRA .0495 RC3 .1448 FAU .04432 RRT .2781 RRF -.2978 RTF -.8426 CRT .8121 CRS .6630 CST .9743
 FDE .6414 FRA 2.0652 FC3 -1.1463 B8P 3220 SGB 1953.0 R23 -.0484 R13 -.8438 LSA 60.9 MSA 16.1 S8A 1.2
 BDE .9176 BRA 1.5894 BC3 .1543 F8P 331 SG1 1890.4 S62 490.5 THA 4.63 EL1 50.6 EL2 12.9 ALF 24.54

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 376.253

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.84 VL 33.849 GAL -5.70 AZL 92.39 HCA 128.47 SMA 211.69 ECC .30773 INC 2.3512 V1 29.758
RP 206.97 LAP -1.84 LOP 323.03 VP 25.803 GAP 17.88 AZP 88.54 TAL 338.45 TAP 103.92 RCA 146.55 APO 276.84 V2 26.462
RC 57.440 GL -14.13 GP 3.65 ZAL 133.02 ZAP 165.32 ETS 165.63 ZAE 171.01 ETE 109.64 ZAC 104.95 ETC 276.29 LVI -19.36

PLANETOCENTRIC CONIC

C3 32.019 VHL 5.659 DLA -24.18 RAL 338.74 RAD 6647.8 VEL 12.326 PTH 7.26 VHP 8.552 DPA -15.77 RAP 312.75 ECC 1.8270
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 30 11 2754.72 -19.85 77.80 202.23 134.17 19 16 3 1754.7 -1.76 61.40
60.00 19 40 38 2367.33 -13.90 86.36 207.67 128.22 20 23 23 1567.3 2.07 48.21
70.00 21 10 39 2302.67 -7.94 49.27 212.04 123.33 21 49 2 1302.7 6.02 29.73
80.00 22 58 54 1963.87 -2.85 26.68 215.17 119.73 23 31 38 963.9 9.46 6.09
90.00 0 44 40 1635.48 -.60 3.78 216.42 118.27 1 11 55 635.5 11.00 342.75
100.00 1 45 42 1438.35 -2.85 348.05 215.17 119.73 2 9 41 438.3 9.46 327.46
110.00 2 14 2 1349.49 -7.94 338.19 212.04 123.33 2 36 31 349.5 6.02 318.64

DIFFERENTIAL CORRECTIONS

TDE -.7762 TRA-1.5741 TC3 -.0446 BAU .0689
RDE -.4710 RRA .0361 RC3 .1547 FAU .04582
FDE .6669 FRA 2.1521 FC3-1.2388 BSP 3287
BDE .9079 BRA 1.5745 BC3 .1610 F8P 356

MID-COURSE EXECUTION ACCURACY

SGT 1916.4 SGR 509.6 SG3 246.3
RRT .3030 RRF -.3247 RTF -.8481
SG8 1983.0 R23 -.0527 R13 -.8494
SG1 1923.1 SG2 484.0 THA 4.92

ORBIT DETERMINATION ACCURACY

ST 47.2 SR 23.9 SS 36.4
CRT .8176 CRS .6671 CST .9734
LSA 62.2 MSA 16.0 SSA 1.2
EL1 51.4 EL2 12.6 ALF 23.97

LAUNCH DATE APR 7 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 379.489

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 33.747 GAL -5.57 AZL 92.39 HCA 129.73 SMA 209.39 ECC .29972 INC 2.3880 V1 29.758
RP 206.90 LAP -1.84 LOP 326.29 VP 25.476 GAP 17.43 AZP 88.47 TAL 335.53 TAP 105.26 RCA 146.63 APO 272.15 V2 26.469
RC 57.930 GL -14.64 GP 3.82 ZAL 132.95 ZAP 164.37 ETS 165.93 ZAE 171.14 ETE 104.99 ZAC 104.68 ETC 276.37 LVI -19.63

PLANETOCENTRIC CONIC

C3 30.668 VHL 5.538 DLA -24.63 RAL 339.00 RAD 6647.3 VEL 12.272 PTH 7.21 VHP 8.301 DPA -15.52 RAP 313.03 ECC 1.5047
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 33 22 2734.07 -18.87 76.82 201.97 134.53 19 18 56 1734.1 -.72 60.54
60.00 19 44 40 2544.44 -12.93 85.20 207.42 128.51 20 27 4 1544.4 3.08 47.12
70.00 21 15 57 2276.05 -6.94 47.86 211.84 123.53 21 53 53 1276.1 7.02 28.32
80.00 23 6 4 1931.44 -1.75 24.90 215.05 119.81 23 38 15 931.4 10.50 4.26
90.00 0 53 9 1598.74 .59 1.73 216.35 118.27 1 19 48 598.7 12.09 340.61
100.00 1 52 52 1405.91 -1.75 346.27 215.05 119.81 2 16 18 405.9 10.50 325.82
110.00 2 19 19 1322.87 -6.94 336.77 211.84 123.53 2 41 22 322.9 7.02 317.24

DIFFERENTIAL CORRECTIONS

TDE -.7729 TRA-1.5582 TC3 -.0351 BAU .0693
RDE -.4568 RRA .0224 RC3 .1654 FAU .04741
FDE .6932 FRA 2.2430 FC3-1.3384 BSP 3347
BDE .8978 BRA 1.5584 BC3 .1690 F8P 382

MID-COURSE EXECUTION ACCURACY

SGT 1945.8 SGR 507.5 SG3 262.5
RRT .3297 RRF -.3337 RTF -.8532
SG8 2010.9 R23 -.0576 R13 -.8547
SG1 1953.5 SG2 477.2 THA 5.23

ORBIT DETERMINATION ACCURACY

ST 48.0 SR 23.6 SS 37.7
CRT .8234 CRS .6715 CST .9725
LSA 63.5 MSA 15.9 SSA 1.2
EL1 52.1 EL2 12.4 ALF 23.46

LAUNCH DATE APR 7 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 382.801

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 33.651 GAL -5.44 AZL 92.43 HCA 131.00 SMA 207.26 ECC .29214 INC 2.4261 V1 29.758
RP 206.85 LAP -1.83 LOP 327.56 VP 25.355 GAP 16.99 AZP 88.41 TAL 335.61 TAP 106.61 RCA 146.71 APO 267.81 V2 26.476
RC 58.496 GL -15.18 GP 4.00 ZAL 132.85 ZAP 163.40 ETS 166.18 ZAE 171.19 ETE 100.61 ZAC 104.83 ETC 276.45 LVI -19.90

PLANETOCENTRIC CONIC

C3 29.416 VHL 5.424 DLA -25.09 RAL 339.26 RAD 6646.8 VEL 12.221 PTH 7.17 VHP 8.057 DPA -15.26 RAP 313.29 ECC 1.4841
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 36 40 2713.41 -17.88 75.86 201.74 134.86 19 21 53 1713.4 .31 59.68
60.00 19 48 52 2521.38 -11.95 84.04 207.22 128.78 20 30 53 1521.4 4.09 46.01
70.00 21 21 31 2248.94 -5.92 46.42 211.69 123.70 21 59 0 1248.9 8.04 26.88
80.00 23 13 44 1897.74 -.61 23.05 214.98 119.85 23 45 22 897.7 11.58 2.33
90.00 1 2 25 1559.91 1.84 359.56 216.34 118.23 1 28 25 559.9 13.23 338.33
100.00 2 0 32 1372.21 -.61 344.42 214.98 119.85 2 23 24 372.2 11.58 323.70
110.00 2 24 54 1295.78 -5.92 335.34 211.69 123.70 2 46 29 295.8 8.04 315.80

DIFFERENTIAL CORRECTIONS

TDE -.7699 TRA-1.5421 TC3 -.0251 BAU .0702
RDE -.4433 RRA .0084 RC3 .1787 FAU .04912
FDE .7209 FRA 2.3387 FC3-1.4436 BSP 3407
BDE .8884 BRA 1.5421 BC3 .1784 F8P 410

MID-COURSE EXECUTION ACCURACY

SGT 1974.4 SGR 506.0 SG3 279.7
RRT .3584 RRF -.3848 RTF -.8580
SG8 2038.2 R23 -.0630 R13 -.8596
SG1 1983.2 SG2 470.3 THA 5.56

ORBIT DETERMINATION ACCURACY

ST 48.8 SR 23.4 SS 38.9
CRT .8297 CRS .6765 CST .9715
LSA 64.8 MSA 15.9 SSA 1.2
EL1 52.8 EL2 12.1 ALF 22.98

LAUNCH DATE APR 7 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 386.184

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.84 VL 33.599 GAL -5.32 AZL 92.47 HCA 132.27 SMA 205.29 ECC .28497 INC 2.4658 V1 29.758
RP 206.80 LAP -1.82 LOP 328.83 VP 25.240 GAP 16.55 AZP 88.34 TAL 335.70 TAP 107.98 RCA 146.79 APO 263.79 V2 26.482
RC 59.137 GL -15.69 GP 4.19 ZAL 132.74 ZAP 162.41 ETS 166.39 ZAE 171.19 ETE 98.60 ZAC 104.99 ETC 276.52 LVI -20.17

PLANETOCENTRIC CONIC

C3 28.258 VHL 5.316 DLA -25.57 RAL 339.51 RAD 6646.3 VEL 12.174 PTH 7.14 VHP 7.821 DPA -15.00 RAP 313.52 ECC 1.4651
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 40 4 2692.73 -16.88 74.90 201.55 135.17 19 24 57 1692.7 1.35 58.82
60.00 19 53 14 2498.15 -10.96 82.88 207.06 129.03 20 34 52 1498.1 5.11 44.89
70.00 21 27 23 2221.30 -4.87 44.97 211.59 123.85 22 4 25 1221.3 9.07 25.40
80.00 23 22 1 1862.55 .58 21.12 214.98 119.85 23 53 3 862.5 12.88 .30
90.00 1 12 39 1518.39 3.17 357.24 216.41 118.12 1 37 58 518.4 14.42 335.86
100.00 2 8 48 1337.02 .58 342.49 214.98 119.85 2 31 5 337.0 12.68 321.67
110.00 2 30 46 1268.12 -4.87 333.88 211.59 123.85 2 51 54 268.1 9.07 314.32

DIFFERENTIAL CORRECTIONS

TDE -.7661 TRA-1.5246 TC3 -.0144 BAU .0715
RDE -.4304 RRA -.0061 RC3 .1887 FAU .05094
FDE .7494 FRA 2.4385 FC3-1.5607 BSP 3461
BDE .8787 BRA 1.5246 BC3 .1892 F8P 440

MID-COURSE EXECUTION ACCURACY

SGT 2000.2 SGR 505.4 SG3 298.0
RRT .3890 RRF -.4180 RTF -.8625
SG8 2063.1 R23 -.0690 R13 -.8643
SG1 2010.4 SG2 463.3 THA 5.93

ORBIT DETERMINATION ACCURACY

ST 49.5 SR 23.2 SS 40.2
CRT .8364 CRS .6820 CST .9704
LSA 66.0 MSA 15.8 SSA 1.2
EL1 53.4 EL2 11.8 ALF 22.56

LAUNCH DATE APR 7 1971 FLIGHT TIME 146.00 ARRIVAL DATE AUG 31 1971

MELIOCENTRIC CONIC DISTANCE 389.632 EARTH TO MARS
 RL 149.73 LAL .00 LOL 196.54 VL 33.473 GAL -5.20 AZL 92.51 HCA 133.54 SMA 203.47 ECC .27819 INC 2.5071 V1 29.758
 RP 206.75 LAP -1.82 LOP 330.10 VP 25.130 GAP 16.13 AZP 88.27 TAL 335.79 TAP 109.32 RCA 146.37 APO 260.07 V2 26.467
 RC 59.830 GL -16.24 GP 4.40 ZAL 132.82 ZAP 161.39 ETS 166.56 ZAE 171.13 ETE 93.07 ZAC 105.16 ETC 276.58 LVI -20.45

PLANETOCENTRIC CONIC
 C3 27.185 VHL 5.214 DLA -26.07 RAL 339.77 RAD 8645.9 VEL 12.130 PTH 7.10 VHP 7.592 DPA -14.73 RAP 315.73 ECC 1.4474
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 43 36 2672.01 -15.88 73.95 201.40 135.46 19 28 8 1672.0 2.39 57.95
 60.00 19 37 47 2474.70 -9.95 61.72 206.94 129.26 20 39 2 1474.7 6.13 43.76
 70.00 21 33 35 2193.01 -3.80 43.48 211.54 123.97 22 10 8 1193.0 10.11 23.88
 80.00 23 31 0 1825.50 1.84 19.09 215.04 119.81 24 1 26 825.5 13.83 358.15
 90.00 1 24 10 1473.26 4.62 354.71 216.58 117.93 1 48 43 473.3 15.68 333.15
 100.00 2 17 48 1299.97 1.84 340.45 215.04 119.81 2 39 28 300.0 13.83 319.52
 110.00 2 36 58 1239.83 -3.80 332.40 211.54 123.97 2 57 37 239.8 10.11 312.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7549 TRA-1.4988 TC3 .0077 BAU .0734 SGT 2012.6 SGR 505.9 SG3 317.5 ST 49.8 SR 23.0 SS 41.6
 RDE -.4180 RRA -.0209 RC3 .2017 FAU .05267 RRT .4220 RRF -.4533 RTF -.8696 CRT .8425 CRS .6883 CST .9699
 FDE .7797 FRA 2.5436 FC3-1.6838 BSP 3421 SGB 2075.2 R23 -.0732 R13 -.8718 LSA 67.0 MSA 15.7 SSA 1.2
 BDE .8629 BRA 1.4989 BC3 .2019 FSP 472 SG1 2024.5 SG2 455.9 THA 6.38 EL1 53.6 EL2 11.5 ALF 22.33

LAUNCH DATE APR 7 1971 FLIGHT TIME 148.00 ARRIVAL DATE SEP 2 1971

MELIOCENTRIC CONIC DISTANCE 393.139 EARTH TO MARS
 RL 149.73 LAL .00 LOL 196.54 VL 33.391 GAL -5.08 AZL 92.55 HCA 134.80 SMA 201.78 ECC .27179 INC 2.5502 V1 29.758
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.026 GAP 15.71 AZP 88.20 TAL 335.88 TAP 110.69 RCA 146.94 APO 256.62 V2 26.491
 RC 60.633 GL -16.81 GP 4.62 ZAL 132.48 ZAP 160.34 ETS 166.69 ZAE 171.03 ETE 90.04 ZAC 105.35 ETC 276.64 LVI -20.74

PLANETOCENTRIC CONIC
 C3 26.196 VHL 5.118 DLA -26.59 RAL 340.03 RAD 8645.5 VEL 12.090 PTH 7.07 VHP 7.370 DPA -14.45 RAP 313.91 ECC 1.4311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 47 16 2631.32 -14.87 73.02 201.30 135.73 19 31 27 1651.3 3.43 57.08
 60.00 20 2 33 2451.09 -8.93 60.56 206.88 129.46 20 43 24 1451.1 7.16 42.62
 70.00 21 40 9 2164.10 -2.70 41.97 211.55 124.06 22 16 13 1164.1 11.18 22.31
 80.00 23 40 51 1786.28 3.16 16.93 215.19 119.71 24 10 38 786.3 15.02 355.85
 90.00 1 37 22 1423.24 6.20 351.89 216.86 117.65 2 1 5 423.2 17.03 330.10
 100.00 2 27 39 1260.75 3.16 338.30 215.19 119.71 2 48 40 260.8 15.02 317.21
 110.00 2 43 31 1210.92 -2.70 330.89 211.55 124.06 3 3 42 210.9 11.18 311.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7556 TRA-1.4841 TC3 .0118 BAU .0755 SGT 2041.4 SGR 507.7 SG3 338.1 ST 50.6 SR 22.8 SS 43.0
 RDE -.4066 RRA -.0365 RC3 .2152 FAU .05490 RRT .4559 RRF -.4904 RTF -.8717 CRT .8511 CRS .6955 CST .9683
 FDE .8114 FRA 2.6540 FC3-1.8144 BSP 3529 SGB 2103.6 R23 -.0818 R13 -.8741 LSA 68.4 MSA 15.7 SSA 1.2
 BDE .8580 BRA 1.4846 BC3 .2155 FSP 507 SG1 2055.1 SG2 448.8 THA 6.79 EL1 54.4 EL2 11.1 ALF 21.90

LAUNCH DATE APR 7 1971 FLIGHT TIME 150.00 ARRIVAL DATE SEP 4 1971

MELIOCENTRIC CONIC DISTANCE 396.700 EARTH TO MARS
 RL 149.73 LAL .00 LOL 196.54 VL 33.314 GAL -4.97 AZL 92.60 HCA 136.07 SMA 200.21 ECC .26573 INC 2.5953 V1 29.758
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.928 GAP 15.30 AZP 88.13 TAL 335.98 TAP 112.05 RCA 147.01 APO 253.42 V2 26.494
 RC 61.483 GL -17.39 GP 4.86 ZAL 132.32 ZAP 159.27 ETS 166.80 ZAE 170.91 ETE 87.59 ZAC 105.56 ETC 276.70 LVI -21.03

PLANETOCENTRIC CONIC
 C3 25.284 VHL 5.028 DLA -27.12 RAL 340.30 RAD 8645.1 VEL 12.052 PTH 7.04 VHP 7.156 DPA -14.16 RAP 314.06 ECC 1.4161
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 51 5 2630.60 -13.86 72.09 201.24 135.99 19 34 56 1630.6 4.47 58.21
 60.00 20 7 32 2427.25 -7.89 59.40 206.86 129.65 20 47 59 1427.3 8.20 41.46
 70.00 21 47 8 2134.40 -1.56 40.42 211.63 124.12 22 22 42 1134.4 12.26 20.69
 80.00 23 51 48 1744.13 4.98 14.61 215.44 119.54 24 20 32 744.1 16.26 353.34
 90.00 1 53 11 1385.40 8.02 348.61 217.31 117.21 2 15 56 365.4 18.53 326.51
 100.00 2 38 36 1218.60 4.58 335.97 215.44 119.54 2 58 54 218.6 10.26 314.71
 110.00 2 50 30 1181.22 -1.56 329.34 211.63 124.12 3 10 11 181.2 12.26 309.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7535 TRA-1.4660 TC3 .0191 BAU .0779 SGT 2064.1 SGR 511.0 SG3 360.0 ST 51.3 SR 22.6 SS 44.4
 RDE -.3957 RRA -.0527 RC3 .2296 FAU .05706 RRT .4912 RRF -.5291 RTF -.5443 CRT .8599 CRS .7033 CST .9669
 FDE .8443 FRA 2.7697 FC3-1.9538 BSP 3598 SGB 2126.4 R23 -.0907 R13 -.8771 LSA 69.8 MSA 15.6 SSA 1.2
 BDE .8511 BRA 1.4670 BC3 .2304 FSP 543 SG1 2080.0 SG2 441.7 THA 7.26 EL1 55.0 EL2 10.7 ALF 21.57

LAUNCH DATE APR 7 1971 FLIGHT TIME 152.00 ARRIVAL DATE SEP 6 1971

MELIOCENTRIC CONIC DISTANCE 400.310 EARTH TO MARS
 RL 149.73 LAL .00 LOL 196.54 VL 33.241 GAL -4.87 AZL 92.64 HCA 137.34 SMA 198.76 ECC .26002 INC 2.6425 V1 29.758
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.830 GAP 14.90 AZP 88.06 TAL 336.08 TAP 113.42 RCA 147.08 APO 250.44 V2 26.496
 RC 62.398 GL -17.99 GP 5.11 ZAL 132.16 ZAP 158.17 ETS 166.88 ZAE 170.76 ETE 85.68 ZAC 105.79 ETC 276.75 LVI -21.33

PLANETOCENTRIC CONIC
 C3 24.443 VHL 4.944 DLA -27.67 RAL 340.57 RAD 8644.8 VEL 12.017 PTH 7.01 VHP 6.948 DPA -13.87 RAP 314.18 ECC 1.4023
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 55 4 2609.86 -12.84 71.17 201.23 136.22 19 38 33 1609.9 5.51 55.34
 60.00 20 12 46 2403.15 -6.85 58.23 206.90 129.81 20 52 49 1403.2 9.24 40.28
 70.00 21 54 34 2103.78 -.39 38.82 211.77 124.15 22 29 38 1103.8 13.36 19.01
 80.00 0 8 7 1698.01 6.12 12.05 215.79 119.28 0 36 25 698.0 17.59 350.55
 90.00 2 13 48 1292.71 10.26 344.45 218.00 116.50 2 35 20 292.7 20.30 321.92
 100.00 2 50 59 1172.48 6.12 333.42 215.79 119.28 3 10 31 172.5 17.59 311.92
 110.00 2 57 57 1150.59 -.39 327.74 211.77 124.15 3 17 7 150.6 13.36 307.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7510 TRA-1.4466 TC3 .0265 BAU .0805 SGT 2083.6 SGR 516.4 SG3 383.3 ST 52.0 SR 22.4 SS 45.8
 RDE -.3856 RRA -.0696 RC3 .2449 FAU .05932 RRT .5276 RRF -.5690 RTF -.8770 CRT .8692 CRS .7124 CST .9654
 FDE .8801 FRA 2.8920 FC3-2.1010 BSP 3657 SGB 2146.6 R23 -.1004 R13 -.8802 LSA 71.1 MSA 15.6 SSA 1.1
 BDE .8442 BRA 1.4482 BC3 .2463 FSP 583 SG1 2102.1 SG2 434.8 THA 7.78 EL1 55.6 EL2 10.3 ALF 21.30

LAUNCH DATE APR 7 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 33.172 GAL -4.77 AZL 92.69 HCA 138.61 SMA 197.41 ECC .25462 INC 2.6921 V1 29.758
 RP 206.67 LAP -1.78 LOP 335.18 VP 24.739 GAP 14.51 AZP 87.98 TAL 336.18 TAP 114.79 RCA 147.14 APO 247.67 V2 26.496
 RC 63.376 GL -18.61 GP 5.39 ZAL 131.97 ZAP 157.04 ETS 166.93 ZAE 170.59 ETE 84.32 ZAC 106.04 ETC 276.80 LVI -21.64

DISTANCE 403.967 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 23.671 VHL 4.865 DLA -28.24 RAL 340.85 RAD 6644.4 VEL 11.986 PTH 6.98 VHP 6.747 DPA -13.56 RAP 314.26 ECC 1.3896
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 59 13 2589.07 -11.82 70.26 201.27 136.43 19 42 22 1589.1 6.95 54.46
 60.00 20 18 16 2378.75 -5.78 57.04 207.00 129.95 20 37 58 1378.0 10.30 39.07
 70.00 22 2 34 2072.06 .82 37.17 211.98 124.15 22 37 6 1072.1 14.49 17.24
 80.00 0 22 32 1646.07 7.84 9.16 216.30 118.90 0 49 58 646.1 19.03 347.37
 90.00 2 53 8 1160.30 14.16 336.69 219.55 114.74 3 12 28 160.3 23.15 313.26
 100.00 3 5 24 1120.55 7.84 330.52 216.30 118.90 3 24 5 120.5 19.03 308.74
 110.00 3 5 56 1118.88 .82 326.08 211.98 124.15 3 24 35 118.9 14.49 306.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7474 TRA-1.4246 TC3 .0351 BAU .0834 SGT 2098.2 SGR 524.0 S63 407.9 ST 52.5 SR 22.2 SS 47.3
 RDE -.3762 RRA -.0873 RC3 .2613 FAU .06174 RRT .5647 RRF -.6097 RTF -.8796 CRT .8789 CRS .7223 CST .9639
 FDE .9172 FRA 3.0197 FC3-2.2581 B8P 3703 SGB 2162.6 R23 -.1108 R13 -.8833 LSA 72.4 MSA 15.6 S8A 1.1
 BDE .8367 BRA 1.4273 BC3 .2637 F8P 625 S61 2119.9 S62 428.0 THA 8.37 EL1 56.1 EL2 9.9 ALF 21.11

LAUNCH DATE APR 7 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 33.108 GAL -4.67 AZL 92.74 HCA 139.88 SMA 196.15 ECC .24952 INC 2.7442 V1 29.758
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.651 GAP 14.12 AZP 87.90 TAL 336.28 TAP 116.16 RCA 147.21 APO 245.10 V2 26.496
 RC 64.414 GL -19.25 GP 5.68 ZAL 131.78 ZAP 155.87 ETS 166.96 ZAE 170.41 ETE 85.51 ZAC 106.32 ETC 276.84 LVI -21.97

DISTANCE 407.666 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.964 VHL 4.792 DLA -28.83 RAL 341.14 RAD 6644.1 VEL 11.956 PTH 6.96 VHP 6.553 DPA -13.24 RAP 314.31 ECC 1.3779
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 3 33 2568.23 -10.79 69.35 201.37 136.63 19 48 21 1568.2 7.59 53.58
 60.00 20 24 5 2354.01 -4.70 55.85 207.16 130.07 21 3 19 1354.0 11.36 37.85
 70.00 22 11 11 2039.02 2.08 35.44 212.28 124.10 22 45 10 1039.0 15.65 15.38
 80.00 0 40 14 1584.47 9.85 5.69 217.01 118.33 1 6 38 584.5 20.65 343.52
 84.17 2 19 1 1266.99 15.85 345.30 220.06 114.39 2 40 8 267.0 24.55 321.52
 100.00 3 23 6 1058.95 9.85 327.06 217.01 118.33 3 40 45 58.9 20.65 304.88
 110.00 3 14 33 1085.84 2.08 324.36 212.28 124.10 3 32 39 85.8 15.65 304.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7425 TRA-1.4007 TC3 .0444 BAU .0867 SGT 2108.1 SGR 534.2 S63 433.9 ST 52.8 SR 22.1 SS 48.8
 RDE -.3674 RRA -.1038 RC3 .2790 FAU .06434 RRT .6016 RRF -.6504 RTF -.8820 CRT .8891 CRS .7329 CST .9622
 FDE .9551 FRA 3.1527 FC3-2.4258 B8P 3729 SGB 2174.7 R23 -.1222 R13 -.8862 LSA 73.6 MSA 15.5 S8A 1.1
 BDE .8284 BRA 1.4047 BC3 .2825 F8P 668 S61 2133.5 S62 421.6 THA 9.02 EL1 56.5 EL2 9.5 ALF 20.99

LAUNCH DATE APR 7 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 33.046 GAL -4.58 AZL 92.80 HCA 141.15 SMA 194.98 ECC .24472 INC 2.7991 V1 29.758
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.588 GAP 13.75 AZP 87.82 TAL 336.39 TAP 117.53 RCA 147.27 APO 242.70 V2 26.493
 RC 65.512 GL -19.91 GP 6.00 ZAL 131.57 ZAP 154.67 ETS 166.97 ZAE 170.23 ETE 85.23 ZAC 106.62 ETC 276.87 LVI -22.30

DISTANCE 411.405 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.317 VHL 4.724 DLA -29.43 RAL 341.44 RAD 6643.9 VEL 11.929 PTH 6.93 VHP 6.385 DPA -12.90 RAP 314.33 ECC 1.3673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 8 6 2547.32 -9.75 68.44 201.52 136.80 19 50 34 1547.3 8.63 52.68
 60.00 20 30 13 2328.87 -3.59 54.65 207.39 130.17 21 9 2 1328.9 12.43 36.59
 70.00 22 20 33 2004.35 3.40 33.63 212.67 124.00 22 53 57 1004.4 16.84 13.41
 80.00 1 4 52 1501.64 12.49 .95 218.10 117.34 1 29 54 501.6 22.67 338.20
 81.50 1 58 50 1328.83 16.36 350.10 220.06 114.81 2 20 59 328.8 25.18 326.27
 100.00 3 47 44 6264.16 12.49 300.23 218.10 117.34 5 32 8 5264.2 22.67 277.47
 110.00 3 23 55 1051.17 3.40 322.55 212.67 124.00 3 41 26 51.2 16.84 302.33

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7384 TRA-1.3782 TC3 .0516 BAU .0902 SGT 2115.9 SGR 547.5 S63 461.5 ST 53.2 SR 22.0 SS 50.4
 RDE -.3595 RRA -.1233 RC3 .2978 FAU .06709 RRT .6379 RRF -.6906 RTF -.8540 CRT .8999 CRS .7449 CST .9609
 FDE .9982 FRA 3.2930 FC3-2.6008 B8P 3755 SGB 2185.6 R23 -.1330 R13 -.8889 LSA 74.9 MSA 15.5 S8A 1.1
 BDE .8213 BRA 1.3819 BC3 .3022 F8P 714 S61 2145.7 S62 415.8 THA 9.74 EL1 56.9 EL2 9.0 ALF 20.92

LAUNCH DATE APR 7 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.988 GAL -4.49 AZL 92.86 HCA 142.42 SMA 193.89 ECC .24018 INC 2.8570 V1 29.758
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.487 GAP 13.38 AZP 87.74 TAL 336.49 TAP 118.90 RCA 147.32 APO 240.46 V2 26.493
 RC 66.667 GL -20.59 GP 6.34 ZAL 131.34 ZAP 153.44 ETS 166.98 ZAE 170.02 ETE 85.48 ZAC 106.95 ETC 276.90 LVI -22.65

DISTANCE 415.180 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.729 VHL 4.681 DLA -30.05 RAL 341.75 RAD 6643.6 VEL 11.905 PTH 6.91 VHP 6.184 DPA -12.55 RAP 314.30 ECC 1.3576
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 53 2526.28 -8.71 67.54 201.72 136.96 19 55 0 1526.3 9.68 51.78
 60.00 20 36 45 2303.20 -2.47 53.42 207.69 130.24 21 15 8 1303.2 13.52 35.29
 70.00 22 30 50 1967.55 4.80 31.70 213.17 123.86 23 3 38 967.6 18.09 11.28
 79.38 1 43 48 1374.44 16.87 353.74 220.11 115.24 2 6 42 374.4 25.82 329.86
 79.38 1 43 48 1374.44 16.87 353.74 220.11 115.24 2 6 42 374.4 25.82 329.86
 79.38 1 43 48 1374.44 16.87 353.74 220.11 115.24 2 6 42 374.4 25.82 329.86
 110.00 3 34 12 1014.37 4.80 320.62 213.17 123.86 3 51 7 14.4 18.09 300.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7243 TRA-1.3402 TC3 .0757 BAU .0952 SGT 2102.4 SGR 564.1 S63 490.3 ST 52.9 SR 21.8 SS 51.9
 RDE -.3518 RRA -.1458 RC3 .3188 FAU .07008 RRT .6746 RRF -.7293 RTF -.8887 CRT .9098 CRS .7569 CST .9590
 FDE 1.0355 FRA 3.4355 FC3-2.7923 B8P 3659 SGB 2176.7 R23 -.1436 R13 -.8945 LSA 75.6 MSA 15.5 S8A 1.1
 BDE .8053 BRA 1.3481 BC3 .3277 F8P 759 S61 2137.9 S62 409.5 THA 10.66 EL1 56.6 EL2 8.5 ALF 21.10

LAUNCH DATE APR 7 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.934 GAL -4.41 AZL 92.92 HCA 143.66 SMA 192.88 ECC .23592 INC 2.9185 V1 29.750
 RP 206.73 LAP -1.73 LOP 340.26 VP 24.410 GAP 13.02 AZP 87.85 TAL 336.59 TAP 120.27 RCA 147.38 APO 236.39 V2 26.489
 RC 67.877 GL -21.29 GP 6.71 ZAL 131.11 ZAP 152.17 ETS 166.92 ZAE 169.81 ETE 84.17 ZAC 107.31 ETC 276.93 LVI -23.01

DISTANCE 416.967

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.199 VHL 4.604 DLA -30.70 RAL 342.08 RAD 6643.4 VEL 11.863 PTH 6.89 VHP 6.009 DPA -12.19 RAP 314.24 ECC 1.3489
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 17 57 2505.18 -7.66 66.64 202.00 137.10 19 59 42 1505.2 10.72 50.87
 60.00 20 43 41 2277.06 -1.32 52.17 208.07 130.28 21 21 38 1277.1 14.62 33.96
 70.00 22 42 15 1928.18 6.29 29.62 213.79 123.64 23 14 23 928.2 19.39 8.98
 77.53 1 31 29 1411.77 17.39 356.78 220.23 115.70 1 55 1 411.8 26.47 332.86
 77.53 1 31 29 1411.77 17.39 356.78 220.23 115.70 1 55 1 411.8 26.47 332.86
 77.53 1 31 29 1411.77 17.39 356.78 220.23 115.70 1 55 1 411.8 26.47 332.86
 110.00 3 45 37 6263.04 6.29 296.45 213.79 123.64 5 30 0 5263.0 19.39 275.80

DIFFERENTIAL CORRECTIONS
 TDE -.7292 TRA-1.3220 TC3 .0632 BAU .0979 SGT 2118.3 SGR 585.3 SG3 521.2 ST 53.7 SR 21.8 SS 53.6
 RDE -.3480 RRA -.1685 RC3 .3395 FAU .07292 RRT .7061 RRF -.7667 RTF -.8870 CRT .9226 CRS .7720 CST .9586
 FDE 1.0852 FRA 3.5934 FC3-2.9780 BSP 3792 SGB 2197.7 R23 -.1643 R13 -.8939 LSA 77.4 MSA 15.6 SSA 1.1
 BDE .8071 BRA 1.3327 BC3 .3453 FSP 815 SG1 2159.8 SG2 406.5 THA 11.43 EL1 57.4 EL2 7.9 ALF 20.99

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.883 GAL -4.33 AZL 92.98 HCA 144.95 SMA 191.94 ECC .23190 INC 2.9836 V1 29.750
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.336 GAP 12.67 AZP 87.56 TAL 336.68 TAP 121.64 RCA 147.43 APO 236.45 V2 26.465
 RC 69.140 GL -22.02 GP 7.11 ZAL 130.86 ZAP 150.86 ETS 166.87 ZAE 169.56 ETE 85.35 ZAC 107.71 ETC 276.94 LVI -23.39

DISTANCE 422.826

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.721 VHL 4.552 DLA -31.36 RAL 342.43 RAD 6643.2 VEL 11.863 PTH 6.88 VHP 5.841 DPA -11.80 RAP 314.13 ECC 1.3410
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 23 17 2483.89 -6.59 65.74 202.34 137.23 20 4 40 1483.9 11.78 49.94
 60.00 20 51 6 2250.18 -.13 50.88 208.53 130.30 21 28 36 1250.2 15.74 32.57
 70.00 22 55 9 1895.07 7.91 27.34 214.56 123.33 23 26 34 885.1 20.78 6.40
 75.84 1 20 50 1444.27 17.90 359.49 220.41 116.19 1 44 55 444.3 27.13 335.52
 75.84 1 20 50 1444.27 17.90 359.49 220.41 116.19 1 44 55 444.3 27.13 335.52
 75.84 1 20 50 1444.27 17.90 359.49 220.41 116.19 1 44 55 444.3 27.13 335.52
 110.00 3 58 32 6219.92 7.91 294.16 214.56 123.33 5 42 11 5219.9 20.78 273.23

DIFFERENTIAL CORRECTIONS
 TDE -.7254 TRA-1.2933 TC3 .0639 BAU .1020 SGT 2114.6 SGR 610.7 SG3 553.3 ST 53.9 SR 21.9 SS 55.3
 RDE -.3406 RRA -.1922 RC3 .3625 FAU .07606 RRT .7362 RRF -.8013 RTF -.8874 CRT .9343 CRS .7870 CST .9543
 FDE 1.1335 FRA 3.7530 FC3-3.1779 BSP 3813 SGB 2201.0 R23 -.1819 R13 -.8957 LSA 78.7 MSA 15.7 SSA 1.0
 BDE .8014 BRA 1.3075 BC3 .3681 FSP 870 SG1 2163.6 SG2 403.9 THA 12.45 EL1 57.7 EL2 7.3 ALF 21.11

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.834 GAL -4.25 AZL 93.05 HCA 146.22 SMA 191.06 ECC .22811 INC 3.0531 V1 29.750
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.265 GAP 12.32 AZP 87.46 TAL 336.78 TAP 123.00 RCA 147.46 APO 234.65 V2 26.480
 RC 70.455 GL -22.77 GP 7.54 ZAL 130.59 ZAP 149.50 ETS 166.80 ZAE 169.29 ETE 86.95 ZAC 108.14 ETC 276.95 LVI -23.80

DISTANCE 426.694

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.297 VHL 4.505 DLA -32.05 RAL 342.80 RAD 6643.0 VEL 11.845 PTH 6.86 VHP 5.679 DPA -11.39 RAP 313.98 ECC 1.3340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 28 56 2462.38 -5.52 64.83 202.76 137.33 20 9 58 1462.4 12.84 49.00
 60.00 20 59 5 2222.46 1.09 49.56 209.09 130.29 21 36 8 1222.5 16.88 31.13
 70.00 23 10 9 1836.54 9.72 24.74 215.52 122.90 23 40 46 836.5 22.29 3.44
 74.26 1 11 27 1473.35 18.42 1.97 220.65 116.70 1 36 0 473.4 27.81 337.95
 74.26 1 11 27 1473.35 18.42 1.97 220.65 116.70 1 36 0 473.4 27.81 337.95
 74.26 1 11 27 1473.35 18.42 1.97 220.65 116.70 1 36 0 473.4 27.81 337.95
 110.00 4 13 31 6171.40 9.72 291.56 215.52 122.90 5 56 23 5171.4 22.29 270.27

DIFFERENTIAL CORRECTIONS
 TDE -.7209 TRA-1.2622 TC3 .0644 BAU .1085 SGT 2104.9 SGR 641.3 SG3 587.1 ST 53.9 SR 21.9 SS 57.0
 RDE -.3361 RRA -.2177 RC3 .3873 FAU .07939 RRT .7636 RRF -.8330 RTF -.8577 CRT .9460 CRS .8029 CST .9519
 FDE 1.1844 FRA 3.9196 FC3-3.3882 BSP 3817 SGB 2200.4 R23 -.2002 R13 -.8976 LSA 79.9 MSA 15.7 SSA 1.0
 BDE .7954 BRA 1.2808 BC3 .3928 FSP 928 SG1 2163.2 SG2 402.9 THA 13.58 EL1 57.8 EL2 6.6 ALF 21.34

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.789 GAL -4.18 AZL 93.13 HCA 147.49 SMA 190.25 ECC .22456 INC 3.1272 V1 29.750
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.197 GAP 11.99 AZP 87.36 TAL 336.87 TAP 124.36 RCA 147.52 APO 232.97 V2 26.474
 RC 71.818 GL -23.96 GP 8.01 ZAL 130.31 ZAP 148.11 ETS 166.72 ZAE 168.98 ETE 88.95 ZAC 108.62 ETC 276.96 LVI -24.22

DISTANCE 430.589

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.923 VHL 4.483 DLA -32.78 RAL 343.19 RAD 6642.8 VEL 11.829 PTH 6.85 VHP 5.523 DPA -10.96 RAP 313.79 ECC 1.3279
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 57 2440.57 -4.43 63.91 203.26 137.42 20 15 38 1440.6 13.91 48.03
 60.00 21 7 43 2193.67 2.35 48.18 209.76 130.24 21 44 17 1193.7 18.06 29.60
 70.00 23 28 25 1779.16 11.82 21.63 216.74 122.28 23 58 4 779.2 23.99 359.86
 72.73 1 2 59 1500.05 18.93 4.28 220.96 117.25 1 27 59 500.1 28.50 340.23
 72.73 1 2 59 1500.05 18.93 4.28 220.96 117.25 1 27 59 500.1 28.50 340.23
 72.73 1 2 59 1500.05 18.93 4.28 220.96 117.25 1 27 59 500.1 28.50 340.23
 110.00 4 31 47 6114.02 11.82 288.45 216.74 122.28 6 13 41 5114.0 23.99 266.68

DIFFERENTIAL CORRECTIONS
 TDE -.7122 TRA-1.2246 TC3 .0720 BAU .1121 SGT 2081.8 SGR 677.3 SG3 622.2 ST 53.6 SR 22.1 SS 58.6
 RDE -.3325 RRA -.2447 RC3 .4147 FAU .08300 RRT .7888 RRF -.8614 RTF -.8890 CRT .9570 CRS .8192 CST .9494
 FDE 1.2366 FRA 4.0896 FC3-3.6067 BSP 3760 SGB 2189.2 R23 -.2160 R13 -.9009 LSA 80.9 MSA 15.8 SSA 1.0
 BDE .7860 BRA 1.2488 BC3 .4209 FSP 985 SG1 2151.9 SG2 402.7 THA 14.93 EL1 57.7 EL2 6.0 ALF 21.74

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.746 GAL -4.12 AZL 93.21 MCA 146.75 SMA 169.49 ECC .22122 INC 3.2066 V1 29.750
 RP 208.93 LAP -1.66 LOP 345.33 VP 24.131 GAP 11.63 AZP 87.26 TAL 336.96 TAP 125.71 RCA 147.57 APO 231.40 V2 26.466
 RC 73.226 GL -24.37 GP 0.53 ZAL 130.02 ZAP 146.67 ETS 166.62 ZAE 168.61 ETE 91.27 ZAC 109.14 ETC 276.96 LVI -24.67

PLANETOCENTRIC CONIC
 C3 19.600 VHL 4.427 DLA -33.49 RAL 343.61 RAD 6642.7 VEL 11.816 PTH 6.04 VHP 5.374 DPA -10.90 RAP 313.54 ECC 1.3226
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 41 23 2418.46 -3.32 62.98 203.86 137.49 20 21 42 1418.5 14.99 47.04
 60.00 21 17 7 2163.64 3.67 46.75 210.55 130.16 21 53 11 1163.6 19.27 27.99
 70.00 23 53 1 1703.73 14.53 17.46 218.43 121.26 24 21 25 703.7 26.08 355.00
 71.26 0 55 18 1525.04 19.45 6.49 221.34 117.82 1 20 43 525.0 29.19 342.40
 71.26 0 55 18 1525.04 19.45 6.49 221.34 117.82 1 20 43 525.0 29.19 342.40
 71.26 0 55 18 1525.04 19.45 6.49 221.34 117.82 1 20 43 525.0 29.19 342.40
 110.00 4 56 23 6038.59 14.53 284.28 218.43 121.26 6 37 2 5038.6 26.08 261.82

DIFFERENTIAL CORRECTIONS
 TDE -.7132 TRA-1.1942 TC3 .0571 BAU .1169 SGT 2071.0 SGR 719.9 S63 659.2 ST 53.9 SR 22.5 S8 60.5
 RDE -.3306 RRA -.2747 RC3 .4426 FAU .08648 RRT .8080 RRF -.8866 RTF -.8865 CRT .9682 CRS .8371 CST .9463
 FDE 1.2962 FRA 4.2717 FC3-3.8197 BSP 3818 SGB 2192.6 R23 -.2396 R13 -.9011 LSA 82.5 MSA 16.0 SSA 1.0
 BDE .7861 BRA 1.1624 BC3 .4462 FSP 1052 SG1 2154.3 SG2 407.8 THA 18.29 EL1 58.1 EL2 5.2 ALF 22.06

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.706 GAL -4.05 AZL 93.29 MCA 150.02 SMA 188.78 ECC .21809 INC 3.2920 V1 29.758
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.068 GAP 11.33 AZP 87.15 TAL 337.04 TAP 127.05 RCA 147.61 APO 229.95 V2 26.458
 RC 74.683 GL -25.22 GP 9.08 ZAL 129.70 ZAP 145.18 ETS 166.50 ZAE 168.17 ETE 93.87 ZAC 109.71 ETC 276.95 LVI -25.15

PLANETOCENTRIC CONIC
 C3 19.328 VHL 4.396 DLA -34.26 RAL 344.06 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 5.232 DPA -10.00 RAP 313.25 ECC 1.3181
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 48 18 2395.90 -2.18 62.04 204.55 137.54 20 28 14 1395.9 16.08 46.02
 60.00 21 27 27 2131.92 5.06 45.22 211.49 130.04 22 2 59 1131.9 20.54 28.26
 69.81 0 48 16 1548.70 19.96 8.63 221.81 118.44 1 14 5 548.7 29.90 344.50
 69.81 0 48 16 1548.70 19.96 8.63 221.81 118.44 1 14 5 548.7 29.90 344.50
 69.81 0 48 16 1548.70 19.96 8.63 221.81 118.44 1 14 5 548.7 29.90 344.50
 69.81 0 48 16 1548.70 19.96 8.63 221.81 118.44 1 14 5 548.7 29.90 344.50
 69.81 0 48 16 1548.70 19.96 8.63 221.81 118.44 1 14 5 548.7 29.90 344.50

DIFFERENTIAL CORRECTIONS
 TDE -.7093 TRA-1.1569 TC3 .0491 BAU .1229 SGT 2045.6 SGR 769.3 S63 697.5 ST 53.7 SR 22.7 S8 62.3
 RDE -.3298 RRA -.3068 RC3 .4732 FAU .09022 RRT .8246 RRF -.9082 RTF -.8850 CRT .9779 CRS .8548 CST .9431
 FDE 1.3610 FRA 4.4571 FC3-4.0410 BSP 3804 SGB 2185.5 R23 -.2596 R13 -.9030 LSA 83.8 MSA 16.2 SSA .9
 BDE .7823 BRA 1.1969 BC3 .4758 FSP 1118 SG1 2145.7 SG2 414.9 THA 17.92 EL1 58.1 EL2 4.4 ALF 22.58

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.668 GAL -4.00 AZL 93.38 MCA 151.28 SMA 188.12 ECC .21515 INC 3.3841 V1 29.758
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.006 GAP 11.01 AZP 87.03 TAL 337.11 TAP 128.39 RCA 147.64 APO 228.59 V2 26.449
 RC 76.180 GL -26.11 GP 9.69 ZAL 129.37 ZAP 143.65 ETS 166.37 ZAE 167.64 ETE 96.66 ZAC 110.33 ETC 276.93 LVI -25.67

PLANETOCENTRIC CONIC
 C3 19.306 VHL 4.371 DLA -35.05 RAL 344.54 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 5.096 DPA -9.47 RAP 312.90 ECC 1.3144
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 55 45 2372.79 -1.02 61.07 205.35 137.57 20 35 18 1372.8 17.20 44.08
 60.00 21 38 55 2098.05 6.55 43.59 212.58 129.86 22 13 53 1098.1 21.86 24.38
 68.37 0 41 49 1571.36 20.47 10.71 222.37 119.09 1 8 0 571.4 30.63 346.55
 68.37 0 41 49 1571.36 20.47 10.71 222.37 119.09 1 8 0 571.4 30.63 346.55
 68.37 0 41 49 1571.36 20.47 10.71 222.37 119.09 1 8 0 571.4 30.63 346.55
 68.37 0 41 49 1571.36 20.47 10.71 222.37 119.09 1 8 0 571.4 30.63 346.55
 68.37 0 41 49 1571.36 20.47 10.71 222.37 119.09 1 8 0 571.4 30.63 346.55

DIFFERENTIAL CORRECTIONS
 TDE -.7059 TRA-1.1170 TC3 .0382 BAU .1207 SGT 2014.1 SGR 826.3 S63 737.0 ST 53.5 SR 23.2 S8 64.2
 RDE -.3304 RRA -.3416 RC3 .5062 FAU .09410 RRT .8377 RRF -.9266 RTF -.8827 CRT .9883 CRS .8725 CST .9396
 FDE 1.4285 FRA 4.6487 FC3-4.2639 BSP 3794 SGB 2177.0 R23 -.2787 R13 -.9030 LSA 83.1 MSA 16.4 SSA .9
 BDE .7794 BRA 1.1681 BC3 .5077 FSP 1187 SG1 2134.9 SG2 425.8 THA 18.78 EL1 58.2 EL2 3.5 ALF 23.23

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 176.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.633 GAL -3.94 AZL 93.48 MCA 152.54 SMA 187.81 ECC .21240 INC 3.4838 V1 29.758
 RP 207.17 LAP -1.61 LOP 349.12 VP 23.947 GAP 10.70 AZP 86.91 TAL 337.18 TAP 129.72 RCA 147.68 APO 227.33 V2 26.439
 RC 77.718 GL -27.04 GP 10.35 ZAL 129.02 ZAP 142.06 ETS 166.22 ZAE 167.02 ETE 99.57 ZAC 111.02 ETC 276.91 LVI -26.22

PLANETOCENTRIC CONIC
 C3 18.935 VHL 4.351 DLA -35.88 RAL 345.07 RAD 6642.4 VEL 11.788 PTH 6.81 VHP 4.987 DPA -8.89 RAP 312.49 ECC 1.3116
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 3 50 2348.98 .17 60.08 206.29 137.58 20 42 59 1349.0 18.34 43.85
 60.00 21 51 50 2081.28 8.15 41.80 213.88 129.81 22 26 11 1081.3 23.27 22.29
 66.94 0 35 50 1593.46 20.98 12.77 223.03 119.80 1 2 24 593.5 31.37 348.58
 66.94 0 35 50 1593.46 20.98 12.77 223.03 119.80 1 2 24 593.5 31.37 348.58
 66.94 0 35 50 1593.46 20.98 12.77 223.03 119.80 1 2 24 593.5 31.37 348.58
 66.94 0 35 50 1593.46 20.98 12.77 223.03 119.80 1 2 24 593.5 31.37 348.58
 66.94 0 35 50 1593.46 20.98 12.77 223.03 119.80 1 2 24 593.5 31.37 348.58

DIFFERENTIAL CORRECTIONS
 TDE -.7011 TRA-1.0734 TC3 .0268 BAU .1374 SGT 1973.7 SGR 891.4 S63 777.5 ST 53.1 SR 23.8 S8 66.0
 RDE -.3325 RRA -.3795 RC3 .5423 FAU .09822 RRT .8473 RRF -.9419 RTF -.8798 CRT .9929 CRS .8895 CST .9357
 FDE 1.4975 FRA 4.8382 FC3-4.4905 BSP 3756 SGB 2165.6 R23 -.2953 R13 -.9076 LSA 86.4 MSA 16.4 SSA .8
 BDE .7759 BRA 1.1385 BC3 .5429 FSP 1254 SG1 2120.3 SG2 440.7 THA 21.94 EL1 58.1 EL2 2.6 ALF 24.03

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 7 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC										DISTANCE 450.401										EARTH TO MARS																																													
RL	149.73	LAL	.00	LOL	196.54	VL	32.600	GAL	-3.89	AZL	93.59	HCA	153.81	SMA	186.94	ECC	.20983	INC	3.5923	V1	29.758	RP	207.26	LAP	-1.58	LOP	350.39	VP	23.889	GAP	10.40	AZP	86.76	TAL	337.24	TAP	131.04	RCA	147.71	APC	226.16	V2	26.428	RC	79.295	GL	-28.02	GP	11.08	ZAL	128.65	ZAP	140.42	ETS	186.06	ZAE	166.29	ETE	102.51	ZAC	111.78	ETC	276.88	LVI	-26.82

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	18.818	VHL	4.338	DLA	-36.74	RAL	345.64	RAD	6642.3	VEL	11.783	PTH	6.81	VHP	4.044	DPA	-8.26	RAP	312.03	ECC	1.3087	SGT	1920.8	SGR	965.4	SG3	816.5	ST	52.4	SR	24.5	SS	67.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.9973	CR8	.9059	CST	.9313	LSA	87.5	MSA	16.8	SSA	.8	EL1	57.8	EL2	1.6	ALF	28.06												
50.00	20	12	40	2324.29	1.41	59.05	207.37	137.56	20	51	24	1324.3	19.52	42.69	60.00	22	6	40	2020.42	9.91	39.79	215.43	129.27	22	40	21	1020.4	4.80	19.92	65.49	0	30	21	1615.02	21.49	14.82	223.79	120.55	0	57	16	615.0	32.13	350.62	65.49	0	30	21	1615.02	21.49	14.82	223.79	120.55	0	57	16	615.0	32.13	350.62	65.49	0	30	21	1615.02	21.49	14.82	223.79	120.55	0	57	16	615.0	32.13	350.62	65.49	0	30	21	1615.02	21.49	14.82	223.79	120.55	0	57	16	615.0	32.13	350.62

LAUNCH DATE APR 7 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC										DISTANCE 454.420										EARTH TO MARS																																													
RL	149.73	LAL	.00	LOL	196.54	VL	32.569	GAL	-3.85	AZL	93.71	HCA	155.07	SMA	186.41	ECC	.20744	INC	3.7108	V1	29.758	RP	207.37	LAP	-1.56	LOP	351.65	VP	23.834	GAP	10.10	AZP	86.63	TAL	337.29	TAP	132.36	RCA	147.74	APC	225.07	V2	26.415	RC	80.909	GL	-29.05	GP	11.88	ZAL	128.25	ZAP	138.72	ETS	185.89	ZAE	165.43	ETE	105.41	ZAC	112.61	ETC	276.85	LVI	-27.47

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	18.758	VHL	4.331	DLA	-37.65	RAL	346.26	RAD	6642.3	VEL	11.780	PTH	6.81	VHP	4.729	DPA	-7.57	RAP	311.51	ECC	1.3087	SGT	1882.2	SGR	1051.0	SG3	861.3	ST	52.3	SR	25.6	SS	70.0	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.9973	CR8	.9221	CST	.9267	LSA	89.4	MSA	17.2	SSA	.8	EL1	58.2	EL2	.8	ALF	26.06												
50.00	20	22	23	2298.53	2.71	57.97	208.62	137.52	21	0	41	1298.5	20.74	41.45	60.00	22	24	14	1973.52	11.92	37.46	217.30	128.79	22	57	8	973.5	26.51	17.12	64.04	0	25	20	1636.33	21.99	16.88	224.68	121.36	0	52	36	636.3	32.91	352.67	64.04	0	25	20	1636.33	21.99	16.88	224.68	121.36	0	52	36	636.3	32.91	352.67	64.04	0	25	20	1636.33	21.99	16.88	224.68	121.36	0	52	36	636.3	32.91	352.67	64.04	0	25	20	1636.33	21.99	16.88	224.68	121.36	0	52	36	636.3	32.91	352.67

LAUNCH DATE APR 7 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC										DISTANCE 458.455										EARTH TO MARS																																													
RL	149.73	LAL	.00	LOL	196.54	VL	32.540	GAL	-3.80	AZL	93.84	HCA	156.32	SMA	185.91	ECC	.20521	INC	3.8409	V1	29.758	RP	207.48	LAP	-1.54	LOP	352.91	VP	23.779	GAP	9.81	AZP	86.48	TAL	337.33	TAP	133.66	RCA	147.76	APC	224.07	V2	26.402	RC	82.560	GL	-30.15	GP	12.76	ZAL	127.82	ZAP	136.96	ETS	185.71	ZAE	164.44	ETE	108.21	ZAC	113.52	ETC	276.81	LVI	-28.18

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	18.758	VHL	4.331	DLA	-38.60	RAL	346.95	RAD	6642.3	VEL	11.780	PTH	6.81	VHP	4.621	DPA	-6.82	RAP	310.92	ECC	1.3087	SGT	1822.4	SGR	1146.7	SG3	903.0	ST	51.7	SR	26.8	SS	71.9	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.9987	CR8	.9383	CST	.9213	LSA	90.9	MSA	17.6	SSA	.7	EL1	58.2	EL2	1.2	ALF	27.38												
50.00	20	33	10	2271.37	4.07	56.83	210.07	137.44	21	11	2	1271.4	22.02	40.13	60.00	22	46	11	1916.18	14.35	34.56	219.67	128.07	23	18	7	916.2	28.50	13.57	62.55	0	20	41	1657.72	22.49	18.97	225.70	122.24	0	48	19	657.7	33.71	354.77	62.55	0	20	41	1657.72	22.49	18.97	225.70	122.24	0	48	19	657.7	33.71	354.77	62.55	0	20	41	1657.72	22.49	18.97	225.70	122.24	0	48	19	657.7	33.71	354.77	62.55	0	20	41	1657.72	22.49	18.97	225.70	122.24	0	48	19	657.7	33.71	354.77

LAUNCH DATE APR 7 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC										DISTANCE 462.904										EARTH TO MARS																																													
RL	149.73	LAL	.00	LOL	196.54	VL	32.513	GAL	-3.77	AZL	93.98	HCA	157.58	SMA	185.48	ECC	.20313	INC	3.9847	V1	29.758	RP	207.60	LAP	-1.52	LOP	354.17	VP	23.727	GAP	9.53	AZP	86.32	TAL	337.37	TAP	134.98	RCA	147.79	APC	223.13	V2	26.388	RC	84.247	GL	-31.31	GP	13.73	ZAL	127.35	ZAP	135.14	ETS	185.51	ZAE	163.30	ETE	110.84	ZAC	114.54	ETC	276.76	LVI	-28.95

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	18.824	VHL	4.339	DLA	-39.80	RAL	347.71	RAD	6642.3	VEL	11.783	PTH	6.81	VHP	4.522	DPA	-5.99	RAP	310.28	ECC	1.3098	SGT	1758.6	SGR	1255.7	SG3	944.9	ST	51.1	SR	28.3	SS	74.0	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.9952	CR8	.9492	CST	.9157	LSA	92.6	MSA	18.0	SSA	.7	EL1	58.4	EL2	2.4	ALF	28.92												
50.00	20	45	17	2242.37	5.52	55.61	211.77	137.33	21	22	40	1242.4	23.36	38.68	60.00	23	17	19	1835.39	17.70	30.36	222.93	126.82	23	47	55	835.4	31.12	8.33	61.03	0	16	32	1679.13	22.98	21.10	226.87	123.19	0	44	31	679.1	34.53	356.93	61.03	0	16	32	1679.13	22.98	21.10	226.87	123.19	0	44	31	679.1	34.53	356.93	61.03	0	16	32	1679.13	22.98	21.10	226.87	123.19	0	44	31	679.1	34.53	356.93	61.03	0	16	32	1679.13	22.98	21.10	226.87	123.19	0	44	31	679.1	34.53	356.93

DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																											
TDE	-.6953	TRA	-.8743	TC3	-.0723	BAU	.1797	SGT	1758.6	SGR	1255.7	SG3	944.9	ST	51.1	SR	28.3	SS	74.0	RDE	-.3661	RRA	-.5726	RC3	.7104	FAU	.11458	RRT	.8495	RRF	-.9795	RTF	-.8522	CR1	.9952	CR8	.9492	CST	.9157	FDE	1.8551	FRA	5.6171	FC3	-5.2695	BSP	3725	SG8	2160.9	R23	-3.254	R13	-.9247	LSA	92.6	MSA	18.0	SSA	.7	BDE	.7858	BRA	1.0451	BC3	.7140	FSP	1550	SG1	2087.6	SG2	558.1	THA	34.00	EL1	58.4	EL2	2.4	ALF	28.92

LAUNCH DATE APR 7 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC DISTANCE 466.567 EARTH TO MARS
RL 149.73 LAL .00 LOL 196.54 VL 32.480 GAL -3.73 AZL 94.14 HCA 158.84 SMA 185.04 ECC .20121 INC 4.1444 V1 29.758

PLANETOCENTRIC CONIC
C3 18.964 VHL 4.355 DLA -40.67 RAL 348.56 RAD 6642.4 VEL 11.789 PTH 6.81 VHP 4.430 DPA -5.07 RAP 309.56 ECC 1.3121
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6941 TRA -.8141 TC3 -.1031 BAU .1944 SGT 1684.1 SGR 1378.2 SG3 985.0 ST 50.3 SR 30.1 SS 76.1

LAUNCH DATE APR 7 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC DISTANCE 470.644 EARTH TO MARS
RL 149.73 LAL .00 LOL 196.54 VL 32.484 GAL -3.70 AZL 94.32 HCA 160.09 SMA 184.64 ECC .19942 INC 4.3229 V1 29.758

PLANETOCENTRIC CONIC
C3 19.188 VHL 4.380 DLA -41.80 RAL 349.51 RAD 6642.5 VEL 11.799 PTH 6.82 VHP 4.348 DPA -4.04 RAP 308.77 ECC 1.3158
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6869 TRA -.7425 TC3 -.1225 BAU .2117 SGT 1586.2 SGR 1514.1 SG3 1021.5 ST 49.0 SR 32.2 SS 77.8

LAUNCH DATE APR 7 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC DISTANCE 474.730 EARTH TO MARS
RL 149.73 LAL .00 LOL 196.54 VL 32.443 GAL -3.67 AZL 94.52 HCA 161.34 SMA 184.28 ECC .19778 INC 4.5241 V1 29.758

PLANETOCENTRIC CONIC
C3 19.514 VHL 4.417 DLA -43.00 RAL 350.59 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 4.277 DPA -2.88 RAP 307.91 ECC 1.3211
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6976 TRA -.6829 TC3 -.1785 BAU .2309 SGT 1920.1 SGR 1672.2 SG3 1057.6 ST 48.8 SR 34.9 SS 80.2

LAUNCH DATE APR 7 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC DISTANCE 478.827 EARTH TO MARS
RL 149.73 LAL .00 LOL 196.84 VL 32.423 GAL -3.85 AZL 94.75 HCA 162.59 SMA 183.95 ECC .19626 INC 4.7530 V1 29.758

PLANETOCENTRIC CONIC
C3 19.958 VHL 4.467 DLA -44.30 RAL 351.81 RAD 6642.8 VEL 11.831 PTH 6.85 VHP 4.217 DPA -1.58 RAP 306.97 ECC 1.3285
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7018 TRA -.6109 TC3 -.2210 BAU .2528 SGT 1430.9 SGR 1849.0 SG3 1088.0 ST 47.9 SR 38.2 SS 82.5

LAUNCH DATE APR 7 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 32.404 GAL -3.63 AZL 95.02 HCA 163.84 SMA 183.84 ECC .19487 INC 5.0156 VI 29.758
 RP 208.32 LAP -1.39 LOP .44 VP 23.483 GAP 8.19 AZP 85.18 TAL 337.39 TAP 141.24 RCA 147.86 APO 219.43 V2 26.304
 RC 93.190 GL -38.59 GP 20.50 ZAL 124.23 ZAP 124.99 ETS 164.45 ZAE 155.01 ETE 120.54 ZAC 121.59 ETC 276.49 LVI -34.30

Distance 482.934

Planetocentric Conic: C3 20.551 VHL 4.533 DLA -45.89 RAL 353.22 RAD 6643.1 VEL 11.856 PTH 6.87 VHP 4.171 DPA -.11 RAP 305.99 ECC 1.3382
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 28 11 2027.35 16.15 46.24 227.29 135.39 23 1 58 1027.3 32.75 26.82
 52.49 0 3 6 1796.06 25.09 33.11 236.01 129.52 0 33 2 796.1 38.90 9.60
 52.49 0 3 6 1796.06 25.09 33.11 236.01 129.52 0 33 2 796.1 38.90 9.60
 52.49 0 3 6 1796.06 25.09 33.11 236.01 129.52 0 33 2 796.1 38.90 9.60
 52.49 0 3 6 1796.06 25.09 33.11 236.01 129.52 0 33 2 796.1 38.90 9.60
 52.49 0 3 6 1796.06 25.09 33.11 236.01 129.52 0 33 2 796.1 38.90 9.60

Differential Corrections: TDE -.7059 TRA -.5321 TC3 -.2603 BAU .2785 SGT 1333.7 SGR 2047.1 SG3 1111.0 ST 46.9 SR 42.0 SS 84.7
 RDE -.5238 RRA -.9515 RC3 .9797 FAU .13181 RRT .7466 RRF -.9955 RTF -.7377 CRT .9388 CRS .9886 CST .8767
 FDE 2.5542 FRA 6.2916 FC3-5.5527 BSP 4080 SGB 2443.2 R23 -1.973 R13 -.9758 LSA 103.6 MSA 20.2 SSA .4
 BDE .8791 BRA 1.0902 BC3 1.0137 FSP 1851 SG1 2313.7 SG2 785.0 THA 60.31 EL1 62.0 EL2 10.9 ALF 41.85

Orbit Determination Accuracy: ST 46.9 SR 42.0 SS 84.7 CRT .9388 CRS .9886 CST .8767 LSA 103.6 MSA 20.2 SSA .4 EL1 62.0 EL2 10.9 ALF 41.85

LAUNCH DATE APR 7 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 32.387 GAL -3.62 AZL 95.32 HCA 165.09 SMA 183.36 ECC .19360 INC 5.3204 VI 29.758
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.437 GAP 7.93 AZP 84.86 TAL 337.37 TAP 142.46 RCA 147.86 APO 218.86 V2 26.284
 RC 95.074 GL -40.46 GP 22.39 ZAL 123.36 ZAP 122.72 ETS 164.24 ZAE 152.73 ETE 121.73 ZAC 123.55 ETC 276.44 LVI -35.79

Distance 487.050

Planetocentric Conic: C3 21.332 VHL 4.619 DLA -47.19 RAL 354.87 RAD 6643.4 VEL 11.888 PTH 6.90 VHP 4.141 DPA 1.57 RAP 304.85 ECC 1.3511
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 19 34 1920.56 21.25 41.21 234.70 133.63 23 51 34 920.6 36.89 19.98
 50.50 0 2 30 1823.20 25.37 35.94 238.80 131.23 0 32 53 823.2 39.79 12.76
 50.50 0 2 30 1823.20 25.37 35.94 238.80 131.23 0 32 53 823.2 39.79 12.76
 50.50 0 2 30 1823.20 25.37 35.94 238.80 131.23 0 32 53 823.2 39.79 12.76
 50.50 0 2 30 1823.20 25.37 35.94 238.80 131.23 0 32 53 823.2 39.79 12.76
 50.50 0 2 30 1823.20 25.37 35.94 238.80 131.23 0 32 53 823.2 39.79 12.76

Differential Corrections: TDE -.7126 TRA -.4479 TC3 -.3028 BAU .3077 SGT 1236.3 SGR 2270.5 SG3 1125.0 ST 45.9 SR 46.7 SS 87.1
 RDE -.5918 RRA -1.0538 RC3 1.0357 FAU .13346 RRT .6964 RRF -.9968 RTF -.6865 CRT .9220 CRS .9923 CST .8672
 FDE 2.7593 FRA 6.3125 FC3-5.4182 BSP 4306 SGB 2585.3 R23 -1.548 R13 -.9847 LSA 107.0 MSA 20.7 SSA .4
 BDE .9263 BRA 1.1451 BC3 1.0790 FSP 1882 SG1 2451.2 SG2 821.8 THA 66.43 EL1 64.2 EL2 12.9 ALF 45.56

Orbit Determination Accuracy: ST 45.9 SR 46.7 SS 87.1 CRT .9220 CRS .9923 CST .8672 LSA 107.0 MSA 20.7 SSA .4 EL1 64.2 EL2 12.9 ALF 45.56

LAUNCH DATE APR 7 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 32.371 GAL -3.60 AZL 95.68 HCA 166.33 SMA 183.10 ECC .19244 INC 5.6787 VI 29.758
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.393 GAP 7.69 AZP 84.48 TAL 337.33 TAP 143.66 RCA 147.87 APO 218.34 V2 26.264
 RC 96.988 GL -42.54 GP 24.94 ZAL 122.37 ZAP 120.36 ETS 164.05 ZAE 150.21 ETE 122.69 ZAC 125.76 ETC 276.41 LVI -37.48

Distance 491.174

Planetocentric Conic: C3 22.361 VHL 4.729 DLA -48.83 RAL 356.82 RAD 6643.9 VEL 11.931 PTH 6.94 VHP 4.131 DPA 3.49 RAP 303.65 ECC 1.3680
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.38 0 3 2 1852.43 25.55 38.97 242.09 133.14 0 33 54 852.4 40.66 16.24
 48.38 0 3 2 1852.43 25.55 38.97 242.09 133.14 0 33 54 852.4 40.66 16.24
 48.38 0 3 2 1852.43 25.55 38.97 242.09 133.14 0 33 54 852.4 40.66 16.24
 48.38 0 3 2 1852.43 25.55 38.97 242.09 133.14 0 33 54 852.4 40.66 16.24
 48.38 0 3 2 1852.43 25.55 38.97 242.09 133.14 0 33 54 852.4 40.66 16.24
 48.38 0 3 2 1852.43 25.55 38.97 242.09 133.14 0 33 54 852.4 40.66 16.24

Differential Corrections: TDE -.7202 TRA -.3576 TC3 -.3425 BAU .3415 SGT 1139.9 SGR 2522.3 SG3 1127.2 ST 44.7 SR 52.5 SS 89.5
 RDE -.6834 RRA -1.1671 RC3 1.0898 FAU .13411 RRT .6269 RRF -.9977 RTF -.5.62 CRT .9045 CRS .9950 CST .8575
 FDE 2.9949 FRA 6.2645 FC3-5.1922 BSP 4591 SGB 2787.9 R23 -1.143 R13 -.9912 LSA 111.0 MSA 21.1 SSA .3
 BDE .9928 BRA 1.2207 BC3 1.1423 FSP 1890 SG1 2634.0 SG2 850.5 THA 72.27 EL1 67.3 EL2 14.9 ALF 50.03

Orbit Determination Accuracy: ST 44.7 SR 52.5 SS 89.5 CRT .9045 CRS .9950 CST .8575 LSA 111.0 MSA 21.1 SSA .3 EL1 67.3 EL2 14.9 ALF 50.03

LAUNCH DATE APR 7 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 149.73 LAL .00 LOL 196.54 VL 32.357 GAL -3.59 AZL 96.11 HCA 167.57 SMA 182.88 ECC .19139 INC 6.1084 VI 29.758
 RP 208.85 LAP -1.31 LOP 4.10 VP 23.349 GAP 7.44 AZP 84.04 TAL 337.28 TAP 144.85 RCA 147.87 APO 217.86 V2 26.243
 RC 98.929 GL -44.85 GP 26.98 ZAL 121.23 ZAP 117.90 ETS 163.89 ZAE 147.41 ETE 123.44 ZAC 128.28 ETC 278.39 LVI -39.40

Distance 495.304

Planetocentric Conic: C3 23.727 VHL 4.871 DLA -50.80 RAL 359.16 RAD 6644.5 VEL 11.988 PTH 6.98 VHP 4.148 DPA 5.69 RAP 302.35 ECC 1.3905
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.12 0 5 1 1884.39 25.58 42.24 245.99 135.27 0 36 25 884.4 41.47 20.11
 46.12 0 5 1 1884.39 25.58 42.24 245.99 135.27 0 36 25 884.4 41.47 20.11
 46.12 0 5 1 1884.39 25.58 42.24 245.99 135.27 0 36 25 884.4 41.47 20.11
 46.12 0 5 1 1884.39 25.58 42.24 245.99 135.27 0 36 25 884.4 41.47 20.11
 46.12 0 5 1 1884.39 25.58 42.24 245.99 135.27 0 36 25 884.4 41.47 20.11
 46.12 0 5 1 1884.39 25.58 42.24 245.99 135.27 0 36 25 884.4 41.47 20.11

Differential Corrections: TDE -.7287 TRA -.2605 TC3 -.3787 BAU .3806 SGT 1050.6 SGR 2806.8 SG3 1114.5 ST 43.5 SR 59.7 SS 92.2
 RDE -.8110 RRA -1.2926 RC3 1.1385 FAU .13336 RRT .5306 RRF -.9984 RTF -.5192 CRT .8870 CRS .9969 CST .8480
 FDE 3.2741 FRA 6.1309 FC3-4.8660 BSP 4969 SGB 2996.9 R23 -1.0790 R13 -.9953 LSA 116.2 MSA 21.3 SSA .3
 BDE 1.0903 BRA 1.3186 BC3 1.1999 FSP 1877 SG1 2867.4 SG2 871.7 THA 77.60 EL1 72.0 EL2 16.7 ALF 55.01

Orbit Determination Accuracy: ST 43.5 SR 59.7 SS 92.2 CRT .8870 CRS .9969 CST .8480 LSA 116.2 MSA 21.3 SSA .3 EL1 72.0 EL2 16.7 ALF 55.01

LAUNCH DATE APR 7 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 499.440

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 32.343 GAL -3.59 AZL 96.63 HCA 168.81 SMA 182.65 ECC .19044 INC 6.6262 V1 29.758
RP 209.04 LAP -1.28 LOP 5.42 VP 23.305 GAP 7.20 AZP 83.50 TAL 337.22 TAP 146.03 RCA 147.86 APO 217.43 V2 26.221
RC 100.898 GL -47.45 GP 29.77 ZAL 119.91 ZAP 115.33 ETS 163.77 ZAE 144.29 ETE 124.00 ZAC 131.14 ETC 276.40 LVI -41.59

PLANETOCENTRIC CONIC

C3 25.569 VHL 5.037 DLA -52.53 RAL 2.02 RAD 6645.2 VEL 12.064 PTH 7.05 VHP 4.196 DPA 8.24 RAP 300.94 ECC 1.4208
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.70 0 8 59 1919.83 25.41 45.77 250.65 137.66 0 40 59 919.8 42.14 24.44
43.70 0 8 59 1919.83 25.41 45.77 250.65 137.66 0 40 59 919.8 42.14 24.44
43.70 0 8 59 1919.83 25.41 45.77 250.65 137.66 0 40 59 919.8 42.14 24.44
43.70 0 8 59 1919.83 25.41 45.77 250.65 137.66 0 40 59 919.8 42.14 24.44
43.70 0 8 59 1919.83 25.41 45.77 250.65 137.66 0 40 59 919.8 42.14 24.44
43.70 0 8 59 1919.83 25.41 45.77 250.65 137.66 0 40 59 919.8 42.14 24.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7341 TRA -.1537 TC3 -.4076 BAU .4268 SGT 971.4 SGR 3122.2 SG3 1080.9 ST 41.8 SR 68.8 SS 94.8
RDE -.9897 RRA-1.4273 RC3 1.1803 FAU .13109 RRT .3962 RRF -.9989 RTF -.3841 CRT .8694 CRS .9982 CST .8360
FDE 3.5925 FRA 5.8767 FC3-4.4385 BSP 5401 SGB 3269.8 R23 -.0502 R13 -.9977 LSA 122.6 MSA 21.4 SSA .2
BDE 1.2323 BRA 1.4335 BC3 1.2487 FSP 1820 SG1 3147.9 SG2 884.7 THA 82.37 EL1 78.5 EL2 18.1 ALF 80.42

LAUNCH DATE APR 7 1971

FLIGHT TIME 204.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

DISTANCE 503.581

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 32.331 GAL -3.59 AZL 97.27 HCA 170.04 SMA 182.45 ECC .18980 INC 7.2720 V1 29.758
RP 209.24 LAP -1.25 LOP 6.66 VP 23.263 GAP 6.97 AZP 82.84 TAL 337.15 TAP 147.19 RCA 147.86 APO 217.05 V2 26.198
RC 102.893 GL -50.39 GP 32.97 ZAL 118.37 ZAP 112.85 ETS 163.73 ZAE 140.83 ETE 124.40 ZAC 134.41 ETC 276.45 LVI -44.08

PLANETOCENTRIC CONIC

C3 28.111 VHL 5.302 DLA -54.60 RAL 5.61 RAD 6646.3 VEL 12.168 PTH 7.13 VHP 4.292 DPA 11.17 RAP 299.41 ECC 1.4626
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
41.13 0 15 47 1959.77 24.92 49.56 256.32 140.30 0 48 27 959.8 42.59 29.30
41.13 0 15 47 1959.77 24.92 49.56 256.32 140.30 0 48 27 959.8 42.59 29.30
41.13 0 15 47 1959.77 24.92 49.56 256.32 140.30 0 48 27 959.8 42.59 29.30
41.13 0 15 47 1959.77 24.92 49.56 256.32 140.30 0 48 27 959.8 42.59 29.30
41.13 0 15 47 1959.77 24.92 49.56 256.32 140.30 0 48 27 959.8 42.59 29.30
41.13 0 15 47 1959.77 24.92 49.56 256.32 140.30 0 48 27 959.8 42.59 29.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7354 TRA -.0386 TC3 -.4301 BAU .4802 SGT 919.1 SGR 3479.3 SG3 1024.7 ST 39.8 SR 80.9 SS 98.1
RDE -1.2558 RRA-1.5751 RC3 1.2033 FAU .12605 RRT .2215 RRF -.9992 RTF -.2091 CRT .8523 CRS .9990 CST .8279
FDE 3.9786 FRA 5.4986 FC3-3.8821 BSP 5964 SGB 3598.6 R23 -.0287 R13 -.9989 LSA 131.5 MSA 21.2 SSA .2
BDE 1.4553 BRA 1.5756 BC3 1.2779 FSP 1734 SG1 3485.6 SG2 894.6 THA 86.41 EL1 88.1 EL2 19.1 ALF 66.09

LAUNCH DATE APR 7 1971

FLIGHT TIME 206.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

DISTANCE 507.725

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 32.320 GAL -3.59 AZL 98.10 HCA 171.27 SMA 182.28 ECC .18885 INC 8.0966 V1 29.758
RP 209.44 LAP -1.22 LOP 7.69 VP 23.221 GAP 6.73 AZP 82.00 TAL 337.07 TAP 148.35 RCA 147.85 APO 216.70 V2 26.174
RC 104.913 GL -53.75 GP 36.63 ZAL 116.55 ZAP 109.85 ETS 163.79 ZAE 136.97 ETE 124.70 ZAC 138.16 ETC 276.58 LVI -46.90

PLANETOCENTRIC CONIC

C3 31.741 VHL 5.634 DLA -56.81 RAL 10.21 RAD 6647.7 VEL 12.315 PTH 7.25 VHP 4.454 DPA 14.56 RAP 297.73 ECC 1.5224
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
38.43 0 26 40 2005.70 23.98 53.60 263.28 143.20 1 0 6 1005.7 42.65 34.72
38.43 0 26 40 2005.70 23.98 53.60 263.28 143.20 1 0 6 1005.7 42.65 34.72
38.43 0 26 40 2005.70 23.98 53.60 263.28 143.20 1 0 6 1005.7 42.65 34.72
38.43 0 26 40 2005.70 23.98 53.60 263.28 143.20 1 0 6 1005.7 42.65 34.72
38.43 0 26 40 2005.70 23.98 53.60 263.28 143.20 1 0 6 1005.7 42.65 34.72
38.43 0 26 40 2005.70 23.98 53.60 263.28 143.20 1 0 6 1005.7 42.65 34.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7178 TRA .0904 TC3 -.4386 BAU .5449 SGT 897.4 SGR 3870.3 SG3 936.4 ST 36.6 SR 97.0 SS 101.3
RDE -1.6563 RRA-1.7288 RC3 1.2068 FAU .11845 RRT .0054 RRF -.9995 RTF .0074 CRT .8313 CRS .9995 CST .8126
FDE 4.4072 FRA 4.9513 FC3-3.2308 BSP 6595 SGB 3973.0 R23 -.0131 R13 -.9994 LSA 143.5 MSA 20.5 SSA .2
BDE 1.8052 BRA 1.7291 BC3 1.2840 FSP 1592 SG1 3870.3 SG2 897.3 THA 89.92 EL1 101.9 EL2 19.4 ALF 71.92

LAUNCH DATE APR 7 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

DISTANCE 511.871

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 32.310 GAL -3.59 AZL 99.19 HCA 172.50 SMA 182.12 ECC .18819 INC 9.1863 V1 29.758
RP 209.66 LAP -1.19 LOP 9.13 VP 23.180 GAP 6.51 AZP 80.89 TAL 336.98 TAP 149.48 RCA 147.84 APO 216.39 V2 26.150
RC 106.958 GL -57.61 GP 40.81 ZAL 114.40 ZAP 106.94 ETS 164.03 ZAE 132.68 ETE 124.97 ZAC 142.42 ETC 276.77 LVI -50.05

PLANETOCENTRIC CONIC

C3 37.175 VHL 6.097 DLA -59.09 RAL 16.27 RAD 6649.7 VEL 12.532 PTH 7.41 VHP 4.720 DPA 18.45 RAP 295.08 ECC 1.6118
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
35.69 0 43 36 2059.68 22.38 57.83 271.98 146.25 1 17 55 1059.7 42.06 40.65
35.69 0 43 36 2059.68 22.38 57.83 271.98 146.25 1 17 55 1059.7 42.06 40.65
35.69 0 43 36 2059.68 22.38 57.83 271.98 146.25 1 17 55 1059.7 42.06 40.65
35.69 0 43 36 2059.68 22.38 57.83 271.98 146.25 1 17 55 1059.7 42.06 40.65
35.69 0 43 36 2059.68 22.38 57.83 271.98 146.25 1 17 55 1059.7 42.06 40.65
35.69 0 43 36 2059.68 22.38 57.83 271.98 146.25 1 17 55 1059.7 42.06 40.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6615 TRA .2340 TC3 -.4338 BAU .6259 SGT 921.7 SGR 4296.0 SG3 819.0 ST 31.7 SR 119.1 SS 104.3
RDE -2.2865 RRA-1.8747 RC3 1.1823 FAU .10771 RRT -.2260 RRF -.9996 RTF .2392 CRT .7951 CRS .9997 CST .7806
FDE 4.8537 FRA 4.2234 FC3-2.5084 BSP 7292 SGB 4393.8 R23 -.0031 R13 -.9997 LSA 160.3 MSA 19.4 SSA .1
BDE 2.3803 BRA 1.8892 BC3 1.2593 FSP 1389 SG1 4301.3 SG2 896.8 THA 92.90 EL1 121.8 EL2 13.8 ALF 77.74

LAUNCH DATE APR 7 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.260 GAL -3.89 AZL 82.03 HCA 186.05 SMA 181.31 ECC .18656 INC 7.9465 V1 29.758
 RP 212.43 LAP -.83 LOP 22.53 VP 22.749 GAP 4.26 AZP 97.90 TAL 334.76 TAP 180.81 RCA 147.48 APO 215.14 V2 25.832
 RC 130.999 GL 52.42 GP -47.86 ZAL 118.60 ZAP 90.39 ETS 179.17 ZAE 117.43 ETE 214.53 ZAC 54.57 ETC 272.10 LVI 34.31

DISTANCE 558.053

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.530 VHL 5.615 DLA 39.58 RAL 317.30 RAD 8647.6 VEL 12.307 PTH 7.24 VHP 5.078 DPA -69.56 RAP 314.50 ECC 1.5189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 12 17 4122.31 -39.50 183.94 219.35 60.96 13 20 59 3122.3 -47.29 152.19
 60.00 11 0 7 4316.74 -24.08 190.30 208.43 56.65 12 12 4 3316.7 -35.58 165.82
 61.07 10 13 32 4448.55 -18.10 197.01 204.02 54.18 11 27 40 3448.5 -31.11 174.67
 61.07 10 13 32 4448.55 -18.10 197.01 204.02 54.18 11 27 40 3448.5 -31.11 174.67
 61.07 10 13 32 4448.55 -18.10 197.01 204.02 54.18 11 27 40 3448.5 -31.11 174.67
 61.07 10 13 32 4448.55 -18.10 197.01 204.02 54.18 11 27 40 3448.5 -31.11 174.67

DIFFERENTIAL CORRECTIONS

TDE 2.1557 TRA .9657 TC3-1.2777 BAU .8348
 RDE 3.1873 RRA 2.8236 RC3-1.5130 FAU .08676
 FDE 4.5118 FRA 4.1574 FC3-2.3821 BSP 10029
 BDE 3.8479 BRA 2.9842 BC3 1.9804 FSP 1160

MID-COURSE EXECUTION ACCURACY

SGT 2920.9 SGR 5238.1 SG3 661.6
 RRT .9393 RRF .9993 RTF .9389
 SGB 5997.4 R23 .0798 R13 .9963
 SG1 5931.8 SG2 885.1 THA 61.67

ORBIT DETERMINATION ACCURACY

ST 111.7 SR 172.0 SS 107.3
 CRT .9873 CRS -.9999 CST -.9853
 LSA 230.9 MSA 15.9 SSA .2
 EL1 204.5 EL2 14.9 ALF 57.15

LAUNCH DATE APR 7 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.260 GAL -3.93 AZL 83.63 HCA 187.23 SMA 181.31 ECC .18677 INC 6.3849 V1 29.758
 RP 212.72 LAP -.80 LOP 23.72 VP 22.712 GAP 4.06 AZP 96.31 TAL 334.54 TAP 161.77 RCA 147.44 APO 215.17 V2 25.799
 RC 133.312 GL 45.48 GP -43.55 ZAL 122.76 ZAP 89.03 ETS 177.89 ZAE 118.69 ETE 210.99 ZAC 58.90 ETC 271.83 LVI 30.66

DISTANCE 562.217

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.045 VHL 5.005 DLA 33.05 RAL 320.38 RAD 8645.0 VEL 12.042 PTH 7.03 VHP 4.566 DPA -65.74 RAP 309.04 ECC 1.4122
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 14 46 3888.10 -45.60 164.84 214.94 74.63 14 19 34 2888.1 -46.55 129.76
 60.00 13 0 2 3927.44 -36.09 164.45 211.02 70.70 14 5 29 2927.4 -40.30 134.17
 70.00 12 18 46 4049.74 -24.17 168.70 205.43 65.10 13 26 16 3049.7 -32.24 143.01
 72.14 11 26 24 4210.80 -17.33 177.47 201.75 61.41 12 36 35 3210.8 -27.58 153.98
 72.14 11 26 24 4210.80 -17.33 177.47 201.75 61.41 12 36 35 3210.8 -27.58 153.98
 72.14 11 26 24 4210.80 -17.33 177.47 201.75 61.41 12 36 35 3210.8 -27.58 153.98
 110.00 17 18 13 3096.56 -24.17 97.62 205.43 65.10 18 9 49 2096.6 -32.24 71.92

DIFFERENTIAL CORRECTIONS

TDE 1.8747 TRA 1.1333 TC3-1.6328 BAU .7792
 RDE 2.4847 RRA 2.6405 RC3-1.6582 FAU .10348
 FDE 4.8235 FRA 5.3815 FC3-3.5769 BSP 9721
 BDE 3.1126 BRA 2.8734 BC3 2.3272 FSP 1504

MID-COURSE EXECUTION ACCURACY

SGT 3110.3 SGR 4884.1 SG3 852.4
 RRT .9480 RRF .9995 RTF .9477
 SGB 5790.3 R23 .0906 R13 .9953
 SG1 5728.5 SG2 844.0 THA 58.11

ORBIT DETERMINATION ACCURACY

ST 109.8 SR 152.2 SS 117.3
 CRT .9887 CRS -.9999 CST -.9861
 LSA 220.8 MSA 15.0 SSA .2
 EL1 187.2 EL2 13.4 ALF 54.28

LAUNCH DATE APR 7 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.260 GAL -3.97 AZL 84.77 HCA 188.42 SMA 181.31 ECC .18704 INC 5.2298 V1 29.758
 RP 213.01 LAP -.76 LOP 24.92 VP 22.674 GAP 3.87 AZP 95.17 TAL 334.29 TAP 162.71 RCA 147.40 APO 215.22 V2 25.766
 RC 135.643 GL 39.44 GP -39.71 ZAL 126.25 ZAP 87.47 ETS 176.75 ZAE 119.34 ETE 207.54 ZAC 62.77 ETC 271.58 LVI 27.42

DISTANCE 566.387

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.331 VHL 4.619 DLA 27.40 RAL 322.92 RAD 8643.4 VEL 11.888 PTH 6.90 VHP 4.229 DPA -62.26 RAP 305.08 ECC 1.3511
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 57 37 3715.99 -47.50 148.71 208.83 86.91 14 59 33 2716.0 -43.12 114.64
 60.00 13 59 41 3710.46 -39.62 147.15 207.77 81.93 15 1 32 2710.5 -38.58 116.04
 70.00 14 3 27 3699.35 -31.99 144.54 206.05 77.35 15 5 6 2699.4 -33.96 115.98
 80.00 14 12 57 3669.52 -25.02 140.19 203.96 73.15 15 14 6 2669.5 -29.62 113.72
 90.00 14 54 46 3534.35 -21.11 128.89 202.58 70.73 15 53 40 2534.4 -27.16 103.50
 100.00 16 55 49 3143.99 -25.02 101.56 203.96 73.15 17 48 13 2144.0 -29.62 75.09
 110.00 19 2 53 2746.17 -31.99 73.46 206.05 77.35 19 48 40 1746.2 -33.96 44.90

DIFFERENTIAL CORRECTIONS

TDE 1.6899 TRA 1.2924 TC3-1.9780 BAU .7507
 RDE 2.0089 RRA 2.4306 RC3-1.7388 FAU .11815
 FDE 4.9621 FRA 6.4402 FC3-4.7950 BSP 9375
 BDE 2.6237 BRA 2.7705 BC3 2.6323 FSP 1793

MID-COURSE EXECUTION ACCURACY

SGT 3315.9 SGR 4527.8 SG3 1016.8
 RRT .9549 RRF .9994 RTF .9546
 SGB 5612.0 R23 .1027 R13 .9941
 SG1 5554.2 SG2 802.9 THA 54.17

ORBIT DETERMINATION ACCURACY

ST 108.3 SR 134.7 SS 122.8
 CRT .9904 CRS -.9998 CST -.9872
 LSA 211.6 MSA 13.9 SSA .3
 EL1 172.4 EL2 11.7 ALF 51.28

LAUNCH DATE APR 7 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.261 GAL -4.02 AZL 85.62 HCA 189.61 SMA 181.32 ECC .18738 INC 4.3754 V1 29.758
 RP 213.31 LAP -.73 LOP 26.11 VP 22.637 GAP 3.68 AZP 94.32 TAL 334.04 TAP 163.64 RCA 147.35 APO 215.30 V2 25.732
 RC 137.991 GL 34.22 GP -36.32 ZAL 129.13 ZAP 85.77 ETS 175.77 ZAE 119.46 ETE 204.32 ZAC 66.18 ETC 271.35 LVI 24.59

DISTANCE 570.559

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.072 VHL 4.367 DLA 22.55 RAL 325.06 RAD 8642.4 VEL 11.794 PTH 6.82 VHP 3.996 DPA -59.16 RAP 302.05 ECC 1.3139
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 29 58 3582.53 -47.20 135.85 203.52 96.80 15 29 41 2582.5 -39.13 104.36
 60.00 14 41 34 3551.64 -40.29 133.72 204.17 91.01 15 40 46 2551.6 -35.48 103.72
 70.00 15 0 12 3496.76 -33.97 129.10 203.99 86.26 15 58 29 2496.8 -31.96 100.54
 80.00 15 34 12 3390.14 -29.04 120.46 203.43 82.74 16 30 42 2390.1 -29.12 93.04
 90.00 16 38 56 3181.14 -27.02 104.79 203.11 81.32 17 31 57 2181.1 -27.94 77.82
 100.00 18 17 4 2864.61 -29.04 81.83 203.43 82.74 19 4 48 1864.6 -29.12 54.40
 110.00 19 59 38 2543.58 -33.97 58.01 203.99 86.26 20 42 2 1543.6 -31.96 29.46

DIFFERENTIAL CORRECTIONS

TDE 1.5634 TRA 1.4453 TC3-2.3010 BAU .7383
 RDE 1.6685 RRA 2.2664 RC3-1.7579 FAU .13068
 FDE 4.9967 FRA 7.3243 FC3-5.9319 BSP 9058
 BDE 2.2865 BRA 2.6880 BC3 2.8956 FSP 2024

MID-COURSE EXECUTION ACCURACY

SGT 3530.1 SGR 4185.1 SG3 1153.0
 RRT .9602 RRF .9992 RTF .9600
 SGB 5475.2 R23 .1149 R13 .9926
 SG1 5422.0 SG2 761.0 THA 50.05

ORBIT DETERMINATION ACCURACY

ST 107.1 SR 119.7 SS 125.4
 CRT .9923 CRS -.9996 CST -.9864
 LSA 203.3 MSA 12.9 SSA .3
 EL1 160.3 EL2 9.9 ALF 48.19

LAUNCH DATE APR 7 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.262 GAL -4.06 AZL 86.29 HCA 190.79 SMA 181.34 ECC .18776 INC 3.7098 V1 29.758
 RP 213.61 LAP -.69 LOP 27.30 VP 22.600 GAP 3.49 AZP 93.64 TAL 333.77 TAP 164.56 RCA 147.29 APO 215.39 V2 25.697
 RC 140.356 GL 29.72 GP -33.35 ZAL 131.48 ZAP 84.00 ETS 174.93 ZAE 119.17 ETE 201.38 ZAC 69.18 ETC 271.14 LVI 22.13

DISTANCE 574.733 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.647 VHL 4.201 DLA 18.40 RAL 326.89 RAD 6641.8 VEL 11.734 PTH 6.76 VHP 3.833 DPA -56.41 RAP 299.62 ECC 1.2904
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 55 41 3476.32 -45.87 125.95 199.62 104.32 15 53 37 2476.3 -35.30 97.09
 60.00 15 13 45 3428.22 -39.62 123.31 201.31 98.05 16 10 53 2428.2 -32.17 94.93
 70.00 15 40 59 3348.03 -34.03 117.30 201.99 93.11 16 36 47 2348.0 -29.22 89.83
 80.00 16 25 8 3209.64 -29.86 107.13 202.11 89.69 17 18 38 2209.6 -26.95 80.08
 90.00 17 35 29 2982.55 -28.24 90.41 202.08 86.40 18 25 12 1982.5 -26.05 63.61
 100.00 19 8 0 2684.11 -29.86 68.49 202.11 89.69 19 52 44 1684.1 -26.95 41.45
 110.00 20 40 25 2394.85 -34.03 46.41 201.99 93.11 21 20 20 1394.8 -29.22 18.75

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4836 TRA 1.6027 TC3-2.5793 BAU .7306 SGT 3754.6 SGR 3876.0 SG3 1265.9 ST 107.0 SR 107.6 SS 127.0
 RDE 1.4306 RRA 2.1037 RC3-1.7133 FAU .13949 RRT .9643 RRF .9990 RTF .9642 CRT .9943 CRS -.9993 CST -.9898
 FDE 5.0069 FRA 8.0829 FC3-6.8430 BSP 8963 SGB 5396.4 R23 .1260 R13 .9910 LSA 197.5 MSA 11.9 SSA .4
 BDE 2.0610 BRA 2.6447 BC3 3.0966 FSP 2242 SG1 5348.1 SG2 720.3 THA 45.94 EL1 151.5 EL2 8.1 ALF 45.18

LAUNCH DATE APR 7 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.264 GAL -4.11 AZL 86.82 HCA 191.97 SMA 181.37 ECC .18821 INC 3.1756 V1 29.758
 RP 213.92 LAP -.66 LOP 28.49 VP 22.562 GAP 3.31 AZP 93.11 TAL 333.49 TAP 165.46 RCA 147.24 APO 215.51 V2 25.662
 RC 142.739 GL 25.84 GP -30.73 ZAL 133.40 ZAP 82.20 ETS 174.24 ZAE 118.56 ETE 198.74 ZAC 71.81 ETC 270.95 LVI 19.98

DISTANCE 578.907 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.732 VHL 4.090 DLA 14.84 RAL 328.49 RAD 6641.3 VEL 11.695 PTH 6.73 VHP 3.716 DPA -53.98 RAP 297.62 ECC 1.2754
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 16 46 3390.34 -44.15 118.40 197.00 109.92 16 13 17 2390.3 -31.87 91.76
 60.00 15 39 38 3329.48 -38.37 115.22 199.29 103.40 16 35 8 2329.5 -29.06 88.41
 70.00 16 12 48 3231.88 -33.24 108.53 200.51 98.36 17 6 40 2231.9 -26.45 81.94
 80.00 17 3 9 3074.12 -29.48 97.08 201.02 94.95 17 54 23 2074.1 -24.47 70.78
 90.00 18 16 32 2837.23 -28.06 79.79 201.15 93.71 19 3 49 1837.2 -23.71 53.62
 100.00 19 46 0 2548.59 -29.48 58.45 201.02 94.95 20 28 29 1548.6 -24.47 32.15
 110.00 21 12 14 2278.69 -33.24 37.45 200.51 98.36 21 50 13 1278.7 -26.45 10.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4284 TRA 1.7553 TC3-2.8304 BAU .7322 SGT 3979.2 SGR 3587.3 SG3 1354.5 ST 107.1 SR 97.3 SS 127.3
 RDE 1.2505 RRA 1.9509 RC3-1.6445 FAU .14656 RRT .9674 RRF .9987 RTF .9675 CRT .9962 CRS -.9989 CST -.9912
 FDE 4.9766 FRA 8.6937 FC3-7.5833 BSP 8891 SGB 5357.5 R23 .1358 R13 .9895 LSA 192.5 MSA 10.9 SSA .5
 BDE 1.8984 BRA 2.6243 BC3 3.2734 FSP 2409 SG1 5314.1 SG2 680.1 THA 41.94 EL1 144.6 EL2 6.3 ALF 42.25

LAUNCH DATE APR 7 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.267 GAL -4.17 AZL 87.26 HCA 193.15 SMA 181.41 ECC .18870 INC 2.7371 V1 29.758
 RP 214.24 LAP -.62 LOP 29.67 VP 22.525 GAP 3.12 AZP 92.67 TAL 333.20 TAP 166.35 RCA 147.18 APO 215.64 V2 25.627
 RC 145.138 GL 22.49 GP -28.42 ZAL 134.99 ZAP 80.38 ETS 173.65 ZAE 117.70 ETE 196.40 ZAC 74.14 ETC 270.77 LVI 18.11

DISTANCE 583.081 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.145 VHL 4.018 DLA 11.78 RAL 329.91 RAD 6641.1 VEL 11.670 PTH 6.71 VHP 3.632 DPA -51.83 RAP 295.92 ECC 1.2657
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 34 28 3319.88 -42.35 112.58 195.33 114.11 16 29 48 2319.9 -28.88 87.70
 60.00 16 1 8 3249.01 -36.91 108.88 198.01 107.48 16 53 15 2249.0 -26.28 83.42
 70.00 16 38 42 3138.35 -32.09 101.48 199.57 102.38 17 31 1 2138.3 -23.87 75.90
 80.00 17 33 26 2986.90 -28.59 89.24 200.33 98.90 18 22 53 1986.9 -22.07 63.72
 90.00 18 48 52 2723.46 -27.28 71.57 200.55 97.76 19 34 15 1723.5 -21.39 46.09
 100.00 20 16 18 2441.37 -28.59 50.61 200.33 98.98 20 56 59 1441.4 -22.07 25.09
 110.00 21 38 9 2185.17 -32.09 30.40 139.57 102.38 22 14 34 1185.2 -23.87 4.81

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3903 TRA 1.9035 TC3-3.0576 BAU .7419 SGT 4201.9 SGR 3317.3 SG3 1420.6 ST 107.6 SR 86.3 SS 128.4
 RDE 1.1074 RRA 1.8037 RC3-1.5708 FAU .15300 RRT .9703 RRF .9983 RTF .5.05 CRT .9977 CRS -.9984 CST -.9925
 FDE 4.9041 FRA 9.1591 FC3-8.2040 BSP 8820 SGB 5353.5 R23 .1426 R13 .9881 LSA 187.7 MSA 10.1 SSA .6
 BDE 1.7774 BRA 2.6237 BC3 3.4374 FSP 2513 SG1 5315.6 SG2 634.6 THA 38.09 EL1 139.1 EL2 4.6 ALF 39.37

LAUNCH DATE APR 7 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.269 GAL -4.20 AZL 87.63 HCA 194.33 SMA 181.46 ECC .18912 INC 2.3710 V1 29.758
 RP 214.55 LAP -.59 LOP 30.85 VP 22.468 GAP 2.91 AZP 92.30 TAL 333.01 TAP 167.34 RCA 147.14 APO 215.77 V2 25.591
 RC 147.535 GL 19.83 GP -26.37 ZAL 136.18 ZAP 78.39 ETS 173.06 ZAE 116.49 ETE 194.21 ZAC 78.22 ETC 270.56 LVI 16.52

DISTANCE 587.414 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.719 VHL 3.965 DLA 9.14 RAL 331.06 RAD 6640.9 VEL 11.652 PTH 6.69 VHP 3.573 DPA -49.94 RAP 294.18 ECC 1.2587
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 49 8 3260.58 -40.59 107.98 194.15 117.32 16 43 29 2260.6 -26.26 84.48
 60.00 16 18 49 3181.59 -35.41 103.79 197.07 110.65 17 11 51 2181.6 -23.81 79.44
 70.00 16 59 57 3060.58 -30.81 95.78 198.87 105.52 17 50 58 2060.6 -21.54 71.07
 80.00 17 58 2 2878.65 -27.49 82.91 199.80 102.13 18 46 1 1878.6 -19.85 58.11
 90.00 19 14 59 2630.32 -26.25 64.95 200.09 100.92 19 58 49 1630.3 -19.21 40.13
 100.00 20 40 54 2353.12 -27.49 44.28 199.80 102.13 21 20 7 1353.1 -19.85 19.48
 110.00 21 59 23 2107.40 -30.81 24.70 198.87 105.52 22 34 31 1107.4 -21.54 359.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.1126 TRA 1.7655 TC3-3.7585 BAU 1.0261 SGT 4259.8 SGR 2959.1 SG3 1444.6 ST 89.4 SR 35.4 SS 51.6
 RDE 1.3672 RRA 1.0510 RC3-3.1168 FAU .32125 RRT .9674 RRF .9981 RTF .9538 CRT .9634 CRS -.9968 CST -.8839
 FDE 1.3687 FRA 6.0646 FC-17.6927 BSP 4731 SGB 5186.7 R23 .2179 R13 .9751 LSA 106.8 MSA 22.0 SSA .3
 BDE 1.1717 BRA 2.0547 BC3 4.8827 FSP -1173 SG1 5149.5 SG2 619.8 THA 34.47 EL1 95.7 EL2 8.9 ALF 21.05

LAUNCH DATE APR 7 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.273 GAL -4.26 AZL 87.94 HCA 199.50 SMA 181.51 ECC .18985 INC 2.0801 V1 29.758
RP 214.88 LAP -.95 LOP 32.03 VP 22.452 GAP 2.76 AZP 91.99 TAL 332.58 TAP 168.08 RCA 147.05 APO 215.96 V2 25.954
RC 149.988 GL 17.05 GP -24.56 ZAL 137.40 ZAP 76.79 ETS 172.75 ZAE 115.50 ETE 192.53 ZAC 78.03 ETC 270.47 LVI 15.01

PLANETOCENTRIC CONIC

C3 15.572 VHL 3.946 DLA 6.87 RAL 332.33 RAD 6640.8 VEL 11.646 PTH 6.68 VHP 3.930 DPA -48.21 RAP 293.20 ECC 1.2563
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 2 44 3121.94 -39.03 104.47 193.85 119.70 16 58 17 2212.9 -24.10 82.01
60.00 16 34 57 3127.23 -34.03 99.84 196.94 113.03 17 27 4 2127.2 -21.73 76.34
70.00 17 18 57 2997.78 -29.58 91.30 198.89 107.91 18 8 55 1997.8 -19.54 67.30
80.00 18 19 42 2807.47 -26.37 77.92 199.95 104.53 19 6 30 1807.5 -17.92 53.71
90.00 19 37 51 2555.31 -25.18 59.72 200.28 103.32 20 20 26 1555.3 -17.30 35.46
100.00 21 2 34 2281.94 -26.37 39.29 199.95 104.53 21 40 36 1281.9 -17.92 15.08
110.00 22 18 23 2044.59 -29.58 20.22 198.89 107.91 22 52 28 1044.6 -19.54 356.21

DIFFERENTIAL CORRECTIONS

TDE 1.3629 TRA 2.2049 TC3-3.4205 BAU .7670
RDE .9173 RRA 1.5637 RC3-1.3691 FAU .15848
FDE 4.8009 FRA 9.8616 FC3-8.8107 BSP 9024
BDE 1.6428 BRA 2.7031 BC3 3.6843 FSP 2701

MID-COURSE EXECUTION ACCURACY

SGT 4647.7 SGR 2858.5 SG3 1508.8
RRT .9730 RRF .9972 RTF .9742
SGB 5456.4 R23 .1516 R13 .9858
SG1 5427.0 SG2 565.2 THA 31.27

ORBIT DETERMINATION ACCURACY

ST 110.2 SR 74.9 SS 125.1
CRT .9997 CRS -.9968 CST -.9949
LSA 182.6 MSA 8.7 SSA .8
EL1 133.3 EL2 1.6 ALF 34.21

LAUNCH DATE APR 7 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.276 GAL -4.34 AZL 88.21 HCA 196.67 SMA 181.56 ECC .19049 INC 1.7926 V1 29.758
RP 215.21 LAP -.51 LOP 33.20 VP 22.415 GAP 2.58 AZP 91.72 TAL 332.25 TAP 168.92 RCA 146.98 APO 216.15 V2 25.518
RC 152.438 GL 14.83 GP -22.94 ZAL 138.34 ZAP 75.04 ETS 172.42 ZAE 114.24 ETE 190.94 ZAC 79.67 ETC 270.33 LVI 13.72

PLANETOCENTRIC CONIC

C3 15.478 VHL 3.934 DLA 4.90 RAL 333.39 RAD 6640.8 VEL 11.642 PTH 6.68 VHP 3.502 DPA -46.69 RAP 292.09 ECC 1.2547
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 14 15 3172.16 -37.63 101.59 193.69 121.59 17 7 7 2172.2 -22.21 79.96
60.00 16 48 36 3080.74 -32.75 96.57 196.90 114.94 17 39 57 2080.7 -19.90 73.77
70.00 17 35 1 2944.21 -28.40 87.58 198.97 109.82 18 24 5 1944.2 -17.76 64.16
80.00 18 38 0 2746.96 -25.27 73.77 200.12 106.45 19 23 47 1747.0 -16.18 50.06
90.00 19 57 7 2491.65 -24.11 55.36 200.49 105.25 20 38 39 1491.6 -15.59 31.57
100.00 21 20 52 2221.43 -25.27 35.13 200.12 106.45 21 57 53 1221.4 -16.18 11.42
110.00 22 34 28 1991.02 -28.40 16.50 198.97 109.82 23 7 39 991.0 -17.76 353.08

DIFFERENTIAL CORRECTIONS

TDE 1.3690 TRA 2.3597 TC3-3.5594 BAU .7804
RDE .8583 RRA 1.4658 RC3-1.2462 FAU .15679
FDE 4.8029 FRA10.1499 FC3-8.7697 BSP 9298
BDE 1.6158 BRA 2.7779 BC3 3.7713 FSP 2822

MID-COURSE EXECUTION ACCURACY

SGT 4869.9 SGR 2667.3 SG3 1537.5
RRT .9722 RRF .9965 RTF .9744
SGB 5552.5 R23 .1572 R13 .9843
SG1 5525.2 SG2 550.4 THA 28.34

ORBIT DETERMINATION ACCURACY

ST 112.4 SR 70.3 SS 125.5
CRT .9999 CRS -.9958 CST -.9961
LSA 182.3 MSA 8.1 SSA 1.0
EL1 132.6 EL2 1.0 ALF 32.02

LAUNCH DATE APR 7 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.280 GAL -4.40 AZL 88.44 HCA 197.84 SMA 181.63 ECC .19118 INC 1.5599 V1 29.758
RP 215.54 LAP -.48 LOP 34.37 VP 22.378 GAP 2.40 AZP 91.49 TAL 331.92 TAP 169.76 RCA 146.90 APO 216.35 V2 25.480
RC 154.904 GL 12.88 GP -21.48 ZAL 139.15 ZAP 73.32 ETS 172.13 ZAE 112.90 ETE 189.55 ZAC 81.14 ETC 270.21 LVI 12.57

PLANETOCENTRIC CONIC

C3 15.466 VHL 3.933 DLA 3.19 RAL 334.38 RAD 6640.7 VEL 11.641 PTH 6.68 VHP 3.485 DPA -45.31 RAP 291.11 ECC 1.2545
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 24 26 3137.75 -36.38 99.26 193.76 123.08 17 16 43 2137.7 -20.60 78.28
60.00 17 0 38 3041.44 -31.58 93.89 197.06 116.46 17 51 19 2041.4 -18.32 71.65
70.00 17 49 6 2898.86 -27.32 84.50 199.24 111.35 18 37 25 1898.9 -16.21 61.55
80.00 18 53 58 2695.73 -24.24 70.31 200.46 107.99 19 38 54 1695.7 -14.66 47.01
90.00 20 13 54 2437.77 -23.09 51.74 200.85 106.79 20 54 32 1437.8 -14.07 28.34
100.00 21 36 50 2170.20 -24.24 31.68 200.46 107.99 22 13 0 1170.2 -14.66 8.38
110.00 22 48 33 1945.68 -27.32 13.42 199.24 111.35 23 20 58 945.7 -16.21 350.47

DIFFERENTIAL CORRECTIONS

TDE 1.3697 TRA 2.5004 TC3-3.7077 BAU .8045
RDE .7919 RRA 1.3578 RC3-1.1789 FAU .16039
FDE 4.801 FRA10.2469 FC3-8.9777 BSP 9346
BDE 1.5821 BRA 2.8451 BC3 3.8908 FSP 2780

MID-COURSE EXECUTION ACCURACY

SGT 5079.1 SGR 2472.8 SG3 1544.9
RRT .9740 RRF .9955 RTF .5769
SGB 5649.1 R23 .1519 R13 .9844
SG1 5626.4 SG2 505.5 THA 25.59

ORBIT DETERMINATION ACCURACY

ST 113.9 SR 64.9 SS 122.7
CRT .9995 CRS -.9943 CST -.9966
LSA 179.4 MSA 8.0 SSA 1.1
EL1 131.1 EL2 1.8 ALF 29.87

LAUNCH DATE APR 7 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.284 GAL -4.47 AZL 88.64 HCA 199.00 SMA 181.70 ECC .19191 INC 1.3557 V1 29.758
RP 215.87 LAP -.44 LOP 35.53 VP 22.341 GAP 2.22 AZP 91.28 TAL 331.58 TAP 170.58 RCA 146.83 APO 216.57 V2 25.443
RC 157.385 GL 11.15 GP -20.17 ZAL 139.88 ZAP 71.65 ETS 171.90 ZAE 111.53 ETE 188.33 ZAC 82.48 ETC 270.10 LVI 11.54

PLANETOCENTRIC CONIC

C3 15.522 VHL 3.940 DLA 1.68 RAL 335.27 RAD 6640.8 VEL 11.643 PTH 6.68 VHP 3.477 DPA -44.07 RAP 290.23 ECC 1.2554
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 33 32 3108.67 -35.28 97.35 194.01 124.27 17 25 20 2108.7 -19.22 76.89
60.00 17 11 20 3008.12 -30.55 91.67 197.39 117.67 18 1 28 2008.1 -16.96 69.89
70.00 18 1 35 2860.33 -26.34 81.94 199.64 112.58 18 49 15 1860.3 -14.87 59.38
80.00 19 8 4 2652.14 -23.29 67.42 200.92 109.23 19 52 16 1652.1 -13.33 44.46
90.00 20 28 42 2391.90 -22.16 48.70 201.33 108.03 21 8 34 1391.9 -12.75 25.63
100.00 21 50 56 2126.61 -23.29 28.79 200.92 109.23 22 26 22 1126.6 -13.33 5.83
110.00 23 1 1 1907.15 -26.34 10.85 199.64 112.58 23 32 48 907.1 -14.87 348.29

DIFFERENTIAL CORRECTIONS

TDE 1.3837 TRA 2.6480 TC3-3.8252 BAU .8253
RDE .7461 RRA 1.2673 RC3-1.0893 FAU .16000
FDE 4.6089 FRA10.3586 FC3-8.9239 BSP 9561
BDE 1.5721 BRA 2.9356 BC3 3.9772 FSP 2795

MID-COURSE EXECUTION ACCURACY

SGT 5289.3 SGR 2305.2 SG3 1549.2
RRT .9739 RRF .9943 RTF .9779
SGB 5769.8 R23 .1495 R13 .9839
SG1 5749.7 SG2 481.6 THA 23.17

ORBIT DETERMINATION ACCURACY

ST 116.1 SR 60.9 SS 121.5
CRT .9986 CRS -.9926 CST -.9973
LSA 178.6 MSA 7.9 SSA 1.2
EL1 131.1 EL2 2.9 ALF 27.66

LAUNCH DATE APR 7 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC										DISTANCE 608.080										EARTH TO MARS																																																																																				
RL	149.73	LAL	.00	LOL	196.54	VL	32.289	GAL	-4.54	AZL	88.82	HCA	200.16	SMA	181.77	ECC	.19268	INC	1.1749	V1	29.758	RP	216.21	LAP	-.41	LOP	36.69	VP	22.303	GAP	2.04	AZP	91.10	TAL	331.23	TAP	171.39	RCA	146.75	APO	216.80	V2	25.405	RC	159.881	GL	9.61	GP	-18.98	ZAL	140.49	ZAP	70.02	ETS	171.71	ZAE	110.14	ETE	187.26	ZAC	83.65	ETC	270.00	LVI	10.61																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	15.629	VHL	3.953	DLA	.37	RAL	336.12	RAD	6640.8	VEL	11.648	PTH	6.69	VHP	3.476	DPA	-42.94	RAP	289.50	ECC	1.2572	SGT	5495.9	SGR	2152.2	SG3	1546.4	ST	118.6	SR	57.4	SS	120.2	CRT	.9971	CR3	-.9906	CST	-.9979	LSA	178.2	MSA	7.9	SSA	1.2																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5902.3	R23	.1457	R13	.9836	EL1	131.7	EL2	3.9	ALF	25.81	SG1	5864.2	SG2	461.6	THA	21.00	EL2	3.9	ALF	25.81																																																									
50.00	16	41	43	3084.05	-34.32	95.77	194.39	125.23	17	33	7	2084.0	-18.04	75.74	60.00	17	20	54	2979.80	-29.64	89.82	197.82	118.66	18	10	34	1979.8	-15.79	68.41	70.00	18	12	43	2827.45	-25.46	79.78	200.14	113.58	18	59	50	1827.4	-13.71	57.54	80.00	19	20	36	2614.86	-22.44	64.98	201.47	110.23	20	4	11	1614.9	-12.17	42.30	90.00	20	41	52	2352.65	-21.31	46.14	201.90	109.04	21	21	4	1352.6	-11.59	23.33	100.00	22	3	28	2089.33	-22.44	26.35	201.47	110.23	22	38	17	1089.3	-12.17	3.67	110.00	23	12	9	1874.27	-25.46	8.70	200.14	113.58	23	43	23	874.3	-13.71	346.46

LAUNCH DATE APR 7 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC										DISTANCE 612.237										EARTH TO MARS																																																																																				
RL	149.73	LAL	.00	LOL	196.54	VL	32.294	GAL	-4.61	AZL	88.99	HCA	201.32	SMA	181.85	ECC	.19350	INC	1.0129	V1	29.758	RP	216.56	LAP	-.37	LOP	37.85	VP	22.268	GAP	1.36	AZP	90.94	TAL	330.88	TAP	172.19	RCA	146.60	APO	217.04	V2	25.366	RC	162.390	GL	8.24	GP	-17.91	ZAL	141.07	ZAP	68.43	ETS	171.56	ZAE	108.73	ETE	186.32	ZAC	84.74	ETC	269.91	LVI	9.76																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	15.780	VHL	3.972	DLA	-.79	RAL	336.92	RAD	6640.9	VEL	11.654	PTH	6.69	VHP	3.482	DPA	-41.91	RAP	288.84	ECC	1.2597	SGT	5696.5	SGR	2011.5	SG3	1537.0	ST	121.0	SR	54.3	SS	118.8	CRT	.9950	CR3	-.9882	CST	-.9963	LSA	177.9	MSA	8.0	SSA	1.3																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6041.2	R23	.1408	R13	.9833	EL1	132.6	EL2	4.9	ALF	24.12	SG1	6024.8	SG2	445.5	THA	19.05	EL2	4.9	ALF	24.12																																																									
50.00	16	49	8	3063.19	-33.50	94.47	194.85	126.00	17	40	11	2083.2	-17.04	74.77	60.00	17	29	33	2955.68	-28.85	88.28	198.35	119.46	18	18	48	1955.7	-14.78	67.16	70.00	18	22	42	2799.34	-24.68	77.97	200.71	114.39	19	9	22	1799.3	-12.70	55.99	80.00	19	31	50	2582.88	-21.67	62.92	202.09	111.06	20	14	53	1582.9	-11.16	40.47	90.00	20	53	38	2318.93	-20.54	43.97	202.54	109.87	21	32	17	1318.9	-10.58	21.37	100.00	22	14	42	2057.35	-21.67	24.29	202.09	111.06	22	48	59	1057.4	-11.16	1.84	110.00	23	22	9	1846.16	-24.68	6.89	200.71	114.39	23	52	55	846.2	-12.70	344.91

LAUNCH DATE APR 7 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC										DISTANCE 616.390										EARTH TO MARS																																																																																				
RL	149.73	LAL	.00	LOL	196.54	VL	32.299	GAL	-4.68	AZL	89.13	HCA	202.47	SMA	181.94	ECC	.19436	INC	.8679	V1	29.758	RP	216.91	LAP	-.33	LOP	39.00	VP	22.232	GAP	1.69	AZP	90.80	TAL	330.51	TAP	172.98	RCA	146.58	APO	217.30	V2	25.327	RC	164.912	GL	7.01	GP	-16.92	ZAL	141.60	ZAP	66.90	ETS	171.44	ZAE	107.32	ETE	185.48	ZAC	85.73	ETC	269.83	LVI	8.98																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	15.965	VHL	3.996	DLA	-1.81	RAL	337.68	RAD	6641.0	VEL	11.862	PTH	6.70	VHP	3.493	DPA	-40.97	RAP	288.27	ECC	1.2628	SGT	5894.4	SGR	1883.0	SG3	1523.3	ST	123.7	SR	51.7	SS	117.8	CRT	.9924	CR3	-.9855	CST	-.9987	LSA	178.1	MSA	8.3	SSA	1.3																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6188.1	R23	.1353	R13	.9831	EL1	134.0	EL2	5.9	ALF	22.57	SG1	6172.9	SG2	433.2	THA	17.32	EL2	5.9	ALF	22.57																																																									
50.00	16	53	53	3045.54	-32.79	93.38	195.39	126.64	17	46	38	2045.5	-16.18	73.96	60.00	17	37	22	2935.16	-28.15	86.98	198.93	120.12	18	26	17	1935.2	-13.92	66.11	70.00	18	31	44	2775.29	-23.99	76.44	201.35	115.07	19	18	0	1775.3	-11.83	54.67	80.00	19	41	58	2555.42	-20.99	61.16	202.76	111.74	20	24	33	1555.4	-10.28	38.90	90.00	21	4	14	2289.94	-19.86	42.11	203.22	110.55	21	42	24	1289.9	-9.69	19.70	100.00	22	24	50	2029.89	-20.99	22.53	202.76	111.74	22	58	39	1029.9	-10.28	.27	110.00	23	31	11	1822.11	-23.99	5.36	201.35	115.07	24	1	33	822.1	-11.83	343.59

LAUNCH DATE APR 7 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC										DISTANCE 620.539										EARTH TO MARS																																																																																				
RL	149.73	LAL	.00	LOL	196.54	VL	32.303	GAL	-4.75	AZL	89.26	HCA	203.62	SMA	182.03	ECC	.19526	INC	.7365	V1	29.758	RP	217.26	LAP	-.30	LOP	40.15	VP	22.195	GAP	1.91	AZP	90.88	TAL	330.14	TAP	173.76	RCA	146.48	APO	217.57	V2	25.288	RC	167.448	GL	5.91	GP	-16.03	ZAL	142.09	ZAP	65.41	ETS	171.34	ZAE	105.91	ETE	184.75	ZAC	86.63	ETC	269.76	LVI	8.26																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	16.182	VHL	4.023	DLA	-2.71	RAL	338.40	RAD	6641.1	VEL	11.671	PTH	6.71	VHP	3.508	DPA	-40.11	RAP	287.77	ECC	1.2663	SGT	6086.7	SGR	1766.2	SG3	1505.3	ST	126.5	SR	49.3	SS	116.1	CRT	.9892	CR3	-.9824	CST	-.9990	LSA	178.4	MSA	8.6	SSA	1.4																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6337.7	R23	.1291	R13	.9830	EL1	135.6	EL2	6.7	ALF	21.16	SG1	6323.5	SG2	423.9	THA	15.77	EL2	6.7	ALF	21.16																																																									
50.00	17	2	3	3030.66	-32.18	92.49	195.98	127.15	17	52	34	2030.7	-15.46	73.28	60.00	17	44	30	2917.74	-27.55	85.90	199.56	120.66	18	33	8	1917.7	-13.19	65.23	70.00	18	39	56	2754.73	-23.40	75.15	202.02	115.62	19	25	51	1754.7	-11.08	53.55	80.00	19	51	8	2531.82	-20.38	59.67	203.46	112.30	20	33	20	1531.8	-9.52	37.57	90.00	21	13	50	2264.98	-19.26	40.53	203.94	111.12	21	51	35	1265.0	-8.93	18.26	100.00	22	34	0	2006.29	-20.38	21.04	203.46	112.30	23	7	26	1006.3	-9.52	358.94	110.00	23	39	22	1801.55	-23.40	4.06	202.02	115.62	24	9	24	801.5	-11.08	342.47

LAUNCH DATE APR 7 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.311 GAL -4.83 AZL 89.38 HCA 204.77 SMA 182.12 ECC .19620 INC .8168 V1 29.758
 RP 217.61 LAP -.26 LOP 41.30 VP 22.159 GAP 1.33 AZP 90.36 TAL 329.76 TAP 174.52 RCA 146.39 APO 217.85 V2 25.249
 RC 169.992 GL 4.91 GP -15.20 ZAL 142.55 ZAP 63.97 ETS 171.26 ZAE 104.52 ZAE 104.52 ETE 184.10 ZAC 87.45 ETC 269.71 LVI 7.60

DISTANCE 624.683 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.425 VHL 4.053 DLA -3.51 RAL 339.09 RAD 6641.2 VEL 11.682 PTH 6.72 VHP 3.526 DPA -39.32 RAP 287.35 ECC 1.2703
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 43 3018.17 -31.66 91.74 196.60 127.57 17 58 2 2018.2 -14.85 72.72
 60.00 17 51 2 2902.99 -27.04 84.99 200.22 121.10 18 39 25 1903.0 -12.56 64.48
 70.00 18 47 24 2737.20 -22.87 74.05 202.75 116.08 19 33 2 1737.2 -10.43 52.60
 80.00 19 59 28 2511.59 -19.86 58.40 204.20 112.77 20 41 20 1511.6 -8.86 36.43
 90.00 21 22 33 2243.53 -18.73 39.18 204.69 111.59 21 59 56 1243.5 -8.26 17.04
 100.00 22 42 20 1986.06 -19.86 19.77 204.20 112.77 23 15 26 986.1 -8.86 357.79
 110.00 23 46 51 1784.02 -22.87 2.97 202.73 116.08 24 16 35 784.0 -10.43 341.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5175 TRA 3.3851 TC3-4.2338 BAU .9433 SGT 6274.4 SGR 1658.7 SG3 1484.0 ST 129.2 SR 47.3 SS 114.8
 RDE .6102 RRA .9099 RC3 -.7262 FAU .15029 RRT .9656 RRF .9830 RTF .9806 CRT .9855 CRS -.9790 CST -.9993
 FDE 4.3154 FRA10.3900 FC3-7.9213 BSP 10849 SGB 6490.0 R23 .1228 R13 .9828 LSA 179.0 MSA 8.9 SSA 1.4
 BDE 1.6356 BRA 3.5053 BC3 4.2956 FSP 2713 SG1 6476.5 SG2 417.8 THA 14.38 EL1 137.4 EL2 7.5 ALF 19.88

LAUNCH DATE APR 7 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.317 GAL -4.91 AZL 89.49 HCA 205.91 SMA 182.22 ECC .19718 INC .5076 V1 29.758
 RP 217.97 LAP -.22 LOP 42.44 VP 22.123 GAP 1.16 AZP 90.46 TAL 329.37 TAP 175.28 RCA 146.29 APO 218.13 V2 25.209
 RC 172.547 GL 4.01 GP -14.45 ZAL 142.99 ZAP 62.57 ETS 171.21 ZAE 103.14 ETE 183.53 ZAC 88.21 ETC 269.66 LVI 6.99

DISTANCE 628.824 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.692 VHL 4.086 DLA -4.21 RAL 339.75 RAD 6641.3 VEL 11.693 PTH 6.73 VHP 3.548 DPA -38.59 RAP 286.99 ECC 1.2747
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 57 3007.78 -31.23 91.13 197.26 127.92 18 3 5 2007.6 -14.35 72.25
 60.00 17 57 1 2890.58 -26.60 84.23 200.92 121.47 18 45 12 1890.6 -12.03 63.86
 70.00 18 54 15 2722.31 -22.43 73.13 203.45 116.46 19 39 37 1722.3 -9.89 51.80
 80.00 20 7 5 2494.28 -19.40 57.32 204.95 113.16 20 48 39 1494.3 -8.29 35.45
 90.00 21 30 30 2225.14 -18.26 38.03 205.45 111.98 22 7 35 1225.1 -7.69 15.99
 100.00 22 49 56 1968.75 -19.40 18.69 204.95 113.16 23 22 45 968.8 -8.29 356.82
 110.00 23 53 41 1769.13 -22.43 2.05 203.45 116.46 24 23 10 769.1 -9.89 340.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5541 TRA 3.5336 TC3-4.2862 BAU .9681 SGT 6458.1 SGR 1560.4 SG3 1460.1 ST 132.1 SR 45.4 SS 113.4
 RDE .5951 RRA .8532 RC3 -.6893 FAU .14726 RRT .9621 RRF .9793 RTF .9809 CRT .9813 CRS -.9753 CST -.9994
 FDE 4.2612 FRA10.3284 FC3-7.6376 BSP 11134 SGB 6643.9 R23 .1163 R13 .9827 LSA 179.7 MSA 9.4 SSA 1.4
 BDE 1.6641 BRA 3.6352 BC3 4.3382 FSP 2677 SG1 6631.0 SG2 414.3 THA 13.14 EL1 139.5 EL2 8.3 ALF 18.72

LAUNCH DATE APR 7 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.323 GAL -4.99 AZL 89.59 HCA 207.05 SMA 182.32 ECC .19820 INC .4073 V1 29.758
 RP 218.33 LAP -.19 LOP 43.58 VP 22.087 GAP .98 AZP 90.36 TAL 328.97 TAP 176.02 RCA 146.19 APO 218.46 V2 25.189
 RC 175.114 GL 3.19 GP -13.75 ZAL 143.41 ZAP 61.22 ETS 171.16 ZAE 101.78 ETE 183.02 ZAC 88.91 ETC 269.62 LVI 6.41

DISTANCE 632.959 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.982 VHL 4.121 DLA -4.84 RAL 340.39 RAD 6641.5 VEL 11.705 PTH 6.74 VHP 3.573 DPA -37.91 RAP 286.70 ECC 1.2795
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 40 2999.22 -30.87 90.63 197.94 128.19 18 7 47 1999.2 -13.93 71.87
 60.00 18 2 32 2880.23 -26.23 83.61 201.63 121.77 18 50 33 1880.2 -11.59 63.34
 70.00 19 0 31 2709.75 -22.04 72.35 204.20 116.77 19 45 41 1709.7 -9.42 51.12
 80.00 20 14 3 2479.56 -19.00 56.41 205.72 113.48 20 55 22 1479.6 -7.81 34.63
 90.00 21 37 46 2209.44 -17.86 37.06 206.23 112.30 22 14 35 1209.4 -7.20 15.10
 100.00 22 56 54 1954.03 -19.00 17.78 205.72 113.48 23 29 28 954.0 -7.81 356.00
 110.00 0 3 53 1756.56 -22.04 1.27 204.20 116.77 0 33 10 756.6 -9.42 340.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5935 TRA 3.6827 TC3-4.3318 BAU .9934 SGT 6637.8 SGR 1470.7 SG3 1434.4 ST 135.1 SR 43.9 SS 112.1
 RDE .5828 RRA .8003 RC3 -.6176 FAU .14415 RRT .9579 RRF .9749 RTF .9810 CRT .9766 CRS -.9712 CST -.9996
 FDE 4.2108 FRA10.2525 FC3-7.3491 BSP 11417 SGB 6798.8 R23 .1098 R13 .9825 LSA 180.6 MSA 9.8 SSA 1.4
 BDE 1.6968 BRA 3.7686 BC3 4.3756 FSP 2637 SG1 6766.2 SG2 412.9 THA 12.03 EL1 141.7 EL2 9.0 ALF 17.67

LAUNCH DATE APR 7 1971

FLIGHT TIME 268.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC
 RL 149.73 LAL .00 LOL 196.54 VL 32.330 GAL -5.07 AZL 89.68 HCA 208.18 SMA 182.43 ECC .19925 INC .3144 V1 29.758
 RP 218.69 LAP -.15 LOP 44.72 VP 22.051 GAP .81 AZP 90.28 TAL 328.57 TAP 176.75 RCA 146.08 APO 218.78 V2 25.129
 RC 177.690 GL 2.44 GP -13.11 ZAL 143.82 ZAP 59.92 ETS 171.14 ZAE 100.45 ETE 182.58 ZAC 89.56 ETC 269.59 LVI 5.87

DISTANCE 637.090 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.291 VHL 4.158 DLA -5.40 RAL 341.00 RAD 6641.6 VEL 11.718 PTH 6.75 VHP 3.600 DPA -37.28 RAP 286.46 ECC 1.2846
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 18 2992.28 -30.58 90.23 198.63 128.41 18 12 11 1992.3 -13.59 71.56
 60.00 18 7 38 2871.70 -25.92 83.09 202.36 122.01 18 55 30 1871.7 -11.23 62.92
 70.00 19 6 18 2699.24 -21.72 71.71 204.96 117.03 19 51 17 1699.2 -9.03 50.56
 80.00 20 20 26 2467.11 -18.66 55.64 206.51 113.74 21 1 33 1467.1 -7.40 33.93
 90.00 21 44 26 2196.12 -17.51 36.23 207.02 112.57 22 21 2 1196.1 -6.78 14.35
 100.00 23 3 18 1941.59 -18.66 17.01 206.51 113.74 23 35 40 941.6 -7.40 355.30
 110.00 0 9 40 1746.05 -21.72 .63 204.96 117.03 0 38 46 746.1 -9.03 339.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.6346 TRA 3.8316 TC3-4.3703 BAU 1.0188 SGT 6812.0 SGR 1388.1 SG3 1406.6 ST 138.0 SR 42.4 SS 110.7
 RDE .5726 RRA .7508 RC3 -.5700 FAU .14081 RRT .9528 RRF .9697 RTF .9811 CRT .9714 CRS -.9668 CST -.9997
 FDE 4.1583 FRA10.1627 FC3-7.0500 BSP 11694 SGB 6952.0 R23 .1037 R13 .9824 LSA 181.6 MSA 10.2 SSA 1.4
 BDE 1.7320 BRA 3.9044 BC3 4.4073 FSP 2592 SG1 6939.7 SG2 413.5 THA 11.03 EL1 144.0 EL2 9.6 ALF 16.71

LAUNCH DATE APR 7 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.337 GAL -5.16 AZL 89.77 HCA 209.31 SMA 182.54 ECC .20034 INC .2286 V1 29.758
RP 219.06 LAP -.11 LOP 45.85 VP 22.015 GAP .63 AZP 90.20 TAL 328.17 TAP 177.48 RCA 145.97 APO 219.11 V2 25.089
RC 180.273 GL 1.78 GP -12.51 ZAL 144.21 ZAP 58.86 ETS 171.12 ZAE 99.13 ETE 182.16 ZAC 90.15 ETC 269.57 LVI 5.35

DISTANCE 641.215

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.619 VHL 4.198 DLA -5.89 RAL 341.60 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 3.630 DPA -36.70 RAP 286.28 ECC 1.2900
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 30 2986.79 -30.34 89.91 199.35 128.58 18 16 17 1986.6 -13.32 71.32
60.00 18 12 22 2864.78 -25.67 82.68 203.10 122.20 19 0 7 1864.8 -10.93 62.57
70.00 19 11 38 2690.55 -21.45 71.18 205.73 117.24 19 56 28 1690.6 -8.71 50.09
80.00 20 26 19 2456.70 -18.37 55.00 207.30 113.96 21 7 18 1456.7 -7.05 33.35
90.00 21 50 33 2184.92 -17.22 35.54 207.82 112.79 22 26 58 1184.9 -6.43 13.71
100.00 23 9 11 1931.17 -18.37 16.37 207.30 113.96 23 41 22 931.2 -7.05 354.72
110.00 0 15 0 1737.37 -21.45 .10 205.73 117.24 0 43 57 737.4 -8.71 339.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6764 TRA 3.9818 TC3-4.4022 BAU 1.0443 SGT 6982.9 SGR 1313.0 SCS 1377.9 ST 141.0 SR 41.2 S8 109.4
RDE .5647 RRA .7045 RC3 -.5265 FAU .13736 RRT .9469 RRF .9637 RTF .9811 CRT .9659 CR8 -.9621 CST -.9998
FDE 4.1098 FRA10.0652 FC3-6.7493 BSP 11978 SGB 7105.3 R23 .0978 R13 .9822 LSA 182.8 MSA 10.7 S3A 1.4
BDE 1.7708 BRA 4.0437 BC3 4.4338 FSP 2547 SGI 7093.1 SGI 415.8 THA 10.13 EL1 146.5 EL2 10.3 ALF 15.84

LAUNCH DATE APR 7 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.344 GAL -5.25 AZL 89.85 HCA 210.44 SMA 182.66 ECC .20146 INC .1477 V1 29.758
RP 219.43 LAP -.08 LOP 46.97 VP 21.979 GAP .46 AZP 90.13 TAL 327.75 TAP 178.19 RCA 145.86 APO 219.46 V2 25.048
RC 182.871 GL 1.14 GP -11.96 ZAL 144.60 ZAP 57.44 ETS 171.12 ZAE 97.84 ETE 181.79 ZAC 90.71 ETC 269.56 LVI 4.86

DISTANCE 645.336

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.966 VHL 4.239 DLA -6.33 RAL 342.17 RAD 6641.9 VEL 11.747 PTH 6.78 VHP 3.661 DPA -36.15 RAP 286.15 ECC 1.2957
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 30 25 2982.58 -30.16 89.67 200.07 128.71 18 20 8 1982.6 -13.11 71.13
60.00 18 16 46 2859.31 -25.47 82.35 203.86 122.35 19 4 25 1859.3 -10.70 62.30
70.00 19 16 33 2683.90 -21.23 70.75 206.51 117.40 20 1 17 1683.5 -8.44 49.72
80.00 20 31 45 2448.11 -18.13 54.47 208.10 114.13 21 12 33 1448.1 -6.77 32.87
90.00 21 56 12 2175.63 -16.97 34.97 208.63 112.96 22 32 28 1175.6 -6.13 13.19
100.00 23 14 37 1922.58 -18.13 15.84 208.10 114.13 23 46 39 922.6 -6.77 354.24
110.00 0 19 56 1730.32 -21.23 359.67 206.11 117.40 0 48 46 730.3 -8.44 338.63

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7234 TRA 4.1320 TC3-4.4294 BAU 1.0703 SGT 7148.9 SGR 1244.0 SCS 1347.9 ST 143.9 SR 40.1 S8 108.0
RDE .5581 RRA .6608 RC3 -.4871 FAU .13393 RRT .9399 RRF .9568 RTF .9811 CRT .9599 CR8 -.9570 CST -.9998
FDE 4.0585 FRA 9.9567 FC3-6.4535 BSP 12249 SGB 7256.4 R23 .0921 R13 .9820 LSA 184.0 MSA 11.1 S3A 1.4
BDE 1.8115 BRA 4.1845 BC3 4.4561 FSP 2498 SGI 7244.2 SGI 419.1 THA 9.32 EL1 149.0 EL2 10.6 ALF 15.05

LAUNCH DATE APR 7 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.351 GAL -5.34 AZL 89.92 HCA 211.56 SMA 182.78 ECC .20262 INC .0737 V1 29.758
RP 219.80 LAP -.04 LOP 48.10 VP 21.943 GAP .28 AZP 90.07 TAL 327.33 TAP 178.90 RCA 145.74 APO 219.81 V2 25.007
RC 185.475 GL .57 GP -11.45 ZAL 144.98 ZAP 56.27 ETS 171.12 ZAE 96.58 ETE 181.47 ZAC 91.22 ETC 269.56 LVI 4.40

DISTANCE 649.451

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.330 VHL 4.281 DLA -6.71 RAL 342.73 RAD 6642.1 VEL 11.762 PTH 6.79 VHP 3.694 DPA -35.65 RAP 286.07 ECC 1.3017
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 34 5 2979.52 -30.03 89.50 200.80 128.81 18 23 45 1979.5 -12.96 71.00
60.00 18 20 52 2855.13 -25.32 82.10 204.62 122.47 19 8 27 1855.1 -10.52 62.09
70.00 19 21 8 2677.92 -21.05 70.41 207.29 117.53 20 5 46 1677.9 -8.24 49.42
80.00 20 36 48 2441.14 -17.94 54.05 208.90 114.27 21 17 27 1441.1 -6.54 32.49
90.00 22 1 24 2188.03 -16.77 34.31 209.44 113.11 22 37 32 1168.0 -5.89 12.76
100.00 23 19 38 1915.62 -17.94 15.42 208.90 114.27 23 51 33 915.6 -6.54 353.85
110.00 0 24 30 1724.74 -21.05 359.33 207.29 117.53 0 53 15 724.7 -6.24 338.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7719 TRA 4.2849 TC3-4.4477 BAU 1.0955 SGT 7312.0 SGR 1181.4 SCS 1317.7 ST 146.9 SR 39.1 S8 106.7
RDE .5536 RRA .6201 RC3 -.4503 FAU .13020 RRT .9319 RRF .9488 RTF .9810 CRT .9537 CR8 -.9519 CST -.9999
FDE 4.0133 FRA 9.8464 FC3-6.1494 BSP 12541 SGB 7408.9 R23 .0871 R13 .9818 LSA 185.4 MSA 11.6 S3A 1.3
BDE 1.8564 BRA 4.3288 BC3 4.4704 FSP 2490 SGI 7394.7 SGI 423.8 THA 8.59 EL1 131.6 EL2 11.4 ALF 14.33

LAUNCH DATE APR 7 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

RL 149.73 LAL .00 LOL 196.54 VL 32.359 GAL -5.43 AZL 89.99 HCA 212.68 SMA 182.90 ECC .20382 INC .0000 V1 29.758
RP 220.18 LAP -.00 LOP 49.22 VP 21.907 GAP .10 AZP 90.01 TAL 326.91 TAP 179.59 RCA 145.62 APO 220.18 V2 24.968
RC 188.089 GL .05 GP -10.97 ZAL 145.35 ZAP 55.13 ETS 171.13 ZAE 95.34 ETE 181.18 ZAC 91.70 ETC 269.57 LVI 3.95

DISTANCE 653.960

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.711 VHL 4.326 DLA -7.06 RAL 343.28 RAD 6642.3 VEL 11.778 PTH 6.80 VHP 3.729 DPA -35.17 RAP 286.04 ECC 1.3079
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 37 32 2977.51 -29.95 89.38 201.54 128.87 18 27 10 1977.5 -12.86 70.91
60.00 18 24 41 2852.11 -25.21 81.93 205.38 122.55 19 12 13 1852.1 -10.39 61.95
70.00 19 25 23 2673.65 -20.92 70.16 208.08 117.63 20 9 56 1673.7 -8.06 49.19
80.00 20 41 24 2435.65 -17.79 53.71 209.70 114.38 21 22 0 1435.7 -6.36 32.18
90.00 22 6 13 2161.98 -16.61 34.14 210.25 113.22 22 42 15 1162.0 -5.70 12.42
100.00 23 24 16 1910.12 -17.79 15.08 209.70 114.38 23 56 6 910.1 -6.36 353.55
110.00 0 28 45 1720.47 -20.92 359.07 208.08 117.63 0 57 25 720.5 -8.08 338.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8217 TRA 4.4371 TC3-4.4632 BAU 1.1213 SGT 7470.1 SGR 1124.1 SCS 1286.8 ST 149.9 SR 38.3 S8 105.4
RDE .5502 RRA .5814 RC3 -.4170 FAU .12655 RRT .9226 RRF .9397 RTF .9808 CRT .9472 CR8 -.9465 CST -.9999
FDE 3.9671 FRA 9.7267 FC3-5.8552 BSP 12815 SGB 7554.2 R23 .0824 R13 .9815 LSA 186.8 MSA 12.1 S3A 1.3
BDE 1.9030 BRA 4.4751 BC3 4.4826 FSP 2399 SGI 7542.0 SGI 429.4 THA 7.93 EL1 154.3 EL2 11.9 ALF 13.67

LAUNCH DATE APR 7 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

DISTANCE 657.662

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 32.366 GAL -5.52 AZL 90.06 HCA 213.80 SMA 185.02 ECC .20505 INC .0568 V1 29.758
 RP 220.55 LAP .03 LOP 50.33 VP 21.871 GAP -.07 AZP 89.95 TAL 326.48 TAP 180.28 RCA 145.49 APO 220.55 V2 24.925
 RC 190.711 GL -.43 GP -10.52 ZAL 145.72 ZAP 54.03 ETS 171.15 ZAE 94.12 ETE 180.92 ZAC 92.14 ETC 269.58 LVI 3.52

PLANETOCENTRIC CONIC

C3 19.109 VHL 4.571 DLA -7.36 RAL 343.81 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.765 DPA -34.72 RAP 286.05 ECC 1.3145
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 47 2976.42 -29.90 89.32 202.29 128.90 18 30 23 1976.4 -12.81 70.86
 60.00 18 28 15 2850.14 -25.14 81.81 206.16 122.60 19 15 46 1850.1 -10.30 61.85
 70.00 19 29 20 2670.58 -20.82 69.97 208.88 117.70 20 13 50 1670.6 -7.96 49.03
 80.00 20 45 42 2431.49 -17.67 53.46 210.51 114.47 21 26 13 1431.5 -6.22 31.95
 90.00 22 10 40 2157.33 -16.48 33.85 211.06 113.31 22 46 38 1157.3 -5.55 12.15
 100.00 23 28 34 1905.96 -17.67 14.83 210.51 114.47 24 0 20 906.0 -6.22 353.32
 110.00 0 32 42 1717.40 -20.82 358.89 208.88 117.70 1 1 19 717.4 -7.96 337.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8731 TRA 4.5917 TC3-4.4733 BAU 1.1471 SGT 7625.5 SGR 1072.2 SG3 1255.9 ST 152.9 SR 37.5 SS 104.1
 RDE .5481 RRA .5452 RC3 -.3866 FAU .12286 RRT .9122 RRF .9294 RTF .9806 CRT .9406 CRS -.9409 CST -.9999
 FDE 3.9209 FRA 9.6072 FC3-5.5663 BSP 13089 SGB 7700.5 R23 .0780 R13 .9812 LSA 188.3 MSA 12.5 SSA 1.3
 BDE 1.9516 BRA 4.6240 BC3 4.4900 FSP 2348 SGI 7688.1 SG2 435.6 THA 7.33 EL1 157.0 EL2 12.4 ALP 13.07

LAUNCH DATE APR 7 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

DISTANCE 661.760

EARTH TO MARS

RL 149.73 LAL .00 LOL 196.54 VL 32.374 GAL -5.62 AZL 90.12 HCA 214.91 SMA 183.15 ECC .20631 INC .1181 V1 29.758
 RP 220.93 LAP .07 LOP 51.45 VP 21.836 GAP -.25 AZP 89.90 TAL 326.05 TAP 180.96 RCA 145.37 APO 220.94 V2 24.884
 RC 193.341 GL -.87 GP -10.11 ZAL 146.09 ZAP 52.97 ETS 171.17 ZAE 92.93 ETE 180.68 ZAC 92.56 ETC 269.61 LVI 3.11

PLANETOCENTRIC CONIC

C3 19.523 VHL 4.418 DLA -7.62 RAL 344.33 RAD 6642.6 VEL 11.813 PTH 6.83 VHP 3.802 DPA -34.30 RAP 286.10 ECC 1.3213
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 50 2976.19 -29.89 89.31 203.04 128.91 18 33 26 1976.2 -12.80 70.85
 60.00 18 31 36 2849.13 -25.10 81.75 206.93 122.63 19 19 6 1849.1 -10.26 61.80
 70.00 19 33 0 2668.60 -20.76 69.85 209.67 117.75 20 17 29 1668.6 -7.89 48.92
 80.00 20 49 41 2428.54 -17.59 53.28 211.32 114.52 21 30 10 1428.5 -6.12 31.78
 90.00 22 14 48 2153.94 -16.39 33.65 211.87 113.37 22 50 42 1153.9 -5.45 11.96
 100.00 23 32 33 1903.01 -17.59 14.65 211.32 114.52 24 4 16 903.0 -6.12 353.15
 110.00 0 36 23 1715.42 -20.76 358.77 209.67 117.75 1 4 58 715.4 -7.89 337.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9255 TRA 4.7462 TC3-4.4811 BAU 1.1733 SGT 7776.4 SGR 1024.8 SG3 1224.7 ST 155.9 SR 36.9 SS 102.7
 RDE .5470 RRA .5107 RC3 -.3591 FAU .11927 RRT .9005 RRF .9179 RTF .9804 CRT .9336 CRS -.9352 CST -.9999
 FDE 3.8750 FRA 9.4801 FC3-5.2890 BSP 13353 SGB 7843.6 R23 .0740 R13 .9809 LSA 189.8 MSA 12.9 SSA 1.3
 BDE 2.0D17 BRA 4.7736 BC3 4.4955 FSP 2295 SGI 7831.1 SG2 442.5 THA 6.79 EL1 159.7 EL2 12.9 ALP 12.53

LAUNCH DATE APR 8 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 34.419 GAL -6.26 AZL 92.18 HCA 121.80 SMA 225.87 ECC .35222 INC 2.1767 V1 29.750
 RP 207.38 LAP -1.85 LOP 319.34 VP 26.313 GAP 20.10 AZP 88.85 TAL 335.69 TAP 97.49 RCA 146.32 APO 305.43 V2 26.414
 RC 56.241 GL -11.93 GP 2.88 ZAL 132.57 ZAP 169.62 ETS 163.72 ZAE 169.69 ETE 129.90 ZAC 103.95 ETC 275.94 LVI -18.18

PLANETOCENTRIC CONIC
 C3 39.497 VHL 6.285 DLA -22.14 RAL 337.84 RAD 6650.5 VEL 12.624 PTH 7.48 VHP 9.837 DPA -16.89 RAP 311.52 ECC 1.6900
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 5 2851.80 -24.38 82.60 204.13 132.21 19 0 37 1851.8 -6.63 65.48
 60.00 19 19 57 2673.97 -18.31 71.92 209.47 126.85 20 4 31 1674.0 -2.62 53.30
 70.00 20 44 50 2424.46 -12.42 55.85 213.64 122.07 21 25 14 1424.5 1.39 36.11
 80.00 22 26 10 2107.31 -7.64 34.63 216.50 118.95 23 1 17 1107.3 4.72 14.10
 90.00 0 7 29 1793.21 -5.65 12.61 217.50 117.76 0 37 22 793.2 6.12 351.77
 100.00 1 12 57 1581.78 -7.64 356.00 216.50 118.95 1 39 19 581.8 4.72 335.47
 110.00 1 48 12 1471.28 -12.42 344.77 213.64 122.07 2 12 43 471.3 1.39 325.03

DIFFERENTIAL CORRECTIONS
 TDE -.7722 TRA-1.6108 TC3 -.0779 BAU .0722 SGT 1737.5 SGR 526.7 S63 181.2 ORBIT DETERMINATION ACCURACY
 RDE -.5454 RRA .1032 RC3 .1123 FAU .03944 RRT .1914 RRF -.2045 RTF -.8169 CRT .7927 CRS .6481 CST .9769
 FDE .5465 FRA 1.7514 FC3 -.8645 BSP 2905 SGB 1815.6 R23 -.0337 R13 -.8177 LSA 55.6 MSA 16.3 S5A 1.1
 BDE .9454 BRA 1.6141 BC3 .1367 FSP 250 S61 1740.7 S62 516.1 THA 3.64 EL1 47.3 EL2 13.6 ALF 27.39

LAUNCH DATE APR 8 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 34.266 GAL -6.11 AZL 92.21 HCA 123.06 SMA 222.42 ECC .34177 INC 2.2068 V1 29.750
 RP 207.27 LAP -1.85 LOP 320.60 VP 26.151 GAP 19.61 AZP 88.80 TAL 335.73 TAP 98.80 RCA 146.40 APO 298.43 V2 26.426
 RC 56.362 GL -12.37 GP 3.00 ZAL 132.57 ZAP 168.77 ETS 164.37 ZAE 170.18 ETE 125.42 ZAC 104.03 ETC 276.04 LVI -18.43

PLANETOCENTRIC CONIC
 C3 37.581 VHL 6.130 DLA -22.51 RAL 338.11 RAD 6649.8 VEL 12.548 PTH 7.42 VHP 9.545 DPA -16.66 RAP 311.90 ECC 1.6185
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 50 2831.37 -23.44 81.56 203.70 132.67 19 3 1 1831.4 -5.61 64.62
 60.00 19 23 19 2651.90 -17.41 70.75 209.05 126.94 20 7 31 1651.9 -1.65 52.25
 70.00 20 49 3 2399.86 -11.53 54.50 213.25 122.37 21 29 3 1399.9 2.33 34.83
 80.00 22 31 29 2079.29 -6.72 33.06 216.15 119.18 23 6 8 1079.3 5.65 12.55
 90.00 0 13 28 1763.04 -4.69 10.91 217.25 117.92 0 42 51 763.0 7.07 350.06
 100.00 1 18 17 1553.76 -6.72 354.43 216.15 119.16 1 44 10 553.8 5.65 333.92
 110.00 1 52 25 1446.68 -11.53 343.42 213.25 122.37 2 16 32 446.7 2.33 323.74

DIFFERENTIAL CORRECTIONS
 TDE -.7711 TRA-1.5994 TC3 -.0715 BAU .0703 SGT 1773.5 SGR 523.3 S63 193.3 ORBIT DETERMINATION ACCURACY
 RDE -.5281 RRA .0909 RC3 .1203 FAU .04066 RRT .2090 RRF -.2235 RTF -.8235 CRT .7969 CRS .6504 CST .9761
 FDE .5677 FRA 1.8235 FC3 -.9366 BSP 2987 SGB 1849.1 R23 -.0366 R13 -.8243 LSA 56.9 MSA 16.3 S5A 1.1
 BDE .9346 BRA 1.6020 BC3 .1400 FSP 269 S61 1777.1 S62 510.7 THA 3.85 EL1 48.1 EL2 13.5 ALF 26.64

LAUNCH DATE APR 8 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 34.180 GAL -5.97 AZL 92.24 HCA 124.33 SMA 219.26 ECC .33188 INC 2.2378 V1 29.750
 RP 207.18 LAP -1.85 LOP 321.86 VP 25.990 GAP 19.13 AZP 88.74 TAL 335.78 TAP 100.11 RCA 146.49 APO 292.03 V2 26.438
 RC 56.568 GL -12.81 GP 3.13 ZAL 132.55 ZAP 167.89 ETS 164.92 ZAE 170.59 ETE 120.68 ZAC 104.11 ETC 276.13 LVI -18.67

PLANETOCENTRIC CONIC
 C3 35.803 VHL 5.984 DLA -22.89 RAL 338.37 RAD 6649.2 VEL 12.478 PTH 7.37 VHP 9.262 DPA -16.44 RAP 312.25 ECC 1.5892
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 39 2810.89 -22.49 80.54 203.29 133.10 19 5 30 1810.9 -4.58 63.76
 60.00 19 26 47 2629.67 -16.50 69.58 208.66 127.31 20 10 37 1629.7 -6.67 51.19
 70.00 20 53 27 2374.91 -10.62 53.15 212.89 122.65 21 33 2 1374.9 3.28 33.52
 80.00 22 37 5 2050.57 -5.76 31.47 215.84 119.35 23 11 15 1030.6 6.61 10.95
 90.00 0 19 48 1731.94 -3.70 9.17 216.97 118.06 0 48 40 731.9 8.04 348.29
 100.00 1 23 52 1525.04 -5.76 352.84 215.84 119.35 1 49 18 525.0 6.61 332.32
 110.00 1 56 49 1421.73 -10.62 342.07 212.89 122.65 2 20 31 421.7 3.28 322.44

DIFFERENTIAL CORRECTIONS
 TDE -.7692 TRA-1.5868 TC3 -.0640 BAU .0688 SGT 1807.9 SGR 519.9 S63 208.0 ORBIT DETERMINATION ACCURACY
 RDE -.5115 RRA .0785 RC3 .1288 FAU .04194 RRT .2281 RRF -.2441 RTF -.8299 CRT .8012 CRS .6529 CST .9753
 FDE .5897 FRA 1.8988 FC3-1.0141 BSP 3061 SGB 1881.2 R23 -.0398 R13 -.8309 LSA 58.1 MSA 16.3 S5A 1.2
 BDE .9237 BRA 1.5887 BC3 .1438 FSP 290 S61 1812.1 S62 505.0 THA 4.07 EL1 48.9 EL2 13.3 ALF 25.95

LAUNCH DATE APR 8 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 34.041 GAL -5.82 AZL 92.27 HCA 125.59 SMA 216.36 ECC .32253 INC 2.2698 V1 29.750
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.852 GAP 18.66 AZP 88.68 TAL 335.84 TAP 101.43 RCA 146.58 APO 286.14 V2 26.448
 RC 56.856 GL -13.27 GP 3.27 ZAL 132.52 ZAP 167.00 ETS 163.39 ZAE 170.92 ETE 115.76 ZAC 104.21 ETC 276.22 LVI -18.92

PLANETOCENTRIC CONIC
 C3 34.154 VHL 5.844 DLA -23.29 RAL 338.63 RAD 6648.6 VEL 12.412 PTH 7.32 VHP 8.989 DPA -16.21 RAP 312.59 ECC 1.5621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 21 32 2790.38 -21.53 79.53 202.92 133.51 19 8 2 1790.4 -3.55 62.90
 60.00 19 30 22 2607.30 -15.57 68.41 208.30 127.65 20 13 50 1607.3 .31 50.12
 70.00 20 58 2 2349.60 -9.68 51.78 212.57 122.91 21 37 11 1349.6 4.24 32.20
 80.00 22 42 59 2021.11 -4.78 29.84 215.56 119.51 23 16 40 1021.1 7.58 9.31
 90.00 0 26 33 1699.78 -2.67 7.37 216.73 118.16 0 54 53 699.8 9.04 346.46
 100.00 1 29 47 1495.58 -4.78 351.21 215.56 119.51 1 54 43 495.6 7.58 330.68
 110.00 2 1 24 1396.42 -9.68 340.70 212.57 122.91 2 24 40 396.4 4.24 321.11

DIFFERENTIAL CORRECTIONS
 TDE -.7667 TRA-1.5736 TC3 -.0555 BAU .0678 SGT 1841.2 SGR 516.6 S63 219.7 ORBIT DETERMINATION ACCURACY
 RDE -.4955 RRA .0659 RC3 .1378 FAU .04331 RRT .2488 RRF -.2664 RTF -.8360 CRT .8057 CRS .6557 CST .9745
 FDE .6125 FRA 1.9779 FC3-1.0979 BSP 3132 SGB 1912.3 R23 -.0433 R13 -.8371 LSA 59.4 MSA 16.2 S5A 1.2
 BDE .9129 BRA 1.5750 BC3 .1486 FSP 312 S61 1846.1 S62 499.1 THA 4.31 EL1 49.7 EL2 13.1 ALF 25.30

LAUNCH DATE APR 8 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC											DISTANCE 372.288											EARTH TO MARS																																																																																		
RL	149.77	LAL	.00	LOL	197.52	VL	33.029	GAL	-5.68	AZL	92.30	HCA	126.85	SMA	213.89	ECC	.31369	INC	2.3029	V1	29.750	RP	207.01	LAP	-1.84	LOP	324.39	VP	25.713	GAP	18.20	AZP	88.62	TAL	335.91	TAP	102.76	RCA	146.66	APO	280.72	V2	26.457	RC	57.225	GL	-13.74	GP	3.41	ZAL	132.47	ZAP	186.20	ET8	165.79	ZAE	171.16	ET6	110.78	ZAC	104.31	ETC	276.31	LVI	-19.17																																							
PLANETOCENTRIC CONIC											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																																		
C3	32.623	VHL	5.712	DLA	-23.70	RAL	338.88	RAD	6648.0	VEL	12.351	PTH	7.27	VHP	8.723	DPA	-15.97	RAP	312.91	ECC	1.5369	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	18	24	30	2769.83	-20.56	78.53	202.58	133.90	19	10	40	1769.8	-2.52	62.04	60.00	19	34	5	2584.78	-14.63	67.25	207.98	127.98	20	17	10	1584.8	1.33	49.04	70.00	21	2	49	2323.92	-8.73	50.40	212.28	123.15	21	41	33	1323.9	5.21	30.85	80.00	22	49	15	1990.82	-3.76	28.17	215.33	119.64	23	22	25	990.8	8.58	7.61	90.00	0	33	46	1666.40	-1.59	5.50	216.53	118.24	1	1	32	666.4	10.06	344.54	100.00	1	36	2	1465.30	-3.76	349.53	215.33	119.64	2	0	28	465.3	8.58	328.98	110.00	2	6	11	1370.74	-8.73	339.32	212.28	123.15	2	29	2	370.7	5.21	319.76
TDE	-1.7640	TRA	-1.5597	TC3	-.0469	BAU	.0674	SGT	1873.4	SGR	513.5	SG3	234.2	ST	46.1	SR	24.1	SS	35.1	RDE	-1.4802	RRA	.0530	RC3	.1473	FAU	.04475	RRT	.2711	RRF	-.2907	RTF	-.8418	CRT	.8105	CR8	.6589	CST	.9737	FDE	.6364	FRA	2.0609	FC3	-1.1876	BSP	3200	SG8	1942.5	R23	-.0473	R13	-.8430	LSA	60.6	MSA	16.2	SSA	1.2	BDE	.9023	BRA	1.5606	BC3	.1546	FSP	336	SG1	1879.0	SG2	492.8	THA	4.57	EL1	50.4	EL2	12.9	ALF	24.69																									

LAUNCH DATE APR 8 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC											DISTANCE 375.464											EARTH TO MARS																																																																																		
RL	149.77	LAL	.00	LOL	197.52	VL	33.822	GAL	-5.55	AZL	92.34	HCA	128.12	SMA	211.24	ECC	.30533	INC	2.3372	V1	29.750	RP	206.94	LAP	-1.84	LOP	325.86	VP	25.581	GAP	17.74	AZP	88.56	TAL	335.98	TAP	104.10	RCA	146.74	APO	275.73	V2	26.466	RC	57.675	GL	-14.23	GP	3.57	ZAL	132.41	ZAP	165.15	ETS	166.13	ZAE	171.32	ETE	105.89	ZAC	104.42	ETC	276.39	LVI	-19.43																																							
PLANETOCENTRIC CONIC											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																																		
C3	31.207	VHL	5.586	DLA	-24.13	RAL	339.13	RAD	6647.5	VEL	12.294	PTH	7.23	VHP	8.466	DPA	-15.73	RAP	313.21	ECC	1.5136	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	18	27	33	2749.28	-19.59	77.54	202.28	134.27	19	13	23	1749.3	-1.49	61.18	60.00	19	37	55	2562.12	-13.68	66.10	207.69	128.29	20	20	38	1562.1	2.30	47.96	70.00	21	7	49	2297.84	-7.76	49.01	212.04	123.37	21	46	7	1297.8	6.20	29.47	80.00	22	55	53	1959.62	-2.71	26.45	215.15	119.75	23	28	33	959.6	9.59	5.85	90.00	0	41	31	1631.62	-.47	3.56	216.39	118.28	1	8	42	631.6	11.11	342.53	100.00	1	42	41	1434.09	-2.71	347.82	215.15	119.75	2	6	35	434.1	9.59	327.22	110.00	2	11	11	1344.66	-7.76	337.93	212.04	123.37	2	33	36	344.7	6.20	318.39
TDE	-1.7609	TRA	-1.5447	TC3	-.0373	BAU	.0675	SGT	1903.8	SGR	510.8	SG3	249.6	ST	46.9	SR	23.9	SS	36.3	RDE	-1.4655	RRA	.0400	RC3	.1574	FAU	.04629	RRT	.2954	RRF	-.3170	RTF	-.8473	CRT	.8158	CR8	.6626	CST	.9728	FDE	.6613	FRA	2.1478	FC3	-1.2842	BSP	3263	SG8	1971.1	R23	-.0515	R13	-.8486	LSA	61.9	MSA	16.1	SSA	1.2	BDE	.8920	BRA	1.5452	BC3	.1618	FSP	381	SG1	1910.2	SG2	486.3	THA	4.85	EL1	51.1	EL2	12.7	ALF	24.13																									

LAUNCH DATE APR 8 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC											DISTANCE 378.724											EARTH TO MARS																																																																																		
RL	149.77	LAL	.00	LOL	197.52	VL	33.721	GAL	-5.42	AZL	92.37	HCA	129.39	SMA	208.97	ECC	.29742	INC	2.3726	V1	29.750	RP	206.87	LAP	-1.83	LOP	326.93	VP	25.455	GAP	17.29	AZP	88.49	TAL	336.06	TAP	105.45	RCA	146.82	APO	271.12	V2	26.473	RC	58.203	GL	-14.73	GP	3.73	ZAL	132.33	ZAP	184.20	ETS	166.41	ZAE	171.40	ETE	101.23	ZAC	104.55	ETC	276.47	LVI	-19.88																																							
PLANETOCENTRIC CONIC											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																																		
C3	29.893	VHL	5.467	DLA	-24.58	RAL	339.38	RAD	6647.0	VEL	12.240	PTH	7.19	VHP	8.216	DPA	-15.49	RAP	313.49	ECC	1.4920	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	18	30	42	2728.71	-18.61	76.57	202.01	134.62	19	16	11	1728.7	-.45	60.32	60.00	19	41	55	2539.33	-12.71	64.94	207.44	128.57	20	24	14	1539.3	3.30	46.87	70.00	21	13	4	2271.35	-6.76	47.61	211.83	123.56	21	50	55	1271.3	7.20	28.07	80.00	23	2	58	1927.38	-1.62	24.68	215.02	119.82	23	35	5	927.4	10.63	4.02	90.00	0	49	54	1595.18	.70	1.53	216.30	118.27	1	18	29	595.2	12.20	340.40	100.00	1	49	46	1401.85	-1.62	346.04	215.02	119.82	2	13	7	401.9	10.63	325.39	110.00	2	18	28	1318.17	-6.76	336.92	211.83	123.56	2	38	24	318.2	7.20	318.99
TDE	-1.7581	TRA	-1.5292	TC3	-.0274	BAU	.0681	SGT	1933.2	SGR	508.5	SG3	266.0	ST	47.7	SR	23.7	SS	37.6	RDE	-1.4514	RRA	.0268	RC3	.1682	FAU	.04794	RRT	.3217	RRF	-.3495	RTF	-.8523	CRT	.8215	CR8	.6668	CST	.9718	FDE	.6874	FRA	2.2387	FC3	-1.3884	BSP	3325	SG8	1998.9	R23	-.0562	R13	-.8538	LSA	63.2	MSA	16.0	SSA	1.2	BDE	.8823	BRA	1.5294	BC3	.1704	FSP	387	SG1	1940.5	SG2	479.6	THA	5.15	EL1	51.8	EL2	12.4	ALF	23.61																									

LAUNCH DATE APR 8 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC											DISTANCE 382.058											EARTH TO MARS																																																																																		
RL	149.77	LAL	.00	LOL	197.52	VL	33.628	GAL	-5.29	AZL	92.41	HCA	130.65	SMA	206.88	ECC	.28994	INC	2.4093	V1	29.750	RP	206.82	LAP	-1.83	LOP	328.20	VP	25.335	GAP	16.85	AZP	88.43	TAL	336.15	TAP	106.80	RCA	146.90	APO	266.86	V2	26.479	RC	58.807	GL	-15.24	GP	3.91	ZAL	132.23	ZAP	163.22	ETS	166.65	ZAE	171.42	ETE	96.90	ZAC	104.69	ETC	276.54	LVI	-19.95																																							
PLANETOCENTRIC CONIC											MID-COURSE EXECUTION ACCURACY											ORBIT DETERMINATION ACCURACY																																																																																		
C3	28.677	VHL	5.355	DLA	-25.04	RAL	339.62	RAD	6646.3	VEL	12.191	PTH	7.15	VHP	7.974	DPA	-15.23	RAP	313.74	ECC	1.4719	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																									
50.00	18	33	57	2708.15	-17.62	75.61	201.78	134.94	19	19	5	1708.2	.58	59.46	60.00	19	46	3	2516.38	-11.74	63.79	207.23	128.84	20	28	0	1516.4	4.31	45.77	70.00	21	18	34	2244.40	-5.74	46.18	211.68	123.73	21	55	58	1244.4	8.21	26.64	80.00	23	10	33	1893.93	-.48	22.84	214.94	119.85	23	42	6	893.9	11.70	2.11	90.00	0	59	2	1556.70	1.94	359.38	216.29	118.22	1	24	59	556.7	13.32	338.14	100.00	1	57	20	1368.40	-.48	344.21	214.94	119.85	2	20	9	368.4	11.70	323.48	110.00	2	21	56	1291.21	-5.74	335.10	211.68	123.73	2	43	27	291.2	8.21	315.55
TDE	-1.7540	TRA	-1.5127	TC3	-.0167	BAU	.0691	SGT	1960.2	SGR	506.8	SG3	283.5	ST	48.4	SR	23.4	SS	38.8	RDE	-1.4380	RRA	.0129	RC3	.1796	FAU	.04969	RRT	.3496	RRF	-.3759	RTF	-.8571	CRT	.8274	CR8	.6712	CST	.9708	FDE	.7141	FRA	2.3343	FC3	-1.5001	BSP	3380	SG8	2024.6	R23	-.0616	R13	-.8588	LSA	64.4	MSA	16.0	SSA	1.2	BDE	.8719	BRA	1.5127	BC3	.1804	FSP	416	SG1	1968.7	SG2	472.8	THA	5.48	EL1	52.4	EL2	12.2	ALF	23.14																									

LAUNCH DATE APR 8 1971

FLIGHT TIME 144.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.936 GAL -5.17 AZL 92.45 HCA 131.92 SMA 204.94 ECC .28286 INC 2.4476 V1 29.750
 RP 206.77 LAP -1.82 LOP 329.46 VP 25.221 GAP 16.42 AZP 88.36 TAL 336.24 TAP 108.16 RCA 146.97 APO 262.91 V2 26.485
 RC 59.485 GL -15.77 GP 4.10 ZAL 132.12 ZAP 162.22 ETS 166.85 ZAE 171.38 ETE 93.03 ZAC 104.85 ETC 276.61 LVI -20.21

PLANETOCENTRIC CONIC
 C3 27.548 VHL 5.249 DLA -25.52 RAL 339.87 RAD 6646.0 VEL 12.145 PTH 7.11 VHP 7.740 DPA -14.98 RAP 313.97 ECC 1.4534
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 37 19 2687.54 -16.63 74.66 201.58 135.28 19 22 6 1687.5 1.61 58.60
 60.00 19 50 22 2493.24 -10.75 62.64 207.06 129.06 20 31 55 1493.2 5.32 44.66
 70.00 21 24 22 2216.87 -4.70 44.73 211.57 123.87 22 1 19 1216.9 9.23 25.16
 80.00 23 18 43 1858.97 .70 20.92 214.93 119.85 23 49 42 859.0 12.79 .10
 90.00 1 9 8 1515.56 3.26 357.08 216.35 118.11 1 34 23 515.6 14.50 335.69
 100.00 2 5 31 1333.45 .70 342.29 214.93 119.85 2 27 44 333.4 12.79 321.47
 110.00 2 27 44 1263.69 -4.70 333.65 211.57 123.87 2 48 48 263.7 9.23 314.08

DIFFERENTIAL CORRECTIONS
 TDE -.7353 TRA-1.4809 TC3 .0159 BAU .0710 SGT 1963.1 SGR 505.8 SG3 302.1 ST 48.3 SR 23.2 88 40.1
 RDE -.4249 RRA -.0009 RC3 .1921 FAU .05155 RRT .3804 RRF -.4083 RTF -.8677 CRT .8313 CRS .6762 CST .9708
 FDE .7422 FRA 2.4349 FC3-1.6200 BSP 3249 SGB 2027.2 R23 -.0633 R13 -.8695 LSA 65.0 MSA 15.9 88A 1.1
 BDE .8492 BRA 1.4809 BC3 .1928 FSP 447 SG1 1973.0 SG2 465.4 THA 5.93 EL1 52.2 EL2 11.9 ALF 23.03

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 8 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.450 GAL -5.06 AZL 92.49 HCA 133.19 SMA 203.15 ECC .27618 INC 2.4873 V1 29.750
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.112 GAP 16.00 AZP 88.30 TAL 336.33 TAP 109.52 RCA 147.05 APO 259.26 V2 26.489
 RC 60.233 GL -16.31 GP 4.30 ZAL 131.99 ZAP 161.19 ETS 167.02 ZAE 171.30 ETE 89.67 ZAC 105.01 ETC 276.67 LVI -20.49

PLANETOCENTRIC CONIC
 C3 26.508 VHL 5.149 DLA -26.02 RAL 340.12 RAD 6645.6 VEL 12.102 PTH 7.08 VHP 7.513 DPA -14.71 RAP 314.17 ECC 1.4363
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 40 47 2667.02 -15.64 73.73 201.43 135.53 19 25 14 1667.0 2.65 57.74
 60.00 19 54 51 2470.02 -9.75 61.49 206.94 129.30 20 36 1 1470.0 6.34 43.53
 70.00 21 30 28 2188.90 -3.64 43.27 211.51 123.98 22 6 57 1188.9 10.27 23.66
 80.00 23 27 33 1822.44 1.94 18.92 214.98 119.80 23 57 55 822.4 13.92 357.97
 90.00 1 20 23 1471.22 4.68 354.60 216.50 117.92 1 44 54 471.2 15.74 333.02
 100.00 2 14 21 1296.91 1.94 340.29 214.98 119.80 2 35 58 296.9 13.92 319.34
 110.00 2 33 50 1235.72 -3.64 332.10 211.51 123.98 2 54 26 235.7 10.27 312.57

DIFFERENTIAL CORRECTIONS
 TDE -.7392 TRA-1.4704 TC3 .0162 BAU .0728 SGT 1998.1 SGR 506.0 SG3 321.8 ST 49.4 SR 23.0 88 41.4
 RDE -.4129 RRA -.0156 RC3 .2048 FAU .05353 RRT .4121 RRF -.4431 RTF -.8685 CRT .8399 CRS .6823 CST .9690
 FDE .7716 FRA 2.5397 FC3-1.7483 BSP 3396 SGB 2061.1 R23 -.0716 R13 -.8706 LSA 66.6 MSA 15.9 88A 1.2
 BDE .8467 BRA 1.4705 BC3 .2055 FSP 479 SG1 2009.5 SG2 458.4 THA 6.29 EL1 53.2 EL2 11.6 ALF 22.47

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 8 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.370 GAL -4.94 AZL 92.53 HCA 134.46 SMA 201.50 ECC .26986 INC 2.5288 V1 29.750
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.009 GAP 15.59 AZP 88.23 TAL 336.43 TAP 110.89 RCA 147.12 APO 255.87 V2 26.492
 RC 61.080 GL -16.87 GP 4.52 ZAL 131.85 ZAP 160.14 ETS 167.15 ZAE 171.19 ETE 86.85 ZAC 105.20 ETC 276.73 LVI -20.78

PLANETOCENTRIC CONIC
 C3 25.547 VHL 5.054 DLA -26.53 RAL 340.38 RAD 6645.2 VEL 12.063 PTH 7.05 VHP 7.294 DPA -14.44 RAP 314.34 ECC 1.4204
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 24 2646.49 -14.64 72.80 201.33 135.79 19 28 30 1646.5 3.68 56.88
 60.00 19 59 32 2446.61 -8.73 60.34 206.87 129.50 20 40 19 1446.6 7.36 42.40
 70.00 21 36 55 2180.27 -2.55 41.77 211.51 124.07 22 12 56 1180.3 11.32 22.11
 80.00 23 37 13 1783.75 3.25 16.79 215.12 119.70 24 6 57 783.8 15.09 355.70
 90.00 1 33 16 1422.17 6.24 351.83 216.76 117.64 1 56 58 422.2 17.06 330.03
 100.00 2 24 1 1258.22 3.25 338.16 215.12 119.70 2 44 59 258.2 15.09 317.06
 110.00 2 40 18 1207.09 -2.55 330.69 211.51 124.07 3 0 25 207.1 11.32 311.02

DIFFERENTIAL CORRECTIONS
 TDE -.7395 TRA-1.4580 TC3 .0203 BAU .0749 SGT 2026.3 SGR 507.4 SG3 342.8 ST 50.2 SR 22.8 88 42.8
 RDE -.4619 RRA -.0307 RC3 .2184 FAU .05561 RRT .4455 RRF -.4798 RTF -.8706 CRT .8483 CRS .6892 CST .9675
 FDE .8032 FRA 2.6509 FC3-1.8843 BSP 3502 SGB 2088.8 R23 -.0801 R13 -.8729 LSA 68.0 MSA 15.8 88A 1.2
 BDE .8415 BRA 1.4563 BC3 .2193 FSP 514 SG1 2039.5 SG2 451.3 THA 6.69 EL1 54.0 EL2 11.2 ALF 22.04

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 8 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.294 GAL -4.84 AZL 92.57 HCA 135.72 SMA 199.98 ECC .26390 INC 2.5721 V1 29.750
 RP 206.68 LAP -1.80 LOP 333.27 VP 24.909 GAP 15.18 AZP 88.18 TAL 336.53 TAP 112.28 RCA 147.19 APO 252.72 V2 26.498
 RC 61.933 GL -17.45 GP 4.75 ZAL 131.70 ZAP 159.08 ETS 167.25 ZAE 171.05 ETE 84.81 ZAC 105.40 ETC 276.78 LVI -21.05

PLANETOCENTRIC CONIC
 C3 24.861 VHL 4.968 DLA -27.06 RAL 340.63 RAD 6644.8 VEL 12.026 PTH 7.02 VHP 7.081 DPA -14.16 RAP 314.48 ECC 1.4059
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 48 8 2625.95 -13.63 71.88 201.26 136.04 19 31 54 1626.0 4.70 56.02
 60.00 20 4 27 2423.00 -7.71 59.19 206.85 129.68 20 44 50 1423.0 8.38 41.25
 70.00 21 43 47 2130.90 -1.43 40.24 211.58 124.13 22 19 18 1130.9 12.38 20.50
 80.00 23 47 55 1742.30 4.64 14.50 215.34 119.53 24 16 58 742.3 16.32 353.23
 90.00 1 48 34 1365.89 8.00 348.64 211.17 117.21 2 11 20 365.9 18.52 326.55
 100.00 2 34 43 1216.77 4.64 335.87 215.34 119.53 2 55 0 216.8 16.32 314.60
 110.00 2 47 9 1177.72 -1.43 329.15 211.58 124.13 3 6 47 177.7 12.38 309.42

DIFFERENTIAL CORRECTIONS
 TDE -.7373 TRA-1.4382 TC3 .0278 BAU .0773 SGT 2048.5 SGR 510.2 SG3 365.0 ST 50.9 SR 22.6 88 44.2
 RDE -.3907 RRA -.0465 RC3 .2329 FAU .05782 RRT .4803 RRF -.5181 RTF -.8731 CRT .8569 CRS .6968 CST .9659
 FDE .8358 FRA 2.7675 FC3-2.0298 BSP 3572 SGB 2111.1 R23 -.0889 R13 -.8758 LSA 69.3 MSA 15.8 88A 1.2
 BDE .8345 BRA 1.4390 BC3 .2345 FSP 552 SG1 2063.8 SG2 444.2 THA 7.16 EL1 54.6 EL2 10.8 ALF 21.70

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 8 1971

FLIGHT TIME 192.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.222 GAL -4.73 AZL 92.62 HCA 136.99 SMA 108.53 ECC .25026 INC 2.6175 V1 29.750
 RP 206.67 LAP -1.79 LOP 334.54 VP 24.015 GAP 14.79 AZP 88.09 TAL 336.63 TAP 113.63 RCA 147.25 APO 249.80 V2 26.496
 RC 62.879 GL -18.04 GP 5.00 ZAL 131.33 ZAP 157.95 ETS 167.33 ZAE 170.90 ETE 82.93 ZAC 105.63 ETC 276.83 LVI -21.34

DISTANCE 399.655

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 23.844 VHL 4.883 DLA -27.60 RAL 340.80 RAD 6644.5 VEL 11.993 PTH 6.99 VHP 6.875 DPA -13.87 RAP 314.59 ECC 1.3924
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 52 2 2605.41 -12.62 70.97 201.25 136.26 19 35 28 1605.4 5.73 55.15
 60.00 20 9 35 2399.16 -6.67 58.03 206.88 129.84 20 49 34 1399.2 9.42 40.08
 70.00 21 51 5 2100.68 -.27 38.66 211.70 124.15 22 26 6 1100.7 13.47 18.83
 80.00 0 3 55 1697.15 6.15 12.00 215.67 119.27 0 32 12 697.1 17.61 350.50
 90.00 2 8 11 1296.41 10.14 344.66 217.81 116.54 2 29 47 296.4 20.21 322.15
 100.00 2 46 47 1171.62 6.15 333.37 215.67 119.27 5 6 18 171.6 17.61 311.87
 110.00 2 54 27 1147.49 -.27 327.58 211.70 124.15 3 13 35 147.5 13.47 307.75

DIFFERENTIAL CORRECTIONS
 TDE -.7337 TRA -1.4179 TC3 .0363 BAU .0800
 RDE -.3806 RRA -.0628 RC3 .2483 FAU .06015
 FDE .8702 FRA 2.8896 FC3 -2.1840 BSP 3623
 BDE .8265 BRA 1.4193 BC3 .2509 FSP 591

MID-COURSE EXECUTION ACCURACY
 SGT 2085.6 SGR 514.9 SG3 388.6
 RRT .3164 RRF -.5576 RTF -.8758
 SGB 2128.8 R23 -.0982 R13 -.8790
 SG1 2083.4 SG2 437.2 THA 7.66

ORBIT DETERMINATION ACCURACY
 ST 51.4 SR 22.4 SS 45.7
 CRT .8660 CRS .7053 CST .9644
 LSA 70.6 MSA 15.7 SSA 1.2
 EL1 55.1 EL2 10.4 ALF 21.44

LAUNCH DATE APR 8 1971

FLIGHT TIME 194.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.154 GAL -4.63 AZL 92.67 HCA 138.26 SMA 197.20 ECC .25295 INC 2.6651 V1 29.750
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.724 GAP 14.40 AZP 88.01 TAL 336.74 TAP 115.00 RCA 147.32 APO 247.08 V2 26.496
 RC 63.888 GL -18.65 GP 5.26 ZAL 131.35 ZAP 156.81 ETS 167.39 ZAE 170.74 ETE 81.82 ZAC 105.87 ETC 276.88 LVI -21.64

DISTANCE 403.324

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 23.094 VHL 4.806 DLA -28.16 RAL 341.17 RAD 6644.2 VEL 11.962 PTH 6.96 VHP 6.676 DPA -13.57 RAP 314.67 ECC 1.3801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 56 6 2584.86 -11.61 70.07 201.28 136.47 19 39 11 1584.9 6.76 54.28
 60.00 20 14 59 2375.06 -5.62 56.87 206.97 129.97 20 54 34 1375.1 10.45 38.89
 70.00 21 58 54 2069.44 .92 37.03 211.90 124.14 22 33 24 1069.4 14.58 17.09
 80.00 0 17 52 1646.63 7.82 9.19 216.15 118.91 0 45 19 646.6 19.01 347.40
 90.00 2 40 50 1185.50 13.44 338.18 219.06 115.12 3 0 36 185.5 22.65 314.94
 100.00 3 0 44 1121.11 7.82 330.55 216.15 118.91 3 19 25 121.1 19.01 308.77
 110.00 3 2 16 1116.25 .92 325.95 211.90 124.14 3 20 53 116.3 14.58 306.01

DIFFERENTIAL CORRECTIONS
 TDE -.7295 TRA -1.3961 TC3 .0452 BAU .0829
 RDE -.3711 RRA -.0800 RC3 .2648 FAU .06263
 FDE .9061 FRA 3.0177 FC3 -2.3480 BSP 3684
 BDE .8184 BRA 1.3984 BC3 .2686 FSP 633

MID-COURSE EXECUTION ACCURACY
 SGT 2079.1 SGR 521.8 SG3 413.6
 RRT .3531 RRF -.5981 RTF -.8784
 SGB 2143.6 R23 -.1085 R13 -.8820
 SG1 2099.9 SG2 430.4 THA 8.25

ORBIT DETERMINATION ACCURACY
 ST 51.9 SR 22.2 SS 47.1
 CRT .8755 CRS .7147 CST .9628
 LSA 71.8 MSA 15.7 SSA 1.1
 EL1 55.5 EL2 10.0 ALF 21.25

LAUNCH DATE APR 8 1971

FLIGHT TIME 196.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.090 GAL -4.54 AZL 92.72 HCA 139.53 SMA 195.96 ECC .24793 INC 2.7151 V1 29.750
 RP 206.67 LAP -1.76 LOP 337.08 VP 24.637 GAP 14.02 AZP 87.93 TAL 336.84 TAP 116.38 RCA 147.38 APO 244.55 V2 26.496
 RC 64.956 GL -19.28 GP 5.55 ZAL 131.15 ZAP 155.64 ETS 167.42 ZAE 170.57 ETE 81.25 ZAC 106.14 ETC 276.92 LVI -21.95

DISTANCE 407.035

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.406 VHL 4.734 DLA -28.74 RAL 341.48 RAD 6643.9 VEL 11.933 PTH 6.94 VHP 6.483 DPA -13.26 RAP 314.71 ECC 1.3688
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 0 21 2584.28 -10.59 69.18 201.36 136.66 19 43 6 1564.3 7.79 53.41
 60.00 20 20 39 2350.66 -4.55 55.69 207.11 130.09 20 59 50 1350.7 11.50 37.68
 70.00 22 7 19 2036.97 2.16 35.33 212.18 124.09 22 41 16 1037.0 15.72 15.27
 80.00 0 34 46 1587.45 9.75 5.86 216.81 118.36 1 1 14 587.5 20.57 343.70
 84.67 2 20 21 1247.95 15.97 343.96 219.95 114.21 2 41 9 247.9 24.58 320.13
 100.00 3 17 36 1061.93 9.75 327.22 216.81 118.36 3 35 20 61.9 20.57 305.07
 110.00 3 10 41 1083.79 2.16 324.25 212.18 124.09 3 28 45 83.8 15.72 304.19

DIFFERENTIAL CORRECTIONS
 TDE -.7252 TRA -1.3733 TC3 .0533 BAU .0861
 RDE -.3623 RRA -.0980 RC3 .2825 FAU .06526
 FDE .9442 FRA 3.1523 FC3 -2.3219 BSP 3696
 BDE .8107 BRA 1.3768 BC3 .2874 FSP 678

MID-COURSE EXECUTION ACCURACY
 SGT 2089.8 SGR 531.2 SG3 440.1
 RRT .3901 RRF -.6388 RTF -.2.07
 SGB 2156.2 R23 -.1199 R13 -.8849
 SG1 2114.2 SG2 423.9 THA 8.89

ORBIT DETERMINATION ACCURACY
 ST 52.3 SR 22.0 SS 48.8
 CRT .8857 CRS .7252 CST .9612
 LSA 73.1 MSA 15.7 SSA 1.1
 EL1 55.9 EL2 9.6 ALF 21.10

LAUNCH DATE APR 8 1971

FLIGHT TIME 198.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 33.030 GAL -4.45 AZL 92.77 HCA 140.80 SMA 194.81 ECC .24319 INC 2.7677 V1 29.750
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.554 GAP 13.84 AZP 87.85 TAL 336.95 TAP 117.78 RCA 147.44 APO 242.19 V2 26.494
 RC 66.082 GL -19.92 GP 5.86 ZAL 130.95 ZAP 154.43 ETS 167.43 ZAE 170.39 ETE 81.21 ZAC 106.44 ETC 276.95 LVI -22.27

DISTANCE 410.785

EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.778 VHL 4.667 DLA -29.33 RAL 341.74 RAD 6643.6 VEL 11.907 PTH 6.92 VHP 6.297 DPA -12.94 RAP 314.72 ECC 1.3584
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 4 48 2543.66 -9.57 68.29 201.50 136.83 19 47 12 1543.7 8.82 52.53
 60.00 20 26 39 2325.91 -3.47 54.50 207.33 130.18 21 5 25 1325.9 12.56 36.44
 70.00 22 16 26 2003.00 3.46 33.56 212.55 124.00 22 49 49 1003.0 16.89 13.33
 80.00 0 57 32 1510.50 12.21 1.46 217.79 117.46 1 22 42 510.5 22.47 338.77
 81.87 1 59 2 1313.40 16.48 349.02 219.95 114.61 2 20 56 313.4 25.21 325.14
 100.00 3 40 23 6273.01 12.21 300.74 217.79 117.46 5 24 56 5273.0 22.47 278.05
 110.00 3 19 48 1049.82 3.46 322.48 212.55 124.00 3 37 18 49.8 16.89 302.25

DIFFERENTIAL CORRECTIONS
 TDE -.7201 TRA -1.3484 TC3 .0610 BAU .0895
 RDE -.3542 FRA -.1170 RC3 .3014 FAU .06806
 FDE .9833 FRA 3.2929 FC3 -2.7056 BSP 3716
 BDE .8025 BRA 1.3535 BC3 .3075 FSP 724

MID-COURSE EXECUTION ACCURACY
 SGT 2095.5 SGR 543.5 SG3 468.0
 RRT .6264 RRF -.6792 RTF -.8826
 SGB 2164.9 R23 -.1326 R13 -.8875
 SG1 2124.1 SG2 418.0 THA 9.60

ORBIT DETERMINATION ACCURACY
 ST 52.6 SR 21.9 SS 50.2
 CRT .0963 CRS .7365 CST .9593
 LSA 74.2 MSA 15.7 SSA 1.1
 EL1 56.2 EL2 9.1 ALF 21.03

LAUNCH DATE APR 8 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

DISTANCE 414.571

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.973 GAL -4.36 AZL 92.82 HCA 142.07 SMA 193.74 ECC .23873 INC 2.8233 V1 29.750
RP 206.72 LAP -1.74 LOP 339.62 VP 24.475 GAP 13.28 AZP 87.77 TAL 337.05 TAP 119.12 RCA 147.49 APO 239.99 V2 26.491
RC 67.265 GL -20.59 GP 6.19 ZAL 130.73 ZAP 153.19 ETS 167.42 ZAE 170.21 ETE 81.69 ZAC 106.76 ETC 276.97 LVI -22.61

PLANETOCENTRIC CONIC

C3 21.206 VHL 4.605 DLA -29.95 RAL 342.04 RAD 6643.4 VEL 11.883 PTH 6.89 VHP 6.118 DPA -12.61 RAP 314.68 ECC 1.3490
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 9 29 2522.95 -8.54 67.40 201.70 136.99 19 51 31 1522.9 9.84 51.64
60.00 20 33 1 2300.69 -2.36 53.30 207.61 130.24 21 11 22 1300.7 13.62 35.16
70.00 22 26 25 1967.08 4.82 31.67 213.02 123.85 22 59 12 967.1 18.10 11.26
79.72 1 43 34 1360.36 16.99 352.74 219.99 115.04 2 6 14 360.4 25.84 328.82
79.72 1 43 34 1360.36 16.99 352.74 219.99 115.04 2 6 14 360.4 25.84 328.82
79.72 1 43 34 1360.36 16.99 352.74 219.99 115.04 2 6 14 360.4 25.84 328.82
110.00 3 29 47 1013.90 4.82 320.59 213.02 123.85 3 46 41 13.9 18.10 300.17

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7066 TRA-1.3134 TC3 .0836 BAU .0944 SGT 2082.2 SGR 559.1 SG3 497.2 ST 52.3 SR 21.8 SS 51.6
RDE -.3465 RRA -.1367 RC3 .3224 FAU .07115 RRT .6633 RRF -.7183 RTF -.8870 CRT .9063 CRS .7484 CST .9578
FDE 1.0221 FRA 3.4361 FC3-2.9048 BSP 3627 SGB 2155.9 R23 -.1416 R13 -.8927 LSA 75.0 MSA 15.7 S8A 1.1
BDE .7870 BRA 1.3203 BC3 .3330 FSP 771 SGT 2116.3 SG2 411.7 THA 10.50 EL1 56.0 EL2 8.6 ALF 21.20

LAUNCH DATE APR 8 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

DISTANCE 418.389

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.919 GAL -4.28 AZL 92.88 HCA 143.34 SMA 192.75 ECC .23453 INC 2.8821 V1 29.750
RP 206.75 LAP -1.72 LOP 340.89 VP 24.398 GAP 12.92 AZP 87.69 TAL 337.16 TAP 120.49 RCA 147.54 APO 237.95 V2 26.487
RC 68.502 GL -21.28 GP 6.55 ZAL 130.50 ZAP 151.91 ETS 167.39 ZAE 170.01 ETE 82.66 ZAC 107.11 ETC 276.99 LVI -22.96

PLANETOCENTRIC CONIC

C3 20.690 VHL 4.549 DLA -30.58 RAL 342.36 RAD 6643.1 VEL 11.861 PTH 6.88 VHP 5.945 DPA -12.25 RAP 314.61 ECC 1.3405
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 14 23 2502.20 -7.51 66.51 201.95 137.12 19 56 5 1502.2 10.87 50.74
60.00 20 39 46 2275.05 -1.23 52.07 207.97 130.29 21 17 41 1275.0 14.70 33.85
70.00 22 37 26 1928.81 6.27 29.66 213.60 123.64 23 9 35 928.8 19.37 9.01
77.86 1 31 1 1398.41 17.50 355.84 220.09 115.48 1 54 19 398.4 26.48 331.86
77.86 1 31 1 1398.41 17.50 355.84 220.09 115.48 1 54 19 398.4 26.48 331.86
77.86 1 31 1 1398.41 17.50 355.84 220.09 115.48 1 54 19 398.4 26.48 331.86
110.00 3 40 48 6263.67 6.27 296.48 213.60 123.64 5 25 12 5263.7 15.37 275.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7104 TRA-1.2946 TC3 .0714 BAU .0969 SGT 2095.9 SGR 579.0 SG3 528.6 ST 53.0 SR 21.7 SS 53.3
RDE -.3405 RRA -.1586 RC3 .3431 FAU .07406 RRT .6952 RRF -.7563 RTF -.8853 CRT .9190 CRS .7631 CST .9552
FDE 1.0703 FRA 3.5948 FC3-3.0988 BSP 3748 SGB 2174.4 R23 -.1619 R13 -.8921 LSA 76.7 MSA 15.8 S8A 1.1
BDE .7878 BRA 1.3043 BC3 .3505 FSP 828 SGT 2135.7 SG2 408.4 THA 11.29 EL1 56.7 EL2 8.0 ALF 21.08

LAUNCH DATE APR 8 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

DISTANCE 422.239

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.868 GAL -4.20 AZL 92.94 HCA 144.60 SMA 191.82 ECC .23057 INC 2.9445 V1 29.750
RP 206.79 LAP -1.71 LOP 342.16 VP 24.325 GAP 12.57 AZP 87.60 TAL 337.26 TAP 121.86 RCA 147.59 APO 236.05 V2 26.483
RC 69.791 GL -21.99 GP 6.93 ZAL 130.25 ZAP 150.59 ETS 167.35 ZAE 169.79 ETE 84.10 ZAC 107.49 ETC 277.01 LVI -23.33

PLANETOCENTRIC CONIC

C3 20.224 VHL 4.497 DLA -31.23 RAL 342.69 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 5.778 DPA -11.98 RAP 314.50 ECC 1.3328
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 19 35 2481.23 -6.46 65.62 202.28 137.24 20 0 56 1481.2 11.91 49.82
60.00 20 46 59 2248.66 -.07 50.81 208.40 130.30 21 24 27 1248.7 15.80 32.49
70.00 22 49 51 1887.03 7.84 27.44 214.33 123.35 23 21 18 887.0 20.72 6.52
76.17 1 20 13 1431.29 18.01 358.56 220.25 115.95 1 44 4 431.3 27.13 334.54
76.17 1 20 13 1431.29 18.01 358.56 220.25 115.95 1 44 4 431.3 27.13 334.54
76.17 1 20 13 1431.29 18.01 358.56 220.25 115.95 1 44 4 431.3 27.13 334.54
110.00 3 53 14 6221.89 7.84 294.26 214.33 123.35 5 36 55 5221.9 20.72 273.34

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6894 TRA-1.2493 TC3 .1056 BAU .1036 SGT 2080.4 SGR 602.4 SG3 580.6 ST 52.0 SR 21.6 SS 54.7
RDE -.3338 RRA -.1805 RC3 .3683 FAU .07775 RRT .7295 RRF -.7912 RTF -.5110 CRT .9289 CRS .7757 CST .9534
FDE 1.1073 FRA 3.7455 FC3-3.3283 BSP 3557 SGB 2146.6 R23 -.1685 R13 -.8990 LSA 76.9 MSA 15.7 S8A 1.0
BDE .7659 BRA 1.2622 BC3 .3632 FSP 873 SGT 2108.5 SG2 402.6 THA 12.50 EL1 55.9 EL2 7.5 ALF 21.53

LAUNCH DATE APR 8 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

DISTANCE 425.114

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.821 GAL -4.13 AZL 93.01 HCA 145.87 SMA 190.98 ECC .22686 INC 3.0109 V1 29.750
RP 206.84 LAP -1.69 LOP 343.43 VP 24.254 GAP 12.23 AZP 87.51 TAL 337.35 TAP 123.22 RCA 147.64 APO 234.26 V2 26.477
RC 71.130 GL -22.73 GP 7.33 ZAL 130.00 ZAP 149.24 ETS 167.29 ZAE 169.54 ETE 85.96 ZAC 107.92 ETC 277.02 LVI -23.71

PLANETOCENTRIC CONIC

C3 19.812 VHL 4.451 DLA -31.90 RAL 343.04 RAD 6642.8 VEL 11.825 PTH 6.84 VHP 5.617 DPA -11.49 RAP 314.34 ECC 1.3260
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 25 4 2480.22 -5.41 64.74 202.68 137.34 20 6 4 1480.2 12.94 48.90
60.00 20 54 42 2221.69 1.12 49.52 208.94 130.29 21 31 43 1221.7 16.92 31.08
70.00 23 4 6 1840.72 9.56 24.96 215.23 122.95 23 34 46 840.7 22.16 3.70
74.59 1 10 44 1460.58 18.51 1.04 220.48 116.45 1 35 5 460.6 27.79 336.98
74.59 1 10 44 1460.58 18.51 1.04 220.48 116.45 1 35 5 460.6 27.79 336.98
74.59 1 10 44 1460.58 18.51 1.04 220.48 116.45 1 35 5 460.6 27.79 336.98
110.00 4 7 28 6175.58 9.56 291.79 215.23 122.95 5 50 23 5175.6 22.16 270.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7011 TRA-1.2351 TC3 .0728 BAU .1054 SGT 2079.8 SGR 632.0 SG3 595.5 ST 53.2 SR 21.8 SS 56.7
RDE -.3301 RRA -.2061 RC3 .3911 FAU .08072 RRT .7541 RRF -.8243 RTF -.8859 CRT .9426 CRS .7937 CST .9503
FDE 1.1670 FRA 3.9237 FC3-3.5273 BSP 3766 SGB 2173.7 R23 -.1977 R13 -.8957 LSA 79.1 MSA 15.9 S8A 1.0
BDE .7749 BRA 1.2521 BC3 .3978 FSP 942 SGT 2135.8 SG2 404.2 THA 13.40 EL1 57.0 EL2 6.8 ALF 21.42

LAUNCH DATE APR 8 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 430.018

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.776 GAL -4.06 AZL 93.08 HCA 147.14 SMA 190.16 ECC .22336 INC 3.0817 V1 29.750
RP 206.90 LAP -1.67 LOP 344.69 VP 24.186 GAP 11.89 AZP 87.41 TAL 337.44 TAP 124.58 RCA 147.68 APO 232.63 V2 26.470
RC 72.517 CL -23.49 GP 7.61 ZAL 129.73 ZAP 147.83 ETS 167.21 ZAE 169.25 EYE 88.23 ZAC 108.38 ETC 277.02 LVI -24.12

PLANETOCENTRIC CONIC

C3 19.446 VHL 4.410 DLA -32.59 RAL 343.42 RAD 6642.6 VEL 11.809 PTH 6.83 VHP 5.463 DPA -11.07 RAP 314.14 ECC 1.3200
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 19 30 54 2438.89 -4.34 63.84 203.15 137.43 20 11 33 1438.9 13.99 47.95
80.00 21 3 2 2193.67 2.35 48.18 209.57 130.24 21 39 36 1193.7 18.06 29.60
70.00 23 21 11 1786.71 11.55 22.04 216.36 122.37 23 50 58 786.7 23.77 .34
73.08 1 2 12 1487.42 19.02 3.36 220.77 116.98 1 26 59 487.4 28.47 339.25
73.08 1 2 12 1487.42 19.02 3.36 220.77 116.98 1 26 59 487.4 28.47 339.25
73.08 1 2 12 1487.42 19.02 3.36 220.77 116.98 1 26 59 487.4 28.47 339.25
110.00 4 24 33 6121.57 11.55 288.86 216.36 122.37 6 6 35 5121.6 23.77 267.16

DIFFERENTIAL CORRECTIONS

TDE -.6911 TRA-1.1971 TC3 .0814 BAU .1109
RDE -.3259 RRA -.2321 RC3 .4187 FAU .08448
FDE 1.2159 FRA 4.0942 FC3-3.7609 BSP 3697
BDE .7641 BRA 1.2194 BC3 .4265 FSP 999

MID-COURSE EXECUTION ACCURACY

SGT 2054.1 SGR 666.2 SG3 631.2
RRT .7801 RRF -.8535 RTF -.8872
SG8 2159.4 R23 -.2134 R13 -.8990
SG1 2121.4 SG2 403.6 TMA 14.74

ORBIT DETERMINATION ACCURACY

ST 52.7 SR 21.9 SS 58.3
CRT .9538 CRS .8097 CST .9476
LSA 80.0 MSA 16.0 SSA 1.0
EL1 56.8 EL2 6.1 ALF 21.82

LAUNCH DATE APR 8 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 433.944

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.734 GAL -4.00 AZL 93.16 HCA 148.40 SMA 189.41 ECC .22009 INC 3.1574 V1 29.750
RP 206.96 LAP -1.65 LOP 345.96 VP 24.121 GAP 11.57 AZP 87.31 TAL 337.53 TAP 125.93 RCA 147.72 APO 231.10 V2 26.462
RC 73.950 CL -24.28 GP 8.30 ZAL 129.44 ZAP 146.39 ETS 167.12 ZAE 168.90 ETE 90.82 ZAC 108.88 ETC 277.01 LVI -24.55

PLANETOCENTRIC CONIC

C3 19.131 VHL 4.374 DLA -33.31 RAL 343.82 RAD 6642.4 VEL 11.796 PTH 6.82 VHP 5.316 DPA -10.63 RAP 313.88 ECC 1.3148
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 19 37 7 2417.32 -3.26 62.93 203.72 137.49 20 17 24 1417.3 15.04 46.99
80.00 21 12 4 2164.55 3.63 46.79 210.32 130.16 21 48 9 1164.6 19.24 28.04
70.00 23 43 19 1718.55 14.00 18.29 217.87 121.47 24 11 58 718.5 25.68 355.97
71.62 0 54 29 1512.38 19.53 5.56 221.14 117.54 1 19 41 512.4 29.15 341.40
71.62 0 54 29 1512.38 19.53 5.56 221.14 117.54 1 19 41 512.4 29.15 341.40
71.62 0 54 29 1512.38 19.53 5.56 221.14 117.54 1 19 41 512.4 29.15 341.40
110.00 4 46 41 6053.40 14.00 285.11 217.87 121.47 6 27 35 5053.4 25.68 262.79

DIFFERENTIAL CORRECTIONS

TDE -.6926 TRA-1.1678 TC3 .0639 BAU .1153
RDE -.3238 RRA -.2610 RC3 .4464 FAU .08801
FDE 1.2772 FRA 4.2793 FC3-3.9828 BSP 3756
BDE .7645 BRA 1.1966 BC3 .4510 FSP 1068

MID-COURSE EXECUTION ACCURACY

SGT 2043.7 SGR 707.0 SG3 668.9
RRT .7998 RRF -.8797 RTF -.8843
SG8 2162.5 R23 -.2379 R13 -.8986
SG1 2123.6 SG2 408.4 TMA 16.08

ORBIT DETERMINATION ACCURACY

ST 53.0 SR 22.1 SS 60.1
CRT .9654 CRS .8280 CST .9444
LSA 81.6 MSA 16.2 SSA 1.0
EL1 57.2 EL2 5.3 ALF 22.11

LAUNCH DATE APR 8 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 437.894

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.698 GAL -3.94 AZL 93.24 HCA 149.87 SMA 188.71 ECC .21701 INC 3.2388 V1 29.780
RP 207.04 LAP -1.64 LOP 347.23 VP 24.058 GAP 11.24 AZP 87.20 TAL 337.61 TAP 127.28 RCA 147.76 APO 229.87 V2 26.484
RC 75.426 CL -25.11 GP 8.84 ZAL 129.15 ZAP 144.90 ETS 167.01 ZAE 168.48 ETE 93.68 ZAC 109.43 ETC 277.00 LVI -25.01

PLANETOCENTRIC CONIC

C3 18.863 VHL 4.343 DLA -34.09 RAL 344.26 RAD 6642.3 VEL 11.785 PTH 6.81 VHP 5.174 DPA -10.16 RAP 313.58 ECC 1.3104
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 19 43 46 2398.38 -2.16 62.01 204.37 137.54 20 23 41 1395.3 16.11 45.99
80.00 21 21 58 2133.93 4.98 45.32 211.20 130.04 21 57 31 1133.9 20.46 26.37
70.00 0 26 34 1599.53 18.12 11.92 220.46 119.46 0 53 14 599.5 28.64 347.98
70.19 0 47 25 1535.99 20.04 7.68 221.58 118.13 1 13 1 536.0 29.85 343.48
70.19 0 47 25 1535.99 20.04 7.68 221.58 118.13 1 13 1 536.0 29.85 343.48
70.19 0 47 25 1535.99 20.04 7.68 221.58 118.13 1 13 1 536.0 29.85 343.48
110.00 5 26 1 5934.39 18.12 278.34 220.46 119.46 7 4 55 4934.4 28.64 254.81

DIFFERENTIAL CORRECTIONS

TDE -.8887 TRA-1.1313 TC3 .0937 BAU .1210
RDE -.3225 RRA -.2920 RC3 .4769 FAU .09180
FDE 1.3388 FRA 4.4677 FC3-4.2133 BSP 3751
BDE .7604 BRA 1.1884 BC3 .4799 FSP 1136

MID-COURSE EXECUTION ACCURACY

SGT 2018.0 SGR 754.2 SG3 707.9
RRT .8170 RRF -.9023 RTF -.5.25
SG8 2154.4 R23 -.2587 R13 -.9004
SG1 2114.0 SG2 415.1 TMA 17.68

ORBIT DETERMINATION ACCURACY

ST 52.9 SR 22.4 SS 62.0
CRT .9758 CRS .8480 CST .9411
LSA 82.9 MSA 16.3 SSA .9
EL1 57.7 EL2 4.5 ALF 22.61

LAUNCH DATE APR 8 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 441.864

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.658 GAL -3.88 AZL 93.33 HCA 150.93 SMA 188.07 ECC .21413 INC 3.3264 V1 29.750
RP 207.12 LAP -1.62 LOP 348.49 VP 23.997 GAP 10.93 AZP 87.09 TAL 337.68 TAP 128.61 RCA 147.80 APO 228.34 V2 26.444
RC 76.944 CL -25.97 GP 9.43 ZAL 128.83 ZAP 143.36 ETS 166.90 ZAE 167.98 ETE 96.73 ZAC 110.04 ETC 276.98 LVI -25.50

PLANETOCENTRIC CONIC

C3 18.643 VHL 4.318 DLA -34.83 RAL 344.72 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 5.039 DPA -9.65 RAP 313.22 ECC 1.3068
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 19 50 56 2372.89 -1.03 61.07 205.14 137.57 20 30 29 1372.9 17.19 44.95
80.00 21 32 53 2101.39 6.40 43.75 212.23 129.88 22 7 55 1101.4 21.73 24.57
68.77 0 40 56 1558.56 20.54 9.74 222.11 118.76 1 6 54 558.6 30.56 345.51
68.77 0 40 56 1558.56 20.54 9.74 222.11 118.76 1 6 54 558.6 30.56 345.51
68.77 0 40 56 1558.56 20.54 9.74 222.11 118.76 1 6 54 558.6 30.56 345.51
68.77 0 40 56 1558.56 20.54 9.74 222.11 118.76 1 6 54 558.6 30.56 345.51
68.77 0 40 56 1558.56 20.54 9.74 222.11 118.76 1 6 54 558.6 30.56 345.51

DIFFERENTIAL CORRECTIONS

TDE -.8841 TRA-1.0914 TC3 .0421 BAU .1275
RDE -.3223 RRA -.3255 RC3 .5100 FAU .09581
FDE 1.4026 FRA 4.6589 FC3-4.4491 BSP 3727
BDE .7562 BRA 1.1389 BC3 .5117 FSP 1205

MID-COURSE EXECUTION ACCURACY

SGT 1984.5 SGR 808.5 SG3 748.0
RRT .8305 RRF -.9216 RTF -.8799
SG8 2142.9 R23 -.2786 R13 -.9022
SG1 2100.2 SG2 425.5 TMA 19.53

ORBIT DETERMINATION ACCURACY

ST 52.5 SR 22.8 SS 63.8
CRT .9845 CRS .8638 CST .9374
LSA 84.1 MSA 16.6 SSA .9
EL1 57.2 EL2 3.7 ALF 23.24

LAUNCH DATE APR 8 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

DISTANCE 445.854

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.623 GAL -3.83 AZL 93.42 HCA 152.19 SMA 187.46 ECC .21143 INC 3.4213 V1 29.750
RP 207.21 LAP -1.60 LOP 349.75 VP 23.938 GAP 10.62 AZP 86.97 TAL 337.75 TAP 129.94 RCA 147.83 APO 227.10 V2 26.433
RC 78.502 GL -26.87 GP 10.07 ZAL 128.50 ZAP 141.76 ETS 166.76 ZAE 167.37 ETE 99.88 ZAC 110.70 ETC 276.95 LVI -26.03

PLANETOCENTRIC CONIC

C3 18.473 VHL 4.298 DLA -35.63 RAL 345.22 RAD 6642.1 VEL 11.768 PTH 6.79 VHP 4.911 DPA -9.10 RAP 312.81 ECC 1.3040
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 58 41 2349.83 .13 60.11 206.02 137.58 20 37 51 1349.8 18.30 43.89
60.00 21 45 7 2066.30 7.93 42.04 213.45 129.84 22 19 33 1066.3 23.08 22.56
67.37 0 34 55 1580.53 21.04 11.78 222.73 119.44 1 1 16 580.5 31.28 347.52
67.37 0 34 55 1580.53 21.04 11.78 222.73 119.44 1 1 16 580.5 31.28 347.52
67.37 0 34 55 1580.53 21.04 11.78 222.73 119.44 1 1 16 580.5 31.28 347.52
67.37 0 34 55 1580.53 21.04 11.78 222.73 119.44 1 1 16 580.5 31.28 347.52
67.37 0 34 55 1580.53 21.04 11.78 222.73 119.44 1 1 16 580.5 31.28 347.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6793 TRA -1.0482 TC3 .0288 BAV .1350 SGT 1943.2 SGR 871.0 SG3 789.2 ST 52.1 SR 23.4 SS 65.6
RDE -.3237 RRA -.3619 RC3 .5458 FAU .10000 RRT .8407 RRF -.9378 RTF -.8766 CRT .9916 CRS .8815 CST .9332
FDE 1.4708 FRA 4.8539 FC3 -4.6864 BSP 3693 SGB 2129.5 R23 -.2963 R13 -.9045 LSA 85.3 MSA 16.8 SSA .9
BDE .7525 BRA 1.1090 BC3 .5466 FSP 1276 SG1 2083.6 SG2 440.0 THA 21.66 EL1 57.0 EL2 2.8 ALF 24.02

LAUNCH DATE APR 8 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

DISTANCE 449.863

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.590 GAL -3.78 AZL 93.52 HCA 153.45 SMA 186.90 ECC .20892 INC 3.5243 V1 29.750
RP 207.31 LAP -1.57 LOP 351.02 VP 23.880 GAP 10.32 AZP 86.85 TAL 337.81 TAP 131.27 RCA 147.86 APO 225.95 V2 26.422
RC 80.098 GL -27.82 GP 10.77 ZAL 128.14 ZAP 140.12 ETS 166.62 ZAE 166.65 ETE 103.05 ZAC 111.43 ETC 276.92 LVI -26.60

PLANETOCENTRIC CONIC

C3 18.353 VHL 4.284 DLA -36.47 RAL 345.77 RAD 6642.1 VEL 11.763 PTH 6.79 VHP 4.790 DPA -8.50 RAP 312.35 ECC 1.3020
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 7 7 2325.98 1.33 59.12 207.04 137.56 20 45 53 1326.0 19.44 42.77
60.00 21 59 3 2027.69 9.60 40.15 214.89 129.33 22 32 51 1027.7 24.57 20.35
65.95 0 29 25 1601.88 21.55 13.79 223.46 120.16 0 56 7 601.9 32.03 349.52
65.95 0 29 25 1601.88 21.55 13.79 223.46 120.16 0 56 7 601.9 32.03 349.52
65.95 0 29 25 1601.88 21.55 13.79 223.46 120.16 0 56 7 601.9 32.03 349.52
65.95 0 29 25 1601.88 21.55 13.79 223.46 120.16 0 56 7 601.9 32.03 349.52
65.95 0 29 25 1601.88 21.55 13.79 223.46 120.16 0 56 7 601.9 32.03 349.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6710 TRA -.9985 TC3 .0190 BAV .1437 SGT 1887.6 SGR 941.8 SG3 830.9 ST 51.3 SR 24.0 SS 67.3
RDE -.3263 RRA -.4012 RC3 .5852 FAU .10446 RRT .8481 RRF -.9511 RTF -.8732 CRT .9966 CRS .8981 CST .9284
FDE 1.5389 FRA 5.0463 FC3 -4.9276 BSP 3613 SGB 2109.5 R23 -.3D86 R13 -.9083 LSA 86.3 MSA 17.0 SSA .8
BDE .7462 BRA 1.0761 BC3 .5855 FSP 1342 SG1 2059.3 SG2 457.4 THA 24.21 EL1 56.6 EL2 1.8 ALF 25.03

LAUNCH DATE APR 8 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

DISTANCE 453.887

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.560 GAL -3.74 AZL 93.64 HCA 154.71 SMA 186.39 ECC .20657 INC 3.6367 V1 29.750
RP 207.42 LAP -1.55 LOP 352.28 VP 23.825 GAP 10.03 AZP 86.71 TAL 337.86 TAP 132.58 RCA 147.88 APO 224.09 V2 26.409
RC 81.730 GL -28.81 GP 11.53 ZAL 127.77 ZAP 138.42 ETS 166.46 ZAE 165.81 ETE 106.14 ZAC 112.24 ETC 276.88 LVI -27.22

PLANETOCENTRIC CONIC

C3 18.286 VHL 4.276 DLA -37.34 RAL 346.37 RAD 6642.1 VEL 11.761 PTH 6.79 VHP 4.675 DPA -7.85 RAP 311.82 ECC 1.3009
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 16 22 2301.21 2.57 58.08 208.22 137.52 20 54 43 1301.2 20.61 41.58
60.00 22 15 19 1984.04 11.47 37.99 216.62 128.90 22 48 23 984.0 26.13 17.75
64.53 0 24 20 1623.05 22.04 15.82 224.30 120.94 0 51 23 623.0 32.78 351.53
64.53 0 24 20 1623.05 22.04 15.82 224.30 120.94 0 51 23 623.0 32.78 351.53
64.53 0 24 20 1623.05 22.04 15.82 224.30 120.94 0 51 23 623.0 32.78 351.53
64.53 0 24 20 1623.05 22.04 15.82 224.30 120.94 0 51 23 623.0 32.78 351.53
64.53 0 24 20 1623.05 22.04 15.82 224.30 120.94 0 51 23 623.0 32.78 351.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6734 TRA -.9563 TC3 -.0169 BAV .1327 SGT 1847.0 SGR 1023.7 SG3 874.4 ST 51.2 SR 25.0 SS 69.4
RDE -.3325 RRA -.4458 RC3 .6243 FAU .10841 RRT .8489 RRF -.9620 RTF -.8552 CRT .9992 CRS .9151 CST .9235
FDE 1.6266 FRA 5.2542 FC3 -5.1323 BSP 3657 SGB 2111.7 R23 -.3247 R13 -.9102 LSA 88.1 MSA 17.4 SSA .8
BDE .7511 BRA 1.0551 BC3 .6245 FSP 1425 SG1 2054.9 SG2 486.4 THA 26.82 EL1 56.9 EL2 .9 ALF 26.00

LAUNCH DATE APR 8 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

DISTANCE 457.927

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.532 GAL -3.70 AZL 93.78 HCA 155.97 SMA 185.90 ECC .20438 INC 3.7599 V1 29.750
RP 207.54 LAP -1.53 LOP 353.54 VP 23.771 GAP 9.74 AZP 86.56 TAL 337.91 TAP 133.88 RCA 147.91 APO 223.90 V2 26.395
RC 83.399 GL -29.87 GP 12.38 ZAL 127.36 ZAP 136.66 ETS 166.30 ZAE 164.83 ETE 109.11 ZAC 113.12 ETC 276.84 LVI -27.89

PLANETOCENTRIC CONIC

C3 18.276 VHL 4.275 DLA -38.26 RAL 347.03 RAD 6642.1 VEL 11.760 PTH 6.79 VHP 4.568 DPA -7.13 RAP 311.23 ECC 1.3008
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 26 36 2275.17 3.88 56.99 209.59 137.46 21 4 31 1275.2 21.84 40.31
60.00 22 35 7 1932.13 13.68 35.38 218.76 128.29 23 7 20 932.1 27.95 14.57
63.08 0 19 41 1644.08 22.53 17.87 225.27 121.78 0 47 5 644.1 33.56 353.58
63.08 0 19 41 1644.08 22.53 17.87 225.27 121.78 0 47 5 644.1 33.56 353.58
63.08 0 19 41 1644.08 22.53 17.87 225.27 121.78 0 47 5 644.1 33.56 353.58
63.08 0 19 41 1644.08 22.53 17.87 225.27 121.78 0 47 5 644.1 33.56 353.58
63.08 0 19 41 1644.08 22.53 17.87 225.27 121.78 0 47 5 644.1 33.56 353.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6713 TRA -.9054 TC3 -.0450 BAV .1635 SGT 1788.5 SGR 1115.9 SG3 917.5 ST 50.6 SR 26.1 SS 71.4
RDE -.3406 RRA -.4940 RC3 .6678 FAU .11268 RRT .8476 RRF -.9708 RTF -.8570 CRT .9990 CRS .9302 CST .9178
FDE 1.7150 FRA 5.4541 FC3 -5.3375 BSP 3642 SGB 2108.1 R23 -.3315 R13 -.9147 LSA 89.6 MSA 17.7 SSA .7
BDE .7528 BRA 1.0314 BC3 .6693 FSP 1501 SG1 2043.4 SG2 518.3 THA 30.00 EL1 56.9 EL2 1.1 ALF 27.27

LAUNCH DATE APR 8 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 461.981

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.905 GAL -3.68 AZL 93.90 HCA 157.23 SMA 185.46 ECC .20255 INC 3.8957 V1 29.750
 RP 207.66 LAP -1.51 LOP 354.80 VP 23.719 GAP 9.46 AZP 86.41 TAL 337.94 TAP 135.17 RCA 147.93 APO 272.99 V2 26.381
 RC 85.104 GL -30.99 GP 13.31 ZAL 126.93 ZAP 134.84 ETP 166.12 ZAE 163.70 ETE 111.88 ZAC 114.10 ETC 276.78 LVI -28.63

PLANETOCENTRIC CONIC

C3 18.328 VHL 4.281 DLA -39.23 RAL 347.76 RAD 6642.1 VEL 11.762 PTH 6.79 VHP 4.469 DPA -6.34 RAP 310.58 ECC 1.3016
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 38 2 2247.51 5.27 55.83 211.17 137.35 21 15 29 1247.5 23.13 38.94
 60.00 23 1 24 1864.15 16.52 31.87 221.56 127.30 23 32 29 864.2 30.21 10.23
 61.60 0 15 25 1665.31 23.01 19.96 226.39 122.69 0 43 11 665.3 34.36 355.69
 61.60 0 15 25 1665.31 23.01 19.96 226.39 122.69 0 43 11 665.3 34.36 355.69
 61.60 0 15 25 1665.31 23.01 19.96 226.39 122.69 0 43 11 665.3 34.36 355.69
 61.60 0 15 25 1665.31 23.01 19.96 226.39 122.69 0 43 11 665.3 34.36 355.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6692 TRA -.8502 TC3 -.0756 BAU .1760 SGT 1721.5 SGR 1220.1 S63 960.1 ST 49.9 SR 27.5 S8 73.4
 RDE -.3515 RRA -.5470 RC3 .7144 FAU .11698 RRT .8426 RRF -.9777 RTF -.8467 CRT .9958 CR8 .9438 CST .9115
 FDE 1.8103 FRA 5.6487 FC3-5.5258 BSP 3629 SGB 2110.0 R23 -.3313 R13 -.9209 LSA 91.1 MSA 18.1 S5A .7
 BDE .7559 BRA 1.0110 BC3 .7184 FSP 1576 SG1 2035.5 S62 555.7 THA 33.69 EL1 56.9 EL2 2.2 ALF 28.78

LAUNCH DATE APR 8 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 466.049

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.481 GAL -3.63 AZL 94.05 HCA 158.48 SMA 185.04 ECC .20047 INC 4.0463 V1 29.750
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.667 GAP 9.18 AZP 86.23 TAL 337.96 TAP 136.45 RCA 147.95 APO 272.13 V2 26.365
 RC 86.843 GL -32.18 GP 14.34 ZAL 126.46 ZAP 132.96 ETP 165.94 ZAE 162.42 ETE 115.18 ETC 226.73 LVI -29.44

PLANETOCENTRIC CONIC

C3 18.448 VHL 4.295 DLA -40.25 RAL 348.56 RAD 6642.1 VEL 11.767 PTH 6.79 VHP 4.377 DPA -5.46 RAP 309.86 ECC 1.3036
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 50 57 2217.72 6.76 54.57 213.03 137.21 21 27 55 1217.7 24.49 37.43
 60.00 23 53 26 1726.75 22.02 24.43 226.59 124.65 24 22 13 726.8 34.23 .82
 60.08 0 11 36 1686.79 23.48 22.11 227.66 123.68 0 39 42 686.8 35.18 357.88
 60.08 0 11 36 1686.79 23.48 22.11 227.66 123.68 0 39 42 686.8 35.18 357.88
 60.08 0 11 36 1686.79 23.48 22.11 227.66 123.68 0 39 42 686.8 35.18 357.88
 60.08 0 11 36 1686.79 23.48 22.11 227.66 123.68 0 39 42 686.8 35.18 357.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6676 TRA -.7912 TC3 -.1105 BAU .1904 SGT 1647.6 SGR 1337.5 S63 1001.5 ST 49.1 SR 29.1 S8 75.4
 RDE -.3662 RRA -.6054 RC3 .7638 FAU .12117 RRT .8332 RRF -.9832 RTF -.8332 CRT .9895 CR8 .9557 CST .9043
 FDE 1.9140 FRA 5.8345 FC3-5.6865 BSP 3630 SGB 2122.1 R23 -.3234 R13 -.9288 LSA 92.8 MSA 18.5 S5A .6
 BDE .7614 BRA .9963 BC3 .7718 FSP 1649 SG1 2036.0 S62 598.5 THA 37.93 EL1 57.0 EL2 3.6 ALF 30.55

LAUNCH DATE APR 8 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 470.129

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.458 GAL -3.60 AZL 94.21 HCA 159.74 SMA 184.86 ECC .19872 INC 4.2145 V1 29.750
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.618 GAP 8.91 AZP 86.05 TAL 337.98 TAP 137.72 RCA 147.96 APO 271.35 V2 26.349
 RC 86.616 GL -33.46 GP 15.48 ZAL 125.94 ZAP 131.02 ETP 165.76 ZAE 160.97 ETE 116.72 ZAC 116.38 ETC 226.67 LVI -30.34

PLANETOCENTRIC CONIC

C3 18.645 VHL 4.318 DLA -41.34 RAL 349.47 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 4.295 DPA -4.49 RAP 309.07 ECC 1.3089
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 5 48 2185.00 8.39 53.18 215.22 137.01 21 42 13 1185.0 25.98 35.73
 58.50 0 8 12 1708.79 23.94 24.34 229.13 124.76 0 36 41 708.8 36.02 .17
 58.50 0 8 12 1708.79 23.94 24.34 229.13 124.76 0 36 41 708.8 36.02 .17
 58.50 0 8 12 1708.79 23.94 24.34 229.13 124.76 0 36 41 708.8 36.02 .17
 58.50 0 8 12 1708.79 23.94 24.34 229.13 124.76 0 36 41 708.8 36.02 .17
 58.50 0 8 12 1708.79 23.94 24.34 229.13 124.76 0 36 41 708.8 36.02 .17

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6594 TRA -.7206 TC3 -.1316 BAU .2071 SGT 1549.1 SGR 1468.0 S63 1039.6 ST 47.7 SR 31.0 S8 77.1
 RDE -.3836 RRA -.6681 RC3 .8204 FAU .12589 RRT .8215 RRF -.9874 RTF -.2.81 CRT .9801 CR8 .9456 CST .8959
 FDE 2.0145 FRA 5.9925 FC3-5.8453 BSP 3560 SGB 2134.2 R23 -.3008 R13 -.9405 LSA 93.9 MSA 18.9 S5A .6
 BDE .7628 BRA .9826 BC3 .8308 FSP 1702 SG1 2037.0 S62 636.5 THA 43.12 EL1 56.7 EL2 5.2 ALF 32.81

LAUNCH DATE APR 8 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 474.219

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.438 GAL -3.58 AZL 94.40 HCA 160.99 SMA 184.30 ECC .19712 INC 4.4034 V1 29.750
 RP 208.08 LAP -1.43 LOP 358.56 VP 23.569 GAP 8.64 AZP 85.84 TAL 337.98 TAP 136.97 RCA 147.98 APO 220.63 V2 26.332
 RC 90.421 GL -34.84 GP 16.76 ZAL 125.38 ZAP 129.00 ETP 165.56 ZAE 159.36 ETE 118.74 ZAC 117.71 ETC 278.61 LVI -31.33

PLANETOCENTRIC CONIC

C3 18.935 VHL 4.351 DLA -42.49 RAL 350.48 RAD 6642.4 VEL 11.788 PTH 6.81 VHP 4.222 DPA -3.39 RAP 308.22 ECC 1.3116
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 23 12 2148.32 10.21 51.80 217.86 136.73 21 59 1 1148.3 27.61 33.77
 56.86 0 5 19 1731.43 24.38 26.65 230.82 125.95 0 34 10 731.4 36.88 2.58
 56.86 0 5 19 1731.43 24.38 26.65 230.82 125.95 0 34 10 731.4 36.88 2.58
 56.86 0 5 19 1731.43 24.38 26.65 230.82 125.95 0 34 10 731.4 36.88 2.58
 56.86 0 5 19 1731.43 24.38 26.65 230.82 125.95 0 34 10 731.4 36.88 2.58
 56.86 0 5 19 1731.43 24.38 26.65 230.82 125.95 0 34 10 731.4 36.88 2.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6689 TRA -.6623 TC3 -.1922 BAU .2256 SGT 1484.0 SGR 1619.7 S63 1077.7 ST 47.5 SR 33.6 S8 79.6
 RDE -.4114 RRA -.7422 RC3 .8701 FAU .12885 RRT .7979 RRF -.9907 RTF -.7924 CRT .9681 CR8 .9745 CST .8878
 FDE 2.1609 FRA 6.1652 FC3-5.8911 BSP 3717 SGB 2196.7 R23 -.2907 R13 -.9501 LSA 96.6 MSA 19.5 S5A .5
 BDE .7853 BRA .9947 BC3 .8910 FSP 1787 SG1 2083.8 S62 695.3 THA 48.13 EL1 57.8 EL2 6.9 ALF 35.01

LAUNCH DATE APR 8 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC DISTANCE 478.320 EARTH TO MARS
RL 149.77 LAL .00 LOL 197.52 VL 32.417 GAL -3.55 AZL 94.62 HCA 162.24 SMA 183.98 ECC .19864 INC 4.6177 V1 29.750
RP 208.24 LAP -1.41 LOP 359.81 VP 23.522 GAP 8.38 AZP 85.60 TAL 337.97 TAP 140.21 RCA 147.99 APO 219.97 V2 26.313
RC 92.259 GL -36.33 GP 18.18 ZAL 124.75 ZAP 126.92 ETS 165.37 ZAE 157.55 ETE 120.49 ZAC 119.19 ETC 276.54 LVI -32.44
PLANETOCENTRIC CONIC
C3 19.331 VHL 4.397 DLA -43.73 RAL 351.64 RAD 6642.5 VEL 11.805 PTH 6.83 VHP 4.161 DPA -2.16 RAP 307.28 ECC 1.3181
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 44 16 2105.40 12.33 49.73 221.08 136.33 22 19 21 1105.4 29.48 31.39
55.13 0 2 57 1755.09 24.79 29.09 232.76 127.26 0 32 12 755.1 37.75 5.17
55.13 0 2 57 1755.09 24.79 29.09 232.76 127.26 0 32 12 755.1 37.75 5.17
55.13 0 2 57 1755.09 24.79 29.09 232.76 127.26 0 32 12 755.1 37.75 5.17
55.13 0 2 57 1755.09 24.79 29.09 232.76 127.26 0 32 12 755.1 37.75 5.17
55.13 0 2 57 1755.09 24.79 29.09 232.76 127.26 0 32 12 755.1 37.75 5.17
55.13 0 2 57 1755.09 24.79 29.09 232.76 127.26 0 32 12 755.1 37.75 5.17
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6712 TRA -.5906 TC3 -.2362 BAU .2470 SGT 1393.8 8GR 1788.4 8G3 1109.8 ST 46.6 SR 36.6 SS 81.7
RDE -.4452 RRA -.8221 RC3 .9262 FAU .13211 RRT .7693 RRF -.9932 RTF -.7620 CRT .9534 CR8 .9814 CST .8783
FDE 2.3088 FRA 6.2948 FC3-5.9162 BSP 3814 SGB 2267.3 R23 -.2454 R13 -.9624 LSA 98.9 MSA 20.0 SSA .5
BDE .8054 BRA 1.0123 BC3 .9558 FSP 1848 SGI 2142.0 8G2 743.5 THA 54.07 EL1 58.6 EL2 8.8 ALF 37.83

LAUNCH DATE APR 8 1971 FLIGHT TIME 194.00 ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC DISTANCE 482.431 EARTH TO MARS
RL 149.77 LAL .00 LOL 197.52 VL 32.398 GAL -3.54 AZL 94.86 HCA 163.49 SMA 183.68 ECC .19428 INC 4.8629 V1 29.750
RP 208.41 LAP -1.38 LOP 1.06 VP 23.475 GAP 8.13 AZP 85.34 TAL 337.95 TAP 141.44 RCA 147.99 APO 219.36 V2 26.294
RC 94.128 GL -37.96 GP 19.78 ZAL 124.04 ZAP 124.76 ETS 165.18 ZAE 155.55 ETE 121.97 ZAC 120.85 ETC 276.48 LVI -33.69
PLANETOCENTRIC CONIC
C3 19.861 VHL 4.457 DLA -45.07 RAL 352.97 RAD 6642.8 VEL 11.827 PTH 6.85 VHP 4.112 DPA -.77 RAP 306.27 ECC 1.3269
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 11 5 2051.89 14.95 47.35 225.20 135.71 22 45 17 1051.9 31.75 28.30
53.32 0 1 13 1779.95 25.15 31.67 235.02 128.72 0 30 53 779.9 38.65 7.95
53.32 0 1 13 1779.95 25.15 31.67 235.02 128.72 0 30 53 779.9 38.65 7.95
53.32 0 1 13 1779.95 25.15 31.67 235.02 128.72 0 30 53 779.9 38.65 7.95
53.32 0 1 13 1779.95 25.15 31.67 235.02 128.72 0 30 53 779.9 38.65 7.95
53.32 0 1 13 1779.95 25.15 31.67 235.02 128.72 0 30 53 779.9 38.65 7.95
53.32 0 1 13 1779.95 25.15 31.67 235.02 128.72 0 30 53 779.9 38.65 7.95
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6727 TRA -.5125 TC3 -.2786 BAU .2718 SGT 1296.2 8GR 1977.5 8G3 1135.2 ST 45.5 SR 40.1 SS 83.8
RDE -.4885 RRA -.9102 RC3 .9849 FAU .13501 RRT .7300 RRF -.9950 RTF -.7213 CRT .9363 CR8 .9868 CST .8675
FDE 2.4694 FRA 6.3837 FC3-5.8851 BSP 3941 SGB 2364.5 R23 -.2024 R13 -.9742 LSA 101.4 MSA 20.4 SSA .4
BDE .8314 BRA 1.0446 BC3 1.0235 FSP 1893 SGI 2230.1 8G2 785.6 THA 80.40 EL1 59.6 EL2 10.7 ALF 41.15

LAUNCH DATE APR 8 1971 FLIGHT TIME 196.00 ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC DISTANCE 486.550 EARTH TO MARS
RL 149.77 LAL .00 LOL 197.52 VL 32.382 GAL -3.52 AZL 95.15 HCA 164.73 SMA 183.40 ECC .19305 INC 5.1465 V1 29.750
RP 208.58 LAP -1.35 LOP 2.31 VP 23.430 GAP 7.88 AZP 85.03 TAL 337.92 TAP 142.65 RCA 148.00 APO 218.81 V2 26.274
RC 96.027 GL -39.75 GP 21.58 ZAL 123.24 ZAP 122.51 ETS 165.00 ZAE 155.33 ETE 123.19 ZAC 122.72 ETC 276.42 LVI -33.10
PLANETOCENTRIC CONIC
C3 20.558 VHL 4.534 DLA -46.51 RAL 354.51 RAD 6643.1 VEL 11.856 PTH 6.87 VHP 4.078 DPA .82 RAP 305.18 ECC 1.3383
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 49 34 1974.43 18.69 43.79 230.97 134.59 23 22 29 974.4 34.86 23.52
51.39 0 0 18 1806.32 25.46 34.42 237.64 130.34 0 30 24 806.3 39.54 10.98
51.39 0 0 18 1806.32 25.46 34.42 237.64 130.34 0 30 24 806.3 39.54 10.98
51.39 0 0 18 1806.32 25.46 34.42 237.64 130.34 0 30 24 806.3 39.54 10.98
51.39 0 0 18 1806.32 25.46 34.42 237.64 130.34 0 30 24 806.3 39.54 10.98
51.39 0 0 18 1806.32 25.46 34.42 237.64 130.34 0 30 24 806.3 39.54 10.98
51.39 0 0 18 1806.32 25.46 34.42 237.64 130.34 0 30 24 806.3 39.54 10.98
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6768 TRA -.4299 TC3 -.3232 BAU .3000 SGT 1200.2 8GR 2191.4 8G3 1152.6 ST 44.4 SR 44.4 SS 86.0
RDE -.3470 RRA -1.0088 RC3 1.0428 FAU .13701 RRT .8753 RRF -.9964 RTF -.7556 CRT .9175 CR8 .9910 CST .8562
FDE 2.6592 FRA 6.4276 FC3-5.7697 BSP 4146 SGB 2498.5 R23 -.1576 R13 -.9839 LSA 104.4 MSA 20.9 SSA .4
BDE .8702 BRA 1.0984 BC3 1.0916 FSP 1929 SGI 2359.4 8G2 822.2 THA 66.71 EL1 61.4 EL2 12.7 ALF 44.99

LAUNCH DATE APR 8 1971 FLIGHT TIME 198.00 ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC DISTANCE 490.678 EARTH TO MARS
RL 149.77 LAL .00 LOL 197.52 VL 32.388 GAL -3.51 AZL 95.48 HCA 165.97 SMA 183.15 ECC .19192 INC 5.4783 V1 29.750
RP 208.76 LAP -1.33 LOP 3.95 VP 23.385 GAP 7.63 AZP 84.68 TAL 337.88 TAP 143.85 RCA 148.00 APO 218.30 V2 26.254
RC 97.955 GL -41.73 GP 23.62 ZAL 122.33 ZAP 120.19 ETS 164.83 ZAE 150.67 ETE 124.17 ZAC 124.83 ETC 276.37 LVI -36.70
PLANETOCENTRIC CONIC
C3 21.473 VHL 4.634 DLA -48.08 RAL 356.32 RAD 6643.5 VEL 11.894 PTH 6.90 VHP 4.062 DPA 2.63 RAP 304.00 ECC 1.3534
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
49.34 0 0 20 1834.73 25.68 37.37 240.72 132.16 0 30 54 834.7 40.42 14.32
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6323 TRA -.3412 TC3 -.3670 BAU .3327 SGT 1107.3 8GR 2431.3 8G3 1158.4 ST 43.2 SR 49.6 SS 88.3
RDE -.6253 RRA -1.1172 RC3 1.0994 FAU .13810 RRT .5986 RRF -.9975 RTF -.5881 CRT .8973 CR8 .9941 CST .8441
FDE 2.8762 FRA 6.4041 FC3-5.5677 BSP 4413 SGB 2671.5 R23 -.1149 R13 -.9909 LSA 108.0 MSA 21.3 SSA .3
BDE .9255 BRA 1.1681 BC3 1.1590 FSP 1942 SGI 2532.2 8G2 851.7 THA 72.74 EL1 64.1 EL2 14.8 ALF 49.36

LAUNCH DATE APR 8 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.352 GAL -3.50 AZL 95.87 HCA 167.21 SMA 182.92 ECC .19090 INC 5.8727 V1 29.750
 RP 208.94 LAP -1.30 LOP 4.80 VP 23.341 GAP 7.39 AZP 84.27 TAL 337.83 TAP 145.04 RCA 148.00 APO 217.84 V2 26.232
 RC 99.910 GL -43.93 GP 25.94 ZAL 121.20 ZAP 117.77 ETS 164.09 ZAE 148.16 ETE 124.92 ZAC 127.23 ETC 276.34 LVI -38.51

DISTANCE 494.810 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.680 VHL 4.762 DLA -49.79 RAL 358.48 RAD 6644.0 VEL 11.944 PTH 6.95 VHP 4.069 DPA 4.71 RAP 302.73 ECC 1.3733
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.15 0 1 40 1865.60 25.79 40.54 244.36 134.19 0 32 46 865.6 41.26 18.02
 47.15 0 1 40 1865.60 25.79 40.54 244.36 134.19 0 32 46 865.6 41.26 18.02
 47.15 0 1 40 1865.60 25.79 40.54 244.36 134.19 0 32 46 865.6 41.26 18.02
 47.15 0 1 40 1865.60 25.79 40.54 244.36 134.19 0 32 46 865.6 41.26 18.02
 47.15 0 1 40 1865.60 25.79 40.54 244.36 134.19 0 32 46 865.6 41.26 18.02
 47.15 0 1 40 1865.60 25.79 40.54 244.36 134.19 0 32 46 865.6 41.26 18.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6886 TRA -.2465 TC3 -.4072 BAU .3700 SGT 1023.5 SGR 2703.8 SG3 1150.9 ST 42.0 SR 56.2 SS 90.9
 RDE -.7346 RRA-1.2389 RC3 1.1502 FAU .13764 RRT .4941 RRF -.9982 RTF -.4830 CRT .8768 CRS .9963 CST .8321
 FDE 3.1382 FRA 6.3072 FC3-5.2541 BSP 4775 SGB 2891.1 R23 -.0777 R13 -.9953 LSA 112.7 MSA 21.7 SSA .3
 BDE 1.0069 BRA 1.2631 BC3 1.2202 FSP 1939 SG1 2756.1 SG2 872.9 THA 78.21 EL1 68.1 EL2 16.6 ALF 54.30

LAUNCH DATE APR 8 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.339 GAL -3.50 AZL 96.35 HCA 168.45 SMA 182.71 ECC .18999 INC 6.3491 V1 29.750
 RP 209.14 LAP -1.27 LOP 6.04 VP 23.298 GAP 7.15 AZP 83.78 TAL 337.77 TAP 146.21 RCA 148.00 APO 217.42 V2 26.209
 RC 101.892 GL -46.40 GP 28.59 ZAL 120.07 ZAP 115.26 ETS 164.59 ZAE 145.15 ETE 125.47 ZAC 129.95 ETC 276.33 LVI -40.59

DISTANCE 498.949 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 24.295 VHL 4.929 DLA -51.64 RAL 1.11 RAD 6644.7 VEL 12.011 PTH 7.00 VHP 4.106 DPA 7.11 RAP 301.35 ECC 1.3998
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.80 0 4 45 1899.67 25.71 43.97 248.70 136.47 0 36 25 899.7 42.01 22.17
 44.80 0 4 45 1899.67 25.71 43.97 248.70 136.47 0 36 25 899.7 42.01 22.17
 44.80 0 4 45 1899.67 25.71 43.97 248.70 136.47 0 36 25 899.7 42.01 22.17
 44.80 0 4 45 1899.67 25.71 43.97 248.70 136.47 0 36 25 899.7 42.01 22.17
 44.80 0 4 45 1899.67 25.71 43.97 248.70 136.47 0 36 25 899.7 42.01 22.17
 44.80 0 4 45 1899.67 25.71 43.97 248.70 136.47 0 36 25 899.7 42.01 22.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6915 TRA -.1422 TC3 -.4397 BAU .4134 SGT 951.4 SGR 3007.2 SG3 1123.9 ST 40.4 SR 64.4 SS 93.4
 RDE -.8866 RRA-1.3709 RC3 1.1946 FAU .13586 RRT .3503 RRF -.9988 RTF -.3386 CRT .8554 CRS .9978 CST .8189
 FDE 3.4377 FRA 6.0988 FC3-4.8342 BSP 5200 SGB 3154.1 R23 -.0474 R13 -.9977 LSA 118.4 MSA 21.8 SSA .3
 BDE 1.1244 BRA 1.3782 BC3 1.2729 FSP 1857 SG1 3027.4 SG2 885.1 THA 83.08 EL1 73.8 EL2 18.3 ALF 59.72

LAUNCH DATE APR 8 1971

FLIGHT TIME 204.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.328 GAL -3.50 AZL 96.94 HCA 169.68 SMA 182.52 ECC .18917 INC 6.9367 V1 29.750
 RP 209.34 LAP -1.24 LOP 7.28 VP 23.255 GAP 6.92 AZP 83.17 TAL 337.69 TAP 147.37 RCA 147.99 APO 217.05 V2 26.186
 RC 103.900 GL -49.20 GP 31.62 ZAL 118.65 ZAP 112.65 ETS 164.55 ZAE 141.81 ETE 125.85 ZAC 133.06 ETC 276.36 LVI -42.96

DISTANCE 503.093 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 26.502 VHL 5.148 DLA -53.66 RAL 4.37 RAD 6645.6 VEL 12.102 PTH 7.08 VHP 4.184 DPA 9.90 RAP 299.86 ECC 1.4362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.29 0 10 15 1937.92 25.36 47.68 253.95 139.02 0 42 33 937.9 42.57 26.83
 42.29 0 10 15 1937.92 25.36 47.68 253.95 139.02 0 42 33 937.9 42.57 26.83
 42.29 0 10 15 1937.92 25.36 47.68 253.95 139.02 0 42 33 937.9 42.57 26.83
 42.29 0 10 15 1937.92 25.36 47.68 253.95 139.02 0 42 33 937.9 42.57 26.83
 42.29 0 10 15 1937.92 25.36 47.68 253.95 139.02 0 42 33 937.9 42.57 26.83
 42.29 0 10 15 1937.92 25.36 47.68 253.95 139.02 0 42 33 937.9 42.57 26.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6916 TRA -.0308 TC3 -.4659 BAU .4646 SGT 908.6 SGR 3348.4 SG3 1074.4 ST 38.5 SR 75.0 SS 96.3
 RDE -1.1084 RRA-1.5149 RC3 1.2259 FAU .13152 RRT .1673 RRF -.9991 RTF -.1155 CRT .8340 CRS .9987 CST .8053
 FDE 3.7947 FRA 5.7648 FC3-4.2963 BSP 5731 SGB 3469.5 R23 -.0249 R13 -.9989 LSA 126.2 MSA 21.7 SSA .2
 BDE 1.3065 BRA 1.5153 BC3 1.3113 FSP 1819 SG1 3352.1 SG2 894.8 THA 87.20 EL1 82.1 EL2 19.4 ALF 65.38

LAUNCH DATE APR 8 1971

FLIGHT TIME 206.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.317 GAL -3.50 AZL 97.68 HCA 170.91 SMA 182.35 ECC .18845 INC 7.6800 V1 29.750
 RP 209.55 LAP -1.21 LOP 8.51 VP 23.213 GAP 6.69 AZP 82.41 TAL 337.61 TAP 148.52 RCA 147.98 APO 216.71 V2 26.162
 RC 105.933 GL -52.39 GP 35.11 ZAL 116.97 ZAP 109.93 ETS 164.61 ZAE 138.10 ETE 126.10 ZAC 136.63 ETC 276.44 LVI -45.66

DISTANCE 507.240 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 29.613 VHL 5.442 DLA -55.83 RAL 8.53 RAD 6646.9 VEL 12.229 PTH 7.18 VHP 4.319 DPA 13.12 RAP 298.24 ECC 1.4874
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.63 0 19 16 1981.64 24.62 51.67 260.38 141.84 0 52 18 981.6 42.82 32.07
 39.63 0 19 16 1981.64 24.62 51.67 260.38 141.84 0 52 18 981.6 42.82 32.07
 39.63 0 19 16 1981.64 24.62 51.67 260.38 141.84 0 52 18 981.6 42.82 32.07
 39.63 0 19 16 1981.64 24.62 51.67 260.38 141.84 0 52 18 981.6 42.82 32.07
 39.63 0 19 16 1981.64 24.62 51.67 260.38 141.84 0 52 18 981.6 42.82 32.07
 39.63 0 19 16 1981.64 24.62 51.67 260.38 141.84 0 52 18 981.6 42.82 32.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6773 TRA .0930 TC3 -.4777 BAU .5274 SGT 899.5 SGR 3719.7 SG3 995.0 ST 35.8 SR 88.9 SS 99.2
 RDE -1.4364 RRA-1.6628 RC3 1.2437 FAU .12531 RRT -.0504 RRF -.9994 RTF .0622 CRT .8089 CRS .9993 CST .7868
 FDE 4.1913 FRA 5.2602 FC3-3.6635 BSP 6291 SGB 3827.0 R23 -.0088 R13 -.9994 LSA 136.3 MSA 21.3 SSA .2
 BDE 1.5881 BRA 1.6654 BC3 1.3323 FSP 1678 SG1 3720.0 SG2 898.3 THA 90.74 EL1 93.8 EL2 19.9 ALF 71.09

LAUNCH DATE APR 8 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 511.390

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.307 GAL -3.50 AZL 98.63 HCA 172.14 SMA 102.19 ECC .10762 INC 8.6518 V1 29.750
RP 209.76 LAP -1.18 LOP 9.75 VP 23.172 GAP 6.46 AZP 81.43 TAL 337.51 TAP 149.65 RCA 147.97 APO 216.41 V2 26.137
RC 107.990 GL -56.06 GP 39.11 ZAL 114.99 ZAP 107.11 ETS 184.81 ZAE 133.98 ETE 126.27 ZAC 140.71 ETC 276.60 LVI -48.70

PLANETOCENTRIC CONIC

C3 34.189 VHL 5.847 DLA -58.11 RAL 13.95 RAD 6646.6 VEL 12.413 PTH 7.32 VHP 4.541 DPA 16.84 RAP 296.48 ECC 1.5627
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
36.86 0 33 29 2032.68 23.31 55.90 268.39 144.88 1 7 22 1032.7 42.54 37.89
36.86 0 33 29 2032.68 23.31 55.90 268.39 144.88 1 7 22 1032.7 42.54 37.89
36.86 0 33 29 2032.68 23.31 55.90 268.39 144.88 1 7 22 1032.7 42.54 37.89
36.86 0 33 29 2032.68 23.31 55.90 268.39 144.88 1 7 22 1032.7 42.54 37.89
36.86 0 33 29 2032.68 23.31 55.90 268.39 144.88 1 7 22 1032.7 42.54 37.89
36.86 0 33 29 2032.68 23.31 55.90 268.39 144.88 1 7 22 1032.7 42.54 37.89

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6312 TRA .2311 TC3 -.4751 BAW .6004 SGT 935.4 SGR 4137.7 SG3 885.7 ST 31.6 SR 108.5 SS 102.5
RDE -1.9570 RRA -1.8197 RC3 1.2246 FAU .11488 RRT -.2729 RRF -.9996 RTF .2845 CRT .7698 CRS .9997 CST .7530
FDE 4.6486 FRA 4.5995 FC3 -2.9084 BSP 7016 SGB 4242.1 R23 .0018 R13 -.9997 LSA 151.2 MSA 20.3 SSA .1
BDE 2.0563 BRA 1.8343 BC3 1.3136 FSP 1502 SG1 4145.9 SGT 898.2 THA 93.70 EL1 111.2 EL2 19.7 ALF 76.94

LAUNCH DATE APR 8 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC

DISTANCE 557.571

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.260 GAL -3.82 AZL 81.69 HCA 185.67 SMA 181.43 ECC .18638 INC 8.3057 V1 29.750
RP 212.57 LAP -.82 LOP 23.13 VP 22.741 GAP 4.23 AZP 98.27 TAL 335.26 TAP 180.92 RCA 147.61 APO 215.25 V2 25.815
RC 132.153 GL 53.99 GP -48.81 ZAL 117.38 ZAP 90.07 ETS 178.81 ZAE 116.60 ETE 214.49 ZAC 53.62 ETC 272.16 LVI 35.12

PLANETOCENTRIC CONIC

C3 33.043 VHL 5.748 DLA 41.17 RAL 316.81 RAD 6648.2 VEL 12.368 PTH 7.29 VHP 5.195 DPA -70.38 RAP 315.88 ECC 1.9438
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 11 50 27 4184.62 -37.35 188.35 219.53 58.06 13 0 12 3184.6 -46.68 158.08
58.73 9 57 7 4489.91 -18.24 200.64 204.69 52.42 11 11 57 3489.9 -31.90 178.66
58.73 9 57 7 4489.91 -18.24 200.64 204.69 52.42 11 11 57 3489.9 -31.90 178.66
58.73 9 57 7 4489.91 -18.24 200.64 204.69 52.42 11 11 57 3489.9 -31.90 178.66
58.73 9 57 7 4489.91 -18.24 200.64 204.69 52.42 11 11 57 3489.9 -31.90 178.66
58.73 9 57 7 4489.91 -18.24 200.64 204.69 52.42 11 11 57 3489.9 -31.90 178.66

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 2.2979 TRA .9519 TC3 -1.2490 BAW .6589 SGT 2982.8 SGR 5285.9 SG3 619.0 ST 116.1 SR 177.3 SS 104.8
RDE 3.3706 RRA 2.7972 RC3 -1.4901 FAU .08296 RRT .9402 RRF .9995 RTF .6395 CRT .9879 CRS -.9999 CST -.9860
FDE 4.4285 FRA 3.8211 FC3 -2.1736 BSP 10157 SGB 6069.4 R23 .0818 R13 .9961 LSA 235.6 MSA 16.1 SSA .2
BDE 4.0794 BRA 2.9547 BC3 1.9443 FSP 1087 SG1 6003.1 SGT 894.6 THA 61.36 EL1 211.1 EL2 15.1 ALF 56.86

LAUNCH DATE APR 8 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

DISTANCE 561.734

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.260 GAL -3.85 AZL 83.43 HCA 186.85 SMA 181.43 ECC .18660 INC 6.5736 V1 29.750
RP 212.86 LAP -.78 LOP 24.32 VP 22.704 GAP 4.04 AZP 96.53 TAL 335.03 TAP 181.88 RCA 147.57 APO 215.28 V2 25.782
RC 134.475 GL 46.69 GP -44.30 ZAL 121.74 ZAP 88.71 ETS 177.54 ZAE 117.99 ETE 210.93 ZAC 58.15 ETC 271.88 LVI 31.29

PLANETOCENTRIC CONIC

C3 25.650 VHL 5.065 DLA 34.30 RAL 320.15 RAD 6645.3 VEL 12.067 PTH 7.05 VHP 4.627 DPA -66.41 RAP 309.89 ECC 1.4221
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 1 36 3925.44 -44.88 188.15 216.08 72.18 14 7 1 2925.4 -46.98 133.26
60.00 12 41 25 3979.38 -34.85 188.30 211.40 68.34 13 47 44 2979.4 -40.24 138.59
69.73 11 6 42 4262.22 -17.72 181.70 202.24 60.14 12 17 44 3262.2 -28.45 158.31
69.73 11 6 42 4262.22 -17.72 181.70 202.24 60.14 12 17 44 3262.2 -28.45 158.31
69.73 11 6 42 4262.22 -17.72 181.70 202.24 60.14 12 17 44 3262.2 -28.45 158.31
69.73 11 6 42 4262.22 -17.72 181.70 202.24 60.14 12 17 44 3262.2 -28.45 158.31

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9657 TRA 1.1224 TC3 -1.8273 BAW .7988 SGT 3166.2 SGR 4917.9 SG3 817.1 ST 113.6 SR 155.5 SS 115.8
RDE 2.5799 RRA 2.6145 RC3 -1.6657 FAU .10115 RRT .9489 RRF .9995 RTF .5.84 CRT .9890 CRS -.9999 CST -.9866
FDE 4.7763 FRA 5.0738 FC3 -3.4140 BSP 9773 SGB 5848.9 R23 .0921 R13 .9952 LSA 224.2 MSA 15.1 SSA .2
BDE 3.2434 BRA 2.8453 BC3 2.3287 FSP 1435 SG1 5788.9 SGT 849.2 THA 57.60 EL1 192.1 EL2 13.6 ALF 53.95

LAUNCH DATE APR 8 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC

DISTANCE 565.902

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.260 GAL -3.90 AZL 84.85 HCA 188.03 SMA 181.44 ECC .18689 INC 5.3333 V1 29.750
RP 213.16 LAP -.75 LOP 25.32 VP 22.688 GAP 3.84 AZP 95.30 TAL 334.79 TAP 182.82 RCA 147.53 APO 215.34 V2 25.749
RC 136.814 GL 40.33 GP -40.27 ZAL 125.40 ZAP 87.13 ETS 176.42 ZAE 118.73 ETE 207.44 ZAC 62.20 ETC 271.62 LVI 27.89

PLANETOCENTRIC CONIC

C3 21.532 VHL 4.640 DLA 28.37 RAL 322.87 RAD 6643.5 VEL 11.897 PTH 6.91 VHP 4.280 DPA -62.77 RAP 305.65 ECC 1.3544
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 48 21 3740.19 -47.39 151.04 209.92 85.12 14 30 41 2740.2 -43.73 118.65
60.00 13 48 8 3740.78 -39.30 149.67 208.50 80.26 14 50 28 2740.8 -39.01 118.51
70.00 13 47 43 3741.99 -31.31 147.68 206.41 75.61 14 50 5 2742.0 -34.11 119.30
80.00 13 46 30 3745.79 -23.42 145.29 203.73 70.93 14 48 56 2745.8 -29.14 119.33
87.66 13 29 13 3801.75 -16.06 146.34 200.68 66.30 14 32 34 2801.7 -24.46 122.43
100.00 16 29 22 3220.26 -23.42 106.66 203.73 70.93 17 23 2 2220.3 -29.14 80.70
110.00 18 47 9 2788.81 -31.31 78.59 206.41 75.61 19 33 38 1788.8 -34.11 48.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7512 TRA 1.2831 TC3 -1.9956 BAW .7657 SGT 3368.6 SGR 4552.0 SG3 989.3 ST 111.5 SR 137.0 SS 122.0
RDE 2.0587 RRA 2.4267 RC3 -1.7584 FAU .11659 RRT .9554 RRF .9994 RTF .9550 CRT .9906 CRS -.9998 CST -.9875
FDE 4.9373 FRA 6.1718 FC3 -4.6876 BSP 9426 SGB 5662.9 R23 .1041 R13 .9940 LSA 214.2 MSA 14.1 SSA .2
BDE 2.7027 BRA 2.7451 BC3 2.6598 FSP 1740 SG1 5605.0 SGT 807.8 THA 53.87 EL1 176.2 EL2 11.9 ALF 50.92

LAUNCH DATE APR 8 1971

FLIGHT TIME 236.00

ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.261 GAL -3.94 AZL 85.35 HCA 109.22 SMA 181.45 ECC .18723 INC 4.4477 V1 29.750
 RP 213.46 LAP -.71 LOP 26.71 VP 22.629 GAP 3.66 AZP 94.39 TAL 334.53 TAP 163.75 RCA 147.48 APO 215.43 V2 25.714
 RC 139.171 GL 34.86 GP -36.73 ZAL 128.40 ZAP 85.43 ETS 175.46 ZAE 118.93 ETE 204.18 ZAC 65.77 ETC 271.39 LVI 24.92

DISTANCE 570.074
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.078 VHL 4.368 DLA 23.28 RAL 325.14 RAD 6642.4 VEL 11.794 PTH 6.82 VHP 4.011 DPA -59.53 RAP 302.46 ECC 1.3140
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 22 59 3390.34 -47.32 137.36 204.33 95.64 15 22 57 2598.3 -39.65 105.50
 60.00 14 33 18 3370.82 -40.30 135.36 204.80 89.90 15 32 49 2570.8 -35.93 105.15
 70.00 14 50 8 3321.24 -33.85 131.00 204.45 85.14 15 48 49 2521.2 -32.31 102.36
 80.00 15 21 46 3422.03 -28.74 122.78 203.75 81.55 16 18 48 2422.0 -29.36 95.38
 90.00 16 25 1 3217.80 -26.82 107.39 203.37 80.07 17 18 39 2217.8 -28.11 80.49
 100.00 16 4 38 2896.30 -28.74 84.15 203.75 81.55 18 52 54 1896.5 -29.36 56.74
 110.00 19 49 34 2568.06 -33.85 59.91 204.45 85.14 20 32 23 1568.1 -32.31 31.28

DIFFERENTIAL CORRECTIONS
 TDE 1.6118 TRA 1.4431 TC3-2.3274 BAU .7464
 RDE 1.7012 RRA 2.2488 RC3-1.7742 FAU .12884
 FDE 4.9995 FRA 7.1095 FC3-5.8465 BSP 9206
 BDE 2.3435 BRA 2.6720 BC3 2.9265 FSP 2004

MID-COURSE EXECUTION ACCURACY
 SGT 3584.9 SGR 4206.9 SG3 1133.7
 RRT .9607 RRF .9993 RTF .9603
 SGB 5526.8 R23 .1182 R13 .9925
 SG1 5473.7 SG2 764.5 THA 49.75

ORBIT DETERMINATION ACCURACY
 ST 110.2 SR 121.6 SS 125.3
 CRT .9924 CR8 -.9996 CST -.9887
 LSA 206.1 MSA 13.0 S8A .3
 EL1 163.8 EL2 10.1 ALF 47.83

LAUNCH DATE APR 8 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.263 GAL -3.99 AZL 86.25 HCA 190.40 SMA 181.48 ECC .18763 INC 3.7486 V1 29.750
 RP 213.77 LAP -.68 LOP 27.90 VP 22.591 GAP 3.47 AZP 93.69 TAL 334.26 TAP 164.66 RCA 147.43 APO 215.53 V2 25.880
 RC 141.545 GL 30.15 GP -33.63 ZAL 130.34 ZAP 83.65 ETS 174.65 ZAE 118.69 ETE 201.21 ZAC 68.89 ETC 271.18 LVI 22.34

DISTANCE 574.247
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.553 VHL 4.190 DLA 18.94 RAL 327.07 RAD 6641.7 VEL 11.730 PTH 6.76 VHP 3.838 DPA -56.66 RAP 299.95 ECC 1.2889
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 9 3486.40 -46.04 128.87 200.18 103.63 15 48 16 2486.4 -35.68 97.75
 60.00 15 7 26 3440.38 -39.74 124.32 201.78 97.37 16 4 47 2440.4 -32.53 95.77
 70.00 15 33 41 3363.12 -34.08 118.67 202.38 92.42 16 29 44 2363.1 -29.54 90.89
 80.00 16 16 44 3228.15 -29.84 108.50 202.44 88.97 17 10 32 2228.1 -27.23 81.38
 90.00 17 26 32 3002.87 -28.19 91.89 202.39 87.66 18 16 34 2002.9 -26.32 65.04
 100.00 18 59 36 2702.62 -29.84 69.87 202.44 88.97 19 44 39 1702.6 -27.23 42.75
 110.00 20 33 7 2409.93 -34.08 47.59 202.38 92.42 21 13 17 1409.9 -29.54 19.81

DIFFERENTIAL CORRECTIONS
 TDE 1.5172 TRA 1.5986 TC3-2.6252 BAU .7390
 RDE 1.4446 RRA 2.0817 RC3-1.7395 FAU .13859
 FDE 5.0008 FRA 7.8853 FC3-6.8353 BSP 9058
 BDE 2.0949 BRA 2.6247 BC3 3.1492 FSP 2221

MID-COURSE EXECUTION ACCURACY
 SGT 3806.1 SGR 3884.1 SG3 1250.7
 RRT .9647 RRF .9991 RTF .9645
 SGB 5439.0 R23 .1274 R13 .9909
 SG1 5389.9 SG2 721.8 THA 45.60

ORBIT DETERMINATION ACCURACY
 ST 109.4 SR 108.6 SS 126.8
 CRT .9943 CR8 -.9994 CST -.9900
 LSA 199.3 MSA 11.9 S8A .4
 EL1 154.0 EL2 8.2 ALF 44.79

LAUNCH DATE APR 8 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.265 GAL -4.04 AZL 86.81 HCA 191.58 SMA 181.51 ECC .18808 INC 3.1924 V1 29.750
 RP 214.08 LAP -.64 LOP 29.08 VP 22.554 GAP 3.28 AZP 93.13 TAL 333.97 TAP 165.55 RCA 147.37 APO 215.65 V2 25.845
 RC 143.938 GL 26.11 GP -30.92 ZAL 132.83 ZAP 81.83 ETS 173.98 ZAE 118.11 ETE 198.55 ZAC 71.63 ETC 270.99 LVI 20.10

DISTANCE 578.421
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.585 VHL 4.072 DLA 15.23 RAL 328.75 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.716 DPA -54.14 RAP 297.90 ECC 1.2729
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 12 18 3396.40 -44.29 118.91 197.39 109.54 16 8 52 2396.4 -32.12 92.12
 60.00 15 34 37 3336.88 -38.49 115.81 199.65 103.01 16 30 14 2336.9 -29.31 88.89
 70.00 16 7 11 3241.07 -33.33 109.23 200.83 97.95 17 1 12 2241.1 -26.69 87.55
 80.00 16 56 54 3085.23 -29.54 97.90 201.31 94.93 17 48 20 2085.2 -24.70 71.92
 90.00 18 10 0 2849.29 -28.11 80.67 201.42 93.27 18 57 30 1849.3 -23.93 54.43
 100.00 19 39 46 2559.71 -29.54 59.27 201.31 94.93 20 22 26 1559.7 -24.70 32.89
 110.00 21 6 37 2287.89 -33.33 38.15 200.83 97.95 21 44 45 1287.9 -26.69 11.47

DIFFERENTIAL CORRECTIONS
 TDE 1.4529 TRA 1.7512 TC3-2.8881 BAU .7400
 RDE 1.2534 RRA 1.9288 RC3-1.6724 FAU .14619
 FDE 4.9630 FRA 8.5123 FC3-7.6311 BSP 8970
 BDE 1.9188 BRA 2.6035 BC3 3.3374 FSP 2391

MID-COURSE EXECUTION ACCURACY
 SGT 4028.8 SGR 3585.7 SG3 1342.5
 RRT .9679 RRF .9988 RTF .9678
 SGB 5393.4 R23 .1371 R13 .9893
 SG1 5350.5 SG2 678.9 THA 41.56

ORBIT DETERMINATION ACCURACY
 ST 109.2 SR 97.7 SS 127.1
 CRT .9961 CR8 -.9990 CST -.9914
 LSA 193.7 MSA 10.9 S8A .5
 EL1 146.4 EL2 6.4 ALF 41.82

LAUNCH DATE APR 8 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.267 GAL -4.09 AZL 87.26 HCA 192.76 SMA 181.55 ECC .18859 INC 2.7386 V1 29.750
 RP 214.39 LAP -.60 LOP 30.28 VP 22.517 GAP 3.10 AZP 92.67 TAL 333.68 TAP 166.43 RCA 147.31 APO 215.79 V2 25.809
 RC 146.344 GL 22.84 GP -28.53 ZAL 134.45 ZAP 80.01 ETS 173.42 ZAE 117.28 ETE 196.20 ZAC 74.03 ETC 270.81 LVI 18.15

DISTANCE 582.594
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.969 VHL 3.998 DLA 12.08 RAL 330.22 RAD 6641.0 VEL 11.662 PTH 6.70 VHP 3.628 DPA -51.91 RAP 296.17 ECC 1.2628
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 42 3323.06 -42.44 112.84 195.64 113.93 16 26 5 2323.1 -29.02 87.88
 60.00 15 57 0 3253.08 -36.99 109.20 198.29 107.28 16 51 13 2253.1 -26.43 83.67
 70.00 16 34 13 3143.55 -32.16 101.86 199.83 102.16 17 26 37 2143.6 -24.02 76.23
 80.00 17 28 34 2973.28 -28.66 89.70 200.58 98.75 18 18 7 1973.3 -22.23 64.13
 90.00 18 43 50 2730.39 -27.34 72.06 200.80 97.52 19 29 20 1730.4 -21.54 46.54
 100.00 20 11 26 2447.75 -28.66 51.07 200.58 98.75 20 52 14 1447.7 -22.23 25.90
 110.00 21 33 39 2190.37 -32.16 30.78 199.83 102.16 22 10 10 1190.4 -24.02 5.14

DIFFERENTIAL CORRECTIONS
 TDE 1.4077 TRA 1.8982 TC3-3.1253 BAU .7494
 RDE 1.1039 RRA 1.7799 RC3-1.5978 FAU .15299
 FDE 4.8854 FRA 8.9897 FC3-8.2940 BSP 8885
 BDE 1.7889 BRA 2.6022 BC3 3.5100 FSP 2498

MID-COURSE EXECUTION ACCURACY
 SGT 4249.4 SGR 3308.4 SG3 1411.0
 RRT .9707 RRF .9984 RTF .9708
 SGB 5385.5 R23 .1439 R13 .9880
 SG1 5348.3 SG2 631.9 THA 37.70

ORBIT DETERMINATION ACCURACY
 ST 109.3 SR 88.3 SS 126.1
 CRT .9977 CR8 -.9985 CST -.9926
 LSA 188.5 MSA 10.1 S8A .6
 EL1 140.4 EL2 4.7 ALF 38.93

LAUNCH DATE APR 8 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

DISTANCE 586.765

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.270 GAL -4.15 AZL 87.64 HCA 193.93 SMA 181.39 ECC .18914 INC 2.3615 V1 29.750
RP 214.72 LAP -.37 LOP 31.44 VP 22.480 GAP 2.92 AZP 92.29 TAL 333.37 TAP 167.30 RCA 147.25 APO 215.94 V2 25.573
RC 148.770 GL 19.83 GP -26.42 ZAL 135.79 ZAP 78.20 ETS 172.96 ZAE 116.26 ETE 194.14 ZAC 76.15 ETC 270.66 LVI 16.44

PLANETOCENTRIC CONIC

C3 15.590 VHL 3.948 DLA 9.34 RAL 331.54 RAD 6640.8 VEL 11.648 PTH 6.68 VHP 3.566 DPA -49.94 RAP 294.71 ECC 1.2588
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 46 23 3262.68 -40.66 108.14 194.61 117.21 16 40 46 2262.7 -26.35 84.59
80.00 16 15 50 3184.28 -35.47 103.99 197.52 110.53 17 8 55 2184.3 -23.91 79.59
70.00 16 56 43 3064.01 -30.87 96.03 199.30 105.39 17 47 47 2064.0 -21.64 71.28
80.00 17 54 34 2882.83 -27.55 83.21 200.23 101.99 18 42 36 1882.8 -19.96 58.37
90.00 19 11 24 2634.86 -26.31 65.27 200.51 100.77 19 55 19 1634.9 -19.32 40.42
100.00 20 37 25 2357.31 -27.55 44.58 200.23 101.99 21 16 43 1357.3 -19.96 19.74
110.00 21 56 9 2110.83 -30.87 24.94 199.30 105.39 22 31 20 1110.8 -21.64 .20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3818 TRA 2.0472 TC3-3.3278 BAU .7804 SGT 4471.0 SGR 3063.1 SG3 1464.1 ST 110.0 SR 80.8 SS 125.5
RDE .9942 RRA 1.6529 RC3-1.4947 FAU .15654 RRT .9720 RRF .9979 RTF .9726 CRT .9989 CRS -.9970 CST -.9938
FDE 4.8322 FRA 9.3946 FC3-8.6930 BSP 8949 SGB 5419.6 R23 .1500 R13 .9867 LSA 185.2 MSA 9.3 SSA .7
BDE 1.7022 BRA 2.6311 BC3 3.6481 FSP 2609 SG1 3386.6 SG2 597.1 THA 34.14 EL1 136.5 EL2 3.1 ALF 38.30

LAUNCH DATE APR 8 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

DISTANCE 590.934

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.274 GAL -4.21 AZL 87.96 HCA 195.10 SMA 181.65 ECC .18974 INC 2.0430 V1 29.750
RP 215.04 LAP -.53 LOP 32.61 VP 22.443 GAP 2.71 AZP 91.97 TAL 333.05 TAP 168.18 RCA 147.18 APO 216.11 V2 25.536
RC 151.211 GL 17.02 GP -24.56 ZAL 136.91 ZAP 76.42 ETS 172.58 ZAE 115.10 ETE 192.33 ZAC 78.03 ETC 270.51 LVI 14.94

PLANETOCENTRIC CONIC

C3 15.374 VHL 3.921 DLA 7.00 RAL 332.73 RAD 6640.7 VEL 11.637 PTH 6.68 VHP 3.523 DPA -48.18 RAP 293.44 ECC 1.2530
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 59 55 3212.55 -39.03 104.44 194.09 119.72 16 53 27 2212.6 -24.08 81.99
80.00 16 31 59 3127.20 -34.03 99.84 197.18 113.03 17 24 6 2127.2 -21.73 76.34
70.00 17 15 50 2998.20 -29.59 91.33 199.13 107.89 18 5 48 1998.2 -19.55 67.32
80.00 18 16 27 2808.35 -26.39 77.98 200.18 104.50 19 3 16 1808.3 -17.94 53.77
90.00 19 34 32 2556.40 -25.19 59.79 200.51 103.29 20 17 8 1556.4 -17.33 38.52
100.00 20 59 19 2282.82 -26.39 39.35 200.18 104.50 21 37 22 1282.8 -17.94 15.13
110.00 22 15 17 2045.02 -29.59 20.25 199.13 107.89 22 49 22 1045.0 -19.55 356.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3699 TRA 2.1966 TC3-3.5017 BAU .7741 SGT 4691.0 SGR 2840.6 SG3 1502.2 ST 111.3 SR 74.6 SS 124.8
RDE .9084 RRA 1.5377 RC3-1.3865 FAU .15844 RRT .9729 RRF .9973 RTF .9741 CRT .9997 CRS -.9970 CST -.9950
FDE 4.7800 FRA 9.7149 FC3-8.9217 BSP 9082 SGB 5484.1 R23 .1541 R13 .9855 LSA 182.9 MSA 8.6 SSA .8
BDE 1.6438 BRA 2.6813 BC3 3.7662 FSP 2698 SG1 5454.9 SG2 565.2 THA 30.87 EL1 137.0 EL2 1.6 ALF 33.82

LAUNCH DATE APR 8 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

DISTANCE 595.101

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.277 GAL -4.27 AZL 88.23 HCA 196.27 SMA 181.71 ECC .19039 INC 1.7702 V1 29.750
RP 215.37 LAP -.50 LOP 33.78 VP 22.406 GAP 2.56 AZP 91.70 TAL 332.72 TAP 169.00 RCA 147.11 APO 216.30 V2 25.499
RC 153.669 GL 14.74 GP -22.90 ZAL 137.86 ZAP 74.67 ETS 172.27 ZAE 113.85 ETE 190.75 ZAC 79.71 ETC 270.38 LVI 13.61

PLANETOCENTRIC CONIC

C3 15.276 VHL 3.908 DLA 4.98 RAL 333.81 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 3.494 DPA -46.62 RAP 292.34 ECC 1.2514
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 11 44 3170.68 -37.58 101.49 193.93 121.66 17 4 35 2170.7 -22.14 79.89
80.00 16 48 1 3079.47 -32.71 96.48 197.14 114.99 17 37 20 2079.5 -19.85 73.70
70.00 17 32 21 2943.19 -28.38 87.51 199.22 109.85 18 21 24 1943.2 -17.73 64.10
80.00 18 35 15 2746.20 -25.26 73.71 200.36 106.48 19 21 1 1746.2 -16.16 50.01
90.00 19 54 19 2491.01 -24.09 55.32 200.73 105.27 20 35 50 1491.0 -15.57 31.53
100.00 21 18 6 2220.67 -25.26 35.08 200.36 106.48 21 55 7 1220.7 -16.16 11.38
110.00 22 31 47 1990.01 -28.38 16.43 199.22 109.85 23 4 37 990.0 -17.73 353.02

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3709 TRA 2.3479 TC3-3.6471 BAU .7888 SGT 4909.5 SGR 2841.5 SG3 1529.1 ST 113.1 SR 69.5 SS 124.4
RDE .8438 RRA 1.4333 RC3-1.2715 FAU .15812 RRT .9728 RRF .9966 RTF .5.48 CRT .9999 CRS -.9959 CST -.9961
FDE 4.7511 FRA 9.9798 FC3-8.9613 BSP 9306 SGB 5375.0 R23 .1577 R13 .9843 LSA 181.8 MSA 8.1 SSA 1.0
BDE 1.6096 BRA 2.7519 BC3 3.8624 FSP 2790 SG1 5548.6 SG2 541.6 THA 27.92 EL1 132.8 EL2 1.0 ALF 31.56

LAUNCH DATE APR 8 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

DISTANCE 599.288

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.281 GAL -4.33 AZL 88.47 HCA 197.44 SMA 181.77 ECC .19109 INC 1.5336 V1 29.750
RP 215.71 LAP -.48 LOP 34.95 VP 22.370 GAP 2.38 AZP 91.46 TAL 332.39 TAP 169.83 RCA 147.04 APO 216.51 V2 25.481
RC 156.143 GL 12.74 GP -21.41 ZAL 138.67 ZAP 72.96 ETS 172.01 ZAE 112.52 ETE 189.36 ZAC 81.20 ETC 270.26 LVI 12.43

PLANETOCENTRIC CONIC

C3 15.264 VHL 3.907 DLA 3.22 RAL 334.81 RAD 6640.7 VEL 11.632 PTH 6.67 VHP 3.477 DPA -45.21 RAP 291.37 ECC 1.2512
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 22 10 3135.49 -36.29 99.10 194.02 123.18 17 14 25 2135.5 -20.49 78.17
80.00 16 58 19 3039.28 -31.52 93.74 197.32 116.54 17 48 59 2039.3 -18.23 71.54
70.00 17 46 45 2896.82 -27.27 84.36 199.49 111.41 18 35 2 1896.8 -16.14 61.44
80.00 18 51 35 2693.81 -24.20 70.18 200.71 108.04 19 36 29 1693.8 -14.60 46.90
90.00 20 11 30 2435.90 -23.06 51.62 201.10 106.84 20 52 6 1435.9 -14.02 28.23
100.00 21 34 27 2168.28 -24.20 31.55 200.71 108.04 22 10 35 1168.3 -14.60 8.27
110.00 22 46 12 1943.64 -27.27 13.28 199.49 111.41 23 18 35 943.6 -16.14 350.36

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3707 TRA 2.4893 TC3-3.7938 BAU .8116 SGT 5118.4 SGR 2448.1 SG3 1538.6 ST 114.6 SR 64.2 SS 122.1
RDE .7791 RRA 1.3302 RC3-1.1939 FAU .16089 RRT .9741 RRF .9956 RTF .9769 CRT .9995 CRS -.9944 CST -.9967
FDE 4.6348 FRA10.0999 FC3-9.1254 BSP 9391 SGB 5673.7 R23 .1536 R13 .9842 LSA 179.2 MSA 7.9 SSA 1.1
BDE 1.5767 BRA 2.8224 BC3 3.9772 FSP 2768 SG1 5651.6 SG2 501.0 THA 25.19 EL1 131.3 EL2 1.7 ALF 29.26

LAUNCH DATE APR 8 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC										DISTANCE 603.430										EARTH TO MARS																																													
RL	149.77	LAL	.00	LOL	197.52	VL	32.286	GAL	-4.40	AZL	88.67	HCA	198.60	SMA	181.84	ECC	.19182	INC	1.3269	V1	29.750	RP	216.04	LAP	-.42	LOP	36.11	VP	22.333	GAP	2.20	AZP	91.26	TAL	332.05	TAP	170.65	RCA	146.96	APO	216.73	V2	25.424	RC	158.631	GL	10.98	GP	-20.08	ZAL	139.39	ZAP	71.29	ETS	171.80	ZAE	111.16	ETE	188.15	ZAC	82.55	ETC	270.15	LVI	11.37
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.319	VHL	3.914	DLA	1.69	RAL	335.74	RAD	6640.7	VEL	11.635	PTH	6.67	VHP	3.469	DPA	-43.95	RAP	290.52	ECC	1.2521	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	116.7	SR	60.2	SS	120.8																									
50.00	16	31	27	3105.85	-35.17	97.18	194.28	124.38	17	23	13	2105.9	-19.08	76.76	CRT	.9986	CRS	-.9927	CST	-.9974																																													
60.00	17	9	14	3005.32	-30.46	91.48	197.66	117.77	17	59	20	2003.3	-16.84	69.74	LSA	178.3	MSA	7.7	SSA	1.2																																													
70.00	17	59	29	2857.55	-26.26	81.75	199.90	112.66	18	47	7	1857.5	-14.77	59.22	EL1	131.3	EL2	2.8	ALF	27.25																																													
80.00	19	5	58	2649.30	-23.23	67.24	201.18	109.30	19	50	7	1649.4	-13.24	44.30																																																			
90.00	20	26	36	2389.16	-22.10	48.52	201.60	108.11	21	6	25	1389.2	-12.67	25.47																																																			
100.00	21	48	50	2123.85	-23.23	28.61	201.18	109.30	22	24	13	1123.9	-13.24	5.67																																																			
110.00	22	58	55	1904.37	-26.26	10.67	199.90	112.66	23	30	40	904.4	-14.77	348.14																																																			

LAUNCH DATE APR 8 1971 FLIGHT TIME 254.00 ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC										DISTANCE 607.589										EARTH TO MARS																																													
RL	149.77	LAL	.00	LOL	197.52	VL	32.291	GAL	-4.46	AZL	88.86	HCA	199.76	SMA	181.92	ECC	.19260	INC	1.1439	V1	29.750	RP	216.39	LAP	-.39	LOP	37.27	VP	22.296	GAP	2.03	AZP	91.08	TAL	331.70	TAP	171.45	RCA	146.88	APO	216.96	V2	25.385	RC	161.134	GL	9.42	GP	-18.87	ZAL	140.02	ZAP	69.67	ETS	171.63	ZAE	109.77	ETE	187.09	ZAC	83.76	ETC	270.06	LVI	10.42
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.427	VHL	3.928	DLA	.36	RAL	336.61	RAD	6640.7	VEL	11.639	PTH	6.68	VHP	3.468	DPA	-42.80	RAP	289.78	ECC	1.2539	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	119.0	SR	56.7	SS	119.5																									
50.00	16	39	47	3080.84	-34.20	95.57	194.67	125.35	17	31	8	2080.8	-17.89	75.59	CRT	.9971	CRS	-.9907	CST	-.9980																																													
60.00	17	19	0	2976.55	-29.54	89.61	198.11	118.77	18	8	36	1976.5	-15.65	68.24	LSA	177.7	MSA	7.7	SSA	1.3																																													
70.00	18	10	49	2824.15	-25.37	79.57	200.42	113.67	18	57	53	1824.2	-13.59	57.36	EL1	131.6	EL2	3.9	ALF	25.42																																													
80.00	19	18	43	2611.51	-22.36	64.77	201.75	110.32	20	2	15	1611.5	-12.06	42.11																																																			
90.00	20	39	59	2349.28	-21.23	45.92	202.18	109.13	21	19	8	1349.3	-11.49	23.13																																																			
100.00	22	1	35	2085.98	-22.36	26.13	201.75	110.32	22	36	21	1086.0	-12.06	3.48																																																			
110.00	23	10	15	1870.97	-25.37	8.49	200.42	113.67	23	41	26	871.0	-13.59	346.28																																																			

LAUNCH DATE APR 8 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC										DISTANCE 611.745										EARTH TO MARS																																													
RL	149.77	LAL	.00	LOL	197.52	VL	32.296	GAL	-4.54	AZL	89.02	HCA	200.91	SMA	182.00	ECC	.19342	INC	.9803	V1	29.750	RP	216.75	LAP	-.35	LOP	38.43	VP	22.280	GAP	1.85	AZP	90.92	TAL	331.33	TAP	172.25	RCA	146.80	APO	217.21	V2	25.347	RC	163.649	GL	8.03	GP	-17.78	ZAL	140.60	ZAP	68.10	ETS	171.50	ZAE	108.36	ETE	186.16	ZAC	84.86	ETC	269.97	LVI	9.55
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.578	VHL	3.947	DLA	-.82	RAL	337.42	RAD	6640.8	VEL	11.646	PTH	6.69	VHP	3.474	DPA	-41.76	RAP	289.13	ECC	1.2564	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	121.3	SR	53.6	SS	118.0																									
50.00	16	47	19	3059.71	-33.36	94.25	195.15	126.13	17	38	19	2059.7	-16.87	74.61	CRT	.9950	CRP	-.9883	CST	-.9984																																													
60.00	17	27	46	2952.13	-28.73	88.05	198.64	119.58	18	16	58	1952.1	-14.83	66.98	LSA	177.4	MSA	7.9	SSA	1.3																																													
70.00	18	20	57	2795.69	-24.58	77.74	201.01	114.50	19	7	33	1795.7	-12.57	55.79	EL1	132.5	EL2	4.9	ALF	25.74																																													
80.00	19	30	7	2579.13	-21.58	62.68	202.38	111.15	20	13	6	1679.1	-11.04	40.26																																																			
90.00	20	51	56	2315.14	-20.46	43.72	202.83	109.96	21	30	31	1315.1	-10.46	21.15																																																			
100.00	22	12	59	2053.60	-21.58	24.05	202.38	111.15	22	47	13	1053.6	-11.04	1.62																																																			
110.00	23	20	24	1842.50	-24.58	6.68	201.01	114.50	23	51	6	842.5	-12.57	344.71																																																			

LAUNCH DATE APR 8 1971 FLIGHT TIME 258.00 ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC										DISTANCE 615.897										EARTH TO MARS																																													
RL	149.77	LAL	.00	LOL	197.52	VL	32.301	GAL	-4.61	AZL	89.17	HCA	202.06	SMA	182.09	ECC	.19429	INC	.8339	V1	29.750	RP	217.08	LAP	-.31	LOP	39.58	VP	22.223	GAP	1.67	AZP	90.77	TAL	330.97	TAP	173.03	RCA	146.71	APO	217.47	V2	25.308	RC	166.178	GL	6.78	GP	-16.79	ZAL	141.13	ZAP	66.57	ETS	171.39	ZAE	108.96	ETE	185.34	ZAC	85.86	ETC	269.89	LVI	8.76
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.785	VHL	3.971	DLA	-1.85	RAL	338.19	RAD	6640.9	VEL	11.654	PTH	6.69	VHP	3.485	DPA	-40.81	RAP	288.56	ECC	1.2595	LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO	CST TIM	INJ 2 LAT	INJ 2 LONG	ST	123.9	SR	50.9	SS	116.7																									
50.00	16	54	9	3041.90	-32.64	93.16	195.71	126.76	17	44	51	2041.9	-16.01	73.79	CRT	.9923	CRS	-.9856	CST	-.9980																																													
60.00	17	35	41	2931.41	-28.02	86.75	199.24	120.24	18	24	33	1931.4	-13.76	65.92	LSA	177.4	MSA	8.1	SSA	1.3																																													
70.00	18	30	6	2771.40	-23.88	78.19	201.66	115.17	19	16	18	1771.4	-11.69	54.46	EL1	133.8	EL2	5.9	ALF	22.22																																													
80.00	19	40	22	2551.40	-20.88	60.91	203.07	111.84	20	22	53	1551.4	-10.15	38.68																																																			
90.00	21	2	40	2285.86	-19.76	41.85	203.53	110.65	21	40	46	1285.9	-9.57	19.46																																																			
100.00	22	23	14	2025.87	-20.88	22.28	203.07	111.84	22	57	0	1025.9	-10.15	.04																																																			
110.00	23	29	33	1818.22	-23.88	5.11	201.66	115.17	23	59	51	818.2	-11.69	343.38																																																			

LAUNCH DATE APR 8 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 149.77 LAL .00 LOL 197.52 VL 32.307 GAL -4.68 AZL 89.30 HCA 203.21 SMA 182.18 ECC .19519 INC .7019 V1 29.750
 RP 217.43 LAP -.28 LOP 40.73 VP 22.187 GAP 1.50 AZP 90.65 TAL 330.59 TAP 173.80 RCA 146.62 APO 217.74 V2 25.269
 RC 188.717 GL 5.67 GP -15.88 ZAL 141.82 ZAP 65.09 ETS 171.31 ZAE 105.56 ETE 184.62 ZAC 86.77 ETC 269.83 LVI 8.03

DISTANCE 620.045

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.982 VHL 3.998 DLA -2.75 RAL 338.93 RAD 6641.0 VEL 11.863 PTH 6.70 VHP 3.900 DPA -39.94 RAP 288.08 ECC 1.2630
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 24 3026.92 -32.02 92.26 196.31 127.28 17 50 51 2026.9 -15.28 73.11
 60.00 17 42 54 2913.87 -27.42 85.66 199.89 120.78 18 31 20 1913.9 -13.02 65.03
 70.00 18 38 23 2750.71 -23.28 74.89 202.35 115.73 19 24 14 1750.7 -10.93 53.33
 80.00 19 49 38 2527.85 -20.28 59.41 203.79 112.40 20 31 45 1527.6 -9.38 37.33
 90.00 21 12 21 2260.73 -19.15 40.26 204.27 111.21 21 50 2 1260.7 -8.60 18.02
 100.00 22 32 30 2002.12 -20.28 20.78 203.79 112.40 23 5 52 1002.1 -9.38 358.70
 110.00 23 37 50 1797.53 -23.28 3.81 202.35 115.73 24 7 47 797.5 -10.93 342.25

DIFFERENTIAL CORRECTIONS

TDE 1.4758 TRA 3.2198 TC3-4.2597 BAU .9258
 RDE .6144 RRA .9463 RC3 -.7934 FAU .15362
 FDE 4.3271 FRA10.3005 FC3-8.3214 BSP 10611
 BDE 1.5964 BRA 3.3558 BC3 4.3330 FSP 2731

MID-COURSE EXECUTION ACCURACY

SGT 6116.7 SGR 1738.3 SG3 1499.4
 RRT .9683 RRF .9862 RTF .9802
 SGB 6358.9 R23 .1303 R13 .9828
 SG1 6345.1 SG2 418.4 THA 15.46

ORBIT DETERMINATION ACCURACY

ST 126.5 SR 48.5 SS 115.3
 CRT .9890 CRS -.9825 CST -.9991
 LSA 177.7 MSA 8.4 S8A 1.4
 EL1 135.3 EL2 6.7 ALF 20.82

LAUNCH DATE APR 8 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.77 LAL .00 LOL 197.52 VL 32.313 GAL -4.76 AZL 89.42 HCA 204.35 SMA 182.28 ECC .19613 INC .5819 V1 29.750
 RP 217.79 LAP -.24 LOP 41.87 VP 22.151 GAP 1.32 AZP 90.53 TAL 330.21 TAP 174.56 RCA 146.53 APO 218.03 V2 25.229
 RC 171.268 GL 4.66 GP -15.05 ZAL 142.08 ZAP 63.66 ETS 171.25 ZAE 104.17 ETE 183.98 ZAC 87.60 ETC 269.77 LVI 7.36

DISTANCE 624.189

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.226 VHL 4.028 DLA -3.56 RAL 339.63 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 3.518 DPA -39.14 RAP 287.67 ECC 1.2670
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 8 3014.40 -31.50 91.52 196.95 127.70 17 56 22 2014.4 -14.67 72.55
 60.00 17 49 29 2899.08 -26.90 84.75 200.57 121.22 18 37 48 1899.1 -12.40 64.29
 70.00 18 45 55 2733.12 -22.75 73.80 203.07 116.19 19 31 28 1733.1 -10.28 52.38
 80.00 19 58 2 2507.33 -19.74 58.14 204.54 112.86 20 39 49 1507.3 -8.72 36.19
 90.00 21 21 8 2239.20 -18.62 38.91 205.03 111.68 21 58 27 1239.2 -8.13 16.79
 100.00 22 40 54 1981.81 -19.74 19.50 204.54 112.86 23 13 56 981.8 -8.72 357.56
 110.00 23 45 22 1779.94 -22.75 2.71 203.07 116.19 24 15 2 779.9 -10.28 341.30

DIFFERENTIAL CORRECTIONS

TDE 1.5085 TRA 3.3863 TC3-4.3197 BAU .9503
 RDE .5966 RRA .8863 RC3 -.7300 FAU .15077
 FDE 4.2730 FRA10.2596 FC3-8.0444 BSP 10889
 BDE 1.6222 BRA 3.4810 BC3 4.3810 FSP 2702

MID-COURSE EXECUTION ACCURACY

SGT 6303.2 SGR 1631.4 SG3 1478.3
 RRT .9654 RRF .9830 RTF .9805
 SGB 6510.9 R23 .1241 R13 .9826
 SG1 6497.8 SG2 412.7 THA 14.09

ORBIT DETERMINATION ACCURACY

ST 129.3 SR 46.5 SS 114.0
 CRT .9852 CRS -.9790 CST -.9993
 LSA 178.3 MSA 8.8 S8A 1.4
 EL1 137.2 EL2 7.5 ALF 19.56

LAUNCH DATE APR 8 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 149.77 LAL .00 LOL 197.52 VL 32.319 GAL -4.84 AZL 89.53 HCA 205.49 SMA 182.38 ECC .19711 INC .4726 V1 29.750
 RP 218.15 LAP -.20 LOP 43.01 VP 22.114 GAP 1.15 AZP 90.43 TAL 329.82 TAP 175.31 RCA 146.43 APO 218.33 V2 25.189
 RC 173.829 GL 3.76 GP -14.29 ZAL 142.52 ZAP 62.26 ETS 171.20 ZAE 102.80 ETE 183.42 ZAC 88.36 ETC 269.73 LVI 6.74

DISTANCE 628.328

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.493 VHL 4.061 DLA -4.26 RAL 340.30 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 3.540 DPA -38.41 RAP 287.32 ECC 1.2714
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 24 3004.01 -31.07 90.91 197.62 128.04 18 1 28 2004.0 -14.16 72.09
 60.00 17 55 31 2888.87 -26.46 84.00 201.27 121.58 18 43 38 1888.7 -11.87 63.87
 70.00 18 52 48 2718.22 -22.30 72.88 203.81 116.58 19 38 6 1718.2 -9.73 51.88
 80.00 20 5 42 2490.02 -19.28 57.06 205.31 113.25 20 47 12 1490.0 -8.15 35.21
 90.00 21 29 8 2220.79 -18.15 37.78 205.81 112.07 22 6 9 1220.8 -7.55 15.74
 100.00 22 48 33 1964.49 -19.28 18.43 205.31 113.25 23 21 18 964.5 -8.15 356.58
 110.00 23 52 15 1765.04 -22.30 1.79 203.81 116.58 24 21 40 765.0 -9.73 340.49

DIFFERENTIAL CORRECTIONS

TDE 1.5442 TRA 3.5136 TC3-4.3713 BAU .9752
 RDE .5817 RRA .8304 RC3 -.6723 FAU .14780
 FDE 4.2205 FRA10.2010 FC3-7.7578 BSP 11187
 BDE 1.6502 BRA 3.6104 BC3 4.4227 FSP 2664

MID-COURSE EXECUTION ACCURACY

SGT 6485.3 SGR 1533.7 SG3 1454.6
 RRT .9619 RRF .9792 RTF .507
 SGB 6664.4 R23 .1174 R13 .9823
 SG1 6651.8 SG2 409.0 THA 12.86

ORBIT DETERMINATION ACCURACY

ST 132.1 SR 44.7 SS 112.8
 CRT .9809 CRS -.9752 CST -.9989
 LSA 179.0 MSA 9.2 S8A 1.4
 EL1 139.2 EL2 8.2 ALF 18.41

LAUNCH DATE APR 8 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

RL 149.77 LAL .00 LOL 197.52 VL 32.325 GAL -4.92 AZL 89.63 HCA 206.63 SMA 182.49 ECC .19813 INC .3724 V1 29.750
 RP 218.51 LAP -.17 LOP 44.15 VP 22.078 GAP .97 AZP 90.33 TAL 329.42 TAP 176.05 RCA 146.33 APO 218.64 V2 25.149
 RC 176.400 GL 2.93 GP -13.60 ZAL 142.94 ZAP 60.94 ETS 171.17 ZAE 101.45 ETE 182.92 ZAC 89.06 ETC 269.70 LVI 6.16

DISTANCE 632.462

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.782 VHL 4.097 DLA -4.89 RAL 340.94 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 3.565 DPA -37.73 RAP 287.04 ECC 1.2782
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 17 2995.49 -30.71 90.41 198.31 128.31 18 6 12 1995.5 -13.75 71.71
 60.00 18 1 4 2876.36 -26.09 83.37 202.00 121.88 18 49 0 1876.4 -11.43 63.15
 70.00 18 59 7 2705.70 -21.92 72.11 204.57 116.87 19 44 12 1705.7 -9.27 50.90
 80.00 20 12 41 2475.33 -18.88 56.15 206.09 113.57 20 53 57 1475.3 -7.67 34.39
 90.00 21 36 26 2205.13 -17.75 36.79 206.60 112.39 22 13 11 1205.1 -7.06 14.86
 100.00 22 55 33 1949.81 -18.88 17.52 206.09 113.57 23 28 3 949.8 -7.67 355.76
 110.00 0 2 29 1752.52 -21.92 1.02 204.57 116.87 0 31 41 752.5 -9.27 339.82

DIFFERENTIAL CORRECTIONS

TDE 1.5829 TRA 3.6615 TC3-4.4144 BAU 1.0001
 RDE .5696 RRA .7783 RC3 -.6196 FAU .14454
 FDE 4.1698 FRA10.1273 FC3-7.4561 BSP 11458
 BDE 1.6823 BRA 3.7433 BC3 4.4577 FSP 2627

MID-COURSE EXECUTION ACCURACY

SGT 6663.3 SGR 1444.3 SG3 1428.7
 RRT .9575 RRF .9747 RTF .9809
 SGB 6818.0 R23 .1109 R13 .9823
 SG1 6805.8 SG2 407.8 THA 11.77

ORBIT DETERMINATION ACCURACY

ST 135.0 SR 43.1 SS 111.3
 CRT .9761 CRS -.9711 CST -.9996
 LSA 179.9 MSA 9.7 S8A 1.4
 EL1 141.4 EL2 8.9 ALF 17.37

LAUNCH DATE APR 8 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.332 GAL -5.00 AZL 89.72 HCA 207.76 SMA 182.59 ECC .19918 INC .2794 V1 29.750
 RP 219.88 LAP -.13 LOP 45.28 VP 22.042 GAP .80 AZP 90.25 TAL 329.02 TAP 178.78 RCA 146.23 APO 218.96 V2 25.109
 RC 178.981 GL 2.19 GP -12.95 ZAL 143.35 ZAP 59.65 ETS 171.16 ZAE 100.12 ETE 182.47 ZAC 89.71 ETC 269.67 LVI 5.61

PLANETOCENTRIC CONIC
 C3 17.091 VHL 4.134 DLA -5.45 RAL 341.57 RAD 6641.5 VEL 11.710 PTH 6.74 VHP 3.592 DPA -37.10 RAP 286.82 ECC 1.2813
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 48 2988.62 -30.42 90.02 199.02 128.53 18 10 37 1988.6 -13.41 71.40
 60.00 18 6 12 2867.90 -25.78 82.87 202.74 122.12 18 53 59 1867.9 -11.06 62.73
 70.00 19 4 54 2695.26 -21.60 71.47 205.34 117.13 19 49 50 1695.3 -8.88 50.34
 80.00 20 19 6 2462.97 -18.55 55.39 206.89 113.83 21 0 9 1463.0 -7.26 33.70
 90.00 21 43 7 2191.90 -17.40 35.97 207.40 112.65 22 19 39 1191.9 -6.65 14.11
 100.00 23 1 58 1937.44 -18.55 16.75 206.89 113.83 23 34 15 937.4 -7.26 359.07
 110.00 0 8 17 1742.08 -21.60 .39 205.34 117.13 0 37 19 742.1 -8.88 359.26

DIFFERENTIAL CORRECTIONS
 TDE 1.6231 TRA 3.8093 TC3-4.4521 BAU 1.0256
 RDE .9598 RRA .7297 RC3 -.5714 FAU .14119
 FDE 4.1199 FRA10.0420 FC3-7.1519 BSP 11737
 BDE 1.7170 BRA 3.8786 BC3 4.4888 FSP 2584

MID-COURSE EXECUTION ACCURACY
 SGT 8836.5 SGR 1382.8 S63 1401.2
 RRT .9523 RRF .9694 RTF .9809
 SGB 6971.0 R23 .1048 R13 .9821
 SG1 6959.0 S62 408.6 THA 10.79

ORBIT DETERMINATION ACCURACY
 ST 137.9 SR 41.7 S8 110.0
 CRT .9708 CRS -.9666 CST -.9997
 LSA 180.9 HSA 10.1 S8A 1.4
 EL1 143.7 EL2 9.6 ALF 16.43

LAUNCH DATE APR 8 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.339 GAL -5.09 AZL 89.80 HCA 208.89 SMA 182.71 ECC .20027 INC .1931 V1 29.750
 RP 219.25 LAP -.09 LOP 46.41 VP 22.006 GAP .63 AZP 90.17 TAL 328.61 TAP 177.50 RCA 146.12 APO 219.30 V2 25.068
 RC 181.572 GL 1.51 GP -12.36 ZAL 143.75 ZAP 58.40 ETS 171.15 ZAE 98.81 ETE 182.07 ZAC 90.30 ETC 269.65 LVI 5.09

PLANETOCENTRIC CONIC
 C3 17.418 VHL 4.174 DLA -5.94 RAL 342.17 RAD 6641.7 VEL 11.724 PTH 6.75 VHP 3.622 DPA -36.52 RAP 286.65 ECC 1.2867
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 1 2983.21 -30.19 89.71 199.74 128.70 18 14 44 1983.2 -13.14 71.16
 60.00 18 10 56 2881.08 -25.54 82.46 203.49 122.30 18 58 37 1861.1 -10.77 62.39
 70.00 19 10 15 2686.68 -21.33 70.95 206.12 117.33 19 55 2 1686.7 -8.56 49.88
 80.00 20 25 0 2452.67 -18.28 54.75 207.69 114.04 21 5 52 1452.7 -6.92 33.13
 90.00 21 49 15 2180.81 -17.11 35.29 208.21 112.86 22 25 36 1180.8 -6.30 13.48
 100.00 23 7 52 1927.14 -18.26 16.12 207.69 114.04 23 39 59 927.1 -6.92 354.49
 110.00 0 13 37 1733.50 -21.33 359.86 206.12 117.33 0 42 31 733.5 -6.56 358.80

DIFFERENTIAL CORRECTIONS
 TDE 1.6680 TRA 3.9570 TC3-4.4848 BAU 1.0516
 RDE .5516 RRA .6837 RC3 -.5282 FAU .13790
 FDE 4.0669 FRA 9.9414 FC3-6.8539 BSP 12004
 BDE 1.7540 BRA 4.0158 BC3 4.5158 FSP 2533

MID-COURSE EXECUTION ACCURACY
 SGT 7004.8 SGR 1287.7 S63 1372.0
 RRT .9462 RRF .9633 RTF .9810
 SGB 7122.2 R23 .0985 R13 .9820
 SG1 7110.4 S62 410.5 THA 9.90

ORBIT DETERMINATION ACCURACY
 ST 140.7 SR 40.4 S8 108.6
 CRT .9651 CRS -.9617 CST -.9998
 LSA 182.0 HSA 10.6 S8A 1.4
 EL1 146.1 EL2 10.2 ALF 15.57

LAUNCH DATE APR 8 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.346 GAL -5.18 AZL 89.88 HCA 210.02 SMA 182.82 ECC .20139 INC .1126 V1 29.750
 RP 219.62 LAP -.06 LOP 47.54 VP 21.970 GAP .45 AZP 90.10 TAL 328.19 TAP 178.21 RCA 146.00 APO 219.44 V2 25.028
 RC 184.172 GL .89 GP -11.80 ZAL 144.14 ZAP 57.19 ETS 171.16 ZAE 97.53 ETE 181.72 ZAC 90.86 ETC 269.65 LVI 4.80

PLANETOCENTRIC CONIC
 C3 17.784 VHL 4.218 DLA -6.37 RAL 342.75 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 3.653 DPA -35.97 RAP 286.53 ECC 1.2923
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 57 2979.10 -30.02 89.47 200.47 128.82 18 18 38 1979.1 -12.94 70.96
 60.00 18 13 20 2895.71 -25.34 82.14 204.26 122.45 19 2 56 1855.7 -10.54 62.12
 70.00 19 15 11 2679.75 -21.11 70.52 208.91 117.49 19 59 51 1679.8 -8.31 49.51
 80.00 20 30 25 2444.21 -18.03 54.23 208.49 114.21 21 11 9 1444.2 -6.64 32.66
 90.00 21 54 53 2171.86 -16.87 34.73 209.03 113.04 22 31 5 1171.7 -6.01 12.96
 100.00 23 13 17 1918.66 -18.03 15.60 208.49 114.21 23 45 16 918.7 -6.64 354.02
 110.00 0 18 33 1726.57 -21.11 359.44 206.91 117.49 0 47 20 726.6 -8.31 358.43

DIFFERENTIAL CORRECTIONS
 TDE 1.7104 TRA 4.1073 TC3-4.5087 BAU 1.0770
 RDE .5456 RRA .6412 RC3 -.4878 FAU .13424
 FDE 4.0208 FRA 9.8403 FC3-6.5425 BSP 12290
 BDE 1.7953 BRA 4.1570 BC3 4.5350 FSP 2488

MID-COURSE EXECUTION ACCURACY
 SGT 7170.4 SGR 1220.0 S63 1342.6
 RRT .9390 RRF .9561 RTF .9809
 SGB 7273.5 R23 .0931 R13 .9818
 SG1 7261.6 S62 414.3 THA 9.11

ORBIT DETERMINATION ACCURACY
 ST 143.7 SR 39.4 S8 107.3
 CRT .9590 CRS -.9567 CST -.9998
 LSA 183.3 HSA 11.0 S8A 1.4
 EL1 148.6 EL2 10.8 ALF 14.80

LAUNCH DATE APR 8 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC
 RL 149.77 LAL .00 LOL 197.52 VL 32.354 GAL -5.27 AZL 89.96 HCA 211.14 SMA 182.94 ECC .20255 INC .0328 V1 29.750
 RP 219.99 LAP -.02 LOP 48.66 VP 21.935 GAP .28 AZP 90.04 TAL 327.77 TAP 178.91 RCA 145.89 APO 220.00 V2 24.987
 RC 186.781 GL .32 GP -11.29 ZAL 144.52 ZAP 56.02 ETS 171.17 ZAE 96.27 ETE 181.40 ZAC 91.37 ETC 269.65 LVI 4.13

PLANETOCENTRIC CONIC
 C3 18.126 VHL 4.258 DLA -6.75 RAL 343.31 RAD 6642.0 VEL 11.754 PTH 6.78 VHP 3.686 DPA -35.46 RAP 286.46 ECC 1.2983
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 37 2976.16 -29.89 89.30 201.21 128.91 18 22 13 1976.2 -12.80 70.85
 60.00 18 19 26 2851.65 -25.19 81.90 205.02 122.56 19 6 58 1851.6 -10.37 61.92
 70.00 19 19 45 2674.30 -20.94 70.20 207.70 117.62 20 4 19 1674.3 -8.10 49.22
 80.00 20 35 25 2437.39 -17.84 53.82 209.30 114.35 21 16 3 1437.4 -6.41 32.28
 90.00 22 0 5 2164.22 -16.67 34.27 209.84 113.18 22 36 10 1164.2 -5.77 12.54
 100.00 23 18 17 1911.87 -17.84 15.19 209.30 114.35 23 50 9 911.9 -6.41 353.64
 110.00 0 23 7 1721.12 -20.94 359.11 207.70 117.62 0 51 48 721.1 -8.10 358.14

DIFFERENTIAL CORRECTIONS
 TDE 1.7573 TRA 4.2580 TC3-4.5281 BAU 1.1027
 RDE .5411 RRA .6010 RC3 -.4511 FAU .13065
 FDE 3.9739 FRA 9.7312 FC3-6.2402 BSP 12561
 BDE 1.8387 BRA 4.3003 BC3 4.5506 FSP 2437

MID-COURSE EXECUTION ACCURACY
 SGT 7331.8 SGR 1158.1 S63 1312.4
 RRT .9307 RRF .9480 RTF .9808
 SGB 7422.7 R23 .0879 R13 .9815
 SG1 7410.9 S62 419.0 THA 8.39

ORBIT DETERMINATION ACCURACY
 ST 146.7 SR 38.4 S8 106.0
 CRT .9526 CRS -.9513 CST -.9999
 LSA 184.6 HSA 11.5 S8A 1.4
 EL1 151.2 EL2 11.3 ALF 14.09

LAUNCH DATE APR 8 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

DISTANCE 655.058

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.361 GAL -5.36 AZL 90.03 HCA 212.26 SMA 183.07 ECC .20374 INC .0121 V1 29.750
 RP 220.36 LAP .01 LOP 49.78 VP 21.899 GAP .10 AZP 89.98 TAL 327.35 TAP 179.61 RCA 145.77 APO 220.36 V2 24.946
 RC 189.399 GL -.20 GP -10.92 ZAL 144.90 ZAP 54.90 ETS 171.19 ZAE 95.04 ETE 181.12 ZAC 91.84 ETC 269.65 LVI 3.68

PLANETOCENTRIC CONIC

C3 18.505 VHL 4.302 DLA -7.09 RAL 343.86 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 3.720 DPA -34.99 RAP 286.43 ECC 1.3046
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 4 2974.26 -29.81 89.20 201.96 128.97 18 25 38 1974.3 -12.70 70.77
 60.00 18 23 15 2848.76 -25.09 81.73 205.80 122.64 19 10 44 1848.8 -10.24 61.78
 70.00 19 23 59 2670.19 -20.81 69.95 208.50 117.71 20 8 29 1670.2 -7.95 49.01
 80.00 20 40 3 2432.07 -17.69 53.49 210.12 114.46 21 20 35 1432.1 -6.24 31.98
 90.00 22 4 53 2158.35 -16.51 33.91 210.66 113.29 22 40 51 1158.3 -5.59 12.21
 100.00 23 22 55 1906.54 -17.69 14.86 210.12 114.46 23 54 41 906.5 -6.24 353.35
 110.00 0 27 21 1717.01 -20.81 358.86 208.50 117.71 0 55 58 717.0 -7.95 337.92

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8061 TRA 4.4096 TC3-4.5426 BAU 1.1286 SGT 7489.3 SGR 1101.7 SG3 1281.8 ST 149.6 SR 37.6 SS 104.6
 RDE .5379 RRA .5632 RC3 -.4178 FAU .12704 RRT .9213 RRF .9386 RTF .9806 CRT .9460 CRS -.9458 CST -.9999
 FDE 3.9284 FRA 9.6161 FC3-5.9434 B8P 12836 SGB 7569.9 R23 .0630 R13 .9813 LSA 186.0 MSA 12.0 SSA 1.3
 BDE 1.8845 BRA 4.4454 BC3 4.5618 F8P 2386 SGI 7558.0 SG2 424.6 THA 7.74 EL1 153.8 EL2 11.4 ALF 13.45

LAUNCH DATE APR 8 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC

DISTANCE 657.159

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.369 GAL -5.45 AZL 90.09 HCA 213.37 SMA 183.19 ECC .20497 INC .0885 V1 29.750
 RP 220.74 LAP .05 LOP 50.89 VP 21.863 GAP -.07 AZP 89.92 TAL 326.92 TAP 180.29 RCA 145.64 APO 220.74 V2 24.904
 RC 192.025 GL -.68 GP -10.37 ZAL 145.27 ZAP 53.81 ETS 171.21 ZAE 93.83 ETE 180.87 ZAC 92.28 ETC 269.67 LVI 3.25

PLANETOCENTRIC CONIC

C3 18.901 VHL 4.348 DLA -7.38 RAL 344.40 RAD 6642.3 VEL 11.786 PTH 6.81 VHP 3.756 DPA -34.54 RAP 286.45 ECC 1.3111
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 18 2973.30 -29.77 89.14 202.72 129.00 18 28 52 1973.3 -12.66 70.72
 60.00 18 26 49 2846.94 -25.02 81.62 206.58 122.69 19 14 16 1846.9 -10.16 61.69
 70.00 19 27 55 2667.26 -20.72 69.77 209.30 117.78 20 12 23 1667.3 -7.84 48.85
 80.00 20 44 20 2428.08 -17.57 53.25 210.93 114.53 21 24 48 1428.1 -6.10 31.76
 90.00 22 9 19 2153.87 -16.39 33.64 211.48 113.37 22 43 13 1153.9 -5.45 11.96
 100.00 23 27 11 1902.56 -17.57 14.62 210.93 114.53 23 58 54 902.6 -6.10 353.13
 110.00 0 31 18 1714.09 -20.72 358.69 209.30 117.78 0 59 52 714.1 -7.84 337.77

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8566 TRA 4.5823 TC3-4.5531 BAU 1.1547 SGT 7643.2 SGR 1050.6 SG3 1281.0 ST 152.6 SR 36.9 SS 103.3
 RDE .5360 RRA .5275 RC3 -.3874 FAU .12340 RRT .9105 RRF .9281 RTF .9804 CRT .9391 CRS -.9402 CST -.9999
 FDE 3.8836 FRA 9.4973 FC3-5.6924 B8P 13109 SGB 7715.1 R23 .0788 R13 .9810 LSA 177.5 MSA 12.4 SSA 1.3
 BDE 1.9324 BRA 4.5927 BC3 4.5895 F8P 2336 SGI 7703.0 SG2 431.0 THA 7.16 EL1 156.5 EL2 12.3 ALF 18.86

LAUNCH DATE APR 8 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC

DISTANCE 661.888

EARTH TO MARS

RL 149.77 LAL .00 LOL 197.52 VL 32.377 GAL -5.55 AZL 90.15 HCA 214.48 SMA 183.32 ECC .20623 INC .1916 V1 29.750
 RP 221.12 LAP .09 LOP 52.00 VP 21.028 GAP -.25 AZP 89.67 TAL 326.48 TAP 180.96 RCA 145.52 APO 221.12 V2 24.863
 RC 194.659 GL -1.11 GP -9.96 ZAL 145.64 ZAP 52.76 ETS 171.24 ZAE 92.65 ETE 180.64 ZAC 92.70 ETC 269.70 LVI 2.84

PLANETOCENTRIC CONIC

C3 19.313 VHL 4.395 DLA -7.64 RAL 344.92 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 3.793 DPA -34.12 RAP 283.51 ECC 1.3178
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 22 2973.19 -29.76 89.13 203.47 129.00 18 31 55 1973.2 -12.65 70.72
 60.00 18 30 9 2846.07 -24.99 81.57 207.36 122.71 19 17 35 1846.1 -10.13 61.65
 70.00 19 31 35 2685.45 -20.66 69.66 210.10 117.82 20 16 1 1665.5 -7.77 48.75
 80.00 20 48 18 2425.32 -17.49 53.08 211.75 114.59 21 28 43 1425.3 -6.01 31.61
 90.00 22 13 25 2150.68 -16.30 33.45 212.30 113.43 22 49 16 1150.7 -5.34 11.78
 100.00 23 31 9 1899.79 -17.49 14.45 211.75 114.59 24 2 49 899.8 -5.01 352.97
 110.00 0 34 57 1712.27 -20.66 358.58 210.10 117.82 1 3 30 712.3 -7.77 337.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.9093 TRA 4.7167 TC3-4.5576 BAU 1.1804 SGT 7793.6 SGR 1004.3 SG3 1220.1 ST 155.5 SR 36.2 SS 102.0
 RDE .5352 RRA .4938 RC3 -.3594 FAU .11968 RRT .8985 RRF .9162 RTF .9807 CRT .9321 CRS -.9344 CST -.9999
 FDE 3.8400 FRA 9.3760 FC3-5.3649 B8P 13380 SGB 7858.1 R23 .0746 R13 .9807 LSA 189.1 MSA 12.9 SSA 1.3
 BDE 1.9829 BRA 4.7425 BC3 4.5717 F8P 2285 SGI 7845.9 SG2 437.9 THA 6.62 EL1 159.2 EL2 12.8 ALF 12.33

LAUNCH DATE APR 9 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 34.384 GAL -6.10 AZL 92.17 HCA 121.45 SMA 225.15 ECC .34924 INC 2.1683 V1 29.742
 RP 207.32 LAP -1.85 LOP 319.97 VP 26.283 GAP 19.95 AZP 88.87 TAL 336.20 TAP 97.65 RCA 146.52 APO 303.76 V2 26.420
 RC 56.291 GL -12.04 GP 2.82 ZAL 131.98 ZAP 169.48 ETS 164.31 ZAE 170.20 ETE 126.93 ZAC 103.84 ETC 276.05 LVI -18.27

DISTANCE 359.652 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 38.475 VHL 6.203 DLA -22.10 RAL 338.25 RAD 6650.1 VEL 12.584 PTH 7.45 VHP 9.739 DPA -16.83 RAP 312.01 ECC 1.6332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 35 2846.05 -24.11 82.30 204.17 132.34 18 58 1 1846.1 -6.34 65.24
 60.00 19 17 23 2668.40 -18.08 71.62 209.50 126.65 20 1 52 1668.4 -2.38 53.04
 70.00 20 42 10 2419.17 -12.23 55.56 213.64 122.14 21 22 29 1419.2 1.59 35.84
 80.00 22 23 23 2102.40 -7.48 34.35 216.49 118.99 22 58 25 1102.4 4.88 13.83
 90.00 0 4 38 1788.48 -5.50 12.34 217.56 117.78 0 34 27 788.5 6.27 351.50
 100.00 1 10 11 1576.87 -7.48 355.72 216.49 118.99 1 36 28 576.9 4.88 335.20
 110.00 1 45 32 1465.99 -12.23 344.48 213.64 122.14 2 9 58 466.0 1.59 324.75

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7589 TRA-1.5817 TC3 -.0730 BAU .0698 SGT 1728.0 SGR 528.4 S63 183.6 ST 42.3 SR 24.9 S8 30.5
 RDE -.5391 RRA .1055 RC3 .1145 FAU .03976 RRT .1865 RRF -.1995 RTF -.8161 CRT .7918 CRS .6451 CST .9764
 FDE .5427 FRA 1.7465 FC3 -.8947 BSP 2893 SGB 1807.0 R23 -.0329 R13 -.8169 LSA 55.4 MSA 16.4 S3A 1.1
 BDE .9308 BRA 1.5853 BC3 .1357 FSP 254 SG1 1731.1 SG2 518.2 THA 3.58 EL1 47.2 EL2 13.7 ALF 27.55

LAUNCH DATE APR 9 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 34.253 GAL -5.95 AZL 92.20 HCA 122.71 SMA 221.76 ECC .33891 INC 2.1974 V1 29.742
 RP 207.22 LAP -1.85 LOP 321.23 VP 26.123 GAP 19.46 AZP 88.81 TAL 336.24 TAP 98.96 RCA 146.60 APO 296.92 V2 26.432
 RC 56.455 GL -12.47 GP 2.94 ZAL 131.96 ZAP 168.62 ETS 164.93 ZAE 170.65 ETE 122.16 ZAC 103.91 ETC 276.14 LVI -18.51

DISTANCE 362.440 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 36.611 VHL 6.051 DLA -22.47 RAL 338.51 RAD 6649.5 VEL 12.510 PTH 7.39 VHP 9.450 DPA -16.61 RAP 312.38 ECC 1.6025
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 19 2825.62 -23.17 81.27 203.74 132.79 19 0 24 1825.6 -5.32 64.38
 60.00 19 20 43 2646.33 -17.18 70.45 209.07 127.03 20 4 50 1646.3 -1.41 51.98
 70.00 20 46 22 2394.57 -11.34 54.22 213.25 122.44 21 26 16 1394.6 2.53 34.55
 80.00 22 28 40 2074.38 -6.55 32.79 216.14 119.19 23 3 15 1074.4 5.82 12.28
 90.00 0 10 35 1758.37 -4.55 10.65 217.23 117.94 0 39 53 758.4 7.21 349.80
 100.00 1 15 28 1548.85 -6.55 354.16 216.14 119.19 1 41 17 548.9 5.82 333.65
 110.00 1 49 44 1441.39 -11.34 343.13 213.25 122.44 2 13 45 441.4 2.53 323.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7572 TRA-1.5700 TC3 -.0657 BAU .0681 SGT 1763.1 SGR 524.9 S63 195.8 ST 43.2 SR 24.8 S8 31.6
 RDE -.5220 RRA .0935 RC3 .1226 FAU .04101 RRT .2036 RRF -.2179 RTF -.8228 CRT .7957 CRS .6468 CST .9755
 FDE .5633 FRA 1.8185 FC3 -.9698 BSP 2967 SGB 1839.6 R23 -.0356 R13 -.8236 LSA 56.6 MSA 16.4 S3A 1.2
 BDE .9197 BRA 1.5728 BC3 .1391 FSP 273 SG1 1766.7 SG2 512.9 THA 3.79 EL1 47.9 EL2 13.5 ALF 26.81

LAUNCH DATE APR 9 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 34.128 GAL -5.81 AZL 92.23 HCA 123.98 SMA 218.66 ECC .32915 INC 2.2273 V1 29.742
 RP 207.13 LAP -1.85 LOP 322.50 VP 25.971 GAP 18.99 AZP 88.75 TAL 336.30 TAP 100.27 RCA 146.69 APO 290.63 V2 26.443
 RC 56.701 GL -12.91 GP 3.08 ZAL 131.94 ZAP 167.74 ETS 165.46 ZAE 171.01 ETE 117.16 ZAC 103.99 ETC 276.23 LVI -18.75

DISTANCE 365.348 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 34.881 VHL 5.906 DLA -22.85 RAL 338.76 RAD 6648.8 VEL 12.441 PTH 7.34 VHP 9.170 DPA -16.39 RAP 312.73 ECC 1.5741
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 6 2805.16 -22.22 80.25 203.33 133.22 19 2 51 1805.2 -4.29 63.52
 60.00 19 24 10 2624.12 -16.27 69.29 208.68 127.40 20 7 54 1624.1 -1.43 50.92
 70.00 20 50 44 2369.64 -10.42 52.86 212.89 122.71 21 30 13 1369.6 3.48 33.25
 80.00 22 34 14 2045.71 -5.80 31.20 215.82 119.38 23 8 20 1045.7 6.77 10.88
 90.00 0 16 52 1727.33 -3.55 8.91 216.94 118.07 0 45 40 727.3 8.18 348.03
 100.00 1 21 2 1520.18 -5.80 352.57 215.82 119.38 1 46 22 520.2 6.77 332.05
 110.00 1 54 6 1416.46 -10.42 341.78 212.89 122.71 2 17 42 416.5 3.48 322.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7552 TRA-1.5579 TC3 -.0581 BAU .0689 SGT 1797.5 SGR 521.4 S63 208.7 ST 44.1 SR 24.6 S8 32.7
 RDE -.5056 RRA .0813 RC3 .1312 FAU .04232 RRT .2222 RRF -.2380 RTF -.8291 CRT .7998 CRS .6492 CST .9747
 FDE .5651 FRA 1.8942 FC3 -1.0503 BSP 3042 SGB 1871.6 R23 -.0388 R13 -.8301 LSA 57.9 MSA 16.3 S3A 1.2
 BDE .9088 BRA 1.5600 BC3 .1434 FSP 294 SG1 1801.6 SG2 507.2 THA 4.01 EL1 48.7 EL2 13.4 ALF 26.11

LAUNCH DATE APR 9 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.80 VL 34.011 GAL -5.67 AZL 92.28 HCA 125.24 SMA 215.81 ECC .31992 INC 2.2582 V1 29.742
 RP 207.05 LAP -1.84 LOP 323.76 VP 25.827 GAP 18.52 AZP 88.70 TAL 336.36 TAP 101.60 RCA 146.77 APO 284.86 V2 26.453
 RC 57.030 GL -13.37 GP 3.20 ZAL 131.90 ZAP 166.84 ETS 163.91 ZAE 171.28 ETE 112.04 ZAC 104.08 ETC 276.32 LVI -18.99

DISTANCE 368.364 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 33.277 VHL 5.769 DLA -23.25 RAL 339.01 RAD 6648.3 VEL 12.377 PTH 7.29 VHP 8.898 DPA -16.16 RAP 313.07 ECC 1.5477
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 57 2784.67 -21.26 79.25 202.96 135.62 19 5 22 1784.7 -3.27 62.66
 60.00 19 27 43 2601.78 -15.34 68.13 208.32 127.74 20 11 5 1601.8 .55 49.86
 70.00 20 55 17 2344.38 -9.49 51.50 212.56 122.98 21 34 21 1344.4 4.44 31.92
 80.00 22 40 6 2016.31 -4.61 29.57 215.54 119.53 23 13 42 1016.3 7.74 9.04
 90.00 0 23 34 1695.26 -2.52 7.12 216.69 118.18 0 51 50 695.3 9.18 346.20
 100.00 1 26 54 1490.78 -4.61 350.94 215.54 119.53 1 51 45 490.8 7.74 330.41
 110.00 1 58 39 1391.20 -9.49 340.42 212.56 122.98 2 21 50 391.2 4.44 320.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7524 TRA-1.5445 TC3 -.0492 BAU .0661 SGT 1830.0 SGR 518.0 S63 222.6 ST 45.0 SR 24.3 S8 33.8
 RDE -.4898 RRA .0690 RC3 .1403 FAU .04372 RRT .2424 RRF -.2599 RTF -.8353 CRT .8041 CRS .6517 CST .9739
 FDE .6076 FRA 1.9732 FC3 -1.1374 BSP 3112 SGB 1902.0 R23 -.0423 R13 -.8363 LSA 59.1 MSA 16.3 S3A 1.2
 BDE .8977 BRA 1.5460 BC3 .1486 FSP 317 SG1 1834.7 SG2 501.3 THA 4.24 EL1 49.4 EL2 13.2 ALF 25.46

LAUNCH DATE APR 9 1971 FLIGHT TIME 136.00 ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC DISTANCE 371.477 EARTH TO MARS
RL 149.82 LAL .00 LOL 198.80 VL 33.900 GAL -5.53 AZL 92.29 MCA 126.50 SMA 213.20 ECC .31119 INC 2.2901 V1 29.742
RP 206.97 LAP -1.84 LOP 325.03 VP 25.689 GAP 18.06 AZP 88.84 TAL 330.43 TAP 102.94 RCA 146.85 APO 279.54 V2 26.462
RC 57.440 GL -13.84 GP 3.34 ZAL 131.85 ZAP 165.92 ETS 166.29 ZAE 171.48 ETE 106.93 ZAC 104.18 ETC 276.40 LVI -19.24
PLANETOCENTRIC CONIC
C3 31.791 VHL 5.638 DLA -23.86 RAL 339.26 RAD 6647.7 VEL 12.317 PTH 7.25 VHP 8.635 DPA -15.93 RAP 313.38 ECC 1.5232
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 21 53 2764.18 -20.30 78.26 202.62 134.01 19 7 57 1764.2 -2.24 61.80
60.00 19 31 24 2579.32 -14.40 66.97 207.99 128.06 20 14 23 1579.3 1.54 48.78
70.00 21 0 1 2318.76 -8.54 50.13 212.27 123.20 21 38 40 1318.8 5.41 30.57
80.00 22 46 18 1986.13 -3.60 27.91 215.30 119.66 23 19 25 986.1 8.73 7.35
90.00 0 30 44 1662.02 -1.45 5.26 216.49 118.25 0 58 26 662.0 10.19 344.29
100.00 1 33 6 1460.60 -3.60 349.28 215.30 119.66 1 57 27 460.6 8.73 328.72
110.00 2 3 24 1385.58 -8.54 339.05 212.27 123.20 2 26 9 365.6 5.41 319.49
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7493 TRA-1.5307 TC3 -.0397 BAU .0659 SGT 1861.7 SGR 514.8 S63 237.3 ST 45.8 SR 24.1 SS 35.0
RDE -.4746 RRA .0565 RC3 .1499 FAU .04521 RRT .2642 RRF -.2035 RTF -.8411 CRT .8088 CRS .6545 C8T .9730
FDE .6309 FRA 2.0563 FC3-1.2312 BSP 3176 SGB 1931.8 R23 -.0461 R13 -.8422 LSA 60.3 MSA 16.3 S8A 1.2
BDE .8670 BRA 1.5317 BC3 .1551 F8P 340 SGI 1867.0 S62 495.1 THA 4.50 EL1 50.1 EL2 13.0 ALF 24.85

LAUNCH DATE APR 9 1971 FLIGHT TIME 138.00 ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC DISTANCE 374.679 EARTH TO MARS
RL 149.82 LAL .00 LOL 198.50 VL 33.795 GAL -5.40 AZL 92.32 MCA 127.77 SMA 210.79 ECC .30294 INC 2.3231 V1 29.742
RP 206.90 LAP -1.84 LOP 326.29 VP 25.559 GAP 17.60 AZP 88.58 TAL 336.51 TAP 104.28 RCA 146.93 APO 274.64 V2 26.469
RC 57.930 GL -14.32 GP 3.49 ZAL 131.78 ZAP 164.98 ETS 166.62 ZAE 171.59 ETE 101.99 ZAC 104.29 ETC 276.48 LVI -19.49
PLANETOCENTRIC CONIC
C3 30.412 VHL 5.515 DLA -24.09 RAL 339.50 RAD 6647.2 VEL 12.261 PTH 7.21 VHP 8.379 DPA -15.69 RAP 313.67 ECC 1.5005
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 24 54 2743.69 -19.33 77.28 202.31 134.37 19 10 38 1743.7 -1.21 60.94
60.00 19 35 12 2556.74 -13.45 65.82 207.70 128.36 20 17 49 1556.7 2.54 47.70
70.00 21 4 59 2292.79 -7.57 48.74 212.02 123.40 21 43 11 1292.8 6.39 29.20
80.00 22 52 53 1955.07 -2.55 26.20 215.11 119.76 23 25 28 955.1 9.74 5.60
90.00 0 38 24 1627.43 -.34 3.33 216.34 118.28 1 5 32 627.4 11.24 342.28
100.00 1 39 41 1429.54 -2.55 347.57 215.11 119.76 2 3 30 429.5 9.74 326.96
110.00 2 8 21 1339.60 -7.57 337.66 212.02 123.40 2 30 41 339.6 6.39 318.12
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7483 TRA-1.5158 TC3 -.0298 BAU .0662 SGT 1891.7 SGR 512.0 S63 253.0 ST 46.6 SR 23.6 SS 36.2
RDE -.4600 RRA .0437 RC3 .1801 FAU .04679 RRT .2680 RRF -.3093 RTF -.8464 CRT .8139 CRS .6579 C8T .9721
FDE .6556 FRA 2.1433 FC3-1.3320 BSP 3240 SGB 1959.7 R23 -.0502 R13 -.8477 LSA 61.6 MSA 16.2 S8A 1.2
BDE .8767 BRA 1.5165 BC3 .1629 F8P 366 SGI 1897.8 S62 488.7 THA 4.77 EL1 50.8 EL2 12.7 ALF 24.29

LAUNCH DATE APR 9 1971 FLIGHT TIME 140.00 ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC DISTANCE 377.962 EARTH TO MARS
RL 149.82 LAL .00 LOL 198.50 VL 33.695 GAL -5.27 AZL 92.36 MCA 129.04 SMA 208.58 ECC .29513 INC 2.3572 V1 29.742
RP 206.85 LAP -1.83 LOP 327.56 VP 25.434 GAP 17.16 AZP 88.51 TAL 336.60 TAP 105.63 RCA 147.01 APO 270.11 V2 26.476
RC 58.496 GL -14.81 GP 3.65 ZAL 131.69 ZAP 164.02 ETS 166.89 ZAE 171.63 ETE 97.35 ZAC 104.42 ETC 276.56 LVI -19.74
PLANETOCENTRIC CONIC
C3 29.135 VHL 5.398 DLA -24.54 RAL 339.74 RAD 6646.7 VEL 12.210 PTH 7.16 VHP 8.132 DPA -15.45 RAP 313.94 ECC 1.4795
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 0 2723.21 -18.35 76.31 202.04 134.70 19 13 24 1723.2 -.18 60.09
60.00 19 39 8 2534.04 -12.49 64.68 207.44 128.63 20 21 22 1534.0 3.53 46.62
70.00 21 10 10 2266.41 -6.58 47.35 211.81 123.59 21 47 56 1266.4 7.38 27.81
80.00 22 59 53 1923.01 -1.47 24.44 214.97 119.83 23 31 56 923.0 10.77 1.78
90.00 0 46 41 1591.23 -.83 1.31 216.25 118.27 1 13 13 591.2 12.31 341.17
100.00 1 46 41 1397.48 -1.47 345.81 214.97 119.83 2 9 59 397.5 10.77 325.14
110.00 2 13 32 1313.23 -6.58 336.26 211.81 123.59 2 35 25 313.2 7.38 316.72
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7426 TRA-1.5004 TC3 -.0193 BAU .0670 SGT 1920.2 SGR 509.5 S63 269.6 ST 47.4 SR 23.7 SS 37.5
RDE -.4461 RRA .0307 RC3 .1710 FAU .04847 RRT .3135 RRF -.3370 RTF -.8115 CRT .8193 CRS .6617 C8T .9711
FDE .6811 FRA 2.2346 FC3-1.4402 BSP 3302 SGB 1986.6 R23 -.0549 R13 -.8530 LSA 62.8 MSA 16.2 S8A 1.2
BDE .8663 BRA 1.5008 BC3 .1720 F8P 394 SGI 1927.3 S62 482.0 THA 5.07 EL1 51.5 EL2 12.5 ALF 23.77

LAUNCH DATE APR 9 1971 FLIGHT TIME 142.00 ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC DISTANCE 381.316 EARTH TO MARS
RL 149.82 LAL .00 LOL 198.50 VL 33.601 GAL -5.15 AZL 92.39 MCA 130.30 SMA 206.51 ECC .28775 INC 2.3926 V1 29.742
RP 206.80 LAP -1.82 LOP 328.83 VP 25.315 GAP 16.72 AZP 88.45 TAL 336.69 TAP 106.99 RCA 147.08 APO 265.93 V2 26.482
RC 59.137 GL -15.32 GP 3.82 ZAL 131.59 ZAP 163.04 ETS 167.12 ZAE 171.61 ETE 93.13 ZAC 104.55 ETC 276.63 LVI -19.99
PLANETOCENTRIC CONIC
C3 27.953 VHL 5.287 DLA -25.00 RAL 339.98 RAD 6646.2 VEL 12.162 PTH 7.13 VHP 7.892 DPA -15.21 RAP 314.18 ECC 1.4600
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 31 13 2702.75 -17.36 75.36 201.80 135.02 19 16 15 1702.8 .85 59.23
60.00 19 43 14 2511.22 -11.52 63.53 207.23 128.89 20 23 5 1511.2 4.54 45.52
70.00 21 15 36 2239.62 -5.56 45.93 211.65 123.75 21 52 56 1239.6 8.38 26.38
80.00 23 7 22 1889.81 -.34 22.61 214.89 119.86 23 38 52 889.8 11.83 1.88
90.00 0 55 42 1553.09 2.06 359.18 216.22 118.21 1 21 36 553.1 13.43 337.92
100.00 1 54 10 1364.28 -.34 343.98 214.89 119.86 2 16 54 364.3 11.83 323.24
110.00 2 18 58 1286.44 -5.56 334.85 211.65 123.75 2 40 25 286.4 8.38 315.30
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.7388 TRA-1.4843 TC3 -.0082 BAU .0683 SGT 1947.1 SGR 507.6 S63 287.4 ST 48.1 SR 23.5 SS 38.7
RDE -.4328 RRA .0173 RC3 .1825 FAU .05026 RRT .3410 RRF -.3669 RTF -.8563 CRT .8252 CRS .6660 C8T .9700
FDE .7077 FRA 2.3306 FC3-1.5566 BSP 3359 SGB 2012.2 R23 -.0600 R13 -.8579 LSA 64.0 MSA 16.1 S8A 1.2
BDE .8562 BRA 1.4844 BC3 .1827 F8P 423 SGI 1955.2 S62 475.2 THA 5.40 EL1 52.1 EL2 12.2 ALF 23.29

LAUNCH DATE APR 9 1971 FLIGHT TIME 144.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC DISTANCE 384.741 EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.512 GAL -5.03 AZL 92.43 HCA 131.57 SMA 204.60 ECC .28077 INC 2.4293 V1 29.742
 RP 206.75 LAP -1.82 LOP 330.10 VP 25.202 GAP 16.30 AZP 88.39 TAL 336.78 TAP 108.35 RCA 147.16 APO 262.05 V2 26.487
 RC 59.850 GL -15.85 GP 4.01 ZAL 131.48 ZAP 162.03 ETS 167.32 ZAE 171.54 ETE 89.42 ZAC 104.70 ETC 276.70 LVI -20.25

PLANETOCENTRIC CONIC

C3 26.856 VHL 5.182 DLA -25.48 RAL 340.22 RAD 8645.8 VEL 12.117 PTH 7.09 VHP 7.660 DPA -14.96 RAP 314.40 ECC 1.4420
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 34 31 2682.27 -16.38 74.42 201.61 135.32 19 19 13 1682.3 1.88 58.38
 60.00 19 47 29 2488.22 -10.53 82.39 207.06 129.13 20 28 57 1488.2 5.94 44.41
 70.00 21 21 20 2212.29 -4.53 44.49 211.53 123.89 21 58 12 1212.3 9.40 24.92
 80.00 23 15 26 1855.16 .83 20.71 214.86 119.85 23 46 21 855.2 12.91 359.88
 90.00 1 5 38 1512.41 3.36 356.91 216.27 118.10 1 30 51 512.4 14.99 335.50
 100.00 2 2 14 1329.64 .83 342.08 214.86 119.85 2 24 23 329.6 12.91 321.24
 110.00 2 24 42 1259.11 -4.53 333.41 211.53 123.89 2 45 41 259.1 9.40 313.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.7205 TRA-1.4530 TC3 .0237 BAU .0706 SGT 1949.7 SGR 506.3 SG3 306.2 ST 47.9 SR 23.2 SS 40.0
 RDE -.4198 RRA .0039 RC3 .1951 FAU .05218 RRT .3710 RRF -.3987 RTF -.8664 CRT .8289 CRS .6705 CST .9699
 FDE .7347 FRA 2.4303 FC3-1.6819 BSP 3239 SGB 2014.4 R23 -.0620 R13 -.8682 LSA 64.6 MSA 16.0 SSA 1.1
 BDE .8339 BRA 1.4530 BC3 .1965 FSP 454 SG1 1959.3 SG2 467.9 THA 5.84 EL1 51.9 EL2 12.0 ALF 23.17

LAUNCH DATE APR 9 1971 FLIGHT TIME 146.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 388.225 EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.428 GAL -4.91 AZL 92.47 HCA 132.84 SMA 202.84 ECC .27418 INC 2.4676 V1 29.742
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.094 GAP 15.88 AZP 88.32 TAL 336.88 TAP 109.72 RCA 147.23 APO 258.46 V2 26.491
 RC 60.633 GL -16.38 GP 4.20 ZAL 131.35 ZAP 160.99 ETS 167.48 ZAE 171.44 ETE 86.25 ZAC 104.87 ETC 276.76 LVI -20.52

PLANETOCENTRIC CONIC

C3 25.846 VHL 5.084 DLA -25.97 RAL 340.46 RAD 8645.3 VEL 12.075 PTH 7.06 VHP 7.435 DPA -14.70 RAP 314.60 ECC 1.4254
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 37 57 2661.88 -15.39 73.49 201.45 135.60 19 22 18 1661.9 2.90 57.53
 60.00 19 51 54 2465.17 -9.54 61.25 206.93 129.34 20 32 59 1465.2 6.55 43.30
 70.00 21 27 21 2184.55 -3.47 43.04 211.47 124.00 22 3 45 1184.5 10.43 23.42
 80.00 23 24 8 1819.02 2.06 18.73 214.91 119.79 23 54 27 819.0 14.03 357.77
 90.00 1 16 41 1468.69 4.76 354.46 216.40 117.91 1 41 10 468.7 15.81 332.87
 100.00 2 10 55 1293.49 2.06 340.10 214.91 119.79 2 32 29 293.5 14.03 319.14
 110.00 2 30 43 1231.37 -3.47 331.96 211.47 124.00 2 51 14 231.4 10.43 312.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.7237 TRA-1.4425 TC3 .0246 BAU .0723 SGT 1983.8 SGR 506.1 SG3 326.2 ST 49.0 SR 23.0 SS 41.3
 RDE -.4079 RRA -.0104 RC3 .2079 FAU .05420 RRT .4021 RRF -.4328 RTF -.8674 CRT .8372 CRS .6761 CST .9681
 FDE .7636 FRA 2.5362 FC3-1.8155 BSP 3379 SGB 2047.3 R23 -.0701 R13 -.8694 LSA 66.1 MSA 16.0 SSA 1.2
 BDE .8307 BRA 1.4425 BC3 .2093 FSP 487 SG1 1994.8 SG2 460.8 THA 6.19 EL1 52.8 EL2 11.7 ALF 22.61

LAUNCH DATE APR 9 1971 FLIGHT TIME 148.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 391.766 EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.349 GAL -4.80 AZL 92.51 HCA 134.11 SMA 201.21 ECC .26796 INC 2.5075 V1 29.742
 RP 206.70 LAP -1.80 LOP 332.64 VP 24.992 GAP 15.47 AZP 88.25 TAL 336.98 TAP 111.09 RCA 147.30 APO 255.13 V2 26.494
 RC 61.483 GL -16.94 GP 4.41 ZAL 131.21 ZAP 159.93 ETS 167.61 ZAE 171.31 ETE 83.66 ZAC 105.05 ETC 276.82 LVI -20.78

PLANETOCENTRIC CONIC

C3 24.912 VHL 4.991 DLA -26.47 RAL 340.70 RAD 8645.0 VEL 12.037 PTH 7.02 VHP 7.217 DPA -14.43 RAP 314.76 ECC 1.4100
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 41 29 2641.52 -14.39 72.58 201.34 135.86 19 25 31 1641.5 3.92 56.67
 60.00 19 56 31 2441.98 -8.53 60.11 206.85 129.54 20 37 13 1442.0 7.56 42.17
 70.00 21 33 42 2156.20 -2.39 41.56 211.46 124.00 22 9 38 1156.2 11.46 21.88
 80.00 23 33 37 1780.84 3.35 16.63 215.03 119.69 24 3 18 780.8 15.18 355.52
 90.00 1 29 17 1420.52 6.29 351.74 216.64 117.63 1 52 57 420.5 17.10 329.93
 100.00 2 20 25 1255.30 3.35 338.00 215.03 119.69 2 41 20 255.3 15.18 316.89
 110.00 2 37 4 1203.02 -2.39 330.47 211.46 124.00 2 57 7 203.0 11.46 310.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.7234 TRA-1.4279 TC3 .0299 BAU .0745 SGT 2010.9 SGR 507.1 SG3 347.6 ST 49.8 SR 22.8 SS 42.7
 RDE -.3985 RRA -.0231 RC3 .2216 FAU .05634 RRT .4330 RRF -.4690 RTF -.8699 CRT .8455 CRS .6826 CST .9685
 FDE .7944 FRA 2.6478 FC3-1.9580 BSP 3478 SGB 2073.8 R23 -.0783 R13 -.8718 LSA 67.5 MSA 16.0 SSA 1.2
 BDE .8250 BRA 1.4282 BC3 .2236 FSP 522 SG1 2023.6 SG2 453.7 THA 6.59 EL1 53.6 EL2 11.3 ALF 22.18

LAUNCH DATE APR 9 1971 FLIGHT TIME 150.00 ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC DISTANCE 395.358 EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.274 GAL -4.70 AZL 92.55 HCA 135.38 SMA 199.70 ECC .26208 INC 2.5491 V1 29.742
 RP 206.68 LAP -1.79 LOP 333.91 VP 24.893 GAP 15.06 AZP 88.19 TAL 337.09 TAP 112.47 RCA 147.36 APO 252.04 V2 26.498
 RC 62.398 GL -17.50 GP 4.64 ZAL 131.05 ZAP 158.85 ETS 167.71 ZAE 171.17 ETE 81.85 ZAC 105.25 ETC 276.87 LVI -21.06

PLANETOCENTRIC CONIC

C3 24.051 VHL 4.904 DLA -26.99 RAL 340.95 RAD 8644.6 VEL 12.001 PTH 6.99 VHP 7.006 DPA -14.16 RAP 314.90 ECC 1.3958
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 45 10 2621.17 -13.40 71.67 201.27 136.09 19 28 51 1621.2 4.94 55.82
 60.00 20 1 20 2418.57 -7.52 58.97 206.82 129.71 20 41 38 1418.6 8.58 41.03
 70.00 21 40 26 2127.16 -1.29 40.04 211.51 124.13 22 15 53 1127.2 12.52 20.30
 80.00 23 44 8 1740.05 4.72 14.38 215.24 119.52 24 13 6 740.0 16.38 353.09
 90.00 1 44 8 1365.65 8.01 348.63 217.03 117.21 2 6 54 365.6 18.52 326.53
 100.00 2 30 54 1214.52 4.72 335.75 215.24 119.52 2 51 8 214.5 16.38 314.46
 110.00 2 43 48 1173.98 -1.29 328.96 211.51 124.13 3 3 22 174.0 12.52 309.21

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.7201 TRA-1.4095 TC3 .0382 BAU .0769 SGT 2030.9 SGR 509.4 SG3 370.1 ST 50.4 SR 22.5 SS 44.0
 RDE -.3857 RRA -.0403 RC3 .2362 FAU .05863 RRT .4693 RRF -.5067 RTF -.8721 CRT .8537 CRS .6895 CST .9649
 FDE .8257 FRA 2.7640 FC3-2.1103 BSP 3536 SGB 2093.8 R23 -.0868 R13 -.8748 LSA 68.8 MSA 15.9 SSA 1.2
 BDE .8169 BRA 1.4100 BC3 .2392 FSP 560 SG1 2045.6 SG2 446.6 THA 7.05 EL1 54.1 EL2 10.9 ALF 21.85

LAUNCH DATE APR 9 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 398.998

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.203 GAL -4.60 AZL 92.59 HCA 136.85 BMA 198.29 ECC .25653 INC 2.5927 V1 29.742
RP 206.67 LAP -1.78 LOP 335.18 VP 24.799 GAP 14.67 AZP 88.11 TAL 337.19 TAP 113.84 RCA 147.43 APO 249.16 V2 26.498
RC 83.376 GL -18.09 GP 4.88 ZAL 130.89 ZAP 157.73 ETS 167.79 ZAE 171.02 ETE 80.22 ZAC 105.46 ETC 276.91 LVI -21.34

PLANETOCENTRIC CONIC

C3 23.258 VHL 4.823 DLA -27.53 RAL 341.20 RAD 6644.3 VEL 11.968 PTH 6.97 VHP 6.802 DPA -13.88 RAP 315.00 ECC 1.3828
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 59 2600.84 -12.40 70.77 201.25 136.31 19 32 20 1600.8 5.96 54.96
60.00 20 6 22 2395.00 -6.49 57.83 206.84 129.86 20 46 17 1395.0 9.60 39.86
70.00 21 47 36 2097.32 -.15 38.48 211.63 124.15 22 22 33 1097.3 13.59 18.65
80.00 23 55 52 1695.79 6.20 11.93 215.55 119.27 24 24 8 695.8 17.65 350.42
90.00 2 2 53 1298.88 10.07 344.80 217.62 116.57 2 24 31 298.9 20.15 322.31
100.00 2 42 40 1170.26 6.20 333.30 215.55 119.27 3 2 10 170.3 17.65 311.79
110.00 2 50 58 1144.14 -.15 327.40 211.63 124.15 3 10 2 144.1 13.59 307.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7188 TRA-1.3901 TC3 .0461 BAU .0795 SGT 2048.3 SGR 513.5 S63 394.1 ST 50.9 SR 22.3 SS 45.5
RDE -.3756 RRA -.0562 RC3 .2516 FAU .06099 RRT .9050 RRF -.5460 RTF -.8747 CRT .8627 CRS .6979 CST .0634
FDE .8601 FRA 2.8874 FC3-2.2703 BSP 3589 SGB 2111.7 R23 -.0961 R13 -.8778 LSA 70.1 MSA 15.9 SSA 1.2
BDE .8092 BRA 1.3912 BC3 .2538 F8P 600 S61 2065.5 S62 439.6 THA 7.56 EL1 54.6 EL2 10.5 ALF 21.56

LAUNCH DATE APR 9 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 402.681

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.136 GAL -4.50 AZL 92.64 HCA 137.92 BMA 198.99 ECC .25129 INC 2.6383 V1 29.742
RP 206.68 LAP -1.77 LOP 336.45 VP 24.709 GAP 14.28 AZP 88.04 TAL 337.30 TAP 115.22 RCA 147.49 APO 246.49 V2 26.498
RC 64.414 GL -18.68 GP 5.13 ZAL 130.71 ZAP 156.58 ETS 167.84 ZAE 170.87 ETE 79.35 ZAC 105.70 ETC 276.95 LVI -21.63

PLANETOCENTRIC CONIC

C3 22.529 VHL 4.746 DLA -28.09 RAL 341.47 RAD 6643.9 VEL 11.938 PTH 6.94 VHP 6.603 DPA -13.59 RAP 315.07 ECC 1.3708
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 52 58 2580.92 -11.40 69.88 201.27 136.51 19 35 59 1580.5 6.98 54.10
60.00 20 11 40 2371.20 -5.45 56.68 206.92 129.99 20 51 11 1371.2 10.62 38.70
70.00 21 55 15 2066.55 1.03 36.88 211.81 124.14 22 29 42 1066.5 14.68 16.93
80.00 0 13 19 1646.58 7.82 9.18 215.99 118.91 0 40 46 646.6 19.01 347.40
90.00 2 31 54 1199.63 13.03 339.02 218.69 115.32 2 51 54 199.6 22.36 315.87
100.00 2 56 11 1121.05 7.82 330.55 215.99 118.91 3 14 52 121.1 19.01 308.77
110.00 2 58 38 1113.37 1.03 325.80 211.81 124.14 3 17 11 113.4 14.68 305.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7122 TRA-1.3683 TC3 .0553 BAU .0825 SGT 2060.8 SGR 519.7 S63 419.5 ST 51.3 SR 22.2 SS 46.9
RDE -.3661 RRA -.0729 RC3 .2682 FAU .06354 RRT .5415 RRF -.5862 RTF -.8772 CRT .8721 CRS .7069 CST .9818
FDE .8951 FRA 3.0180 FC3-2.4415 BSP 3627 SGB 2123.3 R23 -.1062 R13 -.8808 LSA 71.2 MSA 15.9 SSA 1.1
BDE .8008 BRA 1.3702 BC3 .2739 F8P 643 S61 2080.8 S62 432.7 THA 8.13 EL1 55.0 EL2 10.1 ALF 21.38

LAUNCH DATE APR 9 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 406.406

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.073 GAL -4.41 AZL 92.69 HCA 139.18 BMA 195.77 ECC .24635 INC 2.6882 V1 29.742
RP 206.69 LAP -1.76 LOP 337.72 VP 24.623 GAP 13.91 AZP 87.97 TAL 337.41 TAP 116.60 RCA 147.55 APO 244.00 V2 26.495
RC 85.312 GL -19.30 GP 5.41 ZAL 130.51 ZAP 155.40 ETS 167.87 ZAE 170.71 ETE 79.03 ZAC 105.96 ETC 276.99 LVI -21.93

PLANETOCENTRIC CONIC

C3 21.861 VHL 4.676 DLA -28.86 RAL 341.73 RAD 6643.7 VEL 11.910 PTH 6.92 VHP 6.414 DPA -13.29 RAP 315.10 ECC 1.3598
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 57 7 2580.21 -10.39 69.00 201.34 136.70 19 39 48 1580.2 7.99 53.23
60.00 20 17 13 2347.14 -4.40 55.52 207.05 130.10 20 56 20 1347.1 11.65 37.50
70.00 22 3 28 2034.85 2.25 35.21 212.07 124.09 22 37 23 1034.8 15.80 15.14
80.00 0 29 32 1589.54 9.89 5.97 216.80 118.38 0 56 1 589.5 20.52 343.84
85.17 2 21 43 1228.58 16.10 342.59 219.84 114.03 2 42 11 228.6 24.62 318.72
100.00 3 12 23 1064.01 9.89 327.34 216.60 118.38 3 30 7 84.0 20.52 305.20
110.00 3 8 51 1081.48 2.25 324.13 212.07 124.09 3 24 52 81.9 15.80 304.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7074 TRA-1.3433 TC3 .0633 BAU .0858 SGT 2069.8 SGR 528.3 S63 446.3 ST 51.7 SR 22.0 SS 48.4
RDE -.3573 RRA -.0903 RC3 .2858 FAU .06824 RRT .5782 RRF -.6289 RTF -.8793 CRT .8821 CRS .7170 CST .9800
FDE .9318 FRA 3.1505 FC3-2.6231 BSP 3658 SGB 2136.2 R23 -.1176 R13 -.8834 LSA 72.4 MSA 15.9 SSA 1.1
BDE .7925 BRA 1.3483 BC3 .2929 F8P 688 S61 2093.2 S62 426.2 THA 8.78 EL1 55.3 EL2 9.7 ALF 21.23

LAUNCH DATE APR 9 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 410.187

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 33.013 GAL -4.32 AZL 92.74 HCA 140.45 BMA 194.64 ECC .24169 INC 2.7367 V1 29.742
RP 206.71 LAP -1.74 LOP 338.99 VP 24.541 GAP 13.54 AZP 87.89 TAL 337.52 TAP 117.97 RCA 147.60 APO 241.69 V2 26.493
RC 68.667 GL -19.94 GP 5.71 ZAL 130.31 ZAP 154.19 ETS 167.89 ZAE 170.55 ETE 79.24 ZAC 106.25 ETC 277.02 LVI -22.24

PLANETOCENTRIC CONIC

C3 21.251 VHL 4.610 DLA -29.24 RAL 342.01 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 6.230 DPA -12.98 RAP 315.10 ECC 1.3497
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 1 28 2539.88 -9.38 68.12 201.47 136.86 19 43 48 1539.9 9.00 52.37
60.00 20 23 5 2322.77 -3.33 54.35 207.25 130.19 21 1 47 1322.8 12.69 36.28
70.00 22 12 21 2001.35 3.52 33.47 212.42 123.99 22 45 42 1001.4 16.95 13.24
80.00 0 50 46 1517.28 11.99 1.85 217.51 117.55 1 16 4 517.3 22.31 339.21
82.24 1 59 6 1298.25 16.60 347.95 219.82 114.42 2 20 44 298.2 25.24 324.03
100.00 3 33 38 1064.01 11.99 301.13 217.51 117.55 5 18 18 5279.8 22.31 278.49
110.00 3 15 43 1048.17 3.52 322.39 212.42 123.99 3 33 12 48.2 16.95 302.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7023 TRA-1.3207 TC3 .0711 BAU .0890 SGT 2074.9 SGR 539.7 S63 474.7 ST 52.0 SR 21.8 SS 49.9
RDE -.3491 RRA -.1087 RC3 .3049 FAU .06911 RRT .6148 RRF -.6675 RTF -.8812 CRT .8926 CRS .7281 CST .9581
FDE .9707 FRA 3.2922 FC3-2.8155 BSP 3680 SGB 2143.9 R23 -.1300 R13 -.8860 LSA 73.6 MSA 15.9 SSA 1.1
BDE .7843 BRA 1.3252 BC3 .3131 F8P 736 S61 2102.4 S62 420.1 THA 9.47 EL1 55.6 EL2 9.2 ALF 21.15

LAUNCH DATE APR 9 1971		FLIGHT TIME 160.00		ARRIVAL DATE SEP 16 1971						
HELIOCENTRIC CONIC			DISTANCE 413.964			EARTH TO MARS				
RL	149.82 LAL	.00 LOL 198.50 VL 32.957 GAL -4.24 AZL 92.79 HCA 141.72 SMA 193.59 ECC .23730 INC 2.7898 V1 29.742								
RP	206.73 LAP	-1.73 LOP 340.26 VP 24.462 GAP 13.17 AZP 87.81 TAL 337.63 TAP 119.35 RCA 147.65 APO 239.53 V2 26.489								
RC	67.877 GL	-20.59 GP 6.03 ZAL 130.09 ZAP 152.94 ETS 167.88 ZAE 170.39 ETE 79.97 ZAC 106.56 ETC 277.04 LVI -22.57								
PLANETOCENTRIC CONIC										
C3	20.693 VHL 4.549 DLA -29.84 RAL 342.30 RAD 6643.1 VEL 11.862 PTH 6.88 VHP 6.052 DPA -12.66 RAP 315.06 ECC 1.3406									
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 6 1	2519.48	-8.37	67.25	201.65	137.01	19 48 1	1519.5	10.02	51.49
60.00	20 29 16	2298.00	-2.24	53.17	207.51	130.25	21 7 34	1298.0	13.74	35.03
70.00	22 22 2	1966.27	4.85	31.63	212.86	123.85	22 54 49	966.3	18.13	11.21
80.00	1 35 13	1372.03	16.40	353.33	219.51	115.30	1 58 5	372.0	25.42	329.55
80.05	1 43 12	1346.50	17.10	351.77	219.85	114.84	2 5 39	346.5	25.86	327.80
100.00	4 18 5	6134.54	16.41	292.60	219.51	115.30	6 0 19	5134.5	25.42	268.83
110.00	3 25 25	1013.09	4.85	320.55	212.86	123.85	3 42 18	13.1	18.13	300.13
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.6890 TRA -1.2871 TC3 .0919 BAU .0937	SGT 2062.3 SGR 554.1 SG3 504.4			ST 51.7 SR 21.7 SS 51.4					
RDE	-.3413 RRA -.1278 RC3 .3258 FAU .07226	RRT .6515 RRF -.7069 RTF -.8853			CRT .9025 CR8 .7393 CST .9564					
FDE	1.0076 FRA 3.4368 FC3-3.0231 B8P 3598	SCB 2135.4 R23 -.1396 R13 -.8909			LSA 74.3 MSA 15.9 SSA 1.1					
BDE	.7689 BRA 1.2935 BC3 .3385 F8P 783	SG1 2095.0 SG2 413.8 THA 10.34			EL1 55.3 EL2 8.7 ALF 21.0					

LAUNCH DATE APR 9 1971		FLIGHT TIME 162.00		ARRIVAL DATE SEP 18 1971						
HELIOCENTRIC CONIC			DISTANCE 417.792			EARTH TO MARS				
RL	149.82 LAL	.00 LOL 198.50 VL 32.904 GAL -4.16 AZL 92.85 HCA 142.99 SMA 192.61 ECC .23317 INC 2.8461 V1 29.742								
RP	206.77 LAP	-1.71 LOP 341.52 VP 24.386 GAP 12.02 AZP 87.73 TAL 337.73 TAP 120.72 RCA 147.70 APO 237.93 V2 26.485								
RC	69.140 GL	-21.26 GP 6.38 ZAL 129.87 ZAP 151.65 ETS 167.86 ZAE 170.22 ETE 81.19 ZAC 106.90 ETC 277.06 LVI -22.90								
PLANETOCENTRIC CONIC										
C3	20.193 VHL 4.494 DLA -30.46 RAL 342.61 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 5.881 DPA -12.32 RAP 314.98 ECC 1.3323									
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 10 48	2499.09	-7.35	66.38	201.90	137.14	19 52 27	1499.1	11.03	50.60
60.00	20 35 50	2272.84	-1.13	51.97	207.85	130.29	21 13 43	1272.8	14.79	33.74
70.00	22 32 41	1929.04	6.26	29.67	213.41	123.64	23 4 50	929.0	19.36	9.03
78.18	1 30 26	1385.17	17.60	354.90	219.94	115.27	1 53 32	385.2	26.49	330.87
78.18	1 30 26	1385.17	17.60	354.90	219.94	115.27	1 53 32	385.2	26.49	330.87
78.18	1 30 26	1385.17	17.60	354.90	219.94	115.27	1 53 32	385.2	26.49	330.87
110.00	3 36 4	6263.90	6.26	296.49	213.41	123.64	5 20 27	5263.9	19.36	275.85
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.6915 TRA -1.2672 TC3 .0814 BAU .0962	SGT 2072.7 SGR 572.8 SG3 536.1			ST 52.3 SR 21.6 SS 53.0					
RDE	-.3350 RRA -.1488 RC3 .3468 FAU .07529	RRT .6841 RRF -.7454 RTF -.8837			CRT .9152 CR8 .7538 CST .9538					
FDE	1.0545 FRA 3.5952 FC3-3.2278 B8P 3703	SCB 2150.4 R23 -.1592 R13 -.8904			LSA 75.9 MSA 15.9 SSA 1.1					
BDE	.7684 BRA 1.2759 BC3 .3562 F8P 840	SG1 2110.9 SG2 410.2 THA 11.13			EL1 56.0 EL2 8.1 ALF 21.9					

LAUNCH DATE APR 9 1971		FLIGHT TIME 164.00		ARRIVAL DATE SEP 20 1971						
HELIOCENTRIC CONIC			DISTANCE 421.650			EARTH TO MARS				
RL	149.82 LAL	.00 LOL 198.50 VL 32.854 GAL -4.08 AZL 92.91 HCA 144.26 SMA 191.70 ECC .22927 INC 2.9058 V1 29.742								
RP	206.81 LAP	-1.70 LOP 342.79 VP 24.313 GAP 12.47 AZP 87.64 TAL 337.83 TAP 122.09 RCA 147.75 APO 235.66 V2 26.480								
RC	70.455 GL	-21.98 GP 6.76 ZAL 129.63 ZAP 150.32 ETS 167.82 ZAE 170.02 ETE 82.90 ZAC 107.28 ETC 277.07 LVI -23.26								
PLANETOCENTRIC CONIC										
C3	19.740 VHL 4.443 DLA -31.10 RAL 342.93 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 5.715 DPA -11.96 RAP 314.66 ECC 1.3249									
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 15 51	2478.54	-8.33	65.51	202.20	137.25	19 57 9	1478.5	12.04	49.71
60.00	20 42 50	2247.07	.00	50.73	208.27	130.30	21 20 17	1247.1	15.87	32.41
70.00	22 44 37	1888.70	7.78	27.53	214.09	123.36	23 16 5	888.7	20.66	6.62
76.49	1 19 29	1418.46	18.11	357.65	220.09	115.73	1 43 8	418.5	27.13	333.57
76.49	1 19 29	1418.46	18.11	357.65	220.09	115.73	1 43 8	418.5	27.13	333.57
76.49	1 19 29	1418.46	18.11	357.65	220.09	115.73	1 43 8	418.5	27.13	333.57
110.00	3 47 59	6223.56	7.78	294.35	214.09	123.36	5 31 42	5223.6	20.66	273.44
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.6786 TRA -1.2311 TC3 .0986 BAU .1013	SGT 2052.1 SGR 595.2 SG3 569.1			ST 51.8 SR 21.5 SS 54.5					
RDE	-.3287 RRA -.1706 RC3 .3709 FAU .07881	RRT .7172 RRF -.7813 RTF -.2568			CRT .9261 CR8 .7672 CST .9516					
FDE	1.0956 FRA 3.7538 FC3-3.4565 B8P 3616	SCB 2136.7 R23 -.1712 R13 -.8947			LSA 76.6 MSA 16.0 SSA 1.1					
BDE	.7540 BRA 1.2429 BC3 .3837 F8P 892	SG1 2097.8 SG2 405.7 THA 12.22			EL1 55.6 EL2 7.6 ALF 21.47					

LAUNCH DATE APR 9 1971		FLIGHT TIME 166.00		ARRIVAL DATE SEP 22 1971						
HELIOCENTRIC CONIC			DISTANCE 425.535			EARTH TO MARS				
RL	149.82 LAL	.00 LOL 198.50 VL 32.808 GAL -4.01 AZL 92.97 HCA 145.52 SMA 190.86 ECC .22582 INC 2.9691 V1 29.742								
RP	206.87 LAP	-1.68 LOP 344.06 VP 24.243 GAP 12.13 AZP 87.55 TAL 337.93 TAP 123.45 RCA 147.80 APO 233.92 V2 26.474								
RC	71.818 GL	-22.68 GP 7.16 ZAL 129.39 ZAP 148.96 ETS 167.77 ZAE 169.79 ETE 85.03 ZAC 107.69 ETC 277.08 LVI -23.63								
PLANETOCENTRIC CONIC										
C3	19.338 VHL 4.597 DLA -31.76 RAL 343.27 RAD 6642.5 VEL 11.805 PTH 6.83 VHP 5.556 DPA -11.59 RAP 314.69 ECC 1.3182									
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 21 10	2457.93	-5.29	64.64	202.58	137.35	20 2 8	1457.9	13.05	48.80
60.00	20 50 19	2220.71	1.16	49.48	208.77	130.29	21 27 19	1220.7	16.96	31.03
70.00	22 58 11	1844.24	9.43	25.15	214.94	122.98	23 28 56	844.2	22.05	3.92
74.91	1 9 56	1447.89	18.61	.13	220.30	116.21	1 34 4	447.9	27.78	336.01
74.91	1 9 56	1447.89	18.61	.13	220.30	116.21	1 34 4	447.9	27.78	336.01
74.91	1 9 56	1447.89	18.61	.13	220.30	116.21	1 34 4	447.9	27.78	336.01
110.00	4 1 34	6179.10	9.43	291.98	214.94	122.98	5 44 33	5179.1	22.05	270.74
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.6823 TRA -1.2088 TC3 .0808 BAU .1042	SGT 2035.8 SGR 622.9 SG3 604.3			ST 52.4 SR 21.6 SS 56.4					
RDE	-.3242 RRA -.1947 RC3 .3947 FAU .08209	RRT .7442 RRF -.8150 RTF -.8840			CRT .9392 CR8 .7843 CST .9486					
FDE	1.1498 FRA 3.9280 FC3-3.6750 B8P 3720	SCB 2148.1 R23 -.1953 R13 -.8937			LSA 78.3 MSA 16.1 SSA 1.0					
BDE	.7554 BRA 1.2244 BC3 .4029 F8P 957	SG1 2109.5 SG2 405.5 THA 13.20			EL1 56.3 EL2 6.9 ALF 21.50					

LAUNCH DATE APR 9 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 429.446

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.764 GAL -3.84 AZL 93.04 HCA 146.79 SMA 190.07 ECC .22219 INC 3.0367 V1 29.742
RP 206.93 LAP -1.66 LOP 345.33 VP 24.176 GAP 11.80 AZP 87.46 TAL 336.02 TAP 124.81 RCA 147.84 APO 232.30 V2 26.466
RC 73.228 GL -23.42 GP 7.60 ZAL 129.12 ZAP 147.55 ETS 167.70 ZAE 169.53 ETE 87.57 ZAC 108.13 ETC 277.07 LVI -24.01

PLANETOCENTRIC CONIC

C3 18.981 VHL 4.357 DLA -32.43 RAL 343.63 RAD 6642.4 VEL 11.790 PTH 6.81 VHP 5.404 DPA -11.19 RAP 314.48 ECC 1.3124
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 26 49 2437.07 -4.25 63.76 203.03 137.43 20 7 26 1437.1 14.08 47.87
60.00 20 58 21 2193.44 2.36 48.17 209.37 130.24 21 34 55 1193.4 18.07 29.59
70.00 23 14 15 1793.21 11.31 22.39 215.99 122.44 23 44 8 793.2 23.58 .74
73.41 1 1 19 1474.88 19.11 2.45 220.57 116.72 1 25 54 474.9 28.44 338.28
73.41 1 1 19 1474.88 19.11 2.45 220.57 116.72 1 25 54 474.9 28.44 338.28
73.41 1 1 19 1474.88 19.11 2.45 220.57 116.72 1 25 54 474.9 28.44 338.28
110.00 4 17 38 6128.03 11.31 289.22 215.99 122.44 5 59 46 5128.0 23.58 267.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6709 TRA-1.1700 TC3 .0896 BAU .1095 SGT 2026.8 SGR 655.2 SG3 640.3 ST 51.9 SR 21.6 SS 57.9
RDE -.3197 RRA -.2197 RC3 .4222 FAU .08593 RRT .7709 RRF -.8452 RTF -.8852 CRT .9504 CRS .7999 CST .9458
FDE 1.1959 FRA 4.0988 FC3-3.9194 BSP 3637 SGB 2130.1 R23 -.2108 R13 -.8969 LSA 79.1 MSA 16.2 SSA 1.0
BDE .7432 BRA 1.1905 BC3 .4316 FSP 1014 SG1 2081.4 SG2 404.5 THA 14.35 EL1 55.9 EL2 6.2 ALF 21.91

LAUNCH DATE APR 9 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 433.380

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.722 GAL -3.88 AZL 93.11 HCA 148.05 SMA 189.33 ECC .21897 INC 3.1089 V1 29.742
RP 207.00 LAP -1.84 LOP 346.59 VP 24.110 GAP 11.48 AZP 87.36 TAL 338.11 TAP 126.16 RCA 147.88 APO 230.79 V2 26.458
RC 74.683 GL -24.19 GP 8.08 ZAL 128.85 ZAP 146.10 ETS 167.62 ZAE 169.20 ETE 90.44 ZAC 108.62 ETC 277.06 LVI -24.43

PLANETOCENTRIC CONIC

C3 18.673 VHL 4.321 DLA -33.13 RAL 344.02 RAD 6642.2 VEL 11.777 PTH 6.80 VHP 5.257 DPA -10.77 RAP 314.22 ECC 1.3073
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 32 49 2416.03 -3.19 62.88 203.57 137.49 20 13 5 1416.0 15.10 46.93
60.00 21 7 3 2165.20 3.61 46.82 210.08 130.17 21 43 8 1165.2 19.21 28.08
70.00 23 34 27 1730.69 13.57 18.96 217.36 121.65 24 3 17 730.7 25.35 356.76
71.97 0 53 34 1499.80 19.61 4.64 220.92 117.26 1 18 34 499.8 29.11 340.42
71.97 0 53 34 1499.80 19.61 4.64 220.92 117.26 1 18 34 499.8 29.11 340.42
71.97 0 53 34 1499.80 19.61 4.64 220.92 117.26 1 18 34 499.8 29.11 340.42
110.00 4 37 49 6065.55 13.57 285.79 217.36 121.65 6 18 55 5065.6 25.35 283.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6722 TRA-1.1416 TC3 .0698 BAU .1136 SGT 2016.3 SGR 693.9 SG3 676.6 ST 52.2 SR 21.8 SS 59.8
RDE -.3171 RRA -.2478 RC3 .4498 FAU .08953 RRT .7910 RRF -.8723 RTF -.8819 CRT .9624 CRS .8182 CST .9424
FDE 1.2552 FRA 4.2860 FC3-4.1509 BSP 3703 SGB 2132.4 R23 -.2363 R13 -.8964 LSA 80.6 MSA 16.4 SSA 1.0
BDE .7432 BRA 1.1682 BC3 .4552 FSP 1085 SG1 2092.8 SG2 409.0 THA 15.85 EL1 56.3 EL2 5.5 ALF 22.17

LAUNCH DATE APR 9 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 437.337

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.683 GAL -3.82 AZL 93.19 HCA 149.32 SMA 188.65 ECC .21595 INC 3.1865 V1 29.742
RP 207.08 LAP -1.83 LOP 347.86 VP 24.048 GAP 11.16 AZP 87.26 TAL 338.19 TAP 127.51 RCA 147.91 APO 229.39 V2 26.449
RC 76.180 GL -24.99 GP 8.60 ZAL 128.57 ZAP 144.60 ETS 167.52 ZAE 168.80 ETE 93.58 ZAC 109.16 ETC 277.05 LVI -24.87

PLANETOCENTRIC CONIC

C3 18.410 VHL 4.291 DLA -33.88 RAL 344.44 RAD 6642.1 VEL 11.786 PTH 6.78 VHP 5.117 DPA -10.32 RAP 313.91 ECC 1.3030
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 39 14 2394.64 -2.12 61.98 204.19 137.54 20 19 9 1394.6 16.14 45.96
60.00 21 16 32 2135.61 4.90 45.40 210.91 130.05 21 32 7 1135.6 20.39 26.46
70.00 0 8 59 1837.83 16.82 13.73 219.41 120.17 0 38 17 637.8 27.75 350.60
70.56 0 46 28 1523.36 20.11 6.74 221.34 117.83 1 11 52 523.4 29.79 342.48
70.56 0 46 28 1523.36 20.11 6.74 221.34 117.83 1 11 52 523.4 29.79 342.48
70.56 0 46 28 1523.36 20.11 6.74 221.34 117.83 1 11 52 523.4 29.79 342.48
110.00 5 8 26 5972.69 16.82 280.55 219.41 120.17 6 47 59 4972.7 27.75 257.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6875 TRA-1.1047 TC3 .0597 BAU .1192 SGT 1988.1 SGR 738.9 SG3 718.2 ST 51.9 SR 22.1 SS 61.6
RDE -.3192 RRA -.2773 RC3 .4804 FAU .09346 RRT .8090 RRF -.8959 RTF -.8998 CRT .9730 CRS .8363 CST .9388
FDE 1.3139 FRA 4.4752 FC3-4.3952 BSP 3683 SGB 2120.9 R23 -.2575 R13 -.8978 LSA 81.8 MSA 16.5 SSA .9
BDE .7380 BRA 1.1390 BC3 .4841 FSP 1133 SG1 2079.9 SG2 415.2 THA 17.45 EL1 56.2 EL2 4.7 ALF 22.66

LAUNCH DATE APR 9 1971

FLIGHT TIME 174.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 441.314

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.647 GAL -3.77 AZL 93.27 HCA 150.58 SMA 188.02 ECC .21312 INC 3.2699 V1 29.742
RP 207.17 LAP -1.81 LOP 349.12 VP 23.987 GAP 10.85 AZP 87.15 TAL 338.26 TAP 128.84 RCA 147.94 APO 228.09 V2 26.439
RC 77.718 GL -25.83 GP 9.16 ZAL 128.27 ZAP 143.05 ETS 167.42 ZAE 168.31 ETE 96.89 ZAC 109.75 ETC 277.03 LVI -25.34

PLANETOCENTRIC CONIC

C3 18.193 VHL 4.265 DLA -34.60 RAL 344.88 RAD 6642.0 VEL 11.757 PTH 6.78 VHP 4.984 DPA -9.83 RAP 313.55 ECC 1.2994
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 46 7 2372.83 -1.02 61.07 204.91 137.57 20 25 40 1372.8 17.20 44.96
60.00 21 26 57 2104.34 6.27 43.89 211.89 129.89 22 2 1 1104.3 21.62 24.73
69.17 0 39 57 1545.86 20.61 0.78 221.84 118.43 1 5 43 545.9 30.49 344.48
69.17 0 39 57 1545.86 20.61 0.78 221.84 118.43 1 5 43 545.9 30.49 344.48
69.17 0 39 57 1545.86 20.61 0.78 221.84 118.43 1 5 43 545.9 30.49 344.48
69.17 0 39 57 1545.86 20.61 0.78 221.84 118.43 1 5 43 545.9 30.49 344.48
69.17 0 39 57 1545.86 20.61 0.78 221.84 118.43 1 5 43 545.9 30.49 344.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6623 TRA-1.0655 TC3 .0468 BAU .1254 SGT 1953.7 SGR 790.9 SG3 759.1 ST 51.6 SR 22.4 SS 63.3
RDE -.3144 RRA -.3096 RC3 .5134 FAU .09757 RRT .8231 RRF -.9162 RTF -.8771 CRT .9824 CRS .8544 CST .9349
FDE 1.3754 FRA 4.6700 FC3-4.6428 BSP 3656 SGB 2107.7 R23 -.2781 R13 -.8994 LSA 83.0 MSA 16.7 SSA .9
BDE .7331 BRA 1.1096 BC3 .5156 FSP 1223 SG1 2064.4 SG2 425.0 THA 19.28 EL1 56.1 EL2 3.9 ALF 23.27

LAUNCH DATE APR 9 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 445.310

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.613 GAL -3.72 AZL 93.36 HCA 151.84 SMA 187.42 ECC .21048 INC 3.3600 V1 29.742
RP 207.26 LAP -1.58 LOP 350.39 VP 23.928 GAP 10.54 AZP 87.04 TAL 338.33 TAP 130.17 RCA 147.98 APO 226.87 V2 26.428
RC 79.295 GL -26.70 GP 9.78 ZAL 127.95 ZAP 141.46 ETS 167.30 ZAE 167.72 ETE 100.29 ZAC 110.39 ETC 277.00 LVI -25.84

PLANETOCENTRIC CONIC

C3 18.023 VHL 4.245 DLA -35.38 RAL 345.37 RAD 6641.9 VEL 11.749 PTH 6.78 VHP 4.856 DPA -9.31 RAP 313.13 ECC 1.2966
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 53 33 2350.49 .10 60.14 205.75 137.56 20 32 43 1350.5 18.27 43.92
60.00 21 38 33 2070.03 7.73 42.26 213.03 129.68 22 13 3 1070.8 22.91 22.84
67.79 0 33 57 1567.61 21.10 10.79 222.43 119.08 1 0 4 567.6 31.20 346.46
67.79 0 33 57 1567.61 21.10 10.79 222.43 119.08 1 0 4 567.6 31.20 346.46
67.79 0 33 57 1567.61 21.10 10.79 222.43 119.08 1 0 4 567.6 31.20 346.46
67.79 0 33 57 1567.61 21.10 10.79 222.43 119.08 1 0 4 567.6 31.20 346.46
67.79 0 33 57 1567.61 21.10 10.79 222.43 119.08 1 0 4 567.6 31.20 346.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6588 TRA -1.0222 TC3 .0325 BAU .1326 SGT 1910.5 SGR 850.6 SG3 801.0 ST 51.1 SR 22.9 SS 65.1
RDE -.3151 RRA -.3445 RC3 .5493 FAU .10188 RRT .8337 RRF -.9332 RTF -.8735 CRT .9901 CRS .8725 CST .9305
FDE 1.4408 FRA 4.8663 FC3 -4.8939 BSP 3616 SGB 2091.3 R23 -.2967 R13 -.9015 LSA 84.2 MSA 17.0 SSA .9
BDE .7285 BRA 1.0787 BC3 .5502 F8P 1295 SG1 2044.7 SG2 438.9 THA 21.40 EL1 55.9 EL2 2.9 ALF 24.03

LAUNCH DATE APR 9 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 449.324

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.581 GAL -3.67 AZL 93.46 HCA 153.10 SMA 186.88 ECC .20801 INC 3.4578 V1 29.742
RP 207.37 LAP -1.56 LOP 351.65 VP 23.871 GAP 10.24 AZP 86.92 TAL 338.39 TAP 131.49 RCA 148.00 APO 225.75 V2 26.415
RC 80.909 GL -27.61 GP 10.45 ZAL 127.62 ZAP 139.81 ETS 167.17 ZAE 167.01 ETE 103.69 ZAC 111.10 ETC 276.96 LVI -26.38

PLANETOCENTRIC CONIC

C3 17.900 VHL 4.231 DLA -36.19 RAL 345.89 RAD 6641.9 VEL 11.744 PTH 6.77 VHP 4.736 DPA -8.74 RAP 312.65 ECC 1.2946
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 1 37 2327.47 1.25 59.18 206.71 137.56 20 40 24 1327.5 19.37 42.84
60.00 21 51 39 2034.27 9.32 40.48 214.37 129.39 22 25 33 1034.3 24.29 20.73
66.41 0 28 24 1588.84 21.60 12.78 223.12 119.78 0 54 53 588.8 31.92 348.43
66.41 0 28 24 1588.84 21.60 12.78 223.12 119.78 0 54 53 588.8 31.92 348.43
66.41 0 28 24 1588.84 21.60 12.78 223.12 119.78 0 54 53 588.8 31.92 348.43
66.41 0 28 24 1588.84 21.60 12.78 223.12 119.78 0 54 53 588.8 31.92 348.43
66.41 0 28 24 1588.84 21.60 12.78 223.12 119.78 0 54 53 588.8 31.92 348.43

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6486 TRA -.9741 TC3 .0202 BAU .1409 SGT 1855.7 SGR 918.6 SG3 843.8 ST 50.3 SR 23.5 SS 66.9
RDE -.3169 RRA -.3824 RC3 .5884 FAU .10642 RRT .8414 RRF -.9473 RTF -.8696 CRT .9957 CRS .8898 CST .9255
FDE 1.5072 FRA 5.0649 FC3 -5.1471 BSP 3539 SGB 2070.6 R23 -.3104 R13 -.9050 LSA 85.2 MSA 17.2 SSA .8
BDE .7218 BRA 1.0465 BC3 .5888 F8P 1365 SG1 2019.7 SG2 456.1 THA 25.91 EL1 55.5 EL2 2.0 ALF 25.01

LAUNCH DATE APR 9 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 453.354

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.551 GAL -3.63 AZL 93.56 HCA 154.36 SMA 186.37 ECC .20571 INC 3.5643 V1 29.742
RP 207.48 LAP -1.54 LOP 352.91 VP 23.816 GAP 9.95 AZP 86.79 TAL 338.44 TAP 132.80 RCA 148.03 APO 224.70 V2 26.402
RC 82.560 GL -28.58 GP 11.19 ZAL 127.27 ZAP 138.11 ETS 167.03 ZAE 166.18 ETE 106.98 ZAC 111.87 ETC 276.92 LVI -26.87

PLANETOCENTRIC CONIC

C3 17.828 VHL 4.222 DLA -37.04 RAL 346.47 RAD 6641.9 VEL 11.741 PTH 6.77 VHP 4.622 DPA -8.12 RAP 312.12 ECC 1.2934
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 10 25 2303.83 2.45 58.18 207.82 137.53 20 48 48 1303.6 20.50 41.70
60.00 22 6 45 1993.47 11.07 38.46 215.97 129.00 22 39 59 993.5 25.79 18.32
65.02 0 23 18 1609.76 22.08 14.77 223.92 120.92 0 50 8 609.8 32.66 350.40
65.02 0 23 18 1609.76 22.08 14.77 223.92 120.92 0 50 8 609.8 32.66 350.40
65.02 0 23 18 1609.76 22.08 14.77 223.92 120.92 0 50 8 609.8 32.66 350.40
65.02 0 23 18 1609.76 22.08 14.77 223.92 120.92 0 50 8 609.8 32.66 350.40
65.02 0 23 18 1609.76 22.08 14.77 223.92 120.92 0 50 8 609.8 32.66 350.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6508 TRA -.9321 TC3 -.0186 BAU .1499 SGT 1813.9 SGR 997.1 SG3 888.1 ST 50.1 SR 24.4 SS 69.0
RDE -.3221 RRA -.4253 RC3 .6271 FAU .11041 RRT .8421 RRF -.9590 RTF -.8409 CRT .9988 CRS .9076 CST .9202
FDE 1.5929 FRA 5.2776 FC3 -5.3616 BSP 3580 SGB 2069.9 R23 -.3281 R13 -.9065 LSA 86.9 MSA 17.6 SSA .8
BDE .7259 BRA 1.0246 BC3 .6274 F8P 1449 SG1 2012.4 SG2 484.7 THA 26.49 EL1 55.7 EL2 1.0 ALF 25.94

LAUNCH DATE APR 9 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 457.399

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.523 GAL -3.89 AZL 93.68 HCA 155.62 SMA 185.89 ECC .20357 INC 3.6809 V1 29.742
RP 207.60 LAP -1.52 LOP 354.17 VP 23.782 GAP 9.87 AZP 86.85 TAL 338.48 TAP 134.10 RCA 148.05 APO 223.74 V2 26.388
RC 84.247 GL -29.59 GP 12.00 ZAL 126.89 ZAP 136.35 ETS 166.88 ZAE 165.21 ETE 110.12 ZAC 112.72 ETC 276.87 LVI -27.60

PLANETOCENTRIC CONIC

C3 17.809 VHL 4.220 DLA -37.92 RAL 347.10 RAD 6641.8 VEL 11.740 PTH 6.77 VHP 4.516 DPA -7.44 RAP 311.53 ECC 1.2931
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 20 7 2278.67 3.71 57.14 209.11 137.47 20 58 6 1278.7 21.67 40.48
60.00 22 24 48 1945.99 13.09 36.08 217.92 128.46 22 57 14 946.0 27.47 15.43
63.60 0 18 36 1630.57 22.57 16.78 224.84 121.32 0 45 47 630.6 33.42 352.41
63.60 0 18 36 1630.57 22.57 16.78 224.84 121.32 0 45 47 630.6 33.42 352.41
63.60 0 18 36 1630.57 22.57 16.78 224.84 121.32 0 45 47 630.6 33.42 352.41
63.60 0 18 36 1630.57 22.57 16.78 224.84 121.32 0 45 47 630.6 33.42 352.41
63.60 0 18 36 1630.57 22.57 16.78 224.84 121.32 0 45 47 630.6 33.42 352.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6472 TRA -.8809 TC3 -.0486 BAU .1600 SGT 1752.8 SGR 1085.0 SG3 931.9 ST 49.5 SR 25.4 SS 70.9
RDE -.3287 RRA -.4713 RC3 .6704 FAU .11480 RRT .8406 RRF -.9683 RTF -.8520 CRT .9992 CRS .9235 CST .9141
FDE 1.6768 FRA 5.4799 FC3 -5.5807 BSP 3557 SGB 2061.5 R23 -.3364 R13 -.9107 LSA 88.3 MSA 17.9 SSA .7
BDE .7259 BRA .9990 BC3 .6722 F8P 1527 SG1 1995.8 SG2 516.2 THA 29.67 EL1 55.6 EL2 .9 ALF 27.19

LAUNCH DATE APR 9 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.497 GAL -3.56 AZL 93.81 HCA 156.88 SMA 185.45 ECC .20150 INC 3.8092 V1 29.742
RP 207.73 LAP -1.30 LOP 355.42 VP 23.710 GAP 9.39 AZP 86.50 TAL 338.51 TAP 135.39 RCA 148.07 APO 222.84 V2 26.375
RC 85.989 GL -30.87 GP 12.89 ZAL 126.49 ZAP 134.53 ETS 166.73 ZAE 164.09 ETE 113.03 ZAC 113.66 ETC 276.81 LVI -20.30

DISTANCE 461.458

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.848 VHL 4.225 DLA -38.86 RAL 347.79 RAD 6641.9 VEL 11.742 PTH 6.77 VHP 4.417 DPA -6.69 RAP 310.87 ECC 1.2937
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 30 54 2252.28 5.03 56.03 210.59 137.37 21 8 26 1252.3 22.90 39.18
60.00 22 47 43 1886.74 15.58 33.03 220.39 127.65 23 19 10 886.7 29.48 11.70
62.16 0 14 18 1651.46 23.04 18.83 225.90 122.19 0 41 49 651.5 34.19 354.46
62.16 0 14 18 1651.46 23.04 18.83 225.90 122.19 0 41 49 651.5 34.19 354.46
62.16 0 14 18 1651.46 23.04 18.83 225.90 122.19 0 41 49 651.5 34.19 354.46
62.16 0 14 18 1651.46 23.04 18.83 225.90 122.19 0 41 49 651.5 34.19 354.46
62.16 0 14 18 1651.46 23.04 18.83 225.90 122.19 0 41 49 651.5 34.19 354.46

DIFFERENTIAL CORRECTIONS

TDE -.6442 TRA -.8266 TC3 -.0813 BAU .1722
RDE -.3378 RRA -.5221 RC3 .7171 FAU .11925
PDE 1.7663 FRA 5.8803 FC3-5.7846 BSP 3534
BDE .7274 BRA .9777 BC3 .7217 FSP 1803

MID-COURSE EXECUTION ACCURACY

SGT 1685.3 SGR 1184.8 SG3 975.6
RRT .8351 RRF -.9758 RTF -.8407
SGB 2060.1 R23 -.3376 R13 -.9167
SG1 1984.4 SGT 553.5 THA 33.35

ORBIT DETERMINATION ACCURACY

ST 48.7 SR 26.7 SS 72.8
CRT .9963 CRS .9378 CST .9071
LSA 89.7 MSA 18.3 SSA .7
EL1 55.5 EL2 2.0 ALF 28.65

LAUNCH DATE APR 9 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.473 GAL -3.53 AZL 93.95 HCA 158.13 SMA 185.05 ECC .19974 INC 3.9512 V1 29.742
RP 207.86 LAP -1.47 LOP 356.88 VP 23.659 GAP 9.11 AZP 86.53 TAL 338.53 TAP 136.66 RCA 148.09 APO 222.01 V2 26.357
RC 87.725 GL -31.81 GP 13.88 ZAL 126.05 ZAP 132.65 ETS 166.36 ZAE 162.82 ETE 115.69 ZAC 114.70 ETC 276.75 LVI -29.07

DISTANCE 465.530

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.950 VHL 4.237 DLA -39.84 RAL 348.56 RAD 6641.9 VEL 11.746 PTH 6.77 VHP 4.325 DPA -5.86 RAP 310.15 ECC 1.2954
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 43 2 2224.03 6.44 54.84 212.32 137.24 21 20 6 1224.0 24.21 37.75
60.00 23 22 12 1797.49 19.23 28.33 223.94 126.13 23 52 10 797.5 32.26 5.77
60.68 0 10 24 1672.81 23.51 20.93 227.11 123.14 0 38 17 672.6 34.99 356.59
60.68 0 10 24 1672.81 23.51 20.93 227.11 123.14 0 38 17 672.6 34.99 356.59
60.68 0 10 24 1672.81 23.51 20.93 227.11 123.14 0 38 17 672.6 34.99 356.59
60.68 0 10 24 1672.81 23.51 20.93 227.11 123.14 0 38 17 672.6 34.99 356.59
60.68 0 10 24 1672.81 23.51 20.93 227.11 123.14 0 38 17 672.6 34.99 356.59

DIFFERENTIAL CORRECTIONS

TDE -.6413 TRA -.7673 TC3 -.1168 BAU .1862
RDE -.3504 RRA -.5779 RC3 .7671 FAU .12370
PDE 1.8650 FRA 5.8718 FC3-5.9860 BSP 3521
BDE .7307 BRA .9606 BC3 .7758 FSP 1878

MID-COURSE EXECUTION ACCURACY

SGT 1608.8 SGR 1297.2 SG3 1018.2
RRT .8253 RRF -.9816 RTF -.8263
SGB 2066.7 R23 -.3302 R13 -.9249
SG1 1979.0 SGT 595.5 THA 37.64

ORBIT DETERMINATION ACCURACY

ST 47.9 SR 28.2 SS 74.8
CRT .9902 CRS .9506 CST .8993
LSA 91.3 MSA 18.7 SSA .6
EL1 55.5 EL2 3.4 ALF 30.38

LAUNCH DATE APR 9 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.451 GAL -3.50 AZL 94.11 HCA 159.38 SMA 184.87 ECC .19804 INC 4.1093 V1 29.742
RP 208.01 LAP -1.45 LOP 357.93 VP 23.609 GAP 8.84 AZP 86.15 TAL 338.55 TAP 137.93 RCA 148.10 APO 221.25 V2 26.340
RC 89.514 GL -33.04 GP 14.97 ZAL 125.57 ZAP 130.71 ETS 166.40 ZAE 161.39 ETE 116.08 ZAC 115.85 ETC 276.68 LVI -29.92

DISTANCE 489.614

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.122 VHL 4.257 DLA -40.88 RAL 349.42 RAD 6642.0 VEL 11.754 PTH 6.78 VHP 4.243 DPA -4.94 RAP 309.37 ECC 1.2982
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 56 52 2193.25 7.98 53.53 214.35 137.06 21 33 25 1193.3 25.61 36.16
59.15 0 6 55 1694.22 23.97 23.10 228.50 124.17 0 35 9 694.2 35.81 358.81
59.15 0 6 55 1694.22 23.97 23.10 228.50 124.17 0 35 9 694.2 35.81 358.81
59.15 0 6 55 1694.22 23.97 23.10 228.50 124.17 0 35 9 694.2 35.81 358.81
59.15 0 6 55 1694.22 23.97 23.10 228.50 124.17 0 35 9 694.2 35.81 358.81
59.15 0 6 55 1694.22 23.97 23.10 228.50 124.17 0 35 9 694.2 35.81 358.81
59.15 0 6 55 1694.22 23.97 23.10 228.50 124.17 0 35 9 694.2 35.81 358.81

DIFFERENTIAL CORRECTIONS

TDE -.6325 TRA -.6979 TC3 -.1418 BAU .2024
RDE -.3652 RRA -.6378 RC3 .8232 FAU .12852
PDE 1.9567 FRA 6.0377 FC3-6.1399 BSP 3452
BDE .7303 BRA .9454 BC3 .8353 FSP 1734

MID-COURSE EXECUTION ACCURACY

SGT 1310.8 SGR 1421.9 SG3 1057.5
RRT .8120 RRF -.9862 RTF -.8094
SGB 2074.7 R23 -.3087 R13 -.9367
SG1 1975.2 SGT 634.8 THA 42.86

ORBIT DETERMINATION ACCURACY

ST 46.5 SR 29.9 SS 76.4
CRT .9806 CRS .9613 CST .8893
LSA 92.3 MSA 19.1 SSA .6
EL1 55.0 EL2 4.9 ALF 32.58

LAUNCH DATE APR 9 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.430 GAL -3.48 AZL 94.29 HCA 160.63 SMA 184.33 ECC .19647 INC 4.2868 V1 29.742
RP 208.16 LAP -1.42 LOP 359.19 VP 23.561 GAP 8.58 AZP 85.95 TAL 338.54 TAP 139.18 RCA 148.11 APO 220.54 V2 26.323
RC 91.337 GL -34.36 GP 16.19 ZAL 125.05 ZAP 128.71 ETS 166.23 ZAE 159.79 ETE 120.16 ZAC 117.12 ETC 276.61 LVI -30.86

DISTANCE 473.708

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.379 VHL 4.287 DLA -41.99 RAL 350.38 RAD 6642.1 VEL 11.764 PTH 6.79 VHP 4.169 DPA -3.91 RAP 308.51 ECC 1.3025
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 12 55 2159.13 9.68 52.06 216.77 136.82 21 48 54 1159.1 27.14 34.35
57.56 0 3 54 1716.45 24.41 25.36 230.09 125.30 0 32 30 716.5 36.65 1.15
57.56 0 3 54 1716.45 24.41 25.36 230.09 125.30 0 32 30 716.5 36.65 1.15
57.56 0 3 54 1716.45 24.41 25.36 230.09 125.30 0 32 30 716.5 36.65 1.15
57.56 0 3 54 1716.45 24.41 25.36 230.09 125.30 0 32 30 716.5 36.65 1.15
57.56 0 3 54 1716.45 24.41 25.36 230.09 125.30 0 32 30 716.5 36.65 1.15
57.56 0 3 54 1716.45 24.41 25.36 230.09 125.30 0 32 30 716.5 36.65 1.15

DIFFERENTIAL CORRECTIONS

TDE -.6410 TRA -.6407 TC3 -.2060 BAU .2202
RDE -.3898 RRA -.7091 RC3 .8723 FAU .13150
PDE 2.1007 FRA 6.2246 FC3-6.1942 BSP 3602
BDE .7502 BRA .9557 BC3 .8963 FSP 1825

MID-COURSE EXECUTION ACCURACY

SGT 1446.4 SGR 1567.4 SG3 1097.6
RRT .7865 RRF -.9898 RTF -.7816
SGB 2132.8 R23 -.2890 R13 -.9467
SG1 2016.7 SGT 694.3 THA 47.92

ORBIT DETERMINATION ACCURACY

ST 46.2 SR 32.3 SS 78.9
CRT .9681 CRS .9711 CST .8811
LSA 95.0 MSA 19.6 SSA .6
EL1 56.0 EL2 6.7 ALF 34.69

LAUNCH DATE APR 9 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 477.812

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.411 GAL -3.46 AZL 94.49 HCA 161.88 SMA 184.01 ECC .18503 INC 4.4874 V1 29.742
 RP 208.32 LAP -1.39 LOP .44 VP 23.514 GAP 8.32 AZP 85.73 TAL 338.53 TAP 140.42 RCA 148.12 APO 219.90 V2 26.304
 RC 93.190 GL -35.79 GP 17.55 ZAL 124.47 ZAP 126.64 ETS 166.06 ZAE 158.02 ETE 121.98 ZAC 118.54 ETC 276.54 LVI -31.91

PLANETOCENTRIC CONIC

C3 18.733 VHL 4.328 DLA -43.18 RAL 351.47 RAD 6642.3 VEL 11.779 PTH 6.80 VHP 4.108 DPA -2.74 RAP 307.59 ECC 1.3083
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 32 2 2119.90 11.62 50.36 219.70 136.47 22 7 22 1119.9 28.86 32.21
 55.89 0 1 22 1739.58 24.82 27.73 231.93 126.55 0 30 22 739.6 37.51 3.64
 55.89 0 1 22 1739.58 24.82 27.73 231.93 126.55 0 30 22 739.6 37.51 3.64
 55.89 0 1 22 1739.58 24.82 27.73 231.93 126.55 0 30 22 739.6 37.51 3.64
 55.89 0 1 22 1739.58 24.82 27.73 231.93 126.55 0 30 22 739.6 37.51 3.64
 55.89 0 1 22 1739.58 24.82 27.73 231.93 126.55 0 30 22 739.6 37.51 3.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6418 TRA -.5700 TC3 -.2528 BAU .2412 SGT 1356.6 SGR 1726.5 SG3 1131.6 ST 45.2 SR 35.0 SS 81.0
 RDE -.4188 RRA -.7854 RC3 .9293 FAU .13506 RRT .7550 RRF -.9925 RTF -.7482 CRT .9525 CR8 .9787 CST .8702
 FDE 2.2377 FRA 6.3663 FC3 -6.2414 BSP 3685 SGB 2197.3 R23 -.2528 R13 -.9597 LSA 97.1 MSA 20.1 SSA .5
 BDE .7663 BRA .9704 BC3 .9631 FSP 1887 SG1 2067.6 SG2 743.7 THA 53.98 EL1 56.6 EL2 8.5 ALF 37.42

LAUNCH DATE APR 9 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 481.926

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.393 GAL -3.44 AZL 94.72 HCA 163.13 SMA 183.71 ECC .19371 INC 4.7162 V1 29.742
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.467 GAP 8.07 AZP 85.49 TAL 338.51 TAP 141.64 RCA 148.13 APO 219.30 V2 26.284
 RC 95.074 GL -37.35 GP 19.07 ZAL 123.82 ZAP 124.50 ETS 165.90 ZAE 156.05 ETE 123.49 ZAC 120.13 ETC 276.47 LVI -33.08

PLANETOCENTRIC CONIC

C3 19.206 VHL 4.382 DLA -44.46 RAL 352.72 RAD 6642.5 VEL 11.799 PTH 6.82 VHP 4.055 DPA -1.43 RAP 306.58 ECC 1.3161
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 55 45 2072.56 13.94 48.27 223.36 135.97 22 30 18 1072.6 30.88 29.51
 54.14 23 55 30 1763.81 25.20 30.24 234.05 127.93 24 24 54 763.8 38.39 6.32
 54.14 23 55 30 1763.81 25.20 30.24 234.05 127.93 24 24 54 763.8 38.39 6.32
 54.14 23 55 30 1763.81 25.20 30.24 234.05 127.93 24 24 54 763.8 38.39 6.32
 54.14 23 55 30 1763.81 25.20 30.24 234.05 127.93 24 24 54 763.8 38.39 6.32
 54.14 23 55 30 1763.81 25.20 30.24 234.05 127.93 24 24 54 763.8 38.39 6.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6418 TRA -.4928 TC3 -.2981 BAU .2652 SGT 1259.6 SGR 1909.2 SG3 1159.5 ST 44.1 SR 38.2 SS 82.9
 RDE -.4563 RRA -.8697 RC3 .9887 FAU .13821 RRT .7119 RRF -.9945 RTF -.7036 CRT .9339 CR8 .9848 CST .8578
 FDE 2.3876 FRA 6.4713 FC3 -6.2297 BSP 3799 SGB 2287.3 R23 -.2079 R13 -.9726 LSA 99.3 MSA 20.6 SSA .5
 BDE .7873 BRA .9996 BC3 1.0327 FSP 1936 SG1 2147.9 SG2 786.3 THA 60.50 EL1 57.4 EL2 10.5 ALF 40.66

LAUNCH DATE APR 9 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 486.048

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.377 GAL -3.43 AZL 94.98 HCA 164.37 SMA 183.45 ECC .19251 INC 4.9800 V1 29.742
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.422 GAP 7.82 AZP 85.20 TAL 338.48 TAP 142.85 RCA 148.13 APO 218.76 V2 26.264
 RC 96.988 GL -39.05 GP 20.78 ZAL 123.09 ZAP 122.28 ETS 165.74 ZAE 153.88 ETE 124.74 ZAC 121.91 ETC 276.40 LVI -34.41

PLANETOCENTRIC CONIC

C3 19.828 VHL 4.453 DLA -45.85 RAL 354.18 RAD 6642.8 VEL 11.825 PTH 6.84 VHP 4.018 DPA .07 RAP 305.50 ECC 1.3263
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 27 30 2009.65 17.00 45.43 228.20 135.13 23 0 59 1009.6 33.47 25.74
 52.28 23 54 15 1789.54 25.53 32.91 236.51 129.47 24 24 4 789.5 39.28 9.23
 52.28 23 54 15 1789.54 25.53 32.91 236.51 129.47 24 24 4 789.5 39.28 9.23
 52.28 23 54 15 1789.54 25.53 32.91 236.51 129.47 24 24 4 789.5 39.28 9.23
 52.28 23 54 15 1789.54 25.53 32.91 236.51 129.47 24 24 4 789.5 39.28 9.23
 52.28 23 54 15 1789.54 25.53 32.91 236.51 129.47 24 24 4 789.5 39.28 9.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6448 TRA -.4121 TC3 -.3472 BAU .2923 SGT 1187.3 SGR 2113.8 SG3 1180.1 ST 43.0 SR 42.2 SS 85.1
 RDE -.3071 RRA -.9844 RC3 1.0467 FAU .14034 RRT .6520 RRF -.9960 RTF -.1.25 CRT .9132 CR8 .9895 CST .8448
 FDE 2.3868 FRA 6.5387 FC3 -6.1277 BSP 4000 SGB 2414.7 R23 -.1808 R13 -.9830 LSA 102.1 MSA 21.1 SSA .4
 BDE .8200 BRA 1.0488 BC3 1.1028 FSP 1981 SG1 2269.7 SG2 824.3 THA 66.99 EL1 58.9 EL2 12.6 ALF 44.40

LAUNCH DATE APR 9 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 490.178

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.388 GAL -3.42 AZL 95.29 HCA 165.82 SMA 183.20 ECC .19142 INC 5.2875 V1 29.742
 RP 208.88 LAP -1.31 LOP 4.18 VP 23.377 GAP 7.57 AZP 84.88 TAL 338.43 TAP 144.05 RCA 148.13 APO 218.27 V2 26.243
 RC 98.929 GL -40.94 GP 22.71 ZAL 122.25 ZAP 119.99 ETS 165.60 ZAE 151.49 ETE 125.73 ZAC 123.92 ETC 276.34 LVI -38.92

PLANETOCENTRIC CONIC

C3 20.642 VHL 4.543 DLA -47.35 RAL 355.84 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 3.997 DPA 1.78 RAP 304.34 ECC 1.3397
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 23 24 7 1891.22 22.62 39.77 236.25 133.04 23 55 38 891.2 37.94 17.97
 50.30 23 53 53 1817.06 25.79 35.76 239.39 131.19 24 24 10 817.1 40.16 12.42
 50.30 23 53 53 1817.06 25.79 35.76 239.39 131.19 24 24 10 817.1 40.16 12.42
 50.30 23 53 53 1817.06 25.79 35.76 239.39 131.19 24 24 10 817.1 40.16 12.42
 50.30 23 53 53 1817.06 25.79 35.76 239.39 131.19 24 24 10 817.1 40.16 12.42
 50.30 23 53 53 1817.06 25.79 35.76 239.39 131.19 24 24 10 817.1 40.16 12.42

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6472 TRA -.3246 TC3 -.3934 BAU .3240 SGT 1076.5 SGR 2342.4 SG3 1189.4 ST 41.8 SR 46.9 SS 87.2
 RDE -.5736 RRA -1.0682 RC3 1.1061 FAU .14190 RRT .5680 RRF -.9972 RTF -.5577 CRT .8902 CR8 .9929 CST .8300
 FDE 2.7645 FRA 6.5387 FC3 -5.9513 BSP 4241 SGB 2577.9 R23 -.1152 R13 -.9906 LSA 105.3 MSA 21.6 SSA .4
 BDE .8648 BRA 1.1164 BC3 1.1740 FSP 1996 SG1 2432.7 SG2 853.1 THA 75.25 EL1 61.1 EL2 14.6 ALF 48.69

LAUNCH DATE APR 9 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic: RL 149.82 LAL .00 LOL 198.50 VL 32.348 GAL -3.41 AZL 95.65 HCA 166.85 SMA 182.97 ECC .19043 INC 5.6511 V1 29.742
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.333 GAP 7.34 AZP 84.50 TAL 338.38 TAP 145.23 RCA 148.13 APO 217.82 V2 26.221
 RC 100.898 GL -43.03 GP 24.91 ZAL 121.30 ZAP 117.61 ETS 165.48 ZAE 148.86 ETE 126.49 ZAC 126.19 ETC 276.29 LVI -37.83

Planetocentric Conic: C3 21.710 VHL 4.659 DLA -48.99 RAL 357.84 RAD 6843.6 VEL 11.904 PTH 8.91 VHP 3.996 DPA 3.75 RAP 303.09 ECC 1.3573
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.18 23 54 38 1846.94 25.95 38.84 242.79 133.13 24 25 25 846.9 41.02 15.97
 48.18 23 54 38 1846.94 25.95 38.84 242.79 133.13 24 25 25 846.9 41.02 15.97
 48.18 23 54 38 1846.94 25.95 38.84 242.79 133.13 24 25 25 846.9 41.02 15.97
 48.18 23 54 38 1846.94 25.95 38.84 242.79 133.13 24 25 25 846.9 41.02 15.97
 48.18 23 54 38 1846.94 25.95 38.84 242.79 133.13 24 25 25 846.9 41.02 15.97
 48.18 23 54 38 1846.94 25.95 38.84 242.79 133.13 24 25 25 846.9 41.02 15.97

Differential Corrections: TDE -.6513 TRA -.2316 TC3 -.4381 BAW .3598
 RDE -.6663 RRA-1.1848 RC3 1.1598 FAU .14188
 FDE 3.0047 FRA 6.4709 FC3-5.6577 B8P 4585
 BDE .9318 BRA 1.2072 BC3 1.2398 F8P 2000

Mid-Course Execution Accuracy: SGT 998.2 SGR 2601.5 SG3 1186.1
 RRT .4537 RRF -.9980 RTF -.4428
 SGB 2786.4 R23 -.0759 R13 -.9952
 SG1 2645.6 SG2 874.7 THA 78.89

Orbit Determination Accuracy: ST 40.6 SR 52.8 SS 89.6
 CRT .8661 CR8 .9955 CST .8150
 LSA 109.4 MSA 22.0 SSA .3
 EL1 64.5 EL2 16.6 ALF 53.56

LAUNCH DATE APR 9 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic: RL 149.82 LAL .00 LOL 198.50 VL 32.335 GAL -3.41 AZL 96.09 HCA 168.09 SMA 182.77 ECC .18955 INC 6.0881 V1 29.742
 RP 209.24 LAP -1.25 LOP 6.86 VP 23.290 GAP 7.10 AZP 84.04 TAL 338.31 TAP 148.40 RCA 148.13 APO 217.41 V2 26.188
 RC 102.893 GL -45.39 GP 27.43 ZAL 120.18 ZAP 115.15 ETS 165.40 ZAE 145.95 ETE 127.03 ZAC 128.78 ETC 276.27 LVI -39.59

Planetocentric Conic: C3 23.128 VHL 4.809 DLA -50.77 RAL .26 RAD 6844.2 VEL 11.963 PTH 6.96 VHP 4.023 DPA 6.01 RAP 301.74 ECC 1.3806
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.90 0 0 50 1879.78 25.95 42.18 246.83 135.31 0 32 10 879.8 41.82 19.93
 45.90 0 0 50 1879.78 25.95 42.18 246.83 135.31 0 32 10 879.8 41.82 19.93
 45.90 0 0 50 1879.78 25.95 42.18 246.83 135.31 0 32 10 879.8 41.82 19.93
 45.90 0 0 50 1879.78 25.95 42.18 246.83 135.31 0 32 10 879.8 41.82 19.93
 45.90 0 0 50 1879.78 25.95 42.18 246.83 135.31 0 32 10 879.8 41.82 19.93
 45.90 0 0 50 1879.78 25.95 42.18 246.83 135.31 0 32 10 879.8 41.82 19.93

Differential Corrections: TDE -.6530 TRA -.1300 TC3 -.4740 BAW .4012
 RDE -.7954 RRA-1.3132 RC3 1.2080 FAU .14038
 FDE 3.2894 FRA 6.3055 FC3-5.2548 B8P 4999
 BDE 1.0291 BRA 1.3196 BC3 1.2976 F8P 1971

Mid-Course Execution Accuracy: SGT 934.3 SGR 2892.8 SG3 1165.5
 RRT .3009 RRF -.9986 RTF -.2896
 SGB 3039.9 R23 -.0441 R13 -.9977
 SG1 2907.8 SG2 886.4 THA 83.88

Orbit Determination Accuracy: ST 39.1 SR 60.2 SS 92.7
 CRT .8408 CR8 .9973 CST .7985
 LSA 114.6 MSA 22.2 SSA .3
 EL1 69.4 EL2 18.4 ALF 58.97

LAUNCH DATE APR 9 1971

FLIGHT TIME 204.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic: RL 149.82 LAL .00 LOL 198.50 VL 32.324 GAL -3.41 AZL 96.62 HCA 169.32 SMA 182.59 ECC .18876 INC 6.6234 V1 26.742
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.248 GAP 6.87 AZP 83.49 TAL 338.23 TAP 147.58 RCA 148.12 APO 217.03 V2 26.174
 RC 104.913 GL -48.04 GP 30.31 ZAL 118.88 ZAP 112.60 ETS 165.37 ZAE 142.74 ETE 127.39 ZAC 131.74 ETC 276.27 LVI -41.84

Planetocentric Conic: C3 25.048 VHL 5.005 DLA -52.72 RAL 3.24 RAD 6845.0 VEL 12.042 PTH 7.03 VHP 4.084 DPA 8.64 RAP 300.29 ECC 1.4122
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.45 0 5 13 1916.39 25.74 45.80 251.70 137.75 0 37 10 916.4 42.48 24.39
 43.45 0 5 13 1916.39 25.74 45.80 251.70 137.75 0 37 10 916.4 42.48 24.39
 43.45 0 5 13 1916.39 25.74 45.80 251.70 137.75 0 37 10 916.4 42.48 24.39
 43.45 0 5 13 1916.39 25.74 45.80 251.70 137.75 0 37 10 916.4 42.48 24.39
 43.45 0 5 13 1916.39 25.74 45.80 251.70 137.75 0 37 10 916.4 42.48 24.39
 43.45 0 5 13 1916.39 25.74 45.80 251.70 137.75 0 37 10 916.4 42.48 24.39

Differential Corrections: TDE -.6513 TRA -.0208 TC3 -.5029 BAW .4496
 RDE -.9808 RRA-1.4535 RC3 1.2449 FAU .13684
 FDE 3.8163 FRA 6.0180 FC3-4.7297 B8P 5508
 BDE 1.1773 BRA 1.4537 BC3 1.3426 F8P 1904

Mid-Course Execution Accuracy: SGT 900.5 SGR 3219.0 SG3 1123.0
 RRT .1098 RRF -.9990 RTF -.5284
 SGB 3342.5 R23 -.0205 R13 -.9989
 SG1 3220.6 SG2 894.6 THA 88.09

Orbit Determination Accuracy: ST 37.3 SR 69.7 SS 94.7
 CRT .8144 CR8 .9984 CST .7807
 LSA 121.3 MSA 22.2 SSA .2
 EL1 78.5 EL2 19.7 ALF 64.84

LAUNCH DATE APR 9 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 1 1971

Heliocentric Conic: RL 149.82 LAL .00 LOL 198.50 VL 32.314 GAL -3.41 AZL 97.30 HCA 170.55 SMA 182.42 ECC .18807 INC 7.2950 V1 29.742
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.206 GAP 6.64 AZP 82.80 TAL 338.14 TAP 148.70 RCA 148.11 APO 216.73 V2 26.150
 RC 106.958 GL -51.07 GP 33.62 ZAL 117.34 ZAP 109.96 ETS 165.43 ZAE 139.18 ETE 127.59 ZAC 135.13 ETC 276.32 LVI -44.41

Planetocentric Conic: C3 27.722 VHL 5.265 DLA -54.84 RAL 6.99 RAD 6846.1 VEL 12.152 PTH 7.12 VHP 4.196 DPA 11.69 RAP 298.72 ECC 1.4562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.84 0 12 37 1958.04 25.18 49.71 257.64 140.48 0 45 15 958.0 42.89 29.43
 40.84 0 12 37 1958.04 25.18 49.71 257.64 140.48 0 45 15 958.0 42.89 29.43
 40.84 0 12 37 1958.04 25.18 49.71 257.64 140.48 0 45 15 958.0 42.89 29.43
 40.84 0 12 37 1958.04 25.18 49.71 257.64 140.48 0 45 15 958.0 42.89 29.43
 40.84 0 12 37 1958.04 25.18 49.71 257.64 140.48 0 45 15 958.0 42.89 29.43
 40.84 0 12 37 1958.04 25.18 49.71 257.64 140.48 0 45 15 958.0 42.89 29.43

Differential Corrections: TDE -.6392 TRA .0980 TC3 -.5204 BAW .5070
 RDE -1.2554 RRA-1.6043 RC3 1.2652 FAU .13082
 FDE 4.0008 FRA 5.5818 FC3-4.0855 B8P 6102
 BDE 1.4087 BRA 1.6073 BC3 1.3681 F8P 1791

Mid-Course Execution Accuracy: SGT 904.7 SGR 3582.2 SG3 1053.6
 RRT -.1054 RRF -.9993 RTF .1163
 SGB 3694.6 R23 -.0039 R13 -.9994
 SG1 3583.5 SG2 899.3 THA 91.63

Orbit Determination Accuracy: ST 34.9 SR 82.1 SS 97.6
 CRT .7846 CR8 .9992 CST .7585
 LSA 130.4 MSA 21.9 SSA .2
 EL1 86.8 EL2 20.5 ALF 70.42

LAUNCH DATE APR 9 1971 FLIGHT TIME 208.00 ARRIVAL DATE NOV 3 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE APR 9 1971 FLIGHT TIME 210.00 ARRIVAL DATE NOV 5 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE APR 9 1971 FLIGHT TIME 230.00 ARRIVAL DATE NOV 25 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE APR 9 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 27 1971

Table with columns for Heliocentric Conic, Planetocentric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, ASC, INJ AZMTH, INJ TIME, PO, CST, TIM, INJ 2, LAT, INJ 2, LONG, and ORBIT DETERMINATION ACCURACY.

LAUNCH DATE APR 9 1971

FLIGHT TIME 234.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

DISTANCE 565.416

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.260 GAL -3.82 AZL 84.51 HCA 187.65 SMA 181.56 ECC .18674 INC 5.4900 V1 29.742
RP 213.31 LAP -.73 LOP 26.11 VP 22.658 GAP 3.82 AZP 95.44 TAL 335.28 TAP 162.93 RCA 147.66 APO 215.47 V2 25.732
RC 137.991 GL 41.29 6P -40.87 ZAL 124.51 ZAP 86.81 ETS 176.08 ZAE 118.12 ETE 207.35 ZAC 61.60 ETC 271.66 LVI 28.39

PLANETOCENTRIC CONIC

C3 21.784 VHL 4.667 DLA 29.39 RAL 322.79 RAD 6643.6 VEL 11.907 PTH 6.92 VHP 4.296 DPA -63.31 RAP 306.25 ECC 1.3585
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 38 28 3766.43 -47.20 153.55 211.05 83.19 14 41 14 2768.4 -44.35 118.87
60.00 13 35 38 3773.98 -38.88 152.39 209.21 78.45 14 38 32 2774.0 -39.40 121.24
70.00 13 30 1 3790.53 -30.44 151.19 206.67 73.70 14 33 12 2790.5 -34.15 123.09
80.00 13 7 44 3860.79 -20.66 152.72 202.91 67.95 14 12 4 2860.8 -27.92 127.66
81.66 12 36 4 3962.27 -16.52 158.35 201.02 65.35 13 42 6 2962.3 -25.26 134.47
100.00 15 50 35 3335.26 -20.66 114.09 202.91 67.95 16 46 11 2335.3 -27.92 89.03
110.00 18 29 28 2837.35 -30.44 80.10 206.67 73.70 19 16 45 1837.3 -34.15 52.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8255 TRA 1.2799 TC3-1.9963 BAU .7748 SGT 3427.2 SGR 4590.3 SG3 962.7 ST 115.3 SR 140.2 SS 121.7
RDE 2.1271 RRA 2.4135 RC3-1.7575 FAU .11362 RRT .9560 RRF .9994 RTF .9554 CRT .9908 CRS -.9998 CST -.9880
FDE 4.9359 FRA 5.9248 FC3-4.5152 BSP 9639 SGB 5728.6 R23 .1054 R13 .9939 LSA 218.1 MSA 14.2 SSA .2
BDE 2.8030 BRA 2.7318 BC3 2.6597 FSP 1711 SG1 5670.5 SG2 813.9 THA 53.61 EL1 181.1 EL2 12.1 ALF 50.61

LAUNCH DATE APR 9 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC

DISTANCE 569.588

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.262 GAL -3.86 AZL 85.47 HCA 188.83 SMA 181.58 ECC .18709 INC 4.5259 V1 29.742
RP 213.61 LAP -.69 LOP 27.30 VP 22.621 GAP 3.63 AZP 94.47 TAL 335.02 TAP 163.85 RCA 147.61 APO 215.55 V2 25.697
RC 140.356 GL 35.53 6P -37.16 ZAL 127.65 ZAP 85.09 ETS 175.14 ZAE 118.39 ETE 204.05 ZAC 65.33 ETC 271.43 LVI 25.26

PLANETOCENTRIC CONIC

C3 19.106 VHL 4.371 DLA 24.04 RAL 325.20 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 4.028 DPA -59.91 RAP 302.89 ECC 1.3144
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 15 39 3615.22 -47.42 130.98 205.17 94.40 15 15 54 2615.2 -40.20 106.75
60.00 14 24 37 3591.35 -40.28 137.10 205.44 88.72 15 24 28 2591.4 -36.38 106.70
70.00 14 39 26 3547.68 -33.68 133.04 204.91 83.94 15 38 34 2547.7 -32.66 104.35
80.00 15 8 17 3437.16 -26.37 125.33 204.05 80.26 16 5 54 2457.2 -29.57 97.97
90.00 16 9 42 3258.86 -26.10 110.29 203.58 78.71 17 4 0 2258.9 -28.23 83.48
100.00 17 51 9 2931.63 -28.37 86.89 204.05 80.26 18 40 1 1931.6 -29.57 58.33
110.00 19 38 52 2594.50 -33.68 61.96 204.91 83.94 20 22 7 1594.5 -32.66 33.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6593 TRA 1.4356 TC3-2.3582 BAU .7581 SGT 3636.8 SGR 4222.1 SG3 1111.7 ST 113.1 SR 123.1 SS 124.8
RDE 1.7303 RRA 2.2250 RC3-1.8023 FAU .12778 RRT .9614 RRF .9993 RTF .9608 CRT .9924 CRS -.9997 CST -.9890
FDE 4.9817 FRA 6.8725 FC3-5.7900 BSP 9273 SGB 5572.5 R23 .1174 R13 .9924 LSA 208.2 MSA 13.1 SSA .3
BDE 2.3973 BRA 2.6479 BC3 2.9681 FSP 1962 SG1 5519.6 SG2 765.7 THA 49.43 EL1 166.9 EL2 10.2 ALF 47.45

LAUNCH DATE APR 9 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC

DISTANCE 573.760

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.263 GAL -3.91 AZL 86.21 HCA 190.01 SMA 181.61 ECC .18750 INC 3.7898 V1 29.742
RP 213.92 LAP -.68 LOP 26.49 VP 22.583 GAP 3.45 AZP 93.73 TAL 334.74 TAP 164.75 RCA 147.56 APO 215.66 V2 25.682
RC 142.739 GL 30.61 6P -33.92 ZAL 130.19 ZAP 83.30 ETS 174.37 ZAE 118.21 ETE 201.04 ZAC 66.59 ETC 271.22 LVI 25.96

PLANETOCENTRIC CONIC

C3 17.466 VHL 4.180 DLA 19.50 RAL 327.23 RAD 6641.7 VEL 11.726 PTH 6.76 VHP 3.845 DPA -56.92 RAP 300.28 ECC 1.2875
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 44 29 3498.99 -44.43 127.84 200.75 102.90 15 42 45 2497.0 -38.08 98.44
60.00 15 0 55 3453.16 -39.84 123.39 202.25 96.65 15 58 28 2453.2 -32.89 96.65
70.00 15 26 6 3379.02 -34.12 119.91 202.77 91.69 16 22 25 2379.0 -29.87 92.01
80.00 16 7 58 3247.76 -29.81 109.96 202.77 88.20 17 2 6 2247.8 -27.52 82.77
90.00 17 17 8 3024.47 -26.12 93.47 202.69 86.88 18 7 33 2024.5 -26.56 66.57
100.00 18 50 50 2722.23 -29.81 71.33 202.77 88.20 19 36 12 1722.2 -27.52 44.14
110.00 20 25 32 2425.84 -34.12 48.83 202.77 91.69 21 5 58 1425.8 -29.87 20.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5470 TRA 1.5882 TC3-2.6802 BAU .7514 SGT 3853.8 SGR 3885.8 SG3 1233.0 ST 111.8 SR 109.2 SS 126.1
RDE 1.4828 RRA 2.0534 RC3-1.7801 FAU .13872 RRT .9853 RRF .9991 RTF .9549 CRT .9943 CRS -.9994 CST -.9901
FDE 4.9700 FRA 7.6833 FC3-6.8751 BSP 9034 SGB 5472.6 R23 .1288 R13 .9908 LSA 200.3 MSA 11.0 SSA .4
BDE 2.1223 BRA 2.5959 BC3 3.2175 FSP 2174 SG1 5425.0 SG2 720.8 THA 49.24 EL1 155.9 EL2 8.4 ALF 44.38

LAUNCH DATE APR 9 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

DISTANCE 577.933

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.265 GAL -3.96 AZL 86.79 HCA 191.19 SMA 181.64 ECC .18797 INC 3.2101 V1 29.742
RP 214.24 LAP -.62 LOP 29.67 VP 22.546 GAP 3.26 AZP 93.15 TAL 334.46 TAP 165.64 RCA 147.50 APO 215.78 V2 25.627
RC 143.138 GL 26.40 6P -31.10 ZAL 132.24 ZAP 81.47 ETS 173.72 ZAE 117.88 ETE 198.36 ZAC 71.44 ETC 271.03 LVI 20.22

PLANETOCENTRIC CONIC

C3 16.442 VHL 4.055 DLA 15.63 RAL 328.99 RAD 6641.2 VEL 11.603 PTH 6.72 VHP 3.716 DPA -54.29 RAP 298.17 ECC 1.2706
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 7 40 3402.64 -44.43 119.45 197.79 109.15 16 4 23 2402.6 -32.37 92.49
60.00 15 29 31 3344.50 -38.60 116.43 200.00 102.61 16 25 15 2344.5 -29.56 89.38
70.00 16 1 26 3250.54 -33.41 109.96 201.14 97.53 16 55 37 2250.5 -26.93 83.18
80.00 16 50 32 3096.71 -29.60 98.75 201.59 94.09 17 42 8 2096.7 -24.93 72.30
90.00 18 3 19 2861.76 -28.15 81.58 201.69 92.82 18 51 1 1861.8 -24.16 55.28
100.00 19 33 23 2571.18 -29.60 60.12 201.59 94.09 20 16 15 1571.2 -24.93 33.67
110.00 21 0 52 2297.36 -33.41 38.87 201.14 97.53 21 39 10 1297.4 -26.93 12.10

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4764 TRA 1.7443 TC3-2.9490 BAU .7486 SGT 4077.0 SGR 3582.6 SG3 1329.8 ST 111.2 SR 98.1 SS 126.7
RDE 1.2555 RRA 1.9008 RC3-1.7039 FAU .14605 RRT .9683 RRF .9988 RTF .9681 CRT .9961 CRS -.9991 CST -.9915
FDE 4.9441 FRA 8.3246 FC3-7.6904 BSP 9025 SGB 5427.4 R23 .1385 R13 .9892 LSA 194.7 MSA 11.0 SSA .5
BDE 1.9381 BRA 2.5798 BC3 3.4059 FSP 2387 SG1 5385.0 SG2 677.3 THA 41.19 EL1 148.1 EL2 6.5 ALF 41.40

LAUNCH DATE APR 9 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.268 GAL -4.02 AZL 87.28 HCA 192.36 SMA 181.68 ECC .18848 INC 2.7402 V1 29.742
RP 214.55 LAP -.59 LOP 30.85 VP 22.509 GAP 3.08 AZP 92.68 TAL 334.16 TAP 166.52 RCA 147.44 APO 215.93 V2 25.591
RC 147.555 GL 22.78 GP -28.63 ZAL 133.91 ZAP 79.64 ETS 173.19 ZAE 116.85 ETE 196.00 ZAC 73.92 ETC 270.86 LVI 18.19

DISTANCE 582.106

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.798 VHL 3.974 DLA 12.34 RAL 330.52 RAD 6640.9 VEL 11.655 PTH 6.80 VHP 3.624 DPA -51.98 RAP 296.42 ECC 1.2600
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 26 54 3326.22 -42.52 113.09 195.93 113.75 16 22 20 2326.2 -29.15 88.05
60.00 15 52 51 3257.13 -37.07 109.51 198.57 107.08 16 47 8 2257.1 -26.57 83.91
70.00 16 29 41 3148.75 -32.24 102.25 200.09 101.94 17 22 10 2148.7 -24.17 76.55
80.00 17 23 39 2979.65 -28.73 90.16 200.83 98.51 18 13 19 1979.7 -22.38 64.54
90.00 18 38 45 2737.32 -27.40 72.56 201.04 97.27 19 24 22 1737.3 -21.69 47.00
100.00 20 6 31 2454.12 -28.73 51.53 200.83 98.51 20 47 25 1454.1 -22.38 25.91
110.00 21 29 7 2195.57 -32.24 31.17 200.09 101.94 22 5 43 1195.6 -24.17 5.47

DIFFERENTIAL CORRECTIONS

TDE 1.4237 TRA 1.8906 TC3-3.1968 BAU .7576
RDE 1.0985 RRA 1.7524 RC3-1.6286 FAU .13328
FDE 4.8568 FRA 8.8137 FC3-8.4009 BSP 8927
BDE 1.7982 BRA 2.5779 BC3 3.5876 FSP 2474

MID-COURSE EXECUTION ACCURACY

SGT 4295.6 SGR 3297.1 S63 1400.6
RRR .9711 RRF .9985 RTF .9711
SGB 5415.1 R23 .1452 R13 .9879
SG1 5378.6 S62 628.1 THA 37.30

ORBIT DETERMINATION ACCURACY

ST 110.9 SR 88.2 SS 125.5
CRT .9976 CRS -.9986 CST -.9926
LSA 189.0 MSA 10.1 SSA .6
EL1 141.6 EL2 4.8 ALF 38.48

LAUNCH DATE APR 9 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.271 GAL -4.07 AZL 87.65 HCA 193.54 SMA 181.73 ECC .18904 INC 2.3519 V1 25.742
RP 214.88 LAP -.55 LOP 32.03 VP 22.472 GAP 2.90 AZP 92.29 TAL 333.85 TAP 167.38 RCA 147.38 APO 216.09 V2 25.554
RC 149.988 GL 19.67 GP -26.46 ZAL 135.28 ZAP 77.83 ETS 172.76 ZAE 115.85 ETE 193.93 ZAC 76.11 ETC 270.70 LVI 16.41

DISTANCE 586.276

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.401 VHL 3.924 DLA 9.52 RAL 331.89 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 3.560 DPA -49.95 RAP 294.95 ECC 1.2535
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 43 9 3263.65 -40.69 108.21 194.86 117.16 16 37 32 2263.6 -26.40 84.64
60.00 16 12 24 3185.81 -35.51 104.10 197.77 110.46 17 5 29 2185.8 -23.97 79.68
70.00 16 53 2 3066.25 -30.91 96.19 199.54 105.30 17 44 8 2066.3 -21.71 71.42
80.00 17 50 39 2885.78 -27.59 83.42 200.46 101.89 18 38 44 1885.8 -20.04 58.56
90.00 19 7 23 2638.13 -26.35 65.50 200.74 100.66 19 51 21 1638.1 -19.40 40.63
100.00 20 33 31 2380.25 -27.59 44.79 200.46 101.89 21 12 51 1380.3 -20.04 19.93
110.00 21 52 28 2113.07 -30.91 25.11 199.54 105.30 22 27 41 1113.1 -21.71 .33

DIFFERENTIAL CORRECTIONS

TDE 1.3932 TRA 2.0396 TC3-3.4045 BAU .7676
RDE .9862 RRA 1.6259 RC3-1.5193 FAU .15677
FDE 4.8067 FRA 9.2352 FC3-8.8123 BSP 9007
BDE 1.7069 BRA 2.6084 BC3 3.7281 FSP 2599

MID-COURSE EXECUTION ACCURACY

SGT 4516.1 SGR 3047.7 S63 1456.0
RRR .9723 RRF .9980 RTF .9728
SGB 5448.2 R23 .1515 R13 .9865
SG1 5415.8 S62 593.7 THA 33.73

ORBIT DETERMINATION ACCURACY

ST 111.4 SR 80.6 SS 125.1
CRT .9989 CRS -.9979 CST -.9939
LSA 185.6 MSA 9.2 SSA .7
EL1 137.4 EL2 3.1 ALF 35.88

LAUNCH DATE APR 9 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.275 GAL -4.13 AZL 87.97 HCA 194.71 SMA 181.79 ECC .18965 INC 2.0254 V1 29.742
RP 215.21 LAP -.51 LOP 33.20 VP 22.435 GAP 2.72 AZP 91.96 TAL 333.53 TAP 168.23 RCA 147.31 APO 216.26 V2 25.518
RC 152.438 GL 18.99 GP -24.54 ZAL 136.41 ZAP 76.05 ETS 172.41 ZAE 114.70 ETE 192.12 ZAC 78.04 ETC 270.56 LVI 14.86

DISTANCE 590.445

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.177 VHL 3.896 DLA 7.11 RAL 333.12 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 3.516 DPA -48.14 RAP 293.68 ECC 1.2498
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 57 6 3211.95 -39.01 104.39 194.33 119.75 16 50 38 2211.9 -24.05 81.96
60.00 16 29 3 3126.93 -34.02 99.82 197.41 113.04 17 21 10 2126.9 -21.72 76.33
70.00 17 12 46 2998.36 -29.59 91.34 199.35 107.88 18 2 44 1998.4 -19.56 67.33
80.00 18 13 15 2808.91 -26.40 78.02 200.41 104.48 19 0 4 1808.9 -17.96 53.80
90.00 19 31 16 2597.15 -25.21 59.85 200.73 103.27 20 13 53 1597.1 -17.33 35.57
100.00 20 56 7 2283.38 -26.40 39.39 200.41 104.48 21 34 10 1283.4 -17.96 15.17
110.00 22 12 12 2045.17 -29.59 20.26 199.35 107.88 22 46 17 1045.2 -19.56 356.25

DIFFERENTIAL CORRECTIONS

TDE 1.3775 TRA 2.1882 TC3-3.5823 BAU .7808
RDE .8988 RRA 1.5108 RC3-1.4086 FAU .15889
FDE 4.7558 FRA 9.3659 FC3-9.0463 BSP 9148
BDE 1.6448 BRA 2.6591 BC3 3.8482 FSP 2892

MID-COURSE EXECUTION ACCURACY

SGT 4734.3 SGR 2821.5 S63 1495.5
RRR .9730 RRF .9974 RTF .5.41
SGB 5511.2 R23 .1559 R13 .9853
SG1 5482.5 S62 582.3 THA 30.48

ORBIT DETERMINATION ACCURACY

ST 112.4 SR 74.2 SS 124.4
CRT .9996 CRS -.9971 CST -.9951
LSA 183.1 MSA 8.5 SSA .8
EL1 134.7 EL2 1.7 ALF 33.48

LAUNCH DATE APR 9 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.278 GAL -4.20 AZL 88.25 HCA 195.87 SMA 181.88 ECC .19030 INC 1.7474 V1 29.742
RP 215.54 LAP -.48 LOP 34.37 VP 22.398 GAP 2.54 AZP 91.88 TAL 333.20 TAP 169.07 RCA 147.24 APO 216.46 V2 25.480
RC 154.904 GL 14.65 GP -22.84 ZAL 137.37 ZAP 74.31 ETS 172.12 ZAE 113.48 ETE 190.54 ZAC 79.76 ETC 270.43 LVI 13.49

DISTANCE 594.611

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.075 VHL 3.883 DLA 5.04 RAL 334.23 RAD 6640.6 VEL 11.624 PTH 6.88 VHP 3.487 DPA -46.54 RAP 292.58 ECC 1.2481
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 9 15 3168.94 -37.52 101.37 194.17 121.73 17 2 4 2168.9 -22.06 79.80
60.00 16 43 28 3077.91 -32.66 96.37 197.37 115.05 17 34 46 2077.9 -19.79 73.62
70.00 17 29 43 2941.85 -28.35 87.42 199.45 109.90 18 18 45 1941.9 -17.68 64.02
80.00 18 32 33 2745.07 -25.24 73.64 200.59 106.51 19 18 18 1745.1 -16.13 49.94
90.00 19 51 36 2489.98 -24.08 55.25 200.96 105.30 20 33 6 1490.0 -15.54 31.47
100.00 21 15 25 2219.54 -25.24 35.01 200.59 106.51 21 52 24 1219.5 -16.13 11.31
110.00 22 29 9 1988.67 -28.35 16.34 199.45 109.90 23 2 18 988.7 -17.68 352.94

DIFFERENTIAL CORRECTIONS

TDE 1.3793 TRA 2.3391 TC3-3.7294 BAU .7953
RDE .8309 RRA 1.4076 RC3-1.2899 FAU .15868
FDE 4.7145 FRA 9.8315 FC3-9.1124 BSP 9362
BDE 1.6068 BRA 2.7299 BC3 3.9462 FSP 2776

MID-COURSE EXECUTION ACCURACY

SGT 4951.0 SGR 2618.1 S63 1522.7
RRR .9732 RRF .9967 RTF .9751
SGB 5600.6 R23 .1587 R13 .9842
SG1 5575.0 S62 535.1 THA 27.51

ORBIT DETERMINATION ACCURACY

ST 114.1 SR 68.8 SS 123.8
CRT .9999 CRS -.9960 CST -.9961
LSA 181.7 MSA 8.0 SSA 1.0
EL1 133.2 EL2 1.0 ALF 31.10

LAUNCH DATE APR 9 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.283 GAL -4.26 AZL 88.49 HCA 197.04 SMA 181.92 ECC .19100 INC 1.5067 V1 29.742
 RP 215.87 LAP -.44 LOP 35.53 VP 22.361 GAP 2.36 AZP 91.44 TAL 332.86 TAP 169.90 RCA 147.17 APO 216.66 V2 25.443
 RC 157.385 GL 12.60 GP -21.33 ZAL 138.19 ZAP 72.60 ETS 171.89 ZAE 112.14 ETE 189.17 ZAC 81.28 ETC 270.31 LVI 12.28

PLANETOCENTRIC CONIC

C3 15.062 VHL 3.881 DLA 3.24 RAL 335.26 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 3.469 DPA -45.10 RAP 291.61 ECC 1.2479
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 19 56 3132.95 -36.20 98.94 194.26 123.28 17 12 9 2132.9 -20.37 78.05
 60.00 16 56 4 3036.80 -31.44 93.57 197.56 116.63 17 46 41 2036.8 -18.13 71.40
 70.00 17 44 29 2894.42 -27.21 84.20 199.73 111.49 18 32 43 1894.4 -16.06 61.30
 80.00 18 49 17 2691.48 -24.15 70.03 200.95 108.11 19 34 8 1691.5 -14.53 46.76
 90.00 20 9 11 2433.61 -23.01 51.46 201.34 106.91 20 49 45 1433.6 -13.95 28.09
 100.00 21 32 9 2165.96 -24.15 31.40 200.95 108.11 22 8 14 1166.0 -14.53 8.13
 110.00 22 43 55 1941.24 -27.21 15.12 199.73 111.49 23 16 16 941.2 -16.06 350.22

DIFFERENTIAL CORRECTIONS

TDE 1.3728 TRA 2.4796 TC3-3.8774 BAU .8177
 RDE .7665 RRA 1.3032 RC3-1.2070 FAU .16122
 FDE 4.6028 FRA 9.9600 FC3-9.2662 BSP 9458
 BDE 1.5723 BRA 2.8012 BC3 4.0609 FSP 2761

MID-COURSE EXECUTION ACCURACY

SGT 5158.4 SGR 2423.2 SG3 1533.0
 RRT .9743 RRF .9957 RTF .9770
 SGB 5699.2 R23 .1550 R13 .9840
 SG1 5877.6 SG2 495.8 THA 24.80

ORBIT DETERMINATION ACCURACY

ST 115.4 SR 63.6 SS 121.5
 CRT .9993 CRS -.9946 CST -.9968
 LSA 179.0 MSA 7.7 SSA 1.1
 EL1 131.7 EL2 1.7 ALF 28.84

LAUNCH DATE APR 9 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.287 GAL -4.33 AZL 88.70 HCA 198.20 SMA 181.99 ECC .19174 INC 1.2966 V1 29.742
 RP 216.21 LAP -.41 LOP 36.69 VP 22.325 GAP 2.19 AZP 91.23 TAL 332.51 TAP 170.71 RCA 147.10 APO 216.69 V2 25.405
 RC 159.881 GL 10.80 GP -19.97 ZAL 138.91 ZAP 70.94 ETS 171.70 ZAE 110.78 ETE 187.97 ZAC 82.65 ETC 270.21 LVI 11.19

PLANETOCENTRIC CONIC

C3 15.118 VHL 3.888 DLA 1.68 RAL 336.21 RAD 6640.6 VEL 11.626 PTH 6.67 VHP 3.461 DPA -43.81 RAP 290.78 ECC 1.2488
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 25 3102.74 -35.05 96.96 194.54 124.51 17 21 7 2102.7 -18.94 78.61
 60.00 17 7 12 3002.19 -30.36 91.28 197.91 117.88 17 57 15 2002.2 -16.71 69.57
 70.00 17 57 28 2854.39 -26.18 81.53 200.16 112.76 18 43 2 1854.4 -14.66 59.04
 80.00 19 3 57 2646.20 -23.16 67.03 201.44 109.39 19 48 3 1646.2 -13.15 44.12
 90.00 20 24 35 2385.97 -22.03 48.32 201.86 108.19 21 4 21 1386.0 -12.57 25.28
 100.00 21 46 49 2120.68 -23.18 28.40 201.44 109.39 22 22 9 1120.7 -13.15 5.49
 110.00 22 56 54 1901.21 -26.18 10.46 200.16 112.76 23 28 35 901.2 -14.66 347.96

DIFFERENTIAL CORRECTIONS

TDE 1.3813 TRA 2.6239 TC3-3.9989 BAU .8389
 RDE .7192 RRA 1.2133 RC3-1.1120 FAU .16096
 FDE 4.5335 FRA 10.0754 FC3-9.2176 BSP 9659
 BDE 1.5573 BRA 2.8909 BC3 4.1509 FSP 2775

MID-COURSE EXECUTION ACCURACY

SGT 5384.4 SGR 2292.0 SG3 1537.4
 RRT .9741 RRF .9945 RTF .9779
 SGB 5817.9 R23 .1526 R13 .9836
 SG1 5798.8 SG2 471.3 THA 22.40

ORBIT DETERMINATION ACCURACY

ST 117.2 SR 59.4 SS 120.1
 CRT .9986 CRS -.9929 CST -.9975
 LSA 177.9 MSA 7.6 SSA 1.2
 EL1 131.4 EL2 2.8 ALF 28.85

LAUNCH DATE APR 9 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.292 GAL -4.39 AZL 88.89 HCA 199.35 SMA 182.07 ECC .19253 INC 1.1114 V1 29.742
 RP 216.56 LAP -.37 LOP 37.85 VP 22.288 GAP 2.01 AZP 91.05 TAL 332.16 TAP 171.51 RCA 147.02 APO 217.12 V2 25.366
 RC 182.390 GL 9.21 GP -18.75 ZAL 139.54 ZAP 69.32 ETS 171.56 ZAE 109.40 ETE 186.92 ZAC 83.88 ETC 270.11 LVI 10.22

PLANETOCENTRIC CONIC

C3 15.227 VHL 3.902 DLA .33 RAL 337.09 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 3.460 DPA -42.65 RAP 290.04 ECC 1.2506
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 37 54 3077.34 -34.06 95.35 194.95 125.48 17 29 11 2077.3 -17.72 75.42
 60.00 17 17 8 2972.96 -29.42 89.38 198.39 118.89 18 6 41 1973.0 -15.50 68.05
 70.00 18 8 59 2820.47 -25.27 79.33 200.69 113.78 18 55 59 1820.5 -13.48 57.15
 80.00 19 16 55 2607.74 -22.27 64.52 202.02 110.42 20 0 23 1607.7 -11.94 41.89
 90.00 20 38 12 2345.47 -21.15 45.68 202.48 109.22 21 17 17 1345.5 -11.37 22.91
 100.00 21 59 47 2082.21 -22.27 25.89 202.02 110.42 22 34 29 1082.2 -11.94 3.28
 110.00 23 8 25 1867.29 -25.27 8.25 200.69 113.78 23 39 33 867.3 -13.48 346.07

DIFFERENTIAL CORRECTIONS

TDE 1.3959 TRA 2.7864 TC3-4.1048 BAU .8613
 RDE .6804 RRA 1.1312 RC3-1.0245 FAU .16000
 FDE 4.4878 FRA 10.1482 FC3-9.0967 BSP 9889
 BDE 1.5529 BRA 2.9906 BC3 4.2308 FSP 2778

MID-COURSE EXECUTION ACCURACY

SGT 5568.6 SGR 2096.7 SG3 1534.6
 RRT .9734 RRF .9930 RTF .5.86
 SGB 5948.4 R23 .1488 R13 .9832
 SG1 5931.2 SG2 491.1 THA 20.26

ORBIT DETERMINATION ACCURACY

ST 119.3 SR 55.8 SS 118.7
 CRT .9971 CRS -.9908 CST -.9980
 LSA 177.2 MSA 7.6 SSA 1.3
 EL1 131.7 EL2 3.9 ALF 28.03

LAUNCH DATE APR 9 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

RL 149.82 LAL .00 LOL 198.50 VL 32.297 GAL -4.46 AZL 89.05 HCA 200.51 SMA 182.15 ECC .19335 INC .9469 V1 29.742
 RP 216.91 LAP -.33 LOP 39.00 VP 22.251 GAP 1.84 AZP 90.89 TAL 331.80 TAP 172.30 RCA 146.93 APO 217.37 V2 25.327
 RC 184.912 GL 7.80 GP -17.64 ZAL 140.12 ZAP 67.78 ETS 171.44 ZAE 108.00 ETE 186.00 ZAC 84.99 ETC 270.03 LVI 9.34

PLANETOCENTRIC CONIC

C3 15.379 VHL 3.922 DLA -.86 RAL 337.92 RAD 6640.7 VEL 11.637 PTH 6.68 VHP 3.466 DPA -41.60 RAP 289.41 ECC 1.2531
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 32 3055.95 -33.21 94.02 195.45 126.27 17 36 28 2056.0 -16.69 74.44
 60.00 17 26 2 2948.24 -28.60 87.81 198.93 119.70 18 15 10 1948.2 -14.47 66.78
 70.00 18 19 17 2791.65 -24.46 77.48 201.30 114.61 19 5 48 1791.7 -12.42 55.57
 80.00 19 28 29 2574.95 -21.47 62.41 202.68 111.26 20 11 24 1575.0 -10.90 40.02
 90.00 20 50 19 2310.90 -20.36 43.45 203.13 110.06 21 28 50 1310.9 -10.33 20.91
 100.00 22 11 21 2049.43 -21.47 23.78 202.68 111.26 22 45 30 1049.4 -10.90 1.39
 110.00 23 18 43 1838.47 -24.46 6.40 201.30 114.61 23 49 22 838.5 -12.42 344.48

DIFFERENTIAL CORRECTIONS

TDE 1.4156 TRA 2.9128 TC3-4.1966 BAU .8843
 RDE .6485 RRA 1.0556 RC3 -.9427 FAU .15849
 FDE 4.4032 FRA 10.1832 FC3-8.9221 BSP 10132
 BDE 1.5571 BRA 3.0982 BC3 4.3012 FSP 2766

MID-COURSE EXECUTION ACCURACY

SGT 5764.3 SGR 1955.3 SG3 1525.5
 RRT .9722 RRF .9912 RTF .9793
 SGB 6086.9 R23 .1437 R13 .9830
 SG1 6071.3 SG2 434.5 THA 18.35

ORBIT DETERMINATION ACCURACY

ST 121.6 SR 52.7 SS 117.3
 CRT .9949 CRS -.9884 CST -.9985
 LSA 176.8 MSA 7.7 SSA 1.3
 EL1 132.5 EL2 4.9 ALF 23.37

LAUNCH DATE APR 9 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

DISTANCE 615.403

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.303 GAL -4.54 AZL 89.20 HCA 201.65 SMA 182.24 ECC .19422 INC .7896 V1 29.742
 RP 217.26 LAP -.30 LOP 40.15 VP 22.215 GAP 1.86 AZP 90.74 TAL 331.42 TAP 173.08 RCA 146.85 APO 217.64 V2 25.288
 RC 187.446 GL 6.54 GP -16.64 ZAL 140.85 ZAP 86.24 ETS 171.35 ZAE 106.60 ETE 185.19 ZAC 86.00 ETC 269.96 LVI 8.53

PLANETOCENTRIC CONIC

C3 15.566 VHL 3.945 DLA -1.80 RAL 338.71 RAD 6640.8 VEL 11.645 PTH 6.68 VHP 3.477 DPA -40.64 RAP 288.86 ECC 1.2562
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 28 3037.98 -32.48 92.93 196.02 126.90 17 43 6 2038.0 -15.82 73.62
 60.00 17 34 4 2927.34 -27.88 86.50 199.55 120.36 18 22 51 1927.3 -13.59 65.71
 70.00 18 28 32 2767.15 -23.76 75.93 201.97 115.29 19 14 39 1767.1 -11.53 54.23
 80.00 19 38 52 2546.96 -20.77 60.63 203.38 111.94 20 21 19 1547.0 -10.01 38.43
 90.00 21 1 11 2281.34 -19.66 41.57 203.84 110.75 21 39 12 1281.3 -9.43 19.20
 100.00 22 21 43 2021.43 -20.77 22.00 203.38 111.94 22 55 25 1021.4 -10.01 359.79
 110.00 23 27 59 1813.97 -23.76 4.84 201.97 115.29 23 58 13 814.0 -11.53 343.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4400 TRA 3.0577 TC3-4.2761 BAU .9080 SGT 5958.0 SGR 1827.1 SG3 1511.8 ST 124.1 SR 50.1 SS 115.9
 RDE .6224 RRA .9862 RC3 -.8665 FAU .15638 RRT .9705 RRF .9889 RTF .9797 CRT .9922 CRS -.9857 CST -.9988
 FDE 4.3450 FRA10.1909 FC3-8.6970 BSP 10394 SGB 6231.8 R23 .1381 R13 .9827 LSA 176.9 MSA 8.0 SSA 1.4
 BDE 1.5688 BRA 3.2128 BC3 4.3630 FSP 2749 SG1 6217.5 SG2 422.3 THA 16.65 EL1 133.7 EL2 5.8 ALF 21.86

LAUNCH DATE APR 9 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

DISTANCE 619.550

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.309 GAL -4.61 AZL 89.33 HCA 202.80 SMA 182.34 ECC .19512 INC .6670 V1 29.742
 RP 217.61 LAP -.26 LOP 41.30 VP 22.179 GAP 1.49 AZP 90.62 TAL 331.05 TAP 173.85 RCA 146.76 APO 217.92 V2 25.249
 RC 169.992 GL 5.42 GP -15.73 ZAL 141.14 ZAP 64.78 ETS 171.28 ZAE 105.21 ETE 184.48 ZAC 86.92 ETC 269.90 LVI 7.79

PLANETOCENTRIC CONIC

C3 15.784 VHL 3.973 DLA -2.81 RAL 339.45 RAD 6640.9 VEL 11.655 PTH 6.69 VHP 3.492 DPA -39.76 RAP 288.38 ECC 1.2598
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 47 3022.92 -31.86 92.02 196.63 127.42 17 49 10 2022.9 -15.09 72.93
 60.00 17 41 21 2909.70 -27.27 85.40 200.21 120.90 18 29 51 1909.7 -12.85 64.82
 70.00 18 36 54 2746.33 -23.15 74.62 202.67 115.84 19 22 41 1746.3 -10.77 53.09
 80.00 19 48 13 2523.06 -20.16 59.12 204.11 112.51 20 30 16 1523.1 -9.23 37.07
 90.00 21 10 58 2256.06 -19.04 39.97 204.59 111.31 21 48 34 1256.1 -8.65 17.75
 100.00 22 31 5 1997.53 -20.16 20.49 204.11 112.51 23 4 22 997.5 -9.23 358.44
 110.00 23 36 21 1793.03 -23.15 3.54 202.67 115.84 24 6 14 793.0 -10.77 342.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4681 TRA 3.2026 TC3-4.3452 BAU .9322 SGT 6147.1 SGR 1710.0 SG3 1493.9 ST 126.7 SR 47.7 SS 114.6
 RDE .6008 RRA .9221 RC3 -.7969 FAU .15396 RRT .9682 RRF .9862 RTF .9801 CRT .9888 CRS -.9825 CST -.9991
 FDE 4.2875 FRA10.1717 FC3-8.4442 BSP 10665 SGB 6368.5 R23 .1318 R13 .9826 LSA 177.1 MSA 8.3 SSA 1.4
 BDE 1.5882 BRA 3.3327 BC3 4.4177 FSP 2724 SG1 6367.2 SG2 413.1 THA 15.14 EL1 135.2 EL2 6.7 ALF 20.48

LAUNCH DATE APR 9 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

DISTANCE 623.692

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.315 GAL -4.69 AZL 89.45 HCA 203.94 SMA 182.44 ECC .19606 INC .5467 V1 29.742
 RP 217.97 LAP -.22 LOP 42.44 VP 22.142 GAP 1.31 AZP 90.50 TAL 330.66 TAP 174.60 RCA 146.67 APO 218.21 V2 25.209
 RC 172.547 GL 4.41 GP -14.90 ZAL 141.60 ZAP 63.36 ETS 171.24 ZAE 103.83 ETE 183.86 ZAC 87.75 ETC 269.84 LVI 7.11

PLANETOCENTRIC CONIC

C3 16.028 VHL 4.004 DLA -3.62 RAL 340.16 RAD 6641.0 VEL 11.665 PTH 6.70 VHP 3.510 DPA -38.96 RAP 287.98 ECC 1.2638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 34 3010.36 -31.34 91.28 197.29 127.83 17 54 44 2010.4 -14.47 72.37
 60.00 17 47 59 2894.87 -26.75 84.49 200.90 121.34 18 36 14 1894.9 -12.22 64.08
 70.00 18 44 30 2728.68 -22.62 73.52 203.40 116.30 19 29 59 1728.7 -10.12 52.14
 80.00 19 56 41 2502.69 -19.62 57.85 204.88 112.97 20 38 24 1502.7 -8.57 35.93
 90.00 21 19 49 2234.46 -18.50 38.62 205.37 111.78 21 57 3 1234.5 -7.98 16.52
 100.00 22 39 33 1977.16 -19.62 19.21 204.88 112.97 23 12 30 977.2 -8.57 357.29
 110.00 23 43 56 1775.50 -22.62 2.44 203.40 116.30 24 13 32 775.5 -10.12 341.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4998 TRA 3.3480 TC3-4.4044 BAU .9588 SGT 6331.9 SGR 1803.3 SG3 1472.7 ST 129.3 SR 45.7 SS 113.2
 RDE .9829 RRA .8627 RC3 -.7328 FAU .15115 RRT .9652 RRF .9830 RTF .5004 CRT .9842 CRS -.9790 CST -.9994
 FDE 4.2328 FRA10.1322 FC3-8.1642 BSP 10940 SGB 6531.7 R23 .1253 R13 .9824 LSA 177.6 MSA 8.7 SSA 1.4
 BDE 1.6090 BRA 3.4874 BC3 4.4849 FSP 2693 SG1 6519.0 SG2 407.1 THA 13.79 EL1 137.0 EL2 7.5 ALF 19.23

LAUNCH DATE APR 9 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

DISTANCE 627.830

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.90 VL 32.321 GAL -4.77 AZL 89.56 HCA 205.08 SMA 182.54 ECC .19704 INC .4364 V1 29.742
 RP 218.33 LAP -.19 LOP 43.58 VP 22.106 GAP 1.14 AZP 90.40 TAL 330.27 TAP 175.35 RCA 146.57 APO 218.51 V2 25.189
 RC 175.114 GL 3.49 GP -14.13 ZAL 142.04 ZAP 61.98 ETS 171.21 ZAE 102.47 ETE 183.30 ZAC 88.52 ETC 269.80 LVI 6.48

PLANETOCENTRIC CONIC

C3 16.298 VHL 4.037 DLA -4.33 RAL 340.84 RAD 6641.1 VEL 11.676 PTH 6.71 VHP 3.533 DPA -38.22 RAP 287.65 ECC 1.2682
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 53 2999.99 -30.90 90.68 197.97 128.17 17 59 53 2000.0 -13.97 71.91
 60.00 17 54 4 2882.47 -26.31 83.74 201.62 121.70 18 42 6 1882.5 -11.69 63.45
 70.00 18 51 26 2713.80 -22.17 72.60 204.16 116.67 19 36 39 1713.8 -9.57 51.34
 80.00 20 4 23 2485.38 -19.16 56.77 205.66 113.35 20 45 49 1485.4 -8.00 34.95
 90.00 21 27 51 2216.05 -18.03 37.47 206.16 112.16 22 4 47 1216.1 -7.41 15.48
 100.00 22 47 15 1959.85 -19.16 18.14 205.66 113.35 23 19 55 959.8 -8.00 356.32
 110.00 23 50 52 1780.62 -22.17 1.52 204.16 116.67 24 20 13 760.6 -9.57 340.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5337 TRA 3.4931 TC3-4.4573 BAU .9821 SGT 6512.3 SGR 1506.1 SG3 1448.9 ST 132.1 SR 43.9 SS 111.9
 RDE .5883 RRA .8074 RC3 -.6749 FAU .14826 RRT .9615 RRF .9791 RTF .9806 CRT .9805 CRS -.9751 CST -.9995
 FDE 4.1801 FRA10.0738 FC3-7.8762 BSP 11212 SGB 6684.2 R23 .1186 R13 .9823 LSA 178.3 MSA 9.1 SSA 1.4
 BDE 1.6356 BRA 3.5852 BC3 4.5081 FSP 2656 SG1 6672.0 SG2 403.8 THA 12.58 EL1 138.9 EL2 8.2 ALF 18.11

LAUNCH DATE APR 9 1971

FLIGHT TIME 266.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 32.328 GAL -4.85 AZL 89.66 HCA 206.22 SMA 182.65 ECC .19806 INC .5361 V1 29.742
 RP 218.69 LAP -.15 LOP 44.72 VP 22.070 GAP .97 AZP 90.30 TAL 329.87 TAP 176.09 RCA 146.47 APO 218.82 V2 25.129
 RC 177.890 GL 2.87 GP -13.45 ZAL 142.47 ZAP 60.66 ETS 171.19 ZAE 101.12 ETE 182.81 ZAC 89.22 ETC 269.77 LVI 5.89

PLANETOCENTRIC CONIC
 C3 16.585 VHL 4.072 DLA -4.95 RAL 341.50 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.557 DPA -37.54 RAP 287.38 ECC 1.2729
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 14 47 2991.52 -30.54 90.18 198.67 128.44 18 4 39 1991.5 -13.55 71.53
 60.00 17 59 39 2872.21 -25.94 83.12 202.36 121.99 18 47 31 1872.2 -11.25 62.94
 70.00 18 57 46 2701.32 -21.78 71.84 204.93 116.98 19 42 47 1701.3 -9.11 50.67
 80.00 20 11 25 2470.74 -18.76 55.86 206.46 113.66 20 52 35 1470.7 -7.52 34.14
 90.00 21 35 11 2200.44 -17.63 36.50 206.96 112.48 22 11 52 1200.4 -6.92 14.59
 100.00 22 54 17 1945.21 -18.76 17.23 206.46 113.66 23 26 42 945.2 -7.52 355.50
 110.00 0 1 8 1748.14 -21.78 .76 204.93 116.98 0 30 16 748.1 -9.11 339.59

DIFFERENTIAL CORRECTIONS
 TDE 1.5709 TRA 3.6393 TC3-4.5009 BAU 1.0074 SGT 6888.6 SGR 1417.3 SG3 1423.1 ST 134.8 SR 42.3 SS 110.5
 RDE .5563 RRA .7560 RC3 -.6218 FAU .14510 RRT .9571 RRF .9745 RTF .9807 CRT .9755 CRS -.9709 CST -.9997
 FDE 4.1282 FRA10.0014 FC3-7.5743 BSP 11492 SGB 6837.1 R23 .1120 R13 .9821 LSA 179.1 MSA 9.5 SSA 1.4
 BDE 1.6664 BRA 3.7170 BC3 4.5437 FSP 2616 SGI 6825.2 SG2 402.5 THA 11.51 EL1 141.0 EL2 8.9 ALF 17.08

LAUNCH DATE APR 9 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 32.334 GAL -4.94 AZL 89.76 HCA 207.35 SMA 182.78 ECC .19911 INC .2429 V1 29.742
 RP 219.06 LAP -.11 LOP 45.85 VP 22.034 GAP .79 AZP 90.22 TAL 329.47 TAP 176.81 RCA 146.37 APO 219.15 V2 25.089
 RC 180.275 GL 1.92 GP -12.79 ZAL 142.88 ZAP 99.37 ETS 171.18 ZAE 99.80 ETE 182.38 ZAC 89.86 ETC 269.75 LVI 5.34

PLANETOCENTRIC CONIC
 C3 16.893 VHL 4.110 DLA -5.51 RAL 342.13 RAD 6641.4 VEL 11.702 PTH 6.73 VHP 3.584 DPA -36.91 RAP 287.17 ECC 1.2780
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 20 2984.73 -30.26 89.79 199.39 128.65 18 9 5 1984.7 -13.22 71.23
 60.00 18 4 47 2863.83 -25.84 82.82 203.11 122.23 18 52 31 1863.8 -10.89 62.53
 70.00 19 3 35 2690.97 -21.46 71.21 205.71 117.23 19 48 25 1691.0 -8.72 50.11
 80.00 20 17 50 2458.47 -18.42 55.11 207.26 113.92 20 58 49 1458.5 -7.11 33.45
 90.00 21 41 53 2187.30 -17.28 35.69 207.78 112.74 22 18 20 1187.3 -6.50 13.85
 100.00 23 0 42 1932.94 -18.42 16.48 207.26 113.92 23 32 55 932.9 -7.11 354.82
 110.00 0 6 57 1737.79 -21.46 .12 205.71 117.23 0 35 55 737.8 -8.72 339.03

DIFFERENTIAL CORRECTIONS
 TDE 1.6098 TRA 3.7859 TC3-4.5370 BAU 1.0328 SGT 6859.8 SGR 1336.2 SG3 1395.5 ST 137.6 SR 40.9 SS 109.2
 RDE .5464 RRA .7081 RC3 -.5729 FAU .14168 RRT .9517 RRF .9691 RTF .9807 CRT .9701 CRS -.9663 CST -.9998
 FDE 4.0763 FRA 9.9184 FC3-7.2609 BSP 11767 SGB 6988.8 R23 .1057 R13 .9819 LSA 180.1 MSA 10.0 SSA 1.4
 BDE 1.7000 BRA 3.8515 BC3 4.5730 FSP 2571 SGI 6977.1 SG2 403.2 THA 10.54 EL1 143.3 EL2 9.5 ALF 16.15

LAUNCH DATE APR 9 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 32.341 GAL -5.02 AZL 89.84 HCA 208.47 SMA 182.87 ECC .20020 INC .1569 V1 29.742
 RP 219.43 LAP -.08 LOP 46.97 VP 21.998 GAP .62 AZP 90.14 TAL 329.05 TAP 177.53 RCA 146.26 APO 219.48 V2 25.048
 RC 182.871 GL 1.24 GP -12.19 ZAL 143.28 ZAP 58.14 ETS 171.19 ZAE 98.50 ETE 181.99 ZAC 90.46 ETC 269.73 LVI 4.82

PLANETOCENTRIC CONIC
 C3 17.219 VHL 4.150 DLA -5.99 RAL 342.73 RAD 6641.6 VEL 11.715 PTH 6.75 VHP 3.614 DPA -36.32 RAP 287.01 ECC 1.2834
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 33 2979.41 -30.03 89.49 200.13 128.81 18 13 13 1979.4 -12.96 70.99
 60.00 18 9 32 2857.11 -25.39 82.22 203.88 122.41 18 57 10 1857.1 -10.60 62.19
 70.00 19 8 55 2682.51 -21.20 70.69 206.50 117.43 19 53 38 1682.5 -8.41 49.88
 80.00 20 23 44 2448.29 -18.14 54.48 208.07 114.13 21 4 32 1448.3 -6.78 32.88
 90.00 21 48 1 2176.35 -16.99 35.02 208.60 112.95 22 24 18 1176.3 -6.16 13.23
 100.00 23 6 36 1922.78 -18.14 15.85 208.07 114.13 23 38 39 922.8 -6.78 354.25
 110.00 0 12 18 1729.32 -21.20 359.61 206.50 117.43 0 41 7 729.3 -8.41 338.58

DIFFERENTIAL CORRECTIONS
 TDE 1.6518 TRA 3.9333 TC3-4.5670 BAU 1.0584 SGT 7027.8 SGR 1262.5 SG3 1366.9 ST 140.5 SR 39.7 SS 107.8
 RDE .5388 RRA .6633 RC3 -.5287 FAU .13825 RRT .9454 RRF .9628 RTF .9807 CRT .9642 CRS -.9614 CST -.9999
 FDE 4.0283 FRA 9.8251 FC3-6.9508 BSP 12049 SGB 7140.3 R23 .0996 R13 .9818 LSA 181.2 MSA 10.5 SSA 1.4
 BDE 1.7375 BRA 3.9690 BC3 4.5975 FSP 2523 SGI 7128.8 SG2 405.6 THA 9.67 EL1 145.7 EL2 10.1 ALF 15.31

LAUNCH DATE APR 9 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC
 RL 149.82 LAL .00 LOL 198.50 VL 32.349 GAL -5.11 AZL 89.92 HCA 209.60 SMA 182.99 ECC .20132 INC .0779 V1 29.742
 RP 219.80 LAP -.04 LOP 48.10 VP 21.982 GAP .45 AZP 90.07 TAL 328.64 TAP 178.23 RCA 146.15 APO 219.83 V2 25.007
 RC 185.475 GL .62 GP -11.64 ZAL 143.67 ZAP 56.94 ETS 171.20 ZAE 97.22 ETE 181.65 ZAC 91.01 ETC 269.73 LVI 4.33

PLANETOCENTRIC CONIC
 C3 17.563 VHL 4.191 DLA -6.42 RAL 343.32 RAD 6641.7 VEL 11.730 PTH 6.76 VHP 3.645 DPA -35.78 RAP 286.90 ECC 1.2890
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 30 2975.41 -29.86 89.26 200.87 128.93 18 17 5 1975.4 -12.76 70.82
 60.00 18 13 57 2851.86 -25.20 81.91 204.65 122.56 19 1 29 1851.9 -10.38 61.93
 70.00 19 13 51 2675.71 -20.98 70.28 207.30 117.59 19 58 27 1675.7 -8.15 49.30
 80.00 20 29 9 2439.98 -17.91 53.98 208.89 114.30 21 9 49 1440.0 -6.50 32.42
 90.00 21 53 39 2167.34 -16.75 34.46 209.42 113.12 22 29 47 1167.3 -5.87 12.72
 100.00 23 12 1 1914.45 -17.91 15.34 208.89 114.30 23 43 56 914.4 -6.50 353.79
 110.00 0 17 14 1722.53 -20.98 359.20 207.30 117.59 0 45 56 722.5 -8.15 338.22

DIFFERENTIAL CORRECTIONS
 TDE 1.6965 TRA 4.0826 TC3-4.5893 BAU 1.0837 SGT 7192.0 SGR 1195.5 SG3 1337.4 ST 143.5 SR 38.6 SS 106.5
 RDE .5330 RRA .6214 RC3 -.4879 FAU .13461 RRT .9381 RRF .9555 RTF .9807 CRT .9580 CRS -.9562 CST -.9999
 FDE 3.9824 FRA 9.7258 FC3-6.6353 BSP 12330 SGB 7290.6 R23 .0940 R13 .9815 LSA 182.5 MSA 10.9 SSA 1.4
 BDE 1.7783 BRA 4.1296 BC3 4.6152 FSP 2478 SGI 7279.1 SG2 409.3 THA 8.89 EL1 148.2 EL2 10.7 ALF 14.54

LAUNCH DATE APR 9 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

DISTANCE 648.446

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.336 GAL -8.20 AZL 89.99 HCA 210.72 SMA 183.11 ECC .20248 INC .0000 V1 29.742
RP 220.18 LAP -.00 LOP 49.22 VP 21.926 GAP .27 AZP 90.01 TAL 328.21 TAP 178.93 RCA 146.03 APO 220.19 V2 24.966
RC 188.089 GL .06 GP -11.13 ZAL 144.03 ZAP 59.78 ETS 171.22 ZAE 95.97 ETE 181.34 ZAC 91.52 ETC 269.73 LVI 3.86

PLANETOCENTRIC CONIC

C3 17.924 VHL 4.234 DLA -6.80 RAL 343.89 RAD 6641.9 VEL 11.745 PTH 6.77 VHP 3.678 DPA -35.27 RAP 286.84 ECC 1.2950
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 31 10 2972.58 -29.74 89.10 201.62 129.02 18 20 43 1972.6 -12.62 70.69
60.00 18 18 2 2847.93 -25.05 81.68 205.43 122.66 19 3 30 1847.9 -10.21 61.74
70.00 19 18 25 2670.41 -20.82 69.98 208.10 117.71 20 2 55 1670.4 -7.96 49.02
80.00 20 34 9 2433.33 -17.72 53.57 209.71 114.43 21 14 42 1433.3 -6.28 32.05
90.00 21 58 50 2160.08 -16.96 34.02 210.24 113.26 22 34 50 1160.1 -5.64 12.31
100.00 23 17 1 1907.80 -17.72 14.94 209.71 114.43 23 48 48 907.8 -6.28 353.42
110.00 0 21 47 1717.23 -20.82 358.88 208.10 117.71 0 50 24 717.2 -7.96 357.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7419 TRA 4.2311 TC3-4.6097 BAU 1.1099 SGT 7351.6 SGR 1134.4 SG3 1307.3 ST 146.3 SR 37.7 SS 105.2
RDE .5288 RRA .5819 RC3 -.4514 FAU 1.3110 RRT .9295 RRF .9471 RTF .9806 CRT .9515 CRS -.9508 CST -.9999
FDE 3.9351 FRA 9.6176 FC3-6.3323 BSP 12597 SGB 7438.6 R23 .0887 R13 .9813 LSA 183.8 MSA 11.4 S3A 1.4
BDE 1.8203 BRA 4.2709 BC3 4.6318 FSP 2428 SG1 7427.1 S62 414.1 THA 8.19 EL1 150.7 EL2 11.3 ALF 13.85

LAUNCH DATE APR 9 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

DISTANCE 652.554

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.364 GAL -5.29 AZL 90.06 HCA 211.83 SMA 183.23 ECC .20367 INC .0593 V1 29.742
RP 220.55 LAP .03 LOP 50.33 VP 21.890 GAP .10 AZP 89.95 TAL 327.79 TAP 179.82 RCA 145.91 APO 220.55 V2 24.925
RC 190.711 GL -.46 GP -10.66 ZAL 144.43 ZAP 54.67 ETS 171.25 ZAE 94.74 ETE 181.06 ZAC 91.99 ETC 269.74 LVI 3.41

PLANETOCENTRIC CONIC

C3 18.301 VHL 4.278 DLA -7.13 RAL 344.45 RAD 6642.1 VEL 11.761 PTH 6.79 VHP 3.712 DPA -34.80 RAP 286.82 ECC 1.3012
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 34 37 2970.80 -29.66 89.00 202.38 129.07 18 24 8 1970.8 -12.53 70.61
60.00 18 21 51 2845.19 -24.95 81.52 206.21 122.73 19 9 16 1845.2 -10.09 61.60
70.00 19 22 38 2666.45 -20.69 69.72 208.91 117.80 20 7 5 1666.5 -7.81 48.81
80.00 20 38 45 2428.18 -17.58 53.26 210.53 114.53 21 19 13 1428.2 -6.11 31.76
90.00 22 3 37 2154.39 -16.40 33.67 211.07 113.36 22 39 31 1154.4 -5.46 11.99
100.00 23 21 37 1902.65 -17.58 14.63 210.53 114.53 23 53 20 902.7 -6.11 353.13
110.00 0 26 1 1713.27 -20.69 358.64 208.91 117.80 0 54 34 713.3 -7.81 357.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7909 TRA 4.3825 TC3-4.6220 BAU 1.1355 SGT 7508.8 SGR 1079.1 SG3 1277.0 ST 149.3 SR 36.9 SS 103.9
RDE .5257 RRA .5449 RC3 -.4179 FAU 1.2746 RRT .9198 RRF .9375 RTF .9804 CRT .9447 CRS -.9452 CST -.9999
FDE 3.8911 FRA 9.5071 FC3-8.0294 BSP 12876 SGB 7585.9 R23 .0836 R13 .9811 LSA 185.2 MSA 11.9 S3A 1.3
BDE 1.8664 BRA 4.4162 BC3 4.6409 FSP 2378 SG1 7574.3 S62 419.7 THA 7.55 EL1 153.3 EL2 11.8 ALF 13.22

LAUNCH DATE APR 9 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

DISTANCE 656.653

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.371 GAL -5.39 AZL 90.13 HCA 212.94 SMA 183.36 ECC .20489 INC .1239 V1 29.742
RP 220.93 LAP .07 LOP 51.45 VP 21.855 GAP -.08 AZP 89.89 TAL 327.35 TAP 180.30 RCA 145.79 APO 220.93 V2 24.884
RC 193.341 GL -.93 GP -10.22 ZAL 144.81 ZAP 53.99 ETS 171.28 ZAE 93.54 ETE 180.82 ZAC 92.43 ETC 269.78 LVI 2.97

PLANETOCENTRIC CONIC

C3 18.695 VHL 4.324 DLA -7.42 RAL 344.99 RAD 6642.2 VEL 11.778 PTH 6.80 VHP 3.748 DPA -34.35 RAP 286.85 ECC 1.3077
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 37 52 2969.97 -29.63 88.95 203.14 129.10 18 27 21 1970.0 -12.49 70.58
60.00 18 25 23 2843.51 -24.89 81.42 206.99 122.78 19 12 48 1843.5 -10.02 61.52
70.00 19 26 34 2663.71 -20.60 69.56 209.71 117.86 20 10 57 1663.7 -7.71 48.66
80.00 20 43 1 2424.38 -17.47 53.03 211.35 114.61 21 23 25 1424.4 -5.98 31.55
90.00 22 8 1 2150.11 -16.29 33.41 211.90 113.44 22 43 51 1150.1 -5.33 11.75
100.00 23 25 52 1898.86 -17.47 14.40 211.35 114.61 23 57 31 898.9 -5.98 352.92
110.00 0 29 56 1710.53 -20.60 358.47 209.71 117.86 0 58 26 710.5 -7.71 357.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8404 TRA 4.5337 TC3-4.6309 BAU 1.1614 SGT 7661.0 SGR 1028.7 SG3 1246.2 ST 152.2 SR 36.2 SS 102.6
RDE .5239 RRA .5098 RC3 -.3871 FAU 1.2374 RRT .9087 RRF .9266 RTF .5.02 CRT .9377 CRS -.9394 CST -.9999
FDE 3.8471 FRA 9.3908 FC3-5.7304 BSP 13140 SGB 7729.8 R23 .0793 R13 .9808 LSA 186.7 MSA 12.3 S3A 1.3
BDE 1.9133 BRA 4.5623 BC3 4.6471 FSP 2327 SG1 7718.0 S62 426.2 THA 6.98 EL1 156.0 EL2 12.3 ALF 12.85

LAUNCH DATE APR 9 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

DISTANCE 860.749

EARTH TO MARS

RL 149.82 LAL .00 LOL 198.50 VL 32.379 GAL -5.48 AZL 90.15 HCA 214.08 SMA 183.48 ECC .20615 INC .1892 V1 29.742
RP 221.31 LAP .10 LOP 52.55 VP 21.819 GAP -.25 AZP 89.85 TAL 328.92 TAP 180.97 RCA 145.87 APO 221.32 V2 24.842
RC 193.878 GL -1.37 GP -9.81 ZAL 145.18 ZAP 52.55 ETS 171.31 ZAE 92.36 ETE 180.59 ZAC 92.84 ETC 269.78 LVI 2.56

PLANETOCENTRIC CONIC

C3 19.104 VHL 4.371 DLA -7.67 RAL 345.81 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.784 DPA -33.93 RAP 286.92 ECC 1.3144
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 40 54 2970.00 -29.63 88.95 203.90 129.10 18 30 24 1970.0 -12.49 70.58
60.00 18 28 44 2842.79 -24.87 81.38 207.78 122.80 19 16 7 1842.8 -9.99 61.48
70.00 19 30 12 2662.06 -20.55 69.46 210.52 117.90 20 14 34 1662.1 -7.64 48.57
80.00 20 46 57 2421.81 -17.40 52.87 212.17 114.66 21 27 19 1421.8 -5.90 31.41
90.00 22 12 3 2147.12 -16.21 33.24 212.72 113.50 22 47 50 1147.1 -5.23 11.59
100.00 23 29 49 1898.29 -17.40 14.24 212.17 114.66 24 1 25 898.3 -5.90 352.78
110.00 0 33 35 1708.88 -20.55 358.38 210.52 117.90 1 2 3 708.9 -7.64 357.49

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8925 TRA 4.6874 TC3-4.6341 BAU 1.1871 SGT 7810.7 SGR 983.4 SG3 1215.7 ST 155.2 SR 35.6 SS 101.4
RDE .5234 RRA .4789 RC3 -.3591 FAU 1.2001 RRT .8963 RRF .9144 RTF .9799 CRT .9303 CRS -.9336 CST -.9998
FDE 3.8054 FRA 9.2740 FC3-5.4386 BSP 13413 SGB 7872.4 R23 .0753 R13 .9804 LSA 188.3 MSA 12.8 S3A 1.3
BDE 1.9636 BRA 4.7116 BC3 4.6480 FSP 2277 SG1 7880.4 S62 433.3 THA 6.46 EL1 158.7 EL2 12.7 ALF 12.13

LAUNCH DATE APR 10 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC DISTANCE 356.025 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 34.486 GAL -6.08 AZL 92.13 HCA 119.84 SMA 228.07 ECC .35706 INC 2.1326 V1 29.733
 RP 207.38 LAP -1.65 LOP 319.34 VP 26.420 GAP 20.29 AZP 88.94 TAL 336.66 TAP 96.50 RCA 146.63 APO 309.30 V2 26.414
 RC 56.241 GL -11.73 GP 2.65 ZAL 131.33 ZAP 170.19 ETS 164.19 ZAE 170.21 ETE 128.46 ZAC 103.66 ETC 276.06 LVI -18.13

PLANETOCENTRIC CONIC
 CS 39.430 VHL 6.279 DLA -21.71 RAL 338.38 RAD 6650.5 VEL 12.622 PTH 7.47 VHP 9.938 DPA -16.98 RAP 312.11 ECC 1.6489
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 25 2860.53 -24.78 83.05 204.67 132.01 18 53 6 1860.5 -7.06 65.85
 60.00 19 11 35 2684.59 -18.74 72.49 209.96 126.36 19 56 20 1684.6 -3.09 53.61
 70.00 20 35 29 2437.95 -12.91 56.59 214.06 121.90 21 16 7 1437.9 .87 36.81
 80.00 22 15 36 2124.60 -6.21 35.60 216.86 118.81 22 51 1 1124.6 4.13 15.06
 90.00 23 52 17 1812.75 -6.27 13.71 217.91 117.63 24 22 30 812.7 5.50 352.87
 100.00 1 2 24 1599.08 -8.21 356.97 216.86 116.81 1 29 3 599.1 4.13 356.42
 110.00 1 38 51 1484.77 -12.91 345.51 214.06 121.90 2 3 36 484.8 .87 325.73

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7459 TRA-1.5630 TC3 -.0731 BAU .0692 SGT 1681.7 SGR 533.4 S63 174.4 ST 41.1 BR 25.2 S8 29.4
 RDE -.5502 RRA .1195 RC3 .1089 FAU .03891 RRT .1681 RRF -.1779 RTF -.8080 CRT .7869 CR8 .6400 CST .9766
 FDE .5185 FRA 1.6728 FC3 -.8542 BSP 2783 SGB 1784.3 R23 -.0295 R13 -.8095 L8A 53.9 M8A 16.5 S8A 1.1
 BDE .9269 BRA 1.5676 BC3 .1312 F8P 239 S61 1684.3 S62 525.2 THA 3.34 EL1 46.2 EL2 13.6 ALP 28.82

LAUNCH DATE APR 10 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC DISTANCE 359.719 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 34.349 GAL -5.93 AZL 92.16 HCA 121.10 SMA 224.43 ECC .34627 INC 2.1598 V1 29.733
 RP 207.27 LAP -1.85 LOP 320.60 VP 26.254 GAP 19.80 AZP 88.88 TAL 336.71 TAP 97.81 RCA 146.72 APO 302.13 V2 26.426
 RC 56.362 GL -12.14 GP 2.76 ZAL 131.34 ZAP 169.34 ETS 164.90 ZAE 170.68 ETE 123.69 ZAC 103.72 ETC 276.15 LVI -18.36

PLANETOCENTRIC CONIC
 CS 37.475 VHL 6.122 DLA -22.06 RAL 338.84 RAD 6649.8 VEL 12.544 PTH 7.42 VHP 9.842 DPA -16.77 RAP 312.49 ECC 1.6167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 4 2840.14 -23.84 82.00 204.20 132.48 18 55 24 1840.1 -6.04 64.99
 60.00 19 14 48 2662.65 -17.85 71.32 209.50 126.75 19 59 11 1662.6 -2.12 52.76
 70.00 20 39 30 2413.66 -12.03 55.26 213.64 122.21 21 19 44 1413.7 1.80 35.55
 80.00 22 20 37 2097.20 -7.31 34.06 216.47 119.03 22 55 34 1097.2 5.05 13.54
 90.00 0 1 49 1783.48 -5.34 12.06 217.54 117.81 0 31 32 783.5 6.43 351.22
 100.00 1 7 25 1571.67 -7.31 359.43 216.47 119.03 1 33 36 571.7 5.05 334.91
 110.00 1 42 52 1460.47 -12.03 344.17 213.64 122.21 2 7 13 460.5 1.80 324.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7450 TRA-1.5526 TC3 -.0689 BAU .0674 SGT 1718.0 SGR 530.0 S63 186.0 ST 42.1 BR 23.0 S8 30.4
 RDE -.5327 RRA .1195 RC3 .1167 FAU .04012 RRT .1615 RRF -.1944 RTF -.8154 CRT .7906 CR8 .6414 CST .9757
 FDE .5380 FRA 1.7412 FC3 -.9268 BSP 2868 SGB 1797.9 R23 -.0319 R13 -.8162 L8A 55.2 M8A 16.5 S8A 1.1
 BDE .9159 BRA 1.5563 BC3 .1345 F8P 257 S61 1720.9 S62 520.3 THA 3.53 EL1 47.0 EL2 13.7 ALP 27.72

LAUNCH DATE APR 10 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC DISTANCE 361.544 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 34.220 GAL -5.79 AZL 92.19 HCA 122.38 SMA 221.11 ECC .33608 INC 2.1879 V1 29.733
 RP 207.18 LAP -1.85 LOP 321.87 VP 26.095 GAP 19.32 AZP 88.83 TAL 336.76 TAP 99.12 RCA 146.80 APO 295.42 V2 26.438
 RC 56.568 GL -12.57 GP 2.87 ZAL 131.33 ZAP 169.47 ETS 165.49 ZAE 171.08 ETE 118.63 ZAC 103.79 ETC 276.25 LVI -18.59

PLANETOCENTRIC CONIC
 CS 35.661 VHL 5.972 DLA -22.43 RAL 338.89 RAD 6649.1 VEL 12.472 PTH 7.37 VHP 9.355 DPA -16.55 RAP 312.88 ECC 1.5869
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 45 2819.71 -22.90 80.98 203.78 132.92 18 57 45 1819.7 -5.02 64.13
 60.00 19 18 7 2640.88 -18.95 70.15 209.08 127.13 20 2 7 1640.8 -1.15 51.71
 70.00 20 43 40 2389.06 -11.13 53.92 213.24 122.50 21 23 29 1389.1 2.74 34.28
 80.00 22 25 53 2089.19 -6.38 32.80 216.11 119.23 23 0 22 1089.2 5.99 11.99
 90.00 0 7 43 1753.38 -4.39 10.37 217.20 117.97 0 36 57 753.4 7.57 349.51
 100.00 1 12 40 1543.86 -6.38 353.87 216.11 119.23 1 38 24 543.7 5.99 333.36
 110.00 1 47 3 1435.87 -11.13 342.83 213.24 122.50 2 10 58 435.9 2.74 323.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7432 TRA-1.5411 TC3 -.0599 BAU .0660 SGT 1752.9 SGR 526.5 S63 199.3 ST 43.0 BR 24.8 S8 31.5
 RDE -.8159 RRA .0960 RC3 .1240 FAU .04138 RRT .1982 RRF -.2123 RTF -.1221 CRT .7944 CR8 .6431 CST .9749
 FDE .5585 FRA 1.8132 FC3 -1.0048 BSP 2848 SGB 1830.2 R23 -.0347 R13 -.8229 L8A 56.4 M8A 16.5 S8A 1.2
 BDE .9047 BRA 1.5441 BC3 .1384 F8P 277 S61 1756.2 S62 515.0 THA 3.73 EL1 47.7 EL2 13.6 ALP 26.97

LAUNCH DATE APR 10 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC DISTANCE 364.485 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 34.097 GAL -5.64 AZL 92.22 HCA 123.63 SMA 218.07 ECC .32644 INC 2.2187 V1 29.733
 RP 207.09 LAP -1.85 LOP 323.13 VP 25.948 GAP 18.84 AZP 88.77 TAL 336.82 TAP 100.48 RCA 146.88 APO 289.26 V2 26.448
 RC 56.858 GL -13.01 GP 2.99 ZAL 131.31 ZAP 167.58 ETS 166.00 ZAE 171.39 ETE 113.39 ZAC 103.87 ETC 276.33 LVI -18.83

PLANETOCENTRIC CONIC
 CS 33.879 VHL 5.829 DLA -22.82 RAL 339.14 RAD 6648.5 VEL 12.405 PTH 7.32 VHP 9.077 DPA -16.33 RAP 313.21 ECC 1.5592
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 31 2799.27 -21.95 79.96 203.36 133.34 19 0 10 1799.3 -4.00 63.27
 60.00 19 21 32 2618.39 -16.03 68.99 208.68 127.48 20 5 10 1618.4 -.18 50.65
 70.00 20 48 0 2364.15 -10.22 52.57 212.87 122.77 21 27 25 1364.1 3.69 32.96
 80.00 22 31 24 2040.55 -5.43 30.91 215.79 119.41 23 5 25 1040.5 6.94 10.40
 90.00 0 13 59 1722.39 -3.39 8.63 216.91 118.09 0 42 41 722.4 8.34 347.75
 100.00 1 18 12 1515.02 -5.43 352.28 215.79 119.41 1 43 27 515.0 6.94 331.76
 110.00 1 51 23 1410.97 -10.22 341.48 212.87 122.77 2 14 54 411.0 3.69 321.88

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.7407 TRA-1.5288 TC3 -.0511 BAU .0650 SGT 1786.4 SGR 522.9 S63 211.5 ST 43.9 BR 24.6 S8 32.6
 RDE -.4996 RRA .0841 RC3 .1336 FAU .04273 RRT .2162 RRF -.2319 RTF -.8205 CRT .7983 CR8 .6451 CST .9741
 FDE .5799 FRA 1.8888 FC3 -1.0887 BSP 3019 SGB 1861.4 R23 -.0378 R13 -.8294 L8A 57.6 M8A 16.4 S8A 1.2
 BDE .8935 BRA 1.5311 BC3 .1430 F8P 298 S61 1790.3 S62 509.5 THA 3.94 EL1 48.5 EL2 13.4 ALP 26.28

LAUNCH DATE APR 10 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

DISTANCE 367.530

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.981 GAL -5.31 AZL 92.25 HCA 124.89 SMA 215.28 ECC .31733 INC 2.2465 V1 26.733
 RP 207.01 LAP -1.84 LOP 324.39 VP 25.802 GAP 18.37 AZP 88.71 TAL 336.89 TAP 101.78 RCA 146.96 APO 283.59 V2 26.457
 RC 57.225 GL -13.47 GP 3.12 ZAL 131.27 ZAP 166.68 ETS 166.43 ZAE 171.61 ETE 108.09 ZAC 103.96 ETC 276.42 LVI -19.06

PLANETOCENTRIC CONIC

C3 32.419 VHL 5.694 DLA -23.21 RAL 339.38 RAD 6647.9 VEL 12.343 PTH 7.27 VHP 6.808 DPA -16.11 RAP 313.53 ECC 1.5335
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 20 2778.82 -20.99 78.96 202.98 133.73 19 2 39 1778.8 -2.97 62.41
 60.00 19 25 3 2596.08 -15.10 67.84 208.31 127.82 20 8 19 1596.1 .81 49.58
 70.00 20 52 31 2338.93 -9.29 51.21 212.54 123.02 21 31 30 1338.9 4.65 31.64
 80.00 22 37 14 2011.22 -4.44 29.29 215.50 119.56 23 10 45 1011.2 7.91 8.76
 90.00 0 20 36 1690.40 -2.37 6.84 216.65 118.19 0 48 48 690.4 9.32 345.92
 100.00 1 24 2 1485.69 -4.44 350.66 215.50 119.56 1 48 47 485.7 7.91 330.13
 110.00 1 55 54 1385.75 -9.29 340.13 212.54 123.02 2 18 59 385.7 4.65 320.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7375 TRA-1.5155 TC3 -.0416 BAU .0645 SGT 1818.4 SGR 519.5 SG3 225.5 ST 44.7 SR 24.4 SS 33.7
 RDE -.4840 RRA .0721 RC3 .1428 FAU .04417 RRT .2358 RRF -.2532 RTF -.8346 CRT .8024 CRS .6472 CST .9732
 FDE .6018 FRA 1.9680 FC3-1.1797 BSP 3085 SGB 1891.2 R23 -.0412 R13 -.8356 LSA 58.8 MSA 16.4 SSA 1.2
 BDE .8822 BRA 1.5172 BC3 .1487 FSP 321 SGI 1822.9 SG2 503.6 THA 4.17 EL1 49.2 EL2 13.2 ALF 25.63

LAUNCH DATE APR 10 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

DISTANCE 370.671

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.871 GAL -5.37 AZL 92.28 HCA 126.16 SMA 212.71 ECC .30871 INC 2.2772 V1 29.733
 RP 206.94 LAP -1.84 LOP 325.66 VP 25.666 GAP 17.92 AZP 88.66 TAL 336.97 TAP 103.12 RCA 147.04 APO 278.37 V2 26.466
 RC 57.675 GL -13.93 GP 3.26 ZAL 131.21 ZAP 165.75 ETS 166.79 ZAE 171.75 ETE 102.89 ZAC 104.05 ETC 276.50 LVI -19.30

PLANETOCENTRIC CONIC

C3 30.974 VHL 5.565 DLA -23.63 RAL 339.62 RAD 6647.4 VEL 12.284 PTH 7.22 VHP 6.547 DPA -15.88 RAP 313.84 ECC 1.5098
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 14 2758.37 -20.02 77.98 202.64 134.11 19 5 13 1758.4 -1.94 61.56
 60.00 19 28 41 2573.67 -14.16 66.69 207.98 128.13 20 11 35 1573.7 1.79 48.51
 70.00 20 57 13 2313.38 -8.34 49.84 212.25 123.24 21 35 47 1313.4 5.61 30.29
 80.00 22 43 23 1981.13 -3.43 27.63 215.26 119.68 23 16 24 981.1 8.90 7.07
 90.00 0 27 43 1657.29 -1.30 5.00 216.44 118.25 0 55 21 657.3 10.34 344.01
 100.00 1 30 11 1455.80 -3.43 349.00 215.26 119.68 1 54 27 455.6 8.90 328.44
 110.00 2 0 36 1360.20 -8.34 338.76 212.25 123.24 2 23 16 360.2 5.61 319.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7344 TRA-1.5018 TC3 -.0316 BAU .0645 SGT 1849.5 SGR 516.2 SG3 240.5 ST 45.5 SR 24.2 SS 34.9
 RDE -.4690 RRA .0599 RC3 .1526 FAU .04569 RRT .2572 RRF -.2763 RTF -.8403 CRT .8069 CRS .6498 CST .9723
 FDE .6250 FRA 2.0512 FC3-1.2772 BSP 3152 SGB 1920.2 R23 -.0448 R13 -.8415 LSA 60.0 MSA 16.4 SSA 1.2
 BDE .8713 BRA 1.5030 BC3 .1558 FSP 346 SGI 1854.6 SG2 497.4 THA 4.42 EL1 43.8 EL2 13.0 ALF 25.02

LAUNCH DATE APR 10 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

DISTANCE 373.898

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.767 GAL -5.24 AZL 92.31 HCA 127.42 SMA 210.34 ECC .30057 INC 2.3089 V1 29.733
 RP 206.87 LAP -1.83 LOP 326.93 VP 25.536 GAP 17.47 AZP 88.60 TAL 337.05 TAP 104.47 RCA 147.12 APO 273.56 V2 26.473
 RC 58.203 GL -14.41 GP 3.41 ZAL 131.14 ZAP 164.81 ETS 167.11 ZAE 171.82 ETE 97.95 ZAC 104.16 ETC 276.58 LVI -19.54

PLANETOCENTRIC CONIC

C3 29.634 VHL 5.444 DLA -24.06 RAL 339.85 RAD 6646.9 VEL 12.230 PTH 7.18 VHP 6.294 DPA -15.65 RAP 314.13 ECC 1.4877
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 13 2737.95 -19.05 77.01 202.33 134.46 19 7 51 1738.0 -.92 60.70
 60.00 19 32 27 2551.17 -13.21 65.54 207.69 128.43 20 14 58 1551.2 2.78 47.44
 70.00 21 2 8 2287.50 -7.37 48.46 211.99 123.44 21 40 15 1287.5 6.59 28.92
 80.00 22 49 54 1950.21 -2.39 25.93 215.06 119.77 23 22 25 950.2 9.90 5.32
 90.00 0 35 20 1622.87 -.19 3.07 216.28 118.28 1 2 23 622.9 11.37 342.02
 100.00 1 36 42 1424.68 -2.39 347.30 215.06 119.77 2 0 27 424.7 9.90 326.69
 110.00 2 5 30 1334.32 -7.37 337.38 211.99 123.44 2 27 45 334.3 6.59 317.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7309 TRA-1.4870 TC3 -.0210 BAU .0651 SGT 1878.9 SGR 513.1 SG3 256.4 ST 46.3 SR 23.9 SS 36.1
 RDE -.4549 RRA .0474 RC3 .1629 FAU .04732 RRT .2803 RRF -.3014 RTF -.8497 CRT .8118 CRS .6529 CST .9714
 FDE .6481 FRA 2.1380 FC3-1.3823 BSP 3212 SGB 1947.7 R23 -.0489 R13 -.8470 LSA 61.2 MSA 16.3 SSA 1.2
 BDE .8607 BRA 1.4878 BC3 .1642 FSP 371 SGI 1884.8 SG2 491.0 THA 4.70 EL1 50.5 EL2 12.8 ALF 24.46

LAUNCH DATE APR 10 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

DISTANCE 377.204

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.689 GAL -5.12 AZL 92.34 HCA 128.89 SMA 208.15 ECC .29286 INC 2.3418 V1 29.733
 RP 206.82 LAP -1.83 LOP 328.20 VP 25.413 GAP 17.03 AZP 88.54 TAL 337.14 TAP 105.83 RCA 147.19 APO 269.11 V2 26.479
 RC 58.807 GL -14.90 GP 3.56 ZAL 131.05 ZAP 163.84 ETS 167.37 ZAE 171.82 ETE 93.38 ZAC 104.28 ETC 276.65 LVI -19.79

PLANETOCENTRIC CONIC

C3 28.394 VHL 5.329 DLA -24.50 RAL 340.08 RAD 6646.4 VEL 12.179 PTH 7.14 VHP 6.048 DPA -15.42 RAP 314.39 ECC 1.4673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 25 17 2717.56 -18.08 76.05 202.05 134.79 19 10 34 1717.6 .11 59.85
 60.00 19 36 20 2528.57 -12.26 64.40 207.43 128.70 20 18 29 1528.6 3.77 46.35
 70.00 21 7 16 2261.25 -6.38 47.07 211.78 123.62 21 44 57 1261.3 7.58 27.53
 80.00 22 56 50 1918.33 -1.31 24.18 214.92 119.83 23 28 48 918.3 10.92 3.51
 90.00 0 43 31 1586.91 .97 1.07 216.18 118.28 1 9 58 586.9 12.44 339.92
 100.00 1 43 38 1392.80 -1.31 345.55 214.92 119.83 2 6 51 392.8 10.92 324.88
 110.00 2 10 38 1308.07 -6.38 335.99 211.78 123.62 2 32 26 308.1 7.58 316.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7272 TRA-1.4719 TC3 -.0107 BAU .0661 SGT 1907.0 SGR 510.5 SG3 273.3 ST 47.0 SR 23.7 SS 37.3
 RDE -.4407 RRA .0347 RC3 .1738 FAU .04903 RRT .3052 RRF -.3285 RTF -.8506 CRT .8171 CRS .6563 CST .9703
 FDE .6741 FRA 2.2298 FC3-1.4949 BSP 3275 SGB 1974.1 R23 -.0535 R13 -.8520 LSA 62.4 MSA 16.3 SSA 1.2
 BDE .8504 BRA 1.4723 BC3 .1741 FSP 399 SGI 1913.8 SG2 484.4 THA 4.99 EL1 51.1 EL2 12.6 ALF 23.93

LAUNCH DATE APR 10 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

DISTANCE 380.581

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.576 GAL -5.00 AZL 92.38 HCA 129.96 SMA 206.13 ECC .28559 INC 2.3758 V1 29.733
RP 206.77 LAP -1.82 LOP 329.46 VP 25.295 GAP 16.59 AZP 88.47 TAL 337.23 TAP 107.19 RCA 147.27 APO 265.00 V2 26.485
RC 59.485 GL -15.41 GP 3.73 ZAL 130.94 ZAP 182.84 ETS 167.59 ZAE 171.76 ETE 89.32 ZAC 104.41 ETC 276.72 LVI -20.03

PLANETOCENTRIC CONIC

C3 27.245 VHL 5.220 DLA -24.96 RAL 340.32 RAD 6645.9 VEL 12.133 PTH 7.10 VHP 7.811 DPA -15.18 RAP 314.63 ECC 1.4484
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 18 28 26 2697.21 -17.10 75.11 201.82 135.11 19 13 23 1697.2 1.13 59.00
60.00 19 40 23 2505.87 -11.29 63.27 207.21 128.95 20 22 9 1505.9 4.77 45.26
70.00 21 12 38 2234.61 -5.37 45.67 211.61 123.78 21 49 53 1234.6 8.57 26.11
80.00 23 4 14 1865.36 -.19 22.37 214.83 119.86 23 35 39 885.4 11.97 1.62
90.00 0 52 26 1549.09 2.19 358.96 216.15 118.20 1 18 15 549.1 13.54 337.69
100.00 1 51 2 1359.83 -.19 343.74 214.83 119.86 2 13 42 359.8 11.97 322.99
110.00 2 16 1 1281.43 -5.37 334.59 211.61 123.78 2 37 22 281.4 8.57 315.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7227 TRA-1.4533 TC3 .0014 BAU .0675 SGT 1932.4 SGR 508.3 SG3 291.3 ST 47.7 SR 23.5 S8 38.6
RDE -.4275 RRA .0217 RC3 .1854 FAU .05088 RRT .3321 RRF -.3577 RTF -.8554 CRT .8227 CRS .6601 CST .9692
FDE .6998 FRA 2.3255 FC3-1.6168 BSP 3329 SGB 1998.2 R23 -.0585 R13 -.8570 LSA 63.6 MSA 16.2 S8A 1.2
BDE .8397 BRA 1.4555 BC3 .1854 F8P 429 SG1 1940.3 SG2 477.6 THA 5.32 EL1 51.7 EL2 12.3 ALF 23.46

LAUNCH DATE APR 10 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

DISTANCE 384.023

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.488 GAL -4.88 AZL 92.41 HCA 131.22 SMA 204.27 ECC .27870 INC 2.4111 V1 29.733
RP 206.74 LAP -1.81 LOP 330.73 VP 25.183 GAP 16.17 AZP 88.41 TAL 337.33 TAP 106.56 RCA 147.34 APO 261.19 V2 26.489
RC 60.233 GL -15.92 GP 3.91 ZAL 130.82 ZAP 161.83 ETS 167.78 ZAE 171.67 ETE 85.79 ZAC 104.56 ETC 276.78 LVI -20.29

PLANETOCENTRIC CONIC

C3 26.180 VHL 5.117 DLA -25.43 RAL 340.55 RAD 6645.5 VEL 12.089 PTH 7.07 VHP 7.580 DPA -14.94 RAP 314.84 ECC 1.4309
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 18 31 42 2676.85 -16.11 74.17 201.61 135.40 19 16 19 1676.8 2.15 58.15
60.00 19 44 34 2463.02 -10.31 62.13 207.03 129.18 20 25 57 1483.0 5.77 44.16
70.00 21 16 17 2207.01 -4.35 44.24 211.48 123.91 21 55 5 1207.5 9.58 24.66
80.00 23 12 11 1891.48 .97 20.49 214.79 119.84 23 43 2 851.0 13.04 359.84
90.00 1 2 13 1508.83 3.48 356.71 216.18 118.08 1 27 22 508.8 14.69 335.29
100.00 1 58 59 1325.49 .97 341.85 214.79 119.84 2 21 4 325.5 13.04 321.00
110.00 2 21 40 1254.30 -4.35 333.16 211.48 123.91 2 42 34 254.3 9.58 313.58

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7056 TRA-1.4253 TC3 .0327 BAU .0703 SGT 1936.2 SGR 506.8 SG3 310.4 ST 47.6 SR 23.2 S8 39.8
RDE -.4147 RRA .0087 RC3 .1981 FAU .05285 RRT .3615 RRF -.3889 RTF -.8652 CRT .8264 CRS .6643 CST .9690
FDE .7264 FRA 2.4256 FC3-1.7477 BSP 3216 SGB 2001.5 R23 -.0606 R13 -.8669 LSA 64.2 MSA 16.2 S8A 1.2
BDE .8184 BRA 1.4254 BC3 .2008 F8P 460 SG1 1945.4 SG2 470.3 THA 5.74 EL1 51.5 EL2 12.1 ALF 23.32

LAUNCH DATE APR 10 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

DISTANCE 387.525

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.406 GAL -4.77 AZL 92.45 HCA 132.49 SMA 202.54 ECC .27821 INC 2.4479 V1 29.733
RP 206.71 LAP -1.80 LOP 332.00 VP 25.076 GAP 15.75 AZP 88.35 TAL 337.44 TAP 109.93 RCA 147.40 APO 257.87 V2 26.492
RC 61.050 GL -16.45 GP 4.10 ZAL 130.69 ZAP 160.79 ETS 167.93 ZAE 171.55 ETE 82.85 ZAC 104.72 ETC 276.84 LVI -20.54

PLANETOCENTRIC CONIC

C3 28.198 VHL 5.020 DLA -25.92 RAL 340.78 RAD 6645.1 VEL 12.049 PTH 7.03 VHP 7.357 DPA -14.69 RAP 315.02 ECC 1.4147
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 18 39 4 2656.61 -15.13 73.26 201.46 135.67 19 19 20 1856.6 3.17 57.30
60.00 19 48 56 2460.14 -9.32 61.01 208.90 129.39 20 29 56 1460.1 6.77 43.06
70.00 21 24 13 2179.96 -3.30 42.80 211.41 124.01 22 0 33 1180.0 10.59 23.17
80.00 23 20 45 1815.24 2.18 18.52 214.82 119.79 23 51 0 815.2 14.14 387.55
90.00 1 13 4 1465.68 4.86 354.29 216.30 117.89 1 37 30 465.7 15.89 332.69
100.00 2 7 33 1269.71 2.18 339.89 214.82 119.79 2 29 2 289.7 14.14 318.92
110.00 2 27 35 1226.78 -3.30 331.72 211.41 124.01 2 48 2 226.8 10.59 312.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7077 TRA-1.4143 TC3 .0343 BAU .0720 SGT 1968.5 SGR 506.2 SG3 330.7 ST 46.5 SR 23.0 S8 41.1
RDE -.4028 RRA -.0052 RC3 .2110 FAU .05492 RRT .3919 RRF -.4224 RTF -.8682 CRT .8344 CRS .6685 CST .9672
FDE .7547 FRA 2.5314 FC3-1.8870 BSP 3382 SGB 2032.6 R23 -.0685 R13 -.8682 LSA 65.7 MSA 16.1 S8A 1.2
BDE .8143 BRA 1.4143 BC3 .2138 F8P 494 SG1 1979.1 SG2 463.3 THA 6.09 EL1 52.4 EL2 11.7 ALF 22.77

LAUNCH DATE APR 10 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

DISTANCE 391.082

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 33.327 GAL -4.68 AZL 92.49 HCA 133.78 SMA 200.93 ECC .28607 INC 2.4862 V1 29.733
RP 206.69 LAP -1.80 LOP 333.27 VP 24.974 GAP 15.35 AZP 88.28 TAL 337.54 TAP 111.30 RCA 147.47 APO 254.40 V2 26.498
RC 61.933 GL -17.00 GP 4.30 ZAL 130.85 ZAP 159.72 ETS 168.06 ZAE 171.42 ETE 80.50 ZAC 104.89 ETC 276.90 LVI -20.80

PLANETOCENTRIC CONIC

C3 24.291 VHL 4.929 DLA -26.42 RAL 341.01 RAD 6644.7 VEL 12.011 PTH 7.00 VHP 7.141 DPA -14.43 RAP 315.18 ECC 1.3998
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 18 38 33 2636.41 -14.14 72.35 201.34 135.92 19 22 29 1636.4 4.18 56.46
60.00 19 53 28 2437.13 -8.32 59.88 206.82 129.58 20 34 5 1437.1 7.77 41.94
70.00 21 30 29 2151.88 -2.23 41.33 211.40 124.09 22 6 21 1151.9 11.62 21.65
80.00 23 30 5 1777.54 3.46 16.45 214.93 119.68 23 59 42 777.5 15.28 355.33
90.00 1 25 24 1418.32 6.36 351.62 216.52 117.61 1 49 2 418.3 17.16 329.80
100.00 2 16 52 1252.01 3.46 337.82 214.93 119.68 2 37 44 252.0 15.28 316.70
110.00 2 33 51 1198.70 -2.23 330.25 211.40 124.09 2 53 50 198.7 11.62 310.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7068 TRA-1.3996 TC3 .0397 BAU .0741 SGT 1994.4 SGR 506.8 SG3 352.4 ST 49.3 SR 22.8 S8 42.5
RDE -.3915 RRA -.0195 RC3 .2247 FAU .05711 RRT .4240 RRF -.4579 RTF -.8683 CRT .8423 CRS .6754 CST .9655
FDE .7845 FRA 2.6433 FC3-2.0353 BSP 3448 SGB 2057.8 R23 -.0766 R13 -.8706 LSA 67.0 MSA 16.1 S8A 1.2
BDE .8080 BRA 1.3998 BC3 .2282 F8P 530 SG1 2006.6 SG2 456.2 THA 6.49 EL1 53.1 EL2 11.4 ALF 22.33

LAUNCH DATE	APR 10 1971	FLIGHT TIME	150.00	ARRIVAL DATE	SEP 7 1971
HELIOCENTRIC CONIC			DISTANCE 394.690	EARTH TO MARS	
RL	149.86 LAL .00 LOL 199.48 VL 33.233 GAL -4.56 AZL 92.53 HCA 135.03 SNA 199.45 ECC .26028 INC 2.5261 V1 29.733				
RP	206.68 LAP -1.79 LOP 334.54 VP 24.877 GAP 14.95 AZP 88.21 TAL 337.65 TAP 112.68 RCA 147.53 APO 251.36 V2 26.496				
RC	62.879 GL -17.56 GP 4.52 ZAL 130.39 ZAP 158.62 ETS 168.16 ZAE 171.27 ETE 78.74 ZAC 105.08 ETC 276.95 LVI -21.07				
PLANETOCENTRIC CONIC					
C3	23.455 VHL 4.843 DLA -26.94 RAL 341.25 RAD 6644.3 VEL 11.977 PTH 6.97 VHP 6.932 DPA -14.17 RAP 315.31 ECC 1.3660				
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG				
50.00	18 42 9 2616.25 -13.16 71.45 201.26 136.15 19 25 45 1616.3 5.19 55.61				
60.00	19 58 12 2413.98 -7.32 58.75 206.78 129.74 20 38 26 1414.0 8.78 40.81				
70.00	21 37 6 2123.17 -1.13 39.83 211.44 124.14 22 12 29 1123.2 12.66 20.08				
80.00	23 40 21 1737.38 4.81 14.23 215.12 119.50 24 9 18 737.4 16.46 352.93				
90.00	1 39 50 1364.70 8.04 348.58 216.88 117.20 2 2 35 364.7 18.55 326.47				
100.00	2 27 8 1211.85 4.81 335.60 215.12 119.50 2 47 20 211.8 16.46 314.30				
110.00	2 40 28 1169.99 -1.13 328.75 211.44 124.14 2 59 58 170.0 12.66 308.99				
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY	
TDE	-.7040 TRA-1.3815 TC3 .0478 BAU .0765 SGT 2014.2 SGR 508.7 SCS 375.3 ST 49.9 SR 22.5 SS 43.9				
RDE	-.3808 RRA -.0343 RC3 .2394 FAU .05942 RRT .4581 RRF -.4953 RTF -.8709 CRT .8507 CRS .6825 CST .9639				
FDE	.8163 FRA 2.7605 FC3-2.1931 B5P 3508 SGB 2077.4 R23 -.0849 R13 -.8735 LSA 68.3 MSA 16.1 S8A 1.2				
BDE	.8004 BRA 1.3819 BC3 .2441 F5P 568 SG1 2028.3 SCS 449.0 THA 6.94 EL1 53.6 EL2 11.0 ALF 21.99				

LAUNCH DATE	APR 10 1971	FLIGHT TIME	152.00	ARRIVAL DATE	SEP 9 1971
HELIOCENTRIC CONIC			DISTANCE 398.344	EARTH TO MARS	
RL	149.86 LAL .00 LOL 199.48 VL 33.183 GAL -4.46 AZL 92.57 HCA 136.30 SNA 198.06 ECC .25481 INC 2.5679 V1 29.733				
RP	206.67 LAP -1.77 LOP 335.81 VP 24.784 GAP 14.56 AZP 88.14 TAL 337.76 TAP 114.08 RCA 147.60 APO 248.53 V2 26.496				
RC	63.888 GL -18.13 GP 4.78 ZAL 130.23 ZAP 157.50 ETS 168.24 ZAE 171.13 ETE 77.58 ZAC 105.30 ETC 276.99 LVI -21.34				
PLANETOCENTRIC CONIC					
C3	22.685 VHL 4.763 DLA -27.47 RAL 341.50 RAD 6644.0 VEL 11.945 PTH 6.95 VHP 6.730 DPA -13.90 RAP 315.40 ECC 1.3733				
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG				
50.00	18 45 54 2596.13 -12.17 70.57 201.23 136.36 19 29 10 1596.1 6.20 54.76				
60.00	20 3 9 2390.66 -6.30 57.62 206.79 129.89 20 42 59 1390.7 9.78 39.66				
70.00	21 44 8 2093.72 -.01 38.30 211.54 124.15 22 19 1 1093.7 13.72 18.45				
80.00	23 51 49 1693.96 6.26 11.83 215.41 119.25 24 20 3 694.0 17.70 350.31				
90.00	1 57 50 1300.26 10.03 344.88 217.43 116.58 2 19 31 300.3 20.12 322.40				
100.00	2 38 37 1168.43 8.26 333.19 215.41 119.25 2 58 6 168.4 17.70 311.68				
110.00	2 47 30 1140.54 -.01 327.21 211.54 124.15 3 6 30 140.5 13.72 307.37				
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY	
TDE	-.6994 TRA-1.3616 TC3 .0574 BAU .0793 SGT 2029.6 SGR 512.2 SCS 399.6 ST 50.4 SR 22.3 SS 45.2				
RDE	-.3706 RRA -.0497 RC3 .2550 FAU .06190 RRT .4932 RRF -.5340 RTF -.8735 CRT .8592 CRS .6898 CST .9622				
FDE	.8482 FRA 2.8652 FC3-2.3624 B5P 3554 SGB 2093.2 R23 -.0939 R13 -.8765 LSA 69.4 MSA 16.1 S8A 1.2				
BDE	.7915 BRA 1.3625 BC3 .2614 F5P 609 SG1 2048.0 SCS 442.0 THA 7.44 EL1 54.1 EL2 10.6 ALF 21.73				

LAUNCH DATE	APR 10 1971	FLIGHT TIME	154.00	ARRIVAL DATE	SEP 11 1971
HELIOCENTRIC CONIC			DISTANCE 402.041	EARTH TO MARS	
RL	149.86 LAL .00 LOL 199.48 VL 33.117 GAL -4.37 AZL 92.61 HCA 137.57 SNA 196.78 ECC .24965 INC 2.6117 V1 29.733				
RP	206.68 LAP -1.76 LOP 337.08 VP 24.695 GAP 14.17 AZP 88.07 TAL 337.87 TAP 115.44 RCA 147.65 APO 245.91 V2 26.496				
RC	64.956 GL -18.72 GP 5.01 ZAL 130.05 ZAP 156.34 ETS 168.29 ZAE 170.99 ETE 76.93 ZAC 105.53 ETC 277.03 LVI -21.62				
PLANETOCENTRIC CONIC					
C3	21.977 VHL 4.688 DLA -28.02 RAL 341.75 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 6.535 DPA -13.62 RAP 315.46 ECC 1.3617				
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG				
50.00	18 49 48 2576.05 -11.18 69.89 201.25 136.56 19 32 44 1576.1 7.20 53.91				
60.00	20 8 19 2367.17 -5.27 56.49 206.86 130.01 20 47 47 1367.2 10.79 38.50				
70.00	21 51 37 2063.40 1.15 36.71 211.71 124.14 22 26 0 1063.4 14.79 16.76				
80.00	0 8 53 1645.95 7.85 9.15 215.82 118.90 0 36 19 646.0 19.03 347.36				
90.00	2 24 23 1208.95 12.76 339.57 216.38 115.45 2 44 32 208.9 22.16 316.49				
100.00	2 51 45 1120.42 7.85 330.52 215.82 118.90 3 10 25 120.4 19.03 308.73				
110.00	2 54 59 1110.22 1.15 325.63 211.71 124.14 3 13 30 110.2 14.79 305.67				
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY	
TDE	-.6946 TRA-1.3403 TC3 .0659 BAU .0821 SGT 2041.4 SGR 517.6 SCS 425.3 ST 50.8 SR 22.1 SS 46.7				
RDE	-.3611 RRA -.0688 RC3 .2716 FAU .06449 RRT .5293 RRF -.5740 RTF -.5.59 CRT .8684 CRS .6985 CST .9606				
FDE	.8828 FRA 3.0128 FC3-2.5405 B5P 3568 SGB 2106.0 R23 -.1040 R13 -.8794 LSA 70.6 MSA 16.0 S8A 1.2				
BDE	.7828 BRA 1.3419 BC3 .2795 F5P 652 SG1 2060.6 SCS 435.1 THA 8.00 EL1 54.4 EL2 10.2 ALF 21.52				

LAUNCH DATE	APR 10 1971	FLIGHT TIME	156.00	ARRIVAL DATE	SEP 13 1971
HELIOCENTRIC CONIC			DISTANCE 405.777	EARTH TO MARS	
RL	149.86 LAL .00 LOL 199.48 VL 33.055 GAL -4.28 AZL 92.66 HCA 138.84 SNA 195.59 ECC .24478 INC 2.6578 V1 29.733				
RP	206.70 LAP -1.75 LOP 338.35 VP 24.609 GAP 13.80 AZP 88.00 TAL 337.98 TAP 116.82 RCA 147.71 APO 243.48 V2 26.494				
RC	66.082 GL -19.33 GP 5.28 ZAL 129.88 ZAP 155.15 ETS 168.33 ZAE 170.85 ETE 76.86 ZAC 105.78 ETC 277.06 LVI -21.91				
PLANETOCENTRIC CONIC					
C3	21.328 VHL 4.618 DLA -28.58 RAL 342.01 RAD 6643.4 VEL 11.888 PTH 6.90 VHP 6.346 DPA -13.33 RAP 315.49 ECC 1.3510				
LNCH	AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG				
50.00	18 53 52 2556.00 -10.18 68.82 201.31 136.73 19 36 28 1556.0 8.20 53.06				
60.00	20 13 46 2343.45 -4.23 55.35 206.98 130.12 20 52 49 1343.4 11.81 37.32				
70.00	21 59 39 2032.04 2.35 35.08 211.95 124.08 22 33 31 1032.0 15.89 14.99				
80.00	0 24 28 1590.81 9.65 6.05 216.40 118.39 0 50 59 590.8 20.49 343.92				
85.70	2 23 9 1208.77 16.22 341.20 219.70 113.86 2 43 18 208.8 24.66 317.28				
100.00	3 7 20 1065.29 9.65 327.41 216.40 118.39 3 25 5 65.3 20.49 303.28				
110.00	3 3 1 1078.86 2.35 323.99 211.95 124.08 3 21 0 78.9 15.89 303.91				
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY	
TDE	-.6899 TRA-1.3178 TC3 .0732 BAU .0851 SGT 2050.2 SGR 525.4 SCS 452.6 ST 51.1 SR 21.9 SS 48.2				
RDE	-.3523 RRA -.0827 RC3 .2893 FAU .06722 RRT .5659 RRF -.6146 RTF -.8779 CRT .8783 CRS .7083 CST .9587				
FDE	.9192 FRA 3.1490 FC3-2.7288 B5P 3621 SGB 2116.5 R23 -.1152 R13 -.8819 LSA 71.8 MSA 16.0 S8A 1.1				
BDE	.7746 BRA 1.3204 BC3 .2984 F5P 699 SG1 2072.6 SCS 428.5 THA 8.62 EL1 54.7 EL2 9.8 ALF 21.37				

LAUNCH DATE APR 10 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 15 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.997 GAL -4.19 AZL 92.71 HCA 140.11 SMA 194.48 ECC .24020 INC 2.7059 V1 29.733
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.327 GAP 13.43 AZP 87.92 TAL 338.09 TAP 118.20 RCA 147.76 APO 241.19 V2 26.491
 RC 67.265 GL -19.95 GP 5.57 ZAL 129.66 ZAP 153.93 ETS 168.34 ZAE 170.71 ETE 77.32 ZAC 106.06 ETC 277.09 LVI -22.21

Distance 409.550 Earth to Mars

Planetary Conic: C3 20.735 VHL 4.554 DLA -29.15 RAL 342.27 RAD 6643.2 VEL 11.863 PTH 6.88 VHP 6.163 DPA -13.03 RAP 315.48 ECC 1.3412
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 58 6 2535.96 -9.19 67.96 201.43 136.69 19 40 22 1536.0 9.20 52.20
 60.00 20 19 29 2319.46 -3.10 54.19 207.16 130.20 20 58 8 1319.5 12.83 36.11
 70.00 22 8 17 1999.41 3.59 33.37 212.28 123.99 22 41 37 999.4 17.01 13.13
 80.00 0 44 28 1522.44 11.83 2.15 217.23 117.61 1 9 50 522.4 22.18 339.55
 82.60 1 59 4 1283.13 16.72 346.90 219.68 114.24 2 20 27 283.1 25.27 322.93
 100.00 3 27 20 6284.95 11.83 301.42 217.23 117.61 5 12 5 5285.0 22.18 278.82
 110.00 3 11 40 1046.23 3.59 322.29 212.28 123.99 3 29 6 46.2 17.01 302.04

Differential Corrections: TDE -.6844 TRA-1.2935 TC3 .0809 BAW .0884 SGT 2054.3 SGR 535.9 SG3 481.4 ST 51.3 SR 21.8 SS 49.7
 RDE -.3440 RRA -.1005 RC3 .3083 FAU .07017 RRT .6024 RRF -.6552 RTF -.8797 CRT .8888 CRS .7189 CST .9567
 FDE .9565 FRA 3.2908 FC3-2.9298 BSP 3643 SGB 2123.0 R23 -.1276 R13 -.8844 LSA 72.9 MSA 16.1 SSA 1.1
 BDE .7660 BRA 1.2974 BC3 .3187 F8P 748 SG1 2080.6 SG2 422.3 TMA 9.32 EL1 55.0 EL2 9.3 ALF 21.28

LAUNCH DATE APR 10 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.941 GAL -4.11 AZL 92.76 HCA 141.37 SMA 193.44 ECC .23888 INC 2.7967 V1 29.733
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.449 GAP 13.07 AZP 87.85 TAL 338.20 TAP 119.58 RCA 147.81 APO 239.07 V2 26.487
 RC 68.302 GL -20.59 GP 5.88 ZAL 129.45 ZAP 155.67 ETS 168.34 ZAE 170.57 ETE 78.30 ZAC 106.36 ETC 277.11 LVI -22.52

Distance 413.357 Earth to Mars

Planetary Conic: C3 20.195 VHL 4.494 DLA -29.75 RAL 342.55 RAD 6642.9 VEL 11.841 PTH 6.86 VHP 5.987 DPA -12.72 RAP 315.43 ECC 1.3324
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 2 32 2515.89 -8.19 67.10 201.60 137.03 19 44 28 1515.9 10.19 51.33
 60.00 20 25 31 2295.12 -2.11 53.03 207.41 130.25 21 3 46 1295.1 13.86 34.88
 70.00 22 17 42 1965.13 4.89 31.57 212.69 123.84 22 50 27 965.1 18.17 11.14
 80.00 1 18 24 1410.57 15.27 355.62 218.74 115.97 1 41 54 410.6 24.66 332.16
 80.37 1 42 44 1332.79 17.22 350.81 219.70 114.64 2 4 57 332.8 25.88 326.79
 100.00 4 1 15 6173.08 15.27 294.90 218.74 115.97 5 44 9 5173.1 24.66 271.44
 110.00 3 21 4 1011.95 4.89 320.49 212.69 123.84 3 37 56 11.9 18.17 300.06

Differential Corrections: TDE -.6721 TRA-1.2610 TC3 .1004 BAW .0929 SGT 2042.4 SGR 549.3 SG3 511.7 ST 51.1 SR 21.6 SS 51.1
 RDE -.3362 RRA -.1189 RC3 .3292 FAU .07341 RRT .6395 RRF -.6951 RTF -.8834 CRT .8988 CRS .7300 CST .9548
 FDE .9933 FRA 3.4367 FC3-3.1469 BSP 3570 SGB 2114.9 R23 -.1374 R13 -.8890 LSA 73.7 MSA 16.0 SSA 1.1
 BDE .7515 BRA 1.2665 BC3 .3442 F8P 796 SG1 2073.6 SG2 416.0 TMA 10.17 EL1 54.7 EL2 8.8 ALF 21.40

LAUNCH DATE APR 10 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.889 GAL -4.03 AZL 92.81 HCA 142.64 SMA 192.48 ECC .23182 INC 2.8105 V1 29.733
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.374 GAP 12.72 AZP 87.77 TAL 338.31 TAP 120.95 RCA 147.86 APO 237.10 V2 26.483
 RC 69.791 GL -21.25 GP 6.21 ZAL 129.23 ZAP 151.38 ETS 168.32 ZAE 170.42 ETE 79.78 ZAC 106.70 ETC 277.13 LVI -22.34

Distance 417.195 Earth to Mars

Planetary Conic: C3 19.707 VHL 4.439 DLA -30.35 RAL 342.85 RAD 6642.7 VEL 11.820 PTH 6.84 VHP 5.817 DPA -12.39 RAP 315.34 ECC 1.3243
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 7 11 2495.85 -7.19 66.24 201.83 137.16 19 48 47 1495.9 11.19 50.48
 60.00 20 31 54 2270.46 -1.03 51.85 207.73 130.29 21 9 45 1270.5 14.89 33.62
 70.00 22 28 0 1928.90 6.26 29.66 213.21 123.64 23 0 9 928.9 19.37 9.02
 78.49 1 29 43 1372.17 17.71 353.98 219.78 115.06 1 52 36 372.2 26.50 329.91
 78.49 1 29 43 1372.17 17.71 353.98 219.78 115.06 1 52 36 372.2 26.50 329.91
 78.49 1 29 43 1372.17 17.71 353.98 219.78 115.06 1 52 36 372.2 26.50 329.91
 110.00 3 31 22 6263.76 6.26 296.49 213.21 123.64 5 15 48 5263.8 19.37 275.84

Differential Corrections: TDE -.6728 TRA-1.2403 TC3 .0909 BAW .0953 SGT 2049.9 SGR 566.6 SG3 543.9 ST 51.6 SR 21.5 SS 52.7
 RDE -.3296 RRA -.1392 RC3 .3303 FAU .07633 RRT .6723 RRF -.7340 RTF -.8819 CRT .9112 CRS .7458 CST .9821
 FDE 1.0375 FRA 3.5955 FC3-3.3618 BSP 3660 SGB 2126.8 R23 -.1587 R13 -.8888 LSA 75.1 MSA 16.1 SSA 1.1
 BDE .7492 BRA 1.2481 BC3 .3619 F8P 853 SG1 2086.5 SG2 412.1 TMA 10.96 EL1 55.3 EL2 8.3 ALF 21.30

LAUNCH DATE APR 10 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.840 GAL -3.98 AZL 92.87 HCA 143.91 SMA 191.59 ECC .22799 INC 2.8675 V1 29.733
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.301 GAP 12.38 AZP 87.68 TAL 338.41 TAP 122.32 RCA 147.91 APO 235.27 V2 26.477
 RC 71.130 GL -21.93 GP 6.58 ZAL 129.00 ZAP 150.05 ETS 168.29 ZAE 170.25 ETE 81.75 ZAC 107.06 ETC 277.13 LVI -23.18

Distance 421.062 Earth to Mars

Planetary Conic: C3 19.267 VHL 4.389 DLA -30.98 RAL 343.18 RAD 6642.5 VEL 11.802 PTH 6.82 VHP 5.653 DPA -12.05 RAP 315.21 ECC 1.3171
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 5 2475.71 -6.18 65.39 202.11 137.27 19 53 21 1475.7 12.18 49.58
 60.00 20 38 41 2245.27 .08 50.65 208.12 130.30 21 16 7 1245.3 15.94 32.32
 70.00 22 39 27 1889.89 7.73 27.59 213.86 123.37 23 10 57 889.9 20.63 6.69
 76.80 1 18 40 1405.77 18.21 356.74 219.91 115.50 1 42 5 405.8 27.13 332.62
 76.80 1 18 40 1405.77 18.21 356.74 219.91 115.50 1 42 5 405.8 27.13 332.62
 76.80 1 18 40 1405.77 18.21 356.74 219.91 115.50 1 42 5 405.8 27.13 332.62
 110.00 3 42 50 6224.75 7.73 294.42 213.86 123.37 5 26 34 5224.7 20.63 273.52

Differential Corrections: TDE -.6653 TRA-1.2095 TC3 .0969 BAW .0994 SGT 2037.8 SGR 587.8 SG3 577.5 ST 51.5 SR 21.4 SS 54.3
 RDE -.3235 RRA -.1605 RC3 .3737 FAU .07998 RRT .7049 RRF -.7708 RTF -.8832 CRT .9229 CRS .7580 CST .9497
 FDE 1.0813 FRA 3.581 FC3-3.5939 BSP 3633 SGB 2120.9 R23 -.1720 R13 -.8911 LSA 76.1 MSA 16.2 SSA 1.1
 BDE .7398 BRA 1.2201 BC3 .3860 F8P 910 SG1 2081.2 SG2 408.2 TMA 11.96 EL1 55.2 EL2 7.7 ALF 21.46

LAUNCH DATE APR 10 1971 FLIGHT TIME 166.00 ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC DISTANCE 424.956 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 32.794 GAL -3.89 AZL 92.93 HCA 145.18 SMA 190.76 ECC .22440 INC 2.9280 V1 29.733
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.232 GAP 12.04 AZP 87.60 TAL 338.51 TAP 123.68 RCA 147.95 APO 233.56 V2 26.470
 RC 72.517 GL -22.63 GP 6.97 ZAL 128.76 ZAP 148.67 ETS 168.24 ZAE 170.05 ETE 84.16 ZAC 107.46 ETC 277.13 LVI -23.53

PLANETOCENTRIC CONIC
 C3 18.875 VHL 4.345 DLA -31.62 RAL 343.48 RAD 6642.3 VEL 11.785 PTH 6.81 VHP 5.496 DPA -11.69 RAP 315.04 ECC 1.3106
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 17 15 2455.51 -5.17 64.54 202.47 137.36 19 58 10 1455.5 13.17 48.69
 60.00 20 45 56 2219.52 1.22 49.42 208.60 130.29 21 22 55 1219.5 17.00 30.97
 70.00 22 52 26 1847.15 9.32 25.31 214.64 123.01 23 23 13 847.1 21.96 4.10
 75.23 1 8 59 1435.46 18.70 359.24 220.10 115.97 1 32 55 435.5 27.77 335.06
 75.23 1 8 59 1435.46 18.70 359.24 220.10 115.97 1 32 55 435.5 27.77 335.06
 75.23 1 8 59 1435.46 18.70 359.24 220.10 115.97 1 32 55 435.5 27.77 335.06
 110.00 3 55 48 6182.00 9.32 292.13 214.64 123.01 5 38 50 5182.0 21.96 270.92

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE -.6625 TRA-1.1815 TC3 .0899 BAW .1030 SGT 2029.2 SGR 613.7 SCS 612.9 ST 51.6 SR 21.4 SS 56.0
 RDE -.3183 RRA -1.834 RC3 .3981 FAW .08350 RRT .7335 RRF -.8051 RTF -.8819 CRT .9354 CRS .7738 CST .9467
 FDE 1.1295 FRA 3.9294 FC3-3.8298 BSP 3661 SGB 2120.0 R23 -.1927 R13 -.8915 LSA 77.4 MSA 16.3 SSA 1.0
 BDE .7350 BRA 1.1957 BC3 .4081 FSP 971 SG1 2080.6 SCS 406.8 THA 13.01 EL1 55.4 EL2 7.1 ALF 21.60

LAUNCH DATE APR 10 1971 FLIGHT TIME 168.00 ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC DISTANCE 428.875 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 32.751 GAL -3.83 AZL 92.99 HCA 146.44 SMA 189.98 ECC .22103 INC 2.9924 V1 29.733
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.164 GAP 11.71 AZP 87.51 TAL 338.60 TAP 125.04 RCA 147.99 APO 231.97 V2 26.462
 RC 73.950 GL -23.35 GP 7.39 ZAL 128.51 ZAP 147.26 ETS 168.18 ZAE 169.80 ETE 86.99 ZAC 107.89 ETC 277.13 LVI -23.91

PLANETOCENTRIC CONIC
 C3 18.527 VHL 4.304 DLA -32.28 RAL 343.83 RAD 6642.2 VEL 11.771 PTH 6.80 VHP 5.345 DPA -11.31 RAP 314.82 ECC 1.3049
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 43 2435.12 -4.15 63.68 202.90 137.44 20 3 18 1435.1 14.17 47.79
 60.00 20 53 42 2192.98 2.38 48.15 209.17 130.24 21 30 15 1193.0 18.09 29.57
 70.00 23 7 35 1798.68 11.11 22.69 215.62 122.51 23 37 33 798.7 23.42 1.09
 73.74 1 0 21 1462.39 19.20 1.54 220.36 116.46 1 24 44 462.4 28.42 337.32
 73.74 1 0 21 1462.39 19.20 1.54 220.36 116.46 1 24 44 462.4 28.42 337.32
 73.74 1 0 21 1462.39 19.20 1.54 220.36 116.46 1 24 44 462.4 28.42 337.32
 110.00 4 10 57 6133.95 11.11 289.52 215.62 122.51 5 53 11 5133.5 23.42 267.91

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE -.6505 TRA-1.1429 TC3 .0987 BAW .1082 SGT 1998.8 SGR 644.2 SCS 649.6 ST 51.0 SR 21.4 SS 57.5
 RDE -.3134 RRA -.2074 RC3 .4257 FAW .08745 RRT .7611 RRF -.8362 RTF -.8833 CRT .9468 CRS .7892 CST .9438
 FDE 1.1737 FRA 4.1016 FC3-4.0863 BSP 3577 SGB 2100.1 R23 -.2080 R13 -.8948 LSA 78.1 MSA 16.4 SSA 1.0
 BDE .7221 BRA 1.1616 BC3 .4370 FSP 1030 SG1 2080.6 SCS 405.3 THA 14.35 EL1 55.0 EL2 6.4 ALF 22.01

LAUNCH DATE APR 10 1971 FLIGHT TIME 170.00 ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC DISTANCE 432.817 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 32.710 GAL -3.77 AZL 93.06 HCA 147.71 SMA 189.26 ECC .21787 INC 3.0612 V1 29.733
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.100 GAP 11.39 AZP 87.41 TAL 338.69 TAP 126.39 RCA 148.03 APO 230.49 V2 26.454
 RC 75.426 GL -24.10 GP 7.85 ZAL 128.25 ZAP 145.80 ETS 168.11 ZAE 169.49 ETE 90.14 ZAC 108.37 ETC 277.12 LVI -24.30

PLANETOCENTRIC CONIC
 C3 18.226 VHL 4.269 DLA -32.98 RAL 344.20 RAD 6642.0 VEL 11.758 PTH 6.79 VHP 5.200 DPA -10.91 RAP 314.55 ECC 1.2899
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 28 30 2414.59 -3.12 62.82 203.40 137.50 20 8 43 1414.6 15.17 46.86
 60.00 21 2 3 2185.99 3.99 46.84 209.84 130.17 21 38 9 1165.6 19.20 28.10
 70.00 23 26 11 1740.89 13.20 19.52 216.88 121.79 23 55 11 740.9 25.07 397.41
 72.32 0 52 34 1487.33 19.69 3.72 220.68 116.98 1 17 21 487.3 29.07 339.45
 72.32 0 52 34 1487.33 19.69 3.72 220.68 116.98 1 17 21 487.3 29.07 339.45
 72.32 0 52 34 1487.33 19.69 3.72 220.68 116.98 1 17 21 487.3 29.07 339.45
 110.00 4 29 33 6075.71 13.20 286.35 216.88 121.79 6 10 48 5075.7 25.07 264.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE -.6523 TRA-1.1136 TC3 .0760 BAW .1120 SGT 1988.7 SGR 681.1 SCS 688.6 ST 51.3 SR 21.6 SS 59.4
 RDE -.3105 RRA -.2343 RC3 .4531 FAW .09111 RRT .7817 RRF -.8644 RTF -.8794 CRT .9593 CRS .8078 CST .9402
 FDE 1.2328 FRA 4.2917 FC3-4.3277 BSP 3646 SGB 2102.1 R23 -.2345 R13 -.8938 LSA 78.7 MSA 16.5 SSA 1.0
 BDE .7224 BRA 1.1399 BC3 .4598 FSP 1102 SG1 2080.6 SCS 409.7 THA 15.82 EL1 55.4 EL2 5.7 ALF 22.23

LAUNCH DATE APR 10 1971 FLIGHT TIME 172.00 ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC DISTANCE 436.780 EARTH TO MARS
 RL 149.86 LAL .00 LOL 199.48 VL 32.672 GAL -3.71 AZL 93.14 HCA 148.97 SMA 188.89 ECC .21490 INC 3.1350 V1 29.733
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.037 GAP 11.07 AZP 87.31 TAL 338.77 TAP 127.74 RCA 148.06 APO 229.12 V2 26.444
 RC 76.844 GL -24.88 GP 8.38 ZAL 127.97 ZAP 144.29 ETS 168.03 ZAE 169.11 ETE 93.57 ZAC 108.89 ETC 277.10 LVI -24.72

PLANETOCENTRIC CONIC
 C3 17.988 VHL 4.239 DLA -33.88 RAL 344.80 RAD 6641.9 VEL 11.747 PTH 6.78 VHP 5.081 DPA -10.48 RAP 314.23 ECC 1.2857
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 34 41 2393.77 -2.08 61.98 204.00 137.54 20 14 35 1393.8 16.19 45.92
 60.00 21 11 8 2137.01 4.84 45.47 210.62 130.06 21 48 45 1137.0 20.34 26.94
 70.00 23 52 11 1681.71 16.00 15.09 216.63 120.59 24 19 52 681.7 27.16 352.21
 70.93 0 45 27 1510.81 20.19 5.80 221.08 117.53 1 10 38 510.8 29.74 341.49
 70.93 0 45 27 1510.81 20.19 5.80 221.08 117.53 1 10 38 510.8 29.74 341.49
 70.93 0 45 27 1510.81 20.19 5.80 221.08 117.53 1 10 38 510.8 29.74 341.49
 110.00 4 55 33 5996.57 16.00 281.92 218.63 120.59 6 35 29 4996.6 27.16 259.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 YDE -.6472 TRA-1.0791 TC3 .0645 BAW .1172 SGT 1959.4 SGR 723.8 SCS 728.7 ST 51.0 SR 21.8 SS 61.1
 RDE -.3082 RRA -.2629 RC3 .4836 FAW .09514 RRT .8003 RRF -.8890 RTF -.8771 CRT .9703 CRS .8260 CST .9365
 FDE 1.2892 FRA 4.4824 FC3-4.5843 BSP 3623 SGB 2088.8 R23 -.2565 R13 -.8949 LSA 80.8 MSA 16.7 SSA 1.0
 BDE .7168 BRA 1.1106 BC3 .4879 FSP 1171 SG1 2047.1 SCS 415.4 THA 17.20 EL1 55.3 EL2 4.9 ALF 22.70

LAUNCH DATE APR 10 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC DISTANCE 440.764 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.636 GAL -3.66 AZL 93.21 HCA 150.23 SMA 187.98 ECC .21213 INC 3.2143 V1 29.733
 RP 207.21 LAP -1.60 LOP 349.75 VP 23.977 GAP 10.76 AZP 87.21 TAL 338.84 TAP 129.08 RCA 148.09 APO 227.84 V2 26.433
 RC 78.502 GL -25.69 GP 8.90 ZAL 127.69 ZAP 142.74 ETS 167.93 ZAE 168.64 ETE 97.16 ZAC 109.45 ETC 277.07 LVI -26.16

PLANETOCENTRIC CONIC

C3 17.754 VHL 4.214 DLA -34.39 RAL 345.03 RAD 6641.8 VEL 11.738 PTH 6.77 VHP 4.928 DPA -10.02 RAP 313.86 ECC 1.2922

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 41 18	2372.61	-1.01	61.06	204.68	137.57	20 20 51	1372.6	17.21	44.95
60.00	21 21 5	2106.93	6.16	44.02	211.54	129.91	21 56 12	1106.9	21.52	24.88
69.56	0 38 55	1533.19	20.68	7.82	221.56	118.11	1 4 28	533.2	30.42	343.47
69.56	0 38 55	1533.19	20.68	7.82	221.56	118.11	1 4 28	533.2	30.42	343.47
69.56	0 38 55	1533.19	20.68	7.82	221.56	118.11	1 4 28	533.2	30.42	343.47
69.56	0 38 55	1533.19	20.68	7.82	221.56	118.11	1 4 28	533.2	30.42	343.47
69.56	0 38 55	1533.19	20.68	7.82	221.56	118.11	1 4 28	533.2	30.42	343.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6419 TRA -1.0396 TC3 .0503 BAU .1232 SGT 1923.1 SGR 773.3 SG3 770.2 ST 50.6 SR 22.1 SS 62.9
 RDE -.3069 RRA -.2938 RC3 .5166 FAU .09936 RRT .8150 RRF -.9103 RTF -.8738 CRT .9802 CR8 .8445 CST .9323
 FDE 1.3490 FRA 4.6782 FC3-4.8452 BSP 3594 SGB 2072.8 R23 -.2781 R13 -.8962 LSA 82.0 MSA 16.9 SSA .9
 BDE .7115 BRA 1.0803 BC3 .5190 FSP 1243 SG1 2029.8 SG2 424.8 TMA 19.01 EL1 55.1 EL2 4.0 ALF 23.29

LAUNCH DATE APR 10 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 444.766 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.603 GAL -3.61 AZL 93.30 HCA 151.49 SMA 187.38 ECC .20954 INC 3.2999 V1 29.733
 RP 207.31 LAP -1.57 LOP 351.02 VP 23.918 GAP 10.46 AZP 87.10 TAL 338.91 TAP 130.40 RCA 148.12 APO 226.65 V2 26.422
 RC 80.098 GL -26.53 GP 9.49 ZAL 127.39 ZAP 141.14 ETS 167.82 ZAE 168.06 ETE 100.82 ZAC 110.07 ETC 277.04 LVI -25.64

PLANETOCENTRIC CONIC

C3 17.584 VHL 4.193 DLA -35.14 RAL 345.50 RAD 6641.7 VEL 11.731 PTH 6.76 VHP 4.802 DPA -9.52 RAP 313.44 ECC 1.2894

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 48 25	2350.98	.07	60.16	205.47	137.58	20 27 36	1351.0	18.25	43.94
60.00	21 32 5	2074.90	7.55	42.46	212.61	129.71	22 6 40	1074.9	22.75	23.07
68.21	0 32 53	1554.77	21.16	9.80	222.12	118.74	0 58 48	554.8	31.11	345.41
68.21	0 32 53	1554.77	21.16	9.80	222.12	118.74	0 58 48	554.8	31.11	345.41
68.21	0 32 53	1554.77	21.16	9.80	222.12	118.74	0 58 48	554.8	31.11	345.41
68.21	0 32 53	1554.77	21.16	9.80	222.12	118.74	0 58 48	554.8	31.11	345.41
68.21	0 32 53	1554.77	21.16	9.80	222.12	118.74	0 58 48	554.8	31.11	345.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6360 TRA -.9976 TC3 .0333 BAU .1300 SGT 1880.0 SGR 830.3 SG3 813.0 ST 50.1 SR 22.5 SS 64.7
 RDE -.3068 RRA -.3274 RC3 .5520 FAU .10372 RRT .8259 RRF -.9282 RTF -.8698 CRT .9885 CR8 .8630 CST .9278
 FDE 1.4117 FRA 4.8795 FC3-5.1065 BSP 3551 SGB 2055.2 R23 -.2980 R13 -.8980 LSA 83.1 MSA 17.2 SSA .9
 BDE .7061 BRA 1.0499 BC3 .5530 FSP 1316 SG1 2007.9 SG2 438.3 TMA 21.09 EL1 54.9 EL2 3.1 ALF 24.03

LAUNCH DATE APR 10 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC DISTANCE 448.788 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.572 GAL -3.56 AZL 93.39 HCA 152.75 SMA 186.85 ECC .20712 INC 3.3925 V1 29.733
 RP 207.42 LAP -1.55 LOP 352.28 VP 23.862 GAP 10.17 AZP 86.98 TAL 338.97 TAP 131.72 RCA 148.15 APO 225.54 V2 26.409
 RC 81.730 GL -27.41 GP 10.14 ZAL 127.08 ZAP 139.49 ETS 167.71 ZAE 167.36 ETE 104.44 ZAC 110.76 ETC 277.00 LVI -26.15

PLANETOCENTRIC CONIC

C3 17.460 VHL 4.179 DLA -35.93 RAL 346.00 RAD 6641.7 VEL 11.726 PTH 6.76 VHP 4.683 DPA -8.98 RAP 312.98 ECC 1.2873

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	19 56 7	2328.75	1.19	59.23	206.38	137.56	20 34 56	1328.7	19.31	42.30
60.00	21 44 23	2040.22	9.06	40.77	213.86	129.44	22 18 25	1040.2	24.07	21.08
66.85	0 27 19	1575.85	21.65	11.77	222.77	119.40	0 53 35	575.8	31.81	347.35
66.85	0 27 19	1575.85	21.65	11.77	222.77	119.40	0 53 35	575.8	31.81	347.35
66.85	0 27 19	1575.85	21.65	11.77	222.77	119.40	0 53 35	575.8	31.81	347.35
66.85	0 27 19	1575.85	21.65	11.77	222.77	119.40	0 53 35	575.8	31.81	347.35
66.85	0 27 19	1575.85	21.65	11.77	222.77	119.40	0 53 35	575.8	31.81	347.35

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6288 TRA -.9488 TC3 .0203 BAU .1381 SGT 1822.2 SGR 895.1 SG3 856.3 ST 49.3 SR 23.0 SS 66.4
 RDE -.3078 RRA -.3836 RC3 .5912 FAU .10842 RRT .8340 RRF -.9432 RTF -.8559 CRT .9947 CR8 .8807 CST .9222
 FDE 1.4742 FRA 5.0785 FC3-5.3761 BSP 3462 SGB 2030.2 R23 -.3127 R13 -.9013 LSA 84.0 MSA 17.4 SSA .8
 BDE .6983 BRA 1.0161 BC3 .5916 FSP 1386 SG1 1978.5 SG2 454.9 TMA 23.60 EL1 54.4 EL2 2.2 ALF 24.98

LAUNCH DATE APR 10 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC DISTANCE 482.820 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.542 GAL -3.82 AZL 93.48 HCA 154.01 SMA 186.38 ECC .20487 INC 3.4934 V1 29.733
 RP 207.54 LAP -1.53 LOP 353.54 VP 23.807 GAP 9.88 AZP 86.88 TAL 339.02 TAP 133.03 RCA 148.17 APO 224.52 V2 26.395
 RC 83.399 GL -28.34 GP 10.85 ZAL 126.75 ZAP 137.78 ETS 167.59 ZAE 166.54 ETE 107.94 ZAC 111.50 ETC 276.95 LVI -25.71

PLANETOCENTRIC CONIC

C3 17.384 VHL 4.169 DLA -36.74 RAL 346.55 RAD 6641.8 VEL 11.722 PTH 6.75 VHP 4.570 DPA -8.39 RAP 312.42 ECC 1.2861

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	20 4 30	2309.81	2.34	58.27	207.43	137.53	20 42 56	1305.6	20.40	41.80
60.00	21 58 30	2001.98	10.71	38.64	215.35	129.09	22 31 52	1002.0	25.46	18.83
65.50	0 22 12	1596.52	22.13	13.72	223.53	120.11	0 48 48	596.5	32.53	349.28
65.50	0 22 12	1596.52	22.13	13.72	223.53	120.11	0 48 48	596.5	32.53	349.28
65.50	0 22 12	1596.52	22.13	13.72	223.53	120.11	0 48 48	596.5	32.53	349.28
65.50	0 22 12	1596.52	22.13	13.72	223.53	120.11	0 48 48	596.5	32.53	349.28
65.50	0 22 12	1596.52	22.13	13.72	223.53	120.11	0 48 48	596.5	32.53	349.28

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6281 TRA -.9073 TC3 -.0203 BAU .1465 SGT 1779.4 SGR 970.0 SG3 901.4 ST 49.1 SR 23.8 SS 68.4
 RDE -.3117 RRA -.4046 RC3 .6300 FAU .11259 RRT .8345 RRF -.9556 RTF -.8560 CRT .9985 CR8 .8992 CST .9165
 FDE 1.5552 FRA 5.2938 FC3-5.6071 BSP 3497 SGB 2026.6 R23 -.3322 R13 -.9023 LSA 85.7 MSA 17.7 SSA .8
 BDE .7012 BRA .9934 BC3 .6304 FSP 1471 SG1 1968.2 SG2 483.2 TMA 26.16 EL1 54.5 EL2 1.2 ALF 25.88

LAUNCH DATE APR 10 1971 FLIGHT TIME 182.00 ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC DISTANCE 456.870 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.515 GAL -3.49 AZL 93.60 HCA 155.27 SMA 185.88 ECC .20277 INC 3.6037 V1 29.733
 RP 207.86 LAP -1.51 LOP 354.80 VP 23.753 GAP 9.59 AZP 86.75 TAL 339.08 TAP 134.33 RCA 148.19 APO 223.57 V2 26.381
 RC 85.104 GL -29.32 GP 11.62 ZAL 126.40 ZAP 136.02 ETS 167.45 ZAE 165.57 ETE 111.24 ZAC 112.32 ETC 276.89 LVI -27.31

PLANETOCENTRIC CONIC

C3 17.357 VHL 4.166 DLA -37.60 RAL 347.15 RAD 6641.6 VEL 11.721 PTH 6.75 VHP 4.464 DPA -7.75 RAP 311.82 ECC 1.2856

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	20 13 42	2281.89	3.54	57.27	208.63	137.48	20 31 44	1281.9	21.52	40.64
60.00	22 15 3	1958.23	12.57	36.70	217.13	128.61	22 47 41	958.2	27.05	16.19
64.12	0 17 29	1617.04	22.60	15.70	224.41	120.88	0 44 26	617.0	33.27	351.24
64.12	0 17 29	1617.04	22.60	15.70	224.41	120.88	0 44 26	617.0	33.27	351.24
64.12	0 17 29	1617.04	22.60	15.70	224.41	120.88	0 44 26	617.0	33.27	351.24
64.12	0 17 29	1617.04	22.60	15.70	224.41	120.88	0 44 26	617.0	33.27	351.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6245 TRA -.8571 TC3 -.0523 BAU .1567 SGT 1718.3 SGR 1054.5 SG3 946.4 ST 48.4 SR 24.6 SS 70.3
 RDE -.3172 RRA -.4488 RC3 .6732 FAU .11709 RRT .8329 RRF -.9656 RTF -.8464 CRT .9993 CRS .9160 CST .9099
 FDE 1.6365 FRA 5.5028 FC3-5.8404 BSP 3471 SGB 2016.1 R23 -.3419 R13 -.9063 LSA 87.0 MSA 18.1 SSA .8
 BDE .7004 BRA .9675 BC3 .6752 FSP 1552 SG1 1949.4 SG2 514.4 THA 29.31 EL1 54.4 EL2 .8 ALF 27.09

LAUNCH DATE APR 10 1971 FLIGHT TIME 184.00 ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC DISTANCE 460.934 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.490 GAL -3.45 AZL 93.72 HCA 156.52 SMA 185.45 ECC .20083 INC 3.7248 V1 29.733
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.701 GAP 9.31 AZP 86.58 TAL 339.09 TAP 135.61 RCA 148.21 APO 222.70 V2 26.365
 RC 86.843 GL -30.35 GP 12.48 ZAL 126.02 ZAP 134.20 ETS 167.32 ZAE 164.46 ETE 114.30 ZAC 113.23 ETC 276.83 LVI -27.97

PLANETOCENTRIC CONIC

C3 17.383 VHL 4.169 DLA -38.49 RAL 347.81 RAD 6641.6 VEL 11.722 PTH 6.75 VHP 4.366 DPA -7.04 RAP 311.16 ECC 1.2861

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	20 23 53	2256.72	4.81	56.21	210.02	137.39	21 1 30	1256.7	22.70	39.40
60.00	22 35 26	1905.51	14.80	34.02	219.33	127.92	23 7 11	905.5	28.86	12.90
62.72	0 13 9	1637.59	23.07	17.70	225.41	121.71	0 40 27	637.6	34.03	353.24
62.72	0 13 9	1637.59	23.07	17.70	225.41	121.71	0 40 27	637.6	34.03	353.24
62.72	0 13 9	1637.59	23.07	17.70	225.41	121.71	0 40 27	637.6	34.03	353.24
62.72	0 13 9	1637.59	23.07	17.70	225.41	121.71	0 40 27	637.6	34.03	353.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6212 TRA -.8034 TC3 -.0897 BAU .1884 SGT 1650.5 SGR 1149.8 SG3 991.1 ST 47.6 SR 25.9 SS 72.3
 RDE -.3250 RRA -.4975 FC3 .7190 FAU .12134 RRT .8266 RRF -.9736 RTF -.8338 CRT .9968 CRS .9313 CST .9025
 FDE 1.7236 FRA 5.7095 FC3-6.0529 BSP 3451 SGB 2011.5 R23 -.3452 R13 -.9118 LSA 88.4 MSA 18.5 SSA .7
 BDE .7011 BRA .9450 BC3 .7246 FSP 1632 SG1 1934.3 SG2 552.2 THA 32.96 EL1 54.2 EL2 1.8 ALF 28.50

LAUNCH DATE APR 10 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC DISTANCE 465.010 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.466 GAL -3.43 AZL 93.86 HCA 157.78 SMA 185.08 ECC .19903 INC 3.8586 V1 29.733
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.650 GAP 9.04 AZP 86.43 TAL 339.11 TAP 136.89 RCA 148.22 APO 221.89 V2 26.349
 RC 88.616 GL -31.45 GP 13.42 ZAL 125.62 ZAP 132.33 ETS 167.17 ZAE 163.20 ETE 117.06 ZAC 114.22 ETC 276.77 LVI -28.70

PLANETOCENTRIC CONIC

C3 17.469 VHL 4.180 DLA -39.44 RAL 348.55 RAD 6641.7 VEL 11.726 PTH 6.76 VHP 4.275 DPA -6.26 RAP 310.44 ECC 1.2875

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	20 35 16	2229.91	6.15	55.08	211.64	137.27	21 12 26	1229.9	23.94	38.05
60.00	23 3 11	1834.11	17.75	30.29	222.28	126.80	23 33 47	834.1	31.16	8.25
61.28	0 9 11	1658.44	23.54	19.75	226.56	122.61	0 36 50	658.4	34.80	355.31
61.28	0 9 11	1658.44	23.54	19.75	226.56	122.61	0 36 50	658.4	34.80	355.31
61.28	0 9 11	1658.44	23.54	19.75	226.56	122.61	0 36 50	658.4	34.80	355.31
61.28	0 9 11	1658.44	23.54	19.75	226.56	122.61	0 36 50	658.4	34.80	355.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6187 TRA -.7445 TC3 -.1260 BAU .1820 SGT 1572.4 SGR 1257.1 SG3 1034.7 ST 46.7 SR 27.3 SS 74.1
 RDE -.3354 RRA -.5507 RC3 .7691 FAU .12618 RRT .8160 RRF -.9799 RTF -.8182 CRT .9909 CRS .9449 CST .8939
 FDE 1.8147 FRA 5.9063 FC3-6.2534 BSP 3423 SGB 2013.1 R23 -.3487 R13 -.9201 LSA 89.8 MSA 18.9 SSA .7
 BDE .7020 BRA .9261 BC3 .7794 FSP 1707 SG1 1923.5 SG2 594.1 THA 37.27 EL1 54.0 EL2 3.2 ALF 30.19

LAUNCH DATE APR 10 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC DISTANCE 469.098 EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.444 GAL -3.40 AZL 94.01 HCA 159.03 SMA 184.69 ECC .19737 INC 4.0073 V1 29.733
 RP 208.08 LAP -1.43 LOP 358.58 VP 23.601 GAP 8.78 AZP 86.26 TAL 339.12 TAP 138.15 RCA 148.24 APO 221.14 V2 26.332
 RC 90.421 GL -32.83 GP 14.47 ZAL 125.17 ZAP 130.39 ETS 167.03 ZAE 161.78 ETE 119.53 ZAC 115.33 ETC 276.89 LVI -29.50

PLANETOCENTRIC CONIC

C3 17.619 VHL 4.198 DLA -40.44 RAL 349.36 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 4.192 DPA -5.39 RAP 309.65 ECC 1.2900

LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	20 48 11	2200.91	7.60	53.85	213.52	137.11	21 24 52	1200.9	25.26	36.56
59.79	0 5 37	1679.66	23.99	21.87	227.87	123.59	0 33 37	679.7	35.60	357.47
59.79	0 5 37	1679.66	23.99	21.87	227.87	123.59	0 33 37	679.7	35.60	357.47
59.79	0 5 37	1679.66	23.99	21.87	227.87	123.59	0 33 37	679.7	35.60	357.47
59.79	0 5 37	1679.66	23.99	21.87	227.87	123.59	0 33 37	679.7	35.60	357.47
59.79	0 5 37	1679.66	23.99	21.87	227.87	123.59	0 33 37	679.7	35.60	357.47

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6069 TRA -.6754 TC3 -.1527 BAU .1978 SGT 1473.1 SGR 1376.2 SG3 1075.3 ST 45.2 SR 28.8 SS 75.7
 RDE -.3477 RRA -.6077 RC3 .8257 FAU .13126 RRT .8014 RRF -.9848 RTF -.7997 CRT .9812 CRS .9564 CST .8831
 FDE 1.9015 FRA 6.0779 FC3-6.4497 BSP 3342 SGB 2015.9 R23 -.3175 R13 -.9324 LSA 90.7 MSA 19.2 SSA .6
 BDE .6995 BRA .9086 BC3 .8397 FSP 1763 SG1 1913.8 SG2 633.6 THA 42.57 EL1 53.4 EL2 4.7 ALF 32.31

LAUNCH DATE APR 10 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.424 GAL -3.36 AZL 94.17 HCA 160.20 SMA 184.35 ECC .19584 INC 4.1738 V1 28.733
RP 208.24 LAP -1.41 LOP 359.81 VP 23.553 GAP 8.52 AZP 86.07 TAL 339.11 TAP 139.39 RCA 148.25 APO 220.45 V2 26.313
RC 92.259 GL -33.89 GP 15.63 ZAL 124.70 ZAP 128.40 ETS 166.88 ZAE 160.20 ETE 121.68 ZAC 116.55 ETC 276.82 LVI -30.38

PLANETOCENTRIC CONIC

C3 17.847 VHL 4.225 DLA -41.51 RAL 350.27 RAD 6641.9 VEL 11.742 PTH 6.77 VHP 4.118 DPA -4.41 RAP 308.80 ECC 1.2937
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 3 1 2169.07 9.18 52.49 215.75 136.89 21 39 10 1169.1 26.69 34.89
58.26 0 2 31 1701.41 24.43 24.07 229.38 124.66 0 30 52 701.4 36.42 359.73
58.26 0 2 31 1701.41 24.43 24.07 229.38 124.66 0 30 52 701.4 36.42 359.73
58.26 0 2 31 1701.41 24.43 24.07 229.38 124.66 0 30 52 701.4 36.42 359.73
58.26 0 2 31 1701.41 24.43 24.07 229.38 124.66 0 30 52 701.4 36.42 359.73
58.26 0 2 31 1701.41 24.43 24.07 229.38 124.66 0 30 52 701.4 36.42 359.73
58.26 0 2 31 1701.41 24.43 24.07 229.38 124.66 0 30 52 701.4 36.42 359.73

DIFFERENTIAL CORRECTIONS

TDE -.6145 TRA -.6190 TC3 -.2211 BAU .2152
RDE -.3693 RRA -.6782 RC3 .8743 FAU .13429
FDE 2.0384 FRA 6.2772 FC3-6.5144 BSP 3483
BDE .7169 BRA .9167 BC3 .9018 FSP 1859

MID-COURSE EXECUTION ACCURACY

SGT 1409.2 SGR 1515.3 SG3 1117.1
RRT .7737 RRF -.9887 RTF -.7694
SGB 2069.3 R23 -.2983 R13 -.9427
SG1 1949.4 SG2 694.0 THA 47.68

ORBIT DETERMINATION ACCURACY

ST 44.9 SR 31.1 SS 78.2
CRT .9682 CRS .9872 CST .8738
LSA 93.3 MSA 19.8 SSA .6
EL1 54.3 EL2 6.4 ALF 34.38

LAUNCH DATE APR 10 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.405 GAL -3.36 AZL 94.36 HCA 161.53 SMA 184.04 ECC .19444 INC 4.3615 V1 29.733
RP 208.41 LAP -1.38 LOP 1.06 VP 23.505 GAP 8.26 AZP 85.86 TAL 339.10 TAP 140.63 RCA 148.25 APO 219.82 V2 26.294
RC 94.128 GL -35.28 GP 16.92 ZAL 124.16 ZAP 126.34 ETS 166.74 ZAE 156.45 ETE 123.53 ZAC 117.90 ETC 276.54 LVI -31.37

PLANETOCENTRIC CONIC

C3 18.162 VHL 4.262 DLA -42.64 RAL 351.30 RAD 6642.0 VEL 11.755 PTH 6.78 VHP 4.054 DPA -3.32 RAP 307.88 ECC 1.2989
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 20 29 2132.99 10.97 50.93 218.42 136.59 21 56 2 1133.0 28.29 32.93
56.64 23 55 54 1724.07 24.84 26.37 231.10 125.85 24 24 38 724.1 37.26 2.13
56.64 23 55 54 1724.07 24.84 26.37 231.10 125.85 24 24 38 724.1 37.26 2.13
56.64 23 55 54 1724.07 24.84 26.37 231.10 125.85 24 24 38 724.1 37.26 2.13
56.64 23 55 54 1724.07 24.84 26.37 231.10 125.85 24 24 38 724.1 37.26 2.13
56.64 23 55 54 1724.07 24.84 26.37 231.10 125.85 24 24 38 724.1 37.26 2.13
56.64 23 55 54 1724.07 24.84 26.37 231.10 125.85 24 24 38 724.1 37.26 2.13

DIFFERENTIAL CORRECTIONS

TDE -.6130 TRA -.5484 TC3 -.2693 BAU .2356
RDE -.3939 RRA -.7487 RC3 .9322 FAU .13815
FDE 2.1636 FRA 6.4285 FC3-6.5853 BSP 3547
BDE .7287 BRA .9280 BC3 .9703 FSP 1922

MID-COURSE EXECUTION ACCURACY

SGT 1317.8 SGR 1668.6 SG3 1152.8
RRT .7393 RRF -.9917 RTF -.7329
SGB 2126.2 R23 -.2605 R13 -.9569
SG1 1992.1 SG2 743.2 THA 53.93

ORBIT DETERMINATION ACCURACY

ST 43.9 SR 33.5 SS 80.1
CRT .9516 CRS .9756 CST .8614
LSA 93.1 MSA 20.3 SSA .8
EL1 54.6 EL2 8.3 ALF 37.02

LAUNCH DATE APR 10 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.387 GAL -3.34 AZL 94.58 HCA 162.77 SMA 183.75 ECC .19315 INC 4.5751 V1 29.733
RP 208.58 LAP -1.35 LOP 2.31 VP 23.459 GAP 8.01 AZP 85.63 TAL 339.08 TAP 141.85 RCA 148.26 APO 219.24 V2 26.274
RC 96.027 GL -36.74 GP 18.36 ZAL 123.57 ZAP 124.21 ETS 166.60 ZAE 156.52 ETE 125.09 ZAC 119.42 ETC 276.46 LVI -32.48

PLANETOCENTRIC CONIC

C3 18.585 VHL 4.311 DLA -43.87 RAL 352.47 RAD 6642.2 VEL 11.773 PTH 6.80 VHP 4.000 DPA -2.08 RAP 306.88 ECC 1.3059
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 41 42 2090.52 13.06 49.07 221.69 136.17 22 16 33 1090.5 30.12 30.59
54.95 23 53 46 1747.72 25.24 28.80 233.10 127.16 24 22 53 747.7 38.12 4.71
54.95 23 53 46 1747.72 25.24 28.80 233.10 127.16 24 22 53 747.7 38.12 4.71
54.95 23 53 46 1747.72 25.24 28.80 233.10 127.16 24 22 53 747.7 38.12 4.71
54.95 23 53 46 1747.72 25.24 28.80 233.10 127.16 24 22 53 747.7 38.12 4.71
54.95 23 53 46 1747.72 25.24 28.80 233.10 127.16 24 22 53 747.7 38.12 4.71
54.95 23 53 46 1747.72 25.24 28.80 233.10 127.16 24 22 53 747.7 38.12 4.71

DIFFERENTIAL CORRECTIONS

TDE -.6124 TRA -.4730 TC3 -.3201 BAU .2588
RDE -.4263 RRA -.8294 RC3 .9912 FAU .14139
FDE 2.3048 FRA 6.5809 FC3-6.5864 BSP 3660
BDE .7462 BRA .9548 BC3 1.0416 FSP 1978

MID-COURSE EXECUTION ACCURACY

SGT 1224.4 SGR 1841.0 SG3 1183.0
RRT .6915 RRF -.9939 RTF -.6534
SGB 2211.0 R23 -.2140 R13 -.9706
SG1 2065.7 SG2 788.3 THA 60.62

ORBIT DETERMINATION ACCURACY

ST 42.7 SR 36.5 SS 82.0
CRT .9315 CRS .9823 CST .8474
LSA 97.2 MSA 20.8 SSA .8
EL1 55.2 EL2 10.3 ALF 40.14

LAUNCH DATE APR 10 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.371 GAL -3.33 AZL 94.82 HCA 164.02 SMA 183.49 ECC .19198 INC 4.8204 V1 29.733
RP 208.76 LAP -1.33 LOP 3.58 VP 23.414 GAP 7.78 AZP 85.37 TAL 339.04 TAP 143.06 RCA 148.26 APO 218.71 V2 26.254
RC 97.955 GL -38.37 GP 19.99 ZAL 122.90 ZAP 122.02 ETS 166.47 ZAE 154.40 ETE 126.36 ZAC 121.11 ETC 276.38 LVI -33.73

PLANETOCENTRIC CONIC

C3 19.139 VHL 4.375 DLA -45.19 RAL 353.82 RAD 6642.5 VEL 11.796 PTH 6.82 VHP 3.960 DPA -.67 RAP 305.81 ECC 1.3150
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 8 54 2036.96 15.68 46.67 225.89 135.52 22 42 51 1037.0 32.36 27.40
53.15 23 52 14 1772.79 25.58 31.39 235.41 128.62 24 21 46 772.8 39.00 7.50
53.15 23 52 14 1772.79 25.58 31.39 235.41 128.62 24 21 46 772.8 39.00 7.50
53.15 23 52 14 1772.79 25.58 31.39 235.41 128.62 24 21 46 772.8 39.00 7.50
53.15 23 52 14 1772.79 25.58 31.39 235.41 128.62 24 21 46 772.8 39.00 7.50
53.15 23 52 14 1772.79 25.58 31.39 235.41 128.62 24 21 46 772.8 39.00 7.50
53.15 23 52 14 1772.79 25.58 31.39 235.41 128.62 24 21 46 772.8 39.00 7.50

DIFFERENTIAL CORRECTIONS

TDE -.6128 TRA -.3924 TC3 -.3709 BAU .2853
RDE -.4692 RRA -.9190 RC3 1.0517 FAU .14404
FDE 2.4664 FRA 6.6317 FC3-6.5153 BSP 3832
BDE .7718 BRA .9993 BC3 1.1152 FSP 2022

MID-COURSE EXECUTION ACCURACY

SGT 1132.0 SGR 2035.0 SG3 1206.0
RRT .6252 RRF -.9956 RTF -.6159
SGB 2328.7 R23 -.1635 R13 -.9821
SG1 2177.3 SG2 825.7 THA 67.40

ORBIT DETERMINATION ACCURACY

ST 41.6 SR 40.0 SS 84.0
CRT .9084 CRS .9876 CST .8319
LSA 99.7 MSA 21.3 SSA .4
EL1 56.4 EL2 12.3 ALF 43.79

LAUNCH DATE APR 10 1971 FLIGHT TIME 198.00 ARRIVAL DATE OCT 25 1971

Table with columns for Heliocentric Conic, Planetary Conic, Distance, Earth to Mars, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various accuracy metrics.

LAUNCH DATE APR 10 1971 FLIGHT TIME 200.00 ARRIVAL DATE OCT 27 1971

Table with columns for Heliocentric Conic, Planetary Conic, Distance, Earth to Mars, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various accuracy metrics.

LAUNCH DATE APR 10 1971 FLIGHT TIME 202.00 ARRIVAL DATE OCT 29 1971

Table with columns for Heliocentric Conic, Planetary Conic, Distance, Earth to Mars, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various accuracy metrics.

LAUNCH DATE APR 10 1971 FLIGHT TIME 204.00 ARRIVAL DATE OCT 31 1971

Table with columns for Heliocentric Conic, Planetary Conic, Distance, Earth to Mars, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various accuracy metrics.

LAUNCH DATE APR 10 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.310 GAL -3.32 AZL 96.94 HCA 170.19 SMA 182.49 ECC .18769 INC 6.9373 V1 29.733
 RP 209.76 LAP -1.10 LOP 9.75 VP 23.198 GAP 6.59 AZP 83.16 TAL 338.68 TAP 148.87 RCA 148.23 APO 216.74 V2 26.117
 RC 107.990 GL -49.78 GP 32.16 ZAL 117.65 ZAP 109.93 ETS 166.24 ZAE 140.18 ETE 129.17 ZAC 133.66 ETC 276.21 LVI -43.17

DISTANCE 506.265

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 26.032 VHL 5.102 DLA -53.84 RAL 5.59 RAD 6645.4 VEL 12.083 PTH 7.06 VHP 4.084 DPA 10.29 RAP 299.18 ECC 1.4284
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.07 0 6 35 1934.89 25.65 47.72 255.03 139.12 0 38 50 934.9 42.87 26.80
 42.07 0 6 35 1934.89 25.65 47.72 255.03 139.12 0 38 50 934.9 42.87 26.80
 42.07 0 6 35 1934.89 25.65 47.72 255.03 139.12 0 38 50 934.9 42.87 26.80
 42.07 0 6 35 1934.89 25.65 47.72 255.03 139.12 0 38 50 934.9 42.87 26.80
 42.07 0 6 35 1934.89 25.65 47.72 255.03 139.12 0 38 50 934.9 42.87 26.80
 42.07 0 6 35 1934.89 25.65 47.72 255.03 139.12 0 38 50 934.9 42.87 26.80

DIFFERENTIAL CORRECTIONS

TDE -.6035 TRA .1056 TC3 -.5646 BAU .4899
 RDE-1.0956 RRA-1.5383 RC3 1.2894 FAU .13691
 FDE 3.7971 FRA 5.8720 FC3-4.5530 BSP 5851
 BDE 1.2508 BRA 1.5419 BC3 1.4078 FSP 1888

MID-COURSE EXECUTION ACCURACY

SGT 912.0 SCR 3437.6 SG3 1108.7
 RRT -.1636 RRF -.9993 RTF .1738
 SGB 3556.5 R23 .0017 R13 -.9993
 SG1 3441.1 SG2 898.8 THA 92.67

ORBIT DETERMINATION ACCURACY

ST 34.0 SR 75.6 SS 95.7
 CRT .7580 CRS .9989 CST .7271
 LSA 124.6 MSA 22.8 S8A .2
 EL1 80.2 EL2 20.9 ALF 69.72

LAUNCH DATE APR 10 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.301 GAL -3.33 AZL 97.72 HCA 171.42 SMA 182.35 ECC .18711 INC 7.7148 V1 29.733
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.156 GAP 6.37 AZP 82.37 TAL 338.58 TAP 150.00 RCA 148.23 APO 216.46 V2 26.111
 RC 110.071 GL -53.08 GP 35.78 ZAL 115.97 ZAP 107.27 ETS 166.40 ZAE 136.38 ETE 129.21 ZAC 137.36 ETC 276.30 LVI -45.97

DISTANCE 510.420

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.317 VHL 5.413 DLA -56.06 RAL 9.95 RAD 6646.7 VEL 12.217 PTH 7.17 VHP 4.237 DPA 13.65 RAP 297.52 ECC 1.4825
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.35 0 16 20 1980.69 24.83 51.85 261.79 142.03 0 49 21 980.7 43.08 32.25
 39.35 0 16 20 1980.69 24.83 51.85 261.79 142.03 0 49 21 980.7 43.08 32.25
 39.35 0 16 20 1980.69 24.83 51.85 261.79 142.03 0 49 21 980.7 43.08 32.25
 39.35 0 16 20 1980.69 24.83 51.85 261.79 142.03 0 49 21 980.7 43.08 32.25
 39.35 0 16 20 1980.69 24.83 51.85 261.79 142.03 0 49 21 980.7 43.08 32.25
 39.35 0 16 20 1980.69 24.83 51.85 261.79 142.03 0 49 21 980.7 43.08 32.25

DIFFERENTIAL CORRECTIONS

TDE -.5739 TRA .2316 TC3 -.3706 BAU .5559
 RDE-1.4400 RRA-1.6931 RC3 1.2985 FAU .12903
 FDE 4.2061 FRA 5.3147 FC3-3.8103 BSP 6479
 BDE 1.5501 BRA 1.7088 BC3 1.4183 FSP 1724

MID-COURSE EXECUTION ACCURACY

SGT 971.2 SGR 3820.3 SG3 1016.0
 RRT -.3844 RRF -.9995 RTF .3737
 SGB 3941.8 R23 .0128 R13 -.9995
 SG1 3837.6 SG2 900.4 THA 95.60

ORBIT DETERMINATION ACCURACY

ST 31.1 SR 90.1 SS 98.8
 CRT .7118 CR8 .9995 CRT .6883
 LSA 135.3 MSA 22.0 S8A .2
 EL1 93.0 EL2 21.2 ALF 75.44

LAUNCH DATE APR 10 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.293 GAL -3.34 AZL 98.75 HCA 172.64 SMA 182.22 ECC .18681 INC 8.7463 V1 29.733
 RP 210.22 LAP -1.12 LOP 12.20 VP 23.115 GAP 6.15 AZP 81.32 TAL 338.47 TAP 151.10 RCA 148.21 APO 216.22 V2 26.089
 RC 112.177 GL -56.91 GP 39.96 ZAL 113.96 ZAP 104.54 ETS 166.72 ZAE 132.16 ETE 129.18 ZAC 141.62 ETC 276.48 LVI -48.14

DISTANCE 514.577

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 34.235 VHL 5.851 DLA -58.39 RAL 15.72 RAD 6648.6 VEL 12.415 PTH 7.32 VHP 4.488 DPA 17.55 RAP 295.72 ECC 1.5834
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.52 0 31 48 2034.73 23.37 56.24 270.29 145.18 1 5 43 1034.7 42.69 38.33
 36.52 0 31 48 2034.73 23.37 56.24 270.29 145.18 1 5 43 1034.7 42.69 38.33
 36.52 0 31 48 2034.73 23.37 56.24 270.29 145.18 1 5 43 1034.7 42.69 38.33
 36.52 0 31 48 2034.73 23.37 56.24 270.29 145.18 1 5 43 1034.7 42.69 38.33
 36.52 0 31 48 2034.73 23.37 56.24 270.29 145.18 1 5 43 1034.7 42.69 38.33
 36.52 0 31 48 2034.73 23.37 56.24 270.29 145.18 1 5 43 1034.7 42.69 38.33

DIFFERENTIAL CORRECTIONS

TDE -.5014 TRA .3717 TC3 -.5584 BAU .6338
 RDE-1.9960 RRA-1.8566 RC3 1.2671 FAU .11668
 FDE 4.6696 FRA 4.5845 FC3-2.9508 BSP 7283
 BDE 2.0580 BRA 1.8934 BC3 1.3847 FSP 1319

MID-COURSE EXECUTION ACCURACY

SGT 1072.6 SGR 4248.6 SG3 890.4
 RRT -.5307 RRF -.9997 RTF .5082
 SGB 4381.9 R23 .0102 R13 -.9995
 SG1 4288.4 SG2 900.6 THA 97.99

ORBIT DETERMINATION ACCURACY

ST 26.7 SR 110.7 SS 101.7
 CRT .6277 CR8 .9997 CRT .6099
 LSA 151.2 MSA 20.9 S8A .1
 EL1 112.0 EL2 20.5 ALF 81.10

LAUNCH DATE APR 10 1971

FLIGHT TIME 230.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.289 GAL -3.66 AZL 80.81 HCA 184.90 SMA 181.87 ECC .18605 INC 9.1909 V1 29.733
 RP 212.86 LAP -.78 LOP 24.32 VP 22.725 GAP 4.17 AZP 98.16 TAL 336.25 TAP 161.18 RCA 147.87 APO 215.47 V2 25.792
 RC 134.476 GL 87.50 GP 80.88 ZAL 114.78 ZAP 89.49 ETS 178.08 ZAE 114.87 ETE 214.44 ZAC 51.55 ETC 272.29 LVI 38.88

DISTANCE 886.803

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 37.184 VHL 6.098 DLA 44.88 RAL 315.51 RAD 6649.7 VEL 12.533 PTH 7.41 VHP 5.492 DPA -72.14 RAP 319.29 ECC 1.6120
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 80.00 10 51 7 4349.37 -30.88 198.75 217.71 51.82 12 3 38 3349.4 -43.58 172.70
 53.84 9 24 6 4573.68 -18.19 208.03 206.13 48.45 10 40 20 3573.7 -33.31 187.05
 53.84 9 24 6 4573.68 -18.19 208.03 206.13 48.45 10 40 20 3573.7 -33.31 187.05
 53.84 9 24 6 4573.68 -18.19 208.03 206.13 48.45 10 40 20 3573.7 -33.31 187.05
 53.84 9 24 6 4573.68 -18.19 208.03 206.13 48.45 10 40 20 3573.7 -33.31 187.05
 53.84 9 24 6 4573.68 -18.19 208.03 206.13 48.45 10 40 20 3573.7 -33.31 187.05

DIFFERENTIAL CORRECTIONS

TDE 2.6364 TRA .9012 TC3-1.1781 BAU .9235
 RDE 3.8171 RRA 2.7215 RC3-1.4364 FAU .07507
 FDE 4.1919 FRA 3.1109 FC3-1.7477 BSP 10234
 BDE 4.6390 BRA 2.8668 BC3 1.8577 FSP 913

MID-COURSE EXECUTION ACCURACY

SGT 3101.5 SGR 5372.7 SG3 525.2
 RRT .9413 RRF .9995 RTF .9396
 SGB 6203.7 R23 .0869 R13 .9957
 SG1 6135.5 SG2 917.1 THA 60.77

ORBIT DETERMINATION ACCURACY

ST 125.2 SR 187.3 SS 97.9
 CRT .9889 CR8 -.9999 CST -.9872
 LSA 245.1 MSA 16.3 S8A .1
 EL1 224.7 EL2 15.5 ALF 56.36

LAUNCH DATE APR 10 1971 FLIGHT TIME 232.00 ARRIVAL DATE NOV 28 1971

HELIOCENTRIC CONIC DISTANCE 560.762 EARTH TO MARS
RL 149.86 LAL .00 LOL 199.48 VL 32.260 GAL -3.70 AZL 82.93 MCA 186.08 SMA 181.67 ECC .18630 INC 7.0699 V1 29.733
RP 213.16 LAP -.75 LOP 25.52 VP 22.687 GAP 3.98 AZP 97.03 TAL 336.02 TAP 162.11 RCA 147.83 APO 215.52 V2 25.749
RC 136.814 GL 49.37 GP -45.93 ZAL 119.57 ZAP 86.11 ETS 176.82 ZAE 116.52 ETE 210.83 ZAC 56.51 ETC 271.98 LVI 32.68

PLANETOCENTRIC CONIC
C3 27.266 VHL 5.222 DLA 37.04 RAL 319.50 RAD 6645.9 VEL 12.133 PTH 7.10 VHP 4.778 DPA -67.86 RAP 311.87 ECC 1.4487
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 31 1 4012.93 -42.79 175.52 218.12 66.81 13 37 54 3012.9 -47.54 141.64
60.00 11 53 40 4112.61 -31.10 177.60 211.29 62.96 13 2 21 3112.6 -39.25 149.77
65.01 10 29 55 4356.10 -18.44 189.62 203.30 57.28 11 42 31 3356.1 -30.22 166.58
65.01 10 29 55 4356.10 -18.44 189.62 203.30 57.28 11 42 31 3356.1 -30.22 166.58
65.01 10 29 55 4356.10 -18.44 189.62 203.30 57.28 11 42 31 3356.1 -30.22 166.58
65.01 10 29 55 4356.10 -18.44 189.62 203.30 57.28 11 42 31 3356.1 -30.22 166.58
65.01 10 29 55 4356.10 -18.44 189.62 203.30 57.28 11 42 31 3356.1 -30.22 166.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 2.1731 TRA 1.0874 TC3-1.6016 BAU .8420 SGT 3275.4 SGR 4991.7 SG3 740.3 ST 121.4 SR 153.1 SS 112.2
RDE 2.8120 RRA 2.5590 RC3-1.6645 FAU .09539 RRT .9499 RRF .9995 RTF .9488 CRT .9897 CRS -.9999 CST -.9878
FDE 4.6622 FRA 4.4370 FC3-3.0352 BSP 9858 SGB 5970.4 R23 .0956 R13 .9949 LSA 231.7 MSA 15.4 S5A .2
BDE 3.5531 BRA 2.7804 BC3 2.3099 F8P 1288 SGI 5907.3 S62 865.4 THA 57.28 EL1 202.8 EL2 14.0 ALF 53.40

LAUNCH DATE APR 10 1971 FLIGHT TIME 234.00 ARRIVAL DATE NOV 30 1971

HELIOCENTRIC CONIC DISTANCE 564.929 EARTH TO MARS
RL 149.86 LAL .00 LOL 199.48 VL 32.260 GAL -3.74 AZL 84.36 MCA 187.26 SMA 181.69 ECC .18660 INC 5.6403 V1 29.733
RP 213.46 LAP -.71 LOP 26.71 VP 22.650 GAP 3.79 AZP 95.80 TAL 335.78 TAP 163.04 RCA 147.78 APO 215.59 V2 25.714
RC 139.171 GL 42.31 GP -41.49 ZAL 123.59 ZAP 86.50 ETS 175.73 ZAE 117.49 ETE 207.26 ZAC 60.97 ETC 271.71 LVI 28.91

PLANETOCENTRIC CONIC
C3 22.097 VHL 4.701 DLA 30.46 RAL 322.65 RAD 6643.8 VEL 11.920 PTH 6.93 VHP 4.336 DPA -63.88 RAP 306.90 ECC 1.3637
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 27 51 3795.00 -46.94 156.26 212.21 81.12 14 31 6 2795.0 -44.97 121.35
60.00 13 22 0 3810.65 -38.34 155.36 209.90 76.50 14 25 30 2810.6 -39.76 124.29
70.00 13 9 38 3847.15 -29.29 155.19 206.79 71.59 14 13 45 2847.2 -34.04 127.50
78.19 12 5 7 4050.22 -16.98 165.11 201.38 64.33 13 12 37 3050.2 -26.09 141.27
78.19 12 5 7 4050.22 -16.98 165.11 201.38 64.33 13 12 37 3050.2 -26.09 141.27
78.19 12 5 7 4050.22 -16.98 165.11 201.38 64.33 13 12 37 3050.2 -26.09 141.27
110.00 18 9 4 2893.97 -29.29 84.11 206.79 71.59 18 57 18 1894.0 -34.04 56.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.8958 TRA 1.2641 TC3-2.0070 BAU .7931 SGT 3477.8 SGR 4611.9 SG3 930.9 ST 118.6 SR 142.5 SS 120.3
RDE 2.1860 RRA 2.3836 RC3-1.7832 FAU .11226 RRT .9567 RRF .9995 RTF .9559 CRT .9909 CRS -.9998 CST -.9883
FDE 4.8918 FRA 5.6321 FC3-4.3984 BSP 9625 SGB 5776.2 R23 .1067 R13 .9937 LSA 220.6 MSA 14.3 S5A .2
BDE 2.8935 BRA 2.6981 BC3 2.6847 F8P 1638 SGI 5718.2 S62 816.4 THA 93.32 EL1 185.0 EL2 12.3 ALF 50.27

LAUNCH DATE APR 10 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC DISTANCE 569.099 EARTH TO MARS
RL 149.86 LAL .00 LOL 199.48 VL 32.262 GAL -3.79 AZL 85.39 MCA 188.44 SMA 181.71 ECC .18696 INC 4.6114 V1 29.733
RP 213.77 LAP -.68 LOP 27.90 VP 22.612 GAP 3.61 AZP 94.56 TAL 335.51 TAP 163.95 RCA 147.74 APO 215.66 V2 25.680
RC 141.545 GL 36.25 GP -37.61 ZAL 126.87 ZAP 84.78 ETS 174.82 ZAE 117.85 ETE 203.92 ZAC 64.88 ETC 271.47 LVI 28.63

PLANETOCENTRIC CONIC
C3 19.158 VHL 4.377 DLA 24.84 RAL 325.22 RAD 6642.5 VEL 11.797 PTH 6.82 VHP 4.048 DPA -60.32 RAP 303.33 ECC 1.3153
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 7 58 3633.31 -47.50 140.72 206.05 93.06 15 8 31 2633.3 -40.77 108.11
60.00 14 15 25 3613.45 -40.23 138.98 206.09 87.45 15 15 36 2613.5 -36.85 108.39
70.00 14 27 59 3576.43 -33.45 135.25 205.36 82.65 15 27 35 2576.4 -33.00 108.52
80.00 14 53 30 3496.34 -27.88 128.14 204.30 78.86 15 51 46 2496.3 -29.74 100.87
90.00 15 52 31 3305.77 -25.44 113.56 203.72 77.20 16 47 36 2305.8 -28.28 86.91
100.00 17 36 22 2970.82 -27.88 89.51 204.30 78.86 18 25 53 1970.8 -29.74 62.23
110.00 19 27 25 2623.25 -33.45 64.17 205.36 82.65 20 11 8 1623.2 -33.00 35.44

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.7118 TRA 1.4288 TC3-2.3822 BAU .7677 SGT 3890.1 SGR 4244.6 SG3 1090.2 ST 116.3 SR 125.2 SS 124.6
RDE 1.7674 RRA 2.2062 RC3-1.8191 FAU .12591 RRT .9617 RRF .9993 RTF .5111 CRT .9625 CRS -.9997 CST -.9693
FDE 4.9776 FRA 6.6474 FC3-5.8896 BSP 9407 SGB 5624.3 R23 .1188 R13 .9923 LSA 211.0 MSA 13.2 S5A .3
BDE 2.4603 BRA 2.6284 BC3 2.9973 F8P 1934 SGI 5571.3 S62 770.4 THA 49.15 EL1 170.5 EL2 10.4 ALF 47.13

LAUNCH DATE APR 10 1971 FLIGHT TIME 238.00 ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC DISTANCE 573.272 EARTH TO MARS
RL 149.86 LAL .00 LOL 199.48 VL 32.264 GAL -3.84 AZL 86.16 MCA 189.82 SMA 181.74 ECC .18738 INC 3.8353 V1 29.733
RP 214.08 LAP -.64 LOP 29.08 VP 22.575 GAP 3.42 AZP 93.78 TAL 335.23 TAP 164.85 RCA 147.68 APO 215.79 V2 25.649
RC 143.936 GL 31.09 GP -34.23 ZAL 129.32 ZAP 82.95 ETS 174.08 ZAE 117.72 ETE 200.88 ZAC 68.28 ETC 271.26 LVI 22.79

PLANETOCENTRIC CONIC
C3 17.394 VHL 4.171 DLA 20.07 RAL 327.37 RAD 6641.7 VEL 11.723 PTH 6.75 VHP 3.852 DPA -57.19 RAP 300.62 ECC 1.2863
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 38 34 3508.18 -46.37 128.87 201.34 102.12 15 37 2 2508.2 -36.50 99.19
60.00 14 54 10 3466.86 -39.94 126.53 202.73 95.88 15 51 58 2466.7 -33.27 97.39
70.00 15 18 12 3395.86 -34.14 121.23 203.16 90.91 16 14 48 2395.9 -30.21 93.21
80.00 15 58 47 3268.64 -29.75 111.51 203.09 87.39 16 53 16 2268.6 -27.81 84.25
90.00 17 7 16 3047.57 -28.02 95.15 202.97 86.04 17 58 3 2047.6 -26.85 68.20
100.00 18 41 39 2743.11 -29.75 72.88 203.09 87.39 19 27 22 1743.1 -27.81 45.62
110.00 20 17 39 2442.68 -34.14 50.14 203.16 90.91 20 58 21 1442.7 -30.21 22.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.5848 TRA 1.5832 TC3-2.7204 BAU .7569 SGT 3905.3 SGR 3895.2 SG3 1216.8 ST 114.3 SR 110.4 SS 126.0
RDE 1.4699 RRA 2.0322 RC3-1.8024 FAU .13743 RRT .9657 RRF .9992 RTF .9652 CRT .9942 CRS -.9995 CST -.9904
FDE 4.9660 FRA 7.4663 FC3-6.8402 BSP 9179 SGB 5515.8 R23 .1300 R13 .9907 LSA 202.4 MSA 12.1 S5A .3
BDE 2.1616 BRA 2.5761 BC3 3.2633 F8P 2157 SGI 5468.4 S62 721.9 THA 44.92 EL1 158.7 EL2 8.5 ALF 43.99

LAUNCH DATE APR 10 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC										DISTANCE 577.444										EARTH TO MARS																																																																																																																																																																						
RL	149.86	LAL	.00	LOL	199.48	VL	32.268	GAL	-3.89	AZL	86.77	HCA	190.80	SMA	181.78	ECC	.18785	INC	3.2289	V1	29.733	RP	214.39	LAP	-.60	LOP	30.26	VP	22.538	GAP	3.24	AZP	93.17	TAL	334.94	TAP	163.74	RCA	147.63	APO	215.92	V2	25.609	RC	146.344	GL	28.89	GP	-31.29	ZAL	131.64	ZAP	81.12	ETS	173.46	ZAE	117.21	ETE	198.17	ZAC	71.24	ETC	271.07	LVI	20.34																																																																																																																									
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																						
C3	16.304	VHL	4.038	DLA	16.04	RAL	329.21	RAD	6641.1	VEL	11.677	PTH	6.71	VHP	3.716	DPA	-54.45	RAP	298.46	ECC	1.2683	SGT	4124.0	SGR	3578.3	SG3	1316.4	ST	113.1	SR	98.4	SS	126.2	CRT	.9960	CRS	-.9992	CST	-.9916	LSA	195.6	MSA	11.0	SSA	.4	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5460.0	R23	.1398	R13	.9891	LSA	149.8	EL2	6.6	ALF	40.99	SG1	5418.0	SG2	675.6	THA	40.82	EL1	149.8	EL2	6.6	ALF	40.99	50.00	15	2	59	3409.10	-44.57	120.00	198.18	108.74	15	59	48	2409.1	-32.64	92.88	90.00	17	56	27	2874.68	-28.19	82.52	201.96	92.35	18	44	22	1874.7	-24.38	56.16	100.00	19	26	51	2583.06	-29.66	60.99	201.87	93.63	20	9	54	1583.1	-25.16	34.47	60.00	15	24	17	3352.38	-38.72	117.07	200.35	102.19	16	20	10	2352.4	-29.82	89.69	110.00	20	55	0	2307.15	-33.50	39.63	201.45	97.09	21	33	27	1307.2	-27.17	12.75																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5460.0	R23	.1398	R13	.9891	LSA	149.8	EL2	6.6	ALF	40.99	SG1	5418.0	SG2	675.6	THA	40.82	EL1	149.8	EL2	6.6	ALF	40.99																																																																																																																																									
50.00	15	2	59	3409.10	-44.57	120.00	198.18	108.74	15	59	48	2409.1	-32.64	92.88	90.00	17	56	27	2874.68	-28.19	82.52	201.96	92.35	18	44	22	1874.7	-24.38	56.16	100.00	19	26	51	2583.06	-29.66	60.99	201.87	93.63	20	9	54	1583.1	-25.16	34.47																																																																																																																																														
60.00	15	24	17	3352.38	-38.72	117.07	200.35	102.19	16	20	10	2352.4	-29.82	89.69	110.00	20	55	0	2307.15	-33.50	39.63	201.45	97.09	21	33	27	1307.2	-27.17	12.75																																																																																																																																																													

LAUNCH DATE APR 10 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC										DISTANCE 581.617										EARTH TO MARS																																																																																																																																																																						
RL	149.86	LAL	.00	LOL	199.48	VL	32.269	GAL	-3.94	AZL	87.26	HCA	191.97	SMA	181.82	ECC	.18837	INC	2.7419	V1	29.733	RP	214.72	LAP	-.57	LOP	31.44	VP	22.500	GAP	3.06	AZP	92.68	TAL	334.64	TAP	166.61	RCA	147.57	APO	216.07	V2	25.573	RC	146.770	GL	22.93	GP	-28.73	ZAL	133.36	ZAP	79.28	ETS	172.97	ZAE	116.43	ETE	195.79	ZAC	73.82	ETC	270.90	LVI	18.22																																																																																																																									
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																						
C3	15.625	VHL	3.953	DLA	12.61	RAL	330.81	RAD	6640.8	VEL	11.648	PTH	6.69	VHP	3.621	DPA	-52.05	RAP	296.68	ECC	1.2571	SGT	4341.8	SGR	3287.1	SG3	1390.7	ST	112.6	SR	88.2	SS	125.1	CRT	.9975	CRS	-.9987	CST	-.9927	LSA	189.7	MSA	10.1	SSA	.5	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5445.8	R23	.1464	R13	.9878	LSA	142.9	EL2	4.9	ALF	38.05	SG1	5409.8	SG2	624.9	THA	36.91	EL1	142.9	EL2	4.9	ALF	38.05	50.00	15	23	3	3329.38	-42.61	113.35	196.22	113.57	16	18	32	2329.4	-29.29	88.23	90.00	18	33	37	2744.27	-27.48	73.06	201.28	97.03	19	19	21	1744.3	-21.84	47.45	100.00	20	1	34	2460.51	-28.79	51.99	201.06	98.28	20	42	35	1460.5	-22.53	26.33	60.00	15	48	40	3261.17	-37.15	109.82	198.84	106.88	16	43	1	2261.2	-26.72	84.16	110.00	21	24	33	2200.76	-32.31	31.56	200.34	101.72	22	1	14	1200.8	-24.32	5.80																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5445.8	R23	.1464	R13	.9878	LSA	142.9	EL2	4.9	ALF	38.05	SG1	5409.8	SG2	624.9	THA	36.91	EL1	142.9	EL2	4.9	ALF	38.05																																																																																																																																									
50.00	15	23	3	3329.38	-42.61	113.35	196.22	113.57	16	18	32	2329.4	-29.29	88.23	90.00	18	33	37	2744.27	-27.48	73.06	201.28	97.03	19	19	21	1744.3	-21.84	47.45	100.00	20	1	34	2460.51	-28.79	51.99	201.06	98.28	20	42	35	1460.5	-22.53	26.33																																																																																																																																														
60.00	15	48	40	3261.17	-37.15	109.82	198.84	106.88	16	43	1	2261.2	-26.72	84.16	110.00	21	24	33	2200.76	-32.31	31.56	200.34	101.72	22	1	14	1200.8	-24.32	5.80																																																																																																																																																													

LAUNCH DATE APR 10 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC										DISTANCE 585.789										EARTH TO MARS																																																																																																																																																																						
RL	149.86	LAL	.00	LOL	199.48	VL	32.272	GAL	-4.00	AZL	87.66	HCA	193.14	SMA	181.87	ECC	.18894	INC	2.3416	V1	29.733	RP	215.04	LAP	-.53	LOP	32.61	VP	22.463	GAP	2.88	AZP	92.28	TAL	334.33	TAP	167.47	RCA	147.51	APO	216.23	V2	25.336	RC	151.211	GL	19.71	GP	-26.49	ZAL	134.75	ZAP	77.48	ETS	172.56	ZAE	115.44	ETE	193.72	ZAC	76.08	ETC	270.74	LVI	16.38																																																																																																																									
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																						
C3	15.212	VHL	3.900	DLA	9.70	RAL	332.23	RAD	6640.6	VEL	11.630	PTH	6.67	VHP	3.554	DPA	-49.95	RAP	295.18	ECC	1.2504	SGT	4356.2	SGR	3020.1	SG3	1443.0	ST	112.3	SR	79.4	SS	123.2	CRT	.9987	CRS	-.9980	CST	-.9938	LSA	184.4	MSA	9.3	SSA	.6	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5466.2	R23	.1495	R13	.9869	LSA	137.5	EL2	3.2	ALF	35.25	SG1	5436.1	SG2	572.9	THA	33.27	EL1	137.5	EL2	3.2	ALF	35.25	50.00	15	39	54	3264.46	-40.72	108.27	195.10	117.12	16	34	18	2264.5	-26.43	84.68	90.00	19	3	23	2641.17	-26.39	63.71	200.94	100.96	19	47	23	1841.2	-20.11	58.73	100.00	20	29	36	2362.97	-27.63	44.98	200.67	101.79	21	8	59	1363.0	-20.11	20.10	60.00	16	8	57	3187.16	-35.54	104.20	197.99	110.40	17	2	4	2187.2	-24.02	79.76	110.00	21	48	47	2115.10	-30.95	25.25	199.75	105.22	22	24	2	1115.1	-21.78	.46																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5466.2	R23	.1495	R13	.9869	LSA	137.5	EL2	3.2	ALF	35.25	SG1	5436.1	SG2	572.9	THA	33.27	EL1	137.5	EL2	3.2	ALF	35.25																																																																																																																																									
50.00	15	39	54	3264.46	-40.72	108.27	195.10	117.12	16	34	18	2264.5	-26.43	84.68	90.00	19	3	23	2641.17	-26.39	63.71	200.94	100.96	19	47	23	1841.2	-20.11	58.73	100.00	20	29	36	2362.97	-27.63	44.98	200.67	101.79	21	8	59	1363.0	-20.11	20.10																																																																																																																																														
60.00	16	8	57	3187.16	-35.54	104.20	197.99	110.40	17	2	4	2187.2	-24.02	79.76	110.00	21	48	47	2115.10	-30.95	25.25	199.75	105.22	22	24	2	1115.1	-21.78	.46																																																																																																																																																													

LAUNCH DATE APR 10 1971 FLIGHT TIME 246.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC										DISTANCE 589.953										EARTH TO MARS																																																																																																																																																																						
RL	149.86	LAL	.00	LOL	199.48	VL	32.278	GAL	-4.06	AZL	87.89	HCA	194.31	SMA	181.93	ECC	.18956	INC	2.0067	V1	29.733	RP	215.37	LAP	-.50	LOP	33.78	VP	22.428	GAP	2.70	AZP	91.95	TAL	334.00	TAP	168.31	RCA	147.44	APO	216.42	V2	25.499	RC	153.669	GL	18.94	GP	-24.52	ZAL	135.91	ZAP	75.68	ETS	172.24	ZAE	114.30	ETE	191.91	ZAC	78.06	ETC	270.80	LVI	14.78																																																																																																																									
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																						
C3	14.982	VHL	3.871	DLA	7.22	RAL	333.50	RAD	6640.5	VEL	11.620	PTH	6.66	VHP	3.509	DPA	-48.09	RAP	293.91	ECC	1.2466	SGT	4776.6	SGR	2801.0	SG3	1488.8	ST	113.5	SR	73.7	SS	123.9	CRT	.9996	CRS	-.9972	CST	-.9952	LSA	183.2	MSA	8.5	SSA	.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5537.3	R23	.1581	R13	.9850	LSA	135.3	EL2	1.7	ALF	32.99	SG1	5508.8	SG2	560.3	THA	30.05	EL1	135.3	EL2	1.7	ALF	32.99	50.00	15	54	19	3211.12	-38.98	104.33	194.55	119.79	16	47	50	2211.1	-24.01	81.91	90.00	19	28	3	2557.55	-25.21	59.87	200.94	103.25	20	10	41	1557.5	-17.36	35.60	100.00	20	52	57	2283.62	-26.40	39.41	200.62	104.48	21	31	1	1283.6	-17.96	15.18	60.00	16	26	9	3126.41	-34.01	99.78	197.63	113.07	17	18	15	2126.4	-21.70	76.30	110.00	22	9	10	2045.03	-29.59	20.25	199.57	107.89	22	43	15	1045.0	-19.55	356.24																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	5537.3	R23	.1581	R13	.9850	LSA	135.3	EL2	1.7	ALF	32.99	SG1	5508.8	SG2	560.3	THA	30.05	EL1	135.3	EL2	1.7	ALF	32.99																																																																																																																																									
50.00	15	54	19	3211.12	-38.98	104.33	194.55	119.79	16	47	50	2211.1	-24.01	81.91	90.00	19	28	3	2557.55	-25.21	59.87	200.94	103.25	20	10	41	1557.5	-17.36	35.60	100.00	20	52	57	2283.62	-26.40	39.41	200.62	104.48	21	31	1	1283.6	-17.96	15.18																																																																																																																																														
60.00	16	26	9	3126.41	-34.01	99.78	197.63	113.07	17	18	15	2126.4	-21.70	76.30	110.00	22	9	10	2045.03	-29.59	20.25	199.57	107.89	22	43	15	1045.0	-19.55	356.24																																																																																																																																																													

LAUNCH DATE APR 10 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 14 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.280 GAL -4.12 AZL 88.28 HCA 195.47 SMA 181.99 ECC .19022 INC 1.7228 V1 29.733
 RP 215.71 LAP -.48 LOP 34.95 VP 22.390 GAP 2.52 AZP 91.66 TAL 333.67 TAP 169.14 RCA 147.37 APO 216.61 V2 25.461
 RC 156.143 GL 14.54 GP -22.78 ZAL 136.87 ZAP 73.94 ETS 171.98 ZAE 113.07 ETE 190.34 ZAC 79.81 ETC 270.48 LVI 13.37

Distance 594.119 Earth to Mars

Planetary Centric Conic: C3 14.876 VHL 3.857 DLA 5.09 RAL 334.65 RAD 6640.5 VEL 11.616 PTH 6.66 VHP 3.479 DPA -46.45 RAP 292.81 ECC 1.2448
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 6 48 3166.93 -37.44 101.23 194.39 121.82 16 59 35 2166.9 -21.97 79.70
 60.00 16 40 57 3076.03 -32.61 96.25 197.59 115.13 17 32 14 2076.0 -19.71 73.52
 70.00 17 27 9 2940.15 -28.31 87.30 199.66 109.96 16 16 9 1940.2 -17.62 63.92
 80.00 18 29 56 2743.54 -25.21 73.53 200.81 106.56 19 15 39 1743.5 -16.08 49.85
 90.00 19 48 57 2488.52 -24.05 55.15 201.17 105.34 20 30 26 1488.5 -15.50 31.38
 100.00 21 12 48 2218.01 -25.21 34.90 200.81 106.56 21 49 46 1218.0 -16.08 11.22
 110.00 22 26 36 1986.97 -28.31 16.22 199.66 109.96 22 59 43 987.0 -17.62 352.84

Differential Corrections: TDE 1.3757 TRA 2.3261 TC3-3.8218 BAU .8037 SGT 4990.2 SGR 2591.6 SG3 1515.2 ST 114.8 SR 68.0 SS 122.8
 RDE .8160 RRA 1.3775 RC3-1.3134 FAU .15987 RRT .9736 RRF .9968 RTF .9753 CRT .9999 CRS -.9961 CST -.9961
 FDE 4.6653 FRA 9.6705 FC3-9.3041 B8P 9377 SGB 5623.1 R23 .1595 R13 .9842 LSA 181.2 MSA 7.9 SSA .9
 BDE 1.5996 BRA 2.7034 BC3 4.0410 F8P 2749 SG1 5598.3 SG2 527.4 THA 27.08 EL1 133.4 EL2 .9 ALF 30.65

LAUNCH DATE APR 10 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 16 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.284 GAL -4.19 AZL 88.52 HCA 196.63 SMA 182.06 ECC .19092 INC 1.4781 V1 29.733
 RP 216.04 LAP -.42 LOP 36.11 VP 22.353 GAP 2.35 AZP 91.42 TAL 333.33 TAP 169.97 RCA 147.30 APO 216.82 V2 25.424
 RC 158.631 GL 12.44 GP -21.23 ZAL 137.70 ZAP 72.24 ETS 171.78 ZAE 111.76 ETE 186.97 ZAC 81.37 ETC 270.36 LVI 12.12

Distance 598.284 Earth to Mars

Planetary Centric Conic: C3 14.862 VHL 3.855 DLA 3.25 RAL 335.70 RAD 6640.5 VEL 11.615 PTH 6.66 VHP 3.461 DPA -44.98 RAP 291.85 ECC 1.2446
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 17 44 3130.11 -36.09 98.75 194.50 123.40 17 9 54 2130.1 -20.24 77.91
 60.00 16 53 52 3033.98 -31.36 93.39 197.79 116.73 17 44 26 2034.0 -18.02 71.25
 70.00 17 42 16 2891.63 -27.14 84.02 199.96 111.56 18 30 27 1891.6 -15.96 61.14
 80.00 18 47 3 2688.72 -24.09 69.84 201.18 108.19 19 31 52 1688.7 -14.45 46.60
 90.00 20 6 58 2430.86 -22.96 51.28 201.58 106.98 20 47 29 1430.9 -13.88 27.93
 100.00 21 29 55 2163.19 -24.09 31.21 201.18 108.19 22 5 58 1163.2 -14.45 7.97
 110.00 22 41 42 1938.45 -27.14 12.93 199.96 111.56 23 14 0 938.4 -15.96 350.06

Differential Corrections: TDE 1.3717 TRA 2.4675 TC3-3.9678 BAU .8249 SGT 5196.9 SGR 2396.6 SG3 1527.1 ST 116.0 SR 62.8 SS 120.8
 RDE .7527 RRA 1.2755 RC3-1.2216 FAU .16179 RRT .9744 RRF .9958 RTF .9770 CRT .9996 CRS -.9947 CST -.9969
 FDE 4.5630 FRA 9.8176 FC3-9.4244 B8P 9501 SGB 5722.9 R23 .1566 R13 .9838 LSA 178.7 MSA 7.6 SSA 1.1
 BDE 1.5647 BRA 2.7776 BC3 4.1516 F8P 2751 SG1 5701.8 SG2 490.8 THA 24.39 EL1 131.9 EL2 1.6 ALF 28.42

LAUNCH DATE APR 10 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 18 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.289 GAL -4.25 AZL 88.73 HCA 197.79 SMA 182.14 ECC .19167 INC 1.2648 V1 29.733
 RP 216.39 LAP -.39 LOP 37.27 VP 22.316 GAP 2.17 AZP 91.20 TAL 332.98 TAP 170.77 RCA 147.23 APO 217.05 V2 25.385
 RC 161.134 GL 10.61 GP -19.65 ZAL 138.42 ZAP 70.36 ETS 171.61 ZAE 110.41 ETE 187.78 ZAC 82.76 ETC 270.26 LVI 11.01

Distance 602.445 Earth to Mars

Planetary Centric Conic: C3 14.918 VHL 3.862 DLA 1.66 RAL 336.67 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 3.453 DPA -43.67 RAP 291.03 ECC 1.2455
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 27 25 3099.32 -34.92 96.74 194.79 124.64 17 19 4 2099.3 -18.77 76.45
 60.00 17 5 14 2998.71 -30.25 91.05 198.16 118.00 17 55 13 1998.7 -16.57 69.39
 70.00 17 55 31 2850.84 -26.09 81.31 200.41 112.87 18 43 1 1850.8 -14.54 58.85
 80.00 19 2 1 2642.58 -23.08 66.79 201.69 109.49 19 46 4 1642.6 -13.03 43.91
 90.00 20 22 40 2382.31 -21.95 48.08 202.11 108.29 21 2 23 1382.3 -12.47 25.06
 100.00 21 44 53 2117.05 -23.08 28.16 201.69 109.49 22 20 10 1117.0 -13.03 5.28
 110.00 22 54 57 1897.66 -26.09 10.23 200.41 112.87 23 26 35 897.7 -14.54 347.76

Differential Corrections: TDE 1.3775 TRA 2.6099 TC3-4.0918 BAU .8483 SGT 5400.8 SGR 2223.7 SG3 1531.6 ST 117.6 SR 56.8 SS 119.3
 RDE .7048 RRA 1.1858 RC3-1.1245 FAU .16156 RRT .9741 RRF .9946 RTF .9778 CRT .9986 CRS -.9930 CST -.9975
 FDE 4.4918 FRA 9.9351 FC3-9.3757 B8P 9695 SGB 5840.7 R23 .1544 R13 .9833 LSA 177.4 MSA 7.4 SSA 1.2
 BDE 1.5474 BRA 2.8667 BC3 4.2435 F8P 2783 SG1 5822.0 SG2 486.5 THA 22.00 EL1 131.4 EL2 2.8 ALF 28.48

LAUNCH DATE APR 10 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 20 1971

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.294 GAL -4.32 AZL 88.92 HCA 198.95 SMA 182.22 ECC .19248 INC 1.0779 V1 29.733
 RP 216.73 LAP -.35 LOP 38.43 VP 22.279 GAP 2.00 AZP 91.02 TAL 332.82 TAP 171.57 RCA 147.15 APO 217.29 V2 25.347
 RC 163.649 GL 8.99 GP -18.81 ZAL 139.06 ZAP 68.98 ETS 171.49 ZAE 109.03 ETE 186.78 ZAC 84.01 ETC 270.17 LVI 10.01

Distance 606.602 Earth to Mars

Planetary Centric Conic: C3 15.028 VHL 3.877 DLA .28 RAL 337.57 RAD 6640.5 VEL 11.622 PTH 6.66 VHP 3.452 DPA -42.49 RAP 290.31 ECC 1.2473
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 36 3 3073.52 -33.91 95.11 195.22 125.62 17 27 16 2073.5 -17.54 75.25
 60.00 17 15 20 2969.03 -29.29 89.13 198.65 119.02 18 4 49 1969.0 -15.34 67.83
 70.00 18 7 14 2816.39 -25.15 79.07 200.96 113.90 18 54 10 1816.4 -13.31 56.93
 80.00 19 15 13 2603.51 -22.17 64.25 202.29 110.53 19 58 36 1603.5 -11.81 41.65
 90.00 20 36 31 2341.17 -21.05 45.40 202.73 109.33 21 15 32 1341.2 -11.24 22.66
 100.00 21 58 8 2077.88 -22.17 25.62 202.29 110.53 22 32 43 1078.0 -11.81 3.02
 110.00 23 6 40 1863.21 -25.15 7.99 200.96 113.90 23 37 43 863.2 -13.31 345.85

Differential Corrections: TDE 1.3913 TRA 2.7544 TC3-4.1943 BAU .8678 SGT 5801.5 SGR 2067.9 SG3 1529.1 ST 119.7 SR 55.0 SS 118.0
 RDE .6663 RRA 1.1048 RC3-1.0324 FAU .16041 RRT .9734 RRF .9931 RTF .9786 CRT .9971 CRS -.9909 CST -.9981
 FDE 4.4281 FRA 10.0137 FC3-9.2408 B8P 9939 SGB 5971.0 R23 .1505 R13 .9830 LSA 176.7 MSA 7.4 SSA 1.3
 BDE 1.5427 BRA 2.9676 BC3 4.3193 F8P 2788 SG1 5954.4 SG2 446.0 THA 19.88 EL1 131.7 EL2 3.8 ALF 24.64

LAUNCH DATE APR 10 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.299 GAL -4.39 AZL 89.09 HCA 200.10 SMA 182.31 ECC .19329 INC .9120 V1 29.733
 RP 217.08 LAP -.31 LOP 39.58 VP 22.243 GAP 1.82 AZP 90.86 TAL 332.26 TAP 172.36 RCA 147.07 APO 217.54 V2 25.308
 RC 168.178 GL 7.56 GP -17.49 ZAL 139.63 ZAP 87.42 ETS 171.39 ZAE 107.84 ETE 185.84 ZAC 85.14 ETC 270.09 LVI 9.11

DISTANCE 610.756

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.181 VHL 3.898 DLA -.92 RAL 338.42 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 3.458 DPA -41.42 RAP 289.69 ECC 1.2498
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 43 49 3051.88 -33.04 93.77 195.73 126.41 17 34 40 2051.9 -16.49 74.25
 60.00 17 24 22 2944.01 -28.45 87.54 199.22 119.84 18 13 26 1944.0 -14.29 66.56
 70.00 18 17 41 2787.22 -24.34 77.20 201.59 114.74 19 4 8 1787.2 -12.26 55.32
 80.00 19 26 57 2570.33 -21.36 62.11 202.96 111.37 20 9 47 1570.3 -10.76 39.75
 90.00 20 48 48 2306.19 -20.25 43.15 203.41 110.18 21 27 15 1306.2 -10.19 20.63
 100.00 22 9 49 2044.80 -21.36 23.48 202.96 111.37 22 43 53 1044.8 -10.76 1.12
 110.00 23 17 7 1834.04 -24.34 6.12 201.59 114.74 23 47 41 834.0 -12.26 344.24

DIFFERENTIAL CORRECTIONS

TDE 1.4097 TRA 2.8979 TC3-4.2852 BAU .8907
 RDE .6348 RRA 1.0298 RC3 -.9479 FAU .15878
 PDE 4.3656 FRA10.0532 FC3-9.0537 B8P 10189
 BDE 1.5459 BRA 3.0754 BC3 4.3888 F8P 2781

MID-COURSE EXECUTION ACCURACY

SGT 5797.6 SGR 1926.3 SG3 1520.2
 RRT .9721 RRF .9912 RTF .9791
 SGB 6109.3 R23 .1456 R13 .9827
 SG1 6094.1 SG2 429.8 THA 17.99

ORBIT DETERMINATION ACCURACY

ST 121.9 SR 51.9 SS 116.6
 CRT .9949 CR3 -.9885 CST -.9986
 LSA 176.3 HSA 7.6 SSA 1.3
 EL1 132.4 EL2 4.8 ALF 23.00

LAUNCH DATE APR 10 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.305 GAL -4.47 AZL 89.24 HCA 201.25 SMA 182.40 ECC .19415 INC .7635 V1 29.733
 RP 217.43 LAP -.28 LOP 40.73 VP 22.206 GAP 1.65 AZP 90.71 TAL 331.88 TAP 173.13 RCA 146.98 APO 217.81 V2 25.269
 RC 168.717 GL 6.29 GP -16.48 ZAL 140.16 ZAP 65.92 ETS 171.32 ZAE 106.25 ETE 185.05 ZAC 86.15 ETC 270.02 LVI 8.29

DISTANCE 614.906

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.369 VHL 3.920 DLA -1.97 RAL 339.22 RAD 6640.7 VEL 11.637 PTH 6.68 VHP 3.468 DPA -40.45 RAP 289.15 ECC 1.2529
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 50 3033.76 -32.30 92.67 196.32 127.05 17 41 23 2033.8 -15.61 73.42
 60.00 17 32 30 2922.93 -27.73 86.22 199.85 120.50 18 21 12 1922.9 -13.41 65.49
 70.00 18 27 3 2762.50 -23.62 75.63 202.27 115.41 19 13 5 1762.5 -11.36 53.97
 80.00 19 37 27 2542.09 -20.65 60.32 203.68 112.06 20 19 49 1542.1 -9.85 38.15
 90.00 20 59 48 2276.37 -19.54 41.25 204.14 110.86 21 37 44 1276.4 -9.28 18.92
 100.00 22 20 18 2016.56 -20.65 21.69 203.68 112.06 22 53 55 1016.6 -9.85 359.92
 110.00 23 26 29 1809.32 -23.62 4.55 202.27 115.41 23 56 38 809.3 -11.36 342.89

DIFFERENTIAL CORRECTIONS

TDE 1.4312 TRA 3.0401 TC3-4.3679 BAU .9152
 RDE .6079 RRA .9605 RC3 -.8722 FAU .15699
 PDE 4.2995 FRA10.0555 FC3-8.8430 B8P 10432
 BDE 1.5550 BRA 3.1882 BC3 4.4541 F8P 2737

MID-COURSE EXECUTION ACCURACY

SGT 5989.0 SGR 1797.1 SG3 1505.9
 RRT .9704 RRF .9890 RTF .9797
 SGB 6252.9 R23 .1394 R13 .9826
 SG1 6239.0 SG2 416.8 THA 16.31

ORBIT DETERMINATION ACCURACY

ST 124.1 SR 49.2 SS 115.1
 CRT .9920 CR3 -.9857 CST -.9989
 LSA 176.1 HSA 7.8 SSA 1.4
 EL1 133.4 EL2 5.8 ALF 21.49

LAUNCH DATE APR 10 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.310 GAL -4.54 AZL 89.37 HCA 202.39 SMA 182.49 ECC .19506 INC .6299 V1 29.733
 RP 217.79 LAP -.24 LOP 41.87 VP 22.170 GAP 1.47 AZP 90.58 TAL 331.50 TAP 173.89 RCA 146.90 APO 218.09 V2 25.229
 RC 171.268 GL 5.15 GP -15.57 ZAL 140.65 ZAP 64.46 ETS 171.27 ZAE 104.86 ETE 184.35 ZAC 87.07 ETC 269.96 LVI 7.54

DISTANCE 619.052

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.588 VHL 3.948 DLA -2.89 RAL 339.98 RAD 6640.8 VEL 11.646 PTH 6.68 VHP 3.484 DPA -39.57 RAP 288.69 ECC 1.2565
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 13 3018.62 -31.68 91.77 196.95 127.56 17 47 31 2018.6 -14.88 72.74
 60.00 17 39 51 2905.19 -27.11 85.13 200.32 121.04 18 28 16 1905.2 -12.65 64.59
 70.00 18 35 30 2741.57 -23.01 74.32 202.99 115.97 19 21 11 1741.6 -10.59 52.84
 80.00 19 46 53 2518.05 -20.02 58.81 204.43 112.62 20 28 51 1518.1 -9.07 36.79
 90.00 21 9 40 2250.94 -18.91 39.65 204.91 111.43 21 47 11 1250.9 -8.49 17.46
 100.00 22 29 45 1992.52 -20.02 20.17 204.43 112.62 23 2 57 992.5 -9.07 358.18
 110.00 23 34 56 1788.38 -23.01 3.24 202.99 115.97 24 4 45 788.4 -10.59 341.73

DIFFERENTIAL CORRECTIONS

TDE 1.4578 TRA 3.1834 TC3-4.4378 BAU .9398
 RDE .5863 RRA .8971 RC3 -.8015 FAU .15461
 PDE 4.2411 FRA10.0389 FC3-8.5868 B8P 10695
 BDE 1.5710 BRA 3.3074 BC3 4.5094 F8P 2711

MID-COURSE EXECUTION ACCURACY

SGT 6176.5 SGR 1680.4 SG3 1488.1
 RRT .9680 RRF .9862 RTF .9700
 SGB 6401.0 R23 .1331 R13 .9824
 SG1 6388.0 SG2 407.5 THA 14.82

ORBIT DETERMINATION ACCURACY

ST 126.6 SR 46.8 SS 113.7
 CRT .9886 CR3 -.9857 CST -.9992
 LSA 176.3 HSA 8.1 SSA 1.4
 EL1 134.8 EL2 6.6 ALF 20.14

LAUNCH DATE APR 10 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.317 GAL -4.62 AZL 89.49 HCA 203.53 SMA 182.59 ECC .19600 INC .5096 V1 29.733
 RP 218.15 LAP -.20 LOP 43.01 VP 22.134 GAP 1.30 AZP 90.47 TAL 331.12 TAP 174.65 RCA 146.80 APO 218.38 V2 25.189
 RC 173.829 GL 4.13 GP -14.73 ZAL 141.12 ZAP 63.05 ETS 171.23 ZAE 103.49 ETE 183.74 ZAC 87.91 ETC 269.91 LVI 6.86

DISTANCE 623.194

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.833 VHL 3.979 DLA -3.70 RAL 340.70 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 3.502 DPA -38.76 RAP 288.30 ECC 1.2606
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 3 3 3008.05 -31.16 91.03 197.62 127.97 17 53 9 2006.1 -14.26 72.18
 60.00 17 46 33 2890.33 -26.59 84.22 201.23 121.48 18 34 43 1890.3 -12.02 63.85
 70.00 18 43 9 2723.88 -22.47 73.22 203.73 116.42 19 28 33 1723.9 -9.94 51.88
 80.00 19 55 25 2497.63 -19.48 57.53 205.21 113.08 20 37 3 1497.6 -8.40 35.64
 90.00 21 18 35 2229.28 -18.37 38.29 205.70 111.89 21 55 44 1229.3 -7.82 16.23
 100.00 22 38 17 1972.10 -19.48 18.90 205.21 113.08 23 11 9 972.1 -8.40 357.01
 110.00 23 42 36 1770.70 -22.47 2.14 203.73 116.42 24 12 6 770.7 -9.94 340.80

DIFFERENTIAL CORRECTIONS

TDE 1.4891 TRA 3.3285 TC3-4.4933 BAU .9637
 RDE .5691 RRA .8388 RC3 -.7354 FAU .15161
 PDE 4.1912 FRA10.0048 FC3-8.2903 B8P 10984
 BDE 1.5942 BRA 3.4326 BC3 4.5530 F8P 2684

MID-COURSE EXECUTION ACCURACY

SGT 6360.2 SGR 1574.5 SG3 1467.2
 RRT .9650 RRF .9829 RTF .9802
 SGB 6552.1 R23 .1267 R13 .9822
 SG1 6539.8 SG2 401.8 THA 13.49

ORBIT DETERMINATION ACCURACY

ST 129.3 SR 44.8 SS 112.4
 CRT .9846 CR3 -.9790 CST -.9994
 LSA 176.9 HSA 8.5 SSA 1.4
 EL1 136.6 EL2 7.4 ALF 18.91

LAUNCH DATE APR 10 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.323 GAL -4.70 AZL 89.60 HCA 204.67 SMA 182.70 ECC .19698 INC .3995 V1 29.733
RP 218.51 LAP -.17 LOP 44.15 VP 22.097 GAP 1.13 AZP 90.36 TAL 330.72 TAP 175.39 RCA 146.71 APO 218.69 V2 25.149
RC 178.400 GL 3.22 GP -13.96 ZAL 141.56 ZAP 61.69 ETS 171.22 ZAE 102.13 ETE 183.19 ZAC 88.68 ETC 269.87 LVI 6.22

DISTANCE 627.331

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.100 VHL 4.013 DLA -4.41 RAL 341.39 RAD 6641.0 VEL 11.668 PTH 6.70 VHP 3.524 DPA -38.02 RAP 287.98 ECC 1.2650
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 8 24 2995.70 -30.72 90.43 198.32 128.30 17 58 19 1995.7 -13.76 71.72
60.00 17 52 40 2877.97 -26.15 83.47 201.97 121.83 18 40 38 1878.0 -11.49 63.23
70.00 18 50 7 2709.02 -22.02 72.31 204.50 116.79 19 35 16 1709.0 -9.39 51.06
80.00 20 3 10 2480.33 -19.02 56.46 206.01 113.46 20 44 30 1480.3 -7.83 34.67
90.00 21 26 40 2210.89 -17.90 37.15 206.50 112.27 22 3 31 1210.9 -7.24 15.18
100.00 22 46 2 1954.80 -19.02 17.82 206.01 113.46 23 18 36 954.0 -7.83 356.04
110.00 23 49 33 1755.84 -22.02 1.23 204.50 116.79 24 18 49 755.8 -9.39 340.00

DIFFERENTIAL CORRECTIONS

TDE 1.5217 TRA 3.4720 TC3-4.5453 BAU .9891
RDE .5544 RRA .7842 RC3 -.6767 FAU .14871
FDE 4.1356 FRA 9.9473 FC3-7.9965 BSP 11251
BDE 1.6195 BRA 3.5595 BC3 4.5954 FSP 2645

MID-COURSE EXECUTION ACCURACY

SGT 6538.5 SGR 1477.5 SG3 1443.2
RRT .9612 RRF .9790 RTF .9804
SGB 6703.4 R23 .1198 R13 .9821
SG1 6691.6 SG2 398.3 THA 12.30

ORBIT DETERMINATION ACCURACY

ST 131.9 SR 43.0 SS 111.0
CRT .9800 CRS -.9750 CST -.9996
LSA 177.5 MSA 9.0 SSA 1.4
EL1 138.5 EL2 8.2 ALF 17.79

LAUNCH DATE APR 10 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.330 GAL -4.78 AZL 89.70 HCA 205.80 SMA 182.81 ECC .19800 INC .2994 V1 29.733
RP 218.88 LAP -.13 LOP 45.28 VP 22.061 GAP .96 AZP 90.27 TAL 330.32 TAP 176.12 RCA 146.61 APO 219.00 V2 25.109
RC 178.981 GL 2.39 GP -13.26 ZAL 141.98 ZAP 60.37 ETS 171.21 ZAE 100.79 ETE 182.71 ZAC 89.39 ETC 269.84 LVI 5.62

DISTANCE 631.463

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.389 VHL 4.048 DLA -5.03 RAL 342.05 RAD 6641.2 VEL 11.680 PTH 6.72 VHP 3.549 DPA -37.34 RAP 287.72 ECC 1.2697
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 13 20 2987.29 -30.36 89.94 199.03 128.57 18 3 7 1987.3 -13.34 71.34
60.00 17 58 16 2867.77 -25.78 82.86 202.72 122.12 18 46 4 1867.8 -11.06 62.72
70.00 18 56 29 2696.61 -21.64 71.55 205.29 117.09 19 41 25 1696.6 -8.93 50.42
80.00 20 10 13 2465.77 -18.62 55.56 206.81 113.77 20 51 19 1465.8 -7.35 33.86
90.00 21 34 1 2195.35 -17.49 36.19 207.32 112.58 22 10 37 1195.3 -6.76 14.30
100.00 22 53 5 1940.24 -18.62 16.93 206.81 113.77 23 25 25 940.2 -7.35 355.23
110.00 23 55 55 1743.43 -21.64 .47 205.29 117.09 24 24 59 743.4 -8.93 339.33

DIFFERENTIAL CORRECTIONS

TDE 1.5581 TRA 3.6175 TC3-4.5862 BAU 1.0141
RDE .5427 RRA .7337 RC3 -.6225 FAU .14545
FDE 4.0849 FRA 9.8787 FC3-7.6836 BSP 11535
BDE 1.6499 BRA 3.6911 BC3 4.6283 FSP 2605

MID-COURSE EXECUTION ACCURACY

SGT 6713.2 SGR 1389.5 SG3 1417.4
RRT .9566 RRF .9743 RTF .9805
SGB 6855.5 R23 .1131 R13 .9819
SG1 6844.0 SG2 397.1 THA 11.24

ORBIT DETERMINATION ACCURACY

ST 134.7 SR 41.5 SS 109.7
CRT .9749 CRS -.9707 CST -.9997
LSA 178.3 MSA 9.4 SSA 1.4
EL1 140.6 EL2 8.8 ALF 16.78

LAUNCH DATE APR 10 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

RL 149.86 LAL .00 LOL 199.48 VL 32.337 GAL -4.87 AZL 89.79 HCA 206.93 SMA 182.92 ECC .19905 INC .2068 V1 29.733
RP 219.25 LAP -.09 LOP 46.41 VP 22.023 GAP .78 AZP 90.19 TAL 329.91 TAP 176.84 RCA 146.51 APO 219.33 V2 25.068
RC 181.572 GL 1.64 GP -12.62 ZAL 142.39 ZAP 59.10 ETS 171.22 ZAE 99.47 ETE 182.29 ZAC 90.03 ETC 269.82 LVI 5.07

DISTANCE 635.591

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.696 VHL 4.086 DLA -5.58 RAL 342.68 RAD 6641.3 VEL 11.693 PTH 6.73 VHP 3.576 DPA -36.71 RAP 287.51 ECC 1.2748
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 17 54 2980.58 -30.08 89.56 199.77 128.78 18 7 34 1980.6 -13.01 71.04
60.00 18 3 26 2859.48 -25.48 82.36 203.48 122.35 18 51 5 1859.5 -10.70 62.31
70.00 19 2 18 2686.36 -21.32 70.93 206.08 117.34 19 47 5 1686.4 -8.55 49.87
80.00 20 16 39 2453.60 -18.29 54.81 207.63 114.02 20 57 33 1453.6 -6.95 33.18
90.00 21 40 44 2182.32 -17.15 35.38 208.15 112.84 22 17 6 1182.3 -6.35 13.56
100.00 22 59 31 1928.07 -18.29 16.18 207.63 114.02 23 31 39 928.1 -6.95 354.55
110.00 0 5 41 1733.18 -21.32 359.84 206.08 117.34 0 34 34 733.2 -8.55 338.79

DIFFERENTIAL CORRECTIONS

TDE 1.5965 TRA 3.7629 TC3-4.6226 BAU 1.0397
RDE .5331 RRA .8866 RC3 -.5738 FAU .14220
FDE 4.0344 FRA 9.7980 FC3-7.3731 BSP 11809
BDE 1.6832 BRA 3.8251 BC3 4.6581 FSP 2561

MID-COURSE EXECUTION ACCURACY

SGT 6883.9 SGR 1309.5 SG3 1390.1
RRT .9512 RRF .9687 RTF .9806
SGB 7007.4 R23 .1065 R13 .9818
SG1 6996.1 SG2 397.8 THA 10.29

ORBIT DETERMINATION ACCURACY

ST 137.4 SR 40.1 SS 108.4
CRT .9693 CRS -.9660 CST -.9998
LSA 179.3 MSA 9.9 SSA 1.4
EL1 142.8 EL2 9.5 ALF 15.87

LAUNCH DATE APR 10 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

RL 149.88 LAL .00 LOL 199.48 VL 32.344 GAL -4.93 AZL 89.88 HCA 208.05 SMA 183.03 ECC .20014 INC .1205 V1 29.733
RP 219.82 LAP -.06 LOP 47.54 VP 21.989 GAP .81 AZP 90.11 TAL 329.50 TAP 177.59 RCA 146.40 APO 219.67 V2 25.028
RC 184.172 GL .96 GP -12.02 ZAL 142.79 ZAP 57.87 ETS 171.23 ZAE 98.18 ETE 181.91 ZAC 90.63 ETC 269.81 LVI 4.54

DISTANCE 639.713

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.022 VHL 4.128 DLA -6.06 RAL 343.30 RAD 6641.5 VEL 11.707 PTH 6.74 VHP 3.606 DPA -36.12 RAP 287.37 ECC 1.2801
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 22 8 2975.37 -29.86 89.28 200.51 128.94 18 11 43 1975.4 -12.76 70.81
60.00 18 8 11 2852.87 -25.24 81.97 204.25 122.53 18 55 44 1852.9 -10.42 61.98
70.00 19 7 39 2678.02 -21.06 70.42 206.88 117.53 19 52 17 1678.0 -8.24 49.42
80.00 20 22 33 2443.56 -18.01 54.20 208.45 114.23 21 3 16 1443.6 -6.62 32.62
90.00 21 46 52 2171.50 -18.86 34.72 208.98 113.04 22 23 3 1171.5 -6.00 12.95
100.00 23 5 25 1918.03 -18.01 15.56 208.45 114.23 23 37 23 918.0 -6.62 353.99
110.00 0 11 2 1724.84 -21.06 359.34 206.88 117.53 0 39 47 724.8 -8.24 338.34

DIFFERENTIAL CORRECTIONS

TDE 1.6374 TRA 3.9091 TC3-4.6514 BAU 1.0653
RDE .8257 RRA .8428 RC3 -.9291 FAU .13871
FDE 3.9865 FRA 9.7072 FC3-7.0350 BSP 12081
BDE 1.7197 BRA 3.9815 BC3 4.6814 FSP 2513

MID-COURSE EXECUTION ACCURACY

SGT 7050.1 SGR 1236.5 SG3 1361.5
RRT .9448 RRF .9622 RTF .9806
SGB 7157.7 R23 .1004 R13 .9816
SG1 7148.5 SG2 400.3 THA 9.44

ORBIT DETERMINATION ACCURACY

ST 140.2 SR 38.9 SS 107.0
CRT .9633 CRS -.9610 CST -.9998
LSA 180.4 MSA 10.4 SSA 1.4
EL1 145.2 EL2 10.1 ALF 15.04

LAUNCH DATE APR 10 1971 FLIGHT TIME 272.00 ARRIVAL DATE JAN 7 1972

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.351 GAL -5.04 AZL 89.98 HCA 209.18 SMA 183.15 ECC .20126 INC .0343 V1 29.733
 RP 219.99 LAP -.02 LOP 48.66 VP 21.953 GAP .44 AZP 90.04 TAL 329.08 TAP 178.26 RCA 146.29 APO 220.01 V2 24.987
 RC 186.781 GL .35 GP -11.48 ZAL 143.19 ZAP 56.69 ETS 171.25 ZAE 98.91 ETE 181.58 ZAC 91.18 ETC 269.81 LVI 4.05

Planeto-centric Conic: C3 17.365 VHL 4.157 DLA -6.49 RAL 343.89 RAD 6641.6 VEL 11.722 PTH 6.75 VHP 3.637 DPA -33.58 RAP 287.27 ECC 1.2858
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 5 2971.49 -29.89 89.04 201.26 129.05 18 15 36 1971.5 -12.57 70.64
 60.00 18 12 36 2847.75 -25.05 81.67 205.04 122.67 19 0 4 1847.8 -10.20 61.73
 70.00 19 12 35 2671.37 -20.85 70.02 207.69 117.69 19 57 7 1671.4 -7.99 49.07
 80.00 20 27 57 2435.41 -17.78 53.70 209.27 114.39 21 8 33 1435.4 -6.35 32.17
 90.00 21 52 29 2162.67 -16.63 34.18 209.81 113.21 22 28 32 1162.7 -5.72 12.46
 100.00 23 10 49 1909.88 -17.78 15.07 209.27 114.39 23 42 39 909.9 -6.35 353.53
 110.00 0 15 57 1718.19 -20.85 358.94 207.69 117.69 0 44 36 718.2 -7.99 337.99

Differential Corrections: TDE 1.6806 TRA 4.0564 TC3-4.6744 BAU 1.0911 SGT 7212.9 SGR 1170.3 SG3 1332.2 ST 143.1 SR 37.9 SS 105.7
 RDE .5201 RRA .6015 RC3 -.4882 FAU .13512 RRT .9370 RRF .9547 RTF .9805 CRT .9569 CR3 -.9537 CST -.9999
 FDE 3.9408 FRA 9.6105 FC3-6.7364 BSP 12358 SGB 7307.2 R23 .0948 R13 .9813 LSA 181.6 MSA 10.8 SSA 1.4
 BDE 1.7592 BRA 4.1008 BC3 4.6998 FSP 2488 SG1 7296.0 SG2 404.2 THA 8.67 EL1 147.6 EL2 10.7 ALF 14.29

LAUNCH DATE APR 10 1971 FLIGHT TIME 274.00 ARRIVAL DATE JAN 9 1972

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.358 GAL -5.13 AZL 90.03 HCA 210.29 SMA 183.28 ECC .20241 INC .0210 V1 29.733
 RP 220.36 LAP .01 LOP 49.78 VP 21.918 GAP .27 AZP 89.98 TAL 328.66 TAP 178.95 RCA 146.18 APO 220.37 V2 24.946
 RC 189.399 GL -.22 GP -10.97 ZAL 143.57 ZAP 55.54 ETS 171.28 ZAE 95.66 ETE 181.28 ZAC 91.68 ETC 269.81 LVI 3.57

Planeto-centric Conic: C3 17.724 VHL 4.210 DLA -8.86 RAL 344.47 RAD 6641.8 VEL 11.737 PTH 6.77 VHP 3.669 DPA -35.07 RAP 287.22 ECC 1.2917
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 45 2968.78 -29.57 88.89 202.02 129.13 18 19 14 1968.8 -12.43 70.52
 60.00 18 16 41 2843.96 -24.91 81.44 205.82 122.77 19 4 5 1844.0 -10.04 61.54
 70.00 19 17 8 2666.23 -20.68 69.71 208.50 117.80 20 1 34 1666.2 -7.80 48.79
 80.00 20 32 56 2428.93 -17.60 53.30 210.10 114.52 21 13 25 1428.9 -6.13 31.81
 90.00 21 57 39 2155.59 -16.44 33.75 210.64 113.34 22 33 35 1155.6 -5.50 12.06
 100.00 23 15 48 1903.41 -17.60 14.67 210.10 114.52 23 47 31 903.4 -6.13 353.17
 110.00 0 20 30 1713.05 -20.68 358.63 208.50 117.80 0 49 3 713.0 -7.80 337.71

Differential Corrections: TDE 1.7286 TRA 4.2033 TC3-4.6908 BAU 1.1186 SGT 7372.1 SGR 1110.3 SG3 1302.3 ST 146.0 SR 37.0 SS 104.5
 RDE .5180 RRA .5629 RC3 -.4512 FAU .13190 RRT .9283 RRF .9461 RTF .9804 CRT .9502 CR3 -.9502 CST -.9999
 FDE 3.8960 FRA 9.3074 FC3-6.4230 BSP 12637 SGB 7453.3 R23 .0893 R13 .9811 LSA 182.9 MSA 11.3 SSA 1.4
 BDE 1.8020 BRA 4.2428 BC3 4.7122 FSP 2418 SG1 7444.0 SG2 408.9 THA 7.98 EL1 150.2 EL2 11.2 ALF 13.61

LAUNCH DATE APR 10 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 11 1972

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.366 GAL -5.22 AZL 90.10 HCA 211.41 SMA 183.40 ECC .20360 INC .00954 V1 29.733
 RP 220.74 LAP .05 LOP 50.89 VP 21.882 GAP .09 AZP 89.92 TAL 328.23 TAP 179.64 RCA 146.06 APO 220.74 V2 24.904
 RC 192.025 GL -.73 GP -10.50 ZAL 143.96 ZAP 54.44 ETS 171.31 ZAE 94.44 ETE 181.01 ZAC 92.15 ETC 269.83 LVI 3.12

Planeto-centric Conic: C3 18.099 VHL 4.254 DLA -7.18 RAL 345.03 RAD 6642.0 VEL 11.753 PTH 6.78 VHP 3.703 DPA -34.60 RAP 287.21 ECC 1.2979
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 12 2967.14 -29.50 88.79 202.78 129.18 18 22 39 1967.1 -12.35 70.45
 60.00 18 20 29 2841.37 -24.81 81.29 206.61 122.84 19 7 51 1841.4 -9.92 61.41
 70.00 19 21 21 2662.44 -20.56 69.48 209.31 117.89 20 5 43 1662.4 -7.66 48.59
 80.00 20 37 31 2423.98 -17.46 53.00 210.93 114.61 21 17 55 1424.0 -5.97 31.53
 90.00 22 2 24 2150.10 -16.29 33.41 211.47 113.44 22 38 14 1150.1 -5.33 11.75
 100.00 23 20 23 1898.45 -17.46 14.37 210.93 114.61 23 52 1 898.4 -5.97 352.90
 110.00 0 24 43 1709.28 -20.56 358.40 209.31 117.89 0 53 12 709.3 -7.66 337.51

Differential Corrections: TDE 1.7743 TRA 4.3350 TC3-4.7018 BAU 1.1422 SGT 7527.4 SGR 1055.8 SG3 1272.0 ST 148.9 SR 36.2 SS 103.2
 RDE .8133 RRA .8289 RC3 -.4172 FAU .12777 RRT .9182 RRF .9382 RTF .9502 CRT .9432 CR3 -.9448 CST -.9999
 FDE 3.8531 FRA 9.3987 FC3-6.1118 BSP 12913 SGB 7601.1 R23 .0844 R13 .9808 LSA 184.4 MSA 11.8 SSA 1.4
 BDE 1.8470 BRA 4.3867 BC3 4.7203 FSP 2369 SG1 7589.7 SG2 414.8 THA 7.36 EL1 152.8 EL2 11.7 ALF 12.89

LAUNCH DATE APR 10 1971 FLIGHT TIME 278.00 ARRIVAL DATE JAN 13 1972

Heliocentric Conic: RL 149.86 LAL .00 LOL 199.48 VL 32.374 GAL -5.32 AZL 90.16 HCA 212.52 SMA 183.53 ECC .20482 INC .1590 V1 29.733
 RP 221.12 LAP .09 LOP 52.00 VP 21.847 GAP -.08 AZP 89.86 TAL 327.79 TAP 180.31 RCA 145.94 APO 221.12 V2 24.883
 RC 194.659 GL -1.20 GP -10.08 ZAL 144.33 ZAP 53.37 ETS 171.35 ZAE 93.24 ETE 180.77 ZAC 92.59 ETC 269.85 LVI 2.89

Planeto-centric Conic: C3 18.490 VHL 4.300 DLA -7.47 RAL 345.57 RAD 6642.2 VEL 11.769 PTH 6.80 VHP 3.739 DPA -34.16 RAP 287.25 ECC 1.3043
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 26 2966.45 -29.47 88.75 203.55 129.20 18 25 52 1966.5 -12.32 70.42
 60.00 18 24 2 2839.85 -24.76 81.20 207.40 122.88 19 11 22 1839.8 -9.86 61.34
 70.00 19 25 15 2659.68 -20.48 69.33 210.12 117.95 20 9 35 1659.9 -7.56 48.46
 80.00 20 41 45 2420.38 -17.35 52.78 211.78 114.68 21 22 5 1420.4 -5.85 31.33
 90.00 22 6 47 2146.03 -16.18 33.16 212.31 113.52 22 42 33 1146.0 -5.20 11.52
 100.00 23 24 37 1894.85 -17.35 14.15 211.78 114.68 23 56 12 894.9 -5.85 352.70
 110.00 0 26 37 1706.70 -20.48 358.24 210.12 117.95 0 57 4 706.7 -7.56 337.37

Differential Corrections: TDE 1.8234 TRA 4.3054 TC3-4.7100 BAU 1.1682 SGT 7679.1 SGR 1006.5 SG3 1241.6 ST 151.8 SR 35.5 SS 101.9
 RDE .5118 RRA .4922 RC3 -.3865 FAU .12409 RRT .9067 RRF .9250 RTF .9800 CRT .9360 CR3 -.9386 CST -.9999
 FDE 3.8107 FRA 9.2865 FC3-5.8100 BSP 13176 SGB 7744.8 R23 .0800 R13 .9805 LSA 185.9 MSA 12.2 SSA 1.3
 BDE 1.8938 BRA 4.3322 BC3 4.7258 FSP 2318 SG1 7733.3 SG2 421.5 THA 6.80 EL1 155.4 EL2 12.2 ALF 12.43

LAUNCH DATE APR 10 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC

DISTANCE 680.240

EARTH TO MARS

RL 149.86 LAL .00 LOL 199.48 VL 32.382 GAL -8.41 AZL 90.22 MCA 213.62 SMA 183.66 ECC .20407 INC .2191 V1 29.733
 RP 221.90 LAP .12 LOP 53.11 VP 21.811 GAP -.25 AZP 89.82 TAL 327.35 TAP 180.98 RCA 145.81 APO 221.91 V2 24.681
 RC 197.299 GL -1.63 GP -9.65 ZAL 144.71 ZAP 92.34 ETS 171.39 ZAC 92.07 ETE 180.55 ZAC 93.00 ETC 269.87 LVI 2.27

PLANETOCENTRIC CONIC

C3 18.896 VML 4.347 DLA -7.71 RAL 346.10 RAD 6642.3 VEL 11.786 PTM 6.81 VMP 3.773 DPA -33.74 RAP 287.32 ECC 1.3110
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 28 2966.62 -29.48 88.76 204.32 129.20 18 28 55 1866.6 -12.33 70.43
 60.00 18 27 21 2839.29 -24.74 81.17 208.20 122.89 19 14 40 1839.3 -9.83 61.91
 70.00 19 28 52 2658.41 -20.44 69.24 210.93 117.98 20 13 10 1858.4 -7.51 48.38
 80.00 20 45 39 2418.02 -17.29 52.64 212.58 114.73 21 25 57 1418.0 -5.77 31.20
 90.00 22 10 49 2143.26 -16.10 33.00 213.14 113.57 22 46 32 1143.3 -5.11 11.96
 100.00 23 28 31 1892.49 -17.29 14.01 212.58 114.73 24 0 4 892.5 -5.77 332.57
 110.00 0 32 14 1705.23 -20.44 358.16 210.93 117.98 1 0 40 705.2 -7.51 337.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8741 TRA 4.6370 TC3-4.7142 BAW 1.1944 SGT 7827.4 SCR 962.0 SG3 1211.1 ST 154.7 SR 34.9 SS 100.6
 RDE .5113 RRA .4598 RC3 -.3588 FAU .12048 RRT .8940 RRF .9124 RTF .9797 CRY .9287 CR8 -.9326 CST -.9998
 FDE 3.7678 FRA 9.1709 FC3-5.5200 BSP 13440 SGB 7886.3 R23 .0758 R13 .9802 LSA 187.4 MSA 12.7 SSA 1.3
 BDE 1.9426 BRA 4.6796 BC3 4.7278 FSP 2267 SGI 7874.6 SG2 428.5 TMA 6.29 EL1 158.1 EL2 12.7 ALP 11.92

LAUNCH DATE APR 11 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 34.450 GAL -3.91 AZL 92.13 HCA 119.49 SMA 227.29 ECC .35398 INC 2.1250 V1 29.725
RP 207.32 LAP -1.85 LOP 319.97 VP 26.389 GAP 20.14 AZP 88.95 TAL 337.17 TAP 96.66 RCA 146.83 APO 307.74 V2 26.420
RC 56.291 GL -11.83 GP 2.58 ZAL 130.70 ZAP 170.05 ETS 164.80 ZAE 170.70 ETE 125.25 ZAC 103.55 ETC 276.16 LVI -18.21

PLANETOCENTRIC CONIC

C3 38.398 VHL 6.197 DLA -21.60 RAL 338.77 RAD 6850.1 VEL 12.581 PTH 7.45 VHP 9.839 DPA -16.92 RAP 312.60 ECC 1.6319
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 2 53 2854.46 -24.50 82.73 204.68 132.15 18 50 28 1854.5 -6.76 65.60
60.00 19 9 0 2678.66 -18.90 72.17 209.96 126.47 19 53 39 1678.7 -2.83 53.53
70.00 20 32 50 2432.22 -12.70 56.28 214.05 121.97 21 13 22 1432.2 1.09 36.52
80.00 22 12 92 2119.14 -8.03 35.29 216.83 118.85 22 48 11 1119.1 4.32 14.75
90.00 23 49 30 1807.44 -6.10 13.41 217.88 117.67 24 19 38 807.4 5.67 352.57
100.00 0 59 40 1593.61 -8.03 356.86 216.83 118.85 1 26 13 593.6 4.32 338.12
110.00 1 38 12 1479.04 -12.70 345.19 214.05 121.97 2 0 51 479.0 1.09 325.43

DIFFERENTIAL CORRECTIONS

TDE -.7331 TRA-1.5347 TC3 -.0679 BAU .0668
RDE -.5437 RRA .1214 RC3 .1111 FAU .03923
FDE .5143 FRA 1.6673 FC3 -.8844 BSP 2773
BDE .9127 BRA 1.5395 BC3 .1302 FSP 243

MID-COURSE EXECUTION ACCURACY

SGT 1672.9 SGR 535.1 SG3 176.6
RRT .1617 RRF -.1732 RTF -.8080
SGB 1756.4 R23 -.0286 R13 -.8087
SG1 1673.4 SG2 527.2 THA 3.29

ORBIT DETERMINATION ACCURACY

ST 40.9 SR 25.2 SS 29.3
CRT .7861 CRS .6367 CST .9760
LSA 53.8 MSA 16.6 SSA 1.1
EL1 46.0 EL2 13.9 ALF 28.68

LAUNCH DATE APR 11 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 34.319 GAL -5.77 AZL 92.15 HCA 120.75 SMA 223.73 ECC .34333 INC 2.1513 V1 29.725
RP 207.22 LAP -1.85 LOP 321.23 VP 26.224 GAP 19.65 AZP 88.90 TAL 337.22 TAP 97.97 RCA 146.91 APO 300.54 V2 26.432
RC 56.455 GL -12.25 GP 2.69 ZAL 130.71 ZAP 169.19 ETS 165.48 ZAE 171.13 ETE 120.17 ZAC 103.61 ETC 276.26 LVI -18.44

PLANETOCENTRIC CONIC

C3 36.495 VHL 6.041 DLA -22.03 RAL 339.02 RAD 6649.4 VEL 12.505 PTH 7.39 VHP 9.546 DPA -16.71 RAP 312.98 ECC 1.6006
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 5 30 2834.07 -23.56 81.70 204.21 132.61 18 52 44 1834.1 -5.74 64.73
60.00 19 12 12 2656.71 -17.61 71.00 209.50 126.86 19 56 29 1656.7 -1.86 52.48
70.00 20 36 50 2407.91 -11.82 54.94 213.61 122.28 21 16 58 1407.9 2.02 35.25
80.00 22 17 52 2091.71 -7.13 33.76 216.43 119.07 22 52 43 1091.7 5.24 13.24
90.00 23 55 4 1778.15 -5.18 11.76 217.50 117.84 24 24 43 778.2 6.59 350.92
100.00 1 4 39 1566.19 -7.13 355.13 216.43 119.07 1 30 46 566.2 5.24 334.61
110.00 1 40 12 1454.73 -11.82 343.86 213.61 122.28 2 4 27 454.7 2.02 324.16

DIFFERENTIAL CORRECTIONS

TDE -.7315 TRA-1.5242 TC3 -.0609 BAU .0652
RDE -.5284 RRA .1100 RC3 .1189 FAU .04047
FDE .5334 FRA 1.7359 FC3 -.9600 BSP 2851
BDE .9013 BRA 1.5281 BC3 .1336 FSP 261

MID-COURSE EXECUTION ACCURACY

SGT 1708.4 SGR 531.6 SG3 188.4
RRT .1766 RRF -.1892 RTF -.8147
SGB 1789.2 R23 -.0310 R13 -.8154
SG1 1711.3 SG2 522.4 THA 3.47

ORBIT DETERMINATION ACCURACY

ST 41.8 SR 25.0 SS 30.3
CRT .7895 CRS .6377 CST .9791
LSA 55.0 MSA 16.6 SSA 1.1
EL1 46.8 EL2 13.7 ALF 27.88

LAUNCH DATE APR 11 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 34.187 GAL -5.62 AZL 92.18 HCA 122.01 SMA 220.47 ECC .33326 INC 2.1783 V1 29.725
RP 207.13 LAP -1.85 LOP 322.50 VP 26.067 GAP 19.17 AZP 88.84 TAL 337.28 TAP 99.29 RCA 146.99 APO 293.94 V2 26.443
RC 56.701 GL -12.68 GP 2.80 ZAL 130.70 ZAP 168.32 ETS 166.05 ZAE 171.48 ETE 114.83 ZAC 103.67 ETC 276.35 LVI -18.67

PLANETOCENTRIC CONIC

C3 34.731 VHL 5.893 DLA -22.40 RAL 339.26 RAD 6648.8 VEL 12.435 PTH 7.34 VHP 9.261 DPA -16.50 RAP 313.34 ECC 1.5716
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 8 10 2813.65 -22.62 80.67 203.77 133.05 18 55 4 1813.6 -4.72 63.87
60.00 19 15 29 2634.64 -16.70 69.84 209.07 127.23 19 59 24 1634.6 -1.89 51.43
70.00 20 40 58 2383.31 -10.92 53.60 213.21 122.56 21 20 42 1383.3 2.96 33.96
80.00 22 23 6 2063.71 -6.20 32.20 216.07 119.27 22 57 29 1063.7 6.17 11.69
90.00 0 4 53 1748.06 -4.22 10.07 217.16 117.99 0 34 1 748.1 7.54 349.21
100.00 1 9 53 1538.18 -6.20 353.57 216.07 119.27 1 33 32 538.2 6.17 333.05
110.00 1 44 21 1450.13 -10.92 342.52 213.21 122.56 2 8 11 430.1 2.96 322.88

DIFFERENTIAL CORRECTIONS

TDE -.7292 TRA-1.5129 TC3 -.0532 BAU .0640
RDE -.5097 RRA .0985 RC3 .1272 FAU .04177
FDE .5934 FRA 1.8079 FC3-1.0411 BSP 2931
BDE .8897 BRA 1.5161 BC3 .1379 FSP 281

MID-COURSE EXECUTION ACCURACY

SGT 1742.8 SGR 528.0 SG3 201.0
RRT .1926 RRF -.2086 RTF -.8213
SGB 1821.1 R23 -.0339 R13 -.8220
SG1 1746.1 SG2 517.2 THA 3.66

ORBIT DETERMINATION ACCURACY

ST 42.7 SR 24.8 SS 31.4
CRT .7929 CRS .6390 CST .9743
LSA 56.2 MSA 16.6 SSA 1.2
EL1 47.5 EL2 13.6 ALF 27.14

LAUNCH DATE APR 11 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 34.066 GAL -5.48 AZL 92.21 HCA 123.28 SMA 217.48 ECC .32375 INC 2.2061 V1 29.725
RP 207.05 LAP -1.84 LOP 323.76 VP 25.918 GAP 18.70 AZP 88.79 TAL 337.33 TAP 100.82 RCA 147.07 APO 287.89 V2 26.453
RC 57.030 GL -13.11 GP 2.92 ZAL 130.66 ZAP 167.42 ETS 166.83 ZAE 171.73 ETE 109.37 ZAC 103.75 ETC 276.43 LVI -18.80

PLANETOCENTRIC CONIC

C3 33.096 VHL 5.753 DLA -22.79 RAL 339.50 RAD 6648.2 VEL 12.370 PTH 7.29 VHP 8.988 DPA -16.28 RAP 313.68 ECC 1.5447
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 10 54 2793.22 -21.68 79.67 203.37 133.46 18 57 27 1793.2 -3.69 63.02
60.00 19 18 52 2612.46 -15.78 68.88 208.66 127.58 20 2 25 1612.5 .08 50.37
70.00 20 45 17 2358.42 -10.01 52.26 212.84 122.83 21 24 35 1358.4 3.90 32.66
80.00 22 28 35 2035.10 -5.24 30.61 215.74 119.44 23 2 31 1035.1 7.12 10.09
90.00 0 11 7 1717.11 -3.23 8.34 216.85 118.11 0 39 44 717.1 8.50 347.45
100.00 1 15 23 1509.57 -5.24 351.98 215.74 119.44 1 40 33 509.6 7.12 331.46
110.00 1 48 39 1405.24 -10.01 341.17 212.84 122.83 2 12 4 405.2 3.90 321.58

DIFFERENTIAL CORRECTIONS

TDE -.7263 TRA-1.4999 TC3 -.0438 BAU .0632
RDE -.4937 RRA .0868 RC3 .1360 FAU .04315
FDE .5743 FRA 1.8833 FC3-1.1287 BSP 2997
BDE .8782 BRA 1.5024 BC3 .1429 FSP 303

MID-COURSE EXECUTION ACCURACY

SGT 1775.1 SGR 524.4 SG3 214.3
RRT .2102 RRF -.2257 RTF -.8277
SGB 1851.0 R23 -.0367 R13 -.8286
SG1 1778.9 SG2 511.6 THA 3.88

ORBIT DETERMINATION ACCURACY

ST 43.6 SR 24.6 SS 32.5
CRT .7967 CRS .6407 CST .9754
LSA 57.3 MSA 16.5 SSA 1.2
EL1 48.2 EL2 13.5 ALF 26.46

LAUNCH DATE APR 11 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.951 GAL -5.35 AZL 92.23 HCA 124.54 SMA 214.74 ECC .31475 INC 2.2347 V1 29.725
 RP 206.97 LAP -1.84 LOP 323.03 VP 25.776 GAP 16.23 AZP 86.73 TAL 337.42 TAP 101.96 RCA 147.15 APO 282.33 V2 26.462
 RC 57.440 GL -13.57 GP 3.05 ZAL 130.62 ZAP 166.51 ETS 166.94 ZAE 171.90 ETE 103.93 ZAC 103.83 ETC 276.52 LVI -19.13

DISTANCE 366.701

EARTH TO MARS
 ST 44.4 SR 24.4 SS 33.6
 CRY .8007 CRS .6427 CST .9725
 LSA 58.5 MSA 16.5 SSA 1.2
 EL1 48.9 EL2 13.3 ALF 25.81

PLANETOCENTRIC CONIC
 C3 31.580 VHL 5.620 DLA -23.19 RAL 339.74 RAD 6647.6 VEL 12.309 PTH 7.24 VHP 8.718 DPA -16.06 RAP 314.00 ECC 1.5197
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 42 2772.80 -20.71 76.67 202.99 133.85 18 59 54 1772.8 -2.67 62.16
 60.00 19 22 21 2590.20 -14.86 87.53 208.30 127.90 20 5 32 1590.2 1.06 49.30
 70.00 20 49 46 2333.25 -9.08 50.90 212.51 123.07 21 28 39 1333.2 4.86 31.34
 80.00 22 34 23 2005.83 -4.26 28.99 215.45 119.58 23 7 48 1005.8 8.09 8.46
 90.00 0 17 43 1685.20 -2.20 6.55 216.59 118.20 0 45 48 685.2 9.48 345.62
 100.00 1 21 10 1480.30 -4.26 350.36 215.45 119.58 1 45 51 480.3 8.09 329.82
 110.00 1 33 8 1380.07 -9.08 339.82 212.51 123.07 2 16 8 380.1 4.86 320.25

DIFFERENTIAL CORRECTIONS
 TDE -.7231 TRA-1.4869 TC3 -.0340 BAU .0630
 RDE -.4782 RRA .0751 RC3 .1453 FAU .04462
 FDE .5961 FRA 1.9625 FC3-1.2232 BSP 3067
 BDE .8670 BRA 1.4868 BC3 .1493 FSP 326

MID-COURSE EXECUTION ACCURACY
 SGT 1806.9 SGR 920.9 SG3 228.6
 RRT .2294 RRF -.2465 RTF -.8338
 SGB 1880.5 R23 -.0400 R13 -.8348
 SG1 1811.2 SG2 505.8 THA 4.10

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.843 GAL -5.22 AZL 92.26 HCA 125.81 SMA 212.22 ECC .30625 INC 2.2643 V1 29.725
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.642 GAP 17.78 AZP 86.67 TAL 337.50 TAP 103.31 RCA 147.23 APO 277.21 V2 26.469
 RC 57.930 GL -14.03 GP 3.18 ZAL 130.56 ZAP 165.58 ETS 167.29 ZAE 171.99 ETE 98.69 ZAC 103.92 ETC 276.60 LVI -19.36

DISTANCE 369.869

EARTH TO MARS
 ST 45.2 SR 24.2 SS 34.8
 CRY .8051 CRS .6449 CST .9715
 LSA 59.7 MSA 16.5 SSA 1.2
 EL1 49.6 EL2 13.1 ALF 25.19

PLANETOCENTRIC CONIC
 C3 30.175 VHL 5.493 DLA -23.60 RAL 339.96 RAD 6647.1 VEL 12.252 PTH 7.20 VHP 8.459 DPA -15.84 RAP 314.30 ECC 1.4966
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 33 2752.42 -19.74 77.69 202.64 134.21 19 2 26 1752.4 -1.65 61.31
 60.00 19 25 57 2567.85 -13.92 66.39 207.96 128.21 20 8 45 1567.9 2.05 48.24
 70.00 20 54 25 2307.77 -8.13 49.54 212.21 123.29 21 32 53 1307.8 5.82 30.00
 80.00 22 40 29 1975.83 -3.25 27.34 215.21 119.70 23 13 25 975.8 9.07 6.77
 90.00 0 24 45 1652.20 -1.14 4.71 216.38 118.26 0 52 18 652.2 10.49 343.72
 100.00 1 27 17 1450.31 -3.25 348.71 215.21 119.70 1 51 27 450.3 9.07 328.14
 110.00 1 57 48 1354.59 -8.13 338.46 212.21 123.29 2 20 22 354.6 5.82 318.91

DIFFERENTIAL CORRECTIONS
 TDE -.7198 TRA-1.4732 TC3 -.0240 BAU .0633
 RDE -.4634 RRA .0631 RC3 .1552 FAU .04618
 FDE .6186 FRA 2.0457 FC3-1.3248 BSP 3132
 BDE .8561 BRA 1.4745 BC3 .1570 FSP 351

MID-COURSE EXECUTION ACCURACY
 SGT 1837.4 SGR 517.5 SG3 243.7
 RRT .2501 RRF -.2690 RTF -.8394
 SGB 1908.9 R23 -.0436 R13 -.8405
 SG1 1842.3 SG2 499.7 THA 4.35

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.740 GAL -5.09 AZL 92.29 HCA 127.08 SMA 209.89 ECC .29821 INC 2.2948 V1 29.725
 RP 206.85 LAP -1.83 LOP 327.56 VP 25.513 GAP 17.33 AZP 86.62 TAL 337.59 TAP 104.67 RCA 147.30 APO 272.49 V2 26.478
 RC 58.496 GL -14.50 GP 3.32 ZAL 130.48 ZAP 164.62 ETS 167.59 ZAE 172.01 ETE 93.80 ZAC 104.03 ETC 276.67 LVI -19.00

DISTANCE 373.121

EARTH TO MARS
 ST 45.9 SR 24.0 SS 36.0
 CRY .8098 CRS .6474 CST .9708
 LSA 60.9 MSA 16.4 SSA 1.2
 EL1 50.2 EL2 12.9 ALF 24.63

PLANETOCENTRIC CONIC
 C3 28.874 VHL 5.373 DLA -24.03 RAL 340.19 RAD 6646.6 VEL 12.199 PTH 7.16 VHP 8.208 DPA -15.62 RAP 314.58 ECC 1.4752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 30 2732.07 -18.77 76.73 202.33 134.56 19 5 2 1732.1 -.62 60.46
 60.00 19 29 41 2545.42 -12.97 65.25 207.66 128.50 20 12 6 1545.4 3.03 47.16
 70.00 20 59 17 2281.98 -7.16 48.17 211.95 123.48 21 37 19 1282.0 6.80 28.63
 80.00 22 46 57 1945.04 -2.21 25.65 215.00 119.78 23 19 22 945.0 10.07 5.03
 90.00 0 32 17 1617.94 -.03 2.80 216.21 118.28 0 59 15 617.9 11.52 341.73
 100.00 1 33 44 1419.51 -2.21 347.01 215.00 119.78 1 57 24 419.5 10.07 326.40
 110.00 2 2 39 1328.60 -7.16 337.09 211.95 123.48 2 24 48 328.8 6.80 317.55

DIFFERENTIAL CORRECTIONS
 TDE -.7137 TRA-1.4585 TC3 -.0129 BAU .0641
 RDE -.4481 RRA .0310 RC3 .1636 FAU .04784
 FDE .6419 FRA 2.1327 FC3-1.4345 BSP 3188
 BDE .6449 BRA 1.4594 BC3 .1681 FSP 377

MID-COURSE EXECUTION ACCURACY
 SGT 1865.9 SGR 514.3 SG3 239.8
 RRT .2723 RRF -.2934 RTF -.8447
 SGB 1935.6 R23 -.0477 R13 -.8460
 SG1 1871.6 SG2 493.4 THA 4.62

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.643 GAL -4.97 AZL 92.33 HCA 128.34 SMA 207.75 ECC .29061 INC 2.3253 V1 29.725
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.391 GAP 16.89 AZP 86.58 TAL 337.88 TAP 106.03 RCA 147.37 APO 268.12 V2 26.482
 RC 59.137 GL -14.99 GP 3.48 ZAL 130.38 ZAP 163.65 ETS 167.85 ZAE 171.97 ETE 89.37 ZAC 104.14 ETC 276.74 LVI -19.83

DISTANCE 376.449

EARTH TO MARS
 ST 46.6 SR 23.7 SS 37.2
 CRY .8146 CRS .6504 CST .9694
 LSA 62.0 MSA 16.4 SSA 1.2
 EL1 50.8 EL2 12.6 ALF 24.11

PLANETOCENTRIC CONIC
 C3 27.668 VHL 5.260 DLA -24.47 RAL 340.41 RAD 6646.1 VEL 12.150 PTH 7.12 VHP 7.965 DPA -15.39 RAP 314.83 ECC 1.4553
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 31 2711.76 -17.80 75.76 202.05 134.89 19 7 43 1711.8 .40 59.61
 60.00 19 33 31 2522.92 -12.01 64.12 207.40 128.76 20 15 34 1522.9 4.02 46.08
 70.00 21 4 22 2255.86 -6.18 48.79 211.73 123.68 21 41 58 1255.9 7.78 27.25
 80.00 22 53 48 1913.33 -1.14 23.91 214.85 119.84 23 25 42 913.3 11.08 3.22
 90.00 0 40 24 1582.21 1.12 .81 216.10 118.26 1 6 46 582.2 12.58 339.64
 100.00 1 40 36 1387.81 -1.14 345.27 214.85 119.84 2 3 44 387.8 11.08 324.59
 110.00 2 7 44 1302.68 -6.18 335.71 211.73 123.66 2 29 27 302.7 7.78 316.16

DIFFERENTIAL CORRECTIONS
 TDE -.7114 TRA-1.4432 TC3 -.0010 BAU .0653
 RDE -.4354 RRA .0387 RC3 .1767 FAU .04963
 FDE .6661 FRA 2.2242 FC3-1.5529 BSP 3245
 BDE .8341 BRA 1.4437 BC3 .1767 FSP 405

MID-COURSE EXECUTION ACCURACY
 SGT 1893.1 SGR 511.5 SG3 277.0
 RRT .2968 RRF -.3198 RTF -.8498
 SGB 1960.9 R23 -.0521 R13 -.8511
 SG1 1899.6 SG2 486.8 THA 4.91

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 142.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 379.846

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 33.552 GAL -4.85 AZL 92.36 HCA 129.61 SMA 205.77 ECC .26344 INC 2.3590 V1 29.725
RP 206.75 LAP -1.82 LOP 330.10 VP 25.275 GAP 16.46 AZP 88.50 TAL 337.78 TAP 107.39 RCA 147.44 APO 264.09 V2 26.487
RC 59.890 GL -13.49 GP 3.84 ZAL 130.28 ZAP 162.65 ETS 168.06 ZAE 171.89 ETE 85.48 ZAC 104.27 ETC 276.81 LVI -20.07

PLANETOCENTRIC CONIC

C3 26.532 VHL 5.153 DLA -24.93 RAL 340.64 RAD 6645.6 VEL 12.104 PTH 7.08 VHP 7.729 DPA -15.15 RAP 315.06 ECC 1.4370
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 25 30 2691.52 -16.82 74.85 201.81 135.19 19 10 20 1691.5 1.41 58.76
60.00 19 37 30 2500.35 -11.05 62.99 207.18 129.01 20 19 11 1500.3 5.01 45.00
70.00 21 9 40 2229.38 -5.18 45.39 211.55 123.81 21 46 50 1229.4 8.77 25.83
80.00 23 1 7 1880.58 -.03 22.11 214.75 119.86 23 32 28 880.6 12.12 1.35
90.00 0 49 12 1544.68 2.33 358.71 216.06 118.19 1 14 57 544.7 13.67 337.42
100.00 1 47 55 1355.06 -.03 343.48 214.75 119.86 2 10 30 355.1 12.12 322.71
110.00 2 13 3 1276.19 -5.18 334.31 211.55 123.81 2 34 19 276.2 8.77 314.75

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7073 TRA-1.4274 TC3 .0104 BAW .0670 SGT 1918.8 SGR 509.1 SG3 295.3 ST 47.3 SR 23.5 SS 38.4
RDE -.4223 RRA .0280 RC3 .1883 FAU .05149 RRT .3230 RRF -.3484 RTF -.8544 CRT .8201 CRS .8539 CST .9682
FDE .6917 FRA 2.3208 FC3-1.6788 BSP 3304 SGB 1985.2 R23 -.0570 R13 -.8580 LSA 63.2 MSA 16.4 SSA 1.2
BDE .8238 BRA 1.4276 BC3 .1886 FSP 435 SG1 1926.3 SG2 479.9 THA 5.22 EL1 51.3 EL2 12.4 ALF 23.62

LAUNCH DATE APR 11 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 383.308

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 33.465 GAL -4.74 AZL 92.39 HCA 130.88 SMA 203.93 ECC .27665 INC 2.3930 V1 29.725
RP 206.72 LAP -1.81 LOP 331.37 VP 25.164 GAP 16.04 AZP 88.43 TAL 337.89 TAP 108.77 RCA 147.51 APO 260.35 V2 26.491
RC 60.633 GL -16.00 GP 3.81 ZAL 130.18 ZAP 161.82 ETS 168.24 ZAE 171.77 ETE 82.19 ZAC 104.41 ETC 276.87 LVI -20.32

PLANETOCENTRIC CONIC

C3 25.518 VHL 5.051 DLA -25.40 RAL 340.86 RAD 6645.2 VEL 12.062 PTH 7.04 VHP 7.501 DPA -14.92 RAP 315.27 ECC 1.4200
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 50 2671.29 -15.84 73.92 201.61 135.47 19 13 21 1671.3 2.43 57.92
60.00 19 41 39 2477.65 -10.07 61.87 207.00 129.23 20 22 56 1477.6 6.01 43.90
70.00 21 15 15 2202.43 -4.15 43.98 211.42 123.93 21 51 57 1202.4 9.77 24.39
80.00 23 8 58 1846.53 1.12 20.24 214.70 119.84 23 39 44 846.5 13.18 359.38
90.00 0 58 51 1504.82 3.61 356.48 216.08 118.07 1 23 56 504.8 14.80 335.05
100.00 1 55 46 1321.00 1.12 341.61 214.70 119.84 2 17 47 321.0 13.18 320.74
110.00 2 18 37 1249.25 -4.15 332.89 211.42 123.93 2 39 26 249.3 9.77 313.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6907 TRA-1.3982 TC3 .0416 BAW .0700 SGT 1922.9 SGR 507.3 SG3 314.7 ST 47.2 SR 23.2 SS 39.6
RDE -.4096 RRA .0133 RC3 .2011 FAU .05351 RRT .3518 RRF -.3789 RTF -.8640 CRT .8238 CRS .8577 CST .9680
FDE .7177 FRA 2.4208 FC3-1.8155 BSP 3200 SGB 1989.7 R23 -.0591 R13 -.8657 LSA 63.8 MSA 16.3 SSA 1.2
BDE .8030 BRA 1.3982 BC3 .2053 FSP 467 SG1 1931.7 SG2 472.7 THA 5.64 EL1 51.2 EL2 12.1 ALF 23.47

LAUNCH DATE APR 11 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 386.828

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 33.383 GAL -4.63 AZL 92.43 HCA 132.15 SMA 202.23 ECC .27025 INC 2.4283 V1 29.725
RP 206.70 LAP -1.80 LOP 332.64 VP 25.058 GAP 15.83 AZP 88.37 TAL 338.00 TAP 110.14 RCA 147.58 APO 256.88 V2 26.494
RC 61.483 GL -16.53 GP 4.00 ZAL 130.02 ZAP 160.57 ETS 168.39 ZAE 171.64 ETE 79.49 ZAC 104.57 ETC 276.93 LVI -20.56

PLANETOCENTRIC CONIC

C3 24.564 VHL 4.956 DLA -25.88 RAL 341.08 RAD 6644.8 VEL 12.022 PTH 7.01 VHP 7.280 DPA -14.67 RAP 315.44 ECC 1.4043
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 32 9 2651.20 -14.87 73.01 201.44 135.74 19 16 20 1651.2 3.44 57.08
60.00 19 45 56 2454.94 -9.10 60.75 206.88 129.43 20 26 51 1454.9 7.00 42.80
70.00 21 21 6 2175.14 -3.12 42.55 211.34 124.03 21 57 21 1175.1 10.77 22.91
80.00 23 17 24 1811.11 2.32 18.29 214.73 119.78 23 47 35 811.1 14.27 357.31
90.00 1 9 32 1482.19 4.97 354.09 216.19 117.88 1 33 54 482.2 15.98 332.48
100.00 2 4 12 1285.58 2.32 339.86 214.73 119.78 2 25 37 285.6 14.27 318.88
110.00 2 24 26 1221.96 -3.12 331.46 211.34 124.03 2 44 50 222.0 10.77 311.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8920 TRA-1.3870 TC3 .0437 BAW .0717 SGT 1954.0 SGR 506.4 SG3 335.3 ST 48.1 SR 23.0 SS 40.9
RDE -.3978 RRA -.0002 RC3 .2140 FAU .05563 RRT .3814 RRF -.4117 RTF -.8551 CRT .8314 CRS .8625 CST .9661
FDE .7452 FRA 2.5271 FC3-1.9807 BSP 3329 SGB 2018.5 R23 -.0669 R13 -.8670 LSA 65.2 MSA 16.3 SSA 1.2
BDE .7982 BRA 1.3870 BC3 .2189 FSP 501 SG1 1964.1 SG2 465.7 THA 5.98 EL1 52.0 EL2 11.6 ALF 22.82

LAUNCH DATE APR 11 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 390.401

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 33.308 GAL -4.52 AZL 92.47 HCA 133.42 SMA 200.68 ECC .26420 INC 2.4650 V1 29.725
RP 206.68 LAP -1.79 LOP 333.91 VP 24.957 GAP 15.22 AZP 88.31 TAL 338.11 TAP 111.52 RCA 147.64 APO 253.67 V2 26.496
RC 62.398 GL -17.06 GP 4.19 ZAL 129.88 ZAP 159.50 ETS 168.91 ZAE 171.50 ETE 77.39 ZAC 104.74 ETC 276.98 LVI -20.82

PLANETOCENTRIC CONIC

C3 23.684 VHL 4.867 DLA -26.38 RAL 341.31 RAD 6644.4 VEL 11.988 PTH 6.98 VHP 7.066 DPA -14.43 RAP 315.59 ECC 1.3898
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 38 34 2631.17 -13.99 72.12 201.32 135.98 19 19 25 1631.2 4.44 56.24
60.00 19 50 24 2432.13 -8.11 59.63 206.77 129.61 20 30 56 1432.1 7.99 41.69
70.00 21 27 15 2147.33 -2.06 41.09 211.32 124.10 22 3 3 1147.3 11.79 21.40
80.00 23 26 34 1773.87 3.58 16.25 214.82 119.66 23 58 8 773.9 15.39 355.11
90.00 1 21 36 1415.58 6.45 351.46 216.39 117.59 1 45 12 415.6 17.23 329.63
100.00 2 13 22 1248.34 3.58 337.61 214.82 119.66 2 34 10 248.3 15.39 316.48
110.00 2 30 38 1194.15 -2.06 330.01 211.32 124.10 2 50 32 194.2 11.79 310.32

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6909 TRA-1.3722 TC3 .0498 BAW .0738 SGT 1978.9 SGR 506.6 SG3 357.3 ST 48.8 SR 22.8 SS 42.3
RDE -.3865 RRA -.0140 RC3 .2278 FAU .05787 RRT .4132 RRF -.4467 RTF -.8672 CRT .8393 CRS .8682 CST .9644
FDE .7748 FRA 2.6393 FC3-2.1152 BSP 3419 SGB 2042.7 R23 -.0747 R13 -.8694 LSA 66.5 MSA 16.3 SSA 1.2
BDE .7917 BRA 1.3723 BC3 .2332 FSP 538 SG1 1990.5 SG2 458.6 THA 6.38 EL1 52.7 EL2 11.5 ALF 22.48

LAUNCH DATE APR 11 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.233 GAL -4.42 AZL 92.50 HCA 134.68 SMA 199.19 ECC .25849 INC 2.3032 V1 29.725
 RP 206.67 LAP -1.78 LOP 335.18 VP 24.860 GAP 14.83 AZP 88.24 TAL 338.22 TAP 112.90 RCA 147.70 APO 250.68 V2 26.496
 RC 63.376 GL -17.61 GP 4.41 ZAL 129.72 ZAP 158.40 ETS 168.61 ZAE 171.36 ETE 75.88 ZAC 104.92 ETC 277.03 LVI -21.07

DISTANCE 394.023

EARTH TO MARS
 ST 49.4 SR 22.5 SS 43.6
 CRT .8473 CRS .6746 CST .9627
 LSA 67.7 MSA 16.2 SSA 1.2
 EL1 53.1 EL2 11.1 ALF 22.15

PLANETOCENTRIC CONIC
 C3 22.872 VHL 4.782 DLA -26.89 RAL 341.54 RAD 8644.1 VEL 11.952 PTH 6.95 VHP 6.859 DPA -14.17 RAP 315.71 ECC 1.3764
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 39 6 2611.20 -12.91 71.23 201.24 136.20 19 22 37 1611.2 5.44 55.40
 60.00 19 55 3 2409.21 -7.11 58.52 206.72 129.77 20 35 12 1409.2 8.98 40.57
 70.00 21 33 46 2118.94 -.97 39.61 211.35 124.14 22 9 5 1118.9 12.81 19.84
 80.00 23 36 38 1734.30 4.91 14.06 215.00 119.49 24 5 33 734.3 16.55 352.75
 90.00 1 35 41 1363.09 8.09 348.48 216.72 117.19 1 58 24 363.1 18.59 326.37
 100.00 2 23 26 1206.77 4.91 335.43 215.00 119.49 2 43 35 208.8 16.55 314.12
 110.00 2 37 8 1165.76 -.97 328.53 211.35 124.14 2 56 34 165.8 12.81 308.76

DIFFERENTIAL CORRECTIONS
 TDE -.6874 TRA-1.3538 TC3 .0584 BAU .0763
 RDE -.3758 RRA -.0283 RC3 .2426 FAU .06027
 FDE .8051 FRA 2.7561 FC3-2.2812 BSP 3476
 BDE .7834 BRA 1.3541 BC3 .2495 FSP 577

MID-COURSE EXECUTION ACCURACY
 SGT 1997.1 SGR 508.0 SG3 380.5
 RRT .4465 RRF -.4834 RTF -.8696
 SGB 2060.7 R23 -.0829 R13 -.8722
 SG1 2010.7 SG2 451.4 THA 6.83

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.164 GAL -4.33 AZL 92.54 HCA 135.95 SMA 197.84 ECC .25311 INC 2.5433 V1 29.725
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.768 GAP 14.44 AZP 88.17 TAL 338.33 TAP 114.29 RCA 147.76 APO 247.91 V2 26.496
 RC 64.414 GL -18.18 GP 4.63 ZAL 129.55 ZAP 157.26 ETS 168.69 ZAE 171.23 ETE 74.95 ZAC 105.13 ETC 277.07 LVI -21.34

DISTANCE 397.691

EARTH TO MARS
 ST 49.8 SR 22.3 SS 45.0
 CRT .8558 CRS .6818 CST .9611
 LSA 68.9 MSA 16.2 SSA 1.2
 EL1 53.5 EL2 10.7 ALF 21.87

PLANETOCENTRIC CONIC
 C3 22.124 VHL 4.704 DLA -27.42 RAL 341.77 RAD 8643.8 VEL 11.921 PTH 6.93 VHP 6.658 DPA -13.91 RAP 315.80 ECC 1.3641
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 42 47 2591.30 -11.93 70.35 201.20 136.41 19 25 58 1591.3 6.44 54.56
 60.00 19 59 54 2386.16 -6.10 57.40 206.72 129.91 20 39 40 1386.2 9.98 39.44
 70.00 21 40 39 2089.87 .14 38.09 211.44 124.15 22 15 29 1089.9 13.86 18.23
 80.00 23 47 51 1691.67 6.33 11.70 215.26 119.24 24 16 3 691.7 17.77 350.17
 90.00 1 53 2 1300.67 10.01 344.91 217.23 116.59 2 14 43 300.7 20.11 322.43
 100.00 2 34 39 1166.14 6.33 333.07 215.26 119.24 2 54 5 166.1 17.77 311.54
 110.00 2 44 2 1136.69 .14 327.01 211.44 124.15 3 2 58 136.7 13.86 307.15

DIFFERENTIAL CORRECTIONS
 TDE -.6829 TRA-1.3343 TC3 .0674 BAU .0789
 RDE -.3657 RRA -.0433 RC3 .2582 FAU .06278
 FDE .8372 FRA 2.8799 FC3-2.4568 BSP 3524
 BDE .7747 BRA 1.3350 BC3 .2669 FSP 619

MID-COURSE EXECUTION ACCURACY
 SGT 2012.1 SGR 510.9 SG3 405.2
 RRT .4813 RRF -.5219 RTF -.8721
 SGB 2076.0 R23 -.0919 R13 -.8751
 SG1 2027.9 SG2 444.3 THA 7.32

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.099 GAL -4.23 AZL 92.59 HCA 137.22 SMA 196.57 ECC .24803 INC 2.5852 V1 29.725
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.679 GAP 14.06 AZP 88.10 TAL 338.45 TAP 115.67 RCA 147.82 APO 245.33 V2 26.495
 RC 65.512 GL -18.76 GP 4.88 ZAL 129.37 ZAP 156.10 ETS 168.74 ZAE 171.10 ETE 74.57 ZAC 105.35 ETC 277.10 LVI -21.61

DISTANCE 401.401

EARTH TO MARS
 ST 50.2 SR 22.1 SS 46.4
 CRT .8647 CRS .6898 CST .9592
 LSA 70.0 MSA 16.2 SSA 1.2
 EL1 53.8 EL2 10.3 ALF 21.67

PLANETOCENTRIC CONIC
 C3 21.437 VHL 4.630 DLA -27.96 RAL 342.01 RAD 8643.5 VEL 11.893 PTH 6.90 VHP 6.465 DPA -13.64 RAP 315.85 ECC 1.3528
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 46 35 2571.45 -10.95 69.49 201.21 136.60 19 29 27 1571.5 7.43 53.71
 60.00 20 4 58 2362.96 -5.09 56.28 206.78 130.03 20 44 21 1363.0 10.97 38.29
 70.00 21 47 59 2060.00 1.28 36.54 211.59 124.13 22 22 19 1060.0 14.91 16.57
 80.00 0 4 33 1644.77 7.88 9.08 215.65 118.89 0 31 57 644.8 19.06 347.29
 90.00 2 17 44 1215.25 12.57 339.94 216.10 115.54 2 37 59 215.2 22.03 316.90
 100.00 2 47 25 1119.24 7.88 330.45 215.65 118.89 3 6 4 119.2 19.06 308.66
 110.00 2 51 22 1106.82 1.28 325.45 211.59 124.13 3 9 48 106.8 14.91 305.48

DIFFERENTIAL CORRECTIONS
 TDE -.6773 TRA-1.3125 TC3 .0772 BAU .0819
 RDE -.3561 RRA -.0588 RC3 .2750 FAU .06548
 FDE .8699 FRA 3.0091 FC3-2.6444 BSP 3551
 BDE .7652 BRA 1.3138 BC3 .2856 FSP 663

MID-COURSE EXECUTION ACCURACY
 SGT 2022.0 SGR 515.6 SG3 431.4
 RRT .5170 RRF -.9614 RTF -.2.46
 SGB 2086.7 R23 -.1016 R13 -.8780
 SG1 2040.3 SG2 437.4 THA 7.88

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 33.038 GAL -4.15 AZL 92.63 HCA 138.48 SMA 195.40 ECC .24324 INC 2.6292 V1 29.725
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.595 GAP 13.89 AZP 88.03 TAL 338.58 TAP 117.05 RCA 147.87 APO 242.93 V2 26.493
 RC 66.887 GL -19.35 GP 5.14 ZAL 129.19 ZAP 154.90 ETS 168.78 ZAE 170.98 ETE 74.74 ZAC 105.60 ETC 277.13 LVI -21.88

DISTANCE 405.150

EARTH TO MARS
 ST 50.5 SR 21.9 SS 47.9
 CRT .8744 CRS .6991 CST .9573
 LSA 71.1 MSA 16.2 SSA 1.1
 EL1 54.1 EL2 9.9 ALF 21.51

PLANETOCENTRIC CONIC
 C3 20.807 VHL 4.561 DLA -28.51 RAL 342.26 RAD 8643.2 VEL 11.866 PTH 6.88 VHP 6.277 DPA -13.36 RAP 315.87 ECC 1.3424
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 50 33 2551.67 -9.97 68.63 201.26 136.77 19 33 5 1551.7 8.42 52.87
 60.00 20 10 17 2339.58 -4.07 55.16 206.89 130.13 20 49 17 1339.6 11.97 37.13
 70.00 21 55 50 2029.17 2.46 34.93 211.82 124.08 22 29 39 1029.2 15.99 14.83
 80.00 0 19 34 1591.34 9.63 6.08 216.19 118.40 0 46 6 591.3 20.47 343.95
 86.24 2 24 42 1188.40 16.35 339.76 219.55 113.69 2 44 30 188.4 24.71 315.80
 100.00 3 2 26 1065.82 9.63 327.44 216.19 118.40 3 20 12 65.8 20.47 305.32
 110.00 2 59 12 1075.99 2.46 323.84 211.82 124.08 3 17 8 76.0 15.99 303.74

DIFFERENTIAL CORRECTIONS
 TDE -.6722 TRA-1.2903 TC3 .0850 BAU .0848
 RDE -.3473 RRA -.0752 RC3 .2927 FAU .06829
 FDE .9054 FRA 3.1460 FC3-2.8414 BSP 3578
 BDE .7566 BRA 1.2925 BC3 .3048 FSP 710

MID-COURSE EXECUTION ACCURACY
 SGT 2029.9 SGR 522.6 SG3 459.1
 RRT .5535 RRF -.6019 RTF -.8766
 SGB 2096.1 R23 -.1126 R15 -.8805
 SG1 2051.4 SG2 430.7 THA 8.49

ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 11 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 408.934

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.980 GAL -4.06 AZL 92.66 HCA 139.76 SMA 194.31 ECC .23673 INC 2.6753 V1 29.725
RP 206.73 LAP -1.73 LOP 340.26 VP 24.514 GAP 13.33 AZP 87.96 TAL 338.67 TAP 118.43 RCA 147.92 APO 240.70 V2 26.469
RC 67.877 GL -18.96 GP 5.42 ZAL 128.99 ZAP 153.67 ETS 168.79 ZAE 170.86 ETE 75.44 ZAC 105.87 ETC 277.16 LVI -22.17

PLANETOCENTRIC CONIC

C3 20.231 VHL 4.498 DLA -29.08 RAL 342.52 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 6.097 DPA -13.06 RAP 315.85 ECC 1.3330
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 54 42 2531.92 -8.99 67.78 201.37 136.92 19 38 54 1531.9 9.40 52.02
60.00 20 15 52 2315.98 -3.03 54.03 207.06 130.21 20 54 26 1316.0 12.98 35.94
70.00 22 4 14 1997.17 3.68 33.26 212.12 123.98 22 37 31 997.2 17.09 13.00
80.00 0 38 30 1526.25 11.71 2.37 216.95 117.66 1 3 57 526.3 22.09 339.79
82.95 1 58 55 1268.23 16.84 345.85 219.52 114.06 2 20 3 268.2 25.31 321.84
100.00 3 21 22 1000.72 11.71 323.74 216.95 117.66 3 38 3 .7 22.09 301.16
110.00 3 7 38 1043.99 3.68 322.17 212.12 123.98 3 25 2 44.0 17.09 301.91

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6686 TRA-1.2660 TC3 .0914 BAU .0878 SGT 2032.9 SGR 532.1 SG3 488.3 ST 50.7 SR 21.7 SS 49.4
RDE -.3389 RRA -.0923 RC3 .3116 FAU .07128 RRT .5898 RRF -.8425 RTF -.8780 CRT .8648 CRS .7093 CST .9552
PDE .9416 FRA 3.2881 FC3-3.0504 B8P 3600 SGB 2101.4 R23 -.1251 R13 -.8827 LSA 72.2 MSA 16.2 S8A 1.1
BDE .7479 BRA 1.2694 BC3 .3248 F8P 759 SGI 2058.1 SGI2 424.4 THA 9.17 EL1 54.3 EL2 9.4 ALF 21.41

LAUNCH DATE APR 11 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC

DISTANCE 412.751

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.926 GAL -3.98 AZL 92.72 HCA 141.03 SMA 193.29 ECC .23448 INC 2.7240 V1 29.725
RP 206.77 LAP -1.71 LOP 341.52 VP 24.436 GAP 12.97 AZP 87.88 TAL 338.78 TAP 119.81 RCA 147.97 APO 238.62 V2 26.485
RC 69.140 GL -20.59 GP 5.72 ZAL 128.78 ZAP 152.40 ETS 168.80 ZAE 170.75 ETE 76.68 ZAC 106.17 ETC 277.18 LVI -22.47

PLANETOCENTRIC CONIC

C3 19.707 VHL 4.439 DLA -29.66 RAL 342.78 RAD 6642.7 VEL 11.820 PTH 6.84 VHP 5.922 DPA -12.78 RAP 315.80 ECC 1.3243
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 59 1 2512.18 -8.01 66.94 201.53 137.06 19 40 53 1512.2 10.38 51.17
60.00 20 21 45 2292.07 -1.98 52.88 207.29 130.26 20 59 57 1292.1 13.99 34.73
70.00 22 13 23 1963.67 4.95 31.49 212.52 123.84 22 46 7 963.7 16.22 11.06
80.00 1 7 52 1428.81 14.72 356.70 218.24 116.27 1 31 41 428.8 24.28 333.39
80.67 1 42 5 1319.42 17.33 349.87 219.53 114.45 2 4 4 319.4 25.91 325.80
100.00 3 50 44 6191.32 14.72 295.98 218.24 116.27 5 33 55 5191.3 24.28 272.66
110.00 3 16 46 1010.49 4.95 320.41 212.52 123.84 3 33 36 10.5 18.22 299.98

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6545 TRA-1.2344 TC3 .1101 BAU .0923 SGT 2021.0 SGR 544.5 SG3 519.0 ST 50.4 SR 21.5 SS 50.8
RDE -.3310 RRA -.1102 RC3 .3326 FAU .07460 RRT .6268 RRF -.6826 RTF -.8816 CRT .8947 CRS .7199 CST .9532
PDE .9772 FRA 3.4351 FC3-3.2775 B8P 3530 SGB 2093.1 R23 -.1351 R13 -.8871 LSA 72.9 MSA 16.2 S8A 1.1
BDE .7335 BRA 1.2393 BC3 .3503 F8P 808 SGI 2050.9 SGI2 418.1 THA 10.01 EL1 54.1 EL2 9.0 ALF 21.51

LAUNCH DATE APR 11 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 416.599

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.874 GAL -3.91 AZL 92.78 HCA 142.30 SMA 192.35 ECC .23048 INC 2.7753 V1 29.725
RP 206.81 LAP -1.70 LOP 342.79 VP 24.361 GAP 12.62 AZP 87.80 TAL 338.89 TAP 121.18 RCA 148.02 APO 236.68 V2 26.480
RC 70.455 GL -21.23 GP 6.04 ZAL 128.57 ZAP 151.10 ETS 168.78 ZAE 170.62 ETE 78.42 ZAC 106.49 ETC 277.19 LVI -22.78

PLANETOCENTRIC CONIC

C3 19.233 VHL 4.385 DLA -30.25 RAL 343.07 RAD 6642.5 VEL 11.800 PTH 6.82 VHP 5.754 DPA -12.47 RAP 315.70 ECC 1.3165
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 3 33 2492.48 -7.02 66.10 201.74 137.18 19 45 5 1492.5 11.35 50.32
60.00 20 27 57 2267.89 -.91 51.73 207.59 130.29 21 5 45 1267.9 15.00 33.49
70.00 22 23 21 1928.39 8.28 29.63 213.01 123.64 22 55 29 928.4 19.38 8.99
78.78 1 28 51 1359.46 17.82 353.08 219.59 114.86 1 51 30 359.5 26.52 328.96
78.78 1 28 51 1359.46 17.82 353.08 219.59 114.86 1 51 30 359.5 26.52 328.96
78.78 1 28 51 1359.46 17.82 353.08 219.59 114.86 1 51 30 359.5 26.52 328.96
110.00 3 28 43 6263.25 6.28 206.46 213.01 123.64 5 11 7 5263.3 19.38 275.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6550 TRA-1.2138 TC3 .1003 BAU .0943 SGT 2027.4 SGR 580.6 SG3 551.7 ST 50.9 SR 21.4 SS 52.4
RDE -.3243 RRA -.1288 RC3 .3536 FAU .07780 RRT .6601 RRF -.7820 RTF -.501 CRT .9072 CRS .7335 CST .9904
PDE 1.0208 FRA 3.5952 FC3-3.5020 B8P 3614 SGB 2103.4 R23 -.1541 R13 -.8866 LSA 74.3 MSA 16.3 S8A 1.1
BDE .7309 BRA 1.2207 BC3 .3678 F8P 866 SGI 2062.3 SGI2 414.0 THA 10.78 EL1 54.6 EL2 8.4 ALF 21.41

LAUNCH DATE APR 11 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 420.475

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.828 GAL -3.84 AZL 92.83 HCA 143.56 SMA 191.47 ECC .22673 INC 2.8297 V1 29.728
RP 206.87 LAP -1.68 LOP 344.06 VP 24.209 GAP 12.28 AZP 87.72 TAL 338.99 TAP 122.58 RCA 148.06 APO 234.88 V2 26.474
RC 71.818 GL -21.89 GP 6.39 ZAL 128.34 ZAP 149.78 ETS 168.78 ZAE 170.48 ETE 80.86 ZAC 106.84 ETC 277.19 LVI -23.10

PLANETOCENTRIC CONIC

C3 18.805 VHL 4.336 DLA -30.88 RAL 343.38 RAD 6642.3 VEL 11.782 PTH 6.81 VHP 5.592 DPA -12.14 RAP 315.56 ECC 1.3095
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 8 18 2472.75 -8.04 65.28 202.01 137.28 19 49 30 1472.7 12.33 49.45
60.00 20 34 32 2243.27 .17 50.55 207.96 130.30 21 11 56 1243.3 16.02 32.21
70.00 22 34 23 1890.63 7.70 27.63 213.61 123.38 23 5 53 890.6 20.60 6.74
77.10 1 17 41 1393.30 18.31 355.86 219.71 115.29 1 40 55 393.3 27.14 331.68
77.10 1 17 41 1393.30 18.31 355.86 219.71 115.29 1 40 55 393.3 27.14 331.68
77.10 1 17 41 1393.30 18.31 355.86 219.71 115.29 1 40 55 393.3 27.14 331.68
110.00 3 37 45 6225.48 7.70 294.46 213.61 123.38 5 21 30 5225.5 20.60 273.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6496 TRA-1.1856 TC3 .1001 BAU .0980 SGT 2018.5 SGR 580.4 SG3 586.0 ST 50.9 SR 21.3 SS 54.0
RDE -.3181 RRA -.1503 RC3 .3766 FAU .08128 RRT .6925 RRF -.7595 RTF -.8802 CRT .9193 CRS .7477 CST .9478
PDE 1.0645 FRA 3.7601 FC3-3.7408 B8P 3616 SGB 2100.3 R23 -.1713 R13 -.8881 LSA 75.5 MSA 16.4 S8A 1.1
BDE .7233 BRA 1.1951 BC3 .3897 F8P 925 SGI 2059.8 SGI2 410.3 THA 11.73 EL1 54.6 EL2 7.8 ALF 21.51

LAUNCH DATE APR 11 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

DISTANCE 424.377

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.781 GAL -3.77 AZL 92.89 HCA 144.83 SMA 190.69 ECC .22320 INC 2.8873 V1 29.725
RP 206.93 LAP -1.66 LOP 345.33 VP 24.220 GAP 11.99 AZP 87.64 TAL 339.09 TAP 123.92 RCA 148.10 APO 233.21 V2 26.466
RC 73.228 GL -22.57 GP 6.77 ZAL 128.11 ZAP 148.38 ETS 168.72 ZAE 170.30 ETE 83.36 ZAC 107.23 ETC 277.19 LVI -23.44

PLANETOCENTRIC CONIC

C3 18.423 VHL 4.292 DLA -31.49 RAL 343.68 RAD 6642.1 VEL 11.766 PTH 6.79 VHP 5.436 DPA -11.80 RAP 315.38 ECC 1.3032
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 13 18 2452.95 -5.05 64.43 202.35 137.37 19 54 11 1453.0 13.30 48.38
60.00 20 41 33 2218.12 1.28 49.35 208.41 130.28 21 18 31 1218.1 17.06 30.90
70.00 22 46 47 1849.49 9.24 25.44 214.35 123.03 23 17 36 849.5 21.89 4.24
75.54 1 7 58 1423.07 18.80 358.35 219.89 115.74 1 31 41 423.1 27.76 334.12
75.54 1 7 58 1423.07 18.80 358.35 219.89 115.74 1 31 41 423.1 27.76 334.12
75.54 1 7 58 1423.07 18.80 358.35 219.89 115.74 1 31 41 423.1 27.76 334.12
110.00 3 50 9 6184.35 9.24 292.26 214.35 123.03 5 33 13 5184.4 21.89 271.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6435 TRA-1.1551 TC3 .0977 BAU .1017 SGT 2003.6 SGR 604.6 SG3 621.8 ST 50.8 SR 21.3 SS 55.6
RDE -.3126 RRA -1.1722 RC3 .4014 FAU .08493 RRT .7222 RRF -.7945 RTF -.8797 CRT .9314 CRS .7627 CST .9447
FDE 1.1088 FRA 3.9305 FC3-3.9912 BSP 3608 SGB 2092.8 R23 -.1902 R13 -.8892 LSA 76.5 MSA 16.5 SSA 1.1
BDE .7154 BRA 1.1678 BC3 .4131 FSP 986 SG1 2052.6 SG2 408.2 THA 12.81 EL1 54.6 EL2 7.2 ALF 21.69

LAUNCH DATE APR 11 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

DISTANCE 428.304

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.738 GAL -3.71 AZL 92.95 HCA 146.09 SMA 189.89 ECC .21988 INC 2.9487 V1 29.725
RP 207.00 LAP -1.64 LOP 346.59 VP 24.153 GAP 11.62 AZP 87.55 TAL 339.19 TAP 125.28 RCA 148.14 APO 231.65 V2 26.458
RC 74.683 GL -23.28 GP 7.18 ZAL 127.87 ZAP 146.95 ETS 168.66 ZAE 170.08 ETE 86.48 ZAC 107.65 ETC 277.18 LVI -23.79

PLANETOCENTRIC CONIC

C3 18.084 VHL 4.253 DLA -32.13 RAL 344.01 RAD 6642.0 VEL 11.752 PTH 6.78 VHP 5.286 DPA -11.44 RAP 315.15 ECC 1.2976
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 18 35 2433.03 -4.05 63.59 202.75 137.44 19 59 8 1433.0 14.27 47.69
60.00 20 49 2 2192.30 2.41 48.12 208.95 130.24 21 25 34 1192.3 18.12 29.53
70.00 23 1 7 1803.38 10.94 22.95 215.26 122.56 23 31 10 803.4 23.28 1.38
74.06 0 59 16 1450.11 19.29 .65 220.13 116.21 1 23 26 450.1 28.40 336.38
74.06 0 59 16 1450.11 19.29 .65 220.13 116.21 1 23 26 450.1 28.40 336.38
74.06 0 59 16 1450.11 19.29 .65 220.13 116.21 1 23 26 450.1 28.40 336.38
110.00 4 4 29 6138.24 10.94 289.77 215.26 122.56 5 46 47 5138.2 23.28 268.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6309 TRA-1.1183 TC3 .1081 BAU .1070 SGT 1971.2 SGR 633.5 SG3 659.1 ST 50.2 SR 21.2 SS 57.1
RDE -.3074 RRA -1.1953 RC3 .4291 FAU .08904 RRT .7508 RRF -.8267 RTF -.8812 CRT .9430 CRS .7780 CST .9416
FDE 1.1516 FRA 4.1039 FC3-4.2627 BSP 3512 SGB 2070.5 R23 -.2052 R13 -.8926 LSA 77.2 MSA 16.5 SSA 1.0
BDE .7018 BRA 1.1333 BC3 .4425 FSP 1045 SG1 2030.3 SG2 406.2 THA 14.14 EL1 54.1 EL2 6.6 ALF 22.10

LAUNCH DATE APR 11 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

DISTANCE 432.253

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.698 GAL -3.65 AZL 93.01 HCA 147.38 SMA 189.19 ECC .21678 INC 3.0142 V1 29.725
RP 207.00 LAP -1.63 LOP 347.66 VP 24.089 GAP 11.30 AZP 87.46 TAL 339.27 TAP 126.63 RCA 148.17 APO 230.20 V2 26.449
RC 76.180 GL -24.01 GP 7.63 ZAL 127.62 ZAP 145.49 ETS 168.60 ZAE 169.79 ETE 90.00 ZAC 108.11 ETC 277.17 LVI -24.17

PLANETOCENTRIC CONIC

C3 17.790 VHL 4.218 DLA -32.80 RAL 344.37 RAD 6641.8 VEL 11.740 PTH 6.77 VHP 5.142 DPA -11.05 RAP 314.87 ECC 1.2928
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 24 10 2413.02 -3.04 62.75 203.23 137.50 20 4 23 1413.0 15.25 48.79
60.00 20 37 5 2165.74 3.58 46.85 209.58 130.17 21 33 10 1165.7 19.19 28.10
70.00 23 18 22 1749.45 12.90 20.00 216.41 121.90 23 47 31 749.5 24.83 357.97
72.66 0 51 27 1475.00 19.77 2.81 220.43 116.71 1 16 2 475.0 29.04 338.49
72.66 0 51 27 1475.00 19.77 2.81 220.43 116.71 1 16 2 475.0 29.04 338.49
72.66 0 51 27 1475.00 19.77 2.81 220.43 116.71 1 16 2 475.0 29.04 338.49
110.00 4 21 44 6084.31 12.90 286.82 216.41 121.90 6 3 8 5084.3 24.83 284.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6324 TRA-1.0893 TC3 .0829 BAU .1103 SGT 1980.0 SGR 668.2 SG3 688.6 ST 50.4 SR 21.3 SS 59.0
RDE -.3041 RRA -.2812 RC3 .4862 FAU .09274 RRT .7719 RRF -.8859 RTF -.1.68 CRT .9559 CRS .7966 CST .9378
FDE 1.2081 FRA 4.2893 FC3-4.5134 BSP 3583 SGB 2070.8 R23 -.2328 R13 -.8911 LSA 78.7 MSA 16.7 SSA 1.0
BDE .7017 BRA 1.1118 BC3 .4637 FSP 1119 SG1 2029.7 SG2 410.2 THA 18.39 EL1 54.4 EL2 8.8 ALF 22.30

LAUNCH DATE APR 11 1971

FLIGHT TIME 172.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

DISTANCE 436.824

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.661 GAL -3.60 AZL 93.08 HCA 148.82 SMA 188.83 ECC .21387 INC 3.0843 V1 29.725
RP 207.17 LAP -1.61 LOP 348.12 VP 24.027 GAP 10.99 AZP 87.37 TAL 339.38 TAP 127.98 RCA 148.21 APO 228.89 V2 26.439
RC 77.718 GL -24.76 GP 8.11 ZAL 127.36 ZAP 143.88 ETS 168.52 ZAE 169.43 ETE 93.66 ZAC 108.61 ETC 277.14 LVI -24.86

PLANETOCENTRIC CONIC

C3 17.837 VHL 4.188 DLA -33.48 RAL 344.75 RAD 6641.7 VEL 11.729 PTH 6.76 VHP 5.005 DPA -10.65 RAP 314.95 ECC 1.2886
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 30 7 2392.77 -2.03 61.91 203.79 137.54 20 10 0 1392.8 16.23 45.87
60.00 21 5 47 2138.12 4.79 45.52 210.32 130.06 21 41 25 1138.1 20.29 26.60
70.00 23 41 15 1679.53 15.38 16.10 217.96 120.88 24 9 14 679.5 26.71 353.40
71.29 0 44 20 1498.35 20.26 4.88 220.81 117.24 1 9 18 498.3 29.69 340.50
71.29 0 44 20 1498.35 20.26 4.88 220.81 117.24 1 9 18 498.3 29.69 340.50
71.29 0 44 20 1498.35 20.26 4.88 220.81 117.24 1 9 18 498.3 29.69 340.50
110.00 4 44 37 6014.38 15.38 282.92 217.96 120.88 6 24 51 5014.4 26.71 260.22

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6269 TRA-1.0530 TC3 .0701 BAU .1153 SGT 1929.4 SGR 708.7 SG3 739.3 ST 50.1 SR 21.5 SS 60.7
RDE -.3013 RRA -.2485 RC3 .4867 FAU .08690 RRT .7911 RRF -.8816 RTF -.8741 CRT .9673 CRS .8149 CST .9338
FDE 1.2624 FRA 4.4873 FC3-4.7838 BSP 3559 SGB 2053.4 R23 -.2533 R13 -.8919 LSA 79.8 MSA 16.9 SSA 1.0
BDE .6956 BRA 1.0819 BC3 .4917 FSP 1189 SG1 2013.0 SG2 415.6 THA 16.95 EL1 54.3 EL2 5.0 ALF 22.75

LAUNCH DATE APR 11 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 440.213

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.626 GAL -3.54 AZL 93.16 HCA 149.88 SMA 187.81 ECC .21115 INC 3.1596 V1 29.725
 RP 207.26 LAP -1.58 LOP 350.39 VP 23.987 GAP 10.88 AZP 87.27 TAL 339.43 TAP 129.31 RCA 148.24 APO 227.59 V2 26.428
 RC 79.295 GL -23.54 GP 8.63 ZAL 127.09 ZAP 142.42 ETS 168.44 ZAE 168.97 ETE 97.54 ZAC 109.16 ETC 277.11 LVI -24.99

PLANETOCENTRIC CONIC

C3 17.326 VHL 4.162 DLA -34.18 RAL 345.16 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 4.874 DPA -10.21 RAP 314.17 ECC 1.2851
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 36 29 2372.22 -.99 61.05 204.44 137.57 20 16 1 1372.2 17.23 44.93
 60.00 21 15 18 2109.19 6.06 44.13 211.19 129.92 21 50 25 1109.2 21.43 25.00
 69.94 0 37 48 1520.55 20.74 6.87 221.26 117.80 1 3 9 520.5 30.35 342.45
 69.94 0 37 48 1520.55 20.74 6.87 221.26 117.80 1 3 9 520.5 30.35 342.45
 69.94 0 37 48 1520.55 20.74 6.87 221.26 117.80 1 3 9 520.5 30.35 342.45
 69.94 0 37 48 1520.55 20.74 6.87 221.26 117.80 1 3 9 520.5 30.35 342.45
 69.94 0 37 48 1520.55 20.74 6.87 221.26 117.80 1 3 9 520.5 30.35 342.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6209 TRA -1.0141 TC3 .0535 BAW .1210 SGT 1892.1 SGR 755.7 SG3 781.4 ST 49.7 SR 21.8 SS 62.4
 RDE -.2994 RRA -.2782 RC3 .5194 FAW .10120 RRT .8081 RRF -.9038 RTF -.8704 CRT .9777 CR8 .8335 CST .9294
 FDE 1.3189 FRA 4.6835 FC3 -5.0569 B8P 3526 SGB 2037.5 R23 -.2780 R13 -.6928 LSA 80.9 MSA 17.1 SSA .9
 BDE .6893 BRA 1.0516 BC3 .5222 F8P 1262 SGI 1992.7 SG2 424.6 THA 18.73 EL1 54.1 EL2 4.2 ALF 23.33

LAUNCH DATE APR 11 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 444.222

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.593 GAL -3.50 AZL 93.22 HCA 151.14 SMA 187.35 ECC .20861 INC 3.2408 V1 29.725
 RP 207.37 LAP -1.56 LOP 351.65 VP 23.908 GAP 10.38 AZP 87.16 TAL 339.49 TAP 130.64 RCA 148.26 APO 226.43 V2 26.415
 RC 80.909 GL -26.36 GP 9.20 ZAL 126.81 ZAP 140.81 ETS 168.34 ZAE 168.40 ETE 101.46 ZAC 109.76 ETC 277.07 LVI -25.44

PLANETOCENTRIC CONIC

C3 17.158 VHL 4.142 DLA -34.91 RAL 345.61 RAD 6641.5 VEL 11.713 PTH 6.74 VHP 4.749 DPA -9.74 RAP 313.74 ECC 1.2824
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 43 18 2351.29 .06 60.17 205.19 137.58 20 22 29 1351.3 18.23 43.96
 60.00 21 25 43 2078.55 7.39 42.64 212.19 129.73 22 0 21 1078.6 22.61 23.28
 68.62 0 31 45 1542.00 21.22 8.83 221.79 118.40 0 57 27 542.0 31.02 344.37
 68.62 0 31 45 1542.00 21.22 8.83 221.79 118.40 0 57 27 542.0 31.02 344.37
 68.62 0 31 45 1542.00 21.22 8.83 221.79 118.40 0 57 27 542.0 31.02 344.37
 68.62 0 31 45 1542.00 21.22 8.83 221.79 118.40 0 57 27 542.0 31.02 344.37
 68.62 0 31 45 1542.00 21.22 8.83 221.79 118.40 0 57 27 542.0 31.02 344.37

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6147 TRA -.9719 TC3 .0352 BAW .1275 SGT 1847.1 SGR 810.0 SG3 824.8 ST 49.1 SR 22.1 SS 64.2
 RDE -.2987 RRA -.3104 RC3 .5548 FAW .10563 RRT .8176 RRF -.9228 RTF -.8660 CRT .9866 CR8 .8525 CST .9244
 FDE 1.3799 FRA 4.6884 FC3 -5.3311 B8P 3478 SGB 2016.9 R23 -.2988 R13 -.8943 LSA 82.0 MSA 17.3 SSA .9
 BDE .6835 BRA 1.0203 BC3 .5558 F8P 1336 SGI 1968.9 SG2 437.5 THA 20.80 EL1 53.8 EL2 3.3 ALF 24.05

LAUNCH DATE APR 11 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 448.247

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.582 GAL -3.46 AZL 93.33 HCA 152.40 SMA 186.82 ECC .20624 INC 3.3287 V1 29.725
 RP 207.48 LAP -1.54 LOP 352.91 VP 23.852 GAP 10.09 AZP 87.05 TAL 339.55 TAP 131.98 RCA 148.29 APO 225.35 V2 26.402
 RC 82.580 GL -27.21 GP 9.82 ZAL 126.52 ZAP 139.15 ETS 168.24 ZAE 167.71 ETE 105.32 ZAC 110.42 ETC 277.03 LVI -25.93

PLANETOCENTRIC CONIC

C3 17.032 VHL 4.127 DLA -35.87 RAL 346.09 RAD 6641.5 VEL 11.708 PTH 6.74 VHP 4.631 DPA -9.23 RAP 313.25 ECC 1.2803
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 50 39 2329.83 1.14 59.28 206.05 137.57 20 29 29 1329.8 19.26 42.95
 60.00 21 37 21 2045.82 8.82 41.03 213.36 129.48 22 11 26 1045.6 23.87 21.39
 67.29 0 26 12 1582.79 21.70 10.76 222.41 119.03 0 52 15 562.8 31.71 348.27
 67.29 0 26 12 1582.79 21.70 10.76 222.41 119.03 0 52 15 562.8 31.71 348.27
 67.29 0 26 12 1582.79 21.70 10.76 222.41 119.03 0 52 15 562.8 31.71 348.27
 67.29 0 26 12 1582.79 21.70 10.76 222.41 119.03 0 52 15 562.8 31.71 348.27
 67.29 0 26 12 1582.79 21.70 10.76 222.41 119.03 0 52 15 562.8 31.71 348.27

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8051 TRA -.9235 TC3 .0218 BAW .1353 SGT 1788.0 SGR 871.8 SG3 869.0 ST 48.2 SR 22.6 SS 68.8
 RDE -.2888 RRA -.3450 RC3 .5938 FAW .11051 RRT .8262 RRF -.9387 RTF -.8514 CRT .9934 CR8 .8707 CST .9187
 FDE 1.4394 FRA 5.0903 FC3 -5.6172 B8P 3584 SGB 1989.2 R23 -.3145 R13 -.8974 LSA 82.8 MSA 17.4 SSA .8
 BDE .8749 BRA .9859 BC3 .5942 F8P 1408 SGI 1936.8 SG2 453.4 THA 23.29 EL1 53.2 EL2 2.3 ALF 24.99

LAUNCH DATE APR 11 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 452.286

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.833 GAL -3.42 AZL 93.42 HCA 153.68 SMA 186.33 ECC .20404 INC 3.4241 V1 29.725
 RP 207.60 LAP -1.52 LOP 354.17 VP 23.787 GAP 9.80 AZP 86.93 TAL 339.60 TAP 133.26 RCA 148.31 APO 224.35 V2 26.388
 RC 84.247 GL -28.11 GP 10.50 ZAL 126.21 ZAP 137.44 ETS 168.13 ZAE 166.89 ETE 109.02 ZAC 111.14 ETC 276.98 LVI -26.45

PLANETOCENTRIC CONIC

C3 16.952 VHL 4.117 DLA -36.46 RAL 346.82 RAD 6641.4 VEL 11.704 PTH 6.74 VHP 4.519 DPA -8.67 RAP 312.71 ECC 1.2790
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 58 38 2307.78 2.24 58.36 207.03 137.54 20 37 6 1307.8 20.30 41.90
 60.00 21 50 30 2009.65 10.38 39.26 214.74 129.16 22 24 0 1009.6 25.20 19.28
 65.97 0 21 3 1583.26 22.17 12.68 223.13 119.72 0 47 27 583.3 32.41 348.16
 65.97 0 21 3 1583.26 22.17 12.68 223.13 119.72 0 47 27 583.3 32.41 348.16
 65.97 0 21 3 1583.26 22.17 12.68 223.13 119.72 0 47 27 583.3 32.41 348.16
 65.97 0 21 3 1583.26 22.17 12.68 223.13 119.72 0 47 27 583.3 32.41 348.16
 65.97 0 21 3 1583.26 22.17 12.68 223.13 119.72 0 47 27 583.3 32.41 348.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.8065 TRA -.8828 TC3 -.0234 BAW .1433 SGT 1745.2 SGR 943.3 SG3 915.0 ST 48.0 SR 23.3 SS 67.9
 RDE -.3020 RRA -.3844 RC3 .6321 FAW .11471 RRT .8264 RRF -.9519 RTF -.8508 CRT .9979 CR8 .8901 CST .9126
 FDE 1.5186 FRA 5.3102 FC3 -5.8583 B8P 3417 SGB 1983.9 R23 -.3365 R13 -.8977 LSA 84.4 MSA 17.9 SSA .8
 BDE .6775 BRA .9629 BC3 .6325 F8P 1495 SGI 1924.5 SG2 481.7 THA 25.80 EL1 53.3 EL2 1.3 ALF 25.83

LAUNCH DATE APR 11 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 10 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.507 GAL -3.38 AZL 93.53 HCA 154.92 SMA 185.87 ECC .20199 INC 3.5283 V1 29.725
 RP 207.73 LAP -1.50 LOP 355.42 VP 23.744 GAP 9.52 AZP 86.80 TAL 339.64 TAP 134.58 RCA 148.33 APO 223.42 V2 26.373
 RC 85.969 GL -29.03 GP 11.25 ZAL 125.88 ZAP 135.68 ETS 168.02 ZAE 165.93 ETE 112.49 ZAC 111.93 ETC 276.92 LVI -27.02

Distance 456.341

Planetocentric Conic: C3 16.918 VHL 4.113 DLA -37.28 RAL 347.19 RAD 6841.4 VEL 11.703 PTH 6.74 VHP 4.414 DPA -8.06 RAP 312.11 ECC 1.2784
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 7 21 2284.85 3.40 57.40 208.17 137.48 20 45 26 1284.8 21.38 40.79
 60.00 22 5 46 1969.14 12.11 37.24 216.38 128.74 22 38 35 969.1 26.66 16.85
 64.63 0 16 19 1603.53 22.63 14.61 223.96 120.45 0 43 2 603.5 33.12 350.08
 64.63 0 16 19 1603.53 22.63 14.61 223.96 120.45 0 43 2 603.5 33.12 350.08
 64.63 0 16 19 1603.53 22.63 14.61 223.96 120.45 0 43 2 603.5 33.12 350.08
 64.63 0 16 19 1603.53 22.63 14.61 223.96 120.45 0 43 2 603.5 33.12 350.08

Differential Corrections: TDE -.6023 TRA -.8329 TC3 -.0571 BAU .1532 SGT 1682.9 SGR 1023.9 SG3 960.9 ST 47.3 SR 24.1 SS 69.7
 RDE -.3063 RRA -.4267 RC3 .6751 FAU .11936 RRT .8247 RRF -.9626 RTF -.8404 CRT .9993 CRS .9077 CST .9055
 FDE 1.5962 FRA 5.5233 FC3-6.1081 BSP 3387 SGB 1970.0 R23 -.3476 R13 -.9014 LSA 85.7 MSA 10.3 SSA .8
 BDE .6757 BRA .9359 BC3 .6775 FSP 1578 SG1 1902.2 SG2 512.4 THA 28.94 EL1 53.1 EL2 .8 ALF 27.00

Orbit Determination Accuracy: ST 47.3 SR 24.1 SS 69.7 CRT .9993 CRS .9077 CST .9055 LSA 85.7 MSA 10.3 SSA .8 EL1 53.1 EL2 .8 ALF 27.00

LAUNCH DATE APR 11 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 12 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.482 GAL -3.35 AZL 93.64 HCA 156.17 SMA 185.45 ECC .20009 INC 3.6425 V1 29.725
 RP 207.86 LAP -1.47 LOP 356.68 VP 23.692 GAP 9.24 AZP 86.67 TAL 339.67 TAP 135.84 RCA 148.34 APO 222.56 V2 26.357
 RC 87.725 GL -30.04 GP 12.07 ZAL 125.53 ZAP 133.86 ETS 167.90 ZAE 164.82 ETE 115.67 ZAC 112.80 ETC 276.85 LVI -27.64

Distance 460.409

Planetocentric Conic: C3 16.934 VHL 4.115 DLA -38.14 RAL 347.82 RAD 6841.4 VEL 11.703 PTH 6.74 VHP 4.316 DPA -7.40 RAP 311.44 ECC 1.2787
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 16 58 2260.83 4.60 56.39 209.47 137.41 20 54 39 1260.8 22.51 39.61
 60.00 22 24 6 1921.57 14.12 34.84 218.37 128.15 22 56 7 921.6 28.31 13.91
 63.26 0 11 57 1623.81 23.10 16.57 224.91 121.24 0 39 1 623.8 33.86 352.03
 63.26 0 11 57 1623.81 23.10 16.57 224.91 121.24 0 39 1 623.8 33.86 352.03
 63.26 0 11 57 1623.81 23.10 16.57 224.91 121.24 0 39 1 623.8 33.86 352.03
 63.26 0 11 57 1623.81 23.10 16.57 224.91 121.24 0 39 1 623.8 33.86 352.03

Differential Corrections: TDE -.5973 TRA -.7791 TC3 -.0954 BAU .1647 SGT 1612.5 SGR 1114.6 SG3 1006.3 ST 46.4 SR 25.1 SS 71.6
 RDE -.3123 RRA -.4730 RC3 .7212 FAU .12403 RRT .8178 RRF -.9712 RTF -.8267 CRT .9974 CRS .9238 CST .8973
 FDE 1.6755 FRA 5.7325 FC3-6.3411 BSP 3349 SGB 1960.2 R23 -.3521 R13 -.9069 LSA 87.0 MSA 18.6 SSA .7
 BDE .6740 BRA .9114 BC3 .7274 FSP 1657 SG1 1881.6 SG2 549.7 THA 32.61 EL1 52.8 EL2 1.6 ALF 28.38

Orbit Determination Accuracy: ST 46.4 SR 25.1 SS 71.6 CRT .9974 CRS .9238 CST .8973 LSA 87.0 MSA 18.6 SSA .7 EL1 52.8 EL2 1.6 ALF 28.38

LAUNCH DATE APR 11 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 14 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.459 GAL -3.32 AZL 93.77 HCA 157.43 SMA 185.06 ECC .19833 INC 3.7685 V1 29.725
 RP 208.01 LAP -1.45 LOP 357.93 VP 23.641 GAP 8.97 AZP 86.52 TAL 339.68 TAP 137.11 RCA 148.36 APO 221.77 V2 26.340
 RC 89.514 GL -31.10 GP 12.97 ZAL 125.16 ZAP 131.99 ETS 167.77 ZAE 163.56 ETE 118.55 ZAC 113.75 ETC 276.78 LVI -28.32

Distance 464.489

Planetocentric Conic: C3 17.005 VHL 4.124 DLA -39.05 RAL 348.52 RAD 6841.5 VEL 11.706 PTH 6.74 VHP 4.225 DPA -6.66 RAP 310.72 ECC 1.2799
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 27 40 2235.39 5.87 55.32 210.97 137.30 21 4 56 1235.4 23.66 38.33
 60.00 22 47 44 1861.06 16.64 31.71 220.91 127.25 23 18 45 861.1 30.31 10.03
 61.87 0 7 58 1644.23 23.55 18.57 226.00 122.09 0 35 22 644.2 34.61 354.04
 61.87 0 7 58 1644.23 23.55 18.57 226.00 122.09 0 35 22 644.2 34.61 354.04
 61.87 0 7 58 1644.23 23.55 18.57 226.00 122.09 0 35 22 644.2 34.61 354.04
 61.87 0 7 58 1644.23 23.55 18.57 226.00 122.09 0 35 22 644.2 34.61 354.04

Differential Corrections: TDE -.5934 TRA -.7216 TC3 -.1370 BAU .1778 SGT 1536.0 SGR 1217.3 SG3 1051.3 ST 45.5 SR 26.4 SS 73.9
 RDE -.3213 RRA -.5240 RC3 .7702 FAU .12884 RRT .8058 RRF -.9780 RTF -.8594 CRT .9917 CRS .9385 CST .8881
 FDE 1.7639 FRA 5.9380 FC3-6.5495 BSP 3324 SGB 1959.8 R23 -.3478 R13 -.9148 LSA 88.3 MSA 19.1 SSA .7
 BDE .6748 BRA .8918 BC3 .7823 FSP 1737 SG1 1868.1 SG2 592.7 THA 38.88 EL1 52.8 EL2 2.9 ALF 29.99

Orbit Determination Accuracy: ST 45.5 SR 26.4 SS 73.9 CRT .9917 CRS .9385 CST .8881 LSA 88.3 MSA 19.1 SSA .7 EL1 52.8 EL2 2.9 ALF 29.99

LAUNCH DATE APR 11 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 16 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.437 GAL -3.30 AZL 93.91 HCA 158.88 SMA 184.70 ECC .19671 INC 3.9083 V1 29.725
 RP 208.16 LAP -1.42 LOP 359.19 VP 23.592 GAP 8.71 AZP 86.36 TAL 339.69 TAP 138.37 RCA 148.37 APO 221.04 V2 26.323
 RC 91.337 GL -32.22 GP 13.96 ZAL 124.75 ZAP 130.06 ETS 167.65 ZAE 162.15 ETE 121.09 ZAC 114.81 ETC 276.70 LVI -29.08

Distance 468.582

Planetocentric Conic: C3 17.135 VHL 4.139 DLA -40.01 RAL 349.29 RAD 6841.5 VEL 11.712 PTH 6.74 VHP 4.142 DPA -5.84 RAP 309.93 ECC 1.2820
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 39 43 2208.03 7.24 54.16 212.72 137.15 21 16 31 1208.0 24.94 36.93
 60.00 23 25 40 1762.86 20.61 26.44 224.74 125.43 23 55 3 762.9 33.25 3.58
 60.43 0 4 20 1665.06 24.00 20.64 227.24 123.02 0 32 5 665.1 35.39 356.13
 60.43 0 4 20 1665.06 24.00 20.64 227.24 123.02 0 32 5 665.1 35.39 356.13
 60.43 0 4 20 1665.06 24.00 20.64 227.24 123.02 0 32 5 665.1 35.39 356.13
 60.43 0 4 20 1665.06 24.00 20.64 227.24 123.02 0 32 5 665.1 35.39 356.13

Differential Corrections: TDE -.5829 TRA -.6533 TC3 -.1653 BAU .1932 SGT 1436.4 SGR 1331.3 SG3 1093.4 ST 44.1 SR 27.8 SS 75.0
 RDE -.3316 RRA -.5785 RC3 .8269 FAU .13395 RRT .7901 RRF -.9833 RTF -.7892 CRT .9819 CRS .9508 CST .8764
 FDE 1.8465 FRA 6.1180 FC3-6.7675 BSP 3237 SGB 1958.5 R23 -.3270 R13 -.9276 LSA 89.2 MSA 19.4 SSA .6
 BDE .6706 BRA .8726 BC3 .8432 FSP 1796 SG1 1853.5 SG2 632.4 THA 42.25 EL1 51.9 EL2 4.5 ALF 32.06

Orbit Determination Accuracy: ST 44.1 SR 27.8 SS 75.0 CRT .9819 CRS .9508 CST .8764 LSA 89.2 MSA 19.4 SSA .6 EL1 51.9 EL2 4.5 ALF 32.06

LAUNCH DATE APR 11 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.417 GAL -3.28 AZL 94.06 HCA 159.93 SMA 184.37 ECC .19522 INC 4.0644 V1 29.725
RP 208.32 LAP -1.39 LOP .44 VP 23.944 GAP 8.45 AZP 86.18 TAL 339.69 TAP 139.61 RCA 148.38 APO 220.37 V2 26.304
RC 93.190 GL -33.43 GP 15.07 ZAL 124.31 ZAP 120.07 ETS 167.52 ZAE 160.59 ETE 123.30 ZAC 115.97 ETC 276.62 LVI -29.91

PLANETOCENTRIC CONIC

C3 17.336 VHL 4.164 DLA -41.03 RAL 350.16 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 4.068 DPA -4.92 RAP 309.08 ECC 1.2853
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 20 53 28 2178.26 8.72 52.89 214.77 136.96 21 29 47 1178.3 26.28 35.37
58.94 0 1 7 1686.41 24.44 22.78 226.66 124.04 0 29 14 686.4 36.18 358.32
58.94 0 1 7 1686.41 24.44 22.78 226.66 124.04 0 29 14 686.4 36.18 358.32
58.94 0 1 7 1686.41 24.44 22.78 226.66 124.04 0 29 14 686.4 36.18 358.32
58.94 0 1 7 1686.41 24.44 22.78 226.66 124.04 0 29 14 686.4 36.18 358.32
58.94 0 1 7 1686.41 24.44 22.78 226.66 124.04 0 29 14 686.4 36.18 358.32
58.94 0 1 7 1686.41 24.44 22.78 226.66 124.04 0 29 14 686.4 36.18 358.32

DIFFERENTIAL CORRECTIONS

TDE -.5888 TRA -.5967 TC3 -.2360 BAU .2103
RDE -.3499 RRA -.6433 RC3 .8762 FAU .13726
FDE 1.9732 FRA 6.3225 FC3-6.8547 BSP 3360
BDE .6649 BRA .8775 BC3 .9075 FSP 1891

MID-COURSE EXECUTION ACCURACY

SGT 1371.1 SGR 1463.3 SG3 1136.3
RRR .7596 RRF -.9876 RTF -.7560
SGB 2005.3 R23 -.3081 R13 -.9383
SG1 1881.5 SG2 693.5 THA 47.45

ORBIT DETERMINATION ACCURACY

ST 43.7 SR 29.8 SS 77.3
CRT .9684 CRS .9627 CST .8658
LSA 91.5 MSA 20.0 SSA 6
EL1 52.5 EL2 6.2 ALF 34.03

LAUNCH DATE APR 11 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.399 GAL -3.26 AZL 94.24 HCA 161.17 SMA 184.07 ECC .19385 INC 4.2399 V1 29.725
RP 208.49 LAP -1.37 LOP 1.69 VP 23.497 GAP 8.20 AZP 85.99 TAL 339.67 TAP 140.84 RCA 148.39 APO 219.75 V2 26.284
RC 95.074 GL -34.74 GP 16.30 ZAL 123.83 ZAP 126.02 ETS 167.40 ZAE 158.85 ETE 125.19 ZAC 117.27 ETC 276.53 LVI -30.84

PLANETOCENTRIC CONIC

C3 17.617 VHL 4.197 DLA -42.12 RAL 351.13 RAD 6641.8 VEL 11.732 PTH 6.76 VHP 4.002 DPA -3.88 RAP 308.16 ECC 1.2899
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 9 29 2144.93 10.38 51.45 217.21 136.70 21 45 14 1144.9 27.76 33.58
57.39 23 54 23 1708.57 24.86 25.02 230.29 125.16 24 22 51 708.6 37.00 .64
57.39 23 54 23 1708.57 24.86 25.02 230.29 125.16 24 22 51 708.6 37.00 .64
57.39 23 54 23 1708.57 24.86 25.02 230.29 125.16 24 22 51 708.6 37.00 .64
57.39 23 54 23 1708.57 24.86 25.02 230.29 125.16 24 22 51 708.6 37.00 .64
57.39 23 54 23 1708.57 24.86 25.02 230.29 125.16 24 22 51 708.6 37.00 .64
57.39 23 54 23 1708.57 24.86 25.02 230.29 125.16 24 22 51 708.6 37.00 .64

DIFFERENTIAL CORRECTIONS

TDE -.5865 TRA -.5271 TC3 -.2889 BAU .2302
RDE -.3709 RRA -.7124 RC3 .9336 FAU .14121
FDE 2.0906 FRA 6.4853 FC3-6.9397 BSP 3417
BDE .6940 BRA .8862 BC3 .9775 FSP 1959

MID-COURSE EXECUTION ACCURACY

SGT 1280.9 SGR 1609.2 SG3 1173.6
RRR .7215 RRF -.9908 RTF -.7155
SGB 2056.8 R23 -.2695 R13 -.9534
SG1 1917.3 SG2 744.4 THA 53.85

ORBIT DETERMINATION ACCURACY

ST 42.6 SR 32.1 SS 79.2
CRT .9508 CRS .9720 CST .8520
LSA 93.3 MSA 20.5 SSA .5
EL1 52.7 EL2 8.0 ALF 36.59

LAUNCH DATE APR 11 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.382 GAL -3.25 AZL 94.44 HCA 162.42 SMA 183.79 ECC .19260 INC 4.4392 V1 29.725
RP 208.67 LAP -1.34 LOP 2.93 VP 23.451 GAP 7.95 AZP 85.77 TAL 339.64 TAP 142.06 RCA 148.39 APO 219.19 V2 26.264
RC 96.988 GL -36.15 GP 17.67 ZAL 123.29 ZAP 123.91 ETS 167.28 ZAE 156.95 ETE 126.78 ZAC 118.71 ETC 276.45 LVI -31.88

PLANETOCENTRIC CONIC

C3 17.993 VHL 4.242 DLA -43.29 RAL 352.24 RAD 6641.9 VEL 11.748 PTH 6.78 VHP 3.948 DPA -2.72 RAP 307.17 ECC 1.2961
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 20 37 2106.45 12.28 49.77 220.17 136.34 22 3 43 1106.5 29.44 31.45
55.75 23 52 3 1731.68 25.25 27.38 232.17 126.40 24 20 55 731.7 37.84 3.12
55.75 23 52 3 1731.68 25.25 27.38 232.17 126.40 24 20 55 731.7 37.84 3.12
55.75 23 52 3 1731.68 25.25 27.38 232.17 126.40 24 20 55 731.7 37.84 3.12
55.75 23 52 3 1731.68 25.25 27.38 232.17 126.40 24 20 55 731.7 37.84 3.12
55.75 23 52 3 1731.68 25.25 27.38 232.17 126.40 24 20 55 731.7 37.84 3.12
55.75 23 52 3 1731.68 25.25 27.38 232.17 126.40 24 20 55 731.7 37.84 3.12

DIFFERENTIAL CORRECTIONS

TDE -.5852 TRA -.4529 TC3 -.3428 BAU .2527
RDE -.3990 RRA -.7887 RC3 .9329 FAU .14465
FDE 2.2253 FRA 6.8246 FC3-6.9596 BSP 3522
BDE .7083 BRA .9104 BC3 1.0504 FSP 2020

MID-COURSE EXECUTION ACCURACY

SGT 1189.9 SGR 1774.0 SG3 1206.5
RRR .6692 RRF -.9933 RTF -.6114
SGB 2136.1 R23 -.2205 R13 -.9685
SG1 1984.5 SG2 790.4 THA 60.75

ORBIT DETERMINATION ACCURACY

ST 41.5 SR 34.8 SS 81.2
CRT .9293 CRS .9795 CST .8369
LSA 95.3 MSA 21.0 SSA .5
EL1 53.2 EL2 10.0 ALF 39.62

LAUNCH DATE APR 11 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.368 GAL -3.24 AZL 94.67 HCA 163.68 SMA 183.53 ECC .19147 INC 4.6674 V1 29.725
RP 208.85 LAP -1.31 LOP 4.18 VP 23.405 GAP 7.70 AZP 85.32 TAL 339.60 TAP 143.26 RCA 148.39 APO 218.67 V2 26.243
RC 98.989 GL -37.70 GP 19.21 ZAL 122.68 ZAP 121.74 ETS 167.17 ZAE 154.87 ETE 126.07 ZAC 120.33 ETC 276.36 LVI -33.05

PLANETOCENTRIC CONIC

C3 18.488 VHL 4.300 DLA -44.55 RAL 353.50 RAD 6642.2 VEL 11.789 PTH 6.80 VHP 3.905 DPA -1.39 RAP 306.11 ECC 1.3043
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 52 26 2059.66 14.58 47.70 223.87 135.81 22 26 46 1059.7 31.42 28.78
54.02 23 50 18 1756.06 25.62 29.89 234.33 127.78 24 19 34 756.1 38.71 5.80
54.02 23 50 18 1756.06 25.62 29.89 234.33 127.78 24 19 34 756.1 38.71 5.80
54.02 23 50 18 1756.06 25.62 29.89 234.33 127.78 24 19 34 756.1 38.71 5.80
54.02 23 50 18 1756.06 25.62 29.89 234.33 127.78 24 19 34 756.1 38.71 5.80
54.02 23 50 18 1756.06 25.62 29.89 234.33 127.78 24 19 34 756.1 38.71 5.80
54.02 23 50 18 1756.06 25.62 29.89 234.33 127.78 24 19 34 756.1 38.71 5.80

DIFFERENTIAL CORRECTIONS

TDE -.5845 TRA -.3738 TC3 -.3982 BAU .2782
RDE -.4361 RRA -.8737 RC3 1.0528 FAU .14735
FDE 2.3780 FRA 6.7274 FC3-6.9000 BSP 3689
BDE .7293 BRA .9521 BC3 1.1256 FSP 2073

MID-COURSE EXECUTION ACCURACY

SGT 1101.2 SGR 1959.2 SG3 1232.5
RRR .5966 RRF -.9951 RTF -.5875
SGB 2247.4 R23 -.1667 R13 -.9811
SG1 2089.0 SG2 828.8 THA 67.78

ORBIT DETERMINATION ACCURACY

ST 40.3 SR 38.1 SS 83.2
CRT .9042 CRS .9855 CST .8190
LSA 97.6 MSA 21.5 SSA .4
EL1 54.1 EL2 12.1 ALF 43.17

LAUNCH DATE APR 11 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 489.178

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.352 GAL -3.23 AZL 94.93 HCA 164.90 SMA 103.30 ECC .19044 INC 4.9312 V1 29.725
RP 209.04 LAP -1.20 LOP 5.42 VP 23.361 GAP 7.46 AZP 85.24 TAL 339.55 TAP 144.45 RCA 148.39 APO 218.21 V2 26.221
RC 100.898 GL -39.41 GP 20.95 ZAL 121.99 ZAP 119.50 ETS 167.08 ZAE 192.59 ETE 129.09 ZAC 122.14 ETC 276.20 LVI -34.38

PLANETOCENTRIC CONIC

C3 19.132 VHL 4.374 DLA -45.92 RAL 354.96 RAD 6642.4 VEL 11.796 PTH 6.82 VHP 3.875 DPA .12 RAP 304.98 ECC 1.3149
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 24 33 1998.67 17.63 44.83 228.78 134.94 22 57 50 996.7 33.98 24.93
52.18 23 49 14 1782.00 25.94 32.57 236.86 129.33 24 18 56 782.0 39.59 8.72
52.18 23 49 14 1782.00 25.94 32.57 236.86 129.33 24 18 56 782.0 39.59 8.72
52.18 23 49 14 1782.00 25.94 32.57 236.86 129.33 24 18 56 782.0 39.59 8.72
52.18 23 49 14 1782.00 25.94 32.57 236.86 129.33 24 18 56 782.0 39.59 8.72
52.18 23 49 14 1782.00 25.94 32.57 236.86 129.33 24 18 56 782.0 39.59 8.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5849 TRA -.2893 TC3 -.4525 BAU .3078 SGT 1020.1 SGR 2166.3 SG3 1248.7 ST 39.2 SR 42.0 SS 85.0
RDE -.4845 RRA -.9703 RC3 1.1151 FAU .14959 RRT .4958 RRF -.9965 RTF -.4858 CRT .8754 CR8 .9900 CST .7989
FDE 2.5470 FRA 6.7732 FC3 -6.7689 BSP 3908 SGB 2394.5 R23 -.1149 R13 -.9899 LSA 100.2 MSA 22.1 SSA .4
BDE .7596 BRA 1.0125 BC3 1.2035 FSP 2102 SG1 2235.2 SG2 858.6 THA 74.52 EL1 55.6 EL2 14.3 ALF 47.24

LAUNCH DATE APR 11 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

DISTANCE 493.320

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.339 GAL -3.23 AZL 95.24 HCA 166.14 SMA 103.09 ECC .18952 INC 5.2406 V1 29.725
RP 209.24 LAP -1.25 LOP 6.66 VP 23.317 GAP 7.23 AZP 84.91 TAL 339.49 TAP 145.62 RCA 148.39 APO 217.78 V2 26.190
RC 102.893 GL -41.30 GP 22.92 ZAL 121.19 ZAP 117.19 ETS 167.01 ZAE 150.11 ETE 129.86 ZAC 124.19 ETC 276.20 LVI -35.90

PLANETOCENTRIC CONIC

C3 19.969 VHL 4.469 DLA -47.42 RAL 356.68 RAD 6642.8 VEL 11.831 PTH 6.85 VHP 3.863 DPA 1.86 RAP 303.77 ECC 1.3286
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 24 33 1870.94 23.56 38.75 237.22 132.61 23 55 44 870.9 38.65 16.54
50.20 23 49 2 1809.99 26.18 35.45 239.81 131.07 24 19 12 810.0 40.47 11.95
50.20 23 49 2 1809.99 26.18 35.45 239.81 131.07 24 19 12 810.0 40.47 11.95
50.20 23 49 2 1809.99 26.18 35.45 239.81 131.07 24 19 12 810.0 40.47 11.95
50.20 23 49 2 1809.99 26.18 35.45 239.81 131.07 24 19 12 810.0 40.47 11.95
50.20 23 49 2 1809.99 26.18 35.45 239.81 131.07 24 19 12 810.0 40.47 11.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5849 TRA -.1990 TC3 -.5038 BAU .3412 SGT 952.6 SGR 2400.3 SG3 1253.7 ST 37.9 SR 46.7 SS 87.0
RDE -.5505 RRA -1.0765 RC3 1.1745 FAU .15049 RRT .3612 RRF -.9975 RTF -.3507 CRT .8436 CR8 .9934 CST .7768
FDE 2.7466 FRA 6.7611 FC3 -6.5245 BSP 4207 SGB 2582.4 R23 -.0699 R13 -.9931 LSA 103.4 MSA 22.6 SSA .3
BDE .8032 BRA 1.0948 BC3 1.2780 FSP 2117 SG1 2428.6 SG2 877.9 THA 80.60 EL1 57.9 EL2 16.4 ALF 52.00

LAUNCH DATE APR 11 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

DISTANCE 497.467

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.327 GAL -3.23 AZL 95.61 HCA 167.37 SMA 102.89 ECC .18869 INC 5.6087 V1 29.725
RP 209.44 LAP -1.22 LOP 7.89 VP 23.274 GAP 7.00 AZP 84.53 TAL 339.41 TAP 146.78 RCA 148.38 APO 217.40 V2 26.174
RC 104.913 GL -43.42 GP 25.17 ZAL 120.27 ZAP 114.82 ETS 166.97 ZAE 147.38 ETE 130.39 ZAC 126.51 ETC 276.14 LVI -37.64

PLANETOCENTRIC CONIC

C3 21.067 VHL 4.590 DLA -49.06 RAL 358.75 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 3.872 DPA 3.87 RAP 302.48 ECC 1.3467
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.08 23 49 59 1840.49 26.32 38.59 243.31 133.03 24 20 39 840.5 41.32 15.55
48.08 23 49 59 1840.49 26.32 38.59 243.31 133.03 24 20 39 840.5 41.32 15.55
48.08 23 49 59 1840.49 26.32 38.59 243.31 133.03 24 20 39 840.5 41.32 15.55
48.08 23 49 59 1840.49 26.32 38.59 243.31 133.03 24 20 39 840.5 41.32 15.55
48.08 23 49 59 1840.49 26.32 38.59 243.31 133.03 24 20 39 840.5 41.32 15.55
48.08 23 49 59 1840.49 26.32 38.59 243.31 133.03 24 20 39 840.5 41.32 15.55

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5839 TRA -.1020 TC3 -.5485 BAU .3792 SGT 906.9 SGR 2864.5 SG3 1244.1 ST 36.6 SR 52.7 SS 89.2
RDE -.6415 RRA -1.1951 RC3 1.2297 FAU .14990 RRT .1894 RRF -.9983 RTF -.1.07 CRT .8089 CR8 .9959 CST .7523
FDE 2.9823 FRA 6.6896 FC3 -6.1835 BSP 4503 SGB 2814.7 R23 -.0348 R13 -.9977 LSA 107.4 MSA 23.0 SSA .3
BDE .8874 BRA 1.1995 BC3 1.3465 FSP 2105 SG1 2670.8 SG2 888.4 THA 85.85 EL1 61.4 EL2 18.4 ALF 57.37

LAUNCH DATE APR 11 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

DISTANCE 501.619

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.317 GAL -3.23 AZL 96.05 HCA 168.60 SMA 102.72 ECC .18796 INC 6.0541 V1 29.725
RP 209.66 LAP -1.19 LOP 9.13 VP 23.231 GAP 6.77 AZP 84.06 TAL 339.32 TAP 147.93 RCA 148.37 APO 217.06 V2 26.150
RC 106.958 GL -45.80 GP 27.75 ZAL 119.18 ZAP 112.37 ETS 166.97 ZAE 144.40 ETE 130.71 ZAC 129.17 ETC 276.11 LVI -39.64

PLANETOCENTRIC CONIC

C3 22.527 VHL 4.746 DLA -50.87 RAL 1.22 RAD 6643.9 VEL 11.938 PTH 6.94 VHP 3.908 DPA 6.20 RAP 301.09 ECC 1.3707
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.78 23 52 30 1874.22 26.30 41.99 247.49 135.25 24 23 44 874.2 42.12 19.60
45.78 23 52 30 1874.22 26.30 41.99 247.49 135.25 24 23 44 874.2 42.12 19.60
45.78 23 52 30 1874.22 26.30 41.99 247.49 135.25 24 23 44 874.2 42.12 19.60
45.78 23 52 30 1874.22 26.30 41.99 247.49 135.25 24 23 44 874.2 42.12 19.60
45.78 23 52 30 1874.22 26.30 41.99 247.49 135.25 24 23 44 874.2 42.12 19.60
45.78 23 52 30 1874.22 26.30 41.99 247.49 135.25 24 23 44 874.2 42.12 19.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5811 TRA .0018 TC3 -.5871 BAU .4226 SGT 895.9 SGR 2962.4 SG3 1215.6 ST 35.1 SR 60.2 SS 91.5
RDE -.7714 RRA -1.3273 RC3 1.2745 FAU .14735 RRT -.0111 RRF -.9988 RTF .0214 CRT .7719 CR8 .9975 CST .7256
FDE 3.2680 FRA 6.4773 FC3 -5.6627 BSP 5066 SGB 3095.0 R23 -.0092 R13 -.9988 LSA 112.7 MSA 23.2 SSA .3
BDE .9658 BRA 1.3273 BC3 1.4032 FSP 2068 SG1 2962.5 SG2 895.9 THA 90.21 EL1 66.7 EL2 20.1 ALF 63.13

LAUNCH DATE APR 11 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.307 GAL -3.24 AZL 96.60 HCA 169.83 SMA 182.56 ECC .16732 INC 6.6046 V1 29.725
 RP 209.87 LAP -1.18 LOP 10.36 VP 23.189 GAP 6.55 AZP 83.50 TAL 339.23 TAP 149.06 RCA 148.36 APO 216.76 V2 26.124
 RC 109.028 GL -48.53 GP 30.72 ZAL 117.90 ZAP 109.86 ETS 167.04 ZAE 141.11 ETE 130.85 ZAC 132.22 ETC 276.10 LVI -41.94

DISTANCE 505.774

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.517 VHL 4.951 DLA -52.85 RAL 4.30 RAD 8644.8 VEL 12.020 PTH 7.01 VHP 3.981 DPA 8.91 RAP 299.61 ECC 1.4039
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20
 43.30 0 1 9 1912.11 26.05 45.71 252.55 137.76 0 33 1 912.1 42.77 24.20

DIFFERENTIAL CORRECTIONS

TDE -.5709 TRA .1140 TC3 -.6125 BAU .4727
 RDE -.9809 RRA-1.4740 RC3 1.3058 FAU .14241
 FDE 3.6085 FRA 6.1591 FC3-5.0289 B8P 5648
 BDE 1.1177 BRA 1.4784 BC3 1.4423 F8P 1992

MID-COURSE EXECUTION ACCURACY

SGT 923.0 SGR 3299.1 SG3 1164.0
 RRT -.2190 RRF -.9992 RTF .2284
 SGB 3425.8 R23 .0081 R13 -.9992
 SG1 3305.7 SG2 898.8 THA 93.79

ORBIT DETERMINATION ACCURACY

ST 33.2 SR 69.9 S8 94.2
 CRT .7304 CRS .9986 CST .6939
 LSA 119.7 HSA 23.2 S8A .2
 EL1 74.4 EL2 21.3 ALF 69.08

LAUNCH DATE APR 11 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.298 GAL -3.24 AZL 97.30 HCA 171.05 SMA 182.42 ECC .18677 INC 7.3023 V1 29.725
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.148 GAP 6.33 AZP 82.79 TAL 339.12 TAP 150.17 RCA 148.35 APO 216.49 V2 26.098
 RC 111.121 GL -51.65 GP 34.15 ZAL 116.37 ZAP 107.27 ETS 167.19 ZAE 137.47 ETE 130.83 ZAC 135.73 ETC 276.16 LVI -44.60

DISTANCE 509.933

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.315 VHL 5.228 DLA -55.01 RAL 8.22 RAD 8645.9 VEL 12.135 PTH 7.11 VHP 4.107 DPA 12.08 RAP 298.01 ECC 1.4495
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43
 40.63 0 9 5 1955.58 25.43 49.76 258.77 140.58 0 41 41 955.6 43.16 29.43

DIFFERENTIAL CORRECTIONS

TDE -.5457 TRA .2369 TC3 -.6221 BAU .5339
 RDE -1.2424 RRA-1.6275 RC3 1.3230 FAU .13531
 FDE 3.9934 FRA 5.6620 FC3-4.2886 B8P 6259
 BDE 1.3570 BRA 1.6447 BC3 1.4620 F8P 1845

MID-COURSE EXECUTION ACCURACY

SGT 992.9 SGR 3667.1 SG3 1080.6
 RRT -.4102 RRF -.9995 RTF .4186
 SGB 3799.2 R23 .0193 R13 -.9993
 SG1 3691.1 SG2 899.6 THA 96.74

ORBIT DETERMINATION ACCURACY

ST 30.7 SR 82.6 S8 96.7
 CRT .6779 CRS .9993 CST .6500
 LSA 128.8 HSA 22.0 S8A .2
 EL1 85.4 EL2 21.8 ALF 74.85

LAUNCH DATE APR 11 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.291 GAL -3.26 AZL 98.22 HCA 172.27 SMA 182.30 ECC .18630 INC 8.2168 V1 29.725
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.107 GAP 6.11 AZP 81.86 TAL 339.00 TAP 151.27 RCA 148.34 APO 216.26 V2 26.071
 RC 113.239 GL -55.28 GP 38.13 ZAL 114.52 ZAP 104.62 ETS 167.48 ZAE 135.43 ETE 130.72 ZAC 139.78 ETC 276.29 LVI -47.65

DISTANCE 514.092

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.428 VHL 5.606 DLA -57.32 RAL 13.36 RAD 8647.6 VEL 12.303 PTH 7.24 VHP 4.314 DPA 15.79 RAP 296.28 ECC 1.5172
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34
 37.81 0 21 51 2006.54 24.26 54.13 266.54 143.69 0 55 17 1006.5 43.07 35.34

DIFFERENTIAL CORRECTIONS

TDE -.4887 TRA .3704 TC3 -.6145 BAU .6066
 RDE -1.6905 RRA-1.7927 RC3 1.3064 FAU .12422
 FDE 4.4423 FRA 4.9920 FC3-3.4219 B8P 7007
 BDE 1.7597 BRA 1.8306 BC3 1.4437 F8P 1854

MID-COURSE EXECUTION ACCURACY

SGT 1102.6 SGR 4080.1 SG3 984.6
 RRT -.5614 RRF -.9996 RTF .5688
 SGB 4226.5 R23 .0258 R13 -.9993
 SG1 4129.2 SG2 901.6 THA 99.06

ORBIT DETERMINATION ACCURACY

ST 27.1 SR 100.3 S8 99.8
 CRT .5955 CRS .9997 CST .5748
 LSA 142.4 HSA 21.9 S8A .1
 EL1 101.6 EL2 21.5 ALF 80.42

LAUNCH DATE APR 11 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.284 GAL -3.27 AZL 99.47 HCA 173.49 SMA 182.19 ECC .18590 INC 9.4779 V1 29.725
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.067 GAP 5.89 AZP 80.89 TAL 338.87 TAP 152.36 RCA 148.32 APO 216.06 V2 26.044
 RC 115.380 GL -59.32 GP 42.71 ZAL 112.29 ZAP 101.93 ETS 187.96 ZAE 128.95 ETE 130.59 ZAC 144.43 ETC 276.56 LVI -51.08

DISTANCE 518.232

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 37.852 VHL 6.152 DLA -59.70 RAL 20.31 RAD 8649.9 VEL 12.559 PTH 7.43 VHP 4.649 DPA 20.09 RAP 294.38 ECC 1.6230
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84
 34.95 0 42 6 2067.75 22.26 58.70 276.45 146.97 1 16 34 1067.8 42.17 41.84

DIFFERENTIAL CORRECTIONS

TDE -.3562 TRA .5219 TC3 -.5822 BAU .7002
 RDE -2.4237 RRA-1.9501 RC3 1.2552 FAU .10957
 FDE 4.6832 FRA 4.1062 FC3-2.5059 B8P 7773
 BDE 2.4497 BRA 2.0187 BC3 1.3837 F8P 1384

MID-COURSE EXECUTION ACCURACY

SGT 1245.5 SGR 4520.9 SG3 808.8
 RRT -.6794 RRF -.9997 RTF .6863
 SGB 4689.3 R23 .0283 R13 -.9994
 SG1 4602.6 SG2 897.7 THA 101.03

ORBIT DETERMINATION ACCURACY

ST 22.0 SR 125.1 S8 102.1
 CRT .3952 CRS .9998 CST .3792
 LSA 161.7 HSA 20.3 S8A .1
 EL1 125.4 EL2 20.2 ALF 85.92

LAUNCH DATE APR 11 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 29 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.259 GAL -3.82 AZL 82.63 HCA 189.70 SMA 181.80 ECC .18615 INC 7.3693 V1 29.725
 RP 213.31 LAP -.73 LOP 26.11 VP 22.679 GAP 3.95 AZP 97.33 TAL 336.52 TAP 162.22 RCA 147.95 APO 215.64 V2 25.732
 RC 137.991 GL 50.87 GP -46.83 ZAL 118.40 ZAP 87.83 ETS 176.44 ZAE 115.76 ETE 210.00 ZAC 55.61 ETC 272.04 LVI 33.44

Planeto-centric Conic: C3 26.345 VHL 5.324 DLA 38.55 RAL 319.05 RAD 6646.4 VEL 12.178 PTH 7.14 VHP 4.871 DPA -68.65 RAP 313.04 ECC 1.4665
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 12 48 4085.16 -41.30 179.65 218.90 63.90 13 20 34 3065.2 -47.55 146.69
 60.00 11 19 40 4207.86 -27.99 183.74 210.26 59.73 12 29 48 3207.9 -37.84 157.47
 62.63 10 12 13 4400.63 -18.72 193.47 203.89 55.67 11 25 34 3400.6 -31.11 170.67
 62.63 10 12 13 4400.63 -18.72 193.47 203.89 55.67 11 25 34 3400.6 -31.11 170.67
 62.63 10 12 13 4400.63 -18.72 193.47 203.89 55.67 11 25 34 3400.6 -31.11 170.67
 62.63 10 12 13 4400.63 -18.72 193.47 203.89 55.67 11 25 34 3400.6 -31.11 170.67

Differential Corrections: TDE 2.3121 TRA 1.0766 TC3-1.5619 BAU .8556 SGT 3339.5 SGR 5050.0 SG3 700.8 ST 126.4 SR 168.3 SS 110.6
 RDE 2.9710 RRA 2.5452 RC3-1.6302 FAU .09102 RRT .9506 RRF .9995 RTF .9492 CRT .9901 CRS -.9999 CST -.9882
 FDE 4.6166 FRA 4.1331 FC3-2.7800 BSP 10159 SGB 8054.3 R23 .0972 R13 .9948 LSA 237.2 MSA 15.5 SSA .2
 BDE 3.7647 BRA 2.7636 BC3 2.2577 FSP 1239 SGI 5990.9 SG2 873.9 THA 57.06 EL1 210.0 EL2 14.2 ALF 53.17

LAUNCH DATE APR 11 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 1 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.261 GAL -3.67 AZL 84.19 HCA 186.87 SMA 181.81 ECC .18647 INC 5.8079 V1 29.725
 RP 213.61 LAP -.69 LOP 27.30 VP 22.641 GAP 3.76 AZP 95.77 TAL 336.27 TAP 163.15 RCA 147.91 APO 215.72 V2 25.697
 RC 140.356 GL 43.41 GP -42.16 ZAL 122.63 ZAP 86.20 ETS 175.58 ZAE 116.85 ETE 207.19 ZAC 60.30 ETC 271.75 LVI 29.47

Planeto-centric Conic: C3 22.482 VHL 4.742 DLA 31.60 RAL 322.46 RAD 6643.9 VEL 11.936 PTH 6.94 VHP 4.383 DPA -64.48 RAP 307.61 ECC 1.3700
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 16 24 3826.33 -46.57 159.20 213.39 78.89 14 20 11 2826.3 -45.57 124.12
 60.00 13 6 57 3891.56 -37.64 158.61 210.53 74.40 14 11 9 2851.6 -40.05 127.73
 70.00 12 45 8 3916.07 -27.71 159.93 206.66 69.19 13 50 24 2916.1 -33.67 132.85
 75.28 11 39 44 4119.74 -17.44 170.58 201.77 63.23 12 48 24 3119.7 -26.96 146.79
 75.28 11 39 44 4119.74 -17.44 170.58 201.77 63.23 12 48 24 3119.7 -26.96 146.79
 75.28 11 39 44 4119.74 -17.44 170.58 201.77 63.23 12 48 24 3119.7 -26.96 146.79
 110.00 17 44 35 2962.89 -27.71 88.85 206.66 69.19 18 33 58 1962.9 -33.67 61.77

Differential Corrections: TDE 1.9789 TRA 1.2500 TC3-2.0080 BAU .8084 SGT 3531.3 SGR 4644.6 SG3 899.0 ST 122.4 SR 145.6 SS 119.3
 RDE 2.2809 RRA 2.3611 RC3-1.7919 FAU .10988 RRT .9572 RRF .9995 RTF .9561 CRT .9911 CRS -.9998 CST -.9887
 FDE 4.8622 FRA 5.3515 FC3-4.2305 BSP 9722 SGB 5834.6 R23 .1081 R13 .9936 LSA 224.1 MSA 14.5 SSA .2
 BDE 3.0033 BRA 2.6715 BC3 2.6897 FSP 1582 SGI 5776.4 SG2 821.9 THA 53.08 EL1 189.8 EL2 12.5 ALF 49.99

LAUNCH DATE APR 11 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 3 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.262 GAL -3.71 AZL 85.29 HCA 188.05 SMA 181.84 ECC .18684 INC 4.7049 V1 29.725
 RP 213.92 LAP -.66 LOP 28.49 VP 22.604 GAP 3.58 AZP 94.66 TAL 336.01 TAP 164.06 RCA 147.86 APO 215.81 V2 25.662
 RC 142.739 GL 37.02 GP -38.08 ZAL 126.07 ZAP 84.44 ETS 174.50 ZAE 117.30 ETE 203.79 ZAC 64.40 ETC 271.51 LVI 28.01

Planeto-centric Conic: C3 19.240 VHL 4.388 DLA 25.68 RAL 325.21 RAD 6642.5 VEL 11.801 PTH 6.82 VHP 4.070 DPA -60.75 RAP 303.81 ECC 1.3166
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 59 52 3652.79 -47.56 142.60 206.98 91.61 15 0 44 2652.8 -41.36 109.60
 60.00 14 5 39 3637.55 -40.14 141.01 206.75 86.07 15 6 18 2637.4 -37.33 110.24
 70.00 14 15 38 3607.93 -33.15 137.66 205.79 81.26 15 15 46 2607.9 -33.32 108.92
 80.00 14 37 1 3540.79 -27.26 131.29 204.50 77.32 15 36 2 2540.8 -29.84 104.16
 90.00 15 32 42 3380.96 -24.53 117.38 203.77 75.50 16 28 43 2381.0 -28.21 90.94
 100.00 17 19 53 3015.26 -27.26 92.66 204.50 77.32 18 10 8 2015.3 -29.84 65.53
 110.00 19 15 4 2654.77 -33.15 66.58 205.79 81.26 19 59 19 1654.8 -33.32 37.84

Differential Corrections: TDE 1.7637 TRA 1.4158 TC3-2.4097 BAU .7811 SGT 3739.8 SGR 4260.1 SG3 1085.4 ST 119.3 SR 126.8 SS 123.8
 RDE 1.8008 RRA 2.1804 RC3-1.8482 FAU .12481 RRT .9622 RRF .9994 RTF .5.14 CRT .9925 CRS -.9997 CST -.9885
 FDE 4.9507 FRA 6.3971 FC3-5.6159 BSP 9444 SGB 5668.8 R23 .1200 R13 .9921 LSA 213.2 MSA 13.3 SSA .3
 BDE 2.9206 BRA 2.9997 BC3 3.0368 FSP 1882 SGI 5615.9 SG2 772.1 THA 48.87 EL1 173.8 EL2 10.6 ALF 46.77

LAUNCH DATE APR 11 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 5 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.264 GAL -3.76 AZL 86.12 HCA 189.23 SMA 181.87 ECC .18727 INC 3.8843 V1 29.725
 RP 214.24 LAP -.62 LOP 29.67 VP 22.566 GAP 3.40 AZP 93.83 TAL 335.72 TAP 164.95 RCA 147.81 APO 215.93 V2 25.627
 RC 145.136 GL 31.60 GP -34.54 ZAL 128.83 ZAP 82.61 ETS 173.76 ZAE 117.23 ETE 200.71 ZAC 67.96 ETC 271.30 LVI 23.03

Planeto-centric Conic: C3 17.333 VHL 4.163 DLA 20.67 RAL 327.49 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 3.861 DPA -57.47 RAP 300.97 ECC 1.2853
 LNCN AZMTH LNCN TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 32 28 3920.04 -46.33 129.96 201.94 101.29 15 31 8 2520.0 -36.93 99.99
 60.00 14 47 8 3480.98 -40.03 127.73 203.22 95.07 15 45 9 2481.0 -33.67 98.50
 70.00 15 9 57 3413.77 -34.15 122.62 203.56 90.08 16 6 51 2413.8 -30.55 94.49
 80.00 15 49 7 3291.01 -29.67 113.16 203.40 86.52 16 43 58 2291.0 -28.10 85.85
 90.00 16 56 49 3072.43 -27.89 96.96 203.25 85.14 17 48 1 2072.4 -27.11 69.98
 100.00 18 31 58 2765.48 -29.67 74.53 203.40 86.52 19 18 4 1765.5 -28.10 47.22
 110.00 20 9 24 2460.59 -34.15 51.94 203.56 90.08 20 50 24 1460.6 -30.55 23.41

Differential Corrections: TDE 1.6215 TRA 1.5739 TC3-2.7656 BAU .7684 SGT 3955.0 SGR 3903.8 SG3 1199.6 ST 116.9 SR 111.5 SS 125.7
 RDE 1.4861 RRA 2.0093 RC3-1.8300 FAU .13649 RRT .9660 RRF .9992 RTF .9654 CRT .9942 CRS -.9995 CST -.9905
 FDE 4.9534 FRA 7.2611 FC3-6.8173 BSP 9258 SGB 5557.2 R23 .1315 R13 .9905 LSA 204.3 MSA 12.2 SSA .3
 BDE 2.1995 BRA 2.5523 BC3 3.3162 FSP 2129 SGI 5509.8 SG2 724.2 THA 44.61 EL1 161.3 EL2 8.7 ALF 43.63

LAUNCH DATE APR 11 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 7 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.267 GAL -3.82 AZL 86.75 HCA 190.40 SMA 181.91 ECC .10775 INC 3.2492 V1 28.725
 RP 214.55 LAP -.59 LOP 30.85 VP 22.529 GAP 3.22 AZP 93.20 TAL 335.43 TAP 165.83 RCA 147.76 APO 216.06 V2 25.591
 RC 147.555 GL 26.99 GP -31.48 ZAL 131.03 ZAP 80.76 ETS 173.20 ZAE 116.76 ETE 197.98 ZAC 71.04 ETC 271.11 LVI 20.46

Planetric Conic: C3 16.171 VHL 4.021 DLA 16.45 RAL 329.43 RAD 6641.1 VEL 11.671 PTH 6.71 VMP 3.717 DPA -54.61 RAP 298.74 ECC 1.2661
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 58 12 3415.81 -44.72 120.58 198.58 108.31 15 55 7 2415.8 -32.91 93.29
 60.00 15 18 57 3380.55 -38.83 117.73 200.69 101.75 16 14 57 2360.6 -30.08 90.42
 70.00 15 49 32 3270.50 -33.58 111.49 201.75 96.64 16 44 3 2270.5 -27.43 84.52
 80.00 16 37 16 3120.94 -29.71 100.54 202.14 93.15 17 29 17 2120.9 -25.40 73.94
 90.00 17 49 24 2888.12 -28.22 83.51 202.21 91.86 18 37 32 1888.1 -24.62 57.07
 100.00 19 20 8 2595.41 -29.71 61.91 202.14 93.15 20 3 23 1595.4 -25.40 35.31
 110.00 20 48 59 2317.31 -33.58 40.41 201.75 96.64 21 27 36 1317.3 -27.43 13.44

Differential Corrections: TDE 1.5217 TRA 1.7238 TC3-3.0794 BAU .7680 RRT .9689 RRF .9990 RTF .9685 SGT 4170.5 SGR 3574.7 SCS 1303.0
 RDE 1.2588 RRA 1.8475 RC3-1.7707 FAU .14593 RRT .9689 RRF .9990 RTF .9685 SGT 4170.5 SGR 3574.7 SCS 1303.0
 FDE 4.8979 FRA 7.9434 FC3-7.8126 B8P 9097 SGB 5492.8 R23 .1416 R13 .9889 SGT 5492.8 R23 .1416 R13 .9889
 BDE 1.9749 BRA 2.5268 BC3 3.5522 F8P 2310 SGB 5492.8 R23 .1416 R13 .9889

LAUNCH DATE APR 11 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 31.269 GAL -3.87 AZL 87.26 HCA 191.57 SMA 181.98 ECC .18828 INC 2.7438 V1 29.725
 RP 214.88 LAP -.55 LOP 32.03 VP 22.492 GAP 3.04 AZP 92.69 TAL 335.12 TAP 166.70 RCA 147.70 APO 216.21 V2 25.554
 RC 149.988 GL 23.08 GP -28.83 ZAL 132.80 ZAP 78.92 ETS 172.74 ZAE 116.00 ETE 195.59 ZAC 73.72 ETC 270.94 LVI 18.28

Planetric Conic: C3 15.458 VHL 3.931 DLA 12.89 RAL 331.10 RAD 6640.7 VEL 11.641 PTH 6.68 VMP 3.618 DPA -52.12 RAP 296.93 ECC 1.2544
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 19 9 3332.53 -42.69 113.60 198.50 113.38 16 14 42 2332.5 -29.42 88.41
 60.00 15 44 27 3265.21 -37.23 110.14 199.10 106.68 16 38 52 2265.2 -26.88 84.40
 70.00 16 20 30 3159.13 -32.38 103.03 200.58 101.50 17 13 9 2159.1 -24.47 77.22
 80.00 17 13 42 2992.42 -28.85 91.09 201.29 98.04 18 3 35 1952.4 -22.68 65.37
 90.00 18 28 26 2751.23 -27.32 73.56 201.48 96.79 19 14 18 1751.2 -21.99 47.91
 100.00 19 56 34 2466.89 -28.85 52.46 201.29 98.04 20 37 41 1466.9 -22.88 26.74
 110.00 21 19 56 2205.95 -32.38 31.95 200.58 101.50 21 56 42 1206.0 -24.47 6.13

Differential Corrections: TDE 1.4560 TRA 1.8729 TC3-3.3418 BAU .7738 RRT .9720 RRF .9986 RTF .9717 SGT 4387.1 SGR 3275.0 SCS 1380.1
 RDE 1.0889 RRA 1.6977 RC3-1.6895 FAU .15387 RRT .9720 RRF .9986 RTF .9717 SGT 4387.1 SGR 3275.0 SCS 1380.1
 FDE 4.8070 FRA 8.4680 FC3-8.6073 B8P 9029 SGB 5474.7 R23 .1476 R13 .9877 SGT 5474.7 R23 .1476 R13 .9877
 BDE 1.9182 BRA 2.5278 BC3 3.7446 F8P 2433 SGB 5474.7 R23 .1476 R13 .9877

LAUNCH DATE APR 11 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.273 GAL -3.93 AZL 87.67 HCA 192.74 SMA 182.01 ECC .18885 INC 2.3314 V1 29.725
 RP 215.21 LAP -.51 LOP 33.20 VP 22.455 GAP 2.86 AZP 92.27 TAL 334.81 TAP 167.59 RCA 147.64 APO 216.38 V2 25.518
 RC 152.438 GL 19.75 GP -26.52 ZAL 134.22 ZAP 77.10 ETS 172.37 ZAE 115.03 ETE 193.50 ZAC 76.05 ETC 270.79 LVI 16.35

Planetric Conic: C3 15.027 VHL 3.878 DLA 9.87 RAL 332.57 RAD 6640.5 VEL 11.622 PTH 6.66 VMP 3.549 DPA -49.93 RAP 295.42 ECC 1.2473
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 36 40 3265.14 -40.74 108.32 195.33 117.09 16 31 5 2265.1 -26.48 84.72
 60.00 16 9 31 3188.36 -35.57 104.29 198.21 110.34 16 58 39 2188.4 -24.06 79.83
 70.00 16 45 42 3070.15 -30.98 96.47 199.97 105.15 17 38 52 2070.1 -21.83 71.85
 80.00 17 42 52 2891.02 -27.67 83.79 200.88 101.70 18 31 3 1891.0 -20.18 58.89
 90.00 18 59 25 2644.00 -26.42 65.91 201.15 100.47 19 43 29 1644.0 -19.55 41.00
 100.00 20 25 44 2365.50 -27.67 45.16 200.88 101.70 21 5 10 1365.5 -20.18 20.25
 110.00 21 45 8 2116.98 -30.98 25.39 199.97 105.15 22 20 25 1117.0 -21.83 .57

Differential Corrections: TDE 1.4198 TRA 2.0231 TC3-3.5588 BAU .7814 RRT .9730 RRF .9982 RTF .5.32 SGT 4605.0 SGR 3014.4 SCS 1439.9
 RDE .9682 RRA 1.8713 RC3-1.5877 FAU .18712 RRT .9730 RRF .9982 RTF .5.32 SGT 4605.0 SGR 3014.4 SCS 1439.9
 FDE 4.7835 FRA 8.9204 FC3-9.0524 B8P 9134 SGB 5503.9 R23 .1542 R13 .9882 SGT 5503.9 R23 .1542 R13 .9882
 BDE 1.7158 BRA 2.8616 BC3 3.8884 F8P 2569 SGB 5503.9 R23 .1542 R13 .9882

LAUNCH DATE APR 11 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 13 1971

Heliocentric Conic: RL 149.90 LAL .00 LOL 200.46 VL 32.277 GAL -3.99 AZL 88.01 HCA 193.91 SMA 182.07 ECC .18948 INC 1.9877 V1 29.725
 RP 215.84 LAP -.48 LOP 34.37 VP 22.416 GAP 2.68 AZP 91.93 TAL 334.48 TAP 168.39 RCA 147.57 APO 216.87 V2 25.480
 RC 154.904 GL 18.89 GP -24.49 ZAL 135.39 ZAP 75.32 ETS 172.08 ZAE 113.91 ETE 191.70 ZAC 78.09 ETC 270.65 LVI 14.68

Planetric Conic: C3 14.787 VHL 3.845 DLA 7.31 RAL 333.88 RAD 6640.4 VEL 11.612 PTH 6.65 VMP 3.502 DPA -48.04 RAP 294.15 ECC 1.2434
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 51 33 3210.05 -38.95 104.26 194.76 119.84 16 45 3 2210.1 -23.97 81.86
 60.00 16 23 17 3125.61 -33.99 99.72 197.83 113.10 17 15 22 2125.6 -21.66 76.25
 70.00 17 6 45 2997.75 -29.58 91.30 199.77 107.91 17 56 42 1997.8 -19.54 67.30
 80.00 18 7 0 2809.02 -26.40 78.03 200.82 104.48 18 53 49 1809.0 -17.96 53.81
 90.00 19 24 55 2557.58 -25.21 59.87 201.14 103.25 20 7 32 1557.6 -17.36 35.60
 100.00 20 49 52 2283.49 -26.40 39.40 200.82 104.48 21 27 55 1283.5 -17.96 15.17
 110.00 22 6 11 2044.57 -29.58 20.22 199.77 107.91 22 40 15 1044.6 -19.54 356.21

Differential Corrections: TDE 1.3929 TRA 2.1727 TC3-3.7428 BAU .7923 RRT .9727 RRF .9976 RTF .9737 SGT 4821.3 SGR 2784.2 SCS 1484.3
 RDE .8813 RRA 1.4604 RC3-1.4328 FAU .15782 RRT .9727 RRF .9976 RTF .9737 SGT 4821.3 SGR 2784.2 SCS 1484.3
 FDE 4.7242 FRA 9.2981 FC3-9.2399 B8P 9324 SGB 5567.4 R23 .1610 R13 .9846 SGT 5567.4 R23 .1610 R13 .9846
 BDE 1.6483 BRA 2.6179 BC3 4.0077 F8P 2703 SGB 5567.4 R23 .1610 R13 .9846

LAUNCH DATE APR 11 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC

DISTANCE 593.626

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.281 GAL -4.05 AZL 88.30 HCA 195.07 SMA 182.14 ECC .19014 INC 1.8972 V1 29.725
RP 215.87 LAP -.44 LOP 35.53 VP 22.381 GAP 2.50 AZP 91.64 TAL 334.15 TAP 169.22 RCA 147.51 APO 216.77 V2 25.443
RC 157.385 GL 14.42 GP -22.71 ZAL 138.37 ZAP 73.57 ETS 171.85 ZAE 112.88 ETE 190.13 ZAC 79.88 ETC 270.53 LVI 13.23

PLANETOCENTRIC CONIC

C3 14.677 VHL 3.831 DLA 5.12 RAL 335.06 RAD 6640.4 VEL 11.607 PTH 6.65 VHP 3.471 DPA -46.35 RAP 293.05 ECC 1.2415
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 4 22 3184.82 -37.36 101.07 194.61 121.92 16 57 7 2164.6 -21.86 79.59
60.00 16 38 30 3073.83 -32.55 98.09 197.80 115.21 17 29 44 2073.8 -19.82 73.40
70.00 17 24 39 2938.07 -28.26 87.16 199.87 110.03 18 13 37 1938.1 -17.55 63.80
80.00 18 27 24 2741.58 -25.17 73.40 201.02 106.62 19 13 5 1741.6 -16.02 49.73
90.00 19 46 24 2486.61 -24.02 55.02 201.38 105.40 20 27 51 1486.6 -15.45 31.27
100.00 21 10 15 2216.05 -25.17 34.77 201.02 106.62 21 47 11 1216.1 -16.02 11.10
110.00 22 24 5 1984.89 -28.26 16.08 199.87 110.03 22 57 10 984.9 -17.55 352.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3754 TRA 2.3130 TC3-3.9153 BAU .8117 SGT 5029.3 SGR 2564.3 SG3 1508.0 ST 115.4 SR 67.1 SS 121.9
RDE .8007 RRA 1.3476 RC3-1.3357 FAU .16095 RRT .9740 RRF .9968 RTF .9756 CRT .9999 CRS -.9962 CST -.9962
FDE 4.6144 FRA 9.5142 FC3-9.4937 BSP 9397 SGB 5645.3 R23 .1604 R13 .9841 LSA 180.6 MSA 7.8 S3A .9
BDE 1.5915 BRA 2.6769 BC3 4.1369 FSP 2725 SG1 5621.3 SG2 519.9 THA 26.66 EL1 133.5 EL2 .9 ALF 30.20

LAUNCH DATE APR 11 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

DISTANCE 597.789

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.285 GAL -4.11 AZL 88.55 HCA 196.23 SMA 182.21 ECC .19085 INC 1.4482 V1 29.725
RP 216.21 LAP -.41 LOP 36.69 VP 22.344 GAP 2.33 AZP 91.39 TAL 333.80 TAP 170.04 RCA 147.43 APO 216.98 V2 25.405
RC 159.881 GL 12.27 GP -21.13 ZAL 137.20 ZAP 71.87 ETS 171.67 ZAE 111.38 ETE 188.78 ZAC 81.47 ETC 270.41 LVI 11.95

PLANETOCENTRIC CONIC

C3 14.663 VHL 3.829 DLA 3.24 RAL 336.14 RAD 6640.4 VEL 11.607 PTH 6.65 VHP 3.453 DPA -44.85 RAP 292.10 ECC 1.2413
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 15 35 3126.95 -35.97 98.54 194.72 123.53 17 7 42 2127.0 -20.09 77.76
60.00 16 51 43 3030.80 -31.26 93.17 198.01 116.85 17 42 14 2030.8 -17.89 71.09
70.00 17 40 7 2888.43 -27.06 83.80 200.18 111.69 18 28 16 1888.4 -15.85 60.96
80.00 18 44 55 2685.49 -24.02 69.63 201.41 108.29 19 29 41 1685.5 -14.35 46.41
90.00 20 4 50 2427.62 -22.89 51.07 201.80 107.07 20 45 18 1427.6 -13.78 27.74
100.00 21 27 47 2139.96 -24.02 31.00 201.41 108.29 22 3 47 1160.0 -14.35 7.78
110.00 22 39 34 1935.25 -27.06 12.72 200.18 111.69 23 11 49 935.2 -15.85 349.88

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3704 TRA 2.4546 TC3-4.0598 BAU .8318 SGT 5234.8 SGR 2369.1 SG3 1521.4 ST 116.5 SR 62.0 SS 120.1
RDE .7391 RRA 1.2477 RC3-1.2339 FAU .16214 RRT .9744 RRF .9959 RTF .9769 CRT .9996 CRS -.9948 CST -.9969
FDE 4.5275 FRA 9.6788 FC3-9.5732 BSP 9549 SGB 5746.0 R23 .1587 R13 .9836 LSA 178.3 MSA 7.5 S3A 1.1
BDE 1.5570 BRA 2.7535 BC3 4.2431 FSP 2744 SG1 5725.3 SG2 486.9 THA 23.98 EL1 132.0 EL2 1.6 ALF 28.02

LAUNCH DATE APR 11 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

DISTANCE 601.950

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.290 GAL -4.18 AZL 88.77 HCA 197.39 SMA 182.29 ECC .19160 INC 1.2322 V1 29.725
RP 216.56 LAP -.37 LOP 37.85 VP 22.307 GAP 2.15 AZP 91.18 TAL 333.45 TAP 170.84 RCA 147.36 APO 217.21 V2 25.386
RC 162.390 GL 10.40 GP -19.72 ZAL 137.92 ZAP 70.23 ETS 171.53 ZAE 110.03 ETE 187.80 ZAC 82.89 ETC 270.31 LVI 10.81

PLANETOCENTRIC CONIC

C3 14.719 VHL 3.837 DLA 1.62 RAL 337.13 RAD 6640.4 VEL 11.609 PTH 6.65 VHP 3.444 DPA -43.52 RAP 291.28 ECC 1.2422
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 25 27 3098.58 -34.77 96.50 195.03 124.79 17 17 3 2095.8 -18.59 76.27
60.00 17 3 19 2994.86 -30.13 90.80 198.40 118.14 17 53 14 1994.9 -16.41 69.19
70.00 17 53 38 2846.86 -25.98 81.05 200.65 112.99 18 41 5 1846.9 -14.40 58.82
80.00 19 0 11 2638.48 -22.98 66.82 201.93 109.60 19 44 10 1638.5 -12.91 43.67
90.00 20 20 52 2378.14 -21.87 47.80 202.35 108.39 21 0 30 1378.1 -12.34 24.82
100.00 21 43 3 2112.94 -22.98 27.89 201.93 109.60 22 18 16 1112.9 -12.91 5.04
110.00 22 53 5 1893.67 -25.98 9.97 200.65 112.99 23 24 38 893.7 -14.40 347.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3739 TRA 2.5986 TC3-4.1839 BAU .8930 SGT 5437.3 SGR 2194.5 SG3 1526.0 ST 118.0 SR 57.7 SS 118.6
RDE .6901 RRA 1.1582 RC3-1.1355 FAU .16215 RRT .9742 RRF .9947 RTF .5.79 CRT .9986 CRS -.9931 CST -.9976
FDE 4.4484 FRA 9.7972 FC3-9.5373 BSP 9747 SGB 5863.4 R23 .1557 R13 .9832 LSA 176.8 MSA 7.3 S3A 1.2
BDE 1.5375 BRA 2.8432 BC3 4.3349 FSP 2753 SG1 5845.3 SG2 480.4 THA 21.81 EL1 131.4 EL2 2.7 ALF 26.04

LAUNCH DATE APR 11 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

DISTANCE 606.106

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.295 GAL -4.25 AZL 88.96 HCA 198.54 SMA 182.37 ECC .19230 INC 1.0428 V1 29.725
RP 216.81 LAP -.33 LOP 38.00 VP 22.271 GAP 1.98 AZP 90.99 TAL 333.09 TAP 171.83 RCA 147.28 APO 217.46 V2 25.327
RC 164.912 GL 8.76 GP -18.47 ZAL 138.56 ZAP 68.63 ETS 171.42 ZAE 108.86 ETE 186.57 ZAC 84.15 ETC 270.23 LVI 9.79

PLANETOCENTRIC CONIC

C3 14.830 VHL 3.851 DLA .22 RAL 338.05 RAD 6640.4 VEL 11.614 PTH 6.65 VHP 3.444 DPA -42.32 RAP 290.87 ECC 1.2441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 34 15 3089.38 -33.74 94.85 195.47 125.78 17 25 24 2089.4 -17.34 75.05
60.00 17 13 35 2964.72 -29.15 88.85 198.90 119.16 18 3 0 1964.7 -15.16 67.63
70.00 18 5 34 2811.88 -25.03 78.78 201.22 114.03 18 52 26 1811.9 -13.15 56.68
80.00 19 13 36 2598.80 -22.05 63.94 202.55 110.65 19 56 53 1598.8 -11.66 41.38
90.00 20 34 56 2336.38 -20.94 45.09 202.99 109.45 21 13 52 1336.4 -11.10 22.38
100.00 21 56 28 2073.27 -22.05 25.31 202.55 110.65 22 31 2 1073.3 -11.66 2.75
110.00 23 5 0 1858.70 -25.03 7.70 201.22 114.03 23 35 59 858.7 -13.15 345.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3843 TRA 2.7384 TC3-4.2899 BAU .8753 SGT 5635.5 SGR 2037.3 SG3 1523.3 ST 119.9 SR 54.1 SS 117.1
RDE .6511 RRA 1.0770 RC3-1.0422 FAU .16120 RRT .9734 RRF .9932 RTF .9786 CRT .9970 CRS -.9910 CST -.9982
FDE 4.3809 FRA 9.8744 FC3-9.4104 BSP 9974 SGB 5992.5 R23 .1518 R13 .9828 LSA 175.9 MSA 7.3 S3A 1.3
BDE 1.5298 BRA 2.9426 BC3 4.4147 FSP 2756 SG1 5976.3 SG2 439.8 THA 19.50 EL1 131.4 EL2 3.8 ALF 24.25

LAUNCH DATE APR 11 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

DISTANCE 610.259

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.300 GAL -4.32 AZL 89.12 HCA 199.69 SMA 182.46 ECC .19322 INC .8753 V1 29.725
RP 217.26 LAP -.30 LOP 40.15 VP 22.234 GAP 1.81 AZP 90.82 TAL 332.72 TAP 172.41 RCA 147.20 APO 217.71 V2 25.288
RC 187.446 GL 7.31 GP -17.34 ZAL 139.14 ZAP 67.08 ETS 171.34 ZAE 107.28 ETE 185.68 ZAC 85.29 ETC 270.15 LVI 8.88

PLANETOCENTRIC CONIC

C3 14.984 VML 3.871 DLA -.99 RAL 338.92 RAD 6640.5 VEL 11.621 PTH 6.66 VHP 3.449 DPA -41.24 RAP 289.96 ECC 1.2486
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 7 3047.49 -32.86 93.50 196.01 126.57 17 32 55 2047.5 -16.28 74.05
60.00 17 22 43 2939.42 -28.30 87.25 199.49 119.99 18 11 45 1939.4 -14.10 66.33
70.00 18 16 9 2782.37 -24.20 76.89 201.86 114.67 19 2 32 1782.4 -12.08 55.06
80.00 19 25 30 2565.23 -21.23 61.79 203.24 111.50 20 8 15 1565.2 -10.59 39.46
90.00 20 47 24 2300.98 -20.12 42.82 203.69 110.30 21 25 45 1301.0 -10.03 20.33
100.00 22 8 22 2039.70 -21.23 23.16 203.24 111.50 22 42 22 1039.7 -10.59 .83
110.00 23 15 36 1829.19 -24.20 5.81 201.86 114.67 23 46 5 829.2 -12.08 343.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4007 TRA 2.8804 TC3-4.3818 BAU .9884 SGT 5829.9 SGR 1895.4 SG3 1814.5 ST 121.9 SR 51.0 SS 115.7
RDE .6194 RRA 1.0030 RC3 -.9556 FAU .15955 RRT .9721 RRF .9913 RTF .9791 CRT .9948 CRS -.9886 CST -.9986
FDE 4.3176 FRA 9.9162 FC3-9.2182 BSP 10216 SGB 6130.3 R23 .1470 R13 .9825 LSA 175.5 MSA 7.4 SSA 1.3
BDE 1.5316 BRA 3.0501 BC3 4.4645 FSP 2746 SG1 6115.6 SG2 423.8 THA 17.63 EL1 132.1 EL2 4.8 ALF 22.62

LAUNCH DATE APR 11 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC

DISTANCE 614.408

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.306 GAL -4.40 AZL 89.27 HCA 200.84 SMA 182.55 ECC .19409 INC .7262 V1 29.725
RP 217.61 LAP -.28 LOP 41.30 VP 22.198 GAP 1.83 AZP 90.68 TAL 332.35 TAP 173.18 RCA 147.12 APO 217.98 V2 25.249
RC 189.992 GL 6.02 GP -16.32 ZAL 139.66 ZAP 65.59 ETS 171.29 ZAE 105.89 ETE 184.90 ZAC 86.31 ETC 270.08 LVI 8.04

PLANETOCENTRIC CONIC

C3 15.174 VML 3.895 DLA -2.05 RAL 339.73 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 3.460 DPA -40.26 RAP 289.43 ECC 1.2497
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 49 14 3029.22 -32.12 92.40 196.61 127.20 17 39 43 2029.2 -15.39 73.22
60.00 17 30 59 2918.16 -27.57 85.93 200.14 120.65 18 19 37 1918.2 -13.20 65.25
70.00 18 25 38 2757.44 -23.48 75.32 202.56 115.55 19 11 36 1757.4 -11.18 53.70
80.00 19 36 7 2536.75 -20.51 59.98 203.97 112.19 20 18 24 1536.7 -9.66 37.85
90.00 20 58 31 2270.90 -19.40 40.91 204.44 110.99 21 36 22 1270.9 -9.11 18.60
100.00 22 18 59 2011.22 -20.51 21.35 203.97 112.19 22 52 30 1011.2 -9.68 359.21
110.00 23 25 5 1804.26 -23.48 4.23 202.56 115.55 23 55 9 804.3 -11.18 342.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4224 TRA 3.0230 TC3-4.4599 BAU .9220 SGT 6020.5 SGR 1767.0 SG3 1500.7 ST 124.2 SR 48.3 SS 114.3
RDE .5935 RRA .9331 RC3 -.8764 FAU .15747 RRT .9703 RRF .9890 RTF .9795 CRT .9919 CRS -.9858 CST -.9990
FDE 4.2979 FRA 9.9275 FC3-8.9842 BSP 10481 SGB 6274.4 R23 .1410 R13 .9824 LSA 175.4 MSA 7.6 SSA 1.4
BDE 1.5413 BRA 3.1643 BC3 4.5452 FSP 2730 SG1 6260.9 SG2 411.2 THA 15.97 EL1 133.1 EL2 5.7 ALF 21.13

LAUNCH DATE APR 11 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

DISTANCE 618.553

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.312 GAL -4.47 AZL 89.41 HCA 201.98 SMA 182.65 ECC .19500 INC .5927 V1 29.725
RP 217.97 LAP -.22 LOP 42.44 VP 22.161 GAP 1.46 AZP 90.55 TAL 331.96 TAP 173.94 RCA 147.03 APO 218.26 V2 25.209
RC 172.547 GL 4.88 GP -15.39 ZAL 140.16 ZAP 64.14 ETS 171.26 ZAE 104.51 ETE 184.21 ZAC 87.24 ETC 270.05 LVI 7.29

PLANETOCENTRIC CONIC

C3 15.393 VML 3.923 DLA -2.98 RAL 340.50 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 3.475 DPA -39.37 RAP 288.99 ECC 1.2533
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 55 41 3014.02 -31.49 91.50 197.26 127.71 17 45 55 2014.0 -14.65 72.53
60.00 17 38 25 2900.34 -26.94 84.83 200.83 121.18 18 26 45 1900.3 -12.45 64.35
70.00 18 34 10 2736.41 -22.85 74.00 203.30 116.10 19 19 46 1736.4 -10.41 52.56
80.00 19 45 39 2512.59 -19.88 58.46 204.74 112.75 20 27 32 1512.6 -8.89 36.48
90.00 21 8 29 2245.34 -18.77 39.30 205.22 111.55 21 45 54 1245.3 -8.32 17.14
100.00 22 28 31 1987.06 -19.88 19.83 204.74 112.75 23 1 38 987.1 -8.89 357.89
110.00 23 33 36 1783.22 -22.85 2.92 203.30 116.10 24 3 20 783.2 -10.41 341.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4480 TRA 3.1654 TC3-4.5270 BAU .9462 SGT 6206.1 SGR 1650.2 SG3 1482.6 ST 126.6 SR 46.0 SS 112.9
RDE .5721 RRA .8723 RC3 -.8040 FAU .15499 RRT .9679 RRF .9862 RTF .9799 CRT .9883 CRS -.9825 CST -.9993
FDE 4.1993 FRA 9.9114 FC3-8.7170 BSP 10750 SGB 6421.7 R23 .1345 R13 .9822 LSA 175.6 MSA 8.0 SSA 1.4
BDE 1.5569 BRA 3.2834 BC3 4.5979 FSP 2704 SG1 6409.2 SG2 401.9 THA 14.49 EL1 134.5 EL2 6.6 ALF 19.79

LAUNCH DATE APR 11 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

DISTANCE 622.694

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.318 GAL -4.55 AZL 89.53 HCA 203.12 SMA 182.75 ECC .19595 INC .4715 V1 29.725
RP 218.33 LAP -.19 LOP 43.58 VP 22.125 GAP 1.29 AZP 90.43 TAL 331.57 TAP 174.69 RCA 146.94 APO 218.56 V2 25.169
RC 175.114 GL 3.85 GP -14.55 ZAL 140.62 ZAP 62.74 ETS 171.24 ZAE 103.14 ETE 183.61 ZAC 88.09 ETC 269.98 LVI 6.59

PLANETOCENTRIC CONIC

C3 15.639 VML 3.955 DLA -3.79 RAL 341.23 RAD 6640.8 VEL 11.648 PTH 6.69 VHP 3.494 DPA -38.56 RAP 288.61 ECC 1.2574
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 34 3001.44 -30.98 90.76 197.95 128.12 17 51 35 2001.4 -14.04 71.97
60.00 17 45 10 2885.47 -26.41 83.92 201.56 121.62 18 33 15 1885.5 -11.82 63.61
70.00 18 41 53 2718.70 -22.32 72.90 204.06 116.55 19 27 11 1718.7 -9.75 51.60
80.00 19 54 15 2492.13 -19.34 57.19 205.54 113.20 20 35 47 1492.1 -8.22 35.33
90.00 21 17 27 2223.64 -18.22 37.54 206.03 112.01 21 54 31 1223.6 -7.64 15.91
100.00 22 37 6 1966.60 -19.34 18.56 205.54 113.20 23 9 53 966.6 -8.22 356.70
110.00 23 41 19 1765.52 -22.32 1.82 204.06 116.55 24 10 45 765.5 -9.75 340.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4766 TRA 3.3078 TC3-4.5851 BAU .9710 SGT 6387.2 SGR 1544.2 SG3 1461.2 ST 129.1 SR 43.9 SS 111.5
RDE .5545 RRA .8144 RC3 -.7380 FAU .15221 RRT .9647 RRF .9828 RTF .9801 CRT .9842 CRS -.9788 CST -.9995
FDE 4.1425 FRA 9.8748 FC3-8.4260 BSP 11015 SGB 6571.2 R23 .1278 R13 .9820 LSA 175.9 MSA 8.4 SSA 1.4
BDE 1.5772 BRA 3.4066 BC3 4.6441 FSP 2670 SG1 6559.3 SG2 395.9 THA 13.18 EL1 136.1 EL2 7.4 ALF 18.57

LAUNCH DATE APR 11 1971

FLIGHT TIME 264.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.325 GAL -4.63 AZL 89.64 HCA 204.25 SMA 182.86 ECC .19693 INC .3617 V1 29.725
RP 218.89 LAP -.15 LOP 44.72 VP 22.089 GAP 1.12 AZP 90.33 TAL 331.18 TAP 175.43 RCA 146.85 APO 218.86 V2 25.129
RC 177.690 GL 2.93 GP -13.79 ZAL 141.06 ZAP 61.39 ETS 171.23 ZAE 101.79 ETE 183.08 ZAC 88.86 ETC 289.94 LVI 5.94

PLANETOCENTRIC CONIC

C3 15.906 VHL 3.988 DLA -4.50 RAL 341.93 RAD 6641.0 VEL 11.660 PTH 6.70 VHP 3.516 DPA -37.81 RAP 288.30 ECC 1.2618
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 6 57 2991.14 -30.53 90.16 198.66 128.45 17 56 48 1991.1 -13.53 71.51
60.00 17 51 19 2873.14 -25.97 83.18 202.30 121.97 18 39 12 1873.1 -11.29 62.99
70.00 18 48 53 2703.87 -21.86 71.99 204.84 116.92 19 33 57 1703.9 -9.20 50.81
80.00 20 2 1 2474.87 -18.87 56.12 206.35 113.58 20 43 16 1474.9 -7.65 34.37
90.00 21 25 35 2205.28 -17.75 36.80 206.85 112.38 22 2 20 1205.3 -7.07 14.86
100.00 22 44 53 1949.34 -18.87 17.49 206.35 113.58 23 17 23 949.3 -7.65 355.73
110.00 23 48 19 1750.69 -21.86 .91 204.84 116.92 24 17 30 750.7 -9.20 339.72

DIFFERENTIAL CORRECTIONS

TDE 1.5086 TRA 3.4508 TC3-4.6346 BAU .9961
RDE .5403 RRA .7609 RC3 -.6783 FAU .14925
FDE 4.0894 FRA 9.8216 FC3-8.1232 BSP 11289
BDE 1.6025 BRA 3.5337 BC3 4.6840 FSP 2633

MID-COURSE EXECUTION ACCURACY

SGT 6564.5 SGR 1448.2 SG3 1437.5
RRR .9609 RRF .9788 RTF .9803
SGB 6722.3 R23 .1208 R13 .9819
SG1 6710.9 SG2 392.5 THA 12.01

ORBIT DETERMINATION ACCURACY

ST 131.7 SR 42.2 SS 110.2
CRT .9794 CRS -.9748 CST -.9998
LSA 176.5 MSA 8.8 S8A 1.4
EL1 138.0 EL2 8.1 ALF 17.47

LAUNCH DATE APR 11 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.332 GAL -4.71 AZL 89.74 HCA 205.38 SMA 182.97 ECC .19794 INC .2608 V1 29.725
RP 219.06 LAP -.11 LOP 45.85 VP 22.053 GAP .95 AZP 90.24 TAL 330.77 TAP 176.16 RCA 146.75 APO 219.18 V2 25.089
RC 180.275 GL 2.10 GP -13.08 ZAL 141.49 ZAP 60.09 ETS 171.24 ZAE 100.46 ETE 182.61 ZAC 89.56 ETC 269.92 LVI 5.35

PLANETOCENTRIC CONIC

C3 16.195 VHL 4.024 DLA -5.12 RAL 342.60 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 3.541 DPA -37.13 RAP 288.05 ECC 1.2665
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 55 2982.80 -30.17 89.68 199.39 128.71 18 1 38 1982.8 -13.12 71.14
60.00 17 56 57 2863.02 -25.61 82.57 203.07 122.25 18 44 40 1863.0 -10.85 62.49
70.00 18 55 16 2691.54 -21.48 71.24 205.64 117.21 19 40 7 1691.5 -8.74 50.14
80.00 20 9 6 2460.39 -18.47 55.23 207.17 113.88 20 50 6 1460.4 -7.18 33.56
90.00 21 32 57 2189.83 -17.35 35.85 207.68 112.69 22 9 27 1189.8 -6.56 13.99
100.00 22 51 58 1934.86 -18.47 16.59 207.17 113.88 23 24 12 934.9 -7.18 354.93
110.00 23 54 42 1738.36 -21.48 .16 205.64 117.21 24 23 41 738.4 -8.74 339.06

DIFFERENTIAL CORRECTIONS

TDE 1.5435 TRA 3.5944 TC3-4.6771 BAU 1.0216
RDE .5287 RRA .7112 RC3 -.6238 FAU .14607
FDE 4.0387 FRA 9.7553 FC3-7.8086 BSP 11560
BDE 1.6315 BRA 3.6641 BC3 4.7185 FSP 2592

MID-COURSE EXECUTION ACCURACY

SGT 6737.9 SGR 1361.0 SG3 1411.8
RRR .9561 RRF .9740 RTF .9804
SGB 6874.0 R23 .1141 R13 .9817
SG1 6862.8 SG2 391.5 THA 10.97

ORBIT DETERMINATION ACCURACY

ST 134.3 SR 40.6 SS 108.8
CRT .9742 CRS -.9704 CST -.9997
LSA 177.3 MSA 9.3 S8A 1.4
EL1 140.1 EL2 8.8 ALF 16.48

LAUNCH DATE APR 11 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.339 GAL -4.80 AZL 89.83 HCA 206.51 SMA 183.08 ECC .19900 INC .1680 V1 29.725
RP 219.43 LAP -.08 LOP 46.97 VP 22.017 GAP .78 AZP 90.15 TAL 330.36 TAP 176.87 RCA 146.65 APO 219.51 V2 25.048
RC 182.871 GL 1.53 GP -12.44 ZAL 141.90 ZAP 58.83 ETS 171.26 ZAE 99.15 ETE 182.20 ZAC 90.21 ETC 269.90 LVI 4.79

PLANETOCENTRIC CONIC

C3 16.302 VHL 4.062 DLA -5.66 RAL 343.24 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 3.568 DPA -36.50 RAP 287.86 ECC 1.2716
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 30 2976.18 -29.89 89.30 200.13 128.91 18 6 6 1976.2 -12.80 70.85
60.00 18 2 7 2854.83 -25.31 82.09 203.84 122.47 18 49 42 1854.8 -10.50 62.08
70.00 19 1 8 2681.41 -21.16 70.63 206.44 117.45 19 45 47 1681.4 -8.37 49.60
80.00 20 15 33 2448.35 -18.14 54.49 207.99 114.13 20 56 21 1448.3 -6.78 32.89
90.00 21 39 40 2176.93 -17.01 35.05 208.51 112.94 22 15 57 1176.9 -6.18 13.26
100.00 22 58 24 1922.82 -18.14 15.86 207.99 114.13 23 30 27 922.8 -6.78 354.23
110.00 0 4 28 1728.23 -21.16 359.54 206.44 117.45 0 33 16 728.2 -8.37 338.52

DIFFERENTIAL CORRECTIONS

TDE 1.5813 TRA 3.7389 TC3-4.7108 BAU 1.0489
RDE .5186 RRA .6649 RC3 -.5740 FAU .14266
FDE 3.9902 FRA 9.6772 FC3-7.4842 BSP 11639
BDE 1.6645 BRA 3.7975 BC3 4.7456 FSP 2548

MID-COURSE EXECUTION ACCURACY

SGT 6906.9 SGR 1281.7 SG3 1384.5
RRR .9504 RRF .9683 RTF .9804
SGB 7024.9 R23 .1076 R13 .9815
SG1 7013.9 SG2 392.5 THA 10.03

ORBIT DETERMINATION ACCURACY

ST 137.1 SR 39.3 SS 107.5
CRT .9684 CRS -.9656 CST -.9998
LSA 178.3 MSA 9.8 S8A 1.4
EL1 142.3 EL2 9.4 ALF 15.58

LAUNCH DATE APR 11 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 149.90 LAL .00 LOL 200.46 VL 32.346 GAL -4.88 AZL 89.91 HCA 207.63 SMA 183.20 ECC .20008 INC .0822 V1 29.725
RP 219.80 LAP -.04 LOP 48.10 VP 21.981 GAP .60 AZP 90.08 TAL 329.95 TAP 177.58 RCA 146.54 APO 219.85 V2 25.007
RC 185.475 GL .68 GP -11.85 ZAL 142.30 ZAP 57.81 ETS 171.28 ZAE 97.86 ETE 181.83 ZAC 90.80 ETC 269.89 LVI 4.26

PLANETOCENTRIC CONIC

C3 16.826 VHL 4.102 DLA -6.14 RAL 343.86 RAD 6641.4 VEL 11.699 PTH 6.73 VHP 3.598 DPA -35.91 RAP 287.72 ECC 1.2789
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 44 2971.08 -29.67 89.02 200.88 129.07 18 10 15 1971.1 -12.55 70.63
60.00 18 6 53 2848.35 -25.07 81.70 204.63 122.65 18 54 22 1848.3 -10.22 61.76
70.00 19 6 27 2673.20 -20.91 70.13 207.25 117.64 19 51 0 1673.2 -8.06 49.17
80.00 20 21 26 2438.46 -17.86 53.88 208.82 114.33 21 2 5 1438.5 -6.45 32.34
90.00 21 45 48 2166.27 -16.72 34.40 209.35 113.14 22 21 54 1166.3 -5.84 12.66
100.00 23 4 18 1912.93 -17.86 15.25 208.82 114.33 23 36 11 912.9 -6.45 353.70
110.00 0 9 49 1720.02 -20.91 359.05 207.25 117.64 0 36 29 720.0 -8.06 338.08

DIFFERENTIAL CORRECTIONS

TDE 1.6218 TRA 3.8842 TC3-4.7375 BAU 1.0724
RDE .5124 RRA .6217 RC3 -.5290 FAU .13918
FDE 3.9433 FRA 9.5893 FC3-7.1608 BSP 12118
BDE 1.7008 BRA 3.9336 BC3 4.7670 FSP 2503

MID-COURSE EXECUTION ACCURACY

SGT 7072.0 SGR 1209.7 SG3 1356.0
RRR .9437 RRF .9616 RTF .9804
SGB 7174.7 R23 .1012 R13 .9813
SG1 7163.8 SG2 394.9 THA 9.20

ORBIT DETERMINATION ACCURACY

ST 139.9 SR 38.1 SS 106.2
CRT .9622 CRS -.9605 CST -.9998
LSA 179.4 MSA 10.3 S8A 1.4
EL1 144.6 EL2 10.0 ALF 14.77

LAUNCH DATE APR 11 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 32.393 GAL -4.97 AZL 89.99 MCA 208.75 SMA 183.32 ECC .20120 INC .0000 V1 29.725
 RP 220.18 LAP -.00 LOP 49.22 VP 21.945 GAP .43 AZP 90.01 TAL 329.53 TAP 178.28 RCA 146.43 APO 220.20 V2 24.866
 RC 188.089 GL .06 GP -11.30 ZAL 142.70 ZAP 56.44 ETS 171.31 ZAE 96.60 ETE 181.50 ZAC 91.35 ETC 269.89 LVI 3.76

PLANETOCENTRIC CONIC
 C3 17.168 VHL 4.143 DLA -6.56 RAL 344.46 RAD 6641.5 VEL 11.713 PTH 6.75 VHP 3.628 DPA -35.37 RAP 287.64 ECC 1.2825
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 41 2967.33 -29.31 88.80 201.64 129.18 18 14 9 1967.5 -12.36 70.46
 60.00 18 11 18 2843.37 -24.89 81.41 205.42 122.78 18 58 41 1843.4 -10.01 61.51
 70.00 19 11 22 2666.71 -20.70 69.74 208.07 117.79 19 55 49 1666.7 -7.82 48.82
 80.00 20 26 50 2430.48 -17.64 53.40 209.66 114.49 21 7 20 1430.5 -6.18 31.89
 90.00 21 51 24 2157.62 -16.49 33.87 210.19 113.30 22 27 22 1157.6 -5.56 12.17
 100.00 23 9 42 1904.85 -17.64 14.77 209.66 114.49 23 41 27 904.9 -6.18 353.26
 110.00 0 14 45 1713.53 -20.70 358.66 208.07 117.79 0 43 18 713.5 -7.82 337.74

MID-COURSE EXECUTION ACCURACY
 SGT 7234.0 SGR 1144.7 SCS 1327.0
 RRT .9359 RRF .9359 RTF .9803
 SGB 7324.0 R23 .0954 R13 .9811
 SGI 7313.1 S62 398.8 THA 8.45

ORBIT DETERMINATION ACCURACY
 ST 142.7 SR 37.1 SS 105.0
 CRT .9557 CRS -.9551 CST -.9999
 LSA 180.7 MSA 10.7 SSA 1.4
 EL1 147.1 EL2 10.6 ALF 14.03

LAUNCH DATE APR 11 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 32.361 GAL -5.06 AZL 90.06 MCA 209.87 SMA 183.44 ECC .20235 INC .0614 V1 29.725
 RP 220.55 LAP .03 LOP 50.33 VP 21.909 GAP .28 AZP 89.94 TAL 329.10 TAP 178.87 RCA 146.32 APO 220.56 V2 24.925
 RC 190.711 GL -.50 GP -10.79 ZAL 143.09 ZAP 55.30 ETS 171.35 ZAE 95.36 ETE 181.21 ZAC 91.85 ETC 269.90 LVI 3.29

PLANETOCENTRIC CONIC
 C3 17.526 VHL 4.186 DLA -6.93 RAL 345.04 RAD 6641.7 VEL 11.728 PTH 6.76 VHP 3.661 DPA -34.87 RAP 287.59 ECC 1.2884
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 22 2964.76 -29.40 88.66 202.41 129.25 18 17 47 1964.8 -12.24 70.35
 60.00 18 15 23 2839.74 -24.75 81.20 206.21 122.88 19 2 42 1839.7 -9.85 61.33
 70.00 19 15 55 2661.75 -20.54 69.44 208.69 117.91 20 0 16 1661.7 -7.63 48.56
 80.00 20 31 47 2424.20 -17.46 53.02 210.49 114.61 21 12 12 1424.2 -5.97 31.54
 90.00 21 56 33 2130.74 -16.31 33.45 211.03 113.43 22 32 23 1150.7 -5.35 11.78
 100.00 23 14 39 1898.67 -17.46 14.38 210.49 114.61 23 46 18 898.7 -5.97 352.91
 110.00 0 19 17 1708.58 -20.54 358.36 208.69 117.91 0 47 45 708.6 -7.63 337.47

MID-COURSE EXECUTION ACCURACY
 SGT 7391.7 SGR 1085.5 SCS 1297.2
 RRT .9268 RRF .9480 RTF .9802
 SGB 7471.0 R23 .0900 R13 .9809
 SGI 7460.1 S62 403.9 THA 7.77

ORBIT DETERMINATION ACCURACY
 ST 145.6 SR 36.2 SS 103.7
 CRT .9487 CRS -.9494 CST -.9999
 LSA 182.0 MSA 11.2 SSA 1.4
 EL1 149.6 EL2 11.1 ALF 13.36

LAUNCH DATE APR 11 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 32.368 GAL -5.15 AZL 90.13 MCA 210.98 SMA 183.57 ECC .20353 INC .1320 V1 29.725
 RP 220.93 LAP .07 LOP 51.45 VP 21.874 GAP .09 AZP 89.89 TAL 328.67 TAP 179.63 RCA 146.21 APO 220.93 V2 24.884
 RC 193.341 GL -1.01 GP -10.32 ZAL 143.47 ZAP 54.21 ETS 171.39 ZAE 94.14 ETE 180.95 ZAC 92.32 ETC 269.91 LVI 2.83

PLANETOCENTRIC CONIC
 C3 17.899 VHL 4.231 DLA -7.25 RAL 345.60 RAD 6641.9 VEL 11.744 PTH 6.77 VHP 3.695 DPA -34.39 RAP 287.60 ECC 1.2946
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 48 2963.28 -29.34 88.57 203.18 129.30 18 21 12 1963.3 -12.16 70.28
 60.00 18 19 10 2837.30 -24.66 81.05 207.01 122.94 19 6 27 1837.3 -9.75 61.21
 70.00 19 20 0 2658.14 -20.43 69.22 209.71 117.99 20 4 24 1658.1 -7.50 48.36
 80.00 20 36 21 2419.45 -17.33 52.73 211.33 114.70 21 16 40 1419.4 -5.82 31.28
 90.00 22 1 18 2145.46 -16.16 33.13 211.87 113.53 22 37 2 1145.3 -5.18 11.49
 100.00 23 19 13 1893.92 -17.33 14.10 211.33 114.70 23 50 47 893.9 -5.82 352.65
 110.00 0 23 28 1704.96 -20.43 358.14 209.71 117.99 0 51 53 705.0 -7.50 337.28

MID-COURSE EXECUTION ACCURACY
 SGT 7545.4 SGR 1032.0 SCS 1267.0
 RRT .9164 RRF .9348 RTF .9800
 SGB 7615.7 R23 .0850 R13 .9806
 SGI 7604.6 S62 409.8 THA 7.17

ORBIT DETERMINATION ACCURACY
 ST 146.4 SR 35.5 SS 102.4
 CRT .9416 CRS -.9436 CST -.9999
 LSA 183.4 MSA 11.7 SSA 1.4
 EL1 152.2 EL2 11.6 ALF 12.76

LAUNCH DATE APR 11 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC
 RL 149.90 LAL .00 LOL 200.46 VL 32.376 GAL -5.25 AZL 90.20 MCA 212.09 SMA 183.70 ECC .20475 INC .1948 V1 29.725
 RP 221.31 LAP .10 LOP 52.55 VP 21.838 GAP -.08 AZP 89.83 TAL 328.23 TAP 180.32 RCA 146.09 APO 221.31 V2 24.842
 RC 195.978 GL -1.48 GP -9.89 ZAL 143.85 ZAP 53.15 ETS 171.43 ZAE 92.95 ETE 180.72 ZAC 92.75 ETC 269.93 LVI 2.40

PLANETOCENTRIC CONIC
 C3 18.287 VHL 4.276 DLA -7.53 RAL 346.15 RAD 6642.1 VEL 11.761 PTH 6.79 VHP 3.730 DPA -33.95 RAP 287.64 ECC 1.3010
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 2 2962.72 -29.31 88.54 203.96 129.32 18 24 25 1962.7 -12.14 70.26
 60.00 18 22 42 2835.95 -24.61 80.97 207.81 122.98 19 9 58 1835.9 -9.69 61.15
 70.00 19 23 59 2655.77 -20.35 69.08 210.53 118.04 20 8 15 1655.8 -7.41 48.24
 80.00 20 40 33 2416.06 -17.23 52.52 212.16 114.77 21 20 49 1416.1 -5.70 31.09
 90.00 22 5 36 2141.62 -16.06 32.90 212.71 113.60 22 41 18 1141.6 -5.06 11.27
 100.00 23 23 25 1890.53 -17.23 13.89 212.16 114.77 23 54 55 890.5 -5.70 352.46
 110.00 0 27 21 1702.59 -20.35 358.00 210.53 118.04 0 55 44 702.6 -7.41 337.16

MID-COURSE EXECUTION ACCURACY
 SGT 7696.5 SGR 983.7 SCS 1236.8
 RRT .9047 RRF .9232 RTF .9798
 SGB 7759.1 R23 .0803 R13 .9803
 SGI 7747.9 S62 416.4 THA 6.61

ORBIT DETERMINATION ACCURACY
 ST 151.3 SR 34.8 SS 101.1
 CRT .9342 CRS -.9376 CST -.9998
 LSA 184.9 MSA 12.2 SSA 1.3
 EL1 154.7 EL2 12.1 ALF 12.21

LAUNCH DATE APR 11 1971

FLIGHT TIME 290.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 659.729

EARTH TO MARS

RL 149.90 LAL .00 LOL 200.46 VL 32.384 GAL -5.34 AZL 90.25 HCA 213.19 SMA 183.83 ECC .20800 INC .2948 V1 29.728
 RP 221.89 LAP .14 LOP 93.66 VP 21.803 GAP -.26 AZP 89.79 TAL 327.79 TAP 180.99 RCA 145.96 APO 221.70 V2 24.801
 RC 198.621 GL -1.90 GP -9.48 ZAL 144.23 ZAP 32.13 ETS 171.48 ZAE 91.78 ETE 180.51 ZAC 93.16 ETC 269.96 LVI 1.98

PLANETOCENTRIC CONIC

C3 18.691 VHL 4.323 DLA -7.76 RAL 346.69 RAD 6642.2 VEL 11.778 PTM 6.80 VMP 3.766 DPA -33.54 RAP 287.73 ECC 1.3076
 LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 4 2963.04 -29.33 88.36 204.74 129.31 18 27 27 1963.0 -12.15 70.27
 60.00 18 26 0 2935.56 -24.60 80.95 208.61 122.99 19 13 13 1835.6 -9.67 61.13
 70.00 19 27 35 2654.50 -20.31 69.00 211.35 118.07 20 11 49 1654.5 -7.36 48.17
 80.00 20 44 25 2413.92 -17.17 52.39 212.99 114.81 21 24 39 1413.9 -5.63 30.97
 90.00 22 9 37 2139.07 -15.99 32.74 213.55 113.64 22 45 16 1139.1 -4.97 11.13
 100.00 23 27 17 1888.39 -17.17 13.76 212.99 114.81 23 58 46 888.4 -5.63 352.34
 110.00 0 30 57 1701.31 -20.31 357.92 211.35 116.07 0 59 18 701.3 -7.36 337.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.8551 TRA 4.6267 TC3-4.7942 BAV 1.2013 SGT 7843.7 SGR 940.2 SG3 1206.5 ST 154.2 SR 34.3 SS 99.9
 RDE .4991 RRA .4427 RC3 -.3579 FAU .12086 RRT .8914 RRF .9103 RTF .9795 CRT .9267 CR8 -.9315 C8T -.9998
 PDE 3.7305 PRA 9.0687 FC3-5.5981 BSP 13468 SGB 7899.9 R23 .0764 R13 .9799 LSA 186.4 MSA 12.6 S8A 1.3
 BDE 1.9211 BRA 4.6478 BC3 4.8076 FSP 2258 SGI 7888.5 SG2 423.8 TMA 6.12 EL1 157.4 EL2 12.6 ALP 11.71

LAUNCH DATE APR 12 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC

DISTANCE 391.465

EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 34.855 GAL -5.89 AZL 92.09 HCA 117.88 SMA 230.34 ECC .36204 INC 2.0927 V1 29.716
RP 207.38 LAP -1.85 LOP 319.34 VP 26.529 GAP 20.47 AZP 89.02 TAL 337.64 TAP 95.52 RCA 146.95 APO 313.74 V2 26.414
RC 56.241 GL -11.94 GP 2.42 ZAL 130.05 ZAP 170.75 ETS 184.65 ZAE 170.70 ETE 126.83 ZAC 103.38 ETC 276.17 LVI -18.08

PLANETOCENTRIC CONIC

C3 39.303 VHL 6.276 DLA -21.32 RAL 338.88 RAD 6650.4 VEL 12.620 PTH 7.47 VHP 10.041 DPA -17.06 RAP 312.70 ECC 1.6491
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 57 47 2868.64 -25.14 83.47 205.18 131.82 18 45 36 1868.6 -7.47 66.20
60.00 19 3 18 2694.40 -19.13 73.02 210.43 126.17 19 48 13 1694.4 -3.52 54.28
70.00 20 26 20 2450.32 -13.35 57.27 214.48 121.73 21 7 10 1450.3 .40 37.46
80.00 22 5 23 2140.31 -8.73 36.48 217.22 118.67 22 41 4 1140.3 3.61 15.92
90.00 23 41 28 1830.41 -6.83 14.71 218.24 117.51 24 11 58 830.4 4.94 353.97
100.00 0 52 11 1614.78 -8.73 357.85 217.22 118.67 1 19 6 614.8 3.61 337.29
110.00 1 29 42 1497.14 -13.35 346.19 214.48 121.73 1 54 39 497.1 .40 326.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7204 TRA -1.5156 TC3 -.0677 BAU .0661 SGT 1626.8 SGR 540.0 SG3 167.8 ST 39.7 SR 25.4 SS 28.2
RDE -.5549 RRA .1344 RC3 .1057 FAU .03837 RRT .1437 RRF -.1542 RTF -.8007 CRT .7817 CR8 .6323 CST .9762
FDE .4915 FRA 1.5964 FC3 -.8435 BSP 2660 SGB 1714.1 R23 -.0255 R13 -.8013 LSA 52.3 MSA 16.6 S3A 1.1
BDE .9093 BRA 1.5217 BC3 .1255 FSP 229 SG1 1628.9 SG2 533.7 THA 3.06 EL1 45.0 EL2 14.0 ALF 29.71

LAUNCH DATE APR 12 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 354.101

EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 34.414 GAL -5.74 AZL 92.12 HCA 119.14 SMA 226.52 ECC .35091 INC 2.1173 V1 29.716
RP 207.27 LAP -1.85 LOP 320.60 VP 26.357 GAP 19.98 AZP 88.97 TAL 337.69 TAP 96.83 RCA 147.03 APO 306.01 V2 26.426
RC 56.362 GL -11.94 GP 2.52 ZAL 130.06 ZAP 169.90 ETS 165.42 ZAE 171.17 ETE 121.75 ZAC 103.43 ETC 276.26 LVI -18.30

PLANETOCENTRIC CONIC

C3 37.387 VHL 6.114 DLA -21.86 RAL 339.14 RAD 6649.8 VEL 12.541 PTH 7.42 VHP 9.741 DPA -16.86 RAP 313.09 ECC 1.6153
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 0 20 2848.25 -24.21 82.42 204.68 132.29 18 47 48 1848.3 -6.45 65.33
60.00 19 6 24 2672.54 -18.25 71.84 209.94 126.58 19 50 56 1672.5 -2.56 53.24
70.00 20 30 10 2426.26 -12.49 55.95 214.01 122.05 21 10 37 1426.3 1.32 36.21
80.00 22 10 9 2113.39 -7.84 34.97 216.79 118.90 22 45 22 1113.4 4.51 14.44
90.00 23 46 44 1801.81 -5.93 13.10 217.83 117.70 24 16 46 801.8 5.85 352.25
100.00 0 56 58 1587.86 -7.84 358.34 216.79 118.90 1 23 24 587.9 4.51 335.60
110.00 1 33 33 1473.08 -12.49 344.87 214.01 122.05 1 58 6 473.1 1.32 325.12

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7196 TRA -1.5065 TC3 -.0623 BAU .0646 SGT 1663.6 SGR 536.7 SG3 178.9 ST 40.7 SR 25.2 SS 29.2
RDE -.5372 RRA .1233 RC3 .1132 FAU .03957 RRT .1569 RRF -.1684 RTF -.8071 CRT .7849 CR8 .6326 CST .9753
FDE .5093 FRA 1.6616 FC3 -.9162 BSP 2754 SGB 1748.0 R23 -.0278 R13 -.8078 LSA 53.5 MSA 16.7 S3A 1.1
BDE .8860 BRA 1.5116 BC3 .1292 FSP 246 SG1 1666.0 SG2 529.3 THA 3.22 EL1 45.8 EL2 13.9 ALF 28.86

LAUNCH DATE APR 12 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC

DISTANCE 356.874

EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 34.280 GAL -5.60 AZL 92.14 HCA 120.40 SMA 223.03 ECC .34040 INC 2.1426 V1 29.716
RP 207.18 LAP -1.85 LOP 321.87 VP 26.194 GAP 19.50 AZP 88.92 TAL 337.74 TAP 98.15 RCA 147.11 APO 298.94 V2 26.438
RC 56.568 GL -12.36 GP 2.62 ZAL 130.06 ZAP 169.04 ETS 166.06 ZAE 171.54 ETE 116.35 ZAC 103.49 ETC 276.36 LVI -18.52

PLANETOCENTRIC CONIC

C3 35.537 VHL 5.961 DLA -22.01 RAL 339.38 RAD 6649.1 VEL 12.467 PTH 7.36 VHP 9.449 DPA -16.65 RAP 313.46 ECC 1.5848
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 2 55 2827.84 -23.27 81.38 204.21 132.75 18 50 3 1827.8 -5.43 64.47
60.00 19 9 34 2650.57 -17.36 70.68 209.47 126.96 19 53 45 1650.6 -1.59 52.19
70.00 20 34 9 2401.93 -11.60 54.62 213.58 122.35 21 14 11 1401.9 2.25 34.93
80.00 22 15 7 2085.94 -6.94 33.44 216.39 119.11 22 49 53 1085.9 5.43 12.92
90.00 23 52 17 1772.50 -5.00 11.44 217.45 117.87 24 21 50 772.5 6.77 380.60
100.00 1 1 55 1560.41 -6.94 354.80 216.39 119.11 1 27 55 560.4 5.43 334.29
110.00 1 37 31 1448.78 -11.60 343.53 213.58 122.35 2 1 40 448.7 2.25 323.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7179 TRA -1.4980 TC3 -.0548 BAU .0632 SGT 1698.8 SGR 533.2 SG3 190.9 ST 41.6 SR 25.1 SS 30.2
RDE -.5201 RRA .1121 RC3 .1212 FAU .04083 RRT .1715 RRF -.1840 RTF -.1.39 CRT .7882 CR8 .6337 CST .9744
FDE .5283 FRA 1.7302 FC3 -.9948 BSP 2839 SGB 1780.5 R23 -.0302 R13 -.8146 LSA 54.7 MSA 16.7 S3A 1.2
BDE .8865 BRA 1.5002 BC3 .1330 FSP 265 SG1 1701.5 SG2 524.5 THA 3.40 EL1 46.6 EL2 13.8 ALF 28.06

LAUNCH DATE APR 12 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 359.788

EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 34.154 GAL -5.46 AZL 92.17 HCA 121.67 SMA 219.83 ECC .33046 INC 2.1687 V1 29.716
RP 207.09 LAP -1.85 LOP 323.13 VP 26.039 GAP 19.02 AZP 88.86 TAL 337.81 TAP 99.47 RCA 147.19 APO 292.48 V2 26.448
RC 56.856 GL -12.78 GP 2.73 ZAL 130.04 ZAP 168.16 ETS 166.60 ZAE 171.83 ETE 110.75 ZAC 103.55 ETC 276.44 LVI -18.74

PLANETOCENTRIC CONIC

C3 33.822 VHL 5.816 DLA -22.38 RAL 339.62 RAD 6648.5 VEL 12.399 PTH 7.31 VHP 9.167 DPA -16.44 RAP 313.81 ECC 1.5566
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 5 33 2807.42 -22.33 80.36 203.77 133.17 18 52 21 1807.4 -4.41 63.61
60.00 19 12 50 2628.51 -16.45 69.52 209.04 127.33 19 56 38 1628.5 -.62 51.13
70.00 20 38 16 2377.33 -10.70 53.28 213.17 122.63 21 17 54 1377.3 3.18 33.65
80.00 22 20 19 2057.94 -6.01 31.88 216.02 119.30 22 54 37 1057.9 6.36 11.36
90.00 0 2 5 1742.42 -4.04 9.76 217.10 118.01 0 31 7 742.4 7.71 348.89
100.00 1 7 7 1532.41 -6.01 353.25 216.02 119.30 1 32 40 532.4 6.36 332.73
110.00 1 41 38 1424.15 -10.70 342.20 213.17 122.63 2 5 23 424.2 3.18 322.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.7154 TRA -1.4845 TC3 -.0463 BAU .0622 SGT 1732.5 SGR 529.6 SG3 203.6 ST 42.5 SR 24.9 SS 31.3
RDE -.5037 RRA .1008 RC3 .1298 FAU .04216 RRT .1872 RRF -.2009 RTF -.8205 CRT .7915 CR8 .6348 CST .9735
FDE .5479 FRA 1.8023 FC3 -1.0792 BSP 2911 SGB 1811.6 R23 -.0328 R13 -.8213 LSA 55.9 MSA 16.7 S3A 1.2
BDE .8749 BRA 1.4879 BC3 .1376 FSP 286 SG1 1735.6 SG2 519.3 THA 3.60 EL1 47.3 EL2 13.6 ALF 27.32

LAUNCH DATE APR 12 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC						DISTANCE 362.773						EARTH TO MARS													
RL	149.94	LAL	.00	LOL	201.45	VL	34.034	GAL	-5.32	AZL	92.20	HCA	122.93	SMA	216.90	ECC	.32107	INC	2.1954	V1	29.716				
RP	207.01	LAP	-1.84	LOP	324.39	VP	25.891	GAP	18.53	AZP	88.81	TAL	337.88	TAP	100.81	RCA	147.26	APO	286.54	V2	26.437				
RC	57.228	GL	-13.22	GP	2.85	ZAL	130.01	ZAP	167.26	ETS	167.06	ZAE	172.03	ETE	105.11	ZAC	103.62	ETC	276.53	LVI	-16.97				
PLANETOCENTRIC CONIC						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY													
C3	32.232	VHL	5.677	DLA	-22.77	RAL	339.85	RAD	6647.9	VEL	12.335	PTH	7.26	VHP	8.894	DPA	-16.23	RAP	314.14	ECC	1.5303				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
	50.00	18	8	15	2787.01	-21.37	79.36	203.36	133.58	18	54	42	1787.0	-3.38	62.76										
	60.00	19	16	11	2806.35	-15.53	68.37	208.64	127.67	19	59	38	1606.4	.35	50.07										
	70.00	20	42	33	2352.47	-9.79	51.94	212.80	122.89	21	21	45	1352.5	4.13	32.35										
	80.00	22	25	47	2029.35	-5.05	30.29	215.68	119.47	22	59	37	1029.4	7.31	9.77										
	90.00	0	8	18	1711.50	-3.05	8.02	216.79	118.13	0	36	48	711.5	8.67	347.13										
	100.00	1	12	35	1503.82	-5.05	351.66	215.68	119.47	1	37	39	503.8	7.31	331.14										
	110.00	1	45	55	1399.29	-9.79	340.85	212.80	122.89	2	9	14	399.3	4.13	321.26										
TDE	-7.7120	TRA	-1.4719	TC3	-.0367	BAU	.0617	SQT	1764.4	SGR	526.0	SG3	217.2	ST	43.3	SR	24.7	SS	32.4						
RDE	-1.4878	RRA	.0895	RC3	.1385	FAU	.04358	RRT	.2041	RRF	-.2195	RTF	-.8268	CRT	.7950	CR8	.6361	C8T	.9727						
FDE	.5684	FRA	1.8776	FC3	-1.1706	BSP	2979	SG8	1841.2	R23	-.0358	R13	-.8277	LSA	57.0	MSA	16.6	SSA	1.2						
BDE	.8631	BRA	1.4746	BC3	.1433	FSP	307	SG1	1768.0	SG2	513.8	THA	3.80	EL1	48.0	EL2	13.5	ALF	26.63						

LAUNCH DATE APR 12 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC						DISTANCE 365.877						EARTH TO MARS													
RL	149.94	LAL	.00	LOL	201.45	VL	33.921	GAL	-5.19	AZL	92.22	HCA	124.20	SMA	214.21	ECC	.31219	INC	2.2229	V1	29.716				
RP	206.94	LAP	-1.84	LOP	325.66	VP	25.751	GAP	18.09	AZP	88.75	TAL	337.96	TAP	102.15	RCA	147.34	APO	281.09	V2	26.466				
RC	57.675	GL	-13.67	GP	2.97	ZAL	129.95	ZAP	165.34	ETS	167.46	ZAE	172.15	ETE	99.59	ZAC	103.70	ETC	276.61	LVI	-19.19				
PLANETOCENTRIC CONIC						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY													
C3	30.759	VHL	5.546	DLA	-23.17	RAL	340.07	RAD	6647.3	VEL	12.276	PTH	7.22	VHP	8.629	DPA	-16.02	RAP	314.46	ECC	1.5062				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
	50.00	18	11	1	2766.64	-20.41	78.37	202.98	133.96	18	57	8	1766.6	-2.36	61.90										
	60.00	19	19	38	2584.13	-14.80	67.22	208.26	127.99	20	2	43	1584.1	1.33	49.01										
	70.00	20	46	59	2327.34	-8.86	50.59	212.46	125.12	21	25	47	1327.3	5.08	31.03										
	80.00	22	31	32	2000.14	-4.07	28.68	215.39	119.60	23	4	52	1000.1	8.27	8.14										
	90.00	0	14	50	1679.65	-2.02	6.24	216.52	118.21	0	42	50	679.7	9.65	345.30										
	100.00	1	18	20	1474.61	-4.07	350.05	215.39	119.60	1	42	55	474.6	8.27	329.50										
	110.00	1	50	22	1374.15	-8.86	339.50	212.46	125.12	2	13	16	374.2	5.08	319.94										
TDE	-7.7086	TRA	-1.4587	TC3	-.0282	BAU	.0618	SQT	1795.4	SGR	522.3	SG3	231.8	ST	44.1	SR	24.4	SS	33.5						
RDE	-1.4723	RRA	.0780	RC3	.1479	FAU	.04509	RRT	.2228	RRF	-.2396	RTF	-.8329	CRT	.7989	CR8	.6376	C8T	.9717						
FDE	.5896	FRA	1.9569	FC3	-1.2891	BSP	3043	SG8	1869.9	R23	-.0388	R13	-.8339	LSA	58.2	MSA	16.6	SSA	1.2						
BDE	.8517	BRA	1.4608	BC3	.1502	FSP	331	SG1	1799.5	SG2	508.0	THA	4.03	EL1	48.6	EL2	13.3	ALF	28.98						

LAUNCH DATE APR 12 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC						DISTANCE 369.071						EARTH TO MARS													
RL	149.94	LAL	.00	LOL	201.45	VL	33.814	GAL	-5.08	AZL	92.25	HCA	125.46	SMA	211.74	ECC	.30380	INC	2.2512	V1	29.716				
RP	206.87	LAP	-1.83	LOP	326.93	VP	25.618	GAP	17.84	AZP	88.89	TAL	338.05	TAP	103.51	RCA	147.41	APO	276.06	V2	26.473				
RC	58.203	GL	-14.13	GP	3.10	ZAL	129.89	ZAP	165.40	ETS	167.79	ZAE	172.18	ETE	94.37	ZAC	103.79	ETC	276.69	LVI	-19.42				
PLANETOCENTRIC CONIC						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY													
C3	29.394	VHL	5.422	DLA	-23.58	RAL	340.30	RAD	6646.8	VEL	12.220	PTH	7.17	VHP	8.372	DPA	-15.80	RAP	314.75	ECC	1.4838				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
	50.00	18	13	51	2746.31	-19.45	77.40	202.63	134.32	18	59	37	1746.3	-1.34	61.05										
	60.00	19	23	12	2581.84	-13.87	66.08	207.93	128.29	20	5	54	1581.8	2.31	47.95										
	70.00	20	51	37	2301.93	-7.91	49.23	212.15	123.33	21	29	59	1301.9	6.05	29.69										
	80.00	22	37	36	1970.23	-3.06	27.03	215.14	119.71	23	10	26	970.2	9.25	6.45										
	90.00	0	21	49	1646.76	-.96	4.41	216.30	118.26	0	49	16	646.8	10.65	343.40										
	100.00	1	24	24	1444.70	-3.08	348.40	215.14	119.71	1	48	28	444.7	9.25	327.82										
	110.00	1	54	59	1348.75	-7.91	338.15	212.15	123.33	2	17	28	348.7	6.05	318.60										
TDE	-7.7053	TRA	-1.4454	TC3	-.0181	BAU	.0623	SQT	1825.8	SGR	518.8	SG3	247.0	ST	44.9	SR	24.2	SS	34.7						
RDE	-1.4578	RRA	.0663	RC3	.1578	FAU	.04688	RRT	.2429	RRF	-.2615	RTF	-.8384	CRT	.8031	CR8	.6396	C8T	.9707						
FDE	.6117	FRA	2.0400	FC3	-1.3749	BSP	3107	SG8	1898.1	R23	-.0424	R13	-.8394	LSA	59.4	MSA	16.6	SSA	1.2						
BDE	.8409	BRA	1.4489	BC3	.1586	FSP	356	SG1	1830.5	SG2	502.0	THA	4.27	EL1	49.3	EL2	13.1	ALF	25.36						

LAUNCH DATE APR 12 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC						DISTANCE 372.347						EARTH TO MARS													
RL	149.94	LAL	.00	LOL	201.45	VL	33.713	GAL	-4.94	AZL	92.28	HCA	126.73	SMA	209.45	ECC	.29587	INC	2.2806	V1	29.716				
RP	206.82	LAP	-1.83	LOP	328.20	VP	25.491	GAP	17.20	AZP	88.64	TAL	336.14	TAP	104.87	RCA	147.48	APO	271.43	V2	26.479				
RC	58.807	GL	-14.60	GP	3.24	ZAL	129.80	ZAP	164.43	ETS	168.08	ZAE	172.16	ETE	89.58	ZAC	103.89	ETC	276.76	LVI	-19.64				
PLANETOCENTRIC CONIC						MID-COURSE EXECUTION ACCURACY						ORBIT DETERMINATION ACCURACY													
C3	28.129	VHL	5.304	DLA	-24.01	RAL	340.51	RAD	6646.3	VEL	12.169	PTH	7.13	VHP	8.123	DPA	-15.58	RAP	315.02	ECC	1.4629				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
	50.00	18	16	45	2728.03	-18.48	76.45	202.32	134.66	19	2	11	1728.0	-.32	60.21										
	60.00	19	26	53	2539.50	-12.72	64.95	207.63	128.57	20	9	12	1539.5	3.29	46.88										
	70.00	20	56	26	2276.23	-6.95	47.87	211.89	123.52	21	34	22	1276.2	7.09	28.33										
	80.00	22	44	0	1939.56	-2.03	25.35	214.93	119.80	23	16	20	939.6	10.24	4.72										
	90.00	0	29	17	1612.86	-.14	2.51	216.13	118.28	0	56	10	612.7	11.68	341.42										
	100.00	1	30	48	1414.03	-2.03	346.71	214.93	119.80	1	54	22	414.0	10.24	326.09										
	110.00	1	59	48	1323.05	-6.95	336.78	211.89	123.52	2	21	51	323.1	7.01	317.25										
TDE	-7.7011	TRA	-1.4307	TC3	-.0041	BAU	.0633	SQT	1853.7	SGR	515.5	SG3	263.4	ST	45.6	SR	24.0	SS	35.8						
RDE	-1.4437	RRA	.0545	RC3	.1683	FAU	.04840	RRT	.2649	RRF	-.2854	RTF	-.8438	CRT	.8075	CR8	.6419	C8T	.9696						
FDE	.6348	FRA	2.1273	FC3	-1.4896	BSP	3170	SG8	1924.1	R23	-.0463	R13	-.8450	LSA	60.5	MSA	16.6	SSA	1.2						
BDE	.8297	BRA	1.4317	BC3	.1684	FSP	383	SG1	1859.1	SG2	495.7	THA	4.54	EL1	49.9	EL2	12.9	ALF	24.80						

LAUNCH DATE APR 12 1971 FLIGHT TIME 140.00 ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC DISTANCE 378.697 EARTH TO MARS
 RL 149.94 LAL .00 LOL 201.45 VL 33.617 GAL -4.82 AZL 92.31 HCA 128.00 SMA 207.35 ECC .28838 INC 2.3109 V1 29.716
 RP 206.77 LAP -1.82 LOP 329.46 VP 25.370 GAP 16.76 AZP 88.58 TAL 338.24 TAP 106.23 RCA 147.55 APO 267.14 V2 26.485
 RC 59.485 GL -15.08 GP 3.39 ZAL 129.71 ZAP 163.45 ETS 166.32 ZAE 172.08 ETE 85.33 ZAC 104.00 ETC 276.83 LVI -19.87

PLANETOCENTRIC CONIC
 C3 28.958 VHL 5.192 DLA -24.45 RAL 340.73 RAD 6645.8 VEL 12.121 PTH 7.09 VHP 7.882 DPA -15.36 RAP 315.27 ECC 1.4437
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 43 2705.62 -17.51 75.51 202.04 134.98 19 4 49 1705.8 .70 59.36
 60.00 19 30 41 2517.10 -11.77 63.83 207.36 128.83 20 12 36 1517.1 4.28 45.60
 70.00 21 1 27 2250.23 -5.97 46.49 211.66 123.69 21 38 57 1250.2 7.99 26.93
 80.00 22 50 48 1908.02 -.96 23.61 214.77 119.84 23 22 36 908.0 11.25 2.92
 90.00 0 37 19 1377.12 1.28 .52 216.01 118.25 1 3 37 577.1 12.73 339.34
 100.00 1 37 36 1382.49 -.96 344.98 214.77 119.84 2 0 36 382.5 11.25 324.29
 110.00 2 4 49 1297.05 -5.97 335.41 211.66 123.69 2 26 26 297.1 7.99 315.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6964 TRA-1.4151 TC3 .0081 BAU .0648 SGT 1879.7 SGR 512.5 SG3 280.8 ST 46.2 SR 23.7 SS 37.0
 RDE -.4301 RRA .0425 RC3 .1795 FAU .05022 RRT .2885 RRF -.3111 RTF -.8488 CRT .8123 CRS .6444 CST .9685
 FDE .6583 FRA 2.2186 FC3-1.6126 BSP 3223 SGB 1948.3 R23 -.0506 R13 -.8501 LSA 61.6 MSA 16.5 S8A 1.2
 BDE .8185 BRA 1.4158 BC3 .1797 FSP 411 SGI 1885.9 SG2 489.1 THA 4.82 EL1 50.4 EL2 12.7 ALF 24.28

LAUNCH DATE APR 12 1971 FLIGHT TIME 142.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 379.115 EARTH TO MARS
 RL 149.94 LAL .00 LOL 201.45 VL 33.527 GAL -4.71 AZL 92.34 HCA 129.26 SMA 205.40 ECC .28130 INC 2.3423 V1 29.716
 RP 206.74 LAP -1.61 LOP 330.73 VP 25.254 GAP 16.33 AZP 88.52 TAL 338.34 TAP 107.61 RCA 147.62 APO 263.18 V2 26.489
 RC 60.233 GL -15.57 GP 3.54 ZAL 129.60 ZAP 162.44 ETS 168.53 ZAE 171.98 ETE 81.67 ZAC 104.13 ETC 276.89 LVI -20.11

PLANETOCENTRIC CONIC
 C3 25.875 VHL 5.087 DLA -24.90 RAL 340.94 RAD 6645.4 VEL 12.076 PTH 7.06 VHP 7.648 DPA -15.13 RAP 315.49 ECC 1.4258
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 47 2685.69 -16.54 74.58 201.79 135.27 19 7 33 1685.7 1.71 58.52
 60.00 19 34 37 2494.65 -10.81 62.71 207.13 129.07 20 16 11 1494.7 5.26 44.72
 70.00 21 6 42 2223.90 -4.97 45.10 211.48 123.83 21 43 48 1223.9 8.97 25.54
 80.00 22 58 2 1875.48 .14 21.83 214.66 119.86 23 29 17 875.5 12.28 1.05
 90.00 0 46 1 1539.86 2.48 358.44 215.96 118.18 1 11 41 539.9 13.81 337.14
 100.00 1 44 49 1349.95 .14 343.20 214.66 119.86 2 7 19 350.0 12.28 322.42
 110.00 2 10 4 1270.72 -4.97 334.02 211.48 123.83 2 31 15 270.7 8.97 314.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6920 TRA-1.3993 TC3 .0201 BAU .0665 SGT 1904.6 SGR 509.9 SG3 299.4 ST 46.9 SR 23.5 SS 38.2
 RDE -.4171 RRA .0302 RC3 .1912 FAU .05213 RRT .3140 RRF -.3390 RTF -.8534 CRT .0176 CRS .6477 CST .9673
 FDE .6834 FRA 2.3150 FC3-1.7443 BSP 3278 SGB 1971.7 R23 -.0555 R13 -.8549 LSA 62.8 MSA 16.5 S8A 1.2
 BDE .8080 BRA 1.3996 BC3 .1923 FSP 442 SGI 1911.8 SG2 482.3 THA 5.13 EL1 50.9 EL2 12.5 ALF 23.79

LAUNCH DATE APR 12 1971 FLIGHT TIME 144.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 382.595 EARTH TO MARS
 RL 149.94 LAL .00 LOL 201.45 VL 33.442 GAL -4.59 AZL 92.37 HCA 130.53 SMA 203.60 ECC .27461 INC 2.3748 V1 29.716
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.144 GAP 15.92 AZP 88.46 TAL 338.45 TAP 108.98 RCA 147.69 APO 259.51 V2 26.492
 RC 61.050 GL -16.08 GP 3.71 ZAL 129.47 ZAP 161.41 ETS 168.70 ZAE 171.85 ETE 78.62 ZAC 104.26 ETC 276.95 LVI -20.34

PLANETOCENTRIC CONIC
 C3 24.871 VHL 4.987 DLA -25.37 RAL 341.15 RAD 6644.9 VEL 12.035 PTH 7.02 VHP 7.422 DPA -14.90 RAP 315.69 ECC 1.4093
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 25 56 2665.59 -15.57 73.66 201.58 135.55 19 10 22 1665.6 2.72 57.68
 60.00 19 38 41 2472.10 -9.84 61.60 206.95 129.28 20 19 53 1472.1 6.25 43.64
 70.00 21 12 12 2197.15 -3.95 43.70 211.34 123.95 21 48 49 1197.2 9.96 24.10
 80.00 23 5 46 1841.70 1.29 19.97 214.61 119.83 23 36 28 841.7 13.33 359.09
 90.00 0 35 32 1500.37 3.75 358.23 215.97 118.05 1 20 33 500.4 14.93 334.78
 100.00 1 52 34 1316.17 1.29 341.34 214.61 119.83 2 14 30 316.2 13.33 320.46
 110.00 2 15 35 1243.97 -3.95 332.82 211.34 123.95 2 36 19 244.0 9.96 313.02

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.8758 TRA-1.3711 TC3 .0507 BAU .0699 SGT 1909.2 SGR 507.8 SG3 319.0 ST 46.8 SR 23.2 SS 39.5
 RDE -.4045 RRA .0179 RC3 .2040 FAU .05421 RRT .3419 RRF -.3687 RTF -.8526 CRT .8210 CRS .6508 CST .9688
 FDE .7083 FRA 2.4152 FC3-1.8871 BSP 3186 SGB 1975.6 R23 -.0578 R13 -.8642 LSA 63.4 MSA 16.5 S8A 1.2
 BDE .7876 BRA 1.3713 BC3 .2102 FSP 474 SGI 1917.6 SG2 475.1 THA 5.54 EL1 50.8 EL2 12.2 ALF 23.83

LAUNCH DATE APR 12 1971 FLIGHT TIME 146.00 ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC DISTANCE 386.132 EARTH TO MARS
 RL 149.94 LAL .00 LOL 201.45 VL 33.361 GAL -4.49 AZL 92.41 HCA 131.80 SMA 201.93 ECC .26830 INC 2.4088 V1 29.716
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.039 GAP 15.51 AZP 88.39 TAL 338.58 TAP 110.38 RCA 147.75 APO 256.11 V2 26.495
 RC 61.933 GL -16.60 GP 3.89 ZAL 129.34 ZAP 160.38 ETS 169.84 ZAE 171.71 ETE 76.18 ZAC 104.41 ETC 277.01 LVI -20.58

PLANETOCENTRIC CONIC
 C3 23.945 VHL 4.893 DLA -25.85 RAL 341.37 RAD 6644.5 VEL 11.997 PTH 6.99 VHP 7.203 DPA -14.67 RAP 315.86 ECC 1.3941
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 11 2645.65 -14.60 72.76 201.42 135.80 19 13 17 1645.7 3.72 56.85
 60.00 19 42 55 2449.57 -8.86 60.49 206.80 129.48 20 23 44 1449.6 7.23 42.54
 70.00 21 17 58 2170.08 -2.92 42.28 211.26 124.04 21 54 8 1170.1 10.96 22.64
 80.00 23 14 6 1806.62 2.47 18.05 214.62 119.78 23 44 12 806.6 14.40 357.04
 90.00 1 6 3 1458.24 5.10 353.87 216.06 117.85 1 30 21 458.2 16.09 332.24
 100.00 2 0 53 1281.10 2.47 339.42 214.62 119.76 2 22 14 281.1 14.40 318.41
 110.00 2 21 20 1216.90 -2.92 331.20 211.26 124.04 2 41 37 216.9 10.96 311.56

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6764 TRA-1.3594 TC3 .0538 BAU .0716 SGT 1938.7 SGR 506.6 SG3 340.0 ST 47.7 SR 23.0 SS 40.7
 RDE -.3928 RRA .0048 RC3 .2171 FAU .05639 RRT .3710 RRF -.4009 RTF -.8638 CRT .8284 CRS .6551 CST .9649
 FDE .7351 FRA 2.5218 FC3-2.0387 BSP 3304 SGB 2003.8 R23 -.0652 R13 -.8656 LSA 64.7 MSA 16.4 S8A 1.2
 BDE .7822 BRA 1.3594 BC3 .2236 FSP 509 SGI 1948.3 SG2 468.1 THA 5.88 EL1 51.6 EL2 11.9 ALF 23.09

LAUNCH DATE APR 12 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 33.285 GAL -4.38 AZL 92.44 HCA 133.07 SMA 200.30 ECC .26235 INC 2.4438 V1 29.718
RP 206.68 LAP -1.79 LOP 334.54 VP 24.939 GAP 15.10 AZP 88.33 TAL 336.68 TAP 111.75 RCA 147.81 APO 252.95 V2 26.496
RC 82.879 GL -17.13 GP 4.08 ZAL 129.19 ZAP 159.27 ETS 168.96 ZAE 171.57 ETE 74.34 ZAC 104.58 ETC 277.06 LVI -20.82

DISTANCE 389.721

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.090 VHL 4.805 DLA -26.34 RAL 341.58 RAD 8644.2 VEL 11.961 PTH 6.96 VHP 6.991 DPA -14.43 RAP 316.00 ECC 1.3800
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 32 33 2625.79 -13.62 71.88 201.29 136.04 19 16 19 1625.8 4.71 56.01
60.00 19 47 18 2426.96 -7.88 59.38 206.70 129.65 20 27 45 1427.0 8.21 41.44
70.00 21 24 2 2142.54 -1.87 40.84 211.22 124.11 21 59 44 1142.5 11.96 21.14
80.00 23 23 7 1769.81 3.72 16.02 214.70 119.65 23 52 37 769.8 15.51 354.87
90.00 1 17 54 1412.31 6.55 351.28 216.25 117.57 1 41 26 412.3 17.32 329.43
100.00 2 9 55 1244.28 3.72 337.39 214.70 119.65 2 30 39 244.3 15.51 316.24
110.00 2 27 24 1189.36 -1.87 329.76 211.22 124.11 2 47 13 189.4 11.96 310.06

DIFFERENTIAL CORRECTIONS

TDE -.6747 TRA-1.3440 TC3 .0688 BAU .0737
RDE -.3616 RRA -.0086 RC3 .2210 FAU .05870
FDE .7641 FRA 2.6336 FC3-2.2008 BSP 3387
BDE .7751 BRA 1.3441 BC3 .2389 FSP 546

MID-COURSE EXECUTION ACCURACY

SGT 1981.8 SGR 506.4 SG3 362.3
RRR .4022 RRF -.4353 RTF -.8659
SGB 2026.1 R23 -.0728 R13 -.8681
SG1 1973.0 SG2 461.0 THA 6.27

ORBIT DETERMINATION ACCURACY

ST 48.3 SR 22.8 SS 42.1
CRT .8361 CRS .6605 CST .9632
LSA 66.0 MSA 16.4 SSA 1.2
EL1 52.2 EL2 11.6 ALF 22.65

LAUNCH DATE APR 12 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 33.213 GAL -4.29 AZL 92.48 HCA 134.34 SMA 198.94 ECC .25672 INC 2.4805 V1 29.716
RP 206.67 LAP -1.77 LOP 335.81 VP 24.843 GAP 14.71 AZP 88.27 TAL 336.79 TAP 113.13 RCA 147.87 APO 250.02 V2 26.496
RC 83.888 GL -17.67 GP 4.29 ZAL 129.03 ZAP 158.16 ETS 169.06 ZAE 171.44 ETE 73.09 ZAC 104.76 ETC 277.10 LVI -21.07

DISTANCE 393.359

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.302 VHL 4.723 DLA -26.85 RAL 341.80 RAD 8643.8 VEL 11.929 PTH 6.93 VHP 6.786 DPA -14.18 RAP 316.11 ECC 1.3670
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 36 1 2608.02 -12.65 71.00 201.20 136.26 19 19 27 1606.0 5.70 55.18
60.00 19 51 52 2404.27 -6.90 58.28 206.65 129.81 20 31 56 1404.3 9.20 40.35
70.00 21 30 25 2114.47 -.80 39.38 211.24 124.15 22 5 40 1114.5 12.98 19.60
80.00 23 32 59 1730.81 5.03 13.87 214.86 119.47 24 1 50 730.8 16.65 352.54
90.00 1 31 39 1360.85 8.16 348.36 216.56 117.17 1 54 19 360.8 18.64 326.23
100.00 2 19 47 1205.28 5.03 335.24 214.86 119.47 2 39 52 205.3 16.65 313.91
110.00 2 33 48 1161.29 -.80 328.30 211.24 124.15 2 53 9 161.3 12.98 308.51

DIFFERENTIAL CORRECTIONS

TDE -.6711 TRA-1.3267 TC3 .0688 BAU .0761
RDE -.3709 RRA -.0225 RC3 .2457 FAU .06111
FDE .7938 FRA 2.7518 FC3-2.3724 BSP 3446
BDE .7668 BRA 1.3269 BC3 .2551 FSP 586

MID-COURSE EXECUTION ACCURACY

SGT 1980.4 SGR 507.3 SG3 385.9
RRR .4348 RRF -.4714 RTF -.8683
SGB 2044.3 R23 -.0810 R13 -.8708
SG1 1993.3 SG2 453.9 THA 6.70

ORBIT DETERMINATION ACCURACY

ST 48.9 SR 22.5 SS 43.4
CRT .8439 CRS .6664 CST .9615
LSA 67.2 MSA 16.4 SSA 1.2
EL1 52.6 EL2 11.2 ALF 22.30

LAUNCH DATE APR 12 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 33.145 GAL -4.19 AZL 92.52 HCA 135.61 SMA 197.61 ECC .25142 INC 2.5188 V1 29.716
RP 206.68 LAP -1.76 LOP 337.08 VP 24.752 GAP 14.33 AZP 88.20 TAL 336.91 TAP 114.52 RCA 147.93 APO 247.29 V2 26.496
RC 64.956 GL -18.23 GP 4.51 ZAL 128.86 ZAP 157.02 ETS 169.13 ZAE 171.32 ETE 72.40 ZAC 104.96 ETC 277.14 LVI -21.33

DISTANCE 397.040

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.576 VHL 4.645 DLA -27.37 RAL 342.03 RAD 8643.5 VEL 11.898 PTH 6.91 VHP 6.587 DPA -13.93 RAP 316.19 ECC 1.3551
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 37 2586.33 -11.86 70.14 201.16 136.46 19 22 43 1586.3 6.69 54.35
60.00 19 58 37 2381.49 -5.90 57.18 206.64 129.94 20 36 19 1381.5 10.18 39.21
70.00 21 37 11 2085.77 .30 37.88 211.32 124.15 22 11 57 1085.8 14.00 18.01
80.00 23 43 57 1688.92 6.42 11.55 215.11 119.22 24 12 6 688.9 17.84 330.00
90.00 1 48 26 1360.19 10.03 344.88 217.04 116.58 2 10 6 300.2 20.12 322.40
100.00 2 30 45 1163.40 6.42 332.91 215.11 119.22 2 50 9 163.4 17.84 311.37
110.00 2 40 34 1132.59 .30 326.80 211.32 124.15 2 59 26 132.6 14.00 306.92

DIFFERENTIAL CORRECTIONS

TDE -.6860 TRA-1.3086 TC3 .0788 BAU .0788
RDE -.3608 RRA -.0369 RC3 .2615 FAU .06373
FDE .8244 FRA 2.8750 FC3-2.5572 BSP 3485
BDE .7575 BRA 1.3071 BC3 .2731 FSP 628

MID-COURSE EXECUTION ACCURACY

SGT 1993.5 SGR 509.6 SG3 411.0
RRR .4690 RRF -.5092 RTF -.808
SGB 2057.6 R23 -.0897 R13 -.8736
SG1 2008.5 SG2 448.7 THA 7.19

ORBIT DETERMINATION ACCURACY

ST 49.3 SR 22.3 SS 44.8
CRT .8521 CRS .6730 CST .9597
LSA 68.2 MSA 16.4 SSA 1.2
EL1 53.0 EL2 10.8 ALF 22.03

LAUNCH DATE APR 12 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 33.081 GAL -4.10 AZL 92.56 HCA 136.88 SMA 196.37 ECC .24642 INC 2.5589 V1 29.716
RP 206.70 LAP -1.75 LOP 338.35 VP 24.664 GAP 13.95 AZP 88.13 TAL 339.02 TAP 115.90 RCA 147.98 APO 244.76 V2 26.494
RC 86.082 GL -18.79 GP 4.74 ZAL 128.69 ZAP 155.85 ETS 169.19 ZAE 171.21 ETE 72.26 ZAC 105.18 ETC 277.18 LVI -21.59

DISTANCE 400.763

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.909 VHL 4.573 DLA -27.90 RAL 342.26 RAD 8643.2 VEL 11.871 PTH 6.88 VHP 6.395 DPA -13.67 RAP 316.24 ECC 1.3441
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 43 20 2566.73 -10.72 69.28 201.16 136.64 19 26 7 1566.7 7.67 53.51
60.00 20 1 35 2358.59 -4.90 56.07 206.69 130.05 20 40 54 1358.6 11.16 38.07
70.00 21 44 22 2056.34 1.42 36.35 211.46 124.13 22 18 38 1056.3 15.04 16.36
80.00 0 0 18 1643.05 7.94 8.99 215.47 118.88 0 27 41 643.1 19.11 347.18
90.00 2 11 41 1219.37 12.45 340.18 217.83 115.60 2 32 0 219.4 21.94 317.17
100.00 2 43 10 1117.52 7.94 330.35 215.47 118.88 3 1 48 117.5 19.11 308.55
110.00 2 47 44 1103.16 1.42 325.26 211.46 124.13 3 6 8 103.2 15.04 305.28

DIFFERENTIAL CORRECTIONS

TDE -.6605 TRA-1.2855 TC3 .0879 BAU .0815
RDE -.3513 RRA -.0520 RC3 .2781 FAU .06646
FDE .8568 FRA 3.0055 FC3-2.7516 BSP 3518
BDE .7481 BRA 1.2861 BC3 .2917 FSP 673

MID-COURSE EXECUTION ACCURACY

SGT 2003.3 SGR 513.7 SG3 437.5
RRR .5044 RRF -.5484 RTF -.8731
SGB 2068.1 R23 -.0993 R13 -.8764
SG1 2020.8 SG2 439.7 THA 7.74

ORBIT DETERMINATION ACCURACY

ST 49.6 SR 22.0 SS 46.2
CRT .8609 CRS .6807 CST .9578
LSA 69.3 MSA 16.4 SSA 1.2
EL1 53.3 EL2 10.4 ALF 21.81

LAUNCH DATE APR 12 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 15 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 33.021 GAL -4.02 AZL 92.60 HCA 138.15 SMA 195.22 ECC .24171 INC 2.6009 V1 29.716
 RP 206.72 LAP -1.74 LOP 339.02 VP 24.580 GAP 13.58 AZP 88.06 TAL 339.14 TAP 117.29 RCA 148.03 APO 242.40 V2 26.491
 RC 67.285 GL -19.38 GP 5.00 ZAL 128.50 ZAP 134.64 ETS 169.22 ZAE 171.11 ETE 72.67 ZAC 105.42 ETC 277.20 LVI -21.85

Planeto-centric Conic: C3 20.298 VHL 4.505 DLA -28.44 RAL 342.49 RAD 6643.0 VEL 11.845 PTH 6.86 VHP 6.210 DPA -13.40 RAP 316.25 ECC 1.3341
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 47 13 2547.21 -9.75 88.44 201.20 136.80 19 29 40 1547.2 8.64 52.68
 60.00 20 6 47 2335.54 -3.89 54.97 206.79 130.14 20 45 43 1335.5 12.15 36.92
 70.00 21 52 2 2026.03 2.58 34.76 211.68 124.07 22 25 48 1026.0 16.10 14.63
 80.00 0 14 49 1591.19 9.63 6.07 215.97 118.40 0 41 20 591.2 20.48 343.94
 86.81 2 26 27 1167.07 16.47 338.26 219.39 113.52 2 45 54 167.1 24.76 314.25
 100.00 2 57 41 1065.66 9.63 327.43 215.97 118.40 3 15 27 65.7 20.48 305.31
 110.00 2 55 24 1072.85 2.58 323.68 211.68 124.07 3 13 17 72.9 16.10 303.56

Differential Corrections: TDE -.6547 TRA-1.2630 TC3 .0955 BAU .0844 SGT 2009.3 SGR 519.8 SG3 465.6 ORBIT DETERMINATION ACCURACY
 RDE -.3423 RRA -.0677 RC3 .2959 FAU .06936 RRT .5403 RRF -.5886 RTF -.8749 CRT .8704 CRS .6894 CST .9558
 FDE .8905 FRA 3.1419 FC3-2.9583 BSP 3540 SGB 2075.5 R23 -.1104 R13 -.8788 LSA 70.4 MSA 16.4 SBA 1.1
 BDE .7388 BRA 1.2648 B-C .3109 FSP 720 SG1 2029.8 SG2 433.0 THA 8.34 EL1 53.5 EL2 10.0 ALF 21.66

LAUNCH DATE APR 12 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.964 GAL -3.93 AZL 92.64 HCA 139.41 SMA 194.15 ECC .23727 INC 2.6450 V1 29.716
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.500 GAP 13.22 AZP 87.99 TAL 339.26 TAP 118.67 RCA 148.08 APO 240.21 V2 26.487
 RC 68.502 GL -19.97 GP 5.27 ZAL 128.30 ZAP 153.40 ETS 169.24 ZAE 171.01 ETE 73.62 ZAC 105.68 ETC 277.23 LVI -22.13

Planeto-centric Conic: C3 19.739 VHL 4.443 DLA -29.00 RAL 342.74 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 6.031 DPA -13.13 RAP 316.22 ECC 1.3249
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 51 15 2527.76 -8.78 87.60 201.30 136.95 19 33 23 1527.8 9.61 51.84
 60.00 20 12 14 2312.32 -2.87 53.85 206.94 130.22 20 50 48 1312.3 13.13 35.75
 70.00 22 0 13 1994.65 3.77 33.13 211.96 123.97 22 33 27 994.7 17.17 12.86
 80.00 0 32 51 1528.92 11.63 2.52 216.68 117.70 0 58 20 528.9 22.03 339.97
 83.29 1 58 35 1253.64 16.96 344.84 219.34 113.88 2 19 29 253.6 25.34 320.77
 100.00 3 15 42 1003.39 11.63 323.89 216.68 117.70 3 32 26 3.4 22.03 301.33
 110.00 3 3 37 1041.47 3.77 322.04 211.96 123.97 3 20 58 41.5 17.17 301.77

Differential Corrections: TDE -.6491 TRA-1.2394 TC3 .1025 BAU .0874 SGT 2012.1 SGR 528.4 SG3 495.4 ORBIT DETERMINATION ACCURACY
 RDE -.3340 RRA -.0843 RC3 .3149 FAU .07243 RRT .5767 RRF -.6294 RTF -.8765 CRT .8806 CRS .6992 CST .9536
 FDE .9261 FRA 3.2859 FC3-3.1769 BSP 3557 SGB 2080.3 R23 -.1224 R13 -.8810 LSA 71.5 MSA 16.4 SBA 1.1
 BDE .7299 BRA 1.2422 BC3 .3312 FSP 771 SG1 2036.1 SG2 426.6 THA 9.01 EL1 53.7 EL2 9.6 ALF 21.55

LAUNCH DATE APR 12 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.910 GAL -3.86 AZL 92.69 HCA 140.68 SMA 193.15 ECC .23309 INC 2.6914 V1 29.716
 RP 206.79 LAP -1.71 LOP 342.16 VP 24.422 GAP 12.87 AZP 87.92 TAL 339.37 TAP 120.03 RCA 148.13 APO 238.17 V2 26.483
 RC 69.791 GL -20.59 GP 5.56 ZAL 128.10 ZAP 152.13 ETS 169.25 ZAE 170.92 ETE 75.11 ZAC 105.97 ETC 277.24 LVI -22.41

Planeto-centric Conic: C3 19.230 VHL 4.385 DLA -29.57 RAL 343.00 RAD 6642.5 VEL 11.800 PTH 6.82 VHP 5.858 DPA -12.84 RAP 316.16 ECC 1.3185
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 55 28 2508.34 -7.81 88.77 201.44 137.08 19 37 16 1508.3 10.57 51.01
 60.00 20 17 58 2288.85 -1.84 52.73 207.16 130.27 20 56 7 1288.8 14.12 34.56
 70.00 22 9 6 1961.91 5.02 31.40 212.33 123.83 22 41 48 961.9 18.28 10.98
 80.00 0 59 13 1440.87 14.36 357.41 217.82 116.46 1 23 14 440.9 24.03 334.19
 80.97 1 41 16 1306.27 17.45 348.95 219.34 114.26 2 3 4 306.3 25.94 324.83
 100.00 3 42 5 6203.39 14.36 298.69 217.82 116.46 5 25 29 5203.4 24.03 273.47
 110.00 3 12 29 1008.73 5.02 320.32 212.33 123.83 3 29 17 8.7 18.28 299.87

Differential Corrections: TDE -.6375 TRA-1.2088 TC3 .1184 BAU .0915 SGT 2000.3 SGR 539.7 SG3 526.5 ORBIT DETERMINATION ACCURACY
 RDE -.3258 RRA -.1016 RC3 .3356 FAU .07579 RRT .6135 RRF -.6696 RTF -.8795 CRT .8905 CRS .7093 CST .9514
 FDE .9602 FRA 3.4332 FC3-3.4122 BSP 3501 SGB 2071.8 R23 -.1330 R13 -.8849 LSA 72.2 MSA 16.4 SBA 1.1
 BDE .7160 BRA 1.2128 BC3 .3559 FSP 821 SG1 2028.8 SG2 420.2 THA 9.82 EL1 53.4 EL2 9.1 ALF 21.63

LAUNCH DATE APR 12 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.860 GAL -3.78 AZL 92.74 HCA 141.95 SMA 192.22 ECC .22916 INC 2.7405 V1 29.716
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.348 GAP 12.52 AZP 87.84 TAL 339.48 TAP 121.43 RCA 148.17 APO 236.27 V2 26.477
 RC 71.130 GL -21.21 GP 5.87 ZAL 127.89 ZAP 150.82 ETS 169.24 ZAE 170.82 ETE 77.12 ZAC 106.26 ETC 277.25 LVI -22.71

Planeto-centric Conic: C3 18.769 VHL 4.332 DLA -30.16 RAL 343.27 RAD 6642.3 VEL 11.781 PTH 6.81 VHP 5.891 DPA -12.54 RAP 316.05 ECC 1.3089
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 59 52 2488.99 -6.85 85.95 201.64 137.20 19 41 21 1489.0 11.53 50.16
 60.00 20 24 0 2265.14 -1.79 51.60 207.44 130.29 21 1 45 1265.1 15.11 33.35
 70.00 22 18 45 1927.54 6.32 29.59 212.79 123.63 22 50 52 927.5 19.41 8.94
 79.07 1 27 51 1346.91 17.93 352.20 219.40 114.66 1 50 18 346.9 26.54 328.03
 79.07 1 27 51 1346.91 17.93 352.20 219.40 114.66 1 50 18 346.9 26.54 328.03
 79.07 1 27 51 1346.91 17.93 352.20 219.40 114.66 1 50 18 346.9 26.54 328.03
 110.00 3 22 7 6262.40 6.32 296.41 212.79 123.63 5 6 30 5262.4 19.41 275.78

Differential Corrections: TDE -.6366 TRA-1.1888 TC3 .1101 BAU .0937 SGT 2003.2 SGR 554.5 SG3 559.6 ORBIT DETERMINATION ACCURACY
 RDE -.3191 RRA -.1203 RC3 .3567 FAU .07908 RRT .6472 RRF -.7094 RTF -.8782 CRT .9029 CRS .7223 CST .9486
 FDE 1.0023 FRA 3.5933 FC3-3.6477 BSP 3570 SGB 2078.5 R23 -.1514 R13 -.8846 LSA 73.5 MSA 16.5 SBA 1.1
 BDE .7121 BRA 1.1929 BC3 .3733 FSP 880 SG1 2036.5 SG2 415.8 THA 10.60 EL1 53.8 EL2 8.5 ALF 21.54

LAUNCH DATE APR 12 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC DISTANCE 419.888 EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 32.812 GAL -3.72 AZL 92.79 HCA 143.22 SMA 191.36 ECC .22547 INC 2.7923 V1 29.716
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.277 GAP 12.18 AZP 87.76 TAL 339.58 TAP 122.80 RCA 148.21 APO 234.50 V2 26.470
 RC 72.517 GL -21.86 GP 6.21 ZAL 127.67 ZAP 149.47 ETS 169.22 ZAE 170.71 ETE 79.64 ZAC 106.62 ETC 277.25 LVI -23.01

PLANETOCENTRIC CONIC

C3 18.354 VHL 4.294 DLA -30.75 RAL 343.35 RAD 6842.1 VEL 11.763 PTH 6.79 VHP 5.931 DPA -12.23 RAP 315.90 ECC 1.3021
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 4 20 2469.63 -5.88 65.13 201.90 137.30 19 45 38 1469.6 12.48 49.32
 60.00 20 30 23 2241.06 .27 50.45 207.79 130.30 21 7 44 1241.1 16.12 32.10
 70.00 22 29 22 1890.94 7.69 27.65 213.36 123.38 23 0 53 890.9 20.59 6.75
 77.38 1 16 36 1380.98 18.42 354.99 219.50 115.07 1 39 37 381.0 27.15 330.76
 77.38 1 16 36 1380.98 18.42 354.99 219.50 115.07 1 39 37 381.0 27.15 330.76
 77.38 1 16 36 1380.98 18.42 354.99 219.50 115.07 1 39 37 381.0 27.15 330.76
 110.00 3 32 44 6225.80 7.69 294.47 213.36 123.38 5 16 30 5225.0 20.59 273.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6315 TRA-1.1591 TC3 .1085 BAU .0989 SGT 1994.0 SGR 573.0 SG3 594.4 ST 50.2 SR 21.2 SS 53.7
 RDE -.3128 RRA -.1401 RC3 .3796 FAU .08263 RRT .6800 RRF -.7475 RTF -.8780 CRT .9151 CR8 .7366 CBT .9458
 FDE 1.0453 FRA 3.7590 FC3-3.8975 BSP 3572 SGB 2074.7 R23 -.1688 R13 -.8857 LSA 74.6 MSA 16.6 SSA 1.1
 BDE .7048 BRA 1.1675 BC3 .3948 FSP 940 SGI 2033.3 SG2 412.0 THA 11.54 EL1 53.9 EL2 8.0 ALF 21.62

LAUNCH DATE APR 12 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC DISTANCE 423.799 EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 32.788 GAL -3.65 AZL 92.85 HCA 144.48 SMA 190.55 ECC .22201 INC 2.8471 V1 29.716
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.208 GAP 11.85 AZP 87.68 TAL 339.68 TAP 124.16 RCA 148.25 APO 232.86 V2 26.462
 RC 73.950 GL -22.52 GP 6.58 ZAL 127.45 ZAP 148.08 ETS 169.18 ZAE 170.56 ETE 82.63 ZAC 107.00 ETC 277.25 LVI -23.34

PLANETOCENTRIC CONIC

C3 17.982 VHL 4.240 DLA -31.37 RAL 343.85 RAD 6641.9 VEL 11.748 PTH 6.78 VHP 5.376 DPA -11.91 RAP 315.71 ECC 1.2959
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 9 19 2450.27 -4.91 64.32 202.21 137.38 19 50 9 1450.3 13.43 48.46
 60.00 20 37 9 2216.53 1.35 49.28 208.22 130.28 21 14 6 1216.5 17.13 30.81
 70.00 22 41 14 1851.32 9.17 25.53 214.05 123.04 23 12 6 851.3 21.83 4.35
 75.84 1 6 48 1410.90 18.90 357.48 219.66 115.51 1 30 19 410.9 27.76 333.20
 75.84 1 6 48 1410.90 18.90 357.48 219.66 115.51 1 30 19 410.9 27.76 333.20
 75.84 1 6 48 1410.90 18.90 357.48 219.66 115.51 1 30 19 410.9 27.76 333.20
 110.00 3 44 36 6186.18 9.17 292.36 214.05 123.04 5 27 43 5186.2 21.83 271.18

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6246 TRA-1.1288 TC3 .1061 BAU .1005 SGT 1977.6 SGR 595.6 SG3 630.8 ST 50.0 SR 21.1 SS 55.2
 RDE -.3069 RRA -.1612 RC3 .4044 FAU .08641 RRT .7103 RRF -.7834 RTF -.8774 CRT .9273 CR8 .7510 CBT .9426
 FDE 1.0874 FRA 3.9311 FC3-4.1603 BSP 3562 SGB 2065.3 R23 -.1877 R13 -.8868 LSA 75.6 MSA 16.7 SSA 1.1
 BDE .6960 BRA 1.1403 BC3 .4181 FSP 1002 SGI 2024.3 SG2 409.6 THA 12.60 EL1 53.8 EL2 7.3 ALF 21.80

LAUNCH DATE APR 12 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC DISTANCE 427.734 EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 32.726 GAL -3.59 AZL 92.91 HCA 145.75 SMA 189.81 ECC .21875 INC 2.9056 V1 29.716
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.142 GAP 11.53 AZP 87.60 TAL 339.78 TAP 125.52 RCA 148.29 APO 231.33 V2 26.454
 RC 75.426 GL -23.21 GP 6.97 ZAL 127.22 ZAP 146.64 ETS 169.14 ZAE 170.36 ETE 86.06 ZAC 107.40 ETC 277.25 LVI -23.67

PLANETOCENTRIC CONIC

C3 17.852 VHL 4.201 DLA -31.99 RAL 344.17 RAD 6641.8 VEL 11.734 PTH 6.76 VHP 5.228 DPA -11.56 RAP 315.47 ECC 1.2905
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 14 25 2430.81 -3.94 63.50 202.59 137.45 19 54 56 1430.8 14.38 47.59
 60.00 20 44 23 2191.41 2.45 48.08 208.72 130.24 21 20 54 1191.4 18.15 29.48
 70.00 22 54 49 1807.34 10.79 23.16 214.90 122.60 23 24 57 807.3 23.17 1.63
 74.38 0 58 5 1437.91 19.38 359.77 219.88 115.97 1 22 3 437.9 28.38 335.44
 74.38 0 58 5 1437.91 19.38 359.77 219.88 115.97 1 22 3 437.9 28.38 335.44
 74.38 0 58 5 1437.91 19.38 359.77 219.88 115.97 1 22 3 437.9 28.38 335.44
 110.00 3 58 12 6142.20 10.79 289.99 214.90 122.60 5 40 34 5142.2 23.17 268.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6113 TRA-1.0898 TC3 .1163 BAU .1056 SGT 1943.1 SGR 622.6 SG3 668.6 ST 49.3 SR 21.0 SS 56.7
 RDE -.3015 RRA -.1834 RC3 .4319 FAU .09060 RRT .7397 RRF -.8164 RTF -.8.89 CRT .9369 CR8 .7659 CBT .9393
 FDE 1.1278 FRA 4.1053 FC3-4.4437 BSP 3456 SGB 2040.4 R23 -.2025 R13 -.8902 LSA 76.2 MSA 16.7 SSA 1.0
 BDE .6818 BRA 1.1051 BC3 .4473 FSP 1082 SGI 1999.3 SG2 407.2 THA 13.92 EL1 53.2 EL2 6.7 ALF 22.21

LAUNCH DATE APR 12 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC DISTANCE 431.690 EARTH TO MARS

RL 149.94 LAL .00 LOL 201.45 VL 32.687 GAL -3.53 AZL 92.97 HCA 147.01 SMA 189.11 ECC .21571 INC 2.9679 V1 29.716
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.078 GAP 11.21 AZP 87.51 TAL 339.86 TAP 126.87 RCA 148.32 APO 229.90 V2 26.444
 RC 76.944 GL -23.91 GP 7.40 ZAL 126.98 ZAP 145.17 ETS 169.08 ZAE 170.09 ETE 89.84 ZAC 107.85 ETC 277.21 LVI -24.03

PLANETOCENTRIC CONIC

C3 17.364 VHL 4.167 DLA -32.64 RAL 344.52 RAD 6641.6 VEL 11.722 PTH 6.75 VHP 5.086 DPA -11.20 RAP 315.19 ECC 1.2858
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 19 49 2411.31 -2.96 62.68 203.05 137.51 20 0 0 1411.3 15.33 46.72
 60.00 20 52 7 2165.66 3.59 46.84 209.32 130.17 21 28 13 1165.7 19.19 28.10
 70.00 23 10 54 1756.79 12.63 20.40 215.97 122.00 23 40 11 756.8 24.63 358.44
 72.99 0 50 16 1462.73 19.86 1.92 220.17 116.45 1 14 38 462.7 29.01 337.53
 72.99 0 50 16 1462.73 19.86 1.92 220.17 116.45 1 14 38 462.7 29.01 337.53
 72.99 0 50 16 1462.73 19.86 1.92 220.17 116.45 1 14 38 462.7 29.01 337.53
 110.00 4 14 17 6091.64 12.63 287.23 215.97 122.00 5 55 48 5091.6 24.63 265.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

TDE -.6133 TRA-1.0638 TC3 .0884 BAU .1085 SGT 1932.1 SGR 655.5 SG3 708.8 ST 49.6 SR 21.1 SS 58.5
 RDE -.2979 RRA -.2083 RC3 .4589 FAU .09439 RRT .7613 RRF -.8468 RTF -.8740 CRT .9522 CR8 .7848 CBT .9354
 FDE 1.1839 FRA 4.2893 FC3-4.7059 BSP 3530 SGB 2040.3 R23 -.2308 R13 -.8882 LSA 77.7 MSA 17.0 SSA 1.0
 BDE .6818 BRA 1.0848 BC3 .4673 FSP 1137 SGI 1998.5 SG2 410.9 THA 15.14 EL1 53.5 EL2 6.0 ALF 22.38

LAUNCH DATE APR 12 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 435.687 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.850 GAL -3.48 AZL 93.03 HCA 148.27 SMA 188.47 ECC .21286 INC 3.0345 V1 29.716
RP 207.21 LAP -1.60 LOP 349.75 VP 24.016 GAP 10.90 AZP 87.42 TAL 339.95 TAP 128.22 RCA 148.35 APO 228.58 V2 26.433
RC 78.502 GL -24.64 GP 7.86 ZAL 126.73 ZAP 143.65 ETS 189.02 ZAE 169.74 ETE 93.86 ZAC 108.33 ETC 277.19 LVI -24.41

PLANETOCENTRIC CONIC
C3 17.117 VHL 4.137 DLA -33.30 RAL 344.88 RAD 6641.5 VEL 11.711 PTH 6.74 VHP 4.950 DPA -10.81 RAP 314.85 ECC 1.2817
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 25 33 2391.62 -1.97 61.86 203.58 137.55 20 5 24 1391.8 16.29 45.82
60.00 21 0 27 2138.97 4.76 45.56 210.02 130.07 21 36 6 1139.0 20.26 26.69
70.00 23 31 27 1693.72 14.88 16.90 217.35 121.10 23 59 41 693.7 26.34 354.34
71.64 0 43 7 1485.99 20.33 3.96 220.52 116.96 1 7 53 486.0 29.64 339.53
71.64 0 43 7 1485.99 20.33 3.96 220.52 116.96 1 7 53 486.0 29.64 339.53
71.64 0 43 7 1485.99 20.33 3.96 220.52 116.96 1 7 53 486.0 29.64 339.53
110.00 4 34 30 6026.58 14.88 283.72 217.35 121.10 6 15 18 5028.6 26.34 261.16

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6078 TRA -1.0278 TC3 .0737 BAU .1132 SGT 1900.7 SGR 693.9 SG3 750.2 ST 49.2 SR 21.2 SS 60.2
RDE -.2947 RRA -.2346 RC3 .4891 FAU .09860 RRT .7811 RRF -.8736 RTF -.8709 CRT .9642 CRS .8033 CST .9311
FDE 1.2369 FRA 4.4934 FC3 -4.9872 BSP 3502 SGB 2023.4 R23 -.2543 R13 -.8886 LSA 78.8 MSA 17.1 SSA 1.0
BDE .6755 BRA 1.0543 BC3 .4946 FSP 1209 SG1 1980.2 SG2 415.8 THA 16.67 EL1 53.4 EL2 5.2 ALF 22.81

LAUNCH DATE APR 12 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 439.663 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.615 GAL -3.43 AZL 93.11 HCA 149.53 SMA 187.88 ECC .21019 INC 3.1059 V1 29.716
RP 207.31 LAP -1.57 LOP 351.02 VP 23.956 GAP 10.60 AZP 87.32 TAL 340.02 TAP 129.55 RCA 148.38 APO 227.35 V2 26.422
RC 80.098 GL -25.40 GP 8.37 ZAL 126.48 ZAP 142.08 ETS 188.94 ZAE 169.29 ETE 98.04 ZAC 108.87 ETC 277.15 LVI -24.81

PLANETOCENTRIC CONIC
C3 16.909 VHL 4.112 DLA -33.98 RAL 345.28 RAD 6641.4 VEL 11.702 PTH 6.74 VHP 4.820 DPA -10.40 RAP 314.47 ECC 1.2783
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 31 39 2371.89 -.97 61.02 204.19 137.57 20 11 10 1371.7 17.25 44.91
60.00 21 9 31 2111.14 5.97 44.22 210.83 129.93 21 44 42 1111.1 2.30 25.11
70.00 0 8 50 1592.74 18.34 11.12 219.53 119.33 0 35 22 592.7 28.50 347.51
70.32 0 36 35 1508.07 20.81 5.94 220.95 117.50 1 1 43 508.1 30.29 341.46
70.32 0 36 35 1508.07 20.81 5.94 220.95 117.50 1 1 43 508.1 30.29 341.46
70.32 0 36 35 1508.07 20.81 5.94 220.95 117.50 1 1 43 508.1 30.29 341.46
110.00 5 8 16 5927.59 18.34 277.95 219.53 119.33 6 47 4 4927.6 28.80 254.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6017 TRA -.9894 TC3 .0562 BAU .1186 SGT 1862.5 SGR 738.5 SG3 793.1 ST 48.8 SR 21.4 SS 62.0
RDE -.2924 RRA -.2630 RC3 .5217 FAU .10305 RRT .7969 RRF -.8969 RTF -.8669 CRT .9751 CRS .8221 CST .9264
FDE 1.2913 FRA 4.6934 FC3 -5.2758 BSP 3469 SGB 2003.5 R23 -.2778 R13 -.8892 LSA 79.8 MSA 17.3 SSA .9
BDE .6690 BRA 1.0237 BC3 .5247 FSP 1284 SG1 1958.1 SG2 424.3 THA 18.43 EL1 53.1 EL2 4.4 ALF 23.36

LAUNCH DATE APR 12 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC DISTANCE 443.677 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.583 GAL -3.39 AZL 93.18 HCA 150.79 SMA 187.31 ECC .20770 INC 3.1829 V1 29.716
RP 207.42 LAP -1.55 LOP 352.28 VP 23.898 GAP 10.30 AZP 87.22 TAL 340.08 TAP 130.88 RCA 148.40 APO 226.21 V2 26.409
RC 81.730 GL -26.19 GP 8.91 ZAL 126.21 ZAP 140.47 ETS 188.86 ZAE 168.73 ETE 102.23 ZAC 109.45 ETC 277.11 LVI -25.23

PLANETOCENTRIC CONIC
C3 16.742 VHL 4.092 DLA -34.69 RAL 345.71 RAD 6641.4 VEL 11.695 PTH 6.73 VHP 4.696 DPA -9.96 RAP 314.03 ECC 1.2755
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 38 10 2351.44 .05 60.18 204.90 137.58 20 17 22 1351.4 18.23 45.97
60.00 21 19 26 2081.82 7.25 42.80 211.77 129.75 21 54 7 1081.8 22.49 23.46
69.02 0 30 34 1529.25 21.28 7.86 221.45 118.07 0 56 3 529.2 30.94 343.34
69.02 0 30 34 1529.25 21.28 7.86 221.45 118.07 0 56 3 529.2 30.94 343.34
69.02 0 30 34 1529.25 21.28 7.86 221.45 118.07 0 56 3 529.2 30.94 343.34
69.02 0 30 34 1529.25 21.28 7.86 221.45 118.07 0 56 3 529.2 30.94 343.34
69.02 0 30 34 1529.25 21.28 7.86 221.45 118.07 0 56 3 529.2 30.94 343.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5942 TRA -.9486 TC3 .0577 BAU .1250 SGT 1814.3 SGR 789.9 SG3 837.0 ST 48.1 SR 21.7 SS 63.6
RDE -.2909 RRA -.2630 RC3 .5371 FAU .10769 RRT .8089 RRF -.9169 RTF -.5320 CRT .9845 CRS .8411 CST .8210
FDE 1.3472 FRA 4.8943 FC3 -5.5686 BSP 3402 SGB 1978.8 R23 -.2993 R13 -.8904 LSA 80.8 MSA 17.5 SSA .9
BDE .6816 BRA .9911 BC3 .5584 FSP 1357 SG1 1930.0 SG2 436.6 THA 20.50 EL1 52.7 EL2 3.5 ALF 24.07

LAUNCH DATE APR 12 1971 FLIGHT TIME 178.00 ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC DISTANCE 447.708 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.583 GAL -3.35 AZL 93.27 HCA 152.09 SMA 188.79 ECC .20538 INC 3.2660 V1 29.716
RP 207.54 LAP -1.53 LOP 353.54 VP 23.842 GAP 10.01 AZP 87.11 TAL 340.14 TAP 132.18 RCA 148.43 APO 225.15 V2 26.395
RC 83.399 GL -27.01 GP 9.51 ZAL 125.93 ZAP 138.81 ETS 188.77 ZAE 168.04 ETE 106.33 ZAC 110.08 ETC 277.06 LVI -25.69

PLANETOCENTRIC CONIC
C3 18.616 VHL 4.076 DLA -35.42 RAL 346.17 RAD 6641.3 VEL 11.690 PTH 6.72 VHP 4.579 DPA -9.47 RAP 313.54 ECC 1.2755
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 45 12 2330.74 1.09 59.31 205.71 137.57 20 24 3 1330.7 19.21 42.99
60.00 21 30 24 2050.51 8.61 41.27 212.87 129.52 22 4 35 1050.5 23.88 21.67
67.73 0 24 59 1549.89 21.74 9.76 222.04 118.68 0 50 49 549.9 31.61 345.20
67.73 0 24 59 1549.89 21.74 9.76 222.04 118.68 0 50 49 549.9 31.61 345.20
67.73 0 24 59 1549.89 21.74 9.76 222.04 118.68 0 50 49 549.9 31.61 345.20
67.73 0 24 59 1549.89 21.74 9.76 222.04 118.68 0 50 49 549.9 31.61 345.20
67.73 0 24 59 1549.89 21.74 9.76 222.04 118.68 0 50 49 549.9 31.61 345.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5843 TRA -.8885 TC3 .0211 BAU .1324 SGT 1754.0 SGR 848.6 SG3 881.8 ST 47.2 SR 22.1 SS 65.2
RDE -.2904 RRA -.3268 R13 .5957 FAU .11260 RRT .8176 RRF -.9337 RTF -.8567 CRT .9920 CRS .8599 CST .9148
FDE 1.4038 FRA 5.1007 FC3 -5.8670 BSP 3310 SGB 1948.5 R23 -.3168 R13 -.8931 LSA 81.8 MSA 17.8 SSA .9
BDE .6525 BRA .9561 BC3 .5961 FSP 1430 SG1 1895.4 SG2 452.2 THA 22.96 EL1 52.0 EL2 2.5 ALF 24.98

LAUNCH DATE APR 12 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.45 VL 32.929 GAL -3.31 AZL 93.36 HCA 153.31 SMA 186.31 ECC .20323 INC 3.3562 V1 29.716
 RP 207.66 LAP -1.51 LOP 354.80 VP 23.787 GAP 9.73 AZP 87.00 TAL 340.19 TAP 133.50 RCA 148.45 APO 224.17 V2 26.381
 RC 85.104 GL -27.67 GP 10.16 ZAL 125.65 ZAP 137.09 ETS 168.67 ZAE 167.22 ETE 110.23 ZAC 110.77 ETC 277.01 LVI -26.19

DISTANCE 451.752 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.533 VHL 4.068 DLA -36.18 RAL 346.67 RAD 6641.3 VEL 11.686 PTH 6.72 VHP 4.468 DPA -8.95 RAP 312.99 ECC 1.2721
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 52 48 2309.54 2.16 58.43 206.64 137.54 20 31 17 1309.5 20.22 41.98
 60.00 21 42 43 2016.62 10.08 39.61 214.15 129.23 22 16 20 1016.6 24.94 19.70
 66.43 0 19 50 1570.09 22.20 11.65 222.72 119.33 0 46 0 570.1 32.29 347.06
 66.43 0 19 50 1570.09 22.20 11.65 222.72 119.33 0 46 0 570.1 32.29 347.06
 66.43 0 19 50 1570.09 22.20 11.65 222.72 119.33 0 46 0 570.1 32.29 347.06
 66.43 0 19 50 1570.09 22.20 11.65 222.72 119.33 0 46 0 570.1 32.29 347.06

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5852 TRA -.8581 TC3 -.0257 BAU .1402 SGT 1710.1 SGR 916.6 SG3 928.6 ST 47.0 SR 22.7 SS 67.3
 RDE -.2926 RRA -.3643 RC3 .6339 FAU .11694 RRT .8178 RRF -.9478 RTF -.8453 CRT .9973 CR8 .8801 CST .9063
 FDE 1.4802 FRA 5.3233 FC3-6.1236 BSP 3338 SGB 1940.3 R23 -.3405 R13 -.8929 LSA 83.2 MSA 18.1 S8A .8
 BDE .6543 BRA .9322 BC3 .6344 FSP 1520 SG1 1860.0 SG2 479.8 THA 25.45 EL1 52.1 EL2 1.5 ALF 25.79

LAUNCH DATE APR 12 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.45 VL 32.498 GAL -3.28 AZL 93.45 HCA 154.57 SMA 185.86 ECC .20122 INC 3.4545 V1 29.716
 RP 207.80 LAP -1.48 LOP 356.05 VP 23.734 GAP 9.45 AZP 86.88 TAL 340.22 TAP 134.79 RCA 148.46 APO 223.26 V2 26.365
 RC 86.843 GL -28.78 GP 10.67 ZAL 125.34 ZAP 135.33 ETS 168.57 ZAE 166.26 ETE 113.86 ZAC 111.53 ETC 276.94 LVI -26.72

DISTANCE 455.812 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.492 VHL 4.061 DLA -36.97 RAL 347.22 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 4.364 DPA -8.38 RAP 312.38 ECC 1.2714
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 1 4 2287.57 3.26 57.51 207.70 137.49 20 39 12 1287.6 21.26 40.92
 60.00 21 56 50 1978.95 11.69 37.74 215.66 128.85 22 29 49 979.0 26.31 17.45
 65.13 0 15 6 1590.04 22.66 13.54 223.51 120.02 0 41 36 590.0 32.98 348.93
 65.13 0 15 6 1590.04 22.66 13.54 223.51 120.02 0 41 36 590.0 32.98 348.93
 65.13 0 15 6 1590.04 22.66 13.54 223.51 120.02 0 41 36 590.0 32.98 348.93
 65.13 0 15 6 1590.04 22.66 13.54 223.51 120.02 0 41 36 590.0 32.98 348.93

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5807 TRA -.8090 TC3 -.0631 BAU .1498 SGT 1647.6 SGR 993.4 SG3 975.3 ST 46.2 SR 23.5 SS 69.1
 RDE -.2958 RRA -.4047 RC3 .6765 FAU .12168 RRT .8155 RRF -.9593 RTF -.6337 CRT .9993 CR8 .8985 CST .9007
 FDE 1.5536 FRA 5.5403 FC3-6.3874 BSP 3300 SGB 1923.9 R23 -.3540 R13 -.8960 LSA 84.4 MSA 18.5 S8A .8
 BDE .6517 BRA .9046 BC3 .6794 FSP 1603 SG1 1854.9 SG2 510.7 THA 28.54 EL1 51.8 EL2 .8 ALF 26.81

LAUNCH DATE APR 12 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.45 VL 32.474 GAL -3.25 AZL 93.56 HCA 155.82 SMA 185.45 ECC .19937 INC 3.5623 V1 29.716
 RP 207.94 LAP -1.46 LOP 357.31 VP 23.683 GAP 9.17 AZP 86.75 TAL 340.25 TAP 136.07 RCA 148.48 APO 222.42 V2 26.349
 RC 88.616 GL -29.73 GP 11.65 ZAL 125.02 ZAP 133.31 ETS 169.47 ZAE 165.16 ETE 117.17 ZAC 112.37 ETC 276.87 LVI -27.31

DISTANCE 459.884 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.499 VHL 4.062 DLA -37.80 RAL 347.82 RAD 6641.2 VEL 11.685 PTH 6.72 VHP 4.266 DPA -7.75 RAP 311.72 ECC 1.2715
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 10 9 2264.65 4.41 56.55 208.92 137.42 20 47 53 1264.7 22.33 39.79
 60.00 22 13 29 1935.63 13.53 35.55 217.47 128.33 22 45 45 935.6 27.03 14.79
 63.81 0 10 43 1609.96 23.12 15.45 224.41 120.77 0 37 33 610.0 33.69 350.83
 63.81 0 10 43 1609.96 23.12 15.45 224.41 120.77 0 37 33 610.0 33.69 350.83
 63.81 0 10 43 1609.96 23.12 15.45 224.41 120.77 0 37 33 610.0 33.69 350.83
 63.81 0 10 43 1609.96 23.12 15.45 224.41 120.77 0 37 33 610.0 33.69 350.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5758 TRA -.7556 TC3 -.1032 BAU .1609 SGT 1576.5 SGR 1080.1 SG3 1022.0 ST 45.4 SR 24.4 SS 70.9
 RDE -.3007 RRA -.4490 RC3 .7223 FAU .12649 RRT .8082 RRF -.9685 RTF -.5.90 CRT .9978 CR8 .9157 CST .8918
 FDE 1.6311 FRA 5.7554 FC3-6.6370 BSP 3256 SGB 1911.0 R23 -.3800 R13 -.9012 LSA 85.6 MSA 18.8 S8A .7
 BDE .6494 BRA .8789 BC3 .7296 FSP 1685 SG1 1830.9 SG2 547.7 THA 32.20 EL1 51.5 EL2 1.4 ALF 28.25

LAUNCH DATE APR 12 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.45 VL 32.451 GAL -3.22 AZL 93.68 HCA 157.07 SMA 185.07 ECC .19765 INC 3.6809 V1 29.716
 RP 208.08 LAP -1.43 LOP 358.36 VP 23.632 GAP 8.91 AZP 86.61 TAL 340.27 TAP 137.34 RCA 148.49 APO 221.65 V2 26.332
 RC 90.421 GL -30.74 GP 12.51 ZAL 124.66 ZAP 131.64 ETS 168.36 ZAE 163.90 ETE 120.14 ZAC 113.28 ETC 276.79 LVI -27.95

DISTANCE 463.989 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.556 VHL 4.069 DLA -38.67 RAL 348.49 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 4.176 DPA -7.05 RAP 310.99 ECC 1.2725
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 20 12 2240.49 5.62 55.53 210.32 137.32 20 57 33 1240.5 23.45 38.59
 60.00 22 34 9 1882.78 15.75 32.84 219.72 127.59 23 5 31 882.8 29.61 11.44
 62.45 0 6 41 1630.10 23.57 17.41 225.43 121.59 0 33 51 630.1 34.42 352.78
 62.45 0 6 41 1630.10 23.57 17.41 225.43 121.59 0 33 51 630.1 34.42 352.78
 62.45 0 6 41 1630.10 23.57 17.41 225.43 121.59 0 33 51 630.1 34.42 352.78
 62.45 0 6 41 1630.10 23.57 17.41 225.43 121.59 0 33 51 630.1 34.42 352.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5702 TRA -.6979 TC3 -.1468 BAU .1738 SGT 1497.7 SGR 1177.6 SG3 1067.7 ST 44.4 SR 25.5 SS 72.8
 RDE -.3078 RRA -.4975 RC3 .7712 FAU .13126 RRT .7951 RRF -.9759 RTF -.8001 CRT .9924 CR8 .9313 CST .8818
 FDE 1.7135 FRA 5.9645 FC3-6.8638 BSP 3219 SGB 1905.2 R23 -.3569 R13 -.9092 LSA 86.8 MSA 19.2 S8A .7
 BDE .6480 BRA .8571 BC3 .7850 FSP 1766 SG1 1811.4 SG2 590.5 THA 36.51 EL1 51.1 EL2 2.7 ALF 29.82

LAUNCH DATE APR 12 1971 FLIGHT TIME 180.00 ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC DISTANCE 468.065 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.430 GAL -3.20 AZL 93.81 HCA 180.32 SMA 184.72 ECC .19606 INC 3.8121 V1 29.718

PLANETOCENTRIC CONIC C3 16.669 VHL 4.083 DLA -39.59 RAL 349.22 RAD 6641.3 VEL 11.692 PTH 6.73 VHP 4.093 DPA -6.28 RAP 310.20 ECC 1.2743
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3598 TRA -.6310 TC3 -.1811 BAW .1086 SGT 1399.8 SGR 1286.0 SG3 1110.9 ST 42.9 SR 26.8 SS 74.3

LAUNCH DATE APR 12 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC DISTANCE 472.169 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.411 GAL -3.18 AZL 93.96 HCA 159.57 SMA 184.40 ECC .19461 INC 3.9583 V1 29.716

PLANETOCENTRIC CONIC C3 16.846 VHL 4.104 DLA -40.56 RAL 350.04 RAD 6641.4 VEL 11.700 PTH 6.73 VHP 4.019 DPA -5.42 RAP 309.35 ECC 1.2772
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5641 TRA -.5742 TC3 -.2526 BAW .2055 SGT 1332.8 SGR 1411.5 SG3 1155.1 ST 42.4 SR 28.6 SS 76.5

LAUNCH DATE APR 12 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC DISTANCE 476.286 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.393 GAL -3.16 AZL 94.12 HCA 160.82 SMA 184.10 ECC .19328 INC 4.1225 V1 29.716

PLANETOCENTRIC CONIC C3 17.094 VHL 4.134 DLA -41.60 RAL 350.98 RAD 6641.5 VEL 11.710 PTH 6.74 VHP 3.953 DPA -4.45 RAP 308.43 ECC 1.2813
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5489 TRA -.4935 TC3 -.2799 BAW .2248 SGT 1211.9 SGR 1546.6 SG3 1191.2 ST 40.4 SR 30.4 SS 77.6

LAUNCH DATE APR 12 1971 FLIGHT TIME 194.00 ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC DISTANCE 480.408 EARTH TO MARS
RL 149.94 LAL .00 LOL 201.45 VL 32.376 GAL -3.15 AZL 94.31 HCA 162.06 SMA 183.82 ECC .19207 INC 4.3084 V1 29.716

PLANETOCENTRIC CONIC C3 17.431 VHL 4.175 DLA -42.72 RAL 352.00 RAD 6641.7 VEL 11.724 PTH 6.78 VHP 3.897 DPA -3.35 RAP 307.45 ECC 1.2869
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.3592 TRA -.4323 TC3 -.3668 BAW .2465 SGT 1155.3 SGR 1707.6 SG3 1229.6 ST 40.2 SR 33.2 SS 80.4

LAUNCH DATE APR 12 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.361 GAL -3.14 AZL 94.52 HCA 163.30 SMA 183.58 ECC .18997 INC 4.5203 V1 29.716
RP 208.94 LAP -1.30 LOP 4.80 VP 23.397 GAP 7.65 AZP 85.67 TAL 340.17 TAP 143.47 RCA 148.52 APO 216.63 V2 26.232
RC 99.910 GL -37.04 GP 18.44 ZAL 122.42 ZAP 121.43 ETS 167.87 ZAE 155.30 ETE 129.85 ZAC 119.55 ETC 276.34 LVI -32.38

DISTANCE 484.539

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.872 VHL 4.227 DLA -43.92 RAL 353.19 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 3.851 DPA -2.11 RAP 306.40 ECC 1.2941
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 37 26 2079.23 13.62 46.57 222.05 136.04 22 12 5 1079.2 30.60 29.90
54.88 23 48 27 1739.35 25.63 28.38 233.28 126.97 24 17 26 739.3 38.41 4.11
54.88 23 48 27 1739.35 25.63 28.38 233.28 126.97 24 17 26 739.3 38.41 4.11
54.88 23 48 27 1739.35 25.63 28.38 233.28 126.97 24 17 26 739.3 38.41 4.11
54.88 23 48 27 1739.35 25.63 28.38 233.28 126.97 24 17 26 739.3 38.41 4.11
54.88 23 48 27 1739.35 25.63 28.38 233.28 126.97 24 17 26 739.3 38.41 4.11
54.88 23 48 27 1739.35 25.63 28.38 233.28 126.97 24 17 26 739.3 38.41 4.11

DIFFERENTIAL CORRECTIONS

TDE -.5574 TRA -.3542 TC3 -.4259 BAU .2716
RDE -.4049 RRA -.8318 RC3 1.0541 FAU .15095
FDE 2.2843 FRA 6.8073 FC3-7.3125 BSP 3531
BDE .6889 BRA .9041 BC3 1.1369 FSP 2116

MID-COURSE EXECUTION ACCURACY

SGT 1069.9 SGR 1882.8 SG3 1257.6
RRT .5643 RRF -.9945 RTF -.5554
SGB 2185.5 R23 -.1696 R13 -.9800
SG1 1995.5 SG2 831.7 THA 68.28

ORBIT DETERMINATION ACCURACY

ST 39.1 SR 36.1 S8 82.2
CRT .8997 CRS .9830 CST .8046
LSA 95.4 MSA 21.8 S8A .5
EL1 51.9 EL2 11.9 ALF 42.51

LAUNCH DATE APR 12 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.347 GAL -3.14 AZL 94.78 HCA 164.54 SMA 183.35 ECC .18997 INC 4.7649 V1 29.716
RP 209.14 LAP -1.27 LOP 6.04 VP 23.352 GAP 7.41 AZP 85.41 TAL 340.11 TAP 144.65 RCA 148.52 APO 216.16 V2 26.209
RC 101.892 GL -38.66 GP 20.09 ZAL 121.79 ZAP 119.21 ETS 167.80 ZAE 153.07 ETE 130.88 ZAC 121.27 ETC 276.25 LVI -33.63

DISTANCE 488.677

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.444 VHL 4.295 DLA -45.23 RAL 354.55 RAD 6642.1 VEL 11.767 PTH 6.79 VHP 3.819 DPA -.69 RAP 305.28 ECC 1.3035
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 4 38 2026.41 16.19 46.19 226.27 135.37 22 38 24 1026.4 32.79 26.77
53.10 23 47 5 1764.57 25.97 30.97 235.64 128.43 24 16 30 764.6 39.27 6.91
53.10 23 47 5 1764.57 25.97 30.97 235.64 128.43 24 16 30 764.6 39.27 6.91
53.10 23 47 5 1764.57 25.97 30.97 235.64 128.43 24 16 30 764.6 39.27 6.91
53.10 23 47 5 1764.57 25.97 30.97 235.64 128.43 24 16 30 764.6 39.27 6.91
53.10 23 47 5 1764.57 25.97 30.97 235.64 128.43 24 16 30 764.6 39.27 6.91
53.10 23 47 5 1764.57 25.97 30.97 235.64 128.43 24 16 30 764.6 39.27 6.91

DIFFERENTIAL CORRECTIONS

TDE -.5561 TRA -.2704 TC3 -.4836 BAU .3000
RDE -.4462 RRA -.9222 RC3 1.1164 FAU .15332
FDE 2.4421 FRA 6.8775 FC3-7.1963 BSP 3739
BDE .7130 BRA .9611 BC3 1.2166 FSP 2154

MID-COURSE EXECUTION ACCURACY

SGT 992.6 SGR 2079.9 SG3 1277.3
RRT .4544 RRF -.9961 RTF -.4445
SGB 2304.6 R23 -.1133 R13 -.9896
SG1 2138.1 SG2 860.2 THA 75.34

ORBIT DETERMINATION ACCURACY

ST 37.9 SR 39.7 S8 84.0
CRT .8677 CRS .9882 CST .7816
LSA 97.8 MSA 22.3 S8A .4
EL1 53.0 EL2 14.1 ALF 46.53

LAUNCH DATE APR 12 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.335 GAL -3.14 AZL 95.05 HCA 165.78 SMA 183.14 ECC .18998 INC 5.0504 V1 29.716
RP 209.34 LAP -1.24 LOP 7.28 VP 23.308 GAP 7.18 AZP 85.10 TAL 340.05 TAP 145.82 RCA 148.51 APO 217.77 V2 26.186
RC 103.900 GL -40.46 GP 21.95 ZAL 121.07 ZAP 116.93 ETS 167.75 ZAE 150.85 ETE 131.85 ZAC 123.21 ETC 276.16 LVI -38.05

DISTANCE 492.821

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.186 VHL 4.380 DLA -46.86 RAL 356.15 RAD 6642.5 VEL 11.798 PTH 6.82 VHP 3.802 DPA .94 RAP 304.09 ECC 1.3188
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 44 40 1947.01 20.00 42.49 232.27 134.12 23 17 7 947.0 35.90 21.74
51.20 23 46 30 1791.62 26.25 33.76 238.40 130.07 24 16 22 791.6 40.15 9.99
51.20 23 46 30 1791.62 26.25 33.76 238.40 130.07 24 16 22 791.6 40.15 9.99
51.20 23 46 30 1791.62 26.25 33.76 238.40 130.07 24 16 22 791.6 40.15 9.99
51.20 23 46 30 1791.62 26.25 33.76 238.40 130.07 24 16 22 791.6 40.15 9.99
51.20 23 46 30 1791.62 26.25 33.76 238.40 130.07 24 16 22 791.6 40.15 9.99
51.20 23 46 30 1791.62 26.25 33.76 238.40 130.07 24 16 22 791.6 40.15 9.99

DIFFERENTIAL CORRECTIONS

TDE -.5553 TRA -.1819 TC3 -.5402 BAU .3318
RDE -.5027 RRA -1.0243 RC3 1.1755 FAU .15432
FDE 2.6306 FRA 6.8972 FC3-6.9634 BSP 4032
BDE .7490 BRA 1.0403 BC3 1.2937 FSP 2179

MID-COURSE EXECUTION ACCURACY

SGT 933.7 SGR 2302.9 SG3 1286.9
RRT .3102 RRF -.9972 RTF -.2198
SGB 2485.0 R23 -.0655 R13 -.9951
SG1 2324.1 SG2 879.5 THA 81.62

ORBIT DETERMINATION ACCURACY

ST 36.7 SR 44.1 S8 86.0
CRT .8321 CRS .9921 CST .7563
LSA 100.8 MSA 22.8 S8A .4
EL1 55.0 EL2 16.3 ALF 51.23

LAUNCH DATE APR 12 1971

FLIGHT TIME 202.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.323 GAL -3.14 AZL 95.39 HCA 167.01 SMA 182.95 ECC .18828 INC 5.3682 V1 29.716
RP 209.55 LAP -1.21 LOP 8.31 VP 23.285 GAP 6.95 AZP 84.75 TAL 339.97 TAP 146.98 RCA 148.51 APO 217.40 V2 26.162
RC 103.933 GL -42.46 GP 24.07 ZAL 120.24 ZAP 114.59 ETS 167.73 ZAE 148.01 ETE 132.18 ZAC 125.41 ETC 276.09 LVI -36.67

DISTANCE 496.970

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 20.153 VHL 4.489 DLA -48.22 RAL 358.04 RAD 6642.9 VEL 11.839 PTH 6.86 VHP 3.803 DPA 2.82 RAP 302.82 ECC 1.3317
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41
49.16 23 46 54 1821.08 26.44 36.79 241.64 131.92 24 17 15 821.1 41.02 13.41

DIFFERENTIAL CORRECTIONS

TDE -.5534 TRA -.0867 TC3 -.5898 BAU .3688
RDE -.5781 RRA -1.1365 RC3 1.2351 FAU .15450
FDE 2.8402 FRA 6.8323 FC3-6.6372 BSP 4385
BDE .8003 BRA 1.1398 BC3 1.3687 FSP 2172

MID-COURSE EXECUTION ACCURACY

SGT 898.3 SGR 2552.3 SG3 1281.4
RRT 1.289 RRF -.9980 RTF -.1185
SGB 2705.8 R23 -.0282 R13 -.9977
SG1 2555.3 SG2 889.7 THA 87.04

ORBIT DETERMINATION ACCURACY

ST 35.4 SR 49.3 S8 87.8
CRT .7921 CRS .9949 CST .7270
LSA 104.2 MSA 23.3 S8A .3
EL1 57.8 EL2 18.4 ALF 56.52

LAUNCH DATE APR 12 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.313 GAL -3.14 AZL 95.79 HCA 180.24 SMA 182.79 ECC .18758 INC 5.7947 V1 29.716
RP 209.76 LAP -1.18 LOP 9.75 VP 23.223 GAP 6.72 AZP 84.33 TAL 339.87 TAP 148.12 RCA 148.50 APO 217.07 V2 26.137
RC 107.990 GL -44.72 GP 26.51 ZAL 119.26 ZAP 112.19 ETS 167.75 ZAE 145.13 ETE 132.49 ZAC 127.92 ETC 276.03 LVI -38.55

DISTANCE 501.124

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.430 VHL 4.629 DLA -49.95 RAL .31 RAD 6643.5 VEL 11.692 PTH 6.90 VHP 3.828 DPA 5.01 RAP 301.47 ECC 1.3527
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26
46.94 23 48 40 1853.46 26.50 40.09 245.52 134.03 24 19 33 853.5 41.86 17.26

DIFFERENTIAL CORRECTIONS

TDE -.5503 TRA .0144 TC3 -.6333 BAU .4105
RDE -.6897 RRA-1.2630 RC3 1.2852 FAU .15257
FDE 3.0990 FRA 6.6806 FC3-6.1635 BSP 4843
BDE .8792 BRA 1.2631 BC3 1.4328 FSP 2144

MID-COURSE EXECUTION ACCURACY

SGT 899.1 SGR 2835.2 SG3 1259.2
RRT -.0733 RRF -.9986 RTF .0032
SGB 2974.4 R23 -.0018 R13 -.9987
SG1 2836.1 SG2 896.4 THA 91.48

ORBIT DETERMINATION ACCURACY

ST 34.1 SR 56.0 SS 90.0
CRT .7492 CR8 .9969 CST .6952
LSA 108.8 MSA 23.6 S8A .3
EL1 62.3 EL2 20.3 ALF 62.30

LAUNCH DATE APR 12 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.304 GAL -3.15 AZL 96.29 HCA 169.47 SMA 182.63 ECC .18697 INC 6.2937 V1 29.716
RP 209.99 LAP -1.15 LOP 10.98 VP 23.181 GAP 6.50 AZP 83.81 TAL 339.77 TAP 149.24 RCA 148.49 APO 216.78 V2 26.111
RC 110.071 GL -47.30 GP 29.31 ZAL 118.09 ZAP 109.73 ETS 167.82 ZAE 141.96 ETE 132.61 ZAC 130.80 ETC 276.01 LVI -40.72

DISTANCE 505.282

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.152 VHL 4.812 DLA -51.85 RAL 3.11 RAD 6644.2 VEL 11.964 PTH 6.96 VHP 3.887 DPA 7.56 RAP 300.02 ECC 1.3810
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63
44.54 23 52 18 1889.69 26.37 43.70 250.19 136.42 24 23 47 889.7 42.60 21.63

DIFFERENTIAL CORRECTIONS

TDE -.5413 TRA .1237 TC3 -.8639 BAU .4583
RDE -1.8416 RRA-1.4042 RC3 1.3236 FAU .14842
FDE 3.4110 FRA 6.4119 FC3-5.5500 BSP 5395
BDE 1.0007 BRA 1.4096 BC3 1.4808 FSP 2079

MID-COURSE EXECUTION ACCURACY

SGT 938.4 SGR 3155.2 SG3 1215.2
RRT -.2747 RRF -.9991 RTF .2835
SGB 3291.7 R23 .0158 R13 -.9990
SG1 3166.6 SG2 899.0 THA 95.08

ORBIT DETERMINATION ACCURACY

ST 32.4 SR 64.5 SS 92.4
CRT .7012 CR8 .9983 CST .6582
LSA 114.6 MSA 23.8 S8A .2
EL1 68.9 EL2 21.7 ALF 68.33

LAUNCH DATE APR 12 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.295 GAL -3.16 AZL 96.92 HCA 170.69 SMA 182.50 ECC .18644 INC 6.9209 V1 29.716
RP 210.22 LAP -1.12 LOP 12.20 VP 23.140 GAP 6.28 AZP 83.17 TAL 339.68 TAP 150.38 RCA 148.48 APO 216.52 V2 26.085
RC 112.177 GL -50.25 GP 32.55 ZAL 116.70 ZAP 107.21 ETS 167.98 ZAE 138.47 ETE 132.55 ZAC 134.13 ETC 276.03 LVI -43.24

DISTANCE 509.443

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 25.341 VHL 5.054 DLA -53.95 RAL 6.65 RAD 6645.2 VEL 12.065 PTH 7.05 VHP 3.990 DPA 10.54 RAP 298.48 ECC 1.4203
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63
41.93 0 2 35 1930.99 25.93 47.65 255.90 139.13 0 34 46 931.0 43.14 26.63

DIFFERENTIAL CORRECTIONS

TDE -.5195 TRA .2432 TC3 -.6770 BAU .5154
RDE -1.0711 RRA-1.5556 RC3 1.3491 FAU .14211
FDE 3.7886 FRA 5.9789 FC3-4.8168 BSP 6003
BDE 1.1904 BRA 1.5745 BC3 1.5094 FSP 1954

MID-COURSE EXECUTION ACCURACY

SGT 1017.1 SGR 3509.2 SG3 1141.9
RRT -.4544 RRF -.9994 RTF .4220
SGB 3653.8 R23 .0268 R13 -.9991
SG1 3541.6 SG2 897.8 THA 98.02

ORBIT DETERMINATION ACCURACY

ST 30.3 SR 75.6 SS 94.8
CRT .6421 CR8 .9991 CST .6089
LSA 122.7 MSA 23.6 S8A .2
EL1 78.3 EL2 22.4 ALF 74.24

LAUNCH DATE APR 12 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.288 GAL -3.17 AZL 97.73 HCA 171.91 SMA 182.38 ECC .18599 INC 7.7339 V1 29.716
RP 210.48 LAP -1.09 LOP 13.43 VP 23.089 GAP 6.07 AZP 82.34 TAL 339.53 TAP 151.44 RCA 148.46 APO 216.30 V2 26.088
RC 114.307 GL -53.68 GP 36.32 ZAL 115.02 ZAP 104.84 ETS 168.25 ZAE 134.61 ETE 132.36 ZAC 137.87 ETC 276.12 LVI -46.18

DISTANCE 513.808

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.996 VHL 5.385 DLA -56.23 RAL 11.23 RAD 6646.6 VEL 12.204 PTH 7.16 VHP 4.161 DPA 14.05 RAP 298.81 ECC 1.4772
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33
39.14 0 13 0 1979.09 25.03 51.94 263.01 142.15 0 45 59 979.1 43.30 32.33

DIFFERENTIAL CORRECTIONS

TDE -.4734 TRA .3723 TC3 -.6735 BAU .5829
RDE -1.4327 RRA-1.7215 RC3 1.3434 FAU .13190
FDE 4.2013 FRA 5.3799 FC3-3.9382 BSP 6734
BDE 1.5089 BRA 1.7613 BC3 1.5027 FSP 1782

MID-COURSE EXECUTION ACCURACY

SGT 1134.8 SGR 3908.1 SG3 1036.8
RRT -.5929 RRF -.9996 RTF .5994
SGB 4069.5 R23 .0328 R13 -.9991
SG1 3968.8 SG2 899.8 THA 100.30

ORBIT DETERMINATION ACCURACY

ST 27.4 SR 90.9 SS 97.7
CRT .5582 CR8 .9996 CST .5337
LSA 134.3 MSA 22.9 S8A .2
EL1 92.2 EL2 22.4 ALF 79.85

LAUNCH DATE APR 12 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 10 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.202 GAL -3.18 AZL 98.83 HCA 173.13 SMA 182.28 ECC .18862 INC 8.8298 V1 29.716
 RP 210.70 LAP -1.03 LOP 14.65 VP 23.038 GAP 5.85 AZP 81.23 TAL 339.40 TAP 152.53 RCA 148.44 APO 216.11 V2 26.030
 RC 116.460 GL -57.69 GP 40.69 ZAL 112.98 ZAP 102.02 ETS 168.68 ZAE 130.32 ETE 132.12 ZAC 142.41 ETC 276.33 LVI -49.47

Distance 517.768 Earth to Mars

Planeto-centric Conic: C3 34.272 VHL 5.854 DLA -58.63 RAL 17.36 RAD 8648.6 VEL 12.417 PTH 7.32 VHP 4.438 DPA 18.15 RAP 294.99 ECC 1.9640
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.24 0 29 44 2036.44 23.41 56.53 272.04 145.44 1 3 41 1036.4 42.81 38.71
 36.24 0 29 44 2036.44 23.41 56.53 272.04 145.44 1 3 41 1036.4 42.81 38.71
 36.24 0 29 44 2036.44 23.41 56.53 272.04 145.44 1 3 41 1036.4 42.81 38.71
 36.24 0 29 44 2036.44 23.41 56.53 272.04 145.44 1 3 41 1036.4 42.81 38.71
 36.24 0 29 44 2036.44 23.41 56.53 272.04 145.44 1 3 41 1036.4 42.81 38.71
 36.24 0 29 44 2036.44 23.41 56.53 272.04 145.44 1 3 41 1036.4 42.81 38.71

Differential Corrections: TDE -3.709 TRA .5158 TC3 -.6458 BAW .6675 SGT 1282.1 SGR 4339.8 SG3 892.1 ST 23.3 SR 112.2 SS 100.4
 RDE -2.0182 RRA -1.8877 RC3 1.3058 FAU .11823 RRT -.6974 RRF -.9997 RTF .7031 CRT .3887 CR8 .9998 CST .3707
 FDE 4.6584 FRA 4.5630 FC3 -2.9866 BSP 7506 SGB 4325.2 R23 .0354 R13 -.9991 LSA 150.8 MSA 21.5 SSA .1
 BDE 2.0520 BRA 1.9569 BC3 1.4568 FSP 1532 SGI 4435.0 SG2 899.2 THA 102.15 EL1 112.6 EL2 21.4 ALF 85.22

LAUNCH DATE APR 12 1971

FLIGHT TIME 232.00

ARRIVAL DATE NOV 30 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.250 GAL -3.55 AZL 82.29 HCA 185.31 SMA 181.99 ECC .18602 INC 7.7116 V1 29.716
 RP 213.46 LAP -.71 LOP 26.71 VP 22.670 GAP 3.92 AZP 97.68 TAL 337.03 TAP 162.34 RCA 148.08 APO 215.76 V2 25.714
 RC 139.171 GL 52.48 GP -47.79 ZAL 117.18 ZAP 87.57 ETS 176.06 ZAE 114.97 ETE 210.78 ZAC 54.65 ETC 272.10 LVI 34.25

Distance 559.786 Earth to Mars

Planeto-centric Conic: C3 29.672 VHL 5.447 DLA 40.16 RAL 318.50 RAD 8646.9 VEL 12.231 PTH 7.18 VHP 4.980 DPA -69.49 RAP 314.39 ECC 1.4883
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 11 51 48 4125.18 -39.41 184.15 219.37 60.82 13 0 33 3125.2 -47.27 152.46
 60.00 10 16 9 4384.26 -21.50 194.14 206.46 55.05 11 29 13 3384.3 -33.87 170.73
 80.20 9 54 42 4444.58 -18.95 197.33 204.52 53.90 11 8 46 3444.6 -31.99 174.84
 80.20 9 54 42 4444.58 -18.95 197.33 204.52 53.90 11 8 46 3444.6 -31.99 174.84
 80.20 9 54 42 4444.58 -18.95 197.33 204.52 53.90 11 8 46 3444.6 -31.99 174.84
 80.20 9 54 42 4444.58 -18.95 197.33 204.52 53.90 11 8 46 3444.6 -31.99 174.84
 80.20 9 54 42 4444.58 -18.95 197.33 204.52 53.90 11 8 46 3444.6 -31.99 174.84

Differential Corrections: TDE 2.4593 TRA 1.0543 TC3 -1.9224 BAW .8775 SGT 3398.3 SGR 5098.3 SG3 656.8 ST 131.2 SR 173.2 SS 108.1
 RDE 3.1418 RRA 2.9183 RC3 -1.6050 FAU .08700 RRT .9511 RRF .9995 RTF .9493 CRT .9905 CR8 -.9999 CST -.9886
 FDE 4.5378 FRA 3.8005 FC3 -2.5385 BSP 10306 SGB 6127.1 R23 .0991 R13 .9946 LSA 242.2 MSA 14.8 SSA .2
 BDE 3.9899 BRA 2.7301 BC3 2.2122 FSP 1164 SGI 6063.2 SG2 882.4 THA 56.83 EL1 216.8 EL2 14.4 ALF 52.94

LAUNCH DATE APR 12 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 2 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.280 GAL -3.59 AZL 84.00 HCA 186.49 SMA 181.94 ECC .18634 INC 5.9963 V1 29.716
 RP 213.77 LAP -.68 LOP 27.90 VP 22.633 GAP 3.74 AZP 95.96 TAL 336.77 TAP 163.26 RCA 148.04 APO 215.84 V2 25.880
 RC 141.545 GL 44.59 GP -42.88 ZAL 121.62 ZAP 85.91 ETS 175.02 ZAE 116.19 ETE 207.12 ZAC 59.58 ETC 271.80 LVI 30.07

Distance 583.950 Earth to Mars

Planeto-centric Conic: C3 22.955 VHL 4.791 DLA 32.81 RAL 322.22 RAD 8644.1 VEL 11.956 PTH 6.98 VHP 4.438 DPA -65.12 RAP 308.39 ECC 1.3778
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 13 3 56 3860.93 -48.06 182.38 214.58 76.48 14 8 17 2860.9 -46.15 127.25
 60.00 12 50 8 3897.79 -36.74 182.20 211.09 72.11 13 58 8 2897.8 -40.25 131.65
 70.00 12 13 4 4007.62 -23.35 186.00 206.05 66.31 13 19 51 3007.6 -32.79 139.84
 72.62 11 17 8 4179.94 -17.90 175.42 202.18 62.03 12 26 48 3179.9 -27.85 151.70
 72.62 11 17 8 4179.94 -17.90 175.42 202.18 62.03 12 26 48 3179.9 -27.85 151.70
 72.62 11 17 8 4179.94 -17.90 175.42 202.18 62.03 12 26 48 3179.9 -27.85 151.70
 110.00 17 12 30 3054.43 -25.35 94.92 206.05 66.31 18 3 24 2054.4 -32.79 68.78

Differential Corrections: TDE 2.0739 TRA 1.2408 TC3 -1.9888 BAW .8188 SGT 3590.4 SGR 4888.9 SG3 886.7 ST 126.8 SR 149.4 SS 118.6
 RDE 2.3539 RRA 2.3488 RC3 -1.7808 FAU .10632 RRT .9578 RRF .9995 RTF .5365 CRT .9914 CR8 -.9999 CST -.9891
 FDE 4.8449 FRA 3.8019 FC3 -4.0098 BSP 9963 SGB 5905.8 R23 .1034 R13 .9935 LSA 228.8 MSA 14.8 SSA .2
 BDE 3.1372 BRA 2.6545 BC3 2.6880 FSP 1543 SGI 5847.3 SG2 827.8 THA 52.88 EL1 195.6 EL2 12.7 ALF 49.71

LAUNCH DATE APR 12 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 4 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.282 GAL -3.64 AZL 85.19 HCA 187.66 SMA 181.97 ECC .18673 INC 4.8085 V1 29.716
 RP 214.08 LAP -.64 LOP 29.08 VP 22.595 GAP 3.55 AZP 94.77 TAL 336.50 TAP 164.16 RCA 147.99 APO 215.94 V2 25.845
 RC 143.938 GL 37.84 GP -38.58 ZAL 125.24 ZAP 84.13 ETS 174.16 ZAE 116.74 ETE 203.67 ZAC 63.90 ETC 271.55 LVI 26.42

Distance 588.118 Earth to Mars

Planeto-centric Conic: C3 19.358 VHL 4.400 DLA 26.56 RAL 328.17 RAD 8642.5 VEL 11.806 PTH 6.83 VHP 4.095 DPA -61.20 RAP 304.31 ECC 1.3185
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 13 51 17 3673.88 -47.58 144.64 207.92 90.04 14 32 30 2873.9 -41.97 111.25
 60.00 13 55 13 3683.38 -40.00 143.21 207.43 84.59 14 56 16 2663.4 -37.81 112.28
 70.00 14 2 11 3642.84 -32.78 140.31 206.19 79.74 15 2 54 2642.8 -33.62 111.60
 80.00 14 18 14 3592.44 -26.43 134.91 204.60 75.58 15 18 6 2592.4 -29.84 108.00
 90.00 15 8 43 3429.32 -23.30 121.98 203.65 73.51 16 5 53 2429.3 -27.95 95.93
 100.00 17 1 6 3066.92 -26.43 96.28 204.60 75.58 17 32 13 2066.9 -29.84 69.37
 110.00 19 1 37 2689.86 -32.76 69.23 206.19 79.74 19 46 27 1689.7 -33.62 40.52

Differential Corrections: TDE 1.8241 TRA 1.4052 TC3 -2.4256 BAW .7918 SGT 3792.7 SGR 4284.4 SG3 1041.0 ST 122.7 SR 129.1 SS 123.4
 RDE 1.8444 RRA 2.1602 RC3 -1.8652 FAU .12288 RRT .9627 RRF .9994 RTF .9617 CRT .9926 CR8 -.9998 CST -.9897
 FDE 4.9395 FRA 6.1587 FC3 -5.4962 BSP 9567 SGB 5722.0 R23 .1212 R13 .9920 LSA 216.2 MSA 13.5 SSA .2
 BDE 2.5941 BRA 2.5770 BC3 3.0598 FSP 1844 SGI 5669.2 SG2 775.1 THA 48.62 EL1 177.8 EL2 10.8 ALF 46.45

LAUNCH DATE APR 12 1971 FLIGHT TIME 230.00 ARRIVAL DATE DEC 6 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.264 GAL -3.69 AZL 86.08 HCA 188.84 SMA 182.00 ECC .18716 INC 3.9381 V1 29.716
 RP 214.39 LAP -.60 LOP 30.26 VP 22.558 GAP 3.37 AZP 93.89 TAL 336.22 TAP 165.05 RCA 147.94 APO 216.06 V2 25.609
 RC 146.344 GL 32.13 GP -34.87 ZAL 120.13 ZAP 82.20 ETS 173.40 ZAE 116.73 ETE 200.55 ZAC 87.63 ETC 271.34 LVI 23.28

Planeto-centric Conic: C3 17.284 VHL 4.157 DLA 21.30 RAL 327.59 RAD 6641.6 VEL 11.718 PTH 6.75 VHP 3.871 DPA -57.76 RAP 301.33 ECC 1.2848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 14 26 8 3532.65 -46.70 131.14 202.97 100.40 15 25 0 2532.7 -37.39 100.85
 60.00 14 39 48 3496.22 -40.12 129.02 203.72 94.20 15 38 4 2496.2 -34.08 99.69
 70.00 15 1 18 3432.92 -34.15 124.12 203.95 89.20 15 58 31 2432.9 -30.90 95.87
 80.00 15 38 52 3315.11 -29.56 114.95 203.70 85.59 16 34 7 2315.1 -28.38 87.58
 90.00 16 45 41 3099.38 -27.72 98.91 203.51 84.18 17 37 21 2099.4 -27.36 71.91
 100.00 18 21 44 2789.59 -29.56 76.32 203.70 85.59 19 6 14 1789.6 -26.36 48.95
 110.00 20 0 44 2479.74 -34.15 53.04 203.95 89.20 20 42 4 1479.7 -30.90 24.79

Differential Corrections: TDE 1.6626 TRA 1.5658 TC3-2.9029 BAU .7765 SGT 4005.8 SGR 3914.2 SG3 1181.9 ORBIT DETERMINATION ACCURACY ST 119.8 SR 112.7 SS 125.8
 RDE 1.5055 RRA 1.9674 RC3-1.8533 FAU .13317 RRT .9665 RRF .9993 RTF .9657 CRT .9942 CRS -.9996 CST -.9907
 FDE 4.9459 FRA 7.0571 FC3-6.7705 BSP 9376 SGB 5600.6 R23 .1327 R13 .9904 LSA 206.5 MSA 12.3 SBA .3
 BDE 2.2430 BRA 2.5301 BC3 3.3602 FSP 2105 SG1 5553.5 SG2 724.8 THA 44.31 EL1 164.3 EL2 8.8 ALF 43.26

LAUNCH DATE APR 12 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 8 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.267 GAL -3.74 AZL 86.73 HCA 190.01 SMA 182.04 ECC .18765 INC 3.2720 V1 29.716
 RP 214.72 LAP -.57 LOP 31.44 VP 22.520 GAP 3.19 AZP 93.22 TAL 335.92 TAP 165.93 RCA 147.88 APO 216.20 V2 25.573
 RC 148.770 GL 27.31 GP -31.68 ZAL 130.41 ZAP 80.41 ETS 172.94 ZAE 116.31 ETE 197.79 ZAC 70.84 ETC 271.15 LVI 20.59

Planeto-centric Conic: C3 16.044 VHL 4.005 DLA 16.88 RAL 329.82 RAD 6641.0 VEL 11.666 PTH 6.70 VHP 3.719 DPA -54.78 RAP 299.03 ECC 1.2640
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 14 53 17 3422.79 -44.86 121.19 198.97 107.67 15 50 20 2422.8 -33.19 93.72
 60.00 15 13 28 3369.06 -38.95 118.42 201.03 101.30 16 9 37 2369.1 -30.35 90.97
 70.00 15 43 21 3281.08 -33.66 112.30 202.04 96.16 16 38 3 2281.1 -27.68 85.23
 80.00 16 30 21 3133.82 -29.75 101.50 202.40 92.65 17 22 34 2133.8 -25.84 74.82
 90.00 17 42 7 2902.17 -26.25 84.53 202.46 91.35 18 30 29 1902.2 -24.85 58.04
 100.00 19 13 12 2608.30 -29.75 62.86 202.40 92.65 19 58 41 1608.3 -25.64 36.19
 110.00 20 42 48 2327.89 -33.66 41.22 202.04 96.16 21 21 38 1327.9 -27.68 14.15

Differential Corrections: TDE 1.5499 TRA 1.7186 TC3-3.1338 BAU .7748 SGT 4219.2 SGR 3574.1 SG3 1290.2 ORBIT DETERMINATION ACCURACY ST 117.4 SR 99.3 SS 125.8
 RDE 1.2642 RRA 1.8239 RC3-1.7966 FAU .14520 RRT .9694 RRF .9990 RTF .9688 CRT .9958 CRS -.9993 CST -.9910
 FDE 4.8873 FRA 7.7654 FC3-7.8349 BSP 9203 SGB 5529.6 R23 .1427 R13 .9888 LSA 198.2 MSA 11.2 SBA .4
 BDE 2.0001 BRA 2.5047 BC3 3.6123 FSP 2294 SG1 5488.3 SG2 675.0 THA 40.12 EL1 153.6 EL2 6.9 ALF 40.19

LAUNCH DATE APR 12 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 10 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.45 VL 32.270 GAL -3.80 AZL 87.25 HCA 191.18 SMA 182.09 ECC .18819 INC 2.7461 V1 29.716
 RP 215.04 LAP -.53 LOP 32.61 VP 22.483 GAP 3.01 AZP 92.69 TAL 335.81 TAP 166.79 RCA 147.83 APO 216.36 V2 25.536
 RC 151.211 GL 23.24 GP -28.92 ZAL 132.23 ZAP 78.95 ETS 172.51 ZAE 115.58 ETE 195.38 ZAC 73.62 ETC 270.98 LVI 18.29

Planeto-centric Conic: C3 15.290 VHL 3.910 DLA 13.16 RAL 331.37 RAD 6640.7 VEL 11.634 PTH 6.67 VHP 3.615 DPA -52.19 RAP 297.18 ECC 1.2516
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 15 15 13 3335.68 -42.78 113.86 196.77 113.20 16 10 49 2335.7 -29.56 88.59
 60.00 15 40 11 3269.25 -37.31 110.45 199.34 106.48 16 34 40 2269.2 -27.00 84.65
 70.00 16 15 50 3164.33 -32.45 103.42 200.81 101.28 17 8 34 2164.3 -24.62 77.55
 80.00 17 8 39 2998.83 -28.91 91.56 201.50 97.80 17 58 38 1998.8 -22.83 65.79
 90.00 18 23 13 2758.20 -27.57 74.06 201.69 96.54 19 9 11 1758.2 -22.14 48.36
 100.00 19 51 31 2473.30 -28.91 52.93 201.50 97.80 20 32 45 1473.3 -22.83 27.16
 110.00 21 15 16 2211.15 -32.45 32.33 200.81 101.28 21 52 7 1211.1 -24.62 6.47

Differential Corrections: TDE 1.4716 TRA 1.8821 TC3-3.4167 BAU .7824 SGT 4431.8 SGR 3261.3 SG3 1389.0 ORBIT DETERMINATION ACCURACY ST 115.8 SR 87.8 SS 123.9
 RDE 1.0818 RRA 1.8684 RC3-1.7252 FAU .15427 RRT .9726 RRF .9987 RTF .5.22 CRT .9974 CRS -.9989 CST -.9928
 FDE 4.7708 FRA 8.2874 FC3-8.7349 BSP 9062 SGB 5502.5 R23 .1482 R13 .9876 LSA 190.6 MSA 10.2 SBA .5
 BDE 1.8264 BRA 2.5002 BC3 3.8276 FSP 2401 SG1 5468.1 SG2 614.1 THA 36.12 EL1 145.2 EL2 5.1 ALF 37.14

LAUNCH DATE APR 12 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 12 1971

Heliocentric Conic: RL 149.94 LAL .00 LOL 201.48 VL 32.274 GAL -3.85 AZL 87.68 HCA 192.35 SMA 182.18 ECC .18877 INC 2.3202 V1 29.716
 RP 215.37 LAP -.50 LOP 33.78 VP 22.446 GAP 2.84 AZP 92.27 TAL 335.29 TAP 167.64 RCA 147.76 APO 216.53 V2 25.499
 RC 153.869 GL 19.78 GP -26.53 ZAL 133.60 ZAP 76.73 ETS 172.17 ZAE 114.62 ETE 193.29 ZAC 76.02 ETC 270.83 LVI 16.30

Planeto-centric Conic: C3 14.841 VHL 3.852 DLA 10.03 RAL 332.89 RAD 6640.5 VEL 11.614 PTH 6.66 VHP 3.543 DPA -49.94 RAP 295.66 ECC 1.2442
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 25 3265.64 -40.75 108.36 195.54 117.06 16 27 51 2265.6 -26.49 84.75
 60.00 16 2 5 3189.36 -35.59 104.37 198.42 110.30 16 55 14 2189.4 -24.10 79.89
 70.00 16 42 3 3071.77 -31.01 96.59 200.16 105.08 17 33 15 2071.8 -21.88 71.75
 80.00 17 39 2 2893.29 -27.70 83.95 201.07 101.62 18 27 15 1893.3 -20.23 59.03
 90.00 18 55 29 2646.55 -26.45 66.09 201.34 100.38 19 39 35 1646.6 -19.61 41.16
 100.00 20 21 53 2367.76 -27.70 45.32 201.07 101.62 21 1 21 1367.8 -20.23 20.40
 110.00 21 41 29 2118.59 -31.01 25.51 200.16 105.08 22 16 48 1118.6 -21.88 .67

Differential Corrections: TDE 1.4259 TRA 2.0132 TC3-3.6399 BAU .7882 SGT 4648.5 SGR 2997.1 SG3 1432.0 ORBIT DETERMINATION ACCURACY ST 115.5 SR 79.6 SS 123.7
 RDE .9606 RRA 1.5441 RC3-1.5911 FAU .15723 RRT .9732 RRF .9983 RTF .9734 CRT .9987 CRS -.9983 CST -.9941
 FDE 4.7281 FRA 8.7667 FC3-9.1714 BSP 9202 SGB 5530.9 R23 .1557 R13 .9861 LSA 186.8 MSA 9.2 SBA .6
 BDE 1.7193 BRA 2.5372 BC3 3.9725 FSP 2560 SG1 5500.2 SG2 582.1 THA 32.52 EL1 140.2 EL2 3.3 ALF 34.53

LAUNCH DATE APR 12 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.296 GAL -4.18 AZL 88.99 MCA 198.14 SMA 182.52 ECC .10233 INC 1.0087 V1 29.716
RP 217.08 LAP -.31 LOP 39.58 VP 22.282 GAP 1.97 AZP 90.96 TAL 333.56 TAP 171.69 RCA 147.41 APO 217.62 V2 25.308
RC 166.178 GL 8.51 GP -18.31 ZAL 138.06 ZAP 88.28 ETS 171.36 ZAE 106.29 ETE 186.40 ZAC 84.31 ETC 270.28 LVI 9.56

DISTANCE 605.608

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.634 VHL 3.825 DLA .15 RAL 338.53 RAD 6640.4 VEL 11.606 PTH 6.65 VHP 3.435 DPA -42.13 RAP 290.84 ECC 1.2408
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 30 3064.90 -33.57 94.57 195.72 125.94 17 23 35 2064.9 -17.12 74.85
60.00 17 11 55 2960.02 -28.99 88.55 199.15 119.32 18 1 15 1960.0 -14.97 67.39
70.00 18 3 59 2806.92 -24.89 78.46 201.47 114.18 18 50 46 1806.9 -12.97 56.41
80.00 19 12 7 2593.58 -21.93 63.61 202.30 110.79 19 55 20 1593.6 -11.50 41.08
90.00 20 33 28 2331.04 -20.82 44.74 203.24 109.58 21 12 19 1331.0 -10.94 22.07
100.00 21 54 58 2068.06 -21.93 24.98 202.80 110.79 22 29 26 1068.1 -11.50 2.45
110.00 23 3 25 1853.73 -24.89 7.38 201.47 114.18 23 34 19 853.7 -12.97 345.32

DIFFERENTIAL CORRECTIONS

TDE 1.3776 TRA 2.7252 TC3-4.3846 BAU .8820
RDE .6383 RRA 1.0500 RC3-1.0489 FAU .16163
FDE 4.3391 FRA 9.7430 FC3-9.5622 BSP 10023
BDE 1.5175 BRA 2.9186 BC3 4.5083 FSP 2748

MID-COURSE EXECUTION ACCURACY

SGT 5669.8 SGR 2006.3 SG3 1818.1
RRR .9734 RRF .9932 RTF .9784
SGB 6014.3 R23 .1536 R13 .9828
SG1 5998.6 SG2 432.6 THA 19.11

ORBIT DETERMINATION ACCURACY

ST 120.1 SR 53.2 SS 116.3
CRT .9970 CRS -.9911 CST -.9983
LSA 175.3 MSA 7.1 SSA 1.3
EL1 131.2 EL2 3.8 ALF 23.85

LAUNCH DATE APR 12 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.302 GAL -4.25 AZL 89.16 MCA 199.28 SMA 182.61 ECC .19317 INC .8375 V1 29.716
RP 217.43 LAP -.28 LOP 40.73 VP 22.225 GAP 1.79 AZP 90.79 TAL 333.19 TAP 172.47 RCA 147.33 APO 217.68 V2 25.289
RC 166.717 GL 7.04 GP -17.17 ZAL 138.63 ZAP 86.74 ETS 171.31 ZAE 106.91 ETE 185.52 ZAC 85.45 ETC 270.21 LVI 8.63

DISTANCE 609.760

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.789 VHL 3.846 DLA -1.08 RAL 339.41 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.441 DPA -41.04 RAP 290.23 ECC 1.2434
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 40 29 3042.76 -32.67 93.22 196.28 126.73 17 31 12 2042.8 -16.05 73.83
60.00 17 21 13 2934.43 -28.13 86.94 199.76 120.14 18 10 7 1934.4 -13.89 66.08
70.00 18 14 43 2777.07 -24.05 76.55 202.13 115.02 19 1 1 1777.1 -11.89 54.77
80.00 19 24 10 2559.62 -21.09 61.43 203.51 111.64 20 6 50 1559.6 -10.41 39.14
90.00 20 46 6 2295.23 -19.99 42.45 203.96 110.43 21 24 22 1295.2 -9.85 20.00
100.00 22 7 2 2034.09 -21.09 22.80 203.51 110.64 22 40 56 1034.1 -10.41 .81
110.00 23 14 10 1823.89 -24.05 5.47 202.13 115.02 23 44 34 823.9 -11.89 343.68

DIFFERENTIAL CORRECTIONS

TDE 1.3908 TRA 2.8626 TC3-4.4791 BAU .9058
RDE .6038 RRA .9759 RC3 -.9623 FAU .16034
FDE 4.2671 FRA 9.7799 FC3-9.3860 BSP 10248
BDE 1.5162 BRA 3.0244 BC3 4.5814 FSP 2731

MID-COURSE EXECUTION ACCURACY

SGT 5861.6 SGR 1863.3 SG3 1308.7
RRR .9721 RRF .9914 RTF .9790
SGB 6150.6 R23 .1482 R13 .9824
SG1 6136.4 SG2 417.4 THA 17.25

ORBIT DETERMINATION ACCURACY

ST 121.9 SR 50.0 SS 114.7
CRT .9946 CRS -.9886 CST -.9987
LSA 174.5 MSA 7.2 SSA 1.3
EL1 131.6 EL2 4.8 ALF 22.23

LAUNCH DATE APR 12 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.308 GAL -4.32 AZL 89.31 MCA 200.43 SMA 182.70 ECC .19404 INC .6882 V1 29.716
RP 217.79 LAP -.24 LOP 41.87 VP 22.189 GAP 1.82 AZP 90.65 TAL 332.81 TAP 173.24 RCA 147.25 APO 218.16 V2 25.229
RC 171.266 GL 5.74 GP -16.14 ZAL 139.16 ZAP 85.26 ETS 171.27 ZAE 105.93 ETE 184.75 ZAC 86.49 ETC 270.15 LVI 7.79

DISTANCE 613.908

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.980 VHL 3.870 DLA -2.15 RAL 340.24 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.453 DPA -40.03 RAP 289.72 ECC 1.2465
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 47 41 3024.36 -31.92 92.11 197.90 127.37 17 38 5 2024.4 -15.16 73.00
60.00 17 29 33 2913.01 -27.39 85.61 200.43 120.80 18 18 6 1913.0 -12.99 64.99
70.00 18 24 19 2751.95 -23.31 74.97 202.85 115.70 19 10 11 1751.9 -10.98 53.40
80.00 19 34 54 2530.92 -20.36 59.61 204.26 112.32 20 17 5 1530.9 -9.49 37.52
90.00 20 57 21 2264.92 -19.26 40.53 204.73 111.12 21 35 5 1264.9 -8.92 18.26
100.00 22 17 46 2005.39 -20.36 20.98 204.26 112.32 22 51 12 1005.4 -9.49 358.89
110.00 23 23 45 1796.77 -23.31 3.89 202.85 115.70 23 53 44 796.8 -10.98 342.32

DIFFERENTIAL CORRECTIONS

TDE 1.4125 TRA 3.0056 TC3-4.5521 BAU .9285
RDE .5787 RRA .9093 RC3 -.8794 FAU .15788
FDE 4.2126 FRA 9.7888 FC3-9.1242 BSP 10532
BDE 1.5265 BRA 3.1402 BC3 4.6382 FSP 2721

MID-COURSE EXECUTION ACCURACY

SGT 6030.9 SGR 1735.4 SG3 1495.2
RRR .9702 RRF .9890 RTF .5.94
SGB 6294.9 R23 .1425 R13 .9821
SG1 6281.8 SG2 405.3 THA 15.62

ORBIT DETERMINATION ACCURACY

ST 124.2 SR 47.4 SS 113.5
CRT .9916 CRS -.9850 CST -.9990
LSA 174.6 MSA 7.5 SSA 1.4
EL1 132.8 EL2 5.7 ALF 20.78

LAUNCH DATE APR 12 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 149.94 LAL .00 LOL 201.45 VL 32.314 GAL -4.40 AZL 89.45 MCA 201.57 SMA 182.80 ECC .19495 INC .5540 V1 29.716
RP 218.15 LAP -.20 LOP 43.01 VP 22.153 GAP 1.45 AZP 90.52 TAL 332.42 TAP 173.99 RCA 147.17 APO 218.44 V2 25.189
RC 173.829 GL 4.58 GP -15.21 ZAL 139.65 ZAP 83.82 ETS 171.25 ZAE 104.16 ETE 184.00 ZAC 87.42 ETC 270.09 LVI 7.02

DISTANCE 618.032

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.201 VHL 3.899 DLA -3.08 RAL 341.02 RAD 6640.6 VEL 11.630 PTH 6.67 VHP 3.467 DPA -39.16 RAP 289.28 ECC 1.2502
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 54 12 3009.10 -31.28 91.21 197.57 127.87 17 44 21 2009.1 -14.41 72.31
60.00 17 37 3 2895.13 -26.76 84.51 201.13 121.34 18 25 18 1895.1 -12.23 64.09
70.00 18 32 55 2730.83 -22.68 73.65 203.60 116.25 19 18 26 1730.8 -10.20 52.26
80.00 19 44 31 2506.66 -19.72 58.09 205.05 112.88 20 26 18 1506.7 -8.70 36.15
90.00 21 7 24 2239.25 -18.62 36.91 205.53 111.68 21 44 43 1239.2 -8.13 16.80
100.00 22 27 23 1981.13 -19.72 19.46 205.05 112.88 23 0 24 981.1 -8.70 357.52
110.00 23 32 22 1777.64 -22.68 2.57 203.60 116.25 24 1 59 777.6 -10.20 341.17

DIFFERENTIAL CORRECTIONS

TDE 1.4362 TRA 3.1463 TC3-4.6196 BAU .9530
RDE .5574 RRA .8472 RC3 -.9062 FAU .15547
FDE 4.1526 FRA 9.7838 FC3-8.8547 BSP 10793
BDE 1.5406 BRA 3.2584 BC3 4.6894 FSP 2694

MID-COURSE EXECUTION ACCURACY

SGT 6234.7 SGR 1618.9 SG3 1477.0
RRR .9677 RRF .9862 RTF .9798
SGB 6441.5 R23 .1358 R13 .9820
SG1 6429.3 SG2 396.0 THA 14.16

ORBIT DETERMINATION ACCURACY

ST 126.5 SR 45.0 SS 112.0
CRT .9880 CRS -.9824 CST -.9993
LSA 174.7 MSA 7.8 SSA 1.4
EL1 134.1 EL2 6.6 ALF 19.43

LAUNCH DATE APR 12 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.45 VL 32.348 GAL -4.81 AZL 89.95 HCA 207.21 SMA 183.36 ECC .20003 INC .0402 V1 29.716
 RP 219.99 LAP -.02 LOP 48.66 VP 21.972 GAP .60 AZP 90.04 TAL 330.40 TAP 177.61 RCA 146.68 APO 220.04 V2 24.987
 RC 186.781 GL .38 GP -11.66 ZAL 141.80 ZAP 57.35 ETS 171.34 ZAE 97.54 ETE 181.75 ZAC 90.98 ETC 269.97 LVI 3.97

PLANETOCENTRIC CONIC
 C3 16.633 VHL 4.078 DLA -6.24 RAL 344.42 RAD 6641.3 VEL 11.891 PTH 6.72 VHP 3.589 DPA -35.69 RAP 288.08 ECC 1.2737
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 19 23 2966.54 -29.48 88.76 201.25 129.20 18 8 49 1966.5 -12.32 70.43
 60.00 18 5 38 2843.53 -24.89 81.42 204.99 122.78 18 53 1 1843.5 -10.02 61.52
 70.00 19 5 19 2668.05 -20.74 69.82 207.62 117.76 19 49 47 1668.0 -7.87 48.69
 80.00 20 20 24 2432.97 -17.71 53.55 209.19 114.44 21 0 57 1433.0 -6.27 32.03
 90.00 21 44 49 2180.63 -16.57 34.05 209.72 113.25 22 20 49 1160.6 -5.66 12.34
 100.00 23 3 16 1907.44 -17.71 14.92 209.19 114.44 23 35 3 907.4 -6.27 353.40
 110.00 0 8 41 1714.87 -20.74 358.74 207.62 117.76 0 37 16 714.9 -7.87 337.81

MID-COURSE EXECUTION ACCURACY
 SGT 7093.4 SGR 1182.2 SG3 1350.5
 RRT .9428 RRF .9609 RTF .9802
 SGB 7191.2 R23 .1019 R13 .9811
 SG1 7180.6 SG2 389.4 THA 8.96

ORBIT DETERMINATION ACCURACY
 ST 139.4 SR 37.3 SS 105.3
 CRT .9610 CRS -.9598 CST -.9999
 LSA 178.3 MSA 10.2 SSA 1.4
 EL1 143.9 EL2 10.0 ALF 14.49

LAUNCH DATE APR 12 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.45 VL 32.355 GAL -4.90 AZL 90.03 HCA 208.33 SMA 183.48 ECC .20114 INC .0297 V1 29.716
 RP 220.36 LAP .01 LOP 49.78 VP 21.936 GAP .43 AZP 89.97 TAL 329.98 TAP 178.31 RCA 146.58 APO 220.39 V2 24.948
 RC 189.399 GL -.24 GP -11.11 ZAL 142.20 ZAP 56.19 ETS 171.38 ZAE 96.28 ETE 181.43 ZAC 91.53 ETC 269.97 LVI 3.47

PLANETOCENTRIC CONIC
 C3 16.973 VHL 4.120 DLA -6.85 RAL 345.02 RAD 6641.5 VEL 11.705 PTH 6.74 VHP 3.620 DPA -35.15 RAP 286.00 ECC 1.2793
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 20 2962.92 -29.32 88.55 202.02 129.31 18 12 43 1962.9 -12.15 70.27
 60.00 18 10 2 2838.71 -24.72 81.14 205.79 122.91 18 57 21 1838.7 -9.81 61.28
 70.00 19 10 14 2661.73 -20.54 69.44 208.45 117.91 19 54 35 1661.7 -7.63 48.56
 80.00 20 25 47 2425.18 -17.49 53.08 210.04 114.59 21 6 12 1425.2 -6.01 31.60
 90.00 21 50 24 2152.17 -16.34 33.54 210.57 113.40 22 26 16 1152.2 -5.39 11.86
 100.00 23 8 39 1899.65 -17.49 14.44 210.04 114.59 23 40 19 899.7 -6.01 382.97
 110.00 0 13 36 1708.55 -20.54 358.36 208.45 117.91 0 42 4 708.5 -7.63 337.47

MID-COURSE EXECUTION ACCURACY
 SGT 7254.1 SGR 1118.2 SG3 1321.7
 RRT .9347 RRF .9529 RTF .9801
 SGB 7339.8 R23 .0960 R13 .9809
 SG1 7329.2 SG2 393.4 THA 8.22

ORBIT DETERMINATION ACCURACY
 ST 142.2 SR 36.3 SS 104.1
 CRT .9543 CRS -.9544 CST -.9999
 LSA 179.6 MSA 10.6 SSA 1.4
 EL1 146.4 EL2 10.5 ALF 13.78

LAUNCH DATE APR 12 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.48 VL 32.363 GAL -4.99 AZL 90.10 HCA 209.45 SMA 183.61 ECC .20229 INC .1023 V1 29.716
 RP 220.74 LAP .05 LOP 50.89 VP 21.901 GAP .26 AZP 89.91 TAL 329.55 TAP 178.99 RCA 146.46 APO 220.75 V2 24.904
 RC 192.025 GL -.79 GP -10.61 ZAL 142.59 ZAP 55.06 ETS 171.42 ZAE 95.05 ETE 181.15 ZAC 92.03 ETC 269.98 LVI 2.99

PLANETOCENTRIC CONIC
 C3 17.329 VHL 4.163 DLA -7.01 RAL 348.61 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 3.653 DPA -34.65 RAP 287.97 ECC 1.2852
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 0 2960.91 -29.22 88.42 202.80 129.38 18 16 21 1960.5 -12.03 70.16
 60.00 18 14 6 2835.24 -24.99 80.93 206.60 123.00 19 1 22 1835.2 -9.66 61.11
 70.00 19 14 45 2656.95 -20.39 69.15 209.27 118.01 19 59 2 1857.0 -7.45 48.30
 80.00 20 30 43 2419.11 -17.32 52.71 210.88 114.71 21 11 2 1419.1 -5.80 31.28
 90.00 21 55 31 2145.92 -16.16 33.13 211.42 113.53 22 31 16 1145.5 -5.18 11.49
 100.00 23 13 35 1893.58 -17.32 14.08 210.88 114.71 23 45 8 893.6 -5.80 392.63
 110.00 0 18 7 1703.77 -20.39 358.07 209.27 118.01 0 46 31 703.8 -7.45 337.22

MID-COURSE EXECUTION ACCURACY
 SGT 7410.8 SGR 1080.1 SG3 1292.0
 RRT .9253 RRF .9437 RTF .9500
 SGB 7486.2 R23 .0905 R13 .9807
 SG1 7475.6 SG2 398.5 THA 7.56

ORBIT DETERMINATION ACCURACY
 ST 145.1 SR 35.5 SS 102.9
 CRT .9472 CRS -.9486 CST -.9999
 LSA 181.0 MSA 11.1 SSA 1.4
 EL1 148.9 EL2 11.1 ALF 13.11

LAUNCH DATE APR 12 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC
 RL 149.94 LAL .00 LOL 201.48 VL 32.371 GAL -5.08 AZL 90.17 HCA 210.58 SMA 183.73 ECC .20347 INC .1687 V1 29.716
 RP 221.12 LAP .09 LOP 52.00 VP 21.865 GAP .08 AZP 89.85 TAL 329.11 TAP 179.67 RCA 146.35 APO 221.12 V2 24.863
 RC 194.659 GL -1.30 GP -10.15 ZAL 142.98 ZAP 53.98 ETS 171.47 ZAE 93.84 ETE 180.90 ZAC 92.49 ETC 270.00 LVI 2.54

PLANETOCENTRIC CONIC
 C3 17.700 VHL 4.207 DLA -7.32 RAL 346.18 RAD 6641.8 VEL 11.736 PTH 6.77 VHP 3.686 DPA -34.18 RAP 287.98 ECC 1.2913
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 27 2959.16 -29.16 88.34 203.58 129.42 18 19 46 1959.2 -11.96 70.10
 60.00 18 17 53 2832.98 -24.50 80.80 207.40 123.06 19 5 6 1833.0 -9.56 61.00
 70.00 19 18 55 2653.55 -20.20 68.95 210.10 118.09 20 3 8 1853.5 -7.32 48.12
 80.00 20 35 15 2414.57 -17.19 52.43 211.72 114.80 21 15 29 1414.6 -5.65 31.01
 90.00 22 0 13 2140.47 -16.03 32.82 212.27 113.62 22 35 53 1140.5 -5.02 11.20
 100.00 23 18 7 1889.05 -17.19 13.80 211.72 114.80 23 49 36 889.0 -5.65 352.38
 110.00 0 22 17 1700.36 -20.28 357.87 210.10 118.09 0 50 37 700.4 -7.32 337.04

MID-COURSE EXECUTION ACCURACY
 SGT 7563.6 SGR 1007.6 SG3 1262.0
 RRT .9145 RRF .9332 RTF .9798
 SGB 7630.5 R23 .0856 R13 .9803
 SG1 7619.7 SG2 404.7 THA 6.97

ORBIT DETERMINATION ACCURACY
 ST 147.9 SR 34.7 SS 101.6
 CRT .9398 CRS -.9426 CST -.9998
 LSA 182.4 MSA 11.6 SSA 1.4
 EL1 151.4 EL2 11.6 ALF 12.52

LAUNCH DATE APR 12 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC										DISTANCE 655.125										EARTH TO MARS																																																																																																																																																																																																				
RL	149.94	LAL	.00	LOL	201.45	VL	32.379	GAL	-5.18	AZL	90.23	HCA	211.66	SMA	183.87	ECC	.20468	INC	.2313	V1	29.716	RP	221.50	LAP	.12	LOP	53.11	VP	21.830	GAP	-.09	AZP	89.80	TAL	328.60	TAP	180.34	RCA	146.23	APO	221.50	V2	24.821	RC	197.299	GL	-1.76	GP	-9.71	ZAL	143.36	ZAP	52.93	ETS	171.52	ZAE	92.66	ETE	180.67	ZAC	92.92	ETC	270.02	LVI	2.11																																																																																																																																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																																																				
C3	18.088	VHL	4.253	DLA	-7.59	RAL	346.73	RAD	6642.0	VEL	11.752	PTH	6.78	VMP	3.721	DPA	-33.74	RAP	288.03	ECC	1.2977	SGT	7713.0	SGR	960.3	SG3	1231.9	ST	150.7	SR	34.1	SS	100.4	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9023	RRF	.9212	RTF	.9795	CRT	.9322	CRS	-.9365	CST	-.9998	50.00	17	33	39	2958.77	-29.14	88.32	204.36	129.43	18	22	58	1958.0	-11.94	70.09	60.00	18	21	24	2831.80	-24.46	80.73	208.21	123.09	19	8	36	1831.8	-9.51	60.94	70.00	19	22	46	2651.37	-20.21	68.82	210.93	118.14	20	6	57	1651.4	-7.24	48.00	80.00	20	39	25	2411.42	-17.10	52.24	212.56	114.86	21	19	36	1411.4	-5.55	30.83	90.00	22	4	31	2136.86	-15.93	32.61	213.11	113.68	22	40	7	1136.9	-4.90	11.00	100.00	23	22	17	1885.89	-17.10	13.61	212.56	114.86	23	53	43	685.9	-5.55	352.20	110.00	0	26	8	1698.19	-20.21	357.73	210.93	118.14	0	54	26	698.2	-7.24	336.92	FDE	3.7297	FRA	9.0742	FC3	-5.8656	BSP	13228	SG6	7772.6	R23	.0810	R13	.9800	LSA	183.8	MSA	12.1	SSA	1.3	BDE	1.8498	BRA	4.4689	BC3	4.8913	F8P	2297	SG1	7761.7	SG2	411.5	THA	6.43	EL1	154.0	EL2	12.1	ALF	11.98

LAUNCH DATE APR 12 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC										DISTANCE 659.216										EARTH TO MARS																																																																																																																																																																																																				
RL	149.94	LAL	.00	LOL	201.45	VL	32.387	GAL	-5.27	AZL	90.29	HCA	212.76	SMA	184.00	ECC	.20593	INC	.2906	V1	29.716	RP	221.88	LAP	.16	LOP	54.21	VP	21.794	GAP	-.26	AZP	89.76	TAL	328.23	TAP	181.00	RCA	146.11	APO	221.89	V2	24.780	RC	199.945	GL	-2.18	GP	-9.31	ZAL	143.74	ZAP	51.92	ETS	171.57	ZAE	91.49	ETE	180.46	ZAC	93.32	ETC	270.05	LVI	1.69																																																																																																																																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																																																																																																																				
C3	18.487	VHL	4.300	DLA	-7.83	RAL	347.27	RAD	6642.2	VEL	11.769	PTH	6.80	VMP	3.758	DPA	-33.33	RAP	288.13	ECC	1.3042	SGT	7859.9	SGR	917.9	SG3	1201.9	ST	153.6	SR	33.6	SS	99.1	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.8886	RRF	.9078	RTF	.9792	CRT	.9245	CRS	-.9303	CST	-.9997	50.00	17	36	40	2959.25	-29.16	88.35	205.15	129.42	18	26	0	1959.2	-11.96	70.11	60.00	18	24	40	2831.59	-24.45	80.72	209.02	123.09	19	11	52	1831.6	-9.50	60.93	70.00	19	28	20	2650.30	-20.18	68.75	211.75	118.16	20	10	30	1650.3	-7.20	47.95	80.00	20	43	15	2409.50	-17.04	52.13	213.40	114.89	21	23	25	1409.5	-5.48	30.73	90.00	22	8	28	2134.55	-15.86	32.47	213.96	113.72	22	44	3	1134.6	-4.83	10.87	100.00	23	26	7	1883.97	-17.04	13.49	213.40	114.89	23	57	31	884.0	-5.48	352.10	110.00	0	29	42	1697.12	-20.18	357.67	211.75	118.16	0	57	59	697.1	-7.20	336.87	FDE	3.6903	FRA	8.9659	FC3	-5.6816	BSP	13193	SG6	7913.3	R23	.0768	R13	.9797	LSA	185.4	MSA	12.5	SSA	1.3	BDE	1.8983	BRA	4.6155	BC3	4.8896	F8P	2247	SG1	7902.2	SG2	418.8	THA	5.94	EL1	156.7	EL2	12.5	ALF	11.50

LAUNCH DATE APR 13 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC												DISTANCE 350.473												EARTH TO MARS																																																		
RL	149.99	LAL	.00	LOL	202.43	VL	34.517	GAL	-5.72	AZL	92.09	HCA	117.53	8MA	229.50	ECC	.35886	INC	2.0858	V1	29.708	RP	207.32	LAP	-1.85	LOP	319.97	VP	26.495	GAP	20.32	AZP	89.04	TAL	338.18	TAP	95.69	RCA	147.14	APO	311.86	V2	26.420	RC	56.291	GL	-11.85	GP	2.36	ZAL	129.40	ZAP	170.61	ETS	165.30	ZAE	171.18	ETE	123.37	ZAC	103.27	ETC	276.27	LVI	-18.16									
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																		
C3	38.339	VHL	6.192	DLA	-21.30	RAL	339.25	RAD	8650.1	VEL	12.578	PTH	7.44	VHP	9.940	DPA	-16.99	RAP	313.19	ECC	1.6310	ST	39.5	SR	25.4	SS	28.1	CR	7.807	CR8	.6286	CST	.9755	LSA	52.1	MSA	16.7	SSA	1.1	EL1	44.9	EL2	14.0	ALF	29.89																													
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1618.0	SGR	541.6	SG3	169.9	CRT	.7807	CR8	.6286	CST	.9755	LSA	52.1	MSA	16.7	SSA	1.1	EL1	44.9	EL2	14.0	ALF	29.89																									
50.00	17	55	13	2862.27	-24.85	83.14	205.16	131.97	18	42	55	1862.3	-7.15	65.93	80.00	22	2	42	2134.31	-8.53	36.14	217.17	118.72	22	38	16	1134.3	3.81	15.59	90.00	23	38	44	1824.51	-6.64	14.38	218.18	117.55	24	9	9	824.5	5.13	353.53	100.00	0	49	29	1608.78	-8.53	357.51	217.17	118.72	1	16	18	608.8	3.81	336.96	110.00	1	27	4	1490.98	-13.13	345.85	214.43	121.82	1	51	54	491.0	.63	326.06
TDE	-1.4878	TRA	-1.4878	TC3	-.0623	BAU	.0630	RDE	-.5482	RRA	.1359	RC3	.1078	FAU	.03870	FDE	.4866	FRA	1.5903	FC3	-.8738	BSP	2647	BDE	.8949	BRA	1.4940	BC3	.1245	FSP	232																																											

LAUNCH DATE APR 13 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC												DISTANCE 353.150												EARTH TO MARS																																																		
RL	149.99	LAL	.00	LOL	202.43	VL	34.378	GAL	-5.57	AZL	92.11	HCA	118.79	8MA	225.76	ECC	.34787	INC	2.1096	V1	29.708	RP	207.22	LAP	-1.85	LOP	321.23	VP	26.325	GAP	19.83	AZP	88.98	TAL	338.21	TAP	97.00	RCA	147.22	APO	304.29	V2	26.432	RC	56.455	GL	-12.05	GP	2.45	ZAL	129.41	ZAP	169.75	ETS	166.03	ZAE	171.59	ETE	117.94	ZAC	103.31	ETC	276.37	LVI	-18.38									
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																		
C3	36.398	VHL	6.033	DLA	-21.64	RAL	339.49	RAD	8649.4	VEL	12.502	PTH	7.39	VHP	9.642	DPA	-16.80	RAP	313.57	ECC	1.5990	ST	39.5	SR	25.3	SS	29.1	CR	.7837	CR8	.6289	CST	.9746	LSA	53.3	MSA	16.7	SSA	1.1	EL1	45.6	EL2	13.9	ALF	29.03																													
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1654.6	SGR	538.3	SG3	181.3	CRT	.7837	CR8	.6289	CST	.9746	LSA	53.3	MSA	16.7	SSA	1.1	EL1	45.6	EL2	13.9	ALF	29.03																									
50.00	17	57	44	2841.86	-23.92	82.09	204.66	132.44	18	45	6	1841.9	-6.13	65.06	80.00	22	7	26	2107.34	-7.64	34.63	213.96	122.13	21	7	51	1420.1	1.55	35.88	90.00	23	44	0	1785.85	-5.74	12.78	217.77	117.74	24	13	56	795.8	6.03	351.92	100.00	0	54	14	1581.81	-7.64	356.00	216.73	118.95	1	20	35	581.8	4.71	335.47	110.00	1	30	53	1466.88	-12.26	344.53	213.96	122.13	1	55	20	466.9	1.55	324.80
TDE	-1.4789	TRA	-1.4789	TC3	-.0561	BAU	.0624	RDE	-.5307	RRA	.1250	RC3	.1154	FAU	.03992	FDE	.5043	FRA	1.6357	FC3	-.9495	BSP	2738	BDE	.8836	BRA	1.4841	BC3	.1283	FSP	249																																											

LAUNCH DATE APR 13 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC												DISTANCE 355.960												EARTH TO MARS																																																		
RL	149.99	LAL	.00	LOL	202.43	VL	34.246	GAL	-5.43	AZL	92.13	HCA	120.05	8MA	222.33	ECC	.33749	INC	2.1339	V1	29.708	RP	207.13	LAP	-1.85	LOP	322.50	VP	26.184	GAP	19.35	AZP	88.93	TAL	338.27	TAP	98.32	RCA	147.30	APO	297.37	V2	26.443	RC	56.701	GL	-12.46	GP	2.55	ZAL	129.40	ZAP	168.88	ETS	166.64	ZAE	171.91	ETE	112.23	ZAC	103.37	ETC	276.46	LVI	-18.60									
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																		
C3	34.599	VHL	5.882	DLA	-22.00	RAL	339.73	RAD	8648.7	VEL	12.430	PTH	7.33	VHP	9.353	DPA	-16.59	RAP	313.93	ECC	1.5694	ST	40.5	SR	25.3	SS	29.1	CR	.7837	CR8	.6289	CST	.9746	LSA	53.3	MSA	16.7	SSA	1.1	EL1	46.4	EL2	13.8	ALF	28.25																													
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1688.6	SGR	534.8	SG3	193.4	CRT	.7837	CR8	.6289	CST	.9746	LSA	54.5	MSA	16.7	SSA	1.2	EL1	46.4	EL2	13.8	ALF	28.25																									
50.00	18	0	18	2821.44	-22.98	81.06	204.19	132.88	18	47	19	1821.4	-5.11	64.20	80.00	19	6	55	2644.25	-17.10	70.34	209.44	127.07	19	31	0	1644.2	-1.32	51.88	90.00	20	31	28	2395.71	-11.38	54.28	213.32	122.42	21	11	24	1395.7	2.48	34.61	100.00	22	12	23	2079.87	-6.74	33.10	216.32	119.16	22	47	3	1079.9	5.63	12.58	110.00	0	59	11	1954.34	-6.74	354.47	216.32	119.16	1	25	5	766.5	6.96	350.28
TDE	-1.4679	TRA	-1.4679	TC3	-.0480	BAU	.0613	RDE	-.5139	RRA	.1141	RC3	.1234	FAU	.04121	FDE	.5228	FRA	1.7240	FC3	-1.0312	BSP	2816	BDE	.8716	BRA	1.4723	BC3	.1325	FSP	289																																											

LAUNCH DATE APR 13 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC												DISTANCE 358.889												EARTH TO MARS																																																		
RL	149.99	LAL	.00	LOL	202.43	VL	34.121	GAL	-5.30	AZL	92.16	HCA	121.32	8MA	219.20	ECC	.32768	INC	2.1589	V1	29.708	RP	207.05	LAP	-1.84	LOP	323.76	VP	26.010	GAP	18.87	AZP	88.88	TAL	338.34	TAP	99.88	RCA	147.37	APO	291.03	V2	26.453	RC	57.030	GL	-12.89	GP	2.66	ZAL	129.37	ZAP	167.99	ETS	167.15	ZAE	172.14	ETE	106.41	ZAC	103.43	ETC	276.54	LVI	-18.81									
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																		
C3	32.932	VHL	5.739	DLA	-22.37	RAL	339.96	RAD	8648.1	VEL	12.383	PTH	7.28	VHP	9.074	DPA	-16.39	RAP	314.28	ECC	1.5420	ST	42.2	SR	24.9	SS	31.2	CR	.7900	CR8	.6302	CST	.9727	LSA	55.6	MSA	16.7	SSA	1.2	EL1	47.1	EL2	13.7	ALF	27.50																													
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1722.0	SGR	531.2	SG3	206.3	CRT	.7900	CR8	.6302	CST	.9727	LSA	55.6	MSA	16.7	SSA	1.2	EL1	47.1	EL2	13.7	ALF	27.50																									
50.00	18	2	54	2801.03	-22.03	80.05	203.75	133.30	18	49	38	1801.0	-4.09	63.34	80.00	19	10	9	2622.18	-16.19	69.19	209.00	127.43	19	53	52	1622.2	-3.34	50.83	90.00	20	35	34	2371.12	-10.48	52.94	213.11	122.69	21	15	5	1371.1	3.42	35.32	100.00	22	17	34	2051.87	-5.80	31.54	215.95	119.34	22	51	46	1051.9	6.57	11.03	110.00	0	4	22	1826.34	-5.80	352.91	215.95	119.34	1	29	48	526.3	6.57	332.39
TDE	-1.4565	TRA	-1.4565	TC3	-.0393	BAU	.0606	RDE	-.4976	RRA	.1031	RC3	.1319	FAU	.04258	FDE	.5421	FRA	1.7982	FC3	-1.1192	BSP	2891	BDE	.8600	BRA	1.4602	BC3	.1377	FSP	290																																											

LAUNCH DATE APR 13 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 361.924

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 34.003 GAL -5.16 AZL 92.18 HCA 122.98 SMA 216.33 ECC .31841 INC 2.1845 V1 29.708
 RP 206.87 LAP -1.84 LOP 325.03 VP 25.864 GAP 18.41 AZP 88.82 TAL 338.42 TAP 101.00 RCA 147.45 APO 285.21 V2 26.462
 RC 57.440 GL -13.32 GP 2.77 ZAL 129.33 ZAP 167.08 ETS 167.59 ZAE 172.29 ETE 100.64 ZAC 103.49 ETC 276.63 LVI -19.03

PLANETOCENTRIC CONIC

C3 31.388 VHL 5.602 DLA -22.75 RAL 340.18 RAD 6647.5 VEL 12.301 PTH 7.24 VHP 8.802 DPA -16.18 RAP 314.60 ECC 1.5166
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 35 2780.65 -21.07 79.05 203.34 133.70 18 51 55 1780.6 -3.06 62.49
 60.00 19 13 29 2800.06 -15.27 68.04 208.59 127.76 19 56 49 1800.1 .63 49.77
 70.00 20 39 48 2346.27 -9.56 51.60 212.74 122.95 21 18 55 1346.3 4.37 32.02
 80.00 22 23 0 2023.30 -4.85 29.96 215.61 119.50 22 56 44 1023.3 7.51 9.43
 90.00 0 5 27 1705.54 -2.85 7.69 216.71 118.15 0 33 53 705.5 8.86 346.79
 100.00 1 9 48 1497.78 -4.85 351.33 215.61 119.50 1 34 46 497.8 7.51 330.80
 110.00 1 43 11 1393.09 -9.56 340.52 212.74 122.95 2 6 24 393.1 4.37 320.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6979 TRA-1.4440 TC3 -.0293 BAU .0604 SGT 1753.6 SGR 527.5 SG3 220.1 ST 43.0 SR 24.7 SS 32.3
 RDE -.4819 RRA .0920 RC3 .1409 FAU .04403 RRT .1980 RRF -.2131 RTF -.8258 CRT .7933 CRS .6310 CST .9718
 FDE .5619 FRA 1.8715 FC3-1.2144 BSP 2960 SGB 1831.2 R23 -.0347 R13 -.8267 LSA 56.7 MSA 16.7 SSA 1.2
 BDE .8481 BRA 1.4470 BC3 .1440 FSP 312 SG1 1757.0 SG2 516.0 THA 3.73 EL1 47.7 EL2 13.6 ALF 26.81

LAUNCH DATE APR 13 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 365.057

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 35.891 GAL -5.03 AZL 92.21 HCA 123.85 SMA 213.69 ECC .30965 INC 2.2109 V1 29.708
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.726 GAP 17.95 AZP 88.77 TAL 338.50 TAP 102.35 RCA 147.52 APO 279.86 V2 26.469
 RC 57.930 GL -13.77 GP 2.89 ZAL 129.27 ZAP 166.16 ETS 167.97 ZAE 172.34 ETE 95.11 ZAC 103.57 ETC 276.70 LVI -18.25

PLANETOCENTRIC CONIC

C3 29.956 VHL 5.473 DLA -23.18 RAL 340.40 RAD 6647.0 VEL 12.243 PTH 7.19 VHP 8.540 DPA -15.98 RAP 314.91 ECC 1.4830
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 18 2780.31 -20.11 78.07 202.95 134.07 18 54 18 1780.3 -2.04 61.64
 60.00 19 16 54 2577.87 -14.34 66.90 208.22 128.08 19 59 52 1577.9 1.61 48.71
 70.00 20 44 13 2321.19 -8.63 50.26 212.39 123.17 21 22 54 1321.2 5.32 30.70
 80.00 22 28 43 1994.14 -3.87 28.35 215.31 119.63 23 1 57 994.1 8.47 7.80
 90.00 0 11 59 1673.76 -1.83 5.91 216.44 118.23 0 39 52 673.8 9.83 344.96
 100.00 1 15 31 1468.61 -3.87 349.72 215.31 119.63 1 39 59 468.6 8.47 329.17
 110.00 1 47 35 1368.01 -8.63 339.18 212.39 123.17 2 10 23 368.0 5.32 319.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6944 TRA-1.4308 TC3 -.0181 BAU .0607 SGT 1784.0 SGR 523.8 SG3 234.8 ST 43.8 SR 24.5 SS 33.4
 RDE -.4668 RRA .0808 RC3 .1505 FAU .04558 RRT .2162 RRF -.2328 RTF -.8319 CRT .7971 CRS .6324 CST .9708
 FDE .5828 FRA 1.9504 FC3-1.3174 BSP 3024 SGB 1859.3 R23 -.0378 R13 -.8328 LSA 57.9 MSA 16.7 SSA 1.2
 BDE .8367 BRA 1.4331 BC3 .1515 FSP 336 SG1 1807.9 SG2 510.3 THA 3.96 EL1 48.4 EL2 13.4 ALF 26.16

LAUNCH DATE APR 13 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 368.277

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 35.786 GAL -4.91 AZL 92.24 HCA 125.12 SMA 211.26 ECC .30137 INC 2.2382 V1 29.708
 RP 206.85 LAP -1.83 LOP 327.36 VP 25.593 GAP 17.50 AZP 88.71 TAL 338.59 TAP 103.71 RCA 147.59 APO 274.93 V2 26.476
 RC 58.496 GL -14.22 GP 3.02 ZAL 129.20 ZAP 165.21 ETS 168.29 ZAE 172.34 ETE 90.00 ZAC 103.66 ETC 276.78 LVI -19.47

PLANETOCENTRIC CONIC

C3 28.630 VHL 5.351 DLA -23.56 RAL 340.61 RAD 6646.5 VEL 12.189 PTH 7.15 VHP 8.285 DPA -15.76 RAP 315.20 ECC 1.4712
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 6 2740.04 -19.15 77.11 202.60 134.43 18 56 46 1740.0 -1.02 60.79
 60.00 19 20 26 2555.65 -13.40 65.77 207.88 128.37 20 3 1 1555.6 2.58 47.65
 70.00 20 48 48 2295.85 -7.68 48.91 212.08 123.38 21 27 4 1295.8 6.27 29.37
 80.00 22 34 44 1964.32 -2.86 26.71 215.05 119.73 23 7 28 964.3 9.44 6.12
 90.00 0 18 55 1640.96 -.77 4.08 216.21 118.27 0 46 16 641.0 10.83 343.07
 100.00 1 21 32 1438.79 -2.86 348.07 215.05 119.73 1 45 30 438.8 9.44 327.49
 110.00 1 52 10 1342.67 -7.68 337.83 212.08 123.38 2 14 33 342.7 6.27 318.28

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6904 TRA-1.4172 TC3 -.0070 BAU .0615 SGT 1813.2 SGR 520.2 SG3 250.4 ST 44.5 SR 24.2 SS 34.3
 RDE -.4522 RRA .0695 RC3 .1605 FAU .04721 RRT .2358 RRF -.2541 RTF -.8375 CRT .8010 CRS .6340 CST .9698
 FDE .6045 FRA 2.0338 FC3-1.4276 BSP 3086 SGB 1886.3 R23 -.0412 R13 -.8385 LSA 59.0 MSA 16.7 SSA 1.2
 BDE .8254 BRA 1.4189 BC3 .1606 FSP 381 SG1 1817.7 SG2 504.3 THA 4.19 EL1 49.0 EL2 13.2 ALF 25.55

LAUNCH DATE APR 13 1971

FLIGHT TIME 138.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 371.576

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 33.886 GAL -4.79 AZL 92.27 HCA 126.38 SMA 209.02 ECC .29355 INC 2.2663 V1 29.708
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.468 GAP 17.06 AZP 88.66 TAL 338.69 TAP 105.07 RCA 147.66 APO 270.38 V2 26.482
 RC 59.137 GL -14.69 GP 3.18 ZAL 129.11 ZAP 164.24 ETS 168.56 ZAE 172.27 ETE 85.35 ZAC 103.75 ETC 276.85 LVI -19.69

PLANETOCENTRIC CONIC

C3 27.402 VHL 5.235 DLA -23.99 RAL 340.82 RAD 6646.0 VEL 12.139 PTH 7.11 VHP 8.038 DPA -15.55 RAP 315.46 ECC 1.4510
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 57 2719.84 -18.19 76.16 202.29 134.76 18 59 17 1719.8 -.01 59.95
 60.00 19 24 4 2533.39 -12.46 64.65 207.57 128.64 20 6 17 1533.4 2.56 46.59
 70.00 20 53 34 2270.25 -6.72 47.55 211.81 123.57 21 31 24 1270.2 7.24 28.01
 80.00 22 41 5 1933.76 -1.83 25.03 214.84 119.81 23 13 19 933.8 10.43 4.39
 90.00 0 26 20 1606.99 .32 2.19 216.03 118.28 0 53 7 607.0 11.85 341.09
 100.00 1 27 53 1408.23 -1.83 346.40 214.84 119.81 1 51 21 408.2 10.43 325.76
 110.00 1 56 56 1317.07 -6.72 336.47 211.81 123.57 2 18 53 317.1 7.24 316.93

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6857 TRA-1.4027 TC3 .0053 BAU .0627 SGT 1840.5 SGR 516.7 SG3 267.0 ST 45.2 SR 24.0 SS 35.7
 RDE -.4382 RRA .0580 RC3 .1711 FAU .04896 RRT .2569 RRF -.2772 RTF -.8429 CRT .3031 CRS .6358 CST .9687
 FDE .6267 FRA 2.1210 FC3-1.5467 BSP 3142 SGB 1911.6 R23 -.0450 R13 -.8440 LSA 60.1 MSA 16.7 SSA 1.2
 BDE .8138 BRA 1.4039 BC3 .1712 FSP 388 SG1 1845.6 SG2 498.0 THA 4.45 EL1 49.5 EL2 13.0 ALF 24.99

LAUNCH DATE APR 13 1971

FLIGHT TIME 140.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 33.592 GAL -4.67 AZL 92.30 HCA 127.65 SMA 206.95 ECC .26617 INC 2.2954 V1 29.708
 RP 206.75 LAP -1.82 LOP 330.10 VP 25.348 GAP 18.63 AZP 88.60 TAL 338.80 TAP 106.45 RCA 147.73 APO 266.17 V2 26.487
 RC 59.850 GL -15.17 GP 3.29 ZAL 129.01 ZAP 163.25 ETS 168.79 ZAE 172.17 ETE 81.32 ZAC 103.86 ETC 276.92 LVI -19.91

PLANETOCENTRIC CONIC
 C3 26.265 VHL 5.125 DLA -24.43 RAL 341.02 RAD 6645.5 VEL 12.092 PTH 7.07 VHP 7.799 DPA -15.33 RAP 315.70 ECC 1.4323
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 53 2699.73 -17.22 75.22 202.00 135.07 19 1 53 1699.7 1.00 59.11
 60.00 19 27 49 2511.09 -11.51 63.53 207.30 128.89 20 9 40 1511.1 4.54 45.52
 70.00 20 58 32 2244.37 -5.74 46.16 211.58 123.73 21 35 57 1244.4 8.21 26.63
 80.00 22 47 49 1902.38 -7.77 23.30 214.67 119.85 23 19 31 902.4 11.43 2.60
 90.00 0 34 17 1571.65 1.46 .22 215.91 118.25 1 0 29 571.6 12.89 339.02
 100.00 1 34 36 1376.85 -7.77 344.87 214.67 119.85 1 57 33 376.9 11.43 323.97
 110.00 2 1 54 1291.19 -5.74 335.10 211.58 123.73 2 23 26 291.2 8.21 315.55

Differential Corrections
 TDE -.6810 TRA-1.3873 TC3 .0180 BAU .0643 SGT 1866.0 SGR 513.5 SG3 284.7 ORBIT DETERMINATION ACCURACY
 RDE -.4248 RRA .0463 RC3 .1623 FAU .05083 RRT .2799 RRF -.3022 RTF -.8478 CRT .8097 CRS .6379 CST .9674
 FDE .6496 FRA 2.2123 FC3-1.6755 BSP 3196 SGB 1935.3 R23 -.0492 R13 -.8490 LSA 61.2 MSA 16.7 SSA 1.2
 BDE .8027 BRA 1.3881 BC3 .1832 FSP 417 SG1 1871.9 SG2 491.4 THA 4.73 EL1 50.0 EL2 12.8 ALF 24.47

LAUNCH DATE APR 13 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 33.502 GAL -4.58 AZL 92.33 HCA 128.92 SMA 205.04 ECC .27919 INC 2.3254 V1 29.708
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.234 GAP 16.21 AZP 88.54 TAL 338.90 TAP 107.82 RCA 147.79 APO 262.28 V2 26.491
 RC 60.833 GL -15.66 GP 3.45 ZAL 128.90 ZAP 162.24 ETS 168.99 ZAE 172.04 ETE 77.91 ZAC 103.98 ETC 276.98 LVI -20.14

PLANETOCENTRIC CONIC
 C3 25.213 VHL 5.021 DLA -24.88 RAL 341.23 RAD 6645.1 VEL 12.049 PTH 7.03 VHP 7.568 DPA -15.11 RAP 315.92 ECC 1.4149
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 54 2679.71 -16.25 74.30 201.76 135.36 19 4 34 1679.7 2.01 58.27
 60.00 19 31 42 2488.77 -10.55 62.42 207.07 129.12 20 13 10 1488.8 5.52 44.44
 70.00 21 3 44 2218.20 -4.75 44.80 211.40 123.86 21 40 42 1218.2 9.18 25.23
 80.00 22 54 58 1870.05 .33 21.53 214.55 119.86 23 26 8 870.0 12.45 .74
 90.00 0 42 53 1534.65 2.65 358.15 215.84 118.17 1 8 28 534.6 13.96 336.83
 100.00 1 41 46 1344.52 .33 342.90 214.55 119.86 2 4 10 344.5 12.45 322.11
 110.00 2 7 6 1265.01 -4.75 333.72 211.40 123.86 2 28 11 265.0 9.18 314.15

Differential Corrections
 TDE -.6785 TRA-1.3717 TC3 .0302 BAU .0662 SGT 1890.4 SGR 510.7 SG3 303.5 ORBIT DETERMINATION ACCURACY
 RDE -.4120 RRA .0344 RC3 .1941 FAU .05281 RRT .3047 RRF -.3294 RTF -.8522 CRT .8148 CRS .6407 CST .9662
 FDE .6740 FRA 2.3089 FC3-1.8134 BSP 3253 SGB 1958.2 R23 -.0540 R13 -.8536 LSA 62.3 MSA 16.6 SSA 1.2
 BDE .7921 BRA 1.3721 BC3 .1965 FSP 449 SG1 1897.3 SG2 484.7 THA 5.04 EL1 50.6 EL2 12.5 ALF 23.97

LAUNCH DATE APR 13 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 33.418 GAL -4.45 AZL 92.36 HCA 130.19 SMA 203.27 ECC .27259 INC 2.3586 V1 29.708
 RP 206.70 LAP -1.80 LOP 332.84 VP 25.124 GAP 15.79 AZP 88.48 TAL 339.02 TAP 109.21 RCA 147.86 APO 258.08 V2 26.494
 RC 61.483 GL -16.16 GP 3.61 ZAL 128.77 ZAP 161.20 ETS 169.16 ZAE 171.90 ETE 75.13 ZAC 104.11 ETC 277.04 LVI -20.36

PLANETOCENTRIC CONIC
 C3 24.238 VHL 4.923 DLA -25.35 RAL 341.43 RAD 6644.7 VEL 12.009 PTH 7.00 VHP 7.343 DPA -14.89 RAP 316.11 ECC 1.3989
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 23 0 2659.75 -15.28 73.40 201.55 135.63 19 7 20 1659.8 3.01 57.44
 60.00 19 35 43 2486.38 -9.59 61.31 208.88 129.33 20 16 49 1466.4 6.50 43.36
 70.00 21 9 9 2191.63 -3.74 43.41 211.25 123.97 21 45 41 1191.6 10.16 23.80
 80.00 23 2 37 1836.53 1.46 19.69 214.49 119.83 23 33 13 836.5 13.49 358.79
 90.00 0 52 17 1495.50 3.91 355.96 215.85 118.03 1 17 13 495.5 15.06 334.49
 100.00 1 49 25 1311.00 1.46 341.06 214.49 119.83 2 11 16 311.0 13.49 320.16
 110.00 2 12 32 1238.45 -3.74 332.33 211.25 123.97 2 33 10 238.5 10.16 312.72

Differential Corrections
 TDE -.6604 TRA-1.3440 TC3 .0610 BAU .0699 SGT 1894.7 SGR 508.4 SG3 323.5 ORBIT DETERMINATION ACCURACY
 RDE -.3994 RRA .0224 RC3 .2070 FAU .05496 RRT .3319 RRF -.3384 RTF -.8512 CRT .8180 CRS .6432 CST .9656
 FDE .6978 FRA 2.4088 FC3-1.9630 BSP 3192 SGB 1961.7 R23 -.0564 R13 -.8628 LSA 62.9 MSA 16.6 SSA 1.2
 BDE .7718 BRA 1.3442 BC3 .2158 FSP 480 SG1 1902.7 SG2 477.6 THA 5.43 EL1 50.4 EL2 12.3 ALF 23.80

LAUNCH DATE APR 13 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 33.339 GAL -4.34 AZL 92.39 HCA 131.48 SMA 201.83 ECC .28638 INC 2.3890 V1 29.708
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.021 GAP 15.38 AZP 88.42 TAL 339.13 TAP 110.59 RCA 147.92 APO 255.34 V2 26.496
 RC 62.398 GL -16.67 GP 3.78 ZAL 128.63 ZAP 160.13 ETS 169.30 ZAE 171.76 ETE 72.95 ZAC 104.26 ETC 277.09 LVI -20.60

PLANETOCENTRIC CONIC
 C3 23.340 VHL 4.831 DLA -25.82 RAL 341.64 RAD 6644.3 VEL 11.972 PTH 6.97 VHP 7.126 DPA -14.66 RAP 316.27 ECC 1.3841
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 12 2639.96 -14.32 72.51 201.37 135.87 19 10 12 1640.0 4.00 56.61
 60.00 19 39 52 2444.03 -8.62 60.22 208.73 129.52 20 20 38 1444.0 7.47 42.27
 70.00 21 14 50 2164.79 -2.72 42.01 211.16 124.06 21 50 55 1164.8 11.15 22.35
 80.00 23 10 49 1801.78 2.64 17.78 214.50 119.75 23 40 51 801.8 14.55 356.76
 90.00 1 2 39 1453.82 5.24 353.62 215.93 117.83 1 26 53 453.8 16.21 331.97
 100.00 1 37 37 1276.26 2.64 339.15 214.50 119.75 2 18 53 276.3 14.55 318.13
 110.00 2 18 13 1211.61 -2.72 330.92 211.16 124.06 2 38 24 211.6 11.15 311.27

Differential Corrections
 TDE -.6613 TRA-1.3325 TC3 .0639 BAU .0715 SGT 1923.8 SGR 506.9 SG3 344.8 ORBIT DETERMINATION ACCURACY
 RDE -.3878 RRA .0097 RC3 .2201 FAU .05717 RRT .3604 RRF -.3900 RTF -.8623 CRT .8254 CRS .6476 CST .9637
 FDE .7249 FRA 2.3158 FC3-2.1204 BSP 3280 SGB 1989.5 R23 -.0637 R13 -.8642 LSA 64.2 MSA 16.6 SSA 1.2
 BDE .7666 BRA 1.3325 BC3 .2292 FSP 516 SG1 1933.0 SG2 470.6 THA 5.77 EL1 51.1 EL2 12.0 ALF 23.25

LAUNCH DATE APR 13 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 389.044

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 33.284 GAL -4.24 AZL 92.42 HCA 132.73 SMA 200.11 ECC .28051 INC 2.4227 V1 29.700
RP 206.67 LAP -1.78 LOP 335.18 VP 24.921 GAP 14.99 AZP 88.36 TAL 339.23 TAP 111.98 RCA 147.98 APO 252.24 V2 28.496
RC 63.376 GL -17.19 GP 3.97 ZAL 128.48 ZAP 159.04 ETS 169.41 ZAE 171.82 ETE 71.37 ZAC 104.42 ETC 277.14 LVI -20.83

PLANETOCENTRIC CONIC

C3 22.510 VHL 4.745 DLA -26.31 RAL 341.84 RAD 6643.9 VEL 11.937 PTH 6.94 VHP 6.916 DPA -14.43 RAP 316.41 ECC 1.3708
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 29 29 2820.28 -13.35 71.63 201.24 136.10 19 13 10 1620.3 4.99 55.78
60.00 19 44 11 2421.82 -7.65 59.12 206.62 129.69 20 24 32 1421.6 8.44 41.18
70.00 21 20 48 2137.51 -1.68 40.58 211.12 124.12 21 56 26 1137.5 12.14 20.86
80.00 23 19 42 1765.39 3.87 13.78 214.56 119.63 23 49 7 765.4 15.64 354.61
90.00 1 14 17 1408.52 6.67 351.06 216.10 117.55 1 37 46 408.5 17.42 329.19
100.00 2 6 29 1239.86 3.87 337.15 214.56 119.63 2 27 9 239.9 15.64 315.97
110.00 2 24 11 1184.33 -1.68 329.50 211.12 124.12 2 43 55 184.3 12.14 309.78

DIFFERENTIAL CORRECTIONS

TDE -.6588 TRA-1.3171 TC3 .0711 BAU .0738
RDE -.3766 RRA -.0033 RC3 .2340 FAU .05932
FDE .7321 FRA 2.6282 FC3-2.2891 BSP 3359
BDE .7587 BRA 1.3171 BC3 .2446 FSP 554

MID-COURSE EXECUTION ACCURACY

SGT 1945.7 SGR 506.2 SCS 387.4
RRT .3906 RRF -.4234 RTF -.8644
SG8 2010.4 R23 -.0711 R13 -.8665
SG1 1956.3 SG2 463.4 THA 6.15

ORBIT DETERMINATION ACCURACY

ST 47.9 SR 22.7 SS 41.8
CRT .8326 CRS .6520 CST .9619
LSA 65.4 NSA 16.6 SSA 1.2
EL1 51.7 EL2 11.7 ALF 22.82

LAUNCH DATE APR 13 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 392.696

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 33.193 GAL -4.13 AZL 92.46 HCA 133.99 SMA 198.70 ECC .25497 INC 2.4578 V1 29.700
RP 206.68 LAP -1.77 LOP 336.45 VP 24.826 GAP 14.80 AZP 88.29 TAL 339.37 TAP 113.36 RCA 148.03 APO 249.36 V2 26.496
RC 64.414 GL -17.73 GP 4.17 ZAL 128.32 ZAP 157.92 ETS 169.50 ZAE 171.50 ETE 70.37 ZAC 104.59 ETC 277.18 LVI -21.07

PLANETOCENTRIC CONIC

C3 21.745 VHL 4.663 DLA -26.81 RAL 342.05 RAD 6643.6 VEL 11.906 PTH 6.91 VHP 6.713 DPA -14.19 RAP 316.51 ECC 1.3579
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 32 53 2800.70 -12.39 70.77 201.15 136.31 19 18 14 1800.7 5.97 54.95
60.00 19 48 40 2399.17 -6.67 58.03 206.56 129.84 20 28 39 1399.2 9.42 40.08
70.00 21 27 5 2109.75 -.82 39.13 211.13 124.15 22 2 15 1109.7 13.14 19.34
80.00 23 29 23 1726.91 1.16 13.65 214.71 119.45 23 50 10 726.9 16.78 352.30
90.00 1 27 44 1357.97 8.25 348.19 216.39 117.15 1 50 22 358.0 18.72 326.05
100.00 2 16 11 1201.39 5.18 335.02 214.71 119.45 2 36 13 201.4 16.78 313.67
110.00 2 30 27 1156.57 -.62 328.05 211.13 124.15 2 49 44 156.6 13.14 308.25

DIFFERENTIAL CORRECTIONS

TDE -.6541 TRA-1.2990 TC3 .0807 BAU .0761
RDE -.3680 RRA -.0187 RC3 .2489 FAU .06204
FDE .7806 FRA 2.7458 FC3-2.4699 BSP 3411
BDE .7496 BRA 1.2991 BC3 .2616 FSP 593

MID-COURSE EXECUTION ACCURACY

SGT 1982.1 SGR 506.6 SCS 391.4
RRT .4227 RRF -.4589 RTF -.8669
SG8 2026.4 R23 -.0790 R13 -.8693
SG1 1974.4 SG2 456.3 THA 6.58

ORBIT DETERMINATION ACCURACY

ST 48.3 SR 22.5 SS 43.1
CRT .8401 CRS .6574 CST .9601
LSA 66.5 NSA 16.6 SSA 1.2
EL1 52.1 EL2 11.3 ALF 22.48

LAUNCH DATE APR 13 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 396.391

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 33.128 GAL -4.08 AZL 92.49 HCA 135.28 SMA 197.38 ECC .24975 INC 2.4944 V1 29.700
RP 206.69 LAP -1.76 LOP 337.72 VP 24.736 GAP 14.21 AZP 88.23 TAL 339.49 TAP 114.78 RCA 148.09 APO 246.68 V2 26.495
RC 65.512 GL -18.27 GP 4.38 ZAL 128.16 ZAP 156.77 ETS 169.58 ZAE 171.39 ETE 69.92 ZAC 104.73 ETC 277.22 LVI -21.31

PLANETOCENTRIC CONIC

C3 21.041 VHL 4.587 DLA -27.33 RAL 342.27 RAD 6643.3 VEL 11.876 PTH 6.89 VHP 6.516 DPA -13.95 RAP 316.58 ECC 1.3463
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 36 23 2581.23 -11.43 69.91 201.09 136.51 19 19 26 1581.2 6.94 54.13
60.00 19 53 19 2376.65 -5.69 56.94 206.55 129.97 20 32 56 1376.6 10.39 38.97
70.00 21 33 43 2081.42 .46 37.85 211.19 124.15 22 8 25 1081.4 14.18 17.76
80.00 23 40 7 1685.73 6.53 11.37 214.94 119.20 24 8 13 685.7 17.93 349.81
90.00 1 44 1 1298.87 10.07 344.80 216.83 116.57 2 5 40 298.9 20.15 322.31
100.00 2 26 55 1160.20 6.53 332.74 214.94 119.20 2 46 15 160.2 17.93 311.17
110.00 2 37 6 1128.24 .46 326.57 211.19 124.15 2 55 54 128.2 14.18 306.68

DIFFERENTIAL CORRECTIONS

TDE -.6491 TRA-1.2793 TC3 .0902 BAU .0788
RDE -.3558 RRA -.0307 RC3 .2646 FAU .06468
FDE .8108 FRA 2.8699 FC3-2.6615 BSP 3452
BDE .7403 BRA 1.2797 BC3 .2795 FSP 638

MID-COURSE EXECUTION ACCURACY

SGT 1974.7 SGR 508.4 SCS 416.8
RRT .4563 RRF -.4982 RTF -.8693
SG8 2039.1 R23 -.0875 R13 -.8721
SG1 1989.0 SG2 449.1 THA 7.08

ORBIT DETERMINATION ACCURACY

ST 48.7 SR 22.2 SS 44.5
CRT .8482 CRS .6637 CST .9582
LSA 67.6 NSA 16.6 SSA 1.2
EL1 52.4 EL2 10.9 ALF 22.20

LAUNCH DATE APR 13 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 400.128

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 33.083 GAL -3.97 AZL 92.53 HCA 136.53 SMA 196.17 ECC .24483 INC 2.5327 V1 29.700
RP 206.71 LAP -1.74 LOP 338.99 VP 24.649 GAP 13.84 AZP 88.16 TAL 339.61 TAP 116.14 RCA 148.14 APO 244.19 V2 26.493
RC 68.867 GL -18.83 GP 4.61 ZAL 127.98 ZAP 155.59 ETS 169.63 ZAE 171.30 ETE 70.02 ZAC 105.00 ETC 277.25 LVI -21.56

PLANETOCENTRIC CONIC

C3 20.394 VHL 4.516 DLA -27.85 RAL 342.48 RAD 6643.0 VEL 11.849 PTH 6.87 VHP 6.326 DPA -13.70 RAP 316.62 ECC 1.3356
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 40 3 2561.88 -10.47 69.07 201.09 136.68 19 22 45 1561.9 7.91 53.31
60.00 19 58 11 2354.05 -4.70 55.85 206.59 130.07 20 37 25 1354.0 11.36 37.85
70.00 21 40 45 2052.43 1.57 36.14 211.32 124.12 22 14 58 1052.4 15.18 16.14
80.00 23 52 13 1640.82 8.01 8.86 215.28 118.86 24 19 34 640.8 19.17 347.04
90.00 2 6 6 1221.77 12.38 340.32 217.56 115.63 2 26 20 221.8 21.89 317.33
100.00 2 39 1 1115.29 8.01 330.23 215.28 118.86 2 57 36 115.3 19.17 308.41
110.00 2 44 7 1099.24 1.57 325.06 211.32 124.12 3 2 27 99.2 15.18 305.06

DIFFERENTIAL CORRECTIONS

TDE -.6438 TRA-1.2587 TC3 .0982 BAU .0812
RDE -.3464 RRA -.0452 RC3 .2812 FAU .06748
FDE .8426 FRA 3.0010 FC3-2.8644 BSP 3485
BDE .7311 BRA 1.2586 BC3 .2979 FSP 684

MID-COURSE EXECUTION ACCURACY

SGT 1984.3 SGR 511.8 SCS 443.8
RRT .4912 RRF -.5351 RTF -.8714
SG8 2049.3 R23 -.0973 R13 -.8746
SG1 2001.0 SG2 442.1 THA 7.59

ORBIT DETERMINATION ACCURACY

ST 49.0 SR 22.0 SS 45.9
CRT .8569 CRS .6710 CST .9563
LSA 68.7 NSA 16.6 SSA 1.2
EL1 52.7 EL2 10.6 ALF 21.97

LAUNCH DATE APR 13 1971 FLIGHT TIME 186.00 ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC DISTANCE 403.898 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 33.003 GAL -3.89 AZL 92.57 HCA 137.80 SMA 195.03 ECC .24020 INC 2.5727 V1 29.708

PLANETOCENTRIC CONIC
C3 19.801 VHL 4.450 DLA -28.39 RAL 342.71 RAD 6642.7 VEL 11.824 PTH 6.84 VHP 6.142 DPA -13.44 RAP 316.62 ECC 1.3259

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.8376 TRA-1.2359 TC3 .1073 BAU .0841 SGT 1988.7 SGR 517.1 SG3 472.3 ST 49.2 SR 21.8 SS 47.3

LAUNCH DATE APR 13 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC DISTANCE 407.704 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.947 GAL -3.81 AZL 92.61 HCA 139.07 SMA 193.98 ECC .23583 INC 2.6148 V1 29.708

PLANETOCENTRIC CONIC
C3 19.259 VHL 4.388 DLA -28.93 RAL 342.95 RAD 6642.5 VEL 11.801 PTH 6.82 VHP 5.965 DPA -13.18 RAP 316.58 ECC 1.3169

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6318 TRA-1.2125 TC3 .1131 BAU .0889 SGT 1990.4 SGR 524.8 SG3 502.4 ST 49.4 SR 21.8 SS 48.7

LAUNCH DATE APR 13 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC DISTANCE 411.542 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.895 GAL -3.73 AZL 92.66 HCA 140.34 SMA 193.00 ECC .23172 INC 2.6591 V1 29.708

PLANETOCENTRIC CONIC
C3 18.784 VHL 4.332 DLA -29.49 RAL 343.19 RAD 6642.3 VEL 11.781 PTH 6.81 VHP 5.794 DPA -12.91 RAP 316.51 ECC 1.3088

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6208 TRA-1.1820 TC3 .1282 BAU .0908 SGT 1978.0 SGR 535.1 SG3 534.0 ST 49.1 SR 21.3 SS 50.1

LAUNCH DATE APR 13 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC DISTANCE 415.408 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.848 GAL -3.66 AZL 92.71 HCA 141.60 SMA 192.00 ECC .22788 INC 2.7058 V1 29.708

PLANETOCENTRIC CONIC
C3 18.317 VHL 4.280 DLA -30.07 RAL 343.45 RAD 6642.1 VEL 11.762 PTH 6.79 VHP 5.629 DPA -12.62 RAP 316.40 ECC 1.3014

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6193 TRA-1.1807 TC3 .1190 BAU .0928 SGT 1980.3 SGR 548.6 SG3 567.7 ST 49.4 SR 21.2 SS 51.7

LAUNCH DATE APR 13 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.798 GAL -3.59 AZL 92.76 HCA 142.87 SMA 191.24 ECC .22424 INC 2.7552 V1 29.708
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.264 GAP 12.09 AZP 87.80 TAL 340.18 TAP 123.05 RCA 148.36 APO 234.13 V2 26.466
 RC 73.228 GL -21.83 GP 6.03 ZAL 126.98 ZAP 149.16 ETS 169.68 ZAE 170.94 ETE 78.68 ZAC 106.40 ETC 277.31 LVI -22.92

Distance 419.302 Earth to Mars

Planetary Centric Conic: C3 17.913 VHL 4.232 DLA -30.65 RAL 343.72 RAD 6641.9 VEL 11.745 PTH 6.77 VHP 5.470 DPA -12.33 RAP 316.24 ECC 1.2948
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 0 37 2466.41 -5.72 65.00 201.76 137.31 19 41 43 1466.4 12.64 49.17
 60.00 20 26 12 2238.67 .37 50.33 207.61 130.30 21 3 31 1238.7 16.22 31.97
 70.00 22 24 25 1890.84 7.70 27.64 213.10 123.38 22 55 56 890.8 20.60 6.75
 77.66 1 15 21 1368.93 18.52 354.14 219.27 114.87 1 38 10 369.0 27.16 329.86
 77.66 1 15 21 1368.93 18.52 354.14 219.27 114.87 1 38 10 369.0 27.16 329.86
 77.66 1 15 21 1368.93 18.52 354.14 219.27 114.87 1 38 10 369.0 27.16 329.86
 110.00 3 27 47 6225.70 7.70 294.47 213.10 123.38 5 11 33 5225.7 20.60 273.97

Differential Corrections: TDE -.8109 TRA-1.1304 TC3 .1231 BAU .0963 SGT 1964.4 SGR 565.6 SCS 602.9 ST 49.2 SR 21.0 SS 53.2
 RDE -.3073 RRA -.1300 RC3 .3829 FAU .08416 RRT .6674 RRF -.7348 RTF -.8765 CRT .9102 CR8 .7239 CST .9436
 FDE 1.0222 FRA 3.7351 FC3-4.0677 BSP 3493 SGB 2044.3 R23 -.1647 R13 -.8841 LSA 73.6 MSA 16.8 SSA 1.1
 BDE .6838 BRA 1.1379 BC3 .4022 F8P 952 SG1 2002.0 S62 413.3 THA 11.37 EL1 52.9 EL2 8.1 ALF 21.79

LAUNCH DATE APR 13 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.754 GAL -3.53 AZL 92.81 HCA 144.13 SMA 190.45 ECC .22083 INC 2.8074 V1 29.708
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.198 GAP 11.76 AZP 87.72 TAL 340.28 TAP 124.41 RCA 148.40 APO 232.51 V2 26.458
 RC 74.683 GL -22.47 GP 6.38 ZAL 126.77 ZAP 147.76 ETS 169.65 ZAE 170.81 ETE 81.90 ZAC 106.76 ETC 277.30 LVI -23.23

Distance 423.221 Earth to Mars

Planetary Centric Conic: C3 17.551 VHL 4.189 DLA -31.25 RAL 344.01 RAD 6641.7 VEL 11.730 PTH 6.76 VHP 5.317 DPA -12.02 RAP 316.04 ECC 1.2889
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 5 18 2447.47 -4.77 64.20 202.06 137.39 19 46 5 1447.5 13.57 48.34
 60.00 20 32 45 2214.76 1.43 49.19 208.01 130.28 21 9 40 1214.8 17.20 30.72
 70.00 22 35 47 1852.67 9.12 25.61 213.75 123.06 23 6 40 852.7 21.79 4.43
 76.12 1 5 32 1398.88 19.00 356.62 219.42 115.28 1 28 51 398.9 27.76 332.29
 76.12 1 5 32 1398.88 19.00 356.62 219.42 115.28 1 28 51 398.9 27.76 332.29
 76.12 1 5 32 1398.88 19.00 356.62 219.42 115.28 1 28 51 398.9 27.76 332.29
 110.00 3 39 9 6187.53 9.12 292.43 213.75 123.06 5 22 17 5187.5 21.79 271.26

Differential Corrections: TDE -.6061 TRA-1.1022 TC3 .1191 BAU .0993 SGT 1950.7 SGR 586.6 SCS 639.8 ST 49.2 SR 20.9 SS 54.8
 RDE -.3014 RRA -.1303 RC3 .4072 FAU .08796 RRT .6977 RRF -.7715 RTF -.8750 CRT .9229 CR8 .7386 CST .9401
 FDE 1.0646 FRA 3.9289 FC3-4.3385 BSP 3505 SGB 2037.0 R23 -.1850 R13 -.8842 LSA 74.6 MSA 16.9 SSA 1.1
 BDE .6768 BRA 1.1124 BC3 .4232 F8P 1017 SG1 1995.1 S62 410.9 THA 12.38 EL1 52.9 EL2 7.5 ALF 21.81

LAUNCH DATE APR 13 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.713 GAL -3.47 AZL 92.86 HCA 145.40 SMA 189.72 ECC .21764 INC 2.8630 V1 29.708
 RP 207.06 LAP -1.63 LOP 347.86 VP 24.130 GAP 11.44 AZP 87.64 TAL 340.37 TAP 125.77 RCA 148.43 APO 231.01 V2 26.449
 RC 76.180 GL -23.14 GP 6.76 ZAL 126.94 ZAP 146.32 ETS 169.61 ZAE 170.64 ETE 85.73 ZAC 107.16 ETC 277.28 LVI -23.59

Distance 427.183 Earth to Mars

Planetary Centric Conic: C3 17.250 VHL 4.151 DLA -31.88 RAL 344.32 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 5.170 DPA -11.70 RAP 315.79 ECC 1.2936
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 10 14 2428.47 -3.82 63.40 202.42 137.46 19 50 42 1428.5 14.50 47.49
 60.00 20 39 44 2190.31 2.50 48.02 208.48 130.24 21 16 14 1190.3 18.20 29.42
 70.00 22 48 41 1810.64 10.67 23.34 214.54 122.84 23 18 52 810.6 23.07 1.84
 74.68 0 56 46 1425.93 19.47 358.91 219.82 115.73 1 20 32 425.9 28.36 334.53
 74.68 0 56 46 1425.93 19.47 358.91 219.82 115.73 1 20 32 425.9 28.36 334.53
 74.68 0 56 46 1425.93 19.47 358.91 219.82 115.73 1 20 32 425.9 28.36 334.53
 110.00 3 52 3 6145.50 10.67 290.17 214.54 122.84 5 34 29 5145.5 23.07 288.68

Differential Corrections: TDE -.5919 TRA-1.0628 TC3 .1262 BAU .1043 SGT 1915.5 SGR 611.9 SCS 678.2 ST 48.4 SR 20.8 SS 56.2
 RDE -.2956 RRA -.1713 RC3 .4348 FAU .09230 RRT .7280 RRF -.8055 RTF -.8765 CRT .9345 CR8 .7529 CST .9367
 FDE 1.1024 FRA 4.1033 FC3-4.6375 BSP 3385 SGB 2009.0 R23 -.1995 R13 -.8877 LSA 75.1 MSA 17.0 SSA 1.0
 BDE .6616 BRA 1.0765 BC3 .4528 F8P 1076 SG1 1987.1 S62 408.1 THA 13.71 EL1 52.2 EL2 6.8 ALF 22.33

LAUNCH DATE APR 13 1971

FLIGHT TIME 170.00

ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.678 GAL -3.42 AZL 92.92 HCA 146.66 SMA 189.04 ECC .21465 INC 2.9221 V1 29.708
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.088 GAP 11.12 AZP 87.56 TAL 340.46 TAP 127.12 RCA 148.46 APO 229.62 V2 26.439
 RC 77.718 GL -23.82 GP 7.17 ZAL 126.32 ZAP 144.84 ETS 169.56 ZAE 170.39 ETE 89.84 ZAC 107.59 ETC 277.26 LVI -23.89

Distance 431.126 Earth to Mars

Planetary Centric Conic: C3 18.930 VHL 4.117 DLA -32.48 RAL 344.68 RAD 6641.4 VEL 11.704 PTH 6.74 VHP 5.030 DPA -11.35 RAP 315.50 ECC 1.2789
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 15 26 2409.48 -2.87 62.60 202.85 137.51 19 55 36 1409.5 15.42 46.63
 60.00 20 47 10 2165.35 3.60 48.83 209.05 130.17 21 23 15 1165.4 19.20 28.08
 70.00 23 3 45 1783.05 12.41 20.75 215.53 122.08 23 33 8 763.0 24.45 356.84
 73.31 0 48 57 1450.63 19.94 1.03 219.89 116.19 1 13 7 450.6 28.97 336.60
 73.31 0 48 57 1450.63 19.94 1.03 219.89 116.19 1 13 7 450.6 28.97 336.60
 73.31 0 48 57 1450.63 19.94 1.03 219.89 116.19 1 13 7 450.6 28.97 336.60
 110.00 4 7 7 6097.91 12.41 287.57 215.53 122.08 5 48 45 5097.9 24.45 285.88

Differential Corrections: TDE -.5945 TRA-1.0380 TC3 .0938 BAU .1067 SGT 1903.5 SGR 642.8 SCS 719.0 ST 48.7 SR 20.9 SS 58.1
 RDE -.2918 RRA -.1954 RC3 .4614 FAU .09611 RRT .7499 RRF -.8369 RTF -.8707 CRT .9484 CR8 .7721 CST .9325
 FDE 1.1577 FRA 4.2998 FC3-4.9090 BSP 3470 SGB 2009.1 R23 -.2293 R13 -.8848 LSA 76.7 MSA 17.2 SSA 1.0
 BDE .6823 BRA 1.0882 BC3 .4706 F8P 1155 SG1 1986.4 S62 411.7 THA 14.88 EL1 52.6 EL2 6.1 ALF 22.48

LAUNCH DATE APR 13 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC		DISTANCE 435.110										EARTH TO MARS													
RL	149.99	LAL	.00	LOL	202.43	VL	32.638	GAL	-3.37	AZL	92.99	HCA	147.92	SMA	188.40	ECC	.21166	INC	2.9853	V1	29.708				
RP	207.26	LAP	-1.58	LOP	350.39	VP	24.005	GAP	10.82	AZP	87.47	TAL	340.54	TAP	128.47	RCA	148.49	APO	228.32	V2	26.429				
RC	79.295	GL	-24.53	GP	7.61	ZAL	126.08	ZAP	143.31	ETS	169.50	ZAE	170.06	ETE	94.18	ZAC	108.06	ETC	277.23	LVI	-24.24				
PLANETOCENTRIC CONIC																									
C3	16.708	VHL	4.087	DLA	-33.13	RAL	345.00	RAD	6641.3	VEL	11.694	PTH	6.73	VHP	4.895	DPA	-10.99	RAP	315.16	ECC	1.2750				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	19	20	57	2390.34	-1.90	61.80	203.35	137.55	20	0	47	1390.3	16.35	45.76											
60.00	20	55	9	2139.57	4.73	45.59	209.71	130.07	21	30	49	1139.6	20.23	26.68											
70.00	23	22	26	1705.40	14.47	17.55	216.78	121.28	23	50	52	705.4	26.03	355.11											
71.98	0	41	48	1473.75	20.41	3.06	220.22	116.68	1	6	22	473.8	29.59	338.57											
71.98	0	41	48	1473.75	20.41	3.06	220.22	116.68	1	6	22	473.8	29.59	338.57											
71.98	0	41	48	1473.75	20.41	3.06	220.22	116.68	1	6	22	473.8	29.59	338.57											
110.00	4	25	49	6040.26	14.47	284.38	216.78	121.28	6	6	29	5040.3	26.03	261.93											
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY													
TDE	-.5880	TRA	-1.0017	TC3	.0798	BAU	.1113	SGT	1869.5	SGR	678.9	SG3	761.0	ST	48.3	SR	20.9	SS	59.7						
RDE	-.2881	RRA	-.2205	RC3	.4918	FAU	.10054	RRT	.7705	RRF	-.8648	RTF	-.8675	CRT	.9606	CRS	.7901	CST	.9279						
FDE	1.2064	FRA	4.4937	FC3	-5.2097	BSP	3432	SGB	1988.9	R23	-.2530	R13	-.8851	LSA	77.7	MSA	17.3	SSA	1.0						
BDE	.6548	BRA	1.0257	BC3	.4982	FSP	1226	SG1	1944.9	SG2	416.0	THA	16.40	EL1	52.4	EL2	5.4	ALF	22.88						

LAUNCH DATE APR 13 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC		DISTANCE 439.112										EARTH TO MARS													
RL	149.99	LAL	.00	LOL	202.43	VL	32.605	GAL	-3.32	AZL	93.05	HCA	149.19	SMA	187.82	ECC	.20924	INC	3.0531	V1	29.708				
RP	207.37	LAP	-1.56	LOP	351.65	VP	23.945	GAP	10.52	AZP	87.38	TAL	340.61	TAP	129.80	RCA	148.52	APO	227.11	V2	26.415				
RC	80.909	GL	-25.26	GP	8.10	ZAL	125.84	ZAP	141.74	ETS	169.44	ZAE	169.62	ETE	98.66	ZAC	108.57	ETC	277.19	LVI	-24.82				
PLANETOCENTRIC CONIC																									
C3	16.504	VHL	4.062	DLA	-33.79	RAL	345.38	RAD	6641.2	VEL	11.685	PTH	6.72	VHP	4.767	DPA	-10.60	RAP	314.76	ECC	1.2718				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	19	26	48	2371.02	-0.93	61.00	203.93	137.57	20	6	19	1371.0	17.28	44.87											
60.00	21	3	48	2112.79	5.90	44.30	210.47	129.94	21	39	0	1112.8	21.29	25.20											
70.00	23	49	25	1623.74	17.30	12.92	218.57	119.92	24	16	29	623.7	28.08	349.64											
70.69	0	35	16	1495.65	20.87	5.00	220.62	117.20	1	0	12	495.7	30.22	340.47											
70.69	0	35	16	1495.65	20.87	5.00	220.62	117.20	1	0	12	495.7	30.22	340.47											
70.69	0	35	16	1495.65	20.87	5.00	220.62	117.20	1	0	12	495.7	30.22	340.47											
110.00	4	52	48	5958.60	17.30	279.74	218.57	119.92	6	32	6	4958.6	28.08	256.47											
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY													
TDE	-.5819	TRA	-.9636	TC3	.0597	BAU	.1163	SGT	1830.3	SGR	721.1	SG3	804.6	ST	47.8	SR	21.1	SS	61.4						
RDE	-.2854	RRA	-.2478	RC3	.5239	FAU	.10499	RRT	.7869	RRF	-.8893	RTF	-.8631	CRT	.9721	CRS	.8094	CST	.9230						
FDE	1.2601	FRA	4.6969	FC3	-5.5075	BSP	3396	SGB	1967.2	R23	-.2775	R13	-.8854	LSA	78.7	MSA	17.5	SSA	.9						
BDE	.6481	BRA	.9950	BC3	.5273	FSP	1303	SG1	1921.0	SG2	424.0	THA	18.14	EL1	52.1	EL2	4.5	ALF	23.41						

LAUNCH DATE APR 13 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC		DISTANCE 443.132										EARTH TO MARS													
RL	149.99	LAL	.00	LOL	202.43	VL	32.573	GAL	-3.28	AZL	93.13	HCA	150.45	SMA	187.27	ECC	.20681	INC	3.1259	V1	29.708				
RP	207.48	LAP	-1.54	LOP	352.91	VP	23.888	GAP	10.22	AZP	87.28	TAL	340.68	TAP	131.12	RCA	148.54	APO	226.00	V2	26.402				
RC	82.560	GL	-26.02	GP	8.62	ZAL	125.59	ZAP	140.12	ETS	169.36	ZAE	169.06	ETE	103.14	ZAC	109.13	ETC	277.15	LVI	-25.02				
PLANETOCENTRIC CONIC																									
C3	16.338	VHL	4.042	DLA	-34.47	RAL	345.78	RAD	6641.2	VEL	11.678	PTH	6.71	VHP	4.644	DPA	-10.18	RAP	314.32	ECC	1.2689				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	19	33	3	2351.43	.05	60.18	204.60	137.58	20	12	14	1351.4	18.23	43.96											
60.00	21	13	13	2084.72	7.13	42.94	211.35	129.77	21	47	57	1084.7	22.38	23.63											
69.42	0	29	15	1516.69	21.33	6.90	221.10	117.74	0	54	31	516.7	30.86	342.32											
69.42	0	29	15	1516.69	21.33	6.90	221.10	117.74	0	54	31	516.7	30.86	342.32											
69.42	0	29	15	1516.69	21.33	6.90	221.10	117.74	0	54	31	516.7	30.86	342.32											
69.42	0	29	15	1516.69	21.33	6.90	221.10	117.74	0	54	31	516.7	30.86	342.32											
69.42	0	29	15	1516.69	21.33	6.90	221.10	117.74	0	54	31	516.7	30.86	342.32											
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY													
TDE	-.5744	TRA	-.9215	TC3	.0388	BAU	.1224	SGT	1781.6	SGR	789.8	SG3	849.2	ST	47.1	SR	21.3	SS	63.1						
RDE	-.2834	RRA	-.2771	RC3	.5590	FAU	.10976	RRT	.7992	RRF	-.9104	RTF	-.8575	CRT	.9822	CRS	.8288	CST	.9172						
FDE	1.3137	FRA	4.9016	FC3	-5.8160	BSP	3333	SGB	1940.8	R23	-.3007	R13	-.8861	LSA	79.6	MSA	17.8	SSA	.9						
BDE	.6405	BRA	.9622	BC3	.5603	FSP	1378	SG1	1891.2	SG2	435.9	THA	20.17	EL1	51.6	EL2	3.7	ALF	24.09						

LAUNCH DATE APR 13 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC		DISTANCE 447.168										EARTH TO MARS													
RL	149.99	LAL	.00	LOL	202.43	VL	32.943	GAL	-3.24	AZL	93.20	HCA	151.70	SMA	186.76	ECC	.20454	INC	3.2045	V1	29.708				
RP	207.60	LAP	-1.52	LOP	354.17	VP	23.832	GAP	9.93	AZP	87.18	TAL	340.73	TAP	132.44	RCA	148.56	APO	224.96	V2	26.388				
RC	84.247	GL	-26.81	GP	9.19	ZAL	125.33	ZAP	138.45	ETS	169.29	ZAE	168.37	ETE	107.48	ZAC	109.74	ETC	277.09	LVI	-25.46				
PLANETOCENTRIC CONIC																									
C3	16.212	VHL	4.026	DLA	-35.18	RAL	346.23	RAD	6641.1	VEL	11.673	PTH	6.71	VHP	4.528	DPA	-9.72	RAP	313.82	ECC	1.2688				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	19	39	45	2331.48	1.05	59.35	205.36	137.57	20	18	37	1331.5	19.18	43.03											
60.00	21	23	35	2054.94	8.42	41.49	212.38	129.58	21	57	50	1054.9	23.51	21.93											
68.15	0	23	42	1537.01	21.79	8.77	221.66	118.32	0	49	19	537.0	31.51	344.15											
68.15	0	23	42	1537.01	21.79	8.77	221.66	118.32	0	49	19	537.0	31.51	344.15											
68.15	0	23	42	1537.01	21.79	8.77	221.66	118.32	0	49	19	537.0	31.51	344.15											
68.15	0	23	42	1537.01	21.79	8.77	221.66	118.32	0	49	19	537.0	31.51	344.15											
68.15	0	23	42	1537.01	21.79	8.77	221.66	118.32	0	49	19	537.0	31.51	344.15											
DIFFERENTIAL CORRECTIONS		MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY													
TDE	-.5638	TRA	-.8733	TC3	.0217	BAU	.1296	SGT	1719.2	SGR	825.5	SG3	894.7	ST	46.1	SR	21.6	SS	64.8						
RDE	-.2821	RRA	-.3086	RC3	.5977	FAU	.11487	RRT	.8084	RRF	-.9282	RTF	-.8518	CRT	.9903	CRS	.8479	CST	.9108						
FDE	1.3682	FRA	5.1068	FC3	-6.1343	BSP	3224	SGB	1907.1	R23	-.3191	R13	-.8885	LSA	80.3	MSA	18.0	SSA	.9						
BDE	.6305	BRA	.9262	BC3	.5981	FSP	1450	SG1	1853.1	SG2	450.8	THA	22.63	EL1	50.9	EL2	2.7	ALF	24.99						

LAUNCH DATE APR 13 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

DISTANCE 451.218

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.816 GAL -3.20 AZL 93.29 HCA 152.96 SMA 186.29 ECC .20243 INC 3.2898 V1 29.708
RP 207.73 LAP -1.50 LOP 355.42 VP 23.777 GAP 9.65 AZP 87.07 TAL 340.78 TAP 133.74 RCA 148.58 APO 224.00 V2 26.373
RC 85.989 GL -27.84 GP 9.82 ZAL 125.06 ZAP 136.75 ETS 169.20 ZAE 167.55 ETE 111.58 ZAC 110.41 ETC 277.03 LVI -25.92

PLANETOCENTRIC CONIC

C3 16.125 VHL 4.016 DLA -35.90 RAL 346.71 RAD 6641.1 VEL 11.669 PTH 6.71 VHP 4.418 DPA -9.23 RAP 313.26 ECC 1.2654
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 46 59 2311.10 2.08 58.49 206.24 137.94 20 25 30 1311.1 20.15 42.08
60.00 21 35 8 2022.98 9.80 39.92 213.57 129.29 22 8 51 1023.0 24.71 20.07
66.89 0 18 34 1556.90 22.24 10.61 222.30 118.94 0 44 31 556.9 32.16 345.96
66.89 0 18 34 1556.90 22.24 10.61 222.30 118.94 0 44 31 556.9 32.16 345.96
66.89 0 18 34 1556.90 22.24 10.61 222.30 118.94 0 44 31 556.9 32.16 345.96
66.89 0 18 34 1556.90 22.24 10.61 222.30 118.94 0 44 31 556.9 32.16 345.96
66.89 0 18 34 1556.90 22.24 10.61 222.30 118.94 0 44 31 556.9 32.16 345.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5649 TRA -.8341 TC3 -.0311 BAU .1370 SGT 1676.0 SGR 890.1 SG3 942.3 ST 45.9 SR 22.2 SS 66.7
RDE -.2837 RRA -.3447 RC3 .6346 FAU .11910 RRT .8082 RRF -.9433 RTF -.8392 CRT .9964 CRS .8691 CST .9037
FDE 1.4414 FRA 5.3360 FC3-6.3942 BSP 3257 SGB 1897.7 R23 -.3454 R13 -.8874 LSA 81.9 MSA 18.3 SSA .8
BDE .6321 BRA .9025 BC3 .6353 FSP 1545 SGI 1836.4 SG2 478.4 THA 25.05 EL1 51.0 EL2 1.7 ALF 25.75

LAUNCH DATE APR 13 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 455.282

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.490 GAL -3.17 AZL 93.38 HCA 154.22 SMA 185.85 ECC .20047 INC 3.3825 V1 29.708
RP 207.86 LAP -1.47 LOP 356.68 VP 23.725 GAP 9.37 AZP 86.95 TAL 340.81 TAP 135.03 RCA 148.60 APO 223.11 V2 26.357
RC 87.725 GL -28.51 GP 10.50 ZAL 124.78 ZAP 134.96 ETS 169.12 ZAE 166.58 ETE 115.37 ZAC 111.14 ETC 276.96 LVI -28.43

PLANETOCENTRIC CONIC

C3 16.080 VHL 4.010 DLA -36.86 RAL 347.23 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 4.315 DPA -8.69 RAP 312.65 ECC 1.2648
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 54 49 2290.06 3.13 57.61 207.23 137.50 20 32 59 1290.1 21.14 41.04
60.00 21 48 13 1987.83 11.31 38.18 214.96 128.94 22 21 21 987.8 25.99 17.98
65.62 0 13 49 1576.61 22.69 12.47 223.04 119.61 0 40 5 576.6 32.84 347.79
65.62 0 13 49 1576.61 22.69 12.47 223.04 119.61 0 40 5 576.6 32.84 347.79
65.62 0 13 49 1576.61 22.69 12.47 223.04 119.61 0 40 5 576.6 32.84 347.79
65.62 0 13 49 1576.61 22.69 12.47 223.04 119.61 0 40 5 576.6 32.84 347.79
65.62 0 13 49 1576.61 22.69 12.47 223.04 119.61 0 40 5 576.6 32.84 347.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5595 TRA -.7848 TC3 -.0699 BAU .1483 SGT 1611.3 SGR 962.9 SG3 989.7 ST 45.1 SR 22.8 SS 68.5
RDE -.2857 RRA -.3831 RC3 .6772 FAU .12404 RRT .8055 RRF -.9556 RTF -.8264 CRT .9991 CRS .8863 CST .8954
FDE 1.5094 FRA 5.5542 FC3-6.6783 BSP 3212 SGB 1877.1 R23 -.3607 R13 -.8900 LSA 83.0 MSA 18.7 SSA .8
BDE .6282 BRA .8733 BC3 .6808 FSP 1629 SGI 1806.8 SG2 508.9 THA 28.13 EL1 50.6 EL2 .9 ALF 26.83

LAUNCH DATE APR 13 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 459.358

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.486 GAL -3.14 AZL 93.48 HCA 155.47 SMA 185.45 ECC .19885 INC 3.4839 V1 29.708
RP 208.01 LAP -1.45 LOP 357.93 VP 23.673 GAP 9.10 AZP 86.83 TAL 340.84 TAP 136.31 RCA 148.61 APO 222.29 V2 26.340
RC 89.514 GL -29.43 GP 11.24 ZAL 124.49 ZAP 133.14 ETS 169.03 ZAE 185.47 ETE 118.80 ZAC 111.94 ETC 276.89 LVI -26.97

PLANETOCENTRIC CONIC

C3 16.078 VHL 4.010 DLA -37.46 RAL 347.81 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 4.218 DPA -8.10 RAP 311.98 ECC 1.2646
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 3 24 2288.21 4.23 56.70 208.38 137.43 20 41 12 1268.2 22.16 39.97
60.00 22 3 26 1948.10 13.00 36.19 216.62 128.49 22 35 54 948.1 27.40 15.56
64.34 0 9 26 1596.20 23.14 14.34 223.90 120.32 0 36 2 596.2 33.52 349.64
64.34 0 9 26 1596.20 23.14 14.34 223.90 120.32 0 36 2 596.2 33.52 349.64
64.34 0 9 26 1596.20 23.14 14.34 223.90 120.32 0 36 2 596.2 33.52 349.64
64.34 0 9 26 1596.20 23.14 14.34 223.90 120.32 0 36 2 596.2 33.52 349.64
64.34 0 9 26 1596.20 23.14 14.34 223.90 120.32 0 36 2 596.2 33.52 349.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5540 TRA -.7320 TC3 -.1131 BAU .1572 SGT 1539.8 SGR 1045.3 SG3 1037.2 ST 44.2 SR 23.7 SS 70.2
RDE -.2894 RRA -.4252 RC3 .7225 FAU .12897 RRT .7973 RRF -.9655 RTF -.8264 CRT .9983 CRS .9064 CST .8860
FDE 1.5826 FRA 5.7730 FC3-6.9441 BSP 3159 SGB 1861.1 R23 -.3688 R13 -.8948 LSA 84.2 MSA 19.0 SSA .8
BDE .6251 BRA .8465 BC3 .7313 FSP 1711 SGI 1779.2 SG2 546.0 THA 31.76 EL1 50.2 EL2 1.2 ALF 28.12

LAUNCH DATE APR 13 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 463.447

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.444 GAL -3.12 AZL 93.60 HCA 156.72 SMA 185.08 ECC .19698 INC 3.5953 V1 29.708
RP 208.16 LAP -1.42 LOP 359.19 VP 23.623 GAP 8.84 AZP 86.70 TAL 340.85 TAP 137.57 RCA 148.62 APO 221.53 V2 26.325
RC 91.337 GL -30.39 GP 12.06 ZAL 124.17 ZAP 131.27 ETS 168.94 ZAE 164.21 ETE 121.85 ZAC 112.82 ETC 276.81 LVI -27.57

PLANETOCENTRIC CONIC

C3 16.123 VHL 4.013 DLA -38.29 RAL 348.44 RAD 6641.1 VEL 11.669 PTH 6.71 VHP 4.128 DPA -7.45 RAP 311.25 ECC 1.2654
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 12 51 2245.27 5.38 55.73 209.68 137.34 20 50 18 1245.3 23.23 38.83
60.00 22 21 47 1901.12 14.98 33.79 218.63 127.86 22 53 28 901.1 29.00 12.62
63.03 0 5 24 1615.89 23.58 16.24 224.87 121.09 0 32 20 615.9 34.23 351.53
63.03 0 5 24 1615.89 23.58 16.24 224.87 121.09 0 32 20 615.9 34.23 351.53
63.03 0 5 24 1615.89 23.58 16.24 224.87 121.09 0 32 20 615.9 34.23 351.53
63.03 0 5 24 1615.89 23.58 16.24 224.87 121.09 0 32 20 615.9 34.23 351.53
63.03 0 5 24 1615.89 23.58 16.24 224.87 121.09 0 32 20 615.9 34.23 351.53

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5488 TRA -.6753 TC3 -.1597 BAU .1698 SGT 1461.8 SGR 1138.2 SG3 1084.2 ST 43.3 SR 24.7 SS 72.0
RDE -.2951 RRA -.4714 RC3 .7714 FAU .13396 RRT .7828 RRF -.9735 RTF -.7893 CRT .9932 CRS .9232 CST .8749
FDE 1.6606 FRA 5.9873 FC3-7.1927 BSP 3119 SGB 1852.6 R23 -.3679 R13 -.9024 LSA 85.4 MSA 19.4 SSA .7
BDE .6231 BRA .8235 BC3 .7878 FSP 1793 SGI 1756.3 SG2 589.5 THA 36.05 EL1 49.7 EL2 2.5 ALF 29.62

LAUNCH DATE APR 13 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.423 GAL -3.10 AZL 93.72 HCA 157.97 SMA 184.73 ECC .19543 INC 3.7185 V1 29.708 RP 208.32 LAP -1.39 LOP .44 VP 23.574 GAP 6.58 AZP 86.55 TAL 340.85 TAP 138.82 RCA 148.63 APO 220.84 V2 26.304 RC 93.190 GL -31.42 GP 12.97 ZAL 123.84 ZAP 129.34 ETS 168.85 ZAE 162.81 ETE 124.53 ZAC 113.78 ETC 276.72 LVI -28.23

Distance 467.547

Planetocentric Conic: C3 16.220 VHL 4.027 DLA -39.17 RAL 349.14 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 4.046 DPA -6.73 RAP 310.46 ECC 1.2669 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.5370 TRA -.6080 TC3 -.1941 BAV .1842 RDE -.3015 RRA -.8206 RC3 .8271 FAU .13952 FDE 1.7290 FRA 6.1785 FC3-7.4471 BSP 3019 BDE .6159 BRA .8004 BC3 .8496 FSP 1857

Mid-Course Execution Accuracy: SGT 1361.2 SGR 1241.1 SG3 1128.4 RRT .7632 RRF -.9798 RTF -.7645 SGB 1842.1 R23 -.3487 R13 -.9160 SG1 1730.7 SG2 630.7 THA 41.55

Orbit Determination Accuracy: ST 41.7 SR 25.8 S8 73.4 CRT .9836 CR8 .9375 CST .8609 LSA 86.1 MSA 19.8 S8A .7 EL1 48.9 EL2 4.0 ALF 31.57

LAUNCH DATE APR 13 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.404 GAL -3.08 AZL 93.86 HCA 159.22 SMA 184.42 ECC .19402 INC 3.8555 V1 29.708 RP 208.49 LAP -1.37 LOP 1.69 VP 23.526 GAP 8.33 AZP 86.39 TAL 340.84 TAP 140.06 RCA 148.64 APO 220.20 V2 26.284 RC 95.074 GL -32.53 GP 13.97 ZAL 123.47 ZAP 127.36 ETS 168.76 ZAE 161.26 ETE 126.82 ZAC 114.85 ETC 276.62 LVI -28.96

Distance 471.655

Planetocentric Conic: C3 16.375 VHL 4.047 DLA -40.10 RAL 349.92 RAD 6641.2 VEL 11.680 PTH 6.72 VHP 3.971 DPA -5.92 RAP 309.61 ECC 1.2695 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.5408 TRA -.5518 TC3 -.2700 BAV .2008 RDE -.3146 RRA -.5789 RC3 .8767 FAU .14325 FDE 1.8413 FRA 6.3972 FC3-7.5734 BSP 3108 BDE .6255 BRA .7998 BC3 .9174 FSP 1955

Mid-Course Execution Accuracy: SGT 1294.9 SGR 1360.2 SG3 1173.9 RRT .7269 RRF -.9848 RTF -.7248 SGB 1878.1 R23 -.3305 R13 -.9278 SG1 1745.5 SG2 692.9 THA 46.94

Orbit Determination Accuracy: ST 41.2 SR 27.5 S8 75.7 CRT .9692 CR8 .9516 CST .8478 LSA 88.1 MSA 20.4 S8A .8 EL1 49.2 EL2 5.7 ALF 33.37

LAUNCH DATE APR 13 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.387 GAL -3.07 AZL 94.01 HCA 160.46 SMA 184.13 ECC .19272 INC 4.0088 V1 29.708 RP 208.67 LAP -1.34 LOP 2.93 VP 23.479 GAP 8.08 AZP 86.22 TAL 340.82 TAP 141.28 RCA 148.64 APO 219.61 V2 26.264 RC 96.988 GL -33.71 GP 15.07 ZAL 123.07 ZAP 125.32 ETS 168.68 ZAE 159.55 ETE 128.78 ZAC 116.03 ETC 276.52 LVI -29.78

Distance 475.774

Planetocentric Conic: C3 16.595 VHL 4.074 DLA -41.09 RAL 350.78 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.904 DPA -5.01 RAP 308.69 ECC 1.2731 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.5273 TRA -.4740 TC3 -.3066 BAV .2195 RDE -.3266 RRA -.6392 RC3 .9409 FAU .14874 FDE 1.9168 FRA 6.5523 FC3-7.7593 BSP 3046 BDE .6202 BRA .7950 BC3 .9896 FSP 2000

Mid-Course Execution Accuracy: SGT 1181.0 SGR 1489.0 SG3 1212.0 RRT .6839 RRF -.9888 RTF -.6.83 SGB 1900.6 R23 -.2796 R13 -.9482 SG1 1754.2 SG2 731.4 THA 54.44

Orbit Determination Accuracy: ST 39.4 SR 29.1 S8 76.9 CRT .9489 CR8 .9622 CST .8279 LSA 88.7 MSA 20.7 S8A .8 EL1 48.4 EL2 7.5 ALF 36.08

LAUNCH DATE APR 13 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.371 GAL -3.08 AZL 94.18 HCA 161.70 SMA 183.88 ECC .19185 INC 4.1819 V1 29.708 RP 208.83 LAP -1.31 LOP 4.18 VP 23.433 GAP 7.83 AZP 86.03 TAL 340.79 TAP 142.48 RCA 148.64 APO 219.08 V2 26.243 RC 98.929 GL -35.00 GP 16.31 ZAL 122.63 ZAP 123.24 ETS 168.60 ZAE 157.70 ETE 130.39 ZAC 117.33 ETC 276.42 LVI -30.69

Distance 478.899

Planetocentric Conic: C3 16.895 VHL 4.110 DLA -42.16 RAL 351.76 RAD 6641.4 VEL 11.702 PTH 6.73 VHP 3.847 DPA -3.99 RAP 307.72 ECC 1.2780 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

Differential Corrections: TDE -.5336 TRA -.4106 TC3 -.3908 BAV .2412 RDE -.3493 RRA -.7104 RC3 .9939 FAU .15150 FDE 2.0567 FRA 6.7394 FC3-7.7633 BSP 3221 BDE .6378 BRA .8205 BC3 1.0680 FSP 2092

Mid-Course Execution Accuracy: SGT 1119.1 SGR 1639.8 SG3 1250.7 RRT .6162 RRF -.9916 RTF -.6090 SGB 1985.3 R23 -.2339 R13 -.9636 SG1 1819.4 SG2 794.3 THA 61.21

Orbit Determination Accuracy: ST 39.0 SR 31.6 S8 79.2 CRT .9249 CR8 .9723 CST .8110 LSA 91.3 MSA 21.4 S8A .5 EL1 49.2 EL2 9.5 ALF 38.54

LAUNCH DATE APR 13 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 149.99 LAL .00 LOL 202.43 VL 32.356 GAL -3.03 AZL 94.38 HCA 162.94 SMA 183.62 ECC .19048 INC 4.3789 V1 29.708
RP 209.04 LAP -1.28 LOP 5.42 VP 23.300 GAP 7.59 AZP 85.81 TAL 340.74 TAP 143.68 RCA 148.64 APO 218.59 V2 26.221
RC 100.898 GL -36.39 GP 17.69 ZAL 122.13 ZAP 121.09 ETS 168.54 ZAE 155.69 ETE 131.71 ZAC 118.79 ETC 276.32 LVI -31.71

PLANETOCENTRIC CONIC

C3 17.288 VHL 4.158 DLA -43.30 RAL 352.88 RAD 6641.6 VEL 11.718 PTH 6.75 VHP 3.800 DPA -2.82 RAP 306.68 ECC 1.2845
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 23 32 2096.52 12.77 49.34 220.39 136.23 21 58 28 1096.5 29.87 30.89
55.73 23 46 40 1722.64 25.64 26.88 232.25 126.18 24 15 22 722.6 38.10 2.45
55.73 23 46 40 1722.64 25.64 26.88 232.25 126.18 24 15 22 722.6 38.10 2.45
55.73 23 46 40 1722.64 25.64 26.88 232.25 126.18 24 15 22 722.6 38.10 2.45
55.73 23 46 40 1722.64 25.64 26.88 232.25 126.18 24 15 22 722.6 38.10 2.45
55.73 23 46 40 1722.64 25.64 26.88 232.25 126.18 24 15 22 722.6 38.10 2.45
55.73 23 46 40 1722.64 25.64 26.88 232.25 126.18 24 15 22 722.6 38.10 2.45

DIFFERENTIAL CORRECTIONS

TDE -.3318 TRA -.3341 TC3 -.4555 BAU .2655
RDE -.3761 RRA -.7882 RC3 1.0544 FAU .15465
PDE 2.1893 FRA 6.8766 FC3-7.7445 BSP 3372
BDE .6513 BRA .8561 BC3 1.1486 FSP 2156

MID-COURSE EXECUTION ACCURACY

SGT 1039.6 SGR 1806.9 SG3 1281.9
RRT .5281 RRF -.9939 RTF -.5193
SGB 2084.6 R23 -.1720 R13 -.9789
SG1 1910.0 SG2 835.2 THA 68.87

ORBIT DETERMINATION ACCURACY

ST 37.9 SR 34.3 SS 81.1
CRT .8951 CRS .9800 CST .7869
LSA 93.3 MSA 22.0 SSA .5
EL1 49.7 EL2 11.6 ALF 41.82

LAUNCH DATE APR 13 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 149.99 LAL .00 LOL 202.43 VL 32.343 GAL -3.04 AZL 94.61 HCA 164.18 SMA 183.40 ECC .18951 INC 4.6054 V1 29.708
RP 209.24 LAP -1.25 LOP 6.66 VP 23.343 GAP 7.35 AZP 85.57 TAL 340.68 TAP 144.86 RCA 148.64 APO 218.15 V2 26.198
RC 102.893 GL -37.93 GP 19.24 ZAL 121.57 ZAP 118.90 ETS 168.49 ZAE 153.50 ETE 132.75 ZAC 120.42 ETC 276.22 LVI -32.87

PLANETOCENTRIC CONIC

C3 17.797 VHL 4.219 DLA -44.55 RAL 354.15 RAD 6641.8 VEL 11.740 PTH 6.77 VHP 3.765 DPA -1.49 RAP 305.57 ECC 1.2929
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 47 8 2050.88 15.00 47.30 224.08 135.70 22 21 19 1050.9 31.79 28.24
54.02 23 45 3 1747.12 25.99 29.39 234.45 127.55 24 14 11 747.1 38.95 5.12
54.02 23 45 3 1747.12 25.99 29.39 234.45 127.55 24 14 11 747.1 38.95 5.12
54.02 23 45 3 1747.12 25.99 29.39 234.45 127.55 24 14 11 747.1 38.95 5.12
54.02 23 45 3 1747.12 25.99 29.39 234.45 127.55 24 14 11 747.1 38.95 5.12
54.02 23 45 3 1747.12 25.99 29.39 234.45 127.55 24 14 11 747.1 38.95 5.12
54.02 23 45 3 1747.12 25.99 29.39 234.45 127.55 24 14 11 747.1 38.95 5.12

DIFFERENTIAL CORRECTIONS

TDE -.5298 TRA -.2519 TC3 -.5177 BAU .2930
RDE -.4109 RRA -.8741 RC3 1.1175 FAU .15731
PDE 2.3347 FRA 6.9668 FC3-7.6524 BSP 3567
BDE .6705 BRA .9088 BC3 1.2316 FSP 2199

MID-COURSE EXECUTION ACCURACY

SGT 969.0 SGR 1993.8 SG3 1304.7
RRT .4086 RRF -.9956 RTF -.3988
SGB 2218.8 R23 -.1111 R13 -.9894
SG1 2041.6 SG2 863.7 THA 78.28

ORBIT DETERMINATION ACCURACY

ST 36.7 SR 37.5 SS 82.6
CRT .8600 CRS .9859 CST .7829
LSA 95.4 MSA 22.5 SSA .4
EL1 50.6 EL2 13.9 ALF 45.70

LAUNCH DATE APR 13 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 149.99 LAL .00 LOL 202.43 VL 32.330 GAL -3.04 AZL 94.87 HCA 165.42 SMA 183.20 ECC .18865 INC 4.8687 V1 29.708
RP 209.44 LAP -1.22 LOP 7.89 VP 23.300 GAP 7.12 AZP 85.29 TAL 340.61 TAP 146.03 RCA 148.64 APO 217.76 V2 26.174
RC 104.913 GL -39.63 GP 21.00 ZAL 120.92 ZAP 116.64 ETS 168.46 ZAE 151.14 ETE 133.52 ZAC 122.26 ETC 276.12 LVI -34.20

PLANETOCENTRIC CONIC

C3 18.454 VHL 4.296 DLA -45.91 RAL 355.64 RAD 6642.1 VEL 11.768 PTH 6.79 VHP 3.743 DPA .03 RAP 304.39 ECC 1.3037
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 19 1 1989.14 17.99 44.48 228.98 134.82 22 52 10 989.1 34.28 24.46
52.20 23 44 7 1773.35 26.29 32.08 237.02 129.09 24 13 41 773.3 39.82 8.05
52.20 23 44 7 1773.35 26.29 32.08 237.02 129.09 24 13 41 773.3 39.82 8.05
52.20 23 44 7 1773.35 26.29 32.08 237.02 129.09 24 13 41 773.3 39.82 8.05
52.20 23 44 7 1773.35 26.29 32.08 237.02 129.09 24 13 41 773.3 39.82 8.05
52.20 23 44 7 1773.35 26.29 32.08 237.02 129.09 24 13 41 773.3 39.82 8.05
52.20 23 44 7 1773.35 26.29 32.08 237.02 129.09 24 13 41 773.3 39.82 8.05

DIFFERENTIAL CORRECTIONS

TDE -.5278 TRA -.1845 TC3 -.5783 BAU .3240
RDE -.4578 RRA -.9704 RC3 1.1790 FAU .15878
PDE 2.3036 FRA 7.0079 FC3-7.4486 BSP 3839
BDE .6987 BRA .9843 BC3 1.3132 FSP 2228

MID-COURSE EXECUTION ACCURACY

SGT 917.5 SGR 2204.3 SG3 1317.5
RRT .2536 RRF -.9968 RTF -.234
SGB 2387.6 R23 -.0594 R13 -.9951
SG1 2218.9 SG2 881.7 THA 82.84

ORBIT DETERMINATION ACCURACY

ST 35.5 SR 41.4 SS 84.7
CRT .8199 CRS .9905 CST .7335
LSA 98.1 MSA 23.1 SSA .4
EL1 52.1 EL2 16.2 ALF 50.30

LAUNCH DATE APR 13 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 149.99 LAL .00 LOL 202.43 VL 32.319 GAL -3.05 AZL 95.18 HCA 166.65 SMA 183.02 ECC .18788 INC 5.1789 V1 29.708
RP 209.68 LAP -1.19 LOP 9.13 VP 23.257 GAP 6.90 AZP 84.96 TAL 340.52 TAP 147.17 RCA 148.63 APO 217.40 V2 26.150
RC 106.958 GL -41.53 GP 23.00 ZAL 120.17 ZAP 114.34 ETS 168.46 ZAE 148.57 ETE 134.04 ZAC 124.34 ETC 276.03 LVI -35.72

PLANETOCENTRIC CONIC

C3 19.307 VHL 4.394 DLA -47.40 RAL 357.38 RAD 6642.5 VEL 11.803 PTH 6.83 VHP 3.739 DPA 1.79 RAP 303.15 ECC 1.3177
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 17 54 1866.85 23.74 38.54 237.31 132.52 23 49 1 866.8 38.79 16.25
50.23 23 44 4 1801.73 26.53 35.00 240.04 130.84 24 14 5 801.7 40.70 11.31
50.23 23 44 4 1801.73 26.53 35.00 240.04 130.84 24 14 5 801.7 40.70 11.31
50.23 23 44 4 1801.73 26.53 35.00 240.04 130.84 24 14 5 801.7 40.70 11.31
50.23 23 44 4 1801.73 26.53 35.00 240.04 130.84 24 14 5 801.7 40.70 11.31
50.23 23 44 4 1801.73 26.53 35.00 240.04 130.84 24 14 5 801.7 40.70 11.31
50.23 23 44 4 1801.73 26.53 35.00 240.04 130.84 24 14 5 801.7 40.70 11.31

DIFFERENTIAL CORRECTIONS

TDE -.5254 TRA -.0710 TC3 -.6332 BAU .3594
RDE -.5209 RRA -1.0773 RC3 1.2401 FAU .15927
PDE 2.6962 FRA 6.9756 FC3-7.1418 BSP 4177
BDE .7399 BRA 1.0797 BC3 1.3924 FSP 2230

MID-COURSE EXECUTION ACCURACY

SGT 893.1 SGR 2440.5 SG3 1316.9
RRT .0656 RRF -.9978 RTF -.0555
SGB 2598.8 R23 -.0201 R13 -.9976
SG1 2441.3 SG2 890.9 THA 88.41

ORBIT DETERMINATION ACCURACY

ST 34.3 SR 46.1 SS 86.4
CRT .7747 CRS .9938 CST .6997
LSA 101.1 MSA 23.6 SSA .3
EL1 54.5 EL2 18.4 ALF 55.56

LAUNCH DATE APR 13 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 500.629

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.309 GAL -3.05 AZL 95.55 HCA 167.68 SMA 182.85 ECC .18721 INC 5.5501 V1 20.708
RP 209.87 LAP -1.16 LOP 10.36 VP 23.214 GAP 6.67 AZP 84.57 TAL 340.43 TAP 148.31 RCA 148.62 APO 217.08 V2 26.124
RC 109.028 GL -43.67 GP 25.29 ZAL 119.28 ZAP 111.98 ETS 188.50 ZAE 145.79 ETE 134.34 ZAC 126.70 ETC 275.96 LVI -37.48

PLANETOCENTRIC CONIC

C3 20.424 VHL 4.519 DLA -49.05 RAL 359.47 RAD 6643.0 VEL 11.850 PTH 6.87 VHP 3.755 DPA 3.84 RAP 301.82 ECC 1.3361
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.10 23 45 8 1832.91 26.66 38.18 243.63 132.83 24 15 41 832.9 41.56 14.96
48.10 23 45 8 1832.91 26.66 38.18 243.63 132.83 24 15 41 832.9 41.56 14.96
48.10 23 45 8 1832.91 26.66 38.18 243.63 132.83 24 15 41 832.9 41.56 14.96
48.10 23 45 8 1832.91 26.66 38.18 243.63 132.83 24 15 41 832.9 41.56 14.96
48.10 23 45 8 1832.91 26.66 38.18 243.63 132.83 24 15 41 832.9 41.56 14.96
48.10 23 45 8 1832.91 26.66 38.18 243.63 132.83 24 15 41 832.9 41.56 14.96

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5217 TRA .0283 TC3 -.6803 BAU .3999 SGT 904.7 SGR 2707.5 SG3 1300.2 ST 33.1 SR 52.0 SS 88.3
RDE -.6092 RRA-1.1970 RC3 1.2969 FAU .15825 RRT -.1376 RRF -.9985 RTF .1470 CRT .7250 CRS .9961 CST .6621
FDE 2.9270 FRA 6.8576 FC3-6.7079 BSP 4600 SGB 2854.7 R23 .0073 R13 -.9985 LSA 105.0 MSA 24.0 SSA .3
BDE .8020 BRA 1.1973 BC3 1.4645 F3P 2208 SGI 2710.7 SG2 895.1 THA 92.95 EL1 58.1 EL2 20.4 ALF 61.38

LAUNCH DATE APR 13 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 504.789

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.300 GAL -3.06 AZL 96.00 HCA 169.11 SMA 182.71 ECC .18662 INC 6.0028 V1 29.708
RP 210.10 LAP -1.13 LOP 11.59 VP 23.172 GAP 6.45 AZP 84.10 TAL 340.32 TAP 149.43 RCA 148.61 APO 216.80 V2 26.098
RC 111.121 GL -46.10 GP 27.92 ZAL 118.23 ZAP 109.57 ETS 168.59 ZAE 142.74 ETE 134.44 ZAC 129.42 ETC 275.91 LVI -39.52

PLANETOCENTRIC CONIC

C3 21.917 VHL 4.682 DLA -50.87 RAL 2.02 RAD 6643.7 VEL 11.913 PTH 6.92 VHP 3.800 DPA 6.23 RAP 300.42 ECC 1.3607
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.78 23 47 49 1867.60 26.62 41.67 247.93 135.09 24 18 56 867.6 42.36 19.11
45.78 23 47 49 1867.60 26.62 41.67 247.93 135.09 24 18 56 867.6 42.36 19.11
45.78 23 47 49 1867.60 26.62 41.67 247.93 135.09 24 18 56 867.6 42.36 19.11
45.78 23 47 49 1867.60 26.62 41.67 247.93 135.09 24 18 56 867.6 42.36 19.11
45.78 23 47 49 1867.60 26.62 41.67 247.93 135.09 24 18 56 867.6 42.36 19.11
45.78 23 47 49 1867.60 26.62 41.67 247.93 135.09 24 18 56 867.6 42.36 19.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5136 TRA .1351 TC3 -.7189 BAU .4457 SGT 956.1 SGR 3009.0 SG3 1263.0 ST 31.7 SR 59.4 SS 90.4
RDE -.7361 RRA-1.3312 RC3 1.3417 FAU .15484 RRT -.3313 RRF -.9989 RTF .3396 CRT .6699 CRS .9978 CST .6190
FDE 3.2070 FRA 6.6333 FC3-6.1162 BSP 5116 SGB 3157.3 R23 .0250 R13 -.9987 LSA 110.1 MSA 24.3 SSA .2
BDE .8975 BRA 1.3380 BC3 1.5212 F3P 2150 SGI 3027.3 SG2 896.7 THA 96.59 EL1 63.7 EL2 22.0 ALF 67.53

LAUNCH DATE APR 13 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 508.952

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.292 GAL -3.07 AZL 96.57 HCA 170.33 SMA 182.58 ECC .18612 INC 6.5672 V1 29.708
RP 210.33 LAP -1.10 LOP 12.82 VP 23.131 GAP 6.24 AZP 83.53 TAL 340.20 TAP 150.53 RCA 148.60 APO 216.56 V2 26.071
RC 113.239 GL -48.88 GP 30.98 ZAL 116.97 ZAP 107.10 ETS 168.75 ZAE 139.40 ETE 134.35 ZAC 132.55 ETC 275.90 LVI -41.89

PLANETOCENTRIC CONIC

C3 23.984 VHL 4.895 DLA -52.89 RAL 5.20 RAD 6644.6 VEL 11.998 PTH 6.99 VHP 3.884 DPA 9.03 RAP 298.91 ECC 1.3944
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
43.25 23 52 48 1906.88 26.34 45.51 253.18 137.68 24 24 34 906.9 43.01 23.86
43.25 23 52 48 1906.88 26.34 45.51 253.18 137.68 24 24 34 906.9 43.01 23.86
43.25 23 52 48 1906.88 26.34 45.51 253.18 137.68 24 24 34 906.9 43.01 23.86
43.25 23 52 48 1906.88 26.34 45.51 253.18 137.68 24 24 34 906.9 43.01 23.86
43.25 23 52 48 1906.88 26.34 45.51 253.18 137.68 24 24 34 906.9 43.01 23.86
43.25 23 52 48 1906.88 26.34 45.51 253.18 137.68 24 24 34 906.9 43.01 23.86

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4984 TRA .2500 TC3 -.7375 BAU .4994 SGT 1045.9 SGR 3348.2 SG3 1199.7 ST 30.0 SR 69.1 SS 92.7
RDE -.9235 RRA-1.4793 RC3 1.3734 FAU .14910 RRT -.4982 RRF -.9993 RTF .5.22 CRT .6098 CRS .9988 CST .8663
FDE 3.8424 FRA 6.2677 FC3-5.3867 BSP 5717 SGB 3507.7 R23 .0356 R13 -.9987 LSA 117.0 MSA 24.3 SSA .2
BDE 1.0484 BRA 1.5003 BC3 1.5589 F3P 2047 SGI 3391.1 SG2 897.1 THA 99.46 EL1 71.7 EL2 23.0 ALF 73.55

LAUNCH DATE APR 13 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 513.117

EARTH TO MARS

RL 149.99 LAL .00 LOL 202.43 VL 32.288 GAL -3.08 AZL 97.29 HCA 171.55 SMA 182.46 ECC .18569 INC 7.2915 V1 29.708
RP 210.87 LAP -1.07 LOP 14.04 VP 23.090 GAP 6.02 AZP 82.79 TAL 340.07 TAP 151.62 RCA 148.58 APO 216.35 V2 26.044
RC 115.380 GL -52.12 GP 34.54 ZAL 115.45 ZAP 104.60 ETS 169.01 ZAE 135.71 ETE 134.11 ZAC 136.19 ETC 275.98 LVI -44.65

PLANETOCENTRIC CONIC

C3 26.876 VHL 5.184 DLA -55.11 RAL 9.29 RAD 6645.8 VEL 12.117 PTH 7.09 VHP 4.025 DPA 12.33 RAP 297.30 ECC 1.4423
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
40.51 0 5 8 1952.28 25.67 49.71 259.69 140.60 0 37 41 952.3 43.39 29.30
40.51 0 5 8 1952.28 25.67 49.71 259.69 140.60 0 37 41 952.3 43.39 29.30
40.51 0 5 8 1952.28 25.67 49.71 259.69 140.60 0 37 41 952.3 43.39 29.30
40.51 0 5 8 1952.28 25.67 49.71 259.69 140.60 0 37 41 952.3 43.39 29.30
40.51 0 5 8 1952.28 25.67 49.71 259.69 140.60 0 37 41 952.3 43.39 29.30
40.51 0 5 8 1952.28 25.67 49.71 259.69 140.60 0 37 41 952.3 43.39 29.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4587 TRA .3754 TC3 -.7377 BAU .5615 SGT 1169.6 SGR 3732.1 SG3 1106.1 ST 27.6 SR 82.4 SS 95.5
RDE-1.2151 RRA-1.6438 RC3 1.3776 FAU .13971 RRT -.6219 RRF -.9995 RTF .6277 CRT .5196 CRS .9994 CST .4904
FDE 3.9528 FRA 5.7413 FC3-4.5003 BSP 6441 SGB 3911.1 R23 .0410 R13 -.9987 LSA 126.9 MSA 23.8 SSA .2
BDE 1.2988 BRA 1.6061 BC3 1.5627 F3P 1900 SGI 3806.6 SG2 898.0 THA 101.69 EL1 83.7 EL2 23.2 ALF 79.29

LAUNCH DATE APR 13 1971 FLIGHT TIME 212.00 ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.279 GAL -3.10 AZL 98.25 HCA 172.76 SMA 182.36 ECC .18935 INC 8.2544 V1 29.708
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.050 GAP 5.81 AZP 81.81 TAL 339.93 TAP 152.69 RCA 148.56 APO 216.17 V2 26.015
 RC 117.945 GL -35.90 GP 36.69 ZAL 113.59 ZAP 102.06 ETS 169.41 ZAE 131.62 ETE 133.77 ZAC 140.41 ETC 276.11 LVI -47.84

PLANETOCENTRIC CONIC
 C3 31.233 VHL 5.589 DLA -57.50 RAL 14.72 RAD 8647.5 VEL 12.295 PTH 7.23 VHP 4.253 DPA 16.22 RAP 295.56 ECC 1.8140
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.60 0 18 50 2006.08 24.40 54.27 267.90 143.84 0 52 16 1006.1 43.25 35.51
 37.60 0 18 50 2006.08 24.40 54.27 267.90 143.84 0 52 16 1006.1 43.25 35.51
 37.60 0 18 50 2006.08 24.40 54.27 267.90 143.84 0 52 16 1006.1 43.25 35.51
 37.60 0 18 50 2006.08 24.40 54.27 267.90 143.84 0 52 16 1006.1 43.25 35.51
 37.60 0 18 50 2006.00 24.40 54.27 267.90 143.84 0 52 16 1006.1 43.25 35.51
 37.60 0 18 50 2006.08 24.40 54.27 267.90 143.84 0 52 16 1006.1 43.25 35.51

DIFFERENTIAL CORRECTIONS
 TDE -3.807 TRA .5107 TC3 -.7189 BAU .6414 SGT 1320.5 SGR 4145.5 SG3 971.8 ST 24.4 SR 100.4 SS 98.0
 RDE -1.6766 RRA-1.8100 RC3 1.3585 FAU .12754 RRT -.7144 RRF -.9997 RTF .7192 CRT .3744 CR8 .9997 CST .3536
 FDE 4.3945 FRA 4.9889 FC3-3.5353 BSP 7157 SGB 4350.8 R23 .0432 R13 -.9988 LSA 140.6 MSA 22.7 SSA .1
 BDE 1.7192 BRA 1.8806 BC3 1.5360 FSP 1663 SGI 4256.7 SG2 899.9 THA 103.43 EL1 100.8 EL2 22.5 ALF 84.52

LAUNCH DATE APR 13 1971 FLIGHT TIME 214.00 ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.274 GAL -3.12 AZL 99.60 HCA 173.97 SMA 182.28 ECC .18507 INC 9.5992 V1 29.708
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.010 GAP 5.60 AZP 80.45 TAL 339.78 TAP 153.75 RCA 148.54 APO 216.01 V2 25.986
 RC 119.734 GL -60.38 GP 43.51 ZAL 111.31 ZAP 99.31 ETS 170.01 ZAE 127.07 ETE 133.41 ZAC 145.29 ETC 276.42 LVI -51.46

PLANETOCENTRIC CONIC
 C3 38.219 VHL 6.182 DLA -59.95 RAL 22.16 RAD 8650.0 VEL 12.574 PTH 7.44 VHP 4.626 DPA 20.77 RAP 293.66 ECC 1.6290
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 34.65 0 40 54 2071.59 22.19 59.07 278.51 147.27 1 15 26 1071.6 42.18 42.36
 34.65 0 40 54 2071.59 22.19 59.07 278.51 147.27 1 15 26 1071.6 42.18 42.36
 34.65 0 40 54 2071.59 22.19 59.07 278.51 147.27 1 15 26 1071.6 42.18 42.36
 34.65 0 40 54 2071.59 22.19 59.07 278.51 147.27 1 15 26 1071.6 42.18 42.36
 34.65 0 40 54 2071.59 22.19 59.07 278.51 147.27 1 15 26 1071.6 42.18 42.36
 34.65 0 40 54 2071.59 22.19 59.07 278.51 147.27 1 15 26 1071.6 42.18 42.36

DIFFERENTIAL CORRECTIONS
 TDE -2.2046 TRA .6656 TC3 -.6650 BAU .7412 SGT 1493.2 SGR 4558.1 SG3 798.0 ST 20.8 SR 126.8 SS 100.3
 RDE -2.4852 RRA-1.9764 RC3 1.2891 FAU .11035 RRT -.7842 RRF -.9998 RTF .7886 CRT .0250 CR8 .9999 CST .0106
 FDE 4.6439 FRA 4.0283 FC3-2.4996 BSP 7967 SGB 4834.5 R23 .0425 R13 -.9989 LSA 161.6 MSA 20.8 SSA .1
 BDE 2.4737 BRA 2.0855 BC3 1.4506 FSP 1364 SGI 4750.6 SG2 896.9 THA 104.63 EL1 126.8 EL2 20.8 ALF 89.76

LAUNCH DATE APR 13 1971 FLIGHT TIME 232.00 ARRIVAL DATE DEC 1 1971

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.259 GAL -3.47 AZL 81.89 HCA 184.93 SMA 182.04 ECC .18589 INC 8.1072 V1 29.708
 RP 213.61 LAP -.69 LOP 27.30 VP 22.661 GAP 3.90 AZP 98.08 TAL 337.53 TAP 162.45 RCA 148.20 APO 215.88 V2 25.697
 RC 140.356 GL 54.24 GP -48.02 ZAL 115.88 ZAP 87.34 ETS 175.68 ZAE 114.16 ETE 210.78 ZAC 53.61 ETC 272.17 LVI 35.12

PLANETOCENTRIC CONIC
 C3 31.320 VHL 5.596 DLA 41.90 RAL 317.84 RAD 8647.5 VEL 12.298 PTH 7.23 VHP 5.109 DPA -70.38 RAP 315.94 ECC 1.5154
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 26 51 4195.82 -36.94 189.11 219.35 37.57 12 36 46 3195.8 -46.54 159.13
 57.69 9 37 6 4488.80 -19.08 201.23 205.19 51.96 10 51 55 3488.8 -32.84 179.15
 57.69 9 37 6 4488.80 -19.08 201.23 205.19 51.96 10 51 55 3488.8 -32.84 179.15
 57.69 9 37 6 4488.80 -19.08 201.23 205.19 51.96 10 51 55 3488.8 -32.84 179.15
 57.69 9 37 6 4488.80 -19.08 201.23 205.19 51.96 10 51 55 3488.8 -32.84 179.15
 57.69 9 37 6 4488.80 -19.08 201.23 205.19 51.96 10 51 55 3488.8 -32.84 179.15
 57.69 9 37 6 4488.80 -19.08 201.23 205.19 51.96 10 51 55 3488.8 -32.84 179.15

DIFFERENTIAL CORRECTIONS
 TDE 2.6244 TRA 1.0232 TC3-1.4777 BAU .9040 SGT 3454.8 SGR 5148.3 SG3 609.8 ST 136.0 SR 178.6 SS 105.2
 RDE 3.3408 RRA 2.4870 RC3-1.5740 FAU .08273 RRT .9512 RRF .9995 RTF .5489 CRT .9908 CR8 -.9999 CST -.9991
 FDE 4.4400 FRA 4.4556 FC3-2.2869 BSP 10419 SGB 6200.0 R23 .1014 R13 .9944 LSA 247.4 MSA 15.8 SSA .1
 BDE 4.2483 BRA 2.6893 BC3 2.1589 FSP 1081 SGI 6135.1 SG2 894.5 THA 58.65 EL1 224.0 EL2 14.7 ALF 52.77

LAUNCH DATE APR 13 1971 FLIGHT TIME 234.00 ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.260 GAL -3.51 AZL 83.79 HCA 186.10 SMA 182.06 ECC .18623 INC 6.2076 V1 29.708
 RP 213.92 LAP -.66 LOP 28.49 VP 22.624 GAP 3.71 AZP 96.17 TAL 337.27 TAP 163.37 RCA 148.16 APO 215.97 V2 25.662
 RC 142.739 GL 45.87 GP -43.64 ZAL 120.57 ZAP 85.65 ETS 174.65 ZAE 115.52 ETE 207.07 ZAC 58.81 ETC 271.85 LVI 30.72

PLANETOCENTRIC CONIC
 C3 23.538 VHL 4.852 DLA 34.11 RAL 321.90 RAD 6644.4 VEL 11.980 PTH 6.98 VHP 4.497 DPA -65.81 RAP 309.25 ECC 1.3874
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 50 14 3899.41 -45.39 165.85 215.76 73.88 13 55 14 2899.4 -46.69 130.81
 60.00 12 30 57 3950.92 -35.55 166.21 211.50 69.61 13 36 48 2950.9 -40.29 136.17
 70.00 11 8 56 4195.65 -19.70 177.66 203.41 61.52 12 18 52 3195.6 -29.68 153.60
 70.08 10 56 10 4234.60 -18.34 179.91 202.62 60.73 12 6 44 3234.6 -28.77 156.29
 70.08 10 56 10 4234.60 -18.34 179.91 202.62 60.73 12 6 44 3234.6 -28.77 156.29
 70.08 10 56 10 4234.60 -18.34 179.91 202.62 60.73 12 6 44 3234.6 -28.77 156.29
 110.00 16 8 22 3242.47 -19.70 106.57 203.41 61.52 17 2 25 2242.5 -29.68 82.51

DIFFERENTIAL CORRECTIONS
 TDE 2.1684 TRA 1.2154 TC3-1.9791 BAU .0391 SGT 3640.1 SGR 4721.6 SG3 829.5 ST 130.7 SR 152.8 SS 117.0
 RDE 2.4470 RRA 2.3186 RC3-1.7869 FAU .10378 RRT .9578 RRF .9995 RTF .9563 CRT .9915 CR8 -.9999 CST -.9894
 FDE 4.7959 FRA 4.7751 FC3-3.8169 BSP 9990 SGB 5961.9 R23 .1111 R13 .9934 LSA 232.1 MSA 14.8 SSA .1
 BDE 3.2695 BRA 2.6179 BC3 2.6664 FSP 1469 SGI 5902.9 SG2 836.6 THA 52.68 EL1 200.6 EL2 12.9 ALF 49.50

LAUNCH DATE APR 13 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 5 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 32.262 GAL -3.56 AZL 85.00 HCA 187.27 SMA 182.09 ECC .10662 INC 4.9227 V1 29.708
 RP 214.24 LAP -.62 LOP 29.67 VP 22.986 GAP 3.53 AZP 94.88 TAL 337.00 TAP 164.27 RCA 148.11 APO 216.09 V2 25.627
 RC 145.138 GL 38.73 GP -39.11 ZAL 124.38 ZAP 83.83 ETS 173.82 ZAE 116.17 ETE 203.56 ZAC 63.36 ETC 271.59 LVI 26.86

Planetocentric Conic
 C3 19.512 VHL 4.417 DLA 27.50 RAL 325.08 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 4.123 DPA -61.68 RAP 304.85 ECC 1.3211
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 42 8 3696.84 -47.55 148.86 208.93 88.33 14 43 45 2698.0 -42.62 113.08
 60.00 13 44 0 3691.89 -39.79 145.60 208.12 82.97 14 45 32 2691.9 -38.29 114.55
 70.00 13 47 23 3681.91 -32.24 143.24 206.56 78.08 14 48 45 2681.9 -33.88 114.62
 80.00 13 56 1 3654.79 -25.30 139.19 204.57 73.60 14 56 55 2654.8 -26.69 112.63
 90.00 14 36 22 3524.34 -21.33 126.24 203.19 70.98 15 35 6 2524.3 -27.25 102.79
 100.00 16 38 52 3129.26 -25.30 100.56 204.97 73.60 17 31 2 2129.3 -29.69 74.00
 110.00 18 46 49 2728.73 -32.24 72.16 206.56 78.08 19 32 18 1728.7 -33.88 43.54

Differential Corrections
 TDE 1.8843 TRA 1.3876 TC3-2.4453 BAU .8058 SGT 3841.7 SGR 4305.0 SG3 1013.9 ST 126.0 SR 131.2 SS 122.6
 RDE 1.8890 RRA 2.1356 RC3-1.8861 FAU .12116 RRT .9629 RRF .9995 RTF .9618 CRT .9927 CRS -.9998 CST -.9900
 FDE 4.9156 FRA 5.9026 FC3-5.3757 B8P 9630 SGB 5769.9 R23 .1227 R13 .9919 LSA 216.9 MSA 13.6 S8A .2
 BDE 2.6881 BRA 2.5469 BC3 3.0882 F8P 1794 SG1 5716.8 SG2 780.3 THA 48.3A EL1 181.5 EL2 11.0 ALF 46.17

LAUNCH DATE APR 13 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 7 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 32.265 GAL -3.61 AZL 86.00 HCA 188.45 SMA 182.13 ECC .18706 INC 3.9962 V1 29.708
 RP 214.55 LAP -.59 LOP 30.85 VP 22.949 GAP 3.35 AZP 93.95 TAL 336.71 TAP 165.18 RCA 148.06 APO 216.20 V2 25.591
 RC 147.955 GL 32.71 GP -35.22 ZAL 127.40 ZAP 81.95 ETS 173.17 ZAE 116.23 ETE 200.40 ZAC 67.28 ETC 271.38 LVI 23.55

Planetocentric Conic
 C3 17.252 VHL 4.154 DLA 21.95 RAL 327.66 RAD 6641.6 VEL 11.717 PTH 6.75 VHP 3.882 DPA -58.07 RAP 301.71 ECC 1.2839
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 19 31 3546.13 -46.85 132.40 203.22 99.44 15 18 37 2546.1 -37.87 101.78
 60.00 14 32 8 3512.54 -40.19 130.40 204.24 93.26 15 30 41 2512.5 -34.51 100.86
 70.00 14 52 10 3453.51 -34.11 125.73 204.34 88.25 15 49 44 2453.5 -31.27 97.36
 80.00 15 27 58 3341.27 -29.41 116.88 203.99 84.59 16 23 39 2341.3 -28.67 89.46
 90.00 16 33 46 3128.84 -27.50 101.04 203.76 83.14 17 25 54 2128.8 -27.60 74.03
 100.00 18 10 50 2815.75 -29.41 78.24 203.99 84.59 18 57 45 1815.7 -28.67 50.84
 110.00 19 51 37 2500.33 -34.11 54.64 204.34 88.25 20 33 17 1500.3 -31.27 26.28

Differential Corrections
 TDE 1.7000 TRA 1.5501 TC3-2.8508 BAU .7884 SGT 4052.5 SGR 3921.9 SG3 1162.3 ST 122.3 SR 113.8 SS 124.9
 RDE 1.5231 RRA 1.9619 RC3-1.8857 FAU .13445 RRT .9668 RRF .9993 RTF .9657 CRT .9941 CRS -.9996 CST -.9909
 FDE 4.9252 FRA 6.8376 FC3-6.7467 B8P 9408 SGB 5639.5 R23 .1343 R13 .9902 LSA 208.2 MSA 12.4 S8A .3
 BDE 2.2825 BRA 2.5004 BC3 3.4180 F8P 2064 SG1 5592.3 SG2 727.9 THA 44.03 EL1 166.8 EL2 5.0 ALF 42.93

LAUNCH DATE APR 13 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 9 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 32.267 GAL -3.66 AZL 86.70 HCA 189.62 SMA 182.18 ECC .18756 INC 3.2937 V1 29.708
 RP 214.88 LAP -.53 LOP 32.03 VP 22.511 GAP 3.17 AZP 93.25 TAL 336.41 TAP 166.03 RCA 149.01 APO 216.35 V2 25.554
 RC 149.988 GL 27.65 GP -31.88 ZAL 129.71 ZAP 80.06 ETS 172.87 ZAE 115.88 ETE 197.60 ZAC 70.63 ETC 271.19 LVI 20.73

Planetocentric Conic
 C3 15.923 VHL 3.990 DLA 17.31 RAL 329.80 RAD 6641.0 VEL 11.660 PTH 6.70 VHP 3.721 DPA -54.95 RAP 299.32 ECC 1.2621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 48 16 3430.09 -45.01 121.83 199.36 107.39 15 45 26 2430.1 -33.48 94.17
 60.00 15 7 51 3377.95 -39.06 119.15 201.37 100.81 16 4 9 2377.9 -30.63 91.56
 70.00 15 37 0 3292.13 -33.74 113.16 202.33 95.66 16 31 52 2292.1 -27.95 85.98
 80.00 16 23 12 3147.31 -29.79 102.50 202.85 92.12 17 15 40 2147.3 -25.89 75.75
 90.00 17 34 35 2916.89 -28.27 85.61 202.69 90.81 18 23 12 1916.9 -25.09 59.05
 100.00 19 6 4 2621.78 -29.79 63.86 202.65 92.12 19 49 46 1621.8 -25.69 37.12
 110.00 20 36 26 2338.95 -33.74 42.08 202.33 95.66 21 15 25 1338.9 -27.95 14.90

Differential Corrections
 TDE 1.5724 TRA 1.7017 TC3-3.2030 BAU .7859 SGT 4264.1 SGR 3570.1 SG3 1275.9 ST 119.3 SR 99.6 SS 125.0
 RDE 1.2663 RRA 1.7968 RC3-1.8322 FAU .14516 RRT .9695 RRF .9991 RTF .9688 CRT .9958 CRS -.9994 CST -.9919
 FDE 4.8611 FRA 7.5718 FC3-7.6922 B8P 9222 SGB 5561.3 R23 .1445 R13 .9886 LSA 199.1 MSA 11.2 S8A .4
 BDE 2.0189 BRA 2.4746 BC3 3.6900 F8P 2262 SG1 5520.0 SG2 676.0 THA 39.78 EL1 155.2 EL2 7.0 ALF 39.83

LAUNCH DATE APR 13 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic
 RL 149.99 LAL .00 LOL 202.43 VL 32.271 GAL -3.72 AZL 87.25 HCA 190.78 SMA 182.23 ECC .18810 INC 2.7480 V1 29.708
 RP 215.21 LAP -.51 LOP 33.20 VP 22.474 GAP 2.99 AZP 92.70 TAL 336.10 TAP 166.89 RCA 147.95 APO 216.51 V2 25.518
 RC 152.438 GL 23.40 GP -29.02 ZAL 131.65 ZAP 78.19 ETS 172.28 ZAE 115.15 ETE 195.17 ZAC 73.52 ETC 271.02 LVI 18.32

Planetocentric Conic
 C3 15.126 VHL 3.889 DLA 13.44 RAL 331.62 RAD 6640.8 VEL 11.627 PTH 6.67 VHP 3.612 DPA -52.26 RAP 297.43 ECC 1.2489
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 11 15 3338.82 -42.86 114.11 197.02 113.02 16 6 54 2338.8 -29.69 88.76
 60.00 15 35 52 3273.29 -37.39 110.77 199.58 106.28 16 30 25 2273.3 -27.14 84.90
 70.00 16 11 7 3189.53 -32.52 103.81 201.02 101.06 17 3 57 2189.5 -24.76 77.88
 80.00 17 3 33 3005.25 -28.97 92.03 201.70 97.56 17 53 39 2005.3 -22.97 66.21
 90.00 18 17 56 2765.21 -27.63 74.57 201.89 96.29 19 4 1 1765.2 -22.29 48.82
 100.00 19 48 25 2479.72 -28.97 53.39 201.70 97.56 20 27 45 1479.7 -22.97 27.58
 110.00 21 10 34 2216.35 -32.52 32.72 201.02 101.06 21 47 30 1216.4 -24.76 6.80

Differential Corrections
 TDE 1.4828 TRA 1.8481 TC3-3.5028 BAU .7933 SGT 4473.7 SGR 3245.2 SG3 1357.0 ST 117.1 SR 87.3 SS 122.9
 RDE 1.0724 RRA 1.6368 RC3-1.7868 FAU .15532 RRT .9731 RRF .9988 RTF .9726 CRT .9972 CRS -.9989 CST -.9928
 FDE 4.7237 FRA 8.0977 FC3-8.8897 B8P 9038 SGB 5526.8 R23 .1492 R13 .9876 LSA 190.6 MSA 10.2 S8A .5
 BDE 1.8300 BRA 2.4673 BC3 3.9231 F8P 2358 SG1 5493.2 SG2 808.5 THA 35.72 EL1 146.0 EL2 5.2 ALF 36.70

LAUNCH DATE APR 13 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 13 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.274 GAL -3.76 AZL 87.69 HCA 191.95 SMA 182.29 ECC .18889 INC 2.3073 V1 29.708
 RP 215.34 LAP -.48 LOP 34.37 VP 22.437 GAP 2.82 AZP 92.26 TAL 335.78 TAP 167.73 RCA 147.69 APO 216.68 V2 25.480
 RC 154.904 GL 19.80 GP -26.55 ZAL 133.14 ZAP 76.36 ETS 171.98 ZAE 114.21 ETE 193.07 ZAC 76.01 ETC 270.87 LVI 16.25

Planetary Conic: C3 14.657 VHL 3.828 DLA 10.18 RAL 333.21 RAD 6640.4 VEL 11.807 PTH 6.65 VHP 3.537 DPA -49.92 RAP 295.89 ECC 1.2412
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 30 10 3265.96 -40.76 108.38 195.74 117.04 16 24 36 2266.0 -26.50 84.77
 60.00 15 58 40 3190.15 -35.61 104.43 198.61 110.28 16 51 50 2190.2 -24.13 79.93
 70.00 16 38 25 3073.16 -31.04 96.69 200.35 105.03 17 29 39 2073.2 -21.93 71.84
 80.00 17 35 13 2895.28 -27.72 84.10 201.25 101.55 18 23 28 1895.3 -20.29 59.15
 90.00 18 51 34 2648.83 -26.48 66.25 201.51 100.30 19 35 43 1648.8 -19.66 41.30
 100.00 20 18 4 2369.75 -27.72 45.46 201.25 101.55 20 57 34 1369.7 -20.29 20.52
 110.00 21 37 52 2119.98 -31.04 25.61 200.35 105.03 22 13 12 1120.0 -21.93 .76

Differential Corrections: TDE 1.4288 TRA 1.9957 TC3-3.7397 BAU .7992 SGT 4688.2 SGR 2974.5 SG3 1422.3 ST 116.3 SR 78.8 SS 122.6
 RDE .9467 RRA 1.5121 RC3-1.6280 FAU .15860 RRT .9735 RRF .9983 RTF .9735 CRT .9986 CR8 -.9983 CST -.9941
 FDE 4.6749 FRA 8.5896 FC3-9.3878 BSP 9165 SGB 5552.2 R23 .1572 R13 .9859 LSA 186.2 MSA 9.2 SSA .6
 BDE 1.7139 BRA 2.5038 BC3 4.0787 FSP 2521 SGI 5522.1 SG2 577.3 THA 32.09 EL1 140.4 EL2 3.4 ALF 34.12

LAUNCH DATE APR 13 1971 FLIGHT TIME 246.00 ARRIVAL DATE DEC 15 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.278 GAL -3.84 AZL 88.05 HCA 193.11 SMA 182.35 ECC .18933 INC 1.9452 V1 29.708
 RP 215.87 LAP -.44 LOP 35.53 VP 22.400 GAP 2.84 AZP 91.90 TAL 335.44 TAP 168.58 RCA 147.83 APO 216.88 V2 25.443
 RC 157.385 GL 16.75 GP -24.40 ZAL 134.35 ZAP 74.58 ETS 171.76 ZAE 113.12 ETE 191.26 ZAC 78.16 ETC 270.74 LVI 14.47

Planetary Conic: C3 14.400 VHL 3.795 DLA 7.46 RAL 334.82 RAD 6640.2 VEL 11.596 PTH 6.64 VHP 3.487 DPA -47.90 RAP 294.61 ECC 1.2370
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 46 5 3207.10 -36.85 104.05 195.14 119.98 16 39 32 2207.1 -23.83 81.71
 60.00 16 17 39 3123.09 -33.92 99.54 198.20 113.21 17 9 42 2123.1 -21.37 76.11
 70.00 17 0 56 2995.77 -29.54 91.16 200.14 107.98 17 50 52 1995.8 -19.47 67.18
 80.00 18 1 1 2807.57 -26.38 77.93 201.16 104.53 18 47 48 1807.6 -17.92 53.72
 90.00 19 18 51 2556.38 -25.19 59.79 201.51 103.29 20 1 28 1556.4 -17.33 35.52
 100.00 20 43 53 2282.05 -26.38 39.30 201.18 104.93 21 21 55 1282.0 -17.92 15.09
 110.00 22 0 22 2042.59 -29.54 20.08 200.14 107.98 22 34 25 1042.6 -19.47 386.10

Differential Corrections: TDE 1.3997 TRA 2.1478 TC3-3.9257 BAU .8073 SGT 4903.0 SGR 2737.5 SG3 1470.8 ST 116.6 SR 72.2 SS 122.7
 RDE .8567 RRA 1.4036 RC3-1.4746 FAU .15871 RRT .9729 RRF .9978 RTF .9737 CRT .9996 CR8 -.9978 CST -.9958
 FDE 4.6557 FRA 9.0034 FC3-9.5422 BSP 9404 SGB 5615.4 R23 .1649 R13 .9841 LSA 183.9 MSA 8.2 SSA .8
 BDE 1.6411 BRA 2.5657 BC3 4.1935 FSP 2678 SGI 5587.8 SG2 555.3 THA 28.82 EL1 137.1 EL2 1.8 ALF 31.77

LAUNCH DATE APR 13 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 17 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.283 GAL -3.90 AZL 88.36 HCA 194.27 SMA 182.42 ECC .19000 INC 1.6419 V1 29.708
 RP 216.21 LAP -.41 LOP 36.89 VP 22.363 GAP 2.47 AZP 91.59 TAL 335.10 TAP 169.37 RCA 147.76 APO 217.08 V2 25.405
 RC 159.881 GL 14.14 GP -22.53 ZAL 135.34 ZAP 72.84 ETS 171.59 ZAE 111.90 ETE 189.71 ZAC 80.05 ETC 270.62 LVI 12.93

Planetary Conic: C3 14.293 VHL 3.779 DLA 5.14 RAL 335.87 RAD 6640.2 VEL 11.591 PTH 6.63 VHP 3.455 DPA -46.12 RAP 293.52 ECC 1.2351
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 59 39 3159.06 -37.16 100.69 194.99 122.17 16 52 18 2159.1 -21.60 79.32
 60.00 16 33 45 3088.33 -32.39 95.72 198.18 115.43 17 24 53 2088.3 -19.40 73.10
 70.00 17 19 53 2932.66 -28.13 86.79 200.25 110.22 18 8 45 1932.7 -17.37 63.49
 80.00 18 22 35 2736.25 -25.06 73.04 201.40 106.78 19 8 12 1736.2 -15.87 49.42
 90.00 19 41 35 2481.32 -23.92 54.66 201.77 105.55 20 52 57 1481.3 -15.30 30.95
 100.00 21 5 27 2210.72 -25.06 34.41 201.40 106.78 21 42 18 1210.7 -15.87 10.78
 110.00 22 19 19 1979.47 -28.13 15.71 200.25 110.22 22 52 18 979.5 -17.37 352.41

Differential Corrections: TDE 1.3737 TRA 2.2856 TC3-4.1068 BAU .8268 SGT 5106.6 SGR 2508.9 SG3 1495.2 ST 116.6 SR 65.5 SS 120.3
 RDE .7716 RRA 1.2890 RC3-1.3727 FAU .16240 RRT .9743 RRF .9970 RTF .5.57 CRT .9999 CR8 -.9965 CST -.9963
 FDE 4.5293 FRA 9.2202 FC3-9.8436 BSP 9463 SGB 5689.6 R23 .1635 R13 .9837 LSA 179.7 MSA 7.6 SSA .9
 BDE 1.5756 BRA 2.6240 BC3 4.3301 FSP 2694 SGI 5666.8 SG2 508.9 THA 25.80 EL1 133.7 EL2 .9 ALF 29.33

LAUNCH DATE APR 13 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 19 1971

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.287 GAL -3.97 AZL 88.62 HCA 195.43 SMA 182.50 ECC .19072 INC 1.3841 V1 29.708
 RP 216.56 LAP -.37 LOP 37.85 VP 22.326 GAP 2.29 AZP 91.33 TAL 334.75 TAP 170.18 RCA 147.69 APO 217.31 V2 25.368
 RC 162.390 GL 11.89 GP -20.88 ZAL 136.18 ZAP 71.15 ETS 171.46 ZAE 110.62 ETE 188.37 ZAC 81.71 ETC 270.52 LVI 11.97

Planetary Conic: C3 14.268 VHL 3.777 DLA 3.18 RAL 337.00 RAD 6640.2 VEL 11.590 PTH 6.63 VHP 3.436 DPA -44.56 RAP 292.58 ECC 1.2348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 11 24 3119.60 -35.70 98.06 195.14 123.83 17 3 24 2119.6 -19.74 77.41
 60.00 16 47 37 3023.26 -31.03 92.67 198.42 117.13 17 38 0 2023.3 -17.58 70.69
 70.00 17 36 6 2880.66 -26.86 83.28 200.60 111.94 18 24 7 1880.7 -15.58 60.52
 80.00 18 40 58 2677.51 -23.85 69.10 201.82 108.51 19 25 36 1677.5 -14.11 45.94
 90.00 20 0 55 2419.53 -22.73 50.53 202.22 107.29 20 41 14 1419.5 -13.55 27.26
 100.00 21 23 50 2151.98 -23.85 30.47 201.82 108.51 21 59 42 1152.0 -14.11 7.31
 110.00 22 35 32 1927.48 -26.86 12.20 200.60 111.94 23 7 40 927.5 -15.58 349.44

Differential Corrections: TDE 1.3625 TRA 2.4255 TC3-4.2549 BAU .8466 SGT 5308.6 SGR 2309.0 SG3 1509.4 ST 117.3 SR 60.2 SS 118.4
 RDE .7082 RRA 1.1897 RC3-1.2631 FAU .16367 RRT .9747 RRF .9961 RTF .9770 CRT .9996 CR8 -.9951 CST -.9971
 FDE 4.4350 FRA 9.3934 FC3-9.9314 BSP 9616 SGB 5789.0 R23 .1616 R13 .9833 LSA 177.0 MSA 7.2 SSA 1.1
 BDE 1.5356 BRA 2.7016 BC3 4.4384 FSP 2714 SGI 5769.5 SG2 474.8 THA 23.14 EL1 131.8 EL2 1.6 ALF 27.16

LAUNCH DATE APR 13 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC DISTANCE 600.953 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.292 GAL -4.04 AZL 88.84 HCA 198.98 SMA 182.58 ECC .19148 INC 1.1615 V1 29.708

PLANETOCENTRIC CONIC C3 14.326 VHL 3.785 DLA 1.50 RAL 338.04 RAD 6640.2 VEL 11.592 PTH 6.64 VHP 3.427 DPA -43.17 RAP 291.78 ECC 1.2358
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3602 TRA 2.5641 TC3-4.3829 BAU .8682 SGT 5506.7 SGR 2131.6 SG3 1514.5 ST 115.4 SR 55.6 SS 116.8

LAUNCH DATE APR 13 1971 FLIGHT TIME 254.00 ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC DISTANCE 605.108 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.296 GAL -4.11 AZL 89.03 HCA 197.73 SMA 182.67 ECC .19228 INC .9687 V1 29.708

PLANETOCENTRIC CONIC C3 14.439 VHL 3.800 DLA .05 RAL 339.01 RAD 6640.3 VEL 11.597 PTH 6.64 VHP 3.427 DPA -41.94 RAP 291.09 ECC 1.2376
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3683 TRA 2.7080 TC3-4.4846 BAU .8894 SGT 5702.6 SGR 1973.4 SG3 1512.4 ST 120.1 SR 52.2 SS 115.4

LAUNCH DATE APR 13 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 609.259 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.303 GAL -4.18 AZL 89.20 HCA 198.08 SMA 182.76 ECC .19312 INC .7982 V1 29.708

PLANETOCENTRIC CONIC C3 14.596 VHL 3.821 DLA -1.19 RAL 339.90 RAD 6640.3 VEL 11.604 PTH 6.65 VHP 3.432 DPA -40.83 RAP 290.50 ECC 1.2402
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3803 TRA 2.8449 TC3-4.5777 BAU .9130 SGT 5893.2 SGR 1830.6 SG3 1503.3 ST 121.8 SR 49.0 SS 113.8

LAUNCH DATE APR 13 1971 FLIGHT TIME 258.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC DISTANCE 613.408 EARTH TO MARS
RL 149.99 LAL .00 LOL 202.43 VL 32.308 GAL -4.25 AZL 89.38 HCA 200.02 SMA 182.86 ECC .19399 INC .6476 V1 29.708

PLANETOCENTRIC CONIC C3 14.789 VHL 3.846 DLA -2.27 RAL 340.74 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.443 DPA -39.83 RAP 290.00 ECC 1.2434
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3990 TRA 2.9851 TC3-4.6539 BAU .9366 SGT 6080.2 SGR 1702.1 SG3 1489.3 ST 123.9 SR 46.3 SS 112.4

LAUNCH DATE APR 13 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 29 1971

MELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.316 GAL -4.33 AZL 89.49 HCA 201.16 SMA 182.96 ECC .19490 INC .3132 V1 29.708
 RP 218.33 LAP -.19 LOP 43.58 VP 22.144 GAP 1.44 AZP 90.46 TAL 332.89 TAP 174.04 RCA 147.30 APO 218.62 V2 25.169
 RC 175.114 GL 4.28 GP -15.01 ZAL 139.13 ZAP 63.50 ETS 171.26 ZAE 103.81 ETE 183.94 ZAC 87.61 ETC 270.16 LVI 6.74

DISTANCE 617.549
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.010 VHL 3.874 DLA -3.20 RAL 341.53 RAD 6640.3 VEL 11.622 PTH 6.86 VHP 3.459 DPA -38.93 RAP 289.58 ECC 1.2470
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 52 46 3003.85 -31.06 90.90 197.86 128.04 17 42 50 2003.8 -14.15 72.08
 60.00 17 35 45 2889.53 -26.56 84.17 201.43 121.50 18 23 54 1889.5 -11.99 63.81
 70.00 18 31 46 2724.80 -22.50 73.28 203.90 116.40 19 17 11 1724.8 -9.98 51.93
 80.00 19 43 30 2500.22 -19.55 57.69 205.35 113.02 20 25 10 1500.2 -8.49 35.79
 90.00 21 6 26 2232.63 -18.45 38.50 205.83 111.82 21 43 38 1232.6 -7.92 16.42
 100.00 22 26 21 1974.69 -19.55 19.06 205.35 113.02 22 59 16 974.7 -8.49 3.57.16
 110.00 23 31 12 1771.62 -22.50 2.20 203.90 116.40 24 0 44 771.6 -9.98 340.85

DIFFERENTIAL CORRECTIONS
 TDE 1.4222 TRA 3.1258 TC3-4.7178 BAU .9605 SGT 6262.8 SGR 1586.3 SG3 1471.3 ST 126.1 SR 44.0 SS 111.0
 RDE .5420 RRA .8217 RC3 -.8088 FAU .15619 RRT .9675 RRF .9861 RTF .9796 CRT .9876 CRS -.9823 CST -.9994
 FDE 4.1008 FRA 9.6544 FC3-9.0084 BSP 10822 SGB 6460.6 R23 .1371 R13 .9818 LSA 173.6 MSA 7.7 SSA 1.4
 BDE 1.5220 BRA 3.2319 BC3 4.7866 FSP 2680 SG1 6448.8 SG2 389.8 THA 13.82 EL1 133.5 EL2 6.5 ALF 19.07

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 13 1971

FLIGHT TIME 262.00

ARRIVAL DATE DEC 31 1971

MELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.322 GAL -4.41 AZL 89.61 HCA 202.29 SMA 183.06 ECC .19583 INC .3917 V1 29.708
 RP 218.69 LAP -.15 LOP 44.72 VP 22.107 GAP 1.27 AZP 90.36 TAL 332.49 TAP 174.78 RCA 147.21 APO 218.92 V2 25.129
 RC 177.690 GL 3.24 GP -14.17 ZAL 139.60 ZAP 62.13 ETS 171.27 ZAE 102.45 ETE 183.56 ZAC 86.46 ETC 270.12 LVI 6.03

DISTANCE 621.687
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.256 VHL 3.908 DLA -4.02 RAL 342.28 RAD 6640.6 VEL 11.632 PTH 6.87 VHP 3.478 DPA -38.11 RAP 289.23 ECC 1.2311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 58 44 2991.30 -30.53 90.17 198.58 128.44 17 48 36 1991.3 -13.54 71.52
 60.00 17 42 35 2874.68 -26.03 83.27 202.19 121.93 18 30 30 1874.7 -11.35 63.07
 70.00 18 39 35 2707.10 -21.96 72.19 204.69 116.84 19 24 42 1707.1 -9.32 50.98
 80.00 19 52 12 2479.75 -19.00 56.42 206.17 113.47 20 33 31 1479.8 -7.81 34.64
 90.00 21 15 31 2210.91 -17.90 37.15 206.67 112.27 21 52 22 1210.9 -7.24 15.18
 100.00 22 35 3 1954.22 -19.00 17.79 206.17 113.47 23 7 38 954.2 -7.81 3.56.01
 110.00 23 39 1 1753.92 -21.96 1.11 204.69 116.84 24 8 15 753.9 -9.32 339.90

DIFFERENTIAL CORRECTIONS
 TDE 1.4486 TRA 3.2655 TC3-4.7743 BAU .9855 SGT 6440.9 SGR 1481.5 SG3 1449.9 ST 128.5 SR 42.1 SS 109.7
 RDE .5280 RRA .7654 RC3 -.7410 FAU .15341 RRT .9641 RRF .9826 RTF .9799 CRT .9831 CRS -.9783 CST -.9996
 FDE 4.0456 FRA 9.6210 FC3-8.7054 BSP 11086 SGB 6609.1 R23 .1301 R13 .9816 LSA 173.9 MSA 8.1 SSA 1.4
 BDE 1.5408 BRA 3.3540 BC3 4.8315 FSP 2647 SG1 6597.9 SG2 383.9 THA 12.55 EL1 135.0 EL2 7.3 ALF 17.89

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 13 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 2 1972

MELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.329 GAL -4.49 AZL 89.72 HCA 203.42 SMA 183.17 ECC .19683 INC .2818 V1 29.708
 RP 219.06 LAP -.11 LOP 45.85 VP 22.071 GAP 1.10 AZP 90.26 TAL 332.09 TAP 175.51 RCA 147.12 APO 219.23 V2 25.089
 RC 180.275 GL 2.31 GP -13.40 ZAL 140.04 ZAP 60.80 ETS 171.29 ZAE 101.11 ETE 182.86 ZAC 89.24 ETC 270.09 LVI 5.37

DISTANCE 625.821
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.523 VHL 3.940 DLA -4.72 RAL 343.00 RAD 6640.8 VEL 11.644 PTH 6.88 VHP 3.500 DPA -37.36 RAP 288.94 ECC 1.2355
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 4 12 2981.11 -30.10 89.59 199.32 128.76 17 53 53 1981.1 -13.04 71.07
 60.00 17 48 48 2862.47 -25.59 82.54 202.96 122.27 18 36 31 1862.5 -10.83 62.46
 70.00 18 46 39 2692.39 -21.51 71.29 205.50 117.19 19 31 31 1692.4 -8.78 50.19
 80.00 20 0 2 2462.61 -18.54 55.36 207.01 113.83 20 41 5 1462.6 -7.25 33.68
 90.00 21 23 42 2192.67 -17.42 36.02 207.51 112.63 22 0 15 1192.7 -6.67 14.5
 100.00 22 42 54 1937.08 -18.54 16.73 207.01 113.83 23 15 11 937.1 -7.25 3.55.05
 110.00 23 46 5 1739.21 -21.51 .21 205.50 117.19 24 15 4 739.2 -8.78 339.11

DIFFERENTIAL CORRECTIONS
 TDE 1.4793 TRA 3.4088 TC3-4.8201 BAU 1.0103 SGT 6615.4 SGR 1387.2 SG3 1426.4 ST 131.0 SR 40.4 SS 108.4
 RDE .5116 RRA .7138 RC3 -.6788 FAU .15023 RRT .9599 RRF .9784 RTF .9799 CRT .9781 CRS -.9743 CST -.9997
 FDE 3.9866 FRA 9.5757 FC3-8.3774 BSP 11365 SGB 6759.3 R23 .1233 R13 .9814 LSA 174.5 MSA 8.6 SSA 1.4
 BDE 1.5652 BRA 3.4807 BC3 4.8676 FSP 2613 SG1 6748.5 SG2 381.1 THA 11.42 EL1 136.8 EL2 8.0 ALF 16.83

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 13 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 4 1972

MELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.336 GAL -4.57 AZL 89.82 HCA 204.55 SMA 183.28 ECC .19785 INC .1797 V1 29.708
 RP 219.43 LAP -.08 LOP 46.97 VP 22.035 GAP .93 AZP 90.17 TAL 331.68 TAP 176.23 RCA 147.02 APO 219.55 V2 25.046
 RC 182.871 GL 1.48 GP -12.68 ZAL 140.47 ZAP 59.52 ETS 171.32 ZAE 99.79 ETE 182.41 ZAC 89.94 ETC 270.06 LVI 4.76

DISTANCE 629.950
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 15.813 VHL 3.977 DLA -5.34 RAL 343.68 RAD 6640.9 VEL 11.656 PTH 6.89 VHP 3.525 DPA -36.68 RAP 288.72 ECC 1.2602
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 9 12 2972.96 -29.75 89.12 200.08 129.01 17 58 45 1973.0 -12.64 70.71
 60.00 17 54 28 2852.54 -25.22 81.95 203.75 122.54 18 42 1 1852.5 -10.40 61.97
 70.00 18 53 4 2680.28 -21.13 70.56 206.32 117.48 19 37 44 1680.3 -8.32 49.54
 80.00 20 7 8 2448.35 -18.14 54.49 207.86 114.13 20 47 57 1448.4 -6.78 32.89
 90.00 21 31 6 2177.45 -17.02 35.08 208.37 112.93 22 7 23 1177.4 -6.19 13.29
 100.00 22 50 0 1922.83 -18.14 15.86 207.86 114.13 23 22 3 922.8 -6.78 3.54.25
 110.00 23 52 30 1727.09 -21.13 359.47 206.32 117.48 24 21 17 727.1 -8.32 338.46

DIFFERENTIAL CORRECTIONS
 TDE 1.5115 TRA 3.5474 TC3-4.8609 BAU 1.0360 SGT 6785.4 SGR 1301.5 SG3 1400.6 ST 133.5 SR 38.9 SS 107.0
 RDE .5005 RRA .6657 RC3 -.6253 FAU .14704 RRT .9549 RRF .9733 RTF .9800 CRT .9724 CRS -.9696 CST -.9998
 FDE 3.9451 FRA 9.5124 FC3-8.0503 BSP 11627 SGB 6909.1 R23 .1164 R13 .9812 LSA 175.2 MSA 9.1 SSA 1.4
 BDE 1.5922 BRA 3.6053 BC3 4.9007 FSP 2570 SG1 6898.6 SG2 380.3 THA 10.41 EL1 138.8 EL2 8.7 ALF 15.87

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 13 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 6 1972

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.343 GAL -4.65 AZL 89.91 HCA 205.67 SMA 183.40 ECC .19889 INC .0882 V1 29.708
 RP 219.80 LAP -.04 LOP 48.10 VP 21.999 GAP .78 AZP 90.08 TAL 331.27 TAP 176.94 RCA 146.92 APO 219.88 V2 25.007
 RC 185.475 GL .74 GP -12.05 ZAL 140.88 ZAP 58.28 ETS 171.76 ZAE .98.50 ETE 182.02 ZAC 90.58 ETC 270.05 LVI 4.20

Planetocentric Conic: C3 16.119 VML 4.015 DLA -5.88 RAL 344.34 RAD 6641.1 VEL 11.669 PTH 6.71 VHP 3.552 DPA -36.05 RAP 268.55 ECC 1.2633
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 48 2966.57 -29.48 88.76 200.84 129.20 18 3 15 1966.6 -12.33 70.43
 60.00 17 59 40 2844.60 -24.93 81.48 204.55 122.75 18 47 4 1844.6 -10.06 61.57
 70.00 18 58 54 2670.42 -20.82 69.96 207.15 117.71 19 43 25 1670.4 -7.96 49.02
 80.00 20 13 35 2436.61 -17.81 53.77 208.71 114.37 20 54 12 1436.6 -6.39 32.23
 90.00 21 37 49 2164.85 -16.69 34.31 209.23 113.17 22 13 54 1164.8 -5.79 12.58
 100.00 22 56 27 1911.08 -17.81 15.14 208.71 114.37 23 28 18 911.1 -6.39 353.60
 110.00 0 2 16 1717.23 -20.82 358.88 207.15 117.71 0 30 54 717.2 -7.96 337.93

Differential Corrections: TDE 1.5477 TRA 3.6893 TC3-4.8922 BAU 1.0614 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4918 RRA .6210 RC3 -.5732 FAU .14373 SGT 6951.6 SGR 1224.0 S63 1373.3 ST 136.1 SR 37.6 S8 105.7
 FDE 3.8965 FRA 9.4366 FC3-7.7198 BSP 11901 RRT .9489 RRF .9672 RTF .9801 CRT .9663 CRS -.9645 CST -.9998
 BDE 1.6240 BRA 3.7412 BC3 4.9257 FSP 2524 SGB 7058.5 R23 .1092 R13 .9811 LSA 176.1 MSA 9.6 S8A 1.4
 S61 7048.2 S62 381.1 THA 9.51 EL1 140.9 EL2 9.3 ALF 14.99

LAUNCH DATE APR 13 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 8 1972

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.350 GAL -4.74 AZL 89.99 HCA 206.79 SMA 183.52 ECC .19998 INC .0000 V1 29.708
 RP 220.18 LAP -.00 LOP 49.22 VP 21.963 GAP .59 AZP 90.01 TAL 330.85 TAP 177.64 RCA 146.82 APO 220.22 V2 24.966
 RC 188.089 GL .06 GP -11.46 ZAL 141.29 ZAP 57.09 ETS 171.40 ZAE 97.22 ETE 181.67 ZAC 91.17 ETC 270.05 LVI 3.68

Planetocentric Conic: C3 16.442 VML 4.055 DLA -6.35 RAL 344.97 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 3.581 DPA -35.47 RAP 268.43 ECC 1.2706
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 4 2961.74 -29.27 88.49 201.62 129.34 18 7 25 1961.7 -12.09 70.21
 60.00 18 4 26 2838.41 -24.70 81.12 205.36 122.91 18 51 44 1838.4 -9.80 61.27
 70.00 19 4 15 2662.54 -20.57 69.49 207.98 117.89 19 48 37 1662.5 -7.66 48.60
 80.00 20 19 27 2427.08 -17.54 53.19 209.56 114.55 20 59 54 1427.1 -6.07 31.70
 90.00 21 43 55 2154.57 -16.41 33.68 210.09 113.36 22 19 50 1154.6 -5.47 12.00
 100.00 23 2 19 1901.55 -17.54 14.56 209.56 114.55 23 34 1 901.6 -6.07 353.07
 110.00 0 7 37 1709.36 -20.57 358.40 207.98 117.89 0 36 6 709.4 -7.66 337.52

Differential Corrections: TDE 1.5867 TRA 3.8326 TC3-4.9166 BAU 1.0869 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4854 RRA .5796 RC3 -.5272 FAU .14018 SGT 7114.4 SGR 1154.2 S63 1345.2 ST 138.9 SR 36.5 S8 104.5
 FDE 3.8533 FRA 9.3565 FC3-7.3804 BSP 12179 RRT .9417 RRF .9602 RTF .9800 CRT .9597 CRS -.9592 CST -.9999
 BDE 1.6593 BRA 3.8762 BC3 4.9448 FSP 2480 SGB 7207.5 R23 .1029 R13 .9809 LSA 177.3 MSA 10.1 S8A 1.4
 S61 7197.2 S62 384.0 THA 8.71 EL1 143.2 EL2 9.9 ALF 14.21

LAUNCH DATE APR 13 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 10 1972

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.358 GAL -4.83 AZL 90.07 HCA 207.91 SMA 183.65 ECC .20109 INC .0641 V1 29.708
 RP 220.55 LAP .03 LOP 50.33 VP 21.928 GAP .42 AZP 89.94 TAL 330.42 TAP 178.33 RCA 146.72 APO 220.57 V2 24.925
 RC 190.711 GL -.54 GP -10.92 ZAL 141.69 ZAP 55.93 ETS 171.45 ZAE 95.97 ETE 181.38 ZAC 91.71 ETC 270.05 LVI 3.16

Planetocentric Conic: C3 16.780 VML 4.096 DLA -6.75 RAL 345.58 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 3.612 DPA -34.93 RAP 268.36 ECC 1.2762
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 1 2958.27 -29.12 88.29 202.40 129.45 18 11 19 1958.3 -11.92 70.06
 60.00 18 8 49 2833.78 -24.53 80.85 206.16 123.04 18 56 3 1833.8 -9.60 61.04
 70.00 19 9 8 2656.41 -20.37 69.12 208.82 118.02 19 53 25 1656.4 -7.43 48.27
 80.00 20 24 49 2419.50 -17.35 52.73 210.41 114.70 21 5 8 1419.5 -5.82 31.28
 90.00 21 49 29 2146.33 -16.19 33.18 210.95 113.51 22 25 15 1146.3 -5.21 11.33
 100.00 23 7 41 1893.97 -17.35 14.10 210.41 114.70 23 39 15 894.0 -5.82 352.69
 110.00 0 12 31 1703.23 -20.37 358.04 208.82 118.02 0 40 54 703.2 -7.43 337.19

Differential Corrections: TDE 1.8280 TRA 3.9771 TC3-4.9345 BAU 1.1123 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4808 RRA .5410 RC3 -.4855 FAU .13647 SGT 7273.7 SGR 1091.1 S63 1316.3 ST 141.6 SR 35.5 S8 103.3
 FDE 3.8113 FRA 9.2689 FC3-7.0408 BSP 12459 RRT .9332 RRF .9519 RTF .9599 CRT .9527 CRS -.9536 CST -.9999
 BDE 1.6974 BRA 4.0158 BC3 4.9563 FSP 2437 SGB 7355.1 R23 .0970 R13 .9806 LSA 178.5 MSA 10.6 S8A 1.4
 S61 7344.9 S62 388.3 THA 7.99 EL1 145.6 EL2 10.5 ALF 13.50

LAUNCH DATE APR 13 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 12 1972

Heliocentric Conic: RL 149.99 LAL .00 LOL 202.43 VL 32.365 GAL -4.92 AZL 90.14 HCA 209.02 SMA 183.77 ECC .20224 INC .1394 V1 29.708
 RP 220.93 LAP .07 LOP 51.45 VP 21.892 GAP .25 AZP 89.88 TAL 330.00 TAP 179.02 RCA 146.61 APO 220.34 V2 24.884
 RC 193.341 GL -1.10 GP -10.42 ZAL 142.08 ZAP 54.82 ETS 171.50 ZAE 94.74 ETE 181.09 ZAC 92.21 ETC 270.06 LVI 2.69

Planetocentric Conic: C3 17.134 VML 4.139 DLA -7.11 RAL 346.17 RAD 6641.5 VEL 11.712 PTH 6.74 VHP 3.644 DPA -34.43 RAP 268.34 ECC 1.2820
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 41 2956.01 -29.02 88.17 203.18 129.51 18 14 57 1956.0 -11.80 69.96
 60.00 18 12 53 2830.47 -24.41 80.65 206.98 123.12 19 0 4 1830.5 -9.45 60.88
 70.00 19 13 38 2651.83 -20.22 68.84 209.65 118.13 19 57 50 1651.8 -7.26 48.03
 80.00 20 29 43 2413.65 -17.16 52.38 211.26 114.81 21 9 57 1413.7 -5.82 30.96
 90.00 21 54 34 2139.90 -16.01 32.79 211.80 113.63 22 30 14 1139.9 -5.00 11.17
 100.00 23 12 35 1888.12 -17.16 13.75 211.26 114.81 23 44 3 888.1 -5.82 352.33
 110.00 0 17 1 1698.65 -20.22 357.76 209.65 118.13 0 45 19 698.7 -7.26 336.95

Differential Corrections: TDE 1.6716 TRA 4.1223 TC3-4.9480 BAU 1.1381 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4773 RRA .5046 RC3 -.4481 FAU .13286 SGT 7429.4 SGR 1034.2 S63 1286.9 ST 144.4 SR 34.7 S8 102.0
 FDE 3.7699 FRA 9.1736 FC3-6.7130 BSP 12726 RRT .9235 RRF .9424 RTF .9797 CRT .9433 CRS -.9477 CST -.9998
 BDE 1.7384 BRA 4.1930 BC3 4.9683 FSP 2386 SGB 7501.1 R23 .0913 R13 .9804 LSA 179.9 MSA 11.1 S8A 1.4
 S61 7490.8 S62 393.4 THA 7.35 EL1 148.1 EL2 11.0 ALF 12.86

LAUNCH DATE APR 13 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.373 GAL -5.01 AZL 90.21 HCA 210.13 BMA 183.90 ECC .20342 INC .2063 V1 29.708
 RP 221.31 LAP .10 LOP 52.55 VP 21.856 GAP -.08 AZP 89.82 TAL 329.56 TAP 179.69 RCA 146.49 APO 221.31 V2 24.842
 RC 195.978 GL -1.60 GP -9.96 ZAL 142.48 ZAP 83.75 ETS 171.56 ZAE 93.54 ETE 180.84 ZAC 92.67 ETC 270.08 LVI 2.24

DISTANCE 650.516 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.904 VHL 4.184 DLA -7.41 RAL 346.75 RAD 6841.7 VEL 11.727 PTM 6.76 VHP 3.678 DPA -33.96 RAP 288.36 ECC 1.2801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 6 2954.83 -28.97 88.10 203.97 129.55 18 18 21 1954.8 -11.75 69.91
 60.00 18 16 39 2828.39 -24.33 80.53 207.79 123.17 19 3 47 1828.4 -9.36 60.78
 70.00 19 17 47 2648.64 -20.12 68.65 210.49 118.20 20 1 56 1648.6 -7.14 47.86
 80.00 20 34 13 2409.35 -17.04 52.12 212.11 114.89 21 14 22 1409.3 -5.48 30.72
 90.00 21 59 13 2135.10 -15.88 32.50 212.66 113.71 22 34 48 1135.1 -4.85 10.90
 100.00 23 17 5 1883.82 -17.04 13.49 212.11 114.89 23 48 29 883.8 -5.48 352.09
 110.00 0 21 9 1695.45 -20.12 357.57 210.49 118.20 0 49 25 695.5 -7.14 336.78

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.7169 TRA 4.2688 TC3-4.9564 BAU 1.1639 SGT 7581.8 SGR 982.9 SG3 1257.3 ST 147.2 SR 34.0 SF 100.8
 RDE .4752 RRA .4707 RC3 -.4140 FAU .12914 RRT .9124 RRF .9315 RTF .9795 CRT .9378 CRS -.9416 CBT -.9998
 FDE 3.7293 FRA 9.0759 FC3-6.3872 BSP 12999 SGB 7645.2 R23 .0863 R13 .9801 LSA 181.3 HSA 11.5 SSA 1.4
 BDE 1.7815 BRA 4.2947 BC3 4.9736 FSP 2340 SGI 7634.8 SG2 399.6 THA 6.76 EL1 150.7 EL2 11.5 ALF 12.28

LAUNCH DATE APR 13 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.381 GAL -5.10 AZL 90.27 HCA 211.23 BMA 184.03 ECC .20462 INC .2683 V1 29.708
 RP 221.69 LAP .14 LOP 53.66 VP 21.821 GAP -.09 AZP 89.77 TAL 329.12 TAP 180.38 RCA 146.38 APO 221.69 V2 24.801
 RC 198.621 GL -2.05 GP -9.53 ZAL 142.86 ZAP 52.71 ETS 171.61 ZAE 92.36 ETE 180.62 ZAC 93.10 ETC 270.11 LVI 1.80

DISTANCE 654.611 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.887 VHL 4.229 DLA -7.67 RAL 347.30 RAD 6841.9 VEL 11.744 PTM 6.77 VHP 3.713 DPA -33.52 RAP 288.42 ECC 1.2944
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 19 2954.60 -28.96 88.09 204.76 129.55 18 21 33 1954.6 -11.74 69.90
 60.00 18 20 8 2927.39 -24.29 80.47 208.60 123.20 19 7 16 1827.4 -9.32 60.73
 70.00 19 21 36 2646.67 -20.06 68.54 211.32 118.24 20 5 43 1646.7 -7.07 47.76
 80.00 20 38 21 2406.43 -16.96 51.94 212.96 114.95 21 18 27 1406.4 -5.38 30.56
 90.00 22 3 29 2131.74 -15.79 32.30 213.51 113.77 22 39 1 1131.7 -4.74 10.71
 100.00 23 21 13 1880.90 -16.98 13.31 212.96 114.95 23 52 34 880.9 -5.38 351.83
 110.00 0 24 59 1693.49 -20.06 357.45 211.32 118.24 0 53 12 693.5 -7.07 336.67

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.7637 TRA 4.4154 TC3-4.9813 BAU 1.1900 SGT 7729.8 SGR 936.5 SG3 1227.1 ST 150.0 SR 33.4 SS 99.8
 RDE .4742 RRA .4384 RC3 -.3834 FAU .12550 RRT .8997 RRF .9191 RTF .9793 CRT .9300 CRS -.9353 CBT -.9998
 FDE 3.6885 FRA 8.9697 FC3-6.0740 BSP 13252 SGB 7786.3 R23 .0815 R13 .9798 LSA 182.7 HSA 12.0 SSA 1.3
 BDE 1.8264 BRA 4.4371 BC3 4.9761 FSP 2287 SGI 7775.7 SG2 406.4 THA 6.24 EL1 153.2 EL2 12.0 ALF 11.76

LAUNCH DATE APR 13 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC
 RL 149.99 LAL .00 LOL 202.43 VL 32.389 GAL -5.20 AZL 90.33 HCA 212.33 BMA 184.17 ECC .20586 INC .3268 V1 29.708
 RP 222.07 LAP .17 LOP 54.76 VP 21.786 GAP -.28 AZP 89.72 TAL 328.68 TAP 181.01 RCA 146.26 APO 222.07 V2 24.789
 RC 201.270 GL -2.47 GP -9.13 ZAL 143.25 ZAP 51.71 ETS 171.67 ZAE 91.20 ETE 180.42 ZAC 93.49 ETC 270.14 LVI 1.39

DISTANCE 658.701 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 18.285 VHL 4.278 DLA -7.90 RAL 347.85 RAD 6842.1 VEL 11.760 PTM 6.79 VHP 3.749 DPA -33.11 RAP 288.52 ECC 1.3009
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 19 2955.25 -28.99 88.12 205.55 129.53 18 24 34 1955.2 -11.77 69.93
 60.00 18 23 24 2927.37 -24.29 80.47 209.42 123.20 19 10 51 1827.4 -9.32 60.73
 70.00 19 25 8 2645.82 -20.03 68.49 212.15 118.26 20 9 14 1645.8 -7.03 47.71
 80.00 20 42 9 2404.78 -16.91 51.84 213.80 114.98 21 22 13 1404.8 -5.33 30.47
 90.00 22 7 24 2129.69 -15.73 32.17 214.36 113.81 22 42 54 1129.7 -4.68 10.60
 100.00 23 25 1 1879.23 -16.91 13.21 213.80 114.98 23 56 20 879.2 -5.33 351.83
 110.00 0 28 31 1692.64 -20.03 357.40 212.15 118.26 0 56 43 692.6 -7.03 336.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.8130 TRA 4.5843 TC3-4.9810 BAU 1.2158 SGT 7875.5 SGR 895.2 SG3 1197.2 ST 152.9 SR 32.9 SS 98.4
 RDE .4743 RRA .4082 RC3 -.3553 FAU .12178 RRT .8855 RRF .9052 RTF .5.90 CRT .9221 CRS -.9289 CBT -.9997
 FDE 3.6506 FRA 8.8639 FC3-5.7659 BSP 13516 SGB 7926.2 R23 .0773 R13 .9794 LSA 184.3 HSA 12.5 SSA 1.3
 BDE 1.8741 BRA 4.5825 BC3 4.9737 FSP 2238 SGI 7915.4 SG2 413.9 THA 5.76 EL1 155.9 EL2 12.5 ALF 11.20

LAUNCH DATE APR 14 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 14 1971

Heliocentric Conic: RL 190.03 LAL .00 LOL 203.41 VL 34.825 GAL -5.89 AZL 92.06 HCA 118.92 SMA 232.7D ECC .36717 INC 2.0866 V1 29.699

Planetary Conic: C3 39.356 VHL 6.273 DLA -20.96 RAL 339.35 RAD 6650.4 VEL 12.619 PTH 7.47 VHP 10.145 DPA -17.13 RAP 313.28 ECC 1.6477

Differential Corrections: TDE -.6941 TRA-1.4683 TC3 -.0813 BAU .0629 RDE -.5594 RRA .1480 RC3 .1026 FAU .03784 FDE .4651 FRA 1.5223 FC3 -.8324 BSP 2925 BDE .8915 BRA 1.4757 BC3 .1195 FSP 219

Mid-Course Execution Accuracy: SGT 1571.6 SGR 546.4 SG3 161.4 RRT .1235 RRF -.1331 RTF -.7928 SGB 1663.8 R23 -.0222 R13 -.7933 SG1 1573.2 SG2 541.6 THA 2.79

Orbit Determination Accuracy: ST 38.5 SR 25.6 SS 27.0 CRT .7765 CR8 .6248 CST .9758 LSA 50.7 MSA 16.8 SBA 1.1 EL1 43.9 EL2 14.1 ALF 31.00

LAUNCH DATE APR 14 1971 FLIGHT TIME 124.00 ARRIVAL DATE AUG 16 1971

Heliocentric Conic: RL 190.03 LAL .00 LOL 203.41 VL 34.479 GAL -5.55 AZL 92.08 HCA 117.18 SMA 228.67 ECC .35569 INC 2.0789 V1 29.699

Planetary Conic: C3 37.319 VHL 6.109 DLA -21.28 RAL 339.59 RAD 6649.7 VEL 12.538 PTH 7.41 VHP 9.840 DPA -16.93 RAP 313.67 ECC 1.6142

Differential Corrections: TDE -.6944 YRA-1.4606 TC3 -.0569 BAU .0617 RDE -.5415 RRA .1374 RC3 .1099 FAU .03903 FDE .4815 FRA 1.5942 FC3 -.9054 BSP 2634 BDE .8606 BRA 1.4671 BC3 .1237 FSP 233

Mid-Course Execution Accuracy: SGT 1609.5 SGR 543.2 SG3 172.2 RRT .1351 RRF -.1453 RTF -.7987 SGB 1698.7 R23 -.0241 R13 -.7993 SG1 1611.4 SG2 537.8 THA 2.94

Orbit Determination Accuracy: ST 39.3 SR 25.5 SS 28.0 CRT .7796 CR8 .6246 CST .9748 LSA 51.9 MSA 16.8 SBA 1.1 EL1 44.7 EL2 14.0 ALF 30.06

LAUNCH DATE APR 14 1971 FLIGHT TIME 126.00 ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 190.03 LAL .00 LOL 203.41 VL 34.342 GAL -5.41 AZL 92.10 HCA 118.44 SMA 225.00 ECC .34484 INC 2.1017 V1 29.699

Planetary Conic: C3 35.431 VHL 5.952 DLA -21.63 RAL 339.83 RAD 6649.0 VEL 12.463 PTH 7.36 VHP 9.544 DPA -16.74 RAP 314.04 ECC 1.5831

Differential Corrections: TDE -.6930 TRA-1.4311 TC3 -.0499 BAU .0605 RDE -.5243 RRA .1267 RC3 .1176 FAU .04029 FDE .4988 FRA 1.6494 FC3 -.9844 BSP 2722 BDE .8689 BRA 1.4566 BC3 .1277 FSP 253

Mid-Course Execution Accuracy: SGT 1645.0 SGR 539.9 SG3 183.7 RRT .1476 RRF -.1587 RTF -.8059 SGB 1731.3 R23 -.0262 R13 -.8059 SG1 1647.2 SG2 533.3 THA 3.10

Orbit Determination Accuracy: ST 40.3 SR 25.3 SS 29.0 CRT .7824 CR8 .6246 CST .9758 LSA 53.1 MSA 16.8 SBA 1.1 EL1 45.5 EL2 14.0 ALF 29.22

LAUNCH DATE APR 14 1971 FLIGHT TIME 128.00 ARRIVAL DATE AUG 20 1971

Heliocentric Conic: RL 190.03 LAL .00 LOL 203.41 VL 34.211 GAL -5.27 AZL 92.13 HCA 119.71 SMA 221.65 ECC .33460 INC 2.1251 V1 29.699

Planetary Conic: C3 33.683 VHL 5.804 DLA -21.99 RAL 340.06 RAD 6648.4 VEL 12.393 PTH 7.31 VHP 9.258 DPA -16.54 RAP 314.40 ECC 1.5543

Differential Corrections: TDE -.6903 TRA-1.4402 TC3 -.0411 BAU .0596 RDE -.5076 RRA .1160 RC3 .1257 FAU .04161 FDE .5166 FRA 1.7178 FC3 -1.0695 BSP 2800 BDE .8569 BRA 1.4449 BC3 .1323 FSP 273

Mid-Course Execution Accuracy: SGT 1678.6 SGR 536.4 SG3 196.0 RRT .1612 RRF -.1733 RTF -.8122 SGB 1762.2 R23 -.0284 R13 -.8126 SG1 1681.1 SG2 528.6 THA 3.27

Orbit Determination Accuracy: ST 41.1 SR 25.1 SS 30.0 CRT .7853 CR8 .6248 CST .9728 LSA 54.2 MSA 16.8 SBA 1.2 EL1 46.1 EL2 13.9 ALF 28.43

LAUNCH DATE APR 14 1971 FLIGHT TIME 130.00 ARRIVAL DATE AUG 22 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 34.088 GAL -5.13 AZL 92.15 MCA 120.97 SMA 218.58 ECC .32492 INC 2.1490 V1 29.699
 RP 207.01 LAP -1.84 LOP 324.39 VP 25.982 GAP 18.72 AZP 88.89 TAL 338.88 TAP 99.85 RCA 147.56 APO 289.60 V2 26.457
 RC 57.225 GL -12.99 GP 2.59 ZAL 128.89 ZAP 187.82 ETS 167.70 ZAE 172.41 ETE 101.93 ZAC 103.30 ETC 276.64 LVI -18.88

Planetary Conic: C3 32.063 VHL 5.682 DLA -22.36 RAL 340.28 RAD 8647.8 VEL 12.328 PTH 7.26 VHP 8.980 DPA -16.34 RAP 314.74 ECC 1.9277
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 14 2794.47 -21.72 79.73 203.71 133.43 18 46 48 1794.5 -3.78 63.07
 60.00 19 7 28 2615.66 -15.92 68.85 208.94 127.53 19 51 3 1615.7 -0.06 50.82
 70.00 20 32 51 2364.66 -10.24 52.59 213.04 122.76 21 12 15 1364.7 3.67 32.96
 80.00 22 14 49 2045.49 -5.99 31.19 215.87 119.38 22 48 55 1045.5 6.78 10.67
 90.00 23 52 36 1730.10 -3.64 9.07 216.94 118.06 24 21 26 730.1 8.10 348.19
 100.00 1 1 37 1519.96 -5.99 352.56 215.87 119.38 1 26 57 520.0 6.78 332.04
 110.00 1 36 13 1411.47 -10.24 341.51 213.04 122.76 1 59 44 411.5 3.67 321.90

Differential Corrections: TDE -.6673 TRA -1.4288 TC3 -.0313 BAU .0591 SGT 1711.3 SGR 532.7 S63 209.1 ST 41.9 SR 24.9 S8 31.0
 RDE -.4915 RRA 1.053 RC3 .1344 FAU .04302 RRT .1759 RRF -.1894 RTF -.0188 CRT .7883 CRS .6253 CST .9719
 FDE .5337 FRA 1.7896 FC3 -1.1615 BSP 2868 SGB 1792.3 R23 -.0310 R13 -.8195 LSA 55.3 MSA 16.8 SSA 1.2
 BDE .8449 BRA 1.4326 BC3 .1380 FSP 294 S61 1714.1 S62 523.5 THA 3.46 EL1 46.8 EL2 13.7 ALF 27.70

Earth to Mars: ST 41.9 SR 24.9 S8 31.0 CRT .7883 CRS .6253 CST .9719 LSA 55.3 MSA 16.8 SSA 1.2 EL1 46.8 EL2 13.7 ALF 27.70

LAUNCH DATE APR 14 1971 FLIGHT TIME 132.00 ARRIVAL DATE AUG 24 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.972 GAL -5.00 AZL 92.17 HCA 122.24 SMA 215.76 ECC .31577 INC 2.1737 V1 29.699
 RP 206.94 LAP -1.84 LOP 325.66 VP 25.837 GAP 18.26 AZP 88.84 TAL 338.96 TAP 101.20 RCA 147.63 APO 283.89 V2 26.466
 RC 57.675 GL -13.43 GP 2.69 ZAL 128.64 ZAP 166.91 ETS 168.12 ZAE 172.49 ETE 96.01 ZAC 103.37 ETC 276.72 LVI -19.09

Planetary Conic: C3 30.562 VHL 5.528 DLA -22.74 RAL 340.49 RAD 8647.2 VEL 12.268 PTH 7.21 VHP 8.711 DPA -16.14 RAP 315.06 ECC 1.8030
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 52 2774.12 -20.77 78.74 203.30 133.82 18 49 6 1774.1 -2.74 62.22
 60.00 19 10 45 2593.56 -15.00 67.71 208.53 127.86 19 53 59 1593.6 .92 49.46
 70.00 20 37 4 2339.84 -9.32 51.26 212.66 123.01 21 16 3 1339.8 4.61 31.88
 80.00 22 20 14 2016.95 -4.64 29.61 215.52 119.53 22 53 51 1016.9 7.72 9.08
 90.00 0 2 40 1699.23 -2.63 7.34 216.62 118.17 0 30 59 699.2 9.05 348.43
 100.00 1 7 2 1491.42 -4.64 350.98 215.52 119.53 1 31 53 491.4 7.72 330.49
 110.00 1 40 26 1386.66 -9.32 340.18 212.66 123.01 2 3 32 386.7 4.61 320.60

Differential Corrections: TDE -.6841 TRA -1.4166 TC3 -.0212 BAU .0592 SGT 1742.9 SGR 529.0 S63 223.1 ST 42.7 SR 24.7 S8 32.1
 RDE -.4760 RRA .0945 RC3 .1434 FAU .04449 RRT .1921 RRF -.2068 RTF -.8250 CRT .7916 CRS .6260 CST .9709
 FDE .5554 FRA 1.8655 FC3 -1.2603 BSP 2942 SGB 1821.4 R23 -.0338 R13 -.8258 LSA 56.4 MSA 16.8 SSA 1.2
 BDE .8334 BRA 1.4197 BC3 .1450 FSP 317 S61 1746.1 S62 516.2 THA 3.66 EL1 47.5 EL2 13.8 ALF 27.00

Earth to Mars: ST 42.7 SR 24.7 S8 32.1 CRT .7916 CRS .6260 CST .9709 LSA 56.4 MSA 16.8 SSA 1.2 EL1 47.5 EL2 13.8 ALF 27.00

LAUNCH DATE APR 14 1971 FLIGHT TIME 134.00 ARRIVAL DATE AUG 26 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.862 GAL -4.88 AZL 92.20 HCA 123.50 SMA 213.17 ECC .30713 INC 2.1990 V1 29.699
 RP 206.87 LAP -1.83 LOP 326.93 VP 25.700 GAP 17.81 AZP 88.79 TAL 339.05 TAP 102.55 RCA 147.70 APO 278.64 V2 26.473
 RC 58.203 GL -13.87 GP 2.81 ZAL 128.58 ZAP 165.97 ETS 168.47 ZAE 172.50 ETE 90.53 ZAC 103.44 ETC 276.80 LVI -19.30

Planetary Conic: C3 29.172 VHL 5.401 DLA -23.14 RAL 340.70 RAD 8646.7 VEL 12.211 PTH 7.17 VHP 8.451 DPA -15.93 RAP 315.36 ECC 1.4801
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 33 2753.83 -19.81 77.76 202.91 134.19 18 51 27 1753.8 -1.72 61.37
 60.00 19 14 8 2571.43 -14.07 66.57 208.15 128.16 19 57 0 1571.4 1.89 48.41
 70.00 20 41 26 2314.80 -8.39 49.92 212.31 123.23 21 20 1 1314.8 5.98 30.37
 80.00 22 25 94 1987.83 -3.66 28.00 215.22 119.65 22 59 2 987.8 8.68 7.45
 90.00 0 9 9 1667.50 -1.63 5.57 216.34 118.24 0 36 57 667.5 10.03 344.60
 100.00 1 12 42 1462.30 -3.66 349.37 215.22 119.65 1 37 5 462.3 8.68 328.81
 110.00 1 44 48 1361.62 -8.39 338.83 212.31 123.23 2 7 30 361.6 5.98 319.28

Differential Corrections: TDE -.6799 TRA -1.4034 TC3 -.0099 BAU .0598 SGT 1772.5 SGR 525.2 S63 238.0 ST 43.5 SR 24.5 S8 33.2
 RDE -.4811 RRA .0836 RC3 .1530 FAU .04608 RRT .2094 RRF -.2258 RTF -.8109 CRT .7950 CRS .6269 CST .9699
 FDE .5757 FRA 1.9444 FC3 -1.3675 BSP 3004 SGB 1848.7 R23 -.0367 R13 -.8318 LSA 57.5 MSA 16.8 SSA 1.2
 BDE .8215 BRA 1.4059 BC3 .1533 FSP 341 S61 1776.2 S62 512.5 THA 3.87 EL1 48.1 EL2 13.4 ALF 26.35

Earth to Mars: ST 43.5 SR 24.5 S8 33.2 CRT .7950 CRS .6269 CST .9699 LSA 57.5 MSA 16.8 SSA 1.2 EL1 48.1 EL2 13.4 ALF 26.35

LAUNCH DATE APR 14 1971 FLIGHT TIME 136.00 ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.757 GAL -4.75 AZL 92.23 HCA 124.77 SMA 210.78 ECC .29896 INC 2.2251 V1 29.699
 RP 206.82 LAP -1.83 LOP 328.20 VP 25.569 GAP 17.38 AZP 88.73 TAL 339.15 TAP 103.92 RCA 147.77 APO 273.80 V2 26.479
 RC 58.807 GL -14.32 GP 2.93 ZAL 128.50 ZAP 165.02 ETS 168.78 ZAE 172.44 ETE 85.54 ZAC 103.52 ETC 276.67 LVI -19.52

Planetary Conic: C3 27.884 VHL 5.280 DLA -23.56 RAL 340.91 RAD 8646.2 VEL 12.159 PTH 7.12 VHP 8.198 DPA -15.73 RAP 315.64 ECC 1.4589
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 18 2733.62 -18.85 76.80 202.56 134.53 18 53 52 1733.6 -7.70 60.32
 60.00 19 17 38 2549.27 -13.13 65.45 207.81 128.45 20 0 7 1549.3 2.87 47.35
 70.00 20 45 59 2289.53 -7.44 48.57 212.00 123.43 21 24 8 1289.5 6.51 29.03
 80.00 22 31 53 1958.08 -2.65 26.36 214.95 119.75 23 4 31 958.1 9.64 5.77
 90.00 0 16 3 1634.78 -.98 3.74 216.11 118.27 0 43 18 634.8 11.02 342.71
 100.00 1 18 41 1432.56 -2.65 347.73 214.95 119.75 1 42 33 432.6 9.64 327.14
 110.00 1 49 21 1336.35 -7.44 337.49 212.00 123.43 2 11 37 336.3 6.51 317.95

Differential Corrections: TDE -.6753 TRA -1.3893 TC3 .0029 BAU .0608 SGT 1800.3 SGR 521.5 S63 253.8 ST 44.2 SR 24.3 S8 34.3
 RDE -.4467 RRA -.0725 RC3 .1632 FAU .04778 RRT .2284 RRF -.2465 RTF -.8366 CRT .7986 CRS .6279 CST .9688
 FDE .5964 FRA 2.0270 FC3 -1.4835 BSP 3057 SGB 1874.3 R23 -.0400 R13 -.8376 LSA 58.6 MSA 16.8 SSA 1.2
 BDE .8096 BRA 1.3912 BC3 .1632 FSP 366 S61 1804.6 S62 506.5 THA 4.11 EL1 48.6 EL2 13.3 ALF 25.75

Earth to Mars: ST 44.2 SR 24.3 S8 34.3 CRT .7986 CRS .6279 CST .9688 LSA 58.6 MSA 16.8 SSA 1.2 EL1 48.6 EL2 13.3 ALF 25.75

LAUNCH DATE APR 14 1971 FLIGHT TIME 138.00 ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC DISTANCE 370.809 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 33.859 GAL -4.84 AZL 92.25 HCA 126.04 SNA 208.59 ECC .29125 INC 2.2920 V1 29.699

PLANETOCENTRIC CONIC C3 26.691 VHL 5.186 DLA -23.98 RAL 341.11 RAD 6845.7 VEL 12.110 PTH 7.08 VHP 7.954 DPA -15.52 RAP 315.90 ECC 1.4393
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.6708 TRA -1.3749 TC3 .0151 BAW .0623
RDE -.4328 RRA .0614 RC3 .1738 FAW .04956
FDE .6181 FRA 2.1142 FC3 -1.6076 BSP 3120
BDE .7984 BRA 1.3763 BC3 .1745 FSP 394

LAUNCH DATE APR 14 1971 FLIGHT TIME 140.00 ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC DISTANCE 374.202 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 33.566 GAL -4.52 AZL 92.20 HCA 127.31 SNA 206.56 ECC .28397 INC 2.2798 V1 29.699

PLANETOCENTRIC CONIC C3 25.587 VHL 5.058 DLA -24.42 RAL 341.30 RAD 6845.2 VEL 12.065 PTH 7.05 VHP 7.717 DPA -15.31 RAP 316.13 ECC 1.4211
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.6661 TRA -1.3601 TC3 .0280 BAW .0640
RDE -.4196 RRA .0500 RC3 .1851 FAW .05147
FDE .6409 FRA 2.2081 FC3 -1.7416 BSP 3173
BDE .7872 BRA 1.3610 BC3 .1872 FSP 424

LAUNCH DATE APR 14 1971 FLIGHT TIME 142.00 ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC DISTANCE 377.660 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 33.478 GAL -4.41 AZL 92.31 HCA 128.57 SNA 204.68 ECC .27705 INC 2.3086 V1 29.699

PLANETOCENTRIC CONIC C3 24.586 VHL 4.956 DLA -24.87 RAL 341.50 RAD 6844.8 VEL 12.022 PTH 7.01 VHP 7.488 DPA -15.09 RAP 316.34 ECC 1.4043
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.6610 TRA -1.3443 TC3 .0407 BAW .0661
RDE -.4068 RRA .0384 RC3 .1970 FAW .05349
FDE .6643 FRA 2.3023 FC3 -1.8850 BSP 3223
BDE .7762 BRA 1.3448 BC3 .2011 FSP 456

LAUNCH DATE APR 14 1971 FLIGHT TIME 144.00 ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC DISTANCE 381.177 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 33.398 GAL -4.30 AZL 92.34 HCA 129.84 SNA 202.94 ECC .27080 INC 2.3385 V1 29.699

PLANETOCENTRIC CONIC C3 23.620 VHL 4.860 DLA -25.33 RAL 341.69 RAD 6844.4 VEL 11.983 PTH 6.98 VHP 7.269 DPA -14.88 RAP 316.52 ECC 1.3867
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS TDE -.6457 TRA -1.3177 TC3 .0708 BAW .0700
RDE -.3944 RRA .0267 RC3 .2099 FAW .05569
FDE .6877 FRA 2.4028 FC3 -2.0412 BSP 3146
BDE .7567 BRA 1.3180 BC3 .2215 FSP 488

LAUNCH DATE APR 14 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 7 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.316 GAL -4.20 AZL 92.37 MCA 131.11 SMA 201.33 ECC .26447 INC 2.3694 V1 29.699
 RP 206.68 LAP -1.79 LOP 334.54 VP 25.002 GAP 15.26 AZP 88.44 TAL 339.71 TAP 110.02 RCA 148.08 APO 254.57 V2 26.496
 RC 62.879 GL -16.74 GP 3.67 ZAL 127.91 ZAP 159.90 ETS 169.74 ZAE 171.79 ETE 69.81 ZAC 104.10 ETC 277.17 LVI -20.61

Distance 384.747

Planetocentric Conic: C3 22.749 VHL 4.770 DLA -25.81 RAL 341.88 RAD 6644.0 VEL 11.947 PTH 6.99 VHP 7.050 DPA -14.66 RAP 316.68 ECC 1.3744
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 23 10 2634.14 -14.03 72.25 201.31 135.94 19 7 4 1634.1 4.29 56.36
 60.00 19 36 48 2438.30 -6.37 59.94 206.64 129.57 20 17 26 1438.3 7.72 42.00
 70.00 21 11 42 2159.25 -2.51 41.72 211.05 124.07 21 47 41 1159.3 11.35 22.05
 80.00 23 7 34 1796.57 2.81 17.50 214.36 119.74 23 37 31 796.6 14.71 356.45
 90.00 0 59 18 1448.92 5.39 353.34 215.78 117.80 1 23 27 448.9 16.34 331.67
 100.00 1 54 22 1271.05 2.81 338.86 214.36 119.74 2 15 33 271.1 14.71 317.82
 110.00 2 15 4 1206.07 -2.51 330.63 211.05 124.07 2 35 10 206.1 11.35 310.97

Differential Corrections: TDE -.6453 TRA-1.3055 TC3 .0747 BAU .0715 SGT 1908.1 SGR 507.1 SG3 349.6 ST 46.8 SR 23.0 SS 40.3
 RDE -.3829 RRA .0145 RC3 .2230 FAU .05796 RRT .3494 RRF -.3787 RTF -.8609 CRT .8221 CRS .6392 CST .9624
 FDE .7133 FRA 2.5095 FC3-2.2059 BSP 3254 SGB 1974.3 R23 -.0621 R13 -.8627 LSA 63.7 MSA 16.8 SSA 1.2
 BDE .7505 BRA 1.3058 BC3 .2352 FSP 524 SGI 1916.8 SG2 473.0 THA 5.65 EL1 50.7 EL2 12.1 ALF 23.43

Orbit Determination Accuracy: ST 46.8 SR 23.0 SS 40.3 CRT .8221 CRS .6392 CST .9624 LSA 63.7 MSA 16.8 SSA 1.2 EL1 50.7 EL2 12.1 ALF 23.43

LAUNCH DATE APR 14 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 9 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.242 GAL -4.10 AZL 92.40 MCA 132.38 SMA 199.84 ECC .25869 INC 2.4016 V1 29.699
 RP 206.67 LAP -1.77 LOP 335.81 VP 24.903 GAP 14.87 AZP 88.38 TAL 339.83 TAP 112.21 RCA 148.14 APO 251.53 V2 26.496
 RC 63.888 GL -17.25 GP 3.85 ZAL 127.78 ZAP 158.80 ETS 169.86 ZAE 171.66 ETE 68.49 ZAC 104.26 ETC 277.21 LVI -20.83

Distance 388.368

Planetocentric Conic: C3 21.944 VHL 4.684 DLA -26.29 RAL 342.08 RAD 6643.7 VEL 11.914 PTH 6.92 VHP 6.842 DPA -14.43 RAP 316.81 ECC 1.3611
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 24 2614.63 -13.08 71.38 201.18 136.17 19 9 58 1614.6 5.27 55.94
 60.00 19 41 2 2416.11 -7.41 58.85 206.53 129.73 20 21 18 1415.1 8.68 40.91
 70.00 21 17 35 2132.24 -1.48 40.31 211.00 124.13 21 53 7 1132.2 12.33 20.57
 80.00 23 16 19 1769.58 4.03 15.51 214.42 119.61 23 45 39 769.6 15.78 354.32
 90.00 1 10 45 1404.20 6.80 350.82 215.94 117.51 1 34 10 404.2 17.53 328.93
 100.00 2 3 7 1235.05 4.03 336.88 214.42 119.61 2 23 42 235.1 15.78 315.69
 110.00 2 20 57 1179.06 -1.46 329.22 211.00 124.13 2 40 36 179.1 12.33 309.49

Differential Corrections: TDE -.6426 TRA-1.2901 TC3 .0831 BAU .0737 SGT 1929.1 SGR 506.1 SG3 372.6 ST 47.3 SR 22.7 SS 41.5
 RDE -.3718 RRA .0019 RC3 .2371 FAU .06040 RRT .3792 RRF -.4118 RTF -.8632 CRT .8291 CRS .6434 CST .9605
 FDE .7402 FRA 2.6223 FC3-2.3828 BSP 3330 SGB 1994.3 R23 -.0692 R13 -.8652 LSA 64.8 MSA 16.7 SSA 1.2
 BDE .7424 BRA 1.2901 BC3 .2312 FSP 563 SGI 1939.2 SG2 465.8 THA 6.03 EL1 51.2 EL2 11.8 ALF 23.00

Orbit Determination Accuracy: ST 47.3 SR 22.7 SS 41.5 CRT .8291 CRS .6434 CST .9605 LSA 64.8 MSA 16.7 SSA 1.2 EL1 51.2 EL2 11.8 ALF 23.00

LAUNCH DATE APR 14 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 11 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.173 GAL -4.01 AZL 92.44 MCA 133.68 SMA 198.48 ECC .25324 INC 2.4351 V1 29.699
 RP 206.68 LAP -1.78 LOP 337.08 VP 24.809 GAP 14.48 AZP 88.32 TAL 339.99 TAP 113.60 RCA 148.19 APO 248.70 V2 26.496
 RC 64.856 GL -17.78 GP 4.05 ZAL 127.60 ZAP 157.87 ETS 169.95 ZAE 171.55 ETE 67.72 ZAC 104.43 ETC 277.25 LVI -21.06

Distance 392.034

Planetocentric Conic: C3 21.202 VHL 4.605 DLA -26.79 RAL 342.28 RAD 6643.4 VEL 11.883 PTH 6.89 VHP 6.641 DPA -14.20 RAP 316.90 ECC 1.3489
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 43 2595.25 -12.12 70.53 201.08 136.37 19 12 59 1595.3 6.24 54.72
 60.00 19 45 26 2393.89 -6.44 57.78 206.46 129.87 20 25 20 1393.9 9.64 39.82
 70.00 21 23 45 2104.79 -.43 38.87 211.00 124.15 21 58 50 1104.8 13.32 19.06
 80.00 23 25 50 1722.62 5.30 13.42 214.55 119.43 23 54 33 722.6 16.89 352.04
 90.00 1 23 55 1354.49 8.36 347.99 216.20 117.11 1 46 30 354.5 18.60 325.83
 100.00 2 12 38 1197.09 5.30 334.78 214.55 119.43 2 32 35 197.1 16.89 313.41
 110.00 2 27 7 1151.61 -.43 327.79 211.00 124.15 2 46 19 151.6 13.32 307.98

Differential Corrections: TDE -.6381 TRA-1.2723 TC3 .0917 BAU .0760 SGT 1945.0 SGR 508.0 SG3 396.9 ST 47.8 SR 22.5 SS 42.8
 RDE -.3612 RRA -.0111 RC3 .2518 FAU .06295 RRT .4104 RRF -.4463 RTF -.8634 CRT .8364 CRS .6482 CST .9566
 FDE .7679 FRA 2.7402 FC3-2.5705 BSP 3383 SGB 2009.7 R23 -.0770 R13 -.8678 LSA 65.9 MSA 16.7 SSA 1.2
 BDE .7332 BRA 1.2724 BC3 .2680 FSP 604 SGI 1956.7 SG2 458.7 THA 6.45 EL1 51.6 EL2 11.4 ALF 22.65

Orbit Determination Accuracy: ST 47.8 SR 22.5 SS 42.8 CRT .8364 CRS .6482 CST .9566 LSA 65.9 MSA 16.7 SSA 1.2 EL1 51.6 EL2 11.4 ALF 22.65

LAUNCH DATE APR 14 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 13 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 33.107 GAL -3.92 AZL 92.47 MCA 134.92 SMA 197.16 ECC .24810 INC 2.4701 V1 29.699
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.719 GAP 14.10 AZP 88.26 TAL 340.08 TAP 115.00 RCA 148.25 APO 246.08 V2 26.494
 RC 66.082 GL -18.32 GP 4.25 ZAL 127.43 ZAP 156.51 ETS 170.02 ZAE 171.47 ETE 67.51 ZAC 104.62 ETC 277.29 LVI -21.29

Distance 395.743

Planetocentric Conic: C3 20.519 VHL 4.530 DLA -27.29 RAL 342.48 RAD 6643.1 VEL 11.854 PTH 6.87 VHP 6.446 DPA -13.97 RAP 316.96 ECC 1.3377
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 33 10 2576.01 -11.17 69.69 201.02 136.56 19 16 6 1576.0 7.20 53.91
 60.00 19 50 0 2371.64 -5.47 56.70 206.44 129.99 20 29 32 1371.6 10.60 38.72
 70.00 21 30 15 2076.82 .64 37.41 211.05 124.15 22 4 52 1076.8 14.92 17.51
 80.00 23 36 21 1682.10 6.65 11.17 214.77 119.17 24 4 23 682.1 18.03 349.58
 90.00 1 39 46 1296.76 10.13 344.68 216.62 116.54 2 1 23 296.6 20.20 322.18
 100.00 2 23 9 1156.57 6.65 332.53 214.77 119.17 2 42 25 156.6 18.03 310.95
 110.00 2 33 38 1123.64 .64 326.33 211.05 124.15 2 52 21 123.6 14.92 306.43

Differential Corrections: TDE -.6326 TRA-1.2526 TC3 .1018 BAU .0785 SGT 1956.3 SGR 507.2 SG3 422.7 ST 48.1 SR 22.2 SS 44.2
 RDE -.3511 RRA -.0245 RC3 .2676 FAU .06568 RRT .4435 RRF -.4830 RTF -.8678 CRT .8442 CRS .6539 CST .9566
 FDE .7969 FRA 2.8644 FC3-2.7711 BSP 3416 SGB 2021.0 R23 -.0853 R13 -.8705 LSA 66.9 MSA 16.8 SSA 1.2
 BDE .7233 BRA 1.2528 BC3 .2863 FSP 647 SGI 1969.9 SG2 451.5 THA 6.92 EL1 51.8 EL2 11.1 ALF 22.36

Orbit Determination Accuracy: ST 48.1 SR 22.2 SS 44.2 CRT .8442 CRS .6539 CST .9566 LSA 66.9 MSA 16.8 SSA 1.2 EL1 51.8 EL2 11.1 ALF 22.36

LAUNCH DATE APR 14 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC										DISTANCE 399.490										EARTH TO MARS																																																																																				
RL	190.03	LAL	.00	LOL	203.41	VL	33.045	GAL	-3.84	AZL	92.51	HCA	136.19	SMA	195.97	ECC	.24326	INC	2.5066	V1	29.699	RP	206.72	LAP	-1.74	LOP	339.82	VP	24.633	GAP	13.73	AZP	88.19	TAL	340.20	TAP	116.39	RCA	146.29	APO	243.64	V2	26.491	RC	67.263	GL	-18.86	GP	4.47	ZAL	127.29	ZAP	155.32	ETS	170.07	ZAE	171.40	ETE	67.85	ZAC	104.82	ETC	277.32	LVI	-21.33																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	19.891	VHL	4.460	DLA	-27.81	RAL	342.69	RAD	6642.8	VEL	11.828	PTH	6.85	VHP	6.257	DPA	-13.73	RAP	316.99	ECC	1.3274	ST	48.4	SR	22.0	SS	45.5	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.8527	CR8	.6606	C8T	.9545																																													
30.00	18	36	44	2556.89	-10.23	68.86	201.00	136.72	19	19	20	1556.9	8.16	53.09	60.00	19	54	45	2349.33	-4.49	55.63	206.46	130.09	20	33	55	1349.3	11.56	37.61	70.00	21	37	8	2046.25	1.73	35.92	211.17	124.12	22	11	17	1048.3	15.32	15.91	80.00	23	48	9	1638.08	8.10	8.71	215.08	118.84	24	15	27	638.1	19.24	346.67	90.00	2	0	53	1222.70	12.35	340.37	217.30	115.64	2	21	16	222.7	21.87	317.39	100.00	2	34	57	1112.55	8.10	330.08	215.08	118.84	2	53	29	112.6	19.24	308.24	110.00	2	40	31	1095.07	1.73	324.84	211.17	124.12	2	58	46	95.1	15.32	304.62
TDE	-.6268	TRA	-1.2315	TC3	.1111	BAU	.0812	SGT	1964.0	SGR	510.0	SG3	450.1	ST	48.4	SR	22.0	SS	45.5	RDE	-.3416	RRA	-.0386	RC3	.2843	FAU	.06857	RRT	.4779	RRF	-.5214	RTF	-.8699	CR1	.8527	CR8	.6606	C8T	.9545	FDE	.8271	FRA	2.9950	FC3	-2.9848	BSP	3440	SG8	2029.1	R23	-.0947	R13	-.8730	LSA	67.9	MSA	16.8	SSA	1.2	BDE	.7138	BRA	1.2321	BC3	.3053	F8P	694	SG1	1979.9	SG2	444.4	THA	7.45	EL1	52.1	EL2	10.7	ALF	22.14																									

LAUNCH DATE APR 14 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC										DISTANCE 403.274										EARTH TO MARS																																																																																				
RL	150.03	LAL	.00	LOL	203.41	VL	32.986	GAL	-3.76	AZL	92.54	HCA	137.46	SMA	194.85	ECC	.23870	INC	2.5449	V1	29.699	RP	206.75	LAP	-1.72	LOP	340.89	VP	24.550	GAP	13.37	AZP	88.12	TAL	340.32	TAP	117.78	RCA	146.34	APO	241.36	V2	26.487	RC	68.502	GL	-19.42	GP	4.71	ZAL	127.07	ZAP	154.10	ETS	170.11	ZAE	171.35	ETE	68.73	ZAC	105.05	ETC	277.34	LVI	-21.78																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	19.315	VHL	4.395	DLA	-28.34	RAL	342.91	RAD	6642.5	VEL	11.804	PTH	6.83	VHP	6.075	DPA	-13.49	RAP	316.98	ECC	1.3179	ST	48.6	SR	21.7	SS	46.9	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.8619	CR8	.6604	C8T	.9523																																													
30.00	18	40	25	2537.91	-9.29	68.04	201.03	136.88	19	22	43	1537.9	9.10	52.28	60.00	19	59	43	2326.97	-3.51	54.55	206.54	130.17	20	38	30	1327.0	12.51	36.49	70.00	21	44	27	2018.98	2.85	34.39	211.35	124.05	22	18	6	1019.0	16.34	14.24	80.00	0	5	42	1588.94	9.71	5.94	215.52	118.37	0	32	11	588.9	20.53	343.80	90.00	2	31	25	1119.11	16.73	334.86	219.01	113.21	2	50	4	119.1	24.86	310.77	100.00	2	48	34	1063.41	9.71	327.31	215.52	118.37	3	6	18	63.4	20.53	305.17	110.00	2	47	49	1065.78	2.85	323.31	211.35	124.05	3	5	35	65.8	16.34	303.16
TDE	-.6209	TRA	-1.2093	TC3	.1180	BAU	.0837	SGT	1968.3	SGR	514.5	SG3	479.0	ST	48.6	SR	21.7	SS	46.9	RDE	-.3328	RRA	-.0532	RC3	.3020	FAU	.07160	RRT	.5132	RRF	-.5810	RTF	-.8714	CR1	.8619	CR8	.6604	C8T	.9523	FDE	.8591	FRA	3.1326	FC3	-3.2090	BSP	3464	SG8	2034.4	R23	-.1054	R13	-.8751	LSA	68.9	MSA	16.8	SSA	1.2	BDE	.7043	BRA	1.2105	BC3	.3242	F8P	743	SG1	1988.8	SG2	437.5	THA	8.03	EL1	52.2	EL2	10.2	ALF	21.88																									

LAUNCH DATE APR 14 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC										DISTANCE 407.090										EARTH TO MARS																																																																																				
RL	150.03	LAL	.00	LOL	203.41	VL	32.931	GAL	-3.68	AZL	92.59	HCA	136.72	SMA	193.82	ECC	.23441	INC	2.5850	V1	29.699	RP	206.79	LAP	-1.71	LOP	342.18	VP	24.471	GAP	13.01	AZP	88.06	TAL	340.44	TAP	119.16	RCA	146.39	APO	239.25	V2	26.463	RC	69.791	GL	-20.00	GP	4.96	ZAL	126.88	ZAP	152.84	ETS	170.13	ZAE	171.31	ETE	70.16	ZAC	105.29	ETC	277.35	LVI	-22.03																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	18.789	VHL	4.335	DLA	-28.87	RAL	343.13	RAD	6642.3	VEL	11.782	PTH	6.81	VHP	5.900	DPA	-13.24	RAP	316.94	ECC	1.3092	ST	48.7	SR	21.5	SS	48.4	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.8717	CR8	.6772	C8T	.9499																																													
30.00	18	44	15	2519.05	-8.35	67.23	201.10	137.01	19	28	14	1519.1	10.04	51.47	60.00	20	4	54	2304.50	-2.52	53.48	208.67	130.24	20	43	18	1304.5	13.46	39.36	70.00	21	52	18	1988.78	4.00	32.81	211.59	123.95	22	25	24	988.8	17.37	12.51	80.00	0	22	13	1531.32	11.55	2.66	216.14	117.72	0	47	44	531.3	21.97	340.12	90.00	1	37	21	1225.64	17.21	342.89	218.94	113.55	2	17	47	225.8	25.43	318.74	100.00	3	5	8	1005.79	11.55	324.03	216.14	117.72	3	21	51	5.8	21.97	301.49	110.00	2	55	37	1035.60	4.00	321.73	211.59	123.95	3	12	52	35.8	17.37	301.43
TDE	-.6144	TRA	-1.1899	TC3	.1241	BAU	.0864	SGT	1988.5	SGR	521.3	SG3	509.6	ST	48.7	SR	21.5	SS	48.4	RDE	-.3242	RRA	-.0686	RC3	.3209	FAU	.07483	RRT	.5490	RRF	-.6014	RTF	-.8.27	CR1	.8717	CR8	.6772	C8T	.9499	FDE	.8923	FRA	3.2772	FC3	-3.4477	BSP	3473	SG8	2036.4	R23	-.1174	R13	-.8771	LSA	69.9	MSA	16.8	SSA	1.1	BDE	.6947	BRA	1.1878	BC3	.3441	F8P	794	SG1	1990.3	SG2	431.0	THA	8.68	EL1	52.3	EL2	9.8	ALF	21.85																									

LAUNCH DATE APR 14 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC										DISTANCE 410.938										EARTH TO MARS																																																																																				
RL	150.03	LAL	.00	LOL	203.41	VL	32.879	GAL	-3.60	AZL	92.63	HCA	139.99	SMA	192.88	ECC	.23037	INC	2.6272	V1	29.699	RP	206.84	LAP	-1.69	LOP	343.43	VP	24.395	GAP	12.86	AZP	87.99	TAL	340.56	TAP	120.55	RCA	148.43	APO	237.29	V2	26.477	RC	71.130	GL	-20.58	GP	5.23	ZAL	126.88	ZAP	151.55	ETS	170.14	ZAE	171.28	ETE	72.15	ZAC	105.56	ETC	277.36	LVI	-22.28																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	18.310	VHL	4.279	DLA	-29.42	RAL	343.37	RAD	6642.1	VEL	11.762	PTH	6.79	VHP	5.730	DPA	-12.98	RAP	316.86	ECC	1.3013	ST	48.4	SR	21.3	SS	49.7	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CR1	.8816	CR8	.6864	C8T	.9474																																													
30.00	18	48	14	2500.29	-7.41	66.43	201.22	137.13	19	29	54	1500.5	10.97	50.66	60.00	20	10	19	2281.88	-1.53	52.40	206.85	130.28	20	48	21	1281.9	14.41	34.21	70.00	22	0	37	1957.48	5.18	31.17	211.92	123.81	22	33	14	957.5	18.43	10.70	80.00	0	44	41	1455.54	13.91	358.27	217.07	116.69	1	8	57	455.5	23.71	335.17	90.00	1	39	12	1280.99	17.68	347.19	218.92	113.90	2	0	33	281.0	26.01	322.98	100.00	3	27	33	1028.05	13.91	297.55	217.07	116.69	5	11	11	5218.0	23.71	274.44	110.00	3	3	59	1004.30	5.18	320.09	211.92	123.81	3	20	43	4.3	18.43	299.62
TDE	-.6038	TRA	-1.1566	TC3	.1373	BAU	.0901	SGT	1956.8	SGR	530.5	SG3	541.7	ST	48.4	SR	21.3	SS	49.7	RDE	-.3161	RRA	-.0846	RC3	.3414	FAU	.07833	RRT	.5855	RRF	-.6419	RTF	-.8751	CR1	.8816	CR8	.6864	C8T	.9474	FDE	.9243	FRA	3.4258	FC3	-3.7039	BSP	3430	SG8	2027.4	R23	-.1285	R13	-.8803	LSA	70.6	MSA	16.8	SSA	1.1	BDE	.6815	BRA	1.1597	BC3	.3680	F8P	847	SG1	1982.5	SG2	424.5	THA	9.46	EL1	52.1	EL2	9.3	ALF	21.89																									

LAUNCH DATE APR 14 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 23 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.830 GAL -3.54 AZL 92.67 HCA 141.26 SMA 191.96 ECC .22858 INC 2.6716 V1 29.699
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.322 GAP 12.32 AZP 87.92 TAL 340.67 TAP 121.93 RCA 148.47 APO 235.46 V2 26.470
 RC 72.517 GL -21.18 GP 5.52 ZAL 126.48 ZAP 150.22 ETS 170.14 ZAE 171.24 ETE 74.70 ZAC 105.86 ETC 277.37 LVI -22.55

Distance 414.814

Planetary Conic: C3 17.875 VHL 4.228 DLA -29.98 RAL 343.81 RAD 6841.9 VEL 11.743 PTH 6.77 VHP 5.567 DPA -12.71 RAP 316.73 ECC 1.2942
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 52 23 2481.65 -6.48 65.64 201.39 137.24 19 33 44 1481.7 11.89 49.84
 60.00 20 16 1 2259.13 -.53 51.31 207.10 130.30 20 53 40 1259.1 19.37 33.04
 70.00 22 9 39 1924.85 6.42 29.45 212.33 123.62 22 41 44 924.9 19.50 6.78
 79.60 1 25 25 1322.63 18.16 350.50 218.95 114.28 1 47 27 322.6 26.59 326.24
 79.60 1 25 25 1322.63 18.16 350.50 218.95 114.28 1 47 27 322.6 26.59 326.24
 79.60 1 25 25 1322.63 18.16 350.50 218.95 114.28 1 47 27 322.6 26.59 326.24
 110.00 3 13 1 6259.71 6.42 296.27 212.33 123.62 4 57 21 5259.7 19.50 275.60

Differential Corrections: TDE -.6015 TRA-1.1344 TC3 .1291 BAU .0919 SGT 1956.1 SGR 542.8 SCS 575.9 ST 48.7 SR 21.1 SS 51.3
 RDE -.3089 RRA -.1020 RC3 .3624 FAU .08180 RRT .6196 RRF -.6823 RTF -.8737 CRT .8938 CRS .6986 CST .9443
 FDE .9632 FRA 3.5872 FC3-3.9619 BSP 3479 SGB 2030.0 R23 -.1463 R13 -.8799 LSA 71.8 MSA 16.9 SSA 1.1
 BDE .6762 BRA 1.1390 BC3 .3847 F8P 908 SG1 1986.2 SG2 419.6 THA 10.22 EL1 52.3 EL2 8.8 ALF 21.80

LAUNCH DATE APR 14 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 25 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.784 GAL -3.47 AZL 92.72 HCA 142.52 SMA 191.13 ECC .22302 INC 2.7185 V1 29.699
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.231 GAP 11.99 AZP 87.84 TAL 340.78 TAP 123.30 RCA 148.50 APO 233.75 V2 26.462
 RC 73.950 GL -21.79 GP 5.84 ZAL 126.28 ZAP 148.85 ETS 170.13 ZAE 171.17 ETE 77.80 ZAC 106.18 ETC 277.36 LVI -22.83

Distance 418.716

Planetary Conic: C3 17.483 VHL 4.181 DLA -30.55 RAL 343.87 RAD 6841.7 VEL 11.727 PTH 6.76 VHP 5.410 DPA -12.43 RAP 316.57 ECC 1.2677
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 58 43 2463.05 -5.55 64.85 201.62 137.33 19 37 48 1463.0 12.80 49.03
 60.00 20 22 1 2236.08 .49 50.21 207.41 130.30 20 59 17 1236.1 16.32 31.64
 70.00 22 19 31 1890.35 7.71 27.62 212.83 123.37 22 51 1 890.4 20.61 6.72
 77.93 1 13 57 1357.20 18.63 353.31 219.03 114.66 1 36 34 357.2 27.17 328.98
 77.93 1 13 57 1357.20 18.63 353.31 219.03 114.66 1 36 34 357.2 27.17 328.98
 77.93 1 13 57 1357.20 18.63 353.31 219.03 114.66 1 36 34 357.2 27.17 328.98
 110.00 3 22 53 6225.21 7.71 294.44 212.83 123.37 5 6 39 5225.2 20.61 273.54

Differential Corrections: TDE -.5883 TRA-1.0996 TC3 .1433 BAU .0963 SGT 1930.2 SGR 558.3 SCS 611.3 ST 48.1 SR 20.9 SS 52.7
 RDE -.3018 RRA -.1198 RC3 .3862 FAU .08580 RRT .6548 RRF -.7213 RTF -.8759 CRT .9047 CRS .7100 CST .9413
 FDE .9967 FRA 3.7483 FC3-4.2488 BSP 3391 SGB 2009.4 R23 -.1463 R13 -.8833 LSA 72.3 MSA 17.0 SSA 1.1
 BDE .6612 BRA 1.1061 BC3 .4119 F8P 964 SG1 1966.2 SG2 414.2 THA 11.23 EL1 51.8 EL2 8.3 ALF 22.03

LAUNCH DATE APR 14 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 27 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.741 GAL -3.41 AZL 92.77 HCA 143.79 SMA 190.38 ECC .21968 INC 2.7882 V1 29.699
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.183 GAP 11.67 AZP 87.77 TAL 340.88 TAP 124.67 RCA 148.54 APO 232.17 V2 26.454
 RC 75.426 GL -22.42 GP 6.18 ZAL 126.07 ZAP 147.44 ETS 170.11 ZAE 171.08 ETE 81.42 ZAC 106.53 ETC 277.35 LVI -23.12

Distance 422.643

Planetary Conic: C3 17.132 VHL 4.139 DLA -31.13 RAL 344.15 RAD 6841.5 VEL 11.712 PTH 6.74 VHP 5.259 DPA -12.14 RAP 316.36 ECC 1.2819
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 1 15 2444.55 -4.62 64.08 201.90 137.40 19 41 59 1444.6 13.71 48.21
 60.00 20 28 21 2212.79 1.51 49.10 207.70 130.28 21 5 14 1212.8 17.28 30.62
 70.00 22 30 24 1853.58 9.09 25.65 213.44 123.07 23 1 18 853.6 21.76 4.49
 76.40 1 4 5 1387.20 19.09 355.79 219.16 115.07 1 27 12 387.2 27.76 331.41
 76.40 1 4 5 1387.20 19.09 355.79 219.16 115.07 1 27 12 387.2 27.76 331.41
 76.40 1 4 5 1387.20 19.09 355.79 219.16 115.07 1 27 12 387.2 27.76 331.41
 110.00 3 33 47 6188.43 9.09 292.48 213.44 123.07 5 16 55 5188.4 21.76 271.31

Differential Corrections: TDE -.5886 TRA-1.0768 TC3 .1224 BAU .0979 SGT 1925.3 SGR 577.9 SCS 649.2 ST 48.4 SR 20.8 SS 54.4
 RDE -.2961 RRA -.1398 RC3 .4098 FAU .08949 RRT .6845 RRF -.7590 RTF -.8723 CRT .9184 CRS .7258 CST .9376
 FDE 1.0427 FRA 3.9282 FC3-4.5221 BSP 3456 SGB 2010.2 R23 -.1825 R13 -.8814 LSA 73.7 MSA 17.1 SSA 1.1
 BDE .6589 BRA 1.0058 BC3 .4275 F8P 1034 SG1 1967.4 SG2 412.3 THA 12.15 EL1 52.1 EL2 7.6 ALF 22.02

LAUNCH DATE APR 14 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 29 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.701 GAL -3.35 AZL 92.82 HCA 145.05 SMA 189.64 ECC .21654 INC 2.8209 V1 29.699
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.118 GAP 11.35 AZP 87.69 TAL 340.97 TAP 126.03 RCA 148.57 APO 230.70 V2 26.444
 RC 76.944 GL -23.06 GP 6.54 ZAL 125.85 ZAP 145.99 ETS 170.07 ZAE 170.92 ETE 85.50 ZAC 108.91 ETC 277.33 LVI -23.42

Distance 426.593

Planetary Conic: C3 16.819 VHL 4.101 DLA -31.73 RAL 344.44 RAD 6841.4 VEL 11.698 PTH 6.73 VHP 5.113 DPA -11.83 RAP 316.10 ECC 1.2768
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 6 1 2426.01 -3.69 63.30 202.23 137.47 19 46 27 1426.0 14.62 47.38
 60.00 20 35 4 2189.02 2.56 47.96 208.23 130.23 21 11 33 1189.0 18.25 29.35
 70.00 22 42 41 1813.35 10.57 23.49 214.18 122.67 23 12 54 813.3 22.99 2.01
 74.97 0 55 20 1414.09 19.56 358.05 219.35 115.49 1 18 54 414.1 28.35 333.62
 74.97 0 55 20 1414.09 19.56 358.05 219.35 115.49 1 18 54 414.1 28.35 333.62
 74.97 0 55 20 1414.09 19.56 358.05 219.35 115.49 1 18 54 414.1 28.35 333.62
 110.00 3 46 3 6148.21 10.57 290.31 214.18 122.67 5 28 31 5148.2 22.99 268.83

Differential Corrections: TDE -.5730 TRA-1.0364 TC3 .1352 BAU .1029 SGT 1884.4 SGR 601.4 SCS 687.9 ST 47.5 SR 20.6 SS 55.7
 RDE -.2900 RRA -.1598 RC3 .4373 FAU .09401 RRT .7155 RRF -.7938 RTF -.8739 CRT .9299 CRS .7392 CST .9339
 FDE 1.0762 FRA 4.1007 FC3-4.8389 BSP 3325 SGB 1978.1 R23 -.1967 R13 -.8850 LSA 74.1 MSA 17.2 SSA 1.0
 BDE .6422 BRA 1.0486 BC3 .4577 F8P 1092 SG1 1935.3 SG2 409.1 THA 13.48 EL1 51.3 EL2 7.0 ALF 22.46

LAUNCH DATE APR 14 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.663 GAL -3.30 AZL 92.88 HCA 146.32 SMA 188.97 ECC .21361 INC 2.8770 V1 29.699
RP 207.21 LAP -1.60 LOP 349.75 VP 24.035 GAP 11.04 AZP 87.61 TAL 341.06 TAP 127.38 RCA 148.60 APO 229.33 V2 26.433
RC 78.502 GL -23.73 GP 6.94 ZAL 125.63 ZAP 144.50 ETS 170.03 ZAE 170.69 ETE 90.00 ZAC 107.33 ETC 277.30 LVI -23.74

PLANETOCENTRIC CONIC

C3 16.548 VHL 4.068 DLA -32.34 RAL 344.76 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 4.974 DPA -11.50 RAP 319.80 ECC 1.2723
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 19 11 1 2407.52 -2.77 62.52 202.64 137.51 19 51 9 1407.5 15.52 46.54
60.00 20 42 13 2164.63 3.62 46.80 208.77 130.17 21 18 18 1184.8 19.23 28.06
70.00 22 56 49 1768.39 12.21 21.04 215.09 122.15 23 26 18 768.4 24.30 359.18
73.62 0 47 31 1438.68 20.02 .16 219.60 115.94 1 11 30 438.7 28.95 335.68
73.62 0 47 31 1438.68 20.02 .16 219.60 115.94 1 11 30 438.7 28.95 335.68
73.62 0 47 31 1438.68 20.02 .16 219.60 115.94 1 11 30 438.7 28.95 335.68
110.00 4 0 12 6103.25 12.21 267.86 215.09 122.15 5 41 55 5103.2 24.30 266.00

DIFFERENTIAL CORRECTIONS

TDE -.5762 TRA -1.0125 TC3 .0988 BAV .1048
RDE -.2859 RRA -.1028 RC3 .4634 FAU .09784
PDE 1.1307 FRA 4.2997 FC3-5.1194 BSP 3415
BDE .6432 BRA 1.0289 BC3 .4738 FSP 1173

DISTANCE 430.563

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 1874.7 SGR 630.3 SG3 729.4
RRT .7377 RRF -.8263 RTF -.8674
SCB 1977.8 R23 -.2276 R13 -.8814
SG1 1934.3 SG2 412.4 THA 14.61

ORBIT DETERMINATION ACCURACY

ST 47.8 SR 20.7 SS 57.6
CRT .9443 CR8 .7585 CST .9294
LSA 75.7 MSA 17.4 SSA 1.0
EL1 51.7 EL2 6.3 ALF 22.54

LAUNCH DATE APR 14 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.627 GAL -3.23 AZL 92.94 HCA 147.58 SMA 188.34 ECC .21087 INC 2.9369 V1 29.699
RP 207.31 LAP -1.57 LOP 351.02 VP 23.994 GAP 10.73 AZP 87.52 TAL 341.14 TAP 128.72 RCA 148.63 APO 228.06 V2 26.422
RC 80.098 GL -24.41 GP 7.37 ZAL 125.41 ZAP 142.97 ETS 169.98 ZAE 170.37 ETE 94.64 ZAC 107.78 ETC 277.27 LVI -24.08

PLANETOCENTRIC CONIC

C3 16.309 VHL 4.038 DLA -32.96 RAL 345.09 RAD 6641.1 VEL 11.677 PTH 6.71 VHP 4.841 DPA -11.16 RAP 318.45 ECC 1.2684
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 19 16 19 2388.93 -1.83 61.74 203.11 137.55 19 56 8 1388.9 16.42 45.70
60.00 20 49 32 2139.93 4.71 45.61 209.38 130.07 21 23 32 1139.9 20.22 26.70
70.00 23 13 59 1715.21 14.12 18.10 216.23 121.43 23 42 34 715.2 25.77 355.75
72.32 0 40 23 1461.67 20.48 2.16 219.91 116.41 1 4 44 461.7 29.55 337.63
72.32 0 40 23 1461.67 20.48 2.16 219.91 116.41 1 4 44 461.7 29.55 337.63
72.32 0 40 23 1461.67 20.48 2.16 219.91 116.41 1 4 44 461.7 29.55 337.63
110.00 4 17 21 6050.07 14.12 264.93 216.23 121.43 5 58 11 5050.1 25.77 262.57

DIFFERENTIAL CORRECTIONS

TDE -.5696 TRA -.9767 TC3 .0828 BAV .1091
RDE -.2819 RRA -.2068 RC3 .4935 FAU .10236
PDE 1.1779 FRA 4.4954 FC3-5.4336 BSP 3375
BDE .6356 BRA .0983 BC3 .5004 FSP 1246

DISTANCE 434.553

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 1839.8 SGR 664.2 SG3 772.0
RRT .7589 RRF -.8554 RTF -.8636
SCB 1958.0 R23 -.2522 R13 -.8812
SG1 1911.2 SG2 416.3 THA 16.11

ORBIT DETERMINATION ACCURACY

ST 47.4 SR 20.7 SS 59.2
CRT .9589 CR8 .7766 CST .9246
LSA 76.6 MSA 17.6 SSA 1.0
EL1 51.4 EL2 5.3 ALF 22.94

LAUNCH DATE APR 14 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.594 GAL -3.21 AZL 93.00 HCA 148.84 SMA 187.77 ECC .20831 INC 3.0010 V1 29.699
RP 207.42 LAP -1.55 LOP 352.28 VP 23.934 GAP 10.43 AZP 87.43 TAL 341.21 TAP 130.05 RCA 148.65 APO 226.88 V2 26.409
RC 81.730 GL -25.12 GP 7.83 ZAL 125.18 ZAP 141.38 ETS 169.93 ZAE 169.94 ETE 99.44 ZAC 108.28 ETC 277.23 LVI -24.43

PLANETOCENTRIC CONIC

C3 16.108 VHL 4.014 DLA -33.60 RAL 345.46 RAD 6641.1 VEL 11.688 PTH 6.70 VHP 4.714 DPA -10.78 RAP 315.05 ECC 1.2651
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 19 21 38 2370.20 -.89 60.96 203.66 137.57 20 1 26 1370.2 17.32 44.84
60.00 20 58 7 2114.17 5.84 44.37 210.10 129.95 21 33 21 1114.2 21.23 25.28
70.00 23 37 7 1648.00 16.57 14.14 217.78 120.30 24 4 32 649.0 27.57 351.09
71.05 0 33 52 1483.34 20.93 4.08 220.29 116.90 0 58 36 483.3 30.16 339.49
71.05 0 33 52 1483.34 20.93 4.08 220.29 116.90 0 58 36 483.3 30.16 339.49
71.05 0 33 52 1483.34 20.93 4.08 220.29 116.90 0 58 36 483.3 30.16 339.49
110.00 4 40 29 5978.86 16.57 280.96 217.78 120.30 6 20 9 4979.9 27.57 257.91

DIFFERENTIAL CORRECTIONS

TDE -.5623 TRA -.9380 TC3 .0628 BAV .1140
RDE -.2786 RRA -.2327 RC3 .9257 FAU .10702
PDE 1.2272 FRA 4.6974 FC3-5.7518 BSP 3321
BDE .6277 BRA .9664 BC3 .9294 FSP 1321

DISTANCE 436.561

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 1797.7 SGR 703.8 SG3 816.0
RRT .7760 RRF -.8810 RTF -.8688
SCB 1930.6 R23 -.2774 R13 -.8811
SG1 1883.5 SG2 423.7 THA 17.83

ORBIT DETERMINATION ACCURACY

ST 46.8 SR 20.8 SS 60.8
CRT .9689 CR8 .7957 CST .9192
LSA 77.5 MSA 17.8 SSA 1.0
EL1 51.0 EL2 4.7 ALF 23.47

LAUNCH DATE APR 14 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.563 GAL -3.17 AZL 93.07 HCA 150.10 SMA 187.23 ECC .20593 INC 3.0699 V1 29.699
RP 207.54 LAP -1.53 LOP 353.54 VP 23.877 GAP 10.14 AZP 87.34 TAL 341.28 TAP 131.37 RCA 148.67 APO 225.79 V2 26.395
RC 83.399 GL -26.85 GP 8.33 ZAL 124.98 ZAP 139.78 ETS 169.88 ZAE 169.38 ETE 104.19 ZAC 108.82 ETC 277.18 LVI -24.61

PLANETOCENTRIC CONIC

C3 16.946 VHL 3.993 DLA -34.26 RAL 345.85 RAD 6641.0 VEL 11.661 PTH 6.70 VHP 4.593 DPA -10.40 RAP 314.60 ECC 1.2624
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 19 27 55 2351.20 .06 60.17 204.29 137.58 20 7 6 1351.3 18.23 43.96
60.00 21 7 4 2087.30 7.01 43.07 210.93 129.79 21 41 51 1087.3 22.28 25.77
69.80 0 27 52 1504.13 21.38 5.95 220.73 117.43 0 52 56 504.1 30.78 341.31
69.80 0 27 52 1504.13 21.38 5.95 220.73 117.43 0 52 56 504.1 30.78 341.31
69.80 0 27 52 1504.13 21.38 5.95 220.73 117.43 0 52 56 504.1 30.78 341.31
69.80 0 27 52 1504.13 21.38 5.95 220.73 117.43 0 52 56 504.1 30.78 341.31
69.80 0 27 52 1504.13 21.38 5.95 220.73 117.43 0 52 56 504.1 30.78 341.31

DIFFERENTIAL CORRECTIONS

TDE -.5558 TRA -.8968 TC3 .0380 BAV .1197
RDE -.2763 RRA -.2608 RC3 .5601 FAU .11179
PDE 1.2809 FRA 4.9059 FC3-6.0696 BSP 3265
BDE .6207 BRA .9340 BC3 .5614 FSP 1401

DISTANCE 442.587

EARTH TO MARS

MID-COURSE EXECUTION ACCURACY

SGT 1749.6 SGR 749.8 SG3 861.5
RRT .7887 RRF -.9033 RTF -.8526
SCB 1903.5 R23 -.3022 R13 -.8812
SG1 1853.0 SG2 435.2 THA 19.82

ORBIT DETERMINATION ACCURACY

ST 46.2 SR 21.0 SS 62.5
CRT .9797 CR8 .8157 CST .9132
LSA 78.5 MSA 18.0 SSA .9
EL1 50.6 EL2 3.8 ALF 24.11

LAUNCH DATE APR 14 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC										DISTANCE 446.628										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.934	GAL	-3.13	AZL	93.14	HCA	151.35	SMA	186.73	ECC	.20370	INC	3.1443	V1	29.699	RP	207.66	LAP	-1.51	LOP	354.80	VP	23.821	GAP	9.86	AZP	87.24	TAL	341.33	TAP	132.60	RCA	148.69	APO	224.77	V2	26.381	RC	85.104	GL	-26.62	GP	6.88	ZAL	124.71	ZAP	136.08	ETS	169.80	ZAE	168.69	ETE	108.78	ZAC	109.40	ETC	277.12	LVI	-25.22
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.819	VHL	3.977	DLA	-34.94	RAL	346.27	RAD	6640.9	VEL	11.656	PTH	6.69	VHP	4.478	DPA	-9.98	RAP	314.09	ECC	1.2603	ST	45.2	SR	21.2	SS	64.0																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9885	CRS	.8350	CST	.9061																																		
50.00	19	34	18	2332.05	1.02	59.37	205.01	137.57	20	13	11	1332.1	19.15	43.05	LSA	79.1	MSA	18.2	SSA	.9																																													
60.00	21	16	51	2050.95	8.25	41.89	211.89	129.59	21	51	10	1059.0	23.36	22.16	EL1	49.8	EL2	2.9	ALF	25.00																																													
68.57	0	22	20	1524.19	21.83	7.78	221.26	117.98	0	47	44	524.2	31.41	343.10																																																			
68.57	0	22	20	1524.19	21.83	7.78	221.26	117.98	0	47	44	524.2	31.41	343.10																																																			
68.57	0	22	20	1524.19	21.83	7.78	221.26	117.98	0	47	44	524.2	31.41	343.10																																																			
68.57	0	22	20	1524.19	21.83	7.78	221.26	117.98	0	47	44	524.2	31.41	343.10																																																			
68.57	0	22	20	1524.19	21.83	7.78	221.26	117.98	0	47	44	524.2	31.41	343.10																																																			

LAUNCH DATE APR 14 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC										DISTANCE 450.683										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.507	GAL	-3.10	AZL	93.22	HCA	152.61	SMA	186.27	ECC	.20164	INC	3.2246	V1	29.699	RP	207.80	LAP	-1.48	LOP	356.05	VP	23.767	GAP	9.58	AZP	87.14	TAL	341.37	TAP	133.90	RCA	148.71	APO	223.83	V2	26.365	RC	86.843	GL	-27.41	GP	9.47	ZAL	124.46	ZAP	136.36	ETS	169.73	ZAE	167.86	ETE	113.07	ZAC	110.05	ETC	277.06	LVI	-25.65
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.730	VHL	3.966	DLA	-35.64	RAL	346.73	RAD	6640.9	VEL	11.652	PTH	6.69	VHP	4.369	DPA	-9.51	RAP	313.53	ECC	1.2589	ST	44.9	SR	21.7	SS	66.0																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9953	CRS	.8560	CST	.8966																																		
50.00	19	41	11	2312.48	2.01	58.55	205.83	137.54	20	19	43	1312.5	20.08	42.12	LSA	80.6	MSA	18.6	SSA	.8																																													
60.00	21	27	41	2020.76	9.55	40.21	213.00	129.34	22	1	33	1028.8	24.49	20.41	EL1	49.8	EL2	1.9	ALF	25.72																																													
67.35	0	17	14	1543.75	22.28	9.59	221.87	118.57	0	42	58	543.8	32.04	344.87																																																			
67.35	0	17	14	1543.75	22.28	9.59	221.87	118.57	0	42	58	543.8	32.04	344.87																																																			
67.35	0	17	14	1543.75	22.28	9.59	221.87	118.57	0	42	58	543.8	32.04	344.87																																																			
67.35	0	17	14	1543.75	22.28	9.59	221.87	118.57	0	42	58	543.8	32.04	344.87																																																			
67.35	0	17	14	1543.75	22.28	9.59	221.87	118.57	0	42	58	543.8	32.04	344.87																																																			

LAUNCH DATE APR 14 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC										DISTANCE 454.751										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.482	GAL	-3.07	AZL	93.31	HCA	153.88	SMA	185.84	ECC	.19973	INC	3.3120	V1	29.699	RP	207.94	LAP	-1.46	LOP	357.31	VP	23.715	GAP	9.30	AZP	87.03	TAL	341.41	TAP	135.27	RCA	148.73	APO	222.96	V2	26.349	RC	88.616	GL	-28.24	GP	10.12	ZAL	124.20	ZAP	134.58	ETS	169.65	ZAE	166.88	ETE	117.01	ZAC	110.75	ETC	276.98	LVI	-26.12
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.680	VHL	3.960	DLA	-36.37	RAL	347.23	RAD	6640.9	VEL	11.650	PTH	6.69	VHP	4.267	DPA	-9.01	RAP	312.91	ECC	1.2581	ST	44.1	SR	22.2	SS	67.8																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9988	CRS	.8769	CST	.8897																																		
50.00	19	48	37	2292.35	3.02	57.71	206.77	137.50	20	26	49	1292.3	21.03	41.15	LSA	81.7	MSA	18.9	SSA	.8																																													
60.00	21	39	52	1998.89	10.97	38.58	214.29	129.03	22	13	8	995.9	25.70	18.47	EL1	49.3	EL2	1.0	ALF	26.77																																													
66.11	0	12	29	1563.15	22.71	11.40	222.57	119.20	0	38	32	563.1	32.69	346.65																																																			
66.11	0	12	29	1563.15	22.71	11.40	222.57	119.20	0	38	32	563.1	32.69	346.65																																																			
66.11	0	12	29	1563.15	22.71	11.40	222.57	119.20	0	38	32	563.1	32.69	346.65																																																			
66.11	0	12	29	1563.15	22.71	11.40	222.57	119.20	0	38	32	563.1	32.69	346.65																																																			
66.11	0	12	29	1563.15	22.71	11.40	222.57	119.20	0	38	32	563.1	32.69	346.65																																																			

LAUNCH DATE APR 14 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC										DISTANCE 458.832										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.498	GAL	-3.04	AZL	93.41	HCA	155.12	SMA	185.45	ECC	.19796	INC	3.4074	V1	29.699	RP	208.08	LAP	-1.43	LOP	358.56	VP	23.683	GAP	9.03	AZP	86.91	TAL	341.43	TAP	136.54	RCA	148.74	APO	222.16	V2	26.332	RC	90.421	GL	-29.12	GP	10.83	ZAL	123.93	ZAP	132.78	ETS	169.58	ZAE	165.77	ETE	120.55	ZAC	111.51	ETC	276.90	LVI	-26.64
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	15.671	VHL	3.959	DLA	-37.13	RAL	347.78	RAD	6640.8	VEL	11.650	PTH	6.69	VHP	4.171	DPA	-8.46	RAP	312.24	ECC	1.2579	ST	43.2	SR	23.0	SS	69.5																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRT	.9986	CRS	.8962	CST	.8795																																		
50.00	19	56	43	2271.51	4.06	56.84	207.84	137.44	20	34	34	1271.5	22.01	40.13	LSA	82.8	MSA	19.2	SSA	.8																																													
60.00	21	53	49	1959.28	12.53	36.73	215.80	128.62	22	26	29	959.3	27.01	16.25	EL1	48.9	EL2	1.1	ALF	28.00																																													
64.87	0	8	6	1582.42	23.15	13.22	223.38	119.88	0	34	28	582.4	33.36	348.45																																																			
64.87	0	8	6	1582.42	23.15	13.22	223.38	119.88	0	34	28	582.4	33.36	348.45																																																			
64.87	0	8	6	1582.42	23.15	13.22	223.38	119.88	0	34	28	582.4	33.36	348.45																																																			
64.87	0	8	6	1582.42	23.15	13.22	223.38	119.88	0	34	28	582.4	33.36	348.45																																																			
64.87	0	8	6	1582.42	23.15	13.22	223.38	119.88	0	34	28	582.4	33.36	348.45																																																			

LAUNCH DATE APR 14 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 17 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.437 GAL -3.02 AZL 93.51 HCA 186.37 SMA 188.09 ECC .19632 INC 3.5121 V1 29.699
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.613 GAP 8.77 AZP 86.78 TAL 341.44 TAP 137.81 RCA 148.75 APO 221.42 V2 26.313
 RC 92.259 GL -30.05 GP 11.61 ZAL 123.64 ZAP 130.88 ET8 169.50 ZAE 164.50 ETE 123.67 ZAC 112.35 ETC 276.81 LVI -27.20

Distance 462.924 Earth to Mars

Planetary Conic: C3 15.705 VHL 3.963 DLA -37.93 RAL 348.38 RAD 6640.9 VEL 11.851 PTH 6.69 VHP 4.081 DPA -7.85 RAP 311.50 ECC 1.2588
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 5 36 2249.74 5.16 55.92 209.06 137.36 20 43 6 1249.7 23.02 39.05
 60.00 22 10 19 1917.00 14.32 34.61 217.62 128.08 22 42 16 917.0 28.47 13.62
 63.60 0 4 3 1601.77 23.58 15.08 224.30 120.61 0 30 44 601.8 34.04 350.29
 63.60 0 4 3 1601.77 23.58 15.08 224.30 120.61 0 30 44 601.8 34.04 350.29
 63.60 0 4 3 1601.77 23.58 15.08 224.30 120.61 0 30 44 601.8 34.04 350.29
 63.60 0 4 3 1601.77 23.58 15.08 224.30 120.61 0 30 44 601.8 34.04 350.29
 63.60 0 4 3 1601.77 23.58 15.08 224.30 120.61 0 30 44 601.8 34.04 350.29

Differential Corrections: TDE -.5276 TRA -.6516 TC3 -.1725 BAU .1858 SGT 1423.6 SGR 1098.7 SG3 1100.3 ST 42.1 SR 23.9 SS 71.3
 RDE -.2831 RRA -.4455 RC3 .7704 FAU .13659 RRT .7697 RRF -.9708 RTF -.7779 CRT .9940 CRS .9140 CST .8676
 FDE 1.6082 FRA 6.0025 FC3-7.5293 BSP 3012 SGB 1796.3 R23 -.3789 R13 -.8951 LSA 83.9 MSA 19.6 S8A .7
 BDE .5988 BRA .7893 BC3 .7894 F8P 1823 SG1 1699.6 SG2 587.5 THA 35.60 EL1 48.4 EL2 2.3 ALF 29.45

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 14 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 19 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.417 GAL -3.00 AZL 93.63 HCA 157.62 SMA 184.75 ECC .19482 INC 3.6275 V1 29.699
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.564 GAP 8.51 AZP 86.65 TAL 341.44 TAP 139.05 RCA 148.76 APO 220.74 VE 26.294
 RC 94.128 GL -31.03 GP 12.47 ZAL 123.34 ZAP 128.95 ET8 169.43 ZAE 163.09 ETE 126.40 ZAC 113.28 ETC 276.72 LVI -27.81

Distance 467.028 Earth to Mars

Planetary Conic: C3 15.787 VHL 3.973 DLA -38.77 RAL 349.05 RAD 6640.9 VEL 11.655 PTH 6.69 VHP 3.999 DPA -7.17 RAP 310.71 ECC 1.2598
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 27 2226.73 6.31 54.95 210.46 137.26 20 52 34 1226.7 24.08 37.69
 60.00 22 30 53 1864.98 16.48 31.92 219.87 127.31 23 1 58 865.0 30.18 10.29
 62.30 0 0 18 1621.38 24.01 16.98 225.34 121.40 0 27 20 621.4 34.74 352.19
 62.30 0 0 18 1621.38 24.01 16.98 225.34 121.40 0 27 20 621.4 34.74 352.19
 62.30 0 0 18 1621.38 24.01 16.98 225.34 121.40 0 27 20 621.4 34.74 352.19
 62.30 0 0 18 1621.38 24.01 16.98 225.34 121.40 0 27 20 621.4 34.74 352.19
 62.30 0 0 18 1621.38 24.01 16.98 225.34 121.40 0 27 20 621.4 34.74 352.19

Differential Corrections: TDE -.5156 TRA -.5850 TC3 -.2100 BAU .1799 SGT 1323.3 SGR 1196.3 SG3 1145.5 ST 40.6 SR 24.9 SS 72.6
 RDE -.2878 RRA -.4920 RC3 .8260 FAU .14240 RRT .7478 RRF -.9778 RTF -.7500 CRT .9848 CRS .8293 CST .6521
 FDE 1.6690 FRA 6.1998 FC3-7.8093 BSP 2904 SGB 1783.8 R23 -.3812 R13 -.9089 LSA 84.5 MSA 20.0 S8A .7
 BDE .5905 BRA .7644 BC3 .8523 F8P 1886 SG1 1668.9 SG2 629.9 THA 41.15 EL1 47.4 EL2 3.7 ALF 31.32

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 14 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 21 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.398 GAL -2.98 AZL 93.76 HCA 158.86 SMA 184.44 ECC .19344 INC 3.7556 V1 29.699
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.517 GAP 8.26 AZP 86.50 TAL 341.42 TAP 140.29 RCA 148.76 APO 220.12 V2 26.274
 RC 96.027 GL -32.08 GP 13.42 ZAL 123.01 ZAP 126.98 ET8 169.36 ZAE 161.55 ETE 126.72 ZAC 114.29 ETC 276.62 LVI -28.49

Distance 471.139 Earth to Mars

Planetary Conic: C3 15.923 VHL 3.990 DLA -39.65 RAL 349.78 RAD 6641.0 VEL 11.660 PTH 6.70 VHP 3.925 DPA -6.42 RAP 309.86 ECC 1.2620
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 26 28 2202.21 7.53 53.91 212.08 137.12 21 3 10 1202.2 25.20 36.63
 60.00 22 59 48 1791.66 19.46 20.02 222.91 126.01 23 29 40 791.7 32.43 5.38
 60.96 23 52 59 1641.42 24.43 18.94 226.54 122.26 24 20 20 641.4 35.46 354.17
 60.96 23 52 59 1641.42 24.43 18.94 226.54 122.26 24 20 20 641.4 35.46 354.17
 60.96 23 52 59 1641.42 24.43 18.94 226.54 122.26 24 20 20 641.4 35.46 354.17
 60.96 23 52 59 1641.42 24.43 18.94 226.54 122.26 24 20 20 641.4 35.46 354.17
 60.96 23 52 59 1641.42 24.43 18.94 226.54 122.26 24 20 20 641.4 35.46 354.17

Differential Corrections: TDE -.5192 TRA -.5299 TC3 -.2914 BAU .1863 SGT 1289.5 SGR 1309.3 SG3 1192.3 ST 40.1 SR 26.4 SS 74.8
 RDE -.2989 RRA -.4478 RC3 .8750 FAU .14822 RRT .7074 RRF -.9831 RTF -.7161 CRT .9699 CRS .8449 CST .8379
 FDE 1.7772 FRA 6.4274 FC3-7.9499 BSP 2992 SGB 1818.8 R23 -.3444 R13 -.9209 LSA 86.5 MSA 20.6 S8A .6
 BDE .8991 BRA .7819 BC3 .9222 F8P 1888 SG1 1678.9 SG2 684.2 THA 46.57 EL1 47.7 EL2 5.4 ALF 33.01

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 14 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 23 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.381 GAL -2.97 AZL 93.90 HCA 160.11 SMA 184.16 ECC .19218 INC 3.8989 V1 29.699
 RP 208.76 LAP -1.33 LOP 3.58 VP 23.470 GAP 8.01 AZP 86.33 TAL 341.40 TAP 141.51 RCA 148.77 APO 219.55 V2 26.254
 RC 97.858 GL -33.21 GP 14.47 ZAL 122.65 ZAP 124.95 ET8 169.30 ZAE 159.85 ETE 130.69 ZAC 115.42 ETC 276.51 LVI -29.28

Distance 475.262 Earth to Mars

Planetary Conic: C3 16.117 VHL 4.015 DLA -40.60 RAL 350.60 RAD 6641.1 VEL 11.669 PTH 6.71 VHP 3.858 DPA -5.57 RAP 308.95 ECC 1.2653
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 39 0 2178.45 8.86 52.77 213.97 136.94 21 15 15 1175.4 26.41 35.23
 59.57 23 49 55 1662.03 24.84 20.98 227.90 123.21 24 17 37 662.0 36.21 356.24
 59.57 23 49 55 1662.03 24.84 20.98 227.90 123.21 24 17 37 662.0 36.21 356.24
 59.57 23 49 55 1662.03 24.84 20.98 227.90 123.21 24 17 37 662.0 36.21 356.24
 59.57 23 49 55 1662.03 24.84 20.98 227.90 123.21 24 17 37 662.0 36.21 356.24
 59.57 23 49 55 1662.03 24.84 20.98 227.90 123.21 24 17 37 662.0 36.21 356.24
 59.57 23 49 55 1662.03 24.84 20.98 227.90 123.21 24 17 37 662.0 36.21 356.24

Differential Corrections: TDE -.5068 TRA -.4542 TC3 -.3336 BAU .2145 SGT 1150.5 SGR 1432.1 SG3 1232.5 ST 38.4 SR 27.9 SS 76.1
 RDE -.3090 RRA -.6042 RC3 .9377 FAU .15172 RRT .6595 RRF -.9873 RTF -.6544 CRT .9468 CRS .9567 CST .8166
 FDE 1.8904 FRA 6.5962 FC3-8.1496 BSP 2932 SGB 1837.0 R23 -.2922 R13 -.9431 LSA 87.2 MSA 20.9 S8A .6
 BDE .5936 BRA .7558 BC3 .9953 F8P 2040 SG1 1683.2 SG2 735.8 THA 54.25 EL1 46.9 EL2 7.2 ALF 35.56

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 14 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC										DISTANCE 479.390										EARTH TO MARS																																																																																				
RL	150.03	LAL	.00	LOL	203.41	VL	32.385	GAL	-2.98	AZL	94.06	MCA	161.35	SMA	183.90	ECC	.19103	INC	4.0600	V1	29.699	RP	208.94	LAP	-1.30	LOP	4.80	VP	23.424	GAP	7.77	AZP	86.15	TAL	341.36	TAP	142.71	RCA	148.77	APO	219.03	V2	26.232	RC	99.910	GL	-34.43	GP	15.64	ZAL	122.25	ZAP	122.87	ETS	169.24	ZAE	158.01	ETE	132.32	ZAC	118.66	ETC	276.41	LVI	-30.10																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	16.384	VHL	4.048	DLA	-41.61	RAL	351.53	RAD	6641.2	VEL	11.680	PTH	6.72	VHP	3.800	DPA	-4.61	RAP	307.98	ECC	1.2698	ST	37.8	SR	30.1	SS	78.3	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1086.8	SGR	1574.4	SG3	1272.7	RRT	.8588	RRF	-.9906	RTF	-.5788	CRT	.9231	CRS	.9678	CST	.7974	LSA	89.4	MSA	21.6	SSA	.5	EL1	47.4	EL2	9.2	ALF	37.98																					
50.00	20	53	26	2145.87	10.33	51.49	216.19	136.71	21	29	12	1145.9	27.72	33.64	58.11	23	47	14	1683.45	25.24	23.12	229.45	124.25	24	15	17	683.4	36.98	358.44	58.11	23	47	14	1683.45	25.24	23.12	229.45	124.25	24	15	17	683.4	36.98	358.44	58.11	23	47	14	1683.45	25.24	23.12	229.45	124.25	24	15	17	683.4	36.98	358.44	58.11	23	47	14	1683.45	25.24	23.12	229.45	124.25	24	15	17	683.4	36.98	358.44	58.11	23	47	14	1683.45	25.24	23.12	229.45	124.25	24	15	17	683.4	36.98	358.44	58.11	23	47	14	1683.45	25.24	23.12	229.45	124.25	24	15	17	683.4	36.98	358.44
TDE	-.5106	TRA	-.3898	TC3	-.4182	BAU	.2357	SGT	1086.8	SGR	1574.4	SG3	1272.7	ST	37.8	SR	30.1	SS	78.3	RDE	-.3278	RRA	-.6721	RC3	.9917	FAU	.15485	RRT	.8588	RRF	-.9906	RTF	-.5788	CRT	.9231	CRS	.9678	CST	.7974	FDE	1.9780	FRA	6.7904	FC3	-8.1824	BSP	3081	SGB	1913.2	R23	-.2416	R13	-.9607	LSA	89.4	MSA	21.6	SSA	.5	BDE	.6068	BRA	.7769	BC3	1.0763	FSP	2132	SG1	1739.0	SG2	797.6	THA	61.45	EL1	47.4	EL2	9.2	ALF	37.98																									

LAUNCH DATE APR 14 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC										DISTANCE 483.527										EARTH TO MARS																																																																					
RL	150.03	LAL	.00	LOL	203.41	VL	32.351	GAL	-2.95	AZL	94.24	MCA	162.59	SMA	183.66	ECC	.19000	INC	4.2429	V1	29.699	RP	209.14	LAP	-1.27	LOP	6.04	VP	23.379	GAP	7.53	AZP	85.95	TAL	341.31	TAP	143.90	RCA	148.77	APO	218.56	V2	26.209	RC	101.892	GL	-35.76	GP	16.94	ZAL	121.81	ZAP	120.74	ETS	169.20	ZAE	156.03	ETE	133.64	ZAC	118.04	ETC	276.29	LVI	-31.05																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	16.734	VHL	4.091	DLA	-42.70	RAL	352.57	RAD	6641.3	VEL	11.695	PTH	6.73	VHP	3.751	DPA	-3.53	RAP	306.94	ECC	1.2754	ST	36.7	SR	32.5	SS	80.0	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1010.6	SGR	1731.8	SG3	1305.5	RRT	.4885	RRF	-.9931	RTF	-.4798	CRT	.8907	CRS	.9764	CST	.7721	LSA	91.2	MSA	22.2	SSA	.5	EL1	47.7	EL2	11.4	ALF	41.11						
50.00	21	10	29	2112.07	12.00	50.02	218.85	136.39	21	45	42	1112.1	29.20	31.77	56.57	23	44	56	1705.92	25.62	25.38	231.24	125.40	24	13	22	705.9	37.78	.80	56.57	23	44	56	1705.92	25.62	25.38	231.24	125.40	24	13	22	705.9	37.78	.80	56.57	23	44	56	1705.92	25.62	25.38	231.24	125.40	24	13	22	705.9	37.78	.80	56.57	23	44	56	1705.92	25.62	25.38	231.24	125.40	24	13	22	705.9	37.78	.80	56.57	23	44	56	1705.92	25.62	25.38	231.24	125.40	24	13	22	705.9	37.78	.80
TDE	-.5077	TRA	-.3138	TC3	-.4857	BAU	.2596	SGT	1010.6	SGR	1731.8	SG3	1305.5	ST	36.7	SR	32.5	SS	80.0	RDE	-.3498	RRA	-.7451	RC3	1.0538	FAU	.15845	RRT	.4885	RRF	-.9931	RTF	-.4798	CRT	.8907	CRS	.9764	CST	.7721	FDE	2.0960	FRA	6.9357	FC3	-8.1976	BSP	3212	SGB	2005.1	R23	-.1738	R13	-.9778	LSA	91.2	MSA	22.2	SSA	.5	BDE	.6166	BRA	.8084	BC3	1.1802	FSP	2195	SG1	1821.4	SG2	838.4	THA	69.58	EL1	47.7	EL2	11.4	ALF	41.11										

LAUNCH DATE APR 14 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC										DISTANCE 487.870										EARTH TO MARS																																																																					
RL	150.03	LAL	.00	LOL	203.41	VL	32.338	GAL	-2.95	AZL	94.45	MCA	163.82	SMA	183.45	ECC	.18906	INC	4.4327	V1	29.699	RP	209.34	LAP	-1.24	LOP	7.28	VP	23.334	GAP	7.30	AZP	85.72	TAL	341.25	TAP	145.07	RCA	148.76	APO	218.13	V2	26.186	RC	103.800	GL	-37.21	GP	18.41	ZAL	121.30	ZAP	118.36	ETS	169.17	ZAE	153.88	ETE	134.67	ZAC	119.58	ETC	276.18	LVI	-32.13																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	17.188	VHL	4.146	DLA	-43.88	RAL	353.77	RAD	6641.6	VEL	11.714	PTH	6.75	VHP	3.713	DPA	-2.29	RAP	305.85	ECC	1.2828	ST	35.5	SR	33.4	SS	81.8	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	945.9	SGR	1908.9	SG3	1331.4	RRT	.3592	RRF	-.9950	RTF	-.3.94	CRT	.8523	CRS	.9833	CST	.7431	LSA	93.2	MSA	23.7	SSA	.4	EL1	48.3	EL2	12.6	ALF	44.92						
50.00	21	31	17	2071.89	13.98	48.24	222.12	133.96	22	5	49	1071.9	30.91	29.47	54.93	23	43	8	1729.69	25.98	27.80	233.30	126.69	24	11	57	729.7	38.61	3.35	54.93	23	43	8	1729.69	25.98	27.80	233.30	126.69	24	11	57	729.7	38.61	3.35	54.93	23	43	8	1729.69	25.98	27.80	233.30	126.69	24	11	57	729.7	38.61	3.35	54.93	23	43	8	1729.69	25.98	27.80	233.30	126.69	24	11	57	729.7	38.61	3.35	54.93	23	43	8	1729.69	25.98	27.80	233.30	126.69	24	11	57	729.7	38.61	3.35
TDE	-.5043	TRA	-.2324	TC3	-.5527	BAU	.2859	SGT	945.9	SGR	1908.9	SG3	1331.4	ST	35.5	SR	33.4	SS	81.8	RDE	-.3794	RRA	-.8270	RC3	1.1150	FAU	.16100	RRT	.3592	RRF	-.9950	RTF	-.3.94	CRT	.8523	CRS	.9833	CST	.7431	FDE	2.2333	FRA	7.0499	FC3	-8.1104	BSP	3405	SGB	2130.5	R23	-.1071	R13	-.9893	LSA	93.2	MSA	23.7	SSA	.4	BDE	.6313	BRA	.8590	BC3	1.2444	FSP	2250	SG1	1946.6	SG2	865.7	THA	77.37	EL1	48.3	EL2	12.6	ALF	44.92										

LAUNCH DATE APR 14 1971

FLIGHT TIME 200.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC										DISTANCE 491.819										EARTH TO MARS																																																																					
RL	150.03	LAL	.00	LOL	203.41	VL	32.326	GAL	-2.95	AZL	94.70	MCA	165.06	SMA	183.25	ECC	.18823	INC	4.6954	V1	29.699	RP	209.55	LAP	-1.21	LOP	8.51	VP	23.291	GAP	7.07	AZP	83.46	TAL	341.17	TAP	146.23	RCA	148.76	APO	217.75	V2	26.162	RC	105.933	GL	-38.82	GP	20.06	ZAL	120.72	ZAP	118.33	ETS	169.16	ZAE	151.57	ETE	135.44	ZAC	121.32	ETC	276.08	LVI	-33.37																								
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																					
C3	17.788	VHL	4.215	DLA	-45.17	RAL	355.15	RAD	6641.8	VEL	11.739	PTH	6.77	VHP	3.688	DPA	-.86	RAP	304.69	ECC	1.2924	ST	34.4	SR	38.9	SS	83.5	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	904.8	SGR	2108.0	SG3	1347.8	RRT	.1943	RRF	-.9964	RTF	-.1845	CRT	.8079	CRS	.9885	CST	.7098	LSA	95.6	MSA	23.3	SSA	.4	EL1	49.5	EL2	16.0	ALF	49.34						
50.00	21	58	2	2020.72	16.47	45.93	226.30	135.29	22	31	42	1020.7	33.02	26.42	53.18	23	41	54	1755.05	26.31	30.39	235.69	128.14	24	11	10	755.1	39.47	6.14	53.18	23	41	54	1755.05	26.31	30.39	235.69	128.14	24	11	10	755.1	39.47	6.14	53.18	23	41	54	1755.05	26.31	30.39	235.69	128.14	24	11	10	755.1	39.47	6.14	53.18	23	41	54	1755.05	26.31	30.39	235.69	128.14	24	11	10	755.1	39.47	6.14	53.18	23	41	54	1755.05	26.31	30.39	235.69	128.14	24	11	10	755.1	39.47	6.14
TDE	-.5026	TRA	-.1466	TC3	-.6186	BAU	.3161	SGT	904.8	SGR	2108.0	SG3	1347.8	ST	34.4	SR	38.9	SS	83.5	RDE	-.4186	RRA	-.9181	RC3	1.1782	FAU	.16292	RRT	.1943	RRF	-.9964	RTF	-.1845	CRT	.8079	CRS	.9885	CST	.7098	FDE	2.3873	FRA	7.1127	FC3	-7.9377	BSP	3661	SGB	2293.9	R23	-.0517	R13	-.9951	LSA	95.6	MSA	23.3	SSA	.4	BDE	.6341	BRA	.9298	BC3	1.3307	FSP	2283	SG1	2116.9	SG2	883.8	THA	84.21	EL1	49.5	EL2	16.0	ALF	49.34										

LAUNCH DATE APR 14 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 2 1971

MELIOCENTRIC CONIC DISTANCE 495.073 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 32.315 GAL -2.96 AZL 94.98 HCA 166.29 SMA 183.08 ECC .18749 INC 4.9802 V1 29.699
RP 209.76 LAP -1.18 LOP 9.75 VP 23.248 GAP 6.85 AZP 85.16 TAL 341.08 TAP 147.37 RCA 148.75 APO 217.40 V2 26.137
RC 107.990 GL -40.62 GP 21.94 ZAL 120.05 ZAP 114.05 ETS 169.18 ZAE 149.07 ETE 135.96 ZAC 123.28 ETC 275.98 LVI -34.78

PLANETOCENTRIC CONIC
C3 18.521 VHL 4.304 DLA -46.59 RAL 356.76 RAD 6642.2 VEL 11.770 PTH 6.80 VHP 3.678 DPA .78 RAP 303.46 ECC 1.3048
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
30.00 22 37 8 1944.16 20.13 42.35 232.20 134.07 23 9 32 944.2 36.01 21.56
51.30 23 41 24 1782.51 26.58 33.21 238.49 129.78 24 11 7 782.5 40.34 9.24
51.30 23 41 24 1782.51 26.58 33.21 238.49 129.78 24 11 7 782.5 40.34 9.24
51.30 23 41 24 1782.51 26.58 33.21 238.49 129.78 24 11 7 782.5 40.34 9.24
51.30 23 41 24 1782.51 26.58 33.21 238.49 129.78 24 11 7 782.5 40.34 9.24
51.30 23 41 24 1782.51 26.58 33.21 238.49 129.78 24 11 7 782.5 40.34 9.24
51.30 23 41 24 1782.51 26.58 33.21 238.49 129.78 24 11 7 782.5 40.34 9.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4997 TRA -.0349 TC3 -.6792 BAU .3502 SGT 892.0 SGR 2331.3 SG3 1351.8 ST 33.3 SR 43.2 SS 85.2
RDE -.4712 RRA-1.0196 RC3 1.2407 FAU .16375 RRT .0016 RRF -.9975 RTF .0082 CRT .7573 CRS .9924 CST .6713
FDE 2.5632 FRA 7.1103 FC3-7.6542 BSP 3988 SGB 2496.1 R23 -.0101 R13 -.9975 LSA 98.3 MSA 23.9 SSA .3
BDE .6868 BRA 1.0211 BC3 1.4144 FSP 2294 SG1 2331.3 SG2 892.0 THA 89.96 EL1 51.4 EL2 18.3 ALF 54.55

LAUNCH DATE APR 14 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 4 1971

MELIOCENTRIC CONIC DISTANCE 500.131 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 32.305 GAL -2.96 AZL 95.32 HCA 167.52 SMA 182.92 ECC .18684 INC 5.3194 V1 29.699
RP 209.99 LAP -1.15 LOP 10.98 VP 23.205 GAP 6.62 AZP 84.81 TAL 340.98 TAP 148.50 RCA 148.74 APO 217.10 V2 26.111
RC 110.071 GL -42.64 GP 24.09 ZAL 119.26 ZAP 111.73 ETS 169.24 ZAE 146.38 ETE 136.26 ZAC 125.51 ETC 275.89 LVI -36.42

PLANETOCENTRIC CONIC
C3 19.500 VHL 4.416 DLA -48.15 RAL 358.68 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 3.687 DPA 2.69 RAP 302.16 ECC 1.3209
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70
49.25 23 41 55 1812.46 26.77 36.27 241.81 131.65 24 12 8 812.5 41.22 12.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4958 TRA .0427 TC3 -.7318 BAU .3884 SGT 915.6 SGR 2585.3 SG3 1341.8 ST 32.2 SR 48.3 SS 87.1
RDE -.5453 RRA-1.1346 RC3 1.2978 FAU .16287 RRT -.1981 RRF -.9982 RTF .2071 CRT .7014 CRS .9952 CST .6286
FDE 2.7796 FRA 7.0369 FC3-7.2307 BSP 4408 SGB 2742.7 R23 .0180 R13 -.9981 LSA 101.9 MSA 24.4 SSA .3
BDE .7370 BRA 1.1354 BC3 1.4899 FSP 2287 SG1 2592.5 SG2 895.0 THA 94.56 EL1 54.5 EL2 20.4 ALF 60.47

LAUNCH DATE APR 14 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 6 1971

MELIOCENTRIC CONIC DISTANCE 504.293 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 32.297 GAL -2.97 AZL 95.73 HCA 168.74 SMA 182.78 ECC .18628 INC 5.7302 V1 29.699
RP 210.22 LAP -1.12 LOP 12.20 VP 23.164 GAP 6.41 AZP 84.38 TAL 340.87 TAP 149.62 RCA 148.73 APO 216.83 V2 26.085
RC 112.177 GL -44.93 GP 26.57 ZAL 118.32 ZAP 109.38 ETS 169.34 ZAE 143.45 ETE 136.34 ZAC 128.06 ETC 275.82 LVI -36.33

PLANETOCENTRIC CONIC
C3 20.796 VHL 4.560 DLA -49.89 RAL 1.00 RAD 6643.2 VEL 11.866 PTH 6.88 VHP 3.721 DPA 4.92 RAP 300.79 ECC 1.3422
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63
47.01 23 43 46 1845.60 26.82 39.64 245.78 133.79 24 14 32 845.7 42.06 16.63

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4883 TRA .1470 TC3 -.7736 BAU .4322 SGT 977.9 SGR 2871.0 SG3 1311.5 ST 31.0 SR 55.0 SS 89.0
RDE -.6488 RRA-1.2628 RC3 1.3486 FAU .16024 RRT -.3823 RRF -.9988 RTF .0001 CRT .6387 CRS .9972 CST .5792
FDE 3.0301 FRA 6.8581 FC3-6.6710 BSP 4905 SGB 3033.0 R23 .0356 R13 -.9982 LSA 106.3 MSA 24.7 SSA .3
BDE .8121 BRA 1.2713 BC3 1.5547 FSP 2243 SG1 2897.9 SG2 895.3 THA 98.21 EL1 59.1 EL2 22.2 ALF 66.78

LAUNCH DATE APR 14 1971 FLIGHT TIME 208.00 ARRIVAL DATE NOV 8 1971

MELIOCENTRIC CONIC DISTANCE 508.459 EARTH TO MARS
RL 150.03 LAL .00 LOL 203.41 VL 32.289 GAL -2.98 AZL 96.24 HCA 169.97 SMA 182.65 ECC .18581 INC 6.2386 V1 29.699
RP 210.45 LAP -1.09 LOP 13.43 VP 23.122 GAP 6.19 AZP 83.86 TAL 340.75 TAP 150.71 RCA 148.72 APO 216.59 V2 26.058
RC 114.307 GL -47.33 GP 29.44 ZAL 117.19 ZAP 106.95 ETS 169.51 ZAE 140.24 ETE 136.23 ZAC 131.01 ETC 275.79 LVI -40.55

PLANETOCENTRIC CONIC
C3 22.593 VHL 4.749 DLA -51.83 RAL 3.88 RAD 6644.0 VEL 11.939 PTH 6.94 VHP 3.788 DPA 7.55 RAP 299.33 ECC 1.3712
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12
44.57 23 47 34 1883.09 26.67 43.35 250.60 136.24 24 18 58 883.1 42.81 21.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4739 TRA .2590 TC3 -.8004 BAU .4832 SGT 1077.2 SGR 3191.2 SG3 1256.3 ST 29.6 SR 63.4 SS 90.9
RDE -.7999 RRA-1.4041 RC3 1.3885 FAU .15548 RRT -.5343 RRF -.9992 RTF .5407 CRT .5675 CRS .9984 CST .5207
FDE 3.3305 FRA 6.5431 FC3-5.9672 BSP 5472 SGB 3368.1 R23 .0457 R13 -.9982 LSA 112.0 MSA 24.9 SSA .2
BDE .9297 BRA 1.4278 BC3 1.6027 FSP 2150 SG1 3247.0 SG2 894.9 THA 101.08 EL1 65.9 EL2 23.4 ALF 72.95

LAUNCH DATE APR 14 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.282 GAL -3.00 AZL 96.88 HCA 171.18 SMA 182.54 ECC .18341 INC 6.8847 V1 29.699
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.081 GAP 5.98 AZP 83.20 TAL 340.61 TAP 151.80 RCA 148.70 APO 216.39 V2 26.030
 RC 116.460 GL -50.59 GP 32.79 ZAL 115.81 ZAP 104.50 ETS 169.77 ZAE 136.72 ETE 135.95 ZAC 134.44 ETC 275.81 LVI -43.15

DISTANCE 512.626 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 25.017 VHL 5.002 DLA -53.97 RAL 7.53 RAD 6645.0 VEL 12.041 PTH 7.03 VHP 3.903 DPA 10.64 RAP 297.77 ECC 1.4117
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.90 23 54 14 1926.08 26.20 47.45 256.55 139.04 24 26 20 926.1 43.36 26.30
 41.90 23 54 14 1926.08 26.20 47.45 256.55 139.04 24 26 20 926.1 43.36 26.30
 41.90 23 54 14 1926.08 26.20 47.45 256.55 139.04 24 26 20 926.1 43.36 26.30
 41.90 23 54 14 1926.08 26.20 47.45 256.55 139.04 24 26 20 926.1 43.36 26.30
 41.90 23 54 14 1926.08 26.20 47.45 256.55 139.04 24 26 20 926.1 43.36 26.30
 41.90 23 54 14 1926.08 26.20 47.45 256.55 139.04 24 26 20 926.1 43.36 26.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4445 TRA .3793 TC3 -.8075 BAU .5434 SGT 1207.3 SGR 3551.9 SG3 1171.4 ST 27.8 SR 74.6 SS 93.1
 RDE -1.0298 RRA -1.5604 RC3 1.4099 FAU .14778 RRT -.6492 RRF -.9995 RTF .6544 CRT .4795 CRS .9992 CST .4445
 FDE 3.6936 FRA 6.0698 FC3 -7.1141 B3P 6118 SGB 3751.5 R23 .0505 R13 -.9982 LSA 120.0 MSA 24.7 SSA .2
 BDE 1.1215 BRA 1.6058 BC3 1.6248 F3P 2004 SG1 3643.1 SG2 895.4 THA 103.26 EL1 75.9 EL2 24.0 ALF 78.73

LAUNCH DATE APR 14 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.277 GAL -3.02 AZL 97.73 HCA 172.40 SMA 182.45 ECC .16508 INC 7.7336 V1 29.699
 RP 210.93 LAP -1.02 LOP 15.87 VP 23.041 GAP 5.77 AZP 82.33 TAL 340.47 TAP 152.86 RCA 148.68 APO 216.22 V2 26.001
 RC 118.637 GL -54.16 GP 36.71 ZAL 114.13 ZAP 102.03 ETS 170.14 ZAE 132.82 ETE 135.54 ZAC 138.43 ETC 275.91 LVI -46.19

DISTANCE 516.794 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 28.633 VHL 5.351 DLA -56.32 RAL 12.33 RAD 6646.5 VEL 12.189 PTH 7.15 VHP 4.091 DPA 14.31 RAP 296.10 ECC 1.4712
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.02 0 9 14 1976.58 25.23 51.94 264.02 142.20 0 42 10 976.6 43.50 32.26
 39.02 0 9 14 1976.58 25.23 51.94 264.02 142.20 0 42 10 976.6 43.50 32.26
 39.02 0 9 14 1976.58 25.23 51.94 264.02 142.20 0 42 10 976.6 43.50 32.26
 39.02 0 9 14 1976.58 25.23 51.94 264.02 142.20 0 42 10 976.6 43.50 32.26
 39.02 0 9 14 1976.58 25.23 51.94 264.02 142.20 0 42 10 976.6 43.50 32.26
 39.02 0 9 14 1976.58 25.23 51.94 264.02 142.20 0 42 10 976.6 43.50 32.26

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3821 TRA .5112 TC3 -.7894 BAU .6155 SGT 1362.2 SGR 3955.4 SG3 1050.9 ST 25.3 SR 90.1 SS 95.7
 RDE -1.3970 RRA -1.7300 RC3 1.4008 FAU .13631 RRT -.7335 RRF -.9997 RTF .7377 CRT .3448 CRS .9997 CST .3201
 FDE 4.1266 FRA 5.4056 FC3 -4.1214 B3P 6856 SGB 4183.4 R23 .0518 R13 -.9983 LSA 131.7 MSA 23.9 SSA .1
 BDE 1.4483 BRA 1.8039 BC3 1.6079 F3P 1799 SG1 4086.3 SG2 896.2 THA 104.91 EL1 90.5 EL2 23.6 ALF 84.08

LAUNCH DATE APR 14 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.272 GAL -3.04 AZL 98.90 HCA 173.61 SMA 182.37 ECC .18483 INC 8.8997 V1 29.699
 RP 211.20 LAP -.99 LOP 17.09 VP 23.001 GAP 5.56 AZP 81.15 TAL 340.31 TAP 153.92 RCA 148.66 APO 216.08 V2 25.972
 RC 120.836 GL -58.38 GP 41.30 ZAL 112.05 ZAP 99.56 ETS 170.69 ZAE 128.48 ETE 135.06 ZAC 143.09 ETC 276.15 LVI -49.70

DISTANCE 520.961 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 34.282 VHL 5.855 DLA -58.82 RAL 18.86 RAD 6648.6 VEL 12.417 PTH 7.32 VHP 4.396 DPA 18.64 RAP 294.29 ECC 1.5842
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 36.01 0 27 16 2037.65 23.46 56.76 273.62 145.64 1 1 13 1037.6 42.91 39.01
 36.01 0 27 16 2037.65 23.46 56.76 273.62 145.64 1 1 13 1037.6 42.91 39.01
 36.01 0 27 16 2037.65 23.46 56.76 273.62 145.64 1 1 13 1037.6 42.91 39.01
 36.01 0 27 16 2037.65 23.46 56.76 273.62 145.64 1 1 13 1037.6 42.91 39.01
 36.01 0 27 16 2037.65 23.46 56.76 273.62 145.64 1 1 13 1037.6 42.91 39.01
 36.01 0 27 16 2037.65 23.46 56.76 273.62 145.64 1 1 13 1037.6 42.91 39.01

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2451 TRA .6609 TC3 -.7393 BAU .7024 SGT 1538.6 SGR 4406.5 SG3 890.8 ST 22.3 SR 112.8 SS 98.7
 RDE -2.0206 RRA -1.9103 RC3 1.3426 FAU .11973 RRT -.7960 RRF -.9998 RTF .1095 CRT .0669 CRS .9999 CST .0306
 FDE 4.8128 FRA 4.5321 FC3 -3.0238 B3P 7740 SGB 4667.4 R23 .0505 R13 -.9985 LSA 149.8 MSA 22.3 SSA .1
 BDE 2.0254 BRA 2.0213 BC3 1.5327 F3P 1536 SG1 4580.6 SG2 895.9 THA 106.17 EL1 112.8 EL2 22.2 ALF 89.21

LAUNCH DATE APR 14 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 2 1971

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.259 GAL -3.39 AZL 81.43 HCA 184.54 SMA 182.18 ECC .18577 INC 8.3700 V1 29.699
 RP 213.77 LAP -.68 LOP 27.90 VP 22.653 GAP 3.87 AZP 98.54 TAL 338.03 TAP 162.57 RCA 148.32 APO 216.01 V2 25.680
 RC 141.545 GL 56.15 GP -49.93 ZAL 114.52 ZAP 87.13 ETS 175.29 ZAE 113.31 ETE 210.81 ZAC 52.50 ETC 272.24 LVI 36.06

DISTANCE 558.803 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 33.394 VHL 5.779 DLA 43.77 RAL 317.04 RAD 6648.3 VEL 12.382 PTH 7.30 VHP 5.263 DPA -71.33 RAP 317.75 ECC 1.5496
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 55 40 4282.49 -33.63 194.73 218.50 54.11 12 7 2 3282.5 -45.09 166.97
 55.08 9 19 18 4533.78 -19.08 205.23 205.89 49.82 10 34 52 3533.8 -33.64 183.66
 55.08 9 19 18 4533.78 -19.08 205.23 205.89 49.82 10 34 52 3533.8 -33.64 183.66
 55.08 9 19 18 4533.78 -19.08 205.23 205.89 49.82 10 34 52 3533.8 -33.64 183.66
 55.08 9 19 18 4533.78 -19.08 205.23 205.89 49.82 10 34 52 3533.8 -33.64 183.66
 55.08 9 19 18 4533.78 -19.08 205.23 205.89 49.82 10 34 52 3533.8 -33.64 183.66

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 2.8125 TRA .9821 TC3 -1.4258 BAU .9371 SGT 3508.6 SGR 5194.2 SG3 558.8 ST 140.9 SR 184.1 SS 101.5
 RDE 3.5711 RRA 2.4453 RC3 -1.5403 FAU .07836 RRT .9512 RRF .9995 RTF .9484 CRT .9912 CRS .9999 CST -.9094
 FDE 4.3128 FRA 3.0921 FC3 -2.0314 B3P 10459 SGB 6268.2 R23 .1041 R13 .9941 LSA 252.6 MSA 15.9 SSA .1
 BDE 4.5456 BRA 2.6352 BC3 2.0990 F3P 986 SG1 6202.3 SG2 906.7 THA 56.47 EL1 231.3 EL2 14.9 ALF 52.63

LAUNCH DATE APR 14 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.260 GAL -3.44 AZL 83.55 HCA 185.71 SMA 182.19 ECC .18611 INC 6.4478 V1 29.699
 RP 214.08 LAP -.64 LOP 29.08 VP 22.615 GAP 3.68 AZP 96.42 TAL 337.77 TAP 163.49 RCA 148.28 APO 216.10 V2 25.845
 RC 143.936 GL 47.25 GP -44.47 ZAL 119.47 ZAP 85.40 ETS 174.27 ZAE 114.82 ETE 207.03 ZAC 57.98 ETC 271.91 LVI 31.41

DISTANCE 562.963

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 24.257 VHL 4.925 DLA 35.50 RAL 321.51 RAD 6644.7 VEL 12.010 PTH 7.00 VHP 4.969 DPA -66.54 RAP 310.22 ECC 1.3992
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 35 0 3942.65 -44.51 169.64 216.89 71.08 13 40 42 2942.6 -47.14 134.89
 60.00 12 8 29 4013.56 -33.97 170.77 211.87 68.86 13 15 22 3013.6 -40.10 141.49
 67.59 10 36 10 4285.80 -18.76 184.19 203.09 59.29 11 47 36 3285.8 -29.73 160.71
 67.59 10 36 10 4285.80 -18.76 184.19 203.09 59.29 11 47 36 3285.8 -29.73 160.71
 67.59 10 36 10 4285.80 -18.76 184.19 203.09 59.29 11 47 36 3285.8 -29.73 160.71
 67.59 10 36 10 4285.80 -18.76 184.19 203.09 59.29 11 47 36 3285.8 -29.73 160.71
 67.59 10 36 10 4285.80 -18.76 184.19 203.09 59.29 11 47 36 3285.8 -29.73 160.71

DIFFERENTIAL CORRECTIONS

TDE 2.2742 TRA 1.1861 TC3-1.9630 BAU .8618
 RDE 2.5525 RRA 2.2801 RC3-1.7912 FAU .10112
 PDE 4.7357 FRA 4.4567 FC3-3.6090 BSP 9998
 BDE 3.4186 BRA 2.5773 BC3 2.6574 FSP 1387

MID-COURSE EXECUTION ACCURACY

SGT 3689.3 SGR 4756.1 SG3 789.7
 RRT .9580 RRF .9996 RTF .9562
 SGB 6019.2 R23 .1129 R13 .9932
 SGI 5959.7 SGI 844.6 THA 52.50

ORBIT DETERMINATION ACCURACY

ST 134.7 SR 156.4 SS 115.1
 CRT .9917 CR8 -.9999 CST -.9897
 LSA 235.9 MSA 14.9 SSA .2
 EL1 206.0 EL2 13.2 ALF 48.29

LAUNCH DATE APR 14 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.262 GAL -3.48 AZL 84.95 HCA 186.88 SMA 182.22 ECC .18652 INC 5.0497 V1 29.699
 RP 214.39 LAP -.60 LOP 30.26 VP 22.577 GAP 3.50 AZP 95.01 TAL 337.50 TAP 164.38 RCA 148.23 APO 216.21 V2 25.609
 RC 146.344 GL 39.68 GP -39.68 ZAL 123.48 ZAP 83.54 ETS 173.47 ZAE 115.59 ETE 203.46 ZAC 62.79 ETC 271.64 LVI 27.33

DISTANCE 567.130

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.717 VHL 4.440 DLA 28.49 RAL 324.95 RAD 6642.7 VEL 11.821 PTH 6.84 VHP 4.156 DPA -62.19 RAP 305.43 ECC 1.3245
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 32 21 3721.98 -47.48 149.29 210.00 86.47 14 34 25 2722.0 -43.28 115.13
 60.00 13 31 49 3723.39 -39.49 148.23 208.81 81.21 14 33 53 2723.4 -38.77 117.09
 70.00 13 30 49 3726.34 -31.57 146.53 206.87 76.24 14 32 56 2726.3 -34.07 118.08
 80.00 13 27 49 3735.81 -23.64 144.63 204.26 71.20 14 30 4 2735.8 -29.22 118.60
 86.36 13 3 5 3815.66 -16.70 147.65 201.41 66.57 14 6 41 2815.7 -24.92 123.58
 100.00 16 10 40 3210.29 -23.64 106.00 204.26 71.20 17 4 11 2210.3 -29.22 79.97
 110.00 18 30 16 2773.16 -31.57 75.45 206.87 76.24 19 16 29 1773.2 -34.07 47.00

DIFFERENTIAL CORRECTIONS

TDE 1.9462 TRA 1.3639 TC3-2.4662 BAU .8231
 RDE 1.9348 RRA 2.1069 RC3-1.9150 FAU .11987
 PDE 4.8773 FRA 5.8298 FC3-5.2635 BSP 9616
 BDE 2.7443 BRA 2.5098 BC3 3.1224 FSP 1726

MID-COURSE EXECUTION ACCURACY

SGT 3887.6 SGR 4323.6 SG3 984.2
 RRT .9631 RRF .9995 RTF .9618
 SGB 5814.4 R23 .1243 R13 .9917
 SGI 5781.1 SGI 785.0 THA 48.15

ORBIT DETERMINATION ACCURACY

ST 129.2 SR 133.2 SS 121.5
 CRT .9927 CR8 -.9998 CST -.9901
 LSA 221.3 MSA 13.7 SSA .2
 EL1 185.2 EL2 11.2 ALF 45.89

LAUNCH DATE APR 14 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.265 GAL -3.54 AZL 85.94 HCA 188.05 SMA 182.26 ECC .18697 INC 4.0605 V1 29.699
 RP 214.72 LAP -.57 LOP 31.44 VP 22.540 GAP 3.32 AZP 94.02 TAL 337.21 TAP 165.26 RCA 148.10 APO 216.34 V2 25.573
 RC 148.770 GL 33.32 GP -35.59 ZAL 126.66 ZAP 81.63 ETS 172.86 ZAE 115.73 ETE 200.24 ZAC 66.91 ETC 271.42 LVI 25.83

DISTANCE 571.299

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.238 VHL 4.152 DLA 22.63 RAL 327.70 RAD 6641.6 VEL 11.716 PTH 6.75 VHP 3.895 DPA -58.39 RAP 302.10 ECC 1.2837
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 12 36 3580.82 -47.01 133.77 203.90 98.39 15 11 57 2560.6 -36.34 102.79
 60.00 14 24 4 3530.09 -40.25 131.89 204.76 92.25 15 22 54 2530.1 -34.95 102.13
 70.00 14 22 30 3475.78 -34.05 127.46 204.73 87.22 15 40 26 2475.8 -31.63 98.99
 80.00 15 16 15 3369.92 -29.21 118.98 204.27 83.50 16 12 25 2369.9 -28.95 91.56
 90.00 16 20 30 3161.42 -27.21 103.38 203.98 82.00 17 13 32 2161.4 -27.83 76.39
 100.00 17 59 7 2844.40 -29.21 80.35 204.27 83.50 18 48 32 1844.4 -28.95 52.93
 110.00 19 41 57 2522.60 -34.05 56.38 204.73 87.22 20 23 59 1522.6 -31.63 27.91

DIFFERENTIAL CORRECTIONS

TDE 1.7432 TRA 1.5365 TC3-2.8890 BAU .7985
 RDE 1.5445 RRA 1.9389 RC3-1.9130 FAU .13330
 PDE 4.9091 FRA 6.8237 FC3-6.8948 BSP 9498
 BDE 2.3290 BRA 2.4740 BC3 3.4650 FSP 2032

MID-COURSE EXECUTION ACCURACY

SGT 4101.2 SGR 3933.3 SG3 1142.6
 RRT .9670 RRF .9994 RTF .5559
 SGB 5682.5 R23 .1356 R13 .9901
 SGI 5835.4 SGI 729.7 THA 43.76

ORBIT DETERMINATION ACCURACY

ST 125.2 SR 115.1 SS 124.5
 CRT .9941 CR8 -.9997 CST -.9910
 LSA 210.4 MSA 12.5 SSA .3
 EL1 169.8 EL2 9.2 ALF 42.58

LAUNCH DATE APR 14 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 150.03 LAL .00 LOL 203.41 VL 32.268 GAL -3.59 AZL 86.88 HCA 189.22 SMA 182.31 ECC .18747 INC 3.3216 V1 29.699
 RP 215.04 LAP -.33 LOP 32.61 VP 22.502 GAP 3.15 AZP 93.28 TAL 336.90 TAP 166.13 RCA 148.13 APO 216.49 V2 25.536
 RC 151.211 GL 28.00 GP -32.09 ZAL 129.13 ZAP 79.72 ETS 172.40 ZAE 115.40 ETE 197.41 ZAC 70.42 ETC 271.23 LVI 20.87

DISTANCE 575.468

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.809 VHL 3.976 DLA 17.76 RAL 329.98 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 3.724 DPA -55.13 RAP 299.62 ECC 1.2602
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 43 6 3437.77 -45.17 122.50 199.76 106.89 15 40 23 2437.8 -33.79 94.64
 60.00 15 2 4 3387.27 -39.18 119.92 201.71 100.31 15 58 31 2387.3 -30.93 92.17
 70.00 15 30 28 3303.73 -33.81 114.06 202.62 95.13 16 25 30 2303.7 -28.22 86.77
 80.00 16 15 49 3161.50 -29.82 103.55 202.89 91.57 17 8 31 2161.5 -26.14 76.73
 90.00 17 26 47 2932.40 -28.28 86.74 202.92 90.24 18 15 40 1932.4 -25.33 60.12
 100.00 18 58 41 2635.97 -29.82 64.92 202.89 91.57 19 42 37 1636.0 -26.14 38.10
 110.00 20 29 52 2350.55 -33.81 42.97 202.62 95.13 21 9 3 1350.6 -28.22 15.69

DIFFERENTIAL CORRECTIONS

TDE 1.5951 TRA 1.6849 TC3-3.2731 BAU .7967
 RDE 1.2684 RRA 1.7684 RC3-1.8698 FAU .14519
 PDE 4.8319 FRA 7.3735 FC3-7.9307 BSP 9235
 BDE 2.0379 BRA 2.4426 BC3 3.7694 FSP 2227

MID-COURSE EXECUTION ACCURACY

SGT 4307.9 SGR 3565.3 SG3 1260.8
 RRT .9697 RRF .9991 RTF .9689
 SGB 5591.9 R23 .1462 R13 .9884
 SGI 5550.8 SGI 676.3 THA 39.45

ORBIT DETERMINATION ACCURACY

ST 121.2 SR 99.8 SS 124.3
 CRT .9957 CR8 -.9994 CST -.9919
 LSA 200.0 MSA 11.3 SSA .4
 EL1 156.9 EL2 7.2 ALF 39.46

LAUNCH DATE APR 14 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC DISTANCE 579.637 EARTH TO MARS
 RL 150.03 LAL .00 LOL 203.41 VL 32.271 GAL -3.85 AZL 87.25 HCA 190.39 SMA 182.36 ECC .18803 INC 2.7509 V1 29.699
 RP 215.37 LAP -.50 LOP 33.78 VP 22.465 GAP 2.97 AZP 92.71 TAL 336.59 TAP 166.98 RCA 148.08 APO 216.65 V2 25.499
 RC 153.669 GL 23.55 GP -29.11 ZAL 131.06 ZAP 77.84 ETS 172.05 ZAE 114.73 ETE 194.96 ZAC 73.42 ETC 271.06 LVI 18.35
 PLANETOCENTRIC CONIC
 C3 14.966 VHL 3.869 DLA 13.71 RAL 331.87 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.609 DPA -52.32 RAP 297.69 ECC 1.2463
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 7 14 3342.01 -42.95 114.37 197.28 112.83 16 2 56 2342.0 -29.83 88.94
 60.00 15 31 31 3277.37 -37.47 111.09 199.81 106.08 16 26 9 2277.4 -27.29 85.15
 70.00 16 6 23 3174.79 -32.59 104.20 201.24 100.84 16 59 17 2174.8 -24.91 78.22
 80.00 16 58 25 3011.74 -29.03 92.50 201.90 97.32 17 48 37 2011.7 -23.12 66.64
 90.00 18 12 36 2772.29 -27.68 75.08 202.08 96.04 18 58 48 1772.3 -22.43 49.29
 100.00 19 41 17 2486.21 -29.03 53.87 201.90 97.32 20 22 43 1486.2 -23.12 28.01
 110.00 21 5 49 2221.60 -32.59 33.12 201.24 100.84 21 42 50 1221.6 -24.91 7.14
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5053 TRA 1.8410 TC3-3.5653 BAU .7956 SGT 4522.9 SGR 3246.6 SG3 1351.8 ST 119.2 SR 88.3 SS 123.9
 RDE 1.0810 RRA 1.6230 RC3-1.7603 FAU .15229 RRT .9719 RRF .9988 RTF .9714 CRT .9973 CRS -.9990 CST -.9931
 FDE 4.7637 FRA 7.9952 FC3-8.8096 BSP 9261 SGB 5567.5 R23 .1540 R13 .9869 LSA 193.0 MSA 10.1 SSA .5
 BDE 1.8533 BRA 2.4543 BC3 3.9762 FSP 2411 SG1 5532.3 SG2 625.3 THA 35.42 EL1 148.2 EL2 5.2 ALP 36.49

LAUNCH DATE APR 14 1971 FLIGHT TIME 244.00 ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC DISTANCE 583.806 EARTH TO MARS
 RL 150.03 LAL .00 LOL 203.41 VL 32.275 GAL -3.70 AZL 87.70 HCA 191.55 SMA 182.43 ECC .18862 INC 2.2949 V1 29.699
 RP 215.71 LAP -.46 LOP 34.95 VP 22.428 GAP 2.79 AZP 92.25 TAL 336.26 TAP 167.82 RCA 148.02 APO 216.84 V2 25.461
 RC 156.143 GL 19.82 GP -26.55 ZAL 132.58 ZAP 78.00 ETS 171.79 ZAE 113.81 ETE 192.85 ZAC 76.00 ETC 270.92 LVI 18.20
 PLANETOCENTRIC CONIC
 C3 14.474 VHL 3.805 DLA 10.33 RAL 333.52 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 3.531 DPA -49.90 RAP 296.13 ECC 1.2382
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 26 56 3206.10 -40.77 108.39 195.92 117.04 16 21 22 2266.1 -26.51 84.77
 60.00 15 55 15 3190.73 -35.63 104.47 198.78 110.23 16 48 26 2190.7 -24.15 79.97
 70.00 16 34 49 3074.31 -31.06 95.77 200.52 104.98 17 26 4 2074.3 -21.96 71.91
 80.00 17 31 26 2898.99 -27.75 84.22 201.41 101.49 18 19 43 1897.0 -20.33 59.26
 90.00 18 47 43 2690.80 -26.51 66.39 201.68 100.24 19 31 53 1650.8 -19.71 41.43
 100.00 20 14 17 2371.46 -27.75 45.59 201.41 101.49 20 53 49 1371.5 -20.33 20.63
 110.00 21 34 16 2121.12 -31.06 25.89 200.52 104.98 22 9 37 1121.1 -21.96 .83
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4385 TRA 1.9851 TC3-3.8227 BAU .8057 SGT 4731.6 SGR 2956.4 SG3 1414.9 ST 117.6 SR 78.4 SS 122.1
 RDE .9378 RRA 1.4853 RC3-1.6504 FAU .15861 RRT .9737 RRF .9984 RTF .9736 CRT .9988 CRS -.9984 CST -.9942
 FDE 4.6492 FRA 8.4432 FC3-9.4865 BSP 9234 SGB 5579.3 R23 .1588 R13 .9857 LSA 186.6 MSA 9.1 SSA .6
 BDE 1.7171 BRA 2.4792 BC3 4.1637 FSP 2511 SG1 5549.7 SG2 574.1 THA 31.69 EL1 141.3 EL2 3.5 ALP 33.69

LAUNCH DATE APR 14 1971 FLIGHT TIME 246.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC DISTANCE 587.892 EARTH TO MARS
 RL 150.03 LAL .00 LOL 203.41 VL 32.279 GAL -3.78 AZL 88.08 HCA 192.71 SMA 182.49 ECC .18932 INC 1.9221 V1 29.699
 RP 216.04 LAP -.42 LOP 36.11 VP 22.391 GAP 2.83 AZP 91.88 TAL 335.87 TAP 168.58 RCA 147.94 APO 217.04 V2 25.424
 RC 158.631 GL 16.85 GP -24.35 ZAL 133.87 ZAP 74.29 ETS 171.64 ZAE 112.80 ETE 191.09 ZAC 78.21 ETC 270.81 LVI 14.33
 PLANETOCENTRIC CONIC
 C3 14.234 VHL 3.773 DLA 7.52 RAL 335.04 RAD 6640.2 VEL 11.588 PTH 6.63 VHP 3.478 DPA -47.80 RAP 294.96 ECC 1.2343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 43 37 3205.74 -38.80 103.95 195.41 120.04 16 37 2 2205.7 -23.77 81.64
 60.00 16 15 7 3121.91 -33.89 99.46 198.48 113.26 17 7 9 2121.9 -21.92 76.04
 70.00 16 58 19 2994.82 -29.52 91.10 200.40 108.01 17 48 14 1994.8 -19.44 67.12
 80.00 17 58 20 2806.84 -26.36 77.88 201.44 104.55 18 45 7 1806.8 -17.90 53.67
 90.00 19 16 9 2555.74 -25.18 59.75 201.77 103.31 19 58 44 1555.7 -17.31 35.48
 100.00 20 41 12 2281.31 -26.36 39.25 201.44 104.55 21 19 13 1281.3 -17.90 19.04
 110.00 21 57 45 2041.63 -29.52 20.01 200.40 108.01 22 31 47 1041.6 -19.44 336.04
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3779 TRA 2.3236 TC3-3.5977 BAU .6980 SGT 5077.5 SGR 3078.6 SG3 1631.9 ST 131.2 SR 92.6 SS 161.3
 RDE 1.1139 RRA 1.6419 RC3 -.7148 FAU .07887 RRT .9257 RRF .9983 RTF .5296 CRT .9998 CRS -.9988 CST -.9986
 FDE 6.3049 FRA10.5419 FC3-4.7970 BSP 13126 SGB 5937.9 R23 .2690 R13 .9615 LSA 227.5 MSA 5.8 SSA 1.6
 BDE 1.9314 BRA 2.8452 BC3 3.6680 FSP 4504 SG1 5851.3 SG2 1010.7 THA 30.30 EL1 160.6 EL2 1.7 ALP 35.21

LAUNCH DATE APR 14 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC DISTANCE 592.134 EARTH TO MARS
 RL 150.03 LAL .00 LOL 203.41 VL 32.284 GAL -3.83 AZL 88.39 HCA 193.87 SMA 182.57 ECC .18994 INC 1.6122 V1 29.699
 RP 216.39 LAP -.39 LOP 37.27 VP 22.354 GAP 2.45 AZP 91.57 TAL 335.58 TAP 169.45 RCA 147.89 APO 217.24 V2 25.385
 RC 161.134 GL 13.98 GP -22.42 ZAL 134.81 ZAP 72.47 ETS 171.48 ZAE 111.52 ETE 189.49 ZAC 80.15 ETC 270.87 LVI 12.76
 PLANETOCENTRIC CONIC
 C3 14.088 VHL 3.753 DLA 5.13 RAL 336.27 RAD 6640.1 VEL 11.582 PTH 6.63 VHP 3.447 DPA -45.99 RAP 293.74 ECC 1.2318
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 57 22 3155.74 -37.04 100.47 195.16 122.31 16 49 57 2155.7 -21.44 79.15
 60.00 16 31 28 3064.98 -32.29 95.49 198.35 115.56 17 22 33 2065.0 -19.27 72.92
 70.00 17 17 37 2929.28 -28.05 88.56 200.43 110.33 18 6 26 1929.3 -17.26 63.30
 80.00 18 20 21 2732.80 -25.00 72.80 201.58 106.89 19 5 53 1732.8 -15.77 49.21
 90.00 19 39 21 2477.85 -23.86 54.43 201.94 105.65 20 20 39 1477.8 -15.20 30.74
 100.00 21 3 12 2207.27 -25.00 34.17 201.58 106.89 21 40 0 1207.3 -15.77 10.58
 110.00 22 17 3 1976.08 -28.05 15.48 200.43 110.33 22 49 59 976.1 -17.26 352.21
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3716 TRA 2.2715 TC3-4.2049 BAU .8341 SGT 5144.7 SGR 2479.6 SG3 1489.1 ST 117.1 SR 64.6 SS 119.4
 RDE .7564 RRA 1.2595 RC3-1.3900 FAU .16309 RRT .9745 RRF .9971 RTF .9758 CRT .9999 CRS -.9966 CST -.9963
 FDE 4.4848 FRA 9.0775 FC-10.0227 BSP 9500 SGB 5711.0 R23 .1650 R13 .9835 LSA 179.1 MSA 7.5 SSA .9
 BDE 1.5663 BRA 2.5973 BC3 4.4287 FSP 2680 SG1 5688.8 SG2 503.0 THA 25.37 EL1 133.7 EL2 .9 ALP 28.69

LAUNCH DATE APR 14 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 596.292

EARTH TO MARS

RL 150.03 LAL .00 LOL 203.41 VL 32.200 GAL -3.90 AZL 88.65 HCA 195.03 SMA 182.84 ECC .19067 INC 1.3491 V1 29.699
RP 216.73 LAP -.35 LOP 38.43 VP 22.317 GAP 2.28 AZP 91.30 TAL 335.23 TAP 170.23 RCA 147.82 APO 217.47 V2 25.347
RC 163.649 GL 11.67 GP -20.74 ZAL 135.65 ZAP 70.78 ETS 171.37 ZAE 110.24 ETE 188.16 ZAC 81.84 ETC 270.57 LVI 11.37

PLANETOCENTRIC CONIC

C3 14.073 VHL 3.751 DLA 3.12 RAL 337.43 RAD 6640.1 VEL 11.582 PTH 6.62 VHP 3.427 DPA -44.39 RAP 292.82 ECC 1.2316
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 9 25 3115.37 -35.94 97.78 195.33 124.00 17 1 20 2115.4 -19.54 77.21
80.00 16 45 41 3016.87 -30.89 92.38 198.61 117.29 17 36 0 2018.9 -17.40 70.45
70.00 17 34 14 2876.06 -26.74 82.98 200.79 112.08 18 22 10 1876.1 -15.42 60.26
80.00 18 39 11 2672.70 -23.75 68.78 202.02 108.65 19 23 43 1672.7 -13.96 45.66
90.00 19 59 9 2414.84 -22.63 50.20 202.41 107.43 20 39 23 1414.6 -13.41 26.97
100.00 21 22 2 2147.17 -23.75 30.15 202.02 108.65 21 57 50 1147.2 -13.36 7.03
110.00 22 33 41 1922.88 -26.74 11.97 200.79 112.08 23 5 44 922.9 -15.42 349.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3616 TRA 2.4153 TC3-4.3443 BAU .8509 SGT 5347.7 SGR 2283.7 SG3 1507.5 ST 117.9 SR 59.7 SS 118.7
RDE .6989 RRA 1.1870 RC3-1.2571 FAU .16201 RRT .9735 RRF .9962 RTF .9758 CRT .9995 CR8 -.9953 CST -.9973
FDE 4.4385 FRA 9.3047 FC3-9.9669 B8P 9736 SGB 5814.9 R23 .1679 R13 .9825 LSA 177.5 MSA 7.0 SSA 1.1
BDE 1.5305 BRA 2.6275 BC3 4.5225 F8P 2756 SGI 5794.9 SG2 482.0 THA 22.74 EL1 132.2 EL2 1.6 ALF 26.86

LAUNCH DATE APR 14 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 600.452

EARTH TO MARS

RL 150.03 LAL .00 LOL 203.41 VL 32.294 GAL -3.96 AZL 88.87 HCA 196.16 SMA 182.73 ECC .19143 INC 1.1242 V1 29.699
RP 217.08 LAP -.31 LOP 39.58 VP 22.281 GAP 2.10 AZP 91.08 TAL 334.87 TAP 171.05 RCA 147.75 APO 217.71 V2 25.308
RC 166.178 GL 9.69 GP -19.26 ZAL 136.38 ZAP 69.15 ETS 171.31 ZAE 108.91 ETE 187.02 ZAC 83.33 ETC 270.48 LVI 10.19

PLANETOCENTRIC CONIC

C3 14.131 VHL 3.759 DLA 1.40 RAL 338.50 RAD 6640.1 VEL 11.584 PTH 6.63 VHP 3.418 DPA -42.98 RAP 292.02 ECC 1.2326
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 19 55 3082.16 -34.25 95.65 195.69 125.30 17 11 17 2082.2 -17.95 75.65
80.00 16 58 0 2980.83 -29.68 89.89 199.05 118.82 17 47 41 1980.8 -15.83 68.46
70.00 17 48 35 2832.06 -25.58 80.08 201.31 113.44 18 35 47 1832.1 -13.87 57.80
80.00 18 55 22 2622.93 -22.62 65.51 202.60 110.02 19 39 5 1622.9 -12.42 42.77
90.00 20 16 9 2362.27 -21.52 46.77 203.02 108.80 20 55 31 1362.3 -11.87 23.89
100.00 21 38 14 2097.40 -22.62 26.88 202.60 110.02 22 13 11 1097.4 -12.42 4.14
110.00 22 48 2 1878.88 -25.58 9.00 201.31 113.44 23 19 20 878.9 -13.87 346.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3529 TRA 2.5491 TC3-4.4819 BAU .8749 SGT 5541.8 SGR 2098.9 SG3 1509.4 ST 118.5 SR 54.8 SS 115.9
RDE .6432 RRA 1.0730 RC3-1.1657 FAU .16417 RRT .9743 RRF .9949 RTF .9777 CRT .9986 CR8 -.9934 CST -.9978
FDE 4.3097 FRA 9.3875 FC-10.0580 B8P 9854 SGB 5925.9 R23 .1608 R13 .9825 LSA 174.5 MSA 6.8 SSA 1.2
BDE 1.4980 BRA 2.7657 BC3 4.8310 F8P 2720 SGI 5909.3 SG2 443.4 THA 20.37 EL1 130.8 EL2 2.7 ALF 24.80

LAUNCH DATE APR 14 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

DISTANCE 604.605

EARTH TO MARS

RL 150.03 LAL .00 LOL 203.41 VL 32.299 GAL -4.03 AZL 89.07 HCA 197.32 SMA 182.82 ECC .19223 INC .9289 V1 29.699
RP 217.43 LAP -.28 LOP 40.73 VP 22.244 GAP 1.93 AZP 90.89 TAL 334.50 TAP 171.82 RCA 147.67 APO 217.96 V2 25.269
RC 168.717 GL 7.98 GP -17.96 ZAL 137.02 ZAP 67.58 ETS 171.27 ZAE 107.55 ETE 186.04 ZAC 84.65 ETC 270.40 LVI 9.07

PLANETOCENTRIC CONIC

C3 14.246 VHL 3.774 DLA -.08 RAL 339.48 RAD 6640.2 VEL 11.589 PTH 6.63 VHP 3.418 DPA -41.73 RAP 291.35 ECC 1.2345
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 29 10 3054.80 -33.18 93.95 196.20 126.31 17 20 5 2054.8 -16.63 74.38
80.00 17 8 49 2949.34 -28.63 87.88 199.82 119.67 17 57 58 1949.3 -14.52 68.04
70.00 18 1 7 2795.51 -24.57 77.73 201.94 114.50 18 47 43 1795.5 -12.56 55.78
80.00 19 9 28 2581.48 -21.63 62.83 203.28 111.10 19 52 30 1581.5 -11.11 40.39
90.00 20 30 56 2316.82 -20.54 43.95 203.72 109.88 21 9 34 1318.6 -10.57 21.35
100.00 21 52 18 2055.95 -21.63 24.21 203.28 111.10 22 26 34 1056.0 -11.11 1.77
110.00 23 0 33 1842.33 -24.57 6.64 201.94 114.50 23 31 16 842.3 -12.56 344.70

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3577 TRA 2.6883 TC3-4.5874 BAU .8969 SGT 5735.3 SGR 1939.4 SG3 1506.9 ST 120.0 SR 51.1 SS 114.4
RDE .6038 RRA .9938 RC3-1.0639 FAU .16316 RRT .9734 RRF .9934 RTF .9783 CRT .9968 CR8 -.9913 CST -.9984
FDE 4.2368 FRA 9.4731 FC3-9.8148 B8P 10084 SGB 6054.3 R23 .1567 R13 .9822 LSA 173.3 MSA 6.8 SSA 1.3
BDE 1.4860 BRA 2.8661 BC3 4.7092 F8P 2722 SGI 6039.6 SG2 422.0 THA 18.31 EL1 130.4 EL2 3.8 ALF 25.04

LAUNCH DATE APR 14 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

DISTANCE 608.755

EARTH TO MARS

RL 150.03 LAL .00 LOL 203.41 VL 32.305 GAL -4.11 AZL 89.24 HCA 198.47 SMA 182.91 ECC .19307 INC .7581 V1 29.699
RP 217.79 LAP -.24 LOP 41.87 VP 22.207 GAP 1.78 AZP 90.72 TAL 334.12 TAP 172.59 RCA 147.60 APO 218.23 V2 25.229
RC 171.288 GL 6.45 GP -16.79 ZAL 137.59 ZAP 66.08 ETS 171.26 ZAE 106.18 ETE 185.19 ZAC 85.82 ETC 270.33 LVI 8.10

PLANETOCENTRIC CONIC

C3 14.405 VHL 3.795 DLA -1.32 RAL 340.39 RAD 6640.2 VEL 11.596 PTH 6.64 VHP 3.424 DPA -40.61 RAP 290.77 ECC 1.2371
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 37 23 3032.20 -32.24 92.58 196.79 127.10 17 27 56 2032.2 -15.54 73.35
80.00 17 18 22 2923.20 -27.74 86.24 200.27 120.49 18 7 5 1923.2 -13.42 65.50
70.00 18 12 9 2765.02 -23.70 75.79 202.65 115.35 18 58 14 1765.0 -11.45 54.11
80.00 19 21 51 2546.79 -20.77 60.62 204.03 111.95 20 4 18 1546.8 -10.00 38.42
90.00 20 43 54 2282.04 -19.67 41.61 204.49 110.73 21 21 56 1282.0 -9.45 19.24
100.00 22 4 43 2021.26 -20.77 21.99 204.03 111.95 22 38 24 1021.3 -10.00 359.78
110.00 23 11 36 1811.84 -23.70 4.71 202.65 115.35 23 41 48 811.8 -11.45 343.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3709 TRA 2.8288 TC3-4.6728 BAU .9191 SGT 5925.3 SGR 1797.2 SG3 1498.4 ST 121.8 SR 48.1 SS 113.1
RDE .5732 RRA .9223 RC3 -.9693 FAU .16124 RRT .9719 RRF .9915 RTF .9788 CRT .9943 CR8 -.9887 CST -.9988
FDE 4.1772 FRA 9.5256 FC3-9.6906 B8P 10350 SGB 6191.9 R23 .1516 R13 .9819 LSA 172.9 MSA 6.9 SSA 1.4
BDE 1.4859 BRA 2.9753 BC3 4.7723 F8P 2718 SGI 6178.6 SG2 405.7 THA 16.50 EL1 130.9 EL2 4.8 ALF 21.45

LAUNCH DATE APR 14 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 28 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.311 GAL -4.18 AZL 89.39 HCA 199.81 SMA 183.01 ECC .19395 INC .6059 V1 29.699
 RP 218.15 LAP -.20 LOP 43.01 VP 22.171 GAP 1.59 AZP 90.57 TAL 333.74 TAP 175.35 RCA 147.52 APO 218.50 V2 25.189
 RC 173.829 GL 5.13 GP -15.74 ZAL 138.11 ZAP 64.60 ETS 171.26 ZAE 104.81 ETE 184.45 ZAC 86.87 ETC 270.27 LVI 7.23

Planetary Conic: C3 14.599 VHL 3.821 DLA -2.40 RAL 341.24 RAD 6640.3 VEL 11.604 PTH 6.65 VHP 3.435 DPA -39.60 RAP 290.28 ECC 1.2403
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 44 45 3013.56 -31.47 91.47 197.45 127.73 17 34 59 2013.6 -14.63 72.51
 60.00 17 26 53 2901.51 -26.96 84.90 200.97 121.15 18 15 15 1901.5 -12.50 64.41
 70.00 18 21 57 2739.56 -22.95 74.20 203.40 116.02 19 7 37 1739.6 -10.52 52.73
 80.00 19 32 49 2517.68 -20.02 58.78 204.82 112.63 20 14 47 1517.7 -9.06 36.77
 90.00 20 55 22 2251.30 -18.92 39.67 205.29 111.42 21 32 54 1251.3 -8.50 17.48
 100.00 22 15 41 1992.15 -20.02 20.15 204.82 112.63 22 48 53 992.2 -9.08 358.14
 110.00 23 21 24 1786.38 -22.95 3.11 203.40 116.02 23 51 10 786.4 -10.52 341.65

Differential Corrections: TDE 1.3857 TRA 2.9652 TC3-4.7538 BAU .9438 SGT 6109.0 SGR 1867.9 SG3 1483.6 ST 123.6 SR 45.3 SS 111.4
 RDE .5470 RRA .8557 RC3 -.8871 FAU .15947 RRT .9699 RRF .9890 RTF .9792 CRT .9911 CRS -.9857 CST -.9992
 FDE 4.1067 FRA 9.5327 FC3-9.4567 BSP 10581 SGB 6332.6 R23 .1451 R13 .9818 LSA 172.3 MSA 7.2 SSA 1.4
 BDE 1.4897 BRA 3.0862 BC3 4.8359 FSP 2692 SG1 6320.5 SG2 392.3 THA 14.89 EL1 131.5 EL2 5.7 ALF 20.01

LAUNCH DATE APR 14 1971

FLIGHT TIME 260.00

ARRIVAL DATE DEC 30 1971

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.317 GAL -4.26 AZL 89.53 HCA 200.74 SMA 183.11 ECC .19486 INC .4717 V1 29.699
 RP 218.51 LAP -.17 LOP 44.15 VP 22.135 GAP 1.42 AZP 90.44 TAL 333.35 TAP 174.09 RCA 147.43 APO 218.79 V2 25.149
 RC 176.400 GL 3.95 GP -14.80 ZAL 138.60 ZAP 63.18 ETS 171.27 ZAE 103.45 ETE 183.80 ZAC 87.82 ETC 270.22 LVI 6.45

Planetary Conic: C3 14.821 VHL 3.850 DLA -3.34 RAL 342.05 RAD 6640.4 VEL 11.614 PTH 6.65 VHP 3.451 DPA -38.69 RAP 289.87 ECC 1.2439
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 24 2998.25 -30.83 90.57 198.16 128.22 17 41 22 1998.2 -13.88 71.83
 60.00 17 34 31 2883.53 -26.35 83.81 201.72 121.67 18 22 35 1883.5 -11.73 63.51
 70.00 18 30 42 2718.32 -22.30 72.88 204.19 116.56 19 16 1 1718.3 -9.74 51.58
 80.00 19 42 35 2493.26 -19.37 57.26 205.65 113.18 20 24 8 1493.3 -8.26 35.40
 90.00 21 5 35 2225.46 -18.27 38.05 206.13 111.97 21 42 41 1225.5 -7.70 18.01
 100.00 22 25 27 1967.74 -19.37 18.63 205.65 113.18 22 58 15 967.7 -8.26 358.78
 110.00 23 30 9 1765.14 -22.30 1.80 204.19 116.56 23 59 34 765.1 -9.74 340.50

Differential Corrections: TDE 1.4087 TRA 3.1059 TC3-4.8143 BAU .9673 SGT 6290.9 SGR 1553.1 SG3 1465.9 ST 125.9 SR 43.1 SS 110.1
 RDE .5288 RRA .7981 RC3 -.8096 FAU .15873 RRT .9872 RRF .9861 RTF .9795 CRT .9872 CRS -.9822 CST -.9994
 FDE 4.0530 FRA 9.5289 FC3-9.1549 BSP 10868 SGB 6478.7 R23 .1383 R13 .9816 LSA 172.5 MSA 7.6 SSA 1.4
 BDE 1.5040 BRA 3.2063 BC3 4.8819 FSP 2671 SG1 6468.4 SG2 383.5 THA 13.48 EL1 132.9 EL2 6.5 ALF 18.71

LAUNCH DATE APR 14 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.324 GAL -4.34 AZL 89.65 HCA 201.88 SMA 183.22 ECC .19581 INC .3488 V1 29.699
 RP 218.88 LAP -.13 LOP 45.28 VP 22.098 GAP 1.28 AZP 90.33 TAL 332.98 TAP 174.83 RCA 147.34 APO 219.09 V2 25.109
 RC 178.981 GL 2.91 GP -13.96 ZAL 139.07 ZAP 61.82 ETS 171.30 ZAE 102.10 ETE 183.24 ZAC 86.87 ETC 270.19 LVI 5.73

Planetary Conic: C3 15.089 VHL 3.882 DLA -4.18 RAL 342.81 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 3.470 DPA -37.87 RAP 289.53 ECC 1.2480
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 25 2985.74 -30.30 89.85 198.89 128.82 17 47 10 1985.7 -13.27 71.27
 60.00 17 41 24 2880.71 -25.81 82.91 202.49 122.09 18 29 13 1868.7 -11.10 62.77
 70.00 18 38 34 2700.64 -21.76 71.80 205.00 117.00 19 23 34 1700.6 -9.08 50.63
 80.00 19 51 20 2472.82 -18.82 55.99 206.49 113.62 20 32 33 1472.8 -7.59 34.25
 90.00 21 14 43 2203.76 -17.71 36.71 206.98 112.41 21 51 27 1203.8 -7.02 14.78
 100.00 22 34 12 1947.29 -18.82 17.38 206.49 113.62 23 6 39 947.3 -7.59 355.82
 110.00 23 38 0 1747.48 -21.76 .71 205.00 117.00 24 7 8 747.3 -9.08 339.55

Differential Corrections: TDE 1.4327 TRA 3.2436 TC3-4.8722 BAU .9928 SGT 6488.9 SGR 1448.6 SG3 1444.3 ST 128.0 SR 41.1 SS 108.7
 RDE .5098 RRA .7405 RC3 -.7413 FAU .15404 RRT .9638 RRF .9825 RTF .9797 CRT .9825 CRS -.9782 CST -.9996
 FDE 3.9940 FRA 9.4953 FC3-8.8501 BSP 11117 SGB 6827.2 R23 .1312 R13 .9814 LSA 172.7 MSA 8.0 SSA 1.4
 BDE 1.5207 BRA 3.3270 BC3 4.9282 FSP 2633 SG1 6818.4 SG2 377.7 THA 12.22 EL1 134.3 EL2 7.3 ALF 17.58

LAUNCH DATE APR 14 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic: RL 150.03 LAL .00 LOL 203.41 VL 32.331 GAL -4.42 AZL 89.76 HCA 203.01 SMA 183.33 ECC .19679 INC .2391 V1 29.699
 RP 219.25 LAP -.09 LOP 46.41 VP 22.082 GAP 1.09 AZP 90.22 TAL 332.55 TAP 175.55 RCA 147.25 APO 219.41 V2 25.088
 RC 181.572 GL 1.99 GP -13.19 ZAL 139.51 ZAP 60.50 ETS 171.33 ZAE 100.77 ETE 182.75 ZAC 89.44 ETC 270.16 LVI 5.07

Planetary Conic: C3 15.337 VHL 3.916 DLA -4.86 RAL 343.53 RAD 6640.7 VEL 11.636 PTH 6.67 VHP 3.492 DPA -37.12 RAP 289.26 ECC 1.2524
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 2 53 2975.63 -29.87 89.27 199.64 128.93 17 52 29 1975.6 -12.77 70.83
 60.00 17 47 39 2856.58 -25.37 82.19 203.28 122.43 18 35 15 1856.6 -10.58 62.17
 70.00 18 45 39 2686.03 -21.31 70.91 205.83 117.35 19 30 25 1686.0 -8.54 49.85
 80.00 19 59 12 2455.77 -18.35 54.94 207.34 113.98 20 40 8 1455.8 -7.02 33.30
 90.00 21 22 56 2185.61 -17.24 35.59 207.84 112.77 21 59 21 1185.6 -6.45 13.75
 100.00 22 42 4 1930.24 -18.35 16.31 207.34 113.98 23 14 14 930.2 -7.02 354.67
 110.00 23 45 6 1732.84 -21.31 359.82 205.83 117.35 24 13 58 732.8 -8.54 338.77

Differential Corrections: TDE 1.4618 TRA 3.3831 TC3-4.9178 BAU 1.0179 SGT 6639.7 SGR 1355.1 SG3 1420.6 ST 130.5 SR 39.4 SS 107.4
 RDE .4966 RRA .6897 RC3 -.6789 FAU .15095 RRT .9595 RRF .9781 RTF .9798 CRT .9772 CRS -.9739 CST -.9997
 FDE 3.9448 FRA 9.4498 FC3-8.5205 BSP 11389 SGB 6776.6 R23 .1241 R13 .9812 LSA 173.3 MSA 8.5 SSA 1.4
 BDE 1.5439 BRA 3.4527 BC3 4.9644 FSP 2598 SG1 6766.2 SG2 374.8 THA 11.11 EL1 136.0 EL2 8.0 ALF 16.50

LAUNCH DATE APR 14 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.338 GAL -4.50 AZL 89.86 HCA 204.13 SMA 183.44 ECC .1978D INC .1395 V1 29.699
 RP 219.62 LAP -.06 LOP 47.54 VP 22.026 GAP .92 AZP 90.13 TAL 332.14 TAP 176.27 RCA 147.16 APO 219.73 V2 25.028
 RC 184.172 GL 1.16 GP -12.48 ZAL 139.94 ZAP 59.23 ETS 171.38 ZAE 99.46 ETE 182.31 ZAC 90.14 ETC 270.14 LVI 4.46

PLANETOCENTRIC CONIC
 C3 15.625 VHL 3.953 DLA -5.47 RAL 344.22 RAD 6640.8 VEL 11.648 PTH 6.69 VHP 3.517 DPA -36.44 RAP 289.04 ECC 1.2571
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 7 55 2967.58 -29.52 88.82 200.41 129.17 17 57 22 1967.6 -12.36 70.47
 60.00 17 53 20 2816.78 -25.01 81.61 204.09 122.69 18 40 47 1846.8 -10.16 61.68
 70.00 18 52 5 2674.04 -20.93 70.18 206.66 117.62 19 36 39 1674.0 -8.09 49.21
 80.00 20 6 18 2441.65 -17.95 54.08 208.20 114.26 20 47 0 1441.7 -6.56 32.51
 90.00 21 30 20 2170.53 -16.84 34.66 208.71 113.06 22 6 31 1170.5 -5.97 12.90
 100.00 22 49 10 1916.12 -17.95 15.45 208.20 114.26 23 21 6 916.1 -6.56 353.88
 110.00 23 51 31 1720.86 -20.93 359.10 206.66 117.62 24 20 12 720.9 -8.09 330.13

DIFFERENTIAL CORRECTIONS
 TDE 1.4948 TRA 3.5240 TC3-4.9539 BAU 1.0429
 RDE .4862 RRA .6427 RC3 -.6220 FAU .14755
 FDE 3.8972 FRA 9.3915 FC3-8.1755 BSP 11669
 BDE 1.5719 BRA 3.5821 BC3 4.9928 FSP 2559

MID-COURSE EXECUTION ACCURACY
 SGT 6809.1 SGR 1270.6 SG3 1395.0
 RRT .9542 RRF .9728 RTF .9799
 SGB 6926.6 R23 .1171 R13 .9810
 SG1 6916.5 SG2 374.2 THA 10.13

ORBIT DETERMINATION ACCURACY
 ST 133.0 SR 37.9 SS 106.1
 CRT .9714 CRS -.9691 CST -.9998
 LSA 174.1 MSA 9.0 SSA 1.4
 EL1 138.1 EL2 8.7 ALF 15.59

LAUNCH DATE APR 14 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.345 GAL -4.58 AZL 89.95 HCA 205.25 SMA 183.56 ECC .19885 INC .0396 V1 29.699
 RP 219.99 LAP -.02 LOP 48.66 VP 21.990 GAP .75 AZP 90.05 TAL 331.72 TAP 176.98 RCA 147.06 APO 220.06 V2 24.987
 RC 186.781 GL .41 GP -11.84 ZAL 140.36 ZAP 58.01 ETS 171.42 ZAE 98.17 ETE 181.93 ZAC 90.78 ETC 270.13 LVI 3.89

PLANETOCENTRIC CONIC
 C3 15.930 VHL 3.991 DLA -6.01 RAL 344.88 RAD 6641.0 VEL 11.661 PTH 6.70 VHP 3.544 DPA -35.81 RAP 288.88 ECC 1.2622
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 31 2961.34 -29.25 88.47 201.19 129.36 18 1 53 1961.3 -12.07 70.20
 60.00 17 58 31 2839.00 -24.73 81.15 204.90 122.90 18 45 50 1839.0 -9.82 61.30
 70.00 18 57 55 2664.35 -20.82 69.60 207.50 117.85 19 42 20 1664.3 -7.73 48.69
 80.00 20 12 45 2430.09 -17.63 53.37 209.06 114.49 20 53 15 1430.1 -6.17 31.87
 90.00 21 37 2 2158.12 -16.50 33.90 209.58 113.29 22 13 0 1158.1 -5.58 12.20
 100.00 22 55 37 1904.56 -17.63 14.74 209.06 114.49 23 27 21 904.6 -5.17 353.24
 110.00 0 1 17 1711.17 -20.82 358.51 207.50 117.85 0 29 49 711.2 -7.73 337.61

DIFFERENTIAL CORRECTIONS
 TDE 1.5292 TRA 3.6641 TC3-4.9852 BAU 1.0687
 RDE .4778 RRA .5989 RC3 -.5715 FAU .14421
 FDE 3.8493 FRA 9.3191 FC3-7.8370 BSP 11938
 BDE 1.6021 BRA 3.7127 BC3 5.0179 FSP 2516

MID-COURSE EXECUTION ACCURACY
 SGT 6973.4 SGR 1194.1 SG3 1367.8
 RRT .9479 RRF .9666 RTF .9798
 SGB 7074.9 R23 .1102 R13 .9808
 SG1 7064.9 SG2 375.4 THA 9.25

ORBIT DETERMINATION ACCURACY
 ST 135.6 SR 36.7 SS 104.8
 CRT .9650 CRS -.9639 CST -.9998
 LSA 175.0 MSA 9.5 SSA 1.4
 EL1 140.1 EL2 9.3 ALF 14.70

LAUNCH DATE APR 14 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.352 GAL -4.67 AZL 90.03 HCA 206.37 SMA 183.68 ECC .19993 INC .0099 V1 29.699
 RP 220.36 LAP .01 LOP 49.78 VP 21.954 GAP .58 AZP 89.97 TAL 331.30 TAP 177.67 RCA 146.96 APO 220.41 V2 24.946
 RC 189.399 GL -.26 GP -11.26 ZAL 140.77 ZAP 58.82 ETS 171.48 ZAE 96.90 ETE 181.59 ZAC 91.37 ETC 270.12 LVI 3.36

PLANETOCENTRIC CONIC
 C3 16.252 VHL 4.031 DLA -6.47 RAL 345.52 RAD 6641.1 VEL 11.674 PTH 6.71 VHP 3.573 DPA -35.23 RAP 288.78 ECC 1.2675
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 47 2936.85 -29.05 88.20 201.98 129.49 18 6 4 1956.7 -11.84 69.99
 60.00 18 3 17 2832.97 -24.50 80.80 205.71 123.06 18 50 30 1833.0 -9.56 61.00
 70.00 19 3 15 2658.66 -20.38 69.13 208.34 118.02 19 47 32 1658.7 -7.44 48.29
 80.00 20 18 36 2420.76 -17.37 52.81 209.92 114.68 20 58 57 1420.8 -5.86 31.35
 90.00 21 43 7 2148.06 -16.23 33.29 210.45 113.48 22 18 55 1148.1 -5.26 11.63
 100.00 23 1 28 1895.24 -17.37 14.18 209.92 114.68 23 33 3 895.2 -5.86 352.72
 110.00 0 6 37 1703.48 -20.38 358.05 208.34 118.02 0 35 1 703.5 -7.44 337.20

DIFFERENTIAL CORRECTIONS
 TDE 1.5671 TRA 3.8062 TC3-5.0087 BAU 1.0943
 RDE .4715 RRA .5593 RC3 -.5254 FAU .14067
 FDE 3.8081 FRA 9.2403 FC3-7.4930 BSP 12207
 BDE 1.6368 BRA 3.8470 BC3 5.0382 FSP 2469

MID-COURSE EXECUTION ACCURACY
 SGT 7135.0 SGR 1125.3 SG3 1339.7
 RRT .9405 RRF .9593 RTF .5.98
 SGB 7223.2 R23 .1037 R13 .9806
 SG1 7213.3 SG2 378.3 THA 8.46

ORBIT DETERMINATION ACCURACY
 ST 138.2 SR 35.8 SS 103.5
 CRT .9581 CRS -.9584 CST -.9999
 LSA 176.0 MSA 10.0 SSA 1.4
 EL1 142.4 EL2 9.9 ALF 13.93

LAUNCH DATE APR 14 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 150.03 LAL .00 LOL 203.41 VL 32.360 GAL -4.76 AZL 90.11 HCA 207.49 SMA 183.81 ECC .20104 INC .1072 V1 29.699
 RP 220.74 LAP .03 LOP 50.89 VP 21.919 GAP .41 AZP 89.90 TAL 330.88 TAP 178.38 RCA 146.86 APO 220.78 V2 24.904
 RC 192.025 GL -.86 GP -10.72 ZAL 141.17 ZAP 55.68 ETS 171.83 ZAE 95.66 ETE 181.29 ZAC 91.91 ETC 270.13 LVI 2.83

PLANETOCENTRIC CONIC
 C3 16.590 VHL 4.073 DLA -6.87 RAL 346.14 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 3.604 DPA -34.69 RAP 288.72 ECC 1.2730
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 44 2953.35 -28.91 88.02 202.77 129.59 18 9 57 1953.3 -11.67 69.85
 60.00 18 7 40 2828.50 -24.34 80.54 206.53 123.17 18 54 49 1828.5 -9.37 60.78
 70.00 19 8 8 2650.74 -20.19 68.78 209.19 118.15 19 52 18 1650.7 -7.22 47.97
 80.00 20 23 36 2413.41 -17.16 52.36 210.78 114.82 21 4 9 1413.4 -5.61 30.94
 90.00 21 48 39 2140.05 -16.01 32.80 211.32 113.62 22 24 20 1140.1 -5.01 11.18
 100.00 23 6 48 1887.88 -17.16 13.73 210.78 114.82 23 38 16 887.9 -5.61 352.31
 110.00 0 11 30 1697.55 -20.19 357.70 209.19 118.15 0 39 47 697.6 -7.22 336.89

DIFFERENTIAL CORRECTIONS
 TDE 1.6081 TRA 3.9500 TC3-5.0251 BAU 1.1197
 RDE .4670 RRA .5205 RC3 -.4838 FAU .13704
 FDE 3.7834 FRA 9.1555 FC3-7.1514 BSP 12487
 BDE 1.6746 BRA 3.9841 BC3 5.0483 FSP 2423

MID-COURSE EXECUTION ACCURACY
 SGT 7293.5 SGR 1063.4 SG3 1311.0
 RRT .9318 RRF .9507 RTF .9797
 SGB 7370.7 R23 .0974 R13 .9804
 SG1 7360.7 SG2 382.5 THA 7.76

ORBIT DETERMINATION ACCURACY
 ST 141.0 SR 34.7 SS 102.3
 CRT .9509 CRS -.9526 CST -.9998
 LSA 177.3 MSA 10.5 SSA 1.4
 EL1 144.8 EL2 10.4 ALF 13.23

LAUNCH DATE APR 14 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC										DISTANCE 645.000										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.367	GAL	-4.85	AZL	90.18	HCA	208.60	SMA	183.94	ECC	.20219	INC	.1786	V1	29.699	RC	221.12	LAP	.09	LOP	52.00	VP	21.883	GAP	.24	AZP	89.84	TAL	330.45	TAP	179.04	RCA	146.75	APO	221.13	V2	24.863	RP	194.899	GL	-1.41	GP	-10.22	ZAL	141.57	ZAP	54.58	ETS	171.59	ZAE	94.43	ETE	181.03	ZAC	92.40	ETC	270.14	LVI	2.38
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	16.942	VHL	4.116	DLA	-7.21	RAL	346.74	RAD	6641.4	VEL	11.704	PTH	6.74	VHP	3.636	DPA	-34.19	RAP	280.71	ECC	1.2788	SGT	7447.9	SGR	1007.6	SG3	1281.7	ST	143.7	SR	33.9	SS	101.1																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9217	RRF	.9409	RTF	.9793	CRY	.9433	CR8	-.9466	C8T	-.9998																												
50.00	17	24	23	2951.26	-28.82	87.90	203.56	129.65	18	13	35	1951.3	-11.37	69.78	SG8	7515.7	R23	.0918	R13	.9801	LSA	178.6	MSA	11.0	SSA	1.4																																							
60.00	18	11	43	2825.40	-24.22	80.36	207.35	123.25	18	58	48	1825.4	-9.24	60.63	SG1	7505.7	SG2	387.9	THA	7.13	EL1	147.3	EL2	11.0	ALF	12.60																																							
70.00	19	12	36	2646.37	-20.05	68.52	210.03	118.25	19	56	42	1646.4	-7.05	47.74																																																			
80.00	20	28	48	2407.80	-17.00	52.02	211.64	114.92	21	8	56	1407.8	-5.43	30.63																																																			
90.00	21	53	42	2133.88	-15.85	32.43	212.18	113.73	22	29	16	1133.9	-4.81	10.84																																																			
100.00	23	11	40	1882.28	-17.00	13.39	211.84	114.92	23	43	2	882.3	-5.43	352.00																																																			
110.00	0	15	58	1693.19	-20.05	357.44	210.03	118.25	0	44	11	693.2	-7.05	336.66																																																			

LAUNCH DATE APR 14 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC										DISTANCE 650.001										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.375	GAL	-4.94	AZL	90.25	HCA	209.70	SMA	184.07	ECC	.20336	INC	.2444	V1	29.699	RC	221.50	LAP	.12	LOP	53.11	VP	21.848	GAP	.07	AZP	89.79	TAL	330.01	TAP	179.71	RCA	146.64	APO	221.50	V2	24.821	RP	197.299	GL	-1.91	GP	-9.76	ZAL	141.96	ZAP	53.52	ETS	171.65	ZAE	93.24	ETE	180.79	ZAC	92.86	ETC	270.17	LVI	1.93
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	17.309	VHL	4.160	DLA	-7.51	RAL	347.31	RAD	6641.6	VEL	11.719	PTH	6.75	VHP	3.669	DPA	-33.73	RAP	280.74	ECC	1.2849	SGT	7596.7	SGR	957.3	SG3	1252.0	ST	146.5	SR	33.2	SS	99.9																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.9100	RRF	.9295	RTF	.9793	CRY	.9355	CR8	-.9403	C8T	-.9998																												
50.00	17	27	48	2950.25	-28.77	87.85	204.35	129.68	18	16	58	1950.2	-11.52	69.71	SG8	7658.8	R23	.0867	R13	.9798	LSA	180.0	MSA	11.5	SSA	1.4																																							
60.00	18	15	27	2823.52	-24.15	80.25	208.17	123.30	19	2	31	1823.5	-9.15	60.54	SG1	7648.7	SG2	394.2	THA	6.56	EL1	149.8	EL2	11.5	ALF	12.04																																							
70.00	19	16	43	2643.40	-19.95	68.34	210.87	118.31	20	0	46	1643.4	-6.94	47.58																																																			
80.00	20	33	16	2403.75	-16.88	51.78	212.50	115.00	21	13	20	1403.8	-5.29	30.41																																																			
90.00	21	58	19	2129.34	-15.72	32.15	213.04	113.81	22	33	48	1129.3	-4.66	10.58																																																			
100.00	23	16	8	1878.22	-16.88	13.15	212.50	115.00	23	47	26	878.2	-5.29	351.78																																																			
110.00	0	20	5	1690.22	-19.95	357.26	210.87	118.31	0	48	15	690.2	-6.94	336.90																																																			

LAUNCH DATE APR 14 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC										DISTANCE 654.095										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.384	GAL	-5.03	AZL	90.31	HCA	210.80	SMA	184.20	ECC	.20457	INC	.3059	V1	29.699	RC	221.88	LAP	.16	LOP	54.21	VP	21.812	GAP	-.10	AZP	89.74	TAL	329.57	TAP	180.37	RCA	146.52	APO	221.88	V2	24.780	RP	199.945	GL	-2.36	GP	-9.34	ZAL	142.38	ZAP	52.49	ETS	171.72	ZAE	92.06	ETE	180.57	ZAC	93.28	ETC	270.19	LVI	1.49
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	17.690	VHL	4.206	DLA	-7.76	RAL	347.87	RAD	6641.8	VEL	11.735	PTH	6.77	VHP	3.704	DPA	-33.29	RAP	288.81	ECC	1.2911	SGT	7746.3	SGR	912.3	SG3	1222.3	ST	149.3	SR	32.8	SS	98.7																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.8969	RRF	.9167	RTF	.9790	CRY	.9275	CR8	-.9339	C8T	-.9997																												
50.00	17	31	0	2930.20	-28.77	87.84	205.15	129.68	18	20	10	1930.2	-11.52	69.71	SG8	7799.9	R23	.0820	R13	.9795	LSA	181.5	MSA	11.9	SSA	1.4																																							
60.00	18	18	55	2822.72	-24.12	80.20	208.99	123.32	19	5	58	1822.7	-9.12	60.50	SG1	7789.5	SG2	401.3	THA	6.05	EL1	152.3	EL2	11.9	ALF	11.53																																							
70.00	19	20	30	2641.67	-19.90	68.24	211.71	118.35	20	4	32	1641.7	-6.88	47.49																																																			
80.00	20	37	21	2401.09	-16.80	51.82	213.35	115.05	21	17	22	1401.1	-5.20	30.26																																																			
90.00	22	2	32	2126.25	-15.64	31.96	213.90	113.87	22	37	58	1126.2	-4.57	10.41																																																			
100.00	23	20	13	1875.56	-16.80	12.99	213.35	115.05	23	51	28	875.6	-5.20	351.63																																																			
110.00	0	23	52	1688.48	-19.90	357.16	211.71	118.35	0	52	1	688.3	-6.88	336.41																																																			

LAUNCH DATE APR 14 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC										DISTANCE 658.184										EARTH TO MARS																																													
RL	150.03	LAL	.00	LOL	203.41	VL	32.392	GAL	-5.13	AZL	90.36	HCA	211.90	SMA	184.34	ECC	.20580	INC	.3641	V1	29.699	RC	222.27	LAP	.19	LOP	55.31	VP	21.777	GAP	-.27	AZP	89.69	TAL	329.12	TAP	181.03	RCA	146.40	APO	222.28	V2	24.738	RP	202.595	GL	-2.77	GP	-8.95	ZAL	142.74	ZAP	51.50	ETS	171.78	ZAE	90.91	ETE	180.38	ZAC	93.67	ETC	270.23	LVI	1.08
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	18.085	VHL	4.253	DLA	-7.98	RAL	348.42	RAD	6642.0	VEL	11.752	PTH	6.78	VHP	3.740	DPA	-32.89	RAP	288.92	ECC	1.2976	SGT	7891.5	SGR	872.1	SG3	1192.7	ST	152.1	SR	32.1	SS	97.8																																
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	RRT	.8821	RRF	.9023	RTF	.9787	CRY	.9194	CR8	-.9274	C8T	-.9996																												
50.00	17	33	59	2951.02	-28.81	87.89	205.95	129.66	18	23	10	1951.0	-11.56	69.75	SG8	7939.6	R23	.0777	R13	.9791	LSA	183.2	MSA	12.4	SSA	1.3																																							
60.00	18	22	9	2822.90	-24.13	80.21	209.81	123.32	19	9	12	1822.9	-9.13	60.51	SG1	7929.0	SG2	408.8	THA	5.58	EL1	155.0	EL2	12.4	ALF	11.06																																							
70.00	19	24	0	2641.04	-19.88	68.20	212.55	118.36	20	8	1	1641.0	-6.85	47.46																																																			
80.00	20	41	6	2399.68	-16.76	51.53	214.20	115.08	21	21	6	1399.7	-5.14	30.18																																																			
90.00	22	6	24	2124.47	-15.59	31.86	214.76	113.90	22	41	49	1124.5	-4.51	10.31																																																			
100.00	23	23	58	1874.15	-16.76	12.90	214.20	115.08	23	55	12	874.1	-5.16	351.55																																																			
110.00	0	27	52	1687.86	-19.88	357.12	212.55	118.36	0	55	30	687.9	-6.85	336.38																																																			

LAUNCH DATE APR 15 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 15 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various correction values.

LAUNCH DATE APR 15 1971 FLIGHT TIME 124.00 ARRIVAL DATE AUG 17 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various correction values.

LAUNCH DATE APR 15 1971 FLIGHT TIME 126.00 ARRIVAL DATE AUG 19 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various correction values.

LAUNCH DATE APR 15 1971 FLIGHT TIME 128.00 ARRIVAL DATE AUG 21 1971

Table with columns for Heliocentric Conic, Planetary Conic, Differential Corrections, Mid-Course Execution Accuracy, and Orbit Determination Accuracy. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, and various correction values.

LAUNCH DATE APR 15 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC										DISTANCE 357.146										EARTH TO MARS																																																																																																														
RL	150.07	LAL	.00	LOL	204.38	VL	34.056	GAL	-4.97	AZL	92.14	HCA	120.63	SMA	217.96	ECC	.32217	INC	2.1391	VI	29.691	RP	206.97	LAP	-1.84	LOP	325.03	VP	25.993	GAP	18.58	AZP	88.91	TAL	339.42	TAP	100.08	RCA	147.74	APO	288.18	V2	26.462	RC	57.440	GL	-13.10	GP	2.51	ZAL	127.99	ZAP	167.65	ETS	168.24	ZAE	172.62	ETE	97.06	ZAC	103.17	ETC	276.73	LVI	-18.94																																																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																														
C3	31.213	VHL	5.587	DLA	-22.36	RAL	340.59	RAD	6647.5	VEL	12.294	PTH	7.23	VHP	0.887	DPA	-16.29	RAP	319.20	ECC	1.8137	ST	41.6	SR	25.0	SS	30.9	SGT	1700.3	SGR	534.3	SG3	211.9	RRT	.1703	RRF	-.1834	RTF	-.8178	CRT	.7866	CR8	.6200	C8T	.9710	SG8	1782.3	R23	-.0329	R13	-.8185	LSA	55.0	MSA	16.9	SSA	1.2	BDE	.8300	BRA	1.4052	BC3	.1387	FSP	298	SG1	1703.0	SG2	525.6	THA	3.39	EL1	46.6	EL2	13.8	ALF	27.90																																																					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	50.00	17	57	30	2787.75	-21.41	79.40	203.66	133.56	18	43	58	1787.7	-3.42	62.79	60.00	19	4	44	2608.95	-15.64	68.50	208.87	127.63	19	48	13	1608.9	.24	50.20	70.00	20	30	7	2357.95	-9.99	52.23	212.95	182.83	21	9	25	1358.0	3.92	32.63	80.00	22	12	6	2038.80	-5.37	30.82	215.77	119.42	22	46	4	1038.8	7.00	10.30	90.00	23	49	52	1723.42	-3.43	8.69	216.84	118.09	24	18	36	723.4	8.31	347.81	100.00	0	58	53	1513.27	-5.37	352.18	215.77	119.42	1	24	7	513.3	7.00	331.67	110.00	1	33	29	1404.77	-9.99	341.15	212.95	122.83	1	56	54	404.8	3.92	321.55

LAUNCH DATE APR 15 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC										DISTANCE 360.242										EARTH TO MARS																																																																																																														
RL	150.07	LAL	.00	LOL	204.38	VL	33.941	GAL	-4.84	AZL	92.16	HCA	121.89	SMA	215.20	ECC	.31315	INC	2.1627	VI	29.691	RP	206.90	LAP	-1.84	LOP	326.29	VP	25.810	GAP	18.12	AZP	88.86	TAL	339.51	TAP	101.40	RCA	147.81	APO	282.59	V2	26.469	RC	57.930	GL	-13.53	GP	2.62	ZAL	127.94	ZAP	166.73	ETS	168.64	ZAE	172.65	ETE	91.25	ZAC	103.24	ETC	276.81	LVI	-19.15																																																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																														
C3	29.755	VHL	5.455	DLA	-22.74	RAL	340.79	RAD	6646.9	VEL	12.235	PTH	7.18	VHP	0.821	DPA	-16.09	RAP	315.51	ECC	1.4897	ST	42.4	SR	24.7	SS	32.0	SGT	1731.1	SGR	530.5	SG3	226.1	RRT	.1857	RRF	-.2003	RTF	-.8240	CRT	.7895	CR8	.6203	C8T	.9700	SG8	1810.6	R23	-.0327	R13	-.8248	LSA	56.1	MSA	17.0	SSA	1.2	BDE	.8179	BRA	1.3923	BC3	.1465	FSP	321	SG1	1734.2	SG2	520.3	THA	3.58	EL1	47.2	EL2	13.7	ALF	27.21																																																					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	50.00	18	0	7	2767.43	-20.45	78.41	203.24	133.95	18	46	14	1767.4	-2.40	61.94	60.00	19	8	0	2586.88	-14.72	67.36	208.46	127.95	19	51	7	1588.9	1.21	49.14	70.00	20	34	18	2333.18	-9.07	50.90	212.57	123.07	21	13	11	1333.2	4.86	31.33	80.00	22	17	28	2010.27	-4.41	29.24	215.42	119.56	22	50	59	1010.3	7.94	8.70	90.00	23	55	58	1692.57	-2.44	6.97	216.51	118.18	24	24	11	692.6	9.26	346.04	100.00	1	4	16	1484.75	-4.41	350.61	215.42	119.56	1	29	1	484.7	7.94	330.07	110.00	1	37	41	1379.98	-9.07	339.82	212.57	123.07	2	0	41	380.0	4.86	320.25

LAUNCH DATE APR 15 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC										DISTANCE 363.429										EARTH TO MARS																																																																																																														
RL	150.07	LAL	.00	LOL	204.38	VL	33.832	GAL	-4.72	AZL	92.19	HCA	123.18	SMA	212.88	ECC	.30462	INC	2.1889	VI	29.691	RP	206.85	LAP	-1.83	LOP	327.56	VP	25.674	GAP	17.67	AZP	88.80	TAL	339.61	TAP	102.76	RCA	147.88	APO	277.44	V2	26.476	RC	58.496	GL	-13.97	GP	2.73	ZAL	127.87	ZAP	165.78	ETS	168.98	ZAE	172.61	ETE	85.91	ZAC	103.31	ETC	276.89	LVI	-19.35																																																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																														
C3	28.405	VHL	5.330	DLA	-23.14	RAL	340.99	RAD	6646.4	VEL	12.180	PTH	7.14	VHP	0.832	DPA	-15.89	RAP	315.81	ECC	1.4678	ST	43.1	SR	24.5	SS	33.0	SGT	1760.0	SGR	528.8	SG3	241.2	RRT	.2027	RRF	-.2187	RTF	-.8299	CRT	.7929	CR8	.6208	C8T	.9688	SG8	1837.1	R23	-.0355	R13	-.8308	LSA	57.1	MSA	17.0	SSA	1.2	BDE	.8061	BRA	1.3782	BC3	.1556	FSP	346	SG1	1763.5	SG2	514.7	THA	3.79	EL1	47.7	EL2	13.5	ALF	26.56																																																					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	50.00	18	2	46	2747.19	-19.49	77.45	202.86	134.31	18	48	33	1747.2	-1.38	61.09	60.00	19	11	21	2564.79	-13.79	66.23	208.08	128.25	19	54	6	1564.8	2.18	48.09	70.00	20	38	39	2308.16	-8.14	49.36	212.22	123.28	21	17	7	1308.2	5.81	30.02	80.00	22	23	7	1981.20	-3.43	27.64	215.11	119.68	22	56	8	981.2	8.89	7.07	90.00	0	6	22	1660.88	-1.42	5.20	216.23	118.25	0	34	3	660.9	10.23	344.22	100.00	1	9	35	1455.67	-3.43	349.00	215.11	119.68	1	34	10	455.7	8.89	328.44	110.00	1	42	1	1354.98	-8.14	338.48	212.22	123.28	2	4	36	355.0	5.81	318.93

LAUNCH DATE APR 15 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC										DISTANCE 366.699										EARTH TO MARS																																																																																																														
RL	150.07	LAL	.00	LOL	204.38	VL	33.729	GAL	-4.60	AZL	92.21	HCA	124.43	SMA	210.32	ECC	.29657	INC	2.2119	VI	29.691	RP	206.80	LAP	-1.82	LOP	328.83	VP	25.544	GAP	17.23	AZP	88.75	TAL	339.71	TAP	104.13	RCA	147.94	APO	272.69	V2	26.482	RC	59.137	GL	-14.42	GP	2.85	ZAL	127.78	ZAP	164.82	ETS	169.27	ZAE	172.51	ETE	81.13	ZAC	103.39	ETC	276.96	LVI	-19.56																																																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																														
C3	27.154	VHL	5.211	DLA	-23.56	RAL	341.18	RAD	6645.9	VEL	12.129	PTH	7.10	VHP	0.812	DPA	-15.69	RAP	316.08	ECC	1.4469	ST	43.8	SR	24.3	SS	34.1	SGT	1787.7	SGR	522.8	SG3	257.3	RRT	.2209	RRF	-.2387	RTF	-.8355	CRT	.7962	CR8	.6215	C8T	.9677	SG8	1862.6	R23	-.0388	R13	-.8365	LSA	58.2	MSA	17.0	SSA	1.2	BDE	.7942	BRA	1.3640	BC3	.1662	FSP	372	SG1	1791.8	SG2	508.8	THA	4.02	EL1	48.3	EL2	13.3	ALF	25.95																																																					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	50.00	18	5	29	2727.05	-18.53	76.49	202.50	134.64	18	50	56	1727.0	-3.37	60.25	60.00	19	14	48	2542.70	-12.86	65.11	207.73	128.53	19	57	11	1542.7	3.15	47.03	70.00	20	43	9	2282.96	-7.20	48.22	211.90	123.48	21	21	12	1283.0	6.76	28.68	80.00	22	29	3	1951.53	-2.43	26.00	214.84	119.77	23	1	34	951.5	9.86	5.40	90.00	0	13	13	1628.24	-3.36	3.37	215.99	118.28	0	40	21	628.2	11.21	342.33	100.00	1	15	51	1426.00	-2.43	347.37	214.84	119.77	1	39	37	426.0	9.86	326.76	110.00	1	46	31	1329.78	-7.20	337.14	211.90	123.48	2	8	41	329.8	6.76	317.60

LAUNCH DATE APR 15 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 31 1971

Heliocentric Conic
 RL 150.07 LAL .00 LOL 204.38 VL 33.632 GAL -4.48 AZL 92.24 HCA 128.89 SMA 208.18 ECC .28897 INC 2.2377 V1 29.691
 RP 206.78 LAP -1.82 LOP 330.10 VP 25.421 GAP 16.79 AZP 88.69 TAL 339.82 TAP 105.51 RCA 148.01 APO 268.31 V2 26.497
 RC 59.830 GL -14.88 GP 2.97 ZAL 127.68 ZAP 163.84 ETS 169.51 ZAE 172.38 ETE 76.98 ZAC 103.48 ETC 277.03 LVI -19.77

PLANETOCENTRIC CONIC
 C3 25.997 VHL 5.099 DLA -23.98 RAL 341.37 RAD 6645.4 VEL 12.081 PTH 7.06 VHP 7.870 DPA -15.49 RAP 316.33 ECC 1.4278
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 18 2707.01 -17.57 75.56 202.18 134.96 18 53 23 1707.0 .64 59.41
 60.00 19 18 21 2520.61 -11.92 64.00 207.42 128.79 20 0 22 1520.6 4.12 45.87
 70.00 20 47 49 2297.56 -8.24 46.88 211.62 123.65 21 25 27 1257.6 7.71 27.34
 80.00 22 35 18 1921.20 -1.41 24.34 214.62 119.83 23 7 19 921.2 10.83 3.67
 90.00 0 20 31 1594.32 .72 1.49 215.80 118.27 0 47 8 594.5 12.22 340.36
 100.00 1 22 8 1395.67 -1.41 345.71 214.62 119.83 1 45 21 395.7 10.83 325.04
 110.00 1 51 12 1304.37 -6.24 335.80 211.62 123.65 2 12 56 304.4 7.71 316.25

Differential Corrections
 TDE -.6554 TRA-1.3475 TC3 .0257 BAU .0620
 RDE -.4275 RRA .0646 RC3 .1768 FAU .05019
 FDE .6089 FRA 2.1072 FC3-1.6713 BSP 3091
 BDE .7824 BRA 1.3490 BC3 .1784 FSP 400

MID-COURSE EXECUTION ACCURACY
 SGT 1813.7 SGR 519.1 SCS 274.4
 RRT .2408 RRF -.2605 RTF -.8407
 SGB 1886.5 R23 -.0424 R13 -.8418
 SGI 1818.4 SGI 502.8 THA 4.27

ORBIT DETERMINATION ACCURACY
 ST 44.4 SR 24.0 SS 35.3
 CRT .8000 CRS .6224 CST .9665
 LSA 59.2 MSA 17.0 SBA 1.2
 EL1 48.8 EL2 13.1 ALF 25.39

LAUNCH DATE APR 15 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 2 1971

Heliocentric Conic
 RL 150.07 LAL .00 LOL 204.38 VL 33.540 GAL -4.37 AZL 92.26 HCA 126.90 SMA 206.17 ECC .28179 INC 2.2643 V1 29.691
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.304 GAP 16.37 AZP 88.64 TAL 339.93 TAP 106.89 RCA 148.07 APO 264.26 V2 26.491
 RC 60.633 GL -15.35 GP 3.11 ZAL 127.57 ZAP 162.83 ETS 169.73 ZAE 172.24 ETE 73.49 ZAC 103.58 ETC 277.09 LVI -19.98

PLANETOCENTRIC CONIC
 C3 24.925 VHL 4.993 DLA -24.42 RAL 341.56 RAD 6645.0 VEL 12.037 PTH 7.02 VHP 7.635 DPA -15.28 RAP 316.56 ECC 1.4102
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 6 2687.10 -16.61 74.84 201.89 135.25 18 55 53 1687.1 1.64 58.56
 60.00 19 22 0 2498.53 -10.97 62.90 207.14 129.03 20 3 39 1498.5 5.09 44.91
 70.00 20 52 41 2231.93 -5.27 45.53 211.38 123.79 21 29 53 1231.9 8.67 25.97
 80.00 22 41 54 1890.11 -.35 22.63 214.44 119.86 23 13 24 890.1 11.82 1.89
 90.00 0 28 20 1559.51 1.85 359.54 215.66 118.22 0 54 20 559.5 13.24 338.30
 100.00 1 28 42 1364.58 -.39 344.00 214.44 119.86 1 51 27 364.6 11.82 323.26
 110.00 1 58 4 1278.74 -5.27 334.44 211.38 123.79 2 17 22 278.7 8.67 314.89

Differential Corrections
 TDE -.6304 TRA-1.3322 TC3 .0391 BAU .0640
 RDE -.4143 RRA .0536 RC3 .1879 FAU .05214
 FDE .6309 FRA 2.1986 FC3-1.8110 BSP 3141
 BDE .7712 BRA 1.3333 BC3 .1919 FSP 430

MID-COURSE EXECUTION ACCURACY
 SGT 1837.9 SGR 515.6 SCS 292.6
 RRT .2625 RRF -.2842 RTF -.8456
 SGB 1908.9 R23 -.0464 R13 -.8467
 SGI 1843.3 SGI 496.1 THA 4.54

ORBIT DETERMINATION ACCURACY
 ST 45.0 SR 23.8 SS 36.4
 CRT .8043 CRS .6239 CST .9651
 LSA 60.3 MSA 16.9 SBA 1.2
 EL1 49.3 EL2 12.9 ALF 24.86

LAUNCH DATE APR 15 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 4 1971

Heliocentric Conic
 RL 150.07 LAL .00 LOL 204.38 VL 33.453 GAL -4.26 AZL 92.29 HCA 128.23 SMA 204.32 ECC .27502 INC 2.2918 V1 29.691
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.192 GAP 15.95 AZP 88.58 TAL 340.05 TAP 108.28 RCA 148.13 APO 260.51 V2 26.494
 RC 61.483 GL -15.82 GP 3.25 ZAL 127.45 ZAP 161.80 ETS 169.91 ZAE 172.08 ETE 70.64 ZAC 103.69 ETC 277.15 LVI -20.19

PLANETOCENTRIC CONIC
 C3 23.934 VHL 4.892 DLA -24.86 RAL 341.75 RAD 6644.5 VEL 11.996 PTH 6.99 VHP 7.408 DPA -15.08 RAP 316.76 ECC 1.3939
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 14 1 2687.32 -15.65 73.74 201.84 135.33 18 58 28 1667.3 2.63 57.75
 60.00 19 25 46 2478.48 -10.02 61.81 206.90 129.24 20 7 3 1476.5 6.06 43.85
 70.00 20 57 45 2206.06 -4.29 44.17 211.18 123.92 21 34 31 1206.1 9.63 24.58
 80.00 22 48 55 1858.17 .73 20.88 214.31 119.85 23 19 53 858.2 12.82 .05
 90.00 0 36 48 1522.96 3.03 357.50 215.58 118.13 1 2 9 523.0 14.29 336.13
 100.00 1 35 42 1332.64 .73 342.25 214.31 119.85 1 57 55 332.6 12.82 321.42
 110.00 2 1 7 1252.88 -4.29 333.08 211.18 123.92 2 22 0 252.9 9.63 313.50

Differential Corrections
 TDE -.6453 TRA-1.3187 TC3 .0521 BAU .0681
 RDE -.4017 RRA .0424 RC3 .1998 FAU .05421
 FDE .6538 FRA 2.2932 FC3-1.9808 BSP 3197
 BDE .7601 BRA 1.3173 BC3 .2065 FSP 483

MID-COURSE EXECUTION ACCURACY
 SGT 1860.7 SGR 512.4 SCS 312.0
 RRT .2859 RRF -.3098 RTF -.8499
 SGB 1929.9 R23 -.0500 R13 -.8512
 SGI 1866.8 SGI 489.4 THA 4.83

ORBIT DETERMINATION ACCURACY
 ST 45.6 SR 23.5 SS 37.6
 CRT .8089 CRS .6257 CST .9637
 LSA 61.3 MSA 16.9 SBA 1.2
 EL1 49.7 EL2 12.7 ALF 24.36

LAUNCH DATE APR 15 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 6 1971

Heliocentric Conic
 RL 150.07 LAL .00 LOL 204.38 VL 33.372 GAL -4.16 AZL 92.32 HCA 129.50 SMA 202.81 ECC .26861 INC 2.3204 V1 29.691
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.085 GAP 15.54 AZP 88.52 TAL 340.17 TAP 109.87 RCA 148.19 APO 257.04 V2 26.498
 RC 62.398 GL -16.31 GP 3.40 ZAL 127.32 ZAP 160.74 ETS 170.06 ZAE 171.94 ETE 68.41 ZAC 103.81 ETC 277.20 LVI -20.40

PLANETOCENTRIC CONIC
 C3 23.017 VHL 4.798 DLA -25.32 RAL 341.93 RAD 6644.2 VEL 11.958 PTH 6.96 VHP 7.187 DPA -14.87 RAP 316.93 ECC 1.3788
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 17 1 2647.65 -14.89 72.85 201.42 135.78 19 1 8 1647.6 3.62 58.93
 60.00 19 29 40 2454.40 -9.07 60.72 206.70 129.44 20 10 35 1454.4 7.02 42.78
 70.00 21 3 3 2179.88 -3.30 42.79 211.03 124.01 21 39 22 1179.9 10.60 23.17
 80.00 22 56 23 1825.15 1.85 19.07 214.23 119.81 23 26 48 825.1 13.84 358.13
 90.00 0 45 57 1484.43 4.26 358.34 215.56 117.98 1 10 42 484.4 15.37 333.82
 100.00 1 43 11 1299.62 1.85 340.43 214.23 119.81 2 4 50 299.6 13.84 319.50
 110.00 2 6 25 1226.70 -3.30 331.71 211.03 124.01 2 26 51 226.7 10.60 312.09

Differential Corrections
 TDE -.6307 TRA-1.2910 TC3 .0813 BAU .0701
 RDE -.3895 RRA .0310 RC3 .2128 FAU .05645
 FDE .6766 FRA 2.3957 FC3-2.1232 BSP 3127
 BDE .7412 BRA 1.2914 BC3 .2277 FSP 496

MID-COURSE EXECUTION ACCURACY
 SGT 1866.3 SGR 509.6 SCS 332.6
 RRT .3116 RRF -.3374 RTF -.8583
 SGB 1934.6 R23 -.0535 R13 -.8597
 SGI 1873.5 SGI 482.4 THA 5.21

ORBIT DETERMINATION ACCURACY
 ST 45.5 SR 23.3 SS 38.8
 CRT .8120 CRS .6276 CST .9630
 LSA 61.9 MSA 16.9 SBA 1.2
 EL1 49.6 EL2 12.5 ALF 24.16

LAUNCH DATE APR 15 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 33.294 GAL -4.06 AZL 92.35 HCA 130.77 SMA 201.03 ECC .26258 INC 2.3499 V1 29.691
 RP 206.67 LAP -1.78 LOP 336.18 VP 24.982 GAP 15.14 AZP 88.47 TAL 340.29 TAP 111.06 RCA 148.25 APO 253.82 V2 26.496
 RC 63.376 GL -16.81 GP 3.56 ZAL 127.17 ZAP 159.66 ETS 170.19 ZAE 171.80 EYE 66.77 ZAC 103.94 ETC 277.25 LVI -20.61

PLANETOCENTRIC CONIC
 C3 22.171 VHL 4.709 DLA -25.79 RAL 342.12 RAD 6643.8 VEL 11.923 PTH 6.93 VHP 6.974 DPA -14.65 RAP 317.04 ECC 1.3649
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 20 5 2628.17 -13.74 71.98 201.24 136.01 19 3 53 1628.2 4.59 56.11
 60.00 19 33 42 2432.41 -8.12 59.65 206.54 129.61 20 14 14 1432.4 7.98 41.71
 70.00 21 8 34 2153.48 -2.29 41.41 210.92 124.09 21 44 27 1153.5 11.56 21.74
 80.00 23 4 22 1791.04 3.00 17.19 214.21 119.72 23 34 13 791.0 14.87 356.13
 90.00 0 56 2 1443.55 5.56 353.04 215.62 117.77 1 20 6 443.6 16.49 331.34
 100.00 1 51 10 1265.49 3.00 338.56 214.21 119.72 2 12 15 265.5 14.87 317.49
 110.00 2 11 56 1200.29 -2.29 330.33 210.92 124.09 2 31 56 200.3 11.56 310.65

DIFFERENTIAL CORRECTIONS
 TDE -.6300 TRA-1.2789 TC3 .0859 BAU .0716
 RDE -.3780 RRA .0192 RC3 .2259 FAU .05878
 FDE .7015 FRA 2.5029 FC3-2.2953 BSP 3231
 BDE .7347 BRA 1.2791 BC3 .2417 FSP 533

MID-COURSE EXECUTION ACCURACY
 SGT 1892.5 SGR 507.4 SG3 354.6
 RRT .3384 RRF -.3673 RTF -.8595
 SGB 1959.4 R23 -.0604 R13 -.8612
 SG1 1900.8 SG2 475.4 THA 5.53

ORBIT DETERMINATION ACCURACY
 ST 46.3 SR 23.0 SS 40.0
 CRT .8187 CRS .6306 CST .9609
 LSA 63.1 MSA 16.9 SSA 1.2
 EL1 50.2 EL2 12.2 ALF 23.61

LAUNCH DATE APR 15 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 33.221 GAL -3.97 AZL 92.38 HCA 132.04 SMA 199.57 ECC .25689 INC 2.3806 V1 29.691
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.885 GAP 14.75 AZP 88.41 TAL 340.42 TAP 112.46 RCA 148.30 APO 250.83 V2 26.496
 RC 64.414 GL -17.32 GP 3.74 ZAL 127.02 ZAP 158.55 ETS 170.30 ZAE 171.69 EYE 65.69 ZAC 104.09 ETC 277.29 LVI -20.83

PLANETOCENTRIC CONIC
 C3 21.391 VHL 4.825 DLA -26.27 RAL 342.30 RAD 6643.5 VEL 11.891 PTH 6.90 VHP 6.768 DPA -14.44 RAP 317.20 ECC 1.3520
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 23 15 2608.85 -12.79 71.13 201.09 136.23 19 6 44 1608.8 5.36 55.30
 60.00 19 37 51 2410.42 -7.16 58.58 200.42 129.77 20 18 2 1410.4 8.93 40.63
 70.00 21 14 20 2126.73 -1.27 40.02 210.86 124.13 21 49 47 1126.7 12.53 20.27
 80.00 23 12 58 1755.40 4.20 15.23 214.26 119.59 23 42 14 755.4 15.93 354.01
 90.00 1 7 19 1399.36 6.96 350.54 215.76 117.48 1 30 58 399.4 17.66 328.63
 100.00 1 59 46 1229.87 4.20 336.60 214.26 119.59 2 20 16 229.9 15.93 315.38
 110.00 2 17 43 1173.54 -1.27 328.93 210.86 124.13 2 37 16 173.5 12.53 308.19

DIFFERENTIAL CORRECTIONS
 TDE -.6264 TRA-1.2629 TC3 .0945 BAU .0738
 RDE -.3689 RRA .0070 RC3 .2399 FAU .06127
 FDE .7271 FRA 2.6151 FC3-2.4798 BSP 3298
 BDE .7259 BRA 1.2630 BC3 .2579 FSP 572

MID-COURSE EXECUTION ACCURACY
 SGT 1911.6 SGR 506.0 SG3 377.9
 RRT .3673 RRF -.3993 RTF -.8617
 SGB 1977.4 R23 -.0673 R13 -.8636
 SG1 1921.2 SG2 468.2 THA 5.90

ORBIT DETERMINATION ACCURACY
 ST 46.8 SR 22.7 SS 41.3
 CRT .8254 CRS .6341 CST .9590
 LSA 64.2 MSA 16.9 SSA 1.2
 EL1 50.7 EL2 11.9 ALF 23.19

LAUNCH DATE APR 15 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 33.152 GAL -3.87 AZL 92.41 HCA 133.31 SMA 198.20 ECC .25153 INC 2.4126 V1 29.691
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.792 GAP 14.36 AZP 88.34 TAL 340.54 TAP 113.85 RCA 148.35 APO 248.06 V2 26.495
 RC 65.512 GL -17.83 GP 3.92 ZAL 126.86 ZAP 157.42 ETS 170.36 ZAE 171.60 EYE 65.17 ZAC 104.26 ETC 277.33 LVI -21.05

PLANETOCENTRIC CONIC
 C3 20.671 VHL 4.547 DLA -26.76 RAL 342.49 RAD 6643.1 VEL 11.861 PTH 6.88 VHP 6.569 DPA -14.22 RAP 317.29 ECC 1.3402
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 31 2589.67 -11.85 70.28 200.69 136.43 19 9 40 1589.7 6.52 54.49
 60.00 19 42 10 2388.44 -6.20 57.51 206.34 129.90 20 21 59 1388.4 9.88 39.55
 70.00 21 20 24 2099.58 -.23 38.60 210.85 124.15 21 55 24 1099.6 13.51 18.77
 80.00 23 22 20 1717.92 5.46 13.16 214.38 119.40 23 50 58 717.9 17.02 351.76
 90.00 1 20 14 1350.41 8.48 347.76 216.01 117.08 1 42 44 350.4 18.90 325.58
 100.00 2 9 8 1192.39 5.48 334.52 214.38 119.40 2 29 0 192.4 17.02 313.13
 110.00 2 23 47 1146.40 -.23 327.52 210.85 124.15 2 42 53 146.4 13.51 307.69

DIFFERENTIAL CORRECTIONS
 TDE -.6216 TRA-1.2492 TC3 .1041 BAU .0781
 RDE -.3564 RRA -.0035 RC3 .2548 FAU .06390
 FDE .7540 FRA 2.7335 FC3-2.6763 BSP 3345
 BDE .7165 BRA 1.2452 BC3 .2752 FSP 613

MID-COURSE EXECUTION ACCURACY
 SGT 1926.5 SGR 505.4 SG3 402.6
 RRT .3979 RRF -.4334 RTF -.8540
 SGB 1991.7 R23 -.0749 R13 -.8662
 SG1 1937.6 SG2 461.1 THA 6.32

ORBIT DETERMINATION ACCURACY
 ST 47.2 SR 22.5 SS 42.5
 CRT .8324 CRS .6385 CST .9570
 LSA 65.0 MSA 16.9 SSA 1.2
 EL1 51.0 EL2 11.5 ALF 22.84

LAUNCH DATE APR 15 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 33.088 GAL -3.79 AZL 92.45 HCA 134.58 SMA 196.94 ECC .24647 INC 2.4459 V1 29.691
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.702 GAP 13.99 AZP 88.28 TAL 340.67 TAP 115.25 RCA 148.40 APO 245.48 V2 26.493
 RC 66.667 GL -18.36 GP 4.12 ZAL 126.69 ZAP 156.25 ETS 170.45 ZAE 171.53 EYE 65.18 ZAC 104.44 ETC 277.36 LVI -21.27

PLANETOCENTRIC CONIC
 C3 20.008 VHL 4.473 DLA -27.26 RAL 342.68 RAD 6642.8 VEL 11.833 PTH 6.85 VHP 6.376 DPA -14.00 RAP 317.34 ECC 1.3293
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 53 2570.65 -10.91 69.45 200.92 136.60 19 12 43 1570.7 7.47 53.68
 60.00 19 46 39 2366.45 -5.24 56.45 206.31 130.02 20 26 5 1366.5 10.82 38.46
 70.00 21 26 47 2071.98 .82 37.16 210.90 124.15 22 1 19 1072.0 14.49 17.24
 80.00 23 32 38 1678.03 6.79 10.94 214.58 119.15 24 0 36 678.0 18.15 349.34
 90.00 1 35 41 1293.88 10.22 344.51 216.41 116.51 1 57 15 293.9 20.27 321.99
 100.00 2 19 26 1152.50 6.79 332.31 214.58 119.15 2 38 38 152.5 18.15 310.70
 110.00 2 30 10 1118.80 .82 326.08 210.90 124.15 2 48 48 118.8 14.49 306.15

DIFFERENTIAL CORRECTIONS
 TDE -.6156 TRA-1.2257 TC3 .1142 BAU .0786
 RDE -.3464 RRA -.0185 RC3 .2705 FAU .06670
 FDE .7819 FRA 2.8580 FC3-2.8861 BSP 3375
 BDE .7065 BRA 1.2258 BC3 .2937 FSP 657

MID-COURSE EXECUTION ACCURACY
 SGT 1937.0 SGR 506.1 SG3 428.8
 RRT .4303 RRF -.4694 RTF -.8663
 SGB 2002.0 R23 -.0831 R13 -.8689
 SG1 1949.9 SG2 453.8 THA 6.78

ORBIT DETERMINATION ACCURACY
 ST 47.5 SR 22.2 SS 43.9
 CRT .8400 CRS .6436 CST .9549
 LSA 66.2 MSA 16.9 SSA 1.2
 EL1 51.2 EL2 11.2 ALF 22.55

LAUNCH DATE APR 15 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC DISTANCE 398.855 EARTH TO MARS
RL 150.07 LAL .00 LOL 204.38 VL 33.026 GAL -3.70 AZL 92.48 HCA 135.84 SMA 195.77 ECC .24171 INC 2.4807 V1 29.691

PLANETOCENTRIC CONIC C3 19.400 VHL 4.405 DLA -27.77 RAL 342.88 RAD 6642.6 VEL 11.807 PTH 6.83 VHP 6.189 DPA -13.77 RAP 317.36 ECC 1.3193
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6102 TRA-1.2051 TC3 .1224 BAU .0810 SGT 1944.5 SGR 508.2 SG3 456.6 ST 47.8 SR 21.9 SS 45.2

LAUNCH DATE APR 15 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC DISTANCE 402.650 EARTH TO MARS
RL 150.07 LAL .00 LOL 204.38 VL 32.969 GAL -3.62 AZL 92.52 HCA 137.11 SMA 194.67 ECC .23722 INC 2.5172 V1 29.691

PLANETOCENTRIC CONIC C3 18.842 VHL 4.341 DLA -28.29 RAL 343.09 RAD 6642.3 VEL 11.784 PTH 6.81 VHP 6.009 DPA -13.54 RAP 317.34 ECC 1.3101
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6041 TRA-1.1828 TC3 .1301 BAU .0835 SGT 1947.4 SGR 512.0 SG3 485.9 ST 47.9 SR 21.7 SS 46.6

LAUNCH DATE APR 15 1971 FLIGHT TIME 158.00 ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC DISTANCE 406.477 EARTH TO MARS
RL 150.07 LAL .00 LOL 204.38 VL 32.915 GAL -3.55 AZL 92.56 HCA 138.38 SMA 193.66 ECC .23300 INC 2.5344 V1 29.691

PLANETOCENTRIC CONIC C3 18.332 VHL 4.282 DLA -28.82 RAL 343.30 RAD 6642.1 VEL 11.762 PTH 6.79 VHP 5.835 DPA -13.30 RAP 317.29 ECC 1.3017
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5972 TRA-1.1595 TC3 .1333 BAU .0860 SGT 1946.4 SGR 517.8 SG3 516.9 ST 48.0 SR 21.4 SS 48.0

LAUNCH DATE APR 15 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC DISTANCE 410.335 EARTH TO MARS
RL 150.07 LAL .00 LOL 204.38 VL 32.863 GAL -3.48 AZL 92.60 HCA 139.85 SMA 192.71 ECC .22904 INC 2.5954 V1 29.691

PLANETOCENTRIC CONIC C3 17.866 VHL 4.227 DLA -29.36 RAL 343.52 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 5.667 DPA -13.05 RAP 317.20 ECC 1.2940
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5866 TRA-1.1309 TC3 .1471 BAU .0894 SGT 1934.3 SGR 526.0 SG3 545.5 ST 47.7 SR 21.2 SS 49.3

LAUNCH DATE APR 15 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.813 GAL -3.41 AZL 92.64 HCA 140.91 SMA 191.83 ECC .22531 INC 2.6377 V1 29.691
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.308 GAP 12.23 AZP 87.93 TAL 341.27 TAP 122.18 RCA 148.61 APO 235.06 V2 26.466
 RC 73.228 GL -21.16 GP 5.35 ZAL 125.75 ZAP 149.91 ETS 170.59 ZAE 171.45 ETE 73.59 ZAC 105.64 ETC 277.42 LVI -22.47

Distance 414.219

Planetary Centric Conic: C3 17.445 VHL 4.177 DLA -29.90 RAL 343.76 RAD 8641.7 VEL 11.725 PTH 8.78 VHP 5.906 DPA -12.80 RAP 317.07 ECC 1.2871
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 48 34 2477.81 -6.29 65.48 201.25 137.26 19 29 52 1477.8 12.08 49.67
 60.00 20 12 0 2255.87 -3.38 51.15 206.91 130.30 20 49 36 1255.9 15.50 32.87
 70.00 22 5 8 1923.03 6.49 29.35 212.08 123.61 22 37 11 923.0 19.56 8.67
 79.85 1 23 56 1310.96 18.27 349.69 218.70 114.09 1 45 47 311.0 26.61 325.38
 79.85 1 23 56 1310.96 18.27 349.69 218.70 114.09 1 45 47 311.0 26.61 325.38
 79.85 1 23 56 1310.96 18.27 349.69 218.70 114.09 1 45 47 311.0 26.61 325.38
 110.00 3 8 30 6257.89 6.49 296.18 212.08 123.61 4 52 48 5257.9 19.56 275.49

Differential Corrections: TDE -.5844 TRA -1.1086 YC3 .1391 BAU .0911 SGT 1932.4 SGR 537.1 SG3 584.2 ST 48.0 SR 21.0 SS 50.9
 RDE -.3040 RRA -.0930 RC3 .3650 FAU .08322 RRT .6050 RRF -.6678 RTF -.8713 CRT .8889 CRS .6858 CST .9419
 FDE .9428 FRA 3.5831 FC3 -4.1299 BSP 3437 SGB 2005.6 R23 -.1435 R13 -.8774 LSA 70.9 MSA 17.2 S8A 1.1
 BDE .6588 BRA 1.1125 BC3 .3905 FSP 923 SG1 1960.8 SG2 421.5 THA 10.01 EL1 51.6 EL2 8.9 ALF 21.94

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.770 GAL -3.35 AZL 92.68 HCA 142.18 SMA 191.02 ECC .22181 INC 2.6823 V1 29.691
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.238 GAP 11.90 AZP 87.88 TAL 341.38 TAP 123.56 RCA 148.65 APO 233.39 V2 26.458
 RC 74.683 GL -21.75 GP 5.65 ZAL 125.55 ZAP 148.53 ETS 170.58 ZAE 171.41 ETE 77.00 ZAC 105.96 ETC 277.41 LVI -22.75

Distance 418.131

Planetary Centric Conic: C3 17.063 VHL 4.131 DLA -30.46 RAL 344.00 RAD 8641.5 VEL 11.709 PTH 6.74 VHP 5.350 DPA -12.53 RAP 316.69 ECC 1.2808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 52 46 2459.56 -5.38 64.71 201.45 137.34 19 33 46 1459.6 12.97 48.87
 60.00 20 17 49 2233.31 .61 50.08 207.19 130.30 20 55 2 1233.3 16.44 31.69
 70.00 22 14 40 1889.49 7.75 27.57 212.55 123.37 22 46 9 889.5 20.64 6.67
 78.18 1 12 23 1345.74 18.74 352.50 218.77 114.47 1 34 48 345.7 27.19 328.13
 78.18 1 12 23 1345.74 18.74 352.50 218.77 114.47 1 34 48 345.7 27.19 328.13
 78.18 1 12 23 1345.74 18.74 352.50 218.77 114.47 1 34 48 345.7 27.19 328.13
 110.00 3 18 2 6224.35 7.75 294.40 212.55 123.37 5 1 46 5224.3 20.64 273.49

Differential Corrections: TDE -.5636 TRA -1.0665 TC3 .1691 BAU .0969 SGT 1891.0 SGR 551.0 SG3 619.8 ST 46.8 SR 20.7 SS 52.1
 RDE -.2964 RRA -.1096 RC3 .3694 FAU .08752 RRT .6422 RRF -.7069 RTF -.8764 CRT .8984 CRS .6949 CST .9390
 FDE .9689 FRA 3.7386 FC3 -4.4408 BSP 3247 SGB 1969.6 R23 -.1508 R13 -.8835 LSA 71.0 MSA 17.1 S8A 1.1
 BDE .6368 BRA 1.0721 BC3 .4246 FSP 973 SG1 1925.5 SG2 414.8 THA 11.12 EL1 50.5 EL2 8.4 ALF 22.36

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.728 GAL -3.29 AZL 92.73 HCA 143.44 SMA 190.26 ECC .21854 INC 2.7294 V1 29.691
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.171 GAP 11.57 AZP 87.81 TAL 341.48 TAP 124.92 RCA 148.68 APO 231.84 V2 26.449
 RC 76.180 GL -22.36 GP 5.97 ZAL 125.35 ZAP 147.11 ETS 170.56 ZAE 171.34 ETE 80.94 ZAC 106.29 ETC 277.40 LVI -23.00

Distance 422.065

Planetary Centric Conic: C3 16.723 VHL 4.089 DLA -31.03 RAL 344.27 RAD 8641.3 VEL 11.694 PTH 6.73 VHP 5.201 DPA -12.26 RAP 316.67 ECC 1.2752
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 9 2441.51 -4.47 63.95 201.72 137.42 19 37 51 1441.5 13.86 48.07
 60.00 20 23 55 2210.65 1.61 49.00 207.55 130.27 21 0 46 1210.6 17.37 30.90
 70.00 22 25 6 1854.05 9.07 25.68 213.12 123.07 22 56 0 854.0 21.75 4.32
 76.67 1 2 31 1375.64 19.19 354.97 218.89 114.86 1 25 27 375.6 27.76 330.54
 76.67 1 2 31 1375.64 19.19 354.97 218.89 114.86 1 25 27 375.6 27.76 330.54
 76.67 1 2 31 1375.64 19.19 354.97 218.89 114.86 1 25 27 375.6 27.76 330.54
 110.00 3 28 28 6186.91 9.07 292.50 213.12 123.07 5 11 37 5186.9 21.75 271.34

Differential Corrections: TDE -.5698 TRA -1.0503 TC3 .1322 BAU .0967 SGT 1896.9 SGR 569.2 SG3 658.4 ST 47.5 SR 20.6 SS 53.9
 RDE -.2907 RRA -.1290 RC3 .4120 FAU .09113 RRT .6704 RRF -.7455 RTF -.8697 CRT .9133 CRS .7113 CST .9348
 FDE 1.0166 FRA 3.9235 FC3 -4.7178 BSP 3393 SGB 1980.4 R23 -.1795 R13 -.8786 LSA 72.7 MSA 17.4 S8A 1.1
 BDE .6397 BRA 1.0582 BC3 .4327 FSP 1049 SG1 1936.8 SG2 413.6 THA 11.93 EL1 51.2 EL2 7.8 ALF 22.16

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 168.00

ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.688 GAL -3.24 AZL 92.78 HCA 144.71 SMA 189.55 ECC .21546 INC 2.7794 V1 29.691
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.106 GAP 11.26 AZP 87.73 TAL 341.58 TAP 126.28 RCA 148.71 APO 230.39 V2 26.439
 RC 77.718 GL -22.99 GP 6.33 ZAL 125.14 ZAP 145.65 ETS 170.53 ZAE 171.21 ETE 85.38 ZAC 106.66 ETC 277.38 LVI -23.29

Distance 426.023

Planetary Centric Conic: C3 16.418 VHL 4.052 DLA -31.61 RAL 344.55 RAD 8641.2 VEL 11.682 PTH 6.72 VHP 5.057 DPA -11.97 RAP 316.41 ECC 1.2702
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 1 45 2423.42 -3.57 63.19 202.03 137.47 19 42 9 1423.4 14.74 47.26
 60.00 20 30 24 2187.54 2.62 47.89 207.97 130.23 21 6 51 1187.5 18.31 29.28
 70.00 22 36 47 1815.50 10.49 23.60 213.81 122.69 23 7 2 815.5 22.92 2.14
 75.26 0 53 46 1402.48 19.65 357.22 219.06 115.27 1 17 9 402.5 28.34 332.74
 75.26 0 53 46 1402.48 19.65 357.22 219.06 115.27 1 17 9 402.5 28.34 332.74
 75.26 0 53 46 1402.48 19.65 357.22 219.06 115.27 1 17 9 402.5 28.34 332.74
 110.00 3 40 9 6150.36 10.49 290.43 213.81 122.69 5 22 40 5150.4 22.92 268.97

Differential Corrections: TDE -.5542 TRA -1.0099 TC3 .1442 BAU .1015 SGT 1854.6 SGR 590.9 SG3 697.7 ST 46.6 SR 20.5 SS 55.2
 RDE -.2845 RRA -.1483 RC3 .4393 FAU .09572 RRT .7023 RRF -.7812 RTF -.8712 CRT .9250 CRS .7245 CST .9308
 FDE 1.0492 FRA 4.0973 FC3 -5.0473 BSP 3256 SGB 1946.4 R23 -.1935 R13 -.8622 LSA 73.0 MSA 17.4 S8A 1.0
 BDE .6229 BRA 1.0207 BC3 .4624 FSP 1108 SG1 1902.7 SG2 410.0 THA 13.24 EL1 50.3 EL2 7.2 ALF 22.60

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 2 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.681 GAL -3.19 AZL 92.83 HCA 148.97 SMA 188.89 ECC .21259 INC 2.6323 V1 29.691
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.043 GAP 10.95 AZP 87.65 TAL 341.68 TAP 127.63 RCA 148.74 APO 229.05 V2 26.428
 RC 79.293 GL -23.63 GP 6.70 ZAL 124.93 ZAP 144.15 ETS 170.90 ZAE 170.99 ETE 90.18 ZAC 107.07 ETC 277.35 LVI -23.89

Distance 429.999

Planetocentric Conic: C3 16.182 VHL 4.019 DLA -32.20 RAL 344.85 RAD 8641.1 VEL 11.670 PTH 6.71 VHP 4.919 DPA -11.66 RAP 316.10 ECC 1.2688
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 6 35 2405.44 -2.66 62.44 202.42 137.52 19 46 40 1405.4 15.62 46.45
 60.00 20 37 16 2164.11 3.65 46.77 208.47 130.16 21 13 20 1164.1 19.25 28.02
 70.00 22 50 8 1772.92 12.05 21.29 214.66 122.20 23 19 39 772.9 24.17 359.46
 73.93 0 45 57 1426.94 20.10 359.31 219.29 115.70 1 9 44 426.9 28.92 334.77
 73.93 0 45 57 1426.94 20.10 359.31 219.29 115.70 1 9 44 426.9 28.92 334.77
 73.93 0 45 57 1426.94 20.10 359.31 219.29 115.70 1 9 44 426.9 28.92 334.77
 110.00 3 53 28 6107.78 12.05 286.11 214.66 122.20 5 35 16 5107.6 24.17 266.29

Differential Corrections: TDE -.5573 TRA -.9865 TC3 .1061 BAU .1031 SGT 1844.0 SGR 617.6 SG3 739.8 ST 46.9 SR 20.4 SS 57.0
 RDE -.2801 RRA -.1703 RC3 .4655 FAU .09974 RRT .7249 RRF -.8148 RTF -.8640 CRT .9397 CR8 .7435 CST .9260
 FDE 1.1008 FRA 4.2968 FC3-5.3457 B8P 3341 SGB 1944.7 R23 -.2253 R13 -.8779 LSA 74.5 MSA 17.6 SSA 1.0
 BDE .6237 BRA 1.0010 BC3 .4774 F8P 1189 SG1 1900.4 SG2 413.0 THA 14.34 EL1 50.7 EL2 6.5 ALF 22.65

LAUNCH DATE APR 15 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 4 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.616 GAL -3.14 AZL 92.89 HCA 147.23 SMA 188.28 ECC .20990 INC 2.6892 V1 29.691
 RP 207.37 LAP -1.58 LOP 351.65 VP 23.982 GAP 10.65 AZP 87.57 TAL 341.74 TAP 128.97 RCA 148.76 APO 227.61 V2 26.415
 RC 80.909 GL -24.29 GP 7.11 ZAL 124.72 ZAP 142.61 ETS 170.46 ZAE 170.68 ETE 95.23 ZAC 107.50 ETC 277.31 LVI -23.90

Distance 433.996

Planetocentric Conic: C3 15.921 VHL 3.990 DLA -32.80 RAL 345.17 RAD 8641.0 VEL 11.660 PTH 6.70 VHP 4.788 DPA -11.34 RAP 315.74 ECC 1.2620
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 11 40 2387.39 -1.76 61.68 202.86 137.55 19 51 27 1387.4 16.49 45.63
 60.00 20 44 36 2140.06 4.71 45.61 209.05 130.07 21 20 16 1140.1 20.21 26.71
 70.00 23 5 57 1723.53 13.82 18.56 215.70 121.55 23 34 41 723.5 25.59 356.29
 72.65 0 38 52 1449.66 20.55 1.28 219.58 116.14 1 3 1 449.7 29.51 336.69
 72.65 0 38 52 1449.66 20.55 1.28 219.58 116.14 1 3 1 449.7 29.51 336.69
 72.65 0 38 52 1449.66 20.55 1.28 219.58 116.14 1 3 1 449.7 29.51 336.69
 110.00 4 9 20 6058.39 13.82 285.39 215.70 121.55 5 30 18 5058.4 25.59 283.11

Differential Corrections: TDE -.5510 TRA -.9516 TC3 .0863 BAU .1069 SGT 1809.3 SGR 649.5 SG3 783.1 ST 46.5 SR 20.4 SS 58.6
 RDE -.2758 RRA -.1933 RC3 .4949 FAU .10424 RRT .7466 RRF -.8451 RTF -.8598 CRT .9528 CR8 .7619 CST .9210
 FDE 1.1473 FRA 4.4955 FC3-5.6685 B8P 3307 SGB 1922.3 R23 -.2509 R13 -.8772 LSA 75.5 MSA 17.8 SSA 1.0
 BDE .6161 BRA .9711 BC3 .5024 F8P 1265 SG1 1876.7 SG2 416.6 THA 15.80 EL1 50.4 EL2 5.7 ALF 23.03

LAUNCH DATE APR 15 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 6 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.583 GAL -3.09 AZL 92.95 HCA 148.49 SMA 187.72 ECC .20740 INC 2.9499 V1 29.691
 RP 207.48 LAP -1.54 LOP 352.91 VP 23.923 GAP 10.35 AZP 87.48 TAL 341.82 TAP 130.31 RCA 148.79 APO 226.65 V2 26.402
 RC 82.560 GL -24.98 GP 7.56 ZAL 124.51 ZAP 141.02 ETS 170.41 ZAE 170.25 ETE 100.36 ZAC 107.98 ETC 277.26 LVI -24.24

Distance 438.010

Planetocentric Conic: C3 15.725 VHL 3.985 DLA -33.42 RAL 345.52 RAD 8640.9 VEL 11.652 PTH 6.69 VHP 4.662 DPA -11.00 RAP 315.33 ECC 1.2588
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 17 3 2369.26 -.85 60.92 203.38 137.57 19 56 32 1369.3 17.37 44.79
 60.00 20 52 27 2115.29 5.79 44.42 209.73 129.95 21 27 43 1115.3 21.19 25.34
 70.00 23 26 21 1661.38 16.01 15.07 217.07 120.58 23 54 3 661.4 27.17 352.19
 71.40 0 32 22 1471.17 21.00 3.17 219.93 116.62 0 56 53 471.2 30.10 338.53
 71.40 0 32 22 1471.17 21.00 3.17 219.93 116.62 0 56 53 471.2 30.10 338.53
 71.40 0 32 22 1471.17 21.00 3.17 219.93 116.62 0 56 53 471.2 30.10 338.53
 110.00 4 29 44 5996.23 16.01 281.90 217.07 120.58 6 9 40 4996.2 27.17 259.01

Differential Corrections: TDE -.5439 TRA -.9134 TC3 .0633 BAU .1115 SGT 1766.4 SGR 686.7 SG3 827.6 ST 45.9 SR 20.9 SS 60.3
 RDE -.2721 RRA -.2181 RC3 .5265 FAU .10894 RRT .7642 RRF -.8720 RTF -.8544 CRT .9653 CR8 .7811 CST .9193
 FDE 1.1950 FRA 4.7000 FC3-5.9979 B8P 3254 SGB 1895.2 R23 -.2771 R13 -.8766 LSA 76.4 MSA 18.0 SSA 1.0
 BDE .6082 BRA .9391 BC3 .5303 F8P 1343 SG1 1847.2 SG2 423.5 THA 17.49 EL1 50.0 EL2 4.9 ALF 23.53

LAUNCH DATE APR 15 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 8 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.553 GAL -3.06 AZL 93.02 HCA 149.75 SMA 187.19 ECC .20506 INC 3.0150 V1 29.691
 RP 207.60 LAP -1.32 LOP 354.17 VP 23.866 GAP 10.06 AZP 87.40 TAL 341.88 TAP 131.63 RCA 148.81 APO 225.58 V2 26.388
 RC 84.247 GL -25.68 GP 8.04 ZAL 124.29 ZAP 139.38 ETS 170.36 ZAE 189.69 ETE 105.41 ZAC 108.50 ETC 277.21 LVI -24.59

Distance 442.041

Planetocentric Conic: C3 15.584 VHL 3.945 DLA -34.05 RAL 345.89 RAD 8640.8 VEL 11.645 PTH 6.68 VHP 4.542 DPA -10.63 RAP 314.87 ECC 1.2561
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 46 2350.99 .07 60.16 203.97 137.58 20 1 57 1351.0 18.25 43.94
 60.00 21 0 57 2089.57 6.92 43.17 210.51 129.80 21 35 47 1089.6 22.19 23.90
 70.00 24 0 5 35 1555.16 19.58 8.91 219.31 118.56 0 31 30 555.2 29.61 344.89
 70.19 0 26 25 1491.59 21.44 5.00 220.36 117.11 0 51 17 491.6 30.70 340.31
 70.19 0 26 25 1491.59 21.44 5.00 220.36 117.11 0 51 17 491.6 30.70 340.31
 70.19 0 26 25 1491.59 21.44 5.00 220.36 117.11 0 51 17 491.6 30.70 340.31
 110.00 5 5 1 5890.01 19.58 275.74 219.31 118.56 6 43 11 4890.0 29.61 251.72

Differential Corrections: TDE -.5367 TRA -.8722 TC3 .0371 BAU .1169 SGT 1716.4 SGR 730.0 SG3 873.9 ST 45.2 SR 20.6 SS 61.9
 RDE -.2693 RRA -.2449 RC3 .5605 FAU .11383 RRT .7775 RRF -.8955 RTF -.8476 CRT .9767 CR8 .8014 CST .9090
 FDE 1.2459 FRA 4.9097 FC3-6.3319 B8P 3192 SGB 1865.2 R23 -.3032 R13 -.8763 LSA 77.3 MSA 18.2 SSA .9
 BDE .6005 BRA .9059 BC3 .5617 F8P 1424 SG1 1813.9 SG2 434.4 THA 19.48 EL1 49.5 EL2 4.0 ALF 24.16

LAUNCH DATE APR 15 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

DISTANCE 446.087

EARTH TO MARS

RL 130.07 LAL .00 LOL 204.38 VL 32.525 GAL -3.02 AZL 93.09 HCA 151.00 SMA 186.70 ECC .20289 INC 3.0850 V1 29.691
RP 207.73 LAP -1.50 LOP 359.42 VP 23.811 GAP 9.78 AZP 87.30 TAL 341.93 TAP 132.94 RCA 148.82 APO 224.58 V2 26.373
RC 85.969 GL -26.42 GP 8.56 ZAL 124.06 ZAP 137.70 ETS 170.30 ZAE 168.99 ETE 110.24 ZAC 109.07 ETC 277.15 LVI -24.97

PLANETOCENTRIC CONIC

C3 15.437 VHL 3.929 DLA -34.71 RAL 346.29 RAD 6640.7 VEL 11.640 PTH 6.68 VHP 4.428 DPA -10.23 RAP 314.35 ECC 1.2541
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 28 52 2332.47 1.00 59.39 204.65 137.57 20 7 44 1332.5 19.13 43.07
60.00 21 10 13 2062.58 8.09 41.86 211.40 129.62 21 44 35 1062.6 23.22 22.37
68.98 0 20 54 1511.45 21.87 6.80 220.85 117.64 0 46 5 511.4 31.31 342.06
68.98 0 20 54 1511.45 21.87 6.80 220.85 117.64 0 46 5 511.4 31.31 342.06
68.98 0 20 54 1511.45 21.87 6.80 220.85 117.64 0 46 5 511.4 31.31 342.06
68.98 0 20 54 1511.45 21.87 6.80 220.85 117.64 0 46 5 511.4 31.31 342.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5249 TRA -.8241 TC3 .0174 BAU .1236 SGT 1650.3 SGR 779.5 SG3 920.6 ST 44.1 SR 20.8 SS 63.4
RDE -.2667 RRA -.2733 RC3 .5988 FAU .11929 RRT .7873 RRF -.9155 RTF -.8405 CRT .9863 CRS .8206 CST .9011
FDE 1.2891 FRA 5.1161 FC3-6.6899 BSP 3070 SGB 1825.1 R23 -.3245 R13 -.8778 LSA 77.8 MSA 18.4 SSA .9
BDE .5888 BRA .8683 BC3 .5991 FSP 1496 SG1 1769.2 SG2 448.3 THA 21.88 EL1 48.7 EL2 3.1 ALF 25.02

LAUNCH DATE APR 15 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 450.147

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.498 GAL -2.99 AZL 93.16 HCA 152.26 SMA 186.25 ECC .20087 INC 3.1608 V1 29.691
RP 207.86 LAP -1.47 LOP 356.88 VP 23.757 GAP 9.50 AZP 87.20 TAL 341.97 TAP 134.23 RCA 148.84 APO 223.67 V2 26.357
RC 87.725 GL -27.18 GP 9.13 ZAL 123.83 ZAP 135.97 ETS 170.24 ZAE 168.15 ETE 114.72 ZAC 109.68 ETC 277.08 LVI -25.38

PLANETOCENTRIC CONIC

C3 15.347 VHL 3.918 DLA -35.38 RAL 346.73 RAD 6640.7 VEL 11.636 PTH 6.68 VHP 4.321 DPA -9.80 RAP 313.79 ECC 1.25286
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 35 24 2313.69 1.95 58.60 205.42 137.55 20 13 57 1313.7 20.02 42.18
60.00 21 20 23 2034.04 9.32 40.46 212.44 129.39 21 54 17 1034.0 24.30 20.72
67.79 0 15 49 1530.73 22.31 8.57 221.43 118.21 0 41 20 530.7 31.92 343.79
67.79 0 15 49 1530.73 22.31 8.57 221.43 118.21 0 41 20 530.7 31.92 343.79
67.79 0 15 49 1530.73 22.31 8.57 221.43 118.21 0 41 20 530.7 31.92 343.79
67.79 0 15 49 1530.73 22.31 8.57 221.43 118.21 0 41 20 530.7 31.92 343.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5254 TRA -.7852 TC3 -.0396 BAU .1308 SGT 1604.8 SGR 837.4 SG3 969.8 ST 43.8 SR 21.2 SS 65.4
RDE -.2667 RRA -.3060 RC3 .6353 FAU .12382 RRT .7869 RRF -.9327 RTF -.8257 CRT .9940 CRS .8436 CST .8933
FDE 1.3586 FRA 5.3495 FC3-6.9850 BSP 3084 SGB 1810.1 R23 -.3549 R13 -.8753 LSA 79.3 MSA 18.8 SSA .9
BDE .5892 BRA .8427 BC3 .6365 FSP 1592 SG1 1746.8 SG2 474.7 THA 24.23 EL1 48.7 EL2 2.1 ALF 25.70

LAUNCH DATE APR 15 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 454.220

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.473 GAL -2.96 AZL 93.24 HCA 153.51 SMA 185.84 ECC .19900 INC 3.2431 V1 29.691
RP 208.01 LAP -1.45 LOP 357.93 VP 23.704 GAP 9.23 AZP 87.10 TAL 342.00 TAP 135.92 RCA 148.85 APO 222.82 V2 26.340
RC 89.514 GL -27.98 GP 9.75 ZAL 123.60 ZAP 134.19 ETS 170.18 ZAE 167.17 ETE 118.79 ZAC 110.36 ETC 277.00 LVI -25.82

PLANETOCENTRIC CONIC

C3 15.293 VHL 3.911 DLA -36.08 RAL 347.21 RAD 6640.7 VEL 11.634 PTH 6.67 VHP 4.219 DPA -9.33 RAP 313.16 ECC 1.2517
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 42 26 2294.43 2.91 57.80 206.30 137.51 20 20 41 1294.4 20.93 41.25
60.00 21 31 43 2003.25 10.65 38.95 213.63 129.10 22 5 7 1003.2 25.43 18.90
66.80 0 11 7 1549.71 22.74 10.33 222.09 118.80 0 36 56 549.7 32.55 345.52
66.80 0 11 7 1549.71 22.74 10.33 222.09 118.80 0 36 56 549.7 32.55 345.52
66.80 0 11 7 1549.71 22.74 10.33 222.09 118.80 0 36 56 549.7 32.55 345.52
66.80 0 11 7 1549.71 22.74 10.33 222.09 118.80 0 36 56 549.7 32.55 345.52

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5195 TRA -.7368 TC3 -.0839 BAU .1394 SGT 1538.5 SGR 902.7 SG3 1018.8 ST 43.0 SR 21.7 SS 67.1
RDE -.2671 RRA -.3408 RC3 .6787 FAU .12893 RRT .7835 RRF -.9469 RTF -.2.06 CRT .9984 CRS .8646 CST .8838
FDE 1.4208 FRA 5.5747 FC3-7.2987 BSP 3027 SGB 1783.7 R23 -.3743 R13 -.8767 LSA 80.4 MSA 19.1 SSA .8
BDE .5841 BRA .8116 BC3 .6818 FSP 1681 SG1 1710.9 SG2 504.4 THA 27.25 EL1 48.1 EL2 1.1 ALF 26.71

LAUNCH DATE APR 15 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 458.305

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.451 GAL -2.93 AZL 93.33 HCA 154.76 SMA 185.45 ECC .19727 INC 3.3327 V1 29.691
RP 208.16 LAP -1.42 LOP 359.19 VP 23.653 GAP 8.96 AZP 86.98 TAL 342.02 TAP 136.79 RCA 148.87 APO 222.03 V2 26.323
RC 91.337 GL -28.82 GP 10.42 ZAL 123.35 ZAP 132.36 ETS 170.12 ZAE 166.04 ETE 122.43 ZAC 111.09 ETC 276.92 LVI -26.29

PLANETOCENTRIC CONIC

C3 15.277 VHL 3.909 DLA -36.81 RAL 347.74 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 4.124 DPA -8.82 RAP 312.48 ECC 1.2514
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 50 5 2274.58 3.91 56.96 207.30 137.45 20 27 59 1274.6 21.87 40.28
60.00 21 44 34 1969.38 12.10 37.26 215.02 128.74 22 17 24 969.4 26.85 16.87
65.39 0 6 44 1568.62 23.16 12.11 222.85 119.44 0 32 53 568.6 33.19 347.27
65.39 0 6 44 1568.62 23.16 12.11 222.85 119.44 0 32 53 568.6 33.19 347.27
65.39 0 6 44 1568.62 23.16 12.11 222.85 119.44 0 32 53 568.6 33.19 347.27
65.39 0 6 44 1568.62 23.16 12.11 222.85 119.44 0 32 53 568.6 33.19 347.27

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5137 TRA -.6842 TC3 -.1335 BAU .1498 SGT 1465.3 SGR 976.4 SG3 1067.7 ST 42.1 SR 22.3 SS 68.8
RDE -.2687 RRA -.3785 RC3 .7212 FAU .13414 RRT .7730 RRF -.9584 RTF -.7906 CRT .9989 CRS .8848 CST .8726
FDE 1.4859 FRA 5.7974 FC3-7.6014 BSP 2966 SGB 1760.8 R23 -.3878 R13 -.8800 LSA 81.4 MSA 19.5 SSA .8
BDE .5797 BRA .7819 BC3 .7334 FSP 1766 SG1 1675.4 SG2 541.7 THA 30.82 EL1 47.6 EL2 .9 ALF 27.89

LAUNCH DATE APR 15 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 462.401

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.429 GAL -2.91 AZL 93.43 HCA 156.01 SMA 185.09 ECC .19868 INC 3.4309 V1 29.691
RP 208.32 LAP -1.39 LOP .44 VP 23.603 GAP 8.70 AZP 86.86 TAL 342.03 TAP 136.04 RCA 148.88 APO 221.31 V2 26.304
RC 93.190 GL -29.70 GP 11.17 ZAL 123.09 ZAP 130.48 ETS 170.06 ZAE 164.76 ETE 125.81 ZAC 111.89 ETC 276.82 LVI -26.82

PLANETOCENTRIC CONIC

C3 15.302 VHL 3.912 DLA -37.57 RAL 348.31 RAD 6640.7 VEL 11.634 PTH 6.67 VHP 4.035 DPA -8.25 RAP 311.75 ECC 1.2518
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 58 26 2233.93 4.95 56.10 208.44 137.38 20 36 0 1253.9 22.83 39.26
60.00 21 59 30 1931.01 13.73 35.32 216.67 128.27 22 31 41 931.0 27.99 14.50
64.16 0 2 41 1587.57 23.58 13.91 223.72 120.13 0 29 9 587.6 33.85 349.06
64.16 0 2 41 1587.57 23.58 13.91 223.72 120.13 0 29 9 587.6 33.85 349.06
64.16 0 2 41 1587.57 23.58 13.91 223.72 120.13 0 29 9 587.6 33.85 349.06
64.16 0 2 41 1587.57 23.58 13.91 223.72 120.13 0 29 9 587.6 33.85 349.06

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5073 TRA -.6283 TC3 -.1860 BAW .1618 SGT 1386.0 SGR 1059.7 SCS 1116.6 ST 41.0 SR 23.1 SS 70.5
RDE -.2717 RRA -.4201 RC3 .7690 FAU .13938 RRT .7554 RRF -.9678 RTF -.7654 CRT .9949 CRS .9037 CST .6596
PDE 1.5537 FRA 6.0202 FC3-7.8880 BSP 2908 SGB 1744.7 R23 -.3908 R13 -.8869 LSA 82.4 MSA 19.8 SSA .7
BDE .5754 BRA .7558 BC3 .7911 FSP 1852 SGI 1643.5 SCS 585.7 THA 35.11 EL1 47.0 EL2 2.0 ALF 29.29

LAUNCH DATE APR 15 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 466.508

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.410 GAL -2.90 AZL 93.54 HCA 157.26 SMA 184.77 ECC .19421 INC 3.5390 V1 29.691
RP 208.49 LAP -1.37 LOP 1.69 VP 23.555 GAP 8.45 AZP 86.74 TAL 342.03 TAP 139.29 RCA 148.88 APO 220.65 V2 26.284
RC 95.074 GL -30.64 GP 11.98 ZAL 122.81 ZAP 128.55 ETS 170.00 ZAE 163.35 ETE 128.37 ZAC 112.78 ETC 276.72 LVI -27.39

PLANETOCENTRIC CONIC

C3 15.370 VHL 3.920 DLA -36.37 RAL 348.94 RAD 6640.7 VEL 11.637 PTH 6.68 VHP 3.954 DPA -7.62 RAP 310.95 ECC 1.2529
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 7 39 2232.21 6.03 55.18 209.75 137.28 20 44 51 1232.2 23.83 38.17
60.00 22 17 34 1885.42 15.64 32.98 218.66 127.63 22 48 59 885.4 29.52 11.61
62.91 23 55 0 1606.80 24.00 15.76 224.71 120.88 24 21 46 606.8 34.53 350.90
62.91 23 55 0 1606.80 24.00 15.76 224.71 120.88 24 21 46 606.8 34.53 350.90
62.91 23 55 0 1606.80 24.00 15.76 224.71 120.88 24 21 46 606.8 34.53 350.90
62.91 23 55 0 1606.80 24.00 15.76 224.71 120.88 24 21 46 606.8 34.53 350.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4955 TRA -.5628 TC3 -.2283 BAW .1755 SGT 1287.3 SGR 1152.3 SCS 1163.1 ST 39.5 SR 24.0 SS 71.9
RDE -.2753 RRA -.4644 RC3 .8231 FAU .14518 RRT .7308 RRF -.9752 RTF -.7345 CRT .9856 CRS .9203 CST .8431
PDE 1.8124 FRA 6.2227 FC3-8.1773 BSP 2796 SGB 1727.7 R23 -.3748 R13 -.9009 LSA 83.0 MSA 20.2 SSA .7
BDE .5688 BRA .7297 BC3 .8542 FSP 1918 SGI 1609.0 SCS 629.3 THA 40.68 EL1 46.1 EL2 3.5 ALF 31.09

LAUNCH DATE APR 15 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 470.623

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.392 GAL -2.88 AZL 93.66 HCA 158.51 SMA 184.47 ECC .19287 INC 3.6589 V1 29.691
RP 208.67 LAP -1.34 LOP 2.93 VP 23.507 GAP 8.20 AZP 86.59 TAL 342.01 TAP 140.52 RCA 148.89 APO 220.04 V2 26.264
RC 96.988 GL -31.64 GP 12.88 ZAL 122.52 ZAP 126.58 ETS 169.95 ZAE 161.80 ETE 130.71 ZAC 113.74 ETC 276.62 LVI -26.02

PLANETOCENTRIC CONIC

C3 15.488 VHL 3.935 DLA -38.21 RAL 349.64 RAD 6640.8 VEL 11.642 PTH 6.68 VHP 3.879 DPA -6.91 RAP 310.10 ECC 1.2549
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 17 54 2209.20 7.18 54.21 211.25 137.16 20 54 43 1209.2 24.88 36.99
60.00 22 41 1 1826.35 18.06 29.89 221.21 126.66 23 11 28 826.5 31.39 7.74
61.62 23 51 35 1626.34 24.41 17.66 225.83 121.69 24 18 41 626.3 35.22 352.80
61.62 23 51 35 1626.34 24.41 17.66 225.83 121.69 24 18 41 626.3 35.22 352.80
61.62 23 51 35 1626.34 24.41 17.66 225.83 121.69 24 18 41 626.3 35.22 352.80
61.62 23 51 35 1626.34 24.41 17.66 225.83 121.69 24 18 41 626.3 35.22 352.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4979 THA -.5071 TC3 -.3115 BAW .1917 SGT 1222.0 SGR 1258.9 SCS 1210.7 ST 39.0 SR 25.3 SS 74.0
RDE -.2843 RRA -.5187 RC3 .8719 FAU .14917 RRT .6870 RRF -.9812 RTF -.6184 CRT .9707 CRS .9372 CST .8274
PDE 1.7138 FRA 6.4342 FC3-8.3382 BSP 2865 SGB 1754.5 R23 -.3583 R13 -.9136 LSA 84.9 MSA 20.8 SSA .6
BDE .5733 BRA .7239 BC3 .9259 FSP 2021 SGI 1611.5 SCS 693.8 THA 46.24 EL1 46.2 EL2 5.1 ALF 32.71

LAUNCH DATE APR 15 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 474.746

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.38 VL 32.375 GAL -2.87 AZL 93.79 HCA 159.75 SMA 184.19 ECC .19185 INC 3.7925 V1 29.691
RP 208.88 LAP -1.31 LOP 4.18 VP 23.460 GAP 7.95 AZP 86.44 TAL 341.98 TAP 141.73 RCA 148.89 APO 219.49 V2 26.243
RC 98.929 GL -32.71 GP 13.87 ZAL 122.20 ZAP 124.55 ETS 169.90 ZAE 160.11 ETE 132.68 ZAC 114.81 ETC 276.51 LVI -28.72

PLANETOCENTRIC CONIC

C3 15.860 VHL 3.957 DLA -40.11 RAL 350.42 RAD 6640.8 VEL 11.649 PTH 6.69 VHP 3.812 DPA -6.12 RAP 309.19 ECC 1.2577
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 29 29 2184.28 8.42 53.14 212.98 137.00 21 5 53 1184.3 26.01 35.69
60.00 23 20 47 1724.33 22.11 24.29 225.15 124.59 23 49 31 724.3 34.30 .64
60.28 23 48 27 1646.47 24.82 19.64 227.11 122.58 24 15 54 646.5 35.94 354.80
60.28 23 48 27 1646.47 24.82 19.64 227.11 122.58 24 15 54 646.5 35.94 354.80
60.28 23 48 27 1646.47 24.82 19.64 227.11 122.58 24 15 54 646.5 35.94 354.80
60.28 23 48 27 1646.47 24.82 19.64 227.11 122.58 24 15 54 646.5 35.94 354.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4867 TRA -.4338 TC3 -.3617 BAW .2094 SGT 1119.3 SGR 1375.4 SCS 1252.7 ST 37.3 SR 26.7 SS 75.3
RDE -.2927 RRA -.5707 RC3 .9327 FAU .15462 RRT .6330 RRF -.9858 RTF -.6284 CRT .9489 CRS .9503 CST .8046
PDE 1.7843 FRA 6.6348 FC3-8.5481 BSP 2819 SGB 1773.3 R23 -.3055 R13 -.9373 LSA 85.6 MSA 21.1 SSA .6
BDE .5679 BRA .7168 BC3 1.0004 FSP 2082 SGI 1611.8 SCS 739.4 THA 54.08 EL1 45.4 EL2 6.9 ALF 35.11

LAUNCH DATE APR 15 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 26 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.360 GAL -2.86 AZL 93.94 HCA 160.99 SMA 183.94 ECC .19054 INC 3.9424 V1 29.691
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.414 GAP 7.71 AZP 86.27 TAL 341.94 TAP 142.93 RCA 148.89 APO 218.98 V2 26.221
 RC 100.898 GL -33.07 GP 14.97 ZAL 121.84 ZAP 122.48 ETS 169.86 ZAE 156.28 ETE 134.31 ZAC 115.99 ETC 276.39 LVI -20.51

PLANETOCENTRIC CONIC

C3 15.896 VHL 3.987 DLA -41.07 RAL 351.29 RAD 6641.0 VEL 11.659 PTH 6.70 VHP 3.754 DPA -5.23 RAP 308.23 ECC 1.2616
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 42 42 2156.99 9.78 51.97 215.01 136.80 21 18 39 1157.0 27.23 34.24
 58.88 23 45 41 1667.33 25.21 21.71 228.57 123.56 24 13 29 667.3 36.69 356.91
 58.88 23 45 41 1667.33 25.21 21.71 228.57 123.56 24 13 29 667.3 36.69 356.91
 58.88 23 45 41 1667.33 25.21 21.71 228.57 123.56 24 13 29 667.3 36.69 356.91
 58.88 23 45 41 1667.33 25.21 21.71 228.57 123.56 24 13 29 667.3 36.69 356.91
 58.88 23 45 41 1667.33 25.21 21.71 228.57 123.56 24 13 29 667.3 36.69 356.91

DIFFERENTIAL CORRECTIONS

TDE -.4885 TRA -.3686 TC3 -.4473 BAW .2303
 RDE -.3081 RRA -.6345 RC3 .9873 FAU .15808
 FDE 1.9004 FRA 6.8359 FC3-8.6094 BSP 2945
 BDE .5776 BRA .7339 BC3 1.0839 FSP 2174

MID-COURSE EXECUTION ACCURACY

SGT 1055.4 SGR 1509.6 SG3 1294.2
 RRT .5523 RRF -.9895 RTF -.5456
 SGB 1841.9 R23 -.2495 R13 -.9575
 SG1 1658.8 SG2 800.6 THA 61.75

ORBIT DETERMINATION ACCURACY

ST 36.7 SR 28.6 SS 77.4
 CRT .9216 CRS .9626 CST .7828
 LSA 87.6 MSA 21.8 SSA .6
 EL1 45.7 EL2 8.9 ALF 37.44

LAUNCH DATE APR 15 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 28 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.346 GAL -2.86 AZL 94.11 HCA 162.23 SMA 183.71 ECC .18953 INC 4.1121 V1 29.691
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.369 GAP 7.48 AZP 86.08 TAL 341.89 TAP 144.12 RCA 148.89 APO 218.52 V2 26.198
 RC 102.893 GL -35.13 GP 16.21 ZAL 121.45 ZAP 120.36 ETS 169.84 ZAE 156.32 ETE 135.63 ZAC 117.30 ETC 276.27 LVI -30.39

PLANETOCENTRIC CONIC

C3 16.207 VHL 4.026 DLA -42.10 RAL 352.27 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 3.704 DPA -4.22 RAP 307.20 ECC 1.2667
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 58 9 2126.22 11.31 50.64 217.42 136.53 21 33 35 1126.2 28.50 32.56
 57.41 23 43 17 1689.17 25.60 23.89 230.24 124.65 24 11 26 689.2 37.46 359.17
 57.41 23 43 17 1689.17 25.60 23.89 230.24 124.65 24 11 26 689.2 37.46 359.17
 57.41 23 43 17 1689.17 25.60 23.89 230.24 124.65 24 11 26 689.2 37.46 359.17
 57.41 23 43 17 1689.17 25.60 23.89 230.24 124.65 24 11 26 689.2 37.46 359.17
 57.41 23 43 17 1689.17 25.60 23.89 230.24 124.65 24 11 26 689.2 37.46 359.17

DIFFERENTIAL CORRECTIONS

TDE -.4849 TRA -.2931 TC3 -.5189 BAW .2535
 RDE -.3263 RRA -.7034 RC3 1.0487 FAU .16183
 FDE 2.0089 FRA 6.9936 FC3-8.6445 BSP 3058
 BDE .5844 BRA .7620 BC3 1.1700 FSP 2238

MID-COURSE EXECUTION ACCURACY

SGT 983.3 SGR 1658.1 SG3 1328.9
 RRT .4455 RRF -.9922 RTF -.4369
 SGB 1927.7 R23 -.1746 R13 -.9768
 SG1 1734.3 SG2 841.7 THA 70.41

ORBIT DETERMINATION ACCURACY

ST 35.5 SR 30.8 SS 79.1
 CRT .8867 CRS .9723 CST .7546
 LSA 89.2 MSA 22.3 SSA .5
 EL1 45.7 EL2 11.1 ALF 40.44

LAUNCH DATE APR 15 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 30 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.333 GAL -2.86 AZL 94.31 HCA 163.47 SMA 183.50 ECC .18863 INC 4.3060 V1 29.691
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.325 GAP 7.25 AZP 85.87 TAL 341.82 TAP 145.29 RCA 148.88 APO 218.11 V2 26.174
 RC 104.913 GL -36.51 GP 17.59 ZAL 121.00 ZAP 118.20 ETS 169.83 ZAE 154.21 ETE 136.85 ZAC 118.76 ETC 276.15 LVI -31.39

PLANETOCENTRIC CONIC

C3 16.610 VHL 4.076 DLA -43.22 RAL 353.39 RAD 6641.3 VEL 11.690 PTH 6.72 VHP 3.664 DPA -3.07 RAP 306.11 ECC 1.2734
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 18 38 2090.43 13.07 49.07 220.33 136.17 21 51 29 1090.4 30.13 30.54
 55.84 23 41 18 1712.20 25.97 26.22 232.17 125.85 24 9 50 712.2 38.27 1.60
 55.84 23 41 18 1712.20 25.97 26.22 232.17 125.85 24 9 50 712.2 38.27 1.60
 55.84 23 41 18 1712.20 25.97 26.22 232.17 125.85 24 9 50 712.2 38.27 1.60
 55.84 23 41 18 1712.20 25.97 26.22 232.17 125.85 24 9 50 712.2 38.27 1.60
 55.84 23 41 18 1712.20 25.97 26.22 232.17 125.85 24 9 50 712.2 38.27 1.60

DIFFERENTIAL CORRECTIONS

TDE -.4815 TRA -.2132 TC3 -.5905 BAW .2798
 RDE -.3503 RRA -.7802 RC3 1.1121 FAU .16497
 FDE 2.1292 FRA 7.1187 FC3-8.5986 BSP 3232
 BDE .5955 BRA .8088 BC3 1.2592 FSP 2291

MID-COURSE EXECUTION ACCURACY

SGT 926.9 SGR 1824.8 SG3 1357.1
 RRT .3051 RRF -.9944 RTF -.1055
 SGB 2046.7 R23 -.1014 R13 -.9892
 SG1 1852.9 SG2 869.3 THA 78.66

ORBIT DETERMINATION ACCURACY

ST 34.4 SR 33.4 SS 80.7
 CRT .8446 CRS .9800 CST .7217
 LSA 91.0 MSA 22.9 SSA .5
 EL1 46.1 EL2 13.4 ALF 44.02

LAUNCH DATE APR 15 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 1 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.321 GAL -2.86 AZL 94.53 HCA 164.70 SMA 183.31 ECC .18783 INC 4.5299 V1 29.691
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.282 GAP 7.02 AZP 85.63 TAL 341.74 TAP 146.44 RCA 148.88 APO 217.74 V2 26.150
 RC 106.958 GL -38.03 GP 19.14 ZAL 120.48 ZAP 115.98 ETS 169.84 ZAE 151.94 ETE 137.42 ZAC 120.39 ETC 276.03 LVI -32.54

PLANETOCENTRIC CONIC

C3 17.126 VHL 4.138 DLA -44.45 RAL 354.67 RAD 6641.5 VEL 11.712 PTH 6.74 VHP 3.636 DPA -1.74 RAP 304.97 ECC 1.2819
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 39 41 2046.59 15.21 47.11 223.97 135.64 22 13 48 1046.5 31.96 27.98
 54.16 23 39 48 1736.83 26.30 28.72 234.39 127.21 24 8 45 736.8 39.11 4.27
 54.16 23 39 48 1736.83 26.30 28.72 234.39 127.21 24 8 45 736.8 39.11 4.27
 54.16 23 39 48 1736.83 26.30 28.72 234.39 127.21 24 8 45 736.8 39.11 4.27
 54.16 23 39 48 1736.83 26.30 28.72 234.39 127.21 24 8 45 736.8 39.11 4.27
 54.16 23 39 48 1736.83 26.30 28.72 234.39 127.21 24 8 45 736.8 39.11 4.27

DIFFERENTIAL CORRECTIONS

TDE -.4779 TRA -.1280 TC3 -.6598 BAW .3087
 RDE -.3827 RRA -.8664 RC3 1.1755 FAU .16709
 FDE 2.2693 FRA 7.2048 FC3-8.4466 BSP 3479
 BDE .6123 BRA .8758 BC3 1.3480 FSP 2334

MID-COURSE EXECUTION ACCURACY

SGT 893.2 SGR 2012.6 SG3 1376.9
 RRT .1315 RRF -.9959 RTF -.1215
 SGB 2201.9 R23 -.0411 R13 -.9951
 SG1 2016.9 SG2 883.5 THA 85.86

ORBIT DETERMINATION ACCURACY

ST 33.3 SR 36.6 SS 82.3
 CRT .7952 CRS .9861 CST .6838
 LSA 93.1 MSA 23.5 SSA .4
 EL1 46.9 EL2 15.8 ALF 48.39

LAUNCH DATE APR 15 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.311 GAL -2.86 AZL 84.79 HCA 165.93 SMA 183.14 ECC .18711 INC 4.7912 V1 29.691
RP 209.87 LAP -1.16 LOP 10.36 VP 23.239 GAP 6.79 AZP 85.35 TAL 341.65 TAP 147.50 RCA 148.87 APO 217.41 V2 26.124
RC 109.028 GL -39.72 GP 20.91 ZAL 119.89 ZAP 113.75 ETS 169.88 ZAE 149.51 ETE 137.94 ZAC 122.24 ETC 275.92 LVI -33.85

DISTANCE 495.472

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.790 VHL 4.218 DLA -45.79 RAL 356.17 RAD 6641.6 VEL 11.740 PTH 6.77 VHP 3.621 DPA -.21 RAP 303.76 ECC 1.2928
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 10 39 1987.31 18.07 44.40 226.78 134.80 22 43 46 987.5 34.35 24.36
52.35 23 38 58 1763.28 26.60 31.42 237.00 128.75 24 8 21 763.3 39.97 7.20
52.35 23 38 58 1763.28 26.60 31.42 237.00 128.75 24 8 21 763.3 39.97 7.20
52.35 23 38 58 1763.28 26.60 31.42 237.00 128.75 24 8 21 763.3 39.97 7.20
52.35 23 38 58 1763.28 26.60 31.42 237.00 128.75 24 8 21 763.3 39.97 7.20
52.35 23 38 58 1763.28 26.60 31.42 237.00 128.75 24 8 21 763.3 39.97 7.20
52.35 23 38 58 1763.28 26.60 31.42 237.00 128.75 24 8 21 763.3 39.97 7.20

DIFFERENTIAL CORRECTIONS

TDE -.4753 TRA -.0378 TC3 -.7258 BAU .3417
RDE -.4264 RRA -.9619 RC3 1.2401 FAU .16839
FDE 2.4301 FRA 7.2269 FC3-8.1947 BSP 3790
BDE .6365 BRA .9627 BC3 1.4368 FSP 2351

MID-COURSE EXECUTION ACCURACY

SGT 892.8 SGR 2223.0 SG3 1384.8
RRT -.0847 RRF -.9971 RTF .0743
SGB 2395.6 R23 .0025 R13 -.9972
SG1 2223.9 SG2 890.6 THA 91.77

ORBIT DETERMINATION ACCURACY

ST 32.3 SR 40.4 SS 83.9
CRT .7390 CR8 .9907 CST .6408
LSA 95.6 MSA 24.1 SSA .4
EL1 48.4 EL2 18.2 ALF 53.46

LAUNCH DATE APR 15 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.302 GAL -2.87 AZL 95.10 HCA 167.16 SMA 182.99 ECC .18649 INC 5.1011 V1 29.691
RP 210.10 LAP -1.13 LOP 11.59 VP 23.196 GAP 6.57 AZP 85.03 TAL 341.54 TAP 148.70 RCA 148.86 APO 217.11 V2 26.098
RC 111.121 GL -41.62 GP 22.92 ZAL 119.18 ZAP 111.44 ETS 169.95 ZAE 146.90 ETE 138.23 ZAC 124.34 ETC 275.82 LVI -35.38

DISTANCE 499.632

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.648 VHL 4.318 DLA -47.28 RAL 357.93 RAD 6642.2 VEL 11.776 PTH 6.80 VHP 3.624 DPA 1.56 RAP 302.49 ECC 1.3069
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 23 4 32 1877.99 23.23 39.11 236.53 132.77 23 35 50 878.0 36.40 17.04
50.39 23 38 57 1792.13 26.83 34.37 240.06 130.51 24 8 50 792.1 40.85 10.48
50.39 23 38 57 1792.13 26.83 34.37 240.06 130.51 24 8 50 792.1 40.85 10.48
50.39 23 38 57 1792.13 26.83 34.37 240.06 130.51 24 8 50 792.1 40.85 10.48
50.39 23 38 57 1792.13 26.83 34.37 240.06 130.51 24 8 50 792.1 40.85 10.48
50.39 23 38 57 1792.13 26.83 34.37 240.06 130.51 24 8 50 792.1 40.85 10.48
50.39 23 38 57 1792.13 26.83 34.37 240.06 130.51 24 8 50 792.1 40.85 10.48

DIFFERENTIAL CORRECTIONS

TDE -.4709 TRA .0585 TC3 -.7838 BAU .3782
RDE -.4874 RRA -1.0707 RC3 1.2990 FAU .16788
FDE 2.6262 FRA 7.1875 FC3-7.7930 BSP 4194
BDE .6778 BRA 1.0723 BC3 1.5172 FSP 2354

MID-COURSE EXECUTION ACCURACY

SGT 928.3 SGR 2461.9 SG3 1379.7
RRT -.2604 RRF -.9980 RTF .2690
SGB 2631.1 R23 .0311 R13 -.9975
SG1 2475.5 SG2 891.4 THA 96.45

ORBIT DETERMINATION ACCURACY

ST 31.3 SR 45.1 SS 85.7
CRT .6760 CR8 .9940 CST .5918
LSA 98.7 MSA 24.7 SSA .3
EL1 51.0 EL2 20.4 ALF 59.46

LAUNCH DATE APR 15 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.293 GAL -2.88 AZL 95.47 HCA 168.38 SMA 182.83 ECC .18596 INC 5.4742 V1 29.691
RP 210.33 LAP -1.10 LOP 12.82 VP 23.155 GAP 6.36 AZP 84.84 TAL 341.43 TAP 149.81 RCA 148.85 APO 216.85 V2 26.071
RC 113.239 GL -43.78 GP 25.24 ZAL 118.35 ZAP 109.11 ETS 170.07 ZAE 144.07 ETE 138.31 ZAC 126.74 ETC 275.74 LVI -37.15

DISTANCE 503.797

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 19.775 VHL 4.447 DLA -48.93 RAL .05 RAD 6642.7 VEL 11.823 PTH 6.84 VHP 3.648 DPA 3.64 RAP 301.14 ECC 1.3254
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19
48.25 23 40 5 1824.01 26.96 37.61 243.72 132.51 24 10 29 824.0 41.72 14.19

DIFFERENTIAL CORRECTIONS

TDE -.4638 TRA .1612 TC3 -.8301 BAU .4199
RDE -.5719 RRA -1.1924 RC3 1.3343 FAU .16588
FDE 2.8317 FRA 7.0528 FC3-7.2623 BSP 4670
BDE .7362 BRA 1.2033 BC3 1.5885 FSP 2321

MID-COURSE EXECUTION ACCURACY

SGT 1000.9 SGR 2731.7 SG3 1356.6
RRT -.4346 RRF -.9986 RTF .4.20
SGB 2909.3 R23 .0482 R13 -.9975
SG1 2770.2 SG2 888.9 THA 100.10

ORBIT DETERMINATION ACCURACY

ST 30.3 SR 50.9 SS 87.4
CRT .6051 CR8 .9964 CST .5354
LSA 102.5 MSA 25.1 SSA .3
EL1 54.8 EL2 22.4 ALF 65.98

LAUNCH DATE APR 15 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.288 GAL -2.90 AZL 95.93 HCA 169.60 SMA 182.73 ECC .18550 INC 5.9324 V1 29.691
RP 210.57 LAP -1.07 LOP 14.04 VP 23.113 GAP 6.15 AZP 84.16 TAL 341.30 TAP 150.90 RCA 148.83 APO 216.63 V2 26.044
RC 115.380 GL -46.25 GP 27.93 ZAL 117.34 ZAP 106.74 ETS 170.24 ZAE 141.00 ETE 138.18 ZAC 129.51 ETC 275.68 LVI -39.25

DISTANCE 507.864

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 21.286 VHL 4.614 DLA -50.77 RAL 2.65 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 3.700 DPA 6.09 RAP 299.73 ECC 1.3503
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44
45.90 23 42 52 1859.66 26.92 41.18 248.15 134.82 24 13 52 859.7 42.53 18.44

DIFFERENTIAL CORRECTIONS

TDE -.4526 TRA .2694 TC3 -.8651 BAU .4687
RDE -.6938 RRA -1.3276 RC3 1.4015 FAU .16195
FDE 3.1228 FRA 6.7926 FC3-6.5669 BSP 5219
BDE .8284 BRA 1.3546 BC3 1.6470 FSP 2244

MID-COURSE EXECUTION ACCURACY

SGT 1110.4 SGR 3035.0 SG3 1310.1
RRT -.5718 RRF -.9991 RTF .5778
SGB 3231.8 R23 .0575 R13 -.9974
SG1 3106.8 SG2 889.9 THA 102.69

ORBIT DETERMINATION ACCURACY

ST 29.2 SR 58.2 SS 89.1
CRT .5279 CR8 .9980 CST .4727
LSA 107.4 MSA 25.4 SSA .2
EL1 60.6 EL2 23.8 ALF 72.34

LAUNCH DATE APR 15 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.280 GAL -2.91 AZL 96.31 HCA 170.82 SMA 182.63 ECC .18513 INC 6.5100 V1 29.691
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.072 GAP 5.94 AZP 83.57 TAL 341.16 TAP 151.98 RCA 148.82 APO 216.44 V2 26.015
 RC 117.545 GL -49.11 GP 31.08 ZAL 116.11 ZAP 104.35 ETS 170.50 ZAE 137.64 ETE 137.87 ZAC 132.72 ETC 275.67 LVI -41.67

PLANETOCENTRIC CONIC
 C3 23.377 VHL 4.835 DLA -52.84 RAL 5.93 RAD 6644.3 VEL 11.973 PTH 6.97 VHP 3.794 DPA 8.98 RAP 298.22 ECC 1.3847
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34
 43.31 23 48 2 1900.38 26.63 45.15 253.58 137.48 24 19 42 900.4 43.21 23.34

DIFFERENTIAL CORRECTIONS
 TDE -.4278 TRA .3876 TC3 -.8770 BAU .5229 SGT 1246.8 SGR 3384.2 SG3 1238.1 ST 27.8 SR 66.1 SS 91.5
 RDE -.8813 RRA-1.4831 RC3 1.4249 FAU .15437 RRT -.6757 RRF -.9994 RTF .6805 CRT .4346 CRS .9990 CST .3931
 FDE 3.4710 FRA 6.4053 FC3-5.7170 BSP 5902 SGB 3606.6 R23 .0610 R13 -.9976 LSA 114.6 MSA 25.4 SSA .2
 BDE .9796 BRA 1.5329 BC3 1.6731 FSP 2137 SG1 3495.1 SG2 889.9 THA 104.97 EL1 69.3 EL2 24.6 ALF 78.45

LAUNCH DATE APR 15 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.274 GAL -2.93 AZL 97.26 HCA 172.03 SMA 182.54 ECC .18463 INC 7.2601 V1 29.691
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.032 GAP 5.73 AZP 82.81 TAL 341.01 TAP 153.04 RCA 148.80 APO 216.27 V2 25.988
 RC 119.734 GL -52.46 GP 34.77 ZAL 114.59 ZAP 101.94 ETS 170.87 ZAE 133.92 ETE 137.40 ZAC 136.49 ETC 275.73 LVI -44.54

PLANETOCENTRIC CONIC
 C3 26.390 VHL 5.137 DLA -55.12 RAL 10.18 RAD 6645.6 VEL 12.098 PTH 7.07 VHP 3.947 DPA 12.43 RAP 296.61 ECC 1.4343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02
 40.49 0 0 46 1947.89 25.92 49.54 260.37 140.52 0 33 14 947.9 43.59 29.02

DIFFERENTIAL CORRECTIONS
 TDE -.3779 TRA .5164 TC3 -.8636 BAU .5892 SGT 1407.0 SGR 3769.9 SG3 1129.2 ST 26.0 SR 81.2 SS 93.8
 RDE-1.1712 RRA-1.6493 RC3 1.4293 FAU .14412 RRT -.7528 RRF -.9996 RTF .7565 CRT .3056 CRS .9995 CST .2762
 FDE 3.8729 FRA 5.8130 FC3-4.7280 BSP 6621 SGB 4023.9 R23 .0612 R13 -.9978 LSA 124.3 MSA 24.9 SSA .2
 BDE 1.2307 BRA 1.7282 BC3 1.6699 FSP 1949 SG1 3924.3 SG2 889.8 THA 106.57 EL1 81.7 EL2 24.6 ALF 83.86

LAUNCH DATE APR 15 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.269 GAL -2.95 AZL 98.27 HCA 173.24 SMA 182.46 ECC .18460 INC 8.2744 V1 29.691
 RP 211.33 LAP -.97 LOP 17.70 VP 22.992 GAP 5.53 AZP 81.78 TAL 340.85 TAP 154.09 RCA 148.78 APO 216.14 V2 25.957
 RC 121.945 GL -56.42 GP 39.11 ZAL 112.71 ZAP 99.54 ETS 171.38 ZAE 129.80 ETE 136.83 ZAC 140.90 ETC 275.90 LVI -47.90

PLANETOCENTRIC CONIC
 C3 30.989 VHL 5.567 DLA -57.61 RAL 15.91 RAD 6647.4 VEL 12.285 PTH 7.22 VHP 4.197 DPA 16.52 RAP 294.87 ECC 1.5100
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55
 37.46 0 15 20 2004.83 24.54 54.33 269.05 143.92 0 48 45 1004.8 43.40 35.55

DIFFERENTIAL CORRECTIONS
 TDE -.2758 TRA .6562 TC3 -.8229 BAU .6700 SGT 1584.2 SGR 4204.4 SG3 981.2 ST 23.7 SR 100.2 SS 96.3
 RDE-1.6548 RRA-1.8308 RC3 1.3922 FAU .12925 RRT -.8065 RRF -.9998 RTF .5194 CRT .0874 CRS .9998 CST .0683
 FDE 4.3440 FRA 5.0143 FC3-3.8108 BSP 7454 SGB 4493.0 R23 .0593 R13 -.9980 LSA 139.2 MSA 23.8 SSA .1
 BDE 1.6776 BRA 1.9448 BC3 1.6172 FSP 1700 SG1 4403.1 SG2 894.4 THA 107.66 EL1 100.2 EL2 23.6 ALF 88.75

LAUNCH DATE APR 15 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.265 GAL -2.98 AZL 99.72 HCA 174.44 SMA 182.40 ECC .18443 INC 9.7227 V1 29.691
 RP 211.80 LAP -.94 LOP 18.91 VP 22.952 GAP 5.32 AZP 80.32 TAL 340.68 TAP 155.12 RCA 148.76 APO 216.14 V2 25.926
 RC 124.177 GL -61.17 GP 44.20 ZAL 110.37 ZAP 97.18 ETS 172.09 ZAE 125.20 ETE 136.23 ZAC 146.05 ETC 276.26 LVI -51.75

PLANETOCENTRIC CONIC
 C3 38.584 VHL 6.212 DLA -60.17 RAL 23.91 RAD 6650.2 VEL 12.588 PTH 7.45 VHP 4.609 DPA 21.35 RAP 292.98 ECC 1.6350
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82
 34.39 0 39 20 2075.18 22.10 59.40 280.43 147.53 1 13 55 1075.2 42.17 42.82

DIFFERENTIAL CORRECTIONS
 TDE -.0516 TRA .8149 TC3 -.7468 BAU .7794 SGT 1773.7 SGR 4661.8 SG3 785.9 ST 22.8 SR 127.8 SS 98.2
 RDE-2.4942 RRA-2.0017 RC3 1.3136 FAU .11037 RRT -.8481 RRF -.9998 RTF .8506 CRT -.3397 CRS .9999 CST -.3504
 FDE 4.7871 FRA 3.9546 FC3-2.4764 BSP 8229 SGB 4987.8 R23 .0558 R13 -.9983 LSA 161.4 MSA 21.4 SSA .1
 BDE 2.4947 BRA 2.1612 BC3 1.5110 FSP 1349 SG1 4907.3 SG2 892.7 THA 108.52 EL1 128.1 EL2 21.4 ALF 93.57

LAUNCH DATE APR 15 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 3 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.259 GAL -3.32 AZL 80.88 HCA 184.16 SMA 182.29 ECC .18586 INC 9.1195 V1 29.691
 RP 213.92 LAP -.66 LOP 28.49 VP 22.643 GAP 3.84 AZP 99.10 TAL 338.94 TAP 162.69 RCA 148.44 APO 216.13 V2 25.682
 RC 142.739 GL 58.23 GP -31.13 ZAL 113.07 ZAP 86.96 ETS 174.89 ZAE 112.43 ETE 210.85 ZAC 51.29 ETC 272.33 LVI 37.07

PLANETOCENTRIC CONIC
 C3 36.046 VHL 6.004 DLA 45.91 RAL 318.07 RAD 6849.3 VEL 12.488 PTH 7.38 VHP 5.450 DPA -72.33 RAP 319.92 ECC 1.5932
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 12 15 4399.49 -28.74 201.60 215.96 50.30 11 25 34 3399.5 -42.26 176.79
 52.33 9 1 2 4580.44 -18.92 209.36 206.62 47.47 10 17 23 3580.4 -34.34 188.45
 52.33 9 1 2 4580.44 -18.92 209.36 206.62 47.47 10 17 23 3580.4 -34.34 188.45
 52.33 9 1 2 4580.44 -18.92 209.36 206.62 47.47 10 17 23 3580.4 -34.34 188.45
 52.33 9 1 2 4580.44 -18.92 209.36 206.62 47.47 10 17 23 3580.4 -34.34 188.45
 52.33 9 1 2 4580.44 -18.92 209.36 206.62 47.47 10 17 23 3580.4 -34.34 188.45
 52.33 9 1 2 4580.44 -18.92 209.36 206.62 47.47 10 17 23 3580.4 -34.34 188.45

MID-COURSE EXECUTION ACCURACY
 SGT 3570.4 SGR 5258.9 SG3 505.8
 RRT .9512 RRF .9995 RTF .9476
 SGB 6356.4 R23 .1071 R13 .9938
 SG1 6289.3 SG2 921.0 THA 56.33

ORBIT DETERMINATION ACCURACY
 ST 146.6 SR 190.9 SS 97.4
 CRT .9915 CRS -.9999 CST -.9899
 LSA 259.2 MSA 16.1 SSA .1
 EL1 240.2 EL2 15.1 ALF 52.54

DIFFERENTIAL CORRECTIONS
 TDE 3.0451 TRA .9430 TC3-1.3522 BAU .9655
 RDE 3.8631 RRA 2.4131 RC3-1.4785 FAU .07263
 FDE 4.1728 FRA 2.7362 FC3-1.7443 BSP 10716
 BDE 4.9189 BRA 2.5908 BC3 2.0036 FSP 903

LAUNCH DATE APR 15 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 5 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.260 GAL -3.36 AZL 83.28 HCA 185.32 SMA 182.31 ECC .18601 INC 6.7235 V1 29.691
 RP 214.24 LAP -.62 LOP 29.67 VP 22.606 GAP 3.66 AZP 96.70 TAL 338.28 TAP 163.60 RCA 148.40 APO 216.23 V2 25.627
 RC 145.138 GL 48.76 GP -45.38 ZAL 118.30 ZAP 85.17 ETS 173.88 ZAE 114.10 ETE 207.01 ZAC 57.08 ETC 271.97 LVI 32.16

PLANETOCENTRIC CONIC
 C3 25.150 VHL 5.015 DLA 37.00 RAL 321.03 RAD 6645.1 VEL 12.047 PTH 7.03 VHP 4.652 DPA -67.33 RAP 311.31 ECC 1.4139
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 17 48 3991.79 -43.34 173.79 217.92 68.06 13 24 19 2991.8 -47.47 139.60
 60.00 11 40 55 4090.56 -31.78 176.12 211.42 63.78 12 49 6 3090.6 -39.49 147.94
 65.08 10 16 42 4335.11 -19.15 188.40 203.61 57.71 11 28 58 3335.1 -30.70 165.10
 65.08 10 16 42 4335.11 -19.15 188.40 203.61 57.71 11 28 58 3335.1 -30.70 165.10
 65.08 10 16 42 4335.11 -19.15 188.40 203.61 57.71 11 28 58 3335.1 -30.70 165.10
 65.08 10 16 42 4335.11 -19.15 188.40 203.61 57.71 11 28 58 3335.1 -30.70 165.10
 65.08 10 16 42 4335.11 -19.15 188.40 203.61 57.71 11 28 58 3335.1 -30.70 165.10

MID-COURSE EXECUTION ACCURACY
 SGT 3739.9 SGR 4797.5 SG3 747.6
 RRT .9579 RRF .9996 RTF .9558
 SGB 6083.0 R23 .1148 R13 .9930
 SG1 6022.6 SG2 854.9 THA 52.36

ORBIT DETERMINATION ACCURACY
 ST 139.2 SR 160.6 SS 113.1
 CRT .9919 CRS -.9999 CST -.9900
 LSA 240.3 MSA 15.1 SSA .2
 EL1 212.1 EL2 13.4 ALF 49.13

DIFFERENTIAL CORRECTIONS
 TDE 2.3969 TRA 1.1547 TC3-1.9330 BAU .8835
 RDE 2.6804 RRA 2.2598 RC3-1.7800 FAU .09763
 FDE 4.6743 FRA 4.1351 FC3-3.3606 BSP 10072
 BDE 3.5958 BRA 2.5377 BC3 2.6277 FSP 1311

LAUNCH DATE APR 15 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.263 GAL -3.41 AZL 84.81 HCA 186.49 SMA 182.35 ECC .18642 INC 5.1934 V1 29.691
 RP 214.55 LAP -.59 LOP 30.85 VP 22.568 GAP 3.48 AZP 95.16 TAL 338.00 TAP 164.49 RCA 148.36 APO 216.34 V2 25.591
 RC 147.595 GL 40.71 GP -40.30 ZAL 122.55 ZAP 83.26 ETS 173.11 ZAE 114.99 ETE 203.37 ZAC 62.17 ETC 271.69 LVI 27.84

PLANETOCENTRIC CONIC
 C3 19.980 VHL 4.470 DLA 29.58 RAL 324.76 RAD 6642.8 VEL 11.832 PTH 6.85 VHP 4.194 DPA -62.74 RAP 306.06 ECC 1.3288
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 21 48 3749.71 -47.33 151.95 211.12 84.42 14 24 17 2749.7 -43.96 117.45
 60.00 13 18 30 3758.51 -39.09 151.13 209.50 79.29 14 21 8 2758.5 -39.23 119.97
 70.00 13 11 54 3777.97 -30.67 150.28 207.09 74.19 14 14 52 2778.0 -34.15 122.11
 80.00 12 42 57 3869.29 -20.44 153.26 203.18 67.75 13 47 26 2869.3 -27.81 128.26
 81.02 12 15 22 3957.55 -17.20 158.32 201.70 65.59 13 21 19 2937.6 -25.78 134.28
 100.00 15 25 49 3343.76 -20.44 114.62 203.18 67.75 16 21 32 2343.8 -27.81 89.63
 110.00 18 11 21 2824.78 -30.67 79.20 207.09 74.19 18 58 25 1824.8 -34.15 51.02

MID-COURSE EXECUTION ACCURACY
 SGT 3942.0 SGR 4359.9 SG3 955.9
 RRT .9633 RRF .9995 RTF .5.18
 SGB 5877.7 R23 .1256 R13 .9916
 SG1 5824.1 SG2 792.1 THA 47.99

ORBIT DETERMINATION ACCURACY
 ST 133.3 SR 136.4 SS 121.1
 CRT .9928 CRS -.9999 CST -.9904
 LSA 225.5 MSA 13.9 SSA .2
 EL1 190.4 EL2 11.5 ALF 45.66

DIFFERENTIAL CORRECTIONS
 TDE 2.0288 TRA 1.3498 TC3-2.4592 BAU .8321
 RDE 2.0016 RRA 2.0920 RC3-1.9125 FAU .11666
 FDE 4.6720 FRA 3.3858 FC3-5.0551 BSP 9835
 BDE 2.8485 BRA 2.6895 BC3 3.1153 FSP 1698

LAUNCH DATE APR 15 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC
 RL 150.07 LAL .00 LOL 204.38 VL 32.268 GAL -3.46 AZL 85.87 HCA 187.66 SMA 182.39 ECC .18689 INC 4.1321 V1 29.691
 RP 214.88 LAP -.55 LOP 32.03 VP 22.531 GAP 3.30 AZP 94.10 TAL 337.71 TAP 165.37 RCA 148.31 APO 216.48 V2 25.594
 RC 149.988 GL 33.97 GP -35.97 ZAL 125.88 ZAP 81.32 ETS 172.54 ZAE 119.22 ETE 200.09 ZAC 66.51 ETC 271.46 LVI 24.14

PLANETOCENTRIC CONIC
 C3 17.244 VHL 4.153 DLA 23.35 RAL 327.71 RAD 6641.6 VEL 11.717 PTH 6.75 VHP 3.910 DPA -58.74 RAP 302.91 ECC 1.2638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 5 21 3576.28 -47.15 135.25 204.61 97.26 15 4 57 2576.3 -38.81 103.91
 60.00 14 15 33 3549.10 -40.29 133.31 205.31 91.16 15 14 42 2549.1 -35.42 103.53
 70.00 14 32 12 3500.08 -33.96 129.35 205.12 86.11 15 30 32 2500.1 -32.01 100.79
 80.00 15 3 35 3401.62 -28.94 121.30 204.52 82.31 16 0 16 2401.6 -29.21 93.88
 90.00 16 6 40 3197.90 -26.84 105.98 204.17 80.75 16 59 58 2197.9 -28.03 79.04
 100.00 17 46 27 2876.09 -28.94 82.67 204.52 82.31 18 34 23 1876.1 -29.21 55.25
 110.00 19 31 38 2546.87 -33.96 58.27 205.12 86.11 20 14 5 1546.9 -32.01 29.70

MID-COURSE EXECUTION ACCURACY
 SGT 4152.0 SGR 3949.7 SG3 1122.7
 RRT .9672 RRF .9994 RTF .9660
 SGB 5730.5 R23 .1369 R13 .9900
 SG1 5683.5 SG2 732.6 THA 43.52

ORBIT DETERMINATION ACCURACY
 ST 128.5 SR 116.9 SS 124.4
 CRT .9941 CRS -.9997 CST -.9912
 LSA 213.3 MSA 12.6 SSA .3
 EL1 173.4 EL2 9.4 ALF 42.27

DIFFERENTIAL CORRECTIONS
 TDE 1.7938 TRA 1.5257 TC3-2.9138 BAU .8053
 RDE 1.5733 RRA 1.9200 RC3-1.9269 FAU .13120
 FDE 4.9082 FRA 6.4189 FC3-6.5869 BSP 9666
 BDE 2.3860 BRA 2.4524 BC3 3.4933 FSP 2013

LAUNCH DATE APR 18 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 11 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.288 GAL -3.31 AZL 88.63 HCA 188.83 SMA 182.44 ECC .18740 INC 3.3522 V1 28.691
 RP 215.21 LAP -.31 LOP 33.20 VP 22.493 GAP 3.12 AZP 93.31 TAL 337.40 TAP 166.23 RCA 148.25 APO 216.63 V2 28.518
 RC 152.438 GL 28.37 GP -32.31 ZAL 128.46 ZAP 79.38 ETS 172.12 ZAE 114.94 ETE 197.22 ZAC 70.20 ETC 271.27 LVI 21.01

Distance 574.970

Planetocentric Conic: C3 15.702 VHL 3.983 DLA 18.22 RAL 330.10 RAD 6640.9 VEL 11.651 PTH 6.68 VHP 3.727 DPA -35.31 RAP 299.93 ECC 1.2584
 LNCM AZMTH LNCM TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 37 47 3445.87 -45.33 123.22 200.16 106.36 15 39 13 2445.9 -34.11 95.15
 60.00 14 56 6 3397.10 -39.30 120.73 202.06 99.77 15 52 43 2397.1 -31.23 92.83
 70.00 13 23 39 3315.98 -33.88 115.01 202.90 94.58 16 18 55 2316.0 -28.51 87.61
 80.00 16 8 9 3176.51 -29.84 104.66 203.13 90.98 17 1 5 2176.5 -26.40 77.77
 90.00 17 18 40 2948.86 -28.28 87.95 203.14 89.64 18 7 49 1948.9 -25.58 61.26
 100.00 18 51 0 2650.98 -29.84 66.03 203.13 90.98 19 35 11 1651.0 -26.40 39.14
 110.00 20 23 5 2362.80 -33.88 43.92 202.90 94.58 21 2 28 1362.8 -28.51 16.53

Differential Corrections: TDE 1.6343 TRA 1.6830 TC3-3.3080 BAU .7981 SGT 4360.3 SGR 3572.2 SG3 1248.9 ST 124.3 SR 101.0 SS 124.7
 RDE 1.2822 RRA 1.7517 RC3-1.8771 FAU .14293 RRT .9701 RRF .9992 RTF .9692 CRT .9956 CR8 -.9995 CST -.9921
 FDE 4.8467 FRA 7.2210 FC3-7.8805 B8P 9477 SGB 5636.7 R23 .1471 R13 .9883 LSA 202.7 MSA 11.4 S8A .3
 BDE 2.0772 BRA 2.4292 BC3 3.8017 F8P 2239 SG1 5596.1 SG2 675.5 THA 39.16 EL1 160.0 EL2 7.3 ALF 39.06

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 13 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.272 GAL -3.37 AZL 87.25 HCA 189.99 SMA 182.50 ECC .18795 INC 2.7542 V1 28.691
 RP 215.54 LAP -.48 LOP 34.37 VP 22.456 GAP 2.95 AZP 92.71 TAL 337.08 TAP 167.07 RCA 148.20 APO 216.80 V2 25.480
 RC 154.904 GL 23.72 GP -29.20 ZAL 130.46 ZAP 77.48 ETS 171.82 ZAE 114.30 ETE 194.74 ZAC 73.32 ETC 271.10 LVI 18.38

Distance 579.138

Planetocentric Conic: C3 14.808 VHL 3.848 DLA 13.98 RAL 332.11 RAD 6640.4 VEL 11.613 PTH 6.65 VHP 3.606 DPA -32.38 RAP 297.94 ECC 1.2437
 LNCM AZMTH LNCM TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 3 10 3345.19 -43.03 114.63 197.52 112.65 15 58 55 2345.2 -29.97 89.13
 60.00 15 27 7 3281.45 -37.54 111.41 200.03 105.87 16 21 48 2281.4 -27.43 85.40
 70.00 16 1 34 3180.05 -32.66 104.60 201.43 100.61 16 54 34 2180.1 -25.06 78.56
 80.00 16 53 12 3018.25 -29.08 92.98 202.08 97.08 17 43 30 2018.3 -23.27 67.07
 90.00 18 7 12 2779.41 -27.73 75.60 202.25 95.79 18 53 32 1779.4 -22.58 49.76
 100.00 19 36 4 2492.73 -29.08 54.34 202.08 97.08 20 17 37 1492.7 -23.27 28.43
 110.00 21 1 0 2226.87 -32.66 33.52 201.43 100.61 21 38 7 1226.9 -25.06 7.48

Differential Corrections: TDE 1.5221 TRA 1.8288 TC3-3.6396 BAU .8028 SGT 4566.9 SGR 3234.9 SG3 1341.5 ST 121.0 SR 88.2 SS 123.5
 RDE 1.0769 RRA 1.5968 RC3-1.7862 FAU .15198 RRT .9720 RRF .9989 RTF .9714 CRT .9972 CR8 -.9991 CST -.9932
 FDE 4.7418 FRA 7.8334 FC3-8.8856 B8P 9332 SGB 5596.5 R23 .1557 R13 .9867 LSA 193.8 MSA 10.2 S8A .4
 BDE 1.8645 BRA 2.4279 BC3 4.0543 F8P 2398 SG1 5561.7 SG2 623.8 THA 35.05 EL1 149.6 EL2 5.3 ALF 38.08

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 15 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.276 GAL -3.63 AZL 87.72 HCA 191.16 SMA 182.56 ECC .18856 INC 2.2817 V1 28.691
 RP 215.87 LAP -.44 LOP 35.53 VP 22.419 GAP 2.77 AZP 92.24 TAL 336.75 TAP 167.91 RCA 148.14 APO 216.99 V2 23.443
 RC 157.385 GL 19.83 GP -26.55 ZAL 132.02 ZAP 75.63 ETS 171.60 ZAE 113.40 ETE 192.62 ZAC 75.99 ETC 270.96 LVI 16.14

Distance 583.306

Planetocentric Conic: C3 14.293 VHL 3.781 DLA 10.47 RAL 333.83 RAD 6640.2 VEL 11.591 PTH 6.63 VHP 3.525 DPA -49.87 RAP 296.36 ECC 1.2352
 LNCM AZMTH LNCM TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 23 42 3266.02 -40.76 108.39 196.09 117.04 16 18 8 2266.0 -26.50 84.77
 60.00 15 51 52 3191.07 -35.64 104.50 198.95 110.22 16 45 3 2191.1 -24.16 79.99
 70.00 16 31 15 3075.17 -31.07 96.84 200.68 104.95 17 22 31 2075.2 -21.99 71.96
 80.00 17 27 41 2898.39 -27.77 84.32 201.57 101.44 18 16 0 1898.4 -20.37 59.35
 90.00 18 43 54 2652.46 -26.53 66.51 201.83 100.18 19 23 6 1652.5 -19.75 41.53
 100.00 20 10 33 2372.87 -27.77 45.69 201.57 101.44 20 50 6 1372.9 -20.37 20.72
 110.00 21 30 42 2121.99 -31.07 25.75 200.68 104.95 22 6 4 1122.0 -21.99 .88

Differential Corrections: TDE 1.4487 TRA 1.9722 TC3-3.9101 BAU .8128 SGT 4773.5 SGR 2936.1 SG3 1406.9 ST 118.8 SR 78.0 SS 121.6
 RDE .9275 RRA 1.4570 RC3-1.6742 FAU .15875 RRT .9739 RRF .9985 RTF .5.37 CRT .9985 CR8 -.9985 CST -.9943
 FDE 4.6196 FRA 8.2913 FC3-9.6150 B8P 9295 SGB 5604.2 R23 .1604 R13 .9855 LSA 186.8 MSA 9.1 S8A .6
 BDE 1.7185 BRA 2.4520 BC3 4.2834 F8P 2500 SG1 5575.1 SG2 570.8 THA 31.29 EL1 142.1 EL2 3.5 ALF 33.28

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 17 1971

Heliocentric Conic: RL 150.07 LAL .00 LOL 204.38 VL 32.280 GAL -3.89 AZL 88.10 HCA 192.31 SMA 182.63 ECC .18920 INC 1.8987 V1 28.691
 RP 216.21 LAP -.41 LOP 36.69 VP 22.382 GAP 2.80 AZP 91.88 TAL 336.41 TAP 168.73 RCA 148.08 APO 217.19 V2 25.405
 RC 159.881 GL 16.98 GP -24.27 ZAL 133.26 ZAP 73.83 ETS 171.45 ZAE 112.33 ETE 190.81 ZAC 78.28 ETC 270.83 LVI 14.23

Distance 587.470

Planetocentric Conic: C3 14.015 VHL 3.744 DLA 7.55 RAL 335.33 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 3.472 DPA -47.71 RAP 295.06 ECC 1.2307
 LNCM AZMTH LNCM TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 40 44 3202.92 -38.71 103.75 195.46 120.18 16 34 7 2202.9 -23.64 81.50
 60.00 16 12 12 3119.17 -33.82 99.27 198.52 113.37 17 4 12 2119.2 -21.41 75.89
 70.00 16 55 23 2992.18 -29.48 90.91 200.45 108.11 17 45 15 1992.2 -19.35 66.97
 80.00 17 55 21 2804.31 -26.32 77.70 201.50 104.63 18 42 6 1804.3 -17.83 53.52
 90.00 19 13 9 2553.26 -25.14 59.58 201.82 103.39 19 55 42 1553.3 -17.25 35.33
 100.00 20 38 13 2278.78 -26.32 39.07 201.50 104.63 21 16 12 1278.8 -17.83 14.89
 110.00 21 54 49 2039.00 -29.46 19.83 200.45 108.11 22 28 48 1039.0 -19.35 355.88

Differential Corrections: TDE 1.4021 TRA 2.1192 TC3-4.1178 BAU .8231 SGT 4981.4 SGR 2680.5 SG3 1455.0 ST 118.1 SR 70.3 SS 120.6
 RDE .8244 RRA 1.3402 RC3-1.5300 FAU .16116 RRT .9742 RRF .9979 RTF .9746 CRT .9995 CR8 -.9978 CST -.9954
 FDE 4.5464 FRA 8.6809 FC3-9.9549 B8P 9445 SGB 5656.8 R23 .1654 R13 .9842 LSA 182.6 MSA 8.2 S8A .7
 BDE 1.6265 BRA 2.5075 BC3 4.3928 F8P 2618 SG1 5631.5 SG2 534.8 THA 27.94 EL1 137.4 EL2 1.9 ALF 30.77

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 15 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC DISTANCE 591.632 EARTH TO MARS
RL 130.07 LAL .00 LOL 204.38 VL 32.288 GAL -3.76 AZL 88.42 HCA 193.47 SMA 182.71 ECC .18989 INC 1.5810 V1 29.691
RP 216.96 LAP -.37 LOP 37.85 VP 22.345 GAP 2.43 AZP 91.54 TAL 336.07 TAP 169.54 RCA 148.01 APO 217.40 V2 25.366
RC 162.390 GL 13.80 GP -22.30 ZAL 134.27 ZAP 72.10 ETS 171.35 ZAE 111.13 ETE 169.27 ZAC 80.27 ETC 270.72 LVI 12.58

PLANETOCENTRIC CONIC
C3 13.893 VHL 3.727 DLA 5.10 RAL 336.66 RAD 6640.0 VEL 11.574 PTH 6.62 VHP 3.438 DPA -45.84 RAP 293.97 ECC 1.2286
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 55 7 3152.04 -36.90 100.22 195.32 122.47 16 47 39 2152.0 -21.27 78.97
60.00 16 29 16 3061.19 -32.18 95.23 198.51 115.70 17 20 18 2061.2 -19.12 72.71
70.00 17 15 27 2925.35 -27.96 86.29 200.59 110.46 18 4 13 1925.3 -17.12 63.07
80.00 18 18 13 2728.78 -24.92 72.53 201.74 107.01 19 3 42 1728.8 -15.65 48.97
90.00 19 37 14 2473.78 -23.78 54.16 202.11 105.77 20 18 28 1473.8 -15.09 30.50
100.00 21 1 5 2203.25 -24.92 33.90 201.74 107.01 21 37 48 1203.3 -15.65 10.34
110.00 22 14 54 1972.17 -27.96 15.21 200.59 110.46 22 47 48 972.2 -17.12 351.99

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3697 TRA 2.2580 TC3-4.3031 BAU .8407 SGT 5183.3 SGR 2430.3 SG3 1483.9 ST 117.6 SR 63.8 SS 118.8
RDE .7417 RRA 1.2309 RC3-1.4040 FAU .16331 RRT .9746 RRF .9972 RTF .9757 CRT .9999 CR8 -.9967 CST -.9984
PDE 4.4489 FRA 8.9450 FC-10.1888 BSP 9551 SGB 5733.3 R23 .1869 R13 .9833 LSA 176.7 MSA 7.4 SSA .9
BDE 1.5576 BRA 2.5717 BC3 4.9284 FSP 2672 SGI 5711.6 SG2 498.3 THA 24.94 EL1 133.8 EL2 .9 ALF 26.45

LAUNCH DATE APR 15 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC DISTANCE 595.790 EARTH TO MARS
RL 130.07 LAL .00 LOL 204.38 VL 32.290 GAL -3.82 AZL 88.69 HCA 194.62 SMA 182.79 ECC .19062 INC 1.3139 V1 29.691
RP 216.91 LAP -.33 LOP 39.00 VP 22.308 GAP 2.26 AZP 91.27 TAL 335.71 TAP 170.33 RCA 147.95 APO 217.63 V2 25.327
RC 164.912 GL 11.44 GP -20.59 ZAL 135.12 ZAP 70.42 ETS 171.28 ZAE 109.86 ETE 187.95 ZAC 81.99 ETC 270.62 LVI 11.15

PLANETOCENTRIC CONIC
C3 13.878 VHL 3.725 DLA 3.04 RAL 337.86 RAD 6640.0 VEL 11.573 PTH 6.62 VHP 3.418 DPA -44.21 RAP 293.05 ECC 1.2284
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 16 7 28 3110.71 -35.36 97.48 195.50 124.19 16 59 19 2110.7 -19.32 76.99
60.00 16 43 50 3013.98 -30.74 92.05 198.79 117.46 17 34 4 2014.0 -17.20 70.19
70.00 17 32 29 2870.89 -26.61 82.63 200.97 112.25 18 20 20 1870.9 -15.24 59.97
80.00 18 37 30 2667.26 -23.63 68.42 202.20 108.81 19 21 58 1667.3 -13.79 45.34
90.00 19 57 31 2409.07 -22.92 49.84 202.60 107.58 20 37 40 1409.1 -13.25 26.64
100.00 21 20 22 2141.73 -23.63 29.79 202.20 108.81 21 58 4 1141.7 -13.79 6.71
110.00 22 31 55 1917.71 -26.61 11.58 200.97 112.25 23 3 53 917.7 -15.24 348.89

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3573 TRA 2.4018 TC3-4.4418 BAU .8571 SGT 5384.6 SGR 2250.9 SG3 1502.2 ST 118.3 SR 58.7 SS 117.8
RDE .6826 RRA 1.1376 RC3-1.2693 FAU .16274 RRT .9738 RRF .9963 RTF .8760 CRT .9995 CR8 -.9954 CST -.9973
PDE 4.3914 FRA 9.1699 FC-10.1522 BSP 9798 SGB 5836.1 R23 .1868 R13 .9822 LSA 176.8 MSA 6.9 SSA 1.1
BDE 1.5193 BRA 2.6576 BC3 4.8198 FSP 2745 SGI 5816.9 SG2 473.7 THA 22.31 EL1 132.1 EL2 1.6 ALF 26.39

LAUNCH DATE APR 15 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC DISTANCE 599.948 EARTH TO MARS
RL 130.07 LAL .00 LOL 204.38 VL 32.295 GAL -3.89 AZL 88.91 HCA 195.77 SMA 182.87 ECC .19138 INC 1.0853 V1 29.691
RP 217.26 LAP -.30 LOP 40.15 VP 22.271 GAP 2.09 AZP 91.05 TAL 335.35 TAP 171.12 RCA 147.88 APO 217.87 V2 25.288
RC 167.446 GL 9.41 GP -19.08 ZAL 135.84 ZAP 68.79 ETS 171.25 ZAE 108.53 ETE 186.83 ZAC 83.50 ETC 270.53 LVI 9.90

PLANETOCENTRIC CONIC
C3 13.938 VHL 3.733 DLA 1.29 RAL 338.95 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 3.410 DPA -42.77 RAP 292.26 ECC 1.2294
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 18 11 3076.89 -34.04 95.32 195.89 125.50 17 9 28 2076.9 -17.70 75.40
60.00 16 56 24 2975.23 -29.49 89.53 199.25 118.81 17 45 59 1975.2 -15.60 66.17
70.00 17 47 7 2826.07 -25.42 79.70 201.51 113.82 18 34 13 1826.1 -13.66 57.47
80.00 18 54 1 2616.56 -22.48 65.09 202.81 110.19 19 37 38 1616.6 -12.22 42.40
90.00 20 14 51 2355.74 -21.38 46.34 203.23 108.97 20 54 7 1355.7 -11.68 23.51
100.00 21 36 53 2091.04 -22.48 26.46 202.81 110.19 22 11 44 1091.0 -12.22 3.77
110.00 22 46 33 1872.89 -25.42 8.61 201.51 113.82 23 17 46 872.9 -13.66 346.38

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3455 TRA 2.5345 TC3-4.5812 BAU .8811 SGT 5577.0 SGR 2085.8 SG3 1504.8 ST 118.7 SR 53.9 SS 115.2
RDE .6276 RRA 1.0451 RC3-1.1714 FAU .16451 RRT .9742 RRF .9950 RTF .576 CRT .9985 CR8 -.9935 CST -.9979
PDE 4.2683 FRA 9.2640 FC-10.2180 BSP 9909 SGB 5947.2 R23 .1829 R13 .9823 LSA 173.8 MSA 6.7 SSA 1.2
BDE 1.4847 BRA 2.7415 BC3 4.7286 FSP 2715 SGI 5931.0 SG2 438.1 THA 19.95 EL1 130.3 EL2 2.7 ALF 24.38

LAUNCH DATE APR 15 1971 FLIGHT TIME 254.00 ARRIVAL DATE DEC 25 1971

HELIOCENTRIC CONIC DISTANCE 604.101 EARTH TO MARS
RL 130.07 LAL .00 LOL 204.38 VL 32.300 GAL -3.96 AZL 89.11 HCA 196.92 SMA 182.97 ECC .19219 INC .8881 V1 29.691
RP 217.81 LAP -.26 LOP 41.30 VP 22.235 GAP 1.92 AZP 90.85 TAL 334.97 TAP 171.89 RCA 147.80 APO 218.13 V2 25.249
RC 169.982 GL 7.86 GP -17.76 ZAL 136.48 ZAP 67.23 ETS 171.24 ZAE 107.18 ETE 185.86 ZAC 84.84 ETC 270.46 LVI 8.80

PLANETOCENTRIC CONIC
C3 14.055 VHL 3.749 DLA -.20 RAL 339.95 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 3.409 DPA -41.50 RAP 291.60 ECC 1.2313
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 27 36 3049.14 -32.93 93.60 196.42 126.51 17 18 25 2049.1 -16.36 74.12
60.00 17 7 23 2943.30 -28.43 87.49 199.84 119.86 17 56 27 1943.3 -14.26 66.53
70.00 17 59 51 2789.00 -24.39 77.31 202.17 114.69 18 46 20 1789.0 -12.32 55.42
80.00 19 8 21 2574.52 -21.46 62.38 203.51 111.27 19 51 16 1574.5 -10.89 39.99
90.00 20 29 52 2311.47 -20.37 43.49 203.95 110.05 21 8 24 1311.5 -10.35 20.94
100.00 21 51 13 2049.00 -21.46 23.75 203.51 111.27 22 25 22 1049.0 -10.89 1.36
110.00 22 59 18 1835.82 -24.39 6.23 202.17 114.69 23 29 53 835.8 -12.32 344.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.3479 TRA 2.6721 TC3-4.6869 BAU .9033 SGT 5768.1 SGR 1904.8 SG3 1502.0 ST 120.0 SR 50.1 SS 113.6
RDE .5881 RRA .9660 RC3-1.0677 FAU .16358 RRT .9733 RRF .9935 RTF .9782 CRT .9967 CR8 -.9913 CST -.9985
PDE 4.1916 FRA 9.3476 FC-10.0760 BSP 10139 SGB 6074.5 R23 .1585 R13 .9820 LSA 172.5 MSA 6.6 SSA 1.3
BDE 1.4706 BRA 2.8414 BC3 4.8070 FSP 2718 SGI 6060.2 SG2 416.0 THA 17.91 EL1 129.9 EL2 3.7 ALF 22.63

LAUNCH DATE APR 15 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC										DISTANCE 608.250										EARTH TO MARS																																																																																				
RL	150.07	LAL	.00	LOL	204.38	VL	32.308	GAL	-4.03	AZL	89.28	HCA	198.06	SMA	183.06	ECC	.19303	INC	.7158	V1	29.691	RP	217.97	LAP	-.22	LOP	42.44	VP	22.198	GAP	1.75	AZP	90.68	TAL	334.59	TAP	172.65	RCA	147.73	APO	218.40	V2	25.209	RC	172.947	GL	6.13	GP	-16.58	ZAL	137.05	ZAP	85.72	ETS	171.24	ZAE	105.82	ETE	185.02	ZAC	86.02	ETC	270.39	LVI	7.82																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	14.216	VHL	3.770	DLA	-1.47	RAL	340.88	RAD	6640.1	VEL	11.588	PTH	6.63	VHP	3.415	DPA	-40.37	RAP	291.03	ECC	1.2340	SGT	5956.1	SGR	1761.9	SG3	1493.1	ST	121.6	SR	47.0	SS	112.1	CRT	.9941	CR8	-.9887	C8T	-.9989	LSA	171.8	MSA	6.8	88A	1.4																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6198.4	SG2	399.2	THA	16.11	EL1	130.3	EL2	4.7	ALF	21.05																																																																			
50.00	16	35	56	3026.33	-32.00	92.23	197.04	127.30	17	26	23	2026.3	-15.25	73.09	60.00	17	17	4	2916.91	-27.52	85.85	200.51	120.69	18	5	41	1916.9	-13.15	65.19	70.00	18	11	2	2758.22	-23.50	75.36	202.89	115.53	18	57	0	1758.2	-11.21	53.74	80.00	19	20	54	2539.49	-20.58	60.16	204.28	112.12	20	3	13	1539.5	-9.76	38.00	90.00	20	43	1	2274.52	-19.49	41.13	204.74	110.90	21	20	55	1274.5	-9.22	18.81	100.00	22	3	46	2013.96	-20.58	21.52	204.28	112.12	22	37	20	1014.0	-9.76	359.37	110.00	23	10	29	1805.04	-23.50	4.28	202.89	115.53	23	40	34	805.0	-11.21	342.66

LAUNCH DATE APR 15 1971 FLIGHT TIME 258.00 ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC										DISTANCE 612.395										EARTH TO MARS																																																																																				
RL	150.07	LAL	.00	LOL	204.38	VL	32.312	GAL	-4.11	AZL	89.44	HCA	199.20	SMA	183.16	ECC	.19391	INC	.5635	V1	29.691	RP	218.33	LAP	-.19	LOP	43.58	VP	22.162	GAP	1.58	AZP	90.53	TAL	334.21	TAP	173.41	RCA	147.65	APO	218.68	V2	25.169	RC	175.114	GL	4.79	GP	-15.53	ZAL	137.58	ZAP	64.27	ETS	171.26	ZAE	104.46	ETE	184.29	ZAC	87.08	ETC	270.33	LVI	6.94																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	14.411	VHL	3.796	DLA	-2.56	RAL	341.74	RAD	6640.2	VEL	11.596	PTH	6.64	VHP	3.426	DPA	-39.36	RAP	290.56	ECC	1.2372	SGT	6139.0	SGR	1633.5	SG3	1478.7	ST	123.4	SR	44.3	SS	110.6	CRT	.9908	CR8	-.9856	C8T	-.9993	LSA	171.4	MSA	7.0	88A	1.4																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6352.6	R23	.1467	R13	.9815	EL1	131.0	EL2	5.7	ALF	19.62																																																																			
50.00	16	43	23	3007.60	-31.22	91.12	197.72	127.92	17	33	31	2007.6	-14.34	72.25	60.00	17	25	41	2895.10	-26.76	84.51	201.24	121.34	18	13	56	1895.1	-12.23	64.09	70.00	18	20	56	2732.62	-22.74	73.77	203.67	116.20	19	6	29	1732.6	-10.27	52.35	80.00	19	31	58	2510.21	-19.82	58.32	205.10	112.80	20	13	48	1510.2	-8.81	36.35	90.00	20	54	36	2243.60	-18.73	39.19	205.57	111.58	21	31	59	1243.6	-8.26	17.04	100.00	22	14	50	1984.68	-19.82	19.68	205.10	112.80	22	47	55	984.7	-8.81	357.72	110.00	23	20	22	1779.44	-22.74	2.68	203.67	116.20	23	50	2	779.4	-10.27	341.27

LAUNCH DATE APR 15 1971 FLIGHT TIME 260.00 ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC										DISTANCE 616.536										EARTH TO MARS																																																																																				
RL	150.07	LAL	.00	LOL	204.38	VL	32.319	GAL	-4.19	AZL	89.57	HCA	200.33	SMA	183.27	ECC	.19482	INC	.4280	V1	29.691	RP	218.69	LAP	-.15	LOP	44.72	VP	22.126	GAP	1.41	AZP	90.40	TAL	333.82	TAP	174.15	RCA	147.56	APO	218.97	V2	25.129	RC	177.890	GL	3.61	GP	-14.58	ZAL	138.07	ZAP	82.86	ETS	171.30	ZAE	103.10	ETE	183.66	ZAC	88.03	ETC	270.29	LVI	6.15																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	14.635	VHL	3.826	DLA	-3.50	RAL	342.56	RAD	6640.4	VEL	11.606	PTH	6.65	VHP	3.442	DPA	-38.44	RAP	290.16	ECC	1.2409	SGT	6318.1	SGR	1318.3	SG3	1460.3	ST	125.4	SR	42.0	SS	109.1	CRT	.9866	CR8	-.9820	C8T	-.9995	LSA	171.3	MSA	7.4	88A	1.4																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6497.9	R23	.1396	R13	.9814	EL1	132.1	EL2	6.9	ALF	18.34																																																																			
50.00	16	30	5	2992.27	-30.58	90.23	198.44	128.41	17	39	57	1992.3	-13.59	71.56	60.00	17	33	23	2877.11	-26.12	83.42	202.01	121.86	18	21	20	1877.1	-11.46	63.19	70.00	18	29	45	2711.34	-22.09	72.45	204.48	116.73	19	14	56	1711.3	-9.48	51.21	80.00	19	41	48	2485.75	-19.17	56.79	205.94	113.34	20	23	14	1485.7	-8.01	34.98	90.00	21	4	53	2217.70	-18.07	37.57	206.42	112.13	21	41	50	1217.7	-7.46	15.57	100.00	22	24	40	1960.22	-19.17	18.16	205.94	113.34	22	37	20	960.2	-8.01	356.34	110.00	23	29	11	1758.16	-22.09	1.37	204.48	118.73	23	58	29	758.2	-9.48	340.12

LAUNCH DATE APR 15 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC										DISTANCE 620.672										EARTH TO MARS																																																																																				
RL	150.07	LAL	.00	LOL	204.38	VL	32.325	GAL	-4.26	AZL	89.89	HCA	201.46	SMA	183.37	ECC	.19577	INC	.3066	V1	29.691	RP	219.06	LAP	-.11	LOP	45.85	VP	22.089	GAP	1.24	AZP	90.29	TAL	333.42	TAP	174.88	RCA	147.80	APO	219.27	V2	25.089	RC	180.275	GL	2.57	GP	-13.73	ZAL	138.53	ZAP	61.51	ETS	171.34	ZAE	101.76	ETE	183.12	ZAC	88.88	ETC	270.25	LVI	5.42																																							
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
C3	14.883	VHL	3.858	DLA	-4.31	RAL	343.33	RAD	6640.5	VEL	11.616	PTH	6.66	VHP	3.462	DPA	-37.62	RAP	289.83	ECC	1.2449	SGT	6493.1	SGR	1415.2	SG3	1439.0	ST	127.6	SR	40.1	SS	107.8	CRT	.9818	CR8	-.9780	C8T	-.9997	LSA	171.6	MSA	7.9	88A	1.4																																																											
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SG2	6645.6	R23	.1325	R13	.9812	EL1	133.6	EL2	7.3	ALF	17.19																																																																			
50.00	16	56	8	2979.82	-30.05	89.51	199.19	128.80	17	45	48	1979.8	-12.98	71.01	60.00	17	40	18	2862.34	-25.58	82.53	202.79	122.27	18	28	0	1862.3	-10.83	62.45	70.00	18	37	39	2693.72	-21.55	71.37	205.31	117.16	19	22	33	1693.7	-8.83	50.26	80.00	19	50	35	2465.35	-18.61	55.53	206.79	113.78	20	31	41	1465.4	-7.34	33.83	90.00	21	14	3	2196.05	-17.51	36.23	207.29	112.57	21	50	39	1196.0	-6.78	14.34	100.00	22	33	27	1939.82	-18.61	16.90	206.79	113.78	23	5	47	939.8	-7.34	355.20	110.00	23	37	5	1740.54	-21.55	.29	205.31	117.16	24	6	6	740.5	-8.83	339.18

LAUNCH DATE APR 15 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC DISTANCE 624.804 EARTH TO MARS
 RL 190.07 LAL .00 LOL 204.38 VL 32.332 GAL -4.34 AZL 89.80 HCA 202.59 SMA 183.49 ECC .19675 INC .1978 V1 26.691
 RP 219.43 LAP -.08 LOP 46.97 VP 22.053 GAP 1.08 AZP 90.18 TAL 333.01 TAP 175.60 RCA 147.39 APO 219.59 V2 25.048
 RC 182.871 GL 1.64 GP -12.96 ZAL 138.97 ZAP 60.20 ETS 171.38 ZAE 100.43 ETE 182.64 ZAC 89.66 ETC 270.23 LVI 4.76

PLANETOCENTRIC CONIC
 C3 15.132 VHL 3.893 DLA -5.02 RAL 344.06 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 3.484 DPA -36.87 RAP 289.57 ECC 1.2494
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 1 38 2969.81 -29.82 88.94 199.96 129.10 17 51 8 1969.8 -12.48 70.57
 60.00 17 46 34 2850.32 -25.14 81.82 203.60 122.60 18 34 4 1850.3 -10.31 61.86
 70.00 18 44 45 2679.21 -21.09 70.49 206.15 117.50 19 29 25 1879.2 -8.28 49.49
 80.00 19 58 28 2448.42 -18.14 54.49 207.66 114.13 20 39 17 1448.4 -6.78 32.89
 90.00 21 22 17 2178.02 -17.04 35.12 208.17 112.92 21 58 35 1178.0 -6.21 13.32
 100.00 22 41 20 1922.89 -18.14 15.86 207.66 114.13 23 13 23 922.9 -6.78 354.26
 110.00 23 44 12 1726.03 -21.09 359.41 206.15 117.50 24 12 58 726.0 -6.28 338.40

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4454 TRA 3.3611 TC3-5.0117 BAU 1.0244 SGT 6664.4 SGR 1322.3 SG3 1415.0 ST 130.0 SR 38.4 SS 106.4
 RDE .4819 RRA .6658 RC3 -.6767 FAU .15135 RRT .9589 RRF .9778 RTF .9797 CRT .9764 CRS -.9735 CST -.9998
 FDE 3.8950 FRA 9.3297 FC3-8.6475 B8P 11443 SGB 6794.3 R23 .1251 R13 .9810 LSA 172.1 NSA 8.4 S8A 1.4
 BDE 1.5236 BRA 3.4264 BC3 5.0572 F8P 2590 SGI 6784.3 SG2 368.5 THA 10.80 EL1 135.3 EL2 8.0 ALF 16.15

LAUNCH DATE APR 15 1971 FLIGHT TIME 266.00 ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC DISTANCE 628.930 EARTH TO MARS
 RL 190.07 LAL .00 LOL 204.38 VL 32.339 GAL -4.43 AZL 89.90 HCA 203.71 SMA 183.60 ECC .19776 INC .0967 V1 29.691
 RP 219.80 LAP -.04 LOP 48.10 VP 22.017 GAP .91 AZP 90.09 TAL 332.60 TAP 176.31 RCA 147.29 APO 219.91 V2 25.007
 RC 185.475 GL .81 GP -12.26 ZAL 139.41 ZAP 58.94 ETS 171.44 ZAE 99.13 ETE 182.21 ZAC 90.36 ETC 270.21 LVI 4.14

PLANETOCENTRIC CONIC
 C3 15.440 VHL 3.929 DLA -5.62 RAL 344.76 RAD 6640.7 VEL 11.640 PTH 6.68 VHP 3.509 DPA -36.18 RAP 289.37 ECC 1.2541
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 6 40 2961.90 -29.28 88.50 200.74 129.34 17 56 2 1961.9 -12.10 70.22
 60.00 17 52 15 2840.66 -24.79 81.25 204.42 122.85 18 39 36 1840.7 -9.89 61.38
 70.00 18 51 11 2667.38 -20.72 69.78 206.99 117.78 19 35 39 1867.4 -7.84 48.86
 80.00 20 5 35 2434.47 -17.75 53.64 208.53 114.41 20 46 9 1434.5 -6.32 32.11
 90.00 21 29 41 2163.11 -16.64 34.21 209.05 113.20 22 5 44 1163.1 -5.74 12.48
 100.00 22 48 27 1908.94 -17.75 15.01 208.53 114.41 23 20 16 908.9 -6.32 353.48
 110.00 23 50 37 1714.20 -20.72 358.70 206.99 117.78 24 19 12 714.2 -7.84 337.77

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4765 TRA 3.5004 TC3-5.0488 BAU 1.0500 SGT 6832.4 SGR 1238.9 SG3 1389.6 ST 132.4 SR 37.0 SS 105.2
 RDE .4717 RRA .6197 RC3 -.6199 FAU .14805 RRT .9534 RRF .9724 RTF .9797 CRT .9702 CRS -.9686 CST -.9998
 FDE 3.8478 FRA 9.2741 FC3-8.3014 B8P 11711 SGB 6943.8 R23 .1180 R13 .9808 LSA 172.9 NSA 8.9 S8A 1.4
 BDE 1.5500 BRA 3.5548 BC3 5.0867 F8P 2549 SGI 6934.1 SG2 368.1 THA 9.84 EL1 137.2 EL2 8.6 ALF 15.23

LAUNCH DATE APR 15 1971 FLIGHT TIME 268.00 ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC DISTANCE 633.052 EARTH TO MARS
 RL 190.07 LAL .00 LOL 204.38 VL 32.347 GAL -4.51 AZL 89.99 HCA 204.83 SMA 183.72 ECC .19881 INC .0000 V1 29.691
 RP 220.18 LAP -.00 LOP 49.22 VP 21.981 GAP .74 AZP 90.01 TAL 332.18 TAP 177.01 RCA 147.20 APO 220.25 V2 24.968
 RC 188.089 GL .07 GP -11.63 ZAL 139.82 ZAP 57.73 ETS 171.50 ZAE 97.84 ETE 181.84 ZAC 91.00 ETC 270.20 LVI 3.57

PLANETOCENTRIC CONIC
 C3 15.744 VHL 3.988 DLA -6.15 RAL 345.43 RAD 6640.9 VEL 11.653 PTH 6.69 VHP 3.536 DPA -35.56 RAP 289.22 ECC 1.2591
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 11 17 2955.80 -29.01 88.16 201.53 129.52 18 0 33 1955.8 -11.79 69.95
 60.00 17 57 27 2833.04 -24.50 80.80 205.24 123.05 18 44 40 1833.0 -9.56 61.00
 70.00 18 57 1 2657.88 -20.42 69.21 207.84 117.99 19 41 19 1857.9 -7.49 48.35
 80.00 20 12 1 2423.11 -17.43 52.95 209.41 114.83 20 52 24 1423.1 -5.94 31.48
 90.00 21 36 22 2150.91 -16.31 33.46 209.93 113.43 22 12 13 1150.9 -5.35 11.79
 100.00 22 54 52 1897.58 -17.43 14.32 209.41 114.83 23 26 30 897.6 -5.94 352.85
 110.00 0 0 23 1704.69 -20.42 358.12 207.84 117.99 0 28 48 704.7 -7.49 337.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5114 TRA 3.6407 TC3-5.0784 BAU 1.0752 SGT 6996.5 SGR 1163.8 SG3 1362.6 ST 135.0 SR 35.8 SS 103.8
 RDE .4839 RRA .6770 RC3 -.5888 FAU .14458 RRT .9489 RRF .9659 RTF .9797 CRT .9638 CRS -.9633 CST -.9999
 FDE 3.8038 FRA 9.2039 FC3-7.9499 B8P 11987 SGB 7092.6 R23 .1110 R13 .9808 LSA 173.9 NSA 9.4 S8A 1.4
 BDF 1.5810 BRA 3.6882 BC3 5.1082 F8P 2507 SGI 7082.9 SG2 369.5 THA 8.98 EL1 139.4 EL2 9.3 ALF 14.39

LAUNCH DATE APR 15 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC DISTANCE 637.168 EARTH TO MARS
 RL 190.07 LAL .00 LOL 204.38 VL 32.354 GAL -4.60 AZL 90.07 HCA 205.95 SMA 183.88 ECC .19989 INC .0743 V1 29.691
 RP 220.59 LAP .03 LOP 50.33 VP 21.948 GAP .57 AZP 89.93 TAL 331.76 TAP 177.71 RCA 147.10 APO 220.60 V2 24.925
 RC 190.711 GL -.60 GP -11.04 ZAL 140.24 ZAP 56.58 ETS 171.56 ZAE 96.58 ETE 181.51 ZAC 91.58 ETC 270.20 LVI 3.04

PLANETOCENTRIC CONIC
 C3 16.085 VHL 4.008 DLA -6.60 RAL 346.07 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 3.565 DPA -34.98 RAP 289.12 ECC 1.2644
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 33 2951.28 -28.82 87.90 202.33 129.65 18 4 44 1951.3 -11.57 69.76
 60.00 18 2 12 2827.21 -24.29 80.46 206.08 123.21 18 49 19 1827.2 -9.31 60.72
 70.00 19 2 20 2650.40 -20.18 68.78 208.70 118.16 19 46 30 1850.4 -7.21 47.95
 80.00 20 17 50 2414.01 -17.17 52.40 210.28 114.81 20 58 4 1414.0 -5.63 30.98
 90.00 21 42 26 2141.08 -16.04 32.86 210.81 113.60 22 18 7 1141.1 -5.04 11.24
 100.00 23 0 42 1888.48 -17.17 13.77 210.28 114.81 23 32 11 888.5 -5.63 352.35
 110.00 0 5 42 1697.21 -20.18 357.68 208.70 118.16 0 33 59 697.2 -7.21 336.87

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5485 TRA 3.7812 TC3-5.0983 BAU 1.1007 SGT 7156.1 SGR 1096.0 SG3 1334.5 ST 137.7 SR 34.7 SS 102.7
 RDE .4579 RRA .5371 RC3 -.5224 FAU .14102 RRT .9392 RRF .9583 RTF .9796 CRT .9565 CRS -.9576 CST -.9998
 FDE 3.7607 FRA 9.1261 FC3-7.5991 B8P 12257 SGB 7239.5 R23 .1044 R13 .9804 LSA 174.9 NSA 9.9 S8A 1.4
 BDE 1.6147 BRA 3.8191 BC3 5.1250 F8P 2461 SGI 7229.9 SG2 372.6 THA 8.21 EL1 141.6 EL2 9.8 ALF 13.63

LAUNCH DATE APR 16 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

DISTANCE 641.270

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.36 VL 32.362 GAL -4.69 AZL 90.15 HCA 207.06 SMA 183.97 ECC .20100 INC .1489 V1 29.691
RP 220.93 LAP .07 LOP 51.45 VP 21.910 GAP .40 AZP 89.67 TAL 331.33 TAP 178.39 RCA 146.99 APO 220.95 V2 24.804
RC 193.341 GL -1.20 GP -10.51 ZAL 140.64 ZAP 55.43 ETS 171.62 ZAE 95.34 ETE 181.22 ZAC 92.11 ETC 270.21 LVI 2.53

PLANETOCENTRIC CONIC

C3 16.401 VHL 4.050 DLA -7.00 RAL 346.69 RAD 6641.2 VEL 11.641 PTH 6.72 VHP 3.595 DPA -34.44 RAP 289.06 ECC 1.2699
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 17 19 29 2948.15 -28.66 87.73 203.13 129.74 18 8 37 1948.2 -11.42 69.62
60.00 18 6 34 2822.93 -24.13 80.21 206.89 123.31 18 53 37 1822.9 -9.13 60.51
70.00 19 7 11 2644.69 -20.00 68.42 209.55 118.28 19 51 16 1644.7 -6.99 47.65
80.00 20 23 8 2406.91 -16.97 51.97 211.15 114.94 21 3 15 1406.9 -5.40 30.58
90.00 21 47 56 2133.34 -15.83 32.39 211.68 113.74 22 23 29 1133.3 -4.79 10.80
100.00 23 6 0 1881.38 -16.97 13.34 211.15 114.94 23 37 22 681.4 -5.40 351.95
110.00 0 10 33 1691.51 -20.00 357.34 209.55 118.28 0 38 45 691.5 -6.99 336.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5875 TRA 3.9227 TC3-5.1161 BAU 1.1268 SGT 7312.9 SGR 1035.1 S63 1305.7 ST 140.3 SR 33.8 SS 101.4
RDE .4535 RRA .5000 RC3 -.4810 FAU .13747 RRT .9301 RRF .9495 RTF .9795 CRT .9490 CRS -.9516 CST -.9998
FDE 3.7177 FRA 9.0441 FC3-7.2563 B8P 12519 SGB 7385.8 R23 .0981 R13 .9801 LSA 176.1 HSA 10.4 S8A 1.4
BDE 1.6510 BRA 3.9545 BC3 5.1386 F8P 2413 S61 7376.2 S62 376.9 THA 7.52 EL1 143.9 EL2 10.4 ALF 12.95

LAUNCH DATE APR 15 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

DISTANCE 645.384

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.36 VL 32.370 GAL -4.78 AZL 90.22 HCA 208.17 SMA 184.10 ECC .20214 INC .2195 V1 29.691
RP 221.31 LAP .10 LOP 52.55 VP 21.874 GAP .24 AZP 89.81 TAL 330.90 TAP 179.07 RCA 146.89 APO 221.32 V2 24.842
RC 195.978 GL -1.74 GP -10.02 ZAL 141.04 ZAP 54.34 ETS 171.69 ZAE 94.13 ETE 180.97 ZAC 92.60 ETC 270.23 LVI 2.06

PLANETOCENTRIC CONIC

C3 16.752 VHL 4.093 DLA -7.33 RAL 347.29 RAD 6641.4 VEL 11.696 PTH 6.73 VHP 3.628 DPA -33.95 RAP 289.07 ECC 1.2757
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 23 8 2946.25 -28.60 87.62 203.93 129.79 18 12 14 1946.2 -11.32 69.54
60.00 18 10 35 2820.04 -24.02 80.04 207.72 123.39 18 57 35 1820.0 -9.00 60.37
70.00 19 11 38 2640.57 -19.86 68.17 210.40 118.37 19 55 38 1640.6 -6.84 47.43
80.00 20 27 58 2401.56 -16.82 51.65 212.02 115.04 21 8 0 1401.6 -5.22 30.29
90.00 21 52 56 2127.43 -15.67 32.04 212.56 113.85 22 28 24 1127.4 -4.60 10.47
100.00 23 10 50 1876.03 -16.82 13.02 212.02 115.04 23 42 6 876.0 -5.22 351.66
110.00 0 15 0 1687.38 -19.86 357.09 210.40 118.37 0 43 7 687.4 -6.84 336.35

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6297 TRA 4.0658 TC3-5.1261 BAU 1.1523 SGT 7466.2 SGR 980.4 S63 1276.5 ST 143.0 SR 33.1 SS 100.3
RDE .4508 RRA .4654 RC3 -.4431 FAU .13371 RRT .9195 RRF .9392 RTF .9792 CRT .9412 CRS -.9454 CST -.9998
FDE 3.6801 FRA 8.9550 FC3-6.9103 B8P 12791 SGB 7530.3 R23 .0925 R13 .9798 LSA 177.4 HSA 10.9 S8A 1.4
BDE 1.6909 BRA 4.0924 BC3 5.1452 F8P 2386 S61 7520.5 S62 382.6 THA 6.90 EL1 146.4 EL2 10.9 ALF 12.34

LAUNCH DATE APR 15 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

DISTANCE 649.484

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.36 VL 32.378 GAL -4.87 AZL 90.29 HCA 209.27 SMA 184.23 ECC .20331 INC .2853 V1 29.691
RP 221.69 LAP .14 LOP 53.66 VP 21.839 GAP .07 AZP 89.75 TAL 330.46 TAP 179.73 RCA 146.78 APO 221.69 V2 24.801
RC 198.821 GL -2.23 GP -9.56 ZAL 141.44 ZAP 53.29 ETS 171.76 ZAE 92.93 ETE 180.74 ZAC 93.06 ETC 270.25 LVI 1.61

PLANETOCENTRIC CONIC

C3 17.117 VHL 4.137 DLA -7.62 RAL 347.88 RAD 6641.5 VEL 11.711 PTH 6.74 VHP 3.661 DPA -33.49 RAP 289.11 ECC 1.2817
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 26 32 2945.42 -28.56 87.58 204.73 129.82 18 15 37 1945.4 -11.28 69.50
60.00 18 14 18 2818.36 -23.96 79.95 208.55 123.43 19 1 17 1818.4 -8.93 60.28
70.00 19 15 43 2637.83 -19.77 68.01 211.25 118.43 19 59 40 1637.8 -6.73 47.29
80.00 20 32 23 2397.77 -16.71 51.42 212.88 115.11 21 12 21 1397.8 -5.09 30.08
90.00 21 57 30 2123.17 -15.55 31.78 213.43 113.92 22 32 53 1123.2 -4.47 10.23
100.00 23 15 15 1872.25 -16.71 12.79 212.88 115.11 23 46 28 872.2 -5.09 351.45
110.00 0 19 5 1684.65 -19.77 356.93 211.25 118.43 0 47 9 684.6 -6.73 336.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6739 TRA 4.2102 TC3-5.1321 BAU 1.1781 SGT 7616.6 SGR 931.4 S63 1247.1 ST 145.8 SR 32.4 SS 99.1
RDE .4493 RRA .4328 RC3 -.4093 FAU .13006 RRT .9075 RRF .9274 RTF .5.91 CRT .9331 CRS -.9390 CST -.9997
FDE 3.6413 FRA 8.8612 FC3-6.5780 B8P 13059 SGB 7673.3 R23 .0871 R13 .9796 LSA 178.9 HSA 11.4 S8A 1.4
BDE 1.7331 BRA 4.2324 BC3 5.1484 F8P 2318 S61 7663.4 S62 388.8 THA 6.35 EL1 148.9 EL2 11.4 ALF 11.79

LAUNCH DATE APR 15 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC

DISTANCE 653.577

EARTH TO MARS

RL 150.07 LAL .00 LOL 204.36 VL 32.386 GAL -4.96 AZL 90.35 HCA 210.38 SMA 184.37 ECC .20451 INC .3461 V1 29.691
RP 222.07 LAP .17 LOP 54.76 VP 21.804 GAP -.10 AZP 89.70 TAL 330.02 TAP 180.39 RCA 146.66 APO 222.06 V2 24.759
RC 201.270 GL -2.87 GP -9.14 ZAL 141.84 ZAP 52.27 ETS 171.83 ZAE 91.77 ETE 180.83 ZAC 93.47 ETC 270.28 LVI 1.18

PLANETOCENTRIC CONIC

C3 17.493 VHL 4.183 DLA -7.87 RAL 348.44 RAD 6641.7 VEL 11.727 PTH 6.76 VHP 3.695 DPA -33.06 RAP 289.19 ECC 1.2879
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 29 42 2945.56 -28.57 87.59 205.54 129.81 18 18 48 1945.6 -11.29 69.51
60.00 18 17 45 2817.78 -23.94 79.91 209.38 123.45 19 4 43 1817.8 -8.91 60.25
70.00 19 19 28 2636.34 -19.72 67.92 212.10 118.46 20 3 24 1636.3 -6.68 47.21
80.00 20 36 26 2395.38 -16.64 51.28 213.74 115.16 21 16 21 1395.4 -5.01 29.75
90.00 22 1 40 2120.37 -15.47 31.61 214.29 113.97 22 37 1 1120.4 -4.38 10.08
100.00 23 19 18 1869.86 -16.64 12.64 213.74 115.16 23 50 28 869.9 -5.01 351.31
110.00 0 22 50 1683.16 -19.72 356.84 212.10 118.46 0 50 53 683.2 -6.68 336.13

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7198 TRA 4.3552 TC3-5.1340 BAU 1.2041 SGT 7763.2 SGR 887.6 S63 1217.5 ST 148.6 SR 31.9 SS 97.9
RDE .4489 RRA .4022 RC3 -.3786 FAU .12635 RRT .8938 RRF .9141 RTF .9788 CRT .9249 CRS -.9324 CST -.9997
FDE 3.6044 FRA 8.7631 FC3-6.2524 B8P 13317 SGB 7813.7 R23 .0824 R13 .9792 LSA 180.4 HSA 11.9 S8A 1.4
BDE 1.7774 BRA 4.3738 BC3 5.1479 F8P 2267 S61 7803.7 S62 396.0 THA 5.85 EL1 151.5 EL2 11.9 ALF 11.29

LAUNCH DATE APR 15 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC

RL 150.07 LAL .00 LOL 204.38 VL 32.394 GAL -5.06 AZL 90.40 MCA 211.47 SMA 184.51 ECC .20574 INC .4028 V1 29.691
 RP 222.46 LAP .21 LOP 55.86 VP 21.769 GAP -.27 AZP 89.66 TAL 329.57 TAP 181.04 RCA 146.55 APO 222.47 V2 24.717
 RC 203.922 GL -3.07 GP -0.75 ZAL 142.23 ZAP 31.29 ETS 171.90 ZAE 90.62 ETE 180.35 ZAC 93.86 ETC 270.32 LVI .76

DISTANCE 657.665

EARTH TO MARS

PLANETOCENTRIC CONIC

CS 17.888 VHL 4.229 DLA -8.07 RAL 348.99 RAD 6641.9 VEL 11.744 PTH 6.77 VHP 3.751 DPA -32.65 RAP 289.31 ECC 1.2944
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 40 2946.56 -28.61 87.64 206.34 129.78 18 21 47 1946.6 -11.34 69.55
 60.00 18 20 57 2818.17 -23.95 79.94 210.20 123.44 19 7 55 1818.2 -8.92 60.27
 70.00 19 22 55 2635.96 -19.71 67.90 212.94 118.47 20 6 51 1636.0 -6.66 47.19
 80.00 20 40 8 2394.24 -16.60 51.21 214.59 115.18 21 20 2 1394.2 -4.97 29.88
 90.00 22 5 29 2118.88 -15.43 31.52 215.15 113.99 22 40 48 1118.9 -4.33 9.99
 100.00 23 23 0 1868.71 -16.60 12.57 214.59 115.18 23 54 9 868.7 -4.97 351.25
 110.00 0 26 18 1682.78 -19.71 356.82 212.94 118.47 0 54 20 682.8 -8.66 336.11

DIFFERENTIAL CORRECTIONS

YDE 1.7681 TRA 4.5023 TC3-5.1307 BAU 1.2298
 RDE .4496 RRA .3734 RC3 -.3507 FAU .12259
 FDE 3.5694 FRA 8.6639 FC3-5.9333 BSP 13580
 BDE 1.8244 BRA 4.5178 BC3 5.1427 FSP 2220

MID-COURSE EXECUTION ACCURACY

SGT 7907.2 SGR 848.6 SG3 1188.1
 RRT .8784 RRF .8991 RTF .9785
 SGB 7952.6 R23 .0781 R13 .9788
 SG1 7942.3 SG2 403.7 TMA 5.40

ORBIT DETERMINATION ACCURACY

ST 151.4 SR 31.4 SS 96.6
 CRT .9165 CR3 -.9258 CST -.9998
 LSA 182.0 HSA 12.4 SSA 1.3
 EL1 154.1 EL2 12.3 ALF 10.83

LAUNCH DATE APR 16 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 14 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 34.696 GAL -5.49 AZL 92.02 HCA 113.96 SMA 235.15 ECC .37245 INC 2.0243 V1 29.682
 RP 207.38 LAP -1.85 LOP 319.34 VP 26.750 GAP 20.84 AZP 89.18 TAL 339.63 TAP 93.60 RCA 147.57 APO 322.73 V2 26.414
 RC 56.241 GL -11.21 GP 2.01 ZAL 127.32 ZAP 171.85 ETS 165.59 ZAE 171.64 ETE 122.98 ZAC 102.85 ETC 276.39 LVI -18.00

Planetocentric Conic: C3 39.350 VHL 6.273 DLA -20.63 RAL 339.77 RAD 6850.4 VEL 12.618 PTH 7.47 VHP 10.250 DPA -17.18 RAP 313.85 ECC 1.6476
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 32 2803.09 -25.80 84.22 206.11 131.47 18 30 35 1883.1 -8.19 66.81
 60.00 18 46 57 2711.76 -19.83 73.96 211.28 125.83 19 32 9 1711.0 -4.28 55.12
 70.00 20 8 31 2471.99 -14.13 58.48 215.25 121.42 20 49 43 1472.0 -4.3 38.59
 80.00 21 45 49 2167.45 -9.61 38.01 217.90 118.41 22 21 57 1167.5 2.69 17.42
 90.00 23 23 55 1860.70 -7.78 16.43 218.88 117.27 23 51 56 860.7 3.97 355.57
 100.00 0 32 37 1641.92 -9.61 359.38 217.90 118.41 0 59 59 641.9 2.69 338.78
 110.00 1 11 53 1518.81 -14.13 347.39 215.25 121.42 1 37 12 518.8 -4.3 327.51

Differential Corrections: TDE -.6677 TRA-1.4205 TC3 -.0542 BAU .0596 SGT 1516.1 SGR 552.4 SG3 155.2 ST 36.9 SR 25.8 SS 25.9
 RDE -.5636 RRA .1605 RC3 .0995 FAU .03728 RRT .1054 RRF -.1144 RTF -.7853 CRT .7715 CRS .6178 CST .9755
 FDE .4400 FRA 1.4510 FC3 -.8203 BSP 2363 SGB 1613.6 R23 -.0192 R13 -.7857 LSA 49.2 MSA 16.9 SSA 1.1
 BDE .8738 BRA 1.4296 BC3 .1133 FSP 210 SG1 1517.4 SG2 548.9 THA 2.53 EL1 42.8 EL2 14.2 ALF 32.38

LAUNCH DATE APR 16 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 16 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 34.546 GAL -5.35 AZL 92.04 HCA 115.22 SMA 230.90 ECC .36060 INC 2.0443 V1 29.682
 RP 207.27 LAP -1.85 LOP 320.60 VP 26.567 GAP 20.34 AZP 89.13 TAL 339.68 TAP 94.91 RCA 147.64 APO 314.17 V2 26.426
 RC 56.362 GL -11.59 GP 2.08 ZAL 127.35 ZAP 171.00 ETS 166.48 ZAE 172.06 ETE 117.17 ZAC 102.88 ETC 276.48 LVI -18.20

Planetocentric Conic: C3 37.271 VHL 6.105 DLA -20.95 RAL 340.01 RAD 6649.7 VEL 12.536 PTH 7.41 VHP 9.940 DPA -17.00 RAP 314.24 ECC 1.6134
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 54 2862.01 -24.87 83.15 205.55 131.96 18 32 37 1862.6 -7.17 65.94
 60.00 18 49 50 2689.94 -18.95 72.78 210.73 126.26 19 34 40 1689.9 -3.32 54.07
 70.00 20 12 3 2448.21 -13.28 57.16 214.71 121.76 20 52 52 1448.2 .48 37.35
 80.00 21 50 9 2141.19 -8.75 36.53 217.40 118.66 22 25 50 1141.2 3.58 15.97
 90.00 23 25 41 1833.03 -6.91 14.86 218.39 117.49 23 56 14 833.0 4.85 354.01
 100.00 0 36 57 1615.66 -8.75 357.90 217.40 118.66 1 3 53 615.7 3.58 337.34
 110.00 1 15 26 1495.03 -13.28 346.07 214.71 121.76 1 40 21 495.0 .48 326.27

Differential Corrections: TDE -.6691 TRA-1.4146 TC3 -.0502 BAU .0587 SGT 1555.2 SGR 549.6 SG3 165.6 ST 38.0 SR 25.7 SS 26.8
 RDE -.5457 RRA .1503 RC3 .1068 FAU .03849 RRT .1157 RRF -.1248 RTF -.7906 CRT .7745 CRS .6165 CST .9742
 FDE .4545 FRA 1.5092 FC3 -.8941 BSP 2506 SGB 1619.5 R23 -.0207 R13 -.7911 LSA 50.3 MSA 16.9 SSA 1.1
 BDE .8634 BRA 1.4225 BC3 .1179 FSP 225 SG1 1556.7 SG2 545.4 THA 2.67 EL1 43.6 EL2 14.2 ALF 31.36

LAUNCH DATE APR 16 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 34.404 GAL -5.21 AZL 92.06 HCA 116.49 SMA 227.04 ECC .34941 INC 2.0648 V1 29.682
 RP 207.18 LAP -1.85 LOP 321.87 VP 26.394 GAP 19.85 AZP 89.08 TAL 339.74 TAP 96.23 RCA 147.71 APO 306.37 V2 26.438
 RC 56.568 GL -11.98 GP 2.16 ZAL 127.36 ZAP 170.15 ETS 167.22 ZAE 172.38 ETE 110.99 ZAC 102.91 ETC 276.57 LVI -18.40

Planetocentric Conic: C3 35.345 VHL 5.945 DLA -21.28 RAL 340.24 RAD 6649.0 VEL 12.460 PTH 7.38 VHP 9.640 DPA -16.81 RAP 314.62 ECC 1.5817
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 47 18 2842.12 -23.93 82.10 205.02 132.43 18 34 40 1842.1 -6.14 65.07
 60.00 18 52 46 2669.04 -18.07 71.80 210.20 126.66 19 37 14 1668.0 -2.36 53.02
 70.00 20 15 42 2424.20 -12.41 55.83 214.21 122.08 20 56 7 1424.2 1.40 36.10
 80.00 21 54 40 2114.50 -7.88 35.03 216.92 118.89 22 29 54 1114.5 4.47 14.50
 90.00 23 30 41 1804.79 -6.02 13.26 217.93 117.68 24 0 46 804.8 5.75 352.42
 100.00 0 41 28 1588.97 -7.88 356.40 216.92 118.89 1 7 57 589.0 4.47 335.87
 110.00 1 19 5 1471.02 -12.41 344.75 214.21 122.08 1 43 36 471.0 1.40 325.02

Differential Corrections: TDE -.6684 TRA-1.4066 TC3 -.0441 BAU .0578 SGT 1591.9 SGR 546.5 SG3 176.8 ST 38.9 SR 25.5 SS 27.8
 RDE -.5283 RRA .1401 RC3 .1141 FAU .03974 RRT .1265 RRF -.1383 RTF -.7869 CRT .7771 CRS .6157 CST .9731
 FDE .4703 FRA 1.5712 FC3 -.9734 BSP 2607 SGB 1683.1 R23 -.0225 R13 -.7974 LSA 51.5 MSA 17.0 SSA 1.1
 BDE .8519 BRA 1.4136 BC3 .1224 FSP 242 SG1 1593.6 SG2 541.5 THA 2.81 EL1 44.4 EL2 14.1 ALF 30.44

LAUNCH DATE APR 16 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 20 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 34.270 GAL -5.07 AZL 92.09 HCA 117.75 SMA 223.52 ECC .33884 INC 2.0857 V1 29.682
 RP 207.09 LAP -1.85 LOP 323.13 VP 26.229 GAP 19.37 AZP 89.03 TAL 339.81 TAP 97.56 RCA 147.78 APO 299.26 V2 26.448
 RC 56.856 GL -12.36 GP 2.25 ZAL 127.35 ZAP 169.27 ETS 167.83 ZAE 172.81 ETE 104.62 ZAC 102.95 ETC 276.66 LVI -18.60

Planetocentric Conic: C3 33.562 VHL 5.793 DLA -21.63 RAL 340.46 RAD 6648.4 VEL 12.388 PTH 7.30 VHP 9.349 DPA -16.62 RAP 314.98 ECC 1.5524
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 45 2821.65 -22.99 81.07 204.52 132.88 18 36 46 1821.6 -5.12 64.21
 60.00 18 55 46 2646.07 -17.17 70.44 209.70 127.04 19 39 52 1648.1 -1.40 51.97
 70.00 20 19 28 2399.99 -11.53 54.51 213.73 122.37 20 59 28 1400.0 2.32 34.83
 80.00 21 59 22 2087.38 -6.98 33.52 216.47 119.10 22 34 9 1087.4 5.38 13.00
 90.00 23 35 54 1775.96 -5.11 11.64 217.49 117.85 24 5 30 776.0 6.66 350.79
 100.00 0 46 9 1561.85 -6.98 354.88 216.47 119.10 1 12 11 561.9 5.38 334.37
 110.00 1 22 51 1446.81 -11.53 343.43 213.73 122.37 1 46 57 446.8 2.32 323.75

Differential Corrections: TDE -.6661 TRA-1.3966 TC3 -.0356 BAU .0570 SGT 1625.9 SGR 543.1 SG3 188.7 ST 39.8 SR 25.4 SS 28.7
 RDE -.5115 RRA .1299 RC3 .1220 FAU .04106 RRT .1382 RRF -.1489 RTF -.8036 CRT .7796 CRS .6152 CST .9721
 FDE .4870 FRA 1.6361 FC3 -1.0591 BSP 2692 SGB 1714.2 R23 -.0245 R13 -.8042 LSA 52.5 MSA 17.0 SSA 1.2
 BDE .8398 BRA 1.4027 BC3 .1271 FSP 261 SG1 1627.9 SG2 537.3 THA 2.97 EL1 45.0 EL2 14.0 ALF 29.60

LAUNCH DATE APR 16 1971

FLIGHT TIME 129.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 34.143 GAL -4.94 AZL 92.11 HCA 119.01 SMA 220.30 ECC .32887 INC 2.1071 V1 29.682
RP 207.01 LAP -1.84 LOP 324.39 VP 26.073 GAP 18.90 AZP 86.98 TAL 339.89 TAP 98.90 RCA 147.85 APO 292.75 V2 26.437
RC 57.225 GL -12.70 GP 2.34 ZAL 127.32 ZAP 168.38 ETS 168.34 ZAE 172.74 ETE 98.27 ZAC 102.99 ETC 276.75 LVI -18.80

DISTANCE 353.255

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.912 VHL 5.649 DLA -21.99 RAL 340.87 RAD 6647.7 VEL 12.322 PTH 7.25 VHP 9.068 DPA -16.43 RAP 315.33 ECC 1.5252
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 52 14 2801.22 -22.04 80.06 204.04 133.30 18 38 55 1801.2 -4.10 63.35
60.00 18 58 50 2624.07 -16.27 69.29 209.22 127.40 19 42 34 1624.1 -.43 50.92
70.00 20 23 22 2375.59 -10.64 53.18 213.27 122.65 21 2 57 1375.6 3.25 33.56
80.00 22 4 16 2039.82 -6.07 31.98 216.05 119.29 22 38 35 1059.8 6.30 11.47
90.00 23 41 24 1746.91 -4.17 9.98 217.09 118.00 24 10 30 746.5 7.59 349.12
100.00 0 51 3 1534.29 -6.07 353.35 216.05 119.29 1 16 38 534.3 6.30 332.84
110.00 1 26 44 1422.41 -10.64 342.10 213.27 122.65 1 50 26 422.4 3.25 322.47

DIFFERENTIAL CORRECTIONS

TDE -.6631 TRA-1.3857 TC3 -.0260 BAW .0567
RDE -.4952 RRA .1197 RC3 .1304 FAU .04244
FDE .5041 FRA 1.7044 FC3-1.1514 B8P 2763
BDE .8276 BRA 1.3909 BC3 .1329 F8P 281

MID-COURSE EXECUTION ACCURACY

SGT 1658.5 SGR 539.5 S63 201.3
RRT .1509 RRF -.1625 RTF -.8103
SGB 1744.0 R23 -.0265 R13 -.8109
SG1 1660.7 S62 532.7 THA 3.13

ORBIT DETERMINATION ACCURACY

ST 40.6 SR 25.2 SS 29.7
CRT .7822 CRS .6147 CST .9710
LSA 53.6 HSA 17.0 SSA 1.2
EL1 45.7 EL2 13.9 ALF 28.83

LAUNCH DATE APR 16 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 34.023 GAL -4.81 AZL 92.13 HCA 120.28 SMA 217.35 ECC .31944 INC 2.1291 V1 29.682
RP 206.94 LAP -1.84 LOP 325.66 VP 25.924 GAP 18.43 AZP 88.93 TAL 339.97 TAP 100.25 RCA 147.92 APO 286.78 V2 26.466
RC 57.675 GL -13.21 GP 2.43 ZAL 127.27 ZAP 167.47 ETS 168.78 ZAE 172.79 ETE 92.15 ZAC 103.05 ETC 276.83 LVI -19.00

DISTANCE 356.282

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.383 VHL 5.512 DLA -22.36 RAL 340.87 RAD 6647.2 VEL 12.260 PTH 7.20 VHP 8.795 DPA -16.24 RAP 315.66 ECC 1.5000
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 54 45 2780.86 -21.08 79.06 203.59 133.70 18 41 6 1780.9 -3.07 62.50
60.00 19 1 59 2602.03 -15.35 68.14 208.78 127.73 19 45 21 1602.0 .54 49.87
70.00 20 27 23 2351.00 -9.73 51.86 212.85 122.90 21 8 34 1351.0 4.19 32.27
80.00 22 9 23 2031.79 -5.13 30.43 215.66 119.45 22 43 14 1031.8 7.23 9.91
90.00 23 47 10 1716.39 -3.20 8.30 216.72 118.11 24 15 46 716.4 8.52 347.41
100.00 0 56 10 1506.26 -5.13 351.80 215.66 119.45 1 21 17 506.3 7.23 331.28
110.00 1 30 45 1397.82 -9.73 340.77 212.85 122.90 1 54 3 397.8 4.19 321.19

DIFFERENTIAL CORRECTIONS

TDE -.6590 TRA-1.3740 TC3 -.0149 BAW .0569
RDE -.4795 RRA .1095 RC3 .1392 FAU .04392
FDE .5218 FRA 1.7759 FC3-1.2514 B8P 2830
BDE .8150 BRA 1.3783 BC3 .1400 F8P 303

MID-COURSE EXECUTION ACCURACY

SGT 1689.5 SGR 535.8 S63 214.8
RRT .1645 RRF -.1774 RTF -.8169
SGB 1772.5 R23 -.0289 R13 -.8175
SG1 1692.1 S62 527.7 THA 3.31

ORBIT DETERMINATION ACCURACY

ST 41.4 SR 25.0 SS 30.7
CRT .7847 CRS .6144 CST .9700
LSA 54.7 HSA 17.1 SSA 1.2
EL1 46.3 EL2 13.8 ALF 28.10

LAUNCH DATE APR 16 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 33.909 GAL -4.68 AZL 92.15 HCA 121.55 SMA 214.64 ECC .31054 INC 2.1516 V1 29.682
RP 206.87 LAP -1.83 LOP 326.93 VP 25.783 GAP 17.98 AZP 88.87 TAL 340.07 TAP 101.61 RCA 147.99 APO 281.29 V2 26.473
RC 58.203 GL -13.64 GP 2.54 ZAL 127.21 ZAP 166.54 ETS 169.16 ZAE 172.76 ETE 86.44 ZAC 103.10 ETC 276.90 LVI -19.20

DISTANCE 359.407

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.987 VHL 5.382 DLA -22.75 RAL 341.07 RAD 6646.6 VEL 12.203 PTH 7.16 VHP 8.531 DPA -16.05 RAP 315.96 ECC 1.4767
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 57 19 2760.57 -20.13 78.08 203.17 134.07 18 43 20 1760.6 -2.08 61.65
60.00 19 5 13 2579.99 -14.43 67.01 208.38 128.05 19 48 13 1580.0 1.51 48.82
70.00 20 31 33 2328.23 -8.82 50.53 212.46 123.13 21 10 19 1326.2 5.13 30.97
80.00 22 14 44 2003.28 -4.18 28.85 215.31 119.59 22 48 7 1003.3 8.17 8.31
90.00 23 53 15 1685.54 -2.21 6.57 216.39 118.20 24 21 20 685.5 9.47 345.64
100.00 1 1 32 1477.75 -4.18 350.22 215.31 119.59 1 26 9 477.8 8.17 329.68
110.00 1 34 55 1373.05 -8.82 339.45 212.46 123.13 1 57 48 373.0 5.13 319.89

DIFFERENTIAL CORRECTIONS

TDE -.6549 TRA-1.3615 TC3 -.0032 BAW .0575
RDE -.4844 RRA .0992 RC3 .1484 FAU .04549
FDE .5402 FRA 1.8508 FC3-1.3594 B8P 2893
BDE .8028 BRA 1.3651 BC3 .1485 F8P 326

MID-COURSE EXECUTION ACCURACY

SGT 1719.4 SGR 532.0 S63 229.2
RRT .1794 RRF -.1937 RTF -.8230
SGB 1799.8 R23 -.0315 R13 -.8238
SG1 1722.3 S62 522.5 THA 3.30

ORBIT DETERMINATION ACCURACY

ST 42.1 SR 24.8 SS 31.8
CRT .7975 CRS .6142 CST .9689
LSA 55.7 HSA 17.1 SSA 1.2
EL1 46.9 EL2 13.7 ALF 27.42

LAUNCH DATE APR 16 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 33.802 GAL -4.56 AZL 92.17 HCA 122.81 SMA 212.15 ECC .30214 INC 2.1748 V1 29.682
RP 206.82 LAP -1.83 LOP 328.20 VP 25.648 GAP 17.53 AZP 88.82 TAL 340.17 TAP 102.98 RCA 148.05 APO 276.25 V2 26.479
RC 58.807 GL -14.07 GP 2.64 ZAL 127.14 ZAP 165.59 ETS 169.48 ZAE 172.67 ETE 81.29 ZAC 103.17 ETC 276.98 LVI -19.40

DISTANCE 362.621

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.656 VHL 5.259 DLA -23.18 RAL 341.28 RAD 6646.1 VEL 12.149 PTH 7.12 VHP 8.274 DPA -15.85 RAP 316.25 ECC 1.4551
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 57 2740.39 -19.17 77.12 202.78 134.42 18 45 37 1740.4 -1.04 60.81
60.00 19 8 32 2557.95 -13.50 65.89 207.98 128.34 19 51 10 1550.0 2.48 47.76
70.00 20 35 51 2301.28 -7.88 49.20 212.10 123.34 21 14 12 1301.3 6.07 29.65
80.00 22 20 20 1974.25 -3.20 27.25 214.99 119.70 22 53 15 974.3 9.12 6.68
90.00 0 3 38 1653.88 -1.19 4.81 216.10 118.26 0 31 10 653.9 10.44 343.82
100.00 1 7 8 1448.72 -3.20 348.62 214.99 119.70 1 31 17 448.7 9.12 328.05
110.00 1 39 13 1348.10 -7.88 338.11 212.10 123.34 2 1 41 348.1 6.07 318.57

DIFFERENTIAL CORRECTIONS

TDE -.6504 TRA-1.3483 TC3 .0095 BAW .0586
RDE -.4498 RRA .0888 RC3 .1582 FAU .04715
FDE .5594 FRA 1.9298 FC3-1.4760 B8P 2932
BDE .7908 BRA 1.3512 BC3 .1585 F8P 351

MID-COURSE EXECUTION ACCURACY

SGT 1747.7 SGR 528.1 S63 244.5
RRT .1958 RRF -.2116 RTF -.8290
SGB 1825.7 R23 -.0344 R13 -.8298
SG1 1751.1 S62 516.9 THA 3.71

ORBIT DETERMINATION ACCURACY

ST 42.8 SR 24.6 SS 32.8
CRT .7905 CRS .6144 CST .9678
LSA 56.7 HSA 17.1 SSA 1.2
EL1 47.4 EL2 13.6 ALF 26.77

LAUNCH DATE APR 16 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC
 RL 190.12 LAL .00 LOL 205.36 VL 33.701 GAL -4.45 AZL 92.20 HCA 124.08 SMA 209.85 ECC .29420 INC 2.1987 V1 29.682
 RP 206.77 LAP -1.82 LOP 329.46 VP 25.520 GAP 17.09 AZP 88.77 TAL 340.28 TAP 104.36 RCA 148.11 APO 271.59 V2 26.485
 RC 59.485 GL -14.52 GP 2.76 ZAL 127.05 ZAP 164.62 ETS 169.75 ZAE 172.54 ETE 76.78 ZAC 103.25 ETC 277.05 LVI -19.60

PLANETOCENTRIC CONIC
 C3 26.442 VHL 5.142 DLA -23.56 RAL 341.44 RAD 6645.6 VEL 12.100 PTH 7.08 VHP 8.026 DPA -15.66 RAP 316.52 ECC 1.4352
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 37 2720.31 -18.21 76.18 202.43 134.75 18 47 57 1720.3 -.03 59.97
 60.00 19 11 57 2535.93 -12.57 64.77 207.63 128.61 19 54 13 1535.9 3.45 46.71
 70.00 20 40 19 2276.15 -6.94 47.86 211.78 123.52 21 18 15 1276.2 7.02 26.32
 80.00 22 26 14 1944.65 -2.20 25.63 214.72 119.78 22 58 39 944.7 10.08 5.01
 90.00 0 10 25 1621.31 -.14 2.99 215.86 118.28 0 37 26 621.3 11.42 341.93
 100.00 1 13 2 1419.12 -2.20 346.99 214.72 119.78 1 36 41 419.1 10.08 326.37
 110.00 1 43 41 1322.97 -6.94 336.78 211.78 123.52 2 5 44 323.0 7.02 317.24

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6456 TRA-1.3347 TC3 .0222 BAU .0601 SGT 1774.9 SGR 524.2 SG3 260.9 ST 43.4 SR 24.3 SS 33.9
 RDE -.4357 RRA .0784 RC3 .1684 FAU .04892 RRT .2134 RRF -.2309 RTF -.8344 CRT .7938 CR8 .6147 CST .9665
 FDE .5792 FRA 2.0127 FC3-1.6016 B8P 3015 SGB 1850.7 R23 -.0376 R13 -.8353 LSA 57.8 MSA 17.1 S8A 1.2
 BDE .7789 BRA 1.3370 BC3 .1699 F8P 378 SG1 1778.8 SG2 511.0 THA 3.93 EL1 47.9 EL2 13.4 ALF 26.16

LAUNCH DATE APR 16 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC
 RL 190.12 LAL .00 LOL 205.36 VL 33.805 GAL -4.33 AZL 92.22 HCA 125.35 SMA 207.73 ECC .28671 INC 2.2233 V1 29.682
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.398 GAP 16.68 AZP 88.71 TAL 340.39 TAP 105.74 RCA 148.18 APO 267.29 V2 26.489
 RC 60.233 GL -14.97 GP 2.88 ZAL 126.94 ZAP 163.63 ETS 169.99 ZAE 172.39 ETE 72.93 ZAC 103.33 ETC 277.11 LVI -19.80

PLANETOCENTRIC CONIC
 C3 25.319 VHL 5.032 DLA -23.98 RAL 341.62 RAD 6645.1 VEL 12.054 PTH 7.04 VHP 7.786 DPA -15.46 RAP 316.76 ECC 1.4167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 21 2700.37 -17.25 75.25 202.10 135.08 18 50 22 1700.4 .97 59.13
 60.00 19 15 27 2513.94 -11.63 63.87 207.31 128.86 19 57 21 1513.9 4.42 45.65
 70.00 20 44 56 2250.84 -5.99 46.52 211.50 123.69 21 22 27 1250.8 7.97 26.98
 80.00 22 32 26 1914.42 -1.18 23.97 214.48 119.84 23 4 21 914.4 11.05 3.29
 90.00 0 17 40 1587.69 .94 1.11 215.66 118.27 0 44 8 587.7 12.42 339.96
 100.00 1 19 14 1388.89 -1.18 345.33 214.48 119.84 1 42 23 388.9 11.05 324.65
 110.00 1 48 19 1297.66 -5.99 335.44 211.50 123.69 2 9 56 297.7 7.97 315.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6408 TRA-1.3203 TC3 .0361 BAU .0619 SGT 1800.4 SGR 520.4 SG3 278.3 ST 44.1 SR 24.1 SS 35.0
 RDE -.4222 RRA .0678 RC3 .1793 FAU .05082 RRT .2329 RRF -.2521 RTF -.8395 CRT .7976 CR8 .6153 CST .9652
 FDE .5997 FRA 2.0098 FC3-1.7378 B8P 3067 SGB 1874.1 R23 -.0410 R13 -.8405 LSA 58.8 MSA 17.1 S8A 1.2
 BDE .7674 BRA 1.3221 BC3 .1829 F8P 406 SG1 1804.9 SG2 504.8 THA 4.18 EL1 46.4 EL2 13.2 ALF 25.59

LAUNCH DATE APR 16 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC
 PL 190.12 LAL .00 LOL 205.36 VL 33.915 GAL -4.22 AZL 92.25 HCA 126.62 SMA 205.78 ECC .27963 INC 2.2487 V1 29.682
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.281 GAP 16.24 AZP 88.66 TAL 340.51 TAP 107.13 RCA 148.24 APO 263.32 V2 26.497
 RC 61.050 GL -15.44 GP 3.01 ZAL 126.83 ZAP 162.61 ETS 170.19 ZAE 172.23 ETE 69.73 ZAC 103.43 ETC 277.17 LVI -20.00

PLANETOCENTRIC CONIC
 C3 24.279 VHL 4.927 DLA -24.42 RAL 341.80 RAD 6644.7 VEL 12.011 PTH 7.00 VHP 7.554 DPA -15.26 RAP 316.98 ECC 1.3998
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 8 9 2680.56 -16.29 74.34 201.81 135.34 18 52 50 1680.6 1.96 58.31
 60.00 19 19 3 2491.98 -10.69 62.58 207.03 129.09 20 0 35 1492.0 5.38 44.60
 70.00 20 49 45 2229.34 -5.02 45.18 211.26 123.83 21 26 50 1225.3 8.92 25.62
 80.00 22 38 50 1883.48 -.13 22.27 214.30 119.86 23 10 22 883.5 12.03 1.51
 90.00 0 25 26 1552.84 2.07 359.17 215.52 118.21 0 51 19 552.8 13.43 337.91
 100.00 1 25 47 1357.95 -.13 343.64 214.30 119.86 1 48 25 357.9 12.03 322.88
 110.00 1 53 7 1272.16 -5.02 334.10 211.26 123.83 2 14 20 272.2 8.92 314.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6353 TRA-1.3055 TC3 .0496 BAU .0639 SGT 1824.2 SGR 516.7 SG3 298.8 ST 44.6 SR 23.8 SS 36.2
 RDE -.4091 RRA .0571 RC3 .1907 FAU .05282 RRT .2536 RRF -.2749 RTF -.8442 CRT .8014 CR8 .6161 CST .9638
 FDE .6207 FRA 2.1915 FC3-1.8833 B8P 3120 SGB 1895.9 R23 -.0490 R13 -.8454 LSA 59.8 MSA 17.1 S8A 1.2
 BDE .7557 BRA 1.3067 BC3 .1970 F8P 437 SG1 1829.2 SG2 498.4 THA 4.44 EL1 46.9 EL2 13.0 ALF 25.06

LAUNCH DATE APR 16 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC
 RL 190.12 LAL .00 LOL 205.36 VL 33.429 GAL -4.12 AZL 92.28 HCA 127.89 SMA 203.97 ECC .27295 INC 2.2750 V1 29.682
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.170 GAP 15.82 AZP 88.60 TAL 340.63 TAP 106.52 RCA 148.29 APO 259.64 V2 26.498
 RC 61.933 GL -15.91 GP 3.15 ZAL 126.70 ZAP 161.57 ETS 170.36 ZAE 172.07 ETE 67.17 ZAC 103.54 ETC 277.23 LVI -20.20

PLANETOCENTRIC CONIC
 C3 23.318 VHL 4.829 DLA -24.87 RAL 341.98 RAD 6644.3 VEL 11.971 PTH 6.97 VHP 7.328 DPA -15.06 RAP 317.17 ECC 1.3838
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 11 1 2680.91 -15.34 73.45 201.55 135.61 18 55 22 1680.9 2.95 57.48
 60.00 19 22 46 2470.06 -9.75 61.49 206.79 129.30 20 3 56 1470.1 6.34 43.54
 70.00 20 54 45 2199.62 -4.05 43.83 211.05 123.94 21 31 25 1199.6 9.87 24.24
 80.00 22 45 55 1851.71 .95 20.52 214.16 119.84 23 16 47 851.7 13.02 359.68
 90.00 0 33 47 1516.49 3.23 357.14 215.43 118.11 0 59 4 516.5 14.47 335.75
 100.00 1 32 43 1326.18 .95 341.89 214.16 119.84 1 54 49 326.2 13.02 321.04
 110.00 1 58 8 1246.44 -4.05 332.75 211.05 123.94 2 18 54 246.4 9.87 313.15

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5297 TRA-1.2896 TC3 .0638 BAU .0662 SGT 1845.6 SGR 513.3 SG3 316.4 ST 45.1 SR 23.6 SS 37.3
 RDE -.3967 RRA .0462 RC3 .2027 FAU .05496 RRT .2763 RRF -.2999 RTF -.8486 CRT .8058 CR8 .6175 CST .9673
 FDE .6427 FRA 2.2875 FC3-2.0404 B8P 3165 SGB 1915.6 R23 -.0494 R13 -.8499 LSA 60.7 MSA 17.1 S8A 1.2
 BDE .7443 BRA 1.2904 BC3 .2125 F8P 469 SG1 1851.5 SG2 491.8 THA 4.73 EL1 49.3 EL2 12.8 ALF 24.57

LAUNCH DATE APR 16 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 33.348 GAL -4.02 AZL 92.30 HCA 129.16 SMA 202.29 ECC .26665 INC 2.3022 V1 29.682
RP 206.68 LAP -1.79 LOP 334.54 VP 25.064 GAP 15.42 AZP 88.55 TAL 340.76 TAP 109.91 RCA 148.35 APO 256.23 V2 26.496
RC 62.879 GL -16.39 GP 3.30 ZAL 128.56 ZAP 160.51 ETS 170.51 ZAE 171.93 ETE 65.22 ZAC 103.65 ETC 277.28 LVI -20.41

PLANETOCENTRIC CONIC

C3 22.428 VHL 4.736 DLA -25.32 RAL 342.15 RAD 6643.9 VEL 11.934 PTH 6.94 VHP 7.110 DPA -14.86 RAP 317.34 ECC 1.3601
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 13 57 2641.38 -14.39 72.57 201.33 135.86 18 57 59 1641.4 3.93 56.67
60.00 19 26 36 2448.14 -8.80 60.42 206.58 129.49 20 7 25 1448.1 7.29 42.47
70.00 20 59 59 2173.63 -3.06 42.47 210.89 124.03 21 36 12 1173.6 10.83 22.83
80.00 22 53 18 1818.93 2.06 18.72 214.08 119.79 23 23 37 818.9 14.03 357.77
90.00 0 42 53 1478.23 4.46 354.99 215.40 117.96 1 7 31 478.2 15.54 333.45
100.00 1 40 6 1293.40 2.06 340.09 214.08 119.79 2 1 40 293.4 14.03 319.13
110.00 2 3 21 1220.45 -3.06 331.39 210.89 124.03 2 23 41 220.5 10.83 311.75

DIFFERENTIAL CORRECTIONS

TDE -.6154 TRA-1.2647 TC3 .0929 BAU .0704
RDE -.3945 RRA .0353 RC3 .2156 FAU .05727
FDE .6645 FRA 2.3860 FC3-2.2107 B8P 3103
BDE .7257 BRA 1.2652 BC3 .2348 F8P 503

MID-COURSE EXECUTION ACCURACY

SGT 1851.3 SGR 510.2 S63 337.4
RRT .3011 RRF -.3266 RTF -.8567
SGB 1920.3 R23 -.0521 R13 -.8581
SG1 1858.1 S62 484.8 THA 5.09

ORBIT DETERMINATION ACCURACY

ST 45.1 SR 23.3 S8 39.5
CRT .8086 CR8 .6187 CST .9619
LSA 61.3 M8A 17.1 S8A 1.2
EL1 49.1 EL2 12.6 ALF 24.36

LAUNCH DATE APR 16 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 33.272 GAL -3.92 AZL 92.33 HCA 130.43 SMA 200.74 ECC .28071 INC 2.3304 V1 29.682
RP 206.67 LAP -1.77 LOP 335.81 VP 24.963 GAP 15.02 AZP 88.49 TAL 340.88 TAP 111.31 RCA 148.40 APO 253.07 V2 26.496
RC 63.888 GL -16.88 GP 3.45 ZAL 126.42 ZAP 159.42 ETS 170.63 ZAE 171.81 ETE 63.84 ZAC 103.79 ETC 277.32 LVI -20.61

PLANETOCENTRIC CONIC

C3 21.608 VHL 4.648 DLA -25.79 RAL 342.33 RAD 6643.5 VEL 11.900 PTH 6.91 VHP 6.899 DPA -14.65 RAP 317.48 ECC 1.3586
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 16 58 2622.07 -13.44 71.71 201.15 136.08 19 0 40 1622.1 4.90 55.85
60.00 19 30 34 2426.33 -7.86 59.35 206.42 129.66 20 11 0 1426.3 8.24 41.41
70.00 21 5 25 2147.45 -2.06 41.10 210.78 124.10 21 41 12 1147.5 11.78 21.41
80.00 23 1 11 1785.10 3.20 16.86 214.05 119.70 23 30 56 785.1 15.05 355.78
90.00 0 52 50 1437.71 5.75 352.71 215.45 117.74 1 16 48 437.7 16.65 330.98
100.00 1 47 59 1259.56 3.20 338.23 214.05 119.70 2 8 59 259.6 15.05 317.14
110.00 2 8 47 1194.27 -2.06 330.02 210.78 124.10 2 28 41 194.3 11.78 310.32

DIFFERENTIAL CORRECTIONS

TDE -.6144 TRA-1.2524 TC3 .0980 BAU .0719
RDE -.3731 RRA .0236 RC3 .2288 FAU .05964
FDE .6888 FRA 2.4953 FC3-2.3897 B8P 3205
BDE .7188 BRA 1.2526 BC3 .2489 F8P 541

MID-COURSE EXECUTION ACCURACY

SGT 1876.4 SGR 507.7 S63 359.6
RRT .3273 RRF -.3557 RTF -.8580
SGB 1943.9 R23 -.0587 R13 -.8597
SG1 1884.3 S62 477.8 THA 5.41

ORBIT DETERMINATION ACCURACY

ST 45.8 SR 23.0 S8 39.7
CRT .8151 CR8 .6213 CST .9594
LSA 62.5 M8A 17.1 S8A 1.2
EL1 49.7 EL2 12.3 ALF 23.81

LAUNCH DATE APR 16 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 33.200 GAL -3.83 AZL 92.36 HCA 131.89 SMA 199.30 ECC .25511 INC 2.3597 V1 29.682
RP 206.68 LAP -1.76 LOP 337.08 VP 24.867 GAP 14.63 AZP 88.43 TAL 341.01 TAP 112.71 RCA 148.46 APO 250.14 V2 26.496
RC 64.956 GL -17.38 GP 3.62 ZAL 126.26 ZAP 158.30 ETS 170.74 ZAE 171.71 ETE 63.00 ZAC 103.93 ETC 277.36 LVI -20.82

PLANETOCENTRIC CONIC

C3 20.851 VHL 4.568 DLA -26.26 RAL 342.50 RAD 6643.2 VEL 11.868 PTH 6.88 VHP 6.895 DPA -14.45 RAP 317.59 ECC 1.3432
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 20 4 2602.93 -12.50 70.87 201.00 136.29 19 3 27 1602.9 5.86 55.05
60.00 19 34 39 2404.56 -6.91 58.29 206.29 129.80 20 14 44 1404.6 9.16 40.35
70.00 21 11 6 2120.97 -1.05 39.72 210.71 124.14 21 48 27 1121.0 12.74 19.95
80.00 23 9 40 1749.84 4.39 14.92 214.09 119.56 23 38 50 749.8 16.10 353.08
90.00 1 3 57 1393.99 7.13 350.24 215.58 117.44 1 27 11 394.0 17.80 326.29
100.00 1 56 28 1224.31 4.39 336.29 214.09 119.56 2 16 52 224.3 16.10 315.05
110.00 2 14 28 1167.78 -1.05 328.63 210.71 124.14 2 33 56 167.8 12.74 308.87

DIFFERENTIAL CORRECTIONS

TDE -.6105 TRA-1.2362 TC3 .1071 BAU .0740
RDE -.3622 RRA .0121 RC3 .2428 FAU .06221
FDE .7135 FRA 2.6071 FC3-2.5829 B8P 3265
BDE .7098 BRA 1.2363 BC3 .2654 F8P 581

MID-COURSE EXECUTION ACCURACY

SGT 1894.2 SGR 505.9 S63 383.2
RRT .3534 RRF -.3870 RTF -.8601
SGB 1960.8 R23 -.0655 R13 -.8620
SG1 1903.3 S62 470.7 THA 5.78

ORBIT DETERMINATION ACCURACY

ST 46.3 SR 22.7 S8 40.9
CRT .8218 CR8 .6244 CST .9573
LSA 63.6 M8A 17.1 S8A 1.2
EL1 50.1 EL2 12.0 ALF 23.39

LAUNCH DATE APR 16 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 33.132 GAL -3.74 AZL 92.39 HCA 132.96 SMA 197.96 ECC .24983 INC 2.3901 V1 29.682
RP 206.70 LAP -1.75 LOP 338.35 VP 24.774 GAP 14.25 AZP 88.37 TAL 341.14 TAP 114.10 RCA 148.51 APO 247.42 V2 26.494
RC 66.082 GL -17.89 GP 3.80 ZAL 126.10 ZAP 157.15 ETS 170.82 ZAE 171.64 ETE 62.70 ZAC 104.09 ETC 277.40 LVI -21.03

PLANETOCENTRIC CONIC

C3 20.153 VHL 4.489 DLA -26.75 RAL 342.68 RAD 6642.9 VEL 11.839 PTH 6.86 VHP 6.497 DPA -14.24 RAP 317.67 ECC 1.3317
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 23 15 2583.96 -11.57 70.03 200.89 136.48 19 6 19 1584.0 6.81 54.24
60.00 19 38 53 2382.82 -5.96 57.24 206.21 129.93 20 18 36 1382.8 10.12 39.28
70.00 21 17 4 2094.13 -.02 38.32 210.69 124.15 21 51 58 1094.1 13.70 18.47
80.00 23 18 53 1712.82 5.63 12.87 214.19 119.37 23 47 25 712.8 17.17 351.45
90.00 1 16 38 1345.73 8.63 347.49 215.81 117.04 1 39 4 345.7 19.02 325.28
100.00 2 5 40 1187.29 5.63 334.24 214.19 119.37 2 25 28 187.3 17.17 312.82
110.00 2 20 26 1140.95 -.02 327.23 210.69 124.15 2 39 27 140.9 13.70 307.39

DIFFERENTIAL CORRECTIONS

TDE -.6053 TRA-1.2184 TC3 .1168 BAU .0762
RDE -.3517 RRA -.0000 RC3 .2576 FAU .06490
FDE .7393 FRA 2.7260 FC3-2.7879 B8P 3310
BDE .7000 BRA 1.2184 BC3 .2829 F8P 623

MID-COURSE EXECUTION ACCURACY

SGT 1907.9 SGR 504.9 S63 408.3
RRT .3852 RRF -.4202 RTF -.8624
SGB 1973.6 R23 -.0728 R13 -.8646
SG1 1918.5 S62 463.4 THA 6.18

ORBIT DETERMINATION ACCURACY

ST 46.6 SR 22.4 S8 42.2
CRT .8283 CR8 .6281 CST .9552
LSA 64.5 M8A 17.1 S8A 1.2
EL1 50.4 EL2 11.6 ALF 23.03

LAUNCH DATE APR 16 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 33.069 GAL -3.65 AZL 92.42 HCA 134.23 SMA 196.72 ECC .24485 INC 2.4216 V1 29.682
 RP 206.72 LAP -1.74 LOP 339.62 VP 24.686 GAP 13.88 AZP 88.31 TAL 341.27 TAP 115.30 RCA 148.55 APO 244.89 VE 26.491
 RC 67.265 GL -18.40 GP 3.99 ZAL 125.93 ZAP 155.98 ETS 170.89 ZAE 171.60 ETE 62.93 ZAC 104.27 ETC 277.43 LVI -21.24

PLANETOCENTRIC CONIC
 C3 19.511 VHL 4.417 DLA -27.24 RAL 342.66 RAD 6642.6 VEL 11.812 PTH 6.83 VHP 6.306 DPA -14.02 RAP 317.71 ECC 1.3211
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 33 2565.17 -10.64 69.22 200.81 136.65 19 9 18 1565.2 7.74 53.45
 60.00 19 43 16 2361.10 -5.01 56.19 206.17 130.04 20 22 37 1361.1 11.05 36.20
 70.00 21 23 19 2066.89 1.02 36.90 210.72 124.14 21 57 46 1066.9 14.67 16.95
 80.00 23 28 59 1673.32 6.94 10.69 214.37 119.11 23 56 52 673.5 18.27 349.06
 90.00 1 31 45 1290.27 10.33 344.31 216.18 116.47 1 53 15 290.3 20.36 321.76
 100.00 2 15 46 1148.00 6.94 332.06 214.37 119.11 2 34 54 148.0 18.27 310.43
 110.00 2 26 41 1113.70 1.02 325.81 210.72 124.14 2 45 15 113.7 14.67 305.87

DIFFERENTIAL CORRECTIONS
 YDE -.5994 TRA-1.1988 TC3 .1269 BAU .0786 SGT 1917.3 SGR 505.1 SG3 434.9 ST 46.9 SR 22.2 S8 43.5
 RDE -.3417 RRA -.0125 RC3 .2734 FAU .06777 RRT .4168 RRF -.4555 RTF -.8645 CRT .8357 CR8 .6326 CST .9530
 FDE .7659 FRA 2.8502 FC3-3.0069 BSP 3341 SGB 1982.7 R23 -.0808 R13 -.8671 LSA 65.5 MSA 17.1 S8A 1.2
 BDE .6699 BRA 1.1989 BC3 .3014 F8P 668 SG1 1929.5 SG2 456.2 THA 6.64 EL1 50.6 EL2 11.3 ALF 22.74

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 16 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 33.008 GAL -3.57 AZL 92.46 HCA 135.90 SMA 195.57 ECC .24017 INC 2.4550 V1 29.682
 RP 206.75 LAP -1.72 LOP 340.89 VP 24.601 GAP 13.51 AZP 88.25 TAL 341.40 TAP 116.90 RCA 148.60 APO 242.54 VE 26.487
 RC 68.502 GL -18.93 GP 4.19 ZAL 125.75 ZAP 154.77 ETS 170.94 ZAE 171.58 ETE 63.71 ZAC 104.46 ETC 277.45 LVI -21.46

PLANETOCENTRIC CONIC
 C3 18.921 VHL 4.350 DLA -27.74 RAL 343.05 RAD 6642.4 VEL 11.787 PTH 6.81 VHP 6.121 DPA -13.81 RAP 317.72 ECC 1.3114
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 56 2546.56 -9.72 68.41 200.78 136.81 19 12 23 1546.6 8.67 52.65
 60.00 19 47 49 2339.41 -4.06 55.15 206.18 130.13 20 26 48 1339.4 11.98 37.12
 70.00 21 29 55 2039.16 2.08 35.45 210.81 124.10 22 3 54 1039.2 15.64 15.39
 80.00 23 40 14 1631.15 8.33 8.32 214.65 118.78 24 7 25 631.1 19.43 346.44
 90.00 1 51 23 1220.91 12.40 340.27 216.78 115.62 2 11 44 220.9 21.91 317.27
 100.00 2 27 2 1108.62 6.33 329.69 214.65 118.78 2 45 28 105.6 19.43 307.81
 110.00 2 33 17 1085.98 2.08 324.37 210.81 124.10 2 51 23 86.0 15.64 304.31

DIFFERENTIAL CORRECTIONS
 YDE -.5934 TRA-1.1784 TC3 .1348 BAU .0809 SGT 1923.7 SGR 506.5 SG3 463.1 ST 47.1 SR 21.8 S8 44.8
 RDE -.3322 RRA -.0258 RC3 .2899 FAU .07077 RRT .4499 RRF -.4927 RTF -.8663 CRT .8438 CR8 .6383 CST .9807
 FDE .7947 FRA 2.8818 FC3-3.2381 BSP 3360 SGB 1989.2 R23 -.0901 R13 -.8692 LSA 66.4 MSA 17.2 S8A 1.2
 BDE .6801 BRA 1.1787 BC3 .3198 F8P 718 SG1 1937.9 SG2 449.0 THA 7.14 EL1 50.6 EL2 10.9 ALF 22.50

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 16 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.952 GAL -3.49 AZL 92.49 HCA 136.77 SMA 194.49 ECC .23576 INC 2.4887 V1 29.682
 RP 206.78 LAP -1.71 LOP 342.16 VP 24.520 GAP 13.15 AZP 88.19 TAL 341.52 TAP 118.29 RCA 148.64 APO 240.38 VE 26.483
 RC 69.791 GL -19.47 GP 4.41 ZAL 125.57 ZAP 153.53 ETS 170.98 ZAE 171.59 ETE 65.04 ZAC 104.67 ETC 277.46 LVI -21.68

PLANETOCENTRIC CONIC
 C3 18.380 VHL 4.287 DLA -28.25 RAL 343.24 RAD 6642.1 VEL 11.764 PTH 6.79 VHP 5.943 DPA -13.59 RAP 317.70 ECC 1.3025
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 33 26 2528.13 -8.80 67.62 200.79 136.95 19 15 34 1528.1 9.59 51.86
 60.00 19 52 32 2317.73 -3.11 54.11 206.23 130.20 20 31 10 1317.7 12.90 36.03
 70.00 21 36 53 2010.65 3.16 33.97 210.96 124.03 22 10 24 1010.9 16.62 15.78
 80.00 23 53 6 1584.32 9.86 5.68 215.04 118.33 24 19 30 584.3 20.65 343.51
 90.00 2 29 42 1091.84 16.07 332.57 216.14 115.59 2 47 54 91.8 24.42 308.65
 100.00 2 39 54 1038.79 9.86 327.05 215.04 118.33 2 57 33 58.8 20.65 304.87
 110.00 2 40 15 1037.67 3.16 322.89 210.96 124.03 2 57 53 57.7 16.62 302.70

DIFFERENTIAL CORRECTIONS
 YDE -.5869 TRA-1.1582 TC3 .1429 BAU .0833 SGT 1925.5 SGR 509.8 SG3 492.9 ST 47.2 SR 21.6 S8 46.2
 RDE -.3232 RRA -.0391 RC3 .3076 FAU .07400 RRT .4844 RRF -.5314 RTF -.8678 CRT .8526 CR8 .6449 CST .9482
 FDE .8241 FRA 3.1198 FC3-3.4854 BSP 3379 SGB 1991.8 R23 -.1002 R13 -.8713 LSA 67.3 MSA 17.2 S8A 1.2
 BDE .6700 BRA 1.1589 BC3 .3392 F8P 766 SG1 1942.1 SG2 442.0 THA 7.71 EL1 50.9 EL2 10.5 ALF 22.32

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 16 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.898 GAL -3.42 AZL 92.53 HCA 138.04 SMA 193.50 ECC .23162 INC 2.5259 V1 29.682
 RP 206.84 LAP -1.69 LOP 343.43 VP 24.442 GAP 12.81 AZP 88.12 TAL 341.63 TAP 119.68 RCA 148.68 APO 238.31 VE 26.477
 RC 71.130 GL -20.01 GP 4.65 ZAL 125.38 ZAP 152.25 ETS 171.01 ZAE 171.61 ETE 66.94 ZAC 104.90 ETC 277.47 LVI -21.91

PLANETOCENTRIC CONIC
 C3 17.883 VHL 4.229 DLA -28.77 RAL 343.45 RAD 6641.9 VEL 11.744 PTH 6.77 VHP 5.771 DPA -13.36 RAP 317.64 ECC 1.2943
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 37 4 2309.87 -7.89 66.84 200.84 137.07 19 18 54 1509.9 10.49 51.07
 60.00 19 57 27 2296.02 -2.15 53.07 206.33 130.23 20 35 43 1296.0 13.82 34.93
 70.00 21 44 17 1981.83 4.26 32.45 211.18 123.92 22 17 19 981.8 17.61 12.11
 80.00 0 12 20 1530.41 11.58 2.61 215.58 117.71 0 37 51 530.4 21.99 340.06
 84.47 1 53 16 1199.50 17.46 341.08 216.47 113.23 2 15 15 199.5 25.53 316.84
 100.00 2 55 12 1004.68 11.58 323.97 215.58 117.71 3 11 57 4.9 21.99 301.43
 110.00 2 47 39 1028.65 4.26 321.37 211.18 123.92 3 4 48 28.6 17.61 301.03

DIFFERENTIAL CORRECTIONS
 YDE -.5799 TRA-1.1332 TC3 .1472 BAU .0856 SGT 1923.6 SGR 514.4 SG3 524.3 ST 47.3 SR 21.4 S8 47.4
 RDE -.3148 RRA -.0534 RC3 .3262 FAU .07735 RRT .5191 RRF -.5711 RTF -.8687 CRT .8620 CR8 .6522 CST .9454
 FDE .8537 FRA 3.2648 FC3-3.7442 BSP 3388 SGB 1991.2 R23 -.1121 R13 -.8728 LSA 68.2 MSA 17.2 S8A 1.2
 BDE .6598 BRA 1.1344 BC3 .3579 F8P 820 SG1 1943.0 SG2 435.3 THA 8.32 EL1 50.9 EL2 10.1 ALF 22.19

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 16 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.848 GAL -3.35 AZL 92.36 MCA 139.30 SMA 192.97 ECC .22772 INC 2.5840 V1 29.682
RP 206.90 LAP -1.67 LOP 344.69 VP 24.367 GAP 12.46 AZP 89.06 TAL 341.77 TAP 121.07 RCA 148.72 APO 236.42 V2 26.470
RC 72.517 GL -20.37 6P 4.90 ZAL 125.19 ZAP 150.94 ETS 171.02 ZAE 171.64 ETE 69.44 ZAC 105.15 ETC 277.48 LVI -22.14

DISTANCE 409.732

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.434 VHL 4.175 DLA -29.30 RAL 343.66 RAD 6641.7 VEL 11.725 PTH 6.76 VHP 5.605 DPA -13.13 RAP 317.53 ECC 1.2869
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 40 49 2491.77 -6.99 66.07 200.94 137.18 19 22 21 1491.8 11.39 50.29
60.00 20 2 35 2274.25 -1.19 52.03 206.49 130.29 20 40 29 1274.3 14.73 33.81
70.00 21 52 11 1951.90 5.40 30.87 211.46 123.78 22 24 43 951.9 14.61 10.37
80.00 0 32 15 1462.62 13.69 356.68 216.37 116.79 0 56 37 462.6 23.56 335.64
90.00 1 36 17 1257.38 17.93 345.56 218.43 113.57 1 57 15 257.4 26.09 321.26
100.00 3 15 7 6225.13 13.69 297.96 216.37 116.79 4 58 52 5225.1 23.56 274.91
110.00 2 55 33 6286.76 5.40 297.70 211.46 123.78 4 40 20 5286.8 18.61 277.19

DIFFERENTIAL CORRECTIONS

TDE -.5698 TRA-1.1048 TC3 .1589 BAU .0889
RDE -.3064 RRA -.0661 RC3 .3466 FAU .08107
FDE .8835 FRA 3.4142 FC3-4.0256 BSP 3344
BDE .6469 BRA 1.1069 BC3 .3813 FSP 874

MID-COURSE EXECUTION ACCURACY

SGT 1910.7 SGR 521.6 SG3 557.5
RRT .5553 RRF -.6116 RTF -.8706
SGB 1980.6 R23 -.1233 R13 -.8755
SG1 1933.7 SG2 428.6 THA 9.07

ORBIT DETERMINATION ACCURACY

ST 47.0 SR 21.1 SS 48.9
CRT .8717 CR8 .6604 CST .9426
LSA 68.9 MSA 17.3 SSA 1.1
EL1 50.6 EL2 9.6 ALF 22.21

LAUNCH DATE APR 16 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.801 GAL -3.29 AZL 92.60 MCA 140.57 SMA 191.71 ECC .22406 INC 2.6041 V1 29.682
RP 206.96 LAP -1.65 LOP 345.96 VP 24.294 GAP 12.13 AZP 87.99 TAL 341.88 TAP 122.45 RCA 148.75 APO 234.66 V2 26.462
RC 73.950 GL -21.14 6P 1.17 ZAL 125.00 ZAP 149.59 ETS 171.03 ZAE 171.66 ETE 72.55 ZAC 105.43 ETC 277.47 LVI -22.38

DISTANCE 413.626

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.025 VHL 4.126 DLA -29.83 RAL 343.88 RAD 6641.5 VEL 11.707 PTH 6.74 VHP 5.445 DPA -12.89 RAP 317.39 ECC 1.2802
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 44 2473.84 -6.09 65.31 201.08 137.28 19 25 57 1473.8 12.27 49.50
60.00 20 7 57 2252.44 -.23 50.99 206.70 130.30 20 45 29 1252.4 15.64 32.69
70.00 22 0 39 1920.90 6.37 29.24 211.82 123.59 22 32 40 920.9 19.63 8.54
80.00 1 11 28 1334.15 17.49 351.04 218.02 114.59 1 33 42 334.1 26.11 326.95
90.00 1 22 14 1299.76 18.39 348.91 218.44 113.92 1 43 54 299.8 26.64 324.55
100.00 3 54 20 6096.66 17.49 290.31 218.02 114.59 5 35 57 5096.7 26.11 266.23
110.00 3 4 1 6255.76 6.57 296.06 211.82 123.59 4 48 17 5255.8 19.63 275.37

DIFFERENTIAL CORRECTIONS

TDE -.5666 TRA-1.0824 TC3 .1492 BAU .0902
RDE -.2991 RRA -.0841 RC3 .3672 FAU .08467
FDE .9198 FRA 3.5769 FC3-4.3054 BSP 3381
BDE .6407 BRA 1.0856 BC3 .3984 FSP 936

MID-COURSE EXECUTION ACCURACY

SGT 1906.8 SGR 531.5 SG3 592.6
RRT .5894 RRF -.6923 RTF -.8688
SGB 1979.5 R23 -.1407 R13 -.8748
SG1 1933.7 SG2 423.4 THA 9.80

ORBIT DETERMINATION ACCURACY

ST 47.1 SR 20.9 SS 50.4
CRT .8837 CR8 .6716 CST .9392
LSA 70.0 MSA 17.4 SSA 1.1
EL1 50.8 EL2 9.1 ALF 22.11

LAUNCH DATE APR 16 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.756 GAL -3.23 AZL 92.65 HCA 141.83 SMA 190.91 ECC .22063 INC 2.6464 V1 29.682
RP 207.04 LAP -1.64 LOP 347.23 VP 24.225 GAP 11.80 AZP 87.92 TAL 341.99 TAP 123.82 RCA 148.79 APO 233.03 V2 26.454
RC 75.426 GL -21.72 6P 5.46 ZAL 124.81 ZAP 148.20 ETS 171.02 ZAE 171.66 ETE 76.26 ZAC 105.73 ETC 277.46 LVI -22.63

DISTANCE 417.545

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.656 VHL 4.081 DLA -30.38 RAL 344.12 RAD 6641.3 VEL 11.692 PTH 6.73 VHP 5.291 DPA -12.64 RAP 317.21 ECC 1.2741
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 47 2456.05 -5.20 64.56 201.28 137.36 19 29 43 1456.0 13.15 48.72
60.00 20 13 34 2230.48 .73 49.94 206.97 130.30 20 50 45 1230.5 16.55 31.55
70.00 22 9 49 1868.46 7.78 27.52 212.26 123.36 22 41 17 868.5 20.67 6.61
78.42 1 10 42 1334.46 18.84 351.71 218.49 114.28 1 32 57 334.5 27.20 327.29
78.42 1 10 42 1334.46 18.84 351.71 218.49 114.28 1 32 57 334.5 27.20 327.29
78.42 1 10 42 1334.46 18.84 351.71 218.49 114.28 1 32 57 334.5 27.20 327.29
110.00 3 13 11 6223.32 7.78 294.34 212.26 123.36 4 56 55 5223.3 20.67 273.43

DIFFERENTIAL CORRECTIONS

TDE -.5598 TRA-1.0347 TC3 .1457 BAU .0927
RDE -.2921 RRA -.1008 RC3 .3898 FAU .08864
FDE .9547 FRA 3.7439 FC3-4.6073 BSP 3372
BDE .6315 BRA 1.0593 BC3 .4161 FSP 1000

MID-COURSE EXECUTION ACCURACY

SGT 1891.5 SGR 544.3 SG3 629.3
RRT .6232 RRF -.6924 RTF -.5079
SGB 1968.2 R23 -.1580 R13 -.8751
SG1 1923.2 SG2 418.7 THA 10.68

ORBIT DETERMINATION ACCURACY

ST 47.0 SR 20.7 SS 51.9
CRT .8957 CR8 .6833 CST .9396
LSA 70.8 MSA 17.5 SSA 1.1
EL1 50.6 EL2 8.5 ALF 22.18

LAUNCH DATE APR 16 1971

FLIGHT TIME 166.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.715 GAL -3.17 AZL 92.69 HCA 143.10 SMA 190.16 ECC .21741 INC 2.6911 V1 29.682
RP 207.12 LAP -1.62 LOP 348.49 VP 24.158 GAP 11.48 AZP 87.85 TAL 342.09 TAP 125.19 RCA 148.82 APO 231.50 V2 26.444
RC 76.944 GL -22.31 6P 5.77 ZAL 124.81 ZAP 148.77 ETS 171.01 ZAE 171.61 ETE 80.56 ZAC 106.06 ETC 277.45 LVI -22.88

DISTANCE 421.487

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.324 VHL 4.040 DLA -30.93 RAL 344.37 RAD 6641.2 VEL 11.678 PTH 6.71 VHP 5.143 DPA -12.38 RAP 316.98 ECC 1.2687
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 53 2 2438.38 -4.31 63.82 201.52 137.43 19 33 40 1438.4 14.01 47.93
60.00 20 19 29 2208.33 1.71 48.88 207.30 130.27 20 56 17 1208.3 17.46 30.38
70.00 22 19 51 1854.12 9.07 25.68 212.79 123.07 22 50 45 854.1 21.75 4.52
76.92 1 0 48 1364.38 19.29 354.17 218.60 114.65 1 23 32 364.4 27.76 329.70
76.92 1 0 48 1364.38 19.29 354.17 218.60 114.65 1 23 32 364.4 27.76 329.70
76.92 1 0 48 1364.38 19.29 354.17 218.60 114.65 1 23 32 364.4 27.76 329.70
110.00 3 23 13 6188.98 9.07 292.51 212.79 123.07 5 6 22 5189.0 21.75 271.55

DIFFERENTIAL CORRECTIONS

TDE -.5521 TRA-1.0244 TC3 .1413 BAU .0959
RDE -.2856 RRA -.1186 RC3 .4139 FAU .09280
FDE .9914 FRA 3.9189 FC3-4.9214 BSP 3336
BDE .6216 BRA 1.0312 BC3 .4374 FSP 1065

MID-COURSE EXECUTION ACCURACY

SGT 1869.2 SGR 560.7 SG3 667.9
RRT .6558 RRF -.7312 RTF -.8668
SGB 1951.5 R23 -.1764 R13 -.8757
SG1 1906.9 .2 414.9 THA 11.69

ORBIT DETERMINATION ACCURACY

ST 46.7 SR 20.5 SS 53.4
CRT .9082 CR8 .6966 CST .9317
LSA 71.7 MSA 17.6 SSA 1.1
EL1 50.3 EL2 7.9 ALF 22.31

LAUNCH DATE APR 16 1971 FLIGHT TIME 160.00 ARRIVAL DATE OCT 1 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.676 GAL -3.12 AZL 92.74 HCA 144.36 SMA 189.47 ECC .21440 INC 2.7384 V1 29.682
 RP 207.21 LAP -1.60 LOP 349.75 VP 24.093 GAP 11.17 AZP 87.77 TAL 342.19 TAP 126.55 RCA 148.85 APO 230.05 V2 26.433
 RC 78.502 GL -22.91 GP 6.11 ZAL 124.41 ZAP 145.30 ETS 170.99 ZAE 171.50 ETE 85.37 ZAC 106.42 ETC 277.42 LVI -23.15

Planetocentric Conic: C3 16.028 VHL 4.003 DLA -31.49 RAL 344.63 RAD 6641.0 VEL 11.665 PTH 6.70 VHP 5.001 DPA -12.11 RAP 316.71 ECC 1.2638
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 57 27 2420.73 -3.43 63.08 201.82 137.48 19 37 48 1420.7 14.88 47.4
 60.00 20 25 43 2185.87 2.70 47.81 207.70 130.23 21 2 9 1185.9 18.38 29.19
 70.00 22 30 59 1817.15 10.43 23.69 213.44 122.71 23 1 16 817.1 22.87 2.24
 75.53 0 52 3 1391.12 19.74 356.40 218.75 115.05 1 15 14 391.1 28.33 331.88
 75.53 0 52 3 1391.12 19.74 356.40 218.75 115.05 1 15 14 391.1 28.33 331.88
 75.53 0 52 3 1391.12 19.74 356.40 218.75 115.05 1 15 14 391.1 28.33 331.88
 110.00 3 34 21 6152.01 10.43 290.52 213.44 122.71 5 16 53 5152.0 22.87 269.07

Differential Corrections: TDE -.5533 TRA -.9834 TC3 .1537 BAU .1001 SGT 1923.7 SGR 580.5 SG3 707.6 ORBIT DETERMINATION ACCURACY
 RDE -.2791 RRA -.1369 RC3 .4411 FAU .09752 RRT .6881 RRF -.7677 RTF -.8684 CRT .9197 CR8 .7087 CST .9275 ST 45.6 SR 20.3 SS 54.6
 FDE 1.0203 FRA 4.0916 FC3-5.2673 BSP 3183 SGB 1913.9 R23 -.1901 R13 -.8792 LSA 71.9 MSA 17.6 S8A 1.1 CRT .9197 CR8 .7087 CST .9275
 BDE .6037 BRA .9928 BC3 .4671 FSP 1124 SGI 1869.2 SG2 411.0 THA 12.99 EL1 49.4 EL2 7.4 ALF 22.77

LAUNCH DATE APR 16 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 3 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.639 GAL -3.07 AZL 92.79 HCA 145.62 SMA 188.82 ECC .21158 INC 2.7886 V1 29.682
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.031 GAP 10.86 AZP 87.70 TAL 342.27 TAP 127.90 RCA 148.87 APO 228.78 V2 26.422
 RC 80.098 GL -23.54 GP 6.47 ZAL 124.21 ZAP 143.80 ETS 170.96 ZAE 171.30 ETE 90.55 ZAC 106.80 ETC 277.39 LVI -23.43

Planetocentric Conic: C3 15.769 VHL 3.971 DLA -32.06 RAL 344.92 RAD 6640.9 VEL 11.654 PTH 6.69 VHP 4.865 DPA -11.82 RAP 316.39 ECC 1.2595
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 2 6 2403.24 -2.55 62.34 202.18 137.52 19 42 9 1403.2 15.73 46.35
 60.00 20 32 18 2163.18 3.69 46.72 208.17 130.16 21 8 22 1163.2 19.29 27.97
 70.00 22 43 33 1776.74 11.91 21.50 214.23 122.25 23 13 10 776.7 24.06 359.71
 74.22 0 44 17 1415.31 20.18 358.46 218.96 115.46 1 7 52 415.3 28.90 333.88
 74.22 0 44 17 1415.31 20.18 358.46 218.96 115.46 1 7 52 415.3 28.90 333.88
 74.22 0 44 17 1415.31 20.18 358.46 218.96 115.46 1 7 52 415.3 28.90 333.88
 110.00 3 46 55 6111.60 11.91 288.32 214.23 122.25 5 28 47 5111.6 24.06 286.53

Differential Corrections: TDE -.5390 TRA -.9610 TC3 .1123 BAU .1012 SGT 1813.7 SGR 605.5 SG3 750.4 ORBIT DETERMINATION ACCURACY
 RDE -.2744 RRA -.1579 RC3 .4869 FAU .10183 RRT .7111 RRF -.8025 RTF -.8604 CRT .9349 CR8 .7276 CST .9223 ST 48.0 SR 20.2 SS 56.4
 FDE 1.0702 FRA 4.2926 FC3-5.5795 BSP 3280 SGB 1912.1 R23 -.2231 R13 -.8741 LSA 73.4 MSA 17.9 S8A 1.0 CRT .9349 CR8 .7276 CST .9223
 BDE .6048 BRA .9739 BC3 .4803 FSP 1207 SGI 1866.8 SG2 413.6 THA 14.06 EL1 49.8 EL2 3.6 ALF 22.78

LAUNCH DATE APR 16 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 5 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.605 GAL -3.02 AZL 92.84 HCA 146.88 SMA 188.23 ECC .20895 INC 2.8423 V1 29.682
 RP 207.42 LAP -1.55 LOP 352.28 VP 23.970 GAP 10.56 AZP 87.62 TAL 342.35 TAP 129.24 RCA 148.90 APO 227.56 V2 26.409
 RC 81.730 GL -24.17 GP 6.86 ZAL 124.01 ZAP 142.24 ETS 170.92 ZAE 170.99 ETE 95.98 ZAC 107.23 ETC 277.35 LVI -23.73

Planetocentric Conic: C3 15.943 VHL 3.943 DLA -32.65 RAL 345.23 RAD 6640.8 VEL 11.644 PTH 6.68 VHP 4.735 DPA -11.52 RAP 316.02 ECC 1.2558
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 6 59 2385.73 -1.67 61.61 202.60 137.55 19 46 45 1385.7 16.57 45.55
 60.00 20 39 19 2139.97 4.71 45.61 208.71 130.07 21 14 59 1140.0 20.22 26.70
 70.00 22 58 16 1730.63 13.57 18.96 215.19 121.65 23 27 7 730.6 25.35 356.75
 72.96 0 37 13 1437.84 20.62 .41 219.23 115.89 1 1 11 437.8 29.47 335.77
 72.96 0 37 13 1437.84 20.62 .41 219.23 115.89 1 1 11 437.8 29.47 335.77
 72.96 0 37 13 1437.84 20.62 .41 219.23 115.89 1 1 11 437.8 29.47 335.77
 110.00 4 1 39 6065.49 13.57 285.78 215.19 121.65 5 42 44 5065.5 25.35 263.58

Differential Corrections: TDE -.5328 TRA -.9281 TC3 .0901 BAU .1047 SGT 1777.5 SGR 834.9 SG3 794.2 ORBIT DETERMINATION ACCURACY
 RDE -.2699 RRA -.1789 RC3 .4959 FAU .10621 RRT .7334 RRF -.8339 RTF -.8156 CRT .9485 CR8 .7461 CST .9171 ST 45.5 SR 20.2 SS 58.1
 FDE 1.1155 FRA 4.4920 FC3-5.9156 BSP 3237 SGB 1887.5 R23 -.2494 R13 -.8729 LSA 74.3 MSA 18.0 S8A 1.0 CRT .9485 CR8 .7461 CST .9171
 BDE .5973 BRA .9434 BC3 .5040 FSP 1284 SGI 1841.0 SG2 416.7 THA 15.49 EL1 49.5 EL2 5.9 ALF 23.13

LAUNCH DATE APR 16 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 7 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.573 GAL -2.98 AZL 92.90 HCA 148.14 SMA 187.67 ECC .20650 INC 2.8995 V1 29.682
 RP 207.54 LAP -1.53 LOP 353.84 VP 23.912 GAP 10.27 AZP 87.54 TAL 342.42 TAP 130.57 RCA 148.92 APO 226.2 V2 26.395
 RC 83.399 GL -24.83 GP 7.28 ZAL 123.81 ZAP 140.64 ETS 170.88 ZAE 170.56 ETE 101.46 ZAC 107.68 ETC 277.30 LVI -24.04

Planetocentric Conic: C3 15.351 VHL 3.918 DLA -33.24 RAL 345.56 RAD 6640.7 VEL 11.636 PTH 6.68 VHP 4.610 DPA -11.20 RAP 315.60 ECC 1.2526
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 12 8 2368.19 -.79 60.88 203.08 137.57 19 51 37 1368.2 17.42 44.74
 60.00 20 46 49 2116.16 5.75 44.46 209.35 129.96 21 22 8 1116.2 21.16 25.39
 70.00 23 16 34 1874.64 15.55 15.83 216.41 120.80 23 44 29 874.6 26.83 353.07
 71.75 0 30 47 1459.01 21.06 2.27 219.57 116.34 0 55 6 459.0 30.04 337.57
 71.75 0 30 47 1459.01 21.06 2.27 219.57 116.34 0 55 6 459.0 30.04 337.57
 71.75 0 30 47 1459.01 21.06 2.27 219.57 116.34 0 55 6 459.0 30.04 337.57
 110.00 4 19 57 6009.50 15.55 282.65 216.41 120.80 6 0 6 5009.5 26.83 259.90

Differential Corrections: TDE -.5259 TRA -.8883 TC3 .0652 BAU .1090 SGT 1734.0 SGR 669.7 SG3 839.6 ORBIT DETERMINATION ACCURACY
 RDE -.2659 RRA -.2035 RC3 .5273 FAU .11105 RRT .7516 RRF -.8621 RTF -.8495 CRT .9615 CR8 .7654 CST .9110 ST 45.0 SR 20.2 SS 59.7
 FDE 1.1612 FRA 4.6977 FC3-6.2626 BSP 3187 SGB 1858.8 R23 -.2769 R13 -.8717 LSA 75.2 MSA 18.2 S8A 1.0 CRT .9615 CR8 .7654 CST .9110
 BDE .5893 BRA .9114 BC3 .5313 FSP 1365 SGI 1810.0 SG2 423.2 THA 17.15 EL1 49.0 EL2 5.1 ALF 23.60

LAUNCH DATE APR 16 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC												DISTANCE 441.495												EARTH TO MARS																																																																																																																																																																																																
RL	150.12	LAL	.00	LOL	205.36	VL	32.843	GAL	-2.94	AZL	92.96	HCA	149.40	SMA	187.16	ECC	.20421	INC	2.9610	V1	29.682	RP	207.86	LAP	-1.51	LOP	354.80	VP	23.855	GAP	9.98	AZP	87.45	TAL	342.49	TAP	131.88	RCA	148.94	APO	225.37	V2	26.381	RC	85.104	GL	-25.31	GP	7.74	ZAL	123.60	ZAP	139.00	ETS	170.84	ZAE	170.00	ETE	106.81	ZAC	108.18	ETC	277.24	LVI	-24.37																																																																																																																																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																																																																																																																																
C3	15.192	VHL	3.898	DLA	-33.86	RAL	345.91	RAD	6640.6	VEL	11.629	PTH	6.67	VHP	4.492	DPA	-10.86	RAP	315.13	ECC	1.2500	ST	44.2	SR	20.2	SS	61.2	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1681.3	SGR	710.1	SG3	886.2	RRT	.7653	RRF	-.8868	RTF	-.8422	CRT	.9735	CRS	.7853	CST	.9040	50.00	19	17	36	2350.56	.09	60.14	203.64	137.58	19	56	46	1350.6	16.27	43.92	60.00	20	54	54	2091.54	6.83	43.27	210.08	129.82	21	29	45	1091.5	22.11	24.01	70.00	23	43	25	1593.77	18.31	11.18	218.16	119.35	24	9	59	593.6	28.77	347.59	70.56	0	24	50	1479.27	21.49	4.07	219.96	116.81	0	49	30	479.3	30.62	339.33	70.56	0	24	50	1479.27	21.49	4.07	219.96	116.81	0	49	30	479.3	30.62	339.33	70.56	0	24	50	1479.27	21.49	4.07	219.96	116.81	0	49	30	479.3	30.62	339.33	110.00	4	46	48	5928.62	18.31	278.01	218.16	119.35	6	25	36	4928.6	28.77	234.41	FDE	1.2066	FRA	4.9072	FC3	-6.6156	BSP	3106	SG6	1825.1	R23	-.3040	R13	-.8709	LSA	76.0	MSA	18.4	SSA	.9	BDE	.5804	BRA	.8772	BC3	.5623	F8P	1442	SG1	1772.9	SG2	433.4	THA	19.10	EL1	48.4	EL2	4.2	ALF	24.22

LAUNCH DATE APR 16 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC												DISTANCE 445.546												EARTH TO MARS																																																																																																																																																																																																
RL	150.12	LAL	.00	LOL	205.36	VL	32.515	GAL	-2.91	AZL	93.03	HCA	150.65	SMA	186.68	ECC	.20208	INC	3.0269	V1	29.682	RP	207.80	LAP	-1.48	LOP	356.03	VP	23.800	GAP	9.70	AZP	87.36	TAL	342.54	TAP	133.19	RCA	148.95	APO	224.40	V2	26.365	RC	86.843	GL	-26.22	GP	8.24	ZAL	123.40	ZAP	137.31	ETS	170.79	ZAE	169.29	ETE	111.87	ZAC	108.73	ETC	277.17	LVI	-24.72																																																																																																																																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																																																																																																																																
C3	15.066	VHL	3.882	DLA	-34.48	RAL	346.30	RAD	6640.6	VEL	11.624	PTH	6.66	VHP	4.379	DPA	-10.49	RAP	314.61	ECC	1.2480	ST	43.1	SR	20.4	SS	62.7	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1613.8	SGR	756.6	SG3	933.4	RRT	.7755	RRF	-.9081	RTF	-.8342	CRT	.9838	CRS	.8051	CST	.8957	50.00	19	23	24	2332.74	.99	59.40	204.28	137.57	20	2	17	1332.7	19.12	43.09	60.00	21	3	38	2063.85	7.95	42.02	210.91	129.64	21	38	4	1065.8	23.10	22.55	69.39	0	19	22	1498.78	21.92	5.83	220.43	117.32	0	44	21	498.8	31.21	341.04	69.39	0	19	22	1498.78	21.92	5.83	220.43	117.32	0	44	21	498.8	31.21	341.04	69.39	0	19	22	1498.78	21.92	5.83	220.43	117.32	0	44	21	498.8	31.21	341.04	69.39	0	19	22	1498.78	21.92	5.83	220.43	117.32	0	44	21	498.8	31.21	341.04	69.39	0	19	22	1498.78	21.92	5.83	220.43	117.32	0	44	21	498.8	31.21	341.04	FDE	1.2486	FRA	5.1147	FC3	-6.9880	BSP	2978	SG6	1782.4	R23	-.3270	R13	-.8718	LSA	76.5	MSA	18.6	SSA	.9	BDE	.5666	BRA	.8360	BC3	.5988	F8P	1515	SG1	1725.5	SG2	446.8	THA	21.49	EL1	47.5	EL2	3.3	ALF	25.06

LAUNCH DATE APR 16 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC												DISTANCE 449.610												EARTH TO MARS																																																																																																																																																																																																
RL	150.12	LAL	.00	LOL	205.36	VL	32.489	GAL	-2.88	AZL	93.10	HCA	151.91	SMA	186.24	ECC	.20012	INC	3.0983	V1	29.682	RP	207.94	LAP	-1.46	LOP	357.31	VP	23.746	GAP	9.43	AZP	87.27	TAL	342.58	TAP	134.48	RCA	148.97	APO	223.50	V2	26.349	RC	86.616	GL	-26.95	GP	8.78	ZAL	123.19	ZAP	135.57	ETS	170.74	ZAE	168.43	ETE	116.53	ZAC	109.32	ETC	277.10	LVI	-25.10																																																																																																																																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																																																																																																																																
C3	14.975	VHL	3.870	DLA	-35.13	RAL	346.72	RAD	6640.5	VEL	11.620	PTH	6.66	VHP	4.273	DPA	-10.09	RAP	314.04	ECC	1.2484	ST	42.8	SR	20.7	SS	64.7	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1569.3	SGR	811.2	SG3	983.5	RRT	.7747	RRF	-.9265	RTF	-.8380	CRT	.9925	CRS	.8290	CST	.8674	50.00	19	29	37	2314.73	1.89	58.65	205.01	137.55	20	8	11	1314.7	19.98	42.23	60.00	21	13	12	2038.87	9.12	40.70	211.88	129.43	21	47	10	1038.9	24.12	21.00	66.23	0	14	19	1517.76	22.34	7.56	220.97	117.85	0	39	37	517.8	31.81	342.73	66.23	0	14	19	1517.76	22.34	7.56	220.97	117.85	0	39	37	517.8	31.81	342.73	66.23	0	14	19	1517.76	22.34	7.56	220.97	117.85	0	39	37	517.8	31.81	342.73	66.23	0	14	19	1517.76	22.34	7.56	220.97	117.85	0	39	37	517.8	31.81	342.73	66.23	0	14	19	1517.76	22.34	7.56	220.97	117.85	0	39	37	517.8	31.81	342.73	FDE	1.3161	FRA	5.3527	FC3	-7.2955	BSP	3005	SG6	1766.6	R23	-.3603	R13	-.8662	LSA	76.0	MSA	19.0	SSA	.9	BDE	.5691	BRA	.8134	BC3	.6360	F8P	1618	SG1	1702.1	SG2	472.9	THA	23.77	EL1	47.5	EL2	2.3	ALF	25.60

LAUNCH DATE APR 16 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC												DISTANCE 453.688												EARTH TO MARS																																																																																																																																																																																																
RL	150.12	LAL	.00	LOL	205.36	VL	32.465	GAL	-2.85	AZL	93.18	HCA	153.16	SMA	185.83	ECC	.19829	INC	3.1756	V1	29.682	RP	208.08	LAP	-1.43	LOP	358.56	VP	23.694	GAP	9.16	AZP	87.17	TAL	342.60	TAP	135.77	RCA	148.98	APO	222.83	V2	26.332	RC	90.421	GL	-27.71	GP	9.37	ZAL	122.97	ZAP	133.78	ETS	170.69	ZAE	167.43	ETE	120.72	ZAC	109.97	ETC	277.02	LVI	-25.51																																																																																																																																																							
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																																																																																																																																																																																
C3	14.917	VHL	3.862	DLA	-35.80	RAL	347.18	RAD	6640.5	VEL	11.618	PTH	6.66	VHP	4.172	DPA	-9.65	RAP	313.41	ECC	1.2455	ST	42.0	SR	21.1	SS	66.4	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	SGT	1501.2	SGR	872.7	SG3	1033.2	RRT	.7707	RRF	-.9417	RTF	-.8013	CRT	.9977	CRS	.8507	CST	.8770	50.00	19	36	17	2296.33	2.82	57.88	205.83	137.51	20	14	33	1296.3	20.85	41.35	60.00	21	23	46	2009.99	10.30	39.28	212.98	129.17	21	57	16	1010.0	25.19	19.30	67.07	0	9	38	1536.42	22.75	9.28	221.60	118.42	0	35	14	536.4	32.41	344.41	67.07	0	9	38	1536.42	22.75	9.28	221.60	118.42	0	35	14	536.4	32.41	344.41	67.07	0	9	38	1536.42	22.75	9.28	221.60	118.42	0	35	14	536.4	32.41	344.41	67.07	0	9	38	1536.42	22.75	9.28	221.60	118.42	0	35	14	536.4	32.41	344.41	67.07	0	9	38	1536.42	22.75	9.28	221.60	118.42	0	35	14	536.4	32.41	344.41	FDE	1.3738	FRA	5.5777	FC3	-7.6348	BSP	2931	SG6	1736.4	R23	-.3821	R13	-.8688	LSA	79.0	MSA	19.3	SSA	.8	BDE	.5632	BRA	.7808	BC3	.6819	F8P	1705	SG1	1662.2	SG2	502.2	THA	26.77	EL1	46.9	EL2	1.3	ALF	26.66

LAUNCH DATE APR 16 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 17 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.443 GAL -2.83 AZL 93.26 HCA 154.41 SMA 183.45 ECC .19680 INC 3.2597 V1 29.682
 RP 208.24 LAP -1.41 LOP 359.81 VP 23.643 GAP 8.90 AZP 87.06 TAL 342.62 TAP 137.03 RCA 148.99 APO 221.91 V2 26.313
 RC 92.259 GL -28.52 GP 10.02 ZAL 122.75 ZAP 131.95 ETS 170.65 ZAE 166.28 ETE 124.43 ZAC 110.67 ETC 276.93 LVI -25.95

Planetocentric Conic: C3 14.896 VHL 3.859 DLA -36.49 RAL 347.68 RAD 6640.5 VEL 11.617 PTH 6.66 VHP 4.078 DPA -9.17 RAP 312.72 ECC 1.2451
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 43 29 2277.43 3.77 57.08 208.77 137.46 20 21 27 1277.4 21.73 40.42
 60.00 21 35 38 1978.57 11.71 37.72 214.26 128.84 22 8 36 978.6 26.32 17.42
 65.91 0 5 18 1554.91 23.17 11.01 222.32 119.02 0 31 13 554.9 33.03 346.11
 65.91 0 5 18 1554.91 23.17 11.01 222.32 119.02 0 31 13 554.9 33.03 346.11
 65.91 0 5 18 1554.91 23.17 11.01 222.32 119.02 0 31 13 554.9 33.03 346.11
 65.91 0 5 18 1554.91 23.17 11.01 222.32 119.02 0 31 13 554.9 33.03 346.11
 65.91 0 5 18 1554.91 23.17 11.01 222.32 119.02 0 31 13 554.9 33.03 346.11

Differential Corrections: TDE -.4943 TRA -.6608 TC3 -.1454 BAU .1461 SGT 1428.3 SGR 942.3 SG3 1083.1 ST 41.0 SR 21.8 SS 68.1
 RDE -.2591 RRA -.3559 RC3 .7190 FAU .13673 RRT .7593 RRF -.9542 RTF -.7796 CRT .9990 CRS .8720 CST .8651
 FDE 1.4354 FRA 5.8066 FC3-7.9469 BSP 2864 SGB 1711.1 R23 -.3980 R13 -.8714 LSA 80.0 MSA 19.7 SSA .8
 BDE .5581 BRA .7505 BC3 .7335 FSP 1794 SG1 1623.9 SG2 539.3 THA 30.29 EL1 46.3 EL2 .8 ALF 27.80

MID-COURSE EXECUTION ACCURACY: SGT 1428.3 SGR 942.3 SG3 1083.1
 RRT .7593 RRF -.9542 RTF -.7796
 SGB 1711.1 R23 -.3980 R13 -.8714
 SG1 1623.9 SG2 539.3 THA 30.29

ORBIT DETERMINATION ACCURACY: ST 41.0 SR 21.8 SS 68.1
 CRT .9990 CRS .8720 CST .8651
 LSA 80.0 MSA 19.7 SSA .8
 EL1 46.3 EL2 .8 ALF 27.80

LAUNCH DATE APR 16 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 19 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.422 GAL -2.81 AZL 93.35 HCA 155.66 SMA 185.10 ECC .19505 INC 3.3517 V1 29.682
 RP 208.41 LAP -1.38 LOP 1.06 VP 23.593 GAP 8.64 AZP 86.95 TAL 342.63 TAP 138.29 RCA 149.00 APO 221.21 V2 26.294
 RC 94.128 GL -29.36 GP 10.72 ZAL 122.51 ZAP 130.07 ETS 170.60 ZAE 164.99 ETE 127.66 ZAC 111.44 ETC 276.83 LVI -26.43

Planetocentric Conic: C3 14.912 VHL 3.862 DLA -37.22 RAL 348.22 RAD 6640.5 VEL 11.617 PTH 6.66 VHP 3.991 DPA -8.65 RAP 311.98 ECC 1.2454
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 51 20 2257.86 4.75 56.28 207.83 137.40 20 28 58 1257.9 22.65 39.46
 60.00 21 49 13 1943.55 13.20 35.96 215.76 128.43 22 21 37 943.5 27.56 15.28
 64.72 0 1 16 1573.42 23.58 12.76 223.14 119.67 0 27 30 573.4 33.66 347.83
 64.72 0 1 16 1573.42 23.58 12.76 223.14 119.67 0 27 30 573.4 33.66 347.83
 64.72 0 1 16 1573.42 23.58 12.76 223.14 119.67 0 27 30 573.4 33.66 347.83
 64.72 0 1 16 1573.42 23.58 12.76 223.14 119.67 0 27 30 573.4 33.66 347.83
 64.72 0 1 16 1573.42 23.58 12.76 223.14 119.67 0 27 30 573.4 33.66 347.83

Differential Corrections: TDE -.4874 TRA -.6046 TC3 -.2010 BAU .1579 SGT 1347.7 SGR 1020.7 SG3 1132.4 ST 39.9 SR 22.3 SS 69.7
 RDE -.2609 RRA -.3950 RC3 .7663 FAU .14215 RRT .7395 RRF -.9644 RTF -.7515 CRT .9957 CRS .8920 CST .8509
 FDE 1.4977 FRA 6.0299 FC3-8.2531 BSP 2796 SGB 1690.6 R23 -.4037 R13 -.8777 LSA 80.0 MSA 20.1 SSA .7
 BDE .5528 BRA .7222 BC3 .7922 FSP 1879 SG1 1586.7 SG2 583.8 THA 34.58 EL1 45.7 EL2 1.8 ALF 29.14

MID-COURSE EXECUTION ACCURACY: SGT 1347.7 SGR 1020.7 SG3 1132.4
 RRT .7395 RRF -.9644 RTF -.7515
 SGB 1690.6 R23 -.4037 R13 -.8777
 SG1 1586.7 SG2 583.8 THA 34.58

ORBIT DETERMINATION ACCURACY: ST 39.9 SR 22.3 SS 69.7
 CRT .9957 CRS .8920 CST .8509
 LSA 80.0 MSA 20.1 SSA .7
 EL1 45.7 EL2 1.8 ALF 29.14

LAUNCH DATE APR 16 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 21 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.403 GAL -2.79 AZL 93.45 HCA 156.91 SMA 184.78 ECC .19362 INC 3.4528 V1 29.682
 RP 208.58 LAP -1.35 LOP 2.31 VP 23.545 GAP 8.38 AZP 86.82 TAL 342.62 TAP 139.53 RCA 149.00 APO 220.56 V2 26.274
 RC 96.027 GL -30.25 GP 11.49 ZAL 122.26 ZAP 128.14 ETS 170.55 ZAE 163.57 ETE 130.43 ZAC 112.28 ETC 276.72 LVI -26.96

Planetocentric Conic: C3 14.988 VHL 3.869 DLA -37.98 RAL 348.82 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.909 DPA -8.06 RAP 311.19 ECC 1.2463
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 59 58 2237.37 5.77 55.40 209.04 137.31 20 37 15 1237.4 23.59 38.43
 60.00 22 5 17 1903.00 14.90 33.89 217.55 127.89 22 37 0 903.0 28.94 12.74
 63.51 23 53 36 1592.17 23.99 14.55 224.07 120.38 24 20 8 592.2 34.31 349.01
 63.51 23 53 36 1592.17 23.99 14.55 224.07 120.38 24 20 8 592.2 34.31 349.61
 63.51 23 53 36 1592.17 23.99 14.55 224.07 120.38 24 20 8 592.2 34.31 349.61
 63.51 23 53 36 1592.17 23.99 14.55 224.07 120.38 24 20 8 592.2 34.31 349.61
 63.51 23 53 36 1592.17 23.99 14.55 224.07 120.38 24 20 8 592.2 34.31 349.61

Differential Corrections: TDE -.4780 TRA -.5401 TC3 -.2476 BAU .1714 SGT 1250.3 SGR 1108.1 SG3 1179.9 ST 36.4 SR 23.1 SS 71.0
 RDE -.2632 RRA -.4368 RC3 .8197 FAU .14810 RRT .7118 RRF -.9725 RTF -.6642 CRT .9867 CRS .9098 CST .8330
 FDE 1.5922 FRA 6.2360 FC3-8.5661 BSP 2885 SGB 1670.7 R23 -.3900 R13 -.8916 LSA 81.4 MSA 20.4 SSA .7
 BDE .5440 BRA .6946 BC3 .8583 FSP 1948 SG1 1547.9 SG2 628.7 THA 40.17 EL1 44.7 EL2 3.2 ALF 30.85

MID-COURSE EXECUTION ACCURACY: SGT 1250.3 SGR 1108.1 SG3 1179.9
 RRT .7118 RRF -.9725 RTF -.6642
 SGB 1670.7 R23 -.3900 R13 -.8916
 SG1 1547.9 SG2 628.7 THA 40.17

ORBIT DETERMINATION ACCURACY: ST 36.4 SR 23.1 SS 71.0
 CRT .9867 CRS .9098 CST .8330
 LSA 81.4 MSA 20.4 SSA .7
 EL1 44.7 EL2 3.2 ALF 30.85

LAUNCH DATE APR 16 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 23 1971

Heliocentric Conic: RL 150.12 LAL .00 LOL 205.36 VL 32.388 GAL -2.78 AZL 93.56 HCA 158.15 SMA 184.49 ECC .19232 INC 3.5648 V1 29.682
 RP 208.76 LAP -1.33 LOP 3.85 VP 23.497 GAP 8.14 AZP 86.89 TAL 342.60 TAP 140.75 RCA 149.01 APO 219.87 V2 26.254
 RC 97.955 GL -31.20 GP 12.34 ZAL 122.00 ZAP 126.16 ETS 170.52 ZAE 162.01 ETE 132.78 ZAC 113.20 ETC 276.81 LVI -27.55

Planetocentric Conic: C3 15.070 VHL 3.882 DLA -38.78 RAL 349.49 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 3.835 DPA -7.41 RAP 310.34 ECC 1.2460
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 9 30 2215.78 6.85 54.49 210.43 137.20 20 48 26 1215.8 24.58 37.33
 60.00 22 25 11 1853.36 16.96 31.31 219.75 127.12 22 56 4 853.4 30.55 9.53
 62.27 23 50 11 1611.23 24.39 16.39 225.13 121.14 24 17 2 611.2 34.98 351.44
 62.27 23 50 11 1611.23 24.39 16.39 225.13 121.14 24 17 2 611.2 34.98 351.44
 62.27 23 50 11 1611.23 24.39 16.39 225.13 121.14 24 17 2 611.2 34.98 351.44
 62.27 23 50 11 1611.23 24.39 16.39 225.13 121.14 24 17 2 611.2 34.98 351.44
 62.27 23 50 11 1611.23 24.39 16.39 225.13 121.14 24 17 2 611.2 34.98 351.44

Differential Corrections: TDE -.4780 TRA -.4851 TC3 -.3349 BAU .1874 SGT 1186.9 SGR 1209.0 SG3 1229.0 ST 37.9 SR 24.3 SS 73.2
 RDE -.2707 RRA -.4865 RC3 .8676 FAU .15216 RRT .6638 RRF -.9791 RTF -.6642 CRT .9717 CRS .9284 CST .8160
 FDE 1.6492 FRA 6.4760 FC3-8.7409 BSP 2745 SGB 1694.2 R23 -.3747 R13 -.9048 LSA 83.3 MSA 21.0 SSA .7
 BDE .5493 BRA .8870 BC3 .9300 FSP 2055 SG1 1545.4 SG2 694.5 THA 45.79 EL1 44.7 EL2 4.9 ALF 32.38

MID-COURSE EXECUTION ACCURACY: SGT 1186.9 SGR 1209.0 SG3 1229.0
 RRT .6638 RRF -.9791 RTF -.6642
 SGB 1694.2 R23 -.3747 R13 -.9048
 SG1 1545.4 SG2 694.5 THA 45.79

ORBIT DETERMINATION ACCURACY: ST 37.9 SR 24.3 SS 73.2
 CRT .9717 CRS .9284 CST .8160
 LSA 83.3 MSA 21.0 SSA .7
 EL1 44.7 EL2 4.9 ALF 32.38

LAUNCH DATE APR 16 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.369 GAL -2.77 AZL 93.69 HCA 159.39 SMA 184.22 ECC .19113 INC 3.6891 V1 29.682
RP 208.94 LAP -1.30 LOP 4.80 VP 23.451 GAP 7.89 AZP 86.55 TAL 342.57 TAP 141.96 RCA 149.01 APO 219.43 V2 26.232
RC 99.910 GL -32.22 GP 13.28 ZAL 121.72 ZAP 124.14 ETS 170.49 ZAE 160.33 ETE 134.75 ZAC 114.21 ETC 276.50 LVI -28.19

PLANETOCENTRIC CONIC

C3 15.221 VHL 3.901 DLA -39.63 RAL 350.23 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 3.768 DPA -6.67 RAP 309.43 ECC 1.2505
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 20 12 2192.57 8.01 53.50 212.03 137.06 20 56 45 1192.6 25.64 36.15
60.00 22 53 4 1783.34 19.60 27.56 222.70 125.85 23 22 47 783.3 32.67 4.60
60.99 23 47 1 1630.85 24.79 18.30 226.33 121.98 24 14 12 630.8 35.67 353.36
60.99 23 47 1 1630.85 24.79 18.30 226.33 121.98 24 14 12 630.8 35.67 353.36
60.99 23 47 1 1630.85 24.79 18.30 226.33 121.98 24 14 12 630.8 35.67 353.36
60.99 23 47 1 1630.85 24.79 18.30 226.33 121.98 24 14 12 630.8 35.67 353.36
60.99 23 47 1 1630.85 24.79 18.30 226.33 121.98 24 14 12 630.8 35.67 353.36

DIFFERENTIAL CORRECTIONS

TDE -.4672 TRA -.4129 TC3 -.3908 BAU .2049
RDE -.2768 RRA -.5371 RC3 .9281 FAU .15787
PDE 1.7104 FRA 6.6599 FC3-8.9790 BSP 2692
BDE .5430 BRA .6775 BC3 1.0070 F8P 2114

MID-COURSE EXECUTION ACCURACY

SGT 1086.0 SGR 1310.6 SG3 1271.8
RRT .6026 RRF -.9841 RTF -.5986
SGB 1709.5 R23 -.3206 R13 -.9305
SG1 1539.2 S62 743.8 THA 53.90

ORBIT DETERMINATION ACCURACY

ST 36.3 SR 25.5 SS 74.4
CRT .9491 CRS .9426 CST .7908
LSA 83.9 MSA 21.4 S8A .6
EL1 43.8 EL2 6.6 ALF 34.61

LAUNCH DATE APR 16 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.354 GAL -2.77 AZL 93.83 HCA 160.63 SMA 183.97 ECC .19005 INC 3.8286 V1 29.682
RP 209.14 LAP -1.27 LOP 6.04 VP 23.405 GAP 7.65 AZP 86.39 TAL 342.52 TAP 143.16 RCA 149.01 APO 218.94 V2 26.209
RC 101.892 GL -33.32 GP 14.32 ZAL 121.40 ZAP 122.07 ETS 170.46 ZAE 158.51 ETE 136.36 ZAC 115.33 ETC 276.37 LVI -28.92

PLANETOCENTRIC CONIC

C3 15.431 VHL 3.928 DLA -40.54 RAL 351.05 RAD 6640.7 VEL 11.640 PTH 6.68 VHF 3.709 DPA -5.85 RAP 308.48 ECC 1.2540
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 32 21 2167.34 9.27 52.42 213.89 136.88 21 8 28 1167.3 26.77 24.79
59.65 23 44 11 1651.18 25.18 20.29 227.70 122.89 24 11 42 651.2 36.39 353.39
59.65 23 44 11 1651.18 25.18 20.29 227.70 122.89 24 11 42 651.2 36.39 353.39
59.65 23 44 11 1651.18 25.18 20.29 227.70 122.89 24 11 42 651.2 36.39 353.39
59.65 23 44 11 1651.18 25.18 20.29 227.70 122.89 24 11 42 651.2 36.39 353.39
59.65 23 44 11 1651.18 25.18 20.29 227.70 122.89 24 11 42 651.2 36.39 353.39
59.65 23 44 11 1651.18 25.18 20.29 227.70 122.89 24 11 42 651.2 36.39 353.39

DIFFERENTIAL CORRECTIONS

TDE -.4680 TRA -.3477 TC3 -.4790 BAU .2254
RDE -.2898 RRA -.5973 RC3 .9818 FAU .16141
PDE 1.8219 FRA 6.8713 FC3-9.0555 BSP 2803
BDE .5505 BRA .6912 BC3 1.0924 F8P 2212

MID-COURSE EXECUTION ACCURACY

SGT 1026.1 SGR 1445.0 SG3 1314.9
RRT .5148 RRF -.9882 RTF -.5083
SGB 1772.3 R23 -.2584 R13 -.9538
SG1 1578.9 S62 805.1 THA 62.07

ORBIT DETERMINATION ACCURACY

ST 35.6 SR 27.3 SS 76.4
CRT .9203 CRS .9565 CST .7670
LSA 85.9 MSA 22.0 S8A .6
EL1 44.0 EL2 8.6 ALF 36.85

LAUNCH DATE APR 16 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.341 GAL -2.76 AZL 93.99 HCA 161.87 SMA 183.75 ECC .18908 INC 3.9860 V1 29.682
RP 209.34 LAP -1.24 LOP 7.28 VP 23.360 GAP 7.42 AZP 86.21 TAL 342.47 TAP 144.34 RCA 149.01 APO 218.49 V2 26.186
RC 103.900 GL -34.51 GP 15.48 ZAL 121.06 ZAP 119.96 ETS 170.46 ZAE 156.56 ETE 137.67 ZAC 116.57 ETC 276.25 LVI -25.74

PLANETOCENTRIC CONIC

C3 15.707 VHL 3.963 DLA -41.52 RAL 351.97 RAD 6640.9 VEL 11.651 PTH 6.69 VHP 3.658 DPA -4.91 RAP 307.44 ECC 1.2585
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 46 23 2139.24 10.66 51.21 216.08 136.65 21 22 2 1139.2 28.01 33.27
58.23 23 41 41 1672.36 25.56 22.40 229.26 123.91 24 9 33 672.4 37.14 357.55
58.23 23 41 41 1672.36 25.56 22.40 229.26 123.91 24 9 33 672.4 37.14 357.55
58.23 23 41 41 1672.36 25.56 22.40 229.26 123.91 24 9 33 672.4 37.14 357.55
58.23 23 41 41 1672.36 25.56 22.40 229.26 123.91 24 9 33 672.4 37.14 357.55
58.23 23 41 41 1672.36 25.56 22.40 229.26 123.91 24 9 33 672.4 37.14 357.55
58.23 23 41 41 1672.36 25.56 22.40 229.26 123.91 24 9 33 672.4 37.14 357.55

DIFFERENTIAL CORRECTIONS

TDE -.4638 TRA -.2731 TC3 -.5548 BAU .2481
RDE -.3045 RRA -.8623 RC3 1.0430 FAU .16540
PDE 1.9200 FRA 7.0412 FC3-9.1162 BSP 2910
BDE .5548 BRA .7164 BC3 1.1613 F8P 2281

MID-COURSE EXECUTION ACCURACY

SGT 959.6 SGR 1585.1 SG3 1351.7
RRT .3985 RRF -.9912 RTF -.5099
SGB 1852.9 R23 -.1746 R13 -.9758
SG1 1648.3 S62 846.4 THA 71.35

ORBIT DETERMINATION ACCURACY

ST 34.5 SR 29.2 SS 78.0
CRT .8829 CRS .9674 CST .7357
LSA 87.3 MSA 22.5 S8A .5
EL1 43.9 EL2 10.8 ALF 39.70

LAUNCH DATE APR 16 1971

FLIGHT TIME 198.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.328 GAL -2.76 AZL 94.17 HCA 163.11 SMA 183.55 ECC .18921 INC 4.1652 V1 29.682
RP 209.55 LAP -1.21 LOP 8.51 VP 23.316 GAP 7.19 AZP 86.01 TAL 342.40 TAP 145.50 RCA 149.00 APO 218.09 V2 26.182
RC 105.933 GL -35.81 GP 16.77 ZAL 120.66 ZAP 117.81 ETS 170.46 ZAE 154.48 ETE 138.69 ZAC 117.95 ETC 276.12 LVI -20.66

PLANETOCENTRIC CONIC

C3 16.065 VHL 4.008 DLA -42.58 RAL 353.02 RAD 6641.0 VEL 11.667 PTH 6.70 VHP 3.617 DPA -3.84 RAP 306.37 ECC 1.2644
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 2 56 2107.08 12.25 49.80 218.69 136.34 21 38 3 1107.1 29.41 31.49
56.73 23 39 32 1694.76 25.93 24.64 231.06 125.04 24 7 46 694.8 37.92 359.88
56.73 23 39 32 1694.76 25.93 24.64 231.06 125.04 24 7 46 694.8 37.92 359.88
56.73 23 39 32 1694.76 25.93 24.64 231.06 125.04 24 7 46 694.8 37.92 359.88
56.73 23 39 32 1694.76 25.93 24.64 231.06 125.04 24 7 46 694.8 37.92 359.88
56.73 23 39 32 1694.76 25.93 24.64 231.06 125.04 24 7 46 694.8 37.92 359.88
56.73 23 39 32 1694.76 25.93 24.64 231.06 125.04 24 7 46 694.8 37.92 359.88

DIFFERENTIAL CORRECTIONS

TDE -.4604 TRA -.1938 TC3 -.6310 BAU .2734
RDE -.3249 RRA -.7347 RC3 1.1054 FAU .16862
PDE 2.0362 FRA 7.1828 FC3-9.0869 BSP 3074
BDE .5635 BRA .7598 BC3 1.2729 F8P 2339

MID-COURSE EXECUTION ACCURACY

SGT 911.4 SGR 1742.2 SG3 1382.3
RRT .2482 RRF -.9936 RTF -.2385
SGB 1966.2 R23 -.0934 R13 -.9892
SG1 1761.7 S62 873.1 THA 80.16

ORBIT DETERMINATION ACCURACY

ST 33.4 SR 31.6 SS 79.7
CRT .8375 CRS .9763 CST .6999
LSA 89.1 MSA 23.1 S8A .5
EL1 44.1 EL2 13.1 ALF 43.12

LAUNCH DATE APR 16 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 490.811 EARTH TO MARS
 RL 150.12 LAL .00 LOL 205.36 VL 32.317 GAL -2.77 AZL 94.37 HCA 164.34 SMA 183.36 ECC .18743 INC 4.3715 V1 29.682
 RP 209.78 LAP -1.18 LOP 9.75 VP 23.272 GAP 6.97 AZP 85.79 TAL 342.31 TAP 146.65 RCA 149.00 APO 217.73 V2 26.137
 RC 107.890 GL -37.25 GP 18.23 ZAL 120.21 ZAP 115.62 ETS 170.49 ZAE 152.26 ETE 139.45 ZAC 119.49 ETC 275.99 LVI -31.72

PLANETOCENTRIC CONIC
 C3 16.523 VHL 4.065 DLA -43.73 RAL 354.22 RAD 6641.2 VEL 11.686 PTH 6.72 VHP 3.586 DPA -2.61 RAP 305.24 ECC 1.2719
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 23 6 2060.80 14.13 48.11 221.89 135.92 21 57 35 1060.8 31.04 29.29
 55.13 23 37 50 1718.56 26.28 27.04 233.13 126.31 24 6 28 718.6 38.73 2.41
 55.13 23 37 50 1718.56 26.28 27.04 233.13 126.31 24 6 28 718.6 38.73 2.41
 55.13 23 37 50 1718.56 26.28 27.04 233.13 126.31 24 6 28 718.6 38.73 2.41
 55.13 23 37 50 1718.56 26.28 27.04 233.13 126.31 24 6 28 718.6 38.73 2.41
 55.13 23 37 50 1718.56 26.28 27.04 233.13 126.31 24 6 28 718.6 38.73 2.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4568 TRA -.1097 TC3 -.7049 BAU .3016 SGT 886.0 SGR 1919.1 SG3 1405.2 ST 32.4 SR 34.5 SS 81.3
 RDE -.3519 RRA -.8159 RC3 1.1692 FAU .17105 RRT .0676 RRF -.9954 RTF -.0577 CRT .7837 CRS .9833 CST .6580
 FDE 2.1657 FRA 7.2877 FC3-8.9623 BSP 3309 SGB 2114.6 R23 .0279 R13 -.9950 LSA 91.0 MSA 25.7 SSA .4
 BDE .5765 BRA .8232 BC3 1.3653 FSP 2388 SG1 1920.3 SG2 885.4 THA 87.72 EL1 44.6 EL2 15.5 ALF 47.30

LAUNCH DATE APR 16 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 494.970 EARTH TO MARS
 RL 150.12 LAL .00 LOL 205.36 VL 32.307 GAL -2.77 AZL 94.61 HCA 165.57 SMA 183.20 ECC .18675 INC 4.6114 V1 29.682
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.229 GAP 6.74 AZP 85.53 TAL 342.22 TAP 147.78 RCA 148.99 APO 217.41 V2 26.111
 RC 110.071 GL -38.85 GP 19.89 ZAL 119.68 ZAP 113.38 ETS 170.55 ZAE 149.89 ETE 139.96 ZAC 121.22 ETC 275.87 LVI -32.94

PLANETOCENTRIC CONIC
 C3 17.108 VHL 4.136 DLA -45.00 RAL 355.60 RAD 6641.5 VEL 11.711 PTH 6.74 VHP 3.568 DPA -1.19 RAP 304.04 ECC 1.2816
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 48 57 2020.15 16.50 45.91 225.97 135.29 22 22 38 1020.2 33.04 26.39
 53.41 23 36 42 1744.09 26.60 29.63 235.55 127.75 24 5 46 744.1 39.58 5.19
 53.41 23 36 42 1744.09 26.60 29.63 235.55 127.75 24 5 46 744.1 39.58 5.19
 53.41 23 36 42 1744.09 26.60 29.63 235.55 127.75 24 5 46 744.1 39.58 5.19
 53.41 23 36 42 1744.09 26.60 29.63 235.55 127.75 24 5 46 744.1 39.58 5.19
 53.41 23 36 42 1744.09 26.60 29.63 235.55 127.75 24 5 46 744.1 39.58 5.19

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4825 TRA -.0204 TC3 -.7783 BAU .3333 SGT 897.7 SGR 2117.1 SG3 1417.2 ST 31.4 SR 37.8 SS 82.8
 RDE -.3874 RRA -.9082 RC3 1.2339 FAU .17286 RRT -.1300 RRF -.9967 RTF .1395 CRT .7209 CRS .9886 CST .8087
 FDE 2.3073 FRA 7.3378 FC3-8.7324 BSP 3610 SGB 2299.6 R23 .0180 R13 -.9966 LSA 93.2 MSA 24.3 SSA .4
 BDE .5957 BRA .9065 BC3 1.4572 FSP 2413 SG1 2121.0 SG2 888.5 THA 93.83 EL1 45.7 EL2 18.0 ALF 52.33

LAUNCH DATE APR 16 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 499.132 EARTH TO MARS
 RL 150.12 LAL .00 LOL 205.36 VL 32.298 GAL -2.78 AZL 94.89 HCA 166.79 SMA 183.05 ECC .18615 INC 4.8941 V1 29.682
 RP 210.22 LAP -1.12 LOP 12.20 VP 23.187 GAP 6.53 AZP 85.23 TAL 342.11 TAP 148.90 RCA 148.98 APO 217.13 V2 26.085
 RC 112.177 GL -40.63 GP 21.78 ZAL 119.08 ZAP 111.12 ETS 170.64 ZAE 147.35 ETE 140.25 ZAC 123.19 ETC 275.76 LVI -34.35

PLANETOCENTRIC CONIC
 C3 17.861 VHL 4.228 DLA -46.41 RAL 357.23 RAD 6641.9 VEL 11.743 PTH 6.77 VHP 3.565 DPA .48 RAP 302.79 ECC 1.2939
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 28 3 1948.80 19.91 42.57 231.63 134.15 22 58 32 948.8 35.84 21.86
 51.53 23 36 15 1771.90 26.86 32.46 238.38 129.39 24 5 46 771.9 40.45 8.30
 51.53 23 36 15 1771.90 26.86 32.46 238.38 129.39 24 5 46 771.9 40.45 8.30
 51.53 23 36 15 1771.90 26.86 32.46 238.38 129.39 24 5 46 771.9 40.45 8.30
 51.53 23 36 15 1771.90 26.86 32.46 238.38 129.39 24 5 46 771.9 40.45 8.30
 51.53 23 36 15 1771.90 26.86 32.46 238.38 129.39 24 5 46 771.9 40.45 8.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4484 TRA .0738 TC3 -.8393 BAU .3690 SGT 945.5 SGR 2340.8 SG3 1416.3 ST 30.5 SR 42.0 SS 84.3
 RDE -.4363 RRA -1.0077 RC3 1.2977 FAU .17289 RRT -.3191 RRF -.9977 RTF .5.74 CRT .6506 CRS .9923 CST .5335
 FDE 2.4758 FRA 7.3222 FC3-8.3803 BSP 3986 SGB 2524.5 R23 .0468 R13 -.9966 LSA 95.8 MSA 25.0 SSA .3
 BDE .6256 BRA 1.0104 BC3 1.5434 FSP 2418 SG1 2363.4 SG2 887.5 THA 98.58 EL1 47.7 EL2 20.4 ALF 58.26

LAUNCH DATE APR 16 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC DISTANCE 503.298 EARTH TO MARS
 RL 150.12 LAL .00 LOL 205.36 VL 32.290 GAL -2.79 AZL 95.23 HCA 168.02 SMA 182.92 ECC .18564 INC 5.2326 V1 29.682
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.145 GAP 6.31 AZP 84.88 TAL 341.98 TAP 150.00 RCA 148.96 APO 216.88 V2 26.058
 RC 114.307 GL -42.66 GP 23.95 ZAL 118.32 ZAP 108.82 ETS 170.77 ZAE 144.62 ETE 140.32 ZAC 125.44 ETC 275.66 LVI -35.99

PLANETOCENTRIC CONIC
 C3 18.842 VHL 4.341 DLA -47.98 RAL 359.16 RAD 6642.3 VEL 11.784 PTH 6.81 VHP 3.580 DPA 2.39 RAP 301.48 ECC 1.3101
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.48 23 36 46 1802.43 27.05 35.57 241.75 131.27 24 6 49 802.4 41.33 11.80
 49.48 23 36 46 1802.43 27.05 35.57 241.75 131.27 24 6 49 802.4 41.33 11.80
 49.48 23 36 46 1802.43 27.05 35.57 241.75 131.27 24 6 49 802.4 41.33 11.80
 49.48 23 36 46 1802.43 27.05 35.57 241.75 131.27 24 6 49 802.4 41.33 11.80
 49.48 23 36 46 1802.43 27.05 35.57 241.75 131.27 24 6 49 802.4 41.33 11.80
 49.48 23 36 46 1802.43 27.05 35.57 241.75 131.27 24 6 49 802.4 41.33 11.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.4426 TRA .1739 TC3 -.8934 BAU .4100 SGT 1029.3 SGR 2591.5 SG3 1397.9 ST 29.7 SR 46.9 SS 85.6
 RDE -.5029 RRA -1.1204 RC3 1.3604 FAU .17202 RRT -.4818 RRF -.9984 RTF .4888 CRT .5721 CRS .9953 CST .4906
 FDE 2.6660 FRA 7.2135 FC3-7.9038 BSP 4417 SGB 2788.6 R23 .0633 R13 -.9964 LSA 98.8 MSA 25.5 SSA .3
 BDE .6699 BRA 1.1338 BC3 1.6275 FSP 2382 SG1 2644.7 SG2 884.2 THA 102.23 EL1 50.8 EL2 22.5 ALF 64.83

LAUNCH DATE APR 16 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.283 GAL -2.81 AZL 95.65 HCA 189.24 SMA 182.81 ECC .18521 INC 5.6466 V1 29.682
 RP 210.70 LAP -1.03 LOP 14.65 VP 23.104 GAP 6.10 AZP 84.45 TAL 341.85 TAP 131.09 RCA 148.95 APO 216.67 V2 26.030
 RC 118.460 GL -44.98 GP 26.46 ZAL 117.43 ZAP 106.49 ETS 170.96 ZAE 141.67 ETE 140.19 ZAC 128.03 ETC 275.56 LVI -37.92

DISTANCE 507.467

EARTH TO MARS
 DPA 4.86 RAP 300.10 ECC 1.3319
 PO CBT TIM INJ 2 LAT INJ 2 LONG
 836.5 42.19 15.80
 836.5 42.19 15.80
 836.5 42.19 15.80
 836.5 42.19 15.80
 836.5 42.19 15.80
 836.5 42.19 15.80
 836.5 42.19 15.80

PLANETOCENTRIC CONIC
 C3 20.144 VHL 4.488 DLA -49.73 RAL 1.52 RAD 6842.9 VEL 11.839 PTH 6.86 VHP 3.621
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16
 47.22 23 38 40 1836.48 27.11 39.01 245.81 133.43 24 9 16

MID-COURSE EXECUTION ACCURACY
 SGT 1145.4 SGR 2882.4 SG3 1362.2
 RRT -.6074 RRF -.9989 RTF .6130
 SGB 3101.7 R23 .0708 R13 -.9964
 SG1 2973.6 SG2 882.0 THA 104.91

ORBIT DETERMINATION ACCURACY
 ST 28.8 SR 53.6 SS 87.6
 CRT .4867 CR8 .9973 CST .4219
 LSA 103.5 MSA 25.9 S8A .2
 EL1 55.8 EL2 24.2 ALF 71.81

DIFFERENTIAL CORRECTIONS
 TDE -.4317 TRA .2818 TC3 -.9314 BAU .4541
 RDE -.6045 RRA-1.2527 RC3 1.4057 FAU .16781
 FDE 2.9301 FRA 7.0284 FC3-7.2118 BSP 4993
 BDE .7429 BRA 1.2840 BC3 1.6863 FSP 2343

LAUNCH DATE APR 16 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.277 GAL -2.83 AZL 96.16 HCA 170.45 SMA 182.71 ECC .18486 INC 6.1627 V1 29.682
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.063 GAP 5.89 AZP 83.92 TAL 341.71 TAP 132.16 RCA 148.93 APO 216.48 V2 26.000
 RC 118.637 GL -47.66 GP 29.40 ZAL 116.33 ZAP 104.15 ETS 171.22 ZAE 138.46 ETE 139.86 ZAC 131.05 ETC 275.54 LVI -40.20

DISTANCE 511.638

EARTH TO MARS
 DPA 7.36 RAP 298.64 ECC 1.3603
 PO CBT TIM INJ 2 LAT INJ 2 LONG
 875.1 42.97 20.41
 875.1 42.97 20.41
 875.1 42.97 20.41
 875.1 42.97 20.41
 875.1 42.97 20.41
 875.1 42.97 20.41
 875.1 42.97 20.41

PLANETOCENTRIC CONIC
 C3 21.923 VHL 4.682 DLA -51.70 RAL 4.48 RAD 6643.7 VEL 11.913 PTH 6.92 VHP 3.695
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47
 44.73 23 42 32 1875.11 26.96 42.84 250.76 135.94 24 13 47

MID-COURSE EXECUTION ACCURACY
 SGT 1288.9 SGR 3203.6 SG3 1296.6
 RRT -.7012 RRF -.9993 RTF .7056
 SGB 3453.2 R23 .0735 R13 -.9966
 SG1 3338.7 SG2 881.7 THA 106.97

ORBIT DETERMINATION ACCURACY
 ST 27.9 SR 61.7 SS 89.1
 CRT .3904 CR8 .9986 CST .3408
 LSA 108.8 MSA 26.1 S8A .2
 EL1 62.8 EL2 25.2 ALF 76.03

DIFFERENTIAL CORRECTIONS
 TDE -.4134 TRA .3951 TC3 -.9532 BAU .5080
 RDE -.7484 RRA-1.3950 RC3 1.4478 FAU .16237
 FDE 3.2172 FRA 6.6744 FC3-6.4121 BSP 5572
 BDE .8550 BRA 1.4499 BC3 1.7335 FSP 2222

LAUNCH DATE APR 16 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.272 GAL -2.85 AZL 96.83 HCA 171.67 SMA 182.62 ECC .18458 INC 6.8267 V1 29.682
 RP 211.20 LAP -.99 LOP 17.09 VP 23.023 GAP 5.69 AZP 83.24 TAL 341.55 TAP 133.22 RCA 148.91 APO 216.33 V2 25.972
 RC 120.836 GL -50.80 GP 32.86 ZAL 114.58 ZAP 101.80 ETS 171.57 ZAE 134.93 ETE 139.36 ZAC 134.58 ETC 275.56 LVI -42.90

DISTANCE 515.811

EARTH TO MARS
 DPA 10.57 RAP 297.09 ECC 1.4023
 PO CBT TIM INJ 2 LAT INJ 2 LONG
 919.9 43.54 25.79
 919.9 43.54 25.79
 919.9 43.54 25.79
 919.9 43.54 25.79
 919.9 43.54 25.79
 919.9 43.54 25.79
 919.9 43.54 25.79

PLANETOCENTRIC CONIC
 C3 24.444 VHL 4.944 DLA -53.91 RAL 6.24 RAD 6644.8 VEL 12.017 PTH 7.01 VHP 3.821
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24
 41.99 23 49 24 1919.87 26.47 47.10 256.94 138.84 24 21 24

MID-COURSE EXECUTION ACCURACY
 SGT 1452.3 SGR 3573.3 SG3 1201.3
 RRT -.7690 RRF -.9995 RTF .723
 SGB 3857.2 R23 .0724 R13 -.9969
 SG1 3754.6 SG2 883.6 THA 108.41

ORBIT DETERMINATION ACCURACY
 ST 26.6 SR 73.0 SS 91.3
 CRT .2699 CR8 .9993 CST .2347
 LSA 117.1 MSA 25.8 S8A .2
 EL1 73.4 EL2 25.5 ALF 83.80

DIFFERENTIAL CORRECTIONS
 TDE -.3753 TRA .5187 TC3 -.9481 BAU .5695
 RDE -.9770 RRA-1.5382 RC3 1.4822 FAU .15295
 FDE 3.5919 FRA 6.1696 FC3-5.4169 BSP 6283
 BDE 1.0486 BRA 1.6423 BC3 1.7427 FSP 2085

LAUNCH DATE APR 16 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.267 GAL -2.87 AZL 97.71 HCA 172.87 SMA 182.55 ECC .18437 INC 7.7123 V1 29.682
 RP 211.46 LAP -.95 LOP 18.30 VP 22.983 GAP 5.49 AZP 82.35 TAL 341.38 TAP 134.26 RCA 148.89 APO 216.21 V2 25.942
 RC 123.056 GL -54.52 GP 36.95 ZAL 113.29 ZAP 99.45 ETS 172.06 ZAE 131.01 ETE 138.72 ZAC 136.74 ETC 275.67 LVI -46.09

DISTANCE 519.983

EARTH TO MARS
 DPA 14.42 RAP 295.42 ECC 1.4642
 PO CBT TIM INJ 2 LAT INJ 2 LONG
 973.1 43.68 32.05
 973.1 43.68 32.05
 973.1 43.68 32.05
 973.1 43.68 32.05
 973.1 43.68 32.05
 973.1 43.68 32.05
 973.1 43.68 32.05

PLANETOCENTRIC CONIC
 C3 26.209 VHL 5.311 DLA -56.35 RAL 13.26 RAD 6646.3 VEL 12.172 PTH 7.13 VHP 4.024
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50
 38.99 0 4 57 1973.07 25.44 51.81 264.78 142.15 0 37 50

MID-COURSE EXECUTION ACCURACY
 SGT 1832.0 SGR 3989.3 SG3 1066.9
 RRT -.8186 RRF -.9997 RTF .8211
 SGB 4317.2 R23 .0692 R13 -.9973
 SG1 4218.1 SG2 886.5 THA 109.41

ORBIT DETERMINATION ACCURACY
 ST 25.0 SR 88.8 SS 93.9
 CRT .0857 CR8 .9997 CST .0629
 LSA 129.3 MSA 24.9 S8A .1
 EL1 88.9 EL2 24.9 ALF 88.50

DIFFERENTIAL CORRECTIONS
 TDE -.2960 TRA .6547 TC3 -.9111 BAU .6436
 RDE-1.3510 RRA-1.7374 RC3 1.4432 FAU .13947
 FDE 4.0409 FRA 5.4556 FC3-4.2803 BSP 7086
 BDE 1.3831 BRA 1.8566 BC3 1.7067 FSP 1840

LAUNCH DATE APR 16 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 524.154

EARTH TO MARS

RL 150.12 LAL .00 LOL 205.36 VL 32.263 GAL -2.89 AZL 98.95 HCA 174.08 SMA 182.49 ECC .18423 INC 8.9530 V1 29.682
RP 211.73 LAP -.92 LOP 19.51 VP 22.943 GAP 5.29 AZP 81.09 TAL 341.21 YAP 159.28 RCA 148.87 APO 216.11 V2 25.911
RC 125.302 GL -58.97 GP 41.79 ZAL 111.10 ZAP 97.15 ETS 172.73 ZAE 126.64 ETE 137.99 ZAC 143.63 ETC 275.94 LVI -49.81

PLANETOCENTRIC CONIC

C3 34.244 VHL 5.852 DLA -58.96 RAL 20.20 RAD 6648.6 VEL 12.416 PTH 7.32 VHP 4.357 DPA 19.01 RAP 293.62 ECC 1.9638
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21
35.84 0 24 18 2038.20 23.51 56.91 275.01 145.78 0 58 16 1038.2 43.00 39.21

DIFFERENTIAL CORRECTIONS

TDE -.1277 TRA .8060 TC3 -.8392 BAU .7376
RDE-2.0016 RRA-1.9256 RC3 1.3754 FAU .12104
FDE 4.5351 FRA 4.4995 FC3-3.0602 BSP 7965
BDE 2.0056 BRA 2.0875 BC3 1.6112 FSP 1534

MID-COURSE EXECUTION ACCURACY

SGT 1822.9 SGR 4450.0 SG3 887.6
RRT -.8546 RRF -.9998 RTF .8565
SG8 4808.9 R23 .0648 R13 -.9977
SG1 4725.5 SG2 891.3 THA 110.04

ORBIT DETERMINATION ACCURACY

ST 23.8 SR 112.3 SS 96.9
CRT -.2429 CRS .9999 CST -.2557
LSA 148.2 MSA 23.1 SSA .1
EL1 112.5 EL2 23.1 ALF 93.08

LAUNCH DATE APR 16 1971

FLIGHT TIME 232.00

ARRIVAL DATE DEC 4 1971

HELIOCENTRIC CONIC

DISTANCE 557.815

EARTH TO MARS

RL 150.12 LAL .00 LOL 205.36 VL 32.258 GAL -3.24 AZL 80.22 HCA 183.77 SMA 182.41 ECC .18556 INC 9.7801 V1 29.682
RP 214.08 LAP -.64 LOP 29.08 VP 22.634 GAP 3.81 AZP 99.76 TAL 339.04 TAP 162.81 RCA 148.56 APO 216.26 V2 25.645
RC 143.938 GL 60.52 GP -52.43 ZAL 111.54 ZAP 86.82 ETS 174.50 ZAE 111.52 ETE 210.93 ZAC 49.99 ETC 272.43 LVI 38.16

PLANETOCENTRIC CONIC

C3 39.510 VHL 6.286 DLA 48.02 RAL 314.90 RAD 6650.5 VEL 12.625 PTH 7.48 VHP 5.679 DPA -73.38 RAP 322.53 ECC 1.6502
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59
49.42 8 42 5 4629.61 -18.53 213.65 207.36 44.87 9 59 14 3629.6 -34.89 193.59

DIFFERENTIAL CORRECTIONS

TDE 3.2910 TRA .8640 TC3-1.2940 BAU 1.0253
RDE 4.1816 RRA 2.3343 RC3-1.4469 FAU .06830
FDE 3.9576 FRA 2.3302 FC3-1.4963 BSP 10388
BDE 5.3213 BRA 2.4891 BC3 1.9411 FSP 771

MID-COURSE EXECUTION ACCURACY

SGT 3609.9 SGR 5287.4 SG3 445.9
RRT .9503 RRF .9995 RTF .9458
SG8 6402.2 R23 .1113 R13 .9933
SG1 6333.1 SG2 938.2 THA 56.18

ORBIT DETERMINATION ACCURACY

ST 151.0 SR 196.5 SS 91.8
CRT .9918 CRS -.9999 CST -.9901
LSA 263.7 MSA 16.2 SSA .1
EL1 247.4 EL2 15.3 ALF 52.51

LAUNCH DATE APR 16 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 6 1971

HELIOCENTRIC CONIC

DISTANCE 561.970

EARTH TO MARS

RL 150.12 LAL .00 LOL 205.36 VL 32.260 GAL -3.28 AZL 82.96 HCA 184.94 SMA 182.44 ECC .18592 INC 7.0437 V1 29.682
RP 214.39 LAP -.60 LOP 30.26 VP 22.596 GAP 3.63 AZP 97.02 TAL 338.78 TAP 163.72 RCA 148.52 APO 216.36 V2 25.609
RC 146.344 GL 50.41 GP -46.33 ZAL 117.07 ZAP 84.97 ETS 173.40 ZAE 113.36 ETE 207.01 ZAC 56.11 ETC 272.04 LVI 32.98

PLANETOCENTRIC CONIC

C3 26.267 VHL 5.125 DLA 38.63 RAL 320.44 RAD 6645.5 VEL 12.092 PTH 7.07 VHP 4.752 DPA -68.19 RAP 312.58 ECC 1.4323
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 11 58 0 4048.50 -41.79 178.35 218.75 64.80 13 5 29 3048.5 -47.57 145.08
60.00 11 3 46 4194.10 -29.48 182.88 210.29 60.17 12 13 40 3194.2 -38.08 156.38
62.51 9 57 31 4383.41 -19.48 192.59 204.18 55.96 11 10 34 3383.4 -31.69 169.54
62.51 9 57 31 4383.41 -19.48 192.59 204.18 55.96 11 10 34 3383.4 -31.69 169.54
62.51 9 57 31 4383.41 -19.48 192.59 204.18 55.96 11 10 34 3383.4 -31.69 169.54
62.51 9 57 31 4383.41 -19.48 192.59 204.18 55.96 11 10 34 3383.4 -31.69 169.54
62.51 9 57 31 4383.41 -19.48 192.59 204.18 55.96 11 10 34 3383.4 -31.69 169.54

DIFFERENTIAL CORRECTIONS

TDE 2.5459 TRA 1.1264 TC3-1.8798 BAU .9013
RDE 2.8385 RRA 2.2382 RC3-1.7474 FAU .09304
FDE 4.6126 FRA 3.5011 FC3-3.0664 BSP 10289
BDE 3.8130 BRA 2.8057 BC3 2.5666 FSP 1244

MID-COURSE EXECUTION ACCURACY

SGT 3796.3 SGR 4851.5 SG3 703.9
RRT .9581 RRF .9996 RTF .5556
SG8 6180.3 R23 .1166 R13 .9928
SG1 6099.3 SG2 864.9 THA 52.25

ORBIT DETERMINATION ACCURACY

ST 144.4 SR 165.8 SS 111.1
CRT .9921 CRS -.9999 CST -.9903
LSA 245.8 MSA 15.2 SSA .1
EL1 219.4 EL2 13.7 ALF 48.98

LAUNCH DATE APR 16 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

DISTANCE 566.134

EARTH TO MARS

RL 150.12 LAL .00 LOL 205.36 VL 32.263 GAL -3.33 AZL 84.64 HCA 186.10 SMA 182.48 ECC .18634 INC 5.3555 V1 29.682
RP 214.72 LAP -.57 LOP 31.44 VP 22.559 GAP 3.45 AZP 95.33 TAL 338.50 TAP 164.81 RCA 148.48 APO 216.48 V2 25.573
RC 148.770 GL 41.83 GP -40.96 ZAL 121.57 ZAP 83.01 ETS 172.74 ZAE 114.39 ETE 203.30 ZAC 61.50 ETC 271.74 LVI 28.39

PLANETOCENTRIC CONIC

C3 20.315 VHL 4.507 DLA 30.70 RAL 324.52 RAD 6643.0 VEL 11.846 PTH 6.86 VHP 4.237 DPA -63.34 RAP 306.75 ECC 1.3343
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 10 19 3780.52 -47.08 154.89 212.29 82.17 14 13 19 2780.5 -44.66 120.08
60.00 13 3 43 3798.11 -38.54 154.35 210.17 77.16 14 7 1 2798.1 -39.65 123.25
70.00 12 49 35 3839.85 -29.44 154.68 207.13 71.85 13 53 35 2839.9 -34.06 126.94
77.52 11 44 7 4045.46 -17.70 165.12 202.02 64.50 12 51 32 3045.5 -26.68 141.10
77.52 11 44 7 4045.46 -17.70 165.12 202.02 64.50 12 51 32 3045.5 -26.68 141.10
77.52 11 44 7 4045.46 -17.70 165.12 202.02 64.50 12 51 32 3045.5 -26.68 141.10
110.00 17 49 2 2886.67 -29.44 83.60 207.13 71.85 18 37 8 1886.7 -34.06 55.85

DIFFERENTIAL CORRECTIONS

TDE 2.1136 TRA 1.3309 TC3-2.4474 BAU .8439
RDE 2.0732 RRA 2.0726 RC3-1.9144 FAU .11371
FDE 4.8925 FRA 5.1217 FC3-4.8460 BSP 9999
BDE 2.9607 BRA 2.4632 BC3 3.1073 FSP 1648

MID-COURSE EXECUTION ACCURACY

SGT 3994.8 SGR 4394.8 SG3 924.4
RRT .9637 RRF .9996 RTF .9619
SG8 5939.0 R23 .1267 R13 .9915
SG1 5885.3 SG2 796.8 THA 47.83

ORBIT DETERMINATION ACCURACY

ST 137.6 SR 139.6 SS 120.4
CRT .9929 CRS -.9999 CST -.9907
LSA 229.6 MSA 14.1 SSA .2
EL1 195.6 EL2 11.7 ALF 45.42

LAUNCH DATE APR 16 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.269 GAL -3.38 AZL 85.79 HCA 187.27 SMA 182.58 ECC .18881 INC 4.2109 V1 29.682
 RP 215.04 LAP -.53 LOP 32.61 VP 22.521 GAP 3.27 AZP 94.18 TAL 338.21 TAP 165.47 RCA 148.43 APO 216.62 V2 25.536
 RC 151.211 GL 34.68 GP -36.39 ZAL 125.09 ZAP 81.02 ETS 172.21 ZAE 114.71 ETE 199.95 ZAC 66.09 ETC 271.50 LVI 24.47

PLANETOCENTRIC CONIC
 C3 17.275 VHL 4.158 DLA 24.12 RAL 327.68 RAD 6641.6 VEL 11.718 PTH 6.75 VHP 3.928 DPA -59.11 RAP 302.94 ECC 1.2843
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 57 41 3593.29 -47.29 136.88 205.37 96.01 14 57 34 2593.3 -39.48 105.14
 60.00 14 6 30 3569.80 -40.30 135.27 205.88 89.96 15 6 0 2569.8 -35.90 105.07
 70.00 14 21 7 3526.72 -33.82 131.42 205.51 84.89 15 19 54 2526.7 -32.39 102.77
 80.00 14 49 41 3437.10 -28.59 123.88 204.75 81.00 15 46 58 2437.1 -29.46 96.49
 90.00 15 50 54 3239.44 -26.35 108.92 204.32 79.35 16 44 53 2239.4 -28.18 82.06
 100.00 17 32 33 2911.57 -28.59 85.25 204.75 81.00 18 21 5 1911.6 -29.46 57.85
 110.00 19 20 34 2573.53 -33.82 60.34 205.51 84.89 20 3 27 1573.5 -32.39 31.69

DIFFERENTIAL CORRECTIONS
 TDE 1.8411 TRA 1.5063 TC3-2.9492 BAU .8173 SGT 4199.5 SGR 3982.7 SG3 1100.3 ORBIT DETERMINATION ACCURACY
 RDE 1.5996 RRA 1.8937 RC3-1.9558 FAU .13003 RRT .9674 RRF .9994 RTF .9661 CRT .9941 CRS -.9997 CST -.9913
 FDE 4.8676 FRA 6.1913 FC3-6.5163 B8P 9723 SGB 5773.3 R23 .1383 R13 .9898 LSA 215.6 MSA 12.8 S8A .2
 BDE 2.4390 BRA 2.4213 BC3 3.5387 F8P 1968 SG1 5726.3 SG2 735.4 THA 43.29 EL1 176.6 EL2 9.6 ALF 41.98

LAUNCH DATE APR 16 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.269 GAL -3.44 AZL 86.62 HCA 188.43 SMA 182.58 ECC .18733 INC 3.3834 V1 29.682
 RP 215.37 LAP -.50 LOP 33.78 VP 22.484 GAP 3.10 AZP 93.35 TAL 337.90 TAP 166.33 RCA 148.38 APO 216.78 V2 25.499
 RC 153.669 GL 28.77 GP -32.54 ZAL 127.78 ZAP 79.05 ETS 171.84 ZAE 114.49 ETE 197.03 ZAC 69.96 ETC 271.31 LVI 21.17

PLANETOCENTRIC CONIC
 C3 15.604 VHL 3.950 DLA 18.70 RAL 330.22 RAD 6640.8 VEL 11.647 PTH 6.69 VHP 3.732 DPA -55.50 RAP 300.24 ECC 1.2568
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 32 18 3454.46 -45.49 123.99 200.58 105.79 15 29 52 2454.5 -34.45 95.69
 60.00 14 49 55 3407.52 -39.41 121.59 202.40 99.20 15 46 43 2407.5 -31.55 93.53
 70.00 15 16 36 3328.96 -33.95 116.01 203.19 93.99 16 12 5 2329.0 -28.60 88.51
 80.00 16 0 9 3192.47 -29.86 105.85 203.37 90.36 16 53 21 2192.5 -26.67 78.88
 90.00 17 10 11 2966.38 -28.26 89.23 203.36 89.00 17 59 38 1966.4 -25.63 67.48
 100.00 18 43 1 2666.94 -29.86 67.22 203.37 90.36 19 27 28 1666.9 -26.67 40.25
 110.00 20 16 3 2375.78 -33.95 44.93 203.19 93.99 20 55 38 1375.8 -28.80 17.43

DIFFERENTIAL CORRECTIONS
 TDE 1.6583 TRA 1.6629 TC3-3.3767 BAU .8097 SGT 4402.9 SGR 3568.5 SG3 1232.9 ORBIT DETERMINATION ACCURACY
 RDE 1.2859 RRA 1.7239 RC3-1.9145 FAU .14283 RRT .9701 RRF .9992 RTF .9691 CRT .9955 CRS -.9995 CST -.9922
 FDE 4.8172 FRA 7.0215 FC3-7.9245 B8P 9482 SGB 5367.5 R23 .1490 R13 .6881 LSA 203.7 MSA 11.4 S8A .3
 BDE 2.0984 BRA 2.3952 BC3 3.8816 F8P 2202 SG1 5626.9 SG2 677.4 THA 38.85 EL1 161.7 EL2 7.5 ALF 38.73

LAUNCH DATE APR 16 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.272 GAL -3.49 AZL 87.24 HCA 189.60 SMA 182.64 ECC .18789 INC 2.7579 V1 29.682
 RP 215.71 LAP -.46 LOP 34.95 VP 22.447 GAP 2.92 AZP 92.72 TAL 337.57 TAP 167.17 RCA 148.32 APO 216.95 V2 25.461
 RC 156.143 GL 23.89 GP -29.29 ZAL 129.85 ZAP 77.13 ETS 171.58 ZAE 113.88 ETE 194.53 ZAC 73.23 ETC 271.14 LVI 18.40

PLANETOCENTRIC CONIC
 C3 14.852 VHL 3.828 DLA 14.25 RAL 332.33 RAD 6640.4 VEL 11.606 PTH 6.65 VHP 3.604 DPA -52.44 RAP 298.20 ECC 1.2411
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 59 3 3348.40 -43.12 114.89 197.74 112.46 15 54 31 2348.4 -30.10 89.31
 60.00 15 22 39 3285.57 -37.62 111.73 200.23 105.86 16 17 24 2285.6 -27.57 85.66
 70.00 15 56 42 3185.37 -32.72 105.00 201.62 100.38 16 49 47 2185.4 -25.20 78.90
 80.00 16 47 56 3024.83 -29.14 93.46 202.25 96.83 17 38 21 2024.8 -23.41 67.50
 90.00 18 1 44 2786.60 -27.78 76.12 202.42 95.33 18 48 11 1786.6 -22.73 50.24
 100.00 19 30 48 2499.30 -29.14 54.83 202.25 96.83 20 12 27 1499.3 -23.41 28.87
 110.00 20 56 8 2232.18 -32.72 33.92 201.62 100.38 21 33 20 1232.2 -25.20 7.82

DIFFERENTIAL CORRECTIONS
 TDE 1.5386 TRA 1.8154 TC3-3.7161 BAU .8100 SGT 4610.6 SGR 3222.8 SG3 1331.1 ORBIT DETERMINATION ACCURACY
 RDE 1.0727 RRA 1.5703 RC3-1.8134 FAU .15175 RRT .9722 RRF .9990 RTF .5.15 CRT .9971 CRS -.9992 CST -.9932
 FDE 4.7193 FRA 7.8709 FC3-8.9663 B8P 9400 SGB 5825.3 R23 .1573 R13 .9865 LSA 194.6 MSA 10.2 S8A .4
 BDE 1.8756 BRA 2.4003 BC3 4.1349 F8P 2380 SG1 5590.8 SG2 822.1 THA 34.69 EL1 151.0 EL2 5.4 ALF 35.68

LAUNCH DATE APR 16 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC
 RL 150.12 LAL .00 LOL 205.36 VL 32.278 GAL -3.55 AZL 87.73 HCA 190.78 SMA 182.70 ECC .18850 INC 2.2674 V1 29.682
 RP 216.04 LAP -.42 LOP 36.11 VP 22.410 GAP 2.75 AZP 92.73 TAL 337.24 TAP 168.00 RCA 148.26 APO 217.14 V2 25.424
 RC 158.631 GL 18.83 GP -26.54 ZAL 131.45 ZAP 75.28 ETS 171.41 ZAE 113.00 ETE 192.39 ZAC 76.00 ETC 271.00 LVI 16.07

PLANETOCENTRIC CONIC
 C3 14.112 VHL 3.757 DLA 10.59 RAL 334.13 RAD 6640.1 VEL 11.583 PTH 6.63 VHP 3.519 DPA -49.84 RAP 296.59 ECC 1.2323
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 20 29 3265.73 -40.75 108.37 196.25 117.06 16 14 55 2265.7 -26.49 84.75
 60.00 15 48 30 3191.18 -35.64 104.50 199.09 110.22 16 41 41 2191.2 -24.17 79.99
 70.00 16 27 43 3075.75 -31.08 96.88 200.82 104.92 17 18 59 2075.7 -22.01 72.00
 80.00 17 24 0 2899.46 -27.78 84.39 201.71 101.41 18 12 19 1899.5 -20.39 59.42
 90.00 18 40 8 2653.75 -26.54 66.60 201.97 100.14 19 24 22 1653.8 -19.78 41.61
 100.00 20 6 52 2373.93 -27.78 45.76 201.71 101.41 20 46 26 1373.9 -20.39 20.79
 110.00 21 27 10 2122.57 -31.08 25.79 200.82 104.92 22 2 32 1122.6 -22.01 .92

DIFFERENTIAL CORRECTIONS
 TDE 1.4534 TRA 1.9581 TC3-4.0011 BAU .8200 SGT 4814.7 SGR 2915.6 SG3 1399.4 ORBIT DETERMINATION ACCURACY
 RDE .9172 RRA 1.4291 RC3-1.6976 FAU .15889 RRT .9740 RRF .9986 RTF .9736 CRT .9985 CRS -.9986 CST -.9943
 FDE 4.5900 FRA 8.1443 FC3-9.7470 B8P 9344 SGB 5828.7 R23 .1624 R13 .9853 LSA 187.0 MSA 9.1 S8A .6
 BDE 1.7186 BRA 2.4241 BC3 4.3464 F8P 2488 SG1 5599.9 SG2 568.4 THA 30.88 EL1 142.7 EL2 3.6 ALF 32.85

LAUNCH DATE APR 16 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC										DISTANCE 586.969										EARTH TO MARS																																													
RL	150.12	LAL	.00	LOL	205.36	VL	32.281	GAL	-3.62	AZL	88.13	HCA	191.91	SMA	182.77	ECC	.18915	INC	1.8728	V1	29.682	RP	216.39	LAP	-.39	LOP	37.27	VP	22.373	GAP	2.58	AZP	91.83	TAL	336.90	TAP	169.82	RCA	148.20	APO	217.34	V2	25.385	RC	161.134	GL	16.45	GP	-24.19	ZAL	132.71	ZAP	73.46	ETS	171.30	ZAE	111.93	ETE	190.58	ZAC	78.36	ETC	270.88	LVI	14.09

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	13.824	VHL	3.718	DLA	7.57	RAL	335.68	RAD	6640.0	VEL	11.571	PTH	6.62	VHP	3.464	DPA	-47.61	RAP	295.27	ECC	1.2275	SGT	5016.8	SGR	2645.2	SG3	1444.6	ST	118.2	SR	68.8	SS	118.6	CRT	.9994	CR8	-.9978	C8T	-.9953	LSA	180.9	MSA	8.2	SSA	.7	BDE	1.6093	BRA	2.4685	BC3	4.5183	FSP	2549	SG1	5647.8	SG2	516.6	TMA	27.47	EL1	136.8	EL2	2.0	ALF	30.21

LAUNCH DATE APR 16 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC										DISTANCE 591.128										EARTH TO MARS																																													
RL	150.12	LAL	.00	LOL	205.36	VL	32.286	GAL	-3.68	AZL	88.45	HCA	193.07	SMA	182.85	ECC	.18984	INC	1.5478	V1	29.682	RP	216.73	LAP	-.35	LOP	38.43	VP	22.336	GAP	2.41	AZP	91.51	TAL	336.55	TAP	169.62	RCA	148.14	APO	217.56	V2	25.347	RC	163.649	GL	13.60	GP	-22.17	ZAL	133.73	ZAP	71.72	ETS	171.23	ZAE	110.74	ETE	189.05	ZAC	80.39	ETC	270.77	LVI	12.39

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	13.700	VHL	3.701	DLA	5.05	RAL	337.05	RAD	6639.9	VEL	11.566	PTH	6.61	VHP	3.429	DPA	-45.68	RAP	294.19	ECC	1.2255	SGT	5220.8	SGR	2419.8	SG3	1478.9	ST	118.1	SR	62.9	SS	118.1	CRT	.9999	CR8	-.9968	C8T	-.9965	LSA	178.3	MSA	7.3	SSA	.8	BDE	1.5478	BRA	2.5454	BC3	4.6258	FSP	2674	SG1	5733.0	SG2	495.6	TMA	24.50	EL1	133.8	EL2	.9	ALF	28.04

LAUNCH DATE APR 16 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC										DISTANCE 595.286										EARTH TO MARS																																													
RL	150.12	LAL	.00	LOL	205.36	VL	32.291	GAL	-3.75	AZL	88.72	HCA	194.22	SMA	182.93	ECC	.19057	INC	1.2763	V1	29.682	RP	217.08	LAP	-.31	LOP	39.58	VP	22.299	GAP	2.24	AZP	91.24	TAL	336.19	TAP	170.41	RCA	148.07	APO	217.80	V2	25.308	RC	166.178	GL	11.19	GP	-20.42	ZAL	134.58	ZAP	70.05	ETS	171.20	ZAE	109.48	ETE	187.74	ZAC	82.16	ETC	270.87	LVI	10.92

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	13.885	VHL	3.699	DLA	2.94	RAL	338.28	RAD	6639.9	VEL	11.565	PTH	6.61	VHP	3.409	DPA	-44.01	RAP	293.28	ECC	1.2252	SGT	5419.6	SGR	2215.4	SG3	1496.2	ST	118.4	SR	57.6	SS	116.7	CRT	.9995	CR8	-.9954	C8T	-.9974	LSA	175.8	MSA	6.8	SSA	1.1	BDE	1.5040	BRA	2.6299	BC3	4.7247	FSP	2724	SG1	5836.5	SG2	464.5	TMA	21.86	EL1	131.7	EL2	1.6	ALF	25.92

LAUNCH DATE APR 16 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC										DISTANCE 599.443										EARTH TO MARS																																													
RL	150.12	LAL	.00	LOL	205.36	VL	32.296	GAL	-3.82	AZL	88.96	HCA	195.37	SMA	183.02	ECC	.19134	INC	1.0447	V1	29.682	RP	217.43	LAP	-.28	LOP	40.73	VP	22.262	GAP	2.07	AZP	91.01	TAL	335.82	TAP	171.19	RCA	148.00	APO	218.04	V2	25.269	RC	168.717	GL	9.12	GP	-18.89	ZAL	135.30	ZAP	68.43	ETS	171.20	ZAE	108.16	ETE	186.63	ZAC	83.69	ETC	270.59	LVI	9.65

PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	13.747	VHL	3.708	DLA	1.16	RAL	339.40	RAD	6639.9	VEL	11.568	PTH	6.61	VHP	3.401	DPA	-42.55	RAP	292.50	ECC	1.2262	SGT	5611.0	SGR	2030.2	SG3	1499.9	ST	118.7	SR	52.8	SS	114.3	CRT	.9985	CR8	-.9936	C8T	-.9980	LSA	172.9	MSA	6.5	SSA	1.2	BDE	1.4695	BRA	2.7159	BC3	4.8299	FSP	2711	SG1	5951.4	SG2	431.7	TMA	19.32	EL1	129.9	EL2	2.7	ALF	23.95

LAUNCH DATE APR 16 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.302 GAL -3.89 AZL 89.15 MCA 198.51 SMA 183.11 ECC .19215 INC .8453 V1 29.682
RP 217.78 LAP -.24 LOP 41.87 VP 22.228 GAP 1.90 AZP 90.81 TAL 335.45 TAP 171.96 RCA 147.93 APO 218.30 V2 25.229
RC 171.268 GL 7.34 GP -17.95 ZAL 135.93 ZAP 66.88 ETS 171.21 ZAE 106.81 ETE 185.67 ZAC 85.05 ETC 270.51 LVI 8.52

PLANETOCENTRIC CONIC

C3 13.866 VHL 3.724 DLA -.35 RAL 340.42 RAD 6640.0 VEL 11.573 PTH 6.62 VHP 3.400 DPA -41.26 RAP 291.85 ECC 1.2282
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 26 7 3043.04 -32.68 93.23 196.63 126.72 17 18 50 2043.0 -16.06 73.85
60.00 17 8 4 2936.76 -28.21 87.08 200.06 120.07 17 55 1 1936.8 -13.99 66.19
70.00 17 58 43 2781.92 -24.19 76.86 202.39 114.88 18 45 5 1781.9 -12.07 55.03
80.00 19 7 23 2566.91 -21.27 61.90 203.74 111.46 19 50 10 1566.9 -10.65 39.56
90.00 20 28 59 2303.62 -20.19 42.98 204.18 110.24 21 7 22 1303.6 -10.11 20.49
100.00 21 50 15 2041.39 -21.27 23.27 203.74 111.46 22 24 16 1041.4 -10.65 .93
110.00 22 58 9 1828.74 -24.19 5.78 202.39 114.88 23 28 38 828.7 -12.07 343.95

DIFFERENTIAL CORRECTIONS

TDE 1.3385 TRA 2.6553 TC3-4.7900 BAU .9099
RDE .5718 RRA .9379 RC3-1.0708 FAU .16409
FDE 4.1439 FRA 9.2233 FC-10.2454 BSP 10191
BDE 1.4536 BRA 2.8161 BC3 4.9083 FSP 2711

DISTANCE 603.595

EARTH TO MARS

SGT 5800.7 SGR 1868.9 SG3 1497.2
RRT .9732 RRF .9935 RTF .9781
SGB 6094.3 R23 .1603 R13 .9817
SG1 6080.5 SG2 409.8 THA 17.49

ORBIT DETERMINATION ACCURACY

ST 119.8 SR 49.0 SS 112.7
CRT .9966 CRS -.9914 CST -.9988
LSA 171.5 MSA 6.5 SSA 1.3
EL1 129.4 EL2 3.7 ALF 22.21

LAUNCH DATE APR 16 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.308 GAL -3.96 AZL 89.33 MCA 197.65 SMA 183.21 ECC .19299 INC .8719 V1 29.682
RP 218.15 LAP -.20 LOP 43.01 VP 22.189 GAP 1.73 AZP 90.64 TAL 335.07 TAP 172.72 RCA 147.85 APO 218.57 V2 25.189
RC 173.829 GL 3.79 GP -18.36 ZAL 136.50 ZAP 65.38 ETS 171.24 ZAE 105.45 ETE 184.85 ZAC 86.24 ETC 270.45 LVI 7.53

PLANETOCENTRIC CONIC

C3 14.029 VHL 3.745 DLA -1.64 RAL 341.36 RAD 6640.1 VEL 11.580 PTH 6.62 VHP 3.406 DPA -40.12 RAP 291.29 ECC 1.2309
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 34 34 3020.03 -31.74 91.85 197.28 127.51 17 24 54 2020.0 -14.94 72.60
60.00 17 15 53 2910.14 -27.29 85.43 200.75 120.89 18 4 23 1910.1 -12.86 64.54
70.00 18 10 2 2750.85 -23.28 74.90 203.14 115.73 18 55 53 1750.9 -10.94 53.34
80.00 19 20 5 2531.55 -20.38 59.65 204.53 112.31 20 2 16 1531.6 -9.51 37.95
90.00 20 42 17 2266.33 -19.29 40.62 204.99 111.09 21 20 3 1266.3 -8.97 18.34
100.00 22 2 57 2006.02 -20.38 21.02 204.53 112.31 22 36 23 1006.0 -9.51 350.92
110.00 23 9 29 1797.67 -23.28 3.82 203.14 115.73 23 39 26 797.7 -10.94 342.26

DIFFERENTIAL CORRECTIONS

TDE 1.3449 TRA 2.7921 TC3-4.8771 BAU .9327
RDE .5408 RRA .8673 RC3 -.9733 FAU .16235
FDE 4.0771 FRA 9.2730 FC-10.0191 BSP 10441
BDE 1.4496 BRA 2.9237 BC3 4.9733 FSP 2703

DISTANCE 607.743

EARTH TO MARS

SGT 5986.5 SGR 1725.6 SG3 1486.0
RRT .9716 RRF .9915 RTF .9785
SGB 6230.3 R23 .1549 R13 .9814
SG1 6217.9 SG2 393.0 THA 15.71

ORBIT DETERMINATION ACCURACY

ST 121.3 SR 45.9 SS 111.2
CRT .9939 CRS -.9887 CST -.9990
LSA 170.7 MSA 6.6 SSA 1.4
EL1 129.6 EL2 4.7 ALF 20.64

LAUNCH DATE APR 16 1971

FLIGHT TIME 258.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.314 GAL -4.04 AZL 89.48 MCA 198.79 SMA 183.31 ECC .19387 INC .5181 V1 29.682
RP 218.51 LAP -.17 LOP 44.15 VP 22.153 GAP 1.57 AZP 90.49 TAL 334.68 TAP 173.47 RCA 147.77 APO 218.85 V2 25.149
RC 176.400 GL 4.44 GP -15.30 ZAL 137.03 ZAP 65.95 ETS 171.28 ZAE 104.10 ETE 184.14 ZAC 87.31 ETC 270.40 LVI 6.63

PLANETOCENTRIC CONIC

C3 14.226 VHL 3.772 DLA -2.74 RAL 342.24 RAD 6640.2 VEL 11.588 PTH 6.63 VHP 3.418 DPA -39.10 RAP 290.83 ECC 1.2341
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 42 5 3001.22 -30.95 90.75 197.98 128.13 17 32 6 2001.2 -14.03 71.96
60.00 17 24 34 2888.23 -26.51 84.09 201.50 121.54 18 12 42 1888.2 -11.93 63.74
70.00 18 20 2 2725.13 -22.51 73.30 203.93 116.39 19 5 27 1725.1 -9.99 51.95
80.00 19 31 15 2502.13 -19.60 57.81 205.37 112.98 20 12 57 1502.1 -8.55 35.89
90.00 20 53 58 2235.23 -18.52 38.66 205.84 111.76 21 31 13 1235.2 -8.00 16.37
100.00 22 14 7 1976.60 -19.60 19.18 205.37 112.98 22 47 4 976.6 -8.45 357.26
110.00 23 19 28 1771.95 -22.51 2.22 203.93 116.39 23 49 0 771.9 -9.99 340.87

DIFFERENTIAL CORRECTIONS

TDE 1.3561 TRA 2.8243 TC3-4.9579 BAU .9579
RDE .3150 RRA .8025 RC3 -.8882 FAU .16061
FDE 4.0038 FRA 9.2842 FC3-9.7741 BSP 10682
BDE 1.4506 BRA 3.0343 BC3 5.0369 FSP 2673

DISTANCE 611.887

EARTH TO MARS

SGT 6167.4 SGR 1597.0 SG3 1473.2
RRT .9695 RRF .9890 RTF .5.89
SGB 6370.8 R23 .1482 R13 .9813
SG1 6359.5 SG2 379.6 THA 14.14

ORBIT DETERMINATION ACCURACY

ST 122.9 SR 43.2 SS 109.8
CRT .9903 CRS -.9853 CST -.9993
LSA 170.0 MSA 6.5 SSA 1.4
EL1 130.1 EL2 5.7 ALF 19.24

LAUNCH DATE APR 16 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.320 GAL -4.11 AZL 89.62 MCA 199.92 SMA 183.42 ECC .19479 INC .3838 V1 29.682
RP 218.88 LAP -.13 LOP 45.28 VP 22.118 GAP 1.40 AZP 90.36 TAL 334.28 TAP 174.20 RCA 147.69 APO 219.15 V2 25.109
RC 178.981 GL 3.25 GP -14.35 ZAL 137.52 ZAP 62.54 ETS 171.33 ZAE 102.75 ETE 183.53 ZAC 88.26 ETC 270.36 LVI 5.83

PLANETOCENTRIC CONIC

C3 14.451 VHL 3.801 DLA -3.88 RAL 343.07 RAD 6640.3 VEL 11.598 PTH 6.64 VHP 3.434 DPA -38.18 RAP 290.44 ECC 1.2378
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 48 50 2985.91 -30.31 89.86 198.72 128.61 17 38 36 1985.9 -13.28 71.28
60.00 17 32 19 2870.24 -25.87 83.01 202.28 122.05 18 20 9 1870.2 -11.16 62.85
70.00 18 28 54 2703.85 -21.86 71.99 204.76 116.92 19 13 58 1703.9 -9.20 50.80
80.00 19 41 9 2477.65 -18.95 56.29 206.22 113.52 20 22 27 1477.7 -7.75 34.52
90.00 21 4 19 2209.33 -17.86 37.05 206.71 112.30 21 41 8 1209.3 -7.20 19.09
100.00 22 24 1 1952.12 -18.95 17.66 206.22 113.52 22 56 33 952.1 -7.75 355.89
110.00 23 28 21 1750.67 -21.86 .91 204.76 116.92 23 57 31 750.7 -9.20 339.72

DIFFERENTIAL CORRECTIONS

TDE 1.3764 TRA 3.0643 TC3-5.0157 BAU .9615
RDE .4955 RRA .7444 RC3 -.8083 FAU .15783
FDE 3.9499 FRA 9.2812 FC3-9.4551 BSP 10943
BDE 1.4629 BRA 3.1534 BC3 5.0804 FSP 2650

DISTANCE 618.026

EARTH TO MARS

SGT 6345.5 SGR 1483.0 SG3 1455.0
RRT .9666 RRF .9859 RTF .9792
SGB 6516.5 R23 .1412 R13 .9811
SG1 6505.9 SG2 370.8 THA 12.77

ORBIT DETERMINATION ACCURACY

ST 124.9 SR 41.0 SS 108.2
CRT .9861 CRS -.9818 CST -.9996
LSA 170.1 MSA 7.3 SSA 1.4
EL1 131.3 EL2 6.5 ALF 17.97

LAUNCH DATE APR 16 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.327 GAL -4.19 AZL 89.74 HCA 201.05 SMA 183.53 ECC .19574 INC .2622 V1 29.682
RP 219.23 LAP -.09 LOP 46.41 VP 22.080 GAP 1.23 AZP 90.24 TAL 333.88 TAP 174.93 RCA 147.61 APO 219.45 V2 25.068
RC 181.572 GL 2.21 GP -13.50 ZAL 137.98 ZAP 61.20 ETS 171.36 ZAE 101.41 ETE 182.99 ZAC 89.11 ETC 270.32 LVI 5.10

DISTANCE 620.161

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.700 VHL 3.834 DLA -4.49 RAL 343.85 RAD 6640.4 VEL 11.608 PTH 6.65 VHP 3.453 DPA -37.35 RAP 290.13 ECC 1.2419
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 54 55 2973.53 -29.78 89.15 199.49 128.99 17 44 29 1973.5 -12.67 70.73
60.00 17 39 17 2855.55 -25.33 82.13 203.09 122.46 18 26 52 1855.5 -10.53 62.12
70.00 18 36 50 2686.30 -21.32 70.92 205.61 117.34 19 21 37 1686.3 -8.55 49.86
80.00 19 49 58 2457.32 -18.39 55.04 207.10 113.94 20 30 56 1457.3 -7.07 33.39
90.00 21 13 31 2187.75 -17.29 35.72 207.60 112.73 21 49 59 1187.7 -6.52 13.87
100.00 22 32 50 1931.80 -18.39 16.41 207.10 113.94 23 5 2 931.8 -7.07 354.75
110.00 23 36 17 1733.12 -21.32 359.84 205.61 117.34 24 5 10 733.1 -8.55 338.78

DIFFERENTIAL CORRECTIONS

TDE 1.3992 TRA 3.2004 TC3-5.0692 BAU 1.0067
RDE .4794 RRA .6907 RC3 -.7382 FAU .15511
FDE 3.8936 FRA 9.2518 FC3-9.1349 BSP 11205
BDE 1.4791 BRA 3.2741 BC3 5.1227 FSP 2615

MID-COURSE EXECUTION ACCURACY

SGT 6519.0 SGR 1380.5 SG3 1433.5
RRR .9629 RRF .9821 RTF .9794
SGB 6663.6 R23 .1335 R13 .9810
SG1 6653.6 SG2 364.9 THA 11.56

ORBIT DETERMINATION ACCURACY

ST 127.1 SR 39.1 SS 106.8
CRT .9810 CRS -.9777 CST -.9997
LSA 170.3 MSA 7.8 S8A 1.4
EL1 132.7 EL2 7.3 ALF 16.83

LAUNCH DATE APR 16 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.334 GAL -4.27 AZL 89.85 HCA 202.17 SMA 183.64 ECC .19672 INC .1516 V1 29.682
RP 219.62 LAP -.06 LOP 47.54 VP 22.044 GAP 1.06 AZP 90.14 TAL 333.47 TAP 175.65 RCA 147.52 APO 219.77 V2 25.028
RC 184.172 GL 1.28 GP -12.73 ZAL 138.43 ZAP 59.90 ETS 171.45 ZAE 100.09 ETE 182.52 ZAC 89.88 ETC 270.30 LVI 4.43

DISTANCE 624.292

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.969 VHL 3.869 DLA -5.19 RAL 344.59 RAD 6640.5 VEL 11.620 PTH 6.66 VHP 3.476 DPA -36.60 RAP 289.88 ECC 1.2464
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 0 27 2963.64 -29.35 88.59 200.27 129.29 17 49 51 1963.6 -12.18 70.30
60.00 17 45 34 2843.65 -24.90 81.43 203.91 122.78 18 32 57 1843.7 -10.02 61.53
70.00 18 43 58 2671.93 -20.87 70.05 206.46 117.67 19 28 30 1671.9 -8.01 49.10
80.00 19 57 52 2440.53 -17.92 54.01 207.98 114.29 20 38 33 1440.5 -6.52 32.45
90.00 21 21 46 2169.87 -16.92 34.62 208.49 113.07 21 57 55 1169.9 -5.95 12.86
100.00 22 40 44 1915.01 -17.92 15.38 207.98 114.29 23 12 39 915.0 -6.52 353.82
110.00 23 43 24 1718.75 -20.87 358.97 206.46 117.67 24 12 3 718.7 -8.01 338.02

DIFFERENTIAL CORRECTIONS

TDE 1.4254 TRA 3.3371 TC3-5.1130 BAU 1.0321
RDE .4667 RRA .6416 RC3 -.6745 FAU .15196
FDE 3.8411 FRA 9.2091 FC3-8.7889 BSP 11465
BDE 1.4998 BRA 3.3982 BC3 5.1573 FSP 2577

MID-COURSE EXECUTION ACCURACY

SGT 6688.2 SGR 1288.5 SG3 1409.5
RRR .9582 RRF .9774 RTF .9794
SGB 6811.2 R23 .1263 R13 .9807
SG1 6801.6 SG2 362.3 THA 10.49

ORBIT DETERMINATION ACCURACY

ST 129.3 SR 37.4 SS 105.4
CRT .9753 CRS -.9730 CST -.9998
LSA 170.7 MSA 8.3 S8A 1.4
EL1 134.4 EL2 8.0 ALF 15.82

LAUNCH DATE APR 16 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.341 GAL -4.36 AZL 89.94 HCA 203.30 SMA 183.76 ECC .19773 INC .0485 V1 29.682
RP 219.99 LAP -.02 LOP 48.66 VP 22.008 GAP .90 AZP 90.05 TAL 333.06 TAP 176.35 RCA 147.43 APO 220.10 V2 24.987
RC 186.781 GL .45 GP -12.03 ZAL 138.86 ZAP 58.66 ETS 171.51 ZAE 98.79 ETE 182.11 ZAC 90.58 ETC 270.29 LVI 3.82

DISTANCE 628.417

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.257 VHL 3.908 DLA -5.79 RAL 345.29 RAD 6640.6 VEL 11.632 PTH 6.67 VHP 3.501 DPA -35.92 RAP 289.69 ECC 1.2511
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 5 29 2955.87 -29.02 88.16 201.07 129.52 17 54 45 1955.9 -11.80 69.96
60.00 17 51 15 2834.16 -24.55 80.87 204.74 123.03 18 38 29 1834.2 -9.61 61.06
70.00 18 50 23 2660.28 -20.50 69.35 207.32 117.94 19 34 44 1660.3 -7.58 48.48
80.00 20 4 58 2426.78 -17.54 53.17 208.87 114.56 20 45 25 1426.8 -6.06 31.69
90.00 21 29 9 2155.16 -16.42 33.72 209.38 113.35 22 5 5 1155.2 -5.49 12.03
100.00 22 47 50 1901.25 -17.54 14.54 208.87 114.56 23 19 31 901.2 -6.06 353.05
110.00 23 49 50 1707.10 -20.50 358.27 207.32 117.94 24 18 17 707.1 -7.58 337.40

DIFFERENTIAL CORRECTIONS

TDE 1.4583 TRA 3.4755 TC3-5.1485 BAU 1.0572
RDE .4570 RRA .5984 RC3 -.6188 FAU .14853
FDE 3.7963 FRA 9.1554 FC3-8.4282 BSP 11742
BDE 1.5264 BRA 3.5263 BC3 5.1833 FSP 2539

MID-COURSE EXECUTION ACCURACY

SGT 6854.5 SGR 1206.2 SG3 1384.0
RRR .9525 RRF .9718 RTF .9794
SGB 6959.8 R23 .1191 R13 .9805
SG1 6950.4 SG2 362.1 THA 9.54

ORBIT DETERMINATION ACCURACY

ST 131.7 SR 36.0 SS 104.2
CRT .9689 CRS -.9879 CST -.9998
LSA 171.5 MSA 8.8 S8A 1.4
EL1 136.3 EL2 8.6 ALF 14.90

LAUNCH DATE APR 16 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.349 GAL -4.44 AZL 90.03 HCA 204.41 SMA 183.88 ECC .19878 INC .0350 V1 29.682
RP 220.36 LAP .01 LOP 49.78 VP 21.972 GAP .73 AZP 89.97 TAL 332.64 TAP 177.05 RCA 147.33 APO 220.44 V2 24.946
RC 189.399 GL -2.28 GP -11.40 ZAL 139.28 ZAP 57.46 ETS 171.58 ZAE 97.51 ETE 181.75 ZAC 91.22 ETC 270.28 LVI 3.24

DISTANCE 632.538

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.561 VHL 3.945 DLA -6.31 RAL 345.97 RAD 6640.8 VEL 11.645 PTH 6.68 VHP 3.528 DPA -35.29 RAP 289.55 ECC 1.2561
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 7 2949.94 -28.78 87.83 201.87 129.69 17 59 16 1949.9 -11.51 69.70
60.00 17 56 26 2826.72 -24.27 80.43 205.58 123.22 18 43 33 1826.7 -9.29 60.69
70.00 18 56 13 2650.98 -20.20 68.79 208.19 118.15 19 40 24 1651.0 -7.23 47.98
80.00 20 11 23 2415.64 -17.22 52.50 209.75 114.77 20 51 38 1415.6 -5.69 31.07
90.00 21 35 49 2143.19 -16.10 32.99 210.27 113.57 22 11 33 1143.2 -5.11 11.36
100.00 22 54 15 1890.12 -17.22 13.87 209.75 114.77 23 25 45 890.1 -5.69 352.44
110.00 23 55 39 1697.80 -20.20 357.71 208.19 118.15 24 23 57 697.8 -7.23 336.90

DIFFERENTIAL CORRECTIONS

TDE 1.4908 TRA 3.6150 TC3-5.1721 BAU 1.0824
RDE .4495 RRA .5546 RC3 -.5653 FAU .14507
FDE 3.7335 FRA 9.0896 FC3-8.0708 BSP 12021
BDE 1.5571 BRA 3.6573 BC3 5.2030 FSP 2496

MID-COURSE EXECUTION ACCURACY

SGT 7017.6 SGR 1132.2 SG3 1357.1
RRR .9458 RRF .9651 RTF .9794
SGB 7108.3 R23 .1118 R13 .9803
SG1 7099.0 SG2 363.5 THA 8.70

ORBIT DETERMINATION ACCURACY

ST 134.3 SR 34.8 SS 103.0
CRT .9620 CRS -.9625 CST -.9999
LSA 172.5 MSA 9.3 S8A 1.4
EL1 138.4 EL2 9.2 ALF 14.08

LAUNCH DATE APR 16 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.356 GAL -4.53 AZL 90.12 HCA 205.53 SMA 184.01 ECC .19985 INC .1153 V1 29.682
RP 220.74 LAP .05 LOP 50.89 VP 21.937 GAP .56 AZP 89.89 TAL 332.21 TAP 177.74 RCA 147.23 APO 220.78 V2 24.904
RC 192.025 GL -.93 GP -10.82 ZAL 139.69 ZAP 56.30 ETS 171.65 ZAE 96.26 ETE 181.44 ZAC 91.80 ETC 270.28 LVI 2.71

PLANETOCENTRIC CONIC

C3 15.881 VHL 3.985 DLA -6.76 RAL 348.62 RAD 6840.9 VEL 11.659 PTH 6.70 VHP 3.557 DPA -34.72 RAP 289.47 ECC 1.2814
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 22 2945.61 -28.57 87.59 202.68 129.81 18 3 27 1945.6 -11.29 69.51
60.00 18 1 11 2821.09 -24.06 80.11 206.41 123.36 18 48 12 1821.1 -9.05 60.42
70.00 19 1 30 2643.73 -19.96 68.36 209.05 118.30 19 45 34 1643.7 -6.96 47.60
80.00 20 17 11 2406.80 -16.97 51.96 210.63 114.94 20 57 18 1406.8 -5.39 30.58
90.00 21 41 51 2133.62 -15.84 32.41 211.16 113.74 22 17 24 1133.6 -4.60 10.82
100.00 23 0 3 1881.27 -16.97 13.33 210.63 114.94 23 31 24 881.3 -5.39 351.95
110.00 0 4 52 1690.54 -19.96 357.28 209.05 118.30 0 33 3 690.5 -6.96 336.52

DIFFERENTIAL CORRECTIONS

TDE 1.5267 TRA 3.7542 TC3-5.1948 BAU 1.1084
RDE .4439 RRA .5156 RC3 -.5194 FAU .14160
FDE 3.7109 FRA 9.0144 FC3-7.7194 BSP 12284
BDE 1.5899 BRA 3.7894 BC3 5.2207 FSP 2450

MID-COURSE EXECUTION ACCURACY

SGT 7176.6 SGR 1065.8 SG3 1329.1
RRT .9377 RRF .9573 RTF .9794
SGB 7255.3 R23 .1050 R13 .9801
SG1 7246.0 SG2 366.7 THA 7.95

ORBIT DETERMINATION ACCURACY

ST 136.9 SR 33.8 S8 101.7
CRT .9546 CRS -.9566 CST -.9998
LSA 173.6 MSA 9.8 S8A 1.4
EL1 140.6 EL2 9.8 ALF 13.34

LAUNCH DATE APR 16 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.364 GAL -4.61 AZL 90.19 HCA 206.64 SMA 184.14 ECC .20096 INC .1910 V1 29.682
RP 221.12 LAP .09 LOP 52.00 VP 21.901 GAP .40 AZP 89.83 TAL 331.78 TAP 178.42 RCA 147.13 APO 221.14 V2 24.863
RC 194.659 GL -1.54 GP -10.29 ZAL 140.10 ZAP 55.18 ETS 171.72 ZAE 95.03 ETE 181.16 ZAC 92.33 ETC 270.29 LVI 2.21

PLANETOCENTRIC CONIC

C3 16.215 VHL 4.027 DLA -7.14 RAL 347.24 RAD 6841.1 VEL 11.673 PTH 6.71 VHP 3.587 DPA -34.19 RAP 289.43 ECC 1.2669
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 18 17 2942.67 -28.44 87.43 203.49 129.90 18 7 20 1942.7 -11.15 69.38
60.00 18 5 31 2817.03 -23.91 79.87 207.25 123.46 18 52 28 1817.0 -8.67 60.22
70.00 19 6 19 2638.27 -19.79 68.04 209.91 118.42 19 50 18 1638.3 -6.75 47.31
80.00 20 22 27 2399.96 -16.77 51.55 211.51 115.07 21 2 27 1400.0 -5.17 30.20
90.00 21 47 18 2126.16 -15.63 31.96 212.05 113.87 22 22 44 1126.2 -4.56 10.40
100.00 23 5 18 1874.43 -16.77 12.92 211.51 115.07 23 36 33 874.4 -5.17 351.57
110.00 0 9 42 1685.09 -19.79 356.95 209.91 118.42 0 37 47 685.1 -6.75 336.23

DIFFERENTIAL CORRECTIONS

TDE 1.5656 TRA 3.8954 TC3-5.2087 BAU 1.1339
RDE .4399 RRA .4795 RC3 -.4773 FAU .13783
FDE 3.6715 FRA 8.9391 FC3-7.3589 BSP 12555
BDE 1.6262 BRA 3.9248 BC3 5.2305 FSP 2405

MID-COURSE EXECUTION ACCURACY

SGT 7332.2 SGR 1006.2 SG3 1300.5
RRT .9282 RRF .9480 RTF .9792
SGB 7400.9 R23 .0990 R13 .9798
SG1 7391.6 SG2 371.4 THA 7.28

ORBIT DETERMINATION ACCURACY

ST 139.5 SR 33.0 S8 100.8
CRT .9468 CRS -.9503 CST -.9998
LSA 174.8 MSA 10.4 S8A 1.4
EL1 143.0 EL2 10.3 ALF 12.68

LAUNCH DATE APR 16 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.372 GAL -4.70 AZL 90.26 HCA 207.74 SMA 184.27 ECC .20210 INC .2610 V1 29.682
RP 221.90 LAP .12 LOP 53.11 VP 21.885 GAP .23 AZP 89.77 TAL 331.35 TAP 179.09 RCA 147.03 APO 221.31 V2 24.821
RC 197.299 GL -2.07 GP -9.80 ZAL 140.51 ZAP 54.10 ETS 171.80 ZAE 93.82 ETE 180.91 ZAC 92.81 ETC 270.31 LVI 1.73

PLANETOCENTRIC CONIC

C3 16.584 VHL 4.070 DLA -7.47 RAL 347.85 RAD 6841.3 VEL 11.688 PTH 6.72 VHP 3.619 DPA -33.70 RAP 289.44 ECC 1.2728
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 21 55 2940.96 -28.37 87.33 204.30 129.94 18 10 56 1941.0 -11.06 69.31
60.00 18 9 31 2814.36 -23.81 79.72 208.09 123.53 18 56 26 1814.4 -8.76 60.09
70.00 19 10 44 2634.39 -19.66 67.81 210.77 118.51 19 54 38 1634.4 -6.60 47.10
80.00 20 27 14 2394.90 -16.62 51.25 212.39 115.16 21 7 9 1394.9 -5.00 29.82
90.00 21 52 16 2120.55 -15.48 31.82 212.93 113.97 22 27 38 1120.5 -4.38 10.09
100.00 23 10 6 1869.37 -16.62 12.61 212.39 115.16 23 41 15 869.4 -5.00 351.29
110.00 0 14 6 1681.21 -19.66 356.72 210.77 118.51 0 42 7 681.2 -6.60 336.02

DIFFERENTIAL CORRECTIONS

TDE 1.6070 TRA 4.0389 TC3-5.2186 BAU 1.1597
RDE .4375 RRA .4436 RC3 -.4398 FAU .13418
FDE 3.6344 FRA 8.8473 FC3-7.0130 BSP 12822
BDE 1.6653 BRA 4.0614 BC3 5.2371 FSP 2357

MID-COURSE EXECUTION ACCURACY

SGT 7484.3 SGR 952.8 SG3 1271.5
RRT .9172 RRF .9373 RTF .5.90
SGB 7544.7 R23 .0932 R13 .9795
SG1 7535.3 SG2 377.1 THA 6.68

ORBIT DETERMINATION ACCURACY

ST 142.2 SR 32.2 S8 99.4
CRT .9387 CRS -.9441 CST -.9997
LSA 176.1 MSA 10.9 S8A 1.4
EL1 145.4 EL2 10.9 ALF 12.08

LAUNCH DATE APR 16 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC

RL 150.12 LAL .00 LOL 205.36 VL 32.380 GAL -4.80 AZL 90.33 HCA 208.85 SMA 184.40 ECC .20327 INC .3257 V1 29.682
RP 221.88 LAP .16 LOP 54.21 VP 21.830 GAP .06 AZP 89.71 TAL 330.91 TAP 179.78 RCA 146.92 APO 221.88 V2 24.780
RC 199.945 GL -2.56 GP -9.35 ZAL 140.91 ZAP 53.05 ETS 171.87 ZAE 92.63 ETE 180.69 ZAC 93.26 ETC 270.34 LVI 1.28

PLANETOCENTRIC CONIC

C3 16.927 VHL 4.114 DLA -7.75 RAL 348.43 RAD 6841.4 VEL 11.703 PTH 6.74 VHP 3.652 DPA -33.24 RAP 289.48 ECC 1.2786
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 25 18 2940.34 -28.34 87.30 205.11 129.96 18 14 18 1940.3 -11.03 69.28
60.00 18 13 13 2812.91 -23.75 79.63 208.92 123.57 19 0 6 1812.9 -8.69 60.02
70.00 19 14 46 2631.91 -19.58 67.66 211.62 118.56 19 58 38 1631.9 -6.51 46.97
80.00 20 31 36 2391.40 -16.52 51.04 213.28 115.23 21 11 28 1391.4 -4.88 29.73
90.00 21 56 47 2116.58 -15.37 31.38 213.81 114.03 22 32 3 1116.6 -4.26 9.86
100.00 23 14 28 1865.87 -16.52 12.40 213.26 115.23 23 45 34 865.9 -5.00 351.09
110.00 0 18 9 1678.73 -19.58 356.58 211.62 118.56 0 46 7 678.7 -6.81 335.89

DIFFERENTIAL CORRECTIONS

TDE 1.6502 TRA 4.1799 TC3-5.2233 BAU 1.1856
RDE .4362 RRA .4138 RC3 -.4060 FAU .13045
FDE 3.5959 FRA 8.7553 FC3-6.6737 BSP 13085
BDE 1.7069 BRA 4.2003 BC3 5.2391 FSP 2308

MID-COURSE EXECUTION ACCURACY

SGT 7633.2 SGR 904.9 SG3 1242.0
RRT .9046 RRF .9250 RTF .9788
SGB 7686.7 R23 .0877 R13 .9792
SG1 7677.1 SG2 383.5 THA 6.14

ORBIT DETERMINATION ACCURACY

ST 145.0 SR 31.6 S8 98.2
CRT .9304 CRS -.9374 CST -.9997
LSA 177.5 MSA 11.4 S8A 1.4
EL1 147.9 EL2 11.4 ALF 11.54

LAUNCH DATE APR 16 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC

DISTANCE 653.057

EARTH TO MARS

RL 150.12 LAL .00 LOL 205.36 VL 32.368 GAL -4.89 AZL 90.39 HCA 209.95 SMA 184.94 ECC .20447 INC .3656 V1 29.682
 RP 222.27 LAP .19 LOP 55.31 VP 21.795 GAP -.11 AZP 89.67 TAL 330.47 TAP 180.41 RCA 146.81 APO 222.27 V2 24.738
 RC 202.595 GL -3.00 GP -8.93 ZAL 141.31 ZAP 52.05 ETS 171.95 ZAE 91.47 EYE 180.49 ZAC 93.67 ETC 270.37 LVI .85

PLANETOCENTRIC CONIC

C3 17.303 VHL 4.160 DLA -7.98 RAL 349.00 RAD 6641.6 VEL 11.719 PTH 6.75 VHP 3.687 DPA -32.81 RAP 289.57 ECC 1.2848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 27 2940.67 -28.36 87.32 205.92 129.95 18 17 28 1940.7 -11.05 69.30
 60.00 18 16 38 2812.55 -23.74 79.61 209.76 123.58 19 3 30 1812.5 -8.68 60.00
 70.00 19 18 29 2630.68 -19.54 87.59 212.48 118.58 20 2 20 1630.7 -6.46 46.91
 80.00 20 35 35 2389.30 -16.46 50.91 214.12 115.27 21 15 25 1389.3 -4.81 29.61
 90.00 22 0 53 2114.09 -15.30 31.23 214.68 114.08 22 36 7 1114.1 -4.18 9.72
 100.00 23 18 27 1863.77 -16.46 12.28 214.12 115.27 23 49 31 863.8 -4.81 350.98
 110.00 0 21 51 1677.50 -19.54 356.50 212.48 118.58 0 49 49 677.5 -6.44 335.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.6961 TRA 4.3243 TC3-5.2237 BAU 1.2115 SGT 7779.4 SGR 862.4 S63 1212.8 ST 147.7 SR 31.1 S8 97.1
 RDE .4362 RRA .3840 RC3 -.3754 FAU .12677 RRT .8903 RRF .9111 RTF .9785 CRT .9219 CRS -.9308 CST -.9996
 FDE 3.5619 FRA 8.6609 FC3-6.3429 BSP 13346 SGB 7827.1 R23 .0829 R13 .9789 LSA 179.1 MSA 11.8 S8A 1.4
 BDE 1.7513 BRA 4.3413 BC3 5.2372 FSP 2259 S61 7817.3 S62 390.8 THA 5.65 EL1 150.5 EL2 11.8 ALF 11.05

LAUNCH DATE APR 16 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC

DISTANCE 657.143

EARTH TO MARS

RL 150.12 LAL .00 LOL 205.36 VL 32.396 GAL -4.99 AZL 90.44 HCA 211.04 SMA 184.68 ECC .20569 INC .4418 V1 29.682
 RP 222.65 LAP .23 LOP 56.40 VP 21.760 GAP -.27 AZP 89.62 TAL 330.02 TAP 181.06 RCA 146.69 APO 222.66 V2 24.696
 RC 205.250 GL -3.39 GP -8.55 ZAL 141.71 ZAP 51.08 ETS 172.02 ZAE 90.33 EYE 180.31 ZAC 94.05 ETC 270.41 LVI .44

PLANETOCENTRIC CONIC

C3 17.692 VHL 4.206 DLA -8.18 RAL 349.56 RAD 6641.8 VEL 11.735 PTH 6.77 VHP 3.722 DPA -32.41 RAP 289.69 ECC 1.2912
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 24 2941.87 -28.41 87.38 206.73 129.92 18 20 26 1941.9 -11.11 69.35
 60.00 18 19 48 2813.16 -23.76 79.65 210.59 123.56 19 8 41 1813.2 -8.71 60.03
 70.00 19 21 54 2630.55 -19.54 87.58 213.33 118.59 20 5 45 1630.6 -6.46 46.90
 80.00 20 39 15 2388.44 -16.44 50.86 214.98 115.28 21 19 3 1388.4 -4.78 29.56
 90.00 22 4 39 2112.90 -15.27 31.16 215.54 114.10 22 39 52 1112.9 -4.14 9.66
 100.00 23 22 6 1862.92 -16.44 12.23 214.98 115.28 23 53 9 862.9 -4.78 350.93
 110.00 0 25 16 1677.37 -19.54 356.50 213.33 118.59 0 53 14 677.4 -6.46 335.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7434 TRA 4.4699 TC3-5.2190 BAU 1.2372 SGT 7921.8 SGR 824.4 S63 1183.3 ST 150.5 SR 30.7 S8 95.9
 RDE .4370 RRA .3559 RC3 -.3477 FAU .12303 RRT .8743 RRF .8955 RTF .9782 CRT .9133 CRS -.9239 CST -.9995
 FDE 3.5262 FRA 8.5626 FC3-6.0205 BSP 13608 SGB 7964.6 R23 .0784 R13 .9785 LSA 180.7 MSA 12.3 S8A 1.3
 BDE 1.7973 BRA 4.4840 BC3 5.2306 FSP 2211 S61 7954.6 S62 398.5 THA 5.21 EL1 153.1 EL2 12.3 ALF 10.61

LAUNCH DATE APR 17 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 341.313

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 34.654 GAL -5.31 AZL 92.02 HCA 113.62 SMA 234.18 ECC .36904 INC 2.0188 V1 29.674
 RP 207.32 LAP -1.85 LOP 319.97 VP 26.712 GAP 20.68 AZP 89.19 TAL 340.16 TAP 93.78 RCA 147.76 APO 320.60 V2 26.420
 RC 56.291 GL -11.33 GP 1.94 ZAL 126.63 ZAP 171.70 ETS 166.32 ZAE 172.07 ETE 116.93 ZAC 102.73 ETC 276.49 LVI -18.09

PLANETOCENTRIC CONIC

C3 38.294 VHL 6.187 DLA -20.63 RAL 340.09 RAD 6650.1 VEL 12.576 PTH 7.44 VHP 10.146 DPA -17.12 RAP 314.33 ECC 1.6301
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 52 2876.09 -25.48 83.85 206.03 131.64 18 27 48 1676.1 -7.84 66.52
 60.00 18 44 18 2704.74 -19.55 73.58 211.19 125.97 19 29 23 1704.7 -3.97 54.78
 70.00 20 5 52 2464.96 -13.88 58.09 215.15 121.53 20 46 57 1465.0 -1.16 38.22
 80.00 21 43 11 2160.40 -9.38 37.61 217.80 118.48 22 19 11 1160.4 2.93 17.03
 90.00 23 18 17 1853.63 -7.56 16.03 218.77 117.33 23 49 10 853.6 4.20 355.17
 100.00 0 29 59 1634.87 -9.38 358.98 217.80 118.48 0 57 13 634.9 2.93 338.40
 110.00 1 9 14 1511.78 -13.88 347.00 215.15 121.53 1 34 26 511.8 -1.16 327.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6583 TRA-1.3946 TC3 -.0490 BAU .0577 SGT 1508.6 SGR 954.0 SG3 157.2 ST 36.7 SR 25.9 SS 25.8
 RDE -.5566 RRA .1613 RC3 .1015 FAU .03762 RRT .1016 RRF -.1105 RTF -.7838 CRT .7704 CRS .6133 CST .9746
 FDE .4342 FRA 1.4439 FC3 -.8507 BSP 2377 SGB 1607.1 R23 -.0188 R13 -.7842 LSA 49.0 MSA 16.9 SSA 1.1
 BDE .8598 BRA 1.4039 BC3 .1127 FSP 212 SG1 1509.8 SG2 550.7 THA 2.46 EL1 42.6 EL2 14.2 ALF 32.56

LAUNCH DATE APR 17 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 343.871

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 34.506 GAL -5.17 AZL 92.04 HCA 114.88 SMA 230.02 ECC .35734 INC 2.0379 V1 29.674
 RP 207.22 LAP -1.85 LOP 321.23 VP 26.532 GAP 20.18 AZP 89.14 TAL 340.22 TAP 95.09 RCA 147.83 APO 312.22 V2 26.432
 RC 56.455 GL -11.71 GP 2.02 ZAL 126.65 ZAP 170.85 ETS 167.15 ZAE 172.43 ETE 112.70 ZAC 102.76 ETC 276.58 LVI -18.28

PLANETOCENTRIC CONIC

C3 36.263 VHL 6.022 DLA -20.95 RAL 340.32 RAD 6649.3 VEL 12.496 PTH 7.38 VHP 9.838 DPA -15.94 RAP 314.72 ECC 1.5968
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 13 2855.56 -24.55 82.79 205.47 132.13 18 29 49 1855.6 -6.82 65.64
 60.00 18 47 9 2682.87 -18.67 72.40 210.64 126.39 19 31 52 1682.9 -3.01 53.73
 70.00 20 9 24 2441.10 -13.02 56.76 214.61 121.86 20 50 5 1441.1 .75 36.98
 80.00 21 47 30 2134.04 -8.52 36.13 217.29 118.72 22 23 4 1134.0 3.82 15.58
 90.00 23 23 3 1825.85 -6.68 14.45 218.28 117.54 23 53 29 825.9 5.08 353.61
 100.00 0 34 18 1608.51 -8.52 357.50 217.29 118.72 1 1 7 608.5 3.82 336.94
 110.00 1 12 46 1487.92 -13.02 345.68 214.61 121.86 1 37 34 487.9 .75 325.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6563 TRA-1.3881 TC3 -.0444 BAU .0569 SGT 1546.9 SGR 551.2 SG3 167.8 ST 37.7 SR 25.7 SS 26.7
 RDE -.5389 RRA .1513 RC3 .1087 FAU .03884 RRT .1116 RRF -.1206 RTF -.7893 CRT .7733 CRS .6118 CST .9733
 FDE .4486 FRA 1.5023 FC3 -.9273 BSP 2497 SGB 1642.2 R23 -.0200 R13 -.7897 LSA 50.1 MSA 17.0 SSA 1.1
 BDE .8492 BRA 1.3963 BC3 .1174 FSP 228 SG1 1548.3 SG2 547.2 THA 2.60 EL1 43.4 EL2 14.2 ALF 31.55

LAUNCH DATE APR 17 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 346.576

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 34.366 GAL -5.04 AZL 92.06 HCA 116.14 SMA 226.24 ECC .34630 INC 2.0574 V1 29.674
 RP 207.13 LAP -1.85 LOP 322.50 VP 26.360 GAP 19.70 AZP 89.09 TAL 340.28 TAP 96.42 RCA 147.89 APO 304.59 V2 26.443
 RC 56.701 GL -12.10 GP 2.09 ZAL 126.64 ZAP 169.98 ETS 167.84 ZAE 172.69 ETE 106.20 ZAC 102.79 ETC 276.67 LVI -18.48

PLANETOCENTRIC CONIC

C3 34.392 VHL 5.864 DLA -21.29 RAL 340.54 RAD 6648.7 VEL 12.422 PTH 7.33 VHP 9.541 DPA -16.75 RAP 315.09 ECC 1.5660
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 36 2835.04 -23.61 81.75 204.94 132.59 18 31 51 1835.0 -5.79 64.77
 60.00 18 50 4 2660.93 -17.78 71.23 210.10 126.78 19 34 25 1660.9 -2.05 52.68
 70.00 20 13 2 2417.04 -12.15 55.44 214.10 122.17 20 53 19 1417.0 1.67 35.72
 80.00 21 52 0 2107.27 -7.64 34.63 216.80 118.95 22 27 8 1107.3 4.72 14.10
 90.00 23 28 2 1797.52 -5.79 12.85 217.81 117.73 23 58 0 797.5 5.98 352.01
 100.00 0 38 48 1581.75 -7.64 355.99 216.80 118.95 1 5 10 581.7 4.72 335.47
 110.00 1 16 24 1483.86 -12.15 344.36 214.10 122.17 1 40 48 463.9 1.67 324.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6551 TRA-1.3795 TC3 -.0371 BAU .0561 SGT 1582.3 SGR 548.0 SG3 179.1 ST 38.7 SR 25.6 SS 27.6
 RDE -.5217 RRA .1414 RC3 .1163 FAU .04013 RRT .1221 RRF -.1317 RTF -.7958 CRT .7758 CRS .6107 CST .9721
 FDE .4639 FRA 1.5638 FC3 -1.0101 BSP 2587 SGB 1674.6 R23 -.0216 R13 -.7962 LSA 51.2 MSA 17.0 SSA 1.1
 BDE .8375 BRA 1.3867 BC3 .1221 FSP 246 SG1 1584.0 SG2 543.4 THA 2.75 EL1 44.2 EL2 14.1 ALF 30.64

LAUNCH DATE APR 17 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 349.412

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 34.234 GAL -4.90 AZL 92.08 HCA 117.40 SMA 222.79 ECC .33587 INC 2.0774 V1 29.674
 RP 207.05 LAP -1.84 LOP 323.76 VP 26.197 GAP 19.22 AZP 89.04 TAL 340.35 TAP 97.78 RCA 147.96 APO 297.62 V2 26.453
 RC 57.030 GL -12.50 GP 2.18 ZAL 126.63 ZAP 169.10 ETS 168.42 ZAE 172.85 ETE 99.63 ZAC 102.82 ETC 276.76 LVI -18.67

PLANETOCENTRIC CONIC

C3 32.660 VHL 5.715 DLA -21.64 RAL 340.75 RAD 6648.0 VEL 12.352 PTH 7.28 VHP 9.252 DPA -16.57 RAP 315.45 ECC 1.5375
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 47 1 2814.56 -22.66 80.72 204.43 133.03 18 33 55 1814.6 -4.76 63.91
 60.00 18 53 3 2638.94 -16.88 70.06 209.60 127.16 19 37 2 1638.9 -1.08 51.63
 70.00 20 16 47 2392.80 -11.27 54.12 213.61 122.46 20 56 40 1392.8 2.60 34.46
 80.00 21 56 42 2080.10 -6.74 33.11 216.35 119.15 22 31 22 1080.1 5.63 12.59
 90.00 23 33 15 1768.63 -4.87 11.23 217.37 117.89 24 2 44 768.6 6.89 350.38
 100.00 0 43 29 1554.57 -6.74 354.48 216.35 119.15 1 9 24 554.6 5.63 333.96
 110.00 1 20 9 1439.62 -11.27 343.04 213.61 122.46 1 44 9 439.6 2.60 323.38

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6525 TRA-1.3698 TC3 -.0279 BAU .0556 SGT 1616.1 SGR 544.7 SG3 191.2 ST 39.5 SR 25.4 SS 28.6
 RDE -.5051 RRA .1314 RC3 .1243 FAU .04147 RRT .1333 RRF -.1437 RTF -.8026 CRT .7780 CRS .6097 CST .9710
 FDE .4800 FRA 1.6287 FC3 -1.0994 BSP 2666 SGB 1705.4 R23 -.0235 R13 -.8031 LSA 52.2 MSA 17.1 SSA 1.2
 BDE .8252 BRA 1.3761 BC3 .1274 FSP 264 SG1 1617.9 SG2 539.2 THA 2.89 EL1 44.8 EL2 14.1 ALF 29.81

LAUNCH DATE APR 17 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC										DISTANCE 352.364										EARTH TO MARS																																																																																																			
RL	150.16	LAL	.00	LOL	206.34	VL	34.109	GAL	-4.77	AZL	92.10	HCA	118.67	SMA	219.64	ECC	.32603	INC	2.0079	VI	29.674	RP	206.97	LAP	-1.84	LOP	323.03	VP	26.042	GAP	18.75	AZP	88.99	TAL	340.44	TAP	99.11	RCA	148.03	APO	291.24	V2	26.462	RC	57.440	GL	-12.90	GP	2.26	ZAL	126.39	ZAP	168.20	ETS	168.90	ZAE	172.92	ETE	93.21	ZAC	102.87	ETC	276.84	LVI	-18.86																																																						
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																			
C3	31.056	VHL	5.573	DLA	-22.00	RAL	340.95	RAD	6647.4	VEL	12.288	PTH	7.23	VHP	8.973	DPA	-16.38	RAP	315.79	ECC	1.8111	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																								
50.00	17	49	28	2794.14	-21.71	79.71	203.95	133.44	18	36	2	1794.1	-3.74	63.05	ST	40.3	SR	25.2	SS	29.5	60.00	18	56	6	2816.93	-15.97	68.91	209.12	127.51	19	39	43	1616.9	-1.11	89.58	RRT	.7802	CR8	.6088	C8T	.9700	70.00	20	20	39	2368.38	-10.38	52.79	213.16	122.72	21	0	7	1368.4	3.53	33.18	SG8	1734.4	R23	-.0257	R13	-.8098	80.00	22	1	35	2052.50	-5.83	31.58	215.92	119.34	22	35	47	1052.5	6.55	11.06	SG1	1680.0	SG2	934.7	THA	3.05	90.00	23	38	44	1739.13	-3.93	9.57	216.96	118.03	24	7	43	739.1	7.82	348.70	EL1	45.4	EL2	14.0	ALF	29.05	100.00	0	48	22	1526.97	-5.83	352.94	215.92	119.34	1	13	49	927.0	6.55	332.43
110.00	1	24	1	1415.19	-10.38	341.71	215.16	122.72	1	47	38	415.2	3.53	322.10																																																																																																									

LAUNCH DATE APR 17 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC										DISTANCE 355.423										EARTH TO MARS																																																																																																			
RL	150.16	LAL	.00	LOL	206.34	VL	33.990	GAL	-4.65	AZL	92.12	HCA	119.94	SMA	216.74	ECC	.31673	INC	2.1189	VI	29.674	RP	206.90	LAP	-1.84	LOP	326.29	VP	25.895	GAP	18.29	AZP	88.94	TAL	340.53	TAP	100.47	RCA	148.09	APO	285.39	V2	26.469	RC	57.930	GL	-13.32	GP	2.36	ZAL	126.54	ZAP	167.28	ETS	169.32	ZAE	172.90	ETE	87.16	ZAC	102.92	ETC	276.92	LVI	-19.06																																																						
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																			
C3	29.572	VHL	5.438	DLA	-22.38	RAL	341.14	RAD	6646.8	VEL	12.227	PTH	7.18	VHP	8.793	DPA	-16.20	RAP	316.11	ECC	1.4867	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																								
50.00	17	51	57	2773.80	-20.75	78.72	203.50	133.83	18	38	11	1773.8	-2.72	62.20	ST	41.0	SR	25.0	SS	30.5	60.00	18	59	13	2594.92	-15.05	67.77	208.67	127.84	19	42	28	1594.9	.86	49.53	RRT	.7826	CR8	.6082	C8T	.9689	70.00	20	24	39	2343.79	-9.47	51.47	212.73	122.97	21	3	42	1343.8	4.46	31.89	SG8	1762.4	R23	-.0280	R13	-.8164	80.00	22	6	40	2024.46	-4.89	30.02	215.53	119.49	22	40	25	1024.5	7.47	9.50	SG1	1680.8	SG2	829.8	THA	3.23	90.00	23	44	29	1708.98	-2.96	7.88	216.59	118.14	24	12	58	709.0	8.75	346.98	EL1	46.0	EL2	13.9	ALF	28.32	100.00	0	53	28	1498.93	-4.89	351.39	215.53	119.49	1	18	27	498.9	7.47	330.87
110.00	1	28	1	1390.61	-9.47	340.39	212.73	122.97	1	51	11	390.8	4.46	320.81																																																																																																									

LAUNCH DATE APR 17 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC										DISTANCE 358.577										EARTH TO MARS																																																																																																			
RL	150.16	LAL	.00	LOL	206.34	VL	33.878	GAL	-4.53	AZL	92.14	HCA	121.20	SMA	214.09	ECC	.30795	INC	2.1405	VI	29.674	RP	206.85	LAP	-1.83	LOP	327.56	VP	25.755	GAP	17.83	AZP	88.89	TAL	340.63	TAP	101.83	RCA	148.16	APO	280.02	V2	26.476	RC	58.496	GL	-13.74	GP	2.45	ZAL	126.47	ZAP	166.34	ETS	169.67	ZAE	172.82	ETE	81.64	ZAC	102.97	ETC	276.99	LVI	-19.25																																																						
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																			
C3	28.197	VHL	5.310	DLA	-22.76	RAL	341.33	RAD	6646.3	VEL	12.171	PTH	7.13	VHP	8.441	DPA	-16.01	RAP	316.41	ECC	1.4641	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																								
50.00	17	54	30	2753.55	-19.79	77.75	203.08	134.19	18	40	23	1753.6	-1.70	61.36	ST	41.7	SR	24.8	SS	31.6	60.00	19	2	25	2572.91	-14.13	66.65	208.25	128.14	19	45	18	1572.9	1.83	48.48	RRT	.7853	CR8	.6079	C8T	.9677	70.00	20	28	46	2319.05	-6.55	50.14	212.34	123.19	21	7	25	1319.0	5.40	30.59	SG8	1789.0	R23	-.0305	R13	-.8227	80.00	22	12	0	1995.96	-3.93	28.45	215.17	119.62	22	45	16	996.0	8.41	7.90	SG1	1710.4	SG2	824.6	THA	3.42	90.00	23	50	33	1678.13	-1.97	6.16	216.26	118.22	24	18	31	678.1	9.70	345.21	EL1	46.6	EL2	13.8	ALF	27.63	100.00	0	58	48	1470.44	-3.93	349.82	215.17	119.62	1	23	18	470.4	8.41	329.27
110.00	1	32	8	1365.86	-8.55	339.06	212.34	123.19	1	54	54	365.9	5.40	319.51																																																																																																									

LAUNCH DATE APR 17 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC										DISTANCE 361.817										EARTH TO MARS																																																																																																			
RL	150.16	LAL	.00	LOL	206.34	VL	33.775	GAL	-4.41	AZL	92.16	HCA	122.47	SMA	211.64	ECC	.29987	INC	2.1626	VI	29.674	RP	206.80	LAP	-1.82	LOP	328.83	VP	25.622	GAP	17.39	AZP	88.84	TAL	340.74	TAP	103.21	RCA	148.22	APO	275.07	V2	26.482	RC	59.137	GL	-14.18	GP	2.56	ZAL	126.39	ZAP	165.39	ETS	169.97	ZAE	172.70	ETE	76.75	ZAC	103.04	ETC	277.06	LVI	-18.44																																																						
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																																			
C3	28.925	VHL	5.189	DLA	-23.16	RAL	341.51	RAD	6645.8	VEL	12.119	PTH	7.09	VHP	8.187	DPA	-15.82	RAP	316.69	ECC	1.4431	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																																								
50.00	17	57	5	2733.42	-18.84	78.79	202.69	134.54	18	42	38	1733.4	-1.69	60.51	ST	42.4	SR	24.6	SS	32.6	60.00	19	5	42	2550.93	-13.20	65.53	207.87	128.43	19	48	13	1550.9	2.79	47.43	RRT	.7881	CR8	.6075	C8T	.9665	70.00	20	33	3	2294.15	-7.62	48.82	211.98	123.39	21	11	17	1294.1	6.34	29.22	SG8	1814.6	R23	-.0332	R13	-.8286	80.00	22	17	35	1966.97	-2.95	26.85	214.85	119.72	22	50	22	967.0	9.36	6.27	SG1	1738.8	SG2	519.1	THA	3.62	90.00	0	0	52	1646.51	-.95	4.39	215.96	118.27	0	28	19	646.5	10.66	343.39	EL1	47.1	EL2	13.6	ALF	26.99	100.00	1	4	23	1441.44	-2.95	348.22	214.85	119.72	1	28	24	441.4	9.36	327.64
110.00	1	36	25	1340.97	-7.62	337.73	211.98	123.39	1	58	46	341.0	6.34	318.19																																																																																																									

LAUNCH DATE APR 17 1971

FLIGHT TIME 136.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.673 GAL -4.29 AZL 92.19 HCA 123.74 SMA 209.39 ECC .29184 INC 2.1854 V1 29.674
 RP 206.75 LAP -1.82 LOP 330.10 VP 25.495 GAP 16.95 AZP 88.79 TAL 340.85 TAP 104.59 RCA 148.28 APO 270.50 V2 26.487
 RC 59.850 GL -14.82 GP 2.67 ZAL 126.29 ZAP 164.41 ETS 170.23 ZAE 172.54 EYE 72.53 ZAC 103.11 ETC 277.13 LVI -19.64

DISTANCE 365.135 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 25.747 VHL 5.074 DLA -23.57 RAL 341.68 RAD 6645.3 VEL 12.071 PTH 7.05 VHP 7.941 DPA -15.63 RAP 316.95 ECC 1.4237
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 43 2713.42 -17.88 75.86 202.33 134.86 18 44 56 1713.4 .31 59.68
 60.00 19 9 4 2528.98 -12.27 84.42 207.51 128.69 19 51 13 1529.0 3.76 46.37
 70.00 20 37 28 2269.09 -6.68 47.49 211.65 123.57 21 15 17 1269.1 7.28 27.95
 80.00 22 23 26 1937.44 -1.96 25.23 214.57 119.80 22 55 44 937.4 10.31 4.60
 90.00 0 7 39 1614.00 .09 2.58 215.71 118.28 0 34 33 614.0 11.64 341.50
 100.00 1 10 14 1411.91 -1.96 346.60 214.57 119.80 1 33 46 411.9 10.31 325.97
 110.00 1 40 50 1315.91 -6.68 336.41 211.65 123.57 2 2 46 315.9 7.28 316.87

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6307 TRA-1.3077 TC3 .0334 BAW .0600 SGT 1761.8 SGR 525.5 S63 264.5 ST 43.0 SR 24.3 S8 33.7
 RDE -.4303 RRA .0812 RC3 .1711 FAU .04953 RRT .2059 RRF -.2230 RTF -.8333 CRT .7912 CRS .6073 CST .9652
 FDE .5695 FRA 2.0047 FC3-1.6661 BSP 2983 SGB 1838.5 R23 -.0363 R13 -.8341 LSA 57.3 MSA 17.2 S8A 1.2
 BDE .7635 BRA 1.3102 BC3 .1743 FSP 383 SGI 1765.4 S62 813.2 THA 3.84 EL1 47.6 EL2 13.5 ALF 28.38

LAUNCH DATE APR 17 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.578 GAL -4.18 AZL 92.21 HCA 125.01 SMA 207.31 ECC .28446 INC 2.2089 V1 29.674
 RP 206.72 LAP -1.81 LOP 331.37 VP 25.374 GAP 16.53 AZP 88.73 TAL 340.97 TAP 103.97 RCA 148.34 APO 266.29 V2 26.491
 RC 60.633 GL -15.07 GP 2.79 ZAL 126.18 ZAP 163.41 ETS 170.46 ZAE 172.37 EYE 69.00 ZAC 103.19 ETC 277.19 LVI -19.83

DISTANCE 368.525 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 24.657 VHL 4.966 DLA -24.00 RAL 341.86 RAD 6644.8 VEL 12.026 PTH 7.02 VHP 7.703 DPA -15.44 RAP 317.18 ECC 1.4056
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 24 2693.57 -16.92 74.94 202.01 135.16 18 47 18 1693.6 1.31 58.85
 60.00 19 12 32 2507.08 -11.34 83.33 207.19 128.94 19 54 19 1507.1 4.72 45.32
 70.00 20 42 3 2243.88 -5.73 46.16 211.37 123.73 21 19 27 1243.9 8.23 26.61
 80.00 22 29 36 1907.30 -.94 23.57 214.34 119.84 23 1 23 907.3 11.27 2.88
 90.00 0 14 52 1580.47 1.18 .71 215.51 118.26 0 41 12 580.5 12.63 339.54
 100.00 1 16 23 1381.78 -.94 344.94 214.34 119.84 1 39 25 381.8 11.27 324.25
 110.00 1 45 25 1290.70 -5.73 335.07 211.37 123.73 2 6 56 290.7 8.23 315.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6253 TRA-1.2932 TC3 .0479 BAW .0620 SGT 1786.3 SGR 521.6 S63 282.2 ST 43.6 SR 24.1 S8 34.8
 RDE -.4169 RRA .0710 RC3 .1820 FAU .05150 RRT .2245 RRF -.2434 RTF -.8384 CRT .7946 CRS .6074 CST .9638
 FDE .5890 FRA 2.0915 FC3-1.8081 BSP 3038 SGB 1860.9 R23 -.0397 R13 -.8393 LSA 58.3 MSA 17.2 S8A 1.2
 BDE .7515 BRA 1.2952 BC3 .1882 FSP 412 SGI 1790.5 S62 507.1 THA 4.08 EL1 48.0 EL2 13.3 ALF 25.82

LAUNCH DATE APR 17 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.489 GAL -4.07 AZL 92.23 HCA 126.28 SMA 205.39 ECC .27749 INC 2.2331 V1 29.674
 RP 206.70 LAP -1.80 LOP 332.64 VP 25.259 GAP 16.11 AZP 88.68 TAL 341.09 TAP 107.37 RCA 148.40 APO 262.39 V2 26.494
 RC 61.483 GL -15.53 GP 2.91 ZAL 126.08 ZAP 162.38 ETS 170.65 ZAE 172.20 EYE 66.11 ZAC 103.28 ETC 277.25 LVI -20.02

DISTANCE 371.981 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 23.649 VHL 4.863 DLA -24.43 RAL 342.02 RAD 6644.4 VEL 11.985 PTH 6.98 VHP 7.472 DPA -15.24 RAP 317.39 ECC 1.3892
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 5 9 2673.87 -15.97 74.04 201.71 135.44 18 49 43 1673.9 2.30 58.03
 60.00 19 16 5 2485.23 -10.40 62.24 206.91 129.16 19 57 30 1485.2 5.67 44.27
 70.00 20 46 48 2218.50 -4.76 44.82 211.12 123.86 21 23 47 1218.5 9.17 25.25
 80.00 22 36 5 1876.49 .11 21.88 214.15 119.86 23 7 22 876.5 12.25 1.11
 90.00 0 22 34 1545.75 2.29 358.77 215.36 118.19 0 48 20 545.8 13.64 337.49
 100.00 1 22 53 1350.97 .11 343.25 214.15 119.86 1 45 24 351.0 12.25 322.46
 110.00 1 50 11 1265.32 -4.76 333.74 211.12 123.86 2 11 16 265.3 9.17 314.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6200 TRA-1.2783 TC3 .0618 BAW .0642 SGT 1809.6 SGR 517.8 S63 300.9 ST 44.2 SR 23.8 S8 35.9
 RDE -.4040 RRA .0606 RC3 .1934 FAU .05354 RRT .2447 RRF -.2857 RTF -.8331 CRT .7984 CRS .6080 CST .9624
 FDE .6099 FRA 2.1031 FC3-1.9601 BSP 3088 SGB 1882.2 R23 -.0435 R13 -.8441 LSA 59.2 MSA 17.2 S8A 1.2
 BDE .7400 BRA 1.2799 BC3 .2031 FSP 443 SGI 1814.4 S62 500.7 THA 4.34 EL1 48.4 EL2 13.1 ALF 25.28

LAUNCH DATE APR 17 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.408 GAL -3.97 AZL 92.26 HCA 127.54 SMA 203.82 ECC .27091 INC 2.2581 V1 29.674
 RP 206.68 LAP -1.79 LOP 333.91 VP 25.149 GAP 15.70 AZP 88.62 TAL 341.22 TAP 108.76 RCA 148.45 APO 258.78 V2 26.496
 RC 62.398 GL -15.99 GP 3.04 ZAL 125.93 ZAP 161.34 ETS 170.81 ZAE 172.04 EYE 63.84 ZAC 103.39 ETC 277.30 LVI -20.22

DISTANCE 375.495 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 22.716 VHL 4.766 DLA -24.87 RAL 342.19 RAD 6644.0 VEL 11.946 PTH 6.95 VHP 7.249 DPA -15.05 RAP 317.58 ECC 1.3739
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 58 2654.35 -15.02 73.15 201.45 135.70 18 52 12 1654.3 3.28 57.21
 60.00 19 19 45 2463.45 -9.46 61.17 206.66 129.36 20 0 48 1463.5 6.62 43.22
 70.00 20 51 45 2192.94 -3.79 43.48 210.91 123.97 21 28 18 1192.9 10.12 23.88
 80.00 22 42 57 1844.91 1.18 20.15 214.00 119.84 23 13 42 844.9 13.25 359.28
 90.00 0 30 31 1509.39 3.46 356.75 215.26 118.09 0 56 1 509.6 14.67 335.33
 100.00 1 29 45 1319.38 1.18 341.52 214.00 119.84 1 51 44 319.4 13.25 320.65
 110.00 1 55 7 1239.76 -3.79 332.40 210.91 123.97 2 15 47 239.8 10.12 312.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6142 TRA-1.2627 TC3 .0761 BAW .0665 SGT 1830.2 SGR 514.2 S63 320.9 ST 44.6 SR 23.6 S8 37.0
 RDE -.3916 RRA .0500 RC3 .2054 FAU .05573 RRT .2665 RRF -.2897 RTF -.8473 CRT .8025 CRS .6087 CST .9608
 FDE .6308 FRA 2.2791 FC3-2.1240 BSP 3134 SGB 1901.1 R23 -.0478 R13 -.8485 LSA 60.2 MSA 17.3 S8A 1.2
 BDE .7284 BRA 1.2637 BC3 .2191 FSP 476 SGI 1835.7 S62 494.1 THA 4.62 EL1 48.8 EL2 12.9 ALF 24.79

LAUNCH DATE APR 17 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.325 GAL -3.87 AZL 92.28 HCA 128.81 SMA 201.97 ECC .2847D INC 2.2840 V1 29.674
 RP 206.87 LAP -1.78 LOP 335.18 VP 25.044 GAP 15.29 AZP 88.57 TAL 341.35 TAP 110.16 RCA 148.81 APO 255.43 V2 26.496
 RC 63.378 GL -16.47 GP 3.19 ZAL 125.79 ZAP 160.26 ETS 170.95 ZAE 171.91 ETE 62.16 ZAC 103.50 ETC 277.35 LVI -20.41

DISTANCE 379.085
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.853 VHL 4.675 DLA -25.33 RAL 342.35 RAD 6643.7 VEL 11.910 PTH 6.92 VHP 7.033 BPA -14.86 RAP 317.74 ECC 1.3597
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 51 2634.97 -14.07 72.29 201.22 135.93 18 54 46 1635.0 4.25 56.40
 60.00 19 23 31 2441.71 -8.52 60.10 206.45 129.54 20 4 13 1441.7 7.57 42.16
 70.00 20 56 54 2167.14 -2.81 42.13 210.74 124.05 21 33 1 1167.1 11.06 22.48
 80.00 22 50 16 1812.35 2.28 18.36 213.91 119.78 23 20 28 812.4 14.23 357.38
 90.00 0 39 51 1471.58 4.67 354.62 215.23 117.92 1 4 23 471.6 19.73 333.04
 100.00 1 37 3 1286.82 2.28 339.73 213.91 119.78 1 58 30 288.8 14.23 318.75
 110.00 2 0 16 1213.96 -2.81 331.05 210.74 124.05 2 20 30 214.0 11.06 311.40

DIFFERENTIAL CORRECTIONS
 TDE -.6005 TRA-1.2388 TC3 .1042 BAU .0707 SGT 1836.5 SGR 510.9 SG3 342.1 ST 44.6 SR 23.3 SS 38.2
 RDE -.3798 RRA .0394 RC3 .2183 FAU .05808 RRT .2905 RRF -.3156 RTF -.8851 CRT .8052 CRS .6094 CST .9599
 FDE .6518 FRA 2.3798 FC3-2.3011 B8P 3083 SGB 1906.2 R23 -.0506 R13 -.8564 LSA 60.7 MSA 17.3 S8A 1.2
 BDE .7104 BRA 1.2394 BC3 .2420 F8P 511 SG1 1842.9 SG2 487.1 THA 4.97 EL1 48.7 EL2 12.6 ALF 24.56

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 17 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.250 GAL -3.78 AZL 92.31 HCA 130.08 SMA 200.45 ECC .25886 INC 2.3108 V1 29.674
 RP 206.68 LAP -1.77 LOP 336.45 VP 24.944 GAP 14.90 AZP 88.51 TAL 341.48 TAP 111.56 RCA 148.56 APO 252.33 V2 26.496
 RC 64.414 GL -16.95 GP 3.34 ZAL 125.64 ZAP 159.17 ETS 171.07 ZAE 171.80 ETE 61.02 ZAC 103.63 ETC 277.40 LVI -20.61

DISTANCE 382.684
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.058 VHL 4.589 DLA -25.79 RAL 342.52 RAD 6643.3 VEL 11.877 PTH 6.89 VHP 6.824 DPA -14.66 RAP 317.87 ECC 1.3468
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 48 2615.83 -13.14 71.43 201.04 136.15 18 57 24 1615.8 5.21 55.59
 60.00 19 27 24 2420.08 -7.58 59.05 206.28 129.70 20 7 44 1420.1 8.51 41.11
 70.00 21 2 15 2141.19 -1.82 40.77 210.62 124.11 21 37 57 1141.2 12.01 21.06
 80.00 22 58 3 1778.80 3.41 16.52 213.87 119.68 23 27 41 778.8 15.24 355.40
 90.00 0 49 42 1431.38 5.95 352.35 215.26 117.70 1 15 33 431.4 16.82 330.60
 100.00 1 44 50 1253.27 3.41 337.89 213.87 119.68 2 5 44 253.3 15.24 316.77
 110.00 2 5 38 1188.00 -1.82 329.69 210.62 124.11 2 25 26 188.0 12.01 309.98

DIFFERENTIAL CORRECTIONS
 TDE -.5987 TRA-1.2260 TC3 .1106 BAU .0723 SGT 1859.9 SGR 508.1 SG3 364.8 ST 45.2 SR 23.0 SS 39.4
 RDE -.3683 RRA .0283 RC3 .2316 FAU .06055 RRT .3199 RRF -.3439 RTF -.8564 CRT .8113 CRS .6113 CST .9576
 FDE .6748 FRA 2.4889 FC3-2.4895 B8P 3175 SGB 1928.1 R23 -.0569 R13 -.8580 LSA 61.9 MSA 17.3 S8A 1.2
 BDE .7029 BRA 1.2264 BC3 .2567 F8P 549 SG1 1867.3 SG2 480.2 THA 5.28 EL1 49.2 EL2 12.4 ALF 24.02

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 17 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.179 GAL -3.69 AZL 92.34 HCA 131.35 SMA 199.03 ECC .25335 INC 2.3388 V1 29.674
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.848 GAP 14.51 AZP 88.45 TAL 341.61 TAP 112.96 RCA 148.61 APO 249.46 V2 26.496
 RC 65.512 GL -17.44 GP 3.50 ZAL 125.48 ZAP 158.04 ETS 171.17 ZAE 171.72 ETE 60.41 ZAC 103.77 ETC 277.43 LVI -20.81

DISTANCE 386.350
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 20.325 VHL 4.508 DLA -26.26 RAL 342.68 RAD 6643.0 VEL 11.846 PTH 6.86 VHP 6.622 DPA -14.46 RAP 317.97 ECC 1.3345
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 50 2596.88 -12.20 70.60 200.88 136.35 19 0 7 1596.9 6.16 54.79
 60.00 19 31 25 2398.52 -6.84 58.00 206.15 129.84 20 11 23 1398.5 9.44 40.05
 70.00 21 7 51 2114.96 -.82 39.40 210.54 124.15 21 43 6 1113.0 12.96 19.62
 80.00 23 6 24 1743.89 4.59 14.59 213.90 119.54 23 35 28 743.9 16.27 353.32
 90.00 1 0 40 1388.11 7.31 349.91 215.38 117.39 1 23 48 388.1 17.95 327.93
 100.00 1 53 12 1218.36 4.59 335.96 213.90 119.54 2 13 30 218.4 16.27 314.69
 110.00 2 11 13 1161.78 -.82 328.32 210.54 124.15 2 30 35 161.8 12.96 308.54

DIFFERENTIAL CORRECTIONS
 TDE -.5944 TRA-1.2098 TC3 .1201 BAU .0743 SGT 1878.7 SGR 505.9 SG3 388.7 ST 45.7 SR 22.7 SS 40.6
 RDE -.3574 RRA .0170 RC3 .2456 FAU .06317 RRT .3431 RRF -.3743 RTF -.8585 CRT .8175 CRS .6138 CST .9594
 FDE .6988 FRA 2.5990 FC3-2.6907 B8P 3232 SGB 1945.7 R23 -.0635 R13 -.8603 LSA 62.9 MSA 17.3 S8A 1.2
 BDE .6936 BRA 1.2099 BC3 .2734 F8P 589 SG1 1885.3 SG2 473.0 THA 5.64 EL1 49.8 EL2 12.1 ALF 23.60

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 17 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 33.113 GAL -3.60 AZL 92.37 HCA 132.62 SMA 197.72 ECC .24815 INC 2.3877 V1 29.674
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.756 GAP 14.13 AZP 88.40 TAL 341.74 TAP 114.38 RCA 148.86 APO 246.79 V2 26.493
 RC 66.687 GL -17.94 GP 3.67 ZAL 125.32 ZAP 156.88 ETS 171.25 ZAE 171.87 ETE 60.32 ZAC 103.92 ETC 277.47 LVI -21.01

DISTANCE 390.058
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.648 VHL 4.433 DLA -26.74 RAL 342.85 RAD 6642.7 VEL 11.818 PTH 6.84 VHP 6.428 DPA -14.26 RAP 318.04 ECC 1.3234
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 57 2578.12 -11.28 69.78 200.76 136.54 19 2 55 1578.1 7.10 54.00
 60.00 19 35 33 2377.02 -5.71 56.96 206.06 129.96 20 15 10 1377.0 10.37 38.99
 70.00 21 13 42 2088.43 .19 38.02 210.51 124.15 21 48 31 1088.4 13.91 18.15
 80.00 23 15 28 1707.32 5.81 12.57 213.95 119.34 23 43 55 707.3 17.32 351.12
 90.00 1 13 9 1340.46 8.79 347.19 215.60 116.99 1 35 30 340.5 19.15 324.95
 100.00 2 2 15 1181.79 5.81 333.94 213.92 119.34 2 21 57 181.8 17.32 312.49
 110.00 2 17 5 1135.25 .19 326.94 210.51 124.15 2 36 0 135.3 13.91 307.07

DIFFERENTIAL CORRECTIONS
 TDE -.5894 TRA-1.1922 TC3 .1298 BAU .0764 SGT 1889.7 SGR 504.5 SG3 414.2 ST 46.1 SR 22.4 SS 41.9
 RDE -.3470 RRA .0053 RC3 .2604 FAU .06593 RRT .3723 RRF -.4068 RTF -.8606 CRT .8242 CRS .6171 CST .9532
 FDE .7238 FRA 2.7178 FC3-2.9052 B8P 3272 SGB 1955.9 R23 -.0707 R13 -.8627 LSA 63.8 MSA 17.3 S8A 1.2
 BDE .6839 BRA 1.1922 BC3 .2909 F8P 632 SG1 1899.6 SG2 465.8 THA 6.04 EL1 49.9 EL2 11.7 ALF 23.23

MID-COURSE EXECUTION ACCURACY
 ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 17 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 393.805

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 33.050 GAL -3.32 AZL 92.40 HCA 133.69 SMA 196.50 ECC .24326 INC 2.3978 V1 29.674
RP 206.73 LAP -1.73 LOP 340.26 VP 24.669 GAP 13.77 AZP 88.34 TAL 341.88 TAP 115.76 RCA 148.70 APO 244.30 V2 26.469
RC 67.877 GL -18.45 GP 3.85 ZAL 125.15 ZAP 155.70 EYS 171.32 ZAE 171.86 EYE 60.76 ZAC 104.09 ETC 277.49 LVI -21.21

PLANETOCENTRIC CONIC

C3 19.026 VHL 4.362 DLA -27.23 RAL 343.02 RAD 6642.4 VEL 11.792 PTH 6.82 VHP 6.237 DPA -14.06 RAP 318.08 ECC 1.3131
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 23 10 2559.56 -10.36 68.97 200.68 136.70 19 5 49 1559.6 8.02 53.21
60.00 19 39 51 2355.59 -4.77 55.93 206.01 130.07 20 19 6 1395.6 11.29 37.92
70.00 21 19 51 2061.55 1.22 36.62 210.54 124.13 21 54 12 1061.5 14.86 16.65
80.00 23 25 22 1668.59 7.10 10.41 214.16 119.08 23 53 11 668.6 18.41 348.76
90.00 1 27 58 1285.95 10.46 344.06 215.95 116.42 1 49 24 285.9 20.46 321.49
100.00 2 12 10 1143.06 7.10 331.78 214.16 119.08 2 31 13 143.1 18.41 310.13
110.00 2 23 13 1138.37 1.22 325.53 210.54 124.13 2 41 41 108.4 14.86 305.57

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5835 TRA-1.1729 TC3 .1391 DAV .0788 SGT 1898.4 SGR 504.1 S63 441.2 ST 46.3 SR 22.1 SS 43.1
RDE -.3371 RRA -.0067 RC3 .2760 FAU .06864 RRT .4031 RRF -.4413 RTF -.8627 CRT .8313 CRS .6213 CST .9510
FDE .7501 FRA 2.8426 FC3-3.1326 BSP 3307 SGB 1964.2 R23 -.0787 R13 -.8651 LSA 64.8 MSA 17.3 SSA 1.2
BDE .6738 BRA 1.1729 BC3 .3090 FSP 678 S61 1909.9 S62 458.6 THA 8.48 EL1 50.0 EL2 11.4 ALF 22.94

LAUNCH DATE APR 17 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 397.588

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.990 GAL -3.44 AZL 92.43 HCA 135.16 SMA 195.37 ECC .23865 INC 2.4293 V1 29.674
RP 206.77 LAP -1.71 LOP 341.52 VP 24.584 GAP 13.40 AZP 88.28 TAL 342.01 TAP 117.16 RCA 148.74 APO 241.99 V2 26.485
RC 69.140 GL -18.96 GP 4.05 ZAL 124.97 ZAP 154.48 ETS 171.37 ZAE 171.67 EYE 61.74 ZAC 104.28 ETC 277.51 LVI -21.42

PLANETOCENTRIC CONIC

C3 18.454 VHL 4.296 DLA -27.72 RAL 343.20 RAD 6642.1 VEL 11.768 PTH 6.79 VHP 6.054 DPA -13.85 RAP 318.05 ECC 1.3037
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 26 28 2541.21 -9.45 68.18 200.64 136.85 19 8 49 1541.2 8.94 52.42
60.00 19 44 17 2334.21 -3.83 54.90 206.01 130.15 20 23 11 1334.2 12.20 36.86
70.00 21 26 18 2034.24 2.26 35.19 210.62 124.09 22 0 12 1034.2 15.81 15.11
80.00 23 36 23 1626.96 8.47 8.08 214.42 118.74 24 3 30 627.0 19.54 346.18
90.00 1 47 1 1218.38 12.48 340.12 216.51 115.58 2 7 19 218.4 21.96 317.11
100.00 2 23 11 1101.43 8.47 329.45 214.42 118.74 2 41 32 101.4 19.54 307.55
110.00 2 29 40 1081.06 2.26 324.11 210.62 124.09 2 47 41 81.1 15.81 304.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5767 TRA-1.1519 TC3 .1476 DAV .0800 SGT 1902.6 SGR 504.9 S63 469.7 ST 46.4 SR 21.9 SS 44.4
RDE -.3276 RRA -.0192 RC3 .2926 FAU .07197 RRT .4353 RRF -.4776 RTF -.8642 CRT .8390 CRS .6258 CST .9484
FDE .7760 FRA 2.9730 FC3-3.3762 BSP 3327 SGB 1968.4 R23 -.0877 R13 -.8671 LSA 65.6 MSA 17.4 SSA 1.2
BDE .6632 BRA 1.1520 BC3 .3277 FSP 728 S61 1916.0 S62 451.4 THA 6.98 EL1 50.1 EL2 11.0 ALF 22.70

LAUNCH DATE APR 17 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 401.405

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.934 GAL -3.36 AZL 92.46 HCA 136.42 SMA 194.32 ECC .23432 INC 2.4622 V1 29.674
RP 206.81 LAP -1.70 LOP 342.79 VP 24.504 GAP 13.05 AZP 88.22 TAL 342.13 TAP 118.56 RCA 148.78 APO 239.85 V2 26.480
RC 70.455 GL -19.49 GP 4.26 ZAL 124.79 ZAP 153.23 ETS 171.41 ZAE 171.71 EYE 63.29 ZAC 104.48 ETC 277.52 LVI -21.63

PLANETOCENTRIC CONIC

C3 17.930 VHL 4.234 DLA -28.22 RAL 343.38 RAD 6641.9 VEL 11.745 PTH 6.77 VHP 5.877 DPA -13.64 RAP 318.04 ECC 1.2951
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 29 53 2523.06 -8.55 67.40 200.64 136.99 19 11 56 1523.1 9.84 51.64
60.00 19 48 54 2312.88 -2.89 53.88 206.05 130.21 20 27 27 1312.9 13.11 35.78
70.00 21 33 6 2006.41 3.33 33.74 210.75 124.01 22 6 32 1006.4 16.77 13.53
80.00 23 48 55 1581.17 9.96 5.50 214.78 118.29 24 15 16 581.2 20.73 343.31
90.00 2 21 10 1102.70 15.77 333.23 217.69 113.78 2 39 33 102.7 24.23 309.39
100.00 2 35 42 1055.64 9.96 326.87 214.78 118.29 2 53 18 55.6 20.73 304.67
110.00 2 36 28 1053.23 3.33 322.65 210.75 124.01 2 54 2 53.2 16.77 302.44

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5701 TRA-1.1300 TC3 .1558 DAV .0832 SGT 1903.6 SGR 507.2 S63 500.0 ST 46.3 SR 21.6 SS 45.8
RDE -.3186 RRA -.0322 RC3 .3101 FAU .07927 RRT .4692 RRF -.5159 RTF -.8657 CRT .8476 CRS .6318 CST .9458
FDE .8045 FRA 3.1113 FC3-3.6343 BSP 3334 SGB 1970.0 R23 -.0977 R13 -.8691 LSA 66.5 MSA 17.4 SSA 1.2
BDE .6530 BRA 1.1305 BC3 .3470 FSP 777 S61 1919.3 S62 444.2 THA 7.53 EL1 50.2 EL2 10.6 ALF 22.51

LAUNCH DATE APR 17 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 405.253

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.882 GAL -3.29 AZL 92.50 HCA 137.69 SMA 193.34 ECC .23025 INC 2.4966 V1 29.674
RP 206.87 LAP -1.68 LOP 344.06 VP 24.426 GAP 12.70 AZP 88.15 TAL 342.28 TAP 119.95 RCA 148.82 APO 237.85 V2 26.474
RC 71.818 GL -20.02 GP 4.49 ZAL 124.61 ZAP 151.94 ETS 171.44 ZAE 171.77 EYE 65.42 ZAC 104.70 ETC 277.53 LVI -21.84

PLANETOCENTRIC CONIC

C3 17.450 VHL 4.177 DLA -28.73 RAL 343.57 RAD 6641.7 VEL 11.725 PTH 6.76 VHP 5.707 DPA -13.43 RAP 317.97 ECC 1.2872
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 33 24 2505.11 -7.65 66.64 200.69 137.10 19 15 9 1505.1 10.73 50.87
60.00 19 53 41 2291.54 -1.95 52.86 206.14 130.26 20 31 53 1291.5 14.01 34.70
70.00 21 40 19 1977.95 4.41 32.24 210.95 123.90 22 13 17 978.0 17.74 11.89
80.00 0 7 38 1528.84 11.63 2.52 215.29 117.69 0 33 7 528.8 22.03 339.96
84.71 1 53 47 1187.48 17.59 340.26 218.21 113.09 2 13 54 187.5 25.59 315.97
100.00 2 50 30 1003.31 11.63 323.88 215.29 117.69 3 7 13 3.3 22.03 301.33
110.00 2 43 41 1024.77 4.41 321.16 210.95 123.90 3 0 45 24.8 17.74 303.81

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5631 TRA-1.1065 TC3 .1597 DAV .0853 SGT 1900.0 SGR 511.2 S63 531.8 ST 46.5 SR 21.3 SS 47.1
RDE -.3100 RRA -.0458 RC3 .3287 FAU .07872 RRT .5036 RRF -.5552 RTF -.8664 CRT .8569 CRS .6387 CST .9428
FDE .8332 FRA 3.2557 FC3-3.9055 BSP 3338 SGB 1967.5 R23 -.1093 R13 -.8704 LSA 67.3 MSA 17.5 SSA 1.2
BDE .6428 BRA 1.1075 BC3 .3655 FSP 832 S61 1918.3 S62 437.4 THA 8.14 EL1 50.2 EL2 10.2 ALF 22.38

LAUNCH DATE APR 17 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.833 GAL -3.23 AZL 92.53 HCA 138.96 SMA 192.43 ECC .22842 INC 2.9328 V1 29.674
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.352 GAP 12.36 AZP 88.09 TAL 342.38 TAP 121.34 RCA 148.86 APO 236.00 V2 26.466
 RC 73.228 GL -20.56 GP 4.73 ZAL 124.42 ZAP 150.62 ETS 171.46 ZAE 171.83 ETE 68.18 ZAC 104.95 ETC 277.53 LVI -22.06

Distance 409.129 Earth to Mars

Planetocentric Conic: C3 17.013 VHL 4.125 DLA -29.25 RAL 343.77 RAD 6641.5 VEL 11.707 PTH 6.74 VHP 5.843 DPA -13.21 RAP 317.86 ECC 1.2800
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 37 3 2487.34 -6.77 65.88 200.77 137.21 19 18 30 1487.3 11.61 50.09
 60.00 19 58 40 2270.19 -1.01 51.84 206.28 130.29 20 36 30 1270.2 14.90 33.61
 70.00 21 47 59 1948.69 5.52 30.71 211.21 123.76 22 20 27 948.7 18.72 10.18
 80.00 0 26 32 1464.16 13.65 358.78 216.02 116.82 0 50 57 464.2 23.52 335.74
 82.22 1 34 29 1246.37 18.05 344.80 218.18 113.41 1 55 18 246.4 26.13 320.46
 100.00 3 9 24 6226.67 13.65 298.05 216.02 116.82 4 53 11 5226.7 23.52 275.01
 110.00 2 51 21 6283.55 5.52 297.53 211.21 123.76 4 36 4 5263.5 18.72 277.01

Differential Corrections: TDE -.5535 TRA -1.0794 TC3 .1683 BAW .0881 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1887.7 SGR 517.3 SG3 965.5 ST 46.3 SR 21.0 SS 48.4
 RDE -.3018 RRA -.0600 RC3 .3487 FAU .08246 RRT .5392 RRF -.5955 RTF -.8678 CRT .8666 CR8 .6464 CST .9398
 FDE .8620 FRA 3.4070 FC3 -4.1960 BSP 3305 SGB 1957.3 R23 -.1209 R13 -.8726 LSA 68.0 MSA 17.5 SSA 1.2
 BDE .6304 BRA 1.0811 BC3 .3872 FSP 888 SG1 1909.3 SG2 430.8 THA 8.88 EL1 49.9 EL2 9.7 ALF 22.37

LAUNCH DATE APR 17 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.786 GAL -3.16 AZL 92.57 HCA 140.22 SMA 191.58 ECC .22283 INC 2.5707 V1 29.674
 RP 207.00 LAP -1.64 LOP 346.39 VP 24.280 GAP 12.03 AZP 89.02 TAL 342.49 TAP 122.72 RCA 148.89 APO 234.27 V2 26.458
 RC 74.683 GL -21.11 GP 4.99 ZAL 124.23 ZAP 149.26 ETS 171.46 ZAE 171.88 ETE 71.58 ZAC 105.21 ETC 277.53 LVI -22.29

Distance 413.032 Earth to Mars

Planetocentric Conic: C3 16.617 VHL 4.076 DLA -29.77 RAL 343.98 RAD 6641.3 VEL 11.690 PTH 6.72 VHP 5.385 DPA -12.98 RAP 317.71 ECC 1.2738
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 40 50 2469.77 -5.89 65.14 200.90 137.30 19 22 0 1469.8 12.47 49.32
 60.00 20 3 52 2248.85 -.07 50.82 206.48 130.30 20 41 21 1248.8 15.79 32.50
 70.00 21 56 11 1918.48 6.66 29.11 211.54 123.58 22 28 9 918.5 19.71 8.40
 80.00 0 58 43 1358.04 16.81 352.49 217.35 115.04 1 21 21 358.0 25.68 328.60
 80.30 1 20 20 1288.97 18.50 348.16 218.16 113.75 1 41 49 289.0 26.68 323.76
 100.00 3 41 35 6120.55 16.81 291.76 217.35 115.04 5 23 38 5120.5 25.68 267.87
 110.00 2 59 33 6253.34 6.66 295.93 211.54 123.58 4 43 48 5253.3 19.71 275.22

Differential Corrections: TDE -.5496 TRA -1.0562 TC3 .1600 BAW .0894 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1881.1 SGR 526.0 SG3 801.0 ST 46.4 SR 20.8 SS 49.9
 RDE -.2943 RRA -.0792 RC3 .3694 FAU .08623 RRT .5733 RRF -.6362 RTF -.8660 CRT .8783 CR8 .6567 CST .9382
 FDE .8937 FRA 3.5682 FC3 -4.4927 BSP 3330 SGB 1953.3 R23 -.1378 R13 -.8718 LSA 69.0 MSA 17.6 SSA 1.1
 BDE .6234 BRA 1.0589 BC3 .4025 FSP 949 SG1 1906.4 SG2 425.3 THA 9.59 EL1 50.0 EL2 9.2 ALF 22.28

LAUNCH DATE APR 17 1971 FLIGHT TIME 164.00 ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.743 GAL -3.11 AZL 92.61 HCA 141.49 SMA 190.80 ECC .21946 INC 2.6108 V1 29.674
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.211 GAP 11.71 AZP 87.96 TAL 342.60 TAP 124.09 RCA 148.92 APO 232.87 V2 26.449
 RC 76.180 GL -21.68 GP 5.26 ZAL 124.04 ZAP 147.86 ETS 171.46 ZAE 171.91 ETE 75.62 ZAC 105.50 ETC 277.51 LVI -22.32

Distance 416.959 Earth to Mars

Planetocentric Conic: C3 16.258 VHL 4.032 DLA -30.30 RAL 344.20 RAD 6641.1 VEL 11.675 PTH 6.71 VHP 5.233 DPA -12.75 RAP 317.52 ECC 1.2676
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 46 2432.36 -5.02 64.40 201.08 137.37 19 25 38 1432.4 13.33 48.55
 60.00 20 9 19 2227.41 .87 49.80 206.73 130.29 20 46 26 1227.4 16.68 31.38
 70.00 22 5 1 1886.98 7.84 27.44 211.96 123.35 22 36 28 887.0 20.72 6.52
 78.65 1 8 47 1323.64 18.95 350.95 218.20 114.09 1 30 51 323.6 27.22 326.49
 78.65 1 8 47 1323.64 18.95 350.95 218.20 114.09 1 30 51 323.6 27.22 326.49
 78.65 1 8 47 1323.64 18.95 350.95 218.20 114.09 1 30 51 323.6 27.22 326.49
 110.00 3 8 23 6221.84 7.84 294.26 211.96 123.35 4 52 5 5221.8 20.72 273.34

Differential Corrections: TDE -.5422 TRA -1.0289 TC3 .1563 BAW .0917 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1864.7 SGR 537.5 SG3 638.4 ST 46.1 SR 20.5 SS 51.3
 RDE -.2872 RRA -.0913 RC3 .3917 FAU .09030 RRT .8072 RRF -.6786 RTF -.8551 CRT .8801 CR8 .6676 CST .9324
 FDE .9285 FRA 3.7367 FC3 -4.8082 BSP 3310 SGB 1940.6 R23 -.1549 R13 -.8721 LSA 69.8 MSA 17.7 SSA 1.1
 BDE .6136 BRA 1.0330 BC3 .4218 FSP 1013 SG1 1894.6 SG2 420.3 THA 10.45 EL1 49.8 EL2 8.7 ALF 22.32

LAUNCH DATE APR 17 1971 FLIGHT TIME 166.00 ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.702 GAL -3.05 AZL 92.85 HCA 142.78 SMA 190.08 ECC .21631 INC 2.6531 V1 29.674
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.145 GAP 11.39 AZP 87.89 TAL 342.71 TAP 125.46 RCA 148.95 APO 231.18 V2 26.439
 RC 77.718 GL -22.25 GP 5.56 ZAL 123.85 ZAP 146.42 ETS 171.45 ZAE 171.88 ETE 80.28 ZAC 105.82 ETC 277.49 LVI -22.76

Distance 420.909 Earth to Mars

Planetocentric Conic: C3 15.936 VHL 3.992 DLA -30.84 RAL 344.44 RAD 6641.0 VEL 11.661 PTH 6.70 VHP 5.086 DPA -12.51 RAP 317.28 ECC 1.2623
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 48 51 2435.10 -4.15 63.68 201.31 137.44 19 29 26 1435.1 14.17 47.78
 60.00 20 15 1 2205.84 1.82 48.77 207.04 130.27 20 51 47 1205.8 17.56 30.25
 70.00 22 14 38 1853.82 9.08 25.67 212.46 123.07 22 45 32 853.8 21.76 4.50
 77.17 0 58 54 1353.44 19.39 353.39 218.29 114.46 1 21 28 353.4 27.77 328.88
 77.17 0 58 54 1353.44 19.39 353.39 218.29 114.46 1 21 28 353.4 27.77 328.88
 77.17 0 58 54 1353.44 19.39 353.39 218.29 114.46 1 21 28 353.4 27.77 328.88
 110.00 3 18 1 6188.68 9.08 292.49 212.46 123.07 5 1 9 5188.7 21.76 271.33

Differential Corrections: TDE -.5342 TRA -.9981 TC3 .1499 BAW .0941 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 SGT 1840.1 SGR 552.2 SG3 677.3 ST 45.8 SR 20.3 SS 52.8
 RDE -.2805 RRA -.1081 RC3 .4156 FAU .09455 RRT .6398 RRF -.7159 RTF -.8635 CRT .9027 CR8 .6803 CST .9282
 FDE .9631 FRA 3.9102 FC3 -5.1363 BSP 3274 SGB 1921.2 R23 -.1737 R13 -.8722 LSA 70.5 MSA 17.8 SSA 1.1
 BDE .6034 BRA 1.0040 BC3 .4418 FSP 1080 SG1 1875.5 SG2 416.4 THA 11.44 EL1 49.4 EL2 8.1 ALF 22.47

LAUNCH DATE APR 17 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 424.882

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.663 GAL -3.00 AZL 92.70 HCA 144.01 SMA 189.38 ECC .21355 INC 2.6978 V1 29.674
RP 207.26 LAP -1.58 LOP 350.39 VP 24.081 GAP 11.08 AZP 87.82 TAL 342.80 TAP 126.82 RCA 148.98 APO 229.79 V2 26.428
RC 79.293 GL -22.84 GP 5.89 ZAL 123.66 ZAP 144.95 ETS 171.44 ZAE 171.79 ETE 85.49 ZAC 106.17 ETC 277.46 LVI -23.01

PLANETOCENTRIC CONIC

C3 15.648 VHL 3.956 DLA -31.38 RAL 344.70 RAD 6640.8 VEL 11.649 PTH 6.69 VHP 4.946 DPA -12.25 RAP 317.00 ECC 1.2575
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 53 7 2417.92 -3.29 62.96 201.59 137.49 19 33 25 1417.9 15.01 47.01
60.00 20 21 1 2184.03 2.78 47.72 207.41 130.22 20 57 25 1184.0 18.45 29.09
70.00 22 25 16 1818.33 10.39 23.76 213.06 122.72 22 55 34 818.3 22.84 2.32
75.79 0 50 12 1379.92 19.83 355.60 218.43 114.83 1 13 12 379.9 28.32 331.03
75.79 0 50 12 1379.92 19.83 355.60 218.43 114.83 1 13 12 379.9 28.32 331.03
75.79 0 50 12 1379.92 19.83 355.60 218.43 114.83 1 13 12 379.9 28.32 331.03
110.00 3 28 38 6153.19 10.39 290.58 213.06 122.72 5 11 11 5153.2 22.84 269.14

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3169 TRA -.9572 TC3 .1632 BAU .0987 SGT 1792.9 SGR 570.3 SG3 717.6 ST 44.7 SR 20.1 SS 54.0
RDE -.2738 RRA -.1256 RC3 .4426 FAU .09941 RRT .6730 RRF -.7533 RTF -.8653 CRT .9141 CRS .6915 CST .9237
FDE .9890 FRA 4.0836 FC3 -5.4999 BSP 3116 SGB 1881.4 R23 -.1869 R13 -.8759 LSA 70.7 MSA 17.9 SSA 1.1
BDE .5850 BRA .9654 BC3 .4717 FSP 1140 SGT 1835.7 SG2 412.0 THA 12.74 EL1 48.4 EL2 7.5 ALF 22.94

LAUNCH DATE APR 17 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 428.871

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.627 GAL -2.95 AZL 92.75 HCA 145.27 SMA 188.75 ECC .21059 INC 2.7453 V1 29.674
RP 207.37 LAP -1.56 LOP 351.85 VP 24.019 GAP 10.78 AZP 87.74 TAL 342.89 TAP 128.16 RCA 149.00 APO 228.50 V2 26.415
RC 80.909 GL -23.44 GP 6.23 ZAL 123.47 ZAP 143.43 ETS 171.41 ZAE 171.60 ETE 91.09 ZAC 106.54 ETC 277.42 LVI -23.27

PLANETOCENTRIC CONIC

C3 15.396 VHL 3.924 DLA -31.94 RAL 344.97 RAD 6640.7 VEL 11.638 PTH 6.68 VHP 4.811 DPA -11.99 RAP 316.67 ECC 1.2534
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 57 35 2400.94 -2.44 62.25 201.92 137.53 19 37 36 1400.9 15.84 46.25
60.00 20 27 20 2182.07 3.74 46.67 207.85 130.16 21 3 23 1162.1 19.34 27.31
70.00 22 37 8 1779.92 11.79 21.67 213.79 122.29 23 6 48 779.9 23.97 359.91
74.51 0 42 28 1403.91 20.27 357.64 218.62 115.22 1 5 52 403.9 28.87 333.00
74.51 0 42 28 1403.91 20.27 357.64 218.62 115.22 1 5 52 403.9 28.87 333.00
74.51 0 42 28 1403.91 20.27 357.64 218.62 115.22 1 5 52 403.9 28.87 333.00
110.00 3 40 30 6114.78 11.79 288.49 213.79 122.29 5 22 25 5114.8 23.97 286.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5213 TRA -.9358 TC3 .1159 BAU .0992 SGT 1783.1 SGR 593.2 SG3 760.9 ST 45.1 SR 20.0 SS 55.8
RDE -.2690 RRA -.1458 RC3 .4676 FAU .10347 RRT .6960 RRF -.7890 RTF -.8562 CRT .9298 CRS .7108 CST .9183
FDE 1.0393 FRA 4.2869 FC3 -5.8179 BSP 3217 SGB 1879.2 R23 -.2212 R13 -.8698 LSA 72.3 MSA 18.1 SSA 1.1
BDE .5866 BRA .9469 BC3 .4818 FSP 1226 SGT 1832.9 SG2 414.3 THA 13.75 EL1 48.8 EL2 6.8 ALF 22.89

LAUNCH DATE APR 17 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 432.881

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.594 GAL -2.91 AZL 92.80 HCA 146.53 SMA 188.17 ECC .20802 INC 2.7959 V1 29.674
RP 207.48 LAP -1.54 LOP 352.91 VP 23.958 GAP 10.48 AZP 87.67 TAL 342.97 TAP 129.50 RCA 149.02 APO 227.31 V2 26.402
RC 82.560 GL -24.05 GP 6.61 ZAL 123.28 ZAP 141.86 ETS 171.38 ZAE 171.30 ETE 96.91 ZAC 106.95 ETC 277.39 LVI -23.55

PLANETOCENTRIC CONIC

C3 15.178 VHL 3.898 DLA -32.50 RAL 345.26 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 4.682 DPA -11.71 RAP 316.29 ECC 1.2498
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 2 16 2383.97 -1.58 61.54 202.32 137.56 19 42 0 1384.0 16.66 45.47
60.00 20 34 3 2139.68 4.72 45.60 208.36 130.07 21 9 43 1139.7 20.23 26.69
70.00 22 50 51 1736.72 13.35 19.50 214.68 121.73 23 19 48 736.7 25.19 357.15
73.28 0 35 27 1426.22 20.70 359.56 218.87 115.64 0 59 13 426.2 29.43 334.87
73.28 0 35 27 1426.22 20.70 359.56 218.87 115.64 0 59 13 426.2 29.43 334.87
73.28 0 35 27 1426.22 20.70 359.56 218.87 115.64 0 59 13 426.2 29.43 334.87
110.00 3 54 14 6071.58 13.35 286.12 214.68 121.73 5 35 25 5071.6 25.19 263.97

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5151 TRA -.9009 TC3 .0926 BAU .1025 SGT 1745.7 SGR 620.4 SG3 803.3 ST 44.6 SR 19.9 SS 57.4
RDE -.2841 RRA -.1868 RC3 .4964 FAU .10823 RRT .7190 RRF -.8217 RTF -.8508 CRT .9438 CRS .7289 CST .9126
FDE 1.0815 FRA 4.4864 FC3 -6.1740 BSP 3171 SGB 1852.7 R23 -.2484 R13 -.8680 LSA 73.1 MSA 18.3 SSA 1.0
BDE .5789 BRA .9162 BC3 .5050 FSP 1303 SGT 1805.1 SG2 417.0 THA 15.16 EL1 48.5 EL2 6.1 ALF 23.23

LAUNCH DATE APR 17 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 436.906

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.562 GAL -2.87 AZL 92.85 HCA 147.78 SMA 187.62 ECC .20561 INC 2.8499 V1 29.674
RP 207.60 LAP -1.52 LOP 354.17 VP 23.900 GAP 10.19 AZP 87.59 TAL 343.04 TAP 130.83 RCA 149.04 APO 226.20 V2 26.388
RC 84.247 GL -24.69 GP 7.01 ZAL 123.09 ZAP 140.25 ETS 171.35 ZAE 170.87 ETE 102.74 ZAC 107.39 ETC 277.33 LVI -23.84

PLANETOCENTRIC CONIC

C3 14.988 VHL 3.871 DLA -33.08 RAL 345.58 RAD 6640.5 VEL 11.621 PTH 6.66 VHP 4.559 DPA -11.41 RAP 315.87 ECC 1.2467
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 7 12 2367.01 -.73 60.83 202.77 137.57 19 46 39 1367.0 17.46 44.69
60.00 20 41 12 2116.79 5.73 44.49 208.96 129.96 21 16 29 1116.8 21.13 25.42
70.00 23 7 28 1685.68 15.16 16.45 215.78 120.98 23 35 33 685.7 26.55 353.81
72.09 0 29 3 1447.14 21.12 1.38 219.18 116.07 0 53 10 447.1 29.99 336.64
72.09 0 29 3 1447.14 21.12 1.38 219.18 116.07 0 53 10 447.1 29.99 336.64
72.09 0 29 3 1447.14 21.12 1.38 219.18 116.07 0 53 10 447.1 29.99 336.64
110.00 4 10 50 6020.53 15.16 283.27 215.78 120.98 5 51 11 5020.5 26.55 260.63

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5079 TRA -.8632 TC3 .0669 BAU .1066 SGT 1700.5 SGR 652.8 SG3 851.3 ST 44.0 SR 19.9 SS 59.0
RDE -.2598 RRA -.1890 RC3 .5275 FAU .11323 RRT .7379 RRF -.8512 RTF -.8443 CRT .9573 CRS .7480 CST .9061
FDE 1.1244 FRA 4.6921 FC3 -6.5403 BSP 3111 SGB 1821.5 R23 -.2766 R13 -.8664 LSA 74.0 MSA 18.5 SSA 1.0
BDE .5705 BRA .8836 BC3 .5318 FSP 1383 SGT 1771.8 SG2 422.8 THA 16.80 EL1 48.0 EL2 5.3 ALF 23.69

LAUNCH DATE APR 17 1971		FLIGHT TIME 176.00		ARRIVAL DATE OCT 10 1971						
HELIOCENTRIC CONIC			DISTANCE 440.948			EARTH TO MARS				
RL	150.16 LAL	.00 LOL 206.34 VL 32.533 GAL -2.83 AZL 92.91 HCA 149.05 SMA 187.12 ECC .20330 INC 2.9077 V1 29.674								
RP	207.73 LAP	-1.50 LOP 355.42 VP 23.844 GAP 9.91 AZP 87.51 TAL 343.10 TAP 132.15 RCA 149.06 APO 225.17 V2 26.373								
RC	85.969 GL	-25.34 GP 7.45 ZAL 122.80 ZAP 136.60 ETS 171.32 ZAE 170.29 ETE 106.39 ZAC 107.87 ETC 277.26 LVI -24.14								
PLANETOCENTRIC CONIC										
C3	14.832 VHL	3.851 DLA -33.66 RAL 345.92 RAD 6640.4 VEL 11.614 PTH 6.65 VHP 4.442 DPA -11.09 RAP 315.39 ECC 1.2441								
LNCH	AZMTH LNCH TIME	L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG					
50.00	19 12 25	2350.00 .12	60.12	203.30	137.58	19 51 35	1350.0	18.29	43.90	
60.00	20 48 52	2093.24 6.75	43.35	209.64	129.03	21 23 45	1093.2	22.05	24.11	
70.00	23 29 53	1817.98 17.49	12.59	217.26	119.81	23 56 51	618.0	28.22	349.25	
70.93	0 23 11	1467.02 21.54	3.14	219.55	116.52	0 47 38	467.0	30.55	338.35	
70.93	0 23 11	1467.02 21.54	3.14	219.55	116.52	0 47 38	467.0	30.55	338.35	
70.93	0 23 11	1467.02 21.54	3.14	219.55	116.52	0 47 38	467.0	30.55	338.35	
110.00	4 33 16	5952.84 17.49	279.41	217.26	119.81	6 12 29	4952.8	28.22	256.07	
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.5000 TRA	-.8225 TC3 .0353 BAU .1114	SGT	1647.9	SGR 630.4	SG3 898.5	ST	43.2	SR 19.9	SS 60.6
RDE	-.2560 RRA	-.2132 RC3 .5606 FAU .11832	RRT	.7518	RRF -.8773	RTF -.8358	CRT	.9700	CRS .7681	CST .8986
FDE	1.1678 FRA	4.9038 FC3-6.9068 BSP 3036	SGB	1786.7	R23 -.3058	R13 -.6646	LSA	74.7	MSA 18.7	SSA 1.0
BDE	.5617 BRA	.8497 BC3 .5617 FSP 1465	SG1	1733.5	SG2 432.8	THA 18.69	EL1	47.4	EL2 4.4	ALF 24.27

LAUNCH DATE APR 17 1971		FLIGHT TIME 178.00		ARRIVAL DATE OCT 12 1971						
HELIOCENTRIC CONIC			DISTANCE 445.005			EARTH TO MARS				
RL	150.16 LAL	.00 LOL 206.34 VL 32.506 GAL -2.80 AZL 92.97 HCA 150.31 SMA 186.65 ECC .20130 INC 2.9699 V1 29.674								
RP	207.86 LAP	-1.47 LOP 356.68 VP 23.789 GAP 9.63 AZP 87.42 TAL 343.15 TAP 133.45 RCA 149.08 APO 224.22 V2 26.357								
RC	87.725 GL	-26.02 GP 7.92 ZAL 122.71 ZAP 136.90 ETS 171.28 ZAE 169.56 ETE 113.68 ZAC 108.39 ETC 277.20 LVI -24.47								
PLANETOCENTRIC CONIC										
C3	14.706 VHL	3.835 DLA -34.27 RAL 346.29 RAD 6640.4 VEL 11.609 PTH 6.65 VHP 4.331 DPA -10.75 RAP 314.86 ECC 1.2420								
LNCH	AZMTH LNCH TIME	L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG					
50.00	19 17 56	2332.88 .98	59.40	203.90	137.57	19 56 49	1332.9	19.11	43.09	
60.00	20 57 8	2068.79 7.82	42.16	210.42	129.66	21 31 36	1068.8	22.99	22.72	
69.79	0 17 46	1486.15 21.96	4.86	219.99	116.99	0 42 32	486.1	31.12	340.02	
69.79	0 17 46	1486.15 21.96	4.86	219.99	116.99	0 42 32	486.1	31.12	340.02	
69.79	0 17 46	1486.15 21.96	4.86	219.99	116.99	0 42 32	486.1	31.12	340.02	
69.79	0 17 46	1486.15 21.96	4.86	219.99	116.99	0 42 32	486.1	31.12	340.02	
69.79	0 17 46	1486.15 21.96	4.86	219.99	116.99	0 42 32	486.1	31.12	340.02	
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.4878 TRA	-.7743 TC3 .0125 BAU .1178	SGT	1578.3	SGR 734.0	SG3 946.8	ST	42.1	SR 19.9	SS 62.0
RDE	-.2524 RRA	-.2387 RC3 .5978 FAU .12402	RRT	.7626	RRF -.8999	RTF -.8273	CRT	.9810	CRS .7880	CST .8897
FDE	1.2062 FRA	5.1120 FC3-7.3005 BSP 2895	SGB	1740.6	R23 -.3297	R13 -.8653	LSA	75.1	MSA 18.9	SSA .9
BDE	.5492 BRA	.8103 BC3 .5979 FSP 1538	SG1	1682.7	SG2 445.3	THA 21.07	EL1	46.4	EL2 3.5	ALF 25.11

LAUNCH DATE APR 17 1971		FLIGHT TIME 180.00		ARRIVAL DATE OCT 14 1971						
HELIOCENTRIC CONIC			DISTANCE 449.073			EARTH TO MARS				
RL	150.16 LAL	.00 LOL 206.34 VL 32.480 GAL -2.77 AZL 93.04 HCA 151.56 SMA 186.22 ECC .19937 INC 3.0368 V1 29.674								
RP	208.01 LAP	-1.45 LOP 357.93 VP 23.735 GAP 9.35 AZP 87.33 TAL 343.16 TAP 134.74 RCA 149.09 APO 223.35 V2 26.340								
RC	89.514 GL	-26.72 GP 8.44 ZAL 122.52 ZAP 135.16 ETS 171.24 ZAE 168.69 ETE 118.50 ZAC 108.96 ETC 277.12 LVI -24.82								
PLANETOCENTRIC CONIC										
C3	14.614 VHL	3.823 DLA -34.89 RAL 346.69 RAD 6640.3 VEL 11.605 PTH 6.65 VHP 4.226 DPA -10.38 RAP 314.28 ECC 1.2405								
LNCH	AZMTH LNCH TIME	L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG					
50.00	19 23 50	2315.63 1.85	58.68	204.58	137.55	20 2 25	1315.6	19.93	42.27	
60.00	21 6 6	2043.27 8.93	40.92	211.32	129.47	21 40 9	1043.3	23.95	21.25	
68.67	0 12 46	1504.79 22.36	6.55	220.51	117.50	0 37 50	504.8	31.69	341.66	
68.67	0 12 46	1504.79 22.36	6.55	220.51	117.50	0 37 50	504.8	31.69	341.66	
68.67	0 12 46	1504.79 22.36	6.55	220.51	117.50	0 37 50	504.8	31.69	341.66	
68.67	0 12 46	1504.79 22.36	6.55	220.51	117.50	0 37 50	504.8	31.69	341.66	
68.67	0 12 46	1504.79 22.36	6.55	220.51	117.50	0 37 50	504.8	31.69	341.66	
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.4882 TRA	-.7366 TC3 -.0509 BAU .1242	SGT	1532.4	SGR 785.1	SG3 997.2	ST	41.8	SR 20.2	SS 63.9
RDE	-.2511 RRA	-.2682 RC3 .6334 FAU .12881	RRT	.7615	RRF -.9195	RTF -.5097	CRT	.9906	CRS .8125	CST .8807
FDE	1.2695 FRA	5.3501 FC3-7.6309 BSP 2904	SGB	1721.9	R23 -.3655	R13 -.8605	LSA	76.6	MSA 19.3	SSA .9
BDE	.5490 BRA	.7839 BC3 .6355 FSP 1638	SG1	1656.2	SG2 470.9	THA 23.31	EL1	46.4	EL2 2.5	ALF 25.69

LAUNCH DATE APR 17 1971		FLIGHT TIME 182.00		ARRIVAL DATE OCT 16 1971						
HELIOCENTRIC CONIC			DISTANCE 453.155			EARTH TO MARS				
RL	150.16 LAL	.00 LOL 206.34 VL 32.457 GAL -2.75 AZL 93.11 HCA 152.81 SMA 185.82 ECC .19759 INC 3.1094 V1 29.674								
RP	208.16 LAP	-1.42 LOP 359.19 VP 23.683 GAP 9.09 AZP 87.23 TAL 343.21 TAP 136.02 RCA 149.10 APO 222.54 V2 26.323								
RC	91.337 GL	-27.45 GP 9.00 ZAL 122.32 ZAP 133.36 ETS 171.20 ZAE 167.66 ETE 122.80 ZAC 109.58 ETC 277.03 LVI -25.20								
PLANETOCENTRIC CONIC										
C3	14.554 VHL	3.815 DLA -35.53 RAL 347.13 RAD 6640.3 VEL 11.602 PTH 6.64 VHP 4.127 DPA -9.98 RAP 313.64 ECC 1.2395								
LNCH	AZMTH LNCH TIME	L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG					
50.00	19 30 8	2298.06 2.73	57.95	205.36	137.52	20 8 26	1298.1	20.76	41.43	
60.00	21 15 58	2016.17 10.10	39.58	212.34	129.23	21 49 34	1016.2	24.96	19.67	
67.54	0 8 7	1523.07 22.77	8.23	221.10	118.04	0 33 30	523.1	32.27	343.30	
67.54	0 8 7	1523.07 22.77	8.23	221.10	118.04	0 33 30	523.1	32.27	343.30	
67.54	0 8 7	1523.07 22.77	8.23	221.10	118.04	0 33 30	523.1	32.27	343.30	
67.54	0 8 7	1523.07 22.77	8.23	221.10	118.04	0 33 30	523.1	32.27	343.30	
67.54	0 8 7	1523.07 22.77	8.23	221.10	118.04	0 33 30	523.1	32.27	343.30	
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY				
TDE	-.4824 TRA	-.6886 TC3 -.1028 BAU .1325	SGT	1464.9	SGR 842.8	SG3 1047.5	ST	40.9	SR 20.5	SS 65.6
RDE	-.2501 RRA	-.2994 RC3 .6734 FAU .13411	RRT	.7564	RRF -.9359	RTF -.7909	CRT	.9968	CRS .8353	CST .8696
FDE	1.3255 FRA	5.5786 FC3-7.9777 BSP 2838	SGB	1690.0	R23 -.3909	R13 -.8598	LSA	77.6	MSA 19.6	SSA .9
BDE	.5434 BRA	.7509 BC3 .6812 FSP 1730	SG1	1614.3	SG2 500.2	THA 26.23	EL1	45.8	EL2 1.5	ALF 26.60

LAUNCH DATE APR 17 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 18 1971

HELIOCENTRIC CONIC

DISTANCE 457.248

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.438 GAL -2.73 AZL 93.19 HCA 154.06 SMA 185.48 ECC .19895 INC 3.1882 V1 29.674
 RP 208.32 LAP -1.39 LOP .44 VP 23.633 GAP 8.83 AZP 87.13 TAL 343.22 TAP 137.28 RCA 149.11 APO 221.79 V2 26.304
 RC 93.190 GL -28.21 GP 9.61 ZAL 122.12 ZAP 131.52 ETS 171.16 ZAE 166.49 ETE 126.56 ZAC 110.25 ETC 276.94 LVI -25.60

PLANETOCENTRIC CONIC

C3 14.527 VHL 3.811 DLA -36.19 RAL 347.60 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 4.033 DPA -9.53 RAP 312.95 ECC 1.2391
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 36 56 2280.08 3.63 57.20 206.23 137.47 20 14 56 1280.1 21.61 40.55
 60.00 21 26 56 1986.98 11.35 38.14 213.53 128.93 22 0 3 987.0 26.02 17.93
 66.42 0 3 49 1541.15 23.17 9.91 221.78 118.61 0 29 31 541.2 32.87 344.95
 66.42 0 3 49 1541.15 23.17 9.91 221.78 118.61 0 29 31 541.2 32.87 344.95
 66.42 0 3 49 1541.15 23.17 9.91 221.78 118.61 0 29 31 541.2 32.87 344.95
 66.42 0 3 49 1541.15 23.17 9.91 221.78 118.61 0 29 31 541.2 32.87 344.95
 66.42 0 3 49 1541.15 23.17 9.91 221.78 118.61 0 29 31 541.2 32.87 344.95

DIFFERENTIAL CORRECTIONS

TDE -.4754 TRA -.6369 TC3 -.1575 BAW .1428
 RDE -.2497 RRA -.3332 RC3 .7169 FAU .13964
 FDE 1.3798 FRA 5.8058 FC3 -8.3218 BSP 2750
 BDE .5370 BRA .7186 BC3 .7340 FSP 1816

MID-COURSE EXECUTION ACCURACY

SGT 1390.1 SGR 908.1 SG3 1097.9
 RRT .7437 RRF -.9494 RTF -.7670
 SGB 1660.4 R23 -.4094 R13 -.8614
 SG1 1571.2 SG2 537.1 THA 29.73

ORBIT DETERMINATION ACCURACY

ST 39.9 SR 21.0 SS 67.2
 CRT .9990 CRS .8572 CST .8565
 LSA 78.4 MSA 19.9 SSA .8
 EL1 45.1 EL2 .8 ALF 27.70

LAUNCH DATE APR 17 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 20 1971

HELIOCENTRIC CONIC

DISTANCE 461.352

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.415 GAL -2.71 AZL 93.27 HCA 155.31 SMA 185.11 ECC .19443 INC 3.2743 V1 29.674
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.583 GAP 8.57 AZP 87.02 TAL 343.23 TAP 138.53 RCA 149.12 APO 221.10 V2 26.284
 RC 95.074 GL -29.02 GP 10.27 ZAL 121.91 ZAP 129.64 ETS 171.13 ZAE 165.19 ETE 129.81 ZAC 110.98 ETC 276.83 LVI -26.05

PLANETOCENTRIC CONIC

C3 14.535 VHL 3.813 DLA -36.88 RAL 348.12 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 3.947 DPA -9.05 RAP 312.21 ECC 1.2392
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 44 19 2261.55 4.56 56.42 207.23 137.41 20 22 0 1261.6 22.47 39.84
 60.00 21 39 22 1954.87 12.72 36.53 214.90 128.57 22 11 56 954.9 27.16 15.98
 65.28 23 55 53 1559.31 23.57 11.61 222.55 119.22 24 21 52 559.3 33.47 346.62
 65.28 23 55 53 1559.31 23.57 11.61 222.55 119.22 24 21 52 559.3 33.47 346.62
 65.28 23 55 53 1559.31 23.57 11.61 222.55 119.22 24 21 52 559.3 33.47 346.62
 65.28 23 55 53 1559.31 23.57 11.61 222.55 119.22 24 21 52 559.3 33.47 346.62
 65.28 23 55 53 1559.31 23.57 11.61 222.55 119.22 24 21 52 559.3 33.47 346.62

DIFFERENTIAL CORRECTIONS

TDE -.4694 TRA -.5819 TC3 -.2188 BAW .1542
 RDE -.2508 RRA -.3704 RC3 .7628 FAU .14502
 FDE 1.4424 FRA 6.0356 FC3 -8.6372 BSP 2689
 BDE .5322 BRA .6897 BC3 .7935 FSP 1906

MID-COURSE EXECUTION ACCURACY

SGT 1311.7 SGR 982.1 SG3 1148.3
 RRT .7217 RRF -.9605 RTF -.7350
 SGB 1638.6 R23 -.4188 R13 -.8666
 SG1 1531.7 SG2 582.2 THA 33.94

ORBIT DETERMINATION ACCURACY

ST 38.9 SR 21.0 SS 68.9
 CRT .9964 CRS .8789 CST .8415
 LSA 79.4 MSA 20.3 SSA .8
 EL1 44.4 EL2 1.6 ALF 28.95

LAUNCH DATE APR 17 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 22 1971

HELIOCENTRIC CONIC

DISTANCE 465.466

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.396 GAL -2.69 AZL 93.37 HCA 156.55 SMA 184.80 ECC .19304 INC 3.3689 V1 29.674
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.535 GAP 8.32 AZP 86.91 TAL 343.22 TAP 139.77 RCA 149.12 APO 220.47 V2 26.264
 RC 96.988 GL -29.87 GP 11.00 ZAL 121.69 ZAP 127.71 ETS 171.10 ZAE 163.75 ETE 132.59 ZAC 111.78 ETC 276.72 LVI -26.53

PLANETOCENTRIC CONIC

C3 14.581 VHL 3.818 DLA -37.60 RAL 348.70 RAD 6640.3 VEL 11.603 PTH 6.65 VHP 3.866 DPA -8.51 RAP 311.41 ECC 1.2400
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 52 22 2242.23 5.53 55.60 208.35 137.33 20 29 45 1242.2 23.37 38.68
 60.00 21 53 46 1918.45 14.25 34.68 216.91 128.10 22 25 44 918.5 28.42 13.72
 64.11 23 52 9 1577.60 23.97 13.34 223.42 119.88 24 18 27 577.6 34.10 348.33
 64.11 23 52 9 1577.60 23.97 13.34 223.42 119.88 24 18 27 577.6 34.10 348.33
 64.11 23 52 9 1577.60 23.97 13.34 223.42 119.88 24 18 27 577.6 34.10 348.33
 64.11 23 52 9 1577.60 23.97 13.34 223.42 119.88 24 18 27 577.6 34.10 348.33
 64.11 23 52 9 1577.60 23.97 13.34 223.42 119.88 24 18 27 577.6 34.10 348.33

DIFFERENTIAL CORRECTIONS

TDE -.4570 TRA -.5171 TC3 -.2671 BAW .1673
 RDE -.2518 RRA -.4098 RC3 .8156 FAU .15115
 FDE 1.4888 FRA 6.2427 FC3 -8.9745 BSP 2564
 BDE .5217 BRA .6596 BC3 .8582 FSP 1974

MID-COURSE EXECUTION ACCURACY

SGT 1212.8 SGR 1064.1 SG3 1196.4
 RRT .6909 RRF -.9694 RTF -.5774
 SGB 1613.4 R23 -.4063 R13 -.8809
 SG1 1486.3 SG2 627.7 THA 39.63

ORBIT DETERMINATION ACCURACY

ST 37.3 SR 22.2 SS 70.1
 CRT .9879 CRS .8977 CST .8217
 LSA 79.8 MSA 20.6 SSA .7
 EL1 43.3 EL2 3.0 ALF 30.62

LAUNCH DATE APR 17 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 24 1971

HELIOCENTRIC CONIC

DISTANCE 469.587

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.378 GAL -2.68 AZL 93.47 HCA 157.80 SMA 184.51 ECC .19178 INC 3.4731 V1 29.674
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.487 GAP 8.07 AZP 86.78 TAL 343.19 TAP 140.99 RCA 149.13 APO 219.90 V2 26.243
 RC 98.929 GL -30.77 GP 11.81 ZAL 121.48 ZAP 125.73 ETS 171.07 ZAE 162.19 ETE 134.92 ZAC 112.66 ETC 276.61 LVI -27.07

PLANETOCENTRIC CONIC

C3 14.669 VHL 3.830 DLA -38.36 RAL 349.33 RAD 6640.4 VEL 11.607 PTH 6.65 VHP 3.792 DPA -7.90 RAP 310.56 ECC 1.2414
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 1 15 2221.99 6.54 54.75 209.64 137.23 20 38 17 1222.0 24.30 37.65
 60.00 22 11 4 1875.49 16.05 32.46 218.45 127.48 22 42 19 875.5 29.85 10.97
 62.92 23 48 45 1596.13 24.36 15.12 224.42 120.60 24 15 21 596.1 34.74 350.10
 62.92 23 48 45 1596.13 24.36 15.12 224.42 120.60 24 15 21 596.1 34.74 350.10
 62.92 23 48 45 1596.13 24.36 15.12 224.42 120.60 24 15 21 596.1 34.74 350.10
 62.92 23 48 45 1596.13 24.36 15.12 224.42 120.60 24 15 21 596.1 34.74 350.10
 62.92 23 48 45 1596.13 24.36 15.12 224.42 120.60 24 15 21 596.1 34.74 350.10

DIFFERENTIAL CORRECTIONS

TDE -.4584 TRA -.4621 TC3 -.3578 BAW .1833
 RDE -.2574 RRA -.4560 RC3 .8635 FAU .15551
 FDE 1.5773 FRA 6.4831 FC3 -9.1779 BSP 2613
 BDE .5257 BRA .6492 BC3 .9347 FSP 2082

MID-COURSE EXECUTION ACCURACY

SGT 1150.1 SGR 1158.7 SG3 1246.0
 RRT .6377 RRF -.9766 RTF -.6389
 SGB 1632.5 R23 -.3927 R13 -.8944
 SG1 1477.3 SG2 694.9 THA 45.33

ORBIT DETERMINATION ACCURACY

ST 36.8 SR 23.3 SS 72.1
 CRT .9728 CRS .9178 CST .8026
 LSA 81.5 MSA 21.2 SSA .7
 EL1 43.3 EL2 4.6 ALF 32.04

LAUNCH DATE APR 17 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 28 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.363 GAL -2.67 AZL 93.99 HCA 159.04 SMA 184.28 ECC .19082 INC 3.5890 V1 29.674
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.441 GAP 7.83 AZP 86.85 TAL 343.16 TAP 142.20 RCA 149.13 APO 219.37 V2 26.221
 RC 100.898 GL -31.74 GP 12.69 ZAL 121.21 ZAP 123.71 ETS 171.06 ZAE 160.90 ETE 136.87 ZAC 113.62 ETC 276.48 LVI -27.67

Distance 473.718 Earth to Mars: DPA -7.22 RAP 309.65 ECC 1.2436

Planocentric Conic: C3 14.801 VHL 3.847 DLA -39.17 RAL 350.02 RAD 6640.4 VEL 11.613 PTH 6.65 VHP 3.728
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 11 9 2200.36 7.62 53.83 211.11 137.11 20 47 50 1200.4 25.28 36.53
 60.00 22 33 25 1820.06 18.32 29.54 220.90 126.95 23 3 49 820.1 31.99 7.31
 61.69 23 45 34 1615.26 24.75 16.96 225.55 121.38 24 12 29 615.3 35.40 351.94
 61.69 23 45 34 1615.26 24.75 16.96 225.55 121.38 24 12 29 615.3 35.40 351.94
 61.69 23 45 34 1615.26 24.75 16.96 225.55 121.38 24 12 29 615.3 35.40 351.94
 61.69 23 45 34 1615.26 24.75 16.96 225.55 121.38 24 12 29 615.3 35.40 351.94

Differential Corrections: TDE -.4489 TRA -.3922 TC3 -.4214 BAU .2005 SGT 1058.2 SGR 1262.6 SG3 1291.0 ST 35.3 SR 24.4 SS 73.5
 RDE -.2625 RRA -.5044 RC3 .9212 FAU .16098 RRT .9699 RRF -.9822 RTF -.5664 CRT .9497 CR8 .9340 C8T .7764
 FDE 1.6413 FRA 6.6829 FC3-9.4161 BSP 2569 SGB 1847.4 R23 -.3373 R13 -.9225 LSA 82.3 MSA 21.6 S8A .6
 BDE .5200 BRA .6389 BC3 1.0131 FSP 2150 SG1 1467.8 SG2 747.9 THA 53.65 EL1 42.4 EL2 6.4 ALF 34.14

LAUNCH DATE APR 17 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 28 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.349 GAL -2.67 AZL 93.72 HCA 160.28 SMA 184.01 ECC .18958 INC 3.7184 V1 29.674
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.395 GAP 7.60 AZP 86.80 TAL 343.11 TAP 143.39 RCA 149.13 APO 218.90 V2 26.198
 RC 102.893 GL -32.78 GP 13.67 ZAL 120.93 ZAP 121.65 ETS 171.05 ZAE 158.69 ETE 138.47 ZAC 114.68 ETC 276.36 LVI -28.34

Distance 477.855 Earth to Mars: DPA -6.46 RAP 308.69 ECC 1.2466

Planocentric Conic: C3 14.986 VHL 3.871 DLA -40.03 RAL 350.80 RAD 6640.5 VEL 11.621 PTH 6.66 VHP 3.666
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 22 19 2177.03 8.79 52.83 212.82 136.95 20 58 36 1177.0 26.34 35.31
 60.00 23 9 6 1729.58 21.91 24.59 224.51 124.71 23 37 55 729.6 34.16 1.02
 60.40 23 42 41 1634.98 25.13 18.88 226.83 122.24 24 9 56 635.0 36.09 353.08
 60.40 23 42 41 1634.98 25.13 18.88 226.83 122.24 24 9 56 635.0 36.09 353.08
 60.40 23 42 41 1634.98 25.13 18.88 226.83 122.24 24 9 56 635.0 36.09 353.08
 60.40 23 42 41 1634.98 25.13 18.88 226.83 122.24 24 9 56 635.0 36.09 353.08

Differential Corrections: TDE -.4481 TRA -.3263 TC3 -.5113 BAU .2207 SGT 997.0 SGR 1380.6 SG3 1334.5 ST 34.5 SR 25.9 SS 75.3
 RDE -.2723 RRA -.5603 RC3 .9760 FAU .16500 RRT .4729 RRF -.9867 RTF -.4665 CRT .9190 CR8 .9491 C8T .7491
 FDE 1.7363 FRA 6.8933 FC3-9.5317 BSP 2655 SGB 1703.0 R23 -.2672 R13 -.9498 LSA 83.9 MSA 22.2 S8A .6
 BDE .5243 BRA .6483 BC3 1.1018 FSP 2243 SG1 1498.3 SG2 809.5 THA 62.50 EL1 42.3 EL2 8.3 ALF 36.24

LAUNCH DATE APR 17 1971

FLIGHT TIME 196.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.335 GAL -2.67 AZL 93.86 HCA 161.51 SMA 183.79 ECC .18864 INC 3.8640 V1 29.674
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.350 GAP 7.36 AZP 86.33 TAL 343.05 TAP 144.56 RCA 149.12 APO 218.46 V2 26.174
 RC 104.913 GL -33.90 GP 14.76 ZAL 120.63 ZAP 119.54 ETS 171.06 ZAE 156.76 ETE 139.76 ZAC 115.85 ETC 276.22 LVI -29.09

Distance 481.998 Earth to Mars: DPA -5.59 RAP 307.68 ECC 1.2507

Planocentric Conic: C3 15.232 VHL 3.903 DLA -40.95 RAL 351.67 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 3.615
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 35 5 2151.30 10.06 51.73 214.80 136.75 21 10 57 1151.3 27.48 33.93
 59.05 23 40 7 1655.53 25.51 20.91 228.30 123.19 24 7 43 655.5 36.80 355.95
 59.05 23 40 7 1655.53 25.51 20.91 228.30 123.19 24 7 43 655.5 36.80 355.95
 59.05 23 40 7 1655.53 25.51 20.91 228.30 123.19 24 7 43 655.5 36.80 355.95
 59.05 23 40 7 1655.53 25.51 20.91 228.30 123.19 24 7 43 655.5 36.80 355.95
 59.05 23 40 7 1655.53 25.51 20.91 228.30 123.19 24 7 43 655.5 36.80 355.95

Differential Corrections: TDE -.4439 TRA -.2528 TC3 -.5921 BAU .2433 SGT 937.9 SGR 1511.8 SG3 1372.7 ST 33.4 SR 27.6 SS 76.8
 RDE -.2838 RRA -.6208 RC3 1.0378 FAU .16936 RRT .3456 RRF -.9901 RTF -.5771 CRT .8790 CR8 .9813 C8T .7114
 FDE 1.8234 FRA 7.0695 FC3-9.6257 BSP 2746 SGB 1779.1 R23 -.1726 R13 -.9749 LSA 85.2 MSA 22.8 S8A .3
 BDE .5268 BRA .6703 BC3 1.1946 FSP 2310 SG1 1561.9 SG2 851.9 THA 72.56 EL1 42.1 EL2 10.5 ALF 38.06

LAUNCH DATE APR 17 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 1 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.323 GAL -2.67 AZL 94.03 HCA 162.75 SMA 183.60 ECC .18780 INC 4.0297 V1 29.674
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.308 GAP 7.14 AZP 86.15 TAL 342.97 TAP 145.72 RCA 149.12 APO 218.08 V2 26.150
 RC 106.958 GL -35.13 GP 15.98 ZAL 120.29 ZAP 117.40 ETS 171.06 ZAE 154.70 ETE 140.76 ZAC 117.15 ETC 276.09 LVI -29.94

Distance 486.150 Earth to Mars: DPA -4.60 RAP 306.61 ECC 1.2559

Planocentric Conic: C3 15.549 VHL 3.943 DLA -41.95 RAL 352.65 RAD 6640.8 VEL 11.645 PTH 6.68 VHP 3.572
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 49 59 2122.25 11.50 50.47 217.16 136.49 21 25 22 1122.3 28.76 32.34
 57.62 23 37 51 1677.24 25.88 23.06 229.97 124.25 24 5 48 677.2 37.55 358.17
 57.62 23 37 51 1677.24 25.88 23.06 229.97 124.25 24 5 48 677.2 37.55 358.17
 57.62 23 37 51 1677.24 25.88 23.06 229.97 124.25 24 5 48 677.2 37.55 358.17
 57.62 23 37 51 1677.24 25.88 23.06 229.97 124.25 24 5 48 677.2 37.55 358.17
 57.62 23 37 51 1677.24 25.88 23.06 229.97 124.25 24 5 48 677.2 37.55 358.17

Differential Corrections: TDE -.4398 TRA -.1740 TC3 -.6725 BAU .2680 SGT 897.3 SGR 1659.2 SG3 1405.4 ST 32.4 SR 29.7 SS 78.4
 RDE -.3003 RRA -.6887 RC3 1.0997 FAU .17278 RRT .1856 RRF -.9927 RTF -.1758 CRT .8298 CR8 .9715 C8T .6746
 FDE 1.9294 FRA 7.2239 FC3-9.6202 BSP 2901 SGB 1886.3 R23 -.0808 R13 -.9694 LSA 86.8 MSA 23.3 S8A .5
 BDE .5325 BRA .7103 BC3 1.2890 FSP 2374 SG1 1670.7 SG2 875.6 THA 82.08 EL1 42.1 EL2 12.8 ALF 42.10

LAUNCH DATE APR 17 1971 FLIGHT TIME 200.00 ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 32.313 GAL -2.67 AZL 94.22 HCA 163.00 SMA 183.42 ECC .18705 INC 4.2195 V1 20.674
 RP 209.87 LAP -1.16 LOP 10.36 VP 23.263 GAP 6.91 AZP 85.94 TAL 342.89 TAP 146.86 RCA 149.11 APO 217.73 V2 26.124
 RC 109.028 GL -36.48 GP 17.34 ZAL 119.89 ZAP 115.22 ETS 171.13 ZAE 152.52 EYE 141.51 ZAC 118.80 ETC 275.95 LVI -30.91

PLANETOCENTRIC CONIC
 C3 15.955 VHL 3.994 DLA -43.04 RAL 353.77 RAD 6641.0 VEL 11.662 PTH 6.70 VHP 3.539 DPA -3.47 RAP 305.49 ECC 1.2626
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 7 49 2088.41 13.17 48.98 220.00 136.15 21 42 38 1088.4 30.21 30.43
 56.10 23 35 59 1700.25 26.23 25.36 231.90 125.43 24 4 19 700.3 38.34 .57
 56.10 23 35 59 1700.25 26.23 25.36 231.90 125.43 24 4 19 700.3 38.34 .57
 56.10 23 35 59 1700.25 26.23 25.36 231.90 125.43 24 4 19 700.3 38.34 .57
 56.10 23 35 59 1700.25 26.23 25.36 231.90 125.43 24 4 19 700.3 38.34 .57
 56.10 23 35 59 1700.25 26.23 25.36 231.90 125.43 24 4 19 700.3 38.34 .57

DIFFERENTIAL CORRECTIONS
 TDE -.4362 TRA -.0916 TC3 -.7535 BAU .2956
 RDE -.3222 RRA -.7650 RC3 1.1629 FAU .17535
 FDE 2.0468 FRA 7.3480 FC3-9.9150 BSP 3125
 BDE .5423 BRA .7704 BC3 1.3857 FSP 2427

MID-COURSE EXECUTION ACCURACY
 SGT 886.6 SGR 1825.0 SG3 1431.1
 RRT -.0001 RRF -.9947 RTF .0100
 SGB 2028.9 R23 -.0099 R13 -.9947
 SGI 1825.0 SG2 886.6 THA 98.00

ORBIT DETERMINATION ACCURACY
 ST 31.4 SR 32.3 SS 80.0
 CRT .7712 CRS .9797 CST .6284
 LSA 98.6 MSA 23.8 SSA .4
 EL1 42.4 EL2 15.2 ALF 46.03

LAUNCH DATE APR 17 1971 FLIGHT TIME 202.00 ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 32.303 GAL -2.68 AZL 94.44 HCA 165.21 SMA 183.26 ECC .18639 INC 4.4395 V1 29.674
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.220 GAP 6.89 AZP 85.71 TAL 348.78 TAP 147.99 RCA 149.10 APO 217.42 V2 26.098
 RC 111.121 GL -37.98 GP 18.89 ZAL 119.43 ZAP 113.01 ETS 171.20 ZAE 150.19 EYE 142.02 ZAC 120.23 ETC 275.82 LVI -32.03

PLANETOCENTRIC CONIC
 C3 16.471 VHL 4.059 DLA -44.23 RAL 355.05 RAD 6641.2 VEL 11.684 PTH 6.72 VHP 3.517 DPA -2.15 RAP 304.32 ECC 1.2711
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 29 59 2047.01 15.19 47.13 223.53 135.65 22 4 6 1047.0 31.95 28.01
 54.45 23 34 34 1724.93 26.56 27.85 234.14 126.77 24 3 19 724.9 39.16 3.21
 54.45 23 34 34 1724.93 26.56 27.85 234.14 126.77 24 3 19 724.9 39.16 3.21
 54.45 23 34 34 1724.93 26.56 27.85 234.14 126.77 24 3 19 724.9 39.16 3.21
 54.45 23 34 34 1724.93 26.56 27.85 234.14 126.77 24 3 19 724.9 39.16 3.21
 54.45 23 34 34 1724.93 26.56 27.85 234.14 126.77 24 3 19 724.9 39.16 3.21

DIFFERENTIAL CORRECTIONS
 TDE -.4323 TRA -.0034 TC3 -.8285 BAU .3263
 RDE -.3515 RRA -.8497 RC3 1.2285 FAU .17724
 FDE 2.1784 FRA 7.4200 FC3-9.3157 BSP 3418
 BDE .5572 BRA .8497 BC3 1.4817 FSP 2462

MID-COURSE EXECUTION ACCURACY
 SGT 908.1 SGR 2010.8 SG3 1446.7
 RRT -.1952 RRF -.9962 RTF .2045
 SGB 2206.3 R23 .0375 R13 -.9955
 SGI 2020.5 SG2 886.4 THA 96.24

ORBIT DETERMINATION ACCURACY
 ST 30.5 SR 35.3 SS 81.5
 CRT .7028 CRS .9860 CST .5746
 LSA 90.6 MSA 24.6 SSA .4
 EL1 43.2 EL2 17.8 ALF 50.89

LAUNCH DATE APR 17 1971 FLIGHT TIME 204.00 ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 32.294 GAL -2.69 AZL 94.70 HCA 166.43 SMA 183.12 ECC .18582 INC 4.6977 V1 29.674
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.178 GAP 6.48 AZP 85.43 TAL 342.67 TAP 149.10 RCA 149.09 APO 217.15 V2 26.071
 RC 113.239 GL -39.66 GP 20.63 ZAL 118.89 ZAP 110.78 ETS 171.30 ZAE 147.72 EYE 142.31 ZAC 122.07 ETC 275.70 LVI -33.33

PLANETOCENTRIC CONIC
 C3 17.132 VHL 4.139 DLA -45.56 RAL 356.55 RAD 6641.5 VEL 11.712 PTH 6.74 VHP 3.509 DPA -.63 RAP 303.09 ECC 1.2820
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 59 27 1991.78 17.86 44.60 228.16 134.86 22 32 38 991.8 34.18 24.63
 52.66 23 33 47 1751.61 26.86 30.56 236.76 128.29 24 2 59 751.6 40.02 6.14
 52.66 23 33 47 1751.61 26.86 30.56 236.76 128.29 24 2 59 751.6 40.02 6.14
 52.66 23 33 47 1751.61 26.86 30.56 236.76 128.29 24 2 59 751.6 40.02 6.14
 52.66 23 33 47 1751.61 26.86 30.56 236.76 128.29 24 2 59 751.6 40.02 6.14
 52.66 23 33 47 1751.61 26.86 30.56 236.76 128.29 24 2 59 751.6 40.02 6.14

DIFFERENTIAL CORRECTIONS
 TDE -.4280 TRA .0897 TC3 -.8976 BAU .3607
 RDE -.3912 RRA -.9450 RC3 1.2938 FAU .17797
 FDE 2.3296 FRA 7.4343 FC3-8.9934 BSP 3776
 BDE .5798 BRA .9452 BC3 1.5746 FSP 2473

MID-COURSE EXECUTION ACCURACY
 SGT 966.7 SGR 2220.5 SG3 1450.5
 RRT -.3757 RRF -.9973 RTF .3338
 SGB 2421.8 R23 .0857 R13 -.9952
 SGI 2255.4 SG2 882.0 THA 100.99

ORBIT DETERMINATION ACCURACY
 ST 29.8 SR 39.0 SS 82.9
 CRT .6252 CRS .9907 CST .8134
 LSA 93.0 MSA 25.2 SSA .4
 EL1 44.7 EL2 20.3 ALF 56.82

LAUNCH DATE APR 17 1971 FLIGHT TIME 206.00 ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC
 RL 150.16 LAL .00 LOL 206.34 VL 32.287 GAL -2.70 AZL 95.01 HCA 167.65 SMA 182.99 ECC .18534 INC 5.0052 V1 29.674
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.136 GAP 6.26 AZP 85.11 TAL 342.55 TAP 150.20 RCA 149.08 APO 216.91 V2 26.044
 RC 115.380 GL -41.57 GP 22.68 ZAL 118.24 ZAP 108.50 ETS 171.45 ZAE 145.08 EYE 142.38 ZAC 124.17 ETC 275.58 LVI -34.83

PLANETOCENTRIC CONIC
 C3 17.987 VHL 4.241 DLA -47.04 RAL 358.33 RAD 6641.9 VEL 11.748 PTH 6.78 VHP 3.518 DPA 1.16 RAP 301.80 ECC 1.2960
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 47 4 1897.73 22.32 40.09 235.19 133.18 23 18 42 897.7 37.71 18.42
 50.71 23 33 47 1780.91 27.09 33.54 239.86 130.05 24 3 28 780.9 40.91 9.44
 50.71 23 33 47 1780.91 27.09 33.54 239.86 130.05 24 3 28 780.9 40.91 9.44
 50.71 23 33 47 1780.91 27.09 33.54 239.86 130.05 24 3 28 780.9 40.91 9.44
 50.71 23 33 47 1780.91 27.09 33.54 239.86 130.05 24 3 28 780.9 40.91 9.44
 50.71 23 33 47 1780.91 27.09 33.54 239.86 130.05 24 3 28 780.9 40.91 9.44

DIFFERENTIAL CORRECTIONS
 TDE -.4232 TRA .1876 TC3 -.9591 BAU .3994
 RDE -.4463 RRA -1.0523 RC3 1.3561 FAU .17716
 FDE 2.5086 FRA 7.3725 FC3-8.5271 BSP 4209
 BDE .6150 BRA 1.0689 BC3 1.6610 FSP 2458

MID-COURSE EXECUTION ACCURACY
 SGT 1061.6 SGR 2457.2 SG3 1439.0
 RRT -.5240 RRF -.9981 RTF .5306
 SGB 2676.7 R23 .0808 R13 -.9949
 SGI 2528.3 SG2 878.7 THA 104.55

ORBIT DETERMINATION ACCURACY
 ST 29.1 SR 43.5 SS 84.3
 CRT .5405 CRS .9941 CST .4463
 LSA 95.8 MSA 25.8 SSA .3
 EL1 47.2 EL2 22.6 ALF 63.62

LAUNCH DATE APR 17 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 506.968

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.280 GAL -2.72 AZL 95.38 HCA 168.87 SMA 182.88 ECC .18493 INC 5.3781 V1 29.674
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.095 GAP 6.05 AZP 84.72 TAL 342.41 TAP 151.28 RCA 149.06 APO 216.70 V2 26.015
 RC 117.545 GL -43.74 GP 25.02 ZAL 117.46 ZAP 106.21 ETS 171.64 ZAE 142.25 ETE 142.25 ZAC 126.60 ETC 275.49 LVI -36.63

PLANETOCENTRIC CONIC

C3 19.111 VHL 4.372 DLA -48.70 RAL .47 RAD 6642.4 VEL 11.795 PTH 6.82 VHP 3.548 DPA 3.26 RAP 300.45 ECC 1.3145
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.55 23 34 54 1813.49 27.23 36.84 243.58 132.07 24 5 7 813.5 41.79 13.21
 48.55 23 34 54 1813.49 27.23 36.84 243.58 132.07 24 5 7 813.5 41.79 13.21
 48.55 23 34 54 1813.49 27.23 36.84 243.58 132.07 24 5 7 813.5 41.79 13.21
 48.55 23 34 54 1813.49 27.23 36.84 243.58 132.07 24 5 7 813.5 41.79 13.21
 48.55 23 34 54 1813.49 27.23 36.84 243.58 132.07 24 5 7 813.5 41.79 13.21
 48.55 23 34 54 1813.49 27.23 36.84 243.58 132.07 24 5 7 813.5 41.79 13.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4150 TRA .2918 TC3-1.0056 BAU .4437 SGT 1185.1 SGR 2724.8 SG3 1407.9 ST 28.6 SR 49.0 SS 85.6
 RDE -.5235 RRA-1.1726 RC3 1.4157 FAU .17490 RRT -.6392 RRF -.9987 RTF .6445 CRT .4478 CRS .9965 CST .3714
 FDE 2.7173 FRA 7.2085 FC3-7.9230 BSP 4703 SGB 2971.4 R23 .0870 R13 -.9950 LSA 99.2 MSA 26.4 SSA .3
 BDE .6680 BRA 1.2084 BC3 1.7365 FSP 2404 SG1 2839.8 SG2 874.5 THA 107.22 EL1 51.2 EL2 24.5 ALF 70.81

LAUNCH DATE APR 17 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

DISTANCE 511.141

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.274 GAL -2.74 AZL 95.84 HCA 170.09 SMA 182.79 ECC .18460 INC 5.8409 V1 29.674
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.054 GAP 5.85 AZP 84.25 TAL 342.26 TAP 152.34 RCA 149.05 APO 216.53 V2 25.986
 RC 119.734 GL -46.25 GP 27.76 ZAL 116.49 ZAP 103.90 ETS 171.91 ZAE 139.18 ETE 141.91 ZAC 129.41 ETC 275.43 LVI -38.75

PLANETOCENTRIC CONIC

C3 20.627 VHL 4.542 DLA -50.57 RAL 3.11 RAD 6643.1 VEL 11.859 PTH 6.87 VHP 3.607 DPA 5.76 RAP 299.04 ECC 1.3395
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.16 23 37 40 1850.19 27.20 40.51 248.10 134.43 24 8 30 850.2 42.64 17.54
 46.16 23 37 40 1850.19 27.20 40.51 248.10 134.43 24 8 30 850.2 42.64 17.54
 46.16 23 37 40 1850.19 27.20 40.51 248.10 134.43 24 8 30 850.2 42.64 17.54
 46.16 23 37 40 1850.19 27.20 40.51 248.10 134.43 24 8 30 850.2 42.64 17.54
 46.16 23 37 40 1850.19 27.20 40.51 248.10 134.43 24 8 30 850.2 42.64 17.54
 46.16 23 37 40 1850.19 27.20 40.51 248.10 134.43 24 8 30 850.2 42.64 17.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3988 TRA .4044 TC3-1.0317 BAU .4919 SGT 1332.8 SGR 3034.5 SG3 1355.7 ST 27.9 SR 56.4 SS 87.5
 RDE -.6423 RRA-1.3134 RC3 1.4550 FAU .16901 RRT -.7235 RRF -.9992 RTF .7275 CRT .3463 CRS .9981 CST .2879
 FDE 3.0018 FRA 6.9466 FC3-7.0933 BSP 5333 SGB 3314.3 R23 .0875 R13 -.9954 LSA 104.4 MSA 26.7 SSA .2
 BDE .7561 BRA 1.3743 BC3 1.7636 FSP 2334 SG1 3197.2 SG2 873.3 THA 109.11 EL1 57.4 EL2 25.7 ALF 77.77

LAUNCH DATE APR 17 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

DISTANCE 515.315

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.269 GAL -2.76 AZL 96.43 HCA 171.30 SMA 182.71 ECC .18435 INC 6.4288 V1 29.674
 RP 211.33 LAP -.97 LOP 17.70 VP 23.013 GAP 5.65 AZP 83.84 TAL 342.09 TAP 153.39 RCA 149.03 APO 216.39 V2 25.957
 RC 121.945 GL -49.18 GP 30.90 ZAL 115.29 ZAP 101.60 ETS 172.26 ZAE 135.82 ETE 141.39 ZAC 132.71 ETC 275.41 LVI -41.27

PLANETOCENTRIC CONIC

C3 22.745 VHL 4.769 DLA -52.68 RAL 6.47 RAD 6644.0 VEL 11.947 PTH 6.95 VHP 3.708 DPA 8.75 RAP 297.54 ECC 1.3743
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.51 23 42 54 1892.41 26.91 44.62 253.70 137.17 24 14 26 892.4 43.35 22.60
 43.51 23 42 54 1892.41 26.91 44.62 253.70 137.17 24 14 26 892.4 43.35 22.60
 43.51 23 42 54 1892.41 26.91 44.62 253.70 137.17 24 14 26 892.4 43.35 22.60
 43.51 23 42 54 1892.41 26.91 44.62 253.70 137.17 24 14 26 892.4 43.35 22.60
 43.51 23 42 54 1892.41 26.91 44.62 253.70 137.17 24 14 26 892.4 43.35 22.60
 43.51 23 42 54 1892.41 26.91 44.62 253.70 137.17 24 14 26 892.4 43.35 22.60

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3724 TRA .5209 TC3-1.0392 BAU .5529 SGT 1499.5 SGR 3375.7 SG3 1268.9 ST 27.2 SR 65.5 SS 88.8
 RDE -.8148 RRA-1.4636 RC3 1.4919 FAU .18202 RRT -.7837 RRF -.9995 RTF .1.66 CRT .2342 CRS .9991 CST .1918
 FDE 3.3097 FRA 6.4874 FC3-6.1668 BSP 5935 SGB 3693.7 R23 .0853 R13 -.9950 LSA 110.5 MSA 26.7 SSA .2
 BDE .8959 BRA 1.5335 BC3 1.8181 FSP 2168 SG1 3588.3 SG2 876.3 THA 110.47 EL1 65.9 EL2 28.3 ALF 83.37

LAUNCH DATE APR 17 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

DISTANCE 519.490

EARTH TO MARS

RL 150.16 LAL .00 LOL 206.34 VL 32.265 GAL -2.78 AZL 97.20 HCA 172.51 SMA 182.64 ECC .18416 INC 7.2037 V1 29.674
 RP 211.60 LAP -.94 LOP 18.91 VP 22.973 GAP 5.45 AZP 82.86 TAL 341.92 TAP 154.43 RCA 149.01 APO 216.28 V2 25.928
 RC 124.177 GL -52.66 GP 34.82 ZAL 113.79 ZAP 99.31 ETS 172.73 ZAE 132.11 ETE 140.70 ZAC 136.61 ETC 275.47 LVI -44.27

PLANETOCENTRIC CONIC

C3 25.842 VHL 5.084 DLA -55.05 RAL 10.88 RAD 6645.3 VEL 12.075 PTH 7.06 VHP 3.873 DPA 12.34 RAP 295.94 ECC 1.4253
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.57 23 51 59 1942.17 26.17 49.22 260.78 140.34 24 24 21 942.2 43.76 28.54
 40.57 23 51 59 1942.17 26.17 49.22 260.78 140.34 24 24 21 942.2 43.76 28.54
 40.57 23 51 59 1942.17 26.17 49.22 260.78 140.34 24 24 21 942.2 43.76 28.54
 40.57 23 51 59 1942.17 26.17 49.22 260.78 140.34 24 24 21 942.2 43.76 28.54
 40.57 23 51 59 1942.17 26.17 49.22 260.78 140.34 24 24 21 942.2 43.76 28.54
 40.57 23 51 59 1942.17 26.17 49.22 260.78 140.34 24 24 21 942.2 43.76 28.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3141 TRA .6503 TC3-1.0113 BAU .6235 SGT 1679.2 SGR 3765.5 SG3 1146.8 ST 26.2 SR 78.5 SS 90.8
 RDE -1.0992 RRA-1.6338 RC3 1.4947 FAU .15044 RRT -.8283 RRF -.9997 RTF .8305 CRT .0814 CRS .9996 CST .0535
 FDE 3.7142 FRA 5.8476 FC3-5.0398 BSP 6648 SGB 4122.9 R23 .0807 R13 -.9964 LSA 120.1 MSA 26.1 SSA .1
 BDE 1.1432 BRA 1.7584 BC3 1.8047 FSP 1952 SG1 4028.0 SG2 879.5 THA 111.34 EL1 78.6 EL2 26.1 ALF 88.25

LAUNCH DATE APR 17 1971 FLIGHT TIME 216.00 ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC DISTANCE 523.863 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.261 GAL -2.81 AZL 98.27 HCA 173.71 SMA 182.59 ECC .18403 INC 8.2706 V1 29.674
 RP 211.87 LAP -.90 LOP 20.12 VP 22.934 GAP 5.23 AZP 81.78 TAL 341.74 TAP 155.45 RCA 148.98 APO 216.19 V2 25.896
 RC 126.431 GL -56.83 GP 39.38 ZAL 111.89 ZAP 97.06 ETS 173.38 ZAE 127.97 ETE 139.88 ZAC 141.23 ETC 275.66 LVI -47.83

PLANETOCENTRIC CONIC
 C3 30.675 VHL 5.538 DLA -57.66 RAL 16.91 RAD 6647.3 VEL 12.272 PTH 7.21 VHP 4.142 DPA 16.67 RAP 294.22 ECC 1.5048
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.41 0 11 18 2002.59 24.70 54.29 269.96 143.93 0 44 41 1002.6 43.55 35.46
 37.41 0 11 18 2002.59 24.70 54.29 269.96 143.93 0 44 41 1002.6 43.55 35.46
 37.41 0 11 18 2002.59 24.70 54.29 269.96 143.93 0 44 41 1002.6 43.55 35.46
 37.41 0 11 18 2002.59 24.70 54.29 269.96 143.93 0 44 41 1002.6 43.55 35.46
 37.41 0 11 18 2002.59 24.70 54.29 269.96 143.93 0 44 41 1002.6 43.55 35.46
 37.41 0 11 18 2002.59 24.70 54.29 269.96 143.93 0 44 41 1002.6 43.55 35.46

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1932 TRA .7900 TC3 -.9498 BAU .7136 SGT 1865.6 SGR 4198.1 SG3 980.2 ST 25.0 SR 97.5 SS 93.1
 RDE -1.5854 RRA -1.8155 RC3 1.4579 FAU .13436 RRT -.8599 RRF -.9998 RTF .8613 CRT -.1602 CRS .9999 CST -.1761
 FDE 4.1871 FRA 4.9678 FC3 -3.7920 BSP 7385 SGB 4594.0 R23 .0753 R13 -.9970 LSA 134.9 MSA 24.7 S8A .1
 BDE 1.5971 BRA 1.9799 BC3 1.7400 FSP 1655 SGI 4507.5 SG2 887.0 THA 111.80 EL1 97.6 EL2 24.7 ALF 92.52

LAUNCH DATE APR 17 1971 FLIGHT TIME 218.00 ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC DISTANCE 527.833 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.259 GAL -2.84 AZL 99.84 HCA 174.91 SMA 182.54 ECC .18397 INC 9.8346 V1 29.674
 RP 212.14 LAP -.87 LOP 21.32 VP 22.894 GAP 5.05 AZP 80.20 TAL 341.55 TAP 156.46 RCA 148.96 APO 216.13 V2 25.864
 RC 128.706 GL -61.90 GP 44.79 ZAL 109.48 ZAP 94.92 ETS 174.19 ZAE 123.34 ETE 139.02 ZAC 146.69 ETC 276.08 LVI -51.96

PLANETOCENTRIC CONIC
 C3 38.929 VHL 6.239 DLA -60.35 RAL 25.52 RAD 6650.3 VEL 12.602 PTH 7.46 VHP 4.597 DPA 21.83 RAP 292.34 ECC 1.6407
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 34.18 0 37 22 2078.42 22.01 59.68 282.20 147.75 1 12 0 1078.4 42.15 43.22
 34.18 0 37 22 2078.42 22.01 59.68 282.20 147.75 1 12 0 1078.4 42.15 43.22
 34.18 0 37 22 2078.42 22.01 59.68 282.20 147.75 1 12 0 1078.4 42.15 43.22
 34.18 0 37 22 2078.42 22.01 59.68 282.20 147.75 1 12 0 1078.4 42.15 43.22
 34.18 0 37 22 2078.42 22.01 59.68 282.20 147.75 1 12 0 1078.4 42.15 43.22
 34.18 0 37 22 2078.42 22.01 59.68 282.20 147.75 1 12 0 1078.4 42.15 43.22

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE .0850 TRA .9550 TC3 -.8403 BAU .8254 SGT 2061.1 SGR 4688.6 SG3 769.4 ST 26.9 SR 127.4 SS 95.9
 RDE -2.4919 RRA -2.0108 RC3 1.3449 FAU .11112 RRT -.8852 RRF -.9999 RTF .8863 CRT -.5654 CRS 1.0000 CST -.5722
 FDE 4.6819 FRA 3.8586 FC3 -2.4712 BSP 8334 SGB 5121.7 R23 .0688 R13 -.9975 LSA 160.0 MSA 22.1 S8A .1
 BDE 2.4933 BRA 2.2260 BC3 1.5858 FSP 1309 SGI 5043.5 SG2 891.2 THA 111.99 EL1 128.3 EL2 22.0 ALF 97.02

LAUNCH DATE APR 17 1971 FLIGHT TIME 234.00 ARRIVAL DATE DEC 7 1971

HELIOCENTRIC CONIC DISTANCE 561.471 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.260 GAL -3.20 AZL 82.58 HCA 184.55 SMA 182.56 ECC .18583 INC 7.4177 V1 29.674
 RP 214.55 LAP -.59 LOP 30.85 VP 22.587 GAP 3.60 AZP 97.40 TAL 339.29 TAP 163.84 RCA 148.64 APO 216.49 V2 25.591
 RC 147.555 GL 52.23 GP -47.39 ZAL 115.76 ZAP 84.80 ETS 173.08 ZAE 112.58 ETE 207.04 ZAC 55.04 ETC 272.11 LVI 33.88

PLANETOCENTRIC CONIC
 C3 27.682 VHL 5.261 DLA 40.40 RAL 319.72 RAD 6646.1 VEL 12.150 PTH 7.12 VHP 4.871 DPA -69.11 RAP 314.05 ECC 1.4556
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 34 39 4115.25 -39.73 183.42 219.23 61.31 12 43 14 3115.3 -47.34 151.51
 59.85 9 38 18 4431.67 -19.74 196.84 204.80 54.01 10 52 10 3431.7 -32.68 174.12
 59.85 9 38 18 4431.67 -19.74 196.84 204.80 54.01 10 52 10 3431.7 -32.68 174.12
 59.85 9 38 18 4431.67 -19.74 196.84 204.80 54.01 10 52 10 3431.7 -32.68 174.12
 59.85 9 38 18 4431.67 -19.74 196.84 204.80 54.01 10 52 10 3431.7 -32.68 174.12
 59.85 9 38 18 4431.67 -19.74 196.84 204.80 54.01 10 52 10 3431.7 -32.68 174.12
 59.85 9 38 18 4431.67 -19.74 196.84 204.80 54.01 10 52 10 3431.7 -32.68 174.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 2.7010 TRA 1.0753 TC3 -1.8361 BAU .9342 SGT 3840.4 SGR 4892.6 SG3 653.3 ST 148.9 SR 170.6 SS 107.9
 RDE 3.0100 RRA 2.1969 RC3 -1.7324 FAU .08938 RRT .9577 RRF .9998 RTF .547 CRT .9923 CRS -.9999 CST -.9908
 FDE 4.5088 FRA 3.4557 FC3 -2.7954 BSP 10222 SGB 6219.8 R23 .1191 R13 .9925 LSA 250.3 MSA 15.4 S8A .1
 BDE 4.0442 BRA 2.4459 BC3 2.5244 FSP 1140 SGI 6157.5 SG2 878.4 THA 52.16 EL1 226.0 EL2 13.9 ALF 48.91

LAUNCH DATE APR 17 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC DISTANCE 565.634 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.263 GAL -3.25 AZL 84.48 HCA 185.71 SMA 182.61 ECC .18626 INC 5.5381 V1 29.674
 RP 214.88 LAP -.55 LOP 32.03 VP 22.549 GAP 3.42 AZP 95.51 TAL 339.01 TAP 164.72 RCA 148.59 APO 216.62 V2 25.554
 RC 149.988 GL 43.06 GP -41.68 ZAL 120.54 ZAP 82.77 ETS 172.38 ZAE 113.76 ETE 203.24 ZAC 60.77 ETC 271.79 LVI 28.99

PLANETOCENTRIC CONIC
 C3 20.740 VHL 4.554 DLA 31.94 RAL 324.20 RAD 6643.2 VEL 11.864 PTH 6.88 VHP 4.288 DPA -63.99 RAP 307.51 ECC 1.3413
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 57 42 3815.03 -46.71 158.14 213.51 79.69 14 1 17 2815.0 -45.36 123.11
 60.00 12 47 6 3843.32 -37.79 157.96 210.79 74.82 13 51 9 2843.3 -40.00 127.04
 70.00 12 21 46 3918.25 -27.66 160.08 206.87 69.12 13 27 4 2918.3 -33.65 133.02
 74.50 11 17 49 4116.82 -18.21 170.77 202.36 63.30 12 26 26 3116.8 -27.62 146.80
 74.50 11 17 49 4116.82 -18.21 170.77 202.36 63.30 12 26 26 3116.8 -27.62 146.80
 74.50 11 17 49 4116.82 -18.21 170.77 202.36 63.30 12 26 26 3116.8 -27.62 146.80
 110.00 17 21 13 2965.07 -27.66 89.00 206.87 69.12 18 10 38 1965.1 -33.65 61.94

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 2.1872 TRA 1.2865 TC3 -2.4652 BAU .8721 SGT 4031.3 SGR 4410.3 SG3 886.0 ST 140.6 SR 141.7 SS 118.2
 RDE 2.1342 RRA 2.0320 RC3 -1.9536 FAU .11285 RRT .9635 RRF .9996 RTF .9614 CRT .9928 CRS -.9999 CST -.9908
 FDE 4.7788 FRA 4.7983 FC3 -4.7106 BSP 9793 SGB 5975.1 R23 .1288 R13 .9913 LSA 231.5 MSA 14.2 S8A .2
 BDE 3.0559 BRA 2.4050 BC3 3.1454 FSP 1541 SGI 5920.7 SG2 804.4 THA 47.67 EL1 199.2 EL2 11.9 ALF 45.23

LAUNCH DATE APR 17 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC										DISTANCE 569.800										EARTH TO MARS																																																																														
RL	150.16	LAL	.00	LOL	206.34	VL	32.266	GAL	-3.31	AZL	85.70	HCA	186.88	SMA	182.65	ECC	.18673	INC	4.2980	V1	29.674	RP	215.21	LAP	-.51	LOP	33.20	VP	22.512	GAP	3.25	AZP	94.27	TAL	338.71	TAP	165.58	RCA	148.55	APO	216.76	V2	25.518	RC	152.438	GL	35.45	GP	-36.84	ZAL	124.26	ZAP	80.73	ETS	171.87	ZAE	114.18	ETE	199.82	ZAC	65.64	ETC	271.55	LVI	24.82																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																														
C3	17.335	VHL	4.184	DLA	24.93	RAL	327.62	RAD	6641.6	VEL	11.720	PTH	6.75	VMP	3.948	DPA	-59.51	RAP	303.40	ECC	1.2853	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	13	49	34	3611.89	-47.40	138.86	206.18	94.65	14	49	45	2611.9	-40.09	106.50	ST	133.9	SR	119.4	SS	122.6	60.00	13	56	50	3592.50	-40.28	137.20	206.46	88.65	14	56	43	2592.5	-36.41	106.79	CRT	.9940	CRS	-.9998	CST	-.9913	70.00	14	9	8	3556.26	-33.61	133.70	205.90	83.56	15	8	24	2556.3	-32.77	104.99	LSA	216.9	MSA	12.9	SSA	.2	80.00	14	34	15	3477.45	-28.12	126.78	204.95	79.53	15	32	12	2477.4	-29.66	99.47	EL1	179.1	EL2	9.8	ALF	41.70	90.00	15	32	57	3287.86	-25.70	112.32	204.40	77.77	16	27	45	2287.9	-28.27	85.60
100.00	17	17	7	2951.92	-28.12	88.15	204.95	79.53	18	6	19	1951.9	-29.66	60.83	TDE	1.8827	TRA	1.4753	TC3	-2.9999	BAU	.8357																																																																												
110.00	19	8	34	2603.08	-33.61	62.62	205.90	83.56	19	51	57	1603.1	-32.77	33.91	RDE	1.6214	RRA	1.8636	RC3	-2.0010	FAU	.12983																																																																												

LAUNCH DATE APR 17 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC										DISTANCE 573.967										EARTH TO MARS																																																																														
RL	150.16	LAL	.00	LOL	206.34	VL	32.269	GAL	-3.36	AZL	86.58	HCA	188.04	SMA	182.71	ECC	.18726	INC	3.4185	V1	29.674	RP	215.34	LAP	-.48	LOP	34.37	VP	22.475	GAP	3.07	AZP	93.39	TAL	338.39	TAP	166.43	RCA	148.49	APO	216.92	V2	25.480	RC	154.904	GL	29.19	GP	-32.78	ZAL	127.09	ZAP	78.72	ETS	171.55	ZAE	114.02	ETE	196.85	ZAC	69.72	ETC	271.35	LVI	21.34																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																														
C3	15.515	VHL	3.939	DLA	19.20	RAL	330.32	RAD	6640.8	VEL	11.643	PTH	6.68	VMP	3.737	DPA	-55.71	RAP	300.56	ECC	1.2553	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	14	26	37	3463.62	-45.65	124.81	201.00	105.18	15	24	21	2463.6	-34.81	96.27	ST	128.5	SR	101.8	SS	123.6	60.00	14	43	31	3418.62	-39.53	122.51	202.75	98.58	15	40	30	2418.6	-31.88	94.28	CRT	.9954	CRS	-.9996	CST	-.9922	70.00	15	9	16	3342.80	-34.01	117.09	203.47	93.35	16	4	59	2342.8	-29.11	89.47	LSA	205.0	MSA	11.5	SSA	.3	80.00	15	51	47	3209.54	-29.86	107.12	203.60	89.69	16	45	16	2209.5	-26.95	80.07	EL1	163.8	EL2	7.6	ALF	38.37	90.00	17	1	17	2985.17	-28.23	90.60	203.56	88.31	17	51	2	1985.2	-26.00	63.80
100.00	18	34	39	2684.01	-29.86	68.49	203.60	89.69	19	19	23	1684.0	-26.95	41.44	TDE	1.6868	TRA	1.6446	TC3	-3.4384	BAU	.8198																																																																												
110.00	20	8	43	2389.62	-34.01	46.01	203.47	93.35	20	48	32	1389.6	-29.11	18.39	RDE	1.2919	RRA	1.6974	RC3	-1.9486	FAU	.14242																																																																												

LAUNCH DATE APR 17 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC										DISTANCE 578.134										EARTH TO MARS																																																																														
RL	150.16	LAL	.00	LOL	206.34	VL	32.273	GAL	-3.42	AZL	87.24	HCA	189.20	SMA	182.77	ECC	.18783	INC	2.7608	V1	29.674	RP	215.87	LAP	-.44	LOP	35.33	VP	22.437	GAP	2.90	AZP	92.73	TAL	338.07	TAP	167.27	RCA	148.44	APO	217.10	V2	25.443	RC	157.385	GL	24.06	GP	-29.36	ZAL	129.23	ZAP	76.77	ETS	171.35	ZAE	113.45	ETE	194.31	ZAC	73.13	ETC	271.19	LVI	18.43																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																														
C3	14.300	VHL	3.808	DLA	14.52	RAL	332.54	RAD	6640.3	VEL	11.600	PTH	6.64	VMP	3.602	DPA	-52.50	RAP	298.45	ECC	1.2386	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	14	54	52	3351.65	-43.20	115.16	197.96	112.27	15	50	44	2351.6	-30.24	89.49	ST	123.7	SR	87.7	SS	122.2	60.00	15	18	8	3289.73	-37.70	112.06	200.43	103.45	16	12	57	2289.7	-27.72	85.91	CRT	.9970	CRS	-.9992	CST	-.9932	70.00	15	51	46	3190.73	-32.79	105.40	201.80	100.15	16	44	56	2190.7	-25.35	79.25	LSA	194.5	MSA	10.2	SSA	.4	80.00	16	42	35	3031.40	-29.19	93.94	202.41	96.58	17	33	7	2031.5	-23.56	67.94	EL1	151.6	EL2	5.5	ALF	35.31	90.00	17	56	12	2793.87	-27.82	76.64	202.58	95.27	18	42	46	1793.9	-22.87	50.72
100.00	19	25	27	2505.95	-29.19	55.31	202.41	96.58	20	7	13	1306.0	-23.56	29.31	TDE	1.5469	TRA	1.7928	TC3	-3.8146	BAU	.3223																																																																												
110.00	20	51	12	2237.55	-32.79	34.32	201.80	100.15	21	28	30	1237.6	-25.35	8.17	RDE	1.0637	RRA	1.5394	RC3	-1.8531	FAU	.15266																																																																												

LAUNCH DATE APR 17 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC										DISTANCE 582.300										EARTH TO MARS																																																																														
RL	150.16	LAL	.00	LOL	206.34	VL	32.277	GAL	-3.48	AZL	87.75	HCA	190.36	SMA	182.84	ECC	.18845	INC	2.2517	V1	29.674	RP	216.21	LAP	-.41	LOP	36.69	VP	22.400	GAP	2.73	AZP	92.22	TAL	337.74	TAP	168.09	RCA	148.38	APO	217.29	V2	25.405	RC	159.881	GL	19.83	GP	-28.52	ZAL	130.86	ZAP	74.89	ETS	171.22	ZAE	112.59	ETE	192.16	ZAC	76.01	ETC	271.04	LVI	15.99																																	
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																														
C3	13.933	VHL	3.733	DLA	10.70	RAL	334.41	RAD	6640.0	VEL	11.576	PTH	6.62	VMP	3.513	DPA	-49.79	RAP	296.81	ECC	1.2293	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG																																																			
50.00	15	17	16	3265.18	-40.74	108.32	196.38	117.08	16	11	41	2265.2	-26.47	84.72	ST	120.6	SR	76.5	SS	119.8	60.00	15	45	10	3190.96	-35.63	104.49	199.23	110.22	16	38	21	2191.0	-24.16	79.98	CRT	.9984	CRS	-.9987	CST	-.9943	70.00	16	24	14	3075.99	-31.09	96.89	200.95	104.91	17	15	30	2076.0	-22.01	72.01	LSA	186.2	MSA	9.1	SSA	.5	80.00	17	20	22	2900.15	-27.79	84.44	201.83	101.38	18	8	42	1900.2	-20.41	59.46	EL1	142.8	EL2	3.7	ALF	32.38	90.00	18	36	26	2654.65	-26.55	66.66	202.10	100.11	19	20	41	1654.7	-19.80	41.67
100.00	20	3	14	2374.62	-27.79	45.81	201.83	101.38	20	42	48	1374.6	-20.41	20.83	TDE	1.4543	TRA	1.9377	TC3	-4.1086	BAU	.8309																																																																												
110.00	21	23	40	2122.81	-31.09	25.81	200.95	104.91	21	59	3	1122.8	-22.01	.93	RDE	.9009	RRA	1.3956	RC3	-1.7374	FAU	.16051																																																																												

LAUNCH DATE APR 17 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 19 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.292 GAL -3.54 AZL 88.15 HCA 191.51 SMA 182.91 ECC .18010 INC 1.8449 V1 29.674
 RP 216.56 LAP -.37 LOP 37.85 VP 22.363 GAP 2.56 AZP 91.81 TAL 337.39 TAP 188.90 RCA 148.32 APO 217.50 V2 25.366
 RC 182.390 GL 16.32 GP -24.10 ZAL 132.15 ZAP 73.09 ETS 171.16 ZAE 111.54 ETE 190.35 ZAC 78.45 ETC 270.92 LVI 13.94

Planetocentric Conic: C3 13.635 VHL 3.693 DLA 7.57 RAL 336.03 RAD 6639.9 VEL 11.563 PTH 6.61 VHP 3.456 DPA -47.48 RAP 295.49 ECC 1.2244
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 35 34 3197.51 -38.51 103.35 195.71 120.44 16 28 52 2197.3 -23.38 81.21
 60.00 16 7 1 3113.63 -33.67 98.87 198.77 113.60 16 58 55 2113.6 -21.20 75.58
 70.00 16 50 10 2986.71 -29.35 90.53 200.71 108.31 17 39 57 1986.7 -19.17 66.64
 80.00 17 50 7 2798.91 -26.23 77.33 201.76 104.81 18 36 46 1798.9 -17.67 53.19
 90.00 19 7 54 2547.90 -25.06 59.21 202.09 103.55 19 50 22 1547.9 -17.11 35.00
 100.00 20 32 59 2273.39 -26.23 38.70 201.76 104.81 21 10 53 1273.4 -17.67 14.56
 110.00 21 49 36 2033.53 -29.35 19.44 200.71 108.31 22 23 30 1033.5 -19.17 355.56

Differential Corrections: TDE 1.3945 TRA 2.0816 TC3-4.3380 BAU .8420 SGT 5055.8 SGR 2619.6 SG3 1440.0 ST 118.8 SR 68.2 SS 118.3
 RDE .7898 RRA 1.2757 RC3-1.5887 FAU .16392 RRT .9749 RRF .9981 RTF .9751 CRT .9994 CRS -.9979 CST -.9955
 FDE 4.4312 FRA 8.3642 FC-10.4080 BSP 9419 SGB 5694.2 R23 .1676 R13 .9840 LSA 180.8 MSA 8.0 SSA .7
 BDE 1.6026 BRA 2.4414 BC3 4.6191 FSP 2558 SG1 5670.4 SG2 580.0 THA 27.05 EL1 137.0 EL2 2.0 ALF 29.86

LAUNCH DATE APR 17 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 21 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.286 GAL -3.61 AZL 88.49 HCA 192.67 SMA 182.99 ECC .18980 INC 1.5125 V1 29.674
 RP 216.91 LAP -.33 LOP 39.00 VP 22.326 GAP 2.39 AZP 91.48 TAL 337.04 TAP 169.70 RCA 148.26 APO 217.72 V2 25.327
 RC 164.912 GL 13.39 GP -22.02 ZAL 133.17 ZAP 71.35 ETS 171.13 ZAE 110.36 ETE 188.82 ZAC 80.54 ETC 270.82 LVI 12.18

Planetocentric Conic: C3 13.507 VHL 3.675 DLA 4.97 RAL 337.44 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.421 DPA -45.51 RAP 294.40 ECC 1.2223
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 50 51 3143.34 -36.58 99.63 195.60 122.85 16 43 14 2143.3 -20.86 78.55
 60.00 16 25 8 3052.12 -31.91 94.61 198.79 116.05 17 16 0 2052.1 -18.75 72.22
 70.00 17 11 28 2915.83 -27.73 85.65 200.87 110.78 18 0 4 1915.8 -16.80 62.52
 80.00 18 14 22 2718.82 -24.72 71.88 202.03 107.31 18 59 41 1718.8 -15.35 48.38
 90.00 19 33 27 2463.62 -23.59 53.47 202.40 106.06 20 14 31 1463.6 -14.81 29.89
 100.00 20 57 14 2193.29 -24.72 33.23 202.03 107.31 21 33 48 1193.3 -15.35 9.75
 110.00 22 10 54 1962.65 -27.73 14.56 200.87 110.78 22 43 37 962.6 -16.80 351.44

Differential Corrections: TDE 1.3586 TRA 2.2256 TC3-4.5163 BAU .8557 SGT 5257.0 SGR 2385.5 SG3 1472.8 ST 118.2 SR 61.7 SS 117.0
 RDE .7090 RRA 1.1710 RC3-1.4341 FAU .16485 RRT .9746 RRF .9974 RTF .9756 CRT .9999 CRS -.9969 CST -.9966
 FDE 4.3540 FRA 8.6726 FC-10.5663 BSP 9615 SGB 5772.9 R23 .1709 R13 .9828 LSA 177.3 MSA 7.2 SSA .9
 BDE 1.5325 BRA 2.5148 BC3 4.7386 FSP 2650 SG1 5752.2 SG2 488.0 THA 24.04 EL1 133.3 EL2 .9 ALF 27.58

LAUNCH DATE APR 17 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 23 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.292 GAL -3.67 AZL 88.76 HCA 193.82 SMA 183.08 ECC .19054 INC 1.2350 V1 29.674
 RP 217.26 LAP -.30 LOP 40.15 VP 22.289 GAP 2.22 AZP 91.20 TAL 336.67 TAP 170.49 RCA 148.19 APO 217.96 V2 25.288
 RC 167.446 GL 10.91 GP -20.23 ZAL 134.02 ZAP 69.68 ETS 171.13 ZAE 109.10 ETE 187.53 ZAC 82.33 ETC 270.72 LVI 10.68

Planetocentric Conic: C3 13.493 VHL 3.673 DLA 2.81 RAL 338.70 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.400 DPA -43.80 RAP 293.50 ECC 1.2221
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 3 49 3100.01 -34.95 98.79 195.82 124.61 16 55 29 2100.0 -18.81 76.48
 60.00 16 40 25 3002.63 -30.38 91.31 199.11 117.87 17 30 28 2002.6 -16.73 69.60
 70.00 17 29 20 2858.74 -26.29 81.83 201.30 112.63 18 16 59 1858.7 -14.82 59.29
 80.00 18 34 37 2654.34 -23.34 67.56 202.54 109.17 19 18 51 1654.3 -13.40 44.59
 90.00 19 54 44 2395.80 -22.24 48.96 202.94 107.93 20 34 40 1395.8 -12.86 25.86
 100.00 21 17 29 2128.81 -23.34 28.93 202.54 109.17 21 52 57 1128.8 -13.40 5.96
 110.00 22 28 47 1905.56 -26.29 10.75 201.30 112.63 23 0 32 905.6 -14.82 348.21

Differential Corrections: TDE 1.3358 TRA 2.3641 TC3-4.6684 BAU .8741 SGT 5452.9 SGR 2178.4 SG3 1490.5 ST 118.1 SR 56.3 SS 115.5
 RDE .6460 RRA 1.0754 RC3-1.2982 FAU .16517 RRT .9741 RRF .9964 RTF .9761 CRT .9995 CRS -.9955 CST -.9975
 FDE 4.2726 FRA 8.8856 FC-10.5978 BSP 9803 SGB 5872.0 R23 .1717 R13 .9818 LSA 174.4 MSA 6.6 SSA 1.1
 BDE 1.4838 BRA 2.5972 BC3 4.8455 FSP 2701 SG1 5854.0 SG2 458.9 THA 21.40 EL1 130.8 EL2 1.6 ALF 25.50

LAUNCH DATE APR 17 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 25 1971

Heliocentric Conic: RL 150.16 LAL .00 LOL 206.34 VL 32.297 GAL -3.74 AZL 89.00 HCA 194.96 SMA 183.17 ECC .19131 INC 1.0010 V1 29.674
 RP 217.61 LAP -.26 LOP 41.30 VP 22.253 GAP 2.05 AZP 90.97 TAL 336.30 TAP 171.27 RCA 148.13 APO 218.21 V2 25.249
 RC 169.992 GL 8.80 GP -18.68 ZAL 134.75 ZAP 68.07 ETS 171.15 ZAE 107.78 ETE 186.42 ZAC 83.90 ETC 270.64 LVI 9.37

Planetocentric Conic: C3 13.557 VHL 3.682 DLA 1.00 RAL 339.84 RAD 6639.8 VEL 11.559 PTH 6.60 VHP 3.391 DPA -42.31 RAP 292.73 ECC 1.2231
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 14 59 3064.94 -33.57 94.58 196.26 125.94 17 6 3 2064.9 -17.12 74.85
 60.00 16 53 30 2962.45 -29.07 88.71 199.63 119.24 17 42 53 1962.5 -15.07 67.51
 70.00 17 44 34 2812.27 -25.04 78.80 201.89 114.02 18 31 26 1812.3 -13.16 56.70
 80.00 18 51 47 2601.77 -22.12 64.14 203.20 110.58 19 35 9 1601.8 -11.76 41.55
 90.00 20 12 45 2340.50 -21.04 45.35 203.62 109.35 20 51 46 1340.5 -11.22 22.62
 100.00 21 34 39 2076.25 -22.12 25.50 203.20 110.58 22 9 15 1076.2 -11.76 2.92
 110.00 22 44 0 1859.09 -25.04 7.72 201.89 114.02 23 14 59 859.1 -13.16 345.62

Differential Corrections: TDE 1.3231 TRA 2.4993 TC3-4.7977 BAU .8957 SGT 5643.7 SGR 1992.5 SG3 1494.7 ST 118.4 SR 51.6 SS 113.2
 RDE .5933 RRA .9862 RC3-1.1852 FAU .16599 RRT .9742 RRF .9952 RTF .9774 CRT .9984 CRS -.9936 CST -.9981
 FDE 4.1648 FRA 9.0030 FC-10.5999 BSP 9979 SGB 5985.2 R23 .1665 R13 .9818 LSA 171.7 MSA 6.3 SSA 1.2
 BDE 1.4500 BRA 2.6869 BC3 4.9419 FSP 2696 SG1 5970.0 SG2 425.3 THA 19.08 EL1 129.2 EL2 2.7 ALF 23.52

LAUNCH DATE APR 17 1971 FLIGHT TIME 254.00 ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC DISTANCE 603.088 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.303 GAL -3.81 AZL 89.20 HCA 196.10 SMA 183.26 ECC .19212 INC .7993 V1 29.674
 RP 217.97 LAP -.22 LOP 42.44 VP 22.216 GAP 1.88 AZP 90.77 TAL 335.93 TAP 172.03 RCA 148.05 APO 218.47 V2 25.209
 RC 172.547 GL 6.99 GP -17.32 ZAL 135.38 ZAP 66.32 ETS 171.19 ZAE 106.44 ETE 185.49 ZAC 85.27 ETC 270.57 LVI 8.23

PLANETOCENTRIC CONIC
 C3 13.678 VHL 3.698 DLA -.53 RAL 340.88 RAD 6839.9 VEL 11.965 PTH 6.61 VMP 3.391 DPA -41.00 RAP 292.09 ECC 1.2251
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 24 42 3036.46 -32.41 92.83 196.84 126.95 17 15 19 2036.5 -15.74 73.58
 60.00 17 4 51 2929.67 -27.96 86.64 200.27 120.29 17 53 41 1929.7 -13.69 65.83
 70.00 17 57 43 2774.20 -23.96 76.37 202.60 115.10 18 43 57 1774.2 -11.79 54.61
 80.00 19 6 34 2558.60 -21.07 61.37 203.96 111.66 19 49 13 1558.6 -10.38 39.09
 90.00 20 28 15 2295.03 -19.98 42.44 204.40 110.44 21 6 30 1295.0 -9.85 19.99
 100.00 21 49 26 2033.07 -21.07 22.74 203.96 111.66 22 23 19 1033.1 -10.38 .45
 110.00 22 57 9 1821.02 -23.96 5.29 202.60 115.10 23 27 30 821.0 -11.79 343.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3193 TRA 2.6335 TC3-4.9072 BAU .9187 SGT 5830.8 SGR 1829.9 SG3 1491.4 ST 119.2 SR 47.8 SS 111.4
 RDE .5533 RRA .9079 RC3-1.0776 FAU .16534 RRT .9732 RRF .9936 RTF .9780 CRT .5964 CRS -.9913 CST -.9987
 FDE 4.0783 FRA 9.0854 FC-10.4649 BSP 10184 SGB 6111.2 R23 .1618 R13 .9815 LSA 169.9 MSA 6.3 SSA 1.3
 BDE 1.4306 BRA 2.7856 BC3 5.0241 FSP 2688 SG1 6098.0 SG2 402.3 THA 17.06 EL1 128.4 EL2 3.8 ALF 21.79

LAUNCH DATE APR 17 1971 FLIGHT TIME 256.00 ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC DISTANCE 607.233 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.309 GAL -3.89 AZL 89.37 HCA 197.24 SMA 183.36 ECC .19296 INC .6246 V1 29.674
 RP 218.33 LAP -.19 LOP 43.58 VP 22.180 GAP 1.72 AZP 90.60 TAL 335.54 TAP 172.78 RCA 147.98 APO 218.74 V2 25.189
 RC 175.114 GL 5.43 GP -16.12 ZAL 135.95 ZAP 65.03 ETS 171.24 ZAE 105.09 ETE 184.68 ZAC 86.48 ETC 270.51 LVI 7.22

PLANETOCENTRIC CONIC
 C3 13.844 VHL 3.721 DLA -1.83 RAL 341.84 RAD 6640.0 VEL 11.572 PTH 6.62 VHP 3.397 DPA -39.65 RAP 291.55 ECC 1.2278
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 33 16 3013.27 -31.46 91.45 197.51 127.74 17 23 29 2013.3 -14.62 72.50
 60.00 17 14 47 2902.84 -27.03 84.98 200.98 121.11 18 3 10 1902.8 -12.55 64.46
 70.00 18 9 10 2742.89 -23.04 74.40 203.37 115.93 18 54 53 1742.9 -10.64 52.91
 80.00 19 19 25 2522.94 -20.15 59.11 204.77 112.51 20 1 28 1522.9 -9.23 37.07
 90.00 20 41 42 2257.42 -19.07 40.06 205.23 111.28 21 19 20 1257.4 -8.69 17.83
 100.00 22 2 17 1997.41 -20.15 20.48 204.77 112.51 22 35 35 997.4 -9.23 358.43
 110.00 23 8 37 1789.70 -23.04 3.32 203.37 115.93 23 38 26 789.7 -10.64 341.83

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3263 TRA 2.7702 TC3-4.9914 BAU .9413 SGT 6015.2 SGR 1687.0 SG3 1482.4 ST 120.7 SR 44.7 SS 109.9
 RDE .5230 RRA .8387 RC3 -.9763 FAU .16337 RRT .9714 RRF .9915 RTF .9784 CRT .9936 CRS -.9886 CST -.9991
 FDE 4.0133 FRA 9.1422 FC-10.2167 BSP 10440 SGB 6247.3 R23 .1566 R13 .9812 LSA 169.1 MSA 6.4 SSA 1.4
 BDE 1.4256 BRA 2.8943 BC3 5.0860 FSP 2683 SG1 6235.4 SG2 386.1 THA 15.30 EL1 128.6 EL2 4.7 ALF 20.24

LAUNCH DATE APR 17 1971 FLIGHT TIME 258.00 ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC DISTANCE 611.376 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.315 GAL -3.96 AZL 89.53 HCA 198.38 SMA 183.47 ECC .19385 INC .4705 V1 29.674
 RP 218.69 LAP -.15 LOP 44.72 VP 22.143 GAP 1.55 AZP 90.45 TAL 335.15 TAP 173.33 RCA 147.90 APO 219.03 V2 25.129
 RC 177.690 GL 4.07 GP -15.05 ZAL 136.47 ZAP 63.60 ETS 171.30 ZAE 103.74 ETE 183.99 ZAC 87.55 ETC 270.48 LVI 6.31

PLANETOCENTRIC CONIC
 C3 14.043 VHL 3.747 DLA -2.93 RAL 342.74 RAD 6640.1 VEL 11.580 PTH 6.62 VHP 3.409 DPA -38.82 RAP 291.10 ECC 1.2311
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 40 52 2994.41 -30.67 90.35 198.23 128.34 17 30 46 1994.4 -13.69 71.66
 60.00 17 23 33 2880.86 -26.25 83.65 201.76 121.75 18 11 34 1880.9 -11.62 63.37
 70.00 18 19 15 2717.07 -22.27 72.80 204.19 116.59 19 4 32 1717.1 -9.69 51.51
 80.00 19 30 42 2493.40 -19.37 57.27 205.63 113.17 20 12 15 1493.4 -8.26 35.40
 90.00 20 53 30 2226.21 -18.29 38.10 206.11 111.95 21 30 36 1226.2 -7.72 16.05
 100.00 22 13 33 1967.87 -19.37 18.63 205.63 113.17 22 46 21 967.9 -8.26 356.77
 110.00 23 18 42 1763.89 -22.27 1.72 204.19 116.59 23 48 5 763.9 -9.69 340.43

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3375 TRA 2.9042 TC3-5.0677 BAU .9659 SGT 6195.0 SGR 1599.3 SG3 1467.7 ST 122.2 SR 42.0 SS 106.4
 RDE .4982 RRA .7750 RC3 -.8885 FAU .16145 RRT .9692 RRF .9890 RTF .5.88 CRT .9899 CRS -.9853 CST -.9994
 FDE 3.9457 FRA 9.1570 FC3-9.9531 BSP 10682 SGB 6388.2 R23 .1497 R13 .9810 LSA 168.5 MSA 6.7 SSA 1.5
 BDE 1.4273 BRA 3.0059 BC3 5.1450 FSP 2660 SG1 6377.3 SG2 372.9 THA 13.78 EL1 129.1 EL2 5.7 ALF 18.84

LAUNCH DATE APR 17 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC DISTANCE 615.514 EARTH TO MARS
 RL 150.16 LAL .00 LOL 206.34 VL 32.322 GAL -4.04 AZL 89.68 HCA 199.51 SMA 183.57 ECC .19476 INC .3346 V1 29.674
 RP 219.08 LAP -.11 LOP 45.85 VP 22.107 GAP 1.38 AZP 90.32 TAL 334.75 TAP 174.26 RCA 147.82 APO 219.33 V2 25.089
 RC 180.275 GL 2.88 GP -14.10 ZAL 136.95 ZAP 62.22 ETS 171.37 ZAE 102.39 ETE 183.39 ZAC 88.50 ETC 270.42 LVI 5.50

PLANETOCENTRIC CONIC
 C3 14.269 VHL 3.777 DLA -3.88 RAL 343.57 RAD 6640.2 VEL 11.590 PTH 6.63 VHP 3.425 DPA -37.90 RAP 290.72 ECC 1.2348
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 47 40 2979.14 -30.02 89.47 199.00 128.82 17 37 19 1979.1 -12.94 70.88
 60.00 17 31 22 2862.90 -25.60 82.57 202.56 122.25 18 19 4 1862.9 -10.85 62.48
 70.00 18 28 11 2695.81 -21.61 71.50 205.04 117.11 19 13 7 1695.8 -8.90 50.37
 80.00 19 40 39 2468.93 -18.71 55.75 206.51 113.70 20 21 48 1468.9 -7.46 34.03
 90.00 21 3 54 2200.30 -17.62 36.49 207.00 112.48 21 40 34 1200.3 -6.91 14.58
 100.00 22 23 31 1943.40 -18.71 17.12 206.51 113.70 22 55 54 943.4 -7.46 355.40
 110.00 23 27 37 1742.63 -21.61 .42 205.04 117.11 23 56 40 742.6 -8.90 339.29

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3558 TRA 3.0401 TC3-5.1267 BAU .9901 SGT 6371.1 SGR 1445.8 SG3 1449.4 ST 124.1 SR 39.8 SS 107.0
 RDE .4789 RRA .7176 RC3 -.8079 FAU .15877 RRT .9662 RRF .9858 RTF .9790 CRT .9853 CRS -.9815 CST -.9996
 FDE 3.8899 FRA 9.1531 FC3-9.6330 BSP 10951 SGB 6533.1 R23 .1426 R13 .9808 LSA 168.5 MSA 7.2 SSA 1.5
 BDE 1.4379 BRA 3.1236 BC3 5.1899 FSP 2634 SG1 6522.9 SG2 364.1 THA 12.41 EL1 130.2 EL2 6.5 ALF 17.60

LAUNCH DATE APR 17 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.329 GAL -4.12 AZL 89.76 HCA 200.63 SMA 183.69 ECC .19571 INC .2126 V1 29.674
RP 219.43 LAP -.08 LOP 46.97 VP 22.071 GAP 1.22 AZP 90.20 TAL 334.35 TAP 174.98 RCA 147.74 APO 219.63 V2 25.048
RC 182.871 GL 1.83 GP -13.25 ZAL 137.42 ZAP 60.89 ETS 171.44 ZAE 101.06 ETE 182.67 ZAC 89.35 ETC 270.39 LVI 4.77

DISTANCE 619.648

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.519 VHL 3.810 DLA -4.69 RAL 344.36 RAD 6640.3 VEL 11.601 PTH 6.84 VHP 3.445 DPA -37.07 RAP 290.42 ECC 1.2389
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 53 47 2966.85 -29.49 88.78 199.78 129.19 17 43 14 1966.9 -12.34 70.44
60.00 17 38 21 2848.31 -25.07 81.70 203.38 122.65 18 25 49 1848.3 -10.22 61.76
70.00 18 36 9 2678.36 -21.07 70.44 205.90 117.52 19 20 47 1678.4 -8.25 49.44
80.00 19 49 30 2448.71 -18.15 54.51 207.40 114.12 20 30 18 1446.7 -6.79 32.91
90.00 21 13 8 2178.82 -17.06 35.17 207.90 112.90 21 49 27 1178.8 -6.24 13.37
100.00 22 32 22 1923.18 -18.15 15.88 207.40 114.12 23 4 25 923.2 -6.79 354.27
110.00 23 35 35 1725.18 -21.07 359.36 205.90 117.52 24 4 20 725.2 -8.25 338.36

DIFFERENTIAL CORRECTIONS

TDE 1.3778 TRA 3.1759 TC3-5.1767 BAU 1.0149
RDE .4834 RRA .6651 RC3 -.7362 FAU .15587
FDE 3.8347 FRA 9.1284 FC3-9.2940 BSP 11213
BDE 1.4536 BRA 3.2448 BC3 5.2288 FSP 2599

MID-COURSE EXECUTION ACCURACY

SGT 6543.3 SGR 1344.5 SG3 1427.8
RRT .9623 RRF .9818 RTF .9792
SGB 6680.0 R23 .1349 R13 .9807
SG1 6670.4 SG2 358.5 THA 11.22

ORBIT DETERMINATION ACCURACY

ST 126.2 SR 38.0 SS 105.6
CRT .9800 CR8 -.9772 CST -.9997
LSA 168.7 MSA 7.6 SSA 1.5
EL1 131.6 EL2 7.2 ALF 16.47

LAUNCH DATE APR 17 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.336 GAL -4.20 AZL 89.89 HCA 201.76 SMA 183.80 ECC .19669 INC .1028 V1 29.674
RP 219.80 LAP -.04 LOP 48.10 VP 22.035 GAP 1.05 AZP 90.10 TAL 333.94 TAP 175.70 RCA 147.65 APO 219.95 V2 23.007
RC 185.475 GL .90 GP -12.48 ZAL 137.86 ZAP 59.61 ETS 171.52 ZAE 99.75 ETE 182.41 ZAC 90.12 ETC 270.37 LVI 4.10

DISTANCE 623.778

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.789 VHL 3.846 DLA -5.38 RAL 345.11 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.467 DPA -36.32 RAP 290.18 ECC 1.2434
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 59 19 2957.10 -29.07 88.23 200.58 129.48 17 48 36 1957.1 -11.86 70.01
60.00 17 44 38 2836.56 -24.64 81.01 204.22 122.96 18 31 55 1836.6 -9.72 61.18
70.00 18 43 16 2664.15 -20.62 69.58 206.77 117.85 19 27 41 1664.2 -7.72 48.68
80.00 19 57 24 2432.09 -17.69 53.50 208.30 114.45 20 37 56 1432.1 -6.24 31.98
90.00 21 21 23 2161.12 -16.58 34.08 208.81 113.24 21 57 24 1161.1 -5.67 12.37
100.00 22 40 16 1906.56 -17.69 14.86 208.30 114.45 23 12 2 906.6 -6.24 353.35
110.00 23 42 43 1710.97 -20.62 358.50 206.77 117.85 24 11 14 711.0 -7.72 337.60

DIFFERENTIAL CORRECTIONS

TDE 1.4048 TRA 3.3128 TC3-5.2163 BAU 1.0398
RDE .4514 RRA .6171 RC3 -.6714 FAU .15261
FDE 3.7860 FRA 9.0886 FC3-8.9339 BSP 11492
BDE 1.4753 BRA 3.3696 BC3 5.2593 FSP 2565

MID-COURSE EXECUTION ACCURACY

SGT 6712.0 SGR 1253.7 SG3 1404.0
RRT .9575 RRF .9770 RTF .9792
SGB 6828.0 R23 .1274 R13 .9805
SG1 6818.8 SG2 356.0 THA 10.17

ORBIT DETERMINATION ACCURACY

ST 128.5 SR 36.4 SS 104.4
CRT .9740 CR8 -.9724 CST -.9998
LSA 169.3 MSA 8.2 SSA 1.4
EL1 133.3 EL2 7.9 ALF 15.47

LAUNCH DATE APR 17 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.343 GAL -4.28 AZL 89.99 HCA 202.88 SMA 183.92 ECC .19770 INC .0000 V1 29.674
RP 220.18 LAP -.00 LOP 49.22 VP 21.999 GAP .89 AZP 90.01 TAL 333.52 TAP 176.40 RCA 147.56 APO 220.28 V2 24.968
RC 188.089 GL .08 GP -11.79 ZAL 138.30 ZAP 58.37 ETS 171.59 ZAE 98.46 ETE 182.02 ZAC 90.82 ETC 270.36 LVI 3.48

DISTANCE 627.902

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.076 VHL 3.883 DLA -5.98 RAL 345.82 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 3.492 DPA -35.64 RAP 290.00 ECC 1.2481
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 4 22 2949.50 -28.74 87.80 201.39 129.70 17 53 31 1949.5 -11.48 69.68
60.00 17 50 20 2827.25 -24.29 80.46 205.06 123.20 18 37 27 1827.2 -9.31 60.72
70.00 18 49 42 2652.71 -20.25 68.90 207.65 118.11 19 33 54 1652.7 -7.29 48.08
80.00 20 4 29 2418.55 -17.30 52.67 209.20 114.72 20 44 48 1418.6 -5.79 31.23
90.00 21 28 46 2146.63 -16.19 33.20 209.71 113.50 22 4 32 1146.6 -5.22 11.55
100.00 22 47 21 1893.02 -17.30 14.04 209.20 114.72 23 18 54 893.0 -5.79 352.60
110.00 23 49 8 1699.52 -20.25 357.81 207.65 118.11 24 17 27 699.5 -7.29 336.99

DIFFERENTIAL CORRECTIONS

TDE 1.4337 TRA 3.4493 TC3-5.2500 BAU 1.0654
RDE .4419 RRA .5728 RC3 -.6138 FAU .14926
FDE 3.7412 FRA 9.0358 FC3-8.5712 BSP 11756
BDE 1.5003 BRA 3.4968 BC3 5.2858 FSP 2525

MID-COURSE EXECUTION ACCURACY

SGT 6876.7 SGR 1172.5 SG3 1378.4
RRT .9516 RRF .9712 RTF .9792
SGB 6975.9 R23 .1201 R13 .9802
SG1 6966.8 SG2 355.8 THA 9.24

ORBIT DETERMINATION ACCURACY

ST 130.8 SR 35.0 SS 103.1
CRT .9673 CR8 -.9672 CST -.9998
LSA 170.0 MSA 8.7 SSA 1.4
EL1 135.2 EL2 8.6 ALF 14.58

LAUNCH DATE APR 17 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.351 GAL -4.37 AZL 90.08 HCA 203.99 SMA 184.04 ECC .19875 INC .0773 V1 29.674
RP 220.55 LAP .03 LOP 50.33 VP 21.963 GAP .72 AZP 89.93 TAL 333.10 TAP 177.09 RCA 147.47 APO 220.62 V2 24.925
RC 190.711 GL -.65 GP -11.16 ZAL 138.72 ZAP 57.18 ETS 171.67 ZAE 97.18 ETE 181.67 ZAC 91.45 ETC 270.36 LVI 2.91

DISTANCE 632.021

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.380 VHL 3.922 DLA -6.49 RAL 346.51 RAD 6640.7 VEL 11.637 PTH 6.68 VHP 3.520 DPA -35.02 RAP 289.88 ECC 1.2531
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 8 59 2943.76 -28.49 87.49 202.21 129.86 17 58 3 1943.8 -11.20 69.43
60.00 17 55 30 2820.02 -24.02 80.04 205.91 123.39 18 42 30 1820.0 -9.00 60.36
70.00 18 55 30 2643.64 -19.96 68.36 208.52 118.31 19 39 33 1643.6 -6.95 47.59
80.00 20 10 52 2407.67 -16.99 52.02 210.09 114.93 20 51 0 1407.7 -5.42 30.63
90.00 21 35 24 2134.93 -15.87 32.49 210.62 113.71 22 10 59 1134.9 -4.84 10.89
100.00 22 53 44 1882.14 -16.99 13.38 210.09 114.93 23 25 6 882.1 -5.42 352.00
110.00 23 54 56 1690.46 -19.96 357.27 208.52 118.31 24 23 6 690.5 -6.95 336.51

DIFFERENTIAL CORRECTIONS

TDE 1.4679 TRA 3.5885 TC3-5.2721 BAU 1.0902
RDE .4349 RRA .5320 RC3 -.5618 FAU .14570
FDE 3.6997 FRA 8.9742 FC3-8.2015 BSP 12046
BDE 1.5310 BRA 3.6277 BC3 5.3020 FSP 2484

MID-COURSE EXECUTION ACCURACY

SGT 7038.5 SGR 1099.9 SG3 1351.6
RRT .9445 RRF .9643 RTF .9792
SGB 7123.9 R23 .1125 R13 .9801
SG1 7114.9 SG2 357.3 THA 8.42

ORBIT DETERMINATION ACCURACY

ST 133.4 SR 33.9 SS 101.9
CRT .9602 CR8 -.9615 CST -.9998
LSA 171.0 MSA 9.2 SSA 1.4
EL1 137.3 EL2 9.2 ALF 13.76

LAUNCH DATE APR 17 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

RL 130.16 LAL .00 LOL 206.34 VL 32.388 GAL -4.45 AZL 90.16 HCA 208.10 SMA 184.17 ECC .19982 INC .1588 V1 29.674
RP 220.93 LAP .07 LOP 51.43 VP 21.927 GAP .55 AZP 89.85 TAL 332.67 TAP 177.78 RCA 147.37 APO 220.97 V2 24.884
RC 193.341 GL -1.31 GP -10.38 ZAL 139.14 ZAP 56.03 ETS 171.75 ZAE 95.93 ETE 181.36 ZAC 92.03 ETC 270.36 LVI 2.37

PLANETOCENTRIC CONIC

C3 15.699 VHL 3.962 DLA -6.92 RAL 347.16 RAD 6640.9 VEL 11.651 PTH 6.69 VHP 3.548 DPA -34.45 RAP 289.81 ECC 1.2584
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 13 13 2939.63 -28.31 87.26 203.02 129.98 18 2 13 1939.6 -11.00 69.25
60.00 18 0 13 2814.61 -23.82 79.73 206.76 123.52 18 47 8 1814.6 -8.77 60.10
70.00 19 0 45 2636.64 -19.73 67.94 209.40 118.46 19 44 42 1636.6 -6.69 47.22
80.00 20 16 38 2399.10 -16.74 51.50 210.98 115.09 20 56 37 1399.1 -5.14 30.15
90.00 21 41 23 2125.65 -15.62 31.93 211.52 113.88 22 16 48 1125.7 -4.55 10.37
100.00 22 59 30 1873.58 -16.74 12.87 210.98 115.09 23 30 43 873.6 -5.14 351.52
110.00 0 4 8 1683.43 -19.73 356.86 209.40 118.46 0 32 11 683.5 -6.69 336.14

DIFFERENTIAL CORRECTIONS

TDE 1.5033 TRA 3.7267 TC3-5.2922 BAU 1.1160
RDE .4297 RRA .4940 RC3 -.5153 FAU .14210
FDE 3.6597 FRA 8.9014 FC3-7.8362 BSP 12310
BDE 1.5635 BRA 3.7593 BC3 5.3172 FSP 2439

MID-COURSE EXECUTION ACCURACY

SGT 7196.1 SGR 1034.7 SG3 1323.6
RRT .9360 RRF .9560 RTF .9791
SGB 7270.1 R23 .1068 R13 .0790
SG1 7261.1 SG2 360.8 THA 7.68

ORBIT DETERMINATION ACCURACY

ST 136.0 SR 32.9 SS 100.7
CRT .9524 CRS -.9555 CST -.9998
LSA 172.1 MSA 9.8 S5A 1.4
EL1 139.5 EL2 9.8 ALF 13.04

LAUNCH DATE APR 17 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.366 GAL -4.54 AZL 90.24 HCA 206.21 SMA 184.30 ECC .20093 INC .2345 V1 29.674
RP 221.31 LAP .10 LOP 52.55 VP 21.892 GAP .39 AZP 89.79 TAL 332.24 TAP 178.46 RCA 147.27 APO 221.33 V2 24.842
RC 195.978 GL -1.90 GP -10.06 ZAL 139.55 ZAP 54.92 ETS 171.83 ZAE 94.71 ETE 181.09 ZAC 92.55 ETC 270.37 LVI 1.87

PLANETOCENTRIC CONIC

C3 16.332 VHL 4.004 DLA -7.30 RAL 347.79 RAD 6641.0 VEL 11.665 PTH 6.70 VHP 3.579 DPA -33.92 RAP 289.78 ECC 1.2638
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 17 8 2936.89 -28.19 87.11 203.84 130.06 18 6 5 1936.9 -10.86 69.13
60.00 18 4 33 2810.78 -23.67 79.51 207.60 123.62 18 51 24 1810.8 -8.60 59.91
70.00 19 5 33 2631.44 -19.57 67.63 210.27 118.57 19 49 24 1631.4 -6.49 46.95
80.00 20 21 51 2392.56 -16.56 51.11 211.87 115.21 21 1 44 1392.6 -4.92 29.79
90.00 21 46 48 2118.49 -15.42 31.50 212.41 114.00 22 22 6 1118.5 -4.32 9.97
100.00 23 4 43 1867.03 -16.56 12.47 211.87 115.21 23 35 50 867.0 -4.92 351.16
110.00 0 8 55 1678.26 -19.57 356.55 210.27 118.57 0 36 53 678.3 -6.49 335.87

DIFFERENTIAL CORRECTIONS

TDE 1.5414 TRA 3.8666 TC3-5.3053 BAU 1.1418
RDE .4259 RRA .4586 RC3 -.4737 FAU .13847
FDE 3.6189 FRA 8.8221 FC3-7.4775 BSP 12574
BDE 1.5992 BRA 3.8937 BC3 5.3264 FSP 2390

MID-COURSE EXECUTION ACCURACY

SGT 7350.5 SGR 976.3 SG3 1295.0
RRT .9262 RRF .9464 RTF .9790
SGB 7415.1 R23 .0992 R13 .9796
SG1 7406.1 SG2 365.3 THA 7.03

ORBIT DETERMINATION ACCURACY

ST 138.6 SR 32.1 SS 99.5
CRT .9443 CRS -.9491 CST -.9997
LSA 173.3 MSA 10.3 S5A 1.4
EL1 141.9 EL2 10.3 ALF 12.39

LAUNCH DATE APR 17 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.374 GAL -4.63 AZL 90.30 HCA 207.32 SMA 184.43 ECC .20206 INC .3032 V1 29.674
RP 221.69 LAP .14 LOP 53.66 VP 21.857 GAP .22 AZP 89.73 TAL 331.81 TAP 179.12 RCA 147.16 APO 221.70 V2 24.801
RC 198.621 GL -2.43 GP -9.57 ZAL 139.96 ZAP 53.85 ETS 171.91 ZAE 93.51 ETE 180.85 ZAC 93.03 ETC 270.39 LVI 1.40

PLANETOCENTRIC CONIC

C3 16.379 VHL 4.047 DLA -7.62 RAL 348.40 RAD 6641.2 VEL 11.680 PTH 6.72 VHP 3.611 DPA -33.43 RAP 289.79 ECC 1.2698
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 20 45 2935.39 -28.12 87.03 204.66 130.10 18 9 40 1935.4 -10.79 69.07
60.00 18 8 31 2808.35 -23.58 79.37 208.45 123.68 18 55 19 1808.3 -8.50 59.74
70.00 19 9 55 2627.83 -19.45 67.42 211.13 118.65 19 53 43 1627.8 -6.36 46.76
80.00 20 26 35 2387.79 -16.42 50.82 212.75 115.29 21 6 23 1387.8 -4.76 29.53
90.00 21 51 42 2113.19 -15.28 31.18 213.30 114.09 22 26 35 1113.2 -4.15 9.67
100.00 23 9 27 1862.26 -16.42 12.19 212.75 115.29 23 40 29 862.3 -4.76 350.90
110.00 0 13 17 1674.65 -19.45 356.33 211.13 118.65 0 41 12 674.6 -6.36 335.68

DIFFERENTIAL CORRECTIONS

TDE 1.5820 TRA 4.0065 TC3-5.3148 BAU 1.1678
RDE .4239 RRA .4255 RC3 -.4363 FAU .13480
FDE 3.5834 FRA 8.7358 FC3-7.1250 BSP 12635
BDE 1.6378 BRA 4.0291 BC3 5.3324 FSP 2342

MID-COURSE EXECUTION ACCURACY

SGT 7501.3 SGR 924.2 SG3 1265.9
RRT .9146 RRF .9352 RTF .9788
SGB 7558.0 R23 .0934 R13 .9793
SG1 7548.9 SG2 371.3 THA 6.44

ORBIT DETERMINATION ACCURACY

ST 141.2 SR 31.4 SS 98.4
CRT .9359 CRS -.9425 CST -.9997
LSA 174.6 MSA 10.8 S5A 1.4
EL1 144.3 EL2 10.8 ALF 11.81

LAUNCH DATE APR 17 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 18 1972

HELIOCENTRIC CONIC

RL 150.16 LAL .00 LOL 206.34 VL 32.382 GAL -4.72 AZL 90.37 HCA 208.42 SMA 184.57 ECC .20323 INC .3672 V1 29.674
RP 222.07 LAP .17 LOP 54.76 VP 21.821 GAP .06 AZP 89.68 TAL 331.36 TAP 179.78 RCA 147.06 APO 222.07 V2 24.759
RC 201.270 GL -2.90 GP -9.13 ZAL 140.36 ZAP 52.82 ETS 171.99 ZAE 92.33 ETE 180.64 ZAC 93.47 ETC 270.42 LVI .95

PLANETOCENTRIC CONIC

C3 16.739 VHL 4.091 DLA -7.89 RAL 348.99 RAD 6641.3 VEL 11.695 PTH 6.73 VHP 3.644 DPA -32.98 RAP 289.85 ECC 1.2793
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 24 7 2934.98 -28.11 87.00 205.48 130.11 18 13 2 1935.0 -10.77 69.05
60.00 18 12 11 2807.14 -23.53 79.30 209.29 123.71 18 58 58 1807.1 -8.44 59.73
70.00 19 13 55 2625.63 -19.38 67.29 212.00 118.69 19 57 40 1625.6 -6.27 46.64
80.00 20 30 54 2384.60 -16.32 50.63 213.63 115.35 21 10 39 1384.6 -4.65 29.35
90.00 21 56 9 2109.55 -15.17 30.96 214.18 114.15 22 31 19 1109.6 -4.03 9.47
100.00 23 13 46 1859.07 -16.32 12.00 213.63 115.35 23 44 45 859.1 -4.65 350.72
110.00 0 17 17 1672.44 -19.38 356.20 212.00 118.69 0 45 9 672.4 -6.27 335.56

DIFFERENTIAL CORRECTIONS

TDE 1.6249 TRA 4.1489 TC3-5.3171 BAU 1.1933
RDE .4229 RRA .3946 RC3 -.4024 FAU .13105
FDE 3.5474 FRA 8.6482 FC3-6.7780 BSP 13105
BDE 1.6790 BRA 4.1677 BC3 5.3325 FSP 2295

MID-COURSE EXECUTION ACCURACY

SGT 7649.5 SGR 877.7 SG3 1236.9
RRT .9015 RRF .9224 RTF .9785
SGB 7699.7 R23 .0880 R13 .9790
SG1 7690.4 SG2 377.9 THA 5.92

ORBIT DETERMINATION ACCURACY

ST 144.0 SR 30.8 SS 97.2
CRT .9273 CRS -.9357 CST -.9996
LSA 176.1 MSA 11.3 S5A 1.4
EL1 146.8 EL2 11.3 ALF 11.28

LAUNCH DATE APR 17 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 20 1972

HELIOCENTRIC CONIC										DISTANCE 652.534										EARTH TO MARS																																																																																				
RL	150.16	LAL	.00	LOL	206.34	VL	32.390	GAL	-4.82	AZL	90.43	HCA	209.52	SMA	184.70	ECC	.20442	INC	.4261	V1	29.674	RC	203.922	GL	-3.33	GP	-8.72	ZAL	140.77	ZAP	51.83	ETS	172.07	ZAE	91.17	ETE	180.45	ZAC	93.88	ETC	270.46	LVI	.52																																																													
PLANETOCENTRIC CONIC																																																																																																								
C3	17.112	VHL	4.137	DLA	-8.11	RAL	349.56	RAD	6641.5	VEL	11.711	PTH	6.74	VHP	3.678	DPA	-32.56	RAP	289.95	ECC	1.2816	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG																																																									
50.00	17	27	14	2935.53	-28.13	87.03	206.30	130.10	18	16	10	1935.5	-10.79	69.07	60.00	18	15	33	2807.02	-23.53	79.29	210.13	123.71	19	2	20	1807.0	-8.44	59.73	70.00	19	17	35	2624.67	-19.34	67.23	212.85	118.71	20	1	19	1624.7	-6.24	46.59	80.00	20	34	50	2382.81	-16.27	50.52	214.50	115.38	21	14	33	1382.8	-4.59	29.25	90.00	22	0	12	2107.38	-15.11	30.83	215.06	114.19	22	35	20	1107.4	-3.96	9.35	100.00	23	17	42	1857.26	-16.27	11.89	214.50	115.38	23	48	39	857.3	-4.59	350.62	110.00	0	20	57	1671.48	-19.34	356.15	212.85	118.71	0	48	48	671.5	-6.24	355.51
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
TDE	1.6697	TRA	4.2920	TC3	-5.3165	BAU	1.2193	SGT	7794.4	SGR	836.5	SG3	1207.7	ST	146.7	SR	30.3	SS	96.1	RDE	.4231	RRA	.3655	RC3	-.3720	FAU	.12733	RRT	.8865	RRF	.9078	RTF	.9782	CR1	.9185	CR5	-.9280	CST	-.9995	FDE	3.5140	FRA	8.5563	FC3	-6.4415	BSP	13360	SGB	7839.1	R23	.0832	R13	.9786	LSA	177.6	MSA	11.8	SSA	1.4	BDE	1.7225	BRA	4.3075	BC3	5.3295	FSP	2247	SG1	7829.6	SG2	385.3	THA	5.45	EL1	149.4	EL2	11.8	ALF	10.81																									

LAUNCH DATE APR 17 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 22 1972

HELIOCENTRIC CONIC										DISTANCE 656.619										EARTH TO MARS																																																																																				
RL	150.16	LAL	.00	LOL	206.34	VL	32.399	GAL	-4.91	AZL	90.48	HCA	210.61	SMA	184.84	ECC	.20564	INC	.4810	V1	29.674	RC	206.578	GL	-3.72	GP	-8.34	ZAL	141.17	ZAP	50.86	ETS	172.15	ZAE	90.04	ETE	180.28	ZAC	94.25	ETC	270.50	LVI	.11																																																													
PLANETOCENTRIC CONIC																																																																																																								
C3	17.499	VHL	4.183	DLA	-8.30	RAL	350.12	RAD	6641.7	VEL	11.727	PTH	6.76	VHP	3.713	DPA	-32.16	RAP	290.08	ECC	1.2880	LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIME	INJ	2	LAT	INJ	2	LONG																																																									
50.00	17	30	10	2936.93	-28.19	87.11	207.11	130.06	18	19	7	1936.9	-10.86	69.13	60.00	18	18	41	2807.87	-23.56	79.34	210.97	123.69	19	5	29	1807.9	-8.48	59.77	70.00	19	20	57	2624.82	-19.35	67.24	213.71	118.71	20	4	42	1624.8	-6.24	46.60	80.00	20	38	26	2382.26	-16.26	50.49	215.37	115.39	21	18	8	1382.3	-4.57	29.22	90.00	22	3	54	2106.52	-15.09	30.78	215.93	114.20	22	39	0	1106.5	-3.94	9.30	100.00	23	21	18	1856.74	-16.26	11.86	215.37	115.39	23	52	14	856.7	-4.57	350.59	110.00	0	24	19	1671.63	-19.35	356.16	213.71	118.71	0	52	11	671.6	-6.24	355.52
DIFFERENTIAL CORRECTIONS										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																																																																				
TDE	1.7154	TRA	4.4355	TC3	-5.3141	BAU	1.2458	SGT	7936.0	SGR	799.8	SG3	1178.4	ST	149.4	SR	29.9	SS	95.0	RDE	.4241	RRA	.3380	RC3	-.3449	FAU	.12374	RRT	.8698	RRF	.8914	RTF	.9779	CR1	.9095	CR5	-.9217	CST	-.9994	FDE	3.4783	FRA	8.4390	FC3	-6.1219	BSP	13602	SGB	7976.2	R23	.0786	R13	.9783	LSA	179.1	MSA	12.3	SSA	1.3	BDE	1.7671	BRA	4.4484	BC3	5.3253	FSP	2195	SG1	7966.5	SG2	393.2	THA	5.02	EL1	151.9	EL2	12.2	ALF	10.38																									

LAUNCH DATE APR 18 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC

DISTANCE 337.825

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 34.768 GAL -5.28 AZL 92.00 HCA 112.01 SMA 237.69 ECC .37789 INC 1.9952 V1 29.665
RP 207.38 LAP -1.85 LOP 319.34 VP 26.863 GAP 21.02 AZP 89.25 TAL 340.64 TAP 92.65 RCA 147.67 APO 327.52 V2 26.414
RC 56.241 GL -11.08 GP 1.81 ZAL 125.89 ZAP 172.38 ETS 166.08 ZAE 172.07 ETE 120.72 ZAC 102.60 ETC 276.50 LVI -17.97

PLANETOCENTRIC CONIC

C3 39.370 VHL 6.273 DLA -20.33 RAL 340.16 RAD 6650.4 VEL 12.619 PTH 7.47 VHP 10.357 DPA -17.23 RAP 314.41 ECC 1.6479
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 34 53 2889.52 -26.09 84.56 206.53 131.31 18 23 2 1889.5 -8.51 67.09
60.00 18 38 50 2719.41 -20.13 74.38 211.67 125.68 19 24 10 1719.4 -4.62 55.48
70.00 19 59 47 2481.45 -14.46 59.01 215.60 121.20 20 41 9 1481.5 -7.79 39.08
80.00 21 36 24 2179.14 -9.99 38.67 218.22 118.28 22 12 43 1179.1 2.30 18.05
90.00 23 11 5 1873.65 -8.18 17.17 219.18 117.17 23 42 19 873.6 3.56 356.29
100.00 0 23 11 1653.62 -9.99 .04 218.22 118.28 0 50 44 653.6 2.30 339.43
110.00 1 3 9 1528.27 -14.46 347.92 215.60 121.28 1 28 38 528.3 -7.79 320.00

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6542 TRA-1.3865 TC3 -.0598 BAV .0598 SGT 1478.4 SGR 558.1 SG3 149.2 ST 36.1 SR 26.0 SS 24.7
RDE -.5677 RRA .1719 RC3 .0966 FAU .03691 RRT .0904 RRF -.0973 RTF -.7681 CRT .7697 CRS .6084 CST .9734
FDE .4119 FRA 1.3763 FC3 -.8117 BSP 2401 SGB 1580.2 R23 -.0165 R13 -.7685 LSA 48.0 MSA 16.9 SSA 1.1
BDE .8662 BRA 1.3972 BC3 .1136 FSP 198 SG1 1479.4 SG2 555.4 THA 2.28 EL1 42.2 EL2 14.2 ALF 33.33

LAUNCH DATE APR 18 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC

DISTANCE 340.269

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 34.613 GAL -5.14 AZL 92.01 HCA 113.27 SMA 233.21 ECC .36564 INC 2.0131 V1 29.665
RP 207.27 LAP -1.85 LOP 320.60 VP 26.674 GAP 20.52 AZP 89.20 TAL 340.69 TAP 95.96 RCA 147.94 APO 318.49 V2 26.426
RC 56.362 GL -11.45 GP 1.88 ZAL 125.91 ZAP 171.54 ETS 167.04 ZAE 172.46 ETE 114.49 ZAC 102.61 ETC 276.59 LVI -18.17

PLANETOCENTRIC CONIC

C3 37.243 VHL 6.103 DLA -20.64 RAL 340.39 RAD 6649.7 VEL 12.535 PTH 7.41 VHP 10.041 DPA -17.06 RAP 314.81 ECC 1.6123
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 37 10 2868.90 -25.16 83.48 205.94 131.82 18 24 59 1868.9 -7.48 66.21
60.00 18 41 37 2697.51 -19.26 73.18 211.09 126.11 19 26 35 1697.5 -3.66 54.43
70.00 20 3 12 2457.67 -13.61 57.68 215.03 121.63 20 44 10 1457.7 .12 37.84
80.00 21 40 33 2153.02 -9.14 37.20 217.68 118.55 22 16 26 1153.0 3.18 16.62
90.00 23 15 40 1846.21 -7.32 15.61 218.65 117.39 23 46 26 846.2 4.43 354.75
100.00 0 27 21 1627.49 -9.14 358.56 217.68 118.55 0 54 28 627.5 3.18 337.99
110.00 1 6 35 1504.48 -13.61 346.60 215.03 121.63 1 31 39 504.5 .12 326.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6430 TRA-1.3683 TC3 -.0430 BAV .0558 SGT 1500.5 SGR 555.6 SG3 159.3 ST 36.5 SR 25.9 SS 25.7
RDE -.5496 RRA .1621 RC3 .1035 FAU .03795 RRT .0979 RRF -.1066 RTF -.7827 CRT .7693 CRS .6087 CST .9737
FDE .4285 FRA 1.4368 FC3 -.8822 BSP 2365 SGB 1600.1 R23 -.0181 R13 -.7830 LSA 48.7 MSA 17.0 SSA 1.1
BDE .8458 BRA 1.3778 BC3 .1121 FSP 215 SG1 1501.7 SG2 552.5 THA 2.40 EL1 42.5 EL2 14.2 ALF 32.76

LAUNCH DATE APR 18 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 342.873

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 34.467 GAL -5.00 AZL 92.03 HCA 114.53 SMA 229.15 ECC .35410 INC 2.0314 V1 29.665
RP 207.18 LAP -1.85 LOP 321.87 VP 26.498 GAP 20.03 AZP 89.16 TAL 340.76 TAP 95.29 RCA 148.01 APO 310.29 V2 26.438
RC 56.568 GL -11.82 GP 1.95 ZAL 125.92 ZAP 170.68 ETS 167.81 ZAE 172.75 ETE 107.89 ZAC 102.64 ETC 276.68 LVI -18.36

PLANETOCENTRIC CONIC

C3 35.279 VHL 5.940 DLA -20.97 RAL 340.61 RAD 6649.0 VEL 12.457 PTH 7.35 VHP 9.737 DPA -16.88 RAP 315.19 ECC 1.5806
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 39 30 2848.33 -24.22 82.42 205.38 132.29 18 26 58 1848.3 -6.45 65.34
60.00 18 44 27 2675.58 -18.37 72.01 210.53 126.32 19 29 3 1675.6 -2.69 53.38
70.00 20 6 43 2433.74 -12.76 56.36 214.49 121.95 20 47 17 1433.7 1.03 36.60
80.00 21 44 52 2126.57 -8.28 35.71 217.16 118.79 22 20 19 1126.6 4.07 15.18
90.00 23 20 26 1818.32 -6.45 14.03 218.15 117.59 23 50 44 818.3 5.32 353.13
100.00 0 31 40 1601.04 -8.28 397.08 217.16 118.79 0 58 21 601.0 4.07 336.53
110.00 1 10 6 1480.55 -12.76 345.28 214.49 121.95 1 34 48 480.6 1.03 325.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6436 TRA-1.3622 TC3 -.0379 BAV .0592 SGT 1538.8 SGR 552.7 SG3 170.1 ST 37.5 SR 25.8 SS 26.5
RDE -.5321 RRA .1923 RC3 .1100 FAU .03920 RRT .1075 RRF -.1163 RTF -.7803 CRT .7720 CRS .6068 CST .9723
FDE .4425 FRA 1.4954 FC3 -.9619 BSP 2483 SGB 1635.0 R23 -.0193 R13 -.7887 LSA 49.9 MSA 17.1 SSA 1.1
BDE .8331 BRA 1.3707 BC3 .1171 FSP 232 SG1 1540.1 SG2 549.1 THA 2.93 EL1 43.3 EL2 14.2 ALF 31.75

LAUNCH DATE APR 18 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC

DISTANCE 345.620

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 34.329 GAL -4.87 AZL 92.05 HCA 115.80 SMA 225.45 ECC .34320 INC 2.0501 V1 29.665
RP 207.09 LAP -1.85 LOP 323.13 VP 26.326 GAP 19.54 AZP 89.11 TAL 340.83 TAP 96.62 RCA 148.07 APO 302.82 V2 26.448
RC 56.856 GL -12.21 GP 2.02 ZAL 125.91 ZAP 169.81 ETS 168.46 ZAE 172.94 ETE 101.12 ZAC 102.67 ETC 276.77 LVI -18.54

PLANETOCENTRIC CONIC

C3 33.461 VHL 5.785 DLA -21.30 RAL 340.82 RAD 6648.3 VEL 12.384 PTH 7.30 VHP 9.442 DPA -16.70 RAP 315.56 ECC 1.5507
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 41 51 2827.79 -23.27 81.38 204.84 132.75 18 28 59 1827.8 -5.43 64.47
60.00 18 47 21 2653.61 -17.48 70.84 209.99 126.91 19 31 35 1653.6 -1.73 52.33
70.00 20 10 21 2409.62 -11.88 55.04 213.98 122.26 20 50 30 1409.6 1.95 35.34
80.00 21 49 22 2099.72 -7.39 34.20 216.67 119.01 22 24 22 1099.7 4.97 13.68
90.00 23 25 25 1789.91 -5.55 12.42 217.68 117.77 23 55 15 789.9 6.22 351.58
100.00 0 36 10 1574.20 -7.39 355.57 216.67 119.01 1 2 24 574.2 4.97 335.05
110.00 1 13 43 1456.44 -11.88 343.95 213.98 122.26 1 37 59 456.4 1.95 324.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6419 TRA-1.3533 TC3 -.0297 BAV .0546 SGT 1573.3 SGR 549.6 SG3 181.5 ST 38.4 SR 25.6 SS 27.5
RDE -.5151 RRA .1425 RC3 .1185 FAU .04052 RRT .1176 RRF -.1270 RTF -.7948 CRT .7742 CRS .6055 CST .9711
FDE .4575 FRA 1.5567 FC3 -1.0483 BSP 2573 SGB 1666.6 R23 -.0209 R13 -.7952 LSA 50.9 MSA 17.1 SSA 1.2
BDE .8230 BRA 1.3608 BC3 .1221 FSP 249 SG1 1574.8 SG2 545.3 THA 2.67 EL1 43.9 EL2 14.2 ALF 30.85

LAUNCH DATE APR 18 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 34.100 GAL -4.74 AZL 92.07 MCA 117.06 SMA 222.07 ECC .33292 INC 2.0691 V1 29.668
RP 207.01 LAP -1.84 LOP 324.40 VP 26.183 GAP 19.07 AZP 89.08 TAL 340.91 TAP 97.97 RCA 148.14 APO 296.00 V2 26.487
RC 57.225 GL -12.81 GP 2.10 ZAL 125.89 ZAP 168.92 ETS 169.00 ZAE 173.04 ETE 94.43 ZAC 102.70 ETC 276.85 LVI -10.73

DISTANCE 348.492

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.779 VHL 5.637 DLA -21.65 RAL 341.02 RAD 6647.7 VEL 12.317 PTH 7.25 VHP 9.196 DPA -16.92 RAP 315.91 ECC 1.8230
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 44 14 2807.30 -22.32 80.36 204.33 133.18 18 31 2 1807.3 -4.40 63.61
60.00 18 50 18 2631.60 -16.58 69.68 209.48 127.28 19 34 10 1631.6 -7.76 5.28
70.00 20 14 5 2385.34 -11.00 53.71 213.49 122.54 20 53 50 1365.3 2.88 34.07
80.00 21 54 2 2072.49 -6.49 32.69 216.21 119.21 22 26 35 1072.5 5.88 12.17
90.00 23 30 38 1760.93 -4.63 10.79 217.23 117.93 23 59 39 760.9 7.13 349.94
100.00 0 40 50 1546.96 -6.49 354.05 216.21 119.21 1 6 37 547.0 5.88 333.54
110.00 1 17 27 1432.16 -11.00 342.63 213.49 122.54 1 41 19 432.2 2.88 322.99

DIFFERENTIAL CORRECTIONS

TDE -.6388 TRA-1.3431 TC3 -.0200 BAU .0544
RDE -.4987 RRA .1328 RC3 .1266 FAU .04188
PDE .4729 FRA 1.6212 FC3-1.1410 B8P 2652
BDE .8104 BRA 1.3497 BC3 .1281 F8P 269

MID-COURSE EXECUTION ACCURACY

SGT 1606.0 SGR 546.3 S63 193.8
RRT .1283 RRF -.1385 RTF -.8016
SGB 1696.4 R23 -.0227 R13 -.8021
SG1 1607.8 S62 541.2 THA 2.82

ORBIT DETERMINATION ACCURACY

ST 39.2 SR 25.4 S8 28.4
CRT .7763 CR8 .6040 C8T .9700
LSA 51.9 MSA 17.2 S8A 1.2
EL1 44.6 EL2 14.1 ALF 30.04

LAUNCH DATE APR 18 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 34.075 GAL -4.61 AZL 92.09 MCA 118.33 SMA 218.98 ECC .32321 INC 2.0887 V1 29.665
RP 206.94 LAP -1.84 LOP 325.66 VP 26.011 GAP 18.60 AZP 89.01 TAL 341.00 TAP 99.32 RCA 148.20 APO 289.75 V2 26.466
RC 57.675 GL -13.01 GP 2.19 ZAL 125.85 ZAP 168.01 ETS 169.46 ZAE 173.04 ETE 88.04 ZAC 102.74 ETC 276.93 LVI -10.92

DISTANCE 351.479

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 30.222 VHL 5.497 DLA -22.02 RAL 341.21 RAD 6647.1 VEL 12.254 PTH 7.20 VHP 8.879 DPA -16.33 RAP 316.24 ECC 1.4974
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 46 40 2786.88 -21.37 79.36 203.85 133.58 18 33 7 1786.9 -3.38 62.75
60.00 18 53 20 2609.59 -15.67 68.53 209.00 127.62 19 36 49 1609.6 .21 50.23
70.00 20 17 55 2360.90 -10.10 52.39 213.03 122.80 20 57 16 1360.9 3.81 32.79
80.00 21 58 54 2044.85 -5.57 31.15 215.78 119.38 22 32 59 1044.9 6.80 10.64
90.00 23 36 6 1731.38 -3.68 9.14 216.82 118.06 24 4 57 731.4 8.06 348.26
100.00 0 45 42 1519.32 -5.57 352.52 215.78 119.38 1 11 2 519.3 6.80 332.00
110.00 1 21 18 1407.72 -10.10 341.31 213.03 122.80 1 44 45 407.7 3.81 321.71

DIFFERENTIAL CORRECTIONS

TDE -.6352 TRA-1.3321 TC3 -.0090 BAU .0547
RDE -.4829 RRA .1231 RC3 .1351 FAU .04335
PDE .4892 FRA 1.6893 FC3-1.2417 B8P 2723
BDE .7979 BRA 1.3378 BC3 .1354 F8P 290

MID-COURSE EXECUTION ACCURACY

SGT 1637.5 SGR 542.7 S63 206.8
RRT .1401 RRF -.1513 RTF -.8083
SGB 1725.0 R23 -.0247 R13 -.8088
SG1 1639.4 S62 536.7 THA 2.98

ORBIT DETERMINATION ACCURACY

ST 40.0 SR 25.3 S8 29.4
CRT .7784 CR8 .6029 C8T .9688
LSA 52.9 MSA 17.2 S8A 1.2
EL1 45.2 EL2 14.0 ALF 29.27

LAUNCH DATE APR 18 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 33.958 GAL -4.49 AZL 92.11 MCA 119.59 SMA 216.14 ECC .31404 INC 2.1087 V1 29.663
RP 206.87 LAP -1.83 LOP 326.93 VP 25.866 GAP 18.14 AZP 88.96 TAL 341.09 TAP 100.69 RCA 148.27 APO 284.02 V2 26.473
RC 58.203 GL -13.43 GP 2.28 ZAL 125.79 ZAP 167.09 ETS 169.85 ZAE 172.97 ETE 82.16 ZAC 102.78 ETC 277.01 LVI -19.11

DISTANCE 354.568

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.780 VHL 5.365 DLA -22.40 RAL 341.40 RAD 6646.5 VEL 12.195 PTH 7.15 VHP 8.611 DPA -16.15 RAP 316.55 ECC 1.4736
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 49 7 2768.57 -20.41 78.37 203.40 133.96 18 35 14 1766.6 -2.36 61.90
60.00 18 56 25 2587.59 -14.75 67.40 208.55 127.94 19 39 33 1587.6 1.18 49.18
70.00 20 21 53 2336.32 -9.19 51.07 212.60 123.04 21 0 50 1336.3 4.74 31.50
80.00 22 3 59 2016.80 -4.63 29.60 215.39 119.53 22 37 36 1016.8 7.73 9.07
90.00 23 41 50 1701.20 -2.71 7.45 216.44 118.16 24 10 11 701.2 8.99 346.54
100.00 0 50 47 1491.27 -4.63 350.97 215.39 119.53 1 15 38 491.3 7.73 330.44
110.00 1 25 16 1383.14 -9.19 339.99 212.60 123.04 1 48 19 383.1 4.74 320.42

DIFFERENTIAL CORRECTIONS

TDE -.6310 TRA-1.3208 TC3 .0032 BAU .0554
RDE -.4676 RRA .1134 RC3 .1440 FAU .04490
PDE .5061 FRA 1.7604 FC3-1.3508 B8P 2780
BDE .7854 BRA 1.3255 BC3 .1441 F8P 312

MID-COURSE EXECUTION ACCURACY

SGT 1667.7 SGR 538.9 S63 220.8
RRT .1528 RRF -.1653 RTF -.8147
SGB 1752.6 R23 -.0271 R13 -.8153
SG1 1670.0 S62 531.9 THA 3.15

ORBIT DETERMINATION ACCURACY

ST 40.7 SR 25.0 S8 30.4
CRT .7806 CR8 .6021 C8T .9677
LSA 53.9 MSA 17.3 S8A 1.2
EL1 45.7 EL2 13.9 ALF 28.54

LAUNCH DATE APR 18 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 33.848 GAL -4.37 AZL 92.13 MCA 120.86 SMA 213.54 ECC .30539 INC 2.1293 V1 29.665
RP 206.82 LAP -1.83 LOP 328.20 VP 25.727 GAP 17.69 AZP 88.91 TAL 341.20 TAP 102.06 RCA 148.33 APO 278.75 V2 26.479
RC 58.807 GL -13.85 GP 2.37 ZAL 125.71 ZAP 166.14 ETS 170.18 ZAE 172.84 ETE 76.89 ZAC 102.84 ETC 277.08 LVI -19.29

DISTANCE 357.750

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.446 VHL 5.239 DLA -22.78 RAL 341.37 RAD 6646.0 VEL 12.141 PTH 7.11 VHP 8.351 DPA -15.97 RAP 316.85 ECC 1.4517
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 51 37 2746.36 -19.45 77.41 202.98 134.32 18 37 24 1746.4 -1.34 61.05
60.00 18 59 35 2565.62 -13.82 66.28 208.13 128.24 19 42 21 1565.6 2.15 48.13
70.00 20 25 59 2311.61 -8.27 49.75 212.20 123.26 21 4 31 1311.6 5.68 30.20
80.00 22 9 17 1988.31 -3.67 28.03 215.02 119.65 22 42 26 988.3 8.66 7.47
90.00 23 47 52 1670.35 -1.72 5.72 216.11 118.23 24 15 43 670.3 9.94 344.77
100.00 0 56 5 1462.78 -3.67 349.40 215.02 119.65 1 20 28 462.8 8.66 328.84
110.00 1 29 22 1358.43 -8.27 338.66 212.20 123.26 1 52 0 358.4 5.68 319.12

DIFFERENTIAL CORRECTIONS

TDE -.6263 TRA-1.3078 TC3 .0164 BAU .0566
RDE -.4528 RRA .1036 RC3 .1534 FAU .04655
PDE .5235 FRA 1.8353 FC3-1.4682 B8P 2847
BDE .7728 BRA 1.3119 BC3 .1543 F8P 336

MID-COURSE EXECUTION ACCURACY

SGT 1695.9 SGR 535.0 S63 235.6
RRT .1668 RRF -.1805 RTF -.8209
SGB 1778.3 R23 -.0294 R13 -.8216
SG1 1698.5 S62 526.7 THA 3.33

ORBIT DETERMINATION ACCURACY

ST 41.4 SR 24.8 S8 31.4
CRT .7831 CR8 .6012 C8T .9665
LSA 54.9 MSA 17.3 S8A 1.2
EL1 46.3 EL2 13.8 ALF 27.86

LAUNCH DATE APR 18 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.743 GAL -4.25 AZL 92.15 HCA 122.13 SMA 211.14 ECC .29722 INC 2.1504 V1 29.665
 RP 206.77 LAP -1.82 LOP 329.46 VP 29.595 GAP 17.25 AZP 88.06 TAL 341.31 TAP 103.44 HCA 148.39 APO 273.90 V2 26.485
 RC 59.485 GL -14.28 GP 2.47 ZAL 125.62 ZAP 165.18 ETS 170.47 ZAE 172.68 ETE 72.32 ZAC 102.90 ETC 277.15 LVI -19.48

DISTANCE 361.016 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 26.211 VHL 5.120 DLA -23.18 RAL 341.74 RAD 6645.5 VEL 12.000 PTH 7.07 VHP 8.100 DPA -15.78 RAP 317.12 ECC 1.4314
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 10 2726.29 -18.50 76.46 202.58 134.65 18 39 36 1726.3 -1.33 60.22
 60.00 19 2 50 2543.70 -12.90 65.16 207.74 128.52 19 45 13 1543.7 3.11 47.08
 70.00 20 30 14 2286.76 -7.34 48.42 211.83 123.45 21 8 20 1286.8 6.62 28.69
 80.00 22 14 50 1959.36 -2.70 26.43 214.70 119.75 22 47 30 959.4 9.60 5.84
 90.00 23 54 15 1638.74 -0.70 3.96 215.81 118.27 24 21 33 638.7 10.90 342.94
 100.00 1 1 38 1433.83 -2.70 347.80 214.70 119.75 1 25 32 433.8 9.60 327.21
 110.00 1 33 36 1333.58 -7.34 337.34 211.83 123.45 1 55 49 333.6 6.62 317.80

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6213 TRA-1.2951 TC3 .0301 BAU .0582 SGT 1723.5 SGR 531.0 SG3 251.4 ST 42.0 SR 24.6 SS 32.4
 RDE -.4386 RRA .0938 RC3 .1633 FAU .04831 RRT .1818 RRF -.1971 RTF -.8267 CRT .7856 CRS .6004 CST .9653
 FDE .5414 FRA 1.9141 FC3-1.5955 BSP 2906 SGB 1803.4 R23 -.0321 R13 -.8275 LSA 55.9 MSA 17.3 SSA 1.2
 BDE .7605 BRA 1.2985 BC3 .1661 FSP 362 SG1 1726.4 SG2 521.2 THA 3.93 EL1 46.8 EL2 13.7 ALF 27.21

LAUNCH DATE APR 18 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.645 GAL -4.14 AZL 92.17 HCA 123.39 SMA 208.93 ECC .28951 INC 2.1721 V1 29.665
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.470 GAP 16.82 AZP 88.80 TAL 341.43 TAP 104.83 RCA 148.45 APO 269.42 V2 26.489
 RC 80.233 GL -14.72 GP 2.58 ZAL 125.52 ZAP 164.19 ETS 170.71 ZAE 172.50 ETE 68.43 ZAC 102.97 ETC 277.21 LVI -19.67

DISTANCE 364.359 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 25.068 VHL 5.007 DLA -23.60 RAL 341.91 RAD 6645.0 VEL 12.043 PTH 7.03 VHP 7.856 DPA -15.60 RAP 317.37 ECC 1.4126
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 56 46 2706.37 -17.54 75.53 202.22 134.97 18 41 52 1706.4 .67 59.39
 60.00 19 6 9 2521.83 -11.97 64.07 207.38 128.78 19 48 11 1521.8 4.07 46.03
 70.00 20 34 37 2261.78 -6.40 47.10 211.51 123.62 21 12 18 1261.8 7.56 27.96
 80.00 22 20 39 1929.88 -1.70 24.81 214.42 119.81 22 52 49 929.9 10.55 4.17
 90.00 0 4 55 1606.28 .34 2.15 215.55 118.28 0 31 42 606.3 11.87 341.05
 100.00 1 7 27 1404.36 -1.70 346.10 214.42 119.81 1 30 52 404.4 10.55 325.54
 110.00 1 37 59 1308.60 -6.40 336.02 211.51 123.62 1 59 47 308.6 7.56 316.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6157 TRA-1.2809 TC3 .0443 BAU .0601 SGT 1748.4 SGR 526.9 SG3 268.2 ST 42.6 SR 24.4 SS 33.5
 RDE -.4249 RRA .0840 RC3 .1737 FAU .05016 RRT .1982 RRF -.2150 RTF -.8321 CRT .7884 CRS .5996 CST .9638
 FDE .5594 FRA 1.9963 FC3-1.7323 BSP 2959 SGB 1826.1 R23 -.0350 R13 -.8329 LSA 56.8 MSA 17.4 SSA 1.2
 BDE .7481 BRA 1.2836 BC3 .1792 FSP 369 SG1 1751.8 SG2 515.4 THA 3.74 EL1 47.2 EL2 13.5 ALF 26.62

LAUNCH DATE APR 18 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.551 GAL -4.03 AZL 92.19 HCA 124.66 SMA 206.90 ECC .28223 INC 2.1944 V1 29.665
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.350 GAP 16.39 AZP 88.75 TAL 341.55 TAP 106.22 RCA 148.50 APO 265.29 V2 26.492
 RC 81.050 GL -15.16 GP 2.69 ZAL 125.41 ZAP 163.18 ETS 170.92 ZAE 172.32 ETE 65.22 ZAC 103.05 ETC 277.27 LVI -19.83

DISTANCE 367.770 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 24.011 VHL 4.900 DLA -24.02 RAL 342.07 RAD 6644.6 VEL 12.000 PTH 6.99 VHP 7.620 DPA -15.41 RAP 317.60 ECC 1.3952
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 59 25 2686.62 -16.59 74.62 201.89 135.26 18 44 11 1686.6 1.66 58.56
 60.00 19 9 34 2500.03 -11.04 62.98 207.06 129.01 19 51 14 1500.0 5.03 44.98
 70.00 20 39 9 2236.67 -5.45 45.78 211.21 123.77 21 16 26 1236.7 8.49 26.22
 80.00 22 26 46 1899.85 -.68 23.17 214.17 119.85 22 58 26 899.8 11.51 2.45
 90.00 0 12 5 1572.84 1.42 .28 215.34 118.25 0 38 18 572.8 12.85 339.09
 100.00 1 13 34 1374.32 -.68 344.53 214.17 119.85 1 36 28 374.3 11.51 323.82
 110.00 1 42 31 1283.49 -5.45 334.69 211.21 123.77 2 3 55 283.5 8.49 315.14

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6107 TRA-1.2672 TC3 .0586 BAU .0622 SGT 1773.2 SGR 522.9 SG3 286.1 ST 43.2 SR 24.1 SS 34.5
 RDE -.4116 RRA .0740 RC3 .1846 FAU .05215 RRT .2162 RRF -.2347 RTF -.8270 CRT .7917 CRS .5994 CST .9624
 FDE .5788 FRA 2.0836 FC3-1.8802 BSP 3015 SGB 1848.7 R23 -.0384 R13 -.8380 LSA 57.8 MSA 17.4 SSA 1.2
 BDE .7365 BRA 1.2693 BC3 .1937 FSP 419 SG1 1777.2 SG2 509.4 THA 3.97 EL1 47.6 EL2 13.4 ALF 26.03

LAUNCH DATE APR 18 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.464 GAL -3.93 AZL 92.22 HCA 125.93 SMA 205.01 ECC .27537 INC 2.2174 V1 29.665
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.236 GAP 15.98 AZP 88.70 TAL 341.68 TAP 107.61 RCA 148.56 APO 261.46 V2 26.495
 RC 81.933 GL -15.61 GP 2.81 ZAL 125.28 ZAP 162.15 ETS 171.11 ZAE 172.15 ETE 62.64 ZAC 103.13 ETC 277.33 LVI -20.04

DISTANCE 371.245 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 23.033 VHL 4.799 DLA -24.45 RAL 342.22 RAD 6644.2 VEL 11.959 PTH 6.96 VHP 7.392 DPA -15.23 RAP 317.80 ECC 1.3791
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 2 7 2667.03 -15.64 73.73 201.60 135.53 18 46 34 1667.0 2.64 57.74
 60.00 19 13 5 2478.30 -10.10 61.90 206.77 129.22 19 54 23 1478.3 5.98 43.94
 70.00 20 43 51 2211.41 -4.50 44.45 210.96 123.89 21 20 43 1211.4 9.43 24.87
 80.00 22 33 13 1869.17 .36 21.48 213.98 119.86 23 4 22 869.2 12.48 .69
 90.00 0 19 45 1538.24 2.54 358.35 215.19 118.18 0 45 23 538.2 13.85 337.04
 100.00 1 20 0 1343.64 .36 342.85 213.98 119.86 1 42 24 343.6 12.48 322.06
 110.00 1 47 13 1258.23 -4.50 333.37 210.96 123.89 2 8 12 258.2 9.43 313.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6051 TRA-1.2519 TC3 .0738 BAU .0645 SGT 1795.1 SGR 518.9 SG3 305.2 ST 43.7 SR 23.8 SS 35.6
 RDE -.3989 RRA .0639 RC3 .1961 FAU .05426 RRT .2358 RRF -.2562 RTF -.8418 CRT .7953 CRS .5995 CST .9608
 FDE .5987 FRA 2.1748 FC3-2.0395 BSP 3061 SGB 1868.6 R23 -.0419 R13 -.8428 LSA 58.7 MSA 17.4 SSA 1.2
 BDE .7248 BRA 1.2535 BC3 .2095 FSP 450 SG1 1799.6 SG2 503.0 THA 4.23 EL1 48.0 EL2 13.2 ALF 25.50

LAUNCH DATE APR 18 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.380 GAL -3.82 AZL 92.24 HCA 127.20 SMA 203.27 ECC .26888 INC 2.2413 V1 29.665
 RP 206.68 LAP -1.79 LOP 334.54 VP 25.127 GAP 15.57 AZP 88.64 TAL 341.81 TAP 109.02 RCA 148.61 APO 237.92 V2 26.496
 RC 62.879 GL -16.08 GP 2.94 ZAL 125.14 ZAP 161.10 ETS 171.26 ZAE 172.00 ETE 60.66 ZAC 103.23 ETC 277.38 LVI -20.22

PLANETOCENTRIC CONIC
 C3 22.127 VHL 4.704 DLA -24.89 RAL 342.38 RAD 6643.8 VEL 11.921 PTH 6.93 VMP 7.170 DPA -15.04 RAP 317.98 ECC 1.3642
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 52 2647.59 -14.69 72.85 201.33 135.78 18 49 0 1647.6 3.62 56.93
 60.00 19 16 41 2456.60 -9.17 60.83 206.52 129.42 19 57 38 1456.6 6.92 42.88
 70.00 20 48 45 2185.93 -3.53 43.11 210.74 123.99 21 25 11 1185.9 10.37 23.50
 80.00 22 40 2 1837.65 1.42 19.75 213.82 119.83 23 10 39 837.6 13.45 358.06
 90.00 0 27 59 1502.14 3.69 356.33 215.08 118.06 0 53 1 502.1 14.68 334.89
 100.00 1 26 49 1312.12 1.42 341.12 213.82 119.83 1 48 41 312.1 13.45 320.23
 110.00 1 52 7 1232.75 -3.53 332.03 210.74 123.99 2 12 40 232.8 10.37 312.41

DIFFERENTIAL CORRECTIONS
 TDE -.5844 TRA-1.2218 TC3 .1149 BAU .0704
 RDE -.3864 RRA .0540 RC3 .2085 FAU .05656
 FDE .6175 FRA 2.2697 FC3-2.2129 BSP 2928
 BDE .7006 BRA 1.2230 BC3 .2381 FSP 483

MID-COURSE EXECUTION ACCURACY
 SGT 1791.6 SGR 515.1 SG3 325.4
 RRT .2573 RRF -.2792 RTF -.8536
 SGB 1864.2 R23 -.0428 R13 -.8547
 SG1 1796.9 SG2 496.2 THA 4.58

ORBIT DETERMINATION ACCURACY
 ST 43.3 SR 23.6 SS 36.7
 CRT .7954 CRS .5988 CST .9606
 LSA 58.9 MSA 17.4 SBA 1.2
 EL1 47.5 EL2 13.0 ALF 25.46

LAUNCH DATE APR 18 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.302 GAL -3.73 AZL 92.27 HCA 128.47 SMA 201.65 ECC .26278 INC 2.2659 V1 29.665
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.023 GAP 15.17 AZP 88.59 TAL 341.95 TAP 110.42 RCA 148.66 APO 234.64 V2 26.496
 RC 63.888 GL -16.54 GP 3.08 ZAL 125.00 ZAP 160.01 ETS 171.40 ZAE 171.88 ETE 59.22 ZAC 103.34 ETC 277.43 LVI -20.41

PLANETOCENTRIC CONIC
 C3 21.293 VHL 4.614 DLA -25.34 RAL 342.53 RAD 6643.4 VEL 11.887 PTH 6.90 VMP 6.956 DPA -14.85 RAP 318.13 ECC 1.3504
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 42 2628.42 -13.75 71.99 201.10 136.01 18 51 30 1628.4 4.58 56.12
 60.00 19 20 23 2435.08 -8.24 59.78 206.30 129.59 20 0 58 1435.1 7.86 41.84
 70.00 20 53 49 2160.40 -2.55 41.78 210.57 124.07 21 29 49 1160.4 11.31 22.11
 80.00 22 47 14 1805.41 2.52 17.98 213.73 119.76 23 17 20 805.4 14.44 356.97
 90.00 0 36 53 1464.47 4.90 354.22 215.04 117.89 1 1 18 464.5 15.92 332.61
 100.00 1 34 2 1279.88 2.52 339.35 213.73 119.76 1 55 22 279.9 14.44 318.34
 110.00 1 57 11 1207.22 -2.55 330.69 210.57 124.07 2 17 18 207.2 11.31 311.03

DIFFERENTIAL CORRECTIONS
 TDE -.5854 TRA-1.2125 TC3 .1173 BAU .0712
 RDE -.3748 RRA .0435 RC3 .2211 FAU .05896
 FDE .6385 FRA 2.3707 FC3-2.3971 BSP 3056
 BDE .6951 BRA 1.2132 BC3 .2503 FSP 519

MID-COURSE EXECUTION ACCURACY
 SGT 1820.7 SGR 511.6 SG3 347.0
 RRT .2800 RRF -.3045 RTF -.8535
 SGB 1891.2 R23 -.0488 R13 -.8549
 SG1 1826.7 SG2 489.5 THA 4.85

ORBIT DETERMINATION ACCURACY
 ST 44.1 SR 23.3 SS 37.9
 CRT .8016 CRS .5995 CST .9580
 LSA 60.1 MSA 17.4 SBA 1.2
 EL1 48.2 EL2 12.7 ALF 24.78

LAUNCH DATE APR 18 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.228 GAL -3.64 AZL 92.29 HCA 129.74 SMA 200.16 ECC .25702 INC 2.2914 V1 29.665
 RP 206.68 LAP -1.76 LOP 337.08 VP 24.924 GAP 14.78 AZP 88.53 TAL 342.08 TAP 111.82 RCA 148.71 APO 231.60 V2 26.496
 RC 64.956 GL -17.02 GP 3.22 ZAL 124.85 ZAP 158.91 ETS 171.51 ZAE 171.78 ETE 58.32 ZAC 103.46 ETC 277.47 LVI -20.60

PLANETOCENTRIC CONIC
 C3 20.522 VHL 4.530 DLA -25.80 RAL 342.68 RAD 6643.1 VEL 11.854 PTH 6.87 VMP 6.749 DPA -14.67 RAP 318.25 ECC 1.3377
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 36 2609.45 -12.82 71.15 200.91 136.22 18 54 5 1609.5 5.53 55.32
 60.00 19 24 12 2413.65 -7.30 58.74 206.13 129.74 20 4 26 1413.7 8.79 40.79
 70.00 20 59 6 2134.67 -1.57 40.43 210.44 124.12 21 34 40 1134.7 12.25 20.71
 80.00 22 54 56 1772.12 3.64 16.15 213.68 119.66 23 24 28 772.1 15.44 355.01
 90.00 0 46 38 1424.57 6.16 351.97 215.07 117.65 1 10 22 424.6 17.00 330.18
 100.00 1 41 43 1246.59 3.64 337.52 213.68 119.66 2 2 30 246.6 15.44 316.37
 110.00 2 2 28 1181.49 -1.57 329.35 210.44 124.12 2 22 9 181.5 12.25 309.63

DIFFERENTIAL CORRECTIONS
 TDE -.5833 TRA-1.1997 TC3 .1234 BAU .0728
 RDE -.3635 RRA .0328 RC3 .2343 FAU .06148
 FDE .6809 FRA 2.4778 FC3-2.5927 BSP 3143
 BDE .6873 BRA 1.2031 BC3 .2647 FSP 557

MID-COURSE EXECUTION ACCURACY
 SGT 1843.1 SGR 508.5 SG3 369.9
 RRT .3044 RRF -.3319 RTF -.8548
 SGB 1912.0 R23 -.0551 R13 -.8563
 SG1 1850.1 SG2 482.5 THA 5.15

ORBIT DETERMINATION ACCURACY
 ST 44.7 SR 23.0 SS 39.1
 CRT .8073 CRS .6010 CST .9557
 LSA 61.2 MSA 17.5 SBA 1.2
 EL1 48.7 EL2 12.5 ALF 24.24

LAUNCH DATE APR 18 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 33.158 GAL -3.55 AZL 92.32 HCA 131.01 SMA 198.77 ECC .25160 INC 2.3179 V1 29.665
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.829 GAP 14.40 AZP 88.48 TAL 342.22 TAP 113.23 RCA 148.76 APO 248.78 V2 26.494
 RC 66.082 GL -17.50 GP 3.38 ZAL 124.68 ZAP 157.77 ETS 171.60 ZAE 171.73 ETE 57.92 ZAC 103.60 ETC 277.50 LVI -20.79

PLANETOCENTRIC CONIC
 C3 19.811 VHL 4.411 DLA -26.26 RAL 342.84 RAD 6642.8 VEL 11.825 PTH 6.84 VMP 6.549 DPA -14.48 RAP 318.34 ECC 1.3260
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 33 2590.69 -11.90 70.33 200.75 136.42 18 56 44 1590.7 6.47 54.53
 60.00 19 28 9 2392.31 -6.37 57.70 205.99 129.88 20 8 1 1392.3 9.71 39.74
 70.00 21 4 36 2108.71 -1.58 39.08 210.36 124.15 21 39 45 1108.7 13.18 19.28
 80.00 23 3 11 1737.56 4.80 14.24 213.70 119.50 23 32 8 737.6 16.45 352.94
 90.00 0 57 27 1381.69 7.51 349.54 215.17 117.34 1 20 29 381.7 18.11 327.53
 100.00 1 49 58 1212.03 4.80 335.61 213.70 119.50 2 10 10 212.0 16.45 314.31
 110.00 2 7 58 1155.53 -1.58 327.99 210.36 124.15 2 27 14 155.5 13.18 308.20

DIFFERENTIAL CORRECTIONS
 TDE -.5787 TRA-1.1835 TC3 .1334 BAU .0746
 RDE -.3527 RRA .0219 RC3 .2482 FAU .06414
 FDE .6839 FRA 2.5902 FC3-2.8030 BSP 3194
 BDE .6777 BRA 1.1837 BC3 .2818 FSP 598

MID-COURSE EXECUTION ACCURACY
 SGT 1858.8 SGR 506.0 SG3 394.3
 RRT .3308 RRF -.3614 RTF -.8569
 SGB 1926.4 R23 -.0615 R13 -.8587
 SG1 1866.8 SG2 475.4 THA 5.50

ORBIT DETERMINATION ACCURACY
 ST 45.1 SR 22.7 SS 40.3
 CRT .8134 CRS .6030 CST .9534
 LSA 62.2 MSA 17.5 SBA 1.2
 EL1 49.0 EL2 12.2 ALF 23.82

LAUNCH DATE APR 18 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 33.093 GAL -3.46 AZL 92.35 HCA 132.28 SMA 197.48 ECC .24849 INC 2.3454 V1 29.665
RP 206.72 LAP -1.74 LOP 339.62 VP 24.738 GAP 14.02 AZP 88.42 TAL 342.35 TAP 114.83 RCA 148.80 APO 246.16 V2 26.491
RC 67.285 GL -17.99 GP 3.54 ZAL 124.52 ZAP 156.60 ETS 171.66 ZAE 171.71 ETE 58.04 ZAC 103.75 ETC 277.53 LVI -20.98

PLANETOCENTRIC CONIC

C3 19.158 VHL 4.377 DLA -26.74 RAL 343.00 RAD 6642.5 VEL 11.797 PTH 6.82 VHP 6.355 DPA -14.28 RAP 318.41 ECC 1.3153
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 16 36 2572.15 -10.98 69.52 200.62 136.59 18 59 28 1572.1 7.40 53.74
60.00 19 32 12 2371.08 -5.44 56.67 205.89 129.99 20 11 43 1371.1 10.63 38.69
70.00 21 10 21 2082.49 .42 37.71 210.32 124.15 21 45 3 1082.5 14.12 17.82
80.00 23 12 5 1701.41 6.01 12.24 213.78 119.30 23 40 27 701.4 17.49 350.76
90.00 1 9 46 1334.59 8.97 346.86 215.38 116.93 1 32 1 334.6 19.29 324.58
100.00 1 58 53 1175.88 6.01 333.61 213.78 119.30 2 18 29 175.9 17.49 312.13
110.00 2 13 43 1129.31 .42 326.63 210.32 124.15 2 32 32 129.3 14.12 306.74

DIFFERENTIAL CORRECTIONS

TDE -.5731 TRA-1.1659 TC3 .1431 BAW .0767
RDE -.3424 RRA .0108 RC3 .2629 FAU .06696
FDE .7075 FRA 2.7090 FC3-3.0264 BSP 3235
BDE .6676 BRA 1.1659 BC3 .2993 FSP 642

MID-COURSE EXECUTION ACCURACY

SGT 1870.6 SGR 504.1 S63 420.1
RRT .3589 RRF -.3929 RTF -.8590
SGB 1937.3 R23 -.0685 R13 -.8610
SG1 1879.9 S62 468.2 THA 5.89

ORBIT DETERMINATION ACCURACY

ST 45.4 SR 22.4 SS 41.5
CRT .8197 CRS .6034 CST .9511
LSA 63.1 MSA 17.5 SSA 1.2
EL1 49.3 EL2 11.8 ALF 23.45

LAUNCH DATE APR 18 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 33.031 GAL -3.38 AZL 92.37 HCA 133.55 SMA 196.28 ECC .24168 INC 2.3740 V1 29.663
RP 206.75 LAP -1.72 LOP 340.89 VP 24.651 GAP 13.65 AZP 88.36 TAL 342.49 TAP 116.03 RCA 148.85 APO 243.72 V2 26.487
RC 68.502 GL -18.49 GP 3.72 ZAL 124.35 ZAP 155.41 ETS 171.75 ZAE 171.72 ETE 58.68 ZAC 103.91 ETC 277.56 LVI -21.17

PLANETOCENTRIC CONIC

C3 18.553 VHL 4.307 DLA -27.22 RAL 343.16 RAD 6642.2 VEL 11.772 PTH 6.80 VHP 6.168 DPA -14.09 RAP 318.43 ECC 1.3053
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 19 44 2553.83 -10.08 68.73 200.54 136.75 19 2 18 1553.0 8.31 52.96
60.00 19 36 24 2349.90 -4.52 55.66 205.83 130.09 20 15 34 1349.9 11.53 37.64
70.00 21 16 22 2055.96 1.44 36.33 210.34 124.13 21 50 38 1056.0 15.05 16.34
80.00 23 21 49 1663.22 7.28 10.11 213.93 119.04 23 49 32 663.2 18.56 348.43
90.00 1 24 18 1280.90 10.61 343.76 215.71 116.37 1 49 39 280.9 20.87 321.16
100.00 2 8 37 1137.69 7.28 331.48 213.93 119.04 2 27 35 137.7 18.56 309.80
110.00 2 19 44 1102.78 1.44 325.24 210.34 124.13 2 38 7 102.8 15.05 305.26

DIFFERENTIAL CORRECTIONS

TDE -.5667 TRA-1.1464 TC3 .1529 BAW .0788
RDE -.3325 RRA -.0009 RC3 .2785 FAU .06999
FDE .7319 FRA 2.8332 FC3-3.2659 BSP 3263
BDE .6571 BRA 1.1464 BC3 .3177 FSP 688

MID-COURSE EXECUTION ACCURACY

SGT 1877.8 SGR 503.2 S63 447.5
RRT .3889 RRF -.4266 RTF -.8608
SGB 1944.1 R23 -.0764 R13 -.8632
SG1 1888.6 S62 460.9 THA 6.33

ORBIT DETERMINATION ACCURACY

ST 45.6 SR 22.1 SS 42.7
CRT .8265 CRS .6087 CST .9486
LSA 63.9 MSA 17.6 SSA 1.2
EL1 49.4 EL2 11.5 ALF 23.18

LAUNCH DATE APR 18 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.972 GAL -3.31 AZL 92.40 HCA 134.81 SMA 195.17 ECC .23715 INC 2.4038 V1 29.663
RP 206.79 LAP -1.71 LOP 342.16 VP 24.568 GAP 13.30 AZP 88.31 TAL 342.62 TAP 117.43 RCA 148.89 APO 241.46 V2 26.483
RC 69.791 GL -18.99 GP 3.91 ZAL 124.17 ZAP 154.18 ETS 171.80 ZAE 171.77 ETE 59.86 ZAC 104.09 ETC 277.57 LVI -21.37

PLANETOCENTRIC CONIC

C3 17.999 VHL 4.242 DLA -27.70 RAL 343.32 RAD 6641.9 VEL 11.748 PTH 6.78 VHP 5.987 DPA -13.90 RAP 318.43 ECC 1.2962
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 22 57 2539.73 -9.18 67.95 200.49 136.89 19 5 13 1535.7 9.21 52.19
60.00 19 40 44 2328.83 -3.59 54.64 205.82 130.17 20 19 33 1328.8 12.43 36.59
70.00 21 22 40 2029.06 2.46 34.92 210.40 124.08 21 56 29 1029.1 15.99 14.82
80.00 23 32 36 1622.29 8.62 7.82 214.17 118.70 23 59 38 622.3 19.66 345.19
90.00 1 42 53 1214.84 12.58 339.91 216.24 115.54 2 3 8 214.8 22.04 318.87
100.00 2 19 24 1096.77 8.62 329.19 214.17 118.70 2 37 41 96.8 19.66 307.26
110.00 2 26 3 1075.88 2.46 323.84 210.40 124.08 2 43 58 75.9 15.99 303.74

DIFFERENTIAL CORRECTIONS

TDE -.5603 TRA-1.1262 TC3 .1610 BAW .0809
RDE -.3230 RRA -.0130 RC3 .2930 FAU .07317
FDE .7578 FRA 2.9650 FC3-3.5194 BSP 3284
BDE .6468 BRA 1.1263 BC3 .3361 FSP 738

MID-COURSE EXECUTION ACCURACY

SGT 1882.1 SGR 503.4 S63 476.5
RRT .4205 RRF -.4623 RTF -.8524
SGB 1948.3 R23 -.0852 R13 -.8652
SG1 1894.7 S62 453.7 THA 6.81

ORBIT DETERMINATION ACCURACY

ST 45.8 SR 21.8 SS 44.0
CRT .8341 CRS .6130 CST .9460
LSA 64.8 MSA 17.6 SSA 1.2
EL1 49.5 EL2 11.1 ALF 22.91

LAUNCH DATE APR 18 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.917 GAL -3.23 AZL 92.44 HCA 136.08 SMA 194.14 ECC .23290 INC 2.4350 V1 29.663
RP 206.84 LAP -1.69 LOP 343.43 VP 24.488 GAP 12.94 AZP 88.25 TAL 342.75 TAP 118.83 RCA 148.93 APO 239.35 V2 26.477
RC 71.130 GL -19.50 GP 4.11 ZAL 123.99 ZAP 152.92 ETS 171.84 ZAE 171.84 ETE 61.81 ZAC 104.29 ETC 277.58 LVI -21.57

PLANETOCENTRIC CONIC

C3 17.491 VHL 4.182 DLA -26.20 RAL 343.49 RAD 6641.7 VEL 11.727 PTH 6.76 VHP 5.812 DPA -13.70 RAP 318.39 ECC 1.2879
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 26 16 2517.87 -8.29 67.18 200.48 137.02 19 8 14 1517.9 10.10 51.42
60.00 19 45 14 2307.83 -2.67 53.64 205.85 130.23 20 23 41 1307.8 13.32 35.53
70.00 21 29 19 2001.72 3.50 33.49 210.52 124.00 22 2 41 1001.7 16.93 13.26
80.00 23 44 48 1577.47 10.08 5.29 214.51 118.25 24 11 6 577.5 20.83 343.07
90.00 2 14 36 1107.01 15.65 333.49 217.31 113.86 2 33 3 107.0 24.15 309.68
100.00 2 31 36 1051.95 10.08 326.66 214.51 118.25 2 49 8 51.9 20.83 304.44
110.00 2 32 41 1048.54 3.50 322.41 210.52 124.00 2 50 10 48.5 16.93 302.18

DIFFERENTIAL CORRECTIONS

TDE -.5538 TRA-1.1044 TC3 .1665 BAW .0828
RDE -.3141 RRA -.0255 RC3 .3123 FAU .07650
FDE .7849 FRA 3.1033 FC3-3.7866 BSP 3294
BDE .6367 BRA 1.1047 BC3 .3539 FSP 790

MID-COURSE EXECUTION ACCURACY

SGT 1882.1 SGR 504.9 S63 507.2
RRT .4534 RRF -.4997 RTF -.8634
SGB 1948.6 R23 -.0952 R13 -.8666
SG1 1896.8 S62 446.5 THA 7.34

ORBIT DETERMINATION ACCURACY

ST 45.9 SR 21.5 SS 45.3
CRT .8425 CRS .6184 CST .9432
LSA 65.6 MSA 17.6 SSA 1.2
EL1 49.5 EL2 10.7 ALF 22.71

LAUNCH DATE APR 18 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.866 GAL -3.16 AZL 92.47 HCA 137.35 SMA 193.18 ECC .22889 INC 2.4676 V1 29.665
 RP 206.90 LAP -1.67 LOP 344.69 VP 24.411 GAP 12.60 AZP 88.18 TAL 342.88 TAP 120.23 RCA 148.96 APO 237.39 V2 26.470
 RC 72.517 GL -20.02 GP 4.32 ZAL 123.81 ZAP 151.62 ETS 171.87 ZAE 171.93 ETE 63.98 ZAC 104.51 ETC 277.59 LVI -21.77

PLANETOCENTRIC CONIC
 C3 17.025 VHL 4.128 DLA -26.70 RAL 343.87 RAD 6641.5 VEL 11.707 PTH 6.74 VHP 5.644 DPA -13.50 RAP 318.30 ECC 1.2802
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 41 2500.16 -7.41 66.43 200.51 137.13 19 11 22 1500.2 10.97 50.65
 60.00 19 49 53 2286.81 -1.75 52.63 205.93 130.27 20 28 0 1286.8 14.21 34.46
 70.00 21 36 22 1973.71 4.57 32.02 210.70 123.88 22 9 15 973.7 17.88 11.64
 80.00 0 3 6 1526.39 11.71 2.38 214.99 117.66 0 28 33 526.4 22.09 339.80
 94.91 1 51 54 1176.43 17.73 339.50 217.93 112.94 2 11 31 176.4 25.63 315.18
 100.00 2 45 58 1000.86 11.71 323.74 214.99 117.66 3 2 39 .9 22.09 301.17
 110.00 2 39 43 1020.53 4.57 320.94 210.70 123.88 2 56 44 20.5 17.88 300.56

DIFFERENTIAL CORRECTIONS
 TDE -.5310 TRA-1.0654 TC3 .2081 BAU .0892 SGT 1848.7 SGR 507.9 SG3 539.1 CRT 44.7 SR 21.2 SS 46.4
 RDE -.3049 RRA -.0279 RC3 .3321 FAU .08047 RRT .4904 RRF -.5382 RTF -.8712 CRT .8478 CRS .6210 CST .9410
 FDE .8031 FRA 3.2383 FC3-4.0921 BSP 3102 SGB 1917.2 R23 -.0981 R13 -.8749 LSA 65.5 MSA 17.6 SSA 1.2
 BDE .6123 BRA 1.0660 BC3 .3919 FSP 835 SG1 1866.4 SG2 438.4 THA 6.12 EL1 48.4 EL2 10.4 ALF 23.01

MID-COURSE EXECUTION ACCURACY
 SGT 1848.7 SGR 507.9 SG3 539.1
 RRT .4904 RRF -.5382 RTF -.8712
 SGB 1917.2 R23 -.0981 R13 -.8749
 SG1 1866.4 SG2 438.4 THA 6.12

ORBIT DETERMINATION ACCURACY
 ST 44.7 SR 21.2 SS 46.4
 CRT .8478 CRS .6210 CST .9410
 LSA 65.5 MSA 17.6 SSA 1.2
 EL1 48.4 EL2 10.4 ALF 23.01

LAUNCH DATE APR 18 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.817 GAL -3.10 AZL 92.50 HCA 138.81 SMA 192.29 ECC .22514 INC 2.5018 V1 29.665
 RP 206.96 LAP -1.65 LOP 345.96 VP 24.337 GAP 12.26 AZP 88.12 TAL 343.00 TAP 121.61 RCA 149.00 APO 235.58 V2 26.462
 RC 73.950 GL -20.55 GP 4.56 ZAL 123.62 ZAP 150.29 ETS 171.88 ZAE 172.02 ETE 66.99 ZAC 104.74 ETC 277.58 LVI -21.98

PLANETOCENTRIC CONIC
 C3 16.603 VHL 4.075 DLA -29.20 RAL 343.86 RAD 6641.3 VEL 11.689 PTH 6.72 VHP 5.481 DPA -13.29 RAP 318.18 ECC 1.2732
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 33 14 2482.79 -6.54 65.69 200.59 137.23 19 14 36 1482.8 11.83 49.89
 60.00 19 54 44 2265.98 -.83 51.64 206.06 130.29 20 32 30 1266.0 15.08 33.39
 70.00 21 43 47 1945.21 5.65 30.52 210.94 123.74 22 16 12 945.2 18.83 9.98
 80.00 0 21 6 1464.61 13.63 358.80 215.67 116.82 0 45 31 464.6 23.51 335.77
 82.41 1 32 26 1235.86 18.17 344.08 217.87 113.26 1 53 2 235.9 26.16 319.69
 100.00 3 3 58 6227.12 13.63 298.08 215.67 116.82 4 47 45 5227.1 23.51 275.04
 110.00 2 47 9 6280.07 5.65 297.35 210.94 123.74 4 31 49 5280.1 18.83 276.80

DIFFERENTIAL CORRECTIONS
 TDE -.5374 TRA-1.0541 TC3 .1787 BAU .0873 SGT 1864.2 SGR 513.2 SG3 573.6 CRT 45.6 SR 20.9 SS 48.0
 RDE -.2973 RRA -.0521 RC3 .3506 FAU .08390 RRT .5226 RRF -.5787 RTF -.8651 CRT .8612 CRS .6317 CST .9369
 FDE .8400 FRA 3.3988 FC3-4.3749 BSP 3262 SGB 1933.6 R23 -.1181 R13 -.8698 LSA 67.1 MSA 17.8 SSA 1.2
 BDE .6141 BRA 1.0554 BC3 .3935 FSP 902 SG1 1864.5 SG2 432.8 THA 8.63 EL1 49.2 EL2 9.9 ALF 22.55

MID-COURSE EXECUTION ACCURACY
 SGT 1864.2 SGR 513.2 SG3 573.6
 RRT .5226 RRF -.5787 RTF -.8651
 SGB 1933.6 R23 -.1181 R13 -.8698
 SG1 1864.5 SG2 432.8 THA 8.63

ORBIT DETERMINATION ACCURACY
 ST 45.6 SR 20.9 SS 48.0
 CRT .8612 CRS .6317 CST .9369
 LSA 67.1 MSA 17.8 SSA 1.2
 EL1 49.2 EL2 9.9 ALF 22.55

LAUNCH DATE APR 18 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.772 GAL -3.04 AZL 92.54 HCA 139.88 SMA 191.48 ECC .22161 INC 2.5378 V1 29.665
 RP 207.04 LAP -1.64 LOP 347.23 VP 24.266 GAP 11.94 AZP 88.06 TAL 343.12 TAP 122.99 RCA 149.03 APO 233.89 V2 26.454
 RC 75.426 GL -21.09 GP 4.80 ZAL 123.44 ZAP 148.92 ETS 171.89 ZAE 172.11 ETE 70.68 ZAC 105.00 ETC 277.58 LVI -22.19

PLANETOCENTRIC CONIC
 C3 16.218 VHL 4.027 DLA -29.71 RAL 344.06 RAD 6641.1 VEL 11.673 PTH 6.71 VHP 5.325 DPA -13.08 RAP 318.02 ECC 1.2669
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 36 53 2465.59 -5.68 64.96 200.71 137.32 19 17 59 1465.6 12.68 49.14
 60.00 19 59 48 2245.10 .09 50.64 206.24 130.30 20 37 11 1245.1 15.95 32.31
 70.00 21 51 43 1915.77 6.76 28.97 211.26 123.56 22 23 39 915.8 19.80 8.24
 80.00 0 49 34 1370.23 16.48 353.22 216.83 115.27 1 12 24 370.2 25.47 329.43
 80.49 1 18 15 1278.55 18.62 347.44 217.86 113.56 1 39 33 278.5 26.72 323.00
 100.00 3 32 28 6132.74 16.46 292.49 216.83 115.27 5 14 39 5132.7 25.45 288.71
 110.00 2 55 5 6250.62 6.76 295.79 211.26 123.56 4 39 18 5250.6 19.80 275.06

DIFFERENTIAL CORRECTIONS
 TDE -.5324 TRA-1.0303 TC3 .1714 BAU .0888 SGT 1855.1 SGR 520.7 SG3 609.6 ST 45.6 SR 20.7 SS 49.4
 RDE -.2897 RRA -.0686 RC3 .3711 FAU .08778 RRT .5566 RRF -.6193 RTF -.8335 CRT .8727 CRS .6411 CST .9330
 FDE .8715 FRA 3.5399 FC3-4.6857 BSP 3261 SGB 1926.8 R23 -.1345 R13 -.8691 LSA 68.0 MSA 17.9 SSA 1.1
 BDE .6062 BRA 1.0325 BC3 .4088 FSP 965 SG1 1878.9 SG2 427.1 THA 9.37 EL1 49.1 EL2 9.4 ALF 22.47

MID-COURSE EXECUTION ACCURACY
 SGT 1855.1 SGR 520.7 SG3 609.6
 RRT .5566 RRF -.6193 RTF -.8335
 SGB 1926.8 R23 -.1345 R13 -.8691
 SG1 1878.9 SG2 427.1 THA 9.37

ORBIT DETERMINATION ACCURACY
 ST 45.6 SR 20.7 SS 49.4
 CRT .8727 CRS .6411 CST .9330
 LSA 68.0 MSA 17.9 SSA 1.1
 EL1 49.1 EL2 9.4 ALF 22.47

LAUNCH DATE APR 18 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.729 GAL -2.98 AZL 92.58 HCA 141.14 SMA 190.68 ECC .21831 INC 2.5756 V1 29.665
 RP 207.12 LAP -1.62 LOP 348.49 VP 24.198 GAP 11.61 AZP 87.99 TAL 343.23 TAP 124.37 RCA 149.06 APO 232.31 V2 26.444
 RC 76.944 GL -21.63 GP 5.07 ZAL 123.26 ZAP 147.51 ETS 171.90 ZAE 172.16 ETE 75.07 ZAC 105.28 ETC 277.56 LVI -22.41

PLANETOCENTRIC CONIC
 C3 15.871 VHL 3.984 DLA -30.23 RAL 344.27 RAD 6640.9 VEL 11.658 PTH 6.70 VHP 5.174 DPA -12.86 RAP 317.82 ECC 1.2612
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 40 41 2448.57 -4.83 64.24 200.87 137.39 19 21 29 1448.6 13.51 48.38
 60.00 20 5 1 2224.18 1.01 49.64 206.47 130.29 20 42 5 1224.2 16.81 31.22
 70.00 22 0 15 1885.19 7.91 27.34 211.64 123.33 22 31 40 885.2 20.78 6.41
 78.86 1 6 42 1313.15 19.06 350.22 217.88 113.91 1 28 35 313.2 27.25 325.72
 78.86 1 6 42 1313.15 19.06 350.22 217.88 113.91 1 28 35 313.2 27.25 325.72
 78.86 1 6 42 1313.15 19.06 350.22 217.88 113.91 1 28 35 313.2 27.25 325.72
 110.00 3 3 37 6220.05 7.91 294.17 211.64 123.33 4 47 17 5220.1 20.78 273.23

DIFFERENTIAL CORRECTIONS
 TDE -.5257 TRA-1.0035 TC3 .1650 BAU .0904 SGT 1838.2 SGR 530.8 SG3 647.5 ST 45.4 SR 20.4 SS 50.8
 RDE -.2825 RRA -.0819 RC3 .3931 FAU .09190 RRT .5905 RRF -.6599 RTF -.8620 CRT .8845 CRS .6518 CST .9290
 FDE .9037 FRA 3.7290 FC3-5.0129 BSP 3257 SGB 1913.3 R23 -.1518 R13 -.8689 LSA 68.8 MSA 18.0 SSA 1.1
 BDE .5966 BRA 1.0068 BC3 .4263 FSP 1029 SG1 1866.2 SG2 422.0 THA 10.20 EL1 48.9 EL2 8.8 ALF 22.49

MID-COURSE EXECUTION ACCURACY
 SGT 1838.2 SGR 530.8 SG3 647.5
 RRT .5905 RRF -.6599 RTF -.8620
 SGB 1913.3 R23 -.1518 R13 -.8689
 SG1 1866.2 SG2 422.0 THA 10.20

ORBIT DETERMINATION ACCURACY
 ST 45.4 SR 20.4 SS 50.8
 CRT .8845 CRS .6518 CST .9290
 LSA 68.8 MSA 18.0 SSA 1.1
 EL1 48.9 EL2 8.8 ALF 22.49

LAUNCH DATE APR 18 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.688 GAL -2.93 AZL 92.62 HCA 142.41 SMA 189.97 ECC .21522 INC 2.6155 V1 29.665
RP 207.21 LAP -1.60 LOP 349.75 VP 24.132 GAP 11.30 AZP 87.93 TAL 343.33 TAP 125.73 RCA 149.08 APO 230.85 V2 26.433
RC 78.302 GL -22.19 GP 5.36 ZAL 123.07 ZAP 146.07 ETS 171.89 ZAE 172.16 ETE 80.13 ZAC 105.58 ETC 277.53 LVI -22.63

PLANETOCENTRIC CONIC

C3 15.558 VHL 3.944 DLA -30.75 RAL 344.50 RAD 6640.8 VEL 11.645 PTH 6.88 VHP 5.030 DPA -12.64 RAP 317.58 ECC 1.2560
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 38 2431.73 -3.98 63.54 201.08 137.45 19 25 9 1431.7 14.34 47.63
60.00 20 10 31 2203.19 1.94 48.64 206.76 130.26 20 47 14 1203.2 17.67 30.11
70.00 22 9 29 1853.15 9.10 25.63 212.11 123.06 22 40 22 853.2 21.78 4.46
77.40 0 56 51 1342.76 19.49 352.64 217.96 114.26 1 19 14 342.8 27.78 328.08
77.40 0 56 51 1342.76 19.49 352.64 217.96 114.26 1 19 14 342.8 27.78 328.08
77.40 0 56 51 1342.76 19.49 352.64 217.96 114.26 1 19 14 342.8 27.78 328.08
110.00 3 12 51 6188.01 9.10 292.46 212.11 123.06 4 55 59 5188.0 21.78 271.29

DIFFERENTIAL CORRECTIONS

TDE -.5173 TRA -.9733 TC3 .1568 BAU .0926
RDE -.2757 RRA -.0981 RC3 .4165 FAU .09820
FDE .9357 FRA 3.9041 FC3-3.3533 B8P 3220
BDE .5862 BRA .9782 BC3 .4450 F8P 1098

MID-COURSE EXECUTION ACCURACY

SGT 1812.8 SGR 543.9 S63 687.0
RRT .6230 RRF -.6997 RTF -.8602
SGB 1892.8 R23 -.1707 R13 -.8687
SG1 1845.9 S62 417.8 THA 11.17

ORBIT DETERMINATION ACCURACY

ST 44.9 SR 20.2 SS 52.3
CRT .8969 CRS .6635 CST .9246
LSA 69.5 MSA 18.1 SSA 1.1
EL1 48.6 EL2 8.3 ALF 22.63

LAUNCH DATE APR 18 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.651 GAL -2.88 AZL 92.66 HCA 143.67 SMA 189.30 ECC .21232 INC 2.6578 V1 29.665
RP 207.31 LAP -1.57 LOP 351.02 VP 24.068 GAP 10.99 AZP 87.86 TAL 343.43 TAP 127.09 RCA 149.11 APO 229.49 V2 26.422
RC 80.098 GL -22.76 GP 5.66 ZAL 122.89 ZAP 144.58 ETS 171.88 ZAE 172.08 ETE 85.76 ZAC 105.92 ETC 277.50 LVI -22.86

PLANETOCENTRIC CONIC

C3 15.278 VHL 3.909 DLA -31.28 RAL 344.74 RAD 6640.7 VEL 11.633 PTH 6.67 VHP 4.891 DPA -12.40 RAP 317.28 ECC 1.2514
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 44 2415.01 -3.14 62.84 201.34 137.50 19 28 59 1415.0 15.15 46.88
60.00 20 16 18 2182.01 2.87 47.63 207.11 130.22 20 52 40 1182.0 18.53 28.98
70.00 22 19 37 1819.07 10.36 23.80 212.67 122.73 22 49 56 819.1 22.82 2.36
76.04 0 48 12 1369.01 19.93 354.83 218.08 114.62 1 11 1 369.0 28.32 330.20
76.04 0 48 12 1369.01 19.93 354.83 218.08 114.62 1 11 1 369.0 28.32 330.20
76.04 0 48 12 1369.01 19.93 354.83 218.08 114.62 1 11 1 369.0 28.32 330.20
110.00 3 22 59 6153.93 10.36 290.62 212.68 122.73 5 5 33 5153.9 22.82 269.19

DIFFERENTIAL CORRECTIONS

TDE -.4991 TRA -.9310 TC3 .1728 BAU .0972
RDE -.2668 RRA -.1146 RC3 .4435 FAU .10130
FDE .9590 FRA 4.0750 FC3-3.7401 B8P 3044
BDE .5669 BRA .9380 BC3 .4759 F8P 1158

MID-COURSE EXECUTION ACCURACY

SGT 1761.6 SGR 560.4 S63 727.8
RRT .6572 RRF -.7378 RTF -.8622
SGB 1848.6 R23 -.1832 R13 -.8726
SG1 1801.9 S62 412.9 THA 12.47

ORBIT DETERMINATION ACCURACY

ST 43.7 SR 19.9 SS 53.4
CRT .9083 CRS .6738 CST .9198
LSA 69.5 MSA 18.1 SSA 1.1
EL1 47.4 EL2 7.7 ALF 23.12

LAUNCH DATE APR 18 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 5 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.618 GAL -2.84 AZL 92.70 HCA 144.93 SMA 188.68 ECC .20962 INC 2.7026 V1 29.665
RP 207.42 LAP -1.55 LOP 352.28 VP 24.006 GAP 10.69 AZP 87.79 TAL 343.51 TAP 128.44 RCA 149.13 APO 226.23 V2 26.409
RC 81.730 GL -23.34 GP 5.99 ZAL 122.71 ZAP 143.05 ETS 171.86 ZAE 171.91 ETE 91.79 ZAC 106.28 ETC 277.48 LVI -23.11

PLANETOCENTRIC CONIC

C3 15.034 VHL 3.877 DLA -31.81 RAL 345.00 RAD 6640.5 VEL 11.623 PTH 6.66 VHP 4.758 DPA -12.16 RAP 316.95 ECC 1.2474
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 53 1 2398.53 -2.32 62.15 201.65 137.53 19 33 0 1398.5 15.96 46.14
60.00 20 22 22 2180.78 3.80 46.61 207.52 130.15 20 58 22 1160.8 19.39 27.84
70.00 22 30 51 1782.53 11.70 21.81 213.35 122.32 23 0 33 782.5 23.89 .07
74.78 0 40 32 1392.73 20.35 356.83 218.26 115.00 1 3 44 392.7 28.86 332.15
74.78 0 40 32 1392.73 20.35 356.83 218.26 115.00 1 3 44 392.7 28.86 332.15
74.78 0 40 32 1392.73 20.35 356.83 218.26 115.00 1 3 44 392.7 28.86 332.15
110.00 3 34 13 6117.58 11.70 288.64 213.35 122.32 5 16 10 5117.4 23.89 266.90

DIFFERENTIAL CORRECTIONS

TDE -.9047 TRA -.9108 TC3 .1210 BAU .0972
RDE -.2638 RRA -.1338 RC3 .4881 FAU .10345
FDE 1.0088 FRA 4.2803 FC3-6.0724 B8P 3153
BDE .5695 BRA .9206 BC3 .4835 F8P 1245

MID-COURSE EXECUTION ACCURACY

SGT 1753.2 SGR 581.3 S63 771.8
RRT .6804 RRF -.7747 RTF -.520
SGB 1847.0 R23 -.2188 R13 -.8653
SG1 1799.8 S62 415.0 THA 13.44

ORBIT DETERMINATION ACCURACY

ST 44.2 SR 19.8 SS 55.3
CRT .9246 CRS .6934 CST .9141
LSA 71.2 MSA 18.4 SSA 1.1
EL1 47.9 EL2 7.0 ALF 23.02

LAUNCH DATE APR 18 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.583 GAL -2.79 AZL 92.75 HCA 146.19 SMA 188.11 ECC .20710 INC 2.7502 V1 29.665
RP 207.54 LAP -1.53 LOP 353.54 VP 23.948 GAP 10.40 AZP 87.71 TAL 343.59 TAP 129.78 RCA 149.15 APO 227.06 V2 26.395
RC 83.399 GL -23.93 GP 6.38 ZAL 122.53 ZAP 141.47 ETS 171.84 ZAE 171.60 ETE 98.03 ZAC 106.67 ETC 277.41 LVI -23.38

PLANETOCENTRIC CONIC

C3 14.819 VHL 3.850 DLA -32.36 RAL 345.28 RAD 6640.4 VEL 11.613 PTH 6.65 VHP 4.631 DPA -11.90 RAP 316.58 ECC 1.2439
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 57 31 2382.09 -1.49 61.46 202.02 137.56 19 37 13 1382.1 16.75 45.38
60.00 20 28 47 2139.19 4.75 45.57 208.00 130.07 21 4 26 1139.2 19.25 26.66
70.00 22 43 40 1741.92 13.17 19.58 214.17 121.80 23 12 42 741.9 25.04 357.48
73.58 0 33 35 1414.66 20.77 358.71 218.50 115.39 0 57 9 414.7 29.39 333.97
73.58 0 33 35 1414.66 20.77 358.71 218.50 115.39 0 57 9 414.7 29.39 333.97
73.58 0 33 35 1414.66 20.77 358.71 218.50 115.39 0 57 9 414.7 29.39 333.97
110.00 3 47 2 6076.78 13.17 286.41 214.17 121.80 5 28 19 5076.8 25.04 264.31

DIFFERENTIAL CORRECTIONS

TDE -.4978 TRA -.8761 TC3 .0964 BAU .1002
RDE -.2586 RRA -.1536 RC3 .4965 FAU .11033
FDE 1.0470 FRA 4.4800 FC3-6.4457 B8P 3096
BDE .5608 BRA .8894 BC3 .5058 F8P 1322

MID-COURSE EXECUTION ACCURACY

SGT 1713.7 SGR 606.3 S63 816.8
RRT .7039 RRF -.8085 RTF -.8461
SGB 1817.8 R23 -.2465 R13 -.8631
SG1 1769.3 S62 417.1 THA 14.83

ORBIT DETERMINATION ACCURACY

ST 43.7 SR 19.7 SS 56.8
CRT .9388 CRS .7106 CST .9078
LSA 71.9 MSA 18.6 SSA 1.0
EL1 47.5 EL2 6.2 ALF 23.35

LAUNCH DATE APR 18 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC				DISTANCE 436.354				EARTH TO MARS					
RL	150.20	LAL .00	LOL 207.32	VL 32.552	GAL	-2.76	AZL 92.80	HCA 147.45	SMA 107.57	ECC .20474	INC 2.8010	V1 29.665	
RP	207.66	LAP -1.51	LOP 354.80	VP 23.800	GAP	10.11	AZP 87.64	TAL 343.66	TAP 131.10	RCA 149.17	APO 225.98	V2 26.381	
RC	85.104	GL -24.54	GP 6.74	ZAL 122.35	ZAP	139.85	ETS 171.81	ZAE 171.16	ETE 104.23	ZAC 107.09	ETC 277.35	LVI -23.63	
PLANETOCENTRIC CONIC													
C3	14.635	VHL 3.826	DLA -32.91	RAL 345.58	RAD 6640.4	VEL 11.606	PTH 6.65	VHP 4.509	DPA -11.62	RAP 316.12	ECC 1.2409		
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG		
90.00	19 2 14	2365.71		- .67	60.77	202.45	137.57	19 41 39	1365.7	17.54	44.63		
60.00	20 35 35	2117.21		5.71	44.51	208.56	129.96	21 10 52	1117.2	21.12	25.45		
70.00	22 58 51	1693.03		14.83	16.97	215.17	121.12	23 27 6	695.0	26.31	354.42		
72.42	0 27 14	1435.26		21.18	.50	218.78	115.80	0 51 10	435.3	29.93	335.71		
72.42	0 27 14	1435.26		21.18	.50	218.78	115.80	0 51 10	435.3	29.93	335.71		
72.42	0 27 14	1435.26		21.18	.50	218.78	115.80	0 51 10	435.3	29.93	335.71		
110.00	4 2 13	6029.88		14.83	283.80	215.17	121.12	5 42 43	5029.9	26.31	261.25		
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY					
TDE	- .4905	TRA	- .8391	TC3 .0661	BAU .1039	SGT 1668.2	SGR 636.1	SG3 863.3	ST 43.0	SR 19.6	SS 58.4		
RDE	- .2540	RRA	- .1750	RC3 .5267	FAU .11532	RRT .7230	RRF -.6393	RTF -.8387	CRT .9528	CR3 .7296	CST .9009		
FDE	1.0877	FRA	4.6880	FC3 -6.8220	BSP 3038	SG8 1785.4	R23 -.2763	R13 -.8607	LSA 72.7	MSA 18.8	SSA 1.0		
BDE	.5523	BRA	.8571	BC3 .5309	FSP 1405	SG1 1734.6	SG2 422.6	THA 16.41	EL1 47.0	EL2 5.5	ALF 23.79		

LAUNCH DATE APR 18 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC				DISTANCE 440.401				EARTH TO MARS					
RL	150.20	LAL .00	LOL 207.32	VL 32.523	GAL	-2.72	AZL 92.86	HCA 148.70	SMA 107.08	ECC .20256	INC 2.8554	V1 29.665	
RP	207.80	LAP -1.48	LOP 356.05	VP 23.832	GAP	9.83	AZP 87.56	TAL 343.71	TAP 132.42	RCA 149.19	APO 224.98	V2 26.365	
RC	86.843	GL -25.17	GP 7.15	ZAL 122.17	ZAP	138.19	ETS 171.79	ZAE 170.57	ETE 110.17	ZAC 107.55	ETC 277.29	LVI -23.91	
PLANETOCENTRIC CONIC													
C3	14.481	VHL 3.805	DLA -33.48	RAL 345.91	RAD 6640.3	VEL 11.599	PTH 6.64	VHP 4.394	DPA -11.33	RAP 315.64	ECC 1.2383		
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG		
90.00	19 7 12	2349.33		.16	60.09	202.95	137.58	19 46 21	1349.3	18.33	43.87		
60.00	20 42 51	2094.69		6.69	43.42	209.20	129.84	21 17 46	1094.7	21.99	24.19		
70.00	23 18 18	1636.13		16.88	13.63	216.46	120.14	23 45 34	636.1	27.79	350.49		
71.29	0 21 25	1454.88		21.59	2.23	219.13	116.23	0 45 40	454.9	30.48	337.39		
71.29	0 21 25	1454.88		21.59	2.23	219.13	116.23	0 45 40	454.9	30.48	337.39		
71.29	0 21 25	1454.88		21.59	2.23	219.13	116.23	0 45 40	454.9	30.48	337.39		
110.00	4 21 40	5970.99		16.88	280.46	216.46	120.14	6 1 11	4971.0	27.79	257.31		
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY					
TDE	- .4821	TRA	- .7977	TC3 .0353	BAU .1088	SGT 1612.8	SGR 671.1	SG3 911.1	ST 42.2	SR 19.6	SS 59.8		
RDE	- .2498	RRA	- .1978	RC3 .5598	FAU .12068	RRT .7378	RRF -.8668	RTF -.8298	CRT .9661	CR3 .7496	CST .8929		
FDE	1.1283	FRA	4.8982	FC3 -7.2145	BSP 2932	SG8 1746.9	R23 -.3061	R13 -.8585	LSA 73.4	MSA 19.0	SSA 1.0		
BDE	.5430	BRA	.8219	BC3 .5609	FSP 1486	SG1 1692.7	SG2 431.7	THA 18.30	EL1 46.3	EL2 4.6	ALF 24.36		

LAUNCH DATE APR 18 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC				DISTANCE 444.462				EARTH TO MARS					
RL	150.20	LAL .00	LOL 207.32	VL 32.497	GAL	-2.69	AZL 92.91	HCA 149.96	SMA 106.62	ECC .20053	INC 2.9138	V1 29.665	
RP	207.94	LAP -1.46	LOP 357.31	VP 23.777	GAP	9.55	AZP 87.48	TAL 343.76	TAP 133.72	RCA 149.20	APO 224.05	V2 26.349	
RC	88.616	GL -25.82	GP 7.80	ZAL 122.00	ZAP	136.48	ETS 171.76	ZAE 169.82	ETE 115.68	ZAC 108.05	ETC 277.22	LVI -24.21	
PLANETOCENTRIC CONIC													
C3	14.357	VHL 3.789	DLA -34.06	RAL 346.26	RAD 6640.2	VEL 11.594	PTH 6.64	VHP 4.284	DPA -11.01	RAP 315.10	ECC 1.2363		
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG		
90.00	19 12 27	2332.88		.98	59.40	203.51	137.57	19 51 20	1332.8	19.11	43.09		
60.00	20 50 39	2071.43		7.70	42.29	209.93	120.68	21 25 11	1071.4	22.89	22.87		
70.00	23 51 35	1536.30		20.19	7.79	218.54	118.15	24 17 11	536.3	30.00	343.56		
70.18	0 16 3	1473.69		21.99	3.91	219.54	116.68	0 40 37	473.7	31.02	339.02		
70.18	0 16 3	1473.69		21.99	3.91	219.54	116.68	0 40 37	473.7	31.02	339.02		
70.18	0 16 3	1473.69		21.99	3.91	219.54	116.68	0 40 37	473.7	31.02	339.02		
110.00	4 54 57	5871.15		20.19	274.61	218.54	118.15	6 32 49	4871.2	30.00	250.38		
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY					
TDE	- .4703	TRA	- .7507	TC3 .0069	BAU .1144	SGT 1543.8	SGR 711.6	SG3 959.8	ST 41.1	SR 19.6	SS 61.3		
RDE	- .2458	RRA	- .2221	RC3 .5959	FAU .12636	RRT .7484	RRF -.8908	RTF -.2.98	CRT .9779	CR3 .7696	CST .8834		
FDE	1.1639	FRA	5.1097	FC3 -7.8194	BSP 2818	SG8 1699.9	R23 -.3328	R13 -.8580	LSA 73.9	MSA 19.1	SSA .9		
BDE	.5306	BRA	.7829	BC3 .5959	FSP 1563	SG1 1640.8	SG2 444.1	THA 20.61	EL1 45.3	EL2 3.7	ALF 25.16		

LAUNCH DATE APR 18 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC				DISTANCE 448.535				EARTH TO MARS					
RL	150.20	LAL .00	LOL 207.32	VL 32.472	GAL	-2.67	AZL 92.98	HCA 151.21	SMA 106.20	ECC .19865	INC 2.9767	V1 29.665	
RP	208.08	LAP -1.43	LOP 358.58	VP 23.724	GAP	9.28	AZP 87.39	TAL 343.80	TAP 135.00	RCA 149.21	APO 223.19	V2 26.332	
RC	90.421	GL -26.49	GP 8.09	ZAL 121.82	ZAP	134.73	ETS 171.73	ZAE 168.92	ETE 120.64	ZAC 108.60	ETC 277.13	LVI -24.53	
PLANETOCENTRIC CONIC													
C3	14.264	VHL 3.777	DLA -34.65	RAL 346.64	RAD 6640.2	VEL 11.590	PTH 6.63	VHP 4.180	DPA -10.67	RAP 314.51	ECC 1.2348		
LNCH	AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG		
90.00	19 18 2	2316.58		1.81	58.71	204.1*	137.55	19 56 39	1316.4	19.90	42.31		
60.00	20 59 5	2047.30		8.75	41.12	210.7	129.50	21 33 12	1047.3	23.80	21.49		
69.09	0 11 7	1491.91		22.39	5.55	220.03	117.16	0 35 59	491.9	31.57	340.61		
69.09	0 11 7	1491.91		22.39	5.55	220.03	117.16	0 35 59	491.9	31.57	340.61		
69.09	0 11 7	1491.91		22.39	5.55	220.03	117.16	0 35 59	491.9	31.57	340.61		
69.09	0 11 7	1491.91		22.39	5.55	220.03	117.16	0 35 59	491.9	31.57	340.61		
110.00	4 11 7	1491.91		22.39	5.55	220.03	117.16	0 35 59	491.9	31.57	340.61		
DIFFERENTIAL CORRECTIONS				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY					
TDE	- .4708	TRA	- .7126	TC3 -.0606	BAU .1208	SGT 1496.2	SGR 759.0	SG3 1010.7	ST 40.8	SR 19.8	SS 63.2		
RDE	- .2440	RRA	- .2499	RC3 .6305	FAU .13119	RRT .7466	RRF -.9117	RTF -.8003	CRT .9885	CR3 .7948	CST .8737		
FDE	1.2249	FRA	5.3468	FC3 -7.9620	BSP 2824	SG8 1677.8	R23 -.3716	R13 -.8517	LSA 75.2	MSA 19.5	SSA .9		
BDE	.5303	BRA	.7551	BC3 .6334	FSP 1665	SG1 1610.9	SG2 469.0	THA 22.78	EL1 45.2	EL2 2.7	ALF 25.70		

LAUNCH DATE APR 18 1971 FLIGHT TIME 182.80 ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC DISTANCE 452.621 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.449 GAL -2.64 AZL 93.04 MCA 152.46 SMA 185.81 ECC .19691 INC 3.0447 V1 29.665
RP 208.24 LAP -1.41 LOP 359.81 VP 23.672 GAP 9.02 AZP 87.30 TAL 343.82 TAP 136.28 RCA 149.22 APO 222.40 V2 26.313
RC 92.258 GL -27.18 GP 8.62 ZAL 121.84 ZAP 132.93 ETS 171.70 ZAE 167.87 ETE 125.02 ZAC 109.19 ETC 277.04 LVI -24.88
PLANETOCENTRIC CONIC
C3 14.202 VHL 3.760 DLA -35.26 RAL 347.06 RAD 6640.1 VEL 11.587 PTH 6.63 VHP 4.082 DPA -10.30 RAP 313.87 ECC 1.2337
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 24 0 2289.63 2.65 58.01 204.88 137.52 20 2 20 1299.6 20.69 41.80
60.00 21 8 18 2021.85 9.85 39.87 211.71 129.28 21 42 0 1021.9 24.75 20.00
66.01 0 6 32 1509.79 22.79 7.18 220.59 117.67 0 31 42 509.8 32.13 342.20
66.01 0 6 32 1509.79 22.79 7.18 220.59 117.67 0 31 42 509.8 32.13 342.20
66.01 0 6 32 1509.79 22.79 7.18 220.59 117.67 0 31 42 509.8 32.13 342.20
66.01 0 6 32 1509.79 22.79 7.18 220.59 117.67 0 31 42 509.8 32.13 342.20
66.01 0 6 32 1509.79 22.79 7.18 220.59 117.67 0 31 42 509.8 32.13 342.20
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4641 TRA -.6645 TC3 -.1132 BAU .1291 SGT 1426.9 SGR 813.0 SG3 1061.7 ST 39.9 SR 20.0 SS 64.8
RDE -.2422 RRA -.2792 RC3 .6703 FAU .13675 RRT .7412 RRF -.9293 RTF -.7800 CRT .9987 CRS .8180 CST .8617
FDE 1.2752 FRA 5.5752 FC3-8.3360 BSP 2737 SGB 1642.2 R23 -.3993 R13 -.8501 LSA 76.1 MSA 19.8 SSA .9
BDE .5235 BRA .7208 BC3 .6798 FSP 1784 SG1 1365.0 SG2 497.6 THA 25.68 EL1 44.6 EL2 1.7 ALF 26.99

LAUNCH DATE APR 18 1971 FLIGHT TIME 184.00 ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC DISTANCE 456.718 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.427 GAL -2.62 AZL 93.12 MCA 153.71 SMA 185.45 ECC .19531 INC 3.1184 V1 29.668
RP 208.41 LAP -1.38 LOP 1.06 VP 23.622 GAP 8.76 AZP 87.20 TAL 343.83 TAP 137.54 RCA 149.23 APO 221.67 V2 26.294
RC 94.128 GL -27.91 GP 9.20 ZAL 121.46 ZAP 131.09 ETS 171.67 ZAE 166.68 ETE 128.81 ZAC 109.83 ETC 276.94 LVI -25.25
PLANETOCENTRIC CONIC
C3 14.170 VHL 3.764 DLA -35.89 RAL 347.51 RAD 6640.1 VEL 11.586 PTH 6.63 VHP 3.989 DPA -9.90 RAP 313.18 ECC 1.2332
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 30 25 2282.55 3.51 57.30 205.70 137.48 20 8 27 1282.6 21.49 40.67
60.00 21 18 27 1994.69 11.02 38.52 212.80 129.01 21 31 42 994.7 23.74 18.39
66.92 0 2 16 1527.49 23.17 8.82 221.22 118.20 0 27 44 527.5 32.70 343.80
66.92 0 2 16 1527.49 23.17 8.82 221.22 118.20 0 27 44 527.5 32.70 343.80
66.92 0 2 16 1527.49 23.17 8.82 221.22 118.20 0 27 44 527.5 32.70 343.80
66.92 0 2 16 1527.49 23.17 8.82 221.22 118.20 0 27 44 527.5 32.70 343.80
66.92 0 2 16 1527.49 23.17 8.82 221.22 118.20 0 27 44 527.5 32.70 343.80
66.92 0 2 16 1527.49 23.17 8.82 221.22 118.20 0 27 44 527.5 32.70 343.80
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4575 TRA -.6135 TC3 -.1716 BAU .1388 SGT 1332.8 SGR 874.4 SG3 1113.1 ST 38.9 SR 20.4 SS 66.4
RDE -.2412 RRA -.3112 RC3 .7128 FAU .14234 RRT .7272 RRF -.9440 RTF -.7537 CRT .9989 CRS .8412 CST .8476
FDE 1.3277 FRA 5.8069 FC3-8.6961 BSP 2656 SGB 1610.8 R23 -.4211 R13 -.8505 LSA 77.0 MSA 20.1 SSA .8
BDE .5172 BRA .6879 BC3 .7332 FSP 1844 SG1 1519.6 SG2 534.4 THA 29.11 EL1 43.9 EL2 .8 ALF 27.62

LAUNCH DATE APR 13 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC DISTANCE 460.826 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.407 GAL -2.61 AZL 93.20 MCA 154.96 SMA 185.12 ECC .19383 INC 3.1989 V1 29.665
RP 208.58 LAP -1.35 LOP 2.31 VP 23.572 GAP 8.50 AZP 87.10 TAL 343.83 TAP 138.79 RCA 149.24 APO 221.00 V2 26.274
RC 96.027 GL -28.68 GP 9.83 ZAL 121.28 ZAP 129.20 ETS 171.65 ZAE 165.35 ETE 132.07 ZAC 110.53 ETC 276.84 LVI -25.66
PLANETOCENTRIC CONIC
C3 14.172 VHL 3.765 DLA -36.54 RAL 348.01 RAD 6640.1 VEL 11.586 PTH 6.63 VHP 3.903 DPA -9.45 RAP 312.43 ECC 1.2332
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 37 20 2265.02 4.39 56.56 206.62 137.42 20 15 5 1265.0 22.31 39.81
60.00 21 29 50 1965.18 12.28 37.05 214.06 128.69 22 2 36 965.2 26.80 18.61
65.82 23 54 23 1545.16 23.56 10.46 221.95 118.78 24 20 8 545.2 33.28 345.41
65.82 23 54 23 1545.16 23.56 10.46 221.95 118.78 24 20 8 545.2 33.28 345.41
65.82 23 54 23 1545.16 23.56 10.46 221.95 118.78 24 20 8 545.2 33.28 345.41
65.82 23 54 23 1545.16 23.56 10.46 221.95 118.78 24 20 8 545.2 33.28 345.41
65.82 23 54 23 1545.16 23.56 10.46 221.95 118.78 24 20 8 545.2 33.28 345.41
65.82 23 54 23 1545.16 23.56 10.46 221.95 118.78 24 20 8 545.2 33.28 345.41
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4512 TRA -.5584 TC3 -.2382 BAU .1504 SGT 1273.7 SGR 943.6 SG3 1164.0 ST 37.8 SR 20.9 SS 68.0
RDE -.2413 RRA -.3461 RC3 .7577 FAU .14782 RRT .7026 RRF -.9561 RTF -.7.91 CRT .9971 CRS .8641 CST .8313
FDE 1.3858 FRA 6.0374 FC3-9.0289 BSP 2575 SGB 1585.1 R23 -.4338 R13 -.8545 LSA 77.9 MSA 20.5 SSA .8
BDE .5116 BRA .6570 BC3 .7937 FSP 1934 SG1 1475.3 SG2 579.6 THA 33.28 EL1 43.2 EL2 1.4 ALF 28.83

LAUNCH DATE APR 18 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC DISTANCE 464.943 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.389 GAL -2.59 AZL 93.29 MCA 156.20 SMA 184.81 ECC .19248 INC 3.2871 V1 29.665
RP 208.76 LAP -1.33 LOP 3.55 VP 23.524 GAP 8.25 AZP 86.99 TAL 343.82 TAP 140.02 RCA 149.24 APO 220.39 V2 26.254
RC 97.955 GL -29.49 GP 10.52 ZAL 121.09 ZAP 127.26 ETS 171.63 ZAE 163.90 ETE 134.82 ZAC 111.29 ETC 276.72 LVI -26.11
PLANETOCENTRIC CONIC
C3 14.208 VHL 3.769 DLA -37.23 RAL 348.55 RAD 6640.1 VEL 11.587 PTH 6.63 VHP 3.824 DPA -8.95 RAP 311.63 ECC 1.2338
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 44 52 2246.82 5.30 55.80 207.67 137.35 20 22 19 1246.8 23.16 38.91
60.00 21 42 51 1932.26 13.67 35.38 215.52 128.29 22 15 3 932.3 27.95 14.58
64.71 23 50 42 1562.94 23.95 12.13 222.77 119.40 24 16 45 562.9 33.88 347.06
64.71 23 50 42 1562.94 23.95 12.13 222.77 119.40 24 16 45 562.9 33.88 347.06
64.71 23 50 42 1562.94 23.95 12.13 222.77 119.40 24 16 45 562.9 33.88 347.06
64.71 23 50 42 1562.94 23.95 12.13 222.77 119.40 24 16 45 562.9 33.88 347.06
64.71 23 50 42 1562.94 23.95 12.13 222.77 119.40 24 16 45 562.9 33.88 347.06
64.71 23 50 42 1562.94 23.95 12.13 222.77 119.40 24 16 45 562.9 33.88 347.06
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4390 TRA -.4944 TC3 -.2890 BAU .1633 SGT 1176.3 SGR 1020.6 SG3 1212.9 ST 36.2 SR 21.4 SS 69.2
RDE -.2413 RRA -.3830 RC3 .8097 FAU .15413 RRT .6679 RRF -.9658 RTF -.6760 CRT .9892 CRS .8841 CST .8098
FDE 1.4274 FRA 6.2473 FC3-9.3916 BSP 2448 SGB 1557.4 R23 -.4245 R13 -.8685 LSA 78.3 MSA 20.8 SSA .7
BDE .5009 BRA .6254 BC3 .8597 FSP 2004 SG1 1425.7 SG2 626.7 THA 38.98 EL1 42.0 EL2 2.7 ALF 30.41

LAUNCH DATE APR 18 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC DISTANCE 469.067 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.372 GAL -2.58 AZL 93.38 HCA 157.44 SMA 184.54 ECC .19125 INC 3.7842 V1 29.665

LAUNCH DATE APR 18 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC DISTANCE 473.201 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.357 GAL -2.58 AZL 93.49 HCA 158.68 SMA 184.28 ECC .19013 INC 3.4918 V1 29.665

LAUNCH DATE APR 18 1971 FLIGHT TIME 194.00 ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 477.341 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.343 GAL -2.57 AZL 93.61 HCA 159.92 SMA 184.05 ECC .18912 INC 3.6118 V1 29.665

LAUNCH DATE APR 18 1971 FLIGHT TIME 196.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 481.488 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.330 GAL -2.57 AZL 93.75 HCA 161.15 SMA 183.84 ECC .18821 INC 3.7468 V1 29.665

LAUNCH DATE APR 18 1971

FLIGHT TIME 188.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 489.640

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.319 GAL -2.37 AZL 93.90 HCA 162.39 SMA 183.68 ECC .18740 INC 3.8994 V1 29.665
RP 209.76 LAP -1.18 LOP 9.75 VP 23.296 GAP 7.08 AZP 86.28 TAL 343.96 TAP 145.94 RCA 149.23 APO 218.06 V2 28.137
RC 107.990 GL -34.46 GP 15.19 ZAL 119.88 ZAP 116.97 ETS 171.88 ZAE 154.87 ETE 142.87 ZAC 116.36 ETC 276.06 LVI -29.22

PLANETOCENTRIC CONIC

C3 15.061 VHL 3.881 DLA -41.33 RAL 352.29 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 3.529 DPA -5.36 RAP 306.84 ECC 1.2479
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 37 40 2136.23 10.81 31.07 215.72 136.62 21 13 16 1136.2 28.15 33.11
58.51 23 36 15 1659.65 25.81 21.48 228.91 123.47 24 3 55 659.7 37.19 356.47
58.51 23 36 15 1659.65 25.81 21.48 228.91 123.47 24 3 55 659.7 37.19 356.47
58.51 23 36 15 1659.65 25.81 21.48 228.91 123.47 24 3 55 659.7 37.19 356.47
58.51 23 36 15 1659.65 25.81 21.48 228.91 123.47 24 3 55 659.7 37.19 356.47
58.51 23 36 15 1659.65 25.81 21.48 228.91 123.47 24 3 55 659.7 37.19 356.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4212 TRA -.1548 TC3 -.7180 BAU .2626 SGT 888.8 SGR 1578.5 SG3 1428.7 ST 31.4 SR 28.1 SS 77.4
RDE -.2792 RRA -.6449 RC3 1.0887 FAU .17640 RRT .1222 RRF -.9917 RTF -.1123 CRT .8233 CR8 .9661 CST .6496
FDE 1.8368 FRA 7.2674 FC-10.1400 BSP 2746 SGB 1811.5 R23 -.0637 R13 -.9897 LSA 84.9 MSA 23.5 S5A .5
BDE .5053 BRA .6632 BC3 1.3041 FSP 2419 SG1 1583.9 SG2 879.1 THA 84.31 EL1 40.3 EL2 12.4 ALF 41.08

LAUNCH DATE APR 18 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

DISTANCE 489.798

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.308 GAL -2.58 AZL 94.07 HCA 163.62 SMA 183.47 ECC .18668 INC 4.0739 V1 29.665
RP 209.99 LAP -1.15 LOP 10.98 VP 23.253 GAP 6.86 AZP 86.09 TAL 343.46 TAP 147.08 RCA 149.22 APO 217.73 V2 26.111
RC 110.071 GL -35.73 GP 16.47 ZAL 119.94 ZAP 114.80 ETS 171.74 ZAE 152.72 ETE 143.60 ZAC 117.72 ETC 275.91 LVI -30.11

PLANETOCENTRIC CONIC

C3 15.420 VHL 3.927 DLA -42.35 RAL 353.33 RAD 6640.7 VEL 11.639 PTH 6.68 VHP 3.494 DPA -4.31 RAP 305.73 ECC 1.2538
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 53 32 2106.06 12.30 49.76 218.26 136.33 21 28 38 1106.1 29.46 31.43
57.05 23 34 14 1681.89 26.17 23.69 230.70 124.57 24 2 16 681.9 37.95 358.76
57.05 23 34 14 1681.89 26.17 23.69 230.70 124.57 24 2 16 681.9 37.95 358.76
57.05 23 34 14 1681.89 26.17 23.69 230.70 124.57 24 2 16 681.9 37.95 358.76
57.05 23 34 14 1681.89 26.17 23.69 230.70 124.57 24 2 16 681.9 37.95 358.76
57.05 23 34 14 1681.89 26.17 23.69 230.70 124.57 24 2 16 681.9 37.95 358.76

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4175 TRA -.0732 TC3 -.8037 BAU .2898 SGT 889.0 SGR 1733.4 SG3 1456.7 ST 30.5 SR 30.3 SS 78.9
RDE -.2969 RRA -.7160 RC3 1.1520 FAU .17929 RRT -.0668 RRF -.9939 RTF .0768 CRT .7599 CR8 .9755 CST .5988
FDE 1.9431 FRA 7.4047 FC-10.0658 BSP 2963 SGB 1948.1 R23 .0131 R13 -.9939 LSA 86.6 MSA 24.1 S5A .5
BDE .5123 BRA .7198 BC3 1.4046 FSP 2478 SG1 1734.8 SG2 886.3 THA 92.66 EL1 40.4 EL2 14.9 ALF 44.74

LAUNCH DATE APR 18 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 493.960

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.299 GAL -2.59 AZL 94.28 HCA 164.84 SMA 183.32 ECC .18605 INC 4.2755 V1 29.665
RP 210.22 LAP -1.12 LOP 12.20 VP 23.210 GAP 6.64 AZP 85.87 TAL 343.36 TAP 148.20 RCA 149.21 APO 217.43 V2 26.085
RC 112.177 GL -37.14 GP 17.91 ZAL 119.14 ZAP 112.60 ETS 171.82 ZAE 150.44 ETE 144.11 ZAC 119.25 ETC 275.77 LVI -31.14

PLANETOCENTRIC CONIC

C3 15.876 VHL 3.984 DLA -43.48 RAL 354.53 RAD 6640.9 VEL 11.658 PTH 6.70 VHP 3.470 DPA -3.10 RAP 304.58 ECC 1.2613
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 12 50 2070.14 14.06 48.17 221.35 135.94 21 47 20 1070.1 30.98 29.37
55.49 23 32 37 1705.70 26.51 26.07 232.77 125.82 24 1 2 705.7 38.74 1.26
55.49 23 32 37 1705.70 26.51 26.07 232.77 125.82 24 1 2 705.7 38.74 1.26
55.49 23 32 37 1705.70 26.51 26.07 232.77 125.82 24 1 2 705.7 38.74 1.26
55.49 23 32 37 1705.70 26.51 26.07 232.77 125.82 24 1 2 705.7 38.74 1.26
55.49 23 32 37 1705.70 26.51 26.07 232.77 125.82 24 1 2 705.7 38.74 1.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4128 TRA .0143 TC3 -.8833 BAU .3195 SGT 921.3 SGR 1906.7 SG3 1475.2 ST 29.7 SR 33.0 SS 80.2
RDE -.3201 RRA -.7947 RC3 1.2188 FAU .18165 RRT -.2590 RRF -.9956 RTF .1.03 CRT .6849 CR8 .9828 CST .5389
FDE 2.0576 FRA 7.4926 FC3-9.9057 BSP 3232 SGB 2117.6 R23 .0815 R13 -.9938 LSA 88.3 MSA 24.8 S5A .4
BDE .5225 BRA .7949 BC3 1.5032 FSP 2510 SG1 1925.6 SG2 881.2 THA 99.04 EL1 40.8 EL2 17.5 ALF 49.38

LAUNCH DATE APR 18 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 498.126

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.290 GAL -2.60 AZL 94.51 HCA 166.07 SMA 183.19 ECC .18551 INC 4.5108 V1 29.665
RP 210.45 LAP -1.09 LOP 13.43 VP 23.188 GAP 6.43 AZP 85.62 TAL 343.24 TAP 149.31 RCA 149.20 APO 217.17 V2 26.058
RC 114.307 GL -38.71 GP 19.55 ZAL 118.68 ZAP 110.38 ETS 171.94 ZAE 148.03 ETE 144.39 ZAC 120.97 ETC 275.64 LVI -32.33

PLANETOCENTRIC CONIC

C3 16.456 VHL 4.057 DLA -44.72 RAL 355.91 RAD 6641.2 VEL 11.683 PTH 6.72 VHP 3.457 DPA -1.69 RAP 303.37 ECC 1.2708
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 37 23 2024.77 16.27 46.12 225.27 135.35 22 11 8 1024.8 32.86 26.67
53.79 23 31 30 1731.42 26.82 28.66 235.19 127.23 24 0 21 731.4 39.58 4.03
53.79 23 31 30 1731.42 26.82 28.66 235.19 127.23 24 0 21 731.4 39.58 4.03
53.79 23 31 30 1731.42 26.82 28.66 235.19 127.23 24 0 21 731.4 39.58 4.03
53.79 23 31 30 1731.42 26.82 28.66 235.19 127.23 24 0 21 731.4 39.58 4.03
53.79 23 31 30 1731.42 26.82 28.66 235.19 127.23 24 0 21 731.4 39.58 4.03

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4096 TRA .1049 TC3 -.9609 BAU .3531 SGT 993.0 SGR 2102.3 SG3 1482.9 ST 29.1 SR 36.2 SS 81.5
RDE -.3516 RRA -.8836 RC3 1.2856 FAU .18285 RRT -.4274 RRF -.9969 RTF .4353 CRT .6008 CR8 .9883 CST .4725
FDE 2.1884 FRA 7.5312 FC3-9.6196 BSP 3575 SGB 2325.0 R23 .0885 R13 -.9930 LSA 90.3 MSA 25.5 S5A .4
BDE .5398 BRA .8898 BC3 1.6050 FSP 2526 SG1 2153.5 SG2 876.3 THA 103.73 EL1 41.9 EL2 20.1 ALF 55.07

LAUNCH DATE APR 18 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 10 1971

Heliocentric Conic: RL 150.20 LAL .00 LOL 207.32 VL 32.283 GAL -2.62 AZL 94.79 HCA 167.29 SMA 183.06 ECC .18504 INC 4.790E V1 29.665
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.126 GAP 6.22 AZP 85.33 TAL 343.11 TAP 150.40 RCA 149.19 APO 218.94 V2 26.030
 RC 116.480 GL -40.49 GP 21.43 ZAL 118.11 ZAP 108.14 ETS 172.10 ZAE 145.47 ETE 144.47 ZAC 122.93 ETC 275.51 LVI -33.72

Planeto-centric Conic: C3 17.201 VHL 4.147 DLA -46.11 RAL 357.54 RAD 6641.6 VEL 11.715 PTH 6.75 VHP 3.460 DPA -.05 RAP 302.11 ECC 1.2831
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 22 11 45 1960.10 19.38 43.11 230.61 134.35 22 44 25 960.1 35.41 22.60
 51.93 23 31 3 1759.52 27.09 31.51 238.04 128.86 24 0 23 759.5 40.45 7.14
 51.93 23 31 3 1759.52 27.09 31.51 238.04 128.86 24 0 23 759.5 40.45 7.14
 51.93 23 31 3 1759.52 27.09 31.51 238.04 128.86 24 0 23 759.5 40.45 7.14
 51.93 23 31 3 1759.52 27.09 31.51 238.04 128.86 24 0 23 759.5 40.45 7.14
 51.93 23 31 3 1759.52 27.09 31.51 238.04 128.86 24 0 23 759.5 40.45 7.14
 51.93 23 31 3 1759.52 27.09 31.51 238.04 128.86 24 0 23 759.5 40.45 7.14

Differential Corrections: TDE -.4040 TRA .2025 TC3-1.0253 BAU .3898 SGT 1094.5 SGR 2324.0 S63 1477.2 ST 28.6 SR 40.2 S3 82.9
 RDE -.3960 RRA -.9845 RC3 1.3496 FAU .18246 RRT -.5656 RRF -.9978 RTF .5721 CRT .5073 CRS .9925 CST .3984
 FDE 2.3498 FRA 7.5066 FC3-9.1831 BSP 4000 SGB 2568.8 R23 .1009 R13 -.9928 LSA 92.8 MSA 26.1 S5A .3
 BDE .5657 BRA 1.0051 BC3 1.6950 F8P 2526 S61 2417.9 S62 867.5 THA 107.20 EL1 43.9 EL2 22.6 ALF 62.23

LAUNCH DATE APR 18 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 12 1971

Heliocentric Conic: RL 150.20 LAL .00 LOL 207.32 VL 32.277 GAL -2.63 AZL 95.13 HCA 168.51 SMA 182.96 ECC .18466 INC 5.1269 V1 29.665
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.085 GAP 6.01 AZP 84.98 TAL 342.97 TAP 151.47 RCA 149.17 APO 216.75 V2 26.001
 RC 118.637 GL -42.52 GP 23.61 ZAL 117.43 ZAP 105.88 ETS 172.30 ZAE 142.74 ETE 144.34 ZAC 125.19 ETC 275.40 LVI -35.37

Planeto-centric Conic: C3 18.172 VHL 4.263 DLA -47.68 RAL 359.48 RAD 6642.0 VEL 11.756 PTH 6.78 VHP 3.481 DPA 1.89 RAP 300.79 ECC 1.2991
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66
 49.87 23 31 32 1790.61 27.29 34.66 241.45 130.74 24 1 23 790.6 41.35 10.66

Differential Corrections: TDE -.3970 TRA .3052 TC3-1.0788 BAU .4311 SGT 1225.4 SGR 2576.2 S63 1454.4 ST 28.2 SR 45.2 S3 84.3
 RDE -.4594 RRA -1.0991 RC3 1.4087 FAU .18024 RRT -.6689 RRF -.9985 RTF .6739 CRT .4082 CRS .9954 CST .3196
 FDE 2.5473 FRA 7.3976 FC3-8.5866 BSP 4500 SGB 2832.8 R23 .1048 R13 -.9930 LSA 96.0 MSA 26.7 S5A .3
 BDE .6072 BRA 1.1406 BC3 1.7743 F8P 2497 S61 2719.1 S62 863.1 THA 109.72 EL1 47.2 EL2 24.7 ALF 70.02

LAUNCH DATE APR 18 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 14 1971

Heliocentric Conic: RL 150.20 LAL .00 LOL 207.32 VL 32.271 GAL -2.65 AZL 95.54 HCA 169.72 SMA 182.87 ECC .18435 INC 5.5410 V1 29.665
 RP 211.20 LAP -.99 LOP 17.09 VP 23.044 GAP 5.80 AZP 84.55 TAL 342.81 TAP 152.53 RCA 149.16 APO 216.58 V2 25.972
 RC 120.836 GL -44.87 GP 26.15 ZAL 116.59 ZAP 103.61 ETS 172.57 ZAE 139.80 ETE 144.01 ZAC 127.81 ETC 275.32 LVI -37.32

Planeto-centric Conic: C3 19.468 VHL 4.412 DLA -49.44 RAL 1.87 RAD 6642.6 VEL 11.810 PTH 6.83 VHP 3.527 DPA 4.20 RAP 299.41 ECC 1.3204
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73
 47.59 23 33 22 1825.53 27.36 38.18 245.57 132.94 24 3 47 825.5 42.24 14.73

Differential Corrections: TDE -.3853 TRA .4137 TC3-1.1147 BAU .4789 SGT 1378.6 SGR 2862.5 S63 1409.2 ST 28.0 SR 51.3 S3 85.6
 RDE -.5499 RRA -1.2283 PC3 1.4619 FAU .17619 RRT -.7447 RRF -.9990 RTF .1.05 CRT .3026 CRS .9974 CST .2537
 FDE 2.7782 FRA 7.1728 FC3-7.8332 BSP 5060 SGB 3177.1 R23 .1035 R13 -.9937 LSA 100.0 MSA 27.2 S5A .2
 BDE .6714 BRA 1.2982 BC3 1.8384 F8P 2421 S61 3058.2 S62 861.1 THA 111.52 EL1 52.2 EL2 26.2 ALF 77.44

LAUNCH DATE APR 18 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 16 1971

Heliocentric Conic: RL 150.20 LAL .00 LOL 207.32 VL 32.286 GAL -2.67 AZL 96.06 HCA 170.93 SMA 182.79 ECC .18412 INC 6.0835 V1 29.665
 RP 211.46 LAP -.95 LOP 18.30 VP 23.004 GAP 5.60 AZP 84.01 TAL 342.64 TAP 153.58 RCA 149.14 APO 216.45 V2 25.942
 RC 123.058 GL -47.61 GP 29.15 ZAL 115.53 ZAP 101.35 ETS 172.93 ZAE 136.61 ETE 143.49 ZAC 130.88 ETC 275.27 LVI -39.66

Planeto-centric Conic: C3 21.251 VHL 4.610 DLA -51.45 RAL 4.86 RAD 6643.4 VEL 11.885 PTH 6.90 VHP 3.608 DPA 6.97 RAP 297.96 ECC 1.3497
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47
 45.04 23 37 11 1865.46 27.22 42.13 250.64 135.51 24 8 16 865.5 43.06 19.47

Differential Corrections: TDE -.3623 TRA .5308 TC3-1.1254 BAU .5315 SGT 1549.2 SGR 3193.2 S63 1338.1 ST 27.6 SR 59.6 S3 87.3
 RDE -.6908 RRA -1.3786 RC3 1.4944 FAU .16852 RRT -.7993 RRF -.9994 RTF .8020 CRT .1876 CRS .9987 CST .1374
 FDE 3.0858 FRA 6.8205 FC3-6.8652 BSP 5736 SGB 3549.2 R23 .0990 R13 -.9945 LSA 105.8 MSA 27.4 S5A .2
 BDE .7800 BRA 1.4773 BC3 1.8708 F8P 2312 S61 3442.6 S62 863.6 THA 112.70 EL1 59.9 EL2 27.0 ALF 83.76

LAUNCH DATE APR 18 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.263 GAL -2.70 AZL 96.74 HCA 172.14 SMA 182.73 ECC .18395 INC 6.7431 V1 29.668
 RP 211.73 LAP -.92 LOP 19.51 VP 22.984 GAP 5.40 AZP 83.32 TAL 342.47 TAP 154.81 RCA 149.12 APO 216.34 VE 25.911
 RC 129.302 GL -50.85 GP 32.72 ZAL 114.21 ZAP 96.10 ETS 173.39 ZAE 133.10 ETE 142.77 ZAC 134.32 ETC 275.29 LVI -42.46

DISTANCE 518.995

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.810 VHL 4.880 DLA -53.74 RAL 8.74 RAD 6644.5 VEL 11.991 PTH 6.99 VHP 3.742 DPA 10.31 RAP 296.43 ECC 1.3919
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.20 23 44 9 1912.00 26.74 46.57 257.03 138.52 24 16 2 912.1 43.67 25.06
 42.20 23 44 9 1912.00 26.74 46.57 257.03 138.52 24 16 2 912.1 43.67 25.06
 42.20 23 44 9 1912.00 26.74 46.57 257.03 138.52 24 16 2 912.1 43.67 25.06
 42.20 23 44 9 1912.00 26.74 46.57 257.03 138.52 24 16 2 912.1 43.67 25.06
 42.20 23 44 9 1912.00 26.74 46.57 257.03 138.52 24 16 2 912.1 43.67 25.06
 42.20 23 44 9 1912.00 26.74 46.57 257.03 138.52 24 16 2 912.1 43.67 25.06

DIFFERENTIAL CORRECTIONS

TDE -.3180 TRA .6562 TC3-1.1057 BAU .5964
 RDE -.9090 RRA-1.5437 RC3 1.5125 FAU .15846
 FDE 3.4464 FRA 6.2653 FC3-5.7615 BSP 6447
 BDE .9630 BRA 1.6774 BC3 1.8736 FSP 2123

MID-COURSE EXECUTION ACCURACY

SGT 1732.3 SGR 3564.9 863 1230.0
 RRT -.8398 RRF -.9996 RTF .8417
 SGB 3963.5 R23 .0926 R13 -.9953
 SGI 3667.5 S62 866.8 THA 113.45

ORBIT DETERMINATION ACCURACY

ST 27.1 SR 70.5 SS 89.0
 CRT .0496 CRS .9994 CST -.0159
 LSA 113.5 MSA 27.1 SSA .2
 EL1 70.5 EL2 27.0 ALF 88.72

LAUNCH DATE APR 18 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.259 GAL -2.73 AZL 97.86 HCA 173.34 SMA 182.68 ECC .18385 INC 7.6650 V1 29.665
 RP 212.01 LAP -.89 LOP 20.72 VP 22.924 GAP 5.21 AZP 82.39 TAL 342.28 TAP 155.62 RCA 149.09 APO 216.26 V2 25.880
 RC 127.566 GL -54.74 GP 37.00 ZAL 112.52 ZAP 96.91 ETS 173.99 ZAE 129.19 ETE 141.89 ZAC 138.86 ETC 275.41 LVI -45.82

DISTANCE 523.170

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.706 VHL 5.264 DLA -56.29 RAL 13.97 RAD 6646.1 VEL 12.151 PTH 7.12 VHP 3.959 DPA 14.35 RAP 294.78 ECC 1.4560
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.06 0 0 9 1968.15 25.66 51.55 265.27 142.00 0 32 57 968.2 43.84 31.66
 39.06 0 0 9 1968.15 25.66 51.55 265.27 142.00 0 32 57 968.2 43.84 31.66
 39.06 0 0 9 1968.15 25.66 51.55 265.27 142.00 0 32 57 968.2 43.84 31.66
 39.06 0 0 9 1968.15 25.66 51.55 265.27 142.00 0 32 57 968.2 43.84 31.66
 39.06 0 0 9 1968.15 25.66 51.55 265.27 142.00 0 32 57 968.2 43.84 31.66
 39.06 0 0 9 1968.15 25.66 51.55 265.27 142.00 0 32 57 968.2 43.84 31.66

DIFFERENTIAL CORRECTIONS

TDE -.2245 TRA .7956 TC3-1.0470 BAU .6714
 RDE -1.2886 RRA-1.7382 RC3 1.4798 FAU .14248
 FDE 3.9268 FRA 5.5141 FC3-4.4515 BSP 7339
 BDE 1.3080 BRA 1.9098 BC3 1.8127 FSP 1887

MID-COURSE EXECUTION ACCURACY

SGT 1926.1 SGR 3998.9 863 1083.3
 RRT -.8684 RRF -.9998 RTF .8695
 SGB 4438.8 R23 .0856 R13 -.9961
 SGI 4350.9 S62 877.8 THA 113.72

ORBIT DETERMINATION ACCURACY

ST 26.5 SR 86.8 SS 91.8
 CRT -.1493 CRS .9998 CST -.1687
 LSA 126.4 MSA 26.1 SSA .1
 EL1 86.5 EL2 26.1 ALF 82.86

LAUNCH DATE APR 18 1971

FLIGHT TIME 218.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.257 GAL -2.76 AZL 98.99 HCA 174.54 SMA 182.64 ECC .18381 INC 8.9855 V1 29.665
 RP 212.29 LAP -.85 LOP 21.92 VP 22.885 GAP 5.01 AZP 81.05 TAL 342.08 TAP 156.82 RCA 149.07 APO 216.21 V2 25.848
 RC 129.890 GL -59.47 GP 42.13 ZAL 110.35 ZAP 94.81 ETS 174.77 ZAE 124.81 ETE 140.91 ZAC 144.03 ETC 275.72 LVI -49.81

DISTANCE 527.343

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 34.133 VHL 5.842 DLA -59.05 RAL 21.38 RAD 6648.6 VEL 12.411 PTH 7.32 VHP 4.321 DPA 19.24 RAP 293.00 ECC 1.5617
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 35.73 0 20 48 2037.89 23.58 56.99 276.17 145.86 0 54 46 1037.9 43.09 39.29
 35.73 0 20 48 2037.89 23.58 56.99 276.17 145.86 0 54 46 1037.9 43.09 39.29
 35.73 0 20 48 2037.89 23.58 56.99 276.17 145.86 0 54 46 1037.9 43.09 39.29
 35.73 0 20 48 2037.89 23.58 56.99 276.17 145.86 0 54 46 1037.9 43.09 39.29
 35.73 0 20 48 2037.89 23.58 56.99 276.17 145.86 0 54 46 1037.9 43.09 39.29
 35.73 0 20 48 2037.89 23.58 56.99 276.17 145.86 0 54 46 1037.9 43.09 39.29

DIFFERENTIAL CORRECTIONS

TDE -.0234 TRA .9495 TC3 -.9467 BAU .7734
 RDE -1.9598 RRA-1.9321 RC3 1.4057 FAU .12239
 FDE 4.4268 FRA 4.4661 FC3-3.1033 BSP 8180
 BDE 1.9598 BRA 2.1528 BC3 1.6948 FSP 1530

MID-COURSE EXECUTION ACCURACY

SGT 2121.9 SGR 4488.2 S63 883.3
 RRT -.8908 RRF -.9999 RTF .2111
 SGB 4946.4 R23 .0785 R13 -.9968
 SGI 4866.4 S62 886.2 THA 113.76

ORBIT DETERMINATION ACCURACY

ST 27.2 SR 110.9 SS 94.0
 CRT -.4619 CRS .9999 CST -.4707
 LSA 146.0 MSA 24.0 SSA .1
 EL1 111.6 EL2 24.0 ALF 96.79

LAUNCH DATE APR 18 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 8 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.280 GAL -3.13 AZL 82.14 HCA 184.18 SMA 182.89 ECC .18575 INC 7.8638 V1 29.665
 RP 214.72 LAP -.57 LOP 31.44 VP 22.577 GAP 3.57 AZP 97.84 TAL 339.80 TAP 163.96 RCA 148.75 APO 216.62 V2 25.573
 RC 148.770 GL 54.24 GP -48.56 ZAL 114.36 ZAP 84.67 ETS 172.67 ZAE 111.77 ETE 207.10 ZAC 53.86 ETC 272.20 LVI 34.86

DISTANCE 560.971

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.499 VHL 5.431 DLA 42.34 RAL 318.84 RAD 6646.8 VEL 12.224 PTH 7.18 VHP 5.015 DPA -70.12 RAP 315.81 ECC 1.4855
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 5 57 4196.44 -36.92 189.15 219.08 57.54 12 15 53 3196.4 -46.53 159.18
 57.07 9 18 47 4480.95 -19.88 201.22 205.47 51.81 10 33 28 3480.9 -33.64 178.96
 57.07 9 18 47 4480.95 -19.88 201.22 205.47 51.81 10 33 28 3480.9 -33.64 178.96
 57.07 9 18 47 4480.95 -19.88 201.22 205.47 51.81 10 33 28 3480.9 -33.64 178.96
 57.07 9 18 47 4480.95 -19.88 201.22 205.47 51.81 10 33 28 3480.9 -33.64 178.96
 57.07 9 18 47 4480.95 -19.88 201.22 205.47 51.81 10 33 28 3480.9 -33.64 178.96

DIFFERENTIAL CORRECTIONS

TDE 2.9077 TRA 1.0383 TC3-1.7489 BAU .9540
 RDE 3.2413 RRA 2.1743 RC3-1.6713 FAU .08344
 FDE 4.4149 FRA 3.1151 FC3-2.4488 BSP 10540
 BDE 4.3543 BRA 2.4095 BC3 2.4190 FSP 1067

MID-COURSE EXECUTION ACCURACY

SGT 3900.5 SGR 4961.6 S63 601.9
 RRT .9578 RRF .9996 RTF .9542
 SGB 6311.2 R23 .1213 R13 .9923
 SGI 6248.0 S62 890.4 THA 52.12

ORBIT DETERMINATION ACCURACY

ST 155.0 SR 177.2 SS 105.0
 CRT .9926 CRS -.9999 CST -.9909
 LSA 257.3 MSA 15.6 SSA .1
 EL1 235.0 EL2 14.2 ALF 48.85

LAUNCH DATE APR 18 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC DISTANCE 565.131 EARTH TO MARS
 RL 150.20 LAL .00 LOL 207.32 VL 32.263 GAL -3.18 AZL 84.25 HCA 185.32 SMA 182.73 ECC .18618 INC 5.7507 V1 29.865
 RP 215.04 LAP -.53 LOP 32.61 VP 22.540 GAP 3.40 AZP 95.73 TAL 339.52 TAP 164.84 RCA 148.71 APO 216.75 V2 25.536
 RC 151.211 GL 44.41 GP -42.47 ZAL 119.46 ZAP 82.55 ETS 171.97 ZAE 113.12 ETE 203.20 ZAC 59.98 ETC 271.85 LVI 29.85

PLANETOCENTRIC CONIC
 C3 21.277 VHL 4.613 DLA 33.28 RAL 323.81 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 4.348 DPA -64.70 RAP 308.37 ECC 1.3502
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 43 41 3854.11 -46.17 161.76 214.77 76.95 13 47 56 2854.1 -46.05 126.63
 60.00 12 28 2 3895.94 -36.77 162.06 211.31 72.20 13 32 58 2895.9 -40.24 131.50
 70.00 11 41 59 4032.53 -24.66 167.60 205.88 65.58 12 49 11 3032.5 -32.47 141.72
 71.68 10 53 54 4180.12 -18.72 175.90 202.74 61.97 12 3 34 3180.1 -28.62 152.00
 71.68 10 53 54 4180.12 -18.72 175.90 202.74 61.97 12 3 34 3180.1 -28.62 152.00
 71.68 10 53 54 4180.12 -18.72 175.90 202.74 61.97 12 3 34 3180.1 -28.62 152.00
 110.00 16 41 25 3079.35 -24.66 96.52 205.88 65.58 17 32 44 2079.3 -32.47 70.64

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 2.3041 TRA 1.2695 TC3-2.4186 BAU .8785 SGT 4089.8 SGR 4466.1 SG3 851.6 ST 145.9 SR 146.4 SS 117.8
 RDE 2.2420 RRA 2.0250 RC3-1.9203 FAU .10789 RRT .9634 RRF .9996 RTF .9611 CRT .9930 CRS -.9999 CST -.9911
 FDE 4.7760 FRA 4.5429 FC3-4.3897 BSP 10166 SGB 6055.8 R23 .1302 R13 .9911 LSA 237.5 MSA 14.4 SSA .2
 BDE 3.2148 BRA 2.3900 BC3 3.0882 FSP 1517 SG1 6000.6 SG2 815.6 THA 47.61 EL1 206.3 EL2 12.2 ALF 45.10

LAUNCH DATE APR 18 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC DISTANCE 569.296 EARTH TO MARS
 RL 150.20 LAL .00 LOL 207.32 VL 32.266 GAL -3.23 AZL 85.60 HCA 186.48 SMA 182.78 ECC .18667 INC 4.3974 V1 29.683
 RP 215.37 LAP -.50 LOP 33.78 VP 22.502 GAP 3.22 AZP 94.37 TAL 339.21 TAP 165.70 RCA 148.66 APO 216.90 V2 25.499
 RC 153.669 GL 36.28 GP -37.32 ZAL 123.40 ZAP 80.45 ETS 171.53 ZAE 113.65 ETE 199.69 ZAC 65.15 ETC 271.59 LVI 25.21

PLANETOCENTRIC CONIC
 C3 17.430 VHL 4.175 DLA 25.80 RAL 327.51 RAD 6641.7 VEL 11.724 PTH 6.76 VHP 3.971 DPA -59.94 RAP 303.90 ECC 1.2869
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 40 53 3632.39 -47.50 140.63 207.05 93.13 14 41 26 2632.4 -40.74 108.04
 60.00 13 46 26 3817.62 -40.22 139.33 207.08 87.21 14 46 43 2617.6 -36.94 108.71
 70.00 13 56 0 3589.39 -33.33 136.25 206.27 82.08 14 55 50 2589.4 -33.14 107.51
 80.00 14 16 44 3524.33 -27.50 130.13 205.08 77.88 15 15 28 2524.3 -29.81 102.94
 90.00 15 11 49 3346.40 -24.79 116.36 204.38 75.94 16 7 35 2346.4 -28.24 89.88
 100.00 16 59 36 2998.81 -27.50 91.50 205.08 77.88 17 49 34 1998.8 -29.61 64.31
 110.00 18 55 27 2636.21 -33.33 65.16 206.27 82.08 19 39 23 1636.2 -33.14 36.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.9429 TRA 1.4562 TC3-3.0154 BAU .8449 SGT 4286.7 SGR 3890.7 SG3 1050.2 ST 137.5 SR 121.5 SS 122.3
 RDE 1.6604 RRA 1.8446 RC3-2.0136 FAU .12747 RRT .9675 RRF .9995 RTF .9658 CRT .9940 CRS -.9998 CST -.9915
 FDE 4.8327 FRA 5.7116 FC3-6.3312 BSP 9785 SGB 5856.8 R23 .1416 R13 .9895 LSA 220.1 MSA 13.0 SSA .2
 BDE 2.5558 BRA 2.3501 BC3 3.6259 FSP 1866 SG1 5809.2 SG2 745.0 THA 42.88 EL1 183.2 EL2 10.0 ALF 41.48

LAUNCH DATE APR 18 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC DISTANCE 573.462 EARTH TO MARS
 RL 150.20 LAL .00 LOL 207.32 VL 32.269 GAL -3.28 AZL 86.54 HCA 187.64 SMA 182.84 ECC .18720 INC 3.4578 V1 29.665
 RP 215.71 LAP -.46 LOP 34.95 VP 22.465 GAP 3.05 AZP 93.43 TAL 338.90 TAP 166.54 RCA 148.61 APO 217.07 V2 25.461
 RC 156.143 GL 29.64 GP -35.03 ZAL 126.37 ZAP 78.40 ETS 171.26 ZAE 113.56 ETE 196.66 ZAC 69.46 ETC 271.39 LVI 21.52

PLANETOCENTRIC CONIC
 C3 15.437 VHL 3.929 DLA 19.72 RAL 330.40 RAD 6640.7 VEL 11.640 PTH 6.60 VHP 3.743 DPA -55.92 RAP 300.89 ECC 1.2541
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 20 44 3473.45 -45.83 125.69 201.43 104.51 15 18 37 2473.5 -35.19 96.91
 60.00 14 36 51 3430.51 -39.65 123.50 203.10 97.92 15 34 2 2430.5 -32.24 95.09
 70.00 15 1 36 3357.65 -34.06 118.24 203.75 92.67 15 57 34 2357.6 -29.43 90.51
 80.00 15 42 59 3227.93 -29.84 108.48 203.82 88.98 16 36 47 2227.9 -27.23 81.37
 90.00 16 51 53 3005.48 -28.18 92.08 203.76 87.57 17 41 59 2005.5 -26.35 85.22
 100.00 18 25 51 2702.40 -29.84 69.05 203.82 88.98 19 10 53 1702.4 -27.23 42.73
 110.00 20 1 2 2404.47 -34.06 47.16 203.75 92.67 20 41 7 1404.5 -29.43 19.42

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.7198 TRA 1.8284 TC3-3.4916 BAU .8278 SGT 4492.4 SGR 3570.2 SG3 1201.3 ST 131.0 SR 102.7 SS 123.4
 RDE 1.3029 RRA 1.8753 RC3-1.9722 FAU .14119 RRT .9704 RRF .9994 RTF .5001 CRT .9954 CRS -.9996 CST -.9923
 FDE 4.7823 FRA 6.6449 FC3-7.9181 BSP 9635 SGB 5736.3 R23 .1522 R13 .9877 LSA 206.9 MSA 11.6 SSA .3
 BDE 2.1578 BRA 2.3363 BC3 4.0101 FSP 2151 SG1 5697.8 SG2 680.0 THA 38.28 EL1 166.3 EL2 7.8 ALF 38.05

LAUNCH DATE APR 18 1971 FLIGHT TIME 242.00 ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC DISTANCE 577.628 EARTH TO MARS
 RL 150.20 LAL .00 LOL 207.32 VL 32.273 GAL -3.34 AZL 87.23 HCA 188.80 SMA 182.91 ECC .18778 INC 2.7664 V1 29.865
 RP 216.04 LAP -.42 LOP 36.11 VP 22.428 GAP 2.88 AZP 92.73 TAL 338.57 TAP 167.37 RCA 148.56 APO 217.25 V2 25.424
 RC 158.631 GL 24.23 GP -29.47 ZAL 128.59 ZAP 76.42 ETS 171.11 ZAE 113.02 ETE 194.09 ZAC 73.04 ETC 271.23 LVI 18.46

PLANETOCENTRIC CONIC
 C3 14.351 VHL 3.788 DLA 14.80 RAL 332.74 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 3.600 DPA -52.56 RAP 298.71 ECC 1.2362
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 50 38 3354.94 -43.28 115.43 198.17 112.07 15 46 33 2354.9 -30.38 89.68
 60.00 15 13 33 3293.95 -37.77 112.39 200.62 105.24 16 8 26 2293.9 -27.86 86.18
 70.00 15 46 46 3196.17 -32.85 105.81 201.96 99.92 16 40 2 2196.2 -25.50 79.60
 80.00 16 37 10 3038.23 -29.24 94.44 202.56 96.32 17 27 48 2038.2 -23.71 68.38
 90.00 17 50 35 2801.26 -27.87 77.18 202.72 95.01 18 37 17 1801.3 -23.02 51.21
 100.00 19 20 2 2512.70 -29.24 55.81 202.56 96.32 20 1 55 1512.7 -23.71 29.75
 110.00 20 46 12 2242.99 -32.85 34.73 201.96 99.92 21 23 35 1243.0 -25.50 8.52

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.5687 TRA 1.7828 TC3-3.8790 BAU .8265 SGT 4695.1 SGR 3196.2 SG3 1309.2 ST 125.9 SR 87.9 SS 122.1
 RDE 1.0820 RRA 1.5154 RC3-1.8741 FAU .15171 RRT .9726 RRF .9991 RTF .9716 CRT .9969 CRS -.9993 CST -.9933
 FDE 4.6623 FRA 7.3392 FC3-9.1523 BSP 9507 SGB 5679.8 R23 .1605 R13 .9861 LSA 195.9 MSA 10.3 SSA .4
 BDE 1.8944 BRA 2.3358 BC3 4.3079 FSP 2342 SG1 5646.1 SG2 618.1 THA 33.97 EL1 153.4 EL2 5.7 ALF 34.89

LAUNCH DATE APR 18 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.278 GAL -3.40 AZL 87.76 HCA 189.98 SMA 182.88 ECC 1.8840 INC 2.2301 V1 29.668
 RP 216.39 LAP -.39 LOP 37.27 VP 22.391 GAP 2.71 AZP 92.20 TAL 336.23 TAP 169.19 RCA 148.50 APO 217.45 V2 25.385
 RC 161.134 GL 19.82 GP -26.49 ZAL 130.27 ZAP 74.53 ETS 171.04 ZAE 112.18 ETE 191.93 ZAC 76.03 ETC 271.09 LVI 15.91

DISTANCE 501.795

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.754 VHL 3.709 DLA 10.80 RAL 334.70 RAD 6639.9 VEL 11.568 PTH 6.61 VHP 3.507 DPA -49.74 RAP 297.03 ECC 1.2264
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 14 5 3264.36 -40.71 108.26 196.51 117.13 16 8 29 2264.4 -26.43 84.68
 60.00 15 41 51 3190.45 -35.62 104.45 199.35 110.25 16 35 2 2190.4 -24.14 79.95
 70.00 16 20 46 3075.88 -31.09 96.89 201.07 104.92 17 12 4 2075.9 -22.01 72.01
 80.00 17 16 48 2900.44 -27.79 84.46 201.95 101.37 18 5 8 1900.4 -20.42 59.48
 90.00 18 32 49 2655.12 -26.56 66.70 202.21 100.09 19 17 4 1655.1 -19.81 41.70
 100.00 19 59 40 2374.91 -27.79 45.83 201.95 101.37 20 39 15 1374.9 -20.42 20.85
 110.00 21 20 14 2122.69 -31.09 25.80 201.07 104.92 21 55 37 1122.7 -22.01 .92

DIFFERENTIAL CORRECTIONS

TDE 1.4619 TRA 1.9243 TC3-4.1973 BAU .8369
 RDE .8695 RRA 1.3671 RC3-1.7602 FAU .16061
 FDE 4.4963 FRA 7.9230 FC-10.1094 BSP 9389
 BDE 1.7112 BRA 2.3605 BC3 4.5514 FSP 2436

MID-COURSE EXECUTION ACCURACY

SGT 4894.2 SGR 2666.4 SG3 1382.0
 RRT .9748 RRF .9987 RTF .9743
 SGB 5671.8 R23 .1641 R13 .9851
 SG1 5644.7 SG2 553.9 THA 30.04

ORBIT DETERMINATION ACCURACY

ST 121.8 SR 75.9 SS 119.2
 CRT .9983 CR8 -.9988 CST -.9943
 LSA 186.4 MSA 9.1 S8A .5
 EL1 143.5 EL2 3.7 ALF 31.92

LAUNCH DATE APR 18 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.282 GAL -3.47 AZL 88.18 HCA 191.11 SMA 183.08 ECC 1.8906 INC 1.8164 V1 29.665
 RP 216.73 LAP -.35 LOP 38.43 VP 22.354 GAP 2.54 AZP 91.78 TAL 337.88 TAP 169.00 RCA 148.44 APO 217.66 V2 25.347
 RC 163.649 GL 16.18 GP -23.99 ZAL 131.57 ZAP 72.71 ETS 171.02 ZAE 111.14 ETE 190.11 ZAC 78.55 ETC 270.97 LVI 13.77

DISTANCE 585.956

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.446 VHL 3.667 DLA 7.55 RAL 336.37 RAD 6639.8 VEL 11.555 PTH 6.60 VHP 3.448 DPA -47.35 RAP 295.70 ECC 1.2213
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 33 5 3193.88 -38.39 103.11 195.82 120.60 16 26 19 2193.9 -23.22 61.04
 60.00 16 4 33 3110.14 -33.57 98.63 198.88 113.75 16 56 23 2110.1 -21.06 75.39
 70.00 16 47 43 2983.16 -29.27 90.28 200.82 108.44 17 37 26 1983.2 -19.06 66.43
 80.00 17 47 42 2795.29 -26.16 77.08 201.87 104.93 18 34 17 1795.3 -17.57 52.97
 90.00 19 5 29 2544.25 -25.00 58.96 202.20 103.67 19 47 53 1544.2 -17.01 34.78
 100.00 20 30 34 2269.77 -26.16 38.45 201.87 104.93 21 8 23 1269.8 -17.57 14.34
 110.00 21 47 9 2029.98 -29.27 19.20 200.82 108.44 22 20 59 1030.0 -19.06 355.35

DIFFERENTIAL CORRECTIONS

TDE 1.3946 TRA 2.0677 TC3-4.4369 BAU .8481
 RDE .7747 RRA 1.2462 RC3-1.6039 FAU .16428
 FDE 4.3908 FRA 8.2291 FC-10.5776 BSP 9485
 BDE 1.5953 BRA 2.4142 BC3 4.7179 FSP 2550

MID-COURSE EXECUTION ACCURACY

SGT 5094.9 SGR 2589.8 SG3 1434.0
 RRT .9751 RRF .9982 RTF .9752
 SGB 5715.3 R23 .1690 R13 .9838
 SG1 5692.2 SG2 513.6 THA 26.60

ORBIT DETERMINATION ACCURACY

ST 119.5 SR 67.3 SS 117.5
 CRT .9994 CR8 -.9980 CST -.9955
 LSA 180.5 MSA 8.0 S8A .7
 EL1 137.2 EL2 2.0 ALF 29.30

LAUNCH DATE APR 18 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.287 GAL -3.53 AZL 88.52 HCA 192.26 SMA 183.13 ECC 1.8976 INC 1.4757 V1 29.665
 RP 217.08 LAP -.31 LOP 39.58 VP 22.317 GAP 2.37 AZP 91.44 TAL 337.52 TAP 169.79 RCA 148.38 APO 217.89 V2 25.308
 RC 166.178 GL 13.15 GP -21.88 ZAL 132.61 ZAP 70.97 ETS 171.03 ZAE 109.97 ETE 188.59 ZAC 80.69 ETC 270.86 LVI 11.96

DISTANCE 590.114

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.316 VHL 3.649 DLA 4.87 RAL 337.83 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 3.412 DPA -45.32 RAP 294.62 ECC 1.2191
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 48 50 3138.27 -36.40 99.29 195.72 123.06 16 41 8 2138.3 -20.62 78.31
 60.00 16 23 13 3046.76 -31.75 94.25 198.91 116.26 17 14 0 2046.8 -18.53 71.94
 70.00 17 9 41 2910.12 -27.59 85.26 201.00 110.97 17 58 11 1910.1 -16.60 62.20
 80.00 18 12 42 2712.77 -24.59 71.45 202.17 107.49 18 57 54 1712.8 -15.17 48.02
 90.00 19 31 49 2457.41 -23.47 55.05 202.54 106.24 20 12 47 1457.4 -14.63 29.51
 100.00 20 55 33 2187.24 -24.59 32.82 202.17 107.49 21 32 1 1187.2 -15.17 9.39
 110.00 22 9 7 1956.94 -27.59 14.18 201.00 110.97 22 41 44 956.9 -16.60 351.11

DIFFERENTIAL CORRECTIONS

TDE 1.3550 TRA 2.2125 TC3-4.6167 BAU .8608
 RDE .8948 RRA 1.1435 RC3-1.4387 FAU .16455
 FDE 4.3270 FRA 8.5617 FC-10.6982 BSP 9703
 BDE 1.5227 BRA 2.4905 BC3 4.8357 FSP 2663

MID-COURSE EXECUTION ACCURACY

SGT 5294.7 SGR 2353.6 SG3 1469.2
 RRT .9743 RRF .9975 RTF .5.52
 SGB 5794.3 R23 .1742 R13 .9823
 SG1 5773.8 SG2 486.5 THA 23.59

ORBIT DETERMINATION ACCURACY

ST 118.6 SR 60.9 SS 116.8
 CRT .9999 CR8 -.9970 CST -.9967
 LSA 177.0 MSA 7.0 S8A .9
 EL1 133.4 EL2 .9 ALF 27.17

LAUNCH DATE APR 18 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 24 1971

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.293 GAL -3.60 AZL 88.81 HCA 193.41 SMA 183.22 ECC 1.9050 INC 1.1935 V1 29.665
 RP 217.43 LAP -.28 LOP 40.73 VP 22.280 GAP 2.20 AZP 91.16 TAL 337.16 TAP 170.57 RCA 148.32 APO 218.13 V2 25.269
 RC 168.717 GL 10.61 GP -20.03 ZAL 133.46 ZAP 69.30 ETS 171.07 ZAE 108.71 ETE 187.31 ZAC 82.53 ETC 270.77 LVI 10.42

DISTANCE 594.271

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.302 VHL 3.647 DLA 2.66 RAL 339.13 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 3.391 DPA -43.57 RAP 293.71 ECC 1.2189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 2 7 3093.89 -34.71 96.40 195.97 124.85 16 53 41 2093.9 -18.51 76.20
 60.00 16 38 53 2996.08 -30.17 90.88 199.26 118.10 17 28 49 1996.1 -16.46 69.25
 70.00 17 27 59 2851.66 -26.11 81.37 201.45 112.85 18 15 31 1851.7 -14.57 58.89
 80.00 18 33 25 2646.74 -23.17 67.07 202.70 109.38 19 17 32 1646.7 -13.16 44.15
 90.00 19 53 37 2387.98 -22.08 48.45 203.10 108.14 20 33 25 1388.0 -12.63 25.40
 100.00 21 16 17 2121.22 -23.17 28.43 202.70 109.38 21 51 38 1121.2 -13.16 5.52
 110.00 22 27 25 1898.48 -26.11 10.28 201.45 112.85 22 59 4 898.5 -14.57 347.81

DIFFERENTIAL CORRECTIONS

TDE 1.3269 TRA 2.3488 TC3-4.7745 BAU .8803
 RDE .8281 RRA 1.0451 RC3-1.3074 FAU .16596
 FDE 4.2195 FRA 8.7570 FC-10.8011 BSP 9857
 BDE 1.4680 BRA 2.5708 BC3 4.9503 FSP 2691

MID-COURSE EXECUTION ACCURACY

SGT 5488.1 SGR 2141.1 SG3 1485.7
 RRT .9743 RRF .9965 RTF .9763
 SGB 5891.0 R23 .1727 R13 .9817
 SG1 5873.7 SG2 450.2 THA 20.94

ORBIT DETERMINATION ACCURACY

ST 118.2 SR 55.2 SS 114.5
 CRT .9995 CR8 -.9956 CST -.9975
 LSA 173.4 MSA 6.5 S8A 1.1
 EL1 130.4 EL2 1.6 ALF 25.02

LAUNCH DATE APR 18 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 26 1971

HELIOCENTRIC CONIC

DISTANCE 598.425

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.298 GAL -3.67 AZL 89.04 HCA 194.95 SMA 183.31 ECC .19128 INC .9594 V1 29.665
RP 217.79 LAP -.24 LOP 41.87 VP 22.243 GAP 2.03 AZP 90.93 TAL 336.79 TAP 171.34 RCA 148.25 APO 218.38 V2 25.229
RC 171.268 GL 8.46 GP -18.45 ZAL 134.18 ZAP 67.70 ETS 171.12 ZAE 107.41 ETE 186.22 ZAC 84.12 ETC 270.69 LVI 9.08

PLANETOCENTRIC CONIC

C3 13.369 VHL 3.656 DLA .81 RAL 340.29 RAD 6639.7 VEL 11.551 PTH 6.60 VHP 3.382 DPA -42.05 RAP 292.96 ECC 1.2200
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 13 30 3058.20 -33.30 94.16 196.44 126.19 17 4 28 2058.2 -16.80 74.54
60.00 16 52 14 2955.19 -28.83 88.25 199.80 119.48 17 41 29 1955.2 -14.76 67.14
70.00 17 43 31 2804.37 -24.82 78.29 202.07 114.25 18 30 15 1804.4 -12.88 56.27
80.00 18 50 56 2593.25 -21.92 63.59 203.38 110.80 19 34 9 1593.2 -11.49 41.06
90.00 20 11 59 2331.70 -20.84 44.79 203.81 109.56 20 50 51 1331.7 -10.96 22.11
100.00 21 33 48 2067.72 -21.92 24.95 203.38 110.80 22 8 15 1067.7 -11.49 2.43
110.00 22 42 57 1851.18 -24.82 7.21 202.07 114.25 23 13 48 851.2 -12.88 345.18

DIFFERENTIAL CORRECTIONS

TDE 1.3094 TRA 2.4812 TC3-4.9100 BAU .9030
RDE .5754 RRA .9565 RC3-1.1902 FAU .16676
FDE 4.1100 FRA 8.8773 FC-10.7993 BSP 10010
BDE 1.4303 BRA 2.6592 BC3 5.0522 FSP 2685

MID-COURSE EXECUTION ACCURACY

SGT 5676.5 SGR 1953.9 S63 1490.0
RRT .9741 RRF .9953 RTF .9773
SGB 6003.3 R23 .1684 R13 .9815
SG1 5988.7 S62 418.6 THA 18.63

ORBIT DETERMINATION ACCURACY

ST 118.1 SR 50.4 S8 112.2
CRT .9983 CR3 -.9937 CST -.9982
LSA 170.4 MSA 6.2 S8A 1.2
EL1 126.4 EL2 2.7 ALF 23.08

LAUNCH DATE APR 18 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 28 1971

HELIOCENTRIC CONIC

DISTANCE 602.575

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.304 GAL -3.74 AZL 89.25 HCA 195.69 SMA 183.41 ECC .19209 INC .7523 V1 29.665
RP 218.15 LAP -.20 LOP 43.01 VP 22.207 GAP 1.87 AZP 90.73 TAL 336.41 TAP 172.10 RCA 148.18 APO 218.64 V2 25.189
RC 173.829 GL 6.62 GP -17.07 ZAL 134.81 ZAP 66.16 ETS 171.19 ZAE 106.07 ETE 185.30 ZAC 85.51 ETC 270.63 LVI 7.92

PLANETOCENTRIC CONIC

C3 13.493 VHL 3.673 DLA -.74 RAL 341.35 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 3.382 DPA -40.73 RAP 292.33 ECC 1.2221
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 23 23 3029.37 -32.12 92.41 197.04 127.20 17 13 53 2029.4 -15.40 73.23
60.00 17 3 45 2922.00 -27.70 86.16 200.47 120.53 17 52 27 1922.0 -13.37 65.44
70.00 17 56 51 2765.83 -23.72 75.84 202.81 115.33 18 42 57 1765.8 -11.48 54.15
80.00 19 5 56 2549.53 -20.84 60.79 204.17 111.88 19 48 26 1549.5 -10.09 38.57
90.00 20 27 43 2283.66 -19.76 41.84 204.62 110.65 21 5 48 1283.7 -9.56 19.45
100.00 21 48 48 2024.00 -20.84 22.16 204.17 111.88 22 22 32 1024.0 -10.09 359.94
110.00 22 56 18 1812.65 -23.72 4.76 202.81 115.33 23 26 30 812.6 -11.48 343.07

DIFFERENTIAL CORRECTIONS

TDE 1.3062 TRA 2.6167 TC3-5.0127 BAU .9249
RDE .5368 RRA .8796 RC3-1.0765 FAU .16563
FDE 4.0334 FRA 8.9690 FC-10.6270 BSP 10246
BDE 1.4122 BRA 2.7606 BC3 5.1270 FSP 2689

MID-COURSE EXECUTION ACCURACY

SGT 5863.0 SGR 1791.4 S63 1490.2
RRT .9730 RRF .9936 RTF .9778
SGB 6130.6 R23 .1641 R13 .9812
SG1 6117.7 S62 396.5 THA 16.63

ORBIT DETERMINATION ACCURACY

ST 119.0 SR 46.7 S8 110.9
CRT .9962 CR8 -.9914 CST -.9988
LSA 168.9 MSA 6.1 S8A 1.4
EL1 127.8 EL2 3.8 ALF 21.36

LAUNCH DATE APR 18 1971

FLIGHT TIME 256.00

ARRIVAL DATE DEC 30 1971

HELIOCENTRIC CONIC

DISTANCE 606.721

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.310 GAL -3.81 AZL 89.42 HCA 196.83 SMA 183.51 ECC .19294 INC .5765 V1 29.665
RP 218.51 LAP -.17 LOP 44.15 VP 22.170 GAP 1.70 AZP 90.55 TAL 336.02 TAP 172.85 RCA 148.10 APO 218.92 V2 25.149
RC 176.400 GL 5.04 GP -15.86 ZAL 135.37 ZAP 64.66 ETS 171.26 ZAE 104.72 ETE 184.51 ZAC 86.72 ETC 270.57 LVI 6.89

PLANETOCENTRIC CONIC

C3 13.661 VHL 3.696 DLA -2.05 RAL 342.33 RAD 6639.9 VEL 11.564 PTH 6.61 VHP 3.388 DPA -39.56 RAP 291.80 ECC 1.2248
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 32 3 3008.03 -31.15 91.03 197.74 127.97 17 22 9 2006.0 -14.26 72.18
60.00 17 13 48 2894.98 -26.75 84.50 201.21 121.34 18 2 3 1895.0 -12.22 64.08
70.00 18 8 27 2734.27 -22.79 73.87 203.61 116.16 18 54 1 1734.3 -10.33 52.44
80.00 19 18 56 2513.59 -19.91 58.53 205.01 112.72 20 0 50 1513.6 -8.92 36.34
90.00 20 41 19 2247.75 -18.83 39.45 205.48 111.50 21 18 47 1247.7 -8.39 17.28
100.00 22 1 48 1988.06 -19.91 19.89 205.01 112.72 22 34 56 988.1 -8.92 357.91
110.00 23 7 53 1781.09 -22.79 2.79 203.61 116.16 23 37 35 781.1 -10.33 341.36

DIFFERENTIAL CORRECTIONS

TDE 1.3098 TRA 2.7508 TC3-5.1000 BAU .9403
RDE .5059 RRA .8102 RC3 -.9763 FAU .16414
FDE 3.9981 FRA 9.0170 FC-10.4023 BSP 10480
BDE 1.4041 BRA 2.8674 BC3 5.1928 FSP 2673

MID-COURSE EXECUTION ACCURACY

SGT 6044.8 SGR 1647.7 S63 1477.4
RRT .9713 RRF .9916 RTF .9783
SGB 6265.4 R23 .1579 R13 .9810
SG1 6253.9 S62 378.6 THA 14.89

ORBIT DETERMINATION ACCURACY

ST 120.1 SR 43.5 S8 108.9
CRT .9932 CR8 -.9885 CST -.9992
LSA 167.7 MSA 6.3 S8A 1.4
EL1 127.7 EL2 4.8 ALF 19.82

LAUNCH DATE APR 18 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC

DISTANCE 610.863

EARTH TO MARS

RL 150.20 LAL .00 LOL 207.32 VL 32.317 GAL -3.89 AZL 89.58 HCA 197.98 SMA 183.62 ECC .19382 INC .4232 V1 29.665
RP 218.88 LAP -.13 LOP 45.28 VP 22.134 GAP 1.54 AZP 90.40 TAL 335.83 TAP 173.59 RCA 148.03 APO 219.21 V2 25.109
RC 178.981 GL 3.67 GP -14.79 ZAL 135.89 ZAP 63.26 ETS 171.34 ZAE 103.38 ETC 183.83 ZAC 87.80 ETC 270.52 LVI 5.98

PLANETOCENTRIC CONIC

C3 13.862 VHL 3.723 DLA -3.16 RAL 343.23 RAD 6640.0 VEL 11.573 PTH 6.62 VHP 3.400 DPA -38.53 RAP 291.36 ECC 1.2281
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 39 43 2987.14 -30.36 89.93 198.48 128.57 17 29 30 1987.1 -13.34 71.34
60.00 17 22 39 2872.96 -25.97 83.17 202.01 121.97 18 10 32 1873.0 -11.28 62.98
70.00 18 18 37 2708.39 -22.00 72.27 204.45 116.81 19 3 45 1708.4 -9.37 51.05
80.00 19 30 18 2483.97 -19.12 56.68 205.89 113.38 20 11 42 1484.0 -7.95 34.88
90.00 20 53 12 2218.44 -18.04 37.49 206.37 112.16 21 30 9 1218.4 -7.42 15.50
100.00 22 13 10 1958.44 -19.12 18.05 205.89 113.38 22 45 48 958.4 -7.95 356.24
110.00 23 18 3 1755.21 -22.00 1.19 204.45 116.81 23 47 19 755.2 -9.37 339.97

DIFFERENTIAL CORRECTIONS

TDE 1.3214 TRA 2.8861 TC3-5.1889 BAU .9718
RDE .4821 RRA .7483 RC3 -.8843 FAU .16174
FDE 3.8972 FRA 9.0428 FC-10.1012 BSP 10750
BDE 1.4066 BRA 2.9815 BC3 5.2441 FSP 2658

MID-COURSE EXECUTION ACCURACY

SGT 6223.8 SGR 1521.2 S63 1463.2
RRT .9689 RRF .9889 RTF .9786
SGB 6407.0 R23 .1515 R13 .9807
SG1 6396.5 S62 366.3 THA 13.37

ORBIT DETERMINATION ACCURACY

ST 121.8 SR 40.9 S8 107.4
CRT .9933 CR8 -.9852 CST -.9995
LSA 167.3 MSA 6.6 S8A 1.5
EL1 128.3 EL2 5.7 ALF 18.44

LAUNCH DATE APR 18 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.324 GAL -3.97 AZL 89.71 HCA 199.09 SMA 183.73 ECC .19474 INC .2867 V1 29.665
RP 219.25 LAP -.09 LOP 46.41 VP 22.098 GAP 1.37 AZP 90.27 TAL 335.23 TAP 174.32 RCA 147.95 APO 219.31 V2 25.068
RC 181.572 GL 2.48 GP -13.84 ZAL 136.38 ZAP 61.89 ETS 171.42 ZAE 102.04 ETE 183.25 ZAC 88.76 ETC 270.49 LVI 5.16

DISTANCE 615.000

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.090 VHL 3.754 DLA -4.10 RAL 344.08 RAD 6640.1 VEL 11.592 PTH 6.63 VHP 3.417 DPA -37.61 RAP 291.00 ECC 1.2319
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 46 34 2071.92 -29.71 89.06 199.27 129.04 17 36 6 1971.9 -12.59 70.66
60.00 17 30 30 2855.06 -25.32 82.10 202.83 122.47 18 18 5 1855.1 -10.51 62.09
70.00 18 27 36 2687.18 -21.34 70.98 205.32 117.32 19 12 23 1687.2 -6.58 49.91
80.00 19 40 18 2459.54 -18.45 55.17 206.79 113.90 20 21 18 1459.5 -7.15 33.51
90.00 21 3 40 2190.57 -17.37 35.89 207.28 112.67 21 40 10 1190.6 -6.61 14.03
100.00 22 23 10 1934.01 -18.45 16.54 206.79 113.90 22 55 24 934.0 -7.15 354.88
110.00 23 27 2 1734.00 -21.34 359.89 205.32 117.32 23 55 56 734.0 -8.58 338.83

DIFFERENTIAL CORRECTIONS

TDE 1.3367 TRA 3.0191 TC3-5.2310 BAV .9970
RDE .4626 RRA .6913 RC3 -.8041 FAU .15929
FDE 3.8344 FRA 9.0336 FC3-9.7874 BSP 10993
BDE 1.4145 BRA 3.0972 BC3 5.2924 FSP 2625

MID-COURSE EXECUTION ACCURACY

SGT 8397.7 SGR 1407.9 SG3 1444.1
RRF .9858 RRF .9856 RTF .9788
SG6 8550.7 R23 .1439 R13 .9806
SG1 8541.0 S62 357.2 THA 12.03

ORBIT DETERMINATION ACCURACY

ST 123.5 SR 38.7 SS 105.9
CRT .9848 CRS -.9812 CST -.9997
LSA 167.1 MSA 7.0 S8A 1.5
EL1 129.2 EL2 6.5 ALF 17.20

LAUNCH DATE APR 18 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.330 GAL -4.05 AZL 89.83 HCA 200.22 SMA 183.84 ECC .19569 INC .1649 V1 29.665
RP 219.62 LAP -.06 LOP 47.54 VP 22.062 GAP 1.20 AZP 90.18 TAL 334.82 TAP 175.04 RCA 147.87 APO 219.82 V2 25.020
RC 184.172 GL 1.43 GP -12.99 ZAL 136.84 ZAP 60.57 ETS 171.51 ZAE 100.71 ETE 182.74 ZAC 89.61 ETC 270.46 LVI 4.42

DISTANCE 619.133

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.341 VHL 3.787 DLA -4.90 RAL 344.88 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 3.436 DPA -36.78 RAP 290.71 ECC 1.2360
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 52 42 2959.76 -29.19 88.38 200.07 129.40 17 42 2 1959.8 -11.99 70.13
60.00 17 37 31 2840.59 -24.78 81.25 203.67 122.86 18 24 51 1840.6 -9.89 61.38
70.00 18 35 34 2669.88 -20.80 69.93 206.20 117.72 19 20 4 1669.9 -7.94 48.99
80.00 19 49 10 2439.46 -17.89 53.95 207.70 114.31 20 29 49 1439.5 -6.48 32.39
90.00 21 12 55 2169.24 -16.80 34.58 208.20 113.09 21 49 4 1169.2 -5.93 12.83
100.00 22 32 2 1913.94 -17.89 15.31 207.70 114.31 23 3 56 913.9 -6.48 353.76
110.00 23 35 1 1716.69 -20.80 358.85 206.20 117.72 24 3 37 716.7 -7.94 337.91

DIFFERENTIAL CORRECTIONS

TDE 1.3581 TRA 3.1542 TC3-5.2779 BAV 1.0216
RDE .4478 RRA .6400 RC3 -.7310 FAU .15822
FDE 3.7830 FRA 9.0130 FC3-9.4303 BSP 11263
BDE 1.4300 BRA 3.2185 BC3 5.3283 FSP 2594

MID-COURSE EXECUTION ACCURACY

SGT 8588.4 SGR 1307.6 SG3 1422.6
RRF .9617 RRF .9815 RTF .9789
SG6 8697.3 R23 .1365 R13 .9803
SG1 8688.0 S62 352.1 THA 10.87

ORBIT DETERMINATION ACCURACY

ST 123.5 SR 36.9 SS 104.6
CRT .9790 CRS -.9768 CST -.9998
LSA 167.3 MSA 7.5 S8A 1.5
EL1 130.6 EL2 7.2 ALF 16.10

LAUNCH DATE APR 18 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.338 GAL -4.13 AZL 89.94 HCA 201.34 SMA 183.96 ECC .19667 INC .0533 V1 29.665
RP 219.99 LAP -.02 LOP 48.66 VP 22.026 GAP 1.04 AZP 90.06 TAL 334.41 TAP 175.75 RCA 147.78 APO 220.14 V2 24.987
RC 186.781 GL .51 GP -12.22 ZAL 137.29 ZAP 59.30 ETS 171.60 ZAE 99.41 ETE 182.30 ZAC 90.38 ETC 270.44 LVI 3.75

DISTANCE 623.261

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.611 VHL 3.822 DLA -5.59 RAL 345.63 RAD 6640.3 VEL 11.605 PTH 6.65 VHP 3.459 DPA -36.03 RAP 290.49 ECC 1.2405
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 58 16 2950.17 -28.77 87.84 200.89 129.68 17 47 26 1950.2 -11.52 69.71
60.00 17 43 48 2829.02 -24.36 80.57 204.53 123.16 18 30 58 1829.0 -9.39 60.81
70.00 18 42 42 2655.85 -20.35 69.09 207.08 118.04 19 26 58 1655.9 -7.41 48.24
80.00 19 57 4 2423.05 -17.43 52.95 208.61 114.63 20 37 27 1423.0 -5.94 31.48
90.00 21 21 9 2151.74 -16.33 33.91 209.12 113.41 21 57 1 1151.7 -5.38 11.84
100.00 22 39 56 1897.52 -17.43 14.31 208.61 114.63 23 11 33 897.5 -5.94 352.85
110.00 23 42 8 1702.67 -20.35 358.00 207.08 118.04 24 10 31 702.7 -7.41 337.16

DIFFERENTIAL CORRECTIONS

TDE 1.3834 TRA 3.2892 TC3-5.3178 BAV 1.0469
RDE .4360 RRA .5926 RC3 -.6667 FAU .15314
FDE 3.7331 FRA 8.9717 FC3-9.0738 BSP 11534
BDE 1.4505 BRA 3.3422 BC3 5.3592 FSP 2556

MID-COURSE EXECUTION ACCURACY

SGT 8735.5 SGR 1218.0 SG3 1398.5
RRF .9587 RRF .9765 RTF .5.90
SG6 8844.7 R23 .1283 R13 .9802
SG1 8835.8 S62 349.2 THA 9.84

ORBIT DETERMINATION ACCURACY

ST 127.7 SR 35.3 SS 103.3
CRT .9727 CRS -.9718 CST -.9998
LSA 167.8 MSA 8.1 S8A 1.4
EL1 132.3 EL2 7.9 ALF 15.11

LAUNCH DATE APR 18 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

RL 150.20 LAL .00 LOL 207.32 VL 32.345 GAL -4.21 AZL 90.04 HCA 202.46 SMA 184.08 ECC .19768 INC .0377 V1 29.665
RP 220.36 LAP .01 LOP 49.78 VP 21.990 GAP .87 AZP 89.97 TAL 333.99 TAP 176.44 RCA 147.69 APO 220.47 V2 24.946
RC 189.399 GL -.31 GP -11.53 ZAL 137.73 ZAP 58.08 ETS 171.69 ZAE 98.12 ETE 181.92 ZAC 91.07 ETC 270.43 LVI 3.13

DISTANCE 626.384

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.899 VHL 3.860 DLA -6.18 RAL 346.35 RAD 6640.5 VEL 11.617 PTH 6.66 VHP 3.484 DPA -35.35 RAP 290.32 ECC 1.2452
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 3 18 2942.76 -28.45 87.43 201.71 129.89 17 52 21 1942.8 -11.15 69.39
60.00 17 49 30 2819.92 -24.02 80.04 205.38 123.39 18 36 29 1819.9 -9.00 60.36
70.00 18 49 6 2644.64 -19.99 68.42 207.97 118.28 19 33 11 1644.6 -6.99 47.65
80.00 20 4 8 2409.76 -17.05 52.14 209.52 114.89 20 44 17 1409.8 -5.49 30.74
90.00 21 28 30 2137.52 -15.95 32.65 210.04 113.67 22 4 8 1137.5 -4.92 11.04
100.00 22 47 0 1884.23 -17.05 13.51 209.52 114.89 23 18 24 884.2 -5.49 352.11
110.00 23 48 33 1691.46 -19.99 357.33 207.97 118.28 24 16 44 691.5 -6.99 336.57

DIFFERENTIAL CORRECTIONS

TDE 1.4137 TRA 3.4263 TC3-5.3462 BAV 1.0717
RDE .4273 RRA .5495 RC3 -.6084 FAU .14967
FDE 3.6918 FRA 8.9230 FC3-8.8969 BSP 11817
BDE 1.4768 BRA 3.4701 BC3 5.3807 FSP 2518

MID-COURSE EXECUTION ACCURACY

SGT 8899.8 SGR 1138.4 SG3 1373.2
RRF .9506 RRF .9705 RTF .9790
SG6 8993.0 R23 .1207 R13 .9800
SG1 8984.3 S62 349.2 THA 8.94

ORBIT DETERMINATION ACCURACY

ST 130.1 SR 34.0 SS 102.1
CRT .9657 CRS -.9664 CST -.9998
LSA 168.7 MSA 8.6 S8A 1.4
EL1 134.2 EL2 8.6 ALF 14.23

LAUNCH DATE APR 18 1971 FLIGHT TIME 286.00 ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC DISTANCE 631.502 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.352 GAL -4.30 AZL 90.13 HCA 203.57 SMA 184.20 ECC .19872 INC .1283 V1 29.665
RP 220.74 LAP .05 LOP 50.89 VP 21.954 GAP .71 AZP 89.88 TAL 333.56 TAP 177.14 RCA 147.60 APO 220.81 V2 24.904
RC 192.025 GL -1.04 GP -10.90 ZAL 138.15 ZAP 56.90 ETS 171.78 ZAE 96.85 ETE 181.58 ZAC 91.70 ETC 270.43 LVI 2.56

PLANETOCENTRIC CONIC
C3 15.202 VHL 3.899 DLA -6.68 RAL 347.04 RAD 6640.6 VEL 11.630 PTH 6.67 VHP 3.511 DPA -34.73 RAP 290.21 ECC 1.2502
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 7 55 2937.23 -28.20 87.13 202.54 130.05 17 56 52 1937.2 -10.88 69.15
60.00 17 54 39 2812.92 -23.75 79.63 206.24 123.57 18 41 32 1812.9 -8.70 60.02
70.00 18 54 53 2635.83 -19.71 67.89 208.86 118.47 19 38 49 1635.8 -6.66 47.18
80.00 20 10 29 2399.16 -16.75 51.50 210.43 115.09 20 50 28 1399.2 -5.14 30.16
90.00 21 35 6 2126.11 -15.63 31.96 210.96 113.87 22 10 32 1126.1 -4.56 10.40
100.00 22 53 20 1873.64 -16.75 12.87 210.43 115.09 23 24 34 873.6 -5.14 351.52
110.00 23 54 19 1682.64 -19.71 356.81 208.86 118.47 24 22 22 682.6 -6.66 336.10

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.4455 TRA 3.5626 TC3-5.3703 BAV 1.0973 SGT 7059.4 SGR 1066.7 S63 1346.0 ST 132.6 SR 32.9 SS 100.9
RDE .4204 RRA .5093 RC3 -.5568 FAU .14621 RRT .9432 RRF .9632 RTF .9790 CRT .9582 CRS -.9605 CST -.9998
FDE 3.6480 FRA 8.8390 FC3-8.3266 BSP 12082 SGB 7139.6 R23 .1131 R13 .9798 LSA 169.5 MSA 9.2 SSA 1.4
BDE 1.5053 BRA 3.5988 BC3 5.3993 FSP 2473 S61 7130.9 S62 351.0 THA 8.13 EL1 136.3 EL2 9.2 ALF 13.44

LAUNCH DATE APR 18 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC DISTANCE 635.615 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.360 GAL -4.38 AZL 90.21 HCA 204.68 SMA 184.33 ECC .19980 INC .2063 V1 29.665
RP 221.12 LAP .09 LOP 52.00 VP 21.918 GAP .54 AZP 89.81 TAL 333.14 TAP 177.82 RCA 147.50 APO 221.16 V2 24.863
RC 194.659 GL -1.69 GP -10.33 ZAL 138.57 ZAP 55.77 ETS 171.86 ZAE 95.61 ETE 181.29 ZAC 92.27 ETC 270.44 LVI 2.03

PLANETOCENTRIC CONIC
C3 15.520 VHL 3.939 DLA -7.11 RAL 347.70 RAD 6640.8 VEL 11.643 PTH 6.68 VHP 3.540 DPA -34.16 RAP 290.14 ECC 1.2554
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 12 8 2933.31 -28.03 86.91 203.36 130.16 18 1 2 1933.3 -10.68 68.98
60.00 17 59 21 2807.76 -23.56 79.33 207.10 123.70 18 46 8 1807.8 -8.47 59.76
70.00 19 0 6 2629.10 -19.49 67.49 209.74 118.62 19 43 56 1629.1 -6.40 46.83
80.00 20 16 12 2390.90 -16.51 51.01 211.33 115.24 20 56 3 1390.9 -4.86 29.70
90.00 21 41 2 2117.14 -15.38 31.42 211.87 114.02 22 16 20 1117.1 -4.28 9.90
100.00 22 59 4 1865.37 -16.51 12.37 211.33 115.24 23 30 9 865.4 -4.86 351.07
110.00 0 3 29 1675.92 -19.49 356.41 209.74 118.62 0 31 25 675.9 -6.40 338.74

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.4808 TRA 3.7009 TC3-5.3868 BAV 1.1227 SGT 7216.3 SGR 1003.1 S63 1318.4 ST 135.1 SR 32.0 SS 99.8
RDE .4156 RRA .4724 RC3 -.5098 FAU .14245 RRT .9342 RRF .9547 RTF .9788 CRT .9501 CRS -.9543 CST -.9998
FDE 3.6110 FRA 8.7923 FC3-7.9462 BSP 12358 SGB 7285.7 R23 .1085 R13 .9795 LSA 170.7 MSA 9.7 SSA 1.4
BDE 1.5380 BRA 3.7309 BC3 5.4109 FSP 2431 S61 7277.1 S62 354.8 THA 7.42 EL1 138.5 EL2 9.7 ALF 12.73

LAUNCH DATE APR 18 1971 FLIGHT TIME 272.00 ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC DISTANCE 639.722 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.368 GAL -4.47 AZL 90.28 HCA 205.79 SMA 184.46 ECC .20090 INC .2793 V1 29.665
RP 221.50 LAP .12 LOP 53.11 VP 21.883 GAP .38 AZP 89.75 TAL 332.70 TAP 178.49 RCA 147.40 APO 221.52 V2 24.821
RC 197.299 GL -2.27 GP -9.81 ZAL 138.99 ZAP 54.67 ETS 171.95 ZAE 94.39 ETE 181.03 ZAC 92.78 ETC 270.45 LVI 1.53

PLANETOCENTRIC CONIC
C3 15.851 VHL 3.981 DLA -7.47 RAL 348.34 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 3.571 DPA -33.64 RAP 290.12 ECC 1.2609
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 16 2 2930.81 -27.92 86.77 204.19 130.23 18 4 52 1930.8 -10.56 68.87
60.00 18 3 38 2804.18 -23.42 79.13 207.95 123.78 18 50 22 1804.2 -8.32 59.59
70.00 19 4 51 2624.19 -19.33 67.20 210.62 118.72 19 48 35 1624.2 -6.22 46.57
80.00 20 21 22 2384.67 -16.33 50.63 212.23 115.35 21 1 6 1384.7 -4.65 29.35
90.00 21 46 24 2110.31 -15.19 31.00 212.77 114.14 22 21 34 1110.3 -4.06 9.51
100.00 23 4 14 1859.14 -16.33 12.00 212.23 115.35 23 35 13 859.1 -4.65 350.72
110.00 0 8 13 1671.01 -19.33 356.12 210.62 118.72 0 36 5 671.0 -6.22 335.48

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.5180 TRA 3.8389 TC3-5.3997 BAV 1.1488 SGT 7369.2 SGR 946.1 S63 1289.9 ST 137.7 SR 31.2 SS 98.8
RDE .4123 RRA .4379 RC3 -.4684 FAU .13882 RRT .9238 RRF .9446 RTF .9787 CRT .9417 CRS -.9477 CST -.9997
FDE 3.5727 FRA 8.7145 FC3-7.5818 BSP 12619 SGB 7429.7 R23 .1000 R13 .9793 LSA 171.9 MSA 10.3 SSA 1.4
BDE 1.5730 BRA 3.8638 BC3 5.4200 FSP 2383 S61 7421.0 S62 359.6 THA 6.78 EL1 140.8 EL2 10.3 ALF 12.10

LAUNCH DATE APR 18 1971 FLIGHT TIME 274.00 ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC DISTANCE 643.824 EARTH TO MARS
RL 150.20 LAL .00 LOL 207.32 VL 32.378 GAL -4.56 AZL 90.35 HCA 206.88 SMA 184.59 ECC .20203 INC .3475 V1 29.665
RP 221.88 LAP .18 LOP 54.21 VP 21.848 GAP .21 AZP 89.69 TAL 332.26 TAP 179.15 RCA 147.30 APO 221.89 V2 24.780
RC 199.945 GL -2.79 GP -9.34 ZAL 139.40 ZAP 53.61 ETS 172.04 ZAE 93.19 ETE 180.79 ZAC 93.26 ETC 270.48 LVI 1.05

PLANETOCENTRIC CONIC
C3 16.196 VHL 4.024 DLA -7.78 RAL 348.95 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 3.603 DPA -33.16 RAP 290.15 ECC 1.2665
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 19 37 2929.53 -27.87 86.70 205.02 130.26 18 8 27 1929.5 -10.50 68.81
60.00 18 7 35 2802.00 -23.34 79.00 208.81 123.84 18 54 17 1802.0 -8.22 59.48
70.00 19 9 11 2620.87 -19.22 67.01 211.49 118.79 19 52 52 1620.9 -6.09 46.39
80.00 20 26 3 2380.23 -16.20 50.37 213.12 115.43 21 5 43 1380.2 -4.50 29.11
90.00 21 51 14 2105.36 -15.06 30.71 213.67 114.22 22 26 20 1105.4 -3.90 9.23
100.00 23 8 55 1854.70 -16.20 11.73 213.12 115.43 23 39 49 854.7 -4.50 350.48
110.00 0 12 33 1667.69 -19.22 355.92 211.49 118.79 0 40 21 667.7 -6.09 335.31

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE 1.5571 TRA 3.9781 TC3-5.4085 BAV 1.1748 SGT 7519.4 SGR 895.2 S63 1260.9 ST 140.3 SR 30.5 SS 97.4
RDE .4103 RRA .4036 RC3 -.4315 FAU .13523 RRT .9119 RRF .9328 RTF .9785 CRT .9329 CRS -.9407 CST -.9996
FDE 3.5337 FRA 8.6306 FC3-7.2297 BSP 12872 SGB 7572.5 R23 .0937 R13 .9790 LSA 173.2 MSA 10.8 SSA 1.4
BDE 1.6103 BRA 3.9987 BC3 5.4257 FSP 2332 S61 7563.7 S62 365.4 THA 6.21 EL1 143.2 EL2 10.8 ALF 11.53

LAUNCH DATE APR 18 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.384 GAL -4.83 AZL 90.41 HCA 207.99 SMA 184.73 ECC .20319 INC .4100 V1 29.668
 RP 222.27 LAP .19 LOP 55.31 VP 21.812 GAP .03 AZP 89.84 TAL 331.82 TAP 179.81 RCA 147.20 APO 222.27 V2 24.736
 RC 202.595 GL -3.26 GP -8.90 ZAL 139.81 ZAP 52.59 ETS 172.13 ZAE 92.02 ETE 180.59 ZAC 93.69 ETC 270.51 LVI .61

PLANETOCENTRIC CONIC
 C3 16.554 VHL 4.089 DLA -8.04 RAL 349.54 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.636 DPA -32.71 RAP 290.22 ECC 1.2724
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 58 2929.34 -27.86 86.69 205.84 130.27 18 11 47 1929.3 -10.49 68.80
 60.00 18 11 12 2801.04 -23.30 78.95 209.66 123.86 18 57 53 1801.0 -8.18 59.44
 70.00 19 13 8 2618.96 -19.16 66.89 212.36 118.83 19 56 47 1619.0 -6.02 46.29
 80.00 20 30 18 2577.37 -16.11 50.19 214.00 115.48 21 9 55 1377.4 -4.41 28.95
 90.00 21 55 38 2102.06 -14.96 30.51 214.55 114.20 22 30 40 1102.1 -3.79 9.05
 100.00 23 13 10 1851.84 -16.11 11.56 214.00 115.48 23 44 2 851.8 -4.41 350.32
 110.00 0 16 30 1665.78 -19.16 355.81 212.36 118.83 0 44 16 665.8 -6.02 335.21

DIFFERENTIAL CORRECTIONS
 TDE 1.5992 TRA 4.1186 TC3-5.4107 BAU 1.2007 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4097 RRA .3754 RC3 -.3979 FAU .13150 SGT 7665.9 SGR 850.1 S63 1231.8 ST 143.0 SR 29.9 S8 96.3
 FDE 3.5002 FRA 8.5435 FC3-6.8772 BSP 13130 RRT .8980 RRF .9194 RTF .9782 CRT .9239 CRS -.9338 CST -.9995
 BDE 1.6508 BRA 4.1357 BC3 5.4253 FSP 2285 SGB 7712.0 R23 .0883 R13 .9787 LSA 174.6 MSA 11.3 SSA 1.4
 S61 7703.9 S62 372.3 THA 5.70 EL1 145.6 EL2 11.2 ALF 11.02

LAUNCH DATE APR 18 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.393 GAL -4.75 AZL 90.47 HCA 209.09 SMA 184.87 ECC .20438 INC .4682 V1 29.665
 RP 222.85 LAP .23 LOP 56.40 VP 21.777 GAP -.12 AZP 89.59 TAL 331.37 TAP 180.46 RCA 147.09 APO 222.85 V2 24.696
 RC 205.250 GL -3.68 GP -8.50 ZAL 140.22 ZAP 51.60 ETS 172.21 ZAE 90.87 ETE 180.41 ZAC 94.09 ETC 270.54 LVI .18

PLANETOCENTRIC CONIC
 C3 16.925 VHL 4.114 DLA -8.26 RAL 350.12 RAD 6641.4 VEL 11.703 PTH 6.74 VHP 3.670 DPA -32.29 RAP 290.32 ECC 1.2785
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 4 2930.11 -27.69 86.74 206.67 130.25 18 14 54 1930.1 -10.52 68.84
 60.00 18 14 32 2801.18 -23.31 78.96 210.50 123.86 19 1 14 1801.2 -8.19 59.44
 70.00 19 16 45 2618.29 -19.14 66.85 213.23 118.84 20 0 23 1618.3 -6.00 46.25
 80.00 20 34 10 2375.90 -16.07 50.11 214.88 115.51 21 13 46 1375.9 -4.36 28.87
 90.00 21 59 37 2100.23 -14.91 30.40 215.44 114.31 22 34 37 1100.2 -3.73 8.95
 100.00 23 17 2 1850.38 -16.07 11.48 214.88 115.51 23 47 52 850.4 -4.36 350.24
 110.00 0 20 7 1665.11 -19.14 355.77 213.23 118.84 0 47 52 665.1 -6.00 335.17

DIFFERENTIAL CORRECTIONS
 TDE 1.6441 TRA 4.2613 TC3-5.4070 BAU 1.2263 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4102 RRA .3472 RC3 -.3675 FAU .12772 SGT 7810.2 SGR 810.2 S63 1202.8 ST 145.8 SR 29.5 S8 95.3
 FDE 3.4685 FRA 8.4551 FC3-6.5331 BSP 13396 RRT .8823 RRF .9041 RTF .9779 CRT .9148 CRS -.9267 CST -.9994
 BDE 1.6945 BRA 4.2754 BC3 5.4195 FSP 2238 SGB 7852.1 R23 .0834 R13 .9783 LSA 176.2 MSA 11.8 SSA 1.4
 S61 7842.9 S62 379.8 THA 5.24 EL1 148.2 EL2 11.7 ALF 10.55

LAUNCH DATE APR 18 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC
 RL 150.20 LAL .00 LOL 207.32 VL 32.401 GAL -4.84 AZL 90.52 HCA 210.18 SMA 185.01 ECC .20560 INC .5223 V1 29.665
 RP 223.04 LAP .26 LOP 57.30 VP 21.742 GAP -.28 AZP 89.55 TAL 330.92 TAP 181.10 RCA 146.97 APO 223.05 V2 24.654
 RC 207.907 GL -4.06 GP -8.12 ZAL 140.63 ZAP 50.65 ETS 172.30 ZAE 89.74 ETE 180.24 ZAC 94.46 ETC 270.59 LVI -.23

PLANETOCENTRIC CONIC
 C3 17.308 VHL 4.160 DLA -8.43 RAL 350.68 RAD 6641.6 VEL 11.719 PTH 6.75 VHP 3.704 DPA -31.90 RAP 290.46 ECC 1.2848
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 57 2931.74 -27.96 86.83 207.49 130.20 18 17 49 1931.7 -10.61 68.91
 60.00 18 17 38 2802.28 -23.35 79.02 211.34 123.83 19 4 20 1802.3 -8.23 59.50
 70.00 19 20 4 2618.73 -19.15 66.88 214.09 118.84 20 3 42 1618.7 -6.01 46.28
 80.00 20 37 42 2375.69 -16.06 50.09 215.75 115.51 21 17 18 1375.7 -4.35 28.86
 90.00 22 3 14 2099.71 -14.90 30.37 216.31 114.32 22 38 14 1099.7 -3.72 8.92
 100.00 23 20 34 1850.18 -16.06 11.46 215.75 115.51 23 51 24 850.2 -4.35 350.23
 110.00 0 23 26 1665.55 -19.15 355.80 214.09 118.84 0 51 11 665.6 -6.01 335.20

DIFFERENTIAL CORRECTIONS
 TDE 1.6902 TRA 4.4045 TC3-5.4020 BAU 1.2325 MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 RDE .4116 RRA .3205 RC3 -.3404 FAU .12402 SGT 7951.5 SGR 775.0 S63 1173.9 ST 146.5 SR 29.1 S8 94.2
 FDE 3.4372 FRA 8.3627 FC3-6.2033 BSP 13648 RRT .8647 RRF .8870 RTF .5.76 CRT .9057 CRS -.9195 CST -.9993
 BDE 1.7396 BRA 4.4162 BC3 5.4127 FSP 2190 SGB 7989.1 R23 .0790 R13 .9779 LSA 177.8 MSA 12.3 SSA 1.3
 S61 7979.7 S62 387.9 THA 4.63 EL1 150.8 EL2 12.2 ALF 10.14

LAUNCH DATE APR 19 1971

FLIGHT TIME 110.00

ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC										DISTANCE 336.730										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	200.30	VL	34.725	GAL	-5.10	AZL	81.98	HCA	111.66	SMA	236.64	ECC	.37434	INC	1.9903	V1	29.657	RP	207.32	LAP	-1.85	LOP	319.97	VP	26.822	GAP	20.85	AZP	89.27	TAL	341.18	TAP	92.84	RCA	148.06	APO	325.22	V2	26.420	RC	56.291	GL	-11.19	GP	1.75	ZAL	125.16	ZAP	172.23	ETS	166.86	ZAE	172.46	ZAE	116.33	ZAC	102.48	ETC	276.80	LVI	-18.05
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	36.289	VHL	6.188	DLA	-20.35	RAL	340.44	RAD	6650.1	VEL	12.577	PTH	7.44	VHP	10.250	DPA	-17.17	RAP	314.96	ECC	1.6301	ST	35.3	SR	26.1	SS	24.7																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRY	.7653	CRS	.6062	CST	.9743																																		
50.00	17	32	10	2862.15	-25.76	84.17	206.42	131.49	18	20	12	1882.1	-8.14	66.77	LSA	47.4	MSA	17.0	SSA	1.1																																													
60.00	18	36	9	2711.98	-19.84	73.97	211.55	125.83	19	21	21	1712.0	-4.29	55.13	EL1	41.5	EL2	14.3	ALF	34.07																																													
70.00	19	57	8	2473.92	-14.19	58.58	215.47	121.40	20	38	22	1473.9	-.50	38.69																																																			
80.00	21	33	46	2171.49	-9.74	38.24	218.08	118.36	22	9	57	1171.5	2.55	17.64																																																			
90.00	23	8	30	1865.93	-7.94	16.73	219.04	117.23	23	39	36	865.9	3.80	355.86																																																			
100.00	0	20	34	1645.96	-9.74	359.61	218.08	118.36	0	48	0	646.0	2.55	339.01																																																			
110.00	1	0	30	1520.74	-14.19	347.50	215.47	121.40	1	28	51	520.7	-.50	327.61																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC										DISTANCE 339.234										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	200.30	VL	34.573	GAL	-4.96	AZL	92.01	HCA	112.92	SMA	232.26	ECC	.36227	INC	2.0074	V1	29.657	RP	207.22	LAP	-1.85	LOP	321.23	VP	26.636	GAP	20.36	AZP	89.22	TAL	341.23	TAP	94.16	RCA	148.12	APO	316.40	V2	26.432	RC	56.455	GL	-11.56	GP	1.81	ZAL	125.18	ZAP	171.38	ETS	167.74	ZAE	172.80	ZAE	109.67	ZAC	102.50	ETC	276.69	LVI	-18.24
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	36.226	VHL	6.019	DLA	-20.66	RAL	340.67	RAD	6649.3	VEL	12.495	PTH	7.38	VHP	9.938	DPA	-16.99	RAP	315.28	ECC	1.5962	ST	36.4	SR	25.9	SS	25.5																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRY	.7662	CRS	.6036	CST	.9726																																		
50.00	17	34	27	2861.92	-24.82	83.10	205.83	131.99	18	22	8	1861.5	-7.11	65.90	LSA	48.5	MSA	17.1	SSA	1.1																																													
60.00	18	38	55	2690.06	-18.96	72.78	210.96	126.25	19	23	45	1690.1	-3.33	54.08	EL1	42.3	EL2	14.3	ALF	32.84																																													
70.00	20	0	33	2450.10	-13.34	57.26	214.90	121.73	20	41	23	1450.1	.41	37.45																																																			
80.00	21	37	56	2145.32	-8.89	36.78	217.54	118.62	22	13	41	1145.3	3.44	16.20																																																			
90.00	23	13	4	1838.43	-7.08	15.17	218.51	117.45	23	43	42	838.4	4.68	354.32																																																			
100.00	0	24	43	1619.79	-8.89	358.13	217.54	118.62	0	51	43	619.8	3.44	337.57																																																			
110.00	1	3	55	1496.92	-13.34	346.18	214.90	121.73	1	28	52	496.9	.41	326.37																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC										DISTANCE 341.883										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	200.30	VL	34.428	GAL	-4.83	AZL	92.02	HCA	114.19	SMA	228.28	ECC	.35088	INC	2.0248	V1	29.657	RP	207.13	LAP	-1.85	LOP	322.50	VP	26.460	GAP	19.87	AZP	89.17	TAL	341.30	TAP	95.49	RCA	148.18	APO	308.39	V2	26.443	RC	56.701	GL	-11.94	GP	1.88	ZAL	125.18	ZAP	170.52	ETS	168.47	ZAE	173.02	ZAE	102.75	ZAC	102.52	ETC	276.76	LVI	-18.43
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	34.318	VHL	5.858	DLA	-20.99	RAL	340.88	RAD	6648.6	VEL	12.419	PTH	7.33	VHP	9.638	DPA	-16.82	RAP	315.66	ECC	1.5648	ST	37.3	SR	25.8	SS	26.4																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRY	.7705	CRS	.6014	CST	.9712																																		
50.00	17	36	45	2840.91	-23.88	82.04	205.26	132.46	18	24	6	1840.9	-6.08	65.02	LSA	49.6	MSA	17.2	SSA	1.1																																													
60.00	18	41	44	2668.08	-18.07	71.61	210.40	126.66	19	26	12	1668.1	-2.36	53.02	EL1	43.1	EL2	14.2	ALF	31.98																																													
70.00	20	4	3	2426.10	-12.48	55.94	214.35	122.05	20	44	29	1426.1	1.32	36.20																																																			
80.00	21	42	15	2118.77	-8.02	35.27	217.02	118.86	22	17	34	1118.8	4.33	14.73																																																			
90.00	23	17	50	1810.42	-6.20	13.58	218.00	117.65	23	48	1	810.4	5.57	352.74																																																			
100.00	0	29	3	1593.24	-8.02	356.64	217.02	118.86	0	55	36	593.2	4.33	336.10																																																			
110.00	1	7	25	1472.92	-12.48	344.86	214.35	122.05	1	31	58	472.9	1.32	325.11																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC										DISTANCE 344.669										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	200.30	VL	34.292	GAL	-4.70	AZL	92.04	HCA	115.45	SMA	224.88	ECC	.34013	INC	2.0426	V1	29.657	RP	207.05	LAP	-1.84	LOP	323.76	VP	26.292	GAP	19.39	AZP	89.12	TAL	341.38	TAP	96.83	RCA	148.25	APO	301.08	V2	26.453	RC	57.030	GL	-12.33	GP	1.95	ZAL	125.17	ZAP	169.64	ETS	169.07	ZAE	173.14	ZAE	95.81	ZAC	102.54	ETC	276.86	LVI	-18.81
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	32.552	VHL	5.705	DLA	-21.33	RAL	341.08	RAD	6648.0	VEL	12.348	PTH	7.27	VHP	9.343	DPA	-16.64	RAP	316.02	ECC	1.5357	ST	38.2	SR	25.6	SS	27.3																																						
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	CRY	.7727	CRS	.5997	CST	.9700																																		
50.00	17	39	4	2820.35	-22.93	81.01	204.73	132.91	18	26	5	1820.3	-5.05	64.16	LSA	50.6	MSA	17.2	SSA	1.2																																													
60.00	18	44	36	2646.07	-17.17	70.44	209.86	127.04	19	28	42	1646.1	-1.40	51.97	EL1	43.7	EL2	14.2	ALF	31.07																																													
70.00	20	7	39	2401.93	-11.60	54.62	213.83	122.35	20	47	41	1401.9	2.25	34.93																																																			
80.00	21	46	44	2091.84	-7.13	33.76	216.52	119.07	22	21	36	1091.8	5.23	13.25																																																			
90.00	23	22	49	1781.91	-5.29	11.97	217.53	117.82	23	52	31	781.9	6.47	351.13																																																			
100.00	0	33	32	1566.31	-7.13	355.13	216.52	119.07	0	59	38	566.3	5.23	334.61																																																			
110.00	1	11	1	1448.75	-11.60	343.53	213.83	122.35	1	35	10	448.8	2.25	323.85																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 34.163 GAL -4.57 AZL 92.06 HCA 116.72 SMA 221.35 ECC .32998 INC 2.0608 V1 29.657
 RP 206.97 LAP -1.84 LOP 325.03 VP 26.132 GAP 18.92 AZP 89.07 TAL 341.47 TAP 98.18 RCA 148.31 APO 294.40 V2 26.462
 RC 57.440 GL -12.72 GP 2.03 ZAL 125.13 ZAP 168.74 ETS 169.58 ZAE 173.16 ETE 89.11 ZAC 102.57 ETC 276.94 LVI -18.79

PLANETOCENTRIC CONIC

C3 30.918 VHL 5.560 DLA -21.68 RAL 341.27 RAD 6647.4 VEL 12.282 PTH 7.22 VHP 9.060 DPA -16.46 RAP 316.36 ECC 1.5068
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 41 26 2799.85 -21.97 79.99 204.22 133.33 18 28 6 1799.9 -4.03 63.29
 60.00 18 47 32 2624.05 -16.26 69.28 209.35 127.40 19 31 16 1624.0 -4.43 50.92
 70.00 20 11 22 2377.62 -10.72 53.29 213.34 122.62 20 30 59 1377.6 3.17 33.66
 80.00 21 51 24 2064.55 -6.23 32.24 216.06 119.26 22 25 48 1064.5 6.14 11.73
 90.00 23 28 2 1752.86 -4.37 10.34 217.08 117.97 23 57 15 752.9 7.39 349.48
 100.00 0 38 12 1539.02 -6.23 353.61 216.06 119.26 1 3 51 539.0 6.14 333.10
 110.00 1 14 44 1424.44 -10.72 342.21 213.34 122.62 1 36 28 424.4 3.17 322.58

DIFFERENTIAL CORRECTIONS

TDE -.6255 TRA-1.3172 TC3 -.0118 BAU .0535
 RDE -.4925 RRA .1341 RC3 .1288 FAU .04231
 FDE .4657 FRA 1.6137 FC3-1.1848 BSP 2634
 BDE .7961 BRA 1.3240 BC3 .1293 FSP 273

MID-COURSE EXECUTION ACCURACY

SGT 1996.5 SGR 547.9 SG3 196.4
 RRT .1234 RRF -.1334 RTF -.8005
 SGB 1687.9 R23 -.0218 R13 -.8010
 SG1 1998.2 SG2 543.1 THA 2.74

ORBIT DETERMINATION ACCURACY

ST 39.0 SR 25.5 S3 28.2
 CRT .7745 CRS .5982 CST .9688
 LSA 51.6 MSA 17.3 S3A 1.2
 EL1 44.4 EL2 14.2 ALF 30.25

LAUNCH DATE APR 19 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 34.041 GAL -4.44 AZL 92.08 HCA 117.98 SMA 218.33 ECC .32041 INC 2.0793 V1 29.657
 RP 206.90 LAP -1.84 LOP 326.29 VP 25.981 GAP 18.45 AZP 89.02 TAL 341.56 TAP 99.54 RCA 148.37 APO 288.20 V2 26.469
 RC 57.930 GL -13.13 GP 2.11 ZAL 125.08 ZAP 167.82 ETS 170.01 ZAE 173.11 ETE 82.86 ZAC 102.61 ETC 277.02 LVI -18.97

PLANETOCENTRIC CONIC

C3 29.407 VHL 5.423 DLA -22.05 RAL 341.45 RAD 6646.8 VEL 12.221 PTH 7.17 VHP 8.785 DPA -16.29 RAP 316.69 ECC 1.4840
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 49 2779.45 -21.02 78.99 203.73 133.72 18 30 9 1779.5 -3.00 62.44
 60.00 18 50 32 2602.04 -15.35 68.14 208.86 127.73 19 33 54 1602.0 .54 49.87
 70.00 20 15 11 2353.17 -9.81 51.97 212.88 122.88 20 54 24 1353.2 4.10 32.38
 80.00 21 56 15 2036.87 -5.30 30.71 215.63 119.43 22 30 12 1036.9 7.06 10.19
 90.00 23 33 29 1723.25 -3.42 8.68 216.66 118.09 24 2 12 723.2 8.31 347.80
 100.00 0 43 3 1511.35 -5.30 352.08 215.63 119.43 1 8 14 511.3 7.06 331.56
 110.00 1 18 34 1399.99 -9.81 340.89 212.88 122.88 1 41 54 450.0 4.10 321.30

DIFFERENTIAL CORRECTIONS

TDE -.6214 TRA-1.3058 TC3 .0001 BAU .0540
 RDE -.4768 RRA .1247 RC3 .1374 FAU .04382
 FDE .4814 FRA 1.6811 FC3-1.2900 BSP 2705
 BDE .7833 BRA 1.3117 BC3 .1374 FSP 294

MID-COURSE EXECUTION ACCURACY

SGT 1626.9 SGR 544.3 SG3 209.7
 RRT .1347 RRF -.1457 RTF -.8072
 SGB 1715.5 R23 -.0238 R13 -.8077
 SG1 1628.7 SG2 538.7 THA 2.90

ORBIT DETERMINATION ACCURACY

ST 39.7 SR 25.3 S3 29.2
 CRT .7765 CRS .5967 CST .9677
 LSA 52.6 MSA 17.3 S3A 1.2
 EL1 44.9 EL2 14.1 ALF 29.49

LAUNCH DATE APR 19 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 33.926 GAL -4.32 AZL 92.10 HCA 119.25 SMA 215.55 ECC .31137 INC 2.0984 V1 29.657
 RP 206.85 LAP -1.83 LOP 327.56 VP 25.836 GAP 18.00 AZP 88.92 TAL 341.67 TAP 100.91 RCA 148.43 APO 282.66 V2 26.476
 RC 58.496 GL -13.54 GP 2.20 ZAL 125.01 ZAP 166.89 ETS 170.37 ZAE 172.99 ETE 77.22 ZAC 102.65 ETC 277.10 LVI -19.15

PLANETOCENTRIC CONIC

C3 28.008 VHL 5.292 DLA -22.42 RAL 341.63 RAD 6646.2 VEL 12.164 PTH 7.13 VHP 8.519 DPA -16.11 RAP 316.99 ECC 1.4809
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 15 2759.16 -20.06 78.02 203.26 134.10 18 32 14 1759.2 -1.98 61.59
 60.00 18 53 36 2580.06 -14.43 67.01 208.41 128.05 19 36 36 1580.1 1.51 48.82
 70.00 20 19 8 2328.60 -8.90 50.65 212.44 123.11 20 57 56 1328.6 5.04 31.09
 80.00 22 1 19 2008.80 -4.36 29.16 215.23 119.57 22 34 48 1008.8 7.99 8.62
 90.00 23 39 13 1693.04 -2.45 6.99 216.28 118.18 24 7 26 693.0 9.24 346.07
 100.00 0 48 6 1483.28 -4.36 350.53 215.23 119.57 1 12 50 483.3 7.99 329.99
 110.00 1 22 30 1375.41 -8.90 339.57 212.44 123.11 1 45 26 375.4 5.04 320.01

DIFFERENTIAL CORRECTIONS

TDE -.6167 TRA-1.2940 TC3 .0129 BAU .0590
 RDE -.4817 RRA .1152 RC3 .1464 FAU .04541
 FDE .4974 FRA 1.7523 FC3-1.4038 BSP 2764
 BDE .7704 BRA 1.2991 BC3 .1470 FSP 317

MID-COURSE EXECUTION ACCURACY

SGT 1686.1 SGR 540.5 SG3 223.8
 RRT .1468 RRF -.1590 RTF -.8136
 SGB 1742.1 R23 -.0260 R13 -.8141
 SG1 1688.2 SG2 533.9 THA 3.06

ORBIT DETERMINATION ACCURACY

ST 40.4 SR 25.1 S3 30.1
 CRT .7784 CRS .5951 CST .9664
 LSA 53.5 MSA 17.4 S3A 1.2
 EL1 45.4 EL2 14.0 ALF 28.78

LAUNCH DATE APR 19 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 33.817 GAL -4.21 AZL 92.12 HCA 120.52 SMA 213.00 ECC .30264 INC 2.1179 V1 29.657
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.699 GAP 17.55 AZP 88.92 TAL 341.78 TAP 102.29 RCA 148.49 APO 277.50 V2 26.482
 RC 59.137 GL -13.95 GP 2.29 ZAL 124.93 ZAP 165.94 ETS 170.68 ZAE 172.82 ETE 72.27 ZAC 102.70 ETC 277.17 LVI -19.34

PLANETOCENTRIC CONIC

C3 26.713 VHL 5.168 DLA -22.81 RAL 341.79 RAD 6645.7 VEL 12.111 PTH 7.09 VHP 8.262 DPA -15.93 RAP 317.28 ECC 1.4396
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 43 2739.01 -19.10 77.06 202.85 134.44 18 34 22 1739.0 -.97 60.75
 60.00 18 56 43 2558.13 -13.51 65.89 207.98 128.34 19 39 22 1558.1 2.48 47.77
 70.00 20 23 12 2303.91 -7.98 49.34 212.04 123.32 21 1 36 1303.9 5.97 29.79
 80.00 22 6 36 1980.32 -3.40 27.59 214.86 119.68 22 39 36 980.3 8.92 7.02
 90.00 23 45 14 1662.17 -1.46 5.27 215.94 118.25 24 12 56 662.2 10.19 344.30
 100.00 0 53 23 1454.80 -3.40 348.96 214.86 119.68 1 17 38 454.8 8.92 328.39
 110.00 1 26 34 1350.73 -7.98 338.25 212.04 123.32 1 49 5 350.7 5.97 318.71

DIFFERENTIAL CORRECTIONS

TDE -.6120 TRA-1.2815 TC3 .0265 BAU .0565
 RDE -.4472 RRA .1057 RC3 .1559 FAU .04709
 FDE .5144 FRA 1.8269 FC3-1.5262 BSP 2827
 BDE .7580 BRA 1.2858 BC3 .1581 FSP 341

MID-COURSE EXECUTION ACCURACY

SGT 1684.1 SGR 536.5 SG3 238.8
 RRT .1603 RRF -.1737 RTF -.8197
 SGB 1767.5 R23 -.0283 R13 -.8203
 SG1 1686.6 SG2 528.8 THA 3.24

ORBIT DETERMINATION ACCURACY

ST 41.1 SR 24.9 S3 31.2
 CRT .7807 CRS .5939 CST .9652
 LSA 54.5 MSA 17.4 S3A 1.2
 EL1 45.9 EL2 13.9 ALF 28.09

LAUNCH DATE APR 19 1971

FLIGHT TIME 134.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC										DISTANCE 360.219										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	208.30	VL	33.714	GAL	-4.09	AZL	92.14	HCA	121.78	SMA	210.88	ECC	.29479	INC	2.1380	V1	29.657	RP	206.75	LAP	-1.82	LOP	330.10	VP	25.969	GAP	17.11	AZP	88.87	TAL	341.89	TAP	103.68	RCA	148.55	APO	272.74	V2	26.487	RC	89.850	GL	-14.38	GP	2.38	ZAL	124.84	ZAP	184.96	ETS	170.95	ZAE	172.64	ETE	68.04	ZAC	102.76	ETC	277.23	LVI	-19.51
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	25.515	VHL	5.051	DLA	-23.21	RAL	341.95	RAD	6645.2	VEL	12.062	PTH	7.04	VHP	8.013	DPA	-15.75	RAP	317.55	ECC	1.4199	ST	41.7	SR	24.6	SS	32.2	CRT	.7831	CRS	.5926	CST	.9630	LSA	55.4	MSA	17.5	SSA	1.2	EL1	46.4	EL2	13.8	ALF	27.45																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 51 13	2719.00	-18.15	76.12	202.46	134.77	18 36 32	1719.0			.03			59.91																																																			
60.00	18 59 56	2536.27	-12.58	64.79	207.59	128.61	19 42 12	1536.3			3.44			46.72																																																			
70.00	20 27 24	2279.11	-7.05	48.02	211.67	123.50	21 5 23	1279.1			6.91			28.48																																																			
80.00	22 12 7	1951.40	-2.43	26.00	214.53	119.77	22 44 38	951.4			9.86			5.39																																																			
90.00	23 51 35	1630.58	-.44	3.51	215.64	118.28	24 18 45	630.6			11.14			342.47																																																			
100.00	0 58 55	1425.87	-2.43	347.36	214.53	119.77	1 22 40	425.9			9.86			326.76																																																			
110.00	1 30 46	1325.93	-7.05	336.94	211.67	123.50	1 52 52	325.9			6.91			317.40																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC										DISTANCE 363.585										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	208.30	VL	33.617	GAL	-3.98	AZL	92.16	HCA	123.05	SMA	208.48	ECC	.28719	INC	2.1586	V1	29.657	RP	206.72	LAP	-1.81	LOP	331.37	VP	25.444	GAP	16.88	AZP	88.82	TAL	342.02	TAP	105.07	RCA	148.61	APO	268.35	V2	26.491	RC	80.633	GL	-14.81	GP	2.49	ZAL	124.73	ZAP	163.97	ETS	171.19	ZAE	172.44	ETE	64.50	ZAC	102.83	ETC	277.30	LVI	-19.69
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	24.407	VHL	4.940	DLA	-23.62	RAL	342.11	RAD	6644.7	VEL	12.016	PTH	7.01	VHP	7.771	DPA	-15.57	RAP	317.79	ECC	1.4017	ST	42.2	SR	24.4	SS	33.2	CRT	.7856	CRS	.5912	CST	.9623	LSA	56.3	MSA	17.5	SSA	1.2	EL1	46.8	EL2	13.6	ALF	28.85																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 53 46	2699.16	-17.19	75.20	202.10	135.08	18 38 45	1699.2			1.03			59.08																																																			
60.00	19 3 13	2514.48	-11.65	63.70	207.23	128.86	19 45 7	1514.5			4.39			45.68																																																			
70.00	20 31 45	2254.21	-6.12	46.70	211.34	123.67	21 9 19	1254.2			7.84			27.18																																																			
80.00	22 17 54	1921.99	-1.43	24.38	214.24	119.83	22 49 56	922.0			10.81			3.72																																																			
90.00	0 2 14	1598.16	.61	1.70	215.38	118.27	0 28 52	598.2			12.11			340.58																																																			
100.00	1 4 42	1396.46	-1.43	345.75	214.24	119.83	1 27 58	396.5			10.81			325.09																																																			
110.00	1 35 7	1301.03	-6.12	335.62	211.34	123.67	1 56 48	301.0			7.84			316.08																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC										DISTANCE 367.018										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	208.30	VL	33.525	GAL	-3.88	AZL	92.18	HCA	124.32	SMA	206.48	ECC	.28002	INC	2.1799	V1	29.657	RP	206.70	LAP	-1.80	LOP	332.64	VP	25.326	GAP	16.28	AZP	88.77	TAL	342.15	TAP	106.47	RCA	148.66	APO	264.30	V2	26.494	RC	81.483	GL	-15.25	GP	2.59	ZAL	124.61	ZAP	162.95	ETS	171.39	ZAE	172.25	ETE	61.62	ZAC	102.90	ETC	277.35	LVI	-19.67
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	23.382	VHL	4.833	DLA	-24.05	RAL	342.26	RAD	6644.3	VEL	11.974	PTH	6.97	VHP	7.538	DPA	-15.39	RAP	318.01	ECC	1.3848	ST	42.8	SR	24.1	SS	34.3	CRT	.7888	CRS	.5910	CST	.9608	LSA	57.2	MSA	17.5	SSA	1.2	EL1	47.2	EL2	13.4	ALF	28.88																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 36 22	2679.51	-16.24	74.30	201.76	135.36	18 41 2	1679.5			2.02			58.26																																																			
60.00	19 8 35	2492.78	-10.73	62.62	206.91	129.08	19 48 8	1492.8			5.34			44.63																																																			
70.00	20 36 14	2229.20	-5.17	45.38	211.04	123.81	21 13 23	1229.2			8.77			25.82																																																			
80.00	22 23 58	1892.04	-.42	22.74	214.00	119.86	22 55 30	892.0			11.76			2.00																																																			
90.00	0 9 22	1564.79	1.68	359.84	215.16	118.23	0 35 26	564.8			13.09			338.61																																																			
100.00	1 10 46	1366.51	-.42	344.11	214.00	119.86	1 33 32	366.5			11.76			323.37																																																			
110.00	1 39 36	1276.02	-5.17	334.30	211.04	123.81	2 0 53	276.0			8.77			314.74																																																			

LAUNCH DATE APR 19 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC										DISTANCE 370.512										EARTH TO MARS																																													
RL	150.24	LAL	.00	LOL	208.30	VL	33.438	GAL	-3.78	AZL	92.20	HCA	125.59	SMA	204.83	ECC	.27326	INC	2.2018	V1	29.657	RP	206.68	LAP	-1.79	LOP	333.91	VP	25.213	GAP	15.85	AZP	88.72	TAL	342.28	TAP	107.87	RCA	148.71	APO	260.55	V2	26.496	RC	82.398	GL	-15.70	GP	2.71	ZAL	124.48	ZAP	161.91	ETS	171.56	ZAE	172.09	ETE	59.34	ZAC	102.98	ETC	277.41	LVI	-20.05
PLANETOCENTRIC CONIC										MID-COURSE EXECUTION ACCURACY										ORBIT DETERMINATION ACCURACY																																													
C3	22.434	VHL	4.736	DLA	-24.48	RAL	342.40	RAD	6643.9	VEL	11.934	PTH	6.94	VHP	7.311	DPA	-15.21	RAP	318.21	ECC	1.3692	ST	43.3	SR	23.9	SS	35.4	CRT	.7920	CRS	.5902	CST	.9591	LSA	58.1	MSA	17.6	SSA	1.2	EL1	47.6	EL2	13.2	ALF	25.74																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	17 59 1	2660.05	-15.30	73.41	201.46	135.62	18 43 21	1660.0			2.99			57.45																																																			
60.00	19 10 2	2471.18	-9.80	61.55	206.61	129.29	19 51 13	1471.2			6.29			43.59																																																			
70.00	20 40 53	2204.07	-4.22	44.06	210.79	123.92	21 17 37	1204.1			9.71			24.48																																																			
80.00	22 30 21	1861.48	.62	21.06	213.79	119.85	23 1 23	861.5			12.72			.24																																																			
90.00	0 18 58	1530.31	2.79	357.91	215.00	118.15	0 42 28	530.3			14.08			336.57																																																			
100.00	1 17 9	1335.95	.62	342.43	213.79	119.85	1 39 25	336.0			12.72			321.61																																																			
110.00	1 44 16	1250.89	-4.22	332.98	210.79	123.92	2 5 6	250.9			9.71			313.39																																																			

LAUNCH DATE APR 19 1971 FLIGHT TIME 142.00 ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC DISTANCE 374.064 EARTH TO MARS
 RL 150.24 LAL .00 LOL 208.30 VL 33.356 GAL -3.68 AZL 92.22 HCA 126.86 SMA 202.92 ECC .26688 INC 2.2244 V1 29.657
 RP 206.67 LAP -1.78 LOP 339.18 VP 25.105 GAP 15.44 AZP 88.67 TAL 342.42 TAP 109.28 RCA 148.77 APO 257.07 V2 26.496
 RC 63.376 GL -16.16 GP 2.83 ZAL 124.33 ZAP 180.85 ETS 171.71 ZAE 171.95 ETE 57.62 ZAC 103.08 ETC 277.46 LVI -20.23

PLANETOCENTRIC CONIC
 C3 21.555 VHL 4.643 DLA -24.92 RAL 342.55 RAD 6643.5 VEL 11.898 PTH 6.91 VHP 7.092 DPA -15.04 RAP 318.38 ECC 1.3547
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 1 44 2640.74 -14.36 72.54 201.19 135.86 18 45 45 1640.7 3.96 56.64
 60.00 19 13 35 2449.63 -8.87 60.49 206.35 129.48 19 54 25 1449.6 7.23 42.55
 70.00 20 45 43 2178.76 -3.25 42.74 210.56 124.02 21 22 2 1178.8 10.64 23.11
 80.00 22 37 7 1830.13 1.68 19.34 213.64 119.81 23 7 37 830.1 13.69 358.42
 90.00 0 25 9 1494.35 3.94 355.90 214.89 118.03 0 50 3 494.4 15.10 334.42
 100.00 1 23 54 1304.60 1.68 340.71 213.64 119.81 1 45 39 304.6 13.69 319.79
 110.00 1 49 5 1225.58 -3.25 331.65 210.56 124.02 2 9 31 225.6 10.64 312.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5701 TRA-1.1966 TC3 .1265 BAW .0709 SGT 1777.6 SGR 516.0 SG3 330.1 ST 42.8 SR 23.6 SS 36.4
 RDE -.3815 RRA .0576 RC3 .2111 FAU .05737 RRT .2472 RRF -.2688 RTF -.8517 CRT .7920 CRS .5890 CST .9568
 FDE .6046 FRA 2.2601 FC3-2.3043 BSP 2909 SGB 1851.0 R23 -.0415 R13 -.8528 LSA 58.4 MSA 17.6 SSA 1.2
 BDE .6860 BRA 1.1980 BC3 .2461 FSP 490 SG1 1782.6 SG2 498.6 THA 4.45 EL1 47.1 EL2 13.1 ALF 25.66

LAUNCH DATE APR 19 1971 FLIGHT TIME 144.00 ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC DISTANCE 377.667 EARTH TO MARS
 RL 150.24 LAL .00 LOL 208.30 VL 33.279 GAL -3.58 AZL 92.25 HCA 128.13 SMA 201.34 ECC .26087 INC 2.2477 V1 29.657
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.002 GAP 15.05 AZP 88.61 TAL 342.55 TAP 110.68 RCA 148.81 APO 253.86 V2 26.496
 RC 64.414 GL -16.62 GP 2.96 ZAL 124.19 ZAP 159.76 ETS 171.83 ZAE 171.84 ETE 56.43 ZAC 103.18 ETC 277.50 LVI -20.41

PLANETOCENTRIC CONIC
 C3 20.747 VHL 4.555 DLA -25.36 RAL 342.69 RAD 6643.2 VEL 11.864 PTH 6.88 VHP 6.880 DPA -14.86 RAP 318.52 ECC 1.3414
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 4 30 2621.73 -13.43 71.70 200.96 136.09 18 48 12 1621.7 4.92 55.84
 60.00 19 17 14 2428.29 -7.94 59.45 206.14 129.64 19 57 42 1428.3 8.16 41.51
 70.00 20 50 43 2153.42 -2.29 41.41 210.39 124.09 21 26 37 1153.4 11.57 21.73
 80.00 22 44 15 1798.10 2.76 17.58 213.53 119.74 23 14 13 798.1 14.66 356.54
 90.00 0 33 59 1456.89 5.14 353.79 214.84 117.85 0 58 15 456.9 16.13 332.15
 100.00 1 31 2 1272.57 2.76 338.95 213.53 119.74 1 52 15 272.6 14.66 317.91
 110.00 1 54 5 1200.24 -2.29 330.33 210.39 124.09 2 14 6 200.2 11.57 310.65

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5706 TRA-1.1874 TC3 .1289 BAW .0716 SGT 1805.8 SGR 512.3 SG3 352.0 ST 43.6 SR 23.3 SS 37.5
 RDE -.3700 RRA .0474 RC3 .2236 FAU .05980 RRT .2690 RRF -.2932 RTF -.8517 CRT .7978 CRS .5892 CST .9561
 FDE .6249 FRA 2.3617 FC3-2.4955 BSP 3037 SGB 1877.1 R23 -.0474 R13 -.8529 LSA 59.5 MSA 17.6 SSA 1.2
 BDE .6801 BRA 1.1883 BC3 .2581 FSP 527 SG1 1811.5 SG2 491.9 THA 4.71 EL1 47.8 EL2 12.8 ALF 25.00

LAUNCH DATE APR 19 1971 FLIGHT TIME 146.00 ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC DISTANCE 381.317 EARTH TO MARS
 RL 150.24 LAL .00 LOL 208.30 VL 33.206 GAL -3.49 AZL 92.27 HCA 129.40 SMA 199.87 ECC .25521 INC 2.2719 V1 29.657
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.904 GAP 14.66 AZP 88.56 TAL 342.69 TAP 112.09 RCA 148.86 APO 250.88 V2 26.495
 RC 65.312 GL -17.09 GP 3.10 ZAL 124.03 ZAP 158.64 ETS 171.94 ZAE 171.77 ETE 55.74 ZAC 103.30 ETC 277.54 LVI -20.59

PLANETOCENTRIC CONIC
 C3 20.000 VHL 4.472 DLA -25.81 RAL 342.83 RAD 6642.8 VEL 11.833 PTH 6.85 VHP 6.675 DPA -14.68 RAP 318.63 ECC 1.3292
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 7 20 2602.94 -12.50 70.87 200.76 136.29 18 50 43 1602.9 5.86 55.05
 60.00 19 20 59 2407.05 -7.02 58.41 205.95 129.79 20 1 6 1407.0 9.08 40.47
 70.00 20 55 55 2127.91 -1.31 40.08 210.25 124.13 21 31 23 1127.9 12.49 20.34
 80.00 22 51 51 1765.07 3.88 15.76 213.48 119.63 23 21 16 765.1 15.65 354.59
 90.00 0 43 37 1417.26 6.39 351.56 214.86 117.61 1 7 15 417.3 17.19 329.73
 100.00 1 38 38 1239.54 3.88 337.13 213.48 119.63 1 59 18 239.5 15.65 315.96
 110.00 1 59 17 1174.73 -1.31 329.00 210.25 124.13 2 18 52 174.7 12.49 309.25

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5681 TRA-1.1741 TC3 .1361 BAW .0730 SGT 1826.7 SGR 509.0 SG3 375.3 ST 44.2 SR 23.0 SS 38.7
 RDE -.3589 RRA .0371 RC3 .2388 FAU .06239 RRT .2928 RRF -.3197 RTF -.8531 CRT .8035 CRS .5903 CST .9537
 FDE .6466 FRA 2.4689 FC3-2.7005 BSP 3118 SGB 1896.3 R23 -.0534 R13 -.8545 LSA 60.6 MSA 17.6 SSA 1.2
 BDE .6720 BRA 1.1747 BC3 .2731 FSP 567 SG1 1833.2 SG2 484.9 THA 5.01 EL1 48.2 EL2 12.6 ALF 24.47

LAUNCH DATE APR 19 1971 FLIGHT TIME 148.00 ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC DISTANCE 385.012 EARTH TO MARS
 RL 150.24 LAL .00 LOL 208.30 VL 33.138 GAL -3.41 AZL 92.30 HCA 130.67 SMA 198.51 ECC .24987 INC 2.2970 V1 29.657
 RP 206.71 LAP -1.74 LOP 338.89 VP 24.810 GAP 14.28 AZP 88.50 TAL 342.83 TAP 113.50 RCA 148.91 APO 248.11 V2 26.493
 RC 66.667 GL -17.56 GP 3.25 ZAL 123.87 ZAP 157.49 ETS 172.03 ZAE 171.73 ETE 55.54 ZAC 103.43 ETC 277.57 LVI -20.77

PLANETOCENTRIC CONIC
 C3 19.311 VHL 4.394 DLA -26.28 RAL 342.88 RAD 6642.5 VEL 11.804 PTH 6.83 VHP 6.477 DPA -14.49 RAP 318.72 ECC 1.3178
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 10 14 2584.37 -11.59 70.05 200.60 136.48 18 53 18 1584.4 6.79 54.26
 60.00 19 24 50 2385.93 -6.09 57.39 205.81 129.92 20 4 36 1385.9 9.99 39.43
 70.00 21 1 20 2102.21 -1.33 38.74 210.16 124.15 21 36 22 1102.2 13.42 18.92
 80.00 22 59 59 1730.83 5.03 13.87 213.48 119.47 23 28 50 730.8 16.65 352.54
 90.00 0 54 20 1374.74 7.73 349.15 214.95 117.29 1 17 15 374.7 18.29 327.10
 100.00 1 46 47 1205.31 5.03 335.24 213.48 119.47 2 6 52 205.3 16.65 313.91
 110.00 2 4 42 1149.03 -1.33 327.66 210.16 124.15 2 23 51 149.0 13.42 307.84

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.5633 TRA-1.1581 TC3 .1459 BAW .0749 SGT 1841.6 SGR 506.1 SG3 400.0 ST 44.6 SR 22.7 SS 39.9
 RDE -.3482 RRA .0266 RC3 .2507 FAU .06514 RRT .3181 RRF -.3482 RTF -.8550 CRT .8091 CRS .5914 CST .9513
 FDE .6682 FRA 2.5812 FC3-2.9201 BSP 3166 SGB 1909.9 R23 -.0597 R13 -.8567 LSA 61.5 MSA 17.7 SSA 1.2
 BDE .6622 BRA 1.1584 BC3 .2901 FSP 608 SG1 1849.2 SG2 477.8 THA 5.35 EL1 48.5 EL2 12.3 ALF 24.04

LAUNCH DATE APR 19 1971 FLIGHT TIME 150.00 ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 33.073 GAL -3.33 AZL 92.32 HCA 131.94 SMA 197.24 ECC .24485 INC 2.3231 V1 29.657
 RP 206.73 LAP -1.73 LOP 340.26 VP 24.720 GAP 13.91 AZP 88.45 TAL 342.97 TAP 114.90 RCA 148.95 APO 245.54 V2 26.489
 RC 67.877 GL -18.04 GP 3.41 ZAL 123.70 ZAP 156.32 ETS 172.11 ZAE 171.74 ETE 55.85 ZAC 103.57 ETC 277.60 LVI -20.85

PLANETOCENTRIC CONIC
 C3 18.676 VHL 4.322 DLA -26.74 RAL 343.12 RAD 6642.2 VEL 11.777 PTH 6.80 VHP 6.285 DPA -14.31 RAP 318.77 ECC 1.3074
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 13 12 2566.05 -10.68 69.23 200.47 136.85 10 55 58 1566.0 7.70 53.46
 60.00 19 28 48 2364.93 -5.18 56.38 205.70 130.02 20 8 14 1364.9 10.89 38.39
 70.00 21 6 58 2076.30 .66 37.39 210.11 124.15 21 41 35 1076.3 14.34 17.48
 80.00 23 8 45 1695.09 6.22 11.89 213.55 119.26 23 37 1 695.1 17.67 350.38
 90.00 1 6 29 1328.13 9.17 346.48 215.14 116.87 1 28 37 328.1 19.45 324.17
 100.00 1 55 33 1169.56 6.22 333.26 213.55 119.26 2 15 3 189.6 17.67 311.75
 110.00 2 10 21 1123.11 .66 326.30 210.11 124.15 2 29 4 123.1 14.34 306.40

DIFFERENTIAL CORRECTIONS
 TDE -.5573 TRA-1.1399 TC3 .1970 BAU .0770 SGT 1851.6 SGR 503.8 SG3 426.2 ST 44.8 SR 22.4 SS 41.1
 RDE -.3379 RRA .0158 RC3 .2654 FAU .06806 RRT .3456 RRF -.3789 RTF -.8571 CRT .8151 CRS .5933 CST .9480
 FDE .6909 FRA 2.6995 FC3-3.1551 B8P 3203 SGB 1918.9 R23 -.0663 R13 -.8591 LSA 62.3 MSA 17.7 S8A 1.2
 BDE .6517 BRA 1.1400 BC3 .3084 F8P 653 SG1 1860.3 SG2 470.6 THA 5.74 EL1 46.7 EL2 12.0 ALF 23.68

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971 FLIGHT TIME 152.00 ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 33.012 GAL -3.25 AZL 92.35 HCA 133.20 SMA 196.07 ECC .24012 INC 2.3502 V1 29.657
 RP 206.77 LAP -1.71 LOP 341.52 VP 24.634 GAP 13.54 AZP 88.39 TAL 343.11 TAP 116.31 RCA 148.99 APO 243.15 V2 26.485
 RC 69.140 GL -18.53 GP 3.58 ZAL 123.52 ZAP 155.11 ETS 172.17 ZAE 171.79 ETE 56.67 ZAC 103.73 ETC 277.62 LVI -21.13

PLANETOCENTRIC CONIC
 C3 18.092 VHL 4.253 DLA -27.22 RAL 343.27 RAD 6642.0 VEL 11.752 PTH 6.78 VHP 6.100 DPA -14.13 RAP 318.79 ECC 1.2977
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 15 2547.97 -9.75 68.47 200.37 136.80 18 58 43 1546.0 8.60 52.71
 60.00 19 32 55 2344.06 -4.26 55.37 205.64 130.11 20 11 59 1344.1 11.78 37.35
 70.00 21 12 52 2050.12 1.66 36.02 210.12 124.12 21 47 2 1050.1 15.26 16.01
 80.00 23 18 19 1657.42 7.47 9.79 213.69 118.99 23 45 57 657.4 18.72 348.07
 90.00 1 20 47 1275.15 10.79 343.43 215.45 116.30 1 42 3 275.2 20.71 320.79
 100.00 2 5 7 1131.89 7.47 331.16 213.69 118.99 2 23 59 131.9 18.72 309.44
 110.00 2 16 14 1096.94 1.66 324.94 210.12 124.12 2 34 31 96.9 15.26 304.93

DIFFERENTIAL CORRECTIONS
 TDE -.5579 TRA-1.1206 TC3 .1863 BAU .0789 SGT 1857.9 SGR 502.4 SG3 453.8 ST 45.0 SR 22.1 SS 42.3
 RDE -.3280 RRA .0047 RC3 .2808 FAU .07113 RRT .3746 RRF -.4116 RTF -.8588 CRT .8218 CRS .5959 CST .9461
 FDE .7141 FRA 2.8237 FC3-3.4036 B8P 3226 SGB 1924.6 R23 -.0739 R13 -.8611 LSA 63.1 MSA 17.8 S8A 1.2
 BDE .6412 BRA 1.1206 BC3 .3264 F8P 689 SG1 1868.0 SG2 463.2 THA 6.16 EL1 48.8 EL2 11.6 ALF 23.38

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.954 GAL -3.17 AZL 92.38 HCA 134.47 SMA 194.98 ECC .23567 INC 2.3784 V1 29.657
 RP 206.81 LAP -1.70 LOP 342.79 VP 24.551 GAP 13.19 AZP 88.33 TAL 343.24 TAP 117.71 RCA 149.03 APO 240.93 V2 26.480
 RC 70.455 GL -19.02 GP 3.76 ZAL 123.35 ZAP 153.87 ETS 172.22 ZAE 171.87 ETE 58.04 ZAC 103.91 ETC 277.63 LVI -21.32

PLANETOCENTRIC CONIC
 C3 17.535 VHL 4.190 DLA -27.69 RAL 343.42 RAD 6641.7 VEL 11.730 PTH 6.76 VHP 5.921 DPA -13.95 RAP 318.77 ECC 1.2889
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 23 2530.14 -8.90 67.71 200.32 136.93 19 1 33 1530.1 9.49 51.95
 60.00 19 37 9 2323.30 -3.35 54.38 205.62 130.19 20 15 52 1323.3 12.67 36.31
 70.00 21 19 3 2023.64 2.67 34.64 210.17 124.06 21 52 46 1023.6 16.18 14.51
 80.00 23 28 53 1617.16 8.79 7.53 213.92 118.65 23 55 50 617.2 19.80 345.57
 90.00 1 38 58 1210.34 12.71 339.65 215.96 115.47 1 59 8 210.3 22.13 316.56
 100.00 2 15 40 1091.64 8.79 328.90 213.92 118.65 2 33 52 91.6 19.80 306.94
 110.00 2 22 25 1070.46 2.67 323.56 210.17 124.06 2 40 15 70.5 16.18 303.43

DIFFERENTIAL CORRECTIONS
 TDE -.5444 TRA-1.1008 TC3 .1738 BAU .0808 SGT 1861.3 SGR 501.9 SG3 483.4 ST 45.1 SR 21.8 SS 43.6
 RDE -.3186 RRA -.0089 RC3 .2971 FAU .07439 RRT .4032 RRF -.4465 RTF -.8501 CRT .8291 CRS .5996 CST .9434
 FDE .7390 FRA 2.9537 FC3-3.6685 B8P 3246 SGB 1927.8 R23 -.0828 R13 -.8628 LSA 64.0 MSA 17.8 S8A 1.2
 BDE .6308 BRA 1.1008 BC3 .3441 F8P 750 SG1 1873.1 SG2 456.0 THA 6.63 EL1 48.8 EL2 11.3 ALF 23.12

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.900 GAL -3.10 AZL 92.41 HCA 135.74 SMA 193.98 ECC .23149 INC 2.4079 V1 29.657
 RP 206.87 LAP -1.68 LOP 344.06 VP 24.472 GAP 12.84 AZP 88.28 TAL 343.37 TAP 119.11 RCA 149.06 APO 238.86 V2 26.474
 RC 71.818 GL -19.52 GP 3.95 ZAL 123.17 ZAP 152.60 ETS 172.26 ZAE 171.97 ETE 59.99 ZAC 104.10 ETC 277.64 LVI -21.50

PLANETOCENTRIC CONIC
 C3 17.064 VHL 4.131 DLA -28.18 RAL 343.59 RAD 6641.5 VEL 11.709 PTH 6.74 VHP 5.748 DPA -13.76 RAP 318.72 ECC 1.2808
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 36 2512.56 -8.02 66.95 200.30 137.06 19 4 29 1512.6 10.36 51.19
 60.00 19 41 31 2302.65 -2.44 53.39 205.64 130.24 20 19 54 1302.6 13.54 35.26
 70.00 21 25 32 1996.77 3.69 33.23 210.28 123.98 21 58 48 996.8 17.10 12.97
 80.00 23 40 47 1573.25 10.21 5.05 214.24 118.21 24 7 1 573.2 20.93 342.80
 90.00 2 9 4 1107.69 15.63 333.53 216.95 113.87 2 27 31 107.7 24.14 309.72
 100.00 2 27 35 1047.72 10.21 326.42 214.24 118.21 2 45 3 47.7 20.93 304.17
 110.00 2 28 54 1043.59 3.69 322.15 210.28 123.98 2 46 17 43.6 17.10 301.89

DIFFERENTIAL CORRECTIONS
 TDE -.5375 TRA-1.0788 TC3 .1801 BAU .0826 SGT 1860.0 SGR 502.8 SG3 514.5 ST 45.1 SR 21.5 SS 44.9
 RDE -.3096 RRA -.0188 RC3 .3144 FAU .07785 RRT .4375 RRF -.4832 RTF -.8611 CRT .8372 CRS .6040 CST .9404
 FDE .7642 FRA 3.0934 FC3-3.9496 B8P 3250 SGB 1926.7 R23 -.0925 R13 -.8643 LSA 64.7 MSA 17.9 S8A 1.2
 BDE .6203 BRA 1.0788 BC3 .3623 F8P 802 SG1 1873.7 SG2 448.8 THA 7.16 EL1 48.8 EL2 10.9 ALF 22.92

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 206.30 VL 32.890 GAL -3.04 AZL 92.44 HCA 137.00 SMA 193.02 ECC .22755 INC 2.4388 V1 29.657
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.395 GAP 12.50 AZP 88.22 TAL 343.50 TAP 120.51 RCA 149.10 APO 236.94 V2 26.486
 RC 73.228 GL -20.03 GP 4.16 ZAL 122.99 ZAP 151.29 ETS 172.29 ZAE 172.10 ETE 82.60 ZAC 104.30 ETC 277.64 LVI -21.69

DISTANCE 404.031

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.612 VHL 4.076 DLA -28.67 RAL 343.75 RAD 6641.3 VEL 11.690 PTH 6.72 VHP 5.581 DPA -13.57 RAP 318.63 ECC 1.2734
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 25 56 2495.17 -7.16 66.21 200.32 137.16 19 7 31 1495.2 11.22 50.43
 60.00 19 46 3 2282.02 -1.94 52.40 205.71 130.28 20 24 5 1282.0 14.41 34.21
 70.00 21 32 23 1969.33 4.74 31.79 210.44 123.86 22 5 12 969.5 18.03 11.39
 80.00 23 54 43 1523.52 11.80 2.21 214.68 117.63 24 20 7 523.5 22.16 339.62
 85.00 1 49 44 1166.13 17.06 338.81 217.63 112.81 2 9 10 166.1 25.71 314.44
 100.00 2 41 31 6286.03 11.80 301.49 214.68 117.63 4 26 17 5286.0 22.16 278.89
 110.00 2 35 45 1016.15 4.74 320.71 210.44 123.86 2 52 41 16.1 18.03 300.31

DIFFERENTIAL CORRECTIONS

TDE -.5166 TRA-1.0417 TC3 .2171 BAU .0884
 RDE -.3005 RRA -.0308 RC3 .3338 FAU .08185
 FDE .7823 FRA 3.2300 FC3-4.2657 BSP 3080
 BDE .5977 BRA 1.0421 BC3 .3982 FSP 850

MID-COURSE EXECUTION ACCURACY

SGT 1028.7 SGR 505.0 SG3 547.0
 RRT .4736 RRF -.5212 RTF -.8681
 SGB 1897.1 R23 -.0961 R13 -.8718
 SG1 1845.2 SG2 440.8 THA 7.90

ORBIT DETERMINATION ACCURACY

ST 44.1 SR 21.1 SS 45.0
 CRT .8426 CRS .6063 CST .9380
 LSA 64.7 MSA 17.9 SSA 1.2
 EL1 47.8 EL2 10.5 ALF 23.18

LAUNCH DATE APR 19 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.802 GAL -2.97 AZL 92.47 HCA 138.27 SMA 192.15 ECC .22387 INC 2.4711 V1 29.657
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.322 GAP 12.17 AZP 88.16 TAL 343.62 TAP 121.89 RCA 149.13 APO 235.16 V2 26.498
 RC 74.683 GL -20.54 GP 4.38 ZAL 122.81 ZAP 149.95 ETS 172.31 ZAE 172.23 ETE 65.87 ZAC 104.53 ETC 277.64 LVI -21.89

DISTANCE 407.925

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.203 VHL 4.025 DLA -29.16 RAL 343.93 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 5.420 DPA -13.38 RAP 318.50 ECC 1.2667
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 29 21 2478.14 -6.31 65.49 200.39 137.26 19 10 39 1478.1 12.06 49.69
 60.00 19 50 45 2261.60 -.64 51.43 205.82 130.30 20 28 26 1261.6 15.26 33.16
 70.00 21 39 35 1941.47 5.79 30.32 210.67 123.72 22 11 57 941.5 18.96 9.76
 80.00 0 15 53 1464.08 13.65 358.77 215.31 116.81 0 40 17 464.1 23.52 335.73
 82.58 1 30 7 1226.01 18.30 343.41 217.56 113.11 1 50 33 226.0 26.23 318.98
 100.00 2 58 45 6226.59 13.65 298.04 215.31 116.81 4 42 32 5226.6 23.52 275.01
 110.00 2 42 57 6276.32 5.79 297.15 210.67 123.72 4 27 34 5276.3 18.96 276.58

DIFFERENTIAL CORRECTIONS

TDE -.5206 TRA-1.0290 TC3 .1891 BAU .0886
 RDE -.2928 RRA -.0443 RC3 .3521 FAU .08538
 FDE .8153 FRA 3.3894 FC3-4.5618 BSP 3216
 BDE .5973 BRA 1.0300 BC3 .3997 FSP 916

MID-COURSE EXECUTION ACCURACY

SGT 1840.0 SGR 909.1 SG3 581.9
 RRT .5050 RRF -.5610 RTF -.8623
 SGB 1909.1 R23 -.1155 R13 -.8668
 SG1 1858.9 SG2 435.0 THA 8.42

ORBIT DETERMINATION ACCURACY

ST 44.8 SR 20.9 SS 47.4
 CRT .8553 CRS .6154 CST .9336
 LSA 66.1 MSA 18.0 SSA 1.2
 EL1 48.4 EL2 10.0 ALF 22.76

LAUNCH DATE APR 19 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.757 GAL -2.92 AZL 92.51 HCA 139.53 SMA 191.33 ECC .22042 INC 2.5050 V1 29.657
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.252 GAP 11.84 AZP 88.09 TAL 343.74 TAP 123.28 RCA 149.16 APO 233.50 V2 26.449
 RC 76.180 GL -21.06 GP 4.62 ZAL 122.63 ZAP 148.57 ETS 172.32 ZAE 172.34 ETE 69.87 ZAC 104.78 ETC 277.62 LVI -22.08

DISTANCE 411.845

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.831 VHL 3.979 DLA -29.66 RAL 344.12 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 5.266 DPA -13.18 RAP 318.33 ECC 1.2605
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 32 53 2461.30 -5.46 64.78 200.49 137.34 19 13 55 1461.3 12.89 48.95
 60.00 19 55 37 2241.19 .26 50.45 205.98 130.30 20 32 59 1241.2 16.11 32.10
 70.00 21 47 16 1912.78 6.87 28.81 210.95 123.54 22 19 9 912.8 19.89 8.06
 80.00 0 41 48 1377.74 16.24 353.67 216.35 113.40 1 4 46 377.7 25.31 329.94
 80.67 1 15 55 1268.64 18.74 346.76 217.54 113.42 1 37 4 268.6 26.76 322.27
 100.00 3 24 40 6140.25 16.24 292.94 216.35 115.40 5 7 0 5140.3 25.31 269.22
 110.00 2 50 38 6247.64 6.87 295.63 210.95 123.54 4 34 46 5247.6 19.89 274.89

DIFFERENTIAL CORRECTIONS

TDE -.5159 TRA-1.0036 TC3 .1817 BAU .0877
 RDE -.2852 RRA -.0582 RC3 .3725 FAU .08939
 FDE .8461 FRA 3.5518 FC3-4.8883 BSP 3230
 BDE .5895 BRA 1.0073 BC3 .4144 FSP 981

MID-COURSE EXECUTION ACCURACY

SGT 1830.3 SGR 915.5 SG3 618.6
 RRT .5391 RRF -.6017 RTF -.8605
 SGB 1901.5 R23 -.1315 R13 -.8660
 SG1 1852.5 SG2 429.0 THA 9.13

ORBIT DETERMINATION ACCURACY

ST 44.8 SR 20.6 SS 48.9
 CRT .8667 CRS .6245 CST .9296
 LSA 67.0 MSA 18.1 SSA 1.2
 EL1 48.4 EL2 9.5 ALF 22.65

LAUNCH DATE APR 19 1971

FLIGHT TIME 164.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.715 GAL -2.86 AZL 92.54 HCA 140.80 SMA 190.57 ECC .21718 INC 2.5407 V1 29.657
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.184 GAP 11.52 AZP 88.03 TAL 343.85 TAP 124.65 RCA 149.19 APO 231.96 V2 26.439
 RC 77.718 GL -21.59 GP 4.87 ZAL 122.45 ZAP 147.15 ETS 172.32 ZAE 172.42 ETE 74.63 ZAC 105.05 ETC 277.60 LVI -22.29

DISTANCE 415.788

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.494 VHL 3.936 DLA -30.16 RAL 344.32 RAD 6640.8 VEL 11.642 PTH 6.68 VHP 5.117 DPA -12.98 RAP 318.12 ECC 1.2590
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 36 33 2444.68 -4.63 64.08 200.64 137.40 19 17 18 1444.7 13.70 48.21
 60.00 20 0 42 2220.80 1.16 49.48 206.20 130.29 20 37 43 1220.8 16.95 31.04
 70.00 21 55 29 1883.10 7.98 27.23 211.31 123.32 22 26 52 883.1 20.84 6.28
 79.05 1 4 26 1303.02 19.17 349.52 217.55 113.74 1 26 9 303.0 27.28 324.97
 79.05 1 4 26 1303.02 19.17 349.52 217.55 113.74 1 26 9 303.0 27.28 324.97
 79.05 1 4 26 1303.02 19.17 349.52 217.55 113.74 1 26 9 303.0 27.28 324.97
 110.00 2 58 51 6217.96 7.98 294.06 211.31 123.32 4 42 29 5218.0 20.84 273.11

DIFFERENTIAL CORRECTIONS

TDE -.5087 TRA -.9781 TC3 .1739 BAU .0892
 RDE -.2779 RRA -.0727 RC3 .3941 FAU .09358
 FDE .8758 FRA 3.7192 FC3-5.2287 BSP 3203
 BDE .5797 BRA .9808 BC3 .4307 FSP 1046

MID-COURSE EXECUTION ACCURACY

SGT 1810.6 SGR 924.2 SG3 656.7
 RRT .5726 RRF -.6422 RTF -.8587
 SGB 1885.0 R23 -.1487 R13 -.8654
 SG1 1836.8 SG2 423.7 THA 9.95

ORBIT DETERMINATION ACCURACY

ST 44.5 SR 20.3 SS 50.3
 CRT .8785 CRS .6342 CST .9252
 LSA 67.7 MSA 18.2 SSA 1.1
 EL1 48.1 EL2 9.0 ALF 22.68

LAUNCH DATE APR 19 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC DISTANCE 419.753 EARTH TO MARS
RL 150.24 LAL .00 LOL 208.30 VL 32.676 GAL -2.91 AZL 92.58 HCA 142.06 SMA 189.87 ECC .21414 INC 2.5784 V1 29.657
RP 207.26 LAP -1.56 LOP 350.39 VP 24.118 GAP 11.21 AZP 87.97 TAL 343.96 TAP 126.02 RCA 149.21 APO 230.53 V2 26.428
RC 79.295 GL -22.13 GP 5.14 ZAL 122.27 ZAP 145.70 ETS 172.32 ZAE 172.45 ETE 80.10 ZAC 105.34 ETC 277.57 LVI -22.80

PLANETOCENTRIC CONIC
C3 15.191 VHL 3.898 DLA -30.67 RAL 344.53 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 4.974 DPA -12.77 RAP 317.86 ECC 1.2500
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 40 21 2428.27 -3.81 63.39 200.83 137.46 19 20 49 1428.3 14.51 47.48
60.00 20 6 0 2200.38 2.06 48.50 206.47 130.26 20 42 40 1200.4 17.79 29.96
70.00 22 4 21 1852.15 9.14 25.58 211.75 123.05 22 35 13 852.2 21.81 4.40
77.61 0 54 37 1332.41 19.60 351.91 217.62 114.07 1 16 50 332.4 27.80 327.30
77.61 0 54 37 1332.41 19.60 351.91 217.62 114.07 1 16 50 332.4 27.80 327.30
77.61 0 54 37 1332.41 19.60 351.91 217.62 114.07 1 16 50 332.4 27.80 327.30
110.00 3 7 43 6187.01 9.14 292.40 211.75 123.05 4 50 50 5187.0 21.81 271.23

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5006 TRA -.9481 TC3 .1655 BAU .0912 SGT 1784.4 SGR 535.9 SG3 696.9 ST 44.1 SR 20.1 S5 51.7
RDE -.2710 RRA -.0881 RC3 .4173 FAU .09803 RRT .6056 RRF -.6825 RTF -.8567 CRT .8910 CRS .6456 CST .9206
FDE .9070 FRA 3.8947 FC3 -5.5869 BSP 3156 SGB 1863.1 R23 -.1674 R13 -.8650 LSA 68.4 MSA 18.3 S3A 1.1
BDE .5692 BRA .9522 BC3 .4489 FSP 1114 SG1 1815.4 SG2 419.2 THA 10.90 EL1 47.7 EL2 8.4 ALF 22.81

LAUNCH DATE APR 19 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC DISTANCE 423.740 EARTH TO MARS
RL 150.24 LAL .00 LOL 208.30 VL 32.639 GAL -2.76 AZL 92.62 HCA 143.32 SMA 189.22 ECC .21130 INC 2.6182 V1 29.657
RP 207.37 LAP -1.56 LOP 351.65 VP 24.054 GAP 10.90 AZP 87.90 TAL 344.05 TAP 127.37 RCA 149.24 APO 229.20 V2 26.415
RC 80.909 GL -22.68 GP 5.44 ZAL 122.10 ZAP 144.20 ETS 172.32 ZAE 172.38 ETE 86.19 ZAC 105.66 ETC 277.54 LVI -22.71

PLANETOCENTRIC CONIC
C3 14.919 VHL 3.863 DLA -31.18 RAL 344.76 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 4.837 DPA -12.55 RAP 317.56 ECC 1.2455
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 44 18 2412.00 -2.99 62.71 201.08 137.50 19 24 30 1412.0 15.30 46.75
60.00 20 11 33 2179.83 2.96 47.52 206.79 130.21 20 47 53 1179.8 18.62 28.86
70.00 22 14 1 1819.41 10.35 23.82 212.28 122.73 22 44 21 819.4 22.81 2.38
76.28 0 46 2 1358.38 20.02 354.07 217.72 114.42 1 8 40 358.4 28.32 329.40
76.28 0 46 2 1358.38 20.02 354.07 217.72 114.42 1 8 40 358.4 28.32 329.40
76.28 0 46 2 1358.38 20.02 354.07 217.72 114.42 1 8 40 358.4 28.32 329.40
110.00 3 17 23 6154.27 10.35 290.64 212.28 122.73 4 59 58 5154.3 22.81 269.21

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4811 TRA -.9051 TC3 .1824 BAU .0957 SGT 1729.7 SGR 550.5 SG3 738.1 ST 42.7 SR 19.8 S5 52.7
RDE -.2638 RRA -.1037 RC3 .4440 FAU .10327 RRT .6403 RRF -.7212 RTF -.8589 CRT .9019 CRS .6543 CST .9153
FDE .9255 FRA 4.0642 FC3 -5.9929 BSP 2967 SGB 1815.2 R23 -.1793 R13 -.8690 LSA 68.3 MSA 18.4 S3A 1.1
BDE .5487 BRA .9110 BC3 .4800 FSP 1172 SG1 1767.4 SG2 413.9 THA 12.20 EL1 46.4 EL2 7.9 ALF 23.34

LAUNCH DATE APR 19 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC DISTANCE 427.742 EARTH TO MARS
RL 150.24 LAL .00 LOL 208.30 VL 32.604 GAL -2.72 AZL 92.66 HCA 144.58 SMA 188.61 ECC .20866 INC 2.6603 V1 29.657
RP 207.46 LAP -1.54 LOP 352.91 VP 23.993 GAP 10.61 AZP 87.83 TAL 344.14 TAP 128.72 RCA 149.26 APO 227.97 V2 26.402
RC 82.560 GL -23.24 GP 5.75 ZAL 121.93 ZAP 142.66 ETS 172.30 ZAE 172.21 ETE 92.68 ZAC 106.01 ETC 277.49 LVI -22.94

PLANETOCENTRIC CONIC
C3 14.681 VHL 3.832 DLA -31.70 RAL 345.01 RAD 6640.4 VEL 11.608 PTH 6.65 VHP 4.705 DPA -12.33 RAP 317.21 ECC 1.2416
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 48 25 2396.01 -2.19 62.04 201.37 137.54 19 28 21 1396.0 16.08 46.02
60.00 20 17 22 2159.31 3.86 46.54 207.18 130.15 20 53 21 1159.3 19.45 27.76
70.00 22 24 39 1784.61 11.62 21.93 212.91 122.34 22 54 24 784.6 23.83 .20
75.05 0 38 26 1381.77 20.43 356.04 217.89 114.78 1 1 28 381.0 28.84 331.31
75.05 0 38 26 1381.77 20.43 356.04 217.89 114.78 1 1 28 381.0 28.84 331.31
75.05 0 38 26 1381.77 20.43 356.04 217.89 114.78 1 1 28 381.0 28.84 331.31
110.00 3 28 1 6119.46 11.62 288.75 212.91 122.34 5 10 1 5119.5 23.83 267.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4877 TRA -.8858 TC3 .1245 BAU .0950 SGT 1721.8 SGR 589.4 SG3 782.6 ST 43.3 SR 19.6 S5 54.0
RDE -.2587 RRA -.1220 RC3 .4679 FAU .10741 RRT .6633 RRF -.7590 RTF -.8273 CRT .9189 CRS .6742 CST .9093
FDE .9755 FRA 4.2712 FC3 -6.3342 BSP 3090 SGB 1813.6 R23 -.2165 R13 -.8804 LSA 70.0 MSA 18.6 S3A 1.1
BDE .5521 BRA .8942 BC3 .4841 FSP 1265 SG1 1765.3 SG2 415.7 THA 13.11 EL1 47.0 EL2 7.1 ALF 23.17

LAUNCH DATE APR 19 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC DISTANCE 431.763 EARTH TO MARS
RL 150.24 LAL .00 LOL 208.30 VL 32.572 GAL -2.68 AZL 92.71 HCA 145.84 SMA 188.05 ECC .20619 INC 2.7051 V1 29.657
RP 207.60 LAP -1.52 LOP 354.17 VP 23.934 GAP 10.31 AZP 87.76 TAL 344.21 TAP 130.05 RCA 149.28 APO 226.82 V2 26.388
RC 84.247 GL -23.81 GP 6.09 ZAL 121.78 ZAP 141.07 ETS 172.29 ZAE 171.90 ETE 99.36 ZAC 106.39 ETC 277.44 LVI -23.17

PLANETOCENTRIC CONIC
C3 14.472 VHL 3.804 DLA -32.22 RAL 345.27 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 4.580 DPA -12.09 RAP 316.82 ECC 1.2382
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 52 43 2380.11 -1.39 61.38 201.72 137.56 19 32 23 1380.1 16.85 45.29
60.00 20 23 29 2138.52 4.78 45.54 207.63 130.06 20 59 8 1138.5 20.28 26.62
70.00 22 36 39 1746.36 13.01 19.83 213.66 121.86 23 5 46 746.4 24.92 357.77
73.87 0 31 33 1403.41 20.84 357.89 218.10 115.15 0 54 56 403.4 29.36 333.11
73.87 0 31 33 1403.41 20.84 357.89 218.10 115.15 0 54 56 403.4 29.36 333.11
73.87 0 31 33 1403.41 20.84 357.89 218.10 115.15 0 54 56 403.4 29.36 333.11
110.00 3 40 2 6081.22 13.01 286.65 213.66 121.86 5 21 23 5081.2 24.92 264.59

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4807 TRA -.8512 TC3 .0987 BAU .0978 SGT 1681.1 SGR 592.3 SG3 828.2 ST 42.7 SR 19.5 S5 56.1
RDE -.2533 RRA -.1408 RC3 .4959 FAU .11244 RRT .6875 RRF -.7941 RTF -.8409 CRT .9334 CRS .6911 CST .9027
FDE 1.0118 FRA 4.4711 FC3 -6.7261 BSP 3031 SGB 1782.4 R23 -.2447 R13 -.8577 LSA 70.7 MSA 18.8 S3A 1.0
BDE .5434 BRA .8627 BC3 .5056 FSP 1343 SG1 1732.9 SG2 417.3 THA 14.47 EL1 46.5 EL2 6.4 ALF 23.49

LAUNCH DATE APR 19 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.542 GAL -2.84 AZL 92.75 HCA 147.10 SMA 187.53 ECC .20389 INC 2.7529 V1 29.657
RP 207.73 LAP -1.50 LOP 355.42 VP 23.876 GAP 10.03 AZP 87.69 TAL 344.28 TAP 131.30 RCA 149.29 APO 225.76 V2 26.373
RC 85.969 GL -24.39 GP 6.46 ZAL 121.59 ZAP 139.44 ETS 172.27 ZAE 171.45 ETE 108.94 ZAC 106.79 ETC 277.38 LVI -23.42

PLANETOCENTRIC CONIC

C3 14.292 VHL 3.780 DLA -32.76 RAL 345.56 RAD 6640.2 VEL 11.591 PTH 6.63 VHP 4.460 DPA -11.84 RAP 316.37 ECC 1.2352
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 57 13 2364.30 -.80 60.72 202.12 137.57 19 36 37 1364.3 17.61 44.96
60.00 20 29 58 2117.42 5.70 44.52 208.15 129.96 21 5 16 1117.4 21.11 25.46
70.00 22 50 37 1703.02 14.55 17.42 214.87 121.24 23 19 0 703.0 26.10 354.95
72.74 0 25 18 1423.62 21.24 359.64 218.37 115.54 0 49 1 423.6 29.88 334.80
72.74 0 25 18 1423.62 21.24 359.64 218.37 115.54 0 49 1 423.6 29.88 334.80
72.74 0 25 18 1423.62 21.24 359.64 218.37 115.54 0 49 1 423.6 29.88 334.80
110.00 3 53 59 6037.88 14.55 284.25 214.57 121.24 5 34 37 5037.9 26.10 261.77

DIFFERENTIAL CORRECTIONS

TDE -.4737 TRA -.8139 TC3 .0667 BAU .1012
RDE -.2484 RRA -.1610 RC3 .5257 FAU .11759
FDE 1.0505 FRA 4.6779 FC3-7.1227 BSP 2963
BDE .5349 BRA .8297 BC3 .5299 FSP 1426

MID-COURSE EXECUTION ACCURACY

SGT 1633.8 SGR 619.6 SG3 875.2
RRT .7071 RRF -.8262 RTF -.8326
SGB 1747.4 R23 -.2755 R13 -.8545
SG1 1695.6 SG2 422.1 THA 16.03

ORBIT DETERMINATION ACCURACY

ST 42.1 SR 19.3 SS 57.7
CRT .9480 CRS .7099 CST .8953
LSA 71.5 MSA 19.0 SSA 1.0
EL1 46.0 EL2 5.6 ALF 23.90

LAUNCH DATE APR 19 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.513 GAL -2.81 AZL 92.80 HCA 148.35 SMA 187.04 ECC .20175 INC 2.8040 V1 29.657
RP 207.86 LAP -1.47 LOP 356.68 VP 23.820 GAP 9.75 AZP 87.61 TAL 344.34 TAP 132.69 RCA 149.31 APO 224.78 V2 26.357
RC 87.723 GL -24.99 GP 6.85 ZAL 121.43 ZAP 137.77 ETS 172.25 ZAE 170.83 ETE 112.16 ZAC 107.24 ETC 277.31 LVI -23.68

PLANETOCENTRIC CONIC

C3 14.141 VHL 3.780 DLA -33.30 RAL 345.87 RAD 6640.1 VEL 11.584 PTH 6.63 VHP 4.349 DPA -11.57 RAP 315.88 ECC 1.2327
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 1 57 2348.54 .20 60.06 202.58 137.58 19 41 5 1348.5 18.36 43.83
60.00 20 36 52 2095.90 6.84 43.48 208.74 129.84 21 11 47 1095.9 21.95 24.26
70.00 23 7 50 1650.70 16.38 14.47 215.72 120.40 23 35 21 650.7 27.43 351.47
71.64 0 19 33 1442.82 21.64 1.32 218.70 115.95 0 43 36 442.8 30.41 336.43
71.64 0 19 33 1442.82 21.64 1.32 218.70 115.95 0 43 36 442.8 30.41 336.43
71.64 0 19 33 1442.82 21.64 1.32 218.70 115.95 0 43 36 442.8 30.41 336.43
110.00 4 11 13 5985.56 16.38 281.29 215.72 120.40 5 50 58 4985.6 27.43 258.29

DIFFERENTIAL CORRECTIONS

TDE -.4651 TRA -.7733 TC3 .0321 BAU .1056
RDE -.2439 RRA -.1826 RC3 .5578 FAU .12296
FDE 1.0879 FRA 4.8911 FC3-7.5278 BSP 2869
BDE .5252 BRA .7946 BC3 .5587 FSP 1508

MID-COURSE EXECUTION ACCURACY

SGT 1578.0 SGR 651.8 SG3 923.7
RRT .7221 RRF -.8551 RTF -.8228
SGB 1707.3 R23 -.3071 R13 -.8515
SG1 1652.1 SG2 430.7 THA 17.87

ORBIT DETERMINATION ACCURACY

ST 41.3 SR 19.2 SS 59.2
CRT .9618 CRS .7296 CST .8867
LSA 72.1 MSA 19.2 SSA 1.0
EL1 45.3 EL2 4.8 ALF 24.46

LAUNCH DATE APR 19 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.487 GAL -2.58 AZL 92.86 HCA 149.61 SMA 186.80 ECC .19977 INC 2.8587 V1 29.657
RP 208.01 LAP -1.45 LOP 357.93 VP 23.786 GAP 9.47 AZP 87.53 TAL 344.38 TAP 133.99 RCA 149.32 APO 223.87 V2 26.340
RC 89.514 GL -25.61 GP 7.28 ZAL 121.26 ZAP 136.05 ETS 172.22 ZAE 170.06 ETE 117.87 ZAC 107.72 ETC 277.23 LVI -23.95

PLANETOCENTRIC CONIC

C3 14.019 VHL 3.744 DLA -33.85 RAL 346.21 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 4.237 DPA -11.28 RAP 315.33 ECC 1.2307
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 6 57 2332.77 .99 59.40 203.11 137.57 19 45 50 1332.0 19.12 43.09
60.00 20 44 14 2073.79 7.60 42.41 209.42 129.70 21 18 47 1073.0 22.80 23.01
70.00 23 32 37 1776.45 18.88 10.17 217.32 119.00 23 58 53 576.5 29.16 346.38
70.57 0 14 15 1461.29 22.03 2.96 219.08 116.38 0 38 36 461.3 30.93 338.02
70.57 0 14 15 1461.29 22.03 2.96 219.08 116.38 0 38 36 461.3 30.93 338.02
70.57 0 14 15 1461.29 22.03 2.96 219.08 116.38 0 38 36 461.3 30.93 338.02
110.00 4 35 59 5911.31 18.88 276.99 217.32 119.00 6 14 30 4911.3 29.16 253.21

DIFFERENTIAL CORRECTIONS

TDE -.4533 TRA -.7263 TC3 .0024 BAU .1112
RDE -.2395 RRA -.2055 RC3 .5935 FAU .12886
FDE 1.1206 FRA 5.1008 FC3-7.9578 BSP 2730
BDE .5127 BRA .7548 BC3 .5935 FSP 1585

MID-COURSE EXECUTION ACCURACY

SGT 1507.4 SGR 689.4 SG3 972.9
RRT .7331 RRF -.8806 RTF -.8218
SGB 1657.6 R23 -.3355 R13 -.8501
SG1 1597.4 SG2 442.4 THA 20.15

ORBIT DETERMINATION ACCURACY

ST 40.1 SR 19.2 SS 60.3
CRT .9744 CRS .7496 CST .8764
LSA 72.5 MSA 19.4 SSA .9
EL1 44.3 EL2 3.9 ALF 25.23

LAUNCH DATE APR 19 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.463 GAL -2.36 AZL 92.92 HCA 150.86 SMA 186.18 ECC .19794 INC 2.9176 V1 29.657
RP 208.16 LAP -1.42 LOP 359.19 VP 23.713 GAP 9.21 AZP 87.45 TAL 344.41 TAP 135.27 RCA 149.33 APO 223.04 V2 26.323
RC 91.337 GL -26.25 GP 7.74 ZAL 121.10 ZAP 134.29 ETS 172.20 ZAE 169.13 ETE 122.94 ZAC 108.24 ETC 277.15 LVI -24.24

PLANETOCENTRIC CONIC

C3 13.925 VHL 3.732 DLA -34.42 RAL 346.57 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 4.134 DPA -10.97 RAP 314.74 ECC 1.2292
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 12 14 2317.00 1.78 58.74 203.71 137.55 19 50 51 1317.0 19.87 42.34
60.00 20 52 8 2050.99 8.59 41.30 210.20 129.53 21 26 19 1051.0 23.66 21.70
69.51 0 9 23 1479.10 22.42 4.56 219.54 116.83 0 34 2 479.1 31.46 339.57
69.51 0 9 23 1479.10 22.42 4.56 219.54 116.83 0 34 2 479.1 31.46 339.57
69.51 0 9 23 1479.10 22.42 4.56 219.54 116.83 0 34 2 479.1 31.46 339.57
69.51 0 9 23 1479.10 22.42 4.56 219.54 116.83 0 34 2 479.1 31.46 339.57
69.51 0 9 23 1479.10 22.42 4.56 219.54 116.83 0 34 2 479.1 31.46 339.57

DIFFERENTIAL CORRECTIONS

TDE -.4538 TRA -.6887 TC3 -.0694 BAU .1175
RDE -.2372 RRA -.2318 RC3 .6273 FAU .13374
FDE 1.1790 FRA 5.3412 FC3-8.3145 BSP 2734
BDE .5121 BRA .7267 BC3 .6311 FSP 1690

MID-COURSE EXECUTION ACCURACY

SGT 1459.9 SGR 733.5 SG3 1024.5
RRT .7308 RRF -.9030 RTF -.7904
SGB 1633.8 R23 -.3775 R13 -.8423
SG1 1565.7 SG2 466.8 THA 22.24

ORBIT DETERMINATION ACCURACY

ST 39.8 SR 19.3 SS 62.4
CRT .9860 CRS .7755 CST .8660
LSA 73.9 MSA 19.8 SSA .9
EL1 44.1 EL2 2.9 ALF 25.72

LAUNCH DATE APR 19 1971 FLIGHT TIME 182.00 ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.440 GAL -2.54 AZL 92.98 HCA 152.11 SMA 185.80 ECC .19624 INC 2.9812 V1 29.657
 RP 208.32 LAP -1.39 LOP .44 VP 23.681 GAP 8.95 AZP 87.36 TAL 344.43 TAP 136.54 RCA 149.34 APO 222.26 V2 26.304
 RC 93.190 GL -26.92 GP 8.25 ZAL 120.93 ZAP 132.49 ETS 172.18 ZAE 168.05 ETE 127.37 ZAC 108.80 ETC 277.05 LVI -24.56

Distance 452.086 Earth to Mars

Planeto-centric Conic: C3 13.861 VHL 3.723 DLA -35.00 RAL 346.97 RAD 6640.0 VEL 11.572 PTH 6.62 VHP 4.037 DPA -10.63 RAP 314.09 ECC 1.2281
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 19 17 52 2301.04 2.58 58.07 204.39 137.52 19 56 13 1301.0 20.62 41.57
 60.00 21 0 44 2027.10 9.62 40.12 211.08 129.33 21 34 31 1027.1 24.56 20.31
 68.47 0 4 52 1496.56 22.80 6.14 220.06 117.30 0 29 49 496.6 32.00 341.11
 68.47 0 4 52 1496.56 22.80 6.14 220.06 117.30 0 29 49 496.6 32.00 341.11
 68.47 0 4 52 1496.56 22.80 6.14 220.06 117.30 0 29 49 496.6 32.00 341.11
 68.47 0 4 52 1496.56 22.80 6.14 220.06 117.30 0 29 49 496.6 32.00 341.11

Differential Corrections: TDE -.4473 TRA -.6411 TC3 -.1259 BAU .1236 SGT 1390.4 SGR 783.7 SG3 1076.1 ST 38.9 SR 19.5 SS 64.0
 RDE -.2348 RRA -.2593 RC3 .6661 FAU .13937 RRT .7244 RRF -.9219 RTF -.7679 CRT .9943 CRS .7994 CST .8531
 FDE 1.2263 FRA 5.5713 FC3-8.7050 BSP 2644 SGB 1596.1 R23 -.4086 R13 -.8391 LSA 74.7 MSA 20.1 S5A .9
 BDE .5052 BRA .6916 BC3 .6779 FSP 1781 SG1 1517.4 SG2 495.0 THA 25.06 EL1 43.5 EL2 1.9 ALF 26.57

LAUNCH DATE APR 19 1971 FLIGHT TIME 184.00 ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.420 GAL -2.52 AZL 93.05 HCA 153.36 SMA 185.45 ECC .19468 INC 3.0502 V1 29.657
 RP 208.49 LAP -1.37 LOP 1.69 VP 23.611 GAP 8.69 AZP 87.27 TAL 344.44 TAP 137.80 RCA 149.35 APO 221.55 V2 26.284
 RC 95.074 GL -27.61 GP 8.79 ZAL 120.79 ZAP 130.63 ETS 172.16 ZAE 166.83 ETE 131.18 ZAC 109.41 ETC 276.95 LVI -24.90

Distance 456.187 Earth to Mars

Planeto-centric Conic: C3 13.825 VHL 3.718 DLA -35.60 RAL 347.40 RAD 6640.0 VEL 11.571 PTH 6.62 VHP 3.946 DPA -10.26 RAP 313.39 ECC 1.2275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 19 23 54 2284.85 3.40 57.40 205.16 137.48 20 1 59 1284.8 21.39 40.79
 60.00 21 10 9 2001.81 10.71 38.87 212.09 129.09 21 43 31 1001.8 25.49 18.82
 67.42 0 0 41 1513.77 23.18 7.72 220.66 117.81 0 25 55 513.8 32.54 342.65
 67.42 0 0 41 1513.77 23.18 7.72 220.66 117.81 0 25 55 513.8 32.54 342.65
 67.42 0 0 41 1513.77 23.18 7.72 220.66 117.81 0 25 55 513.8 32.54 342.65
 67.42 0 0 41 1513.77 23.18 7.72 220.66 117.81 0 25 55 513.8 32.54 342.65

Differential Corrections: TDE -.4412 TRA -.5902 TC3 -.1890 BAU .1353 SGT 1316.4 SGR 840.9 SG3 1128.0 ST 37.9 SR 19.8 SS 65.6
 RDE -.2334 RRA -.2896 RC3 .7072 FAU .14497 RRT .7086 RRF -.9378 RTF -.7386 CRT .9985 CRS .8240 CST .8383
 FDE 1.2791 FRA 5.8041 FC3-9.0782 BSP 2555 SGB 1562.1 R23 -.4345 R13 -.8377 LSA 75.6 MSA 20.4 S5A .8
 BDE .4991 BRA .6574 BC3 .7321 FSP 1873 SG1 1468.8 SG2 531.8 THA 28.41 EL1 42.8 EL2 .9 ALF 27.55

LAUNCH DATE APR 19 1971 FLIGHT TIME 186.00 ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.400 GAL -2.50 AZL 93.13 HCA 154.60 SMA 185.13 ECC .19325 INC 3.1252 V1 29.657
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.562 GAP 8.44 AZP 87.18 TAL 344.44 TAP 139.04 RCA 149.35 APO 220.90 V2 26.284
 RC 96.988 GL -28.34 GP 9.39 ZAL 120.62 ZAP 128.74 ETS 172.15 ZAE 165.48 ETE 134.41 ZAC 110.08 ETC 276.84 LVI -25.27

Distance 460.298 Earth to Mars

Planeto-centric Conic: C3 13.821 VHL 3.718 DLA -36.22 RAL 347.88 RAD 6640.0 VEL 11.571 PTH 6.61 VHP 3.861 DPA -9.85 RAP 312.64 ECC 1.2275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 19 30 24 2268.29 4.23 56.70 206.02 137.43 20 8 12 1268.3 22.16 39.97
 60.00 21 20 38 1974.83 11.88 37.52 213.24 128.80 21 53 31 974.6 26.47 17.19
 66.36 23 52 50 1531.02 23.55 9.32 221.34 118.35 24 18 21 531.0 33.10 344.21
 66.36 23 52 50 1531.02 23.55 9.32 221.34 118.35 24 18 21 531.0 33.10 344.21
 66.36 23 52 50 1531.02 23.55 9.32 221.34 118.35 24 18 21 531.0 33.10 344.21
 66.36 23 52 50 1531.02 23.55 9.32 221.34 118.35 24 18 21 531.0 33.10 344.21

Differential Corrections: TDE -.4347 TRA -.5362 TC3 -.2575 BAU .1467 SGT 1238.8 SGR 905.7 SG3 1179.8 ST 36.9 SR 20.2 SS 67.2
 RDE -.2326 RRA -.3226 RC3 .7512 FAU .15058 RRT .6813 RRF -.9510 RTF -.7104 CRT .9977 CRS .8478 CST .8206
 FDE 1.3313 FRA 6.0385 FC3-9.4326 BSP 2474 SGB 1534.5 R23 -.4313 R13 -.8401 LSA 76.5 MSA 20.7 S5A .8
 BDE .4930 BRA .6257 BC3 .7941 FSP 1966 SG1 1421.6 SG2 577.6 THA 32.48 EL1 42.0 EL2 1.2 ALF 28.68

LAUNCH DATE APR 19 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.382 GAL -2.49 AZL 93.21 HCA 155.85 SMA 184.83 ECC .19193 INC 3.2074 V1 29.657
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.513 GAP 8.19 AZP 87.07 TAL 344.42 TAP 140.27 RCA 149.36 APO 220.31 V2 26.243
 RC 98.929 GL -29.10 GP 10.04 ZAL 120.48 ZAP 126.80 ETS 172.14 ZAE 164.01 ETE 137.13 ZAC 110.80 ETC 276.72 LVI -25.67

Distance 464.419 Earth to Mars

Planeto-centric Conic: C3 13.848 VHL 3.721 DLA -36.87 RAL 348.40 RAD 6640.0 VEL 11.572 PTH 6.62 VHP 3.782 DPA -9.40 RAP 311.83 ECC 1.2279
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 19 37 26 2251.18 5.08 55.98 206.99 137.37 20 14 57 1251.2 22.96 39.12
 60.00 21 32 24 1944.74 13.15 36.02 214.57 128.45 22 4 48 944.7 27.52 15.36
 65.29 23 49 11 1548.34 23.92 10.93 222.12 118.93 24 15 0 548.3 33.67 345.80
 65.29 23 49 11 1548.34 23.92 10.93 222.12 118.93 24 15 0 548.3 33.67 345.80
 65.29 23 49 11 1548.34 23.92 10.93 222.12 118.93 24 15 0 548.3 33.67 345.80
 65.29 23 49 11 1548.34 23.92 10.93 222.12 118.93 24 15 0 548.3 33.67 345.80

Differential Corrections: TDE -.4228 TRA -.4730 TC3 -.3157 BAU .1594 SGT 1143.5 SGR 977.8 SG3 1229.7 ST 35.3 SR 20.6 SS 68.4
 RDE -.2318 RRA -.3574 RC3 .8013 FAU .15685 RRT .6424 RRF -.9617 RTF -.6522 CRT .9905 CRS .8692 CST .7976
 FDE 1.3703 FRA 6.2537 FC3-9.8058 BSP 2342 SGB 1504.5 R23 -.4459 R13 -.8533 LSA 76.9 MSA 21.0 S5A .7
 BDE .4821 BRA .5929 BC3 .8612 FSP 2039 SG1 1368.0 SG2 626.4 THA 38.12 EL1 40.8 EL2 2.4 ALF 30.19

LAUNCH DATE APR 19 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic

RL 150.24 LAL .00 LOL 208.30 VL 32.386 GAL -2.48 AZL 93.30 HCA 157.09 SMA 184.56 ECC .19074 INC 3.2977 V1 29.657
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.466 GAP 7.95 AZP 86.96 TAL 344.39 TAP 141.48 RCA 149.36 APO 219.76 V2 26.221
 RC 100.896 GL -29.91 GP 10.75 ZAL 120.20 ZAP 124.82 ETS 172.14 ZAE 162.42 ETE 139.39 ZAC 111.59 ETC 276.59 LVI -26.12

Distance 468.546

Earth to Mars

Planetocentric Conic

C3 13.911 VHL 3.730 DLA -37.54 RAL 348.97 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.710 DPA -8.89 RAP 310.98 ECC 1.2289
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 19 45 7 2233.45 5.97 55.23 208.10 137.29 20 22 21 1233.4 23.77 38.23
 60.00 21 45 58 1911.16 14.56 34.31 216.12 128.00 22 17 49 911.2 28.67 13.26
 64.20 23 45 50 1565.88 24.28 12.58 223.00 119.56 24 11 55 565.9 34.25 347.43
 64.20 23 45 50 1565.88 24.28 12.58 223.00 119.55 24 11 55 565.9 34.25 347.43
 64.20 23 45 50 1565.88 24.28 12.58 223.00 119.56 24 11 55 565.9 34.25 347.43
 64.20 23 45 50 1565.88 24.28 12.58 223.00 119.56 24 11 55 565.9 34.25 347.43
 64.20 23 45 50 1565.88 24.28 12.58 223.00 119.56 24 11 55 565.9 34.25 347.43

Differential Corrections

TDE -.4240 TRA -.4189 TC3 -.4144 BAU .1754
 RDE -.2350 RRA -.3985 RC3 .8470 FAU .16137
 FDE 1.4535 FRA 6.5045 FC-10.0423 BSP 2375
 BDE .4848 BRA .5782 BC3 .9430 FSP 2154

Mid-Course Execution Accuracy

SGT 1085.7 SGR 1060.9 SG3 1281.3
 RRT .5786 RRF -.9705 RTF -.5818
 SGB 1518.0 R23 -.4375 R13 -.8666
 SG1 1348.7 SG2 696.5 THA 43.86

Orbit Determination Accuracy

ST 34.8 SR 21.5 SS 70.3
 CRT .9750 CRS .8932 CST .7761
 LSA 78.5 MSA 21.6 SSA .7
 EL1 40.7 EL2 4.0 ALF 31.40

LAUNCH DATE APR 19 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 26 1971

Heliocentric Conic

RL 150.24 LAL .00 LOL 208.30 VL 32.351 GAL -2.48 AZL 93.40 HCA 158.33 SMA 184.31 ECC .18965 INC 3.3976 V1 29.657
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.420 GAP 7.71 AZP 86.84 TAL 344.35 TAP 142.68 RCA 149.36 APO 219.27 V2 26.198
 RC 102.893 GL -30.78 GP 11.53 ZAL 120.10 ZAP 122.80 ETS 172.15 ZAE 160.72 ETE 141.27 ZAC 112.45 ETC 276.46 LVI -26.62

Distance 472.683

Earth to Mars

Planetocentric Conic

C3 14.012 VHL 3.743 DLA -38.26 RAL 349.59 RAD 6640.1 VEL 11.579 PTH 6.62 VHP 3.644 DPA -8.32 RAP 310.07 ECC 1.2308
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 19 53 36 2214.70 6.91 54.44 209.35 137.19 20 30 31 1214.7 24.63 37.28
 60.00 22 2 11 1871.53 16.21 32.26 217.97 127.42 22 33 22 871.5 29.97 10.71
 63.08 23 42 41 1583.82 24.65 14.29 223.99 120.24 24 9 5 583.8 34.85 349.12
 63.08 23 42 41 1583.82 24.65 14.29 223.99 120.24 24 9 5 583.8 34.85 349.12
 63.08 23 42 41 1583.82 24.65 14.29 223.99 120.24 24 9 5 583.8 34.85 349.12
 63.08 23 42 41 1583.82 24.65 14.29 223.99 120.24 24 9 5 583.8 34.85 349.12
 63.08 23 42 41 1583.82 24.65 14.29 223.99 120.24 24 9 5 583.8 34.85 349.12

Differential Corrections

TDE -.4144 TRA -.3502 TC3 -.4868 BAU .1921
 RDE -.2369 RRA -.4409 RC3 .9028 FAU .16721
 FDE 1.5029 FRA 6.7111 FC-10.3313 BSP 2314
 BDE .4774 BRA .5630 BC3 1.0257 FSP 2222

Mid-Course Execution Accuracy

SGT 1000.6 SGR 1152.0 SG3 1328.1
 RRT .4949 RRF -.9774 RTF -.4923
 SGB 1325.9 R23 -.3770 R13 -.9018
 SG1 1325.7 SG2 755.6 THA 52.97

Orbit Determination Accuracy

ST 33.3 SR 22.3 SS 71.7
 CRT .9518 CRS .9122 CST .7444
 LSA 79.2 MSA 22.0 SSA .7
 EL1 39.7 EL2 5.7 ALF 33.24

LAUNCH DATE APR 19 1971

FLIGHT TIME 194.00

ARRIVAL DATE OCT 30 1971

Heliocentric Conic

RL 150.24 LAL .00 LOL 208.30 VL 32.338 GAL -2.47 AZL 93.51 HCA 159.56 SMA 184.09 ECC .18867 INC 3.5088 V1 29.657
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.375 GAP 7.48 AZP 86.71 TAL 344.29 TAP 143.88 RCA 149.35 APO 218.82 V2 26.174
 RC 104.913 GL -31.70 GP 12.39 ZAL 119.90 ZAP 120.74 ETS 172.17 ZAE 158.91 ETE 142.80 ZAC 113.39 ETC 276.32 LVI -27.17

Distance 476.825

Earth to Mars

Planetocentric Conic

C3 14.156 VHL 3.762 DLA -39.02 RAL 350.29 RAD 6640.1 VEL 11.589 PTH 6.63 VHP 3.584 DPA -7.67 RAP 309.12 ECC 1.2330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 20 3 2 2194.76 7.90 53.59 210.79 137.07 20 39 37 1194.8 25.54 36.24
 60.00 22 22 40 1821.60 18.26 29.63 220.27 126.57 22 53 2 821.6 31.54 7.41
 61.91 23 39 47 1602.40 25.01 16.07 225.12 120.99 24 6 29 602.4 35.48 350.90
 61.91 23 39 47 1602.40 25.01 16.07 225.12 120.99 24 6 29 602.4 35.48 350.90
 61.91 23 39 47 1602.40 25.01 16.07 225.12 120.99 24 6 29 602.4 35.48 350.90
 61.91 23 39 47 1602.40 25.01 16.07 225.12 120.99 24 6 29 602.4 35.48 350.90
 61.91 23 39 47 1602.40 25.01 16.07 225.12 120.99 24 6 29 602.4 35.48 350.90

Differential Corrections

TDE -.4126 TRA -.2848 TC3 -.5850 BAU .2120
 RDE -.2429 RRA -.4900 RC3 .9552 FAU .17142
 FDE 1.5861 FRA 6.9351 FC-10.4840 BSP 2375
 BDE .4788 BRA .5667 BC3 1.1201 FSP 2319

Mid-Course Execution Accuracy

SGT 948.8 SGR 1255.3 SG3 1373.9
 RRT .3797 RRF -.9829 RTF -.5.35
 SGB 1573.5 R23 -.2876 R13 -.9398
 SG1 1342.6 SG2 820.7 THA 63.38

Orbit Determination Accuracy

ST 32.5 SR 23.5 SS 73.5
 CRT .9185 CRS .9308 CST .7120
 LSA 80.6 MSA 22.5 SSA .6
 EL1 39.4 EL2 7.7 ALF 35.06

LAUNCH DATE APR 19 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 1 1971

Heliocentric Conic

RL 150.24 LAL .00 LOL 208.30 VL 32.325 GAL -2.48 AZL 93.63 HCA 160.80 SMA 183.88 ECC .18779 INC 3.6333 V1 29.657
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.330 GAP 7.25 AZP 86.57 TAL 344.22 TAP 145.02 RCA 149.35 APO 218.41 V2 26.150
 RC 106.858 GL -32.70 GP 13.35 ZAL 119.88 ZAP 118.64 ETS 172.20 ZAE 157.00 ETE 144.03 ZAC 114.43 ETC 276.17 LVI -27.80

Distance 480.974

Earth to Mars

Planetocentric Conic

C3 14.348 VHL 3.788 DLA -39.84 RAL 351.00 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 3.532 DPA -6.94 RAP 308.11 ECC 1.2361
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 90.00 20 13 41 2173.11 8.98 52.67 212.44 136.92 20 49 54 1173.1 26.51 35.10
 60.00 22 52 53 1746.52 21.25 25.54 223.44 125.08 23 21 59 746.5 33.70 2.23
 60.68 23 37 8 1621.68 25.38 17.93 226.40 121.81 24 4 10 621.7 36.13 352.78
 60.68 23 37 8 1621.68 25.38 17.93 226.40 121.81 24 4 10 621.7 36.13 352.78
 60.68 23 37 8 1621.68 25.38 17.93 226.40 121.81 24 4 10 621.7 36.13 352.78
 60.68 23 37 8 1621.68 25.38 17.93 226.40 121.81 24 4 10 621.7 36.13 352.78
 60.68 23 37 8 1621.68 25.38 17.93 226.40 121.81 24 4 10 621.7 36.13 352.78

Differential Corrections

TDE -.4080 TRA -.2122 TC3 -.6742 BAU .2337
 RDE -.2501 RRA -.5429 RC3 1.0146 FAU .17609
 FDE 1.6623 FRA 7.1271 FC-10.6249 BSP 2454
 BDE .4786 BRA .5829 BC3 1.2182 FSP 2394

Mid-Course Execution Accuracy

SGT 903.6 SGR 1370.3 SG3 1415.0
 RRT .3236 RRF -.9871 RTF -.2237
 SGB 1641.4 R23 -.1588 R13 -.9743
 SG1 1396.7 SG2 862.2 THA 75.75

Orbit Determination Accuracy

ST 31.5 SR 24.8 SS 74.9
 CRT .8738 CRS .9464 CST .6711
 LSA 81.8 MSA 23.1 SSA .6
 EL1 38.9 EL2 9.8 ALF 37.31

LAUNCH DATE APR 19 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 3 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.314 GAL -2.48 AZL 93.77 HCA 162.03 SMA 183.70 ECC .18701 INC 3.7740 V1 29.657
 RP 209.87 LAP -1.18 LOP 10.38 VP 23.286 GAP 7.03 AZP 86.41 TAL 344.14 TAP 146.17 RCA 149.34 APO 218.05 V2 26.124
 RC 109.028 GL -33.79 GP 14.41 ZAL 119.43 ZAP 116.92 ETS 172.25 ZAE 154.98 ETE 145.00 ZAC 119.58 ETC 276.02 LVI -28.51

Distance 489.129 Earth to Mars

Planeto-centric Conic: C3 14.597 VHL 3.821 DLA -40.72 RAL 351.92 RAD 6640.3 VEL 11.604 PTH 6.65 VHP 3.487 DPA -6.10 RAP 307.06 ECC 1.2402
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 25 52 2149.20 10.17 51.64 214.36 136.73 21 1 41 1149.2 27.57 33.82
 59.39 23 34 43 1641.98 25.73 19.91 227.86 122.72 24 2 5 642.0 36.82 354.79
 59.39 23 34 43 1641.98 25.73 19.91 227.86 122.72 24 2 5 642.0 36.82 354.79
 59.39 23 34 43 1641.98 25.73 19.91 227.86 122.72 24 2 5 642.0 36.82 354.79
 59.39 23 34 43 1641.98 25.73 19.91 227.86 122.72 24 2 5 642.0 36.82 354.79
 59.39 23 34 43 1641.98 25.73 19.91 227.86 122.72 24 2 5 642.0 36.82 354.79

Differential Corrections: TDE -.4040 TRA -.1358 TC3 -.7665 BAW .2577 SGT 884.5 SGR 1499.1 SG3 1451.4 ST 30.6 SR 26.5 SS 76.4
 RDE -.2604 RRA -.6022 RC3 1.0750 FAU .17989 RRT .0570 RRF -.9905 RTF -.0469 CRT .8176 CRS .9596 CST .6235
 FDE 1.7488 FRA 7.3038 FC-10.6691 B8P 2595 SGB 1740.6 R23 -.0395 R13 -.9897 LSA 83.2 MSA 23.7 SSA .5
 BDE .4806 BRA .6174 BC3 1.3203 F8P 2465 SG1 1500.4 S2 882.3 THA 87.05 EL1 38.6 EL2 12.1 ALF 40.02

LAUNCH DATE APR 19 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 5 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.304 GAL -2.49 AZL 93.93 HCA 163.26 SMA 183.53 ECC .18632 INC 3.9343 V1 29.657
 RP 210.10 LAP -1.13 LOP 11.59 VP 23.243 GAP 6.81 AZP 86.23 TAL 344.05 TAP 147.30 RCA 149.34 APO 217.73 V2 26.098
 RC 111.121 GL -34.98 GP 15.60 ZAL 119.14 ZAP 114.36 ETS 172.33 ZAE 152.86 ETE 145.71 ZAC 116.86 ETC 275.87 LVI -29.32

Distance 489.289 Earth to Mars

Planeto-centric Conic: C3 14.915 VHL 3.862 DLA -41.68 RAL 352.90 RAD 6640.5 VEL 11.618 PTH 6.66 VHP 3.451 DPA -5.14 RAP 305.97 ECC 1.2455
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 40 4 2122.16 11.51 50.46 216.64 136.49 21 15 26 1122.2 28.76 32.33
 58.01 23 32 36 1663.45 26.09 22.02 229.52 123.74 24 0 19 663.5 37.54 356.96
 58.01 23 32 36 1663.45 26.09 22.02 229.52 123.74 24 0 19 663.5 37.54 356.96
 58.01 23 32 36 1663.45 26.09 22.02 229.52 123.74 24 0 19 663.5 37.54 356.96
 58.01 23 32 36 1663.45 26.09 22.02 229.52 123.74 24 0 19 663.5 37.54 356.96
 58.01 23 32 36 1663.45 26.09 22.02 229.52 123.74 24 0 19 663.5 37.54 356.96
 58.01 23 32 36 1663.45 26.09 22.02 229.52 123.74 24 0 19 663.5 37.54 356.96

Differential Corrections: TDE -.3994 TRA -.0545 TC3 -.8558 BAW .2840 SGT 894.3 SGR 1643.1 SG3 1481.1 ST 29.7 SR 28.5 SS 77.8
 RDE -.1739 RRA -.6661 RC3 1.1385 FAU .18317 RRT -.1339 RRF -.9930 RTF .1441 CRT .7488 CRS .9703 CST .5671
 FDE 1.8398 FRA 7.4496 FC-10.6319 B8P 2797 SGB 1870.7 R23 .0432 R13 -.9921 LSA 84.6 MSA 24.3 SSA .5
 BDE .4843 BRA .6703 BC3 1.4243 F8P 2522 SG1 1649.2 S2 883.0 THA 95.85 EL1 36.5 EL2 14.6 ALF 43.40

LAUNCH DATE APR 19 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 7 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.295 GAL -2.50 AZL 94.12 HCA 164.48 SMA 183.38 ECC .18572 INC 4.1188 V1 29.657
 RP 210.33 LAP -1.10 LOP 12.82 VP 23.200 GAP 6.59 AZP 86.03 TAL 343.94 TAP 148.42 RCA 149.33 APO 217.44 V2 26.071
 RC 113.239 GL -36.31 GP 16.95 ZAL 118.81 ZAP 112.18 ETS 172.42 ZAE 150.62 ETE 146.21 ZAC 118.29 ETC 275.73 LVI -30.25

Distance 493.453 Earth to Mars

Planeto-centric Conic: C3 15.318 VHL 3.914 DLA -42.73 RAL 354.01 RAD 6640.7 VEL 11.635 PTH 6.67 VHP 3.425 DPA -4.03 RAP 304.82 ECC 1.2521
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 57 1 2090.64 13.06 49.08 219.37 136.17 21 31 52 1090.6 30.12 30.55
 56.52 23 30 48 1886.39 26.43 24.29 231.44 124.89 23 58 55 686.4 38.31 359.33
 56.52 23 30 48 1886.39 26.43 24.29 231.44 124.89 23 58 55 686.4 38.31 359.33
 56.52 23 30 48 1886.39 26.43 24.29 231.44 124.89 23 58 55 686.4 38.31 359.33
 56.52 23 30 48 1886.39 26.43 24.29 231.44 124.89 23 58 55 686.4 38.31 359.33
 56.52 23 30 48 1886.39 26.43 24.29 231.44 124.89 23 58 55 686.4 38.31 359.33
 56.52 23 30 48 1886.39 26.43 24.29 231.44 124.89 23 58 55 686.4 38.31 359.33

Differential Corrections: TDE -.3958 TRA .0310 TC3 -.9432 BAW .3131 SGT 940.5 SGR 1805.4 SG3 1503.2 ST 29.0 SR 30.9 SS 79.2
 RDE -.2930 RRA -.7422 RC3 1.2035 FAU .18556 RRT -.3171 RRF -.9949 RTF .5.63 CRT .6688 CRS .9790 CST .3036
 FDE 1.9485 FRA 7.5623 FC-10.4877 B8P 3069 SGB 2035.7 R23 .0906 R13 -.9909 LSA 86.3 MSA 24.9 SSA .4
 BDE .4924 BRA .7428 BC3 1.5291 F8P 2588 SG1 1837.3 S2 876.5 THA 102.19 EL1 36.7 EL2 17.2 ALF 47.70

LAUNCH DATE APR 19 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 9 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.287 GAL -2.51 AZL 94.33 HCA 165.71 SMA 183.25 ECC .18520 INC 4.3334 V1 29.657
 RP 210.57 LAP -1.07 LOP 14.04 VP 23.158 GAP 6.38 AZP 85.80 TAL 343.81 TAP 149.52 RCA 149.31 APO 217.19 V2 26.044
 RC 115.380 GL -37.78 GP 18.47 ZAL 118.41 ZAP 109.97 ETS 172.55 ZAE 148.27 ETE 146.49 ZAC 119.90 ETC 275.58 LVI -31.34

Distance 497.620 Earth to Mars

Planeto-centric Conic: C3 15.827 VHL 3.978 DLA -43.80 RAL 355.29 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 3.409 DPA -2.74 RAP 303.63 ECC 1.2605
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 18 0 2052.19 14.94 47.36 222.75 135.72 21 52 12 1052.2 31.73 28.32
 54.91 23 29 26 1711.13 26.76 26.76 233.68 126.20 23 57 57 711.1 39.12 1.94
 54.91 23 29 26 1711.13 26.76 26.76 233.68 126.20 23 57 57 711.1 39.12 1.94
 54.91 23 29 26 1711.13 26.76 26.76 233.68 126.20 23 57 57 711.1 39.12 1.94
 54.91 23 29 26 1711.13 26.76 26.76 233.68 126.20 23 57 57 711.1 39.12 1.94
 54.91 23 29 26 1711.13 26.76 26.76 233.68 126.20 23 57 57 711.1 39.12 1.94
 54.91 23 29 26 1711.13 26.76 26.76 233.68 126.20 23 57 57 711.1 39.12 1.94

Differential Corrections: TDE -.3918 TRA .1214 TC3 -1.0249 BAW .3454 SGT 1021.0 SGR 1987.2 SG3 1514.3 ST 28.5 SR 33.7 SS 80.4
 RDE -.3163 RRA -.8247 RC3 1.2703 FAU .18707 RRT -.4759 RRF -.9964 RTF .4837 CRT .5774 CRS .9855 CST .4311
 FDE 2.0657 FRA 7.6218 FC-10.2324 B8P 3401 SGB 2234.1 R23 .1148 R13 -.9898 LSA 88.1 MSA 25.6 SSA .4
 BDE .5048 BRA .8336 BC3 1.6323 F8P 2590 SG1 2059.2 S2 866.5 THA 106.80 EL1 39.4 EL2 19.9 ALF 53.23

LAUNCH DATE APR 19 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.260 GAL -2.53 AZL 94.59 HCA 166.92 SMA 183.14 ECC .18476 INC 4.5867 V1 29.657
 RP 210.82 LAP -1.04 LOP 15.26 VP 23.116 GAP 6.17 AZP 85.53 TAL 343.68 TAP 150.60 RCA 149.30 APO 216.97 V2 26.019
 RC 117.545 GL -39.44 GP 20.22 ZAL 117.93 ZAP 107.75 ETS 172.72 ZAE 145.78 ETE 146.58 ZAC 121.72 ETC 275.44 LVI -32.62

DISTANCE 501.792 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 16.477 VHL 4.059 DLA -45.20 RAL 356.79 RAD 6641.2 VEL 11.684 PTH 6.72 VHP 3.406 DPA -1.23 RAP 302.40 ECC 1.2712
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 45 31 2001.66 17.39 45.06 227.14 135.02 22 18 53 1001.7 33.79 29.24
 53.14 23 28 38 1738.04 27.06 29.47 236.30 127.70 23 57 36 738.0 39.97 4.86
 53.14 23 28 38 1738.04 27.06 29.47 236.30 127.70 23 57 36 738.0 39.97 4.86
 53.14 23 28 38 1738.04 27.06 29.47 236.30 127.70 23 57 36 738.0 39.97 4.86
 53.14 23 28 38 1738.04 27.06 29.47 236.30 127.70 23 57 36 738.0 39.97 4.86
 53.14 23 28 38 1738.04 27.06 29.47 236.30 127.70 23 57 36 738.0 39.97 4.86

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3876 TRA .2166 TC3-1.0978 BAU .3810 SGT 1132.2 SGR 2193.9 SG3 1513.7 ST 28.1 SR 37.3 SS 81.6
 RDE -.3537 RRA -.9187 RC3 1.3365 FAU .18725 RRT -.6009 RRF -.9975 RTF .6072 CRT .4777 CR8 .9905 CST .3527
 FDE 2.2060 FRA 7.6271 FC3-9.8383 BSP 3811 SGB 2468.8 R23 .1244 R13 -.9897 LSA 90.3 MSA 26.3 SSA .3
 BDE .5247 BRA .9439 BC3 1.7296 FSP 2599 SG1 2315.1 SG2 857.7 THA 110.11 EL1 40.9 EL2 22.5 ALF 60.36

LAUNCH DATE APR 19 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.274 GAL -2.54 AZL 94.89 HCA 168.14 SMA 183.04 ECC .18440 INC 4.8906 V1 29.657
 RP 211.07 LAP -1.00 LOP 16.48 VP 23.075 GAP 5.96 AZP 85.21 TAL 343.53 TAP 151.67 RCA 149.28 APO 216.79 V2 25.986
 RC 119.734 GL -41.34 GP 22.24 ZAL 117.34 ZAP 105.52 ETS 172.94 ZAE 143.14 ETE 146.46 ZAC 123.82 ETC 275.32 LVI -34.12

DISTANCE 505.965 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.318 VHL 4.161 DLA -46.67 RAL 358.56 RAD 6641.6 VEL 11.720 PTH 6.75 VHP 3.420 DPA .56 RAP 301.11 ECC 1.2650
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 27 8 1922.11 21.17 41.29 233.47 133.66 22 59 10 922.1 36.83 20.08
 51.19 23 28 33 1767.80 27.30 32.48 239.41 129.45 23 58 1 767.8 40.86 0.17
 51.19 23 28 33 1767.80 27.30 32.48 239.41 129.45 23 58 1 767.8 40.86 8.17
 51.19 23 28 33 1767.80 27.30 32.48 239.41 129.45 23 58 1 767.8 40.86 8.17
 51.19 23 28 33 1767.80 27.30 32.48 239.41 129.45 23 58 1 767.8 40.86 8.17
 51.19 23 28 33 1767.80 27.30 32.48 239.41 129.45 23 58 1 767.8 40.86 8.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3810 TRA .3179 TC3-1.1572 BAU .4200 SGT 1268.7 SGR 2429.4 SG3 1497.8 ST 28.0 SR 41.6 SS 83.0
 RDE -.4040 RRA-1.0264 RC3 1.3968 FAU .18537 RRT -.6947 RRF -.9983 RTF .6996 CRT .3710 CR8 .9941 CST .2685
 FDE 2.3825 FRA 7.5632 FC3-9.2671 BSP 4300 SGB 2740.8 R23 .1253 R13 -.9904 LSA 93.1 MSA 27.0 SSA .3
 BDE .5554 BRA 1.0745 BC3 1.8139 FSP 2585 SG1 2805.3 SG2 850.9 THA 112.47 EL1 43.6 EL2 24.8 ALF 68.86

LAUNCH DATE APR 19 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.288 GAL -2.56 AZL 95.26 HCA 169.35 SMA 182.95 ECC .18412 INC 5.2615 V1 29.657
 RP 211.33 LAP -.97 LOP 17.70 VP 23.034 GAP 5.76 AZP 84.83 TAL 343.37 TAP 152.72 RCA 149.27 APO 216.63 V2 25.957
 RC 121.945 GL -43.52 GP 24.59 ZAL 116.62 ZAP 103.28 ETS 173.21 ZAE 140.32 ETE 146.14 ZAC 126.25 ETC 275.21 LVI -35.92

DISTANCE 510.141 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 18.426 VHL 4.293 DLA -48.33 RAL .71 RAD 6642.1 VEL 11.766 PTH 6.79 VHP 3.435 DPA 2.68 RAP 299.77 ECC 1.3032
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.02 23 29 35 1801.05 27.45 35.84 243.16 131.48 23 59 38 801.1 41.78 11.97
 49.02 23 29 35 1801.05 27.45 35.84 243.16 131.48 23 59 36 801.1 41.78 11.97
 49.02 23 29 35 1801.05 27.45 35.84 243.16 131.48 23 59 36 801.1 41.78 11.97
 49.02 23 29 35 1801.05 27.45 35.84 243.16 131.48 23 59 36 801.1 41.78 11.97
 49.02 23 29 35 1801.05 27.45 35.84 243.16 131.48 23 59 36 801.1 41.78 11.97
 49.02 23 29 35 1801.05 27.45 35.84 243.16 131.48 23 59 36 801.1 41.78 11.97

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3714 TRA .4247 TC3-1.1994 BAU .4850 SGT 1425.9 SGR 2896.1 SG3 1460.7 ST 27.9 SR 46.9 SS 84.0
 RDE -.4747 RRA-1.1469 RC3 1.4374 FAU .18237 RRT -.7642 RRF -.9986 RTF .7078 CRT .2599 CR8 .9986 CST .1792
 FDE 2.5822 FRA 7.3845 FC3-8.5685 BSP 4829 SGB 3050.0 R23 .1213 R13 -.9915 LSA 96.4 MSA 27.0 SSA .3
 BDE .6027 BRA 1.2230 BC3 1.8875 FSP 2516 SG1 2930.3 SG2 846.2 THA 114.15 EL1 47.7 EL2 26.5 ALF 77.19

LAUNCH DATE APR 19 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.264 GAL -2.59 AZL 95.73 HCA 170.56 SMA 182.88 ECC .18390 INC 5.7253 V1 29.657
 RP 211.60 LAP -.94 LOP 18.91 VP 22.994 GAP 5.56 AZP 84.35 TAL 343.20 TAP 153.76 RCA 149.25 APO 216.51 V2 25.926
 RC 124.177 GL -46.07 GP 27.37 ZAL 115.70 ZAP 101.05 ETS 173.56 ZAE 137.28 ETE 145.62 ZAC 129.10 ETC 275.14 LVI -38.07

DISTANCE 514.319 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.931 VHL 4.464 DLA -50.23 RAL 3.38 RAD 6642.8 VEL 11.830 PTH 6.85 VHP 3.519 DPA 5.23 RAP 298.37 ECC 1.3280
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.58 23 32 14 1838.82 27.45 39.61 247.76 133.88 24 2 52 838.8 42.66 16.39
 46.58 23 32 14 1838.82 27.45 39.61 247.76 133.88 24 2 52 838.8 42.66 16.39
 46.58 23 32 14 1838.82 27.45 39.61 247.76 133.88 24 2 52 838.8 42.66 16.39
 46.58 23 32 14 1838.82 27.45 39.61 247.76 133.88 24 2 52 838.8 42.66 16.39
 46.58 23 32 14 1838.82 27.45 39.61 247.76 133.88 24 2 52 838.8 42.66 16.39
 46.58 23 32 14 1838.82 27.45 39.61 247.76 133.88 24 2 52 838.8 42.66 16.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3549 TRA .5378 TC3-1.2203 BAU .5160 SGT 1399.7 SGR 3002.6 SG3 1399.0 ST 28.0 SR 53.8 SS 85.3
 RDE -.5818 RRA-1.2859 RC3 1.5038 FAU .17641 RRT -.8134 RRF -.9992 RTF .8160 CRT .1462 CR8 .9982 CST .0865
 FDE 2.8386 FRA 7.0860 FC3-7.6625 BSP 5450 SGB 3402.2 R23 .1148 R13 -.9926 LSA 100.9 MSA 28.0 SSA .2
 BDE .6813 BRA 1.3938 BC3 1.9367 FSP 2415 SG1 3294.8 SG2 848.0 THA 115.22 EL1 54.0 EL2 27.6 ALF 84.11

LAUNCH DATE APR 19 1971 FLIGHT TIME 214.00 ARRIVAL DATE NOV 19 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.260 GAL -2.61 AZL 96.32 HCA 171.77 SMA 182.82 ECC .18375 INC 6.3226 V1 29.657
 RP 211.87 LAP -.90 LOP 20.12 VP 22.954 GAP 5.36 AZP 83.74 TAL 343.01 TAP 154.78 RCA 149.23 APO 216.41 V2 25.896
 RC 126.431 GL -49.09 GP 30.68 ZAL 114.54 ZAP 98.85 ETS 174.01 ZAE 133.96 ETE 144.91 ZAC 132.48 ETC 275.13 LVI -40.87

Distance 518.496 Earth to Mars

Planeto-centric Conic: C3 22.055 VHL 4.696 DLA -52.41 RAL 6.80 RAD 6643.7 VEL 11.918 PTH 6.92 VHP 3.626 DPA 6.31 RAP 296.89 ECC 1.3630
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.85 23 37 23 1882.66 27.17 43.89 253.51 136.71 24 8 46 882.7 43.43 21.62
 43.85 23 37 23 1882.66 27.17 43.89 253.51 136.71 24 8 46 882.7 43.43 21.62
 43.85 23 37 23 1882.66 27.17 43.89 253.51 136.71 24 8 46 882.7 43.43 21.62
 43.85 23 37 23 1882.66 27.17 43.89 253.51 136.71 24 8 46 882.7 43.43 21.62
 43.85 23 37 23 1882.66 27.17 43.89 253.51 136.71 24 8 46 882.7 43.43 21.62
 43.85 23 37 23 1882.66 27.17 43.89 253.51 136.71 24 8 46 882.7 43.43 21.62

Differential Corrections: TDE -.3210 TRA .6608 TC3-1.2089 BAU .5735
 RDE -.7540 RRA-1.4487 RC3 1.5238 FAU .16634
 FDE 3.1860 FRA 6.6405 FC3-6.5296 BSP 6197
 BDE .8195 BRA 1.5923 BC3 1.9451 F8P 2274

Mid-course Execution Accuracy: SGT 1785.8 SGR 3359.9 SG3 1307.7
 RRT -.8489 RRF -.9995 RTF .8506
 SGB 3805.0 R23 .1066 R13 -.9938
 SG1 3707.6 SG2 855.3 THA 115.76

Orbit Determination Accuracy: ST 27.9 SR 63.3 SS 87.2
 CRT .0201 CR8 .9992 CST -.0204
 LSA 107.8 MSA 28.0 S8A .2
 EL1 63.3 EL2 27.9 ALF 89.37

LAUNCH DATE APR 19 1971 FLIGHT TIME 216.00 ARRIVAL DATE NOV 21 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.257 GAL -2.64 AZL 97.12 HCA 172.97 SMA 182.77 ECC .18367 INC 7.1207 V1 29.657
 RP 212.14 LAP -.87 LOP 21.32 VP 22.914 GAP 5.17 AZP 82.93 TAL 342.82 TAP 155.79 RCA 149.20 APO 216.34 V2 25.864
 RC 128.708 GL -52.70 GP 34.66 ZAL 113.06 ZAP 96.70 ETS 174.60 ZAE 130.29 ETE 144.00 ZAC 136.52 ETC 275.19 LVI -43.82

Distance 522.674 Earth to Mars

Planeto-centric Conic: C3 25.213 VHL 5.021 DLA -54.88 RAL 11.36 RAD 6645.1 VEL 12.049 PTH 7.03 VHP 3.801 DPA 12.06 RAP 295.32 ECC 1.4149
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 40.79 23 46 38 1934.82 26.43 48.72 260.88 140.03 24 18 53 934.8 43.90 27.84
 40.79 23 46 38 1934.82 26.43 48.72 260.88 140.03 24 18 53 934.8 43.90 27.84
 40.79 23 46 38 1934.82 26.43 48.72 260.88 140.03 24 18 53 934.8 43.90 27.84
 40.79 23 46 38 1934.82 26.43 48.72 260.88 140.03 24 18 53 934.8 43.90 27.84
 40.79 23 46 38 1934.82 26.43 48.72 260.88 140.03 24 18 53 934.8 43.90 27.84
 40.79 23 46 38 1934.82 26.43 48.72 260.88 140.03 24 18 53 934.8 43.90 27.84

Differential Corrections: TDE -.2546 TRA .7921 TC3-1.1827 BAU .6454
 RDE-1.0337 RRA-1.6291 RC3 1.5212 FAU .15315
 FDE 3.5983 FRA 5.9642 FC3-5.2588 BSP 6977
 BDE 1.0646 BRA 1.8114 BC3 1.9147 F8P 2042

Mid-course Execution Accuracy: SGT 1978.9 SGR 3763.8 SG3 1174.2
 RRT -.8751 RRF -.9997 RTF .8760
 SGB 4252.3 R23 .0981 R13 -.9949
 SG1 4183.2 SG2 865.9 THA 115.91

Orbit Determination Accuracy: ST 27.7 SR 76.4 SS 89.1
 CRT -.1367 CR8 .9997 CST -.1611
 LSA 117.5 MSA 27.4 S8A .1
 EL1 76.5 EL2 27.4 ALF 93.28

LAUNCH DATE APR 19 1971 FLIGHT TIME 218.00 ARRIVAL DATE NOV 23 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.255 GAL -2.67 AZL 98.24 HCA 174.17 SMA 182.74 ECC .18364 INC 8.2423 V1 29.657
 RP 212.43 LAP -.83 LOP 22.53 VP 22.875 GAP 4.98 AZP 81.80 TAL 342.82 TAP 156.78 RCA 149.18 APO 216.30 V2 25.832
 RC 130.999 GL -57.10 GP 39.47 ZAL 111.13 ZAP 94.63 ETS 175.34 ZAE 126.17 ETE 142.93 ZAC 141.39 ETC 275.41 LVI -47.61

Distance 526.849 Earth to Mars

Planeto-centric Conic: C3 30.283 VHL 5.501 DLA -57.63 RAL 17.70 RAD 6647.1 VEL 12.255 PTH 7.20 VHP 4.089 DPA 16.65 RAP 293.62 ECC 1.4981
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 37.44 0 6 41 1999.02 24.88 54.12 270.59 143.84 0 40 0 999.0 43.69 35.20
 37.44 0 6 41 1999.02 24.88 54.12 270.59 143.84 0 40 0 999.0 43.69 35.20
 37.44 0 6 41 1999.02 24.88 54.12 270.59 143.84 0 40 0 999.0 43.69 35.20
 37.44 0 6 41 1999.02 24.88 54.12 270.59 143.84 0 40 0 999.0 43.69 35.20
 37.44 0 6 41 1999.02 24.88 54.12 270.59 143.84 0 40 0 999.0 43.69 35.20
 37.44 0 6 41 1999.02 24.88 54.12 270.59 143.84 0 40 0 999.0 43.69 35.20

Differential Corrections: TDE -.1073 TRA .9410 TC3-1.0871 BAU .7335
 RDE-1.5380 RRA-1.8320 RC3 1.4655 FAU .13418
 FDE 4.1100 FRA 5.0378 FC3-3.8385 BSP 7880
 BDE 1.5397 BRA 2.0593 BC3 1.8128 F8P 1735

Mid-course Execution Accuracy: SGT 2177.7 SGR 4226.4 SG3 993.5
 RRT -.8952 RRF -.9998 RTF .8555
 SGB 4754.9 R23 .0893 R13 -.9958
 SG1 4872.7 SG2 877.8 THA 115.74

Orbit Determination Accuracy: ST 20.1 SR 96.2 SS 91.8
 CRT -.3795 CR8 .9999 CST -.3911
 LSA 133.4 MSA 25.8 S8A .1
 EL1 96.9 EL2 25.8 ALF 96.80

LAUNCH DATE APR 19 1971 FLIGHT TIME 220.00 ARRIVAL DATE NOV 25 1971

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.254 GAL -2.70 AZL 99.93 HCA 175.36 SMA 182.71 ECC .18368 INC 9.9338 V1 29.657
 RP 212.72 LAP -.80 LOP 23.73 VP 22.836 GAP 4.79 AZP 80.10 TAL 342.41 TAP 157.77 RCA 149.15 APO 216.27 V2 25.799
 RC 133.312 GL -62.34 GP 45.26 ZAL 108.63 ZAP 92.74 ETS 176.29 ZAE 121.52 ETE 141.78 ZAC 147.21 ETC 275.90 LVI -52.08

Distance 531.021 Earth to Mars

Planeto-centric Conic: C3 39.230 VHL 6.283 DLA -60.49 RAL 26.98 RAD 6650.4 VEL 12.614 PTH 7.47 VHP 4.388 DPA 22.21 RAP 291.77 ECC 1.6456
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 34.01 0 34 55 2081.13 21.93 59.91 283.80 147.93 1 9 36 1081.1 42.12 43.55
 34.01 0 34 55 2081.13 21.93 59.91 283.80 147.93 1 9 36 1081.1 42.12 43.55
 34.01 0 34 55 2081.13 21.93 59.91 283.80 147.93 1 9 36 1081.1 42.12 43.55
 34.01 0 34 55 2081.13 21.93 59.91 283.80 147.93 1 9 36 1081.1 42.12 43.55
 34.01 0 34 55 2081.13 21.93 59.91 283.80 147.93 1 9 36 1081.1 42.12 43.55
 34.01 0 34 55 2081.13 21.93 59.91 283.80 147.93 1 9 36 1081.1 42.12 43.55

Differential Corrections: TDE .2294 TRA 1.1132 TC3 -.9201 BAU .8535
 RDE-2.4977 RRA-2.0422 RC3 1.3423 FAU .10909
 FDE 4.6083 FRA 3.8158 FC3-2.4074 BSP 8843
 BDE 2.5082 BRA 2.3258 BC3 1.6273 F8P 1325

Mid-course Execution Accuracy: SGT 2376.3 SGR 4736.4 SG3 758.6
 RRT -.9115 RRF -.9999 RTF .9112
 SGB 5299.1 R23 .0805 R13 -.9967
 SG1 9224.5 SG2 886.1 THA 115.36

Orbit Determination Accuracy: ST 32.8 SR 127.6 SS 93.6
 CRT -.7091 CR8 1.0000 CST -.7128
 LSA 160.0 MSA 22.8 S8A .1
 EL1 129.8 EL2 22.7 ALF 100.65

LAUNCH DATE APR 19 1971 FLIGHT TIME 234.00 ARRIVAL DATE DEC 9 1971

HELIOCENTRIC CONIC
 RL 190.24 LAL .00 LOL 208.30 VL 32.260 GAL -3.05 AZL 81.60 HCA 183.77 SMA 182.81 ECC .18968 INC 8.4018 V1 29.657
 RP 214.88 LAP -.55 LOP 32.03 VP 22.968 GAP 3.55 AZP 98.38 TAL 340.31 TAP 164.08 RCA 148.87 APO 216.76 V2 25.554
 RC 149.988 GL 56.48 GP -49.85 ZAL 112.87 ZAP 84.58 ETS 172.26 ZAE 110.92 ETE 207.20 ZAC 52.57 ETC 272.30 LVI 35.94

PLANETOCENTRIC CONIC
 C3 31.882 VHL 5.646 DLA 44.48 RAL 317.76 RAD 6647.7 VEL 12.321 PTH 7.25 VHP 5.193 DPA -71.21 RAP 317.94 ECC 1.5247
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 10 28 1 4301.31 -32.87 195.89 217.73 53.44 11 39 42 3301.3 -44.69 168.62
 54.11 8 58 44 4532.07 -19.86 205.77 206.20 49.34 10 14 16 3532.1 -34.53 184.12
 54.11 8 58 44 4532.07 -19.86 205.77 206.20 49.34 10 14 16 3532.1 -34.53 184.12
 54.11 8 58 44 4532.07 -19.86 205.77 206.20 49.34 10 14 16 3532.1 -34.53 184.12
 54.11 8 58 44 4532.07 -19.86 205.77 206.20 49.34 10 14 16 3532.1 -34.53 184.12
 54.11 8 58 44 4532.07 -19.86 205.77 206.20 49.34 10 14 16 3532.1 -34.53 184.12

DIFFERENTIAL CORRECTIONS
 TDE 3.1456 TRA .9844 TC3-1.6551 BAU .9827 SGT 3954.9 SGR 9030.9 SG3 545.0 ST 161.0 SR 184.3 SS 101.0
 RDE 3.5187 RRA 2.1414 RC3-1.6052 FAU .07733 RRT .9574 RRF .9996 RTF .9530 CRT .9928 CRS -.9999 CST -.9912
 FDE 4.2820 FRA 2.7496 FC3-2.0998 BSP 10771 SGB 6399.4 R23 .1243 R13 .9919 LSA 264.3 MSA 15.7 SSA .1
 BDE 4.7198 BRA 2.3568 BC3 2.3056 FSP 976 SG1 6334.7 SG2 907.4 THA 52.12 EL1 244.3 EL2 14.5 ALF 48.89

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.263 GAL -3.10 AZL 84.00 HCA 184.93 SMA 182.86 ECC .18612 INC 5.9957 V1 29.657
 RP 215.21 LAP -.51 LOP 33.20 VP 22.530 GAP 3.37 AZP 95.97 TAL 340.03 TAP 164.95 RCA 148.83 APO 216.89 V2 25.518
 RC 152.438 GL 45.90 GP -43.34 ZAL 118.31 ZAP 82.37 ETS 171.56 ZAE 112.45 ETE 203.18 ZAC 59.10 ETC 271.91 LVI 30.38

PLANETOCENTRIC CONIC
 C3 21.962 VHL 4.686 DLA 34.75 RAL 323.32 RAD 6643.7 VEL 11.915 PTH 6.92 VHP 4.420 DPA -65.47 RAP 309.35 ECC 1.3614
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 12 27 54 3898.83 -45.41 165.80 216.02 73.92 13 32 53 2898.8 -46.68 130.76
 60.00 12 5 31 3958.66 -35.36 166.78 211.64 69.26 13 11 30 2958.7 -40.28 136.83
 68.92 10 31 17 4238.78 -19.22 180.76 203.16 60.48 11 41 56 3238.8 -29.67 156.97
 68.92 10 31 17 4238.78 -19.22 180.76 203.16 60.48 11 41 56 3238.8 -29.67 156.97
 68.92 10 31 17 4238.78 -19.22 180.76 203.16 60.48 11 41 56 3238.8 -29.67 156.97
 68.92 10 31 17 4238.78 -19.22 180.76 203.16 60.48 11 41 56 3238.8 -29.67 156.97

DIFFERENTIAL CORRECTIONS
 TDE 2.4162 TRA 1.2283 TC3-2.3919 BAU .9006 SGT 4134.3 SGR 4504.2 SG3 809.7 ST 150.3 SR 150.2 SS 115.9
 RDE 2.3464 RRA 1.9958 RC3-1.9204 FAU .10478 RRT .9632 RRF .9996 RTF .9606 CRT .9931 CRS -.9999 CST -.9912
 FDE 4.7204 FRA 4.2257 FC3-4.1304 BSP 10183 SGB 6114.0 R23 .1321 R13 .9909 LSA 241.6 MSA 14.6 SSA .2
 BDE 3.3680 BRA 2.3435 BC3 3.0674 FSP 1433 SG1 6057.9 SG2 826.1 THA 47.55 EL1 212.1 EL2 12.5 ALF 44.99

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971 FLIGHT TIME 238.00 ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.266 GAL -3.15 AZL 85.49 HCA 186.09 SMA 182.91 ECC .18661 INC 4.5105 V1 29.657
 RP 215.54 LAP -.48 LOP 34.37 VP 22.493 GAP 3.20 AZP 94.48 TAL 339.72 TAP 165.81 RCA 148.78 APO 217.05 V2 25.480
 RC 154.904 GL 37.19 GP -37.84 ZAL 122.51 ZAP 80.18 ETS 171.17 ZAE 113.11 ETE 199.58 ZAC 64.62 ETC 271.64 LVI 25.64

PLANETOCENTRIC CONIC
 C3 17.567 VHL 4.191 DLA 26.74 RAL 327.35 RAD 6641.7 VEL 11.730 PTH 6.76 VHP 3.999 DPA -60.41 RAP 304.43 ECC 1.2891
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 13 31 34 3855.13 -47.56 142.83 207.99 91.44 14 32 29 2655.1 -41.43 109.79
 60.00 13 35 7 3845.65 -40.10 141.71 207.72 85.60 14 35 53 2645.6 -37.49 110.89
 70.00 13 41 26 3827.01 -32.94 139.11 206.63 80.43 14 41 55 2627.0 -33.49 110.38
 80.00 13 56 15 3580.49 -26.63 134.08 205.11 75.98 14 55 55 2580.5 -29.85 107.11
 90.00 14 45 21 3421.85 -23.45 121.48 204.16 73.72 15 42 23 2421.9 -27.99 95.38
 100.00 16 39 7 3054.96 -26.63 95.44 205.11 75.98 17 30 2 2055.0 -29.85 68.48
 110.00 18 40 53 2673.83 -32.94 68.03 206.63 80.43 19 25 26 1673.8 -33.49 39.30

DIFFERENTIAL CORRECTIONS
 TDE 2.0126 TRA 1.4381 TC3-3.0171 BAU .8530 SGT 4337.3 SGR 4016.9 SG3 1024.5 ST 141.5 SR 124.0 SS 122.0
 RDE 1.7066 RRA 1.8270 RC3-2.0218 FAU .12480 RRT .9678 RRF .9996 RTF .5599 CRT .9940 CRS -.9998 CST -.9917
 FDE 4.8271 FRA 5.4845 FC3-6.1503 BSP 9981 SGB 5911.8 R23 .1425 R13 .9894 LSA 223.9 MSA 13.2 SSA .2
 BDE 2.6388 BRA 2.3251 BC3 3.6319 FSP 1838 SG1 5864.1 SG2 748.1 THA 42.73 EL1 187.9 EL2 10.2 ALF 41.20

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971 FLIGHT TIME 240.00 ARRIVAL DATE DEC 15 1971

HELIOCENTRIC CONIC
 RL 150.24 LAL .00 LOL 208.30 VL 32.270 GAL -3.21 AZL 86.50 HCA 187.25 SMA 182.97 ECC .18715 INC 3.5008 V1 29.657
 RP 215.87 LAP -.44 LOP 35.53 VP 22.455 GAP 3.02 AZP 93.47 TAL 339.40 TAP 166.85 RCA 148.73 APO 217.22 V2 25.443
 RC 157.385 GL 30.12 GP -33.30 ZAL 125.84 ZAP 78.08 ETS 170.97 ZAE 113.09 ETE 196.48 ZAC 69.18 ETC 271.44 LVI 21.71

PLANETOCENTRIC CONIC
 C3 15.372 VHL 3.921 DLA 20.27 RAL 330.45 RAD 6640.7 VEL 11.637 PTH 6.68 VHP 3.751 DPA -56.16 RAP 301.23 ECC 1.2530
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 14 36 3484.06 -46.00 126.65 201.89 103.79 15 12 40 2484.1 -35.59 97.60
 60.00 14 29 53 3443.33 -39.76 124.57 203.47 97.20 15 27 17 2443.3 -32.61 95.97
 70.00 14 53 33 3373.68 -34.11 119.49 204.03 91.93 15 49 46 2373.7 -29.76 91.63
 80.00 15 33 40 3247.88 -29.81 109.97 204.04 88.20 16 27 48 2247.9 -27.52 82.78
 90.00 16 41 54 3027.59 -28.11 93.70 203.95 86.78 17 32 22 2027.6 -26.62 66.79
 100.00 18 16 32 2722.35 -29.81 71.34 204.04 88.20 19 1 54 1722.4 -27.52 44.14
 110.00 19 52 59 2420.50 -34.11 48.41 204.03 91.93 20 33 19 1420.5 -29.76 20.55

DIFFERENTIAL CORRECTIONS
 TDE 1.7487 TRA 1.6043 TC3-3.5574 BAU .8398 SGT 4534.0 SGR 3568.8 SG3 1183.2 ST 133.2 SR 103.2 SS 122.6
 RDE 1.3097 RRA 1.6472 RC3-2.0116 FAU .14099 RRT .9705 RRF .9996 RTF .9691 CRT .9953 CRS -.9998 CST -.9924
 FDE 4.7501 FRA 6.4378 FC3-7.9406 BSP 9636 SGB 5770.0 R23 .1537 R13 .9878 LSA 208.1 MSA 11.7 SSA .3
 BDE 2.1847 BRA 2.2993 BC3 4.0867 FSP 2106 SG1 5729.8 SG2 680.4 THA 38.01 EL1 168.3 EL2 7.9 ALF 37.72

MID-COURSE EXECUTION ACCURACY
ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 19 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 17 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.274 GAL -3.27 AZL 87.23 HCA 188.41 SMA 183.04 ECC .18774 INC 2.7712 V1 29.657
RP 216.21 LAP -.41 LOP 36.89 VP 22.418 GAP 2.85 AZP 92.74 TAL 339.07 TAP 167.47 RCA 148.68 APO 217.40 V2 25.405
RC 159.881 GL 24.42 GP -29.56 ZAL 127.95 ZAP 76.07 ETS 170.88 ZAE 112.80 ETE 193.87 ZAC 72.94 ETC 271.27 LVI 18.48

PLANETOCENTRIC CONIC

CS 14.203 VHL 3.769 DLA 15.07 RAL 332.93 RAD 6640.1 VEL 11.587 PTH 6.63 VHP 3.598 DPA -52.62 RAP 298.97 ECC 1.2338
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 14 46 20 3358.30 -43.37 115.71 198.37 111.87 15 42 18 2358.3 -30.52 89.88
60.00 15 8 54 3298.24 -37.85 112.73 200.80 105.02 16 3 52 2298.2 -28.01 86.44
70.00 15 41 42 3201.70 -32.91 106.23 202.12 99.68 16 35 3 2201.7 -25.65 79.96
80.00 16 31 40 3045.09 -29.29 94.94 202.71 96.06 17 22 25 2045.1 -23.86 68.84
90.00 17 44 53 2808.77 -27.91 77.72 202.85 94.74 18 31 42 1808.8 -23.17 51.71
100.00 19 14 32 2519.56 -29.29 56.31 202.71 96.06 19 56 32 1519.6 -23.86 30.21
110.00 20 41 8 2248.52 -32.91 35.15 202.12 99.68 21 18 36 1248.5 -25.65 8.88

DIFFERENTIAL CORRECTIONS

TDE 1.5820 TRA 1.7631 TC3-3.9673 BAU .8358 SGT 4736.3 SGR 3183.4 SG3 1298.4 ST 127.3 SR 87.7 SS 121.6
RDE 1.0571 RRA 1.4883 RC3-1.9048 FAU .15167 RRT .9725 RRF .9992 RTF .9715 CRT .9968 CRS -.9994 CST -.9934
FDE 4.6354 FRA 7.1756 FC3-9.2439 BSP 9540 SGB 5706.7 R23 .1627 R13 .9858 LSA 196.4 MSA 10.3 SSA .4
BDE 1.9027 BRA 2.3073 BC3 4.4009 FSP 2321 SGI 5673.0 SG2 619.1 THA 33.62 EL1 154.5 EL2 5.8 ALF 34.53

LAUNCH DATE APR 19 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 19 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.278 GAL -3.33 AZL 87.78 HCA 189.56 SMA 183.11 ECC .18836 INC 2.2184 V1 29.657
RP 216.96 LAP -.37 LOP 37.85 VP 22.381 GAP 2.68 AZP 92.19 TAL 338.73 TAP 168.29 RCA 148.62 APO 217.60 V2 25.366
RC 162.390 GL 19.79 GP -26.46 ZAL 129.67 ZAP 74.16 ETS 170.86 ZAE 111.78 ETE 191.69 ZAC 76.06 ETC 271.13 LVI 15.82

PLANETOCENTRIC CONIC

CS 13.577 VHL 3.685 DLA 10.89 RAL 334.97 RAD 6639.8 VEL 11.560 PTH 6.61 VHP 3.501 DPA -49.67 RAP 297.25 ECC 1.2234
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 10 55 3263.25 -40.68 108.18 196.61 117.19 16 5 19 2263.2 -26.38 84.62
60.00 15 38 36 3189.60 -35.60 104.39 199.45 110.29 16 31 45 2189.6 -24.11 79.90
70.00 16 17 25 3075.36 -31.08 96.85 201.17 104.94 17 8 41 2075.4 -21.99 71.97
80.00 17 13 19 2900.27 -27.79 84.45 202.05 101.38 18 1 39 1900.3 -20.41 59.47
90.00 18 29 17 2655.11 -26.56 66.70 202.31 100.09 19 13 32 1655.1 -19.81 41.70
100.00 19 56 11 2374.74 -27.79 45.82 202.05 101.38 20 35 46 1374.7 -20.41 20.84
110.00 21 16 52 2122.18 -31.08 25.77 201.17 104.94 21 52 14 1122.2 -21.99 .89

DIFFERENTIAL CORRECTIONS

TDE 1.4637 TRA 1.9052 TC3-4.3033 BAU .8480 SGT 4933.4 SGR 2841.7 SG3 1374.2 ST 122.6 SR 75.1 SS 118.4
RDE 1.7356 RRA 1.3366 RC3-1.7908 FAU .16145 RRT .9750 RRF .9988 RTF .9744 CRT .9982 CRS -.9988 CST -.9943
FDE 4.4519 FRA 7.6698 FC-10.2948 BSP 9397 SGB 5693.3 R23 .1656 R13 .9850 LSA 186.0 MSA 9.1 SSA .5
BDE 1.7056 BRA 2.3273 BC3 4.6610 FSP 2412 SGI 5666.8 SG2 549.2 THA 29.63 EL1 143.7 EL2 3.8 ALF 31.49

LAUNCH DATE APR 19 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 21 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.283 GAL -3.39 AZL 88.21 HCA 190.71 SMA 183.19 ECC .18903 INC 1.7850 V1 29.657
RP 216.91 LAP -.33 LOP 39.00 VP 22.344 GAP 2.52 AZP 91.75 TAL 338.38 TAP 169.09 RCA 148.56 APO 217.82 V2 25.327
RC 164.912 GL 18.01 GP -23.87 ZAL 131.00 ZAP 72.34 ETS 170.89 ZAE 110.75 ETE 189.87 ZAC 78.67 ETC 271.01 LVI 13.59

PLANETOCENTRIC CONIC

CS 13.257 VHL 3.641 DLA 7.91 RAL 336.71 RAD 6639.7 VEL 11.547 PTH 6.59 VHP 3.440 DPA -47.20 RAP 295.91 ECC 1.2182
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 30 40 3189.99 -38.26 102.83 195.91 120.78 16 23 50 2190.0 -23.04 80.85
60.00 16 2 11 3106.13 -33.46 98.34 198.97 113.91 16 53 57 2106.1 -20.90 75.17
70.00 16 45 24 2978.99 -29.18 89.99 200.91 108.59 17 35 3 1979.0 -18.92 66.19
80.00 17 45 25 2790.98 -26.09 76.78 201.97 105.06 18 31 56 1791.0 -17.45 52.71
90.00 19 3 14 2539.86 -24.93 58.65 202.30 103.80 19 45 34 1539.9 -16.89 34.51
100.00 20 28 17 2265.45 -26.09 36.15 201.97 105.06 21 6 3 1265.4 -17.45 14.08
110.00 21 44 50 2025.81 -29.18 18.91 200.91 108.59 22 18 36 1025.8 -16.92 358.11

DIFFERENTIAL CORRECTIONS

TDE 1.3923 TRA 2.0322 TC3-4.5433 BAU .8546 SGT 5133.8 SGR 2561.4 SG3 1429.8 ST 120.1 SR 68.8 SS 117.2
RDE .7618 RRA 1.2188 RC3-1.6144 FAU .16407 RRT .9747 RRF .9983 RTF .9744 CRT .9994 CRS -.9981 CST -.9956
FDE 4.3657 FRA 8.1124 FC-10.7141 BSP 9552 SGB 5737.3 R23 .1727 R13 .9833 LSA 180.3 MSA 7.9 SSA .7
BDE 1.5870 BRA 2.3868 BC3 4.8216 FSP 2559 SGI 5714.1 SG2 514.8 THA 26.16 EL1 137.3 EL2 2.0 ALF 29.01

LAUNCH DATE APR 19 1971

FLIGHT TIME 248.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

RL 150.24 LAL .00 LOL 208.30 VL 32.288 GAL -3.46 AZL 88.56 HCA 191.86 SMA 183.28 ECC .18973 INC 1.4361 V1 29.657
RP 217.28 LAP -.30 LOP 40.15 VP 22.307 GAP 2.35 AZP 91.41 TAL 338.02 TAP 169.88 RCA 148.50 APO 218.05 V2 25.288
RC 167.446 GL 12.89 GP -21.88 ZAL 132.04 ZAP 70.59 ETS 170.94 ZAE 109.59 ETE 188.38 ZAC 80.87 ETC 270.91 LVI 11.73

PLANETOCENTRIC CONIC

CS 13.124 VHL 3.623 DLA 4.78 RAL 338.22 RAD 6639.6 VEL 11.541 PTH 6.59 VHP 3.402 DPA -45.11 RAP 294.82 ECC 1.2160
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 46 54 3132.62 -36.19 98.91 195.82 123.30 16 39 6 2132.6 -20.36 78.03
60.00 16 21 25 3040.76 -31.56 93.84 199.02 116.48 17 12 6 2040.8 -18.29 71.62
70.00 17 8 2 2903.67 -27.44 84.83 201.11 111.19 17 56 26 1903.7 -16.38 61.83
80.00 18 11 11 2705.88 -24.45 70.99 202.28 107.69 18 56 17 1705.9 -14.97 47.61
90.00 19 30 23 2450.33 -23.34 52.58 202.66 106.44 20 11 13 1450.3 -14.43 29.09
100.00 20 54 3 2180.35 -24.45 32.36 202.28 107.69 21 30 23 1180.4 -14.97 8.96
110.00 22 7 28 1950.49 -27.44 13.74 201.11 111.19 22 39 59 950.5 -16.38 350.75

DIFFERENTIAL CORRECTIONS

TDE 1.3418 TRA 2.1902 TC3-4.7423 BAU .8711 SGT 5328.3 SGR 2312.7 SG3 1461.6 ST 118.3 SR 59.3 SS 114.8
RDE .6717 RRA 1.1074 RC3-1.4683 FAU .16718 RRT .9753 RRF .9976 RTF .9760 CRT .9999 CRS -.9970 CST -.9967
FDE 4.2384 FRA 8.3925 FC-11.0276 BSP 9656 SGB 5808.6 R23 .1728 R13 .9826 LSA 175.0 MSA 7.0 SSA .9
BDE 1.5005 BRA 2.4542 BC3 4.9645 FSP 2610 SGI 5789.5 SG2 470.5 THA 23.10 EL1 132.4 EL2 .9 ALF 26.62

LAUNCH DATE APR 19 1971 FLIGHT TIME 258.00 ARRIVAL DATE JAN 2 1972

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.318 GAL -3.82 AZL 89.63 HCA 197.55 SMA 183.77 ECC .19380 INC .3723 V1 29.657
 RP 219.06 LAP -.11 LOP 45.85 VP 22.124 GAP 1.52 AZP 90.36 TAL 338.10 TAP 173.65 RCA 148.15 APO 219.38 V2 25.089
 RC 180.275 GL 3.26 GP -14.51 ZAL 135.31 ZAP 82.92 ETS 171.39 ZAE 103.02 ETE 183.68 ZAC 88.07 ETC 270.59 LVI 5.63

Distance 610.348 Earth to Mars

Planetary Conic: C3 13.684 VHL 3.699 DLA -3.40 RAL 343.73 RAD 6639.9 VEL 11.565 PTH 6.61 VHP 3.392 DPA -38.22 RAP 291.62 ECC 1.2252
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 38 40 2979.38 -30.03 89.49 198.73 128.81 17 28 20 1979.4 -12.96 70.99
 60.00 17 21 52 2864.49 -25.66 82.66 202.25 122.21 18 9 37 1864.5 -10.92 62.56
 70.00 18 18 8 2699.06 -21.71 71.70 204.70 117.03 19 3 7 1699.1 -9.02 50.55
 80.00 19 30 5 2473.79 -18.84 56.05 206.15 113.60 20 11 18 1473.8 -7.62 34.31
 90.00 20 53 6 2205.89 -17.77 36.84 206.63 112.37 21 29 52 1205.9 -7.09 14.90
 100.00 22 12 56 1948.26 -18.84 17.42 206.15 113.60 22 45 25 948.3 -7.62 355.67
 110.00 23 17 34 1745.88 -21.71 .62 204.70 117.03 23 46 40 745.9 -9.02 339.46

Differential Corrections: TDE 1.3007 TRA 2.8638 TC3-5.2811 BAU .9795 SGT 6250.3 SGR 1480.4 SG3 1457.5 ST 120.9 SR 39.7 SS 108.2
 RDE .4645 RRA .7200 RC3 -.8818 FAU .16260 RRT .9686 RRF .9888 RTF .9785 CRT .9887 CRS -.9849 CST -.9995
 FDE 3.6340 FRA 8.9161 FC-10.2871 BSP 10772 SGB 6423.5 R23 .1526 R13 .9805 LSA 165.6 MSA 6.5 SSA 1.5
 BDE 1.3811 BRA 2.9530 BC3 5.3542 FSP 2642 SG1 6413.4 SG2 358.5 THA 12.96 EL1 127.1 EL2 5.7 ALP 18.02

LAUNCH DATE APR 19 1971 FLIGHT TIME 260.00 ARRIVAL DATE JAN 4 1972

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.325 GAL -3.89 AZL 89.76 HCA 198.68 SMA 183.88 ECC .19472 INC .2373 V1 29.657
 RP 219.43 LAP -.08 LOP 46.98 VP 22.088 GAP 1.36 AZP 90.23 TAL 335.70 TAP 174.38 RCA 148.07 APO 219.69 V2 25.048
 RC 182.871 GL 2.06 GP -13.38 ZAL 135.79 ZAP 61.57 ETS 171.49 ZAE 101.68 ETE 183.11 ZAC 89.03 ETC 270.55 LVI 4.8'

Distance 614.484 Earth to Mars

Planetary Conic: C3 13.914 VHL 3.730 DLA -4.35 RAL 344.59 RAD 6640.0 VEL 11.575 PTH 6.62 VHP 3.408 DPA -37.30 RAP 291.27 ECC 1.2290
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 45 33 2984.25 -29.38 86.63 199.53 129.27 17 34 57 1964.3 -12.21 70.33
 60.00 17 29 45 2846.68 -25.01 81.60 203.10 122.69 18 17 12 1846.7 -10.15 61.68
 70.00 18 27 9 2677.94 -21.05 70.42 205.59 117.53 19 11 46 1677.9 -8.24 49.42
 80.00 19 40 7 2449.46 -18.17 54.56 207.07 114.11 20 20 57 1449.5 -6.81 32.95
 90.00 21 3 36 2180.10 -17.09 35.25 207.56 112.88 21 39 56 1180.1 -6.28 13.44
 100.00 22 22 59 1923.93 -18.17 15.92 207.07 114.11 22 55 3 923.9 -6.81 354.32
 110.00 23 26 35 1724.76 -21.05 359.33 205.59 117.53 23 55 20 724.8 -8.24 338.34

Differential Corrections: TDE 1.3166 TRA 2.9982 TC3-5.3351 BAU 1.0035 SGT 6423.6 SGR 1368.7 SG3 1438.9 ST 122.7 SR 37.6 SS 104.8
 RDE .4462 RRA .6648 RC3 -.7984 FAU .15972 RRT .9653 RRF .9854 RTF .9786 CRT .9837 CRS -.9808 CST -.9997
 FDE 3.7785 FRA 8.9173 FC3-9.9375 BSP 11044 SGB 6567.8 R23 .1453 R13 .9803 LSA 165.6 MSA 6.9 SSA 1.5
 BDE 1.3902 BRA 3.0710 BC3 5.3945 FSP 2618 SG1 6558.5 SG2 350.2 THA 11.66 EL1 128.2 EL2 6.5 ALP 18.80

LAUNCH DATE APR 19 1971 FLIGHT TIME 262.00 ARRIVAL DATE JAN 6 1972

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.332 GAL -3.97 AZL 89.88 HCA 199.80 SMA 184.00 ECC .19567 INC .1195 V1 29.657
 RP 219.80 LAP -.04 LOP 48.10 VP 22.052 GAP 1.19 AZP 90.11 TAL 335.29 TAP 175.09 RCA 147.99 APO 220.00 V2 25.007
 RC 185.475 GL 1.01 GP -12.71 ZAL 136.28 ZAP 60.28 ETS 171.59 ZAE 100.37 ETE 182.62 ZAC 89.88 ETC 270.53 LVI 4.06

Distance 618.616 Earth to Mars

Planetary Conic: C3 14.166 VHL 3.764 DLA -5.15 RAL 345.39 RAD 6640.1 VEL 11.586 PTH 6.63 VHP 3.428 DPA -36.47 RAP 291.00 ECC 1.2331
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 51 43 2952.23 -28.86 87.96 200.36 129.62 17 40 53 1952.2 -11.62 69.80
 60.00 17 36 47 2832.37 -24.48 80.76 203.96 123.07 18 23 59 1832.4 -9.54 60.97
 70.00 18 35 8 2660.80 -20.51 69.38 206.49 117.93 19 19 29 1660.0 -7.60 48.51
 80.00 19 49 0 2429.55 -17.61 53.34 208.00 114.50 20 29 29 1429.6 -6.15 31.84
 90.00 21 12 52 2158.95 -16.53 33.95 208.50 113.28 21 48 51 1159.0 -5.61 12.25
 100.00 22 31 52 1904.02 -17.61 14.71 208.00 114.50 23 3 36 904.0 -6.15 353.21
 110.00 23 34 34 1707.62 -20.51 358.30 206.49 117.93 24 3 2 707.6 -7.60 337.42

Differential Corrections: TDE 1.3381 TRA 3.1330 TC3-5.3792 BAU 1.0280 SGT 6593.7 SGR 1269.7 SG3 1417.4 ST 124.8 SR 35.8 SS 103.6
 RDE .4320 RRA .8144 RC3 -.7251 FAU .15671 RRT .9611 RRF .9812 RTF .9788 CRT .9778 CRS -.9762 CST -.9998
 FDE 3.7291 FRA 8.8968 FC3-9.5769 BSP 11324 SGB 6714.9 R23 .1372 R13 .9801 LSA 165.9 MSA 7.4 SSA 1.5
 BDE 1.4061 BRA 3.1927 BC3 5.4279 FSP 2587 SG1 6708.0 SG2 344.8 THA 10.51 EL1 129.6 EL2 7.2 ALP 15.71

LAUNCH DATE APR 19 1971 FLIGHT TIME 264.00 ARRIVAL DATE JAN 8 1972

Heliocentric Conic: RL 150.24 LAL .00 LOL 208.30 VL 32.339 GAL -4.05 AZL 89.99 HCA 200.82 SMA 184.11 ECC .19665 INC .0171 V1 29.657
 RP 220.18 LAP -.00 LOP 49.22 VP 22.018 GAP 1.03 AZP 90.01 TAL 334.88 TAP 175.80 RCA 147.91 APO 220.32 V2 24.968
 RC 188.089 GL .09 GP -11.95 ZAL 136.71 ZAP 59.00 ETS 171.69 ZAE 99.06 ETE 182.19 ZAC 90.64 ETC 270.51 LVI 3.39

Distance 622.742 Earth to Mars

Planetary Conic: C3 14.437 VHL 3.800 DLA -5.83 RAL 346.18 RAD 6640.3 VEL 11.597 PTH 6.64 VHP 3.451 DPA -35.72 RAP 290.78 ECC 1.2378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 57 16 2942.83 -28.45 87.43 201.19 129.89 17 46 19 1942.8 -11.15 69.39
 60.00 17 43 5 2821.01 -24.06 80.10 204.83 123.36 18 30 6 1821.0 -9.05 60.41
 70.00 18 42 15 2647.01 -20.07 68.56 207.39 118.23 19 26 22 1647.0 -7.08 47.77
 80.00 19 56 53 2413.38 -17.15 52.36 208.93 114.82 20 37 6 1413.4 -5.61 30.94
 90.00 21 21 5 2141.70 -16.06 32.90 209.44 113.59 21 56 47 1141.7 -5.06 11.27
 100.00 22 39 45 1887.85 -17.15 13.73 208.93 114.82 23 11 12 887.9 -5.61 352.31
 110.00 23 41 42 1693.82 -20.07 357.47 207.39 118.23 24 9 55 693.8 -7.08 336.69

Differential Corrections: TDE 1.3620 TRA 3.2667 TC3-5.4177 BAU 1.0534 SGT 6759.2 SGR 1181.4 SG3 1393.3 ST 126.9 SR 34.3 SS 102.3
 RDE .4207 RRA .5681 RC3 -.6601 FAU .15351 RRT .9558 RRF .9760 RTF .9788 CRT .9712 CRS -.9711 CST -.9998
 FDE 3.6806 FRA 8.8585 FC3-9.2055 BSP 11587 SGB 6861.6 R23 .1294 R13 .9799 LSA 166.3 MSA 8.0 SSA 1.4
 BDE 1.4255 BRA 3.3157 BC3 5.4578 FSP 2549 SG1 6853.1 SG2 342.6 THA 9.51 EL1 131.2 EL2 7.9 ALP 14.75

LAUNCH DATE APR 19 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

RL 190.24 LAL	.00 LOL 208.30 VL 32.347 GAL	DISTANCE 626.864	EARTH TO MARS
RP 220.55 LAP	.03 LOP 50.33 VP 21.080 GAP	-4.14 AZL 90.09 HCA 202.04 SMA 184.24 ECC .19766 INC .0868 V1 29.657	
RC 190.711 GL	-.72 GP -11.26 ZAL 137.14 ZAP	.86 AZP 89.92 TAL 334.46 TAP 176.49 RCA 147.82 APO 220.65 V2 24.925	

PLANETOCENTRIC CONIC

C3 14.724 VHL	3.837 DLA -6.40 RAL 348.88 RAD 6640.4 VEL 11.809 PTH 6.65 VHP 3.476 DPA -35.05 RAP 290.63 ECC 1.2423
LNCH AZMTH LNCH TIME L-I TIME	INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 2 19	2935.64 -28.13 87.04 202.02 130.09 17 51 14 1935.6 -10.80 69.08
60.00 17 48 45	2812.14 -23.72 79.59 205.70 123.59 18 35 37 1812.1 -8.66 59.98
70.00 18 48 38	2636.05 -19.72 67.90 208.29 118.47 19 32 34 1636.0 -6.67 47.19
80.00 20 3 55	2400.38 -16.78 51.58 209.85 115.06 20 43 55 1400.4 -5.18 30.22
90.00 21 28 24	2127.77 -15.68 32.06 210.37 113.84 22 3 52 1127.8 -4.61 10.49
100.00 22 46 47	1874.85 -16.78 12.94 209.85 115.06 23 18 2 874.8 -5.18 351.59
110.00 23 48 4	1662.87 -19.72 356.82 208.29 118.47 24 16 7 682.9 -6.67 336.11

DIFFERENTIAL CORRECTIONS

TDE 1.3900 TRA 3.4015 TC3-5.4472 BAU 1.0788	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE .4121 RRA .5258 RC3 -.6021 FAU .15012	SGT 6921.3 SGR 1102.8 SG3 1367.6	ST 129.2 SR 33.0 SS 101.1
FDE 3.6362 FRA 8.8089 FC3-8.8265 BSP 11853	RRT .9493 RRF .9697 RTF .9788	CRT .9638 CRS -.9654 CST -.9998
BDE 1.4497 BRA 3.4419 BC3 5.4804 FSP 2507	SG8 7008.6 R23 .1215 R13 .9797	LSA 167.1 MSA 8.6 S5A 1.4
	SG1 7000.2 SG2 342.6 THA 8.62	EL1 133.0 EL2 8.5 ALF 13.88

LAUNCH DATE APR 19 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

RL 150.24 LAL	.00 LOL 208.30 VL 32.354 GAL	DISTANCE 630.981	EARTH TO MARS
RP 220.93 LAP	.07 LOP 51.45 VP 21.945 GAP	-4.22 AZL 90.17 HCA 203.15 SMA 184.36 ECC .19870 INC .1739 V1 29.657	
RC 193.341 GL	-1.44 GP -10.64 ZAL 137.57 ZAP	.70 AZP 89.84 TAL 334.03 TAP 177.18 RCA 147.73 APO 221.00 V2 24.884	

PLANETOCENTRIC CONIC

C3 15.026 VHL	3.876 DLA -6.90 RAL 347.58 RAD 6640.5 VEL 11.622 PTH 6.66 VHP 3.503 DPA -34.43 RAP 290.53 ECC 1.2473
LNCH AZMTH LNCH TIME L-I TIME	INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 6 54	2930.33 -27.90 86.75 202.86 130.24 17 55 45 1930.3 -10.84 68.85
60.00 17 53 53	2805.40 -23.47 79.20 206.57 123.75 18 40 38 1805.4 -8.37 59.65
70.00 18 54 23	2627.53 -19.44 67.40 209.19 118.65 19 38 10 1627.5 -6.35 46.74
80.00 20 10 13	2390.09 -16.48 50.96 210.77 115.25 20 50 3 1390.1 -4.83 29.65
90.00 21 34 57	2116.69 -15.37 31.39 211.30 114.03 22 10 14 1116.7 -4.26 9.87
100.00 22 53 5	1864.57 -16.48 12.33 210.77 115.25 23 24 9 864.6 -4.83 351.02
110.00 23 53 49	1674.34 -19.44 356.32 209.19 118.65 24 21 43 674.3 -6.35 335.66

DIFFERENTIAL CORRECTIONS

TDE 1.4215 TRA 3.5370 TC3-5.4696 BAU 1.1043	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE .4057 RRA .4866 RC3 -.5503 FAU .14659	SGT 7080.1 SGR 1032.8 SG3 1340.6	ST 131.6 SR 31.9 SS 99.9
FDE 3.5957 FRA 8.7482 FC3-8.4457 BSP 12124	RRT .9415 RRF .9821 RTF .9787	CRT .9559 CRS -.9593 CST -.9998
BDE 1.4783 BRA 3.5703 BC3 5.4972 FSP 2465	SG8 7155.0 R23 .1140 R13 .9795	LSA 168.0 MSA 9.1 S5A 1.4
	SG1 7146.7 SG2 344.7 THA 7.84	EL1 135.1 EL2 9.1 ALF 13.11

LAUNCH DATE APR 19 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

RL 150.24 LAL	.00 LOL 208.30 VL 32.362 GAL	DISTANCE 635.092	EARTH TO MARS
RP 221.31 LAP	.10 LOP 52.55 VP 21.909 GAP	-4.31 AZL 90.25 HCA 204.26 SMA 184.49 ECC .19977 INC .2530 V1 29.657	
RC 195.978 GL	-2.08 GP -10.08 ZAL 137.99 ZAP	.53 AZP 89.77 TAL 333.60 TAP 177.86 RCA 147.63 APO 221.35 V2 24.842	

PLANETOCENTRIC CONIC

C3 15.343 VHL	3.917 DLA -7.31 RAL 348.24 RAD 6640.7 VEL 11.636 PTH 6.68 VHP 3.532 DPA -33.87 RAP 290.47 ECC 1.2525
LNCH AZMTH LNCH TIME L-I TIME	INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 11 7	2926.66 -27.74 86.55 203.70 130.34 17 59 53 1926.7 -10.35 68.69
60.00 17 58 33	2800.50 -23.28 78.92 207.44 123.87 18 45 13 1800.5 -8.16 59.41
70.00 18 59 34	2621.10 -19.23 67.02 210.08 118.79 19 43 15 1621.1 -6.10 48.40
80.00 20 15 53	2382.16 -16.25 50.48 211.68 115.40 20 55 35 1382.2 -4.57 29.22
90.00 21 40 50	2108.07 -15.13 30.87 212.22 114.18 22 15 58 1108.1 -3.99 9.39
100.00 22 58 45	1856.64 -16.25 11.85 211.68 115.40 23 29 41 856.6 -4.57 350.58
110.00 0 2 58	1667.92 -19.23 355.94 210.08 118.79 0 30 44 667.9 -6.10 335.32

DIFFERENTIAL CORRECTIONS

TDE 1.4595 TRA 3.6730 TC3-5.4872 BAU 1.1303	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE .4012 RRA .4304 RC3 -.5044 FAU .14308	SGT 7239.4 SGR 970.4 SG3 1312.8	ST 134.1 SR 31.0 SS 98.7
FDE 3.5363 FRA 8.6786 FC3-8.0736 BSP 12383	RRT .9323 RRF .9931 RTF .9786	CRT .9474 CRS -.9528 CST -.9997
BDE 1.5097 BRA 3.7005 BC3 5.5104 FSP 2417	SG8 7300.2 R23 .1067 R13 .9793	LSA 169.1 MSA 9.7 S5A 1.4
	SG1 7291.9 SG2 348.3 THA 7.14	EL1 137.3 EL2 9.7 ALF 12.42

LAUNCH DATE APR 19 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 16 1972

HELIOCENTRIC CONIC

RL 150.24 LAL	.00 LOL 208.30 VL 32.370 GAL	DISTANCE 639.198	EARTH TO MARS
RP 221.69 LAP	.14 LOP 53.66 VP 21.874 GAP	-4.40 AZL 90.33 HCA 205.36 SMA 184.62 ECC .20087 INC .3254 V1 29.657	
RC 198.821 GL	-2.66 GP -9.56 ZAL 138.41 ZAP	.37 AZP 89.71 TAL 333.16 TAP 178.53 RCA 147.54 APO 221.72 V2 24.801	

PLANETOCENTRIC CONIC

C3 15.673 VHL	3.959 DLA -7.67 RAL 348.88 RAD 6640.8 VEL 11.650 PTH 6.69 VHP 3.563 DPA -33.35 RAP 290.47 ECC 1.2579
LNCH AZMTH LNCH TIME L-I TIME	INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 14 59	2924.39 -27.64 86.42 204.54 130.40 18 3 43 1924.4 -10.24 68.59
60.00 18 2 48	2797.20 -23.16 78.73 208.30 123.95 18 49 25 1797.2 -8.01 59.25
70.00 19 4 16	2616.50 -19.08 66.75 210.97 118.88 19 47 52 1616.5 -5.93 46.16
80.00 20 21 0	2376.28 -16.08 50.13 212.58 115.50 21 0 36 1376.3 -4.37 28.89
90.00 21 46 8	2101.60 -14.95 30.48 213.13 114.29 22 21 9 1101.6 -3.78 9.02
100.00 23 3 31	1850.75 -16.08 11.50 212.58 115.50 23 34 42 850.8 -4.37 350.26
110.00 0 7 38	1663.32 -19.08 355.67 210.97 118.88 0 35 21 663.3 -5.93 335.08

DIFFERENTIAL CORRECTIONS

TDE 1.4919 TRA 3.8100 TC3-5.4983 BAU 1.1562	MID-COURSE EXECUTION ACCURACY	ORBIT DETERMINATION ACCURACY
RDE .3982 RRA .4167 RC3 -.4630 FAU .13942	SGT 7387.1 SGR 914.8 SG3 1284.3	ST 136.6 SR 30.2 SS 97.6
FDE 3.5191 FRA 8.6033 FC3-7.7010 BSP 12642	RRT .9213 RRF .9425 RTF .9785	CRT .9386 CRS -.9459 CST -.9996
BDE 1.5441 BRA 3.8327 BC3 5.5178 FSP 2370	SG8 7443.6 R23 .1001 R13 .9790	LSA 170.3 MSA 10.2 S5A 1.4
	SG1 7435.2 SG2 353.4 THA 6.52	EL1 139.5 EL2 10.2 ALF 11.80

LAUNCH DATE APR 20 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 14 1971

HELIOCENTRIC CONIC DISTANCE 335.267 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 34.842 GAL -5.05 AZL 91.97 HCA 110.06 SMA 240.33 ECC .38347 INC 1.9692 V1 29.648
 RP 207.38 LAP -1.85 LOP 319.34 VP 26.976 GAP 21.19 AZP 89.32 TAL 341.66 TAP 91.72 RCA 148.17 APO 332.49 V2 26.414
 RC 56.241 GL -10.95 GP 1.62 ZAL 124.39 ZAP 172.91 ETS 166.60 ZAE 172.48 ETE 118.21 ZAC 102.35 ETC 276.60 LVI -17.93

PLANETOCENTRIC CONIC
 CS 39.411 VHL 6.278 DLA -20.06 RAL 340.49 RAD 6650.3 VEL 12.621 PTH 7.47 VHP 10.464 DPA -17.28 RAP 314.97 ECC 1.6486
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 11 2895.38 -26.35 84.87 206.91 131.16 18 15 27 1895.4 -8.80 67.34
 60.00 18 30 45 2726.36 -20.41 74.76 212.02 125.54 19 16 11 1726.4 -4.92 55.82
 70.00 19 51 10 2469.97 -14.76 59.48 215.92 121.15 20 32 40 1490.0 -1.12 39.53
 80.00 21 27 8 2189.60 -10.32 39.26 218.51 118.17 22 3 38 1189.6 1.94 18.63
 90.00 23 1 30 1885.18 -6.54 17.83 219.45 117.06 23 32 56 885.2 3.19 356.94
 100.00 0 13 56 1664.07 -10.32 .63 218.51 118.17 0 41 40 664.1 1.94 340.00
 110.00 0 54 32 1536.79 -14.76 348.40 215.92 121.15 1 20 9 536.8 -1.12 326.45

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6320 TRA-1.3437 TC3 -.0556 BAU .0574 SGT 1429.1 SGR 563.2 SG3 143.4 ST 34.9 SR 26.2 S8 23.5
 RDE -.5715 RRA .1822 RC3 .0937 FAU .03642 RRT .0764 RRF -.0824 RTF -.7570 CRT .7661 CRS .6004 CST .9723
 PDE .3868 FRA 1.3099 FC3 -.8001 BSP 2300 SGB 1536.0 R23 -.0140 R13 -.7573 LSA 46.6 MSA 16.9 S8A 1.1
 BDE .8521 BRA 1.3560 BC3 .1090 FSP 188 SGI 1429.8 SG2 561.3 THA 2.04 EL1 41.2 EL2 14.2 ALF 34.67

LAUNCH DATE APR 20 1971 FLIGHT TIME 118.00 ARRIVAL DATE AUG 16 1971

HELIOCENTRIC CONIC DISTANCE 335.662 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 34.682 GAL -4.92 AZL 91.99 HCA 111.32 SMA 235.60 ECC .37092 INC 1.9852 V1 29.648
 RP 207.27 LAP -1.85 LOP 320.60 VP 26.782 GAP 20.69 AZP 89.28 TAL 341.72 TAP 93.04 RCA 148.23 APO 322.97 V2 26.426
 RC 56.362 GL -11.31 GP 1.68 ZAL 124.42 ZAP 172.07 ETS 167.61 ZAE 172.84 ETE 111.54 ZAC 102.36 ETC 276.69 LVI -18.13

PLANETOCENTRIC CONIC
 CS 37.238 VHL 6.102 DLA -20.37 RAL 340.72 RAD 6649.7 VEL 12.535 PTH 7.41 VHP 10.144 DPA -17.11 RAP 315.37 ECC 1.6128
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 25 2874.63 -25.42 83.78 206.29 131.68 18 17 20 1874.6 -7.77 66.45
 60.00 18 33 27 2704.36 -19.53 73.56 211.41 125.98 19 18 31 1704.4 -3.96 54.76
 70.00 19 54 28 2466.17 -13.92 58.15 215.32 121.51 20 35 35 1466.2 -.21 38.29
 80.00 21 31 9 2163.57 -9.48 37.79 217.93 118.44 22 7 13 1163.6 2.82 17.20
 90.00 23 5 55 1857.92 -7.69 16.27 218.89 117.30 23 36 53 857.9 4.06 355.41
 100.00 0 17 57 1636.05 -9.48 359.16 217.93 118.44 0 45 15 636.0 2.82 338.57
 110.00 0 57 51 1512.99 -13.92 347.07 215.32 121.51 1 23 4 513.0 -.21 327.20

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6168 TRA-1.3225 TC3 -.0345 BAU .0529 SGT 1446.2 SGR 561.1 SG3 153.2 ST 35.1 SR 26.1 S8 24.5
 RDE -.5533 RRA .1727 RC3 .1005 FAU .03740 RRT .0820 RRF -.0905 RTF -.7753 CRT .7642 CRS .6009 CST .9732
 PDE .4034 FRA 1.3669 FC3 -.8695 BSP 2218 SGB 1551.3 R23 -.0158 R13 -.7756 LSA 47.2 MSA 17.1 S8A 1.1
 BDE .8286 BRA 1.3337 BC3 .1062 FSP 207 SGI 1447.1 SG2 558.9 THA 2.14 EL1 41.4 EL2 14.3 ALF 34.25

LAUNCH DATE APR 20 1971 FLIGHT TIME 120.00 ARRIVAL DATE AUG 18 1971

HELIOCENTRIC CONIC DISTANCE 338.206 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 34.532 GAL -4.78 AZL 92.00 HCA 112.58 SMA 231.32 ECC .35891 INC 2.0015 V1 29.648
 RP 207.18 LAP -1.85 LOP 321.87 VP 26.598 GAP 20.20 AZP 89.23 TAL 341.78 TAP 94.36 RCA 148.30 APO 314.38 V2 26.438
 RC 56.568 GL -11.68 GP 1.74 ZAL 124.43 ZAP 171.21 ETS 168.44 ZAE 173.09 ETE 104.50 ZAC 102.37 ETC 276.78 LVI -18.31

PLANETOCENTRIC CONIC
 CS 35.233 VHL 5.936 DLA -20.68 RAL 340.93 RAD 6649.0 VEL 12.455 PTH 7.35 VHP 9.834 DPA -16.93 RAP 315.75 ECC 1.5798
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 40 2893.95 -24.47 82.71 205.70 132.17 18 19 14 1853.9 -6.74 65.57
 60.00 18 38 11 2682.38 -18.65 72.37 210.82 126.40 19 20 54 1682.4 -2.99 53.71
 70.00 19 57 52 2442.26 -13.06 56.83 214.75 121.84 20 38 34 1442.3 .71 37.04
 80.00 21 35 19 2137.28 -8.63 36.31 217.38 118.69 22 10 56 1137.3 3.71 15.75
 90.00 23 10 30 1830.28 -6.82 14.70 218.35 117.51 23 41 0 830.3 4.94 353.86
 100.00 0 22 7 1611.75 -8.63 357.68 217.38 118.69 0 48 59 611.8 3.71 337.12
 110.00 1 1 14 1469.08 -13.06 345.75 214.75 121.84 1 26 3 489.1 .71 325.96

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6167 TRA-1.3179 TC3 -.0301 BAU .0528 SGT 1485.6 SGR 558.7 SG3 163.6 ST 36.2 SR 26.0 S8 25.3
 RDE -.5357 RRA .1633 RC3 .1076 FAU .03867 RRT .0905 RRF -.0987 RTF -.7500 CRT .7669 CRS .5983 CST .9715
 PDE .4158 FRA 1.4217 FC3 -.9502 BSP 2353 SGB 1587.2 R23 -.0166 R13 -.7803 LSA 48.3 MSA 17.2 S8A 1.1
 BDE .8184 BRA 1.3280 BC3 .1117 FSP 222 SGI 1486.6 SG2 556.0 THA 2.27 EL1 42.2 EL2 14.3 ALF 35.14

LAUNCH DATE APR 20 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 20 1971

HELIOCENTRIC CONIC DISTANCE 340.899 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 34.389 GAL -4.65 AZL 92.02 HCA 113.64 SMA 227.43 ECC .34768 INC 2.0180 V1 29.648
 RP 207.09 LAP -1.85 LOP 323.13 VP 26.423 GAP 19.71 AZP 89.18 TAL 341.86 TAP 95.70 RCA 148.36 APO 306.50 V2 26.448
 RC 56.858 GL -12.06 GP 1.81 ZAL 124.43 ZAP 170.34 ETS 169.11 ZAE 173.24 ETE 97.34 ZAC 102.39 ETC 276.87 LVI -18.49

PLANETOCENTRIC CONIC
 CS 33.379 VHL 5.777 DLA -21.01 RAL 341.13 RAD 6648.3 VEL 12.381 PTH 7.30 VHP 9.535 DPA -16.76 RAP 316.12 ECC 1.5493
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 57 2833.30 -23.53 81.66 205.13 132.63 18 21 10 1833.3 -5.70 64.70
 60.00 18 38 59 2660.35 -17.76 71.19 210.25 126.79 19 23 19 1660.3 -2.02 52.65
 70.00 20 1 22 2418.19 -12.20 55.50 214.20 122.15 20 41 40 1418.2 1.63 35.78
 80.00 21 39 38 2110.63 -7.75 34.81 216.86 118.92 22 14 49 1110.6 4.60 14.28
 90.00 23 15 18 1802.15 -5.94 13.11 217.84 117.70 23 45 18 802.2 5.83 352.27
 100.00 0 26 26 1585.10 -7.75 356.18 216.86 118.92 0 52 51 585.1 4.60 335.65
 110.00 1 4 44 1465.01 -12.20 344.42 214.20 122.15 1 29 9 465.0 1.63 324.70

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6177 TRA-1.3103 TC3 -.0233 BAU .0524 SGT 1521.1 SGR 555.9 SG3 174.7 ST 37.1 SR 25.8 S8 26.2
 RDE -.5167 RRA .1540 RC3 .1150 FAU .03997 RRT .0991 RRF -.1076 RTF -.7858 CRT .7690 CRS .5958 CST .9701
 PDE .4290 FRA 1.4796 FC3 -1.0367 BSP 2456 SGB 1619.4 R23 -.0179 R13 -.7862 LSA 49.3 MSA 17.2 S8A 1.1
 BDE .8066 BRA 1.3193 BC3 .1174 FSP 238 SGI 1522.2 SG2 552.7 THA 2.39 EL1 42.9 EL2 14.3 ALF 32.19

LAUNCH DATE APR 20 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 22 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 34.255 GAL -4.52 AZL 92.03 HCA 115.11 SMA 223.89 ECC .33707 INC 2.0349 V1 29.648
 RP 207.01 LAP -1.84 LOP 324.40 VP 26.257 GAP 19.24 AZP 89.14 TAL 341.94 TAP 97.05 RCA 148.42 APO 299.35 V2 26.457
 RC 57.225 GL -12.44 GP 1.88 ZAL 124.40 ZAP 169.46 ETS 169.87 ZAE 173.28 ETE 90.33 ZAC 102.41 ETC 276.95 LVI -18.87

Planetocentric Conic: C3 31.865 VHL 5.627 DLA -21.36 RAL 341.32 RAD 6647.6 VEL 12.312 PTH 7.24 VHP 9.245 DPA -16.59 RAP 316.47 ECC 1.5211
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 36 15 2812.72 -22.57 80.63 204.59 133.06 18 23 8 1812.7 -4.67 63.83
 60.00 18 41 50 2638.31 -16.85 70.03 209.71 127.17 19 25 40 1636.3 -1.05 51.60
 70.00 20 4 57 2393.97 -11.31 54.18 213.67 122.44 20 44 51 1394.0 2.55 34.52
 80.00 21 44 7 2083.62 -6.86 33.31 216.36 119.13 22 18 50 1083.6 5.51 12.79
 90.00 23 20 15 1773.54 -5.03 11.50 217.36 117.87 23 49 48 773.5 6.74 350.66
 100.00 0 30 54 1558.10 -6.86 354.67 216.36 119.13 0 56 53 558.1 5.51 334.16
 110.00 1 8 19 1440.79 -11.31 343.10 213.67 122.44 1 32 20 440.8 2.55 323.44

Differential Corrections: TDE -.6154 TRA-1.3014 TC3 -.0140 BAU .0523 SGT 1554.7 3GR 592.8 5G3 186.5 ST 37.9 8R 25.7 88 27.1
 RDE -.5022 RRA .1447 RC3 .1229 FAU .04134 RRT .1084 RRF -.1174 RTF -.7925 CRT .7709 CRS .5936 CBT .9688
 FDE .4430 FRA 1.3410 FC3-1.1303 B8P 2541 SGB 1650.1 R23 -.0193 R13 -.7929 LSA 50.3 M8A 17.3 88A 1.2
 BDE .7943 BRA 1.3094 BC3 .1236 F8P 257 SGI 1556.0 5G2 549.1 THA 2.52 EL1 43.5 EL2 14.2 ALF 31.30

LAUNCH DATE APR 20 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 24 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 34.127 GAL -4.40 AZL 92.05 HCA 116.37 SMA 220.65 ECC .32707 INC 2.0522 V1 29.648
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.099 GAP 18.77 AZP 89.09 TAL 342.03 TAP 98.41 RCA 148.48 APO 292.81 V2 26.466
 RC 57.875 GL -12.84 GP 1.95 ZAL 124.36 ZAP 168.55 ETS 170.15 ZAE 173.24 ETE 83.74 ZAC 102.44 ETC 277.03 LVI -18.85

Planetocentric Conic: C3 30.079 VHL 5.484 DLA -21.71 RAL 341.51 RAD 6647.0 VEL 12.248 PTH 7.19 VHP 8.964 DPA -16.41 RAP 316.81 ECC 1.4950
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 35 2792.23 -21.62 79.62 204.08 133.48 18 25 7 1792.2 -3.64 62.97
 60.00 18 44 44 2616.28 -15.94 68.88 209.19 127.52 19 28 21 1616.3 -.08 50.58
 70.00 20 8 38 2369.62 -10.42 52.86 213.18 122.71 20 48 8 1369.6 3.48 33.25
 80.00 21 48 46 2056.27 -5.95 31.78 215.89 119.31 22 23 2 1056.3 6.42 11.27
 90.00 23 25 27 1744.40 -4.10 9.87 216.91 118.01 23 54 32 744.4 7.65 349.00
 100.00 0 35 34 1530.74 -5.95 353.15 215.89 119.31 1 1 8 530.7 6.42 332.64
 110.00 1 12 1 1416.44 -10.42 341.78 213.18 122.71 1 35 37 416.4 3.48 322.16

Differential Corrections: TDE -.6117 TRA-1.2908 TC3 -.0023 BAU .0527 SGT 1583.9 3GR 549.4 5G3 199.1 ST 38.7 8R 25.5 88 28.0
 RDE -.4862 RRA .1354 RC3 .1311 FAU .04279 RRT .1185 RRF -.1282 RTF -.7994 CRT .7726 CRS .5917 CBT .9678
 FDE .4577 FRA 1.6030 FC3-1.2315 B8P 2613 SGB 1678.4 R23 -.0209 R13 -.7999 LSA 51.2 M8A 17.4 88A 1.2
 BDE .7814 BRA 1.2978 BC3 .1311 F8P 277 SGI 1587.4 5G2 545.1 THA 2.66 EL1 44.1 EL2 14.2 ALF 30.80

LAUNCH DATE APR 20 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 26 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 34.007 GAL -4.28 AZL 92.07 HCA 117.64 SMA 217.68 ECC .31763 INC 2.0898 V1 29.648
 RP 206.87 LAP -1.83 LOP 326.93 VP 25.949 GAP 18.31 AZP 89.04 TAL 342.13 TAP 99.77 RCA 148.54 APO 288.82 V2 26.473
 RC 58.203 GL -13.24 GP 2.03 ZAL 124.30 ZAP 167.63 ETS 170.85 ZAE 173.12 ETE 77.73 ZAC 102.48 ETC 277.11 LVI -19.02

Planetocentric Conic: C3 28.612 VHL 5.349 DLA -22.08 RAL 341.88 RAD 6646.5 VEL 12.188 PTH 7.15 VHP 8.692 DPA -16.24 RAP 317.13 ECC 1.4709
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 58 2771.84 -20.66 78.83 203.60 133.86 18 27 8 1771.8 -2.62 62.12
 60.00 18 47 42 2594.27 -15.03 67.74 208.71 127.85 19 30 57 1594.3 .89 49.80
 70.00 20 12 27 2345.16 -9.52 51.54 212.71 122.96 20 51 32 1345.2 4.41 31.96
 80.00 21 53 37 2028.55 -5.03 30.25 215.45 119.47 22 27 25 1028.5 7.34 9.73
 90.00 23 30 54 1714.73 -3.15 8.20 216.49 118.12 23 59 29 714.7 8.57 347.31
 100.00 0 40 24 1503.02 -5.03 351.62 215.45 119.47 1 5 27 503.0 7.34 331.10
 110.00 1 15 49 1391.98 -9.52 340.46 212.71 122.96 1 39 1 392.0 4.41 320.88

Differential Corrections: TDE -.6074 TRA-1.2795 TC3 .0097 BAU .0536 SGT 1615.9 3GR 545.8 5G3 212.5 ST 39.4 8R 25.3 88 29.0
 RDE -.4708 RRA .1282 RC3 .1387 FAU .04432 RRT .1291 RRF -.1399 RTF -.7959 CRT .7743 CRS .5896 CBT .9678
 FDE .4727 FRA 1.6724 FC3-1.3410 B8P 2679 SGB 1705.8 R23 -.0229 R13 -.8068 LSA 52.2 M8A 17.5 88A 1.2
 BDE .7888 BRA 1.2857 BC3 .1401 F8P 298 SGI 1617.6 5G2 540.7 THA 2.61 EL1 44.6 EL2 14.1 ALF 29.74

LAUNCH DATE APR 20 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 28 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 33.893 GAL -4.16 AZL 92.09 HCA 118.91 SMA 214.96 ECC .30872 INC 2.0880 V1 29.648
 RP 206.82 LAP -1.83 LOP 328.20 VP 25.807 GAP 17.85 AZP 88.99 TAL 342.24 TAP 101.18 RCA 148.60 APO 281.32 V2 26.479
 RC 58.807 GL -13.85 GP 2.11 ZAL 124.22 ZAP 166.89 ETS 170.89 ZAE 172.96 ETE 72.41 ZAC 102.52 ETC 277.18 LVI -19.20

Planetocentric Conic: C3 27.294 VHL 5.221 DLA -22.46 RAL 341.84 RAD 6645.9 VEL 12.133 PTH 7.10 VHP 8.428 DPA -16.07 RAP 317.43 ECC 1.4489
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 20 2751.59 -19.70 77.65 203.14 134.23 18 29 11 1751.6 -1.60 61.27
 60.00 18 50 44 2572.32 -14.11 66.62 208.25 128.15 19 33 36 1572.3 1.85 48.45
 70.00 20 16 22 2320.20 -8.61 50.23 212.27 123.16 20 55 2 1320.6 5.34 30.67
 80.00 21 58 39 2000.46 -4.08 28.70 215.05 119.80 22 32 0 1000.5 8.26 6.18
 90.00 23 36 37 1684.48 -2.18 8.51 216.10 118.20 24 4 41 684.5 9.51 345.58
 100.00 0 45 27 1474.94 -4.08 380.07 215.05 119.80 1 10 2 474.9 8.26 329.52
 110.00 1 19 44 1367.42 -8.61 339.14 212.27 123.16 1 42 31 367.4 5.34 319.89

Differential Corrections: TDE -.6029 TRA-1.2680 TC3 .0232 BAU .0549 SGT 1644.9 3GR 542.0 5G3 226.9 ST 40.1 8R 25.1 88 29.8
 RDE -.4559 RRA .1170 RC3 .1488 FAU .04595 RRT .1410 RRF -.1527 RTF -.8123 CRT .7762 CRS .5878 CBT .9650
 FDE .4883 FRA 1.7433 FC3-1.4597 B8P 2749 SGB 1731.9 R23 -.0249 R13 -.8129 LSA 53.1 M8A 17.5 88A 1.2
 BDE .7558 BRA 1.2733 BC3 .1506 F8P 321 SGI 1646.9 5G2 536.0 THA 2.97 EL1 45.1 EL2 14.0 ALF 29.02

LAUNCH DATE APR 20 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 30 1971

Heliocentric Conic: RL 190.29 LAL -.00 LOL 209.27 VL 33.786 GAL -4.05 AZL 92.11 HCA 120.17 SMA 212.46 ECC .30031 INC 2.1065 V1 29.648
 RP 206.77 LAP -1.92 LOP 329.46 VP 25.671 GAP 17.41 AZP 88.94 TAL 342.36 TAP 102.84 RCA 148.45 APO 276.26 V2 26.485
 RC 59.485 GL -14.06 GP 2.20 ZAL 124.13 ZAP 165.73 ETS 171.18 ZAE 172.76 ETE 67.93 ZAC 102.56 ETC 277.25 LVI -19.97

Planetocentric Conic: C3 25.998 VHL 5.099 DLA -22.85 RAL 342.00 RAD 6645.4 VEL 12.061 PTH 7.06 VHP 8.173 DPA -15.89 RAP 317.71 ECC 1.4279
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 45 45 2731.48 -18.74 76.70 202.71 134.57 18 31 17 1731.5 -.50 60.43
 60.00 18 53 50 2550.44 -13.18 65.51 207.82 128.44 19 36 20 1580.4 2.81 47.40
 70.00 20 20 24 2295.94 -7.68 48.91 211.87 123.38 20 58 40 1295.9 6.27 29.37
 80.00 22 3 55 1971.98 -3.12 27.13 214.68 119.71 22 36 47 972.0 9.19 6.55
 90.00 23 42 37 1653.60 -1.18 4.79 215.76 118.26 24 10 11 653.6 10.45 343.80
 100.00 0 50 42 1446.46 -3.12 348.50 214.68 119.71 1 14 49 446.5 9.19 327.92
 110.00 1 23 46 1342.76 -7.68 337.83 211.87 123.38 1 46 9 342.8 6.27 318.29

Differential Corrections: TDE -.5976 TRA-1.2556 TC3 .0376 BAV .0586 SGT 1672.3 SGR 538.0 SG3 242.2 ST 40.7 SR 24.9 SS 30.9
 RDE -.4415 RRA .1077 RC3 .1584 FAU .04769 RRT .1537 RRF -.1668 RTF -.8185 CRT .7781 CRS .5860 CST .9637
 FDE .5044 FRA 1.8180 FC3-1.5880 B8P 2802 SGB 1756.7 R23 -.0272 R13 -.8191 LSA 54.0 MSA 17.6 SSA 1.2
 BDE .7430 BRA 1.2602 BC3 .1628 FSP 347 SGI 1674.6 SG2 530.9 THA 3.15 EL1 45.6 EL2 13.9 ALF 26.34

LAUNCH DATE APR 20 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 1 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 33.685 GAL -3.94 AZL 92.13 HCA 121.44 SMA 210.15 ECC .29238 INC 2.1256 V1 29.648
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.542 GAP 16.98 AZP 88.89 TAL 342.48 TAP 103.93 RCA 148.71 APO 271.60 V2 26.489
 RC 60.233 GL -14.48 GP 2.29 ZAL 124.03 ZAP 164.74 ETS 171.44 ZAE 172.56 ETE 63.96 ZAC 102.62 ETC 277.32 LVI -19.54

Planetocentric Conic: C3 24.836 VHL 4.984 DLA -23.25 RAL 342.14 RAD 6644.9 VEL 12.034 PTH 7.02 VHP 7.926 DPA -15.72 RAP 317.97 ECC 1.4087
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 13 2711.55 -17.79 75.77 202.31 134.89 18 33 25 1711.5 .41 59.60
 60.00 18 57 0 2528.64 -12.26 64.41 207.43 128.70 19 39 9 1528.6 3.77 46.36
 70.00 20 24 34 2271.20 -6.76 47.60 211.50 123.56 21 2 25 1271.2 7.20 28.06
 80.00 22 9 24 1943.09 -2.15 25.54 214.35 119.79 22 41 47 943.1 10.13 4.92
 90.00 23 48 57 1622.01 -1.16 3.03 215.45 118.26 24 15 59 622.0 11.40 341.97
 100.00 0 56 12 1417.56 -2.15 346.91 214.35 119.79 1 19 50 417.6 10.13 326.29
 110.00 1 27 56 1316.02 -6.76 336.92 211.50 123.56 1 49 54 316.0 7.20 316.98

Differential Corrections: TDE -.5922 TRA-1.2423 TC3 .0526 BAV .0586 SGT 1697.9 SGR 533.9 SG3 258.5 ST 41.3 SR 24.7 SS 31.9
 RDE -.4276 RRA .0985 RC3 .1683 FAU .04954 RRT .1678 RRF -.1821 RTF -.8241 CRT .7803 CRS .5844 CST .9622
 FDE .5210 FRA 1.6960 FC3-1.7268 B8P 2859 SGB 1779.8 R23 -.0298 R13 -.8248 LSA 54.9 MSA 17.6 SSA 1.2
 BDE .7305 BRA 1.2462 BC3 .1764 FSP 373 SGI 1700.5 SG2 525.5 THA 3.34 EL1 46.0 EL2 13.8 ALF 27.70

LAUNCH DATE APR 20 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 3 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 33.589 GAL -3.83 AZL 92.15 HCA 122.71 SMA 208.03 ECC .28489 INC 2.1451 V1 29.648
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.419 GAP 16.55 AZP 88.84 TAL 342.61 TAP 105.32 RCA 148.76 APO 267.30 V2 26.492
 RC 61.050 GL -14.91 GP 2.39 ZAL 123.92 ZAP 163.74 ETS 171.66 ZAE 172.36 ETE 60.77 ZAC 102.68 ETC 277.30 LVI -19.72

Planetocentric Conic: C3 23.762 VHL 4.873 DLA -23.66 RAL 342.29 RAD 6644.5 VEL 11.989 PTH 6.98 VHP 7.687 DPA -15.55 RAP 318.21 ECC 1.3911
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 50 44 2691.79 -16.84 74.86 201.95 135.18 18 35 36 1691.8 1.40 58.78
 60.00 19 0 14 2506.93 -11.33 63.32 207.96 128.94 19 42 1 1506.9 4.72 45.32
 70.00 20 28 52 2246.37 -5.82 46.29 211.16 123.71 21 6 18 1246.4 8.13 26.74
 80.00 22 15 9 1913.73 -1.15 23.93 214.05 119.84 22 47 3 913.7 11.07 3.25
 90.00 23 55 39 1589.82 .88 1.22 215.18 118.27 24 22 8 589.6 12.36 340.08
 100.00 1 1 57 1388.20 -1.15 345.30 214.05 119.84 1 25 5 388.2 11.07 324.61
 110.00 1 32 14 1293.19 -5.82 335.21 211.16 123.71 1 53 48 293.2 8.13 315.66

Differential Corrections: TDE -.5863 TRA-1.2284 TC3 .0685 BAV .0608 SGT 1721.7 SGR 529.7 SG3 275.8 ST 41.8 SR 24.4 SS 32.9
 RDE -.4142 RRA .0892 RC3 .1788 FAU .05152 RRT .1827 RRF -.1987 RTF -.8295 CRT .7828 CRS .5824 CST .9606
 FDE .5375 FRA 1.9779 FC3-1.8771 B8P 2909 SGB 1801.4 R23 -.0325 R13 -.8302 LSA 55.8 MSA 17.7 SSA 1.2
 BDE .7178 BRA 1.2316 BC3 .1915 FSP 401 SGI 1724.7 SG2 519.8 THA 3.54 EL1 46.4 EL2 13.7 ALF 27.11

LAUNCH DATE APR 20 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 5 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 33.498 GAL -3.73 AZL 92.17 HCA 123.98 SMA 206.07 ECC .27783 INC 2.1653 V1 29.648
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.302 GAP 16.13 AZP 88.79 TAL 342.75 TAP 106.73 RCA 148.82 APO 263.32 V2 26.495
 RC 61.933 GL -15.35 GP 2.50 ZAL 123.79 ZAP 162.72 ETS 171.85 ZAE 172.17 ETE 58.20 ZAC 102.75 ETC 277.43 LVI -19.89

Planetocentric Conic: C3 22.788 VHL 4.772 DLA -24.08 RAL 342.43 RAD 6644.0 VEL 11.948 PTH 6.95 VHP 7.456 DPA -15.38 RAP 318.42 ECC 1.3747
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 53 17 2672.24 -15.89 73.96 201.61 135.46 18 37 49 1672.2 2.38 57.96
 60.00 19 3 34 2485.34 -10.41 62.23 206.73 129.16 19 44 59 1485.3 5.67 44.24
 70.00 20 33 19 2221.47 -4.88 44.98 210.86 123.85 21 10 20 1221.5 9.08 25.41
 80.00 22 21 11 1883.87 -1.14 22.29 213.80 119.86 22 52 35 883.9 12.01 1.53
 90.00 0 6 40 1556.32 1.95 359.36 214.97 118.22 0 32 37 556.3 13.33 338.11
 100.00 1 7 59 1358.34 -1.14 343.66 213.80 119.86 1 30 37 358.3 12.01 322.90
 110.00 1 36 41 1268.29 -4.88 333.89 210.86 123.85 1 57 49 268.3 9.08 314.33

Differential Corrections: TDE -.5807 TRA-1.2142 TC3 .0840 BAV .0632 SGT 1744.4 SGR 525.4 SG3 294.3 ST 42.3 SR 24.1 SS 34.0
 RDE -.4013 RRA .0799 RC3 .1898 FAU .05360 RRT .1993 RRF -.2170 RTF -.8343 CRT .7855 CRS .5813 CST .9590
 FDE .5354 FRA 2.0643 FC3-2.0382 B8P 2961 SGB 1821.8 R23 -.0356 R13 -.8352 LSA 56.7 MSA 17.7 SSA 1.2
 BDE .7059 BRA 1.2168 BC3 .2075 FSP 432 SGI 1747.9 SG2 513.9 THA 3.76 EL1 46.8 EL2 13.5 ALF 26.53

LAUNCH DATE APR 20 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 7 1971

HELIOCENTRIC CONIC

DISTANCE 369.782

EARTH TO MARS

RL 150.29 LAL -1.00 LOL 209.27 VL 33.413 GAL -3.63 AZL 92.19 MCA 125.25 BMA 204.26 ECC .27118 INC 2.1660 V1 29.648
RP 206.68 LAP -1.79 LOP 334.54 VP 25.190 GAP 15.72 AZP 38.74 TAL 342.88 TAP 108.13 RCA 148.87 APO 259.64 V2 26.496
RC 62.879 GL -15.79 GP 2.61 ZAL 123.85 ZAP 161.87 ETS 172.01 ZAE 172.01 ETE 56.20 ZAC 102.83 ETC 277.48 LVI -20.06

PLANETOCENTRIC CONIC

C3 21.849 VHL 4.674 DLA -24.51 RAL 342.56 RAD 6643.7 VEL 11.910 PTH 6.92 VHP 7.231 DPA -15.20 RAP 318.61 ECC 1.3596
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 55 53 2652.90 -14.95 73.09 201.31 135.71 18 40 6 1652.9 3.35 57.15
60.00 19 6 58 2463.67 -9.48 61.19 206.44 129.36 19 48 2 1463.9 6.61 43.24
70.00 20 37 55 2196.48 -3.93 43.66 210.60 123.95 21 14 31 1196.5 9.99 24.07
80.00 22 27 31 1853.43 .89 20.62 213.59 119.85 22 58 25 853.4 12.97 359.78
90.00 0 14 14 1521.92 3.06 357.44 214.80 118.13 0 39 36 921.9 14.32 336.07
100.00 1 14 19 1327.91 .89 341.99 213.59 119.85 1 36 27 327.9 12.97 321.14
110.00 1 41 17 1243.29 -3.93 332.56 210.60 123.95 2 2 0 243.3 9.99 312.98

DIFFERENTIAL CORRECTIONS

TDE -.5746 TRA-1.1995 TC3 .0995 BAW .0656
RDE -.3889 RRA .0705 RC3 .2012 FAU .05581
FDE .5733 FRA 2.1555 FC3-2.2114 BSP 3006
BDE .6938 BRA 1.2016 BC3 .2245 FSP 484

MID-COURSE EXECUTION ACCURACY

SGT 1765.2 SGR 521.2 SG3 313.9
RRT .2172 RRF -.2367 RTF -.8388
SGB 1840.5 R23 -.0390 R13 -.8398
SG1 1769.1 SG2 507.6 THA 4.00

ORBIT DETERMINATION ACCURACY

ST 42.8 SR 23.9 88 35.0
CRT .7884 CR8 .5800 CST .9372
LSA 57.5 M8A 17.7 88A 1.2
EL1 47.1 EL2 13.3 ALP 26.00

LAUNCH DATE APR 20 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 9 1971

HELIOCENTRIC CONIC

DISTANCE 373.351

EARTH TO MARS

RL 150.29 LAL -1.00 LOL 209.27 VL 33.332 GAL -3.53 AZL 92.21 MCA 126.52 BMA 202.58 ECC .26489 INC 2.2074 V1 29.648
RP 206.67 LAP -1.77 LOP 335.81 VP 25.083 GAP 15.32 AZP 38.69 TAL 343.02 TAP 109.54 RCA 148.92 APO 256.24 V2 26.496
RC 63.888 GL -16.24 GP 2.72 ZAL 123.51 ZAP 160.59 ETS 172.15 ZAE 171.88 ETE 54.74 ZAC 102.92 ETC 277.53 LVI -20.23

PLANETOCENTRIC CONIC

C3 20.998 VHL 4.582 DLA -24.95 RAL 342.69 RAD 6643.3 VEL 11.874 PTH 6.89 VHP 7.014 DPA -15.03 RAP 318.77 ECC 1.3456
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 58 32 2633.74 -14.01 72.23 201.04 135.95 18 42 26 1633.7 4.31 56.35
60.00 19 10 27 2442.47 -8.56 60.14 206.17 129.53 19 51 10 1442.5 7.54 42.20
70.00 20 42 41 2171.32 -2.97 42.35 210.37 124.04 21 18 52 1171.3 10.91 22.71
80.00 22 34 13 1822.24 1.95 18.91 213.43 119.80 23 4 35 822.2 13.93 357.96
90.00 0 22 22 1486.11 4.21 355.43 214.68 117.99 0 47 8 486.1 15.32 333.92
100.00 1 21 1 1296.72 1.95 340.27 213.43 119.80 1 42 37 296.7 13.93 319.33
110.00 1 46 3 1218.14 -2.97 331.26 210.37 124.04 2 6 21 218.1 10.91 311.62

DIFFERENTIAL CORRECTIONS

TDE -.5554 TRA-1.1713 TC3 .1392 BAW .0718
RDE -.3889 RRA .0611 RC3 .2137 FAU .05824
FDE .5900 FRA 2.2498 FC3-2.4013 BSP 2886
BDE .6711 BRA 1.1728 BC3 .2550 FSP 497

MID-COURSE EXECUTION ACCURACY

SGT 1762.4 SGR 517.0 SG3 334.8
RRT .2369 RRF -.2581 RTF -.8498
SGB 1837.0 R23 -.0402 R13 -.8508
SG1 1767.4 SG2 500.9 THA 4.32

ORBIT DETERMINATION ACCURACY

ST 42.3 SR 23.6 88 36.0
CRT .7882 CR8 .5780 CST .9586
LSA 57.7 M8A 17.8 88A 1.2
EL1 46.6 EL2 13.2 ALP 25.93

LAUNCH DATE APR 20 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 11 1971

HELIOCENTRIC CONIC

DISTANCE 376.970

EARTH TO MARS

RL 150.29 LAL -1.00 LOL 209.27 VL 33.256 GAL -3.44 AZL 92.23 MCA 127.79 BMA 201.02 ECC .25898 INC 2.2295 V1 29.648
RP 206.68 LAP -1.78 LOP 337.08 VP 24.981 GAP 14.92 AZP 38.83 TAL 343.17 TAP 110.95 RCA 148.96 APO 253.08 V2 26.496
RC 64.956 GL -16.69 GP 2.85 ZAL 123.38 ZAP 159.49 ETS 172.27 ZAE 171.79 ETE 53.76 ZAC 103.02 ETC 277.57 LVI -20.40

PLANETOCENTRIC CONIC

C3 20.215 VHL 4.496 DLA -25.39 RAL 342.82 RAD 6642.9 VEL 11.842 PTH 6.86 VHP 6.804 DPA -14.86 RAP 318.90 ECC 1.3327
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 1 15 2614.90 -13.09 71.39 200.80 136.18 18 44 50 1614.9 5.26 59.55
60.00 19 14 2 2421.30 -7.64 59.11 205.95 129.69 19 54 23 1421.3 8.46 41.17
70.00 20 47 37 2146.17 -2.01 41.03 210.18 124.10 21 23 23 1146.2 11.83 21.34
80.00 22 41 17 1790.43 3.02 17.16 213.32 119.72 23 11 7 790.4 14.89 358.09
90.00 0 31 8 1448.83 5.39 353.34 214.62 117.80 0 55 16 448.8 16.35 331.66
100.00 1 28 5 1264.89 3.02 338.52 213.32 119.72 1 49 9 264.9 14.89 317.46
110.00 1 50 59 1192.99 -2.01 329.95 210.18 124.10 2 10 52 193.0 11.83 310.25

DIFFERENTIAL CORRECTIONS

TDE -.5558 TRA-1.1618 TC3 .1421 BAW .0722
RDE -.3853 RRA .0513 RC3 .2261 FAU .06072
FDE .6103 FRA 2.3514 FC3-2.6006 BSP 3005
BDE .6651 BRA 1.1629 BC3 .2670 FSP 535

MID-COURSE EXECUTION ACCURACY

SGT 1769.9 SGR 513.1 SG3 357.0
RRT .2581 RRF -.2817 RTF -.8598
SGB 1862.0 R23 -.0438 R13 -.8510
SG1 1785.2 SG2 494.2 THA 4.58

ORBIT DETERMINATION ACCURACY

ST 43.1 SR 23.3 88 37.2
CRT .7940 CR8 .5782 CST .9539
LSA 58.9 M8A 17.8 88A 1.2
EL1 47.3 EL2 12.9 ALP 26.24

LAUNCH DATE APR 20 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 13 1971

HELIOCENTRIC CONIC

DISTANCE 380.636

EARTH TO MARS

RL 150.29 LAL -1.00 LOL 209.27 VL 33.184 GAL -3.35 AZL 92.25 MCA 129.08 BMA 199.88 ECC .25341 INC 2.2525 V1 29.648
RP 206.70 LAP -1.78 LOP 338.38 VP 24.884 GAP 14.84 AZP 38.88 TAL 343.31 TAP 112.36 RCA 149.01 APO 250.16 V2 26.494
RC 66.082 GL -17.15 GP 2.98 ZAL 123.18 ZAP 158.37 ETS 172.37 ZAE 171.74 ETE 53.27 ZAC 103.14 ETC 277.61 LVI -20.57

PLANETOCENTRIC CONIC

C3 19.491 VHL 4.415 DLA -25.84 RAL 342.98 RAD 6642.6 VEL 11.811 PTH 6.83 VHP 6.801 DPA -14.69 RAP 319.01 ECC 1.3208
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 4 1 2596.28 -12.17 70.57 200.59 136.36 18 47 17 1596.3 6.19 54.77
60.00 19 17 43 2400.27 -6.72 58.09 205.76 129.83 19 57 43 1400.3 9.37 40.13
70.00 20 52 44 2120.89 -1.05 39.71 210.04 124.14 21 28 5 1120.9 12.74 19.95
80.00 22 48 47 1787.64 4.13 15.35 213.26 119.60 23 18 5 757.6 15.87 384.14
90.00 0 40 42 1409.43 6.64 351.11 214.63 117.55 1 4 11 409.4 17.40 329.29
100.00 1 35 35 1232.11 4.13 336.72 213.26 119.60 1 56 7 232.1 15.87 315.51
110.00 1 56 6 1187.71 -1.05 328.63 210.04 124.14 2 13 34 187.7 12.74 308.87

DIFFERENTIAL CORRECTIONS

TDE -.5525 TRA-1.1483 TC3 .1501 BAW .0736
RDE -.3542 RRA .0414 RC3 .2392 FAU .06337
FDE .6304 FRA 2.4584 FC3-2.8148 BSP 3085
BDE .6563 BRA 1.1490 BC3 .2824 FSP 575

MID-COURSE EXECUTION ACCURACY

SGT 1809.2 SGR 509.4 SG3 380.7
RRT .2808 RRF -.3072 RTF -.8512
SGB 1879.5 R23 -.0515 R13 -.8526
SG1 1815.3 SG2 487.3 THA 4.87

ORBIT DETERMINATION ACCURACY

ST 43.6 SR 23.0 88 38.3
CRT .7992 CR8 .5782 CST .9513
LSA 59.8 M8A 17.8 88A 1.2
EL1 47.7 EL2 12.7 ALP 24.72

LAUNCH DATE APR 20 1971 FLIGHT TIME 140.00 ARRIVAL DATE SEP 15 1971

HELIOCENTRIC CONIC												DISTANCE 384.344												EARTH TO MARS																																									
RL	150.29	LAL	-.00	LOL	209.27	VL	33.117	GAL	-3.27	AZL	92.28	HCA	130.32	SMA	198.25	ECC	.24816	INC	2.2762	V1	29.648	RP	206.72	LAP	-1.74	LOP	339.62	VP	24.791	GAP	14.16	AZP	88.53	TAL	343.45	TAP	113.78	RCA	149.05	APO	247.44	V2	26.491	RC	67.265	GL	-17.62	GP	3.13	ZAL	123.03	ZAP	157.21	ETS	172.46	ZAE	171.74	ETE	53.26	ZAC	103.26	ETC	277.64	LVI	-20.74
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	18.824	VHL	4.339	DLA	-26.29	RAL	343.09	RAD	6642.3	VEL	11.783	PTH	6.81	VHP	6.405	DPA	-14.52	RAP	319.08	ECC	1.3098	ST	44.0	SR	22.7	SS	39.5	CR1	.8046	CR5	.5787	CBT	.9487	LSA	60.7	MSA	17.9	SSA	1.2	EL1	47.9	EL2	12.4	ALF	24.29																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	18 6 51	2577.92	-11.27	69.77	200.42	136.54	18 49 49	1577.9	7.11	53.99																																																							
60.00	19 21 30	2379.37	-5.81	57.07	205.61	129.95	20 1 9	1379.4	10.27	39.10																																																							
70.00	20 58 3	2095.46	-.07	38.39	209.94	124.15	21 32 59	1095.5	13.66	18.55																																																							
80.00	22 36 49	1723.71	5.26	13.48	213.25	113.43	23 25 33	723.7	16.85	352.11																																																							
90.00	0 51 18	1367.23	7.96	348.72	214.72	117.23	1 14 5	367.2	18.48	326.63																																																							
100.00	1 43 37	1198.18	5.26	334.84	213.25	119.43	2 3 35	198.2	16.85	313.48																																																							
110.00	2 1 25	1142.28	-.07	327.30	209.94	124.15	2 20 28	142.3	13.66	307.46																																																							

LAUNCH DATE APR 20 1971 FLIGHT TIME 150.00 ARRIVAL DATE SEP 17 1971

HELIOCENTRIC CONIC												DISTANCE 388.092												EARTH TO MARS																																									
RL	150.29	LAL	-.00	LOL	209.27	VL	33.053	GAL	-3.19	AZL	92.30	HCA	131.59	SMA	197.01	ECC	.24322	INC	2.3008	V1	29.648	RP	206.75	LAP	-1.72	LOP	340.89	VP	24.701	GAP	13.79	AZP	88.47	TAL	343.59	TAP	115.19	RCA	149.09	APO	244.92	V2	26.487	RC	68.502	GL	-18.09	GP	3.28	ZAL	122.86	ZAP	156.03	ETS	172.53	ZAE	171.78	ETE	53.74	ZAC	103.40	ETC	277.66	LVI	-20.91
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	18.209	VHL	4.267	DLA	-26.76	RAL	343.22	RAD	6642.0	VEL	11.757	PTH	6.78	VHP	6.215	DPA	-14.34	RAP	319.12	ECC	1.2997	ST	44.2	SR	22.4	SS	40.7	CR1	.8104	CR5	.5802	CST	.9462	LSA	61.5	MSA	17.9	SSA	1.2	EL1	48.1	EL2	12.1	ALF	23.92																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	18 9 44	2559.82	-10.37	68.98	200.29	136.70	18 52 24	1559.8	8.01	53.22																																																							
60.00	19 25 23	2358.63	-4.90	56.08	205.50	130.05	20 4 41	1358.6	11.16	38.08																																																							
70.00	21 3 35	2069.86	.90	37.05	209.89	124.14	21 38 5	1069.9	14.57	17.12																																																							
80.00	23 5 28	1688.36	6.44	11.51	213.31	119.22	23 33 36	688.4	17.86	349.97																																																							
90.00	1 3 18	1321.05	9.39	346.08	214.89	116.80	1 25 19	321.1	19.62	323.72																																																							
100.00	1 52 16	1162.84	6.44	332.88	213.31	119.22	2 11 39	162.8	17.86	311.34																																																							
110.00	2 6 58	1116.68	.90	325.97	209.89	124.14	2 25 34	116.7	14.57	308.04																																																							

LAUNCH DATE APR 20 1971 FLIGHT TIME 152.00 ARRIVAL DATE SEP 19 1971

HELIOCENTRIC CONIC												DISTANCE 391.876												EARTH TO MARS																																									
RL	150.29	LAL	-.00	LOL	209.27	VL	32.993	GAL	-3.11	AZL	92.33	HCA	132.86	SMA	195.85	ECC	.23858	INC	2.3264	V1	29.648	RP	206.79	LAP	-1.71	LOP	342.16	VP	24.616	GAP	13.43	AZP	88.42	TAL	343.73	TAP	116.59	RCA	149.13	APO	242.58	V2	26.483	RC	69.791	GL	-18.56	GP	3.44	ZAL	122.88	ZAP	154.81	ETS	172.59	ZAE	171.66	ETE	54.74	ZAC	103.55	ETC	277.68	LVI	-21.08
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	17.643	VHL	4.200	DLA	-27.22	RAL	343.38	RAD	6641.8	VEL	11.733	PTH	6.76	VHP	6.032	DPA	-14.17	RAP	319.13	ECC	1.2904	ST	44.3	SR	22.1	SS	41.9	CR1	.8188	CR5	.5820	CST	.9434	LSA	62.3	MSA	18.0	SSA	1.2	EL1	48.1	EL2	11.7	ALF	23.62																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	18 12 43	2541.99	-9.49	68.22	200.19	136.85	18 55 5	1542.0	8.90	52.46																																																							
60.00	19 29 23	2338.04	-4.00	55.09	205.43	130.14	20 8 21	1338.0	12.04	37.05																																																							
70.00	21 9 22	2044.04	1.89	35.70	209.88	124.11	21 43 28	1044.0	15.47	15.67																																																							
80.00	23 14 52	1651.18	7.67	9.44	213.44	118.94	23 42 23	691.2	18.89	347.69																																																							
90.00	1 17 24	1268.89	10.98	343.06	215.19	116.22	1 38 33	268.7	20.85	320.38																																																							
100.00	2 1 40	1125.66	7.67	330.81	213.44	118.94	2 20 25	125.7	18.89	309.05																																																							
110.00	2 12 44	1090.86	1.89	324.62	209.88	124.11	2 30 55	90.9	15.47	304.59																																																							

LAUNCH DATE APR 20 1971 FLIGHT TIME 154.00 ARRIVAL DATE SEP 21 1971

HELIOCENTRIC CONIC												DISTANCE 395.893												EARTH TO MARS																																									
RL	150.29	LAL	-.00	LOL	209.27	VL	32.937	GAL	-3.04	AZL	92.35	HCA	134.13	SMA	194.78	ECC	.23421	INC	2.3531	V1	29.648	RP	206.84	LAP	-1.69	LOP	343.43	VP	24.534	GAP	13.08	AZP	88.36	TAL	343.87	TAP	118.00	RCA	149.16	APO	240.40	V2	26.477	RC	71.130	GL	-19.05	GP	3.61	ZAL	122.51	ZAP	153.58	ETS	172.64	ZAE	171.97	ETE	56.29	ZAC	103.72	ETC	277.69	LVI	-21.26
PLANETOCENTRIC CONIC												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY																																									
C3	17.124	VHL	4.138	DLA	-27.69	RAL	343.50	RAD	6641.5	VEL	11.711	PTH	6.74	VHP	5.858	DPA	-14.00	RAP	319.11	ECC	1.2818	ST	44.4	SR	21.8	SS	43.1	CR1	.8237	CR5	.5847	CST	.9404	LSA	63.0	MSA	18.1	SSA	1.2	EL1	48.1	EL2	11.4	ALF	23.37																				
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT	ASC	INJ AZMTH	INJ TIME	PO	CST	TIM	INJ 2	LAT	INJ 2	LONG																																																		
50.00	18 15 45	2524.43	-8.62	67.46	200.13	136.98	18 57 50	1524.4	9.77	51.70																																																							
60.00	19 33 31	2317.60	-3.10	54.11	205.40	130.20	20 12 8	1317.6	12.91	36.02																																																							
70.00	21 15 24	2017.97	2.89	34.34	209.92	124.05	21 49 2	1018.0	16.38	14.19																																																							
80.00	23 25 13	1611.56	8.97	7.22	213.64	118.60	23 52 5	611.6	19.95	345.22																																																							
90.00	1 35 16	1204.89	12.87	339.33	215.67	115.40	1 55 20	204.9	22.25	316.22																																																							
100.00	2 12 1	1086.03	8.97	328.99	213.64	118.60	2 30 7	86.0	19.95	306.59																																																							
110.00	2 18 48	1064.79	2.89	323.28	209.92	124.05	2 38 31	64.8	16.38	303.11																																																							

LAUNCH DATE APR 20 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

DISTANCE 399.542

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.883 GAL -2.97 AZL 92.38 HCA 139.40 SMA 193.79 ECC .29010 INC 2.3609 V1 29.648
RP 206.90 LAP -1.67 LOP 344.69 VP 24.455 GAP 12.73 AZP 86.30 TAL 344.00 TAP 119.40 RCA 149.20 APO 238.36 V2 26.470
RC 72.517 GL -15.53 GP 3.80 ZAL 122.33 ZAP 152.28 ETS 172.28 ZAE 172.11 EYE 58.44 ZAC 193.90 ETC 277.69 LVI -21.43

PLANETOCENTRIC CONIC

C3 16.648 VHL 4.080 DLA -28.17 RAL 343.65 RAD 664.13 VEL 11.691 PTH 6.73 VHP 5.664 DPA -13.82 RAP 319.05 ECC 1.2740
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 18 53 2507.15 -7.75 66.72 200.10 137.09 19 0 40 1507.1 10.63 50.95
60.00 19 37 46 2257.30 -2.21 53.13 205.41 130.25 20 16 4 1297.3 13.77 34.99
70.00 21 21 44 1991.58 3.89 32.96 210.02 123.96 21 34 55 991.6 17.28 12.68
80.00 23 36 51 1568.90 10.37 4.78 213.94 118.16 24 2 59 568.5 21.05 342.50
90.00 2 4 16 1105.71 15.65 333.41 216.61 113.83 2 22 42 105.7 24.17 309.59
100.00 2 23 39 1042.97 10.37 326.15 213.94 118.16 2 41 2 43.0 21.05 303.87
110.00 2 25 6 1038.40 3.89 321.88 210.02 123.96 2 42 24 38.4 17.28 301.59

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5214 TRA-1.0531 TC3 .1938 BAU .0825 SGT 1837.2 SGR 500.7 S63 522.0 ST 44.4 SR 21.4 S8 44.4
RDE -.3053 RRA -.0122 RC3 .3162 FAU .07924 RRT .4211 RRF -.4661 RTF -.8587 CRT .8317 CRS .5885 CST .9371
FDE .7418 FRA 3.0821 FC3-4.1209 BSP 3209 SGB 1904.2 R23 -.0896 R13 -.8617 LSA 63.8 MSA 18.1 S8A 1.2
BDE .6042 BRA 1.0532 BC3 .3709 FSP 615 S61 1850.0 S62 451.0 THA 6.96 EL1 48.1 EL2 11.0 ALF 23.15

LAUNCH DATE APR 20 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

DISTANCE 403.420

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.833 GAL -2.91 AZL 92.41 HCA 136.66 SMA 192.86 ECC .22624 INC 2.4100 V1 29.648
RP 206.96 LAP -1.65 LOP 345.96 VP 24.380 GAP 12.40 AZP 88.25 TAL 344.13 TAP 120.80 RCA 149.23 APO 236.50 V2 26.462
RC 73.950 GL -20.03 GP 3.99 ZAL 122.15 ZAP 150.96 ETS 172.71 ZAE 172.27 ETE 61.27 ZAC 104.10 ETC 277.69 LVI -21.61

PLANETOCENTRIC CONIC

C3 16.211 VHL 4.028 DLA -28.65 RAL 343.81 RAD 664.11 VEL 11.673 PTH 6.71 VHP 5.519 DPA -13.65 RAP 318.95 ECC 1.2668
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 22 6 2490.08 -6.90 66.00 200.11 137.19 19 3 36 1490.1 11.47 50.21
60.00 19 42 11 2277.07 -1.32 52.17 205.46 130.28 20 20 8 1277.1 14.62 33.96
70.00 21 28 24 1964.69 4.91 31.55 210.16 123.84 22 1 8 964.7 18.18 11.12
80.00 23 50 23 1520.02 11.91 2.01 214.36 117.58 24 15 43 520.0 22.24 339.39
85.23 1 47 10 1156.87 17.99 338.18 217.31 112.68 2 6 27 156.9 25.78 313.78
100.00 2 37 10 6282.53 11.91 301.28 214.36 117.58 4 21 53 5282.5 22.24 278.67
110.00 2 31 48 1011.51 4.91 320.47 210.16 123.84 2 48 37 11.5 18.18 300.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5014 TRA-1.0173 TC3 .2270 BAU .0878 SGT 1806.6 SGR 502.1 S63 554.8 ST 43.4 SR 21.1 S8 45.4
RDE -.2962 RRA -.0237 RC3 .3353 FAU .08331 RRT .4559 RRF -.5033 RTF -.8649 CRT .8369 CRS .5897 CST .9344
FDE .7581 FRA 3.2185 FC3-4.4494 BSP 3047 SGB 1875.1 R23 -.0941 R13 -.8685 LSA 63.7 MSA 18.1 S8A 1.2
BDE .5823 BRA 1.0176 BC3 .4050 FSP 865 S61 1822.0 S62 443.1 THA 7.68 EL1 47.1 EL2 10.6 ALF 23.39

LAUNCH DATE APR 20 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

DISTANCE 407.323

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.787 GAL -2.85 AZL 92.44 HCA 137.93 SMA 192.01 ECC .22263 INC 2.4405 V1 29.648
RP 207.04 LAP -1.64 LOP 347.23 VP 24.307 GAP 12.07 AZP 88.19 TAL 344.26 TAP 122.16 RCA 149.26 APO 234.75 V2 26.454
RC 73.428 GL -20.53 GP 4.20 ZAL 121.97 ZAP 149.61 ETS 172.73 ZAE 172.43 ETE 64.81 ZAC 104.32 ETC 277.68 LVI -21.79

PLANETOCENTRIC CONIC

C3 15.815 VHL 3.977 DLA -29.13 RAL 343.98 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 5.360 DPA -13.47 RAP 318.81 ECC 1.2803
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 25 25 2473.39 -6.07 65.29 200.16 137.28 19 6 38 1473.4 12.29 49.48
60.00 19 46 44 2257.08 -.44 51.21 205.56 130.30 20 24 21 1257.1 15.45 32.93
70.00 21 35 23 1937.46 5.94 30.11 210.37 123.69 22 7 41 937.5 19.09 9.52
80.00 0 10 52 1462.65 13.69 358.69 214.95 116.79 0 35 15 462.6 23.58 335.64
82.72 1 27 29 1216.88 18.43 342.79 217.23 112.97 1 47 46 216.9 26.29 318.32
100.00 2 53 44 6225.16 13.69 297.96 214.95 116.79 4 37 30 5225.2 23.56 274.91
110.00 2 38 46 6272.32 5.94 298.94 210.37 123.69 4 23 18 5272.3 19.09 276.33

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5090 TRA-1.0042 TC3 .1999 BAU .0858 SGT 1816.0 SGR 505.3 S63 590.3 ST 44.1 SR 20.8 S8 46.9
RDE -.2884 RRA -.0388 RC3 .3534 FAU .08694 RRT .4871 RRF -.5428 RTF -.8592 CRT .8499 CRS .5987 CST .9289
FDE .7908 FRA 3.3783 FC3-4.7593 BSP 3174 SGB 1885.0 R23 -.1127 R13 -.8835 LSA 65.1 MSA 18.3 S8A 1.2
BDE .5816 BRA 1.0048 BC3 .4080 FSP 930 S61 1833.6 S62 437.1 THA 8.19 EL1 47.7 EL2 10.1 ALF 22.98

LAUNCH DATE APR 20 1971

FLIGHT TIME 162.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

DISTANCE 411.251

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.743 GAL -2.79 AZL 92.47 HCA 139.19 SMA 191.21 ECC .21924 INC 2.4724 V1 29.648
RP 207.12 LAP -1.62 LOP 348.49 VP 24.237 GAP 11.74 AZP 88.13 TAL 344.37 TAP 123.56 RCA 149.29 APO 233.13 V2 26.444
RC 76.944 GL -21.03 GP 4.43 ZAL 121.80 ZAP 148.22 ETS 172.74 ZAE 172.58 ETE 69.15 ZAC 104.56 ETC 277.67 LVI -21.97

PLANETOCENTRIC CONIC

C3 15.454 VHL 3.931 DLA -29.61 RAL 344.15 RAD 6640.7 VEL 11.641 PTH 6.68 VHP 5.207 DPA -13.29 RAP 318.63 ECC 1.2543
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 50 2456.92 -5.24 64.80 200.26 137.36 19 9 47 1456.9 13.10 48.75
60.00 19 51 27 2237.14 .44 50.26 205.71 130.30 20 28 44 1237.1 16.28 31.89
70.00 21 42 49 1909.51 6.99 28.64 210.64 123.52 22 14 39 909.5 20.00 7.87
80.00 0 34 52 1382.35 16.10 333.94 215.89 115.49 0 37 55 382.3 25.22 330.26
80.83 1 13 21 1259.30 18.86 346.12 217.20 113.26 1 34 20 259.3 26.80 321.59
100.00 3 17 44 6144.86 16.10 293.22 215.89 115.49 5 0 9 5144.9 25.22 269.53
110.00 2 46 12 6244.37 6.99 295.46 210.64 123.52 4 30 16 5244.4 20.00 274.69

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4994 TRA -.9799 TC3 .1915 BAU .0867 SGT 1803.1 SGR 510.4 S63 627.2 ST 44.0 SR 20.5 S8 48.3
RDE -.2807 RRA -.0497 RC3 .3734 FAU .09103 RRT .5204 RRF -.5829 RTF -.8571 CRT .8506 CRS .5965 CST .9295
FDE .8183 FRA 3.5387 FC3-5.0995 BSP 3172 SGB 1874.0 R23 -.1285 R13 -.8624 LSA 65.9 MSA 18.4 S8A 1.2
BDE .5729 BRA .9812 BC3 .4197 FSP 994 S61 1823.8 S62 430.9 THA 8.88 EL1 47.5 EL2 9.7 ALF 22.87

LAUNCH DATE APR 20 1971 FLIGHT TIME 164.00 ARRIVAL DATE OCT 1 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.701 GAL -2.74 AZL 92.51 HCA 140.45 SMA 190.46 ECC .21606 INC 2.5061 V1 29.648
 RP 207.21 LAP -1.60 LOP 349.75 VP 24.169 GAP 11.43 AZP 88.07 TAL 344.48 TAP 124.94 RCA 149.31 APO 231.82 V2 26.433
 RC 78.802 GL -21.54 GP 4.67 ZAL 121.62 ZAP 148.79 ETS 172.75 ZAE 172.69 ETE 74.29 ZAC 104.82 ETC 277.64 LVI -22.16

Planetocentric Conic: C3 15.127 VHL 3.889 DLA -30.10 RAL 344.34 RAD 6640.6 VEL 11.627 PTH 6.67 VHP 5.060 DPA -13.10 RAP 318.41 ECC 1.2490
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 32 22 2440.69 -4.43 63.91 200.39 137.42 19 13 3 1440.7 13.90 48.03
 60.00 19 56 21 2217.26 1.32 49.31 205.91 130.28 20 33 18 1217.3 17.10 30.85
 70.00 21 50 44 1880.72 8.07 27.11 210.97 123.30 22 22 5 880.7 20.92 6.14
 79.23 1 1 56 1293.34 19.28 348.85 217.20 113.57 1 23 29 293.3 27.31 324.25
 79.23 1 1 56 1293.34 19.28 348.85 217.20 113.57 1 23 29 293.3 27.31 324.25
 79.23 1 1 56 1293.34 19.28 348.85 217.20 113.57 1 23 29 293.3 27.31 324.25
 110.00 2 54 7 6215.58 8.07 293.93 210.97 123.30 4 37 42 5215.6 20.92 272.96

Differential Corrections: TDE -.4929 TRA -.9532 TC3 .1825 BAU .0879 SGT 1783.8 SGR 518.0 SCS 666.1 ST 43.7 SR 20.2 SS 49.7
 RDE -.2734 RRA -.0636 RC3 .3948 FAU .09535 RRT .5540 RRF -.6237 RTF -.8549 CRT .8725 CRS .6161 CST .9210
 FDE .8480 FRA 3.7079 FC3 -5.4567 BSP 3151 SGB 1857.5 R23 -.1458 R13 -.8615 LSA 66.7 MSA 18.5 SSA 1.2
 BDE .5636 BRA .9554 BC3 .4349 FSP 1062 SG1 1808.1 SGT 425.4 THA 9.68 EL1 47.3 EL2 9.1 ALF 22.87

LAUNCH DATE APR 20 1971 FLIGHT TIME 166.00 ARRIVAL DATE OCT 3 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.662 GAL -2.69 AZL 92.54 HCA 141.72 SMA 189.78 ECC .21309 INC 2.5415 V1 29.648
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.104 GAP 11.12 AZP 88.00 TAL 344.59 TAP 126.30 RCA 149.34 APO 230.21 V2 26.422
 RC 80.098 GL -22.06 GP 4.93 ZAL 121.45 ZAP 145.32 ETS 172.75 ZAE 172.73 ETE 80.22 ZAC 105.10 ETC 277.61 LVI -22.36

Planetocentric Conic: C3 14.833 VHL 3.851 DLA -30.59 RAL 344.54 RAD 6640.4 VEL 11.614 PTH 6.66 VHP 4.919 DPA -12.91 RAP 318.14 ECC 1.2441
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 36 1 2424.71 -3.63 63.24 200.57 137.47 19 16 26 1424.7 14.68 47.32
 60.00 20 1 27 2197.42 2.19 48.36 206.16 130.25 20 38 4 1197.4 17.91 29.80
 70.00 21 59 15 1850.82 9.19 25.51 211.38 123.04 22 30 5 850.8 21.85 4.32
 77.81 0 52 13 1322.37 19.70 351.21 217.25 113.89 1 14 16 322.4 27.82 326.56
 77.81 0 52 13 1322.37 19.70 351.21 217.25 113.89 1 14 16 322.4 27.82 326.56
 77.81 0 52 13 1322.37 19.70 351.21 217.25 113.89 1 14 16 322.4 27.82 326.56
 110.00 3 2 37 6185.68 9.19 292.33 211.38 123.04 4 45 42 5185.7 21.85 271.15

Differential Corrections: TDE -.4840 TRA -.9228 TC3 .1732 BAU .0897 SGT 1755.0 SGR 528.0 SCS 706.6 ST 43.2 SR 19.9 SS 51.0
 RDE -.2664 RRA -.0782 RC3 .4176 FAU .09991 RRT .5868 RRF -.6641 RTF -.8526 CRT .8847 CRS .6261 CST .9159
 FDE .8755 FRA 3.8821 FC3 -5.8314 BSP 3103 SGB 1832.7 R23 -.1644 R13 -.8607 LSA 67.2 MSA 18.6 SSA 1.1
 BDE .5525 BRA .9261 BC3 .4521 FSP 1132 SG1 1783.7 SGT 420.6 THA 10.61 EL1 46.8 EL2 8.6 ALF 23.00

LAUNCH DATE APR 20 1971 FLIGHT TIME 168.00 ARRIVAL DATE OCT 5 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.828 GAL -2.64 AZL 92.58 HCA 142.98 SMA 189.13 ECC .21030 INC 2.5789 V1 29.648
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.041 GAP 10.82 AZP 87.94 TAL 344.68 TAP 127.66 RCA 149.36 APO 228.91 V2 26.409
 RC 81.730 GL -22.59 GP 5.21 ZAL 121.28 ZAP 143.80 ETS 172.75 ZAE 172.68 ETE 86.80 ZAC 105.41 ETC 277.57 LVI -22.55

Planetocentric Conic: C3 14.589 VHL 3.817 DLA -31.09 RAL 344.78 RAD 6640.3 VEL 11.603 PTH 6.64 VHP 4.783 DPA -12.71 RAP 317.83 ECC 1.2398
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 39 49 2408.89 -2.84 62.58 200.79 137.51 19 19 58 1408.9 15.45 48.61
 60.00 20 6 47 2177.50 3.07 47.41 206.46 130.20 20 43 4 1177.5 18.72 28.74
 70.00 22 8 28 1819.36 10.35 23.81 211.87 122.73 22 38 48 819.4 22.81 2.38
 76.51 0 43 42 1347.99 20.11 353.33 217.35 114.22 1 6 10 348.0 28.32 328.62
 76.51 0 43 42 1347.99 20.11 353.33 217.35 114.22 1 6 10 348.0 28.32 328.62
 76.51 0 43 42 1347.99 20.11 353.33 217.35 114.22 1 6 10 348.0 28.32 328.62
 110.00 3 11 51 6154.22 10.35 290.64 211.87 122.73 4 54 25 5154.2 22.81 289.21

Differential Corrections: TDE -.4634 TRA -.8789 TC3 .1927 BAU .0943 SGT 1696.8 SGR 540.9 SCS 748.4 ST 41.8 SR 19.6 SS 52.0
 RDE -.2590 RRA -.0929 RC3 .4441 FAU .10337 RRT .6223 RRF -.7034 RTF -.8152 CRT .8952 CRS .6332 CST .9103
 FDE .8904 FRA 4.0499 FC3 -6.2614 BSP 2894 SGB 1780.9 R23 -.1753 R13 -.8652 LSA 67.0 MSA 18.6 SSA 1.1
 BDE .5309 BRA .8838 BC3 .4841 FSP 1188 SG1 1731.9 SGT 414.8 THA 11.91 EL1 45.4 EL2 8.0 ALF 23.57

LAUNCH DATE APR 20 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 7 1971

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.592 GAL -2.80 AZL 92.62 HCA 144.24 SMA 188.34 ECC .20772 INC 2.6185 V1 29.648
 RP 207.54 LAP -1.53 LOP 353.54 VP 23.980 GAP 10.52 AZP 87.87 TAL 344.77 TAP 129.00 RCA 149.38 APO 227.71 V2 26.395
 RC 83.399 GL -23.13 GP 5.51 ZAL 121.12 ZAP 142.25 ETS 172.74 ZAE 172.51 ETE 93.79 ZAC 105.74 ETC 277.53 LVI -22.76

Planetocentric Conic: C3 14.338 VHL 3.787 DLA -31.59 RAL 344.99 RAD 6640.2 VEL 11.593 PTH 6.64 VHP 4.653 DPA -12.51 RAP 317.47 ECC 1.2360
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 43 45 2393.40 -2.06 61.93 201.07 137.54 19 23 39 1393.4 16.20 45.90
 60.00 20 12 20 2157.69 3.94 46.46 206.82 130.14 20 48 18 1157.7 19.51 27.87
 70.00 22 18 32 1786.20 11.57 22.01 212.46 122.36 22 48 19 786.2 23.79 .31
 75.30 0 36 11 1371.05 20.51 355.27 217.50 114.56 0 59 2 371.1 28.83 330.50
 75.30 0 36 11 1371.05 20.51 355.27 217.50 114.56 0 59 2 371.1 28.83 330.50
 75.30 0 36 11 1371.05 20.51 355.27 217.50 114.56 0 59 2 371.1 28.83 330.50
 110.00 3 21 55 6121.06 11.57 288.84 212.46 122.36 5 3 56 5121.1 23.79 267.13

Differential Corrections: TDE -.4713 TRA -.8614 TC3 .1281 BAU .0929 SGT 1690.9 SGR 557.8 SCS 793.5 ST 42.4 SR 19.4 SS 53.9
 RDE -.2538 RRA -.1105 RC3 .4672 FAU .10948 RRT .6450 RRF -.7421 RTF -.8422 CRT .9129 CRS .6535 CST .9040
 FDE .9403 FRA 4.2604 FC3 -6.6101 BSP 3021 SGB 1780.6 R23 -.2140 R13 -.8551 LSA 68.7 MSA 18.9 SSA 1.1
 BDE .5353 BRA .8685 BC3 .4844 FSP 1283 SG1 1731.2 SGT 416.4 THA 12.76 EL1 46.1 EL2 7.3 ALF 23.33

LAUNCH DATE APR 20 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

DISTANCE 431.204

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.561 GAL -2.57 AZL 92.66 HCA 145.49 SMA 187.99 ECC .20930 INC 2.6606 V1 29.648
RP 207.66 LAP -1.51 LOP 354.80 VP 23.921 GAP 10.23 AZP 87.81 TAL 344.84 TAP 130.34 RCA 149.40 APO 226.59 V2 26.381
RC 89.104 GL -23.68 GP 5.83 ZAL 120.96 ZAP 140.66 ETS 172.73 ZAE 172.19 ETE 100.93 ZAC 106.11 ETC 277.47 LVI -22.97

PLANETOCENTRIC CONIC

C3 14.135 VHL 3.760 DLA -32.10 RAL 345.24 RAD 6640.1 VEL 11.584 PTH 6.63 VHP 4.529 DPA -12.29 RAP 317.07 ECC 1.2328
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 47 52 2378.03 -1.29 61.29 201.39 137.96 19 27 30 1378.0 16.95 45.20
60.00 20 18 11 2137.67 4.81 45.50 207.24 130.06 20 53 49 1137.7 20.31 26.58
70.00 22 29 48 1750.13 12.87 20.04 213.15 121.91 22 58 58 750.1 24.81 358.01
74.15 0 29 23 1392.35 20.91 357.08 217.69 114.92 0 52 35 392.4 29.33 332.25
74.15 0 29 23 1392.35 20.91 357.08 217.69 114.92 0 52 35 392.4 29.33 332.25
74.15 0 29 23 1392.35 20.91 357.08 217.69 114.92 0 52 35 392.4 29.33 332.25
110.00 3 33 10 6084.99 12.87 288.86 213.15 121.91 5 14 35 5085.0 24.81 264.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4639 TRA -.8270 TC3 .0999 BAV .0954 SGT 1648.8 SGR 578.4 SG3 839.7 ST 41.8 SR 19.2 SS 55.4
RDE -.2481 RRA -.1282 RC3 .4946 FAU .11462 RRT .6694 RRF -.7783 RTF -.8351 CRT .9276 CR8 .6696 CST .8968
FDE .9733 FRA 4.4604 FC3-7.0201 B8P 2959 SGB 1747.3 R23 -.2431 R13 -.8517 LSA 69.4 MSA 19.1 S8A 1.1
BDE .5261 BRA .8369 BC3 .5046 F8P 1362 SG1 1696.7 SG2 417.5 THA 14.09 EL1 45.5 EL2 6.6 ALF 23.63

LAUNCH DATE APR 20 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

DISTANCE 435.247

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.531 GAL -2.53 AZL 92.71 HCA 146.75 SMA 187.48 ECC .20306 INC 2.7054 V1 29.648
RP 207.80 LAP -1.48 LOP 356.05 VP 23.864 GAP 9.95 AZP 87.74 TAL 344.91 TAP 131.66 RCA 149.41 APO 225.55 V2 26.365
RC 86.843 GL -24.24 GP 6.18 ZAL 120.81 ZAP 139.02 ETS 172.71 ZAE 171.72 ETE 107.88 ZAC 106.50 ETC 277.41 LVI -23.20

PLANETOCENTRIC CONIC

C3 13.959 VHL 3.736 DLA -32.61 RAL 345.52 RAD 6640.0 VEL 11.577 PTH 6.62 VHP 4.411 DPA -12.06 RAP 316.61 ECC 1.2297
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 52 10 2362.79 -.52 60.65 201.77 137.57 19 31 33 1362.8 17.68 44.49
60.00 20 24 21 2117.44 5.70 44.52 207.72 129.96 20 59 38 1117.4 21.11 25.46
70.00 22 42 41 1709.91 14.31 17.81 213.98 121.35 23 11 11 709.9 25.91 355.40
73.05 0 23 13 1412.18 21.30 358.79 217.94 115.29 0 46 45 412.2 29.83 333.91
73.05 0 23 13 1412.18 21.30 358.79 217.94 115.29 0 46 45 412.2 29.83 333.91
73.05 0 23 13 1412.18 21.30 358.79 217.94 115.29 0 46 45 412.2 29.83 333.91
110.00 3 46 4 6044.77 14.31 284.63 213.98 121.35 5 26 48 5044.8 25.91 262.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4570 TRA -.7896 TC3 .0659 BAV .0985 SGT 1800.0 SGR 603.3 SG3 887.3 ST 41.1 SR 19.1 SS 56.9
RDE -.2430 RRA -.1472 RC3 .5238 FAU .11989 RRT .6898 RRF -.8118 RTF -.8261 CRT .9427 CR8 .6882 CST .8888
FDE 1.0099 FRA 4.6672 FC3-7.4352 B8P 2885 SGB 1710.0 R23 -.2748 R13 -.8477 LSA 70.2 MSA 19.3 S8A 1.0
BDE .3178 BRA .8033 BC3 .5280 F8P 1446 SG1 1657.1 SG2 421.7 THA 15.62 EL1 45.0 EL2 5.8 ALF 24.03

LAUNCH DATE APR 20 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

DISTANCE 439.304

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.504 GAL -2.50 AZL 92.75 HCA 148.00 SMA 187.01 ECC .20097 INC 2.7532 V1 29.648
RP 207.94 LAP -1.46 LOP 357.31 VP 23.808 GAP 9.67 AZP 87.66 TAL 344.96 TAP 132.97 RCA 149.43 APO 224.59 V2 26.349
RC 86.616 GL -24.82 GP 6.55 ZAL 120.65 ZAP 137.34 ETS 172.70 ZAE 171.07 ETE 114.38 ZAC 106.92 ETC 277.33 LVI -23.44

PLANETOCENTRIC CONIC

C3 13.811 VHL 3.716 DLA -33.13 RAL 345.81 RAD 6640.0 VEL 11.570 PTH 6.61 VHP 4.298 DPA -11.82 RAP 316.11 ECC 1.2273
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 56 40 2347.65 .24 80.02 202.20 137.98 19 35 48 1347.7 18.41 43.79
60.00 20 30 52 2096.90 6.60 43.53 208.28 129.85 21 5 49 1096.9 21.91 24.31
70.00 22 58 8 1662.80 15.96 15.15 215.01 120.60 23 25 51 662.8 27.13 352.28
71.98 0 17 33 1430.99 21.69 .43 218.24 115.67 0 41 24 431.0 30.34 335.50
71.98 0 17 33 1430.99 21.69 .43 218.24 115.67 0 41 24 431.0 30.34 335.50
71.98 0 17 33 1430.99 21.69 .43 218.24 115.67 0 41 24 431.0 30.34 335.50
110.00 4 1 30 5997.66 15.96 281.98 215.01 120.60 5 41 28 4997.7 27.13 259.11

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4484 TRA -.7487 TC3 .0294 BAV .1027 SGT 1542.2 SGR 832.7 SG3 936.1 ST 40.3 SR 18.9 SS 58.3
RDE -.2381 RRA -.1875 RC3 .5555 FAU .12545 RRT .7050 RRF -.8422 RTF -.8350 CRT .9571 CR8 .7074 CST .8799
FDE 1.0438 FRA 4.8774 FC3-7.8639 B8P 2784 SGB 1666.9 R23 -.3081 R13 -.8436 LSA 70.7 MSA 19.5 S8A 1.0
BDE .3077 BRA .7672 BC3 .5563 F8P 1528 SG1 1610.6 SG2 429.7 THA 17.41 EL1 44.2 EL2 5.0 ALF 24.57

LAUNCH DATE APR 20 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

DISTANCE 443.375

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.478 GAL -2.47 AZL 92.80 HCA 149.26 SMA 186.97 ECC .19903 INC 2.8044 V1 29.648
RP 208.08 LAP -1.43 LOP 358.58 VP 23.754 GAP 9.40 AZP 87.59 TAL 345.01 TAP 134.26 RCA 149.44 APO 223.70 V2 26.332
RC 90.421 GL -25.41 GP 6.98 ZAL 120.51 ZAP 135.61 ETS 172.68 ZAE 170.27 ETE 120.26 ZAC 107.58 ETC 277.25 LVI -23.68

PLANETOCENTRIC CONIC

C3 13.690 VHL 3.700 DLA -33.65 RAL 346.13 RAD 6639.9 VEL 11.565 PTH 6.61 VHP 4.191 DPA -11.55 RAP 315.56 ECC 1.2253
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 1 25 2332.54 1.00 59.39 202.70 137.57 19 40 17 1332.5 19.13 43.08
60.00 20 37 49 2075.89 7.51 42.51 208.91 129.71 21 12 25 1075.9 22.72 23.13
70.00 23 18 33 1601.92 18.05 11.63 216.35 119.50 23 45 15 601.5 28.60 348.12
70.95 0 12 22 1448.96 22.07 2.02 218.60 116.08 0 36 31 449.0 30.84 337.04
70.95 0 12 22 1448.96 22.07 2.02 218.60 116.08 0 36 31 449.0 30.84 337.04
70.95 0 12 22 1448.96 22.07 2.02 218.60 116.08 0 36 31 449.0 30.84 337.04
110.00 4 21 55 5936.38 18.05 278.46 216.35 119.50 6 0 52 4936.4 28.60 254.94

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4365 TRA -.7021 TC3 -.0039 BAV .1080 SGT 1470.8 SGR 667.3 SG3 985.9 ST 39.1 SR 18.8 SS 59.7
RDE -.2334 RRA -.1892 RC3 .5902 FAU .13141 RRT .7161 RRF -.8692 RTF -.8028 CRT .9705 CR8 .7272 CST .8685
FDE 1.0737 FRA 5.0891 FC3-8.3099 B8P 2642 SGB 1615.1 R23 -.3387 R13 -.8412 LSA 71.1 MSA 19.7 S8A 1.0
BDE .4950 BRA .7272 BC3 .5902 F8P 1607 SG1 1553.7 SG2 440.9 THA 19.64 EL1 43.2 EL2 4.1 ALF 25.33

LAUNCH DATE APR 20 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

RL 130.29 LAL -.00 LOL 209.27 VL 32.484 GAL -2.45 AZL 92.86 HCA 150.91 BMA 186.17 ECC .19724 INC 2.9395 V1 29.640
RP 208.24 LAP -1.41 LOP 299.81 VP 23.701 GAP 9.13 AZP 87.51 TAL 345.03 TAP 139.84 RCA 149.45 APO 222.89 V2 26.313
RC 92.289 GL -26.02 GP 7.40 ZAL 120.36 ZAP 133.84 ETS 172.87 ZAE 169.31 ETE 123.41 ZAC 107.89 ETC 277.16 LVI -23.89

DISTANCE 447.487

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.597 VHL 3.697 DLA -34.19 RAL 346.48 RAD 8639.8 VEL 11.561 PTH 8.61 VHP 4.089 DPA -11.27 RAP 314.95 ECC 1.2238
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 19 6 25 2317.49 1.76 58.76 203.26 137.55 19 45 2 1317.5 19.84 42.36
60.00 20 45 13 2054.35 0.43 41.46 209.64 129.55 21 19 29 1034.4 23.34 21.89
69.93 0 7 34 1466.37 22.44 3.58 219.03 116.50 0 32 1 466.4 31.35 338.84
69.93 0 7 34 1466.37 22.44 3.58 219.03 116.50 0 32 1 466.4 31.35 338.84
69.93 0 7 34 1466.37 22.44 3.58 219.03 116.50 0 32 1 466.4 31.35 338.84
69.93 0 7 34 1466.37 22.44 3.58 219.03 116.50 0 32 1 466.4 31.35 338.84

DIFFERENTIAL CORRECTIONS

TDE -.4374 TRA -.6647 TC3 -.0776 BAV .1142
RDE -.2307 RRA -.2139 RC3 .6236 FAV .13650
FDE 1.1303 FRA 5.3286 FC3-8.6910 B8P 2637
BDE .4945 BRA .6983 BC3 .6284 F8P 1712

MID-COURSE EXECUTION ACCURACY

SGT 1422.8 SGR 708.1 8G3 1038.1
RRT .7135 RRF -.8931 RTF -.7795
8GB 1599.2 R23 -.3835 R13 -.8318
8G1 1519.9 8G2 464.4 TMA 21.68

ORBIT DETERMINATION ACCURACY

8T 36.8 8R 18.9 8S 61.6
CRT .9832 CR8 .7540 CBT .8574
L8A 72.5 M8A 20.0 88A .9
EL1 43.1 EL2 3.1 ALP 28.76

LAUNCH DATE APR 20 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

RL 130.29 LAL -.00 LOL 209.27 VL 32.432 GAL -2.43 AZL 92.92 HCA 151.76 BMA 186.79 ECC .19559 INC 2.9189 V1 29.648
RP 208.41 LAP -1.38 LOP 1.06 VP 23.650 GAP 8.87 AZP 87.43 TAL 345.03 TAP 136.81 RCA 149.45 APO 222.13 V2 26.294
RC 94.128 GL -26.65 GP 7.87 ZAL 120.22 ZAP 132.03 ETS 172.86 ZAE 168.20 ETE 129.86 ZAC 108.41 ETC 277.06 LVI -24.24

DISTANCE 451.551

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.931 VHL 3.678 DLA -34.74 RAL 346.86 RAD 8639.8 VEL 11.558 PTH 6.60 VHP 3.994 DPA -10.96 RAP 314.30 ECC 1.2227
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 19 11 44 2302.32 2.52 58.13 203.90 137.53 19 50 6 1302.3 20.56 41.63
60.00 20 53 16 2031.94 9.42 40.36 210.45 129.37 21 27 8 1031.9 24.38 20.60
68.92 0 3 8 1483.38 22.81 5.11 219.52 116.95 0 27 51 483.4 31.86 340.03
68.92 0 3 8 1483.38 22.81 5.11 219.52 116.95 0 27 51 483.4 31.86 340.03
68.92 0 3 8 1483.38 22.81 5.11 219.52 116.95 0 27 51 483.4 31.86 340.03
68.92 0 3 8 1483.38 22.81 5.11 219.52 116.95 0 27 51 483.4 31.86 340.03

DIFFERENTIAL CORRECTIONS

TDE -.4313 TRA -.6181 TC3 -.1402 BAV .1222
RDE -.2279 RRA -.2400 RC3 .6611 FAV .14213
FDE 1.1770 FRA 5.5625 FC3-9.0937 B8P 2548
BDE .4880 BRA .6630 BC3 .6758 F8P 1806

MID-COURSE EXECUTION ACCURACY

SGT 1354.6 SGR 754.7 8G3 1090.5
RRT .7058 RRF -.9136 RTF -.7543
8GB 1550.7 R23 -.4189 R13 -.8265
8G1 1470.3 8G2 492.6 TMA 24.38

ORBIT DETERMINATION ACCURACY

8T 37.9 8R 19.0 8S 63.2
CRT .9923 CR8 .7789 CBT .8438
L8A 73.3 M8A 20.3 88A .9
EL1 42.4 EL2 2.1 ALP 26.55

LAUNCH DATE APR 20 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

RL 130.29 LAL -.00 LOL 209.27 VL 32.412 GAL -2.41 AZL 92.98 HCA 153.00 BMA 185.48 ECC .19407 INC 2.9832 V1 29.648
RP 208.58 LAP -1.33 LOP 2.31 VP 23.600 GAP 8.62 AZP 87.34 TAL 345.06 TAP 138.08 RCA 149.46 APO 221.44 V2 26.274
RC 96.027 GL -27.31 GP 8.38 ZAL 120.08 ZAP 130.17 ETS 172.85 ZAE 166.95 ETE 133.64 ZAC 109.00 ETC 276.95 LVI -24.34

DISTANCE 455.655

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.492 VHL 3.673 DLA -35.31 RAL 347.28 RAD 8639.8 VEL 11.557 PTH 6.60 VHP 3.904 DPA -10.63 RAP 313.59 ECC 1.2220
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 19 17 24 2286.98 3.29 57.48 204.61 137.49 19 35 31 1287.0 21.28 40.88
60.00 21 2 0 2006.40 10.43 39.20 211.38 129.15 21 39 28 1008.4 25.25 19.21
67.91 23 55 4 1500.20 23.17 6.64 220.09 117.43 24 20 4 500.2 32.38 341.52
67.91 23 55 4 1500.20 23.17 6.64 220.09 117.43 24 20 4 500.2 32.38 341.52
67.91 23 55 4 1500.20 23.17 6.64 220.09 117.43 24 20 4 500.2 32.38 341.52
67.91 23 55 4 1500.20 23.17 6.64 220.09 117.43 24 20 4 500.2 32.38 341.52

DIFFERENTIAL CORRECTIONS

TDE -.4243 TRA -.3672 TC3 -.2083 BAV .1319
RDE -.2255 RRA -.2682 RC3 .7015 FAV .14790
FDE 1.2205 FRA 5.7946 FC3-9.4901 B8P 2453
BDE .4809 BRA .6274 BC3 .7312 F8P 1899

MID-COURSE EXECUTION ACCURACY

SGT 1279.3 SGR 807.6 8G3 1142.7
RRT .6879 RRF -.9908 RTF -.7119
8GB 1812.9 R23 -.4486 R13 -.8232
8G1 1417.4 8G2 829.1 TMA 27.68

ORBIT DETERMINATION ACCURACY

8T 36.9 8R 19.2 8S 64.7
CRT .9979 CR8 .8033 CBT .8273
L8A 74.1 M8A 20.7 88A .9
EL1 41.8 EL2 1.1 ALP 27.48

LAUNCH DATE APR 20 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

RL 130.29 LAL -.00 LOL 209.27 VL 32.393 GAL -2.40 AZL 93.05 HCA 134.25 BMA 185.14 ECC .19267 INC 3.0531 V1 29.648
RP 208.76 LAP -1.33 LOP 3.58 VP 23.551 GAP 8.37 AZP 87.25 TAL 345.05 TAP 139.30 RCA 149.46 APO 220.81 V2 26.254
RC 97.955 GL -28.00 GP 8.84 ZAL 119.94 ZAP 128.27 ETS 172.84 ZAE 165.57 ETE 136.83 ZAC 109.63 ETC 278.84 LVI -24.88

DISTANCE 459.770

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.482 VHL 3.672 DLA -35.90 RAL 347.73 RAD 8639.8 VEL 11.556 PTH 6.60 VHP 3.820 DPA -10.28 RAP 312.84 ECC 1.2219
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 19 23 29 2271.36 4.07 56.83 205.42 137.44 20 1 21 1271.4 22.02 40.13
60.00 21 11 36 1983.33 11.90 37.95 212.44 128.90 21 44 40 983.3 26.15 17.71
66.90 23 51 15 1516.87 23.53 8.17 220.73 117.93 24 16 31 516.9 32.91 343.02
66.90 23 51 15 1516.87 23.53 8.17 220.73 117.93 24 16 31 516.9 32.91 343.02
66.90 23 51 15 1516.87 23.53 8.17 220.73 117.93 24 16 31 516.9 32.91 343.02
66.90 23 51 15 1516.87 23.53 8.17 220.73 117.93 24 16 31 516.9 32.91 343.02

DIFFERENTIAL CORRECTIONS

TDE -.4180 TRA -.8132 TC3 -.2782 BAV .1432
RDE -.2241 RRA -.2890 RC3 .7448 FAV .15384
FDE 1.2699 FRA 6.0289 FC3-9.8861 B8P 2359
BDE .4742 BRA .8940 BC3 .7948 F8P 1990

MID-COURSE EXECUTION ACCURACY

SGT 1201.9 SGR 867.7 8G3 1195.0
RRT .6576 RRF -.9452 RTF -.6794
8GB 1482.4 R23 -.4700 R13 -.8236
8G1 1368.4 8G2 575.0 TMA 31.62

ORBIT DETERMINATION ACCURACY

8T 35.8 8R 19.5 8S 66.2
CRT .9982 CR8 .8287 CBT .8882
L8A 74.9 M8A 21.0 88A .8
EL1 40.8 EL2 1.0 ALP 28.36

LAUNCH DATE APR 20 1971 FLIGHT TIME 188.00 ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC DISTANCE 463.894 EARTH TO MARS
RL 150.29 LAL -.00 LOL 209.27 VL 32.376 GAL -2.39 AZL 93.13 HCA 155.49 SMA 184.85 ECC .19140 INC 3.1295 V1 29.648

PLANETOCENTRIC CONIC
C3 13.502 VHL 3.674 DLA -36.51 RAL 348.22 RAD 8639.8 VEL 11.557 PTH 6.60 VHP 3.742 DPA -9.84 RAP 312.03 ECC 1.2222
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS
TDE -.4065 TRA -.4506 TC3 -.3396 BAU .1558 SGT 1108.3 SGR 935.1 SG3 1245.7 ST 34.3 SR 19.9 SS 67.5
RDE -.2225 RRA -.3316 RC3 .7935 FAU .16008 RRT .6145 RRF -.9569 RTF -.6259 CRT .9919 CRS .8516 CST .7835

LAUNCH DATE APR 20 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC DISTANCE 468.024 EARTH TO MARS
RL 150.29 LAL -.00 LOL 209.27 VL 32.360 GAL -2.38 AZL 93.21 HCA 156.73 SMA 184.58 ECC .19024 INC 3.2133 V1 29.648

PLANETOCENTRIC CONIC
C3 13.554 VHL 3.682 DLA -37.15 RAL 348.76 RAD 8639.8 VEL 11.559 PTH 6.60 VHP 3.670 DPA -9.38 RAP 311.17 ECC 1.2231
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS
TDE -.4071 TRA -.3965 TC3 -.4427 BAU .1718 SGT 1032.2 SGR 1012.2 SG3 1297.6 ST 33.7 SR 20.6 SS 69.4
RDE -.2243 RRA -.3698 RC3 .8385 FAU .16479 RRT .5436 RRF -.9666 RTF -.5477 CRT .9775 CRS .8772 CST .7595

LAUNCH DATE APR 20 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC DISTANCE 472.163 EARTH TO MARS
RL 150.29 LAL -.00 LOL 209.27 VL 32.345 GAL -2.38 AZL 93.31 HCA 157.97 SMA 184.34 ECC .18918 INC 3.3057 V1 29.648

PLANETOCENTRIC CONIC
C3 13.641 VHL 3.693 DLA -37.82 RAL 349.36 RAD 8639.9 VEL 11.563 PTH 6.61 VHP 3.604 DPA -8.86 RAP 310.27 ECC 1.2245
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS
TDE -.3987 TRA -.3294 TC3 -.5228 BAU .1886 SGT 974.7 SGR 1097.0 SG3 1345.3 ST 32.4 SR 21.3 SS 70.6
RDE -.2252 RRA -.4095 RC3 .8926 FAU .17068 RRT .4505 RRF -.9743 RTF -.4462 CRT .9532 CRS .8982 CST .7259

LAUNCH DATE APR 20 1971 FLIGHT TIME 194.00 ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC DISTANCE 476.308 EARTH TO MARS
RL 150.29 LAL -.00 LOL 209.27 VL 32.332 GAL -2.38 AZL 93.41 HCA 159.20 SMA 184.12 ECC .18824 INC 3.4085 V1 29.648

PLANETOCENTRIC CONIC
C3 13.767 VHL 3.710 DLA -38.54 RAL 350.02 RAD 8639.9 VEL 11.568 PTH 6.61 VHP 3.545 DPA -8.27 RAP 309.32 ECC 1.2266
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG

DIFFERENTIAL CORRECTIONS
TDE -.3985 TRA -.2641 TC3 -.6236 BAU .2083 SGT 927.9 SGR 1193.3 SG3 1392.1 ST 31.6 SR 22.3 SS 72.4
RDE -.2294 RRA -.4350 RC3 .9447 FAU .17519 RRT .3260 RRF -.9804 RTF -.3195 CRT .9187 CRS .9190 CST .6902

LAUNCH DATE APR 20 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC DISTANCE 480.459 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.320 GAL -2.38 AZL 93.52 HCA 160.44 SMA 183.92 ECC .18739 INC 3.5233 V1 29.648
 RP 209.78 LAP -1.18 LOP 9.75 VP 23.319 GAP 7.19 AZP 86.68 TAL 344.82 TAP 145.28 RCA 149.46 APO 218.39 V2 26.137
 RC 107.990 GL -32.11 GP 12.65 ZAL 119.15 ZAP 118.17 ETS 172.75 ZAE 157.04 ETE 146.20 ZAC 113.74 ETC 276.15 LVI -27.16

PLANETOCENTRIC CONIC
 C3 13.937 VHL 3.733 DLA -39.30 RAL 350.75 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 3.493 DPA -7.60 RAP 308.32 ECC 1.2294
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 3 28 2183.06 0.49 53.09 211.33 136.99 20 39 51 1183.1 26.07 38.63
 60.00 22 28 22 1795.53 19.31 28.22 221.17 126.09 22 58 18 795.5 32.32 5.64
 61.49 23 35 42 1604.66 25.29 16.44 225.47 121.14 24 2 26 604.7 35.79 351.21
 61.49 23 35 42 1604.66 25.29 16.44 225.47 121.14 24 2 26 604.7 35.79 351.21
 61.49 23 35 42 1604.66 25.29 16.44 225.47 121.14 24 2 26 604.7 35.79 351.21
 61.49 23 35 42 1604.66 25.29 16.44 225.47 121.14 24 2 26 604.7 35.79 351.21

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3916 TRA -.1921 TC3 -.7179 BAU .2298 SGT 890.9 SGR 1300.0 SG3 1434.1 ST 30.6 SR 23.4 SS 73.7
 RDE -.2344 RRA -.3041 RC3 1.0030 FAU .18004 RRT .1689 RRF -.9852 RTF -.1595 CRT .8715 CRS .9363 CST .6411
 FDE 1.9697 FRA 7.1301 FC-11.1832 B8P 2296 SGB 1875.9 R23 -.1413 R13 -.9751 LSA 79.9 MSA 23.3 SSA .6
 BDE .4564 BRA .5395 BC3 1.2335 F8P 2420 SG1 1315.6 SG2 867.7 THA 78.21 EL1 37.4 EL2 9.4 ALF 36.41

LAUNCH DATE APR 20 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC DISTANCE 484.616 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.309 GAL -2.39 AZL 93.65 HCA 161.67 SMA 183.73 ECC .18863 INC 3.6529 V1 29.648
 RP 209.99 LAP -1.15 LOP 10.98 VP 23.276 GAP 6.97 AZP 86.53 TAL 344.73 TAP 146.40 RCA 149.45 APO 218.04 V2 26.111
 RC 110.071 GL -33.13 GP 13.65 ZAL 118.95 ZAP 116.04 ETS 172.81 ZAE 155.04 ETE 147.13 ZAC 114.82 ETC 275.99 LVI -27.80

PLANETOCENTRIC CONIC
 C3 14.158 VHL 3.763 DLA -40.12 RAL 351.56 RAD 6640.1 VEL 11.585 PTH 6.63 VHP 3.448 DPA -6.84 RAP 307.27 ECC 1.2330
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 14 30 2181.33 9.57 52.16 213.08 136.83 20 50 31 1161.3 27.04 34.47
 60.00 23 6 40 1699.03 23.08 22.86 225.00 124.00 23 34 59 699.0 34.94 358.81
 60.26 23 33 15 1624.22 25.64 18.33 226.82 121.99 24 0 19 624.2 36.44 353.12
 60.26 23 33 15 1624.22 25.64 18.33 226.82 121.99 24 0 19 624.2 36.44 353.12
 60.26 23 33 15 1624.22 25.64 18.33 226.82 121.99 24 0 19 624.2 36.44 353.12
 60.26 23 33 15 1624.22 25.64 18.33 226.82 121.99 24 0 19 624.2 36.44 353.12

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3872 TRA -.1163 TC3 -.8158 BAU .2534 SGT 882.3 SGR 1419.7 SG3 1472.1 ST 29.7 SR 24.9 SS 75.2
 RDE -.2422 RRA -.5595 RC3 1.0614 FAU .18382 RRT -.0115 RRF -.9890 RTF .0220 CRT .8117 CRS .9515 CST .5936
 FDE 1.6488 FRA 7.3189 FC-11.2402 B8P 2434 SGB 1671.5 R23 -.0035 R13 -.9891 LSA 81.2 MSA 23.8 SSA .5
 BDE .4567 BRA .5715 BC3 1.3387 F8P 2497 SG1 1419.8 SG2 882.2 THA 90.67 EL1 37.0 EL2 11.7 ALF 38.87

LAUNCH DATE APR 20 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC DISTANCE 488.778 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.299 GAL -2.39 AZL 93.80 HCA 162.90 SMA 183.59 ECC .18597 INC 3.7997 V1 29.648
 RP 210.22 LAP -1.12 LOP 12.20 VP 23.232 GAP 6.75 AZP 86.37 TAL 344.63 TAP 147.53 RCA 149.44 APO 217.73 V2 26.085
 RC 112.177 GL -34.25 GP 14.75 ZAL 118.71 ZAP 113.90 ETS 172.89 ZAE 152.94 ETE 147.83 ZAC 116.01 ETC 275.84 LVI -28.53

PLANETOCENTRIC CONIC
 C3 14.439 VHL 3.800 DLA -41.02 RAL 352.47 RAD 6640.3 VEL 11.597 PTH 6.64 VHP 3.411 DPA -5.96 RAP 306.19 ECC 1.2376
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 27 15 2137.03 10.77 51.11 215.12 136.83 21 2 52 1137.0 28.11 33.15
 58.95 23 31 3 1644.91 25.99 20.34 226.37 122.93 23 58 28 644.9 37.13 355.17
 58.95 23 31 3 1644.91 25.99 20.34 226.37 122.93 23 58 28 644.9 37.13 355.17
 58.95 23 31 3 1644.91 25.99 20.34 226.37 122.93 23 58 28 644.9 37.13 355.17
 58.95 23 31 3 1644.91 25.99 20.34 226.37 122.93 23 58 28 644.9 37.13 355.17
 58.95 23 31 3 1644.91 25.99 20.34 226.37 122.93 23 58 28 644.9 37.13 355.17

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3833 TRA -.0367 TC3 -.9117 BAU .2797 SGT 905.3 SGR 1553.4 SG3 1503.5 ST 28.9 SR 26.6 SS 76.4
 RDE -.2523 RRA -.6202 RC3 1.1259 FAU .18765 RRT -.2005 RRF -.9919 RTF .1.10 CRT .7382 CRS .9638 CST .5324
 FDE 1.7272 FRA 7.4710 FC-11.2510 B8P 2621 SGB 1798.0 R23 .0027 R13 -.9885 LSA 82.4 MSA 24.5 SSA .5
 BDE .4589 BRA .6213 BC3 1.4487 F8P 2550 SG1 1568.9 SG2 878.2 THA 99.74 EL1 36.7 EL2 14.2 ALF 41.78

LAUNCH DATE APR 20 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC DISTANCE 492.944 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.291 GAL -2.40 AZL 93.97 HCA 164.12 SMA 183.44 ECC .18340 INC 3.9684 V1 29.648
 RP 210.45 LAP -1.09 LOP 13.43 VP 23.190 GAP 6.54 AZP 86.18 TAL 344.52 TAP 148.64 RCA 149.43 APO 217.45 V2 26.058
 RC 114.307 GL -35.49 GP 16.00 ZAL 118.44 ZAP 111.72 ETS 173.00 ZAE 150.74 ETE 148.32 ZAC 117.35 ETC 275.68 LVI -29.38

PLANETOCENTRIC CONIC
 C3 14.794 VHL 3.846 DLA -42.00 RAL 353.51 RAD 6640.4 VEL 11.612 PTH 6.65 VHP 3.382 DPA -4.95 RAP 305.06 ECC 1.2435
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 42 15 2109.14 12.15 49.89 217.55 136.36 21 17 24 1109.1 29.32 31.60
 57.55 23 29 9 1666.95 26.33 22.51 230.15 123.99 23 56 56 666.9 37.86 357.41
 57.55 23 29 9 1666.95 26.33 22.51 230.15 123.99 23 56 56 666.9 37.86 357.41
 57.55 23 29 9 1666.95 26.33 22.51 230.15 123.99 23 56 56 666.9 37.86 357.41
 57.55 23 29 9 1666.95 26.33 22.51 230.15 123.99 23 56 56 666.9 37.86 357.41
 57.55 23 29 9 1666.95 26.33 22.51 230.15 123.99 23 56 56 666.9 37.86 357.41

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3799 TRA .0479 TC3-1.0052 BAU .3080 SGT 963.0 SGR 1703.7 SG3 1527.8 ST 28.4 SR 28.8 SS 77.8
 RDE -.2675 RRA -.6887 RC3 1.1897 FAU .19016 RRT -.3747 RRF -.9941 RTF .3841 CRT .6525 CRS .9740 CST .4646
 FDE 1.8273 FRA 7.5981 FC-11.1282 B8P 2887 SGB 1957.0 R23 .1266 R13 -.9861 LSA 84.0 MSA 25.1 SSA .5
 BDE .4646 BRA .6904 BC3 1.5575 F8P 2603 SG1 1754.5 SG2 867.0 THA 105.95 EL1 36.7 EL2 16.8 ALF 45.64

LAUNCH DATE APR 20 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

DISTANCE 497.113

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.283 GAL -2.42 AZL 94.16 HCA 165.34 SMA 183.32 ECC .18490 INC 4.1639 V1 29.648
RP 210.70 LAP -1.03 LOP 14.65 VP 23.148 GAP 6.33 AZP 85.97 TAL 344.39 TAP 149.73 RCA 149.42 APO 217.21 V2 26.030
RC 116.460 GL -36.86 GP 17.42 ZAL 118.10 ZAP 109.53 ETS 173.14 ZAE 148.43 ETE 148.80 ZAC 118.84 ETC 275.52 LVI -30.37

PLANETOCENTRIC CONIC

C3 15.242 VHL 3.904 DLA -43.09 RAL 354.69 RAD 6640.6 VEL 11.631 PTH 6.67 VHP 3.364 DPA -3.77 RAP 303.88 ECC 1.2508
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 0 26 2075.98 13.78 48.43 220.30 136.01 21 35 2 1076.0 30.74 29.71
56.02 23 27 34 1690.72 26.67 24.86 232.21 125.20 23 55 45 690.7 38.64 359.87
56.02 23 27 34 1690.72 26.67 24.86 232.21 125.20 23 55 45 690.7 38.64 359.87
56.02 23 27 34 1690.72 26.67 24.86 232.21 125.20 23 55 45 690.7 38.64 359.87
56.02 23 27 34 1690.72 26.67 24.86 232.21 125.20 23 55 45 690.7 38.64 359.87
56.02 23 27 34 1690.72 26.67 24.86 232.21 125.20 23 55 45 690.7 38.64 359.87

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3761 TRA .1366 TC3-1.0933 BAU .3394 SGT 1053.0 SGR 1873.1 SG3 1543.0 ST 27.9 SR 31.3 SS 79.0
RDE -.2872 RRA -.7657 RC3 1.2567 FAU .19201 RRT -.5209 RRF -.9958 RTF .5287 CRT .5546 CRS .9819 CST .3874
FDE 1.9312 FRA 7.6823 FC-10.9063 BSP 3212 SGB 2148.8 R23 .1457 R13 -.9851 LSA 85.6 MSA 25.8 SSA .4
BDE .4732 BRA .7778 BC3 1.6657 FSP 2635 SG1 1971.8 SG2 853.9 THA 110.29 EL1 37.1 EL2 19.6 ALF 50.79

LAUNCH DATE APR 20 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

DISTANCE 501.286

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.276 GAL -2.44 AZL 94.39 HCA 166.56 SMA 183.21 ECC .18449 INC 4.3936 V1 29.648
RP 210.95 LAP -1.02 LOP 15.87 VP 23.106 GAP 6.12 AZP 85.73 TAL 344.25 TAP 150.81 RCA 149.41 APO 217.01 V2 26.001
RC 118.637 GL -38.41 GP 19.03 ZAL 117.70 ZAP 107.33 VEL 113.32 ZAE 146.01 ETE 148.69 ZAC 120.54 ETC 275.38 LVI -31.53

PLANETOCENTRIC CONIC

C3 15.809 VHL 3.976 DLA -44.31 RAL 356.07 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 3.357 DPA -2.38 RAP 302.87 ECC 1.2602
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 23 23 2034.42 15.80 49.96 224.21 135.48 21 37 17 1034.4 32.46 27.25
54.35 23 26 26 1716.61 26.98 27.44 234.61 126.58 23 55 2 716.6 39.47 2.62
54.35 23 26 26 1716.61 26.98 27.44 234.61 126.58 23 55 2 716.6 39.47 2.62
54.35 23 26 26 1716.61 26.98 27.44 234.61 126.58 23 55 2 716.6 39.47 2.62
54.35 23 26 26 1716.61 26.98 27.44 234.61 126.58 23 55 2 716.6 39.47 2.62
54.35 23 26 26 1716.61 26.98 27.44 234.61 126.58 23 55 2 716.6 39.47 2.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3723 TRA .2305 TC3-1.1732 BAU .3737 SGT 1172.1 SGR 2084.4 SG3 1546.6 ST 27.8 SR 34.4 SS 80.2
RDE -.3153 RRA -.8528 RC3 1.3227 FAU .19243 RRT -.6342 RRF -.9970 RTF .6405 CRT .4484 CRS .9879 CST .3049
FDE 2.0590 FRA 7.7155 FC-10.5381 BSP 3609 SGB 2373.9 R23 .1511 R13 -.9856 LSA 87.6 MSA 26.5 SSA .4
BDE .4879 BRA .8834 BC3 1.7681 FSP 2653 SG1 2219.2 SG2 842.9 THA 113.37 EL1 38.1 EL2 22.4 ALF 57.88

LAUNCH DATE APR 20 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

DISTANCE 505.461

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.271 GAL -2.45 AZL 94.67 HCA 167.78 SMA 183.11 ECC .18415 INC 4.6874 V1 29.648
RP 211.20 LAP -.99 LOP 17.09 VP 23.085 GAP 5.92 AZP 85.44 TAL 344.10 TAP 151.87 RCA 149.39 APO 216.83 V2 25.972
RC 120.836 GL -40.18 GP 20.90 ZAL 117.20 ZAP 105.12 ETS 173.54 ZAE 143.46 ETE 148.59 ZAC 122.48 ETC 275.24 LVI -32.90

PLANETOCENTRIC CONIC

C3 16.936 VHL 4.086 DLA -45.68 RAL 357.69 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.364 DPA -.75 RAP 301.41 ECC 1.2721
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 54 40 1976.99 16.57 43.91 229.16 134.63 22 27 37 977.0 34.76 23.69
52.50 23 25 55 1745.03 27.26 30.30 237.46 128.19 23 55 0 745.0 40.34 5.72
52.50 23 25 55 1745.03 27.26 30.30 237.46 128.19 23 55 0 745.0 40.34 5.72
52.50 23 25 55 1745.03 27.26 30.30 237.46 128.19 23 55 0 745.0 40.34 5.72
52.50 23 25 55 1745.03 27.26 30.30 237.46 128.19 23 55 0 745.0 40.34 5.72
52.50 23 25 55 1745.03 27.26 30.30 237.46 128.19 23 55 0 745.0 40.34 5.72

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3870 TRA .3295 TC3-1.2400 BAU .4118 SGT 1313.8 SGR 2281.9 SG3 1335.9 ST 27.8 SR 38.1 SS 81.2
RDE -.3534 RRA -.9315 RC3 1.3897 FAU .19174 RRT -.7198 RRF -.9979 RTF .1.44 CRT .3351 CRS .9923 CST .2160
FDE 2.2011 FRA 7.6783 FC-10.0381 BSP 4060 SGB 2833.1 R23 .1483 R13 -.9869 LSA 89.9 MSA 27.2 SSA .3
BDE .5095 BRA 1.0069 BC3 1.8625 FSP 2636 SG1 2497.7 SG2 033.4 THA 115.55 EL1 40.0 EL2 24.9 ALF 66.93

LAUNCH DATE APR 20 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

DISTANCE 509.838

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.286 GAL -2.48 AZL 95.00 HCA 168.99 SMA 183.03 ECC .18389 INC 4.9998 V1 29.648
RP 211.46 LAP -.95 LOP 18.30 VP 23.024 GAP 5.72 AZP 85.09 TAL 343.93 TAP 152.92 RCA 149.37 APO 216.69 V2 25.942
RC 123.058 GL -42.21 GP 23.07 ZAL 116.58 ZAP 102.91 ETS 173.82 ZAE 140.75 ETE 148.29 ZAC 124.73 ETC 275.12 LVI -34.54

PLANETOCENTRIC CONIC

C3 17.486 VHL 4.182 DLA -47.24 RAL 359.63 RAD 6641.7 VEL 11.727 PTH 6.76 VHP 3.389 DPA 1.19 RAP 300.11 ECC 1.2878
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 49 36 1888.16 23.68 38.61 237.18 132.55 23 20 44 868.2 38.74 16.34
50.44 23 26 15 1776.71 27.47 33.49 240.87 130.07 23 55 52 776.7 41.26 9.26
50.44 23 26 15 1776.71 27.47 33.49 240.87 130.07 23 55 52 776.7 41.26 9.26
50.44 23 26 15 1776.71 27.47 33.49 240.87 130.07 23 55 52 776.7 41.26 9.26
50.44 23 26 15 1776.71 27.47 33.49 240.87 130.07 23 55 52 776.7 41.26 9.26
50.44 23 26 15 1776.71 27.47 33.49 240.87 130.07 23 55 52 776.7 41.26 9.26

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3599 TRA .4343 TC3-1.2918 BAU .4538 SGT 1475.9 SGR 2530.3 SG3 1507.3 ST 28.0 SR 42.8 SS 82.4
RDE -.4099 RRA -1.0649 RC3 1.4490 FAU .18865 RRT -.7807 RRF -.9986 RTF .7842 CRT .2218 CRS .9954 CST .1277
FDE 2.3876 FRA 7.5584 FC3-9.3400 BSP 4590 SGB 2929.3 R23 .1418 R13 -.9885 LSA 92.9 MSA 27.9 SSA .3
BDE .5455 BRA 1.1501 BC3 1.9413 FSP 2597 SG1 2809.0 SG2 830.7 THA 117.04 EL1 43.5 EL2 26.8 ALF 76.56

LAUNCH DATE APR 20 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 513.817 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.261 GAL -2.50 AZL 95.41 HCA 170.20 SMA 182.98 ECC .18369 INC 5.4110 V1 29.648
 RP 211.73 LAP -.92 LOP 19.51 VP 22.984 GAP 5.52 AZP 84.67 TAL 343.75 TAP 153.95 RCA 149.35 APO 216.57 V2 25.911
 RC 125.302 GL -44.58 GP 25.63 ZAL 115.80 ZAP 100.72 ETS 174.17 ZAE 137.85 ETE 147.79 ZAC 127.37 EYC 275.03 LVI -36.51

PLANETOCENTRIC CONIC
 C3 18.760 VHL 4.331 DLA -49.02 RAL 2.02 RAD 6642.3 VEL 11.780 PTH 6.81 VHP 3.440 DPA 3.53 RAP 298.75 ECC 1.3087
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.13 23 27 55 1812.49 27.57 37.09 245.03 132.28 23 58 7 812.5 42.19 13.39
 48.13 23 27 55 1812.49 27.57 37.09 245.03 132.28 23 58 7 812.5 42.19 13.39
 48.13 23 27 55 1812.49 27.57 37.09 245.03 132.28 23 58 7 812.5 42.19 13.39
 48.13 23 27 55 1812.49 27.57 37.09 245.03 132.28 23 58 7 812.5 42.19 13.39
 48.13 23 27 55 1812.49 27.57 37.09 245.03 132.28 23 58 7 812.5 42.19 13.39
 48.13 23 27 55 1812.49 27.57 37.09 245.03 132.28 23 58 7 812.5 42.19 13.39

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3479 TRA .5442 TC3-1.3221 BAU .5025 SGT 1831.9 SGR 2814.8 SG3 1455.6 ST 26.3 SR 48.6 SS 83.4
 RDE -.4911 RRA-1.1940 RC3 1.5052 FAU .16396 RRT -.8255 RRF -.9991 RTF .8280 CRT .1083 CRS .9975 CST .0375
 FDE 2.6039 FRA 7.3172 FC3-8.4897 BSP 5173 SGB 3263.7 R23 .1328 R13 -.9902 LSA 96.5 MSA 28.5 SSA .2
 BDE .6019 BRA 1.3122 BC3 2.0034 FSP 2509 SG1 3156.0 S2 831.5 THA 117.96 EL1 48.8 EL2 29.1 ALF 84.59

LAUNCH DATE APR 20 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC DISTANCE 517.996 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.258 GAL -2.53 AZL 95.94 HCA 171.40 SMA 182.91 ECC .18356 INC 5.9368 V1 29.648
 RP 212.01 LAP -.89 LOP 20.72 VP 22.944 GAP 5.32 AZP 84.13 TAL 343.56 TAP 154.96 RCA 149.33 APO 216.48 V2 25.880
 RC 127.568 GL -47.37 GP 28.68 ZAL 114.80 ZAP 98.55 ETS 174.61 ZAE 134.70 ETE 147.09 ZAC 130.49 ETC 274.98 LVI -38.90

PLANETOCENTRIC CONIC
 C3 20.528 VHL 4.531 DLA -51.08 RAL 5.05 RAD 6643.1 VEL 11.855 PTH 6.87 VHP 3.525 DPA 6.36 RAP 297.32 ECC 1.3378
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 45.52 23 31 34 1853.73 27.47 41.18 250.21 134.92 24 2 28 853.7 43.06 18.25
 45.52 23 31 34 1853.73 27.47 41.18 250.21 134.92 24 2 28 853.7 43.06 18.25
 45.52 23 31 34 1853.73 27.47 41.18 250.21 134.92 24 2 28 853.7 43.06 18.25
 45.52 23 31 34 1853.73 27.47 41.18 250.21 134.92 24 2 28 853.7 43.06 18.25
 45.52 23 31 34 1853.73 27.47 41.18 250.21 134.92 24 2 28 853.7 43.06 18.25
 45.52 23 31 34 1853.73 27.47 41.18 250.21 134.92 24 2 28 853.7 43.06 18.25

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3282 TRA .6604 TC3-1.3257 BAU .5589 SGT 1838.5 SGR 3142.4 SG3 1374.7 ST 28.7 SR 56.3 SS 84.6
 RDE -.6176 RRA-1.3426 RC3 1.5457 FAU .17617 RRT -.8572 RRF -.9994 RTF .8588 CRT -.0041 CRS .9988 CST -.0355
 FDE 2.8850 FRA 6.9295 FC3-7.4299 BSP 5820 SGB 3640.7 R23 .1230 R13 -.9918 LSA 101.6 MSA 28.8 SSA .2
 BDE .6984 BRA 1.4982 BC3 2.0364 FSP 2369 SG1 3542.6 S2 839.8 THA 118.37 EL1 56.3 EL2 28.7 ALF 90.16

LAUNCH DATE APR 20 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC DISTANCE 522.175 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.255 GAL -2.58 AZL 96.63 HCA 172.60 SMA 182.87 ECC .18350 INC 6.6296 V1 29.648
 RP 212.29 LAP -.85 LOP 21.92 VP 22.904 GAP 5.13 AZP 83.42 TAL 343.36 TAP 155.96 RCA 149.31 APO 216.42 V2 25.848
 RC 129.850 GL -50.72 GP 32.37 ZAL 113.50 ZAP 98.43 ETS 175.18 ZAE 131.25 ETE 146.17 ZAC 134.23 ETC 275.00 LVI -41.82

PLANETOCENTRIC CONIC
 C3 23.101 VHL 4.808 DLA -53.44 RAL 9.02 RAD 6644.2 VEL 11.962 PTH 6.96 VHP 3.665 DPA 9.82 RAP 295.81 ECC 1.3802
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 42.56 23 38 27 1902.41 27.00 45.84 256.80 138.05 24 10 9 902.4 43.75 24.07
 42.56 23 38 27 1902.41 27.00 45.84 256.80 138.05 24 10 9 902.4 43.75 24.07
 42.56 23 38 27 1902.41 27.00 45.84 256.80 138.05 24 10 9 902.4 43.75 24.07
 42.56 23 38 27 1902.41 27.00 45.84 256.80 138.05 24 10 9 902.4 43.75 24.07
 42.56 23 38 27 1902.41 27.00 45.84 256.80 138.05 24 10 9 902.4 43.75 24.07
 42.56 23 38 27 1902.41 27.00 45.84 256.80 138.05 24 10 9 902.4 43.75 24.07

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.2780 TRA .7879 TC3-1.2879 BAU .6252 SGT 2032.0 SGR 3520.8 SG3 1257.2 ST 28.9 SR 67.0 SS 86.1
 RDE -.8251 RRA-1.5134 RC3 1.5817 FAU .18459 RRT -.8819 RRF -.9996 RTF .8527 CRT -.1362 CRS .9995 CST -.1672
 FDE 3.2511 FRA 6.3507 FC3-6.1683 BSP 6549 SGB 4083.1 R23 .1121 R13 -.9933 LSA 109.2 MSA 28.6 SSA .1
 BDE .8706 BRA 1.7062 BC3 2.0243 FSP 2162 SG1 3975.6 S2 846.5 THA 118.38 EL1 67.1 EL2 28.6 ALF 94.12

LAUNCH DATE APR 20 1971

FLIGHT TIME 218.00

ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC DISTANCE 526.353 EARTH TO MARS
 RL 150.29 LAL -.00 LOL 209.27 VL 32.254 GAL -2.59 AZL 97.59 HCA 173.80 SMA 182.84 ECC .18349 INC 7.5856 V1 29.648
 RP 212.57 LAP -.82 LOP 23.13 VP 22.865 GAP 4.94 AZP 82.46 TAL 343.13 TAP 156.95 RCA 149.29 APO 216.38 V2 25.815
 RC 132.153 GL -54.80 GP 36.85 ZAL 111.81 ZAP 94.40 ETS 175.90 ZAE 127.39 ETE 145.06 ZAC 138.77 ETC 275.14 LVI -45.39

PLANETOCENTRIC CONIC
 C3 27.100 VHL 5.208 DLA -56.14 RAL 14.46 RAD 6645.9 VEL 12.127 PTH 7.10 VHP 3.894 DPA 14.08 RAP 294.20 ECC 1.4460
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.25 23 50 48 1961.59 25.91 51.12 265.42 141.72 24 23 29 961.6 43.98 31.04
 39.25 23 50 48 1961.59 25.91 51.12 265.42 141.72 24 23 29 961.6 43.98 31.04
 39.25 23 50 48 1961.59 25.91 51.12 265.42 141.72 24 23 29 961.6 43.98 31.04
 39.25 23 50 48 1961.59 25.91 51.12 265.42 141.72 24 23 29 961.6 43.98 31.04
 39.25 23 50 48 1961.59 25.91 51.12 265.42 141.72 24 23 29 961.6 43.98 31.04
 39.25 23 50 48 1961.59 25.91 51.12 265.42 141.72 24 23 29 961.6 43.98 31.04

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.1777 TRA .9248 TC3-1.2079 BAU .7101 SGT 2226.3 SGR 3947.6 SG3 1091.5 ST 29.2 SR 82.4 SS 87.9
 RDE -1.1843 RRA-1.7020 RC3 1.5436 FAU .14871 RRT -.8997 RRF -.9998 RTF .8998 CRT -.3115 CRS .9999 CST -.3275
 FDE 3.7039 FRA 5.5119 FC3-4.7506 BSP 7282 SGB 4532.1 R23 .1019 R13 -.9946 LSA 120.9 MSA 27.6 SSA .1
 BDE 1.1976 BRA 1.9370 BC3 1.9600 FSP 1857 SG1 4449.3 S2 862.3 THA 118.05 EL1 83.0 EL2 27.5 ALF 97.07

LAUNCH DATE APR 20 1971

FLIGHT TIME 220.00

ARRIVAL DATE NOV 26 1971

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.252 GAL -2.62 AZL 98.99 HCA 174.09 SMA 182.82 ECC .18354 INC 8.9919 V1 29.648
RP 212.86 LAP -.78 LOP 24.32 VP 22.826 GAP 4.75 AZP 81.04 TAL 342.94 TAP 157.93 RCA 149.26 APO 216.37 V2 25.782
RC 134.475 GL -59.65 GP 42.31 ZAL 109.59 ZAP 92.52 ETS 176.80 ZAE 123.01 ETE 143.80 ZAC 144.27 ETC 275.49 LVI -49.69

DISTANCE 530.527

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 33.919 VHL 5.824 DLA -59.08 RAL 22.32 RAD 6648.5 VEL 12.403 PTH 7.31 VHP 4.284 DPA 19.32 RAP 292.44 ECC 1.3582
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
33.70 0 16 39 2036.48 23.68 56.96 277.07 145.87 0 50 36 1036.5 43.19 39.24
33.70 0 16 39 2036.48 23.68 56.96 277.07 145.87 0 50 36 1036.5 43.19 39.24
33.70 0 16 39 2036.48 23.68 56.96 277.07 145.87 0 50 36 1036.5 43.19 39.24
33.70 0 16 39 2036.48 23.68 56.96 277.07 145.87 0 50 36 1036.5 43.19 39.24
33.70 0 16 39 2036.48 23.68 56.96 277.07 145.87 0 50 36 1036.5 43.19 39.24
33.70 0 16 39 2036.48 23.68 56.96 277.07 145.87 0 50 36 1036.5 43.19 39.24

DIFFERENTIAL CORRECTIONS

TDE .0596 TRA 1.0865 TC3-1.0662 BAU .8123
RDE-1.8880 RRA-1.9252 RC3-1.4394 FAU .12425
FDE 4.2780 FRA 4.4280 FC3-3.1714 BSP 8304
BDE 1.8890 BRA 2.2106 BC3 1.7913 FSP 1513

MID-COURSE EXECUTION ACCURACY

SGT 2423.4 SGR 4454.8 SG3 877.8
RRF -.9131 RRF -.9999 RTF .9126
SGB 5071.3 R23 .0920 R13 -.9957
SG1 4994.1 SG2 881.3 THA 117.34

ORBIT DETERMINATION ACCURACY

ST 31.4 SR 108.1 SS 91.0
CRT -.5898 CRS 1.0000 CST -.5951
LSA 142.6 MSA 25.1 SSA .1
EL1 109.8 EL2 25.0 ALF 100.26

LAUNCH DATE APR 20 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 10 1971

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.260 GAL -2.97 AZL 80.94 HCA 183.38 SMA 182.94 ECC .18561 INC 9.0625 V1 29.648
RP 215.04 LAP -.53 LOP 32.61 VP 22.558 GAP 3.52 AZP 99.05 TAL 340.82 TAP 164.21 RCA 148.98 APO 216.89 V2 25.536
RC 151.211 GL 58.97 GP -51.27 ZAL 111.26 ZAP 84.55 ETS 171.85 ZAE 110.03 ETE 207.35 ZAC 51.14 ETC 272.41 LVI 37.13

DISTANCE 559.964

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 35.083 VHL 5.923 DLA 46.85 RAL 316.42 RAD 6648.9 VEL 12.449 PTH 7.35 VHP 5.418 DPA -72.38 RAP 320.59 ECC 1.3774
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 9 25 35 4466.43 -25.77 205.21 213.08 46.51 10 40 2 3466.4 -40.25 181.95
50.95 8 37 46 4586.35 -19.59 210.57 206.96 46.54 9 54 12 3586.3 -35.29 189.75
50.95 8 37 46 4586.35 -19.59 210.57 206.96 46.54 9 54 12 3586.3 -35.29 189.75
50.95 8 37 46 4586.35 -19.59 210.57 206.96 46.54 9 54 12 3586.3 -35.29 189.75
50.95 8 37 46 4586.35 -19.59 210.57 206.96 46.54 9 54 12 3586.3 -35.29 189.75
50.95 8 37 46 4586.35 -19.59 210.57 206.96 46.54 9 54 12 3586.3 -35.29 189.75

DIFFERENTIAL CORRECTIONS

TDE 3.4014 TRA .8857 TC3-1.5772 BAU 1.0426
RDE 3.8322 RRA 2.0651 RC3-1.5666 FAU .07246
FDE 4.0699 FRA 2.3278 FC3-1.7882 BSP 10429
BDE 5.1240 BRA 2.2471 BC3 2.2230 FSP 832

MID-COURSE EXECUTION ACCURACY

SGT 3985.7 SGR 5071.4 SG3 479.7
RRF .9560 RRF .9995 RTF .9506
SGB 6450.2 R23 .1291 R13 .9913
SG1 6383.0 SG2 928.9 THA 52.14

ORBIT DETERMINATION ACCURACY

ST 165.6 SR 190.5 SS 95.0
CRT .9930 CRS -.9999 CST -.9913
LSA 269.2 MSA 15.9 SSA .1
EL1 252.0 EL2 14.8 ALF 49.02

LAUNCH DATE APR 20 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 12 1971

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.263 GAL -3.02 AZL 83.71 HCA 184.54 SMA 182.99 ECC .18806 INC 6.2431 V1 29.648
RP 215.37 LAP -.50 LOP 33.78 VP 22.520 GAP 3.34 AZP 96.27 TAL 340.54 TAP 165.07 RCA 148.94 APO 217.03 V2 25.499
RC 153.869 GL 47.58 GP -44.31 ZAL 117.08 ZAP 82.21 ETS 171.14 ZAE 111.75 ETE 203.19 ZAC 58.13 ETC 271.98 LVI 31.18

DISTANCE 564.119

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 22.839 VHL 4.779 DLA 36.36 RAL 322.71 RAD 6644.1 VEL 11.931 PTH 8.95 VHP 4.506 DPA -86.33 RAP 310.49 ECC 1.3759
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 12 9 48 3950.78 -44.33 170.34 217.22 70.58 13 15 38 2950.8 -47.21 135.67
60.00 11 37 44 4036.49 -33.34 172.39 211.60 65.91 12 43 2 3036.5 -39.98 143.42
66.13 10 9 21 4294.97 -19.69 185.52 203.64 58.80 11 20 56 3295.0 -30.77 161.89
66.13 10 9 21 4294.97 -19.69 185.52 203.64 58.80 11 20 56 3295.0 -30.77 161.89
66.13 10 9 21 4294.97 -19.69 185.52 203.64 58.80 11 20 56 3295.0 -30.77 161.89
66.13 10 9 21 4294.97 -19.69 185.52 203.64 58.80 11 20 56 3295.0 -30.77 161.89

DIFFERENTIAL CORRECTIONS

TDE 2.5378 TRA 1.1728 TC3-2.3632 BAU .9313
RDE 2.4825 RRA 1.9583 RC3-1.9288 FAU .10205
FDE 4.6362 FRA 3.8769 FC3-3.8683 BSP 10051
BDE 3.5360 BRA 2.2809 BC3 3.0502 FSP 1324

MID-COURSE EXECUTION ACCURACY

SGT 4172.0 SGR 4538.3 SG3 782.5
RRF .9828 RRF .9996 RTF .5398
SGB 8184.8 R23 .1343 R13 .9906
SG1 8107.4 SG2 837.3 THA 47.50

ORBIT DETERMINATION ACCURACY

ST 134.4 SR 134.0 SS 113.3
CRT .9931 CRS -.9999 CST -.9914
LSA 245.3 MSA 14.7 SSA .1
EL1 217.7 EL2 12.8 ALF 44.92

LAUNCH DATE APR 20 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 14 1971

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.268 GAL -3.07 AZL 85.38 HCA 185.69 SMA 183.04 ECC .18856 INC 4.6381 V1 29.648
RP 215.71 LAP -.48 LOP 34.98 VP 22.483 GAP 3.17 AZP 94.62 TAL 340.23 TAP 165.92 RCA 148.89 APO 217.19 V2 25.461
RC 158.143 GL 38.19 GP -38.42 ZAL 121.57 ZAP 79.94 ETS 170.80 ZAE 112.55 ETE 199.40 ZAC 64.04 ETC 271.69 LVI 28.11

DISTANCE 588.281

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 17.757 VHL 4.214 DLA 27.76 RAL 327.14 RAD 6641.8 VEL 11.738 PTH 8.77 VHP 4.031 DPA -80.93 RAP 305.01 ECC 1.2822
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 13 21 27 3680.58 -47.57 145.29 209.01 89.54 14 22 48 2680.6 -42.16 111.78
60.00 13 22 42 3677.24 -39.90 144.37 208.39 83.80 14 24 0 2677.2 -38.05 113.58
70.00 13 25 1 3670.43 -32.40 142.38 208.95 78.56 14 26 11 2670.4 -33.81 113.73
80.00 13 31 7 3651.28 -25.37 138.95 204.97 73.71 14 31 58 2651.3 -29.70 112.37
90.00 14 6 25 3537.11 -21.04 129.07 203.46 70.66 15 5 22 2537.1 -27.13 103.70
100.00 16 13 58 3125.75 -25.37 100.32 204.97 73.71 17 6 4 2125.7 -29.70 73.74
110.00 18 24 27 2717.25 -32.40 71.30 206.95 78.56 19 9 44 1717.3 -33.81 42.65

DIFFERENTIAL CORRECTIONS

TDE 2.0780 TRA 1.4083 TC3-3.0335 BAU .8678
RDE 1.7542 RRA 1.6039 RC3-2.0398 FAU .12266
FDE 4.8040 FRA 5.2324 FC3-5.9803 BSP 10037
BDE 2.7195 BRA 2.2873 BC3 3.6556 FSP 1783

MID-COURSE EXECUTION ACCURACY

SGT 4380.5 SGR 4040.6 SG3 995.3
RRF .9674 RRF .9996 RTF .9653
SGB 5959.5 R23 .1446 R13 .9891
SG1 5911.1 SG2 758.0 THA 42.61

ORBIT DETERMINATION ACCURACY

ST 145.0 SR 126.3 SS 121.3
CRT .9940 CRS -.9998 CST -.9918
LSA 227.0 MSA 13.4 SSA .2
EL1 192.0 EL2 10.5 ALF 41.04

LAUNCH DATE APR 20 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 572.448

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.270 GAL -3.13 AZL 86.48 HCA 186.85 SMA 183.11 ECC .10711 INC 3.5491 V1 29.648
 RP 216.04 LAP -.42 LOP 36.11 VP 22.445 GAP 3.00 AZP 93.32 TAL 339.91 TAP 166.78 RCA 148.84 APO 217.37 V2 25.424
 RC 158.631 GL 30.65 GP -33.39 ZAL 124.88 ZAP 77.77 ETS 170.66 ZAE 112.62 ETE 196.31 ZAC 68.99 ETC 271.48 LVI 21.92

PLANETOCENTRIC CONIC

C3 15.320 VHL 3.914 DLA 20.85 RAL 330.47 RAD 6640.7 VEL 11.635 PTH 6.67 VHP 3.760 DPA -36.41 RAP 301.59 ECC 1.2521
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 0 11 3495.59 -46.18 127.71 202.37 103.00 15 6 27 2495.6 -36.03 98.35
 60.00 14 22 34 3457.26 -39.87 125.74 203.84 98.45 15 20 12 2457.3 -33.01 96.94
 70.00 14 45 2 3391.14 -34.14 120.88 204.32 91.13 15 41 33 2391.1 -30.11 92.87
 80.00 15 23 45 3269.73 -29.75 111.59 204.25 87.35 16 18 15 2269.7 -27.82 84.33
 90.00 16 31 13 3051.92 -28.00 95.47 204.13 85.88 17 22 5 2031.9 -26.89 68.51
 100.00 18 0 37 2744.20 -29.75 72.96 204.25 87.35 18 52 21 1744.2 -27.82 45.70
 110.00 19 44 28 2437.96 -34.14 49.77 204.32 91.13 20 25 6 1438.0 -30.11 21.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.7786 TRA 1.5777 TC3-3.6224 BAU .8525 SGT 4574.6 SGR 3568.3 SG3 1164.2 ST 135.4 SR 103.7 SS 121.9
 RDE 1.3180 RRA 1.6194 RC3-2.0503 FAU .14063 RRT .9708 RRF .9994 RTF .9690 CRT .9951 CR8 -.9997 CST -.9924
 FDE 4.7170 FRA 6.2283 FC3-7.9470 BSP 9639 SGB 5801.7 R23 .1584 R13 .9873 LSA 209.3 MSA 11.8 SSA .3
 BDE 2.2137 BRA 2.2609 BC3 4.1624 FSP 2062 SG1 5761.4 SG2 682.3 THA 37.75 EL1 170.4 EL2 8.1 ALF 37.42

LAUNCH DATE APR 20 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 18 1971

HELIOCENTRIC CONIC

DISTANCE 576.611

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.274 GAL -3.19 AZL 87.22 HCA 188.01 SMA 183.17 ECC .18770 INC 2.7772 V1 29.648
 RP 216.39 LAP -.39 LOP 37.27 VP 22.408 GAP 2.83 AZP 92.75 TAL 339.57 TAP 167.58 RCA 148.79 APO 217.56 V2 25.385
 RC 161.134 GL 24.61 GP -29.65 ZAL 127.29 ZAP 75.73 ETS 170.64 ZAE 112.17 ETE 193.65 ZAC 72.85 ETC 271.31 LVI 18.51

PLANETOCENTRIC CONIC

C3 14.062 VHL 3.750 DLA 15.35 RAL 333.10 RAD 6640.1 VEL 11.581 PTH 6.62 VHP 3.596 DPA -52.68 RAP 299.22 ECC 1.2314
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 14 41 58 3361.73 -43.46 115.99 198.56 111.67 15 38 0 2361.7 -30.67 90.08
 60.00 15 4 10 3302.61 -37.93 113.07 200.96 104.80 15 59 13 2302.6 -28.16 86.72
 70.00 15 36 33 3207.34 -32.98 106.66 202.27 99.43 16 30 0 2207.3 -25.80 80.33
 80.00 16 26 5 3052.09 -29.34 95.46 202.83 95.80 17 16 57 2052.1 -24.01 69.31
 90.00 17 39 6 2816.43 -27.95 78.28 202.98 94.46 18 26 2 1816.4 -23.32 52.22
 100.00 19 0 57 2526.56 -29.34 56.83 202.83 95.80 19 51 4 1526.6 -24.01 30.67
 110.00 20 35 59 2254.16 -32.98 35.58 202.27 99.43 21 13 33 1254.2 -25.80 9.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.5971 TRA 1.7440 TC3-4.0507 BAU .6440 SGT 4777.0 SGR 3168.6 SG3 1286.7 ST 128.9 SR 87.5 SS 121.0
 RDE 1.0515 RRA 1.4603 RC3-1.9352 FAU .15157 RRT .9727 RRF .9992 RTF .9715 CRT .9967 CR8 -.9994 CST -.9934
 FDE 4.6044 FRA 7.0086 FC3-9.3310 BSP 9588 SGB 5732.3 R23 .1643 R13 .9856 LSA 197.0 MSA 10.4 SSA .4
 BDE 1.9122 BRA 2.2746 BC3 4.4893 FSP 2299 SG1 5699.1 SG2 616.9 THA 33.27 EL1 155.7 EL2 5.9 ALF 34.14

LAUNCH DATE APR 20 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

DISTANCE 580.776

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.279 GAL -3.25 AZL 87.80 HCA 189.16 SMA 183.25 ECC .16633 INC 2.1988 V1 29.648
 RP 216.73 LAP -.35 LOP 38.43 VP 22.371 GAP 2.66 AZP 92.17 TAL 339.23 TAP 168.39 RCA 148.74 APO 217.76 V2 25.371
 RC 163.649 GL 19.75 GP -26.41 ZAL 129.06 ZAP 73.79 ETS 170.66 ZAE 111.37 ETE 191.45 ZAC 76.10 ETC 271.17 LVI 15.71

PLANETOCENTRIC CONIC

C3 13.400 VHL 3.661 DLA 10.96 RAL 335.24 RAD 6639.8 VEL 11.553 PTH 6.60 VHP 3.494 DPA -49.60 RAP 297.46 ECC 1.2205
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 7 48 3261.79 -40.63 108.07 196.70 117.26 16 2 10 2261.8 -26.31 84.54
 60.00 15 35 23 3188.36 -35.37 104.29 199.53 110.34 16 28 32 2188.4 -24.06 79.83
 70.00 16 14 7 3074.40 -31.06 96.78 201.25 104.98 17 5 22 2074.4 -21.96 71.92
 80.00 17 9 55 2899.58 -27.78 84.40 202.13 101.40 17 58 15 1899.6 -20.40 59.42
 90.00 18 25 51 2654.56 -26.55 66.66 202.39 100.11 19 10 5 1654.6 -19.80 41.67
 100.00 19 52 47 2374.05 -27.78 45.77 202.13 101.40 20 32 21 1374.1 -20.40 20.79
 110.00 21 13 34 2121.22 -31.06 25.70 201.25 104.98 21 48 55 1121.2 -21.96 .83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.4591 TRA 1.8797 TC3-4.4255 BAU .8581 SGT 4969.4 SGR 2811.7 SG3 1364.6 ST 122.8 SR 74.0 SS 116.9
 RDE .8568 RRA 1.3017 RC3-1.8327 FAU .16329 RRT .9755 RRF .9988 RTF .5.48 CRT .9982 CR8 -.9989 CST -.9943
 FDE 4.3820 FRA 7.4940 FC3-10.5500 BSP 9322 SGB 5709.6 R23 .1685 R13 .9849 LSA 184.7 MSA 9.1 SSA .3
 BDE 1.6921 BRA 2.2864 BC3 4.7900 FSP 2363 SG1 5683.9 SG2 541.3 THA 29.19 EL1 143.3 EL2 3.9 ALF 31.03

LAUNCH DATE APR 20 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

DISTANCE 584.935

EARTH TO MARS

RL 150.29 LAL -.00 LOL 209.27 VL 32.284 GAL -3.31 AZL 88.25 HCA 190.31 SMA 183.33 ECC .18000 INC 1.7521 V1 29.648
 RP 217.08 LAP -.31 LOP 39.58 VP 22.334 GAP 2.49 AZP 91.72 TAL 338.87 TAP 169.18 RCA 148.66 APO 217.98 V2 25.308
 RC 166.178 GL 15.82 GP -23.73 ZAL 130.41 ZAP 71.96 ETS 170.76 ZAE 110.36 ETE 189.63 ZAC 78.80 ETC 271.06 LVI 13.40

PLANETOCENTRIC CONIC

C3 13.069 VHL 3.615 DLA 7.44 RAL 337.05 RAD 6639.6 VEL 11.539 PTH 6.58 VHP 3.431 DPA -47.03 RAP 296.11 ECC 1.2151
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 15 28 19 3185.56 -38.10 102.52 195.98 120.98 16 21 25 2185.6 -22.84 80.63
 60.00 15 59 55 3101.51 -33.33 98.02 199.04 114.10 16 51 36 2101.5 -20.72 74.91
 70.00 16 43 13 2974.12 -29.07 89.65 200.99 108.76 17 32 47 1974.1 -18.76 65.90
 80.00 17 43 19 2785.87 -26.00 76.43 202.05 105.23 18 29 45 1785.9 -17.30 52.40
 90.00 19 1 10 2534.64 -24.84 58.30 202.39 103.96 19 43 25 1534.6 -16.75 34.19
 100.00 20 26 11 2260.34 -26.00 37.80 202.05 105.23 21 3 51 1260.3 -17.30 13.77
 110.00 21 42 39 2020.94 -29.07 18.57 200.99 108.76 22 16 20 1020.9 -18.76 354.82

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE 1.3880 TRA 2.0352 TC3-4.6528 BAU .8616 SGT 5170.9 SGR 2527.5 SG3 1423.9 ST 120.4 SR 65.5 SS 116.2
 RDE .7438 RRA 1.1874 RC3-1.6344 FAU .16492 RRT .9750 RRF .9984 RTF .9749 CRT .9994 CR3 -.9982 CST -.9957
 FDE 4.3141 FRA 7.9742 FC3-10.9250 BSP 9583 SGB 5755.6 R23 .1738 R13 .9831 LSA 179.5 MSA 7.8 SSA .6
 BDE 1.5748 BRA 2.3563 BC3 4.9315 FSP 2539 SG1 5733.2 SG2 506.7 THA 25.70 EL1 137.1 EL2 2.0 ALF 28.53

LAUNCH DATE APR 20 1971		FLIGHT TIME 248.00		ARRIVAL DATE DEC 24 1971				
HELIOCENTRIC CONIC								
RL 150.29 LAL	-.00 LOL 209.27 VL	32.289 GAL	-3.37 AZL 88.81 HCA	191.48 SMA 183.42 ECC	.18964 INC 1.3935 V1 29.648			
RP 217.43 LAP	-.28 LOP 40.73 VP	22.297 GAP	2.31 AZP 91.37 TAL	338.59 TAP 170.05 RCA	148.63 APO 218.20 V2 25.269			
RC 168.717 GL	12.62 GP	-21.46 ZAL 131.36 ZAP	70.09 ETS 170.81 ZAE	109.08 ETE	188.05 ZAC 81.08 ETC 270.93 LVI 11.51			
PLANETOCENTRIC CONIC								
C3 12.901 VHL	3.592 DLA	4.57 RAL 336.51 RAD	6639.5 VEL 11.531 PTH	6.58 VHP 3.395 DPA	-44.88 RAP 294.85 ECC 1.2123			
LNCH AZMTH LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH INJ TIME	PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 15 44 47	3125.43	-35.92	98.44	195.77	123.59 16 36 52	2125.4 -20.02 77.69		
60.00 16 19 30	3033.07	-31.33	93.32	198.97	116.77 17 10 3	2033.1 -17.98 71.21		
70.00 17 6 19	2895.36	-27.23	84.27	201.07	111.46 17 54 34	1895.4 -16.09 61.36		
80.00 18 9 40	2696.97	-24.27	70.39	202.25	107.95 18 54 36	1697.0 -14.70 47.09		
90.00 19 28 56	2441.15	-23.16	51.97	202.63	106.70 20 9 37	1441.1 -14.17 28.54		
100.00 20 52 31	2171.44	-24.27	31.76	202.25	107.95 21 28 43	1171.4 -14.70 8.46		
110.00 22 5 45	1942.18	-27.23	13.18	201.07	111.46 22 38 7	942.2 -16.09 350.27		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY		
TDE 1.0295 TRA	1.8931 TC3-5.6904	BAU 1.0752	SGT 5310.4 SGR	2243.7 SG3 1455.9	ST 93.6 SR	31.3 SS	57.5	
RDE .3193 RRA	.7476 RC3-2.5453	FAU .28614	RRT .9953 RRF	.9977 RTF .9879	CRT .9929 CR8	-.9835 CST	-.9552	
FDE 1.7113 FRA	5.8023 FC-19.2014	BSP 5145	SGB 3765.0 R23	.1344 R13 .9900	LSA 113.3 MSA	14.7 SSA	.2	
BDE 1.0779 BRA	1.9982 BC3 6.2337	F8P -91	SG1 5761.5 SG2	200.7 THA 22.84	EL1 98.6 EL2	3.5 ALF	18.38	

LAUNCH DATE APR 20 1971		FLIGHT TIME 250.00		ARRIVAL DATE DEC 26 1971				
HELIOCENTRIC CONIC								
RL 150.29 LAL	-.00 LOL 209.27 VL	32.295 GAL	-3.45 AZL 88.90 HCA	192.60 SMA 183.51 ECC	.19046 INC 1.1012 V1 29.648			
RP 217.79 LAP	-.24 LOP 41.87 VP	22.261 GAP	2.16 AZP 91.08 TAL	338.14 TAP 170.74 RCA	148.56 APO 218.46 V2 25.229			
RC 171.268 GL	9.93 GP	-19.57 ZAL 132.30 ZAP	68.55 ETS 170.97 ZAE	107.95 ETE	186.66 ZAC 82.98 ETC 270.88 LVI 9.84			
PLANETOCENTRIC CONIC								
C3 12.925 VHL	3.595 DLA	2.27 RAL 359.97 RAD	6639.5 VEL 11.532 PTH	6.58 VHP 3.372 DPA	-43.05 RAP 294.13 ECC 1.2127			
LNCH AZMTH LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH INJ TIME	PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 15 59 3	3079.88	-34.16	95.51	196.22	125.39 16 50 22	2079.9 -17.84 75.54		
60.00 16 36 13	2980.07	-29.68	89.90	199.52	118.62 17 25 54	1981.0 -15.84 68.47		
70.00 17 25 47	2835.19	-25.67	80.29	201.73	113.35 18 13 2	1835.2 -13.98 57.97		
80.00 18 31 39	2628.96	-22.76	65.90	202.99	109.86 19 15 28	1629.0 -12.61 43.12		
90.00 19 52 1	2369.60	-21.68	47.24	203.39	108.61 20 31 31	1369.6 -12.09 24.32		
100.00 21 14 31	2103.43	-22.76	27.27	202.99	109.86 21 49 34	1103.4 -12.61 4.49		
110.00 22 25 14	1882.01	-25.67	9.21	201.73	113.35 22 56 36	882.0 -13.98 348.89		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY		
TDE 1.2993 TRA	2.3115 TC3-5.0104	B.U .8955	SGT 5555.1 SGR	2060.1 SG3 1476.0	ST 117.5 SR	52.6 SS	112.2	
RDE .5896 RRA	.9824 RC3-1.3237	FAU .16790	RRT .9744 RRF	.9967 RTF .8762	CRT .9995 CR8	-.9937 CST	-.9977	
FDE 4.1008 FRA	8.4988 FC-11.2463	BSP 9904	SGB 5924.8 R23	.1761 R13 .9813	LSA 170.6 MSA	6.1 SSA	1.1	
BDE 1.4269 BRA	2.5116 BC3 5.1823	F8P 2664	SG1 5908.8 SG2	435.1 THA 19.98	EL1 128.7 EL2	1.6 ALF	24.09	

LAUNCH DATE APR 20 1971		FLIGHT TIME 252.00		ARRIVAL DATE DEC 28 1971				
HELIOCENTRIC CONIC								
RL 150.29 LAL	-.00 LOL 209.27 VL	32.301 GAL	-3.52 AZL 89.14 HCA	193.74 SMA 183.60 ECC	.19124 INC .8569 V1 29.648			
RP 218.15 LAP	-.20 LOP 43.01 VP	22.224 GAP	2.00 AZP 90.83 TAL	337.76 TAP 171.50 RCA	148.49 APO 218.72 V2 25.189			
RC 173.829 GL	7.70 GP	-17.93 ZAL 133.02 ZAP	66.96 ETS 171.09 ZAE	106.66 ETE	185.81 ZAC 84.62 ETC 270.80 LVI 8.45			
PLANETOCENTRIC CONIC								
C3 12.999 VHL	3.605 DLA	.35 RAL 341.19 RAD	6639.6 VEL 11.536 PTH	6.58 VHP 3.363 DPA	-41.48 RAP 293.40 ECC 1.2139			
LNCH AZMTH LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH INJ TIME	PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 16 10 53	3043.00	-32.68	93.23	196.76	126.73 17 1 36	2043.0 -16.06 73.84		
60.00 16 50 6	2938.70	-28.27	87.21	200.13	120.01 17 39 5	1938.7 -14.07 66.29		
70.00 17 41 55	2788.29	-24.31	77.14	202.42	114.76 18 28 22	1786.3 -12.23 58.27		
80.00 18 49 50	2573.64	-21.44	62.33	203.74	111.29 19 32 44	1573.6 -10.88 39.94		
90.00 20 11 8	2311.40	-20.37	43.48	204.17	110.05 20 49 38	1311.4 -10.35 20.83		
100.00 21 32 42	2048.11	-21.44	23.69	203.74	111.29 22 6 50	1048.1 -10.88 1.31		
110.00 22 41 22	1833.11	-24.31	6.06	202.42	114.76 23 11 55	833.1 -12.23 344.19		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY		
TDE 1.2858 TRA	2.4321 TC3-5.1201	BAU .9129	SGT 5743.9 SGR	1876.5 SG3 1484.8	ST 117.8 SR	48.3 SS	111.3	
RDE .5447 RRA	.9019 RC3-1.1751	FAU .16553	RRT .9725 RRF	.9954 RTF .5.58	CRT .9981 CR8	-.9939 CST	-.9989	
FDE 4.0542 FRA	8.6880 FC-11.0247	BSP 10194	SGB 6042.8 R23	.1780 R13 .9799	LSA 169.1 MSA	5.7 SSA	1.3	
BDE 1.3964 BRA	2.6127 BC3 5.2532	F8P 2731	SG1 6028.3 SG2	416.4 THA 17.71	EL1 127.3 EL2	2.8 ALF	22.28	

LAUNCH DATE APR 20 1971		FLIGHT TIME 254.00		ARRIVAL DATE DEC 30 1971				
HELIOCENTRIC CONIC								
RL 150.29 LAL	-.00 LOL 209.27 VL	32.307 GAL	-3.59 AZL 89.35 HCA	194.88 SMA 183.70 ECC	.19206 INC .6511 V1 29.648			
RP 218.81 LAP	-.17 LOP 44.15 VP	22.187 GAP	1.83 AZP 90.63 TAL	337.37 TAP 172.25 RCA	148.42 APO 218.99 V2 25.149			
RC 176.400 GL	5.81 GP	-16.82 ZAL 133.83 ZAP	65.44 ETS 171.21 ZAE	105.33 ETE	184.92 ZAC 86.04 ETC 270.74 LVI 7.24			
PLANETOCENTRIC CONIC								
C3 13.129 VHL	3.623 DLA	-1.24 RAL 342.28 RAD	6639.6 VEL 11.541 PTH	6.59 VHP 3.363 DPA	-40.13 RAP 292.79 ECC 1.2161			
LNCH AZMTH LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH INJ TIME	PO CST TIM INJ 2 LAT INJ 2 LONG		
50.00 16 21 4	3013.52	-31.47	91.47	197.43	127.73 17 11 18	2013.5 -14.63 72.51		
60.00 17 1 58	2904.75	-27.10	85.10	200.85	121.05 17 50 22	1904.7 -12.84 64.57		
70.00 17 55 39	2746.85	-23.16	74.65	203.21	115.83 18 41 26	1746.8 -10.79 53.12		
80.00 19 5 18	2528.86	-20.31	59.49	204.58	112.37 19 47 25	1528.9 -9.42 37.40		
90.00 20 27 17	2264.26	-19.24	40.49	205.03	111.13 21 5 1	1264.3 -8.90 18.22		
100.00 21 48 8	2003.35	-20.31	20.85	204.58	112.37 22 21 31	1003.4 -9.42 358.77		
110.00 22 55 8	1793.69	-23.16	3.57	203.21	115.83 23 24 59	793.7 -10.79 342.04		
DIFFERENTIAL CORRECTIONS			MID-COURSE EXECUTION ACCURACY			ORBIT DETERMINATION ACCURACY		
TDE 1.2704 TRA	2.5782 TC3-5.2411	BAU .9391	SGT 5923.6 SGR	1707.5 SG3 1477.8	ST 117.7 SR	44.1 SS	108.2	
RDE .3000 RRA	.8202 RC3-1.0758	FAU .16720	RRT .9727 RRF	.9937 RTF .9776	CRT .9958 CR8	-.9913 CST	-.9990	
FDE 3.9130 FRA	8.7248 FC-11.0253	BSP 10316	SGB 6164.8 R23	.1674 R13 .9807	LSA 165.8 MSA	5.7 SSA	1.4	
BDE 1.3653 BRA	2.7055 BC3 5.3504	F8P 2669	SG1 6193.0 SG2	381.2 THA 15.73	EL1 125.7 EL2	3.8 ALF	20.48	

LAUNCH DATE APR 20 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 1 1972

Heliocentric Conic

RL 150.29 LAL -.00 LOL 209.27 VL 32.313 GAL -3.67 AZL 89.53 HCA 196.01 SMA 183.81 ECC .19291 INC .4737 V1 29.648
 RP 218.88 LAP -.13 LOP 45.28 VP 22.151 GAP 1.67 AZP 90.46 TAL 336.98 TAP 172.99 RCA 148.35 APO 219.27 V2 25.109
 RC 178.981 GL 4.20 GP -19.30 ZAL 134.19 ZAP 83.98 ETS 171.33 ZAE 103.89 ETE 184.16 ZAC 87.28 ETC 270.69 LVI 6.19

DISTANCE 605.690

EARTH TO MARS

Planetocentric Conic

C3 13.303 VHL 3.647 DLA -2.57 RAL 343.29 RAD 8639.7 VEL 11.549 PTH 6.59 VHP 3.370 DPA -38.94 RAP 292.29 ECC 1.2189
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 29 56 2989.95 -30.48 90.09 198.18 128.49 17 19 46 1989.9 -13.47 71.46
 60.00 17 12 14 2877.43 -26.13 83.44 201.85 121.85 18 0 12 1877.4 -11.47 63.20
 70.00 18 7 30 2714.93 -22.20 72.67 204.06 116.65 18 52 45 1714.9 -9.61 51.40
 80.00 19 18 32 2492.90 -19.35 57.21 205.48 113.19 20 0 5 1492.5 -8.23 35.35
 90.00 20 41 10 2225.88 -18.28 38.08 205.95 111.96 21 18 16 1225.9 -7.71 16.03
 100.00 22 1 24 1966.98 -19.35 18.58 205.48 113.19 22 34 11 967.0 -8.23 356.72
 110.00 23 6 56 1761.75 -22.20 1.59 204.06 116.65 23 36 18 761.7 -9.61 340.32

Differential Corrections

TDE 1.2714 TRA 2.7109 TC3-5.3237 BAU .9624
 RDE .4704 RRA .7527 RC3 -.9698 FAU .16542
 FDE 3.8408 FRA 8.7777 FC-10.7694 BSP 10581
 BDE 1.3556 BRA 2.8134 BC3 5.4113 FSP 2637

Mid-Course Execution Accuracy

SGT 8102.6 SGR 1564.5 SG3 1467.7
 RRT .9708 RRF .9915 RTF .9780
 SGB 8299.9 R23 .1614 R13 .9804
 SG1 8289.4 SG2 363.9 THA 14.02

Orbit Determination Accuracy

ST 118.7 SR 41.0 SS 106.6
 CRT .9924 CRS -.9882 CST -.9993
 LSA 164.6 MSA 5.9 SSA 1.5
 EL1 125.5 EL2 4.8 ALF 18.99

LAUNCH DATE APR 20 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 3 1972

Heliocentric Conic

RL 150.29 LAL -.00 LOL 209.27 VL 32.320 GAL -3.74 AZL 89.68 HCA 197.14 SMA 183.92 ECC .19379 INC .3190 V1 29.648
 RP 219.25 LAP -.09 LOP 46.41 VP 22.115 GAP 1.90 AZP 90.31 TAL 336.58 TAP 173.72 RCA 148.28 APO 219.56 V2 25.068
 RC 181.372 GL 2.81 GP -14.22 ZAL 134.71 ZAP 82.58 ETS 171.45 ZAE 102.65 ETE 183.52 ZAC 88.36 ETC 270.65 LVI 5.26

DISTANCE 609.830

EARTH TO MARS

Planetocentric Conic

C3 13.509 VHL 3.675 DLA -3.68 RAL 344.22 RAD 8639.8 VEL 11.557 PTH 6.60 VHP 3.383 DPA -37.90 RAP 291.88 ECC 1.2223
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 37 44 2971.09 -29.67 89.02 198.97 129.07 17 27 15 1971.1 -12.55 70.63
 60.00 17 21 13 2855.42 -25.33 82.12 202.50 122.46 18 8 48 1855.4 -10.53 62.11
 70.00 18 17 48 2689.03 -21.40 71.09 204.95 117.27 13 2 37 1689.0 -8.65 50.01
 80.00 19 30 3 2462.83 -18.54 55.38 206.41 113.83 20 11 6 1462.8 -7.26 33.69
 90.00 20 53 13 2194.50 -17.47 36.13 206.89 112.60 21 29 47 1194.5 -6.73 14.25
 100.00 22 12 55 1937.30 -18.54 16.74 206.41 113.83 22 45 12 937.3 -7.26 355.06
 110.00 23 17 14 1735.85 -21.40 .01 204.95 117.27 23 46 10 735.8 -8.65 338.93

Differential Corrections

TDE 1.2792 TRA 2.8426 TC3-5.3931 BAU .9868
 RDE .4473 RRA .6922 RC3 -.8764 FAU .16323
 FDE 3.7756 FRA 8.7990 FC-10.4807 BSP 10808
 BDE 1.3551 BRA 2.9257 BC3 5.4638 FSP 2635

Mid-Course Execution Accuracy

SGT 8277.8 SGR 1438.8 SG3 1452.7
 RRT .9682 RRF .9887 RTF .9782
 SGB 8440.6 R23 .1543 R13 .9802
 SG1 8431.0 SG2 351.3 THA 12.55

Orbit Determination Accuracy

ST 120.1 SR 38.5 SS 105.1
 CRT .9880 CRS -.9846 CST -.9996
 LSA 164.0 MSA 6.3 SSA 1.3
 EL1 125.9 EL2 5.7 ALF 17.60

LAUNCH DATE APR 20 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 5 1972

Heliocentric Conic

RL 150.29 LAL -.00 LOL 209.27 VL 32.327 GAL -3.82 AZL 89.81 HCA 198.26 SMA 184.03 ECC .19471 INC .1829 V1 29.648
 RP 219.62 LAP -.06 LOP 47.54 VP 22.079 GAP 1.34 AZP 90.18 TAL 336.18 TAP 174.44 RCA 148.20 APO 219.87 V2 25.028
 RC 184.172 GL 1.81 GP -13.26 ZAL 135.19 ZAP 81.24 ETS 171.57 ZAE 101.33 ETE 182.97 ZAC 89.32 ETC 270.62 LVI 4.44

DISTANCE 613.965

EARTH TO MARS

Planetocentric Conic

C3 13.741 VHL 3.707 DLA -4.62 RAL 345.09 RAD 8639.9 VEL 11.567 PTH 6.61 VHP 3.399 DPA -36.97 RAP 291.54 ECC 1.2261
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 44 38 2956.00 -29.03 88.17 199.80 129.51 17 33 54 1956.1 -11.81 69.97
 60.00 17 29 8 2837.74 -24.68 81.08 203.36 122.93 18 16 26 1837.7 -9.77 61.24
 70.00 18 26 51 2668.04 -20.74 69.82 205.86 117.76 19 11 19 1668.0 -7.87 48.89
 80.00 19 40 7 2438.62 -17.87 53.89 207.35 114.33 20 20 46 1438.6 -6.45 32.34
 90.00 21 3 44 2168.84 -16.79 34.56 207.85 113.09 21 39 53 1168.8 -5.92 12.80
 100.00 22 22 59 1913.09 -17.87 15.26 207.35 114.33 22 54 52 913.1 -6.45 383.71
 110.00 23 26 17 1714.86 -20.74 358.74 205.86 117.76 23 54 52 714.9 -7.87 337.81

Differential Corrections

TDE 1.2928 TRA 2.9747 TC3-5.4488 BAU 1.0115
 RDE .4292 RRA .6376 RC3 -.7931 FAU .16052
 FDE 3.7171 FRA 8.7973 FC-10.1134 BSP 11065
 BDE 1.3623 BRA 3.0423 BC3 5.5062 FSP 2605

Mid-Course Execution Accuracy

SGT 8449.1 SGR 1328.0 SG3 1433.6
 RRT .8647 RRF .9852 RTF .5.84
 SGB 8584.4 R23 .1467 R13 .9800
 SG1 8575.4 SG2 342.9 THA 11.27

Orbit Determination Accuracy

ST 121.7 SR 36.3 SS 103.6
 CRT .9826 CRS -.9803 CST -.9998
 LSA 163.8 MSA 6.8 SSA 1.5
 EL1 126.8 EL2 6.5 ALF 16.40

LAUNCH DATE APR 20 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 7 1972

Heliocentric Conic

RL 150.29 LAL -.00 LOL 209.27 VL 32.334 GAL -3.90 AZL 89.93 HCA 199.39 SMA 184.15 ECC .19566 INC .0560 V1 29.648
 RP 219.99 LAP -.02 LOP 48.66 VP 22.043 GAP 1.18 AZP 90.06 TAL 335.76 TAP 175.15 RCA 148.12 APO 220.18 V2 24.987
 RC 186.781 GL .57 GP -12.42 ZAL 135.66 ZAP 99.94 ETS 171.68 ZAE 100.01 ETE 182.49 ZAC 90.17 ETC 270.60 LVI 3.69

DISTANCE 618.095

EARTH TO MARS

Planetocentric Conic

C3 13.994 VHL 3.741 DLA -5.41 RAL 345.91 RAD 8640.0 VEL 11.578 PTH 6.62 VHP 3.420 DPA -36.14 RAP 291.28 ECC 1.2303
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 50 49 2944.25 -28.51 87.51 200.64 129.85 17 39 53 1944.2 -11.22 69.45
 60.00 17 36 10 2823.62 -24.15 80.25 204.24 123.30 18 23 14 1823.6 -9.16 60.54
 70.00 18 34 50 2651.11 -20.20 68.80 206.78 118.14 19 19 1 1651.1 -7.23 47.99
 80.00 19 49 0 2418.93 -17.31 52.70 208.29 114.71 20 29 19 1418.9 -5.80 31.25
 90.00 21 13 0 2147.91 -16.23 33.28 208.80 113.48 21 48 48 1147.9 -5.26 11.62
 100.00 22 31 52 1893.41 -17.31 14.07 208.29 114.71 23 3 25 893.4 -5.80 352.62
 110.00 23 34 17 1697.93 -20.20 357.72 206.78 118.14 24 2 35 697.9 -7.23 336.91

Differential Corrections

TDE 1.3116 TRA 3.1067 TC3-5.4953 BAU 1.0369
 RDE .4152 RRA .5879 RC3 -.7200 FAU .15766
 FDE 3.6640 FRA 8.7734 FC3-9.7536 BSP 11324
 BDE 1.3758 BRA 3.1618 BC3 5.5423 FSP 2571

Mid-Course Execution Accuracy

SGT 8617.0 SGR 1229.9 SG3 1411.6
 RRT .9803 RRF .9808 RTF .9786
 SGB 8730.3 R23 .1384 R13 .9798
 SG1 8721.8 SG2 337.6 THA 10.15

Orbit Determination Accuracy

ST 123.6 SR 34.6 SS 102.3
 CRT .9763 CRS -.9755 CST -.9998
 LSA 163.9 MSA 7.4 SSA 1.5
 EL1 128.1 EL2 7.2 ALF 15.33

LAUNCH DATE APR 20 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.341 GAL -3.98 AZL 90.04 HCA 200.50 SMA 184.27 ECC .19864 INC .0000 V1 29.648
RP 220.36 LAP .01 LOP 49.78 VP 22.007 GAP 1.01 AZP 89.96 TAL 335.35 TAP 175.85 RCA 148.04 APO 220.50 V2 24.946
RC 189.399 GL -.35 GP -11.66 ZAL 136.11 ZAP 58.70 ETS 171.80 ZAE 98.72 ETE 182.08 ZAC 90.93 ETC 270.59 LVI 3.02

PLANETOCENTRIC CONIC

C3 14.265 VHL 3.777 DLA -6.08 RAL 346.68 RAD 6640.2 VEL 11.590 PTH 6.63 VHP 3.443 DPA -35.40 RAP 291.08 ECC 1.2348
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 56 22 2935.06 -28.11 87.01 201.49 130.11 17 45 17 1935.1 -10.77 69.05
60.00 17 42 27 2812.50 -23.74 79.61 205.13 123.58 18 29 20 1812.5 -8.68 60.00
70.00 18 41 57 2637.57 -19.76 67.99 207.70 118.44 19 25 54 1637.6 -6.72 47.27
80.00 19 56 51 2403.04 -16.86 51.74 209.24 115.01 20 36 54 1403.0 -5.27 30.37
90.00 21 21 11 2130.95 -15.77 32.25 209.75 113.78 21 56 42 1131.0 -4.72 10.67
100.00 22 39 43 1877.51 -16.86 13.10 209.24 115.01 23 11 1 877.5 -5.27 351.74
110.00 23 41 23 1684.39 -19.76 356.91 207.70 118.44 24 9 27 684.4 -6.72 336.19

DIFFERENTIAL CORRECTIONS

TDE 1.3343 TRA 3.2387 TC3-5.5332 BAU 1.0626
RDE .4044 RRA .5425 RC3 -.6550 FAU .15453
FDE 3.6153 FRA 8.7344 FC3-9.3784 B8P 11578
BDE 1.3943 BRA 3.2838 BC3 5.5719 F8P 2529

MID-COURSE EXECUTION ACCURACY

SGT 6780.8 SGR 1142.9 SG3 1387.3
RRR .9548 RRF .9753 RTF .9786
SGB 6876.5 R23 .1301 R13 .9797
SG1 6868.3 SG2 335.5 THA 9.16

ORBIT DETERMINATION ACCURACY

ST 125.6 SR 33.1 S8 101.0
CRT .9692 CR8 -.9701 CST -.9998
LSA 164.3 MSA 7.9 S8A 1.4
EL1 129.6 EL2 7.9 ALF 14.38

LAUNCH DATE APR 20 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.349 GAL -4.06 AZL 90.17 HCA 201.62 SMA 184.39 ECC .19765 INC .1345 V1 29.648
RP 220.74 LAP .05 LOP 50.89 VP 21.971 GAP .85 AZP 89.84 TAL 334.93 TAP 176.54 RCA 147.95 APO 220.84 V2 24.904
RC 192.025 GL -1.15 GP -10.98 ZAL 136.54 ZAP 57.50 ETS 171.91 ZAE 97.44 ETE 181.73 ZAC 91.61 ETC 270.58 LVI 2.40

PLANETOCENTRIC CONIC

C3 14.552 VHL 3.815 DLA -6.65 RAL 347.41 RAD 6640.3 VEL 11.602 PTH 6.64 VHP 3.468 DPA -34.73 RAP 290.93 ECC 1.2393
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 1 24 2928.11 -27.80 86.63 202.34 130.30 17 50 12 1928.1 -10.43 68.75
60.00 17 48 6 2803.89 -23.41 79.11 206.01 123.79 18 34 50 1803.9 -8.30 59.58
70.00 18 48 17 2626.91 -19.42 67.36 208.61 118.66 19 32 4 1626.9 -6.32 46.71
80.00 20 3 51 2390.36 -16.49 50.97 210.18 115.25 20 43 41 1390.4 -4.84 29.67
90.00 21 28 28 2117.35 -15.39 31.43 210.70 114.02 22 3 46 1117.4 -4.28 9.90
100.00 22 46 43 1864.83 -16.49 12.34 210.18 115.25 23 17 48 864.8 -4.84 351.04
110.00 23 47 44 1673.73 -19.42 356.28 208.61 118.66 24 15 37 673.7 -6.32 335.63

DIFFERENTIAL CORRECTIONS

TDE 1.3632 TRA 3.3742 TC3-5.5581 BAU 1.0871
RDE .3965 RRA .5014 RC3 -.5960 FAU .15091
FDE 3.5748 FRA 8.6894 FC3-8.9782 B8P 11868
BDE 1.4197 BRA 3.4113 BC3 5.5880 F8P 2492

MID-COURSE EXECUTION ACCURACY

SGT 6942.2 SGR 1065.9 SG3 1361.7
RRR .9480 RRF .9687 RTF .9786
SGB 7023.6 R23 .1220 R13 .9795
SG1 7015.6 SG2 335.7 THA 8.30

ORBIT DETERMINATION ACCURACY

ST 128.0 SR 31.9 S8 99.8
CRT .9615 CR8 -.9642 CST -.9998
LSA 165.2 MSA 8.5 S8A 1.4
EL1 131.6 EL2 8.5 ALF 13.53

LAUNCH DATE APR 20 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.356 GAL -4.15 AZL 90.22 HCA 202.73 SMA 184.92 ECC .19869 INC .2202 V1 29.648
RP 221.12 LAP .09 LOP 52.00 VP 21.935 GAP .69 AZP 89.79 TAL 334.30 TAP 177.22 RCA 147.86 APO 221.18 V2 24.863
RC 194.659 GL -1.86 GP -10.36 ZAL 136.98 ZAP 56.35 ETS 172.02 ZAE 96.19 ETE 181.41 ZAC 92.22 ETC 270.58 LVI 1.83

PLANETOCENTRIC CONIC

C3 14.854 VHL 3.894 DLA -7.13 RAL 348.11 RAD 6640.5 VEL 11.615 PTH 6.66 VHP 3.495 DPA -34.12 RAP 290.84 ECC 1.2445
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 5 58 2923.06 -27.58 86.35 203.19 130.44 17 54 41 1923.1 -10.18 68.53
60.00 17 53 12 2797.44 -23.17 78.74 206.89 123.95 18 39 49 1797.4 -8.02 59.26
70.00 18 53 59 2618.71 -19.15 66.88 209.52 118.84 19 37 38 1618.7 -6.01 46.28
80.00 20 10 6 2380.43 -16.20 50.38 211.11 115.43 20 49 46 1380.4 -4.51 29.12
90.00 21 34 57 2106.64 -15.09 30.78 211.64 114.20 22 10 4 1106.6 -3.94 9.31
100.00 22 52 58 1854.90 -16.20 11.75 211.11 115.43 23 23 53 854.9 -4.91 350.49
110.00 23 53 26 1665.52 -19.15 355.80 209.52 118.84 24 21 11 665.5 -6.01 333.19

DIFFERENTIAL CORRECTIONS

TDE 1.3930 TRA 3.5077 TC3-5.5781 BAU 1.1132
RDE .3905 RRA .4633 RC3 -.5443 FAU .14740
FDE 3.5342 FRA 8.6306 FC3-8.9911 B8P 12121
BDE 1.4467 BRA 3.3582 BC3 5.6056 F8P 2447

MID-COURSE EXECUTION ACCURACY

SGT 7099.4 SGR 997.4 SG3 1334.7
RRR .9397 RRF .9607 RTF .5.83
SGB 7169.1 R23 .1145 R13 .9792
SG1 7161.1 SG2 338.1 THA 7.54

ORBIT DETERMINATION ACCURACY

ST 130.3 SR 30.8 S8 98.7
CRT .9531 CR8 -.9578 CST -.9997
LSA 166.1 MSA 9.1 S8A 1.4
EL1 133.6 EL2 9.1 ALF 12.77

LAUNCH DATE APR 20 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.364 GAL -4.24 AZL 90.30 HCA 203.83 SMA 184.65 ECC .19976 INC .2994 V1 29.648
RP 221.50 LAP .12 LOP 53.11 VP 21.900 GAP .52 AZP 89.72 TAL 334.06 TAP 177.90 RCA 147.77 APO 221.54 V2 24.821
RC 197.299 GL -2.30 GP -9.80 ZAL 137.40 ZAP 55.23 ETS 172.12 ZAE 94.96 ETE 181.14 ZAC 92.78 ETC 270.60 LVI 1.30

PLANETOCENTRIC CONIC

C3 15.169 VHL 3.895 DLA -7.54 RAL 348.78 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 3.524 DPA -33.56 RAP 290.80 ECC 1.2497
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 10 9 2919.64 -27.43 86.17 204.04 130.53 17 58 49 1919.6 -10.01 68.38
60.00 17 57 50 2792.83 -22.99 78.48 207.77 124.06 18 44 23 1792.8 -7.82 59.04
70.00 18 59 7 2612.61 -18.95 66.52 210.42 118.96 19 42 40 1612.6 -5.78 45.95
80.00 20 15 42 2372.87 -15.96 49.93 212.03 115.56 20 55 15 1372.9 -4.26 28.70
90.00 21 40 46 2098.40 -14.86 30.29 212.57 114.34 22 15 45 1098.4 -3.68 8.84
100.00 22 58 34 1847.34 -15.98 11.29 212.03 115.56 23 29 21 847.3 -4.26 350.07
110.00 0 2 30 1659.43 -18.95 355.44 210.42 118.96 0 30 9 659.4 -5.78 334.87

DIFFERENTIAL CORRECTIONS

TDE 1.4266 TRA 3.6431 TC3-5.5930 BAU 1.1388
RDE .3865 RRA .4281 RC3 -.4980 FAU .14372
FDE 3.4973 FRA 8.5640 FC3-8.2021 B8P 12387
BDE 1.4780 BRA 3.6681 BC3 5.6151 F8P 2401

MID-COURSE EXECUTION ACCURACY

SGT 7253.3 SGR 936.6 SG3 1306.9
RRR .9429 RRF .9512 RTF .9783
SGB 7313.5 R23 .1073 R13 .9789
SG1 7305.5 SG2 342.0 THA 6.86

ORBIT DETERMINATION ACCURACY

ST 132.8 SR 30.0 S8 97.9
CRT .9442 CR8 -.9510 CST -.9996
LSA 167.2 MSA 9.7 S8A 1.4
EL1 135.8 EL2 9.7 ALF 12.10

LAUNCH DATE APR 20 1971

FLIGHT TIME 272.00

ARRIVAL DATE JAN 17 1972

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.372 GAL -4.32 AZL 90.37 HCA 204.94 SMA 184.78 ECC .20085 INC .3718 V1 29.648
 RP 221.08 LAP .16 LOP 54.21 VP 21.864 GAP .38 AZP 89.66 TAL 333.63 TAP 178.96 RCA 147.67 APO 221.90 V2 24.780
 RC 199.945 GL -3.06 GP -9.30 ZAL 137.83 ZAP 54.16 ETS 172.22 ZAE 93.75 ETE 180.90 ZAC 93.28 ETC 270.62 LVI .80

Distance 638.672

Planetocentric Conic: C3 15.498 VHL 3.937 DLA -7.68 RAL 349.42 RAD 6640.8 VEL 11.642 PTH 6.68 VHP 3.555 DPA -33.05 RAP 290.80 ECC 1.2551
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 13 59 2917.64 -27.34 86.08 204.88 130.58 18 2 37 1917.6 -9.91 68.30
 60.00 18 2 3 2789.82 -22.88 78.31 208.64 124.13 18 48 32 1789.8 -7.69 58.89
 70.00 19 3 46 2608.35 -18.81 65.27 211.32 119.05 19 47 14 1608.3 -5.62 45.73
 80.00 20 20 45 2367.36 -15.82 49.60 212.94 115.66 21 0 12 1367.4 -4.07 28.40
 90.00 21 45 59 2092.33 -14.69 29.92 213.49 114.44 22 20 52 1092.3 -3.48 8.50
 100.00 23 3 37 1841.83 -15.82 10.97 212.94 115.66 23 34 19 841.8 -4.07 349.77
 110.00 0 7 8 1655.17 -18.81 355.19 211.32 119.05 0 34 43 655.2 -5.62 334.65

Differential Corrections: TDE 1.4633 TRA 3.7797 TC3-5.6019 BAU 1.1645 SGT 7404.8 SGR 882.8 S63 1278.7 ORBIT DETERMINATION ACCURACY
 RDE .3840 RRA .3954 RC3 -.4569 FAU .14007 RRT .9184 RRF .9401 RTF .9782 CRT .9350 CRS -.9439 CST -.9995 ST 135.4 SR 29.3 SS 96.5
 FDE 3.4634 FRA 8.4916 FC3-7.8247 B8P 12652 SGB 7497.2 R23 .1004 R13 .9787 LSA 168.4 MSA 10.2 SSA 1.4
 BDE 1.5128 BRA 3.8004 BC3 5.6205 F8P 2355 SG1 7449.1 S62 347.2 THA 6.26 EL1 138.1 EL2 10.2 ALF 11.50

LAUNCH DATE APR 20 1971

FLIGHT TIME 274.00

ARRIVAL DATE JAN 19 1972

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.380 GAL -4.41 AZL 90.44 HCA 206.04 SMA 184.92 ECC .20190 INC .4380 V1 29.648
 RP 222.27 LAP .19 LOP 55.31 VP 21.829 GAP .20 AZP 89.61 TAL 333.19 TAP 179.22 RCA 147.57 APO 222.27 V2 24.738
 RC 202.595 GL -3.56 GP -8.83 ZAL 138.25 ZAP 53.12 ETS 172.32 ZAE 92.57 ETE 180.69 ZAC 93.74 ETC 270.64 LVI .34

Distance 642.771

Planetocentric Conic: C3 15.839 VHL 3.980 DLA -8.16 RAL 350.04 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 3.586 DPA -32.58 RAP 290.85 ECC 1.2607
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 17 31 2918.87 -27.31 86.02 205.72 130.60 18 6 8 1916.9 -9.87 68.26
 60.00 18 5 54 2788.21 -22.82 78.22 209.51 124.17 18 52 22 1788.2 -7.62 58.81
 70.00 19 7 59 2605.08 -18.72 66.11 212.21 119.10 19 51 24 1605.7 -5.52 45.59
 80.00 20 25 18 2363.65 -15.71 49.38 213.84 115.72 21 4 41 1363.6 -3.95 28.19
 90.00 21 50 41 2088.13 -14.57 29.67 214.39 114.51 22 25 29 1088.1 -3.35 8.27
 100.00 23 8 10 1838.12 -15.71 10.74 213.84 115.72 23 38 48 838.1 -3.95 349.56
 110.00 0 11 21 1652.50 -18.72 355.03 212.21 119.10 0 38 54 652.5 -5.52 334.51

Differential Corrections: TDE 1.5022 TRA 3.9175 TC3-5.6033 BAU 1.1902 SGT 7552.8 SGR 835.1 S63 1250.1 ORBIT DETERMINATION ACCURACY
 RDE .3829 RRA .3690 RC3 -.4200 FAU .13631 RRT .9050 RRF .9271 RTF .9780 CRT .9254 CRS -.9366 CST -.9994 ST 138.0 SR 28.7 SS 95.4
 FDE 3.4307 FRA 8.4147 FC3-7.4508 B8P 12918 SGB 7598.8 R23 .0942 R13 .9784 LSA 169.8 MSA 10.8 SSA 1.4
 BDE 1.5502 BRA 3.9344 BC3 5.6210 F8P 2308 SG1 7590.6 S62 353.5 THA 5.73 EL1 140.5 EL2 10.7 ALF 10.98

LAUNCH DATE APR 20 1971

FLIGHT TIME 276.00

ARRIVAL DATE JAN 21 1972

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.389 GAL -4.51 AZL 90.50 HCA 207.13 SMA 185.06 ECC .20313 INC .4986 V1 29.648
 RP 222.65 LAP .23 LOP 56.40 VP 21.794 GAP .03 AZP 89.56 TAL 332.74 TAP 179.87 RCA 147.47 APO 222.65 V2 24.696
 RC 205.250 GL -4.01 GP -8.41 ZAL 138.67 ZAP 52.12 ETS 172.42 ZAE 91.41 ETE 180.50 ZAC 94.16 ETC 270.68 LVI -.10

Distance 648.868

Planetocentric Conic: C3 16.192 VHL 4.024 DLA -8.39 RAL 350.64 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 3.619 DPA -32.14 RAP 290.93 ECC 1.2665
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 48 2917.18 -27.32 86.03 206.56 130.60 18 9 25 1917.2 -9.88 68.28
 60.00 18 9 26 2787.83 -22.80 78.19 210.37 124.18 18 55 54 1787.0 -7.61 58.79
 70.00 19 11 49 2604.42 -18.68 66.04 213.09 119.13 19 55 13 1604.4 -5.47 45.52
 80.00 20 29 24 2361.51 -15.65 49.25 214.74 115.76 21 8 46 1361.5 -3.87 28.08
 90.00 21 54 55 2085.60 -14.50 29.52 215.29 114.55 22 29 41 1085.6 -3.27 8.13
 100.00 23 12 16 1835.99 -15.65 10.62 214.74 115.76 23 42 52 836.0 -3.87 349.44
 110.00 0 15 11 1651.24 -18.68 354.96 213.09 119.13 0 42 42 651.2 -5.47 334.44

Differential Corrections: TDE 1.5436 TRA 4.0564 TC3-5.6038 BAU 1.2159 SGT 7697.8 SGR 793.0 S63 1221.4 ORBIT DETERMINATION ACCURACY
 RDE .3829 RRA .3365 RC3 -.3867 FAU .13248 RRT .8898 RRF .9122 RTF .9780 CRT .9158 CRS -.9291 CST -.9992 ST 140.7 SR 28.2 SS 94.4
 FDE 3.4009 FRA 8.3342 FC3-7.0834 B8P 13179 SGB 7738.5 R23 .0888 R13 .9780 LSA 171.4 MSA 11.3 SSA 1.4
 BDE 1.5904 BRA 4.0703 BC3 5.6172 F8P 2263 SG1 7730.1 S62 360.7 THA 5.25 EL1 143.1 EL2 11.1 ALF 10.47

LAUNCH DATE APR 20 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 23 1972

Heliocentric Conic: RL 150.29 LAL -.00 LOL 209.27 VL 32.397 GAL -4.60 AZL 90.56 HCA 208.22 SMA 185.20 ECC .20431 INC .5550 V1 29.648
 RP 223.04 LAP .26 LOP 57.50 VP 21.759 GAP -.13 AZP 89.51 TAL 332.29 TAP 180.51 RCA 147.36 APO 223.04 V2 24.654
 RC 207.907 GL -4.41 GP -8.02 ZAL 139.08 ZAP 51.16 ETS 172.52 ZAE 90.27 ETE 180.33 ZAC 94.55 ETC 270.72 LVI -.52

Distance 650.951

Planetocentric Conic: C3 16.357 VHL 4.069 DLA -8.59 RAL 351.22 RAD 6641.3 VEL 11.687 PTH 6.72 VHP 3.653 DPA -31.73 RAP 291.06 ECC 1.2725
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 50 2918.44 -27.38 86.10 207.40 130.36 18 12 29 1918.4 -9.95 68.33
 60.00 18 12 41 2788.52 -22.83 78.23 211.23 124.16 18 59 10 1788.5 -7.64 58.83
 70.00 19 15 19 2604.39 -18.68 66.04 213.96 119.13 19 58 43 1604.4 -5.47 45.52
 80.00 20 33 8 2360.78 -15.62 49.21 215.62 115.77 21 12 29 1360.8 -3.85 28.04
 90.00 21 58 45 2084.54 -14.47 29.46 216.18 114.56 22 33 29 1084.5 -3.23 8.07
 100.00 23 16 0 1835.25 -15.62 10.57 215.62 115.77 23 46 35 835.2 -3.85 349.40
 110.00 0 18 41 1651.21 -18.68 354.95 213.96 119.13 0 46 12 651.2 -5.47 334.44

Differential Corrections: TDE 1.5869 TRA 4.1968 TC3-5.5986 BAU 1.2418 SGT 7840.2 SGR 756.0 S63 1192.7 ORBIT DETERMINATION ACCURACY
 RDE .3840 RRA .3099 RC3 -.3571 FAU .12873 RRT .8722 RRF .8992 RTF .9773 CRT .9060 CRS -.9216 CST -.9991 ST 143.4 SR 27.8 SS 93.3
 FDE 3.3711 FRA 8.2499 FC3-6.7310 B8P 13434 SGB 7876.6 R23 .0837 R13 .9777 LSA 172.9 MSA 11.8 SSA 1.3
 BDE 1.6327 BRA 4.2082 BC3 5.6100 F8P 2214 SG1 7868.0 S62 368.5 THA 4.82 EL1 145.6 EL2 11.6 ALF 10.04

LAUNCH DATE APR 20 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 28 1972

HELIOCENTRIC CONIC

RL 150.29 LAL -.00 LOL 209.27 VL 32.406 GAL -4.70 AZL 90.61 HCA 209.31 SMA 165.34 ECC .20352 INC .6069 V1 29.648
 RP 223.42 LAP .30 LOP 56.58 VP 21.725 GAP -.30 AZP 89.47 TAL 331.84 TAP 181.15 RCA 147.25 APO 223.44 V2 24.612
 RC 210.968 GL -4.77 GP -7.66 ZAL 139.50 ZAP 50.23 ETS 172.61 ZAE 89.15 ETE 160.16 ZAC 94.90 ETC 270.76 LVI -.92

DISTANCE 655.032

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.934 VHL 4.115 DLA -8.74 RAL 351.79 RAD 6641.4 VEL 11.703 PYM 6.74 VHP 3.687 DPA -31.35 RAP 291.21 ECC 1.2787
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 40 2920.54 -27.47 86.22 208.23 130.51 18 15 20 1920.5 -10.09 68.42
 60.00 18 15 41 2790.16 -22.89 78.33 212.08 124.12 19 2 11 1790.2 -7.71 58.91
 70.00 19 18 30 2605.47 -18.71 66.10 214.83 119.11 20 1 56 1605.5 -5.91 45.98
 80.00 20 36 31 2361.27 -15.64 49.24 216.50 115.76 21 15 52 1361.3 -3.87 28.06
 90.00 22 2 13 2084.77 -14.48 29.47 217.07 114.56 22 36 57 1084.6 -3.24 8.06
 100.00 23 19 23 1835.75 -15.64 10.60 216.50 115.76 23 49 58 835.7 -3.87 349.43
 110.00 0 21 53 1652.28 -18.71 355.02 214.83 119.11 0 49 25 652.3 -5.51 334.50

DIFFERENTIAL CORRECTIONS

TDE 1.6320 TRA 4.3378 TC3-5.5897 BAU 1.2677
 RDE .3859 RRA .2847 RC3 -.3304 FAU .12492
 PDE 3.3426 FRA 8.1625 FC3-6.3864 BSP 13686
 BDE 1.6770 BRA 4.3472 BC3 5.5995 FSP 2187

MID-COURSE EXECUTION ACCURACY

SGT 7979.2 SGR 723.5 SG3 1164.0
 RRT .8526 RRF .8763 RTF .9769
 SGB 8011.9 R23 .0793 R13 .9772
 SG1 8003.0 SG2 376.9 THA 4.43

ORBIT DETERMINATION ACCURACY

ST 146.1 SR 27.5 SS 92.3
 CRT .8963 CRS -.9141 CST -.9990
 LSA 174.6 MSA 12.2 SSA 1.3
 EL1 148.2 EL2 12.0 ALF 9.65

LAUNCH DATE APR 21 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC DISTANCE 332.166 EARTH TO MARS
 RL 150.33 LAL -.00 LOL 210.25 VL 34.797 GAL -4.87 AZL 91.96 HCA 109.71 SMA 239.20 ECC .37980 INC 1.9848 V1 29.640
 RP 207.32 LAP -1.85 LOP 319.97 VP 26.934 GAP 21.03 AZP 89.34 TAL 342.21 TAP 91.92 RCA 148.35 APO 330.04 V2 26.420
 RC 56.291 GL -11.07 GP 1.56 ZAL 123.64 ZAP 172.75 ETS 167.42 ZAE 172.86 ETE 113.46 ZAC 102.23 ETC 276.70 LVI -18.03

PLANETOCENTRIC CONIC
 C3 36.323 VHL 6.191 DLA -20.09 RAL 340.76 RAD 6650.1 VEL 12.578 PTH 7.44 VHP 10.355 DPA -17.21 RAP 315.45 ECC 1.6307
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 26 2987.73 -26.01 84.46 208.76 131.36 18 12 34 1987.7 -8.42 67.01
 60.00 18 28 2 2718.59 -20.10 74.33 211.87 125.70 19 13 20 1718.6 -4.58 55.44
 70.00 19 48 30 2482.04 -14.48 59.04 215.76 121.27 20 29 52 1482.0 -.81 39.12
 80.00 21 24 33 2181.47 -10.06 38.80 218.35 118.26 22 0 54 1181.5 2.22 18.18
 90.00 22 58 57 1876.94 -8.28 17.36 219.29 117.14 23 30 13 876.9 3.45 356.48
 100.00 0 11 20 1655.94 -10.06 .17 218.35 118.26 0 38 56 655.9 2.22 339.55
 110.00 0 51 52 1528.86 -14.48 347.96 215.76 121.27 1 17 21 528.9 -.81 328.03

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6197 TRA-1.3184 TC3 -.0490 BAU .0550 SGT 1421.6 SGR 564.7 SG3 145.3 ST 34.7 SR 26.2 SS 23.4
 RDE -.5641 RRA .1823 RC3 .0956 FAU .03673 RRT .0732 RRF -.0790 RTF -.7563 CRT .7649 CRS .5954 CST .9713
 FDE .3811 FRA 1.3027 FC3 -.8298 BSP 2281 SGB 1529.7 R23 -.0133 R13 -.7586 LSA 46.4 MSA 17.0 SSA 1.1
 BDE .8380 BRA 1.3310 BC3 .1074 FSP 191 SGI 1422.3 SG2 562.9 TMA 1.98 EL1 41.1 EL2 14.3 ALF 34.88

LAUNCH DATE APR 21 1971 FLIGHT TIME 116.00 ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC DISTANCE 334.595 EARTH TO MARS
 RL 150.33 LAL -.00 LOL 210.25 VL 34.640 GAL -4.74 AZL 91.98 HCA 110.97 SMA 234.58 ECC .36733 INC 1.9800 V1 29.640
 RP 207.22 LAP -1.85 LOP 321.23 VP 26.742 GAP 20.53 AZP 89.29 TAL 342.27 TAP 93.24 RCA 148.41 APO 320.74 V2 26.432
 RC 56.455 GL -11.43 GP 1.62 ZAL 123.66 ZAP 171.91 ETS 168.36 ZAE 173.14 ETE 106.35 ZAC 102.24 ETC 276.79 LVI -18.20

PLANETOCENTRIC CONIC
 C3 36.211 VHL 6.018 DLA -20.40 RAL 340.97 RAD 6649.3 VEL 12.494 PTH 7.38 VHP 10.038 DPA -17.04 RAP 315.84 ECC 1.5959
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 26 38 2866.91 -25.07 83.38 206.14 131.86 18 14 25 1866.9 -7.38 66.13
 60.00 18 30 43 2696.52 -19.22 73.13 211.25 126.13 19 15 39 1696.5 -3.61 54.39
 70.00 19 51 48 2458.14 -13.63 57.71 215.16 121.62 20 32 46 1458.1 .10 37.87
 80.00 21 28 33 2155.32 -9.21 37.33 217.77 118.53 22 4 29 1155.3 3.10 16.75
 90.00 23 3 21 1849.53 -7.43 15.80 218.72 117.37 23 34 11 849.5 4.33 354.94
 100.00 0 15 21 1629.79 -9.21 358.69 217.77 118.53 0 42 31 629.8 3.10 338.12
 110.00 0 55 10 1504.96 -13.63 346.62 215.16 121.62 1 20 15 505.0 .10 326.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6050 TRA-1.2979 TC3 -.0280 BAU .0514 SGT 1439.2 SGR 562.6 SG3 155.3 ST 34.9 SR 26.1 SS 24.4
 RDE -.5462 RRA .1731 RC3 .1024 FAU .03775 RRT .0786 RRF -.0867 RTF -.7740 CRT .7630 CRS .5954 CST .9720
 FDE .3969 FRA 1.3592 FC3 -.9025 BSP 2215 SGB 1345.2 R23 -.0151 R13 -.7742 LSA 46.9 MSA 17.1 SSA 1.1
 BDE .8150 BRA 1.3093 BC3 .1082 FSP 210 SGI 1440.0 SG2 560.6 TMA 2.07 EL1 41.2 EL2 14.3 ALF 34.45

LAUNCH DATE APR 21 1971 FLIGHT TIME 120.00 ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC DISTANCE 337.187 EARTH TO MARS
 RL 150.33 LAL -.00 LOL 210.25 VL 34.491 GAL -4.61 AZL 92.00 HCA 112.23 SMA 230.39 ECC .35558 INC 1.9954 V1 29.640
 RP 207.13 LAP -1.85 LOP 322.50 VP 26.580 GAP 20.04 AZP 89.24 TAL 342.34 TAP 94.57 RCA 148.47 APO 312.31 V2 26.443
 RC 56.701 GL -11.80 GP 1.68 ZAL 123.67 ZAP 171.04 ETS 169.12 ZAE 173.32 ETE 99.01 ZAC 102.25 ETC 276.88 LVI -18.38

PLANETOCENTRIC CONIC
 C3 34.264 VHL 5.854 DLA -20.72 RAL 341.18 RAD 6648.6 VEL 12.416 PTH 7.32 VHP 9.731 DPA -16.87 RAP 316.21 ECC 1.5839
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 52 2848.18 -24.12 82.31 205.55 132.34 18 16 18 1848.2 -6.35 65.25
 60.00 18 33 26 2674.47 -18.33 71.95 210.66 126.54 19 18 1 1674.5 -2.64 53.33
 70.00 19 55 11 2434.15 -12.77 56.38 214.58 121.95 20 35 45 1434.1 1.02 36.62
 80.00 21 32 43 2128.90 -8.35 35.84 217.21 118.77 22 8 12 1128.9 3.99 15.29
 90.00 23 7 56 1821.75 -6.56 14.22 218.18 117.57 23 38 18 821.8 5.21 353.38
 100.00 0 19 31 1603.37 -8.55 357.21 217.21 118.77 0 46 14 603.4 3.99 336.66
 110.00 0 58 33 1480.97 -12.77 345.30 214.58 121.95 1 23 14 481.0 1.02 325.53

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6062 TRA-1.2926 TC3 -.0231 BAU .0513 SGT 1477.4 SGR 560.2 SG3 165.8 ST 35.9 SR 26.0 SS 25.2
 RDE -.5288 RRA .1639 RC3 .1096 FAU .03904 RRT .0867 RRF -.0945 RTF -.7787 CRT .7655 CRS .5923 CST .9703
 FDE .4088 FRA 1.4137 FC3 -.9863 BSP 2344 SGB 1580.1 R23 -.0158 R13 -.7790 LSA 48.0 MSA 17.2 SSA 1.1
 BDE .8045 BRA 1.3030 BC3 .1120 FSP 225 SGI 1478.3 SG2 557.7 TMA 2.19 EL1 42.0 EL2 14.3 ALF 33.37

LAUNCH DATE APR 21 1971 FLIGHT TIME 122.00 ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC DISTANCE 339.923 EARTH TO MARS
 RL 150.33 LAL -.00 LOL 210.25 VL 34.351 GAL -4.48 AZL 92.01 HCA 113.50 SMA 226.58 ECC .34449 INC 2.0112 V1 29.640
 RP 207.05 LAP -1.84 LOP 323.78 VP 26.387 GAP 19.56 AZP 89.20 TAL 342.42 TAP 95.92 RCA 148.53 APO 304.84 V2 26.453
 RC 57.030 GL -12.18 GP 1.74 ZAL 123.85 ZAP 170.16 ETS 169.75 ZAE 173.39 ETE 91.74 ZAC 102.27 ETC 276.96 LVI -18.55

PLANETOCENTRIC CONIC
 C3 32.484 VHL 5.698 DLA -21.05 RAL 341.37 RAD 6647.9 VEL 12.344 PTH 7.27 VHP 9.434 DPA -16.71 RAP 316.58 ECC 1.5343
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 31 7 2825.51 -23.17 81.27 204.98 132.80 18 18 12 1825.5 -5.31 64.37
 60.00 18 36 13 2652.40 -17.43 70.77 210.09 126.93 19 20 25 1652.4 -1.67 52.27
 70.00 19 58 40 2410.01 -11.90 55.06 214.03 122.25 20 38 50 1410.0 1.94 35.36
 80.00 21 37 2 2102.15 -7.47 34.34 216.68 118.99 22 12 4 1102.1 4.89 13.82
 90.00 23 12 43 1793.38 -5.66 12.63 217.67 117.75 23 42 36 793.4 6.11 351.79
 100.00 0 23 50 1576.62 -7.47 355.71 216.68 118.99 0 50 6 576.6 4.89 335.18
 110.00 1 2 2 1456.82 -11.90 343.97 214.03 122.25 1 26 19 456.8 1.94 324.27

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.6049 TRA-1.2848 TC3 -.0153 BAU .0513 SGT 1512.2 SGR 557.4 SG3 177.1 ST 36.8 SR 25.9 SS 26.0
 RDE -.5120 RRA .1547 RC3 .1171 FAU .04038 RRT .0950 RRF -.1031 RTF -.7847 CRT .7674 CRS .5897 CST .9688
 FDE .4217 FRA 1.4715 FC3 -1.0767 BSP 2439 SGB 1611.7 R23 -.0171 R13 -.7850 LSA 49.0 MSA 17.3 SSA 1.1
 BDE .7925 BRA 1.2940 BC3 .1181 FSP 242 SGI 1513.3 SG2 554.5 TMA 2.32 EL1 42.7 EL2 14.3 ALF 32.42

LAUNCH DATE APR 21 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 23 1971

HELIOCENTRIC CONIC

DISTANCE 342.788

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 34.218 GAL -4.35 AZL 92.03 HCA 114.76 SMA 223.12 ECC .33404 INC 2.0272 V1 29.840
 RP 206.97 LAP -1.84 LOP 325.03 VP 26.223 GAP 19.08 AZP 89.15 TAL 342.51 TAP 97.27 RCA 148.59 APO 297.65 V2 26.482
 RC 57.440 GL -12.56 GP 1.81 ZAL 123.61 ZAP 169.27 ETS 170.27 ZAE 173.36 ETE 84.80 ZAC 102.29 ETC 277.05 LVI -10.73

PLANETOCENTRIC CONIC

C3 30.799 VHL 5.550 DLA -21.40 RAL 341.55 RAD 6647.3 VEL 12.277 PTH 7.22 VHP 9.147 DPA -16.54 RAP 316.93 ECC 1.5069
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 33 23 2804.91 -22.21 80.24 204.44 133.22 18 20 8 1804.9 -4.28 63.51
 60.00 18 39 2 2630.33 -16.52 69.61 209.54 127.30 19 22 52 1630.3 -.70 51.22
 70.00 20 2 14 2385.74 -11.01 53.73 213.50 122.54 20 42 0 1385.7 2.86 34.09
 80.00 21 41 30 2075.06 -6.58 32.83 216.18 119.19 22 16 5 1075.1 3.79 12.32
 90.00 23 17 42 1764.78 -4.75 11.01 217.18 117.91 23 47 7 784.8 7.01 350.16
 100.00 0 28 18 1549.53 -6.58 354.20 216.18 119.19 0 54 8 549.5 5.79 333.68
 110.00 1 5 38 1432.56 -11.01 342.65 213.50 122.54 1 29 29 432.6 2.86 323.01

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.6021 TRA-1.2756 TC3 -.0053 BAU .0515 SGT 1545.1 SGR 554.4 SG3 189.0 ST 37.6 SR 25.7 SS 26.9
 RDE -.4958 RRA .1456 RC3 .1250 FAU .04177 RRT .1038 RRF -.1126 RTF -.7913 CRT .7691 CR8 .5872 C8T .9675
 FDE .4394 FRA 1.5324 FC3-1.1741 BSP 2528 SGB 1641.5 R23 -.0185 R13 -.7917 LSA 50.0 MSA 17.4 S8A 1.2
 BDE .7800 BRA 1.2839 BC3 .1252 F8P 261 SGI 1546.3 SG2 550.9 THA 2.44 EL1 43.3 EL2 14.3 ALF 31.54

LAUNCH DATE APR 21 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 25 1971

HELIOCENTRIC CONIC

DISTANCE 345.789

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 34.092 GAL -4.23 AZL 92.04 HCA 116.03 SMA 219.95 ECC .32417 INC 2.0436 V1 29.840
 RP 206.90 LAP -1.84 LOP 326.29 VP 26.067 GAP 18.62 AZP 89.10 TAL 342.61 TAP 98.64 RCA 148.65 APO 291.25 V2 26.469
 RC 57.930 GL -12.95 GP 1.88 ZAL 123.56 ZAP 168.36 ETS 170.71 ZAE 173.28 ETE 78.41 ZAC 102.31 ETC 277.12 LVI -10.90

PLANETOCENTRIC CONIC

C3 29.260 VHL 5.409 DLA -21.76 RAL 341.72 RAD 6646.7 VEL 12.215 PTH 7.17 VHP 8.868 DPA -16.37 RAP 317.26 ECC 1.4813
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 35 41 2784.42 -21.25 79.24 203.93 133.63 18 22 5 1784.4 -3.25 62.65
 60.00 18 41 55 2608.29 -15.61 68.47 209.02 127.64 19 25 23 1608.3 .27 50.17
 70.00 20 5 55 2361.36 -10.12 52.42 213.00 122.80 20 45 16 1361.4 3.79 32.61
 80.00 21 46 9 2047.64 -5.66 31.31 215.71 119.36 22 20 17 1047.6 6.71 10.79
 90.00 23 22 54 1735.56 -3.82 9.37 216.72 118.04 23 51 50 735.6 7.93 348.50
 100.00 0 32 57 1522.11 -5.66 352.67 215.71 119.36 0 58 19 522.1 6.71 332.16
 110.00 1 9 17 1408.18 -10.12 341.33 213.00 122.80 1 32 45 408.2 3.79 321.73

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5982 TRA-1.2654 TC3 .0063 BAU .0522 SGT 1576.1 SGR 551.0 SG3 201.9 ST 38.4 SR 25.5 SS 27.8
 RDE -.4800 RRA .1396 RC3 .1334 FAU .04325 RRT .1132 RRF -.1228 RTF -.7980 CRT .7705 CR8 .5846 C8T .9662
 FDE .4493 FRA 1.5905 FC3-1.2798 BSP 2598 SGB 1669.6 R23 -.0202 R13 -.7984 LSA 50.9 MSA 17.5 S8A 1.2
 BDE .7670 BRA 1.2727 BC3 .1333 F8P 281 SGI 1577.5 SG2 547.0 THA 2.58 EL1 43.8 EL2 14.2 ALF 30.74

LAUNCH DATE APR 21 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 27 1971

HELIOCENTRIC CONIC

DISTANCE 348.853

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 33.973 GAL -4.11 AZL 92.06 HCA 117.30 SMA 217.04 ECC .31486 INC 2.0603 V1 29.840
 RP 206.85 LAP -1.83 LOP 327.56 VP 25.918 GAP 18.16 AZP 89.05 TAL 342.71 TAP 100.01 RCA 148.70 APO 295.38 V2 26.476
 RC 58.496 GL -13.35 GP 1.95 ZAL 123.50 ZAP 167.43 ETS 171.08 ZAE 173.09 ETE 72.72 ZAC 102.34 ETC 277.20 LVI -10.07

PLANETOCENTRIC CONIC

C3 27.836 VHL 5.276 DLA -22.12 RAL 341.88 RAD 6646.2 VEL 12.137 PTH 7.12 VHP 8.999 DPA -16.20 RAP 317.57 ECC 1.4581
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 38 0 2784.06 -20.89 78.25 203.44 134.01 18 24 5 1784.1 -2.23 61.79
 60.00 18 44 51 2586.29 -14.69 67.33 208.53 127.98 19 27 57 1586.3 1.24 49.12
 70.00 20 9 41 2336.89 -9.21 51.10 212.53 123.03 20 48 38 1336.9 4.72 31.93
 80.00 21 50 59 2019.88 -4.73 29.77 215.27 119.51 22 24 39 1019.9 7.62 9.24
 90.00 23 28 21 1705.82 -2.88 7.71 216.30 118.15 23 56 47 705.8 8.85 348.80
 100.00 0 37 47 1494.35 -4.73 391.14 215.27 119.51 1 2 41 494.4 7.62 330.81
 110.00 1 13 4 1383.71 -9.21 340.02 212.53 123.03 1 36 7 383.7 4.72 320.45

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5935 TRA-1.2539 TC3 .0201 BAU .0534 SGT 1605.2 SGR 547.4 SG3 215.5 ST 39.0 SR 25.3 SS 28.7
 RDE -.4648 RRA .1276 RC3 .1421 FAU .04484 RRT .1236 RRF -.1340 RTF -.7948 CRT .7720 CR8 .5822 C8T .9648
 FDE .4637 FRA 1.6636 FC3-1.3948 BSP 2662 SGB 1686.0 R23 -.0219 R13 -.8053 LSA 51.8 MSA 17.6 S8A 1.2
 BDE .7538 BRA 1.2604 BC3 .1435 F8P 303 SGI 1606.8 SG2 542.7 THA 2.72 EL1 44.3 EL2 14.2 ALF 29.98

LAUNCH DATE APR 21 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 29 1971

HELIOCENTRIC CONIC

DISTANCE 352.032

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 33.861 GAL -4.00 AZL 92.08 HCA 118.56 SMA 214.37 ECC .30608 INC 2.0774 V1 29.840
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.777 GAP 17.71 AZP 89.01 TAL 342.83 TAP 101.39 RCA 148.78 APO 299.99 V2 26.482
 RC 59.137 GL -13.76 GP 2.03 ZAL 123.41 ZAP 166.48 ETS 171.40 ZAE 172.89 ETE 67.78 ZAC 102.38 ETC 277.27 LVI -10.84

PLANETOCENTRIC CONIC

C3 26.519 VHL 5.130 DLA -22.81 RAL 342.03 RAD 6645.6 VEL 12.103 PTH 7.08 VHP 8.338 DPA -16.03 RAP 317.88 ECC 1.4364
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 40 22 2743.84 -19.33 77.29 202.98 134.36 18 26 6 1743.8 -1.21 60.95
 60.00 18 47 51 2584.37 -13.77 66.21 208.07 128.26 19 30 35 1584.4 2.20 48.07
 70.00 20 13 35 2312.34 -8.30 49.79 212.09 123.25 20 52 7 1312.3 5.65 30.24
 80.00 21 56 0 1991.77 -3.79 28.28 214.88 119.84 22 29 12 991.8 8.55 7.67
 90.00 23 34 3 1675.52 -1.89 6.01 215.91 118.22 24 1 59 675.5 9.78 345.06
 100.00 0 42 46 1466.24 -3.79 349.59 214.86 119.84 1 7 14 466.2 8.55 329.03
 110.00 1 16 57 1358.15 -8.30 338.70 212.09 123.25 1 39 36 359.2 5.65 319.15

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5886 TRA-1.2419 TC3 .0341 BAU .0550 SGT 1633.1 SGR 543.6 SG3 230.1 ST 39.7 SR 25.1 SS 29.7
 RDE -.4501 RRA .1187 RC3 .1512 FAU .04651 RRT .1348 RRF -.1464 RTF -.8111 CRT .7737 CR8 .5801 C8T .9635
 FDE .4789 FRA 1.7341 FC3-1.5183 BSP 2722 SGB 1721.2 R23 -.0240 R13 -.8116 LSA 52.7 MSA 17.6 S8A 1.2
 BDE .7410 BRA 1.2476 BC3 .1550 F8P 328 SGI 1635.0 SG2 538.0 THA 2.88 EL1 44.8 EL2 14.1 ALF 29.28

LAUNCH DATE APR 21 1971

FLIGHT TIME 132.00

ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC

DISTANCE 395.295

EARTH TO MARS

RL 130.33 LAL -.00 LOL 210.28 VL 33.755 GAL -3.89 AZL 92.10 HCA 119.83 SMA 211.92 ECC .29780 INC 2.0930 V1 29.640
RP 206.75 LAP -1.82 LOP 330.10 VP 23.643 GAP 17.27 AZP 88.96 TAL 342.95 TAP 102.78 RCA 148.81 APO 275.03 V2 26.487
RC 59.850 GL -14.17 GP 2.11 ZAL 123.32 ZAP 165.51 ETS 171.68 ZAE 172.66 ETE 63.58 ZAC 102.43 ETC 277.34 LVI -19.40

PLANETOCENTRIC CONIC

C3 25.301 VHL 8.030 DLA -22.90 RAL 342.18 RAD 6645.1 VEL 12.053 PTH 7.04 VHP 8.085 DPA -15.86 RAP 318.13 ECC 1.4164
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 42 45 2723.79 -18.38 76.34 202.55 134.70 18 28 9 1723.8 -.21 80.11
60.00 18 50 54 2542.94 -12.85 65.11 207.64 126.55 19 33 17 1542.5 3.16 47.02
70.00 20 17 35 2287.71 -7.38 48.47 211.68 123.44 20 55 43 1287.7 6.58 28.94
80.00 22 1 15 1983.29 -2.83 26.65 214.48 119.74 22 33 58 963.3 9.48 6.06
90.00 23 40 3 1644.61 -.89 4.29 215.56 118.27 24 7 28 644.6 10.72 343.28
100.00 0 48 3 1437.77 -2.83 348.02 214.48 119.74 1 12 0 437.8 9.48 327.43
110.00 1 20 57 1334.53 -7.38 337.39 211.68 123.44 1 43 12 334.5 6.58 317.85

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5835 TRA-1.2297 TC3 .0488 BAU .0588 SGT 1660.2 SGR 539.6 SG3 245.6 ST 40.3 SR 24.9 SS 30.6
RDE -.4359 RRA .1097 RC3 .1608 FAU .04827 RRT .1470 RRF -.1598 RTF -.8171 CRT .7755 CRS .5778 CST .9620
FDE .4943 FRA 1.6084 FC3-1.6517 BSP 2782 SGB 1745.6 R23 -.0261 R13 -.8178 LSA 55.6 MSA 17.7 SSA 1.2
BDE .7284 BRA 1.2346 BC3 .1679 FSP 352 SG1 1662.3 SG2 533.0 THA 3.05 EL1 45.3 EL2 14.0 ALF 28.60

LAUNCH DATE APR 21 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC

DISTANCE 358.635

EARTH TO MARS

RL 130.33 LAL -.00 LOL 210.25 VL 33.655 GAL -3.78 AZL 92.11 HCA 121.10 SMA 209.67 ECC .28998 INC 2.1130 V1 29.640
RP 206.72 LAP -1.81 LOP 331.37 VP 25.515 GAP 16.84 AZP 88.91 TAL 343.08 TAP 104.18 RCA 148.87 APO 270.46 V2 26.491
RC 80.833 GL -14.59 GP 2.20 ZAL 123.21 ZAP 164.52 ETS 171.92 ZAE 172.46 ETE 60.09 ZAC 102.48 ETC 277.40 LVI -19.57

PLANETOCENTRIC CONIC

C3 24.175 VHL 4.917 DLA -23.30 RAL 342.31 RAD 6644.6 VEL 12.006 PTH 7.00 VHP 7.840 DPA -15.69 RAP 318.39 ECC 1.3979
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 45 11 2703.93 -17.42 75.42 202.15 135.00 18 30 15 1703.9 .79 59.28
60.00 18 54 2 2520.80 -11.92 64.01 207.24 126.79 19 36 3 1520.8 4.12 45.98
70.00 20 21 43 2263.03 -6.45 47.17 211.30 123.61 20 59 26 1263.0 7.51 27.63
80.00 22 6 43 1934.42 -1.85 25.06 214.15 119.81 22 38 57 934.4 10.41 4.43
90.00 23 46 22 1613.02 .13 2.53 215.25 118.28 24 13 15 613.0 11.67 341.44
100.00 0 53 31 1408.90 -1.85 346.43 214.15 119.81 1 17 0 408.9 10.41 325.79
110.00 1 25 5 1309.84 -6.45 336.08 211.30 123.61 1 46 55 309.8 7.51 316.54

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5778 TRA-1.2165 TC3 .0648 BAU .0590 SGT 1685.2 SGR 535.4 SG3 262.1 ST 40.9 SR 24.7 SS 31.6
RDE -.4222 RRA .1007 RC3 .1708 FAU .03018 RRT .1604 RRF -.1745 RTF -.8228 CRT .7774 CRS .5756 CST .9605
FDE .5101 FRA 1.8864 FC3-1.7989 BSP 2836 SGB 1768.2 R23 -.0285 R13 -.8235 LSA 54.4 MSA 17.8 SSA 1.2
BDE .7196 BRA 1.2207 BC3 .1828 FSP 379 SG1 1687.6 SG2 527.7 THA 3.23 EL1 45.7 EL2 13.9 ALF 27.96

LAUNCH DATE APR 21 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC

DISTANCE 362.046

EARTH TO MARS

RL 130.33 LAL -.00 LOL 210.25 VL 33.581 GAL -3.88 AZL 92.13 HCA 122.37 SMA 207.58 ECC .28281 INC 2.1315 V1 29.640
RP 206.70 LAP -1.80 LOP 332.84 VP 25.393 GAP 16.41 AZP 88.86 TAL 343.22 TAP 105.58 RCA 148.92 APO 266.25 V2 26.494
RC 61.483 GL -19.01 GP 2.30 ZAL 123.08 ZAP 163.51 ETS 172.12 ZAE 172.25 ETE 57.23 ZAC 102.54 ETC 277.46 LVI -19.74

PLANETOCENTRIC CONIC

C3 23.133 VHL 4.810 DLA -23.71 RAL 342.45 RAD 6644.2 VEL 11.983 PTH 6.98 VHP 7.603 DPA -15.53 RAP 318.61 ECC 1.3807
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 47 39 2684.27 -18.47 74.51 201.78 135.29 18 32 23 1684.3 1.78 58.46
60.00 18 57 14 2499.19 -11.00 62.94 206.88 129.02 19 38 53 1499.2 5.06 44.94
70.00 20 25 59 2238.28 -5.51 45.86 210.96 123.78 21 3 17 1238.3 8.43 26.31
80.00 22 12 26 1905.12 -.86 23.45 213.85 119.85 22 44 11 905.1 11.34 2.75
90.00 23 53 3 1580.86 1.17 .72 214.98 118.26 24 19 22 580.7 12.62 339.55
100.00 0 59 14 1379.59 -.86 344.82 213.85 119.85 1 22 13 379.6 11.34 324.12
110.00 1 29 21 1285.10 -5.51 334.78 210.96 123.78 1 50 46 285.1 8.43 315.23

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5720 TRA-1.2029 TC3 .0801 BAU .0613 SGT 1708.7 SGR 531.1 SG3 279.7 ST 41.4 SR 24.4 SS 32.6
RDE -.4090 RRA .0917 RC3 .1813 FAU .05219 RRT .1748 RRF -.1904 RTF -.8279 CRT .7796 CRS .5733 CST .9588
FDE .5282 FRA 1.9684 FC3-1.9533 BSP 2884 SGB 1789.3 R23 -.0312 R13 -.8286 LSA 55.3 MSA 17.8 SSA 1.2
BDE .7032 BRA 1.2064 BC3 .1982 FSP 408 SG1 1711.5 SG2 522.0 THA 3.43 EL1 46.0 EL2 13.7 ALF 27.36

LAUNCH DATE APR 21 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC

DISTANCE 365.520

EARTH TO MARS

RL 130.33 LAL -.00 LOL 210.25 VL 33.472 GAL -3.57 AZL 92.15 HCA 123.84 SMA 205.88 ECC .27586 INC 2.1506 V1 29.640
RP 206.68 LAP -1.79 LOP 333.91 VP 25.277 GAP 16.00 AZP 88.81 TAL 343.35 TAP 106.99 RCA 148.97 APO 262.35 V2 26.496
RC 62.398 GL -15.44 GP 2.40 ZAL 122.95 ZAP 162.47 ETS 172.30 ZAE 172.07 ETE 54.96 ZAC 102.60 ETC 277.51 LVI -19.90

PLANETOCENTRIC CONIC

C3 22.170 VHL 4.708 DLA -24.13 RAL 342.57 RAD 6643.8 VEL 11.923 PTH 6.93 VHP 7.374 DPA -15.36 RAP 318.82 ECC 1.3649
LNCH AZMTH LNCH TIME L-1 TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 50 9 2684.82 -15.53 73.63 201.44 135.56 18 34 34 1664.8 2.76 57.65
60.00 19 0 30 2477.70 -10.08 61.87 206.54 129.23 19 41 48 1477.7 6.00 43.91
70.00 20 30 23 2213.48 -4.57 44.56 210.66 123.88 21 7 16 1213.5 9.36 24.98
80.00 22 18 25 1875.34 .15 21.82 213.59 119.86 22 49 41 875.3 12.28 1.04
90.00 0 4 2 1547.40 2.24 358.86 214.75 118.20 0 29 49 547.4 13.59 337.59
100.00 1 5 13 1349.81 .15 343.19 213.59 119.86 1 27 43 349.8 12.28 322.41
110.00 1 33 45 1260.30 -4.57 333.47 210.66 123.88 1 54 45 260.3 9.36 313.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5657 TRA-1.1887 TC3 .0969 BAU .0638 SGT 1730.3 SGR 526.7 SG3 298.5 ST 41.8 SR 24.2 SS 33.6
RDE -.3962 RRA .0827 RC3 .1922 FAU .05435 RRT .1905 RRF -.2078 RTF -.8328 CRT .7819 CRS .5712 CST .9570
FDE .5427 FRA 2.0547 FC3-2.1224 BSP 2934 SGB 1808.7 R23 -.0342 R13 -.8336 LSA 56.1 MSA 17.9 SSA 1.2
BDE .6906 BRA 1.1915 BC3 .2153 FSP 439 SG1 1733.5 SG2 516.1 THA 3.64 EL1 46.4 EL2 13.6 ALF 26.80

LAUNCH DATE APR 21 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 8 1971

HELIOCENTRIC CONIC

DISTANCE 369.053

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 33.368 GAL -3.48 AZL 92.17 HCA 124.91 SMA 203.88 ECC .26911 INC 2.1702 V1 29.640
 RP 206.67 LAP -1.78 LOP 335.18 VP 25.166 GAP 15.59 AZP 88.76 TAL 343.50 TAP 108.40 RCA 149.01 APO 258.75 V2 26.496
 RC 63.376 GL -15.88 GP 2.50 ZAL 122.81 ZAP 161.41 ETS 172.45 ZAE 171.92 ETE 53.23 ZAC 102.68 ETC 277.56 LVI -20.06

PLANETOCENTRIC CONIC

C3 21.279 VHL 4.613 DLA -24.55 RAL 342.70 RAD 6643.4 VEL 11.886 PTH 6.90 VHP 7.152 DPA -15.20 RAP 319.00 ECC 1.3502
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 42 2645.61 -14.59 72.76 201.14 135.80 18 36 47 1645.6 3.72 56.84
 60.00 19 3 51 2456.37 -9.16 60.82 206.24 129.42 19 44 48 1456.4 6.93 42.87
 70.00 20 34 55 2188.62 -3.63 43.25 210.39 123.98 21 11 24 1186.6 10.28 23.64
 80.00 22 24 43 1845.02 1.18 20.16 213.38 119.84 22 55 28 845.0 13.23 359.29
 90.00 0 11 33 1513.09 3.34 356.95 214.58 118.10 0 36 47 513.1 14.57 335.54
 100.00 1 11 30 1319.49 1.18 341.53 213.38 119.84 1 33 30 319.5 13.23 320.66
 110.00 1 38 18 1235.44 -3.63 332.17 210.39 123.98 1 58 53 235.4 10.28 312.56

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5598 TRA-1.1739 TC3 .1131 BAU .0663 SGT 1750.4 SGR 522.3 SG3 318.5 ST 42.3 SR 23.9 SS 34.7
 RDE -.3840 RRA .0736 RC3 .2037 FAU .05663 RRT .2079 RRF -.2270 RYF -.8373 CRT .7849 CR8 .5698 CST .9552
 FDE .5603 FRA 2.1455 FC3-2.3039 B8P 2974 SGB 1826.7 R23 -.0375 R13 -.8382 LSA 56.9 MSA 17.9 SSA 1.2
 BDE .6788 BRA 1.1762 BC3 .2330 F8P 472 SG1 1754.1 SG2 509.9 THA 3.88 EL1 46.7 EL2 13.4 ALF 26.26

LAUNCH DATE APR 21 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 10 1971

HELIOCENTRIC CONIC

DISTANCE 372.640

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 33.308 GAL -3.38 AZL 92.19 HCA 126.18 SMA 202.23 ECC .26293 INC 2.1905 V1 29.640
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.061 GAP 15.19 AZP 88.71 TAL 343.64 TAP 109.82 RCA 149.06 APO 255.41 V2 26.496
 RC 64.414 GL -16.32 GP 2.61 ZAL 122.66 ZAP 160.33 ETS 172.59 ZAE 171.81 ETE 52.00 ZAC 102.77 ETC 277.60 LVI -20.23

PLANETOCENTRIC CONIC

C3 20.455 VHL 4.523 DLA -24.99 RAL 342.82 RAD 6643.0 VEL 11.852 PTH 6.87 VHP 6.937 DPA -15.03 RAP 319.15 ECC 1.3366
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 55 16 2626.60 -13.66 71.91 200.86 136.03 18 39 4 1626.6 4.67 56.05
 60.00 19 7 17 2435.13 -8.24 59.78 205.98 129.59 19 47 52 1435.1 7.86 41.84
 70.00 20 39 38 2163.64 -2.68 41.95 210.15 124.06 21 15 41 1163.6 11.19 22.29
 80.00 22 31 21 1813.99 2.23 18.45 213.21 119.78 23 1 35 814.0 14.18 357.48
 90.00 0 19 38 1477.41 4.48 354.94 214.46 117.95 0 44 16 477.4 15.57 333.40
 100.00 1 18 9 1288.46 2.23 339.82 213.21 119.78 1 39 37 288.5 14.18 318.84
 110.00 1 43 0 1210.45 -2.68 330.86 210.15 124.06 2 3 11 210.5 11.19 311.21

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5415 TRA-1.1469 TC3 .1516 BAU .0722 SGT 1748.9 SGR 518.0 SG3 339.6 ST 41.9 SR 23.6 SS 35.7
 RDE -.3719 RRA .0645 RC3 .2160 FAU .05912 RRT .2268 RRF -.2474 RYF -.8478 CRT .7846 CR8 .5671 CST .9544
 FDE .5761 FRA 2.2396 FC3-2.5020 B8P 2871 SGB 1824.0 R23 -.0388 R13 -.8488 LSA 57.1 MSA 18.0 SSA 1.2
 BDE .6569 BRA 1.1487 BC3 .2639 F8P 503 SG1 1753.2 SG2 503.3 THA 4.19 EL1 46.2 EL2 13.3 ALF 26.16

LAUNCH DATE APR 21 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 12 1971

HELIOCENTRIC CONIC

DISTANCE 376.275

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 33.233 GAL -3.30 AZL 92.21 HCA 127.45 SMA 200.71 ECC .25711 INC 2.2114 V1 29.640
 RP 206.69 LAP -1.76 LOP 337.72 VP 24.960 GAP 14.80 AZP 88.65 TAL 343.79 TAP 111.23 RCA 149.11 APO 252.32 V2 26.495
 RC 65.512 GL -16.77 GP 2.73 ZAL 122.50 ZAP 159.22 ETS 172.70 ZAE 171.74 ETE 51.23 ZAC 102.86 ETC 277.64 LVI -20.39

PLANETOCENTRIC CONIC

C3 19.896 VHL 4.436 DLA -25.43 RAL 342.94 RAD 6642.7 VEL 11.820 PTH 6.84 VHP 6.728 DPA -14.87 RAP 319.28 ECC 1.3242
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 57 37 2607.92 -12.75 71.09 200.62 136.24 18 41 24 1607.9 5.61 55.28
 60.00 19 10 48 2414.14 -7.32 58.76 205.75 129.74 19 51 2 1414.1 8.77 40.82
 70.00 20 44 30 2138.68 -1.73 40.64 209.97 124.12 21 20 8 1138.7 12.10 20.93
 80.00 22 38 21 1782.33 3.29 16.71 213.09 119.69 23 8 3 782.4 15.13 355.61
 90.00 0 28 20 1440.28 5.67 352.86 214.39 117.75 0 52 21 440.3 16.58 331.14
 100.00 1 25 8 1256.82 3.29 338.08 213.09 119.69 1 46 5 256.8 15.13 316.98
 110.00 1 47 52 1185.50 -1.73 329.56 209.97 124.12 2 7 37 185.5 12.10 309.84

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5132 TRA-1.1366 TC3 .1952 BAU .0727 SGT 1773.9 SGR 513.9 SG3 362.1 ST 42.6 SR 23.3 SS 36.8
 RDE -.3808 RRA .0551 RC3 .2284 FAU .06184 RRT .2470 RRF -.2700 RYF -.8479 CRT .7900 CR8 .5669 CST .9516
 FDE .5951 FRA 2.3407 FC3-2.7092 B8P 2985 SGB 1846.9 R23 -.0441 R13 -.8490 LSA 58.2 MSA 18.0 SSA 1.2
 BDE .6503 BRA 1.1379 BC3 .2762 F8P 344 SG1 1778.9 SG2 496.6 THA 4.44 EL1 46.8 EL2 13.0 ALF 25.49

LAUNCH DATE APR 21 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 14 1971

HELIOCENTRIC CONIC

DISTANCE 379.956

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 33.183 GAL -3.21 AZL 92.23 HCA 128.71 SMA 199.30 ECC .25163 INC 2.2330 V1 29.640
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.863 GAP 14.42 AZP 88.60 TAL 343.93 TAP 112.65 RCA 149.15 APO 249.45 V2 26.493
 RC 66.667 GL -17.22 GP 2.86 ZAL 122.34 ZAP 158.08 ETS 172.80 ZAE 171.72 ETE 50.92 ZAC 102.97 ETC 277.67 LVI -20.55

PLANETOCENTRIC CONIC

C3 18.996 VHL 4.358 DLA -25.87 RAL 343.06 RAD 6642.4 VEL 11.790 PTH 6.81 VHP 6.528 DPA -14.70 RAP 319.37 ECC 1.3128
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 0 39 2389.50 -11.84 70.28 200.41 136.43 18 43 48 1589.5 6.53 54.48
 60.00 19 14 24 2193.31 -6.42 57.75 205.55 129.87 19 54 18 1393.3 9.67 39.79
 70.00 20 49 32 2113.63 -0.77 39.33 209.82 124.15 21 24 46 1113.6 13.01 19.55
 80.00 22 45 46 1749.81 4.39 14.92 213.02 119.58 23 14 58 749.8 16.10 353.68
 90.00 0 37 50 1401.10 6.90 350.64 214.39 117.49 1 11 11 401.1 17.61 328.73
 100.00 1 32 34 1224.29 4.39 336.29 213.02 119.58 1 52 58 224.3 16.10 315.05
 110.00 1 52 54 1160.45 -0.77 328.25 209.82 124.15 2 12 15 160.4 13.01 308.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5375 TRA-1.1230 TC3 .1635 BAU .0741 SGT 1792.0 SGR 510.0 SG3 386.1 ST 43.1 SR 23.0 SS 37.9
 RDE -.3497 RRA .0458 RC3 .2415 FAU .06437 RRT .2687 RRF -.2945 RYF -.8492 CRT .7949 CR8 .5660 CST .9489
 FDE .6142 FRA 2.4471 FC3-2.9335 B8P 3036 SGB 1863.2 R23 -.0498 R13 -.8505 LSA 59.1 MSA 18.1 SSA 1.2
 BDE .6412 BRA 1.1239 BC3 .2918 F8P 585 SG1 1797.7 SG2 489.7 THA 4.72 EL1 47.1 EL2 12.8 ALF 24.97

LAUNCH DATE APR 21 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC												DISTANCE 383.678												EARTH TO MARS					
RL	150.33	LAL	-.00	LOL	210.25	VL	33.086	GAL	-3.13	AZL	92.26	HCA	129.88	SMA	197.89	ECC	.24847	INC	2.2554	V1	29.640								
RP	206.73	LAP	-1.73	LOP	340.26	VP	24.771	GAP	14.03	AZP	88.55	TAL	344.08	TAP	114.06	RCA	149.19	APO	246.79	V2	26.489								
RC	67.877	GL	-17.67	GP	3.00	ZAL	122.17	ZAP	156.92	ETS	172.88	ZAE	171.75	ETE	51.08	ZAC	103.09	ETC	277.70	LVI	-20.71								
PLANETOCENTRIC CONIC																													
C3	18.350	VHL	4.284	DLA	-26.32	RAL	343.18	RAD	8642.1	VEL	11.763	PTH	6.79	VHP	6.334	DPA	-14.54	RAP	319.44	ECC	1.3020								
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG				
50.00	18	3	24	2571.35	-10.94	69.48	200.23	136.60	18	46	16	1571.3	7.44	53.71															
60.00	19	18	7	2372.65	-5.51	56.75	205.40	129.99	19	57	39	1372.6	10.56	38.77															
70.00	20	34	46	2088.47	.19	38.02	209.71	124.15	21	29	34	1088.5	13.91	18.16															
80.00	22	53	42	1716.19	5.52	13.06	213.01	119.39	23	22	18	716.2	17.07	351.66															
90.00	0	48	20	1359.17	8.21	348.26	214.47	117.16	1	10	59	359.2	18.69	326.13															
100.00	1	40	30	1190.66	5.52	334.43	213.01	119.39	2	0	20	190.7	17.07	313.03															
110.00	1	58	8	1135.28	.19	326.94	209.71	124.15	2	17	3	135.3	13.91	307.07															
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY					
TDE	-.5322	TRA	-1.1067	TC3	.1740	BAU	.0758	SGT	1804.5	SGR	506.4	SG3	411.6	ST	43.4	SR	22.7	SS	39.1										
RDE	-.3392	RRA	.0359	RC3	.2552	FAU	.06727	RRT	.2923	RRF	-.3211	RTF	-.8509	CRT	.8000	CRS	.5658	CST	.9461										
FDE	.6336	FRA	2.5589	FC3	-3.1736	BSP	3102	SGB	1874.2	R23	-.0556	R13	-.8525	LSA	59.9	MSA	18.1	SSA	1.2										
BDE	.6311	BRA	1.1073	BC3	.3089	FSP	628	SG1	1811.1	SG2	482.6	THA	5.05	EL1	47.3	EL2	12.5	ALF	24.54										

LAUNCH DATE APR 21 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 18 1971

HELIOCENTRIC CONIC												DISTANCE 387.438												EARTH TO MARS					
RL	150.33	LAL	-.00	LOL	210.25	VL	33.033	GAL	-3.05	AZL	92.28	HCA	131.25	SMA	196.77	ECC	.24162	INC	2.2786	V1	29.640								
RP	206.77	LAP	-1.71	LOP	341.52	VP	24.683	GAP	13.68	AZP	88.50	TAL	344.22	TAP	115.47	RCA	149.23	APO	244.31	V2	26.485								
RC	69.140	GL	-18.14	GP	3.14	ZAL	121.99	ZAP	155.72	ETS	172.95	ZAE	171.62	ETE	51.73	ZAC	103.22	ETC	277.72	LVI	-20.67								
PLANETOCENTRIC CONIC																													
C3	17.755	VHL	4.214	DLA	-26.78	RAL	343.30	RAD	8641.8	VEL	11.738	PTH	6.77	VHP	6.148	DPA	-14.38	RAP	319.47	ECC	1.2922								
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG				
50.00	18	6	14	2553.48	-10.06	68.71	200.09	136.75	18	48	47	1553.5	8.33	52.95															
60.00	19	21	55	2352.17	-4.62	55.76	205.28	130.08	20	1	7	1352.2	11.44	37.75															
70.00	21	0	12	2063.17	1.16	36.70	209.65	124.14	21	34	35	1063.2	14.80	16.74															
80.00	23	2	13	1681.22	6.68	11.12	213.06	119.17	23	30	14	681.2	18.06	349.53															
90.00	1	0	13	1313.36	9.63	345.64	214.63	116.72	1	22	7	313.4	19.81	323.23															
100.00	1	49	1	1155.69	6.68	332.49	213.06	119.17	2	8	16	155.7	18.06	310.90															
110.00	2	3	34	1108.99	1.16	325.62	209.65	124.14	2	22	4	110.0	14.80	305.66															
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY					
TDE	-.5259	TRA	-1.0887	TC3	.1848	BAU	.0776	SGT	1812.5	SGR	503.4	SG3	438.6	ST	43.6	SR	22.4	SS	40.2										
RDE	-.3290	RRA	.0259	RC3	.2697	FAU	.07034	RRT	.3177	RRF	-.3498	RTF	-.8528	CRT	.8055	CRS	.5663	CST	.9433										
FDE	.6539	FRA	2.8769	FC3	-3.4298	BSP	3129	SGB	1881.1	R23	-.0620	R13	-.8546	LSA	60.7	MSA	18.2	SSA	1.2										
BDE	.6204	BRA	1.0890	BC3	.3269	FSP	673	SG1	1820.1	SG2	475.3	THA	5.41	EL1	47.4	EL2	12.2	ALF	24.18										

LAUNCH DATE APR 21 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC												DISTANCE 391.234												EARTH TO MARS					
RL	150.33	LAL	-.00	LOL	210.25	VL	32.974	GAL	-2.98	AZL	92.30	HCA	132.52	SMA	195.64	ECC	.23705	INC	2.3028	V1	29.640								
RP	206.81	LAP	-1.70	LOP	342.79	VP	24.598	GAP	13.32	AZP	88.44	TAL	344.36	TAP	116.88	RCA	149.26	APO	242.02	V2	26.480								
RC	70.455	GL	-18.60	GP	3.30	ZAL	121.82	ZAP	154.50	ETS	173.01	ZAE	171.93	ETE	52.89	ZAC	103.37	ETC	277.74	LVI	-21.03								
PLANETOCENTRIC CONIC																													
C3	17.207	VHL	4.148	DLA	-27.23	RAL	343.43	RAD	8641.6	VEL	11.719	PTH	6.75	VHP	5.964	DPA	-14.22	RAP	319.47	ECC	1.2832								
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG				
50.00	18	9	7	2539.90	-9.19	67.95	199.99	136.89	18	51	23	1535.9	9.20	52.19															
60.00	19	25	49	2331.87	-3.73	54.79	205.20	130.16	20	4	41	1331.9	12.30	36.74															
70.00	21	5	81	2037.72	2.13	35.37	209.63	124.10	21	39	49	1037.7	15.69	15.31															
80.00	23	11	28	1644.51	7.89	9.07	213.17	118.89	23	38	52	644.5	19.07	347.27															
90.00	1	14	10	1261.50	11.20	342.64	214.92	116.14	1	35	11	261.5	21.02	319.91															
100.00	1	58	15	1118.99	7.89	330.44	213.17	118.89	2	16	54	119.0	19.07	308.64															
110.00	2	9	13	1084.54	2.13	324.29	209.63	124.10	2	27	18	64.5	15.69	304.23															
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY					
TDE	-.5192	TRA	-1.0696	TC3	.1938	BAU	.0792	SGT	1816.9	SGR	500.9	SG3	467.2	ST	43.7	SR	22.1	SS	41.4										
RDE	-.3193	RRA	.0157	RC3	.2848	FAU	.07355	RRT	.3447	RRF	-.3804	RTF	-.8544	CRT	.8115	CRS	.5674	CST	.9404										
FDE	.6749	FRA	2.8017	FC3	-3.7008	BSP	3190	SGB	1884.7	R23	-.0692	R13	-.8561	LSA	61.4	MSA	18.2	SSA	1.2										
BDE	.6095	BRA	1.0698	BC3	.3444	FSP	722	SG1	1825.7	SG2	460.0	THA	5.81	EL1	47.5	EL2	11.9	ALF	23.87										

LAUNCH DATE APR 21 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC												DISTANCE 395.063												EARTH TO MARS					
RL	150.33	LAL	-.00	LOL	210.25	VL	32.910	GAL	-2.91	AZL	92.33	HCA	133.79	SMA	194.59	ECC	.23276	INC	2.3279	V1	29.640								
RP	206.87	LAP	-1.68	LOP	344.06	VP	24.517	GAP	12.97	AZP	88.39	TAL	344.50	TAP	118.29	RCA	149.30	APO	239.88	V2	26.474								
RC	71.818	GL	-19.07	GP	3.46	ZAL	121.64	ZAP	153.24	ETS	173.05	ZAE	172.08	ETE	54.61	ZAC	103.53	ETC	277.75	LVI	-21.20								
PLANETOCENTRIC CONIC																													
C3	16.704	VHL	4.087	DLA	-27.70	RAL	343.56	RAD	8641.3	VEL	11.694	PTH	6.73	VHP	5.789	DPA	-14.06	RAP	319.44	ECC	1.2749								
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG				
50.00	18	12	4	2518.61	-8.33	67.21	199.92	137.02	18	54	3	1518.6	10.06	51.45															
60.00	19	29	50	2311.75	-2.84	53.83	205.16	130.22	20	8	22	1311.7	13.16	35.72															
70.00	21	11	45	2012.06	3.11	34.03	209.66	124.03	21	45	17	1012.1	16.58	13.85															
80.00	23	21	37	1605.50	9.17	6.88	213.36	118.54	23	48	22	605.5	20.11	344.84															
90.00	1	31	45	1198.49	13.06	338.95	215.37	115.31	1	51	44	198.5	22.38	315.80															
100.00	2	8	25	1079.97	9.17	328.24	213.36	118.54	2	26	25	80.0	20.11	306.21															
110.00	2	15	7	1058.88	3.11	322.95	209.66	124.03	2	32	46	58.9	16.58	302.77															
DIFFERENTIAL CORRECTIONS												MID-COURSE EXECUTION ACCURACY												ORBIT DETERMINATION ACCURACY					
TDE	-.5123	TRA	-1.0490	TC3	.2017	BAU	.0809	SGT	1817.0	SGR	499.4	SG3	497.4	ST	43.7	SR	21.7	SS	42.6										
RDE	-.3100	RRA	.0052	RC3	.3008	FAU	.07701	RRT	.3737	RRF	-.4134	RTF	-.8555	CRT	.8184	CRS	.5693	CST	.9371										
FDE	.6963	FRA	2.9318	FC3	-3.9913	BSP	3160	SGB	1884.4	R23	-.0774	R13	-.8579	LSA	62.1	MSA	18.3	SSA	1.2										
BDE	.5988	BRA	1.0490	BC3	.3622	FSP	773	SG1	1827.2	SG2	460.6	THA	6.26	EL1	47.4	EL2	11.5	ALF	23.61										

LAUNCH DATE APR 21 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 24 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.867 GAL -2.84 AZL 92.35 HCA 135.05 SMA 193.61 ECC .22873 INC 2.3541 V1 29.640
 RP 206.93 LAP -1.66 LOP 345.33 VP 24.439 GAP 12.83 AZP 88.33 TAL 344.84 TAP 119.69 RCA 149.33 APO 237.90 V2 26.466
 RC 73.228 GL -19.55 GP 3.64 ZAL 121.46 ZAP 151.94 ETS 173.09 ZAE 172.26 ETE 56.96 ZAC 103.71 ETC 277.75 LVI -21.36

Planetocentric Conic: C3 16.243 VHL 4.030 DLA -28.16 RAL 343.70 RAD 6641.1 VEL 11.674 PTH 6.71 VHP 5.620 DPA -13.89 RAP 319.37 ECC 1.2673
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 15 6 2301.62 -7.48 66.49 199.88 137.13 18 56 48 1501.6 10.90 50.71
 60.00 19 33 59 2291.80 -1.97 52.87 205.16 130.26 20 12 11 1291.0 14.00 34.71
 70.00 21 17 55 1986.14 4.10 32.67 209.74 123.94 21 51 1 986.1 17.46 12.36
 80.00 23 32 59 1563.23 10.53 4.48 213.64 118.10 23 59 2 563.2 21.19 342.17
 90.00 2 0 5 1101.47 15.81 333.15 216.27 113.76 2 18 27 101.5 24.25 309.30
 100.00 2 19 47 1037.70 10.53 325.85 213.64 118.10 2 37 5 37.7 21.19 303.54
 110.00 2 21 17 1032.96 4.10 321.59 209.74 123.94 2 38 30 33.0 17.46 301.28

Differential Corrections: TDE -.5049 TRA -1.0279 TC3 .2058 BAW .0822 SGT 1813.9 SGR 498.7 SG3 529.4 ST 43.7 SR 21.4 SS 43.8
 RDE -.3010 RRA -.0058 RC3 .3176 FAU .08061 RRT .4037 RRF -.4483 RTF -.8559 CRT .8257 CRS .5719 CST .9337
 FDE .7182 FRA 3.0702 FC3 -4.2966 BSP 3160 SGB 1881.2 R23 -.0871 R13 -.8589 LSA 62.8 MSA 18.4 SSA 1.2
 BDE .5678 BRA 1.0279 BC3 .3785 FSP 827 SG1 1825.7 SG2 453.3 THA 6.75 EL1 47.3 EL2 11.1 ALF 23.40

LAUNCH DATE APR 21 1971 FLIGHT TIME 156.00 ARRIVAL DATE SEP 26 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.817 GAL -2.78 AZL 92.38 HCA 136.32 SMA 192.71 ECC .22494 INC 2.3815 V1 29.640
 RP 207.00 LAP -1.64 LOP 346.59 VP 24.364 GAP 12.30 AZP 88.28 TAL 344.77 TAP 121.09 RCA 149.36 APO 236.05 V2 26.458
 RC 74.683 GL -20.03 GP 3.82 ZAL 121.29 ZAP 150.61 ETS 173.12 ZAE 172.45 ETE 60.02 ZAC 103.90 ETC 277.74 LVI -21.52

Planetocentric Conic: C3 15.820 VHL 3.977 DLA -28.63 RAL 343.84 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 5.457 DPA -13.73 RAP 319.26 ECC 1.2604
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 18 13 2484.86 -6.64 65.78 199.88 137.22 18 59 38 1484.9 11.73 49.98
 60.00 19 38 15 2271.97 -1.09 51.92 205.20 130.29 20 16 7 1272.0 14.83 33.70
 70.00 21 24 24 1959.81 5.10 31.29 209.87 123.82 21 57 4 959.8 18.35 10.83
 80.00 23 46 8 1515.91 12.04 1.77 214.03 117.53 24 11 24 515.9 22.34 339.12
 85.33 1 44 12 1148.67 18.13 337.64 216.98 112.55 2 3 20 148.7 25.85 313.19
 100.00 2 32 56 6278.42 12.04 301.05 214.03 117.53 4 17 35 5278.4 22.34 278.40
 110.00 2 27 46 1006.63 5.10 320.21 209.87 123.82 2 44 33 6.6 18.35 299.75

Differential Corrections: TDE -.4865 TRA -.9933 TC3 .2377 BAW .0871 SGT 1784.6 SGR 498.4 SG3 562.9 ST 42.7 SR 21.0 SS 44.9
 RDE -.2920 RRA -.0168 RC3 .3364 FAU .08480 RRT .4380 RRF -.4849 RTF -.8618 CRT .8311 CRS .5727 CST .9306
 FDE .7341 FRA 3.2070 FC3 -4.6405 BSP 3012 SGB 1853.1 R23 -.0916 R13 -.8652 LSA 62.8 MSA 18.4 SSA 1.2
 BDE .5674 BRA .9933 BC3 .4120 FSP 876 SG1 1798.8 SG2 445.4 THA 7.45 EL1 46.4 EL2 10.8 ALF 23.61

LAUNCH DATE APR 21 1971 FLIGHT TIME 160.00 ARRIVAL DATE SEP 28 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.771 GAL -2.72 AZL 92.41 HCA 137.58 SMA 191.87 ECC .22140 INC 2.4102 V1 29.640
 RP 207.08 LAP -1.63 LOP 347.86 VP 24.291 GAP 11.97 AZP 88.22 TAL 344.90 TAP 122.48 RCA 149.39 APO 234.34 V2 26.449
 RC 76.180 GL -20.51 GP 4.02 ZAL 121.11 ZAP 149.25 ETS 173.14 ZAE 172.65 ETE 63.84 ZAC 104.11 ETC 277.73 LVI -21.69

Planetocentric Conic: C3 15.437 VHL 3.929 DLA -29.10 RAL 344.00 RAD 6640.7 VEL 11.640 PTH 6.68 VHP 5.300 DPA -13.57 RAP 319.11 ECC 1.2540
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 21 25 2468.53 -5.83 65.09 199.92 137.30 19 2 34 1468.5 12.53 49.27
 60.00 19 42 40 2252.41 -.23 50.99 205.29 130.30 20 20 12 1252.4 15.65 32.69
 70.00 21 31 11 1933.20 6.10 29.89 210.06 123.67 22 3 25 933.2 19.23 9.27
 80.00 0 6 2 1480.39 13.76 358.55 214.58 116.76 0 30 23 460.4 23.61 335.49
 82.83 1 24 34 1208.41 18.96 342.22 216.89 112.83 1 44 43 208.4 26.35 317.71
 100.00 2 48 54 6222.90 13.76 297.83 214.58 116.76 4 32 37 5222.9 23.61 274.78
 110.00 2 34 34 6268.06 6.10 296.71 210.06 123.67 4 19 2 5268.1 19.23 276.10

Differential Corrections: TDE -.4893 TRA -.9791 TC3 .2100 BAW .0850 SGT 1790.7 SGR 501.6 SG3 598.6 ST 43.3 SR 20.7 SS 46.4
 RDE -.2842 RRA -.0290 RC3 .3542 FAU .08848 RRT .4685 RRF -.5236 RTF -.8539 CRT .8435 CRS .5811 CST .9260
 FDE .7654 FRA 3.3659 FC3 -4.9621 BSP 3120 SGB 1859.6 R23 -.1097 R13 -.8601 LSA 64.1 MSA 18.5 SSA 1.2
 BDE .5659 BRA .9795 BC3 .4117 FSP 944 SG1 1807.1 SG2 439.1 THA 7.95 EL1 46.9 EL2 10.3 ALF 23.19

LAUNCH DATE APR 21 1971 FLIGHT TIME 162.00 ARRIVAL DATE SEP 30 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.728 GAL -2.87 AZL 92.44 HCA 138.85 SMA 191.08 ECC .21807 INC 2.4402 V1 29.640
 RP 207.17 LAP -1.61 LOP 349.12 VP 24.222 GAP 11.85 AZP 88.16 TAL 345.01 TAP 123.86 RCA 149.41 APO 232.75 V2 26.439
 RC 77.718 GL -21.00 GP 4.24 ZAL 120.94 ZAP 147.85 ETS 173.16 ZAE 172.83 ETE 68.52 ZAC 104.34 ETC 277.71 LVI -21.86

Planetocentric Conic: C3 15.087 VHL 3.884 DLA -29.57 RAL 344.16 RAD 6640.6 VEL 11.625 PTH 6.67 VHP 5.149 DPA -13.40 RAP 318.92 ECC 1.2483
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 24 43 2452.43 -5.02 64.41 200.00 137.37 19 5 36 1452.4 13.32 48.56
 60.00 19 47 14 2232.94 .63 50.08 205.42 130.30 20 24 27 1232.9 16.45 31.67
 70.00 21 38 22 1905.99 7.13 28.45 210.31 123.49 22 10 8 906.0 20.11 7.66
 80.00 0 28 31 1384.88 16.03 354.10 215.44 115.53 0 51 36 384.9 25.17 330.43
 80.97 1 10 33 1250.38 18.98 345.52 216.84 113.11 1 31 24 250.4 26.85 320.94
 100.00 3 11 23 6147.39 16.03 293.37 215.44 115.53 4 53 50 5147.4 25.17 289.70
 110.00 2 41 45 6240.85 7.13 295.27 210.31 123.49 4 25 46 5240.8 20.11 274.48

Differential Corrections: TDE -.4836 TRA -.9555 TC3 .2013 BAW .0857 SGT 1777.5 SGR 505.7 SG3 636.3 ST 43.2 SR 20.4 SS 47.7
 RDE -.2765 RRA -.0416 RC3 .3739 FAU .09269 RRT .5014 RRF -.5635 RTF -.8537 CRT .8543 CRS .5882 CST .9215
 FDE .7918 FRA 3.5282 FC3 -5.3187 BSP 3125 SGB 1848.1 R23 -.1252 R13 -.8589 LSA 64.9 MSA 18.7 SSA 1.2
 BDE .5571 BRA .9564 BC3 .4246 FSP 1011 SG1 1796.7 SG2 432.8 THA 8.62 EL1 46.7 EL2 9.8 ALF 23.09

LAUNCH DATE APR 21 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC

DISTANCE 414.617

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.688 GAL -2.62 AZL 92.47 HCA 140.11 SMA 190.36 ECC .21496 INC 2.4718 V1 29.640
RP 207.26 LAP -1.38 LOP 350.39 VP 24.155 GAP 11.33 AZP 88.10 TAL 349.12 TAP 129.23 RCA 149.44 APO 231.27 V2 26.428
RC 79.295 GL -21.50 GP 4.47 ZAL 120.77 ZAP 146.41 E78 173.17 ZAE 172.96 ETE 74.08 ZAC 104.59 ETC 277.68 LVI -22.03

PLANETOCENTRIC CONIC

C3 14.771 VHL 3.843 DLA -30.05 RAL 344.34 RAD 6640.4 VEL 11.611 PTH 6.65 VHP 5.003 DPA -13.23 RAP 318.69 ECC 1.2431
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 28 7 2438.61 -4.23 63.74 200.13 137.43 19 0 44 1436.6 14.10 47.85
60.00 19 51 57 2213.58 1.48 49.14 205.60 130.28 20 28 51 1213.6 17.25 30.68
70.00 21 46 0 1878.06 0.17 26.96 210.62 123.28 22 17 18 878.1 21.00 5.98
79.40 0 59 14 1284.06 19.39 348.21 216.83 113.41 1 20 38 284.1 27.34 323.57
79.40 0 59 14 1284.06 19.39 348.21 216.83 113.41 1 20 38 284.1 27.34 323.57
79.40 0 59 14 1284.06 19.39 348.21 216.83 113.41 1 20 38 284.1 27.34 323.57
110.00 2 49 22 6212.92 0.17 293.79 210.62 123.28 4 32 55 5212.9 21.00 272.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4765 TRA -.9283 TC3 .1918 BAU .0867 SGT 1755.6 SGR 511.8 SG3 875.6 ST 42.9 SR 20.1 S8 49.0
RDE -.2691 RRA -.0547 RC3 .3949 FAU .09712 RRT .5345 RRF -.6039 RTF -.8513 CRT .8659 CRS .5962 CST .9164
FDE .8178 FRA 3.6954 FC3-5.6921 BSP 3093 SGB 1828.7 R23 -.1422 R13 -.8576 LSA 65.5 MSA 18.8 SSA 1.2
BDE .5472 BRA .9299 BC3 .4389 FSP 1078 SG1 1778.1 SGT 427.1 THA 9.40 EL1 46.4 EL2 9.3 ALF 23.09

LAUNCH DATE APR 21 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC

DISTANCE 418.596

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.650 GAL -2.57 AZL 92.51 HCA 141.37 SMA 189.68 ECC .21205 INC 2.5051 V1 29.640
RP 207.37 LAP -1.56 LOP 351.65 VP 24.090 GAP 11.03 AZP 88.04 TAL 345.23 TAP 126.60 RCA 149.46 APO 229.90 V2 26.415
RC 80.909 GL -22.00 GP 4.72 ZAL 120.61 ZAP 144.93 E78 173.17 ZAE 173.03 EYE 80.50 ZAC 104.66 ETC 277.65 LVI -22.21

PLANETOCENTRIC CONIC

C3 14.486 VHL 3.806 DLA -30.52 RAL 344.53 RAD 6640.3 VEL 11.599 PTH 6.64 VHP 4.864 DPA -13.05 RAP 318.41 ECC 1.2384
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 31 38 2421.05 -3.45 63.09 200.29 137.48 19 11 59 1421.1 14.86 47.15
60.00 19 56 52 2194.31 2.33 48.21 205.83 130.25 20 33 26 1194.3 18.03 29.84
70.00 21 54 9 1849.18 9.25 25.42 211.00 123.03 22 24 59 849.2 21.90 4.22
78.00 0 49 38 1312.68 19.80 350.53 216.87 113.72 1 11 30 312.7 27.84 325.84
78.00 0 49 38 1312.68 19.80 350.53 216.87 113.72 1 11 30 312.7 27.84 325.84
78.00 0 49 38 1312.68 19.80 350.53 216.87 113.72 1 11 30 312.7 27.84 325.84
110.00 2 57 32 6184.04 9.25 292.24 211.00 123.03 4 40 36 5184.0 21.90 271.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4672 TRA -.8983 TC3 .1821 BAU .0882 SGT 1725.8 SGR 520.4 SG3 716.8 ST 42.3 SR 19.8 S8 50.4
RDE -.2619 RRA -.0686 RC3 .4173 FAU .10182 RRT .5673 RRF -.6446 RTF -.8489 CRT .8779 CRS .6054 CST .9112
FDE .8436 FRA 3.8709 FC3-6.0852 BSP 3034 SGB 1802.5 R23 -.1606 R13 -.8568 LSA 66.1 MSA 18.9 SSA 1.1
BDE .5357 BRA .9009 BC3 .4553 FSP 1148 SG1 1792.4 SGT 422.0 THA 10.31 EL1 45.9 EL2 8.7 ALF 23.22

LAUNCH DATE APR 21 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC

DISTANCE 422.596

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.614 GAL -2.53 AZL 92.54 HCA 142.63 SMA 189.05 ECC .20932 INC 2.5401 V1 29.640
RP 207.48 LAP -1.54 LOP 352.91 VP 24.027 GAP 10.73 AZP 87.98 TAL 345.32 TAP 127.95 RCA 149.48 APO 228.63 V2 26.402
RC 82.580 GL -22.51 GP 4.98 ZAL 120.44 ZAP 143.40 E78 173.17 ZAE 172.98 ETE 87.62 ZAC 105.16 ETC 277.61 LVI -22.39

PLANETOCENTRIC CONIC

C3 14.230 VHL 3.772 DLA -31.01 RAL 344.73 RAD 6640.2 VEL 11.588 PTH 6.63 VHP 4.730 DPA -12.87 RAP 318.09 ECC 1.2342
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 35 17 2403.89 -2.88 62.45 200.49 137.52 19 15 22 1405.7 15.61 46.46
60.00 20 1 58 2175.02 3.17 47.29 206.11 130.20 20 38 13 1175.0 18.82 28.80
70.00 22 2 58 1818.96 10.37 23.79 211.45 122.73 22 33 17 819.0 22.82 2.36
76.72 0 41 12 1337.95 20.21 352.62 216.95 114.03 1 3 30 338.0 28.33 327.86
76.72 0 41 12 1337.95 20.21 352.62 216.95 114.03 1 3 30 338.0 28.33 327.86
76.72 0 41 12 1337.95 20.21 352.62 216.95 114.03 1 3 30 338.0 28.33 327.86
110.00 3 6 20 6153.82 10.37 290.62 211.45 122.73 4 48 54 5153.8 22.82 269.18

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4465 TRA -.8540 TC3 .2009 BAU .0926 SGT 1665.3 SGR 531.6 SG3 799.0 ST 40.8 SR 19.5 S8 51.4
RDE -.2545 RRA -.0824 RC3 .4433 FAU .10740 RRT .6031 RRF -.6844 RTF -.8514 CRT .8882 CRS .6113 CST .9050
FDE .8556 FRA 4.0373 FC3-6.3343 BSP 2821 SGB 1748.1 R23 -.1713 R13 -.8611 LSA 65.7 MSA 18.9 SSA 1.1
BDE .5139 BRA .8580 BC3 .4867 FSP 1206 SG1 1697.9 SGT 415.9 THA 11.60 EL1 44.5 EL2 8.2 ALF 23.81

LAUNCH DATE APR 21 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

DISTANCE 426.611

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.581 GAL -2.49 AZL 92.58 HCA 143.89 SMA 188.47 ECC .20679 INC 2.5773 V1 29.640
RP 207.80 LAP -1.52 LOP 354.17 VP 23.967 GAP 10.43 AZP 87.92 TAL 345.40 TAP 129.29 RCA 149.50 APO 227.45 V2 26.388
RC 84.247 GL -23.02 GP 5.26 ZAL 120.29 ZAP 141.84 E78 173.17 ZAE 172.81 ETE 95.14 ZAC 105.48 ETC 277.56 LVI -22.58

PLANETOCENTRIC CONIC

C3 14.005 VHL 3.742 DLA -31.49 RAL 344.95 RAD 6640.0 VEL 11.579 PTH 6.62 VHP 4.602 DPA -12.69 RAP 317.72 ECC 1.2305
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 39 3 2390.71 -1.92 61.82 200.75 137.55 19 18 54 1390.7 16.33 45.78
60.00 20 7 17 2155.91 4.01 46.37 206.44 130.13 20 43 13 1155.9 19.58 27.57
70.00 22 12 30 1787.37 11.52 22.08 211.99 122.38 22 42 17 787.4 23.75 .38
75.54 0 33 47 1360.59 20.60 354.51 217.08 114.36 0 56 28 360.6 28.82 329.70
75.54 0 33 47 1360.59 20.60 354.51 217.08 114.36 0 56 28 360.6 28.82 329.70
75.54 0 33 47 1360.59 20.60 354.51 217.08 114.36 0 56 28 360.6 28.82 329.70
110.00 3 15 52 6122.22 11.52 288.90 211.99 122.38 4 57 54 5122.2 23.75 267.20

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4550 TRA -.8371 TC3 .1309 BAU .0906 SGT 1659.4 SGR 546.5 SG3 804.8 ST 41.5 SR 19.3 S8 53.3
RDE -.2492 RRA -.0991 RC3 .4657 FAU .11156 RRT .6254 RRF -.7239 RTF -.8369 CRT .9064 CRS .6316 CST .8983
FDE .9045 FRA 4.2481 FC3-6.8959 BSP 2954 SGB 1747.1 R23 -.2113 R13 -.8496 LSA 67.5 MSA 19.2 SSA 1.1
BDE .5187 BRA .8430 BC3 .4838 FSP 1303 SG1 1696.6 SGT 417.1 THA 12.40 EL1 45.1 EL2 7.5 ALF 23.51

LAUNCH DATE APR 21 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC

DISTANCE 430.644

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.550 GAL -2.45 AZL 92.62 HCA 145.15 SMA 187.93 ECC .20443 INC 2.6167 V1 29.640
RP 207.73 LAP -1.50 LOP 355.42 VP 23.908 GAP 10.15 AZP 87.85 TAL 345.48 TAP 130.62 RCA 149.51 APO 226.35 V2 26.373
RC 85.969 GL -23.55 GP 5.57 ZAL 120.14 ZAP 140.24 ETS 173.16 ZAE 172.48 ETE 102.75 ZAC 105.82 ETC 277.50 LVI -22.77

PLANETOCENTRIC CONIC

C3 13.807 VHL 3.716 DLA -31.97 RAL 345.19 RAD 6640.0 VEL 11.570 PTH 6.61 VHP 4.479 DPA -12.49 RAP 317.31 ECC 1.2272
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 42 58 2375.86 -1.10 61.20 201.05 137.56 19 22 34 1375.9 17.05 45.10
60.00 20 12 92 2136.65 4.86 45.45 206.84 130.06 20 48 28 1136.7 20.35 26.52
70.00 22 23 4 1753.30 12.76 20.21 212.64 121.95 22 52 17 753.3 24.73 358.21
74.42 0 27 5 1381.44 20.98 356.29 217.26 114.69 0 50 7 381.4 29.30 331.42
74.42 0 27 5 1381.44 20.98 356.29 217.26 114.69 0 50 7 381.4 29.30 331.42
74.42 0 27 5 1381.44 20.98 356.29 217.26 114.69 0 50 7 381.4 29.30 331.42
110.00 3 26 26 6088.16 12.76 287.04 212.64 121.95 5 7 54 5088.2 24.73 265.04

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4480 TRA -.8027 TC3 .1005 BAU .0928 SGT 1616.0 SGR 564.9 SG3 851.3 ST 40.9 SR 19.0 SS 54.7
RDE -.2433 RRA -.1158 RC3 .4926 FAU .11683 RRT .6503 RRF -.7512 RTF -.8290 CRT .9215 CRS .6472 CST .8906
FDE .9359 FRA 4.4476 FC3-7.3252 B8P 2884 SGB 1711.9 R23 -.2411 R13 -.8453 LSA 68.2 MSA 19.4 S8A 1.1
BDE .5098 BRA .8110 BC3 .5028 F8P 1382 SG1 1660.2 SG2 417.7 THA 13.69 EL1 44.6 EL2 6.8 ALF 23.80

LAUNCH DATE APR 21 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC

DISTANCE 434.692

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.521 GAL -2.42 AZL 92.66 HCA 146.40 SMA 187.43 ECC .20224 INC 2.6586 V1 29.640
RP 207.86 LAP -1.47 LOP 356.68 VP 23.851 GAP 9.87 AZP 87.79 TAL 345.54 TAP 131.94 RCA 149.53 APO 225.34 V2 26.357
RC 87.725 GL -24.09 GP 5.90 ZAL 120.00 ZAP 138.59 ETS 173.15 ZAE 171.97 ETE 110.08 ZAC 106.20 ETC 277.43 LVI -22.98

PLANETOCENTRIC CONIC

C3 13.836 VHL 3.693 DLA -32.48 RAL 345.45 RAD 6639.9 VEL 11.563 PTH 6.61 VHP 4.362 DPA -12.28 RAP 316.84 ECC 1.2244
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 47 4 2361.20 -.44 60.59 201.40 137.57 19 26 25 1361.2 17.76 44.42
60.00 20 18 43 2117.28 5.71 44.52 207.29 129.96 20 54 0 1117.3 21.11 25.45
70.00 22 35 0 1715.87 14.10 18.14 213.40 121.44 23 3 36 715.9 25.75 355.79
73.35 0 21 0 1400.91 21.36 357.96 217.49 115.04 0 44 21 400.9 29.78 333.03
73.35 0 21 0 1400.91 21.36 357.96 217.49 115.04 0 44 21 400.9 29.78 333.03
73.35 0 21 0 1400.91 21.36 357.96 217.49 115.04 0 44 21 400.9 29.78 333.03
110.00 3 38 22 6050.72 14.10 284.96 213.40 121.44 5 19 13 5050.7 25.75 262.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4417 TRA -.7659 TC3 .0614 BAU .0956 SGT 1567.0 SGR 587.3 SG3 899.2 ST 40.3 SR 18.8 SS 56.2
RDE -.2380 RRA -.1338 RC3 .5208 FAU .12210 RRT .6706 RRF -.7960 RTF -.8185 CRT .9372 CRS .6659 CST .8822
FDE .9718 FRA 4.6549 FC3-7.7520 B8P 2815 SGB 1673.5 R23 -.2747 R13 -.8399 LSA 68.9 MSA 19.6 S8A 1.0
BDE .5018 BRA .7775 BC3 .5244 F8P 1469 SG1 1619.5 SG2 421.5 THA 15.16 EL1 44.0 EL2 6.0 ALF 24.16

LAUNCH DATE APR 21 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC

DISTANCE 436.754

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.494 GAL -2.39 AZL 92.70 HCA 147.66 SMA 186.97 ECC .20020 INC 2.7033 V1 29.640
RP 208.01 LAP -1.45 LOP 357.93 VP 23.796 GAP 9.59 AZP 87.72 TAL 345.59 TAP 133.25 RCA 149.54 APO 224.40 V2 26.340
RC 89.514 GL -24.84 GP 6.28 ZAL 119.86 ZAP 136.89 ETS 173.14 ZAE 171.30 ETE 116.83 ZAC 106.60 ETC 277.35 LVI -23.19

PLANETOCENTRIC CONIC

C3 13.491 VHL 3.673 DLA -32.96 RAL 345.74 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 4.251 DPA -12.07 RAP 316.33 ECC 1.2220
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 51 21 2346.66 .29 59.98 201.81 137.58 19 30 28 1346.7 18.45 43.74
60.00 20 24 53 2087.69 6.56 43.57 207.81 129.85 20 59 51 1097.7 21.88 24.36
70.00 22 48 58 1673.07 15.60 15.74 214.32 120.77 23 16 51 673.1 26.87 382.97
72.32 0 15 28 1419.20 21.74 359.55 217.77 115.41 0 39 7 419.2 30.27 334.57
72.32 0 15 28 1419.20 21.74 359.55 217.77 115.41 0 39 7 419.2 30.27 334.57
72.32 0 15 28 1419.20 21.74 359.55 217.77 115.41 0 39 7 419.2 30.27 334.57
110.00 3 52 20 6007.93 15.60 282.56 214.32 120.77 5 32 28 5007.9 26.87 259.79

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4330 TRA -.7232 TC3 .0238 BAU .0998 SGT 1508.0 SGR 614.1 SG3 948.8 ST 39.4 SR 18.7 SS 57.8
RDE -.2329 RRA -.1329 RC3 .5518 FAU .12783 RRT .6865 RRF -.8279 RTF -.8267 CRT .9522 CRS .6848 CST .8723
FDE 1.0034 FRA 4.8660 FC3-8.2030 B8P 2709 SGB 1628.3 R23 -.3090 R13 -.8351 LSA 69.5 MSA 19.8 S8A 1.0
BDE .4916 BRA .7411 BC3 .5523 F8P 1552 SG1 1570.8 SG2 428.7 THA 16.92 EL1 43.3 EL2 5.2 ALF 24.69

LAUNCH DATE APR 21 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC

DISTANCE 442.829

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.469 GAL -2.38 AZL 92.75 HCA 148.91 SMA 186.54 ECC .19831 INC 2.7511 V1 29.640
RP 208.16 LAP -1.42 LOP 359.19 VP 23.742 GAP 9.32 AZP 87.64 TAL 345.63 TAP 134.54 RCA 149.55 APO 223.54 V2 26.323
RC 91.337 GL -25.20 GP 6.63 ZAL 119.73 ZAP 135.16 ETS 173.13 ZAE 170.45 ETE 122.84 ZAC 107.04 ETC 277.27 LVI -23.41

PLANETOCENTRIC CONIC

C3 13.372 VHL 3.657 DLA -33.46 RAL 346.04 RAD 6639.7 VEL 11.552 PTH 6.60 VHP 4.145 DPA -11.83 RAP 315.77 ECC 1.2201
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 55 51 2332.21 1.02 59.38 202.27 137.57 19 34 43 1332.2 19.14 43.06
60.00 20 31 26 2077.75 7.43 42.60 208.40 129.73 21 6 4 1077.7 22.65 23.23
70.00 23 6 28 1620.42 17.41 12.73 215.48 119.86 23 33 29 620.4 28.16 349.42
71.32 0 10 21 1436.81 22.10 1.10 218.11 115.79 0 34 18 436.8 30.75 336.07
71.32 0 10 21 1436.81 22.10 1.10 218.11 115.79 0 34 18 436.8 30.75 336.07
71.32 0 10 21 1436.81 22.10 1.10 218.11 115.79 0 34 18 436.8 30.75 336.07
110.00 4 9 51 5955.28 17.41 279.55 215.48 119.86 5 49 6 4955.3 28.16 256.24

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4212 TRA -.8790 TC3 -.0135 BAU .1047 SGT 1435.9 SGR 645.5 SG3 999.1 ST 38.1 SR 18.5 SS 58.0
RDE -.2279 RRA -.1733 RC3 .5854 FAU .13383 RRT .6974 RRF -.8565 RTF -.7928 CRT .9662 CRS .7040 CST .8603
FDE 1.0297 FRA 5.0779 FC3-8.8648 B8P 2550 SGB 1574.4 R23 -.3421 R13 -.8312 LSA 69.8 MSA 20.0 S8A 1.0
BDE .4769 BRA .7008 BC3 .5856 F8P 1631 SG1 1511.8 SG2 439.4 THA 19.08 EL1 42.2 EL2 4.3 ALF 25.42

LAUNCH DATE APR 21 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 18 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.446 GAL -2.34 AZL 92.80 HCA 150.16 SMA 186.15 ECC .19856 INC 2.8025 V1 29.640
 RP 208.32 LAP -1.39 LOP .44 VP 23.689 GAP 9.06 AZP 87.57 TAL 345.66 TAP 135.82 RCA 149.56 APO 222.74 V2 26.304
 RC 93.190 GL -25.78 GP 7.05 ZAL 119.60 ZAP 133.38 ETS 173.13 ZAE 169.45 ETE 128.03 ZAC 107.52 ETC 277.17 LVI -23.65

Distance 446.916

Planetary Conic: C3 13.279 VHL 3.644 DLA -33.97 RAL 346.38 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 4.048 DPA -11.58 RAP 315.16 ECC 1.2185
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 19 0 34 2317.87 1.74 58.78 202.80 137.55 19 39 12 1317.9 19.83 42.38
 60.00 20 38 24 2057.43 8.31 41.61 209.07 129.58 21 12 41 1057.4 23.42 22.07
 70.00 23 33 14 1540.71 20.05 8.05 217.18 118.25 23 58 54 540.7 29.91 343.87
 70.34 0 5 41 1453.68 22.46 2.60 218.51 116.18 0 29 54 453.7 31.24 337.52
 70.34 0 5 41 1453.68 22.46 2.60 218.51 116.18 0 29 54 453.7 31.24 337.52
 70.34 0 5 41 1453.68 22.46 2.60 218.51 116.18 0 29 54 453.7 31.24 337.52
 110.00 4 36 36 5879.57 20.05 274.88 217.18 118.25 6 14 31 4873.6 29.91 250.70

Differential Corrections: TDE -.4215 TRA -.8413 TC3 -.0911 BAU .1109 SGT 1386.5 SGR 682.8 SG3 1051.6 ST 37.8 SR 18.5 SS 60.7
 RDE -.2246 RRA -.1964 RC3 .6180 FAU .13904 RRT .6940 RRF -.8820 RTF -.7671 CRT .9800 CRS .7306 CST .8481
 FDE 1.0811 FRA 5.3161 FC3-9.0649 BSP 2546 SGB 1545.5 R23 -.3904 R13 -.8197 LSA 71.0 MSA 20.3 SSA .9
 BDE .4776 BRA .6707 BC3 .6247 F8P 1737 SG1 1474.7 SG2 462.2 THA 21.03 EL1 42.0 EL2 3.3 ALF 25.82

Orbit Determination Accuracy: ST 37.8 SR 18.5 SS 60.7 CRT .9800 CRS .7306 CST .8481 LSA 71.0 MSA 20.3 SSA .9 EL1 42.0 EL2 3.3 ALF 25.82

LAUNCH DATE APR 21 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 20 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.424 GAL -2.32 AZL 92.86 HCA 151.41 SMA 185.79 ECC .19495 INC 2.8578 V1 29.640
 RP 208.49 LAP -1.37 LOP 1.89 VP 23.638 GAP 8.80 AZP 87.49 TAL 345.68 TAP 137.08 RCA 149.57 APO 222.00 V2 26.284
 RC 95.074 GL -26.38 GP 7.49 ZAL 119.40 ZAP 131.55 ETS 173.12 ZAE 168.31 ETE 132.46 ZAC 108.03 ETC 277.07 LVI -23.91

Distance 451.014

Planetary Conic: C3 13.211 VHL 3.635 DLA -34.50 RAL 346.74 RAD 6639.7 VEL 11.545 PTH 6.59 VHP 3.951 DPA -11.30 RAP 314.50 ECC 1.2174
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 19 5 35 2303.48 2.46 58.18 203.39 137.53 19 43 58 1303.5 20.51 41.69
 60.00 20 45 53 2036.41 9.22 40.58 209.83 129.41 21 19 49 1036.4 24.21 20.86
 69.37 0 1 20 1470.21 22.82 4.08 218.97 116.60 0 25 50 470.2 31.73 338.96
 69.37 0 1 20 1470.21 22.82 4.08 218.97 116.60 0 25 50 470.2 31.73 338.96
 69.37 0 1 20 1470.21 22.82 4.08 218.97 116.60 0 25 50 470.2 31.73 338.96
 69.37 0 1 20 1470.21 22.82 4.08 218.97 116.60 0 25 50 470.2 31.73 338.96
 69.37 0 1 20 1470.21 22.82 4.08 218.97 116.60 0 25 50 470.2 31.73 338.96

Differential Corrections: TDE -.4154 TRA -.9947 TC3 -.1549 BAU .1188 SGT 1317.3 SGR 725.8 SG3 1104.5 ST 36.9 SR 18.6 SS 62.3
 RDE -.2213 RRA -.2209 RC3 .6548 FAU .14488 RRT .6855 RRF -.9040 RTF -.7397 CRT .9904 CRS .7558 CST .8334
 FDE 1.1238 FRA 5.9491 FC3-9.4941 BSP 2449 SGB 1504.0 R23 -.4289 R13 -.8127 LSA 71.9 MSA 20.6 SSA .9
 BDE .4706 BRA .6344 BC3 .6729 F8P 1832 SG1 1422.1 SG2 489.5 THA 23.66 EL1 41.3 EL2 2.3 ALF 26.57

Orbit Determination Accuracy: ST 36.9 SR 18.6 SS 62.3 CRT .9904 CRS .7558 CST .8334 LSA 71.9 MSA 20.6 SSA .9 EL1 41.3 EL2 2.3 ALF 26.57

LAUNCH DATE APR 21 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 22 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.404 GAL -2.31 AZL 92.92 HCA 152.65 SMA 185.48 ECC .19347 INC 2.9178 V1 29.640
 RP 208.67 LAP -1.34 LOP 2.93 VP 23.588 GAP 8.55 AZP 87.41 TAL 345.68 TAP 138.33 RCA 149.57 APO 221.33 V2 26.264
 RC 96.988 GL -27.01 GP 7.98 ZAL 119.36 ZAP 129.69 ETS 173.12 ZAE 167.03 ETE 136.19 ZAC 108.58 ETC 276.95 LVI -24.18

Distance 455.122

Planetary Conic: C3 13.170 VHL 3.629 DLA -35.03 RAL 347.13 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 3.863 DPA -11.00 RAP 313.79 ECC 1.2167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 19 10 55 2288.98 3.19 57.57 204.06 137.49 19 49 4 1289.0 21.19 40.99
 60.00 20 53 58 2014.91 10.17 39.50 210.68 129.21 21 27 33 1014.5 25.02 18.57
 68.40 23 53 21 1486.53 23.17 5.56 219.50 117.05 24 18 8 486.5 32.22 340.39
 68.40 23 53 21 1486.53 23.17 5.56 219.50 117.05 24 18 8 486.5 32.22 340.39
 68.40 23 53 21 1486.53 23.17 5.56 219.50 117.05 24 18 8 486.5 32.22 340.39
 68.40 23 53 21 1486.53 23.17 5.56 219.50 117.05 24 18 8 486.5 32.22 340.39
 68.40 23 53 21 1486.53 23.17 5.56 219.50 117.05 24 18 8 486.5 32.22 340.39

Differential Corrections: TDE -.4098 TRA -.9449 TC3 -.2281 BAU .1289 SGT 1244.8 SGR 774.8 SG3 1157.3 ST 36.0 SR 18.7 SS 63.8
 RDE -.2186 RRA -.2474 RC3 .6938 FAU .15061 RRT .6848 RRF -.9227 RTF -.7129 CRT .9971 CRS .7819 CST .8160
 FDE 1.1683 FRA 5.7836 FC3-9.9007 BSP 2351 SGB 1466.1 R23 -.4648 R13 -.8061 LSA 72.7 MSA 20.9 SSA .9
 BDE .4643 BRA .5984 BC3 .7301 F8P 1928 SG1 1368.3 SG2 526.4 THA 26.74 EL1 40.5 EL2 1.3 ALF 27.42

Orbit Determination Accuracy: ST 36.0 SR 18.7 SS 63.8 CRT .9971 CRS .7819 CST .8160 LSA 72.7 MSA 20.9 SSA .9 EL1 40.5 EL2 1.3 ALF 27.42

LAUNCH DATE APR 21 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 24 1971

Heliocentric Conic: RL 150.33 LAL -.00 LOL 210.25 VL 32.386 GAL -2.30 AZL 92.98 HCA 153.89 SMA 185.14 ECC .19212 INC 2.9826 V1 29.640
 RP 208.85 LAP -1.31 LOP 4.18 VP 23.539 GAP 8.30 AZP 87.32 TAL 345.67 TAP 139.58 RCA 149.57 APO 220.71 V2 26.243
 RC 98.929 GL -27.66 GP 8.50 ZAL 119.24 ZAP 127.78 ETS 173.12 ZAE 165.62 ETE 139.31 ZAC 109.16 ETC 276.83 LVI -24.48

Distance 459.240

Planetary Conic: C3 13.155 VHL 3.627 DLA -35.59 RAL 347.58 RAD 6639.8 VEL 11.542 PTH 6.59 VHP 3.780 DPA -10.86 RAP 313.03 ECC 1.2165
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 19 18 36 2274.27 3.93 56.95 204.81 137.45 19 54 31 1274.3 21.88 40.27
 60.00 21 2 48 1991.39 11.16 38.36 211.68 128.98 21 36 0 991.4 25.86 18.20
 67.43 23 49 36 1502.73 23.51 7.04 220.11 117.52 24 14 39 502.7 32.73 341.83
 67.43 23 49 36 1502.73 23.51 7.04 220.11 117.52 24 14 39 502.7 32.73 341.83
 67.43 23 49 36 1502.73 23.51 7.04 220.11 117.52 24 14 39 502.7 32.73 341.83
 67.43 23 49 36 1502.73 23.51 7.04 220.11 117.52 24 14 39 502.7 32.73 341.83
 67.43 23 49 36 1502.73 23.51 7.04 220.11 117.52 24 14 39 502.7 32.73 341.83

Differential Corrections: TDE -.4026 TRA -.4908 TC3 -.3007 BAU .1398 SGT 1166.6 SGR 830.5 SG3 1210.4 ST 34.9 SR 18.9 SS 65.4
 RDE -.2164 RRA -.2761 RC3 .7360 FAU .15665 RRT .6321 RRF -.9385 RTF -.6567 CRT .9985 CRS .8079 CST .7953
 FDE 1.2128 FRA 6.0179 FC-10.3092 BSP 2245 SGB 1432.0 R23 -.4900 R13 -.8046 LSA 73.4 MSA 21.3 SSA .8
 BDE .4571 BRA .5631 BC3 .7951 F8P 2019 SG1 1312.9 SG2 571.8 THA 30.64 EL1 39.7 EL2 .9 ALF 28.45

Orbit Determination Accuracy: ST 34.9 SR 18.9 SS 65.4 CRT .9985 CRS .8079 CST .7953 LSA 73.4 MSA 21.3 SSA .8 EL1 39.7 EL2 .9 ALF 28.45

LAUNCH DATE APR 21 1971 FLIGHT TIME 180.00 ARRIVAL DATE OCT 26 1971

DISTANCE 463.367 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.366 GAL -2.29 AZL 93.05 HCA 155.14 SMA 184.86 ECC .19087 INC 3.0535 V1 29.640
 RP 209.04 LAP -1.28 LOP 5.42 VP 23.491 GAP 8.06 AZP 87.23 TAL 345.65 TAP 140.78 RCA 149.58 APO 220.15 V2 26.221
 RC 100.898 GL -26.35 GP 9.08 ZAL 119.12 ZAP 125.83 ETS 173.13 ZAE 164.11 ETE 141.90 ZAC 109.83 ETC 276.70 LVI -24.81

PLANETOCENTRIC CONIC
 C3 13.168 VHL 3.629 DLA -36.16 RAL 348.03 RAD 6630.6 VEL 11.943 PTH 6.59 VHP 3.703 DPA -10.29 RAP 312.22 ECC 1.2167
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 22 44 2259.22 4.68 56.32 205.65 137.40 20 0 23 1259.2 22.58 39.53
 60.00 21 12 34 1966.56 12.22 37.12 212.78 128.71 21 45 21 966.6 26.75 16.70
 66.46 23 46 5 1519.03 23.85 8.53 220.79 118.03 24 11 24 519.0 33.24 343.30
 66.46 23 46 5 1519.03 23.85 8.53 220.79 118.03 24 11 24 519.0 33.24 343.30
 66.46 23 46 5 1519.03 23.85 8.53 220.79 118.03 24 11 24 519.0 33.24 343.30
 66.46 23 46 5 1519.03 23.85 8.53 220.79 118.03 24 11 24 519.0 33.24 343.30
 66.46 23 46 5 1519.03 23.85 8.53 220.79 118.03 24 11 24 519.0 33.24 343.30

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3910 TRA -.4287 TC3 -.3672 BAU .1524 SGT 1074.7 SGR 892.6 SG3 1261.4 ST 33.3 SR 19.2 SS 66.5
 RDE -.2139 RRA -.3064 RC3 .7837 FAU .16321 RRT .5831 RRF -.9514 RTF -.5963 CRT .9932 CRS .8315 CST .7681
 FDE 1.2414 FRA 6.2342 FC-10.7303 BSP 2104 SGB 1397.0 R23 -.4944 R13 -.8145 LSA 73.7 MSA 21.5 SSA .8
 BDE .4457 BRA .5269 BC3 .8654 FSP 2093 SG1 1250.3 SG2 623.3 THA 36.12 EL1 30.4 EL2 1.9 ALF 29.79

LAUNCH DATE APR 21 1971 FLIGHT TIME 190.00 ARRIVAL DATE OCT 28 1971

DISTANCE 467.500 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.354 GAL -2.28 AZL 93.13 HCA 156.38 SMA 184.61 ECC .18975 INC 3.1310 V1 29.640
 RP 209.24 LAP -1.25 LOP 6.66 VP 23.445 GAP 7.82 AZP 87.13 TAL 345.61 TAP 141.98 RCA 149.58 APO 219.63 V2 26.198
 RC 102.893 GL -29.07 GP 9.70 ZAL 119.00 ZAP 123.84 ETS 173.15 ZAE 162.48 ETE 144.04 ZAC 110.54 ETC 276.57 LVI -25.17

PLANETOCENTRIC CONIC
 C3 13.211 VHL 3.635 DLA -36.76 RAL 348.55 RAD 6639.7 VEL 11.545 PTH 6.59 VHP 3.631 DPA -9.87 RAP 311.36 ECC 1.2174
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 29 22 2243.79 5.45 55.67 206.60 137.34 20 6 46 1243.8 23.30 38.75
 60.00 21 23 31 1939.56 13.37 35.75 214.03 128.38 21 55 50 939.6 27.70 13.04
 65.47 23 42 51 1535.42 24.19 10.05 221.57 118.57 24 8 26 535.4 33.76 344.79
 65.47 23 42 51 1535.42 24.19 10.05 221.57 118.57 24 8 26 535.4 33.76 344.79
 65.47 23 42 51 1535.42 24.19 10.05 221.57 118.57 24 8 26 535.4 33.76 344.79
 65.47 23 42 51 1535.42 24.19 10.05 221.57 118.57 24 8 26 535.4 33.76 344.79
 65.47 23 42 51 1535.42 24.19 10.05 221.57 118.57 24 8 26 535.4 33.76 344.79

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3916 TRA -.3751 TC3 -.4757 BAU .1685 SGT 1022.5 SGR 964.1 SG3 1313.9 ST 32.8 SR 19.7 SS 68.4
 RDE -.2147 RRA -.3422 RC3 .8272 FAU .16796 RRT .3051 RRF -.9622 RTF -.5122 CRT .9794 CRS .8593 CST .7423
 FDE 1.3123 FRA 6.4880 FC-11.0065 BSP 2110 SGB 1405.3 R23 -.4962 R13 -.8248 LSA 75.2 MSA 22.0 SSA .7
 BDE .4468 BRA .5077 BC3 .9543 FSP 2206 SG1 1220.2 SG2 697.3 THA 41.68 EL1 38.1 EL2 3.4 ALF 30.78

LAUNCH DATE APR 21 1971 FLIGHT TIME 192.00 ARRIVAL DATE OCT 30 1971

DISTANCE 471.642 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.340 GAL -2.28 AZL 93.22 HCA 157.61 SMA 184.37 ECC .18873 INC 3.2167 V1 29.640
 RP 209.44 LAP -1.22 LOP 7.89 VP 23.398 GAP 7.59 AZP 87.03 TAL 345.56 TAP 143.17 RCA 149.57 APO 219.17 V2 26.174
 RC 104.913 GL -29.83 GP 10.38 ZAL 118.87 ZAP 121.82 ETS 173.18 ZAE 160.76 ETE 145.80 ZAC 111.30 ETC 276.42 LVI -25.57

PLANETOCENTRIC CONIC
 C3 13.286 VHL 3.645 DLA -37.39 RAL 349.11 RAD 6639.7 VEL 11.548 PTH 6.59 VHP 3.566 DPA -9.40 RAP 310.45 ECC 1.2187
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 36 37 2227.64 6.26 54.99 207.67 137.26 20 13 45 1227.6 24.04 37.94
 60.00 21 36 3 1909.18 14.64 34.21 215.49 127.98 22 7 52 909.2 28.73 13.13
 64.45 23 39 47 1552.23 24.53 11.62 222.44 119.15 24 5 40 552.2 34.30 346.34
 64.45 23 39 47 1552.23 24.53 11.62 222.44 119.15 24 5 40 552.2 34.30 346.34
 64.45 23 39 47 1552.23 24.53 11.62 222.44 119.15 24 5 40 552.2 34.30 346.34
 64.45 23 39 47 1552.23 24.53 11.62 222.44 119.15 24 5 40 552.2 34.30 346.34
 64.45 23 39 47 1552.23 24.53 11.62 222.44 119.15 24 5 40 552.2 34.30 346.34

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3836 TRA -.3088 TC3 -.5610 BAU .1852 SGT 950.9 SGR 1043.0 SG3 1362.6 ST 31.5 SR 20.3 SS 69.7
 RDE -.2148 RRA -.3793 RC3 .8791 FAU .17380 RRT .4034 RRF -.9707 RTF -.1112 CRT .9552 CRS .8824 CST .7062
 FDE 1.3578 FRA 6.7052 FC-11.3254 BSP 2056 SGB 1411.4 R23 -.4344 R13 -.8682 LSA 75.9 MSA 22.4 SSA .7
 BDE .4397 BRA .4891 BC3 1.0428 FSP 2287 SG1 1185.9 SG2 765.2 THA 51.46 EL1 37.2 EL2 5.1 ALF 32.30

LAUNCH DATE APR 21 1971 FLIGHT TIME 194.00 ARRIVAL DATE NOV 1 1971

DISTANCE 475.789 EARTH TO MARS

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.327 GAL -2.28 AZL 93.31 HCA 158.85 SMA 184.16 ECC .18782 INC 3.3116 V1 29.640
 RP 209.66 LAP -1.19 LOP 9.13 VP 23.353 GAP 7.36 AZP 86.91 TAL 345.49 TAP 144.34 RCA 149.57 APO 218.75 V2 26.180
 RC 106.958 GL -30.65 GP 11.14 ZAL 118.74 ZAP 119.76 ETS 173.22 ZAE 158.85 ETE 147.23 ZAC 112.14 ETC 276.27 LVI -26.02

PLANETOCENTRIC CONIC
 C3 13.396 VHL 3.660 DLA -38.06 RAL 349.74 RAD 6639.7 VEL 11.553 PTH 6.60 VHP 3.508 DPA -8.87 RAP 309.50 ECC 1.2205
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 19 44 36 2210.66 7.11 54.27 208.88 137.17 20 21 27 1210.7 24.82 37.07
 60.00 21 50 48 1873.92 16.11 32.38 217.22 127.45 22 22 2 873.9 29.90 10.87
 63.39 23 36 57 1569.52 24.87 13.25 223.43 119.79 24 3 7 569.5 34.86 347.95
 63.39 23 36 57 1569.52 24.87 13.25 223.43 119.79 24 3 7 569.5 34.86 347.95
 63.39 23 36 57 1569.52 24.87 13.25 223.43 119.79 24 3 7 569.5 34.86 347.95
 63.39 23 36 57 1569.52 24.87 13.25 223.43 119.79 24 3 7 569.5 34.86 347.95
 63.39 23 36 57 1569.52 24.87 13.25 223.43 119.79 24 3 7 569.5 34.86 347.95

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3807 TRA -.2434 TC3 -.6644 BAU .2047 SGT 908.8 SGR 1132.2 SG3 1410.1 ST 30.7 SR 21.2 SS 71.3
 RDE -.2174 RRA -.4215 RC3 .9303 FAU .17854 RRT .2694 RRF -.9776 RTF -.2625 CRT .9197 CRS .9053 CST .6876
 FDE 1.4270 FRA 6.9334 FC-11.5385 BSP 2087 SGB 1451.8 R23 -.3083 R13 -.9277 LSA 77.1 MSA 22.9 SSA .7
 BDE .4384 BRA .4867 BC3 1.1432 FSP 2381 SG1 1188.6 SG2 833.7 THA 64.72 EL1 36.6 EL2 7.0 ALF 33.80

LAUNCH DATE APR 21 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 3 1971

HELIOCENTRIC CONIC

DISTANCE 479.943

EARTH TO MARS

RL 190.33 LAL -.00 LOL 210.25 VL 32.315 GAL -2.28 AZL 93.42 HCA 160.08 SMA 183.97 ECC .18700 INC 3.4172 V1 29.640
RP 209.87 LAP -1.16 LOP 10.36 VP 23.309 GAP 7.14 AZP 86.79 TAL 345.42 TAP 145.49 RCA 149.57 APO 218.37 V2 26.124
RC 109.028 GL -31.53 GP 11.97 ZAL 118.60 ZAP 117.67 ETS 173.27 ZAE 157.04 ETE 148.38 ZAC 113.06 ETC 276.12 LVI -26.52

PLANETOCENTRIC CONIC

C3 13.346 VHL 3.680 DLA -38.77 RAL 350.43 RAD 6639.8 VEL 11.359 PTH 6.60 VHP 3.455 DPA -8.26 RAP 308.51 ECC 1.2229
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 53 30 2192.49 8.02 53.49 210.26 137.06 20 30 2 1192.5 25.64 36.12
60.00 22 9 2 1830.47 17.90 30.10 219.33 126.73 22 39 32 830.5 31.27 8.01
62.29 23 34 19 1587.46 25.20 14.95 224.54 120.49 24 0 47 587.5 35.45 349.65
62.29 23 34 19 1587.46 25.20 14.95 224.54 120.49 24 0 47 587.5 35.45 349.65
62.29 23 34 19 1587.46 25.20 14.95 224.54 120.49 24 0 47 587.5 35.45 349.65
62.29 23 34 19 1587.46 25.20 14.95 224.54 120.49 24 0 47 587.5 35.45 349.65
62.29 23 34 19 1587.46 25.20 14.95 224.54 120.49 24 0 47 587.5 35.45 349.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3772 TRA -.1731 TC3 -.7680 BAU .2262 SGT 885.3 SGR 1231.4 SG3 1453.6 ST 29.8 SR 22.2 SS 72.8
RDE -.2213 RRA -.4676 RC3 .9852 FAU .18313 RRT .1056 RRF -.9830 RTF -.0957 CRT .8710 CRS .9251 CST .6207
FDE 1.4950 FRA 7.1424 FC-11.7044 BSP 2159 SGB 1516.7 R23 -.1140 R13 -.9764 LSA 78.3 MSA 23.5 SSA .6
BDE .4373 BRA .4986 BC3 1.2492 FSP 2463 SG1 1238.6 SG2 875.3 THA 81.28 EL1 36.1 EL2 9.0 ALF 35.55

LAUNCH DATE APR 21 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 5 1971

HELIOCENTRIC CONIC

DISTANCE 484.102

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.305 GAL -2.29 AZL 93.54 HCA 161.31 SMA 183.79 ECC .18627 INC 3.5359 V1 29.640
RP 210.10 LAP -1.13 LOP 11.59 VP 23.265 GAP 6.92 AZP 86.65 TAL 345.32 TAP 146.63 RCA 149.56 APO 218.03 V2 26.098
RC 111.121 GL -32.49 GP 12.89 ZAL 118.43 ZAP 115.55 ETS 173.34 ZAE 155.04 ETE 149.27 ZAC 114.07 ETC 275.96 LVI -27.10

PLANETOCENTRIC CONIC

C3 13.741 VHL 3.707 DLA -39.54 RAL 351.19 RAD 6639.9 VEL 11.567 PTH 6.61 VHP 3.410 DPA -7.57 RAP 307.47 ECC 1.2281
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 20 3 31 2172.75 9.00 32.65 211.84 136.92 20 39 44 1172.7 26.53 35.08
60.00 22 33 53 1770.31 20.31 26.85 222.06 125.59 23 3 24 770.3 33.04 3.90
61.13 23 31 51 1606.33 25.54 16.75 225.80 121.27 23 58 38 606.3 36.07 351.46
61.13 23 31 51 1606.33 25.54 16.75 225.80 121.27 23 58 38 606.3 36.07 351.46
61.13 23 31 51 1606.33 25.54 16.75 225.80 121.27 23 58 38 606.3 36.07 351.46
61.13 23 31 51 1606.33 25.54 16.75 225.80 121.27 23 58 38 606.3 36.07 351.46
61.13 23 31 51 1606.33 25.54 16.75 225.80 121.27 23 58 38 606.3 36.07 351.46
61.13 23 31 51 1606.33 25.54 16.75 225.80 121.27 23 58 38 606.3 36.07 351.46

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3727 TRA -.0981 TC3 -.8694 BAU .2497 SGT 886.5 SGR 1342.0 SG3 1492.2 ST 29.0 SR 23.5 SS 74.1
RDE -.2264 RRA -.5181 RC3 1.0450 FAU .18765 RRT -.0787 RRF -.9873 RTF .0898 CRT .8077 CRS .9419 CST .5638
FDE 1.5588 FRA 7.3268 FC-11.8231 BSP 2281 SGB 1608.4 R23 .0470 R13 -.9862 LSA 79.4 MSA 24.0 SSA .6
BDE .4361 BRA .3273 BC3 1.3594 FSP 2531 SG1 1345.2 SG2 881.7 THA 95.23 EL1 35.5 EL2 11.3 ALF 37.63

LAUNCH DATE APR 21 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 7 1971

HELIOCENTRIC CONIC

DISTANCE 488.265

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.295 GAL -2.30 AZL 93.67 HCA 162.53 SMA 183.64 ECC .18564 INC 3.6706 V1 29.640
RP 210.33 LAP -1.10 LOP 12.82 VP 23.222 GAP 6.70 AZP 86.50 TAL 345.22 TAP 147.75 RCA 149.55 APO 217.73 V2 26.071
RC 113.239 GL -33.53 GP 13.92 ZAL 118.24 ZAP 113.41 ETS 173.44 ZAE 152.96 ETE 149.95 ZAC 115.10 ETC 275.80 LVI -27.76

PLANETOCENTRIC CONIC

C3 13.989 VHL 3.740 DLA -40.37 RAL 352.05 RAD 6640.0 VEL 11.578 PTH 6.62 VHP 3.372 DPA -6.77 RAP 306.39 ECC 1.2302
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 14 59 2190.88 10.08 31.71 213.69 136.75 20 50 49 1150.9 27.50 33.91
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40
59.89 23 29 38 1626.19 25.88 18.66 227.24 122.14 23 56 44 626.2 36.72 353.40

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3688 TRA -.0192 TC3 -.9719 BAU .2754 SGT 921.8 SGR 1468.0 SG3 1525.6 ST 28.3 SR 25.0 SS 73.4
RDE -.2344 RRA -.5748 RC3 1.1039 FAU .19123 RRT -.2820 RRF -.9906 RTF .1.29 CRT .7301 CRS .9563 CST .4993
FDE 1.6347 FRA 7.4933 FC-11.8347 BSP 2474 SGB 1731.6 R23 .1316 R13 -.9819 LSA 80.6 MSA 24.6 SSA .5
BDE .4370 BRA .5751 BC3 1.4723 FSP 2597 SG1 1496.5 SG2 871.3 THA 104.29 EL1 35.1 EL2 13.7 ALF 40.19

LAUNCH DATE APR 21 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 9 1971

HELIOCENTRIC CONIC

DISTANCE 492.433

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.287 GAL -2.31 AZL 93.82 HCA 163.76 SMA 183.50 ECC .18509 INC 3.8247 V1 29.640
RP 210.57 LAP -1.07 LOP 14.04 VP 23.179 GAP 6.49 AZP 86.33 TAL 345.10 TAP 148.86 RCA 149.54 APO 217.47 V2 26.044
RC 115.380 GL -34.68 GP 15.07 ZAL 118.02 ZAP 111.25 ETS 173.55 ZAE 150.79 ETE 150.42 ZAC 116.42 ETC 275.63 LVI -28.52

PLANETOCENTRIC CONIC

C3 14.302 VHL 3.782 DLA -41.29 RAL 353.01 RAD 6640.2 VEL 11.591 PTH 6.63 VHP 3.342 DPA -5.85 RAP 305.28 ECC 1.2354
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 28 19 2126.09 11.31 30.63 215.85 136.53 21 3 45 1126.1 28.59 32.55
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51
58.57 23 27 36 1647.44 26.22 20.72 228.89 123.11 23 55 3 647.4 37.41 355.51

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3645 TPA .0647 TC3 -1.0696 BAU .3030 SGT 988.2 SGR 1605.5 SG3 1552.6 ST 27.7 SR 26.9 SS 76.7
RDE -.2459 RRA -.6384 RC3 1.1691 FAU .19405 RRT -.4271 RRF -.9931 RTF .4368 CRT .6381 CRS .9681 CST .4257
FDE 1.7216 FRA 7.6380 FC-11.7464 BSP 2732 SGB 1885.2 R23 .1679 R13 -.9789 LSA 82.1 MSA 25.2 SSA .5
BDE .4397 BRA .6417 BC3 1.5846 FSP 2652 SG1 1681.0 SG2 853.4 THA 110.12 EL1 34.9 EL2 16.4 ALF 43.60

LAUNCH DATE APR 21 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 11 1971

HELIOCENTRIC CONIC

DISTANCE 496.604

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.279 GAL -2.33 AZL 94.00 HCA 164.98 SMA 183.38 ECC .18462 INC 4.0023 V1 29.640
RP 210.82 LAP -1.04 LOP 15.26 VP 23.137 GAP 6.28 AZP 86.13 TAL 344.97 TAP 149.95 RCA 149.53 APO 217.24 V2 26.015
RC 117.545 GL -35.96 GP 16.38 ZAL 117.75 ZAP 109.07 ETS 173.70 ZAE 146.53 ETE 150.70 ZAC 117.81 ETC 275.47 LVI -29.41

PLANETOCENTRIC CONIC

C3 14.695 VHL 3.833 DLA -42.30 RAL 354.11 RAD 6640.4 VEL 11.608 PTH 8.65 VHP 3.321 DPA -4.77 RAP 304.12 ECC 1.2418
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 44 13 2097.18 12.74 49.37 218.45 136.24 21 19 10 1097.2 29.84 30.93
57.13 23 25 53 1670.23 26.55 22.96 230.78 124.22 23 53 43 670.2 38.15 357.83
57.13 23 25 53 1670.23 26.55 22.96 230.78 124.22 23 53 43 670.2 38.15 357.83
57.13 23 25 53 1670.23 26.55 22.96 230.78 124.22 23 53 43 670.2 38.15 357.83
57.13 23 25 53 1670.23 26.55 22.96 230.78 124.22 23 53 43 670.2 38.15 357.83
57.13 23 25 53 1670.23 26.55 22.96 230.78 124.22 23 53 43 670.2 38.15 357.83

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3612 TRA .1523 TC3-1.1646 BAU .3338 SGT 1087.8 SGR 1761.0 SG3 1569.7 ST 27.4 SR 29.0 SS 77.7
RDE -.2604 RRA -.7086 RC3 1.2370 FAU .19645 RRT -.5624 RRF -.9950 RTF .5704 CRT .5332 CRS .9773 CST .3426
FDE 1.8060 FRA 7.7308 FC-11.5737 BSP 3044 SGB 2069.9 R23 .1807 R13 -.9786 LSA 83.4 MSA 25.9 SSA .4
BDE .4453 BRA .7248 BC3 1.6989 FSP 2684 SG1 1893.3 SG2 836.6 THA 114.16 EL1 35.0 EL2 19.2 ALF 48.04

LAUNCH DATE APR 21 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 13 1971

HELIOCENTRIC CONIC

DISTANCE 500.778

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.273 GAL -2.34 AZL 94.21 HCA 166.19 SMA 183.28 ECC .18423 INC 4.2103 V1 29.640
RP 211.07 LAP -1.00 LOP 16.40 VP 23.096 GAP 6.07 AZP 85.91 TAL 344.82 TAP 151.02 RCA 149.51 APO 217.04 V2 25.986
RC 119.734 GL -37.40 GP 17.87 ZAL 117.42 ZAP 106.88 ETS 173.88 ZAE 146.16 ETE 150.80 ZAC 119.39 ETC 275.31 LVI -30.46

PLANETOCENTRIC CONIC

C3 15.190 VHL 3.897 DLA -43.43 RAL 355.38 RAD 6640.6 VEL 11.629 PTH 6.67 VHP 3.311 DPA -3.51 RAP 302.93 ECC 1.2500
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 3 47 2062.08 14.46 47.81 221.65 135.84 21 36 9 1062.1 31.32 26.90
55.55 23 24 29 1695.03 26.88 25.41 232.99 125.49 23 52 44 695.0 38.95 .41
55.55 23 24 29 1695.03 26.88 25.41 232.99 125.49 23 52 44 695.0 38.95 .41
55.55 23 24 29 1695.03 26.88 25.41 232.99 125.49 23 52 44 695.0 38.95 .41
55.55 23 24 29 1695.03 26.88 25.41 232.99 125.49 23 52 44 695.0 38.95 .41
55.55 23 24 29 1695.03 26.88 25.41 232.99 125.49 23 52 44 695.0 38.95 .41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3582 TRA .2443 TC3-1.2518 BAU .3669 SGT 1214.1 SGR 1939.0 SG3 1578.3 ST 27.4 SR 31.8 SS 79.0
RDE -.2929 RRA -.7897 RC3 1.3027 FAU .19716 RRT -.6637 RRF -.9965 RTF .6700 CRT .4220 CRS .9847 CST .2579
FDE 1.9248 FRA 7.7946 FC-11.2366 BSP 3430 SGB 2287.7 R23 .1806 R13 -.9800 LSA 85.3 MSA 26.7 SSA .4
BDE .4564 BRA .8266 BC3 1.8067 FSP 2710 SG1 2133.7 SG2 825.3 THA 116.91 EL1 35.6 EL2 22.1 ALF 54.71

LAUNCH DATE APR 21 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 15 1971

HELIOCENTRIC CONIC

DISTANCE 504.954

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.268 GAL -2.37 AZL 94.46 HCA 167.41 SMA 183.19 ECC .18391 INC 4.4569 V1 29.640
RP 211.33 LAP -.97 LOP 17.70 VP 23.055 GAP 5.87 AZP 85.65 TAL 344.66 TAP 152.07 RCA 149.50 APO 216.88 V2 25.957
RC 121.945 GL -39.04 GP 19.59 ZAL 117.01 ZAP 104.69 ETS 174.11 ZAE 143.69 ETE 150.72 ZAC 121.18 ETC 275.16 LVI -31.70

PLANETOCENTRIC CONIC

C3 15.820 VHL 3.977 DLA -44.70 RAL 356.88 RAD 6640.9 VEL 11.656 PTH 6.69 VHP 3.313 DPA -2.03 RAP 301.70 ECC 1.2604
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 21 29 5 2016.65 16.66 45.75 225.74 135.24 22 2 41 1016.6 35.19 26.17
53.81 23 23 36 1722.17 27.18 28.12 235.59 126.97 23 52 18 722.2 39.80 3.30
53.81 23 23 36 1722.17 27.18 28.12 235.59 126.97 23 52 18 722.2 39.80 3.30
53.81 23 23 36 1722.17 27.18 28.12 235.59 126.97 23 52 18 722.2 39.80 3.30
53.81 23 23 36 1722.17 27.18 28.12 235.59 126.97 23 52 18 722.2 39.80 3.30
53.81 23 23 36 1722.17 27.18 28.12 235.59 126.97 23 52 18 722.2 39.80 3.30

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3558 TRA .3421 TC3-1.3265 BAU .4033 SGT 1361.9 SGR 2139.3 SG3 1572.3 ST 27.6 SR 35.0 SS 80.0
RDE -.3128 RRA -.8808 RC3 1.3695 FAU .19672 RRT -.7407 RRF -.9975 RTF .5555 CRT .3034 CRS .9900 CST .1666
FDE 2.0520 FRA 7.7884 FC-10.7650 BSP 3670 SGB 2535.8 R23 .1739 R13 -.9823 LSA 87.4 MSA 27.4 SSA .3
BDE .4722 BRA .9449 BC3 1.9066 FSP 2705 SG1 2401.3 SG2 814.9 THA 116.87 EL1 37.0 EL2 24.9 ALF 64.29

LAUNCH DATE APR 21 1971

FLIGHT TIME 210.00

ARRIVAL DATE NOV 17 1971

HELIOCENTRIC CONIC

DISTANCE 509.133

EARTH TO MARS

RL 150.33 LAL -.00 LOL 210.25 VL 32.263 GAL -2.39 AZL 94.75 HCA 168.62 SMA 183.11 ECC .18367 INC 4.7545 V1 29.640
RP 211.80 LAP -.94 LOP 18.91 VP 23.014 GAP 5.67 AZP 85.34 TAL 344.49 TAP 153.11 RCA 149.48 APO 216.74 V2 25.926
RC 124.177 GL -40.92 GP 21.58 ZAL 116.49 ZAP 102.51 ETS 174.39 ZAE 141.08 ETE 150.44 ZAC 123.26 ETC 275.03 LVI -33.19

PLANETOCENTRIC CONIC

C3 16.636 VHL 4.079 DLA -46.16 RAL 358.62 RAD 6641.3 VEL 11.691 PTH 6.73 VHP 3.330 DPA -.25 RAP 300.42 ECC 1.2738
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 22 5 21 1949.62 19.88 42.61 231.42 134.16 22 37 50 949.6 35.80 21.92
51.87 23 23 23 1752.36 27.44 31.15 238.69 128.69 23 52 35 752.4 40.70 6.61
51.87 23 23 23 1752.36 27.44 31.15 238.69 128.69 23 52 35 752.4 40.70 6.61
51.87 23 23 23 1752.36 27.44 31.15 238.69 128.69 23 52 35 752.4 40.70 6.61
51.87 23 23 23 1752.36 27.44 31.15 238.69 128.69 23 52 35 752.4 40.70 6.61
51.87 23 23 23 1752.36 27.44 31.15 238.69 128.69 23 52 35 752.4 40.70 6.61

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3482 TRA .4445 TC3-1.3858 BAU .4435 SGT 1526.4 SGR 2369.6 SG3 1551.5 ST 28.0 SR 39.1 SS 81.0
RDE -.3560 RRA -.9858 RC3 1.4341 FAU .19461 RRT -.7963 RRF -.9983 RTF .7997 CRT .1855 CRS .9939 CST .0763
FDE 2.2089 FRA 7.7117 FC-10.1277 BSP 4378 SGB 2818.7 R23 .1637 R13 -.9848 LSA 89.9 MSA 28.1 SSA .3
BDE .4979 BRA 1.0814 BC3 1.9943 FSP 2678 SG1 2699.6 SG2 810.5 THA 120.15 EL1 39.7 EL2 27.1 ALF 75.69

LAUNCH DATE APR 21 1971

FLIGHT TIME 212.00

ARRIVAL DATE NOV 19 1971

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.259 GAL -2.41 AZL 95.12 HCA 169.83 SMA 183.05 ECC .18349 INC 5.1204 V1 29.640
 RP 211.87 LAP -.90 LOP 20.12 VP 22.974 GAP 5.48 AZP 84.96 TAL 344.31 TAP 154.14 RCA 149.48 APO 216.84 V2 25.896
 RC 126.431 GL -43.12 GP 23.94 ZAL 115.82 ZAP 100.34 ETS 174.74 ZAE 138.30 ETE 149.97 ZAC 125.68 ETC 274.92 LVI -34.99

DISTANCE 513.313 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 17.715 VHL 4.209 DLA -47.82 RAL .77 RAD 6641.8 VEL 11.736 PTH 6.77 VHP 3.369 DPA 1.88 RAP 299.10 ECC 1.2915
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 49.68 23 24 13 1786.28 27.62 34.56 242.45 130.73 23 53 59 786.3 41.65 10.44
 49.68 23 24 13 1786.28 27.62 34.56 242.45 130.73 23 53 59 786.3 41.65 10.44
 49.68 23 24 13 1786.28 27.62 34.56 242.45 130.73 23 53 59 786.3 41.65 10.44
 49.68 23 24 13 1786.28 27.62 34.56 242.45 130.73 23 53 59 786.3 41.65 10.44
 49.68 23 24 13 1786.28 27.62 34.56 242.45 130.73 23 53 59 786.3 41.65 10.44
 49.68 23 24 13 1786.28 27.62 34.56 242.45 130.73 23 53 59 786.3 41.65 10.44

DIFFERENTIAL CORRECTIONS
 TDE -.3405 TRA .5513 TC3-1.4274 BAU .4890 SGT 1705.3 SGR 2631.9 SG3 1508.4 ST 28.7 SR 44.0 SS 81.8
 RDE -.4173 RRA-1.1047 RC3 1.4967 FAU .19090 RRT -.8364 RRF -.9989 RTF .8388 CRY .0728 CRS .9965 CST -.0106
 FDE 2.3903 FRA 7.3215 FC3-9.3290 BSP 4922 SGB 3136.1 R23 .1525 R13 -.9872 LSA 92.8 MSA 28.8 S3A .2
 BDE .5386 BRA 1.2347 BC3 2.0683 F8P 2601 SGI 3029.1 SG2 812.1 THA 120.92 EL1 44.1 EL2 28.5 ALF 65.34

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 21 1971

FLIGHT TIME 214.00

ARRIVAL DATE NOV 21 1971

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.256 GAL -2.44 AZL 95.58 HCA 171.03 SMA 183.00 ECC .18338 INC 5.5829 V1 29.640
 RP 212.14 LAP -.87 LOP 21.32 VP 22.934 GAP 5.28 AZP 85.48 TAL 344.12 TAP 155.15 RCA 149.44 APO 216.58 V2 25.864
 RC 128.706 GL -45.70 GP 26.74 ZAL 114.97 ZAP 98.20 ETS 175.18 ZAE 135.32 ETE 149.30 ZAC 128.55 ETC 274.84 LVI -37.17

DISTANCE 517.493 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 19.191 VHL 4.381 DLA -49.75 RAL 3.45 RAD 6642.5 VEL 11.799 PTH 6.82 VHP 3.436 DPA 4.46 RAP 297.73 ECC 1.3158
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 47.19 23 26 36 1825.18 27.65 38.45 247.10 133.16 23 57 1 825.2 42.59 14.95
 47.19 23 26 36 1825.18 27.65 38.45 247.10 133.16 23 57 1 825.2 42.59 14.95
 47.19 23 26 36 1825.18 27.65 38.45 247.10 133.16 23 57 1 825.2 42.59 14.95
 47.19 23 26 36 1825.18 27.65 38.45 247.10 133.16 23 57 1 825.2 42.59 14.95
 47.19 23 26 36 1825.18 27.65 38.45 247.10 133.16 23 57 1 825.2 42.59 14.95
 47.19 23 26 36 1825.18 27.65 38.45 247.10 133.16 23 57 1 825.2 42.59 14.95

DIFFERENTIAL CORRECTIONS
 TDE -.3234 TRA .6668 TC3-1.4370 BAU .5411 SGT 1893.7 SGR 2938.7 SG3 1441.2 ST 29.3 SR 50.7 SS 82.9
 RDE -.5149 RRA-1.2452 RC3 1.5438 FAU .18384 RRT -.8662 RRF -.9993 RTF .8677 CRY -.0386 CRS .9982 CST -.0977
 FDE 2.6445 FRA 7.2176 FC3-8.2936 BSP 5573 SGB 3496.0 R23 .1399 R13 -.9895 LSA 97.2 MSA 29.3 S3A .2
 BDE .6080 BRA 1.4125 BC3 2.1089 F8P 2494 SGI 3398.9 SG2 818.2 THA 121.18 EL1 50.7 EL2 29.3 ALF 91.92

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 21 1971

FLIGHT TIME 216.00

ARRIVAL DATE NOV 23 1971

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.254 GAL -2.47 AZL 96.19 HCA 172.23 SMA 182.98 ECC .18334 INC 6.1855 V1 29.640
 RP 212.43 LAP -.83 LOP 22.53 VP 22.894 GAP 5.09 AZP 83.87 TAL 343.91 TAP 156.14 RCA 149.42 APO 216.50 V2 25.832
 RC 130.999 GL -48.80 GP 30.13 ZAL 113.85 ZAP 96.11 ETS 175.73 ZAE 132.07 ETE 148.40 ZAC 132.00 ETC 274.82 LVI -39.88

DISTANCE 521.873 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 21.296 VHL 4.615 DLA -51.89 RAL 6.81 RAD 6643.4 VEL 11.887 PTH 6.90 VHP 3.547 DPA 7.63 RAP 296.28 ECC 1.3509
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 44.36 23 31 32 1870.86 27.42 42.90 252.98 136.08 24 2 43 870.7 43.44 20.34
 44.36 23 31 32 1870.86 27.42 42.90 252.98 136.08 24 2 43 870.7 43.44 20.34
 44.36 23 31 32 1870.86 27.42 42.90 252.98 136.08 24 2 43 870.7 43.44 20.34
 44.36 23 31 32 1870.86 27.42 42.90 252.98 136.08 24 2 43 870.7 43.44 20.34
 44.36 23 31 32 1870.86 27.42 42.90 252.98 136.08 24 2 43 870.7 43.44 20.34
 44.36 23 31 32 1870.86 27.42 42.90 252.98 136.08 24 2 43 870.7 43.44 20.34

DIFFERENTIAL CORRECTIONS
 TDE -.2889 TRA .7912 TC3-1.4100 BAU .6009 SGT 2089.6 SGR 3297.3 SG3 1341.1 ST 30.0 SR 59.7 SS 84.4
 RDE -.6719 RRA-1.4098 RC3 1.8688 FAU .17311 RRT -.8882 RRF -.9996 RTF .8589 CRY -.1582 CRS .9992 CST -.1939
 FDE 2.9748 FRA 6.7478 FC3-7.0371 BSP 8310 SGB 3803.7 R23 .1272 R13 -.9914 LSA 103.8 MSA 29.8 S3A .2
 BDE .7312 BRA 1.6167 BC3 2.1092 F8P 2332 SGI 3814.5 SG2 830.0 THA 121.00 EL1 58.9 EL2 29.5 ALF 98.88

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 21 1971

FLIGHT TIME 218.00

ARRIVAL DATE NOV 25 1971

HELIOCENTRIC CONIC
 RL 150.33 LAL -.00 LOL 210.25 VL 32.252 GAL -2.51 AZL 97.00 HCA 173.43 SMA 182.93 ECC .18335 INC 7.0040 V1 29.640
 RP 212.72 LAP -.80 LOP 23.73 VP 22.855 GAP 4.90 AZP 83.04 TAL 343.70 TAP 157.12 RCA 149.39 APO 216.47 V2 25.799
 RC 133.312 GL -52.56 GP 34.27 ZAL 112.39 ZAP 94.10 ETS 176.42 ZAE 128.48 ETE 147.28 ZAC 136.20 ETC 274.90 LVI -43.17

DISTANCE 525.853 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 24.484 VHL 4.948 DLA -54.58 RAL 11.59 RAD 6644.8 VEL 12.019 PTH 7.01 VHP 3.729 DPA 11.58 RAP 294.74 ECC 1.4030
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ABC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 41.15 23 40 44 1925.41 26.70 48.01 260.63 139.56 24 12 50 925.4 43.99 26.87
 41.15 23 40 44 1925.41 26.70 48.01 260.63 139.56 24 12 50 925.4 43.99 26.87
 41.15 23 40 44 1925.41 26.70 48.01 260.63 139.56 24 12 50 925.4 43.99 26.87
 41.15 23 40 44 1925.41 26.70 48.01 260.63 139.56 24 12 50 925.4 43.99 26.87
 41.15 23 40 44 1925.41 26.70 48.01 260.63 139.56 24 12 50 925.4 43.99 26.87
 41.15 23 40 44 1925.41 26.70 48.01 260.63 139.56 24 12 50 925.4 43.99 26.87

DIFFERENTIAL CORRECTIONS
 TDE -.2147 TRA .9272 TC3-1.3361 BAU .6723 SGT 2289.6 SGR 3714.1 SG3 1197.7 ST 30.5 SR 72.6 SS 86.3
 RDE -.9417 RRA-1.6001 RC3 1.5599 FAU .15787 RRT -.9047 RRF -.9998 RTF .9048 CRY -.2977 CRS .9998 CST -.3185
 FDE 3.4060 FRA 6.0487 FC3-5.5820 BSP 7154 SGB 4363.1 R23 .1149 R13 -.9931 LSA 113.3 MSA 28.9 S3A .1
 BDE .9658 BRA 1.8493 BC3 2.0539 F8P 2090 SGI 4280.3 SG2 846.4 THA 120.47 EL1 73.3 EL2 28.9 ALF 98.44

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY

LAUNCH DATE APR 21 1971

FLIGHT TIME 220.00

ARRIVAL DATE NOV 27 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.251 GAL -2.54 AZL 98.18 HCA 174.62 SMA 182.02 ECC .16342 INC 8.1799 V1 29.640
RP 213.01 LAP -.78 LOP 24.92 VP 22.815 GAP 4.72 AZP 81.86 TAL 343.47 TAP 159.09 RCA 149.37 APO 216.47 V2 25.766
RC 135.643 GL -57.23 GP 39.37 ZAL 110.44 ZAP 92.25 ETS 177.30 ZAE 124.38 ETE 145.96 ZAC 141.34 ETC 275.14 LVI -47.24

DISTANCE 530.030

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.726 VHL 5.452 DLA -57.52 RAL 18.24 RAD 6646.9 VEL 12.234 PTH 7.18 VHP 4.034 DPA 16.44 RAP 293.08 ECC 1.4892
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
37.58 0 1 22 1993.79 25.09 53.80 270.89 143.63 0 34 36 993.8 43.83 34.73
37.58 0 1 22 1993.79 25.09 53.80 270.89 143.63 0 34 36 993.8 43.83 34.73
37.58 0 1 22 1993.79 25.09 53.80 270.89 143.63 0 34 36 993.8 43.83 34.73
37.58 0 1 22 1993.79 25.09 53.80 270.89 143.63 0 34 36 993.8 43.83 34.73
37.58 0 1 22 1993.79 25.09 53.80 270.89 143.63 0 34 36 993.8 43.83 34.73
37.58 0 1 22 1993.79 25.09 53.80 270.89 143.63 0 34 36 993.8 43.83 34.73

DIFFERENTIAL CORRECTIONS

TDE -.0502 TRA 1.0791 TC3-1.2072 BAU .7640
RDE-1.4437 RRA-1.8187 RC3 1.4961 FAU 1.13669
FDE 3.9447 FRA 5.0677 FC3-3.9808 BSP 8099
BDE 1.4446 BRA 2.1140 BC3 1.9224 FSP 1756

MID-COURSE EXECUTION ACCURACY

SGT 2488.8 SGR 4198.7 SG3 1001.5
RRT -.9170 RRF -.9999 RTF .9163
SGB 4880.9 R23 .1034 R13 -.9945
SG1 4803.2 SG2 867.9 THA 119.59

ORBIT DETERMINATION ACCURACY

ST 31.8 SR 92.8 SS 88.9
CRT -.5062 CRS 1.0000 CST -.5141
LSA 129.6 MSA 27.2 SSA .1
EL1 94.3 EL2 27.0 ALF 100.75

LAUNCH DATE APR 21 1971

FLIGHT TIME 222.00

ARRIVAL DATE NOV 29 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.250 GAL -2.58 AZL 100.01 HCA 175.80 SMA 182.91 ECC .16354 INC10.0131 V1 29.640
RP 213.31 LAP -.73 LOP 26.11 VP 22.777 GAP 4.53 AZP 80.01 TAL 343.24 TAP 159.04 RCA 149.34 APO 216.47 V2 25.732
RC 137.991 GL -63.10 GP 45.61 ZAL 107.84 ZAP 90.64 ETS 178.37 ZAE 119.73 ETE 144.50 ZAC 147.60 ETC 275.71 LVI -92.13

DISTANCE 534.202

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 39.457 VHL 6.281 DLA -60.60 RAL 28.28 RAD 6650.5 VEL 12.623 PTH 7.48 VHP 4.580 DPA 22.47 RAP 291.26 ECC 1.6494
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
33.88 0 31 55 2083.17 21.87 60.08 285.19 148.06 1 6 38 1083.2 42.10 43.79
33.88 0 31 55 2083.17 21.87 60.08 285.19 148.06 1 6 38 1083.2 42.10 43.79
33.88 0 31 55 2083.17 21.87 60.08 285.19 148.06 1 6 38 1083.2 42.10 43.79
33.88 0 31 55 2083.17 21.87 60.08 285.19 148.06 1 6 38 1083.2 42.10 43.79
33.88 0 31 55 2083.17 21.87 60.08 285.19 148.06 1 6 38 1083.2 42.10 43.79
33.88 0 31 55 2083.17 21.87 60.08 285.19 148.06 1 6 38 1083.2 42.10 43.79

DIFFERENTIAL CORRECTIONS

TDE .3436 TRA 1.2551 TC3-1.0164 BAU .8971
RDE-2.4527 RRA-2.0415 RC3 1.3636 FAU .10932
FDE 4.4629 FRA 3.7292 FC3-2.3987 BSP 8961
BDE 2.4767 BRA 2.3965 BC3 1.7007 FSP 1267

MID-COURSE EXECUTION ACCURACY

SGT 2677.2 SGR 4725.3 SG3 741.6
RRT -.9276 RRF -.9999 RTF .9262
SGB 5431.0 R23 .0927 R13 -.9956
SG1 5358.9 SG2 881.8 THA 118.57

ORBIT DETERMINATION ACCURACY

ST 38.4 SR 125.5 SS 90.5
CRT -.7780 CRS 1.0000 CST -.7790
LSA 157.6 MSA 23.6 SSA .1
EL1 129.2 EL2 23.4 ALF 103.85

LAUNCH DATE APR 21 1971

FLIGHT TIME 234.00

ARRIVAL DATE DEC 11 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.260 GAL -2.89 AZL 80.10 HCA 182.99 SMA 183.08 ECC .18556 INC 9.8988 V1 29.640
RP 215.21 LAP -.51 LOP 33.20 VP 22.548 GAP 3.49 AZP 99.89 TAL 341.34 TAP 164.33 RCA 149.09 APO 217.03 V2 25.518
RC 132.438 GL 61.78 GP -52.85 ZAL 109.56 ZAP 84.58 ETS 171.46 ZAE 109.09 ETE 207.55 ZAC 49.55 ETC 272.56 LVI 38.44

DISTANCE 559.459

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 39.519 VHL 6.286 DLA 49.50 RAL 314.75 RAD 6650.5 VEL 12.625 PTH 7.48 VHP 5.708 DPA -73.63 RAP 323.95 ECC 1.6504
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
47.51 8 15 28 4645.16 -18.97 215.67 207.70 43.37 9 32 54 3645.2 -35.81 195.95
47.51 8 15 28 4645.16 -18.97 215.67 207.70 43.37 9 32 54 3645.2 -35.81 195.95
47.51 8 15 28 4645.16 -18.97 215.67 207.70 43.37 9 32 54 3645.2 -35.81 195.95
47.51 8 15 28 4645.16 -18.97 215.67 207.70 43.37 9 32 54 3645.2 -35.81 195.95
47.51 8 15 28 4645.16 -18.97 215.67 207.70 43.37 9 32 54 3645.2 -35.81 195.95
47.51 8 15 28 4645.16 -18.97 215.67 207.70 43.37 9 32 54 3645.2 -35.81 195.95

DIFFERENTIAL CORRECTIONS

TDE 3.7306 TRA .7730 TC3-1.4694 BAU 1.1118
RDE 4.2393 RRA 1.9713 RC3-1.5064 FAU .06645
FDE 3.8033 FRA 1.8954 FC3-1.4556 BSP 10075
BDE 5.6470 BRA 2.1174 BC3 2.1044 FSP 685

MID-COURSE EXECUTION ACCURACY

SGT 4018.8 SGR 5115.6 SG3 409.3
RRT .9552 RRF .9994 RTF .5.83
SGB 6305.4 R23 .1346 R13 .9905
SG1 6436.3 SG2 945.4 THA 52.16

ORBIT DETERMINATION ACCURACY

ST 170.8 SR 197.6 SS 87.7
CRT .9933 CRS -.9999 CST -.9913
LSA 275.1 MSA 15.9 SSA .1
EL1 260.8 EL2 15.0 ALF 49.19

LAUNCH DATE APR 21 1971

FLIGHT TIME 236.00

ARRIVAL DATE DEC 13 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.263 GAL -2.94 AZL 83.37 HCA 184.14 SMA 183.11 ECC .18601 INC 6.6287 V1 29.640
RP 215.54 LAP -.48 LOP 34.37 VP 22.510 GAP 3.32 AZP 96.81 TAL 341.05 TAP 165.20 RCA 149.05 APO 217.17 V2 25.480
RC 134.904 GL 49.42 GP -45.39 ZAL 115.77 ZAP 82.10 ETS 170.71 ZAE 111.02 ETE 203.24 ZAC 57.04 ETC 272.06 LVI 32.10

DISTANCE 563.610

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 23.977 VHL 4.897 DLA 38.15 RAL 321.98 RAD 6644.6 VEL 11.998 PTH 6.99 VHP 4.610 DPA -67.29 RAP 311.83 ECC 1.3946
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
90.00 11 48 30 4012.28 -42.80 175.46 218.25 66.85 12 55 23 3012.3 -47.54 141.97
60.00 11 0 25 4141.32 -30.20 179.49 210.76 61.94 12 9 26 3141.3 -38.88 152.12
63.25 9 47 32 4350.48 -20.11 190.31 204.19 56.87 11 0 2 3350.5 -31.91 166.93
63.25 9 47 32 4350.48 -20.11 190.31 204.19 56.87 11 0 2 3350.5 -31.91 166.93
63.25 9 47 32 4350.48 -20.11 190.31 204.19 56.87 11 0 2 3350.5 -31.91 166.93
63.25 9 47 32 4350.48 -20.11 190.31 204.19 56.87 11 0 2 3350.5 -31.91 166.93

DIFFERENTIAL CORRECTIONS

TDE 2.7267 TRA 1.1532 TC3-2.2497 BAU .9329
RDE 2.6503 RRA 1.9588 RC3-1.8463 FAU .09469
FDE 4.6180 FRA 3.5933 FC3-3.4189 BSP 10683
BDE 3.8025 BRA 2.2730 BC3 2.9103 FSP 1298

MID-COURSE EXECUTION ACCURACY

SGT 4240.0 SGR 4624.0 SG3 717.7
RRT .9629 RRF .9996 RTF .9595
SGB 6273.7 R23 .1356 R13 .9905
SG1 6215.7 SG2 850.8 THA 47.58

ORBIT DETERMINATION ACCURACY

ST 161.6 SR 161.1 SS 112.3
CRT .9934 CRS -.9999 CST -.9917
LSA 253.9 MSA 14.9 SSA .1
EL1 227.8 EL2 13.1 ALF 44.91

LAUNCH DATE APR 21 1971		FLIGHT TIME 238.00		ARRIVAL DATE DEC 15 1971	
MELIOCENTRIC CONIC					
RL 180.33 LAL -.00 LOL 210.28 VL 32.267 GAL -2.99 AZL 85.21 HCA 186.30 BNA 183.17 ECC .18882 INC 4.7647 V1 29.640					
RP 218.87 LAP -.44 LOP 35.53 VP 22.473 GAP 3.14 AZP 94.77 TAL 340.74 TAP 186.04 RCA 149.01 APO 217.34 V2 25.443					
RC 187.388 GL 39.30 GP -39.08 ZAL 120.59 ZAP 79.71 ET8 170.42 ZAE 111.98 ETE 199.40 ZAC 83.40 ETC 271.74 LVI 26.83					
PLANETOCENTRIC CONIC					
C3 18.012 VHL 4.244 DLA 26.87 RAL 326.86 RAD 8641.8 VEL 11.749 PTH 6.78 VHP 4.069 DPA -61.51 RAP 305.65 ECC 1.2964					
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG					
90.00 13 10 23 3709.33 -47.52 146.07 210.12 87.40 14 12 13 2709.3 -42.95 114.10					
80.00 13 8 55 3713.27 -39.59 147.39 209.08 81.78 14 10 48 2713.3 -38.62 116.27					
70.00 13 6 4 3721.69 -31.65 146.19 207.20 76.43 14 8 5 2721.7 -34.05 117.72					
60.00 12 56 40 3731.24 -23.29 145.65 204.44 70.77 13 59 11 2751.2 -29.09 119.73					
50.00 12 23 18 3836.60 -17.49 151.15 202.03 66.66 13 27 37 2858.6 -25.60 126.92					
100.00 18 39 32 3825.71 -23.29 107.02 204.44 70.77 18 33 18 2225.7 -29.09 81.10					
110.00 18 5 30 2768.51 -31.65 75.11 207.20 76.43 18 51 38 1768.5 -34.05 48.63					
MID-COURSE EXECUTION ACCURACY					
S6T 4419.1 S6R 4060.3 S6J 961.7 S6T 146.3 SR 128.4 SS 119.9					
RRT .9873 RRF .9998 RTF .9850 CRT .9939 CR8 -.9988 C8T -.9918					
S6B 8001.2 R23 .1463 R13 .9889 L8A 229.5 M8A 13.5 88A .2					
S6I 9882.3 S6Z 764.1 T8A 42.50 EL1 195.8 EL2 10.7 ALF 40.86					

LAUNCH DATE APR 21 1971		FLIGHT TIME 240.00		ARRIVAL DATE DEC 17 1971	
MELIOCENTRIC CONIC					
RL 150.33 LAL -.00 LOL 210.28 VL 32.271 GAL -3.05 AZL 86.39 HCA 186.46 BNA 183.24 ECC .18707 INC 3.6047 V1 29.640					
RP 216.21 LAP -.41 LOP 36.69 VP 22.435 GAP 2.97 AZP 93.58 TAL 340.42 TAP 166.87 RCA 148.96 APO 217.52 V2 25.408					
RC 159.881 GL 31.22 GP -33.91 ZAL 124.10 ZAP 77.47 ET8 170.35 ZAE 112.14 ETE 196.14 ZAC 68.57 ETC 271.52 LVI 22.16					
PLANETOCENTRIC CONIC					
C3 18.288 VHL 3.910 DLA 21.47 RAL 330.48 RAD 8640.7 VEL 11.633 PTH 6.67 VHP 3.771 DPA -56.88 RAP 301.98 ECC 1.2516					
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG					
90.00 14 1 26 3508.23 -46.37 128.87 202.80 102.12 14 59 55 2508.2 -36.50 99.19					
80.00 14 14 51 3472.52 -39.98 127.02 204.24 95.55 15 12 43 2472.5 -33.44 98.00					
70.00 14 35 58 3410.31 -34.15 122.35 204.61 90.24 15 32 48 2410.3 -30.49 94.24					
60.00 15 13 6 3293.90 -29.66 113.38 204.45 86.41 16 7 59 2293.9 -26.13 86.06					
50.00 16 19 40 3078.99 -27.86 97.43 204.30 84.91 17 10 59 2079.0 -27.17 70.45					
100.00 17 59 57 2768.37 -29.68 74.75 204.45 86.41 18 42 6 1768.4 -28.13 47.43					
110.00 19 35 24 2457.13 -34.15 51.27 204.61 90.24 20 16 22 1457.1 -30.49 23.18					
MID-COURSE EXECUTION ACCURACY					
S6T 4619.8 S6R 3576.6 S6J 1146.3 S6T 138.4 SR 105.0 SS 121.8					
RRT .9708 RRF .9995 RTF .9689 CRT .9951 CR8 -.9997 C8T -.9925					
S6B 8042.5 R23 .1370 R13 .9871 L8A 211.8 M8A 12.0 88A .2					
S6I 9802.1 S6Z 685.7 T8A 37.94 EL1 173.5 EL2 8.3 ALF 37.13					

LAUNCH DATE APR 21 1971		FLIGHT TIME 242.00		ARRIVAL DATE DEC 19 1971	
MELIOCENTRIC CONIC					
RL 150.33 LAL -.00 LOL 210.28 VL 32.275 GAL -3.11 AZL 87.22 HCA 187.61 BNA 183.31 ECC .18767 INC 2.7835 V1 29.640					
RP 216.58 LAP -.37 LOP 37.85 VP 22.398 GAP 2.81 AZP 92.76 TAL 340.08 TAP 167.69 RCA 148.91 APO 217.71 V2 25.388					
RC 162.390 GL 24.80 GP -29.74 ZAL 126.82 ZAP 75.38 ET8 170.40 ZAE 111.74 ETE 193.43 ZAC 72.75 ETC 271.35 LVI 18.84					
PLANETOCENTRIC CONIC					
C3 13.924 VHL 3.731 DLA 18.62 RAL 333.25 RAD 8640.0 VEL 11.575 PTH 6.62 VHP 3.595 DPA -52.74 RAP 299.48 ECC 1.2292					
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG					
90.00 14 37 32 3383.26 -43.94 116.29 198.74 111.46 15 33 37 2385.3 -30.82 90.28					
80.00 14 59 23 3307.10 -38.00 113.43 201.12 104.57 15 54 30 2307.1 -28.31 87.00					
70.00 15 31 18 3213.11 -33.04 107.10 202.40 99.18 16 24 52 2213.1 -25.95 80.71					
60.00 16 20 24 3059.25 -29.39 95.98 202.95 95.52 17 11 24 2059.3 -24.16 68.78					
50.00 17 33 12 2824.29 -27.99 78.85 203.09 94.18 18 20 17 1824.3 -23.47 52.75					
100.00 19 3 18 2533.72 -29.39 57.35 202.95 95.52 19 45 30 1533.7 -24.16 31.15					
110.00 20 30 45 2259.93 -33.04 36.02 202.40 99.18 21 8 25 1259.9 -25.95 9.62					
MID-COURSE EXECUTION ACCURACY					
S6T 4818.6 S6R 3154.5 S6J 1275.1 S6T 130.3 SR 87.3 SS 120.3					
RRT .9727 RRF .9993 RTF .5.14 CRT .9966 CR8 -.9995 C8T -.9934					
S6B 8757.6 R23 .1663 R13 .9853 L8A 197.4 M8A 10.4 88A .3					
S6I 9724.5 S6Z 616.5 T8A 32.83 EL1 158.7 EL2 6.0 ALF 33.78					

LAUNCH DATE APR 21 1971		FLIGHT TIME 244.00		ARRIVAL DATE DEC 21 1971	
MELIOCENTRIC CONIC					
RL 180.33 LAL -.00 LOL 210.28 VL 32.280 GAL -3.17 AZL 87.82 HCA 188.76 BNA 183.39 ECC .18831 INC 2.1787 V1 29.640					
RP 216.81 LAP -.33 LOP 38.00 VP 22.381 GAP 2.64 AZP 92.15 TAL 339.73 TAP 168.49 RCA 148.85 APO 217.82 V2 25.327					
RC 164.812 GL 19.70 GP -26.35 ZAL 128.45 ZAP 73.42 ET8 170.51 ZAE 110.87 ETE 191.20 ZAC 76.16 ETC 271.22 LVI 18.60					
PLANETOCENTRIC CONIC					
C3 13.224 VHL 3.637 DLA 11.01 RAL 335.51 RAD 8639.7 VEL 11.545 PTH 6.59 VHP 3.488 DPA -49.51 RAP 297.68 ECC 1.2178					
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG					
90.00 15 4 43 3289.99 -40.58 107.93 196.77 117.35 15 59 3 2280.0 -26.23 84.45					
80.00 15 32 18 3186.72 -35.53 104.17 199.80 110.42 16 25 22 2186.7 -24.00 79.73					
70.00 16 10 55 3072.96 -31.03 96.67 201.32 105.03 17 2 8 2073.0 -21.92 71.83					
60.00 17 6 39 2896.36 -27.77 84.31 202.20 101.45 17 54 58 1898.4 -20.37 69.35					
50.00 18 22 33 2653.44 -26.54 66.58 202.47 100.15 19 6 46 1653.4 -19.77 41.69					
100.00 19 49 31 2372.83 -27.77 45.68 202.20 101.45 20 29 4 1372.8 -20.37 20.72					
110.00 21 10 21 2119.78 -31.03 25.59 201.32 105.03 21 45 41 1119.8 -21.92 .74					
MID-COURSE EXECUTION ACCURACY					
S6T 5011.5 S6R 2794.1 S6J 1361.3 S6T 124.2 SR 74.0 SS 117.6					
RRT .9741 RRF .9989 RTF .9733 CRT .9982 CR8 -.9990 C8T -.9948					
S6B 8737.8 R23 .1727 R13 .9839 L8A 186.1 M8A 9.0 88A .5					
S6I 9710.9 S6Z 554.8 T8A 28.80 EL1 144.5 EL2 3.9 ALF 30.77					

LAUNCH DATE APR 21 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.265 GAL -3.24 AZL 88.28 HCA 189.91 SMA 183.47 ECC .18898 INC 1.7153 V1 29.840
RP 217.28 LAP -.30 LOP 40.15 VP 22.324 GAP 2.47 AZP 91.89 TAL 339.37 TAP 169.28 RCA 148.80 APO 218.14 V2 25.288
RC 167.446 GL 13.61 GP -23.57 ZAL 129.81 ZAP 71.58 ETS 170.64 ZAE 109.97 ETE 189.38 ZAC 78.95 ETC 271.10 LVI 13.19

DISTANCE 584.420

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.881 VHL 3.589 DLA 7.35 RAL 337.38 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 3.422 DPA -46.85 RAP 296.30 ECC 1.2120
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 26 5 3180.56 -37.93 102.17 196.03 121.21 16 19 6 2180.6 -22.60 80.38
60.00 15 57 47 3096.22 -33.18 97.65 199.10 114.32 16 49 23 2096.2 -20.51 74.62
70.00 16 41 12 2968.49 -28.95 89.26 201.06 108.97 17 30 41 1968.5 -18.57 65.57
80.00 17 41 25 2779.89 -25.89 76.02 202.13 105.42 18 27 45 1779.9 -17.13 52.04
90.00 18 59 19 2528.51 -24.74 57.88 202.46 104.15 19 41 27 1528.5 -16.59 33.81
100.00 20 24 17 2254.36 -25.89 37.39 202.13 103.42 21 1 51 1254.4 -17.13 13.40
110.00 21 40 38 2015.31 -28.95 18.18 201.06 108.97 22 14 14 1015.3 -18.57 354.49

DIFFERENTIAL CORRECTIONS

TDE 1.3787 TRA 2.0143 TC3-4.7770 BAU .8704
RDE .7264 RRA 1.5666 RC3-1.6516 FAU .16562
FDE 4.2674 FRA 7.8449 FC-11.1311 BSP 9590
BDE 1.5584 BRA 2.3228 BC3 5.0544 FSP 2532

MID-COURSE EXECUTION ACCURACY

SGT 5207.2 SGR 2493.2 SG3 1418.9
RRT .9747 RRF .9984 RTF .9745
SG8 5773.3 R23 .1770 R13 .9826
SG1 5791.1 SG2 504.9 THA 25.22

ORBIT DETERMINATION ACCURACY

ST 120.4 SR 64.4 SS 115.3
CRT .9994 CRS -.9983 CST -.9958
LSA 178.5 MSA 7.7 SSA .8
EL1 136.5 EL2 2.0 ALF 28.12

LAUNCH DATE APR 21 1971

FLIGHT TIME 246.00

ARRIVAL DATE DEC 23 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.290 GAL -3.30 AZL 88.65 HCA 191.05 SMA 183.56 ECC .18969 INC 1.3487 V1 29.640
RP 217.81 LAP -.26 LOP 41.30 VP 22.287 GAP 2.31 AZP 91.32 TAL 339.01 TAP 170.06 RCA 148.74 APO 218.38 V2 25.249
RC 169.992 GL 12.28 GP -21.25 ZAL 130.86 ZAP 69.83 ETS 170.79 ZAE 108.82 ETE 187.87 ZAC 81.28 ETC 271.01 LVI 11.20

DISTANCE 588.578

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.746 VHL 3.570 DLA 4.40 RAL 338.99 RAD 6639.4 VEL 11.525 PTH 6.57 VHP 3.383 DPA -44.63 RAP 295.21 ECC 1.2098
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 43 22 3119.49 -35.69 98.05 195.99 123.84 16 35 22 2119.5 -19.73 77.41
60.00 16 18 16 3026.64 -31.13 92.89 199.19 117.00 17 8 43 2026.6 -17.72 70.86
70.00 17 5 17 2888.34 -27.05 83.80 201.30 111.69 17 53 26 1888.3 -15.85 60.96
80.00 18 8 49 2689.37 -24.11 69.89 202.49 108.17 18 53 39 1689.4 -14.47 48.64
90.00 19 28 11 2433.29 -23.00 51.44 202.87 106.92 20 8 44 1433.3 -13.95 28.08
100.00 20 51 41 2163.85 -24.11 31.25 202.49 108.17 21 27 45 1163.8 -14.47 8.01
110.00 22 4 44 1935.16 -27.05 12.71 201.30 111.69 22 36 59 935.2 -15.85 349.88

DIFFERENTIAL CORRECTIONS

TDE 1.3190 TRA 2.1539 TC3-4.9813 BAU .8860
RDE .6343 RRA 1.0450 RC3-1.4897 FAU .16878
FDE 4.1343 FRA 8.1426 FC-11.4626 BSP .9716
BDE 1.4638 BRA 2.3940 BC3 5.1993 FSP 2594

MID-COURSE EXECUTION ACCURACY

SGT 5399.2 SGR 2235.4 SG3 1452.9
RRT .9752 RRF .9977 RTF .9758
SG8 5843.7 R23 .1772 R13 .9819
SG1 5825.7 SG2 458.7 THA 22.13

ORBIT DETERMINATION ACCURACY

ST 118.1 SR 56.8 SS 112.8
CRT .9990 CRS -.9972 CST -.9989
LSA 172.7 MSA 6.7 SSA .8
EL1 131.0 EL2 .9 ALF 25.70

LAUNCH DATE APR 21 1971

FLIGHT TIME 250.00

ARRIVAL DATE DEC 27 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.298 GAL -3.37 AZL 88.95 HCA 192.19 SMA 183.68 ECC .19044 INC 1.0313 V1 29.640
RP 217.97 LAP -.22 LOP 42.44 VP 22.251 GAP 2.14 AZP 91.03 TAL 338.63 TAP 170.83 RCA 148.68 APO 218.83 V2 25.209
RC 172.547 GL 9.54 GP -19.30 ZAL 131.70 ZAP 68.17 ETS 170.94 ZAE 107.57 ETE 186.63 ZAC 83.24 ETC 270.93 LVI 9.52

DISTANCE 592.731

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.739 VHL 3.569 DLA 2.02 RAL 340.39 RAD 6639.4 VEL 11.524 PTH 6.57 VHP 3.361 DPA -42.76 RAP 294.33 ECC 1.2096
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 15 57 41 3071.88 -33.84 95.01 196.33 125.69 16 48 53 2071.9 -17.46 75.17
60.00 16 35 8 2972.28 -29.40 89.34 199.63 118.91 17 24 40 1972.3 -15.48 68.02
70.00 17 24 59 2825.85 -25.41 79.87 201.85 113.63 18 12 5 1825.7 -13.64 57.44
80.00 18 31 7 2618.59 -22.32 65.23 203.12 110.14 19 14 45 1618.6 -12.29 42.52
90.00 19 51 36 2358.86 -21.45 48.54 203.53 108.89 20 30 59 1358.9 -11.77 23.69
100.00 21 13 58 2093.06 -22.32 26.59 203.12 110.14 21 48 51 1093.1 -12.29 3.89
110.00 22 24 26 1872.47 -25.41 8.59 201.85 113.63 22 55 38 872.5 -13.64 346.36

DIFFERENTIAL CORRECTIONS

TDE 1.2833 TRA 2.2924 TC3-5.1318 BAU .9029
RDE .5690 RRA .9497 RC3-1.3313 FAU .16916
FDE 4.0337 FRA 8.3669 FC-11.4968 BSP 9923
BDE 1.4038 BRA 2.4814 BC3 5.3017 FSP 2644

MID-COURSE EXECUTION ACCURACY

SGT 5587.8 SGR 2016.0 SG3 1471.1
RRT .9747 RRF .9968 RTF .5.64
SG8 5840.3 R23 .1769 R13 .9812
SG1 5925.1 SG2 424.9 THA 19.48

ORBIT DETERMINATION ACCURACY

ST 117.0 SR 51.1 SS 110.8
CRT .9994 CRS -.9957 CST -.9978
LSA 169.0 MSA 6.0 SSA 1.1
EL1 127.7 EL2 1.8 ALF 23.58

LAUNCH DATE APR 21 1971

FLIGHT TIME 252.00

ARRIVAL DATE DEC 29 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.302 GAL -3.44 AZL 89.20 HCA 193.33 SMA 183.75 ECC .19123 INC .8046 V1 29.640
RP 218.33 LAP -.19 LOP 43.58 VP 22.214 GAP 1.98 AZP 90.78 TAL 338.25 TAP 171.58 RCA 148.61 APO 218.89 V2 25.189
RC 178.114 GL 7.27 GP -17.64 ZAL 132.41 ZAP 66.89 ETS 171.09 ZAE 106.28 ETE 185.59 ZAC 84.91 ETC 270.86 LVI 8.10

DISTANCE 596.880

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 12.816 VHL 3.580 DLA .07 RAL 341.64 RAD 6639.5 VEL 11.528 PTH 6.57 VHP 3.353 DPA -41.17 RAP 293.61 ECC 1.2109
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 16 9 46 3034.41 -32.33 92.71 196.91 127.02 17 0 20 2034.4 -15.64 73.45
60.00 16 49 16 2929.32 -27.95 86.62 200.28 120.30 17 38 6 1929.3 -13.68 65.82
70.00 17 41 25 2775.95 -24.01 76.48 202.58 115.05 18 27 41 1776.0 -11.85 54.71
80.00 18 49 38 2562.37 -21.16 61.61 203.91 111.57 19 32 20 1562.4 -10.50 39.30
90.00 20 11 2 2299.71 -20.09 42.74 204.34 110.33 20 49 22 1299.7 -9.99 20.26
100.00 21 32 30 2036.84 -21.16 22.98 203.91 111.57 22 6 27 1036.8 -10.50 .67
110.00 22 40 52 1822.77 -24.01 5.40 202.58 115.05 23 11 14 822.8 -11.85 343.62

DIFFERENTIAL CORRECTIONS

TDE 1.2678 TRA 2.4335 TC3-5.2378 BAU .9199
RDE .5242 RRA .8698 RC3-1.1777 FAU .16673
FDE 3.9846 FRA 8.5594 FC-11.2622 BSP 10228
BDE 1.3719 BRA 2.5842 BC3 5.3685 FSP 2713

MID-COURSE EXECUTION ACCURACY

SGT 5774.9 SGR 1831.0 SG3 1479.8
RRT .9728 RRF .9955 RTF .9760
SG8 6058.2 R23 .1785 R13 .9799
SG1 6044.7 SG2 405.4 THA 17.22

ORBIT DETERMINATION ACCURACY

ST 117.2 SR 46.9 SS 109.9
CRT .9979 CRS -.9939 CST -.9986
LSA 167.3 MSA 5.3 SSA 1.3
EL1 126.2 EL2 2.8 ALF 21.77

LAUNCH DATE APR 21 1971

FLIGHT TIME 254.00

ARRIVAL DATE DEC 31 1971

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.308 GAL -3.52 AZL 89.40 MCA 194.47 SMA 183.85 ECC .19205 INC .3981 V1 29.640
RP 218.69 LAP -.15 LOP 44.72 VP 22.178 GAP 1.81 AZP 90.58 TAL 337.86 TAP 172.33 RCA 148.54 APO 219.16 V2 25.129
RC 177.690 GL 5.36 GP -16.22 ZAL 133.03 ZAP 85.08 ETS 171.24 ZAE 104.96 ETE 184.72 ZAC 86.34 ETC 270.80 LVI 6.88

PLANETOCENTRIC CONIC

C3 12.951 VML 3.599 DLA -1.53 RAL 342.75 RAD 8639.5 VEL 11.533 PTH 6.58 VHP 3.353 DPA -39.79 RAP 293.01 ECC 1.2131
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 20 6 3004.67 -31.10 80.95 197.81 128.02 17 10 10 2004.7 -14.19 72.11
60.00 17 1 18 2895.06 -20.78 84.51 201.04 121.34 17 49 33 1895.1 -12.22 64.09
70.00 17 59 21 2736.13 -22.84 73.98 203.40 116.11 18 40 57 1736.1 -10.40 52.54
80.00 19 5 16 2517.17 -20.00 58.75 204.78 112.64 19 47 14 1517.2 -9.04 36.74
90.00 20 27 25 2252.10 -19.94 39.72 205.24 111.40 21 4 57 1252.1 -8.53 17.53
100.00 21 48 8 1991.64 -20.00 20.12 204.78 112.64 22 21 20 991.6 -9.04 359.11
110.00 22 54 47 1782.95 -22.04 2.90 203.40 116.11 23 24 30 782.9 -10.40 341.46

DIFFERENTIAL CORRECTIONS

TDE 1.2504 TRA 2.5585 TC3-5.3597 BAU .9464
RDE .4811 RRA .7898 RC3-1.0731 FAU .16809
PDE 3.8510 FRA 8.6046 FC-11.2362 BSP 10351
BDE 1.3397 BRA 2.6778 BC3 5.4661 FSP 2859

MID-COURSE EXECUTION ACCURACY

SGT 5953.8 SGR 1663.0 SG3 1473.4
RRT .9726 RRF .9937 RTF .9775
SCB 6181.7 R23 .1689 R13 .9804
SG1 6170.5 SG2 372.9 THA 15.26

ORBIT DETERMINATION ACCURACY

ST 116.9 SR 42.7 SS 107.0
CRT .9954 CRS -.9912 CBT -.9991
LSA 164.1 MSA 5.8 SBA 1.4
EL1 124.4 EL2 3.8 ALP 20.00

LAUNCH DATE APR 21 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 2 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.313 GAL -3.59 AZL 89.58 MCA 195.60 SMA 183.96 ECC .19290 INC .4173 V1 29.640
RP 219.06 LAP -.11 LOP 45.85 VP 22.141 GAP 1.63 AZP 90.40 TAL 337.47 TAP 173.06 RCA 148.47 APO 219.44 V2 25.089
RC 180.275 GL 3.73 GP -14.98 ZAL 133.58 ZAP 83.63 ETS 171.39 ZAE 103.62 ETE 183.99 ZAC 87.58 ETC 270.75 LVI 5.81

PLANETOCENTRIC CONIC

C3 13.128 VML 3.623 DLA -2.97 RAL 343.78 RAD 8639.6 VEL 11.541 PTH 6.59 VHP 3.361 DPA -38.60 RAP 292.52 ECC 1.2161
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 29 3 2981.03 -30.10 89.58 198.39 128.78 17 18 44 1981.0 -13.04 71.06
60.00 17 11 40 2867.66 -25.77 82.85 201.87 122.12 17 59 28 1867.7 -11.05 62.72
70.00 18 7 18 2704.10 -21.87 72.01 204.29 116.91 18 52 22 1704.1 -9.21 50.82
80.00 19 18 40 2480.84 -19.03 56.48 205.71 113.45 20 0 0 1480.6 -7.84 34.89
90.00 20 41 26 2213.56 -17.96 37.31 206.18 112.21 21 18 20 1213.6 -7.33 18.33
100.00 22 1 32 1955.12 -19.03 17.84 205.71 113.45 22 34 7 955.1 -7.84 356.08
110.00 23 6 44 1750.91 -21.67 .93 204.29 116.91 23 35 55 750.9 -9.21 339.73

DIFFERENTIAL CORRECTIONS

TDE 1.2484 TRA 2.6892 TC3-5.4426 BAU .9701
RDE .4519 RRA .7232 RC3 -.9648 FAU .16621
PDE 3.7763 FRA 8.6578 FC-10.9805 BSP 10583
BDE 1.3278 BRA 2.7647 BC3 5.5274 FSP 2647

MID-COURSE EXECUTION ACCURACY

SGT 6130.3 SGR 1520.0 SG3 1462.8
RRT .9705 RRF .9915 RTF .9777
SCB 6316.0 R23 .1633 R13 .9800
SG1 6305.9 SG2 356.5 THA 13.97

ORBIT DETERMINATION ACCURACY

ST 117.7 SR 39.7 SS 105.3
CRT .9918 CRS -.9880 CBT -.9994
LSA 162.7 MSA 5.8 SBA 1.5
EL1 124.1 EL2 4.0 ALP 18.50

LAUNCH DATE APR 21 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 4 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.321 GAL -3.67 AZL 89.73 MCA 196.72 SMA 184.07 ECC .19379 INC .2642 V1 29.640
RP 219.43 LAP -.08 LOP 46.98 VP 22.105 GAP 1.49 AZP 90.25 TAL 337.06 TAP 173.79 RCA 148.40 APO 219.74 V2 25.048
RC 182.871 GL 2.34 GP -13.90 ZAL 134.10 ZAP 82.24 ETS 171.53 ZAE 102.29 ETE 183.36 ZAC 88.67 ETC 270.71 LVI 4.88

PLANETOCENTRIC CONIC

C3 13.337 VML 3.652 DLA -3.98 RAL 344.72 RAD 8639.7 VEL 11.550 PTH 6.60 VHP 3.374 DPA -37.55 RAP 292.13 ECC 1.2195
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 36 54 2982.25 -29.29 88.52 199.21 129.33 17 28 16 1982.2 -12.11 70.24
60.00 17 20 42 2845.71 -24.87 81.53 202.74 122.72 18 8 8 1845.7 -10.11 61.83
70.00 18 17 39 2678.25 -21.06 70.43 205.20 117.53 19 2 18 1678.3 -8.25 49.43
80.00 19 30 14 2451.01 -18.22 54.65 206.67 114.07 20 11 9 1451.0 -6.87 33.03
90.00 20 53 32 2182.22 -17.15 35.38 207.15 112.84 21 29 35 1182.2 -6.34 13.56
100.00 22 13 6 1923.48 -18.22 16.02 206.67 114.07 22 45 11 923.5 -6.87 384.40
110.00 23 17 6 1725.07 -21.06 359.35 205.20 117.53 23 45 31 723.1 -8.25 330.35

DIFFERENTIAL CORRECTIONS

TDE 1.2584 TRA 2.8212 TC3-5.5082 BAU .9939
RDE .4286 RRA .6637 RC3 -.8893 FAU .16388
PDE 3.7138 FRA 8.6802 FC-10.6380 BSP 10848
BDE 1.3278 BRA 2.8983 BC3 5.8744 FSP 2624

MID-COURSE EXECUTION ACCURACY

SGT 6304.5 SGR 1395.3 SG3 1447.8
RRT .9678 RRF .9988 RTF .9781
SCB 6497.0 R23 .1888 R13 .9799
SG1 6447.8 SG2 343.8 THA 12.12

ORBIT DETERMINATION ACCURACY

ST 119.1 SR 37.2 SS 103.9
CRT .9871 CRS -.9842 CBT -.9997
LSA 162.8 MSA 6.2 SBA 1.8
EL1 124.6 EL2 8.7 ALP 17.18

LAUNCH DATE APR 21 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 6 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.25 VL 32.328 GAL -3.74 AZL 89.87 MCA 197.88 SMA 184.18 ECC .19470 INC .1290 V1 29.640
RP 219.80 LAP -.04 LOP 48.10 VP 22.089 GAP 1.33 AZP 90.12 TAL 336.86 TAP 174.50 RCA 148.32 APO 220.05 V2 25.007
RC 185.478 GL 1.14 GP -12.95 ZAL 134.58 ZAP 80.81 ETS 171.86 ZAE 100.97 ETE 182.85 ZAC 89.82 ETC 270.69 LVI 4.08

PLANETOCENTRIC CONIC

C3 13.571 VML 3.684 DLA -4.92 RAL 345.60 RAD 8639.8 VEL 11.560 PTH 6.60 VHP 3.391 DPA -36.83 RAP 291.81 ECC 1.2233
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
90.00 16 43 50 2947.40 -28.65 87.69 200.06 129.76 17 32 57 1947.4 -11.38 89.59
60.00 17 28 39 2829.19 -24.32 80.52 203.63 123.18 18 15 47 1828.2 -9.36 60.77
70.00 18 26 43 2657.43 -20.40 69.18 206.13 118.00 19 11 0 1657.4 -7.47 48.33
80.00 19 40 20 2426.98 -17.54 53.19 207.63 114.56 20 20 47 1427.0 -6.07 31.70
90.00 21 4 5 2156.74 -18.47 33.82 208.13 113.32 21 40 2 1156.7 -5.54 12.12
100.00 22 23 11 1901.48 -17.54 14.55 207.63 114.56 22 54 33 901.5 -6.07 353.07
110.00 23 26 9 1704.25 -20.40 358.10 206.13 118.00 23 54 34 704.3 -7.47 337.24

DIFFERENTIAL CORRECTIONS

TDE 1.2692 TRA 2.9523 TC3-5.5598 BAU 1.0187
RDE .4121 RRA .6101 RC3 -.7856 FAU .16122
PDE 3.6551 FRA 8.6781 FC-10.2851 BSP 11106
BDE 1.3344 BRA 3.0147 BC3 5.6150 FSP 2596

MID-COURSE EXECUTION ACCURACY

SGT 6474.4 SGR 1285.7 SG3 1428.3
RRT .9642 RRF .9849 RTF .9783
SCB 6600.8 R23 .1476 R13 .9797
SG1 6592.3 SG2 334.9 THA 10.87

ORBIT DETERMINATION ACCURACY

ST 120.7 SR 35.1 SS 102.4
CRT .9814 CRS -.9758 CBT -.9998
LSA 162.0 MSA 6.7 SBA 1.5
EL1 125.5 EL2 6.5 ALP 15.98

LAUNCH DATE APR 21 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 8 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.29 VL 32.335 GAL -3.82 AZL 89.99 HCA 198.97 SMA 184.30 ECC .19565 INC .0156 V1 29.640
 RP 220.18 LAP -.00 LOP 49.22 VP 22.033 GAP 1.16 AZP 90.01 TAL 336.24 TAP 175.21 RCA 148.24 APO 220.36 V2 24.966
 RC 188.089 GL -.10 GP -12.11 ZAL 135.04 ZAP 59.63 ETS 171.79 ZAE 99.66 ETE 182.37 ZAC 90.47 ETC 270.67 LVI 3.30

PLANETOCENTRIC CONIC

C3 13.825 VHL 3.718 DLA -5.70 RAL 346.42 RAD 6640.0 VEL 11.971 PTH 3.62 VHP 3.411 DPA -35.80 RAP 291.55 ECC 1.2275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 50 0 2935.77 -28.14 87.05 200.92 130.09 17 38 56 1935.8 -10.81 69.08
 60.00 17 35 40 2814.31 -23.81 79.71 204.53 123.53 18 22 35 1814.3 -8.76 60.08
 70.00 18 34 42 2640.75 -19.87 68.18 207.07 118.37 19 18 43 1640.8 -6.84 47.44
 80.00 19 49 11 2407.56 -16.99 52.01 208.59 114.93 20 29 19 1407.6 -5.42 30.62
 90.00 21 13 19 2136.08 -15.91 32.56 209.10 113.69 21 48 56 1136.1 -4.88 10.96
 100.00 22 32 3 1882.04 -16.99 13.38 209.59 114.93 23 3 25 882.0 -5.42 351.99
 110.00 23 34 8 1687.57 -19.87 357.10 207.07 118.37 24 2 16 687.6 -6.84 336.36

DIFFERENTIAL CORRECTIONS

TDE 1.2882 TRA 3.0849 TC3-5.6004 BAU 1.0434
 RDE .3989 RRA .5618 RC3 -.7112 FAU .15815
 PDE 3.6059 FRA 8.6806 FC3-9.9038 B8P 11379
 BDE 1.3486 BRA 3.1356 BC3 5.6454 F8P 2562

MID-COURSE EXECUTION ACCURACY

SGT 8841.3 SGR 1189.4 SG3 1406.5
 RRT .9595 RRF .9803 RTF .9784
 SGB 8747.0 R23 .1302 R13 .9796
 SG1 8738.9 SG2 330.0 THA 9.77

ORBIT DETERMINATION ACCURACY

ST 122.6 SR 33.4 SS 101.1
 CRT .9747 CR8 -.9747 CST -.9998
 LSA 162.2 MSA 7.3 S8A 1.5
 EL1 126.8 EL2 7.2 ALF 14.92

LAUNCH DATE APR 21 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 10 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.29 VL 32.343 GAL -3.91 AZL 90.09 HCA 200.08 SMA 184.43 ECC .19663 INC .0879 V1 29.640
 RP 220.55 LAP .03 LOP 50.33 VP 21.997 GAP 1.00 AZP 89.91 TAL 335.82 TAP 175.91 RCA 148.16 APO 220.69 V2 24.925
 RC 190.711 GL -.81 GP -11.35 ZAL 135.49 ZAP 58.40 ETS 171.92 ZAE 98.37 ETE 181.98 ZAC 91.22 ETC 270.66 LVI 2.63

PLANETOCENTRIC CONIC

C3 14.097 VHL 3.755 DLA -6.36 RAL 347.20 RAD 6640.1 VEL 11.583 PTH 6.63 VHP 3.434 DPA -35.06 RAP 291.37 ECC 1.2320
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 16 55 33 2928.84 -27.75 86.56 201.78 130.34 17 44 20 1926.8 -10.36 68.69
 60.00 17 41 56 2803.46 -23.40 79.09 205.43 123.80 18 28 40 1803.5 -8.28 59.55
 70.00 18 41 47 2627.52 -19.44 67.40 208.00 118.65 19 25 34 1627.5 -6.35 48.74
 80.00 19 57 0 2392.00 -16.54 51.07 209.55 115.22 20 36 52 1392.0 -4.90 29.76
 90.00 21 21 29 2119.46 -15.45 31.55 210.07 113.98 21 56 48 1119.5 -4.35 10.03
 100.00 22 39 52 1866.47 -16.54 12.44 209.55 115.22 23 10 59 866.5 -4.90 351.13
 110.00 23 41 13 1674.34 -19.44 356.32 208.00 118.65 24 9 7 674.3 -6.35 335.66

DIFFERENTIAL CORRECTIONS

TDE 1.3095 TRA 3.2155 TC3-5.6369 BAU 1.0693
 RDE .3886 RRA .5178 RC3 -.6436 FAU .15486
 PDE 3.5579 FRA 8.6234 FC3-9.5118 B8P 11625
 BDE 1.3659 BRA 3.2569 BC3 5.6738 F8P 2521

MID-COURSE EXECUTION ACCURACY

SGT 8803.5 SGR 1103.7 SG3 1381.9
 RRT .9536 RRF .9746 RTF .9783
 SGB 8892.5 R23 .1312 R13 .9793
 SG1 8884.6 SG2 328.4 THA 8.81

ORBIT DETERMINATION ACCURACY

ST 124.5 SR 32.0 SS 99.9
 CRT .9672 CR8 -.9691 CST -.9998
 LSA 162.6 MSA 7.9 S8A 1.4
 EL1 128.3 EL2 7.9 ALF 14.00

LAUNCH DATE APR 21 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 12 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.29 VL 32.350 GAL -3.99 AZL 90.19 HCA 201.20 SMA 184.55 ECC .19784 INC .1857 V1 29.640
 RP 220.93 LAP .07 LOP 51.45 VP 21.981 GAP .84 AZP 89.82 TAL 335.40 TAP 176.59 RCA 148.08 APO 221.03 V2 24.884
 RC 193.341 GL -1.60 GP -10.68 ZAL 135.93 ZAP 57.21 ETS 172.04 ZAE 97.11 ETE 181.63 ZAC 91.90 ETC 270.65 LVI 2.01

PLANETOCENTRIC CONIC

C3 14.384 VHL 3.793 DLA -6.92 RAL 347.93 RAD 6640.2 VEL 11.595 PTH 6.64 VHP 3.460 DPA -34.40 RAP 291.24 ECC 1.2367
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 0 34 2920.15 -27.45 86.19 202.65 130.52 17 49 14 1920.2 -10.03 68.41
 60.00 17 47 33 2795.15 -23.08 78.61 206.32 124.00 18 34 9 1795.2 -7.92 59.15
 70.00 18 48 5 2617.20 -19.10 66.79 208.93 118.87 19 31 42 1617.2 -5.98 48.20
 80.00 20 3 57 2379.68 -16.18 50.33 210.50 115.44 20 43 37 1379.7 -4.49 29.08
 90.00 21 28 42 2106.24 -15.08 30.76 211.03 114.21 22 3 48 1106.2 -3.93 9.28
 100.00 22 48 49 1854.18 -16.18 11.70 210.50 115.44 23 17 43 854.2 -4.49 350.45
 110.00 23 47 31 1664.02 -19.10 355.71 208.93 118.87 24 15 15 664.0 -3.98 335.11

DIFFERENTIAL CORRECTIONS

TDE 1.3363 TRA 3.3481 TC3-5.6829 BAU 1.0948
 RDE .3811 RRA .4772 RC3 -.5878 FAU .15147
 PDE 3.5170 FRA 8.5761 FC3-9.1163 B8P 11893
 BDE 1.3886 BRA 3.3820 BC3 5.6933 F8P 2481

MID-COURSE EXECUTION ACCURACY

SGT 8963.3 SGR 1028.3 SG3 1356.2
 RRT .9484 RRF .9876 RTF .9783
 SGB 9038.8 R23 .1329 R13 .9791
 SG1 9031.2 SG2 328.9 THA 7.97

ORBIT DETERMINATION ACCURACY

ST 126.8 SR 30.8 SS 98.7
 CRT .9589 CR8 -.9629 CST -.9997
 LSA 163.4 MSA 8.5 S8A 1.4
 EL1 130.2 EL2 8.5 ALF 13.17

LAUNCH DATE APR 21 1971

FLIGHT TIME 268.00

ARRIVAL DATE JAN 14 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.29 VL 32.358 GAL -4.07 AZL 90.27 HCA 202.30 SMA 184.68 ECC .19888 INC .2725 V1 29.640
 RP 221.31 LAP .10 LOP 52.55 VP 21.928 GAP .68 AZP 89.73 TAL 334.97 TAP 177.27 RCA 147.99 APO 221.37 V2 24.842
 RC 195.878 GL -2.31 GP -10.07 ZAL 136.37 ZAP 56.07 ETS 172.16 ZAE 95.88 ETE 181.33 ZAC 92.50 ETC 270.66 LVI 1.44

PLANETOCENTRIC CONIC

C3 14.885 VHL 3.832 DLA -7.39 RAL 348.64 RAD 6640.4 VEL 11.608 PTH 6.65 VHP 3.487 DPA -33.79 RAP 291.16 ECC 1.2417
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 5 8 2919.38 -27.24 85.94 203.51 130.64 17 53 42 1915.4 -9.79 68.20
 60.00 17 52 37 2789.01 -22.85 78.26 207.22 124.15 18 39 8 1789.0 -7.66 58.85
 70.00 18 53 44 2609.34 -18.84 66.33 209.85 119.03 19 37 13 1609.3 -5.66 45.78
 80.00 20 10 8 2370.14 -15.90 49.78 211.44 115.61 20 49 38 1370.1 -4.16 28.55
 90.00 21 35 7 2099.93 -14.79 30.14 211.98 114.38 22 10 3 1095.9 -3.60 8.71
 100.00 22 53 0 1844.81 -15.90 11.13 211.44 115.61 23 23 45 844.8 -4.16 349.82
 110.00 23 53 10 1656.16 -18.84 355.24 209.85 119.03 24 20 46 656.2 -5.66 334.70

DIFFERENTIAL CORRECTIONS

TDE 1.3865 TRA 3.4815 TC3-5.8813 BAU 1.1203
 RDE .3756 RRA .4401 RC3 -.5360 FAU .14791
 PDE 3.4782 FRA 8.5185 FC3-8.7197 B8P 12162
 BDE 1.4172 BRA 3.5092 BC3 5.7065 F8P 2437

MID-COURSE EXECUTION ACCURACY

SGT 7119.4 SGR 961.5 SG3 1329.1
 RRT .9378 RRF .9592 RTF .9782
 SGB 7184.0 R23 .1148 R13 .9789
 SG1 7176.4 SG2 331.3 THA 7.23

ORBIT DETERMINATION ACCURACY

ST 129.1 SR 29.8 SS 97.5
 CRT .9501 CR8 -.9562 CST -.9996
 LSA 164.3 MSA 9.1 S8A 1.4
 EL1 132.2 EL2 9.1 ALF 12.42

LAUNCH DATE APR 21 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 16 1978

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ AZMTH, INJ TIME, PO, CBT, TIM, INJ 2, LAT, INJ 2, LONG, and various correction codes (TDE, RDE, PDE, BDE).

LAUNCH DATE APR 21 1971 FLIGHT TIME 272.00 ARRIVAL DATE JAN 18 1978

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ AZMTH, INJ TIME, PO, CBT, TIM, INJ 2, LAT, INJ 2, LONG, and various correction codes (TDE, RDE, PDE, BDE).

LAUNCH DATE APR 21 1971 FLIGHT TIME 274.00 ARRIVAL DATE JAN 20 1978

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ AZMTH, INJ TIME, PO, CBT, TIM, INJ 2, LAT, INJ 2, LONG, and various correction codes (TDE, RDE, PDE, BDE).

LAUNCH DATE APR 21 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 22 1978

Table with columns for Heliocentric Conic, Distance, Earth to Mars, Planeto-centric Conic, and Differential Corrections. Includes parameters like RL, RP, RC, C3, LNCH AZMTH, LNCH TIME, L-I TIME, INJ LAT, INJ LONG, INJ RT, INJ AZMTH, INJ TIME, PO, CBT, TIM, INJ 2, LAT, INJ 2, LONG, and various correction codes (TDE, RDE, PDE, BDE).

LAUNCH DATE APR 21 1971

FLIGHT TIME 270.00

ARRIVAL DATE JAN 24 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.23 VL 32.399 GAL -4.33 AZL 90.60 HCA 207.79 SMA 185.37 ECC .20429 INC .6003 V1 29.640
 RP 223.23 LAP .28 LOP 58.04 VP 21.750 GAP -.14 AZP 89.47 TAL 332.75 TAP 180.54 RCA 147.50 APO 223.23 V2 24.833
 RC 209.236 GL -4.80 GP -7.77 ZAL 138.50 ZAP 90.94 ETS 172.69 ZAE 89.97 ETE 180.30 ZAC 94.79 ETC 270.80 LVI -.89

DISTANCE 650.418

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.377 VHL 4.047 DLA -8.77 RAL 351.77 RAD 6641.2 VEL 11.680 PTM 6.72 VHP 3.644 DPA -31.44 RAP 291.42 ECC 1.2695
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 22 48 2912.15 -27.10 85.76 207.76 130.73 18 11 20 1912.2 -9.63 68.06
 60.00 18 11 51 2781.67 -22.56 77.84 211.59 124.32 18 58 13 1781.7 -7.34 58.49
 70.00 19 14 43 2596.84 -18.43 65.59 214.33 119.28 19 58 0 1596.8 -5.19 45.12
 80.00 20 32 46 2352.51 -15.38 48.71 215.99 115.91 21 11 59 1352.5 -3.57 27.58
 90.00 21 58 29 2075.93 -14.23 28.94 216.56 114.70 22 33 5 1075.9 -2.96 7.59
 100.00 23 15 38 1826.98 -15.38 10.08 215.99 115.91 23 46 5 827.0 -3.57 348.95
 110.00 0 18 6 1643.66 -18.43 354.31 214.33 119.28 0 45 29 643.7 -5.19 334.04

DIFFERENTIAL CORRECTIONS

TDE 1.5572 TRA 4.1846 TC3-5.6940 BAU 1.2491
 RDE .3708 RRA .2911 RC3 -.3506 FAU .12914
 FDE 3.3215 FRA 8.1482 FC3-8.8268 BSP 13465
 BDE 1.6008 BRA 4.1747 BC3 5.7048 FSP 2204

MID-COURSE EXECUTION ACCURACY

SGT 7854.5 SGR 728.0 SG3 1187.5
 RRT .8661 RRF .8899 RTF .9770
 SGB 7888.2 R23 .0837 R13 .9773
 SG1 7879.8 SG2 362.7 THA 4.60

ORBIT DETERMINATION ACCURACY

ST 142.2 SR 27.0 SS 92.3
 CRT .9009 CRS -.9186 CST -.9989
 LSA 171.2 MSA 11.8 SSA 1.3
 EL1 144.2 EL2 11.5 ALP 8.77

LAUNCH DATE APR 21 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 26 1972

HELIOCENTRIC CONIC

RL 150.33 LAL -.00 LOL 210.23 VL 32.408 GAL -4.62 AZL 90.65 HCA 208.88 SMA 185.91 ECC .20549 INC .6512 V1 29.610
 RP 223.62 LAP .31 LOP 59.13 VP 21.716 GAP -.30 AZP 89.43 TAL 332.30 TAP 181.17 RCA 147.39 APO 223.63 V2 24.592
 RC 211.896 GL -5.15 GP -7.41 ZAL 138.92 ZAP 50.02 ETS 172.78 ZAE 88.85 ETE 180.15 ZAC 95.14 ETC 270.85 LVI -1.28

DISTANCE 654.498

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.751 VHL 4.093 DLA -8.91 RAL 352.33 RAD 6641.4 VEL 11.696 PTM 6.73 VHP 3.678 DPA -31.07 RAP 291.58 ECC 1.2757
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 35 2914.51 -27.20 85.89 208.59 130.67 18 14 10 1914.5 -9.75 68.16
 60.00 18 14 48 2783.61 -22.64 77.95 212.45 124.28 19 1 12 1783.6 -7.42 58.59
 70.00 19 17 51 2598.23 -18.47 65.68 215.20 119.25 20 1 9 1598.3 -5.24 45.20
 80.00 20 36 4 2353.40 -15.41 48.77 216.88 115.90 21 15 17 1353.4 -3.60 27.63
 90.00 22 1 52 2076.59 -14.25 28.98 217.44 114.69 22 36 28 1076.6 -2.98 7.62
 100.00 23 18 56 1827.87 -15.41 10.14 216.88 115.90 23 49 24 827.9 -3.60 349.00
 110.00 0 21 13 1645.07 -18.47 354.60 215.20 119.25 0 45 38 645.1 -5.24 334.12

DIFFERENTIAL CORRECTIONS

TDE 1.6020 TRA 4.3053 TC3-5.6847 BAU 1.2751
 RDE .3731 RRA .2668 RC3 -.3244 FAU .12542
 FDE 3.2948 FRA 8.0645 FC3-8.4820 BSP 13717
 BDE 1.6449 BRA 4.3135 BC3 5.6939 FSP 2157

MID-COURSE EXECUTION ACCURACY

SGT 7993.8 SGR 697.3 SG3 1159.2
 RRT .8456 RRF .8698 RTF .9767
 SGB 8024.2 R23 .0791 R13 .9769
 SG1 8015.6 SG2 371.2 THA 4.23

ORBIT DETERMINATION ACCURACY

ST 144.9 SR 26.7 SS 91.4
 CRT .8909 CRS -.9108 CST -.9988
 LSA 172.9 MSA 12.3 SSA 1.3
 EL1 146.9 EL2 12.0 ALP 9.39

LAUNCH DATE APR 22 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 14 1971

Heliocentric Conic: RL 190.37 LAL -0.00 LOL 211.23 VL 34.917 GAL -4.82 AZL 91.95 HCA 108.10 SMA 243.06 ECC .38920 INC 1.9462 V1 29.632
 RP 207.38 LAP -1.85 LOP 319.34 VP 27.091 GAP 21.37 AZP 89.39 TAL 342.70 TAP 90.80 RCA 148.48 APO 337.66 V2 26.414
 RC 56.241 GL -10.84 GP 1.44 ZAL 122.84 ZAP 173.43 ETS 167.15 ZAE 172.86 ETE 118.43 ZAC 102.11 ETC 276.71 LVI -17.93

Distance 328.782 Earth to Mars

Planetary Corrections: C3 39.478 VHL 6.283 DLA -19.83 RAL 340.78 RAD 6690.5 VEL 12.623 PTH 7.48 VHP 10.872 DPA -17.31 RAP 315.52 ECC 1.6497
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 19 28 2900.74 -26.59 88.15 207.25 131.03 18 7 48 1900.7 -9.07 67.87
 90.00 18 22 40 2732.65 -20.66 75.10 212.34 125.41 19 8 13 1732.7 -5.20 56.12
 70.00 19 42 37 2497.63 -15.03 59.91 216.21 121.04 20 24 14 1497.6 -1.41 39.93
 80.00 21 18 4 2198.01 -10.62 39.80 218.77 118.07 21 54 42 1198.9 1.63 19.14
 90.00 22 52 9 1895.41 -8.85 18.41 219.71 116.97 23 23 44 895.4 2.86 357.51
 100.00 0 4 51 1673.38 -10.62 1.16 218.77 118.07 0 32 45 673.4 1.63 340.51
 110.00 0 45 59 1544.44 -13.03 348.83 216.21 121.04 1 11 43 544.4 -1.41 328.89

Differential Corrections: TDE -.6123 TRA-1.3028 TC3 -.0825 BAW .0554 SGT 1382.4 SGR 587.9 SG3 137.8 ST 33.7 SR 26.4 SS 22.4
 RDE -.3750 RRA .1916 RC3 .0909 FAW .03594 RRT .0647 RRF -.0891 RTF -.7448 CRT .7635 CR8 .5923 CBT .9708
 PDE .3627 FRA 1.2440 FC3 -.7881 B8P 2200 SGB 1494.5 R23 -.0113 R13 -.7450 LSA 45.3 M8A 16.9 88A 1.1
 BDE .8400 BRA 1.3166 BC3 .1049 F8P 179 SGI 1385.0 SGI 566.5 THA 1.83 EL1 40.4 EL2 14.2 ALP 38.97

LAUNCH DATE APR 22 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 16 1971

Heliocentric Conic: RL 190.37 LAL -0.00 LOL 211.23 VL 34.752 GAL -4.69 AZL 91.96 HCA 109.37 SMA 238.08 ECC .37616 INC 1.9603 V1 29.632
 RP 207.27 LAP -1.85 LOP 320.80 VP 26.891 GAP 20.87 AZP 89.35 TAL 342.75 TAP 92.12 RCA 148.52 APO 327.63 V2 26.426
 RC 56.362 GL -11.19 GP 1.50 ZAL 122.87 ZAP 172.59 ETS 168.23 ZAE 173.18 ETE 108.29 ZAC 102.12 ETC 276.80 LVI -18.10

Distance 331.056 Earth to Mars

Planetary Corrections: C3 37.240 VHL 6.104 DLA -20.13 RAL 341.00 RAD 6649.7 VEL 12.536 PTH 7.41 VHP 10.247 DPA -17.15 RAP 315.92 ECC 1.6132
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 38 2879.87 -25.65 84.05 206.60 131.55 18 9 38 1879.9 -8.03 66.68
 60.00 18 25 17 2710.59 -19.78 73.89 211.70 125.86 19 10 28 1710.6 -4.23 55.06
 70.00 19 45 49 2473.63 -14.19 58.56 215.58 121.40 20 27 3 1473.8 -1.50 38.69
 80.00 21 21 56 2173.00 -9.79 38.33 218.17 118.35 21 58 9 1173.0 2.50 17.72
 90.00 22 56 24 1868.33 -8.01 16.87 219.11 117.21 23 27 32 868.3 3.73 355.99
 100.00 0 8 44 1647.47 -9.79 359.69 218.17 118.35 0 36 12 647.5 2.50 339.09
 110.00 0 49 12 1520.65 -14.19 347.50 215.58 121.40 1 14 32 520.6 -1.50 327.60

Differential Corrections: TDE -.6074 TRA-1.2929 TC3 -.0428 BAW .0530 SGT 1413.6 SGR 586.2 SG3 147.3 ST 34.5 SR 26.3 SS 23.2
 RDE -.5568 RRA .1824 RC3 .0979 FAW .03708 RRT .0701 RRF -.0756 RTF -.7551 CRT .7638 CR8 .5900 CBT .9701
 PDE .3750 FRA 1.2950 FC3 -.8610 B8P 2276 SGB 1522.8 R23 -.0126 R13 -.7553 LSA 46.1 M8A 17.1 88A 1.1
 BDE .8240 BRA 1.3057 BC3 .1064 F8P 184 SGI 1414.3 SGI 564.5 THA 1.91 EL1 40.9 EL2 14.3 ALP 35.10

LAUNCH DATE APR 22 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 18 1971

Heliocentric Conic: RL 190.37 LAL -0.00 LOL 211.23 VL 34.597 GAL -4.56 AZL 91.97 HCA 110.83 SMA 233.58 ECC .36385 INC 1.9747 V1 29.632
 RP 207.18 LAP -1.85 LOP 321.87 VP 26.701 GAP 20.37 AZP 89.30 TAL 342.82 TAP 93.43 RCA 148.58 APO 318.54 V2 26.438
 RC 56.988 GL -11.58 GP 1.55 ZAL 122.89 ZAP 171.74 ETS 169.09 ZAE 173.39 ETE 100.82 ZAC 102.12 ETC 276.89 LVI -18.27

Distance 333.537 Earth to Mars

Planetary Corrections: C3 35.209 VHL 5.934 DLA -20.44 RAL 341.21 RAD 6649.0 VEL 12.454 PTH 7.35 VHP 9.933 DPA -16.99 RAP 316.30 ECC 1.5795
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 49 2859.00 -24.71 82.87 205.98 132.05 18 11 28 1859.0 -6.89 68.79
 60.00 18 27 57 2688.44 -18.89 72.70 211.07 126.28 19 12 45 1688.4 -3.26 54.00
 70.00 19 49 7 2449.63 -13.33 57.25 214.97 121.74 20 29 57 1449.8 .42 37.43
 80.00 21 28 58 2146.71 -8.93 36.84 217.58 118.61 22 1 48 1146.7 3.39 16.27
 90.00 23 0 49 1840.78 -7.15 15.30 218.54 117.43 23 31 30 840.8 4.61 394.45
 100.00 0 12 48 1621.18 -8.93 388.21 217.58 118.61 0 39 47 621.2 3.39 337.64
 110.00 0 52 20 1486.65 -13.33 346.16 214.97 121.74 1 17 26 486.6 .42 326.35

Differential Corrections: TDE -.5937 TRA-1.2733 TC3 -.0219 BAW .0502 SGT 1432.0 SGR 584.1 SG3 197.3 ST 34.8 SR 26.2 SS 24.2
 RDE -.5381 RRA .1733 RC3 .1044 FAW .03812 RRT .0754 RRF -.0830 RTF -.7421 CRT .7621 CR8 .5896 CBT .9707
 PDE .3800 FRA 1.3806 FC3 -.9573 B8P 2206 SGB 1539.2 R23 -.0148 R13 -.7724 LSA 46.7 M8A 17.2 88A 1.1
 BDE .8020 BRA 1.2890 BC3 .1086 F8P 212 SGI 1432.8 SGI 582.2 THA 2.01 EL1 41.1 EL2 14.3 ALP 34.89

LAUNCH DATE APR 22 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 20 1971

Heliocentric Conic: RL 190.37 LAL -0.00 LOL 211.23 VL 34.480 GAL -4.43 AZL 91.99 HCA 111.88 SMA 229.47 ECC .35226 INC 1.9893 V1 29.632
 RP 207.09 LAP -1.85 LOP 323.13 VP 26.521 GAP 19.88 AZP 89.26 TAL 342.90 TAP 94.79 RCA 148.64 APO 310.31 V2 26.448
 RC 56.898 GL -11.92 GP 1.61 ZAL 122.88 ZAP 170.86 ETS 169.79 ZAE 173.49 ETE 93.30 ZAC 102.13 ETC 276.97 LVI -18.44

Distance 336.176 Earth to Mars

Planetary Corrections: C3 33.318 VHL 5.772 DLA -20.76 RAL 341.40 RAD 6648.3 VEL 12.379 PTH 7.30 VHP 9.629 DPA -16.82 RAP 316.87 ECC 1.5493
 LNCM AZMTH LNCM TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CBT TIM INJ 2 LAT INJ 2 LONG
 80.00 17 26 1 2838.22 -23.75 81.91 205.38 132.52 18 13 19 1838.2 -5.99 64.91
 90.00 18 30 39 2666.33 -18.00 71.51 210.48 126.69 19 15 6 1666.3 -2.29 52.94
 70.00 19 52 29 2425.75 -12.47 55.92 214.39 122.06 20 32 55 1425.7 1.34 36.10
 80.00 21 30 8 2120.18 -8.07 35.35 217.02 118.84 22 5 28 1120.2 4.28 14.81
 90.00 23 8 24 1812.84 -6.27 13.72 217.99 117.63 23 35 37 812.8 5.50 352.88
 100.00 0 16 55 1594.65 -8.07 356.72 217.02 118.84 0 43 30 594.6 4.28 336.10
 110.00 0 55 52 1472.57 -12.47 344.84 214.39 122.06 1 20 24 472.6 1.34 325.10

Differential Corrections: TDE -.5840 TRA-1.2677 TC3 -.0157 BAW .0502 SGT 1469.3 SGR 581.7 SG3 188.0 ST 35.7 SR 26.0 SS 25.0
 RDE -.5220 RRA .1643 RC3 .1116 FAW .03942 RRT .0829 RRF -.0904 RTF -.7772 CRT .7641 CR8 .5861 CBT .9689
 PDE .4018 FRA 1.4052 FC3 -1.0243 B8P 2329 SGB 1573.0 R23 -.0151 R13 -.7775 LSA 47.7 M8A 17.3 88A 1.1
 BDE .7908 BRA 1.2783 BC3 .1127 F8P 228 SGI 1470.2 SGI 559.3 THA 2.12 EL1 41.8 EL2 14.4 ALP 33.59

LAUNCH DATE APR 22 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 22 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 34.312 GAL -4.31 AZL 92.00 HCA 113.16 SMA 225.75 ECC .34133 INC 2.0041 V1 29.632
 RP 207.01 LAP -1.84 LOP 324.40 VP 26.350 GAP 19.40 AZP 89.21 TAL 342.98 TAP 96.14 RCA 148.70 APO 302.81 V2 26.457
 RC 57.225 GL -12.30 GP 1.67 ZAL 122.85 ZAP 169.98 ETS 170.37 ZAE 173.48 ETE 86.03 ZAC 102.14 ETC 277.06 LVI -18.81

DISTANCE 338.954

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 31.571 VHL 5.619 DLA -21.10 RAL 341.58 RAD 6647.6 VEL 12.308 PTH 7.24 VHP 9.334 DPA -16.65 RAP 317.03 ECC 1.5198
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 28 14 2817.52 -22.80 80.87 204.81 132.96 18 15 12 1817.5 -4.91 64.04
 60.00 18 33 24 2644.22 -17.10 70.34 209.90 127.07 19 17 20 1644.2 -1.31 51.88
 70.00 19 53 57 2401.54 -11.59 94.59 213.84 122.35 20 35 59 1401.5 2.26 34.91
 80.00 21 34 26 2093.32 -7.18 33.85 216.49 119.06 22 9 20 1093.3 5.18 13.33
 90.00 23 10 11 1784.47 -5.38 12.12 217.47 117.81 23 39 56 784.5 6.39 351.28
 100.00 0 21 14 1567.79 -7.18 355.21 216.49 119.06 0 47 22 567.8 5.18 334.69
 110.00 0 59 20 1448.36 -11.59 343.51 213.84 122.35 1 23 28 448.4 2.26 323.83

DIFFERENTIAL CORRECTIONS

TDE -.5920 TRA -1.2596 TC3 -.0068 BAU .0504
 RDE -.5055 RRA .1554 RC3 .1193 FAU .04080
 FDE .4140 FRA 1.4627 FC3 -1.1187 BSP 2426
 BDE .7784 BRA 1.2692 BC3 .1194 FSP 245

MID-COURSE EXECUTION ACCURACY

SGT 1503.3 SGR 559.0 SG3 179.5
 RRT .0908 RRF -.0986 RTF -.7834
 SGB 1605.9 R23 -.0163 R13 -.7837
 SG1 1504.3 SG2 556.3 THA 2.24

ORBIT DETERMINATION ACCURACY

ST 36.6 SR 25.9 SS 25.8
 CRT .7657 CRS .5831 CST .9675
 LSA 48.7 MSA 17.4 SBA 1.2
 EL1 42.5 EL2 14.3 ALF 32.66

LAUNCH DATE APR 22 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 24 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 34.181 GAL -4.18 AZL 92.02 HCA 114.42 SMA 222.36 ECC .33102 INC 2.0193 V1 29.632
 RP 206.94 LAP -1.84 LOP 325.66 VP 26.188 GAP 18.93 AZP 89.16 TAL 343.08 TAP 97.50 RCA 148.75 APO 295.96 V2 26.466
 RC 57.675 GL -12.68 GP 1.73 ZAL 122.81 ZAP 169.08 ETS 170.86 ZAE 173.39 ETE 79.28 ZAC 102.16 ETC 277.14 LVI -18.78

DISTANCE 341.857

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 29.955 VHL 5.473 DLA -21.45 RAL 341.75 RAD 6647.0 VEL 12.243 PTH 7.19 VHP 9.049 DPA -16.49 RAP 317.37 ECC 1.4930
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 30 29 2796.92 -21.84 79.85 204.27 133.38 18 17 6 1796.9 -3.88 63.17
 60.00 18 36 12 2622.12 -16.18 69.18 209.35 127.43 19 19 54 1622.1 -1.34 50.83
 70.00 19 59 31 2377.22 -10.70 53.27 213.30 122.63 20 39 8 1377.2 3.19 33.64
 80.00 21 38 55 2066.14 -6.28 32.33 215.98 119.25 22 13 21 1066.1 6.09 11.82
 90.00 23 15 10 1755.63 -4.46 10.50 216.98 117.96 23 44 26 755.6 7.30 349.64
 100.00 0 25 42 1540.62 -6.28 353.70 215.98 119.25 0 51 23 540.6 6.09 333.19
 110.00 1 2 53 1424.04 -10.70 342.19 213.30 122.63 1 26 37 424.0 3.19 322.56

DIFFERENTIAL CORRECTIONS

TDE -.5888 TRA -1.2501 TC3 .0042 BAU .0510
 RDE -.4894 RRA .1465 RC3 .1273 FAU .04224
 FDE .4269 FRA 1.5233 FC3 -1.2209 BSP 2506
 BDE .7656 BRA 1.2587 BC3 .1273 FSP 265

MID-COURSE EXECUTION ACCURACY

SGT 1535.2 SGR 556.0 SG3 191.7
 RRT .0992 RRF -.1076 RTF -.7901
 SGB 1632.8 R23 -.0176 R13 -.7904
 SG1 1536.3 SG2 552.8 THA 2.36

ORBIT DETERMINATION ACCURACY

ST 37.3 SR 25.7 SS 26.7
 CRT .7672 CRS .5801 CST .9660
 LSA 49.6 MSA 17.5 SBA 1.2
 EL1 43.0 EL2 14.3 ALF 31.80

LAUNCH DATE APR 22 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 26 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 34.057 GAL -4.07 AZL 92.03 HCA 115.69 SMA 219.25 ECC .32130 INC 2.0348 V1 29.632
 RP 206.87 LAP -1.83 LOP 326.93 VP 26.034 GAP 18.47 AZP 89.12 TAL 343.19 TAP 98.88 RCA 148.81 APO 289.70 V2 26.473
 RC 58.203 GL -13.07 GP 1.80 ZAL 122.75 ZAP 168.15 ETS 171.27 ZAE 173.23 ETE 73.22 ZAC 102.18 ETC 277.21 LVI -18.95

DISTANCE 344.872

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 28.462 VHL 5.335 DLA -21.81 RAL 341.91 RAD 6646.4 VEL 12.182 PTH 7.14 VHP 8.773 DPA -16.32 RAP 317.70 ECC 1.4684
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 45 2776.43 -20.88 78.85 203.75 133.78 18 19 1 1776.4 -2.85 62.31
 60.00 18 39 3 2600.08 -15.27 68.04 208.83 127.76 19 22 23 1600.1 .63 49.77
 70.00 20 3 10 2352.82 -9.80 51.96 212.80 122.88 20 42 23 1352.8 4.12 32.36
 80.00 21 43 33 2038.66 -5.36 30.81 215.50 119.42 22 17 31 1038.7 7.00 10.29
 90.00 23 20 23 1726.32 -3.52 8.85 216.52 118.08 23 49 9 726.3 8.22 347.97
 100.00 0 30 21 1513.13 -5.36 392.18 215.50 119.42 0 55 34 513.1 7.00 331.66
 110.00 1 6 32 1399.64 -9.80 340.87 212.80 122.88 1 29 52 399.6 4.12 321.28

DIFFERENTIAL CORRECTIONS

TDE -.5846 TRA -1.2394 TC3 .0187 BAU .0520
 RDE -.4739 RRA .1377 RC3 .1356 FAU .04376
 FDE .4405 FRA 1.5872 FC3 -1.3312 BSP 2576
 BDE .7526 BRA 1.2470 BC3 .1367 FSP 285

MID-COURSE EXECUTION ACCURACY

SGT 1565.2 SGR 552.6 SG3 204.7
 RRT .1083 RRF -.1175 RTF -.7688
 SGB 1659.9 R23 -.0192 R13 -.7972
 SG1 1566.5 SG2 548.9 THA 2.50

ORBIT DETERMINATION ACCURACY

ST 38.1 SR 25.6 SS 27.8
 CRT .7689 CRS .5773 CST .9646
 LSA 50.5 MSA 17.6 SBA 1.2
 EL1 43.6 EL2 14.3 ALF 31.00

LAUNCH DATE APR 22 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 28 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 33.940 GAL -3.95 AZL 92.05 HCA 116.96 SMA 218.41 ECC .31212 INC 2.0508 V1 29.632
 RP 206.82 LAP -1.83 LOP 328.20 VP 25.887 GAP 18.02 AZP 89.07 TAL 343.30 TAP 100.28 RCA 148.86 APO 283.95 V2 26.478
 RC 58.807 GL -13.46 GP 1.87 ZAL 122.87 ZAP 167.22 ETS 171.61 ZAE 173.02 ETE 87.92 ZAC 102.21 ETC 277.28 LVI -19.11

DISTANCE 347.988

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 27.080 VHL 5.204 DLA -22.18 RAL 342.06 RAD 6645.8 VEL 12.126 PTH 7.10 VHP 8.506 DPA -16.16 RAP 318.00 ECC 1.4457
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 2 2756.09 -19.91 77.87 203.26 134.15 18 20 58 1756.1 -1.83 61.46
 60.00 18 41 58 2578.10 -14.35 66.91 208.34 128.07 19 24 58 1578.1 1.60 48.73
 70.00 20 6 55 2328.34 -8.89 50.64 212.33 123.11 20 45 44 1328.3 5.05 31.08
 80.00 21 48 22 2010.85 -4.43 29.27 215.06 119.56 22 21 53 1010.9 7.92 8.74
 90.00 23 25 49 1696.50 -2.56 7.19 216.09 118.17 23 54 6 696.5 9.14 346.27
 100.00 0 35 10 1485.32 -4.43 350.64 215.06 119.56 0 59 55 485.3 7.92 330.11
 110.00 1 10 18 1375.16 -8.89 339.56 212.33 123.11 1 33 13 375.2 5.05 320.00

DIFFERENTIAL CORRECTIONS

TDE -.5800 TRA -1.2284 TC3 .0307 BAU .0534
 RDE -.4589 RRA .1290 RC3 .1444 FAU .04537
 FDE .4545 FRA 1.6542 FC3 -1.4505 BSP 2639
 BDE .7396 BRA 1.2352 BC3 .1476 FSP 308

MID-COURSE EXECUTION ACCURACY

SGT 1594.4 SGR 549.0 SG3 218.5
 RRT .1182 RRF -.1282 RTF -.8035
 SGB 1686.3 R23 -.0208 R13 -.8040
 SG1 1595.9 SG2 544.6 THA 2.64

ORBIT DETERMINATION ACCURACY

ST 38.7 SR 25.4 SS 28.5
 CRT .7698 CRS .5745 CST .9632
 LSA 51.4 MSA 17.7 SBA 1.2
 EL1 44.1 EL2 14.2 ALF 30.25

LAUNCH DATE APR 22 1971

FLIGHT TIME 130.00

ARRIVAL DATE AUG 30 1971

HELIOCENTRIC CONIC

RL 130.37 LAL -.00 LOL 211.23 VL 33.820 GAL -3.84 AZL 92.07 HCA 118.22 SMA 213.80 ECC .30347 INC 2.0668 V1 29.632
 RP 206.77 LAP -1.82 LOP 329.46 VP 25.747 GAP 17.57 AZP 89.02 TAL 343.42 TAP 101.65 RCA 148.92 APO 276.68 V2 26.485
 RC 59.485 GL -13.87 GP 1.94 ZAL 122.56 ZAP 166.26 ETS 171.91 ZAE 172.79 EYE 63.36 ZAC 102.24 ETC 277.35 LVI -19.27

PLANETOCENTRIC CONIC

C3 25.803 VHL 5.080 DLA -22.56 RAL 342.20 RAD 6645.3 VEL 12.073 PTH 7.05 VMP 8.247 DPA -15.99 RAP 318.29 ECC 1.4247
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 37 21 2735.92 -18.95 76.91 202.80 134.50 18 22 57 1735.9 -.82 60.62
 60.00 18 44 56 2556.21 -13.43 65.80 207.88 128.36 19 27 32 1556.2 2.56 47.68
 70.00 20 10 47 2303.80 -7.98 49.33 211.88 123.32 20 49 11 1303.8 5.98 29.79
 80.00 21 53 23 1982.72 -3.48 27.72 214.65 119.67 22 26 25 982.7 8.84 7.16
 90.00 23 31 31 1666.15 -1.59 5.49 215.70 118.24 23 59 18 666.2 10.07 344.52
 100.00 0 40 10 1457.19 -3.48 349.09 214.65 119.67 1 4 28 457.2 8.84 328.53
 110.00 1 14 9 1350.62 -7.98 338.25 211.88 123.32 1 36 40 350.6 5.98 318.70

DIFFERENTIAL CORRECTIONS

TDE -.5747 TRA-1.2166 TC3 .0454 BAU .0552
 RDE -.4444 RRA .1203 RC3 .1536 FAU .04708
 FDE .4688 FRA 1.7248 FC3-1.5796 BSP 2701
 BDE .7265 BRA 1.2225 BC3 .1601 FSP 332

MID-COURSE EXECUTION ACCURACY

SGT 1621.8 SGR 545.1 SG3 233.3
 RRT .1288 RRF -.1399 RTF -.8099
 SGB 1711.0 R23 -.0228 R13 -.8104
 SG1 1623.5 SG2 540.0 THA 2.79

ORBIT DETERMINATION ACCURACY

ST 39.3 SR 25.2 SS 29.4
 CRT .7712 CRS .5716 CST .9618
 LSA 52.2 MSA 17.8 SSA 1.2
 EL1 44.5 EL2 14.2 ALF 29.54

LAUNCH DATE APR 22 1971

FLIGHT TIME 132.00

ARRIVAL DATE SEP 1 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 33.725 GAL -3.73 AZL 92.08 HCA 119.49 SMA 211.39 ECC .29531 INC 2.0634 V1 29.632
 RP 206.74 LAP -1.81 LOP 330.73 VP 25.614 GAP 17.13 AZP 88.97 TAL 343.55 TAP 103.04 RCA 148.97 APO 273.82 V2 26.488
 RC 60.233 GL -14.27 GP 2.02 ZAL 122.48 ZAP 165.28 ETS 172.17 ZAE 172.56 EYE 59.57 ZAC 102.28 ETC 277.42 LVI -19.43

PLANETOCENTRIC CONIC

C3 24.622 VHL 4.962 DLA -22.95 RAL 342.33 RAD 6644.8 VEL 12.025 PTH 7.01 VHP 7.997 DPA -15.83 RAP 318.55 ECC 1.4052
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 39 42 2715.93 -18.00 75.97 202.37 134.82 18 24 58 1715.9 .19 59.78
 60.00 18 47 57 2534.42 -12.50 64.70 207.45 128.63 19 30 11 1534.4 3.52 46.64
 70.00 20 14 46 2279.21 -7.06 48.02 211.47 123.50 20 52 45 1279.2 6.90 28.49
 80.00 21 58 36 1954.24 -2.52 26.15 214.27 119.76 22 31 10 954.2 9.77 5.55
 90.00 23 37 31 1635.21 -.59 3.76 215.34 118.27 24 4 46 635.2 11.00 342.73
 100.00 0 45 24 1426.71 -2.52 347.52 214.27 119.76 1 9 12 428.7 9.77 326.92
 110.00 1 18 8 1326.03 -7.06 336.94 211.47 123.50 1 40 14 326.0 6.90 317.40

DIFFERENTIAL CORRECTIONS

TDE -.5690 TRA-1.2039 TC3 .0614 BAU .0574
 RDE -.4304 RRA .1116 RC3 .1632 FAU .04892
 FDE .4833 FRA 1.7984 FC3-1.7202 BSP 2755
 BDE .7135 BRA 1.2091 BC3 .1743 FSP 357

MID-COURSE EXECUTION ACCURACY

SGT 1647.6 SGR 541.1 SG3 249.1
 RRT .1404 RRF -.1527 RTF -.8158
 SGB 1734.1 R23 -.0249 R13 -.8163
 SG1 1649.5 SG2 535.1 THA 2.95

ORBIT DETERMINATION ACCURACY

ST 39.9 SR 24.9 SS 30.3
 CRT .7727 CRS .5687 CST .9602
 LSA 53.1 MSA 17.8 SSA 1.2
 EL1 44.9 EL2 14.1 ALF 28.88

LAUNCH DATE APR 22 1971

FLIGHT TIME 134.00

ARRIVAL DATE SEP 3 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 33.826 GAL -3.62 AZL 92.10 HCA 120.76 SMA 209.18 ECC .28761 INC 2.1004 V1 29.632
 RP 206.71 LAP -1.80 LOP 332.00 VP 25.488 GAP 16.70 AZP 88.93 TAL 343.69 TAP 104.45 RCA 149.02 APO 269.34 V2 26.492
 RC 61.050 GL -14.69 GP 2.11 ZAL 122.36 ZAP 164.28 ETS 172.39 ZAE 172.33 EYE 56.44 ZAC 102.33 ETC 277.48 LVI -19.59

PLANETOCENTRIC CONIC

C3 25.530 VHL 4.851 DLA -23.35 RAL 342.48 RAD 6644.4 VEL 11.980 PTH 6.98 VHP 7.755 DPA -15.67 RAP 318.80 ECC 1.3872
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 42 5 2696.14 -17.05 75.06 201.97 135.12 18 27 1 1696.1 1.18 58.96
 60.00 18 51 2 2512.76 -11.58 63.61 207.04 128.88 19 32 55 1512.8 4.47 45.60
 70.00 20 18 52 2254.58 -6.13 46.72 211.09 123.67 20 56 26 1254.6 7.83 27.18
 80.00 22 4 2 1925.39 -1.55 24.57 213.93 119.82 22 36 8 925.4 10.70 3.91
 90.00 23 43 49 1603.61 .43 2.00 215.03 118.28 24 10 32 603.6 11.95 340.89
 100.00 0 50 50 1399.87 -1.55 343.94 213.93 119.82 1 14 10 399.9 10.70 325.28
 110.00 1 22 14 1301.40 -6.13 335.64 211.09 123.67 1 43 55 301.4 7.83 316.10

DIFFERENTIAL CORRECTIONS

TDE -.5631 TRA-1.1907 TC3 .0770 BAU .0598
 RDE -.4189 RRA .1029 RC3 .1732 FAU .05085
 FDE .4981 FRA 1.8780 FC3-1.8709 BSP 2808
 BDE .7006 BRA 1.1932 BC3 .1895 FSP 385

MID-COURSE EXECUTION ACCURACY

SGT 1671.7 SGR 536.8 SG3 265.8
 RRT .1929 RRF -.1666 RTF -.8213
 SGB 1755.8 R23 -.0273 R13 -.8219
 SG1 1674.0 SG2 529.8 THA 3.13

ORBIT DETERMINATION ACCURACY

ST 40.4 SR 24.7 SS 31.3
 CRT .7743 CRS .5658 CST .9589
 LSA 53.9 MSA 17.9 SSA 1.2
 EL1 45.3 EL2 14.0 ALF 28.25

LAUNCH DATE APR 22 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 5 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 33.533 GAL -3.52 AZL 92.12 HCA 122.05 SMA 207.14 ECC .28035 INC 2.1179 V1 29.632
 RP 206.69 LAP -1.80 LOP 333.27 VP 25.367 GAP 16.28 AZP 88.88 TAL 343.83 TAP 105.85 RCA 149.07 APO 265.21 V2 26.495
 RC 61.933 GL -15.11 GP 2.20 ZAL 122.23 ZAP 163.28 ETS 172.58 ZAE 172.13 EYE 53.90 ZAC 102.39 ETC 277.53 LVI -19.75

PLANETOCENTRIC CONIC

C3 22.321 VHL 4.746 DLA -23.76 RAL 342.58 RAD 6643.9 VEL 11.938 PTH 6.94 VHP 7.520 DPA -15.51 RAP 319.02 ECC 1.3706
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 44 30 2676.58 -16.10 74.16 201.60 135.40 18 29 7 1676.6 2.16 58.14
 60.00 18 54 11 2491.24 -10.66 62.54 206.67 129.10 19 35 43 1491.2 5.41 44.56
 70.00 20 23 5 2229.92 -5.20 45.42 210.74 123.80 21 0 15 1229.9 8.75 25.86
 80.00 22 9 44 1896.14 -.56 22.96 213.63 119.85 22 41 20 896.1 11.63 2.24
 90.00 23 50 27 1571.26 1.47 .20 214.75 118.24 24 16 39 571.3 12.90 339.00
 100.00 0 56 31 1370.61 -.56 344.33 213.63 119.85 1 19 22 370.6 11.63 323.61
 110.00 1 26 27 1276.74 -5.20 334.34 210.74 123.80 1 47 44 276.7 8.75 314.78

DIFFERENTIAL CORRECTIONS

TDE -.5971 TRA-1.1770 TC3 .0941 BAU .0621
 RDE -.4038 RRA .0942 RC3 .1837 FAU .05293
 FDE .5137 FRA 1.9576 FC3-2.0349 BSP 2854
 BDE .6880 BRA 1.1807 BC3 .2064 FSP 414

MID-COURSE EXECUTION ACCURACY

SGT 1694.4 SGR 532.5 SG3 283.7
 RRT .1669 RRF -.1820 RTF -.8266
 SGB 1776.1 R23 -.0299 R13 -.8273
 SG1 1697.0 SG2 524.2 THA 3.32

ORBIT DETERMINATION ACCURACY

ST 40.9 SR 24.5 SS 32.3
 CRT .7763 CRS .5633 CST .9568
 LSA 54.7 MSA 18.0 SSA 1.2
 EL1 45.6 EL2 13.8 ALF 27.65

LAUNCH DATE APR 22 1971

FLIGHT TIME 136.00

ARRIVAL DATE SEP 7 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.445 GAL -3.42 AZL 92.14 HCA 123.30 SMA 205.29 ECC .27351 INC 2.1359 V1 29.632
 RP 206.66 LAP -1.79 LOP 334.54 VP 25.252 GAP 15.97 AZP 88.83 TAL 343.97 TAP 107.27 RCA 149.11 APO 261.39 V2 26.496
 RC 62.879 GL -15.53 GP 2.29 ZAL 122.09 ZAP 162.22 ETS 172.75 ZAE 171.96 ETE 51.91 ZAC 102.45 ETC 277.58 LVI -19.91

Planetocentric Conic: C3 21.587 VHL 4.646 DLA -24.18 RAL 342.70 RAD 6643.5 VEL 11.899 PTH 6.91 VHP 7.293 DPA -15.35 RAP 319.21 ECC 1.3553
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 57 2657.25 -15.16 73.29 201.26 135.66 18 31 15 1657.3 3.14 57.35
 60.00 18 57 25 2469.87 -9.74 81.49 206.34 129.30 19 38 35 1469.9 6.34 43.53
 70.00 20 27 26 2205.23 -4.26 44.12 210.43 123.92 21 4 11 1205.2 9.66 24.54
 80.00 22 15 41 1866.44 .45 21.33 213.36 119.85 22 46 47 866.4 12.56 .53
 90.00 0 1 26 1538.04 2.54 358.34 214.53 118.17 0 27 4 538.0 13.86 337.03
 100.00 1 2 28 1340.91 .45 342.70 213.36 119.85 1 24 49 340.9 12.56 321.90
 110.00 1 30 48 1252.04 -4.26 333.04 210.43 123.92 1 51 40 252.0 9.66 313.45

Differential Corrections: TDE -.5510 TRA-1.1630 TC3 .1108 BAU .0646 SGT 1715.7 SGR 528.0 SG3 302.8 ST 41.4 SR 24.2 SS 33.3
 RDE -.3912 RRA .0854 RC3 .1946 FAU .05514 RRT .1820 RRF -.1987 RTF -.8313 CRT .7785 CRS .5607 CST .9549
 FDE .5295 FRA 2.0435 FC3-2.2114 BSP 2905 SGB 1795.2 R23 -.0327 R13 -.8320 LSA 55.5 MSA 18.0 SSA 1.2
 BDE .6758 BRA 1.1661 BC3 .2240 FSP 446 SG1 1718.7 SG2 518.3 THA 3.53 EL1 45.9 EL2 13.7 ALF 27.07

LAUNCH DATE APR 22 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 9 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.362 GAL -3.33 AZL 92.15 HCA 124.57 SMA 203.51 ECC .26706 INC 2.1544 V1 29.632
 RP 206.67 LAP -1.77 LOP 335.81 VP 25.143 GAP 15.46 AZP 88.78 TAL 344.11 TAP 108.68 RCA 149.16 APO 257.86 V2 26.496
 RC 63.888 GL -15.96 GP 2.39 ZAL 121.94 ZAP 161.15 ETS 172.89 ZAE 171.83 ETE 50.42 ZAC 102.53 ETC 277.63 LVI -20.06

Planetocentric Conic: C3 20.725 VHL 4.552 DLA -24.60 RAL 342.81 RAD 6643.2 VEL 11.865 PTH 6.88 VHP 7.073 DPA -15.19 RAP 319.39 ECC 1.3411
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 49 27 2638.18 -14.23 72.43 200.95 135.90 18 33 25 1638.2 4.09 56.53
 60.00 19 0 42 2448.67 -8.82 60.44 206.03 129.48 19 41 31 1448.7 7.27 42.50
 70.00 20 31 55 2180.50 -3.32 42.83 210.16 124.01 21 8 16 1180.5 10.57 23.20
 80.00 22 21 55 1836.23 1.47 19.67 213.15 119.82 22 52 32 836.2 13.50 358.78
 90.00 0 8 56 1503.80 3.64 356.42 214.35 118.06 0 33 59 503.8 14.83 334.99
 100.00 1 8 43 1310.70 1.47 341.04 213.15 119.82 1 30 34 310.7 13.50 320.14
 110.00 1 35 18 1227.32 -3.32 331.75 210.16 124.01 1 55 45 227.3 10.57 312.12

Differential Corrections: TDE -.5444 TRA-1.1482 TC3 .1277 BAU .0672 SGT 1734.7 SGR 523.5 SG3 323.0 ST 41.7 SR 23.9 SS 34.3
 RDE -.3791 RRA .0766 RC3 .2061 FAU .05749 RRT .1983 RRF -.2168 RTF -.8357 CRT .7809 CRS .5581 CST .9528
 FDE .5454 FRA 2.1341 FC3-2.4013 BSP 2943 SGB 1812.0 R23 -.0360 R13 -.8365 LSA 56.2 MSA 18.1 SSA 1.2
 BDE .6634 BRA 1.1508 BC3 .2424 FSP 479 SG1 1738.1 SG2 512.1 THA 3.75 EL1 46.2 EL2 13.5 ALF 26.55

LAUNCH DATE APR 22 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 11 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.284 GAL -3.24 AZL 92.17 HCA 125.84 SMA 201.89 ECC .26098 INC 2.1735 V1 29.632
 RP 206.68 LAP -1.76 LOP 337.08 VP 25.038 GAP 15.07 AZP 88.73 TAL 344.26 TAP 110.10 RCA 149.20 APO 254.58 V2 26.496
 RC 64.956 GL -16.40 GP 2.50 ZAL 121.79 ZAP 160.06 ETS 173.02 ZAE 171.74 ETE 49.40 ZAC 102.61 ETC 277.67 LVI -20.22

Planetocentric Conic: C3 19.927 VHL 4.464 DLA -25.03 RAL 342.92 RAD 6642.8 VEL 11.830 PTH 6.85 VHP 6.860 DPA -15.03 RAP 319.53 ECC 1.3279
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 52 0 2619.32 -13.31 71.59 200.67 136.11 18 35 39 1619.3 5.04 55.74
 60.00 19 4 5 2427.60 -7.91 59.41 205.78 129.65 19 44 32 1427.6 8.18 41.47
 70.00 20 36 34 2155.69 -2.37 41.53 209.92 124.08 21 12 30 1155.7 11.48 21.86
 80.00 22 28 30 1805.35 2.52 17.98 212.97 119.76 22 58 36 805.3 14.44 356.97
 90.00 0 16 58 1466.22 4.78 354.43 214.22 117.91 0 41 26 466.2 15.82 332.84
 100.00 1 15 18 1279.82 2.52 339.35 212.97 119.76 1 36 38 279.8 14.44 318.34
 110.00 1 39 56 1202.51 -2.37 330.45 209.92 124.08 1 59 59 202.5 11.48 310.77

Differential Corrections: TDE -.5272 TRA-1.1218 TC3 .1651 BAU .0729 SGT 1733.5 SGR 519.0 SG3 344.5 ST 41.4 SR 23.8 SS 35.3
 RDE -.3672 RRA .0679 RC3 .2183 FAU .06002 RRT .2164 RRF -.2365 RTF -.837 CRT .7807 CRS .5592 CST .9510
 FDE .5609 FRA 2.2277 FC3-2.6075 BSP 2851 SGB 1809.6 R23 -.0373 R13 -.8467 LSA 56.4 MSA 18.1 SSA 1.2
 BDE .6425 BRA 1.1239 BC3 .2737 FSP 513 SG1 1737.5 SG2 505.6 THA 4.05 EL1 45.7 EL2 13.4 ALF 26.43

LAUNCH DATE APR 22 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 13 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.210 GAL -3.15 AZL 92.19 HCA 127.11 SMA 200.40 ECC .25926 INC 2.1931 V1 29.632
 RP 206.70 LAP -1.75 LOP 338.35 VP 24.938 GAP 14.88 AZP 88.68 TAL 344.41 TAP 111.52 RCA 149.25 APO 251.55 V2 26.494
 RC 66.082 GL -16.84 GP 2.62 ZAL 121.62 ZAP 158.94 ETS 173.13 ZAE 171.70 ETE 48.82 ZAC 102.70 ETC 277.71 LVI -20.37

Planetocentric Conic: C3 19.192 VHL 4.381 DLA -25.47 RAL 343.03 RAD 6642.5 VEL 11.799 PTH 6.82 VHP 6.654 DPA -14.88 RAP 319.65 ECC 1.3159
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 54 35 2600.81 -12.40 70.77 200.42 136.31 18 37 56 1600.8 5.96 54.96
 60.00 19 7 32 2406.80 -7.01 58.40 205.53 129.79 19 47 39 1406.8 9.09 40.46
 70.00 20 41 21 2130.93 -1.43 40.24 209.73 124.13 21 16 52 1130.9 12.38 20.50
 80.00 22 35 26 1775.90 3.58 16.25 212.84 119.66 23 5 0 775.9 15.39 355.11
 90.00 0 25 37 1431.23 5.95 352.35 214.15 117.70 0 49 28 431.2 16.82 330.59
 100.00 1 22 14 1248.37 3.58 337.62 212.84 119.66 1 43 2 248.4 15.39 316.48
 110.00 1 44 44 1177.75 -1.43 329.15 209.73 124.13 2 4 21 177.7 12.38 309.42

Differential Corrections: TDE -.5259 TRA-1.1115 TC3 .1705 BAU .0736 SGT 1757.3 SGR 514.7 SG3 367.4 ST 42.0 SR 23.3 SS 36.4
 RDE -.3560 RRA .0389 RC3 .2307 FAU .06265 RRT .2357 RRF -.2581 RTF -.8460 CRT .7856 CRS .5536 CST .9489
 FDE .5784 FRA 2.3289 FC3-2.8261 BSP 2932 SGB 1831.1 R23 -.0425 R13 -.8471 LSA 57.5 MSA 18.2 SSA 1.2
 BDE .6351 BRA 1.1130 BC3 .2869 FSP 552 SG1 1761.8 SG2 498.9 THA 4.29 EL1 46.2 EL2 13.1 ALF 25.76

LAUNCH DATE APR 22 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 15 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.141 GAL -3.07 AZL 92.21 HCA 128.37 SMA 189.01 ECC .24887 INC 2.2135 V1 29.632 RP 206.72 LAP -1.74 LOP 339.62 VP 24.843 GAP 14.30 AZP 88.63 TAL 344.86 TAP 112.94 RCA 149.29 APO 248.74 V2 26.491 RC 67.263 GL -17.28 GP 2.74 ZAL 121.46 ZAP 157.79 ETS 173.22 ZAE 171.70 ETE 48.89 ZAC 102.80 ETC 277.74 LVI -20.52

Distance 379.277 Earth to Mars

Planeto-centric Conic: C3 18.514 VHL 4.303 DLA -25.91 RAL 343.13 RAD 6642.2 VEL 11.770 PTH 6.00 VHP 6.455 DPA -14.72 RAP 319.73 ECC 1.3047

Differential Corrections: TDE -.5217 TRA-1.0976 TC3 .1795 BAU .0749 RDE -.3492 RRA .0497 RC3 .2437 FAU .06545 FDE -.5957 FRA 2.4351 FC3-3.0606 B8P 3015 BDE .6255 BRA 1.0987 BC3 .3027 F8P 593

Mid-course Execution Accuracy: SGT 1773.9 SGR 510.5 SG3 391.8 RRT .2564 RRF -.2815 RTF -.8473 SGB 1845.9 R23 -.0478 R13 -.8486 SG1 1779.1 SG2 492.0 THA 4.57

Orbit Determination Accuracy: ST 42.4 SR 23.0 SS 37.5 CRT .7901 CR8 .5519 CST .9460 LSA 58.3 MSA 18.3 S8A 1.2 EL1 46.5 EL2 12.9 ALF 25.26

LAUNCH DATE APR 22 1971

FLIGHT TIME 148.00

ARRIVAL DATE SEP 17 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.075 GAL -2.99 AZL 92.23 HCA 129.64 SMA 197.73 ECC .24480 INC 2.2346 V1 29.632 RP 206.75 LAP -1.72 LOP 340.89 VP 24.751 GAP 13.93 AZP 88.57 TAL 344.71 TAP 114.35 RCA 149.32 APO 246.13 V2 26.487 RC 68.502 GL -17.73 GP 2.87 ZAL 121.28 ZAP 156.82 ETS 173.30 ZAE 171.76 ETE 49.00 ZAC 102.92 ETC 277.76 LVI -20.67

Distance 383.013 Earth to Mars

Planeto-centric Conic: C3 17.888 VHL 4.229 DLA -26.35 RAL 343.24 RAD 6641.9 VEL 11.744 PTH 6.77 VHP 6.263 DPA -14.57 RAP 319.79 ECC 1.2944

Differential Corrections: TDE -.5166 TRA-1.0811 TC3 .1895 BAU .0764 RDE -.3348 RRA .0404 RC3 .2573 FAU .06840 FDE .6150 FRA 2.5464 FC3-3.3105 B8P 3060 BDE .6156 BRA 1.0818 BC3 .3195 F8P 637

Mid-course Execution Accuracy: SGT 1785.2 SGR 506.7 SG3 417.6 RRT .2791 RRF -.3072 RTF -.8489 SGB 1855.7 R23 -.0534 R13 -.8504 SG1 1791.2 SG2 484.9 THA 4.89

Orbit Determination Accuracy: ST 42.7 SR 22.7 SS 36.6 CRT .7952 CR8 .5517 CST .9432 LSA 59.1 MSA 18.3 S8A 1.2 EL1 46.7 EL2 12.6 ALF 24.82

LAUNCH DATE APR 22 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 19 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 33.014 GAL -2.91 AZL 92.26 HCA 130.91 SMA 196.53 ECC .24003 INC 2.2565 V1 29.632 RP 206.79 LAP -1.71 LOP 342.18 VP 24.684 GAP 13.57 AZP 88.52 TAL 344.86 TAP 115.77 RCA 149.36 APO 243.71 V2 26.483 RC 69.791 GL -18.18 GP 3.00 ZAL 121.11 ZAP 155.41 ETS 173.36 ZAE 171.86 ETE 49.80 ZAC 103.05 ETC 277.78 LVI -20.83

Distance 386.786 Earth to Mars

Planeto-centric Conic: C3 17.312 VHL 4.161 DLA -26.80 RAL 343.36 RAD 6641.6 VEL 11.719 PTH 6.75 VHP 6.077 DPA -14.42 RAP 319.82 ECC 1.2849

Differential Corrections: TDE -.5103 TRA-1.0837 TC3 .1992 BAU .0779 RDE -.3247 RRA .0308 RC3 .2715 FAU .07151 FDE .6339 FRA 2.6650 FC3-3.5761 B8P 3091 BDE .6048 BRA 1.0642 BC3 .3367 F8P 684

Mid-course Execution Accuracy: SGT 1792.9 SGR 503.2 SG3 445.0 RRT .3033 RRF -.3346 RTF -.8508 SGB 1862.2 R23 -.0597 R13 -.8523 SG1 1799.8 SG2 477.7 THA 5.24

Orbit Determination Accuracy: ST 42.9 SR 22.4 SS 39.7 CRT .8003 CR8 .5512 CST .9402 LSA 59.8 MSA 18.4 S8A 1.2 EL1 46.8 EL2 12.3 ALF 24.45

LAUNCH DATE APR 22 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 21 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 32.998 GAL -2.84 AZL 92.28 HCA 132.18 SMA 195.43 ECC .23855 INC 2.2792 V1 29.632 RP 206.84 LAP -1.69 LOP 343.43 VP 24.580 GAP 13.21 AZP 88.47 TAL 345.00 TAP 117.18 RCA 149.39 APO 241.46 V2 26.477 RC 71.130 GL -18.63 GP 3.15 ZAL 120.93 ZAP 154.18 ETS 173.42 ZAE 172.01 ETE 51.11 ZAC 103.19 ETC 277.79 LVI -20.98

Distance 390.593 Earth to Mars

Planeto-centric Conic: C3 16.782 VHL 4.097 DLA -27.26 RAL 343.47 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 5.897 DPA -14.27 RAP 319.81 ECC 1.2782

Differential Corrections: TDE -.5034 TRA-1.0442 TC3 .2090 BAU .0796 RDE -.3151 RRA .0211 RC3 .2865 FAU .07486 FDE .6535 FRA 2.7882 FC3-3.8619 B8P 3103 BDE .5939 BRA 1.0444 BC3 .3547 F8P 733

Mid-course Execution Accuracy: SGT 1795.5 SGR 500.4 SG3 473.9 RRT .3295 RRF -.3644 RTF -.8520 SGB 1863.9 R23 -.0667 R13 -.8540 SG1 1803.6 SG2 470.3 THA 5.63

Orbit Determination Accuracy: ST 43.0 SR 22.0 SS 40.9 CRT .8061 CR8 .5517 CST .9370 LSA 60.5 MSA 18.5 S8A 1.2 EL1 46.8 EL2 12.0 ALF 24.15

LAUNCH DATE APR 22 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 23 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.901 GAL -2.77 AZL 92.30 HCA 133.44 SMA 194.40 ECC .23134 INC 2.3028 V1 29.632
RP 206.90 LAP -1.67 LOP 344.69 VP 24.499 GAP 12.87 AZP 88.42 TAL 345.15 TAP 118.59 RCA 149.43 APO 239.37 V2 26.470
RC 72.517 GL -19.09 GP 3.31 ZAL 120.76 ZAP 152.90 ETS 173.46 ZAE 172.19 ETE 53.00 ZAC 103.34 ETC 277.80 LVI -21.13

DISTANCE 394.433

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 16.296 VHL 4.037 DLA -27.71 RAL 343.59 RAD 6641.1 VEL 11.676 PTH 6.71 VHP 5.724 DPA -14.12 RAP 319.76 ECC 1.2682
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 8 20 2512.68 -8.03 66.96 199.68 137.06 18 50 12 1512.7 10.35 51.19
60.00 19 26 7 2305.74 -2.58 53.54 204.90 130.23 20 4 33 1305.7 13.41 35.42
70.00 21 8 5 2005.90 3.34 33.71 209.38 124.01 21 41 31 1005.9 16.79 13.50
80.00 23 18 4 1598.96 9.38 6.51 213.06 118.48 23 44 43 599.0 20.28 344.43
90.00 1 28 20 1191.13 13.27 338.51 215.07 115.20 1 48 19 191.1 22.53 315.31
100.00 2 4 52 1073.43 9.38 327.87 213.06 118.48 2 22 45 73.4 20.28 305.80
110.00 2 11 27 1052.72 3.34 322.63 209.38 124.01 2 29 0 52.7 16.79 302.42

DIFFERENTIAL CORRECTIONS

TDE -.4961 TRA -1.0235 TC3 .2164 BAU .0810
RDE -.3058 RRA .0110 RC3 .3023 FAU .07841
FDE .6729 FRA 2.9179 FC3 -4.1655 BSP 3110
BDE .5828 BRA 1.0235 BC3 .3718 FSP 784

MID-COURSE EXECUTION ACCURACY

SGT 1794.1 SGR 498.2 SG3 504.6
RRR .3571 RRF -.3962 RTF -.8529
SGB 1862.0 R23 -.0748 R13 -.8552
SG1 1803.5 SG2 462.9 THA 6.07

ORBIT DETERMINATION ACCURACY

ST 43.0 SR 21.7 S8 42.0
CRT .8125 CRS .5524 CST .9335
LSA 61.1 MSA 18.6 SSA 1.2
EL1 46.7 EL2 11.6 ALF 23.89

LAUNCH DATE APR 22 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 25 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.850 GAL -2.71 AZL 92.33 HCA 134.71 SMA 193.44 ECC .22738 INC 2.3274 V1 29.632
RP 206.96 LAP -1.65 LOP 345.96 VP 24.422 GAP 12.53 AZP 88.36 TAL 345.28 TAP 119.99 RCA 149.46 APO 237.42 V2 26.462
RC 73.950 GL -19.56 GP 3.47 ZAL 120.58 ZAP 151.60 ETS 173.50 ZAE 172.41 ETE 55.54 ZAC 103.51 ETC 277.80 LVI -21.28

DISTANCE 398.302

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.850 VHL 3.981 DLA -28.16 RAL 343.72 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 5.557 DPA -13.97 RAP 319.68 ECC 1.2688
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 11 16 2495.99 -7.20 66.25 199.64 137.16 18 52 52 1496.0 11.18 50.47
60.00 19 30 9 2286.16 -1.72 52.60 204.89 130.27 20 8 15 1286.2 14.23 34.42
70.00 21 14 6 1980.46 4.31 32.38 209.45 123.91 21 47 6 980.5 17.65 12.03
80.00 23 29 12 1557.46 10.72 4.15 213.32 118.03 23 55 9 557.5 21.33 341.80
90.00 1 56 28 1095.12 15.98 332.77 215.94 113.65 2 14 43 95.1 24.36 308.87
100.00 2 15 59 1031.93 10.72 325.52 213.32 118.03 2 33 11 31.9 21.33 303.17
110.00 2 17 28 1027.28 4.31 321.29 209.45 123.91 2 34 35 27.3 17.65 300.95

DIFFERENTIAL CORRECTIONS

TDE -.4894 TRA -1.0030 TC3 .2189 BAU .0819
RDE -.2969 RRA .0005 RC3 .3187 FAU .08206
FDE .6950 FRA 3.0577 FC3 -4.4821 BSP 3119
BDE .5725 BRA 1.0030 BC3 .3867 FSP 841

MID-COURSE EXECUTION ACCURACY

SGT 1791.0 SGR 497.0 SG3 537.2
RRR .3863 RRF -.4301 RTF -.8532
SGB 1858.7 R23 -.0842 R13 -.8560
SG1 1802.0 SG2 455.6 THA 6.54

ORBIT DETERMINATION ACCURACY

ST 42.9 SR 21.4 S8 43.3
CRT .8199 CRS .5549 CST .9300
LSA 61.9 MSA 18.6 SSA 1.2
EL1 46.6 EL2 11.3 ALF 23.66

LAUNCH DATE APR 22 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 27 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.801 GAL -2.65 AZL 92.35 HCA 135.98 SMA 192.55 ECC .22366 INC 2.3531 V1 29.632
RP 207.04 LAP -1.64 LOP 347.23 VP 24.347 GAP 12.19 AZP 88.31 TAL 345.42 TAP 121.39 RCA 149.48 APO 235.62 V2 26.454
RC 75.426 GL -20.02 GP 3.65 ZAL 120.40 ZAP 150.26 ETS 173.53 ZAE 172.64 ETE 56.82 ZAC 103.70 ETC 277.79 LVI -21.43

DISTANCE 402.199

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.441 VHL 3.929 DLA -28.62 RAL 343.85 RAD 6640.7 VEL 11.640 PTH 6.68 VHP 5.395 DPA -13.82 RAP 319.56 ECC 1.2541
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 14 17 2479.58 -8.38 65.55 199.63 137.25 18 53 36 1479.6 11.99 49.75
60.00 19 34 18 2268.73 -.86 51.67 204.92 130.29 20 12 4 1266.7 15.05 33.43
70.00 21 20 24 1954.68 5.29 31.02 209.56 123.79 21 52 59 954.7 18.52 10.53
80.00 23 42 0 1511.20 12.19 1.50 213.69 117.47 24 7 11 511.2 22.45 338.82
85.38 1 40 45 1141.71 18.27 337.19 216.62 112.43 1 59 47 141.7 25.92 312.70
100.00 2 28 48 6273.71 12.19 300.78 213.69 117.47 4 13 22 5273.7 22.45 278.09
110.00 2 23 48 1001.50 5.29 319.94 209.56 123.79 2 40 27 1.5 18.52 299.45

DIFFERENTIAL CORRECTIONS

TDE -.4720 TRA -.9698 TC3 .2476 BAU .0863
RDE -.2880 RRA -.0099 RC3 .3372 FAU .08632
FDE .7095 FRA 3.1941 FC3 -4.8388 BSP 2980
BDE .5529 BRA .9698 BC3 .4183 FSP 891

MID-COURSE EXECUTION ACCURACY

SGT 1782.2 SGR 496.8 SG3 571.1
RRR .4193 RRF -.4859 RTF -.8583
SGB 1830.9 R23 -.0893 R13 -.8616
SG1 1775.4 SG2 447.7 THA 7.20

ORBIT DETERMINATION ACCURACY

ST 42.0 SR 21.0 S8 44.3
CRT .8251 CRS .5549 CST .9268
LSA 61.8 MSA 18.7 SSA 1.2
EL1 45.7 EL2 10.9 ALF 23.84

LAUNCH DATE APR 22 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 29 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.756 GAL -2.59 AZL 92.38 HCA 137.24 SMA 191.73 ECC .22019 INC 2.3800 V1 29.632
RP 207.12 LAP -1.62 LOP 348.49 VP 24.276 GAP 11.87 AZP 88.25 TAL 345.54 TAP 122.78 RCA 149.51 APO 233.94 V2 26.444
RC 78.944 GL -20.49 GP 3.84 ZAL 120.23 ZAP 148.88 ETS 173.55 ZAE 172.87 ETE 62.94 ZAC 103.90 ETC 277.78 LVI -21.59

DISTANCE 406.119

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.069 VHL 3.882 DLA -29.08 RAL 343.99 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 5.240 DPA -13.67 RAP 319.40 ECC 1.2480
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 17 22 2463.58 -5.58 64.88 199.66 137.33 18 58 26 1463.6 12.78 49.05
60.00 19 38 34 2247.59 -.02 50.76 205.00 130.30 20 16 1 1247.6 15.85 32.44
70.00 21 26 59 1928.70 6.27 29.65 209.73 123.64 21 59 7 928.7 19.37 9.01
80.00 0 1 22 1457.36 13.86 358.38 214.21 116.71 0 25 39 457.4 23.67 335.29
82.92 1 21 19 1200.77 18.68 341.72 216.52 112.70 1 41 20 200.8 26.41 317.17
100.00 2 44 14 6219.87 13.86 297.65 214.21 116.71 4 27 54 5219.9 23.67 274.56
110.00 2 30 21 6263.56 6.27 296.47 209.73 123.64 4 14 45 5263.6 19.37 275.83

DIFFERENTIAL CORRECTIONS

TDE -.4734 TRA -.9545 TC3 .2224 BAU .0844
RDE -.2801 RRA -.0216 RC3 .3547 FAU .09016
FDE .7376 FRA 3.3327 FC3 -5.1799 BSP 3071
BDE .5500 BRA .9547 BC3 .4187 FSP 959

MID-COURSE EXECUTION ACCURACY

SGT 1763.3 SGR 498.1 SG3 607.4
RRR .4493 RRF -.5038 RTF -.8527
SGB 1834.2 R23 -.1063 R13 -.8568
SG1 1780.4 SG2 441.2 THA 7.70

ORBIT DETERMINATION ACCURACY

ST 42.5 SR 20.7 S8 45.8
CRT .8369 CRS .5617 CST .9216
LSA 63.0 MSA 18.8 SSA 1.2
EL1 46.1 EL2 10.4 ALF 23.44

LAUNCH DATE APR 22 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 1 1971

HELIOCENTRIC CONIC

RL 130.37 LAL -.00 LOL 211.23 VL 32.714 GAL -2.54 AZL 92.41 HCA 138.50 SMA 190.96 ECC .21893 INC 2.4082 V1 29.632
 RP 207.21 LAP -1.60 LOP 349.75 VP 24.207 GAP 11.55 AZP 88.20 TAL 345.66 TAP 124.16 RCA 149.53 APO 232.36 V2 26.433
 RC 78.302 GL -20.96 GP 4.05 ZAL 120.06 ZAP 147.47 ETS 173.57 ZAE 173.08 ETE 67.99 ZAC 104.12 ETC 277.75 LVI -21.74

PLANETOCENTRIC CONIC

C3 14.731 VHL 3.838 DLA -29.54 RAL 344.15 RAD 8640.4 VEL 11.610 PTH 6.65 VHP 5.091 DPA -13.51 RAP 319.20 ECC 1.2424
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 20 33 2447.86 -4.79 64.21 199.73 137.39 19 1 21 1447.9 13.55 48.35
 60.00 19 42 58 2228.60 .82 49.85 205.11 130.29 20 20 6 1228.6 16.63 31.45
 70.00 21 33 55 1902.21 7.27 28.25 209.96 123.46 22 3 36 902.2 20.23 7.43
 80.00 0 22 36 1385.73 16.00 354.15 215.00 115.55 0 45 41 385.8 25.15 330.49
 81.09 1 7 27 1242.21 19.10 344.97 216.46 112.97 1 28 9 242.2 26.90 320.35
 100.00 3 5 27 6148.26 16.00 293.42 215.00 115.55 4 47 56 5148.3 25.15 269.76
 110.00 2 37 18 6237.07 7.27 295.07 209.96 123.46 4 21 15 5237.1 20.23 274.25

DIFFERENTIAL CORRECTIONS

TDE -.4673 TRA -.9304 TC3 .2132 BAW .0848
 RDE -.2723 RRA -.0334 RC3 .3741 FAU .09449
 FDE .7613 FRA 3.5131 FC3-5.5532 BSP 3070
 BDE .5408 BRA .9310 BC3 .4306 FSP 1026

MID-COURSE EXECUTION ACCURACY

SGT 1749.8 SGR 501.0 SG3 645.4
 RRT .4816 RRF -.5430 RTF -.8502
 SGB 1820.1 R23 -.1216 R13 -.8552
 SG1 1767.5 SG2 434.7 THA 8.36

ORBIT DETERMINATION ACCURACY

ST 42.3 SR 20.3 SS 47.1
 CRT .8475 CRS .5676 CST .9166
 LSA 63.7 MSA 19.0 SSA 1.2
 EL1 45.9 EL2 10.0 ALF 23.34

LAUNCH DATE APR 22 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 3 1971

HELIOCENTRIC CONIC

RL 130.37 LAL -.00 LOL 211.23 VL 32.674 GAL -2.49 AZL 92.44 HCA 139.77 SMA 190.25 ECC .21388 INC 2.4378 V1 29.632
 RP 207.31 LAP -1.57 LOP 351.02 VP 24.140 GAP 11.24 AZP 88.14 TAL 345.77 TAP 125.53 RCA 149.56 APO 230.94 V2 26.422
 RC 80.098 GL -21.44 GP 4.26 ZAL 119.90 ZAP 146.02 ETS 173.58 ZAE 173.24 ETE 74.01 ZAC 104.36 ETC 277.72 LVI -21.90

PLANETOCENTRIC CONIC

C3 14.425 VHL 3.798 DLA -30.00 RAL 344.31 RAD 8640.3 VEL 11.597 PTH 6.64 VHP 4.947 DPA -13.36 RAP 318.96 ECC 1.2374
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 23 49 2432.44 -4.02 63.57 199.84 137.45 19 4 22 1432.4 14.30 47.67
 60.00 19 47 31 2209.77 1.65 48.95 205.28 130.27 20 24 21 1209.8 17.40 30.46
 70.00 21 41 16 1875.13 8.28 26.81 210.25 123.25 22 12 31 875.1 21.09 5.80
 79.54 0 56 18 1275.28 19.51 347.61 216.45 113.25 1 17 33 275.3 27.38 322.93
 79.54 0 56 18 1275.28 19.51 347.61 216.45 113.25 1 17 33 275.3 27.38 322.93
 79.54 0 56 18 1275.28 19.51 347.61 216.45 113.25 1 17 33 275.3 27.38 322.93
 110.00 2 44 38 6209.99 8.28 293.63 210.25 123.25 4 28 8 5210.0 21.09 272.63

DIFFERENTIAL CORRECTIONS

TDE -.4602 TRA -.9035 TC3 .2004 BAW .0854
 RDE -.2648 RRA -.0459 RC3 .3946 FAU .09901
 FDE .7856 FRA 3.6802 FC3-5.9425 BSP 3035
 BDE .5309 BRA .9047 BC3 .4426 FSP 1094

MID-COURSE EXECUTION ACCURACY

SGT 1727.0 SGR 505.8 SG3 685.1
 RRT .5137 RRF -.5831 RTF -.8471
 SGB 1799.5 R23 -.1390 R13 -.8532
 SG1 1747.7 SG2 428.8 THA 9.11

ORBIT DETERMINATION ACCURACY

ST 42.0 SR 20.0 SS 48.4
 CRT .8590 CRS .5746 CST .9113
 LSA 64.3 MSA 19.1 SSA 1.2
 EL1 45.5 EL2 9.4 ALF 23.34

LAUNCH DATE APR 22 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC

RL 130.37 LAL -.00 LOL 211.23 VL 32.637 GAL -2.45 AZL 92.47 HCA 141.03 SMA 189.58 ECC .21103 INC 2.4689 V1 29.632
 RP 207.42 LAP -1.55 LOP 352.28 VP 24.076 GAP 10.94 AZP 88.02 TAL 345.87 TAP 126.90 RCA 149.59 APO 229.59 V2 26.409
 RC 81.730 GL -21.93 GP 4.50 ZAL 119.74 ZAP 144.52 ETS 173.59 ZAE 173.32 ETE 80.96 ZAC 104.62 ETC 277.68 LVI -22.06

PLANETOCENTRIC CONIC

C3 14.149 VHL 3.761 DLA -30.48 RAL 344.49 RAD 8640.1 VEL 11.585 PTH 6.63 VHP 4.810 DPA -13.20 RAP 318.87 ECC 1.2329
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 27 12 2417.31 -3.26 62.93 199.99 137.49 19 7 29 1417.3 15.04 48.99
 60.00 19 52 14 2191.06 2.47 48.06 205.49 130.24 20 28 45 1191.1 18.17 29.46
 70.00 21 49 5 1847.25 9.32 25.32 210.60 123.01 22 19 52 847.3 21.96 4.10
 78.18 0 46 49 1303.43 19.91 349.89 216.47 113.55 1 8 33 303.4 27.86 325.15
 78.18 0 46 49 1303.43 19.91 349.89 216.47 113.55 1 8 33 303.4 27.86 325.15
 78.18 0 46 49 1303.43 19.91 349.89 216.47 113.55 1 8 33 303.4 27.86 325.15
 110.00 2 52 27 6182.11 9.32 292.14 210.60 123.01 4 35 29 5182.1 21.96 270.93

DIFFERENTIAL CORRECTIONS

TDE -.4517 TRA -.8730 TC3 .1894 BAW .0866
 RDE -.2577 RRA -.0589 RC3 .4166 FAU .10382
 FDE .8106 FRA 3.8338 FC3-6.3527 BSP 2972
 BDE .5200 BRA .8730 BC3 .4576 FSP 1165

MID-COURSE EXECUTION ACCURACY

SGT 1895.2 SGR 513.0 SG3 726.7
 RRT .5467 RRF -.6239 RTF -.8442
 SGB 1771.1 R23 -.1371 R13 -.8518
 SG1 1719.7 SG2 423.4 THA 10.01

ORBIT DETERMINATION ACCURACY

ST 41.5 SR 19.7 SS 49.7
 CRT .8713 CRS .5837 CST .9055
 LSA 64.9 MSA 19.2 SSA 1.1
 EL1 45.0 EL2 8.9 ALF 23.45

LAUNCH DATE APR 22 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 7 1971

HELIOCENTRIC CONIC

RL 130.37 LAL -.00 LOL 211.23 VL 32.802 GAL -2.41 AZL 92.50 HCA 142.29 SMA 188.97 ECC .20837 INC 2.5018 V1 29.632
 RP 207.54 LAP -1.53 LOP 353.54 VP 24.013 GAP 10.64 AZP 88.02 TAL 345.98 TAP 128.29 RCA 149.60 APO 228.35 V2 26.395
 RC 83.399 GL -22.42 GP 4.75 ZAL 119.59 ZAP 142.99 ETS 173.59 ZAE 173.29 ETE 88.65 ZAC 104.90 ETC 277.64 LVI -22.22

PLANETOCENTRIC CONIC

C3 13.902 VHL 3.729 DLA -30.93 RAL 344.68 RAD 8640.0 VEL 11.574 PTH 6.62 VHP 4.677 DPA -13.04 RAP 318.34 ECC 1.2288
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 30 41 2402.49 -2.51 62.31 200.18 137.53 19 10 43 1402.5 15.76 46.32
 60.00 19 57 7 2172.49 3.28 47.17 205.74 130.19 20 33 20 1172.5 18.92 28.47
 70.00 21 57 27 1818.38 10.39 23.76 211.02 122.72 22 27 45 818.4 22.84 2.32
 76.93 0 38 33 1328.21 20.30 351.93 216.54 113.85 1 0 41 328.2 28.34 327.13
 76.93 0 38 33 1328.21 20.30 351.93 216.54 113.85 1 0 41 328.2 28.34 327.13
 76.93 0 38 33 1328.21 20.30 351.93 216.54 113.85 1 0 41 328.2 28.34 327.13
 110.00 3 0 49 6153.24 10.39 290.58 211.02 122.72 4 43 23 5153.2 22.84 269.14

DIFFERENTIAL CORRECTIONS

TDE -.4458 TRA -.8443 TC3 .1619 BAW .0870
 RDE -.2510 RRA -.0729 RC3 .4394 FAU .10865
 FDE .8375 FRA 4.0385 FC3-6.7664 BSP 2940
 BDE .5116 BRA .8474 BC3 .4682 FSP 1241

MID-COURSE EXECUTION ACCURACY

SGT 1664.7 SGR 522.6 SG3 770.1
 RRT .5762 RRF -.6642 RTF -.8378
 SGB 1744.8 R23 -.1817 R13 -.8475
 SG1 1693.6 SG2 419.9 THA 10.93

ORBIT DETERMINATION ACCURACY

ST 41.1 SR 19.4 SS 51.1
 CRT .8851 CRS .5947 CST .8988
 LSA 65.5 MSA 19.4 SSA 1.1
 EL1 44.7 EL2 8.3 ALF 23.53

LAUNCH DATE APR 22 1971

FLIGHT TIME 170.00

ARRIVAL DATE OCT 9 1971

HELIOCENTRIC CONIC

RL 130.37 LAL -.00 LOL 211.23 VL 32.569 GAL -2.37 AZL 92.54 HCA 143.54 SMA 188.40 ECC .20589 INC 2.5364 V1 29.632
RP 207.66 LAP -1.51 LOP 354.80 VP 23.953 GAP 10.35 AZP 87.96 TAL 346.05 TAP 129.59 RCA 149.61 APO 227.19 V2 26.361
RC 85.104 GL -22.91 GP 5.02 ZAL 119.44 ZAP 141.42 ETS 173.59 ZAE 173.10 EYE 96.76 ZAC 105.21 ETC 277.58 LVI -22.39

PLANETOCENTRIC CONIC

C3 13.683 VHL 3.699 DLA -31.39 RAL 344.89 RAD 6639.9 VEL 11.565 PTH 6.61 VHP 4.551 DPA -12.87 RAP 317.96 ECC 1.2252
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 34 17 2387.93 -1.78 61.70 200.41 137.55 19 14 5 1387.9 16.47 45.65
60.00 20 2 12 2153.98 4.10 46.28 206.05 130.13 20 38 6 1154.0 19.66 27.47
70.00 22 6 30 1788.12 11.50 22.12 211.52 122.38 22 36 18 788.1 23.73 .43
75.78 0 31 14 1350.40 20.68 353.78 216.65 114.15 0 53 44 350.4 28.81 328.93
75.78 0 31 14 1350.40 20.68 353.78 216.65 114.15 0 53 44 350.4 28.81 328.93
75.78 0 31 14 1350.40 20.68 353.78 216.65 114.15 0 53 44 350.4 28.81 328.93
110.00 3 9 53 6122.98 11.50 288.94 211.52 122.38 4 51 56 5123.0 23.73 267.25

DIFFERENTIAL CORRECTIONS

TDE -.4396 TRA -.8132 TC3 .1325 BAU .0882 SGT 1628.0 SGR 535.5 SG3 815.8 ST 40.6 SR 19.1 SS 52.5
RDE -.2447 RRA -.0878 RC3 .4637 FAU .11374 RRT .6044 RRF -.7042 RTF -.8308 CRT .8998 CRS .6083 CST .8918
FDE .8676 FRA 4.2331 FC3-7.1968 BSP 2888 SGB 1713.8 R23 -.2088 R13 -.8431 LSA 66.3 MSA 19.5 SSA 1.1
BDE .5031 BRA .8179 BC3 .4823 FSP 1322 SG1 1662.1 SG2 417.8 THA 12.01 EL1 44.2 EL2 7.7 ALF 23.70

LAUNCH DATE APR 22 1971

FLIGHT TIME 172.00

ARRIVAL DATE OCT 11 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.539 GAL -2.34 AZL 92.57 HCA 144.80 SMA 187.87 ECC .20358 INC 2.5733 V1 29.632
RP 207.80 LAP -1.48 LOP 356.05 VP 23.895 GAP 10.07 AZP 87.90 TAL 346.12 TAP 130.92 RCA 149.63 APO 226.12 V2 26.365
RC 86.843 GL -23.42 GP 5.31 ZAL 119.30 ZAP 139.80 ETS 173.59 ZAE 172.75 EYE 104.86 ZAC 105.54 ETC 277.52 LVI -22.57

PLANETOCENTRIC CONIC

C3 13.490 VHL 3.673 DLA -31.86 RAL 345.12 RAD 6639.8 VEL 11.557 PTH 6.60 VHP 4.430 DPA -12.70 RAP 317.54 ECC 1.2220
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 38 2 2373.61 -1.06 61.10 200.69 137.57 19 17 35 1373.6 17.16 44.99
60.00 20 7 31 2135.49 4.91 45.39 206.42 130.05 20 43 6 1135.5 20.40 26.46
70.00 22 16 26 1759.94 12.66 20.36 212.11 121.99 22 45 42 755.9 24.65 358.38
74.69 0 24 38 1370.83 21.05 355.51 216.82 114.47 0 47 29 370.8 29.27 330.60
74.69 0 24 38 1370.83 21.05 355.51 216.82 114.47 0 47 29 370.8 29.27 330.60
74.69 0 24 38 1370.83 21.05 355.51 216.82 114.47 0 47 29 370.8 29.27 330.60
110.00 3 19 48 6090.79 12.66 287.18 212.11 121.99 5 1 19 5090.8 24.65 265.21

DIFFERENTIAL CORRECTIONS

TDE -.4330 TRA -.7785 TC3 .0998 BAU .0901 SGT 1583.0 SGR 551.6 SG3 862.7 ST 40.0 SR 18.8 SS 54.0
RDE -.2387 RRA -.1036 RC3 .4897 FAU .11905 RRT .6295 RRF -.7424 RTF -.8219 CRT .9154 CRS .6238 CST .8837
FDE .8983 FRA 4.4310 FC3-7.6404 BSP 2817 SGB 1676.3 R23 -.2392 R13 -.8379 LSA 66.9 MSA 19.7 SSA 1.1
BDE .4945 BRA .7853 BC3 .4997 FSP 1405 SG1 1623.4 SG2 417.9 THA 13.27 EL1 43.7 EL2 7.0 ALF 23.87

LAUNCH DATE APR 22 1971

FLIGHT TIME 174.00

ARRIVAL DATE OCT 13 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.511 GAL -2.30 AZL 92.61 HCA 146.05 SMA 187.39 ECC .20143 INC 2.6124 V1 29.632
RP 207.94 LAP -1.46 LOP 357.31 VP 23.838 GAP 9.79 AZP 87.83 TAL 346.18 TAP 132.23 RCA 149.64 APO 225.13 V2 26.349
RC 88.618 GL -23.93 GP 5.62 ZAL 119.17 ZAP 136.14 ETS 173.58 ZAE 172.21 EYE 112.55 ZAC 105.90 ETC 277.45 LVI -22.75

PLANETOCENTRIC CONIC

C3 13.323 VHL 3.650 DLA -32.32 RAL 345.37 RAD 6639.7 VEL 11.549 PTH 6.59 VHP 4.315 DPA -12.51 RAP 317.07 ECC 1.2193
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 41 55 2359.51 -.36 60.52 201.02 137.58 19 21 19 1359.5 17.84 44.34
60.00 20 13 4 2116.95 5.72 44.50 206.84 129.96 20 48 21 1117.0 21.13 25.43
70.00 22 27 30 1721.01 13.91 18.42 212.81 121.51 22 56 11 721.0 25.62 356.13
73.65 0 18 40 1389.80 21.42 357.14 217.03 114.80 0 41 50 389.8 29.74 332.17
73.65 0 18 40 1389.80 21.42 357.14 217.03 114.80 0 41 50 389.8 29.74 332.17
73.65 0 18 40 1389.80 21.42 357.14 217.03 114.80 0 41 50 389.8 29.74 332.17
110.00 3 30 52 6035.87 13.91 285.25 212.81 121.51 5 11 48 5035.9 25.62 262.95

DIFFERENTIAL CORRECTIONS

TDE -.4254 TRA -.7418 TC3 .0609 BAU .0928 SGT 1531.9 SGR 571.6 SG3 911.5 ST 39.3 SR 18.6 SS 55.4
RDE -.2330 RRA -.1205 RC3 .5177 FAU .12462 RRT .6503 RRF -.7785 RTF -.8110 CRT .9309 CRS .6402 CST .8743
FDE .9269 FRA 4.6378 FC3-8.0982 BSP 2730 SGB 1635.1 R23 -.2732 R13 -.8321 LSA 67.5 MSA 19.9 SSA 1.1
BDE .4850 BRA .7515 BC3 .5213 FSP 1488 SG1 1379.9 SG2 421.0 THA 14.71 EL1 43.0 EL2 6.2 ALF 24.34

LAUNCH DATE APR 22 1971

FLIGHT TIME 176.00

ARRIVAL DATE OCT 15 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.484 GAL -2.28 AZL 92.65 HCA 147.31 SMA 186.93 ECC .19944 INC 2.6541 V1 29.632
RP 208.08 LAP -1.43 LOP 358.56 VP 23.783 GAP 9.51 AZP 87.77 TAL 346.23 TAP 133.54 RCA 149.65 APO 224.22 V2 26.332
RC 90.421 GL -24.46 GP 5.95 ZAL 119.04 ZAP 136.43 ETS 173.58 ZAE 171.90 EYE 119.31 ZAC 106.29 ETC 277.37 LVI -22.84

PLANETOCENTRIC CONIC

C3 13.181 VHL 3.631 DLA -32.80 RAL 345.64 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 4.205 DPA -12.32 RAP 316.55 ECC 1.2169
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 45 59 2345.59 .34 59.93 201.40 137.58 19 25 5 1345.6 18.51 43.69
60.00 20 18 54 2098.29 6.53 43.60 207.32 129.86 20 53 52 1098.3 21.85 24.39
70.00 22 40 13 1681.91 15.29 16.24 213.65 120.92 23 8 15 681.9 26.65 353.56
72.65 0 13 14 1407.66 21.78 358.69 217.29 115.15 0 36 42 407.7 30.21 333.67
72.65 0 13 14 1407.66 21.78 358.69 217.29 115.15 0 36 42 407.7 30.21 333.67
72.65 0 13 14 1407.66 21.78 358.69 217.29 115.15 0 36 42 407.7 30.21 333.67
110.00 3 43 35 6016.76 15.29 283.06 213.65 120.92 5 23 52 5016.8 26.65 260.38

DIFFERENTIAL CORRECTIONS

TDE -.4174 TRA -.7012 TC3 .0178 BAU .0965 SGT 1472.2 SGR 595.6 SG3 961.2 ST 38.4 SR 18.4 SS 56.8
RDE -.2277 RRA -.1384 RC3 .5474 FAU .13031 RRT .6661 RRF -.8119 RTF -.7973 CRT .9467 CRS .6592 CST .8638
FDE .9579 FRA 4.8485 FC3-8.5589 BSP 2624 SGB 1588.1 R23 -.3098 R13 -.8255 LSA 68.1 MSA 20.1 SSA 1.0
BDE .4755 BRA .7148 BC3 .5477 FSP 1573 SG1 1529.5 SG2 427.6 THA 16.40 EL1 42.2 EL2 5.4 ALF 24.83

LAUNCH DATE APR 22 1971

FLIGHT TIME 178.00

ARRIVAL DATE OCT 17 1971

HELIOCENTRIC CONIC

DISTANCE 442.283

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.460 GAL -2.25 AZL 92.70 MCA 140.56 SMA 106.52 ECC .19760 INC 2.6987 V1 29.632
RP 208.24 LAP -1.41 LOP 359.81 VP 23.729 GAP 9.25 AZP 87.70 TAL 346.27 TAP 134.83 RCA 149.66 APO 223.37 V2 26.313
RC 92.259 GL -24.99 GP 6.31 ZAL 118.92 ZAP 134.69 ETS 173.58 ZAE 170.81 ETE 125.80 ZAC 106.71 ETC 277.26 LVI -23.14

PLANETOCENTRIC CONIC

C3 13.084 VHL 3.614 DLA -33.28 RAL 345.93 RAD 6639.6 VEL 11.538 PTH 6.58 VHP 4.101 DPA -12.11 RAP 315.98 ECC 1.2150
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 50 14 2331.79 1.04 59.36 201.83 137.57 19 29 6 1331.8 19.16 43.04
60.00 20 25 3 2079.39 7.36 42.68 207.87 129.74 20 59 43 1079.4 22.58 23.33
70.00 22 55 33 1635.66 16.89 13.61 214.67 120.13 23 22 48 635.7 27.80 350.45
71.68 0 8 14 1424.78 22.14 .19 217.60 115.50 0 31 58 424.8 30.67 335.12
71.68 0 8 14 1424.78 22.14 .19 217.60 115.50 0 31 58 424.8 30.67 335.12
71.68 0 8 14 1424.78 22.14 .19 217.60 115.50 0 31 58 424.8 30.67 335.12
110.00 3 58 55 5970.52 16.89 280.43 214.67 120.13 5 38 26 4970.5 27.80 257.28

DIFFERENTIAL CORRECTIONS

TDE -.4056 TRA -.6593 TC3 -.0207 BAU .1014
RDE -.2224 RRA -.1573 RC3 .5804 FAU .13655
FDE .9809 FRA 5.0602 FC3-9.0493 BSP 2465
BDE .4626 BRA .6740 BC3 .5808 FSP 1652

MID-COURSE EXECUTION ACCURACY

SGT 1399.2 SGR 624.2 SG3 1012.3
RRR .6774 RRF -.8422 RTF -.7823
SGB 1532.1 R23 -.3447 R13 -.8206
SG1 1468.3 SG2 437.5 THA 18.52

ORBIT DETERMINATION ACCURACY

ST 37.2 SR 18.2 SS 58.1
CRT .9614 CRS .6778 CST .8509
LSA 68.4 MSA 20.3 SSA 1.0
EL1 41.1 EL2 4.5 ALF 25.55

LAUNCH DATE APR 22 1971

FLIGHT TIME 180.00

ARRIVAL DATE OCT 19 1971

HELIOCENTRIC CONIC

DISTANCE 446.374

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.437 GAL -2.23 AZL 92.75 MCA 149.81 SMA 106.13 ECC .19590 INC 2.7464 V1 29.632
RP 208.41 LAP -1.38 LOP 1.06 VP 23.677 GAP 8.99 AZP 87.63 TAL 346.29 TAP 136.10 RCA 149.67 APO 222.59 V2 26.294
RC 94.128 GL -23.55 GP 6.70 ZAL 118.81 ZAP 132.90 ETS 173.57 ZAE 169.57 ETE 130.80 ZAC 107.16 ETC 277.18 LVI -23.35

PLANETOCENTRIC CONIC

C3 12.971 VHL 3.602 DLA -33.76 RAL 346.25 RAD 6639.5 VEL 11.534 PTH 6.58 VHP 4.002 DPA -11.88 RAP 315.36 ECC 1.2133
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 54 42 2318.15 1.72 58.79 202.33 137.55 19 33 20 1318.2 19.81 42.39
60.00 20 31 35 2060.25 8.19 41.75 208.49 129.60 21 5 55 1060.2 23.31 22.23
70.00 23 16 9 1574.38 18.95 10.05 216.02 118.96 23 42 23 574.4 29.20 346.24
70.74 0 3 41 1441.12 22.48 1.63 217.98 115.88 0 27 42 441.1 31.13 336.51
70.74 0 3 41 1441.12 22.48 1.63 217.98 115.88 0 27 42 441.1 31.13 336.51
70.74 0 3 41 1441.12 22.48 1.63 217.98 115.88 0 27 42 441.1 31.13 336.51
110.00 4 19 31 5909.24 18.95 276.87 216.02 118.96 5 58 0 4909.2 29.20 253.06

DIFFERENTIAL CORRECTIONS

TDE -.4065 TRA -.6186 TC3 -.1043 BAU .1076
RDE -.2188 RRA -.1793 RC3 .6118 FAU .14178
FDE 1.0311 FRA 5.3009 FC3-9.4628 BSP 2453
BDE .4616 BRA .6441 BC3 .6206 FSP 1761

MID-COURSE EXECUTION ACCURACY

SGT 1351.0 SGR 658.1 SG3 1065.4
RRR .6728 RRF -.8694 RTF -.7538
SGB 1502.8 R23 -.3971 R13 -.8064
SG1 1430.7 SG2 459.7 THA 20.34

ORBIT DETERMINATION ACCURACY

ST 36.9 SR 18.2 SS 59.9
CRT .9763 CRS .7051 CST .8380
LSA 69.6 MSA 20.6 SSA 1.0
EL1 41.0 EL2 3.5 ALF 25.88

LAUNCH DATE APR 22 1971

FLIGHT TIME 182.00

ARRIVAL DATE OCT 21 1971

HELIOCENTRIC CONIC

DISTANCE 450.476

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.416 GAL -2.22 AZL 92.80 MCA 151.05 SMA 105.78 ECC .19433 INC 2.7979 V1 29.632
RP 208.58 LAP -1.35 LOP 2.31 VP 23.626 GAP 8.73 AZP 87.55 TAL 346.31 TAP 137.36 RCA 149.67 APO 221.88 V2 26.274
RC 96.027 GL -26.12 GP 7.12 ZAL 118.70 ZAP 131.07 ETS 173.57 ZAE 168.38 ETE 135.17 ZAC 107.64 ETC 277.07 LVI -23.58

PLANETOCENTRIC CONIC

C3 12.903 VHL 3.592 DLA -34.26 RAL 346.59 RAD 6639.5 VEL 11.531 PTH 6.58 VHP 3.909 DPA -11.64 RAP 314.69 ECC 1.2123
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 59 25 2304.51 2.41 58.22 202.88 137.53 19 37 50 1304.5 20.46 41.74
60.00 20 36 33 2040.58 9.04 40.79 209.20 129.44 21 12 34 1040.6 24.05 21.10
69.81 23 55 30 1457.18 22.82 3.07 218.41 116.27 24 19 47 457.2 31.60 337.90
69.81 23 55 30 1457.18 22.82 3.07 218.41 116.27 24 19 47 457.2 31.60 337.90
69.81 23 55 30 1457.18 22.82 3.07 218.41 116.27 24 19 47 457.2 31.60 337.90
69.81 23 55 30 1457.18 22.82 3.07 218.41 116.27 24 19 47 457.2 31.60 337.90
69.81 23 55 30 1457.18 22.82 3.07 218.41 116.27 24 19 47 457.2 31.60 337.90

DIFFERENTIAL CORRECTIONS

TDE -.4000 TRA -.5717 TC3 -.1706 BAU .1155
RDE -.2150 RRA -.2021 RC3 .6476 FAU .14777
FDE 1.0694 FRA 5.5320 FC3-9.9151 BSP 2340
BDE .4541 BRA .6064 BC3 .6897 FSP 1853

MID-COURSE EXECUTION ACCURACY

SGT 1280.4 SGR 697.3 SG3 1118.6
RRR .6633 RRF -.8932 RTF -.1.35
SGB 1498.0 R23 -.4393 R13 -.7971
SG1 1374.5 SG2 486.1 THA 22.88

ORBIT DETERMINATION ACCURACY

ST 35.9 SR 18.1 SS 61.4
CRT .9879 CRS .7304 CST .8220
LSA 70.4 MSA 20.9 SSA .9
EL1 40.2 EL2 2.5 ALF 26.60

LAUNCH DATE APR 22 1971

FLIGHT TIME 184.00

ARRIVAL DATE OCT 23 1971

HELIOCENTRIC CONIC

DISTANCE 454.588

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.397 GAL -2.20 AZL 92.85 MCA 152.30 SMA 105.45 ECC .19289 INC 2.8534 V1 29.632
RP 208.76 LAP -1.33 LOP 3.55 VP 23.576 GAP 8.48 AZP 87.47 TAL 346.30 TAP 138.60 RCA 149.68 APO 221.22 V2 26.254
RC 97.955 GL -26.71 GP 7.57 ZAL 118.60 ZAP 129.19 ETS 173.58 ZAE 167.07 ETE 138.82 ZAC 108.17 ETC 276.95 LVI -23.82

PLANETOCENTRIC CONIC

C3 12.859 VHL 3.588 DLA -34.76 RAL 346.97 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.822 DPA -11.37 RAP 313.97 ECC 1.2116
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 4 25 2290.83 3.09 57.65 203.80 137.50 19 42 36 1290.8 21.10 41.08
60.00 20 46 3 2020.20 9.92 39.78 209.99 129.26 21 19 43 1020.2 24.81 19.91
68.89 23 51 34 1472.94 23.16 4.48 218.91 116.68 24 16 7 472.9 32.07 339.27
68.89 23 51 34 1472.94 23.16 4.48 218.91 116.68 24 16 7 472.9 32.07 339.27
68.89 23 51 34 1472.94 23.16 4.48 218.91 116.68 24 16 7 472.9 32.07 339.27
68.89 23 51 34 1472.94 23.16 4.48 218.91 116.68 24 16 7 472.9 32.07 339.27
68.89 23 51 34 1472.94 23.16 4.48 218.91 116.68 24 16 7 472.9 32.07 339.27

DIFFERENTIAL CORRECTIONS

TDE -.3941 TRA -.5219 TC3 -.2476 BAU .1252
RDE -.2118 RRA -.2268 RC3 .6852 FAU .15361
FDE 1.1098 FRA 5.7658 FC-10.3418 BSP 2238
BDE .4474 BRA .5691 BC3 .7286 FSP 1950

MID-COURSE EXECUTION ACCURACY

SGT 1207.7 SGR 742.0 SG3 1171.7
RRR .6401 RRF -.9135 RTF -.6828
SGB 1417.4 R23 -.4803 R13 -.7874
SG1 1317.6 SG2 522.5 THA 25.82

ORBIT DETERMINATION ACCURACY

ST 35.0 SR 18.2 SS 62.9
CRT .9958 CRS .7570 CST .8031
LSA 71.1 MSA 21.2 SSA .9
EL1 39.4 EL2 1.5 ALF 27.41

LAUNCH DATE APR 22 1971

FLIGHT TIME 186.00

ARRIVAL DATE OCT 25 1971

HELIOCENTRIC CONIC

DISTANCE 458.709

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.379 GAL -2.19 AZL 92.91 HCA 153.34 SMA 185.15 ECC .19157 INC 2.9136 V1 29.632
RP 208.94 LAP -1.30 LOP 4.80 VP 23.528 GAP 8.24 AZP 87.39 TAL 346.29 TAP 139.83 RCA 149.68 APO 220.62 V2 26.232
RC 99.910 GL -27.32 GP 8.06 ZAL 118.50 ZAP 127.28 ETS 173.59 ZAE 165.63 ETE 141.84 ZAC 108.74 ETC 276.83 LVI -24.0P

PLANETOCENTRIC CONIC

C3 12.840 VHL 3.583 DLA -35.28 RAL 347.38 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.740 DPA -11.07 RAP 313.21 ECC 1.2113
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 9 44 2277.03 3.79 57.07 204.20 137.46 19 47 41 1277.0 21.75 40.40
60.00 20 54 10 1998.88 10.84 38.73 210.88 129.06 21 27 29 998.9 25.59 18.64
67.96 23 47 54 1488.58 23.49 5.90 219.47 117.12 24 12 43 488.6 32.54 340.65
67.96 23 47 54 1488.58 23.49 5.90 219.47 117.12 24 12 43 488.6 32.54 340.65
67.96 23 47 54 1488.58 23.49 5.90 219.47 117.12 24 12 43 488.6 32.54 340.65
67.96 23 47 54 1488.58 23.49 5.90 219.47 117.12 24 12 43 488.6 32.54 340.65
67.96 23 47 54 1488.58 23.49 5.90 219.47 117.12 24 12 43 488.6 32.54 340.65

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3875 TRA -.4687 TC3 -.3276 BAU .1367 SGT 1132.3 SGR 793.1 S63 1224.9 ST 33.9 SR 18.3 SS 64.3
RDE -.2089 RRA -.2536 RC3 .7260 FAU .15964 RRT .6024 RRF -.9307 RTF -.6303 CRT .9986 CRS .7837 CST .7805
FDE 1.1490 FRA 5.9999 FC-10.7842 BSP 2130 SGB 1382.4 R23 -.5133 R13 -.7812 LSA 71.8 MSA 21.5 S5A .8
BDE .4403 BRA .5329 BC3 .7965 FSP 2042 SG1 1259.9 S62 568.9 THA 29.44 EL1 38.5 EL2 .9 ALF 28.35

LAUNCH DATE APR 22 1971

FLIGHT TIME 188.00

ARRIVAL DATE OCT 27 1971

HELIOCENTRIC CONIC

DISTANCE 462.830

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.362 GAL -2.18 AZL 92.98 HCA 154.78 SMA 184.88 ECC .19037 INC 2.9792 V1 29.632
RP 209.14 LAP -1.27 LOP 6.04 VP 23.480 GAP 8.00 AZP 87.30 TAL 346.26 TAP 141.05 RCA 149.68 APO 220.07 V2 26.209
RC 101.892 GL -27.97 GP 8.60 ZAL 118.41 ZAP 125.32 ETS 173.61 ZAE 164.09 ETE 144.34 ZAC 109.35 ETC 276.70 LVI -24.37

PLANETOCENTRIC CONIC

C3 12.846 VHL 3.584 DLA -35.82 RAL 347.83 RAD 6639.5 VEL 11.529 PTH 6.58 VHP 3.664 DPA -10.74 RAP 312.39 ECC 1.2114
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 15 27 2262.96 4.49 56.48 204.98 137.41 19 53 10 1263.0 22.41 39.71
60.00 21 3 5 1976.22 11.81 37.60 211.89 128.82 21 36 1 976.2 26.41 17.28
67.03 23 44 29 1504.28 23.82 7.33 220.11 117.59 24 9 34 504.3 33.03 342.05
67.03 23 44 29 1504.28 23.82 7.33 220.11 117.59 24 9 34 504.3 33.03 342.05
67.03 23 44 29 1504.28 23.82 7.33 220.11 117.59 24 9 34 504.3 33.03 342.05
67.03 23 44 29 1504.28 23.82 7.33 220.11 117.59 24 9 34 504.3 33.03 342.05
67.03 23 44 29 1504.28 23.82 7.33 220.11 117.59 24 9 34 504.3 33.03 342.05

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3768 TRA -.4068 TC3 -.3975 BAU .1491 SGT 1042.7 SGR 850.6 S63 1276.6 ST 32.4 SR 18.5 SS 65.5
RDE -.2061 RRA -.2818 RC3 .7721 FAU .16630 RRT .5483 RRF -.9450 RTF -.5631 CRT .9944 CRS .8092 CST .7517
FDE 1.1793 FRA 6.2164 FC-11.2D73 BSP 1983 SGB 1345.6 R23 -.5242 R13 -.7881 LSA 72.2 MSA 21.8 S5A .8
BDE .4295 BRA .4948 BC3 .8684 FSP 2120 SG1 1193.5 S62 621.4 THA 34.75 EL1 37.3 EL2 1.7 ALF 28.60

LAUNCH DATE APR 22 1971

FLIGHT TIME 190.00

ARRIVAL DATE OCT 29 1971

HELIOCENTRIC CONIC

DISTANCE 466.975

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.347 GAL -2.18 AZL 93.05 HCA 156.02 SMA 184.63 ECC .18928 INC 3.0503 V1 29.632
RP 209.34 LAP -1.24 LOP 7.28 VP 23.433 GAP 7.76 AZP 87.21 TAL 346.22 TAP 142.24 RCA 149.68 APO 219.57 V2 26.188
RC 103.900 GL -28.64 GP 9.18 ZAL 118.32 ZAP 123.33 ETS 173.63 ZAE 162.45 ETE 146.39 ZAC 110.01 ETC 276.55 LVI -24.69

PLANETOCENTRIC CONIC

C3 12.881 VHL 3.589 DLA -36.38 RAL 348.32 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 3.594 DPA -10.36 RAP 311.53 ECC 1.2120
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 21 36 2248.60 5.21 55.87 205.86 137.36 19 59 5 1248.6 23.07 39.00
60.00 21 12 57 1931.90 12.84 36.38 213.04 128.53 21 45 29 951.9 27.27 15.80
66.09 23 41 20 1520.07 24.14 8.78 220.84 118.09 24 6 40 520.1 33.52 343.47
66.09 23 41 20 1520.07 24.14 8.78 220.84 118.09 24 6 40 520.1 33.52 343.47
66.09 23 41 20 1520.07 24.14 8.78 220.84 118.09 24 6 40 520.1 33.52 343.47
66.09 23 41 20 1520.07 24.14 8.78 220.84 118.09 24 6 40 520.1 33.52 343.47
66.09 23 41 20 1520.07 24.14 8.78 220.84 118.09 24 6 40 520.1 33.52 343.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3774 TRA -.3538 TC3 -.3107 BAU .1658 SGT 994.8 SGR 916.5 S63 1329.7 ST 31.9 SR 18.9 SS 67.4
RDE -.2059 RRA -.3150 RC3 .8148 FAU .17121 RRT .4628 RRF -.9369 RTF -.4085 CRT .9815 CRS .8388 CST .7237
FDE 1.2444 FRA 6.4716 FC-11.5070 BSP 1980 SGB 1352.6 R23 -.5345 R13 -.7943 LSA 73.6 MSA 22.3 S5A .8
BDE .4300 BRA .4737 BC3 .9614 FSP 2233 SG1 1159.0 S62 697.3 THA 39.97 EL1 37.0 EL2 3.1 ALF 30.46

LAUNCH DATE APR 22 1971

FLIGHT TIME 192.00

ARRIVAL DATE OCT 31 1971

HELIOCENTRIC CONIC

DISTANCE 471.119

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.334 GAL -2.18 AZL 93.13 HCA 157.28 SMA 184.40 ECC .18829 INC 3.1298 V1 29.632
RP 209.55 LAP -1.21 LOP 8.51 VP 23.387 GAP 7.53 AZP 87.11 TAL 346.17 TAP 143.42 RCA 149.68 APO 219.12 V2 26.182
RC 105.933 GL -29.38 GP 9.82 ZAL 118.22 ZAP 121.30 ETS 173.67 ZAE 160.71 ETE 148.08 ZAC 110.74 ETC 276.41 LVI -25.04

PLANETOCENTRIC CONIC

C3 12.945 VHL 3.590 DLA -36.97 RAL 348.86 RAD 6639.5 VEL 11.533 PTH 6.58 VHP 3.530 DPA -9.94 RAP 310.63 ECC 1.2130
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 28 18 2233.68 5.96 55.24 206.85 137.29 20 5 31 1233.7 23.76 38.24
60.00 21 24 5 1925.00 13.98 35.01 214.36 128.19 21 56 10 925.0 28.20 14.13
65.12 23 38 21 1536.29 24.46 10.28 221.66 118.63 24 3 57 536.3 34.03 344.95
65.12 23 38 21 1536.29 24.46 10.28 221.66 118.63 24 3 57 536.3 34.03 344.95
65.12 23 38 21 1536.29 24.46 10.28 221.66 118.63 24 3 57 536.3 34.03 344.95
65.12 23 38 21 1536.29 24.46 10.28 221.66 118.63 24 3 57 536.3 34.03 344.95
65.12 23 38 21 1536.29 24.46 10.28 221.66 118.63 24 3 57 536.3 34.03 344.95

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3700 TRA -.2887 TC3 -.6024 BAU .1824 SGT 930.7 SGR 989.4 S63 1379.1 ST 30.7 SR 19.4 SS 68.6
RDE -.2050 RRA -.3495 RC3 .8647 FAU .17716 RRT .3514 RRF -.9865 RTF -.3491 CRT .9575 CRS .8638 CST .6850
FDE 1.2854 FRA 6.6915 FC-11.8478 BSP 1922 SGB 1358.4 R23 -.4758 R13 -.8413 LSA 74.3 MSA 22.7 S5A .7
BDE .4230 BRA .4533 BC3 1.0538 FSP 2314 SG1 1118.5 S62 770.8 THA 49.94 EL1 36.0 EL2 4.8 ALF 31.81

LAUNCH DATE APR 22 1971

FLIGHT TIME 194.00

ARRIVAL DATE NOV 2 1971

HELIOCENTRIC CONIC

DISTANCE 475.269

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.321 GAL -2.18 AZL 93.22 HCA 158.49 SMA 184.10 ECC .18741 INC 3.2171 V1 29.632
RP 209.76 LAP -1.18 LOP 9.75 VP 23.342 GAP 7.30 AZP 87.01 TAL 346.10 TAP 144.59 RCA 149.68 APO 218.71 V2 26.137
RC 107.990 GL -30.13 GP 10.52 ZAL 118.12 ZAP 119.24 ETS 173.71 ZAE 158.89 ETE 149.44 ZAC 111.52 ETC 276.25 LVI -25.44

PLANETOCENTRIC CONIC

C3 13.041 VHL 3.611 DLA -37.59 RAL 349.45 RAD 6639.6 VEL 11.537 PTH 6.58 VHP 3.471 DPA -9.46 RAP 309.68 ECC 1.2146
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 35 38 2218.06 6.74 54.58 207.96 137.21 20 12 36 1218.1 24.48 37.45
60.00 21 36 56 1894.53 15.26 33.45 215.89 127.77 22 8 31 894.5 29.22 12.20
64.13 23 35 34 1552.93 24.78 11.83 222.58 119.22 24 1 27 552.9 34.56 346.48
64.13 23 35 34 1552.93 24.78 11.83 222.58 119.22 24 1 27 552.9 34.56 346.48
64.13 23 35 34 1552.93 24.78 11.83 222.58 119.22 24 1 27 552.9 34.56 346.48
64.13 23 35 34 1552.93 24.78 11.83 222.58 119.22 24 1 27 552.9 34.56 346.48

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3664 TRA -.2235 TC3 -.7098 BAU .2019 SGT 895.0 SGR 1071.5 S63 1426.9 ST 29.8 SR 20.1 S8 70.2
RDE -.2062 RRA -.3884 RC3 .9147 FAU .18211 RRT .2079 RRF -.9742 RTF -.2005 CRT .9212 CRS .8887 CST .8425
FDE 1.3449 FRA 6.9193 FC-12.0899 BSP 1945 SGB 1396.2 R23 -.3196 R13 -.9203 LSA 75.4 MSA 23.2 S8A .7
BDE .4204 BRA .4481 BC3 1.1579 FSP 2408 S61 1113.1 S62 842.8 THA 65.52 EL1 35.4 EL2 6.6 ALF 33.14

LAUNCH DATE APR 22 1971

FLIGHT TIME 196.00

ARRIVAL DATE NOV 4 1971

HELIOCENTRIC CONIC

DISTANCE 479.425

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.310 GAL -2.19 AZL 93.31 HCA 159.72 SMA 184.01 ECC .18662 INC 3.3143 V1 29.632
RP 209.99 LAP -1.15 LOP 10.98 VP 23.298 GAP 7.08 AZP 86.89 TAL 346.02 TAP 145.74 RCA 149.67 APO 218.35 V2 26.111
RC 110.071 GL -30.95 GP 11.29 ZAL 118.01 ZAP 117.15 ETS 173.78 ZAE 156.98 ETE 150.54 ZAC 112.38 ETC 276.09 LVI -25.89

PLANETOCENTRIC CONIC

C3 13.172 VHL 3.629 DLA -38.23 RAL 350.10 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 3.419 DPA -8.92 RAP 308.69 ECC 1.2168
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 43 45 2201.45 7.57 53.88 209.22 137.11 20 20 27 1201.4 25.24 36.59
60.00 21 52 14 1858.53 16.75 31.58 217.70 127.21 22 23 13 858.5 30.39 9.87
63.09 23 32 58 1570.21 25.10 13.45 223.62 119.87 23 59 8 570.2 35.11 348.09
63.09 23 32 58 1570.21 25.10 13.45 223.62 119.87 23 59 8 570.2 35.11 348.09
63.09 23 32 58 1570.21 25.10 13.45 223.62 119.87 23 59 8 570.2 35.11 348.09
63.09 23 32 58 1570.21 25.10 13.45 223.62 119.87 23 59 8 570.2 35.11 348.09

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3621 TRA -.1534 TC3 -.8167 BAU .2231 SGT 879.4 SGR 1163.1 S63 1471.2 ST 29.0 SR 21.0 S8 71.6
RDE -.2083 RRA -.4309 RC3 .9688 FAU .18697 RRT .0374 RRF -.9804 RTF -.0267 CRT .8705 CRS .9107 CST .9912
FDE 1.4031 FRA 7.1304 FC-12.2881 BSP 2009 SGB 1458.2 R23 -.0584 R13 -.9787 LSA 76.4 MSA 23.7 S8A .6
BDE .4177 BRA .4574 BC3 1.2671 FSP 2490 S61 1184.2 S62 878.0 THA 86.24 EL1 34.7 EL2 8.6 ALF 34.67

LAUNCH DATE APR 22 1971

FLIGHT TIME 198.00

ARRIVAL DATE NOV 6 1971

HELIOCENTRIC CONIC

DISTANCE 483.585

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.300 GAL -2.19 AZL 93.42 HCA 160.95 SMA 183.84 ECC .18592 INC 3.4231 V1 29.632
RP 210.22 LAP -1.12 LOP 12.20 VP 23.254 GAP 6.86 AZP 86.76 TAL 345.92 TAP 146.87 RCA 149.66 APO 218.02 V2 26.085
RC 112.177 GL -31.84 GP 12.14 ZAL 117.88 ZAP 115.04 ETS 173.86 ZAE 155.00 ETE 151.40 ZAC 113.32 ETC 275.93 LVI -26.40

PLANETOCENTRIC CONIC

C3 13.344 VHL 3.653 DLA -38.97 RAL 350.82 RAD 6639.7 VEL 11.550 PTH 6.60 VHP 3.374 DPA -8.29 RAP 307.66 ECC 1.2196
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 19 52 51 2183.53 8.46 53.11 210.67 137.00 20 29 15 1183.5 26.04 35.65
60.00 22 11 30 1813.05 18.60 29.17 219.93 128.42 22 41 43 813.1 31.80 6.83
61.99 23 30 32 1588.30 25.43 15.16 224.80 120.58 23 57 0 588.3 35.69 349.80
61.99 23 30 32 1588.30 25.43 15.16 224.80 120.58 23 57 0 588.3 35.69 349.80
61.99 23 30 32 1588.30 25.43 15.16 224.80 120.58 23 57 0 588.3 35.69 349.80
61.99 23 30 32 1588.30 25.43 15.16 224.80 120.58 23 57 0 588.3 35.69 349.80

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3585 TRA -.0797 TC3 -.9250 BAU .2484 SGT 893.7 SGR 1265.7 S63 1511.6 ST 28.2 SR 22.1 S8 72.9
RDE -.2121 RRA -.4779 RC3 1.0259 FAU .19141 RRT -.1434 RRF -.9852 RTF .0073 CRT .8045 CRS .9302 CST .9318
FDE 1.4875 FRA 7.3272 FC-12.4178 BSP 2138 SGB 1549.4 R23 .1175 R13 -.9783 LSA 77.6 MSA 24.2 S8A .6
BDE .4166 BRA .4845 BC3 1.3813 FSP 2586 S61 1278.4 S62 875.4 THA 101.14 EL1 34.2 EL2 10.8 ALF 36.40

LAUNCH DATE APR 22 1971

FLIGHT TIME 200.00

ARRIVAL DATE NOV 8 1971

HELIOCENTRIC CONIC

DISTANCE 487.751

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.291 GAL -2.21 AZL 93.55 HCA 162.17 SMA 183.69 ECC .18931 INC 3.5461 V1 29.632
RP 210.45 LAP -1.09 LOP 13.43 VP 23.211 GAP 6.65 AZP 86.62 TAL 345.81 TAP 147.98 RCA 149.65 APO 217.74 V2 26.058
RC 114.307 GL -32.82 GP 13.10 ZAL 117.74 ZAP 112.90 ETS 173.96 ZAE 152.93 ETE 152.05 ZAC 114.36 ETC 275.76 LVI -26.99

PLANETOCENTRIC CONIC

C3 13.583 VHL 3.883 DLA -39.74 RAL 351.62 RAD 6639.8 VEL 11.560 PTH 6.60 VHP 3.335 DPA -7.57 RAP 306.59 ECC 1.2232
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 20 3 11 2163.85 9.44 52.27 212.33 136.85 20 39 14 1163.9 26.93 34.61
60.00 22 59 4 1746.31 21.26 25.52 222.92 128.08 23 8 11 746.3 33.71 2.21
60.83 23 28 17 1607.37 25.76 16.98 226.13 121.37 23 55 4 607.4 36.30 351.64
60.83 23 28 17 1607.37 25.76 16.98 226.13 121.37 23 55 4 607.4 36.30 351.64
60.83 23 28 17 1607.37 25.76 16.98 226.13 121.37 23 55 4 607.4 36.30 351.64
60.83 23 28 17 1607.37 25.76 16.98 226.13 121.37 23 55 4 607.4 36.30 351.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.3541 TRA -.0011 TC3-1.0317 BAU .2717 SGT 938.6 SGR 1379.5 S63 1545.8 ST 27.6 SR 23.4 S8 74.1
RDE -.2173 RRA -.5296 RC3 1.0868 FAU .19545 RRT -.3242 RRF -.9890 RTF .3358 CRT .7217 CRS .9466 CST .4611
FDE 1.5292 FRA 7.4962 FC-12.4752 BSP 2318 SGB 1668.6 R23 .1909 R13 -.9705 LSA 78.6 MSA 24.8 S8A .5
BDE .4155 BRA .5296 BC3 1.4985 FSP 2626 S61 1433.0 S62 854.8 THA 109.70 EL1 33.6 EL2 13.3 ALF 38.49

LAUNCH DATE APR 22 1971

FLIGHT TIME 202.00

ARRIVAL DATE NOV 10 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.283 GAL -2.22 AZL 93.69 HCA 183.39 SMA 183.56 ECC .18479 INC 3.6863 V1 29.632
 RP 210.70 LAP -1.05 LOP 14.65 VP 23.169 GAP 6.44 AZP 86.47 TAL 345.69 TAP 149.08 RCA 149.64 APO 217.48 V2 26.030
 RC 116.480 GL -33.89 GP 14.16 ZAL 117.56 ZAP 110.75 ETS 174.08 ZAE 150.78 EYE 152.51 ZAC 115.51 ETC 275.59 LVI -27.67

DISTANCE 491.920

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.839 VHL 3.720 DLA -40.58 RAL 352.32 RAD 6640.0 VEL 11.572 PTH 6.62 VHP 3.304 DPA -6.74 RAP 305.49 ECC 1.2278
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 15 4 2141.79 10.53 51.32 214.26 136.67 20 50 46 1141.8 27.90 33.41
 59.58 23 26 12 1627.75 26.09 18.94 227.65 122.27 23 53 20 627.7 36.95 353.63
 59.58 23 26 12 1627.75 26.09 18.94 227.65 122.27 23 53 20 627.7 36.95 353.63
 59.58 23 26 12 1627.75 26.09 18.94 227.65 122.27 23 53 20 627.7 36.95 353.63
 59.58 23 26 12 1627.75 26.09 18.94 227.65 122.27 23 53 20 627.7 36.95 353.63
 59.58 23 26 12 1627.75 26.09 18.94 227.65 122.27 23 53 20 627.7 36.95 353.63
 59.58 23 26 12 1627.75 26.09 18.94 227.65 122.27 23 53 20 627.7 36.95 353.63

DIFFERENTIAL CORRECTIONS

TDE -.3511 TRA .0809 TC3-1.1380 BAU .2993
 RDE -.2257 RRA -.5877 RC3 1.1495 FAU .19862
 FDE 1.6065 FRA 7.6451 FC-12.4249 BSP 2570
 BDE .4174 BRA .5933 BC3 1.6175 FSP 2684

MID-COURSE EXECUTION ACCURACY

SGT 1018.0 SGR 1507.6 SG3 1574.2
 RRT -.4768 RRF -.9919 RTF .4871
 SGB 1819.1 R23 .2156 R13 -.9683
 SG1 1616.3 SG2 834.6 THA 114.90

ORBIT DETERMINATION ACCURACY

ST 27.2 SR 25.0 SS 75.3
 CRT .6252 CRS .9605 CST .3842
 LSA 79.9 MSA 25.4 SSA .5
 EL1 33.3 EL2 15.9 ALF 41.13

LAUNCH DATE APR 22 1971

FLIGHT TIME 204.00

ARRIVAL DATE NOV 12 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.276 GAL -2.24 AZL 93.85 HCA 164.61 SMA 183.45 ECC .18435 INC 3.8479 V1 29.632
 RP 210.95 LAP -1.02 LOP 15.87 VP 23.127 GAP 6.23 AZP 86.29 TAL 345.55 TAP 150.16 RCA 149.63 APO 217.27 V2 26.001
 RC 118.637 GL -35.08 GP 15.37 ZAL 117.35 ZAP 108.58 ETS 174.23 ZAE 148.56 ETE 152.79 ZAC 116.80 ETC 275.42 LVI -28.47

DISTANCE 496.092

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.184 VHL 3.766 DLA -41.52 RAL 353.55 RAD 6640.1 VEL 11.586 PTH 6.63 VHP 3.281 DPA -5.76 RAP 304.35 ECC 1.2334
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 29 4 2116.44 11.79 50.21 216.56 136.44 21 4 20 1116.4 29.01 32.01
 58.23 23 24 21 1649.60 26.42 21.06 229.40 123.28 23 51 51 649.6 37.65 355.81
 58.23 23 24 21 1649.60 26.42 21.06 229.40 123.28 23 51 51 649.6 37.65 355.81
 58.23 23 24 21 1649.60 26.42 21.06 229.40 123.28 23 51 51 649.6 37.65 355.81
 58.23 23 24 21 1649.60 26.42 21.06 229.40 123.28 23 51 51 649.6 37.65 355.81
 58.23 23 24 21 1649.60 26.42 21.06 229.40 123.28 23 51 51 649.6 37.65 355.81
 58.23 23 24 21 1649.60 26.42 21.06 229.40 123.28 23 51 51 649.6 37.65 355.81

DIFFERENTIAL CORRECTIONS

TDE -.3480 TRA .1673 TC3-1.2399 BAU .3289
 RDE -.2377 RRA -.6336 RC3 1.2126 FAU .20058
 FDE 1.6945 FRA 7.7697 FC-12.2427 BSP 2889
 BDE .4215 BRA .6747 BC3 1.7343 FSP 2734

MID-COURSE EXECUTION ACCURACY

SGT 1126.1 SGR 1652.0 SG3 1595.3
 RRT -.5983 RRF -.9941 RTF .8066
 SGB 1999.3 R23 .2191 R13 -.9698
 SG1 1824.8 SG2 816.9 THA 118.36

ORBIT DETERMINATION ACCURACY

ST 27.0 SR 26.9 SS 76.5
 CRT .5159 CRS .9718 CST .2999
 LSA 81.4 MSA 26.1 SSA .4
 EL1 33.2 EL2 18.8 ALF 44.88

LAUNCH DATE APR 22 1971

FLIGHT TIME 206.00

ARRIVAL DATE NOV 14 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.270 GAL -2.25 AZL 94.04 HCA 165.83 SMA 183.35 ECC .18398 INC 4.0358 V1 29.632
 RP 211.20 LAP -.99 LOP 17.09 VP 23.085 GAP 6.03 AZP 86.09 TAL 345.40 TAP 151.23 RCA 149.62 APO 217.08 V2 25.972
 RC 120.836 GL -36.41 GP 16.74 ZAL 117.09 ZAP 106.41 ETS 174.42 ZAE 146.24 ETE 152.90 ZAC 118.26 ETC 275.25 LVI -29.41

DISTANCE 500.266

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.616 VHL 3.823 DLA -42.57 RAL 354.72 RAD 6640.3 VEL 11.605 PTH 6.65 VHP 3.268 DPA -4.62 RAP 303.17 ECC 1.2405
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 20 45 57 2086.32 13.27 48.89 219.34 136.12 21 20 43 1086.3 30.30 30.31
 56.75 23 22 47 1673.30 26.74 23.38 231.42 124.44 23 50 40 673.3 38.41 358.22
 56.75 23 22 47 1673.30 26.74 23.38 231.42 124.44 23 50 40 673.3 38.41 358.22
 56.75 23 22 47 1673.30 26.74 23.38 231.42 124.44 23 50 40 673.3 38.41 358.22
 56.75 23 22 47 1673.30 26.74 23.38 231.42 124.44 23 50 40 673.3 38.41 358.22
 56.75 23 22 47 1673.30 26.74 23.38 231.42 124.44 23 50 40 673.3 38.41 358.22
 56.75 23 22 47 1673.30 26.74 23.38 231.42 124.44 23 50 40 673.3 38.41 358.22

DIFFERENTIAL CORRECTIONS

TDE -.3449 TRA .2582 TC3-1.3334 BAU .3813
 RDE -.2537 RRA -.7270 RC3 1.2810 FAU .20214
 FDE 1.7862 FRA 7.8414 FC-11.9731 BSP 3250
 BDE .4282 BRA .7714 BC3 1.8490 FSP 2751

MID-COURSE EXECUTION ACCURACY

SGT 1258.1 SGR 1814.4 SG3 1606.1
 RRT -.6918 RRF -.9958 RTF .1.84
 SGB 2207.9 R23 .2123 R13 -.9730
 SG1 2057.4 SG2 801.1 THA 120.79

ORBIT DETERMINATION ACCURACY

ST 27.1 SR 29.3 SS 77.5
 CRT .3969 CRS .9804 CST .2089
 LSA 82.9 MSA 26.8 SSA .4
 EL1 33.4 EL2 21.8 ALF 50.55

LAUNCH DATE APR 22 1971

FLIGHT TIME 208.00

ARRIVAL DATE NOV 16 1971

HELIOCENTRIC CONIC

RL 150.37 LAL -.00 LOL 211.23 VL 32.265 GAL -2.28 AZL 94.26 HCA 187.04 SMA 183.26 ECC .18368 INC 4.2577 V1 29.632
 RP 211.46 LAP -.85 LOP 18.30 VP 23.044 GAP 5.83 AZP 85.85 TAL 345.24 TAP 152.28 RCA 149.60 APO 216.92 V2 25.942
 RC 123.058 GL -37.93 GP 18.31 ZAL 116.75 ZAP 104.24 ETS 174.65 ZAE 143.83 EYE 152.83 ZAC 119.91 ETC 275.09 LVI -30.53

DISTANCE 504.446

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.163 VHL 3.894 DLA -43.75 RAL 356.07 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 3.265 DPA -3.27 RAP 301.97 ECC 1.2495
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 7 3 2048.88 15.10 47.21 222.81 135.67 21 41 14 1048.9 31.87 28.12
 55.12 23 21 36 1699.22 27.06 25.94 233.80 125.78 23 49 55 699.2 39.23 .92
 55.12 23 21 36 1699.22 27.06 25.94 233.80 125.78 23 49 55 699.2 39.23 .92
 55.12 23 21 36 1699.22 27.06 25.94 233.80 125.78 23 49 55 699.2 39.23 .92
 55.12 23 21 36 1699.22 27.06 25.94 233.80 125.78 23 49 55 699.2 39.23 .92
 55.12 23 21 36 1699.22 27.06 25.94 233.80 125.78 23 49 55 699.2 39.23 .92
 55.12 23 21 36 1699.22 27.06 25.94 233.80 125.78 23 49 55 699.2 39.23 .92

DIFFERENTIAL CORRECTIONS

TDE -.3419 TRA .3534 TC3-1.4175 BAU .3968
 RDE -.2766 RRA -.8108 RC3 1.3488 FAU .20218
 FDE 1.8971 FRA 7.8655 FC-11.5435 BSP 3677
 BDE .4398 BRA .8845 BC3 1.9566 FSP 2760

MID-COURSE EXECUTION ACCURACY

SGT 1410.7 SGR 1999.0 SG3 1605.4
 RRT -.7601 RRF -.9971 RTF .7650
 SGB 2446.6 R23 .2012 R13 -.9766
 SG1 2315.1 SG2 791.5 THA 122.46

ORBIT DETERMINATION ACCURACY

ST 27.4 SR 32.1 SS 78.5
 CRT .2747 CRS .9870 CST .1172
 LSA 84.8 MSA 27.5 SSA .4
 EL1 34.2 EL2 24.7 ALF 59.94

LAUNCH DATE APR 22 1971 FLIGHT TIME 210.00 ARRIVAL DATE NOV 18 1971

HELIOCENTRIC CONIC DISTANCE 508.829 EARTH TO MARS
 RL 150.37 LAL -.00 LOL 211.23 VL 32.260 GAL -2.30 AZL 94.52 HCA 168.25 SMA 183.19 ECC .18346 INC 4.5238 V1 29.632
 RP 211.73 LAP -.92 LOP 19.51 VP 23.003 GAP 5.63 AZP 85.57 TAL 345.06 TAP 153.31 RCA 149.58 APO 216.80 V2 25.911
 RC 125.302 GL -39.67 GP 20.14 ZAL 116.33 ZAP 102.07 ETS 174.93 ZAE 141.31 ETE 192.59 ZAC 121.82 ETC 274.95 LVI -31.87
 PLANETOCENTRIC CONIC
 C3 15.863 VHL 3.983 DLA -48.09 RAL 357.67 RAD 6640.9 VEL 11.658 PTH 6.70 VHP 3.278 DPA -1.67 RAP 300.73 ECC 1.2611
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 21 35 12 1990.59 17.54 44.92 227.35 134.97 22 8 31 998.6 33.91 25.05
 53.29 23 20 55 1727.97 27.36 28.80 236.61 127.36 23 49 43 728.0 40.11 4.00
 53.29 23 20 55 1727.97 27.36 28.80 236.61 127.36 23 49 43 728.0 40.11 4.00
 53.29 23 20 55 1727.97 27.36 28.80 236.61 127.36 23 49 43 728.0 40.11 4.00
 53.29 23 20 55 1727.97 27.36 28.80 236.61 127.36 23 49 43 728.0 40.11 4.00
 53.29 23 20 55 1727.97 27.36 28.80 236.61 127.36 23 49 43 728.0 40.11 4.00
 53.29 23 20 55 1727.97 27.36 28.80 236.61 127.36 23 49 43 728.0 40.11 4.00
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3383 TRA .4537 TC3-1.4864 BAU .4354 SGT 1579.1 SGR 2209.4 SG3 1589.8 ST 28.1 SR 35.6 SS 79.4
 RDE -.3089 RRA -.9064 RC3 1.4164 FAU .20080 RRT -.8103 RRF -.9980 RTF .8138 CRT .1538 CRS .9918 CST .0270
 FDE 2.0283 FRA 7.8192 FC-10.9588 BSP 4155 SGB 2715.6 R23 .1878 R13 -.9802 LSA 86.9 HSA 28.3 SSA .3
 BDE .4581 BRA 1.0136 BC3 2.0532 FSP 2737 SG1 2599.3 SG2 786.5 THA 123.55 EL1 36.2 EL2 27.2 ALF 73.61

LAUNCH DATE APR 22 1971 FLIGHT TIME 212.00 ARRIVAL DATE NOV 20 1971

HELIOCENTRIC CONIC DISTANCE 512.806 EARTH TO MARS
 RL 150.37 LAL -.00 LOL 211.23 VL 32.257 GAL -2.33 AZL 94.85 HCA 169.46 SMA 183.13 ECC .18331 INC 4.8491 V1 29.632
 RP 212.01 LAP -.89 LOP 20.72 VP 22.963 GAP 5.43 AZP 85.23 TAL 344.87 TAP 154.33 RCA 149.58 APO 216.70 V2 25.880
 RC 127.566 GL -41.69 GP 22.29 ZAL 115.78 ZAP 99.92 ETS 175.28 ZAE 138.65 ETE 152.15 ZAC 124.04 ETC 274.82 LVI -33.49
 PLANETOCENTRIC CONIC
 C3 16.780 VHL 4.096 DLA -46.84 RAL 359.60 RAD 6641.4 VEL 11.697 PTH 6.73 VHP 3.305 DPA .27 RAP 299.44 ECC 1.2761
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 22 18 34 1917.19 21.41 41.05 234.02 133.57 22 50 31 917.2 37.01 19.75
 51.23 23 21 3 1760.19 27.60 32.03 240.00 129.22 23 50 23 760.2 41.05 7.55
 51.23 23 21 3 1760.19 27.60 32.03 240.00 129.22 23 50 23 760.2 41.05 7.55
 51.23 23 21 3 1760.19 27.60 32.03 240.00 129.22 23 50 23 760.2 41.05 7.55
 51.23 23 21 3 1760.19 27.60 32.03 240.00 129.22 23 50 23 760.2 41.05 7.55
 51.23 23 21 3 1760.19 27.60 32.03 240.00 129.22 23 50 23 760.2 41.05 7.55
 51.23 23 21 3 1760.19 27.60 32.03 240.00 129.22 23 50 23 760.2 41.05 7.55
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3324 TRA .5593 TC3-1.5353 BAU .4782 SGT 1759.6 SGR 2454.3 SG3 1557.8 ST 28.9 SR 40.0 SS 80.4
 RDE -.3575 RRA -1.0186 RC3 1.4789 FAU .19724 RRT -.8465 RRF -.9987 RTF .8488 CRT .0396 CRS .9952 CST -.0577
 FDE 2.1996 FRA 7.7008 FC-10.1766 BSP 4705 SGB 3019.9 R23 .1735 R13 -.9835 LSA 89.7 HSA 29.1 SSA .3
 BDE .4881 BRA 1.1620 BC3 2.1318 FSP 2693 SG1 2915.1 SG2 788.8 THA 124.09 EL1 40.0 EL2 28.9 ALF 86.57

LAUNCH DATE APR 22 1971 FLIGHT TIME 214.00 ARRIVAL DATE NOV 22 1971

HELIOCENTRIC CONIC DISTANCE 516.988 EARTH TO MARS
 RL 150.37 LAL -.00 LOL 211.23 VL 32.254 GAL -2.36 AZL 95.26 HCA 170.66 SMA 183.09 ECC .18321 INC 5.2562 V1 29.632
 RP 212.29 LAP -.85 LOP 21.92 VP 22.923 GAP 5.24 AZP 84.81 TAL 344.67 TAP 155.33 RCA 149.54 APO 216.63 V2 25.848
 RC 129.850 GL -44.07 GP 24.86 ZAL 115.06 ZAP 97.80 ETS 175.71 ZAE 135.82 ETE 151.52 ZAC 126.68 ETC 274.72 LVI -35.48
 PLANETOCENTRIC CONIC
 C3 18.014 VHL 4.244 DLA -48.44 RAL 1.98 RAD 6641.9 VEL 11.749 PTH 6.78 VHP 3.358 DPA 2.62 RAP 298.11 ECC 1.2965
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 48.88 23 22 24 1796.88 27.74 35.71 244.18 131.45 23 52 20 796.9 42.02 11.72
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3204 TRA .6719 TC3-1.5555 BAU .5286 SGT 1949.3 SGR 2735.4 SG3 1500.7 ST 29.9 SR 45.5 SS 81.1
 RDE -.4290 RRA -1.1488 RC3 1.5369 FAU .19169 RRT -.8744 RRF -.9991 RTF .8559 CRT -.0703 CRS .9975 CST -.1410
 FDE 2.4049 FRA 7.4529 FC3-9.2122 BSP 5308 SGB 3358.9 R23 .1583 R13 -.9865 LSA 93.1 HSA 29.7 SSA .2
 BDE .5354 BRA 1.3291 BC3 2.1887 FSP 2595 SG1 3264.0 SG2 792.6 THA 124.23 EL1 45.6 EL2 29.7 ALF 94.62

LAUNCH DATE APR 22 1971 FLIGHT TIME 216.00 ARRIVAL DATE NOV 24 1971

HELIOCENTRIC CONIC DISTANCE 521.170 EARTH TO MARS
 RL 150.37 LAL -.00 LOL 211.23 VL 32.252 GAL -2.39 AZL 95.78 HCA 171.86 SMA 183.05 ECC .18319 INC 5.7801 V1 29.632
 RP 212.57 LAP -.82 LOP 23.13 VP 22.883 GAP 5.05 AZP 84.28 TAL 344.46 TAP 156.32 RCA 149.52 APO 216.58 V2 25.815
 RC 132.153 GL -46.92 GP 27.96 ZAL 114.12 ZAP 95.74 ETS 176.25 ZAE 132.75 ETE 150.68 ZAC 129.84 ETC 274.67 LVI -37.92
 PLANETOCENTRIC CONIC
 C3 19.744 VHL 4.443 DLA -50.54 RAL 5.02 RAD 6642.7 VEL 11.822 PTH 6.84 VHP 3.448 DPA 5.51 RAP 296.72 ECC 1.3249
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 46.19 23 25 42 1839.50 27.68 39.94 249.42 134.14 23 56 22 839.5 42.97 16.71
 DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE -.3015 TRA .7871 TC3-1.5500 BAU .5858 SGT 2144.5 SGR 3059.6 SG3 1411.7 ST 30.9 SR 52.5 SS 81.7
 RDE -.5387 RRA -1.2934 RC3 1.5883 FAU .18399 RRT -.8939 RRF -.9995 RTF .8946 CRT -.1675 CRS .9988 CST -.2152
 FDE 2.6548 FRA 7.0367 FC3-8.0675 BSP 5918 SGB 3736.3 R23 .1445 R13 -.9890 LSA 97.3 HSA 30.3 SSA .2
 BDE .6173 BRA 1.5140 BC3 2.2193 FSP 2425 SG1 3648.3 SG2 806.3 THA 123.95 EL1 52.9 EL2 30.3 ALF 98.39

LAUNCH DATE APR 22 1971 FLIGHT TIME 218.00 ARRIVAL DATE NOV 26 1971

EARTH TO MARS

DISTANCE 525.351

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.250 GAL -2.42 AZL 96.48 HCA 173.05 SMA 183.03 ECC .18321 INC 6.4820 V1 29.632
 RP 212.86 LAP -.78 LOP 24.32 VP 22.844 GAP 4.86 AZP 83.36 TAL 344.24 TAP 157.30 RCA 149.49 APO 216.56 V2 25.782
 RC 134.475 GL -50.39 GP 31.75 ZAL 112.86 ZAP 83.76 ETS 176.92 ZAE 120.36 ETE 149.56 ZAC 133.69 ETC 274.69 LVI -40.97

PLANETOCENTRIC CONIC
 C3 22.300 VHL 4.722 DLA -53.00 RAL 9.05 RAD 6643.8 VEL 11.929 PTH 6.93 VHP 3.569 DPA 9.09 RAP 295.26 ECC 1.3670
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75
 43.10 23 32 20 1890.27 27.27 44.84 256.18 137.39 24 3 50 890.3 43.77 22.75

DIFFERENTIAL CORRECTIONS
 TDE -.2528 TRA .9157 TC3-1.4918 BAU .6538
 RDE -.7296 RRA-1.4687 RC3 1.6066 FAU .17120
 FDE 3.0169 FRA 6.4388 FC3-6.6463 BSP 6651
 BDE .7722 BRA 1.7308 BC3 2.1923 FSP 2203

ORBIT DETERMINATION ACCURACY

ST 31.7 SR 62.7 SS 82.9
 CRT -.2794 CR8 .9996 CST -.3072
 LSA 104.4 MSA 30.2 S8A .1
 EL1 63.6 EL2 30.1 ALF 100.39

LAUNCH DATE APR 22 1971 FLIGHT TIME 220.00 ARRIVAL DATE NOV 28 1971

EARTH TO MARS

DISTANCE 529.530

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.249 GAL -2.46 AZL 97.47 HCA 174.24 SMA 183.02 ECC .18330 INC 7.4700 V1 29.632
 RP 213.16 LAP -.75 LOP 25.52 VP 22.805 GAP 4.68 AZP 82.57 TAL 344.01 TAP 158.26 RCA 149.47 APO 216.56 V2 25.749
 RC 136.814 GL -54.68 GP 36.46 ZAL 111.17 ZAP 91.91 ETS 177.77 ZAE 125.59 ETE 148.22 ZAC 138.44 ETC 274.84 LVI -44.76

PLANETOCENTRIC CONIC
 C3 26.367 VHL 5.135 DLA -55.86 RAL 14.68 RAD 6845.6 VEL 12.097 PTH 7.07 VHP 3.827 DPA 13.59 RAP 293.68 ECC 1.4339
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14
 39.59 23 44 43 1952.89 26.18 50.47 265.19 141.29 24 17 16 952.9 44.09 30.14

DIFFERENTIAL CORRECTIONS
 TDE -.1471 TRA 1.0534 TC3-1.3827 BAU .7417
 RDE-1.0757 RRA-1.6694 RC3 1.5860 FAU .15344
 FDE 3.4881 FRA 5.5664 FC3-3.0383 BSP 7394
 BDE 1.0857 BRA 1.9740 BC3 2.1041 FSP 1879

ORBIT DETERMINATION ACCURACY

ST 32.5 SR 78.0 SS 84.6
 CRT -.4242 CR8 .9999 CST -.4365
 LSA 116.0 MSA 29.1 S8A .1
 EL1 79.4 EL2 28.9 ALF 101.59

LAUNCH DATE APR 22 1971 FLIGHT TIME 222.00 ARRIVAL DATE NOV 30 1971

EARTH TO MARS

DISTANCE 533.704

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.249 GAL -2.50 AZL 98.97 HCA 175.43 SMA 183.01 ECC .18344 INC 8.9657 V1 29.632
 RP 213.46 LAP -.71 LOP 26.71 VP 22.766 GAP 4.50 AZP 81.06 TAL 343.77 TAP 159.20 RCA 149.44 APO 216.58 V2 25.714
 RC 139.171 GL -60.09 GP 42.31 ZAL 108.89 ZAP 90.29 ETS 178.81 ZAE 121.25 ETE 146.67 ZAC 144.33 ETC 275.24 LVI -49.44

PLANETOCENTRIC CONIC
 C3 33.563 VHL 5.793 DLA -59.04 RAL 23.04 RAD 6648.4 VEL 12.388 PTH 7.30 VHP 4.244 DPA 19.24 RAP 291.96 ECC 1.5524
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01
 35.75 0 11 47 2033.58 23.82 56.81 277.66 145.78 0 45 40 1033.6 43.29 39.01

DIFFERENTIAL CORRECTIONS
 TDE .1209 TRA 1.2197 TC3-1.1958 BAU .8519
 RDE-1.7885 RRA-1.9072 RC3 1.4738 FAU .12658
 FDE 4.0967 FRA 4.3974 FC3-3.2646 BSP 8386
 BDE 1.7926 BRA 2.2838 BC3 1.8977 FSP 1492

ORBIT DETERMINATION ACCURACY

ST 35.7 SR 104.2 SS 87.7
 CRT -.8630 CR8 1.0000 CST -.8631
 LSA 138.3 MSA 26.3 S8A .1
 EL1 107.0 EL2 26.0 ALF 103.63

LAUNCH DATE APR 22 1971 FLIGHT TIME 236.00 ARRIVAL DATE DEC 14 1971

EARTH TO MARS

DISTANCE 563.100

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.263 GAL -2.86 AZL 82.98 HCA 183.79 SMA 183.24 ECC .18597 INC 7.0437 V1 29.632
 RP 215.71 LAP -.46 LOP 34.95 VP 22.500 GAP 3.29 AZP 97.03 TAL 341.97 TAP 165.32 RCA 149.16 APO 217.31 V2 25.461
 RC 136.143 GL 91.32 GP -48.81 ZAL 114.38 ZAP 82.03 ETS 170.27 ZAE 110.25 ETE 203.32 ZAC 55.82 ETC 272.15 LVI 33.13

PLANETOCENTRIC CONIC
 C3 25.481 VHL 5.048 DLA 40.15 RAL 321.02 RAD 6645.2 VEL 12.060 PTH 7.04 VHP 4.741 DPA -68.35 RAP 313.45 ECC 1.4194
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 11 22 39 4086.92 -40.64 181.31 218.92 62.75 12 30 46 3086.9 -47.49 148.79
 60.00 9 47 51 4343.64 -23.06 191.85 206.76 55.99 11 0 15 3343.6 -34.93 167.80
 60.22 9 25 29 4406.54 -20.45 195.24 204.81 54.66 10 38 56 3406.5 -33.07 172.20
 60.22 9 25 29 4406.54 -20.45 195.24 204.81 54.66 10 38 56 3406.5 -33.07 172.20
 60.22 9 25 29 4406.54 -20.45 195.24 204.81 54.66 10 38 56 3406.5 -33.07 172.20
 60.22 9 25 29 4406.54 -20.45 195.24 204.81 54.66 10 38 56 3406.5 -33.07 172.20
 60.22 9 25 29 4406.54 -20.45 195.24 204.81 54.66 10 38 56 3406.5 -33.07 172.20

DIFFERENTIAL CORRECTIONS
 TDE 2.9030 TRA 1.0821 TC3-2.1808 BAU .9697
 RDE 2.8317 RRA 1.9136 RC3-1.8294 FAU .09068
 FDE 4.4989 FRA 3.2072 FC3-3.0807 BSP 10558
 BDE 4.0554 BRA 2.1983 BC3 2.8465 FSP 1173

ORBIT DETERMINATION ACCURACY

ST 166.5 SR 166.3 SS 108.6
 CRT .9935 CR8 -.9999 CST -.9919
 LSA 258.8 MSA 15.1 S8A .1
 EL1 235.0 EL2 13.4 ALF 44.96

LAUNCH DATE APR 22 1971

FLIGHT TIME 238.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

RL 150.37 LAL	-.00 LOL 211.23 VL	32.267 GAL	-2.92 AZL	85.04 HCA	184.90 SMA	183.30 ECC	.18848 INC	4.9578 V1	29.632	
RP 216.04 LAP	-.42 LOP 36.11 VP	22.462 GAP	3.12 AZP	94.94 TAL	341.26 TAP	166.16 RCA	149.12 APO	217.46 V2	25.424	
RC 158.631 GL	40.55 GP	-39.77 ZAL	119.55 ZAP	79.51 ETS	170.02 ZAE	111.39 ETE	199.34 ZAC	62.66 ETC	271.60 LVI	27.22

DISTANCE 567.259

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 18.352 VHL	4.284 DLA	30.10 RAL	326.50 RAD	6642.1 VEL	11.763 PTH	6.79 VHP	4.115 DPA	-62.15 RAP	306.37 ECC	1.3020
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	12 58 7	3742.21	-47.37	131.23	211.33	84.97	14 0 30	2742.2	-43.78	116.82
60.00	12 53 19	3759.02	-39.13	150.84	209.79	79.48	13 55 54	2755.0	-39.19	119.68
70.00	12 43 26	3784.23	-30.56	150.73	207.32	73.94	13 46 30	2784.2	-34.15	122.60
79.25	11 41 11	3980.83	-18.06	160.46	202.27	65.51	12 47 32	2980.8	-26.59	136.25
79.25	11 41 11	3980.83	-18.06	160.46	202.27	65.51	12 47 32	2980.8	-26.59	136.25
79.25	11 41 11	3980.83	-18.06	160.46	202.27	65.51	12 47 32	2980.8	-26.59	136.25
110.00	17 42 52	2831.05	-30.56	79.65	207.32	73.94	18 30 3	1831.1	-34.15	51.51

DIFFERENTIAL CORRECTIONS

TDE 2.2493 TRA	1.3454 TC3-3.0066	BAU .8929
RDE 1.8823 RRA	1.7643 RC3-2.0508	FAU .11673
FDE 4.7619 FRA	4.7116 FC3-5.5069	BSP 10320
BDE 2.9330 BRA	2.2188 BC3 3.6394	FSP 1678

MID-COURSE EXECUTION ACCURACY

SGT 4473.5 SGR	4106.6 SG3	930.1
RRT .9674 RRF	.9996 RTF	.9649
SG8 6072.6 R23	.1473 R13	.9888
SG1 6023.3 SG2	771.9 THA	42.47

ORBIT DETERMINATION ACCURACY

ST 153.7 SR	132.4 SS	119.7
CRT .9940 CRS	-.9999 CST	-.9921
LSA 235.1 MSA	13.7 SSA	.2
EL1 202.5 EL2	11.0 ALF	40.72

LAUNCH DATE APR 22 1971

FLIGHT TIME 240.00

ARRIVAL DATE DEC 16 1971

HELIOCENTRIC CONIC

RL 150.37 LAL	-.00 LOL 211.23 VL	32.271 GAL	-2.97 AZL	86.33 HCA	186.06 SMA	183.37 ECC	.18704 INC	3.6661 V1	29.632	
RP 216.39 LAP	-.39 LOP 37.27 VP	22.425 GAP	2.95 AZP	93.65 TAL	340.93 TAP	166.98 RCA	149.07 APO	217.66 V2	25.385	
RC 161.134 GL	31.84 GP	-34.25 ZAL	123.30 ZAP	77.18 ETS	170.03 ZAE	111.66 ETE	195.98 ZAC	68.22 ETC	271.57 LVI	22.42

DISTANCE 571.421

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.272 VHL	3.908 DLA	22.13 RAL	330.41 RAD	6640.7 VEL	11.633 PTH	6.67 VHP	3.784 DPA	-56.98 RAP	302.55 ECC	1.2513
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	13 54 19	3522.17	-46.56	130.16	203.43	101.14	14 53 1	2522.2	-37.01	100.13
60.00	14 6 38	3489.37	-40.08	128.44	204.66	94.59	15 4 47	2489.4	-33.90	99.20
70.00	14 26 15	3431.55	-34.15	124.01	204.91	89.26	15 23 27	2431.5	-30.88	95.77
80.00	15 1 32	3320.93	-29.53	115.38	204.65	85.37	15 56 53	2320.9	-28.45	88.00
90.00	16 7 2	3109.47	-27.65	99.64	204.45	83.82	16 58 51	2109.5	-27.45	72.63
100.00	17 44 24	2795.40	-29.53	76.74	204.65	85.37	18 30 59	1795.4	-28.45	49.37
110.00	19 25 42	2478.37	-34.15	52.93	204.91	89.26	20 7 0	1478.4	-30.88	24.69

DIFFERENTIAL CORRECTIONS

TDE 1.8503 TRA	1.5223 TC3-3.7345	BAU .8765
RDE 1.3456 RRA	1.5681 RC3-2.1176	FAU .13891
FDE 4.6862 FRA	5.8114 FC3-7.8748	BSP 9698
BDE 2.2878 BRA	2.1854 BC3 4.2931	FSP 1980

MID-COURSE EXECUTION ACCURACY

SGT 4656.6 SGR	3576.4 SG3	1124.1
RRT .9705 RRF	.9995 RTF	.9686
SG8 5871.5 R23	.1589 R13	.9868
SG1 5830.9 SG2	688.8 THA	37.31

ORBIT DETERMINATION ACCURACY

ST 140.4 SR	105.5 SS	120.6
CRT .9949 CRS	-.9997 CST	-.9924
LSA 212.7 MSA	12.1 SSA	.2
EL1 175.4 EL2	8.5 ALF	36.87

LAUNCH DATE APR 22 1971

FLIGHT TIME 242.00

ARRIVAL DATE DEC 20 1971

HELIOCENTRIC CONIC

RL 150.37 LAL	-.00 LOL 211.23 VL	32.275 GAL	-3.03 AZL	87.21 HCA	187.21 SMA	183.44 ECC	.18763 INC	2.7897 V1	29.632	
RP 216.73 LAP	-.35 LOP 38.43 VP	22.388 GAP	2.78 AZP	92.77 TAL	340.59 TAP	167.79 RCA	149.02 APO	217.86 V2	25.347	
RC 163.849 GL	25.01 GP	-29.83 ZAL	125.94 ZAP	75.04 ETS	170.16 ZAE	111.31 ETE	193.21 ZAC	72.65 ETC	271.40 LVI	18.57

DISTANCE 575.583

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.789 VHL	3.713 DLA	15.90 RAL	333.39 RAD	6639.9 VEL	11.569 PTH	6.61 VHP	3.594 DPA	-52.80 RAP	299.74 ECC	1.2269
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	14 33 1	3368.90	-43.63	116.59	198.92	111.24	15 29 10	2368.9	-30.97	90.49
60.00	14 54 30	3311.72	-38.08	113.80	201.27	104.33	15 49 41	2311.7	-28.47	87.29
70.00	15 25 59	3219.05	-33.11	107.55	202.53	98.92	16 19 38	2219.0	-26.11	81.10
80.00	16 14 37	3066.62	-29.44	96.53	203.06	95.24	17 5 44	2066.6	-24.32	70.28
90.00	17 27 12	2832.36	-28.03	79.44	203.19	93.89	18 14 24	1832.4	-23.62	53.29
100.00	18 57 29	2541.09	-29.44	57.89	203.06	95.24	19 39 50	1541.1	-24.32	31.64
110.00	20 25 25	2265.86	-33.11	36.47	202.53	98.92	21 3 11	1265.9	-26.11	10.01

DIFFERENTIAL CORRECTIONS

TDE 1.6149 TRA	1.6900 TC3-4.2559	BAU .8680
RDE 1.0359 RRA	1.3998 RC3-2.0144	FAU .15262
FDE 4.5204 FRA	6.6546 FC3-9.3822	BSP 9522
BDE 1.9186 BRA	2.1945 BC3 4.7085	FSP 2227

MID-COURSE EXECUTION ACCURACY

SGT 4852.9 SGR	3136.3 SG3	1261.8
RRT .9724 RRF	.9993 RTF	.5.11
SG8 5778.1 R23	.1689 R13	.9849
SG1 5745.0 SG2	617.9 THA	32.57

ORBIT DETERMINATION ACCURACY

ST 131.1 SR	86.8 SS	119.2
CRT .9965 CRS	-.9995 CST	-.9934
LSA 197.0 MSA	10.5 SSA	.3
EL1 157.1 EL2	6.1 ALF	33.45

LAUNCH DATE APR 22 1971

FLIGHT TIME 244.00

ARRIVAL DATE DEC 22 1971

HELIOCENTRIC CONIC

RL 150.37 LAL	-.00 LOL 211.23 VL	32.280 GAL	-3.10 AZL	87.84 HCA	188.38 SMA	183.52 ECC	.18829 INC	2.1561 V1	29.632	
RP 217.08 LAP	-.31 LOP 39.58 VP	22.351 GAP	2.61 AZP	92.14 TAL	340.23 TAP	168.59 RCA	148.97 APO	218.08 V2	25.308	
RC 166.178 GL	19.63 GP	-26.28 ZAL	127.82 ZAP	73.05 ETS	170.34 ZAE	110.57 ETE	190.96 ZAC	76.22 ETC	271.26 LVI	15.47

DISTANCE 579.745

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 13.049 VHL	3.612 DLA	11.04 RAL	335.77 RAD	6639.6 VEL	11.538 PTH	6.58 VHP	3.481 DPA	-49.41 RAP	297.89 ECC	1.2147
LNCH AZMTH	LNCH TIME	L-I TIME	INJ LAT	INJ LONG	INJ RT ASC	INJ AZMTH	INJ TIME	PO CST TIM	INJ 2 LAT	INJ 2 LONG
50.00	15 1 42	3257.74	-40.51	107.76	196.82	117.47	15 56 0	2257.7	-26.13	84.33
60.00	15 29 12	3184.57	-35.48	104.01	199.65	110.52	16 22 16	2184.6	-23.92	79.61
70.00	16 7 49	3070.94	-31.00	96.53	201.37	105.11	16 59 0	2070.9	-21.86	71.70
80.00	17 3 30	2896.47	-27.74	84.18	202.26	101.51	17 51 47	1896.5	-20.32	59.23
90.00	18 19 23	2651.60	-26.52	66.45	202.52	100.21	19 3 34	1651.6	-19.73	41.48
100.00	19 46 22	2370.94	-27.74	45.55	202.26	101.51	20 25 53	1370.9	-20.32	20.60
110.00	21 7 15	2117.76	-31.00	25.45	201.37	105.11	21 42 33	1117.8	-21.86	.62

DIFFERENTIAL CORRECTIONS

TDE 1.4680 TRA	1.8465 TC3-4.6293	BAU .8697
RDE .8386 RRA	1.2522 RC3-1.8513	FAU .16147
FDE 4.3582 FRA	7.2687 FC-10.7128	BSP 9506
BDE 1.6889 BRA	2.2310 BC3 4.9857	FSP 2396

MID-COURSE EXECUTION ACCURACY

SGT 5049.4 SGR	2766.4 SG3	1354.2
RRT .9739 RRF	.9990 RTF	.9730
SG8 5757.6 R23	.1752 R13	.9835
SG1 5731.0 SG2	553.0 THA	28.37

ORBIT DETERMINATION ACCURACY

ST 124.7 SR	73.1 SS	116.7
CRT .9981 CRS	-.9991 CST	-.9946
LSA 185.6 MSA	8.9 SSA	.5
EL1 144.5 EL2	3.9 ALF	30.37

LAUNCH DATE APR 22 1971 FLIGHT TIME 246.00 ARRIVAL DATE DEC 24 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 32.286 GAL -3.16 AZL 88.32 HCA 189.51 SMA 183.61 ECC .18897 INC 1.8765 V1 29.632

Planetocentric Conic: C3 12.694 VHL 3.583 DLA 7.22 RAL 337.72 RAD 8639.4 VEL 11.522 PTH 6.57 VHP 3.413 DPA -46.64 RAP 296.49 ECC 1.2089

Differential Corrections: TDE 1.3690 TRA 1.9945 TC3-4.9002 BAU .8786 SGT 5243.3 SGR 2455.7 SG3 1413.6 ST 120.4 SR 63.1 SS 114.1

LAUNCH DATE APR 22 1971 FLIGHT TIME 248.00 ARRIVAL DATE DEC 26 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 32.291 GAL -3.23 AZL 88.70 HCA 190.65 SMA 183.70 ECC .18968 INC 1.2999 V1 29.632

Planetocentric Conic: C3 12.557 VHL 3.544 DLA 4.18 RAL 339.38 RAD 8639.3 VEL 11.517 PTH 6.56 VHP 3.373 DPA -44.36 RAP 295.40 ECC 1.2067

Differential Corrections: TDE 1.2987 TRA 2.1287 TC3-5.1232 BAU .8969 SGT 5431.6 SGR 2189.1 SG3 1446.4 ST 117.2 SR 55.0 SS 110.7

LAUNCH DATE APR 22 1971 FLIGHT TIME 250.00 ARRIVAL DATE DEC 28 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 32.297 GAL -3.30 AZL 89.00 HCA 191.79 SMA 183.79 ECC .19044 INC .9961 V1 29.632

Planetocentric Conic: C3 12.554 VHL 3.543 DLA 1.74 RAL 340.82 RAD 8639.3 VEL 11.518 PTH 6.56 VHP 3.351 DPA -42.44 RAP 294.52 ECC 1.2066

Differential Corrections: TDE 1.2625 TRA 2.2705 TC3-5.2657 BAU .9118 SGT 5620.0 SGR 1970.7 SG3 1467.2 ST 116.1 SR 49.6 SS 109.6

LAUNCH DATE APR 22 1971 FLIGHT TIME 252.00 ARRIVAL DATE DEC 30 1971

Heliocentric Conic: RL 150.37 LAL -.00 LOL 211.23 VL 32.303 GAL -3.37 AZL 89.25 HCA 192.92 SMA 183.89 ECC .19123 INC .7479 V1 29.632

Planetocentric Conic: C3 12.636 VHL 3.535 DLA -.24 RAL 342.09 RAD 8639.4 VEL 11.520 PTH 6.57 VHP 3.343 DPA -40.82 RAP 293.81 ECC 1.2060

Differential Corrections: TDE 1.2447 TRA 2.4117 TC3-5.3692 BAU .9286 SGT 5805.3 SGR 1783.1 SG3 1474.8 ST 116.2 SR 45.3 SS 108.3

LAUNCH DATE APR 22 1971

FLIGHT TIME 254.00

ARRIVAL DATE JAN 1 1972

HELIOCENTRIC CONIC				DISTANCE 800.508				EARTH TO MARS																		
RL	150.37	LAL	-.00	LOL	211.23	VL	32.309	GAL	-3.44	AZL	89.48	HCA	194.06	SMA	184.00	ECC	.19205	INC	.5378	V1	29.632					
RP	218.88	LAP	-.13	LOP	45.28	VP	22.168	GAP	1.80	AZP	90.52	TAL	338.35	TAP	172.41	RCA	148.66	APO	219.33	V2	25.109					
RC	178.981	GL	4.87	GP	-15.89	ZAL	132.41	ZAP	64.71	ETS	171.29	ZAE	104.58	ETE	184.53	ZAC	86.66	ETC	270.86	LVI	6.49					
PLANETOCENTRIC CONIC				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY																		
C3	12.776	VHL	3.574	DLA	-1.87	RAL	343.23	RAD	6639.4	VEL	11.526	PTH	6.57	VHP	3.344	DPA	-39.44	RAP	293.23	ECC	1.2103					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	
50.00	16	19	15	2995.13		-30.70		90.39		197.79		128.32		17	9	11	1995.1		-13.73		71.69					
60.00	17	0	49	2884.59		-26.38		83.87		201.22		121.64		17	48	53	1884.6		-11.78		63.96					
70.00	17	55	15	2724.51		-22.49		73.26		203.59		116.41		18	40	39	1724.5		-9.97		51.91					
80.00	19	5	32	2504.43		-19.67		57.95		204.99		112.93		19	47	17	1504.4		-8.62		36.02					
90.00	20	27	50	2238.87		-18.61		38.89		205.44		111.69		21	5	9	1238.9		-8.12		16.77					
100.00	21	48	24	1978.91		-19.67		19.32		204.99		112.93		22	21	23	978.9		-8.62		357.39					
110.00	22	54	41	1771.33		-22.49		2.18		203.59		116.41		23	24	13	771.3		-9.97		340.83					
TDE	1.2276	TRA	2.5383	TC3-5.4809	BAU	.9537		SGT	5983.0	SGR	1616.3	SG3	1469.1				ST	116.0	SR	41.3	SS	105.8				
RDE	.4618	RRA	.7592	RC3-1.0670	FAU	.16879		RRT	.9723	RRF	.9937	RTF	.9772				CRT	.9950	CRS	-.9911	CST	-.9992				
FDE	3.7875	FRA	8.4898	FC-11.4376	BSP	10379		SGB	6197.5	R23	.1713	R13	.9800				LSA	162.2	MSA	5.4	SSA	1.5				
BDE	1.3116	BRA	2.6494	BC3	5.5838	FSP	2652		SG1	6186.7	SG2	365.5	THA	14.77				EL1	123.0	EL2	3.9	ALF	19.53			

LAUNCH DATE APR 22 1971

FLIGHT TIME 256.00

ARRIVAL DATE JAN 3 1972

HELIOCENTRIC CONIC				DISTANCE 604.650				EARTH TO MARS																		
RL	150.37	LAL	-.00	LOL	211.23	VL	32.316	GAL	-3.52	AZL	89.64	HCA	195.19	SMA	184.11	ECC	.19290	INC	.3597	V1	29.632					
RP	219.23	LAP	-.09	LOP	46.41	VP	22.131	GAP	1.63	AZP	90.35	TAL	337.95	TAP	173.14	RCA	148.59	APO	219.62	V2	25.068					
RC	181.572	GL	3.23	GP	-14.65	ZAL	132.96	ZAP	63.27	ETS	171.46	ZAE	103.26	ETE	183.81	ZAC	87.91	ETC	270.81	LVI	5.42					
PLANETOCENTRIC CONIC				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY																		
C3	12.957	VHL	3.600	DLA	-3.21	RAL	344.26	RAD	6639.5	VEL	11.534	PTH	6.58	VHP	3.352	DPA	-38.23	RAP	292.75	ECC	1.2132					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	
50.00	16	28	18	2971.47		-29.69		69.04		198.60		129.05		17	17	49	1971.5		-12.57		70.64					
60.00	17	11	17	2857.14		-25.39		82.22		202.09		122.41		17	58	54	1857.1		-10.60		62.19					
70.00	18	7	18	2692.41		-21.51		71.29		204.51		117.19		18	52	10	1692.4		-8.78		50.19					
80.00	19	19	2	2467.81		-18.68		55.68		205.94		113.73		20	0	10	1467.8		-7.42		33.97					
90.00	20	41	58	2200.21		-17.62		36.49		206.42		112.48		21	18	38	1200.2		-6.91		14.58					
100.00	22	1	54	1942.28		-18.68		17.05		205.94		113.73		22	34	16	942.3		-7.42		355.34					
110.00	23	6	44	1739.22		-21.51		.21		204.51		117.19		23	35	43	739.2		-8.78		339.11					
TDE	1.2261	TRA	2.6697	TC3-5.5580	BAU	.9769		SGT	6159.1	SGR	1474.4	SG3	1458.7				ST	116.8	SR	38.3	SS	104.2				
RDE	.4336	RRA	.6937	RC3-.9567	FAU	.16690		RRT	.9702	RRF	.9914	RTF	.9776				CRT	.9911	CRS	-.9878	CST	-.9995				
FDE	3.7163	FRA	8.5448	FC-11.1518	BSP	10629		SGB	6333.1	R23	.1649	R13	.9798				LSA	161.0	MSA	5.6	SSA	1.5				
BDE	1.3005	BRA	2.7584	BC3	5.6398	FSP	2640		SG1	6323.5	SG2	348.2	THA	13.12				EL1	122.8	EL2	4.8	ALF	18.04			

LAUNCH DATE APR 22 1971

FLIGHT TIME 258.00

ARRIVAL DATE JAN 5 1972

HELIOCENTRIC CONIC				DISTANCE 608.787				EARTH TO MARS																		
RL	150.37	LAL	-.00	LOL	211.23	VL	32.323	GAL	-3.59	AZL	89.79	HCA	196.31	SMA	184.22	ECC	.19379	INC	.2052	V1	29.632					
RP	219.62	LAP	-.08	LOP	47.54	VP	22.095	GAP	1.47	AZP	90.20	TAL	337.55	TAP	173.86	RCA	148.52	APO	219.92	V2	25.028					
RC	184.172	GL	1.84	GP	-13.57	ZAL	133.47	ZAP	61.90	ETS	171.62	ZAE	101.93	ETE	183.21	ZAC	89.00	ETC	270.78	LVI	4.48					
PLANETOCENTRIC CONIC				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY																		
C3	13.168	VHL	3.629	DLA	-4.32	RAL	345.22	RAD	6639.6	VEL	11.543	PTH	6.59	VHP	3.365	DPA	-37.18	RAP	292.37	ECC	1.2167					
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG	
50.00	16	36	11	2952.81		-28.88		87.99		199.45		129.61		17	25	24	1952.8		-11.67		69.82					
60.00	17	20	21	2835.32		-24.59		80.94		202.98		122.99		18	7	36	1835.3		-9.66		61.12					
70.00	18	17	42	2666.68		-20.70		69.74		205.45		117.79		19	2	9	1666.7		-7.82		48.82					
80.00	19	30	39	2438.29		-17.86		53.87		206.92		114.33		20	11	17	1438.3		-6.44		32.33					
90.00	20	54	7	2168.98		-18.80		34.57		207.41		113.09		21	30	16	1169.0		-5.92		12.81					
100.00	22	13	31	1912.78		-17.86		15.24		206.92		114.33		22	45	24	912.8		-6.44		353.69					
110.00	23	17	9	1713.49		-20.70		358.65		205.45		117.79		23	45	42	713.5		-7.82		337.74					
TDE	1.2311	TRA	2.7995	TC3-5.6218	BAU	1.0012		SGT	6330.4	SGR	1350.2	SG3	1442.6				ST	117.9	SR	35.8	SS	102.6				
RDE	.4118	RRA	.6351	RC3-.8600	FAU	.16450		RRT	.9672	RRF	.9884	RTF	.9778				CRT	.9860	CRS	-.9838	CST	-.9997				
FDE	3.6493	FRA	8.5659	FC-10.8152	BSP	10884		SGB	6472.8	R23	.1575	R13	.9795				LSA	160.2	MSA	6.1	SSA	1.5				
BDE	1.2981	BRA	2.8706	BC3	5.6872	FSP	2619		SG1	6464.1	SG2	335.8	THA	11.69				EL1	123.1	EL2	5.7	ALF	16.72			

LAUNCH DATE APR 22 1971

FLIGHT TIME 260.00

ARRIVAL DATE JAN 7 1972

HELIOCENTRIC CONIC				DISTANCE 612.920				EARTH TO MARS																	
RL	150.37	LAL	-.00	LOL	211.23	VL	32.330	GAL	-3.67	AZL	89.93	HCA	197.43	SMA	184.34	ECC	.19470	INC	.0814	V1	29.632				
RP	219.98	LAP	-.02	LOP	48.66	VP	22.059	GAP	1.31	AZP	90.07	TAL	337.14	TAP	174.57	RCA	148.44	APO	220.23	V2	24.987				
RC	186.781	GL	.65	GP	-12.62	ZAL	133.95	ZAP	60.58	ETS	171.77	ZAE	100.61	ETE	182.69	ZAC	89.95	ETC	270.75	LVI	3.64				
PLANETOCENTRIC CONIC				MID-COURSE EXECUTION ACCURACY				ORBIT DETERMINATION ACCURACY																	
C3	13.404	VHL	3.661	DLA	-5.24	RAL	346.11	RAD	6639.8	VEL	11.553	PTH	6.60	VHP	3.382	DPA	-36.26	RAP	292.06	ECC	1.2206				
LNCH	AZMTH	LNCH	TIME	L-I	TIME	INJ	LAT	INJ	LONG	INJ	RT	ASC	INJ	AZMTH	INJ	TIME	PO	CST	TIM	INJ	2	LAT	INJ	2	LONG
50.00	16	43	8	2938.15		-28.25		87.18		200.32		130.02		17	32	6	1938.2		-10.92		69.19				
60.00	17	28	18	2818.01		-23.94		79.93		203.89		123.44		18	15	16	1818.0		-8.92		60.27				
70.00	18	26	46	2646.08		-20.04																			

LAUNCH DATE APR 22 1971

FLIGHT TIME 262.00

ARRIVAL DATE JAN 9 1972

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.337 GAL -3.75 AZL 90.04 HCA 196.55 SMA 184.46 ECC .19565 INC .0099 V1 29.632
 RP 220.36 LAP .01 LOP 49.78 VP 22.023 GAP 1.15 AZP 89.96 TAL 336.72 TAP 175.27 RCA 148.37 APO 220.55 V2 24.946
 RC 189.399 GL -.39 GP -11.78 ZAL 134.41 ZAP 59.31 ETS 171.91 ZAE 99.31 ETE 182.25 ZAC 90.79 ETC 270.74 LVI 2.90

PLANETOCENTRIC CONIC
 C3 13.659 VHL 3.696 DLA -6.02 RAL 346.94 RAD 6639.9 VEL 11.564 PTH 6.61 VHP 3.403 DPA -35.44 RAP 291.83 ECC 1.2248
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 49 18 2926.78 -27.75 86.55 201.20 130.34 17 38 5 1926.8 -10.36 68.69
 60.00 17 35 19 2804.40 -23.43 79.14 204.81 123.78 18 22 3 1804.4 -8.33 58.60
 70.00 18 34 44 2629.70 -19.51 67.53 207.36 118.61 19 18 34 1829.7 -6.43 46.66
 80.00 19 49 34 2395.39 -16.64 51.28 208.89 115.16 20 29 30 1395.4 -5.01 29.95
 90.00 21 13 52 2123.41 -15.56 31.79 209.40 113.92 21 49 16 1123.4 -4.48 10.25
 100.00 22 32 26 1869.87 -16.64 12.64 208.89 115.16 23 3 36 869.9 -5.01 351.32
 110.00 23 34 10 1676.52 -19.51 356.45 207.36 118.61 24 2 7 676.5 -6.43 335.77

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2582 TRA 3.0574 TC3-5.7201 BAU 1.0524 SGT 6663.1 SGR 1146.5 SG3 1400.3 ST 121.1 SR 32.1 SS 99.7
 RDE .3817 RRA .5346 RC3 -.7027 FAU .15908 RRT .9585 RRF .9797 RTF .9781 CRT .9727 CR8 -.9737 CST -.9998
 PDE 3.5359 FRA 8.5365 FC-10.0827 BSP 11371 SGB 6761.0 R23 .1403 R13 .9792 LSA 160.0 MSA 7.3 SSA 1.5
 BDE 1.3148 BRA 3.1037 BC3 5.7631 FSP 2544 SG1 6753.3 SG2 322.4 THA 9.39 EL1 125.1 EL2 7.2 ALF 14.92

LAUNCH DATE APR 22 1971

FLIGHT TIME 264.00

ARRIVAL DATE JAN 11 1972

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.345 GAL -3.83 AZL 90.15 HCA 199.66 SMA 184.58 ECC .19663 INC .1470 V1 29.632
 RP 220.74 LAP .05 LOP 50.89 VP 21.987 GAP .99 AZP 89.86 TAL 336.30 TAP 175.96 RCA 148.29 APO 220.87 V2 24.904
 RC 192.025 GL -1.29 GP -11.03 ZAL 134.87 ZAP 58.09 ETS 172.05 ZAE 98.03 ETE 181.87 ZAC 91.54 ETC 270.73 LVI 2.22

PLANETOCENTRIC CONIC
 C3 13.932 VHL 3.733 DLA -6.67 RAL 347.72 RAD 6640.0 VEL 11.576 PTH 6.62 VHP 3.426 DPA -34.71 RAP 291.65 ECC 1.2293
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 54 50 2918.13 -27.36 86.09 202.08 130.57 17 43 28 1918.1 -9.93 68.32
 60.00 17 41 33 2793.86 -23.03 78.54 205.72 124.03 18 28 7 1793.9 -7.87 59.09
 70.00 18 41 46 2616.82 -19.09 66.77 208.31 118.87 19 25 23 1616.8 -5.94 46.18
 80.00 19 57 21 2380.21 -16.20 50.36 209.86 115.43 20 37 1 1380.2 -4.50 29.11
 90.00 21 21 58 2107.17 -15.11 30.81 210.39 114.19 21 57 5 1107.2 -3.96 9.34
 100.00 22 40 13 1854.68 -16.20 11.73 209.86 115.43 23 11 7 854.7 -4.50 350.48
 110.00 23 41 12 1663.64 -19.09 355.68 208.31 118.87 24 8 56 663.6 -5.94 335.09

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.2824 TRA 3.1907 TC3-5.7453 BAU 1.0768 SGT 6825.4 SGR 1063.2 SG3 1376.3 ST 123.3 SR 30.8 SS 98.6
 RDE .3725 RRA .4920 RC3 -.6359 FAU .15591 RRT .9523 RRF .9737 RTF .9781 CRT .9648 CR8 -.9678 CST -.9997
 PDE 3.4968 FRA 8.5078 FC3-9.8638 BSP 11664 SGB 6907.7 R23 .1317 R13 .9791 LSA 160.7 MSA 7.9 SSA 1.4
 BDE 1.3354 BRA 3.2284 BC3 5.7803 FSP 2511 SG1 6900.3 SG2 320.8 THA 8.46 EL1 126.6 EL2 7.9 ALF 13.60

LAUNCH DATE APR 22 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 13 1972

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.352 GAL -3.92 AZL 90.24 HCA 200.77 SMA 184.71 ECC .19764 INC .2404 V1 29.632
 RP 221.12 LAP .09 LOP 52.00 VP 21.952 GAP .82 AZP 89.77 TAL 335.87 TAP 176.65 RCA 148.20 APO 221.21 V2 24.863
 RC 194.659 GL -2.07 GP -10.37 ZAL 135.31 ZAP 56.92 ETS 172.18 ZAE 96.77 ETE 181.54 ZAC 92.20 ETC 270.73 LVI 1.61

PLANETOCENTRIC CONIC
 C3 14.219 VHL 3.771 DLA -7.21 RAL 348.48 RAD 6640.2 VEL 11.588 PTH 6.63 VHP 3.452 DPA -34.05 RAP 291.53 ECC 1.2340
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 16 59 49 2911.75 -27.08 85.74 202.96 130.74 17 48 20 1911.7 -9.61 68.04
 60.00 17 47 8 2785.89 -22.73 78.08 206.84 124.22 18 33 34 1785.9 -7.52 58.70
 70.00 18 48 1 2608.67 -18.76 66.18 209.25 119.08 19 31 28 1608.9 -5.57 45.65
 80.00 20 4 13 2368.30 -15.85 49.65 210.83 115.64 20 43 42 1368.3 -4.10 28.45
 90.00 21 29 7 2094.38 -14.75 30.05 211.36 114.40 22 4 2 1094.4 -3.55 8.62
 100.00 22 47 5 1842.77 -15.85 11.02 210.83 115.64 23 17 48 842.8 -4.10 349.82
 110.00 23 47 27 1653.69 -18.76 355.10 209.25 119.08 24 15 1 653.7 -5.57 334.57

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3073 TRA 3.3210 TC3-5.7720 BAU 1.1027 SGT 6983.3 SGR 989.3 SG3 1350.1 ST 125.4 SR 29.6 SS 97.4
 RDE .3653 RRA .4525 RC3 -.5782 FAU .15212 RRT .9447 RRF .9864 RTF .5.81 CRT .9559 CR8 -.9613 CST -.9996
 PDE 3.4538 FRA 8.4592 FC3-9.2624 BSP 11913 SGB 7053.0 R23 .1233 R13 .9788 LSA 161.3 MSA 8.5 SSA 1.4
 BDE 1.3573 BRA 3.3517 BC3 5.8009 FSP 2465 SG1 7045.7 SG2 321.6 THA 7.64 EL1 128.6 EL2 8.5 ALF 12.79

LAUNCH DATE APR 22 1971

FLIGHT TIME 266.00

ARRIVAL DATE JAN 15 1972

HELIOCENTRIC CONIC
 RL 150.37 LAL -.00 LOL 211.23 VL 32.360 GAL -4.00 AZL 90.33 HCA 201.88 SMA 184.84 ECC .19867 INC .3243 V1 29.632
 RP 221.50 LAP .12 LOP 53.11 VP 21.918 GAP .66 AZP 89.70 TAL 335.44 TAP 177.32 RCA 148.12 APO 221.56 V2 24.821
 RC 197.289 GL -2.77 GP -9.77 ZAL 135.75 ZAP 55.79 ETS 172.31 ZAE 95.52 ETE 181.25 ZAC 92.60 ETC 270.74 LVI 1.05

PLANETOCENTRIC CONIC
 C3 14.519 VHL 3.810 DLA -7.67 RAL 349.17 RAD 6640.3 VEL 11.601 PTH 6.64 VHP 3.479 DPA -33.45 RAP 291.48 ECC 1.2389
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 30.00 17 4 19 2907.29 -26.88 85.50 203.83 130.86 17 52 47 1907.3 -9.39 67.85
 60.00 17 52 9 2780.10 -22.50 77.75 207.54 124.36 18 38 29 1780.1 -7.27 58.42
 70.00 18 53 36 2599.41 -18.51 65.74 210.18 119.23 19 36 55 1599.4 -5.28 45.26
 80.00 20 10 20 2359.19 -15.58 49.11 211.78 115.80 20 49 39 1359.2 -3.80 27.95
 90.00 21 35 28 2084.51 -14.47 29.46 212.32 114.56 22 10 12 1084.5 -3.23 8.07
 100.00 22 53 12 1833.66 -15.58 10.48 211.78 115.80 23 23 45 833.7 -3.80 349.32
 110.00 23 53 2 1646.22 -18.51 354.66 210.18 119.23 24 20 29 646.2 -5.28 334.18

MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3364 TRA 3.4531 TC3-5.7906 BAU 1.1286 SGT 7138.7 SGR 924.4 SG3 1323.4 ST 127.7 SR 28.7 SS 96.3
 RDE .3604 RRA .4166 RC3 -.5270 FAU .14858 RRT .9354 RRF .9574 RTF .9779 CRT .9465 CR8 -.9543 CST -.9995
 PDE 3.4176 FRA 8.4054 FC3-8.8596 BSP 12175 SGB 7198.3 R23 .1153 R13 .9786 LSA 162.3 MSA 9.1 SSA 1.4
 BDE 1.3842 BRA 3.4781 BC3 5.8146 FSP 2422 SG1 7190.9 SG2 324.4 THA 6.92 EL1 130.6 EL2 9.1 ALF 12.07

LAUNCH DATE APR 22 1971 FLIGHT TIME 270.00 ARRIVAL DATE JAN 17 1972

HELIOCENTRIC CONIC DISTANCE 633.510 EARTH TO MARS
 RL 130.37 LAL -.00 LOL 211.23 VL 32.368 GAL -4.09 AZL 90.40 HCA 202.98 SMA 184.97 ECC .19974 INC .4009 V1 29.632
 RP 221.88 LAP .16 LOP 54.21 VP 21.881 GAP .50 AZP 89.63 TAL 335.00 TAP 177.99 RCA 148.03 APO 221.92 V2 24.780
 RC 199.945 GL -3.38 GP -9.22 ZAL 136.18 ZAP 54.70 ETS 172.43 ZAE 94.31 ETE 181.00 ZAC 93.34 ETC 270.75 LVI .53

PLANETOCENTRIC CONIC
 C3 14.832 VHL 3.851 DLA -8.04 RAL 349.84 RAD 6640.4 VEL 11.614 PTH 6.66 VHP 3.508 DPA -32.91 RAP 291.45 ECC 1.2441
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 8 26 2904.47 -26.76 85.35 204.70 130.93 17 56 50 1904.5 -9.25 67.73
 60.00 17 56 41 2776.16 -22.35 77.53 208.44 124.45 18 42 57 1776.2 -7.10 58.23
 70.00 18 58 36 2594.07 -18.33 65.43 211.10 119.33 19 41 51 1594.1 -5.08 44.98
 80.00 20 15 47 2352.47 -15.38 48.71 212.72 115.91 20 54 59 1352.5 -3.57 27.58
 90.00 21 41 7 2077.16 -14.26 29.02 213.26 114.68 22 15 44 1077.2 -2.99 7.66
 100.00 22 58 39 1826.94 -15.38 10.08 212.72 115.91 23 29 6 826.9 -3.57 348.93
 110.00 0 1 59 1640.89 -18.33 354.35 211.10 119.33 0 29 20 640.9 -5.08 333.90

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.3692 TRA 3.5867 TC3-5.8003 BAU 1.1541 SGT 7290.4 SGR 867.0 SG3 1295.7 ST 130.2 SR 28.0 SS 95.3
 RDE .3573 RRA .3834 RC3 -.4810 FAU .14476 RRT .9243 RRF .9468 RTF .9777 CRT .9367 CRS -.9469 CST -.9994
 FDE 3.3850 FRA 8.3441 FC3-8.4497 BSP 12443 SGB 7341.8 R23 .1080 R13 .9783 LSA 163.5 MSA 9.7 SSA 1.4
 BDE 1.4151 BRA 3.6071 BC3 5.8202 FSP 2379 SGI 7334.4 SG2 328.9 THA 6.29 EL1 132.8 EL2 9.6 ALF 11.43

LAUNCH DATE APR 22 1971 FLIGHT TIME 272.00 ARRIVAL DATE JAN 19 1972

HELIOCENTRIC CONIC DISTANCE 637.612 EARTH TO MARS
 RL 130.37 LAL -.00 LOL 211.23 VL 32.376 GAL -4.18 AZL 90.47 HCA 204.08 SMA 185.11 ECC .20083 INC .4708 V1 29.632
 RP 222.27 LAP .19 LOP 55.31 VP 21.846 GAP .34 AZP 89.57 TAL 334.56 TAP 178.65 RCA 147.93 APO 222.28 V2 24.738
 RC 202.595 GL -3.92 GP -8.73 ZAL 136.61 ZAP 53.65 ETS 172.54 ZAE 93.11 ETE 180.78 ZAC 93.83 ETC 270.78 LVI .04

PLANETOCENTRIC CONIC
 C3 15.157 VHL 3.893 DLA -8.35 RAL 350.49 RAD 6640.6 VEL 11.628 PTH 6.67 VHP 3.538 DPA -32.41 RAP 291.47 ECC 1.2494
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 12 12 2903.05 -26.69 85.28 205.56 130.97 18 0 35 1903.1 -9.18 67.67
 60.00 18 0 47 2773.83 -22.26 77.40 209.33 124.50 18 47 1 1773.8 -7.00 58.11
 70.00 19 3 7 2590.57 -18.22 65.23 212.01 119.40 19 46 17 1590.6 -4.95 44.79
 80.00 20 20 40 2347.81 -15.24 48.44 213.65 115.99 20 59 47 1347.8 -3.41 27.32
 90.00 21 46 9 2071.97 -14.11 28.71 214.20 114.76 22 20 41 1072.0 -2.83 7.37
 100.00 23 3 31 1822.29 -15.24 9.80 213.65 115.99 23 33 54 822.3 -3.41 348.69
 110.00 0 6 29 1637.39 -18.22 354.15 212.01 119.40 0 33 47 637.4 -4.95 333.71

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4052 TRA 3.7215 TC3-5.8048 BAU 1.1797 SGT 7439.7 SGR 816.6 SG3 1267.7 ST 132.8 SR 27.3 SS 94.3
 RDE .3558 RRA .3526 RC3 -.4405 FAU .14102 RRT .9113 RRF .9342 RTF .9776 CRT .9265 CRS -.9393 CST -.9992
 FDE 3.3551 FRA 8.2764 FC3-8.0545 BSP 12713 SGB 7484.4 R23 .1010 R13 .9780 LSA 164.8 MSA 10.2 SSA 1.4
 BDE 1.4495 BRA 3.7382 BC3 5.8215 FSP 2334 SGI 7476.9 SG2 334.6 THA 5.72 EL1 135.2 EL2 10.1 ALF 10.86

LAUNCH DATE APR 22 1971 FLIGHT TIME 274.00 ARRIVAL DATE JAN 21 1972

HELIOCENTRIC CONIC DISTANCE 641.709 EARTH TO MARS
 RL 130.37 LAL -.00 LOL 211.23 VL 32.384 GAL -4.27 AZL 90.54 HCA 205.18 SMA 185.25 ECC .20195 INC .5347 V1 29.632
 RP 222.65 LAP .23 LOP 56.40 VP 21.811 GAP .18 AZP 89.52 TAL 334.12 TAP 179.30 RCA 147.84 APO 222.66 V2 24.696
 RC 205.250 GL -4.39 GP -8.29 ZAL 137.04 ZAP 52.64 ETS 172.66 ZAE 91.94 ETE 180.59 ZAC 94.27 ETC 270.81 LVI -.42

PLANETOCENTRIC CONIC
 C3 15.494 VHL 3.936 DLA -8.61 RAL 351.12 RAD 6640.8 VEL 11.642 PTH 6.68 VHP 3.570 DPA -31.95 RAP 291.53 ECC 1.2550
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 15 39 2902.86 -26.68 85.27 206.42 130.97 18 4 2 1902.9 -9.17 67.66
 60.00 18 4 32 2772.87 -22.23 77.35 210.21 124.53 18 50 45 1772.9 -6.96 58.07
 70.00 19 7 11 2588.66 -18.15 65.12 212.92 119.44 19 50 20 1588.7 -4.88 44.69
 80.00 20 25 2 2344.95 -15.15 48.27 214.56 116.04 21 4 7 1345.0 -3.32 27.18
 90.00 21 50 40 2068.67 -14.02 28.51 215.12 114.81 22 25 9 1068.7 -2.72 7.18
 100.00 23 7 54 1819.42 -15.15 9.63 214.56 116.04 23 38 13 819.4 -3.32 348.53
 110.00 0 10 33 1635.48 -18.15 354.04 212.92 119.44 0 37 49 635.5 -4.88 333.61

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4434 TRA 3.8574 TC3-5.8045 BAU 1.2052 SGT 7585.8 SGR 772.2 SG3 1239.2 ST 135.4 SR 26.8 SS 93.3
 RDE .3553 RRA .3240 RC3 -.4044 FAU .13723 RRT .8962 RRF .9196 RTF .573 CRT .9161 CRS -.9313 CST -.9990
 FDE 3.3249 FRA 8.2035 FC3-7.6682 BSP 12977 SGB 7625.0 R23 .0944 R13 .9777 LSA 166.3 MSA 10.8 SSA 1.4
 BDE 1.4864 BRA 3.8710 BC3 5.8188 FSP 2287 SGI 7617.4 SG2 341.1 THA 5.22 EL1 137.6 EL2 10.6 ALF 10.33

LAUNCH DATE APR 22 1971 FLIGHT TIME 276.00 ARRIVAL DATE JAN 23 1972

HELIOCENTRIC CONIC DISTANCE 645.802 EARTH TO MARS
 RL 130.37 LAL -.00 LOL 211.23 VL 32.393 GAL -4.36 AZL 90.59 HCA 206.27 SMA 185.39 ECC .20309 INC .5926 V1 29.632
 RP 223.04 LAP .26 LOP 57.50 VP 21.776 GAP .02 AZP 89.47 TAL 333.67 TAP 179.94 RCA 147.74 APO 223.04 V2 24.654
 RC 207.907 GL -4.82 GP -7.88 ZAL 137.47 ZAP 51.66 ETS 172.76 ZAE 90.79 ETE 180.42 ZAC 94.68 ETC 270.85 LVI -.85

PLANETOCENTRIC CONIC
 C3 15.842 VHL 3.980 DLA -8.82 RAL 351.72 RAD 6640.9 VEL 11.657 PTH 6.69 VHP 3.602 DPA -31.53 RAP 291.64 ECC 1.2607
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 51 2903.74 -26.72 85.31 207.27 130.93 18 7 15 1903.7 -9.22 67.70
 60.00 18 7 57 2773.14 -22.24 77.36 211.08 124.92 18 54 11 1773.1 -6.97 58.08
 70.00 19 10 53 2588.15 -18.14 65.09 213.81 119.45 19 54 1 1588.1 -4.86 44.67
 80.00 20 28 58 2343.66 -15.12 48.19 215.47 116.06 21 8 2 1343.7 -3.27 27.09
 90.00 21 54 43 2067.03 -13.97 28.41 216.03 114.84 22 29 10 1067.0 -2.67 7.09
 100.00 23 11 50 1818.13 -15.12 9.56 215.47 116.06 23 42 8 818.1 -3.27 348.46
 110.00 0 14 15 1634.96 -18.14 354.01 213.81 119.45 0 41 30 635.0 -4.86 333.58

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
 TDE 1.4834 TRA 3.9940 TC3-5.8015 BAU 1.2312 SGT 7729.1 SGR 733.5 SG3 1210.9 ST 138.1 SR 26.4 SS 92.3
 RDE .3561 RRA .2973 RC3 -.3722 FAU .13342 RRT .8788 RRF .9028 RTF .9770 CRT .9056 CRS -.9233 CST -.9989
 FDE 3.2985 FRA 8.1277 FC3-7.2912 BSP 13230 SGB 7763.8 R23 .0889 R13 .9773 LSA 167.8 MSA 11.3 SSA 1.3
 BDE 1.5255 BRA 4.0050 BC3 5.8135 FSP 2241 SGI 7756.0 SG2 348.8 THA 4.78 EL1 140.1 EL2 11.1 ALF 9.90

LAUNCH DATE APR 22 1971

FLIGHT TIME 278.00

ARRIVAL DATE JAN 25 1972

HELIOCENTRIC CONIC

DISTANCE 649.883

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.401 GAL -4.45 AZL 90.65 HCA 207.36 SMA 185.53 ECC .20426 INC .6462 V1 29.632
 RP 223.42 LAP .30 LOP 59.58 VP 21.741 GAP -.15 AZP 89.43 TAL 333.21 TAP 180.57 RCA 147.63 APO 223.43 V2 24.612
 RC 210.966 GL -9.20 GP -7.50 ZAL 137.90 ZAP 90.71 ETS 172.87 ZAE 89.66 ETE 180.27 ZAC 95.04 ETC 270.89 LV1 -1.28

PLANETOCENTRIC CONIC

C3 16.201 VHL 4.025 DLA -8.98 RAL 352.31 RAD 6641.1 VEL 11.672 PTH 6.71 VHP 3.636 DPA -31.13 RAP 291.78 ECC 1.2666
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 21 48 2905.56 -26.80 85.41 208.11 130.90 18 10 14 1905.6 -9.31 67.78
 60.00 18 11 6 2774.46 -22.29 77.44 211.95 124.49 18 57 20 1774.5 -7.02 58.14
 70.00 19 14 14 2588.85 -18.16 65.13 214.69 119.44 19 57 22 1588.8 -4.88 44.70
 80.00 20 32 31 2343.75 -15.12 48.20 216.36 116.06 21 11 35 1343.7 -3.28 27.10
 90.00 21 58 21 2066.83 -13.97 28.40 216.93 114.84 22 32 48 1066.8 -2.66 7.08
 100.00 23 15 23 1818.22 -15.12 9.56 216.36 116.06 23 45 41 818.2 -3.28 348.47
 110.00 0 17 36 1635.67 -18.16 354.05 214.69 119.44 0 44 52 635.7 -4.88 333.62

DIFFERENTIAL CORRECTIONS

TDE 1.5252 TRA 4.1310 TC3-5.7959 BAU 1.2575
 RDE .3577 RRA .2721 RC3 -.3437 FAU .12974
 FDE 3.2704 FRA 8.0456 FC3-6.9332 BSP 13477
 BDE 1.5666 BRA 4.1399 BC3 5.8061 FSP 2192

MID-COURSE EXECUTION ACCURACY

SGT 7869.2 SGR 899.7 SG3 1182.3
 RRT .8592 RRF .8837 RTF .9767
 SGB 7900.3 R23 .0836 R13 .9770
 SGI 7892.2 SG2 356.9 THA 4.38

ORBIT DETERMINATION ACCURACY

ST 140.7 SR 26.1 SS 91.3
 CRT .8950 CR8 -.9152 CST -.9987
 LSA 169.4 MSA 11.8 SSA 1.3
 EL1 142.7 EL2 11.5 ALF 9.50

LAUNCH DATE APR 22 1971

FLIGHT TIME 280.00

ARRIVAL DATE JAN 27 1972

HELIOCENTRIC CONIC

DISTANCE 653.962

EARTH TO MARS

RL 150.37 LAL -.00 LOL 211.23 VL 32.410 GAL -4.55 AZL 90.70 HCA 208.44 SMA 185.88 ECC .20546 INC .6984 V1 29.632
 RP 223.81 LAP .33 LOP 59.67 VP 21.707 GAP -.31 AZP 89.39 TAL 332.76 TAP 181.20 RCA 147.53 APO 223.83 V2 24.571
 RC 213.227 GL -9.54 GP -7.16 ZAL 138.33 ZAP 49.80 ETS 172.96 ZAE 88.56 ETE 180.13 ZAC 95.38 ETC 270.94 LV1 -1.65

PLANETOCENTRIC CONIC

C3 16.571 VHL 4.071 DLA -9.10 RAL 352.88 RAD 6641.3 VEL 11.688 PTH 6.72 VHP 3.670 DPA -30.77 RAP 291.95 ECC 1.2727
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 24 35 2908.19 -26.92 85.55 208.95 130.83 18 13 1 1908.2 -9.44 67.89
 60.00 18 13 59 2776.72 -22.37 77.56 212.81 124.44 19 0 16 1776.7 -7.12 58.25
 70.00 19 17 17 2590.63 -18.22 65.23 215.57 119.40 20 0 27 1590.6 -4.95 44.80
 80.00 20 35 44 2345.05 -15.16 48.27 217.25 116.04 21 14 49 1345.1 -3.32 27.17
 90.00 22 1 37 2067.92 -14.00 28.47 217.82 114.82 22 36 5 1067.9 -2.70 7.14
 100.00 23 18 35 1819.53 -15.16 9.64 217.25 116.04 23 48 55 819.5 -3.32 348.54
 110.00 0 20 39 1637.45 -18.22 354.15 215.57 119.40 0 47 56 637.5 -4.95 333.71

DIFFERENTIAL CORRECTIONS

TDE 1.5703 TRA 4.2717 TC3-5.7812 BAU 1.2827
 RDE .3602 RRA .2486 RC3 -.3178 FAU .12584
 FDE 3.2460 FRA 7.9658 FC3-6.5741 BSP 13742
 BDE 1.6110 BR. 4.2789 BC3 5.7899 FSP 2147

MID-COURSE EXECUTION ACCURACY

SGT 8007.2 SGR 670.5 SG3 1154.2
 RRT .8374 RRF .8625 RTF .9763
 SGB 8035.2 R23 .0790 R13 .9766
 SGI 8026.9 SG2 365.6 THA 4.02

ORBIT DETERMINATION ACCURACY

ST 143.5 SR 25.9 SS 90.4
 CRT .8847 CR8 -.9073 CST -.9985
 LSA 171.1 MSA 12.3 SSA 1.3
 EL1 145.4 EL2 11.9 ALF 9.13

LAUNCH DATE APR 23 1971

FLIGHT TIME 114.00

ARRIVAL DATE AUG 15 1971

HELIOCENTRIC CONIC

DISTANCE 327.595

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 34.870 GAL -4.84 AZL 91.94 HCA 107.76 SMA 241.04 ECC .38340 INC 1.9423 V1 29.624
 RP 207.32 LAP -1.85 LOP 319.97 VP 27.046 GAP 21.20 AZP 89.41 TAL 343.25 TAP 91.01 RCA 148.84 APO 335.04 V2 26.420
 RC 56.291 GL -10.96 GP 1.38 ZAL 122.07 ZAP 173.27 ETS 168.03 ZAE 173.21 ETE 110.30 ZAC 102.00 ETC 276.80 LVI -18.00

PLANETOCENTRIC CONIC

C3 38.378 VHL 6.195 DLA -19.97 RAL 341.02 RAD 6650.1 VEL 12.980 PTH 7.45 VHP 10.462 DPA -17.25 RAP 315.99 ECC 1.6316
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 16 39 2892.75 -26.23 84.73 207.07 131.23 18 4 51 1892.7 -0.67 67.23
 60.00 18 19 55 2724.50 -20.33 74.66 212.13 125.58 19 5 19 1724.5 -4.84 55.73
 70.00 19 39 56 2489.25 -14.74 59.44 216.02 121.17 20 21 25 1489.2 -1.09 39.49
 80.00 21 15 28 2190.25 -10.34 39.30 218.58 118.16 21 51 59 1190.2 1.92 18.67
 90.00 22 49 37 1886.59 -8.58 17.91 219.51 117.05 23 21 3 886.6 3.14 357.02
 100.00 0 2 16 1664.72 -10.34 .67 218.58 118.16 0 30 1 664.7 1.92 340.04
 110.00 0 43 18 1536.06 -14.74 348.36 216.02 121.17 1 8 55 536.1 -1.09 328.41

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5981 TRA-1.2782 TC3 -.0454 BAU .0530 SGT 1374.5 SGR 569.3 SG3 139.7 ST 33.5 SR 26.4 SS 22.3
 RDE -.5675 RRA .1914 RC3 .0927 FAU .03624 RRT .0605 RRF -.0659 RTF -.7443 CRT .7612 CRS .5867 CST .9699
 FDE .3566 FRA 1.2364 FC3 -.8176 BSP 2196 SGB 1487.7 R23 -.0116 R13 -.7445 LSA 45.0 MSA 17.0 SBA 1.1
 BDE .8245 BRA 1.2924 BC3 .1032 FSP 182 SG1 1375.0 SG2 568.0 THA 1.73 EL1 40.2 EL2 14.3 ALF 36.26

LAUNCH DATE APR 23 1971

FLIGHT TIME 116.00

ARRIVAL DATE AUG 17 1971

HELIOCENTRIC CONIC

DISTANCE 329.956

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 34.708 GAL -4.51 AZL 91.96 HCA 109.02 SMA 236.87 ECC .37253 INC 1.9556 V1 29.624
 RP 207.22 LAP -1.85 LOP 321.23 VP 26.848 GAP 20.70 AZP 89.36 TAL 343.31 TAP 92.33 RCA 148.69 APO 325.25 V2 26.432
 RC 56.455 GL -11.31 GP 1.43 ZAL 122.09 ZAP 172.42 ETS 169.02 ZAE 173.45 ETE 102.73 ZAC 101.99 ETC 276.89 LVI -18.17

PLANETOCENTRIC CONIC

C3 36.223 VHL 6.019 DLA -20.17 RAL 341.23 RAD 6649.3 VEL 12.495 PTH 7.38 VHP 10.140 DPA -17.08 RAP 316.38 ECC 1.5961
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 18 47 2871.81 -25.29 83.63 206.42 131.75 18 6 39 1871.8 -7.63 66.33
 60.00 18 22 31 2702.35 -19.45 73.45 211.51 126.02 19 7 33 1702.4 -3.87 54.66
 70.00 19 43 8 2465.33 -13.89 58.11 215.39 121.52 20 24 14 1465.3 -1.17 38.24
 80.00 21 19 22 2164.18 -9.50 37.83 217.97 118.44 21 55 26 1164.2 2.80 17.24
 90.00 22 53 52 1859.33 -7.73 16.35 218.91 117.29 23 24 52 859.3 4.01 355.49
 100.00 0 6 10 1638.65 -9.50 359.19 217.97 118.44 0 33 28 638.7 2.80 338.60
 110.00 0 46 31 1512.15 -13.89 347.02 215.39 121.52 1 11 43 512.1 -1.17 327.16

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5946 TRA-1.2679 TC3 -.0355 BAU .0511 SGT 1405.6 SGR 567.6 SG3 149.2 ST 34.2 SR 26.3 SS 23.1
 RDE -.5496 RRA .1824 RC3 .0993 FAU .03738 RRT .0666 RRF -.0720 RTF -.7541 CRT .7623 CRS .5840 CST .9688
 FDE .3683 FRA 1.2870 FC3 -.8934 BSP 2250 SGB 1515.9 R23 -.0120 R13 -.7544 LSA 45.8 MSA 17.1 SBA 1.1
 BDE .8097 BRA 1.2810 BC3 .1055 FSP 197 SG1 1406.2 SG2 566.1 THA 1.84 EL1 40.7 EL2 14.3 ALF 35.35

LAUNCH DATE APR 23 1971

FLIGHT TIME 118.00

ARRIVAL DATE AUG 19 1971

HELIOCENTRIC CONIC

DISTANCE 332.488

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 34.555 GAL -4.38 AZL 91.97 HCA 110.28 SMA 232.56 ECC .36040 INC 1.9692 V1 29.624
 RP 207.13 LAP -1.85 LOP 322.90 VP 26.661 GAP 20.21 AZP 89.32 TAL 343.38 TAP 93.67 RCA 148.75 APO 316.38 V2 26.443
 RC 56.701 GL -11.87 GP 1.48 ZAL 122.09 ZAP 171.58 ETS 169.81 ZAE 173.58 ETE 95.00 ZAC 102.00 ETC 276.98 LVI -18.34

PLANETOCENTRIC CONIC

C3 34.232 VHL 5.851 DLA -20.49 RAL 341.42 RAD 6648.6 VEL 12.415 PTH 7.32 VHP 9.828 DPA -16.92 RAP 316.76 ECC 1.5634
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 20 57 2850.88 -24.33 82.55 205.80 132.24 18 8 28 1850.9 -8.58 65.44
 60.00 18 25 9 2680.13 -18.56 72.25 210.88 126.44 19 9 30 1680.1 -2.89 53.60
 70.00 19 46 25 2441.23 -13.03 56.77 214.77 121.85 20 27 7 1441.2 .75 36.99
 80.00 21 23 23 2137.76 -8.64 36.34 217.38 118.69 21 59 1 1137.8 3.69 15.78
 90.00 22 58 18 1831.61 -6.87 14.78 218.34 117.50 23 28 50 831.6 4.90 353.93
 100.00 0 10 11 1612.23 -8.64 357.70 217.38 118.69 0 37 3 612.2 3.69 337.15
 110.00 0 49 48 1488.05 -13.03 345.69 214.77 121.85 1 14 38 488.0 .75 325.90

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5816 TRA-1.2491 TC3 -.0147 BAU .0491 SGT 1424.7 SGR 565.6 SG3 159.5 ST 34.8 SR 26.2 SS 24.0
 RDE -.5321 RRA .1733 RC3 .1064 FAU .03890 RRT .0717 RRF -.0781 RTF -.7504 CRT .7608 CRS .5832 CST .9693
 FDE .3827 FRA 1.3420 FC3 -.9738 BSP 2206 SGB 1532.9 R23 -.0136 R13 -.7706 LSA 46.4 MSA 17.3 SBA 1.1
 BDE .7883 BRA 1.2611 BC3 .1074 FSP 215 SG1 1425.4 SG2 563.9 THA 1.93 EL1 40.9 EL2 14.4 ALF 34.87

LAUNCH DATE APR 23 1971

FLIGHT TIME 120.00

ARRIVAL DATE AUG 21 1971

HELIOCENTRIC CONIC

DISTANCE 335.172

EARTH TO MARS

RL 150.41 LAL -.00 LOL 212.20 VL 34.410 GAL -4.26 AZL 91.98 HCA 111.55 SMA 228.56 ECC .34897 INC 1.9830 V1 29.624
 RP 207.05 LAP -1.84 LOP 323.76 VP 26.483 GAP 19.73 AZP 89.27 TAL 343.47 TAP 95.02 RCA 148.80 APO 308.33 V2 26.453
 RC 57.030 GL -12.04 GP 1.53 ZAL 122.07 ZAP 170.68 ETS 170.45 ZAE 173.59 ETE 87.44 ZAC 102.00 ETC 277.06 LVI -18.50

PLANETOCENTRIC CONIC

C3 32.398 VHL 5.692 DLA -20.81 RAL 341.80 RAD 6647.9 VEL 12.342 PTH 7.27 VHP 9.526 DPA -16.76 RAP 317.13 ECC 1.5332
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 23 8 2830.07 -23.38 81.50 205.20 132.70 18 10 18 1830.1 -5.54 64.57
 60.00 18 27 50 2657.96 -17.66 71.07 210.28 126.83 19 12 8 1658.0 -1.92 52.54
 70.00 19 49 47 2417.06 -12.15 55.44 214.19 122.17 20 30 4 1417.1 1.67 35.73
 80.00 21 27 33 2111.09 -7.77 34.84 216.81 118.92 22 2 44 1111.1 4.59 14.31
 90.00 23 2 54 1803.53 -5.98 13.19 217.78 117.69 23 32 58 803.5 5.79 352.35
 100.00 0 14 21 1585.57 -7.77 356.21 216.81 118.92 0 40 46 585.6 4.59 335.68
 110.00 0 53 9 1463.88 -12.15 344.36 214.19 122.17 1 17 33 463.9 1.67 324.64

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5810 TRA-1.2429 TC3 -.0077 BAU .0493 SGT 1460.7 SGR 563.3 SG3 170.3 ST 35.5 SR 26.1 SS 24.8
 RDE -.5153 RRA .1647 RC3 .1137 FAU .03983 RRT .0787 RRF -.0862 RTF -.7758 CRT .7623 CRS .5794 CST .9676
 FDE .3939 FRA 1.3964 FC3 -1.0643 BSP 2318 SGB 1565.6 R23 -.0146 R13 -.7761 LSA 47.4 MSA 17.4 SBA 1.1
 BDE .7766 BRA 1.2538 BC3 .1139 FSP 231 SG1 1461.5 SG2 561.2 THA 2.04 EL1 41.6 EL2 14.4 ALF 33.85

LAUNCH DATE APR 23 1971

FLIGHT TIME 122.00

ARRIVAL DATE AUG 23 1971

Heliocentric Conic: RL 150.41 LAL -0.00 LOL 212.20 VL 34.273 GAL -4.13 AZL 92.00 HCA 112.81 SMA 224.92 ECC .33819 INC 1.9970 V1 29.624
 RP 206.97 LAP -1.84 LOP 325.03 VP 26.314 GAP 19.25 AZP 89.23 TAL 343.56 TAP 96.37 RCA 148.86 APO 300.99 V2 26.462
 RC 57.440 GL -12.42 GP 1.59 ZAL 122.04 ZAP 189.79 ETS 170.99 ZAE 173.51 ETE 80.33 ZAC 102.01 ETC 277.15 LVI -18.67

Distance 337.991

Planetocentric Conic: C3 30.700 VHL 5.541 DLA -21.15 RAL 341.77 RAD 6647.3 VEL 12.273 PTH 7.21 VMP 9.234 DPA -16.60 RAP 317.48 ECC 1.5052
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 25 19 2809.34 -22.42 80.46 204.63 133.13 18 12 8 1809.3 -4.50 63.69
 60.00 18 30 34 2635.81 -16.75 69.90 209.70 127.21 19 14 30 1635.6 -0.94 51.48
 70.00 19 53 14 2392.79 -11.27 54.12 213.63 122.46 20 33 7 1392.8 2.60 34.46
 80.00 21 31 52 2084.13 -6.88 33.33 216.28 119.13 22 6 36 1084.1 5.49 12.82
 90.00 23 7 41 1775.03 -5.08 11.59 217.26 117.86 23 37 16 775.0 6.69 350.74
 100.00 0 18 39 1558.60 -6.88 354.70 216.28 119.13 0 44 38 558.6 5.49 334.19
 110.00 0 56 36 1439.61 -11.27 343.04 213.63 122.46 1 20 36 439.6 2.60 323.37

Differential Corrections: TDE -.5768 TRA-1.2346 TC3 .0017 BAU .0498 SGT 1494.0 SGR 560.5 S63 181.9 ST 36.3 SR 25.9 S8 25.6
 RDE -.4989 RRA .1560 RC3 .1214 FAU .04123 RRT .0862 RRF -.0940 RTF -.7820 CRT .7638 CR8 .5768 CST .9660
 FDE .4058 FRA 1.4538 FC3-1.1826 B8P 2413 SGB 1595.7 R23 -.0157 R13 -.7823 LSA 48.3 MSA 17.5 S8A 1.2
 BDE .7641 BRA 1.2444 BC3 .1214 F8P 249 S61 1494.9 S62 558.1 THA 2.15 EL1 42.2 EL2 14.4 ALF 32.92

Orbit Determination Accuracy: ST 36.3 SR 25.9 S8 25.6 CRT .7638 CR8 .5768 CST .9660 LSA 48.3 MSA 17.5 S8A 1.2 EL1 42.2 EL2 14.4 ALF 32.92

LAUNCH DATE APR 23 1971

FLIGHT TIME 124.00

ARRIVAL DATE AUG 25 1971

Heliocentric Conic: RL 150.41 LAL -0.00 LOL 212.20 VL 34.144 GAL -4.01 AZL 92.01 HCA 114.08 SMA 221.60 ECC .32803 INC 2.0113 V1 29.624
 RP 206.90 LAP -1.84 LOP 326.29 VP 26.193 GAP 18.78 AZP 89.18 TAL 343.66 TAP 97.74 RCA 148.91 APO 294.30 V2 26.469
 RC 57.930 GL -12.80 GP 1.65 ZAL 121.98 ZAP 168.88 ETS 171.44 ZAE 173.36 ETE 73.89 ZAC 102.03 ETC 277.22 LVI -18.83

Distance 340.931

Planetocentric Conic: C3 29.133 VHL 5.397 DLA -21.50 RAL 341.93 RAD 6646.7 VEL 12.210 PTH 7.16 VMP 8.952 DPA -16.44 RAP 317.61 ECC 1.4794
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 27 32 2788.73 -21.45 79.45 204.08 133.54 18 14 0 1788.7 -3.47 62.83
 60.00 18 33 21 2613.70 -15.84 68.75 209.15 127.56 19 16 54 1613.7 .03 50.43
 70.00 19 56 47 2368.43 -10.38 52.80 213.09 122.72 20 36 15 1368.4 3.52 33.18
 80.00 21 36 20 2056.87 -5.97 31.82 215.77 119.31 22 10 36 1056.9 6.40 11.31
 90.00 23 12 41 1746.08 -4.15 9.96 216.76 118.00 23 41 47 746.1 7.60 349.10
 100.00 0 23 7 1531.34 -5.97 353.19 215.77 119.31 0 48 39 531.3 6.40 332.67
 110.00 1 0 9 1415.25 -10.38 341.71 213.09 122.72 1 23 44 415.2 3.52 322.10

Differential Corrections: TDE -.5755 TRA-1.2248 TC3 .0139 BAU .0507 SGT 1525.2 SGR 557.5 S63 194.3 ST 37.0 SR 25.8 S8 26.4
 RDE -.4831 RRA .1474 RC3 .1294 FAU .04270 RRT .0946 RRF -.1027 RTF -.7888 CRT .7632 CR3 .5728 CST .9645
 FDE .4184 FRA 1.5140 FC3-1.2690 B8P 2489 SGB 1623.9 R23 -.0168 R13 -.7891 LSA 49.2 MSA 17.6 S8A 1.2
 BDE .7514 BRA 1.2337 BC3 .1302 F8P 269 S61 1526.3 S62 554.6 THA 2.28 EL1 42.8 EL2 14.4 ALF 32.06

Orbit Determination Accuracy: ST 37.0 SR 25.8 S8 26.4 CRT .7632 CR3 .5728 CST .9645 LSA 49.2 MSA 17.6 S8A 1.2 EL1 42.8 EL2 14.4 ALF 32.06

LAUNCH DATE APR 23 1971

FLIGHT TIME 126.00

ARRIVAL DATE AUG 27 1971

Heliocentric Conic: RL 150.41 LAL -0.00 LOL 212.20 VL 34.022 GAL -3.90 AZL 92.03 HCA 115.33 SMA 218.56 ECC .31844 INC 2.0259 V1 29.624
 RP 206.85 LAP -1.83 LOP 327.56 VP 26.000 GAP 18.32 AZP 89.13 TAL 343.78 TAP 99.12 RCA 148.96 APO 288.17 V2 26.476
 RC 58.496 GL -13.18 GP 1.72 ZAL 121.91 ZAP 167.95 ETS 171.82 ZAE 173.15 ETE 68.22 ZAC 102.05 ETC 277.30 LVI -18.99

Distance 343.980

Planetocentric Conic: C3 27.684 VHL 5.262 DLA -21.88 RAL 342.08 RAD 6646.1 VEL 12.151 PTH 7.12 VMP 8.679 DPA -16.28 RAP 318.13 ECC 1.4556
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 29 45 2788.26 -20.49 78.45 203.56 133.93 18 15 54 1768.3 -2.44 61.97
 60.00 18 36 10 2591.65 -14.92 67.61 208.63 127.88 19 19 22 1591.6 1.00 49.37
 70.00 20 0 25 2343.99 -9.48 51.48 212.58 122.97 20 39 29 1344.0 4.45 31.90
 80.00 21 40 57 2029.32 -5.05 30.29 215.29 119.47 22 14 47 1029.3 7.31 9.77
 90.00 23 17 53 1716.67 -3.21 8.31 216.30 118.11 23 46 30 716.7 8.51 347.42
 100.00 0 27 45 1503.79 -5.05 351.66 215.29 119.47 0 52 49 503.8 7.31 331.14
 110.00 1 3 47 1390.81 -9.48 340.40 212.58 122.97 1 26 58 390.8 4.45 320.82

Differential Corrections: TDE -.9709 TRA-1.2145 TC3 .0269 BAU .0520 SGT 1555.0 SGR 554.2 S63 207.5 ST 37.7 SR 25.8 S8 27.3
 RDE -.4678 RRA .1388 RC3 .1379 FAU .04426 RRT .1030 RRF -.1120 RTF -.7855 CRT .7661 CR8 .5694 CST .9631
 FDE .4313 FRA 1.5777 FC3-1.3841 B8P 2557 SGB 1650.8 R23 -.0184 R13 -.7959 LSA 50.1 MSA 17.7 S8A 1.2
 BDE .7381 BRA 1.2224 BC3 .1408 F8P 290 S61 1556.2 S62 550.8 THA 2.40 EL1 43.3 EL2 14.3 ALF 31.28

Orbit Determination Accuracy: ST 37.7 SR 25.8 S8 27.3 CRT .7661 CR8 .5694 CST .9631 LSA 50.1 MSA 17.7 S8A 1.2 EL1 43.3 EL2 14.3 ALF 31.28

LAUNCH DATE APR 23 1971

FLIGHT TIME 128.00

ARRIVAL DATE AUG 29 1971

Heliocentric Conic: RL 150.41 LAL -0.00 LOL 212.20 VL 33.906 GAL -3.78 AZL 92.04 HCA 116.61 SMA 215.78 ECC .30940 INC 2.0408 V1 29.624
 RP 206.80 LAP -1.82 LOP 328.83 VP 25.855 GAP 17.87 AZP 89.09 TAL 343.90 TAP 100.51 RCA 149.02 APO 282.54 V2 26.482
 RC 59.137 GL -13.58 GP 1.78 ZAL 121.83 ZAP 167.00 ETS 172.14 ZAE 172.91 ETE 63.35 ZAC 102.07 ETC 277.37 LVI -19.15

Distance 347.127

Planetocentric Conic: C3 26.344 VHL 5.133 DLA -22.24 RAL 342.22 RAD 6645.5 VEL 12.096 PTH 7.07 VMP 8.414 DPA -16.12 RAP 318.43 ECC 1.4336
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 32 1 2747.95 -19.53 77.48 203.07 134.29 18 17 49 1747.9 -1.42 61.12
 60.00 18 39 3 2569.69 -14.00 66.48 208.13 128.19 19 21 52 1569.7 1.97 48.32
 70.00 20 4 9 2319.51 -8.57 50.17 212.10 123.19 20 42 48 1319.5 5.38 30.61
 80.00 21 45 48 2001.46 -4.12 28.75 214.84 119.60 22 19 7 1001.5 8.23 8.21
 90.00 23 23 20 1686.77 -2.25 6.64 215.87 118.20 23 51 27 686.8 9.44 345.71
 100.00 0 32 34 1475.94 -4.12 350.12 214.84 119.60 0 57 10 475.9 8.23 329.58
 110.00 1 7 31 1366.33 -8.57 339.09 212.10 123.19 1 30 17 366.3 5.38 319.53

Differential Corrections: TDE -.5659 TRA-1.2029 TC3 .0416 BAU .0537 SGT 1582.9 SGR 550.6 S63 221.6 ST 38.4 SR 25.4 S8 28.2
 RDE -.4531 RRA .1303 RC3 .1467 FAU .04591 RRT .1124 RRF -.1221 RTF -.8022 CRT .7672 CR3 .5659 CST .9615
 FDE .4444 FRA 1.6443 FC3-1.5087 B8P 2620 SGB 1675.9 R23 -.0199 R13 -.8026 LSA 50.9 MSA 17.8 S8A 1.2
 BDE .7249 BRA 1.2100 BC3 .1525 F8P 313 S61 1584.3 S62 546.6 THA 2.54 EL1 43.7 EL2 14.3 ALF 30.54

Orbit Determination Accuracy: ST 38.4 SR 25.4 S8 28.2 CRT .7672 CR3 .5659 CST .9615 LSA 50.9 MSA 17.8 S8A 1.2 EL1 43.7 EL2 14.3 ALF 30.54

LAUNCH DATE APR 23 1971 FLIGHT TIME 130.00 ARRIVAL DATE AUG 31 1971

HELIOCENTRIC CONIC DISTANCE 330.361 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 33.797 GAL -3.67 AZL 92.06 HCA 117.88 SMA 213.22 ECC .30088 INC 2.0561 V1 29.624
RP 206.75 LAP -1.82 LOP 330.10 VP 25.717 GAP 17.43 AZP 89.04 TAL 344.03 TAP 101.91 RCA 149.07 APO 277.37 V2 26.487
RC 59.850 GL -13.98 GP 1.86 ZAL 121.73 ZAP 166.04 ETS 172.42 ZAE 172.66 ETE 59.23 ZAC 102.11 ETC 277.43 LVI -19.30
PLANETOCENTRIC CONIC
C3 25.106 VHL 5.011 DLA -22.62 RAL 342.35 RAD 6645.0 VEL 12.045 PTH 7.03 VHP 8.158 DPA -15.96 RAP 318.71 ECC 1.4132
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 34 18 2727.82 -18.57 76.33 202.61 134.63 18 19 45 1727.8 -.41 60.28
60.00 18 41 58 2547.83 -13.07 65.37 207.66 128.47 19 24 26 1547.0 2.93 47.28
70.00 20 7 59 2294.98 -7.65 48.86 211.66 123.39 20 46 14 1295.0 6.31 29.32
80.00 21 50 46 1973.31 -3.17 27.20 214.42 119.70 22 23 39 973.3 9.15 6.63
90.00 23 29 2 1656.36 -1.27 4.94 215.47 118.25 23 56 38 656.4 10.36 343.96
100.00 0 37 34 1447.78 -3.17 348.57 214.42 119.70 1 1 41 447.8 9.15 328.00
110.00 1 11 21 1341.80 -7.65 337.78 211.66 123.39 1 33 43 341.8 6.31 318.24
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5605 TRA-1.1911 TC3 .0572 BAU .0557 SGT 1609.8 SGR 546.7 SG3 236.6 ST 38.9 SR 25.2 SS 29.1
RDE -.4388 RRA .1218 RC3 .1559 FAU .04768 RRT .1225 RRF -.1334 RTF -.8084 CRT .7684 CRS .5626 CST .9599
FDE .4581 FRA 1.7145 FC3-1.6442 BSP 2677 SGB 1700.1 R23 -.0218 R13 -.8089 LSA 51.7 MSA 17.9 SSA 1.2
BDE .7118 BRA 1.1973 BC3 .1660 FSP 337 SG1 1611.3 SG2 542.1 THA 2.69 EL1 44.1 EL2 14.2 ALF 29.83

LAUNCH DATE APR 23 1971 FLIGHT TIME 132.00 ARRIVAL DATE SEP 2 1971

HELIOCENTRIC CONIC DISTANCE 353.676 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 33.695 GAL -3.57 AZL 92.07 HCA 119.15 SMA 210.87 ECC .29284 INC 2.0717 V1 29.624
RP 206.72 LAP -1.81 LOP 331.37 VP 25.586 GAP 16.99 AZP 88.99 TAL 344.16 TAP 103.31 RCA 149.12 APO 272.62 V2 26.491
RC 60.633 GL -14.38 GP 1.93 ZAL 121.62 ZAP 165.05 ETS 172.65 ZAE 172.42 ETE 55.81 ZAC 102.14 ETC 277.50 LVI -19.46
PLANETOCENTRIC CONIC
C3 23.961 VHL 4.895 DLA -23.01 RAL 342.47 RAD 6644.6 VEL 11.998 PTH 6.99 VHP 7.910 DPA -15.80 RAP 318.97 ECC 1.3943
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 36 36 2707.90 -17.61 73.60 202.17 134.94 18 21 44 1707.9 .59 59.45
60.00 18 44 57 2526.10 -12.15 64.28 207.23 128.73 19 27 4 1526.1 3.80 46.24
70.00 20 11 56 2270.43 -6.73 47.56 211.24 123.56 20 49 46 1270.4 7.23 28.02
80.00 21 55 58 1944.83 -2.21 25.64 214.04 119.78 22 28 23 944.8 10.07 5.02
90.00 23 35 0 1625.38 -.27 3.22 215.11 118.28 24 2 6 625.4 11.30 342.16
100.00 0 42 46 1419.30 -2.21 347.00 214.04 119.78 1 6 25 419.3 10.07 326.38
110.00 1 15 18 1317.25 -6.73 336.48 211.24 123.56 1 37 15 317.3 7.23 316.94
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5549 TRA-1.1785 TC3 .0734 BAU .0580 SGT 1635.0 SGR 542.6 SG3 252.6 ST 39.5 SR 25.0 SS 30.0
RDE -.4249 RRA .1134 RC3 .1635 FAU .04936 RRT .1337 RRF -.1456 RTF -.8143 CRT .7698 CRS .5593 CST .9582
FDE .4720 FRA 1.7878 FC3-1.7903 BSP 2735 SGB 1722.7 R23 -.0237 R13 -.8148 LSA 52.5 MSA 18.0 SSA 1.2
BDE .6990 BRA 1.1839 BC3 .1811 FSP 363 SG1 1636.8 SG2 537.2 THA 2.85 EL1 44.5 EL2 14.1 ALF 29.16

LAUNCH DATE APR 23 1971 FLIGHT TIME 134.00 ARRIVAL DATE SEP 4 1971

HELIOCENTRIC CONIC DISTANCE 357.064 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 33.597 GAL -3.47 AZL 92.09 HCA 120.42 SMA 208.70 ECC .28326 INC 2.0877 V1 29.624
RP 206.70 LAP -1.80 LOP 332.64 VP 25.460 GAP 16.57 AZP 88.94 TAL 344.30 TAP 104.72 RCA 149.17 APO 268.23 V2 26.494
RC 61.483 GL -14.79 GP 2.01 ZAL 121.49 ZAP 164.04 ETS 172.86 ZAE 172.20 ETE 53.01 ZAC 102.19 ETC 277.55 LVI -19.61
PLANETOCENTRIC CONIC
C3 22.903 VHL 4.786 DLA -23.41 RAL 342.58 RAD 6644.1 VEL 11.954 PTH 6.95 VHP 7.669 DPA -15.65 RAP 319.20 ECC 1.3769
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 38 56 2688.20 -16.66 74.69 201.77 135.24 18 23 45 1688.2 1.58 58.63
60.00 18 48 0 2504.52 -11.23 63.20 206.82 128.96 19 29 45 1504.5 4.83 45.20
70.00 20 15 59 2245.87 -5.80 46.26 210.86 123.72 20 53 25 1245.9 8.15 26.71
80.00 22 1 23 1916.00 -1.23 24.05 213.69 119.83 22 33 19 916.0 11.00 3.38
90.00 23 41 18 1593.76 .75 1.45 214.79 118.27 24 7 51 593.8 12.24 340.32
100.00 0 48 11 1390.47 -1.23 345.42 213.69 119.83 1 11 21 390.5 11.00 324.74
110.00 1 19 21 1292.68 -5.80 335.18 210.86 123.72 1 40 54 292.7 8.15 315.63
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5487 TRA-1.1651 TC3 .0906 BAU .0609 SGT 1658.2 SGR 538.3 SG3 269.6 ST 40.0 SR 24.7 SS 31.0
RDE -.4116 RRA .1050 RC3 .1755 FAU .05157 RRT .1458 RRF -.1589 RTF -.8398 CRT .7713 CRS .5598 CST .9584
FDE .4860 FRA 1.8650 FC3-1.9492 BSP 2781 SGB 1743.4 R23 -.0259 R13 -.8204 LSA 53.3 MSA 18.1 SSA 1.2
BDE .6859 BRA 1.1698 BC3 .1976 FSP 391 SG1 1660.3 SG2 531.9 THA 3.02 EL1 44.9 EL2 14.0 ALF 28.54

LAUNCH DATE APR 23 1971 FLIGHT TIME 136.00 ARRIVAL DATE SEP 6 1971

HELIOCENTRIC CONIC DISTANCE 360.518 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 33.508 GAL -3.37 AZL 92.10 HCA 121.69 SMA 206.70 ECC .27812 INC 2.1042 V1 29.624
RP 206.68 LAP -1.79 LOP 333.91 VP 25.341 GAP 16.15 AZP 88.89 TAL 344.44 TAP 106.13 RCA 149.21 APO 264.18 V2 26.496
RC 62.398 GL -15.21 GP 2.10 ZAL 121.35 ZAP 163.01 ETS 173.04 ZAE 172.00 ETE 50.78 ZAC 102.24 ETC 277.61 LVI -19.76
PLANETOCENTRIC CONIC
C3 21.925 VHL 4.682 DLA -23.82 RAL 342.69 RAD 6643.7 VEL 11.913 PTH 6.92 VHP 7.437 DPA -15.49 RAP 319.41 ECC 1.3608
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 41 19 2668.74 -15.72 73.81 201.39 135.51 18 25 47 1668.7 2.56 57.81
60.00 18 51 7 2483.10 -10.31 62.14 206.45 129.18 19 32 30 1483.1 5.77 44.17
70.00 20 20 10 2221.29 -4.87 44.97 210.51 123.85 20 57 11 1221.3 9.07 25.40
80.00 22 7 3 1886.79 -.24 22.45 213.39 119.86 22 38 29 886.8 11.92 1.70
90.00 23 47 56 1561.41 1.79 359.65 214.51 118.23 24 13 57 561.4 13.19 338.41
100.00 0 53 50 1361.27 -.24 343.82 213.39 119.86 1 16 32 361.3 11.92 323.07
110.00 1 23 32 1268.11 -4.87 333.88 210.51 123.85 1 44 40 268.1 9.07 314.32
DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.5427 TRA-1.1516 TC3 .1076 BAU .0630 SGT 1680.4 SGR 533.9 SG3 287.8 ST 40.5 SR 24.5 SS 32.0
RDE -.3987 RRA .0966 RC3 .1860 FAU .05368 RRT .1589 RRF -.1735 RTF -.8249 CRT .7730 CRS .5527 CST .9546
FDE .5009 FRA 1.9465 FC3-2.1198 BSP 2831 SGB 1763.2 R23 -.0285 R13 -.8256 LSA 54.1 MSA 18.1 SSA 1.2
BDE .6734 BRA 1.1556 BC3 .2149 FSP 421 SG1 1682.8 SG2 526.4 THA 3.20 EL1 45.2 EL2 13.9 ALF 27.94

LAUNCH DATE APR 23 1971

FLIGHT TIME 138.00

ARRIVAL DATE SEP 8 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 33.419 GAL -3.27 AZL 92.12 HCA 122.96 SMA 204.85 ECC .27138 INC 2.1211 V1 29.624
 RP 206.67 LAP -1.78 LOP 335.10 VP 25.227 GAP 15.74 AZP 88.85 TAL 344.59 TAP 107.55 RCA 149.26 APO 260.44 V2 26.496
 RC 63.376 GL -15.63 GP 2.19 ZAL 121.21 ZAP 161.96 ETS 173.20 ZAE 171.84 ETE 49.05 ZAC 102.30 ETC 277.66 LVI -19.91

Planetocentric Conic: C3 21.021 VHL 4.585 DLA -24.24 RAL 342.80 RAD 6643.3 VEL 11.875 PTH 6.89 VHP 7.212 DPA -15.34 RAP 319.60 ECC 1.3460
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 43 43 2649.53 -14.79 72.94 201.05 135.76 18 27 52 1649.5 3.52 57.01
 60.00 18 54 17 2461.85 -9.39 61.09 206.11 129.37 19 35 19 1461.9 6.69 43.14
 70.00 20 24 28 2196.71 -3.94 43.68 210.19 123.95 21 1 5 1196.7 9.98 24.08
 80.00 22 12 57 1857.17 .76 20.92 213.12 119.85 22 43 55 857.2 12.85 359.99
 90.00 23 54 57 1528.22 2.86 357.79 214.28 118.15 24 20 25 528.2 14.14 336.45
 100.00 0 59 45 1331.64 .76 342.19 213.12 119.85 1 21 57 331.6 12.85 321.36
 110.00 1 27 50 1243.53 -3.94 332.59 210.19 123.95 1 48 34 243.5 9.98 313.00

Differential Corrections: TDE -.5360 TRA -1.1374 TC3 .1254 BAU .0656 SGT 1700.5 SGR 529.4 SG3 307.1 ST 40.8 SR 24.2 SS 32.9
 RDE -.3663 RRA .0881 RC3 .1969 FAU .05595 RRT .1731 RRF -.1893 RTF -.8298 CRT .7748 CR8 .5492 CST .9525
 FDE .5154 FRA 2.0321 FC3 -2.3042 B8P 2873 SGB 1781.0 R23 -.0312 R13 -.8305 LSA 54.8 MSA 18.2 SSA 1.2
 BDE .6607 BRA 1.1408 BC3 .2335 F8P 452 SG1 1703.2 SG2 520.5 THA 3.40 EL1 45.4 EL2 13.8 ALF 27.38

LAUNCH DATE APR 23 1971

FLIGHT TIME 140.00

ARRIVAL DATE SEP 10 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 33.337 GAL -3.18 AZL 92.14 HCA 124.23 SMA 203.14 ECC .26504 INC 2.1365 V1 29.624
 RP 206.68 LAP -1.77 LOP 336.45 VP 25.119 GAP 15.34 AZP 88.80 TAL 344.74 TAP 108.97 RCA 149.30 APO 256.98 V2 26.496
 RC 64.414 GL -16.05 GP 2.28 ZAL 121.05 ZAP 160.88 ETS 173.33 ZAE 171.73 ETE 47.78 ZAC 102.37 ETC 277.70 LVI -20.06

Planetocentric Conic: C3 20.186 VHL 4.493 DLA -24.66 RAL 342.90 RAD 6642.9 VEL 11.840 PTH 6.86 VHP 6.994 DPA -15.19 RAP 319.77 ECC 1.3322
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 46 9 2630.60 -13.86 72.09 200.74 135.99 18 30 0 1630.6 4.47 56.21
 60.00 18 57 31 2440.80 -8.48 60.06 205.80 129.55 19 38 12 1440.8 7.61 42.12
 70.00 20 28 54 2172.13 -3.00 42.39 209.92 124.04 21 5 6 1172.1 10.88 22.75
 80.00 22 19 9 1827.06 1.78 19.17 212.90 119.81 22 49 36 827.1 13.78 358.24
 90.00 0 6 21 1494.04 3.95 355.88 214.10 118.02 0 31 15 494.0 15.10 334.40
 100.00 1 5 57 1301.54 1.78 340.54 212.90 119.81 1 27 39 301.5 13.78 319.61
 110.00 1 32 16 1218.95 -3.00 331.31 209.92 124.04 1 52 35 218.9 10.88 311.67

Differential Corrections: TDE -.5296 TRA -1.1227 TC3 .1420 BAU .0680 SGT 1718.8 SGR 524.7 SG3 327.6 ST 41.2 SR 23.9 SS 33.9
 RDE -.3743 RRA .0796 RC3 .2083 FAU .05835 RRT .1867 RRF -.2065 RTF -.8338 CRT .7771 CR8 .5460 CST .9502
 FDE .5304 FRA 2.1219 FC3 -2.5024 B8P 2916 SGB 1797.1 R23 -.0343 R13 -.8346 LSA 55.5 MSA 18.3 SSA 1.2
 BDE .6485 BRA 1.1255 BC3 .2521 F8P 487 SG1 1721.9 SG2 514.4 THA 3.62 EL1 45.7 EL2 13.6 ALF 26.85

LAUNCH DATE APR 23 1971

FLIGHT TIME 142.00

ARRIVAL DATE SEP 12 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 33.260 GAL -3.09 AZL 92.16 HCA 125.50 SMA 201.56 ECC .25906 INC 2.1564 V1 29.624
 RP 206.69 LAP -1.76 LOP 337.72 VP 25.015 GAP 14.94 AZP 88.75 TAL 344.90 TAP 110.39 RCA 149.34 APO 253.77 V2 26.495
 RC 65.812 GL -16.48 GP 2.39 ZAL 120.89 ZAP 159.78 ETS 173.45 ZAE 171.67 ETE 46.95 ZAC 102.45 ETC 277.74 LVI -20.20

Planetocentric Conic: C3 19.413 VHL 4.406 DLA -25.09 RAL 342.99 RAD 6642.6 VEL 11.808 PTH 6.83 VHP 6.783 DPA -15.04 RAP 319.90 ECC 1.3195
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 48 38 2611.90 -12.94 71.26 200.45 136.20 18 32 10 1611.9 5.41 55.43
 60.00 19 0 50 2419.89 -7.58 59.04 205.52 129.70 19 41 10 1419.9 8.52 41.10
 70.00 20 33 29 2147.49 -2.06 41.10 209.67 124.10 21 9 17 1147.5 11.78 21.41
 80.00 22 25 41 1796.32 2.82 17.48 212.71 119.74 22 55 37 796.3 14.71 356.44
 90.00 0 14 21 1458.54 5.09 353.88 213.96 117.86 0 38 40 458.5 16.08 332.25
 100.00 1 12 29 1270.80 2.82 338.85 212.71 119.74 1 33 40 270.8 14.71 317.81
 110.00 1 38 51 1194.31 -2.06 330.02 209.67 124.10 1 56 46 194.3 11.78 310.33

Differential Corrections: TDE -.5128 TRA -1.0872 TC3 .1791 BAU .0737 SGT 1717.9 SGR 520.1 SG3 349.5 ST 40.9 SR 23.6 SS 34.9
 RDE -.3628 RRA .0712 RC3 .2205 FAU .06096 RRT .2037 RRF -.2252 RTF -.8436 CRT .7764 CR8 .5420 CST .9491
 FDE .5443 FRA 2.2134 FC3 -2.7187 B8P 2825 SGB 1794.9 R23 -.0388 R13 -.8449 LSA 55.7 MSA 18.4 SSA 1.2
 BDE .6278 BRA 1.0995 BC3 .2841 F8P 521 SG1 1721.6 SG2 507.9 THA 3.90 EL1 45.2 EL2 13.4 ALF 26.73

LAUNCH DATE APR 23 1971

FLIGHT TIME 144.00

ARRIVAL DATE SEP 14 1971

Heliocentric Conic: RL 150.41 LAL -.00 LOL 212.20 VL 33.188 GAL -3.01 AZL 92.17 HCA 126.76 SMA 200.08 ECC .25343 INC 2.1750 V1 29.624
 RP 206.71 LAP -1.74 LOP 338.99 VP 24.916 GAP 14.58 AZP 88.70 TAL 345.05 TAP 111.81 RCA 149.38 APO 250.80 V2 26.493
 RC 66.867 GL -16.91 GP 2.49 ZAL 120.72 ZAP 158.65 ETS 173.55 ZAE 171.65 ETE 46.94 ZAC 102.54 ETC 277.77 LVI -20.35

Planetocentric Conic: C3 18.702 VHL 4.325 DLA -25.82 RAL 343.09 RAD 6642.3 VEL 11.778 PTH 6.80 VHP 6.580 DPA -14.89 RAP 320.01 ECC 1.3078
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 17 51 10 2593.57 -12.04 70.45 200.20 136.39 18 34 23 1593.6 6.33 54.65
 60.00 19 4 13 2399.28 -6.88 58.04 205.28 129.84 19 44 12 1399.3 9.41 40.09
 70.00 20 38 12 2122.93 -1.12 39.82 209.47 124.14 21 13 35 1122.9 12.67 20.06
 80.00 22 32 33 1765.06 3.88 15.76 212.58 119.63 23 1 58 765.1 15.65 354.99
 90.00 0 22 57 1421.67 6.25 351.81 213.89 117.64 0 46 39 421.7 17.07 330.00
 100.00 1 19 21 1239.53 3.88 337.13 212.58 119.63 1 40 0 239.5 15.65 315.95
 110.00 1 41 35 1169.75 -1.12 328.74 209.47 124.14 2 1 4 169.7 12.67 308.98

Differential Corrections: TDE -.5113 TRA -1.0868 TC3 .1844 BAU .0742 SGT 1740.8 SGR 515.6 SG3 372.8 ST 41.5 SR 23.3 SS 36.0
 RDE -.3515 RRA .0625 RC3 .2327 FAU .06363 RRT .2242 RRF -.2459 RTF -.8438 CRT .7812 CR8 .5401 CST .9460
 FDE .5614 FRA 2.3168 FC3 -2.9457 B8P 2926 SGB 1815.6 R23 -.0407 R13 -.8449 LSA 56.7 MSA 18.4 SSA 1.2
 BDE .6205 BRA 1.0886 BC3 .2969 F8P 561 SG1 1745.0 SG2 501.2 THA 4.14 EL1 45.7 EL2 13.2 ALF 26.06

LAUNCH DATE APR 23 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 378.599

EARTH TO MARS

RL 190.41 LAL -.00 LOL 212.20 VL 33.119 GAL -2.93 AZL 92.19 HCA 128.03 SMA 198.73 ECC .24814 INC 2.1941 V1 29.624
RP 206.73 LAP -1.73 LOP 340.26 VP 24.822 GAP 14.18 AZP 88.65 TAL 345.20 TAP 113.24 RCA 149.42 APO 246.05 V2 26.489
RC 87.877 GL -17.34 GP 2.61 ZAL 120.55 ZAP 157.50 ETS 173.64 ZAE 171.69 ETE 46.56 ZAC 102.63 ETC 277.60 LVI -20.49

PLANETOCENTRIC CONIC

C3 18.045 VHL 4.248 DLA -25.96 RAL 343.19 RAD 6642.0 VEL 11.750 PTH 6.78 VHP 6.383 DPA -14.75 RAP 320.09 ECC 1.2970
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 53 44 2578.54 -11.15 69.87 199.98 136.58 18 36 39 1575.5 7.23 53.09
60.00 19 7 40 2378.87 -5.79 57.05 205.08 129.95 19 47 19 1378.9 10.29 39.08
70.00 20 43 5 2098.35 -.18 38.94 209.31 124.15 21 18 3 1098.3 13.55 18.71
80.00 22 39 49 1732.98 4.95 13.99 212.50 119.48 23 8 42 733.0 16.59 352.67
90.00 0 32 20 1382.81 7.48 349.61 213.87 117.35 0 55 22 382.0 18.09 327.60
100.00 1 26 37 1207.46 4.95 335.36 212.50 119.48 1 46 44 207.5 16.59 314.04
110.00 1 46 27 1145.16 -.18 327.45 209.31 124.15 2 5 32 145.2 13.55 307.62

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5071 TRA-1.0722 TC3 .1939 BAU .0755 SGT 1755.5 SGR 311.2 SG3 397.4 ST 41.9 SR 23.0 SS 37.0
RDE -.3408 RRA .0537 RC3 .2456 FAU .08650 RRT .2443 RRF -.2685 RTF -.8451 CRT .7857 CRS .5383 CST .9430
FDE .5784 FRA 2.4218 FC3-3.1906 BSP 2980 SGB 1828.4 R23 -.0457 R13 -.8463 LSA 57.5 MSA 18.5 SSA 1.2
BDE .6110 BRA 1.0735 BC3 .3129 FSP 603 SG1 1760.4 SG2 494.4 THA 4.42 EL1 46.0 EL2 13.0 ALF 25.55

LAUNCH DATE APR 23 1971

FLIGHT TIME 146.00

ARRIVAL DATE SEP 16 1971

HELIOCENTRIC CONIC

DISTANCE 382.348

EARTH TO MARS

RL 190.41 LAL -.00 LOL 212.20 VL 33.055 GAL -2.85 AZL 92.21 HCA 129.30 SMA 197.47 ECC .24315 INC 2.2139 V1 29.624
RP 206.77 LAP -1.71 LOP 341.52 VP 24.731 GAP 13.82 AZP 88.60 TAL 345.35 TAP 114.66 RCA 149.46 APO 245.49 V2 26.485
RC 69.140 GL -17.78 GP 2.73 ZAL 120.38 ZAP 156.31 ETS 173.71 ZAE 171.77 ETE 47.01 ZAC 102.74 ETC 277.82 LVI -20.63

PLANETOCENTRIC CONIC

C3 17.440 VHL 4.176 DLA -26.40 RAL 343.28 RAD 6641.7 VEL 11.725 PTH 6.76 VHP 6.192 DPA -14.60 RAP 320.14 ECC 1.2870
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 56 21 2557.82 -10.27 68.90 199.79 136.72 18 38 59 1557.8 8.11 53.13
60.00 19 11 13 2358.70 -4.90 56.08 204.91 130.05 19 30 32 1358.7 11.16 38.08
70.00 20 48 8 2073.73 .76 37.25 209.19 124.15 21 22 42 1073.7 14.43 17.34
80.00 22 47 33 1699.94 6.06 12.16 212.47 119.29 23 15 53 699.9 17.53 350.67
90.00 0 42 41 1341.32 8.77 347.24 213.93 116.99 1 5 2 341.3 19.13 325.00
100.00 1 34 21 1174.41 6.06 333.53 212.47 119.29 1 53 55 174.4 17.53 312.04
110.00 1 51 30 1120.55 .76 326.17 209.19 124.15 2 10 11 120.5 14.43 306.25

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.5015 TRA-1.0564 TC3 .2044 BAU .0769 SGT 1766.6 SGR 307.0 SG3 423.7 ST 42.1 SR 22.7 SS 36.1
RDE -.3305 RRA .0448 RC3 .2590 FAU .06955 RRT .2637 RRF -.2929 RTF -.8467 CRT .7902 CRS .5367 CST .9399
FDE .9958 FRA 2.9340 FC3-3.4523 BSP 3029 SGB 1837.9 R23 -.0513 R13 -.8481 LSA 58.3 MSA 18.6 SSA 1.2
BDE .6006 BRA 1.0574 BC3 .3299 FSP 648 SG1 1772.2 SG2 487.3 THA 4.72 EL1 46.1 EL2 12.7 ALF 25.11

LAUNCH DATE APR 23 1971

FLIGHT TIME 150.00

ARRIVAL DATE SEP 20 1971

HELIOCENTRIC CONIC

DISTANCE 386.134

EARTH TO MARS

RL 190.41 LAL -.00 LOL 212.20 VL 32.994 GAL -2.78 AZL 92.23 HCA 130.57 SMA 198.30 ECC .23847 INC 2.2343 V1 29.624
RP 206.81 LAP -1.70 LOP 342.79 VP 24.644 GAP 13.46 AZP 88.55 TAL 345.50 TAP 116.07 RCA 149.49 APO 243.11 V2 26.480
RC 70.455 GL -18.22 GP 2.86 ZAL 120.20 ZAP 155.09 ETS 173.77 ZAE 171.91 ETE 47.95 ZAC 102.87 ETC 277.84 LVI -20.77

PLANETOCENTRIC CONIC

C3 16.883 VHL 4.109 DLA -26.84 RAL 343.39 RAD 6641.4 VEL 11.701 PTH 6.73 VHP 6.008 DPA -14.46 RAP 320.15 ECC 1.2778
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 17 59 1 2540.43 -9.41 68.15 199.64 136.86 18 41 21 1540.4 8.98 52.39
60.00 19 14 50 2338.75 -4.03 55.12 204.78 130.13 19 53 49 1338.8 12.01 37.08
70.00 20 53 21 2049.07 1.70 35.97 209.11 124.12 21 27 30 1049.1 15.30 15.95
80.00 22 55 50 1685.68 7.19 10.25 212.50 119.06 23 23 36 665.7 18.49 348.58
90.00 0 54 23 1296.05 10.15 344.64 214.07 116.54 1 15 59 296.1 20.22 322.13
100.00 1 42 38 1140.15 7.19 331.62 212.50 119.06 2 1 38 140.2 18.49 309.95
110.00 1 56 44 1095.69 1.70 324.88 209.11 124.12 2 14 59 95.9 15.30 304.67

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4931 TRA-1.0386 TC3 .2138 BAU .0783 SGT 1772.6 SGR 303.2 SG3 451.4 ST 42.2 SR 22.4 SS 39.2
RDE -.3205 RRA .0358 RC3 .2731 FAU .07274 RRT .2889 RRF -.3193 RTF -.8482 CRT .7951 CRS .5357 CST .9367
FDE .6137 FRA 2.6513 FC3-3.7302 BSP 3055 SGB 1842.7 R23 -.0574 R13 -.8498 LSA 59.0 MSA 18.6 SSA 1.2
BDE .5898 BRA 1.0392 BC3 .3469 FSP 695 SG1 1779.1 SG2 480.0 THA 5.06 EL1 46.2 EL2 12.4 ALF 24.74

LAUNCH DATE APR 23 1971

FLIGHT TIME 152.00

ARRIVAL DATE SEP 22 1971

HELIOCENTRIC CONIC

DISTANCE 389.953

EARTH TO MARS

RL 190.41 LAL -.00 LOL 212.20 VL 32.937 GAL -2.71 AZL 92.26 HCA 131.84 SMA 199.21 ECC .23407 INC 2.2557 V1 29.624
RP 206.87 LAP -1.88 LOP 344.06 VP 24.561 GAP 13.10 AZP 88.49 TAL 345.65 TAP 117.49 RCA 149.52 APO 240.91 V2 26.474
RC 71.818 GL -18.67 GP 3.00 ZAL 120.02 ZAP 153.84 ETS 173.83 ZAE 172.09 ETE 49.40 ZAC 103.00 ETC 277.85 LVI -20.91

PLANETOCENTRIC CONIC

C3 16.370 VHL 4.046 DLA -27.28 RAL 343.49 RAD 6641.2 VEL 11.679 PTH 6.71 VHP 5.831 DPA -14.32 RAP 320.13 ECC 1.2694
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 1 44 2523.38 -8.58 67.42 199.52 136.98 18 43 48 1523.4 9.82 51.66
60.00 19 18 35 2319.05 -3.16 54.17 204.68 130.20 19 57 12 1319.0 12.85 36.09
70.00 20 58 46 2024.34 2.64 34.67 209.07 124.06 21 32 31 1024.3 16.16 14.55
80.00 23 4 47 1629.86 8.37 8.25 212.59 118.76 23 31 57 629.9 19.46 346.36
90.00 1 8 6 1244.90 11.69 341.67 214.33 115.93 1 28 51 244.9 21.39 318.84
100.00 1 51 35 1104.33 8.37 329.61 212.59 118.76 2 9 59 104.3 19.46 307.73
110.00 2 2 9 1071.16 2.64 323.59 209.07 124.06 2 20 0 71.2 16.16 303.47

DIFFERENTIAL CORRECTIONS

MID-COURSE EXECUTION ACCURACY

ORBIT DETERMINATION ACCURACY

TDE -.4880 TRA-1.0195 TC3 .2234 BAU .0798 SGT 1774.5 SGR 499.9 SG3 480.9 ST 42.3 SR 22.0 SS 40.4
RDE -.3109 RRA .0263 RC3 .2879 FAU .07618 RRT .3138 RRF -.3479 RTF -.8495 CRT .8005 CRS .5350 CST .9333
FDE .6314 FRA 2.7751 FC3-4.0287 BSP 3065 SGB 1843.6 R23 -.0641 R13 -.8514 LSA 59.6 MSA 18.7 SSA 1.2
BDE .5787 BRA 1.0198 BC3 .3644 FSP 744 SG1 1782.0 SG2 472.7 THA 5.44 EL1 46.1 EL2 12.1 ALF 24.43

LAUNCH DATE APR 23 1971

FLIGHT TIME 154.00

ARRIVAL DATE SEP 24 1971

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.883 GAL -2.64 AZL 92.28 HCA 133.10 SMA 194.20 ECC .22983 INC 2.2778 V1 29.624
RP 206.93 LAP -1.66 LOP 345.33 VP 24.481 GAP 12.76 AZP 88.44 TAL 345.79 TAP 118.90 RCA 149.55 APO 238.86 V2 26.466
RC 73.220 GL -19.11 GP 3.15 ZAL 119.85 ZAP 152.76 ZAE 173.87 ZET 51.45 ZAC 103.15 ETC 277.85 LVI -21.06

DISTANCE 393.803

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.899 VHL 3.987 DLA -27.73 RAL 343.80 RAD 6641.0 VEL 11.659 PTH 6.70 VHP 5.659 DPA -14.18 RAP 320.08 ECC 1.2617
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 4 31 2506.64 -7.73 66.70 199.43 137.09 18 46 18 1506.6 10.65 50.93
60.00 19 22 22 2299.59 -2.31 53.24 204.62 130.25 20 0 41 1299.6 13.67 35.11
70.00 21 4 24 1999.51 3.59 33.37 209.08 123.99 21 37 44 999.5 17.01 13.13
80.00 23 14 35 1591.97 9.61 6.11 212.75 116.41 23 41 7 592.0 20.46 343.99
90.00 1 25 24 1182.79 13.52 338.02 214.76 115.08 1 45 7 182.8 22.70 314.76
100.00 2 1 22 1066.44 9.61 327.48 212.75 118.41 2 19 9 66.4 20.46 305.36
110.00 2 7 46 1046.33 3.59 322.29 209.08 123.99 2 25 13 46.3 17.01 302.05

DIFFERENTIAL CORRECTIONS

TDE -.4809 TRA -.9992 TC3 .2302 BAU .0809
RDE -.3017 RRA .0167 RC3 .3034 FAU .07979
FDE .6503 FRA 2.9052 FC3-4.3446 B8P 3060
BDE .5677 BRA .9993 BC3 .3808 F8P 797

MID-COURSE EXECUTION ACCURACY

SGT 1772.6 SGR 497.2 SG3 512.0
RRT .3403 RRF -.3786 RTF -.8502
SGB 1841.1 R23 -.0720 R13 -.8525
SG1 1781.3 SG2 465.2 THA 5.86

ORBIT DETERMINATION ACCURACY

ST 42.3 SR 21.7 S8 41.5
CRT .8067 CRS .5353 CST .9297
LSA 60.2 MSA 18.8 S8A 1.2
EL1 46.0 EL2 11.8 ALF 24.17

LAUNCH DATE APR 23 1971

FLIGHT TIME 156.00

ARRIVAL DATE SEP 26 1971

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.833 GAL -2.58 AZL 92.30 HCA 134.37 SMA 193.27 ECC .22605 INC 2.3009 V1 29.624
RP 207.00 LAP -1.64 LOP 346.59 VP 24.404 GAP 12.42 AZP 88.39 TAL 345.93 TAP 120.30 RCA 149.58 APO 236.95 V2 26.458
RC 74.683 GL -19.56 GP 3.31 ZAL 119.67 ZAP 151.25 ETS 173.91 ZAE 172.57 ETE 54.17 ZAC 103.31 ETC 277.85 LVI -21.19

DISTANCE 397.682

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.468 VHL 3.933 DLA -28.17 RAL 343.71 RAD 6640.8 VEL 11.641 PTH 6.68 VHP 5.494 DPA -14.05 RAP 319.98 ECC 1.2548
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 7 22 2490.26 -6.91 66.01 199.38 137.19 18 48 52 1490.3 11.46 50.22
60.00 19 26 16 2280.37 -1.46 52.32 204.60 130.28 20 4 16 1280.4 14.48 34.13
70.00 21 10 16 1974.55 4.54 32.07 209.13 123.89 21 43 10 974.5 17.85 11.69
80.00 23 25 28 1551.18 10.92 3.79 212.99 117.96 23 51 19 551.2 21.49 341.40
90.00 1 53 27 1086.58 16.21 332.25 215.61 113.49 2 11 33 86.6 24.51 308.29
100.00 2 12 16 1025.65 10.92 325.16 212.99 117.96 2 29 22 25.6 21.49 302.77
110.00 2 13 38 1021.37 4.54 320.98 209.13 123.89 2 30 39 21.4 17.85 300.61

DIFFERENTIAL CORRECTIONS

TDE -.4736 TRA -.9778 TC3 .2331 BAU .0818
RDE -.2929 RRA .0067 RC3 .3196 FAU .08357
FDE .6694 FRA 3.0427 FC3-4.6775 B8P 3071
BDE .5569 BRA .9779 BC3 .3955 F8P 854

MID-COURSE EXECUTION ACCURACY

SGT 1766.7 SGR 495.3 SG3 544.9
RRT .3685 RRF -.4113 RTF -.8503
SGB 1834.8 R23 -.0811 R13 -.8529
SG1 1776.8 SG2 457.8 THA 6.32

ORBIT DETERMINATION ACCURACY

ST 42.2 SR 21.3 S8 42.7
CRT .8137 CRS .5363 CST .9257
LSA 60.8 MSA 18.9 S8A 1.2
EL1 45.9 EL2 11.4 ALF 23.93

LAUNCH DATE APR 23 1971

FLIGHT TIME 158.00

ARRIVAL DATE SEP 28 1971

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.786 GAL -2.52 AZL 92.32 HCA 135.63 SMA 192.40 ECC .22240 INC 2.3250 V1 29.624
RP 207.08 LAP -1.63 LOP 347.86 VP 24.331 GAP 12.09 AZP 88.34 TAL 346.07 TAP 121.70 RCA 149.61 APO 235.18 V2 26.449
RC 76.180 GL -20.01 GP 3.48 ZAL 119.49 ZAP 149.89 ETS 173.94 ZAE 172.84 ETE 57.70 ZAC 103.49 ETC 277.84 LVI -21.33

DISTANCE 401.588

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 15.072 VHL 3.882 DLA -28.82 RAL 343.83 RAD 6640.6 VEL 11.624 PTH 6.66 VHP 5.335 DPA -13.91 RAP 319.85 ECC 1.2481
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 10 16 2474.19 -6.11 65.33 199.36 137.28 18 51 31 1474.2 12.26 49.52
60.00 19 30 17 2261.35 -1.63 51.42 204.62 130.30 20 7 58 1261.3 15.27 33.15
70.00 21 16 23 1949.32 5.49 30.74 209.24 123.76 21 48 52 949.3 18.70 10.22
80.00 23 37 58 1505.92 12.35 1.20 213.33 117.40 24 3 3 505.9 22.57 338.48
85.39 1 36 50 1136.01 18.41 336.85 216.24 112.31 1 55 46 136.0 26.00 312.30
100.00 2 24 45 8268.43 12.35 300.47 213.33 117.40 4 9 14 5268.4 22.57 277.75
110.00 2 19 45 8284.18 5.49 297.56 209.24 123.76 4 4 29 5284.2 18.70 277.04

DIFFERENTIAL CORRECTIONS

TDE -.4575 TRA -.9463 TC3 .2574 BAU .0859
RDE -.2840 RRA -.0033 RC3 .3375 FAU .08787
FDE .6832 FRA 3.1805 FC3-5.0473 B8P 2946
BDE .5383 BRA .9463 BC3 .4244 F8P 908

MID-COURSE EXECUTION ACCURACY

SGT 1739.9 SGR 494.4 SG3 579.4
RRT .4001 RRF -.4461 RTF -.8547
SGB 1808.8 R23 -.0869 R13 -.8578
SG1 1751.9 SG2 450.0 THA 6.95

ORBIT DETERMINATION ACCURACY

ST 41.3 SR 21.0 S8 43.8
CRT .8188 CRS .5359 CST .9219
LSA 60.8 MSA 19.0 S8A 1.2
EL1 45.0 EL2 11.1 ALF 24.09

LAUNCH DATE APR 23 1971

FLIGHT TIME 160.00

ARRIVAL DATE SEP 30 1971

HELIOCENTRIC CONIC

RL 150.41 LAL -.00 LOL 212.20 VL 32.741 GAL -2.47 AZL 92.35 HCA 136.90 SMA 191.99 ECC .21899 INC 2.3501 V1 29.624
RP 207.17 LAP -1.61 LOP 349.12 VP 24.260 GAP 11.77 AZP 88.28 TAL 346.19 TAP 123.09 RCA 149.63 APO 233.54 V2 26.439
RC 77.718 GL -20.47 GP 3.66 ZAL 119.33 ZAP 148.51 ETS 173.96 ZAE 173.11 ETE 62.12 ZAC 103.68 ETC 277.82 LVI -21.48

DISTANCE 405.517

EARTH TO MARS

PLANETOCENTRIC CONIC

C3 14.713 VHL 3.838 DLA -29.07 RAL 343.97 RAD 6640.4 VEL 11.609 PTH 6.65 VHP 5.181 DPA -13.77 RAP 319.89 ECC 1.2421
LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
50.00 18 13 15 2458.54 -5.33 64.66 199.38 137.35 18 54 14 1458.5 13.02 48.83
60.00 19 34 24 2242.85 .20 50.52 204.68 130.30 20 11 47 1242.6 16.05 32.18
70.00 21 22 45 1923.96 6.45 29.40 209.39 123.61 21 54 49 924.0 19.53 8.73
80.00 23 52 54 1453.59 13.97 358.16 213.82 116.66 24 17 8 453.6 23.75 335.04
82.98 1 17 45 1193.87 18.82 341.27 216.13 112.57 1 37 39 193.9 26.48 316.67
100.00 2 39 42 8216.10 13.97 297.43 213.82 116.66 4 23 18 5216.1 23.75 274.31
110.00 2 26 8 8258.82 6.45 296.22 209.39 123.61 4 10 26 5258.8 19.53 275.55

DIFFERENTIAL CORRECTIONS

TDE -.4581 TRA -.9309 TC3 .2318 BAU .0833
RDE -.2781 RRA -.0143 RC3 .3547 FAU .09180
FDE .7093 FRA 3.3390 FC3-5.4019 B8P 3027
BDE .5549 BRA .9310 BC3 .4237 F8P 975

MID-COURSE EXECUTION ACCURACY

SGT 1740.8 SGR 494.7 SG3 616.2
RRT .4290 RRF -.4830 RTF -.8490
SGB 1809.8 R23 -.1034 R13 -.8528
SG1 1754.6 SG2 443.4 THA 7.43

ORBIT DETERMINATION ACCURACY

ST 41.7 SR 20.6 S8 45.1
CRT .8302 CRS .5414 CST .9167
LSA 61.9 MSA 19.1 S8A 1.2
EL1 45.3 EL2 10.6 ALF 23.69

LAUNCH DATE APR 23 1971

FLIGHT TIME 162.00

ARRIVAL DATE OCT 2 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.899 GAL -2.42 AZL 92.38 HCA 138.16 SMA 100.84 ECC .21580 INC 2.3765 V1 29.624
 RP 207.26 LAP -1.58 LOP 350.39 VP 24.191 GAP 11.46 AZP 88.23 TAL 346.31 TAP 124.47 RCA 149.65 APO 232.02 V2 26.428
 RC 79.295 GL -20.93 GP 3.85 ZAL 119.16 ZAP 147.08 ETS 173.98 ZAE 173.35 ETE 67.57 ZAC 103.90 ETC 277.79 LVI -21.82

DISTANCE 409.470
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.386 VHL 3.793 DLA -29.51 RAL 344.11 RAD 6640.2 VEL 11.595 PTH 6.64 VHP 5.034 DPA -13.63 RAP 319.47 ECC 1.2367
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 16 19 2443.20 -4.56 64.02 199.44 137.41 18 57 2 1443.2 13.78 48.15
 60.00 19 38 39 2224.13 1.01 49.64 204.79 130.29 20 15 43 1224.1 16.81 31.21
 70.00 21 29 28 1898.19 7.42 28.03 209.60 123.43 22 1 6 898.2 20.36 7.19
 80.00 0 17 1 1385.26 16.02 354.12 214.56 115.54 0 40 6 385.3 25.16 330.45
 81.18 1 4 7 1234.52 19.22 344.45 216.07 112.84 1 24 41 234.5 26.95 319.79
 100.00 2 59 53 6147.77 16.02 293.39 214.56 115.54 4 42 20 5147.8 25.16 269.73
 110.00 2 32 30 6233.05 7.42 294.86 209.60 123.43 4 16 43 5233.1 20.36 274.01

DIFFERENTIAL CORRECTIONS
 TDE -.4521 TRA -.9060 TC3 .2225 BAU .0836
 RDE -.2684 RRA -.0255 RC3 .3737 FAU .09626
 FDE .7325 FRA 3.4980 FC3-5.7928 BSP 3007
 BDE .5257 BRA .9063 BC3 .4349 FSP 1041

MID-COURSE EXECUTION ACCURACY
 SGT 1722.8 SGR 496.6 SG3 654.6
 RRT .8409 RRF -.5217 RTF -.8463
 SGB 1763.0 R23 -.1181 R13 -.8510
 SG1 1739.0 SG2 436.6 THA 8.08

ORBIT DETERMINATION ACCURACY
 ST 41.5 SR 20.3 SS 46.4
 CRT .8409 CRS .5470 CST .9115
 LSA 62.6 MSA 19.2 SSA 1.2
 EL1 45.1 EL2 10.1 ALF 23.60

LAUNCH DATE APR 23 1971

FLIGHT TIME 164.00

ARRIVAL DATE OCT 4 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.660 GAL -2.37 AZL 92.40 HCA 139.42 SMA 190.14 ECC .21281 INC 2.4041 V1 29.624
 RP 207.37 LAP -1.56 LOP 351.65 VP 24.125 GAP 11.15 AZP 88.17 TAL 346.42 TAP 125.84 RCA 149.67 APO 230.60 V2 26.415
 RC 80.909 GI -21.39 GP 4.06 ZAL 119.00 ZAP 145.62 ETS 173.99 ZAE 173.53 ETE 74.09 ZAC 104.13 ETC 277.76 LVI -21.76

DISTANCE 413.444
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 14.089 VHL 3.754 DLA -29.96 RAL 344.26 RAD 6640.1 VEL 11.582 PTH 6.63 VHP 4.892 DPA -13.50 RAP 319.22 ECC 1.2319
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 19 27 2428.19 -3.80 63.39 199.53 137.46 18 59 55 1428.2 14.51 47.48
 60.00 19 43 2 2205.83 1.82 48.76 204.93 130.27 20 19 48 1205.8 17.57 30.25
 70.00 21 36 31 1871.95 8.40 26.64 209.86 123.23 22 7 43 871.9 21.19 5.61
 79.67 0 53 7 1267.04 19.62 347.04 216.04 113.11 1 14 14 267.0 27.42 322.33
 79.67 0 53 7 1267.04 19.62 347.04 216.04 113.11 1 14 14 267.0 27.42 322.33
 79.67 0 53 7 1267.04 19.62 347.04 216.04 113.11 1 14 14 267.0 27.42 322.33
 110.00 2 39 54 6206.31 8.40 293.46 209.86 123.23 4 23 21 5206.8 21.19 272.43

DIFFERENTIAL CORRECTIONS
 TDE -.4455 TRA -.8798 TC3 .2079 BAU .0838
 RDE -.2609 RRA -.0373 RC3 .3935 FAU .10082
 FDE .7563 FRA 3.6667 FC3-6.1953 BSP 2979
 BDE .5163 BRA .8806 BC3 .4450 FSP 1112

MID-COURSE EXECUTION ACCURACY
 SGT 1700.0 SGR 500.2 SG3 695.0
 RRT .4927 RRF -.5614 RTF -.8429
 SGB 1772.0 R23 -.1351 R13 -.8488
 SG1 1718.9 SG2 430.5 THA 8.81

ORBIT DETERMINATION ACCURACY
 ST 41.2 SR 19.9 SS 47.8
 CRT .8523 CRS .5538 CST .9060
 LSA 63.2 MSA 19.4 SSA 1.2
 EL1 44.7 EL2 9.6 ALF 23.57

LAUNCH DATE APR 23 1971

FLIGHT TIME 166.00

ARRIVAL DATE OCT 6 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.624 GAL -2.33 AZL 92.43 HCA 140.68 SMA 189.49 ECC .21002 INC 2.4332 V1 29.624
 RP 207.48 LAP -1.54 LOP 352.91 VP 24.061 GAP 10.85 AZP 88.12 TAL 346.52 TAP 127.20 RCA 149.69 APO 229.29 V2 26.402
 RC 82.960 GL -21.85 GP 4.28 ZAL 118.85 ZAP 144.11 ETS 174.00 ZAE 173.63 ETE 81.64 ZAC 104.38 ETC 277.72 LVI -21.90

DISTANCE 417.438
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.821 VHL 3.718 DLA -30.41 RAL 344.43 RAD 6640.0 VEL 11.571 PTH 6.61 VHP 4.756 DPA -13.36 RAP 318.92 ECC 1.2275
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 22 41 2413.50 -3.07 62.77 199.87 137.50 19 2 55 1413.5 15.23 46.31
 60.00 19 47 33 2187.69 2.62 47.90 205.12 130.23 20 24 1 1187.7 16.30 29.28
 70.00 21 44 1 1845.05 9.40 25.20 210.19 122.99 22 14 46 845.1 22.03 3.97
 78.34 0 43 48 1294.62 20.01 349.28 216.05 113.38 1 5 22 294.6 27.89 324.50
 78.34 0 43 48 1294.62 20.01 349.28 216.05 113.38 1 5 22 294.6 27.89 324.50
 78.34 0 43 48 1294.62 20.01 349.28 216.05 113.38 1 5 22 294.6 27.89 324.50
 110.00 2 47 23 6179.91 9.40 292.02 210.19 122.99 4 30 23 5179.9 22.03 270.79

DIFFERENTIAL CORRECTIONS
 TDE -.4352 TRA -.8484 TC3 .1988 BAU .0849
 RDE -.2535 RRA -.0496 RC3 .4151 FAU .10583
 FDE .7748 FRA 3.8372 FC3-6.8286 BSP 2900
 BDE .5037 BRA .8498 BC3 .4394 FSP 1181

MID-COURSE EXECUTION ACCURACY
 SGT 1664.2 SGR 505.8 SG3 736.8
 RRT .5246 RRF -.6017 RTF -.8496
 SGB 1739.3 R23 -.1532 R13 -.8470
 SG1 1686.6 SG2 424.9 THA 9.68

ORBIT DETERMINATION ACCURACY
 ST 40.5 SR 19.6 SS 48.0
 CRT .8637 CRS .5598 CST .8995
 LSA 63.6 MSA 19.5 SSA 1.2
 EL1 44.1 EL2 9.1 ALF 23.73

LAUNCH DATE APR 23 1971

FLIGHT TIME 168.00

ARRIVAL DATE OCT 8 1971

HELIOCENTRIC CONIC
 RL 150.41 LAL -.00 LOL 212.20 VL 32.590 GAL -2.29 AZL 92.46 HCA 141.94 SMA 188.89 ECC .20742 INC 2.4638 V1 29.624
 RP 207.60 LAP -1.52 LOP 354.17 VP 23.999 GAP 10.55 AZP 88.06 TAL 346.61 TAP 128.55 RCA 149.71 APO 228.07 V2 26.388
 RC 84.247 GL -22.32 GP 4.51 ZAL 118.70 ZAP 142.57 ETS 174.00 ZAE 173.59 ETE 89.95 ZAC 104.65 ETC 277.67 LVI -22.05

DISTANCE 421.449
 EARTH TO MARS

PLANETOCENTRIC CONIC
 C3 13.582 VHL 3.685 DLA -30.85 RAL 344.61 RAD 6639.8 VEL 11.561 PTH 6.61 VHP 4.625 DPA -13.21 RAP 318.58 ECC 1.2235
 LNCH AZMTH LNCH TIME L-I TIME INJ LAT INJ LONG INJ RT ASC INJ AZMTH INJ TIME PO CST TIM INJ 2 LAT INJ 2 LONG
 50.00 18 26 1 2399.14 -2.35 62.17 199.84 137.53 19 6 0 1399.1 15.93 46.16
 60.00 19 52 14 2169.75 3.41 47.04 205.36 130.18 20 28 24 1169.7 19.03 28.32
 70.00 21 51 59 1817.35 10.42 23.70 210.58 122.71 22 22 16 817.4 22.87 2.26
 77.12 0 35 41 1318.77 20.39 351.26 216.11 113.67 0 57 40 318.8 28.35 326.43
 77.12 0 35 41 1318.77 20.39 351.26 216.11 113.67 0 57 40 318.8 28.35 326.43
 77.12 0 35 41 1318.77 20.39 351.26 216.11 113.67 0 57 40 318.8 28.35 326.43
 110.00 2 55 21 6152.21 10.42 290.53 210.58 122.71 4 37 54 5152.2 22.87 269.08

DIFFERENTIAL CORRECTIONS
 TDE -.4309 TRA -.8209 TC3 .1658 BAU .0849
 RDE -.2468 RRA -.0628 RC3 .4372 FAU .11075
 FDE .8026 FRA 4.0239 FC3-7.0595 BSP 2876
 BDE .4966 BRA .8233 BC3 .4676 FSP 1261

MID-COURSE EXECUTION ACCURACY
 SGT 1635.0 SGR 513.9 SG3 781.1
 RRT .5542 RRF -.6425 RTF -.8324
 SGB 1713.9 R23 -.1782 R13 -.8417
 SG1 1661.4 SG2 421.0 THA 10.57

ORBIT DETERMINATION ACCURACY
 ST 40.2 SR 19.3 SS 50
 CRT .8781 CRS .5710 CST .81
 LSA 64.4 MSA 19.7 SSA
 EL1 43.8 EL2 8.5 ALF 21

LAUNCH DATE APR 23 1971 FLIGHT TIME 170.00 ARRIVAL DATE OCT 10 1971

HELIOCENTRIC CONIC DISTANCE 425.477 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.558 GAL -2.25 AZL 92.50 HCA 143.20 SMA 188.33 ECC .20500 INC 2.4963 V1 29.624

PLANETOCENTRIC CONIC
C3 13.369 VHL 3.656 DLA -31.30 RAL 344.81 RAD 6639.7 VEL 11.551 PTH 6.60 VHP 4.501 DPA -13.06 RAP 318.20 ECC 1.2200

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4240 TRA -.7886 TC3 .1359 BAU .0859 SGT 1594.6 SGR 524.7 SG3 826.9 ST 39.7 SR 19.0 SS 51.8

LAUNCH DATE APR 23 1971 FLIGHT TIME 172.00 ARRIVAL DATE OCT 12 1971

HELIOCENTRIC CONIC DISTANCE 429.521 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.528 GAL -2.22 AZL 92.53 HCA 144.45 SMA 187.82 ECC .20274 INC 2.5305 V1 29.624

PLANETOCENTRIC CONIC
C3 13.182 VHL 3.631 DLA -31.74 RAL 345.02 RAD 6639.6 VEL 11.543 PTH 6.59 VHP 4.381 DPA -12.91 RAP 317.76 ECC 1.2169

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4174 TRA -.7547 TC3 .0995 BAU .0875 SGT 1549.3 SGR 538.8 SG3 874.5 ST 39.1 SR 18.7 SS 53.2

LAUNCH DATE APR 23 1971 FLIGHT TIME 174.00 ARRIVAL DATE OCT 14 1971

HELIOCENTRIC CONIC DISTANCE 433.580 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.500 GAL -2.19 AZL 92.57 HCA 145.71 SMA 187.34 ECC .20065 INC 2.5669 V1 29.624

PLANETOCENTRIC CONIC
C3 13.020 VHL 3.608 DLA -32.19 RAL 345.26 RAD 6639.6 VEL 11.536 PTH 6.58 VHP 4.268 DPA -12.75 RAP 317.28 ECC 1.2143

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.4108 TRA -.7183 TC3 .0560 BAU .0698 SGT 1497.7 SGR 556.2 SG3 923.6 ST 38.4 SR 18.4 SS 54.6

LAUNCH DATE APR 23 1971 FLIGHT TIME 176.00 ARRIVAL DATE OCT 16 1971

HELIOCENTRIC CONIC DISTANCE 437.652 EARTH TO MARS
RL 150.41 LAL -.00 LOL 212.20 VL 32.475 GAL -2.17 AZL 92.61 HCA 146.96 SMA 186.90 ECC .19870 INC 2.6057 V1 29.624

PLANETOCENTRIC CONIC
C3 12.881 VHL 3.589 DLA -32.64 RAL 345.51 RAD 6639.5 VEL 11.530 PTH 6.58 VHP 4.159 DPA -12.58 RAP 316.75 ECC 1.2120

DIFFERENTIAL CORRECTIONS MID-COURSE EXECUTION ACCURACY ORBIT DETERMINATION ACCURACY
TDE -.6782 TC3 .0105 BAU .0935 SGT 1437.5 SGR 577.6 SG3 974.1 ST 37.5 SR 18.2 SS 56.0