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VOLUME 15 of 18

RESULTS OF TESTS OA12 AND IA9 IN THE  
AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS  
ON AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE  
VEHICLE 2A TO DETERMINE AERODYNAMIC LOADS

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER  
CORPORATION

February, 1974

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By

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Rockwell International

Prepared under NASA Contract Number NAS9-13247

By

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, Louisiana 70189

for

Engineering Analysis Division

Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas

WING TUNNEL TEST SPECIFICS:

Test Numbers:           ARC 11-707 (A)  
                              ARC 97-707 (B)  
                              ARC 87-707 (C)  
NASA Series Numbers:   IA9A, B, C and  
                              OA12A, C  
Test Date:               2 April - 17 May, 1973

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Chrysler Corporation Space Division Assumes no responsibility for the data presented herein other than its display characteristics.

RESULTS OF TESTS OAL2 AND IA9 IN THE  
AMES RESEARCH CENTER UNITARY PLAN WIND TUNNELS  
ON AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE  
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ABSTRACT

Tests were conducted in the NASA/ARC Unitary Plan Wind Tunnels during April and May 1973, on an 0.030-scale replica of the Space Shuttle Vehicle Configuration 2A. Aerodynamic loads data were obtained at Mach numbers from 0.6 to 3.5.

The investigation included Tests IA9A, B and C on the integrated (launch) configuration and Tests OAL2A and C on the isolated orbiter (entry configuration). The integrated vehicle was tested at angles of attack and sideslip from -8 degrees to +8 degrees. The isolated orbiter was tested at angles of attack from -15 degrees to +40 degrees and angles of sideslip from -10 degrees to +10 degrees as dictated by trajectory considerations. The effects of orbiter/external tank incidence angle and deflected control surfaces on aerodynamic loads were also investigated.

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## INTRODUCTION

The 0.030-scale Aero Loads Space Shuttle model was tested in the Unitary Plan Wind Tunnels at ARC starting April 2, and continuing through May 17, 1973 as follows:

IA9A	11-foot Transonic	April 2 to April 14, 1973
OAL2A	11-foot Transonic	April 16 to April 29, 1973
IA9C	8x7-foot Supersonic	April 23 to May 1, 1973
OAL2C	8x7-foot Supersonic	May 2 to May 8, 1973
IA9B	9x7-foot Supersonic	May 9 to May 17, 1973

The testing was conducted in all three legs of the Unitary Plan Wind Tunnels to obtain a Mach number range from 0.6 to 3.5. Aerodynamic loads data were obtained for the ascent and entry configurations. The effects of control surface deflections were also investigated.

This report consists of 3 volumes of force data and 15 volumes of pressure data for a total of 18 volumes arranged in the following manner:

<u>VOLUME NO.</u>	<u>CONTENTS</u>
1	IA9A force data
2	IA9B and IA9C force data
3	OAL2A and OAL2C force data
4	IA9A plotted pressure data
5	IA9B and IA9C plotted pressure data
6	OAL2A and OAL2C plotted pressure data
7	IA9A tabulated pressure data (a) orbiter fuselage (b) orbiter base (c) upper MPS nozzle
8	IA9A tabulated pressure data (a) OMS nozzle (b) body flap (c) OMS pod outside (d) lower wing surface
9	IA9A tabulated pressure data (a) upper wing surface (b) left vertical tail surface (c) right vertical tail surface (d) APU inlet (e) SRM booster base
10	IA9A tabulated pressure data (a) SRM booster (b) external tank (c) external tank base

INTRODUCTION (CONTINUED)

- 11 IA9B tabulated pressure data  
(a) orbiter fuselage  
(b) orbiter base  
(c) upper MPS nozzle  
(d) OMS nozzle  
(e) body flap  
(f) OMS pod outside  
(g) lower wing surface
- 12 IA9B tabulated pressure data  
(a) upper wing surface  
(b) left vertical tail surface  
(c) right vertical tail surface  
(d) APU inlet  
(e) SRM booster base  
(f) SRM booster  
(g) external tank  
(h) external tank base
- 13 IA9C tabulated pressure data  
(a) orbiter fuselage  
(b) orbiter base  
(c) upper MPS nozzle  
(d) OMS nozzle  
(e) body flap  
(f) OMS pod outside
- 14 IA9C tabulated pressure data  
(a) lower wing surface  
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- 16 OA12A tabulated pressure data  
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(b) orbiter base  
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(d) OMS nozzle  
(e) body flap  
(f) OMS pod outside

INTRODUCTION (CONCLUDED)

- 17 OAL2A tabulated pressure data  
    (a) lower wing surface  
    (b) upper wing surface  
    (c) left vertical tail surface  
    (d) right vertical tail surface  
    (e) APU inlet
- 18 OAL2C tabulated pressure data  
    All components

NOMENCLATURE  
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C <sub>p</sub>	CP	pressure coefficient; (p <sub>1</sub> - p <sub>∞</sub> )/q
M	MACH	Mach number; V/a
p		pressure; N/m <sup>2</sup> , psf
q	Q(NSM) Q(PSF)	dynamic pressure; 1/2ρV <sup>2</sup> , N/m <sup>2</sup> , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
φ	PHI	angle of roll, degrees
ρ		mass density; kg/m <sup>3</sup> , slugs/ft <sup>3</sup>
<u>Reference &amp; C.G. Definitions</u>		
A <sub>b</sub>		base area; m <sup>2</sup> , ft <sup>2</sup>
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ <sub>REF</sub>	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m <sup>2</sup> , ft <sup>2</sup>
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis
<u>SUBSCRIPTS</u>		
	b	base
	l	local
	s	static conditions
	t	total conditions
	∞	free stream



NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_N$	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
$C_A$	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_{A_b}$	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
$C_{A_f}$	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
$C_n$	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$
$C_l$	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$
<u>Stability-Axis System</u>		
$C_L$	CL	lift coefficient; $\frac{\text{lift}}{qS}$
$C_D$	CD	drag coefficient; $\frac{\text{drag}}{qS}$
$C_{D_b}$	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
$C_{D_f}$	CDF	forebody drag coefficient; $C_D - C_{D_b}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
$C_n$	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$
$C_l$	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$
L/D	L/D	lift-to-drag ratio; $C_L/C_D$
L/D <sub>f</sub>	L/DF	lift to forebody drag ratio; $C_L/C_{D_f}$

NOMENCLATURE (CONTINUED)

ADDITIONS TO STANDARD LIST

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
$\delta_R$	RUDDER	rudder, surface deflection angle, positive deflection, trailing edge to the left; degrees.
$\delta_e$	ELEVON	elevon, surface deflection angle, positive deflection, trailing edge down; degrees.
$\delta_{RF}$	RUDFLR	rudder flare, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{RF} = (\delta_{RL} + \delta_{RR})/2$ , positive deflection; degrees.
$i_o$	ORBINC	incidence angle between the orbiter and external tank, $i_o = \alpha_t - \alpha_t$ ; degrees.
$\beta_T$	BETAT	angle of sideslip of external tank.
$\alpha_T$	ALPHAT	angle of attack of external tank.
$l_B$	LB	length of orbiter body; in.
$l_T$	LT	length of external tank; in.
$l_s$	LS	length of SRM booster; in.
$l_{NM}$	LNM	length of OMS nozzle, positive direction forward of exit plane; in.
$l_{NP}$	LNP	length of MPS nozzle, positive direction forward of exit plane; in.
$b/2$	BW	wing semi-span; in.
$b_v$	BV	vertical tail span; in.
$x$	X	distance from component nose; in.
$y$	Y	lateral distance from centerline; in.

NOMENCLATURE (CONCLUDED)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>
$z$	$Z$	vertical distance measured from W.L. 500 (vertical tail reference root chord); in.
$c_w$	$CW$	local wing chord; in.
$c_v$	$CV$	local vertical tail chord; in.
$x/l_B$	$X/LB$	longitudinal position/orbiter body length.
$x/l_T$	$X/LT$	longitudinal position/external tank length.
$x/l_S$	$X/LS$	longitudinal position/booster length.
$x/l_{NM}$	$X/LNM$	longitudinal position/OMS nozzle length.
$x/l_{NP}$	$X/LNP$	longitudinal position/MPS nozzle length.
$x/c_w$	$X/CW$	local chordwise position/local wing chord length.
$x/c_v$	$X/CV$	local chordwise position/local vertical tail chord length.
$y/b/2$	$Y/BW$	local spanwise position/wing semi-span.
$z/b_v$	$Z/BV$	local spanwise position/vertical tail span.

## CONFIGURATIONS INVESTIGATED

The 0.030-scale aero loads model was a replica of the Space Shuttle Vehicle 2A. It consisted of four major components: the orbiter, the external oxygen and hydrogen tank (ET) and two solid rocket boosters (SRB).

On the ascent configuration, the orbiter was strut mounted from the ET on a Task Corporation MK XVI 2.5-inch diameter internal balance. The left SRB was strut mounted from the ET on a Task Corporation MK XXII 1.5-inch diameter internal balance. No attempt was made to simulate actual inter-attachments. The ET was sting mounted to the tunnel model support system on a Task Corporation 4.0-inch diameter internal balance. The right SRB was strut mounted symmetrically to the left side, but did not contain a balance. The orbiter configuration, designated as O2A, consisted of B10C5D7W87V5R5M3F4.

The entry configuration consisted of the isolated orbiter, sting mounted to the tunnel model support system on a Task Corporation MK XXA 2.5-inch diameter internal balance. Midway through the OAL2C test, the MK XXA balance was damaged and was replaced by the MK XXB for the high angles of attack. The orbiter was provided with deflectable elevons by means of interchangeable brackets, deflectable rudder by means of a pin-indexed hinge, and interchangeable rudders to obtain different speed brake flare angles. The main propulsion system engines were removed during entry configuration testing to provide sting clearance. A cover plate was provided for the strut clearance hole.

The orbiter was instrumented with 374 pressure orifices on the left wing, left side of the fuselage, vertical tail, left OMS pod and engine, left and upper MPS engine and the base. The pressures were measured using eleven Scanivalve, Inc., S-type valve modules mounted internally (a five and a six gang unit). When tested in the entry configuration, the MPS pressures were not available for measurement.

The left side of the ET was instrumented with 136 pressure orifices. These pressures were measured by means of 7 Scanivalve, Inc., S-type valve modules configured as one unit of 6 modules and one single. These valves were mounted internally in the tank. The left SRB had one gang of six S-type modules to measure 102 pressures. The right SRB was not instrumented. The pressure transducers used in the valve modules were Statham PM 131 TC differential pressure transducers, with ranges of  $\pm 10$  psid,  $\pm 12.5$  psid and  $\pm 15$  psid. Reference and calibration pressures were measured by the ARC micro manometers.

Some modifications were made to the model at the test site prior to

CONFIGURATIONS INVESTIGATED (CONTINUED)

testing. These were as follows:

1. The forward tip of the ET containing the retro rocket package (Reference NR Drawing VL78-000018) was replaced with a flush 0.90 inch radius nose (Model scale). The new nose had five pressure taps; one in the nose and four more aft of the nose on the vertical and horizontal axis on a 0.315 inch radius.
2. The ET balance cavity was enlarged by one inch on the diameter (from 5 inches to 6 inches) to provide clearance for cable routing and eliminate balance interference.
3. The clearances around both the orbiter and the SRB struts were opened to approximately 1/8 inch to prevent interference.
4. An alternate rudder hinge pin was provided to give a rudder deflection of +15 degrees.

Before and during the tests various model discrepancies developed or were discovered. These were generally minor and had only a negligible, if any, effect on the data. Significant discrepancies are noted below:

1. Pressure orifices P171 and P173 on the OMS pod base were omitted.
2. During the test certain pressure taps developed leaks or became plugged. Data from these taps are questionable and should be used with caution. Difficulties in checking may have resulted in erroneous indications of leakage. Repairs were made to correct leaking or plugged pressure instrumentation, whenever possible, as the test progressed. The following list gives those taps that were indicated as bad on the various leak and response checks:

ARC Facility	Run Nos.	Orifice numbers with questionable pressure data
11'	2-4	72, 163, 427
↓	5-118	31, 100, 123, 163, 201, 427
	119-160	16, 98, 101, 107, 333, 427
	161-170	16, 98, 101, 107, 333, 427 + 306, 307, 327, 328, 336, 337, 356, 357, 375

CONFIGURATIONS INVESTIGATED (CONCLUDED)

<u>ARC Facility</u>	<u>Run Nos.</u>	<u>Orifice numbers with questionable pressure data</u>
11'	171-182	16, 47, 53, 75, 78, 98, 107, 201, 236, 237, 238, 307, 327, 365, 427
↓	183-189	Same as (171-182) + 7, 447, 525
	190-211	Same as (171-182)
8'x7'	220-234	20, 21, 24, 74, 326, 327, 336, 424, 427, 752, 868, 871
↓	235-285	74, 326, 327, 336, 424, 427, 752, 868, 871
	286-300	74, 107, 115, 124, 129, 138, 326, 327, 336, 427
	301-305	74, 326, 327, 336, 427
	306-333	74, 326, 327, 427
9'x7'	340-396	5, 325, 326, 327, 424, 427, 526, 752, 868, 871

## TEST FACILITIES DESCRIPTION

### Ames 11 x 11-Ft. Transonic

The Ames 11 x 11-Foot Transonic Wind Tunnel is a variable density, closed return, continuous flow type. This tunnel has an adjustable nozzle (two flexible walls) and a slotted test section to permit transonic testing over a Mach number range continuously variable from 0.4 to 1.4.

### Ames 8 x 7-Ft. Supersonic

The Ames 8 x 7-Foot Supersonic Wind Tunnel is a closed-return, variable-density tunnel with a 8- by 7-foot rectangular test section. The nozzle has flexible side walls with fixed upper and lower surfaces. Mach number range is continuously variable from 2.45 to 3.5. Tunnel stagnation pressure can be varied from 0.3 to 2.0 atmospheres and Reynolds number per foot varies from  $1.0 \times 10^6$  to  $5.0 \times 10^6$ .

### Ames 9 x 7-Ft. Supersonic

The Ames 9 x 7-Foot Supersonic Wind Tunnel is a variable density, continuous flow type with an adjustable nozzle to permit supersonic testing over a Mach number range continuously variable from 1.5 to 2.5. The nozzle is of the asymmetric, sliding-block type in which the variation of the test section Mach number is achieved by translating, in the streamwise direction, the fixed-contour block that forms the floor of the nozzle.

## DATA REDUCTION

Standard procedures were utilized to reduce force and pressure data to coefficient form. The following dimensional constants were applied:

### Reference Dimensions and Constants (Model Scale)

$S_{Ref.} = 2.421 \text{ ft}^2$	Orbiter reference area
$Q_{Ref.} = 39.849 \text{ in.}$	Orbiter reference length

### Base Areas (Model Scale)

$A_{BOI} = 0.1903 \text{ Ft}^2$	Orbiter base area, integrated
$A_{BOA} = 0.2362$	Orbiter base area, sting mounted
$A_{BMPSU} = 0.0417$	Orbiter upper MPS base area
$A_{BMPSL} = 0.0853$	Orbiter lower MPS base area
$A_{BACPS} = 0.0310$	Orbiter ACPS base area on OMS pod
$A_{BOMS} = 0.0231$	Orbiter OMS nozzle base area
$A_{BPOD} = 0.0257$	Orbiter OMS pod base area
$A_{CO} = 0.0611$	Orbiter sting cavity base area
$A_{BNOZ} = 0.0564$	SRM nozzle base area
$A_{BSKIRT} = 0.1729$	SRM nozzle skirt base area
$A_{BETI} = 0.3189$	ET Base area
$A_{CET} = 0.1964$	ET Sting cavity base area



TEST : OA12 / IA9

TABLE I.

DATE : May, 1973

## TEST CONDITIONS

MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. foot)	STAGNATION TEMPERATURE (degrees Fahrenheit)
0.6	$4.0 \times 10^6$	540	120° NOM.
0.9	4.5	800	
1.1	4.0	800	
1.25	3.0	630	
1.4	3.0	650	
1.55	2.8	600	
2.0	2.3	490	
2.5	1.5	300	
3.0	2.0	350	Y
3.5	2.0	300	

## FIVE (5) TASK CORPORATION BALANCES

BALANCE UTILIZED: WITH CAPACITIES AS FOLLOWS:

	ISOLATED ORBITER		INTEGRATED VEHICLE		
	MARK IXA	MARK IXB	ORB MARK III	SRB MARK IX	ET MARK II B
N <sub>F</sub>	3000	3000	2400	1250	4000
N <sub>A</sub>	3000	3000	2400	1250	4000
Y <sub>F</sub>	1500	1500	1200	500	2000
Y <sub>A</sub>	1500	1500	1200	500	2000
X	600	600	1500	200	1000
R	4000	4000	4000	1000	10,000
SIZE	2.5"	2.5"	2.5"	1.5"	4.0"

COMMENTS: THE MARK IXA, 2.5IN. DIA. BALANCE WAS DAMAGED AFTER RUN 319. THE MARK IXB WAS SUBSTITUTED FOR RUN 320 AND SUBSEQUENT RUNS

TABLE II.

TEST: ARC 11-707(IA9A)			DATA SET/RUN NUMBER COLLATION SUMMARY						DATE: 4-27-73									
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$	$l_0$		0.6	0.9	1.1	1.25	1.4					
RBMX 01	$\phi_{2A} + S_3 + T_9$	A	0	0	0	0	1.5	4	3	5	6	7						
02		A	0	~	~	~	0.5	5	8	18	28	38	48					
03		-8	B					4	9	19	29	39						
04		-6	~					~	10	20	30	40						
05		-4							11	21	31	41						
06		-2						~	12	22	32	42						
07		0						5	13	23	33	43	49					
08		2						4	14	24	34	44						
09		4						~	15	25	35	45						
10		6						~	16	26	36	46						
11		8	~					~	17	27	37	47						
12		-8	C		-5			2			97	102						
13		-6	~		~			~			118	111						
14		-4									98	103						
15		-2									117	112						
16		0									99	104						
17		2									116	113						
18		4									100	105						

21

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

$\alpha$  OR  $\beta$  SCHEDULES  $\alpha A = -8, -6, -4, -2, 0, 2, 4, 6, 8$   
 $\beta B = -8, -6, -4, -2, 0, 2, 4, 6, 8$

COEFFICIENTS  $\beta C = -8, -4, 0, 4, 8$

IDVAR (1) IDVAR (2) NDV

TABLE II. CONTINUED

TEST: ARC - 11 - 707 (IA 90)		DATA SET/RUN NUMBER COLLATION SUMMARY							DATE: 4 - 1 - 68									
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\delta e$	$\delta R$	$\delta FR$	$i_0$		0.6	0.9	1.1	1.25						
RBMX 19	$\phi_{2A} + S_3 + T_7$	6	C	0	-5	0	0.5	2			115	114						
20		8	T	T	-5	T	T	T			101	106						
21		-8			-10						60	69						
22		-6			T						61	70						
23		-4									62	71						
24		-2									63	72						
25		0									64	73						
26		2									65	74						
27		4									66	75						
28		6									67	76						
29		8									68	77						
30		-8			-15						78	88						
31		-6			T						79	89						
32		-4									80	90						
33		-2									81	91						
34		0									82	92						
35		2									83	93						
36		4									84	94						

22

TEST RUN NUMBERS

1      7      13      19      25      31      37      43      49      55      61      67      75 76

COEFFICIENTS

IDVAR (1)    IDVAR (2)    NDV

$\alpha$  OR  $\beta$   
SCHEDULES

TABLE II. CONTINUED

TEST: ARC 11-707 (IA98)		DATA SET/RUN NUMBER COLLATION SUMMARY							DATE: _____											
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )											
		$\alpha$	$\beta$	$\delta e$	$\delta R$	$\delta FR$	$L_0$		0.6	0.9	1.1	1.25								
RBMx 37	$\phi_{2A} + S_3 + T_9$	6	C	0	-15	0	0.5	2			85	95								
38		8	T	T	-15	T	T	T			87	96								
39		-8			-5						50	55								
40		-4			T						51	56								
41		0									52	57								
42		4									53	58								
43		8									54	59								
44		A	0		0		-1.2	4	107	108	109	110								

TEST RUN NUMBERS

23

1	7	13	19	25	31	37	43	49	55	61	67	75	76
						COEFFICIENTS					IDVAR (1)	IDVAR (2)	NDV
$\alpha$ OR $\beta$		_____								_____			
SCHEDULES		_____								_____			

TABLE II. CONTINUED

TEST: ARC 97-707 (IA9B)		DATA SET/RUN NUMBER COLLATION SUMMARY							DATE: 5-17-73										
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )										
		$\alpha$	$\beta$	$\delta e$	$\delta R$	$i_0$	$\delta R F$		1.55	2.0									
RBDx 01	$\theta_{2A} + S_3 + T_9$	A	0	0	0	0.5	0	2	341	351									
02		8	B	T	T	T	T	T	342	360									
03		6	T						343	359									
04		4							344	358									
05		2							345	357									
06		0							346	356									
07		-2							347	355									
08		-4							348	354									
09		-6							349	353									
10		-8							350	352									
11		-8	C		-15				361	367									
12		-4	T		T				362	368									
13		0							363	369									
14		4							364	370									
15		6							365	371									
16		8							366	372									
17		-8			-10				373	379									
18		-4			-10				374	380									

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

$\alpha$  OR  $\beta$  SCHEDULES  
 $\alpha(A) = -8, -6, -4, -2, 0, 2, 4, 6, 8$   
 $\beta(B) = 8, 6, 4, -4, -6, -8$

COEFFICIENTS  
 $\beta(C) = 8, 6, 4, 0, -4, -6, -8$

IDVAR (1) IDVAR (2) NDV

24

TABLE II. CONTINUED

TEST: <u>ARC 97-707(IA9B)</u>		DATA SET/RUN NUMBER COLLATION SUMMARY							DATE: <u>5-17-73</u>										
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )										
		$\alpha$	$\beta$	$\delta e$	$\delta R$	$\zeta_0$	$\delta R_F$		1.55	2.0									
<u>RBDx19</u>	<u><math>\theta_{2A} + S_3 + T_9</math></u>	<u>0</u>	<u>C</u>	<u>0</u>	<u>-10</u>	<u>0.5</u>	<u>0</u>	<u>2</u>	<u>375</u>	<u>381</u>									
<u>20</u>		<u>4</u>	<u>T</u>	<u>T</u>	<u>T</u>	<u>T</u>	<u>T</u>	<u>T</u>	<u>376</u>	<u>382</u>									
<u>21</u>		<u>6</u>			<u>↓</u>				<u>377</u>	<u>383</u>									
<u>22</u>		<u>8</u>			<u>↓</u>				<u>378</u>	<u>384</u>									
<u>23</u>		<u>-8</u>			<u>+15</u>				<u>385</u>	<u>391</u>									
<u>24</u>		<u>-4</u>			<u>T</u>				<u>386</u>	<u>392</u>									
<u>25</u>		<u>0</u>							<u>387</u>	<u>393</u>									
<u>26</u>		<u>4</u>							<u>388</u>	<u>394</u>									
<u>27</u>		<u>6</u>							<u>389</u>	<u>395</u>									
<u>28</u>		<u>8</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>390</u>	<u>396</u>									

25

TEST RUN NUMBERS

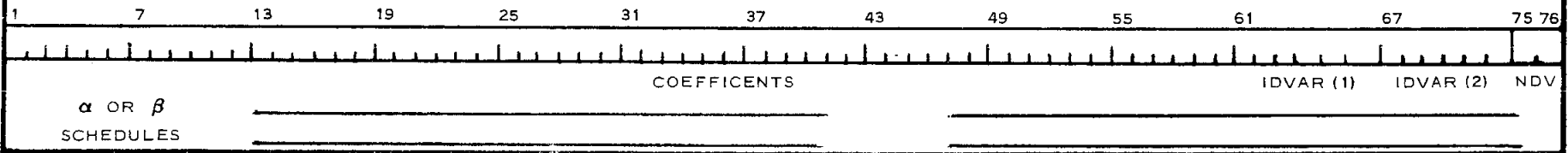


TABLE II. CONTINUED

TEST: ARC 8x7-707 (IA9C)			DATA SET/RUN NUMBER COLLATION SUMMARY						DATE: 5-1-73								
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )								
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$	$L_0$		2.5	3.0	3.5						
RBNx01	$\theta_{2A} + S_3 + T_9$	A	0	0	0	0	0.5	3	240	230	220						
02		-8	B	T	T	T	T	T	241	231	221						
03		-6	T						242	232	222						
04		-4							243	233	223						
05		-2							244	234	224						
06		0							245	235	225						
07		2							246	236	226						
08		4							247	237	227						
09		6							248	238	228						
10		8	▼		▼				249	239	229						
11		-8	C		-15				267	256	250						
12		-4	T						266	257	251						
13		0							265	258	252						
14		4							264	259	253						
15		6	▼	▼	▼	▼	▼	▼	263	260	254						
16		8	▼	▼	▼	▼	▼	▼	262	261	255						

26

TEST RUN NUMBERS

1      7      13      19      25      31      37      43      49      55      61      67      75 76

$\alpha$  OR  $\beta$  SCHEDULES     
  $\alpha A = -8, -6, -4, -2, 0, 2, 4, 6, 8$      
 COEFFICIENTS     
 $\beta C = -8, -6, -4, 0, 4, 6, 8$      
 IDVAR (1)      IDVAR (2)      NDV

TABLE II. CONTINUED

TEST: ARC 8x7-707 (IA9C)		DATA SET/RUN NUMBER COLLATION SUMMARY						DATE: 5-1-73							
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)						
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$	$\zeta_0$		2.5	3.0	3.5				
RBNx17	D <sub>2A</sub> + S <sub>3</sub> + T <sub>9</sub>	-8	C	0	-10	0	0.5	3	274	280*	268				
18	↓	-4	↑	↑	↑	↑	↑	↑	275	281*	269				
19		0	↓	↓	↓	↓	↓	↓	276	282*	270				
20		4	↓	↓	↓	↓	↓	↓	277	283*	271				
21		6	↓	↓	↓	↓	↓	↓	278	284*	272				
22		8	↓	↓	↓	↓	↓	↓	279	285*	273				
1                7                13                19                25                31                37                43                49                55                61                67                75 76															
						COEFFICIENTS									
$\alpha$ OR $\beta$		* NOTE: RUNS 280-285: $\beta$ SCHEDULE IS:									IDVAR (1)		IDVAR (2)		NDV
SCHEDULES		-8, -4, 0, 4, 8													

27

TEST RUN NUMBERS



TABLE II. CONTINUED

TEST: AMES 11-707 (0A12A)		DATA SET/RUN NUMBER COLLATION SUMMARY					DATE: 4-23-73										
DATA SET IDENTIFIER	CONFIGURATION	SCHD. PARAMETERS/VALUES					NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$		0.6	0.9								
RBPx01	B <sub>10</sub> C <sub>5</sub> D <sub>7</sub> N <sub>2</sub> F <sub>4</sub> M <sub>3</sub> N <sub>8</sub> V <sub>5</sub> R <sub>5</sub> W <sub>8</sub> E <sub>8</sub>	A	0	0	0	0	2	119	125								
02		0	B	┌	┌	┌	┌	120	126								
03		5	┌					121	127								
04		10						122	128								
05		15						123	129								
06		20	▼		▼			124	130								
07		0	C		-10			131	136								
08		5	┌		┌			132	137								
09		10						133	138								
10		15						134	139								
11		20			▼			135	140								
12		0			-20			141	146								
13		5			┌			142	147								
14		10						143	148								
15		15						144	149								
16		20	▼	▼	▼			145	150								
17		0	D	10	0			151	156								
18		5	D	10	0	▼	▼	152	160								

28

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

$\alpha$  OR  $\beta$  SCHEDULES     
  $\alpha$  A = -MAX, 0, 5, 10, 15, 20, 25     
 COEFFICENTS     
  $\beta$  B = -10, -5, 5, 10     
  $\beta$  C = 8, -4, 0, 4, 8     
 IDVAR (1)      IDVAR (2)      NDV     
  $\beta$  D = -10, 0, 10     
  $\beta$  E = -5, 0, 5

TABLE II. CONTINUED

TEST: AMES 11-707 (OAL2A)			DATA SET/RUN NUMBER COLLATION SUMMARY					DATE: 4-23-73											
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )											
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$		0.6	0.9										
RBPx19	B <sub>10</sub> C <sub>5</sub> D <sub>7</sub> N <sub>2</sub> E <sub>4</sub> M <sub>3</sub> N <sub>8</sub> V <sub>5</sub> R <sub>5</sub> W <sub>8</sub> E <sub>18</sub>	10	D	+10	0	0	2	153	157										
20		15	↓	↓	↓	↓		154	159										
21		20	↓	↓	↓	↓		155	158										
22		0	C	-10				161	166										
23		5	↓	↓	↓	↓		162	167										
24		10	↓	↓	↓	↓		163	168										
25		15	↓	↓	↓	↓		164	169										
26		20	↓	↓	↓	↓		165	170										
27		-4	E	-20				171	182										
28		0	C					172	181										
29		5	↓	↓	↓	↓		173	180										
30		10	↓	↓	↓	↓		174	179										
31		15	↓	↓	↓	↓		175	178										
32		20	↓	↓	↓	↓		176	177										
33		-4	E	0	0	40		183	189										
34		0	C	↓	↓	↓		184	190										
35		5	↓	↓	↓	↓		185	191										
36		10	↓	↓	↓	↓		186	192										

TEST RUN NUMBERS

22

1      7      13      19      25      31      37      43      49      55      61      67      75 76

$\alpha$  OR  $\beta$        $\alpha$  A = -MAX, 0, 5, 10, 15, 20, 25      COEFFICIENTS  
 SCHEDULES       $\beta$  B = -10, -5, 5, 10  
 $\beta$  C = -8, -4, 0, 4, 8      IDVAR (1)      IDVAR (2)      NDV  
 $\beta$  D = -10, 0, 10       $\beta$  E = -5, 0, 5

TABLE II. CONTINUED

TEST: AMES 11-707 (0A12A)

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 4-23-73

DATA SET IDENTIFIER	CONFIGURATION	SCHED. PARAMETERS/VALUES					NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)							
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$		0.6	0.9	1.1	1.25	1.4			
RBPx37	$B_{10} C_5 D_7 N_2 F_4 M_3 N_8 V_5 R_5 W_8 F_{18}$	15	C	0	0	40		187	193						
38		20	C			40		188	194						
39		F	O			0				199	197	195			
40		0.5	G							200	198	196			
41		-4	E		-10			201	202						
42		-4	E		-20			203	204						
43		-4	E	10	0	0		205	206						
44		-4	E	-10				207	208						
45		-4	E	0				210	209						
46		H	O					216	211						
47		-5	I					215	212						
48		-10	I					214	213						

30

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

$\alpha$  OR  $\beta$   
SCHEDULES

$\alpha_F = -4.5, -3.5, -1.5, 0.5, 2.5, 4.5, 6.6, 8.6, 10, 15$   
 $\beta_G = -8, -4, -2, 0, 2, 4, 8$

$\alpha_H = 0, -5, -10, -15$   
 $\beta_I = -10, -5, 5, 10$

COEFFICIENTS

IDVAR (1) IDVAR (2) NDV

TABLE II. CONTINUED

TEST: 87-707 (0A12C)		DATA SET/RUN NUMBER COLLATION SUMMARY						DATE: 5-9-73											
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)											
		$\alpha$	B	$\delta e$	$\delta R$	$\delta FR$		2.5	3.5										
RBQx01	B10C <sub>5</sub> D <sub>7</sub> N <sub>2</sub> F <sub>4</sub> M <sub>3</sub> N <sub>3</sub> V <sub>3</sub> R <sub>1</sub> W <sub>9,7,10</sub>	A	0	0	0	40	2	290	286										
02		0	B	T	T	T		293	289										
03		10	C					292	288										
04		20	C					291	287										
05		0	D		-20			297	294										
06		10	T					298	295										
07		20						299	296										
08		0		10	0			303	300										
09		10		T	T			304	301										
10		20		T				305	302										
11		0		-20				309	306										
12		10		T				310	307										
13		20		T				311	308										
14		0		-40				317	314										
15		10		T				318	315										
16		20		T				319	316										
17		E	0	0				322	320										
18		30	D	0				323	321										

31

TEST RUN NUMBERS

1      7      13      19      25      31      37      43      49      55      61      67      75 76

$\alpha$  OR  $\beta$  SCHEDULES      COEFFICIENTS      IDVAR (1)      IDVAR (2)      NDV

$\alpha A = 0, 5, 10, 15, 20$   
 $\alpha B = 3, -3$   
 $\alpha E = 15, 20, 25, 30, 35, 40$

$\beta C = 6, 3, -3, -6$   
 $\beta D = 6, 3, 0, -3, -6$

$\alpha E = 15, 20, 25, 30, 35, 40$

TABLE II. CONCLUDED

TEST: 87-707 ( $\Phi$ A12C)				DATA SET/RUN NUMBER COLLATION SUMMARY							DATE: 5-9-73							
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)										
		$\alpha$	$\beta$	$\delta_e$	$\delta_R$	$\delta_{FR}$		2.5	3.5									
RBQX 19	B10C5 D7N2F4M3N6V6R5W6Z2	30	D	0	-20	40	2	325	324									
20		30	D	10	0	40	1	327	326									
21		30	D	-20	0	40		329	328									
22		20	F	0	0	40		332	330									
23		15	G	0	0	40	1	333	331									
1	7	13	19	25	31	37	43	49	55	61	67	75	76					

$\alpha$  OR  $\beta$   
SCHEDULES

COEFFICIENTS

BF = 10, 6, 0, -6, -10  
BG = 6, 0, -6

IDVAR (1)   IDVAR (2)   NDV

32

TEST RUN NUMBERS

TABLE III. MODEL COMPONENT DIMENSIONAL DATA

MODEL COMPONENT: BLO Body

GENERAL DESCRIPTION: Fuselage, 2A Configuration, Lightweight Orbiter, per  
Rockwell Lines VL70-000089 "B."

Scale Model = .030

DRAWING NUMBER: VL70-000089 "B"  
VL70-000092, 93, 94 "A"

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length ~ IN	<u>1328.3</u>	<u>39.8490</u>
Max. Width ~ IN (@X <sub>0</sub> = 1528.3)	<u>265.0</u>	<u>7.9500</u>
Max. Depth ~ IN. (@X <sub>0</sub> = 1480.52)	<u>248.0</u>	<u>7.4400</u>
Fineness Ratio	<u>5.012</u>	<u>5.012</u>
Area ~ Ft <sup>2</sup>		
Max. Cross-Sectional	<u>456.4</u>	<u>.41076</u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Copy - C5

GENERAL DESCRIPTION: 2A Configuration per Lines VL70-000092

Scale Model = .030

DRAWING NUMBER: VL70-000092

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length (STA FWD Bulkhead)	<u>391.0</u>	<u>11.730</u>
Max. Width (T.E. Bulkhead)	<u>560.0</u>	<u>16.800</u>
Max. Depth (WP = 42.9 22 to = 500)	<u>          </u>	<u>          </u>
Fineness Ratio	<u>          </u>	<u>          </u>
Area	<u>          </u>	<u>          </u>
Max. Cross-Sectional	<u>          </u>	<u>          </u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

TABLE III. (CONTINUED)

MODEL COMPONENT: Manipulator Housing D-7

GENERAL DESCRIPTION: 2A Configuration per Rockwell Lines VL70-000093

Scale Model = .030

DRAWING NUMBER: VL70-000093

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length ~ IN.	881.00	26.430
Max. Width ~ IN.	51.00	1.530
Max. Depth ~ IN.	23.00	.690
Fineness Ratio		
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		
E Fuselage	BP = 0.00	
	WP = 500.0 IN. FS	
	X.426.0 to 1307.0 IN. FS	



TABLE III. (CONTINUED)

MODEL COMPONENT: WING-W 87 New Light Weight Orbiter

GENERAL DESCRIPTION: Orbiter Configuration Per Lines VL70-000093.

NOTE: (Dihedral Angle is defined at the lower surface of the Wing at the 75.33% element line projected into a plane perpendiculary.

Scale Model = .030

TEST NO.

DWG. NO. VL70-000093

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.) $\text{Ft}^2$	2690.00	2.42100
Planform	936.68	28.10040
Span (Theo In.)	2.265	2.265
Aspect Ratio	1.177	1.177
Rate of Taper	0.200	0.2000
Taper Ratio	3.5000	3.500
Dihedral Angle, degrees	3.000	+3.00
Incidence Angle, degrees	3.500	+3.000
Aerodynamic Twist, degrees		
Sweep Back Angles, degrees		
Leading Edge	45.00	45.00
Trailing Edge	-10.24	-10.24
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.O.O.	689.24	20.67720
Tip, (Theo) B.P. 46834	137.85	4.13550
MAC	474.81	14.24430
Fus. Sta. of .25 MAC	1136.89	34.10670
W.P. of .25 MAC	299.20	8.97840
183.13 B.L. of .25 MAC	182.13	5.46390

EXPOSED DATA

Area (Theo) $\text{Ft}^2$	1752.29	1.57706
Span, (Theo) In. BP108 to 468.341	720.68	21.62040
Aspect Ratio	2.058	2.058
Taper Ratio	.2451	.2451
Chords		
Root BP108	562.40	16.8720
Tip $1.00 \frac{b}{2}$	137.85	4.13550
MAC	393.03	11.79090
Fus. Sta. of .25 MAC	1185.31	35.55930
W.P. of .25 MAC	300.207	9.00621
B.L. of .25 MAC	143.76	4.31280
Airfoil Section (Rockwell Mod NASA)		
XXXX-64		
Root $\frac{b}{2} = .425$	.10	.10
Tip $\frac{b}{2} = 1.00$	.12	.12
Data for (1) of (2) Sides		
Leading Edge Cuff		
Planform Area $\text{Ft}^2$	120.33	.10830
Leading Edge Intersects Fus M. L. @ Sta	560.0	16.80
Leading Edge Intersects Wing @ Sta	1035.0	31.050

TABLE III. (CONTINUED)

MODEL COMPONENT: Elevon E-18

GENERAL DESCRIPTION: 2A Configuration Per W-87 Rockwell Lines VL 70-000093

Data for (1) of (2) Sides

Scale Model = .030

DRAWING NUMBER: VL 70-000093

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area ~ Ft <sup>2</sup>	<u>205.52</u>	<u>.18497</u>
Span (equivalent) ~ IN.	<u>353.34</u>	<u>10.60020</u>
Inb'd equivalent chord	<u>114.78</u>	<u>3.44340</u>
Outb'd equivalent chord	<u>55.00</u>	<u>1.6500</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>.208</u>	<u>.208</u>
At Outb'd equiv. chord	<u>.400</u>	<u>.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Tailing Edge	<u>-10.24</u>	<u>-10.24</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hinge line) Ft <sup>3</sup>	<u>1548.07</u>	<u>.04180</u>
Product of Area Moment		

TABLE III. (CONTINUED)

MODEL COMPONENT: VERTICAL - V5 (Light Weight Orbiter Configuration)GENERAL DESCRIPTION: Centerline Vertical Tail, Double Wedge Airfoil with Rounded Leading Edge

Scale Model = .030

DRAWING NUMBER: VL70-000095

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
<u>TOTAL DATA</u>		
Area (Theo) Ft <sup>2</sup> Planform	413.25	.37192
Span (Theo) In	315.72	9.47160
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	.404	.404
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	26.249	26.249
0.25 Element Line	41.130	41.130
Chords:		
Root (Theo) WP	268.50	8.05500
Tip (Theo) WP	108.47	3.25410
MAC	199.81	5.99430
Fus. Sta. of .25 MAC	1463.50	43.90500
W. P. of .25 MAC	635.522	19.06566
B. L. of .25 MAC	0.00	0.00
Airfoil Section		
Leading Wedge Angle      Deg	10.000	10.000
Trailing Wedge Angle    Deg	14.920	14.920
Leading Edge Radius     IN.	2.00	.06
Void Area      Ft <sup>2</sup>	13.17	.01185
Blanketed Area   Ft <sup>2</sup>	12.67	.01140

TABLE III. (CONTINUED)

MODEL COMPONENT: R-5 Rudder

GENERAL DESCRIPTION: ZA Configuration per Rockwell Lines VL 70-000095

Scale Model = .030

DRAWING NUMBER: VL 70-000095

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area ~ Ft <sup>2</sup>	<u>106.38</u>	<u>.09574</u>
Span (equivalent) ~ IN.	<u>201.0</u>	<u>6.030</u>
Inb'd equivalent chord	<u>91.585</u>	<u>2.74755</u>
Outb'd equivalent chord	<u>50.833</u>	<u>1.52499</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Tailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hinge line) ~ Ft <sup>3</sup>	<u>526.13</u>	<u>.01421</u>
Product of Area and Mean Chord		

TABLE III. (CONTINUED)

MODEL COMPONENT: OMS Pod -M3

GENERAL DESCRIPTION: 2A Light Weight Configuration per Rockwell Lines

VL70-000094A

Scale Model = .030

DRAWING NUMBER: VL70-000094A

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>346.0</u>	<u>10.380</u>
Max. Width $X_{\underline{}}$ = 1450.0	<u>108.0</u>	<u>3.240</u>
Max. Depth $X_{\circ}$ = 1500.0	<u>113.0</u>	<u>3.390</u>
Fineness Ratio	<u>          </u>	<u>          </u>
Area	<u>          </u>	<u>          </u>
Max. Cross-Sectional	<u>          </u>	<u>          </u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

C of OMS Pod

WP = 463.9 IN. FS      WP 400 + 63.9 = 463.9

BP = 80.0 IN. FS

Length 1214.0 to 1560.0<sup>h</sup> = 346.0 IN. FS

TABLE III. (CONTINUED)

MODEL COMPONENT: F4 Body Flap

GENERAL DESCRIPTION: 2A Configuration per Rockwell Lines VL70-000094A

Scale Model = .030

DRAWING NUMBER: VL70-000094A

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>84.70</u>	<u>2.541</u>
Max. Width	<u>265.00</u>	<u>7.950</u>
Max. Depth	<u>          </u>	<u>          </u>
Fineness Ratio	<u>          </u>	<u>          </u>
Area ~ Ft <sup>2</sup>		
Max. Cross-Sectional	<u>          </u>	<u>          </u>
Planform	<u>142.64</u>	<u>.12838</u>
Wetted	<u>          </u>	<u>          </u>
Base Ft <sup>2</sup>	<u>38.65</u>	<u>.03478</u>

TABLE III. (CONTINUED)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : S3-Booster Solid Rocket Motor

GENERAL DESCRIPTION : 2A Configuration Per Rockwell Lines VL77-000012  
& VL72-000061 "B"

Body of Revolution; Data for (1) of (2) Sides

Scale Model = .030

DRAWING NUMBER : VL 77-000012

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length ~IN.	<u>1732.0</u>	<u>51.96</u>
Max Width (DIA) IN. BSRM Tank	<u>142.0</u>	<u>4.260</u>
Max Depth (DIA) Aft Skirt	<u>259.0</u>	<u>7.77</u>
Fineness Ratio L/D	<u>6.687</u>	<u>6.687</u>
Area ~ Ft <sup>2</sup>	<u>          </u>	<u>          </u>
Max. Cross-Sectional (Aft Skirt)	<u>365.87</u>	<u>.32928</u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

Ref.

FS (Orbiter) = 0.00 = 747.99 IN. ET = 200.0 IN. BSRM

WP (BSRM) = WP 400(Orbiter) - 344.413 = 55.587 IN.

BP (Orbiter) = 0.00 = 243.0 IN. BSRM

TABLE III. (CONCLUDED)

MODEL COMPONENT: EXTERNAL TANK - T9

GENERAL DESCRIPTION: 2A Configuration

NOTE: T9 identical to T8 w/o retro pkg., nose w/30" R F.S.

DRAWING NUMBER

NONE

DIMENSION:

FULL SCALE

MODEL SCALE

Length - IN.	<u>1858</u>	<u>55.740</u>
Max Width (Dia) - IN.	<u>324.0</u>	<u>9.720</u>
Max Depth		
Fineness Ratio L/D	<u>5.73457</u>	<u>5.73457</u>
Area - FT <sup>2</sup>		
Max Cross-Sectional	<u>572.56</u>	<u>0.51530</u>
Planform		
Wetted		
Base		
Nose, Radius, IN.	<u>30.0</u>	



ORBITER BODY

ORBITER STATION ~ X <sub>o</sub>			RADIAL LOCATION θ ~ DEGREES																	
FULL	MODEL	X <sub>o</sub> /l <sub>o</sub>	0	20	40	55	70	90	105	110	120	135	142	150	157	162	165	169	172	180
200	6.00	0	20																	
210	6.30	.008	21					22												23
225	6.75	.019	24	25	26	27	28	29			30			31						32
245	7.35	.034	33	34	35	36	37	38			39			40						41
280	8.40	.060	42	43	44	45	46	47			48			49						50
380	11.40	.136	51	52	53	54	55	56			57			58						59
400	12.00	.151																	60	
410	12.30	.158													61					
430	12.90	.173	62	63	64	65	66	67			68			69		70		71		72
460	13.80	.196											73							
500	15.00	.226	74	75	76	77	78	79			80			81			82			83
560	16.80	.271	84		85		86	87			88			89			90			91
625	18.75	.320	92		93		94	95			96			97			98			99
725	21.75	.395	100		101		102	103			104			105			106			107
880	26.40	.512	108		109		110	111			112			113			114			115
980	29.40	.587	116		117															
1080	32.40	.662			118		119	120			121			122			123			124
1180	35.40	.738					125	126			127			128						129
1245	37.35	.787			130		131	132	133		134	135		136			137			138
1300	39.00	.828			139		140	141	142		143	144		145			146			
1375	41.25	.885			147		148	149	150		151	152		153			154			
1430	42.90	.926			155		156	157	158		159	160		161			162			
1480	44.40	.964	163				164	165	166		167	168		169			170			
1530 <sup>a</sup>	45.90	1.001								171	173									
1530 <sup>b</sup>	45.90	1.001								172	174									

- a OMS POD, INSIDE
- b OMS POD, OUTSIDE

a. Orbiter body

Table IV. Pressure Orifice Locations

ORBITER BASE

LOCATION	ORIFICE NUMBERS
ORBITER BASE (INTEGRATED)	1, 2, 3, 4
LEFT MPS NOZZLE BASE	5
UPPER MPS NOZZLE BASE	6
ACPS BASE AREA ON OMS POD	7
OMS NOZZLE BASE	8
OMS POD BASE	9
ORBITER BASE (STING MOUNT)	11, 12, 13, 14
ORBITER STING CAVITY	15, 16

BODY FLAP LWR SURFACE

ORB. STA. ~ X <sub>o</sub>		$\theta$ ~ DEG	
FULL	MODEL	0	40
1580	47.40	175	176

MPS NOZZLE

X ~ IN. FWD BASE		$\theta$ ~ DEG.					
FULL	MODEL	0	90	135	180	225	270
25	0.75	181	182	183	184	185	186
50	1.50	187	188	189	190	191	192
75	225		193	194	195	196	197

OMS NOZZLE

X ~ IN. FWD BASE		$\theta$ ~ DEG		
FULL	MODEL	135	180	225
10	0.30	177	178	179
20	0.60		180	

VERTICAL TAIL

WATER PLANE ~ Z <sub>o</sub>				X/C ~ THEORETICAL VERTICAL CHORD							
FULL	MODEL	$\eta v$		0	.05	.15	.30	.52	.65	.775	.90
525	15.75	.079		400							
550	16.50	.158	L	410	411	412	413	414	415	416	
			R		511	512	513	514	515	516	
600	18.00	.316	L	420	421	422	423	424	425	426	427
			R		521	522	523	524	525	526	527
690	20.70	.60	L	430	431	432	433	434	435	436	437
			R		531	532	533	534	535	536	537
765	22.95	.84	L	440	441	442	443	444	445	446	447
			R		541	542	543	544	545	546	547
792	23.76	.925	L	450	451	452	453	454	455	456	457
			R		551	552	553	554	555	556	557

b. Orbiter Base, Body Flap Lower Surface, and Vertical Tail

Table IV. Continued.

ORBITER WING

ORBITER B.P. ~ Y <sub>o</sub>			X/C ~ THEORETICAL WING CHORD																						
FULL	MODEL	7		-.49	-.35	-.25	-.15	-.033	0.0	.05	.15	.25	.40	.55	.60	.65	.70	.725	.75	.775	.80	.85	.90	.95	
140	4.20	.299	U L	200	201 301		202 302			203 303		204 304		205 305					206 306		207 307	208 308		209 309	
170	5.10	.364	U L			210	211 311			212 312															
200	6.00	.427	U L					220		221 321	222 322		223 323	224 324					225 325		226 326	227 327	228 328	229 329	
250	7.50	.534	U L						230	231 331	232 332	233 333	234 334	235 335					236 336		237 337		238 338	239 339	240 340
315	9.45	.673	U L						250	251 351	252 352	253 353	254 354	255 355			256 356			257 357		258 358		259 359	
365	10.95	.780	U L						260	261 361	262 362	263 363				264 364			265 365			266 366		267 367	
415	12.45	.887	U L						270	271 371	272 372	273 373	274 374			275 375			276 376					277 377	

U - UPPER SURFACE      L - LOWER SURFACE

7	X/C LOCAL WING CHORD
.299	0, .094, .229, .362, .497, .700, .834, .865, .900, .965
.364	0, .086, .246
.427	0, .081, .177, .402, .565, .760, .808, .857, .905, .953
.534	SAME AS THEORETICAL CHORD
.673	
.780	
.887	

c. Orbiter Wing

Table IV. Continued.

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EXTERNAL TANK

TANK STA ~ XT			$\theta$ ~ DEG									
FULL	MODEL	XT/LIT	0	30	60	90	120	135	150	165	180	270
316.	9.48	0	610									
317.7	9.53	.001	611			614					619	620
400	12.00	.045	621	622	623	624	625		627			629
520	15.60	.110	631	632	633	634	635		637	638		639
640	19.20	.174	641	642	643	644	645		647	648		649
670	20.10	.191	651	652	653	654	655		657	658		659
710	21.30	.212	661	662	663	664	665		667	668		669
750	22.50	.234	671	672	673	674	675	676	677	678		679
850	25.50	.287	681	682	683	684	685		687	688		689
950	28.50	.341	691	692	693	694	695	696	697	698		699
1050	31.50	.395	701	702	703	704	705		707	708		709
1150	34.50	.449	711	712	713	714	715	716	717			719
1250	37.50	.503	721	722	723	724	725		727	728		729
1350	40.50	.557	731	732	733	734	735	736	737			739
1500	45.00	.637	741	742	743	744	745		747	748		749
1700	51.00	.745	751	752	753		755	756	757			759
1900	57.00	.853	761	762	763		765	766	767	768		
2040	61.20	.929	771	772	773	774	775	776	777	778		
STING CAVITY			601									
BASE			602			603					604	

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d. External Tank  
Table IV. Continued.

LEFT SRM

SRM STATION ~ XS			$\theta$ ~ DEG							
FULL	MODEL	XS/LS	0	45	90	135	180	225	270	315
200	6.00	0	810							
260	7.80	.034	811	812	813	814	815	816	817	818
370	11.10	.097	821	822	823	824	825	826	827	828
400	12.00	.114	831	832	833	834	835	836	837	838
450	13.50	.142	841	842	843	844	845	846	847	848
550	16.50	.199	851	852	853	854	855	856	857	858
700	21.00	.284	861		863		865	866	867	868
850	25.50	.370	871		873		875		877	
1050	31.50	.484	881		883		885			
1250	37.50	.597	891		893		895			
1450	43.50	.711	901		903		905		907	
1650	49.50	.825	911		913		915		917	
1750	52.50	.882	921	922	923	924	925	926	927	928
1790	53.70	.904	931	932	933	934	935	936	937	938
1850	55.50	.939	941	942	943	944	945	946	947	948
1900	57.00	.967	951	952	953	954	955	956	957	958
NOZZLE BASE			801							
SKIRT BASE			802		803		804		805	

e. Left SRM

Table IV. Concluded.

**Notes:**

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrow
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

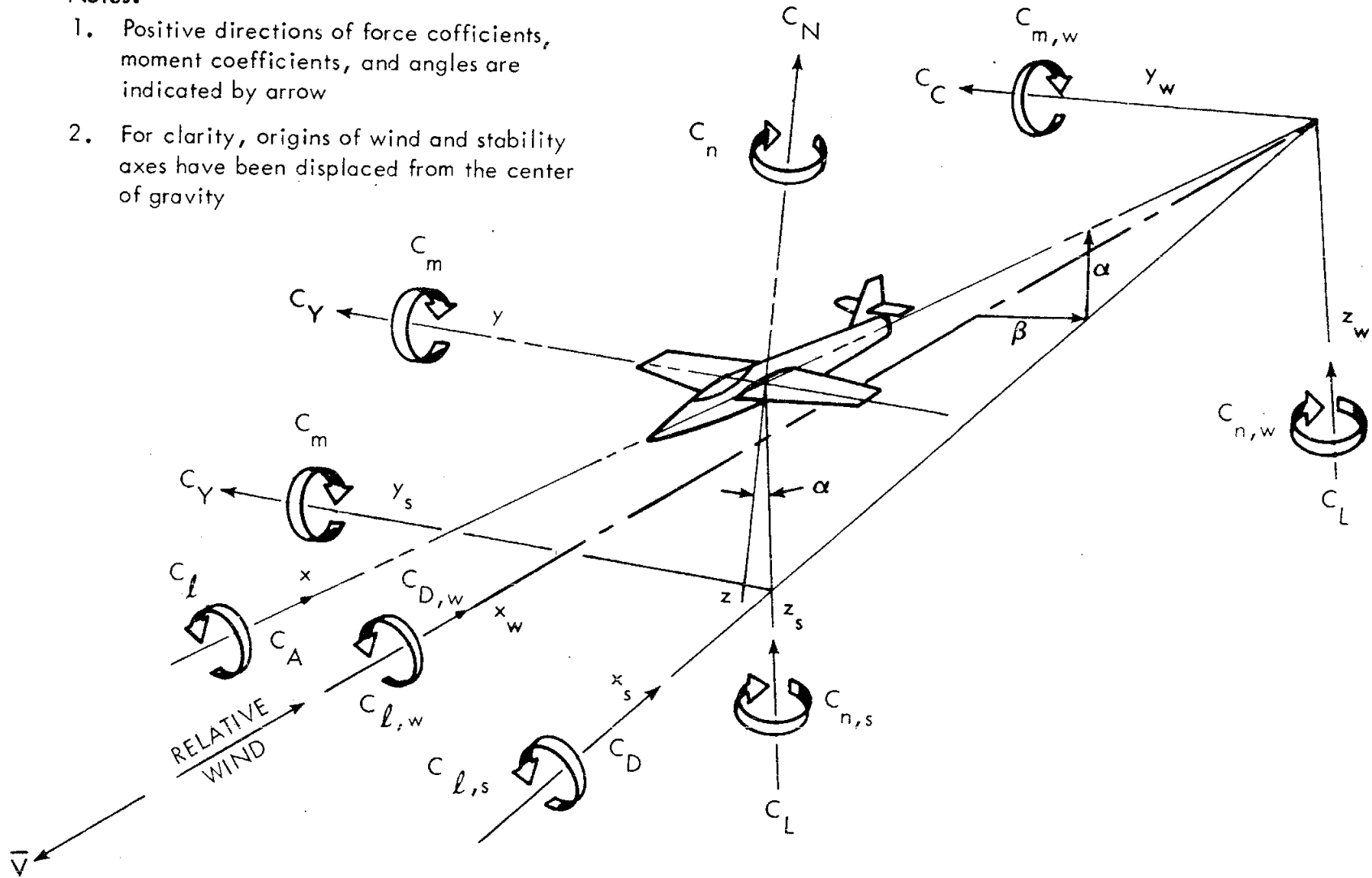
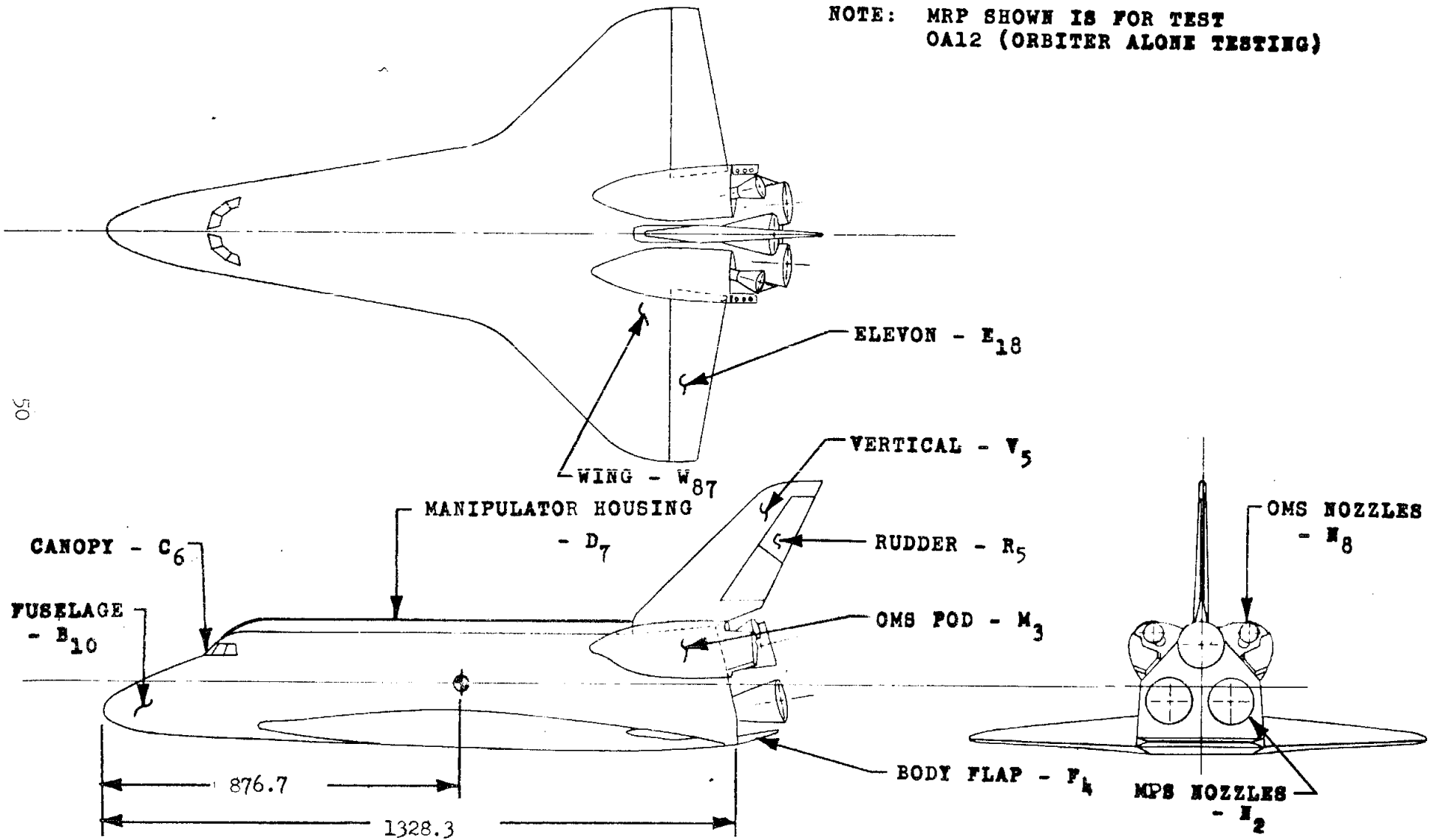


Figure 1. - Axis Systems.

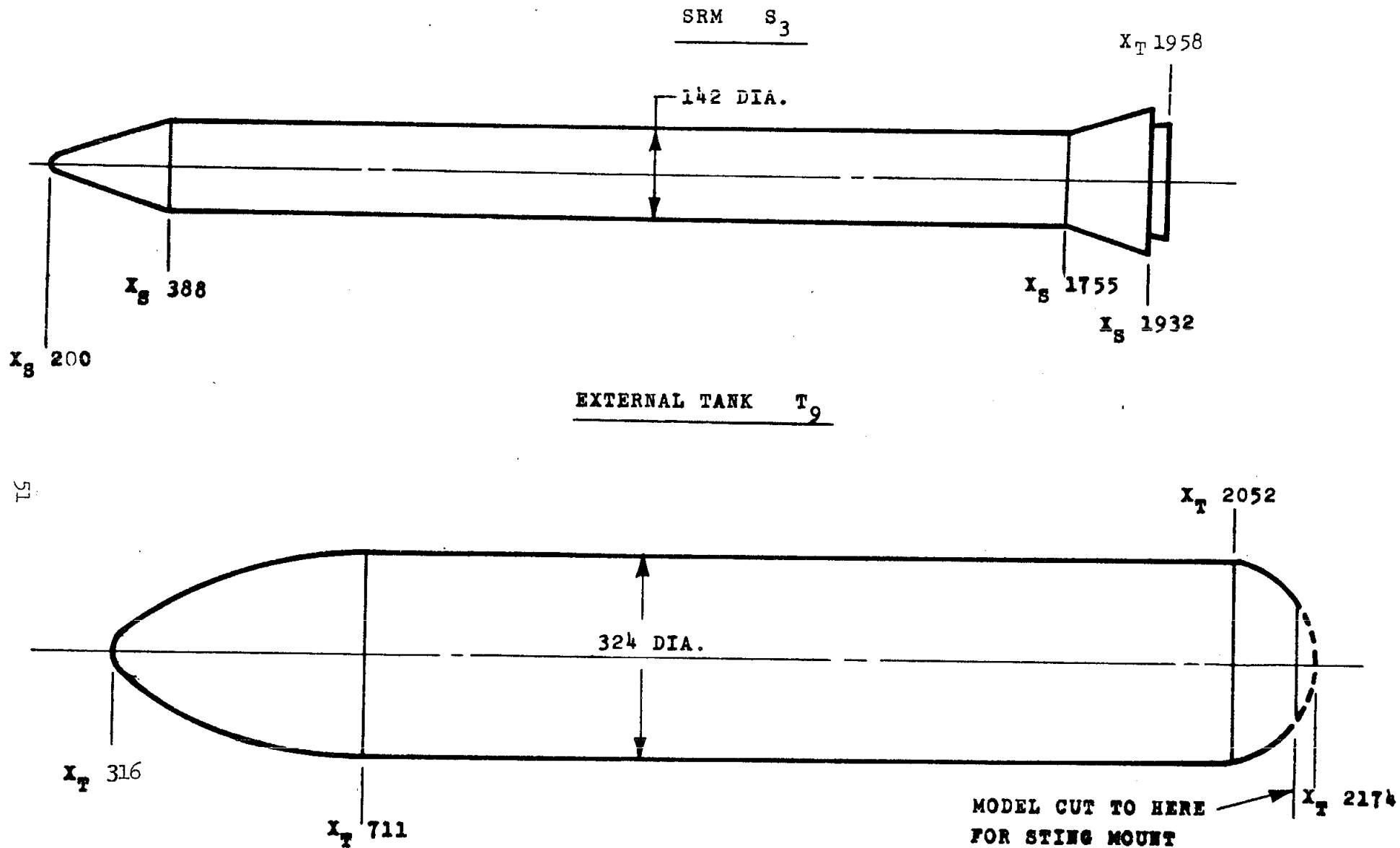


NOTE: MRP SHOWN IS FOR TEST  
OAL2 (ORBITER ALONE TESTING)

50

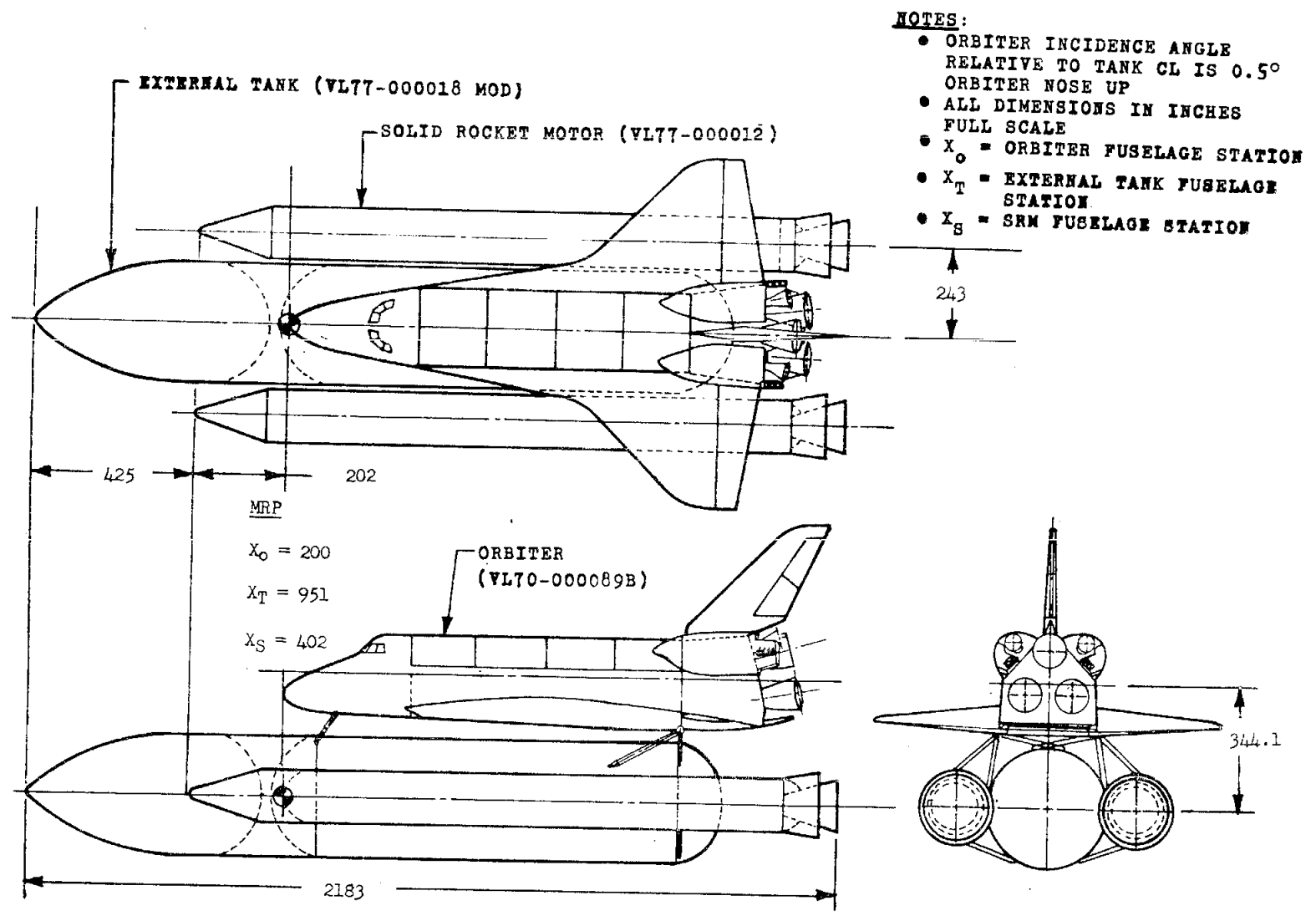
a. Orbiter, O<sub>2A</sub>

Figure 2. - Model Sketches.

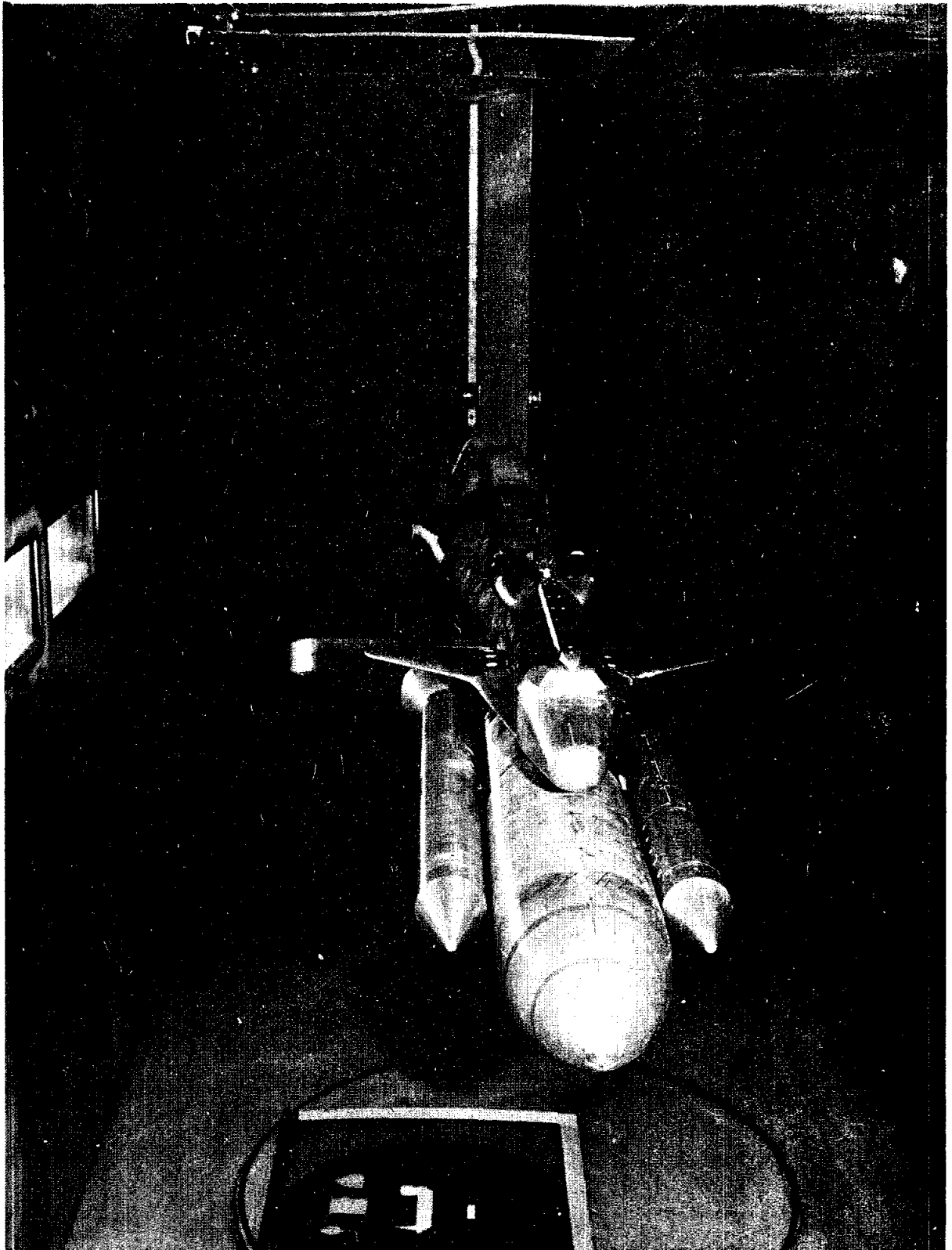


b. SRM, S<sub>3</sub>, and External Tank, T<sub>9</sub>  
 Figure 2. - Continued.

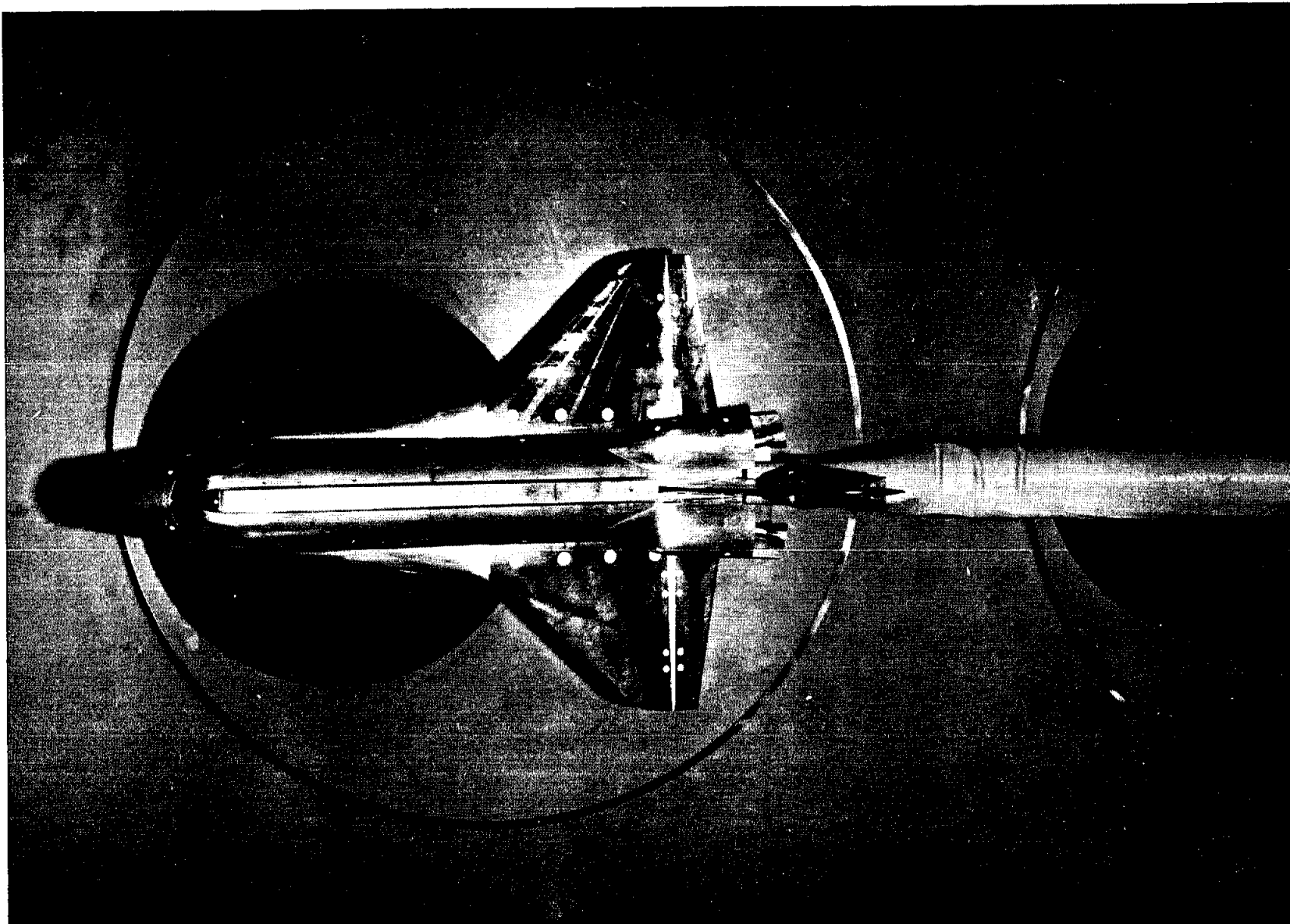




c. Integrated Vehicle  
 Figure 2. - Concluded.



a. Integrated (Launch) Vehicle Mounted in the ARC 9x7 Ft. Tunnel  
Figure 3. - Model Installation Photographs



b. Isolated Orbiter (Entry Configuration) Mounted in the ARC 8x7 Ft. Tunnel

Figure 3. - Concluded.

TABULATED PRESSURE DATA

AMES B7-707 IA9 Q2A + S3 + T9 AFU INLET

(RBNP01) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

BETAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) AFU INLET

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	ALPHAT ( 1 ) = -8.100	Z/BV	.079
		X/CV	.5340
		.076	.5340
MACH ( 1 ) = 2.498	ALPHAT ( 2 ) = -6.070	Z/BV	.079
		X/CV	.4690
		.076	.4690
MACH ( 1 ) = 2.498	ALPHAT ( 3 ) = -4.030	Z/BV	.079
		X/CV	.4140
		.076	.4140
MACH ( 1 ) = 2.498	ALPHAT ( 4 ) = -2.000	Z/BV	.079
		X/CV	.3720
		.076	.3720
MACH ( 1 ) = 2.498	ALPHAT ( 5 ) = .000	Z/BV	.079
		X/CV	.3450
		.076	.3450
MACH ( 1 ) = 2.498	ALPHAT ( 6 ) = 1.930	Z/BV	.079
		X/CV	.3360
		.076	.3360
MACH ( 1 ) = 2.498	ALPHAT ( 7 ) = 3.900	Z/BV	.079
		X/CV	.3340
		.076	.3340
MACH ( 1 ) = 2.498	ALPHAT ( 8 ) = 5.950	Z/BV	.079
		X/CV	.3160
		.076	.3160
MACH ( 1 ) = 2.498	ALPHAT ( 9 ) = 8.010	Z/BV	.079
		X/CV	.3210
		.076	.3210
MACH ( 2 ) = 2.999	ALPHAT ( 1 ) = -8.070	Z/BV	.079
		X/CV	.4620
		.076	.4620

AMES 87-757 IA9 O2A + S3 + T9 AFU INLET

(RBNFU1)

SECTION ( 1)APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 ALPHAT( 2) = -6.150	Z/BV .079 X/CV .4140 .076
MACH ( 2) = 2.999 ALPHAT( 3) = -4.070	Z/BV .079 X/CV .3590 .076
MACH ( 2) = 2.999 ALPHAT( 4) = -2.000	Z/BV .079 X/CV .3130 .076
MACH ( 2) = 2.999 ALPHAT( 5) = -.010	Z/BV .079 X/CV .2860 .076
MACH ( 2) = 2.999 ALPHAT( 6) = 1.930	Z/BV .079 X/CV .2590 .076
MACH ( 2) = 2.999 ALPHAT( 7) = 3.960	Z/BV .079 X/CV .2530 .076
MACH ( 2) = 2.999 ALPHAT( 8) = 5.990	Z/BV .079 X/CV .2380 .076
MACH ( 2) = 2.999 ALPHAT( 9) = 8.000	Z/BV .079 X/CV .2190 .076
MACH ( 3) = 3.502 ALPHAT( 1) = -8.080	Z/BV .079 X/CV .3970 .076
MACH ( 3) = 3.502 ALPHAT( 2) = -6.080	Z/BV .079 X/CV .3690 .076
MACH ( 3) = 3.502 ALPHAT( 3) = -4.070	Z/BV .079 X/CV .3340 .076
MACH ( 3) = 3.502 ALPHAT( 4) = -2.020	Z/BV .079 X/CV .2860 .076

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNFU1)

SECTION ( 1) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 3) = 3.502	ALPHAT( 5) = -0.030	Z/BV	.079
		X/CV	
		.076	.2330
MACH ( 3) = 3.502	ALPHAT( 6) = 1.950	Z/BV	.079
		X/CV	
		.076	.2000
MACH ( 3) = 3.502	ALPHAT( 7) = 3.960	Z/BV	.079
		X/CV	
		.076	.1840
MACH ( 3) = 3.502	ALPHAT( 8) = 5.970	Z/BV	.079
		X/CV	
		.076	.1810
MACH ( 3) = 3.502	ALPHAT( 9) = 8.010	Z/BV	.079
		X/CV	
		.076	.1750

AMES 87-717 IA9 O2A + S3 + T9 APU INLET

(RBNF02) ( 15 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.400	Z/BV	.079
		X/CV	.076
			.0950
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.280	Z/BV	.079
		X/CV	.076
			.1760
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.170	Z/BV	.079
		X/CV	.076
			.2730
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.060	Z/BV	.079
		X/CV	.076
			.5000
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	Z/BV	.079
		X/CV	.076
			.5280
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.320	Z/BV	.079
		X/CV	.076
			.3340
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 6.460	Z/BV	.079
		X/CV	.076
			.2030
MACH ( 1 ) = 2.498	BETAT ( 8 ) = 8.590	Z/BV	.079
		X/CV	.076
			.0960
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.560	Z/BV	.079
		X/CV	.076
			.0700
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.400	Z/BV	.079
		X/CV	.076
			.1040



AMES 87-757 IA9 O2A + S3 + T9 APU INLET

(RBNP02)

SECTION ( 1) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 2) = 2.999	BETAT ( 3) = -4.250	Z/BV	.079
		X/CV	
		.076	.1760
MACH ( 2) = 2.999	BETAT ( 4) = -2.150	Z/BV	.079
		X/CV	
		.076	.3710
MACH ( 2) = 2.999	BETAT ( 5) = 2.230	Z/BV	.079
		X/CV	
		.076	.6330
MACH ( 2) = 2.999	BETAT ( 6) = 4.400	Z/BV	.079
		X/CV	
		.076	.1980
MACH ( 2) = 2.999	BETAT ( 7) = 6.580	Z/BV	.079
		X/CV	
		.076	.1210
MACH ( 2) = 2.999	BETAT ( 8) = 8.750	Z/BV	.079
		X/CV	
		.076	.0700
MACH ( 3) = 3.502	BETAT ( 1) = -8.710	Z/BV	.079
		X/CV	
		.076	.1610
MACH ( 3) = 3.502	BETAT ( 2) = -6.520	Z/BV	.079
		X/CV	
		.076	.0740
MACH ( 3) = 3.502	BETAT ( 3) = -4.330	Z/BV	.079
		X/CV	
		.076	.1310
MACH ( 3) = 3.502	BETAT ( 4) = -2.140	Z/BV	.079
		X/CV	
		.076	.2710
MACH ( 3) = 3.502	BETAT ( 5) = 2.260	Z/BV	.079
		X/CV	
		.076	.4520
MACH ( 3) = 3.502	BETAT ( 6) = 4.480	Z/BV	.079
		X/CV	
		.076	.1490

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AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP02)

SECTION ( 1 ) APU INLET

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.690	Z/BV	.079
		X/CV	
		.076	.0760
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.910	Z/BV	.079
		X/CV	
		.076	.0520

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP03) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.420	Z/BV	.079
		X/CV	.076
			.0870
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.290	Z/BV	.079
		X/CV	.076
			.1350
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.180	Z/BV	.079
		X/CV	.076
			.2260
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	Z/BV	.079
		X/CV	.076
			.3710
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	Z/BV	.079
		X/CV	.076
			.4120
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.310	Z/BV	.079
		X/CV	.076
			.2700
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 6.440	Z/BV	.079
		X/CV	.076
			.1620
MACH ( 1 ) = 2.498	BETAT ( 8 ) = 8.570	Z/BV	.079
		X/CV	.076
			.0990
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.570	Z/BV	.079
		X/CV	.076
			.0510
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.420	Z/BV	.079
		X/CV	.076
			.0800

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNPLD)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	Z/BV .079 X/CV .076 .1460
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	Z/BV .079 X/CV .076 .2970
MACH ( 2) = 2.999 BETAT ( 5) = 2.220	Z/BV .079 X/CV .076 .4890
MACH ( 2) = 2.999 BETAT ( 6) = 4.390	Z/BV .079 X/CV .076 .1580
MACH ( 2) = 2.999 BETAT ( 7) = 6.560	Z/BV .079 X/CV .076 .0920
MACH ( 2) = 2.999 BETAT ( 8) = 8.730	Z/BV .079 X/CV .076 .0530
MACH ( 3) = 3.502 BETAT ( 1) = -8.730	Z/BV .079 X/CV .076 .0390
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	Z/BV .079 X/CV .076 .0590
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	Z/BV .079 X/CV .076 .1010
MACH ( 3) = 3.502 BETAT ( 4) = -2.140	Z/BV .079 X/CV .076 .2110
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	Z/BV .079 X/CV .076 .3650
MACH ( 3) = 3.502 BETAT ( 6) = 4.470	Z/BV .079 X/CV .076 .1120

AMES 87-717 IA9 O2A + S3 + T9 APU INLET

(RBNP03)

SECTION ( 1 ) APU INLET

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.680	Z/BV	.079
		X/CV	
		.076	.0560
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.890	Z/BV	.079
		X/CV	
		.076	.0310

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP04) ( 15 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430	Z/BV .079 X/CV .076 .0760
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310	Z/BV .079 X/CV .076 .1040
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.190	Z/BV .079 X/CV .076 .1850
MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.070	Z/BV .079 X/CV .076 .2930
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.180	Z/BV .079 X/CV .076 .3630
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.300	Z/BV .079 X/CV .076 .2160
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.430	Z/BV .079 X/CV .076 .1230
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.550	Z/BV .079 X/CV .076 .0970
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.580	Z/BV .079 X/CV .076 .0290
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	Z/BV .079 X/CV .076 .0520

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNF04)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	Z/BV .079 X/CV .076 .1090
MACH ( 2) = 2.999 BETAT ( 4) = -2.110	Z/BV .079 X/CV .076 .2060
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	Z/BV .079 X/CV .076 .3340
MACH ( 2) = 2.999 BETAT ( 6) = 4.380	Z/BV .079 X/CV .076 .1160
MACH ( 2) = 2.999 BETAT ( 7) = 6.550	Z/BV .079 X/CV .076 .0710
MACH ( 2) = 2.999 BETAT ( 8) = 8.710	Z/BV .079 X/CV .076 .0390
MACH ( 3) = 3.502 BETAT ( 1) = -8.740	Z/BV .079 X/CV .076 .0220
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	Z/BV .079 X/CV .076 .0430
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	Z/BV .079 X/CV .076 .0690
MACH ( 3) = 3.502 BETAT ( 4) = -2.150	Z/BV .079 X/CV .076 .1410
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	Z/BV .079 X/CV .076 .1890
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	Z/BV .079 X/CV .076 .0780

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 AFU INLET

(RBNP04)

SECTION ( 1 ) AFU INLET

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.660	Z/BV	.079
		X/CV	
		.076	.0440
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.870	Z/BV	.079
		X/CV	
		.076	.0110



AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP05) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -2.0000 ORBINC = .5000  
 RUDDER = .0000 ELEVON = .0000  
 RUDFLR = .0000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.430	Z/BV	.079
		X/CV	
		.076	.0460
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.310	Z/BV	.079
		X/CV	
		.076	.0910
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	Z/BV	.079
		X/CV	
		.076	.1630
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	Z/BV	.079
		X/CV	
		.076	.2810
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	Z/BV	.079
		X/CV	
		.076	.3430
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.300	Z/BV	.079
		X/CV	
		.076	.1740
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 6.420	Z/BV	.079
		X/CV	
		.076	.0910
MACH ( 1 ) = 2.498	BETAT ( 8 ) = 8.540	Z/BV	.079
		X/CV	
		.076	.0490
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.590	Z/BV	.079
		X/CV	
		.076	.0110
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.440	Z/BV	.079
		X/CV	
		.076	.0280

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AMES 87-707 IA9 Q2A + S3 + T9 APU INLET

(RBNPL45)

SECTION ( 1)APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 3) = -4.270	Z/BV .079 X/CV .0840 .076
MACH ( 2) = 2.999 BETAT ( 4) = -2.110	Z/BV .079 X/CV .1620 .076
MACH ( 2) = 2.999 BETAT ( 5) = 2.220	Z/BV .079 X/CV .2610 .076
MACH ( 2) = 2.999 BETAT ( 6) = 4.370	Z/BV .079 X/CV .0900 .076
MACH ( 2) = 2.999 BETAT ( 7) = 6.530	Z/BV .079 X/CV .0280 .076
MACH ( 2) = 2.999 BETAT ( 8) = 8.700	Z/BV .079 X/CV .0080 .076
MACH ( 3) = 3.502 BETAT ( 1) = -8.750	Z/BV .079 X/CV .0050 .076
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	Z/BV .079 X/CV .0250 .076
MACH ( 3) = 3.502 BETAT ( 3) = -4.350	Z/BV .079 X/CV .0520 .076
MACH ( 3) = 3.502 BETAT ( 4) = -2.140	Z/BV .079 X/CV .0940 .076
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	Z/BV .079 X/CV .1130 .076
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	Z/BV .079 X/CV .0550 .076

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP45)

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.660	Z/BV	.079
		X/CV	
		.076	.0120
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.860	Z/BV	.079
		X/CV	
		.076	-.0100

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AMES 87-707 IA9 Q2A + S3 + T9 APU INLET

(RBNPL6) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET

DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.430	Z/BV	.079
		X/CV	
		.076	.0430
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.310	Z/BV	.079
		X/CV	
		.076	.1250
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	Z/BV	.079
		X/CV	
		.076	.2240
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	Z/BV	.079
		X/CV	
		.076	.2800
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.170	Z/BV	.079
		X/CV	
		.076	.2990
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.290	Z/BV	.079
		X/CV	
		.076	.2140
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 6.410	Z/BV	.079
		X/CV	
		.076	.1270
MACH ( 1 ) = 2.498	BETAT ( 8 ) = 8.540	Z/BV	.079
		X/CV	
		.076	.0390
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.590	Z/BV	.079
		X/CV	
		.076	-.0010
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.430	Z/BV	.079
		X/CV	
		.076	.0310

AMES 87-717 IA9 C2A + S3 + T9 APU INLET

(RBNF06)

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 2 ) = 2.999	BETAT ( 3 ) = -4.270	Z/BV	.079
		X/CV	
		.076	.0700
MACH ( 2 ) = 2.999	BETAT ( 4 ) = -2.110	Z/BV	.079
		X/CV	
		.076	.1760
MACH ( 2 ) = 2.999	BETAT ( 5 ) = 2.210	Z/BV	.079
		X/CV	
		.076	.2240
MACH ( 2 ) = 2.999	BETAT ( 6 ) = 4.370	Z/BV	.079
		X/CV	
		.076	.0730
MACH ( 2 ) = 2.999	BETAT ( 7 ) = 6.530	Z/BV	.079
		X/CV	
		.076	.0300
MACH ( 2 ) = 2.999	BETAT ( 8 ) = 8.690	Z/BV	.079
		X/CV	
		.076	-.0090
MACH ( 3 ) = 3.502	BETAT ( 1 ) = -8.750	Z/BV	.079
		X/CV	
		.076	-.0060
MACH ( 3 ) = 3.502	BETAT ( 2 ) = -6.550	Z/BV	.079
		X/CV	
		.076	.0050
MACH ( 3 ) = 3.502	BETAT ( 3 ) = -4.340	Z/BV	.079
		X/CV	
		.076	.0340
MACH ( 3 ) = 3.502	BETAT ( 4 ) = -2.150	Z/BV	.079
		X/CV	
		.076	.0920
MACH ( 3 ) = 3.502	BETAT ( 5 ) = 2.260	Z/BV	.079
		X/CV	
		.076	.1680
MACH ( 3 ) = 3.502	BETAT ( 6 ) = 4.450	Z/BV	.079
		X/CV	
		.076	.0310

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TABLATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNPL16)

SECTION ( 1 ) APU INLET

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.650	Z/BV	.079
		X/CV	
		.076	-.0060
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.850	Z/BV	.079
		X/CV	
		.076	-.0200

AMES 87-707 IA9 C2A + S3 + T9 APU INLET

(RBNP47) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430	Z/BV .079 X/CV .076 .0140
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310	Z/BV .079 X/CV .076 .0820
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.190	Z/BV .079 X/CV .076 .1590
MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.060	Z/BV .079 X/CV .076 .2710
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.170	Z/BV .079 X/CV .076 .3480
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.290	Z/BV .079 X/CV .076 .2130
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.410	Z/BV .079 X/CV .076 .1360
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.540	Z/BV .079 X/CV .076 .0210
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.590	Z/BV .079 X/CV .076 .0060
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	Z/BV .079 X/CV .076 .0310

AMES 87-707 IA9 O2A + 53 + T9 APU INLET

(RBNEU7)

SECTION ( 1)APU INLET		DEPENDENT VARIABLE CP	
MACH ( 2) = 2.999	BETAT ( 3) = -4.270	Z/BV	.079
		X/CV	.1830
		.076	.1830
MACH ( 2) = 2.999	BETAT ( 4) = -2.110	Z/BV	.079
		X/CV	.2160
		.076	.2160
MACH ( 2) = 2.999	BETAT ( 5) = 2.210	Z/BV	.079
		X/CV	.3560
		.076	.3560
MACH ( 2) = 2.999	BETAT ( 6) = 4.370	Z/BV	.079
		X/CV	.2260
		.076	.2260
MACH ( 2) = 2.999	BETAT ( 7) = 6.530	Z/BV	.079
		X/CV	.0640
		.076	.0640
MACH ( 2) = 2.999	BETAT ( 8) = 8.690	Z/BV	.079
		X/CV	.0100
		.076	.0100
MACH ( 3) = 3.502	BETAT ( 1) = -8.730	Z/BV	.079
		X/CV	-.0140
		.076	-.0140
MACH ( 3) = 3.502	BETAT ( 2) = -6.540	Z/BV	.079
		X/CV	.0020
		.076	.0020
MACH ( 3) = 3.502	BETAT ( 3) = -4.340	Z/BV	.079
		X/CV	.0360
		.076	.0360
MACH ( 3) = 3.502	BETAT ( 4) = -2.140	Z/BV	.079
		X/CV	.1060
		.076	.1060
MACH ( 3) = 3.502	BETAT ( 5) = 2.250	Z/BV	.079
		X/CV	.1470
		.076	.1470
MACH ( 3) = 3.502	BETAT ( 6) = 4.460	Z/BV	.079
		X/CV	.0240
		.076	.0240



AMES 87-7017 IA9 C2A + S3 + T9 APU INLET

(RBNP017)

SECTION ( 1 ) APU INLET

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.660	Z/BV	.079
		X/CV	
		.076	-.0080
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.850	Z/BV	.079
		X/CV	
		.076	-.0220

AMES 87-707 IA9 O2A + S3 + T9 AFU INLET

(RBNPL08) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) AFU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420	Z/BV .079 X/CV .076 .0060
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300	Z/BV .079 X/CV .076 .0730
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.190	Z/BV .079 X/CV .076 .0870
MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.070	Z/BV .079 X/CV .076 .2920
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.170	Z/BV .079 X/CV .076 .3680
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.300	Z/BV .079 X/CV .076 .0990
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.420	Z/BV .079 X/CV .076 .1290
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.550	Z/BV .079 X/CV .076 .0210
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.580	Z/BV .079 X/CV .076 .0030
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	Z/BV .079 X/CV .076 .0100

AMES 87-707 IA9 C2A + S3 + T9 APU INLET

(RBNP08)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	Z/BV .079 X/CV .076 .1340
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	Z/BV .079 X/CV .076 .2350
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	Z/BV .079 X/CV .076 .2370
MACH ( 2) = 2.999 BETAT ( 6) = 4.370	Z/BV .079 X/CV .076 .1630
MACH ( 2) = 2.999 BETAT ( 7) = 6.540	Z/BV .079 X/CV .076 .0140
MACH ( 2) = 2.999 BETAT ( 8) = 8.700	Z/BV .079 X/CV .076 .0510
MACH ( 3) = 3.502 BETAT ( 1) = -8.720	Z/BV .079 X/CV .076 -.0160
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	Z/BV .079 X/CV .076 -.0010
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	Z/BV .079 X/CV .076 .0750
MACH ( 3) = 3.502 BETAT ( 4) = -2.140	Z/BV .079 X/CV .076 .1160
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	Z/BV .079 X/CV .076 .1670
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	Z/BV .079 X/CV .076 .0740

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AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNPL08)

SECTION ( 1) APU INLET

DEPENDENT VARIABLE CP

MACH ( 3) = 3.502 BETAT ( 7) = 6.660

Z/BV .079

X/CV  
.076 -.0110

MACH ( 3) = 3.502 BETAT ( 8) = 8.860

Z/BV .079

X/CV  
.076 -.0220

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNPL09) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDDFLR = .000

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.410	Z/BV .079 X/CV .076 .0580
MACH ( 1) = 2.498 BETAT ( 2) = -6.290	Z/BV .079 X/CV .076 .1250
MACH ( 1) = 2.498 BETAT ( 3) = -4.170	Z/BV .079 X/CV .076 .1010
MACH ( 1) = 2.498 BETAT ( 4) = -2.060	Z/BV .079 X/CV .076 .2990
MACH ( 1) = 2.498 BETAT ( 5) = 2.180	Z/BV .079 X/CV .076 .3680
MACH ( 1) = 2.498 BETAT ( 6) = 4.300	Z/BV .079 X/CV .076 .1180
MACH ( 1) = 2.498 BETAT ( 7) = 6.440	Z/BV .079 X/CV .076 .2210
MACH ( 1) = 2.498 BETAT ( 8) = 8.570	Z/BV .079 X/CV .076 .0870
MACH ( 2) = 2.999 BETAT ( 1) = -8.560	Z/BV .079 X/CV .076 -.0080
MACH ( 2) = 2.999 BETAT ( 2) = -6.400	Z/BV .079 X/CV .076 .0430

## AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RDNFL9)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 3) = -4.250	Z/BV .079 X/CV .076 .0700
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	Z/BV .079 X/CV .076 .2310
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	Z/BV .079 X/CV .076 .2370
MACH ( 2) = 2.999 BETAT ( 6) = 4.380	Z/BV .079 X/CV .076 .1680
MACH ( 2) = 2.999 BETAT ( 7) = 6.550	Z/BV .079 X/CV .076 .0580
MACH ( 2) = 2.999 BETAT ( 8) = 8.720	Z/BV .079 X/CV .076 .0260
MACH ( 3) = 3.502 BETAT ( 1) = -8.710	Z/BV .079 X/CV .076 -.0150
MACH ( 3) = 3.502 BETAT ( 2) = -6.510	Z/BV .079 X/CV .076 -.0050
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	Z/BV .079 X/CV .076 .0320
MACH ( 3) = 3.502 BETAT ( 4) = -2.130	Z/BV .079 X/CV .076 .1090
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	Z/BV .079 X/CV .076 .1250
MACH ( 3) = 3.502 BETAT ( 6) = 4.470	Z/BV .079 X/CV .076 .0530

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNF09)

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 3 ) = 3.502	BETAT ( 7 ) = 6.670	Z/BV	.079
		X/CV	
		.076	-.0030
MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.880	Z/BV	.079
		X/CV	
		.076	-.0250

AMES 87-757 IA9 O2A + S3 + T9 APU INLET

(RBNP10) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0310 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.380	Z/BV .079 X/CV .076 .0190
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270	Z/BV .079 X/CV .076 .2340
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.170	Z/BV .079 X/CV .076 .1730
MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.060	Z/BV .079 X/CV .076 .2950
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.180	Z/BV .079 X/CV .076 .3510
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.320	Z/BV .079 X/CV .076 .1610
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.450	Z/BV .079 X/CV .076 .2840
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.580	Z/BV .079 X/CV .076 .0310
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.540	Z/BV .079 X/CV .076 -.0060
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.390	Z/BV .079 X/CV .076 .0660



AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP11)

SECTION ( 1) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 2) = 2.999	BETAT ( 3) = -4.240	Z/BV	.079
		X/CV	.1020
		.076	.1020
MACH ( 2) = 2.999	BETAT ( 4) = -2.590	Z/BV	.079
		X/CV	.2220
		.076	.2220
MACH ( 2) = 2.999	BETAT ( 5) = 2.230	Z/BV	.079
		X/CV	.2450
		.076	.2450
MACH ( 2) = 2.999	BETAT ( 6) = 4.400	Z/BV	.079
		X/CV	.1770
		.076	.1770
MACH ( 2) = 2.999	BETAT ( 7) = 6.570	Z/BV	.079
		X/CV	.1050
		.076	.1050
MACH ( 2) = 2.999	BETAT ( 8) = 8.740	Z/BV	.079
		X/CV	.0070
		.076	.0070
MACH ( 3) = 3.502	BETAT ( 1) = -8.690	Z/BV	.079
		X/CV	.0140
		.076	.0140
MACH ( 3) = 3.502	BETAT ( 2) = -6.500	Z/BV	.079
		X/CV	.0030
		.076	.0030
MACH ( 3) = 3.502	BETAT ( 3) = -4.310	Z/BV	.079
		X/CV	.0490
		.076	.0490
MACH ( 3) = 3.502	BETAT ( 4) = -2.130	Z/BV	.079
		X/CV	.1190
		.076	.1190
MACH ( 3) = 3.502	BETAT ( 5) = 2.260	Z/BV	.079
		X/CV	.1300
		.076	.1300
MACH ( 3) = 3.502	BETAT ( 6) = 4.480	Z/BV	.079
		X/CV	.0760
		.076	.0760

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AMES 87-757 IAG O2A + S3 + T9 APU INLET

(RBNP10)

SECTION ( 1 ) APU INLET

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502 BETAT ( 7 ) = 6.690

Z/BV .079

X/CV  
.076 .0060

MACH ( 3 ) = 3.502 BETAT ( 8 ) = 8.900

Z/BV .079

X/CV  
.076 .0440

AMES 87-717 IA9 O2A + S3 + T9 APU INLET

(RBNF11) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.390	Z/BV	.079
		X/CV	.1060
		.076	.1060
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.270	Z/BV	.079
		X/CV	.1850
		.076	.1850
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.160	Z/BV	.079
		X/CV	.2780
		.076	.2780
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.5390
		.076	.5390
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.330	Z/BV	.079
		X/CV	.3380
		.076	.3380
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.460	Z/BV	.079
		X/CV	.2070
		.076	.2070
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.600	Z/BV	.079
		X/CV	.1050
		.076	.1050
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.560	Z/BV	.079
		X/CV	.0660
		.076	.0660
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.410	Z/BV	.079
		X/CV	.1120
		.076	.1120
MACH ( 2 ) = 2.999	BETAT ( 3 ) = -4.260	Z/BV	.079
		X/CV	.1800
		.076	.1800

ANES 87-757 IAS Q2A + S3 + T9 APU INLET

(RBNF11)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 4) = .050	Z/BV .079 X/CV .4940 .076
MACH ( 2) = 2.999 BETAT ( 5) = 4.400	Z/BV .079 X/CV .1950 .076
MACH ( 2) = 2.999 BETAT ( 6) = 6.580	Z/BV .079 X/CV .1290 .076
MACH ( 2) = 2.999 BETAT ( 7) = 8.750	Z/BV .079 X/CV .0750 .076
MACH ( 3) = 3.502 BETAT ( 1) = -8.710	Z/BV .079 X/CV .0670 .076
MACH ( 3) = 3.502 BETAT ( 2) = -6.520	Z/BV .079 X/CV .0860 .076
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	Z/BV .079 X/CV .1410 .076
MACH ( 3) = 3.502 BETAT ( 4) = .050	Z/BV .079 X/CV .4340 .076
MACH ( 3) = 3.502 BETAT ( 5) = 4.470	Z/BV .079 X/CV .1580 .076
MACH ( 3) = 3.502 BETAT ( 6) = 6.690	Z/BV .079 X/CV .0840 .076
MACH ( 3) = 3.502 BETAT ( 7) = 8.900	Z/BV .079 X/CV .0600 .076

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP12) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 DREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.420	Z/BV	.079
		X/CV	.076
			.0820
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.300	Z/BV	.079
		X/CV	.076
			.1110
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.180	Z/BV	.079
		X/CV	.076
			.1950
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.076
			.4320
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.310	Z/BV	.079
		X/CV	.076
			.2200
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.430	Z/BV	.079
		X/CV	.076
			.1280
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.560	Z/BV	.079
		X/CV	.076
			.1030
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.580	Z/BV	.079
		X/CV	.076
			.0320
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.430	Z/BV	.079
		X/CV	.076
			.0560
MACH ( 2 ) = 2.999	BETAT ( 3 ) = -4.270	Z/BV	.079
		X/CV	.076
			.1130

AMES 87-707 IA9 C2A + S3 + T9 APU INLET

(RBNP12)

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 2 ) = 2.999	BETAT ( 4 ) = .050	Z/BV	.079
		X/CV	.3820
		.076	.3820
MACH ( 2 ) = 2.999	BETAT ( 5 ) = 4.380	Z/BV	.079
		X/CV	.1200
		.076	.1200
MACH ( 2 ) = 2.999	BETAT ( 6 ) = 6.550	Z/BV	.079
		X/CV	.0750
		.076	.0750
MACH ( 2 ) = 2.999	BETAT ( 7 ) = 8.710	Z/BV	.079
		X/CV	.0390
		.076	.0390
MACH ( 3 ) = 3.502	BETAT ( 1 ) = -8.740	Z/BV	.079
		X/CV	.0240
		.076	.0240
MACH ( 3 ) = 3.502	BETAT ( 2 ) = -6.540	Z/BV	.079
		X/CV	.0490
		.076	.0490
MACH ( 3 ) = 3.502	BETAT ( 3 ) = -4.350	Z/BV	.079
		X/CV	.0730
		.076	.0730
MACH ( 3 ) = 3.502	BETAT ( 4 ) = .050	Z/BV	.079
		X/CV	.3620
		.076	.3620
MACH ( 3 ) = 3.502	BETAT ( 5 ) = 4.460	Z/BV	.079
		X/CV	.0840
		.076	.0840
MACH ( 3 ) = 3.502	BETAT ( 6 ) = 6.660	Z/BV	.079
		X/CV	.0450
		.076	.0450
MACH ( 3 ) = 3.502	BETAT ( 7 ) = 8.860	Z/BV	.079
		X/CV	.0130
		.076	.0130

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNF13) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420	Z/BV .079 X/CV .076 .0470
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300	Z/BV .079 X/CV .076 .1490
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.180	Z/BV .079 X/CV .076 .2370
MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060	Z/BV .079 X/CV .076 .3740
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.300	Z/BV .079 X/CV .076 .2200
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.420	Z/BV .079 X/CV .076 .1440
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 8.540	Z/BV .079 X/CV .076 .0380
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.580	Z/BV .079 X/CV .076 .0540
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	Z/BV .079 X/CV .076 .0450
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.260	Z/BV .079 X/CV .076 .0750

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP13)

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 2 ) = 2.999	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.3310
		.076	.3310
MACH ( 2 ) = 2.999	BETAT ( 5 ) = 4.380	Z/BV	.079
		X/CV	.0800
		.076	.0800
MACH ( 2 ) = 2.999	BETAT ( 6 ) = 6.540	Z/BV	.079
		X/CV	.0350
		.076	.0350
MACH ( 2 ) = 2.999	BETAT ( 7 ) = 8.690	Z/BV	.079
		X/CV	-.0020
		.076	-.0020
MACH ( 3 ) = 3.502	BETAT ( 1 ) = -8.750	Z/BV	.079
		X/CV	-.0020
		.076	-.0020
MACH ( 3 ) = 3.502	BETAT ( 2 ) = -6.550	Z/BV	.079
		X/CV	.0070
		.076	.0070
MACH ( 3 ) = 3.502	BETAT ( 3 ) = -4.350	Z/BV	.079
		X/CV	.0380
		.076	.0380
MACH ( 3 ) = 3.502	BETAT ( 4 ) = .050	Z/BV	.079
		X/CV	.2620
		.076	.2620
MACH ( 3 ) = 3.502	BETAT ( 5 ) = 4.450	Z/BV	.079
		X/CV	.0350
		.076	.0350
MACH ( 3 ) = 3.502	BETAT ( 6 ) = 6.650	Z/BV	.079
		X/CV	.0000
		.076	.0000
MACH ( 3 ) = 3.502	BETAT ( 7 ) = 8.840	Z/BV	.079
		X/CV	-.0170
		.076	-.0170



AMES 87-757 IA9 O2A + S3 + T9 AFU INLET

(RBNP14) ( 10 MAY 73 )

## REFERENCE DATA

DREF = 2.4210 CO.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) AFU INLET

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.410	Z/BV	.079
		X/CV	
		.076	.0120
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.290	Z/BV	.079
		X/CV	
		.076	.0810
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.180	Z/BV	.079
		X/CV	
		.076	.0930
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	
		.076	.3200
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.310	Z/BV	.079
		X/CV	
		.076	.1080
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.430	Z/BV	.079
		X/CV	
		.076	.1440
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.560	Z/BV	.079
		X/CV	
		.076	.0250
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.560	Z/BV	.079
		X/CV	
		.076	.0160
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.410	Z/BV	.079
		X/CV	
		.076	.0140
MACH ( 2 ) = 2.999	BETAT ( 3 ) = -4.250	Z/BV	.079
		X/CV	
		.076	.1220

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AMES 87-707 IAS O2A + S3 + T9 AFU INLET

(RDNF14)

SECTION (1) AFU INLET	DEPENDENT VARIABLE CP
MACH (2) = 2.999 BETAT (4) = .060	Z/BV .079 X/CV .076 .2860
MACH (2) = 2.999 BETAT (5) = 4.380	Z/BV .079 X/CV .076 .1390
MACH (2) = 2.999 BETAT (6) = 6.550	Z/BV .079 X/CV .076 .0140
MACH (2) = 2.999 BETAT (7) = 8.710	Z/BV .079 X/CV .076 .0640
MACH (3) = 3.502 BETAT (1) = -8.730	Z/BV .079 X/CV .076 -.0110
MACH (3) = 3.502 BETAT (2) = -6.530	Z/BV .079 X/CV .076 .0010
MACH (3) = 3.502 BETAT (3) = -4.340	Z/BV .079 X/CV .076 .0800
MACH (3) = 3.502 BETAT (4) = .050	Z/BV .079 X/CV .076 .2060
MACH (3) = 3.502 BETAT (5) = 4.450	Z/BV .079 X/CV .076 .0840
MACH (3) = 3.502 BETAT (6) = 6.660	Z/BV .079 X/CV .076 -.0090
MACH (3) = 3.502 BETAT (7) = 8.860	Z/BV .079 X/CV .076 -.0230

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP15) ( 15 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) APU INLET

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.390	Z/BV	.079
		X/CV	.076
			.0650
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.280	Z/BV	.079
		X/CV	.076
			.1220
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.160	Z/BV	.079
		X/CV	.076
			.1010
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.076
			.3210
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.310	Z/BV	.079
		X/CV	.076
			.1270
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.440	Z/BV	.079
		X/CV	.076
			.2180
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.570	Z/BV	.079
		X/CV	.076
			.0910
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.550	Z/BV	.079
		X/CV	.076
			-.0010
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.400	Z/BV	.079
		X/CV	.076
			.0430
MACH ( 2 ) = 2.999	BETAT ( 3 ) = -4.240	Z/BV	.079
		X/CV	.076
			.0840

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNF15)

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 4 ) = .060	Z/BV .079 X/CV .076 .2780
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 4.390	Z/BV .079 X/CV .076 .1730
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 6.570	Z/BV .079 X/CV .076 .0440
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 8.730	Z/BV .079 X/CV .076 .0390
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.710	Z/BV .079 X/CV .076 -.0100
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.520	Z/BV .079 X/CV .076 .0010
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330	Z/BV .079 X/CV .076 .0410
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .050	Z/BV .079 X/CV .076 .2040
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460	Z/BV .079 X/CV .076 .0670
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.660	Z/BV .079 X/CV .076 -.0020
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.880	Z/BV .079 X/CV .076 -.0190

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP16) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) APU INLET

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.370	Z/BV	.079
		X/CV	.076
			.0190
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.270	Z/BV	.079
		X/CV	.076
			.2380
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.160	Z/BV	.079
		X/CV	.076
			.1700
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.076
			.3220
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.330	Z/BV	.079
		X/CV	.076
			.1610
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.460	Z/BV	.079
		X/CV	.076
			.2800
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.600	Z/BV	.079
		X/CV	.076
			.0320
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.530	Z/BV	.079
		X/CV	.076
			-.0020
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -6.380	Z/BV	.079
		X/CV	.076
			.0700
MACH ( 2 ) = 2.999	BETAT ( 3 ) = -4.230	Z/BV	.079
		X/CV	.076
			.1150

AMES 87-707 IA9 O2A + S3 + T9 AFU INLET

(RBNP16)

SECTION ( 1 ) AFU INLET	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 4 ) = .060	Z/BV .079 X/CV .2460 .076
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 4.400	Z/BV .079 X/CV .1900 .076
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 6.580	Z/BV .079 X/CV .1100 .076
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 8.750	Z/BV .079 X/CV .0130 .076
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.690	Z/BV .079 X/CV .0210 .076
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.500	Z/BV .079 X/CV .0090 .076
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.320	Z/BV .079 X/CV .0560 .076
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .050	Z/BV .079 X/CV .1960 .076
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.470	Z/BV .079 X/CV .0910 .076
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.680	Z/BV .079 X/CV .0070 .076
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.900	Z/BV .079 X/CV .0610 .076

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP17) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 CRBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)APU INLET	DEPENDENT VARIABLE CP
MACH ( 1) = 2.499 BETAT ( 1) = -8.390	Z/BV .079 X/CV .076 .0870
MACH ( 1) = 2.499 BETAT ( 2) = -6.280	Z/BV .079 X/CV .076 .1680
MACH ( 1) = 2.498 BETAT ( 3) = -4.160	Z/BV .079 X/CV .076 .2590
MACH ( 1) = 2.498 BETAT ( 4) = .060	Z/BV .079 X/CV .076 .5320
MACH ( 1) = 2.498 BETAT ( 5) = 4.330	Z/BV .079 X/CV .076 .3160
MACH ( 1) = 2.499 BETAT ( 6) = 6.470	Z/BV .079 X/CV .076 .1970
MACH ( 1) = 2.499 BETAT ( 7) = 8.600	Z/BV .079 X/CV .076 .1000
MACH ( 2) = 2.999 BETAT ( 1) = -8.540	Z/BV .079 X/CV .076 .0720
MACH ( 2) = 2.999 BETAT ( 2) = -4.240	Z/BV .079 X/CV .076 .1860
MACH ( 2) = 2.999 BETAT ( 3) = .060	Z/BV .079 X/CV .076 .5070

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AMES 87-707 IA9 C2A + S3 + T9 APU INLET

(RBNP17)

SECTION ( 1)APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 4) = 4.410	Z/BV .079 X/CV .076 .1990
MACH ( 2) = 2.999 BETAT ( 5) = 8.760	Z/BV .079 X/CV .076 .0760
MACH ( 3) = 3.502 BETAT ( 1) = -8.700	Z/BV .079 X/CV .076 .0720
MACH ( 3) = 3.502 BETAT ( 2) = -6.510	Z/BV .079 X/CV .076 .0870
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	Z/BV .079 X/CV .076 .1480
MACH ( 3) = 3.502 BETAT ( 4) = .060	Z/BV .079 X/CV .076 .4340
MACH ( 3) = 3.502 BETAT ( 5) = 4.490	Z/BV .079 X/CV .076 .1660
MACH ( 3) = 3.502 BETAT ( 6) = 6.700	Z/BV .079 X/CV .076 .0960
MACH ( 3) = 3.502 BETAT ( 7) = 8.910	Z/BV .079 X/CV .076 .0670



AMES 87-757 IA9 C2A + S3 + T9 APU INLET

(RBNP18) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.499	BETAT ( 1 ) = -8.420	Z/BV	.079
		X/CV	.076
			.0830
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.300	Z/BV	.079
		X/CV	.076
			.0920
MACH ( 1 ) = 2.499	BETAT ( 3 ) = -4.180	Z/BV	.079
		X/CV	.076
			.1810
MACH ( 1 ) = 2.499	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.076
			.4240
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.310	Z/BV	.079
		X/CV	.076
			.2210
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.430	Z/BV	.079
		X/CV	.076
			.1190
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.560	Z/BV	.079
		X/CV	.076
			.0970
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.580	Z/BV	.079
		X/CV	.076
			.0370
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -4.260	Z/BV	.079
		X/CV	.076
			.1170
MACH ( 2 ) = 2.999	BETAT ( 3 ) = .060	Z/BV	.079
		X/CV	.076
			.3880

AMES 87-707 IA9 Q2A + S3 + T9 APU INLET

(RBNP18)

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE OF
MACH ( 2 ) = 2.999 BETAT ( 4 ) = 4.390	Z/BV .079 X/CV .1230 .076 .1230
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 8.720	Z/BV .079 X/CV .0400 .076 .0400
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.730	Z/BV .079 X/CV .0260 .076 .0260
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.530	Z/BV .079 X/CV .0530 .076 .0530
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330	Z/BV .079 X/CV .0870 .076 .0870
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060	Z/BV .079 X/CV .3670 .076 .3670
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.470	Z/BV .079 X/CV .0950 .076 .0950
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.670	Z/BV .079 X/CV .0530 .076 .0530
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.870	Z/BV .079 X/CV .0210 .076 .0210

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP19) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUOFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.499	BETAT ( 1 ) = -8.430	Z/BV	.079
		X/CV	.076
			.0330
MACH ( 1 ) = 2.499	BETAT ( 2 ) = -6.310	Z/BV	.079
		X/CV	.076
			.0940
MACH ( 1 ) = 2.499	BETAT ( 3 ) = -4.180	Z/BV	.079
		X/CV	.076
			.2190
MACH ( 1 ) = 2.499	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.076
			.3510
MACH ( 1 ) = 2.499	BETAT ( 5 ) = 4.300	Z/BV	.079
		X/CV	.076
			.2010
MACH ( 1 ) = 2.499	BETAT ( 6 ) = 6.430	Z/BV	.079
		X/CV	.076
			.1510
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.550	Z/BV	.079
		X/CV	.076
			.0410
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.580	Z/BV	.079
		X/CV	.076
			.0030
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -4.260	Z/BV	.079
		X/CV	.076
			.0740
MACH ( 2 ) = 2.999	BETAT ( 3 ) = .060	Z/BV	.079
		X/CV	.076
			.3290

AMES 87-707 IA9 Q2A + S3 + T9 APU INLET

(RBNP19)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 4) = 4.380	Z/BV .079 X/CV .076 .0750
MACH ( 2) = 2.999 BETAT ( 5) = 8.710	Z/BV .079 X/CV .076 -.0050
MACH ( 3) = 3.502 BETAT ( 1) = -8.740	Z/BV .079 X/CV .076 .0050
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	Z/BV .079 X/CV .076 .0140
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	Z/BV .079 X/CV .076 .0490
MACH ( 3) = 3.502 BETAT ( 4) = .060	Z/BV .079 X/CV .076 .2770
MACH ( 3) = 3.502 BETAT ( 5) = 4.460	Z/BV .079 X/CV .076 .0430
MACH ( 3) = 3.502 BETAT ( 6) = 6.660	Z/BV .079 X/CV .076 .0030
MACH ( 3) = 3.502 BETAT ( 7) = 8.860	Z/BV .079 X/CV .076 -.0110

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP20) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.410	Z/BV .079 X/CV .076 .0130
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.290	Z/BV .079 X/CV .076 .0980
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.170	Z/BV .079 X/CV .076 .1280
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	Z/BV .079 X/CV .076 .3370
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.310	Z/BV .079 X/CV .076 .1250
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.430	Z/BV .079 X/CV .076 .1580
MACH ( 1 ) = 2.499 BETAT ( 7 ) = 8.560	Z/BV .079 X/CV .076 .0280
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.570	Z/BV .079 X/CV .076 .0090
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -4.250	Z/BV .079 X/CV .076 .1320
MACH ( 2 ) = 2.999 BETAT ( 3 ) = .060	Z/BV .079 X/CV .076 .2830

AMES 87-747 IA9 O2A + S3 + T9 APU INLET

(RBNF211)

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 4 ) = 4.390	Z/BV .079 X/CV .076 .1350
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 8.720	Z/BV .079 X/CV .076 .0570
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.720	Z/BV .079 X/CV .076 -.0090
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.530	Z/BV .079 X/CV .076 .0070
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330	Z/BV .079 X/CV .076 .0690
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060	Z/BV .079 X/CV .076 .2190
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460	Z/BV .079 X/CV .076 .0530
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.670	Z/BV .079 X/CV .076 -.0040
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.870	Z/BV .079 X/CV .076 -.0180

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP21) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) APU INLET		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.499	BETAT ( 1 ) = -8.390	Z/BV	.079
		X/CV	.076
			.0630
MACH ( 1 ) = 2.499	BETAT ( 2 ) = -6.280	Z/BV	.079
		X/CV	.076
			.1270
MACH ( 1 ) = 2.499	BETAT ( 3 ) = -4.170	Z/BV	.079
		X/CV	.076
			.1220
MACH ( 1 ) = 2.499	BETAT ( 4 ) = .060	Z/BV	.079
		X/CV	.076
			.3190
MACH ( 1 ) = 2.499	BETAT ( 5 ) = 4.310	Z/BV	.079
		X/CV	.076
			.1360
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.440	Z/BV	.079
		X/CV	.076
			.2170
MACH ( 1 ) = 2.499	BETAT ( 7 ) = 8.570	Z/BV	.079
		X/CV	.076
			.1100
MACH ( 2 ) = 2.999	BETAT ( 1 ) = -8.550	Z/BV	.079
		X/CV	.076
			-.0060
MACH ( 2 ) = 2.999	BETAT ( 2 ) = -4.240	Z/BV	.079
		X/CV	.076
			.0780
MACH ( 2 ) = 2.999	BETAT ( 3 ) = .060	Z/BV	.079
		X/CV	.076
			.2810

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNF21)

SECTION ( 1) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 4) = 4.400	Z/BV .079 X/CV .076 .1720
MACH ( 2) = 2.999 BETAT ( 5) = 8.730	Z/BV .079 X/CV .076 .0360
MACH ( 3) = 3.502 BETAT ( 1) = -8.710	Z/BV .079 X/CV .076 -.0050
MACH ( 3) = 3.502 BETAT ( 2) = -6.510	Z/BV .079 X/CV .076 .0030
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	Z/BV .079 X/CV .076 .0430
MACH ( 3) = 3.502 BETAT ( 4) = .060	Z/BV .079 X/CV .076 .2100
MACH ( 3) = 3.502 BETAT ( 5) = 4.470	Z/BV .079 X/CV .076 .0560
MACH ( 3) = 3.502 BETAT ( 6) = 6.670	Z/BV .079 X/CV .076 -.0060
MACH ( 3) = 3.502 BETAT ( 7) = 8.890	Z/BV .079 X/CV .076 -.0130



AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP22) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 30.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0000 SCALE

## PARAMETRIC DATA

ALPHAT = 8.0000 ORBINC = .5000  
 RUDDER = -10.0000 ELEVON = .0000  
 RUDFLR = .0000

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.370	Z/BV .079 X/CV .076 .0230
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.260	Z/BV .079 X/CV .076 .2400
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.150	Z/BV .079 X/CV .076 .1720
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	Z/BV .079 X/CV .076 .3100
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.330	Z/BV .079 X/CV .076 .1870
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.460	Z/BV .079 X/CV .076 .2970
MACH ( 1 ) = 2.499 BETAT ( 7 ) = 8.600	Z/BV .079 X/CV .076 .0410
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.530	Z/BV .079 X/CV .076 .0000
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -4.230	Z/BV .079 X/CV .076 .1100
MACH ( 2 ) = 2.999 BETAT ( 3 ) = .060	Z/BV .079 X/CV .076 .2480

AMES 87-707 IA9 O2A + S3 + T9 APU INLET

(RBNP22)

SECTION ( 1 ) APU INLET	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 4 ) = 4.400	Z/BV .079 X/CV .1620 .076 .1620
MACH ( 2 ) = 2.999 BETAT ( 3 ) = 3.750	Z/BV .079 X/CV .1610 .076 .1610
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.680	Z/BV .079 X/CV .0250 .076 .0250
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.490	Z/BV .079 X/CV .0100 .076 .0100
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.310	Z/BV .079 X/CV .0590 .076 .0590
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060	Z/BV .079 X/CV .2050 .076 .2050
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.480	Z/BV .079 X/CV .0890 .076 .0890
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.700	Z/BV .079 X/CV .0120 .076 .0120
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.910	Z/BV .079 X/CV .0610 .076 .0610

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX:1) ( 20 JUL 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

BETAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1)SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1) = 2.498 ALPHAT( 1) = -8.100  
 X/LS .985 1.000  
 PHI  
 .000 -.1970 -.1960  
 90.000 -.1940  
 180.000 -.2000  
 270.000 -.1980

MACH ( 1) = 2.498 ALPHAT( 2) = -6.070  
 X/LS .985 1.000  
 PHI  
 .000 -.1960 -.1950  
 90.000 -.1890  
 180.000 -.1960  
 270.000 -.1980

MACH ( 1) = 2.498 ALPHAT( 3) = -4.030  
 X/LS .985 1.000  
 PHI  
 .000 -.1940 -.1940  
 90.000 -.1870  
 180.000 -.1920  
 270.000 -.1940

MACH ( 1) = 2.498 ALPHAT( 4) = -2.000  
 X/LS .985 1.000  
 PHI  
 .000 -.1980 -.1930  
 90.000 -.1930  
 180.000 -.2000  
 270.000 -.2000

MACH ( 1) = 2.498 ALPHAT( 5) = .000  
 X/LS .985 1.000  
 PHI  
 .000 -.2010 -.1980  
 90.000 -.1950  
 180.000 -.1990  
 270.000 -.2000

MACH ( 1) = 2.498 ALPHAT( 6) = 1.930  
 X/LS .985 1.000  
 PHI  
 .000 -.2020 -.1930  
 90.000 -.1990  
 180.000 -.2000  
 270.000 -.2040

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNXU1)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 ALPHAT( 7) = 3.900	X/LS	.985	1.000
	PHI		
	.000	-.1960	-.1900
	90.000	-.1940	
	180.000	-.1940	
	270.000	-.1960	
MACH ( 1) = 2.498 ALPHAT( 8) = 5.950	X/LS	.985	1.000
	PHI		
	.000	-.1940	-.1880
	90.000	-.1940	
	180.000	-.1930	
	270.000	-.1950	
MACH ( 1) = 2.498 ALPHAT( 9) = 8.010	X/LS	.985	1.000
	PHI		
	.000	-.1920	-.1860
	90.000	-.1930	
	180.000	-.1910	
	270.000	-.1920	
MACH ( 2) = 2.999 ALPHAT( 1) = -8.070	X/LS	.985	1.000
	PHI		
	.000	-.1550	-.1470
	90.000	-.1510	
	180.000	-.1570	
	270.000	-.1560	
MACH ( 2) = 2.999 ALPHAT( 2) = -6.100	X/LS	.985	1.000
	PHI		
	.000	-.1590	-.1480
	90.000	-.1550	
	180.000	-.1580	
	270.000	-.1590	
MACH ( 2) = 2.999 ALPHAT( 3) = -4.070	X/LS	.985	1.000
	PHI		
	.000	-.1570	-.1490
	90.000	-.1530	
	180.000	-.1570	
	270.000	-.1580	
MACH ( 2) = 2.999 ALPHAT( 4) = -2.000	X/LS	.985	1.000
	PHI		
	.000	-.1580	-.1490
	90.000	-.1560	
	180.000	-.1550	
	270.000	-.1570	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX(1))

## SECTION ( 1) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 2) = 2.999	ALPHAT( 5) = -1.010	X/LS	.985	1.000
		PHI		
		.000	-.1540	-.1470
		90.000	-.1530	
		180.000	-.1520	
		270.000	-.1550	
MACH ( 2) = 2.999	ALPHAT( 6) = 1.930	X/LS	.985	1.000
		PHI		
		.000	-.1510	-.1410
		90.000	-.1510	
		180.000	-.1500	
		270.000	-.1550	
MACH ( 2) = 2.999	ALPHAT( 7) = 3.960	X/LS	.985	1.000
		PHI		
		.000	-.1480	-.1410
		90.000	-.1490	
		180.000	-.1490	
		270.000	-.1500	
MACH ( 2) = 2.999	ALPHAT( 8) = 5.990	X/LS	.985	1.000
		PHI		
		.000	-.1520	-.1450
		90.000	-.1530	
		180.000	-.1530	
		270.000	-.1530	
MACH ( 2) = 2.999	ALPHAT( 9) = 8.000	X/LS	.985	1.000
		PHI		
		.000	-.1470	-.1410
		90.000	-.1490	
		180.000	-.1490	
		270.000	-.1510	
MACH ( 3) = 3.502	ALPHAT( 1) = -8.080	X/LS	.985	1.000
		PHI		
		.000	-.1140	-.0990
		90.000	-.1130	
		180.000	-.1170	
		270.000	-.1180	
MACH ( 3) = 3.502	ALPHAT( 2) = -6.080	X/LS	.985	1.000
		PHI		
		.000	-.1190	-.1030
		90.000	-.1200	
		180.000	-.1220	
		270.000	-.1230	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX01)

SECTION ( 1) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 ALPHAT( 3) = -4.070	X/LS .985 1.000
	PHI
	.000 -.1210 -.1070
	90.000 -.1210
	180.000 -.1210
270.000 -.1230	
MACH ( 3) = 3.502 ALPHAT( 4) = -2.020	X/LS .985 1.000
	PHI
	.000 -.1170 -.1010
	90.000 -.1180
	180.000 -.1190
270.000 -.1190	
MACH ( 3) = 3.502 ALPHAT( 5) = -.030	X/LS .985 1.000
	PHI
	.000 -.1150 -.1010
	90.000 -.1170
	180.000 -.1150
270.000 -.1150	
MACH ( 3) = 3.502 ALPHAT( 6) = 1.950	X/LS .985 1.000
	PHI
	.000 -.1190 -.1050
	90.000 -.1190
	180.000 -.1190
270.000 -.1190	
MACH ( 3) = 3.502 ALPHAT( 7) = 3.960	X/LS .985 1.000
	PHI
	.000 -.1170 -.1040
	90.000 -.1190
	180.000 -.1180
270.000 -.1180	
MACH ( 3) = 3.502 ALPHAT( 8) = 5.970	X/LS .985 1.000
	PHI
	.000 -.1170 -.1040
	90.000 -.1180
	180.000 -.1190
270.000 -.1190	
MACH ( 3) = 3.502 ALPHAT( 9) = 8.010	X/LS .985 1.000
	PHI
	.000 -.1100 -.0980
	90.000 -.1140
	180.000 -.1140
270.000 -.1140	

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX52) ( 11 MAY 73 )

## REFERENCE DATA

CREF = 2.4210 SQ.FT.    XMRP = 20.5300 INCHES  
 LREF = 39.8490 INCHES    YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES    ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -0.000    CODINC = .500  
 RUDDER = .000    ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 )	BETAT ( 1 )	X/LS	PHI	CP
2.498	-8.400	.985	1.000	
		.000	-1.1890	-1.1860
		90.000	-1.1920	
		180.000	-1.1910	
		270.000	-1.1910	
2.498	-6.280	.985	1.000	
		.000	-1.1850	-1.1860
		90.000	-1.1860	
		180.000	-1.1900	
		270.000	-1.1910	
2.498	-4.170	.985	1.000	
		.000	-1.1900	-1.1940
		90.000	-1.1910	
		180.000	-1.1990	
		270.000	-1.1990	
2.498	-2.060	.985	1.000	
		.000	-1.2010	-1.1990
		90.000	-1.1960	
		180.000	-1.2060	
		270.000	-1.2040	
2.498	2.180	.985	1.000	
		.000	-1.1840	-1.1830
		90.000	-1.1820	
		180.000	-1.1870	
		270.000	-1.1860	
2.498	4.320	.985	1.000	
		.000	-1.1830	-1.1850
		90.000	-1.1820	
		180.000	-1.1850	
		270.000	-1.1860	

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX12)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 6.460	X/LS	.985	1.000
	PHI		
	.000	-.1860	-.1880
	90.000	-.1870	
	180.000	-.1890	
	270.000	-.1920	
MACH ( 1) = 2.498 BETAT ( 8) = 8.590	X/LS	.985	1.000
	PHI		
	.000	-.1780	-.1830
	90.000	-.1770	
	180.000	-.1780	
	270.000	-.1820	
MACH ( 2) = 2.999 BETAT ( 1) = -8.560	X/LS	.985	1.000
	PHI		
	.000	-.1490	-.1430
	90.000	-.1480	
	180.000	-.1500	
	270.000	-.1500	
MACH ( 2) = 2.999 BETAT ( 2) = -6.400	X/LS	.985	1.000
	PHI		
	.000	-.1480	-.1430
	90.000	-.1470	
	180.000	-.1490	
	270.000	-.1510	
MACH ( 2) = 2.999 BETAT ( 3) = -4.250	X/LS	.985	1.000
	PHI		
	.000	-.1500	-.1440
	90.000	-.1480	
	180.000	-.1520	
	270.000	-.1520	
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	X/LS	.985	1.000
	PHI		
	.000	-.1530	-.1460
	90.000	-.1500	
	180.000	-.1560	
	270.000	-.1560	
MACH ( 2) = 2.999 BETAT ( 5) = 2.230	X/LS	.985	1.000
	PHI		
	.000	-.1490	-.1410
	90.000	-.1470	
	180.000	-.1520	
	270.000	-.1520	



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX12)

SECTION ( 1 ) SRM BOOSTER BASE		DEPENDENT VARIABLE CP		
MACH ( 2 ) = 2.999	BETAT ( 6 ) = 4.400	X/LS	.985	1.000
		PHI		
		.000	-.1470	-.1410
		90.000	-.1430	
		180.000	-.1480	
		270.000	-.1490	
MACH ( 2 ) = 2.999	BETAT ( 7 ) = 6.580	X/LS	.985	1.000
		PHI		
		.000	-.1440	-.1420
		90.000	-.1440	
		180.000	-.1480	
		270.000	-.1470	
MACH ( 2 ) = 2.999	BETAT ( 8 ) = 8.750	X/LS	.985	1.000
		PHI		
		.000	-.1430	-.1380
		90.000	-.1440	
		180.000	-.1460	
		270.000	-.1450	
MACH ( 3 ) = 3.502	BETAT ( 1 ) = -8.710	X/LS	.985	1.000
		PHI		
		.000	-.1200	-.1040
		90.000	-.1180	
		180.000	-.1200	
		270.000	-.1200	
MACH ( 3 ) = 3.502	BETAT ( 2 ) = -6.520	X/LS	.985	1.000
		PHI		
		.000	-.1190	-.1070
		90.000	-.1180	
		180.000	-.1180	
		270.000	-.1220	
MACH ( 3 ) = 3.502	BETAT ( 3 ) = -4.330	X/LS	.985	1.000
		PHI		
		.000	-.1190	-.1060
		90.000	-.1220	
		180.000	-.1230	
		270.000	-.1240	
MACH ( 3 ) = 3.502	BETAT ( 4 ) = -2.140	X/LS	.985	1.000
		PHI		
		.000	-.1180	-.1040
		90.000	-.1170	
		180.000	-.1190	
		270.000	-.1170	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER CASE

(RDNX02)

SECTION ( 1) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LS .985 1.000
	PHI
	.000 -.1180 -.1030
	90.000 -.1200
	180.000 -.1230
	270.000 -.1220
MACH ( 3) = 3.502 BETAT ( 6) = 4.480	X/LS .985 1.000
	PHI
	.000 -.1200 -.1060
	90.000 -.1210
	180.000 -.1220
	270.000 -.1220
MACH ( 3) = 3.502 BETAT ( 7) = 6.690	X/LS .985 1.000
	PHI
	.000 -.1200 -.1040
	90.000 -.1190
	180.000 -.1200
	270.000 -.1210
MACH ( 3) = 3.502 BETAT ( 8) = 8.910	X/LS .985 1.000
	PHI
	.000 -.1190 -.1040
	90.000 -.1180
	180.000 -.1200
	270.000 -.1200

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX03) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. YMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -6.000 CODINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.420	X/LS .985 1.000 PHI .000 -.1880 -.1890 90.000 -.1880 180.000 -.1910 270.000 -.1930
MACH ( 1) = 2.498 BETAT ( 2) = -6.290	X/LS .985 1.000 PHI .000 -.1880 -.1890 90.000 -.1880 180.000 -.1930 270.000 -.1950
MACH ( 1) = 2.498 BETAT ( 3) = -4.180	X/LS .985 1.000 PHI .000 -.1910 -.1950 90.000 -.1920 180.000 -.1980 270.000 -.1980
MACH ( 1) = 2.498 BETAT ( 4) = -2.070	X/LS .985 1.000 PHI .000 -.1950 -.1960 90.000 -.1930 180.000 -.2000 270.000 -.1980
MACH ( 1) = 2.498 BETAT ( 5) = 2.180	X/LS .985 1.000 PHI .000 -.1860 -.1840 90.000 -.1850 180.000 -.1890 270.000 -.1910
MACH ( 1) = 2.498 BETAT ( 6) = 4.310	X/LS .985 1.000 PHI .000 -.1810 -.1810 90.000 -.1820 180.000 -.1850 270.000 -.1860

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX13)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.440	X/LS	.985	1.000
	PHI		
	.000	-.1870	-.1790
	90.000	-.1850	
	180.000	-.1850	
270.000	-.1850		
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.570	X/LS	.985	1.000
	PHI		
	.000	-.1720	-.1740
	90.000	-.1720	
	180.000	-.1720	
270.000	-.1730		
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.570	X/LS	.985	1.000
	PHI		
	.000	-.1530	-.1430
	90.000	-.1520	
	180.000	-.1520	
270.000	-.1550		
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	X/LS	.985	1.000
	PHI		
	.000	-.1510	-.1420
	90.000	-.1480	
	180.000	-.1500	
270.000	-.1520		
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.260	X/LS	.985	1.000
	PHI		
	.000	-.1520	-.1440
	90.000	-.1500	
	180.000	-.1510	
270.000	-.1530		
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.100	X/LS	.985	1.000
	PHI		
	.000	-.1540	-.1460
	90.000	-.1510	
	180.000	-.1560	
270.000	-.1560		
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.220	X/LS	.985	1.000
	PHI		
	.000	-.1530	-.1470
	90.000	-.1510	
	180.000	-.1550	
270.000	-.1540		

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNXU3)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.390	X/LS .985 1.000
	PHI
	.000 -.1440 -.1390
	90.000 -.1420
	180.000 -.1470
	270.000 -.1480
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.560	X/LS .985 1.000
	PHI
	.000 -.1420 -.1400
	90.000 -.1420
	180.000 -.1440
	270.000 -.1460
MACH ( 2 ) = 2.999 BETAT ( 8 ) = 8.730	X/LS .985 1.000
	PHI
	.000 -.1440 -.1420
	90.000 -.1420
	180.000 -.1450
	270.000 -.1480
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.730	X/LS .985 1.000
	PHI
	.000 -.1170 -.1030
	90.000 -.1190
	180.000 -.1190
	270.000 -.1190
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.530	X/LS .985 1.000
	PHI
	.000 -.1180 -.1050
	90.000 -.1190
	180.000 -.1200
	270.000 -.1200
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.340	X/LS .985 1.000
	PHI
	.000 -.1200 -.1080
	90.000 -.1200
	180.000 -.1200
	270.000 -.1230
MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.140	X/LS .985 1.000
	PHI
	.000 -.1240 -.1120
	90.000 -.1250
	180.000 -.1240
	270.000 -.1260

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX13)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 2.260	X/LS .985 1.000
	PHI
	.000 -.1220 -.1070
	90.000 -.1210
	180.000 -.1220
	270.000 -.1220
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 4.470	X/LS .985 1.000
	PHI
	.000 -.1180 -.1030
	90.000 -.1200
	180.000 -.1220
	270.000 -.1220
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 6.680	X/LS .985 1.000
	PHI
	.000 -.1180 -.1050
	90.000 -.1170
	180.000 -.1190
	270.000 -.1210
MACH ( 3 ) = 3.502 BETAT ( 8 ) = 8.890	X/LS .985 1.000
	PHI
	.000 -.1150 -.1000
	90.000 -.1130
	180.000 -.1160
	270.000 -.1170

SMES 87-707 IA9 02A + S3 + T9 SRM BOOSTER CASE

(EDNK04) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 COBINC = .500  
 BUDDER = .000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.430	X/LS	.985	1.000
		PHI		
		.000	-.1940	-.1960
		90.000	-.1940	
		180.000	-.1960	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.310	X/LS	.985	1.000
		PHI		
		.000	-.1880	-.1930
		90.000	-.1880	
		180.000	-.1960	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	X/LS	.985	1.000
		PHI		
		.000	-.1920	-.1940
		90.000	-.1860	
		180.000	-.1940	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	X/LS	.985	1.000
		PHI		
		.000	-.1960	-.1920
		90.000	-.1900	
		180.000	-.1960	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	X/LS	.985	1.000
		PHI		
		.000	-.1900	-.1880
		90.000	-.1850	
		180.000	-.1920	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.300	X/LS	.985	1.000
		PHI		
		.000	-.1860	-.1790
		90.000	-.1850	
		180.000	-.1890	
		270.000	-.1900	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RDNX04)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 6.430	X/LS	.985	1.000
	PHI		
	.000	-.1850	-.1780
	90.000	-.1860	
	180.000	-.1880	
	270.000	-.1900	
MACH ( 1) = 2.498 BETAT ( 8) = 8.550	X/LS	.985	1.000
	PHI		
	.000	-.1640	-.1640
	90.000	-.1650	
	180.000	-.1610	
	270.000	-.1660	
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LS	.985	1.000
	PHI		
	.000	-.1520	-.1460
	90.000	-.1490	
	180.000	-.1500	
	270.000	-.1510	
MACH ( 2) = 2.999 BETAT ( 2) = -6.420	X/LS	.985	1.000
	PHI		
	.000	-.1530	-.1450
	90.000	-.1510	
	180.000	-.1530	
	270.000	-.1540	
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	X/LS	.985	1.000
	PHI		
	.000	-.1560	-.1480
	90.000	-.1540	
	180.000	-.1570	
	270.000	-.1570	
MACH ( 2) = 2.999 BETAT ( 4) = -2.110	X/LS	.985	1.000
	PHI		
	.000	-.1600	-.1480
	90.000	-.1550	
	180.000	-.1560	
	270.000	-.1600	
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	X/LS	.985	1.000
	PHI		
	.000	-.1500	-.1440
	90.000	-.1470	
	180.000	-.1510	
	270.000	-.1520	



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX04)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 6) = 4.380	X/LS	.985	1.000
	PHI		
	.000	-.1490	-.1410
	90.000	-.1470	
	180.000	-.1480	
270.000	-.1480		
MACH ( 2) = 2.999 BETAT ( 7) = 6.550	X/LS	.985	1.000
	PHI		
	.000	-.1480	-.1430
	90.000	-.1440	
	180.000	-.1480	
270.000	-.1470		
MACH ( 2) = 2.999 BETAT ( 8) = 8.710	X/LS	.985	1.000
	PHI		
	.000	-.1450	-.1420
	90.000	-.1440	
	180.000	-.1450	
270.000	-.1480		
MACH ( 3) = 3.502 BETAT ( 1) = -8.740	X/LS	.985	1.000
	PHI		
	.000	-.1170	-.1060
	90.000	-.1190	
	180.000	-.1160	
270.000	-.1180		
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	X/LS	.985	1.000
	PHI		
	.000	-.1180	-.1040
	90.000	-.1200	
	180.000	-.1190	
270.000	-.1170		
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	X/LS	.985	1.000
	PHI		
	.000	-.1220	-.1080
	90.000	-.1220	
	180.000	-.1230	
270.000	-.1230		
MACH ( 3) = 3.502 BETAT ( 4) = -2.150	X/LS	.985	1.000
	PHI		
	.000	-.1190	-.1050
	90.000	-.1190	
	180.000	-.1190	
270.000	-.1220		

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX04)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LS	.985	1.000
	PHI		
	.000	-.1190	-.1050
	90.000	-.1200	
	180.000	-.1190	
	270.000	-.1200	
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1020
	90.000	-.1180	
	180.000	-.1180	
	270.000	-.1200	
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1040
	90.000	-.1160	
	180.000	-.1180	
	270.000	-.1200	
MACH ( 3) = 3.502 BETAT ( 8) = 8.870	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1020
	90.000	-.1130	
	180.000	-.1130	
	270.000	-.1130	

AMES P7-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RDNRUS) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0000 SCALE

## PARAMETRIC DATA

ALPHAT = -2.0000 CGDINC = .500  
 RUDDER = .0000 ELEVON = .000  
 RUDFLR = .0000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.430	X/LS	.985	1.000
		PHI		
		.000	-.2020	-.1960
		90.000	-.1930	
		180.000	-.2040	
		270.000	-.2040	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.310	X/LS	.985	1.000
		PHI		
		.000	-.1980	-.1920
		90.000	-.1910	
		180.000	-.1990	
		270.000	-.2000	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	X/LS	.985	1.000
		PHI		
		.000	-.2050	-.1990
		90.000	-.1950	
		180.000	-.2040	
		270.000	-.2050	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	X/LS	.985	1.000
		PHI		
		.000	-.2000	-.1960
		90.000	-.1950	
		180.000	-.2000	
		270.000	-.2020	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	X/LS	.985	1.000
		PHI		
		.000	-.1910	-.1870
		90.000	-.1830	
		180.000	-.1890	
		270.000	-.1910	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.300	X/LS	.985	1.000
		PHI		
		.000	-.1890	-.1870
		90.000	-.1890	
		180.000	-.1920	
		270.000	-.1920	

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER BASE

(RDNX15)

## SECTION 1 SRM BOOSTER BASE

## DEPENDENT VARIABLE OF

MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.420	X/LS	.985	1.000
	PHI		
	.000	-.1810	-.1800
	90.000	-.1830	
	180.000	-.1840	
	270.000	-.1850	
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.540	X/LS	.985	1.000
	PHI		
	.000	-.1610	-.1590
	90.000	-.1580	
	180.000	-.1580	
	270.000	-.1610	
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.590	X/LS	.985	1.000
	PHI		
	.000	-.1490	-.1390
	90.000	-.1490	
	180.000	-.1470	
	270.000	-.1490	
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.440	X/LS	.985	1.000
	PHI		
	.000	-.1470	-.1390
	90.000	-.1460	
	180.000	-.1460	
	270.000	-.1490	
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.270	X/LS	.985	1.000
	PHI		
	.000	-.1490	-.1400
	90.000	-.1490	
	180.000	-.1490	
	270.000	-.1500	
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.110	X/LS	.985	1.000
	PHI		
	.000	-.1520	-.1430
	90.000	-.1510	
	180.000	-.1510	
	270.000	-.1530	
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.220	X/LS	.985	1.000
	PHI		
	.000	-.1470	-.1380
	90.000	-.1430	
	180.000	-.1460	
	270.000	-.1450	

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RDNX05)

SECTION / SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.370	X/LS	.985	1.000
	PHI		
	.000	-.1410	-.1370
	90.000	-.1390	
	180.000	-.1430	
	270.000	-.1430	
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.530	X/LS	.985	1.000
	PHI		
	.000	-.1400	-.1370
	90.000	-.1400	
	180.000	-.1430	
	270.000	-.1440	
MACH ( 2 ) = 2.999 BETAT ( 8 ) = 8.700	X/LS	.985	1.000
	PHI		
	.000	-.1310	-.1260
	90.000	-.1300	
	180.000	-.1310	
	270.000	-.1300	
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.750	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1040
	90.000	-.1180	
	180.000	-.1120	
	270.000	-.1160	
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.540	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1020
	90.000	-.1140	
	180.000	-.1140	
	270.000	-.1160	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.350	X/LS	.985	1.000
	PHI		
	.000	-.1170	-.1050
	90.000	-.1180	
	180.000	-.1190	
	270.000	-.1190	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.140	X/LS	.985	1.000
	PHI		
	.000	-.1210	-.1070
	90.000	-.1210	
	180.000	-.1200	
	270.000	-.1210	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RDNXL5)

SECTION: ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 2.260	X/LS	.985	1.000
	PHI		
	.000	-.1210	-.1180
	90.000	-.1210	
	180.000	-.1210	
	270.000	-.1240	
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 4.460	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1140
	90.000	-.1160	
	180.000	-.1190	
	270.000	-.1200	
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 6.660	X/LS	.985	1.000
	PHI		
	.000	-.1170	-.1140
	90.000	-.1180	
	180.000	-.1180	
	270.000	-.1210	
MACH ( 3 ) = 3.502 BETAT ( 8 ) = 8.860	X/LS	.985	1.000
	PHI		
	.000	-.1110	-.1020
	90.000	-.1100	
	180.000	-.1110	
	270.000	-.1090	

AMES 47-747 1A9 ORA + S3 + T9 SRM BOOSTER BASE

(RBNX06) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0000 SCALE

## PARAMETRIC DATA

ALPHAT = .000 ORDRINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDDLR = .000

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE (P)
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430	X/LS .985 1.000
	PHI
	.000 -.2000 -.1960
	90.000 -.1960
	180.000 -.1970
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310	X/LS .985 1.000
	PHI
	.000 -.1990 -.1940
	90.000 -.1940
	180.000 -.1980
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.190	X/LS .985 1.000
	PHI
	.000 -.2080 -.2000
	90.000 -.2010
	180.000 -.2000
MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.070	X/LS .985 1.000
	PHI
	.000 -.2040 -.1960
	90.000 -.1980
	180.000 -.1990
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.170	X/LS .985 1.000
	PHI
	.000 -.1940 -.1900
	90.000 -.1870
	180.000 -.1930
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.290	X/LS .985 1.000
	PHI
	.000 -.1890 -.1870
	90.000 -.1890
	180.000 -.1900
270.000 -.1920	

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX06)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.410	X/LS	.985	1.000
	PHI		
	.000	-.1810	-.1760
	90.000	-.1810	
	180.000	-.1830	
	270.000	-.1840	
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.540	X/LS	.985	1.000
	PHI		
	.000	-.1570	-.1560
	90.000	-.1570	
	180.000	-.1610	
	270.000	-.1590	
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.590	X/LS	.985	1.000
	PHI		
	.000	-.1450	-.1380
	90.000	-.1460	
	180.000	-.1440	
	270.000	-.1460	
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.430	X/LS	.985	1.000
	PHI		
	.000	-.1480	-.1400
	90.000	-.1470	
	180.000	-.1440	
	270.000	-.1490	
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.270	X/LS	.985	1.000
	PHI		
	.000	-.1480	-.1400
	90.000	-.1470	
	180.000	-.1470	
	270.000	-.1490	
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.110	X/LS	.985	1.000
	PHI		
	.000	-.1520	-.1440
	90.000	-.1490	
	180.000	-.1470	
	270.000	-.1510	
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.210	X/LS	.985	1.000
	PHI		
	.000	-.1460	-.1370
	90.000	-.1430	
	180.000	-.1430	
	270.000	-.1450	



AMES 87-707 IAS ORA + S3 + T9 SEV BOOSTER BASE

(RSNX06)

SECTION ( 1 ) ORA BOOSTER BASE	DEPENDENT VARIABLE (P)
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.370	X/LS .985 1.000
	PHI
	.000 -.1440 -.1360
	90.000 -.1420
	180.000 -.1430
	270.000 -.1440
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.530	X/LS .985 1.000
	PHI
	.000 -.1410 -.1350
	90.000 -.1390
	180.000 -.1390
	270.000 -.1420
MACH ( 2 ) = 2.999 BETAT ( 8 ) = 8.690	X/LS .985 1.000
	PHI
	.000 -.1290 -.1250
	90.000 -.1270
	180.000 -.1280
	270.000 -.1250
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.750	X/LS .985 1.000
	PHI
	.000 -.1150 -.1020
	90.000 -.1150
	180.000 -.1150
	270.000 -.1170
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.550	X/LS .985 1.000
	PHI
	.000 -.1150 -.1120
	90.000 -.1150
	180.000 -.1140
	270.000 -.1170
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.340	X/LS .985 1.000
	PHI
	.000 -.1190 -.1170
	90.000 -.1200
	180.000 -.1210
	270.000 -.1210
MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.150	X/LS .985 1.000
	PHI
	.000 -.1190 -.1060
	90.000 -.1200
	180.000 -.1180
	270.000 -.1180

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX06)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 2.260	X/LS .985 1.000
	PHI
	.000 -.1220 -.1060
	90.000 -.1230
	180.000 -.1210
	270.000 -.1220
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 4.450	X/LS .985 1.000
	PHI
	.000 -.1190 -.1050
	90.000 -.1190
	180.000 -.1210
	270.000 -.1210
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 6.650	X/LS .985 1.000
	PHI
	.000 -.1220 -.1050
	90.000 -.1210
	180.000 -.1210
	270.000 -.1230
MACH ( 3 ) = 3.502 BETAT ( 8 ) = 8.850	X/LS .985 1.000
	PHI
	.000 -.1070 -.0980
	90.000 -.1090
	180.000 -.1100
	270.000 -.1080

AMES 87-707 IA9 OZA + S3 + T9 SRM BOOSTER BASE

(EDNKH7) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 2.000 ORBINC = .500  
 RUDDER = .000 ELFVON = .000  
 RUDELR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.430	X/LS	.985	1.000
		PHI		
		.000	-.1990	-.1910
		90.000	-.1980	
		180.000	-.1940	
		270.000	-.2000	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.310	X/LS	.985	1.000
		PHI		
		.000	-.2010	-.1990
		90.000	-.1970	
		180.000	-.1960	
		270.000	-.2010	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	X/LS	.985	1.000
		PHI		
		.000	-.2060	-.2020
		90.000	-.2030	
		180.000	-.2010	
		270.000	-.2070	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.060	X/LS	.985	1.000
		PHI		
		.000	-.2060	-.1980
		90.000	-.2000	
		180.000	-.1990	
		270.000	-.2060	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.170	X/LS	.985	1.000
		PHI		
		.000	-.1930	-.1860
		90.000	-.1910	
		180.000	-.1920	
		270.000	-.1950	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.290	X/LS	.985	1.000
		PHI		
		.000	-.1870	-.1840
		90.000	-.1820	
		180.000	-.1870	
		270.000	-.1850	

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX17)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.410	X/LS .985 1.000
	PHI
	.000 -.1800 -.1760
	90.000 -.1760
	180.000 -.1810
	270.000 -.1780
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.540	X/LS .985 1.000
	PHI
	.000 -.1690 -.1620
	90.000 -.1700
	180.000 -.1690
	270.000 -.1700
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.590	X/LS .985 1.000
	PHI
	.000 -.1490 -.1400
	90.000 -.1470
	180.000 -.1410
	270.000 -.1480
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	X/LS .985 1.000
	PHI
	.000 -.1480 -.1390
	90.000 -.1460
	180.000 -.1440
	270.000 -.1480
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.270	X/LS .985 1.000
	PHI
	.000 -.1500 -.1430
	90.000 -.1480
	180.000 -.1480
	270.000 -.1510
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.110	X/LS .985 1.000
	PHI
	.000 -.1470 -.1400
	90.000 -.1470
	180.000 -.1470
	270.000 -.1490
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.210	X/LS .985 1.000
	PHI
	.000 -.1480 -.1410
	90.000 -.1490
	180.000 -.1470
	270.000 -.1500

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX07)

SECTION ( 1 )SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.370	X/LS	.985	1.000
	PHI		
	.000	-.1440	-.1390
	90.000	-.1450	
	180.000	-.1460	
	270.000	-.1480	
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.530	X/LS	.985	1.000
	PHI		
	.000	-.1460	-.1370
	90.000	-.1440	
	180.000	-.1440	
	270.000	-.1460	
MACH ( 2 ) = 2.999 BETAT ( 8 ) = 8.690	X/LS	.985	1.000
	PHI		
	.000	-.1330	-.1280
	90.000	-.1350	
	180.000	-.1320	
	270.000	-.1310	
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.730	X/LS	.985	1.000
	PHI		
	.000	-.1140	-.1030
	90.000	-.1160	
	180.000	-.1140	
	270.000	-.1150	
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.540	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1040
	90.000	-.1180	
	180.000	-.1150	
	270.000	-.1200	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.340	X/LS	.985	1.000
	PHI		
	.000	-.1190	-.1070
	90.000	-.1190	
	180.000	-.1170	
	270.000	-.1200	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.140	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1020
	90.000	-.1200	
	180.000	-.1170	
	270.000	-.1190	

## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNXU7)

SECTION ( 1) SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502 BETAT ( 5) = 2.250	X/LS	.985	1.000
	PHI		
	.000	-.1220	-.1090
	90.000	-.1220	
	180.000	-.1220	
	270.000	-.1220	
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1010
	90.000	-.1170	
	180.000	-.1160	
	270.000	-.1160	
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1010
	90.000	-.1160	
	180.000	-.1160	
	270.000	-.1170	
MACH ( 3) = 3.502 BETAT ( 8) = 8.850	X/LS	.985	1.000
	PHI		
	.000	-.1090	-.1000
	90.000	-.1100	
	180.000	-.1090	
	270.000	-.1080	

AMES 87-757 1A9 02A + S3 + T9 SRM BOOSTER BASE

(RBNX08) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 00.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = .500 ELEVON = .500  
 RUFLER = .500

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.420	X/LS	.985	1.000
		PHI		
		.000	-.1980	-.1900
		90.000	-.1980	
		180.000	-.1930	
		270.000	-.1990	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.300	X/LS	.985	1.000
		PHI		
		.000	-.1940	-.1930
		90.000	-.1900	
		180.000	-.1890	
		270.000	-.1970	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	X/LS	.985	1.000
		PHI		
		.000	-.1980	-.1950
		90.000	-.1950	
		180.000	-.1940	
		270.000	-.2010	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	X/LS	.985	1.000
		PHI		
		.000	-.1970	-.1890
		90.000	-.1950	
		180.000	-.1940	
		270.000	-.1980	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.170	X/LS	.985	1.000
		PHI		
		.000	-.1950	-.1870
		90.000	-.1910	
		180.000	-.1930	
		270.000	-.1920	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.300	X/LS	.985	1.000
		PHI		
		.000	-.1780	-.1780
		90.000	-.1750	
		180.000	-.1780	
		270.000	-.1800	

AMES 87-757 1A9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNXLR)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.425	X/LS .985 1.000
	PHI
	.000 -.1810 -.1800
	90.000 -.1770
	180.000 -.1790
	270.000 -.1800
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.550	X/LS .985 1.000
	PHI
	.000 -.1780 -.1720
	90.000 -.1730
	180.000 -.1770
	270.000 -.1780
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.580	X/LS .985 1.000
	PHI
	.000 -.1430 -.1350
	90.000 -.1410
	180.000 -.1350
	270.000 -.1420
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	X/LS .985 1.000
	PHI
	.000 -.1460 -.1380
	90.000 -.1450
	180.000 -.1380
	270.000 -.1460
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.260	X/LS .985 1.000
	PHI
	.000 -.1470 -.1400
	90.000 -.1480
	180.000 -.1470
	270.000 -.1480
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.100	X/LS .985 1.000
	PHI
	.000 -.1470 -.1410
	90.000 -.1470
	180.000 -.1470
	270.000 -.1470
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.210	X/LS .985 1.000
	PHI
	.000 -.1450 -.1400
	90.000 -.1460
	180.000 -.1460
	270.000 -.1480



## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX08)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.370	X/LS .985 1.000
	PHI
	.000 -.1410 -.1350
	90.000 -.1410
	180.000 -.1410
	270.000 -.1410
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.540	X/LS .985 1.000
	PHI
	.000 -.1430 -.1390
	90.000 -.1420
	180.000 -.1430
	270.000 -.1430
MACH ( 2 ) = 2.999 BETAT ( 8 ) = 8.700	X/LS .985 1.000
	PHI
	.000 -.1360 -.1310
	90.000 -.1370
	180.000 -.1340
	270.000 -.1370
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.720	X/LS .985 1.000
	PHI
	.000 -.1120 -.1020
	90.000 -.1140
	180.000 -.1100
	270.000 -.1140
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.530	X/LS .985 1.000
	PHI
	.000 -.1130 -.1040
	90.000 -.1160
	180.000 -.1150
	270.000 -.1170
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330	X/LS .985 1.000
	PHI
	.000 -.1140 -.1030
	90.000 -.1140
	180.000 -.1140
	270.000 -.1170
MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.140	X/LS .985 1.000
	PHI
	.000 -.1170 -.1040
	90.000 -.1200
	180.000 -.1200
	270.000 -.1210

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNXLR)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LS .985 1.000
	PHI
	.000 -.1200 -.1060
	90.000 -.1230
	180.000 -.1220
	270.000 -.1220
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LS .985 1.000
	PHI
	.000 -.1190 -.1090
	90.000 -.1210
	180.000 -.1220
	270.000 -.1220
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LS .985 1.000
	PHI
	.000 -.1160 -.1030
	90.000 -.1150
	180.000 -.1130
	270.000 -.1120
MACH ( 3) = 3.502 BETAT ( 8) = 8.860	X/LS .985 1.000
	PHI
	.000 -.1100 -.1010
	90.000 -.1110
	180.000 -.1100
	270.000 -.1100

AMES 47-747 1A9 02A + 53 + T9 SRM BOOSTER BASE

(RDNX09) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 59.8400 INCHES YMRP = .0000 INCHES  
 BREF = 50.8400 INCHES ZMRP = .0000 INCHES  
 SCALE = .0000 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDDLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.410	X/LS	.985	1.000
		PHI		
		.000	-.1900	-.1850
		90.000	-.1880	
		180.000	-.1790	
		270.000	-.1880	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.290	X/LS	.985	1.000
		PHI		
		.000	-.1900	-.1850
		90.000	-.1860	
		180.000	-.1820	
		270.000	-.1920	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.170	X/LS	.985	1.000
		PHI		
		.000	-.1910	-.1870
		90.000	-.1870	
		180.000	-.1860	
		270.000	-.1930	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.060	X/LS	.985	1.000
		PHI		
		.000	-.1890	-.1840
		90.000	-.1890	
		180.000	-.1900	
		270.000	-.1930	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	X/LS	.985	1.000
		PHI		
		.000	-.1920	-.1870
		90.000	-.1920	
		180.000	-.1910	
		270.000	-.1910	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.300	X/LS	.985	1.000
		PHI		
		.000	-.1820	-.1780
		90.000	-.1790	
		180.000	-.1810	
		270.000	-.1820	

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER BASE

(RBNX19)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 6.440	X/LS	.985	1.000
	PHI		
	.000	-.1840	-.1790
	90.000	-.1750	
	180.000	-.1810	
	270.000	-.1820	
MACH ( 1) = 2.498 BETAT ( 8) = 8.570	X/LS	.985	1.000
	PHI		
	.000	-.1770	-.1750
	90.000	-.1740	
	180.000	-.1760	
	270.000	-.1790	
MACH ( 2) = 2.999 BETAT ( 1) = -8.560	X/LS	.985	1.000
	PHI		
	.000	-.1370	-.1360
	90.000	-.1400	
	180.000	-.1340	
	270.000	-.1380	
MACH ( 2) = 2.999 BETAT ( 2) = -6.400	X/LS	.985	1.000
	PHI		
	.000	-.1410	-.1340
	90.000	-.1400	
	180.000	-.1380	
	270.000	-.1410	
MACH ( 2) = 2.999 BETAT ( 3) = -4.250	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1370
	90.000	-.1410	
	180.000	-.1420	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1360
	90.000	-.1460	
	180.000	-.1450	
	270.000	-.1470	
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	X/LS	.985	1.000
	PHI		
	.000	-.1440	-.1380
	90.000	-.1470	
	180.000	-.1460	
	270.000	-.1470	

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RDNX10)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE OF		
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.380	X/LS	.985	1.000
	PHI		
	.000	-.1440	-.1390
	90.000	-.1440	
	180.000	-.1470	
	270.000	-.1470	
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.550	X/LS	.985	1.000
	PHI		
	.000	-.1440	-.1390
	90.000	-.1410	
	180.000	-.1440	
	270.000	-.1440	
MACH ( 2 ) = 2.999 BETAT ( 8 ) = 8.720	X/LS	.985	1.000
	PHI		
	.000	-.1370	-.1320
	90.000	-.1360	
	180.000	-.1370	
	270.000	-.1360	
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.710	X/LS	.985	1.000
	PHI		
	.000	-.1130	-.1020
	90.000	-.1130	
	180.000	-.1110	
	270.000	-.1130	
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.510	X/LS	.985	1.000
	PHI		
	.000	-.1100	-.1030
	90.000	-.1120	
	180.000	-.1100	
	270.000	-.1120	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.320	X/LS	.985	1.000
	PHI		
	.000	-.1140	-.1050
	90.000	-.1150	
	180.000	-.1150	
	270.000	-.1160	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.130	X/LS	.985	1.000
	PHI		
	.000	-.1140	-.1030
	90.000	-.1180	
	180.000	-.1190	
	270.000	-.1190	

AMES 87-757 IA9 C2A + S3 + T9 SRM BOOSTER BASE

(RBNXU9)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LS .985 1.000
	PHI
	.000 -.1180 -.1040
	90.000 -.1200
	180.000 -.1190
	270.000 -.1200
MACH ( 3) = 3.502 BETAT ( 6) = 4.470	X/LS .985 1.000
	PHI
	.000 -.1150 -.1020
	90.000 -.1150
	180.000 -.1170
	270.000 -.1170
MACH ( 3) = 3.502 BETAT ( 7) = 6.670	X/LS .985 1.000
	PHI
	.000 -.1170 -.1050
	90.000 -.1170
	180.000 -.1150
	270.000 -.1160
MACH ( 3) = 3.502 BETAT ( 8) = 8.880	X/LS .985 1.000
	PHI
	.000 -.1090 -.1030
	90.000 -.1090
	180.000 -.1080
	270.000 -.1090

AMES 87-757 IA9 C2A + S3 + T9 SRM BOOSTER BASE

(RBX11) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORDINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 )	BETAT ( 1 )	X/LS	PHI	CP
2.498	-8.380	.985	1.000	
		.000		-.1860
		90.000		-.1860
		180.000		-.1800
		270.000		-.1870
2.498	-6.270	.985	1.000	
		.000		-.1860
		90.000		-.1850
		180.000		-.1810
		270.000		-.1910
2.498	-4.170	.985	1.000	
		.000		-.1870
		90.000		-.1850
		180.000		-.1840
		270.000		-.1890
2.498	-2.060	.985	1.000	
		.000		-.1850
		90.000		-.1890
		180.000		-.1890
		270.000		-.1890
2.498	2.180	.985	1.000	
		.000		-.1920
		90.000		-.1920
		180.000		-.1920
		270.000		-.1930
2.498	4.320	.985	1.000	
		.000		-.1860
		90.000		-.1810
		180.000		-.1860
		270.000		-.1860

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX10)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.450	X/LS .985 1.000 PHI .000 -.1850 -.1810 90.000 -.1780 180.000 -.1840 270.000 -.1870
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.580	X/LS .985 1.000 PHI .000 -.1790 -.1750 90.000 -.1770 180.000 -.1790 270.000 -.1820
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.540	X/LS .985 1.000 PHI .000 -.1370 -.1290 90.000 -.1370 180.000 -.1360 270.000 -.1370
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.390	X/LS .985 1.000 PHI .000 -.1350 -.1290 90.000 -.1360 180.000 -.1340 270.000 -.1380
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.240	X/LS .985 1.000 PHI .000 -.1390 -.1340 90.000 -.1400 180.000 -.1400 270.000 -.1430
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.090	X/LS .985 1.000 PHI .000 -.1400 -.1370 90.000 -.1440 180.000 -.1440 270.000 -.1440
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.230	X/LS .985 1.000 PHI .000 -.1440 -.1380 90.000 -.1460 180.000 -.1470 270.000 -.1460



AMES 87-747 IA9 OPA + S3 + T9 SRM BOOSTER BASE

(RDNX11)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE OF		
MACH ( 2) = 2.999 BETAT ( 6) = 4.400	X/LS	.985	1.000
	PHI		
	.000	-.1390	-.1350
	90.000	-.1380	
	180.000	-.1420	
	270.000	-.1420	
MACH ( 2) = 2.999 BETAT ( 7) = 6.570	X/LS	.985	1.000
	PHI		
	.000	-.1390	-.1350
	90.000	-.1380	
	180.000	-.1370	
	270.000	-.1380	
MACH ( 2) = 2.999 BETAT ( 8) = 8.740	X/LS	.985	1.000
	PHI		
	.000	-.1320	-.1280
	90.000	-.1320	
	180.000	-.1320	
	270.000	-.1310	
MACH ( 3) = 3.502 BETAT ( 1) = -8.690	X/LS	.985	1.000
	PHI		
	.000	-.1070	-.1090
	90.000	-.1110	
	180.000	-.1100	
	270.000	-.1120	
MACH ( 3) = 3.502 BETAT ( 2) = -6.500	X/LS	.985	1.000
	PHI		
	.000	-.1120	-.1100
	90.000	-.1100	
	180.000	-.1100	
	270.000	-.1120	
MACH ( 3) = 3.502 BETAT ( 3) = -4.310	X/LS	.985	1.000
	PHI		
	.000	-.1080	-.1090
	90.000	-.1100	
	180.000	-.1090	
	270.000	-.1090	
MACH ( 3) = 3.502 BETAT ( 4) = -2.130	X/LS	.985	1.000
	PHI		
	.000	-.1120	-.1020
	90.000	-.1120	
	180.000	-.1100	
	270.000	-.1110	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX10)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LS .985 1.000
	PHI
	.000 -.1160 -.1050
	90.000 -.1170
	180.000 -.1170
	270.000 -.1160
MACH ( 3) = 3.502 BETAT ( 6) = 4.480	X/LS .985 1.000
	PHI
	.000 -.1150 -.1010
	90.000 -.1150
	180.000 -.1170
	270.000 -.1150
MACH ( 3) = 3.502 BETAT ( 7) = 6.690	X/LS .985 1.000
	PHI
	.000 -.1140 -.1040
	90.000 -.1140
	180.000 -.1100
	270.000 -.1140
MACH ( 3) = 3.502 BETAT ( 8) = 8.900	X/LS .985 1.000
	PHI
	.000 -.1120 -.1030
	90.000 -.1120
	180.000 -.1090
	270.000 -.1130

AMES 87-707 IA9 02A + S3 + T9 SRM BOOSTER BASE

(RBNX11) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4219 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 DREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 ORDINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.390	X/LS .985 1.000 PHI .000 -.1830 -.1810 90.000 -.1840 180.000 -.1830 270.000 -.1850
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270	X/LS .985 1.000 PHI .000 -.1820 -.1830 90.000 -.1810 180.000 -.1830 270.000 -.1860
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.160	X/LS .985 1.000 PHI .000 -.1880 -.1910 90.000 -.1890 180.000 -.1960 270.000 -.1950
MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060	X/LS .985 1.000 PHI .000 -.1950 -.1940 90.000 -.1900 180.000 -.1960 270.000 -.1930
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.330	X/LS .985 1.000 PHI .000 -.1720 -.1740 90.000 -.1730 180.000 -.1790 270.000 -.1780
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.460	X/LS .985 1.000 PHI .000 -.1790 -.1820 90.000 -.1820 180.000 -.1820 270.000 -.1850

## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX11)

SECTION ( 1 )SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 8.600	X/LS	.985	1.000
	PHI		
	.000	-.1720	-.1760
	90.000	-.1750	
	180.000	-.1690	
	270.000	-.1760	
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.560	X/LS	.985	1.000
	PHI		
	.000	-.1500	-.1420
	90.000	-.1500	
	180.000	-.1490	
	270.000	-.1490	
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.410	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1390
	90.000	-.1430	
	180.000	-.1450	
	270.000	-.1420	
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.260	X/LS	.985	1.000
	PHI		
	.000	-.1450	-.1410
	90.000	-.1440	
	180.000	-.1470	
	270.000	-.1470	
MACH ( 2 ) = 2.999 BETAT ( 4 ) = .050	X/LS	.985	1.000
	PHI		
	.000	-.1510	-.1440
	90.000	-.1470	
	180.000	-.1530	
	270.000	-.1550	
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 4.400	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1370
	90.000	-.1390	
	180.000	-.1420	
	270.000	-.1430	
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 6.580	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1400
	90.000	-.1410	
	180.000	-.1430	
	270.000	-.1450	



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TABULATED PRESSURE DATA - IA9C

PAGE 1937

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX11)

SECTION: ( 1 ) SRM BOOSTER BASE

DEPENDENT VARIABLE CF

MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.900

X/LS	.985	1.000
PHI		
.000	-.1120	-.1090
90.000	-.1120	
180.000	-.1120	
270.000	-.1140	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX12) ( 11 MAY 73 )

## REFERENCE DATA.

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORDINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420

X/LS .985 1.000  
 PHI  
 .000 -.1850 -.1880  
 90.000 -.1860  
 180.000 -.1910  
 270.000 -.1920

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300

X/LS .985 1.000  
 PHI  
 .000 -.1840 -.1880  
 90.000 -.1860  
 180.000 -.1920  
 270.000 -.1930

MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.180

X/LS .985 1.000  
 PHI  
 .000 -.1840 -.1870  
 90.000 -.1790  
 180.000 -.1900  
 270.000 -.1890

MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060

X/LS .985 1.000  
 PHI  
 .000 -.1820 -.1830  
 90.000 -.1790  
 180.000 -.1850  
 270.000 -.1870

MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.310

X/LS .985 1.000  
 PHI  
 .000 -.1820 -.1730  
 90.000 -.1840  
 180.000 -.1870  
 270.000 -.1860

MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.430

X/LS .985 1.000  
 PHI  
 .000 -.1820 -.1770  
 90.000 -.1830  
 180.000 -.1850  
 270.000 -.1820

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX12)

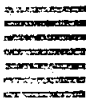
SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 8.560	X/LS	.985	1.000
	PHI		
	.000	-.1590	-.1590
	90.000	-.1550	
	180.000	-.1570	
	270.000	-.1590	
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LS	.985	1.000
	PHI		
	.000	-.1510	-.1440
	90.000	-.1480	
	180.000	-.1480	
	270.000	-.1490	
MACH ( 2) = 2.999 BETAT ( 2) = -6.430	X/LS	.985	1.000
	PHI		
	.000	-.1500	-.1440
	90.000	-.1470	
	180.000	-.1490	
	270.000	-.1510	
MACH ( 2) = 2.999 BETAT ( 3) = -4.270	X/LS	.985	1.000
	PHI		
	.000	-.1520	-.1420
	90.000	-.1490	
	180.000	-.1500	
	270.000	-.1520	
MACH ( 2) = 2.999 BETAT ( 4) = .050	X/LS	.985	1.000
	PHI		
	.000	-.1500	-.1410
	90.000	-.1460	
	180.000	-.1500	
	270.000	-.1490	
MACH ( 2) = 2.999 BETAT ( 5) = 4.380	X/LS	.985	1.000
	PHI		
	.000	-.1410	-.1360
	90.000	-.1400	
	180.000	-.1440	
	270.000	-.1440	
MACH ( 2) = 2.999 BETAT ( 6) = 6.550	X/LS	.985	1.000
	PHI		
	.000	-.1380	-.1360
	90.000	-.1390	
	180.000	-.1400	
	270.000	-.1420	



AMES 87-757 I49 Q2A + S3 + T9 SRM BOOSTER BASE

(RDNX12)

SECTION ( 1 )SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 8.710	X/LS	.985	1.000
	PHI		
	.000	-.1410	-.1370
	90.000	-.1400	
	180.000	-.1410	
	270.000	-.1420	
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.740	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1010
	90.000	-.1130	
	180.000	-.1120	
	270.000	-.1140	
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.540	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1040
	90.000	-.1150	
	180.000	-.1110	
	270.000	-.1140	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.350	X/LS	.985	1.000
	PHI		
	.000	-.1150	-.1010
	90.000	-.1140	
	180.000	-.1140	
	270.000	-.1150	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .050	X/LS	.985	1.000
	PHI		
	.000	-.1160	-.1040
	90.000	-.1170	
	180.000	-.1170	
	270.000	-.1170	
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460	X/LS	.985	1.000
	PHI		
	.000	-.1140	-.1030
	90.000	-.1140	
	180.000	-.1140	
	270.000	-.1150	
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.660	X/LS	.985	1.000
	PHI		
	.000	-.1110	-.1020
	90.000	-.1110	
	180.000	-.1120	
	270.000	-.1140	



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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER BASE

(RBNX12)

SECTION ( 1 ) SRM BOOSTER BASE

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.860

X/LS	.985	1.000
PHI		
.000	-.1080	-.0980
90.000	-.1060	
180.000	-.1050	
270.000	-.1070	



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX13)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 8.545	X/LS	.985	1.000
	PHI		
	.000	-.1490	-.1520
	90.000	-.1510	
	180.000	-.1570	
	270.000	-.1550	
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1330
	90.000	-.1410	
	180.000	-.1410	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 2) = -6.420	X/LS	.985	1.000
	PHI		
	.000	-.1450	-.1340
	90.000	-.1420	
	180.000	-.1410	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	X/LS	.985	1.000
	PHI		
	.000	-.1440	-.1360
	90.000	-.1430	
	180.000	-.1400	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 4) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1350
	90.000	-.1430	
	180.000	-.1420	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 5) = 4.380	X/LS	.985	1.000
	PHI		
	.000	-.1360	-.1310
	90.000	-.1380	
	180.000	-.1390	
	270.000	-.1390	
MACH ( 2) = 2.999 BETAT ( 6) = 6.540	X/LS	.985	1.000
	PHI		
	.000	-.1360	-.1310
	90.000	-.1350	
	180.000	-.1360	
	270.000	-.1380	

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX13)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 8.695	X/LS .985 1.000 PHI .000 -.1220 -.1170 90.000 -.1210 180.000 -.1210 270.000 -.1190
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.750	X/LS .985 1.000 PHI .000 -.1090 -.1010 90.000 -.1090 180.000 -.1070 270.000 -.1090
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.550	X/LS .985 1.000 PHI .000 -.1100 -.1010 90.000 -.1120 180.000 -.1090 270.000 -.1100
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.350	X/LS .985 1.000 PHI .000 -.1110 -.1010 90.000 -.1100 180.000 -.1100 270.000 -.1100
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .050	X/LS .985 1.000 PHI .000 -.1150 -.1030 90.000 -.1170 180.000 -.1150 270.000 -.1170
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.450	X/LS .985 1.000 PHI .000 -.1120 -.1090 90.000 -.1130 180.000 -.1130 270.000 -.1160
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.650	X/LS .985 1.000 PHI .000 -.1130 -.1040 90.000 -.1130 180.000 -.1150 270.000 -.1160

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX13)

SECTION ( 1)SRM BOOSTER BASE

DEPENDENT VARIABLE CP

MACH ( 3) = 3.502 BETAT ( 7) = 8.840

X/LS	.985	1.000
PHI		
.000	-.1000	-.0940
90.000	-.0990	
180.000	-.0990	
270.000	-.0970	

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 4.000 ORDINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)SRM BOOSTER BASE

DEPENDENT VARIABLE CP

MACH ( 1) = 2.498	BETAT ( 1) = -8.410	X/LS	.985	1.000
		PHI		
		.000	-.1940	-.1840
		90.000	-.1920	
		180.000	-.1900	
		270.000	-.1930	
MACH ( 1) = 2.498	BETAT ( 2) = -6.290	X/LS	.985	1.000
		PHI		
		.000	-.1930	-.1880
		90.000	-.1900	
		180.000	-.1840	
		270.000	-.1910	
MACH ( 1) = 2.498	BETAT ( 3) = -4.180	X/LS	.985	1.000
		PHI		
		.000	-.1910	-.1890
		90.000	-.1900	
		180.000	-.1890	
		270.000	-.1950	
MACH ( 1) = 2.498	BETAT ( 4) = .060	X/LS	.985	1.000
		PHI		
		.000	-.1910	-.1810
		90.000	-.1910	
		180.000	-.1890	
		270.000	-.1910	
MACH ( 1) = 2.498	BETAT ( 5) = 4.310	X/LS	.985	1.000
		PHI		
		.000	-.1750	-.1730
		90.000	-.1740	
		180.000	-.1770	
		270.000	-.1750	
MACH ( 1) = 2.498	BETAT ( 6) = 6.430	X/LS	.985	1.000
		PHI		
		.000	-.1750	-.1710
		90.000	-.1670	
		180.000	-.1720	
		270.000	-.1740	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX14)

SECTION ( 1)SRM BOOSTER BASE		DEPENDENT VARIABLE CP	
MACH ( 1) = 2.498	BETAT ( 7) = 8.560	X/LS	.985 1.000
		PHI	
		.000	-.1740 - .1720
		90.000	-.1690
		180.000	-.1730
		270.000	-.1760
MACH ( 2) = 2.999	BETAT ( 1) = -8.560	X/LS	.985 1.000
		PHI	
		.000	-.1350 - .1280
		90.000	-.1350
		180.000	-.1290
		270.000	-.1350
MACH ( 2) = 2.999	BETAT ( 2) = -6.410	X/LS	.985 1.000
		PHI	
		.000	-.1370 - .1310
		90.000	-.1370
		180.000	-.1310
		270.000	-.1400
MACH ( 2) = 2.999	BETAT ( 3) = -4.250	X/LS	.985 1.000
		PHI	
		.000	-.1400 - .1330
		90.000	-.1420
		180.000	-.1410
		270.000	-.1430
MACH ( 2) = 2.999	BETAT ( 4) = .060	X/LS	.985 1.000
		PHI	
		.000	-.1410 - .1330
		90.000	-.1300
		180.000	-.1410
		270.000	-.1430
MACH ( 2) = 2.999	BETAT ( 5) = 4.380	X/LS	.985 1.000
		PHI	
		.000	-.1350 - .1290
		90.000	-.1350
		180.000	-.1380
		270.000	-.1390
MACH ( 2) = 2.999	BETAT ( 6) = 6.550	X/LS	.985 1.000
		PHI	
		.000	-.1390 - .1320
		90.000	-.1350
		180.000	-.1380
		270.000	-.1390



AXES 87-707 1A9 02A + S3 + T9 SRM BOOSTER BASE

(RPN014)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 7) = 8.710	X/LS	.985	1.000
	PHI		
	.000	-.1330	-.1240
	90.000	-.1320	
	180.000	-.1300	
	270.000	-.1320	
MACH ( 3) = 3.502 BETAT ( 1) = -8.730	X/LS	.985	1.000
	PHI		
	.000	-.1030	-.1090
	90.000	-.1050	
	180.000	-.1030	
	270.000	-.1060	
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	X/LS	.985	1.000
	PHI		
	.000	-.1100	-.1010
	90.000	-.1110	
	180.000	-.1090	
	270.000	-.1110	
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	X/LS	.985	1.000
	PHI		
	.000	-.1080	-.1010
	90.000	-.1130	
	180.000	-.1110	
	270.000	-.1130	
MACH ( 3) = 3.502 BETAT ( 4) = .050	X/LS	.985	1.000
	PHI		
	.000	-.1140	-.1050
	90.000	-.1150	
	180.000	-.1150	
	270.000	-.1140	
MACH ( 3) = 3.502 BETAT ( 5) = 4.450	X/LS	.985	1.000
	PHI		
	.000	-.1090	-.0990
	90.000	-.1110	
	180.000	-.1120	
	270.000	-.1100	
MACH ( 3) = 3.502 BETAT ( 6) = 6.660	X/LS	.985	1.000
	PHI		
	.000	-.1110	-.1010
	90.000	-.1110	
	180.000	-.1100	
	270.000	-.1080	

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX14)

SECTION ( 1 ) SRM BOOSTER BASE

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.860

X/LS	.985	1.000
PHI		
.000	-.1010	-.0940
90.000	-.1040	
180.000	-.1020	
270.000	-.1040	

AMES 87-707 IA9 OZA + S3 + T9 SRM BOOSTER BASE

(RDNX15) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.390	X/LS	.985	1.000
		PHI		
		.000	-.1880	-.1840
		90.000	-.1850	
		180.000	-.1790	
		270.000	-.1870	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.280	X/LS	.985	1.000
		PHI		
		.000	-.1870	-.1830
		90.000	-.1820	
		180.000	-.1790	
		270.000	-.1900	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.160	X/LS	.985	1.000
		PHI		
		.000	-.1900	-.1840
		90.000	-.1850	
		180.000	-.1830	
		270.000	-.1890	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	X/LS	.985	1.000
		PHI		
		.000	-.1870	-.1820
		90.000	-.1870	
		180.000	-.1850	
		270.000	-.1880	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.310	X/LS	.985	1.000
		PHI		
		.000	-.1770	-.1730
		90.000	-.1750	
		180.000	-.1770	
		270.000	-.1760	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.440	X/LS	.985	1.000
		PHI		
		.000	-.1790	-.1720
		90.000	-.1710	
		180.000	-.1780	
		270.000	-.1810	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX15)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 8.570	X/LS	.985	1.000
	FHI		
	.000	-.1740	-.1690
	90.000	-.1660	
	180.000	-.1720	
	270.000	-.1740	
MACH ( 2) = 2.999 BETAT ( 1) = -8.550	X/LS	.985	1.000
	FHI		
	.000	-.1340	-.1240
	90.000	-.1310	
	180.000	-.1290	
	270.000	-.1330	
MACH ( 2) = 2.999 BETAT ( 2) = -6.400	X/LS	.985	1.000
	FHI		
	.000	-.1330	-.1250
	90.000	-.1330	
	180.000	-.1310	
	270.000	-.1350	
MACH ( 2) = 2.999 BETAT ( 3) = -4.240	X/LS	.985	1.000
	FHI		
	.000	-.1350	-.1310
	90.000	-.1390	
	180.000	-.1370	
	270.000	-.1390	
MACH ( 2) = 2.999 BETAT ( 4) = .060	X/LS	.985	1.000
	FHI		
	.000	-.1420	-.1360
	90.000	-.1430	
	180.000	-.1430	
	270.000	-.1440	
MACH ( 2) = 2.999 BETAT ( 5) = 4.390	X/LS	.985	1.000
	FHI		
	.000	-.1360	-.1290
	90.000	-.1370	
	180.000	-.1400	
	270.000	-.1390	
MACH ( 2) = 2.999 BETAT ( 6) = 6.570	X/LS	.985	1.000
	FHI		
	.000	-.1390	-.1340
	90.000	-.1350	
	180.000	-.1370	
	270.000	-.1380	

AMES 87-757 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RDNX15)

SECTION ( 1 ) SRM BOOSTER BASE		DEPENDENT VARIABLE CP		
MACH ( 2 ) = 2.999	BETAT ( 7 ) = 8.730	X/LS	.985	1.000
		PHI		
		.000	-.1300	-.1260
		90.000	-.1310	
		180.000	-.1290	
		270.000	-.1300	
MACH ( 3 ) = 3.502	BETAT ( 1 ) = -8.710	X/LS	.985	1.000
		PHI		
		.000	-.1030	-.0950
		90.000	-.1060	
		180.000	-.1050	
		270.000	-.1070	
MACH ( 3 ) = 3.502	BETAT ( 2 ) = -6.520	X/LS	.985	1.000
		PHI		
		.000	-.1040	-.0950
		90.000	-.1070	
		180.000	-.1070	
		270.000	-.1070	
MACH ( 3 ) = 3.502	BETAT ( 3 ) = -4.330	X/LS	.985	1.000
		PHI		
		.000	-.1070	-.1010
		90.000	-.1110	
		180.000	-.1100	
		270.000	-.1100	
MACH ( 3 ) = 3.502	BETAT ( 4 ) = .050	X/LS	.985	1.000
		PHI		
		.000	-.1080	-.1020
		90.000	-.1110	
		180.000	-.1110	
		270.000	-.1110	
MACH ( 3 ) = 3.502	BETAT ( 5 ) = 4.460	X/LS	.985	1.000
		PHI		
		.000	-.1120	-.1000
		90.000	-.1140	
		180.000	-.1150	
		270.000	-.1140	
MACH ( 3 ) = 3.502	BETAT ( 6 ) = 6.660	X/LS	.985	1.000
		PHI		
		.000	-.1060	-.0960
		90.000	-.1070	
		180.000	-.1050	
		270.000	-.1060	

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX15)

SECTION ( 1 ) SRM BOOSTER BASE

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.880

X/LS	.985	1.000
PHI		
.000	-.1040	-.0950
90.000	-.1030	
180.000	-.1020	
270.000	-.1050	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX16) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 CRDINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.370	X/LS	.985	1.000
		PHI		
		.000	-.1830	-.1790
		90.000	-.1790	
		180.000	-.1750	
		270.000	-.1850	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.270	X/LS	.985	1.000
		PHI		
		.000	-.1810	-.1760
		90.000	-.1790	
		180.000	-.1730	
		270.000	-.1810	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.160	X/LS	.985	1.000
		PHI		
		.000	-.1810	-.1750
		90.000	-.1800	
		180.000	-.1790	
		270.000	-.1820	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	X/LS	.985	1.000
		PHI		
		.000	-.1890	-.1830
		90.000	-.1880	
		180.000	-.1860	
		270.000	-.1880	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.330	X/LS	.985	1.000
		PHI		
		.000	-.1800	-.1730
		90.000	-.1770	
		180.000	-.1820	
		270.000	-.1840	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.460	X/LS	.985	1.000
		PHI		
		.000	-.1830	-.1780
		90.000	-.1730	
		180.000	-.1800	
		270.000	-.1810	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RENX16)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 8.600	X/LS	.985	1.000
	PHI		
	.000	-.1760	-.1720
	90.000	-.1720	
	180.000	-.1740	
	270.000	-.1770	
MACH ( 2) = 2.999 BETAT ( 1) = -8.530	X/LS	.985	1.000
	PHI		
	.000	-.1280	-.1240
	90.000	-.1300	
	180.000	-.1290	
	270.000	-.1310	
MACH ( 2) = 2.999 BETAT ( 2) = -6.380	X/LS	.985	1.000
	PHI		
	.000	-.1320	-.1260
	90.000	-.1340	
	180.000	-.1340	
	270.000	-.1330	
MACH ( 2) = 2.999 BETAT ( 3) = -4.230	X/LS	.985	1.000
	PHI		
	.000	-.1360	-.1270
	90.000	-.1370	
	180.000	-.1370	
	270.000	-.1380	
MACH ( 2) = 2.999 BETAT ( 4) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1390	-.1310
	90.000	-.1410	
	180.000	-.1410	
	270.000	-.1400	
MACH ( 2) = 2.999 BETAT ( 5) = 4.400	X/LS	.985	1.000
	PHI		
	.000	-.1310	-.1250
	90.000	-.1290	
	180.000	-.1340	
	270.000	-.1330	
MACH ( 2) = 2.999 BETAT ( 6) = 6.580	X/LS	.985	1.000
	PHI		
	.000	-.1320	-.1260
	90.000	-.1300	
	180.000	-.1310	
	270.000	-.1310	



## AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RDNX16)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 7) = 8.750	X/LS	.985	1.000
	PHI		
	.000	-.1260	-.1220
	90.000	-.1230	
	180.000	-.1240	
270.000	-.1230		
MACH ( 3) = 3.502 BETAT ( 1) = -8.690	X/LS	.985	1.000
	PHI		
	.000	-.1010	-.1020
	90.000	-.1030	
	180.000	-.1030	
270.000	-.1040		
MACH ( 3) = 3.502 BETAT ( 2) = -6.500	X/LS	.985	1.000
	PHI		
	.000	-.1010	-.0940
	90.000	-.1020	
	180.000	-.1020	
270.000	-.1060		
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	X/LS	.985	1.000
	PHI		
	.000	-.1040	-.0940
	90.000	-.1050	
	180.000	-.1030	
270.000	-.1020		
MACH ( 3) = 3.502 BETAT ( 4) = .050	X/LS	.985	1.000
	PHI		
	.000	-.1100	-.1020
	90.000	-.1120	
	180.000	-.1110	
270.000	-.1140		
MACH ( 3) = 3.502 BETAT ( 5) = 4.470	X/LS	.985	1.000
	PHI		
	.000	-.1080	-.1000
	90.000	-.1090	
	180.000	-.1100	
270.000	-.1090		
MACH ( 3) = 3.502 BETAT ( 6) = 6.680	X/LS	.985	1.000
	PHI		
	.000	-.1090	-.0980
	90.000	-.1100	
	180.000	-.1070	
270.000	-.1070		

DATE 18 SEP 73

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AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX16)

SECTION ( 1)SRM BOOSTER BASE

DEPENDENT VARIABLE CP

MACH ( 3) = 3.502 BETAT ( 7) = 8.900

X/LS	.985	1.000
PHI		
.000	-.1030	-.0940
90.000	-.1040	
180.000	-.1030	
270.000	-.1040	

AMES R7-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(FRNY17) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.390	X/LS .985 1.000 PHI .000 -.1900 -.1870 90.000 -.1900 180.000 -.1900 270.000 -.1900
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.280	X/LS .985 1.000 PHI .000 -.1840 -.1820 90.000 -.1840 180.000 -.1830 270.000 -.1860
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.160	X/LS .985 1.000 PHI .000 -.1860 -.1890 90.000 -.1870 180.000 -.1940 270.000 -.1940
MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060	X/LS .985 1.000 PHI .000 -.1950 -.1940 90.000 -.1940 180.000 -.1990 270.000 -.1970
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.330	X/LS .985 1.000 PHI .000 -.1750 -.1760 90.000 -.1740 180.000 -.1780 270.000 -.1770
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.470	X/LS .985 1.000 PHI .000 -.1830 -.1840 90.000 -.1820 180.000 -.1830 270.000 -.1860

## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX17)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.499 BETAT ( 7) = 8.600	X/LS	.985	1.000
	PHI		
	.000	-.1730	-.1750
	90.000	-.1700	
	180.000	-.1700	
	270.000	-.1740	
MACH ( 2) = 2.999 BETAT ( 1) = -8.540	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1360
	90.000	-.1400	
	180.000	-.1420	
	270.000	-.1440	
MACH ( 2) = 2.999 BETAT ( 2) = -4.240	X/LS	.985	1.000
	PHI		
	.000	-.1390	-.1350
	90.000	-.1380	
	180.000	-.1400	
	270.000	-.1410	
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1380
	90.000	-.1410	
	180.000	-.1470	
	270.000	-.1460	
MACH ( 2) = 2.999 BETAT ( 4) = 4.410	X/LS	.985	1.000
	PHI		
	.000	-.1400	-.1360
	90.000	-.1390	
	180.000	-.1430	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 5) = 8.760	X/LS	.985	1.000
	PHI		
	.000	-.1400	-.1360
	90.000	-.1390	
	180.000	-.1410	
	270.000	-.1430	
MACH ( 3) = 3.502 BETAT ( 1) = -8.700	X/LS	.985	1.000
	PHI		
	.000	-.1080	-.0980
	90.000	-.1090	
	180.000	-.1080	
	270.000	-.1120	

AMES 87-707 IA9 02A + S3 + T9 SRM BOOSTER BASE

(RBNX17)

SECTION ( ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.510	X/LS	.985	1.000
	PHI		
	.000	-.1110	-.1010
	90.000	-.1120	
	180.000	-.1110	
	270.000	-.1130	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.320	X/LS	.985	1.000
	PHI		
	.000	-.1110	-.0990
	90.000	-.1120	
	180.000	-.1100	
	270.000	-.1120	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1120	-.1010
	90.000	-.1090	
	180.000	-.1140	
	270.000	-.1120	
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.490	X/LS	.985	1.000
	PHI		
	.000	-.1100	-.0970
	90.000	-.1100	
	180.000	-.1130	
	270.000	-.1120	
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.700	X/LS	.985	1.000
	PHI		
	.000	-.1060	-.0960
	90.000	-.1070	
	180.000	-.1110	
	270.000	-.1100	
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.910	X/LS	.985	1.000
	PHI		
	.000	-.1050	-.0940
	90.000	-.1030	
	180.000	-.1050	
	270.000	-.1070	

AMES 87-757 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX18) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -2.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.499 BETAT ( 1) = -8.420	X/LS .985 1.000 PHI .000 -.1840 -.1900 90.000 -.1840 180.000 -.1890 270.000 -.1920
MACH ( 1) = 2.498 BETAT ( 2) = -6.300	X/LS .985 1.000 PHI .000 -.1830 -.1880 90.000 -.1840 180.000 -.1920 270.000 -.1910
MACH ( 1) = 2.499 BETAT ( 3) = -4.180	X/LS .985 1.000 PHI .000 -.1880 -.1890 90.000 -.1850 180.000 -.1930 270.000 -.1960
MACH ( 1) = 2.499 BETAT ( 4) = .060	X/LS .985 1.000 PHI .000 -.1830 -.1840 90.000 -.1780 180.000 -.1860 270.000 -.1870
MACH ( 1) = 2.498 BETAT ( 5) = 4.310	X/LS .985 1.000 PHI .000 -.1820 -.1760 90.000 -.1820 180.000 -.1850 270.000 -.1850
MACH ( 1) = 2.498 BETAT ( 6) = 6.430	X/LS .985 1.000 PHI .000 -.1840 -.1790 90.000 -.1850 180.000 -.1850 270.000 -.1850

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RRNX18)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE (P
MACH ( 1) = 2.498 BETAT ( 7) = 8.560	X/LS .985 1.000
	PHI
	.000 -.1600 -.1610
	90.000 -.1560
	180.000 -.1560
	270.000 -.1620
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LS .985 1.000
	PHI
	.000 -.1450 -.1380
	90.000 -.1430
	180.000 -.1420
	270.000 -.1450
MACH ( 2) = 2.999 BETAT ( 2) = -4.260	X/LS .985 1.000
	PHI
	.000 -.1450 -.1370
	90.000 -.1430
	180.000 -.1450
	270.000 -.1460
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LS .985 1.000
	PHI
	.000 -.1470 -.1360
	90.000 -.1430
	180.000 -.1480
	270.000 -.1490
MACH ( 2) = 2.999 BETAT ( 4) = 4.390	X/LS .985 1.000
	PHI
	.000 -.1390 -.1360
	90.000 -.1390
	180.000 -.1410
	270.000 -.1400
MACH ( 2) = 2.999 BETAT ( 5) = 8.720	X/LS .985 1.000
	PHI
	.000 -.1390 -.1360
	90.000 -.1370
	180.000 -.1390
	270.000 -.1390
MACH ( 3) = 3.502 BETAT ( 1) = -8.730	X/LS .985 1.000
	PHI
	.000 -.1090 -.1090
	90.000 -.1110
	180.000 -.1090
	270.000 -.1100

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX18)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	X/LS .985 1.000 PHI .000 -.1110 -.0990 90.000 -.1100 180.000 -.1110 270.000 -.1120
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	X/LS .985 1.000 PHI .000 -.1100 -.0990 90.000 -.1100 180.000 -.1090 270.000 -.1100
MACH ( 3) = 3.502 BETAT ( 4) = .060	X/LS .985 1.000 PHI .000 -.1100 -.0970 90.000 -.1090 180.000 -.1100 270.000 -.1110
MACH ( 3) = 3.502 BETAT ( 5) = 4.470	X/LS .985 1.000 PHI .000 -.1080 -.0960 90.000 -.1080 180.000 -.1080 270.000 -.1080
MACH ( 3) = 3.502 BETAT ( 6) = 6.670	X/LS .985 1.000 PHI .000 -.1080 -.0970 90.000 -.1050 180.000 -.1070 270.000 -.1090
MACH ( 3) = 3.502 BETAT ( 7) = 8.870	X/LS .985 1.000 PHI .000 -.1060 -.0960 90.000 -.1020 180.000 -.1050 270.000 -.1060



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RDNX10) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.430	X/LS	.985	1.000
	PHI		
	.000	-.1970	-.1900
	90.000	-.1910	
	180.000	-.1940	
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.310	X/LS	.985	1.000
	PHI		
	.000	-.1970	-.1910
	90.000	-.1910	
	180.000	-.1930	
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.180	X/LS	.985	1.000
	PHI		
	.000	-.2020	-.1940
	90.000	-.1950	
	180.000	-.2000	
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1990	-.1920
	90.000	-.1920	
	180.000	-.1970	
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.300	X/LS	.985	1.000
	PHI		
	.000	-.1840	-.1820
	90.000	-.1840	
	180.000	-.1860	
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.430	X/LS	.985	1.000
	PHI		
	.000	-.1760	-.1740
	90.000	-.1750	
	180.000	-.1780	
	270.000	-.1800	

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX19)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 7) = 8.550	X/LS	.985	1.000
	PHI		
	.000	-.1550	-.1540
	90.000	-.1580	
	180.000	-.1590	
	270.000	-.1570	
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1340
	90.000	-.1420	
	180.000	-.1410	
	270.000	-.1440	
MACH ( 2) = 2.999 BETAT ( 2) = -4.260	X/LS	.985	1.000
	PHI		
	.000	-.1440	-.1360
	90.000	-.1430	
	180.000	-.1430	
	270.000	-.1460	
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1360
	90.000	-.1430	
	180.000	-.1410	
	270.000	-.1430	
MACH ( 2) = 2.999 BETAT ( 4) = 4.380	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1360
	90.000	-.1400	
	180.000	-.1410	
	270.000	-.1410	
MACH ( 2) = 2.999 BETAT ( 5) = 8.710	X/LS	.985	1.000
	PHI		
	.000	-.1230	-.1210
	90.000	-.1230	
	180.000	-.1250	
	270.000	-.1220	
MACH ( 3) = 3.502 BETAT ( 1) = -8.740	X/LS	.985	1.000
	PHI		
	.000	-.1080	-.0970
	90.000	-.1090	
	180.000	-.1060	
	270.000	-.1080	

## AMES 87-707 IA9 02A + S3 + T9 SRM BOOSTER BASE

(RBNX19)

## SECTION ( 1 ) SRM BOOSTER BASE

## DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.540	X/LS	.985	1.000
	PHI		
	.000	-.1040	-.0950
	90.000	-.1050	
	180.000	-.1030	
	270.000	-.1070	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.340	X/LS	.985	1.000
	PHI		
	.000	-.1060	-.0960
	90.000	-.1080	
	180.000	-.1080	
	270.000	-.1100	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1090	-.0990
	90.000	-.1110	
	180.000	-.1110	
	270.000	-.1100	
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460	X/LS	.985	1.000
	PHI		
	.000	-.1100	-.0980
	90.000	-.1100	
	180.000	-.1090	
	270.000	-.1110	
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.660	X/LS	.985	1.000
	PHI		
	.000	-.1080	-.0980
	90.000	-.1100	
	180.000	-.1120	
	270.000	-.1110	
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.860	X/LS	.985	1.000
	PHI		
	.000	-.0990	-.0910
	90.000	-.0980	
	180.000	-.0990	
	270.000	-.0990	

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX20) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDEFLR = .000

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.410	X/LS .985 1.000 PHI .000 -.1930 -.1860 90.000 -.1900 180.000 -.1880 270.000 -.1950
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.290	X/LS .985 1.000 PHI .000 -.1910 -.1850 90.000 -.1840 180.000 -.1820 270.000 -.1870
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.170	X/LS .985 1.000 PHI .000 -.1910 -.1860 90.000 -.1880 180.000 -.1880 270.000 -.1940
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	X/LS .985 1.000 PHI .000 -.1900 -.1830 90.000 -.1890 180.000 -.1890 270.000 -.1890
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.310	X/LS .985 1.000 PHI .000 -.1740 -.1730 90.000 -.1730 180.000 -.1760 270.000 -.1750
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.430	X/LS .985 1.000 PHI .000 -.1740 -.1730 90.000 -.1700 180.000 -.1740 270.000 -.1770

## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX20)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.499 BETAT ( 7) = 8.560	X/LS	.985	1.000
	PHI		
	.000	-.1750	-.1690
	90.000	-.1720	
	180.000	-.1740	
	270.000	-.1780	
MACH ( 2) = 2.999 BETAT ( 1) = -8.570	X/LS	.985	1.000
	PHI		
	.000	-.1390	-.1310
	90.000	-.1360	
	180.000	-.1330	
	270.000	-.1390	
MACH ( 2) = 2.999 BETAT ( 2) = -4.250	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1370
	90.000	-.1450	
	180.000	-.1430	
	270.000	-.1440	
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1430	-.1360
	90.000	-.1410	
	180.000	-.1400	
	270.000	-.1410	
MACH ( 2) = 2.999 BETAT ( 4) = 4.390	X/LS	.985	1.000
	PHI		
	.000	-.1380	-.1340
	90.000	-.1370	
	180.000	-.1380	
	270.000	-.1380	
MACH ( 2) = 2.999 BETAT ( 5) = 8.720	X/LS	.985	1.000
	PHI		
	.000	-.1330	-.1270
	90.000	-.1330	
	180.000	-.1300	
	270.000	-.1340	
MACH ( 3) = 3.542 BETAT ( 1) = -8.720	X/LS	.985	1.000
	PHI		
	.000	-.0980	-.0920
	90.000	-.0990	
	180.000	-.0970	
	270.000	-.1020	

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX2!)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.530	X/LS	.985	1.000
	PHI		
	.000	-.1040	-.0940
	90.000	-.1050	
	180.000	-.1010	
	270.000	-.1040	
MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330	X/LS	.985	1.000
	PHI		
	.000	-.1050	-.0950
	90.000	-.1070	
	180.000	-.1070	
	270.000	-.1070	
MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1070	-.0940
	90.000	-.1080	
	180.000	-.1070	
	270.000	-.1100	
MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460	X/LS	.985	1.000
	PHI		
	.000	-.1070	-.0970
	90.000	-.1090	
	180.000	-.1100	
	270.000	-.1110	
MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.670	X/LS	.985	1.000
	PHI		
	.000	-.1020	-.0930
	90.000	-.1040	
	180.000	-.1050	
	270.000	-.1010	
MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.870	X/LS	.985	1.000
	PHI		
	.000	-.0970	-.0900
	90.000	-.0960	
	180.000	-.0940	
	270.000	-.0940	

AMES 87-707 IA9 OZA + S3 + T9 SRM BOOSTER BASE

(RBNX21) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORDINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.499 BETAT ( 1) = -8.390	X/LS .985 1.000 PHI .000 -1.1870 -1.1810 90.000 -1.1840 180.000 -1.1770 270.000 -1.1870
MACH ( 1) = 2.499 BETAT ( 2) = -6.280	X/LS .985 1.000 PHI .000 -1.1860 -1.1820 90.000 -1.1820 180.000 -1.1780 270.000 -1.1880
MACH ( 1) = 2.499 BETAT ( 3) = -4.170	X/LS .985 1.000 PHI .000 -1.1880 -1.1840 90.000 -1.1850 180.000 -1.1810 270.000 -1.1890
MACH ( 1) = 2.499 BETAT ( 4) = .060	X/LS .985 1.000 PHI .000 -1.1880 -1.1820 90.000 -1.1890 180.000 -1.1890 270.000 -1.1890
MACH ( 1) = 2.499 BETAT ( 5) = 4.310	X/LS .985 1.000 PHI .000 -1.1800 -1.1790 90.000 -1.1760 180.000 -1.1790 270.000 -1.1800
MACH ( 1) = 2.498 BETAT ( 6) = 6.440	X/LS .985 1.000 PHI .000 -1.1800 -1.1750 90.000 -1.1710 180.000 -1.1790 270.000 -1.1790

## AMES 87-717 IA9 O2A + S3 + T9 SRM BOOSTER BASE

(RBNX21)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.499 BETAT ( 7) = 8.575	X/LS	.985	1.000
	PHI		
	.000	-.1740	-.1720
	90.000	-.1690	
	180.000	-.1750	
	270.000	-.1760	
MACH ( 2) = 2.999 BETAT ( 1) = -8.550	X/LS	.985	1.000
	PHI		
	.000	-.1320	-.1250
	90.000	-.1320	
	180.000	-.1300	
	270.000	-.1330	
MACH ( 2) = 2.999 BETAT ( 2) = -4.240	X/LS	.985	1.000
	PHI		
	.000	-.1350	-.1290
	90.000	-.1390	
	180.000	-.1370	
	270.000	-.1390	
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LS	.985	1.000
	PHI		
	.000	-.1420	-.1360
	90.000	-.1420	
	180.000	-.1420	
	270.000	-.1410	
MACH ( 2) = 2.999 BETAT ( 4) = 4.400	X/LS	.985	1.000
	PHI		
	.000	-.1360	-.1320
	90.000	-.1360	
	180.000	-.1380	
	270.000	-.1390	
MACH ( 2) = 2.999 BETAT ( 5) = 8.730	X/LS	.985	1.000
	PHI		
	.000	-.1320	-.1280
	90.000	-.1320	
	180.000	-.1320	
	270.000	-.1310	
MACH ( 3) = 3.502 BETAT ( 1) = -8.710	X/LS	.985	1.000
	PHI		
	.000	-.0960	-.0870
	90.000	-.0960	
	180.000	-.0940	
	270.000	-.0960	



## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX21)

SECTION ( 1)SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 2) = -6.510	X/LS .985 1.000
	PHI
	.000 -.0950 -.0860
	90.000 -.0980
	180.000 -.0960
270.000 -.0990	
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	X/LS .985 1.000
	PHI
	.000 -.1000 -.0920
	90.000 -.1010
	180.000 -.1010
270.000 -.1030	
MACH ( 3) = 3.502 BETAT ( 4) = .060	X/LS .985 1.000
	PHI
	.000 -.1060 -.0950
	90.000 -.1090
	180.000 -.1080
270.000 -.1080	
MACH ( 3) = 3.502 BETAT ( 5) = 4.470	X/LS .985 1.000
	PHI
	.000 -.1070 -.0950
	90.000 -.1080
	180.000 -.1080
270.000 -.1070	
MACH ( 3) = 3.502 BETAT ( 6) = 6.670	X/LS .985 1.000
	PHI
	.000 -.1040 -.0940
	90.000 -.1030
	180.000 -.1040
270.000 -.1040	
MACH ( 3) = 3.502 BETAT ( 7) = 8.890	X/LS .985 1.000
	PHI
	.000 -.0980 -.0900
	90.000 -.1000
	180.000 -.0980
270.000 -.0980	

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER BASE

(RBNX22) ( 11 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.370	X/LS .985 1.000 PHI .000 -.1870 -.1790 90.000 -.1830 180.000 -.1760 270.000 -.1860
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.260	X/LS .985 1.000 PHI .000 -.1850 -.1800 90.000 -.1800 180.000 -.1780 270.000 -.1850
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.150	X/LS .985 1.000 PHI .000 -.1860 -.1820 90.000 -.1840 180.000 -.1820 270.000 -.1870
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	X/LS .985 1.000 PHI .000 -.1910 -.1810 90.000 -.1900 180.000 -.1910 270.000 -.1900
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.330	X/LS .985 1.000 PHI .000 -.1830 -.1750 90.000 -.1770 180.000 -.1830 270.000 -.1820
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.460	X/LS .985 1.000 PHI .000 -.1780 -.1740 90.000 -.1720 180.000 -.1770 270.000 -.1790

AMES 87-757 IA9 Q2A + S3 + T9 SRM BOOSTER BASE

(RBNX22)

SECTION ( 1 ) SRM BOOSTER BASE	DEPENDENT VARIABLE CP				
MACH ( 1 ) = 2.499 BETAT ( 7 ) = 8.600	X/LS	.985	1.000		
	PHI				
	.000	-.1750	-.1710		
	90.000	-.1700			
	180.000	-.1740			
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.530	X/LS	.985	1.000		
	PHI				
	.000	-.1300	-.1240		
	90.000	-.1330			
	180.000	-.1300			
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -4.230	X/LS	.985	1.000		
	PHI				
	.000	-.1350	-.1290		
	90.000	-.1370			
	180.000	-.1370			
MACH ( 2 ) = 2.999 BETAT ( 3 ) = .060	X/LS	.985	1.000		
	PHI				
	.000	-.1390	-.1310		
	90.000	-.1410			
	180.000	-.1410			
MACH ( 2 ) = 2.999 BETAT ( 4 ) = 4.400	X/LS	.985	1.000		
	PHI				
	.000	-.1370	-.1310		
	90.000	-.1350			
	180.000	-.1370			
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 8.750	X/LS	.985	1.000		
	PHI				
	.000	-.1280	-.1260		
	90.000	-.1250			
	180.000	-.1260			
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.680	X/LS	.985	1.000		
	PHI				
	.000	-.0960	-.0860		
	90.000	-.0980			
	180.000	-.0970			
			270.000	-.0980	

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS(1) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

BETAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 ALPHAT( 1 ) = -8.100

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6760	.0680	.0310	-.1470	-.0800	-.1060	-.1240	-.1320	-.1320	-.1430	-.1620	-.1320	-.0780	.0320	-.0960
45.000		.1050	.0900	-.1290	-.1330	-.0830							-.1020	-.0750	-.0650
90.000		.1620	.1740	-.1000	-.1040	-.0900	-.0910	-.1140	-.1440	-.1480	-.1320	-.1470	-.1070	-.0490	-.0250
135.000		.2930	.2860	-.0540	-.0490	-.0180							-.1030	.0370	.0130
180.000	1.6760	.4130	.3770	-.0080	.0440	.0530	.1490	.0520	.0650	.0120	.0460	-.0260	-.0780	.0750	-.0220
225.000		.3350	.4980	.1590	.1760	.0140	.1380						-.1190	-.0350	-.0520
270.000		.1470	1.0840	.4030	-.0130	-.1170	-.0110	-.0650			-.0130	-.1620	-.0810	.0160	.0680
315.000		.0530	.1050	-.0770	-.1670	-.2100	-.1870						-.0590	.0840	.0790

X/LS .9670

PHI

.000 - .1000  
 45.000 - .0500  
 90.000 - .0080  
 135.000 - .0200  
 180.000 .3320  
 225.000 .1000  
 270.000 .0880  
 315.000 .1350

MACH ( 1 ) = 2.498

ALPHAT( 2 ) = -6.070

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7070	.0930	.0590	-.1330	-.0790	-.0970	-.1080	-.1080	-.0720	-.0720	-.0820	-.0790	-.0660	.0640	.0340
45.000		.1260	.1160	-.1210	-.1200	-.0730							-.0540	-.0050	.0270
90.000		.1760	.1840	-.0940	-.0940	-.0760	-.0670	-.0730	-.0980	-.1340	-.1320	-.1290	-.0690	.0060	.0380
135.000		.2700	.2590	-.0650	-.0550	-.0310							-.0820	.0890	.0360
180.000	1.7070	.3530	.3130	-.0330	.0120	.0270	.1430	.0470	.0640	-.0080	-.0250	-.0250	-.0760	.0930	-.0160
225.000		.2970	.4240	.1070	.1360	-.0200	.1190						-.1230	-.0320	-.0430
270.000		.1510	.9730	.4260	-.0160	-.1380	-.0480	-.0730			-.0080	-.1460	-.0770	.0900	.0630
315.000		.0860	.1460	-.0420	-.1410	-.2050	-.1770						-.0810	.0150	.0580

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS:1)

MACH ( 1 ) = 2.498

ALPHAT ( 2 ) = -6.070

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.0230
45.000	.0520
90.000	.0490
135.000	-.0020
180.000	.2980
225.000	.0470
270.000	.0730
315.000	.1090

MACH ( 1 ) = 2.498

ALPHAT ( 3 ) = -4.030

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.7320	.1260	.0900	-.1240	-.0880	-.0880	-.0980	-.0750	-.0300	-.0080	-.0410	-.0540	.0260	.0860	.0780
45.000		.1490	.1410	-.1070	-.1040	-.0630							.0360	.0860	.1250
90.000		.1840	.1910	-.0870	-.0880	-.0630	-.0460	-.0300	-.0540	-.0890	-.0990	-.0780	.0250	.1480	.1500
135.000		.2480	.2360	-.0720	-.0630	-.0380							-.0460	.1480	.0830
180.000	1.7320	.3040	.2610	-.0590	-.0130	.0070	.1250	.0320	.0710	-.0110	-.0370	-.0170	-.0560	.1200	-.0020
225.000		.2590	.3600	.0690	.1010	-.0560	.0970						-.1090	-.0170	-.0090
270.000		.1550	.8380	.4410	-.0100	-.1520	-.0800	-.0790			-.0060	-.1040	-.0480	.1300	.0200
315.000		.1150	.1640	.0060	-.0980	-.1950	-.1500						-.0630	.0380	.0410

X/LS .9670

PHI

.000	.0690
45.000	.1360
90.000	.1450
135.000	.0370
180.000	.1320
225.000	-.0130
270.000	.0650
315.000	.0980

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 1 ) = 2.498

ALPHAT ( 4 ) = -2.000

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7450	.1610	.1270	-.1140	-.0790	-.0650	-.0920	-.0670	-.0110	.0040	-.0200	-.0400	.0310	.0740	.0990
45.000		.1710	.1610	-.1030	-.0960	-.0570							.0980	.1880	.2180
90.000		.1870	.1960	-.0870	-.0850	-.0600	-.0380	-.0180	-.0330	-.0480	-.0450	-.0160	.0690	.2480	.2440
135.000		.2230	.2110	-.0820	-.0750	-.0550							.0130	.2400	.1590
180.000	1.7450	.2510	.2100	-.0790	-.0420	-.0300	-.0430	.0160	.0770	-.0150	-.0340	.0140	-.0390	.1470	.0290
225.000		.2240	.2960	.0170	.0540	-.0860	.0760						-.0960	-.0020	.0150
270.000		.1610	.7670	.4480	-.0060	-.1640	-.1090	-.0950			-.0190	-.0960	-.0150	.0930	.0260
315.000		.1480	.1800	.0250	-.0490	-.1530	-.1330						-.0170	.0440	.1100

X/LS .9670

PHI	
.000	.1210
45.000	.2180
90.000	.2210
135.000	.0940
180.000	-.0460
225.000	-.0220
270.000	.1490
315.000	.0890

MACH ( 1 ) = 2.498

ALPHAT ( 5 ) = .000

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7500	.2020	.1640	-.0970	-.0730	-.0480	-.0760	-.0600	-.0040	.0000	-.0120	-.0340	.0610	.1670	.1800
45.000		.1960	.1900	-.0890	-.0880	-.0530							.1370	.2080	.2390
90.000		.1920	.2000	-.0810	-.0840	-.0530	-.0320	-.0270	-.0080	.0040	-.0070	.0310	.1560	.3210	.3190
135.000		.2010	.1900	-.0890	-.0810	-.0580							.0810	.3210	.2200
180.000	1.7500	.2090	.1650	-.0970	-.0630	-.0450	-.0740	.0120	.0640	-.0070	-.0160	.0380	-.0050	.1870	.0630
225.000		.1890	.2370	-.0180	.0120	-.1120	-.0490						-.0940	-.0050	.0100
270.000		.1620	.7470	.4490	.0010	-.1660	-.0690	-.0260			-.0270	-.0890	-.0110	.1070	.0490
315.000		.1830	.2260	-.0160	.0020	-.1160	-.1180						-.0080	.0660	.1220

X/LS .9670

PHI	
.000	.1780
45.000	.2450
90.000	.2860
135.000	.1440
180.000	-.0160

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS:(1))

MACH ( 1) = 2.498      ALPHAT( 5) = .000

SECTION ( 1)SRM BOOSTER      DEPENDENT VARIABLE CP

X/LS      .9670

PHI

.000      -.0140  
225.000      .1990  
270.000      .1160  
315.000

MACH ( 1) = 2.498      ALPHAT( 6) = 1.930

SECTION ( 1)SRM BOOSTER      DEPENDENT VARIABLE CP

X/LS      .0000   .0341   .0967   .1138   .1422   .1991   .2844   .3697   .4835   .5973   .7110   .8248   .8817   .9044   .9386

PHI

.000      1.7530   .2490   .2070   -.0820   -.0510   -.0250   -.0610   -.0530   .0100   .0020   -.0030   -.0230   .0990   .2140   .2300  
45.000           .2170   .2140   -.0810   -.0750   -.0400                                      .1720   .2580   .2780  
90.000           .1890   .2000   -.0830   -.0820   -.0570   -.0370   -.0330   .0010   .0280   .0100   .0440   .2050   .3330   .3280  
135.000           .1760   .1640   -.0980   -.0950   -.0640                                      .1330   .3850   .2800  
180.000      1.7530   .1710   .1280   -.1110   -.0780   -.0620   -.0880   .0280   .0550   -.0110   -.0030   .0550   .0230   .2330   .0900  
225.000           .1580   .1930   -.0110   -.0380   -.1490   -.1080                                      -.0660   .0170   .0200  
270.000           .1630   .7370   .4440   .0010   -.1600   -.1250   .0520                       -.0220   -.0900   -.0070   .0720   .0450  
315.000           .2220   .2880   .0190   .0560   -.0860   -.0980                                      .0320   .1300   .1630

X/LS      .9670

PHI

.000      .2350  
45.000      .2770  
90.000      .3030  
135.000      .1940  
180.000      .0010  
225.000      -.0100  
270.000      .0900  
315.000      .1650

MACH ( 1) = 2.498      ALPHAT( 7) = 3.900

SECTION ( 1)SRM BOOSTER      DEPENDENT VARIABLE CP

X/LS      .0000   .0341   .0967   .1138   .1422   .1991   .2844   .3697   .4835   .5973   .7110   .8248   .8817   .9044   .9386

PHI

.000      1.7410   .2960   .2580   -.0680   -.0380   .0130   -.0410   -.0350   .0120   .0050   -.0030   -.0120   .1230   .2680   .2760  
45.000           .2380   .2400   -.0790   -.0790   -.0320                                      .1990   .2860   .3110  
90.000           .1830   .1960   -.0970   -.0960   -.0600   -.0420   -.0490   -.0150   .0300   .0070   .0610   .2450   .2970   .3030  
135.000           .1540   .1330   -.1180   -.0970   -.0640                                      .1270   .3970   .3240  
180.000      1.7410   .1340   .0820   -.1360   -.0810   -.0780   -.0930   .0300   .0520   -.0030   .0250   .0690   .0390   .2630   .1110  
225.000           .1230   .1500   -.0030   -.0830   -.1870   -.1310                                      -.0640   .0150   .0280

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 1 ) = 2.498

ALPHA( 7 ) = 3.900

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.1580	.7410	.4280	.0030	-.1480	-.1510	.0550			.0220	-.0780	-.0110	.0370	.0310
315.000		.2560	.3350	.0540	.1030	-.0570	-.0670						.0580	.1740	.1940

X/LS .9670

PHI

.000	.2670
45.000	.3120
90.000	.2800
135.000	.2320
180.000	.0290
225.000	-.0020
270.000	.1420
315.000	.2000

MACH ( 1 ) = 2.498

ALPHA( 8 ) = 5.950

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7240	.3480	.3200	-.0360	-.0020	.0300	-.0170	-.0120	.0220	.0180	-.0050	-.0110	.1420	.3160	.3170
45.000		.2630	.2700	-.0620	-.0580	-.0200							.2120	.3060	.3130
90.000		.1760	.1910	-.0910	-.0930	-.0690	-.0590	-.0720	-.0600	.0150	-.0020	.0770	.2460	.3000	.2860
135.000		.1320	.1170	-.1170	-.1110	-.0690							.1420	.4810	.4150
180.000	1.7240	.0990	.0530	-.1360	-.0870	-.0900	-.0980	.0140	.0490	.0060	.0540	.0980	.0540	.3000	.1490
225.000		.0920	.1470	-.0360	-.1260	-.1980	-.1650						-.0540	.0390	.0220
270.000		.1580	.7980	.4170	.0040	-.1330	-.1320	.0520			.0590	-.0590	.0190	.0580	.0730
315.000		.3030	.4010	.1120	.1490	-.0220	-.0290						.0720	.2050	.2360

X/LS .9670

PHI

.000	.3070
45.000	.3100
90.000	.2860
135.000	.2920
180.000	.0620
225.000	-.0030
270.000	.1750
315.000	.2620



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS:1)

MACH ( 1 ) = 2.498

ALPHAT ( 9 ) = 8.010

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6940	.4060	.3760	-.0080	.0300	.0540	.0090	.0120	.0250	.0320	.0020	-.0210	.1520	.3410	.3500
45.000		.2900	.2940	-.0490	-.0470	-.0100							.2130	.3120	.3170
90.000		.1630	.1740	-.0940	-.0960	-.0820	-.0830	-.1070	-.0910	-.0120	-.0270	.0700	.2260	.2880	.2370
135.000		.1080	.0910	-.1300	-.1190	-.0830							.1480	.5300	.3550
180.000	1.6940	.0720	.0230	-.1400	-.0640	-.1020	-.1130	-.0110	.0290	-.0060	.1180	.1080	.0730	.3000	.1560
225.000		.0620	.1070	-.0650	-.1600	-.2020	-.1600						-.0360	.0470	.0130
270.000		.1480	.9250	.3960	.0030	-.1180	-.1130	.0010			.0910	-.0460	.0510	.1000	.1090
315.000		.3360	.4690	.1520	.1850	.0170	.0050						.1020	.2500	.2980

X/LS .9670

## PHI

.000	.3500
45.000	.3060
90.000	.2700
135.000	.2070
180.000	.0580
225.000	.0120
270.000	.2080
315.000	.3110

MACH ( 2 ) = 2.999

ALPHAT ( 1 ) = -8.070

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8240	.0770	.0260	-.1270	-.0990	-.0910	-.0950	-.1100	-.1230	-.1250	-.1400	-.1280	-.0960	.0090	-.0870
45.000		.1030	.0890	-.1030	-.1110	-.0600							-.0880	-.0190	-.0760
90.000		.1500	.1580	-.0810	-.0920	-.0690	-.0720	-.0900	-.1210	-.1370	-.1240	-.1230	-.0970	.0090	-.0380
135.000		.2770	.2640	-.0440	-.0490	-.0290							-.0040	.1400	.0370
180.000	1.8240	.4070	.3390	-.0160	.0290	.0620	.1460	.0370	.0460	.0020	-.0050	.0220	.0340	.1810	.0320
225.000		.3530	.3540	.0650	.2430	.0330	.1780						-.0100	.0600	-.0590
270.000		.1770	.5530	.4630	.0730	-.0700	-.0260	-.0340			-.0260	-.1040	-.0530	-.0200	-.0150
315.000		.0830	.0270	-.0550	-.1040	-.1490	-.1560						-.0250	.0500	.0220

X/LS .9670

## PHI

.000	-.0730
45.000	-.0700
90.000	-.0300
135.000	.0130
180.000	.0250

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 2 ) = 2.999                   ALPHAT( 1 ) = -8.070

SECTION ( 1 ) SRM BOOSTER                   DEPENDENT VARIABLE CP

X/LS           .9670

PHI

225.000   -.0740  
270.000   .0330  
315.000   .0280

MACH ( 2 ) = 2.999                   ALPHAT( 2 ) = -6.100

SECTION ( 1 ) SRM BOOSTER                   DEPENDENT VARIABLE CP

X/LS           .0000   .0341   .0967   .1138   .1422   .1991   .2844   .3697   .4835   .5973   .7110   .8248   .8817   .9044   .9386

PHI

.000	1.8530	.0990	.0490	-.1280	-.1120	-.0820	-.0850	-.0940	-.0970	-.0890	-.1020	-.1170	-.1020	.0460	.0050
45.000		.1200	.1090	-.1050	-.1110	-.0620							-.0770	.0250	-.0090
90.000		.1570	.1660	-.0840	-.0910	-.0640	-.0620	-.0640	-.0970	-.1160	-.1240	-.1180	-.0770	.0210	.0170
135.000		.2490	.2330	-.0580	-.0650	-.0410							.0030	.1370	.0680
180.000	1.8530	.3510	.2780	-.0420	.0040	.0310	-.0100	.0280	.0320	-.0080	-.0220	.0080	.0010	.1800	.0280
225.000		.3130	.2970	.0200	.2120	.0030	.1630						-.0320	.0420	-.0620
270.000		.1790	.4740	.4710	.0740	-.0840	-.0730	-.0500			-.0280	-.1020	-.0420	-.0260	.0350
315.000		.1070	.0400	-.0550	-.0780	-.1450	-.1540						-.0460	.0120	-.0250

X/LS           .9670

PHI

.000       .0310  
45.000     .0230  
90.000     .0260  
135.000    .0380  
180.000    -.0180  
225.000    -.0670  
270.000    .0640  
315.000    .0460

MACH ( 2 ) = 2.999                   ALPHAT( 3 ) = -4.070

SECTION ( 1 ) SRM BOOSTER                   DEPENDENT VARIABLE CP

X/LS           .0000   .0341   .0967   .1138   .1422   .1991   .2844   .3697   .4835   .5973   .7110   .8248   .8817   .9044   .9386

PHI

.000	1.8600	.1260	.0800	-.0930	-.0800	-.0640	-.0740	-.0800	-.0580	-.0390	-.0400	-.0530	-.0160	.1570	.0800
45.000		.1360	.1310	-.0730	-.0800	-.0560							.0060	.1160	.0980
90.000		.1640	.1730	-.0560	-.0650	-.0540	-.0510	-.0410	-.0600	-.0700	-.0900	-.0940	-.0090	.0990	.0910
135.000		.2240	.2210	-.0440	-.0510	-.0450							.0390	.2280	.1000
180.000	1.8600	.2990	.2420	-.0420	-.0150	.0040	-.0240	.0360	.0320	-.0030	-.0350	.0280	.0330	.2170	.0440
225.000		.2730	.2580	.0090	.1750	-.0230	-.0300						-.0140	.0570	-.0490

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 2 ) = 2.999

ALPHAT( 3 ) = -4.070

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

270.000		.1800	.4280	.4670	.0760	-.0920	-.0980	-.0550			-.0190	-.0620	-.0120	.0460	.0300
315.000		.1350	.0850	-.0440	-.0370	-.1290	-.1340						-.0370	-.0120	.0220

X/LS .9670

## PHI

.000	.0770
45.000	.1190
90.000	.0930
135.000	.0660
180.000	-.0080
225.000	-.0490
270.000	.0480
315.000	.0320

MACH ( 2 ) = 2.999

ALPHAT( 4 ) = -2.000

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	1.8970	.1640	.1120	-.0830	-.0670	-.0590	-.0670	-.0770	-.0410	-.0160	-.0280	-.0330	.0170	.1270	.0670
45.000		.1580	.1530	-.0630	-.0740	-.0490							.0650	.2140	.1810
90.000		.1680	.1780	-.0540	-.0620	-.0500	-.0380	-.0370	-.0360	-.0470	-.0550	-.0350	.0390	.2720	.2210
135.000		.2030	.2030	-.0520	-.0590	-.0490							.0950	.2700	.1700
180.000	1.8970	.2540	.1990	-.0570	-.0330	-.0240	-.0410	.0380	.0300	-.0010	-.0390	.0440	.0460	.2470	.0630
225.000		.2410	.2130	-.0130	.1190	-.0470	-.0740						-.0390	.0730	-.0270
270.000		.1850	.3610	.4820	.0860	-.0980	-.1150	-.0720			-.0340	-.0640	.0090	.0590	.0120
315.000		.1670	.1280	-.0380	.0100	-.1040	-.1200						.0170	.0170	.0170

X/LS .9670

## PHI

.000	.0700
45.000	.1890
90.000	.2030
135.000	.1230
180.000	.0090
225.000	-.0360
270.000	.0280
315.000	.0970

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 2) = 2.999

ALPHAT( 5) = -.010

SECTION ( 1)SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9100	.2050	.1550	-.0700	-.0550	-.0560	-.0550	-.0620	-.0220	-.0110	-.0210	-.0310	-.0130	.2190	.1830
45.000		.1810	.1790	-.0560	-.0660	-.0430							.0910	.1930	.1680
90.000		.1730	.1790	-.0500	-.0580	-.0440	-.0330	-.0250	-.0160	-.0110	-.0140	.0040	.0920	.3040	.2930
135.000		.1840	.1810	-.0580	-.0640	-.0490							.1290	.3970	.2500
180.000	1.9100	.2080	.1570	-.0710	-.0480	-.0560	-.0550	.0490	.0460	.0080	-.0150	.0610	.0800	.2800	.0890
225.000		.2080	.1720	-.0260	.0640	-.0740	-.0980						-.0060	.0860	-.0090
270.000		.1880	.3140	.4710	.0890	-.1000	-.1000	-.0180			-.0260	-.0630	.0130	.0670	-.0280
315.000		.2050	.1710	-.0260	.0610	-.0730	-.0960						-.0040	.0450	.0620

X/LS .9670

PHI	
.000	.1730
45.000	.1940
90.000	.2750
135.000	.1810
180.000	.0260
225.000	-.0270
270.000	.0740
315.000	.0800

MACH ( 2) = 2.999

ALPHAT( 6) = 1.930

SECTION ( 1)SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9090	.2500	.1980	-.0590	-.0400	-.0210	-.0410	-.0480	-.0230	-.0080	-.0160	-.0200	.0590	.2440	.1900
45.000		.2030	.2010	-.0530	-.0620	-.0420							.1250	.2700	.2570
90.000		.1720	.1800	-.0550	-.0630	-.0470	-.0360	-.0300	-.0250	-.0020	.0040	.0170	.1290	.3010	.2790
135.000		.1630	.1540	-.0670	-.0730	-.0490							.1710	.4820	.3130
180.000	1.9090	.1720	.1150	-.0840	-.0620	-.0560	-.0660	.0180	.0490	.0170	-.0200	.0880	.1250	.3110	.1230
225.000		.1760	.1270	-.0410	.0170	-.1000	-.1110						.0080	.1320	.0020
270.000		.1880	.2970	.4730	.0930	-.0970	-.1160	.0050			-.0300	-.0650	.0080	.0670	-.0110
315.000		.2420	.2090	-.0170	.1210	-.0430	-.0750						.0380	.0880	.1130

X/LS .9670

PHI	
.000	.1900
45.000	.2610
90.000	.2870
135.000	.2250
180.000	.0490

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 2) = 2.999

ALPHAT( 6) = 1.930

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0290
270.000	.0850
315.000	.1160

MACH ( 2) = 2.999

ALPHAT( 7) = 3.960

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8940	.3010	.2450	-.0590	-.0370	.0070	-.0250	-.0500	-.0250	.0000	-.0160	-.0220	.0370	.2550	.2180
45.000		.2250	.2250	-.0610	-.0690	-.0420							.1360	.2930	.2590
90.000		.1690	.1750	-.0740	-.0820	-.0540	-.0490	-.0450	-.0510	-.0020	.0080	.0150	.1410	.2760	.2590
135.000		.1440	.1200	-.0880	-.0960	-.0580							.1820	.4130	.3440
180.000	1.8940	.1350	.0660	-.1120	-.0740	-.0620	-.0730	-.0570	.0450	.0230	-.0200	.0860	.1110	.3570	.1600
225.000		.1450	.0740	-.0620	-.0300	-.1240	-.1280						-.0210	.0900	-.0270
270.000		.1880	.2880	.4680	.0910	-.0870	-.1110	-.0490			-.0200	-.0600	.0290	.0650	.0210
315.000		.2800	.2420	-.0160	.1870	-.0190	-.0510						.0310	.1110	.1420

X/LS .9670

PHI

.000	.2180
45.000	.2630
90.000	.2430
135.000	.2670
180.000	.0660
225.000	-.0370
270.000	.1380
315.000	.1890

MACH ( 2) = 2.999

ALPHAT( 8) = 5.990

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8730	.3520	.2930	-.0390	-.0140	.0360	-.0120	-.0150	-.0120	.0070	-.0110	-.0180	-.0090	.3090	.2470
45.000		.2480	.2490	-.0540	-.0580	-.0380								.1230	.3060
90.000		.1620	.1660	-.0750	-.0840	-.0620	-.0610	-.0640	-.0730	-.0130	-.0100	.0110	.1800	.2820	.2150
135.000		.1240	.0980	-.0950	-.1030	-.0560							.1610	.4810	.4910
180.000	1.8730	.1040	.0370	-.1200	-.0850	-.0840	-.0810	-.0740	.0190	.0110	-.0100	.0670	.1270	.3550	.1820
225.000		.1140	.0550	-.0710	-.0680	-.1380	-.1360						.0220	.0500	-.0390

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 2 ) = 2.999

ALPHAT( 8 ) = 5.990

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.1830	.3120	.4480	.0900	-.0790	-.0980	-.0820			-.0170	-.0430	.0650	.1040	.0570
315.000		.3170	.2970	.0080	.2170	.0560	-.0240						.0380	.1480	.1700

X/LS .9670

PHI

.000	.2550
45.000	.2590
90.000	.2420
135.000	.3470
180.000	.0990
225.000	-.0380
270.000	.1800
315.000	.2800

MACH ( 2 ) = 2.999

ALPHAT( 9 ) = 8.000

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8400	.4020	.3500	-.0160	.0090	.0660	.0080	.0050	.0040	.0210	-.0030	-.0100	-.0160	.3130	.2760
45.000		.2710	.2760	-.0440	-.0500	-.0290						.1260	.2830	.2530	
90.000		.1520	.1590	-.0820	-.0910	-.0680	-.0700	-.0840	-.1020	-.0270	-.0200	.0230	.1820	.2470	.1850
135.000		.1040	.0750	-.1030	-.1120	-.0630							.1780	.4270	.3950
180.000	1.8400	.0780	.0060	-.1290	-.0890	-.0860	-.0880	-.0600	.0060	-.0210	-.0380	.0390	.1080	.3040	.1760
225.000		.0860	.0400	-.0710	-.0960	-.1480	-.1310						.0210	.0610	-.0090
270.000		.1760	.3800	.4400	.0850	-.0680	-.0820	-.0680			-.0100	-.0380	.0640	.1470	.0840
315.000		.3540	.3550	.0460	.2630	.0340	.0050						.0280	.1740	.2010

X/LS .9670

PHI

.000	.2890
45.000	.2570
90.000	.1770
135.000	.2350
180.000	.1020
225.000	-.0060
270.000	.1290
315.000	.3090

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 3 ) = 3.502

ALPHAT ( 1 ) = -8.080

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9640	.0930	.0360	-.0800	-.0680	-.0730	-.0730	-.0780	-.0800	-.0840	-.0950	-.0960	-.0940	-.0080	-.0700
45.000		.1120	.0990	-.0590	-.0660	-.0490							-.0870	.0290	-.0720
90.000		.1570	.1590	-.0410	-.0510	-.0540	-.0590	-.0570	-.0870	-.0990	-.0970	-.0940	-.1040	.0270	-.0320
135.000		.2790	.2790	-.0060	-.0180	-.0150							.0510	.1340	.0600
180.000	1.9640	.4240	.3500	.0180	.0380	.0580	.0190	.0730	.0580	.0280	.0140	.0140	.0510	.2190	.0750
225.000		.3780	.3180	.0460	.0960	.0550	.1780						.0010	.1190	-.0150
270.000		.2060	.2670	.4890	.1300	-.0350	-.0370	-.0010			-.0320	-.0820	-.0070	.0010	-.0080
315.000		.1060	.0320	-.0440	-.0600	-.1070	-.1090						.0130	.0350	.0340

X/LS .9670

PHI

.000	-.0640
45.000	-.0670
90.000	-.0300
135.000	.0400
180.000	.0190
225.000	-.0410
270.000	.0650
315.000	.0490

MACH ( 3 ) = 3.502

ALPHAT ( 2 ) = -6.080

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0000	.1080	.0570	-.0800	-.0670	-.0750	-.0660	-.0690	-.0700	-.0680	-.0790	-.0940	-.0750	.0160	-.0200
45.000		.1230	.1110	-.0590	-.0680	-.0470							-.0660	.0510	-.0340
90.000		.1550	.1630	-.0420	-.0540	-.0500	-.0530	-.0490	-.0710	-.0870	-.0960	-.0890	-.0780	.0540	-.0050
135.000		.2460	.2480	-.0190	-.0330	-.0280							.0550	.1590	.0770
180.000	2.0000	.3600	.2940	-.0080	.0100	.0240	-.0040	.0630	.0450	.0170	-.0100	.0340	.0660	.2190	.0640
225.000		.3320	.2660	.0130	.0420	.0210	-.0150						.0070	.1080	-.0220
270.000		.2020	.2480	.5160	.1280	-.0480	-.0690	-.0240			-.0220	-.0720	.0020	.0030	-.0060
315.000		.1240	.0430	-.0500	-.0430	-.1060	-.1120						.0200	.0180	-.0010

X/LS .9670

PHI

.000	.0000
45.000	-.0110
90.000	.0110
135.000	.0540
180.000	.0130

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 3 ) = 3.502

ALPHAT ( 2 ) = -6.080

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0530

270.000 .0380

315.000 .0180

MACH ( 3 ) = 3.502

ALPHAT ( 3 ) = -4.070

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.0300 .1360 .0820 -.0700 -.0600 -.0640 -.0630 -.0620 -.0540 -.0460 -.0440 -.0520 -.0290 .1180 .0620

45.000 .1350 .1270 -.0510 -.0630 -.0450

90.000 .1590 .1680 -.0390 -.0510 -.0450 -.0400 -.0410 -.0470 -.0570 -.0730 -.0810 -.0570 .1090 .0580

135.000 .2220 .2230 -.0270 -.0410 -.0350 .0550 .2210 .1090

180.000 2.0300 .3080 .2470 -.0270 -.0060 -.0110 -.0210 .0670 .0320 .0160 -.0180 .0420 .0820 .2200 .0640

225.000 .2960 .2240 -.0060 -.0020 -.0020 -.0400 .0080 .1190 -.0270

270.000 .2030 .2360 .4980 .1310 -.0590 -.0840 -.0390 -.0250 -.0650 -.0030 .0480 -.0010

315.000 .1520 .0800 -.0420 -.0110 -.0940 -.1050 .0290 -.0130 .0350

X/LS .9670

PHI

.000 .0640

45.000 .0800

90.000 .0670

135.000 .0690

180.000 .0190

225.000 -.0560

270.000 .0190

315.000 .0100

MACH ( 3 ) = 3.502

ALPHAT ( 4 ) = -2.020

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.0540 .1760 .1210 -.0590 -.0500 -.0470 -.0560 -.0550 -.0360 -.0200 -.0200 -.0290 -.0080 .1410 .0560

45.000 .1580 .1540 -.0430 -.0530 -.0370 .0420 .1540 .1410

90.000 .1680 .1760 -.0310 -.0440 -.0370 -.0330 -.0260 -.0190 -.0350 -.0440 -.0390 .0080 .2020 .1730

135.000 .2050 .2020 -.0300 -.0440 -.0360 .0630 .3080 .1710

180.000 2.0540 .2630 .2050 -.0370 -.0220 -.0200 -.0320 .0550 .0280 .0140 -.0170 .0620 .1110 .2640 .0860

225.000 .2650 .2270 -.0150 -.0220 -.0270 -.0590 .0380 .1250 -.0150



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 3 ) = 3.502

ALPHAT ( 4 ) = -2.020

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.2100	.2140	.4080	.1220	-.0620	-.0890	-.0530			-.0250	-.0450	.0140	.0880	-.0230
315.000		.1890	.1260	-.0340	.0060	-.0750	-.0960						.0320	.0360	.0060

X/LS .9670

PHI

.000	.0630
45.000	.1540
90.000	.1690
135.000	.1220
180.000	.0300
225.000	-.0430
270.000	.0180
315.000	.0330

MACH ( 3 ) = 3.502

ALPHAT ( 5 ) = -.030

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0640	.2170	.1610	-.0480	-.0390	-.0380	-.0400	-.0510	-.0250	-.0150	-.0240	-.0320	-.0220	.1610	.1590
45.000		.1800	.1770	-.0370	-.0510	-.0340							.0450	.2110	.1300
90.000		.1670	.1800	-.0320	-.0440	-.0350	-.0280	-.0220	-.0150	-.0150	-.0140	-.0160	.0310	.2730	.2300
135.000		.1830	.1770	-.0390	-.0510	-.0360							.1220	.3550	.2420
180.000	2.0640	.2220	.1630	-.0490	-.0350	-.0360	-.0430	-.0200	.0190	.0130	-.0120	.0220	.1090	.2900	.1090
225.000		.2280	.1850	-.0300	-.0060	-.0490	-.0770						.0080	.1360	-.0060
270.000		.2110	.2230	.4150	.1160	-.0660	-.0870	-.0240			-.0280	-.0610	.0160	.0760	-.0330
315.000		.2260	.1620	-.0250	.0180	-.0510	-.0770						.0490	.0240	.0210

X/LS .9670

PHI

.000	.1630
45.000	.1570
90.000	.2300
135.000	.1840
180.000	.0470
225.000	-.0330
270.000	.0070
315.000	.0340

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS01)

MACH ( 3) = 3.502

ALPHAT( 6) = 1.950

SECTION ( 1)SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0570	.2570	.2000	-.0390	-.0290	-.0320	-.0300	-.0420	-.0380	-.0120	-.0210	-.0240	.0090	.2080	.1630
45.000		.1980	.1970	-.0320	-.0470	-.0380							.0700	.2530	.2080
90.000		.1650	.1770	-.0340	-.0470	-.0390	-.0310	-.0290	-.0350	-.0130	-.0040	-.0090	.0770	.2650	.2070
135.000		.1610	.1540	-.0440	-.0560	-.0380							.1670	.4290	.3110
180.000	2.0570	.1800	.1190	-.0620	-.0500	-.0490	-.0530	-.0540	.0050	.0190	-.0150	.0440	.1360	.3500	.1370
225.000		.1940	.1290	-.0340	.0150	-.0720	-.0940						.0350	.1450	-.0030
270.000		.2080	.2300	.4080	.1280	-.0650	-.0950	-.0360			-.0260	-.0530	.0370	.0730	-.0240
315.000		.2580	.1820	-.0150	.0120	-.0270	-.0640						.0560	.0660	.0810

X/LS .9670

PHI	
.000	.1630
45.000	.2150
90.000	.2390
135.000	.2400
180.000	.0620
225.000	-.0350
270.000	.0190
315.000	.0820

MACH ( 3) = 3.502

ALPHAT( 7) = 3.960

SECTION ( 1)SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0410	.3080	.2450	-.0440	-.0320	-.0120	-.0240	-.0280	-.0290	-.0050	-.0160	-.0230	.0020	.2340	.1790
45.000		.2220	.2230	-.0450	-.0590	-.0390							.0860	.2700	.2070
90.000		.1610	.1710	-.0560	-.0690	-.0460	-.0390	-.0380	-.0460	-.0230	-.0030	-.0130	.0790	.2410	.2010
135.000		.1440	.1130	-.0730	-.0830	-.0440							.1710	.4260	.3020
180.000	2.0410	.1420	.0660	-.0920	-.0570	-.0740	-.0580	-.0560	-.0050	.0190	-.0110	.0570	.1370	.3280	.1610
225.000		.1640	.0730	-.0660	-.0070	-.0910	-.1010						.0410	.1150	-.0080
270.000		.2060	.2230	.4030	.1370	-.0610	-.0900	-.0690			-.0130	-.0380	.0400	.0830	-.0050
315.000		.2940	.2020	-.0230	-.0100	-.0030	-.0410						.0400	.0980	.0900

X/LS .9670

PHI	
.000	.1850
45.000	.2150
90.000	.1990
135.000	.2630
180.000	.0890





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02) ( 19 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.0000	1.9870	.1890	.1230	-.1100	-.0560	-.0340	-.0950	-.1490	-.1010	-.1150	-.1190	-.1160	-.0970	.0460	-.0770
45.000		.2590	.2340	-.0770	-.0760	-.0430							-.0480	.0020	-.0180
90.000		.3680	.3810	-.0110	-.0080	.0090	.0010	-.0140	-.0200	-.0720	-.0840	-.0890	-.0540	.1310	.1520
135.000		.5000	.4970	.0370	.0440	.0790							.0360	.2920	.2110
180.000	1.9870	.5380	.4710	.0350	.0990	.1160	.0490	.1820	.1870	.0930	.2440	.1100	.0290	.2610	.1230
225.000		.4080	.5530	.2910	.1830	.0200	.2450						-.0910	.0380	-.0290
270.000		.2240	1.2290	.4450	.0060	-.1170	-.0540	.0000			.0410	-.1620	-.1470	-.1120	-.0990
315.000		.1500	.3240	-.0370	-.1480	-.2000	-.1500						-.1330	-.1370	-.0660

X/LS .9670

PHI

.0000 -.0860  
 45.000 -.0010  
 90.000 .1590  
 135.000 .1530  
 180.000 .4700  
 225.000 -.0500  
 270.000 .1300  
 315.000 -.0380

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.280

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.0000	1.9170	.1540	.0960	-.1190	-.0700	-.0560	-.0990	-.1550	-.1230	-.1190	-.1340	-.1420	-.0990	.0390	-.0620
45.000		.2180	.1920	-.0880	-.0910	-.0540							-.0610	-.0100	-.0210
90.000		.3100	.3250	-.0330	-.0310	-.0180	-.0240	-.0290	-.0610	-.1000	-.1110	-.1120	-.0790	.0820	.1020
135.000		.4440	.4390	.0150	.0250	.0480							.0030	.2350	.1620
180.000	1.9170	.5080	.4450	.0260	.0810	.0990	.0740	.1590	.1450	.0600	.1510	.0720	.0060	.2280	.0820
225.000		.3920	.5310	.2710	.1820	.0180	.2230						-.0980	.0220	-.0490
270.000		.2010	1.2160	.4380	.0060	-.1150	-.0230	-.0240			-.0060	-.1610	-.1270	-.0960	-.0520
315.000		.1230	.2590	-.0440	-.1540	-.1990	-.1600						-.0960	-.0650	-.0160

X/LS .9670

AMES 87-7D7 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 1) = 2.498

BETAT ( 2) = -6.280

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	-.0830
45.000	-.0160
90.000	.1110
135.000	.1170
180.000	.4250
225.000	-.0670
270.000	.0680
315.000	-.0310

MACH ( 1) = 2.498

BETAT ( 3) = -4.170

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8410	.1220	.0730	-.1250	-.0750	-.0760	-.1130	-.1540	-.1300	-.1380	-.1460	-.1510	-.1160	-.0720	-.0730
45.000		.1770	.1560	-.1040	-.1070	-.0640							-.0850	-.0420	-.0390
90.000		.2560	.2680	-.0570	-.0550	-.0440	-.0510	-.0590	-.0890	-.1290	-.1350	-.1390	-.0940	.0300	.0440
135.000		.3930	.3820	-.0060	.0020	.0200							-.0290	.1750	.1050
180.000	1.8410	.4750	.4190	.0160	.0670	.0810	.2010	.1210	.1080	.0340	.0870	.0340	-.0160	.1830	.0540
225.000		.3710	.5300	.2080	.1780	.0160	.1870						-.1070	.0100	-.0700
270.000		.1800	1.1950	.4310	-.0030	-.1200	-.0210	-.0400			-.0160	-.1610	-.1290	-.0600	.0120
315.000		.0980	.1980	-.0530	-.1630	-.2040	-.1740						-.0930	.0910	.0170

X/LS .9670

PHI

.000	-.0790
45.000	-.0410
90.000	.0590
135.000	.0710
180.000	.3950
225.000	-.0830
270.000	.0820
315.000	.0350



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU2)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1410  
270.000 .0600  
315.000 .1400

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.320

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5430	.0250	.0010	-.1380	-.1070	-.1240	-.1270	-.0880	-.0450	-.0490	-.0520	-.0710	-.0510	.1850	.1890
45.000		.0500	.0480	-.1390	-.1370	-.0980							-.0600	.0540	-.0380
90.000		.0950	.1040	-.1180	-.1250	-.1210	-.1110	-.1570	-.1690	-.1320	-.1290	-.1480	-.0920	-.0490	-.0470
135.000		.2210	.2260	-.0740	-.0620	-.0500							-.1080	-.0440	-.0700
180.000	1.5430	.3650	.3690	.0170	.0540	.0270	.0840	.0540	.0200	-.0260	.0100	-.0820	-.1140	.0120	-.0620
225.000		.3100	.6580	.0980	.1160	.0330	.1410						-.1150	-.0180	-.0040
270.000		.1210	1.0250	.3880	-.0230	-.1330	-.0120	-.0820			-.0170	-.1390	-.0490	.0320	.0370
315.000		.0240	.1510	-.0800	-.1740	-.2140	-.1930						-.0810	.0170	.0390

X/LS .9670

PHI

.000 .1970  
45.000 -.1020  
90.000 -.0490  
135.000 .0400  
180.000 .2900  
225.000 .2070  
270.000 .1050  
315.000 .0840

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.460

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4820	.0100	.0050	-.1400	-.1200	-.1280	-.1210	-.0860	-.0250	-.0430	-.0530	-.0670	-.0480	.1920	.1810
45.000		.0330	.0280	-.1440	-.1400	-.1000							-.0900	.0560	-.0210
90.000		.0660	.0730	-.1310	-.1400	-.1240	-.1260	-.1680	-.1730	-.1440	-.1300	-.1310	-.0770	-.0300	-.0780
135.000		.1910	.1950	-.0810	-.0810	-.0710							-.0800	-.0390	-.0590
180.000	1.4820	.3490	.3760	.0080	.0240	.0370	.0600	.0610	-.0020	-.0500	-.0040	-.0980	-.1230	-.0090	.0470
225.000		.3020	.4330	.0400	.1510	.1170	.1060						-.1140	-.0180	.0770



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU2)

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.460

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386	
PHI																
270.000	.1140	.6960	.3220	-.0120	-.1000	-.0280	-.0870					-.0330	-.1470	-.0620	.0110	.0340
315.000	.0150	.0280	-.0860	-.1720	-.2080	-.1960							-.0930	-.0030	.0160	
X/LS	.9670															
PHI																
.000	.1750															
45.000	-.0630															
90.000	-.0780															
135.000	.0440															
180.000	.2910															
225.000	.1510															
270.000	.1080															
315.000	.0570															

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.590

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.4160	-.0030	.0000	-.1510	-.1270	-.1370	-.1150	-.0560	-.0220	-.0420	-.0460	-.0600	-.0480	.1550	.1640
45.000	.0100	.0180	-.1450	-.1450	-.1090								-.0470	.1600	.1230
90.000	.0380	.0440	-.1400	-.1450	-.1320	-.1470	-.1700	-.1640	-.1470	-.1180	-.0990	-.0330	.0610	.0020	
135.000	.1560	.1730	-.0940	-.0910	-.0890								-.0750	-.0260	-.0620
180.000	1.4160	.3270	.3720	.0060	.0190	.0650	.0500	.0530	-.0270	-.0620	.0230	-.1050	-.1150	-.0040	.0240
225.000	.3330	.3970	.0200	.1030	.1750	.0870							-.1340	-.0590	.0220
270.000	.2070	.5430	.2770	-.0060	-.0780	-.0360	-.0720				-.0280	-.1320	-.1090	-.0080	.0120
315.000	.0330	.0140	-.0990	-.1640	-.2070	-.1930							-.1150	-.0300	-.0430
X/LS	.9670														
PHI															
.000	.1560														
45.000	.0930														
90.000	-.0330														
135.000	.0460														
180.000	.3230														
225.000	.0710														
270.000	.0570														
315.000	.1220														

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.565

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2450	.1960	.1170	-.0960	-.0590	-.0190	-.0560	-.0960	-.0760	-.0720	-.0940	-.0980	-.0720	.0580	-.0720
45.000		.2600	.2340	-.0480	-.0600	-.0260							-.0420	.0450	-.0160
90.000		.3540	.3740	.0020	-.0020	.0170	.0030	-.0010	-.0110	-.0350	-.0570	-.0580	-.0420	.2040	.1700
135.000		.4910	.4800	.0450	.0430	.0760							.1230	.4100	.2920
180.000	2.2450	.5510	.4450	.0320	.0860	.1180	.0620	.1890	.2030	.1210	.0830	.1560	.1650	.4240	.2050
225.000		.4390	.4280	.1320	.2420	.0490	.0230						.0420	.2080	.0350
270.000		.2550	.7800	.5390	.0970	-.0640	-.0710	.0060			-.0390	-.1030	-.0630	-.0240	-.0800
315.000		.1720	.1740	.0090	-.0840	-.1410	-.1280						-.0300	-.0900	-.0610

X/LS .9670

PHI

.000	-.0620
45.000	-.0010
90.000	.1760
135.000	.2070
180.000	.0930
225.000	-.0010
270.000	-.0170
315.000	-.0390

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1510	.1630	.0920	-.1050	-.0670	-.0430	-.0700	-.0980	-.1000	-.0850	-.1030	-.1100	-.0870	.0550	-.0780
45.000		.2160	.1930	-.0630	-.0730	-.0410							-.0570	.0140	-.0350
90.000		.2970	.3170	-.0200	-.0250	-.0090	-.0230	-.0260	-.0430	-.0660	-.0840	-.0870	-.0610	.1310	.1190
135.000		.4350	.4290	.0230	.0180	.0480							.0670	.3510	.2360
180.000	2.1510	.5160	.4230	.0210	.0670	.0930	.0500	.1510	.1620	.0900	.0530	.1300	.1270	.3660	.1520
225.000		.4220	.4050	.1040	.2450	.0440	.0190						.0310	.1810	.0140
270.000		.2340	.7570	.5270	.0940	-.0650	-.0730	-.0050			-.0490	-.1030	-.0720	-.0400	-.0840
315.000		.1480	.1310	-.0080	-.0910	-.1450	-.1350						-.0510	-.0440	-.0320

X/LS .9670

PHI

.000	-.0730
45.000	-.0230
90.000	.1250
135.000	.1580
180.000	.0680

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0160
270.000	-.0320
315.000	.0000

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.250

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.0490	.1350	.0650	-.0950	-.0670	-.0590	-.0910	-.1000	-.1080	-.1020	-.1110	-.1230	-.1150	-.0120	-.0770
45.000		.1760	.1580	-.0600	-.0690	-.0490							-.0870	.0130	-.0510
90.000		.2460	.2580	-.0270	-.0330	-.0320	-.0400	-.0450	-.0660	-.0890	-.1050	-.1070	-.0830	.0790	.0630
135.000		.3810	.3800	.0170	.0090	.0200							.0660	.2660	.1660
180.000	2.0490	.4810	.4060	.0240	.0560	.0920	.0360	.1120	.1190	.0590	.0290	.0660	.0780	.3510	.1210
225.000		.4010	.3980	.1070	.2490	.0390	.0230						.0160	.1310	.0040
270.000		.2180	.7380	.5180	.0890	-.0650	-.0640	-.0120			-.0430	-.1050	-.0440	-.0440	-.1020
315.000		.1270	.1050	-.0040	-.0960	-.1460	-.1370						-.0620	-.0200	-.0290

X/LS .9670

PHI

.000	-.0850
45.000	-.0350
90.000	.0750
135.000	.1110
180.000	.0480
225.000	-.0350
270.000	-.0080
315.000	-.0310

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.9370	.1050	.0490	-.1120	-.0840	-.0780	-.0860	-.1040	-.1180	-.1160	-.1250	-.1210	-.1040	-.0100	-.0850
45.000		.1370	.1230	-.0850	-.0940	-.0560							-.0990	.0000	-.0540
90.000		.1960	.2070	-.0590	-.0650	-.0500	-.0560	-.0580	-.0920	-.1120	-.1210	-.1210	-.1020	.0290	.0110
135.000		.3260	.3210	-.0170	-.0210	-.0040							.0300	.1910	.1070
180.000	1.9370	.4450	.3730	.0010	.0460	.0780	.0230	.0760	.0810	.0290	.0290	.0260	.0240	.2830	.0840
225.000		.3750	.3840	.0850	.2510	.0350	.2150						-.0210	.0800	-.0290

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS42)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.1970	.6600	.4970	.0800	-.0670	-.0500	-.0220			-.0320	-.1040	-.0470	-.0380	-.0080
315.000		.1020	.0620	-.0310	-.1010	-.1480	-.1440						-.0510	.0450	.0310

X/LS .9670

PHI

.000	-.0700
45.000	-.0560
90.000	.0200
135.000	.0670
180.000	.0180
225.000	-.0610
270.000	.0960
315.000	.0610

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.230

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7080	.0510	.0090	-.1140	-.0900	-.0980	-.0970	-.0960	-.0980	-.0940	-.0960	-.0710	-.0650	.2160	.1510
45.000		.0740	.0650	-.0930	-.0990	-.0670							-.0730	.0460	-.0540
90.000		.1130	.1210	-.0770	-.0840	-.0820	-.0830	-.1040	-.1260	-.1160	-.1040	-.1110	-.0940	-.0150	-.0580
135.000		.2350	.2370	-.0390	-.0460	-.0410							-.0080	.0860	-.0020
180.000	1.7080	.3790	.3310	-.0050	.0190	.0600	.1550	.0270	.0480	.0110	-.0170	-.0100	-.0080	.1460	.0120
225.000		.3360	.3220	.0780	.2580	.0380	.1510						-.0180	.0410	-.0620
270.000		.1620	.4370	.4550	.0730	-.0680	-.0110	-.0310			-.0270	-.1020	-.0450	-.0230	.0140
315.000		.0640	.0270	-.0550	-.1050	-.1500	-.1420						-.0350	-.0030	.0590

X/LS .9670

PHI

.000	.1270
45.000	-.0500
90.000	-.0480
135.000	-.0240
180.000	.1990
225.000	-.0340
270.000	.0870
315.000	.0680

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6080	.0300	-.0010	-.1150	-.1000	-.1050	-.1010	-.0890	-.0830	-.0560	-.0610	-.0690	-.0750	.1690	.1360
45.000		.0480	.0430	-.1000	-.1070	-.0740							-.0640	.0490	-.0570
90.000		.0820	.0820	-.0890	-.0950	-.0910	-.0980	-.1160	-.1310	-.1230	-.1060	-.1160	-.0850	.0170	-.0370
135.000		.1990	.2010	-.0540	-.0570	-.0540							-.0390	.0530	-.0390
180.000	1.6080	.3510	.3110	-.0080	.0110	.0210	.1220	.0300	.0510	-.0040	-.0310	-.0190	.0040	.1080	-.0190
225.000		.3170	.3530	.0650	.1000	.0170	.1280						-.0240	.0170	-.0490
270.000		.1450	.5080	.4260	.0680	-.0780	-.0090	-.0420			-.0380	-.1130	-.0470	-.0070	.0020
315.000		.0450	.0270	-.0550	-.1060	-.1510	-.1480						-.0280	-.0060	.0230

X/LS .9670

PHI

.000	.1620
45.000	-.0860
90.000	-.0470
135.000	-.0540
180.000	.2380
225.000	-.0320
270.000	.0670
315.000	.0620

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.580

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5180	.0130	-.0060	-.1110	-.1040	-.1070	-.1010	-.0780	-.0610	-.0390	-.0550	-.0650	-.0540	.1680	.1460
45.000		.0260	.0240	-.1050	-.1100	-.0940							-.0520	.0870	-.0150
90.000		.0510	.0600	-.0970	-.1050	-.1050	-.1080	-.1250	-.1310	-.1230	-.1140	-.0970	-.0860	.0080	-.0620
135.000		.1660	.1740	-.0640	-.0670	-.0610							-.0320	.0330	-.0600
180.000	1.5180	.3280	.3110	.0050	.0170	.0250	.0970	.0340	.0210	-.0240	-.0500	-.0430	-.0010	.0740	-.0360
225.000		.3030	.4420	.0030	.0240	.0670	.1260						-.0440	.0390	-.0640
270.000		.1320	.1250	.3220	.0510	-.0640	-.0020	-.0530			-.0460	-.1180	-.0550	.0230	.0160
315.000		.0340	.0410	-.0830	-.1060	-.1500	-.1460						-.0040	-.0120	.0060

X/LS .9670

PHI

.000	.1430
45.000	-.0560
90.000	-.0670
135.000	-.0710
180.000	.2230

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 2) = 2.999

BETAT ( 7) = 6.580

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .2020

270.000 .0370

315.000 .0510

MACH ( 2) = 2.999

BETAT ( 8) = 8.750

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4390 .0000 -.0050 -.1110 -.1090 -.1180 -.1020 -.0690 -.0510 -.0440 -.0560 -.0590 -.0620 .1710 .1070

45.000 .0100 .0060 -.1110 -.1130 -.0940 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .1370 .0960

90.000 .0290 .0290 -.1080 -.1140 -.1120 -.1080 -.1350 -.1270 -.1230 -.1040 -.0800 -.0680 .0680 -.0160

135.000 .1380 .1420 -.0720 -.0760 -.0710 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0390 .0650

180.000 1.4390 .3070 .3150 -.0040 .0080 .0210 .0780 .0610 -.0030 -.0450 -.0470 -.0410 .0130 .1230 .0300

225.000 .2900 .3210 -.0160 .0350 .1430 .1040 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0240 .0080

270.000 .1240 -.0100 .2700 .0400 -.0560 -.0030 -.0550 .0000 .0000 .0000 .0000 .0000 .0000 .0560 .0110

315.000 .0270 -.0190 -.0940 -.1180 -.1500 -.1440 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0040 .0040

X/LS .9670

PHI

.000 .1020

45.000 .0640

90.000 -.0370

135.000 -.0690

180.000 .1350

225.000 .0780

270.000 -.0100

315.000 .0350

MACH ( 3) = 3.502

BETAT ( 1) = -8.710

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.5420 .2070 .1230 -.0760 -.0480 -.0190 -.0400 -.0640 -.0670 -.0520 -.0640 -.0750 -.0640 .0690 -.0490

45.000 .2620 .2430 -.0310 -.0470 -.0160 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0510 .0070

90.000 .3570 .3800 .0150 .0040 .0210 .0120 .0100 -.0010 -.0160 -.0400 -.0420 -.0090 .2160 .1980

135.000 .5020 .4950 .0560 .0450 .0730 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .1930 .4930

180.000 2.5420 .5830 .4610 .0380 .0840 .1090 .0700 .1410 .1990 .1310 .0850 .1960 .1740 .5070 .2880

225.000 .4760 .3800 .0800 .3130 .0710 .0260 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0740 .2590

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

270.000	.2880	.7960	.5810	.1590	-.0280	-.0500	.0100				-.0230	-.0530	.0050	.0110	-.0590
315.000	.1950	.0880	-.0020	-.0420	-.1040	-.0990							-.0290	-.0400	-.0720

X/LS .9670

## PHI

.000	-.0400
45.000	.0110
90.000	.2080
135.000	.2710
180.000	.1650
225.000	.0340
270.000	-.0090
315.000	-.0240

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.520

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	2.3950	.1730	.0900	-.0650	-.0430	-.0350	-.0500	-.0690	-.0840	-.0640	-.0730	-.0880	-.0920	.0480	-.0650
45.000		.2190	.2020	-.0290	-.0410	-.0250							-.0730	.0080	-.0300
90.000		.2970	.3150	.0100	-.0020	-.0030	-.0100	-.0150	-.0280	-.0420	-.0650	-.0680	-.0590	.1280	.1330
135.000		.4380	.4380	.0480	.0380	.0450							.1060	.4010	.2760
180.000	2.3950	.5380	.4350	.0460	.0670	.0970	.0490	.1630	.1440	.0990	.0480	.1200	.1410	.4220	.2330
225.000		.4500	.3600	.0780	.3240	.0640	.0190						.0530	.2200	.0670
270.000		.2670	.7170	.5760	.1510	-.0310	-.0550	.0020			-.0370	-.0850	-.0300	-.0020	-.0640
315.000		.1690	.0780	-.0060	-.0460	-.1050	-.1060						-.0470	-.0250	-.0540

X/LS .9670

## PHI

.000	-.0520
45.000	-.0140
90.000	.1440
135.000	.2110
180.000	.1290
225.000	.0250
270.000	-.0310
315.000	-.0220

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2580	.1410	.0710	-.0740	-.0550	-.0520	-.0640	-.0740	-.0900	-.0760	-.0860	-.1000	-.0830	.0090	-.0690
45.000		.1770	.1580	-.0450	-.0550	-.0330							-.0620	.0110	-.0480
90.000		.2400	.2520	-.0150	-.0240	-.0230	-.0330	-.0340	-.0520	-.0660	-.0830	-.0860	-.0650	.1030	.0660
135.000		.3770	.3790	.0270	.0120	.0200							.0830	.3270	.1960
180.000	2.2580	.4950	.4010	.0310	.0500	.0870	.0340	.1360	.0980	.0690	.0200	.1030	.1540	.3840	.1940
225.000		.4220	.3390	.0610	.2810	.0570	.0140						.0520	.2190	.0470
270.000		.2410	.4890	.5540	.1460	-.0360	-.0590	.0000			-.0460	-.0770	-.0240	.0070	-.0700
315.000		.1430	.0490	-.0250	-.0560	-.1090	-.1080						.0040	-.0130	-.0360

X/LS .9670

PHI

.000	-.0650
45.000	-.0330
90.000	.0820
135.000	.1500
180.000	.0970
225.000	.0010
270.000	-.0410
315.000	-.0220

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1080	.1150	.0530	-.0740	-.0610	-.0660	-.0710	-.0790	-.0840	-.0830	-.0900	-.1020	-.0960	.0200	-.0730
45.000		.1390	.1280	-.0470	-.0590	-.0410							-.0810	.0100	-.0460
90.000		.1920	.2000	-.0230	-.0360	-.0400	-.0480	-.0480	-.0710	-.0860	-.0950	-.0990	-.0810	.0350	.0170
135.000		.3230	.3300	.0120	-.0010	-.0010							.0500	.2380	.1440
180.000	2.1080	.4550	.3750	.0240	.0460	.0620	.0280	.1010	.0700	.0470	.0230	.0630	.0940	.3230	.1370
225.000		.4000	.3540	.0560	.0860	.0530	.0160						.0440	.1350	.0030
270.000		.2220	.2920	.5060	.1380	-.0340	-.0510	.0000			-.0420	-.0740	-.0110	-.0030	-.0720
315.000		.1230	.0610	-.0330	-.0580	-.1100	-.1110						-.0270	-.0020	.0110

X/LS .9670

PHI

.000	-.0630
45.000	-.0490
90.000	.0230
135.000	.1030
180.000	.0590



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0320

270.000 .0160

315.000 .0270

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.8180 .0610 .0150 -.1130 -.1060 -.0840 -.0800 -.0790 -.0830 -.0730 -.0840 -.0780 -.0590 .1180 .0550

45.000 .0750 .0620 -.0950 -.1040 -.0640

90.000 .1070 .1130 -.0840 -.0940 -.0700 -.0760 -.0850 -.1020 -.1060 -.0940 -.0950 -.0960 .0070 -.0720

135.000 .2250 .2090 -.0490 -.0600 -.0390 .0340 .0770 .0160

180.000 1.8180 .3800 .3030 -.0190 .0220 .0430 .0770 .0380 .0210 .0050 -.0030 .0050 .0430 .1720 .0410

225.000 .3450 .2630 .0110 .1050 .0470 .1530 .0000 .0870 .0280

270.000 .1810 .2080 .4440 .1140 -.0400 -.0200 -.0080 -.0360 -.0810 -.0080 .0040 -.0050

315.000 .0820 -.0100 -.0830 -.0690 -.1120 -.1120 .0170 -.0010 .0200

X/LS .9670

PHI

.000 .0530

45.000 -.0610

90.000 -.0670

135.000 -.0030

180.000 -.0080

225.000 -.0490

270.000 .0390

315.000 .0350

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.480

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6800 .0380 .0040 -.1120 -.1040 -.0830 -.0860 -.0860 -.0770 -.0590 -.0580 -.0600 -.0460 .1380 .1140

45.000 .0480 .0360 -.1030 -.1100 -.0710

90.000 .0740 .0740 -.0930 -.1040 -.0810 -.0850 -.0960 -.1060 -.1050 -.0980 -.0940 -.0930 .0160 .0680

135.000 .1840 .1690 -.0620 -.0710 -.0490 .0130 .0420 .0200

180.000 1.6800 .3450 .2760 -.0260 .0140 .0130 .1300 .0310 .0260 .0040 .0250 .0100 .0230 .1200 .0170

225.000 .3220 .3410 .0470 .0780 .0200 .1320 .0230 .0640 .0360

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.480

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000	.1600	.1920	.4225	.1020	-.0550	-.0080	-.0130				-.0400	-.0870	-.0160	.0040	-.0220
315.000	.0630	-.0140	-.0890	-.0720	-.1140	-.1150							.0080	.0110	.0250

X/LS .9670

PHI

.000	.1230
45.000	-.0860
90.000	-.0710
135.000	-.0340
180.000	.0340
225.000	-.0440
270.000	.0150
315.000	.0360

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.690

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5430	.0200	-.0040	-.1180	-.1150	-.1020	-.0940	-.0820	-.0740	-.0400	-.0540	-.0590	-.0490	.1070	.0700
45.000		.0250	.0180	-.1140	-.1210	-.0810							-.0600	.1000	-.0170
90.000		.0440	.0440	-.1090	-.1200	-.0890	-.0850	-.1010	-.1030	-.1010	-.1000	-.0910	-.0820	.0330	-.0310
135.000		.1490	.1250	-.0820	-.0920	-.0590							.0170	.0400	-.0370
180.000	1.5430	.3140	.2480	-.0340	.0110	.0160	.1070	.0200	.0160	-.0200	-.0440	-.0250	.0310	.1370	.0000
225.000		.3010	.3430	-.0030	.0640	.0400	.1180						-.0110	.0770	-.0490
270.000		.1430	.0780	.2720	.0670	-.0500	-.0020	-.0290			-.0490	-.0870	-.0060	-.0010	-.0300
315.000		.0460	-.0190	-.0990	-.0830	-.1150	-.1150						.0110	.0020	.0110

X/LS .9670

PHI

.000	.0720
45.000	-.0560
90.000	-.0450
135.000	-.0550
180.000	-.0100
225.000	-.0400
270.000	.0030
315.000	.0190

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS02)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.910

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.4160	.0020	-.0130	-.1130	-.1120	-.1050	-.0950	-.0760	-.0650	-.0470	-.0590	-.0580	-.0490	.1420	.0530
45.000		.0050	-.0010	-.1080	-.1160	-.0880								.0210	.0610
90.000		.0190	.0160	-.1100	-.1170	-.0960	-.0970	-.1060	-.1040	-.1020	-.0940	-.0710	-.0600	.0390	-.0330
135.000		.1140	.1960	-.0800	-.0890	-.0700							-.0180	.0670	-.0540
180.000	1.4160	.2830	.2380	-.0270	.0070	.0120	.0800	.0400	.0000	-.0420	-.0500	-.0080	.0500	.1020	-.0330
225.000		.2760	.3700	-.0050	.0430	.0330	.0930						.0060	.0340	-.0570
270.000		.1260	.0440	.2260	.0450	-.0550	.0150	-.0310			-.0570	-.0690	-.0140	.0490	-.0380
315.000		.0320	-.0300	-.0960	-.0890	-.1160	-.1140						.0150	-.0040	-.0070

X/LS .9670

PHI

.000	.0300
45.000	.0480
90.000	-.0440
135.000	-.0700
180.000	.1190
225.000	.0420
270.000	-.0280
315.000	.0010

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS03) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0050	.2180	.1530	-.0920	-.0310	-.0340	-.0800	-.1360	-.0750	-.0780	-.0980	-.0900	-.0760	.0560	-.0450
45.000		.2890	.2640	-.0540	-.0560	-.0210							-.0090	.0290	.0440
90.000		.3800	.3930	.0020	.0050	.0190	.0170	.0020	.0170	-.0290	-.0590	-.0570	-.0150	.1890	.2010
135.000		.4680	.4670	.0270	.0360	.0670							.0640	.3340	.2400
180.000	2.0050	.4810	.4140	.0140	.0670	.0900	.0220	.1530	.1830	.0900	.2140	.1320	.0460	.2810	.1370
225.000		.3710	.4810	.2500	.1430	-.0130	.0650						-.0840	.0460	-.0240
270.000		.2260	1.2500	.4640	.0010	-.1390	-.0940	-.0140		.0900	-.1560	-.1520	-.0850	-.0080	-.0080
315.000		.1770	.3430	.0110	-.1200	-.1950	-.1620						-.1020	.0380	-.0030

X/LS .9670

PHI

.000 -.0370  
 45.000 .0540  
 90.000 .2030  
 135.000 .1780  
 180.000 .1790  
 225.000 -.0720  
 270.000 .1770  
 315.000 -.0160

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9360	.1830	.1210	-.1020	-.0550	-.0510	-.0910	-.1360	-.0970	-.0940	-.1120	-.1100	-.1020	.0450	-.0570
45.000		.2410	.2210	-.0700	-.0720	-.0370							-.0310	.0210	.0290
90.000		.3200	.3370	-.0210	-.0240	-.0130	-.0070	-.0160	-.0220	-.0590	-.0840	-.0810	-.0470	.1420	.1550
135.000		.4130	.4150	.0080	.0120	.0340							.0330	.2790	.1930
180.000	1.9360	.4500	.3880	.0010	.0490	.0740	.0110	.1220	.1440	.0590	.1180	.0860	.0200	.2480	.0970
225.000		.3540	.4600	.2460	.1400	-.0160	.1940						-.0920	.0250	-.0490
270.000		.2070	1.2250	.4600	-.0020	-.1390	-.0830	-.0360			.0410	-.1510	-.1380	-.0800	.0600
315.000		.1500	.2790	.0010	-.1290	-.2000	-.1640						-.1060	.0070	-.0530

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 1 ) = 2.498                      BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER                      DEPENDENT VARIABLE CP

X/LS                      .9670

PHI

.000     -.0600  
 45.000     .0400  
 90.000     .1560  
 135.000     .1440  
 180.000     .1880  
 225.000     -.0790  
 270.000     .1560  
 315.000     -.0540

MACH ( 1 ) = 2.498                      BETAT ( 3 ) = -4.180

SECTION ( 1 ) SRM BOOSTER                      DEPENDENT VARIABLE CP

X/LS                      .0000     .0341     .0967     .1138     .1422     .1991     .2844     .3697     .4835     .5973     .7110     .8248     .8817     .9044     .9386

PHI

.000     1.8610     .1500     .0960     -.1130     -.0700     -.0640     -.1030     -.1310     -.1100     -.1070     -.1220     -.1150     -.0980     -.0520     -.0530  
 45.000                      .2020     .1790     -.0890     -.0890     -.0470                      -.0320     -.0300     -.0510     -.0870     -.1040     -.1070     -.0730     .0830     .1010  
 90.000                      .2680     .2800     -.0490     -.0460     -.0350                      -.0320     -.0300     -.0510     -.0870     -.1040     -.1070     -.0730     .0830     .1010  
 135.000                      .3640     .3610     -.0160     -.0080     .0050                      -.0320     -.0300     -.0510     -.0870     -.1040     -.1070     -.0730     .0830     .1010  
 180.000     1.8610     .4170     .3670     -.0080     .0330     .0580     .0090     .0790     .1060     .0300     .0300     .0500     -.0070     .1980     .0680  
 225.000                      .3340     .4610     .1930     .1380     -.0210     .1760                      -.0320     -.0300     -.0510     -.0870     -.1040     -.1070     -.0730     .0830     .1010  
 270.000                      .1860     1.1800     .4510     -.0070     -.1390     -.0720     -.0530                      .0170     -.1490     -.1290     -.0780     .0180  
 315.000                      .1280     .2420     -.0120     -.1370     -.2040     -.1700                      -.0920     .0540     -.0260

X/LS                      .9670

PHI

.000     -.0410  
 45.000     .0220  
 90.000     .1100  
 135.000     .0980  
 180.000     .1610  
 225.000     -.0940  
 270.000     .1180  
 315.000     -.0190

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU3)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7880	.1240	.0780	-.1180	-.0690	-.0830	-.1090	-.1200	-.0960	-.1070	-.1310	-.1190	-.0630	-.0150	.0180
45.000		.1650	.1480	-.0960	-.0970	-.0620							-.0510	.0040	.0170
90.000		.2240	.2300	-.0640	-.0670	-.0570	-.0500	-.0440	-.0700	-.1070	-.1240	-.1310	-.0810	.0410	.0660
135.000		.3180	.3170	-.0340	-.0280	-.0130							-.0390	.1570	.0970
180.000	1.7880	.3880	.3480	-.0150	.0270	.0450	.1450	.0720	.0830	.0230	-.0090	.0060	-.0300	.1540	.0330
225.000		.3170	.4570	.1220	.1380	-.0190	.1410						-.1170	-.0110	-.0850
270.000		.1710	1.0850	.4410	-.0110	-.1370	-.0460	-.0600			.0110	-.1520	-.1220	-.0620	.0780
315.000		.1050	.1940	-.0210	-.1370	-.2030	-.1730						-.0980	.0570	.0270

X/LS .9670

## PHI

.000	.0130
45.000	.0300
90.000	.0670
135.000	.0520
180.000	.2120
225.000	-.0650
270.000	.1760
315.000	.1090

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6340	.0720	.0450	-.1300	-.0790	-.1010	-.1100	-.0760	-.0500	-.0330	-.0430	-.0350	-.0260	.2420	.1760
45.000		.0990	.0920	-.1210	-.1140	-.0810							-.0210	.0280	.0750
90.000		.1380	.1490	-.0990	-.1000	-.0890	-.0760	-.0930	-.1200	-.1410	-.1020	-.1050	-.0500	.0110	.0250
135.000		.2310	.2380	-.0660	-.0620	-.0440							-.1050	.0070	-.0130
180.000	1.6340	.3290	.3120	-.0320	.0030	.0210	.1120	.0210	.0260	-.0260	.0080	-.0520	-.0960	.0430	-.0480
225.000		.2830	.4060	.1220	.1390	-.0050	.1060						-.1130	-.0160	.0050
270.000		.1390	.8660	.4160	-.0130	-.1320	-.0330	-.0840			-.0100	-.1150	-.0540	.1060	.0330
315.000		.0700	.1230	-.0370	-.1400	-.2030	-.1780						-.0860	-.0170	.0460

X/LS .9670

## PHI

.000	.1510
45.000	.0720
90.000	.0300
135.000	-.0230
180.000	.2810

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS43)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS .9670

## PHI

225.000	.1040
270.000	.0810
315.000	.0480

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.310

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	1.5740	.0530	.0420	-.1260	-.0950	-.1180	-.1130	-.0610	-.0230	-.0150	-.0330	-.0390	-.0340	.1900	.1740
45.000		.0750	.0750	-.1240	-.1160	-.0840							-.0420	.0890	-.0840
90.000		.1080	.1210	-.1070	-.1090	-.0940	-.0860	-.1060	-.1310	-.1290	-.1020	-.1010	-.0220	.0230	.0120
135.000		.2010	.2090	-.0780	-.0730	-.0440							-.0980	-.0080	-.0290
180.000	1.5740	.3130	.2990	-.0320	.0210	-.0010	.0830	.0400	.0090	-.0370	.0050	-.0800	-.1100	.0110	-.0620
225.000		.2780	.4420	.1440	.1230	-.0240	.0870						-.1060	-.0080	.0020
270.000		.1310	.9840	.4130	-.0040	-.1370	-.0380	-.0830			-.0190	-.1160	-.0680	.0700	.0310
315.000		.0590	.1210	-.0310	-.1390	-.2050	-.1800						-.0880	-.0050	.0060

X/LS .9670

## PHI

.000	.1530
45.000	-.0070
90.000	.0110
135.000	.0480
180.000	.2680
225.000	.2030
270.000	.1370
315.000	.0650

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.440

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	1.5220	.0380	.0390	-.1340	-.1210	-.1220	-.1120	-.0420	-.0090	-.0150	-.0340	-.0370	-.0160	.1670	.1590
45.000		.0530	.0560	-.1350	-.1300	-.0900							-.0330	.2000	.1270
90.000		.0800	.0890	-.1250	-.1260	-.1010	-.0830	-.1230	-.1400	-.1310	-.1030	-.0810	-.0280	.0560	.0150
135.000		.1710	.1770	-.0940	-.0910	-.0690							-.0700	-.0190	-.0470
180.000	1.5220	.2990	.3190	-.0290	.0020	.0120	.0600	.0570	-.0120	-.0540	-.0030	-.0970	-.1180	-.0090	-.0300
225.000		.2680	.4200	.0160	.1140	.0190	.1030						-.1080	-.0160	.0550

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.440

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000	.1500	.6470	.3520	-.0110	-.1250	-.0370	-.0780				-.0220	-.1260	-.0820	.0320	.0740
315.000	.0530	.0780	-.0640	-.1300	-.2020	-.1770							-.1130	-.0370	-.0370

X/LS .9670

## PHI

.000	.1540
45.000	.0490
90.000	.0020
135.000	.0670
180.000	.2860
225.000	.0990
270.000	.1650
315.000	.1520

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.570

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4550	.0210	.0330	-.1310	-.1200	-.1240	-.1130	-.0380	-.0180	-.0310	-.0330	-.0440	-.0230	.1900	.1660
45.000	.0290	.0360	-.1400	-.1350	-.1010								-.0030	.2200	.2120
90.000	.0490	.0590	-.1330	-.1350	-.1240	-.1070	-.1490	-.1510	-.1380	-.0970	-.0790	.0040	.0780	.0140	
135.000	.1370	.1560	-.1000	-.1010	-.0990								-.0540	-.0030	-.0410
180.000	1.4550	.2730	.3210	-.0280	-.0170	.0040	.0360	.0370	-.0440	-.0750	.0150	-.1130	-.1110	-.0010	.0750
225.000	.2690	.2450	-.0070	.0920	.1110	.0740							-.1220	-.0420	.0380
270.000	.1300	.2800	.2430	-.0070	-.1080	-.0420	-.0750				-.0300	-.1310	-.1000	.0070	.0360
315.000	.0430	.0620	-.0890	-.1210	-.1940	-.1750							-.1200	-.0510	-.0580

X/LS .9670

## PHI

.000	.1570
45.000	.2250
90.000	-.0310
135.000	.0580
180.000	.1760
225.000	.0280
270.000	.0870
315.000	.2720



## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.570

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2690	.2240	.1390	-.0710	-.0310	-.0200	-.0490	-.0860	-.0590	-.0500	-.0780	-.0850	-.0650	.0360	-.0350
45.000		.2810	.2610	-.0220	-.0290	-.0190							-.0480	.0840	.0330
90.000		.3620	.3790	.0230	.0190	.0210	.0130	.0110	.0140	-.0060	-.0310	-.0370	-.0120	.2660	.2340
135.000		.4550	.4540	.0490	.0430	.0620							.1690	.4390	.3280
180.000	2.2690	.4870	.3950	.0220	.0570	.0690	.0440	.1440	.1840	.1120	.0670	.1580	.1230	.4700	.2190
225.000		.3980	.3740	.1040	.1990	.0200	-.0100						.0350	.1910	.0380
270.000		.2560	.7660	.5610	.0930	-.0770	-.0880	-.0200			-.0250	-.0990	-.0310	-.0360	-.0870
315.000		.2000	.1590	.0550	-.0530	-.1350	-.1240						-.0290	-.0240	-.0020

X/LS .9670

PHI

.000	-.0250
45.000	.0500
90.000	.2270
135.000	.2360
180.000	.1060
225.000	-.0020
270.000	.0220
315.000	-.0100

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1780	.1900	.1190	-.0800	-.0500	-.0380	-.0570	-.0850	-.0850	-.0660	-.0810	-.0900	-.0730	.0290	-.0440
45.000		.2380	.2200	-.0390	-.0460	-.0250							-.0540	.0570	.0130
90.000		.3060	.3220	-.0020	-.0050	-.0020	-.0090	-.0110	-.0130	-.0340	-.0570	-.0600	-.0470	.1950	.1770
135.000		.4000	.4020	.0270	.0190	.0360							.1260	.3690	.2670
180.000	2.1780	.4560	.3720	.0100	.0410	.0530	.0310	.1500	.1440	.0810	.0370	.1120	.1140	.3900	.1690
225.000		.3790	.3520	.0790	.1990	.0170	-.0120						.0130	.1930	.0110
270.000		.2390	.7420	.5500	.0900	-.0770	-.0900	-.0260			-.0270	-.1060	-.0310	-.0290	-.0940
315.000		.1760	.1190	.0280	-.0600	-.1360	-.1300						-.0150	-.0200	-.0660

X/LS .9670

PHI

.000	-.0350
45.000	.0280
90.000	.1740
135.000	.1890
180.000	.0810

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	-.0160
225.000	-.0930
270.000	-.0430
315.000	-.0430

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.0750	.1590	.0880	-.0870	-.0660	-.0520	-.0680	-.0870	-.1050	-.0820	-.0930	-.0970	-.0830	.0190	-.0470
45.000		.1970	.1840	-.0520	-.0590	-.0390							-.0520	.0560	-.0010
90.000		.2530	.2690	-.0210	-.0280	-.0250	-.0290	-.0310	-.0440	-.0600	-.0810	-.0850	-.0660	.1590	.1180
135.000		.3480	.3510	.0050	-.0030	.0120							.0880	.3070	.2060
180.000	2.0750	.4210	.3490	.0010	.0290	.0480	.0170	.1120	.1060	.0530	.0180	.0890	.0930	.3450	.1270
225.000		.3580	.3360	.0680	.2010	.0130	-.0160						-.0080	.1590	.0030
270.000		.2180	.7110	.5410	.0880	-.0800	-.0910	-.0290			-.0220	-.1030	-.0390	.0070	-.0480
315.000		.1510	.0940	.0090	-.0670	-.1400	-.1350						-.0040	-.0010	-.0610

X/LS .9670

PHI

.000	-.0370
45.000	.0160
90.000	.1260
135.000	.1360
180.000	.0570
225.000	-.0370
270.000	.1610
315.000	-.0510

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.9640	.1270	.0690	-.0960	-.0770	-.0660	-.0750	-.0880	-.1020	-.0870	-.1020	-.1060	-.0980	.0040	-.0180
45.000		.1570	.1460	-.0660	-.0740	-.0490							-.0650	.0110	-.0170
90.000		.2040	.2140	-.0420	-.0480	-.0450	-.0510	-.0460	-.0680	-.0850	-.1020	-.1100	-.0930	.0770	.0610
135.000		.2960	.2990	-.0170	-.0220	-.0180							.0150	.2440	.1330
180.000	1.9640	.3870	.3230	-.0080	.0190	.0450	.0010	.0690	.0710	.0240	-.0100	.0280	.0710	.2560	.0860
225.000		.3350	.3330	.0590	.2100	.0050	-.0090						-.0260	.1110	-.0310

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 2) = 2.999

BETAT ( 4) = -2.100

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

270.000	.2000	.6340	.5170	.0760	-.0830	-.0860	-.0360				-.0190	-.1200	-.0630	-.0250	-.0190
315.000	.1300	.0820	-.0120	-.0750	-.1430	-.1370							-.0180	.0340	.0010

X/LS .9670

PHI

.000	.0060
45.000	.0020
90.000	.0720
135.000	.0880
180.000	.0170
225.000	-.0600
270.000	.0850
315.000	-.0220

MACH ( 2) = 2.999

BETAT ( 5) = 2.220

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.7450	.0740	.0340	-.1060	-.0930	-.0960	-.0890	-.0800	-.0710	-.0510	-.0580	-.0620	-.0560	.2120	.1520
45.000		.0880	.0800	-.0870	-.0930	-.0670							-.0650	.0400	.0150
90.000		.1190	.1260	-.0720	-.0790	-.0730	-.0720	-.0720	-.1000	-.1230	-.1040	-.0970	-.0620	.0280	-.0080
135.000		.2080	.2130	-.0490	-.0550	-.0560							-.0230	.1000	.0050
180.000	1.7450	.3210	.2790	-.0270	-.0050	.0250	.1280	.0130	.0370	-.0060	-.0310	-.0070	.0120	.1370	.0090
225.000		.2970	.2930	.0300	.2130	.0050	.1300						-.0210	.0240	-.0520
270.000		.1630	.3170	.4500	.0700	-.0830	-.0500	-.0400			-.0180	-.0850	-.0260	.0360	.0380
315.000		.0890	.0450	-.0490	-.0790	-.1460	-.1420						-.0420	-.0110	.0050

X/LS .9670

PHI

.000	.1350
45.000	.0190
90.000	-.0030
135.000	-.0180
180.000	.0220
225.000	-.0380
270.000	.0470
315.000	.0630

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.390

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6490	.0570	.0260	-.1060	-.0980	-.1020	-.0910	-.0770	-.0620	-.0220	-.0310	-.0410	-.0340	.1820	.1380
45.000		.0670	.0610	-.0930	-.0960	-.0670							-.0440	.1180	-.0690
90.000		.0910	.0960	-.0820	-.0860	-.0800	-.0760	-.0840	-.1060	-.1140	-.0950	-.0880	-.0740	.0420	-.0170
135.000		.1770	.1800	-.0580	-.0650	-.0630							-.0140	.0390	-.0290
180.000	1.6490	.2990	.2610	-.0290	-.0100	.0340	.1150	.0040	.0380	-.0190	-.0470	-.0310	-.0020	.0960	-.0180
225.000		.2790	.2610	.0600	.1500	.0070	.1150						-.0510	.0490	-.0230
270.000		.1500	.2310	.4220	.0820	-.0750	-.0400	-.0470			-.0270	-.0870	-.0300	.0560	-.0050
315.000		.0770	.0480	-.0560	-.0750	-.1400	-.1390						.0000	.0080	.0030

X/LS .9670

PHI

.000	.1360
45.000	-.0560
90.000	-.0190
135.000	-.0450
180.000	.1590
225.000	-.0450
270.000	.0250
315.000	.0280

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5580	.0380	.0220	-.1060	-.0960	-.1030	-.1010	-.0680	-.0500	-.0170	-.0390	-.0450	-.0430	.1970	.1270
45.000		.0440	.0420	-.1020	-.1040	-.0740							-.0330	.1990	.1070
90.000		.0650	.0700	-.0920	-.1000	-.0880	-.0860	-.1010	-.1150	-.1120	-.0970	-.0700	-.0490	.0530	-.0230
135.000		.1460	.1520	-.0690	-.0750	-.0740							-.0140	.0560	-.0420
180.000	1.5580	.2770	.2500	-.0290	-.0030	.0050	.0930	.0040	.0110	-.0400	-.0610	-.0460	.0020	.0920	-.0380
225.000		.2660	.4640	-.0060	-.0010	.0160	.0990						-.0220	.0220	-.0220
270.000		.1360	.1890	.3770	.0610	-.0890	-.0270	-.0530			-.0410	-.0920	-.0250	.0550	-.0050
315.000		.0630	.0390	-.0610	-.0830	-.1430	-.1390						-.0400	-.0060	-.0170

X/LS .9670

PHI

.000	.1290
45.000	.0160
90.000	-.0340
135.000	-.0590
180.000	.1640

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 2 ) = 2.999                      BETAT ( 7 ) = 6.560

SECTION ( 1 ) SRM BOOSTER                      DEPENDENT VARIABLE CP

X/LS                      .9670

PHI

225.000                      .2040  
270.000                      .0710  
315.000                      .0040

MACH ( 2 ) = 2.999                      BETAT ( 8 ) = 8.730

SECTION ( 1 ) SRM BOOSTER                      DEPENDENT VARIABLE CP

X/LS                      .0000    .0341    .0967    .1138    .1422    .1991    .2844    .3697    .4835    .5973    .7110    .8248    .8817    .9044    .9386

PHI

.000	1.4890	.0240	.0190	-.1000	-.1080	-.1020	-.0970	-.0540	-.0310	-.0330	-.0520	-.0460	-.0570	.2010	.1300
45.000		.0260	.0200	-.1070	-.1090	-.0860							-.0330	.2270	.1740
90.000		.0420	.0420	-.1010	-.1080	-.0980	-.0940	-.1180	-.1210	-.1060	-.1020	-.0720	-.0220	.0720	.0060
135.000		.1210	.1250	-.0780	-.0820	-.0770							-.0230	.0540	-.0350
180.000	1.4890	.2600	.2770	-.0240	-.0160	-.0100	.0690	.0450	-.0130	-.0610	-.0670	-.0640	-.0110	.0890	-.0440
225.000	.2560	.2020	-.0270	-.0180	.0610	.0930							-.0470	-.0230	-.0130
270.000		.1290	.0330	.1940	.0310	-.0730	-.0170	-.0600			-.0460	-.1070	-.0470	.0280	.0390
315.000		.0530	.0430	-.0960	-.0890	-.1330	-.1330						-.0500	-.0210	-.0410

X/LS                      .9670

PHI

.000                      .1180  
45.000                      .1570  
90.000                      -.0200  
135.000                      -.0540  
180.000                      .1160  
225.000                      .0880  
270.000                      .0020  
315.000                      .1060

MACH ( 3 ) = 3.502                      BETAT ( 1 ) = -8.730

SECTION ( 1 ) SRM BOOSTER                      DEPENDENT VARIABLE CP

X/LS                      .0000    .0341    .0967    .1138    .1422    .1991    .2844    .3697    .4835    .5973    .7110    .8248    .8817    .9044    .9386

PHI

.000	2.5680	.2400	.1510	-.0750	-.0500	-.0080	-.0310	-.0530	-.0530	-.0390	-.0580	-.0720	-.0620	.0520	-.0210
45.000		.2920	.2780	-.0280	-.0410	-.0040							-.0470	.0760	.0580
90.000		.3680	.3900	.0150	.0010	.0270	.0180	.0210	.0070	.0040	-.0180	-.0240	.0060	.3010	.2580
135.000		.4700	.4560	.0380	.0240	.0640							.1910	.5570	.4000
180.000	2.5680	.5210	.3950	.0130	.0660	.0720	.0550	.0350	.1570	.1220	.0630	.1870	.2260	.5230	.3020
225.000		.4370	.3290	.0450	.2440	.0440	.0010						.0660	.2500	.0940



## AMES 87-707 1A9 O2A + S3 + T9 SRM BOOSTER

(RBNS(3))

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2870	.1650	.0960	-.0620	-.0490	-.0480	-.0510	-.0610	-.0850	-.0610	-.0660	-.0790	-.0790	.0690	-.0440
45.000		.1970	.1840	-.0330	-.0430	-.0290							-.0610	.0390	.0020
90.000		.2490	.2650	-.0070	-.0180	-.0180	-.0210	-.0190	-.0290	-.0440	-.0650	-.0680	-.0460	.1440	.1210
135.000		.3490	.3510	.0180	.0050	.0110							.1090	.3680	.2330
180.000	2.2870	.4380	.3490	.0140	.0320	.0560	.0200	.1390	.1000	.0600	.0180	.1030	.1480	.4160	.2020
225.000		.3820	.2950	.0430	.2450	.0280	-.0150						.0670	.2020	.0490
270.000		.2450	.5080	.5960	.1410	-.0480	-.0720	-.0220			-.0310	-.0650	.0070	.0290	-.0560
315.000		.1710	.0810	-.0390	-.0340	-.1030	-.1080						-.0060	-.0010	-.0540

X/LS .9670

## PHI

.000	-.0300
45.000	.0160
90.000	.1340
135.000	.1780
180.000	.1040
225.000	.0020
270.000	-.0160
315.000	-.0500

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1430	.1340	.0730	-.0730	-.0580	-.0650	-.0630	-.0670	-.0790	-.0730	-.0790	-.0910	-.0830	.0300	-.0340
45.000		.1530	.1410	-.0470	-.0580	-.0370							-.0660	.0410	-.0140
90.000		.1950	.2080	-.0240	-.0380	-.0350	-.0400	-.0370	-.0500	-.0660	-.0820	-.0890	-.0600	.0830	.0570
135.000		.2910	.2950	-.0040	-.0170	-.0120							.0690	.2610	.1610
180.000	2.1430	.3940	.3190	.0000	.0190	.0280	.0060	.0960	.0590	.0380	.0060	.0740	.0820	.3490	.1470
225.000		.3550	.3020	.0270	.0510	.0250	-.0160						.0310	.1260	.0040
270.000		.2200	.2720	.5210	.1350	-.0500	-.0730	-.0230			-.0310	-.0610	.0050	.0060	-.0260
315.000		.1460	.0600	-.0380	-.0390	-.1060	-.1080						-.0240	.0200	-.0010

X/LS .9670

## PHI

.000	-.0080
45.000	.0050
90.000	.0680
135.000	.1130
180.000	.0610

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSL3)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0370
270.000	.0830
315.000	-.0020

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8540	.0810	.0380	-.1080	-.0970	-.0860	-.0770	-.0670	-.0640	-.0610	-.0610	-.0660	-.0490	.1110	.1190
45.000		.0870	.0800	-.0930	-.1010	-.0580							-.0590	.0470	-.0200
90.000		.1140	.1190	-.0790	-.0910	-.0630	-.0650	-.0560	-.0860	-.0960	-.0910	-.0870	-.0840	.0350	-.0440
135.000		.2030	.1840	-.0590	-.0720	-.0460							.0140	.1060	.0180
180.000	1.8540	.3290	.2540	-.0410	.0000	.0080	.0010	.0370	.0110	.0000	-.0240	-.0020	.0640	.1610	.0310
225.000		.3100	.2330	-.0180	.0670	.0180	.1250						.0080	.1020	-.0300
270.000		.1810	.1940	.4730	.1190	-.0510	-.0540	-.0190			-.0180	-.0850	-.0120	.0190	.0000
315.000		.1050	.0100	-.0770	-.0480	-.1080	-.1130						.0290	.0090	.0060

X/LS .9670

PHI

.000	.1110
45.000	-.0020
90.000	-.0330
135.000	.0000
180.000	-.0100
225.000	-.0340
270.000	.0470
315.000	.0380

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.470

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.7170	.0600	.0260	-.0870	-.0800	-.0880	-.0820	-.0730	-.0640	-.0430	-.0400	-.0480	-.0450	.1330	.1140
45.000		.0620	.0510	-.0780	-.0840	-.0650							-.0530	.0620	-.0650
90.000		.0810	.0810	-.0670	-.0760	-.0700	-.0740	-.0730	-.0900	-.0970	-.0920	-.0890	-.0800	.0250	-.0320
135.000		.1620	.1620	-.0470	-.0600	-.0580							-.0220	.0540	-.0170
180.000	1.7170	.2940	.2470	-.0230	-.0060	.0130	.0640	.0190	.0090	-.0150	-.0340	-.0200	.0290	.0890	.0150
225.000		.2860	.2600	.0890	.0880	.0020	.1060						-.0230	.0730	-.0340



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS03)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.470

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

270.000	.1610	.1780	.3940	.1170	-.0520	-.0500	-.0240				-.0320	-.0890	-.0290	.0140	.0080
315.000	.0890	.0490	-.0590	-.0560	-.1090	-.1110							.0010	.0170	.0000

X/LS .9670

PHI

.000	.0960
45.000	-.0710
90.000	-.0370
135.000	-.0320
180.000	-.0150
225.000	-.0400
270.000	.0120
315.000	.0480

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.680

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.5860	.0410	.0200	-.0810	-.0830	-.0810	-.0890	-.0760	-.0520	-.0280	-.0440	-.0510	-.0500	.1410	.0830
45.000		.0350	.0280	-.0810	-.0880	-.0770							-.0520	.2020	.0500
90.000		.0500	.0520	-.0770	-.0840	-.0810	-.0790	-.0920	-.0990	-.0930	-.0920	-.0720	-.0680	.0540	-.0350
135.000		.1290	.1300	-.0590	-.0680	-.0670							.0310	.0410	-.0400
180.000	1.5860	.2660	.2290	-.0240	-.0120	-.0010	.0940	.0000	.0100	-.0290	-.0520	-.0460	.0120	.1470	-.0120
225.000		.2660	.3200	.0050	.0350	.0130	.0930						-.0030	.0510	-.0500
270.000		.1450	.0930	.3030	.0650	-.0610	-.0260	-.0290			-.0430	-.0780	.0090	.0090	.0020
315.000		.0710	.0250	-.0650	-.0740	-.1090	-.1090						-.0030	-.0060	-.0100

X/LS .9670

PHI

.000	.0790
45.000	.0140
90.000	-.0430
135.000	-.0550
180.000	-.0340
225.000	-.0170
270.000	.0180
315.000	.0340



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS04) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0170	.2480	.1780	-.0630	-.0440	-.0280	-.0730	-.1100	-.0530	-.0490	-.0610	-.0740	-.0250	-.0030	.0170
45.000		.3150	.2930	-.0440	-.0450	-.0070							-.0010	.0940	.1410
90.000		.3810	.3980	.0020	.0040	.0160	.0190	.0180	.0420	-.0030	-.0320	-.0230	.0290	.2540	.2590
135.000		.4370	.4310	.0120	.0040	.0540							.0980	.3800	.2730
180.000	2.0170	.4250	.3540	-.0130	.0320	.0630	-.0080	.1400	.1750	.0830	.2050	.1500	.0590	.3030	.1400
225.000		.3310	.3900	.1990	.0960	-.0500	-.0470						-.0830	.0480	-.0240
270.000		.2260	1.2460	.4710	-.0090	-.1570	-.1330	-.0270			.0820	-.1450	-.1300	-.0670	.0710
315.000		.2020	.2930	.0470	-.0900	-.1900	-.1390						-.0950	.0270	.0070

X/LS .9670

PHI

.000	.0050
45.000	.1460
90.000	.2470
135.000	.1980
180.000	.0520
225.000	-.0740
270.000	.1460
315.000	.0410

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9560	.2180	.1570	-.0950	-.0710	-.0360	-.0810	-.1150	-.0620	-.0490	-.0560	-.0730	-.0320	.0060	.0110
45.000		.2700	.2500	-.0570	-.0580	-.0240							.0050	.0880	.1340
90.000		.3280	.3460	-.0160	-.0170	-.0050	.0000	-.0010	.0080	-.0260	-.0540	-.0450	-.0020	.2090	.2160
135.000		.3870	.3850	-.0040	-.0030	.0260							.0660	.3270	.2280
180.000	1.9560	.4000	.3370	-.0230	.0200	.0510	-.0120	.1100	.1390	.0620	.0940	.1040	.0400	.2690	.1200
225.000		.3160	.3800	.2030	.0970	-.0490	-.0160						-.0850	.0330	-.0480
270.000		.2110	1.1800	.4690	-.0040	-.1540	-.1210	-.0470			.0430	-.1400	-.1240	-.0620	.0420
315.000		.1810	.2260	.0420	-.0900	-.1930	-.1470						-.1000	-.0330	-.0170

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU4)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .0150  
 45.000 .1360  
 90.000 .2060  
 135.000 .1710  
 180.000 .0210  
 225.000 -.0810  
 270.000 .1700  
 315.000 .0240

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.190

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8750	.1840	.1290	-.1050	-.0870	-.0530	-.0900	-.1090	-.0620	-.0430	-.0500	-.0740	-.0210	.0230	.0310
45.000		.2270	.2120	-.0750	-.0860	-.0370							.0100	.0890	.1360
90.000		.2780	.2880	-.0410	-.0430	-.0260	-.0140	-.0220	-.0200	-.0490	-.0760	-.0720	-.0340	.1560	.1650
135.000		.3410	.3320	-.0300	-.0230	.0010							.0300	.2690	.1800
180.000	1.8750	.3650	.3090	-.0320	.0050	.0330	-.0200	.0740	.1020	.0340	.0340	.0610	.0080	.2220	.0880
225.000		.2970	.3840	.1560	.0980	-.0520	.1060						-.0980	.0180	-.0600
270.000		.1900	1.0820	.4650	-.0080	-.1530	-.1150	-.0630			.0270	-.1440	-.1190	-.0750	.0250
315.000		.1550	.2000	.0310	-.0970	-.1940	-.1580						-.0950	-.0260	-.0170

X/LS .9670

PHI

.000 .0480  
 45.000 .1430  
 90.000 .1660  
 135.000 .1340  
 180.000 .0000  
 225.000 -.0920  
 270.000 .1480  
 315.000 .0360

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSL4)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8050	.1550	.1160	-.1100	-.0840	-.0710	-.0910	-.0910	-.0440	-.0260	-.0410	-.0640	.0080	.0510	.0620
45.000		.1910	.1780	-.0870	-.0870	-.0490							.0400	.1150	.1530
90.000		.2360	.2400	-.0590	-.0610	-.0480	-.0280	-.0160	-.0380	-.0650	-.0940	-.0950	-.0570	.1100	.1450
135.000		.2940	.2910	-.0440	-.0380	-.0210							-.0110	.2060	.1340
180.000	1.8050	.3340	.2910	-.0390	.0000	.0180	-.0280	.0390	.0900	.0150	.0000	.0320	-.0180	.1750	.0530
225.000		.2800	.3880	.0780	.1000	-.0530	.1280						-.1090	-.0050	-.0770
270.000		.1770	.9580	.4590	-.0090	-.1510	-.1040	-.0700			.0100	-.1470	-.0960	-.0190	.0920
315.000		.1390	.1880	.0250	-.0960	-.1930	-.1540						-.0540	-.0040	.0380

X/LS .9670

PHI

.000	.0660
45.000	.1590
90.000	.1700
135.000	.0920
180.000	-.0180
225.000	-.0630
270.000	.2070
315.000	.0670

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6580	.1010	.0830	-.1240	-.0810	-.0970	-.1010	-.0560	-.0180	.0010	-.0330	-.0400	-.0160	.1680	.1390
45.000		.1190	.1160	-.1110	-.1050	-.0700							.0380	.0940	.1230
90.000		.1460	.1570	-.0950	-.0950	-.0750	-.0560	-.0440	-.0680	-.1030	-.0650	-.0590	.0470	.1220	.1260
135.000		.2060	.2130	-.0780	-.0730	-.0570							-.0710	.0760	.0520
180.000	1.6580	.2770	.2570	-.0570	-.0200	.0030	.1170	.0040	.0260	-.0370	-.0240	-.0350	-.0860	.0560	-.0380
225.000		.2490	.3480	.0700	.1170	-.0520	.0860						-.0990	.0050	.0140
270.000		.1440	.7760	.4300	-.0070	-.1480	-.0700	-.0880			-.0230	-.1060	-.0390	.0870	-.0050
315.000		.1000	.1490	-.0060	-.0930	-.1900	-.1390						-.0600	.0390	.0330

X/LS .9670

PHI

.000	.1190
45.000	.1280
90.000	.1170
135.000	.0140
180.000	.2540

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS04)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0400
270.000	.1080
315.000	.1500

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.6000	.0830	.0830	-.1140	-.1030	-.1000	-.1060	-.0430	-.0100	-.0060	-.0320	-.0280	-.0080	.1830	.1390
45.000		.0930	.0950	-.1180	-.1060	-.0800							.0040	.1490	.1070
90.000		.1160	.1290	-.1070	-.1060	-.0820	-.0670	-.0600	-.0740	-.0740	-.0680	-.0560	.0310	.0860	.0890
135.000		.1750	.1830	-.0900	-.0810	-.0620							-.0570	.0630	.0240
180.000	1.6000	.2590	.2470	-.0590	-.0350	-.0100	.0810	.0050	.0000	-.0530	-.0250	-.0740	-.1000	.0280	-.0510
225.000		.2360	.3340	.1090	.1220	-.0430	.0720						-.1040	-.0030	.0090
270.000		.1330	.7930	.4210	-.0050	-.1410	-.0710	-.0900			-.0300	-.1100	-.0760	.0340	.0260
315.000		.0890	.1450	-.0210	-.0900	-.1860	-.1350						-.0980	.0030	-.0050

X/LS .9670

PHI

.000	.1180
45.000	.1100
90.000	.0830
135.000	-.0030
180.000	.2520
225.000	.2110
270.000	.1540
315.000	-.0010

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.5470	.0670	.0780	-.1200	-.1080	-.1120	-.1140	-.0350	-.0090	-.0130	-.0330	-.0260	-.0010	.2060	.1820
45.000		.0730	.0740	-.1260	-.1130	-.0860							.0300	.2860	.2480
90.000		.0870	.0980	-.1190	-.1170	-.0910	-.0680	-.0680	-.0730	-.0900	-.1000	-.0570	.0230	.0840	.0640
135.000		.1480	.1570	-.0980	-.0960	-.0840							-.0280	.0330	-.0080
180.000	1.5470	.2420	.2740	-.0420	-.0240	-.0240	.0550	.0470	-.0210	-.0740	-.0240	-.0920	-.1110	.0060	-.0470
225.000		.2290	.3940	.0130	.0460	-.0410	.0620						-.1100	-.0100	.0340



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU4)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.580

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2870	.2560	.1700	-.0570	-.0290	-.0060	-.0400	-.0700	-.0480	-.0380	-.0540	-.0660	-.0420	.0600	.0040
45.000		.3070	.2910	-.0100	-.0190	.0020							-.0470	.1020	.1000
90.000		.3650	.3870	.0290	.0210	.0250	.0240	.0250	.0140	.0230	-.0080	-.0060	.0290	.3240	.3010
135.000		.4230	.4200	.0340	.0290	.0500							.1720	.5180	.3660
180.000	2.2870	.4320	.3410	.0000	.0360	.0420	.0270	.0100	.1690	.1090	.0600	.1840	.1690	.4580	.2430
225.000		.3600	.3190	.0900	.1570	-.0100	-.0370						.0440	.2210	.0340
270.000		.2580	.7510	.5670	.0940	-.0920	-.1040	-.0420			.0010	-.0940	-.0350	.0190	-.0730
315.000		.2280	.1510	.0620	-.0220	-.1230	-.1140						.0030	.0120	-.0290

X/LS .9670

PHI	
.000	.0200
45.000	.1190
90.000	.2820
135.000	.2760
180.000	.1230
225.000	.0020
270.000	.2090
315.000	.0220

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1930	.2230	.1460	-.0680	-.0450	-.0280	-.0500	-.0710	-.0700	-.0460	-.0620	-.0700	-.0490	.0380	-.0010
45.000		.2620	.2490	-.0280	-.0370	-.0100							-.0480	.0920	.0820
90.000		.3120	.3290	.0020	-.0030	.0040	.0000	.0040	.0020	-.0080	-.0300	-.0330	-.0020	.2670	.2460
135.000		.3700	.3690	.0150	.0100	.0270							.1350	.4330	.3140
180.000	2.1930	.3990	.3150	-.0060	.0250	.0290	.0120	.0940	.1370	.0790	.0310	.1380	.1310	.3950	.2000
225.000		.3390	.3030	.0470	.1560	-.0140	-.0420						.0000	.1900	.0170
270.000		.2380	.7280	.5600	.0900	-.0900	-.1070	-.0490				-.0070	-.1050	-.0560	-.0550
315.000		.2050	.1290	.0380	-.0290	-.1250	-.1240						-.0130	-.0250	-.0250

X/LS .9670

PHI	
.000	.0190
45.000	.0990
90.000	.2380
135.000	.2220
180.000	.0990



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS:4)

MACH ( 2) = 2.999

BETAT ( 2) = -6.425

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9675

PHI

225.000	-.0090
270.000	.1870
315.000	.0000

MACH ( 2) = 2.999

BETAT ( 3) = -4.260

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.0970	.1870	.1210	-.0800	-.0580	-.0480	-.0620	-.0770	-.0690	-.0530	-.0650	-.0740	-.0330	.0740	.0210
45.000		.2190	.2080	-.0470	-.0540	-.0260							-.0260	.0740	.0850
90.000		.2590	.2720	-.0220	-.0270	-.0180	-.0230	-.0160	-.0200	-.0360	-.0550	-.0590	-.0280	.2080	.1830
135.000		.3210	.3170	-.0100	-.0130	.0000							.0910	.3780	.2400
180.000	2.0970	.3660	.2910	-.0220	.0090	.0210	-.0030	.1080	.1010	.0490	.0100	.1050	.1180	.3480	.1400
225.000		.3200	.2890	.0260	.1580	-.0170	-.0470						.0080	.1680	.0030
270.000		.2190	.6980	.5480	.0850	-.0930	-.1110	-.0520			-.0130	-.0990	-.0470	.0100	-.0360
315.000		.1800	.1030	-.0050	-.0350	-.1270	-.1330						-.0060	-.0190	-.0180

X/LS .9670

PHI

.000	.0300
45.000	.1220
90.000	.1850
135.000	.1710
180.000	.0580
225.000	-.0390
270.000	.1390
315.000	-.0210

MACH ( 2) = 2.999

BETAT ( 4) = -2.110

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.9860	.1580	.1000	-.0860	-.0710	-.0560	-.0660	-.0750	-.0620	-.0460	-.0550	-.0620	-.0240	.0930	.0550
45.000		.1750	.1700	-.0600	-.0680	-.0410							-.0270	.0930	.0960
90.000		.2100	.2220	-.0400	-.0480	-.0390	-.0370	-.0300	-.0410	-.0510	-.0720	-.0800	-.0580	.1340	.1300
135.000		.2710	.2730	-.0260	-.0320	-.0260							.0690	.2660	.1710
180.000	1.9860	.3330	.2680	-.0300	-.0040	.0160	-.0160	.0750	.0670	.0290	-.0030	.0410	.0480	.3100	.1000
225.000		.2990	.2790	.0280	.1700	-.0190	-.0480						-.0210	.0820	-.0300

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS04)

MACH ( 2) = 2.999

BETAT ( 1) = -8.580

SECTION ( 1)SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2870	.2560	.1700	-.0570	-.0290	-.0060	-.0400	-.0700	-.0480	-.0380	-.0540	-.0660	-.0420	.0600	.0040
45.000		.3070	.2910	-.0100	-.0190	.0020							-.0470	.1020	.1000
90.000		.3650	.3870	.0290	.0210	.0250	.0240	.0250	.0140	.0230	-.0080	-.0060	.0290	.3240	.3010
135.000		.4230	.4200	.0340	.0290	.0500							.1720	.5180	.3660
180.000	2.2870	.4320	.3410	.0000	.0360	.0420	.0270	.0100	.1690	.1090	.0600	.1840	.1690	.4580	.2430
225.000		.3600	.3190	.0900	.1570	-.0100	-.0370						.0440	.2210	.0340
270.000		.2580	.7510	.5670	.0940	-.0920	-.1040	-.0420			.0010	-.0940	-.0350	.0190	-.0730
315.000		.2280	.1510	.0620	-.0220	-.1230	-.1140						.0030	.0120	-.0290

X/LS .9670

PHI	
.000	.0200
45.000	.1190
90.000	.2820
135.000	.2760
180.000	.1230
225.000	.0020
270.000	.2090
315.000	.0220

MACH ( 2) = 2.999

BETAT ( 2) = -6.420

SECTION ( 1)SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1930	.2230	.1460	-.0680	-.0450	-.0280	-.0500	-.0710	-.0700	-.0460	-.0620	-.0700	-.0490	.0380	-.0010
45.000		.2620	.2490	-.0280	-.0370	-.0100							-.0480	.0920	.0820
90.000		.3120	.3290	.0020	-.0030	.0040	.0000	.0040	.0020	-.0080	-.0300	-.0330	-.0020	.2670	.2460
135.000		.3700	.3690	.0150	.0100	.0270							.1350	.4330	.3140
180.000	2.1930	.3990	.3150	-.0060	.0250	.0290	.0120	.0940	.1370	.0790	.0310	.1380	.1310	.3950	.2000
225.000		.3390	.3030	.0470	.1560	-.0140	-.0420						.0000	.1900	.0170
270.000		.2380	.7280	.5600	.0900	-.0900	-.1070	-.0490			-.0070	-.1060	-.0560	.0160	-.0550
315.000		.2050	.1290	.0380	-.0290	-.1250	-.1240						-.0130	-.0250	-.0250

X/LS .9670

PHI	
.000	.0190
45.000	.0990
90.000	.2380
135.000	.2220
180.000	.0990

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS04)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.425

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0090  
270.000 .1870  
315.000 .0000

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.0970 .1870 .1210 -.0800 -.0580 -.0480 -.0620 -.0770 -.0690 -.0530 -.0650 -.0740 -.0330 .0740 .0210  
45.000 .2190 .2080 -.0470 -.0540 -.0260  
90.000 .2590 .2720 -.0220 -.0270 -.0180 -.0230 -.0160 -.0200 -.0360 -.0550 -.0590 -.0280 .2080 .1830  
135.000 .3210 .3170 -.0100 -.0130 .0000  
180.000 2.0970 .3660 .2910 -.0220 .0090 .0210 -.0030 .1080 .1010 .0490 .0100 .1050 .1180 .3480 .1400  
225.000 .3200 .2890 .0260 .1580 -.0170 -.0470  
270.000 .2190 .6980 .5480 .0850 -.0930 -.1110 -.0520 -.0130 -.0990 -.0470 .0100 -.0360  
315.000 .1800 .1030 -.0050 -.0350 -.1270 -.1330

X/LS .9670

PHI

.000 .0300  
45.000 .1220  
90.000 .1850  
135.000 .1710  
180.000 .0580  
225.000 -.0390  
270.000 .1390  
315.000 -.0210

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.9860 .1580 .1000 -.0860 -.0710 -.0360 -.0660 -.0750 -.0620 -.0460 -.0550 -.0620 -.0240 .0930 .0550  
45.000 .1750 .1700 -.0600 -.0680 -.0410  
90.000 .2100 .2220 -.0400 -.0480 -.0390 -.0370 -.0300 -.0410 -.0510 -.0720 -.0800 -.0580 .1340 .1300  
135.000 .2710 .2730 -.0260 -.0320 -.0260  
180.000 1.9860 .3330 .2680 -.0300 -.0040 .0160 -.0160 .0750 .0670 .0290 -.0030 .0410 .0480 .3120 .1000  
225.000 .2990 .2790 .0280 .1700 -.0190 -.0480





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS04)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.1990
270.000	.1070
315.000	.0370

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.710

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5160	.0520	.0520	-.0960	-.0970	-.1000	-.1010	-.0560	-.0260	-.0300	-.0510	-.0420	-.0340	.1640	.1410
45.000		.0380	.0370	-.1020	-.1020	-.0870							-.0510	.2180	.2020
90.000		.0460	.0500	-.0970	-.1020	-.0910	-.0820	-.0820	-.1090	-.1120	-.0880	-.0500	-.0140	.0500	-.0060
135.000		.1000	.1040	-.0870	-.0900	-.0870							-.0250	.0190	-.0140
180.000	1.5160	.2130	.2380	-.0410	-.0380	-.0350	.0620	.0170	-.0230	-.0710	-.0780	-.0690	-.0750	.0290	-.0390
225.000		.2230	.2960	-.0730	-.0450	-.0070	.0660						-.1150	-.0460	.0070
270.000		.1330	.0920	.2580	.0220	-.0950	-.0440	-.0620			-.0550	-.1010	-.0890	-.0140	.0180
315.000		.0860	.0960	-.0830	-.0610	-.1230	-.1060						-.0900	-.0250	-.0270

X/LS .9670

PHI

.000	.1070
45.000	.1880
90.000	-.0400
135.000	-.0440
180.000	.1350
225.000	.0510
270.000	.0500
315.000	.3150

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.740

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.5910	.2740	.1820	-.0640	-.0420	-.0140	-.0220	-.0400	-.0550	-.0310	-.0350	-.0490	-.0340	.0620	.0200
45.000		.3170	.3030	-.0160	-.0320	.0190							-.0450	.1220	.1230
90.000		.3750	.4000	.0190	.0020	.0330	.0300	.0290	.0170	.0260	.0000	.0050	.0200	.3620	.3240
135.000		.4370	.4180	.0280	.0140	.0570							.2570	.5780	.4600
180.000	2.5910	.4650	.3380	-.0080	.0470	.0270	.0410	.0210	.1030	.1190	.0820	.1630	.2300	.5550	.3030
225.000		.3960	.2930	.0200	.2070	.0170	-.0220						.0410	.2500	.1020



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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS04)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3170	.1990	.1260	-.0600	-.0450	-.0350	-.0420	-.0530	-.0680	-.0510	-.0550	-.0650	-.0590	.0760	.0050
45.000		.2190	.2080	-.0280	-.0400	-.0190								.1020	.0650
90.000		.2550	.2710	-.0050	-.0190	-.0110	-.0120	-.0080	-.0110	-.0230	-.0420	-.0410	-.0280	.2250	.1840
135.000		.3210	.3170	.0060	-.0070	.0090							.1630	.4040	.2850
180.000	2.3170	.3840	.2950	-.0070	.0150	.0060	.0130	.0190	.0670	.0540	.0160	.0870	.1450	.4560	.2090
225.000		.3430	.2580	.0210	.2020	.0030	-.0370						.0570	.1860	.0500
270.000		.2450	.5090	.6030	.1440	-.0560	-.0840	-.0470			-.0250	-.0660	.0170	.0360	-.0180
315.000		.2010	.1170	-.0280	.0050	-.0910	-.1040						-.0150	-.0170	-.0130

X/LS .9670

PHI	
.000	.0210
45.000	.0840
90.000	.1900
135.000	.2210
180.000	.1130
225.000	-.0010
270.000	.0380
315.000	-.0120

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.150

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1750	.1710	.1090	-.0620	-.0480	-.0470	-.0470	-.0530	-.0600	-.0470	-.0490	-.0570	-.0100	.0860	.0390
45.000		.1810	.1720	-.0360	-.0470	-.0290							-.0160	.0820	.0500
90.000		.2190	.2220	-.0190	-.0300	-.0250	-.0240	-.0200	-.0210	-.0380	-.0520	-.0600	-.0350	.1730	.1250
135.000		.2750	.2710	-.0050	-.0230	-.0150							.0870	.3260	.1980
180.000	2.1750	.3480	.2760	-.0110	.0070	.0050	-.0070	.1130	.0580	.0400	.0100	.1000	.1400	.3450	.1650
225.000		.3240	.2600	.0120	.0840	.0010	-.0350						.0450	.1850	.0140
270.000		.2280	.2730	.5410	.1380	-.0520	-.0820	-.0400			-.0150	-.0540	.0040	.0490	-.0070
315.000		.1810	.1000	-.0300	-.0030	-.0880	-.1010						.0480	-.0010	-.0200

X/LS .9670

PHI	
.000	.0570
45.000	.0870
90.000	.1360
135.000	.1500
180.000	.0790



AMES 87-757 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNSU4)

MACH ( 3) = 3.502

BETAT ( 4) = -2.150

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0310
270.000	.0590
315.000	-.0130

MACH ( 3) = 3.502

BETAT ( 5) = 2.260

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8880	.1100	.0680	-.1010	-.0910	-.0750	-.0700	-.0650	-.0480	-.0380	-.0320	-.0410	-.0270	.1720	.1040
45.000		.1050	.0990	-.0840	-.0940	-.0490							-.0260	.0810	.0240
90.000		.1220	.1280	-.0750	-.0870	-.0520	-.0530	-.0450	-.0610	-.0670	-.0800	-.0680	-.0420	.0810	.0240
135.000		.1800	.1610	-.0650	-.0780	-.0470							.0230	.1470	.0250
180.000	1.8880	.2780	.2080	-.0580	-.0160	-.0100	-.0200	.0340	.0090	-.0050	-.0340	.0120	.0830	.1540	.0270
225.000		.2760	.1970	-.0350	.0180	.0310	-.0190						.0250	.1050	-.0170
270.000		.1880	.1760	.3810	.1200	-.0560	-.0740	-.0340			-.0230	-.0580	.0050	.0720	-.0100
315.000		.1370	.0550	-.0720	-.0240	-.0930	-.1050						.0350	.0160	.0150

X/LS .9670

PHI

.000	.0750
45.000	.0460
90.000	.0380
135.000	.0170
180.000	-.0140
225.000	-.0210
270.000	.0010
315.000	.0520

MACH ( 3) = 3.502

BETAT ( 6) = 4.460

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7510	.0900	.0610	-.0920	-.0910	-.0690	-.0760	-.0690	-.0450	-.0280	-.0330	-.0410	-.0180	.1690	.0970
45.000		.0760	.0690	-.0880	-.0950	-.0620							-.0120	.2220	.0970
90.000		.0860	.0910	-.0810	-.0890	-.0620	-.0660	-.0490	-.0690	-.0830	-.0840	-.0650	-.0450	.0860	.0040
135.000		.1450	.1260	-.0710	-.0820	-.0600							.0390	.0730	-.0120
180.000	1.7510	.2480	.1930	-.0520	-.0260	-.0060	-.0240	.0080	-.0010	-.0220	-.0600	-.0080	.0370	.1280	.0050
225.000		.2550	.2410	-.0190	.0210	-.0070	.0840						-.0050	.0810	-.0060





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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0270	.2860	.2150	-.0710	-.0430	.0010	-.0580	-.0940	-.0010	-.0200	-.0360	-.0280	-.0180	.0640	.0940
45.000		.3420	.3220	-.0300	-.0430	.0080		.0300	.0300	.0450	.0230	-.0030	.0300	.1050	.3440
90.000		.3850	.4010	.0350	.0080	.0230								.1440	.4290
135.000		.4040	.3930	-.0010	.0010	.0350									.3270
180.000	2.0270	.3730	.3040	-.0340	.0070	.0410	-.0300	.0870	.1650	.0920	.1870	.1790	.0770	.3270	.1510
225.000		.3010	.3350	.1600	.0540	-.0770	-.0820						-.0760	.0520	-.0190
270.000		.2330	1.1910	.4730	-.0020	-.1630	-.1160	.0150			.0720	-.1350	-.0930	-.0420	.0590
315.000		.2330	.2840	.0870	-.0450	-.1360	-.1150						-.0630	-.0230	-.0080

X/LS .9670

PHI

.000 .0970  
 45.000 .2540  
 90.000 .3190  
 135.000 .2260  
 180.000 .0660  
 225.000 -.0700  
 270.000 .1760  
 315.000 .0580

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9590	.2540	.1860	-.0800	-.0510	-.0170	-.0720	-.0880	-.0100	-.0160	-.0360	-.0450	-.0060	.0810	.1170
45.000		.2970	.2790	-.0480	-.0440	-.0080							.0260	.2090	.2420
90.000		.3320	.3430	-.0170	-.0120	-.0040	.0110	.0100	.0230	.0030	-.0200	.0100	.0840	.3200	.3150
135.000		.3560	.3500	-.0200	-.0140	.0130							.1030	.3840	.2700
180.000	1.9590	.3440	.2810	-.0430	-.0060	.0260	-.0360	.1010	.1220	.0620	.0420	.1190	.0480	.2950	.1350
225.000		.2800	.3080	.1630	.0550	-.0790	-.0850						-.0830	.0380	-.0380
270.000		.2150	1.0830	.4730	-.0030	-.1620	-.1230	-.0340			.0370	-.1370	-.0880	-.0490	.0540
315.000		.2110	.2460	.0840	-.0470	-.1450	-.1210						-.0890	-.0520	-.0390

X/LS .9670

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.1190
45.000	.2420
90.000	.2890
135.000	.2030
180.000	.0350
225.000	-.0790
270.000	.1530
315.000	.0540

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.190

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
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PHI

.000	1.8860	.2190	.1650	-.0940	-.0670	-.0380	-.0760	-.0910	-.0230	-.0100	-.0350	-.0450	.0110	.1040	.1330
45.000		.2530	.2370	-.0660	-.0650	-.0240							.0500	.2110	.2400
90.000		.2810	.2850	-.0410	-.0400	-.0250	-.0100	-.0100	.0320	-.0200	-.0320	-.0110	.0630	.2850	.2880
135.000		.3100	.3030	-.0440	-.0390	-.0070							.0720	.3320	.2280
180.000	1.8860	.3140	.2570	-.0560	-.0230	.0100	-.0430	.0700	.0930	.0410	.0110	.0730	.0210	.2510	.1100
225.000		.2620	.3070	.1360	.0550	-.0810	-.0820						-.0920	.0210	-.0540
270.000		.1950	.9360	.4670	-.0020	-.1640	-.1290	-.0680			.0130	-.1450	-.0840	-.0560	.0390
315.000		.1870	.2120	.0730	-.0480	-.1500	-.1310						-.0790	-.0540	-.0080

X/LS .9670

PHI

.000	.1170
45.000	.2340
90.000	.2630
135.000	.1710
180.000	.0120
225.000	-.0880
270.000	.1800
315.000	.0860

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8110	.1870	.1470	-.1030	-.0760	-.0550	-.0850	-.0800	-.0240	.0010	-.0270	-.0430	.0190	.0990	.1140
45.000		.2090	.2010	-.0830	-.0830	-.0460							.0840	.2050	.2410
90.000		.2340	.2410	-.0640	-.0660	-.0470	-.0260	-.0240	-.0210	-.0330	-.0430	-.0200	.0560	.2650	.2680
135.000		.2650	.2570	-.0620	-.0640	-.0400							.0330	.2750	.1880
180.000	1.8110	.2830	.2340	-.0660	-.0360	-.0130	-.0530	.0370	.0730	.0160	-.0040	.0460	-.0060	.1920	.0720
225.000		.2430	.3070	.0430	.0550	-.0840	-.0160						-.1040	-.0010	-.0630
270.000		.1770	.8290	.4600	-.0060	-.1660	-.1250	-.0860			-.0020	-.1190	-.0460	.0550	.0920
315.000		.1650	.1950	.0660	-.0520	-.1530	-.1330						-.0570	-.0060	.0340

X/LS .9670

PHI

.000	.1090
45.000	.2330
90.000	.2360
135.000	.1400
180.000	-.0130
225.000	-.0410
270.000	.2070
315.000	.1170

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6740	.1380	.1220	-.1070	-.0790	-.0780	-.0940	-.0450	.0070	.0020	-.0180	-.0390	.0570	.1530	.1400
45.000		.1370	.1390	-.1040	-.0950	-.0680							.1010	.1720	.1920
90.000		.1500	.1630	-.0920	-.0940	-.0680	-.0460	-.0090	-.0350	-.0380	-.0350	-.0150	.1220	.2230	.2100
135.000		.1840	.1900	-.0870	-.0940	-.0730							-.0110	.1840	.1230
180.000	1.6740	.2290	.2070	-.0750	-.0460	-.0270	.1290	-.0050	.0320	-.0360	-.0380	-.0200	-.0660	.0880	-.0150
225.000		.2120	.2950	.0320	.0600	-.0800	.0680						-.0760	.0290	.0020
270.000		.1490	.7620	.4270	-.0040	-.1590	-.0840	-.0940			-.0280	-.0980	-.0230	.0350	.0040
315.000		.1340	.1920	-.0650	-.0440	-.1470	-.1130						-.0420	.0380	.1140

X/LS .9670

PHI

.000	.1450
45.000	.1910
90.000	.1830
135.000	.0620
180.000	.1380

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0090
270.000	.1250
315.000	.1130

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.6170	.1170	.1220	-.1060	-.0920	-.0890	-.0990	-.0340	.0070	-.0050	-.0290	-.0400	.0050	.2110	.2130
45.000		.1070	.1160	-.1120	-.1000	-.0810							.1080	.2530	.2290
90.000		.1170	.1310	-.1050	-.1040	-.0740	-.0490	-.0250	-.0340	-.0300	-.0450	-.0190	.0750	.1490	.1600
135.000		.1510	.1580	-.1000	-.0910	-.0670							.0030	.1350	.0800
180.000	1.6170	.2090	.2020	-.0800	-.0540	-.0340	.0930	-.0220	-.0050	-.0580	-.0330	-.0470	-.0800	.0520	-.0160
225.000		.1960	.2760	.0380	.0730	-.0800	.0560						-.0800	.0260	.0240
270.000		.1370	.7290	.4010	-.0090	-.1560	-.0810	-.0950			-.0350	-.1080	-.0410	.0290	.0330
315.000		.1220	.1910	-.0640	-.0440	-.1450	-.0920						-.0640	.0170	.0640

X/LS .9670

PHI

.000	.1860
45.000	.2010
90.000	.1480
135.000	.0370
180.000	.2330
225.000	.1890
270.000	.1010
315.000	.1650

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.5630	.1060	.1230	-.1120	-.1000	-.0940	-.1030	-.0270	-.0020	-.0140	-.0280	-.0320	.0230	.1970	.1890
45.000		.0890	.0930	-.1220	-.1080	-.0840							.0830	.2780	.2460
90.000		.0940	.1040	-.1190	-.1160	-.0840	-.0510	-.0290	-.0250	-.0380	-.0650	-.0310	.0690	.1060	.1160
135.000		.1270	.1310	-.1110	-.1020	-.0780							.0030	.0910	.0380
180.000	1.5630	.1940	.2080	-.0670	-.0410	-.0520	.0500	.0350	-.0240	-.0760	-.0140	-.0700	-.0820	.0330	-.0270
225.000		.1920	.3450	.0430	.0390	-.0870	.0390						-.0810	.0170	.0250





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1136	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3040	.3050	.2120	-.0580	-.0250	.0080	-.0200	-.0480	-.0090	-.0100	-.0280	-.0410	-.0110	.0720	.1010
45.000		.3460	.3320	-.0090	-.0160	.0230							.0120	.1740	.2290
90.000		.3830	.4010	.0200	.0160	.0350	.0370	.0390	.0240	.0470	.0200	.0290	.1060	.3580	.3860
135.000		.4060	.3920	.0140	.0070	.0440							.1720	.5350	.4290
180.000	2.3040	.3910	.2910	-.0270	.0230	.0370	.0090	-.0090	.1530	.1130	.0710	.2150	.1260	.4720	.2790
225.000		.3350	.2740	.0520	.1210	-.0310	-.0580						-.0100	.1620	.0430
270.000		.2710	.7460	.5650	.1010	-.0950	-.0980	.0040			.0090	-.0820	-.0660	-.0050	-.0310
315.000		.2670	.1750	.0660	.0290	-.0900	-.0900						-.0550	-.0070	-.0180

X/LS .9670

PHI

.000	.1040
45.000	.2370
90.000	.3700
135.000	.3170
180.000	.1420
225.000	.0110
270.000	.2380
315.000	.0290

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.440

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1136	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2090	.2700	.1890	-.0540	-.0260	-.0090	-.0280	-.0470	-.0180	-.0170	-.0330	-.0390	-.0060	.0790	.1180
45.000		.2990	.2880	-.0120	-.0220	.0110							.0090	.1580	.2120
90.000		.3290	.3440	.0110	.0050	.0140	.0200	.0210	.0080	.0230	-.0030	.0060	.0790	.2980	.3360
135.000		.3570	.3500	.0090	.0020	.0250							.1390	.4730	.3810
180.000	2.2090	.3640	.2760	-.0210	.0100	.0480	-.0030	-.0170	.1380	.0830	.0420	.1790	.0990	.3960	.2350
225.000		.3130	.2690	.0320	.1210	-.0340	-.0610						-.0340	.1430	.0290
270.000		.2510	.7230	.5610	.1020	-.0920	-.1050	-.0300			-.0010	-.0830	-.0640	-.0080	-.0140
315.000		.2440	.1620	.0330	.0230	-.0930	-.0950						-.0700	-.0310	-.0390

X/LS .9670

PHI

.000	.1210
45.000	.2240
90.000	.3200
135.000	.2730
180.000	.1180

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TABULATED PRESSURE DATA - IA9C

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.440

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI  
225.000 -.0010  
270.000 .2150  
315.000 -.0120

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1180	.2370	.1640	-.0600	-.0340	-.0240	-.0400	-.0560	-.0290	-.0220	-.0300	-.0380	.0050	.0910	.1290
45.000		.2530	.2440	-.0280	-.0340	-.0080							.0180	.1650	.2140
90.000		.2750	.2900	-.0070	-.0150	-.0070	.0010	.0040	.0020	.0000	-.0200	-.0130	.0480	.2540	.2840
135.000		.3070	.3060	-.0070	-.0150	.0010							.1080	.4010	.3110
180.000	2.1180	.3290	.2580	-.0290	-.0020	.0400	-.0150	.0580	.1060	.0610	.0170	.1430	.0780	.3590	.1760
225.000		.2950	.2530	.0160	.1250	-.0340	-.0620						-.0410	.1120	.0130
270.000		.2340	.6940	.5320	.1010	-.0920	-.1090	-.0480			-.0070	-.0830	-.0700	-.0320	-.0160
315.000		.2220	.1560	-.0100	.0260	-.0980	-.1020						-.0610	-.0380	-.0460

X/LS .9670

PHI  
.000 .1270  
45.000 .2260  
90.000 .2780  
135.000 .2210  
180.000 .0830  
225.000 -.0260  
270.000 .1520  
315.000 -.0260

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0130	.2010	.1400	-.0720	-.0520	-.0320	-.0530	-.0630	-.0330	-.0150	-.0210	-.0340	.0160	.0700	.0960
45.000		.2050	.2020	-.0460	-.0550	-.0300							.0510	.1750	.2090
90.000		.2230	.2350	-.0330	-.0390	-.0290	-.0200	-.0160	-.0100	-.0270	-.0370	-.0290	.0250	.2270	.2530
135.000		.2560	.2530	-.0300	-.0380	-.0230							.0580	.3280	.2400
180.000	2.0130	.2940	.2290	-.0440	-.0160	-.0150	-.0250	.0840	.0780	.0430	.0050	.1030	.0450	.2930	.1310
225.000		.2730	.2330	.0020	.1250	-.0380	-.0690						-.0600	.0700	-.0200

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386	
PHI																
270.000		.2130	.6260	.5250	.0970	-.0950	-.1130	-.0620				-.0110	-.0660	-.0670	-.0150	.0090
315.000		.1960	.1360	-.0250	.0200	-.1030	-.1090						-.0550	-.0120	.0040	
X/LS	.9670															
PHI																
.000	.1050															
45.000	.2170															
90.000	.2440															
135.000	.1740															
180.000	.0490															
225.000	-.0530															
270.000	.1100															
315.000	.0230															

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.220

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7800	.1410	.1030	-.0860	-.0750	-.0420	-.0720	-.0680	-.0210	-.0020	-.0150	-.0310	-.0200	.1470	.1270
45.000		.1270	.1260	-.0730	-.0820	-.0550							.0790	.1550	.1730
90.000		.1350	.1430	-.0650	-.0730	-.0560	-.0420	-.0260	-.0430	-.0410	-.0350	-.0180	.0670	.1530	.1740
135.000		.1690	.1650	-.0630	-.0690	-.0630							-.0530	.1590	.1130
180.000	1.7800	.2290	.1830	-.0610	-.0380	-.0250	-.0420	.0140	.0230	-.0130	-.0450	.0200	-.0280	.1580	.0380
225.000		.2280	.2100	-.0220	.1180	-.0400	-.0380						-.0700	.0560	-.0100
270.000		.1730	.2080	.4210	.0830	-.0940	-.1010	-.0640			-.0290	-.0730	-.0450	.0190	-.0110
315.000		.1550	.1370	-.0410	.0370	-.0980	-.1100						-.0620	.0130	.0640
X/LS	.9670														
PHI															
.000	.1260														
45.000	.1740														
90.000	.1680														
135.000	.0770														
180.000	-.0100														
225.000	-.0340														
270.000	.0610														
315.000	.1020														

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.370

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6780	.1210	.1000	-.0820	-.0760	-.0740	-.0790	-.0590	-.0110	-.0030	-.0200	-.0280	-.0120	.1700	.1800
45.000		.1000	.1000	-.0830	-.0880	-.0610							.0280	.2150	.1970
90.000		.1050	.1110	-.0760	-.0800	-.0630	-.0510	-.0210	-.0450	-.0330	-.0420	-.0270	.0510	.0990	.1160
135.000		.1380	.1340	-.0730	-.0790	-.0730							.0170	.1240	.0710
180.000	1.6780	.2060	.1710	-.0630	-.0400	-.0330	-.0170	-.0070	.0180	-.0340	-.0660	-.0200	-.0360	.0780	-.0010
225.000		.2120	.1950	-.0260	.0690	-.0410	.0810						-.0700	.0460	-.0110
270.000		.1610	.1760	.4310	.0690	-.0940	-.0840	-.0610			-.0360	-.0760	-.0390	.0110	-.0160
315.000		.1410	.1280	-.0500	-.0160	-.0940	-.1020						-.0580	.0190	.0180

X/LS .9670

PHI	
.000	.1710
45.000	.1670
90.000	.1210
135.000	.0430
180.000	-.0380
225.000	-.0080
270.000	.0700
315.000	.1050

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6010	.1040	.1030	-.0850	-.0830	-.0770	-.0840	-.0510	-.0150	-.0150	-.0300	-.0250	-.0030	.1680	.1700
45.000		.0760	.0810	-.0920	-.0970	-.0690							.0290	.2470	.2090
90.000		.0780	.0880	-.0880	-.0930	-.0690	-.0590	-.0280	-.0420	-.0410	-.0660	-.0530	.0030	.0830	.0350
135.000		.1100	.1100	-.0850	-.0900	-.0790							.0170	.0730	.0310
180.000	1.6010	.1850	.1690	-.0660	-.0440	-.0270	.0370	-.0130	-.0060	-.0590	-.0800	-.0370	-.0440	.0570	-.0150
225.000		.2020	.2200	-.0300	.0020	-.0420	.0590						-.0750	.0350	-.0190
270.000		.1500	.1320	.3490	.0540	-.0920	-.0730	-.0590			-.0530	-.0780	-.0510	.0070	-.0060
315.000		.1280	.1150	-.0660	-.0440	-.0910	-.0930						-.0720	.0000	.0130

X/LS .9670

PHI	
.000	.1500
45.000	.1790
90.000	.0330
135.000	.0040
180.000	.1210

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1260  
270.000 .0790  
315.000 .2330

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.700

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5400 .0890 .0930 -.0870 -.0850 -.0820 -.0920 -.0510 -.0260 -.0290 -.0330 -.0360 -.0070 .1390 .1160  
45.000 .0530 .0570 -.0990 -.1010 -.0840 .0240 .2160 .2090  
90.000 .0530 .0580 -.0950 -.1000 -.0840 -.0640 -.0350 -.0470 -.0640 -.0670 -.0140 -.0120 .1610 .0850  
135.000 .0840 .0840 -.0900 -.0960 -.0860 .0110 .0600 .0080  
180.000 1.5400 .1710 .1830 -.0480 -.0510 -.0590 .0530 .0080 -.0230 -.0760 -.0870 -.0520 -.0620 .0480 -.0300  
225.000 .1930 .3280 -.0740 -.0730 -.0490 .0410 -.0900 -.0040 .0340  
270.000 .1440 .1080 .3030 .0330 -.1110 -.0510 -.0600 -.0610 -.0830 -.0650 -.0180 .0020  
315.000 .1220 .1420 -.0710 -.0500 -.0910 -.0740 -.0780 -.0100 .0770

X/LS .9670

PHI

.000 .0950  
45.000 .1860  
90.000 .0340  
135.000 -.0200  
180.000 .1120  
225.000 .0240  
270.000 -.0050  
315.000 .3640

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.750

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.6040 .3140 .2250 -.0520 -.0310 -.0070 -.0110 -.0260 -.0320 -.0070 -.0180 -.0270 -.0070 .1190 .1090  
45.000 .3450 .3350 -.0050 -.0190 .0280 .0120 .2160 .2200  
90.000 .3760 .4020 .0220 .0050 .0370 .0370 .0350 .0240 .0300 .0250 .0260 .0380 .3960 .3880  
135.000 .4050 .3820 .0140 .0000 .0440 .2560 .6190 .5130  
180.000 2.6040 .4090 .2870 -.0260 .0280 .0050 .0230 .0070 .0630 .1180 .0810 .1180 .2580 .6050 .3340  
225.000 .3600 .2500 .0040 .1590 -.0070 -.0420 .0680 .2630 .1090



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH (3) = 3.502

BETAT (3) = -4.350

SECTION (1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3330	.2400	.1660	-.0760	-.0600	-.0100	-.0320	-.0390	-.0420	-.0230	-.0330	-.0390	-.0310	.1190	.1080
45.000	.2460	.2360	-.0440	-.0590	-.0100								-.0170	.1550	.1610
90.000	.2630	.2760	-.0250	-.0410	-.0020								-.0190	.2800	.2590
135.000	.2950	.2700	-.0280	-.0400	.0040									.1550	.4610
180.000	2.3330	.3300	.2280	-.0480	.0010	-.0170	-.0010	-.0160	.0470	.0530	.0230	.0400	.1870	.4530	.2330
225.000	.3100	.2000	-.0190	.1450	-.0210	-.0540							.0440	.2110	.0560
270.000	.2530	.4420	.5690	.1520	-.0600	-.0910	-.0530				-.0180	-.0800	.0010	.0450	-.0060
315.000	.2370	.1260	-.0460	.0500	-.0680	-.0930							.0160	-.0230	-.0310

X/LS .9670

PHI

.000	.1130
45.000	.1780
90.000	.2650
135.000	.2750
180.000	.1340
225.000	.0050
270.000	.0330
315.000	-.0270

MACH (3) = 3.502

BETAT (4) = -2.140

SECTION (1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1960	.2080	.1410	-.0830	-.0700	-.0280	-.0420	-.0500	-.0440	-.0270	-.0260	-.0360	-.0180	.1440	.0830
45.000	.2000	.1930	-.0590	-.0720	-.0260								.0140	.1760	.1520
90.000	.2130	.2240	-.0450	-.0590	-.0240	-.0170	-.0180	-.0130	-.0210	-.0350	-.0330	-.0180	.2410	.2060	
135.000	.2470	.2220	-.0440	-.0590	-.0170								.1110	.4500	.2590
180.000	2.1960	.2970	.2040	-.0590	-.0110	-.0220	-.0130	-.0110	.0300	.0370	.0060	.0460	.1620	.3850	.1750
225.000	.2860	.1800	-.0320	.1090	-.0200	-.0550							.0610	.1720	.0170
270.000	.2310	.2380	.5130	.1450	-.0590	-.0880	-.0600				-.0210	-.0690	.0100	.0520	-.0030
315.000	.2100	.1050	-.0560	.0440	-.0730	-.0990							.0300	-.0090	.0050

X/LS .9670

PHI

.000	.0840
45.000	.1710
90.000	.2130
135.000	.1970
180.000	.0870

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0310  
270.000 .0170  
315.000 -.0060

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9030	.1410	.1040	-.0830	-.0830	-.0660	-.0650	-.0610	-.0380	-.0160	-.0250	-.0310	-.0290	.1820	.0940
45.000		.1190	.1160	-.0790	-.0890	-.0480							.0260	.1710	.1420
90.000		.1230	.1290	-.0710	-.0800	-.0480	-.0450	-.0370	-.0340	-.0410	-.0480	-.0360	.0180	.1490	.1200
135.000		.1570	.1360	-.0690	-.0810	-.0480							.0310	.1840	.0710
180.000	1.9030	.2290	.1650	-.0670	-.0280	-.0320	-.0420	.0240	.0030	-.0050	-.0350	.0230	.0740	.1520	.0240
225.000		.2390	.2090	-.0470	-.0300	-.0320	-.0580						.0330	.1010	-.0170
270.000		.1880	.1350	.3570	.0830	-.0700	-.0860	-.0480			-.0300	-.0590	.0070	.0600	-.0300
315.000		.1670	.0890	-.0710	-.0320	-.0760	-.0930						.0050	.0210	.0100

X/LS .9670

PHI

.000 .0880  
45.000 .1420  
90.000 .1220  
135.000 .0540  
180.000 -.0130  
225.000 -.0300  
270.000 -.0160  
315.000 .0600

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.460

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7690	.1190	.1030	-.0890	-.0930	-.0720	-.0750	-.0660	-.0380	-.0230	-.0330	-.0430	-.0300	.1410	.1240
45.000		.0870	.0850	-.0930	-.0990	-.0580							-.0050	.2440	.1600
90.000		.0890	.0940	-.0870	-.0950	-.0610	-.0560	-.0460	-.0470	-.0500	-.0530	-.0490	-.0200	.1230	.0720
135.000		.1220	.0970	-.0830	-.0950	-.0620							.0670	.1110	.0340
180.000	1.7690	.2000	.1570	-.0650	-.0400	-.0420	-.0490	-.0020	-.0030	-.0250	-.0550	-.0390	.0280	.1130	.0040
225.000		.2190	.1790	-.0670	-.0380	-.0360	-.0140						-.0060	.0830	-.0080





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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS05)

MACH (3) = 3.502

BETAT (8) = 8.860

SECTION (1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5180	.0780	.0850	-.0930	-.1040	-.0800	-.0870	-.0710	-.0370	-.0370	-.0460	-.0380	-.0260	.1120	.0620
45.000		.0370	.0400	-.1050	-.1120	-.0760							-.0160	.2260	.1540
90.000		.0360	.0380	-.1040	-.1090	-.0780	-.0700	-.0530	-.0670	-.0810	-.0790	-.0350	-.0270	.1730	.0590
135.000		.0650	.0420	-.1000	-.1120	-.0800							.0510	.1120	.0110
180.000	1.5180	.1540	.1330	-.0780	-.0540	-.0540	.0500	-.0270	-.0390	-.0620	-.0710	-.0380	.0230	.0860	-.0390
225.000		.2300	.0910	-.0940	-.0640	-.0380	.0770						-.0250	.0340	.0000
270.000		.2290	-.0180	.1330	-.0060	-.0800	-.0390	-.0390			-.0560	-.0800	.0050	.0220	-.0420
315.000		.1480	.0320	-.0990	-.0820	-.0740	-.0740						.0220	.0200	.1690

X/LS .9670

PHI

.000	.1100
45.000	.1220
90.000	.0050
135.000	-.0210
180.000	.0990
225.000	-.0040
270.000	-.0350
315.000	.1010

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 CRBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0310	.3290	.2570	-.0530	-.0180	.0180	-.0430	-.0710	.0240	.0040	-.0130	-.0180	.0120	.1250	.1410
45.000		.3710	.3560	-.0110	-.0120	.0230							.1200	.3000	.3310
90.000		.3860	.4060	.0080	.0100	.0230	.0330	.0350	.0220	.0460	.0370	.0780	.1990	.4610	.4450
135.000		.3720	.3630	-.0160	-.0140	.0220							.2040	.4940	.3760
180.000	2.0310	.3300	.2600	-.0550	-.0130	.0190	-.0430	.0290	.1450	.0950	.1270	.2010	.1070	.3620	.1670
225.000		.2700	.2940	.1210	.0100	-.1010	-.0980						-.0650	.0550	-.0130
270.000		.2340	1.1460	.4720	.0030	-.1660	-.0900	.0750			.0900	-.1310	-.0760	-.0250	.0940
315.000		.2650	.2970	.1280	.0100	-.1010	-.1010						-.0430	.0190	.0470

X/LS .9670

PHI

.000 .1350  
 45.000 .3230  
 90.000 .3960  
 135.000 .2600  
 180.000 .0770  
 225.000 -.0630  
 270.000 .1830  
 315.000 .0860

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9660	.2940	.2290	-.0700	-.0240	.0030	-.0510	-.0700	.0030	-.0030	-.0190	-.0220	.0220	.1310	.1480
45.000		.3260	.3110	-.0380	-.0390	.0040							.1200	.2890	.3190
90.000		.3380	.3470	-.0240	-.0180	-.0010	.0140	.0150	.0080	.0280	.0190	.0580	.1950	.4200	.4070
135.000		.3310	.3170	-.0360	-.0360	.0020							.1730	.4580	.3300
180.000	1.9660	.3020	.2320	-.0670	-.0220	.0050	-.0510	.0480	.1140	.0610	.0560	.1350	.0740	.3290	.1530
225.000		.2480	.2590	.1210	.0140	-.1070	-.1030						-.0760	.0500	-.0240
270.000		.2150	1.0260	.4730	.0030	-.1640	-.1000	.0370			.0300	-.1360	-.0760	-.0370	.0780
315.000		.2440	.2570	.1180	.0050	-.1060	-.1060						-.0490	.0030	.0440

X/LS .9670

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI	
.000	.1440
45.000	.3100
90.000	.3630
135.000	.2420
180.000	.0550
225.000	-.0730
270.000	.1530
315.000	.1100

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.190

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8930	.2570	.2020	-.0780	-.0480	-.0180	-.0610	-.0760	-.0040	-.0030	-.0130	-.0310	.0230	.1290	.1570
45.000		.2740	.2630	-.0550	-.0460	-.0160							.1270	.2730	.3020
90.000		.2840	.2880	-.0420	-.0370	-.0220	-.0050	-.0040	.0100	.0140	.0100	.0470	.1630	.3840	.3730
135.000		.2830	.2710	-.0530	-.0510	-.0170							.1330	.4090	.2860
180.000	1.8930	.2670	.2160	-.0740	-.0410	-.0110	-.0580	.0660	.0810	.0470	.0310	.0900	.0490	.2910	.1310
225.000		.2270	.2370	.1130	.0130	-.1110	-.1090						-.0850	.0300	-.0450
270.000		.1950	.8790	.4670	.0000	-.1650	-.1030	.0100			.0020	-.1470	-.0740	-.0560	.0690
315.000		.2180	.2310	.1130	.0030	-.1160	-.1120						-.0440	.0130	.0560

X/LS .9670

PHI	
.000	.1580
45.000	.2930
90.000	.3300
135.000	.2130
180.000	.0320
225.000	-.0770
270.000	.1890
315.000	.1110



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.170

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0230
270.000	.1460
315.000	.1570

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6140	.1570	.1620	-.0940	-.0710	-.0600	-.0880	-.0330	-.0060	-.0110	-.0250	-.0370	.0820	.2180	.2170
45.000		.1260	.1370	-.1050	-.0920	-.0800							.1520	.2650	.2390
90.000		.1170	.1320	-.1040	-.1060	-.0730	-.0500	-.0040	-.0010	.0010	-.0190	.0070	.1270	.2100	.2140
135.000		.1300	.1380	-.1070	-.0990	-.0850							.0530	.2050	.1250
180.000	1.6140	.1610	.1630	-.0970	-.0720	-.0600	.0820	-.0140	-.0010	-.0500	-.0290	-.0190	-.0500	.0880	.0110
225.000		.1600	.2250	-.0100	.0220	-.1080	.0430						-.0590	.0460	.0090
270.000		.1370	.4630	.3570	-.0090	-.1570	-.0060	-.0310			-.0400	-.0960	-.0170	.0300	.0060
315.000		.1570	.2230	-.0090	.0080	-.1120	-.0990						-.0440	.0660	.1210

X/LS .9670

PHI

.000	.2030
45.000	.2200
90.000	.1960
135.000	.0680
180.000	.0860
225.000	.1680
270.000	.1250
315.000	.1730

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.410

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5640	.1450	.1640	-.1030	-.0870	-.0740	-.0890	-.0290	-.0160	-.0250	-.0240	-.0320	.0690	.1990	.1920
45.000		.1030	.1130	-.1190	-.1160	-.0850							.1350	.2370	.2300
90.000		.0920	.1020	-.1160	-.1170	-.0830	-.0490	-.0120	.0030	-.0070	-.0280	-.0050	.1000	.2260	.2030
135.000		.1050	.1080	-.1160	-.1120	-.0890							.0320	.1500	.0920
180.000	1.5640	.1450	.1600	-.1010	-.0910	-.0640	.0390	.0290	-.0320	-.0730	.0310	-.0430	-.0640	.0570	-.0070
225.000		.1540	.2150	.0190	.0170	-.0990	.0320						-.0620	.0240	.0150



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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2940	.3400	.2470	-.0360	-.0050	.0170	-.0050	-.0300	.0110	.0130	-.0130	-.0190	.0170	.1290	.1480
45.000		.3660	.3570	.0110	.0020	.0330							.0850	.2570	.2930
90.000		.3800	.3990	.0270	.0230	.0370	.0410	.0400	.0280	.0470	.0360	.0560	.1500	.4130	.4620
135.000		.3750	.3660	.0110	.0040	.0330							.2060	.5610	.4560
180.000	2.2940	.3480	.2560	-.0340	.0070	.0150	-.0020	-.0210	.1130	.1000	.0690	.2220	.1260	.4670	.2990
225.000		.3040	.2290	.0560	.0860	-.0530	-.0740						-.0240	.1720	.0470
270.000		.2710	.7450	.5640	.1070	-.0940	-.0770	.0420			.0020	-.0800	-.0580	.0010	.0060
315.000		.2950	.2240	.0580	.0740	-.0570	-.0780						-.0480	.0140	-.0080

X/LS .9670

PHI	
.000	.1480
45.000	.2960
90.000	.4340
135.000	.3370
180.000	.1620
225.000	.0150
270.000	.2770
315.000	.0240

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.430

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2110	.3040	.2220	-.0400	-.0140	.0050	-.0170	-.0370	-.0050	.0000	-.0170	-.0240	.0130	.1180	.1430
45.000		.3190	.3110	-.0040	-.0120	.0160							.0820	.2350	.2770
90.000		.3250	.3400	.0130	.0050	.0130	.0200	.0210	.0070	.0290	.0160	.0320	.1170	.3710	.4060
135.000		.3270	.3210	.0000	.0020	.0150							.1680	.5100	.4280
180.000	2.2110	.3160	.2380	-.0340	-.0050	.0110	-.0150	-.0310	.1110	.0730	.0420	.1890	.1050	.4170	.2560
225.000		.2830	.2260	.0220	.0830	-.0580	-.0790						-.0370	.1450	.0340
270.000		.2520	.7170	.5470	.1050	-.0940	-.0890	.0190			-.0060	-.0830	-.0700	-.0190	.0070
315.000		.2720	.2090	.0270	.0700	-.0650	-.0830						-.0550	-.0130	-.0100

X/LS .9670

PHI	
.000	.1440
45.000	.2790
90.000	.3800
135.000	.3090
180.000	.1260



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06)

MACH ( 2) = 2.999

BETAT ( 2) = -6.430

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0100

270.000 .2010

315.000 .0080

MACH ( 2) = 2.999

BETAT ( 3) = -4.270

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	2.1150	.2710	.2000	-.0480	-.0250	-.0010	-.0300	-.0460	-.0140	-.0110	-.0170	-.0260	.0100	.1060	.1340
45.000		.2720	.2640	-.0180	-.0270	-.0040							.0820	.2220	.2610
90.000		.2770	.2880	-.0100	-.0150	-.0070	.0000	.0030	-.0090	.0100	.0010	.0210	.0860	.3140	.3580
135.000		.2790	.2770	-.0160	-.0230	-.0080							.1350	.4490	.3560
180.000	2.1150	.2850	.2150	-.0430	-.0190	.0100	-.0260	-.0380	.0950	.0460	.0190	.1580	.0900	.3830	.2070
225.000		.2620	.2140	.0060	.0850	-.0600	-.0840						-.0460	.1180	.0130
270.000		.2340	.6870	.5480	.1050	-.0960	-.0950	.0030			-.0140	-.0830	-.0680	-.0150	.0160
315.000		.2490	.1950	.0040	.0670	-.0700	-.0880						-.0370	.0090	.0180

X/LS .9670

PHI

.000 .1410  
 45.000 .2630  
 90.000 .3440  
 135.000 .2680  
 180.000 .0980  
 225.000 -.0210  
 270.000 .1380  
 315.000 .0340

MACH ( 2) = 2.999

BETAT ( 4) = -2.110

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	2.0120	.2350	.1750	-.0580	-.0390	-.0060	-.0420	-.0540	-.0160	-.0100	-.0190	-.0220	.0210	.0960	.1090
45.000		.2230	.2200	-.0360	-.0460	-.0260							.0880	.1980	.2380
90.000		.2220	.2330	-.0300	-.0380	-.0260	-.0160	-.0100	-.0050	-.0020	-.0100	.0120	.0750	.2980	.3250
135.000		.2340	.2320	-.0350	-.0430	-.0260							.1130	.3930	.3000
180.000	2.0120	.2530	.1910	-.0530	-.0300	-.0070	-.0370	.0480	.0710	.0430	.0030	.1110	.0600	.3190	.1490
225.000		.2400	.1970	-.0150	.0860	-.0610	-.0860						-.0590	.0730	-.0150



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.370

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6860	.1540	.1380	-.0670	-.0600	-.0580	-.0710	-.0580	-.0190	-.0130	-.0210	-.0330	.0080	.1560	.1920
45.000		.1130	.1160	-.0730	-.0810	-.0650							.0450	.2190	.2000
90.000		.1040	.1120	-.0710	-.0760	-.0600	-.0460	-.0250	-.0230	-.0090	-.0160	-.0070	.0870	.1470	.1630
135.000		.1210	.1230	-.0730	-.0770	-.0690							.0520	.1640	.1090
180.000	1.6860	.1750	.1510	-.0630	-.0520	-.0440	-.0590	-.0060	.0100	-.0360	-.0600	-.0020	-.0240	.0990	.0160
225.000		.1830	.1730	-.0380	.0170	-.0620	.0210						-.0690	.0390	-.0100
270.000		.1620	.1670	.3600	.0530	-.0970	-.0570	-.0330			-.0460	-.0750	-.0260	.0090	-.0130
315.000		.1700	.1610	-.0440	-.0270	-.0750	-.0850						-.0460	.0310	.0620
X/LS	.9670														
PHI															
.000	.1730														
45.000	.1830														
90.000	.1570														
135.000	.0730														
180.000	-.0220														
225.000	.0100														
270.000	.0570														
315.000	.1190														

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6070	.1370	.1390	-.0690	-.0660	-.0630	-.0780	-.0510	-.0290	-.0200	-.0250	-.0280	.0250	.1720	.1620
45.000		.0890	.0970	-.0810	-.0890	-.0720							.0360	.1970	.2090
90.000		.0790	.0900	-.0790	-.0850	-.0680	-.0520	-.0190	-.0180	-.0100	-.0320	-.0070	.0270	.1980	.1430
135.000		.0970	.0990	-.0820	-.0870	-.0730							.0450	.1090	.0710
180.000	1.6070	.1520	.1480	-.0660	-.0580	-.0480	-.0270	-.0180	-.0160	-.0600	-.0790	-.0240	-.0320	.0760	.0080
225.000		.1730	.1850	-.0400	-.0170	-.0630	.0310						-.0710	.0410	-.0290
270.000		.1530	.1270	.2610	.0360	-.0950	-.0350	-.0310			-.0600	-.0770	-.0370	.0130	-.0140
315.000		.1600	.1600	-.0560	-.0570	-.0730	-.0740						-.0620	.0210	.0550
X/LS	.9670														
PHI															
.000	.1360														
45.000	.1880														
90.000	.1350														
135.000	.0400														
180.000	.0870														

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS06)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1100  
270.000 .0620  
315.000 .2550

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.690

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5470 .1200 .1280 -.0770 -.0760 -.0700 -.0810 -.0510 -.0370 -.0390 -.0290 -.0330 .0040 .1470 .0950  
45.000 .0650 .0700 -.0980 -.1030 -.0850 .0400 .1790 .1810  
90.000 .0530 .0610 -.0940 -.1020 -.0800 -.0580 -.0180 -.0160 -.0230 -.0350 .0000 .0010 .2310 .1860  
135.000 .0710 .0710 -.0990 -.1000 -.0840 .0170 .0690 .0290  
180.000 1.5470 .1340 .1490 -.0640 -.0630 -.0730 .0190 .0000 -.0320 -.0760 -.0800 -.0430 -.0490 .0520 -.0290  
225.000 .1640 .2410 -.0710 -.0580 -.0790 .0240 .0830 .0000 .0360  
270.000 .1450 .1160 .2160 .0240 -.1030 -.0230 -.0190 -.0700 -.0820 -.0580 -.0080 -.0180  
315.000 .1510 .1720 -.0630 -.0410 -.0730 -.0730 -.0790 .0250 .0680

X/LS .9670

PHI

.000 .1400  
45.000 .1520  
90.000 .1420  
135.000 .0070  
180.000 .1350  
225.000 .0090  
270.000 .0190  
315.000 .3430

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.750

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.6060 .3590 .2610 -.0400 -.0210 -.0020 .0540 -.0120 -.0250 .0170 -.0070 -.0160 -.0080 .1950 .1600  
45.000 .3720 .3670 .0040 -.0100 .0360 .0620 .3470 .3000  
90.000 .3780 .4010 .0190 .0050 .0390 .0370 .0360 .0260 .0230 .0380 .0440 .0730 .4050 .4310  
135.000 .3740 .3460 .0030 -.0110 .0330 .3110 .6760 .5490  
180.000 2.6060 .3580 .2370 -.0410 .0100 -.0020 .0020 -.0120 .0400 .0950 .0770 .1240 .2560 .6000 .3590  
225.000 .3220 .2090 -.0110 .1140 -.0360 -.0600 .0590 .2510 .1180



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU6)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3370	.2810	.2060	-.0620	-.0470	-.0100	-.0230	-.0310	-.0310	-.0120	-.0200	-.0220	-.0100	.1640	.1180
45.000		.2660	.2620	-.0340	-.0490	-.0040							.0540	.2590	.2290
90.000		.2620	.2760	-.0240	-.0370	-.0040	.0020	.0020	-.0070	.0010	.0060	.0000	.0330	.3040	.3170
135.000		.2680	.2430	-.0350	-.0470	-.0030							.1660	.5210	.4040
180.000	2.3370	.2820	.1820	-.0610	-.0160	-.0090	-.0220	-.0300	.0300	.0480	.0290	.0560	.2350	.4940	.2630
225.000		.2720	.1620	-.0330	.0940	-.0480	-.0730						.0710	.2200	.0650
270.000		.2510	.4020	.5470	.1500	-.0640	-.0880	-.0170			-.0190	-.0710	.0140	.0720	.0050
315.000		.2700	.1630	-.0310	.0920	-.0460	-.0750						.0620	.0250	.0270

X/LS .9670

PHI

.000	.1300
45.000	.2340
90.000	.3250
135.000	.3210
180.000	.1560
225.000	.0040
270.000	.0110
315.000	.0300

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.150

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2060	.2480	.1810	-.0690	-.0580	-.0320	-.0300	-.0410	-.0300	-.0170	-.0190	-.0220	.0120	.1490	.1050
45.000		.2220	.2210	-.0480	-.0650	-.0180							.0450	.2570	.2020
90.000		.2150	.2270	-.0430	-.0560	-.0210	-.0130	-.0100	-.0210	-.0060	-.0080	-.0170	.0210	.3060	.2400
135.000		.2250	.1950	-.0500	-.0640	-.0160							.1940	.4210	.3270
180.000	2.2060	.2520	.1580	-.0710	-.0240	-.0370	-.0230	-.0370	.0200	.0300	.0190	.0290	.1550	.4190	.2010
225.000		.2520	.1430	-.0460	.0870	-.0480	-.0730						.0300	.1710	.0260
270.000		.2310	.2230	.4810	.1460	-.0630	-.0860	-.0250			-.0220	-.0670	.0390	.0650	-.0160
315.000		.2490	.1410	-.0430	.0840	-.0550	-.0780						.0490	.0210	.0320

X/LS .9670

PHI

.000	.1150
45.000	.2080
90.000	.2720
135.000	.2550
180.000	.1570

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU6)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.150

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0210  
270.000 .0020  
315.000 .0390

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7115 .8248 .8817 .9044 .9386

PHI

.000 1.9270 .1840 .1470 -.0770 -.0750 -.0530 -.0590 -.0600 -.0340 -.0210 -.0260 -.0360 -.0140 .1600 .1390  
45.000 .1400 .1380 -.0800 -.0910 -.0490  
90.000 .1270 .1360 -.0750 -.0860 -.0520 -.0410 -.0350 -.0200 -.0200 -.0180 -.0220 .0520 .2330 .1730  
135.000 .1430 .1140 -.0800 -.0910 -.0500 .1070 .2780 .1500  
180.000 1.9270 .1900 .1260 -.0780 -.0420 -.0480 -.0590 .0230 .0020 -.0020 -.0330 .0240 .0910 .1960 .0440  
225.000 .2080 .1600 -.0710 -.0590 -.0590 -.0800 .0250 .1330 -.0080  
270.000 .1930 .1260 .3480 .0640 -.0730 -.0860 -.0270 -.0370 -.0630 .0300 .0650 -.0360  
315.000 .2030 .1460 -.0650 -.0490 -.0590 -.0820 .0530 .0130 .0450

X/LS .9670

PHI

.000 .1500  
45.000 .1450  
90.000 .1810  
135.000 .1130  
180.000 .0060  
225.000 -.0180  
270.000 .0170  
315.000 .0660

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.450

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7115 .8248 .8817 .9044 .9386

PHI

.000 1.7990 .1570 .1420 -.0820 -.0860 -.0600 -.0680 -.0670 -.0400 -.0280 -.0330 -.0400 -.0120 .1490 .1480  
45.000 .1050 .1040 -.0920 -.1020 -.0600 .0100 .2120 .1400  
90.000 .0920 .0950 -.0870 -.0960 -.0580 -.0530 -.0440 -.0260 -.0270 -.0260 -.0290 .0320 .1730 .1210  
135.000 .1070 .0780 -.0900 -.1010 -.0630 .0760 .1860 .0800  
180.000 1.7990 .1590 .1210 -.0800 -.0520 -.0600 -.0650 -.0010 .0010 -.0260 -.0560 -.0030 .0520 .1170 .0180  
225.000 .1850 .1370 -.0840 -.0700 -.0610 -.0620 .0020 .1040 .0130







AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.430

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0400	.3790	.3050	-.0320	.0040	.0500	-.0240	-.0400	.0360	.0300	.0200	-.0060	.0850	.1990	.2110
45.000		.4070	.3940	.0010	.0070	.0420							.2210	.3840	.3980
90.000		.3930	.4050	.0090	.0080	.0260	.0320	.0350	.0160	.0550	.0580	.1190	.2630	.4850	.4940
135.000		.3490	.3320	-.0260	-.0220	.0090							.2110	.5930	.4390
180.000	2.0400	.2920	.2190	-.0680	-.0310	.0040	-.0530	.0080	.1100	.0940	.1370	.2210	.1290	.3900	.1980
225.000		.2420	.2830	.0900	-.0330	-.1380	-.1100						-.0570	.0600	-.0090
270.000		.2380	1.1200	.4700	.0090	-.1590	-.1090	.1260			.0850	-.1180	-.0580	-.0100	.1190
315.000		.3030	.3270	.1660	.0600	-.0690	-.0790						-.0380	.0370	.0670

X/LS .9670

## PHI

.000 .1990  
 45.000 .3870  
 90.000 .4470  
 135.000 .3070  
 180.000 .0780  
 225.000 -.0630  
 270.000 .2350  
 315.000 .1020

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9740	.3380	.2750	-.0530	-.0160	.0240	-.0340	-.0480	.0190	.0160	.0090	-.0140	.0860	.1880	.2120
45.000		.3570	.3510	-.0240	-.0160	.0170							.2030	.3460	.3670
90.000		.3400	.3480	-.0200	-.0160	.0000	.0100	.0190	-.0110	.0430	.0390	.0960	.2380	.4380	.4560
135.000		.3060	.2880	-.0500	-.0470	-.0080							.2340	.5320	.4000
180.000	1.9740	.2580	.1900	-.0830	-.0450	-.0160	-.0720	-.0040	.1040	.0690	.0950	.1690	.1040	.3540	.1640
225.000		.2160	.2370	.0830	-.0390	-.1450	-.1200						-.0710	.0550	-.0290
270.000		.2140	.9810	.4680	.0060	-.1620	-.1270	.0950			.0460	-.1300	-.0640	-.0110	.0920
315.000		.2770	.2920	.1630	.0540	-.0790	-.0910						.0080	.0870	.0750

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.2080
45.000	.3570
90.000	.4130
135.000	.2790
180.000	.0580
225.000	-.0730
270.000	.1570
315.000	.0930

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.190

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9010	.3010	.2470	-.0610	-.0280	.0020	-.0430	-.0540	.0130	.0100	.0030	-.0130	.0920	.1920	.2050
45.000		.3020	.2950	-.0430	-.0300	-.0070							.1910	.3100	.3360
90.000		.2820	.2900	-.0410	-.0400	-.0230	-.0090	-.0060	-.0200	.0320	.0290	.0710	.2190	.4100	.4260
135.000		.2590	.2450	-.0660	-.0650	-.0260							.1880	.4760	.3390
180.000	1.9010	.2270	.1680	-.0940	-.0560	-.0360	-.0720	.0290	.0810	.0460	.0590	.1120	.0760	.3300	.1480
225.000		.1940	.2110	.0750	-.0370	-.1470	-.1210						-.0730	.0390	-.0410
270.000		.1950	.8440	.4630	.0540	-.1620	-.1370	.0740			.0140	-.1350	-.0560	-.0460	.0340
315.000		.2540	.2900	.1280	.0500	-.0840	-.0980						.0350	.1090	.0980

X/LS .9670

PHI

.000	.1980
45.000	.3290
90.000	.3850
135.000	.2500
180.000	.0500
225.000	-.0680
270.000	.1390
315.000	.0820



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.170

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0180  
270.000 .1300  
315.000 .2070

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6130	.2040	.2080	-.0840	-.0590	-.0340	-.0720	-.0470	-.0070	-.0120	-.0170	-.0130	.1270	.2570	.2600
45.000		.1470	.1580	-.1050	-.1000	-.0760							.1500	.2210	.2410
90.000		.1180	.1300	-.1100	-.1050	-.0740	-.0560	-.0140	.0210	.0160	-.0070	.0180	.1770	.2760	.2600
135.000		.1120	.1090	-.1200	-.1060	-.0820							.0720	.2890	.2020
180.000	1.6130	.1220	.1210	-.1150	-.0880	-.0790	-.0530	.0070	.0030	-.0490	.0020	.0080	-.0300	.1210	.0280
225.000		.1290	.1780	-.0640	-.0390	-.1350	.0350						-.0460	.0720	.0110
270.000		.1400	.6430	.3800	-.0050	-.1550	-.0280	.0650			-.0120	-.0850	-.0230	.0100	.0210
315.000		.1980	.2560	.0280	.0700	-.0790	-.0810						-.0390	.1160	.1590

X/LS .9670

PHI

.000 .2640  
45.000 .2330  
90.000 .2370  
135.000 .1260  
180.000 -.0180  
225.000 .1040  
270.000 .1160  
315.000 .2820

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.410

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5640	.1930	.2090	-.0820	-.0640	-.0500	-.0710	-.0320	-.0270	-.0260	-.0170	-.0140	.0330	.2300	.2450
45.000		.1250	.1340	-.1090	-.1100	-.0910							.1340	.1970	.2070
90.000		.0930	.1010	-.1160	-.1080	-.0830	-.0530	-.0010	.0210	.0060	-.0220	-.0010	.1560	.3030	.2530
135.000		.0890	.0940	-.1210	-.1080	-.0890							.0560	.2190	.1500
180.000	1.5640	.1070	.1230	-.1130	-.0960	-.0840	.0360	.0190	-.0250	-.0660	.0530	-.0170	-.0440	.0980	.0250
225.000		.1220	.1710	-.0210	-.0190	-.1290	.0280						-.0520	.0420	.0050



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2980	.3910	.2940	-.0130	.0200	.0360	.0070	-.0150	-.0150	.0300	.0110	.0000	.0580	.1940	.2200
45.000		.3960	.3880	.0290	.0210	.0410							.1910	.3510	.3670
90.000		.3760	.3970	.0340	.0260	.0340	.0340	.0350	.0220	.0200	.0440	.0880	.1920	.4350	.4850
135.000		.3420	.3330	.0040	-.0020	.0110							.1810	.6680	.5260
180.000	2.2980	.3020	.2150	-.0430	-.0140	.0270	-.0220	-.0490	.0460	.0970	.0570	.1960	.1420	.4510	.3150
225.000		.2660	.2000	.0650	.0360	-.0880	-.0900						-.0080	.1320	.0450
270.000		.2670	.7230	.5230	.1070	-.0940	-.1000	.0310			.0120	-.0770	-.0490	.0100	-.0020
315.000		.3300	.2870	.0700	.1240	-.0300	-.0600						-.0380	.0330	.0150

X/LS .9670

PHI	
.000	.2140
45.000	.3600
90.000	.4610
135.000	.3930
180.000	.1720
225.000	.0090
270.000	.2910
315.000	.0690

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2090	.3540	.2720	-.0290	-.0020	.0170	-.0010	-.0240	-.0200	.0160	-.0010	-.0090	.0570	.1680	.1990
45.000		.3460	.3450	.0020	-.0070	.0250							.1660	.3020	.3310
90.000		.3250	.3410	.0030	-.0030	.0130	.0180	.0160	.0020	.0150	.0290	.0600	.1610	.3550	.4190
135.000		.3000	.2850	-.0190	-.0260	.0000							.2160	.5870	.4820
180.000	2.2090	.2700	.1860	-.0600	-.0210	.0080	-.0320	-.0480	.0770	.0680	.0320	.1770	.1170	.3920	.2840
225.000		.2470	.1770	.0130	.0380	-.0910	-.0960						-.0360	.1450	.0360
270.000		.2490	.6890	.5010	.1050	-.0920	-.1070	.0170			-.0030	-.0810	-.0630	-.0020	.0160
315.000		.3080	.2590	.0300	.1230	-.0350	-.0650						-.0610	.0160	.0360

X/LS .9670

PHI	
.000	.2030
45.000	.3300
90.000	.4140
135.000	.3540
180.000	.1490

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0100
270.000	.2360
315.000	.0540

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.1140	.3200	.2460	-.0420	-.0170	-.0010	-.0130	-.0320	-.0220	.0050	-.0060	-.0150	.0590	.2070	.2230
45.000		.2970	.2950	-.0200	-.0290	.0010							.1430	.2510	.2970
90.000		.2720	.2850	-.0210	-.0290	-.0090	-.0040	.0010	-.0160	.0130	.0170	.0380	.1320	.3220	.3860
135.000		.2550	.2400	-.0380	-.0460	-.0130							.1540	.4720	.4130
180.000	2.1140	.2390	.1620	-.0710	-.0360	-.0240	-.0410	-.0540	.0800	.0460	.0130	.1640	.0960	.3950	.2390
225.000		.2250	.1620	-.0200	.0330	-.0940	-.1030						-.0480	.1180	.0190
270.000		.2310	.6700	.5040	.1050	-.0930	-.1130					-.0120	-.0880	-.0690	-.0170
315.000		.2860	.2350	.0090	.1220	-.0390	-.0690						-.0490	.0430	.0670

X/LS .9670

PHI

.000	.2030
45.000	.3000
90.000	.3850
135.000	.3130
180.000	.1180
225.000	-.0230
270.000	.1600
315.000	.0820

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.0150	.2870	.2240	-.0470	-.0240	-.0160	-.0240	-.0350	-.0220	.0040	-.0060	-.0120	.0630	.1960	.2030
45.000		.2520	.2480	-.0340	-.0420	-.0180							.1350	.2250	.2680
90.000		.2250	.2320	-.0350	-.0420	-.0260	-.0180	-.0120	-.0250	.0070	.0130	.0320	.1210	.3040	.3540
135.000		.2130	.2000	-.0590	-.0570	-.0340							.1350	.4430	.3720
180.000	2.0150	.2080	.1440	-.0730	-.0470	-.0280	-.0510	-.0530	.0690	.0470	.0000	.1310	.0820	.3590	.1860
225.000		.2070	.1440	-.0290	.0330	-.0940	-.1040						-.0570	.0810	-.0190





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.370

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6880	.2030	.1770	-.0550	-.0430	-.0330	-.0530	-.0460	-.0130	-.0200	-.0200	-.0210	.0460	.2100	.2030
45.000		.1350	.1410	-.0680	-.0760	-.0670							.0920	.1690	.1940
90.000		.1070	.1130	-.0700	-.0770	-.0600	-.0510	-.0330	-.0060	.0090	-.0040	.0030	.1150	.2390	.2310
135.000		.1030	.1030	-.0790	-.0780	-.0620							.0940	.2390	.1740
180.000	1.6880	.1260	.1190	-.0760	-.0660	-.0700	-.0750	.0030	.0070	-.0280	-.0520	.0100	-.0050	.1360	.0360
225.000		.1460	.1320	-.0530	-.0210	-.0880	-.0800						-.0640	.0450	-.0060
270.000		.1630	.1710	.3880	.0620	-.0940	-.0920	.0420				-.0490	-.0720	-.0220	.0030
315.000		.2110	.2050	-.0290	.0280	-.0430	-.0620						-.0440	.1050	.1490

X/LS .9670

PHI	
.000	.2050
45.000	.1910
90.000	.2110
135.000	.1230
180.000	-.0140
225.000	.0040
270.000	.0640
315.000	.1660

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6040	.1840	.1870	-.0520	-.0510	-.0410	-.0580	-.0460	-.0210	-.0360	-.0210	-.0240	.0080	.1900	.1460
45.000		.1070	.1190	-.0760	-.0840	-.0740							.0830	.1630	.1710
90.000		.0800	.0860	-.0800	-.0850	-.0790	-.0600	-.0380	-.0030	.0030	-.0150	-.0020	.0550	.2630	.2260
135.000		.0790	.0840	-.0850	-.0860	-.0790							.0580	.1740	.1280
180.000	1.6040	.1070	.1100	-.0770	-.0720	-.0730	-.0730	-.0090	-.0220	-.0530	-.0600	-.0130	-.0190	.0950	.0270
225.000		.1330	.1320	-.0660	-.0540	-.0900	.0040						-.0620	.0430	-.0090
270.000		.1540	.0990	.2530	.0330	-.0980	-.0590	.0540				-.0640	-.0750	-.0230	.0110
315.000		.1990	.2220	-.0470	-.0670	-.0410	-.0560						-.0560	.0870	.1020

X/LS .9670

PHI	
.000	.1540
45.000	.1630
90.000	.1870
135.000	.0840
180.000	.0160

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSU7)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0830
270.000	.0650
315.000	.4040

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.690

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.5420	.1720	.1730	-.0670	-.0640	-.0430	-.0610	-.0420	-.0270	-.0510	-.0250	-.0310	-.0120	.1250	.1320
45.000		.0870	.0910	-.0940	-.1040	-.0870							.0650	.1640	.1340
90.000		.0570	.0630	-.0990	-.1050	-.0800	-.0630	-.0260	.0000	-.0070	-.0300	-.0040	.0070	.2450	.2100
135.000		.0580	.0540	-.1030	-.1070	-.0810							.0430	.1200	.0790
180.000	1.5420	.0940	.0960	-.0880	-.0750	-.0770	-.0410	.0050	-.0380	-.0710	-.0610	-.0350	-.0300	.0710	.0250
225.000		.1270	.1370	-.0780	-.0550	-.0870	.0130						-.0630	.0140	.0210
270.000		.1460	.0900	.2380	.0370	-.0940	-.0130	.0710			-.0690	-.0790	-.0390	-.0040	.0070
315.000		.1930	.2500	-.0620	-.0490	-.0330	-.0460						-.0700	.0910	.2980

X/LS .9670

PHI

.000	.1810
45.000	.1180
90.000	.1710
135.000	.0450
180.000	.1590
225.000	.0050
270.000	-.0030
315.000	.2290

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	2.5920	.4030	.3030	-.0240	-.0040	.0030	.0180	.0000	-.0210	.0200	.0130	-.0020	.0060	.2530	.2140
45.000		.3950	.3930	.0170	.0010	.0410							.1270	.3790	.3560
90.000		.3690	.3930	.0200	.0040	.0320	.0310	.0300	.0200	.0080	.0340	.0380	.1530	.4160	.4480
135.000		.3380	.3110	-.0050	-.0210	.0220							.1840	.6300	.6010
180.000	2.5920	.3100	.1970	-.0530	-.0060	-.0110	-.0120	-.0240	.0230	.0770	.0590	.2060	.2660	.5680	.3360
225.000		.2880	.1700	-.0150	.0710	-.0640	-.0780						.0940	.2260	.1100



AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNSU7)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9366
PHI															
.000	2.3170	.3210	.2460	-.0220	-.0100	-.0220	-.0030	-.0220	-.0320	.0010	-.0100	-.0170	-.0030	.2730	.2180
45.000		.2830	.2860	-.0010	-.0160	.0010							.0820	.2770	.2620
90.000		.2550	.2690	-.0020	-.0150	-.0070	-.0030	-.0030	-.0130	-.0130	.0080	.0060	.0980	.2720	.3050
135.000		.2390	.2310	-.0170	-.0300	-.0120							.2050	.4910	.4270
180.000	2.3170	.2380	.1620	-.0490	-.0260	-.0120	-.0330	-.0400	.0130	.0480	.0170	.0520	.1970	.5260	.2870
225.000		.2360	.1480	-.0220	.0540	-.0700	-.0920						.0730	.1700	.0680
270.000		.2460	.3480	.5450	.1530	-.0600	-.0920	-.0400			-.0130	-.0520	.0320	.0340	.0110
315.000		.3010	.2160	.0060	.1440	-.0210	-.0550						.0070	.0360	.0510

X/LS .9670

PHI

.000	.1990
45.000	.2710
90.000	.3220
135.000	.3450
180.000	.1680
225.000	.0100
270.000	.0670
315.000	.0570

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1880	.2900	.2250	-.0290	-.0180	-.0310	-.0140	-.0330	-.0360	-.0080	-.0160	-.0230	.0010	.2130	.1810
45.000		.2410	.2400	-.0180	-.0300	-.0180							.0720	.2710	.2420
90.000		.2090	.2190	-.0170	-.0290	-.0240	-.0200	-.0180	-.0270	-.0150	-.0030	-.0060	.0680	.2730	.2670
135.000		.1990	.1900	-.0300	-.0430	-.0270							.1560	.4040	.3360
180.000	2.1880	.2080	.1430	-.0530	-.0380	-.0390	-.0420	-.0470	.0030	.0290	.0020	.0310	.1350	.4600	.2200
225.000		.2160	.1330	-.0290	.0460	-.0710	-.0930						.0090	.1470	.0210
270.000		.2300	.2550	.4720	.1440	-.0600	-.0950	-.0460			-.0210	-.0570	.0290	.0350	-.0080
315.000		.2810	.1940	-.0060	.1130	-.0220	-.0590						.0210	.0570	.0780

X/LS .9670

PHI

.000	.1750
45.000	.2430
90.000	.2870
135.000	.2850
180.000	.1220

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0220  
270.000 .0090  
315.000 .0690

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.250

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9300	.2260	.1830	-.0690	-.0660	-.0390	-.0450	-.0500	-.0360	-.0250	-.0310	-.0290	.0010	.2380	.1630
45.000		.1570	.1600	-.0740	-.0880	-.0460							.0560	.2000	.1610
90.000		.1280	.1330	-.0750	-.0880	-.0470	-.0440	-.0400	-.0320	-.0110	-.0100	-.0170	.0890	.2380	.1940
135.000		.1270	.0940	-.0850	-.0920	-.0490							.1330	.3500	.2160
180.000	1.9300	.1510	.0910	-.0840	-.0500	-.0600	-.0640	-.0050	-.0020	-.0020	-.0350	.0410	.0950	.2400	.0560
225.000		.1760	.1270	-.0770	-.0530	-.0760	-.0910						.0490	.0860	-.0030
270.000		.1910	.1250	.3570	.0710	-.0690	-.0910	-.0180			-.0320	-.0460	.0430	.0440	-.0250
315.000		.2370	.1800	-.0530	-.0370	-.0330	-.0630						.0050	.0690	.0930

X/LS .9670

PHI

.000 .1620  
45.000 .1750  
90.000 .2060  
135.000 .1650  
180.000 .0130  
225.000 -.0230  
270.000 .0230  
315.000 .1280

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.460

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7940	.2040	.1680	-.0620	-.0690	-.0430	-.0480	-.0500	-.0270	-.0330	-.0370	-.0320	.0060	.2120	.1670
45.000		.1280	.1260	-.0790	-.0910	-.0560							.0310	.2020	.1400
90.000		.0950	.0950	-.0820	-.0910	-.0560	-.0520	-.0450	-.0230	-.0110	-.0110	-.0220	.0420	.2460	.1680
135.000		.0950	.0680	-.0880	-.0970	-.0570							.1400	.2130	.1270
180.000	1.7940	.1260	.0890	-.0790	-.0570	-.0650	-.0700	.0030	.0060	-.0270	-.0460	-.0110	.0670	.1780	.0410
225.000		.1570	.1190	-.0820	-.0750	-.0760	-.0820						.0080	.1010	-.0030



AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS07)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.850

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5250	.1510	.1630	-.0750	-.0860	-.0600	-.0590	-.0470	-.0270	-.0480	-.0390	-.0390	-.0150	.1460	.1050
45.000		.0650	.0690	-.1020	-.1140	-.0800							.0130	.1710	.0820
90.000		.0380	.0400	-.1030	-.1110	-.0760	-.0720	-.0700	-.0230	-.0260	-.0390	-.0320	-.0180	.2350	.1420
135.000		.0380	.0140	-.1060	-.1150	-.0750							.0820	.1250	.0460
180.000	1.5250	.0800	.0660	-.0950	-.0750	-.0820	-.0610	-.0080	-.0380	-.0650	-.0680	-.0300	.0500	.1020	-.0200
225.000		.1440	.0120	-.1080	-.0880	-.0750	.0310						-.0110	.0620	-.0040
270.000		.2330	-.0200	.1020	-.0140	-.0870	-.0140	.0220			-.0680	-.0800	.0140	.0210	-.0370
315.000		.1900	.1200	-.0950	-.0670	-.0400	-.0440						.0330	.0420	.1090

X/LS .9670

PHI

.000	.1440
45.000	.0690
90.000	.1290
135.000	.0340
180.000	.0820
225.000	-.0300
270.000	-.0260
315.000	.2480



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS		.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI																
.000	2.0350	.4280	.3520	-.0150	.0300	.0730	-.0060	-.0140	.0360	.0430	.0380	.0110	.1360	.2530	.2600	
45.000		.4360	.4260	.0150	.0300	.0520							.2870	.4200	.4380	
90.000		.3850	.3980	.0080	.0100	.0190	.0220	.0220	.0040	.0440	.0560	.1410	.3290	.4660	.4910	
135.000		.3180	.3000	-.0450	-.0400	-.0160							.1770	.5580	.4690	
180.000	2.0350	.2550	.1840	-.0810	-.0540	-.0170	-.0670	-.0380	.0400	.0620	.2120	.2250	.1290	.4400	.2250	
225.000		.2110	.3170	.0490	-.0770	-.1810	-.1390						-.0630	.0320	-.0130	
270.000		.2330	1.1620	.4610	.0090	-.1500	-.1400	.0920			.1020	-.1140	-.0520	-.0060	.1350	
315.000		.3360	.3800	.2010	.1050	-.0440	-.0490						.0060	.0700	.0880	
X/LS		.9670														
PHI																
.000	.2480															
45.000	.4300															
90.000	.4610															
135.000	.3430															
180.000	.0960															
225.000	-.0530															
270.000	.2390															
315.000	.1450															

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS		.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI																
.000	1.9650	.3930	.3270	-.0340	.0040	.0510	-.0150	-.0210	.0160	.0310	.0250	.0040	.1400	.2630	.2630	
45.000		.3880	.3770	-.0150	-.0140	.0230							.2710	.3950	.4130	
90.000		.3350	.3440	-.0270	-.0230	-.0040	-.0070	.0010	-.0220	.0340	.0390	.1210	.2970	.4050	.4370	
135.000		.2780	.2530	-.0660	-.0650	-.0280							.2060	.6580	.4690	
180.000	1.9650	.2220	.1500	-.1020	-.0700	-.0340	-.0840	-.0480	.0650	.0600	.1120	.1820	.1170	.3820	.1910	
225.000		.1880	.2180	.0400	-.0830	-.1860	-.1520						-.0700	.0380	-.0240	
270.000		.2110	1.0140	.4580	.0060	-.1540	-.1490	.0660			.0710	-.1190	-.0570	-.0060	.1310	
315.000		.3130	.3650	.1810	.1020	-.0500	-.0590						.0350	.1090	.0970	
X/LS		.9670														

DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.2520
45.000	.4000
90.000	.4150
135.000	.3280
180.000	.0720
225.000	-.0740
270.000	.1560
315.000	.1250

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.190

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.8930	.3580	.3000	-.0470	-.0140	-.0280	-.0250	-.0230	.0090	.0270	.0130	.0040	.1400	.2630	.2560
45.000		.3320	.3230	-.0370	-.0350	.0020							.2500	.3590	.3790
90.000		.2800	.2850	-.0490	-.0470	-.0240	-.0240	-.0230	-.0360	.0310	.0320	.0940	.2840	.3460	.3910
135.000		.2330	.2110	-.0800	-.0790	-.0420							.2270	.5450	.4110
180.000	1.8930	.1910	.1270	-.1110	-.0810	-.0520	-.0870	-.0340	.0740	.0420	.0640	.1510	.0930	.3450	.1630
225.000		.1670	.1790	.0350	-.0830	-.1870	-.1550						-.0760	.0370	-.0390
270.000		.1940	.8560	.4500	.0050	-.1530	-.1510	.0550			.0420	-.1250	-.0600	-.0370	.0640
315.000		.2950	.3550	.1350	.0960	-.0520	-.0630						.0640	.1410	.1120

X/LS .9670

PHI

.000	.2520
45.000	.3750
90.000	.3730
135.000	.2980
180.000	.0590
225.000	-.0780
270.000	.1580
315.000	.1170

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8150	.3250	.2790	-.0520	-.0230	.0210	-.0330	-.0290	.0160	.0160	.0080	.0010	.1250	.2530	.2570
45.000		.2850	.2850	-.0510	-.0510	-.0180							.2280	.3220	.3460
90.000		.2350	.2400	-.0670	-.0670	-.0450	-.0310	-.0350	-.0430	.0370	.0230	.0880	.2660	.3200	.3500
135.000		.1970	.1780	-.0930	-.0790	-.0520							.1590	.4530	.3690
180.000	1.8150	.1610	.1090	-.1170	-.0840	-.0660	-.0880	.0180	.0650	.0220	.0490	.1050	.0640	.3130	.1430
225.000		.1440	.1600	.0260	-.0800	-.1870	-.1420						-.0720	.0200	-.0520
270.000		.1740	.7510	.4450	.0070	-.1500	-.1500	.0540			.0270	-.1310	-.0480	-.0200	.0380
315.000		.2740	.3520	.0730	.0980	-.0530	-.0620						.0740	.1640	.1550

X/LS .9670

PHI

.000	.2640
45.000	.3370
90.000	.3270
135.000	.2640
180.000	.0520
225.000	-.0300
270.000	.1440
315.000	.1540

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.170

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6690	.2730	.2500	-.0590	-.0300	-.0050	-.0480	-.0350	.0080	-.0100	-.0110	-.0170	.1360	.2870	.2840
45.000		.2020	.2080	-.0810	-.0820	-.0560							.1670	.2410	.2700
90.000		.1470	.1540	-.0980	-.1020	-.0750	-.0550	-.0540	.0070	.0170	-.0040	.0380	.2140	.2900	.2570
135.000		.1210	.1140	-.1150	-.1000	-.0770							.1100	.3920	.3080
180.000	1.6690	.1080	.0890	-.1210	-.0750	-.0890	-.0990	.0230	.0240	-.0250	.0320	.0310	.0140	.2100	.0770
225.000		.1080	.1490	-.0450	-.0810	-.1810	-.1140						-.0560	.0690	.0030
270.000		.1460	.7610	.4150	.0020	-.1460	-.1450	.0790			.0080	-.0740	.0130	.0540	.0310
315.000		.2440	.3200	.0750	.1130	-.0500	-.0570						.0180	.1950	.2470

X/LS .9670

PHI

.000	.2700
45.000	.2710
90.000	.2370
135.000	.2120
180.000	.0060

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.170

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0000  
270.000 .1590  
315.000 .2300

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5990 .2530 .2550 -.0600 -.0370 -.0130 -.0490 -.0310 -.0060 -.0230 -.0200 -.0120 .1160 .2890 .2970  
45.000 .1710 .1800 -.0970 -.0960 -.0740 .1490 .2250 .2360  
90.000 .1150 .1260 -.1120 -.1120 -.0790 -.0610 -.0590 .0090 .0030 -.0180 .0160 .1910 .2770 .1860  
135.000 .0960 .0890 -.1240 -.1120 -.0800 .0890 .3580 .2650  
180.000 1.5990 .0870 .0860 -.1200 -.1010 -.0970 -.1040 .0270 .0010 -.0430 .0790 .0090 -.0020 .1680 .0420  
225.000 .0970 .1420 -.0940 -.0800 -.1780 -.0800 -.0290 .0570 -.0090  
270.000 .1350 .7040 .3940 -.0020 -.1440 -.1250 .0920 .0040 -.0780 .0000 .0200 .0310  
315.000 .2360 .3030 .0270 .1210 -.0460 -.0490 -.0320 .1680 .2320

X/LS .9670

PHI

.000 .2640  
45.000 .2340  
90.000 .2040  
135.000 .1970  
180.000 -.0180  
225.000 .0980  
270.000 .1300  
315.000 .3050

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.420

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5460 .2380 .2480 -.0630 -.0410 -.0240 -.0550 -.0310 -.0230 -.0460 -.0200 -.0180 -.0040 .2850 .2080  
45.000 .1400 .1480 -.1070 -.1040 -.0840 .1390 .2160 .2190  
90.000 .0840 .0980 -.1230 -.1180 -.0920 -.0660 -.0400 -.0060 -.0170 -.0400 -.0160 .1690 .2610 .1770  
135.000 .0670 .0680 -.1320 -.1140 -.0900 .0670 .2980 .2130  
180.000 1.5460 .0690 .0780 -.1290 -.1100 -.1080 -.0510 .0200 -.0280 -.0620 .1010 .0000 -.0310 .1080 .0260  
225.000 .0850 .1370 -.0840 -.0710 -.1640 -.0500 -.0490 .0200 .0200



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.580

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2950	.4430	.3500	.0010	.0320	.0390	.0310	.0070	.0060	.0480	.0310	.0200	.0630	.2590	.2710
45.000		.4290	.4250	.0330	.0260	.0570							.2550	.4100	.4210
90.000		.3760	.3930	.0260	.0180	.0320	.0290	.0310	.0140	.0050	.0370	.1130	.2590	.4360	.4830
135.000		.3180	.2980	-.0140	-.0200	-.0060							.1030	.4460	.5330
180.000	2.2950	.2650	.1730	-.0590	-.0260	.0070	-.0330	-.0630	.0030	.0620	.0550	.1970	.1310	.5290	.3300
225.000		.2370	.1500	.0450	-.0080	-.1120	-.1110						-.0080	.0920	.0240
270.000		.2660	.7210	.5100	.1090	-.0830	-.1020	-.0170			.0660	-.0750	-.0340	.0090	.0530
315.000		.3690	.3280	.0820	.1680	-.0010	-.0330						-.0450	.0390	.0500

X/LS .9670

PHI	
.000	.2640
45.000	.4140
90.000	.4670
135.000	.4390
180.000	.1880
225.000	.0070
270.000	.3050
315.000	.1090

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1980	.4070	.3180	-.0120	.0140	.0280	.0150	-.0030	-.0010	.0350	.0170	.0100	.0620	.2570	.2580
45.000		.3730	.3740	.0120	.0030	.0310							.2200	.3670	.3870
90.000		.3170	.3370	.0020	-.0050	.0080	.0100	.0120	-.0040	-.0030	.0240	.0900	.2340	.3780	.4220
135.000		.2730	.2570	-.0300	-.0380	-.0150							.1330	.5720	.5020
180.000	2.1980	.2320	.1480	-.0720	-.0380	-.0110	-.0410	-.0620	.0110	.0620	.0290	.1660	.1340	.4080	.3020
225.000		.2150	.1320	.0120	-.0080	-.1140	-.1190						-.0110	.1020	.0300
270.000		.2470	.6910	.4850	.1090	-.0830	-.1040	-.0290			.0290	-.0800	-.0490	.0020	.0240
315.000		.3470	.2960	.0460	.1670	-.0040	-.0370						-.0670	.0270	.0520

X/LS .9670

PHI	
.000	.2450
45.000	.3790
90.000	.4130
135.000	.3980
180.000	.1690

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0120  
270.000 .2450  
315.000 .1040

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.1030 .3720 .2940 -.0170 .0120 .0230 .0030 -.0120 -.0100 .0200 .0090 .0010 .0530 .2490 .2470  
45.000 .3250 .3210 .0000 -.0090 .0090 .0090 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
90.000 .2680 .2810 -.0090 -.0200 -.0120 -.0130 -.0090 -.0250 -.0050 .0160 .0610 .2240 .3170 .3650  
135.000 .2300 .2200 -.0380 -.0470 -.0230 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
180.000 2.1030 .2030 .1340 -.0710 -.0470 -.0390 -.0500 -.0650 .0490 .0400 .0120 .1550 .1180 .3710 .2640  
225.000 .1940 .1210 -.0110 -.0130 -.1160 -.1220 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
270.000 .2320 .6760 .5120 .1090 -.0810 -.1060 -.0410 .0000 -.5870 -.0640 -.0230 .0710 .0000 .0000 .0000  
315.000 .3270 .2860 .0320 .1740 -.0070 -.0430 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000

X/LS .9670

PHI

.000 .2370  
45.000 .3490  
90.000 .3530  
135.000 .3710  
180.000 .1420  
225.000 -.0200  
270.000 .1870  
315.000 .1130

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.0050 .3400 .2700 -.0330 -.0080 .0100 -.0090 -.0170 -.0140 .0150 .0000 -.0050 .0460 .2350 .2280  
45.000 .2770 .2750 -.0260 -.0360 -.0160 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
90.000 .2190 .2290 -.0370 -.0470 -.0320 -.0290 -.0240 -.0380 -.0020 .0190 .0380 .1900 .2590 .3200  
135.000 .1890 .1740 -.0600 -.0680 -.0380 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
180.000 2.0050 .1700 .1060 -.0880 -.0580 -.0490 -.0570 -.0640 .0460 .0440 -.0040 .1270 .0990 .3750 .2150  
225.000 .1730 .0820 -.0450 -.0170 -.1170 -.1240 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.370

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6760	.2520	.2290	-.0480	-.0350	-.0040	-.0390	-.0340	-.0110	-.0200	-.0320	-.0230	.0010	.2290	.2240
45.000		.1570	.1610	-.0730	-.0800	-.0620							.0850	.1640	.1900
90.000		.1030	.1070	-.0830	-.0900	-.0680	-.0610	-.0550	-.0200	-.0150	-.0160	-.0130	.1030	.2110	.1170
135.000		.0880	.0760	-.0910	-.0950	-.0670							.0620	.3130	.2380
180.000	1.6760	.0930	.0760	-.0910	-.0760	-.0800	-.0860	.0120	.0110	-.0250	-.0470	.0200	-.0050	.1390	.0520
225.000		.1150	.0990	-.0820	-.0580	-.1190	-.1090						-.0530	.0160	.0010
270.000		.1610	.1300	-.3970	.0680	-.0860	-.1030	.0350			-.0520	-.0640	.0060	.0310	-.0060
315.000		.2510	.2440	-.0260	.0040	-.0160	-.0390						-.0350	.1200	.1830

X/LS .9670

PHI

.000	.2130
45.000	.1890
90.000	.1500
135.000	.1770
180.000	-.0060
225.000	-.0090
270.000	.0780
315.000	.1730

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.540

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5880	.2300	.2270	-.0490	-.0400	-.0180	-.0420	-.0310	-.0140	-.0300	-.0290	-.0230	-.0230	.1540	.1520
45.000		.1260	.1350	-.0800	-.0860	-.0740							.0730	.1620	.1570
90.000		.0740	.0840	-.0900	-.0970	-.0760	-.0720	-.0630	-.0290	-.0280	-.0400	-.0180	.0580	.1780	.1500
135.000		.0630	.0610	-.0960	-.0990	-.0750							.0390	.2280	.1720
180.000	1.5880	.0730	.0770	-.0950	-.0850	-.0910	-.0840	.0080	-.0190	-.0470	-.0600	-.0610	-.0120	.1010	.0410
225.000		.1020	.0580	-.0930	-.0760	-.1220	-.0770						-.0520	.0280	.0160
270.000		.1620	.0640	-.2820	.0440	-.0900	-.0990	.0670			-.0510	-.0660	-.0050	.0340	.0000
315.000		.2350	.2590	-.0440	-.0380	-.0130	-.0310						-.0430	.1130	.1580

X/LS .9670

PHI

.000	.1640
45.000	.1470
90.000	.0740
135.000	.1230
180.000	.0000

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.540

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0800  
270.000 .0880  
315.000 .3980

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.700

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5180 .2190 .2170 -.0530 -.0450 -.0230 -.0410 -.0260 -.0140 -.0370 -.0350 -.0340 -.0290 .1150 .1720  
45.000 .1040 .1090 -.0910 -.0970 -.0850  
90.000 .0510 .0560 -.1030 -.1060 -.0850 -.0770 -.0610 -.0330 -.0340 -.0440 -.0170 .0590 .1720 .1490  
135.000 .0400 .0380 -.1040 -.1030 -.0820 .0300 .1500 .1040  
180.000 1.5180 .0570 .0600 -.1000 -.0870 -.0940 -.0820 .0140 -.0400 -.0630 -.0540 -.0310 -.0210 .0870 .0540  
225.000 .0920 .0550 -.0910 -.0670 -.1110 -.0480  
270.000 .1460 .0560 .2840 .0440 -.0850 -.0810 .0720 -.0620 -.0760 -.0210 .0190 .0550  
315.000 .2280 .2550 -.0440 -.0160 -.0060 -.0220 .0590 .1190 .5310

X/LS .9670

PHI

.000 .2160  
45.000 .1210  
90.000 .1240  
135.000 .0770  
180.000 .1500  
225.000 .0120  
270.000 -.0410  
315.000 .2710

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.720

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.5800 .4570 .3550 -.0110 .0100 .0300 .0410 .0130 -.0030 .0250 .0240 .0120 .0160 .3020 .2690  
45.000 .4270 .4280 .0270 .0100 .0540 .1110 .4320 .3930  
90.000 .3670 .3870 .0150 .0040 .0300 .0270 .0270 .0140 .0000 .0180 .0410 .1990 .4340 .4580  
135.000 .3130 .2770 -.0190 -.0330 .0150 .1490 .4010 .5000  
180.000 2.5800 .2690 .1570 -.0640 -.0130 -.0210 -.0250 -.0380 .0040 .0300 .0360 .1880 .2660 .6340 .3660  
225.000 .2540 .1260 -.0200 .0280 -.0810 -.0920 .0930 .1930 .0860



## AMES 87-707 IAS O2A + S3 + T9 SRM BOOSTER

(RBNS08)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3020	.3750	.2960	-.0300	-.0160	.0080	.0140	-.0080	-.0130	.0090	.0030	-.0050	.0140	.3140	.2320
45.000		.3140	.3160	-.0160	-.0310	.0090							.1000	.3510	.3100
90.000		.2530	.2670	-.0270	-.0390	-.0070	-.0090	-.0080	-.0220	-.0290	.0010	.0050	.1450	.3050	.3140
135.000		.2190	.1870	-.0500	-.0610	-.0180							.1730	.5580	.5260
180.000	2.3020	.2000	.1570	-.0800	-.0380	-.0300	-.0400	-.0470	.0060	.0310	.0090	.1060	.2430	.4500	.2750
225.000		.2050	.0910	-.0550	.0170	-.0850	-.0970						.0880	.2000	.0750
270.000		.2460	.3300	.5410	.1540	-.0510	-.0820	-.0730			.0070	-.0390	.0210	.0630	.0210
315.000		.3420	.2300	-.0040	.2050	.0080	-.0350					.0420	.0430	.0430	.0540
X/LS	.9670														
PHI															
.000	.2230														
45.000	.3040														
90.000	.3240														
135.000	.4370														
180.000	.1670														
225.000	.0170														
270.000	.1500														
315.000	.0610														

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1720	.3420	.2700	-.0440	-.0310	.0030	-.0010	-.0190	-.0230	.0000	-.0050	-.0140	.0050	.2550	.2000
45.000		.2660	.2670	-.0370	-.0510	-.0140							.1030	.3120	.2570
90.000		.2040	.2150	-.0500	-.0610	-.0260	-.0290	-.0260	-.0340	-.0360	.0010	-.0020	.1030	.2790	.2690
135.000		.1770	.1430	-.0680	-.0770	-.0340							.1930	.5040	.4570
180.000	2.1720	.1700	.0790	-.0930	-.0480	-.0480	-.0480	-.0530	.0040	.0290	.0010	.0510	.1910	.4530	.2330
225.000		.1820	.0720	-.0680	.0080	-.0900	-.0990						.0300	.1650	.0290
270.000		.2270	.2430	.4900	.1460	-.0530	-.0830	-.0770			-.0030	-.0540	.0180	.0560	.0210
315.000		.3190	.2020	-.0220	.0920	.0030	-.0390						.0520	.0460	.0750
X/LS	.9670														
PHI															
.000	.1930														
45.000	.2610														
90.000	.2740														
135.000	.3460														
180.000	.1360														

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNSGR)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0130
270.000	.0980
315.000	.0940

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.9080	.2750	.2230	-.0630	-.0560	-.0190	-.0280	-.0360	-.0360	-.0170	-.0310	-.0350	-.0110	.2360	.1790
45.000		.1800	.1780	-.0720	-.0830	-.0450							.0590	.2210	.1540
90.000		.1230	.1280	-.0830	-.0900	-.0540	-.0590	-.0500	-.0540	-.0220	-.0190	-.0230	.0560	.2290	.0910
135.000		.1070	.0700	-.0910	-.1020	-.0550							.1900	.2880	.2220
180.000	1.9080	.1140	.0510	-.0970	-.0590	-.0660	-.0730	-.0490	.0100	-.0040	-.0290	.0290	.1090	.2420	.0790
225.000		.1400	.0860	-.0860	-.0490	-.0950	-.0960						.0290	.1270	-.0030
270.000		.1890	.1490	.3740	.1040	-.0630	-.0870	-.0540			-.0260	-.0500	.0620	.0750	-.0020
315.000		.2760	.2190	-.0400	.0150	-.0080	-.0410						.0560	.1010	.0920

X/LS .9670

PHI

.000	.1890
45.000	.1660
90.000	.1470
135.000	.1920
180.000	.0310
225.000	-.0250
270.000	.0320
315.000	.1430

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.460

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.7750	.2440	.2200	-.0560	-.0600	-.0320	-.0360	-.0420	-.0280	-.0250	-.0400	-.0360	-.0210	.2560	.1630
45.000		.1410	.1440	-.0800	-.0920	-.0580							.0400	.1610	.1270
90.000		.0890	.0920	-.0890	-.0970	-.0640	-.0640	-.0590	-.0450	-.0310	-.0320	-.0310	.0180	.1910	.1040
135.000		.0770	.0460	-.0970	-.1000	-.0620							.0870	.2430	.1600
180.000	1.7750	.0900	.0520	-.0930	-.0670	-.0750	-.0840	-.0220	.0020	-.0300	-.0450	-.0030	.0920	.1590	.0340
225.000		.1230	.0720	-.0950	-.0770	-.1010	-.0960						.0260	.0890	-.0060





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS:9) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.410

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0140	.4820	.4100	.0060	.0560	.0980	.0200	.0200	.0480	.0650	.0500	.0220	.1720	.3050	.3140
45.000		.4670	.4570	.0260	.0310	.0660							.3330	.4600	.4790
90.000		.3770	.3960	.0000	.0020	.0150	.0100	.0000	-.0090	.0040	.0320	.1630	.3800	.5080	.5280
135.000		.2920	.2690	-.0590	-.0580	-.0310							.1620	.3190	.4050
180.000	2.0140	.2230	.1480	-.0990	-.0360	-.0340	-.0810	-.0780	-.0430	.0470	.2610	.2580	.1560	.5360	.2710
225.000		.1840	.3130	.0090	-.1130	-.1910	-.1570						-.0640	.0480	-.0180
270.000		.2270	1.2260	.4510	.0120	-.1370	-.1240	.0870			.1530	-.1120	-.0600	.0180	.1260
315.000		.3720	.4750	.2580	.1470	-.0100	-.0160						.0600	.1410	.1390

X/LS .9670

PHI

.000	.3030
45.000	.4690
90.000	.5000
135.000	.3270
180.000	.1310
225.000	-.0520
270.000	.1960
315.000	.1630

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9480	.4460	.3850	-.0040	.0380	.0800	.0070	.0110	.0280	.0540	.0300	.0170	.1740	.3080	.3110
45.000		.4150	.4080	.0060	.0080	.0350							.3080	.4210	.4440
90.000		.3250	.3320	-.0210	-.0200	-.0090	-.0060	-.0200	-.0360	-.0040	.0240	.1400	.3540	.4550	.4730
135.000		.2490	.2260	-.0720	-.0700	-.0460							.1010	.3530	.3840
180.000	1.9480	.1890	.1230	-.1060	-.0680	-.0530	-.0930	-.0950	-.0120	.0520	.1820	.2160	.1280	.4760	.2310
225.000		.1560	.2650	.0080	-.1210	-.1940	-.1640						-.0690	.0360	-.0250
270.000		.2060	1.1270	.4470	.0100	-.1360	-.1320	.0470			.1220	-.1180	-.0560	-.0050	.1080
315.000		.3530	.4510	.2480	.1420	-.0150	-.0240						.0790	.1460	.1230

X/LS .9670



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.3040
45.000	.4290
90.000	.4400
135.000	.3180
180.000	.1060
225.000	-.0620
270.000	.1780
315.000	.1700

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.170

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8710	.4140	.3550	-.0160	.0220	.0670	-.0030	.0030	.0180	.0430	.0180	.0090	.1520	.3010	.3070
45.000		.3600	.3520	-.0180	-.0110	.0140							.2780	.3830	.3980
90.000		.2720	.2770	-.0430	-.0420	-.0330	-.0290	-.0470	-.0560	.0090	.0170	.1110	.3140	.3960	.4120
135.000		.2080	.1880	-.0840	-.0830	-.0540							.1420	.4800	.3930
180.000	1.8710	.1580	.1020	-.1140	-.0970	-.0630	-.0990	-.0710	.0490	.0340	.1060	.1710	.1260	.3830	.2060
225.000		.1340	.2130	.0010	-.1210	-.1940	-.1670						-.0640	.0290	-.0350
270.000		.1900	.9800	.4430	.0070	-.1340	-.1310	.0250			.1030	-.1100	-.0480	-.0180	.0910
315.000		.3330	.4380	.1670	.1430	-.0180	-.0310						.0900	.1640	.1450

X/LS .9670

PHI

.000	.3100
45.000	.3950
90.000	.3970
135.000	.2990
180.000	.0750
225.000	-.0710
270.000	.1880
315.000	.1910



AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.180

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0150  
270.000 .1650  
315.000 .2750

MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.300

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5790 .3020 .3100 -.0340 -.0050 .0130 -.0240 -.0080 .0000 -.0160 -.0340 -.0140 .0430 .3400 .2850  
45.000 .1940 .2020 -.0840 -.0730 -.0600 .1480 .2510 .2620  
90.000 .1070 .1170 -.1150 -.1140 -.0930 -.0890 -.0890 -.0110 -.0240 -.0370 .0220 .1680 .2630 .1300  
135.000 .0750 .0720 -.1310 -.1190 -.0840 .0660 .3690 .2930  
180.000 1.5790 .0540 .0540 -.1240 -.1030 -.1080 -.1120 .0360 .0110 -.0390 .0830 .0270 -.0110 .1350 .0420  
225.000 .0620 .1080 -.0410 -.1250 -.1940 -.0800 -.0280 .0310 -.0060  
270.000 .1280 .7300 .3900 -.0020 -.1310 -.1240 .1060 .0380 -.0650 .0200 .0370 .0550  
315.000 .2740 .3650 .0540 .1540 -.0100 -.0140 .0070 .1860 .2800

X/LS .9670

PHI

.000 .2760  
45.000 .2490  
90.000 .1520  
135.000 .2430  
180.000 -.0150  
225.000 .1650  
270.000 .1440  
315.000 .2770

MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.440

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5180 .2950 .3050 -.0260 -.0020 .0080 -.0290 -.0050 -.0070 -.0280 -.0300 -.0190 .0130 .2480 .2220  
45.000 .1650 .1730 -.0900 -.0800 -.0780 .1400 .2380 .2280  
90.000 .0760 .0860 -.1210 -.1240 -.1030 -.1020 -.0840 -.0470 -.0590 -.0410 .0060 .1560 .2670 .1890  
135.000 .0490 .0550 -.1340 -.1200 -.0920 .0270 .2090 .2460  
180.000 1.5180 .0360 .0460 -.1290 -.1070 -.1090 -.0990 .0440 -.0150 -.0540 .0900 .0160 -.0310 .0890 .0260  
225.000 .0510 .1000 -.0500 -.1200 -.1930 -.0620 -.0390 .0090 .0060



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBN509)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2740	.5000	.4050	.0280	.0610	.0820	.0500	.0290	.0310	.0560	.0420	.0360	.0650	.3140	.3150
45.000		.4600	.4580	.0530	.0490	.0670							.2740	.4370	.4530
90.000		.3680	.3880	.0320	.0260	.0280	.0210	.0170	.0030	-.0090	.0130	.1170	.2940	.4040	.4600
135.000		.2900	.2720	-.0150	-.0230	-.0240							.1830	.2740	.3970
180.000	2.2740	.2320	.1480	-.0620	-.0280	-.0240	-.0450	-.0800	-.0190	-.0080	.0300	.1960	.1710	.6460	.3810
225.000		.2080	.1240	.0420	-.0420	-.1260	-.1220						-.0010	.1070	.0360
270.000		.2640	.7480	.5300	.1100	-.0690	-.0850	-.0460			.1110	-.0700	-.0240	.0160	.0980
315.000		.4090	.3800	.1070	.2140	.0300	-.0050						-.0470	.0540	.1040

X/LS .9670

PHI

.000	.3030
45.000	.4460
90.000	.4740
135.000	.3620
180.000	.2230
225.000	.0170
270.000	.3000
315.000	.1200

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1780	.4620	.3740	.0170	.0480	.0670	.0360	.0190	.0210	.0420	.0290	.0230	.0520	.3050	.2920
45.000		.4060	.4060	.0320	.0260	.0420							.2410	.3890	.4100
90.000		.3120	.3280	.0080	.0000	.0030	-.0020	-.0060	-.0200	-.0290	.0030	.0940	.2620	.3640	.4100
135.000		.2480	.2330	-.0310	-.0390	-.0320							.0560	.2450	.3780
180.000	2.1780	.2010	.1220	-.0730	-.0420	-.0350	-.0520	-.0800	-.0230	-.0070	.0200	.1860	.1410	.5390	.3310
225.000		.1870	.1030	.0180	-.0480	-.1260	-.1240						-.0250	.1090	.0270
270.000		.2450	.7220	.5270	.1080	-.0700	-.0880	-.0610			.0750	-.0760	-.0460	-.0040	.0970
315.000		.3880	.3640	.0810	.2140	.0240	-.0130						-.0560	.0510	.1110

X/LS .9670

PHI

.000	.2850
45.000	.4010
90.000	.4140
135.000	.3630
180.000	.1970

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0030

270.000 .2300

315.000 .1310

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.250

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.0830 .4280 .3520 -.0040 .0220 .0510 .0220 .0090 .0110 .0350 .0190 .0110 .0350 .2810 .2710

45.000 .3540 .3570 .0020 -.0080 .0140 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .2070 .3390 .3590

90.000 .2650 .2760 -.0250 -.0350 -.0180 -.0230 -.0240 -.0380 -.0260 .0030 .0760 .2360 .3110 .3590

135.000 .2110 .1850 -.0580 -.0640 -.0360 .0000 .0000 .0000 .0000 .0000 .0000 .0790 .3280 .3200

180.000 2.0830 .1720 .0900 -.0930 -.0550 -.0450 -.0600 -.0760 -.0100 .0230 .0090 .1450 .1480 .4020 .2840

225.000 .1650 .0860 -.0160 -.0530 -.1300 -.1290 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0190

270.000 .2250 .7500 .5150 .1040 -.0720 -.0930 -.0710 .0000 .0000 .0000 .0350 -.0850 -.0560 .0000 .0920

315.000 .3640 .3330 .0540 .2150 .0190 -.0150 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0870 .1180

X/LS .9670

PHI

.000 .2680

45.000 .3560

90.000 .3570

135.000 .3200

180.000 .1740

225.000 -.0200

270.000 .2120

315.000 .1330

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.9820 .3980 .3280 -.0110 .0130 .0460 .0110 .0040 .0020 .0270 .0080 .0000 .0180 .2550 .2500

45.000 .3060 .3050 -.0160 -.0230 -.0060 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .1750 .2950 .3180

90.000 .2160 .2230 -.0400 -.0480 -.0370 -.0440 -.0400 -.0530 -.0150 .0080 .0480 .2160 .2680 .2900

135.000 .1700 .1520 -.0660 -.0740 -.0430 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .1570 .5300 .4500

180.000 1.9820 .1410 .0740 -.0930 -.0670 -.0600 -.0680 -.0730 .0240 .0320 -.0020 .1160 .1180 .3420 .2390

225.000 .1440 .0720 -.0360 -.0590 -.1330 -.1300 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0010



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.380

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6570	.3030	.2660	-.0370	-.0150	.0230	-.0230	-.0200	-.0070	-.0100	-.0280	-.0290	-.0170	.2180	.2420
45.000		.1770	.1790	-.0700	-.0770	-.0680							.0660	.1730	.2010
90.000		.0950	.0950	-.0920	-.0980	-.0800	-.0770	-.0830	-.0420	-.0380	-.0370	-.0110	.1010	.1810	.1180
135.000		.0700	.0540	-.1030	-.1000	-.0710							.0390	.2960	.2540
180.000	1.6570	.0610	.0390	-.1030	-.0850	-.0880	-.0920	.0090	.0170	-.0240	-.0400	.0290	.0080	.1160	.0460
225.000		.0840	.0660	-.0770	-.0750	-.1380	-.1260						-.0470	.0310	.0040
270.000		.1540	.1630	.3990	.0770	-.0760	-.0910	-.0360			-.0400	-.0570	.0090	.0720	.0010
315.000		.2870	.2910	-.0010	.0320	.0100	-.0150						-.0380	.1430	.1630

X/LS .9670

## PHI

.000	.2000
45.000	.1910
90.000	.0910
135.000	.2320
180.000	-.0070
225.000	-.0030
270.000	.1000
315.000	.1990

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5590	.2810	.2680	-.0350	-.0210	.0080	-.0250	-.0160	-.0060	-.0140	-.0250	-.0280	-.0380	.1360	.1550
45.000		.1450	.1530	-.0770	-.0820	-.0720							.0730	.1610	.1410
90.000		.0660	.0710	-.0980	-.1050	-.0860	-.0870	-.0910	-.0600	-.0690	-.0370	-.0110	.0830	.1810	.1560
135.000		.0460	.0380	-.1070	-.1050	-.0790							.0290	.2370	.1790
180.000	1.5590	.0420	.0440	-.1080	-.0910	-.0930	-.0940	.0150	-.0070	-.0420	-.0380	.0140	-.0040	.0920	.0310
225.000		.0710	.0190	-.0890	-.0980	-.1390	-.1050						-.0480	.0520	.0120
270.000		.1420	.0740	.3530	.0560	-.0770	-.0860	.0470			-.0390	-.0500	-.0090	.0650	-.0040
315.000		.2710	.3020	-.0160	.0090	.0120	-.0070						-.0320	.1280	.1730

X/LS .9670

## PHI

.000	.1830
45.000	.1440
90.000	.1060
135.000	.1540
180.000	-.0010



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0470

270.000 .0930

315.000 .4380

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.720

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4840 .2630 .2560 -.0340 -.0200 .0030 -.0260 -.0100 -.0010 -.0160 -.0300 -.0390 -.0340 .1370 .2080

45.000 .1200 .1250 -.0820 -.0880 -.0790 .0640 .1240 .1120

90.000 .0420 .0470 -.1050 -.1100 -.0920 -.0900 -.0930 -.0850 -.0600 -.0280 -.0050 .0660 .1620 .1230

135.000 .0280 .0200 -.1080 -.1100 -.0800 .0350 .1520 .1090

180.000 1.4840 .0300 .0280 -.1070 -.0940 -.0980 -.0820 .0150 -.0340 -.0540 -.0400 -.0090 -.0090 .0860 .0470

225.000 .0610 .0310 -.0820 -.0860 -.1350 -.0710 -.0500 .0220 .0130

270.000 .1320 .0840 .3420 .0550 -.0730 -.0810 .0650 -.0520 -.0650 -.0060 .0520 .0890

315.000 .2600 .3070 -.0070 .0250 .0170 -.0010 -.0390 .1540 .5910

X/LS .9670

PHI

.000 .2440

45.000 .1190

90.000 .1210

135.000 .0770

180.000 .1050

225.000 .0230

270.000 -.0410

315.000 .3780

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.5730 .5140 .4050 .0090 .0270 .0710 .0500 .0270 .0190 .0300 .0320 .0260 .0360 .3640 .3190

45.000 .4590 .4640 .0350 .0190 .0590 .0960 .4730 .4130

90.000 .3580 .3810 .0090 -.0050 .0230 .0150 .0170 -.0010 -.0110 -.0100 .0410 .2070 .4270 .4380

135.000 .2830 .2480 -.0340 -.0460 -.0110 .0250 .3260 .4190

180.000 2.5730 .2350 .1180 -.0790 -.0240 -.0130 -.0340 -.0530 -.0130 -.0150 -.0010 .1480 .2320 .7600 .4600

225.000 .2210 .0850 -.0330 -.0100 -.0960 -.0090 .0710 .1740 .0570

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

270.000		.2830	.7440	.6030	.1590	-.0420	-.0700	-.0540			.0520	-.0530	.0480	.0640	.0710
315.000		.4280	.3200	.0370	.2460	.0440	-.0010						.0420	.0650	.0580

X/LS .9670

PHI

.000	.3100
45.000	.4100
90.000	.4390
135.000	.3890
180.000	.2630
225.000	.0140
270.000	.2440
315.000	.0630

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.510

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.4360	.4750	.3750	-.0020	.0130	.0630	.0350	.0180	.0090	.0210	.0220	.0160	.0180	.3470	.2910
45.000		.3990	.4020	.0140	-.0040	.0350							.0670	.4080	.3570
90.000		.3040	.3180	-.0100	-.0270	.0040	-.0020	-.0040	-.0200	-.0240	-.0180	.0140	.1680	.3580	.3580
135.000		.2400	.2020	-.0460	-.0600	-.0180							.2030	.2590	.3510
180.000	2.4360	.2020	.0950	-.0860	-.0360	-.0230	-.0420	-.0540	-.0240	.0090	.0050	.1200	.2010	.5910	.3720
225.000		.2020	.0710	-.0560	-.0180	-.0950	-.0980						.0810	.1340	.0460
270.000		.2650	.6230	.5960	.1560	-.0400	-.0710	-.0600			.0270	-.0630	.0200	.0440	.0160
315.000		.4050	.2920	.0230	.2370	.0400	-.0080						.0260	.0740	.0580

X/LS .9670

PHI

.000	.2790
45.000	.3590
90.000	.3850
135.000	.3520
180.000	.2240
225.000	.0090
270.000	.1910
315.000	.0570

## AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.320

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2880	.4300	.3430	-.0060	.0070	.0580	.0190	.0060	.0000	.0090	.0100	.0060	.0030	.3350	.2480
45.000		.3390	.3440	-.0010	-.0150	.0140							.0630	.3500	.3040
90.000		.2470	.2590	-.0230	-.0380	-.0180	-.0200	-.0230	-.0390	-.0460	-.0260	.0010	.1400	.2900	.2930
135.000		.1930	.1640	-.0540	-.0620	-.0310							.1500	.2370	.2920
180.000	2.2880	.1670	.0790	-.0860	-.0470	-.0510	-.0480	-.0580	-.0260	.0090	.0000	.1040	.2180	.4790	.3010
225.000		.1720	.0660	-.0550	-.0240	-.1010	-.1030						.0920	.1390	.0320
270.000		.2420	.3550	.5570	.1500	-.0460	-.0750	-.0660			.0200	-.0360	.0360	.0620	.0310
315.000		.3780	.2680	.0190	.2190	.0300	-.0130						.0240	.0660	.0660

X/LS .9670

PHI	
.000	.2430
45.000	.3040
90.000	.3180
135.000	.3260
180.000	.1880
225.000	-.0060
270.000	.1780
315.000	.0770

MACH ( 3 ) = 3.502 BETAT ( 4 ) = -2.130

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1520	.3980	.3180	-.0260	-.0140	.0460	.0090	-.0010	-.0070	.0040	.0000	-.0060	.0170	.2750	.2150
45.000		.2940	.2920	-.0300	-.0420	-.0070							.0940	.3210	.2540
90.000		.2020	.2080	-.0520	-.0640	-.0330	-.0400	-.0370	-.0510	-.0540	-.0120	-.0070	.0970	.2770	.2350
135.000		.1590	.1200	-.0730	-.0830	-.0410							.1890	.4530	.3670
180.000	2.1520	.1410	.0500	-.0990	-.0540	-.0560	-.0510	-.0600	-.0090	.0180	-.0020	.0840	.2020	.3970	.2190
225.000		.1530	.0420	-.0730	-.0300	-.0990	-.1030						.0520	.1550	.0180
270.000		.2230	.2620	.5290	.1490	-.0440	-.0730	-.0660			.0080	-.0380	.0620	.0960	.0340
315.000		.3570	.2380	-.0050	.0660	.0280	-.0140						.0760	.0620	.1010

X/LS .9670

PHI	
.000	.2210
45.000	.2590
90.000	.2590
135.000	.3050
180.000	.1370

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.130

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	-.0160
225.000	.1060
270.000	.1080
315.000	.1080

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8750	.3270	.2690	-.0400	-.0290	.0190	-.0090	-.0180	-.0180	-.0080	-.0220	-.0270	-.0240	.2210	.2020
45.000		.2020	.2040	-.0590	-.0700	-.0400							.0430	.2210	.1700
90.000		.1200	.1210	-.0790	-.0880	-.0580	-.0630	-.0640	-.0640	-.0330	-.0280	-.0160	.0510	.2010	.1230
135.000		.0940	.0570	-.0910	-.0970	-.0560							.1310	.2000	.1940
180.000	1.8750	.0860	.0250	-.1020	-.0640	-.0650	-.0710	-.0500	.0030	-.0200	-.0290	.0190	.0860	.2540	.1030
225.000		.1130	.0550	-.0780	-.0460	-.1020	-.0690						.0110	.1310	.0080
270.000		.1860	.1800	.3790	.1230	-.0460	-.0670	-.0550			-.0180	-.0540	.0580	.0780	.0130
315.000		.3110	.2550	-.0130	.0540	.0220	-.0130						.0390	.1200	.1060

X/LS .9670

PHI

.000	.2120
45.000	.1710
90.000	.1260
135.000	.2050
180.000	.0520
225.000	-.0110
270.000	.0500
315.000	.2220

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.470

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.7380	.2950	.2490	-.0430	-.0370	.0010	-.0160	-.0210	-.0140	-.0090	-.0270	-.0350	-.0160	.2590	.1610
45.000		.1640	.1660	-.0700	-.0820	-.0520							.0510	.1840	.1470
90.000		.0850	.0840	-.0890	-.0980	-.0660	-.0690	-.0740	-.0570	-.0500	-.0390	-.0210	.0420	.1810	.1020
135.000		.0650	.0310	-.0990	-.1010	-.0630							.0940	.2690	.1420
180.000	1.7380	.0640	.0250	-.0970	-.0690	-.0750	-.0720	-.0510	-.0180	-.0290	-.0410	.0160	.1120	.1750	.0500
225.000		.0960	.0540	-.0940	-.0680	-.1030	-.0520						.0480	.1150	.0150



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS09)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.880

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7115	.8248	.8817	.9044	.9386
PHI															
.000	1.4630	.2320	.2220	-.0550	-.0540	-.0170	-.0290	-.0170	-.0090	-.0200	-.0440	-.0390	-.0320	.1790	.1710
45.000		.0940	.1020	-.0940	-.1040	-.0730							.0140	.1640	.0730
90.000		.0270	.0260	-.1130	-.1210	-.0870	-.0840	-.0830	-.0790	-.0580	-.0440	-.0170	.0180	.1530	.0650
135.000		.0160	-.0120	-.1080	-.1160	-.0770							.1020	.1500	.0750
180.000	1.4630	.0250	.0010	-.1130	-.0860	-.0950	-.0750	-.0270	-.0510	-.0620	-.0720	-.0240	.0290	.1320	.0660
225.000		.0930	-.0550	-.1130	-.0980	-.1060	-.0700						-.0030	.0620	-.0160
270.000		.2180	-.0360	.1560	.0290	-.0600	-.0640	.0330			-.0790	-.0820	.0330	.0410	-.0050
315.000		.2450	.2390	-.0640	.0030	.0070	-.0070						.0200	.0940	.4930

X/LS .9670

PHI

.000	.2200
45.000	.0780
90.000	.0530
135.000	.0580
180.000	.0460
225.000	-.0490
270.000	-.0400
315.000	.1760

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS10) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.380

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9910	.5360	.4700	.0390	.0940	.1250	.0460	.0520	.0630	.0830	.0600	.0390	.1930	.3500	.3570
45.000		.4960	.4930	.0450	.0500	.0820							.3390	.4640	.4950
90.000		.3690	.3840	.0000	.0030	.0120	.0080	-.0210	-.0340	-.0390	.0000	.1550	.3860	.4620	.4900
135.000		.2640	.2400	-.0650	-.0690	-.0460							.2920	.2880	.3400
180.000	1.9910	.1920	.1270	-.1040	-.0450	-.0390	-.0930	-.0930	-.0740	-.0240	.2570	.2670	.1900	.5860	.2990
225.000		.1530	.3000	-.0230	-.1430	-.1940	-.1420						-.0590	.0590	-.0060
270.000		.2180	1.2150	.4420	.0170	-.1160	-.1050	.0260			.1870	-.1040	-.0460	.0330	.1600
315.000		.4100	.5520	.2960	.1890	.0240	.0200						.0750	.1740	.2030

X/LS .9670

PHI  
 .000 .3500  
 45.000 .4930  
 90.000 .4860  
 135.000 .2870  
 180.000 .1600  
 225.000 -.0460  
 270.000 .2370  
 315.000 .2300

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9250	.5020	.4430	.0200	.0720	.1070	.0350	.0420	.0470	.0730	.0450	.0330	.1780	.3490	.3480
45.000		.4500	.4410	.0150	.0170	.0510							.3060	.4200	.4570
90.000		.3200	.3270	-.0310	-.0300	-.0150	-.0180	-.0430	-.0600	-.0310	.0010	.1360	.3440	.4070	.4300
135.000		.2240	.1940	-.0870	-.0880	-.0560							.2450	.1800	.2570
180.000	1.9250	.1580	.0940	-.1190	-.0640	-.0620	-.0990	-.1040	-.0880	-.0260	.2170	.2420	.1500	.5370	.2620
225.000		.1280	.2560	-.0380	-.1490	-.1990	-.1540						-.0640	.0510	-.0070
270.000		.1990	1.1960	.4320	.0120	-.1160	-.1100	-.0090			.1590	-.1110	-.0480	.0030	.1440
315.000		.3920	.5320	.2640	.1030	.0220	.0120						.0820	.1840	.1830

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.3460
45.000	.4490
90.000	.4230
135.000	.2310
180.000	.1420
225.000	-.0550
270.000	.2340
315.000	.2330

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.170

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8510	.4680	.4140	.0060	.0560	.0860	.0260	.0270	.0320	.0590	.0300	.0270	.1590	.3450	.3520
45.000		.3900	.3880	-.0080	-.0030	.0420							.2720	.3760	.4130
90.000		.2630	.2720	-.0550	-.0520	-.0410	-.0460	-.0700	-.0830	-.0210	-.0080	.1100	.3030	.3620	.3770
135.000		.1840	.1570	-.1030	-.0960	-.0660							.0930	.2930	.2720
180.000	1.8510	.1300	.0700	-.1260	-.0740	-.0790	-.1130	-.0950	-.0360	.0100	.1410	.1910	.1350	.4920	.2680
225.000		.1070	.1970	-.0440	-.1550	-.2020	-.1630						-.0590	.0280	-.0230
270.000		.1830	1.1410	.4250	.0070	-.1190	-.1120	-.0480			.1270	-.0820	-.0120	.0330	.1270
315.000		.3720	.5220	.1860	.1790	.0170	.0060						.1110	.2150	.2130

X/LS .9670

PHI

.000	.3530
45.000	.4110
90.000	.3830
135.000	.2310
180.000	.1220
225.000	-.0500
270.000	.2290
315.000	.2380





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RENS15)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.185

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0760  
270.000 .1990  
315.000 .3120

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.320

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5490 .3590 .3670 -.0110 .0230 .0380 -.0020 .0190 .0150 .0040 -.0200 -.0160 .1080 .3260 .2700  
45.000 .2190 .2280 -.0770 -.0750 -.0450 .1670 .2680 .2740  
90.000 .0990 .1080 -.1220 -.1220 -.1090 -.1140 -.1320 -.0510 -.0620 -.0510 .0320 .1870 .2720 .1870  
135.000 .0560 .0490 -.1420 -.1220 -.0930 .1040 .3370 .3210  
180.000 1.5490 .0310 .0260 -.1290 -.1000 -.1170 -.1180 .0470 .0120 -.0360 .0810 .0280 -.0020 .1200 .0540  
225.000 .0330 .0530 -.0650 -.1580 -.1140 .0570 .0440 .0620 .0780  
270.000 .1240 .7740 .3700 .0040 -.1120 -.1030 .1030 .0570 -.0560 .0440 .0620 .0780  
315.000 .3150 .4330 .0860 .1590 .0280 .0210 .0340 .2010 .2980

X/LS .9670

PHI

.000 .3340  
45.000 .2510  
90.000 .1130  
135.000 .2970  
180.000 -.0070  
225.000 .1570  
270.000 .1590  
315.000 .2590

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.450

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4860 .3500 .3580 -.0120 .0190 .0300 -.0100 .0140 .0070 -.0060 -.0140 -.0280 .0520 .2160 .2510  
45.000 .1870 .1910 -.0940 -.0900 -.0620 .1400 .2300 .2240  
90.000 .0630 .0720 -.1370 -.1390 -.1200 -.1320 -.1240 -.0810 -.0920 -.0460 .0210 .1740 .2760 .2110  
135.000 .0500 .0190 -.1500 -.1400 -.1070 .0420 .2460 .2330  
180.000 1.4860 .0500 .0060 -.1410 -.1110 -.1290 -.1110 .0340 -.0170 -.0480 .0770 .0110 -.0270 .0920 .0350  
225.000 .0170 .0600 -.0810 -.4440 -.2010 -.0970 .0300 .0290 .0390



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.540

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2490	.5580	.4650	.5450	.0830	.1190	.0660	.0540	.0550	.0700	.0630	.0520	.0660	.3680	.3560
45.000		.4940	.4940	.5610	.0570	.0820							.2700	.4550	.4740
90.000		.3590	.3780	.0210	.0130	.0210	.0100	.0010	-.0160	-.0260	-.0260	.1030	.2640	.3610	.4220
135.000		.2620	.2360	-.0360	-.0420	-.0310							.2050	.2770	.3490
180.000	2.2490	.2030	.1140	-.0830	-.0380	-.0180	-.0510	-.0900	-.0540	-.0380	.0190	.1970	.1860	.6550	.4120
225.000		.1810	.1490	.0270	-.0770	-.1330	-.1200						.0030	.1120	.0470
270.000		.2590	.7860	.5370	.1080	-.0550	-.0690	-.0450			.1140	-.0690	-.0100	.0140	.1440
315.000		.4480	.4370	.1330	.2570	.0560	.0260						-.0090	.0950	.1430
X/LS	.9670														
PHI															
.000	.3470														
45.000	.4670														
90.000	.4440														
135.000	.3180														
180.000	.2420														
225.000	.0150														
270.000	.2850														
315.000	.1650														

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.390

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1540	.5190	.4360	.5310	.0610	.1020	.0520	.0430	.0420	.0520	.0450	.0400	.0450	.3350	.3240
45.000		.4360	.4410	.0350	.0280	.0540							.2260	.3910	.4170
90.000		.3070	.3200	-.0060	-.0140	-.0030	-.0140	-.0200	-.0420	-.0490	-.0210	.0820	.2370	.3060	.3460
135.000		.2250	.1940	-.0540	-.0580	-.0420							.1600	.1870	.2690
180.000	2.1540	.1720	.0910	-.0900	-.0500	-.0370	-.0630	-.0910	-.0530	-.0600	-.0120	.1920	.1720	.6420	.3860
225.000		.1580	.1090	.0090	-.0800	-.1350	-.1240						-.0200	.1090	.0340
270.000		.2390	.7630	.5260	.1060	-.0570	-.0720	-.0550			.0890	-.0740	-.0290	-.0040	.1250
315.000		.4270	.4140	.1120	.2560	.0520	.0180						-.0080	.1050	.1490
X/LS	.9670														
PHI															
.000	.3190														
45.000	.4110														
90.000	.3730														
135.000	.2630														
180.000	.2180														

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.390

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0010

270.000 .2300

315.000 .1740

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.240

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.0560 .4850 .4090 .0190 .0470 .0870 .0380 .0280 .0280 .0440 .0290 .0210 .0260 .3030 .2950

45.000 .3840 .3860 .0110 .0040 .0260 .1810 .3290 .3580

90.000 .2530 .2650 -.0300 -.0400 -.0270 -.0360 -.0460 -.0650 -.0420 -.0100 .0620 .1930 .2550 .2790

135.000 .1840 .1580 -.0670 -.0750 -.0480 .1420 .2200 .1840

180.000 2.0560 .1420 .0660 -.1030 -.0590 -.0580 -.0750 -.0940 -.0490 -.0560 -.0290 .1560 .1450 .5360 .3510

225.000 .1350 .0850 -.0170 -.0860 -.1400 -.1300 -.0250 .1080 .0200

270.000 .2200 .7330 .5090 .1000 -.0610 -.0770 -.0620 .0510 -.0860 -.0500 .0140 .1000

315.000 .4040 .3940 .0960 .2620 .0460 .0100 .0080 .1160 .1480

X/LS .9670

PHI

.000 .2970

45.000 .3600

90.000 .2990

135.000 .1990

180.000 .1890

225.000 -.0200

270.000 .2330

315.000 .1640

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.090

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.9490 .4490 .3840 .0150 .0420 .0820 .0260 .0210 .0200 .0350 .0160 .0090 .0090 .2700 .2710

45.000 .3300 .3310 -.0050 -.0090 -.0010 .1550 .2770 .3090

90.000 .2030 .2110 -.0430 -.0490 -.0460 -.0480 -.0660 -.0800 -.0310 -.0090 .0460 .2040 .2550 .2570

135.000 .1440 .1280 -.0710 -.0800 -.0560 .0670 .3750 .1400

180.000 1.9490 .1120 .0460 -.1010 -.0700 -.0700 -.0790 -.0920 -.0240 .0050 -.0010 .1020 .1070 .3720 .2640

225.000 .1130 .0720 -.0340 -.0910 -.1400 -.1350 -.0370 .0420 -.0140



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.400

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6180	.3560	.3180	-.0020	.0200	.0520	-.0010	.0000	.0060	.0080	-.0120	-.0100	-.0190	.2320	.2110
45.000		.2020	.2020	-.0480	-.0550	-.0570								.0830	.1670
90.000		.0860	.0880	-.0850	-.0900	-.0920	-.0930	-.1070	-.0640	-.0510	-.0450	-.0170		.1040	.1800
135.000		.0560	.0470	-.0940	-.0890	-.0810								.0170	.1520
180.000	1.6180	.0370	.0250	-.0950	-.0860	-.1040	-.0870	-.0060	.0110	-.0260	-.0030	.0280	.0120	.1190	.0450
225.000		.0560	.0490	-.0770	-.0990	-.1420	-.1080							-.0330	.0570
270.000		.1490	.1860	.3970	.0710	-.0670	-.0750	-.0470			-.0070	-.0470	.0220	.0900	.0210
315.000		.3230	.3560	.0390	.0780	.0380	.0140						-.0310	.1610	.1460
X/LS	.9670														
PHI															
.000	.2090														
45.000	.1970														
90.000	.1130														
135.000	.2390														
180.000	.0070														
225.000	.0530														
270.000	.1350														
315.000	.2800														

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.570

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5210	.3280	.3100	-.0050	.0140	.0370	-.0070	.0060	.0120	.0000	-.0100	-.0220	-.0410	.1220	.1740
45.000		.1660	.1740	-.0610	-.0640	-.0570								.0710	.1370
90.000		.0560	.0600	-.0930	-.1030	-.0990	-.1050	-.1130	-.0770	-.0810	-.0480	-.0140		.0740	.1770
135.000		.0300	.0290	-.1010	-.1020	-.0870								.0080	.1500
180.000	1.5210	.0180	.0170	-.1060	-.0950	-.1150	-.0950	.0110	-.0070	-.0320	.0050	.0130	.0010	.0970	.0420
225.000		.0410	.0260	-.0850	-.1110	-.1440	-.1180							-.0340	.0430
270.000		.1340	.1200	.3540	.0570	-.0680	-.0710	.0490			-.0290	-.0460	.0080	.0680	.0500
315.000		.3050	.3540	.0270	.0430	.0410	.0210							.0000	.1580
X/LS	.9670														
PHI															
.000	.2170														
45.000	.1520														
90.000	.1250														
135.000	.1570														
180.000	.0030														

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 2 ) = 2.909

BETAT ( 7 ) = 6.575

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0420  
270.000 .0440  
315.000 .4610

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.740

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4350 .3080 .2970 -.0070 .0110 .0240 -.0090 .0090 .0180 .0020 -.0220 -.0420 -.0270 .1760 .2440  
45.000 .1370 .1440 -.0690 -.0750 -.0700 .0470 .0930 .1080  
90.000 .0300 .0330 -.1050 -.1100 -.1040 -.1060 -.1110 -.1060 -.0680 -.0440 -.0090 .0510 .1510 .1060  
135.000 .0120 .0120 -.1050 -.1110 -.0920 .0180 .1270 .0970  
180.000 1.4350 .0020 -.0010 -.1120 -.1010 -.1120 -.0920 .0110 -.0340 -.0560 -.0050 .0040 -.0170 .0880 .0420  
225.000 .0310 .0180 -.0830 -.1080 -.1390 -.1070 -.0390 .0220 .0100  
270.000 .1210 .1190 .3300 .0480 -.0630 -.0680 .0790 -.0420 -.0590 -.0040 .0580 .0430  
315.000 .2940 .3580 .0280 .0550 .0500 .0270 -.0230 .2010 .6290

X/LS .9670

PHI

.000 .2760  
45.000 .1200  
90.000 .1100  
135.000 .0640  
180.000 .0940  
225.000 -.0080  
270.000 -.0600  
315.000 .4790

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.690

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.5390 .5800 .4690 .0320 .0510 .1030 .0700 .0470 .0410 .0500 .0500 .0410 .0500 .3990 .3570  
45.000 .4940 .5010 .0500 .0390 .0760 .0970 .0970 .0040 -.0140 -.0240 -.0230 .0620 .1880 .4040 .3950  
90.000 .3540 .3750 .0100 -.0040 .0180 .0070 .0040 -.0140 -.0240 -.0230 .0620 .1880 .4040 .3950  
135.000 .2620 .2170 -.0360 -.0530 -.0220 .2190 .2810 .3570  
180.000 2.5390 .2070 .0960 -.0850 -.0290 -.0150 -.0380 -.0640 -.0490 -.0420 -.0290 .1420 .2550 .7560 .4840  
225.000 .1980 .0660 -.0230 -.0390 -.1000 -.0960 .0630 .1880 .0380





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.310

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2620	.4910	.4010	.0100	.0240	.0840	.0360	.0280	.0240	.0260	.0240	.0160	.0150	.3100	.2770
45.000		.3710	.3790	.0050	-.0080	.0260							.0720	.3280	.3050
90.000		.2420	.2560	-.0330	-.0470	-.0230	-.0280	-.0330	-.0500	-.0540	-.0320	.0150	.1040	.2760	.2430
135.000		.1790	.1400	-.0640	-.0780	-.0390							.1500	.1790	.1100
180.000	2.2620	.1450	.0440	-.0980	-.0510	-.0470	-.0570	-.0700	-.0560	-.0200	-.0100	.0790	.1950	.4650	.3610
225.000		.1510	.0260	-.0580	-.0500	-.1020	-.1040						.0490	.1490	.0210
270.000		.2410	.4000	.5540	.1540	-.0300	-.0580	-.0450			.0190	-.0600	.0050	.0770	.0820
315.000		.4220	.3060	.0380	.2740	.0620	.0170						.0720	.0850	.0940
X/LS	.9670														
PHI															
.000	.2880														
45.000	.3140														
90.000	.2650														
135.000	.2230														
180.000	.2220														
225.000	-.0070														
270.000	.2310														
315.000	.1200														

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.130

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1220	.4530	.3730	.0000	.0130	.0790	.0280	.0160	.0130	.0180	.0140	.0060	.0110	.2930	.2380
45.000		.3210	.3270	-.0150	-.0280	.0030							.0950	.3090	.2540
90.000		.1950	.2030	-.0510	-.0640	-.0380	-.0460	-.0480	-.0630	-.0570	-.0130	.0020	.1200	.2770	.1930
135.000		.1420	.1070	-.0760	-.0870	-.0460							.1830	.3210	.1510
180.000	2.1220	.1170	.0260	-.1030	-.0590	-.0630	-.0600	-.0620	-.0230	-.0020	-.0210	.0410	.1690	.3360	.2440
225.000		.1300	.0090	-.0710	-.0560	-.1060	-.1050						.0510	.1650	.0250
270.000		.2220	.2700	.5160	.1470	-.0320	-.0570	-.0470			.0060	-.0440	.0540	.1400	.0800
315.000		.3980	.2980	.0250	.0870	.0560	.0140						.0810	.0830	.1240
X/LS	.9670														
PHI															
.000	.2570														
45.000	.2660														
90.000	.1970														
135.000	.1090														
180.000	.1690														

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 3) = 3.502

BETAT ( 4) = -2.130

SECTION ( 1)SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0100
270.000	.1330
315.000	.1370

MACH ( 3) = 3.502

BETAT ( 5) = 2.260

SECTION ( 1)SRM BOOSTER DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8370	.3800	.3170	-.0260	-.0120	.0470	.0040	-.0020	-.0020	.0030	-.0080	-.0180	-.0140	.2580	.2310
45.000		.2260	.2300	-.0560	-.0650	-.0340							.0570	.1980	.1710
90.000		.1130	.1130	-.0860	-.1000	-.0670	-.0690	-.0770	-.0640	-.0360	-.0300	-.0130	.0360	.1730	.1080
135.000		.0800	.0420	-.0990	-.1100	-.0600							.0610	.1530	.1330
180.000	1.8370	.0650	-.0080	-.1160	-.0740	-.0840	-.0630	-.0470	-.0270	-.0400	-.0480	.0260	.1060	.2170	.1220
225.000		.0900	.0180	-.0920	-.0620	-.1030	-.0440						.0370	.1420	.0100
270.000		.1810	.1910	.4510	.1200	-.0400	-.0590	-.0500			-.0270	-.0560	.0450	.1180	.0310
315.000		.3490	.2940	.0120	.0840	.0440	.0100						.0500	.1290	.1180

X/LS .9670

PHI

.000	.2340
45.000	.1700
90.000	.1030
135.000	.1710
180.000	.0760
225.000	.0080
270.000	.0780
315.000	.1810

MACH ( 3) = 3.502

BETAT ( 6) = 4.480

SECTION ( 1)SRM BOOSTER DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.6960	.3450	.2940	-.0070	.0040	.0280	-.0030	-.0060	.0000	-.0030	-.0130	-.0210	-.0130	.2500	.1570
45.000		.1830	.1860	-.0430	-.0490	-.0460							.0400	.2080	.1410
90.000		.0740	.0750	-.0720	-.0810	-.0780	-.0810	-.0860	-.0700	-.0550	-.0450	-.0230	.0240	.1680	.0910
135.000		.0490	.0400	-.0780	-.0060	-.0710							.0820	.1280	.0640
180.000	1.6960	.0380	.0170	-.0820	-.0770	-.0920	-.0650	-.0430	-.0230	-.0360	-.0510	-.0010	.0550	.1890	.0490
225.000		.0670	.0410	-.0740	-.0770	-.1040	-.0200						.0170	.0910	.0190



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS10)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.900

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4130	.2760	.2620	-.0400	-.0350	.0030	-.0120	.0000	.0080	.0020	-.0330	-.0350	5.0510	5.0720	.2050
45.000		.1110	.1180	-.0930	.4230	-.0660							5.0390	5.1720	.0710
90.000		.0190	.0140	-.1210	-.1270	-.0920	-.0910	-.0930	-.0870	-.0670	-.0470	-.0220	5.0220	5.1380	.0690
135.000		.0030	-.0290	-.1220	-.1200	-.0850							4.7520	5.1290	.0560
180.000	1.4130	.0020	-.0260	-.1230	-.0920	-.0970	-.0850	-.0080	-.0420	-.0580	-.0710	5.0510	5.2300	5.1530	.0200
225.000		.0630	-.0610	-.1160	-.1040	-.1130	-.1020						5.2580	5.2250	-.0260
270.000		.1990	-.0160	.1780	.0390	-.0540	-.0600	-.0290			-.0760	5.0200	5.2610	5.2320	-.0050
315.000		.2710	.2940	-.0380	.0400	.0250	.0110						5.2770	.1400	.5730

X/LS .9670

PHI

.000	.2590
45.000	.0820
90.000	.0530
135.000	.0340
180.000	.0250
225.000	-.0470
270.000	-.0470
315.000	.3120

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.390

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.9910 .1930 .1300 -.0940 -.0390 -.0290 -.0870 -.1430 -.0950 -.1050 -.1120 -.1010 -.0990 .0470 -.0690  
 45.000 .2670 .2360 -.0630 -.0640 -.0330  
 90.000 .3770 .3820 .0050 .0080 .0150 .0080 -.0060 -.0150 -.0640 -.0770 -.0810 -.0550 .1310 .1570  
 135.000 .5100 .4980 .0500 .0520 .0800 .0380 .2920 .2150  
 180.000 1.9910 .5440 .4780 .0480 .1030 .1190 .0550 .1910 .1910 .0980 .2560 .1130 .0280 .2590 .1330  
 225.000 .4170 .5640 .3020 .1890 .0260 .2520 -.0930 .0370 -.0230  
 270.000 .2280 1.2280 .4580 .0140 -.1130 -.0450 .0080 .0450 -.1650 -.1510 -.1120 -.1090  
 315.000 .1570 .3410 -.0190 -.1410 -.1930 -.1440 -.1340 -.1290 -.0600

X/LS .9670

PHI

.000 -.0790  
 45.000 .0010  
 90.000 .1630  
 135.000 .1600  
 180.000 .4760  
 225.000 -.0410  
 270.000 .1360  
 315.000 -.0370

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.9130 .1590 .1000 -.1060 -.0600 -.0570 -.0990 -.1470 -.1160 -.1110 -.1240 -.1300 -.1030 .0370 -.0580  
 45.000 .2200 .1980 -.0780 -.0630 -.0500  
 90.000 .3140 .3250 -.0250 -.0230 -.0160 -.0190 -.0190 -.0520 -.0910 -.1050 -.1040 -.0830 .0800 .1050  
 135.000 .4480 .4420 .0240 .0310 .0450 .0020 .2310 .1640  
 180.000 1.9130 .5080 .4490 .0340 .0830 .0960 .0760 .1650 .1520 .0660 .1610 .0710 .0020 .2230 .0840  
 225.000 .3930 .5410 .2730 .1830 .0210 .2230 -.1000 .0200 -.0500  
 270.000 .2050 1.2230 .4460 .0090 -.1160 -.0250 -.0170 .0060 -.1650 -.1310 -.0980 -.0450  
 315.000 .1270 .2710 -.0310 -.1530 -.1970 -.1530 -.0990 -.0580 -.0120

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RNS11)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	-.0790
45.000	-.0150
90.000	.1120
135.000	.1170
180.000	.4310
225.000	-.0610
270.000	.0660
315.000	-.0280

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.160

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8280	.1230	.0740	-.1160	-.0660	-.0710	-.1080	-.1460	-.1240	-.1300	-.1390	-.1370	-.1150	-.0690	-.0670
45.000		.1760	.1570	-.0940	-.0960	-.0590							-.0880	-.0450	-.0360
90.000		.2550	.2650	-.0470	-.0610	-.0400	-.0480	-.0480	-.0820	-.1200	-.1270	-.1390	-.0980	.0250	.0470
135.000		.3880	.3890	.0020	.0100	.0250							-.0310	.1710	.1110
180.000	1.8280	.4720	.4220	.0240	.0720	.0860	.2050	.1300	.1140	.0390	.1040	.0350	-.0200	.1780	.0610
225.000		.3730	.5370	.2030	.1780	.0180	.1920						-.1090	.0060	-.0620
270.000		.1850	1.1890	.4360	.0000	-.1160	-.0180	-.0340			-.0090	-.1620	-.1300	-.0630	.0140
315.000		.1010	.2120	-.0460	-.1570	-.1980	-.1650						-.0940	.1010	.0240

X/LS .9670

PHI

.000	-.0730
45.000	-.0370
90.000	.0630
135.000	.0730
180.000	.4010
225.000	-.0730
270.000	.0840
315.000	.0470

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 1 ) = 2.490

BETAT ( 4 ) = .060

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6770	.0690	.0350	-.1320	-.0670	-.0990	-.1210	-.1280	-.1250	-.1390	-.1520	-.1080	-.0820	.0410	-.0880
45.000		.1050	.0970	-.1140	-.1190	-.0800							-.1060	-.0730	-.0580
90.000		.1610	.1800	-.0860	-.0870	-.0840	-.0840	-.1070	-.1380	-.1430	-.1270	-.1260	-.1070	-.0510	-.0210
135.000		.2960	.3020	-.0390	-.0310	-.0130							-.1010	.0350	.0160
180.000	1.6770	.4120	.3830	.0050	.0480	.0560	.1510	.0590	.0690	.0170	.0530	-.0290	-.0790	.0710	-.0180
225.000		.3380	.5080	.1620	.1820	.0160	.1400						-.1210	-.0340	-.0410
270.000		.1510	1.0610	.4130	-.0090	-.1150	-.0080	-.0610			-.0060	-.1660	-.0750	.0230	.0760
315.000		.0590	.1070	-.0620	-.1650	-.2060	-.1790						-.0570	.0890	.0800

X/LS .9670

PHI	
.000	-.0920
45.000	-.0390
90.000	-.0020
135.000	-.0150
180.000	.3440
225.000	.1080
270.000	.0880
315.000	.1370

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.330

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5460	.0340	.0090	-.1290	-.0950	-.1130	-.1170	-.0830	-.0380	-.0470	-.0460	-.0550	-.0480	.1820	.1970
45.000		.0590	.0550	-.1310	-.1280	-.0900							-.0590	.0530	-.0320
90.000		.1010	.1100	-.1120	-.1110	-.1140	-.1050	-.1500	-.1620	-.1290	-.1240	-.1380	-.0950	-.0520	-.0380
135.000		.2280	.2340	-.0670	-.0520	-.0440							-.1090	-.0440	-.0620
180.000	1.5460	.3710	.3820	.0310	.0590	.0360	.0910	.0580	.0290	-.0190	.0190	-.0810	-.1180	.0110	-.0570
225.000		.3200	.6470	.0880	.1300	.0430	.1480						-.1140	-.0170	.0070
270.000		.1280	.9880	.3890	-.0110	-.1200	-.0050	-.0750			-.0120	-.1390	-.0520	.0360	.0460
315.000		.0330	.1440	-.0720	-.1650	-.2030	-.1850						-.0820	.0260	.0450

X/LS .9670

PHI	
.000	.2020
45.000	-.0950
90.000	-.0440
135.000	.0430
180.000	.2930



## AMES 87-707 IAG Q2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.330

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .2110

270.000 .1120

315.000 .0890

MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.460

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4820 .0150 .0110 -.1370 -.1120 -.1180 -.1120 -.0760 -.0130 -.0350 -.0440 -.0550 -.0480 .1940 .1880

45.000 .0370 .0320 -.1410 -.1350 -.0930

90.000 .0680 .0760 -.1270 -.1280 -.1180 -.1210 -.1570 -.1610 -.1350 -.1200 -.1080 -.0780 -.0270 -.0680

135.000 .1950 .1990 -.0770 -.0750 -.0660

180.000 1.4820 .3530 .3800 .0120 .0340 .0430 .0650 .0720 .0070 -.0400 .0050 .1000 .1230 .0110 .0400

225.000 .3080 .4490 .0410 .1640 .1360 .1120

270.000 .1230 .7090 .3240 -.0020 -.0910 -.0210 -.0760

315.000 .0210 .0280 -.0800 -.1620 -.2020 -.1860

X/LS .9670

PHI

.000 .1740

45.000 -.0610

90.000 -.0820

135.000 .0380

180.000 .2900

225.000 .1360

270.000 .1040

315.000 .0540

MACH ( 1 ) = 2.498 BETAT ( 7 ) = 8.600

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4170 .0020 .0030 -.1460 -.1180 -.1280 -.1150 -.0510 -.0180 -.0360 -.0400 -.0510 -.0500 .1570 .1740

45.000 .0150 .0240 -.1380 -.1410 -.0990

90.000 .0400 .0480 -.1360 -.1380 -.1240 -.1420 -.1620 -.1570 -.1350 -.1100 -.1080 -.0340 .0510 .0080

135.000 .1630 .1780 -.0900 -.0870 -.0800

180.000 1.4170 .3340 .3720 .0100 .0280 .0760 .0570 .0590 -.0190 -.0540 .0290 .1090 .1140 .0080 .0420

225.000 .3410 .4390 .0350 .1160 .1750 .0940

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.600

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000	.2120	.5840	.2950	.0000	-.0720	-.0300	-.0630				-.0240	-.1360	-.1000	-.0200	.0190
315.000	.0470	.0260	-.0850	-.1590	-.2000	-.1850							-.1150	-.0210	-.0320

X/LS .9670

PHI

.000	.1620
45.000	.0950
90.000	-.0280
135.000	.0510
180.000	.3290
225.000	.0770
270.000	.0570
315.000	.1280

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2410	.2000	.1190	-.0760	-.0410	-.0160	-.0530	-.0980	-.0750	-.0730	-.0940	-.0960	-.0820	-.0120	-.0710
45.000		.2610	.2400	-.0290	-.0410	-.0260							-.0510	-.0200	-.0140
90.000		.3600	.3810	.0220	.0170	.0180	.0100	.0010	-.0120	-.0310	-.0570	-.0570	-.0340	.1390	.1720
135.000		.4970	.4950	.0630	.0590	.0790							.0650	.3610	.2940
180.000	2.2410	.5540	.4600	.0480	.0880	.1190	.0660	.1920	.2060	.1250	.0860	.1540	.0830	.3900	.2070
225.000		.4470	.4420	.1510	.2450	.0530	.0250						-.0240	.1310	.0380
270.000		.2600	.7810	.5550	.1000	-.0630	-.0690	.0070			-.0090	-.1110	-.1260	-.0900	-.0760
315.000		.1760	.1750	.0320	-.0820	-.1400	-.1290						-.1250	-.0890	-.0610

X/LS .9670

PHI

.000	-.0590
45.000	.0000
90.000	.1750
135.000	.2080
180.000	.0990
225.000	.0030
270.000	-.0140
315.000	-.0390

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.410

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1460	.1720	.1000	-.0900	-.0510	-.0350	-.0620	-.0920	-.0940	-.0810	-.0940	-.1050	-.0880	-.0120	-.0730
45.000		.2230	.2000	-.0480	-.0570	-.0330							-.0610	-.0250	-.0290
90.000		.3060	.3270	-.0040	-.0100	-.0030	-.0100	-.0220	-.0390	-.0590	-.0760	-.0790	-.0560	.0910	.1230
135.000		.4440	.4420	.0400	.0330	.0530							.0370	.2960	.2400
180.000	2.1460	.5240	.4400	.0350	.0710	.0990	.0560	.1580	.1670	.1000	.0580	.1300	.0630	.3430	.1560
225.000		.4280	.4210	.1170	.2520	.0510	.0240						-.0350	.1170	.0250
270.000		.2450	.7650	.5410	.1020	-.0590	-.0650	.0010			-.0430	-.1150	-.1210	-.0890	-.0790
315.000		.1560	.1330	.0150	-.0820	-.1390	-.1290						-.1060	-.0370	-.0250

X/LS .9670

PHI

.000	-.0650
45.000	-.0140
90.000	.1310
135.000	.1630
180.000	.0720
225.000	-.0090
270.000	-.0250
315.000	.0090

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0500	.1390	.0710	-.0910	-.0610	-.0550	-.0750	-.0960	-.1090	-.0970	-.1090	-.1200	-.1090	-.0830	-.0730
45.000		.1840	.1620	-.0540	-.0650	-.0420							-.0770	-.0450	-.0470
90.000		.2530	.2640	-.0210	-.0250	-.0280	-.0350	-.0410	-.0650	-.0860	-.1020	-.1030	-.0780	.0360	.0660
135.000		.3900	.3890	.0220	.0160	.0220							.0090	.2210	.1710
180.000	2.0500	.4880	.4180	.0320	.0610	.0960	.0410	.1170	.1270	.0630	.0340	.0740	.0330	.2910	.1280
225.000		.4090	.4090	.1150	.2570	.0430	.0270						-.0530	.0950	.0090
270.000		.2240	.7410	.5260	.0960	-.0640	-.0600	-.0070			-.0390	-.1130	-.1130	-.0830	-.0970
315.000		.1320	.1040	.0050	-.0920	-.1410	-.1340						-.0990	-.0180	-.0260

X/LS .9670

PHI

.000	-.0850
45.000	-.0320
90.000	.0800
135.000	.1160
180.000	.0530

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0310

270.000 -.0110

315.000 -.0290

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .050

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.8220 .0810 .0300 -.1150 -.0870 -.0880 -.0920 -.0990 -.1110 -.1120 -.1270 -.1160 -.0910 -.0700 -.0850

45.000 .1080 .0940 -.0920 -.0980 -.0590 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

90.000 .1560 .1640 -.0680 -.0770 -.0680 -.0700 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

135.000 .2840 .2770 -.0300 -.0360 -.0230 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

180.000 1.8220 .4150 .3570 -.0010 .0340 .0650 .1500 .0520 .0630 .0150 .0100 .0250 -.0310 .1280 .0370

225.000 .3630 .3700 .0780 .2490 .0390 .1820 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

270.000 .1830 .5960 .4800 .0770 -.0670 -.0240 -.0230 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

315.000 .0880 .0480 -.0410 -.1000 -.1450 -.1430 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

X/LS .9670

PHI

.000 -.0700

45.000 -.0650

90.000 -.0220

135.000 .0200

180.000 .0340

225.000 -.0690

270.000 .0420

315.000 .0080

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6040 .0370 .0060 -.1160 -.0960 -.0920 -.0970 -.0850 -.0680 -.0550 -.0540 -.0590 -.0570 .1350 .1560

45.000 .0550 .0500 -.1030 -.1090 -.0780 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

90.000 .0870 .0920 -.0910 -.0980 -.0900 -.0960 -.1150 -.1290 -.1160 -.1050 -.1090 -.0740 -.0440 -.0380

135.000 .2070 .2050 -.0560 -.0600 -.0490 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

180.000 1.6040 .3600 .3160 -.0120 .0140 .0260 .1290 .0360 .0580 .0020 -.0250 -.0160 -.0580 .0570 .0070

225.000 .3270 .3600 .0620 .0980 .0260 .1330 .0920 -.0780 -.1070 -.1250 -.1110 -.1100 -.0880 -.0470 -.0320

AVES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 2 ) = 2.999 BETAT ( 5 ) = 4.400

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.1510	.5135	.4300	.0735	-.0740	-.0040	-.0360			-.0370	-.1100	-.0960	-.0550	-.0010
315.000		.0550	-.0090	-.0550	-.1020	-.1450	-.1430						-.0800	-.0020	.0250
X/LS	.9670														
PHI															
.000	.1810														
45.000	-.0950														
90.000	-.0430														
135.000	-.0490														
180.000	.2390														
225.000	-.0320														
270.000	.0650														
315.000	.0620														

MACH ( 2 ) = 2.999 BETAT ( 6 ) = 6.580

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5180	.0180	-.0040	-.1180	-.1090	-.1040	-.0950	-.0800	-.0550	-.0370	-.0540	-.0600	-.0550	.1170	.1500
45.000		.0310	.0300	-.1100	-.1150	-.0900							-.0610	.0360	-.0110
90.000		.0580	.0650	-.1030	-.1100	-.1010	-.1030	-.1210	-.1310	-.1180	-.1120	-.0940	-.0690	-.0520	-.0580
135.000		.1720	.1730	-.0660	-.0690	-.0580							-.0770	-.0280	-.0540
180.000	1.5180	.3350	.3180	.0010	.0200	.0280	.1020	.0350	.0240	-.0220	-.0460	-.0450	-.0640	.0470	-.0310
225.000		.3080	.4280	.0010	.0300	.0710	.1290						-.0980	-.0320	-.0610
270.000		.1380	.1170	.3210	.0530	-.0610	.0000	-.0520			-.0420	-.1170	-.1020	-.0330	.0150
315.000		.0390	.0400	-.0890	-.1050	-.1470	-.1430						-.0810	-.0070	.0110
X/LS	.9670														
PHI															
.000	.1470														
45.000	-.0510														
90.000	-.0620														
135.000	-.0680														
180.000	.2260														
225.000	.2220														
270.000	.0490														
315.000	.0530														

AMES 87-707 IA9, Q2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.750

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4420	.0060	-.0010	-.1100	-.1070	-.1160	-.1040	-.0640	-.0480	-.0400	-.0530	-.0550	-.0530	.0990	.1100
45.000		.0160	.0100	-.1070	-.1110	-.0890							-.0330	.0930	.0990
90.000		.0340	.0340	-.1040	-.1110	-.1070	-.1040	-.1230	-.1240	-.1180	-.1020	-.0790	-.0610	.0190	-.0110
135.000		.1440	.1450	-.0690	-.0730	-.0670							-.0770	-.0340	-.0640
180.000	1.4420	.3130	.3220	.0010	.0150	.0190	.0810	.0670	.0040	-.0410	-.0420	-.0490	-.0630	.0650	-.0260
225.000		.2950	.3720	-.0080	.0390	.1340	.1100						-.1050	-.0630	-.0450
270.000		.1350	.0370	.2850	.0440	-.0590	-.0010	-.0550			-.0500	-.1190	-.0960	.0110	-.0080
315.000		.0330	-.0050	-.0900	-.1110	-.1460	-.1420						-.0690	.0010	.0020

X/LS .9670

PHI	
.000	.1060
45.000	.0660
90.000	-.0350
135.000	-.0700
180.000	.1350
225.000	.0910
270.000	-.0070
315.000	.0410

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.5360	.2150	.1300	-.0620	-.0330	-.0110	-.0330	-.0580	-.0670	-.0490	-.0620	-.0750	-.0590	-.0160	-.0440
45.000		.2710	.2490	-.0150	-.0300	-.0080							-.0420	-.0230	-.0060
90.000		.3670	.3900	.0320	.0210	.0260	.0160	.0140	.0060	-.0110	-.0360	-.0400	-.0050	.1600	.2010
135.000		.5210	.5200	.0770	.0650	.0820							.1170	.4490	.3690
180.000	2.5360	.6010	.4830	.0600	.0940	.1170	.0790	.1580	.2190	.1400	.0930	.2070	.1210	.4520	.3020
225.000		.4910	.4080	.1000	.3270	.0820	.0380						-.0030	.2190	.0950
270.000		.2990	.8040	.5910	.1700	-.0190	-.0400	.0180			-.0220	-.0650	-.0860	-.0460	-.0530
315.000		.2010	.0950	.0130	-.0360	-.0960	-.0940						-.0860	-.0560	-.0660

X/LS .9670

PHI	
.000	-.0330
45.000	.0140
90.000	.2160
135.000	.2820
180.000	.1760

AMES 87-707 IAG O2A + S3 + T9 SRM BOOSTER

(RDNS11)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0430
270.000	-.0070
315.000	-.0200

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.520

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.3990	.1840	.0980	-.0710	-.0470	-.0160	-.0450	-.0600	-.0730	-.0580	-.0660	-.0810	-.0630	-.0200	-.0590
45.000		.2280	.2110	-.0300	-.0420	-.0180							-.0510	-.0300	-.0200
90.000		.3050	.3260	.0100	-.0050	.0040	-.0040	-.0050	-.0160	-.0310	-.0530	-.0580	-.0280	.1010	.1400
135.000		.4500	.4490	.0490	.0370	.0530							.0740	.3580	.2900
180.000	2.3990	.5530	.4460	.0420	.0740	.1020	.0580	.1720	.1580	.1120	.0610	.1510	.0950	.3910	.2440
225.000		.4670	.3680	.0770	.3360	.0740	.0290						-.0100	.1870	.0750
270.000		.2780	.7260	.5790	.1660	-.0240	-.0470	.0140			-.0300	-.0690	-.0840	-.0500	-.0600
315.000		.1810	.0590	-.0060	-.0390	-.0990	-.0950						-.0800	-.0310	-.0520

X/LS .9670

PHI

.000	-.0450
45.000	-.0080
90.000	.1530
135.000	.2230
180.000	.1390
225.000	.0310
270.000	-.0280
315.000	-.0210

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.2650	.1500	.0790	-.0660	-.0470	-.0490	-.0540	-.0730	-.0850	-.0740	-.0850	-.0960	-.0820	-.0610	-.0590
45.000		.1840	.1670	-.0350	-.0460	-.0300							-.0640	-.0410	-.0390
90.000		.2510	.2630	-.0060	-.0190	-.0170	-.0270	-.0290	-.0490	-.0610	-.0770	-.0790	-.0530	.0440	.0760
135.000		.3920	.3900	.0340	.0220	.0290							.0400	.2650	.2050
180.000	2.2650	.5100	.4130	.0390	.0600	.0960	.0440	.1440	.1050	.0760	.0240	.1050	.0730	.3560	.2070
225.000		.4350	.3510	.0680	.2830	.0670	.0210						-.0230	.1420	.0600

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 3 ) = 3.502      BETAT ( 3 ) = -4.330

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP															
X/LS		.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386	
PHI																	
270.000			.2530	.5030	.5730	.1590	-.0280	-.0510	.0080				-.0410	-.0770	-.0880	-.0580	-.0630
315.000			.1520	.0540	-.0160	-.0480	-.1040	-.1070						-.0810	-.0080	-.0230	
X/LS		.9670															
PHI																	
.000		-.0560															
45.000		-.0260															
90.000		.0890															
135.000		.1620															
180.000		.1100															
225.000		.0120															
270.000		-.0340															
315.000		-.0080															

MACH ( 3 ) = 3.502      BETAT ( 4 ) = .050

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS		.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI																
.000	1.9650	.0910	.0380	-.0840	-.0750	-.0690	-.0660	-.0750	-.0820	-.0810	-.0960	-.0960	-.0860	-.0670	-.0670	
45.000		.1100	.1010	-.0620	-.0730	-.0510							-.0750	-.0600	-.0680	
90.000		.1570	.1620	-.0460	-.0580	-.0520	-.0600	-.0550	-.0890	-.0960	-.0970	-.0940	-.0750	-.0460	-.0290	
135.000		.2840	.2750	-.0120	-.0200	-.0150							-.0270	.0990	.0630	
180.000	1.9650	.4320	.3500	.0120	.0410	.0630	.0240	.0780	.0580	.0300	.0160	.0420	.0070	.1600	.0800	
225.000		.3820	.3160	.0420	.0980	.0590	.1860						-.0500	.0450	-.0100	
270.000		.2070	.2640	.4920	.1340	-.0340	-.0350	.0020			-.0290	-.0750	-.0770	-.0440	-.0110	
315.000		.1060	.0300	-.0540	-.0580	-.1070	-.1090						-.0580	.0530	.0560	
X/LS		.9670														
PHI																
.000		-.0600														
45.000		-.0630														
90.000		-.0250														
135.000		.0450														
180.000		.0280														
225.000		-.0360														
270.000		.0660														
315.000		.0490														



AMES B7-707 1A9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 3) = 3.502

BETAT ( 5) = 4.475

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6790	.0440	.0090	-.0870	-.0830	-.0870	-.0850	-.0770	-.0760	-.0570	-.0550	-.0550	-.0490	.0920	.1260
45.000		.0520	.0430	-.0780	-.0840	-.0680							-.0700	-.0380	-.0740
90.000		.0780	.0820	-.0700	-.0800	-.0770	-.0800	-.0840	-.1080	-.1030	-.0960	-.0900	-.0710	-.0580	-.0600
135.000		.1920	.1890	-.0400	-.0490	-.0450							-.0630	.0050	-.0140
180.000	1.6790	.3540	.2990	.0020	.0250	.0250	.1350	.0340	.0290	.0000	-.0220	-.0090	-.0270	.0800	.0280
225.000		.3310	.4270	.0410	.0700	.0390	.1370						-.0660	.0090	-.0220
270.000		.1670	.1480	.3760	.0900	-.0500	-.0060	-.0080			-.0360	-.0800	-.0770	-.0500	-.0160
315.000		.0680	.0190	-.0650	-.0720	-.1110	-.1120						-.0620	.0070	.0130

X/LS .9670

PHI

.000	.1350
45.000	-.0850
90.000	-.0670
135.000	-.0300
180.000	.0300
225.000	-.0380
270.000	.0200
315.000	.0370

MACH ( 3) = 3.502

BETAT ( 6) = 6.690

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5470	.0260	.0020	-.0880	-.0890	-.0950	-.0870	-.0760	-.0660	-.0330	-.0480	-.0540	-.0450	.0630	.0740
45.000		.0310	.0220	-.0860	-.0940	-.0750							-.0570	.0260	-.0120
90.000		.0500	.0490	-.0810	-.0900	-.0830	-.0800	-.0940	-.0970	-.0940	-.0950	-.0840	-.0670	-.0440	-.0270
135.000		.1560	.1520	-.0540	-.0610	-.0530							-.0670	-.0100	-.0320
180.000	1.5470	.3230	.2750	-.0080	.0150	.0250	.1150	.0250	.0240	-.0130	-.0360	-.0230	-.0250	.0850	.0050
225.000		.3090	.3680	.0280	.0730	.0490	.1250						-.0670	.0010	-.0470
270.000		.1500	.1050	.2970	.0760	-.0440	.0040	-.0190			-.0410	-.0840	-.0790	-.0570	-.0290
315.000		.0540	.0080	-.0740	-.0760	-.1080	-.1070						-.0670	.0020	.0160

X/LS .9670

PHI

.000	.0780
45.000	-.0530
90.000	-.0410
135.000	-.0520
180.000	-.0070

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS11)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.690

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0370

270.000 .0550

315.000 .0230

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.900

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4120 .0110 -.0060 -.0930 -.0940 -.0980 -.0860 -.0700 -.0590 -.0400 -.0560 -.0550 -.0410 .0760 .0570

45.000 .0130 .0060 -.0900 -.0960 -.0800

90.000 .0270 .0210 -.0890 -.0980 -.0900 -.0900 -.1000 -.0960 -.0960 -.0910 -.0680 -.0540 -.0300 -.0260

135.000 .1220 .1200 -.0600 -.0660 -.0600 -.0660 -.0660 -.0690 -.0160 -.0480

180.000 1.4120 .2890 .2550 -.0060 .0120 .0170 .0840 .0430 .0100 -.0370 -.0440 -.0180 -.0340 .0460 .0270

225.000 .2830 .3860 .0170 .0490 .0400 .0990

270.000 .1340 .0670 .2470 .0520 -.0490 .0210 -.0260 -.0510 -.0700 -.0640 -.0110 -.0340

315.000 .0400 -.0100 -.0790 -.0840 -.1090 -.1080 -.0560 -.0030 -.0050

X/LS .9670

PHI

.000 .0330

45.000 .0560

90.000 -.0360

135.000 -.0670

180.000 .1280

225.000 .0380

270.000 -.0250

315.000 .0060

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS12) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SA.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0000 SCALE

PARAMETRIC DATA

ALPHAT = -4.500 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDEFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.425

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0200	.8970	.1840	-.00750	-.0420	-.03190	-.03600	-.11000	-.0450	.0410	.0540	-.0070	-.0200	1.0010	.0210
45.000		.0280	.2940	-.00360	-.0360	-.00020							.0000	.9750	.1470
90.000		.3910	.3980	.0090	.0120	.0210	.0260	.0250	.0490	.0060	-.0230	-.0010	.0280	.9680	.0360
135.000		.4430	.4330	.0170	.0110	.0570							.0990	1.0300	.2780
180.000	2.0260	.4350	.3680	-.0070	.0380	.0720	-.0010	.1480	.1840	.0060	.2100	.1550	.6270	.9240	.1470
225.000		.3410	.4030	.2070	.1080	-.0400	-.0370						.9230	1.1490	-.0210
270.000		.2360	1.2510	.4760	.0050	-.1460	-.1230	-.0170		.0940	-.1430		.9850	1.1200	.0760
315.000		.2100	.3040	.0570	-.0800	-.1810	-.1330						1.0680	.0310	.0100

X/LS .9670

PHI

.000	.0110
45.000	.1520
90.000	.2510
135.000	.2010
180.000	.0580
225.000	-.0660
270.000	.1550
315.000	.0490

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9500	.2200	.1560	-.0880	-.0650	-.0310	-.0790	-.1060	-.0560	-.0420	-.0590	-.0070	-.0360	.0020	.0130
45.000		.2750	.2520	-.0530	-.0640	-.0200							.0020	.0840	.1370
90.000		.3340	.3420	-.0120	-.0130	-.0040	.0090	.0060	.0160	-.0160	-.0460	-.0410	-.0040	.2050	.2290
135.000		.3910	.3820	-.0010	.0040	.0280							.0610	.3240	.2320
180.000	1.9500	.4000	.3380	-.0160	.0220	.0510	-.0100	.1150	.1470	.0650	.1090	.1090	-.0070	.2660	.1230
225.000		.3210	.3890	.2070	.1010	-.0400	-.0060						-.0090	.0310	-.0430
270.000		.2150	1.1590	.4740	.0000	-.1450	-.1150	-.0440		.0490	-.1430	-.1250	-.0070	.0480	
315.000		.1850	.2180	.0470	-.0830	-.1860	-.1480						-.1000	.0310	-.0140

X/LS .9670

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS12)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9675

PHI

.000 .0180  
 45.000 .1410  
 90.000 .2090  
 135.000 .1720  
 180.000 .0270  
 225.000 -.0780  
 270.000 .1740  
 315.000 .0290

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8700	.1850	.1330	-.0980	-.0790	-.0490	-.0850	-.1040	-.0570	-.0380	-.0580	-.0700	-.0290	.0140	.0370
45.000		.2280	.2120	-.0700	-.0700	-.0320							.0090	.0780	.1340
90.000		.2780	.2900	-.0370	-.0390	-.0240	-.0110	-.0130	-.0110	-.0430	-.0700	-.0660	-.0390	.1490	.1660
135.000		.3410	.3340	-.0220	-.0250	.0040							.0250	.2640	.1810
180.000	1.8700	.3700	.3150	-.0300	.0090	.0370	-.0130	.0810	.1120	.0430	.0440	.0680	.0020	.2180	.0890
225.000		.3010	.3930	.1520	.1030	-.0460	.1250						-.1020	.0120	-.0530
270.000		.1950	1.0520	.4670	.0000	-.1480	-.1090	-.0560			.0330	-.1450	-.1210	-.0770	.0310
315.000		.1600	.2010	.0360	-.0930	-.1910	-.1520						-.1010	-.0170	-.0150

X/LS .9675

PHI

.000 .0440  
 45.000 .1420  
 90.000 .1660  
 135.000 .1350  
 180.000 .0090  
 225.000 -.0880  
 270.000 .1500  
 315.000 .0350



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS12)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.510

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .2140

270.000 .1570

315.000 .0080

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5480 .0750 .0750 -.1250 -.1020 -.1040 -.1060 -.0260 .0000 -.0090 -.0240 -.0230 .0020 .1950 .1790

45.000 .0760 .0780 -.1160 -.1070 -.0830 .0260 .2880 .2530

90.000 .0930 .1000 -.1100 -.1110 -.0860 -.0650 -.0640 -.0660 -.0890 -.0910 -.0480 .0210 .0870 .0720

135.000 .1510 .1640 -.0920 -.1000 -.0860 -.0250 .0380 -.0050

180.000 1.5480 .2470 .2640 -.0530 -.0240 -.0140 .0600 .0510 -.0170 -.0680 -.0240 -.0920 -.1090 .0050 -.0440

225.000 .2400 .3420 .0020 .0740 -.0190 .0710 -.1090 -.0060 .0440

270.000 .2080 .5520 .3490 .0000 -.1370 -.0540 -.0730 -.0240 -.1280 -.0890 -.0090 .0970

315.000 .0990 .1360 -.0460 -.0760 -.1590 -.1140 -.1170 -.0420 -.0600

X/LS .9670

PHI

.000 .1640

45.000 .1920

90.000 .0700

135.000 .0520

180.000 .2920

225.000 .0610

270.000 .1640

315.000 .2190

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4860 .0590 .0750 -.1170 -.1040 -.1050 -.1090 -.0240 -.0070 -.0160 -.0200 -.0220 -.0080 .2180 .1840

45.000 .0530 .0630 -.1220 -.1140 -.0930 .0520 .2570 .2380

90.000 .0650 .0740 -.1210 -.1210 -.1010 -.0590 -.0710 -.0870 -.1220 -.0980 -.0480 .0160 .1230 -.0010

135.000 .1220 .1400 -.1020 -.1030 -.0910 -.0070 .0410 -.0090

180.000 1.4860 .2310 .2560 -.0470 -.0280 -.0140 .0570 .0370 -.0430 -.0810 .0090 -.1050 -.1050 .0130 .1080

225.000 .2890 .3040 -.0130 .0700 .0070 .0760 -.1080 -.0240 .0180







AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS12)

MACH ( 2) = 2.999

BETAT ( 3) = -4.270

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0340

270.000 .1390

315.000 -.0170

MACH ( 2) = 2.999

BETAT ( 4) = .050

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.8720 .1390 .0870 -.0970 -.0810 -.0590 -.0700 -.0710 -.0480 -.0300 -.0330 -.0480 -.0030 .0930 .0920

45.000 .1450 .1380 -.0740 -.0820 -.0500 .0130 .0660 .1090

90.000 .1720 .1810 -.0590 -.0680 -.0490 -.0420 -.0340 -.0530 -.0630 -.0830 -.0890 -.0030 .0630 .0980

135.000 .2330 .2290 -.0450 -.0540 -.0430 .0160 .1770 .1070

180.000 1.8720 .3130 .2490 -.0400 -.0090 .0140 -.0180 .0450 .0400 .0060 -.0260 .0400 -.0180 .1610 .0490

225.000 .2880 .2630 .0080 .1870 -.0130 -.0210 .0840 .0220 .0400

270.000 .1920 .4450 .4760 .0880 -.0850 -.0900 -.0450 .0130 .0660 .0740 .0110 .0410

315.000 .1450 .0860 -.0410 -.0310 -.1240 -.1280 .0690 .0030 .0290

X/LS .9670

PHI

.000 .0900

45.000 .1270

90.000 .1010

135.000 .0740

180.000 .0000

225.000 -.0400

270.000 .0630

315.000 .0440

MACH ( 2) = 2.999

BETAT ( 5) = 4.380

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6710 .0910 .0620 -.1050 -.0950 -.0710 -.0840 -.0660 -.0310 -.0050 -.0220 -.0360 -.0180 .1620 .1200

45.000 .0880 .0830 -.0940 -.1000 -.0660 .0250 .1550 .1410

90.000 .1020 .1080 -.0870 -.0910 -.0690 -.0670 -.0430 -.0670 -.0810 -.0780 -.0580 -.0090 .0360 .0410

135.000 .1590 .1550 -.0740 -.0800 -.0650 .0510 .0350 .0200

180.000 1.6710 .2550 .2130 -.0530 -.0300 .0030 .0990 -.0040 .0280 -.0230 -.0500 -.0290 -.0560 .0570 .0130

225.000 .2500 .2270 -.0060 .1190 -.0150 .1020 .0850 .0350 .0100





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS12)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.740

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .0410  
 225.000 .0850  
 270.000 .0850  
 315.000 -.0040

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.4510	.2450	.1610	-.0460	-.0250	-.0230	-.0300	-.0390	-.0590	-.0350	-.0380	-.0470	-.0430	-.0020	.0060
45.000		.2740	.2610	-.0050	-.0200	.0060							-.0400	.0540	.0990
90.000		.3200	.3410	.0240	.0100	.0160	.0170	.0150	.0060	.0100	-.0140	-.0090	.0090	.2320	.2620
135.000		.3870	.3840	.0320	.0170	.0370							.1470	.4580	.3880
180.000	2.4510	.4310	.3320	.0110	.0360	.0230	.0340	.0150	.0990	.0920	.0580	.0850	.1410	.4720	.2630
225.000		.3800	.2900	.0380	.2100	.0190	-.0240						-.0020	.1530	.0850
270.000		.2800	.7180	.6350	.1610	-.0460	-.0750	-.0360			-.0100	-.0670	-.0580	-.0060	-.0270
315.000		.2360	.1300	-.0070	.0240	-.0810	-.0950					-.0630	-.0110	-.0120	

X/LS .9670

PHI

.000 .0270  
 45.000 .1220  
 90.000 .2670  
 135.000 .2970  
 180.000 .1740  
 225.000 .0260  
 270.000 .0850  
 315.000 -.0100

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.350

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3190	.2120	.1360	-.0530	-.0400	-.0240	-.0360	-.0430	-.0560	-.0380	-.0440	-.0510	-.0390	.0000	.0200
45.000		.2310	.2190	-.0200	-.0350	-.0100							-.0370	.0390	.0820
90.000		.2650	.2820	.0000	-.0120	-.0030	.0000	.0030	.0000	-.0140	-.0300	-.0330	-.0080	.1740	.2020
135.000		.3310	.3250	.0100	-.0030	.0150							.0860	.3630	.3060
180.000	2.3190	.3900	.2970	-.0040	.0230	.0110	.0220	.0200	.0760	.0650	.0260	.1060	.0960	.3960	.2210
225.000		.3530	.2600	.0240	.2090	.0110	-.0280					-.0170	.1410	.0590	



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS12)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.460

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7510	.0940	.0700	-.0700	-.0710	-.0660	-.0730	-.0650	-.0410	-.0230	-.0260	-.0370	-.0250	.1230	.1010
45.000		.0810	.0760	-.0660	-.0760	-.0590							-.0150	.1530	.1040
90.000		.0930	.0960	-.0610	-.0710	-.0590	-.0600	-.0450	-.0680	-.0790	-.0820	-.0610	-.0310	.0050	.0080
135.000		.1520	.1460	-.0510	-.0640	-.0530							-.0460	.0150	-.0070
180.000	1.7510	.2580	.2110	-.0300	-.0190	-.0100	-.0200	.0120	.0030	-.0160	-.0450	-.0110	-.0250	.0700	.0170
225.000		.2630	.2590	-.0100	.0110	-.0020	.0970						-.0610	.0120	.0010
270.000		.1750	.1180	.3300	.0850	-.0600	-.0630	-.0290			-.0330	-.0590	-.0540	-.0030	.0030
315.000		.1240	.0550	-.0550	-.0470	-.0900	-.1000						-.0570	.0070	.0010

X/LS .9670

PHI

.000	.0920
45.000	.0990
90.000	.0260
135.000	-.0170
180.000	-.0260
225.000	-.0250
270.000	-.0040
315.000	.0300

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6200	.0730	.0610	-.0750	-.0820	-.0810	-.0800	-.0630	-.0350	-.0240	-.0410	-.0400	-.0290	.1080	.1040
45.000		.0550	.0510	-.0750	-.0850	-.0650							-.0170	.1880	.1780
90.000		.0640	.0630	-.0720	-.0810	-.0680	-.0660	-.0680	-.0830	-.0870	-.0850	-.0650	-.0170	.0260	.0080
135.000		.1160	.1080	-.0640	-.0740	-.0660							-.0380	.0090	-.0160
180.000	1.6200	.2260	.1980	-.0340	-.0260	-.0150	.0710	-.0070	.0000	-.0380	-.0610	-.0290	-.0320	.0640	-.0100
225.000		.2390	.2560	-.0220	.0080	-.0060	.0830						-.0670	.0020	-.0270
270.000		.1570	.0780	.2810	.0590	-.0670	-.0480	-.0310			-.0370	-.0670	-.0630	-.0050	-.0050
315.000		.1080	.0350	-.0660	-.0590	-.0920	-.0970						-.0570	-.0060	-.0170

X/LS .9670

PHI

.000	.0790
45.000	.1540
90.000	.0040
135.000	-.0340
180.000	-.0420

AMES 87-747 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS12)

MACH ( 3) = 3.502

BETAT ( 6) = 6.660

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/L5 .9670

PHI

225.000 .0450

270.000 .0100

315.000 .0760

MACH ( 3) = 3.502

BETAT ( 7) = 8.860

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/L5 .0000 .0341 .0967 .1136 .1422 .1991 .2644 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4980 .0560 .0520 -.0820 -.0880 -.0800 -.0900 -.0610 -.0260 -.0300 -.0500 -.0390 -.0280 .0830 .0440

45.000 .0340 .0340 -.0840 -.0880 -.0740 -.0160 .1550 .1580

90.000 .0400 .0420 -.0820 -.0920 -.0770 -.0700 -.0720 -.0860 -.0880 -.0860 -.0400 .0030 .0580 .0220

135.000 .0880 .0830 -.0760 -.0840 -.0740 -.0280 .0280 .0280 -.0080

180.000 1.4980 .2020 .1870 -.0440 -.0320 -.0230 .0690 .0000 -.0180 -.0520 -.0620 -.0240 -.0400 .0490 -.0360

225.000 .2300 .2520 -.0510 -.0090 -.0150 .0850 -.0740 -.0480 -.0200

270.000 .2340 .0090 .1950 .0250 -.0710 -.0260 -.0280 -.0440 -.0650 -.0590 -.0160 -.0310

315.000 .1310 .0100 -.0800 -.0790 -.0930 -.0880 -.0530 .0120 .0980

X/L5 .9670

PHI

.000 .0470

45.000 .1360

90.000 -.0020

135.000 -.0310

180.000 .1470

225.000 .0160

270.000 -.0190

315.000 .1990

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS13) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .5000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .5000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0300	.3360	.2610	-.0490	-.0110	.0240	-.0420	-.0640	.0280	.0060	-.0060	-.0120	.0150	.1240	.1430
45.000		.3780	.3580	-.0080	-.0070	.0270							.1210	.2990	.3320
90.000		.3970	.4010	.0130	-.0070	.0240	.0360	.0390	.0270	.0480	.0430	.0850	.2050	.4680	.4450
135.000		.3780	.3680	-.0100	-.0080	.0200							.2070	.4950	.3740
180.000	2.0300	.3350	.2660	-.0470	-.0110	.0240	-.0400	.0310	.1480	.0970	.1510	.1980	.1120	.3660	.1680
225.000		.2730	.2980	.1240	.0130	-.1000	-.0940						-.0630	.0550	-.0110
270.000		.2410	1.1490	.4770	.0070	-.1600	-.0830	.0800		.0930	-.1300	-.0720	-.0220	.1000	
315.000		.2710	.3040	.1360	.0150	-.0960	-.0980						-.0430	.0220	.0500

X/LS .9670

PHI

.000 .1390  
 45.000 .3260  
 90.000 .3960  
 135.000 .2610  
 180.000 .0780  
 225.000 -.0610  
 270.000 .1850  
 315.000 .0910

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9620	.2980	.2330	-.0640	-.0330	.0030	-.0500	-.0660	.0100	.0070	-.0120	-.0220	.0230	.1300	.1500
45.000		.3290	.3110	-.0320	-.0330	.0030							.1230	.2950	.3200
90.000		.3410	.3490	-.0160	-.0290	-.0010	.0180	.0210	.0130	.0390	.0260	.0600	.1960	.4250	.4050
135.000		.3340	.3140	-.0340	-.0320	.0030							.1760	.4570	.3310
180.000	1.9620	.3010	.2320	-.0650	-.0230	.0050	-.0510	.0580	.1170	.0660	.0610	.1530	.0760	.3250	.1490
225.000		.2490	.2670	.1240	.0110	-.1060	-.1040						-.0770	.0460	-.0250
270.000		.2170	1.0100	.4760	.0040	-.1630	-.1000	.0460		.0410	-.1360	-.0750	-.0360	.0770	
315.000		.2450	.2690	.1260	.0090	-.1080	-.1040						-.0400	.0160	.0530

X/LS .9670



AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.1470
45.000	.3080
90.000	.3600
135.000	.2440
180.000	.0560
225.000	-.0710
270.000	.1500
315.000	.1030

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8850	.2660	.2090	-.0750	-.0430	-.0100	-.0530	-.0650	.0110	.0120	.0020	-.0210	.0280	.1330	.1680
45.000		.2800	.2700	-.0480	-.0490	-.0070							.1330	.2810	.3100
90.000		.2860	.2970	-.0350	-.0500	-.0160	-.0010	.0090	.0240	.0280	.0210	.0620	.1660	.3910	.3780
135.000		.2850	.2770	-.0480	-.0500	-.0120							.1400	.4140	.2880
180.000	1.8850	.2730	.2120	-.0720	-.0340	-.0050	-.0490	.0760	.0960	.0620	.0410	.1010	.0560	.2940	.1350
225.000		.2320	.2360	.1140	.0160	-.1050	-.1010						-.0820	.0320	-.0380
270.000		.2010	.8740	.4700	.0100	-.1560	-.0960	.0270			.0170	-.1420	-.0690	-.0470	.0790
315.000		.2240	.2310	.1200	.0110	-.1080	-.1020						-.0310	.0290	.0690

X/LS .9670

PHI

.000	.1660
45.000	.2980
90.000	.3360
135.000	.2180
180.000	.0360
225.000	-.0680
270.000	.1930
315.000	.1160

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .960

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7490	.2030	.1680	-.0920	-.0640	-.0510	-.0710	-.0490	.0140	.0120	.0030	-.0100	.0640	.1690	.1820
45.000		.1940	.1930	-.0850	-.0790	-.0430							.1400	.2200	.2420
90.000		.1930	.2050	-.0760	-.0790	-.0450	-.0270	-.0140	.0000	.0100	.0040	.0380	.1510	.3180	.3180
135.000		.2040	.2010	-.0810	-.0730	-.0560							.0690	.3130	.2170
180.000	1.7490	.2170	.1830	-.0810	-.0510	-.0400	-.0660	.0250	.0790	.0020	-.0090	.0350	-.0580	.1830	.0610
225.000		.2020	.2660	-.0100	.0200	-.1040	-.0050						-.0910	-.0030	.0180
270.000		.1690	.7660	.4480	.0060	-.1580	-.0580	-.0260			-.0110	-.0860	-.0140	.1120	.0510
315.000		.1870	.2350	-.0220	.0040	-.1140	-.1060						-.0080	.0690	.1280

X/LS .9670

PHI	
.000	.1820
45.000	.2510
90.000	.2810
135.000	.1410
180.000	-.0150
225.000	-.0130
270.000	.1990
315.000	.1250

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.300

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6240	.1650	.1740	-.0900	-.0710	-.0520	-.0780	-.0210	.0030	-.0010	-.0130	-.0170	.0860	.2200	.2180
45.000		.1360	.1440	-.1030	-.0990	-.0710							.1560	.2650	.2420
90.000		.1280	.1380	-.1000	-.0990	-.0670	-.0400	.0050	.0090	.0110	-.0110	.0130	.1320	.2120	.2180
135.000		.1380	.1400	-.1050	-.0900	-.0770							.0510	.2110	.1300
180.000	1.6240	.1680	.1700	-.0920	-.0650	-.0490	.0880	.0000	.0080	-.0410	-.0170	-.0180	-.0530	.0860	.0210
225.000		.1680	.2320	-.0030	.0270	-.0970	.0490						-.0530	.0500	.0170
270.000		.1460	.4300	.3560	-.0040	-.1520	.0050	-.0190			-.0180	-.0940	-.0140	.0330	.0110
315.000		.1670	.2320	-.0040	.0190	-.1020	-.0850						-.0390	.0690	.1280

X/LS .9670

PHI	
.000	.2100
45.000	.2260
90.000	.2000
135.000	.0740
180.000	.1000

AMES 87-707 IA9 ORA + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.1700
270.000	.1280
315.000	.1780

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.420

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.5710	.1510	.1730	-.0920	-.0790	-.0670	-.0820	-.0200	-.0120	-.0150	-.0160	-.0200	.0740	.2030	.1950
45.000		.1110	.1210	-.1100	-.1090	-.0790							.1420	.2400	.2330
90.000		.1010	.1090	-.1100	-.1090	-.0770	-.0410	-.0020	.0130	.0010	-.0230	.0020	.0980	.2360	.2090
135.000		.1130	.1170	-.1110	-.1020	-.0840							.0350	.1530	.0970
180.000	1.5710	.1520	.1660	-.0940	-.0840	-.0580	.0420	.0400	-.0230	-.0650	.0350	-.0420	-.0590	.0620	.0020
225.000		.1600	.2200	.0270	.0240	-.0930	.0400						-.0580	.0300	.0200
270.000		.1570	.2460	.3010	-.0100	-.1460	.0140	.0050			-.0190	-.1060	-.0350	.0190	.0310
315.000		.1590	.2070	.0010	.0160	-.0930	-.0630						-.0760	.0460	.0780

X/LS .9670

PHI

.000	.2110
45.000	.2130
90.000	.1830
135.000	.0460
180.000	.2370
225.000	.0730
270.000	.0800
315.000	.4940

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.540

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.5060	.1340	.1730	-.0920	-.0830	-.0820	-.0820	-.0250	-.0240	-.0130	-.0200	-.0130	.0150	.1700	.1470
45.000		.0810	.1020	-.1170	-.1180	-.0940							.1260	.2010	.2030
90.000		.0730	.0820	-.1180	-.1180	-.0880	-.0460	-.0010	.0080	-.0100	-.0260	-.0010	.0340	.3300	.2320
135.000		.0820	.0970	-.1180	-.1130	-.0960							.0390	.1170	.0640
180.000	1.5060	.1340	.1850	-.0840	-.0690	-.0740	.0210	.0230	-.0510	-.0790	.0510	-.0720	-.0620	.0510	.0450
225.000		.1700	.2220	-.0980	-.0150	-.1070	.0290						-.0680	.0050	-.0330



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 2 ) = 2.900

BETAT ( 2 ) = -6.420

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2120	.3080	.2270	-.0450	-.0170	.0100	-.0140	-.0350	.0020	.0080	-.0070	-.0140	.0140	.1180	.1500
45.000		.3190	.3150	-.0060	-.0150	.0180							.0830	.2370	.2850
90.000		.3280	.3440	.0090	.0010	.0180	.0250	.0260	.0130	.0370	.0230	.0410	.1170	.3770	.4140
135.000		.3280	.3220	-.0030	.0010	.0150							.1700	.5120	.4340
180.000	2.2120	.3190	.2350	-.0400	.0000	.0140	-.0110	-.0230	.1190	.0810	.0470	.1900	.1070	.4200	.2630
225.000		.2870	.2230	.0190	.0850	-.0540	-.0760						-.0360	.1440	.0390
270.000		.2550	.7160	.5450	.1090	-.0900	-.0850	.0210			.0070	-.0820	-.0690	-.0170	.0140
315.000		.2740	.2100	.0230	.0760	-.0620	-.0760						-.0540	-.0040	.0000

X/LS .9670

## PHI

.000	.1510
45.000	.2860
90.000	.3870
135.000	.3170
180.000	.1320
225.000	-.0020
270.000	.2050
315.000	.0150

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1140	.2740	.2030	-.0560	-.0320	.0070	-.0240	-.0390	-.0060	-.0040	-.0050	-.0180	.0130	.1060	.1430
45.000		.2740	.2710	-.0260	-.0360	.0000							.0850	.2260	.2710
90.000		.2770	.2900	-.0160	-.0240	-.0020	.0070	.0110	-.0020	.0180	.0090	.0290	.0890	.3180	.3680
135.000		.2840	.2730	-.0240	-.0240	-.0020							.1400	.4540	.3650
180.000	2.1140	.2900	.2100	-.0510	-.0120	.0160	-.0210	-.0300	.1000	.0530	.0250	.1640	.0940	.3860	.2140
225.000		.2660	.2050	-.0050	.0010	-.0530	-.0760						-.0420	.1200	.0210
270.000		.2360	.6850	.5510	.1100	-.0880	-.0900	.0110			-.0040	-.0790	-.0660	-.0120	.0250
315.000		.2530	.1910	-.0020	.0740	-.0630	-.0810						-.0350	.0150	.0270

X/LS .9670

## PHI

.000	.1520
45.000	.2700
90.000	.3520
135.000	.2760
180.000	.1060

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0130
270.000	.1420
315.000	.0410

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8930	.2080	.1600	-.0710	-.0550	-.0440	-.0450	-.0510	-.0140	-.0020	-.0060	-.0190	.0080	.1710	.1940
45.000		.1840	.1840	-.0590	-.0640	-.0310							.1000	.1530	.1740
90.000		.1810	.1890	-.0530	-.0580	-.0360	-.0210	-.0140	-.0020	-.0040	-.0040	.0160	.1070	.2720	.3000
135.000		.1930	.1820	-.0560	-.0590	-.0420							.0860	.3320	.2490
180.000	1.8930	.2230	.1630	-.0670	-.0360	-.0390	-.0420	.0580	.0530	.0200	-.0170	.0730	.0230	.2280	.0890
225.000		.2240	.1840	-.0230	.0830	-.0570	-.0820						-.0700	.0430	-.0050
270.000		.2000	.2770	.4650	.1020	-.0860	-.0870	-.0170			-.0170	-.0500	-.0360	.0370	-.0160
315.000		-.2100	.1680	-.0260	.0660	-.0630	-.0840						-.0370	.0470	.0580

X/LS .9670

PHI

.000	.1820
45.000	.2010
90.000	.2780
135.000	.1810
180.000	.0310
225.000	-.0150
270.000	.0990
315.000	.0970

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.380

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.6840	.1580	.1460	-.0760	-.0680	-.0510	-.0640	-.0510	-.0150	-.0070	-.0180	-.0310	.0110	.1570	.1970
45.000		.1170	.1210	-.0820	-.0890	-.0590							.0490	.2180	.2030
90.000		.1100	.1170	-.0780	-.0820	-.0560	-.0400	-.0190	-.0170	-.0050	-.0120	-.0010	.0880	.1500	.1700
135.000		.1250	.1170	-.0820	-.0820	-.0670							.0550	.1690	.1170
180.000	1.6840	.1720	.1470	-.0690	-.0460	-.0410	-.0550	-.0020	.0170	-.0300	-.0510	-.0010	-.0220	.0990	.0250
225.000		.1860	.1660	-.0460	.0190	-.0550	.0240						-.0680	.0400	-.0040



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.690

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS		.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI																
.000	1.5480	.1280	.1350	-.0740	-.0750	-.0600	-.0740	-.0410	-.0260	-.0290	-.0200	-.0230	.0100	.1520	.1010	
45.000		.0720	.0790	-.0950	-.1000	-.0770							.0450	.1830	.1850	
90.000		.0610	.0660	-.0900	-.0980	-.0730	-.0520	-.0100	-.0070	-.0150	-.0230	.0070	.0050	.2330	.1940	
135.000		.0780	.0730	-.0950	-.0970	-.0800							.0170	.0750	.0390	
180.000	1.5480	.1400	.1520	-.0600	-.0550	-.0650	.0220	.0070	-.0240	-.0620	-.0670	-.0350	-.0440	.0610	-.0110	
225.000		.1710	.2450	-.0660	-.0470	-.0720	.0320						-.0800	.0030	.0380	
270.000		.1540	.1250	.2140	.0300	-.0910	-.0140	-.0080			-.0610	-.0780	-.0560	-.0030	-.0140	
315.000		.1580	.1790	-.0640	-.0330	-.0630	-.0640						-.0750	.0290	.0740	

X/LS .9670

PHI	
.000	.1470
45.000	.1590
90.000	.1490
135.000	.0150
180.000	.1410
225.000	.0190
270.000	.0250
315.000	.3560

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.750

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS		.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI																
.000	2.6010	.3670	.2710	-.0120	.0070	.0030	.0110	-.0070	-.0200	.0230	.0010	-.0080	.0060	.1500	.1630	
45.000		.3820	.3780	.0320	.0170	.0430							.0820	.2690	.3010	
90.000		.3880	.4120	.0480	.0330	.0430	.0430	.0440	.0300	.0250	.0430	.0480	.0990	.3240	.4290	
135.000		.3840	.3710	.0300	.0180	.0380							.2680	.6520	.5550	
180.000	2.6010	.3670	.2610	-.0130	.0170	.0010	.0060	-.0050	.0460	.1000	.0850	.1430	.1990	.5720	.3710	
225.000		.3310	.2320	.0170	.1200	-.0320	-.0550						.0140	.1850	.1230	
270.000		.3050	.7730	.6400	.1680	-.0550	-.0730	.0070			.0000	-.0540	-.0470	.0090	-.0200	
315.000		.3290	.2340	.0200	.1200	-.0280	-.0550						-.0460	.0310	.0100	

X/LS .9670

PHI	
.000	.1600
45.000	.2980
90.000	.4400
135.000	.4340
180.000	.2260



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RDNS13)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.750

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0480

270.000 .1190

315.000 .0110

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.550

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.4760 .3290 .2420 -.0230 -.0020 .0060 -.0060 -.0170 -.0210 .0070 -.0080 -.0160 .0030 .1290 .1540

45.000 .3260 .3230 .0150 .0000 .0210 .0000 .0000 .0130 .0150 .0150 .0280 .0250 .0680 .2250 .2650

90.000 .3270 .3450 .0260 .0150 .0210 .0260 .0260 .0130 .0150 .0280 .0250 .0680 .2930 .3860

135.000 .3290 .3210 .0120 -.0010 .0190 .0000 .0000 .0340 .0850 .0560 .0900 .1430 .5060 .4780

180.000 2.4760 .3310 .2370 -.0210 .0040 .0040 -.0050 -.0160 .0340 .0850 .0560 .0900 .1880 .5650 .3230

225.000 .3090 .2140 .0060 .1110 -.0330 -.0600 .1110 -.0330 -.0600 .1110 -.0330 -.0600 .1670 .1000

270.000 .2850 .6920 .6320 .1670 -.0530 -.0750 .0020 -.0530 -.0750 .0020 -.0530 -.0750 .0090 -.0050

315.000 .3040 .2130 .0090 .1110 -.0350 -.0600 .1110 -.0350 -.0600 .1110 -.0350 -.0600 .0150 .0170

X/LS .9670

PHI

.000 .1540

45.000 .2700

90.000 .3990

135.000 .3760

180.000 .1960

225.000 .0340

270.000 .0700

315.000 .0090

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.350

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.3380 .2920 .2150 -.0390 -.0280 .0000 -.0140 -.0240 -.0240 -.0060 -.0110 -.0170 .0010 .1010 .1300

45.000 .2760 .2740 -.0130 -.0280 .0050 .0000 .0100 .0090 -.0010 .0120 .0080 .0050 .0490 .2460 .3300

90.000 .2730 .2880 -.0040 -.0170 .0050 .0100 .0090 -.0010 .0120 .0080 .0050 .0490 .2460 .3300

135.000 .2780 .2610 -.0130 -.0260 .0060 .0000 .0100 .0090 -.0010 .0120 .0080 .0050 .0490 .2460 .3300

180.000 2.3380 .2930 .2030 -.0410 -.0060 .0010 -.0120 -.0230 .0340 .0560 .0330 .0650 .1480 .4650 .2740

225.000 .2840 .1820 -.0100 .1060 -.0360 -.0630 .1110 -.0360 -.0630 .1110 -.0360 -.0630 .0150 .0170



## AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 3) = 3.502

BETAT ( 5) = 4.450

## SECTION ( 1) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.7970	.1650	.1510	-.0490	-.0550	-.0500	-.0600	-.0600	-.0310	-.0220	-.0260	-.0330	-.0080	.1060	.1520
45.000		.1130	.1110	-.0620	-.0720	-.0540							.0090	.1560	.1510
90.000		.0990	.1040	-.0550	-.0670	-.0530	-.0450	-.0380	-.0190	-.0170	-.0190	-.0240	.0540	.1120	.1320
135.000		.1130	.1070	-.0600	-.0710	-.0540							.0210	.1360	.0900
180.000	1.7970	.1670	.1500	-.0510	-.0450	-.0540	-.0580	.0040	.0090	-.0190	-.0470	.0010	-.0180	.0840	.0250
225.000		.1950	.1630	-.0560	-.0630	-.0520	-.0550						-.0480	.0390	-.0070
270.000		.1830	.0960	.3090	.0390	-.0710	-.0660	-.0290			-.0440	-.0600	-.0450	-.0130	-.0310
315.000		.1920	.1650	-.0510	-.0610	-.0520	-.0740						-.0470	.0190	.0470

X/LS .9670

## PHI

.000	.1360
45.000	.1410
90.000	.1320
135.000	.0620
180.000	-.0130
225.000	-.0210
270.000	.0270
315.000	.0840

MACH ( 3) = 3.502

BETAT ( 6) = 6.650

## SECTION ( 1) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.6600	.1390	.1360	-.0570	-.0650	-.0610	-.0660	-.0580	-.0290	-.0350	-.0300	-.0360	-.0180	.0930	.0830
45.000		.0830	.0830	-.0710	-.0800	-.0660							-.0010	.1480	.1560
90.000		.0690	.0710	-.0680	-.0750	-.0620	-.0520	-.0400	-.0280	-.0220	-.0350	-.0360	.0020	.1680	.1340
135.000		.0830	.0770	-.0700	-.0800	-.0660							.0200	.0740	.0540
180.000	1.6600	.1410	.1300	-.0590	-.0570	-.0620	-.0580	-.0070	-.0110	-.0450	-.0660	-.0220	-.0180	.0780	.0050
225.000		.1930	.1390	-.0690	-.0700	-.0540	.0210						-.0570	.0220	-.0220
270.000		.2460	.0460	.2410	.0180	-.0760	-.0570	-.0280			-.0490	-.0660	-.0570	-.0130	-.0240
315.000		.1800	.1560	-.0650	-.0670	-.0530	-.0690						-.0540	.0200	.0400

X/LS .9670

## PHI

.000	.0750
45.000	.1380
90.000	.1210
135.000	.0340
180.000	-.0080

AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS13)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.650

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0100  
270.000 .0220  
315.000 .3020

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.840

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5380	.1230	.1310	-.0550	-.0650	-.0640	-.0670	-.0460	-.0250	-.0410	-.0340	-.0300	-.0100	.0770	.0980
45.000		.0600	.0640	-.0740	-.0830	-.0700							-.0030	.1490	.1250
90.000		.0470	.0520	-.0690	-.0790	-.0670	-.0560	-.0360	-.0290	-.0300	-.0340	-.0320	.0040	.1840	.1580
135.000		.0620	.0580	-.0750	-.0820	-.0690							.0060	.0610	.0240
180.000	1.5380	.1260	.1260	-.0560	-.0580	-.0630	-.0090	-.0160	-.0300	-.0570	-.0670	-.0220	-.0300	.0550	-.0200
225.000		.1920	.0960	-.0710	-.0690	-.0490	.0640						-.0650	-.0240	.0080
270.000		.2270	.0210	.1590	.0010	-.0770	-.0200	-.0330			-.0510	-.0650	-.0520	-.0290	-.0270
315.000		.1800	.1240	-.0660	-.0670	-.0520	-.0600						-.0510	.0490	.1680

X/LS .9670

PHI

.000 .1250  
45.000 .0980  
90.000 .1190  
135.000 .0140  
180.000 .0930  
225.000 .0050  
270.000 -.0300  
315.000 .1320

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDDLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.410

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386	
PHI																
.000	2.0310	.4375	.3600	-.0140	.0200	.0800	.0010	-.0060	.0400	.0500	.0470	.0260	.1390	.2560	.2650	
45.000		.4420	.4300	.0150	.0290	.0580							.2920	.4220	.4410	
90.000		.3940	.4000	.0080	.0130	.0270	.0250	.0290	.0120	.0540	.0690	.1010	.3330	.4740	.4950	
135.000		.3260	.3010	-.0410	-.0380	-.0100							.1870	.5490	.4590	
180.000	2.0310	.2610	.1800	-.0830	-.0480	-.0100	-.0630	-.0180	.0510	.0700	.2420	.2210	.1320	.4400	.2280	
225.000		.2170	.3070	.0510	-.0720	-.1690	-.1320						-.0580	.0360	-.0150	
270.000		.2360	1.1790	.4630	.0130	-.1460	-.1360	.1030			.0990	-.1110	-.0460	-.0010	.1400	
315.000		.3390	.3780	.2070	.1130	-.0380	-.0430						.0040	.0740	.0860	
X/LS .9670																
PHI																
.000	.2510															
45.000	.4310															
90.000	.4660															
135.000	.3420															
180.000	.1040															
225.000	-.0430															
270.000	.2410															
315.000	.1510															

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386	
PHI																
.000	1.9690	.3960	.3320	-.0290	.0100	.0590	-.0110	-.0140	.0250	.0430	.0350	.0250	.1440	.2650	.2730	
45.000		.3920	.3810	-.0100	-.0020	.0270							.2740	.4040	.4180	
90.000		.3400	.3500	-.0190	-.0160	.0000	.0020	.0080	-.0120	.0490	.0480	.1340	.3010	.4070	.4430	
135.000		.2880	.2590	-.0610	-.0610	-.0240							.2020	.6610	.4710	
180.000	1.9690	.2290	.1560	-.0970	-.0630	-.0280	-.0760	-.0280	.0700	.0690	.1350	.1840	.1190	.3810	.1960	
225.000		.1910	.2340	.0410	-.0760	-.1730	-.1440						-.0660	.0240	-.0200	
270.000		.2160	1.0150	.4600	.0330	-.1470	-.1440	.0740			.0800	-.1190	-.0550	-.0120	.1170	
315.000		.3170	.3660	.1890	.1060	-.0450	-.0500						.0330	.1150	.1050	
X/LS .9670																

DATE 19 SEP 73

TABLATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .2580  
 45.000 .4050  
 90.000 .4160  
 135.000 .3310  
 180.000 .0800  
 225.000 -.0590  
 270.000 .1700  
 315.000 .1430

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.180

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8890	.3590	.3050	-.0340	-.0040	.0350	-.0170	-.0170	.0190	.0350	.0240	.0220	.1450	.2640	.2590
45.000		.3350	.3300	-.0280	-.0230	.0050							.2590	.3620	.3840
90.000		.2830	.2910	-.0400	-.0250	-.0190	-.0170	-.0150	-.0290	.0410	.0380	.1120	.2870	.3470	.3920
135.000		.2380	.2190	-.0730	-.0680	-.0360							.2190	.5590	.4120
180.000	1.8890	.1960	.1380	-.1020	-.0720	-.0470	-.0800	-.0230	.0790	.0490	.0690	.1570	.1000	.3490	.1720
225.000		.1690	.1770	.0390	-.0770	-.1730	-.1490						-.0720	.0310	-.0300
270.000		.1990	.0680	.4580	.0100	-.1460	-.1470	.0610			.0480	-.1190	-.0620	-.0350	.0760
315.000		.2950	.3680	.1390	.1030	-.0480	-.0570						.0650	.1480	.1240

X/LS .9670

PHI

.000 .2580  
 45.000 .3790  
 90.000 .3750  
 135.000 .3030  
 180.000 .0630  
 225.000 -.0750  
 270.000 .1740  
 315.000 .1300

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7410	.3010	.2640	-.0480	-.0160	.0200	-.0370	-.0230	.0260	.0160	.0090	.0000	.1300	.2710	.2810
45.000		.2430	.2480	-.0600	-.0560	-.0290							.2010	.2840	.3160
90.000		.1890	.2000	-.0750	-.0570	-.0570	-.0370	-.0380	-.0020	.0400	.0190	.0660	.2440	.3010	.3080
135.000		.1590	.1520	-.0940	-.0850	-.0600							.1270	.4030	.3300
180.000	1.7410	.1360	.1030	-.1130	-.0750	-.0760	-.0880	.0410	.0650	.0080	.0370	.0690	.0400	.2620	.1150
225.000		.1300	.1690	.0170	-.0750	-.1760	-.1310						-.0670	.0190	.0250
270.000		.1650	.7550	.4370	.0090	-.1410	-.1440	.0660			.0330	-.0760	-.0100	.0340	.0380
315.000		.2640	.3510	.0740	.1110	-.0480	-.0560						.0570	.1750	.1950

X/LS .9670

PHI

.000	.2750
45.000	.3170
90.000	.2840
135.000	.2320
180.000	.0300
225.000	-.0020
270.000	.1470
315.000	.2020

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6090	.2620	.2590	-.0530	-.0290	-.0050	-.0410	-.0240	.0020	-.0200	-.0090	.0070	.0820	.3060	.2810
45.000		.1800	.1660	-.0900	-.0880	-.0700							.1490	.2260	.2390
90.000		.1210	.1300	-.1070	-.0880	-.0760	-.0560	-.0520	.0170	.0070	-.0120	.0210	.1920	.2800	.1870
135.000		.1000	.0960	-.1190	-.1040	-.0770							.0890	.3620	.2660
180.000	1.6090	.0920	.0950	-.1150	-.0950	-.0930	-.0970	.0360	.0060	-.0370	.0830	.0120	-.0030	.1700	.0430
225.000		.1010	.1530	-.0880	-.0770	-.1730	-.0710						-.0280	.0630	-.0060
270.000		.1430	.7250	.3990	.0020	-.1370	-.1150	.0990			.0120	-.0720	.0020	.0220	.0400
315.000		.2420	.3100	.0500	.1300	-.0400	-.0380						-.0300	.1540	.2370

X/LS .9670

PHI

.000	.2530
45.000	.2400
90.000	.2050
135.000	.1980
180.000	-.0140

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1000

270.000 .1350

315.000 .3070

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5570 .2490 .2590 -.0520 -.0310 -.0140 -.0450 -.0190 -.0110 -.0330 -.0140 .0150 -.0010 .2760 .2010

45.000 .1500 .1580 -.0950 -.0940 -.0720 .1440 .2230 .2260

90.000 .0930 .1030 -.1140 -.0970 -.0830 -.0560 -.0250 .0030 -.0090 -.0300 -.0030 .1770 .2670 .1790

135.000 .0770 .0790 -.1200 -.1040 -.0820 .0740 .3030 .2170

180.000 1.5570 .0780 .0890 -.1180 -.0990 -.0970 -.0390 .0330 -.0180 -.0510 .1040 .0040 -.0250 .1150 .0330

225.000 .0910 .1480 -.0730 -.0650 -.1560 -.0400 -.0450 .0270 -.0210

270.000 .1350 .6180 .3800 .0010 -.1350 -.0590 .1010 .0180 -.0880 -.0200 .0130 .0400

315.000 .2350 .3100 .0300 .1310 -.0320 -.0310 -.0300 .1210 .4270

X/LS .9670

PHI

.000 .2560

45.000 .2170

90.000 .1340

135.000 .1580

180.000 .0490

225.000 .1230

270.000 .1110

315.000 .3300

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4850 .2240 .2530 -.0550 -.0350 -.0240 -.0450 -.0140 -.0270 -.0260 -.0180 -.0200 -.0170 .2080 .2390

45.000 .1150 .1300 -.1060 -.1090 -.1010 .1270 .2080 .1950

90.000 .0670 .0710 -.1240 -.1090 -.0960 -.0610 -.0180 -.0040 -.0340 -.0430 -.0200 .1590 .2520 .1890

135.000 .0520 .0630 -.1250 -.1120 -.0910 .0550 .2180 .1420

180.000 1.4850 .0560 .0890 -.1190 -.1060 -.1130 .0000 .0170 -.0410 -.0650 .0960 -.0040 -.0350 .0860 .0200

225.000 .1240 .1090 -.0340 -.0580 -.1490 .0320 -.0870 -.0090 -.0250



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

270.000	.2220	.2790	.3060	-.0080	-.1310	.0300	.0710					-.0180	-.1060	-.0240	.0250	-.0100
315.000	.2540	.2840	-.0110	.0660	-.0220	-.0120								-.0320	.1190	.4580

X/LS .9670

PHI

.000	.3160
45.000	.1800
90.000	.0980
135.000	.0850
180.000	.2040
225.000	.0420
270.000	-.0230
315.000	.2670

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	2.3000	.4510	.3540	-.0010	.0310	.0490	.0360	.0140	.0130	.0550	.0380	.0270	.0750	.2620	.2780	
45.000		.4390	.4350	.0350	.0260	.0630								.2560	.4100	.4270
90.000		.3850	.4060	.0260	.0190	.0400	.0370	.0400	.0210	.0140	.0430	.1190		.2680	.4340	.4830
135.000		.3280	.3020	-.0160	-.0210	.0020								.1090	.4570	.5280
180.000	2.3000	.2730	.1740	-.0640	-.0160	.0130	-.0250	-.0560	.0120	.0650	.0620	.1950	.1350	.5130	.3270	
225.000		.2450	.1490	.0420	.0010	-.1010	-.1030						.0100	.0940	.0310	
270.000		.2720	.7230	.5090	.1140	-.0770	-.0950	-.0170			.0700	-.0710	-.0250	.0160	.0410	
315.000		.3770	.3270	.0860	.1730	.0050	-.0220						-.0430	.0440	.0540	

X/LS .9670

PHI

.000	.2700
45.000	.4210
90.000	.4650
135.000	.4450
180.000	.1930
225.000	.0150
270.000	.3150
315.000	.1010



AMES 87-707 1A9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.250

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0170
270.000	.1890
315.000	.1150

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8860	.3110	.2540	-.0430	-.0220	.0210	-.0130	-.0170	-.0130	.0120	.0030	-.0040	.0330	.2270	.2320
45.000		.2340	.2320	-.0470	-.0540	-.0320							.1410	.2350	.2710
90.000		.1760	.1820	-.0600	-.0640	-.0430	-.0380	-.0340	-.0420	.0080	.0160	.0280	.1640	.2220	.2690
135.000		.1510	.1310	-.0750	-.0820	-.0500							.1140	.3890	.3610
180.000	1.8860	.1420	.0790	-.0970	-.0610	-.0560	-.0650	-.0440	.0570	.0310	-.0100	.1000	.0630	.3160	.1750
225.000		.1520	.0900	-.0480	-.0200	-.1130	-.1180						-.0620	.0260	-.0170
270.000		.1980	.2820	.4770	.1030	-.0770	-.1000	-.0430			-.0130	-.0530	-.0270	.0330	.0360
315.000		.2920	.2620	-.0020	.1950	-.0050	-.0360						-.0290	.1270	.1450

X/LS .9670

PHI

.000	.2330
45.000	.2730
90.000	.2520
135.000	.2790
180.000	.0800
225.000	-.0290
270.000	.1650
315.000	.2100

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.380

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.6690	.2550	.2350	-.0480	-.0350	.0030	-.0340	-.0270	-.0050	-.0140	-.0190	-.0160	.0020	.2260	.2240
45.000		.1570	.1600	-.0730	-.0780	-.0570							.0870	.1650	.1910
90.000		.1030	.1070	-.0820	-.0900	-.0640	-.0590	-.0490	-.0150	-.0080	-.0140	-.0080	.1010	.2090	.1160
135.000		.0870	.0740	-.0910	-.0910	-.0640							.0600	.3140	.2380
180.000	1.6690	.0930	.0780	-.0910	-.0700	-.0790	-.0830	.0180	.0160	-.0200	-.0410	.0190	-.0080	.1360	.0560
225.000		.1150	.0960	-.0830	-.0560	-.1150	-.1050						-.0500	.0210	.0060





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0410

270.000 .2220

315.000 .0590

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.530

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.4400 .4220 .3300 -.0050 .0140 .0200 .0300 .0070 -.0020 .0190 .0200 .0080 .0260 .2550 .2670

45.000 .3730 .3750 .0200 .0050 .0310 .0110 .0130 .0000 -.0100 .0160 .0220 .1870 .3240 .3960

90.000 .3100 .3310 .0100 -.0050 .0110 .0110 .0130 .0000 -.0100 .0160 .0220 .1870 .3240 .3960

135.000 .2680 .2450 -.0210 -.0330 .0020 .0930 .3350 .4380

180.000 2.4400 .2420 .1450 -.0600 -.0240 -.0270 -.0300 -.0360 .0010 .0440 .0270 .1580 .1870 .4780 .3100

225.000 .2370 .1220 -.0260 .0260 -.0810 -.0910 .0120 .1310 .0850

270.000 .2750 .6480 .6170 .1650 -.0460 -.0770 -.0640 .0180 -.0430 -.0340 .0050 .0090

315.000 .3720 .2750 .0270 .2130 .0160 -.0270 -.0440 .0160 .0210

X/LS .9670

PHI

.000 .2510

45.000 .3450

90.000 .4090

135.000 .4190

180.000 .1990

225.000 .0290

270.000 .1770

315.000 .0420

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 2.3000 .3840 .3040 -.0060 .0110 .0130 .0180 -.0020 -.0100 .0130 .0080 .0010 .0200 .2390 .2370

45.000 .3220 .3210 .0100 -.0050 .0130 .0110 .0130 .0000 .0100 .0160 .0220 .1870 .3240 .3960

90.000 .2580 .2730 -.0020 -.0140 -.0030 -.0050 -.0030 -.0150 -.0250 .0060 .0110 .1530 .2520 .3170

135.000 .2260 .2090 -.0270 -.0370 -.0150 .1240 .4900 .5380

180.000 2.3000 .2080 .1290 -.0550 -.0320 -.0290 -.0360 -.0410 .0110 .0370 .0150 .1080 .1570 .3980 .2800

225.000 .2110 .1180 -.0300 .0220 -.0810 -.0930 -.0660 .0160 .0210







AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS14)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0240

270.000 .0520

315.000 .4290

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.860

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1136 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5050 .1990 .2040 -.0390 -.0470 -.0370 -.0370 -.0250 -.0180 -.0280 -.0410 -.0330 -.0150 .1230 .1430

45.000 .0880 .0910 -.0710 -.0810 -.0740 .0130 .1030 .0810

90.000 .0390 .0400 -.0820 -.0880 -.0760 -.0740 -.0670 -.0440 -.0310 -.0370 -.0220 .0150 .1280 .1100

135.000 .0330 .0260 -.0800 -.0870 -.0740 .0220 .0810 .0690

180.000 1.5050 .0570 .0570 -.0770 -.0760 -.0850 -.0730 -.0090 -.0370 -.0590 -.0600 -.0160 -.0260 .0470 .0070

225.000 .1220 .0500 -.0840 -.0870 -.0900 -.0200 -.0540 -.0060 -.0230

270.000 .2390 -.0060 .1330 -.0010 -.0720 -.0450 .0580 -.0740 -.0680 -.0360 -.0060 -.0200

315.000 .2270 .1830 -.0640 -.0470 -.0110 -.0170 -.0540 .0620 .3150

X/LS .9670

PHI

.000 .1900

45.000 .0810

90.000 .0930

135.000 .0540

180.000 .0620

225.000 -.0360

270.000 -.0120

315.000 .1190

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.390

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0160	.4880	.4160	-.0120	.0610	.1070	.0240	.0220	.0510	.0660	.0530	.0320	.1720	.3090	.3170
45.000		.4730	.4630	.0320	.0390	.0700							.3330	.4630	.4830
90.000		.3850	.3980	.0070	.0070	.0200	.0140	.0020	-.0050	.0150	.0400	.1590	.3870	.5100	.5310
135.000		.2990	.2690	-.0530	-.0520	-.0310							.1960	.3160	.3910
180.000	2.0160	.2260	.1520	-.0940	-.0310	-.0280	-.0750	-.0650	-.0280	.0540	.2760	.2450	.1620	.5340	.2760
225.000		.1840	.3210	.0120	-.1060	-.1800	-.1510						-.0600	.0460	-.0190
270.000		.2280	1.2340	.4550	.0160	-.1310	-.1170	.0860			.1600	-.1130	-.0580	.0170	.1420
315.000		.3740	.4790	.2620	.1540	-.0030	-.0100						.0550	.1370	.1470

X/LS .9670

PHI

.000	.3020
45.000	.4690
90.000	.5020
135.000	.3230
180.000	.1360
225.000	-.0410
270.000	.2060
315.000	.1780

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.280

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9490	.4510	.3890	-.0040	.0400	.0820	.0120	.0170	.0330	.0610	.0390	.0310	.1770	.3100	.3160
45.000		.4210	.4120	.0040	.0130	.0380							.3090	.4240	.4450
90.000		.3300	.3380	-.0240	-.0220	-.0060	-.0010	-.0160	-.0310	.0030	.0310	.1450	.3560	.4520	.4680
135.000		.2540	.2270	-.0750	-.0740	-.0420							.1070	.3400	.3890
180.000	1.9490	.1940	.1230	-.1060	-.0680	-.0480	-.0880	-.0900	.0020	.0570	.1980	.2110	.1360	.4810	.2370
225.000		.1600	.2670	.0070	-.1140	-.1850	-.1580						-.0640	.0350	-.0220
270.000		.2080	1.1330	.4500	.0140	-.1320	-.1260	.0470			.1370	-.1170	-.0550	-.0020	.1150
315.000		.3550	.4590	.2500	.1450	-.0110	-.0190						.0790	.1480	.1270

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.280

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.3070
45.000	.4270
90.000	.4440
135.000	.3190
180.000	.1120
225.000	-.0570
270.000	.1830
315.000	.1770

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.160

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8720	.4140	.3550	-.0160	.0240	.0670	.0010	.0070	.0270	.0510	.0270	.0200	.1510	.2980	.3100
45.000		.3580	.3520	-.0160	-.0130	.0150							.2770	.3780	.4050
90.000		.2720	.2800	-.0460	-.0440	-.0300	-.0270	-.0390	-.0460	.0160	.0220	.1190	.3140	.3940	.4140
135.000		.2380	.1890	-.0860	-.0860	-.0510							.1370	.4790	.3900
180.000	1.8720	.1620	.1000	-.1170	-.0940	-.0570	-.0960	-.0610	.0560	.0430	.1200	.1710	.1280	.3780	.2090
225.000		.1380	.2140	.0010	-.1190	-.1870	-.1560						-.0630	.0260	-.0280
270.000		.1910	.9880	.4390	.0140	-.1300	-.1280	.0230			.1050	-.1100	-.0470	-.0100	.0990
315.000		.3320	.4390	.1600	.1450	-.0160	-.0260						.0910	.1710	.1560

X/LS .9670

PHI

.000	.3140
45.000	.3970
90.000	.3930
135.000	.3030
180.000	.0800
225.000	-.0620
270.000	.1950
315.000	.1940

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CF													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7200	.3540	.3210	-.0280	.0080	.0380	-.0130	-.0020	.0310	.0250	.0030	.0000	.1410	.3150	.3200
45.000		.2660	.2740	-.0530	-.0530	-.0100							.2100	.3040	.3170
90.000		.1790	.1930	-.0830	-.0830	-.0640	-.0510	-.0610	-.0470	.0250	.0050	.0810	.2470	.3030	.2890
135.000		.1360	.1270	-.1100	-.1050	-.0630							.1420	.4760	.4160
180.000	1.7200	.1060	.0630	-.1280	-.0800	-.0810	-.0910	.0230	.0600	.0130	.0620	.1000	.0530	.2990	.1520
225.000		.1000	.1430	-.0260	-.1180	-.1890	-.1450						-.0570	.0380	.0260
270.000		.1610	.7990	.4230	.0120	-.1270	-.1240	.0650			.0620	-.0600	.0130	.0540	.0790
315.000		.3020	.4030	.1210	.1530	-.0160	-.0220						.0720	.2100	.2420

X/LS .9670

PHI	
.000	.3090
45.000	.3140
90.000	.2870
135.000	.2780
180.000	.0540
225.000	-.0140
270.000	.1690
315.000	.2560

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CF													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5880	.3180	.3160	-.0260	.0030	.0210	-.0160	.0040	.0120	-.0090	-.0200	.0090	.0480	.3270	.2620
45.000		.2030	.2110	-.0770	-.0760	-.0510							.1510	.2600	.2700
90.000		.1110	.1240	-.1060	-.1100	-.0910	-.0850	-.0870	-.0080	-.0170	-.0310	.0350	.1730	.2740	.1430
135.000		.0780	.0780	-.1250	-.1120	-.0770							.0660	.3620	.2990
180.000	1.5880	.0620	.0600	-.1190	-.0950	-.1010	-.1020	.0480	.0160	-.0310	.0920	.0320	-.0080	.1310	.0500
225.000		.0670	.1110	-.0370	-.1190	-.1870	-.0800						-.0220	.0360	.0020
270.000		.1370	.7420	.3920	.0100	-.1200	-.1140	.1160			.0460	-.0590	.0200	.0390	.0650
315.000		.2840	.3710	.0650	.1660	.0000	-.0030						.0170	.1690	.2890

X/LS .9670

PHI	
.000	.2960
45.000	.2530
90.000	.1450
135.000	.2530
180.000	-.0080

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1660

270.000 .1530

315.000 .2680

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.440

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5210 .3010 .3090 -.0260 .0020 .0150 -.0250 .0000 .0020 -.0160 -.0100 -.0140 .0390 .2190 .2260

45.000 .1700 .1760 -.0870 -.0840 -.0720 .1430 .2320 .2220

90.000 .0780 .0880 -.1150 -.1170 -.0990 -.0990 -.0740 -.0410 -.0510 -.0320 .0100 .1590 .2660 .1930

135.000 .0550 .0590 -.1260 -.1190 -.0890 .0310 .3000 .2450

180.000 1.5210 .0390 .0540 -.1210 -.1000 -.1090 -.0900 .0510 -.0070 -.0500 .0980 .0240 -.0240 .0940 .0310

225.000 .0560 .1110 -.0470 -.1180 -.1860 -.0540 .0370 .0040

270.000 .1270 .6620 .3760 .0040 -.1190 -.1100 .1050 .0350 -.0700 .0030 .0370 .0380

315.000 .2750 .3770 .0650 .1340 .0080 .0080 .0060 .1700 .4350

X/LS .9670

PHI

.000 .3150

45.000 .2180

90.000 .1030

135.000 .1880

180.000 .0130

225.000 .1480

270.000 .1570

315.000 .3480

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.570

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4550 .2800 .3060 -.0390 -.0170 .0090 -.0260 .0040 -.0050 -.0140 -.0270 -.0460 .0810 .2380 .3010

45.000 .1390 .1500 -.1090 -.1110 -.0860 .1110 .1750 .1880

90.000 .0600 .0610 -.1410 -.1430 -.1070 -.0990 -.0570 -.0790 -.0610 -.0300 -.0010 .1460 .2750 .2080

135.000 .0400 .0340 -.1510 -.1420 -.0850 .0250 .2100 .1670

180.000 1.4550 .0260 .0400 -.1440 -.1160 -.1240 -.0190 .0250 -.0400 -.0540 .0700 .0490 -.0330 .0800 .0360

225.000 .0590 .0720 -.1040 -.1190 -.1850 -.0180 .0690 .0090 .0160

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 1) = 2.498

BETAT ( 7) = 8.570

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

270.000	.1680	.5210	.3380	-.0030	-.1170	-.0590	.0700				.0060	-.0840	-.0090	.0530	-.0420
315.000	.2620	.3730	.0300	.1300	.0160	.0250							-.0290	.2300	.4040

X/LS .9670

PHI

.000	.3450
45.000	.1920
90.000	.1400
135.000	.1170
180.000	.1650
225.000	.0470
270.000	.1460
315.000	.3530

MACH ( 2) = 2.999

BETAT ( 1) = -8.550

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	2.2820	.5050	.4090	.0300	.0610	.0920	.0580	.0370	.0380	.0660	.0500	.0520	.0690	.3150	.3210
45.000		.4680	.4670	.0550	.0500	.0760							.2780	.4400	.4610
90.000		.3800	.3980	.0300	.0250	.0370	.0300	.0280	.0080	.0000	.0210	.1280	.3010	.4110	.4710
135.000		.3010	.2740	-.0170	-.0220	-.0170							.1790	.2780	.3980
180.000	2.2820	.2410	.1490	-.0640	-.0200	-.0130	-.0380	-.0690	-.0130	.0030	.0370	.1980	.1730	.6480	.3840
225.000		.2150	.1260	.0430	-.0340	-.1180	-.1140						.0030	.1060	.0430
270.000		.2690	.7470	.5280	.1170	-.0620	-.0780	-.0430			.1150	-.0700	-.0210	.0190	.1000
315.000		.4120	.3810	.1090	.2100	.0350	.0040						-.0460	.0600	.1100

X/LS .9670

PHI

.000	.3080
45.000	.4540
90.000	.4840
135.000	.3730
180.000	.2310
225.000	.0220
270.000	.3040
315.000	.1290

## AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1860	.4690	.3800	.0090	.0400	.0750	.0420	.0280	.0300	.0510	.0380	.0340	.0540	.3060	.2980
45.000		.4170	.4150	.0250	.0180	.0500							.2430	.3920	.4170
90.000		.3230	.3380	.0000	-.0060	.0120	.0060	.0030	-.0120	-.0210	.0130	.0960	.2680	.3720	.4190
135.000		.2580	.2300	-.0410	-.0470	-.0250							.0620	.2540	.3800
180.000	2.1860	.2100	.1180	-.0820	-.0330	-.0270	-.0460	-.0720	-.0160	-.0030	.0280	.1930	.1450	.5440	.3360
225.000		.1950	.0970	.0100	-.0420	-.1220	-.1170						-.0200	.1110	.0340
270.000		.2510	.7220	.5220	.1150	-.0640	-.0820	-.0530			.0840	-.0720	-.0420	.0010	.1020
315.000		.3930	.3610	.0710	.2190	.0290	-.0030						-.0570	.0520	.1140

X/LS .9670

## PHI

.000	.2900
45.000	.4090
90.000	.4240
135.000	.3650
180.000	.2040
225.000	.0030
270.000	.2400
315.000	.1340

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.240

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0900	.4320	.3550	-.0060	.0210	.0550	.0270	.0160	.0150	.0380	.0250	.0200	.0320	.2800	.2750
45.000		.3590	.3590	-.0020	-.0090	.0210							.2050	.3400	.3660
90.000		.2700	.2770	-.0270	-.0350	-.0140	-.0190	-.0180	-.0350	-.0240	.0080	.0750	.2350	.3120	.3550
135.000		.2120	.1840	-.0600	-.0660	-.0330							.0710	.3180	.3360
180.000	2.0900	.1740	.0900	-.0950	-.0530	-.0410	-.0580	-.0710	-.0060	.0260	.0160	.1440	.1440	.3990	.2890
225.000		.1700	.0800	-.0190	-.0480	-.1280	-.1250						-.0160	.0910	.0210
270.000		.2310	.6950	.5050	.1070	-.0700	-.0880	-.0670			.0410	-.0880	-.0580	.0010	.1950
315.000		.3690	.3310	.0490	.2190	.0250	-.0090						-.0260	.0910	.1230

X/LS .9670

## PHI

.000	.2720
45.000	.3610
90.000	.3650
135.000	.3280
180.000	.1770

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.240

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 -0.0150  
225.000 .2110  
270.000 .1360  
315.000

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .060

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.8630 .3590 .3010 -.0270 -.0020 .0500 .0020 -.0050 -.0030 .0170 -.0030 -.0100 .0020 .2470 .2560  
45.000 .2570 .2550 -.0410 -.0460 -.0270 .1370 .2530 .2770  
90.000 .1700 .1730 -.0640 -.0710 -.0520 -.0490 -.0520 -.0650 -.0020 .0050 .0160 .1900 .2360 .2180  
135.000 .1310 .1100 -.0850 -.0880 -.0490 .0990 .4440 .5030  
180.000 1.8630 .1130 .0500 -.1070 -.0730 -.0770 -.0700 -.0640 .0430 .0230 -.0140 .0790 .0680 .2970 .1910  
225.000 .1240 .0690 -.0600 -.0570 -.1300 -.1280 -.0530 .0580 -.0320  
270.000 .1910 .3060 .4620 .1010 -.0690 -.0890 -.0730 -.0090 -.0460 -.0100 .0650 .0660  
315.000 .3260 .3100 .0200 .2220 .0160 -.0110 -.0010 .1560 .1850

X/LS .9670

PHI

.000 .2670  
45.000 .2680  
90.000 .2600  
135.000 .3590  
180.000 .1000  
225.000 -.0350  
270.000 .1960  
315.000 .2890

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.390

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6490 .3050 .2720 -.0300 -.0120 .0310 -.0140 -.0100 -.0010 .0000 -.0200 -.0290 -.0140 .2210 .2320  
45.000 .1800 .1830 -.0650 -.0720 -.0590 .0700 .1770 .2050  
90.000 .0980 .1010 -.0870 -.0930 -.0740 -.0690 -.0740 -.0310 -.0300 -.0300 -.0030 .1030 .1830 .1220  
135.000 .0730 .0580 -.0970 -.0930 -.0660 .0410 .2970 .2550  
180.000 1.6490 .0670 .0450 -.0980 -.0780 -.0830 -.0840 .0200 .0260 -.0180 -.0280 .0310 .0670 .1200 .0520  
225.000 .0870 .0700 -.0730 -.0720 -.1320 -.1200 -.0470 .0330 .0070





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.730

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4770	.2670	.2600	-.0360	-.0240	.0060	-.0210	-.0010	.0070	-.0110	-.0260	-.0350	-.0310	.1420	.2180
45.000		.1240	.1300	-.0860	-.0930	-.0750							.0640	.1220	.1160
90.000		.0450	.0510	-.1090	-.1160	-.0880	-.0870	-.0890	-.0800	-.0510	-.0240	.0000	.0670	.1620	.1280
135.000		.0320	.0160	-.1140	-.1160	-.0750							.0360	.1530	.1120
180.000	1.4770	.0320	.0250	-.1130	-.0900	-.0960	-.0770	.0240	-.0290	-.0510	-.0350	-.0100	-.0670	.0870	.0500
225.000		.0650	.0250	-.0860	-.0820	-.1300	-.0690						-.0470	.0240	.0100
270.000		.1340	.0780	.3400	.0580	-.0700	-.0780	.0700			-.0500	-.0630	-.0090	.0510	.0920
315.000		.2630	.3060	-.0110	.0290	.0240	.0070						-.0390	.1620	.5980

X/LS .9670

PHI	
.000	.2510
45.000	.1230
90.000	.1210
135.000	.0800
180.000	.1140
225.000	.0210
270.000	-.0370
315.000	.3770

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.5570	.5250	.4160	.0360	.0580	.0770	.0580	.0370	.0260	.0380	.0410	.0340	.0520	.3220	.3280
45.000		.4710	.4750	.0630	.0520	.0680							.1220	.4160	.4240
90.000		.3710	.3890	.0390	.0290	.0280	.0230	.0240	.0070	-.0020	.0000	.0500	.2360	.3730	.4500
135.000		.2920	.2700	-.0030	-.0140	-.0080							.1760	.3010	.4330
180.000	2.5570	.2430	.1460	-.0470	-.0200	-.0030	-.0260	-.0450	-.0020	-.0090	.0090	.1830	.2030	.7090	.4710
225.000		.2310	.1220	-.0020	-.0030	-.0900	-.0890						.0220	.1290	.0650
270.000		.2950	.7800	.6290	.1670	-.0340	-.0610	-.0480			.0610	-.0440	-.0260	.0360	.0720
315.000		.4420	.3440	.0670	.2520	.0520	.0070						-.0100	.0740	.0660

X/LS .9670

PHI	
.000	.3170
45.000	.4220
90.000	.4520
135.000	.4010
180.000	.2720

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS .9670

## PHI

225.000 .0240  
 270.000 .2520  
 315.000 .0730

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.520

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

## PHI

.000 2.4310 .4840 .3830 .0120 .0320 .0700 .0420 .0240 .0170 .0260 .0290 .0220 .0390 .3020 .2970  
 45.000 .4050 .4090 .0300 .0150 .0420 .0240 .0170 .0260 .0290 .0220 .0390 .3020 .2970  
 90.000 .3080 .3250 .0050 -.0100 .0100 .0030 .0010 -.0110 -.0190 -.0150 .0180 .1910 .3140 .3740  
 135.000 .2460 .2210 -.0290 -.0420 -.0170 .0240 .0170 .0260 .0290 .0220 .0390 .3020 .2970  
 180.000 2.4310 .2090 .1130 -.0690 -.0290 -.0160 -.0330 -.0480 -.0180 .0190 .0110 .1530 .1670 .5180 .3680  
 225.000 .2080 .0910 -.0420 -.0120 -.0900 -.0920 .0190 .0950 .0520  
 270.000 .2740 .6500 .6110 .1650 -.0340 -.0620 -.0520 .0350 -.0540 -.0490 .0110 .0180  
 315.000 .4130 .3090 .0390 .2450 .0430 -.0030 -.0060 .0770 .0620

X/LS .9670

## PHI

.000 .2850  
 45.000 .3660  
 90.000 .3970  
 135.000 .3680  
 180.000 .2280  
 225.000 .0150  
 270.000 .1960  
 315.000 .0620

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

## PHI

.000 2.2830 .4420 .3520 .0110 .0300 .0650 .0260 .0120 .0080 .0170 .0170 .0100 .0250 .2630 .2540  
 45.000 .3480 .3520 .0180 .0060 .0200 .0120 .0080 .0170 .0170 .0100 .0250 .2630 .2540  
 90.000 .2520 .2670 -.0020 -.0150 -.0110 -.0150 -.0170 -.0310 -.0400 -.0140 .0090 .1530 .2520 .3030  
 135.000 .2030 .1850 -.0010 -.0420 -.0270 .0240 .0170 .0260 .0290 .0220 .0390 .3020 .2970  
 180.000 2.2830 .1750 .1020 -.0620 -.0400 -.0430 -.0410 -.0530 -.0190 .0160 .0090 .1290 .1590 .4220 .3190  
 225.000 .1820 .0800 -.0370 -.0190 -.0930 -.0950 .0130 .0930 .0410





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS15)

MACH ( 0 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0380  
270.000 .0510  
315.000 .4990

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.880

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.4590	.2410	.2320	-.0240	-.0240	-.0090	-.0220	-.0070	-.0010	-.0120	-.0340	-.0270	-.0170	.1390	.1760
45.000		.1020	.1090	-.0640	-.0710	-.0660							.0330	.0940	.0790
90.000		.0340	.0330	-.0810	-.0860	-.0780	-.0770	-.0730	-.0670	-.0590	-.0360	-.0090	.0490	.0860	.0730
135.000		.0240	.0170	-.0760	-.0820	-.0730							.0190	.1210	.0850
180.000	1.4590	.0290	.0330	-.0820	-.0800	-.0920	-.0680	-.0170	-.0400	-.0540	-.0640	-.0010	-.0200	.0790	.0170
225.000		.0970	-.0250	-.0790	-.0920	-.1020	-.0640						-.0510	.0120	-.0110
270.000		.2250	-.0040	.1820	.0330	-.0550	-.0560	.0420			-.0680	-.0700	-.0360	.0060	.0140
315.000		.2530	.2670	-.0330	.0100	.0130	.0030						-.0440	.0940	.5070

X/LS .9670

PHI

.000 .2250  
45.000 .0850  
90.000 .0620  
135.000 .0670  
180.000 .0550  
225.000 -.0390  
270.000 -.0360  
315.000 .1970

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(R8NS16) ( 19 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.370

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9920	.5360	.4690	.0220	.0780	.1270	.0530	.0600	.0680	.0910	.0680	.0590	.1930	.3510	.3540
45.000		.4980	.4940	.0310	.0330	.0870							.3420	.4640	.4950
90.000		.3710	.3850	-.0150	-.0140	.0180	.0160	-.0140	-.0280	-.0350	.0060	.1630	.3900	.4650	.4930
135.000		.2650	.2220	-.0830	-.0820	-.0480							.2820	.2580	.3460
180.000	1.9920	.1030	.1090	-.1210	-.0400	-.0360	-.0870	-.0890	-.0590	-.0130	.2630	.2630	.1960	.5940	.3060
225.000		.1560	.2860	-.0370	-.1360	-.1910	-.1340						-.0530	.0520	-.0080
270.000		.2200	1.2200	.4320	.0190	-.1110	-.0970	.0080			.1930	-.1010	-.0410	.0360	.1630
315.000		.4120	.5430	.2810	.1900	.0280	.0270						.0790	.1760	.2080

X/LS .9670

PHI

.000 .3480  
 45.000 .4930  
 90.000 .4920  
 135.000 .2970  
 180.000 .1620  
 225.000 -.0350  
 270.000 .2350  
 315.000 .2330

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9300	.5070	.4440	.0220	.0710	.1070	.0390	.0490	.0530	.0770	.0460	.0520	.1780	.3440	.3520
45.000		.4480	.4440	.0150	.0290	.0530							.3020	.4180	.4600
90.000		.3170	.3310	-.0300	-.0300	-.0110	-.0100	-.0340	-.0530	-.0280	.0060	.1440	.3430	.4580	.4310
135.000		.2290	.1930	-.0890	-.0900	-.0550							.2320	.1710	.2570
180.000	1.9300	.1660	.0950	-.1190	-.0600	-.0560	-.0950	-.0970	-.0860	-.0170	.2190	.2480	.1600	.5340	.2700
225.000		.1360	.2470	-.0370	-.1420	-.1920	-.1460						-.0610	.0500	-.0040
270.000		.2050	1.1980	.4330	.0170	-.1100	-.1030	-.0010			.1640	-.1070	-.0460	.0060	.1470
315.000		.3930	.5280	.2610	.1880	.0220	.0180						.0900	.1910	.1850

X/LS .9670

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.270

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.3480
45.000	.4510
90.000	.4190
135.000	.2370
180.000	.1500
225.000	-.0500
270.000	.2330
315.000	.2320

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.160

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8470	.4720	.4140	.0210	.0660	.0930	.0310	.0380	.0420	.0660	.0430	.0320	.1550	.3390	.3530
45.000		.3910	.3840	.0020	.0070	.0430							.2630	.3690	.4090
90.000		.2670	.2770	-.0400	-.0410	-.0330	-.0370	-.0630	-.0650	-.0030	.0030	.1200	.2950	.3490	.3670
135.000		.1880	.1660	-.0880	-.0910	-.0590							.1350	.2740	.2520
180.000	1.8470	.1380	.0810	-.1150	-.0680	-.0670	-.1040	-.0890	-.0510	.0110	.1410	.1970	.1460	.4930	.2710
225.000		.1130	.2140	-.0340	-.1460	-.1910	-.1520						-.0510	.0360	-.0180
270.000		.1880	1.1350	.4320	.0160	-.1100	-.1040	-.0300			.1270	-.0810	-.0150	.0250	.1210
315.000		.3730	.5210	.1970	.1870	.0210	.0140						.1080	.2140	.2120

X/LS .9670

PHI

.000	.3560
45.000	.4100
90.000	.3720
135.000	.2040
180.000	.1230
225.000	-.0400
270.000	.2400
315.000	.2360





AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.330

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .1570  
225.000 .1620  
270.000 .2750  
315.000

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.460

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4900 .3460 .3580 -.0060 .0260 .0340 -.0080 .0170 .0140 .0050 -.0130 -.0310 .0700 .2130 .2700  
45.000 .1870 .1950 -.0850 -.0830 -.0590 .1370 .2290 .2300  
90.000 .0650 .0750 -.1300 -.1320 -.1150 -.1250 -.1130 -.0760 -.0820 -.0410 .0250 .1740 .2790 .2090  
135.000 .0340 .0290 -.1430 -.1320 -.0950 .0470 .2460 .2300  
180.000 1.4900 .0140 .0110 -.1350 -.1050 -.1250 -.1050 .0410 -.0130 -.0380 .0770 .0190 -.0210 .0960 .0400  
225.000 .0220 .0750 -.0750 -.1560 -.1960 -.0930 -.0290 .0310 .0380  
270.000 .1140 .7170 .3500 .0020 -.1050 -.0960 .1110 .0340 -.0650 .0170 .0570 .0490  
315.000 .3060 .4430 .0900 .1580 .0410 .0380 .0190 .2200 .4460

X/LS .9670

PHI

.000 .3350  
45.000 .2300  
90.000 .1320  
135.000 .1820  
180.000 .0330  
225.000 .1390  
270.000 .1750  
315.000 .3960

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.600

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4150 .3260 .3630 -.0010 .0260 .0290 -.0030 .0290 .0170 .0070 -.0330 -.0620 .0980 .2750 .3460  
45.000 .1610 .1680 -.0930 -.0910 -.0700 .0980 .1580 .1970  
90.000 .0480 .0430 -.1370 -.1400 -.1210 -.1320 -.1060 -.1140 -.0590 -.0340 .0020 .1280 .2670 .1940  
135.000 .0180 .0160 -.1400 -.1360 -.0970 .0190 .1620 .1640  
180.000 1.4150 -.0030 .0170 -.1430 -.1200 -.1320 -.0120 .0250 -.0340 -.0500 .0800 .0450 -.0250 .1240 .0680  
225.000 .0100 .0510 -.0790 -.1590 -.1920 -.0620 -.0500 .0010 .0220



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.380

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.1580	.5230	.4370	.0290	.0590	.1090	.0590	.0500	.0480	.0590	.0500	.0440	.0460	.3350	.3270
45.000		.4430	.4430	.0340	.0290	.0610							.2260	.3900	.4210
90.000		.3120	.3260	-.0080	-.0130	.0020	-.0100	-.0140	-.0350	-.0420	-.0080	.0880	.2310	.3030	.3470
135.000		.2300	.1980	-.0520	-.0580	-.0400							.1710	.1710	.2640
180.000	2.1580	.1790	.0890	-.0920	-.0450	-.0300	-.0580	-.0860	-.0430	-.0570	-.0140	.2060	.1750	.6390	.3740
225.000		.1620	.1080	.0100	-.0750	-.1320	-.1200						-.0200	.1310	.0510
270.000		.2430	.7600	.5230	.1090	-.0540	-.0690	-.0470			.0940	-.0730	-.0330	-.0050	.1250
315.000		.4300	.4090	.1090	.2550	.0550	.0250						-.0150	.1030	.1540

X/LS .9670

PHI	
.000	.3220
45.000	.4170
90.000	.3780
135.000	.2590
180.000	.2160
225.000	.0050
270.000	.0430
315.000	.1700

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.230

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0590	.4860	.4090	.0170	.0460	.0910	.0430	.0360	.0330	.0490	.0340	.0320	.0280	.3000	.3010
45.000		.3870	.3830	.0100	.0060	.0320							.1820	.3270	.3630
90.000		.2590	.2670	-.0320	-.0370	-.0220	-.0300	-.0390	-.0580	-.0350	-.0030	.0690	.1910	.2580	.2870
135.000		.1890	.1610	-.0660	-.0740	-.0470							.1430	.2160	.1950
180.000	2.0590	.1470	.0680	-.1000	-.0580	-.0520	-.0690	-.0880	-.0430	-.0490	-.0220	.1600	.1440	.5370	.3500
225.000		.1390	.0840	-.0130	-.0820	-.1360	-.1260						-.0270	.1130	.0250
270.000		.2240	.7280	.5090	.1050	-.0540	-.0710	-.0540			.0550	-.0830	-.0470	.0160	.1050
315.000		.4090	.3890	.0930	.2630	.0490	.0200						.0090	.1210	.1540

X/LS .9670

PHI	
.000	.3020
45.000	.3650
90.000	.3050
135.000	.2020
180.000	.1910

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 2) = 2.999

BETAT ( 3) = -4.230

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 -1.0150  
225.000 .2350  
270.000 .1700  
315.000 .1700

MACH ( 2) = 2.999

BETAT ( 4) = .060

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.8270	.4150	.3540	-.0040	.0250	.0770	.0200	.0160	.0160	.0290	.0100	-.0010	-.0020	.2580	.2900
45.000		.2810	.2780	-.0300	-.0370	-.0200								.1380	.2440
90.000		.1590	.1650	-.0660	-.0770	-.0610	-.0620	-.0770	-.0910	-.0190	-.0080	.0320	.2000	.2140	.1970
135.000		.1130	.0890	-.0900	-.0970	-.0550							.1230	.3940	.4350
180.000	1.8270	.0870	.0220	-.1140	-.0800	-.0760	-.0780	-.0510	.0150	-.0100	-.0300	.0610	.0650	.2510	.1820
225.000		.0970	.0550	-.0600	-.0870	-.1370	-.1210						-.0420	.0260	-.0050
270.000		.1880	.3660	.4470	.0980	-.0560	-.0700	-.0560		.0080	-.0380	.0020	.1150	.0930	
315.000		.3640	.3700	.0570	.2750	.0450	.0180					-.0040	.1820	.2120	

X/LS .9670

PHI

.000 .3010  
45.000 .2680  
90.000 .1860  
135.000 .2500  
180.000 .1120  
225.000 -.0010  
270.000 .1600  
315.000 .3170

MACH ( 2) = 2.999

BETAT ( 5) = 4.400

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.6120	.3600	.3210	-.0030	.0200	.0650	.0070	.0080	.0150	.0120	-.0030	-.0030	-.0040	.2330	.2060
45.000		.2040	.2060	-.0510	-.0500	-.0470								.0890	.1710
90.000		.0910	.0930	-.0840	-.0920	-.0840	-.0860	-.1010	-.0550	-.0450	-.0350	-.0030	.1070	.1870	.1590
135.000		.0590	.0450	-.0930	-.0920	-.0700							.0200	.1570	.2540
180.000	1.6120	.0430	.0260	-.0970	-.0790	-.0630	-.0790	.0000	.0200	-.0200	.0110	.0340	.0160	.1220	.0490
225.000		.0630	.0470	-.0790	-.0910	-.1330	-.0960						-.0300	.0590	.0230





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.690

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .0200  
 270.000 .2550  
 315.000 .1320

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.500

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.3970	.5440	.4430	.5420	.0560	.0980	.0560	.0440	.0350	.0430	.0430	.0340	.0520	.3410	.3290
45.000		.4420	.4470	.0460	.0320	.0560							.1040	.3530	.3760
90.000		.3020	.3170	.0580	-.0060	.0040	-.0070	-.0090	-.0270	-.0330	-.0370	.0340	.1730	.2720	.3170
135.000		.2240	.1960	-.0320	-.0410	-.0240							.1050	.1630	.2870
180.000	2.3970	.1810	.0890	-.0680	-.0330	-.0210	-.0430	-.0620	-.0500	-.0370	-.0090	.1310	.1580	.6190	.4500
225.000		.1800	.0640	-.0250	-.0400	-.0960	-.0950						.0140	.1020	.0360
270.000		.2700	.6580	.6010	.1630	-.0240	-.0500	-.0390			.0350	-.0490	-.0270	.0400	.1170
315.000		.4580	.3560	.0710	.3290	.0750	.0250					.0150	.0950	.0860	

X/LS .9670

PHI

.000 .3300  
 45.000 .3820  
 90.000 .3500  
 135.000 .3040  
 180.000 .2550  
 225.000 .0050  
 270.000 .2390  
 315.000 .1310

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.320

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2540	.5030	.4090	.0330	.0480	.0930	.0440	.0340	.0300	.0330	.0320	.0250	.0350	.2900	.2840
45.000		.3800	.3880	.0280	.0150	.0340							.0960	.2900	.3130
90.000		.2480	.2620	-.0080	-.0230	-.0140	-.0220	-.0250	-.0430	-.0480	-.0260	.0230	.1490	.2250	.2510
135.000		.1880	.1630	-.0400	-.0520	-.0290							.1090	.1310	.1240
180.000	2.2540	.1510	.0660	-.0740	-.0410	-.0460	-.0500	-.0630	-.0500	-.0120	-.0030	.1110	.1390	.4510	.3690
225.000		.1580	.0440	-.0330	-.0410	-.0970	-.0950						.0100	.0870	.0350





AMES 87-707 IA9 C2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.470

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6900	.3510	.3020	.0030	.0120	.0320	.0050	-.0010	.0050	.0070	-.0060	-.0130	.0000	.2020	.1650
45.000		.1920	.1940	-.0350	-.0450	-.0410							.0600	.1370	.1480
90.000		.0820	.0820	-.0640	-.0750	-.0710	-.0740	-.0790	-.0660	-.0490	-.0430	-.0180	.0490	.0960	.0970
135.000		.0570	.0470	-.0710	-.0790	-.0670							-.0010	.0920	.0720
180.000	1.6900	.0450	.0220	-.0750	-.0710	-.0880	-.0620	-.0380	-.0150	-.0290	-.0470	.0210	.0110	.1180	.0580
225.000		.0760	.0460	-.0630	-.0710	-.0980	-.0160						-.0280	.0390	.0250
270.000		.1670	.1690	.3790	.1060	-.0400	-.0550	-.0450			-.0420	-.0480	.0000	.0470	.0390
315.000		.3310	.3210	.0420	.0850	.0480	.0170						-.0290	.0740	.0880

X/LS .9670

PHI	
.000	.1700
45.000	.1430
90.000	.0920
135.000	.1060
180.000	.0190
225.000	.0220
270.000	.0750
315.000	.2020

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.680

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5480	.3180	.2850	-.0120	-.0030	.0270	-.0020	-.0020	.0050	.0070	-.0120	-.0240	-.0240	.0920	.1380
45.000		.1530	.1550	-.0580	-.0650	-.0520							.0430	.1110	.0900
90.000		.0510	.0480	-.0860	-.0940	-.0780	-.0820	-.0850	-.0650	-.0630	-.0460	-.0140	.0520	.1050	.0880
135.000		.0350	.0150	-.0910	-.0940	-.0740							.0110	.1030	.0840
180.000	1.5480	.0270	.0160	-.0920	-.0770	-.0890	-.0840	-.0260	-.0170	-.0380	-.0600	.0070	.0030	.0790	.0440
225.000		.0600	-.0040	-.0840	-.0860	-.1050	-.0770						-.0330	.0330	.0380
270.000		.1550	.0680	.2780	.0740	-.0420	-.0520	-.0270			-.0630	-.0440	-.0060	.0470	.0220
315.000		.3070	.3170	.0180	.0710	.0440	.0170						-.0300	.1160	.1700

X/LS .9670

PHI	
.000	.1780
45.000	.0950
90.000	.0810
135.000	.0710
180.000	.0440

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS16)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.680

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0110

270.000 .0340

315.000 .5020

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.900

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.4150	.2850	.2700	-.0050	.0020	.0130	-.0030	.0090	.0150	.0090	-.0240	-.0280	-.0160	.1560	.2130
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45.000		.1200	.1260	-.0540	-.0620	-.0580							.0250	.0700	.0780
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90.000		.0270	.0200	-.0830	-.0870	-.0830	-.0820	-.0860	-.0780	-.0610	-.0410	-.0140	.0310	.1090	.0780
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135.000		.0110	.0070	-.0840	-.0810	-.0780							.0240	.0960	.0640
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180.000	1.4100	.0090	.0100	-.0850	-.0830	-.0890	-.0790	-.0020	-.0370	-.0500	-.0640	-.0090	-.0130	.0710	.0280
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225.000		.0700	-.0220	-.0780	-.0960	-.1050	-.0930					-.0680	-.0700	-.0310	.0080
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270.000		.2040	.0220	.2130	.0480	-.0450	-.0520	-.0210						-.0360	.1460
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315.000		.2840	.3280	.0020	.0480	.0360	.0230								.5920
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X/LS .9670

PHI

.000 .2680

45.000 .0910

90.000 .0630

135.000 .0410

180.000 .0310

225.000 -.0350

270.000 -.0410

315.000 .3280



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(R9NS17)

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.280

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	-.0800
45.000	-.0150
90.000	.1120
135.000	.1180
180.000	.4110
225.000	-.0650
270.000	.0820
315.000	-.0310

MACH ( 1 ) = 2.496

BETA ( 3 ) = -4.160

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.8380	.1270	.0760	-.1290	-.0780	-.0740	-.1070	-.1480	-.1210	-.1260	-.1350	-.1430	-.1210	-.0810	-.0650
45.000		.1770	.1570	-.1030	-.1060	-.0640							-.0860	-.0440	-.0320
90.000		.2570	.2660	-.0570	-.0560	-.0410	-.0470	-.0500	-.0810	-.1190	-.1240	-.1300	-.0970	.0310	.0510
135.000		.3900	.3910	-.0080	-.0010	.0200							-.0320	.1730	.1110
180.000	1.8380	.4740	.4260	.0150	.0710	.0830	.2060	.1320	.1160	.0430	.0870	.0350	-.0170	.1820	.0590
225.000		.3770	.5280	.1980	.1800	.0210	.1910						-.1070	.0070	-.0620
270.000		.1870	1.2020	.4300	.0030	-.1130	-.0180	-.0310			-.0100	-.1610	-.1350	-.0630	.0220
315.000		.1030	.2090	-.0540	-.1560	-.1990	-.1660						-.1070	.0810	.0280

X/LS .9670

PHI

.000	-.0740
45.000	-.0340
90.000	.0660
135.000	.0730
180.000	.3810
225.000	-.0760
270.000	.0890
315.000	.0340

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS17)

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6790	.0700	.0320	-.1360	-.0690	-.1060	-.1220	-.1230	-.1250	-.1380	-.1530	-.1100	-.0820	.0270	-.0970
45.000		.1050	.0940	-.1170	-.1210	-.0820								-.1050	-.0760
90.000		.1630	.1740	-.0860	-.0900	-.0890	-.0910	-.1090	-.1390	-.1410	-.1230	-.1370	-.1090	-.0500	-.0170
135.000		.2950	.2950	-.0410	-.0320	-.0190								-.1050	.0360
180.000	1.6790	.4150	.3830	.0020	.0420	.0520	.1480	.0580	.0720	.0180	.0510	-.0300	-.0820	.0720	-.0180
225.000		.3380	.5020	.1660	.1770	.0140	.1410						-.1220	-.0350	-.0490
270.000		.1490	1.0740	.4140	-.0110	-.1150	-.0090	-.0590			-.0040	-.1630	-.0780	.0170	.0710
315.000		.0580	.1090	-.0650	-.1660	-.2070	-.1810						-.0590	.0840	.0800

X/LS .9670

PHI	
.000	-.0930
45.000	-.0430
90.000	-.0010
135.000	-.0170
180.000	.3330
225.000	.1040
270.000	-.0920
315.000	.1350

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.330

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5380	.0280	.0040	-.1320	-.1000	-.1200	-.1230	-.0870	-.0400	-.0480	-.0440	-.0620	-.0530	.1790	.1950
45.000		.0530	.0480	-.1330	-.1300	-.0940								-.0650	.0460
90.000		.0940	.1050	-.1120	-.1150	-.1200	-.1100	-.1500	-.1610	-.1280	-.1100	-.1420	-.1000	-.0550	-.0380
135.000		.2220	.2290	-.0690	-.0590	-.0500								-.1120	-.0460
180.000	1.5380	.3660	.3830	.0280	.0530	.0320	.0850	.0560	.0290	-.0190	.0180	-.0850	-.1160	.0100	-.0690
225.000		.3150	.6300	.0720	.1220	.0410	.1420						-.1190	-.0250	.0130
270.000		.1260	.9790	.3840	-.0160	-.1240	-.0080	-.0760			-.0120	-.1440	-.0530	.0280	.0460
315.000		.0280	.1460	-.0750	-.1670	-.2080	-.1850						-.0870	.0220	.0440

X/LS .9670

PHI	
.000	.2020
45.000	-.0950
90.000	-.0450
135.000	.0380
180.000	.2920

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RENS17)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.330

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .2110  
225.000 .1090  
270.000 .0890  
315.000

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.470

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9544 .9386

PHI

.000 1.4800 .0110 .0070 -.1390 -.1190 -.1250 -.1150 -.0780 -.0190 -.0350 -.0470 -.0540 -.0500 .1940 .1070  
45.000 .0340 .0310 -.1420 -.1390 -.0960  
90.000 .0670 .0730 -.1300 -.1290 -.1210 -.1250 -.1590 -.1630 -.1390 -.1130 -.1150 -.0810 -.0310 -.0670  
135.000 .1890 .1970 -.0800 -.0760 -.0680  
180.000 1.4800 .3460 .3730 .0070 .0280 .0340 .0600 .0700 .0050 -.0420 .0070 -.1020 -.1250 -.0130 .0370  
225.000 .3030 .4400 .0340 .1540 .1220 .1070  
270.000 .1190 .6910 .3200 -.0080 -.0980 -.0260 -.0800  
315.000 .0180 .0200 -.0830 -.1690 -.2040 -.1890  
-.0960 .0020 .0100

X/LS .9670

PHI

.000 .1740  
45.000 -.0660  
90.000 -.0800  
135.000 .0370  
180.000 .2900  
225.000 .1300  
270.000 .1030  
315.000 .0520

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.600

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9544 .9386

PHI

.000 1.4170 .0020 .0050 -.1450 -.1180 -.1310 -.1150 -.0490 -.0150 -.0320 -.0380 -.0410 -.0520 .1540 .1710  
45.000 .0160 .0240 -.1380 -.1400 -.1050  
90.000 .0410 .0510 -.1350 -.1370 -.1280 -.1420 -.1580 -.1520 -.1340 -.1050 -.0820 -.0380 .0500 .0050  
135.000 .1610 .1800 -.0870 -.0860 -.0830  
180.000 1.4170 .3320 .3680 .0100 .1250 .0690 .1530 .0650 -.0160 -.0490 .0310 -.1100 -.1180 -.0100 .0410  
225.000 .3460 .4320 .0290 .1010 .1720 .0890  
-.1360 -.0580 .0270





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RDNS17)

MACH ( 2 ) = 2.999 BETAT ( 2 ) = -4.240

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CF													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0440	.1430	.0740	-.0880	-.0590	-.0490	-.0700	-.0860	-.1000	-.0910	-.1010	-.1100	-.1100	-.0840	-.0660
45.000		.1860	.1690	-.0530	-.0630	-.0390							-.0780	-.0430	-.0450
90.000		.2500	.2730	-.0220	-.0260	-.0230	-.0280	-.0310	-.0580	-.0780	-.0930	-.0960	-.0750	.0380	.0690
135.000		.3950	.3920	.0200	.0160	.0300							.0090	.2250	.1720
180.000	2.0440	.4940	.4200	.0300	.0660	.1040	.0480	.1260	.1320	.0730	.0400	.0760	.0360	.2900	.1300
225.000		.4130	.4110	.1150	.2660	.0500	.0370						-.0500	.0960	.0150
270.000		.2280	.7440	.5290	.1020	-.0560	-.0520	.0010			-.0330	-.1110	-.1120	-.0810	-.0920
315.000		.1350	.1060	.0030	-.0850	-.1360							-.0980	-.0130	-.0180

X/LS .9670

PHI	
.000	-.0770
45.000	-.0280
90.000	.0820
135.000	.1180
180.000	.0600
225.000	-.0240
270.000	-.0090
315.000	-.0250

MACH ( 2 ) = 2.999 BETAT ( 3 ) = .060

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CF													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8250	.0880	.0370	-.1060	-.0750	-.0800	-.0850	-.0880	-.1020	-.1040	-.1180	-.0970	-.0860	-.0640	-.0790
45.000		.1130	.1010	-.0820	-.0910	-.0490							-.0890	-.0660	-.0650
90.000		.1610	.1690	-.0600	-.0700	-.0620	-.0630	-.0670	-.0980	-.1170	-.1040	-.1010	-.0840	-.0420	-.0280
135.000		.2890	.2860	-.0220	-.0280	-.0190							-.0510	.0760	.0460
180.000	1.8250	.4230	.3650	.0050	.0430	.0760	.1610	.0610	.0710	.0240	.0170	.0300	-.0270	.1290	.0420
225.000		.3690	.3800	.0860	.2590	.0470	.1890						-.0850	.0170	-.0470
270.000		.1900	.5910	.4870	.0870	-.0600	-.0170	-.0130			-.0040	-.1040	-.1060	-.0750	-.0040
315.000		.0910	.0510	-.0330	-.0920	-.1400	-.1330						-.0790	.0500	.0250

X/LS .9670

PHI	
.000	-.0650
45.000	-.0590
90.000	-.0200
135.000	.0230
180.000	.0370

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS17)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .960

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0630  
270.000 .0450  
315.000 .0090

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.410

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.6070	.0360	.0070	-.1150	-.0930	-.0890	-.0950	-.0820	-.0670	-.0520	-.0540	-.0580	-.0590	.1320	.1540
45.000		.0550	.0480	-.1020	-.1070	-.0750							-.0710	-.0140	-.0640
90.000		.0870	.0890	-.0920	-.0970	-.0900	-.0960	-.1120	-.1260	-.1150	-.1050	-.1090	-.0750	-.0460	-.0380
135.000		.2060	.2040	-.0540	-.0560	-.0500							-.0850	-.0160	-.0330
180.000	1.6070	.3600	.3190	-.0080	.0180	.0280	.1280	.0390	.0610	.0040	-.0230	-.0200	-.0640	.0550	-.0040
225.000		.3250	.3650	.0710	.1100	.0280	.1330						-.0960	-.0170	-.0500
270.000		.1520	.5010	.4310	.0750	-.0710	-.0030	-.0350			-.0320	-.1150	-.0990	-.0570	.0030
315.000		.0530	.0000	-.0540	-.1000	-.1440	-.1400						-.0830	-.0020	.0190

X/LS .9670

PHI

.000 .1770  
45.000 -.0930  
90.000 -.0410  
135.000 -.0490  
180.000 .2400  
225.000 -.0300  
270.000 .0680  
315.000 .0680

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.760

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.4410	.0060	.0010	-.1090	-.1110	-.1110	-.0970	-.0590	-.0440	-.0350	-.0490	-.0360	-.0540	.0990	.1150
45.000		.0140	.0120	-.1090	-.1150	-.0880							-.0310	.0870	.1010
90.000		.0340	.0350	-.1090	-.1140	-.1030	-.1010	-.1200	-.1200	-.1130	-.0980	-.0730	-.0620	.0180	-.0100
135.000		.1450	.1450	-.0720	-.0750	-.0660							-.0890	-.0340	-.0630
180.000	1.4410	.3150	.3190	-.0010	.0150	.0240	.0820	.0720	.0070	-.0360	-.0390	-.0450	-.0620	.0640	-.0220
225.000		.2950	.3200	-.0160	.0400	.1480	.1110						-.1100	-.0660	-.0440



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS17)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.510

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	2.3890	.1830	.0990	-.0530	-.0300	-.0160	-.0430	-.0610	-.0740	-.0590	-.0650	-.0760	-.0690	-.0210	-.0550
45.000		.2260	.2090	-.0150	-.0280	-.0190							-.0560	-.0310	-.0190
90.000		.3040	.3220	.0230	.0110	.0050	-.0040	-.0060	-.0170	-.0320	-.0560	-.0650	-.0320	.0970	.1370
135.000		.4480	.4530	.0630	.0500	.0550							.0710	.3490	.2840
180.000	2.5890	.5530	.4490	.0570	.0790	.1030	.0590	.1730	.1520	.1090	.0560	.1460	.0890	.3840	.2420
225.000		.4630	.3730	.0890	.3410	.0760	.0310						-.0120	.1830	.0770
270.000		.2770	.7210	.5880	.1680	-.0210	-.0450	.0150				-.0260	-.0740	-.0870	-.0530
315.000		.1790	.0710	.0070	-.0350	-.0970	-.0940						-.0820	-.0250	-.0470

X/LS .9670

PHI	
.000	-.0420
45.000	-.0060
90.000	.1510
135.000	.2190
180.000	.1400
225.000	.0330
270.000	-.0240
315.000	-.0180

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.320

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	2.2570	.1510	.0860	-.0590	-.0400	-.0440	-.0570	-.0630	-.0760	-.0670	-.0750	-.0910	-.0820	-.0650	-.0570
45.000		.1850	.1710	-.0260	-.0390	-.0250							-.0640	-.0410	-.0330
90.000		.2500	.2680	.0020	-.0120	-.0140	-.0290	-.0220	-.0400	-.0540	-.0710	-.0720	-.0550	.0450	.0770
135.000		.3890	.3950	.0400	.0290	.0320							.0400	.2630	.2060
180.000	2.2570	.5330	.4210	.0450	.0650	.1010	.0430	.1500	.1150	.0820	.0280	.1060	.0720	.3550	.2050
225.000		.4520	.3540	.0730	.2800	.0700	.0200						-.0230	.1380	.0560
270.000		.2640	.4770	.5860	.1650	-.0260	-.0510	.0150				-.0360	-.0760	-.0880	-.0590
315.000		.1600	.0580	-.0090	-.0410	-.1010	-.0980						-.0300	-.0680	-.0230

X/LS .9670

PHI	
.000	-.0530
45.000	-.0220
90.000	.0920
135.000	.1600
180.000	.1120

AMES 87-707 1A9 O2A + S3 + T9 SRM BOOSTER

(RBNS17)

MACH ( 3) = 3.502

BETAT ( 3) = -4.320

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0110
270.000	-.0300
315.000	-.0040

MACH ( 3) = 3.502

BETAT ( 4) = .060

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.9640	.0960	.0410	-.0730	-.0600	-.0650	-.0640	-.0690	-.0730	-.0770	-.0890	-.0880	-.0850	-.0690	-.0610
45.000		.1150	.1050	-.0500	-.0600	-.0420							-.0750	-.0570	-.0630
90.000		.1600	.1660	-.0320	-.0450	-.0470	-.0540	-.0490	-.0780	-.0900	-.0870	-.0860	-.0740	-.0410	-.0240
135.000		.2840	.2880	.0020	-.0100	-.0110							-.0280	.1000	.0670
180.000	1.9640	.4320	.3610	.0240	.0450	.0680	.0270	.0840	.0640	.0370	.0210	.0440	.0090	.1600	.0840
225.000		.3870	.3250	.0520	.1050	.0610	.1880						-.0500	.0470	-.0080
270.000		.2130	.2760	.0520	.1420	-.0270	-.0310	.0100			-.0210	-.0740	-.0800	-.0480	-.0090
315.000		.1120	.0390	-.0380	-.0520	-.1020	-.1020						-.0620	.0450	.0390

X/LS .9670

PHI

.000	-.0550
45.000	-.0600
90.000	-.0200
135.000	.0480
180.000	.0300
225.000	-.0300
270.000	.0740
315.000	.0470

MACH ( 3) = 3.502

BETAT ( 5) = 4.490

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.6840	.0510	.0160	-.0760	-.0680	-.0700	-.0740	-.0730	-.0670	-.0460	-.0470	-.0510	-.0410	.1020	.1210
45.000		.0620	.0500	-.0640	-.0720	-.0590							-.0650	-.0370	-.0690
90.000		.0870	.0860	-.0570	-.0650	-.0680	-.0760	-.0860	-.0920	-.0980	-.0840	-.0830	-.0680	-.0540	-.0590
135.000		.1980	.2020	-.0240	-.0330	-.0370							-.0620	.0100	-.0070
180.000	1.6840	.3600	.3100	.0130	.0260	.0260	.1440	.0440	.0380	.0100	-.0150	-.0010	-.0230	.0760	.0300
225.000		.3370	.3400	.1030	.1040	.0280	.1440						-.0630	.0060	-.0200

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS17)

MACH ( 5 ) = 3.502                      BETAT ( 5 ) = 4.490

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.1730	.2300	.4470	.1190	-.0400	.0030	-.0010			-.0170	-.0770	-.0740	-.0480	-.0130
315.000		.0750	.0250	-.0530	-.0590	-.1020	-.1010						-.0580	.0160	.0350

X/LS                      .9670

PHI

.000	.1330
45.000	-.0780
90.000	-.0620
135.000	-.0220
180.000	.0450
225.000	-.0340
270.000	.0210
315.000	.0440

MACH ( 3 ) = 3.502                      BETAT ( 6 ) = 6.700

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5480	.0350	.0080	-.0750	-.0740	-.0880	-.0810	-.0680	-.0610	-.0260	-.0380	-.0470	-.0420	.0690	.0800
45.000		.0390	.0300	-.0710	-.0750	-.0670								-.0530	.0250
90.000		.0590	.0540	-.0670	-.0750	-.0750	-.0760	-.0870	-.0900	-.0890	-.0850	-.0800	-.0630	-.0400	-.0210
135.000		.1610	.1620	-.0370	-.0470	-.0470							-.0650	-.0040	-.0250
180.000	1.5480	.3280	.2880	.0090	.0210	.0290	.1220	.0310	.0300	-.0050	-.0280	-.0170	-.0240	.0900	.0120
225.000		.3160	.3820	.0390	.0760	.0540	.1310						-.0600	.0070	-.0370
270.000		.1580	.1170	.3090	.0800	-.0350	.0110	-.0160			-.0270	-.0780	-.0730	-.0510	-.0230
315.000		.0610	.0230	-.0590	-.0680	-.1020	-.1010						-.0620	.0080	.0280

X/LS                      .9670

PHI

.000	.0880
45.000	-.0460
90.000	-.0350
135.000	-.0440
180.000	.0000
225.000	-.0330
270.000	.0150
315.000	.0310

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS17)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.910

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4260	.0160	.0010	-.0770	-.0800	-.0910	-.0800	-.0650	-.0530	-.0320	-.0470	-.0440	-.0410	.0740	.0720
45.000		.0180	.0140	-.0770	-.0830	-.0740								-.0250	.0760
90.000		.0340	.0300	-.0770	-.0840	-.0820	-.0820	-.0900	-.0920	-.0880	-.0850	-.0580	-.0500	-.0280	-.0200
135.000		.1310	.1350	-.0490	-.0570	-.0540								-.0670	-.0170
180.000	1.4260	.2970	.2660	.0060	.0220	.0230	.0910	.0510	.0160	-.0290	-.0360	-.0140	-.0320	.0520	-.0160
225.000		.2890	.3980	.0300	.0560	.0440	.1060							-.0750	-.0440
270.000		.1400	.0750	.2620	.0590	-.0420	.0260	-.0070			-.0350	-.0720	-.0670	-.0120	-.0210
315.000		.0450	.0050	-.0650	-.0790	-.1040	-.1010						-.0560	.0100	.0100

X/LS .9670

PHI	
.000	.0480
45.000	.0610
90.000	-.0300
135.000	-.0570
180.000	.1300
225.000	.0430
270.000	-.0150
315.000	.0160

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS18) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.420

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	2.0270	.2560	.1870	-.0750	-.0390	-.0190	-.0650	-.1050	-.0440	-.0350	-.0500	-.0540	-.0250	-.0020	.0240
45.000		.3250	.3020	-.0330	-.0380	.0000							.0020	.0870	.1520
90.000		.3960	.4110	.0130	.0150	.0280	.0330	.0320	.0540	.0110	-.0200	-.0120	.0310	.2560	.2690
135.000		.4460	.4390	.0220	.0300	.0570							.0990	.3810	.2860
180.000	2.0270	.4330	.3660	-.0020	.0400	.0730	.0000	.1530	.1930	.1010	.2210	.1570	.0610	.3080	.1540
225.000		.3400	.4030	.2090	.1050	-.0420	-.0400						-.0810	.0510	-.0140
270.000		.2340	1.2550	.4780	.0000	-.1510	-.1270	-.0170			.1020	-.1450	-.1310	-.0680	.0800
315.000		.2110	.3010	.0550	-.0820	-.1810	-.1320						-.0940	.0370	.0220

X/LS .9670

PHI

.000 .0130  
 45.000 .1540  
 90.000 .2590  
 135.000 .2100  
 180.000 .0630  
 225.000 -.0650  
 270.000 .1520  
 315.000 .0570

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.9560	.2230	.1590	-.0990	-.0750	-.0300	-.0770	-.1050	-.0540	-.0390	-.0560	-.0640	-.0310	.0030	.0130
45.000		.2790	.2600	-.0650	-.0640	-.0170							.0040	.0880	.1400
90.000		.3400	.3460	-.0250	-.0140	-.0010	.0110	.0090	.0220	-.0130	-.0570	-.0350	.0010	.2110	.2260
135.000		.3910	.3870	-.0090	-.0030	.0300							.0650	.3280	.2350
180.000	1.9560	.3990	.3330	-.0250	.0260	.0540	-.0080	.1190	.1500	.0720	.1070	.1050	.0360	.2690	.1240
225.000		.3200	.3800	.2040	.1010	-.0460	-.0220						-.0890	.0350	-.0430
270.000		.2160	1.1730	.4690	.0010	-.1480	-.1190	-.0380			.0560	-.1390	-.1230	-.0640	.0460
315.000		.2880	.2140	.0410	-.0860	-.1850	-.1360						-.1010	-.0250	-.0140

X/LS .9670



AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS18)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.350

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.0180
45.000	.1430
90.000	.2160
135.000	.1780
180.000	.0280
225.000	-.0760
270.000	.1710
315.000	.0310

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.100

SECTION ( 1 )SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8870	.1870	.1340	-.1070	-.0890	-.0490	-.0850	-.1040	-.0550	-.0410	-.0570	-.0690	-.0280	.0160	.0310
45.000		.2340	.2140	-.0790	-.0760	-.0330							.0060	.0830	.1390
90.000		.2850	.2890	-.0430	-.0410	-.0250	-.0140	-.0170	-.0090	-.0430	-.0560	-.0690	-.0370	.1570	.1700
135.000		.3430	.3360	-.0280	-.0250	.0010							.0260	.2700	.1850
180.000	1.8870	.3660	.3130	-.0350	.0050	.0310	-.0180	.0830	.1100	.0420	.0430	.0590	.0020	.2220	.0870
225.000		.3010	.3850	.1520	.0990	-.0490	.0820						-.1030	.0120	-.0580
270.000		.1980	1.0620	.4630	-.0040	-.1500	-.1160	-.0590			.0320	-.1500	-.1230	-.0840	.0390
315.000		.1610	.1900	.0330	-.0920	-.1910	-.1490						-.1040	-.0270	-.0190

X/LS .9670

PHI

.000	.0490
45.000	.1470
90.000	.1710
135.000	.1370
180.000	.0010
225.000	-.0900
270.000	.1420
315.000	.0350

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS18)

MACH ( 1 ) = 2.499                      BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7310	.1310	.1000	-.1140	-.0730	-.0800	-.0900	-.0620	-.0180	.0010	-.0300	-.0440	.0330	.0910	.0860
45.000		.1560	.1470	-.0960	-.0930	-.0530							.0420	.0910	.1360
90.000		.1900	.1980	-.0750	-.0750	-.0590	-.0400	-.0190	-.0420	-.0800	-.0870	-.0650	.0240	.1540	.1590
135.000		.2520	.2490	-.0590	-.0490	-.0350							-.0460	.1530	.0920
180.000	1.7310	.3110	.2750	-.0430	-.0070	.0150	.1310	.0420	.0830	-.0040	-.0230	-.0030	-.0550	.1210	.0080
225.000		.2690	.3740	.0810	.1070	-.0500	.1030						-.1060	-.0130	-.0050
270.000		.1660	.8290	.4520	-.0020	-.1460	-.0730	-.0710			.0050	-.1000	-.0460	.1320	.0340
315.000		.1240	.1700	.0110	-.0930	-.1860	-.1400						-.0580	.0450	.0520

X/LS                      .9670

PHI	
.000	.0790
45.000	.1460
90.000	.1560
135.000	.0430
180.000	.1700
225.000	-.0030
270.000	.0770
315.000	.1100

MACH ( 1 ) = 2.498                      BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5960	.0870	.0830	-.1220	-.1050	-.0980	-.1050	-.0340	.0010	.0000	-.0240	-.0290	-.0080	.1790	.1430
45.000		.0950	.0950	-.1230	-.1110	-.0780							-.0030	.1540	.1170
90.000		.1170	.1280	-.1090	-.1110	-.0820	-.0660	-.0510	-.0650	-.0650	-.0610	-.0470	.0270	.0810	.0930
135.000		.1770	.1810	-.0930	-.0870	-.0620							-.0600	.0600	.0250
180.000	1.5960	.2600	.2450	-.0630	-.0360	-.0120	.0780	.0110	.0060	-.0480	-.0280	-.0740	-.1020	.0210	-.0500
225.000		.2400	.3320	.1070	.1200	-.0400	.0740						-.1160	-.0080	.0140
270.000		.1390	.7870	.4160	.0020	-.1390	-.0670	-.0800			-.0300	-.1140	-.0800	.0290	.0310
315.000		.0930	.1400	-.0340	-.0870	-.1820	-.1280						-.1000	.0030	-.0020

X/LS                      .9670

PHI	
.000	.1260
45.000	.1180
90.000	.0870
135.000	-.0020
180.000	.2570

AMES 87-707 IA9' O2A + S3 + T9 SRM BOOSTER

(RBNS18)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .2050  
270.000 .1600  
315.000 .0010

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1158	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5440	.0680	.0720	-.1250	-.1050	-.1060	-.1130	-.0280	.0010	-.0080	-.0230	-.0200	.0010	.1940	.1790
45.000		.0690	.0760	-.1210	-.1110	-.0870							.0270	.2830	.2540
90.000		.0860	.0980	-.1150	-.1150	-.0910	-.0680	-.0640	-.0660	-.0860	-.0910	-.0480	.0190	.0810	.0670
135.000		.1470	.1580	-.0940	-.0950	-.0870							-.0270	.0330	-.0070
180.000	1.5440	.2440	.2600	-.0540	-.0270	-.0180	.0540	.0530	-.0180	-.0670	-.0200	-.0930	-.1090	.0070	-.0450
225.000		.2420	.3480	-.0030	.0640	-.0290	.0650						-.1110	-.0100	.0390
270.000		.1890	.5250	.3410	-.0040	-.1410	-.0580	-.0730			-.0240	-.1290	-.0920	-.0080	.0920
315.000		.0970	.1340	-.0460	-.0770	-.1620	-.1140						-.1210	-.0440	-.0650

X/LS .9670

PHI

.000 .1620  
45.000 .1910  
90.000 .0640  
135.000 .0580  
180.000 .2960  
225.000 .0430  
270.000 .1560  
315.000 .2290

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1136	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4820	.0530	.0710	-.1270	-.1140	-.1050	-.1140	-.0320	-.0080	-.0190	-.0230	-.0220	-.0070	.2140	.1820
45.000		.0460	.0560	-.1400	-.1320	-.0950							.0470	.2520	.2350
90.000		.0610	.0720	-.1360	-.1340	-.1050	-.0580	-.0730	-.0890	-.1230	-.1000	-.0510	.0110	.1200	-.0030
135.000		.1210	.1300	-.1160	-.1160	-.0970							-.0080	.0360	-.0120
180.000	1.4820	.2270	.2660	-.0540	-.0320	-.0200	.0360	.0360	-.0480	-.0840	.0050	-.1030	-.1100	.0090	.1540
225.000		.2360	.2820	-.0510	.0670	-.0010	.0720						-.1120	-.0300	.0220





AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS18)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0410  
270.000 .0650  
315.000 .0490

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.390

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6730 .0910 .0610 -.1030 -.0920 -.0680 -.0830 -.0610 -.0270 -.0050 -.0210 -.0330 -.0210 .1580 .1270  
45.000 .0870 .0830 -.0890 -.0960 -.0640  
90.000 .1030 .1090 -.0820 -.0900 -.0690 -.0640 -.0380 -.0640 -.0780 -.0770 -.0550 -.0090 .0350 .0500  
135.000 .1600 .1590 -.0700 -.0830 -.0640  
180.000 1.6730 .2560 .2170 -.0530 -.0270 .0060 .1030 -.0020 .0290 -.0220 -.0500 -.0330 -.0590 .0580 -.0120  
225.000 .2520 .2300 -.0050 .1190 -.0110 .1050  
270.000 .1620 .1810 .4050 .0850 -.0810 -.0590 -.0470 -.0340 -.0790 -.0700 .0050 -.0160  
315.000 .1120 .0970 -.0570 -.0350 -.1190 -.1200 -.0780 .0150 .0110

X/LS .9670

PHI

.000 .1130  
45.000 .1570  
90.000 .0610  
135.000 -.0050  
180.000 .0010  
225.000 -.0320  
270.000 .0810  
315.000 -.0030

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.720

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5160 .0600 .0590 -.0990 -.1000 -.0900 -.0940 -.0490 -.0190 -.0230 -.0410 -.0320 -.0240 .1770 .1540  
45.000 .0430 .0450 -.1050 -.1060 -.0830  
90.000 .0520 .0590 -.1000 -.1070 -.0880 -.0760 -.0720 -.1000 -.1040 -.0810 -.0410 -.0070 .0630 .0020  
135.000 .1080 .1020 -.0890 -.0970 -.0800  
180.000 1.5160 .2210 .2380 -.0440 -.0320 -.0200 .0720 .0240 -.0140 -.0630 -.0700 -.0600 -.0690 .0380 -.0350  
225.000 .2300 .3230 -.0820 -.0380 .0020 .0740 -.1050 -.0390 .0120







AMES 87-707 IA9 CPA + S3 + T9 SRM BOOSTER

(RDNS18)

MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI  
225.000 .0140  
270.000 .0480  
315.000 .0020

MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI  
.000 2.0270 .1500 .0960 -.0530 -.0420 -.0540 -.0500 -.0480 -.0400 -.0340 -.0290 -.0380 -.0280 .0700 .0780  
45.000 .1500 .1420 -.0340 -.0450 -.0320  
90.000 .1720 .1820 -.0210 -.0310 -.0330 -.0290 -.0250 -.0330 -.0450 -.0610 -.0670 -.0310 .0330 .0730  
135.000 .2350 .2390 -.0090 -.0240 -.0240  
180.000 2.0270 .3230 .2630 -.0090 .0050 .0010 -.0080 .0780 .0470 .0290 -.0060 .0550 .0100 .1740 .0780  
225.000 .3110 .2400 .0110 .0050 .0100 -.0250  
270.000 .2200 .2540 .5070 .1440 -.0460 -.0710 -.0250  
315.000 .1680 .0960 -.0270 -.0020 -.0820 -.0920  
-0.0510 .0430 -0.0100  
-0.0590 -0.0660 .0430

X/LS .9670

PHI  
.000 .0800  
45.000 .0930  
90.000 .0800  
135.000 .0850  
180.000 .0340  
225.000 -.0400  
270.000 .0370  
315.000 .0250

MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.470

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI  
.000 1.7590 .0990 .0690 -.0640 -.0600 -.0560 -.0660 -.0600 -.0330 -.0180 -.0160 -.0230 -.0230 .1250 .1050  
45.000 .0870 .0830 -.0540 -.0640 -.0510  
90.000 .0990 .1040 -.0490 -.0590 -.0540 -.0550 -.0380 -.0600 -.0710 -.0740 -.0510 -.0330 .0030 .0130  
135.000 .1560 .1580 -.0390 -.0520 -.0480  
180.000 1.7590 .2630 .2200 -.0250 -.0140 .0140 -.0100 .0220 .0080 -.0090 -.0370 -.0200  
225.000 .2690 .2360 .0190 .0550 .0080 .0970  
-0.0180 .0180 .0250  
-0.0610 .0060 .0050

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS18)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.470

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

270.000	.1820	.1660	.3710	.1160	-.0480	-.0560	-.0220				-.0220	-.0590	-.0560	-.0050	.0000
315.000	.1290	.0900	-.0400	-.0330	-.0830	-.0930							-.0590	.0160	.0100

X/LS .9670

PHI

.000	.0890
45.000	.1000
90.000	.0290
135.000	-.0140
180.000	-.0220
225.000	-.0210
270.000	.0060
315.000	.0450

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.6330	.0780	.0660	-.0600	-.0660	-.0730	-.0730	-.0570	-.0260	-.0140	-.0320	-.0300	-.0260	.1120	.1110
45.000		.0630	.0590	-.0620	-.0690	-.0610							-.0150	.1910	.1850
90.000		.0720	.0720	-.0570	-.0670	-.0620	-.0610	-.0570	-.0740	-.0780	-.0750	-.0570	-.0150	.0300	.0140
135.000		.1250	.1250	-.0500	-.0570	-.0600							-.0350	.0130	-.0130
180.000	1.6330	.2320	.2130	-.0220	-.0170	-.0080	.0730	.0040	.0060	-.0260	-.0540	-.0240	-.0290	.0670	-.0040
225.000		.2460	.2720	-.0050	.0170	.0000	.0880						-.0640	.0050	-.0220
270.000		.1640	.0950	.2980	.0650	-.0590	-.0430	-.0220			-.0300	-.0630	-.0580	-.0010	.0000
315.000		.1140	.0530	-.0490	-.0530	-.0870	-.0880						-.0550	.0000	-.0100

X/LS .9670

PHI

.000	.0850
45.000	.1510
90.000	.0090
135.000	-.0290
180.000	-.0370
225.000	.0220
270.000	.0110
315.000	.0680



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BRFP = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0390	.3320	.2600	-.0560	-.0210	.0230	-.0400	-.0670	.0310	.0070	-.0010	-.0200	.0110	.1190	.1370
45.000		.3770	.3620	-.0150	-.0130	.0280							.1120	.2930	.3310
90.000		.3970	.4140	.0090	.0130	.0290	.0400	.0460	.0320	.0540	.0440	.0830	.2010	.4650	.4450
135.000		.3860	.3700	-.0130	-.0100	.0260							.2050	.4950	.3800
180.000	2.0390	.3390	.2670	-.0500	-.0060	.0260	-.0370	.0400	.1570	.1030	.1570	.2020	.1060	.3680	.1710
225.000		.2770	.3020	.1240	.0180	-.0960	-.0940						-.0630	.0610	-.0110
270.000		.2410	1.1570	.4740	.0030	-.1600	-.0830	.0810			.1030	-.1320	-.0730	-.0230	.0960
315.000		.2700	.2980	.1240	.0070	-.0970	-.0920						-.0470	.0160	.0410

X/LS .9670

PHI

.000 .1310  
 45.000 .3270  
 90.000 .3970  
 135.000 .2650  
 180.000 .0820  
 225.000 -.0600  
 270.000 .1890  
 315.000 .0880

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9720	.2990	.2310	-.0690	-.0370	.0060	-.0500	-.0650	.0150	.0050	-.0020	-.0220	.0180	.1220	.1490
45.000		.3290	.3190	-.0370	-.0370	.0090							.1140	.2880	.3250
90.000		.3450	.3590	-.0190	-.0150	.0040	.0230	.0270	.0170	.0380	.0290	.0660	.1900	.4200	.4070
135.000		.3440	.3270	-.0360	-.0180	.0100							.1710	.4590	.3320
180.000	1.9720	.3130	.2380	-.0650	-.0170	.0140	-.0460	.0630	.1260	.0730	.0690	.1430	.0770	.3250	.1550
225.000		.2590	.2620	.1200	.0190	-.0990	-.0990						-.0780	.0470	-.0220
270.000		.2190	1.0450	.4740	.0070	-.1600	-.0990	.0490			.0470	-.1400	-.0810	-.0380	.0850
315.000		.2460	.2620	.1180	.0030	-.1060	-.0990						-.0590	.0010	.0400

X/LS .9670

AMES 87-707 IA9 Q2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.310

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000 .1430  
 45.000 .3120  
 90.000 .3640  
 135.000 .2460  
 180.000 .0610  
 225.000 -.0680  
 270.000 .1600  
 315.000 .1070

MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.180

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.9020	.2640	.2050	-.0730	-.0430	-.0160	-.0600	-.0730	.0000	.0040	-.0070	-.0270	.0200	.1270	.1560
45.000		.2860	.2710	-.0500	-.0480	-.0120							.1230	.2730	.3040
90.000		.2940	.2990	-.0330	-.0330	-.0180	-.0030	.0030	.0170	.0210	.0140	.0450	.1580	.3810	.3720
135.000		.2940	.2830	-.0460	-.0360	-.0130							.1330	.4070	.2850
180.000	1.9020	.2780	.2210	-.0670	-.0350	-.0070	-.0540	.0730	.0920	.0540	.0390	.0900	.0440	.2940	.1330
225.000		.2370	.2460	.1200	.0160	-.1070	-.1060						-.0890	.0310	-.0440
270.000		.2000	.8980	.4730	.0020	-.1640	-.1030	.0130			.0140	-.1490	-.0760	-.0650	.0660
315.000		.2220	.2330	.1140	.0030	-.1140	-.1060						-.0480	.0060	.0510

X/LS .9670

PHI

.000 .1540  
 45.000 .2920  
 90.000 .3310  
 135.000 .2150  
 180.000 .0320  
 225.000 -.0780  
 270.000 .1920  
 315.000 .1140

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 1 ) = 2.499

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.7600	.2030	.1650	-.0950	-.0680	-.0470	-.0730	-.0530	.0090	.0090	.0020	-.0150	.0570	.1490	.1730
45.000		.1960	.1910	-.0870	-.0840	-.0490							.1360	.2220	.2520
90.000		.1950	.2050	-.0760	-.0780	-.0490	-.0290	-.0180	-.0010	.0100	.0030	.0420	.1480	.3230	.3190
135.000		.2030	.2000	-.0840	-.0770	-.0550							.0760	.3170	.2200
180.000	1.7600	.2190	.1760	-.0920	-.0610	-.0400	-.0700	.0260	.0780	.0050	.0010	.0380	-.0070	.1870	.0670
225.000		.1990	.2490	-.0080	.0160	-.1090	-.0300						-.0980	-.0070	.0030
270.000		.1670	.7500	.4550	.0030	-.1630	-.0670	-.0260			-.0160	-.0810	-.0170	.1120	.0530
315.000		.1880	.2300	-.0080	.0020	-.1180	-.1100						-.0060	.0670	.1280

X/LS .9670

PHI

.000	.1710
45.000	.2540
90.000	.2840
135.000	.1420
180.000	-.0150
225.000	-.0080
270.000	.2100
315.000	.1200

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.300

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.6250	.1630	.1650	-.0890	-.0710	-.0590	-.0810	-.0230	.0060	-.0020	-.0170	-.0300	.0790	.2160	.2230
45.000		.1340	.1400	-.1010	-.0940	-.0750							.1500	.2560	.2330
90.000		.1300	.1400	-.0970	-.0960	-.0690	-.0440	.0020	.0060	.0080	-.0090	.0130	.1250	.2010	.2170
135.000		.1390	.1460	-.1010	-.0870	-.0790							.0480	.2030	.1290
180.000	1.6250	.1710	.1750	-.0860	-.0630	-.0530	.0940	-.0060	.0120	-.0430	-.0100	-.0220	-.0510	.0870	.0170
225.000		.1710	.2420	.0020	.0280	-.1010	.0490						-.0570	.0490	.0130
270.000		.1450	.5030	.3700	-.0040	-.1510	-.0030	-.0390			-.0290	-.0960	-.0120	.0360	.0100
315.000		.1630	.2280	-.0060	.0110	-.1090	-.0900						-.0400	.0660	.1180

X/LS .9670

PHI

.000	.2050
45.000	.2210
90.000	.2000
135.000	.0710
180.000	.0950

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 1) = 2.499

BETAT ( 5) = 4.300

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1730  
270.000 .1260  
315.000 .1750

MACH ( 1) = 2.499

BETAT ( 6) = 6.430

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5710 .1440 .1690 -.0990 -.0870 -.0710 -.0850 -.0180 -.0050 -.0100 -.0150 -.0210 .0660 .2050 .1970  
45.000 .1100 .1180 -.1170 -.1140 -.0810 .1360 .2510 .2390  
90.000 .1000 .1090 -.1140 -.1170 -.0760 -.0430 -.0030 .0080 -.0010 -.0230 .0030 .1040 .2070 .1880  
135.000 .1150 .1160 -.1150 -.1060 -.0850 .0330 .1500 .0910  
180.000 1.5710 .1580 .1680 -.1010 -.0830 -.0570 .0440 .0410 -.0200 -.0650 .0200 -.0440 -.0620 .0590 -.0010  
225.000 .1640 .2200 .0250 .0330 -.0920 .0370 .0620 .0250 .0200  
270.000 .1500 .2570 .3040 -.0100 -.1470 .0050 -.0130 -.0220 -.1090 -.0390 .0190 .0280  
315.000 .1520 .2030 -.0040 .0090 -.1030 -.0660 .0770 .0360 .0810

X/LS .9670

PHI

.000 .2000  
45.000 .2150  
90.000 .1670  
135.000 .0420  
180.000 .2370  
225.000 .0770  
270.000 .0930  
315.000 .4240

MACH ( 1) = 2.498

BETAT ( 7) = 8.550

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5120 .1300 .1640 -.1040 -.0910 -.0810 -.0840 -.0280 -.0190 -.0190 -.0160 -.0130 .0260 .1790 .1480  
45.000 .0820 .1040 -.1240 -.1290 -.0940 .1250 .2100 .2090  
90.000 .0720 .0820 -.1270 -.1270 -.0900 -.0460 -.0040 .0080 -.0130 -.0270 .0000 .0340 .3170 .2200  
135.000 .0890 .0970 -.1270 -.1240 -.0940 .0370 .1130 .0610  
180.000 1.5120 .1420 .1780 -.0930 -.0630 -.0680 .0270 .0300 -.0480 -.0780 .0570 -.0770 -.0600 .0490 .0310  
225.000 .1640 .2280 -.0160 -.0080 -.1020 .0270 .0630 .0060 .0060 .0330

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 1 ) = 2.498

BETAT ( ? ) = 8.550

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000		.2120	.4200	.2660	-.0110	-.1490	.0290	-.0050			-.0150	-.1130	-.0550	-.0150	.0330
315.000		.1600	.1800	-.0130	-.0150	-.0980	-.0160					-.1080	.0230	.0230	.2420

X/LS .9670

PHI

.000	.1940
45.000	.1870
90.000	.1750
135.000	.0200
180.000	.2070
225.000	.0150
270.000	-.0180
315.000	.3560

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.580

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2940	.3420	.2510	-.0340	-.0030	.0170	-.0020	-.0240	.0130	.0190	-.0100	-.0160	.0200	.1290	.1500
45.000		.3720	.3600	.0130	.0040	.0360							.0870	.2540	.2970
90.000		.3820	.4000	.0310	.0260	.0390	.0430	.0440	.0300	.0510	.0400	.0580	.1520	.4180	.4690
135.000		.3760	.3680	.0130	.0070	.0350							.2060	.5670	.4620
180.000	2.2940	.3500	.2570	-.0290	.0110	.0150	-.0010	-.0180	.1190	.1020	.0710	.2210	.1240	.4680	.3070
225.000		.3040	.2340	.0570	.0880	-.0510	-.0730						-.0250	.1730	.0520
270.000		.2720	.7490	.5660	.1080	-.0900	-.0780	.0450			.0040	-.0820	-.0580	.0010	.0080
315.000		.2980	.2270	.0610	.0780	-.0550	-.0740						-.0530	.0140	-.0080

X/LS .9670

PHI

.000	.1500
45.000	.3000
90.000	.4410
135.000	.3440
180.000	.1650
225.000	.0130
270.000	.2810
315.000	.0220





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 -.0110

270.000 .0990

315.000 .0940

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.380

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6960 .1570 .1390 -.0730 -.0650 -.0560 -.0680 -.0550 -.0160 -.0100 -.0190 -.0410 .0060 .1520 .1920

45.000 .1160 .1170 -.0810 -.0890 -.0620 .0420 .2180 .1980

90.000 .1070 .1150 -.0770 -.0830 -.0590 -.0440 -.0230 -.0210 -.0070 -.0140 -.0050 .0830 .1420 .1650

135.000 .1240 .1190 -.0800 -.0830 -.0690 .0520 .1630 .1080

180.000 1.6960 .1730 .1480 -.0700 -.0490 -.0440 -.0550 -.0020 .0130 -.0320 -.0550 -.0050 -.0260 .0940 .0190

225.000 .1860 .1700 -.0430 .0180 -.0570 .0120 -.0720 .0330 -.0060

270.000 .1650 .1680 .3570 .0560 -.0940 -.0580 -.0310 -.0430 -.0760 -.0280 .0050 -.0100

315.000 .1730 .1560 -.0490 -.0190 -.0710 -.0810 -.0470 .0330 .0660

X/LS .9670

PHI

.000 .1770

45.000 .1840

90.000 .1590

135.000 .0730

180.000 -.0210

225.000 .0150

270.000 .0620

315.000 .1200

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.710

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.5420 .1240 .1330 -.0770 -.0790 -.0670 -.0750 -.0450 -.0340 -.0310 -.0260 -.0310 2.6900 2.7710 .0970

45.000 .0680 .0740 -.0980 -.1040 -.0810 2.6650 2.7560 .1810

90.000 .0590 .0640 -.0940 -.1020 -.0770 -.0550 -.0140 -.0130 -.0200 -.0310 .0030 2.7100 2.7310 .1870

135.000 .0760 .0690 -.0980 -.1000 -.0820 2.8360 2.8110 .0310

180.000 1.5420 .1380 .1500 -.0620 -.0570 -.0700 .0220 .0030 -.0270 -.0720 -.0750 2.6440 2.8680 2.8180 -.0150

225.000 .1660 .2500 -.0390 -.0590 -.0770 .0280 2.8860 2.8450 .0410





AMES 87-707 IA9 O2A + O3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 3) = 3.502

BETAT ( 3) = -4.340

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0130
270.000	.0180
315.000	.0320

MACH ( 3) = 3.502

BETAT ( 4) = .060

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0510	.2170	.1630	-.0450	-.0340	-.0280	-.0320	-.0420	-.0160	-.0060	-.0110	-.0200	-.0100	.1320	.1700
45.000		.1830	.1810	-.0290	-.0420	-.0280							.0570	.1290	.1400
90.000		.1740	.1850	-.0240	-.0360	-.0280	-.0180	-.0120	-.0050	-.0070	-.0100	-.0180	.0590	.2010	.2370
135.000		.1900	.1850	-.0280	-.0400	-.0300							.0470	.2980	.2340
180.000	2.0510	.2340	.1730	-.0400	-.0230	-.0270	-.0330	.0060	.0290	.0220	-.0050	.0410	.0380	.2360	.1060
225.000		.2420	.2000	-.0190	-.0070	-.0360	-.0650						-.0420	.0630	.0030
270.000		.2210	.2250	.4280	.1220	-.0550	-.0760	-.0180			-.0200	-.0470	-.0350	.0240	-.0210
315.000		.2290	.1690	-.0200	.0160	-.0430	-.0710						-.0330	.0240	.0270

X/LS .9670

PHI

.000	.1660
45.000	.1590
90.000	.2390
135.000	.1800
180.000	.0510
225.000	-.0200
270.000	.0190
315.000	.0520

MACH ( 3) = 3.502

BETAT ( 5) = 4.460

SECTION ( 1) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7850	.1600	.1450	-.0370	-.0420	-.0510	-.0590	-.0590	-.0280	-.0160	-.0200	-.0280	-.0090	.1020	.1550
45.000		.1110	.1090	-.0480	-.0590	-.0530							.0110	.1650	.1480
90.000		.1000	.1050	-.0430	-.0540	-.0520	-.0420	-.0330	-.0190	-.0160	-.0190	-.0210	.0510	.1040	.1260
135.000		.1180	.1210	-.0480	-.0570	-.0530							.0200	.1270	.0820
180.000	1.7850	.1760	.1650	-.0350	-.0410	-.0480	-.0520	.0120	.0120	-.0140	-.0430	-.0020	-.0160	.0810	.0230
225.000		.2010	.1730	-.0400	-.0560	-.0460	-.0440						-.0490	.0390	-.0030



## AMES 87-7D7 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS19)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.860

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5310	.1160	.1280	-.0510	-.0640	-.0640	-.0660	-.0430	-.0250	-.0350	-.0320	-.0290	-.0130	.0750	.0970
45.000		.0580	.0610	-.0710	-.0810	-.0690							-.0070	.1520	.1280
90.000		.0470	.0500	-.0660	-.0760	-.0650	-.0550	-.0290	-.0270	-.0320	-.0340	-.0300	-.0010	.1750	.1550
135.000		.0620	.0610	-.0690	-.0770	-.0700							-.0010	.0560	.0230
180.000	1.5310	.1300	.1350	-.0510	-.0540	-.0610	.0100	-.0170	-.0310	-.0540	-.0570	-.0250	-.0380	.0420	-.0300
225.000		.2080	.1020	-.0660	-.0680	-.0450	.0720						-.0720	-.0240	.0110
270.000		.2310	.0210	.1670	-.0010	-.0760	-.0160	-.0340			-.0470	-.0700	-.0600	-.0310	-.0270
315.000		.1740	.1180	-.0650	-.0690	-.0530	-.0560						-.0560	.0540	.1750

X/LS .9670

## PHI

.000	.1270
45.000	.0990
90.000	.1070
135.000	.0070
180.000	.0770
225.000	.0050
270.000	-.0320
315.000	.1150

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 4.000 CRBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUOFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.410

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0250	.4270	.3570	-.0160	.0260	.0750	.0000	-.0060	.0390	.0520	.0470	.0270	.1380	.2530	.2640
45.000		.4350	.4260	.0110	.0140	.0540							.2900	.4220	.4390
90.000		.3860	.3990	.0000	.0030	.0240	.0230	.0280	.0090	.0530	.0620	.1500	.3320	.4620	.4890
135.000		.3220	.2980	-.0470	-.0430	-.0120							.1790	.5560	.4720
180.000	2.0250	.2550	.1780	-.0870	-.0520	-.0170	-.0650	-.0270	.0520	.0670	.2350	.2160	.1310	.4290	.2250
225.000		.2090	.2900	.0480	-.0730	-.1710	-.1350						-.0600	.0320	-.0160
270.000		.2310	1.1360	.4640	.0120	-.1490	-.1390	.0990			.1130	-.1150	-.0500	-.0040	.1400
315.000		.3370	.3760	.2040	.1080	-.0400	-.0440						.0080	.0790	.0890
X/LS	.9670														
PHI															
.000	.2500														
45.000	.4300														
90.000	.4650														
135.000	.3450														
180.000	.1040														
225.000	-.0470														
270.000	.2340														
315.000	.1500														

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9660	.3930	.3300	-.0300	.0070	.0600	-.0050	-.0100	.0310	.0450	.0390	.0260	.1460	.2680	.2740
45.000		.3820	.3810	-.0100	-.0100	.0310							.2750	.4020	.4170
90.000		.3350	.3450	-.0210	-.0210	.0030	.0050	.0080	-.0130	.0500	.0480	.1340	.3000	.4020	.4490
135.000		.2810	.2560	-.0610	-.0590	-.0210							.2100	.6600	.4730
180.000	1.9660	.2260	.1560	-.0990	-.0590	-.0270	-.0730	-.0270	.0770	.0680	.1220	.1790	.1190	.3790	.1970
225.000		.1920	.2220	.0440	-.0720	-.1690	-.1400						-.0630	.0280	-.0220
270.000		.2170	.9890	.4620	.0150	-.1430	-.1380	.0740			.0820	-.1160	-.0510	-.0090	.1160
315.000		.3150	.3650	.1860	.1080	-.0410	-.0510						.0390	.1230	.0990
X/LS	.9670														



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.290

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.2620
45.000	.4020
90.000	.4160
135.000	.3350
180.000	.0830
225.000	-.0570
270.000	.1710
315.000	.1420

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.170

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.8880	.3640	.3040	-.0420	-.0090	.0350	-.0180	-.0150	.0160	.0360	.0250	.0150	.1490	.2680	.2620
45.000		.3360	.3270	-.0320	-.0300	.0050							.2570	.3580	.3820
90.000		.2840	.2930	-.0450	-.0410	-.0180	-.0190	-.0160	-.0280	.0390	.0410	.1090	.2880	.3430	.3920
135.000		.2370	.2140	-.0760	-.0740	-.0360							.2170	.5530	.4160
180.000	1.8880	.1960	.1300	-.1070	-.0740	-.0490	-.0810	-.0230	.0770	.0520	.0750	.1550	.0970	.3530	.1710
225.000		.1700	.1870	.0370	-.0790	-.1740	-.1490						-.0740	.0350	-.0320
270.000		.1970	.8610	.4570	.0120	-.1450	-.1460	.0600			.0470	-.1190	-.0590	-.0370	.0730
315.000		.2990	.3650	.1320	.1030	-.0460	-.0560						.0690	.1510	.1250

X/LS .9670

PHI

.000	.2610
45.000	.3830
90.000	.3740
135.000	.3030
180.000	.0650
225.000	-.0710
270.000	.1710
315.000	.1310

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 1 ) = 2.499

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7440	.3000	.2610	-.0560	-.0250	.0180	-.0380	-.0240	.0270	.0180	.0110	.0040	.1300	.2720	.2860
45.000		.2450	.2460	-.0680	-.0650	-.0300							.2000	.2900	.3220
90.000		.1870	.2020	-.0840	-.0840	-.0560	-.0380	-.0370	-.0030	.0430	.0110	.0650	.2470	.3020	.3110
135.000		.1600	.1470	-.1040	-.0970	-.0580							.1290	.4000	.3300
180.000	1.7440	.1380	.0940	-.1220	-.0770	-.0750	-.0890	.0440	.0650	.0140	.0390	.0700	.0430	.2670	.1180
225.000		.1310	.1620	.0110	-.0790	-.1770	-.1350						-.0650	.0170	.0290
270.000		.1660	.7460	.4390	.0110	-.1420	-.1460	.0690			.0400	-.0780	-.0130	.0340	.0430
315.000		.2630	.3510	.0680	.1070	-.0510	-.0550						.0580	.1800	.2030

X/LS .9670

PHI

.000	.2760
45.000	.3200
90.000	.2890
135.000	.2370
180.000	.0370
225.000	.0030
270.000	.1510
315.000	.2050

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6110	.2620	.2600	-.0600	-.0350	-.0040	-.0440	-.0260	.0040	-.0130	-.0090	-.0070	.1230	.2880	.3010
45.000		.1790	.1880	-.0960	-.0930	-.0680							.1500	.2270	.2430
90.000		.1220	.1330	-.1100	-.1100	-.0750	-.0550	-.0520	.0220	.0120	-.0060	.0250	.1930	.2820	.1980
135.000		.1000	.0940	-.1250	-.1070	-.0730							.0900	.3630	.2710
180.000	1.6110	.0930	.0910	-.1210	-.0950	-.0930	-.0990	.0390	.0110	-.0280	.0870	.0140	-.0050	.1700	.0430
225.000		.1020	.1480	-.0960	-.0770	-.1720	-.0750						-.0210	.0630	-.0040
270.000		.1420	.7240	.3980	.0020	-.1370	-.1200	.1030			.0140	-.0710	.0050	.0210	.0340
315.000		.2420	.3030	.0360	.1270	-.0420	-.0380						-.0280	.1750	.2350

X/LS .9670

PHI

.000	.2720
45.000	.2410
90.000	.2050
135.000	-.1970
180.000	-.0110

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS25)

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.310

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	.0960
270.000	.1360
315.000	.3030

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.430

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.5580	.2470	.2590	-.0600	-.0370	-.0160	-.0470	-.0160	-.0110	-.0310	-.0070	-.0030	-.0040	.2960	.2120
45.000		.1510	.1580	-.1050	-.1050	-.0760							.1410	.2180	.2250
90.000		.0930	.1030	-.1210	-.1240	-.0850	-.0590	-.0310	.0020	-.0060	-.0270	-.0020	.1730	.2590	.1780
135.000		.0750	.0700	-.1290	-.1140	-.0820							.0680	.3030	.2200
180.000	1.5580	.0750	.0800	-.1250	-.1030	-.1030	-.0540	.0350	-.0120	-.0520	.1040	.0020	-.0300	.1090	.0340
225.000		.0900	.1390	-.0860	-.0690	-.1630	-.0530						-.0470	.0200	-.0220
270.000		.1320	.6250	.3760	.0000	-.1350	-.0760	.1030			.0200	-.0880	-.0240	.0060	.0430
315.000		.2330	.3090	.0230	.1280	-.0340	-.0310						-.0390	.1280	.3600

X/LS .9670

PHI

.000	.2270
45.000	.2180
90.000	.1400
135.000	.1620
180.000	.0380
225.000	.1210
270.000	.1020
315.000	.3500

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.560

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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PHI

.000	1.4920	.2300	.2540	-.0650	-.0420	-.0180	-.0470	-.0150	-.0230	-.0270	-.0150	-.0200	-.0250	.2030	.2280
45.000		.1240	.1350	-.1190	-.1170	-.1010							.1300	.2120	.1970
90.000		.0660	.0740	-.1340	-.1330	-.0960	-.0600	-.0200	-.0020	-.0310	-.0400	-.0130	.1610	.2520	.1900
135.000		.0520	.0550	-.1350	-.1250	-.0920							.0550	.2300	.1510
180.000	1.4920	.0580	.0800	-.1310	-.1040	-.1130	.0150	.0260	-.0370	-.0600	.1040	-.0120	-.0320	.0910	.0270
225.000		.1060	.1050	-.0500	-.0560	-.1500	-.0220						-.0810	-.0030	-.0280

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.560

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
270.000	.2030	.3530	.3220	-.0050	-.1320	.0210	.0760				-.0040	-.1040	-.0200	.0160	.0040
315.000	.2305	.3025	-.0100	.0750	-.0230	-.0080							-.0320	.1190	.5080

PHI

X/LS .9670

PHI

.000 .3200

45.000 .1840

90.000 .0990

135.000 .0910

180.000 .2130

225.000 .0440

270.000 -.0150

315.000 .2880

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.570

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2990	.4480	.3540	.0050	.0360	.0440	.0320	.0090	.0050	.0500	.0340	.0270	.0710	.2610	.2770
45.000		.4360	.4330	.0390	.0310	.0600							.2560	.4120	.4270
90.000		.3790	.3990	.0290	.0250	.0390	.0360	.0340	.0180	.0100	.0420	.1200	.2660	.4380	.4870
135.000		.3220	.3030	-.0100	-.0170	.0000							.1070	.4500	.5310
180.000	2.2990	.2690	.1780	-.0580	-.0170	.0110	-.0270	-.0600	.0090	.0600	.0540	.1950	.1330	.5100	.3270
225.000		.2410	.1540	.0460	.0000	-.1020	-.1060						.0090	.0920	.0280
270.000		.2690	.7260	.5100	.1140	-.0770	-.0950	-.0220			.0650	-.0740	-.0260	.0140	.0500
315.000		.3730	.3310	.0860	.1740	.0340	-.0280						-.0470	.0400	.0480

X/LS .9670

PHI

.000 .2660

45.000 .4180

90.000 .4680

135.000 .4440

180.000 .1920

225.000 .0110

270.000 .3110

315.000 .1000



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000	-.0260
270.000	.1540
315.000	.1970

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.390

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.6800	.2550	.2320	-.0430	-.0320	-.0010	-.0390	-.0330	-.0080	-.0190	-.0310	-.0200	.0010	.2220	.2230
45.000		.1580	.1610	-.0700	-.0780	-.0610							.0820	.1620	.1870
90.000		.1020	.1110	-.0800	-.0880	-.0650	-.0600	-.0530	-.0180	-.0110	-.0180	-.0200	.0970	.2060	.1170
135.000		.0890	.0810	-.0900	-.0880	-.0650							.0590	.3040	.2330
180.000	1.6800	.0960	.0810	-.0880	-.0730	-.0780	-.0840	.0180	.0130	-.0230	-.0460	.0160	-.0080	.1320	.0490
225.000		.1190	.0990	-.0790	-.0560	-.1180	-.1050						-.0510	.0190	.0040
270.000		.1620	.1210	.3810	.0710	-.0820	-.1020	.0390			-.0480	-.0630	.0040	.0270	.0000
315.000		.2520	.2440	-.0230	-.0030	-.0140	-.0340						-.0380	.1250	.1810

X/LS .9670

PHI

.000	.2040
45.000	.1840
90.000	.1410
135.000	.1720
180.000	-.0050
225.000	.0020
270.000	.0810
315.000	.1800

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.720

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5110	.2180	.2190	-.0530	-.0460	-.0250	-.0410	-.0240	-.0130	-.0340	-.0340	-.0390	-.0280	.1170	.1760
45.000		.1040	.1090	-.0910	-.0970	-.0820							.0620	.1460	.1220
90.000		.0520	.0550	-.1010	-.1060	-.0830	-.0750	-.0570	-.0310	-.0330	-.0440	-.0150	.0560	.1700	.1450
135.000		.0430	.0370	-.1040	-.1070	-.0800							.0280	.1430	.1010
180.000	1.5110	.0590	.0600	-.0990	-.0840	-.0930	-.0750	.0160	-.0380	-.0630	-.0520	-.0310	-.0230	.0890	.0520
225.000		.0940	.0480	-.0910	-.0680	-.1060	-.0400						-.0560	.0120	.0080

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.720

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

270.000	.1540	.0470	.2620	.0450	-.0810	-.0780	.0730				-.0640	-.0770	-.0250	.0160	.0530
315.000	.2300	.2540	-.0460	-.0190	-.0040	-.0210							-.0620	.1250	.5390

X/LS .9670

## PHI

.000	.2220
45.000	.1200
90.000	.1230
135.000	.0760
180.000	.1490
225.000	-.0020
270.000	-.0450
315.000	.2640

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.720

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	2.5870	.4710	.3700	.0310	.0510	.0400	.0550	.0280	.0130	.0410	.0370	.0270	.0330	.2560	.2810
45.000		.4430	.4480	.0650	.0500	.0670							.1370	.4060	.4100
90.000		.3840	.4070	.0550	.0400	.0450	.0430	.0390	.0260	.0140	.0330	.0560	.2390	.3960	.4750
135.000		.3300	.3160	.0210	.0080	.0270							.1190	.3640	.5240
180.000	2.5870	.2890	.1940	-.0290	.0000	-.0110	-.0090	-.0230	.0160	.0450	.0490	.2120	.1940	.6260	.3810
225.000		.2680	.1640	.0210	.0430	-.0660	-.0800						.0280	.1280	.0980
270.000		.3030	.7790	.6450	.1750	-.0350	-.0650	-.0520			.0480	-.0360	-.0220	.0300	.0050
315.000		.4040	.3230	.0580	.2220	.0310	-.0130						-.0380	.0320	.0470

X/LS .9670

## PHI

.000	.2760
45.000	.4040
90.000	.4750
135.000	.4590
180.000	.2360
225.000	.0430
270.000	.2290
315.000	.0590

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.539

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.4550	.4290	.3340	.0140	.0290	.0270	.0380	.0130	.0040	.0270	.0240	.0140	.0280	.2540	.2720
45.000		.3820	.3850	.0380	.0230	.0410							.1040	.3300	.3540
90.000		.3230	.3380	.0260	.0120	.0220	.0200	.0200	.0090	-.0040	.0210	.0300	.1920	.3270	.4020
135.000		.2790	.2630	-.0010	-.0160	.0110							.0940	.3300	.4480
180.000	2.4550	.2490	.1630	-.0410	-.0150	-.0220	-.0230	-.0290	.0040	.0480	.0320	.1630	.1890	.4860	.3160
225.000		.2420	.1420	-.0080	.0340	-.0730	-.0860						.0120	.1310	.0920
270.000		.2810	.6690	.6260	.1710	-.0400	-.0690	-.0570			.0310	-.0420	-.0320	.0080	.0120
315.000		.3760	.2920	.0450	.2180	.0210	-.0210						-.0440	.0220	.0250

X/LS .9670

PHI	
.000	.2550
45.000	.3520
90.000	.4160
135.000	.4290
180.000	.2050
225.000	.0340
270.000	.1840
315.000	.0460

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2990	.3890	.3060	.0060	.0230	.0180	.0220	.0030	-.0020	.0190	.0180	.0150	.0190	.2380	.2400
45.000		.3270	.3260	.0230	.0080	.0190							.1000	.3050	.3200
90.000		.2640	.2780	.0130	.0000	.0020	.0010	.0030	-.0070	-.0170	.0160	.0170	.1540	.2510	.3240
135.000		.2310	.2240	-.0110	-.0240	-.0100							.1250	.4900	.5420
180.000	2.2990	.2120	.1450	-.0450	-.0250	-.0220	-.0320	-.0360	.0150	.0440	.0160	.1090	.1580	.4050	.2820
225.000		.2190	.1270	-.0180	.0270	-.0750	-.0880						.0010	.1300	.0810
270.000		.2600	.3620	.5660	.1650	-.0400	-.0700	-.0590			.0150	-.0410	-.0450	-.0020	.0260
315.000		.3520	.2630	.0320	.2140	.0160	-.0220						-.0350	.0430	.0530

X/LS .9670

PHI	
.000	.2290
45.000	.3140
90.000	.3320
135.000	.4440
180.000	.1750



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS2D)

MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI  
 225.000 .0230  
 270.000 .1550  
 315.000 .0630

MACH ( 3 ) = 3.502 BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI  
 .000 2.0410 .3200 .2580 -.0120 .0010 .0050 -.0090 -.0140 -.0150 .0080 -.0020 -.0120 .0060 .1950 .1920  
 45.000 .2330 .2330 -.0130 -.0250 -.0220 .0050 -.0140 -.0150 .0080 .0010 .0010 .0010 .1020 .1620 .2140  
 90.000 .1740 .1820 -.0220 -.0340 -.0310 -.0260 -.0250 -.0310 -.0090 .0110 .0010 .1020 .1620 .2140  
 135.000 .1540 .1450 -.0340 -.0440 -.0310 .0050 -.0140 -.0150 .0080 .0010 .0010 .0830 .3930 .3110  
 180.000 2.0410 .1540 .1010 -.0550 -.0400 -.0580 -.0480 -.0450 .0080 .0310 .0100 .0760 .0730 .2460 .1660  
 225.000 .1770 .1110 -.0280 .0070 -.0760 -.0870 .0050 -.0140 -.0150 .0080 .0010 .0010 .0190 .0510 .0030  
 270.000 .2210 .2530 .4270 .1510 -.0450 -.0730 -.0540 .0000 -.0360 -.0270 .0400 .0120 .0400 .0120  
 315.000 .3100 .2340 .0100 .0100 .0140 -.0250 .0000 -.0360 -.0270 .0400 .0120 .0400 .0120 .1080

X/LS .9670

PHI  
 .000 .1930  
 45.000 .2270  
 90.000 .2120  
 135.000 .2740  
 180.000 .0950  
 225.000 -.0150  
 270.000 .0570  
 315.000 .1500

MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460

SECTION ( 1 ) SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI  
 .000 1.7590 .2540 .2320 -.0290 -.0330 -.0190 -.0250 -.0300 -.0140 -.0140 -.0310 -.0230 .0010 .1980 .1660  
 45.000 .1490 .1510 -.0510 -.0650 -.0490 .0050 -.0140 -.0150 .0080 .0010 .0010 .0540 .1290 .1400  
 90.000 .0960 .0990 -.0610 -.0710 -.0530 -.0540 -.0500 -.0300 -.0220 -.0200 -.0180 .0400 .1380 .1160  
 135.000 .0850 .0720 -.0660 -.0730 -.0550 .0050 -.0140 -.0150 .0080 .0010 .0010 .0420 .1690 .1640  
 180.000 1.7590 .0990 .0770 -.0670 -.0570 -.0570 -.0730 -.0110 .0090 -.0190 -.0260 .0070 .0130 .1110 .0460  
 225.000 .1330 .0960 -.0700 -.0670 -.0890 -.0830 .0000 -.0360 -.0270 .0400 .0120 .0400 .0120 .1080



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS20)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 2.870

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5010	.2040	.2070	-.0240	-.0300	-.0310	-.0300	-.0160	-.0090	-.0210	-.0310	-.0250	-.0110	.1260	.1520
45.000		.0930	.0950	-.0550	-.0660	-.0660							.0170	.1060	.0870
90.000		.0440	.0470	-.0660	-.0730	-.0700	-.0680	-.0570	-.0370	-.0230	-.0300	-.0130	.0200	.1360	.1140
135.000		.0390	.0420	-.0620	-.0710	-.0680							.0250	.0870	.0740
180.000	1.5010	.0630	.0730	-.0610	-.0700	-.0750	-.0640	-.0030	-.0300	-.0500	-.0450	-.0140	-.0260	.0410	.0040
225.000		.1310	.0100	-.0700	-.0780	-.0800	-.0080						-.0490	-.0040	-.0190
270.000		.2480	.0070	.1470	.0040	-.0650	-.0340	.0470			-.0690	-.0630	-.0320	-.0020	-.0190
315.000		.2330	.1940	-.0460	-.0410	-.0060	-.0090						-.0510	.0670	.2960
X/LS	.9670														
PHI															
.000	.2030														
45.000	.0850														
90.000	.0950														
135.000	.0600														
180.000	.0540														
225.000	-.0300														
270.000	.0010														
315.000	.1250														



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS21)

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.28D

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .967D

PHI

.000	.307D
45.000	.431D
90.000	.443D
135.000	.323D
180.000	.108D
225.000	-.058D
270.000	.179D
315.000	.174D

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.17D

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.000D	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.711D	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.877D	.413D	.353D	-.024D	.015D	.068D	.001D	.009D	.028D	.050D	.028D	.027D	.151D	.301D	.309D
45.000		.358D	.352D	-.024D	-.019D	.017D							.277D	.380D	.403D
90.000		.271D	.277D	-.051D	-.053D	-.028D	-.025D	-.038D	-.046D	.018D	.023D	.119D	.316D	.394D	.411D
135.000		.210D	.184D	-.091D	-.093D	-.049D							.146D	.489D	.393D
180.000	1.877D	.160D	.096D	-.125D	-.094D	-.058D	-.096D	-.057D	.057D	.045D	.110D	.172D	.126D	.376D	.206D
225.000		.137D	.191D	-.003D	-.117D	-.185D	-.156D						-.063D	.026D	-.032D
270.000		.193D	.971D	.437D	.013D	-.130D	-.129D	.026D			.110D	-.110D	-.048D	-.014D	.094D
315.000		.333D	.432D	.154D	.145D	-.016D	-.022D						.092D	.171D	.153D

X/LS .967D

PHI

.000	.314D
45.000	.396D
90.000	.397D
135.000	.306D
180.000	.081D
225.000	-.064D
270.000	.194D
315.000	.193D



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS21)

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.315

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.1580
225.000	.1450
270.000	.1450
315.000	.2680

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.440

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.5260	.2960	.3050	-.0380	-.0130	.0070	-.0250	-.0010	-.0040	-.0210	-.0270	-.0100	.0140	.2580	.2170
45.000		.1690	.1760	-.1010	-.1000	-.0740							.1420	.2400	.2330
90.000		.0820	.0910	-.1310	-.1330	-.0980	-.0940	-.0760	-.0380	-.0510	-.0380	.0100	.1570	.2610	.1830
135.000		.0560	.0470	-.1440	-.1320	-.0870							.0340	.3070	.2480
180.000	1.5260	.0420	.0400	-.1360	-.1010	-.1100	.0480	-.0110	-.0500	.0900	.0190	-.0310	.0910	.0260	
225.000		.0540	.0970	-.0630	-.1150	-.1890	-.0580						-.0390	.0130	.0020
270.000		.1220	.6610	.3710	.0030	-.1220	-.1160	.1040			.0250	-.0730	.0010	.0290	.0550
315.000		.2690	.3680	.0510	.1270	.0020	.0030						.0040	.1550	.4050

X/LS .9670

PHI

.000	.3080
45.000	.2140
90.000	.0860
135.000	.1940
180.000	-.0040
225.000	.1450
270.000	.1360
315.000	.3360

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.570

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

PHI

.000	1.4640	.2810	.3080	-.0390	-.0110	.0050	-.0280	.0040	-.0060	-.0120	-.0180	-.0410	.0550	.2190	.2780
45.000		.1420	.1510	-.1110	-.1100	-.0880							.1170	.1910	.1940
90.000		.0590	.0630	-.1410	-.1390	-.1070	-.1000	-.0560	-.0770	-.0590	-.0290	.0030	.1510	.2710	.2060
135.000		.0370	.0350	-.1500	-.1310	-.0890							.0230	.2200	.1780
180.000	1.4640	.0260	.0420	-.1410	-.1150	-.1250	-.0300	.0290	-.0340	-.0550	.0860	.0280	-.0330	.0770	.0310
225.000		.0510	.0850	-.1030	-.1200	-.1880	-.0320						-.0700	-.0120	.0130







AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS21)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI  
 225.000 -.0320  
 270.000 .1960  
 315.000 .2860

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.400

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.6540	.3060	.2720	-.0250	-.0070	.0290	-.0170	-.0120	-.0020	-.0020	-.0230	-.0220	-.0170	.2180	.2340
45.000		.1800	.1830	-.0610	-.0670	-.0600							.0690	.1750	.2020
90.000		.0990	.1030	-.0820	-.0920	-.0730	-.0700	-.0760	-.0360	-.0310	-.0320	-.0040	.1020	.1820	.1220
135.000		.0750	.0630	-.0950	-.0890	-.0660							.0410	.2920	.2500
180.000	1.6540	.0660	.0490	-.0940	-.0780	-.0830	-.0850	.0180	.0240	-.0180	-.0320	.0310	.0070	.1140	.0490
225.000		.0870	.0740	-.0670	-.0700	-.1320	-.1190						-.0430	.0340	.0110
270.000		.1570	.1590	.4060	.0830	-.0700	-.0860	-.0260			-.0330	-.0510	.0100	.0720	.0060
315.000		.2890	.3010	.0080	.0310	.0170	-.0060						-.0350	.1490	.1570

X/LS .9670

PHI  
 .000 .1920  
 45.000 .1910  
 90.000 .0910  
 135.000 .2250  
 180.000 -.0010  
 225.000 .0070  
 270.000 .1110  
 315.000 .2020

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.730

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9544	.9386
PHI															
.000	1.4760	.2620	.2590	-.0320	-.0210	.0050	-.0230	-.0070	.0050	-.0100	-.0280	-.0360	-.0330	.1420	.2160
45.000		.1210	.1290	-.0840	-.0900	-.0770							.0590	.1150	.1110
90.000		.0450	.0460	-.1070	-.1110	-.0890	-.0870	-.0900	-.0820	-.0540	-.0260	-.0020	.0620	.1560	.1210
135.000		.0290	.0200	-.1110	-.1110	-.0770							.0340	.1460	.1070
180.000	1.4760	.0290	.0300	-.1090	-.0890	-.0980	-.0800	.0200	-.0340	-.0520	-.0400	-.0160	-.0110	.0870	.0520
225.000		.0610	.0250	-.0840	-.0860	-.1310	-.0710						-.0500	.0210	.0170



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS21)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.510

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.4400	.4910	.3920	.0390	.0570	.0780	.0510	.0330	.0240	.0340	.0350	.0430	.0420	.2990	.3020
45.000		.4170	.4190	.0570	.0420	.0520							.0900	.3560	.3730
90.000		.3190	.3330	.0320	.0190	.0170	.0130	.0110	-.0040	-.0120	-.0050	.0270	.1940	.3140	.3800
135.000		.2570	.2440	-.0010	-.0140	-.0100							.1290	.2250	.3770
180.000	2.4400	.2180	.1380	-.0410	-.0220	-.0090	-.0260	-.0410	-.0080	.0230	.0210	.1520	.1690	.5340	.3780
225.000		.2150	.1180	-.0120	-.0020	-.0820	-.0860						.0190	.0960	.0570
270.000		.2830	.6700	.6260	.1700	-.0270	-.0550	-.0460			.0420	-.0510	-.0480	.0130	.0270
315.000		.4240	.3290	.0630	.2550	.0530	.0090						-.0070	.0820	.0670
X/LS	.9670														
PHI															
.000	.2900														
45.000	.3740														
90.000	.4050														
135.000	.3720														
180.000	.2360														
225.000	.0210														
270.000	.2020														
315.000	.0680														

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.320

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2910	.4470	.3600	.0260	.0390	.0740	.0340	.0220	.0160	.0250	.0250	.0200	.0270	.2670	.2620
45.000		.3580	.3610	.0320	.0180	.0290							.0820	.3020	.3220
90.000		.2620	.2730	.0100	-.0040	-.0010	-.0070	-.0050	-.0220	-.0290	-.0090	.0200	.1570	.2530	.3080
135.000		.2120	.1960	-.0190	-.0290	-.0190							.0760	.1790	.3060
180.000	2.2910	.1830	.1120	-.0490	-.0320	-.0340	-.0350	-.0440	-.0080	.0240	.0180	.1330	.1620	.4270	.3220
225.000		.1880	.0940	-.0250	-.0110	-.0860	-.0870						.0160	.0960	.0490
270.000		.2570	.3880	.5790	.1670	-.0300	-.0580	-.0500			.0350	-.0370	-.0400	.0240	.0420
315.000		.3950	.2980	.0500	.2320	.0460	.0020						-.0130	.0690	.0770
X/LS	.9670														
PHI															
.000	.2570														
45.000	.3200														
90.000	.3340														
135.000	.3580														
180.000	.2030														

AMES 87-757 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS21)

MACH ( 3) = 3.502 BETAT ( 3) = -4.320

SECTION ( 1)SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0140  
270.000 .1940  
315.000 .0820

MACH ( 3) = 3.502 BETAT ( 4) = .060

SECTION ( 1)SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	2.0060	.3710	.3030	.0000	.0130	.0280	.0050	-.0020	-.0040	.0090	.0010	-.0060	-.0040	.1970	.2090
45.000		.2550	.2570	-.0090	-.0220	-.0190								.0910	.1930
90.000		.1670	.1720	-.0290	-.0420	-.0390	-.0390	-.0410	-.0510	-.0250	-.0040	.0030	.1190	.1620	.1780
135.000		.1330	.1220	-.0470	-.0570	-.0360							.0680	.2350	.3270
180.000	2.0060	.1220	.0680	-.0680	-.0500	-.0660	-.0530	-.0320	.0100	.0090	-.0120	.0630	.0720	.2460	.1790
225.000		.1440	.0750	-.0400	-.0200	-.0900	-.0870							-.0270	.0590
270.000		.2150	.2590	.4690	.1500	-.0360	-.0630	-.0540			.0090	-.0370	-.0220	.0600	.0400
315.000		.3460	.2730	.0240	.0800	.0350	-.0040						-.0260	.1140	.1180

X/LS .9670

PHI

.000 .2200  
45.000 .2180  
90.000 .1920  
135.000 .3090  
180.000 .1150  
225.000 -.0130  
270.000 .0730  
315.000 .1570

MACH ( 3) = 3.502 BETAT ( 5) = 4.470

SECTION ( 1)SRM BOOSTER DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000	1.7270	.3030	.2560	-.0090	-.0010	.0110	-.0110	-.0130	-.0040	-.0020	-.0130	-.0360	-.0090	.1880	.1620
45.000		.1690	.1720	-.0340	-.0470	-.0450								.0550	.1280
90.000		.0910	.0890	-.0530	-.0640	-.0600	-.0630	-.0650	-.0480	-.0400	-.0270	-.0130	.0530	.1180	.1130
135.000		.0710	.0630	-.0620	-.0680	-.0580							.0410	.1910	.1510
180.000	1.7270	.0730	.0570	-.0630	-.0620	-.0670	-.0640	-.0410	-.0090	-.0200	-.0340	.0170	.0180	.1260	.0590
225.000		.1050	.0830	-.0590	-.0640	-.0920	-.0470						-.0350	.0260	.0210





AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.370

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9970	.5370	.4690	.0300	.0830	.1250	.0490	.0580	.0660	.0920	.0680	.0460	.1880	.3490	.3550
45.000		.4940	.4920	.0370	.0440	.0770							.3350	.4620	.4950
90.000		.3670	.3870	-.0080	-.0080	.0130	.0090	-.0140	-.0280	-.0340	.0060	.1630	.3830	.4610	.4900
135.000		.2640	.2310	-.0770	-.0780	-.0520							.2860	.2710	.3460
180.000	1.9970	.1920	.1140	-.1150	-.0420	-.0390	-.0900	-.0870	-.0640	-.0150	.2550	.2610	.1920	.5970	.3030
225.000		.1550	.2860	-.0340	-.1400	-.1930	-.1360						-.0580	.0530	-.0100
270.000		.2200	1.2260	.4380	.0180	-.1130	-.1020	.0060			.1960	-.1050	-.0440	.0280	.1630
315.000		.4100	.5490	.2900	.1890	.0250	.0240						.0710	.1730	.2060

X/LS .9670

PHI  
 .000 .3470  
 45.000 .4930  
 90.000 .4860  
 135.000 .2930  
 180.000 .1630  
 225.000 -.0410  
 270.000 .2340  
 315.000 .2340

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.260

SECTION ( 1 )SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.9310	.5080	.4410	.0220	.0710	.1040	.0370	.0430	.0510	.0780	.0490	.0540	.1740	.3440	.3490
45.000		.4410	.4390	.0150	.0190	.0480							.2980	.4160	.4530
90.000		.3120	.3240	-.0310	-.0310	-.0130	-.0150	-.0370	-.0570	-.0300	.0030	.1400	.3380	.4010	.4260
135.000		.2240	.1940	-.0890	-.0900	-.0580							.2290	.1690	.2500
180.000	1.9310	.1620	.0930	-.1170	-.0620	-.0600	-.0990	-.0990	-.0880	-.0210	.2160	.2400	.1590	.5340	.2670
225.000		.1300	.2460	-.0360	-.1450	-.1960	-.1520						-.0640	.0490	-.0050
270.000		.2020	1.2010	.4340	.0150	-.1150	-.1060	-.0030			.1650	-.1100	-.0470	.0050	.1450
315.000		.3870	.5320	.2620	.1840	.0210	.0160						.0880	.1890	.1830

X/LS .9670



AMES 87-7D7 IA9 O2A + S3 + T9 SRM BOOSTER

(RBN522)

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.260

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

.000	.3490
45.000	.4460
90.000	.4170
135.000	.2330
180.000	.1480
225.000	-.0520
270.000	.2310
315.000	.2310

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.150

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8510	.4700	.4120	.0030	.0500	.0860	.0250	.0330	.0390	.0630	.0370	.0280	.1470	.3350	.3490
45.000		.3890	.3780	-.0140	-.0090	.0460							.2590	.3630	.4080
90.000		.2600	.2670	-.0570	-.0600	-.0400	-.0420	-.0660	-.0780	-.0060	.0000	.1170	.2900	.3450	.3630
135.000		.1820	.1510	-.1080	-.1080	-.0650							.1350	.2750	.2360
180.000	1.8510	.1320	.0660	-.1330	-.0710	-.0750	-.1100	-.0930	-.0520	.0060	.1380	.1900	.1390	.4880	.2660
225.000		.1070	.1950	-.0500	-.1500	-.1980	-.1610						-.0560	.0310	-.0220
270.000		.1850	1.1360	.4210	.0110	-.1140	-.1100	-.0370			.1230	-.0870	-.0170	.0220	.1190
315.000		.3700	.5130	.1810	.1820	.0170	.0100						.1040	.2110	.2090

X/LS .9670

PHI

.000	.3520
45.000	.4050
90.000	.3690
135.000	.2000
180.000	.1200
225.000	-.0380
270.000	.2390
315.000	.2320

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 1 ) = 2.499

BETAT ( 4 ) = .060

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.7000	.4110	.3750	-.0100	.0270	.0560	.0030	.0150	.0310	.0340	.0080	-.0050	.1450	.3320	.3480
45.000		.2920	.2930	-.0530	-.0470	-.0100							.2060	.3060	.3120
90.000		.1660	.1770	-.0980	-.0990	-.0830	-.0860	-.0990	-.0790	-.0050	-.0190	.0760	.2220	.2780	.2390
135.000		.1120	.0890	-.1300	-.1280	-.0790							.1470	.5190	.3520
180.000	1.7000	.0750	.0220	-.1450	-.0640	-.1030	-.1130	-.0120	.0310	-.0020	.1120	.1080	.0720	.3160	.1600
225.000		.0660	.1130	-.0700	-.1570	-.1990	-.1620						-.0400	.0390	.0100
270.000		.1530	.9190	.3980	.0050	-.1140	-.1110	.0050			.0930	-.0500	.0440	.0890	.1070
315.000		.3390	.4670	.1520	.1880	.0170	.0110						.0930	.2440	.2950

X/LS .9670

PHI	
.000	.3480
45.000	.3030
90.000	.2670
135.000	.2020
180.000	.0610
225.000	-.0010
270.000	.2060
315.000	.3080

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.330

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.5520	.3640	.3640	-.0060	.0230	.0420	.0040	.0220	.0220	.0130	-.0120	-.0040	.1050	.3100	.2750
45.000		.2200	.2300	-.0730	-.0720	-.0400							.1700	.2740	.2770
90.000		.1000	.1090	-.1190	-.1250	-.1060	-.1110	-.1280	-.0440	-.0520	-.0440	.0390	.1860	.2690	.1890
135.000		.0590	.0530	-.1380	-.1330	-.0850							.1210	.3400	.3310
180.000	1.5520	.0330	.0250	-.1310	-.0950	-.1160	-.1130	.0530	.0190	-.0270	.0910	.0330	.0000	.1280	.0580
225.000		.0350	.0620	-.0700	-.1530	-.1950	-.1160						-.0110	.0570	.0500
270.000		.1270	.7660	.3690	.0090	-.1060	-.0970	.0950			.0650	-.0520	.0380	.0590	.0850
315.000		.3140	.4320	.0920	.1670	.0310	.0290						.0360	.1890	.3080

X/LS .9670

PHI	
.000	.3450
45.000	.2520
90.000	.1160
135.000	.2990
180.000	.0000

AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.330

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .1570

270.000 .1630

315.000 .2650

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.460

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4910 .3510 .3690 -.0080 .0230 .0400 -.0040 .0240 .0190 .0070 -.0040 -.0270 .0640 .2120 .2570

45.000 .1900 .1970 -.0860 -.0840 -.0530 .1430 .2340 .2350

90.000 .0690 .0760 -.1330 -.1360 -.1130 -.1250 -.1100 -.0690 -.0820 -.0380 .0240 .1750 .2760 .2120

135.000 .0350 .0260 -.1460 -.1400 -.0940 .0540 .2530 .2350

180.000 1.4910 .0140 .0070 -.1360 -.1070 -.1230 -.1080 .0440 -.0080 -.0360 .0870 .0190 -.0250 .0950 .0370

225.000 .0230 .0710 -.0760 -.1570 -.1940 -.0970 .0240 .0190 .0950 .0370

270.000 .1170 .7280 .3480 .0040 -.1010 -.0930 .1220 .0450 -.0640 .0170 .0550 .0590

315.000 .3100 .4430 .0870 .1650 .0420 .0430 .0260 .2070 .4420

X/LS .9670

PHI

.000 .3380

45.000 .2330

90.000 .1330

135.000 .1870

180.000 .0210

225.000 .1430

270.000 .1680

315.000 .3990

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.600

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.4220 .3300 .3600 -.0080 .0190 .0320 -.0020 .0230 .0160 .0130 -.0230 -.0570 .0950 .2510 .3270

45.000 .1620 .1700 -.0980 -.0970 -.0730 .1020 .1640 .1950

90.000 .0500 .0460 -.1460 -.1460 -.1190 -.1300 -.1020 -.1050 -.0600 -.0380 .0070 .1350 .2730 .1970

135.000 .0190 .0140 -.1500 -.1420 -.0960 .0250 .1730 .1680

180.000 1.4220 -.0010 .0070 -.1520 -.1160 -.1280 -.0170 .0290 -.0310 -.0450 .0790 .0320 -.0220 .1220 .0600

225.000 .0120 .0550 -.0830 -.1560 -.1930 -.0600 .0520 .0010 .0150



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.230

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.0530	.4900	.4130	.0250	.0530	.0950	.0440	.0380	.0350	.0510	.0350	.0350	.0300	.3040	.3000
45.000	.3880	.3890	.0160	.0110	.0330								.1830	.3280	.3640
90.000	.2570	.2660	-.0260	-.0310	-.0200	-.0290	-.0380	-.0560	-.0350	-.0030	.0690	.1920	.2550	.2830	.2830
135.000	.1870	.1630	-.0610	-.0690	-.0460								.1470	.2190	.1980
180.000	2.0530	.1440	.0700	-.0960	-.0530	-.0510	-.0670	-.0870	-.0410	-.0520	-.0240	.1640	.1450	.5500	.3550
225.000	.1370	.0860	-.0980	-.0810	-.1350	-.1230							-.0250	.1150	.0270
270.000	.2230	.7350	.5120	.1070	-.0540	-.0690	-.0550			.0560	-.0840	-.0460	.0160	.1040	
315.000	.4120	.3980	.1020	.2660	.0520	.0200							.0100	.1230	.1540

X/LS .9670

## PHI

.000	.3020
45.000	.3680
90.000	.3030
135.000	.1990
180.000	.1940
225.000	-.0120
270.000	.2370
315.000	.1670

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

## SECTION ( 1 ) SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.8330	.4170	.3610	.0020	.0280	.0780	.0170	.0150	.0160	.0290	.0080	.0080	-.0050	.2520	.2870
45.000	.2830	.2860	-.0270	-.0310	-.0190								.1360	.2400	.2650
90.000	.1590	.1660	-.0640	-.0720	-.0600	-.0610	-.0760	-.0900	-.0190	-.0090	.0310	.1970	.2100	.1970	.1970
135.000	.1130	.0920	-.0860	-.0930	-.0540								.1210	.3840	.4340
180.000	1.8330	.0850	.0260	-.1090	-.0800	-.0780	-.0790	-.0490	.0160	-.0120	-.0280	.0560	.0590	.2450	.1800
225.000	.0950	.0570	-.0550	-.0860	-.1380	-.1200							-.0460	.0240	-.0070
270.000	.1870	.3980	.4550	.0980	-.0560	-.0710	-.0580				.0070	-.0400	-.0010	.1140	.0860
315.000	.3660	.3770	.0620	.2780	.0470	.0160							-.0070	.1780	.2160

X/LS .9670

## PHI

.000	.2980
45.000	.2680
90.000	.1850
135.000	.2590
180.000	.1130

## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 2) = 2.999

BETAT ( 3) = .060

## SECTION ( 1)SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS .9670

## PHI

225.000	.0000
270.000	.1570
315.000	.3070

MACH ( 2) = 2.999

BETAT ( 4) = 4.400

## SECTION ( 1)SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	1.6180	.3580	.3190	-.0020	.0200	.0590	.0030	.0060	.0130	.0110	-.0040	-.0040	-.0210	.2140	.2010
45.000		.2020	.2020	-.0490	-.0520	-.0500							.0820	.1640	.1920
90.000		.0860	.0910	-.0820	-.0890	-.0890	-.0900	-.1040	-.0570	-.0470	-.0390	-.0050	.1010	.1800	.1540
135.000		.0560	.0480	-.0920	-.0980	-.0740							.0130	.1540	.2510
180.000	1.6180	.0390	.0250	-.0940	-.0820	-.1020	-.0850	-.0020	.0150	-.0210	.0050	.0280	.0080	.1170	.0450
225.000		.0600	.0490	-.0760	-.0940	-.1400	-.1040						-.0340	.0550	.0210
270.000		.1520	.1920	.3960	.0770	-.0590	-.0690	-.0420			-.0060	-.0480	.0170	.0810	.0300
315.000		.3260	.3540	.0390	.0810	.0440	.0230						-.0320	.1470	.1540

X/LS .9670

## PHI

.000	.2110
45.000	.1980
90.000	.1130
135.000	.2380
180.000	.0070
225.000	.0560
270.000	.1270
315.000	.2940

MACH ( 2) = 2.999

BETAT ( 5) = 8.750

## SECTION ( 1)SRM BOOSTER

## DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
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## PHI

.000	1.4300	.3080	.2990	-.0100	.0070	.0280	-.0050	.0120	.0190	.0050	-.0210	-.0390	-.0250	.1840	.2480
45.000		.1380	.1450	-.0740	-.0790	-.0670							.0490	.0940	.1130
90.000		.0340	.0330	-.1100	-.1160	-.1000	-.1040	-.1080	-.1030	-.0610	-.0400	-.0090	.0460	.1460	.1050
135.000		.0140	.0090	-.1110	-.1130	-.0840							.0190	.1220	.0990
180.000	1.4300	.0050	.0000	-.1150	-.0970	-.1090	-.0880	.0150	-.0290	-.0550	-.0070	-.0010	-.0180	.0950	.0470
225.000		.0330	.0130	-.0870	-.1070	-.1370	-.1040						-.0380	.0240	.0120



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 3 ) = 3.502      BETAT ( 2 ) = -6.490

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP														
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386	
PHI																
.000	2.4000	.5500	.4430	.0410	.0570	.1010	.0610	.0500	.0430	.0470	.0480	.0390	.0480	.3370	.3340	
45.000		.4420	.4470	.0490	.0360	.0590								.1000	.3490	.3800
90.000		.3050	.3200	.0080	-.0060	.0080	-.0020	-.0060	-.0220	-.0270	-.0320	.0400	.1710	.2690	.3200	
135.000		.2280	.2000	-.0310	-.0440	-.0230							.1030	.1620	.2860	
180.000	2.4000	.1850	.0910	-.0690	-.0290	-.0200	-.0380	-.0550	-.0470	-.0240	-.0070	.1310	.1580	.6250	.4500	
225.000		.1830	.0620	-.0250	-.0330	-.0930	-.0880						.0110	.1000	.0370	
270.000		.2730	.6560	.6050	.1680	-.0180	-.0450	-.0300			.0380	-.0500	-.0290	.0370	.1240	
315.000		.4580	.3550	.0750	.3360	.0780	.0320						.0090	.0960	.0880	

X/LS      .9670

PHI	
.000	.3320
45.000	.3850
90.000	.3510
135.000	.3060
180.000	.2590
225.000	.0070
270.000	.2410
315.000	.1340

MACH ( 3 ) = 3.502      BETAT ( 3 ) = -4.310

SECTION ( 1 ) SRM BOOSTER		DEPENDENT VARIABLE CP													
X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	2.2580	.5050	.4130	.0430	.0530	.0940	.0460	.0370	.0310	.0340	.0320	.0240	.0330	.2890	.2840
45.000		.3830	.3880	.0390	.0260	.0360							.0920	.2860	.3120
90.000		.2500	.2610	.0010	-.0120	-.0130	-.0230	-.0180	-.0400	-.0480	-.0210	.0260	.1450	.2210	.2510
135.000		.1860	.1690	-.0290	-.0410	-.0310							.1050	.1280	.1210
180.000	2.2580	.1530	.0760	-.0640	-.0400	-.0490	-.0500	-.0630	-.0480	-.0120	-.0010	.1070	.1340	.4460	.3700
225.000		.1590	.0550	-.0230	-.0410	-.0970	-.0950						.0050	.0830	.0320
270.000		.2520	.4260	.5780	.1610	-.0200	-.0480	-.0370			.0260	-.0350	-.0390	.0410	.0800
315.000		.4340	.3390	.0700	.2810	.0710	.0260						.0040	.0920	.0990

X/LS      .9670

PHI	
.000	.2900
45.000	.3230
90.000	.2730
135.000	.2300
180.000	.2260



## AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 3) = 3.502

BETAT ( 3) = -4.310

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .9670

PHI

225.000 .0010

270.000 .2420

315.000 .1260

MACH ( 3) = 3.502

BETAT ( 4) = .060

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.9750 .4260 .3520 .0200 .0350 .0590 .0220 .0160 .0120 .0190 .0090 .0000 .0000 .2180 .2420

45.000 .2800 .2820 -.0010 -.0140 -.0110 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0830 .1830 .2050

90.000 .1610 .1620 -.0360 -.0470 -.0480 -.0530 -.0600 -.0660 -.0240 -.0090 .0020 .0000 .1120 .1500 .1490

135.000 .1160 .1040 -.0540 -.0620 -.0440 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0750 .1530 .2170

180.000 1.9750 .0990 .0410 -.0750 -.0580 -.0610 -.0590 -.0350 -.0030 -.0250 -.0450 .0290 .0490 .2200 .2110

225.000 .1160 .0570 -.0490 -.0460 -.0980 -.0770 .0000 .0000 .0000 .0000 .0000 .0000 .0280 .0540 .0000

270.000 .2090 .2680 .5340 .1460 -.0280 -.0520 -.0410 .0040 -.0510 -.0300 .0690 .1120

315.000 .3830 .3260 .0500 .1030 .0580 .0210 .0000 .0000 .0000 .0000 .0000 .0000 .0250 .1210 .1260

X/LS .9670

PHI

.000 .2600

45.000 .2140

90.000 .1430

135.000 .1730

180.000 .1380

225.000 -.0140

270.000 .0850

315.000 .1440

MACH ( 3) = 3.502

BETAT ( 5) = 4.480

SECTION ( 1)SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS .0000 .0341 .0967 .1138 .1422 .1991 .2844 .3697 .4835 .5973 .7110 .8248 .8817 .9044 .9386

PHI

.000 1.6840 .3570 .3070 .0070 .0180 .0430 .0130 .0080 .0130 .0130 .0000 -.0060 .0010 .1990 .1610

45.000 .1950 .1980 -.0270 -.0380 -.0340 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0620 .1380 .1510

90.000 .0870 .0860 -.0590 -.0650 -.0650 -.0670 -.0730 -.0540 -.0420 -.0320 -.0080 .0490 .0990 .1020

135.000 .0610 .0520 -.0630 -.0710 -.0610 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0950 .0800

180.000 1.6840 .0500 .0290 .0660 -.0620 -.0760 -.0530 -.0310 -.0080 -.0210 -.0380 .0210 .0130 .1170 .0600

225.000 .0800 .0540 -.0550 -.0630 -.0890 -.0070 .0000 .0000 .0000 .0000 .0000 .0000 .0270 .0380 .0330



AMES 87-707 IA9 O2A + S3 + T9 SRM BOOSTER

(RBNS22)

MACH ( 3 ) = 3.592

BETAT ( 7 ) = 8.910

SECTION ( 1 ) SRM BOOSTER

DEPENDENT VARIABLE CP

X/LS	.0000	.0341	.0967	.1138	.1422	.1991	.2844	.3697	.4835	.5973	.7110	.8248	.8817	.9044	.9386
PHI															
.000	1.4060	.2880	.2740	.0020	.0120	.0170	-.0010	.0130	.0220	.0130	-.0170	-.0210	-.0160	.1610	.2230
45.000		.1240	.1290	-.0460	-.0540	-.0550							.0230	.0720	.0860
90.000		.0310	.0270	-.0760	-.0820	-.0800	-.0790	-.0810	-.0710	-.0540	-.0330	-.0070	.0330	.1130	.0820
135.000		.0160	.0140	-.0750	-.0760	-.0730							.0250	.0980	.0670
180.000	1.4060	.0130	.0160	-.0790	-.0810	-.0820	-.0700	.0050	-.0290	-.0430	-.0590	-.0090	-.0130	.0720	.0240
225.000		.0760	-.0170	-.0730	-.0920	-.0980	-.0850						-.0450	.0080	-.0170
270.000		.2090	.0270	.2100	.0540	-.0380	-.0440	-.0130			-.0610	-.0680	-.0340	.0060	.0070
315.000		.2870	.3290	.0080	.0550	.0390	.0250						-.0390	.1600	.5840

X/LS .9670

PHI

.000	.2770
45.000	.0960
90.000	.0660
135.000	.0430
180.000	.0260
225.000	-.0310
270.000	-.0370
315.000	.3350

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

BETAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 ALPHAT ( 1 ) = -8.100

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.3340	.3920	.1030	-.0860	-.1220	-.1290	-.1190	-.1120	-.0810	-.0130	.0160	-.0040	-.0670	-.0790
30.000			.4070	.0820	-.0860	-.1220	-.1320	-.1230	-.1100	-.1070	-.0550	-.1160	-.1010	-.1030	-.0860
60.000			.4700	.1170	-.0690	-.0800	-.1200	-.1170	-.1130	.0640	-.1990	-.2340	-.2090	-.1800	-.0630
90.000	1.4800		.5720	.1860	-.0280	-.0520	-.0920	-.0880	.1340	.2870	-.1210	-.1180	-.0340	-.0690	-.0610
120.000			.6810	.2690	.0260	-.0020	-.0510	-.0560	-.0140	.0270	.1000	.1320	.0370	.1340	.1080
135.000								-.0360		.1440		.1390		.1030	
150.000			.7870	.3500	.0830	.0420	-.0120	-.0210	-.0120	.1540	.2900	.1420	.1370	.0660	.0690
165.000				.3690	.0950	.0580	.0030	-.0080	-.0050	.0190	.3860		.1390		.0730
180.000	1.6920	1.6560	.8300	.3800	.0980	.0620	.0010	-.0040	.0000	.0320	.3190	-.0330	.1370	.1860	.0740
270.000		1.4800													

X/LT .7449 .8526 .9290

PHI			
.000	-.0700	-.0170	-.0150
30.000	-.0540	-.0430	-.0420
60.000	-.0340	-.0510	-.0420
90.000			.0120
120.000	.0260	.0140	.0280
135.000	.0250	.0750	.0130
150.000	.0500	.1560	-.0240
165.000		.2040	-.0120
180.000	.0280		

MACH ( 1 ) = 2.498 ALPHAT ( 2 ) = -6.070

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7080	1.3880	.4410	.1340	-.0700	-.1080	-.1230	-.1130	-.0930	-.0730	.0130	.0380	.0010	-.0550	-.0710
30.000			.4530	.1110	-.0690	-.1080	-.1250	-.1160	-.0920	-.0890	-.0410	-.0670	-.0800	-.1120	-.0670
60.000			.5030	.1400	-.0530	-.0750	-.1110	-.1180	-.0890	.1380	-.1380	-.1830	-.1740	-.1620	-.0580
90.000	1.5010		.5840	.1910	-.0230	-.0490	-.0900	-.0790	.1330	.3330	-.1080	-.1490	-.0700	-.0830	-.0580
120.000			.6610	.2550	.0200	-.0120	-.0590	-.0580	-.0150	.0460	.0800	.0810	.0060	.1120	.0860
135.000								-.0430		.0690		.1380		.0540	
150.000			.7380	.3140	.0590	.0210	-.0320	-.0310	-.0260	.1020	.2960	.1360	.1170	.0520	.0460



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 1 ) = 2.498

ALPHAT( 3 ) = -4.030

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

## PHI

165.000 .1850 -.0120

180.000 -.0470

MACH ( 1 ) = 2.498

ALPHAT( 4 ) = -2.000

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2674 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000 1.7240 1.4810 .5480 .2150 -.0290 -.0730 -.0980 -.0990 -.0720 -.0590 .0260 .0280 .0130 -.0140 -.0480

30.000 .5490 .1750 -.0290 -.0730 -.1010 -.1010 -.0720 -.0640 -.0680 -.0090 -.0410 -.0770 -.0620

60.000 .5690 .1880 -.0250 -.0540 -.0950 -.0960 -.0660 .2460 -.0690 -.1380 -.1500 -.0660 -.0350

90.000 1.5140 .6000 .2060 -.0150 -.0470 -.0890 -.0860 .1090 .3810 -.1360 -.1810 -.1330 -.1010 -.0640

120.000 .6210 .2280 -.0020 -.0350 -.0780 -.0780 -.0410 .1830 -.0020 -.0320 -.0390 .0020 .0570

135.000 .0750 -.0110 .1020 .0150

150.000 .6480 .2430 .0110 -.0240 -.0690 -.0700 -.0460 .0420 .2710 .1150 .0520 .0260 -.0230

165.000 .2490 .0140 -.0200 -.0650 -.0710 -.0590 .0230 .3300 .1320 .0120

180.000 1.7240 1.5590 .6570 .2500 .0140 -.0210 -.0650 -.0680 -.0590 .0090 .3120 -.0270 .1360 .1210 -.0020

270.000 1.5130

X/LT .7449 .8526 .9290

## PHI

.000 -.0630 -.0250 -.0140

30.000 -.0450 -.0320 -.0250

60.000 -.0140 -.0370 -.0350

90.000 -.0250

120.000 .0000 -.0220 .0340

135.000 .0000 .0530 .0060

150.000 -.0280 .1180 -.0080

165.000 .1650 -.0090

180.000 -.0750

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 1 ) = 2.498

ALPHAT( 5 ) = .000

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7270	1.5220	.6040	.2360	-.0090	-.0510	-.0820	-.0820	-.0530	-.0380	.0470	.0490	.0140	-.0040	-.0330
30.000			.5980	.2090	-.0070	-.0520	-.0850	-.0850	-.0500	-.0440	-.0450	.0310	-.0190	-.0540	-.0600
60.000			.6000	.2050	-.0100	-.0420	-.0850	-.0820	-.0480	.2740	-.0410	-.1020	-.1300	-.0740	-.0120
90.000	1.5190		.6060	.2070	-.0110	-.0450	-.0850	-.0780	.1030	.4020	-.1220	-.1730	-.0890	-.0340	-.0480
120.000			.6020	.2110	-.0110	-.0420	-.0820	-.0770	-.0470	.2830	-.0330	-.0730	-.0590	-.0400	.0460
135.000								-.0810		-.0180		.0810		-.0010	
150.000			.6020	.2110	-.0090	-.0410	-.0820	-.0780	-.0460	.0250	.2320	.0960	.0260	.0270	-.0360
165.000			.2090	-.0090	-.0400	-.0820	-.0780	-.0510	.0360	.3040		.1410			-.0270
180.000	1.7270	1.5300	.6060	.2090	-.0100	-.0400	-.0820	-.0770	-.0580	.0420	.3030	.0470	.1470	.0870	-.0220
270.000		1.5190													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0570	-.0180	-.0090												
30.000	-.0310	-.0250	-.0220												
60.000	-.0100	-.0420	-.0220												
90.000			-.0300												
120.000	-.0020	-.0260	.0350												
135.000	-.0030	.0520	.0190												
150.000	-.0390	.1240	.0050												
165.000		.1560	.0000												
180.000	-.0910														

MACH ( 1 ) = 2.498

ALPHAT( 6 ) = 1.930

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7290	1.5650	.6610	.2830	.0190	-.0280	-.0650	-.0630	-.0610	-.0330	.0330	.0490	.0190	.0010	-.0210
30.000			.6500	.2500	.0170	-.0320	-.0670	-.0690	-.0500	-.0300	-.0500	.0000	.0190	-.0290	-.0470
60.000			.6340	.2300	.0010	-.0310	-.0750	-.0750	-.0470	.1540	-.0170	-.0980	-.1020	-.0890	-.0040
90.000	1.5230		.6110	.2110	-.0100	-.0410	-.0830	-.0900	.0840	.3880	-.1420	-.1780	-.1470	.0180	.0430
120.000			.5800	.1920	-.0190	-.0520	-.0890	-.0970	-.0670	.2520	-.0870	-.1170	-.0890	-.0210	.0440
135.000								-.0950		-.0420		.0410		-.0110	
150.000			.5590	.1800	-.0270	-.0590	-.0960	-.0920	-.0760	.0010	.1620	.0830	.0280	.0260	-.0490
165.000				.1770	-.0290	-.0580	-.0970	-.0900	-.0790	.0090	.2290		.0980		-.0410
180.000	1.7290	1.4910	.5520	.1770	-.0310	-.0600	-.0960	-.0880	-.0770	.0080	.2700	.0990	.1840	.0760	-.0340
270.000		1.5200													
X/LT	.7449	.8526	.9290												
PHI															





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNTG1)

MACH ( 1) = 2.498

ALPHAT( 8) = 5.950

SECTION ( 1)EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7160	1.6390	.7780	.3700	.0640	.0100	-.0230	-.0230	-.0290	.0100	.0600	.1010	.0590	.0380	.0120
30.000			.7520	.3160	.0510	-.0030	-.0330	-.0320	-.0290	.0110	.0170	-.0020	.0610	.0340	.0120
60.000			.6820	.2550	.0150	-.0020	-.0550	-.0530	-.0260	-.0170	.0800	-.0130	-.0370	-.0250	.0060
90.000	1.5070		.5950	.1920	-.0250	-.0420	-.0800	-.0940	.0710	.3700	-.1030	-.1330	-.1400	-.0430	.0870
120.000			.5150	.1360	-.0610	-.0700	-.1030	-.1090	-.0880	.1700	-.1440	-.1740	-.1250	.0050	.0520
135.000								-.1030		-.0270		-.0540		-.0180	
150.000			.4660	.1050	-.0800	-.0830	-.1010	-.0990	-.0910	.0000	.1410	.0710	-.0090	-.0110	-.0630
165.000				.0950	-.0830	-.0880	-.0930	-.0980	-.0930	.0050	.1710		.1220		-.0640
180.000	1.7160	1.3940	.4520	.0920	-.0850	-.0880	-.0910	-.0940	-.0940	.0040	.2300	.0710	.2130	.0370	-.0590
270.000		1.5080													

X/LT .7449 .8526 .9290

PHI			
.000	-.0130	.0100	.0240
30.000	.0030	.0290	.0180
60.000	.0240	.0110	.0180
90.000			.0550
120.000	-.0090	.0350	.0590
135.000	-.0100	.1170	.0540
150.000	-.0220	.1520	.0350
165.000		.1620	-.0120
180.000	-.1050		

MACH ( 1) = 2.498

ALPHAT( 9) = 8.010

SECTION ( 1)EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6960	1.6640	.8350	.4080	.1090	.0510	.0020	-.0030	.0030	.0340	.0580	.1020	.0830	.0630	.0270
30.000			.7990	.3650	.0890	.0310	-.0100	-.0020	-.0070	.0360	.0210	-.0180	.0800	.0600	.0270
60.000			.7030	.2860	.0400	.0070	-.0430	-.0430	-.0070	-.0220	.1000	.0010	.0030	.0110	.0260
90.000	1.4880		.5850	.1960	-.0200	-.0430	-.0840	-.0850	.0850	.3240	-.1050	-.1040	-.1080	-.0890	.0670
120.000			.4810	.1250	-.0610	-.0800	-.1120	-.0910	-.0910	.0920	-.1960	-.2030	-.1660	.0190	.0340
135.000								-.0890		-.0740		-.1020		-.0290	
150.000			.4170	.0860	-.0850	-.0980	-.0900	-.0860	-.0840	-.0380	.1160	.0440	.0140	-.0330	-.0600
165.000				.0770	-.0900	-.1030	-.0870	-.0870	-.0880	-.0350	.1490		.1350		-.0770
180.000	1.6960	1.3430	.4020	.0730	-.0910	-.1040	-.0880	-.0870	-.0880	-.0370	.2030	.2190	.1880	-.0010	-.0770
270.000		1.4910													

X/LT .7449 .8526 .9290

PHI



## AMES 87-797 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 2 ) = 2.999

ALPHAT ( 2 ) = -6.105

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7360	1.3990	.3910	.1090	-.0390	-.0730	-.1020	-.0950	-.0820	-.0740	-.0640	.0280	.0000	-.0260	-.0370
30.000			.4080	.1140	-.0380	-.0720	-.1040	-.1040	-.0820	-.0800	-.0610	-.0390	-.0800	-.0840	-.0640
60.000			.4630	.1410	-.0250	-.0620	-.0950	-.0950	-.0790	.0900	-.0940	-.0790	-.1400	-.1380	-.0910
90.000	1.5180		.5420	.1900	.0020	-.0410	-.0760	-.0720	-.0520	.4850	-.0940	-.0850	-.0890	-.0440	-.0540
120.000			.6280	.2550	.0360	-.0090	-.0500	-.0480	-.0250	.0640	.0730	.0700	.0290	.0200	.0460
135.000								-.0360		.0550		.1580		.0580	
150.000			.7060	.3060	.0680	.0190	-.0260	-.0250	-.0220	.0110	.2220	.1180	.0480	.0670	.0570
165.000				.3210	.0780	.0270	-.0210	-.0190	-.0190	-.0050	.3990		.1520		.0570
180.000	1.7360	1.6500	.7370	.3260	.0800	.0310	-.0220	-.0180	-.0170	-.0010	.3960	.0310	.1540	.0550	.0570
270.000		1.5120													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0520	-.0570	-.0210												
30.000	-.0520	-.0420	-.0200												
60.000	-.0320	-.0440	-.0290												
90.000			-.0130												
120.000	.0240	.0040	-.0130												
135.000	.0240	.0360	.0280												
150.000	.0120	.1110	.0280												
165.000		.1510	.0070												
180.000	-.0040														

MACH ( 2 ) = 2.999

ALPHAT ( 3 ) = -4.070

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7460	1.4510	.4550	.1500	-.0290	-.0650	-.0920	-.0920	-.0630	-.0580	-.0130	.0180	-.0040	-.0130	-.0170
30.000			.4670	.1370	-.0280	-.0630	-.0910	-.0920	-.0650	-.0580	-.0140	.0030	-.0540	-.0630	-.0640
60.000			.5010	.1580	-.0190	-.0500	-.0830	-.0840	-.0590	.1040	-.0600	-.0570	-.1240	-.1040	-.0930
90.000	1.5290		.5590	.1930	-.0010	-.0370	-.0710	-.0590	-.0420	.5060	-.0630	-.1070	-.1130	-.0620	-.0670
120.000			.6160	.2340	.0230	-.0160	-.0540	-.0490	-.0220	-.0150	.0690	.0240	.0160	-.0100	.0320
135.000								-.0400		.0130		.1620		.0390	
150.000			.6680	.2680	.0420	.0030	-.0400	-.0340	-.0300	.0120	.2140	.1290	.0430	.0390	.0330
165.000				.2770	.0490	.0100	-.0360	-.0300	-.0300	-.0180	.3860		.1470		.0430
180.000	1.7460	1.6220	.6900	.2800	.0510	.0110	-.0340	-.0260	-.0310	-.0160	.3840	.0310	.1480	.0610	.0480
270.000		1.5280													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 2) = 2.999

ALPHAT( 3) = -4.979

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0460	-.0530	-.0310
30.000	-.0470	-.0390	-.0290
60.000	-.0400	-.0390	-.0350
90.000			-.0230
120.000	.0160	-.0400	-.0240
135.000	.0180	.0160	.0240
150.000	-.0060	.0700	.0230
165.000		.1080	.0070
180.000	-.0200		

MACH ( 2) = 2.999

ALPHAT( 4) = -2.000

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7500	1.4950	.5050	.1770	-.0020	-.0470	-.0800	-.0840	-.0590	-.0500	-.0280	.0250	.0020	-.0010	-.0410
30.000			.5090	.1680	-.0090	-.0490	-.0790	-.0840	-.0590	-.0540	-.0210	-.0100	-.0280	-.0430	-.0790
60.000			.5320	.1800	-.0060	-.0420	-.0800	-.0820	-.0550	.0380	-.0290	-.0620	-.1050	-.1020	-.0780
90.000		1.5320	.5600	.1970	.0000	-.0440	-.0780	-.0680	-.0460	.5440	-.0620	-.1070	-.1260	-.0790	-.0790
120.000			.5870	.2160	.0120	-.0270	-.0620	-.0590	-.0370	-.0340	.0350	-.0250	-.0070	-.0410	-.0010
135.000								-.0580		-.0070		.1400		.0040	
150.000			.6090	.2320	.0210	-.0260	-.0550	-.0540	-.0450	-.0030	.1840	.1380	.0300	.0210	-.0010
165.000				.2370	.0240	-.0130	-.0540	-.0530	-.0470	-.0050	.3360		.1470		.0090
180.000	1.7500	1.5800	.6180	.2370	.0240	-.0130	-.0560	-.0490	-.0480	-.0280	.3370	.0280	.1440	.0620	.0160
270.000		1.5310													

X/LT .7449 .8526 .9290

PHI

.000	-.0750	-.0440	-.0220
30.000	-.0770	-.0340	-.0240
60.000	-.0540	-.0400	-.0380
90.000			-.0350
120.000	-.0210	-.0400	-.0050
135.000	-.0220	-.0100	.0220
150.000	-.0270	.0380	.0210
165.000		.0640	.0120
180.000	-.0310		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 2 ) = 2.999

ALPHAT( 5 ) = -.010

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7510	1.5400	.5610	.2130	.0140	-.0350	-.0660	-.0640	-.0550	-.0360	-.0130	.0380	-.0050	-.0170	-.0180
30.000			.5630	.1990	.0050	-.0340	-.0680	-.0660	-.0470	-.0370	-.0130	-.0120	-.0190	-.0330	-.0520
60.000			.5600	.1960	.0010	-.0300	-.0670	-.0690	-.0430	-.0350	-.0140	-.0340	-.1000	-.1000	-.0390
90.000		1.5360	.5610	.1950	.0010	-.0340	-.0680	-.0620	-.0400	.5610	-.0110	-.1150	-.1170	-.0500	-.0390
120.000			.5600	.1960	.0010	-.0310	-.0670	-.0640	-.0400	-.0300	-.0140	-.0750	-.0620	-.0560	.0040
135.000								-.0630		-.0150		.0920		-.0210	
150.000			.5560	.2010	.0010	-.0310	-.0670	-.0630	-.0400	-.0150	.1430	.1140	.0360	.0340	-.0070
165.000				.2010	.0000	-.0300	-.0650	-.0600	-.0550	-.0150	.2630		.0340		.0080
180.000	1.7510	1.5430	.5600	.1990	.0000	-.0300	-.0650	-.0620	-.0570	-.0140	.2620	.0200	.1090	.0930	.0190
270.000		1.5340													

X/LT .7449 .8526 .9290

PHI			
.000	-.0490	-.0380	-.0250
30.000	-.0550	-.0240	-.0260
60.000	-.0280	-.0410	-.0350
90.000			-.0340
120.000	-.0010	-.0410	-.0340
135.000	-.0010	-.0150	.0250
150.000	-.0450	-.0160	-.0090
165.000		.0080	-.0090
180.000	-.0400		

MACH ( 2 ) = 2.999

ALPHAT( 6 ) = 1.930

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7470	1.5770	.6210	.2570	.0300	-.0120	-.0480	-.0490	-.0480	-.0250	-.0150	.0720	.0210	-.0050	-.0010
30.000			.6120	.2380	.0280	-.0160	-.0510	-.0490	-.0450	-.0250	-.0130	-.0230	.0110	-.0020	-.0270
60.000			.5880	.2180	.0150	-.0130	-.0560	-.0580	-.0360	-.0430	.0360	-.0230	-.0670	-.0710	-.0400
90.000		1.5290	.5610	.1960	.0000	-.0290	-.0630	-.0680	-.0430	.5670	.0360	-.0960	-.1240	-.0610	.0060
120.000			.5380	.1800	-.0100	-.0380	-.0720	-.0730	-.0510	.0570	-.0250	-.0960	-.0880	-.0510	.0180
135.000								-.0760		-.0240		.0450		-.0310	
150.000			.5120	.1680	-.0160	-.0420	-.0740	-.0770	-.0520	-.0170	.0820	.1050	.0400	.0470	-.0030
165.000				.1650	-.0170	-.0440	-.0740	-.0770	-.0530	-.0160	.2200		.0260		.0150
180.000	1.7470	1.4960	.5060	.1620	-.0150	-.0420	-.0760	-.0790	-.0590	-.0150	.2200	.0660	.0270	.1320	.0290
270.000		1.5290													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 2 ) = 2.999

ALPHAT ( 6 ) = 1.930

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0270	-.0360	-.0150
30.000	-.0270	-.0120	-.0150
60.000	-.0010	-.0190	-.0280
90.000			-.0380
120.000	.0000	-.0120	-.0390
135.000	.0010	-.0120	.0280
150.000	-.0500	.0130	.0300
165.000		.0320	.0210
180.000	-.0500		

MACH ( 2 ) = 2.999

ALPHAT ( 7 ) = 3.960

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7430	1.6170	.6750	.2970	.0600	.0130	-.0380	-.0390	-.0310	-.0080	-.0250	.0610	.0350	.0090	.0050
30.000			.6550	.2720	.0500	.0050	-.0430	-.0390	-.0350	-.0060	-.0250	-.0270	.0050	.0120	.0010
60.000			.6080	.2370	.0270	-.0150	-.0560	-.0600	-.0240	-.0280	.0370	-.0270	-.0500	-.0550	-.0390
90.000		1.5260	.5610	.1960	.0030	-.0390	-.0720	-.0660	-.0430	.5510	.0360	-.1070	-.1200	-.1110	.0200
120.000			.4930	.1610	-.0160	-.0540	-.0860	-.0770	-.0630	.1110	-.0410	-.1210	-.1120	-.0730	.0180
135.000								-.0770		-.0260		-.0170		-.0470	
150.000			.4580	.1400	-.0260	-.0620	-.0940	-.0720	-.0630	-.0280	.0780	.0830	.0090	.0370	-.0070
165.000				.1350	-.0300	-.0670	-.0940	-.0690	-.0640	-.0250	.1110		.0370		.0070
180.000	1.7430	1.4480	.4460	.1330	-.0330	-.0690	-.0910	-.0740	-.0630	-.0250	.1300	.0440	.0610	.1320	.0150
270.000		1.5250													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0230	-.0250	-.0080
30.000	-.0240	.0010	-.0070
60.000	.0030	-.0030	-.0060
90.000			-.0320
120.000	.0070	-.0190	-.0150
135.000	.0060	-.0200	.0350
150.000	-.0480	.0480	.0340
165.000		.0730	.0200
180.000	-.0600		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 2 ) = 2.999

ALPHAT ( 8 ) = 5.990

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.6460	.7380	.3460	.0820	.0360	-.0210	-.0230	-.0060	.0110	.0150	.0730	.0510	.0230	.0280
30.000			.7090	.3080	.0730	.0230	-.0300	-.0260	-.0140	.0120	.0180	.0040	.0020	.0310	.0050
60.000			.6370	.2530	.0370	-.0120	-.0530	-.0570	-.0090	-.0040	.0060	.0060	-.0240	-.0300	-.0210
90.000	1.5120		.5490	.1920	-.0010	-.0430	-.0780	-.0600	-.0380	.5150	.0110	-.0870	-.1000	-.0990	-.0030
120.000			.4680	.1400	-.0290	-.0690	-.0960	-.0660	-.0630	.1030	-.0680	-.1430	-.1290	-.1140	.0090
135.000								-.0620		-.0460		-.0580		-.0470	
150.000			.4130	.1150	-.0450	-.0820	-.0870	-.0610	-.0610	-.0280	.0890	.0710	-.0100	.0250	-.0190
165.000				.1050	-.0490	-.0850	-.0840	-.0610	-.0610	-.0280	.1330		.0510		-.0110
180.000	1.7280	1.3980	.3960	.1030	-.0510	-.0840	-.0840	-.0610	-.0590	-.0280	.1330	.0580	.0180	.0940	-.0070
270.000		1.5160													

X/LT .7449 .8526 .9290

PHI			
.000	-.0140	-.0080	.0070
30.000	-.0140	.0190	.0080
60.000	-.0140	.0110	.0070
90.000			-.0090
120.000	.0010	.0010	.0320
135.000	.0000	-.0110	.0360
150.000	-.0400	.0660	.0380
165.000		.0630	.0190
180.000	-.0670		

MACH ( 2 ) = 2.999

ALPHAT ( 9 ) = 8.000

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7140	1.6750	.8070	.3900	.1110	.0620	.0010	-.0020	.0020	.0080	.0540	.0920	.0610	.0360	.0330
30.000			.7680	.3470	.0960	.0450	-.0130	-.0130	-.0120	.0220	.0520	.0300	-.0030	.0380	.0320
60.000			.6650	.2710	.0490	.0040	-.0440	-.0460	-.0140	-.0010	.1460	.0300	-.0020	-.0070	.0040
90.000	1.4980		.5470	.1890	.0000	-.0420	-.0760	-.0730	-.0540	.4880	.0670	-.0810	-.0910	-.0880	-.0190
120.000			.4440	.1230	-.0410	-.0740	-.0940	-.0740	-.0830	.0950	-.0870	-.1620	-.1460	-.1140	-.0250
135.000								-.0730		-.0490		-.0830		-.0490	
150.000			.3780	.0830	-.0610	-.0990	-.0820	-.0730	-.0740	-.0410	.0700	.0320	-.0080	.0040	-.0440
165.000				.0750	-.0650	-.0910	-.0820	-.0720	-.0740	-.0400	.1230		-.0260		-.0260
180.000	1.7140	1.3480	.3590	.0720	-.0650	-.0920	-.0810	-.0730	-.0740	-.0400	.1240	.0480	-.0330	.0630	-.0220
270.000		1.5070													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNTD1)

MACH ( 2 ) = 2.999

ALPHAT ( 9 ) = 8.000

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	.0030	.0130	.0240
30.000	.0020	.0340	.0300
60.000	.0030	.0270	.0040
90.000			.0050
120.000	.0030	-.0200	.0080
135.000	-.0180	.0110	.0270
150.000	-.0410	.0740	.0260
165.000		.0840	.0050
180.000	-.0750		

MACH ( 3 ) = 3.502

ALPHAT ( 1 ) = -8.080

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7400	1.3580	.3340	.0950	-.0370	-.0710	-.0870	-.0760	-.0550	-.0500	.0200	.0080	-.0290	-.0170	-.0040
30.000			.3570	.0850	-.0470	-.0710	-.0930	-.0860	-.0570	-.0600	.0190	-.0630	-.0620	-.0860	-.0580
60.000			.4250	.1120	-.0310	-.0480	-.0810	-.0850	-.0550	.0510	-.0810	-.0620	-.1180	-.1230	-.0860
90.000		1.5200	.5260	.1760	.0030	-.0300	-.0590	-.0400	-.0190	.5300	-.0030	-.0500	-.0520	-.0080	-.0280
120.000			.6400	.2580	.0470	.0100	-.0300	-.0120	.0080	.0280	.1430	.1240	.0760	.0560	.0660
135.000								.0050		.0680		.1820		.0580	
150.000			.7470	.3320	.0890	.0430	.0000	.0160	.0160	.0310	.2520	.1270	.0820	.1010	.0770
165.000				.3520	.1030	.0580	.0100	.0260	.0220	.0160	.4700		.0390		.1110
180.000	1.7400	1.6990	.7910	.3580	.1050	.0590	.0110	.0260	.0240	.0200	.4650	.0500	.1570	.0730	.1250
270.000		1.5140													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0420	-.0530	-.0160
30.000	-.0430	-.0390	-.0440
60.000	-.0400	-.0620	-.0440
90.000			-.0450
120.000	.0400	.0320	-.0460
135.000	.0450	.0660	.0410
150.000	.0590	.1210	.0390
165.000		.1640	.0390
180.000	.0470		



AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 3 ) = 3.502

ALPHAT( 2 ) = -6.080

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7470	1.4070	.3800	.1160	-.0180	-.0520	-.0860	-.0790	-.0470	-.0470	-.0340	.0120	-.0230	-.0230	-.0330
30.000			.3990	.1280	-.0230	-.0520	-.0890	-.0880	-.0480	-.0470	-.0350	-.0520	-.0670	-.0670	-.0790
60.000			.4520	.1380	-.0140	-.0500	-.0790	-.0850	-.0440	.0450	-.0660	-.0540	-.1290	-.1300	-.1140
90.000	1.5300		.5310	.1900	.0140	-.0320	-.0650	-.0390	-.0180	.5690	-.0660	-.0750	-.0950	-.0490	-.0570
120.000			.6160	.2480	.0480	-.0040	-.0400	-.0180	.0020	.0190	.0970	.0510	.0390	.0130	.0350
135.000								-.0060		.0220		.1480		.0080	
150.000			.6910	.3030	.0760	.0200	-.0210	.0030	.0010	.0210	.2110	.1070	.0690	.0580	.0320
165.000				.3180	.0850	.0290	-.0150	.0070	.0040	-.0070	.4190		-.0050		.0800
180.000	1.7470	1.6680	.7280	.3220	.0840	.0310	-.0120	.0070	.0070	-.0020	.4160	.0070	.1100	.0570	.0920
270.000		1.5240													

X/LT .7449 .8526 .9290

PHI			
.000	-.0630	-.0510	-.0370
30.000	-.0640	-.0480	-.0370
60.000	-.0610	-.0510	-.0400
90.000			-.0400
120.000	-.0340	.0100	-.0420
135.000	-.0190	.0430	.0240
150.000	.0340	.0780	.0220
165.000		.1080	.0240
180.000	.0280		

MACH ( 3 ) = 3.502

ALPHAT( 3 ) = -4.070

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7610	1.4580	.4310	.1380	-.0310	-.0660	-.0670	-.0710	-.0490	-.0470	-.0280	.0020	.0010	.0020	.0000
30.000			.4410	.1180	-.0350	-.0670	-.0710	-.0720	-.0490	-.0490	-.0290	-.0530	-.0370	-.0490	-.0560
60.000			.4810	.1380	-.0270	-.0350	-.0640	-.0670	-.0460	.0110	-.0410	-.0520	-.0910	-.0930	-.0830
90.000	1.5380		.5360	.1680	-.0100	-.0220	-.0540	-.0440	-.0270	.6000	-.0340	-.0690	-.0890	-.0510	-.0490
120.000			.5950	.2090	.0090	-.0040	-.0360	-.0320	-.0150	-.0170	.0600	.0150	.0380	.0070	.0320
135.000								-.0270		.0060		.1670		.0140	
150.000			.6460	.2410	.0290	.0130	-.0230	-.0210	-.0230	.0060	.1720	.1320	.0810	.0560	.0320
165.000				.2510	.0360	.0190	-.0210	-.0180	-.0180	.0040	.3640		.0250		.0740
180.000	1.7610	1.6330	.6640	.2540	.0350	.0190	-.0210	-.0160	-.0180	.0060	.3610	.0000	.1220	.0550	.0850
270.000		1.5330													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 3 ) = 3.502

ALPHAT ( 5 ) = -.030

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7680	1.5550	.5450	.2120	.0010	-.0350	-.0600	-.0650	-.0350	-.0260	-.0170	.0430	.0190	.0020	-.0090
30.000			.5440	.1750	.0000	-.0390	-.0650	-.0640	-.0350	-.0300	-.0170	-.0510	.0180	.0020	-.0590
60.000			.5470	.1730	-.0050	-.0300	-.0640	-.0640	-.0340	-.0540	.0030	-.0500	-.0640	-.0740	-.0650
90.000		1.5500	.5470	.1730	-.0060	-.0340	-.0660	-.0440	-.0320	.6270	.0010	-.0740	-.0930	-.0490	-.0650
120.000			.5460	.1750	-.0080	-.0350	-.0640	-.0380	-.0290	-.0250	.0030	-.0480	-.0440	-.0400	-.0460
135.000								-.0360		-.0150		.1340		-.0220	
150.000			.5480	.1760	-.0090	-.0320	-.0620	-.0350	-.0280	-.0170	.0440	.0880	.0460	-.0220	-.0200
165.000				.1760	-.0080	-.0310	-.0640	-.0350	-.0250	-.0160	.1460		.0490		-.0210
180.000	1.7680	1.5560	.5480	.1760	-.0090	-.0320	-.0630	-.0360	-.0250	-.0150	.1720	.0220	.0940	.0530	.0210
270.000		1.5510													

X/LT .7449 .8526 .9290

## PHI

.000	-.0460	-.0370	-.0280
30.000	-.0440	-.0240	-.0300
60.000	-.0440	-.0380	-.0280
90.000			-.0280
120.000	-.0220	.0040	-.0300
135.000	-.0360	.0040	.0140
150.000	-.0310	.0080	.0140
165.000		.0020	-.0410
180.000	-.0120		

MACH ( 3 ) = 3.502

ALPHAT ( 6 ) = 1.950

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7680	1.5950	.6020	.2430	.0330	-.0120	-.0540	-.0590	-.0390	-.0190	-.0280	.0290	.0180	.0020	.0250
30.000			.5930	.2160	.0270	-.0140	-.0560	-.0590	-.0350	-.0230	-.0280	-.0160	-.0130	.0000	-.0030
60.000			.5670	.2030	.0150	-.0290	-.0630	-.0600	-.0300	-.0400	.0180	-.0170	-.0550	-.0620	-.0520
90.000		1.5470	.5420	.1810	.0010	-.0400	-.0700	-.0530	-.0350	.6470	.0180	-.0690	-.1030	-.0780	-.0020
120.000			.5110	.1650	-.0090	-.0460	-.0730	-.0500	-.0400	-.0470	.0180	-.0780	-.0750	-.0380	-.0160
135.000								-.0450		-.0270		.0360		-.0180	
150.000			.4920	.1530	-.0140	-.0540	-.0760	-.0450	-.0420	-.0290	.0170	.0820	.0410	-.0100	-.0040
165.000				.1490	-.0170	-.0510	-.0740	-.0440	-.0390	-.0280	.1540		.0360		.0070
180.000	1.7680	1.5130	.4850	.1470	-.0170	-.0540	-.0750	-.0450	-.0390	-.0280	.1530	.0200	.0690	.0880	.0240
270.000		1.5480													

X/LT .7449 .8526 .9290

## PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH ( 3 ) = 3.502

ALPHAT( 6 ) = 1.950

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0210	-.0310	-.0290
30.000	-.0210	-.0190	-.0320
60.000	-.0230	-.0220	-.0320
90.000			-.0330
120.000	-.0090	.0000	-.0340
135.000	-.0100	-.0110	.0080
150.000	-.0430	-.0060	.0080
165.000		-.0120	-.0280
180.000	-.0240		

MACH ( 3 ) = 3.502

ALPHAT( 7 ) = 3.960

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7590	1.6320	.6590	.2920	.0480	.0060	-.0330	-.0360	-.0110	.0120	-.0390	.0400	.0110	-.0040	.0260
30.000			.6420	.2470	.0420	-.0010	-.0350	-.0420	-.0150	.0100	-.0290	.0030	-.0290	.0000	-.0160
60.000			.6000	.2160	.0200	-.0080	-.0510	-.0410	-.0150	-.0080	.0400	.0010	-.0510	-.0560	-.0530
90.000		1.5400	.5360	.1770	-.0030	-.0340	-.0650	-.0350	-.0230	.6350	.0390	-.0830	-.1120	-.1050	-.0490
120.000			.4790	.1420	-.0230	-.0490	-.0730	-.0360	-.0340	-.0150	-.0150	-.1090	-.1050	-.1060	-.0410
135.000								-.0340		-.0380		-.0320		-.0530	
150.000			.4410	.1200	-.0350	-.0580	-.0650	-.0350	-.0340	-.0390	.0190	.0630	.0110	-.0350	-.0400
165.000				.1120	-.0400	-.0590	-.0630	-.0340	-.0300	-.0390	.1290		.0060		-.0420
180.000	1.7590	1.4620	.4290	.1100	-.0380	-.0610	-.0620	-.0330	-.0310	-.0380	.1260	.0110	.0480	.1080	-.0090
270.000		1.5410													

X/LT .7449 .8526 .9290

PHI

.000	-.0080	-.0190	-.0200
30.000	-.0110	-.0130	-.0200
60.000	-.0310	-.0020	-.0210
90.000			-.0200
120.000	-.0050	-.0030	-.0180
135.000	-.0370	-.0150	.0200
150.000	-.0520	-.0130	.0180
165.000		-.0170	-.0170
180.000	-.0320		

## AMES 87-707, IA9 O2A + S3 + T9: EXTERNAL TANK

(RBNT01)

MACH ( 3 ) = 3.502

ALPHAT( 8 ) = 5.970

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7450	1.6630	.7220	.3370	.0720	.0240	-.0290	-.0310	.0010	.0150	-.0410	.0420	.0160	.0030	.0310
30.000			.6930	.2840	.0620	.0140	-.0350	-.0370	-.0080	.0150	-.0240	-.0060	-.0320	-.0020	.0290
60.000			.6210	.2310	.0280	-.0160	-.0520	-.0590	-.0040	.0130	.0540	-.0040	-.0330	-.0450	-.0300
90.000	1.5270		.5330	.1730	-.0060	-.0460	-.0750	-.0440	-.0240	.0960	.0560	-.0770	-.0990	-.1010	-.0770
120.000			.4520	.1200	-.0360	-.0670	-.0880	-.0410	-.0410	.0130	-.0270	-.1220	-.1310	-.1200	-.0480
135.000								-.0380		-.0440		-.0620		-.0760	
150.000			.3970	.0900	-.0490	-.0810	-.0760	-.0390	-.0370	-.0440	.0090	.0080	-.0340	-.0120	-.0420
165.000				.0810	-.0540	-.0850	-.0760	-.0390	-.0370	-.0430	.1100		.0330		-.0550
180.000	1.7450	1.4080	.3780	.0810	-.0560	-.0860	-.0760	-.0390	-.0390	-.0430	.1100	-.0040	.0170	.0880	.0030
270.000		1.5300													

X/LT .7449 .8526 .9290

PHI

.000	.0010	-.0100	-.0170
30.000	-.0010	-.0020	.0010
60.000	-.0280	.0070	-.0010
90.000			.0010
120.000	-.0170	-.0120	-.0010
135.000	-.0470	-.0170	.0010
150.000	-.0550	-.0180	.0000
165.000		-.0180	-.0070
180.000	-.0430		

MACH ( 3 ) = 3.502

ALPHAT( 9 ) = 8.010

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.6910	.7860	.3750	.1040	.0530	-.0060	-.0100	.0120	.0150	.0480	.0640	.0560	.0410	.0800
30.000			.7490	.3280	.0890	.0390	-.0170	-.0190	.0010	.0290	.0480	.0180	.0110	.0340	.0390
60.000			.6590	.2640	.0460	-.0050	-.0420	-.0450	-.0020	.0270	.1370	.0170	.0110	.0230	.0130
90.000	1.5120		.5270	.1710	-.0050	-.0750	-.0490	-.0310	.0550	.1360	-.0450	-.0580	-.0610	-.0380	-.0380
120.000			.4200	.1070	-.0410	-.0740	-.0870	-.0500	-.0550	.0440	-.0760	-.1100	-.0970	-.0840	-.0360
135.000								-.0480		-.0330		-.0660		-.0840	
150.000			.3530	.0680	-.0610	-.0890	-.0780	-.0480	-.0520	-.0320	.0090	-.0220	-.0270	.0230	-.0090
165.000				.0600	-.0630	-.0880	-.0790	-.0500	-.0500	-.0490	.1050		-.0040		.0160
180.000	1.7280	1.3560	.3320	.0560	-.0630	-.0900	-.0760	-.0500	-.0500	-.0510	.1020	.0200	-.0070	.0830	.0130
270.000		1.5140													

X/LT .7449 .8526 .9290

PHI

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT01)

MACH (S) = 3.502

ALPHAT(S) = 8.010

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	.0140	.0130	.0150
30.000	.0120	.0220	.0150
60.000	.0140	.0280	.0170
90.000			.0175
120.000	.0130	-.0140	.0060
135.000	.0110	-.0180	.0070
150.000	-.0480	-.0200	.0040
165.000		.0150	-.0040
180.000	-.0450		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.400

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6530	1.3090	.3710	.0930	-.0840	-.1210	-.1350	-.1230	-.1170	-.0940	.0030	-.0340	-.0830	-.1110	-.0680
30.000			.4900	.1420	-.0440	-.0860	-.1110	-.1250	-.1140	-.0890	-.1170	-.1700	-.1800	-.1410	-.1150
60.000			.6590	.2590	.0290	-.0050	-.0580	-.0650	-.0610	.0930	-.1790	-.2080	-.1800	-.1540	-.0510
90.000	1.6340		.8230	.3880	.1140	.0650	.0050	-.0050	.4170	.3540	-.1090	-.1240	-.0710	-.0200	.0080
120.000			.9250	.4720	.1680	.1170	.0490	.0390	.0820	.6390	.0990	.0970	.0930	.2490	.2200
135.000								.0450		.1350		.2530		.1540	
150.000			.9180	.4720	.1630	.1120	.0470	.0400	.0390	.0860	.5710	.2450	.2390	.1370	.1210
165.000				.4320	.1380	.0880	.0300	.0220	.0190	.1070	.5120		.2020		.0470
180.000	1.6530	1.6190	.8030	.3790	.1030	.0590	.0030	-.0070	.0020	.1030	.3820	.1120	.0800	.0200	-.0320
270.000		1.2810													

X/LT .7449 .8526 .9290

PHI			
.000	-.0950	-.0570	-.0380
30.000	-.1110	-.1010	-.0920
60.000	-.0680	-.0780	-.0520
90.000			.0870
120.000	.0900	.1450	.1560
135.000	.0920	.2870	.1540
150.000	.1290	.3120	.2020
165.000		.5100	.1620
180.000	-.0170		

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.280

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6640	1.3170	.3810	.0980	-.0760	-.1140	-.1320	-.1130	-.1030	-.0760	.0170	-.0050	-.0710	-.0900	-.0670
30.000			.4700	.1340	-.0510	-.0860	-.1170	-.1180	-.0980	-.0910	-.0990	-.1600	-.1530	-.1110	-.0910
60.000			.6140	.2270	.0090	-.0300	-.0760	-.0840	-.0620	.0940	-.1820	-.2150	-.1860	-.1450	-.0620
90.000	1.5960		.7680	.3430	.0800	.0320	-.0190	-.0130	.4050	.3500	-.1040	-.1040	-.0500	-.0360	-.0110
120.000			.8710	.4340	.1390	.0870	.0220	.0260	.0730	.6390	.1070	.1110	.0880	.2240	.1760
135.000								.0370		.1120		.2370		.1310	
150.000			.8920	.4540	.1500	.0970	.0310	.0370	.0540	.0830	.3830	.2070	.1790	.1240	.1040





## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.170

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .3580 .0550

180.000 .0320

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.6870 1.3300 .3960 .1040 -.0700 -.1060 -.1280 -.1150 -.0990 -.0700 .0040 .0130 -.0100 -.0610 -.0760

30.000 .4340 .1100 -.0610 -.0970 -.1240 -.1200 -.0970 -.0970 -.0600 -.1300 -.1130 -.0980 -.0890

60.000 .5280 .1680 -.0300 -.0630 -.1050 -.1040 -.0920 .0770 -.1870 -.2230 -.2010 -.1650 -.1140

90.000 1.5250 .6470 .2500 .0230 -.0200 -.0680 -.0590 .2510 .3080 -.1010 -.0970 -.0300 -.0490 -.0510

120.000 .7620 .3400 .0760 .0300 -.0250 -.0220 .0220 .2120 .1100 .1320 .0520 .1480 .1110

135.000 .8370 .3990 .1160 .0640 .0070 .0090 .0320 .1110 .3160 .1040 .1140 .0750 .0710

150.000 .4060 .1220 .0700 .0120 .0130 .0280 .1390 .4010 .1720 .0580

165.000 1.6870 1.6500 .8370 .3980 .1150 .0670 .0040 .0130 .0120 .0960 .3340 .0380 .1450 .1280 .0630

180.000 1.4300

X/LT .7449 .8526 .9290

PHI

.000 -.0770 -.0120 -.0120

30.000 -.0590 -.0530 -.0440

60.000 -.0440 -.0740 -.0440

90.000 .0430

120.000 .0450 .0300 .0630

135.000 .0450 .1360 .0440

150.000 .0700 .2270 .0210

165.000 .2930 .0110

180.000 .0380

## AMES 07-707 IA9 OZA + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.3330	.3950	.1080	-.0720	-.1080	-.1270	-.1150	-.0980	-.0670	.0090	.0100	-.0240	-.0700	-.0800
30.000			.3940	.0840	-.0770	-.1080	-.1310	-.1170	-.0990	-.0800	-.0260	-.0660	-.0870	-.0940	-.0860
60.000			.4360	.1010	-.0690	-.0930	-.1270	-.1190	-.1070	.0770	-.1740	-.2100	-.2010	-.1770	-.0480
90.000	1.4350		.5210	.1560	-.0370	-.0690	-.1060	-.0990	.0670	.2930	-.0940	-.1000	-.0270	-.0720	-.0680
120.000			.6390	.2440	.0160	-.0230	-.0660	-.0660	-.0570	.0640	.1760	.1230	.0510	.1100	.0740
135.000							-.0420			.2130		.0980		.1050	
150.000			.7550	.3430	.0750	.0300	-.0240	-.0210	-.0080	.1150	.2800	.0900	.1000	.1050	.0540
165.000				.3750	.0980	.0520	-.0050	-.0040	.0340	.0920	.3500		.1320		.0590
180.000	1.6910	1.6540	.8320	.3940	.1130	.0640	.0080	.0080	.0460	.1030	.3510	.0610	.1400	.1310	.0630
270.000		1.5230													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0740	-.0160	-.0180												
30.000	-.0510	-.0320	-.0220												
60.000	-.0240	-.0440	-.0370												
90.000			.0000												
120.000	.0190	.0090	.0140												
135.000	.0200	.0480	-.0140												
150.000	.0370	.1050	-.0510												
165.000		.1180	-.0290												
180.000	.0410														

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.320

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6870	1.3260	.3870	.0970	-.0760	-.1120	-.1330	-.1180	-.0990	-.0710	.0190	.0010	-.0570	-.0830	-.0800
30.000			.3660	.0650	-.0860	-.1160	-.1370	-.1170	-.1000	-.0550	-.0690	-.0360	-.0570	-.0960	-.1000
60.000			.3880	.0770	-.0780	-.1040	-.1370	-.1210	-.1070	.0700	-.1730	-.2070	-.1940	-.1840	-.0530
90.000	1.3910		.4590	.1200	-.0540	-.0870	-.1200	-.1090	.0740	.2970	-.1080	-.0850	-.0270	-.0820	-.0700
120.000			.5710	.2020	-.0070	-.0430	-.0850	-.0790	-.0340	.0130	.2050	.1000	.0830	.0860	.0500
135.000							-.0550			.0700		.0670		.1100	
150.000			.7120	.3060	.0560	.0090	-.0410	-.0320	.0130	.1450	.2310	.0610	.0930	.0700	.0280
165.000				.3520	.0830	.0340	-.0190	-.0100	.0380	.1220	.3140		.1000		.0120
180.000	1.6870	1.6500	.8270	.3890	.1060	.0550	-.0020	.0100	.0490	.1170	.3560	.1030	.1330	.0590	.0300
270.000		1.5650													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT92)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.320

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0800	-.0300	-.0280
30.000	-.0560	-.0230	-.0180
60.000	-.0350	-.0470	-.0330
90.000		-.0160	
120.000	-.0070	.0030	-.0110
135.000	-.0070	.0360	-.0480
150.000	.0190	.0280	-.0550
165.000		.0360	-.0670
180.000	.0400		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6670	1.3060	.3800	.0960	-.0780	-.1140	-.1350	-.1210	-.1150	-.0840	-.0180	.0060	-.0710	-.0950	-.0600
30.000			.3490	.0580	-.0900	-.1220	-.1370	-.1190	-.1150	-.0460	-.1020	-.0730	-.0690	-.0970	-.1140
60.000			.3550	.0570	-.0890	-.1110	-.1220	-.1180	-.1140	.0420	-.1830	-.2060	-.1790	-.1770	-.0430
90.000		1.3340	.4110	.0920	-.0750	-.1000	-.1200	-.1100	-.0130	.2580	-.1050	-.0520	-.0440	-.1020	-.0770
120.000			.5220	.1670	-.0270	-.0630	-.1020	-.0830	-.0720	-.0330	.2120	.0850	.0810	.0830	.0460
135.000								-.0770		.0460		.0950		.0860	
150.000			.6730	.2800	.0400	-.0050	-.0510	-.0560	.0070	.0940	.1910	-.0180	.0820	.0460	.0060
165.000				.3400	.0760	.0280	-.0260	-.0300	.0060	.0880	.2880		.0590		-.0220
180.000	1.6670	1.6340	.8150	.3880	.1080	.0560	-.0010	-.0050	.0310	.0820	.3450	.1150	.0920	.0260	-.0210
270.000		1.5900													

X/LT .7449 .8526 .9290

PHI

.000	-.0900	-.0420	-.0470
30.000	-.0600	-.0230	-.0260
60.000	-.0500	-.0410	-.0330
90.000			-.0310
120.000	-.0250	-.0060	-.0360
135.000	-.0250	.0200	-.0700
150.000	.0040	-.0150	-.1130
165.000		-.0830	-.1100
180.000	.0150		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNTU2)

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.590

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6590	1.3040	.3750	.0950	-.0890	-.1250	-.1330	-.1260	-.1040	-.0800	-.0090	-.0410	-.0940	-.1130	-.0680
30.000			.3230	.0360	-.1070	-.1370	-.1340	-.1200	-.1070	-.0480	-.0800	-.0760	-.0940	-.0990	-.1170
60.000			.3230	.0310	-.1060	-.1160	-.1240	-.1250	-.0810	-.0010	-.1570	-.1700	-.1580	-.1650	-.0500
90.000	1.2900		.3680	.0550	-.0980	-.1120	-.1090	-.1040	-.0050	.2450	-.0800	-.0300	-.0510	-.0950	-.0870
120.000			.4720	.1240	-.0570	-.0770	-.1010	-.0720	-.0620	-.0860	.1520	.0830	.1230	.0620	.0190
135.000								-.0620		.0590		.0550		.0530	
150.000			.6330	.2430	.0150	-.0160	-.0590	-.0580	.0040	.0880	.1950	-.0510	-.0070	-.0130	-.0260
165.000				.3080	.0580	.0230	-.0280	-.0290	.0130	.0720	.2610		.0070		-.1080
180.000	1.6590	1.6290	.8080	.3750	.0950	.0590	.0020	.0040	.0150	.0990	.3620	.1090	.0690	.0210	-.0360
270.000		1.6320													

X/LT .7449 .8526 .9290

PHI			
.000	-.0940	-.0610	-.0560
30.000	-.0570	-.0280	-.0430
60.000	-.0540	-.0380	-.0440
90.000			-.0320
120.000	-.0430	-.0230	-.0630
135.000	-.0440	-.0090	-.1040
150.000	-.0420	-.0560	-.1280
165.000		-.0820	-.1290
180.000	-.0180		

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.560

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6530	1.3000	.3280	.0730	-.0620	-.0920	-.1130	-.1130	-.1060	-.0940	-.0340	-.0540	-.1090	-.1200	-.0910
30.000			.4470	.1340	-.0270	-.0600	-.0880	-.0910	-.0850	-.0940	-.0350	-.1100	-.1410	-.1340	-.0930
60.000			.6200	.2480	.0390	.0000	-.0410	-.0450	-.0390	.1080	-.1110	-.1090	-.1530	-.1220	-.0480
90.000	1.6350		.7910	.3700	.1120	.0670	.0120	.0100	.3450	.5120	-.1110	-.0890	-.0890	-.0120	.0100
120.000			.8900	.4490	.1660	.1100	.0490	.0440	.0720	.4460	.1030	.0370	.0850	.1040	.1590
135.000								.0490		.1070		.2270		.1590	
150.000			.8880	.4490	.1630	.1090	.0460	.0420	.0400	.0810	.1390	.2670	.1900	.1890	.1020
165.000				.4090	.1330	.0840	.0280	.0280	.0220	.0820	.4410		.1450		.1000
180.000	1.6530	1.6130	.7660	.3550	.1010	.0560	.0070	.0030	.0020	.0840	.4390	.0730	.1580	.0320	.0280
270.000		1.2680													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.560

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0730	-.0850	-.0540
30.000	-.1210	-.1020	-.1050
60.000	-.0730	-.0620	-.0640
90.000			.0330
120.000	.1350	.0800	.0330
135.000	.1400	.2720	.1700
150.000	.0880	.3300	.2100
165.000		.4720	.2100
180.000	.0060		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6820	1.3210	.3370	.0910	-.0600	-.0910	-.1160	-.1060	-.0990	-.0910	-.0330	.0110	-.0520	-.0800	-.0750
30.000			.4300	.1190	-.0330	-.0660	-.1010	-.1010	-.0930	-.0990	-.0330	-.1170	-.1380	-.1260	-.0790
60.000			.5760	.2130	.0180	-.0270	-.0630	-.0660	-.0560	.0960	-.1160	-.1170	-.1560	-.1260	-.0660
90.000		1.6110	.7340	.3240	.0840	.0320	-.0170	-.0170	.1740	.5020	-.1170	-.0730	-.0900	-.0110	-.0090
120.000			.8390	.4040	.1320	.0770	.0220	.0200	.0450	.1490	.1210	.0470	.0910	.1010	.1330
135.000								.0290		.0880		.2810		.1130	
150.000			.8640	.4220	.1400	.0790	.0300	.0280	.0260	.0890	.2650	.2050	.1720	.1700	.0820
165.000				.4000	.1270	.0770	.0190	.0200	.0210	.0890	.4420		.1320		.0660
180.000	1.6820	1.6410	.7870	.3620	.1030	.0540	.0010	.0030	.0020	.0410	.4410	.0430	.1230	.0520	.0100
270.000		1.3350													

X/LT .7449 .8526 .9290

PHI

.000	-.0740	-.0720	-.0380
30.000	-.0860	-.0860	-.0890
60.000	-.0620	-.0750	-.0630
90.000			-.0280
120.000	.1010	.0610	.0110
135.000	.1040	.1940	.1340
150.000	.0690	.2910	.1330
165.000		.3670	.1650
180.000	-.0190		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.250

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7000	1.3350	.3420	.0860	-.0550	-.0870	-.1060	-.0990	-.0940	-.0830	-.0310	.0170	-.0370	-.0630	-.0630
30.000			.4110	.1070	-.0420	-.0750	-.0980	-.1110	-.0900	-.0950	-.0290	-.1070	-.1280	-.1120	-.0810
60.000			.5290	.1810	-.0020	-.0360	-.0720	-.0760	-.0660	.0900	-.1180	-.1080	-.1580	-.1310	-.1120
90.000	1.5800		.6650	.2770	.0510	.0090	-.0350	-.0360	.0400	.4830	-.1180	-.0770	-.0820	-.0170	-.0360
120.000			.7820	.3600	.1030	.0550	.0050	.0020	.0280	.0530	.0910	.0750	.0900	.0660	.1040
135.000								.0130		.0720		.2670		.0830	
150.000			.8320	.3990	.1240	.0750	.0210	.0190	.0210	.0830	.2870	.1570	.1270	.1370	.0710
165.000				.3920	.1210	.0740	.0190	.0150	.0190	.0840	.4540		.1400		.0530
180.000	1.7000	1.6600	.7950	.3650	.1080	.0750	.0080	.0050	.0150	.0830	.4520	.0070	.1290	.0470	.0390
270.000		1.3920													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0650	-.0630	-.0390												
30.000	-.0620	-.0670	-.0740												
60.000	-.0530	-.0830	-.0750												
90.000			-.0300												
120.000	.0670	.0450	-.0280												
135.000	.0670	.1280	.0990												
150.000	.0560	.2580	.1040												
165.000		.3120	.0950												
180.000	.0130														

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7130	1.3440	.3490	.0900	-.0550	-.0860	-.1050	-.0970	-.0770	-.0670	-.0240	.0100	-.0290	-.0440	-.0530
30.000			.3950	.0980	-.0480	-.0770	-.1040	-.1020	-.0780	-.0820	-.0240	-.0780	-.1160	-.1070	-.0540
60.000			.4860	.1520	-.0200	-.0510	-.0830	-.0840	-.0690	.0940	-.1190	-.1060	-.1590	-.1400	-.0920
90.000	1.5430		.6060	.2290	.0270	-.0140	-.0500	-.0430	-.0150	.4580	-.1220	-.0700	-.0610	-.0180	-.0440
120.000			.7240	.3170	.0770	.0320	-.0150	-.0090	.0190	.0280	.0960	.1130	.0710	.0790	.0790
135.000								.0060		.0540		.2300		.0910	
150.000			.8060	.3770	.1090	.0620	.0110	.0170	.0180	.0690	.3190	.1830	.0940	.0790	.0780
165.000				.3800	.1140	.0640	.0140	.0220	.0200	.0690	.4500		.1670		.0650
180.000	1.7130	1.6760	.8040	.3700	.1070	.0650	.0110	.0170	.0190	.0220	.4490	.0290	.1510	.0450	.0770
270.000		1.4490													
X/LT	.7449	.8526	.9290												
PHI															



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.400

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7000	1.3270	.3420	.0890	-.0560	-.0880	-.0980	-.0910	-.0860	-.0760	-.0110	-.0070	-.0450	-.0630	-.0480
30.000			.3190	.0540	-.0680	-.0930	-.1100	-.0960	-.0870	-.0710	-.0100	-.0070	-.0470	-.0590	-.0790
60.000			.3450	.0630	-.0660	-.0880	-.1110	-.1000	-.0910	-.0420	-.1160	-.1520	-.1460	-.1510	-.1150
90.000		1.3950	.4170	.1090	-.0440	-.0720	-.0980	-.0920	-.0330	.4200	-.1170	-.0810	-.0160	-.0280	-.0710
120.000			.5330	.1870	.0010	-.0330	-.0660	-.0660	-.0240	-.0050	.1480	.1280	.0290	.0840	.0650
135.000								-.0460		.0390		.1380		.0630	
150.000			.6740	.2850	.0580	.0150	-.0290	-.0250	.0110	.0620	.1460	.0300	.0800	.0290	.0430
165.000				.3290	.0840	.0390	-.0080	-.0060	.0270	.0620	.3470		.0920		.0390
180.000	1.7000	1.6640	.7890	.3650	.1060	.0590	.0090	.0110	.0350	.0630	.3600	.0580	.1300	.0620	.0400
270.000		1.5810													

X/LT .7449 .8526 .9290

PHI			
.000	-.0670	-.0610	-.0330
30.000	-.0710	-.0400	-.0280
60.000	-.0320	-.0410	-.0460
90.000			-.0390
120.000	.0110	-.0220	-.0320
135.000	.0110	.0180	-.0110
150.000	-.0010	.0490	-.0440
165.000		.0280	-.0230
180.000	.0110		

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.580

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6760	1.3070	.3360	.0980	-.0490	-.0880	-.0990	-.0950	-.0860	-.0770	.0020	-.0170	-.0580	-.0870	-.0640
30.000			.2970	.0550	-.0720	-.0960	-.1080	-.0980	-.0850	-.0760	-.0010	-.0150	-.0600	-.0730	-.0800
60.000			.3050	.0480	-.0730	-.0930	-.1120	-.1010	-.0900	-.0040	-.1150	-.1450	-.1540	-.1570	-.1090
90.000		1.3330	.3640	.0780	-.0600	-.0830	-.1090	-.1000	.0030	.3640	-.1170	-.0480	-.0180	-.0540	-.0620
120.000			.4720	.1510	-.0190	-.0480	-.0790	-.0720	-.0410	-.0440	.1970	.0870	.0520	.1080	.0500
135.000								-.0550		.0390		.1010		.0690	
150.000			.6320	.2540	.0430	.0020	-.0370	-.0350	.0000	.0720	.1800	-.0320	.0390	.0110	.0220
165.000				.3100	.0750	.0310	-.0120	-.0110	.0030	.0520	.3370		.0700		-.0290
180.000	1.6760	1.6410	.7790	.3590	.1040	.0560	.0090	.0100	.0160	.0500	.3380	.0690	.0880	.0690	.0120
270.000		1.5980													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 2) = 2.999

BETAT ( 7) = 6.580

SECTION ( 1)EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0760	-.0680	-.0510
30.000	-.0770	-.0360	-.0530
60.000	-.0430	-.0370	-.0530
90.000			-.0520
120.000	-.0080	-.0190	-.0520
135.000	-.0070	.0100	-.0460
150.000	-.0180	.0220	-.0470
165.000		.0240	-.0480
180.000	-.0200		

MACH ( 2) = 2.999

BETAT ( 8) = 8.750

SECTION ( 1)EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6580	1.2870	.3290	.0940	-.0500	-.0890	-.1100	-.1030	-.0880	-.0780	-.0110	-.0330	-.1110	-.1210	-.0880
30.000			.2710	.0300	-.0760	-.1030	-.1090	-.1020	-.0910	-.0770	-.0110	-.0480	-.0780	-.0830	-.0880
60.000			.2730	.0300	-.0810	-.0980	-.1120	-.1030	-.0770	-.0610	-.1080	-.1060	-.1410	-.1390	-.0940
90.000		1.2760	.3140	.0540	-.0730	-.0980	-.1120	-.0770	-.0450	.2920	-.1080	-.0320	-.0260	-.0720	-.0590
120.000			.4230	.1200	-.0350	-.0670	.0910	-.0610	-.0460	-.0620	.1000	.0850	.0520	.0950	.0190
135.000								-.0630		.0450		.0170		.0600	
150.000			.5880	.2290	.0270	-.0120	-.0480	-.0440	-.0060	.0510	.1920	-.0620	-.0190	-.0550	-.0370
165.000				.2930	.0670	.0200	-.0190	-.0200	.0000	.0320	.2960		.0660		-.0540
180.000	1.6580	1.6230	.7650	.3530	.1030	.0540	.0660	.0090	.0060	.0300	.2960	.0460	.1430	.0310	.0250
270.000		1.6240													

X/LT .7449 .8526 .9290

PHI

.000	-.0790	-.0840	-.0660
30.000	-.0800	-.0450	-.0650
60.000	-.0660	-.0460	-.0670
90.000			-.0480
120.000	-.0270	-.0480	-.0470
135.000	-.0450	-.0140	-.0470
150.000	-.0230	.0080	-.0610
165.000		-.0290	-.0610
180.000	.0010		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6570	1.3040	.3090	.0780	-.0540	-.0850	-.1010	-.0950	-.0630	-.0620	-.0460	-.0470	-.1230	-.1390	-.0430
30.000			.4290	.1190	-.0250	-.0580	-.0870	-.0860	-.0570	-.0680	-.0490	-.0850	-.1320	-.1400	-.0740
60.000			.5980	.2310	.0350	-.0030	-.0440	-.0480	-.0140	.1300	-.0490	-.0840	-.1550	-.1380	-.0380
90.000	1.6460		.7710	.3590	.1080	.0570	.0090	.0350	.1070	.6370	-.0500	-.0700	-.1000	-.0550	.0150
120.000			.8790	.4370	.1530	.1020	.0420	.0610	.0790	.1350	.1180	.0220	.0590	.1040	.1770
135.000								.0660		.0980		.1730		.1420	
150.000			.8780	.4280	.1480	.0990	.0420	.0610	.0540	.0940	.1150	.2270	.1510	.1630	.1110
165.000				.3850	.1220	.0760	.0230	.0450	.0380	.0920	.3880		.1130		.0860
180.000	1.6570	1.6200	.7490	.3320	.0860	.0470	-.0010	.0230	.0180	.0910	.3880	.0230	.1100	.0780	.0510
270.000		1.2630													

X/LT .7449 .8526 .9290

PHI			
.000	-.0660	-.0780	-.0560
30.000	-.0670	-.0870	-.0880
60.000	-.0550	-.0570	-.0480
90.000			-.0470
120.000	.1420	.1010	.1050
135.000	.1170	.1490	.1720
150.000	.0900	.3220	.1690
165.000		.3610	.2270
180.000	.0090		

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.520

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.3260	.3220	.0860	-.0620	-.0930	-.0950	-.0870	-.0700	-.0690	-.0470	-.0370	-.0740	-.0870	-.0610
30.000			.4190	.1040	-.0440	-.0750	-.0860	-.0860	-.0680	-.0760	-.0490	-.0850	-.1190	-.1240	-.0890
60.000			.5670	.1900	.0030	-.0170	-.0500	-.0550	-.0340	.1040	-.0660	-.0820	-.1440	-.1310	-.0890
90.000	1.6320		.7170	.2990	.0660	.0350	-.0070	.0050	.0290	.6160	-.0670	-.0570	-.0850	-.0380	-.0340
120.000			.8240	.3780	.1130	.0780	.0280	.0320	.0510	.0720	.1220	.0330	.0610	.0710	.1350
135.000								.0400		.0740		.2450		.1110	
150.000			.8590	.3950	.1200	.0870	.0350	.0410	.0380	.0760	.1620	.1740	.1430	.1320	.0900
165.000				.3700	.1060	.0830	.0250	.0330	.0290	.0750	.3800		.1400		.0570
180.000	1.6890	1.6510	.7760	.3330	.0820	.0550	.0070	.0180	.0180	.0770	.3980	.0070	.0930	.0790	.0300
270.000		1.3340													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 )	EXTERNAL TANK														
X/LT	DEPENDENT VARIABLE CP														
	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7300	1.3550	.3270	.0890	-.0450	-.0760	-.0850	-.0810	-.0640	-.0620	-.0040	-.0190	-.0550	-.0470	-.0250
30.000			.3730	.0870	-.0470	-.0710	-.0870	-.0900	-.0680	-.0760	-.0040	-.0680	-.0970	-.1150	-.0650
60.000			.4680	.1370	-.0180	-.0410	-.0710	-.0750	-.0580	.0600	-.0370	-.0670	-.1420	-.1400	-.1020
90.000		1.5620	.5930	.2190	.0230	-.0090	-.0430	-.0340	-.0140	.5540	-.0660	-.0610	-.0810	-.0300	-.0340
120.000			.7100	.3010	.0700	.0320	-.0120	-.0050	.0210	.0290	.1450	.0700	.0710	.0440	.0840
135.000								.0090		.0490		.2030		.0890	
150.000			.7840	.3570	.1010	.0590	.0110	.0200	.0220	.0590	.2470	.1760	.1010	.0940	.0610
165.000				.3640	.1060	.0590	.0160	.0220	.0180	.0600	.4480		.1300		.0880
180.000	1.7300	1.6870	.7860	.3490	.0990	.0620	.0150	.0200	.0140	.0600	.4490	-.0160	.1130	.0540	.0740
270.000		1.4550													

X/LT .7449 .8526 .9290

SECTION ( 1 )	EXTERNAL TANK														
X/LT	DEPENDENT VARIABLE CP														
PHI															
.000	-.0570	-.0530	-.0330												
30.000	-.0560	-.0480	-.0360												
60.000	-.0510	-.0640	-.0480												
90.000			-.0390												
120.000	.0490	.0410	-.0080												
135.000	.0470	.0760	.0800												
150.000	.0730	.1770	.0800												
165.000		.2230	.0670												
180.000	.0500														

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 )	EXTERNAL TANK														
X/LT	DEPENDENT VARIABLE CP														
	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7290	1.3480	.3280	.0910	-.0450	-.0780	-.0800	-.0830	-.0790	-.0730	.0340	-.0200	-.0680	-.0520	-.0240
30.000			.3270	.0600	-.0590	-.0840	-.0970	-.0850	-.0810	-.0750	.0340	-.0220	-.0960	-.0890	-.0570
60.000			.3710	.0600	-.0520	-.0710	-.0930	-.0930	-.0870	.0010	-.0610	-.0620	-.1490	-.1460	-.1030
90.000		1.4630	.4620	.1250	-.0260	-.0500	-.0770	-.0760	-.0590	.4860	-.0600	-.0640	-.0560	-.0300	-.0460
120.000			.5790	.2040	.0180	-.0150	-.0480	-.0500	-.0490	.1260	.1560	.1410	.0370	.0740	.0410
135.000								-.0310		.0420		.1650		.0390	
150.000			.7000	.2980	.0700	.0280	-.0150	-.0150	-.0210	.0340	.1370	.0520	.0540	.0620	.0670
165.000				.3330	.0890	.0440	-.0020	-.0020	.0030	.0350	.4450		.0430		.0870
180.000	1.7290	1.6890	.7800	.3510	.0990	.0440	.0090	.0080	.0140	.0350	.4420	-.0260	.0440	.0520	.0760
270.000		1.5540													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.690

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6940	1.3140	.3240	.0860	-.0460	-.0790	-.0980	-.0930	-.0680	-.0660	-.0130	-.0410	-.0760	-.0970	-.0570
30.000			.2770	.0320	-.0670	-.0910	-.0990	-.0920	-.0770	-.0580	-.0120	-.0430	-.0750	-.0740	-.0700
60.000			.2830	.0310	-.0720	-.0950	-.1010	-.0930	-.0910	-.0200	-.0740	-.0740	-.1440	-.1390	-.1110
90.000		1.3380	.3410	.0630	-.0610	-.0840	-.1000	-.0660	-.0700	.3640	-.0710	-.0640	-.0330	-.0380	-.0580
120.000			.4540	.1300	-.0220	-.0520	-.0790	-.0630	-.0360	-.0350	.1140	.0910	.0150	.0710	.0130
135.000								-.0500		.0120		.0570		.0370	
150.000			.6110	.2350	.0350	-.0040	-.0410	-.0280	-.0060	.0390	.1330	-.0260	-.0150	-.0190	-.0240
165.000			.2930	.0680	.0250	-.0180	-.0060	-.0020	.0390	.3690		.0240			-.0330
180.000	1.6940	1.6570	.7650	.3410	.0940	.0490	.0020	.0170	.0150	.0390	.3630	.0020	.0780	.0670	.0200
270.000		1.6170													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0780	-.0670	-.0720												
30.000	-.0800	-.0540	-.0560												
60.000	-.0840	-.0520	-.0560												
90.000			-.0480												
120.000	-.0200	-.0160	-.0490												
135.000	-.0270	-.0180	-.0420												
150.000	-.0180	.0070	-.0430												
165.000		-.0410	-.0450												
180.000	.0010														

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.910

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6590	1.2870	.3100	.0770	-.0680	-.0980	-.0970	-.0900	-.0770	-.0760	.0040	-.0510	-.1120	-.1140	-.0830
30.000			.2470	-.0010	-.0930	-.1160	-.0930	-.0990	-.0840	-.0740	.0050	-.0510	-.0740	-.0830	-.0830
60.000			.2390	-.0010	-.1000	-.0920	-.0900	-.1010	-.0980	-.0590	-.0470	-.0510	-.1420	-.1320	-.0800
90.000		1.2620	.2850	.0160	-.0940	-.0950	-.0960	-.0850	-.0910	.3110	-.0420	-.0580	-.0200	-.0450	-.0490
120.000			.3830	.0790	-.0580	-.0660	-.0880	-.0830	-.0520	-.0110	.0940	.1200	.0390	.0710	.0140
135.000								-.0690		.0090		-.0220		.0200	
150.000			.5550	.1890	.0030	-.0160	-.0470	-.0470	-.0310	.0230	.1500	-.0570	-.0340	-.0510	-.0500
165.000			.2530	.0380	.0160	-.0210	-.0210	-.0210	-.0170	.0050	.3160		-.0050		-.0460
180.000	1.6590	1.6200	.7440	.3160	.0760	.0490	.0040	.0050	.0020	.0050	.3140	.0260	.0890	.0510	.0230
270.000		1.6290													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT02)

MACH (3) = 3.502

BETAT (8) = 8.910

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0850	-.0800	-.0820
30.000	-.0850	-.0600	-.0680
60.000	-.0810	-.0580	-.0570
90.000			-.0630
120.000	-.0370	-.0440	-.0640
135.000	-.0690	-.0370	-.0610
150.000	-.0380	.0040	-.0610
165.000		-.0450	-.0610
180.000	-.0010		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNTG3) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = -6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUOFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.420

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6710	1.3620	.4260	.1260	-.0580	-.0970	-.1230	-.1180	-.0930	-.0550	.0190	-.0050	-.0780	-.1070	-.0660
30.000			.5450	.1860	-.0160	-.0580	-.0940	-.0930	-.0840	-.0800	-.0770	-.1410	-.1610	-.1280	-.0690
60.000			.6970	.2930	.0530	.0070	-.0420	-.0470	-.0330	.1590	-.1510	-.1730	-.1430	-.0640	-.0760
90.000	1.6440		.8330	.3980	.1230	.0670	.0090	.0110	.4010	.3640	-.1160	-.1350	-.1180	-.0390	.0060
120.000			.8960	.4520	.1610	.1020	.0390	.0340	.0730	.5780	.0600	.0290	.0560	.1420	.2050
135.000								.0330		.1030		.1810		.1380	
150.000			.8660	.4350	.1390	.0890	.0250	.0230	.0260	.0630	.3500	.2150	.2150	.1210	.0950
165.000				.3930	.1100	.0640	.0060	.0060	.0060	.0700	.4970		.1920		.0360
180.000	1.6710	1.5890	.7490	.3400	.0780	.0350	-.0180	-.0200	-.0050	.0760	.3790	.1100	.0760	.0110	-.0370
270.000		1.2970													

X/LT .7449 .8526 .9290

PHI			
.000	-.0840	-.0550	-.0310
30.000	-.0630	-.0880	-.0890
60.000	-.0420	-.0510	-.0020
90.000			.1120
120.000	.0910	.1340	.1560
135.000	.0920	.2820	.1550
150.000	.0860	.3170	.2050
165.000		.4690	.1610
180.000	-.0260		

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.290

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6820	1.3710	.4320	.1270	-.0750	-.1110	-.1220	-.1130	-.0950	-.0690	.0180	.0050	-.0690	-.0930	-.0660
30.000			.5220	.1560	-.0420	-.0850	-.1020	-.1020	-.0890	-.0830	-.0670	-.1360	-.1490	-.1190	-.0700
60.000			.6500	.2410	.0120	-.0180	-.0630	-.0630	-.0510	.1460	-.1590	-.1880	-.1600	-.0820	-.1040
90.000	1.6130		.7740	.3390	.0690	.0360	-.0180	-.0190	.3790	.3510	-.1210	-.1380	-.1040	-.0500	-.0220
120.000			.8450	.3990	.1080	.0700	.0130	.0090	.0470	.5740	.0600	.0510	.0500	.1680	.1530
135.000								.0110		.0780		.2160		.1060	
150.000			.8370	.4000	.1070	.0710	.0130	.0070	.0140	.0500	.4610	.1990	.1600	.1000	.0680



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.290

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
165.000				.3690	.0890	.0570	.0010	-.0040	.0120	.0900	.4530		.1760		.0250
180.000	1.6820	1.6030	.7570	.3290	.0640	.0350	-.0180	-.0220	.0190	.0810	.3660	.1130	.0900	.0200	-.0150
270.000		1.3480													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0770	-.0400	-.0230												
30.000	-.0680	-.0820	-.0730												
60.000	-.0300	-.0670	-.0180												
90.000			.0820												
120.000	.0630	.0720	.1170												
135.000	.0650	.2240	.1130												
150.000	.0680	.2920	.1460												
165.000		.4290	.1180												
180.000	-.0160														

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7060	1.3850	.4340	.1280	-.0630	-.0980	-.1220	-.1120	-.0920	-.0710	-.0080	-.0300	-.0470	-.0680	-.0620
30.000			.5010	.1530	-.0390	-.0770	-.1100	-.1090	-.0860	-.0730	-.0610	-.1380	-.1320	-.1110	-.0690
60.000			.6010	.2160	.0010	-.0330	-.0800	-.0820	-.0600	.1460	-.1760	-.2090	-.1640	-.0900	-.1050
90.000		1.5870	.7090	.2960	.0510	.0060	-.0460	-.0340	.3420	.3350	-.1330	-.1350	-.0900	-.0560	-.0390
120.000			.7900	.3620	.0920	.0470	-.0130	-.0100	.0340	.5340	.0500	.0610	.0420	.1380	.1190
135.000								-.0030		.0440		.1900		.0860	
150.000			.8160	.3860	.1020	.0560	-.0020	.0010	.0290	.0530	.2730	.1600	.1240	.0820	.0630
165.000				.3690	.0930	.0470	-.0080	-.0030	.0290	.0740	.3950		.1610		.0430
180.000	1.7060	1.6240	.7710	.3450	.0760	.0340	-.0210	-.0160	.0140	.0510	.3340	.0930	.1460	.0550	.0160
270.000		1.4080													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0730	-.0390	-.0210												
30.000	-.0610	-.0630	-.0710												
60.000	-.0350	-.0550	-.0250												
90.000			.0500												
120.000	.0430	.0350	.0870												
135.000	.0460	.1620	.0730												
150.000	.0440	.2390	.0820												

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 1 ) = 2.496

BETAT ( 3 ) = -4.180

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

## PHI

165.000 .3390 .0550

180.000 -.0110

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000 1.7080 1.3820 .4430 .1340 -.0660 -.1030 -.1180 -.1140 -.0920 -.0680 .0200 .0120 -.0170 -.0510 -.0800

30.000 .4840 .1340 -.0530 -.0920 -.1130 -.1120 -.0870 -.0820 -.0090 -.0930 -.1070 -.1090 -.0690

60.000 .5600 .1800 -.0240 -.0500 -.0930 -.0950 -.0800 .1400 -.1510 -.1840 -.1680 -.1420 -.0640

90.000 1.5430 .6550 .2480 .0160 -.0200 -.0650 -.0640 .2450 .3390 -.1060 -.1410 -.0720 -.0640 -.0580

120.000 .7380 .3110 .0580 .0200 -.0340 -.0350 .0070 .2620 .0790 .0670 .0220 .1080 .0960

135.000 .0400 .1700 .0610

150.000 .7910 .3540 .0830 .0410 -.0140 -.0150 .0190 .0980 .2710 .0950 .0850 .0640 .0510

165.000 .3570 .0840 .0440 -.0110 -.0130 .0130 .1080 .3910 .1710 .0300

180.000 1.7080 1.6320 .7780 .3480 .0740 .0380 -.0160 -.0180 -.0100 .0900 .3380 .0330 .1440 .1160 .0320

270.000 1.4520

X/LT .7449 .8526 .9290

## PHI

.000 -.0700 -.0180 -.0040

30.000 -.0550 -.0420 -.0390

60.000 -.0450 -.0270 -.0210

90.000 .0330

120.000 .0340 .0180 .0610

135.000 .0340 .1170 .0400

150.000 .0370 .2140 .0230

165.000 .2730 .0120

180.000 -.0040

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7060	1.3760	.4400	.1310	-.0560	-.0920	-.1180	-.1140	-.0900	-.0680	-.0010	-.0180	-.0290	-.0520	-.0830
30.000			.4350	.1110	-.0620	-.0990	-.1250	-.1120	-.0900	-.0740	-.0820	-.0460	-.0720	-.0860	-.0830
60.000			.4670	.1240	-.0560	-.0800	-.1210	-.1140	-.0940	.1350	-.1580	-.1900	-.1530	-.1530	-.0690
90.000		1.4510	.5320	.1640	-.0350	-.0650	-.1050	-.0960	.0430	.3130	-.1220	-.1070	-.0540	-.0770	-.0620
120.000			.6150	.2290	.0080	-.0330	-.0770	-.0720	-.0450	.0390	.1130	.0970	.0080	.0900	-.0580
135.000								-.0540		.1710		.0750		.0780	
150.000			.7070	.3040	.0540	.0050	-.0420	-.0380	-.0330	.0840	.2600	.0920	.0610	.0780	.0250
165.000				.3300	.0710	.0230	-.0290	-.0230	.0070	.0640	.3190		.1340		.0140
180.000	1.7060	1.6280	.7760	.3500	.0810	.0330	-.0180	-.0150	.0220	.0720	.3280	.0560	.1420	.1190	.0290
270.000		1.5410													

X/LT .7449 .8526 .9290

PHI

.000	-.0760	-.0190	-.0190
30.000	-.0710	-.0230	-.0140
60.000	-.0170	-.0320	-.0310
90.000			-.0130
120.000	-.0120	-.0160	.0070
135.000	-.0130	.0400	-.0220
150.000	.0220	.0910	-.0590
165.000		.1040	-.0260
180.000	-.0010		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.310

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7060	1.3800	.4420	.1300	-.0540	-.0930	-.1210	-.1100	-.0980	-.0800	.0100	-.0150	-.0490	-.0670	-.0770
30.000			.4130	.0930	-.0670	-.1000	-.1270	-.1070	-.0980	-.0790	-.0870	-.0130	-.0490	-.0770	-.0860
60.000			.4200	.1000	-.0640	-.0880	-.1270	-.1080	-.1040	.1210	-.1370	-.1690	-.1490	-.1370	-.0660
90.000		1.4060	.4730	.1320	-.0470	-.0810	-.1120	-.1090	.0030	.3310	-.1040	-.1410	-.0560	-.0810	-.0770
120.000			.5560	.1910	-.0100	-.0490	-.0890	-.0910	-.0550	.0060	.1380	.0910	.0100	.0750	.0500
135.000								-.0760		.0840		.0720		.0810	
150.000			.6690	.2740	.0360	-.0070	-.0540	-.0570	-.0110	.0940	.2130	.0650	.0940	.0390	.0070
165.000				.3110	.0600	.0140	-.0360	-.0420	.0050	.0680	.3110		.1130		-.0150
180.000	1.7060	1.6270	.7680	.3440	.0810	.0330	-.0200	-.0230	.0150	.0780	.3510	.1060	.1360	.0530	.0150
270.000		1.5820													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.570

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6770	1.3550	.4280	.1250	-.0570	-.0960	-.1270	-.1290	-.1150	-.0900	-.0270	-.0360	-.0890	-.1110	-.0710
30.000			.3590	.0690	-.0830	-.1140	-.1390	-.1300	-.1120	-.0620	-.0500	-.0550	-.0640	-.0890	-.1010
60.000			.3450	.0550	-.0870	-.1140	-.1400	-.1230	-.0800	.0260	-.1200	-.1350	-.1050	-.1200	-.0610
90.000	1.3020		.3720	.0720	-.0820	-.1110	-.1310	-.1190	.0000	.2750	-.0890	-.0670	-.0580	-.1000	-.0990
120.000			.4540	.1240	-.0510	-.0850	-.0790	-.0780	-.0720	-.0520	.1450	.0590	.0990	.0490	.0020
135.000								-.0660		.0500		.0360		.0290	
150.000			.5910	.2200	.0050	-.0370	-.0790	-.0720	-.0180	.0650	.1840	-.0500	-.0150	-.0490	-.0610
165.000				.2770	.0410	-.0060	-.0530	-.0550	-.0160	.0410	.2540		-.0090		-.1150
180.000	1.6770	1.6010	.7470	.3350	.0780	.0270	-.0250	-.0260	-.0190	.0750	.3550	.0950	.0640	.0010	-.0470
270.000		1.6450													

X/LT .7449 .8526 .9290

PHI			
.000	-.0910	-.0710	-.0530
30.000	-.0560	-.0300	-.0400
60.000	-.0570	-.0300	-.0390
90.000			-.0330
120.000	-.0560	-.0390	-.0790
135.000	-.0570	-.0240	-.1110
150.000	-.0650	-.0640	-.1330
165.000		-.0820	-.1300
180.000	-.0310		

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.570

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6660	1.3510	.3770	.1040	-.0470	-.0810	-.1150	-.1100	-.0890	-.0740	-.0080	-.0140	-.0730	-.1110	-.0780
30.000			.5010	.1680	-.0070	-.0450	-.0880	-.0910	-.0670	-.0710	-.0070	-.0830	-.1330	-.1350	-.0770
60.000			.6580	.2760	.0550	.0040	-.0420	-.0470	-.0170	.1660	-.0880	-.0830	-.1310	-.1110	-.0780
90.000	1.6400		.8020	.3760	.1160	.0550	.0010	.0160	.3400	.5280	-.0880	-.0900	-.1160	-.0600	-.0180
120.000			.8650	.4250	.1460	.0820	.0240	.0370	.0600	.4850	.1020	-.0050	.0390	.0760	.1290
135.000								.0360		.0860		.1480		.1290	
150.000			.8320	.4020	.1300	.0670	.0130	.0280	.0230	.0710	.0880	.2610	.1640	.1720	.0970
165.000				.3580	.1040	.0460	-.0030	.0110	.0070	.0810	.4060		.1430		.0640
180.000	1.6660	1.5830	.7060	.3090	.0720	.0180	-.0240	-.0110	-.0040	.0380	.4020	.0620	.0680	.0380	.0140
270.000		1.2840													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7190	1.3900	.3900	.1090	-.0440	-.0770	-.1030	-.1010	-.0780	-.0570	-.0180	.0100	-.0530	-.0700	-.0690
30.000			.4590	.1360	-.0260	-.0590	-.0920	-.0940	-.0730	-.0760	-.0160	-.0610	-.1220	-.1140	-.0690
60.000			.5620	.2040	.0080	-.0280	-.0680	-.0670	-.0470	.1480	-.0930	-.0980	-.1450	-.1280	-.0690
90.000		1.5940	.6760	.2760	.0550	.0090	-.0360	-.0250	.0400	.5060	-.0430	-.0930	-.1170	-.0490	-.0390
120.000			.7550	.3350	.0900	.0400	-.0080	-.0030	.0220	.0560	.1000	.0010	.0410	.0400	.0850
135.000								.0030		.0530		.2310		.0650	
150.000			.7790	.3580	.0980	.0480	.0010	.0050	.0080	.0630	.2490	.1420	.1100	.1310	.0480
165.000				.3450	.0950	.0440	-.0060	.0000	.0090	.0360	.4240		.1460		.0470
180.000	1.7190	1.6350	.7320	.3220	.0750	.0310	-.0050	-.0090	.0010	.0310	.4220	-.0040	.0970	.0400	.0430
270.000		1.4120													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0510	-.0600	-.0330												
30.000	-.0510	-.0460	-.0660												
60.000	-.0450	-.0710	-.0460												
90.000			-.0160												
120.000	.0600	.0320	-.0190												
135.000	.0420	.1050	.0940												
150.000	.0450	.2350	.0940												
165.000		.2740	.0940												
180.000	-.0020														

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7340	1.3990	.4010	.1270	-.0420	-.0760	-.0920	-.0850	-.0790	-.0680	.0090	-.0010	-.0320	-.0400	-.0480
30.000			.4410	.1240	-.0330	-.0680	-.0910	-.0870	-.0760	-.0780	.0080	-.0510	-.0970	-.0970	-.0490
60.000			.5210	.1720	-.0090	-.0350	-.0690	-.0710	-.0640	.1280	-.0930	-.0840	-.1390	-.1340	-.0820
90.000		1.5630	.6130	.2350	.0250	-.0050	-.0450	-.0480	-.0220	.4900	-.0730	-.0880	-.1000	-.0430	-.0460
120.000			.7020	.2950	.0620	.0260	-.0190	-.0250	.0040	.0150	.1020	.0510	.0470	.0290	.0690
135.000								-.0160		.0360		.2070		.0590	
150.000			.7530	.3350	.0830	.0460	-.0010	-.0070	.0030	.0460	.2780	.1780	.0750	.0860	.0560
165.000				.3350	.0870	.0470	-.0020	-.0050	-.0050	.0240	.4120		.1190		.0710
180.000	1.7340	1.6500	.7450	.3270	.0800	.0440	-.0020	-.0100	-.0120	.0090	.4110	.0150	.1400	.0530	.0690
270.000		1.4690													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 2) = 2.999

BETAT ( 4) = -2.100

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0600	-.0600	-.0230
30.000	-.0630	-.0420	-.0550
60.000	-.0660	-.0670	-.0530
90.000			-.0140
120.000	.0430	.0180	-.0160
135.000	.0450	.0620	.0580
150.000	.0390	.1650	.0590
165.000		.2200	.0650
180.000	.0000		

MACH ( 2) = 2.999

BETAT ( 5) = 2.220

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7330	1.3940	.3960	.1140	-.0440	-.0770	-.0970	-.0960	-.0730	-.0560	.0380	-.0110	-.0510	-.0430	-.0480
30.000			.3870	.0940	-.0500	-.0810	-.0970	-.0960	-.0730	-.0640	.0370	-.0100	-.0500	-.0760	-.0670
60.000			.4180	.1090	-.0440	-.0700	-.0990	-.1000	-.0740	.0750	-.0900	-.0760	-.1400	-.1360	-.1020
90.000		1.4660	.4850	.1480	-.0240	-.0530	-.0850	-.0740	-.0560	.4660	-.0440	-.0980	-.0690	-.0470	-.0630
120.000			.5720	.2080	.0110	-.0240	-.0610	-.0540	-.0450	.1210	.1290	.1080	.0160	.0740	.0600
135.000								-.0380		.0530		.1310		.0360	
150.000			.6720	.2780	.0510	.0110	-.0320	-.0240	-.0260	.0050	.1890	.0690	.0700	.0510	.0320
165.000				.3050	.0680	.0250	-.0200	-.0140	-.0030	.0260	.3680		.0580		.0440
180.000	1.7330	1.6500	.7370	.3230	.0760	.0360	-.0120	-.0060	.0170	.0400	.3660	-.0030	.0830	.0550	.0660
270.000		1.5580													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0600	-.0600	-.0350
30.000	-.0620	-.0370	-.0350
60.000	-.0300	-.0360	-.0350
90.000			-.0180
120.000	.0300	.0020	-.0180
135.000	.0100	.0130	-.0190
150.000	-.0050	.0570	-.0180
165.000		.0570	.0070
180.000	-.0050		



## AMES 87-797 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.390

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7170	1.3820	.4000	.1170	-.0400	-.0710	-.0920	-.0870	-.0770	-.0650	.0300	-.0050	-.0550	-.0680	-.0530
30.000			.3700	.0830	-.0510	-.0800	-.0920	-.0890	-.0770	-.0690	.0280	-.0050	-.0520	-.0600	-.0670
60.000			.3800	.0850	-.0540	-.0790	-.1020	-.0920	-.0800	.0470	-.0850	-.0620	-.1440	-.1320	-.1190
90.000	1.4090		.4300	.1160	-.0400	-.0670	-.0940	-.0880	-.0600	.4570	-.0540	-.0980	-.0670	-.0530	-.0670
120.000			.5160	.1720	-.0070	-.0390	-.0730	-.0690	-.0650	.0570	.1250	.1080	.0060	.0740	.0410
135.000								-.0530		.0180		.1480		.0230	
150.000			.6290	.2540	.0360	-.0010	-.0400	-.0360	-.0090	.0360	.1260	.0010	.0630	.0260	.0130
165.000				.2900	.0600	.0180	-.0260	-.0210	-.0120	.0280	.3710		.0870		.0250
180.000	1.7170	1.6370	.7320	.3220	.0800	.0350	-.0100	-.0070	-.0020	.0300	.3690	-.0060	.1110	.0520	.0270
270.000		1.5920													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0630	-.0590	-.0330												
30.000	-.0670	-.0520	-.0260												
60.000	-.0390	-.0290	-.0260												
90.000			-.0310												
120.000	.0060	-.0080	-.0310												
135.000	-.0110	-.0080	-.0280												
150.000	-.0160	.0300	-.0280												
165.000		.0010	-.0290												
180.000	-.0040														

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.560

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.3580	.3830	.1130	-.0410	-.0750	-.0910	-.0920	-.0850	-.0740	.0310	-.0070	-.0400	-.0820	-.0540
30.000			.3340	.0630	-.0610	-.0870	-.1000	-.0870	-.0840	-.0750	-.0350	-.0470	-.0650	-.0670	-.0560
60.000			.3280	.0640	-.0650	-.0850	-.1020	-.0910	-.0880	-.0060	-.0880	-.1040	-.1200	-.1160	-.0960
90.000	1.3440		.3680	.0800	-.0550	-.0800	-.1030	-.0920	-.0380	.4390	-.0880	-.0880	-.0440	-.0540	-.0640
120.000			.4540	.1340	-.0260	-.0530	-.0830	-.0830	-.0540	-.0260	.1140	.0830	-.0030	.0910	.0310
135.000								-.0710		.0070		.1050		.0480	
150.000			.5830	.2230	.0220	-.0130	-.0520	-.0520	-.0200	.0530	.1420	-.0260	.0420	.0170	.0010
165.000				.2700	.0480	.0110	-.0330	-.0320	-.0100	.0330	.3290		.0570		-.0290
180.000	1.6920	1.6090	.7140	.3130	.0770	.0330	-.0140	-.0140	-.0020	.0290	.3260	.0510	.0190	.0600	.0090
270.000		1.6140													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.560

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0590	-.0700	-.0570
30.000	-.0610	-.0350	-.0570
60.000	-.0420	-.0350	-.0560
90.000			-.0550
120.000	-.0130	-.0330	-.0550
135.000	-.0130	-.0330	-.0560
150.000	-.0310	.0080	-.0580
165.000		-.0200	-.0550
180.000	-.0270		

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.730

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6750	1.3440	.3900	.1270	-.0410	-.0790	-.0910	-.0920	-.0840	-.0660	-.0100	-.0380	-.0850	-.1040	-.0650
30.000			.3120	.0490	-.0690	-.0930	-.1040	-.0920	-.0870	-.0660	-.0100	-.0390	-.0590	-.0670	-.0870
60.000			.2970	.0490	-.0750	-.0870	-.1030	-.0930	-.0710	-.0520	-.0840	-.0720	-.1020	-.1020	-.0890
90.000		1.2920	.3280	.0580	-.0690	-.0870	-.1030	-.0910	-.0500	.3260	-.0860	-.0590	-.0360	-.0670	-.0610
120.000			.4110	.1090	-.0410	-.0620	-.0630	-.0560	-.0440	-.0680	.0940	.0700	.0370	.0830	.0100
135.000								-.0560		.0260		.0140		.0390	
150.000			.5510	.2000	.0080	-.0180	-.0540	-.0560	-.0180	.0340	.1530	-.0550	-.0220	-.0640	-.0630
165.000			.2530	.0400	.0070	-.0330	-.0340	-.0160	.0120	.2980			.0620		-.0610
180.000	1.6750	1.5990	.7090	.3070	.0740	.0370	-.0100	-.0090	-.0150	.0410	.2960	.0530	.1500	.0260	.0190
270.000		1.6460													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0730	-.0820	-.0690
30.000	-.0730	-.0440	-.0700
60.000	-.0650	-.0440	-.0550
90.000			-.0540
120.000	-.0370	-.0560	-.0540
135.000	-.0650	-.0380	-.0540
150.000	-.0410	.0000	-.0660
165.000		-.0350	-.0730
180.000	-.0080		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6620	1.3440	.3510	.0970	-.0360	-.0670	-.0930	-.0830	-.0760	-.0670	-.0470	-.0580	-.1010	-.1060	-.0740
30.000			.4750	.1560	-.0010	-.0360	-.0680	-.0710	-.0620	-.0710	-.0470	-.0770	-.1020	-.1170	-.0760
60.000			.6380	.2670	.0580	.0180	-.0280	-.0310	-.0160	.1490	-.0480	-.0770	-.1240	-.1190	-.0760
90.000		1.6400	.7830	.3700	.1130	.0620	.0130	.0160	.0870	.6560	-.0490	-.0700	-.0930	-.0690	-.0130
120.000			.8500	.4160	.1430	.0910	.0340	.0350	.0540	.1400	.1210	.0100	.0400	.0490	.1100
135.000								.0350		.0730		.0780		.1050	
150.000			.8130	.3880	.1250	.0760	.0240	.0260	.0220	.0630	.0830	.2610	.1350	.1370	.0810
165.000			.3430	.0990	.0550	.0080	.0120	.0020	.0610	.3460			.1040		.0620
180.000	1.6620	1.5780	.6830	.2910	.0690	.0280	-.0140	-.0110	-.0160	.0620	.3440	.0250	.1230	.0570	.0270
270.000		1.2720													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0730	-.0750	-.0490												
30.000	-.0740	-.0770	-.0740												
60.000	-.0440	-.0630	-.0240												
90.000			-.0150												
120.000	.1220	.1000	.0830												
135.000	.0930	.1170	.1740												
150.000	.0710	.2910	.1740												
165.000		.2920	.2220												
180.000	.0010														

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.530

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7030	1.3730	.3630	.1020	-.0500	-.0810	-.0920	-.0840	-.0750	-.0720	-.0430	-.0290	-.0640	-.0730	-.0390
30.000			.4630	.1400	-.0270	-.0580	-.0760	-.0770	-.0670	-.0710	-.0430	-.0730	-.1100	-.1180	-.0790
60.000			.5970	.2170	.0210	-.0040	-.0450	-.0470	-.0330	.1150	-.0430	-.1050	-.1330	-.1190	-.0790
90.000		1.6340	.7250	.3050	.0690	.0340	-.0080	-.0040	.0190	.6340	-.0090	-.0720	-.0960	-.0660	-.0250
120.000			.7990	.3600	.1020	.0660	.0160	.0150	.0290	.0450	.1180	.0050	.0300	.0540	.1060
135.000								.0170		.0600		.1410		.0840	
150.000			.7930	.3550	.0970	.0620	.0130	.0130	.0100	.0650	.1320	.1750	.1210	.1150	.0720
165.000			.3270	.0810	.0490	.0040	.0040	.0030	.0030	.0650	.3340		.1090		.0530
180.000	1.7030	1.6180	.6990	.2880	.0590	.0300	-.0120	-.0100	-.0020	.0650	.3330	.0110	.1040	.0820	.0170
270.000		1.3460													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.145

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7490	1.4110	.3800	.1100	-.0510	-.0850	-.0920	-.0830	-.0740	-.0710	.0160	-.0170	-.0720	-.0600	-.0270
30.000			.4240	.0970	-.0490	-.0780	-.0940	-.0930	-.0730	-.0730	.0150	-.0590	-.0990	-.1090	-.0660
60.000			.5050	.1420	-.0260	-.0440	-.0760	-.0790	-.0620	.0590	-.0500	-.0560	-.1420	-.1370	-.1020
90.000		1.5800	.5990	.2060	.0060	-.0170	-.0540	-.0460	-.0280	.5760	-.0450	-.0790	-.1050	-.0620	-.0470
120.000			.6840	.2640	.0400	.0115	-.0300	-.0260	.0010	.0080	.1010	.0090	.0350	.0210	.0630
135.000								-.0160		.0310		.1860		.0600	
150.000			.7330	.3020	.0590	.0290	-.0190	-.0120	.0060	.0360	.2050	.1600	.0760	.0570	.0410
165.000				.3010	.0620	.0310	-.0180	-.0100	-.0020	.0360	.3930		.0790		.0740
180.000	1.7490	1.6630	.7230	.2900	.0560	.0290	-.0200	-.0140	-.0160	.0160	.3900	-.0240	.0570	.0510	.0610
270.000		1.4710													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0620	-.0530	-.0430												
30.000	-.0610	-.0430	-.0430												
60.000	-.0730	-.0570	-.0430												
90.000			-.0450												
120.000	.0340	.0290	-.0450												
135.000	.0180	.0390	.0600												
150.000	.0490	.1290	.0600												
165.000		.1740	.0460												
180.000	.0310														

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7410	1.3990	.3810	.1170	-.0360	-.0660	-.0910	-.0860	-.0680	-.0650	.0240	-.0150	-.0630	-.0590	-.0290
30.000			.3730	.0810	-.0460	-.0720	-.0960	-.0860	-.0700	-.0700	.0230	-.0540	-.0630	-.0610	-.0580
60.000			.4040	.0950	-.0430	-.0670	-.0930	-.0910	-.0750	-.0010	-.0530	-.0560	-.1230	-.1240	-.1030
90.000		1.4740	.4700	.1350	-.0210	-.0580	-.0810	-.0710	-.0550	.5270	-.0500	-.0620	-.0760	-.0360	-.0520
120.000			.5580	.1950	.0070	-.0270	-.0580	-.0540	-.0400	.5860	.1070	.0980	.0360	.0210	.0250
135.000								-.0410		.0120		.1490		.0120	
150.000			.6550	.2630	.0460	.0060	-.0320	-.0270	-.0300	.0160	.1060	.0700	.0520	.0500	.0420
165.000				.2910	.0610	.0190	-.0210	-.0170	-.0010	.0220	.4070		.0660		.0660
180.000	1.7410	1.6620	.7240	.3060	.0700	.0280	-.0160	-.0100	.0100	.0240	.4030	-.0070	.0520	.0390	.0700
270.000		1.5650													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.680

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7090	1.3680	.3650	.1180	-.0360	-.0700	-.0900	-.0860	-.0720	-.0630	-.0030	-.0270	-.0600	-.0770	-.0490
30.000			.3110	.0510	-.0580	-.0840	-.0920	-.0860	-.0820	-.0630	-.0030	-.0490	-.0620	-.0670	-.0680
60.000			.3050	.0450	-.0640	-.0840	-.0880	-.0860	-.0910	-.0450	-.0460	-.0500	-.1240	-.1160	-.1020
90.000	1.3520		.3440	.0650	-.0580	-.0800	-.0930	-.0740	-.0770	.4100	-.0460	-.0730	-.0550	-.0400	-.0600
120.000			.4300	.1170	-.0280	-.0570	-.0820	-.0750	-.0460	-.0450	.0850	.0760	.0050	.0580	.0100
135.000								-.0650		-.0020		.0610		.0170	
150.000			.5630	.2060	.0170	-.0150	-.0500	-.0480	-.0240	-.0030	.1020	-.0230	-.0100	-.0110	-.0430
165.000			.2520	.0420	.0060	-.0320	-.0310	-.0120	-.0050	.3480			.0110		-.0440
180.000	1.7090	1.6300	.6980	.2970	.0680	.0280	-.0140	-.0110	.0010	-.0030	.3480	.0130	.0970	.0770	.0070
270.000		1.6320													

X/LT .7449 .8526 .9290

PHI			
.000	-.0700	-.0660	-.0730
30.000	-.0680	-.0520	-.0530
60.000	-.0680	-.0490	-.0500
90.000			-.0500
120.000	-.0210	-.0320	-.0500
135.000	-.0310	-.0290	-.0480
150.000	-.0320	-.0010	-.0480
165.000		-.0560	-.0500
180.000	-.0100		

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.890

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6700	1.3350	.3560	.1050	-.0420	-.0740	-.0890	-.0870	-.0780	-.0770	-.0010	-.0550	-.0980	-.1010	-.0840
30.000			.2810	.0400	-.0690	-.0920	-.0890	-.0910	-.0810	-.0760	-.0030	-.0600	-.0690	-.0760	-.0860
60.000			.2650	.0220	-.0740	-.0870	-.0820	-.0920	-.0870	-.0770	-.0630	-.0580	-.1140	-.1030	-.0860
90.000	1.2810		.2920	.0360	-.0720	-.0920	-.0850	-.0850	-.0960	.3460	-.0500	-.0780	-.0360	-.0450	-.0530
120.000			.3730	.0840	-.0500	-.0710	-.0910	-.0860	-.0590	-.0260	.0650	.1070	-.0050	.0610	-.0060
135.000								-.0780		-.0030		-.0180		-.0020	
150.000			.5210	.1740	-.0020	-.0330	-.0610	-.0600	-.0490	-.0030	.1280	-.0580	-.0340	-.0580	-.0630
165.000			.2290	.0300	-.0050	-.0380	-.0400	-.0410	-.0010	.2960			-.0020		-.0550
180.000	1.6700	1.5890	.6830	.2840	.0610	.0230	-.0170	-.0180	-.0240	-.0030	.2950	.0170	.0840	.0320	-.0020
270.000		1.6430													

X/LT .7449 .8526 .9290

PHI

DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT03)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.890

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0890	-.0780	-.0860
30.000	-.0910	-.0630	-.0620
60.000	-.0850	-.0570	-.0650
90.000			-.0660
120.000	-.0480	-.0510	-.0670
135.000	-.0810	-.0490	-.0580
150.000	-.0500	-.0130	-.0580
165.000		-.0600	-.0580
180.000	-.0110		



AMES 87-707 IA9 02A + S3 + T9 EXTERNAL TANK

(RBNT04) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 72.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6790	1.4090	.4720	.1520	-.0460	-.0860	-.1160	-.1140	-.0720	-.0420	.0250	-.0090	-.0750	-.1040	-.0760
30.000			.5920	.2220	.0020	-.0440	-.0820	-.0840	-.0590	-.0450	-.0390	-.1110	-.1410	-.1200	-.0640
60.000			.7300	.3160	.0650	.0260	-.0340	-.0370	-.0060	.2240	-.1220	-.1510	-.1320	-.0470	-.0400
90.000	1.6510		.8350	.3980	.1180	.0680	.0060	.0240	.3940	.3750	-.1250	-.1760	-.1600	-.0610	-.0070
120.000			.8650	.4250	.1340	.0820	.0210	.0300	.0630	.5090	.0210	-.0520	.0100	.0980	.1790
135.000								.0210	.0820		.0930		.1090		
150.000			.8120	.3840	.1060	.0580	.0020	.0070	.0100	.0390	.2080	.1890	.1900	.0960	.0620
165.000				.3390	.0760	.0350	-.0290	-.0130	-.0100	.0430	.4840		.1790		.0130
180.000	1.6790	1.5540	.6890	.2890	.0440	.0050	-.0460	-.0330	-.0110	.0510	.3770	.0930	.0660	-.0170	-.0500
270.000		1.3950													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0820	-.0700	-.0430												
30.000	-.0690	-.0940	-.0830												
60.000	-.0680	-.0290	.0110												
90.000			.0870												
120.000	.0840	.1240	.1580												
135.000	.0840	.2820	.1570												
150.000	.0830	.3150	.2050												
165.000		.4450	.1650												
180.000	-.0560														

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.4160	.4810	.1590	-.0510	-.0940	-.1150	-.1090	-.0810	-.0500	.0020	-.0210	-.0520	-.0860	-.0640
30.000			.5720	.1930	-.0180	-.0610	-.0870	-.0870	-.0710	-.0510	-.0410	-.1220	-.1260	-.1100	-.0530
60.000			.6840	.2720	.0320	.0020	-.0510	-.0530	-.0290	.2080	-.1440	-.1750	-.1420	-.0600	-.0480
90.000	1.6170		.7760	.3440	.0770	.0380	-.0180	-.0130	.3660	.3550	-.1450	-.1580	-.1470	-.0690	-.0240
120.000			.8140	.3750	.0980	.0560	-.0020	-.0080	.0340	.5020	.0060	-.0190	.0060	.0710	.1320
135.000								-.0070		.0380		.1420		.0860	
150.000			.7860	.3610	.0800	.0460	-.0100	-.0080	-.0040	.0150	.2320	.1820	.1650	.0800	.0410



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.190

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .3090 .0710

180.000 -.0450

MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.070

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7240 1.4380 .4910 .1700 -.0470 -.0850 -.1060 -.1030 -.0660 -.0510 .0270 .0110 -.0310 -.0460 -.0570

30.000 .5280 .1640 -.0320 -.0740 -.1010 -.0980 -.0640 -.0500 -.0180 -.0610 -.0930 -.1010 -.0540

60.000 .5940 .2010 -.0110 -.0410 -.0790 -.0820 -.0480 .2170 -.1170 -.1550 -.1580 -.0820 -.0450

90.000 1.5580 .6620 .2510 .0180 -.0140 -.0610 -.0480 .2410 .3690 -.1190 -.1500 -.1240 -.0830 -.0530

120.000 .7140 .2920 .0410 .0080 -.0390 -.0310 .0090 .3450 .0420 .0110 -.0030 .0650 .0860

135.000 .7410 .3140 .0550 .0200 -.0310 -.0190 .0170 .0750 .2430 .0950 .0680 .0500 .0270

165.000 .3100 .0500 .0180 -.0310 -.0190 .0140 .0770 .3740 .1720 .0220

180.000 1.7240 1.6040 .7180 .2980 .0450 .0140 -.0370 -.0200 -.0120 .0690 .3360 .0260 .1440 .1250 .0180

270.000 1.4680

X/LT .7449 .8526 .9290

PHI

.000 -.0600 -.0240 -.0040

30.000 -.0420 -.0390 -.0320

60.000 -.0280 -.0370 -.0100

90.000 .0100

120.000 .0350 .0100 .0650

135.000 .0370 .1050 .0450

150.000 .0060 .2020 .0310

165.000 .2630 .0160

180.000 -.0420

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7220	1.4310	.4890	.1620	-.0550	-.0940	-.1070	-.1090	-.0770	-.0580	.0260	.0140	-.0320	-.0470	-.0700
30.000			.4750	.1200	-.0610	-.1020	-.1150	-.1090	-.0760	-.0600	-.0890	.0070	-.0540	-.0820	-.0760
60.000			.4920	.1300	-.0600	-.0750	-.1150	-.1070	-.0780	.1870	-.1060	-.1490	-.1550	-.0820	-.0840
90.000		1.4630	.5380	.1550	-.0470	-.0650	-.1050	-.0900	.0310	.3570	-.1170	-.1430	-.0960	-.0940	-.0820
120.000			.5930	.1990	-.0190	-.0430	-.0850	-.0790	-.0440	.0120	.0630	.0570	-.0300	.0740	.0440
135.000								-.0630		.1510		.0720		.0240	
150.000			.6630	.2530	.0120	-.0140	-.0600	-.0500	-.0460	.0920	.2540	.0790	.0440	.0580	-.0050
165.000				.2710	.0260	-.0030	-.0490	-.0450	-.0140	.0610	.3080		.1300		-.0110
180.000	1.7220	1.6000	.7170	.2860	.0380	.0070	-.0410	-.0430	.0030	.0610	.3290	.0410	.1450	.1140	.0080
270.000		1.5530													

X/LT .7449 .8526 .9290

PHI			
.000	-.0690	-.0230	-.0160
30.000	-.0690	-.0240	-.0140
60.000	-.0170	-.0310	-.0140
90.000			-.0230
120.000	-.0220	-.0350	.0090
135.000	-.0220	.0310	-.0280
150.000	-.0050	.0830	-.0540
165.000		.0980	-.0260
180.000	-.0460		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7150	1.4240	.4900	.1620	-.0480	-.0890	-.1130	-.1090	-.0860	-.0570	-.0120	-.0290	-.0450	-.0640	-.0580
30.000			.4520	.1090	-.0630	-.1000	-.1200	-.1020	-.0880	-.0580	-.1050	-.0280	-.0430	-.0660	-.0850
60.000			.4450	.1040	-.0650	-.0890	-.1200	-.1020	-.0890	.1700	-.1200	-.1590	-.1440	-.0810	-.0670
90.000		1.4150	.4760	.1260	-.0550	-.0820	-.1130	-.0960	-.0280	.3400	-.1310	-.1590	-.0910	-.0930	-.0840
120.000			.5350	.1660	-.0290	-.0590	-.0960	-.0940	-.0720	.0200	.0750	.0620	-.0200	.0670	.0450
135.000								-.0840		.0430		.0730		.0320	
150.000			.6250	.2310	.0040	-.0270	-.0690	-.0750	-.0210	.0360	.1720	.0380	.0870	.0230	-.0230
165.000				.2640	.0240	-.0110	-.0580	-.0530	-.0130	.0090	.2930		.1060		-.0310
180.000	1.7150	1.5940	.7120	.2930	.0440	.0040	-.0450	-.0390	-.0050	.0220	.3200	.0850	.1290	.0410	.0010
270.000		1.5910													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0650	-.0430	-.0330
30.000	-.0660	-.0180	-.0160
60.000	-.0330	-.0330	-.0280
90.000			-.0370
120.000	-.0390	-.0370	-.0240
135.000	-.0380	.0140	-.0550
150.000	-.0390	.0080	-.0670
165.000		.0250	-.0700
180.000	-.0460		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.430

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6870	1.4040	.4790	.1590	-.0440	-.0860	-.1100	-.1100	-.0970	-.0710	.0060	-.0020	-.0500	-.0830	-.0740
30.000			.4220	.0990	-.0700	-.1030	-.1250	-.1130	-.0970	-.0510	-.0520	-.0540	-.0480	-.0710	-.0880
60.000			.4010	.0880	-.0750	-.0950	-.1190	-.1050	-.0900	.0390	-.0940	-.1280	-.1260	-.0630	-.0700
90.000		1.3480	.4240	.1000	-.0700	-.0930	-.1130	-.1050	.0030	.3600	-.1180	-.1300	-.0790	-.0950	-.1040
120.000			.4840	.1380	-.0470	-.0740	-.0990	-.0800	-.0750	.0200	.1030	.0530	-.0080	.0550	.0140
135.000								-.0640		.0180		.0730		.0250	
150.000			.5840	.2090	-.0060	-.0390	-.0810	-.0640	-.0320	.0670	.1640	-.0030	.0750	-.0180	-.0500
165.000				.2500	.0190	-.0180	-.0640	-.0660	-.0210	.0350	.2800		.0530		-.0780
180.000	1.6870	1.5670	.6960	.2930	.0440	.0020	-.0460	-.0470	-.0190	.0480	.3580	.1080	.0680	.0070	-.0440
270.000		1.6140													

X/LT .7449 .8526 .9290

PHI

.000	-.0790	-.0530	-.0390
30.000	-.0670	-.0200	-.0250
60.000	-.0530	-.0280	-.0220
90.000			-.0230
120.000	-.0670	-.0370	-.0460
135.000	-.0640	.0000	-.0880
150.000	-.0430	-.0180	-.1000
165.000		-.0460	-.1070
180.000	-.0460		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 1 ) = 2.498 BETAT ( 0 ) = 8.550

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6860	1.3960	.4770	.1580	-.0510	-.0930	-.1080	-.1110	-.1080	-.0780	-.0560	-.0210	-.0710	-.1000	-.0730
30.000			.3960	.0810	-.0820	-.1160	-.1280	-.1230	-.1060	-.0610	-.0690	-.0820	-.0700	-.0760	-.0820
60.000			.3690	.0590	-.0930	-.1040	-.1210	-.1130	-.0660	-.0150	-.1130	-.1310	-.0960	-.0580	-.0520
90.000	1.3120		.3830	.0660	-.0890	-.1030	-.1080	-.1150	.0000	.3130	-.1370	-.1140	-.0790	-.1000	-.1080
120.000			.4390	.1030	-.0690	-.0840	-.0850	-.0870	-.0720	-.0530	.1480	.0470	.0620	.0420	-.0050
135.000								-.0780		-.0080		.0540		.0070	
150.000			.5520	.1820	-.0230	-.0490	-.0900	-.0740	-.0360	.0340	.1320	-.0440	.0010	-.0570	-.0750
165.000				.2300	.0060	-.0250	-.0660	-.0760	-.0320	-.0030	.2420		-.0150		-.1190
180.000	1.6860	1.5680	.6900	.2820	.0380	.0030	-.0450	-.0490	-.0370	.0250	.3300	.0660	.0610	-.0090	-.0550
270.000		1.6560													

X/LT .7449 .8526 .9290

PHI			
.000	-.0800	-.0770	-.0630
30.000	-.0580	-.0310	-.0360
60.000	-.0560	-.0240	-.0360
90.000			-.0240
120.000	-.0650	-.0440	-.0850
135.000	-.0670	-.0250	-.1130
150.000	-.0720	-.0650	-.1320
165.000		-.0730	-.1230
180.000	-.0540		

MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.580

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6830	1.4020	.4380	.1400	-.0320	-.0670	-.0870	-.0920	-.0710	-.0530	.0200	-.0010	-.0490	-.0830	-.0670
30.000			.5560	.2020	.0120	-.0260	-.0630	-.0640	-.0540	-.0430	.0200	-.0600	-.1140	-.1170	-.0660
60.000			.7000	.2980	.0680	.0300	-.0210	-.0250	.0000	.2220	-.0620	-.1000	-.1130	-.0870	-.0390
90.000	1.6540		.8110	.3770	.1160	.0650	.0130	.0190	.3290	.5400	-.0530	-.1130	-.1270	-.0830	-.0110
120.000			.8360	.3990	.1300	.0790	.0260	.0280	.0500	.4500	.0690	-.0330	.0100	.0350	.1210
135.000								.0220		.0580		.0880		.1100	
150.000			.7790	.3580	.1020	.0550	.0090	.0080	.0080	.0430	.0520	.2540	.1340	.1510	.0650
165.000				.3140	.0760	.0370	-.0110	-.0070	-.0100	.0500	.3480		.1730		.0560
180.000	1.6830	1.5570	.6520	.2670	.0460	.0120	-.0330	-.0270	-.0180	.0200	.3500	.0480	.0790	.0270	.0080
270.000		1.2980													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT54)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7270	1.4410	.4470	.1430	-.0320	-.0670	-.0930	-.0940	-.0760	-.0600	.0100	.0140	-.0410	-.0480	-.0610
30.000			.5130	.1680	-.0100	-.0480	-.0810	-.0810	-.0670	-.0600	.0090	-.0420	-.0890	-.0950	-.0610
60.000			.6040	.2240	.0210	-.0100	-.0580	-.0590	-.0380	.1830	-.0680	-.1000	-.1260	-.0960	-.0670
90.000		1.6050	.6840	.2810	.0550	.0100	-.0340	-.0300	.0380	.5310	-.0690	-.1020	-.1230	-.0700	-.0510
120.000			.7320	.3140	.0720	.0290	-.0210	-.0150	.0090	.0630	.0670	-.0230	.0020	.0100	.0630
135.000								-.0150		.0310		.1520		.0480	
150.000			.7300	.3150	.0720	.0280	-.0190	-.0150	-.0080	.0430	.1820	.1510	.1000	.1090	.0370
165.000				.3000	.0620	.0220	-.0260	-.0210	-.0090	.0080	.3730		.1660		.0400
180.000	1.7270	1.6010	.6790	.2770	.0470	.0080	-.0270	-.0300	-.0150	.0100	.3720	.0050	.0770	.0370	.0410
270.000		1.4210													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0550	-.0560	-.0410
30.000	-.0540	-.0460	-.0540
60.000	-.0660	-.0500	-.0250
90.000			-.0070
120.000	.0550	.0280	-.0060
135.000	.0370	.0630	.0860
150.000	.0280	.2040	.0940
165.000		.2470	.0940
180.000	-.0170		

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7460	1.4480	.4530	.1430	-.0280	-.0620	-.0920	-.0920	-.0750	-.0620	.0010	.0080	-.0430	-.0430	-.0370
30.000			.4850	.1530	-.0170	-.0510	-.0840	-.0860	-.0720	-.0640	.0010	-.0330	-.0850	-.0910	-.0750
60.000			.5490	.1920	.0020	-.0320	-.0710	-.0720	-.0550	.1340	-.0630	-.0680	-.1340	-.1100	-.0910
90.000		1.5710	.6170	.2380	.0260	-.0140	-.0530	-.0510	-.0270	.5250	-.0570	-.1080	-.1250	-.0730	-.0650
120.000			.6700	.2780	.0500	.0080	-.0360	-.0380	-.0110	-.0010	.0700	-.0160	.0110	-.0040	.0450
135.000								-.0310		.0230		.1640		.0340	
150.000			.6990	.2960	.0600	.0180	-.0280	-.0300	-.0080	.0320	.2290	.1640	.0670	.0850	.0470
165.000				.2910	.0590	.0160	-.0280	-.0300	-.0150	.0160	.3700		.1210		.0600
180.000	1.7460	1.6200	.6870	.2810	.0530	.0150	-.0300	-.0350	-.0320	-.0010	.3720	-.0230	.1250	.0530	.0510
270.000		1.4790													

X/LT	.7449	.8526	.9290
PHI			



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0580	-.0510	-.0150
30.000	-.0580	-.0390	-.0490
60.000	-.0440	-.0590	-.0250
90.000			-.0150
120.000	.0340	.0080	-.0150
135.000	.0370	.0400	.0560
150.000	.0240	.1330	.0310
165.000		.1850	.0370
180.000	-.0130		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.210

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7400	1.4430	.4550	.1480	-.0280	-.0640	-.0800	-.0840	-.0710	-.0610	.0190	.0080	-.0370	-.0430	-.0380
30.000			.4350	.1210	-.0350	-.0680	-.0910	-.0870	-.0700	-.0620	-.0110	-.0300	-.0380	-.0610	-.0630
60.000			.4510	.1250	-.0360	-.0540	-.0870	-.0860	-.0710	.0650	-.0590	-.0580	-.1270	-.0990	-.0870
90.000		1.4750	.4930	.1510	-.0240	-.0490	-.0800	-.0810	-.0610	.4920	-.0560	-.1070	-.1030	-.0640	-.0600
120.000			.5540	.1930	-.0010	-.0290	-.0620	-.0670	-.0430	.0100	.0710	.0610	.0010	-.0110	.0440
135.000								-.0570		.0370		.1120		.0190	
150.000			.6240	.2420	.0290	-.0040	-.0440	-.0450	-.0430	-.0150	.1720	.0720	.0380	.0480	.0190
165.000				.2610	.0420	.0070	-.0350	-.0370	-.0210	.0110	.3330		.0490		.0340
180.000	1.7400	1.6140	.6760	.2770	.0500	.0080	-.0340	-.0290	-.0020	.0170	.3330	-.0070	.0380	.0650	.0570
270.000		1.5670													

X/LT .7449 .8526 .9290

PHI

.000	-.0490	-.0500	-.0360
30.000	-.0500	-.0380	-.0370
60.000	-.0350	-.0370	-.0360
90.000			-.0360
120.000	.0180	-.0220	-.0340
135.000	.0010	.0000	-.0070
150.000	-.0210	.0320	-.0070
165.000		.0350	.0060
180.000	-.0160		

AMES 87-797 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.380

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7250	1.4280	.4420	.1390	-.0300	-.0640	-.0840	-.0890	-.0760	-.0660	-.0030	.0190	-.0590	-.0570	-.0550
30.000			.4000	.1020	-.0460	-.0760	-.0980	-.0870	-.0760	-.0660	-.0010	-.0470	-.0580	-.0610	-.0650
60.000			.3950	.0980	-.0480	-.0680	-.1000	-.0870	-.0790	-.0230	-.0590	-.0890	-.1340	-.1030	-.0930
90.000	1.4150		.4280	.1140	-.0420	-.0670	-.0940	-.0870	-.0760	.4730	-.0580	-.1150	-.0980	-.0720	-.0650
120.000			.4900	.1550	-.0210	-.0490	-.0780	-.0800	-.0760	.0830	.0920	.0770	-.0110	.0190	.0310
135.000								-.0700		.0170		.1220		.0090	
150.000			.5780	.2150	.0140	-.0170	-.0550	-.0560	-.0440	.0180	.1240	.0080	.0320	.0260	-.0010
165.000				.2470	.0340	-.0040	-.0440	-.0460	-.0350	.0030	.3450		.0770		.0190
180.000	1.7250	1.5980	.6650	.2740	.0500	.0120	-.0310	-.0310	-.0220	-.0020	.3460	-.0180	.0850	.0390	.0300
270.000		1.5980													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0570	-.0560	-.0360												
30.000	-.0560	-.0380	-.0310												
60.000	-.0470	-.0300	-.0450												
90.000			-.0540												
120.000	-.0050	-.0380	-.0320												
135.000	-.0210	-.0150	-.0320												
150.000	-.0360	.0100	-.0300												
165.000		-.0350	-.0440												
180.000	-.0200														

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7040	1.4080	.4340	.1370	-.0320	-.0660	-.0830	-.0890	-.0840	-.0650	.0100	.0130	-.0210	-.0610	-.0620
30.000			.3700	.0820	-.0540	-.0850	-.0990	-.0880	-.0810	-.0660	.0100	-.0580	-.0570	-.0510	-.0760
60.000			.3520	.0730	-.0600	-.0780	-.0950	-.0880	-.0820	-.0660	-.0670	-.0570	-.1120	-.0850	-.0740
90.000	1.3530		.3750	.0850	-.0560	-.0780	-.1000	-.0880	-.0770	.4430	-.0590	-.1060	-.0790	-.0650	-.0670
120.000			.4370	.1240	-.0380	-.0590	-.0890	-.0900	-.0630	-.0230	.0940	.0740	-.0160	.0460	.0130
135.000								-.0800		-.0090		.1090		.0120	
150.000			.5400	.1880	.0010	-.0300	-.0620	-.0660	-.0320	.0130	.1220	-.0280	.0260	.0150	-.0340
165.000				.2290	.0210	-.0100	-.0460	-.0510	-.0270	.0020	.3080		-.0170		-.0450
180.000	1.7040	1.5780	.6570	.2690	.0460	.0110	-.0300	-.0330	-.0120	.0090	.3050	.0280	.0260	.0350	-.0660
270.000		1.6240													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT54)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0560	-.0650	-.0610
30.000	-.0570	-.0370	-.0440
60.000	-.0550	-.0410	-.0430
90.000			-.0590
120.000	-.0280	-.0530	-.0590
135.000	-.0250	-.0370	-.0630
150.000	-.0480	-.0070	-.0630
165.000		-.0610	-.0630
180.000	-.0390		

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.710

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6800	1.3860	.4240	.1320	-.0310	-.0660	-.0910	-.0970	-.0850	-.0660	.0150	-.0340	-.0620	-.0890	-.0820
30.000			.3410	.0710	-.0600	-.0880	-.1990	-.0970	-.0840	-.0660	-.0620	-.0350	-.0620	-.0580	-.0900
60.000			.3080	.0540	-.0700	-.0930	-.1050	-.0970	-.0840	-.0630	-.0640	-.0670	-.1050	-.0660	-.0910
90.000		1.2930	.3230	.0610	-.0690	-.0940	-.1090	-.0900	-.0390	.4130	-.0630	-.0960	-.0660	-.0710	-.0910
120.000			.3870	.0960	-.0500	-.0790	-.0860	-.0590	-.0670	-.0710	.0800	.0460	-.0230	.0530	-.0110
135.000								-.0620		-.0050		.0380		.0100	
150.000			.5020	.1680	-.0080	-.0450	-.0770	-.0660	-.0310	.0220	.1150	-.0560	-.0410	-.0650	-.0800
165.000				.2140	.0180	-.0230	-.0590	-.0540	-.0250	.0070	.2810		.0020		-.0740
180.000	1.6800	1.5600	.6450	.2630	.0470	.0030	-.0370	-.0340	-.0280	.0150	.2810	.0350	.0860	.0150	-.0100
270.000		1.6490													

X/LT .7449 .8526 .9290

PHI

.000	-.0740	-.0820	-.0830
30.000	-.0720	-.0480	-.0530
60.000	-.0750	-.0550	-.0520
90.000			-.0620
120.000	-.0540	-.0630	-.0620
135.000	-.0820	-.0520	-.0630
150.000	-.0540	.0040	-.0730
165.000		-.0550	-.0740
180.000	-.0220		

AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.740

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6740	1.3910	.4020	.1220	-.0310	-.0650	-.0840	-.0840	-.0740	-.0620	-.0370	-.0520	-.0990	-.1120	-.0570
30.000			.5280	.1860	.0090	-.0300	-.0580	-.0610	-.0540	-.0570	-.0340	-.0590	-.0980	-.1210	-.0800
60.000			.6760	.2860	.0620	.0240	-.0180	-.0230	-.0080	.1680	-.0350	-.0570	-.1230	-.1060	-.0530
90.000	1.6500		.7870	.3660	.1080	.0630	.0140	.0140	.0770	.6690	-.0350	-.0980	-.1190	-.1030	-.0520
120.000			.8180	.3850	.1210	.0760	.0260	.0210	.0380	.2100	.0800	-.0320	-.0070	.0220	.0600
135.000								.0140		.0480		.0020		.0780	
150.000			.7550	.3390	.0940	.0520	.0070	.0020	.0000	.0480	.0800	.2860	.1030	.1460	.0590
165.000				.2910	.0680	.0320	-.0110	-.0120	-.0170	.0350	.2510		.0780		.0590
180.000	1.6740	1.5470	.6220	.2420	.0350	.0070	-.0310	-.0310	-.0340	.0370	.2480	.0110	.1040	.0470	.0140
270.000		1.2810													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0720	-.0690	-.0580												
30.000	-.0700	-.0730	-.0610												
60.000	-.0500	-.0470	-.0260												
90.000			-.0080												
120.000	.1110	.0990	-.0070												
135.000	.0690	.1100	.1750												
150.000	.0530	.2540	.1600												
165.000		.2240	.2080												
180.000	-.0070														

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7160	1.4250	.4100	.1270	-.0300	-.0630	-.0810	-.0810	-.0680	-.0590	-.0160	-.0310	-.0700	-.0710	-.0410
30.000			.5140	.1690	-.0020	-.0380	-.0620	-.0660	-.0550	-.0550	-.0170	-.0550	-.1030	-.1160	-.0830
60.000			.6360	.2470	.0390	.0070	-.0340	-.0380	-.0170	.1320	-.0160	-.0540	-.1250	-.1160	-.0520
90.000	1.6470		.7360	.3130	.0770	.0400	-.0060	-.0020	.0210	.6500	-.0170	-.0940	-.1200	-.0960	-.0520
120.000			.7730	.3430	.0940	.0530	.0080	.0080	.0220	.0600	.0870	-.0320	-.0110	.0170	.0470
135.000								.0070		.0380		.0250		.0610	
150.000			.7370	.3230	.0860	.0410	-.0010	-.0020	-.0030	.0370	.0840	.1750	.0900	.0970	.0490
165.000				.2920	.0620	.0280	-.0150	-.0120	-.0120	.0370	.2690		.0820		.0470
180.000	1.7160	1.5900	.6400	.2530	.0390	.0080	-.0290	-.0260	-.0170	.0370	.2680	-.0040	.1020	.0750	.0050
270.000		1.3550													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0620	-.0570	-.0450
30.000	-.0630	-.0580	-.0660
60.000	-.0610	-.0500	-.0320
90.000			-.0180
120.000	.0460	.0640	-.0190
135.000	.0510	.0740	.1260
150.000	.0250	.1740	.1120
165.000		.1600	.1490
180.000	-.0130		

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7360	1.4390	.4180	.1320	-.0330	-.0670	-.0860	-.0870	-.0640	-.0620	.0260	-.0160	-.0580	-.0490	-.0140
30.000			.4920	.1490	-.0160	-.0510	-.0760	-.0770	-.0610	-.0610	.0210	-.0500	-.0900	-.0970	-.0680
60.000			.5840	.2080	.0140	-.0200	-.0540	-.0580	-.0360	.1030	-.0330	-.0490	-.1260	-.1170	-.0570
90.000		1.6170	.6670	.2660	.0440	.0060	-.0310	-.0230	-.0010	.6550	-.0310	-.0870	-.1150	-.0910	-.0420
120.000			.7120	.2980	.0640	.0250	-.0180	-.0130	.0060	.0080	.0750	-.0290	-.0130	.0240	.0420
135.000								-.0100		.0250		.1030		.0470	
150.000			.7100	.2970	.0620	.0270	-.0180	-.0130	-.0080	.0250	.1310	.1570	.0650	.0610	.0370
165.000				.2780	.0520	.0230	-.0250	-.0170	-.0080	.0260	.2950		.0550		.0490
180.000	1.7360	1.6070	.6510	.2540	.0380	.0060	-.0350	-.0260	-.0150	.0240	.2940	-.0200	.0670	.0520	.0270
270.000		1.4160													

X/LT .7449 .8526 .9290

PHI

.000	-.0490	-.0520	-.0300
30.000	-.0470	-.0500	-.0380
60.000	-.0650	-.0550	-.0360
90.000			-.0320
120.000	.0550	.0360	-.0310
135.000	.0350	.0450	.0830
150.000	.0070	.1450	.0630
165.000		.1500	.0730
180.000	.0060		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.150

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7550	1.4550	.4250	.1350	-.0240	-.0600	-.0810	-.0790	-.0490	-.0470	.0200	-.0060	-.0610	-.0620	.0020
30.000			.4700	.1420	-.0170	-.0510	-.0750	-.0770	-.0480	-.0470	.0220	-.0050	-.0600	-.0920	-.0430
60.000			.5330	.1780	.0010	-.0310	-.0620	-.0660	-.0350	.0620	-.0300	-.0060	-.1160	-.1150	-.0630
90.000	1.5860		.6050	.2230	.0240	-.0110	-.0470	-.0300	-.0080	.6120	-.0290	-.0810	-.1110	-.0840	-.0400
120.000			.6590	.2600	.0480	.0070	-.0340	-.0170	.0100	-.0060	.0690	-.0190	-.0080	.0290	.0480
135.000								-.0130		.0200		.1780		.0530	
150.000			.6830	.2770	.0550	.0160	-.0250	-.0090	.0160	.0200	.1720	.1450	.0600	.0530	.0410
165.000				.2740	.0540	.0150	-.0260	-.0100	.0100	.0200	.3150		.0440		.0640
180.000	1.7550	1.6250	.6600	.2640	.0470	.0140	-.0280	-.0140	-.0020	.0200	.3150	-.0150	.0690	.0690	.0730
270.000		1.4790													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0170	-.0470	-.0380												
30.000	-.0170	-.0410	-.0380												
60.000	-.0410	-.0510	-.0250												
90.000			-.0170												
120.000	.0450	.0250	-.0190												
135.000	.0280	.0320	.0600												
150.000	.0260	.0750	.0360												
165.000		.1040	.0270												
180.000	.0190														

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7540	1.4520	.4260	.1330	-.0250	-.0600	-.0770	-.0830	-.0590	-.0550	.0030	-.0040	-.0640	-.0740	-.0140
30.000			.4100	.1030	-.0370	-.0650	-.0880	-.0830	-.0590	-.0590	.0020	-.0590	-.0630	-.0620	-.0470
60.000			.4260	.1100	-.0350	-.0600	-.0870	-.0820	-.0600	-.0510	-.0310	-.0590	-.1210	-.1190	-.0830
90.000	1.4820		.4690	.1360	-.0210	-.0620	-.0790	-.0670	-.0530	.5650	-.0310	-.0890	-.1120	-.0720	-.0470
120.000			.5320	.1750	-.0020	-.0370	-.0650	-.0550	-.0370	.0070	.0640	.0200	.0070	.0090	.0210
135.000								-.0470		.0310		.1160		.0180	
150.000			.6030	.2270	.0240	-.0120	-.0480	-.0380	-.0320	.0030	.0630	.0570	.0240	.0550	.0350
165.000				.2460	.0360	-.0120	-.0380	-.0330	-.0100	.0030	.3490		.0680		.0650
180.000	1.7540	1.6270	.6580	.2600	.0440	.0000	-.0340	-.0240	.0010	.0020	.3520	-.0110	.0540	.0570	.0640
270.000		1.5810													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0230	-.0470	-.0440
30.000	-.0210	-.0510	-.0450
60.000	-.0510	-.0370	-.0460
90.000			-.0270
120.000	.0090	-.0070	-.0290
135.000	.0040	.0020	.0000
150.000	-.0060	.0240	.0000
165.000		.0000	-.0340
180.000	.0180		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.460

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7410	1.4390	.4190	.1340	-.0230	-.0560	-.0780	-.0790	-.0610	-.0550	.0130	.0060	-.0620	-.0550	-.0350
30.000			.3810	.0920	-.0420	-.0680	-.0860	-.0790	-.0660	-.0520	.0110	-.0520	-.0590	-.0640	-.0360
60.000			.3750	.0870	-.0470	-.0700	-.0840	-.0810	-.0730	-.0620	-.0350	-.0510	-.1190	-.1110	-.0910
90.000		1.4230	.4050	.1020	-.0400	-.0670	-.0860	-.0620	-.0630	.4850	-.0360	-.0920	-.1040	-.0690	-.0590
120.000			.4680	.1410	-.0180	-.0490	-.0760	-.0620	-.0320	-.0210	.0600	.0610	-.0060	-.0150	-.0010
135.000								-.0550		-.0010		.0910		-.0020	
150.000			.5620	.2020	.0140	-.0220	-.0560	-.0450	-.0170	.0130	.0900	.0110	.0030	.0240	-.0080
165.000			.2320	.0310	-.0080	-.0430	-.0350	-.0120	.0140	.0140	.3810		.0270		-.0030
180.000	1.7410	1.6160	.6500	.2590	.0450	.0050	-.0300	-.0250	-.0070	.0130	.3750	-.0170	.0640	.0470	.0140
270.000		1.6140													

X/LT .7449 .8526 .9290

PHI

.000	-.0590	-.0490	-.0420
30.000	-.0580	-.0520	-.0400
60.000	-.0690	-.0340	-.0380
90.000			-.0390
120.000	-.0190	-.0200	-.0420
135.000	-.0250	-.0180	-.0400
150.000	-.0260	.0010	-.0400
165.000		-.0390	-.0390
180.000	-.0030		





AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT04)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.870

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP	
X/LT	.7449	.8526	.9290
PHI			
.000	-.0680	-.0760	-.0630
30.000	-.0690	-.0600	-.0600
60.000	-.0680	-.0550	-.0530
90.000			-.0550
120.000	-.0450	-.0600	-.0530
135.000	-.0780	-.0630	-.0520
150.000	-.0560	-.0330	-.0540
165.000		-.0620	-.0560
180.000	-.0190		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNTG5) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = -2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.430

SECTION ( 1 )	EXTERNAL TANK														DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372														
PHI																													
.000	1.6840	1.4510	.5240	.1880	-.0270	-.0660	-.1010	-.1020	-.0790	-.0470	.0190	-.0070	-.0630	-.0930	-.0840														
30.000			.6460	.2560	.0260	-.0220	-.0650	-.0670	-.0570	-.0440	-.0030	-.0910	-.1180	-.1040	-.0500														
60.000			.7670	.3440	.0850	.0340	-.0220	-.0240	.0020	.2830	-.0960	-.1350	-.1160	-.0500	.0010														
90.000		1.6570	.8390	.4020	.1190	.0670	.0060	.0120	.3850	.3880	-.1400	-.1580	-.1410	.0160	-.0110														
120.000			.8330	.4010	.1150	.0660	.0050	.0060	.0460	.4390	-.0240	-.0900	-.0220	.0510	.1630														
135.000								-.0070		.0570		.0540		.0920															
150.000			.7570	.3450	.0760	.0310	-.0240	-.0210	-.0210	.0090	.1030	.1760	.1570	.0820	.0480														
165.000				.2930	.0480	.0030	-.0450	-.0450	-.0380	.0180	.4630		.1570		.0030														
180.000	1.6840	1.5200	.6340	.2460	.0170	-.0230	-.0670	-.0640	-.0330	.0200	.3610	.0730	.0500	-.0280	-.0550														
270.000		1.3110																											

X/LT .7449 .8526 .9290

PHI															
.000	-.0740	-.0620	-.0360												
30.000	-.0600	-.0620	-.0570												
60.000	-.0350	-.0640	.0130												
90.000			.0800												
120.000	.0840	.1250	.1610												
135.000	.0850	.2910	.1730												
150.000	.0650	.3160	.2170												
165.000		.4240	.1800												
180.000	-.0580														

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.310

SECTION ( 1 )	EXTERNAL TANK														DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372														
PHI																													
.000	1.7010	1.4620	.5350	.1920	-.0240	-.0660	-.0950	-.0960	-.0750	-.0460	-.0050	-.0170	-.0370	-.0710	-.0600														
30.000			.6260	.2400	.0160	-.0300	-.0700	-.0730	-.0570	-.0460	.0080	-.0920	-.1050	-.0930	-.0500														
60.000			.7180	.3070	.0560	.0110	-.0400	-.0420	-.0130	.2820	-.1100	-.1530	-.1290	-.0590	-.0090														
90.000		1.6270	.7780	.3520	.0870	.0390	-.0180	-.0090	.3600	.3780	-.1510	-.1700	-.1450	-.0340	-.0320														
120.000			.7830	.3620	.0900	.0390	-.0160	-.0120	.0190	.4330	-.0330	-.0790	-.0360	.0420	.1080														
135.000								-.0190		.0180		.0570		.0650															
150.000			.7320	.3250	.0620	.0180	-.0320	-.0310	-.0180	-.0100	.1270	.1620	.1050	.0620	.0230														



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.190

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

## PHI

165.000 .2690 .0930

180.000 -.0690

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000 1.7330 1.4870 .5440 .1980 -.0210 -.0630 -.0990 -.0970 -.0670 -.0510 .0040 .0020 -.0340 -.0450 -.0510

30.000 .5780 .2010 -.0100 -.0530 -.0900 -.0880 -.0640 -.0510 -.0740 -.0520 -.0760 -.0850 -.0570

60.000 .6240 .2240 .0050 -.0380 -.0780 -.0790 -.0490 .2740 -.1050 -.1570 -.1520 -.0730 -.0310

90.000 1.5630 .6640 .2540 .0210 -.0210 -.0650 -.0600 .2150 .3740 -.1530 -.1820 -.1470 -.0990 -.0640

120.000 .6840 .2720 .0340 -.0090 -.0560 -.0540 -.0170 .3720 -.0230 -.0450 -.0330 -.0150 .0670

135.000 .0540 -.0190 .1100 .0230

150.000 .6840 .2770 .0380 -.0060 -.0550 -.0520 -.0140 .0230 .1940 .0890 .0570 .0450 .0030

165.000 .2720 .0310 -.0130 -.0580 -.0520 -.0160 .0250 .3240 .1440 .1440 .0050

180.000 1.7330 1.5660 .6610 .2610 .0250 -.0160 -.0640 -.0580 -.0370 .0200 .3010 .0160 .1570 .1010 -.0040

270.000 1.4780

X/LT .7449 .8526 .9290

## PHI

.000 -.0620 -.0290 -.0130

30.000 -.0390 -.0390 -.0340

60.000 -.0170 -.0460 -.0340

90.000 -.0080

120.000 .0230 .0010 .0500

135.000 .0230 .0910 .0490

150.000 -.0160 .1870 .0320

165.000 .2380 .0210

180.000 -.0700

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7320	1.4830	.5430	.1970	-.0220	-.0660	-.0980	-.0960	-.0700	-.0510	.0160	.0120	-.0210	-.0400	-.0470
30.000			.5210	.1690	-.0330	-.0740	-.1060	-.1010	-.0660	-.0530	-.1060	-.0140	-.0200	-.0620	-.0720
60.000			.5180	.1600	-.0350	-.0700	-.1080	-.0980	-.0660	.2080	-.0950	-.1500	-.1430	-.0560	-.0420
90.000		1.4750	.5390	.1710	-.0310	-.0640	-.1020	-.0820	.0110	.3610	-.1520	-.1730	-.1120	-.1080	-.0750
120.000			.5720	.1940	-.0170	-.0520	-.0930	-.0810	-.0510	.0040	-.0070	.0010	-.0470	.0400	.0290
135.000								-.0790		.0730		.0780		.0170	
150.000			.6200	.2300	.0080	-.0340	-.0790	-.0770	-.0500	.0730	.1880	.0800	.0380	.0420	-.0430
165.000				.2430	.0170	-.0260	-.0690	-.0640	-.0360	.0320	.2680		.1340		-.0330
180.000	1.7320	1.5680	.6610	.2570	.0230	-.0180	-.0620	-.0540	-.0240	.0230	.2940	.0590	.1640	.1020	-.0090
270.000		1.5610													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0660	-.0260	-.0160												
30.000	-.0610	-.0210	-.0180												
60.000	-.0290	-.0410	-.0190												
90.000			-.0320												
120.000	-.0190	-.0380	.0130												
135.000	-.0200	.0310	-.0300												
150.000	-.0420	.0740	-.0480												
165.000		.0920	-.0080												
180.000	-.0710														

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7270	1.4780	.5410	.1960	-.0270	-.0720	-.1040	-.1030	-.0750	-.0510	.0170	.0120	-.0410	-.0580	-.0510
30.000			.4940	.1380	-.0490	-.0870	-.1140	-.1020	-.0740	-.0520	-.0640	-.0430	-.0340	-.0550	-.0730
60.000			.4710	.1210	-.0570	-.0860	-.1160	-.1010	-.0770	.1180	-.0630	-.1200	-.1370	-.0460	-.0310
90.000		1.4260	.4810	.1260	-.0530	-.0840	-.1170	-.0830	-.0400	.3700	-.1220	-.1620	-.1040	-.1060	-.0760
120.000			.5180	.1500	-.0400	-.0700	-.1060	-.0930	-.0690	.0270	.0440	.0270	-.0480	.0620	.0330
135.000								-.0890		.1140		.0540		-.0010	
150.000			.5840	.2020	-.0150	-.0490	-.0890	-.0790	-.0550	.0530	.1900	.0510	.0580	.0130	-.0580
165.000				.2260	.0000	-.0370	-.0810	-.0700	-.0350	.0310	.2790		.1210		-.0510
180.000	1.7270	1.5600	.6560	.2490	.0130	-.0260	-.0690	-.0550	-.0230	.0250	.3200	.0830	.1260	.0470	-.0130
270.000		1.6020													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0560	-.0410	-.0380
30.000	-.0590	-.0230	-.0230
60.000	-.0330	-.0400	-.0230
90.000			-.0390
120.000	-.0320	-.0490	-.0180
135.000	-.0330	.0070	-.0570
150.000	-.0580	.0050	-.0660
165.000		.0240	-.0650
180.000	-.0660		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.420

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6970	1.4480	.5350	.1950	-.0230	-.0640	-.0960	-.0950	-.0860	-.0510	-.0070	-.0160	-.0340	-.0720	-.0670
30.000			.4640	.1300	-.0510	-.0890	-.1130	-.0950	-.0860	-.0440	-.0660	-.0810	-.0550	-.0640	-.0840
60.000			.4260	.1030	-.0660	-.0920	-.1070	-.0960	-.0860	.0390	-.0730	-.1200	-.1170	-.0340	-.0350
90.000		1.3560	.4320	.1030	-.0660	-.0890	-.1060	-.0890	-.0340	.3530	-.1400	-.1750	-.0940	-.0990	-.1100
120.000			.4650	.1270	-.0540	-.0800	-.1140	-.1000	-.0630	-.0200	.0220	.0370	-.0450	.0280	.0000
135.000								-.0630		.0250		.0410		-.0280	
150.000			.5460	.1800	-.0250	-.0560	-.0900	-.0600	-.0530	.0290	.1250	.0210	.0710	-.0370	-.0910
165.000				.2120	-.0020	-.0380	-.0880	-.0650	-.0340	.0210	.2450		.0470		-.0930
180.000	1.6970	1.5390	.6430	.2500	.0190	-.0190	-.0630	-.0630	-.0300	.0060	.3290	.0870	.0590	-.0040	-.0520
270.000		1.6250													

X/LT .7449 .8526 .9290

PHI

.000	-.0740	-.0510	-.0480
30.000	-.0660	-.0240	-.0310
60.000	-.0620	-.0370	-.0310
90.000			-.0270
120.000	-.0770	-.0400	-.0450
135.000	-.0780	-.0060	-.0950
150.000	-.0620	-.0240	-.0910
165.000		-.0340	-.1180
180.000	-.0610		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6940	1.4430	.5300	.1930	-.0370	-.0770	-.0980	-.0980	-.0850	-.0550	-.0030	.0120	-.0540	-.0900	-.0730	
30.000			.4380	.1000	-.0730	-.1090	-.1210	-.1020	-.0840	-.0500	-.0640	-.0660	-.0530	-.0660	-.0700	
60.000			.3890	.0670	-.0900	-.1030	-.1120	-.1020	-.0860	-.0320	-.0460	-.0860	-.1050	-.0230	-.0320	
90.000		1.3150	.3890	.0670	-.0930	-.1030	-.1100	-.1030	-.0970	.3550	-.1300	-.1570	-.0850	-.0890	-.1100	
120.000			.4240	.0880	-.0820	-.0920	-.0880	-.0950	-.0550	-.0070	.0840	.0280	-.0030	.0270	-.0190	
135.000								-.0780		-.0080		.0520		-.0220		
150.000			.5110	.1460	-.0470	-.0650	-.0990	-.0680	-.0480	.0470	.1380	-.0310	.0070	-.0660	-.1010	
165.000				.1850	-.0240	-.0440	-.0870	-.0770	-.0390	.0040	.2470		-.0190		-.1210	
180.000	1.6940	1.5320	.6330	.2310	.0050	-.0210	-.0670	-.0610	-.0420	.0200	.3520	.0480	.0530	-.0230	-.0630	
270.000		1.6620														
X/LT	.7449	.8526	.9290													
PHI																
.000	-.0720	-.0630	-.0640													
30.000	-.0550	-.0360	-.0420													
60.000	-.0640	-.0420	-.0430													
90.000			-.0220													
120.000	-.0800	-.0570	-.0860													
135.000	-.0810	-.0290	-.1140													
150.000	-.0840	-.0730	-.1290													
165.000		-.0790	-.1210													
180.000	-.0590															

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6900	1.4490	.4880	.1720	-.0140	-.0490	-.0720	-.0760	-.0890	-.0650	.0130	-.0110	-.0410	-.0630	-.0570	
30.000			.6180	.2510	.0320	-.0090	-.0400	-.0470	-.0540	-.0380	-.0360	-.0600	-.0860	-.0890	-.0620	
60.000			.7460	.3300	.0870	.0520	-.0030	-.0090	.0020	.2640	-.0430	-.0980	-.0980	-.0660	.0080	
90.000		1.6680	.8190	.3890	.1180	.0740	.0240	.0070	.3180	.5680	-.0640	-.1260	-.1130	-.0450	.0100	
120.000			.8090	.3840	.1150	.0750	.0220	.0070	.0260	.3950	.0260	-.0510	-.0140	.0060	.1090	
135.000								-.0040		.0300		.0210		.1130		
150.000			.7260	.3210	.0760	.0410	-.0040	-.0200	-.0220	.0070	.0090	.2580	.1050	.1460	.0500	
165.000				.2710	.0480	.0180	-.0230	-.0390	-.0410	.0130	.2830		.1750		.0440	
180.000	1.6900	1.5230	.5970	.2230	.0190	-.0040	-.0430	-.0570	-.0440	-.0040	.3910	.0570	.1110	.0230	.0140	
270.000		1.2980														
X/LT	.7449	.8526	.9290													
PHI																

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0520	-.0760	-.0640
30.000	-.0390	-.0640	-.0650
60.000	-.0070	-.0680	-.0380
90.000			.0050
120.000	.1270	.0640	.1150
135.000	.0960	.2110	.1620
150.000	.0370	.2640	.2220
165.000		.3770	.2010
180.000	-.0310		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.440

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7190	1.4750	.4940	.1730	-.0210	-.0590	-.0710	-.0730	-.0640	-.0440	.0080	.0190	-.0200	-.0380	-.0360
30.000			.5930	.2340	.0160	-.0260	-.0460	-.0540	-.0430	-.0280	-.0300	-.0430	-.0740	-.0740	-.0590
60.000			.6930	.2870	.0540	.0330	-.0180	-.0280	.0000	.2350	-.0300	-.0930	-.0970	-.0730	-.0130
90.000		1.6490	.7540	.3340	.0830	.0520	.0030	.0030	.1730	.5710	-.0580	-.1140	-.1150	-.0570	-.0260
120.000			.7550	.3360	.0830	.0530	.0060	.0050	.0270	.3420	.0340	-.0430	-.0130	-.0060	.0800
135.000								-.0010		.0230		.0580		.0560	
150.000			.7060	.2990	.0590	.0330	-.0130	-.0110	-.0110	.0220	.0350	.2320	.1050	.1270	.0340
165.000				.2610	.0390	.0140	-.0270	-.0230	-.0200	.0250	.3010		.1280		.0340
180.000	1.7190	1.5500	.6060	.2260	.0160	-.0040	-.0400	-.0380	-.0150	.0070	.3910	.0460	.0600	.0320	.0000
270.000		1.3630													

X/LT .7449 .8526 .9290

PHI

.000	-.0540	-.0620	-.0450
30.000	-.0360	-.0550	-.0630
60.000	-.0270	-.0610	-.0200
90.000			-.0080
120.000	.0930	.0410	.0840
135.000	.0670	.0920	.1260
150.000	.0260	.2300	.1540
165.000		.3010	.1580
180.000	-.0420		



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.270

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7460	1.4930	.5120	.1930	.0040	-.0340	-.0680	-.0700	-.0570	-.0380	-.0260	-.0080	-.0190	-.0200	-.0390
30.000			.5780	.2230	.0270	-.0110	-.0520	-.0580	-.0460	-.0330	-.0480	-.0440	-.0570	-.0640	-.0550
60.000			.6480	.2710	.0530	.0080	-.0340	-.0370	-.0140	.2000	-.0490	-.1070	-.0950	-.0780	-.0230
90.000	1.6230		.6960	.3070	.0740	.0270	-.0180	-.0180	.0450	.5560	-.0710	-.1150	-.1120	-.0670	-.0420
120.000			.7080	.3130	.0800	.0330	-.0130	-.0110	.0110	.1170	.0260	-.0370	-.0170	.0090	.0700
135.000								-.0150		-.0010		.0880		.0470	
150.000			.6850	.2990	.0690	.0220	-.0220	-.0200	-.0100	.0190	.1100	.1740	.1010	.1050	.0370
165.000				.2780	.0570	.0120	-.0280	-.0280	-.0080	-.0080	.2910		.1610		.0350
180.000	1.7460	1.5760	.6250	.2540	.0440	-.0010	-.0380	-.0380	-.0150	-.0170	.3770	.0200	.0680	.0510	.0540
270.000		1.4300													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0440	-.0460	-.0280												
30.000	-.0290	-.0380	-.0470												
60.000	-.0200	-.0570	-.0220												
90.000			-.0050												
120.000	.0730	.0330	.0600												
135.000	.0470	.0420	.0940												
150.000	.0200	.1850	.1040												
165.000		.2180	.0910												
180.000	-.0240														

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7550	1.5030	.5150	.1850	-.0170	-.0540	-.0650	-.0690	-.0550	-.0400	-.0130	.0190	-.0150	-.0310	-.0190
30.000			.5520	.1830	-.0050	-.0440	-.0590	-.0700	-.0490	-.0390	-.0430	-.0100	-.0470	-.0530	-.0520
60.000			.5960	.2140	.0090	-.0090	-.0480	-.0520	-.0300	.1450	-.0330	-.0970	-.0990	-.0830	-.0300
90.000	1.5860		.6360	.2420	.0230	.0020	-.0380	-.0390	-.0120	.5530	-.0630	-.1200	-.1190	-.0760	-.0500
120.000			.6550	.2550	.0350	.0110	-.0290	-.0310	-.0080	.0010	.0370	-.0360	-.0160	.0030	.0530
135.000								-.0310		.0060		.1340		.0330	
150.000			.6550	.2580	.0360	.0100	-.0290	-.0320	-.0080	.0140	.1810	.1620	.0710	.1050	.0390
165.000				.2500	.0310	.0070	-.0320	-.0350	-.0120	.0010	.3050		.1150		.0630
180.000	1.7550	1.5840	.6300	.2370	.0230	.0040	-.0360	-.0380	-.0280	-.0080	.3700	.0070	.1180	.0880	.0610
270.000		1.4880													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 1A9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 2) = 2.999

BETAT ( 6) = 4.370

SECTION ( 1)EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7290	1.4760	.5100	.1850	-.0070	-.0420	-.0630	-.0630	-.0620	-.0440	-.0180	.0010	-.0340	-.0310	-.0340
30.000			.4600	.1340	-.0280	-.0590	-.0760	-.0690	-.0630	-.0490	-.0390	-.0550	-.0490	-.0410	-.0510
60.000			.4360	.1170	-.0380	-.0520	-.0770	-.0700	-.0620	-.0750	-.0320	-.0830	-.0940	-.0750	-.0370
90.000		1.4190	.4460	.1220	-.0370	-.0520	-.0770	-.0670	-.0650	.4770	-.0650	-.1150	-.0930	-.0680	-.0570
120.000			.4810	.1450	-.0230	-.0400	-.0690	-.0760	-.0580	.0480	.0580	.0570	-.0110	-.0180	.0280
135.000								-.0700	.0600			.1170		-.0010	
150.000			.5460	.1900	.0050	-.0200	-.0540	-.0600	-.0550	.0070	.1060	.0390	.0340	.0300	-.0160
165.000				.2160	.0180	-.0090	-.0440	-.0490	-.0340	-.0090	.3200		.0730		.0140
180.000	1.7290	1.5620	.6220	.2440	.0310	.0040	-.0360	-.0380	-.0250	-.0150	.3820	.0050	.0440	.0410	.0410
270.000		1.6090													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0510	-.0430	-.0610												
30.000	-.0560	-.0340	-.0310												
60.000	-.0380	-.0330	-.0340												
90.000			-.0510												
120.000	-.0110	-.0480	-.0290												
135.000	-.0270	-.0390	-.0310												
150.000	-.0490	-.0110	-.0450												
165.000		-.0630	-.0490												
180.000	-.0250														

MACH ( 2) = 2.999

BETAT ( 7) = 6.530

SECTION ( 1)EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7110	1.4530	.4960	.1760	-.0100	-.0440	-.0620	-.0670	-.0670	-.0490	-.0300	.0010	-.0310	-.0600	-.0510
30.000			.4210	.1130	-.0400	-.0680	-.0820	-.0690	-.0700	-.0500	-.0280	-.0530	-.0530	-.0580	-.0570
60.000			.3830	.0880	-.0500	-.0610	-.0730	-.0690	-.0690	-.0910	-.0320	-.0720	-.1020	-.0750	-.0350
90.000		1.3610	.3860	.0930	-.0510	-.0620	-.0750	-.0680	-.0700	.4220	-.0630	-.1150	-.0990	-.0850	-.0500
120.000			.4250	.1140	-.0400	-.0530	-.0810	-.0860	-.0420	-.0050	.0430	.0490	-.0330	.0290	.0160
135.000								-.0810	-.0090			.0850		.0010	
150.000			.5040	.1690	-.0120	-.0300	-.0630	-.0690	-.0310	.0070	.0990	-.0340	.0100	.0020	-.0610
165.000				.2000	.0060	-.0150	-.0500	-.0560	-.0300	-.0050	.3130		-.0240		-.0550
180.000	1.7110	1.5450	.6060	.2350	.0270	.0010	-.0360	-.0420	-.0290	.0000	.3800	.0210	.0120	.0220	-.0030
270.000		1.6380													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP		
X/LT	.7449	.8526	.9290	
PHI				
.000	-.0570	-.0570	-.0650	
30.000	-.0590	-.0370	-.0430	
60.000	-.0480	-.0440	-.0440	
90.000			-.0660	
120.000	-.0340	-.0660	-.0410	
135.000	-.0510	-.0530	-.0770	
150.000	-.0530	-.0090	-.0600	
165.000		-.0750	-.0780	
180.000	-.0400			

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.700

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6830	1.4290	.4870	.1840	-.0150	-.0500	-.0750	-.0770	-.0670	-.0490	-.0350	-.0280	-.0440	-.0720	-.0650	
30.000			.3890	.0910	-.0490	-.0770	-.0970	-.0770	-.0660	-.0480	-.0590	-.0620	-.0390	-.0490	-.0660	
60.000			.3350	.0670	-.0660	-.0830	-.0980	-.0850	-.0590	-.0740	-.0400	-.0680	-.0880	-.0490	-.0320	
90.000		1.2960	.3320	.0640	-.0640	-.0850	-.0940	-.0750	-.0230	.4230	-.0800	-.1270	-.0850	-.0750	-.0570	
120.000			.3740	.0860	-.0550	-.0760	-.0970	-.0510	-.0650	-.0560	.0270	.0140	-.0440	.0420	-.0015	
135.000								-.0510	-.0370			.0630		-.0140		
150.000			.4670	.1430	-.0240	-.0520	-.0780	-.0520	-.0380	.0160	.0890	-.0490	-.0190	-.0470	-.0900	
165.000				.1830	-.0030	-.0350	-.0680	-.0580	-.0270	.0100	.2620		.0320		-.0690	
180.000	1.6830	1.5240	.5940	.2280	.0220	-.0120	-.0470	-.0430	-.0290	.0040	.3810	.0420	.1120	.0130	-.0030	
270.000		1.6560														
X/LT	.7449	.8526	.9290													
PHI																
.000	-.0680	-.0730	-.0790													
30.000	-.0640	-.0460	-.0540													
60.000	-.0610	-.0530	-.0540													
90.000			-.0710													
120.000	-.0540	-.0780	-.0630													
135.000	-.0740	-.0610	-.0860													
150.000	-.0600	-.0110	-.0790													
165.000		-.0620	-.0750													
180.000	-.0320															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.750

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6810	1.4420	.4550	.1580	-.0130	-.0480	-.0710	-.0770	-.0630	-.0510	.0190	-.0430	-.0930	-.0940	-.0540
30.000			.5850	.2230	.0320	-.0080	-.0440	-.0470	-.0340	-.0330	.0180	-.0300	-.0900	-.1010	-.0550
60.000			.7170	.3110	.0800	.0370	-.0090	-.0120	.0120	.1950	.0190	-.0300	-.1080	-.0920	-.0110
90.000	1.6590		.7950	.3670	.1130	.0650	.0140	.0250	.0700	.6920	.0200	-.0950	-.1180	-.0950	-.0050
120.000			.7850	.3630	.1110	.0630	.0150	.0230	.0330	.2820	.0610	-.0510	-.0440	.0030	.0590
135.000								.0100		.0310		-.0260		.0700	
150.000			.7000	.3010	.0720	.0300	-.0100	-.0040	-.0090	.0180	.0170	.3040	.0880	.1470	.0580
165.000			.2560	.0460	.0110	-.0280	-.0190	-.0240	.0190	.1680		.0640		.0300	
180.000	1.6810	1.5100	.5700	.2080	.0180	-.0120	-.0470	-.0400	-.0390	.0190	.1680	.0100	.0920	.0550	.0050
270.000		1.2900													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0510	-.0640	-.0480												
30.000	-.0510	-.0500	-.0490												
60.000	-.0110	-.0440	-.0300												
90.000			.0020												
120.000	.1050	.0940	.0020												
135.000	.0620	.0940	.1740												
150.000	.0410	.2230	.1730												
165.000		.1910	.1880												
180.000	-.0190														

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7220	1.4740	.4670	.1780	-.0060	-.0380	-.0730	-.0780	-.0650	-.0540	.0180	-.0370	-.0840	-.0740	-.0340
30.000			.5680	.2140	.0280	-.0110	-.0530	-.0550	-.0490	-.0450	.0170	-.0350	-.0820	-.1010	-.0650
60.000			.6730	.2790	.0630	.0210	-.0250	-.0300	-.0090	.1590	.0160	-.0340	-.1120	-.1080	-.0290
90.000	1.6590		.7390	.3240	.0890	.0360	-.0060	-.0030	.0190	.6800	.0150	-.0980	-.1260	-.1010	-.0280
120.000			.7410	.3270	.0890	.0400	-.0050	-.0050	.0110	.0750	.0540	-.0560	-.0450	-.0210	.0340
135.000								-.0110		.0140		-.0220		.0440	
150.000			.6830	.2910	.0650	.0200	-.0220	-.0200	-.0220	.0170	.0240	.2130	.0680	.0970	.0370
165.000			.2550	.0470	.0030	-.0350	-.0300	-.0310	.0140	.1960		.0510		.0410	
180.000	1.7220	1.5520	.5830	.2200	.0260	-.0140	-.0400	-.0450	-.0350	.0150	.1960	-.0090	.1080	.0690	.0090
270.000		1.3620													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) EXTERNAL TANK				DEPENDENT VARIABLE CP			
X/LT	.7449	.8526	.9290				
PHI							
.000	-.0440	-.0540	-.0440				
30.000	-.0460	-.0470	-.0420				
60.000	-.0250	-.0550	-.0240				
90.000			-.0100				
120.000	.0740	.0650	-.0120				
135.000	.0400	.0670	.1270				
150.000	.0130	.1470	.1250				
165.000		.1220	.1240				
180.000	-.0210						

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.350

SECTION ( 1 ) EXTERNAL TANK														DEPENDENT VARIABLE CP																
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372															
PHI																														
.000	1.7470	1.4920	.4740	.1780	-.0200	-.0570	-.0720	-.0770	-.0610	-.0450	-.0080	-.0160	-.0580	-.0650	-.0060															
30.000			.5420	.1820	.0000	-.0380	-.0600	-.0630	-.0490	-.0450	-.0070	-.0170	-.0840	-.0990	-.0500															
60.000			.6150	.2280	.0220	-.0050	-.0420	-.0470	-.0210	.0750	-.0070	-.0150	-.1160	-.1160	-.0360															
90.000		1.6260	.6700	.2620	.0410	.0100	-.0300	-.0170	.0020	.6710	-.0070	-.1000	-.1300	-.1060	-.0450															
120.000			.6850	.2720	.0480	.0170	-.0260	-.0160	-.0020	-.0010	.0460	-.0610	-.0490	-.0100	.0120															
135.000								-.0210		.0070		-.0030		.0320																
150.000			.6550	.2550	.0360	.0080	-.0330	-.0220	-.0210	.0150	.0620	.1180	.0530	.0760	.0330															
165.000				.2340	.0240	.0020	-.0390	-.0290	-.0220	.0090	.2150		.0480		.0450															
180.000	1.7470	1.5740	.5910	.2090	.0090	-.0120	-.0400	-.0380	-.0210	-.0060	.2140	-.0140	.0750	.0710	.0170															
270.000		1.4290																												
X/LT																														
	.7449	.8526	.9290																											
PHI																														
.000	-.0370	-.0410	-.0320																											
30.000	-.0370	-.0370	-.0320																											
60.000	-.0280	-.0550	-.0320																											
90.000			-.0160																											
120.000	.0540	.0420	-.0160																											
135.000	.0260	.0470	.0830																											
150.000	-.0030	.1060	.0810																											
165.000		.1220	.0820																											
180.000	-.0060																													

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7590	1.5010	.4800	.1640	-.0120	-.0480	-.0740	-.0790	-.0620	-.0580	-.0070	.0060	-.0450	-.0620	-.0210
30.000			.5170	.1710	-.0030	-.0390	-.0710	-.0780	-.0600	-.0560	-.0060	.0080	-.0440	-.0840	-.0500
60.000			.5640	.1970	.0100	-.0220	-.0580	-.0630	-.0440	-.0230	-.0060	.0080	-.1100	-.1140	-.0470
90.000	1.5920		.6060	.2240	.0230	-.0150	-.0500	-.0460	-.0290	.6510	-.0030	-.0910	-.1260	-.1030	-.0530
120.000			.6270	.2390	.0300	-.0060	-.0440	-.0440	-.0200	-.0260	-.0110	-.0520	-.0490	.0040	-.0080
135.000								-.0430		.0060		.1030		.0240	
150.000			.6250	.2370	.0290	-.0090	-.0420	-.0450	-.0190	.0080	.1250	.1270	.0460	.0230	.0240
165.000				.2290	.0230	-.0090	-.0430	-.0460	-.0230	.0030	.2250		.0370		.0430
180.000	1.7590	1.5860	.5940	.2200	.0170	-.0140	-.0440	-.0510	-.0300	-.0080	.2240	-.0120	.0770	.0650	.0470
270.000		1.4830													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0290	-.0430	-.0190												
30.000	-.0290	-.0350	-.0420												
60.000	-.0340	-.0520	-.0460												
90.000			-.0460												
120.000	.0280	.0190	-.0440												
135.000	.0080	.0230	.0300												
150.000	-.0010	.0450	.0290												
165.000		.0470	.0280												
180.000	-.0010														

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7620	1.4990	.4820	.1670	-.0110	-.0460	-.0740	-.0740	-.0490	-.0430	-.0030	.0160	-.0380	-.0530	-.0030
30.000			.4530	.1300	-.0220	-.0550	-.0820	-.0710	-.0560	-.0450	-.0030	-.0450	-.0620	-.0510	-.0350
60.000			.4510	.1250	-.0260	-.0570	-.0800	-.0670	-.0610	-.0740	-.0050	-.0440	-.1060	-.1070	-.0440
90.000	1.4910		.4690	.1360	-.0220	-.0540	-.0770	-.0450	-.0580	.5210	-.0050	-.0960	-.1180	-.0900	-.0490
120.000			.5070	.1600	-.0120	-.0430	-.0710	-.0450	-.0340	-.0450	.0270	-.0220	-.0150	-.0090	.0120
135.000								-.0410		-.0220		.0600		.0160	
150.000			.5550	.1920	.0060	-.0280	-.0610	-.0410	-.0250	-.0170	.1500	.0480	.0140	.0150	.0140
165.000				.2090	.0160	-.0230	-.0560	-.0380	-.0170	-.0050	.2750		.0670		.0360
180.000	1.7620	1.5940	.6000	.2220	.0210	-.0160	-.0500	-.0390	-.0130	-.0030	.2730	-.0030	.0720	.0670	.0340
270.000		1.5920													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 3) = 3.502

BETAT ( 5) = 2.260

SECTION ( 1) EXTERNAL TANK		DEPENDENT VARIABLE CP		
X/LT	.7449	.8526	.9290	
PHI				
.000	-.0380	-.0460	-.0450	
30.000	-.0400	-.0470	-.0450	
60.000	-.0510	-.0420	-.0380	
90.000			-.0380	
120.000	.0030	-.0170	-.0380	
135.000	-.0080	-.0130	-.0090	
150.000	-.0390	-.0150	-.0100	
165.000		-.0210	-.0100	
180.000	-.0070			

MACH ( 3) = 3.502

BETAT ( 6) = 4.460

SECTION ( 1) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.7510	1.4880	.4760	.1720	-.0100	-.0460	-.0740	-.0740	-.0560	-.0490	-.0030	.0070	-.0470	-.0610	-.0270	
30.000			.4240	.1140	-.0300	-.0610	-.0740	-.0720	-.0700	-.0440	-.0030	-.0630	-.0700	-.0640	-.0520	
60.000			.3970	.0980	-.0400	-.0710	-.0730	-.0700	-.0770	-.0740	-.0030	-.0630	-.1020	-.1020	-.0500	
90.000		1.4320	.4060	.1010	-.0410	-.0700	-.0720	-.0540	-.0730	.4400	-.0050	-.0990	-.1100	-.0830	-.0530	
120.000			.4440	.1240	-.0280	-.0600	-.0810	-.0540	-.0490	-.0520	.0210	.0200	-.0190	-.0190	-.0020	
135.000								-.0510		-.0260		.0680		-.0200		
150.000			.5150	.1690	-.0060	-.0420	-.0720	-.0560	-.0330	-.0130	.1050	.0170	.0020	.0190	-.0270	
165.000				.1930	.0060	-.0310	-.0610	-.0510	-.0260	-.0030	.2970		.0450		-.0220	
180.000	1.7510	1.5810	.5900	.2180	.0200	-.0170	-.0510	-.0430	-.0200	-.0030	.2950	.0000	.0840	.0630	.0010	
270.000		1.6270														
SECTION ( 1) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.7449	.8526	.9290													
PHI																
.000	-.0650	-.0480	-.0580													
30.000	-.0640	-.0470	-.0450													
60.000	-.0640	-.0390	-.0440													
90.000			-.0440													
120.000	-.0640	-.0310	-.0440													
135.000	-.0590	-.0330	-.0440													
150.000	-.0500	-.0340	-.0450													
165.000		-.0560	-.0450													
180.000	-.0190															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7180	1.4590	.4670	.1750	-.0200	-.0520	-.0730	-.0720	-.0550	-.0510	-.0080	-.0120	-.0680	-.0620	-.0320
30.000			.3900	.0870	-.0450	-.0740	-.0750	-.0720	-.0610	-.0510	-.0090	-.0490	-.0680	-.0680	-.0560
60.000			.3490	.0620	-.0590	-.0780	-.0670	-.0800	-.0630	-.0640	-.0350	-.0490	-.1010	-.0900	-.0460
90.000	1.3590		.3500	.0650	-.0630	-.0770	-.0680	-.0600	-.0690	.3490	-.0360	-.1040	-.1040	-.0740	-.0500
120.000			.3910	.0860	-.0540	-.0700	-.0800	-.0590	-.0520	-.0370	.0100	.0310	-.0260	-.0200	-.0100
135.000								-.0620		-.0210		.0330		-.0020	
150.000			.4740	.1370	-.0270	-.0490	-.0770	-.0650	-.0400	-.0060	.0310	-.0360	-.0160	-.0080	-.0540
165.000				.1690	-.0100	-.0340	-.0640	-.0540	-.0390	-.0110	.3110		-.0030		-.0430
180.000	1.7180	1.5530	.5820	.2070	.0100	-.0160	-.0510	-.0410	-.0410	-.0120	.3120	-.0150	.0990	.0510	-.0070
270.000		1.6550													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0540	-.0600	-.0690												
30.000	-.0520	-.0500	-.0520												
60.000	-.0570	-.0490	-.0530												
90.000			-.0510												
120.000	-.0340	-.0470	-.0530												
135.000	-.0320	-.0690	-.0530												
150.000	-.0590	-.0410	-.0530												
165.000		-.0690	-.0530												
180.000	-.0320														

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6850	1.4260	.4530	.1560	-.0290	-.0620	-.0730	-.0790	-.0650	-.0560	-.0250	-.0520	-.1000	-.1070	-.0460
30.000			.3520	.0600	-.0640	-.0910	-.0720	-.0790	-.0640	-.0600	-.0260	-.0540	-.0760	-.0820	-.0600
60.000			.2970	.0300	-.0810	-.0880	-.0810	-.0790	-.0640	-.0900	-.0250	-.0530	-.1000	-.0700	-.0420
90.000	1.2900		.2920	.0260	-.0810	-.0790	-.0770	-.0650	-.0560	.2430	-.0330	-.1070	-.0840	-.0700	-.0300
120.000			.3340	.0490	-.0750	-.0810	-.0740	-.0650	-.0600	-.0310	.0000	.0370	-.0440	.0410	-.0020
135.000								-.0660		-.0130		-.0360		-.0070	
150.000			.4300	.1070	-.0460	-.0600	-.0820	-.0720	-.0540	-.0110	.0300	-.0780	-.0570	-.0460	-.0680
165.000				.1460	-.0240	-.0410	-.0690	-.0610	-.0540	-.0260	.2630		-.0090		-.0460
180.000	1.6850	1.5220	.5610	.1900	-.0020	-.0190	-.0510	-.0450	-.0460	-.0250	.3390	-.0040	.0590	.0450	-.0090
270.000		1.6590													
X/LT	.7449	.8526	.9290												
PHI															

DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT05)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = 9.860

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0670	-.0690	-.0650
30.000	-.0660	-.0540	-.0580
60.000	-.0670	-.0550	-.0520
90.000			-.0530
120.000	-.0480	-.0670	-.0520
135.000	-.0480	-.0720	-.0520
150.000	-.0640	-.0340	-.0540
165.000		-.0650	-.0530
180.000	-.0280		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0350 SCALE

PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT			.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6850	1.4910	.5800	.2280	-.0010	-.0450	-.0820	-.0830	-.0720	-.0330	.0010	.0130	-.0320	-.0730	-.0730
30.000			.6990	.3010	.0550	.0030	-.0440	-.0450	-.0320	-.0150	.0510	-.0490	-.0940	-.0880	-.0460
60.000			.7990	.3720	.1030	.0520	-.0060	-.0100	.0260	.3580	-.0480	-.1000	-.1030	-.0630	.0170
90.000	1.6630		.8440	.4040	.1240	.0680	.0080	.0230	.3850	.4120	-.1280	-.1610	-.1100	.0550	.0120
120.000			.8030	.3740	.1030	.0500	-.0040	.0000	.0330	.3700	-.0560	-.1200	-.0480	.0270	.1360
135.000								-.0190		.0510	.0160			.0700	
150.000			.7040	.3000	.0500	.0070	-.0400	-.0370	-.0300	-.0080	.0780	.1630	.1060	.0650	.0190
165.000				.2540	.0220	-.0180	-.0620	-.0570	-.0270	.0410	.3500		.1120		.0000
180.000	1.6850	1.4830	.5790	.2080	-.0070	-.0420	-.0820	-.0720	-.0320	.0340	.3430	.0770	.0510	-.0200	-.0580
270.000		1.3090													

X/LT .7449 .8526 .9290

PHI			
.000	-.0680	-.0470	-.0380
30.000	-.0410	-.0430	-.0460
60.000	-.0060	-.0260	.0090
90.000			.0930
120.000	.0720	.1270	.1570
135.000	.0750	.2900	.1860
150.000	.0630	.3070	.2320
165.000		.4530	.1840
180.000	-.0530		

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT			.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7080	1.5070	.5890	.2300	.0000	-.0440	-.0810	-.0810	-.0660	-.0330	-.0090	.0080	-.0210	-.0550	-.0540
30.000			.6760	.2800	.0390	-.0090	-.0520	-.0540	-.0380	-.0240	.0400	-.0580	-.0870	-.0770	-.0470
60.000			.7510	.3320	.0750	.0240	-.0260	-.0310	.0060	.3580	-.0600	-.1240	-.1140	-.0730	.0000
90.000	1.6320		.7810	.3580	.0870	.0390	-.0160	-.0080	.3600	.3990	-.1480	-.1630	-.1210	.0250	-.0060
120.000			.7530	.3380	.0740	.0280	-.0260	-.0180	.0120	.3580	-.0660	-.1170	-.0650	.0150	.0960
135.000								-.0310		.0090	.0240			.0440	
150.000			.6840	.2850	.0370	-.0040	-.0520	-.0440	-.0230	-.0040	.1010	.1390	.0590	.0470	.0070



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.195

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2640 .0950

180.000 -.0820

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.070

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1955 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7310 1.5230 .6020 .2310 .0040 -.0410 -.0800 -.0800 -.0590 -.0340 .0110 .0300 -.0180 -.0370 -.0290

30.000 .6300 .2350 .0110 -.0330 -.0730 -.0720 -.0500 -.0330 -.0610 -.0140 -.0520 -.0610 -.0580

60.000 .6540 .2500 .0200 -.0230 -.0680 -.0650 -.0310 .3370 -.0600 -.1240 -.1280 -.0860 -.0110

90.000 1.5620 .6650 .2570 .0240 -.0170 -.0630 -.0550 .2090 .3880 -.1500 -.1590 -.1140 -.0170 -.0380

120.000 .6560 .2530 .0220 -.0190 -.0620 -.0560 -.0280 .3440 -.0550 -.0950 -.0680 -.0260 .0570

135.000 .0660 -.0260 .0690 .0070

150.000 .6350 .2410 .0130 -.0250 -.0700 -.0670 -.0310 .0160 .1840 .0950 .0510 .0330 -.0150

165.000 .2300 .0050 -.0290 -.0730 -.0660 -.0380 .0210 .2850 .1560 .0330 -.0140

180.000 1.7310 1.5280 .6050 .2160 -.0030 -.0340 -.0780 -.0730 -.0360 .0250 .2970 .0700 .1600 .0830 -.0230

270.000 1.4780

X/LT .7449 .8526 .9290

PHI

.000 -.0590 -.0210 .0020

30.000 -.0270 -.0240 -.0290

60.000 -.0060 -.0440 -.0260

90.000 -.0170

120.000 .0180 -.0050 .0540

135.000 .0190 .0920 .0630

150.000 -.0100 .1800 .0490

165.000 .2270 .0320

180.000 -.0870



AMES 87-707 IA9 CCA + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.290

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9295

PHI

.000	-.0480	-.0270	-.0270
30.000	-.0450	-.0220	-.0230
60.000	-.0310	-.0390	-.0240
90.000			-.0370
120.000	-.0470	-.0460	-.0070
135.000	-.0470	.0040	-.0540
150.000	-.0540	-.0020	-.0630
165.000		.0210	-.0590
180.000	-.0770		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.410

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7020	1.4910	.5800	.2290	-.0020	-.0450	-.0810	-.0830	-.0790	-.0490	-.0040	-.0090	-.0250	-.0620	-.0590
30.000			.4980	.1510	-.0370	-.0760	-.1060	-.1040	-.0740	-.0490	-.0690	-.0900	-.0640	-.0580	-.0630
60.000			.4450	.1130	-.0600	-.0880	-.1020	-.0930	-.0870	-.0410	-.0220	-.0870	-.0980	-.0190	-.0050
90.000		1.3590	.4270	.1030	-.0690	-.0930	-.0960	-.0890	-.0820	.3170	-.1400	-.1480	-.0190	-.0320	-.0510
120.000			.4420	.1110	-.0630	-.0900	-.1120	-.0890	-.0640	-.0250	-.0090	.0090	-.0570	.0440	-.0030
135.000								-.1050		.0120		.0280		-.0460	
150.000			.5030	.1500	-.0430	-.0730	-.1040	-.0760	-.0820	.0190	.0960	.0220	.0520	-.0420	-.1040
165.000				.1760	-.0290	-.0650	-.0960	-.0770	-.0610	.0060	.2170		.0380		-.0930
180.000	1.7020	1.5000	.5870	.2050	-.0060	-.0450	-.0840	-.0820	-.0530	-.0150	.3140	.0480	.0470	-.0030	-.0530
270.000		1.6260													

X/LT .7449 .8526 .9295

PHI

.000	-.0540	-.0430	-.0320
30.000	-.0440	-.0300	-.0370
60.000	-.0460	-.0470	-.0370
90.000			-.0320
120.000	-.0700	-.0460	-.0460
135.000	-.0700	-.0200	-.0980
150.000	-.0870	-.0400	-.0930
165.000		-.0320	-.1280
180.000	-.0720		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.4780	.5810	.2290	-.0010	-.0470	-.0810	-.0830	-.0740	-.0370	-.0080	.0060	-.0360	-.0770	-.0810
30.000			.4710	.1360	-.0470	-.0870	-.1120	-.0980	-.0750	-.0360	-.0640	-.0790	-.0370	-.0520	-.0570
60.000			.4040	.0890	-.0730	-.0980	-.0930	-.0890	-.0750	-.0600	.0040	-.0780	-.0800	.0000	-.0290
90.000		1.3070	.3860	.0760	-.0800	-.1010	-.0930	-.0770	-.0440	.3130	-.1350	-.1480	.0090	-.0010	-.0570
120.000			.4010	.0880	-.0720	-.0980	-.1190	-.0780	-.0470	-.0160	.0160	.0070	-.0290	.0120	-.0420
135.000								-.0780		.0180		.0260		-.0420	
150.000			.4690	.1290	-.0520	-.0780	-.0890	-.0770	-.0630	.0200	.1120	.0070	.0000	-.0820	-.1110
165.000				.1620	-.0320	-.0980	-.0980	-.0750	-.0450	.0150	.2040		-.0250		-.1270
180.000	1.6890	1.4870	.5780	.2030	-.0090	-.0430	-.0840	-.0750	-.0390	-.0020	.3410	.0620	.0310	-.0460	-.0700
270.000		1.6640													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0690	-.0510	-.0630												
30.000	-.0490	-.0420	-.0470												
60.000	-.0650	-.0510	-.0470												
90.000			-.0230												
120.000	-.0930	-.0680	-.0830												
135.000	-.1170	-.0360	-.1140												
150.000	-.0910	-.0880	-.1210												
165.000		-.0870	-.1270												
180.000	-.0610														

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.4910	.5370	.2090	.0050	-.0350	-.0590	-.0560	-.0560	-.0250	.0010	-.0010	-.0470	-.0540	-.0530
30.000			.6600	.2770	.0550	.0120	-.0260	-.0310	-.0220	-.0050	-.0210	-.0340	-.0670	-.0750	-.0550
60.000			.7690	.3530	.1010	.0600	.0070	.0010	.0130	.2370	-.0170	-.0830	-.0830	-.0730	.0100
90.000		1.6620	.8110	.3860	.1180	.0760	.0210	.0290	.3060	.5750	-.0710	-.1210	-.0980	-.0170	.0450
120.000			.7690	.3570	.1020	.0610	.0120	.0160	.0330	.3300	-.0090	-.0750	-.0420	-.0170	.1330
135.000								.0010		.0040		-.0290		.0890	
150.000			.6720	.2860	.0580	.0220	-.0180	-.0150	-.0150	-.0180	-.0030	.2430	.0860	.1170	.0310
165.000				.2380	.0300	-.0010	-.0380	-.0320	-.0290	-.0110	.2320		.1110		.0140
180.000	1.6890	1.4870	.5480	.2030	.0020	-.0220	-.0560	-.0500	-.0240	-.0070	.3540	.0610	.0860	.0110	.0030
270.000		1.3060													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

## PHI

.000	-.0590	-.0540	-.0390
30.000	-.0280	-.0350	-.0420
60.000	.0070	-.0280	-.0160
90.000			.0070
120.000	.0960	.0760	.1200
135.000	.0750	.2210	.1720
150.000	.0510	.2690	.2060
165.000		.3540	.2010
180.000	-.0330		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.430

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000	1.7170	1.5130	.5490	.2140	.0070	-.0310	-.0650	-.0600	-.0550	-.0280	.0080	.0220	-.0250	-.0490	-.0480
30.000			.6420	.2560	.0440	.0010	-.0390	-.0440	-.0310	-.0220	.0080	-.0150	-.0550	-.0670	-.0590
60.000			.7210	.3150	.0770	.0320	-.0170	-.0210	-.0350	.1690	-.0040	-.0700	-.0870	-.0680	-.0120
90.000		1.6400	.7540	.3420	.0890	.0440	-.0050	.0050	.1400	.5830	-.0570	-.1170	-.1050	-.0260	.0100
120.000			.7250	.3220	.0770	.0340	-.0120	.0050	.0160	.2910	.0060	-.0740	-.0470	-.0420	.0790
135.000								-.0120		.0030		-.0080		.0350	
150.000			.6530	.2690	.0450	.0090	-.0340	-.0230	-.0230	-.0010	.0040	.2160	.0730	.1040	.0060
165.000			.2340	.0270	-.0090	-.0480	-.0390	-.0340	.0050	.2400		.1240		.0200	
180.000	1.7170	1.5130	.5580	.2010	.0060	-.0270	-.0600	-.0520	-.0310	-.0090	.3790	.0360	.0470	.0180	-.0070
270.000		1.3720													

X/LT .7449 .8526 .9290

## PHI

.000	-.0590	-.0420	-.0310
30.000	-.0340	-.0350	-.0410
60.000	-.0060	-.0390	-.0250
90.000			-.0100
120.000	.0690	.0490	.0860
135.000	.0490	.0920	.1290
150.000	.0230	.2210	.1430
165.000		.2820	.1550
180.000	-.0390		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.270

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7440	1.5340	.5610	.2160	.0100	-.0280	-.0660	-.0610	-.0590	-.0370	-.0020	.0180	-.0130	-.0340	-.0200
30.000			.6190	.2420	.0340	-.0070	-.0490	-.0520	-.0440	-.0270	-.0020	.0030	-.0460	-.0590	-.0420
60.000			.6730	.2770	.0530	.0080	-.0350	-.0400	-.0180	.1680	.0030	-.0700	-.0890	-.0820	-.0130
90.000	1.6180		.6950	.2930	.0630	.0150	-.0280	-.0240	.0240	.5800	-.0530	-.1170	-.1100	-.0340	-.0120
120.000			.6790	.2820	.0570	.0120	-.0310	-.0240	-.0090	.2100	.0120	-.0690	-.0480	-.0230	.0660
135.000								-.0350		-.0010		.0290		.0190	
150.000			.6370	.2560	.0390	-.0050	-.0430	-.0400	-.0250	.0200	.0580	.1710	.0760	.0960	.0160
165.000				.2350	.0250	-.0150	-.0530	-.0480	-.0240	.0100	.2370		.0580		.0370
180.000	1.7440	1.5390	.5750	.2100	.0110	-.0250	-.0610	-.0570	-.0280	.0020	.3760	.0260	.0760	.0560	.0370
270.000		1.4380													

X/LT .7449 .8526 .9290

PHI

.000	-.0390	-.0370	-.0290
30.000	-.0210	-.0270	-.0390
60.000	-.0010	-.0460	-.0380
90.000			-.0150
120.000	.0610	.0370	.0560
135.000	.0410	.0360	.0950
150.000	.0160	.1590	.0920
165.000		.1900	.0750
180.000	-.0350		

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7600	1.5430	.5660	.2180	.0100	-.0290	-.0560	-.0500	-.0560	-.0380	.0050	.0340	-.0030	-.0300	-.0150
30.000			.5950	.2220	.0180	-.0200	-.0490	-.0490	-.0480	-.0340	-.0230	.0120	-.0290	-.0410	-.0470
60.000			.6220	.2380	.0280	-.0030	-.0420	-.0490	-.0310	.0450	.0040	-.0710	-.0880	-.0850	-.0250
90.000	1.5870		.6350	.2480	.0320	.0010	-.0370	-.0450	-.0230	.5720	-.0580	-.1140	-.1100	-.0380	-.0370
120.000			.6270	.2440	.0320	.0000	-.0370	-.0470	-.0260	.0460	.0120	-.0640	-.0520	-.0230	.0390
135.000								-.0490		-.0010		.0710		.0060	
150.000			.6100	.2360	.0260	-.0040	-.0420	-.0530	-.0280	.0090	.1560	.1490	.0550	.0860	.0190
165.000				.2260	.0200	-.0080	-.0450	-.0550	-.0300	-.0030	.2540		.0690		.0480
180.000	1.7600	1.5530	.5830	.2140	.0130	-.0120	-.0500	-.0580	-.0380	.0000	.3600	.0530	.1030	.1100	.0420
270.000		1.4960													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.115

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9295
PHI			
.000	-.0430	-.0360	-.0260
30.000	-.0310	-.0240	-.0360
60.000	-.0120	-.0470	-.0360
90.000			-.0260
120.000	.0340	.0070	.0280
135.000	.0120	.0050	.0600
150.000	-.0070	.0730	.0330
165.000		.1130	.0520
180.000	-.0350		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.210

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7560	1.5390	.5690	.2220	.0120	-.0260	-.0480	-.0460	-.0440	-.0240	-.0020	.0190	.0110	-.0140	-.0010
30.000			.5330	.1800	-.0030	-.0390	-.0570	-.0440	-.0370	-.0280	-.0470	-.0720	-.0140	-.0140	-.0350
60.000			.5110	.1660	-.0140	-.0320	-.0650	-.0550	-.0410	-.0650	-.0120	-.0790	-.0790	-.0730	-.0210
90.000		1.4900	.5070	.1620	-.0170	-.0350	-.0650	-.0500	-.0440	.5080	-.0800	-.1080	-.0880	-.0270	-.0600
120.000			.5170	.1680	-.0110	-.0300	-.0650	-.0610	-.0400	-.0670	.0030	-.0230	-.0180	-.0430	.0260
135.000								-.0690		.0080	.1050		.0000		
150.000			.5470	.1910	.0020	-.0200	-.0590	-.0570	-.0470	.0100	.1170	.0780	.0380	.0390	-.0110
165.000				.2010	.0100	-.0140	-.0590	-.0490	-.0270	-.0040	.2370		.0800		.0170
180.000	1.7560	1.5520	.5810	.2150	.0140	-.0090	-.0440	-.0440	-.0200	-.0110	.3530	.0500	.0710	.1150	.0470
270.000		1.5910													

X/LT .7449 .8526 .9295

PHI

.000	-.0410	-.0350	-.0350
30.000	-.0430	-.0330	-.0310
60.000	-.0170	-.0360	-.0410
90.000			-.0470
120.000	.0050	-.0380	-.0230
135.000	-.0150	-.0400	-.0080
150.000	-.0440	-.0160	-.0220
165.000		-.0370	-.0250
180.000	-.0340		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0490	-.0420	-.0470
30.000	-.0410	-.0300	-.0380
60.000	-.0340	-.0440	-.0380
90.000			-.0700
120.000	-.0380	-.0700	-.0440
135.000	-.0590	-.0720	-.0760
150.000	-.0490	-.0070	-.0630
165.000		-.0770	-.0740
180.000	-.0410		

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.690

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6910	1.4680	.5330	.2120	.0030	-.0330	-.0640	-.0680	-.0580	-.0400	-.0360	-.0250	-.0200	-.0440	-.0510
30.000			.4240	.1110	-.0370	-.0680	-.0910	-.0900	-.0580	-.0440	-.0360	-.0540	-.0200	-.0310	-.0570
60.000			.3540	.0740	-.0610	-.0770	-.1010	-.0870	-.0560	-.0670	-.0090	-.0440	-.0580	-.0400	-.0140
90.000		1.3030	.3350	.0650	-.0640	-.0830	-.0860	-.0700	-.0380	.4050	-.0730	-.1120	-.0370	-.0250	-.0480
120.000			.3580	.0770	-.0600	-.0800	-.0900	-.0560	-.0670	-.0630	-.0200	.0240	-.0390	.0240	-.0090
135.000								-.0540		-.0400		.0610		-.0240	
150.000			.4340	.1200	-.0390	-.0610	-.0680	-.0540	-.0500	.0040	.0850	-.0290	.0020	-.0430	-.0920
165.000				.1530	-.0210	-.0460	-.0680	-.0560	-.0330	.0040	.2310		.0360		-.0690
180.000	1.6910	1.4930	.5460	.1950	.0040	-.0280	-.0620	-.0540	-.0320	-.0060	.3620	.0680	.0980	.0070	-.0090
270.000		1.6590													

X/LT .7449 .8526 .9290

PHI

.000	-.0630	-.0620	-.0690
30.000	-.0500	-.0380	-.0500
60.000	-.0520	-.0570	-.0520
90.000			-.0760
120.000	-.0590	-.0870	-.0690
135.000	-.0880	-.0700	-.0930
150.000	-.0650	-.0360	-.0820
165.000		-.0690	-.0820
180.000	-.0360		

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 3 ) = 3.302

BETAT ( 1 ) = -8.750

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6860	1.4840	.5090	.1970	.0080	-.0300	-.0650	-.0670	-.0680	-.0570	.0000	-.0350	-.0750	-.0790	-.0360
30.000			.6400	.2660	.0590	.0150	-.0300	-.0330	-.0350	-.0280	.0010	-.0090	-.0750	-.0720	-.0420
60.000			.7500	.3420	.0990	.0490	.0010	-.0050	.0090	.2140	.0300	-.0090	-.0710	-.0720	-.0180
90.000	1.6610		.7950	.3750	.1170	.0650	.0140	.0150	.0530	.7070	.0300	-.0070	-.1020	-.0680	.0370
120.000			.7490	.3440	.0980	.0490	.0020	-.0020	.0120	.2460	.0290	-.0640	-.0680	-.0220	.0220
135.000								-.0140		.0120		-.0410		.0090	
150.000			.6450	.2640	.0520	.0100	-.0270	-.0300	-.0310	-.0050	-.0030	.1370	.0840	.1340	.0440
165.000				.2160	.0270	-.0120	-.0460	-.0480	-.0500	.0010	.1170		.0820		.0160
180.000	1.6860	1.4760	.5130	.1740	.0020	-.0340	-.0610	-.0640	-.0640	.0000	.2070	.0160	.0820	.0530	-.0070
270.000		1.2930													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0540	-.0600	-.0350												
30.000	-.0540	-.0400	-.0320												
60.000	.0090	-.0230	-.0140												
90.000			-.0140												
120.000	.0830	.0890	-.0170												
135.000	.0590	.0830	.1630												
150.000	.0360	.2050	.1620												
165.000		.1810	.1580												
180.000	-.0310														

MACH ( 3 ) = 3.302

BETAT ( 2 ) = -6.550

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7160	1.5110	.5240	.2150	.0100	-.0260	-.0600	-.0630	-.0590	-.0370	-.0020	-.0120	-.0540	-.0560	-.0190
30.000			.6240	.2460	.0470	.0050	-.0370	-.0390	-.0350	-.0270	-.0020	-.0120	-.0560	-.0840	-.0510
60.000			.7060	.3010	.0770	.0290	-.0130	-.0190	.0000	.1230	.0250	-.0110	-.0940	-.0950	-.0270
90.000	1.6560		.7380	.3230	.0880	.0410	-.0040	-.0010	.0220	.7000	.0240	-.0980	-.1190	-.0860	.0100
120.000			.7050	.3050	.0750	.0310	-.0130	-.0120	.0000	.1890	.0230	-.0790	-.0750	-.0330	.0320
135.000								-.0230		.0000		-.0510		.0310	
150.000			.6250	.2520	.0410	.0050	-.0350	-.0310	-.0350	-.0020	-.0050	.2660	.0500	.0970	.0230
165.000				.2150	.0210	-.0150	-.0470	-.0450	-.0480	-.0020	.1350		.0400		.0220
180.000	1.7160	1.5050	.5250	.1820	.0010	-.0210	-.0470	-.0570	-.0490	-.0020	.1370	-.0100	.1090	.0550	.0100
270.000		1.3590													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 3) = 3.502

BETAT ( 2) = -6.550

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9295

PHI

.000	-.0410	-.0470	-.0290
30.000	-.0380	-.0330	-.0300
60.000	-.0050	-.0330	-.0250
90.000			-.0230
120.000	.0570	.0590	-.0220
135.000	.0330	.0530	.1270
150.000	.0060	.1290	.1260
165.000		.1170	.1110
180.000	-.0310		

MACH ( 3) = 3.502

BETAT ( 3) = -4.340

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7460	1.5370	.5310	.2170	.0130	-.0260	-.0620	-.0560	-.0500	-.0320	.0010	-.0060	-.0450	-.0640	-.0060
30.000			.5960	.2300	.0350	-.0040	-.0440	-.0490	-.0380	-.0280	-.0010	.0070	-.0430	-.0760	-.0420
60.000			.6520	.2640	.0500	.0050	-.0300	-.0370	-.0110	-.0010	-.0020	.0070	-.0940	-.0980	-.0330
90.000		1.6280	.6740	.2770	.0580	.0130	-.0270	-.0180	.0070	-.6860	.0010	-.1000	-.1200	-.0820	-.0150
120.000			.6500	.2640	.0500	.0070	-.0330	-.0240	-.0090	.0220	.0190	-.0770	-.0730	-.0430	.0080
135.000								-.0310		-.0100		-.0390		.0160	
150.000			.6000	.2310	.0310	-.0100	-.0450	-.0360	-.0310	-.0020	.0190	.1360	.0480	.0610	.0150
165.000				.2080	.0170	-.0220	-.0520	-.0430	-.0290	-.0030	.1420		.0490		.0210
180.000	1.7460	1.5340	.5350	.1840	.0040	-.0210	-.0540	-.0490	-.0290	-.0010	.1410	-.0010	.0130	.0780	.0200
270.000		1.4300													

X/LT .7449 .8526 .9295

PHI

.000	-.0330	-.0360	-.0280
30.000	-.0330	-.0280	-.0290
60.000	-.0100	-.0390	-.0290
90.000			-.0240
120.000	.0320	.0410	-.0250
135.000	.0130	.0390	.0780
150.000	-.0070	.0690	.0790
165.000		.0950	.0560
180.000	-.0170		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.150

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7640	1.5490	.5390	.2200	.0100	-.0270	-.0640	-.0670	-.0500	-.0420	-.0110	.0070	-.0280	-.0420	-.0040
30.000			.5690	.2070	.0200	-.0180	-.0580	-.0660	-.0510	-.0410	-.0090	-.0350	-.0280	-.0580	-.0380
60.000			.5990	.2210	.0250	-.0180	-.0510	-.0530	-.0340	-.0470	-.0080	-.0340	-.0910	-.0950	-.0380
90.000		1.5980	.6080	.2270	.0270	-.0140	-.0520	-.0440	-.0250	.6680	-.0090	-.0940	-.1140	-.0780	-.0360
120.000			.6000	.2230	.0220	-.0190	-.0510	-.0490	-.0340	-.0290	-.0110	-.0700	-.0680	-.0380	-.0140
135.000								-.0520		-.0110		.0260		.0050	
150.000			.5730	.2080	.0150	-.0230	-.0560	-.0540	-.0360	-.0020	.0760	.1200	.0430	.0360	.0080
165.000				.1970	.0080	-.0280	-.0600	-.0540	-.0340	-.0110	.1520		.0350		.0310
180.000	1.7640	1.5470	.5380	.1830	.0010	-.0280	-.0600	-.0520	-.0370	-.0120	.1520	-.0030	.0660	.0740	.0250
270.000		1.4870													

X/LT .7449 .8526 .9290

PHI

.000	-.0200	-.0390	-.0260
30.000	-.0200	-.0230	-.0270
60.000	-.0130	-.0400	-.0260
90.000			-.0260
120.000	.0190	.0230	-.0260
135.000	.0010	.0170	.0360
150.000	-.0170	.0250	.0370
165.000		.0240	-.0130
180.000	-.0170		

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7590	1.5430	.5360	.2180	.0100	-.0280	-.0550	-.0660	-.0440	-.0370	-.0220	.0340	-.0300	-.0440	-.0050
30.000			.5040	.1660	-.0030	-.0360	-.0710	-.0680	-.0410	-.0400	-.0190	-.0480	-.0560	-.0440	-.0360
60.000			.4810	.1500	-.0120	-.0490	-.0740	-.0650	-.0420	-.0640	-.0200	-.0500	-.0910	-.0960	-.0350
90.000		1.4920	.4740	.1430	-.0180	-.0530	-.0690	-.0350	-.0470	.5150	-.0190	-.1000	-.1140	-.0700	-.0380
120.000			.4810	.1480	-.0170	-.0500	-.0690	-.0390	-.0420	-.0520	-.0180	-.0650	-.0400	-.0330	-.0190
135.000								-.0400		-.0250		.0730		-.0030	
150.000			.5070	.1660	-.0060	-.0440	-.0680	-.0390	-.0400	-.0220	.0940	.0300	.0120	-.0030	-.0030
165.000				.1780	-.0030	-.0370	-.0670	-.0400	-.0330	-.0210	.1950		.0370		.0120
180.000	1.7590	1.5440	.5370	.1860	.0020	-.0390	-.0660	-.0380	-.0260	-.0210	.1960	-.0050	.0740	.0700	.0130
270.000		1.5860													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 3 ) = 3.502 BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000 -.0350 -.0410 -.0340  
 30.000 -.0340 -.0350 -.0340  
 60.000 -.0300 -.0390 -.0340  
 90.000 -.0340  
 120.000 -.0060 -.0170 -.0350  
 135.000 -.0280 -.0230 -.0110  
 150.000 -.0530 -.0130 -.0110  
 165.000 -.0340 -.0540  
 180.000 -.0200

MACH ( 3 ) = 3.502 BETAT ( 6 ) = 4.450

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7560 1.5320 .5300 .2160 .0120 -.0270 -.0670 -.0690 -.0540 -.0490 -.0160 .0120 -.0430 -.0620 -.0100  
 30.000 .4690 .1450 -.0110 -.0470 -.0810 -.0700 -.0560 -.0520 -.0150 -.0460 -.0450 -.0520 -.0350  
 60.000 .4270 .1190 -.0300 -.0640 -.0720 -.0700 -.0590 -.0800 -.0160 -.0470 -.0920 -.0970 -.0230  
 90.000 1.4420 .4120 .1080 -.0350 -.0700 -.0670 -.0540 -.0620 .4060 -.0130 -.1010 -.1090 -.0700 -.0490  
 120.000 .4290 .1170 -.0310 -.0660 -.0670 -.0530 -.0650 -.0580 -.0150 -.0260 -.0410 -.0280 .0020  
 135.000 -.0530 -.0250 .0150 -.0140  
 150.000 .4710 .1450 -.0180 -.0560 -.0770 -.0500 -.0510 -.0160 .0350 .0080 -.0060 .0140 -.0250  
 165.000 .1650 -.0090 -.0480 -.0750 -.0520 -.0430 -.0170 .1190 .0300 .0140 -.0140  
 180.000 1.7560 1.5420 .5330 .1860 .0000 -.0390 -.0670 -.0590 -.0380 -.0160 .1660 -.0030 .0180 .0850 .0110  
 270.000 1.6270

X/LT .7449 .8526 .9290

PHI

.000 -.0440 -.0410 -.0610  
 30.000 -.0460 -.0350 -.0600  
 60.000 -.0450 -.0410 -.0580  
 90.000 -.0580  
 120.000 -.0410 -.0360 -.0590  
 135.000 -.0390 -.0450 -.0610  
 150.000 -.0610 -.0310 -.0580  
 165.000 -.0610 -.0610  
 180.000 -.0260

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 5 ) = 3.502

BETAT ( 7 ) = 6.650

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7240	1.5030	.5220	.2160	.0080	-.0300	-.0650	-.0680	-.0580	-.0440	-.0200	-.0250	-.0540	-.0380	-.0360
30.000			.4300	.1220	-.0250	-.0550	-.0860	-.0680	-.0560	-.0500	-.0190	-.0230	-.0540	-.0550	-.0630
60.000			.3720	.0860	-.0450	-.0740	-.0760	-.0740	-.0580	-.0810	-.0180	-.0250	-.0810	-.0830	-.0390
90.000	1.3610		.3530	.0760	-.0510	-.0740	-.0680	-.0650	-.0570	.2870	-.0180	-.1010	-.0920	-.0530	-.0640
120.000			.3720	.0860	-.0470	-.0740	-.0640	-.0600	-.0660	-.0600	-.0210	.0160	-.0400	-.0430	-.0230
135.000								-.0560		-.0270		.0420		-.0290	
150.000			.4300	.1230	-.0310	-.0610	-.0810	-.0570	-.0530	-.0120	-.0190	-.0260	-.0120	-.0130	-.0650
165.000				.1490	-.0180	-.0520	-.0760	-.0660	-.0480	-.0100	.2870		.0110		-.0510
180.000	1.7240	1.5130	.5220	.1780	.0010	-.0370	-.0660	-.0600	-.0450	-.0190	.2850	-.0100	.0300	.0270	-.0210
270.000		1.6530													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0700	-.0480	-.0670												
30.000	-.0710	-.0370	-.0670												
60.000	-.0710	-.0470	-.0560												
90.000			-.0600												
120.000	-.0570	-.0520	-.0610												
135.000	-.0570	-.0620	-.0610												
150.000	-.0650	-.0440	-.0610												
165.000		-.0700	-.0600												
180.000	-.0390														

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.850

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.4730	.5080	.2070	.0070	-.0300	-.0680	-.0720	-.0660	-.0610	-.0220	-.0390	-.0930	-.0930	-.0630
30.000			.3960	.0990	-.0330	-.0650	-.0940	-.0720	-.0700	-.0620	-.0230	-.0270	-.0590	-.0710	-.0630
60.000			.3220	.0590	-.0580	-.0890	-.0830	-.0810	-.0700	-.0850	-.0230	-.0270	-.0780	-.0690	-.0390
90.000	1.2980		.3010	.0460	-.0640	-.0840	-.0810	-.0730	-.0640	.2450	-.0240	-.1010	-.0660	-.0630	-.0490
120.000			.3240	.0590	-.0630	-.0810	-.0750	-.0740	-.0700	-.0650	-.0240	.0160	-.0490	-.0090	-.0290
135.000								-.0730		-.0290		-.0150		-.0320	
150.000			.3960	.0980	-.0420	-.0720	-.0910	-.0740	-.0620	-.0190	.0200	-.0650	-.0370	-.0570	-.0910
165.000				.1300	-.0270	-.0590	-.0840	-.0780	-.0600	-.0190	.2520		-.0060		-.0690
180.000	1.6890	1.4840	.5080	.1680	-.0030	-.0420	-.0710	-.0650	-.0650	-.0220	.2500	-.0010	.0470	.0300	-.0270
270.000		1.6580													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.350

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9295

PHI

.000	-.0760	-.0620	-.0720
30.000	-.0780	-.0480	-.0540
60.000	-.0580	-.0530	-.0540
90.000			-.0520
120.000	-.0630	-.0710	-.0530
135.000	-.0610	-.0710	-.0560
150.000	-.0680	-.0410	-.0540
165.000		-.0730	-.0620
180.000	-.0420		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = 2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.430

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6830	1.5300	.6330	.2780	.0190	-.0270	-.0650	-.0650	-.0620	-.0300	-.0210	.0040	-.0140	-.0560	-.0640
30.000			.7560	.3380	.0800	.0270	-.0220	-.0210	-.0140	.0110	.0680	-.0360	-.0690	-.0690	-.0450
60.000			.8410	.3990	.1210	.0710	.0120	.0070	.0400	.4220	-.0270	-.0890	-.0770	-.0520	.0270
90.000	1.6630		.8490	.4040	.1220	.0750	.0150	.0220	.3900	.4090	-.1420	-.1590	-.1330	.0660	.1020
120.000			.7750	.3520	.0820	.0400	-.0140	-.0140	.0110	.2840	-.1080	-.1440	-.0610	.0060	.1390
135.000								-.0360		.0500		-.0290		.0730	
150.000			.6550	.2610	.0210	-.0130	-.0580	-.0570	-.0340	-.0160	.0000	.1420	.0940	.0500	.0200
165.000				.2120	-.0070	-.0390	-.0810	-.0770	-.0460	-.0120	.3250		.0700		-.0070
180.000	1.6830	1.4430	.5260	.1660	-.0340	-.0600	-.0970	-.0800	-.0500	-.0060	.3140	.0700	.0340	-.0300	-.0550
270.000		1.3060													
PHI															
.000	-.0640	-.0420	-.0290												
30.000	-.0200	-.0200	-.0280												
60.000	.0200	.0030	.0180												
90.000			.0770												
120.000	.0600	.1350	.2310												
135.000	.0620	.2880	.1860												
150.000	.0650	.2990	.2320												
165.000		.4600	.1780												
180.000	-.0430														

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.310

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7060	1.5510	.6410	.2740	.0210	-.0250	-.0650	-.0640	-.0610	-.0310	-.0120	.0300	-.0160	-.0380	-.0480
30.000			.7310	.3240	.0650	.0110	-.0360	-.0340	-.0290	-.0060	.0210	-.0150	-.0640	-.0640	-.0430
60.000			.7880	.3610	.0900	.0400	-.0140	-.0180	.0140	.4310	-.0140	-.0840	-.0890	-.0690	.0130
90.000	1.6340		.7850	.3560	.0880	.0390	-.0160	-.0060	.3570	.4160	-.1320	-.1680	-.1480	.0430	.0820
120.000			.7230	.3090	.0570	.0150	-.0370	-.0370	-.0120	.2980	-.0920	-.1480	-.0810	-.0120	.1120
135.000								-.0390		.0050		-.0210		.0260	
150.000			.6310	.2430	.0110	-.0260	-.0680	-.0680	-.0450	-.0190	.0630	.1280	.0690	.0330	.0130



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.195

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2650 .0980

180.000 -.0880

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7330 1.5680 .6520 .2780 .0200 -.0280 -.0600 -.0610 -.0490 -.0170 .0290 .0470 .0030 -.0300 -.0300

30.000 .6760 .2730 .0280 -.0230 -.0560 -.0560 -.0320 -.0170 -.0290 .0470 -.0270 -.0380 -.0510

60.000 .6840 .2690 .0290 -.0070 -.0580 -.0570 -.0190 .3640 -.0050 -.0760 -.0120 -.0850 -.0040

90.000 1.5650 .6640 .2550 .0180 -.0160 -.0620 -.0450 .2130 .4100 -.1270 -.1760 -.1540 .0200 .0410

120.000 .6260 .2260 .0040 -.0300 -.0750 -.0670 -.0380 .2930 -.0720 -.1360 -.1040 -.0320 .0530

135.000 .5850 .2040 -.0150 -.0450 -.0850 -.0780 -.0400 .0170 .1960 .0960 .0260 .0180 -.0340

165.000 .1880 -.0250 -.0530 -.0890 -.0830 -.0560 .0240 .2730 .1070 .0170 .0360

180.000 1.7330 1.4890 .5510 .1750 -.0310 -.0560 -.0940 -.0810 -.0590 .0240 .3010 .0910 .1770 .0640 -.0440

270.000 1.4790

X/LT .7449 .8526 .9290

PHI

.000 -.0630 -.0140 -.0040

30.000 -.0220 -.0130 -.0170

60.000 .0010 -.0210 -.0180

90.000 -.0180

120.000 -.0040 .0120 .0620

135.000 -.0050 .0980 .0630

150.000 -.0180 .1770 .0520

165.000 .2280 .0320

180.000 -.0980

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.170

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7330	1.5640	.6590	.2890	.0290	-.0160	-.0560	-.0570	-.0450	-.0110	.0640	.0510	.0200	-.0150	-.0140
30.000			.6140	.2300	.0100	-.0350	-.0700	-.0720	-.0360	-.0110	-.0440	-.0320	.0180	-.0090	-.0370
60.000			.5680	.1980	-.0110	-.0440	-.0840	-.0810	-.0340	.0010	.0100	-.0660	-.0970	-.0800	.0170
90.000	1.4800		.5410	.1770	-.0250	-.0570	-.0940	-.0600	-.0210	.3790	-.1280	-.1730	-.1030	.0350	.0390
120.000			.5230	.1670	-.0340	-.0630	-.0910	-.0600	-.0560	.0920	-.0660	-.0900	-.0810	.0230	.0290
135.000								-.0590		.0080		.0530		-.0070	
150.000			.5280	.1690	-.0320	-.0610	-.0950	-.0630	-.0620	.0260	.1760	.0730	.0160	.0100	-.0680
165.000				.1730	-.0270	-.0570	-.0940	-.0660	-.0590	.0290	.2500		.1120		-.0580
180.000	1.7330	1.4920	.5500	.1810	-.0210	-.0530	-.0890	-.0720	-.0580	.0260	.2990	.1050	.1820	.0730	-.0370
270.000		1.5670													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0490	-.0140	-.0090												
30.000	-.0270	-.0160	-.0130												
60.000	.0010	-.0280	-.0150												
90.000			-.0290												
120.000	-.0320	-.0130	.0270												
135.000	-.0470	.0430	-.0210												
150.000	-.0620	.0560	-.0320												
165.000		.0870	.0070												
180.000	-.0990														

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.290

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7240	1.5530	.6560	.2870	.0190	-.0290	-.0630	-.0640	-.0520	-.0170	.0490	.0460	-.0160	-.0280	-.0250
30.000			.5820	.1990	-.0130	-.0550	-.0840	-.0850	-.0460	-.0190	-.0440	-.0470	-.0310	-.0310	-.0440
60.000			.5210	.1510	-.0390	-.0660	-.1050	-.0960	-.0460	-.0620	.0260	-.0530	-.0850	-.0700	.0210
90.000	1.4250		.4870	.1260	-.0560	-.0800	-.1100	-.0770	-.0550	.3680	-.1240	-.1710	-.0510	.0370	.0300
120.000			.4790	.1210	-.0610	-.0820	-.1120	-.0740	-.0750	.1030	-.0480	-.0630	-.0770	.0670	.0190
135.000								-.0830		.0620		.0340		-.0280	
150.000			.4980	.1360	-.0500	-.0750	-.1110	-.1000	-.0750	.0420	.1500	.0480	-.0080	-.0170	-.0930
165.000				.1510	-.0430	-.0700	-.1060	-.0850	-.0740	.0260	.2330		.1320		-.0800
180.000	1.7240	1.4860	.5470	.1720	-.0330	-.0590	-.0990	-.0810	-.0570	.0190	.2910	.0990	.1100	.0290	-.0430
270.000		1.6040													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.290

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0460	-.0150	-.0230
30.000	-.0320	-.0170	-.0220
60.000	-.0180	-.0420	-.0230
90.000			-.0300
120.000	-.0480	-.0240	-.0040
135.000	-.0520	.0100	-.0490
150.000	-.0710	-.0020	-.0570
165.000		.0140	-.0580
180.000	-.0880		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.410

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6990	1.5310	.6390	.2720	.0220	-.0240	-.0620	-.0600	-.0560	-.0130	.0160	.0270	-.0190	-.0390	-.0420
30.000			.5420	.1790	-.0210	-.0620	-.0890	-.0870	-.0550	-.0330	-.0440	-.0540	-.0640	-.0420	-.0490
60.000			.4650	.1250	-.0530	-.0800	-.1110	-.0900	-.0700	-.0820	.0370	-.0410	-.0700	-.0520	.0150
90.000		1.3600	.4260	.1000	-.0690	-.0900	-.0880	-.0780	-.0650	.3450	-.1200	-.1600	-.0070	.0530	.0100
120.000			.4250	.0970	-.0720	-.0900	-.0960	-.0760	-.0700	.0090	-.0440	-.0160	-.0660	.0480	-.0050
135.000								-.0850		.0270		.0170		-.0520	
150.000			.4620	.1220	-.0610	-.0820	-.0970	-.0760	-.0690	.0240	.1150	.0440	.0190	-.0540	-.1020
165.000				.1400	-.0480	-.0720	-.0960	-.0710	-.0670	.0160	.2110		.0390		-.0920
180.000	1.6990	1.4600	.5350	.1660	-.0310	-.0590	-.0960	-.0750	-.0540	.0100	.3080	.0680	.0560	.0050	-.0510
270.000		1.6300													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0450	-.0290	-.0390
30.000	-.0300	-.0210	-.0360
60.000	-.0380	-.0500	-.0340
90.000			-.0380
120.000	-.0690	-.0230	-.0420
135.000	-.0670	-.0080	-.0860
150.000	-.0860	-.0350	-.0820
165.000		-.0440	-.1170
180.000	-.0620		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6840	1.5160	.6360	.2920	.0260	-.0230	-.0640	-.0660	-.0510	-.0160	-.0270	-.0110	-.0170	-.0580	-.0480	
30.000			.5120	.1660	-.0290	-.0700	-.1020	-.1020	-.0540	-.0370	-.0680	-.0850	-.0150	-.0350	-.0550	
60.000			.4200	.1030	-.0650	-.0940	-.1040	-.0950	-.0740	-.1030	.0290	-.0450	-.0550	-.0270	-.0010	
90.000		1.3050	.3830	.0780	-.0790	-.1060	-.0920	-.0770	-.0610	.2770	-.1340	-.1330	.0320	.0530	-.0070	
120.000			.3820	.0780	-.0790	-.1040	-.0990	-.0770	-.0600	-.0520	-.0530	-.0120	-.0540	.0220	-.0410	
135.000								-.0830	-.0170			.0080		-.0340		
150.000			.4280	.1050	-.0650	-.0930	-.0870	-.0810	-.0600	-.0120	.0800	.0290	-.0080	-.0840	-.1030	
165.000				.1290	-.0510	-.0800	-.0990	-.0720	-.0600	-.0130	.1780		-.0240		-.1250	
180.000	1.6840	1.4490	.5210	.1660	-.0320	-.0640	-.1010	-.0770	-.0490	-.0250	.2920	.0710	.0180	-.0480	-.0700	
270.000		1.6600														
X/LT	.7449	.8526	.9290													
PHI																
.000	-.0590	-.0390	-.0520													
30.000	-.0370	-.0340	-.0520													
60.000	-.0520	-.0540	-.0520													
90.000			-.0500													
120.000	-.0850	-.0440	-.0880													
135.000	-.1120	-.0300	-.1060													
150.000	-.0760	-.0900	-.1070													
165.000		-.1020	-.1120													
180.000	-.0400															

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6850	1.5260	.5950	.2680	.0290	-.0120	-.0440	-.0500	-.0620	-.0420	-.0230	.0040	-.0210	-.0410	-.0450	
30.000			.7160	.3200	.0830	.0370	-.0080	-.0110	-.0230	-.0070	.0240	.0030	-.0430	-.0560	-.0440	
60.000			.7990	.3840	.1180	.0720	.0180	.0140	.0050	.2010	.0260	-.0480	-.0610	-.0560	-.0150	
90.000		1.6570	.8050	.3860	.1220	.0740	.0190	.0080	.3150	.5870	-.0530	-.1010	-.1170	-.0560	.0900	
120.000			.7310	.3310	.0860	.0450	-.0010	-.0160	.0010	.2780	-.0420	-.1020	-.0770	-.0100	.0950	
135.000								-.0340		-.0020		-.0720		.0290		
150.000			.6120	.2450	.0320	.0010	-.0370	-.0540	-.0520	-.0390	.0030	.0680	.0710	.0880	.0120	
165.000				.1970	.0040	-.0220	-.0560	-.0710	-.0610	-.0270	.2300		.1240		.0020	
180.000	1.6850	1.4390	.4860	.1560	-.0200	-.0420	-.0740	-.0840	-.0590	-.0230	.3430	.0480	.0820	-.0020	-.0080	
270.000		1.3010														
X/LT	.7449	.8526	.9290													
PHI																

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.590

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0560	-.0450	-.0270
30.000	-.0200	-.0120	-.0230
60.000	.0310	.0070	.0070
90.000			.0620
120.000	.0770	.0610	.1150
135.000	.0570	.2050	.1830
150.000	.0410	.2930	.1830
165.000		.3280	.1990
180.000	-.0390		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7090	1.5500	.6110	.2620	.0140	-.0260	-.0420	-.0450	-.0510	-.0350	-.0190	.0100	-.0160	-.0330	-.0280
30.000			.7010	.2880	.0540	.0070	-.0160	-.0200	-.0260	-.0060	.0290	.0110	-.0380	-.0550	-.0380
60.000			.7570	.3270	.0780	.0530	.0040	-.0020	-.0100	.1560	.0380	-.0420	-.0680	-.0540	-.0270
90.000		1.6350	.7530	.3260	.0750	.0490	.0020	-.0100	.2540	.5890	-.0530	-.1300	-.1260	-.0680	.0680
120.000			.6980	.2830	.0470	.0280	-.0160	-.0280	-.0080	.2600	-.0340	-.1050	-.0800	-.0520	.1020
135.000								-.0420		-.0070		-.0620		.0330	
150.000			.5930	.2130	.0060	-.0070	-.0440	-.0560	-.0510	-.0280	-.0230	.2070	.0470	.0810	-.0030
165.000				.1750	-.0160	-.0240	-.0450	-.0680	-.0580	-.0150	.1730		.0710		.0130
180.000	1.7090	1.4600	.4970	.1490	-.0350	-.0380	-.0700	-.0760	-.0560	-.0200	.3620	.0330	.0360	.0140	-.0060
270.000		1.3650													

X/LT	.7449	.8526	.9290
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PHI			
.000	-.0450	-.0320	-.0200
30.000	-.0210	-.0130	-.0220
60.000	.0180	-.0080	-.0090
90.000			.0170
120.000	.0500	.0380	.0850
135.000	.0520	.1470	.1330
150.000	.0280	.2260	.1350
165.000		.2820	.1500
180.000	-.0400		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 2) = 2.999

BETAT ( 3) = -4.270

SECTION ( 1)EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7420	1.5740	.6220	.2590	.0320	-.0090	-.0440	-.0460	-.0420	-.0230	-.0060	.0270	-.0030	-.0290	-.0140
30.000			.6780	.2850	.0570	.0130	-.0270	-.0300	-.0280	-.0080	.0110	.0270	-.0290	-.0470	-.0340
60.000			.7070	.3010	.0690	.0260	-.0190	-.0230	-.0140	.1110	.0430	-.0410	-.0740	-.0720	-.0390
90.000		1.6150	.6930	.2920	.0620	.0210	-.0210	-.0250	.1260	.0900	-.0510	-.1320	-.1320	-.0710	.0430
120.000			.6440	.2590	.0420	.0050	-.0360	-.0380	-.0180	.2150	-.0290	-.1060	-.0870	-.0640	.0670
135.000								-.0470		-.0160		-.0410		-.0100	
150.000			.5760	.2150	.0130	-.0180	-.0540	-.0560	-.0390	-.0030	-.0010	.1550	.0540	.0640	-.0140
165.000				.1900	.0000	-.0300	-.0540	-.0630	-.0380	.0000	.1800		.0220		.0230
180.000	1.7420	1.4890	.5120	.1720	-.0120	-.0390	-.0730	-.0620	-.0470	-.0050	.3310	.0530	.0530	.0480	.0080
270.000		1.4370													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0380	-.0320	-.0090												
30.000	-.0260	-.0110	-.0180												
60.000	.0070	-.0140	-.0190												
90.000			-.0170												
120.000	.0360	.0250	.0620												
135.000	.0360	.0360	.0940												
150.000	.0100	.1610	.0940												
165.000		.2350	.0720												
180.000	-.0470														

MACH ( 2) = 2.999

BETAT ( 4) = -2.110

SECTION ( 1)EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7560	1.5890	.6310	.2610	.0330	-.0090	-.0390	-.0430	-.0470	-.0240	.0100	.0330	.0080	-.0210	-.0120
30.000			.6540	.2610	.0430	.0010	-.0330	-.0370	-.0380	-.0180	-.0040	.0000	-.0110	-.0290	-.0310
60.000			.6550	.2630	.0400	.0060	-.0340	-.0370	-.0220	-.0140	.0460	-.0380	-.0720	-.0700	-.0450
90.000		1.5810	.6350	.2460	.0340	.0010	-.0380	-.0470	-.0230	.5810	-.0510	-.1170	-.1320	-.0700	.0330
120.000			.5940	.2230	.0180	-.0110	-.0480	-.0580	-.0370	.1570	-.0210	-.0990	-.0890	-.0610	.0410
135.000								-.0640		-.0110		-.0120		-.0230	
150.000			.5520	.1950	.0030	-.0240	-.0600	-.0680	-.0430	.0100	.1110	.1230	.0530	.0630	-.0010
165.000				.1820	-.0050	-.0290	-.0590	-.0720	-.0500	-.0030	.1960		.0330		.0370
180.000	1.7560	1.5060	.5200	.1720	-.0110	-.0340	-.0690	-.0760	-.0540	.0060	.3300	.0310	.0650	.1020	.0300
270.000		1.4960													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.110

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0320	-.0300	-.0040
30.000	-.0330	-.0080	-.0170
60.000	.0040	-.0160	-.0160
90.000			-.0260
120.000	.0290	.0100	.0360
135.000	.0070	-.0020	.0600
150.000	.0000	.0920	.0460
165.000		.1280	.0560
180.000	-.0450		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.210

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7500	1.5780	.6320	.2640	.0340	-.0080	-.0420	-.0430	-.0360	-.0120	.0170	.0490	.0070	-.0110	-.0110
30.000			.5950	.2180	.0180	-.0220	-.0550	-.0430	-.0360	-.0170	-.0290	-.0490	-.0280	-.0080	-.0190
60.000			.5470	.1880	-.0030	-.0310	-.0650	-.0670	-.0870	-.0480	.0400	-.0360	-.0720	-.0710	-.0220
90.000		1.4920	.5140	.1640	-.0150	-.0420	-.0730	-.0650	-.0520	.5310	-.0620	-.1210	-.1310	-.0440	.0160
120.000			.4950	.1550	-.0210	-.0460	-.0750	-.0640	-.0510	-.0360	-.0250	-.0870	-.0690	-.0560	.0210
135.000								-.0700		-.0140		.0740		-.0140	
150.000			.4980	.1600	-.0190	-.0430	-.0760	-.0720	-.0530	-.0510	.0900	.0610	.0110	.0320	-.0260
165.000			.1640	-.0160	-.0410	-.0760	-.0690	-.0460	.0040	.2060		.0430		.0050	
180.000	1.7500	1.5020	.5170	.1690	-.0110	-.0390	-.0750	-.0650	-.0480	.0020	.3220	.0250	.0630	.1080	.0300
270.000		1.5780													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0330	-.0330	-.0290
30.000	-.0400	-.0210	-.0290
60.000	.0000	-.0200	-.0290
90.000			-.0510
120.000	-.0020	-.0330	-.0080
135.000	-.0220	-.0450	.0030
150.000	-.0510	-.0150	-.0180
165.000		-.0300	-.0200
180.000	-.0460		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.370

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7410	1.5650	.6220	.2710	.0280	-.0140	-.0390	-.0430	-.0360	-.0150	.0050	.0150	-.0030	-.0230	-.0130
30.000			.5510	.1870	-.0050	-.0400	-.0610	-.0610	-.0430	-.0210	-.0450	-.0610	-.0430	-.0310	-.0360
60.000			.4870	.1420	-.0280	-.0480	-.0770	-.0610	-.0480	-.0590	.0280	-.0410	-.0540	-.0510	-.0070
90.000	1.4320		.4500	.1170	-.0430	-.0580	-.0800	-.0550	-.0590	.4590	-.0790	-.1010	-.0970	-.0020	.0280
120.000			.4490	.1140	-.0460	-.0600	-.0770	-.0550	-.0570	-.0450	-.0380	-.0440	-.0390	-.0400	.0170
135.000								-.0610		.0060		.0670		-.0230	
150.000			.4600	.1310	-.0380	-.0520	-.0820	-.0670	-.0500	-.0150	.0770	.0300	.0150	.0420	-.0490
165.000				.1420	-.0310	-.0470	-.0750	-.0500	-.0480	-.0190	.1790		.0580		-.0240
180.000	1.7410	1.4890	.5110	.1600	-.0210	-.0390	-.0690	-.0540	-.0370	-.0230	.3210	.0630	.0790	.0520	.0030
270.000		1.6190													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0360	-.0260	-.0230												
30.000	-.0380	-.0130	-.0190												
60.000	-.0080	-.0260	-.0390												
90.000			-.0560												
120.000	-.0240	-.0500	-.0110												
135.000	-.0470	-.0620	-.0260												
150.000	-.0500	-.0560	-.0410												
165.000		-.0650	-.0480												
180.000	-.0460														

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.530

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7080	1.5330	.6080	.2610	.0160	-.0270	-.0370	-.0400	-.0420	-.0230	-.0120	.0140	-.0210	-.0220	-.0360
30.000			.5080	.1520	-.0270	-.0610	-.0650	-.0610	-.0500	-.0310	-.0410	-.0500	-.0470	-.0210	-.0340
60.000			.4290	.1030	-.0560	-.0570	-.0760	-.0610	-.0590	-.0730	.0370	-.0260	-.0450	-.0470	.0100
90.000	1.3580		.3890	.0750	-.0690	-.0670	-.0640	-.0640	-.0620	.3950	-.0720	-.0990	-.0740	.0260	.0330
120.000			.3870	.0750	-.0700	-.0680	-.0620	-.0760	-.0570	-.0460	-.0350	.0050	-.0450	-.0300	-.0010
135.000								-.0700		-.0120		.0360		-.0140	
150.000			.4240	.0990	-.0600	-.0590	-.0590	-.0640	-.0640	-.0160	.0670	.0050	.0260	-.0060	-.0770
165.000				.1180	-.0490	-.0490	-.0730	-.0610	-.0500	-.0130	.2110		.0110		-.0530
180.000	1.7080	1.4640	.4990	.1430	-.0350	-.0370	-.0680	-.0660	-.0460	-.0170	.3390	.0450	.0460	.0090	-.0090
270.000		1.6360													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6810	1.5240	.5690	.2440	.0220	-.0140	-.0400	-.0460	-.0490	-.0340	-.0250	.0100	-.0590	-.0470	-.0270
30.000			.6960	.2970	.0760	.0290	-.0110	-.0120	-.0160	-.0070	-.0260	.0200	-.0580	-.0590	-.0290
60.000			.7820	.3560	.1090	.0650	.0160	.0110	.0230	.1840	.0600	.0150	-.0600	-.0600	-.0230
90.000		1.6540	.7910	.3650	.1090	.0660	.0170	.0130	.0450	.7090	.0610	-.0880	-.1120	-.0950	.0490
120.000			.7150	.3120	.0770	.0410	-.0020	-.0070	.0030	.2010	-.0040	-.0890	-.0960	-.0380	-.0020
135.000								-.0250		-.0040		-.0680		-.0360	
150.000			.5920	.2270	.0260	-.0020	-.0350	-.0430	-.0440	-.0250	-.0240	.0280	.0750	.1010	.0170
165.000				.1760	.0020	-.0220	-.0530	-.0580	-.0600	-.0170	.1030		.0690		.0160
180.000	1.6810	1.4370	.4610	.1370	-.0240	-.0420	-.0670	-.0720	-.0610	-.0270	.1030	.0120	.0570	.0380	-.0250
270.000		1.3030													

X/LT .7449 .8526 .9290

PHI			
.000	-.0520	-.0510	-.0360
30.000	-.0520	-.0190	-.0220
60.000	.0150	.0070	.0030
90.000			.0030
120.000	.0160	.0610	.0010
135.000	.0240	.0620	.1420
150.000	.0300	.1990	.1410
165.000		.2010	.1420
180.000	-.0390		

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.5640	.5840	.2490	.0250	-.0110	-.0440	-.0460	-.0470	-.0260	-.0180	.0130	-.0350	-.0460	-.0150
30.000			.6790	.2790	.0620	.0200	-.0190	-.0210	-.0230	-.0100	-.0190	.0180	-.0330	-.0610	-.0420
60.000			.7370	.3170	.0830	.0420	-.0030	-.0090	.0110	.0190	.0510	.0190	-.0720	-.0740	-.0430
90.000		1.6550	.7350	.3140	.0790	.0400	-.0050	-.0040	.0190	.7020	.0510	-.0950	-.1210	-.1070	-.0100
120.000			.6710	.2740	.0540	.0180	-.0230	-.0210	-.0080	.1770	.0510	-.0950	-.0950	-.0540	.0180
135.000								-.0330		-.0160		-.0720		-.0110	
150.000			.5730	.2090	.0160	-.0130	-.0460	-.0460	-.0450	-.0230	-.0250	.1570	.0430	.0820	.0180
165.000				.1740	-.0030	-.0300	-.0600	-.0560	-.0510	-.0190	.0890		.0420		-.0020
180.000	1.7280	1.4740	.4730	.1430	-.0200	-.0440	-.0690	-.0650	-.0490	-.0190	.1870	.0030	.0130	.0350	-.0070
270.000		1.3740													

X/LT .7449 .8526 .9290

PHI





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.140

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7600	1.5900	.5980	.2560	.0300	-.0090	-.0420	-.0470	-.0400	-.0180	-.0190	.0270	-.0210	-.0300	.0090
30.000			.6220	.2410	.0390	-.0010	-.0370	-.0470	-.0370	-.0170	-.0190	-.0280	-.0180	-.0370	-.0230
60.000			.6240	.2390	.0340	.0010	-.0370	-.0470	-.0180	-.0280	.0250	-.0270	-.0700	-.0790	-.0470
90.000	1.5880		.6040	.2230	.0250	-.0060	-.0450	-.0390	-.0190	.6770	.0270	-.0870	-.1190	-.1040	.0030
120.000			.5620	.1980	.0190	-.0190	-.0510	-.0490	-.0350	.0010	-.0060	-.0880	-.0930	-.0630	.0040
135.000								-.0520		-.0240		-.0250		-.0080	
150.000			.5190	.1700	-.0050	-.0320	-.0610	-.0550	-.0400	-.0080	.0320	.1030	.0380	.0320	.0030
165.000				.1570	-.0190	-.0370	-.0640	-.0490	-.0430	-.0140	.0770		.0250		.0040
180.000	1.7600	1.5030	.4840	.1500	-.0140	-.0420	-.0630	-.0470	-.0470	-.0190	.0980	-.0060	.0450	.1010	.0130
270.000		1.4910													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0250	-.0330	-.0260												
30.000	-.0250	-.0150	-.0180												
60.000	-.0020	-.0180	-.0190												
90.000			-.0200												
120.000	.0160	.0130	-.0200												
135.000	.0170	.0120	.0420												
150.000	-.0260	.0080	.0410												
165.000		.0240	.0020												
180.000	-.0320														

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.250

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7640	1.5890	.5970	.2570	.0320	-.0090	-.0440	-.0470	-.0510	-.0310	-.0210	.0520	-.0110	-.0250	.0130
30.000			.5580	.1980	.0170	-.0220	-.0530	-.0510	-.0480	-.0380	-.0220	-.0370	-.0410	-.0360	-.0180
60.000			.5130	.1690	-.0030	-.0350	-.0620	-.0590	-.0490	-.0650	.0170	-.0370	-.0740	-.0800	-.0500
90.000	1.4960		.4820	.1460	-.0150	-.0450	-.0640	-.0520	-.0530	.5260	.0160	-.0980	-.1190	-.0810	.0050
120.000			.4590	.1350	-.0240	-.0490	-.0570	-.0540	-.0510	-.0570	.0170	-.0900	-.0750	-.0510	-.0140
135.000								-.0540		-.0290		.0550		-.0180	
150.000			.4640	.1380	-.0220	-.0480	-.0550	-.0540	-.0530	-.0280	.0480	.0220	.0030	-.0250	-.0150
165.000				.1430	-.0190	-.0460	-.0580	-.0520	-.0540	-.0250	.1610		.0300		-.0060
180.000	1.7640	1.5080	.4870	.1510	-.0140	-.0430	-.0640	-.0510	-.0550	-.0240	.1610	-.0070	.0520	.0860	.0030
270.000		1.5900													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT07)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7210	1.5450	.5820	.2440	.0310	-.0090	-.0440	-.0490	-.0530	-.0400	-.0190	-.0050	-.0460	-.0530	-.0090
30.000			.4750	.1500	-.0070	-.0380	-.0670	-.0700	-.0600	-.0410	-.0210	-.0050	-.0440	-.0550	-.0350
60.000			.3940	.1020	-.0340	-.0620	-.0660	-.0630	-.0610	-.0830	-.0190	-.0050	-.0710	-.0790	-.0090
90.000	1.3620		.3520	.0780	-.0500	-.0700	-.0640	-.0580	-.0610	.3160	-.0190	-.1110	-.1020	-.0220	-.0030
120.000			.3490	.0780	-.0520	-.0660	-.0590	-.0630	-.0640	-.0640	-.0190	-.0410	-.0620	-.0300	-.0040
135.000								-.0630	-.0660	-.0360		.0100		-.0290	
150.000			.3870	.0970	-.0420	-.0650	-.0620	-.0640	-.0640	.0290	-.0320	-.0330	.0010	.0010	-.0320
165.000				.1170	-.0320	-.0570	-.0740	-.0640	-.0600	-.0200	.2000		.0000		-.0360
180.000	1.7210	1.4710	.4660	.1420	-.0150	-.0470	-.0700	-.0710	-.0570	-.0200	.1980	-.0080	.0370	.0300	-.0110
270.000		1.6540													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0450	-.0450	-.0440												
30.000	-.0490	-.0310	-.0320												
60.000	-.0270	-.0380	-.0330												
90.000			-.0420												
120.000	-.0270	-.0390	-.0450												
135.000	-.0260	-.0770	-.0660												
150.000	-.0680	-.0770	-.0660												
165.000		-.0740	-.0650												
180.000	-.0470														

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.850

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6840	1.5060	.5620	.2420	.0280	-.0100	-.0410	-.0450	-.0370	-.0240	-.0270	-.0220	-.0660	-.0590	-.0390
30.000			.4360	.1270	-.0170	-.0500	-.0700	-.0690	-.0490	-.0340	-.0280	-.0210	-.0430	-.0640	-.0670
60.000			.3400	.0720	-.0490	-.0700	-.0650	-.0690	-.0510	-.0800	-.0240	-.0190	-.0560	-.0600	-.0270
90.000	1.2940		.2980	.0490	-.0640	-.0730	-.0650	-.0440	-.0520	.2560	-.0230	-.0900	-.0440	-.0080	-.0260
120.000			.2980	.0490	-.0630	-.0720	-.0590	-.0520	-.0550	-.0650	-.0260	.0010	-.0580	.0030	-.0270
135.000								-.0520	-.0410			.0080		-.0380	
150.000			.3490	.0790	-.0520	-.0700	-.0650	-.0540	-.0550	-.0240	.0330	-.0560	-.0310	-.0570	-.0820
165.000				.1020	-.0380	-.0570	-.0760	-.0570	-.0500	-.0230	.2490		-.0040		-.0720
180.000	1.6840	1.4380	.4500	.1360	-.0190	-.0440	-.0690	-.0600	-.0510	-.0270	.2480	.0090	.0420	.0230	-.0450
270.000		1.6550													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RENT07)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.850

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI			
.000	-.0660	-.0480	-.0650
30.000	-.0570	-.0380	-.0410
60.000	-.0460	-.0410	-.0430
90.000			-.0430
120.000	-.0630	-.0740	-.0450
135.000	-.0640	-.0730	-.0630
150.000	-.0700	-.0440	-.0630
165.000		-.0680	-.0650
180.000	-.0440		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.420

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6780	1.5670	.6870	.3080	.0460	-.0010	-.0460	-.0490	-.0420	-.0240	-.0100	-.0100	.0050	-.0320	-.0530
30.000			.8100	.3840	.1100	.0520	-.0050	-.0040	.0040	.0310	.0730	.0660	-.0390	-.0470	-.0250
60.000			.8730	.4290	.1370	.0850	.0210	.0180	.0570	.4930	.0200	-.0470	-.0490	-.0290	.0280
90.000	1.6550		.8460	.4060	.1230	.0680	.0070	.0130	.3900	.4140	-.1240	-.1640	-.1540	.0060	.1080
120.000			.7360	.3270	.0660	.0210	-.0310	-.0160	-.0110	.2250	-.1290	-.1700	-.0720	.0010	.1160
135.000								-.0520		.1120		-.0750		.0770	
150.000			.5980	.2200	-.0010	-.0380	-.0800	-.0760	-.0620	-.0400	-.0350	.0240	.0820	.0370	.0210
165.000				.1690	-.0320	-.0640	-.1010	-.0930	-.0610	-.0350	.3330		.0320		-.0240
180.000	1.6780	1.4000	.4730	.1300	-.0550	-.0820	-.1070	-.0850	-.0660	-.0220	.2900	.0460	.0090	-.0530	-.0610
270.000		1.3030													

X/LT .7449 .8526 .9290

## PHI

.000	-.0480	-.0290	-.0160
30.000	-.0020	.0040	-.0040
60.000	.0290	.0360	.0590
90.000			.0690
120.000	.0680	.1240	.2850
135.000	.0700	.2810	.1890
150.000	.0580	.2800	.2380
165.000		.4870	.1720
180.000	-.0390		

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7000	1.5860	.7020	.3140	.0470	-.0030	-.0450	-.0450	-.0330	-.0080	-.0030	.0430	-.0040	-.0140	-.0290
30.000			.7870	.3620	.0890	.0320	-.0150	-.0150	-.0010	.0260	.0180	.0220	-.0330	-.0400	-.0220
60.000			.8230	.3810	.1020	.0550	.0000	-.0040	.0380	.5120	.0270	-.0500	-.0610	-.0440	.0040
90.000	1.6320		.7840	.3510	.0810	.0380	-.0160	.0060	.3740	.4160	-.1210	-.1630	-.1580	-.0290	.0970
120.000			.6890	.2800	.0350	-.0010	-.0480	-.0400	-.0210	.2270	-.1240	-.1700	-.0920	-.0310	.1090
135.000								-.0600		.0180		-.0700		.0210	
150.000			.5780	.1980	-.0150	-.0450	-.0850	-.0740	-.0480	-.0320	.0100	.0960	.0510	.0220	.0120





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT58)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.170

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7210	1.5950	.7130	.3270	.0530	.0030	-.0400	-.0420	-.0310	-.0010	.0660	.0630	.0290	.0060	-.0070
30.000			.6590	.2640	.0280	-.0210	-.0600	-.0590	-.0320	-.0030	-.0240	-.0340	.0310	.0060	-.0170
60.000			.5920	.2140	-.0050	-.0400	-.0820	-.0370	-.0470	.0500	-.0360	-.0670	-.0510	.0200	
90.000	1.4690		.5350	.1690	-.0290	-.0620	-.1000	-.0740	-.0050	.3780	-.1170	-.1660	-.1580	.0170	.0720
120.000			.4930	.1430	-.0450	-.0750	-.1070	-.0750	-.0720	.1810	-.1020	-.1270	-.0920	.0230	.0350
135.000								-.0730		-.0120		.0300		-.0240	
150.000			.4800	.1350	-.0500	-.0800	-.0970	-.0740	-.0710	.0090	.1460	.0790	-.0050	-.0080	-.0800
165.000				.1360	-.0490	-.0790	-.1040	-.0760	-.0730	.0150	.2040		.0810		-.0700
180.000	1.7210	1.4390	.4940	.1410	-.0480	-.0730	-.1050	-.0770	-.0710	.0120	.2740	.1030	.1780	.0600	-.0470
270.000		1.5570													

X/LT .7449 .8526 .9290

PHI			
.000	-.0350	-.0060	.0040
30.000	-.0170	-.0020	-.0090
60.000	.0060	-.0180	-.0080
90.000			.0010
120.000	-.0280	.0030	.0410
135.000	-.0300	.0460	-.0040
150.000	-.0620	.0740	-.0250
165.000		.1000	.0020
180.000	-.1050		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7150	1.5850	.7080	.3200	.0510	-.0020	-.0470	-.0470	-.0340	-.0010	.0530	.0390	.0040	-.0160	-.0210
30.000			.6230	.2340	.0110	-.0350	-.0730	-.0690	-.0390	-.0030	-.0410	-.0520	-.0330	-.0260	-.0450
60.000			.5420	.1710	-.0280	-.0610	-.0970	-.0950	-.0510	-.0780	.0490	-.0390	-.0530	-.0410	.0220
90.000	1.4200		.4820	.1280	-.0540	-.0810	-.1110	-.0810	-.0510	.3520	-.1270	-.1330	-.1300	.0490	.0420
120.000			.4510	.1100	-.0640	-.0880	-.0960	-.0780	-.0760	.0630	-.1170	-.1020	-.0820	.0300	.0050
135.000								-.0780		-.0160		.0240		-.0480	
150.000			.4540	.1140	-.0630	-.0890	-.1040	-.0800	-.0720	-.0010	.1270	.0650	-.0160	-.0340	-.1100
165.000				.1230	-.0590	-.0880	-.1040	-.0780	-.0710	.0010	.2030		.1210		-.0980
180.000	1.7150	1.4360	.4940	.1390	-.0490	-.0790	-.1080	-.0810	-.0740	-.0040	.2660	.0890	.1060	.0200	-.0600
270.000		1.5940													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0390	-.0060	-.0050
30.000	-.0270	-.0040	-.0145
60.000	-.0190	-.0260	-.0290
90.000		-.0040	
120.000	-.0560	.0270	.0170
135.000	-.0580	.0260	-.0390
150.000	-.0820	.0100	-.0380
165.000		.0110	-.0470
180.000	-.0840		

MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.420

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6950	1.5640	.6930	.3200	.0450	-.0050	-.0460	-.0480	-.0340	.0000	.0220	.0310	-.0110	-.0200	-.0320
30.000			.5830	.2070	-.0060	-.0510	-.0830	-.0830	-.0500	-.0180	-.0360	-.0550	-.0600	-.0300	-.0330
60.000			.4830	.1350	-.0510	-.0760	-.1130	-.1070	-.0630	-.1000	.0700	-.0170	-.0480	-.0410	.0260
90.000		1.3540	.4240	.0920	-.0770	-.0980	-.1150	-.0830	-.0670	.3400	-.1140	-.1600	-.0820	.0590	.0200
120.000			.4030	.0780	-.0820	-.1030	-.1030	-.0810	-.0790	.0130	-.0980	-.0590	-.0740	.0460	-.0140
135.000								-.0830		.0220		.0010		-.0630	
150.000			.4230	.0910	-.0780	-.0980	-.1160	-.0840	-.0680	.0030	.1110	.0480	.0170	-.0650	-.1040
165.000				.1070	-.0700	-.0910	-.0990	-.0820	-.0750	.0020	.1940		.0460		-.1020
180.000	1.6950	1.4190	.4830	.1300	-.0550	-.0800	-.1080	-.0790	-.0660	-.0060	.2720	.0500	.0500	-.0030	-.0590
270.000		1.6270													

X/LT .7449 .8526 .9290

PHI

.000	-.0330	-.0160	-.0140
30.000	-.0190	-.0070	-.0190
60.000	-.0280	-.0350	-.0340
90.000			-.0100
120.000	-.0700	.0020	-.0150
135.000	-.0720	.0190	-.0790
150.000	-.0850	-.0330	-.0760
165.000		-.0140	-.0840
180.000	-.0610		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.580

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0430	-.0330	-.0200
30.000	-.0120	.0120	.0020
60.000	.0300	.0310	.0320
90.000			.0840
120.000	.0740	.0650	.1180
135.000	.0560	.1930	.1860
150.000	.0390	.3070	.2100
165.000		.3390	.2130
180.000	-.0380		

MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7010	1.5850	.6690	.3020	.0550	.0090	-.0270	-.0320	-.0230	-.0110	-.0330	-.0030	.0080	-.0120	-.0190
30.000			.7560	.3400	.0920	.0410	-.0010	-.0060	.0040	.0250	.0200	.0400	.0050	-.0180	-.0200
60.000			.7870	.3630	.1050	.0630	.0100	-.0040	.0320	.1990	.0620	-.0250	-.0340	-.0300	-.0130
90.000		1.6240	.7510	.3370	.0850	.0440	-.0030	.0070	.2560	.5820	-.0590	-.0980	-.1100	-.0970	.0580
120.000			.6560	.2650	.0440	.0090	-.0300	-.0240	-.0220	.1600	-.0770	-.1160	-.0940	-.0590	.0650
135.000								-.0400		-.0050		-.0840		.0140	
150.000			.5410	.1900	-.0010	-.0280	-.0610	-.0560	-.0520	-.0550	-.0410	.0940	.0390	.0560	-.0150
165.000				.1540	-.0210	-.0450	-.0750	-.0670	-.0520	-.0520	.2030		.0910		-.0070
180.000	1.7010	1.4110	.4480	.1230	-.0380	-.0590	-.0840	-.0600	-.0530	-.0450	.3220	.0460	.0690	.0040	-.0080
270.000		1.3590													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0320	-.0190	-.0080
30.000	-.0130	.0110	.0000
60.000	.0210	.0200	.0030
90.000			.0500
120.000	.0450	.0320	.1100
135.000	.0470	.1280	.1400
150.000	.0220	.2420	.1410
165.000		.2760	.1620
180.000	-.0390		

AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7320	1.6130	.6810	.3130	.0550	.0080	-.0230	-.0270	-.0260	-.0110	-.0100	.0300	.0180	-.0100	.0110
30.000			.7300	.3180	.0760	.0270	-.0070	-.0120	-.0090	.0130	.0210	.0430	.0130	-.0090	-.0120
60.000			.7350	.3190	.0760	.0440	-.0060	-.0100	.0130	.0460	.0740	-.0120	-.0430	-.0410	-.0200
90.000	1.6070		.6900	.2840	.0520	.0220	-.0200	-.0210	.0920	.5820	-.0430	-.0980	-.1140	-.1020	.0430
120.000			.6130	.2290	.0200	-.0040	-.0420	-.0420	-.0330	.1730	-.0600	-.1200	-.1000	-.0710	.0670
135.000								-.0540		-.0230		-.0730		-.0120	
150.000			.5270	.1730	-.0130	-.0320	-.0640	-.0680	-.0500	-.0250	-.0160	.1460	.0460	.0540	-.0180
165.000				.1460	-.0270	-.0450	-.0730	-.0690	-.0520	-.0090	.1330	.0160	.0160	.0150	
180.000	1.7320	1.4420	.4610	.1270	-.0380	-.0510	-.0790	-.0640	-.0590	-.0120	.2790	.0850	.0410	.0710	.0070
270.000		1.4310													

X/LT .7449 .8526 .9290

PHI			
.000	-.0160	-.0160	-.0040
30.000	-.0110	.0110	.0040
60.000	.0190	.0120	.0030
90.000			.0140
120.000	.0430	.0170	.0770
135.000	.0430	.0530	.1010
150.000	.0170	.1770	.1000
165.000		.2270	.1020
180.000	-.0510		

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7480	1.6250	.6880	.3120	.0570	.0120	-.0260	-.0290	-.0230	-.0020	.0110	.0340	.0360	.0140	-.0040
30.000			.7020	.2970	.0630	.0180	-.0200	-.0280	-.0230	.0070	.0060	-.0090	.0320	.0140	-.0110
60.000			.6810	.2800	.0540	.0180	-.0280	-.0290	-.0030	-.0070	.0710	-.0160	-.0380	-.0390	-.0290
90.000	1.5750		.6300	.2420	.0290	-.0040	-.0430	-.0380	-.0150	.5660	-.0490	-.0920	-.1090	-.0950	.0320
120.000			.5720	.1990	.0040	-.0250	-.0610	-.0570	-.0410	.1440	-.0620	-.1080	-.0950	-.0730	.0480
135.000								-.0630		-.0330		-.0470		-.0360	
150.000			.5050	.1620	-.0190	-.0440	-.0740	-.0720	-.0420	-.0040	.0830	.1110	.0470	.0380	-.0090
165.000				.1450	-.0280	-.0500	-.0780	-.0690	-.0560	-.0110	.1370		.0310	.0280	
180.000	1.7480	1.4510	.4660	.1350	-.0340	-.0540	-.0830	-.0710	-.0600	-.0110	.2690	.0760	.0710	.1260	.0270
270.000		1.4880													

X/LT .7449 .8526 .9290

PHI

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0180	-.0130	.0010
30.000	-.0190	.0110	.0040
60.000	.0110	.0080	.0020
90.000			-.0120
120.000	.0350	.0070	.0480
135.000	.0120	.0020	.0690
150.000	-.0090	.1210	.0650
165.000		.1670	.0490
180.000	-.0480		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.210

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7440	1.6160	.6890	.3240	.0610	.0120	-.0260	-.0270	-.0270	-.0050	.0130	.0460	.0350	.0210	.0010
30.000			.6360	.2490	.0340	-.0080	-.0410	-.0260	-.0380	-.0100	-.0210	-.0490	-.0100	.0070	-.0100
60.000			.5680	.1990	.0070	-.0240	-.0590	-.0580	-.0360	-.0370	.0610	-.0200	-.0360	-.0360	-.0300
90.000	1.4830		.5090	.1590	-.0200	-.0450	-.0730	-.0700	-.0580	.5140	-.0700	-.0950	-.1080	-.0650	.0520
120.000			.4710	.1350	-.0340	-.0550	-.0790	-.0680	-.0590	.0030	-.0700	-.0990	-.0870	-.0620	.0140
135.000								-.0690		-.0370		.0630		-.0270	
150.000			.4500	.1260	-.0380	-.0590	-.0730	-.0690	-.0600	-.0300	.0500	.0690	.0150	.0520	-.0410
165.000				.1260	-.0380	-.0580	-.0760	-.0670	-.0590	-.0280	.1560		.0740		-.0070
180.000	1.7440	1.4510	.4640	.1320	-.0350	-.0560	-.0820	-.0680	-.0640	-.0290	.2790	.0610	.0800	.1180	.0220
270.000		1.5740													

X/LT .7449 .8526 .9290

PHI

.000	-.0200	-.0180	-.0060
30.000	-.0280	-.0070	-.0110
60.000	.0090	-.0050	-.0110
90.000			-.0360
120.000	-.0010	-.0340	.0110
135.000	-.0220	-.0460	.0130
150.000	-.0440	.0130	-.0010
165.000		.0360	-.0070
180.000	-.0500		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.370

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.5980	.6770	.3030	.0610	.0100	-.0260	-.0290	-.0320	-.0120	.0320	.0460	.0020	-.0180	-.0070
30.000			.5930	.2230	.0180	-.0230	-.0500	-.0520	-.0450	-.0170	-.0180	-.0270	-.0420	-.0360	-.0250
60.000			.5090	.1590	-.0170	-.0410	-.0740	-.0520	-.0490	-.0530	.0710	.0000	-.0430	-.0380	-.0230
90.000	1.4210		.4470	.1190	-.0410	-.0610	-.0680	-.0640	-.0630	.4480	-.0600	-.1050	-.1210	-.0380	.0710
120.000			.4140	.0990	-.0510	-.0690	-.0630	-.0620	-.0660	-.0490	-.0630	-.0960	-.0660	-.0480	.0090
135.000								-.0620		-.0260		.0250		-.0110	
150.000			.4170	.1060	-.0480	-.0670	-.0630	-.0610	-.0640	-.0160	.0480	.0320	.0270	.0340	-.0620
165.000				.1130	-.0430	-.0650	-.0630	-.0630	-.0640	-.0140	.1580		.0370		-.0340
180.000	1.7280	1.4380	.4560	.1270	-.0370	-.0560	-.0720	-.0660	-.0620	-.0150	.2920	.0760	.0600	.0630	-.0070
270.000		1.6060													

X/LT .7449 .8526 .9290

PHI			
.000	-.0230	-.0190	-.0100
30.000	-.0290	.0090	-.0100
60.000	.0040	-.0140	-.0290
90.000			-.0440
120.000	-.0220	-.0500	-.0030
135.000	-.0420	-.0510	-.0230
150.000	-.0560	-.0040	-.0340
165.000		-.0080	-.0300
180.000	-.0570		

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.540

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6990	1.5700	.6660	.3050	.0570	.0050	-.0270	-.0300	-.0280	-.0170	.0030	.0210	-.0020	-.0100	-.0250
30.000			.5510	.1930	.0010	-.0340	-.0600	-.0610	-.0420	-.0190	-.0320	-.0410	-.0300	-.0030	-.0230
60.000			.4490	.1240	-.0380	-.0580	-.0860	-.0610	-.0530	-.0690	.0660	.0010	-.0270	-.0240	-.0010
90.000	1.3510		.3860	.0830	-.0580	-.0760	-.0690	-.0520	-.0630	.3830	-.0690	-.0960	-.1000	.0110	.0520
120.000			.3600	.0720	-.0630	-.0780	-.0660	-.0610	-.0660	-.0590	-.0690	-.0550	-.0510	-.0230	.0030
135.000								-.0610		-.0370		.0400		-.0270	
150.000			.3800	.0820	-.0610	-.0770	-.0660	-.0610	-.0630	-.0260	.0370	.0100	.0240	-.0200	-.0850
165.000				.1000	-.0530	-.0690	-.0690	-.0610	-.0610	-.0280	.1700		.0120		-.0600
180.000	1.6990	1.4150	.4430	.1210	-.0400	-.0590	-.0800	-.0640	-.0610	-.0330	.3030	.0600	.0560	-.0030	-.0180
270.000		1.6290													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 2) = 2.999

BETAT ( 7) = 6.545

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9295

PHI

.000	-.0360	-.0200	-.0170
30.000	-.0260	-.0030	-.0110
60.000	-.0120	-.0180	-.0330
90.000			-.0420
120.000	-.0440	-.0630	-.0300
135.000	-.0650	-.0460	-.0570
150.000	-.0490	.0030	-.0580
165.000		-.0580	-.0760
180.000	-.0460		

MACH ( 2) = 2.999

BETAT ( 8) = 8.700

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6720	1.5420	.6530	.3000	.0540	.0100	-.0270	-.0310	-.0360	-.0180	-.0350	-.0200	-.0120	-.0080	-.0350
30.000			.5150	.1750	-.0050	-.0390	-.0650	-.0660	-.0580	-.0300	-.0390	-.0450	.0050	-.0090	-.0340
60.000			.3980	.0990	-.0470	-.0660	-.0930	-.0660	-.0670	-.0850	.0550	-.0030	-.0090	-.0100	.0080
90.000		1.2890	.3340	.0630	-.0650	-.0830	-.0780	-.0760	-.0750	.3620	-.0790	-.0910	-.0820	.0410	.0170
120.000			.3300	.0560	-.0690	-.0870	-.0800	-.0760	-.0670	-.0670	-.0750	-.0670	-.0420	.0020	-.0110
135.000								-.0760		-.0450		.0480		-.0480	
150.000			.3510	.0690	-.0650	-.0820	-.0740	-.0750	-.0730	-.0380	.0220	-.0180	.0120	-.0530	-.0930
165.000				.0890	-.0550	-.0760	-.0760	-.0730	-.0690	-.0410	.1560		.0170		-.0720
180.000	1.6720	1.3920	.4330	.1190	-.0400	-.0630	-.0860	-.0780	-.0680	-.0510	.3180	.0420	.0770	-.0190	-.0370
270.000		1.6480													

X/LT .7449 .8526 .9295

PHI

.000	-.0450	-.0380	-.0380
30.000	-.0300	-.0130	-.0190
60.000	-.0270	-.0260	-.0340
90.000			-.0540
120.000	-.0600	-.0790	-.0580
135.000	-.0870	-.0370	-.0810
150.000	-.0580	.0020	-.0800
165.000		-.0620	-.0760
180.000	-.0450		





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.530

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0480	-.0330	-.0040
30.000	-.0280	-.0020	-.0060
60.000	-.0020	.0140	.0050
90.000			.0080
120.000	.0310	.0310	.0080
135.000	.0310	.0260	.0980
150.000	.0030	.1440	.0990
165.000		.1440	.0990
180.000	-.0450		

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7380	1.6200	.6570	.2970	.0540	.0120	-.0280	-.0310	-.0240	-.0050	-.0310	.0360	-.0030	-.0260	.0100
30.000			.7110	.3030	.0770	.0290	-.0170	-.0170	-.0120	.0070	-.0300	-.0050	.0010	-.0230	.0100
60.000			.7170	.3040	.0730	.0290	-.0120	-.0170	.0070	.0000	.0640	-.0040	-.0430	-.0530	-.0250
90.000		1.6190	.6710	.2690	.0520	.0120	-.0240	-.0190	.0050	.6780	.0650	-.0800	-.1040	-.1000	-.0170
120.000			.5910	.2140	.0210	-.0120	-.0460	-.0390	-.0280	.1210	-.0120	-.1070	-.1050	-.0760	.0160
135.000								-.0480		-.0340		-.0780		-.0160	
150.000			.5060	.1600	-.0090	-.0370	-.0660	-.0540	-.0450	-.0330	-.0130	.1450	.0240	.0020	-.0120
165.000				.1360	-.0230	-.0490	-.0680	-.0460	-.0470	-.0320	.0830	.0200			-.0100
180.000	1.7380	1.4460	.4340	.1180	-.0310	-.0580	-.0620	-.0450	-.0480	-.0330	.0850	.0280	-.0260	.0480	.0150
270.000		1.4320													

X/LT .7449 .8526 .9290

PHI

.000	-.0170	-.0200	-.0060
30.000	-.0180	-.0040	-.0040
60.000	-.0170	.0070	.0010
90.000			.0030
120.000	.0060	.0190	.0030
135.000	.0080	.0140	.0760
150.000	-.0060	.0540	.0760
165.000		.0820	.0590
180.000	-.0310		



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 3 ) = 3.502      BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK      DEPENDENT VARIABLE CP

X/LT      .7449   .8526   .9290

PHI			
.000	-.0300	-.0240	-.0460
30.000	-.0310	-.0220	-.0240
60.000	-.0160	-.0070	-.0240
90.000			-.0240
120.000	-.0150	-.0270	-.0290
135.000	-.0130	-.0350	-.0120
150.000	-.0700	-.0340	-.0100
165.000		-.0470	-.0520
180.000	-.0330		

MACH ( 3 ) = 3.502      BETAT ( 6 ) = 4.460

SECTION ( 1 ) EXTERNAL TANK      DEPENDENT VARIABLE CP

X/LT      .0000   .0009   .0452   .1098   .1744   .1905   .2121   .2336   .2874   .3412   .3950   .4489   .5027   .5565   .6372

PHI															
.000	1.7420	1.6110	.6540	.2920	.0510	.0090	-.0350	-.0390	-.0400	-.0250	-.0420	.0290	-.0210	-.0400	.0080
30.000			.5700	.2040	.0190	-.0190	-.0560	-.0580	-.0520	-.0290	.0030	-.0420	-.0610	-.0630	-.0160
60.000			.4820	.1460	-.0140	-.0500	-.0770	-.0640	-.0560	-.0690	.0530	-.0410	-.0590	-.0600	-.0280
90.000		1.4320	.4170	.1050	-.0400	-.0670	-.0610	-.0580	-.0600	.4230	.0540	-.0960	-.1120	-.0850	.0260
120.000			.3850	.0860	-.0490	-.0740	-.0610	-.0580	-.0630	-.0710	-.0300	-.1060	-.0840	-.0390	-.0010
135.000								-.0580		-.0470		.0210		-.0410	
150.000			.3890	.0890	-.0480	-.0740	-.0620	-.0580	-.0630	-.0460	-.0010	-.0160	-.0330	.0160	-.0420
165.000				.0990	-.0430	-.0720	-.0630	-.0600	-.0610	-.0470	.1360		.0220		-.0170
180.000	1.7420	1.4480	.4310	.1120	-.0360	-.0660	-.0690	-.0590	-.0630	-.0440	.1350	.0190	-.0330	.0490	.0120
270.000		1.6160													

X/LT      .7449   .8526   .9290

PHI			
.000	-.0220	-.0290	-.0350
30.000	-.0230	-.0170	-.0340
60.000	-.0010	-.0200	-.0340
90.000			-.0330
120.000	-.0150	-.0440	-.0330
135.000	-.0150	-.0450	-.0340
150.000	-.0690	-.0470	-.0340
165.000		-.0700	-.0620
180.000	-.0390		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT06)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7140	1.5830	.6450	.2980	.0480	.0100	-.0390	-.0420	-.0350	-.0300	-.0420	.0080	-.0210	-.0430	-.0230
30.000			.5270	.1760	.0060	-.0290	-.0680	-.0700	-.0460	-.0300	-.0380	-.0280	-.0230	-.0340	-.0440
60.000			.4230	.1100	-.0320	-.0680	-.0780	-.0700	-.0590	-.0740	.0290	-.0300	-.0450	-.0440	-.0410
90.000		1.3600	.3580	.0710	-.0520	-.0810	-.0710	-.0570	-.0590	.3290	.0300	-.0910	-.1010	-.0280	-.0030
120.000			.3330	.0610	-.0590	-.0810	-.0690	-.0580	-.0650	-.0630	-.0530	-.0920	-.0530	-.0610	-.0330
135.000								-.0580	-.0540	-.0540		-.0160		-.0470	
150.000			.3530	.0710	-.0550	-.0790	-.0690	-.0590	-.0640	-.0400	.0650	-.0260	-.0390	-.0270	-.0890
165.000				.0890	-.0460	-.0760	-.0730	-.0580	-.0620	-.0410	.1510		-.0190		-.0700
180.000	1.7140	1.4230	.4210	.1090	-.0360	-.0670	-.0830	-.0600	-.0610	-.0420	.1510	.0000	-.0060	.0050	-.0430
270.000		1.6480													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0590	-.0360	-.0340												
30.000	-.0620	-.0190	-.0230												
60.000	-.0630	-.0260	-.0360												
90.000			-.0360												
120.000	-.0620	-.0580	-.0370												
135.000	-.0630	-.0600	-.0410												
150.000	-.0660	-.0530	-.0410												
165.000		-.0710	-.0730												
180.000	-.0500														

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6820	1.5500	.6260	.2780	.0450	.0060	-.0300	-.0350	-.0440	-.0340	-.0370	-.0160	-.0700	-.0560	-.0190
30.000			.4820	.1510	-.0060	-.0410	-.0640	-.0670	-.0660	-.0400	-.0370	-.0160	-.0490	-.0660	-.0530
60.000			.3670	.0780	-.0470	-.0690	-.0710	-.0690	-.0720	-.0900	.0100	-.0160	-.0440	-.0490	-.0200
90.000		1.2930	.3020	.0430	-.0670	-.0750	-.0690	-.0720	-.0720	.2570	.0100	-.0980	-.0850	-.0130	.0060
120.000			.2870	.0350	-.0700	-.0730	-.0680	-.0730	-.0770	-.0660	-.0690	-.0180	-.0710	-.0090	-.0200
135.000								-.0720	-.0590	-.0590		-.0180		-.0390	
150.000			.3200	.0520	-.0670	-.0810	-.0680	-.0720	-.0760	-.0460	.0790	-.0680	-.0530	-.0600	-.0810
165.000				.0720	-.0570	-.0750	-.0730	-.0750	-.0760	-.0360	.1660		-.0180		-.0610
180.000	1.6820	1.3970	.4030	.0990	-.0410	-.0630	-.0810	-.0780	-.0770	-.0360	.1630	.0070	.0100	.0060	-.0530
270.000		1.6580													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT08)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0500	-.0490	-.0480
30.000	-.0510	-.0310	-.0460
60.000	-.0500	-.0330	-.0480
90.000			-.0780
120.000	-.0500	-.0490	-.0780
135.000	-.0500	-.0760	-.0780
150.000	-.0710	-.0760	-.0790
165.000		-.0730	-.0790
180.000	-.0510		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUCFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.410

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6690	1.6010	.7450	.3680	.0760	.0230	-.0220	-.0230	-.0150	.0050	-.0010	.0010	.0250	-.0040	-.0280
30.000			.8620	.4280	.1380	.0770	.0210	.0200	.0340	.0590	.0510	.0330	-.0030	-.0140	.0000
60.000			.9030	.4530	.1530	.1020	.0370	.0330	.0810	.0720	.0520	-.0250	-.0180	.0020	.0340
90.000	1.6460		.8380	.4000	.1180	.0670	.0080	.0230	.4100	.3920	-.1250	-.1210	-.1290	-.0650	.0890
120.000			.7000	.2940	.0480	.0070	-.0410	-.0360	-.0230	.1580	-.1720	-.1880	-.0990	-.0450	.0700
135.000								-.0630		.0800		-.1120		.0830	
150.000			.5460	.1830	-.0250	-.0550	-.0920	-.0860	-.0710	-.0760	-.0880	-.0420	.0760	.0180	.0180
165.000				.1350	-.0530	-.0770	-.1110	-.0880	-.0670	-.0660	.3290		.0110		-.0290
180.000	1.6690	1.3550	.4260	.0970	-.0730	-.0940	-.0980	-.0840	-.0760	-.0470	.2470	.0770	-.0130	-.0280	-.0700
270.000		1.3000													

X/LT .7449 .8526 .9290

PHI

.000	-.0310	-.0140	.0020
30.000	.0160	.0260	.0140
60.000	.0420	.0420	.0800
90.000			.0840
120.000	.0560	.1040	.2610
135.000	.0570	.2860	.2190
150.000	.0820	.2920	.2280
165.000		.4800	.1590
180.000	-.0460		

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.290

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.6170	.7600	.3590	.0770	.0250	-.0240	-.0240	-.0190	.0060	.0260	.0640	.0140	.0070	-.0150
30.000			.8430	.4040	.1210	.0610	.0080	.0060	.0150	.0420	.0270	.0600	.0000	-.0020	-.0050
60.000			.8540	.4080	.1220	.0680	.0090	.0090	.0490	.0690	.0650	-.0180	-.0310	-.0120	.0120
90.000	1.6190		.7790	.3480	.0830	.0370	-.0190	-.0140	.3820	.4010	-.1110	-.1270	-.1370	-.0970	.0760
120.000			.6520	.2570	.0210	-.0160	-.0620	-.0490	-.0420	.1600	-.1590	-.1950	-.1250	-.0620	.0530
135.000								-.0790		.0840		-.1170		.0230	
150.000			.5250	.1660	-.0360	-.0640	-.1020	-.0910	-.0610	-.0370	-.0340	.0240	.0330	.0080	.0050



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.170

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2970 .0890

180.000 -.0880

MACH ( 1 ) = 2.498

BETAT ( 4 ) = -2.560

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7200 1.6380 .7710 .3780 .0820 .0270 -.0200 -.0200 -.0080 .0220 .0500 .0770 .0470 .0260 .0010

30.000 .7790 .3570 .0880 .0340 -.0170 -.0180 -.0010 .0250 .0150 .0490 .0390 .0150 -.0010

60.000 .7320 .3140 .0600 .0170 -.0320 -.0340 .0120 .1670 .0760 -.0130 -.0380 -.0290 -.0030

90.000 1.5510 .6520 .2540 .0210 -.0150 -.0610 -.0530 .2200 .3850 -.1030 -.1380 -.1390 -.0700 .0820

120.000 .5620 .1880 -.0190 -.0510 -.0910 -.0800 -.0600 .1660 -.1480 -.1850 -.1250 -.0340 .0670

135.000 .4900 .1400 -.0480 -.0750 -.1100 -.0780 -.0600 -.0050 .1220 .0860 .0200 .0010 -.0380

150.000 .1220 -.0580 -.0820 -.1050 -.0770 -.0710 .0050 .1770 .0510 .0510

165.000 1.7200 1.3980 .4500 .1110 -.0640 -.0870 -.0940 -.0760 -.0740 .0060 .2400 .0710 .1790 .0430 -.0580

180.000 1.4690

X/LT .7449 .8526 .9290

PHI

.000 -.0190 .0080 .0270

30.000 .0050 .0270 .0140

60.000 .0240 .0120 .0170

90.000 .0640

120.000 .0120 .0270 .1450

135.000 -.0140 .1520 .0950

150.000 -.0150 .1990 .0650

165.000 .2880 .0290

180.000 -.0980



## AMES 87-707 1A9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7090	1.6280	.7740	.3810	.0840	.0300	-.0200	-.0220	-.0060	.0280	.0620	.0740	.0470	.0280	.0060
30.000			.7100	.3070	.0540	.0020	-.0430	-.0420	-.0240	.0260	-.0110	-.0350	.0100	.0130	-.0010
60.000			.6200	.2320	.0070	-.0300	-.0750	-.0760	-.0240	-.0610	.0810	-.0150	-.0350	-.0210	.0150
90.000	1.4560		.5370	.1670	-.0310	-.0650	-.1020	-.0780	-.0010	.3440	-.1120	-.1340	-.1400	-.0300	.0740
120.000			.4700	.1240	-.0580	-.0850	-.1070	-.0780	-.0710	.1370	-.1490	-.1550	-.0940	.0210	.0350
135.000								-.0770		-.0280		.0080		-.0250	
150.000			.4410	.1080	-.0680	-.0910	-.0890	-.0780	-.0750	-.0150	.1240	.0610	-.0130	-.0240	-.0840
165.000				.1050	-.0640	-.0920	-.0880	-.0780	-.0780	-.0100	.1620		.1470		-.0760
180.000	1.7090	1.3910	.4480	.1100	-.0620	-.0880	-.0910	-.0760	-.0760	-.0120	.2300	.0650	.1770	.0410	-.0580
270.000		1.5500													

X/LT .7449 .8526 .9290

PHI			
.000	-.0190	.0070	.0210
30.000	-.0060	.0110	.0050
60.000	.0190	.0010	-.0070
90.000			.0390
120.000	-.0220	.0390	.0550
135.000	-.0300	.0600	.0030
150.000	-.0640	.0850	-.0170
165.000		.1080	.0020
180.000	-.1000		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7070	1.6190	.7660	.3630	.0780	.0240	-.0230	-.0240	-.0140	.0220	.0850	.0790	.0270	.0030	.0160
30.000			.6690	.2640	.0320	-.0170	-.0550	-.0560	-.0320	.0190	-.0060	-.0230	-.0290	-.0180	-.0210
60.000			.5600	.1850	-.0170	-.0530	-.0900	-.0900	-.0420	-.0820	.1050	.0060	-.0200	-.0110	.0260
90.000	1.4050		.4730	.1270	-.0570	-.0820	-.1080	-.0750	-.0390	.3410	-.0980	-.1330	-.1300	.0180	.0460
120.000			.4230	.0930	-.0750	-.0950	-.0890	-.0740	-.0760	.0520	-.1430	-.1400	-.0690	.0230	.0040
135.000								-.0740		-.0400		.0150		-.0490	
150.000			.4130	.0860	-.0790	-.0980	-.0860	-.0730	-.0750	-.0040	.1350	.0560	.0270	-.0480	-.1000
165.000				.0920	-.0760	-.0980	-.0870	-.0720	-.0740	.0000	.1930		.1150		-.1020
180.000	1.7070	1.3920	.4410	.1040	-.0710	-.0940	-.0900	-.0760	-.0720	-.0020	.2430	.0590	.1000	.0160	-.0710
270.000		1.5930													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0190	.0050	.0100
30.000	-.0170	.0110	.0020
60.000	.0010	-.0090	-.0150
90.000			.0300
120.000	-.0510	.0270	.0440
135.000	-.0660	.0430	-.0370
150.000	-.0740	.0170	-.0340
165.000		.0200	-.0320
180.000	-.0850		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.440

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6850	1.5990	.7590	.3600	.0840	.0280	-.0190	-.0240	-.0150	.0090	.0410	.0450	.0140	.0100	-.0200
30.000			.6300	.2460	.0210	-.0270	-.0650	-.0650	-.0430	.0080	-.0180	-.0360	-.0150	.0040	-.0200
60.000			.5030	.1520	-.0370	-.0680	-.1040	-.1030	-.0580	-.1030	.1090	.0100	-.0060	-.0020	.0300
90.000		1.3440	.4180	.0920	-.0750	-.0960	-.1210	-.0930	-.0690	.3110	-.1070	-.1270	-.1230	.0400	.0090
120.000			.3760	.0660	-.0880	-.1060	-.1010	-.0930	-.0710	.0160	-.1520	-.1150	-.0600	.0140	-.0250
135.000								-.0930		.0030		.0070		-.0770	
150.000			.3790	.0690	-.0870	-.1060	-.1090	-.0940	-.0670	-.0180	.1350	.0530	.0370	-.0780	-.1130
165.000				.0780	-.0820	-.1010	-.0890	-.0940	-.0690	-.0170	.1650		.0560		-.1140
180.000	1.6850	1.3690	.4250	.0980	-.0740	-.0940	-.0890	-.0930	-.0720	-.0230	.2360	.0340	.0380	-.0220	-.0670
270.000		1.6220													

X/LT .7449 .8526 .9290

PHI

.000	-.0230	-.0020	.0060
30.000	-.0080	.0080	-.0030
60.000	-.0140	-.0190	-.0250
90.000			.0100
120.000	-.0710	-.0030	.0280
135.000	-.0690	.0240	-.0670
150.000	-.0820	-.0190	-.0780
165.000		.0020	-.0740
180.000	-.0640		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 1 ) = 2.498

BETAT ( 8 ) = 8.570

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6640	1.5790	.7480	.3580	.0790	.0290	-.0200	-.0240	-.0270	.0030	.0130	.0360	.0190	-.0030	-.0230
30.000			.5900	.2200	.0070	-.0390	-.0740	-.0750	-.0660	-.0170	.0250	.0130	.0050	-.0100	-.0250
60.000			.4520	.1220	-.0520	-.0820	-.1160	-.1130	-.0810	-.1340	.1210	.0360	.0040	.0060	.0200
90.000		1.2910	.3680	.0680	-.0880	-.1100	-.1090	-.1070	-.0880	.2880	-.0940	-.1240	-.0700	.0530	-.0160
120.000			.3380	.0510	-.0950	-.1140	-.1030	-.1070	-.0810	-.0160	-.1300	-.0540	-.0700	.0040	-.0520
135.000								-.1060	-.0080			.0130		-.0690	
150.000			.3530	.0600	-.0930	-.1100	-.0930	-.1000	-.0980	-.0060	.1350	.0530	-.0140	-.0920	-.1130
165.000				.0690	-.0870	-.1070	-.0920	-.0990	-.0980	-.0100	.1540		-.0180		-.1280
180.000	1.6640	1.3530	.4170	.0950	-.0730	-.0980	-.0980	-.0990	-.0950	-.0260	.2540	.0630	-.0240	-.0230	-.0800
270.000		1.6480													

X/LT .7449 .8526 .9290

PHI

.000	-.0360	-.0130	-.0120
30.000	-.0110	-.0060	-.0150
60.000	-.0200	-.0180	-.0370
90.000			-.0150
120.000	-.0820	-.0290	-.0480
135.000	-.1100	.0030	-.1000
150.000	-.0780	-.0640	-.0860
165.000		-.1000	-.1050
180.000	-.0470		

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.560

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6610	1.5910	.7090	.3330	.0800	.0330	-.0110	-.0150	-.0180	-.0080	-.0120	-.0040	-.0210	.0140	-.0290
30.000			.8300	.4080	.1360	.0800	.0280	.0240	.0210	.0440	.0490	.0710	.0240	.0120	-.0050
60.000			.8670	.4340	.1520	.1040	.0410	.0350	.0620	.3170	.1050	.0160	.0020	.0110	.0200
90.000		1.6360	.8030	.3780	.1170	.0720	.0170	.0150	.3140	.5730	-.0400	-.0770	-.0870	-.0750	.0550
120.000			.6670	.2790	.0550	.0170	-.0250	-.0330	-.0270	.1570	-.0910	-.1340	-.1090	-.0750	.0120
135.000								-.0500		.0070		-.1040		-.0660	
150.000			.5100	.1710	-.0100	-.0390	-.0710	-.0740	-.0760	-.0340	-.0640	-.0350	.0140	.0440	.0040
165.000				.1260	-.0360	-.0610	-.0880	-.0760	-.0780	-.0560	.0920		.0990		-.0200
180.000	1.6610	1.3420	.3860	.0900	-.0550	-.0770	-.0850	-.0800	-.0800	-.0530	.2810	.0210	.0120	-.0290	-.0500
270.000		1.2860													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.250

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7190	1.6390	.7400	.3510	.0820	.0350	-.0070	-.0090	-.0050	.0100	.0130	.0510	.0290	.0090	.0110
30.000			.7850	.3610	.1050	.0540	.0080	.0050	.0100	.0370	.0430	.0380	.0290	.0080	.0080
60.000			.7610	.3410	.0910	.0500	.0020	-.0010	.0270	.0420	.0570	.0170	-.0170	-.0190	-.0020
90.000		1.5920	.6830	.2820	.0530	.0190	-.0220	-.0200	.0280	.5620	-.0330	-.0880	-.1010	-.0900	.0260
120.000			.5780	.2100	.0100	-.0180	-.0520	-.0500	-.0380	.1570	-.0880	-.1450	-.1250	-.1140	.0110
135.000								-.0630		-.0420		-.0970		-.0230	
150.000			.4790	.1460	-.0300	-.0500	-.0780	-.0690	-.0560	-.0400	-.0060	.0800	.0260	.0290	-.0200
165.000				.1180	-.0430	-.0620	-.0830	-.0630	-.0560	-.0220	.1190		.0040		-.0010
180.000	1.7190	1.3880	.4100	.0990	-.0530	-.0700	-.0730	-.0600	-.0570	-.0280	.2500	.0770	.0560	.0550	-.0080
270.000		1.4190													

X/LT .7449 .8526 .9290

PHI

.000	-.0020	.0010	.0120
30.000	.0020	.0290	.0210
60.000	.0220	.0250	.0200
90.000			.0360
120.000	.0380	.0220	.0950
135.000	.0160	.0450	.1010
150.000	.0000	.1800	.0910
165.000		.2020	.1080
180.000	-.0570		

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.6480	.7460	.3560	.0880	.0370	-.0050	-.0060	-.0040	.0080	.0130	.0410	.0390	.0230	.0250
30.000			.7530	.3400	.0900	.0410	.0000	-.0030	-.0030	.0280	.0200	-.0140	.0410	.0230	.0130
60.000			.7060	.3030	.0670	.0290	-.0150	-.0190	.0100	.0170	.0950	.0040	-.0180	-.0230	-.0070
90.000		1.5570	.6250	.2390	.0280	-.0010	-.0390	-.0360	-.0140	.5370	-.0490	-.0860	-.1050	-.0980	.0040
120.000			.5330	.1780	-.0070	-.0330	-.0660	-.0640	-.0510	.1210	-.1030	-.1430	-.1290	-.1160	.0250
135.000								-.0730		-.0630		-.0820		-.0420	
150.000			.4560	.1330	-.0330	-.0560	-.0840	-.0710	-.0510	-.0270	.0650	.0800	.0150	.0270	-.0110
165.000				.1160	-.0430	-.0630	-.0860	-.0680	-.0630	-.0310	.1080		.0130		.0170
180.000	1.7280	1.4030	.4160	.1050	-.0480	-.0670	-.0860	-.0660	-.0630	-.0320	.2240	.0740	.0570	.1010	.0120
270.000		1.4750													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.100

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0040	.0050	.0150
30.000	.0000	.0260	.0220
60.000	.0170	.0220	.0090
90.000			.0100
120.000	.0330	.0090	.0630
135.000	.0060	.0100	.0760
150.000	-.0110	.1290	.0670
165.000		.1770	.0500
180.000	-.0560		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 2.210

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7290	1.6440	.7440	.3550	.0860	.0380	-.0040	-.0070	-.0080	.0020	.0390	.0680	.0470	.0310	.0240
30.000			.6820	.2840	.0590	.0110	-.0240	-.0280	-.0280	.0100	.0030	-.0220	-.0060	.0040	.0010
60.000			.5890	.2190	.0170	-.0150	-.0520	-.0520	-.0250	-.0210	.1110	.0190	-.0090	-.0200	-.0060
90.000		1.4700	.5010	.1560	-.0200	-.0450	-.0750	-.0710	-.0570	.4970	-.0440	-.0800	-.0970	-.0840	.0550
120.000			.4370	.1170	-.0420	-.0630	-.0700	-.0620	-.0620	.0280	-.0890	-.1160	-.1230	-.0890	.0050
135.000								-.0600		-.0340		-.0130		-.0090	
150.000			.4050	.1000	-.0520	-.0710	-.0650	-.0580	-.0610	-.0320	.0450	.0560	.0390	.0330	-.0440
165.000				.0980	-.0510	-.0700	-.0650	-.0600	-.0620	-.0320	.1410		.0310		-.0220
180.000	1.7290	1.4010	.4120	.1010	-.0490	-.0700	-.0660	-.0610	-.0610	-.0300	.2360	.0820	.0310	.0780	.0010
270.000		1.5610													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0090	.0000	.0100
30.000	-.0140	.0090	.0060
60.000	.0250	.0130	-.0080
90.000			-.0060
120.000	.0000	-.0360	.0280
135.000	-.0330	-.0080	.0130
150.000	-.0450	.0340	.0090
165.000		.0430	.0130
180.000	-.0620		

X/LT	.7449	.8526	.9290
PHI			
.000	-.0090	.0000	.0100
30.000	-.0140	.0090	.0060
60.000	.0250	.0130	-.0080
90.000			-.0060
120.000	.0000	-.0360	.0280
135.000	-.0330	-.0080	.0130
150.000	-.0450	.0340	.0090
165.000		.0430	.0130
180.000	-.0620		

## AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 2 ) = 2.999

BETAT ( 6 ) = 4.380

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7140	1.6270	.7370	.3490	.0840	.0370	-.0080	-.0140	-.0080	.0010	.0390	.0590	.0320	.0090	.0050
30.000			.6420	.2550	.0420	-.0010	-.0380	-.0420	-.0345	.0020	-.0090	-.0220	-.0210	-.0200	-.0070
60.000			.5310	.1770	-.0070	-.0360	-.0710	-.0720	-.0360	-.0370	.0090	.0240	-.0130	-.0160	-.0070
90.000	1.4110		.4420	.1180	-.0410	-.0660	-.0810	-.0630	-.0670	.4520	-.0500	-.0740	-.0910	-.0770	.0790
120.000			.3870	.0860	-.0570	-.0800	-.0670	-.0570	-.0650	-.0500	-.0980	-.1140	-.0870	-.0840	.0140
135.000								-.0590		-.0440		.0450		-.0110	
150.000			.3710	.0810	-.0610	-.0810	-.0670	-.0580	-.0630	-.0360	.0530	.0620	.0260	.0040	-.0660
165.000				.0860	-.0580	-.0790	-.0690	-.0590	-.0650	-.0360	.1360		.0020		-.0490
180.000	1.7140	1.3880	.4060	.0960	-.0520	-.0750	-.0730	-.0620	-.0630	-.0380	.2400	.0750	.0710	.0440	-.0150
270.000		1.5940													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0090	-.0030	.0030												
30.000	-.0170	.0140	.0070												
60.000	.0200	.0010	-.0190												
90.000			-.0210												
120.000	-.0270	-.0580	.0020												
135.000	-.0530	-.0320	-.0130												
150.000	-.0570	.0050	-.0210												
165.000		.0280	-.0180												
180.000	-.0640														

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.6040	.7260	.3420	.0830	.0360	-.0080	-.0120	-.0150	-.0140	.0250	.0250	.0040	-.0120	-.0070
30.000			.5990	.2290	.0280	-.0140	-.0470	-.0490	-.0500	-.0150	-.0180	-.0210	.0030	-.0100	-.0070
60.000			.4710	.1430	-.0230	-.0490	-.0810	-.0770	-.0520	-.0680	.0900	.0210	-.0130	-.0080	.0030
90.000	1.3470		.3830	.0860	-.0560	-.0770	-.0710	-.0730	-.0690	.3750	-.0630	-.0870	-.1050	-.0530	.0690
120.000			.3400	.0620	-.0680	-.0820	-.0680	-.0700	-.0740	-.0730	-.1020	-.1140	-.0630	-.0730	-.0040
135.000								-.0690		-.0500		.0120		-.0240	
150.000			.3430	.0650	-.0670	-.0790	-.0660	-.0680	-.0730	-.0420	.0340	.0260	.0060	-.0220	-.0910
165.000				.0740	-.0620	-.0810	-.0660	-.0690	-.0740	-.0440	.1230		.0340		-.0640
180.000	1.6920	1.3700	.3940	.0920	-.0530	-.0720	-.0690	-.0710	-.0730	-.0480	.2390	.0410	.0110	-.0050	-.0220
270.000		1.6190													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.550

SECTION ( 1 ) EXTERNAL TANK				DEPENDENT VARIABLE CP			
X/LT	.7449	.8526	.9290				
PHI							
.000	-.0230	-.0060	-.0010				
30.000	-.0160	.0140	.0050				
60.000	.0020	-.0060	-.0190				
90.000			-.0240				
120.000	-.0450	-.0640	-.0260				
135.000	-.0720	-.0340	-.0460				
150.000	-.0630	.0020	-.0440				
165.000		-.0470	-.0710				
180.000	-.0450						

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.720

SECTION ( 1 ) EXTERNAL TANK				DEPENDENT VARIABLE CP											
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6640	1.5750	.7110	.3380	.0790	.0330	-.0100	-.0140	-.0170	-.0050	-.0140	.0020	-.0140	.0000	-.0180
30.000			.5570	.2000	.0140	-.0250	-.0550	-.0550	-.0610	-.0210	.0050	.0040	.0050	-.0140	-.0260
60.000			.4190	.1110	-.0410	-.0640	-.0920	-.0880	-.0640	-.0810	.0940	.0310	.0010	-.0120	.0020
90.000		1.2840	.3300	.0590	-.0720	-.0890	-.0860	-.0800	-.0810	.3610	-.0550	-.0740	-.0940	.0010	.0200
120.000			.2980	.0420	-.0780	-.0920	-.0840	-.0830	-.0720	-.0470	-.1010	-.0790	-.0370	-.0350	-.0210
135.000								-.0790		-.0380		.0240		-.0470	
150.000			.3130	.0470	-.0750	-.0870	-.0730	-.0750	-.0810	-.0380	.0540	.0080	.0090	-.0560	-.1000
165.000				.0630	-.0690	-.0850	-.0730	-.0740	-.0790	-.0390	.1280		.0000		-.0780
180.000	1.6640	1.3460	.3870	.0850	-.0560	-.0750	-.0790	-.0760	-.0750	-.0540	.2780	.0250	.0110	-.0370	-.0570
270.000		1.6400													
X/LT .7449 .8526 .9290															
PHI															
.000	-.0300	-.0200	-.0220												
30.000	-.0190	.0050	-.0050												
60.000	-.0120	-.0070	-.0220												
90.000			-.0400												
120.000	-.0620	-.0730	-.0510												
135.000	-.0860	-.0260	-.0720												
150.000	-.0600	-.0200	-.0670												
165.000		-.0570	-.0720												
180.000	-.0370														



## AMES 87-707 1A9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6630	1.5960	.6840	.3140	.0700	.0270	-.0240	-.0290	-.0140	-.0100	-.0530	.0040	-.0380	-.0420	-.0200
30.000			.8120	.3840	.1270	.0740	.0130	.0100	.0200	.0380	-.0420	.0750	.0080	-.0160	-.0180
60.000			.8490	.4110	.1420	.0810	.0250	.0210	.0510	.0620	.1230	.0730	-.0170	-.0150	-.0110
90.000	1.6380		.7810	.3650	.1110	.0550	.0050	.0180	.0550	.6880	.1240	-.0670	-.0870	-.0800	-.0540
120.000			.6390	.2650	.0490	.0040	-.0330	-.0200	-.0150	.1590	.0100	-.1280	-.1290	-.0950	-.0180
135.000								-.0420		-.0330		-.0990		-.0860	
150.000			.4850	.1580	-.0120	-.0440	-.0740	-.0610	-.0590	-.0350	-.0270	-.0500	-.0670	.0600	-.0170
165.000				.1100	-.0350	-.0670	-.0910	-.0710	-.0660	-.0510	.0570		.0220		-.0450
180.000	1.6630	1.3400	.3610	.0740	-.0540	-.0820	-.0910	-.0630	-.0660	-.0540	.0590	.0060	.0190	-.0200	-.0760
270.000		1.2870													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0550	-.0290	-.0110												
30.000	-.0560	.0120	.0130												
60.000	-.0090	.0340	.0240												
90.000			.0240												
120.000	.0020	.0330	.0330												
135.000	.0020	.0730	.1320												
150.000	.0170	.2260	.1320												
165.000		.1690	.1320												
180.000	-.0490														

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.510

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7110	1.6370	.7080	.3300	.0740	.0310	-.0170	-.0210	-.0100	-.0030	-.0440	.0220	-.0050	-.0300	-.0070
30.000			.7950	.3690	.1150	.0620	.0080	.0070	.0120	.0330	-.0310	.0320	.0120	-.0140	-.0210
60.000			.8020	.3670	.1150	.0610	.0120	.0070	.0330	.0270	.1010	.0300	-.0240	-.0270	-.0190
90.000	1.6380		.7300	.3140	.0810	.0340	-.0080	-.0020	.0230	.6670	.0980	-.0740	-.0920	-.0830	-.0550
120.000			.6020	.2280	.0270	-.0080	-.0430	-.0370	-.0280	.1260	-.0590	-.1320	-.1340	-.1160	-.0340
135.000								-.0520		-.0410		-.1030		-.0990	
150.000			.4730	.1420	-.0190	-.0470	-.0740	-.0650	-.0540	-.0440	-.0600	-.0460	.0200	.0230	-.0330
165.000				.1080	-.0370	-.0620	-.0820	-.0560	-.0560	-.0470	.0490		.0140		-.0450
180.000	1.7110	1.3790	.3740	.0820	-.0510	-.0740	-.0710	-.0560	-.0560	-.0470	.0500	.0080	-.0410	-.0070	-.0490
270.000		1.3660													
X/LT	.7449	.8526	.9290												
PHI															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.510

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0420	-.0210	.0000
30.000	-.0210	.0100	.0080
60.000	-.0130	.0200	.0110
90.000			.0250
120.000	.0010	.0190	.0580
135.000	.0000	.0470	.1100
150.000	-.0040	.1640	.1090
165.000		.1400	.1190
180.000	-.0450		

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.320

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7290	1.6510	.7160	.3290	.0780	.0300	-.0210	-.0260	-.0110	-.0020	-.0390	.0260	.0070	-.0130	.0150
30.000			.7630	.3420	.1000	.0480	-.0080	-.0100	.0310	.0220	-.0260	-.0020	.0090	-.0070	.0130
60.000			.7400	.3220	.0850	.0310	-.0120	-.0190	.0110	.0110	.0920	-.0010	-.0280	-.0350	-.0140
90.000		1.6090	.6650	.2680	.0490	.0020	-.0350	-.0250	-.0020	.6490	.0910	-.0730	-.0950	-.0920	-.0540
120.000			.5500	.1930	.0080	-.0310	-.0630	-.0500	-.0420	.0950	-.0160	-.1320	-.1380	-.1000	-.0380
135.000								-.0620		-.0460		-.1020		-.0670	
150.000			.4490	.1270	-.0280	-.0590	-.0870	-.0580	-.0560	-.0480	-.0160	.0200	.0080	-.0180	-.0290
165.000				.1030	-.0410	-.0710	-.0790	-.0550	-.0560	-.0370	.0600		-.0110		-.0040
180.000	1.7290	1.3960	.3780	.0850	-.0490	-.0790	-.0740	-.0550	-.0570	-.0400	.0600	.0320	-.0010	.0510	-.0040
270.000		1.4230													

X/LT	.7449	.8526	.9290
------	-------	-------	-------

## PHI

.000	-.0130	-.0070	-.0010
30.000	-.0130	.0090	-.0010
60.000	-.0080	.0140	.0050
90.000			.0050
120.000	.0050	.0120	.0050
135.000	.0100	.0140	.0730
150.000	-.0140	.0580	.0710
165.000		.0850	.0720
180.000	-.0410		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.130

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7430	1.6610	.7210	.3310	.0760	.0320	-.0260	-.0290	-.0120	-.0030	-.0320	.0210	.0040	-.0040	.0240
30.000			.7310	.3160	.0810	.0330	-.0220	-.0270	-.0090	.0170	-.0240	-.0120	.0060	-.0040	.0170
60.000			.6810	.2770	.0580	.0050	-.0360	-.0430	-.0010	.0010	.0840	-.0130	-.0320	-.0430	-.0210
90.000	1.5750		.5990	.2190	.0220	-.0240	-.0590	-.0410	-.0180	.6300	.0830	-.0710	-.0990	-.1010	-.0630
120.000			.5020	.1570	-.0110	-.0520	-.0810	-.0610	-.0500	.0720	-.0270	-.1360	-.1420	-.1150	-.0420
135.000								-.0540		-.0530		-.0950		-.0550	
150.000			.4260	.1130	-.0350	-.0730	-.0820	-.0520	-.0530	-.0340	.0450	.0520	-.0060	.0170	-.0110
165.000				.0960	-.0420	-.0800	-.0780	-.0510	-.0540	-.0330	.1020		-.0240		.0050
180.000	1.7430	1.4080	.3800	.0850	-.0500	-.0830	-.0750	-.0510	-.0520	-.0310	.0990	.0050	.0210	.0970	.0240
270.000		1.4810													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0160	-.0050	-.0020												
30.000	-.0180	.0040	.0090												
60.000	-.0150	.0100	.0040												
90.000			.0020												
120.000	-.0150	.0100	.0080												
135.000	-.0150	.0090	.0370												
150.000	-.0440	.0220	.0370												
165.000		.0520	.0380												
180.000	-.0330														

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7470	1.6590	.7270	.3360	.0800	.0330	-.0190	-.0220	-.0100	.0000	-.0090	.0540	.0070	-.0090	.0360
30.000			.6620	.2650	.0530	.0100	-.0360	-.0380	-.0250	.0040	-.0100	-.0160	-.0480	-.0490	-.0100
60.000			.5650	.2010	.0170	-.0280	-.0600	-.0650	-.0250	-.0150	.0740	-.0140	-.0380	-.0480	-.0240
90.000	1.4820		.4770	.1420	-.0180	-.0540	-.0810	-.0560	-.0510	.5630	.0740	-.0710	-.1020	-.0960	-.0620
120.000			.4080	.1000	-.0390	-.0720	-.0690	-.0520	-.0480	-.0490	-.0330	-.1100	-.1280	-.0740	-.0370
135.000								-.0470		-.0440		-.0580		-.0600	
150.000			.3780	.0840	-.0460	-.0780	-.0660	-.0470	-.0500	-.0420	-.0140	-.0320	-.0290	.0160	-.0420
165.000				.0840	-.0490	-.0790	-.0680	-.0470	-.0490	-.0440	.1270		.0160		-.0100
180.000	1.7470	1.4100	.3850	.0890	-.0450	-.0790	-.0680	-.0490	-.0520	-.0440	.1250	.0040	.0150	.0930	.0190
270.000		1.5770													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0200	-.0070	-.0070
30.000	-.0210	-.0070	-.0030
60.000	-.0190	.0100	-.0070
90.000			-.0230
120.000	-.0190	-.0190	-.0240
135.000	-.0200	-.0340	-.0050
150.000	-.0610	-.0260	-.0080
165.000		-.0450	-.0040
180.000	-.0340		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.470

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7340	1.6480	.7200	.3340	.0770	.0320	-.0130	-.0170	-.0080	-.0070	.0050	.0450	.0060	-.0140	.0140
30.000			.6210	.2370	.0390	-.0030	-.0380	-.0410	-.0340	-.0020	.0040	-.0190	-.0310	-.0380	-.0070
60.000			.5040	.1640	-.0040	-.0380	-.0670	-.0700	-.0350	-.0400	.0880	-.0190	-.0230	-.0310	-.0160
90.000		1.4230	.4170	.1050	-.0400	-.0640	-.0670	-.0490	-.0550	.4860	.0880	-.0750	-.0820	-.0730	-.0130
120.000			.3600	.0770	-.0540	-.0730	-.0620	-.0490	-.0510	-.0650	-.0530	-.1030	-.1080	-.0590	-.0380
135.000								-.0480		-.0480		-.0210		-.0490	
150.000			.3490	.0670	-.0560	-.0730	-.0620	-.0490	-.0500	-.0450	-.0150	-.0240	.0100	.0240	-.0610
165.000				.0720	-.0550	-.0760	-.0630	-.0510	-.0500	-.0430	.1230		.0120		-.0310
180.000	1.7340	1.4030	.3810	.0830	-.0500	-.0730	-.0650	-.0500	-.0540	-.0420	.1230	.0330	.0110	.0480	-.0080
270.000		1.6150													

X/LT .7449 .8526 .9290

PHI

.000	-.0180	-.0090	-.0100
30.000	-.0170	-.0020	.0020
60.000	-.0040	.0000	-.0190
90.000			-.0440
120.000	-.0010	-.0370	-.0460
135.000	-.0180	-.0670	-.0330
150.000	-.0640	-.0490	-.0330
165.000		-.0510	-.0330
180.000	-.0440		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7030	1.6170	.7060	.3260	.0760	-.0290	-.0260	-.0300	-.0150	-.0150	-.0080	.0150	-.0190	-.0460	-.0200
30.000			.5710	.2090	.0240	-.0160	-.0590	-.0620	-.0430	-.0110	-.0060	-.0120	-.0190	-.0400	-.0360
60.000			.4420	.1220	-.0230	-.0640	-.0900	-.0820	-.0480	-.0670	.0660	.0150	-.0320	-.0330	-.0340
90.000	1.3500		.3510	.0700	-.0550	-.0860	-.0750	-.0530	-.0600	.3620	.0670	-.0880	-.0980	-.0870	.0230
120.000			.3070	.0480	-.0660	-.0830	-.0750	-.0570	-.0610	-.0740	-.0610	-.1160	-.1000	-.0800	-.0460
135.000								-.0520				-.0040		-.0490	
150.000			.3120	.0520	-.0660	-.0850	-.0740	-.0590	-.0610	-.0500	-.0160	-.0380	-.0370	-.0390	-.0980
165.000				.0600	-.0620	-.0880	-.0780	-.0600	-.0600	-.0490	.1200		-.0050		-.0780
180.000	1.7030	1.3800	.3680	.0800	-.0550	-.0840	-.0810	-.0600	-.0600	-.0470	.1220	-.0030	-.0480	-.0200	-.0610
270.000		1.6440													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0610	-.0230	-.0220												
30.000	-.0610	-.0580	-.0070												
60.000	-.0360	-.0130	-.0230												
90.000			-.0590												
120.000	-.0330	-.0540	-.0590												
135.000	-.0540	-.0780	-.0580												
150.000	-.0600	-.0500	-.0590												
165.000		-.0600	-.0590												
180.000	-.0500														

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.880

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6650	1.5740	.6820	.3120	.0680	.0250	-.0270	-.0320	-.0180	-.0100	-.0540	.0040	-.0520	-.0480	-.0110
30.000			.5250	.1790	.0070	-.0300	-.0690	-.0710	-.0500	-.0210	-.0480	.0030	-.0350	-.0510	-.0440
60.000			.3840	.0870	-.0470	-.0780	-.0970	-.0870	-.0560	-.0830	.0170	.0020	-.0270	-.0330	-.0170
90.000	1.2810		.2970	.0370	-.0740	-.0890	-.0830	-.0640	-.0670	.3010	.0170	-.0890	-.0920	-.0560	.0210
120.000			.2630	.0220	-.0780	-.0860	-.0810	-.0640	-.0670	-.0710	-.0640	-.1120	-.0710	-.0500	-.0350
135.000								-.0640		-.0540		-.0010		-.0480	
150.000			.2780	.0310	-.0750	-.0890	-.0830	-.0660	-.0670	-.0500	-.0220	-.0520	-.0450	-.0550	-.0870
165.000				.0450	-.0680	-.0940	-.0860	-.0670	-.0680	-.0530	.1430		-.0520		-.0830
180.000	1.6650	1.3460	.3520	.0690	-.0570	-.0870	-.0920	-.0660	-.0670	-.0530	.1440	-.0130	.0040	-.0120	-.0620
270.000		1.6430													
X/LT	.7449	.8526	.9290												
PHI															

DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT09)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.880

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0410	-.0310	-.0300
30.000	-.0430	-.0150	-.0170
60.000	-.0430	-.0190	-.0290
90.000			-.0660
120.000	-.0500	-.0580	-.0640
135.000	-.0500	-.0790	-.0640
150.000	-.0660	-.0500	-.0640
165.000		-.0660	-.0660
180.000	-.0540		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10) ( 10 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.380

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6550	1.6300	.8020	.3780	.1080	.0490	.0040	.0000	.0090	.0270	.0480	.0500	.0240	.0120	-.0250
30.000			.9160	.4720	.1750	.1040	.0470	.0460	.0550	.0800	.0670	.0840	.0230	.0090	.0280
60.000			.9290	.4760	.1710	.1170	.0490	.0470	.0960	.6370	.1060	.0270	.0080	.0250	.0500
90.000		1.6370	.8290	.3960	.1110	.0660	.0060	.0240	.4250	.3850	-.0930	-.1200	-.1150	-.0990	.0580
120.000			.6590	.2650	.0260	-.0090	-.0530	-.0480	-.0470	.1130	-.1820	-.2220	-.1760	-.0330	.0310
135.000								-.0800		.0500		-.1550		.0150	
150.000			.4950	.1440	-.0470	-.0710	-.1060	-.0950	-.0840	-.0710	-.1090	-.1010	.0600	.0080	.0050
165.000				.0980	-.0730	-.0940	-.1040	-.0870	-.0860	-.0450	.3010		-.0180		-.0340
180.000	1.6550	1.3070	.3750	.0670	-.0910	-.1090	-.0960	-.0850	-.0890	-.0420	.1950	.0400	-.0530	-.0250	-.0720
270.000		1.2900													

X/LT .7449 .8526 .9290

PHI

.000	-.0170	.0100	.0250
30.000	.0330	.0520	.0380
60.000	.0560	.0590	.0990
90.000		.1150	
120.000	.0570	.1150	.2400
135.000	.0600	.2780	.2200
150.000	.0740	.2940	.2400
165.000		.4950	.1600
180.000	-.0380		

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6780	1.6510	.8190	.4010	.1020	.0410	.0040	.0040	.0070	.0240	.0610	.0880	.0240	.0110	.0120
30.000			.8970	.4370	.1410	.0750	.0340	.0340	.0400	.0710	.0530	.1060	.0230	.0190	.0280
60.000			.8780	.4210	.1260	.0840	.0260	.0220	.0670	.6200	.1110	.0230	-.0050	.0070	.0430
90.000		1.6110	.7710	.3330	.0650	.0380	-.0170	-.0090	.4000	.3830	-.0870	-.1230	-.1250	-.1120	.0450
120.000			.6150	.2170	-.0090	-.0270	-.0700	-.0650	-.0610	.1050	-.1780	-.2320	-.1970	-.0630	.0240
135.000								-.0920		.0600		-.1600		.0430	
150.000			.4770	.1180	-.0700	-.0790	-.1120	-.0900	-.0800	-.0650	-.0680	-.0430	.0080	.0030	.0030





## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.170

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2970 .0940

180.000 -.0800

MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7020 1.6670 .8320 .4180 .1040 .0450 .0040 .0040 .0110 .0410 .0580 .0860 .0650 .0510 .0200

30.000 .8330 .3880 .1080 .0460 .0040 .0040 .0130 .0560 .0220 .0250 .0640 .0460 .0220

60.000 .7610 .3330 .0680 .0310 -.0210 -.0240 .0230 .1400 .0980 .0050 -.0060 -.0010 .0220

90.000 1.5380 .6450 .2470 .0070 -.0180 -.0630 -.0440 .2280 .3410 -.1070 -.1070 -.1190 -.1070 .0630

120.000 .5290 .1570 -.0450 -.0610 -.1000 -.0910 -.0800 .0840 -.1960 -.2230 -.1850 -.0500 .0340

135.000 .4460 .1010 -.0800 -.0920 -.0970 -.0850 -.0740 -.0360 .0630 .0400 -.0050 -.0100 -.0310

150.000 .0810 -.0890 -.0980 -.0900 -.0840 -.0780 -.0300 .1480 .0730 .0730 -.0620

165.000 1.7020 1.3450 .4030 .0720 -.0890 -.1020 -.0870 -.0850 -.0780 -.0310 .2100 .1900 .1520 -.0040 -.0770

180.000 1.4530

X/LT .7449 .8526 .9290

PHI

.000 .0050 .0240 .0480

30.000 .0260 .0490 .0370

60.000 .0450 .0320 .0390

90.000 .0870

120.000 .0100 .0730 .1400

135.000 .0100 .1480 .1060

150.000 .0090 .1830 .0810

165.000 .2390 .0360

180.000 -.0880

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 2.180

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6930	1.6540	.8290	.4160	.0940	.0350	.0050	.0030	.0110	.0410	.0810	.1090	.0620	.0500	.0210
30.000			.7570	.3230	.0530	.0000	-.0240	-.0250	-.0140	.0370	.0220	-.0100	.0140	.0190	.0120
60.000			.6380	.2260	-.0060	-.0210	-.0690	-.0690	-.0190	-.0620	.1290	.0310	-.0010	.0110	.0260
90.000		1.4410	.5240	.1390	-.0600	-.0670	-.1050	-.0830	.0070	.3220	-.0890	-.0880	-.1170	-.0650	.0520
120.000			.4380	.0840	-.0910	-.0950	-.0880	-.0810	-.0780	.0920	-.1730	-.1980	-.1340	.0070	.0350
135.000								-.0750		-.0530		-.0110		-.0490	
150.000			.3980	.0600	-.1030	-.1020	-.0860	-.0770	-.0820	-.0220	.1350	.0460	.0460	-.0550	-.0920
165.000				.0590	-.1030	-.1020	-.0870	-.0760	-.0810	-.0140	.1770		.1250		-.1020
180.000	1.6930	1.3420	.3980	.0590	-.1040	-.1020	-.0880	-.0800	-.0800	-.0140	.2250	.1860	.1350	-.0070	-.0790
270.000		1.5360													

X/LT	.7449	.8526	.9290												
PHI															
.000	.0000	.0260	.0430												
30.000	.0030	.0310	.0260												
60.000	.0310	.0250	.0280												
90.000			.0680												
120.000	-.0300	.0460	.0610												
135.000	-.0300	.0930	.0080												
150.000	-.0380	.1070	.0010												
165.000		.1090	.0260												
180.000	-.0880														

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.320

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6870	1.6470	.8210	.4120	.1100	.0510	.0020	.0030	.0100	.0380	.0890	.0810	.0530	.0250	.0230
30.000			.7130	.3030	.0560	.0020	-.0350	-.0360	-.0200	.0430	.0000	-.0160	-.0080	.0060	.0210
60.000			.5750	.2010	-.0110	-.0430	-.0800	-.0800	-.0330	-.0770	.1270	.0220	.0160	.0230	.0440
90.000		1.3900	.4620	.1220	-.0580	-.0820	-.0980	-.0720	-.0290	.2960	-.1010	-.1080	-.1080	-.0180	.0400
120.000			.3920	.0760	-.0840	-.1010	-.0870	-.0720	-.0770	.0360	-.1910	-.1850	-.1030	.0010	.0120
135.000								-.0770		-.0710		.0080		-.0650	
150.000			.3740	.0640	-.0870	-.0970	-.0830	-.0750	-.0780	-.0300	.1180	.0940	.0480	-.0670	-.0980
165.000				.0650	-.0890	-.1010	-.0840	-.0720	-.0780	-.0270	.1630		.0780		-.1070
180.000	1.6870	1.3360	.3920	.0740	-.0850	-.1030	-.0860	-.0760	-.0780	-.0300	.2160	.1530	.0780	-.0050	-.0710
270.000		1.5770													

X/LT	.7449	.8526	.9290												
PHI															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 4.320

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP	
X/LT	.7449	.8526	.9290
PHI			
.000	.0130	.0260	.0340
30.000	.0180	.0350	.0220
60.000	.0230	.0130	.0030
90.000			.0480
120.000	-.0430	.0220	.0430
135.000	-.0470	.0600	-.0240
150.000	-.0510	.0400	-.0200
165.000		.0280	-.0090
180.000	-.0820		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 6.450

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6690	1.6270	.8130	.4090	.1090	.0490	.0040	.0010	-.0070	.0090	.0730	.0650	.0320	.0270	.0140	
30.000			.6720	.2740	.0360	-.0140	-.0490	-.0490	-.0480	.0220	.0250	.0190	.0320	.0220	.0110	
60.000			.5180	.1590	-.0370	-.0610	-.0990	-.0980	-.0670	-.1120	.1450	.0460	.0290	.0210	.0500	
90.000	1.3300		.4080	.0830	-.0800	-.0990	-.1280	-.1120	-.0820	.2830	-.0890	-.0790	-.1060	.0370	.0260	
120.000			.3460	.0460	-.0990	-.1150	-.1080	-.1120	-.0990	.0460	-.1740	-.1800	-.1040	.0050	-.0150	
135.000								-.1130		-.0100		-.0040		-.0800		
150.000			.3400	.0460	-.1030	-.1170	-.1100	-.1020	-.0830	-.0180	.1550	.0780	.0100	-.0800	-.1100	
165.000				.0470	-.1020	-.1100	-.0920	-.1020	-.0920	-.0170	.1540		.0320		-.1150	
180.000	1.6690	1.3200	.3750	.0630	-.0940	-.1100	-.0890	-.1000	-.1010	-.0300	.2030	.0240	.0310	-.0150	-.0640	
270.000		1.6050														
X/LT	.7449	.8526	.9290													
PHI																
.000	.0110	.0170	.0240													
30.000	.0200	.0240	.0140													
60.000	.0100	.0030	-.0070													
90.000			.0240													
120.000	-.0610	-.0060	.0250													
135.000	-.0630	.0230	-.0310													
150.000	-.0600	-.0080	-.0620													
165.000		-.0340	-.0640													
180.000	-.0620															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 1 ) = 2.499

BETAT ( 8 ) = 8.580

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6570	1.6160	.8060	.4050	.1120	-.0530	-.0040	-.0010	.0000	.0280	.0290	.0380	.0270	.0220	-.0070
30.000			.6320	.2560	.0250	-.0220	-.0580	-.0590	-.0520	.0190	.0510	.0380	.0280	-.0010	-.0080
60.000			.4690	.1330	-.0510	-.0790	-.1150	-.1140	-.0710	-.1230	.1340	.0610	.0320	.0310	.0240
90.000	1.2840		.3670	.0610	-.0940	-.1150	-.1180	-.1060	-.0800	.2550	-.0890	-.1020	-.1010	.0460	-.0150
120.000			.3190	.0370	-.1030	-.1200	-.1060	-.1040	-.0780	-.0090	-.1690	-.1250	-.1020	-.0130	-.0570
135.000								-.1050		-.0110		.0000		-.1040	
150.000			.3210	.0380	-.1020	-.1130	-.0980	-.0930	-.0800	-.0190	.1610	.0390	-.0170	-.1040	-.1120
165.000				.0470	-.0990	-.1070	-.0920	-.0920	-.0970	-.0230	.1310			-.0140	-.1300
180.000	1.6570	1.3100	.3730	.0670	-.0920	-.1100	-.0920	-.0920	-.0950	-.0410	.1800	.0230	-.0630	-.0260	-.0800
270.000		1.6410													

X/LT .7449 .8526 .9290

PHI			
.000	-.0190	.0060	.0070
30.000	.0020	.0080	-.0020
60.000	-.0030	.0040	-.0130
90.000			-.0070
120.000	-.0810	-.0170	-.0310
135.000	-.1050	-.0040	-.0690
150.000	-.0720	-.0570	-.0680
165.000		-.0930	-.0930
180.000	-.0430		

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.540

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6510	1.6250	.7730	.3780	.1080	.0570	.0120	.0070	-.0070	.0080	.0160	.0230	-.0030	.0240	-.0010
30.000			.8870	.4520	.1670	.1070	.0530	.0470	.0350	.0620	.0750	.1140	.0480	.0290	.0240
60.000			.8950	.4590	.1690	.1180	.0550	.0500	.0670	.2790	.1440	.0530	.0280	.0310	.0460
90.000	1.6260		.7950	.3760	.1150	.0730	.0200	.0040	.3120	.5480	-.0200	-.0520	-.0720	-.0530	-.0090
120.000			.6320	.2530	.0390	.0060	-.0340	-.0470	-.0320	.1240	-.1070	-.1520	-.1380	-.0670	.0560
135.000								-.0750		-.0110		-.1200		-.0790	
150.000			.4610	.1370	-.0300	-.0530	-.0810	-.0940	-.0910	-.0280	-.0730	-.0770	-.0340	.0370	.0020
165.000				.0940	-.0560	-.0740	-.0860	-.0960	-.0910	-.0590	.0300			.0670	-.0190
180.000	1.6510	1.2970	.3390	.0590	-.0720	-.0860	-.0760	-.0860	-.0890	-.0600	.2100	.0180	-.0200	-.0450	-.0430
270.000		1.2790													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.240

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7020	1.6680	.7990	.3920	.1100	.0570	.0140	.0120	.0040	.0180	.0240	.0590	.0510	.0310	.0200
30.000			.8340	.4030	.1260	.0730	.0260	.0250	.0170	.0440	.0490	.0210	.0720	.0390	.0270
60.000			.7830	.3640	.1020	.0620	.0120	.0100	.0270	.0490	.1270	.0320	.0120	.0120	.0200
90.000	1.5800		.6710	.2750	.0490	.0160	-.0250	-.0320	.0180	.5110	-.0370	-.0610	-.0780	-.0650	-.0240
120.000			.5410	.1840	-.0060	-.0300	-.0630	-.0700	-.0650	.0970	-.1330	-.1580	-.1530	-.1210	-.0040
135.000								-.0810		-.0710		-.1210		-.0450	
150.000			.4240	.1090	-.0490	-.0660	-.0830	-.0750	-.0750	-.0640	-.0350	-.0130	.0060	.0120	-.0190
165.000				.0830	-.0630	-.0780	-.0730	-.0740	-.0780	-.0520	.0970		.0400		-.0140
180.000	1.7020	1.3370	.3560	.0640	-.0730	-.0830	-.0700	-.0740	-.0780	-.0580	.2010	.0520	.0660	.0390	-.0240
270.000		1.4050													
X/LT	.7449	.8526	.9290												
PHI															
.000	.0170	.0200	.0280												
30.000	.0260	.0460	.0380												
60.000	.0290	.0400	.0240												
90.000			.0600												
120.000	.0270	.0320	.1030												
135.000	.0110	.0390	.0910												
150.000	.0060	.1690	.0860												
165.000		.2010	.1020												
180.000	-.0640														

MACH ( 2 ) = 2.999

BETAT ( 4 ) = -2.090

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7100	1.6770	.8070	.3960	.1110	.0590	.0170	.0140	.0160	.0280	.0410	.0760	.0580	.0420	.0370
30.000			.8050	.3770	.1120	.0580	.0160	.0140	.0150	.0490	.0550	.0130	.0590	.0450	.0290
60.000			.7270	.3180	.0750	.0380	-.0080	-.0090	.0200	.0370	.1430	.0470	.0090	.0060	.0120
90.000	1.5400		.6130	.2330	.0220	-.0060	-.0450	-.0390	-.0160	.5090	-.0230	-.0620	-.0840	-.0720	-.0200
120.000			.4980	.1540	-.0280	-.0470	-.0760	-.0700	-.0620	.1100	-.1130	-.1610	-.1550	-.1260	-.0080
135.000								-.0640		-.0600		-.1040		-.0330	
150.000			.4070	.0960	-.0550	-.0720	-.0740	-.0620	-.0620	-.0320	.0500	.0390	-.0100	.0160	-.0200
165.000				.0790	-.0630	-.0780	-.0700	-.0610	-.0630	-.0370	.1150		.0180		-.0250
180.000	1.7100	1.3450	.3650	.0690	-.0670	-.0810	-.0670	-.0620	-.0620	-.0410	.2130	.0630	-.0020	.0680	-.0200
270.000		1.4580													
X/LT	.7449	.8526	.9290												
PHI															







AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT1G)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 6.571

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0040	.0120	.0170
30.000	.0040	.0310	.0190
60.000	.0100	.0090	-.0030
90.000			-.0140
120.000	-.0560	-.0540	-.0270
135.000	-.0730	-.0300	-.0420
150.000	-.0530	.0060	-.0330
165.000		-.0270	-.0660
180.000	-.0440		

MACH ( 2 ) = 2.999

BETAT ( 8 ) = 8.740

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6470	1.6060	.7720	.3810	.1070	.0550	.0120	-.0070	-.0040	-.0110	.0210	.0260	-.0070	.0110	-.0010
30.000			.5990	.2360	.0280	-.0110	-.0400	-.0450	-.0490	-.0070	.0380	.0420	.0140	-.0090	-.0140
60.000			.4330	.1200	-.0390	-.0590	-.0880	-.0850	-.0610	-.0850	.1050	.0580	.0260	.0130	.0170
90.000		1.2730	.3210	.0480	-.0760	-.0910	-.0920	-.0860	-.0890	.3340	-.0390	-.0720	-.0830	-.0190	.0330
120.000			.2750	.0250	-.0850	-.0970	-.0840	-.0840	-.0750	-.0460	-.1220	-.1520	-.0690	-.0660	-.0300
135.000								-.0830		-.0280		.0050		-.0560	
150.000			.2770	.0260	-.0870	-.0830	-.0760	-.0770	-.0830	-.0440	.0940	.0500	-.0080	-.0550	-.0980
165.000				.0350	-.0850	-.0800	-.0740	-.0770	-.0800	-.0450	.1000		-.0180		-.0890
180.000	1.6470	1.2990	.3370	.0550	-.0760	-.0880	-.0760	-.0760	-.0760	-.0530	.1950	.0110	-.0410	-.0510	-.0580
270.000		1.6280													

X/LT .7449 .8526 .9290

X/LT	.7449	.8526	.9290
PHI			
.000	-.0080	-.0010	-.0030
30.000	-.0020	.0190	.0070
60.000	.0080	.0090	-.0080
90.000			-.0190
120.000	-.0670	-.0690	-.0360
135.000	-.0880	-.0200	-.0620
150.000	-.0400	-.0160	-.0590
165.000		-.0570	-.0700
180.000	-.0240		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.690

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6490	1.6220	.7480	.3570	.0780	.0290	.0010	-.0030	.0050	.0110	.0040	.0170	-.0330	-.0420	.0030
30.000			.8710	.4160	.1400	.0790	.0410	.0380	.0410	.0630	.0040	.0820	.0280	.0030	.0030
60.000			.8790	.4150	.1400	.1010	.0440	.0380	.0640	.0800	.1340	.0830	.0010	.0010	.0280
90.000		1.6240	.7730	.3500	.0910	.0600	.0100	.0190	.0640	.6650	.1340	-.0660	-.0810	-.0740	-.0150
120.000			.6020	.2230	.0170	-.0010	-.0370	-.0300	-.0230	.1290	-.0490	-.1490	-.1380	-.0810	-.0090
135.000								-.0510		-.0450		-.1260		-.0790	
150.000			.4340	.1060	-.0470	-.0550	-.0790	-.0680	-.0640	-.0480	-.0510	-.1010	-.1120	.0580	-.0090
165.000				.0620	-.0720	-.0740	-.0890	-.0640	-.0650	-.0570	-.0020		.0600		-.0400
180.000	1.6490	1.2910	.3120	.0280	-.0890	-.0880	-.0770	-.0640	-.0670	-.0560	-.0030	-.0190	-.0100	-.0300	-.0610
270.000		1.2750													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0220	-.0130	.0060												
30.000	-.0250	.0330	.0330												
60.000	.0180	.0510	.0380												
90.000			.0750												
120.000	.0180	.0510	.0990												
135.000	.0160	.0580	.1350												
150.000	.0110	.2250	.1340												
165.000		.2280	.1360												
180.000	-.0520														

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.500

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.6610	.7700	.3690	.1030	.0530	-.0020	-.0070	.0060	.0140	-.0080	.0320	.0030	-.0140	.0300
30.000			.8540	.4110	.1400	.0840	.0250	.0180	.0320	.0550	-.0080	.0350	.0410	.0100	.0240
60.000			.8340	.3910	.1270	.0720	.0180	.0110	.0460	.0530	.1280	.0360	.0000	-.0060	.0260
90.000		1.6230	.7240	.3100	.0790	.0280	-.0150	-.0060	.0220	.6400	.1280	-.0590	-.0790	-.0750	-.0110
120.000			.5690	.2050	.0160	-.0250	-.0560	-.0430	-.0380	.1070	-.0230	-.1450	-.1350	-.0940	-.0100
135.000								-.0610		-.0560		-.1220		-.0850	
150.000			.4250	.1120	-.0330	-.0670	-.0880	-.0630	-.0590	-.0550	-.0230	-.0840	-.0560	.0290	-.0140
165.000				.0760	-.0520	-.0820	-.0810	-.0610	-.0610	-.0530	-.0240		-.0060		-.0280
180.000	1.6910	1.3260	.3280	.0550	-.0630	-.0880	-.0770	-.0610	-.0610	-.0530	.0000	.0100	-.0500	.0090	-.0330
270.000		1.3510													
X/LT	.7449	.8526	.9290												
PHI															



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT1D)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = -2.130

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.6930	.7820	.3760	.1080	.0590	-.0030	-.0080	.0100	.0160	.0370	.0430	.0250	.0110	.0340
30.000			.7860	.3620	.1080	.0580	-.0030	-.0060	.0100	.0380	.0370	.0110	-.0060	.0270	.0130
60.000			.7100	.3010	.0750	.0180	-.0240	-.0290	.0100	.0240	.1350	.0520	-.0040	-.0160	-.0110
90.000	1.5600		.5930	.2230	.0250	-.0220	-.0560	-.0370	-.0170	.5860	.1350	-.0640	-.0810	-.0770	-.0490
120.000			.4710	.1420	-.0170	-.0580	-.0830	-.0590	-.0580	.0680	-.0420	-.1430	-.1350	-.1230	-.0580
135.000								-.0550		-.0590		-.1000		-.1090	
150.000			.3820	.0870	-.0450	-.0800	-.0770	-.0570	-.0350	.0360	-.0210	-.0310	-.0060	-.0430	
165.000				.0730	-.0540	-.0850	-.0760	-.0530	-.0550	-.0350	.0850		-.0020		-.0170
180.000	1.7280	1.3530	.3340	.0630	-.0580	-.0850	-.0760	-.0500	-.0530	-.0350	.0840	.0040	-.0360	.0630	-.0120
270.000		1.4660													

X/LT .7449 .8526 .9290

PHI

.000	-.0140	.0140	.0210
30.000	-.0050	.0290	.0200
60.000	-.0120	.0290	.0120
90.000			.0040
120.000	-.0030	.0260	.0050
135.000	-.0310	-.0010	.0360
150.000	-.0450	.0340	.0370
165.000		.0700	.0360
180.000	-.0440		

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7250	1.6870	.7880	.3780	.1000	.0490	.0070	.0010	.0130	.0150	.0280	.0640	.0330	.0150	.0460
30.000			.7110	.3050	.0690	.0200	-.0160	-.0200	-.0090	.0230	.0340	.0090	-.0250	-.0220	-.0030
60.000			.5890	.2120	.0190	-.0120	-.0470	-.0530	-.0150	-.0010	.1340	.0070	-.0060	-.0210	-.0020
90.000	1.4610		.4670	.1300	-.0260	-.0500	-.0760	-.0580	-.0470	.5150	.1350	-.0660	-.0790	-.0780	-.0350
120.000			.3770	.0770	-.0540	-.0730	-.0680	-.0500	-.0520	-.0170	-.0090	-.1230	-.1090	-.0850	-.0440
135.000								-.0520		-.0480		-.0830		-.0810	
150.000			.3320	.0550	-.0650	-.0770	-.0640	-.0510	-.0510	-.0480	-.0280	-.0660	-.0430	.0140	-.0390
165.000				.0510	-.0670	-.0760	-.0640	-.0520	-.0510	-.0460	.1160		-.0360		-.0270
180.000	1.7250	1.3530	.3330	.0550	-.0670	-.0760	-.0670	-.0520	-.0510	-.0480	.1160	.0050	-.0340	.0700	-.0060
270.000		1.5590													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 2.260

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0020	.0050	-.0040
30.000	-.0110	.0080	.0120
60.000	-.0040	.0250	.0110
90.000			-.0270
120.000	-.0260	-.0250	-.0230
135.000	-.0500	-.0360	-.0080
150.000	-.0660	-.0240	-.0080
165.000		-.0420	-.0370
180.000	-.0490		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 4.480

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7190	1.6770	.7780	.3740	.1000	.0510	-.0020	-.0050	.0040	.0060	-.0010	.0580	.0080	-.0110	.0290
30.000			.6670	.2730	.0530	.0090	-.0320	-.0360	-.0260	.0110	.0020	.0020	-.0240	-.0220	.0110
60.000			.5280	.1750	-.0060	-.0370	-.0680	-.0710	-.0350	-.0220	.0870	.0030	-.0140	-.0200	.0090
90.000		1.4120	.4090	.0970	-.0470	-.0710	-.0870	-.0550	-.0650	.4660	.0860	-.0730	-.0880	-.0880	-.0260
120.000			.3320	.0520	-.0660	-.0840	-.0760	-.0600	-.0590	-.0610	-.0350	-.1260	-.1120	-.0440	-.0400
135.000								-.0560		-.0560		-.0920		-.0300	
150.000			.3060	.0430	-.0710	-.0830	-.0770	-.0560	-.0620	-.0530	-.0320	-.0630	-.0520	.0160	-.0590
165.000				.0450	-.0700	-.0850	-.0740	-.0580	-.0610	-.0520	.1110		-.0530		-.0340
180.000	1.7190	1.3480	.3280	.0540	-.0670	-.0880	-.0760	-.0610	-.0610	-.0510	.1110	-.0010	-.0190	.0440	-.0140
270.000		1.6010													

X/LT .7449 .8526 .9290

PHI

.000	.0020	.0080	.0050
30.000	.0020	.0130	.0150
60.000	.0110	.0160	.0020
90.000			-.0460
120.000	-.0280	-.0350	-.0460
135.000	-.0530	-.0580	-.0260
150.000	-.0800	-.0510	-.0250
165.000		-.0720	-.0570
180.000	-.0540		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.695

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.6490	.7680	.3670	.0970	.0490	-.0090	-.0140	.0050	.0030	-.0110	.0290	.0020	-.0210	.0100
30.000			.6140	.2400	.0360	-.0040	-.0490	-.0530	-.0330	.0020	.0070	.0120	-.0090	-.0190	-.0180
60.000			.4610	.1310	-.0220	-.0600	-.0880	-.0890	-.0390	-.0560	.0590	.0480	-.0080	-.0060	-.0020
90.000	1.3360		.3460	.0610	-.0610	-.0920	-.0830	-.0600	-.0600	.3630	.0610	-.0720	-.0810	-.0750	-.0030
120.000			.2870	.0360	-.0750	-.0840	-.0800	-.0560	-.0590	-.0730	-.0400	-.1400	-.1090	-.0810	-.0350
135.000								-.0580		-.0550		-.0300		-.0500	
150.000			.2770	.0270	-.0770	-.0830	-.0790	-.0580	-.0590	-.0530	.0570	.0180	-.0240	-.0270	-.0860
165.000				.0340	-.0760	-.0870	-.0810	-.0600	-.0600	-.0520	.0980		-.0210		-.0730
180.000	1.6910	1.3250	.3210	.0470	-.0720	-.0920	-.0830	-.0580	-.0590	-.0510	.1010	.0070	-.0610	-.0220	-.0570
270.000		1.6270													

X/LT .7449 .8526 .9290

PHI			
.000	-.0220	-.0050	-.0050
30.000	-.0240	.0110	.0110
60.000	-.0070	.0020	.0020
90.000			-.0640
120.000	-.0570	-.0490	-.0570
135.000	-.0840	-.0720	-.0520
150.000	-.0660	-.0440	-.0520
165.000		-.0660	-.0620
180.000	-.0460		

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.900

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6500	1.6050	.7410	.3580	.0960	.0490	-.0050	-.0110	.0030	.0060	-.0520	.0200	-.0230	-.0160	.0000
30.000			.5670	.2200	.0230	-.0140	-.0560	-.0570	-.0460	-.0100	-.0350	.0240	-.0040	-.0310	-.0400
60.000			.3990	.1000	-.0410	-.0740	-.0950	-.0910	-.0520	-.0790	.0320	.0330	-.0010	-.0070	-.0110
90.000	1.2660		.2920	.0320	-.0730	-.0880	-.0820	-.0650	-.0660	.2810	.0290	-.0640	-.0740	-.0670	-.0090
120.000			.2430	.0170	-.0810	-.0830	-.0810	-.0630	-.0690	-.0760	-.0750	-.1350	-.0610	-.0650	-.0440
135.000								-.0650		-.0630		.0060		-.0500	
150.000			.2460	.0140	-.0820	-.0820	-.0830	-.0630	-.0690	-.0580	.0740	.0080	-.0260	-.0480	-.0800
165.000				.0240	-.0790	-.0880	-.0840	-.0640	-.0670	-.0520	.0960		-.0740		-.0880
180.000	1.6500	1.2930	.3070	.0430	-.0690	-.0960	-.0850	-.0640	-.0670	-.0540	.0960	-.0060	-.0140	-.0450	-.0710
270.000		1.6300													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 3 ) = 3.502

BETAT ( 8 ) = 8.900

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0300	-.0150	-.0160
30.000	-.0300	-.0010	-.0040
60.000	-.0110	.0010	-.0170
90.000			-.0680
120.000	-.0680	-.0630	-.0680
135.000	-.0660	-.0730	-.0650
150.000	-.0720	-.0470	-.0670
165.000		-.0670	-.0870
180.000	-.0570		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.390

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6640	1.3240	.3820	.1310	-.0670	-.1060	-.1290	-.1160	-.0960	-.0720	.0030	-.0360	-.0910	-.1100	-.0640
30.000			.4980	.1580	-.0290	-.0700	-.1060	-.1060	-.0900	-.0760	-.1180	-.1730	-.1780	-.1390	-.1010
60.000			.6700	.2740	.0450	-.0030	-.0510	-.0550	-.0380	.1140	-.1790	-.2110	-.1740	-.1490	-.0420
90.000		1.6430	.8340	.4050	.1280	.0730	.0130	.0250	.4280	.3560	-.1050	-.1180	-.0670	-.0180	.0180
120.000			.9360	.4910	.1830	.1250	.0560	.0590	.1050	.6380	.0980	.1010	.1050	.2550	.2260
135.000								.0630		.1370		.2550		.1640	
150.000			.9290	.4880	.1760	.1210	.0540	.0600	.0630	.0850	.5730	.2470	.2400	.1500	.1280
165.000				.4470	.1510	.0960	.0370	.0440	.0420	.1040	.5160		.1990		.0550
180.000	1.6640	1.6280	.8140	.3860	.1160	.0680	.0090	.0170	.0240	.1030	.3830	.1190	.0820	.0330	-.0200
270.000		1.2900													

X/LT .7449 .8526 .9290

PHI

.000	-.0850	-.0500	-.0290
30.000	-.1000	-.0940	-.0850
60.000	-.0550	-.0720	-.0450
90.000			.0900
120.000	.0980	.1500	.1600
135.000	.1020	.2910	.1600
150.000	.1430	.3150	.2140
165.000		.5110	.1680
180.000	-.0120		

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.270

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6750	1.3260	.3910	.1060	-.0700	-.1040	-.1260	-.1090	-.0950	-.0670	.0130	-.0050	-.0700	-.0900	-.0740
30.000			.4790	.1460	-.0390	-.0770	-.1110	-.1100	-.0910	-.0920	-.1040	-.1650	-.1630	-.1090	-.0910
60.000			.6220	.2370	.0180	-.0270	-.0710	-.0710	-.0550	.1000	-.1780	-.2190	-.1850	-.1430	-.0640
90.000		1.6370	.7760	.3510	.0920	.0390	-.0140	.0050	.4030	.3470	-.1140	-.1190	-.0490	-.0320	-.0120
120.000			.8820	.4410	.1470	.0930	.0300	.0330	.0770	.6380	.1010	.1100	.0870	.2150	.1760
135.000								.0400		.1060		.2340		.1280	
150.000			.9050	.4620	.1560	.1020	.0370	.0430	.0590	.0800	.3650	.2090	.1810	.1230	.0990





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 1 ) = 2.498                      BETAT ( 3 ) = -4.160

SECTION ( 1 ) EXTERNAL TANK                      DEPENDENT VARIABLE CP

X/LT            .7449   .8526   .9290

PHI

165.000                      .3540   .0600

180.000            .0360

MACH ( 1 ) = 2.498                      BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK                      DEPENDENT VARIABLE CP

X/LT            .0000   .0009   .0452   .1098   .1744   .1905   .2121   .2336   .2874   .3412   .3950   .4489   .5027   .5565   .6372

PHI

.000    1.6970   1.3380   .4030   .1350   -.0720   -.1080   -.1270   -.1140   -.0970   -.0660   .0030   .0220   -.0120   -.0730   -.0650

30.000                      .4190   .1000   -.0700   -.1050   -.1270   -.1180   -.0970   -.0890   -.0410   -.1020   -.1180   -.1070   -.0750

60.000                      .4800   .1290   -.0500   -.0780   -.1130   -.1100   -.1020   .0760   -.1750   -.2240   -.2180   -.1920   -.0580

90.000                      1.4880   .5820   .1960   -.0100   -.0430   -.0840   -.0780   .1380   .3030   -.1010   -.1110   -.0380   -.0660   -.0570

120.000                      .6940   .2810   .0440   .0040   -.0420   -.0430   -.0020   .0380   .1140   .1200   .0350   .1330   .1100

135.000                      .7960   .3640   .0910   .0460   -.0090   -.0080   -.0030   .1440   .2990   .1400   .1310   .0660   .0680

150.000                      .3880   .1060   .0600   .0010   .0010   .0070   .0250   .3940   .1350

165.000                      1.6970   1.6650   .9390   .3970   .1080   .0650   .0040   .0060   .0090   .0370   .3280   -.0420   .1230   .1830   .0760

180.000                      1.4800

X/LT            .7449   .8526   .9290

PHI

.000    -.0660   -.0070   -.0080

30.000    -.0530   -.0350   -.0320

60.000    -.0380   -.0380   -.0280

90.000                      .0200

120.000    .0240   .0220   .0380

135.000    .0250   .0820   .0210

150.000    .0530   .1630   -.0170

165.000                      .2120   -.0060

180.000            .0350

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.330

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.3290	.3940	.1040	-.0700	-.1190	-.1260	-.1070	-.1010	-.0680	.0150	-.0020	-.0650	-.0900	-.0540
30.000			.3710	.0580	-.0880	-.1210	-.1250	-.1090	-.0980	-.0550	-.0760	-.0410	-.0790	-.1030	-.0870
60.000			.3920	.0720	-.0850	-.0980	-.1250	-.1110	-.1060	.0720	-.1670	-.2110	-.1990	-.1940	-.0420
90.000	1.3940		.4620	.1160	-.0620	-.0760	-.1100	-.1100	.0840	.3040	-.1100	-.0910	-.0350	-.0930	-.0590
120.000			.5750	.1960	-.0130	-.0340	-.0770	-.0780	-.0340	.0200	.2020	.0950	.0750	.0970	.0610
135.000								-.0570		.0660		.0700		.1200	
150.000			.7160	.2980	.0490	.0200	-.0310	-.0310	.0130	.1420	.2250	.0480	.0840	.0810	.0430
165.000				.3440	.0780	.0440	-.0070	-.0090	.0380	.1140	.3120		.0860		.0270
180.000	1.6910	1.6580	.8320	.3820	.1030	.0650	.0110	.0110	.0490	.1100	.3500	.0920	.1220	.0660	.0400
270.000		1.5730													

X/LT .7449 .8526 .9290

PHI			
.000	-.0700	-.0230	-.0230
30.000	-.0430	-.0160	-.0140
60.000	-.0230	-.0400	-.0280
90.000			-.0090
120.000	.0050	-.0080	-.0070
135.000	.0090	.0420	-.0410
150.000	.0280	.0310	-.0560
165.000		.0340	-.0540
180.000	.0450		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6710	1.3160	.3900	.1350	-.0690	-.1050	-.1280	-.1180	-.0950	-.0690	-.0060	.0110	-.0730	-.1010	-.0620
30.000			.3540	.0660	-.0830	-.1140	-.1310	-.1090	-.0870	-.0200	-.0810	-.0660	-.0680	-.1030	-.1080
60.000			.3600	.0660	-.0840	-.1090	-.1130	-.1090	-.0950	.0650	-.1600	-.1850	-.1820	-.1820	-.0390
90.000	1.3340		.4160	.1000	-.0670	-.0950	-.1130	-.0860	.0000	.2780	-.0910	-.0530	-.0490	-.1050	-.0690
120.000			.5280	.1710	-.0230	-.0560	-.0960	-.0590	-.0520	-.0310	.2270	.0800	.0710	.0870	.0500
135.000								-.0530		.0570		.0910		.0940	
150.000			.6800	.2840	.0460	.0000	-.0480	-.0380	.0260	.1080	.2040	-.0200	.0750	.0490	.0100
165.000				.3400	.0840	.0350	-.0190	-.0110	.0340	.1010	.2990		.0510		-.0180
180.000	1.6710	1.6410	.8240	.3950	.1150	.0630	.0060	.0130	.0480	.0940	.3520	.1140	.0870	.0320	-.0170
270.000		1.6020													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0850	-.0330	-.0400
30.000	-.0540	-.0160	-.0180
60.000	-.0430	-.0330	-.0290
90.000			-.0260
120.000	-.0220	.0010	-.0260
135.000	-.0220	.0260	-.0650
150.000	-.0060	-.0050	-.1070
165.000		-.0640	-.0900
180.000	.0230		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.600

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6650	1.3090	.3810	.1030	-.0710	-.1090	-.1280	-.1200	-.0860	-.0760	-.0070	-.0340	-.0960	-.1170	-.0610
30.000			.3300	.0500	-.0890	-.1220	-.1290	-.1180	-.0960	-.0410	-.0810	-.0810	-.0940	-.1040	-.1100
60.000			.3270	.0460	-.0940	-.1120	-.1040	-.1250	-.0800	.0160	-.1560	-.1700	-.1630	-.1680	-.0420
90.000		1.2940	.3740	.0680	-.0830	-.1060	-.0970	-.1080	-.0110	.2530	-.0890	-.0270	-.0550	-.0970	-.0750
120.000			.4780	.1380	-.0430	-.0730	-.0970	-.0670	-.0570	-.0920	.1540	.0860	.1160	.0690	.0280
135.000								-.0580		.0580		.0510		.0620	
150.000			.6400	.2560	.0270	-.0110	-.0560	-.0510	.0130	.0960	.1880	-.0510	-.0120	-.0040	-.0170
165.000				.3210	.0730	.0290	-.0220	-.0240	.0190	.0740	.2660		.0000		-.0980
180.000	1.6650	1.6400	.8160	.3880	.1130	.0640	.0060	.0090	.0200	.1020	.3640	.1080	.0650	.0320	-.0230
270.000		1.6410													

X/LT .7449 .8526 .9290

PHI

.000	-.0830	-.0550	-.0550
30.000	-.0490	-.0220	-.0380
60.000	-.0470	-.0220	-.0320
90.000			-.0270
120.000	-.0350	-.0230	-.0600
135.000	-.0340	-.0020	-.1000
150.000	-.0390	-.0460	-.1160
165.000		-.0550	-.1190
180.000	-.0120		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.565

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6580	1.3040	.3400	.0810	-.0630	-.0930	-.1020	-.1010	-.0900	-.0770	-.0420	-.0540	-.0960	-.1070	-.0960
30.000			.4590	.1360	-.0280	-.0570	-.0780	-.0810	-.0740	-.0780	-.0780	-.1240	-.1320	-.1240	-.1010
60.000			.6290	.2520	.0420	.0100	-.0330	-.0370	-.0270	.1160	-.1150	-.1570	-.1440	-.1120	-.0410
90.000		1.6370	.7960	.3770	.1180	.0750	.0220	.0230	.3580	.5110	-.0330	-.0750	-.0770	.0020	.0170
120.000			.8970	.4570	.1680	.1200	.0620	.0550	.0810	.4470	.1340	.0450	.0960	.1080	.1790
135.000								.0590	.1050		.2320		.1630		
150.000			.8900	.4550	.1610	.1160	.0590	.0540	.0500	.0780	.1340	.2800	.2000	.1940	.0910
165.000				.4140	.1360	.0960	.0410	.0360	.0340	.0900	.4730		.1570		.1070
180.000	1.6580	1.6180	.7700	.3590	.1020	.0680	.0160	.0140	.0120	.0610	.4380	.0790	.1690	.0360	.0380
270.000		1.2710													

X/LT .7449 .8526 .9290

PHI

.000	-.0760	-.0850	-.0540
30.000	-.1190	-.1030	-.1090
60.000	-.0670	-.0640	-.0550
90.000			.0390
120.000	.1430	.0980	.1410
135.000	.1190	.2860	.1820
150.000	.0930	.3350	.2370
165.000		.4830	.2240
180.000	.0040		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.410

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6780	1.3200	.3470	.0890	-.0610	-.0920	-.0940	-.0840	-.0790	-.0720	-.0330	-.0140	-.0390	-.0660	-.0620
30.000			.4410	.1200	-.0370	-.0700	-.0810	-.0810	-.0730	-.0730	-.0640	-.1140	-.1240	-.1130	-.0890
60.000			.5840	.2150	.0170	-.0060	-.0430	-.0480	-.0360	.1150	-.1130	-.1530	-.1440	-.1160	-.0520
90.000		1.6070	.7360	.3250	.0820	.0490	.0020	.0080	.1930	.5070	-.0280	-.0730	-.0730	.0000	.0550
120.000			.8410	.4070	.1330	.0960	.0420	.0400	.0640	.1490	.1410	.0550	.1030	.1030	.1590
135.000								.0460		.0910		.2930		.1270	
150.000			.8620	.4260	.1410	.1040	.0500	.0480	.0440	.1030	.2810	.2170	.1890	.1830	.0950
165.000				.4020	.1260	.0930	.0400	.0460	.0420	.0690	.4580		.1480		.0810
180.000	1.6780	1.6390	.7830	.3620	.1020	.0730	.0220	.0180	.0240	.0450	.4270	.0600	.1280	.0680	.0310
270.000		1.3310													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.410

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0650	-.0640	-.0380
30.000	-.0690	-.0800	-.0790
60.000	-.0460	-.0660	-.0540
90.000			-.0220
120.000	.1170	.0680	.1040
135.000	.0930	.2020	.1430
150.000	.0850	.2950	.1700
165.000		.3780	.1770
180.000	-.0140		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.260

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6980	1.3350	.3560	.0950	-.0540	-.0860	-.0940	-.0850	-.0790	-.0730	-.0390	-.0070	-.0280	-.0510	-.0610
30.000			.4240	.1120	-.0410	-.0700	-.0850	-.0870	-.0750	-.0830	-.0410	-.1140	-.1190	-.1080	-.0680
60.000			.5380	.1850	.0010	-.0240	-.0570	-.0590	-.0510	.1080	-.1250	-.1640	-.1500	-.1210	-.0950
90.000		1.5780	.6740	.2810	.0550	.0240	-.0200	-.0200	.0510	.4860	-.0350	-.0810	-.0680	-.0060	-.0200
120.000			.7840	.3670	.1050	.0710	.0190	.0150	.0440	.0500	.1320	.0870	.1010	.0710	.1250
135.000								.0260		.0670		.2820		.0980	
150.000			.8370	.4070	.1310	.0900	.0350	.0280	.0370	.0790	.2910	.1680	.1390	.1560	.0790
165.000				.3970	.1260	.0860	.0320	.0280	.0350	.0580	.4660		.1530		.0710
180.000	1.6980	1.6590	.7950	.3740	.1100	.0740	.0220	.0280	.0220	.0480	.4240	.0190	.1370	.0640	.0600
270.000		1.3910													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0570	-.0560	-.0330
30.000	-.0650	-.0650	-.0700
60.000	-.0380	-.0800	-.0690
90.000			-.0240
120.000	.0830	.0500	.0780
135.000	.0660	.1390	.1060
150.000	.0720	.2660	.1130
165.000		.3210	.1000
180.000	.0190		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 2 ) = 2.999 BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7200	1.3500	.3650	.1010	-.0510	-.0830	-.0900	-.0820	-.0730	-.0510	-.0250	-.0070	.0190	-.0210	-.0590
30.000			.3840	.0870	-.0530	-.0800	-.0920	-.0890	-.0750	-.0750	-.0760	-.0790	-.0860	-.0890	-.0630
60.000			.4520	.1250	-.0350	-.0520	-.0810	-.0830	-.0730	.0920	-.1270	-.1600	-.1500	-.1440	-.0820
90.000	1.5030		.5530	.1900	.0030	-.0230	-.0570	-.0550	-.0330	.4380	-.0380	-.0780	-.0320	-.0110	-.0450
120.000			.6670	.2750	.0520	.0200	-.0230	-.0240	.0030	.0260	.1350	.1500	.0650	.1010	.0720
135.000								-.0090		.1140		.1630		.0790	
150.000			.7680	.3570	.0970	.0590	.0080	.0090	.0070	.0010	.2740	.1310	.0690	.0720	.0870
165.000				.3740	.1100	.0710	.0220	.0180	.0170	.0120	.4510		.1740		.0790
180.000	1.7200	1.6800	.8070	.3820	.1140	.0760	.0230	.0180	.0180	.0160	.4180	.0520	.1660	.0630	.0800
270.000		1.4990													

X/LT .7449 .8526 .9290

PHI			
.000	-.0580	-.0440	-.0240
30.000	-.0630	-.0390	-.0470
60.000	-.0490	-.0520	-.0470
90.000			-.0520
120.000	.0360	.0390	.0380
135.000	.0420	.0570	.0430
150.000	.0430	.1490	.0140
165.000		.1990	.0240
180.000	.0260		

MACH ( 2 ) = 2.999 BETAT ( 5 ) = 4.400

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7000	1.3290	.3540	.0950	-.0580	-.0880	-.0930	-.0880	-.0830	-.0740	-.0350	.0090	-.0200	-.0540	-.0660
30.000			.3320	.0550	-.0670	-.0950	-.0970	-.0880	-.0840	-.0600	-.0580	-.0580	-.0360	-.0520	-.0700
60.000			.3560	.0660	-.0660	-.0740	-.0970	-.0950	-.0820	.0450	-.1130	-.1520	-.1470	-.1440	-.0960
90.000	1.3960		.4300	.1080	-.0450	-.0580	-.0820	-.0840	-.0250	.4210	-.0370	-.0860	-.0110	-.0200	-.0630
120.000			.5360	.1860	-.0020	-.0180	-.0520	-.0600	-.0220	-.0020	.1490	.1350	.0360	.0910	.0780
135.000								-.0430		.0410		.1420		.0710	
150.000			.6770	.2870	.0560	.0300	-.0130	-.0210	.0150	.0660	.1710	.0380	.0870	.0380	.0520
165.000				.3290	.0830	.0530	.0070	-.0010	.0330	.0630	.3800		.0980		.0450
180.000	1.7000	1.6630	.7880	.3670	.1070	.0740	.0240	.0170	.0400	.0610	.4270	.0620	.1330	.0690	.0470
270.000		1.5730													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 2) = 2.999

BETAT ( 5) = 4.400

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0610	-.0540	-.0420
30.000	-.0870	-.0350	-.0260
60.000	-.0430	-.0460	-.0430
90.000			-.0390
120.000	.0200	.0050	-.0080
135.000	.0060	.0290	-.0060
150.000	.0160	.0570	-.0210
165.000		.0360	-.0240
180.000	.0160		

MACH ( 2) = 2.999

BETAT ( 6) = 6.580

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6720	1.3040	.3400	.0900	-.0570	-.0880	-.0960	-.0920	-.0890	-.0840	-.0350	-.0150	-.0500	-.0720	-.0750
30.000			.3000	.0420	-.0730	-.0970	-.1010	-.0890	-.0950	-.0840	-.0600	-.0640	-.0550	-.0640	-.0860
60.000			.3110	.0490	-.0750	-.0840	-.1050	-.0970	-.0820	-.0090	-.1140	-.1480	-.1460	-.1410	-.1160
90.000		1.3270	.3730	.0780	-.0610	-.0750	-.0950	-.1010	-.0680	.3600	-.0340	-.0400	-.0050	-.0380	-.0670
120.000			.4810	.1510	-.0180	-.0380	-.0670	-.0760	-.0460	-.0440	.2000	.1010	.0650	.1060	.0500
135.000								-.0620		.0290		.1160		.0640	
150.000			.6320	.2570	.0400	.0150	-.0260	-.0390	-.0040	.0700	.1800	-.0170	.0510	.0100	.0180
165.000				.3110	.0750	.0430	-.0020	-.0170	.0000	.0510	.3410		.0830		-.0350
180.000	1.6720	1.6360	.7750	.3610	.1050	.0670	.0190	.0070	.0120	.0460	.4170	.0790	.1040	.0660	.0100
270.000		1.5920													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0750	-.0650	-.0530
30.000	-.0920	-.0330	-.0340
60.000	-.0510	-.0420	-.0500
90.000			-.0400
120.000	-.0090	-.0140	-.0250
135.000	-.0160	.0170	-.0380
150.000	.0040	.0300	-.0350
165.000		.0170	-.0610
180.000	-.0160		



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.750

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6580	1.2890	.3360	.0840	-.0620	-.0920	-.0960	-.0930	-.0900	-.0810	-.0510	-.0590	-.0910	-.1030	-.0900
30.000			.2780	.0300	-.0830	-.1050	-.0960	-.0910	-.0930	-.0770	-.0910	-.0940	-.0620	-.0670	-.0870
60.000			.2750	.0270	-.0860	-.0890	-.0970	-.0880	-.0750	-.0590	-.1290	-.1550	-.1330	-.1250	-.1000
90.000		1.2750	.3200	.0510	-.0790	-.0820	-.0900	-.0800	-.0590	.2930	-.0570	-.0280	-.0060	-.0510	-.0560
120.000			.4300	.1150	-.0390	-.0510	-.0790	-.0660	-.0490	-.0840	.1030	.1010	.0650	.0980	.0350
135.000								-.0650		.0220		.0490		.0670	
150.000			.5950	.2290	.0240	.0020	-.0370	-.0440	-.0080	.0380	.1780	-.0400	.0030	-.0460	-.0280
165.000				.2930	.0630	.0340	-.0090	-.0220	-.0010	.0180	.2970		.0850		-.0480
180.000	1.6580	1.6220	.7650	.3550	.0990	.0660	.0190	.0070	.0050	.0540	.4130	.0650	.1610	.0390	.0320
270.000		1.6250													

X/LT .7449 .8526 .9290

## PHI

.000	-.0730	-.0800	-.0690
30.000	-.0840	-.0430	-.0520
60.000	-.0610	-.0480	-.0520
90.000			-.0420
120.000	-.0200	-.0440	-.0590
135.000	-.0410	-.0100	-.0680
150.000	-.0190	.0140	-.0600
165.000		-.0290	-.0660
180.000	.0060		

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6540	1.2960	.3130	.0840	-.0190	-.0570	-.0740	-.0660	-.0660	-.0620	-.0400	-.0480	-.0910	-.0900	-.0750
30.000			.4350	.1500	-.0150	-.0310	-.0580	-.0600	-.0580	-.0680	-.0410	-.0850	-.0910	-.0980	-.0870
60.000			.6110	.2620	.0650	.0240	-.0130	-.0250	-.0130	.1290	-.0650	-.1070	-.1130	-.1500	-.0320
90.000		1.6330	.7840	.3870	.1350	.0860	.0370	.0310	.1010	.6490	.0140	-.0480	-.0530	-.0140	.0200
120.000			.8920	.4670	.1840	.1280	.0710	.0620	.0820	.1210	.1680	.0690	.1030	.1010	.1830
135.000								.0680		.1060		.2210		.1450	
150.000			.8860	.4610	.1790	.1250	.0710	.0610	.0550	.1000	.1360	.2620	.1940	.1650	.1180
165.000				.4170	.1550	.1050	.0520	.0490	.0390	.1020	.4410		.1470		.0920
180.000	1.6540	1.6170	.7600	.3630	.1210	.0760	.0300	.0220	.0220	.0560	.4820	.0540	.1480	.0820	.0540
270.000		1.2660													

X/LT .7449 .8526 .9290

## PHI

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0630	-.0710	-.0490
30.000	-.0970	-.0840	-.0780
60.000	-.0610	-.0500	-.0300
90.000			-.0190
120.000	.1480	.1170	.1550
135.000	.1210	.1690	.1890
150.000	.1000	.3380	.2050
165.000		.3790	.2440
180.000	.0180		

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.520

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6940	1.3280	.3230	.0830	-.0530	-.0840	-.0680	-.0630	-.0730	-.0710	-.0580	-.0330	-.0440	-.0500	-.0480
30.000			.4230	.1230	-.0360	-.0640	-.0590	-.0630	-.0700	-.0780	-.0580	-.1030	-.0990	-.1010	-.0720
60.000			.5720	.1920	.0160	.0080	-.0280	-.0360	-.0340	.1040	-.0890	-.1280	-.1150	-.1060	-.0530
90.000		1.6280	.7310	.3120	.0800	.0610	.0160	.0000	.0290	.6200	.0000	-.0510	-.0570	-.0140	.0100
120.000			.8380	.3980	.1280	.1030	.0500	.0330	.0510	.0540	.1450	.0640	.0890	.0930	.1580
135.000								.0410		.0710		.2720		.1340	
150.000			.8610	.4160	.1340	.1120	.0580	.0420	.0360	.0830	.2150	.2030	.1710	.1530	.1140
165.000				.3890	.1200	.0980	.0490	.0330	.0360	.0490	.4140		.1590		.0780
180.000	1.6940	1.6560	.7720	.3460	.0940	.0810	.0340	.0160	.0150	.0370	.4750	.0340	.1250	.1000	.0490
270.000		1.3340													

X/LT .7449 .8526 .9290

PHI

.000	-.0510	-.0590	-.0340
30.000	-.0730	-.0750	-.0750
60.000	-.0440	-.0600	-.0400
90.000			-.0340
120.000	.1280	.0840	.1140
135.000	.0970	.1140	.1420
150.000	.0880	.2620	.1620
165.000		.3160	.1660
180.000	.0140		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 3 ) = 3.502 BETAT ( 3 ) = -4.330

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7170	1.3460	.3350	.0920	-.0220	-.0510	-.0740	-.0510	-.0650	-.0620	-.0380	-.0180	-.0450	-.0500	-.0490
30.000			.4110	.1240	-.0130	-.0410	-.0680	-.0700	-.0640	-.0730	-.0500	-.0840	-.1120	-.1160	-.0720
60.000			.5320	.1960	.0240	-.0120	-.0450	-.0400	-.0400	.0840	-.0800	-.1160	-.1340	-.1260	-.0990
90.000	1.6010		.6700	.2890	.0770	.0320	-.0080	-.0080	.0100	.5990	.0070	-.0680	-.0760	-.0180	-.0160
120.000			.7820	.3730	.1240	.0730	.0270	.0180	.0390	.0470	.1500	.0450	.0820	.0650	.1200
150.000								.0300		.0700		.2950		.1120	
180.000			.8300	.4120	.1460	.0940	.0420	.0350	.0370	.0750	.2680	.2240	.1040	.0660	.0700
165.000			.4010	.1410	.0930	.0390	.0340	.0370	.0600	.4490			.1190		.0780
180.000	1.7170	1.6760	.7870	.3750	.1260	.0780	.0300	.0250	.0380	.0520	.4790	.0030	.0750	.0630	.0610
270.000		1.3970													

X/LT .7449 .8526 .9290

PHI			
.000	-.0470	-.0590	-.0490
30.000	-.0720	-.0600	-.0720
60.000	-.0450	-.0730	-.0570
90.000			-.0510
120.000	.0820	.0510	-.0820
135.000	.0670	.0830	.1090
150.000	.0470	.2300	.0930
165.000		.2700	.1060
180.000	.0210		

MACH ( 3 ) = 3.502 BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7430	1.3610	.3400	.0990	-.0490	-.0780	-.0770	-.0630	-.0660	-.0550	-.0580	-.0310	-.0370	-.0320	-.0430
30.000			.3610	.0690	-.0560	-.0790	-.0790	-.0700	-.0680	-.0730	-.0960	-.0840	-.0950	-.0970	-.0720
60.000			.4320	.1040	-.0380	-.0450	-.0700	-.0690	-.0670	.0390	-.0970	-.1400	-.1350	-.1310	-.0990
90.000	1.5230		.5420	.1730	-.0040	-.0190	-.0460	-.0470	-.0300	.5170	-.0200	-.0710	-.0630	-.0140	-.0360
120.000			.6570	.2550	.0400	.0220	-.0140	-.0210	-.0010	.0070	.1240	.1190	.0700	.0380	.0570
135.000								-.0060		.0490		.1780		.0480	
150.000			.7590	.3330	.0830	.0600	.0140	.0060	.0060	-.0110	.2360	.1220	.0860	.0940	.0570
165.000			.3500	.0970	.0720	.0140	.0180	.0160	-.0040	.4580			.0290		.1040
180.000	1.7430	1.7010	.7990	.3570	.1000	.0760	.0150	.0200	.0130	-.0040	.4610	.0340	.1470	.0640	.1210
270.000		1.5140													

X/LT .7449 .8526 .9290

PHI



## AMES 87-797 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.695

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6930	1.3160	.3310	.1090	-.0340	-.0630	-.0790	-.0700	-.0790	-.0770	-.0400	-.0340	-.0740	-.0860	-.0520
30.000			.2830	.0450	-.0530	-.0740	-.0770	-.0730	-.0880	-.0720	-.0650	-.0470	-.0760	-.0680	-.0550
60.000			.2830	.0480	-.0540	-.0710	-.0770	-.0720	-.1020	-.0260	-.0890	-.1140	-.1360	-.1340	-.0870
90.000		1.3410	.3360	.0790	-.0440	-.0630	-.0800	-.0740	-.0780	.3780	-.0230	-.0790	-.0260	-.0300	-.0340
120.000			.4530	.1480	-.0080	-.0320	-.0580	-.0720	-.0450	-.0460	.1190	.1000	.0200	.0990	.0390
135.000								-.0570		.0160		.0680		.0630	
150.000			.6150	.2540	.0500	.0150	-.0190	-.0360	-.0170	.0440	.1370	-.0170	-.0080	.0070	.0030
165.000				.3090	.0810	.0450	.0020	-.0130	-.0120	.0440	.3760		.0290		-.0080
180.000	1.6930	1.6580	.7630	.3600	.1120	.0710	.0210	.0060	.0060	.0320	.4700	.0100	.0940	.0960	.0450
270.000		1.6150													

X/LT .7449 .8526 .9290

PHI			
.000	-.0530	-.0600	-.0650
30.000	-.0720	-.0460	-.0480
60.000	-.0600	-.0460	-.0480
90.000			-.0410
120.000	.0790	-.0100	-.0190
135.000	.0010	-.0110	-.0340
150.000	.0010	.0170	-.0250
165.000		-.0270	-.0370
180.000	.0100		

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.900

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6500	1.2810	.3170	.1010	-.0410	-.0710	-.0790	-.0710	-.0660	-.0660	-.0450	-.0440	-.1010	-.1040	-.0750
30.000			.2550	.0270	-.0650	-.0850	-.0730	-.0800	-.0730	-.0620	-.0680	-.0510	-.0590	-.0700	-.0720
60.000			.2550	.0260	-.0710	-.0770	-.0710	-.0820	-.0880	-.0430	-.0910	-.1150	-.1280	-.1260	-.0870
90.000		1.2650	.2980	.0460	-.0630	-.0760	-.0790	-.0720	-.0780	.3250	-.0330	-.0700	-.0060	-.0310	-.0330
120.000			.4080	.1080	-.0300	-.0460	-.0700	-.0720	-.0380	-.0250	.1030	.1340	.0540	.0880	.0340
135.000								-.0550		.0160		-.0100		.0370	
150.000			.5710	.2180	.0290	.0020	-.0320	-.0310	-.0190	.0290	.1650	-.0410	-.0200	-.0310	-.0280
165.000				.2800	.0680	.0350	-.0050	-.0080	-.0040	.0140	.3290		.0090		-.0240
180.000	1.6500	1.6150	.7520	.3440	.1050	.0650	.0220	.0170	.0130	.0510	.4570	.0370	.1030	.0730	.0420
270.000		1.6200													

X/LT .7449 .8526 .9290

PHI

DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

PAGE 2463

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT11)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.900

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT        .7449    .8526    .9290

PHI

.000	-.0580	-.0750	-.0760
30.000	-.0800	-.0540	-.0620
60.000	-.0640	-.0530	-.0610
90.000			-.0550
120.000	-.0140	-.0350	-.0430
135.000	-.0500	-.0290	-.0460
150.000	-.0200	.0110	-.0290
165.000		-.0370	-.0280
180.000	.0070		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.420

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6850	1.4090	.4790	.1750	-.0330	-.0780	-.1040	-.1040	-.0740	-.0420	.0320	-.0080	-.0670	-.0970	-.0720
30.000			.6040	.2300	.0120	-.0350	-.0730	-.0730	-.0600	-.0470	-.0350	-.1090	-.1340	-.1110	-.0580
60.000			.7430	.3300	.0730	.0310	-.0240	-.0280	-.0060	.2250	-.1180	-.1480	-.1250	-.0400	-.0340
90.000		1.6550	.8490	.4140	.1280	.0770	.0190	.0180	.3980	.3860	-.1220	-.1620	-.1490	-.0560	.0030
120.000			.8770	.4370	.1440	.0920	.0310	.0310	.0640	.5160	.0270	-.0430	.0160	.1040	.1910
135.000								.0230		.0930		.1040		.1200	
150.000			.8230	.3920	.1110	.0670	.0100	.0090	.0120	.0470	.2220	.1950	.1990	.1070	.0690
165.000				.3470	.0860	.0420	-.0110	-.0120	-.0110	.0500	.4890		.1850		.0210
180.000	1.6850	1.5630	.7020	.2970	.0540	.0150	-.0360	-.0350	-.0130	.0550	.3780	.1120	.0740	-.0040	-.0440
270.000		1.3120													

X/LT .7449 .8526 .9290

PHI			
.000	-.0720	-.0580	-.0340
30.000	-.0610	-.0870	-.0720
60.000	-.0550	-.0180	.0230
90.000			.0980
120.000	.0920	.1310	.1650
135.000	.0910	.2900	.1680
150.000	.0870	.3180	.2200
165.000		.4530	.1770
180.000	-.0510		

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.300

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7030	1.4230	.4890	.1800	-.0370	-.0780	-.1030	-.1020	-.0720	-.0420	.0210	.0010	-.0500	-.0800	-.0640
30.000			.5820	.2110	.0010	-.0470	-.0800	-.0810	-.0610	-.0510	-.0250	-.1080	-.1250	-.1070	-.0450
60.000			.6960	.2870	.0470	.0080	-.0440	-.0480	-.0180	.2200	-.1280	-.1600	-.1450	-.0580	-.0410
90.000		1.6260	.7900	.3570	.0900	.0460	-.0120	-.0030	.3730	.3760	-.1290	-.1600	-.1440	-.0710	-.0160
120.000			.8260	.3900	.1120	.0640	.0060	.0100	.0460	.5160	.0230	-.0170	.0080	.0740	.1390
135.000								.0080		.0510		.1460		.0890	
150.000			.8000	.3700	.0970	.0530	-.0040	.0020	.0050	.0330	.2640	.1830	.1650	.0850	.0490





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .3190 .0790

180.000 -.0400

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7230 1.4410 .5040 .1760 -.0380 -.0760 -.1010 -.1010 -.0670 -.0450 .0220 .0260 .0030 -.0340 -.0400

30.000 .5080 .1540 -.0330 -.0740 -.1000 -.0990 -.0650 -.0520 -.0720 -.0330 -.0750 -.1000 -.0460

60.000 .5460 .1740 -.0210 -.0520 -.0910 -.0900 -.0570 .2100 -.1140 -.1590 -.1650 -.0870 -.0560

90.000 1.5100 .5980 .2080 .0000 -.0350 -.0750 -.0630 .1270 .3630 -.1240 -.1580 -.1140 -.0950 -.0540

120.000 .6530 .2510 .0200 -.0110 -.0580 -.0500 -.0100 .0760 .0420 .0210 -.0250 .1060 .0800

135.000 .0410 .0150 .1200 .0480

150.000 .7060 .2930 .0450 .0040 -.0430 -.0330 -.0250 .0700 .3010 .1280 .1000 .0500 .0280

165.000 .3030 .0500 .0140 -.0370 -.0340 -.0250 -.0030 .3730 .1220 .0270

180.000 1.7230 1.6090 .7260 .3030 .0530 .0150 -.0340 -.0340 -.0250 .0030 .3170 -.0390 .1200 .1570 .0360

270.000 1.5170

X/LT .7449 .8526 .9290

PHI

.000 -.0480 -.0140 .0030

30.000 -.0400 -.0130 -.0130

60.000 .0010 -.0280 -.0350

90.000 -.0010

120.000 .0160 -.0110 .0490

135.000 .0160 .0730 .0140

150.000 .0060 .1400 -.0120

165.000 .1910 -.0050

180.000 -.0410





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.580

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6780	1.4000	.4350	.1380	-.0330	-.0660	-.0810	-.0830	-.0700	-.0560	-.0020	-.0150	-.0390	-.0710	-.0760
30.000			.5570	.2040	.0120	-.0250	-.0530	-.0550	-.0530	-.0400	-.0230	-.0910	-.1030	-.1050	-.0800
60.000			.6990	.3000	.0710	.0360	-.0110	-.0160	.0000	.2270	-.0760	-.1240	-.1100	-.0740	-.0300
90.000	1.6500		.8080	.3820	.1170	.0750	.0240	.0220	.3310	.5390	-.0650	-.1150	-.1130	-.0700	-.0090
120.000			.8320	.4060	.1290	.0900	.0370	.0240	.0540	.4430	.0560	-.0210	.0240	.0360	.1350
135.000								.0240		.0470		.1020		.1070	
150.000			.7750	.3630	.1020	.0650	.0190	.0130	.0100	.0310	.0390	.2690	.1470	.1520	.0610
165.000				.3190	.0750	.0470	.0000	-.0050	-.0060	.0400	.3450		.1860		.0570
180.000	1.6780	1.5560	.6530	.2670	.0460	.0220	-.0220	-.0260	-.0140	.0050	.3980	.0610	.0890	.0250	.0070
270.000		1.2930													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0660	-.0700	-.0530												
30.000	-.0650	-.0720	-.0680												
60.000	-.0320	-.0540	-.0140												
90.000			.0260												
120.000	.1220	.0810	.1260												
135.000	.0960	.2490	.1680												
150.000	.0660	.2770	.2410												
165.000		.4160	.2200												
180.000	-.0170														

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.430

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7100	1.4250	.4440	.1440	-.0320	-.0650	-.0810	-.0820	-.0720	-.0580	.0110	.0040	-.0200	-.0490	-.0680
30.000			.5400	.1990	.0010	-.0350	-.0610	-.0610	-.0580	-.0400	-.0230	-.0720	-.0960	-.0980	-.0750
60.000			.6530	.2630	.0470	.0160	-.0270	-.0290	-.0130	.2120	-.0640	-.1130	-.1160	-.0830	-.0510
90.000	1.6330		.7460	.3290	.0860	.0490	.0020	.0000	.1680	.5450	-.0520	-.1140	-.1120	-.0690	-.0350
120.000			.7810	.3610	.1030	.0650	.0150	.0120	.0350	.2820	.0670	-.0170	.0150	.0240	.1000
135.000								.0090		.0440		.1210		.0650	
150.000			.7530	.3420	.0860	.0530	.0060	.0010	.0050	.0500	.0750	.2160	.1350	.1300	.0440
165.000				.3110	.0690	.0370	-.0060	-.0070	.0010	.0370	.3280		.1500		.0410
180.000	1.7100	1.5800	.6640	.2710	.0470	.0190	-.0230	-.0240	-.0070	.0040	.3990	.0380	.0550	.0370	-.0040
270.000		1.3620													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.430

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0600	-.0600	-.0430
30.000	-.0590	-.0530	-.0670
60.000	-.0580	-.0540	-.0280
90.000			-.0010
120.000	.0840	.0500	.0900
135.000	.0600	.1460	.1250
150.000	.0380	.2410	.1630
165.000		.3340	.1670
180.000	-.0310		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.270

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.4390	.4540	.1490	-.0310	-.0630	-.0780	-.0810	-.0660	-.0510	-.0310	.0050	-.0340	-.0440	-.0600
30.000			.5220	.1710	-.0080	-.0440	-.0660	-.0680	-.0580	-.0510	-.0600	-.0680	-.0840	-.0880	-.0690
60.000			.6090	.2290	.0240	-.0030	-.0430	-.0480	-.0270	.1890	-.0740	-.1240	-.1170	-.0930	-.0650
90.000		1.6020	.6870	.2870	.0560	.0240	-.0190	-.0210	.0420	.5370	-.0610	-.1130	-.1120	-.0610	-.0440
120.000			.7310	.3210	.0760	.0410	-.0040	-.0070	.0180	.0500	.0630	-.0140	.0120	.0150	.0760
135.000								-.0060		.0240		.1650		.0520	
150.000			.7310	.3230	.0750	.0420	-.0040	-.0060	.0020	.0380	.1780	.1600	.1100	.1140	.0390
165.000				.3030	.0650	.0340	-.0100	-.0070	.0000	.0060	.3670		.1770		.0420
180.000	1.7280	1.6000	.6790	.2800	.0510	.0230	-.0190	-.0210	-.0040	.0070	.3980	.0140	.0800	.0420	.0460
270.000		1.4210													

X/LT .7449 .8526 .9290

X/LT	.7449	.8526	.9290
PHI			
.000	-.0590	-.0520	-.0390
30.000	-.0540	-.0420	-.0480
60.000	-.0610	-.0430	-.0220
90.000			-.0040
120.000	.0590	.0330	.0630
135.000	.0340	.0690	.0920
150.000	.0430	.2080	.1010
165.000		.2540	.0890
180.000	-.0120		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7460	1.4510	.4620	.1560	-.0230	-.0580	-.0720	-.0760	-.0570	-.0520	-.0050	.0130	.0130	.0000	-.0350
30.000			.4730	.1440	-.0230	-.0570	-.0730	-.0760	-.0570	-.0510	-.0640	-.0270	-.0370	-.0520	-.0720
60.000			.5100	.1640	-.0140	-.0360	-.0670	-.0690	-.0540	.1140	-.0600	-.1120	-.1160	-.0900	-.0920
90.000		1.5260	.5650	.1980	.0050	-.0190	-.0540	-.0550	-.0340	.5140	-.0510	-.1060	-.1000	-.0520	-.0620
120.000			.6210	.2380	.0270	.0010	-.0360	-.0410	-.0170	-.0130	.0750	.0400	.0300	-.0090	.0430
135.000								-.0340		.0210		.1770		.0460	
150.000			.6720	.2770	.0480	.0200	-.0210	-.0270	-.0250	.0050	.2160	.1410	.0580	.0500	.0380
165.000				.2840	.0570	.0270	-.0160	-.0230	-.0200	-.0150	.3970		.1650		.0480
180.000	1.7460	1.6210	.6930	.2890	.0580	.0300	-.0160	-.0210	-.0170	-.0100	.3950	.0460	.1600	.0680	.0500
270.000		1.5290													

X/LT .7449 .8526 .9290

PHI			
.000	-.0600	-.0440	-.0270
30.000	-.0550	-.0310	-.0360
60.000	-.0350	-.0300	-.0370
90.000			-.0180
120.000	.0200	-.0060	.0150
135.000	.0180	.0290	.0310
150.000	.0020	.0820	.0070
165.000		.1230	.0230
180.000	-.0130		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.380

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7250	1.4290	.4520	.1490	-.0280	-.0630	-.0750	-.0760	-.0680	-.0560	-.0360	-.0130	-.0350	-.0400	-.0550
30.000			.4100	.1060	-.0460	-.0760	-.0830	-.0700	-.0660	-.0550	-.0710	-.0730	-.0270	-.0330	-.0610
60.000			.4060	.1000	-.0490	-.0620	-.0840	-.0710	-.0700	-.0160	-.0700	-.1200	-.1050	-.0750	-.0880
90.000		1.4160	.4380	.1170	-.0410	-.0540	-.0790	-.0730	-.0640	.4720	-.0660	-.1050	-.0690	-.0460	-.0650
120.000			.5000	.1570	-.0180	-.0360	-.0660	-.0720	-.0640	.0590	.0990	.1030	.0100	.0380	.0470
135.000								-.0620		.0570		.1350		.0160	
150.000			.5850	.2210	.0170	-.0050	-.0410	-.0470	-.0450	-.0110	.1270	.0460	.0670	.0360	.0610
165.000				.2510	.0370	.0100	-.0290	-.0340	-.0310	.0050	.3050		.0610		.0280
180.000	1.7250	1.5970	.6700	.2800	.0520	.0250	-.0160	-.0220	-.0040	.0100	.3770	.0180	.0640	.0480	.0450
270.000		1.5980													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 2) = 2.999

BETAT ( 5) = 4.380

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0530	-.0500	-.0530
30.000	-.0700	-.0310	-.0250
60.000	-.0420	-.0230	-.0370
90.000			-.0450
120.000	.0040	-.0270	-.0250
135.000	-.0170	-.0060	-.0260
150.000	-.0150	.0170	-.0360
165.000		-.0350	-.0390
180.000	-.0120		

MACH ( 2) = 2.999

BETAT ( 6) = 6.550

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7010	1.4070	.4430	.1440	-.0320	-.0630	-.0770	-.0810	-.0710	-.0530	-.0290	-.0050	-.0110	-.0520	-.0750
30.000			.3790	.0850	-.0550	-.0800	-.0900	-.0760	-.0690	-.0560	-.0600	-.0730	-.0470	-.0400	-.0720
60.000			.3630	.0730	-.0590	-.0740	-.0860	-.0750	-.0710	-.0530	-.0600	-.0970	-.1010	-.0740	-.0870
90.000		1.3520	.3860	.0840	-.0550	-.0690	-.0920	-.0730	-.0700	.4560	-.0510	-.1070	-.0650	-.0490	-.0690
120.000			.4460	.1250	-.0360	-.0520	-.0790	-.0780	-.0690	-.0070	.1000	.0890	-.0420	.0480	.0150
135.000								-.0690		-.0020		.1200		.0120	
150.000			.5470	.1940	.0020	-.0200	-.0530	-.0540	-.0230	.0170	.1320	-.0150	.0370	.0160	-.0470
165.000				.2320	.0250	.0000	-.0380	-.0400	-.0140	.0020	.3160		-.0050		-.0490
180.000	1.7010	1.5770	.6600	.2710	.0480	.0200	-.0220	-.0220	-.0010	.0150	.3880	.0400	.0400	.0340	-.0080
270.000		1.6230													

X/LT .7449 .8526 .9290

PHI

.000	-.0600	-.0610	-.0630
30.000	-.0820	-.0330	-.0410
60.000	-.0590	-.0380	-.0410
90.000			-.0560
120.000	-.0300	-.0490	-.0410
135.000	-.0450	-.0330	-.0590
150.000	-.0320	.0030	-.0520
165.000		-.0550	-.0760
180.000	-.0330		







AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.350

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7390	1.4480	.4390	.1610	-.0180	-.0520	-.0600	-.0550	-.0520	-.0470	-.0550	-.0260	-.0380	-.0410	-.0280
30.000			.5120	.1690	-.0010	-.0330	-.0480	-.0500	-.0470	-.0460	-.0550	-.0580	-.0780	-.0880	-.0670
60.000			.6020	.2280	.0310	.0110	-.0280	-.0300	-.0210	.1180	-.0550	-.1040	-.1070	-.1010	-.0510
90.000	1.6220		.6830	.2840	.0580	.0350	-.0060	-.0070	.0120	.6340	-.0340	-.0900	-.1010	-.0720	-.0360
120.000			.7250	.3130	.0770	.0500	.0090	.0000	.0180	-.0080	.0630	-.0100	.0040	.0210	.0450
135.000								.0010		.0130		.1140		.0520	
150.000			.7190	.3100	.0740	.0500	.0110	.0000	.0010	.0210	.1480	.1720	.0840	.0680	.0410
165.000				.2910	.0660	.0430	.0020	-.0050	.0050	-.0050	.2900		.0770		.0520
180.000	1.7390	1.6080	.6620	.2650	.0520	.0310	-.0080	-.0140	-.0020	-.0200	.4230	-.0030	.0890	.0600	.0310
270.000		1.4190													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0500	-.0390	-.0350												
30.000	-.0480	-.0370	-.0430												
60.000	-.0570	-.0420	-.0210												
90.000			-.0170												
120.000	.0640	.0480	.0650												
135.000	.0390	.0560	.0960												
150.000	.0220	.1570	.0740												
165.000		.1740	.0870												
180.000	.0180														

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7600	1.4610	.4430	.1680	-.0150	-.0460	-.0600	-.0550	-.0630	-.0620	-.0190	.0020	-.0120	-.0130	-.0180
30.000			.4590	.1360	-.0170	-.0470	-.0590	-.0620	-.0650	-.0620	-.0590	-.0450	-.0570	-.0600	-.0600
60.000			.4960	.1580	-.0070	-.0280	-.0520	-.0560	-.0620	-.0030	-.0340	-.0840	-.1120	-.1070	-.0820
90.000	1.5420		.5520	.1910	.0100	-.0120	-.0410	-.0610	-.0400	.6050	-.0200	-.0940	-.1020	-.0650	-.0450
120.000			.6090	.2290	.0300	.0080	-.0260	-.0470	-.0270	-.0090	.0680	.0050	.0260	.0040	.0390
135.000								-.0420		.0150		.1600		.0230	
150.000			.6590	.2650	.0500	.0240	-.0130	-.0340	-.0350	.0180	.1790	.1130	.0660	.0730	.0550
165.000				.2720	.0560	.0280	-.0090	-.0320	-.0320	-.0020	.3930		.0270		.0810
180.000	1.7600	1.6350	.6780	.2770	.0570	.0280	-.0080	-.0320	-.0330	.0030	.4380	-.0180	.1080	.0690	.0920
270.000		1.5360													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 3 ) = 3.502 BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0380	-.0420	-.0360
30.000	-.0460	-.0340	-.0380
60.000	-.0470	-.0380	-.0360
90.000			-.0150
120.000	.0310	.0140	.0200
135.000	.0200	.0260	.0340
150.000	.0240	.0470	.0050
165.000		.0580	-.0120
180.000	.0200		

MACH ( 3 ) = 3.502 BETAT ( 5 ) = 4.460

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7460	1.4440	.4370	.1460	-.0160	-.0470	-.0610	-.0590	-.0720	-.0670	-.0320	-.0050	-.0460	-.0460	-.0480
30.000			.3960	.0960	-.0320	-.0590	-.0650	-.0590	-.0890	-.0580	-.0300	-.0520	-.0530	-.0530	-.0500
60.000			.3900	.0950	-.0380	-.0500	-.0560	-.0570	-.0930	-.0600	-.0290	-.0850	-.1080	-.0960	-.0760
90.000		1.4300	.4200	.1110	-.0310	-.0450	-.0570	-.0670	-.0830	.4640	-.0370	-.0990	-.0920	-.0540	-.0430
120.000			.4850	.1510	-.0120	-.0270	-.0510	-.0690	-.0480	-.0320	.0640	.0710	.0120	-.0040	.0180
135.000								-.0690		.0000		.1120		.0140	
150.000			.5790	.2090	.0200	.0010	-.0320	-.0580	-.0320	.0130	.0910	.0260	.0210	.0390	.0090
165.000				.2400	.0390	.0160	-.0180	-.0470	-.0240	.0140	.3840		.0420		.0140
180.000	1.7460	1.6230	.6650	.2680	.0560	.0290	-.0100	-.0340	-.0160	.0090	.4330	-.0040	.0790	.0590	.0340
270.000		1.6190													

X/LT .7449 .8526 .9290

PHI

.000	-.0470	-.0450	-.0530
30.000	-.0590	-.0470	-.0380
60.000	-.0560	-.0320	-.0380
90.000			-.0370
120.000	-.0030	-.0160	-.0200
135.000	-.0110	-.0150	-.0200
150.000	-.0150	.0090	-.0280
165.000		-.0370	-.0360
180.000	.0030		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7210	1.4170	.4310	.1570	-.0170	-.0490	-.0610	-.0560	-.0760	-.0690	-.0390	-.0260	-.0510	-.0510	-.0490
30.000			.3590	.0830	-.0420	-.0680	-.0580	-.0560	-.0880	-.0700	-.0490	-.0540	-.0570	-.0560	-.0560
60.000			.3390	.0680	-.0510	-.0540	-.0510	-.0550	-.0930	-.0670	-.0520	-.0850	-.1020	-.0810	-.0710
90.000		1.3570	.3580	.0790	-.0470	-.0560	-.0550	-.0770	-.0940	.4060	-.0450	-.0970	-.0740	-.0460	-.0410
120.000			.4240	.1160	-.0290	-.0410	-.0630	-.0760	-.0560	-.0350	.0510	.0710	.0040	.0350	.0120
135.000								-.0760		-.0110		.0610		.0220	
150.000			.5270	.1830	.0080	-.0110	-.0420	-.0630	-.0430	.0050	.0540	-.0270	.0010	.0030	-.0400
165.000				.2260	.0310	.0070	-.0260	-.0490	-.0370	.0000	.3380		.0130		-.0290
180.000	1.7210	1.6020	.6450	.2660	.0540	.0270	-.0110	-.0330	-.0340	.0090	.4220	.0040	.1070	.0780	.0190
270.000		1.6540													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0560	-.0560	-.0630
30.000	-.0680	-.0450	-.0460
60.000	-.0560	-.0410	-.0460
90.000			-.0380
120.000	-.0140	-.0310	-.0290
135.000	-.0300	-.0460	-.0510
150.000	-.0400	-.0200	-.0440
165.000		-.0620	-.0480
180.000	-.0170		

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6840	1.3880	.4120	.1350	-.0210	-.0500	-.0610	-.0630	-.0770	-.0730	-.0500	-.0610	-.0860	-.0850	-.0570
30.000			.3280	.0620	-.0510	-.0730	-.0650	-.0630	-.0760	-.0760	-.0570	-.0470	-.0570	-.0680	-.0580
60.000			.2940	.0440	-.0610	-.0550	-.0600	-.0620	-.0800	-.0840	-.0570	-.0820	-.0860	-.0540	-.0570
90.000		1.2890	.3040	.0510	-.0600	-.0580	-.0530	-.0830	-.0820	.3180	-.0540	-.0990	-.0500	-.0370	-.0220
120.000			.3670	.0850	-.0440	-.0530	-.0660	-.0790	-.0660	-.0210	.0330	.0960	-.0060	.0700	.0130
135.000								-.0830		-.0050		-.0120		.0130	
150.000			.4850	.1590	-.0050	-.0220	-.0480	-.0730	-.0580	-.0020	.0920	-.0470	-.0270	-.0300	-.0480
165.000				.2060	.0190	.0010	-.0300	-.0550	-.0580	-.0170	.2810		.0100		-.0290
180.000	1.6840	1.5610	.6290	.2550	.0500	.0260	-.0140	-.0370	-.0420	.0110	.4050	.0240	.1000	.0540	.0090
270.000		1.6530													

X/LT	.7449	.8526	.9290
PHI			

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT12)

MACH (3) = 3.502

BETAT (7) = 8.860

SECTION (1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0530	-.0690	-.0760
30.000	-.0630	-.0550	-.0560
60.000	-.0520	-.0510	-.0560
90.000			-.0500
120.000	-.0270	-.0540	-.0540
135.000	-.0600	-.0600	-.0550
150.000	-.0380	-.0220	-.0280
165.000		-.0560	-.0410
180.000	-.0130		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 CRBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.420

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.4980	.5860	.2340	.0060	-.0400	-.0780	-.0800	-.0700	-.0370	-.0260	.0080	-.0210	-.0680	-.0750
30.000			.7070	.3090	.0640	.0110	-.0410	-.0430	-.0260	-.0080	.0460	-.0580	-.0920	-.0890	-.0400
60.000			.8130	.3820	.1080	.0560	-.0020	-.0080	.0320	.3680	-.0540	-.1060	-.1020	-.0620	.0210
90.000	1.6630		.8510	.4090	.1300	.0730	.0110	.0220	.3890	.4100	-.1350	-.1630	-.1080	.0540	.0210
120.000			.8090	.3810	.1060	.0540	-.0040	.0040	.0320	.3630	-.0600	-.1210	-.0450	.0390	.1400
135.000								-.0150		.0460		.0170		.0770	
150.000			.7110	.3070	.0540	.0070	-.0380	-.0340	-.0240	-.0200	.0640	.1680	.1090	.0700	.0230
165.000				.2550	.0250	-.0140	-.0590	-.0540	-.0260	.0320	.3690		.1250		.0020
180.000	1.6890	1.4900	.5870	.2100	-.0020	-.0370	-.0800	-.0690	-.0270	.0150	.3470	.0790	.0510	-.0200	-.0540
270.000		1.3170													

X/LT .7449 .8526 .9290

PHI			
.000	-.0640	-.0430	-.0340
30.000	-.0350	-.0380	-.0460
60.000	-.0050	-.0370	.0150
90.000			.1010
120.000	.0740	.1290	.1590
135.000	.0780	.2910	.1880
150.000	.0650	.3070	.2400
165.000		.4470	.1930
180.000	-.0570		

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7110	1.5130	.6020	.2490	.0190	-.0410	-.0800	-.0810	-.0670	-.0390	.0010	.0290	-.0160	-.0530	-.0440
30.000			.6870	.2890	.0470	-.0040	-.0530	-.0510	-.0370	-.0200	.0550	-.0430	-.0870	-.0750	-.0350
60.000			.7620	.3380	.0770	.0280	-.0270	-.0280	.0070	.3600	-.0460	-.1100	-.1130	-.0740	.0120
90.000	1.6330		.7900	.3560	.0920	.0390	-.0160	.0030	.3570	.4120	-.1350	-.1410	-.1210	.0500	.0070
120.000			.7600	.3360	.0740	.0250	-.0250	-.0210	.0060	.3680	-.0560	-.1200	-.0640	.0150	.1060
135.000								-.0340		.0190		.0200		.0500	
150.000			.6920	.2820	.0360	-.0050	-.0510	-.0490	-.0230	.0080	.1200	.1390	.0600	.0570	.0120



AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI  
165.000 .2740 .1100  
180.000 -.0710

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2674 .3412 .3950 .4489 .5027 .5565 .6372

PHI  
.000 1.7290 1.5230 .6080 .2490 -.0180 -.0680 -.0780 -.0770 -.0570 -.0290 .0470 .0350 .0100 -.0050 -.0190  
30.000 .6000 .1950 -.0260 -.0690 -.0780 -.0780 -.0400 -.0310 -.0610 .0160 -.0120 -.0520 -.0410  
60.000 .6000 .1860 -.0240 -.0370 -.0810 -.0780 -.0340 .2770 -.0490 -.1180 -.1270 -.0620 .0020  
90.000 1.5210 .6000 .1880 -.0250 -.0370 -.0780 -.0550 .0940 .3920 -.1430 -.1690 -.0860 -.0400 -.0390  
120.000 .6000 .1920 -.0220 -.0330 -.0760 -.0590 -.0310 .2250 -.0370 -.0630 -.0550 -.0290 .0600  
135.000 .6010 .2000 -.0220 -.0360 -.0750 -.0560 -.0290 .0190 .1850 .0800 .0390 .0560 -.0170  
150.000 .2030 -.0220 -.0350 -.0740 -.0590 -.0290 .0300 .2940 .1190 .0090  
165.000 1.7290 1.5350 .6210 .2020 -.0220 -.0330 -.0750 -.0570 -.0290 .0270 .3020 .0800 .1510 .1980 -.0030  
270.000 1.5240

X/LT .7449 .8526 .9290

PHI  
.000 -.0420 -.0090 .0010  
30.000 -.0160 -.0140 -.0120  
60.000 .0070 -.0140 -.0230  
90.000 -.0220  
120.000 .0060 -.0140 .0430  
135.000 .0040 .0630 .0230  
150.000 -.0230 .1310 .0120  
165.000 .1650 .0080  
180.000 -.0810



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7240	1.5130	.6060	.2430	.0150	-.0410	-.0770	-.0770	-.0650	-.0370	.0190	.0200	-.0280	-.0410	-.0290
30.000			.5410	.1780	-.0210	-.0630	-.0930	-.0900	-.0580	-.0280	-.0640	-.0550	-.0230	-.0340	-.0580
60.000			.4950	.1470	-.0360	-.0700	-.1030	-.0820	-.0660	.0160	-.0200	-.0930	-.1090	-.0270	-.0040
90.000		1.4190	.4950	.1370	-.0450	-.0750	-.1020	-.0710	-.0610	.3660	-.1410	-.1530	-.0230	-.0380	-.0230
120.000			.4990	.1450	-.0410	-.0700	-.1030	-.0800	-.0680	.0400	-.0130	-.0100	-.0590	.0670	.0210
135.000								-.0920		.1050		.0430		-.0070	
150.000			.5450	.1720	-.0240	-.0550	-.0940	-.0910	-.0580	.0420	.1610	.0480	.0120	.0030	-.0720
165.000				.1930	-.0130	-.0450	-.0870	-.0790	-.0470	.0340	.2360		.1280		-.0610
180.000	1.7240	1.5240	.6050	.2150	.0000	-.0370	-.0780	-.0690	-.0390	.0250	.3020	.0970	.1180	.0400	-.0240
270.000		1.6090													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0430	-.0230	-.0240												
30.000	-.0400	-.0180	-.0170												
60.000	-.0250	-.0160	-.0260												
90.000			-.0320												
120.000	-.0430	-.0400	-.0010												
135.000	-.0570	.0110	-.0490												
150.000	-.0480	.0060	-.0610												
165.000		.0290	-.0450												
180.000	-.0710														

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.420

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7130	1.5030	.6010	.2590	.0150	-.0420	-.0700	-.0710	-.0670	-.0300	.0100	.0040	-.0230	-.0640	-.0520
30.000			.5100	.1560	-.0320	-.0730	-.0960	-.0900	-.0650	-.0470	-.0540	-.0740	-.0660	-.0580	-.0550
60.000			.4570	.1180	-.0560	-.0790	-.0910	-.0820	-.0780	-.0320	-.0080	-.0800	-.0940	-.0180	.0030
90.000		1.3670	.4490	.1060	-.0650	-.0820	-.0840	-.0770	-.0740	.3340	-.1370	-.1500	-.0130	-.0300	-.0380
120.000			.4580	.1150	-.0580	-.0750	-.0990	-.0840	-.0540	-.0070	.0030	.0110	-.0530	.0520	.0050
135.000								-.0960		.0310		.0340		-.0390	
150.000			.5100	.1540	-.0400	-.0600	-.0930	-.0660	-.0710	.0330	.1080	.0250	.0480	-.0320	-.0930
165.000				.1780	-.0240	-.0500	-.0870	-.0650	-.0480	.0180	.2300		.0360		-.0840
180.000	1.7130	1.5090	.5960	.2090	-.0060	-.0320	-.0730	-.0710	-.0410	.0000	.3280	.0530	.0430	.0070	-.0430
270.000		1.6380													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.420

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0450	-.0330	-.0380
30.000	-.0340	-.0200	-.0290
60.000	-.0370	-.0370	-.0250
90.000			-.0180
120.000	-.0620	-.0390	-.0370
135.000	-.0790	-.0110	-.0900
150.000	-.0650	-.0290	-.0820
165.000		-.0100	-.1130
180.000	-.0630		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.540

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7020	1.4890	.5950	.2400	-.0060	-.0500	-.0810	-.0840	-.0760	-.0430	-.0160	.0030	-.0350	-.0780	-.0780
30.000			.4770	.1310	-.0510	-.0920	-.1140	-.1020	-.0730	-.0530	-.0730	-.0860	-.0320	-.0490	-.0540
60.000			.4080	.0860	-.0780	-.0990	-.0950	-.0930	-.0870	-.0700	-.0030	-.0660	-.0790	.0050	-.0160
90.000		1.3190	.3940	.0720	-.0870	-.1050	-.0960	-.0870	-.0490	.3160	-.1440	-.1450	.0150	.0040	-.0520
120.000			.3960	.0820	-.0810	-.0990	-.1210	-.0820	-.0650	-.0240	.0120	.0070	-.0200	.0160	-.0370
135.000								-.0830		.0020		.0280		-.0400	
150.000			.4760	.1240	-.0580	-.0810	-.0930	-.0780	-.0680	.0160	.1070	.0080	-.0030	-.0810	-.1090
165.000				.1590	-.0390	-.0650	-.1000	-.0720	-.0490	.0090	.1980		-.0290		-.1240
180.000	1.7020	1.5000	.5830	.1970	-.0140	-.0450	-.0860	-.0790	-.0480	-.0080	.3360	.0600	.0340	-.0410	-.0680
270.000		1.6720													

X/LT .7449 .8526 .9290

PHI

.000	-.0660	-.0490	-.0580
30.000	-.0480	-.0390	-.0450
60.000	-.0590	-.0380	-.0350
90.000			-.0210
120.000	-.0880	-.0690	-.0830
135.000	-.1180	-.0350	-.1140
150.000	-.0920	-.0830	-.1200
165.000		-.0760	-.1100
180.000	-.0600		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.585

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.4900	.5400	.2110	-.0070	-.0450	-.0610	-.0550	-.0610	-.0350	.0180	.0230	-.0380	-.0480	-.0580
30.000			.6610	.2720	.0470	-.0010	-.0250	-.0260	-.0310	-.0160	-.0100	-.0180	-.0570	-.0630	-.0560
60.000			.7640	.3440	.0890	.0610	.0090	.0050	.0030	.2290	.0020	-.0580	-.0730	-.0640	.0100
90.000		1.6610	.8140	.3760	.1090	.0760	.0240	.0190	.2950	.5910	-.0540	-.1110	-.0870	-.0090	.0460
120.000			.7760	.3490	.0910	.0630	.0120	.0190	.0260	.3450	.0070	-.0660	-.0330	-.0190	.1320
135.000								-.0080		.0210		-.0190		.0870	
150.000			.6780	.2810	.0470	.0220	-.0200	-.0220	-.0230	-.0020	.0140	.2500	.0950	.1180	.0300
165.000				.2290	.0180	-.0020	-.0400	-.0410	-.0380	.0060	.2450		.1160		.0160
180.000	1.6890	1.4870	.5520	.1840	-.0080	-.0230	-.0570	-.0570	-.0310	.0100	.3720	.0700	.0910	.0130	.0040
270.000		1.3070													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0570	-.0480	-.0330												
30.000	-.0300	-.0300	-.0360												
60.000	.0070	-.0240	-.0090												
90.000			.0120												
120.000	.0970	.0830	.1250												
135.000	.0720	.2250	.1750												
150.000	.0570	.2730	.2140												
165.000		.3520	.2100												
180.000	-.0260														

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.420

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7190	1.5130	.5560	.2310	.0130	-.0270	-.0570	-.0540	-.0520	-.0270	.0090	.0260	-.0280	-.0450	-.0420
30.000			.6490	.2640	.0510	.0090	-.0320	-.0340	-.0290	-.0220	.0030	-.0100	-.0580	-.0710	-.0430
60.000			.7250	.3180	.0820	.0390	-.0100	-.0130	-.0060	.1660	-.0010	-.0660	-.0920	-.0790	.0000
90.000		1.6400	.7590	.3420	.0970	.0490	.0000	.0030	.1370	.5870	-.0540	-.1240	-.1090	-.0290	.0260
120.000			.7300	.3250	.0840	.0400	-.0050	.0040	.0140	.2900	.0090	-.0780	-.0490	-.0270	.0890
135.000								-.0150		.0040		-.0120		.0480	
150.000			.6640	.2740	.0490	.0130	-.0260	-.0250	-.0240	.0030	.0040	.2150	.0690	.1150	.0200
165.000				.2390	.0320	-.0030	-.0390	-.0380	-.0350	.0050	.2350		.1160		.0320
180.000	1.7190	1.5120	.5620	.2050	.0110	-.0170	-.0520	-.0530	-.0310	-.0070	.3810	.0320	.0490	.0340	.0080
270.000		1.3720													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 2) = 2.999

BETAT ( 4) = .060

## SECTION ( 1) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7710	1.5530	.5740	.2250	.0150	-.0230	-.0520	-.0470	-.0550	-.0300	.0020	.0350	.0080	.0080	.0180
30.000			.5710	.2060	.0110	-.0270	-.0550	-.0550	-.0400	-.0280	-.0440	-.0430	.0000	-.0190	-.0360
60.000			.5710	.2010	.0090	-.0220	-.0570	-.0590	-.0360	-.0290	.0000	-.0740	-.0890	-.0880	-.0160
90.000		1.5460	.5720	.2040	.0100	-.0200	-.0570	-.0550	-.0330	.5630	-.0650	-.1130	-.1020	-.0370	-.0440
120.000			.5730	.2100	.0120	-.0190	-.0530	-.0560	-.0310	-.0380	.0090	-.0510	-.0370	-.0210	.0340
135.000								-.0540		-.0160		.1190		.0070	
150.000			.5750	.2170	.0140	-.0140	-.0500	-.0530	-.0330	-.0110	.1550	.1310	.0380	.0540	.0190
165.000				.2160	.0160	-.0140	-.0500	-.0560	-.0490	-.0210	.2760		.0640		.0330
180.000	1.7710	1.5670	.5860	.2170	.0160	-.0110	-.0470	-.0560	-.0450	-.0270	.3570	.0360	.1330	.1140	.0400
270.000		1.5570													

X/LT .7449 .8526 .9290

## PHI

.000	-.0310	-.0280	-.0170
30.000	-.0260	-.0160	-.0250
60.000	-.0060	-.0300	-.0220
90.000			-.0230
120.000	.0220	-.0080	-.0010
135.000	.0010	-.0050	.0330
150.000	-.0300	.0120	-.0040
165.000		.0230	.0200
180.000	-.0300		

MACH ( 2) = 2.999

BETAT ( 5) = 4.380

## SECTION ( 1) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7350	1.5170	.5590	.2160	.0060	-.0310	-.0570	-.0510	-.0520	-.0310	-.0050	.0040	-.0370	-.0460	-.0240
30.000			.4980	.1570	-.0170	-.0520	-.0730	-.0700	-.0500	-.0370	-.0470	-.0620	-.0650	-.0440	-.0350
60.000			.4580	.1270	-.0320	-.0530	-.0790	-.0630	-.0570	-.0710	-.0040	-.0630	-.0930	-.0870	-.0080
90.000		1.4220	.4470	.1200	-.0380	-.0580	-.0750	-.0570	-.0590	.4510	-.0750	-.1210	-.0830	-.0510	-.0520
120.000			.4560	.1310	-.0310	-.0520	-.0790	-.0560	-.0590	-.0070	.0040	.0150	-.0340	-.0120	.0260
135.000								-.0740		.0040		.0690		.0010	
150.000			.5120	.1660	-.0150	-.0380	-.0690	-.0670	-.0330	-.0050	.0880	.0180	.0320	.0380	-.0190
165.000				.1840	-.0050	-.0290	-.0630	-.0570	-.0260	-.0130	.2770		.0320		.0010
180.000	1.7350	1.5320	.5750	.2040	.0070	-.0180	-.0540	-.0500	-.0230	-.0170	.3710	.0120	.0470	.0520	.0250
270.000		1.6160													

X/LT .7449 .8526 .9290

## PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.690

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.4700	.5330	.2040	-.0070	-.0350	-.0570	-.0540	-.0580	-.0440	-.0310	-.0310	-.0140	-.0320	-.0410
30.000			.4250	.1170	-.0360	-.0690	-.0820	-.0820	-.0610	-.0440	-.0440	-.0570	-.0100	-.0230	-.0420
60.000			.3540	.0730	-.0600	-.0730	-.0940	-.0770	-.0570	-.0690	-.0040	-.0410	-.0480	-.0340	-.0030
90.000		1.2990	.3340	.0640	-.0660	-.0750	-.0790	-.0740	-.0420	.4090	-.0690	-.0980	-.0270	-.0150	-.0330
120.000			.3630	.0760	-.0600	-.0740	-.0850	-.0670	-.0700	-.0570	-.0160	.0350	-.0310	.0360	.0050
135.000								-.0570		-.0330		.0690		-.0100	
150.000			.4350	.1200	-.0380	-.0560	-.0610	-.0550	-.0540	.0090	.0870	-.0210	.0100	-.0280	-.0780
165.000				.1550	-.0210	-.0410	-.0690	-.0580	-.0390	.0090	.2290		.0440		-.0550
180.000	1.6920	1.4930	.5490	.1960	.0020	-.0200	-.0530	-.0590	-.0380	.0010	.3580	.0740	.1070	.0190	.0060
270.000		1.6610													

X/LT .7449 .8526 .9290

PHI

.000	-.0510	-.0560	-.0600
30.000	-.0380	-.0320	-.0450
60.000	-.0380	-.0510	-.0540
90.000			-.0720
120.000	-.0440	-.0810	-.0650
135.000	-.0830	-.0650	-.0900
150.000	-.0630	-.0310	-.0800
165.000		-.0660	-.0650
180.000	-.0330		

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.750

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6870	1.4870	.5220	.2020	.0090	-.0250	-.0410	-.0370	-.0520	-.0430	-.0290	-.0270	-.0700	-.0630	-.0360
30.000			.6540	.2660	.0580	.0180	-.0080	-.0100	-.0240	-.0160	-.0050	-.0070	-.0550	-.0640	-.0520
60.000			.7620	.3440	.1030	.0720	.0250	.0160	.0200	.2250	.0290	-.0420	-.0710	-.0640	-.0160
90.000		1.6620	.8050	.3790	.1200	.0880	.0380	.0220	.0640	.7080	-.0120	-.0980	-.0960	-.0580	.0400
120.000			.7610	.3500	.1020	.0720	.0280	.0110	.0240	.2480	.0290	-.0560	-.0620	-.0190	.0240
135.000								-.0040		.0140		-.0340		.0130	
150.000			.6570	.2710	.0570	.0350	-.0050	-.0190	-.0210	-.0040	-.0070	.1470	.0930	.1350	.0460
165.000				.2210	.0280	.0120	-.0230	-.0340	-.0390	.0010	.1220		.0900		.0190
180.000	1.6870	1.4770	.5260	.1770	.0030	-.0080	-.0410	-.0510	-.0530	-.0150	.3890	.0240	.0910	.0550	-.0060
270.000		1.2970													

X/LT .7449 .8526 .9290

PHI





## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.350

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7520	1.5430	.5460	.2120	.0140	-.0230	-.0370	-.0370	-.0380	-.0250	-.0220	-.0090	-.0210	-.0440	-.0140
30.000			.6100	.2370	.0370	-.0020	-.0220	-.0260	-.0290	-.0190	-.0220	.0020	-.0370	-.0530	-.0390
60.000			.6650	.2680	.0540	.0300	-.0090	-.0250	-.0030	.0050	.0120	-.0560	-.0760	-.0750	-.0260
90.000		1.6330	.6860	.2820	.0600	.0340	-.0030	-.0030	.0130	.6830	-.0290	-.0930	-.0990	-.0610	-.0080
120.000			.6670	.2700	.0520	.0310	-.0070	-.0160	-.0040	.0170	.0130	-.0570	-.0490	-.0350	.0160
135.000								-.0210		-.0150		-.0160		.0220	
150.000			.6170	.2390	.0320	.0150	-.0190	-.0300	-.0210	-.0080	.0140	.1580	.0710	.0680	.0220
165.000				.2120	.0200	.0040	-.0270	-.0360	-.0180	-.0080	.1360		.0730		.0300
180.000	1.7520	1.5380	.5490	.1900	.0090	-.0060	-.0370	-.0400	-.0190	-.0120	.3780	.0230	.0280	.0910	.0270
270.000		1.4330													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0320	-.0310	-.0240												
30.000	-.0250	-.0190	-.0280												
60.000	-.0050	-.0340	-.0290												
90.000			-.0180												
120.000	.0390	.0470	.0310												
135.000	.0210	.0460	.0890												
150.000	.0010	.0750	.0570												
165.000		.1060	.0610												
180.000	-.0120														

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7750	1.5550	.5510	.2250	.0130	-.0240	-.0390	-.0440	-.0280	-.0240	-.0080	.0170	-.0030	-.0070	.0070
30.000			.5530	.1900	.0110	-.0240	-.0380	-.0440	-.0310	-.0240	-.0460	-.0560	-.0120	-.0190	-.0360
60.000			.5550	.1890	.0090	-.0070	-.0390	-.0440	-.0270	-.0480	.0020	-.0530	-.0780	-.0820	-.0380
90.000		1.5570	.5600	.1900	.0090	-.0080	-.0380	-.0400	-.0240	.6340	-.0300	-.0840	-.1010	-.0610	-.0420
120.000			.5600	.1920	.0090	-.0080	-.0370	-.0320	-.0190	-.0350	.0060	-.0540	-.0510	-.0220	-.0150
135.000								-.0280		-.0190		.1290		.0090	
150.000			.5630	.1950	.0110	-.0070	-.0370	-.0290	-.0180	-.0170	.1140	.0830	.0440	.0120	.0130
165.000				.1930	.0100	-.0070	-.0370	-.0280	-.0170	-.0130	.2120		.0320		.0270
180.000	1.7750	1.5640	.5630	.1930	.0090	-.0080	-.0370	-.0290	-.0200	-.0150	.3770	.0100	.0860	.0840	.0540
270.000		1.5490													
X/LT	.7449	.8526	.9290												
PHI															



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 3 ) = 3.502 BETAT ( 6 ) = 6.650

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7200	1.5020	.5390	.2100	.0030	-.0370	-.0400	-.0430	-.0580	-.0390	-.0340	-.0320	-.0420	-.0280	-.0290
30.000			.4500	.1180	-.0320	-.0620	-.0600	-.0440	-.0590	-.0470	-.0340	-.0390	-.0380	-.0390	-.0450
60.000			.3880	.0820	-.0530	-.0500	-.0490	-.0450	-.0540	-.0750	-.0350	-.0540	-.0680	-.0650	-.0200
90.000	1.3640		.3680	.0700	-.0580	-.0460	-.0400	-.0580	-.0540	.2840	-.0630	-.0820	-.0750	-.0370	-.0460
120.000			.3870	.0800	-.0550	-.0470	-.0340	-.0590	-.0530	-.0640	-.0260	.0320	-.0230	-.0190	-.0060
135.000								-.0580		-.0310		.0600		-.0110	
150.000			.4460	.1180	-.0370	-.0350	-.0550	-.0580	-.0450	-.0160	.0290	-.0110	.0030	.0050	-.0460
165.000				.1410	-.0230	-.0250	-.0500	-.0580	-.0390	-.0150	.2860		.0270		-.0300
180.000	1.7200	1.5120	.5380	.1730	-.0070	-.0110	-.0400	-.0580	-.0400	-.0210	.3790	.0060	.1180	.0480	-.0020
270.000		1.6520													

X/LT .7449 .8526 .9290

PHI			
.000	-.0500	-.0450	-.0490
30.000	-.0460	-.0330	-.0380
60.000	-.0370	-.0430	-.0480
90.000			-.0540
120.000	-.0290	-.0470	-.0600
135.000	-.0500	-.0700	-.0620
150.000	-.0450	-.0390	-.0520
165.000		-.0630	-.0500
180.000	-.0330		

MACH ( 3 ) = 3.502 BETAT ( 7 ) = 8.840

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.4750	.5230	.2080	.0080	-.0270	-.0360	-.0400	-.0470	-.0390	-.0430	-.0410	-.0730	-.0750	-.0450
30.000			.4080	.1020	-.0320	-.0610	-.0600	-.0490	-.0520	-.0430	-.0260	-.0180	-.0400	-.0540	-.0510
60.000			.3360	.0630	-.0550	-.0580	-.0500	-.0480	-.0510	-.0670	-.0250	-.0390	-.0600	-.0530	-.0150
90.000	1.3010		.3150	.0500	-.0610	-.0510	-.0490	-.0540	-.0470	.2570	-.0630	-.0800	-.0470	-.0520	-.0230
120.000			.3360	.0620	-.0590	-.0490	-.0420	-.0530	-.0470	-.0600	-.0180	.0340	-.0330	.0150	-.0030
135.000								-.0530		-.0220		.0030		-.0040	
150.000			.4080	.1040	-.0380	-.0410	-.0570	-.0540	-.0450	-.0090	.0280	-.0450	-.0190	-.0300	-.0650
165.000				.1360	-.0210	-.0260	-.0510	-.0590	-.0400	-.0110	.2600		.0130		-.0450
180.000	1.6920	1.4870	.5250	.1730	.0000	-.0100	-.0390	-.0460	-.0440	-.0150	.3700	.0220	.0690	.0570	-.0040
270.000		1.6610													

X/LT .7449 .8526 .9290

PHI

DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

PAGE 2493

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT13)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 6.84G

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0500	-.0500	-.0600
30.000	-.0400	-.0350	-.0420
60.000	-.0280	-.0420	-.0430
90.000			-.0560
120.000	-.0360	-.0610	-.0570
135.000	-.0720	-.0690	-.0540
150.000	-.0560	-.0290	-.0540
165.000		-.0590	-.0540
180.000	-.0290		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.410

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6800	1.5670	.6940	.3150	.0500	.0020	-.0370	-.0390	-.0380	-.0220	-.0150	-.0340	.0040	-.0310	-.0460
30.000			.8150	.3870	.1140	.0560	.0070	.0040	.0110	.0370	.0810	.0050	-.0440	-.0480	-.0240
60.000			.8810	.4270	.1430	.0930	.0300	.0270	.0650	.5060	.0220	-.0480	-.0550	-.0450	.0370
90.000		1.6600	.8550	.4080	.1230	.0760	.0170	.0210	.4000	.4140	-.1280	-.1710	-.1580	.0080	.1100
120.000			.7470	.3360	.0680	.0280	-.0230	-.0220	-.0070	.2290	-.1280	-.1730	-.0760	.0000	.1120
135.000								-.0480		.1130		-.0760		.0850	
150.000			.6100	.2240	.0030	-.0270	-.0680	-.0730	-.0560	-.0410	-.0370	.0210	.0780	.0430	.0250
165.000			.1740	-.0260	-.0530	-.0900	-.0870	-.0560	-.0410	.3250		.0330			-.0150
180.000	1.6800	1.4060	.4830	.1320	-.0520	-.0690	-.1010	-.0790	-.0590	-.0290	.2860	.0400	.0070	-.0460	-.0510
270.000		1.3070													

X/LT .7449 .8526 .9290

PHI

.000	-.0430	-.0360	-.0190
30.000	.0050	-.0010	-.0100
60.000	.0310	.0300	.0550
90.000			.0710
120.000	.0730	.1220	.2720
135.000	.0580	.2710	.1840
150.000	.0660	.2760	.2390
165.000		.4840	.1690
180.000	-.0420		

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.290

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7040	1.5910	.7100	.3180	.0560	.0040	-.0350	-.0350	-.0300	-.0070	-.0140	.0470	-.0040	-.0200	-.0200
30.000			.7920	.3710	.1020	.0440	-.0040	-.0040	.0040	.0300	.0170	.0200	-.0430	-.0490	-.0030
60.000			.6300	.3890	.1140	.0670	.0080	.0100	.0430	.5140	.0210	-.0540	-.0680	-.0530	.0200
90.000		1.6340	.7950	.3600	.0930	.0500	-.0050	-.0030	.3720	.4100	-.1260	-.1680	-.1680	-.0370	.1100
120.000			.7020	.2900	.0470	.0080	-.0350	-.0380	-.0200	.2230	-.1270	-.1810	-.1020	-.0260	.1230
135.000								-.0610		.0220		-.0800		.0360	
150.000			.5860	.2080	-.0060	-.0330	-.0720	-.0760	-.0490	-.0350	.0020	.0910	.0440	.0360	.0250



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2820 .0990

180.000 -.0810

MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7340 1.6060 .7240 .3250 .0500 .0020 -.0380 -.0400 -.0310 -.0070 .0650 .0730 .0310 .0150 .0190

30.000 .7020 .2900 .0450 -.0080 -.0460 -.0440 -.0240 -.0070 -.0150 -.0040 .0430 .0050 -.0060

60.000 .6580 .2470 .0230 -.0130 -.0590 -.0590 -.0180 .0390 .0350 -.0490 -.0710 -.0570 .0200

90.000 1.5200 .6050 .2080 -.0030 -.0340 -.0750 -.0710 .0950 .3920 -.1250 -.1500 -.1620 -.0080 .0940

120.000 .5500 .1720 -.0280 -.0530 -.0910 -.0870 -.0580 .2160 -.1210 -.1490 -.1150 .0050 .0720

135.000 .5150 .1560 -.0450 -.0670 -.0990 -.0750 -.0690 .0060 .1530 .0820 .0200 .0250 -.0450

150.000 .1460 -.0460 -.0690 -.0990 -.0730 -.0750 .0100 .1980 .0800 .0800 .0250 -.0360

165.000 1.7340 1.4540 .5090 .1430 -.0470 -.0690 -.0950 -.0710 -.0740 .0070 .2510 .0790 .2300 .0800 -.0350

180.000 1.5270

X/LT .7449 .8526 .9290

PHI

.000 -.0210 -.0020 .0120

30.000 .0060 .0090 .0010

60.000 .0300 -.0070 -.0010

90.000 .0070 .0050 .0070

120.000 -.0110 .0910 .0440

135.000 -.0360 .1410 .0180

150.000 .1520 -.0110

165.000 -.1060

180.000

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7230	1.5950	.7200	.3220	.0650	.0050	-.0490	-.0410	-.0360	-.0140	.0330	.0500	.0050	-.0110	.0020
30.000			.6320	.2390	.0180	-.0300	-.0670	-.0670	-.0460	.0170	-.0480	-.0510	-.0330	-.0280	-.0260
60.000			.5440	.1760	-.0200	-.0550	-.0930	-.0930	-.0510	-.0750	.0590	-.0290	-.0560	-.0450	.0370
90.000		1.4200	.4840	.1350	-.0490	-.0760	-.1080	-.0690	-.0440	.3620	-.1210	-.1570	-.1280	.0460	.0570
120.000			.4510	.1180	-.0570	-.0870	-.0920	-.0780	-.0760	.0600	-.1190	-.1020	-.0830	.0500	.0190
135.000								-.0780		-.0120		.0220		-.0320	
150.000			.4550	.1180	-.0570	-.0860	-.0960	-.0800	-.0730	.0120	.1390	.0650	-.0110	-.0150	-.0910
165.000				.1210	-.0540	-.0830	-.0980	-.0820	-.0770	.0130	.2110		.1180		-.0830
180.000	1.7230	1.4420	.4990	.1400	-.0470	-.0760	-.1000	-.0800	-.0740	.0040	.2720	.0870	.1100	.0370	-.0460
270.000		1.6080													

X/LT .7449 .8526 .9290

PHI			
.000	-.0230	.0010	.0060
30.000	-.0060	.0050	-.0050
60.000	-.0050	-.0190	-.0180
90.000			.0020
120.000	-.0410	.0330	.0250
135.000	-.0570	.0310	-.0300
150.000	-.0650	.0180	-.0320
165.000		.0210	-.0310
180.000	-.0780		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.430

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7050	1.5760	.7110	.3230	.0690	.0110	-.0380	-.0420	-.0360	-.0150	-.0040	.0290	.0070	-.0050	-.0170
30.000			.5970	.2250	.0090	-.0330	-.0750	-.0750	-.0560	.0300	-.0020	-.0220	.0010	-.0120	-.0200
60.000			.4940	.1470	-.0330	-.0700	-.1060	-.0980	-.0670	-.1010	.0790	-.0210	-.0420	-.0290	.0400
90.000		1.3640	.4350	.1090	-.0570	-.0890	-.1060	-.0820	-.0670	.3490	-.1140	-.1350	-.0710	.0640	.0340
120.000			.4350	.0950	-.0650	-.0950	-.0930	-.0890	-.0870	.0280	-.0930	-.0520	-.0640	.0470	.0020
135.000								-.0930		.0310		.0110		-.0500	
150.000			.4300	.1030	-.0620	-.0890	-.1110	-.0860	-.0700	.0090	.1150	.0540	.0250	-.0500	-.0890
165.000				.1210	-.0540	-.0850	-.0940	-.0880	-.0770	.0050	.1960		.0550		-.0900
180.000	1.7050	1.4280	.4910	.1440	-.0430	-.0750	-.1000	-.0810	-.0700	-.0030	.2800	.0550	.0550	.0120	-.0430
270.000		1.6350													

X/LT .7449 .8526 .9290

PHI



## AMES 87-757 IA9.02A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.430

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0170	-.0130	-.0100
30.000	-.0040	-.0070	-.0180
60.000	-.0140	-.0310	-.0310
90.000			-.0080
120.000	-.0530	.0030	-.0090
135.000	-.0710	.0220	-.0750
150.000	-.0830	-.0270	-.0740
165.000		.0070	-.0800
180.000	-.0590		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.560

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6920	1.5620	.7020	.3160	.0570	.0050	-.0420	-.0440	-.0400	-.0090	-.0170	-.0090	.0060	-.0320	-.0500
30.000			.5610	.1960	-.0090	-.0530	-.0870	-.0840	-.0650	-.0310	.0120	-.0190	-.0080	-.0280	-.0410
60.000			.4430	.1160	-.0550	-.0870	-.1150	-.0960	-.0790	-.1090	.0760	-.0060	-.0290	-.0230	.0130
90.000		1.3110	.3850	.0770	-.0800	-.1050	-.0910	-.0860	-.0630	.3030	-.1170	-.1460	.0020	.0580	-.0080
120.000			.3830	.0710	-.0810	-.1050	-.0930	-.0910	-.0620	-.0370	-.0740	-.0280	-.0530	.0250	-.0390
135.000								-.0900		-.0220		.0220		-.0440	
150.000			.3990	.0850	-.0730	-.0990	-.0870	-.0920	-.0700	-.0050	.0710	.0340	-.0210	-.0840	-.0980
165.000				.1070	-.0650	-.0920	-.0880	-.0860	-.0730	-.0110	.1670		-.0280		-.1180
180.000	1.6920	1.4190	.4760	.1360	-.0480	-.0770	-.1030	-.0810	-.0670	-.0230	.2870	.0490	-.0010	-.0510	-.0660
270.000		1.6700													

X/LT .7449 .8526 .9290

PHI

.000	-.0460	-.0260	-.0290
30.000	-.0220	-.0180	-.0290
60.000	-.0320	-.0340	-.0390
90.000			-.0270
120.000	-.0760	-.0330	-.0620
135.000	-.1120	-.0010	-.1020
150.000	-.0750	-.0720	-.0960
165.000		-.0820	-.1000
180.000	-.0340		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.410

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0190	-.0200	-.0060
30.000	-.0030	.0090	.0020
60.000	.0320	.0220	.0120
90.000			.0590
120.000	.0680	.0340	.1020
135.000	.0480	.1410	.1420
150.000	.0280	.2420	.1520
165.000		.2880	.1680
180.000	-.0390		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.250

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7350	1.6170	.6880	.3130	.5670	.0220	-.0190	-.0230	-.0210	-.0070	-.0090	.0260	.0180	-.0050	.0150
30.000			.7390	.3350	.0920	.0410	-.0040	-.0220	-.0070	.0180	.0190	.0430	.0090	-.0070	-.0060
60.000			.7400	.3340	.0920	.0450	-.0030	-.0220	.0180	.0440	.0750	-.0130	-.0390	-.0400	-.0170
90.000		1.6120	.6980	.3000	.0690	.0270	-.0170	-.0170	.0620	.5820	-.0480	-.0900	-.1140	-.1030	.0440
120.000			.6150	.2410	.0330	-.0010	-.0390	-.0410	-.0270	.1730	-.0670	-.1200	-.1000	-.0750	.0710
135.000								-.0530		-.0320		-.0780		-.0100	
150.000			.5280	.1830	-.0020	-.0330	-.0640	-.0630	-.0460	-.0320	-.0220	.1420	.0440	.0580	-.0120
165.000				.1570	-.0160	-.0440	-.0740	-.0660	-.0470	-.0140	.1200		.0130		.0160
180.000	1.7350	1.4410	.4570	.1360	-.0270	-.0530	-.0780	-.0610	-.0570	-.0160	.2740	.0870	.0390	.0760	.0070
270.000		1.4300													

X/LT .7449 .8526 .9290

PHI

.000	-.0110	-.0200	-.0060
30.000	-.0080	.0090	.0040
60.000	.0230	.0110	.0020
90.000			.0140
120.000	.0450	.0170	.0750
135.000	.0280	.0450	.0990
150.000	.0020	.1750	.0930
165.000		.2160	.1040
180.000	-.0530		



## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 2 ) = 2.999      BETAT ( 5 ) = 4.380

## SECTION ( 1 ) EXTERNAL TANK      DEPENDENT VARIABLE CP

X/LT      .7449   .8526   .9290

## PHI

.000	-.0130	-.0190	-.0130
30.000	-.0210	-.0010	-.0060
60.000	.0150	-.0150	-.0300
90.000			-.0430
120.000	-.0120	-.0510	-.0080
135.000	-.0480	-.0470	-.0220
150.000	-.0540	-.0060	-.0420
165.000		-.0090	-.0240
180.000	-.0580		

MACH ( 2 ) = 2.999      BETAT ( 6 ) = 6.550

## SECTION ( 1 ) EXTERNAL TANK      DEPENDENT VARIABLE CP

X/LT      .0000   .0009   .0452   .1098   .1744   .1905   .2121   .2336   .2874   .3412   .3950   .4489   .5027   .5565   .6372

## PHI

.000	1.6980	1.5700	.6630	.3070	.0540	.0110	-.0250	-.0280	-.0300	-.0200	-.0050	.0170	-.0050	-.0100	-.0170
30.000			.5560	.1980	.0060	-.0330	-.0570	-.0570	-.0460	-.0200	-.0340	-.0490	-.0270	-.0100	-.0160
60.000			.4430	.1270	-.0330	-.0550	-.0820	-.0560	-.0580	-.0720	.0620	-.0070	-.0230	-.0090	.0060
90.000		1.3460	.3780	.0840	-.0560	-.0710	-.0630	-.0590	-.0660	.3840	-.0750	-.0940	-.1040	.0130	.0560
120.000			.3510	.0720	-.0620	-.0750	-.0620	-.0620	-.0700	-.0630	-.0750	-.0530	-.0490	-.0230	.0100
135.000								-.0660		-.0440		.0400		-.0250	
150.000			.3740	.0850	-.0580	-.0730	-.0640	-.0660	-.0660	-.0310	.0290	.0060	.0270	-.0120	-.0780
165.000				.0980	-.0500	-.0660	-.0670	-.0660	-.0650	-.0340	.1650		.0080		-.0530
180.000	1.6980	1.4100	.4360	.1220	-.0380	-.0570	-.0770	-.0650	-.0640	-.0400	.2970	.0570	.0490	.0010	-.0120
270.000		1.6300													

X/LT      .7449   .8526   .9290

## PHI

.000	-.0290	-.0180	-.0150
30.000	-.0190	.0000	-.0070
60.000	-.0060	-.0160	-.0300
90.000			-.0390
120.000	-.0380	-.0570	-.0290
135.000	-.0740	-.0410	-.0590
150.000	-.0480	.0070	-.0550
165.000		-.0550	-.0610
180.000	-.0410		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.710

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6750	1.5430	.6520	.2890	.0600	.0140	-.0260	-.0310	-.0290	-.0090	-.0310	-.0250	-.0160	-.0120	-.0210
30.000			.5140	.1800	.0020	-.0340	-.0660	-.0640	-.0510	-.0240	-.0380	-.0460	.0020	-.0110	-.0220
60.000			.3950	.1050	-.0420	-.0670	-.0930	-.0790	-.0580	-.0810	.0550	-.0040	-.0130	-.0110	.0220
90.000		1.2880	.3300	.0690	-.0610	-.0820	-.0780	-.0670	-.0690	.3620	-.0780	-.0890	-.0820	.0410	.0300
120.000			.3160	.0600	-.0650	-.0850	-.0780	-.0670	-.0600	-.0640	-.0740	-.0070	-.0460	.0150	.0020
135.000								-.0690		-.0400		.0460		-.0340	
150.000			.3470	.0740	-.0580	-.0810	-.0720	-.0710	-.0670	-.0330	.0210	-.0230	.0130	-.0380	-.0810
165.000				.0940	-.0490	-.0750	-.0740	-.0670	-.0670	-.0400	.1530		.0120		-.0600
180.000	1.6750	1.3940	.4320	.1230	-.0330	-.0600	-.0850	-.0710	-.0590	-.0500	.3150	.0380	.0730	-.0050	-.0260
270.000		1.6510													

X/LT .7449 .8526 .9290

PHI			
.000	-.0340	-.0380	-.0380
30.000	-.0140	-.0130	-.0220
60.000	-.0130	-.0290	-.0380
90.000			-.0560
120.000	-.0400	-.0840	-.0600
135.000	-.0850	-.0380	-.0880
150.000	-.0700	-.0040	-.0850
165.000		-.0590	-.0680
180.000	-.0470		

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6780	1.5650	.6390	.2840	.0540	.0110	-.0100	-.0140	-.0320	-.0240	-.0010	.0010	-.0230	-.0200	-.0180
30.000			.7620	.3510	.1080	.0560	.0260	.0200	.0030	.0180	.0370	.0560	.0090	-.0080	-.0210
60.000			.8220	.3960	.1310	.0970	.0460	.0380	.0380	.0840	.1000	.0110	-.0110	-.0100	-.0050
90.000		1.6530	.7940	.3760	.1180	.0850	.0370	.0180	.0570	.7090	.0030	-.0530	-.0750	-.0690	.0310
120.000			.6860	.2970	.0710	.0460	.0050	-.0150	-.0040	.1880	-.0250	-.0790	-.0840	-.0430	-.0210
135.000								-.0320		-.0120		-.0600		-.0480	
150.000			.5470	.1990	.0160	-.0020	-.0320	-.0490	-.0440	-.0330	-.0060	.0110	.0220	.0930	.0160
165.000				.1510	-.0100	-.0210	-.0490	-.0650	-.0660	-.0240	.1010		.0760		-.0060
180.000	1.6780	1.3900	.4180	.1130	-.0330	-.0380	-.0600	-.0700	-.0650	-.0370	.3550	.0450	.0590	.0300	-.0350
270.000		1.2970													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0370	-.0340	-.0210
30.000	-.0200	.0080	.0050
60.000	.0210	.0340	.0260
90.000		.0420	
120.000	.0460	.0640	.0940
135.000	.0450	.0720	.1540
150.000	.0390	.2280	.1490
165.000		.1910	.1780
180.000	-.0360		

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.530

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7210	1.6000	.6560	.2890	.0510	.0090	-.0120	-.0150	-.0290	-.0120	-.0100	-.0070	-.0080	-.0330	-.0140
30.000			.7440	.3240	.0670	.0400	.0120	.0090	-.0030	.0110	.0070	.0280	-.0050	-.0300	-.0230
60.000			.7760	.3460	.1020	.0720	.0230	.0090	.0230	.0110	.0710	-.0090	-.0380	-.0310	-.0210
90.000		1.6470	.7400	.3210	.0810	.0560	.0110	-.0020	.0220	.6830	-.0230	-.0770	-.0090	-.0020	.0090
120.000			.6460	.2540	.0420	.0240	-.0110	-.0270	-.0180	.1290	-.0460	-.1020	-.1020	-.0650	-.0300
135.000								-.0430	-.0400		-.0810		-.0600		
150.000			.5320	.1780	.0000	-.0140	-.0400	-.0570	-.0530	-.0520	-.0560	.0210	.0500	.0670	-.0100
165.000			.1440	-.0200	-.0260	-.0520	-.0620	-.0550	-.0460	.0530		.0460			-.0170
180.000	1.7210	1.4270	.4300	.1130	-.0350	-.0390	-.0560	-.0570	-.0550	-.0470	.3290	.0130	.0100	.0170	-.0220
270.000		1.3690													

X/LT .7449 .8526 .9290

PHI

.000	-.0360	-.0290	-.0130
30.000	-.0180	.0030	-.0010
60.000	.0070	.0160	-.0010
90.000		.0150	
120.000	.0390	.0370	.0730
135.000	.0270	.0290	.1140
150.000	.0210	.1490	.0980
165.000		.1440	.1140
180.000	-.0380		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2674	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7420	1.6190	.6620	.2920	.0560	.0130	-.0100	-.0130	-.0250	-.0050	.0100	.0150	.0000	-.0200	-.0090
30.000			.7150	.3070	.0770	.0310	.0060	.0020	-.0120	.0060	.0090	-.0080	.0060	-.0190	-.0140
60.000			.7200	.3090	.0740	.0480	.0060	.0010	.0060	-.0010	.0710	-.0020	-.0420	-.0470	-.0290
90.000	1.6190		.6760	.2740	.0550	.0330	-.0080	-.0190	.0040	.6770	-.0140	-.0790	-.1010	-.0920	-.0170
120.000			.5970	.2190	.0290	.0060	-.0280	-.0410	-.0310	.1190	-.0380	-.1040	-.1030	-.0780	.0170
135.000								-.0500		-.0360		-.0760		-.0180	
150.000			.5110	.1630	-.0080	-.0200	-.0480	-.0560	-.0470	-.0300	-.0200	.1510	.0290	.0020	-.0120
165.000				.1380	-.0200	-.0310	-.0540	-.0490	-.0500	-.0270	.0830		.0190		-.0090
180.000	1.7420	1.4460	.4400	.1200	-.0300	-.0390	-.0440	-.0470	-.0500	-.0300	.2760	.0320	-.0220	.0490	.0170
270.000		1.4320													

X/LT .7449 .8526 .9290

PHI			
.000	-.0200	-.0160	-.0100
30.000	-.0220	.0030	-.0010
60.000	-.0060	.0110	.0030
90.000			.0070
120.000	.0270	.0260	.0460
135.000	.0110	.0200	.0830
150.000	.0100	.0570	.0630
165.000		.0910	.0630
180.000	-.0240		

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2674	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7610	1.6350	.6720	.3000	.0540	.0110	-.0110	-.0140	-.0230	-.0010	.0080	.0380	.0200	.0050	.0170
30.000			.6550	.2570	.0460	.0050	-.0170	-.0180	-.0260	-.0030	-.0200	-.0380	-.0230	.0160	.0040
60.000			.6070	.2220	.0260	.0100	-.0270	-.0300	-.0180	-.0190	.0500	-.0080	-.0410	-.0470	-.0270
90.000	1.5430		.5500	.1830	.0020	-.0110	-.0410	-.0500	-.0320	.6330	-.0270	-.0840	-.0980	-.0960	-.0250
120.000			.4930	.1480	-.0170	-.0250	-.0510	-.0450	-.0330	-.0320	-.0460	-.0990	-.0920	-.0820	-.0130
135.000								-.0420		-.0450		-.0160		-.0230	
150.000			.4550	.1270	-.0280	-.0370	-.0410	-.0410	-.0430	-.0430	.0120	.0710	.0200	-.0080	-.0080
165.000				.1210	-.0310	-.0370	-.0390	-.0410	-.0430	-.0430	.1250		.0080		.0060
180.000	1.7610	1.4650	.4410	.1180	-.0330	-.0370	-.0390	-.0420	-.0410	-.0470	.2620	.0230	.0590	.1340	.0350
270.000		1.5420													

X/LT .7449 .8526 .9290

PHI





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7200	1.5840	.6530	.2970	.0530	.0090	-.0110	-.0140	-.0230	-.0190	.0020	.0090	-.0060	-.0300	-.0100
30.000			.5350	.1830	.0060	-.0290	-.0410	-.0430	-.0380	-.0180	-.0260	-.0260	-.0230	-.0200	-.0200
60.000			.4290	.1140	-.0320	-.0390	-.0510	-.0410	-.0470	-.0610	.0410	.0010	-.0300	-.0320	-.0160
90.000	1.3590		.3620	.0750	-.0520	-.0530	-.0430	-.0450	-.0470	.3280	-.0570	-.0890	-.0890	-.0110	.0230
120.000			.3420	.0620	-.0580	-.0540	-.0410	-.0480	-.0470	-.0640	-.0720	-.0750	-.0390	-.0290	-.0060
135.000								-.0480		-.0540		-.0010		-.0210	
150.000			.3600	.0740	-.0520	-.0530	-.0410	-.0480	-.0520	-.0400	.0650	-.0110	-.0230	-.0030	-.0630
165.000				.0890	-.0450	-.0490	-.0450	-.0500	-.0490	-.0360	.1530		-.0060		-.0430
180.000	1.7200	1.4260	.4280	.1120	-.0360	-.0400	-.0540	-.0500	-.0520	-.0330	.3210	.0150	.0110	.0310	-.0170
270.000		1.6480													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0330	-.0300	-.0260												
30.000	-.0330	-.0120	-.0150												
60.000	-.0150	-.0190	-.0150												
90.000			-.0550												
120.000	-.0310	-.0510	-.0530												
135.000	-.0670	-.0750	-.0540												
150.000	-.0430	-.0470	-.0530												
165.000		-.0630	-.0540												
180.000	-.0410														

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6830	1.5490	.6330	.2930	.0520	.0120	-.0150	-.0190	-.0250	-.0160	-.0350	-.0310	-.0510	-.0380	-.0190
30.000			.4920	.1590	-.0030	-.0350	-.0470	-.0520	-.0470	-.0240	-.0350	-.0290	-.0270	-.0440	-.0480
60.000			.3770	.0840	-.0450	-.0530	-.0540	-.0540	-.0560	-.0700	-.0010	-.0150	-.0230	-.0260	-.0120
90.000	1.2910		.3070	.0490	-.0630	-.0610	-.0510	-.0530	-.0540	.2470	-.0800	-.0860	-.0630	.0090	.0190
120.000			.2900	.0410	-.0670	-.0570	-.0500	-.0570	-.0550	-.0780	-.0900	.0010	-.0520	.0000	-.0100
135.000								-.0560		-.0730		.0020		-.0280	
150.000			.3250	.0580	-.0610	-.0620	-.0520	-.0560	-.0600	-.0590	.0670	-.0470	-.0320	-.0500	-.0690
165.000				.0760	-.0500	-.0570	-.0560	-.0570	-.0590	-.0490	.1540		.0010		-.0520
180.000	1.6830	1.3970	.4100	.1040	-.0340	-.0460	-.0660	-.0610	-.0590	-.0560	.3120	.0260	.0320	.0160	-.0400
270.000		1.0560													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 02A + S3 + T9 EXTERNAL TANK

(RBNT14)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0400	-.0400	-.0410
30.000	-.0410	-.0220	-.0230
60.000	-.0250	-.0250	-.0230
90.000			-.0710
120.000	-.0510	-.0770	-.0630
135.000	-.0770	-.0720	-.0670
150.000	-.0570	-.0460	-.0670
165.000		-.0640	-.0800
180.000	-.0440		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.390

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6710	1.6050	.7500	.3580	.0820	.0290	-.0220	-.0230	-.0090	.0070	.0110	-.0040	.0220	-.0100	-.0180
30.000			.8700	.4360	.1480	.0830	.0210	.0210	.0380	.0640	.0630	.0470	-.0120	-.0200	.0130
60.000			.9100	.4610	.1600	.1000	.0360	.0370	.0840	.0830	.0650	-.0120	-.0260	-.0200	.0440
90.000	1.6490		.8450	.4050	.1190	.0680	.0680	.0270	.4120	.4020	-.1110	-.1200	-.1380	-.0770	.0900
120.000			.7130	.3080	.0510	.0060	-.0410	-.0310	-.0200	.1680	-.1580	-.2020	-.1100	-.0250	.0880
135.000								-.0620		.0920		-.1230		.0890	
150.000			.5500	.1840	-.0190	-.0540	-.0920	-.0830	-.0650	-.0660	-.0790	-.0510	.0700	.0340	.0250
165.000				.1380	-.0450	-.0760	-.1100	-.0850	-.0630	-.0580	.3500		.0010		-.0200
180.000	1.6710	1.3570	.4270	.1040	-.0680	-.0940	-.0950	-.0810	-.0710	-.0370	.2590	.0710	-.0240	-.0180	-.0550
270.000		1.3030													
PHI															
.000	-.0210	-.0160	.0010												
30.000	.0250	.0250	.0120												
60.000	.0520	.0380	.0820												
90.000			.0900												
120.000	.0650	.1010	.2650												
135.000	.0780	.2730	.2160												
150.000	.0770	.2960	.2330												
165.000		.4700	.1630												
180.000	-.0490														

MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.280

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.6220	.7670	.3640	.0850	.0330	-.0180	-.0200	-.0080	.0170	.0150	.0610	.0230	.0120	.0000
30.000			.8500	.4060	.1280	.0670	.0110	.0110	.0260	.0530	.0220	.0550	.0030	-.0040	.0150
60.000			.8530	.4120	.1280	.0740	.0170	.0130	.0620	.0790	.0590	-.0230	-.0260	-.0060	.0220
90.000	1.6230		.7880	.3550	.0870	.0420	-.0130	.0020	.3850	.4000	-.1170	-.1270	-.1320	-.0980	.0840
120.000			.6590	.2600	.0260	-.0110	-.0570	-.0490	-.0340	.1560	-.1630	-.1930	-.1230	-.0630	.0680
135.000								-.0720		.0760		-.1140		.0320	
150.000			.5320	.1680	-.0320	-.0590	-.0950	-.0850	-.0530	-.0460	-.0430	.0250	.0370	.0170	.0170



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.160

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2980 .0970  
180.000 -.0880

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7220	1.6410	.7840	.3750	.0900	.0330	-.0180	-.0180	-.0120	-.0030	.0770	.0970	.0520	.0300	.0170
30.000			.7550	.3350	.0740	.0190	-.0260	-.0260	-.0120	.0220	.0120	-.0070	.0530	.0310	.0180
60.000			.6870	.2740	.0400	-.0030	-.0510	-.0490	-.0140	-.0040	.0790	-.0130	-.0400	-.0240	.0160
90.000		1.5120	.6050	.2090	-.0030	-.0360	-.0770	-.0700	.0800	.3710	-.1060	-.1420	-.1420	-.0450	.0970
120.000			.5240	.1570	-.0340	-.0670	-.0980	-.0910	-.0700	.1660	-.1450	-.1780	-.1240	.0130	.0640
135.000								-.0850		-.0290		-.0570		-.0140	
150.000			.4730	.1290	-.0510	-.0780	-.0960	-.0810	-.0730	-.0030	.1370	.0650	-.0120	.0040	-.0540
165.000				.1200	-.0570	-.0810	-.0880	-.0770	-.0760	.0000	.1670		.1300		-.0570
180.000	1.7220	1.4030	.4570	.1180	-.0570	-.0830	-.0850	-.0770	-.0760	-.0010	.2240	.0730	.2070	.0440	-.0500
270.000		1.5160													

X/LT .7449 .8526 .9290

PHI

.000 -.0040 .0100 .0350  
30.000 .0110 .0290 .0250  
60.000 .0310 .0110 .0150  
90.000 .0560  
120.000 .0010 .0370 .0970  
135.000 -.0180 .1170 .0530  
150.000 -.0290 .1560 .0370  
165.000 .1620 -.0060  
180.000 -.1030

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.310

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7010	1.6220	.7760	.3690	.0800	.0270	-.0130	-.0150	-.0020	.0100	.0590	.0710	.0330	.0100	.0310
30.000			.6770	.2710	.0350	-.0150	-.0470	-.0460	-.0260	.0590	-.0190	-.0270	.0000	.0100	.0070
60.000			.5680	.1870	-.0170	-.0420	-.0820	-.0820	-.0260	-.0720	.1060	.0550	-.0150	.0090	.0490
90.000	1.4020		.4810	.1240	-.0550	-.0770	-.1010	-.0680	-.0300	.3390	-.1010	-.1240	-.1230	.0290	.0700
120.000			.4260	.0940	-.0730	-.0900	-.0800	-.0680	-.0730	.0540	-.1490	-.1390	-.0660	.0390	.0270
135.000								-.0670		-.0440		.0180		-.0320	
150.000			.4130	.0850	-.0760	-.0930	-.0770	-.0680	-.0730	-.0070	.1340	.0610	.0430	-.0300	-.0830
165.000				.0880	-.0760	-.0900	-.0800	-.0680	-.0680	-.0030	.1900		.1160		-.0830
180.000	1.7010	1.3860	.4400	.1020	-.0730	-.0870	-.0820	-.0710	-.0680	-.0080	.2420	.0640	.1030	.0310	-.0500
270.000		1.5900													

X/LT .7449 .8526 .9290

PHI

.000	.0090	.0120	.0230
30.000	.0170	.0170	.0040
60.000	.0170	-.0080	-.0130
90.000			.0300
120.000	-.0340	.0280	-.0450
135.000	-.0500	.0430	-.0330
150.000	-.0770	.0210	-.0280
165.000		.0240	-.0210
180.000	-.0830		

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.440

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6870	1.6030	.7690	.3680	.0850	.0300	-.0130	-.0140	-.0070	.0070	.0150	.0390	.0270	.0240	-.0020
30.000			.6400	.2500	.0240	-.0220	-.0580	-.0580	-.0420	.0690	.0380	.0220	.0300	.0240	-.0070
60.000			.5170	.1700	-.0330	-.0620	-.0970	-.0960	-.0490	-.0920	.1110	.0090	.0000	.0030	.0380
90.000	1.3500		.4300	.0960	-.0670	-.0900	-.1140	-.0860	-.0590	.3210	-.1070	-.1160	-.1150	.0460	.0270
120.000			.3850	.0740	-.0810	-.1010	-.0940	-.0820	-.0700	.0210	-.1510	-.1060	-.0520	.0230	-.0110
135.000								-.0830		.0050		.0120		-.0620	
150.000			.3850	.0730	-.0820	-.1010	-.1080	-.0750	-.0590	-.0150	.1380	.0610	.0430	-.0570	-.1020
165.000				.0850	-.0770	-.0980	-.0860	-.0800	-.0600	-.0140	.1750		.0600		-.1000
180.000	1.6870	1.3740	.4310	.1030	-.0700	-.0910	-.0840	-.0760	-.0620	-.0210	.2400	.0420	.0520	-.0010	-.0510
270.000		1.6220													

X/LT .7449 .8526 .9290

PHI

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.449

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

## PHI

.000	-.0030	.0010	.0110
30.000	.0040	.0090	.0080
60.000	-.0020	-.0080	-.0200
90.000			.0130
120.000	-.0580	-.0070	.0310
135.000	-.0730	.0270	-.0660
150.000	-.0730	-.0160	-.0730
165.000		.0180	-.0720
180.000	-.0600		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.570

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2674 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000	1.6780	1.5950	.7560	.3640	.0870	.0350	-.0150	-.0180	-.0190	.0110	.0070	.0030	.0140	.0010	-.0200
30.000			.6030	.2370	.0140	-.0290	-.0670	-.0700	-.0670	-.0240	.0900	.0290	.0020	-.0010	-.0260
60.000			.4630	.1310	-.0450	-.0780	-.1120	-.1040	-.0740	-.1230	.1210	.0360	.0000	.0040	.0200
90.000		1.3000	.3900	.0740	-.0790	-.1060	-.0960	-.0980	-.0810	.2940	-.0910	-.1210	-.0630	.0540	-.0100
120.000			.3450	.0610	-.0860	-.1090	-.0940	-.1000	-.0780	-.0070	-.1260	-.0540	-.0640	.0100	-.0480
135.000								-.0980		-.0020		.0230		-.0610	
150.000			.3610	.0700	-.0830	-.1030	-.0860	-.0970	-.0790	-.0060	.1270	.0540	-.0180	-.0860	-.1060
165.000				.0800	-.0770	-.0990	-.0860	-.0870	-.0870	-.0090	.1540	.0540	-.0190	-.0860	-.1220
180.000	1.6780	1.3660	.4300	.1030	-.0660	-.0910	-.0910	-.0870	-.0850	-.0230	.2640	.0690	-.0230	-.0250	-.0700
270.000		1.6610													

X/LT .7449 .8526 .9290

## PHI

.000	-.0210	-.0140	-.0150
30.000	-.0080	-.0110	-.0160
60.000	-.0130	-.0110	-.0330
90.000			-.0140
120.000	-.0740	-.0130	-.0490
135.000	-.1070	.0030	-.0980
150.000	-.0740	-.0630	-.0870
165.000		-.0890	-.1010
180.000	-.0460		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.550

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6630	1.5930	.7160	.3360	.0890	.0390	-.0010	-.0050	-.0150	-.0050	-.0110	-.0010	-.0200	.0100	-.0100
30.000			.8350	.4180	.1440	.0890	.0390	.0350	.0250	.0470	.0530	.0730	.0240	.0100	.0040
60.000			.8710	.4420	.1610	.1110	.0530	.0480	.0640	.3420	.1070	.0190	.0020	.0110	.0300
90.000		1.6440	.8130	.3910	.1290	.0820	.0310	.0210	.3200	.5760	-.0380	-.0720	-.0860	-.0650	.0580
120.000			.6810	.2880	.0650	.0280	-.0130	-.0240	-.0250	.1610	-.0900	-.1330	-.1060	-.0580	.0250
135.000								-.0510		.0100		-.1040		-.0580	
150.000			.5170	.1790	-.0010	-.0260	-.0590	-.0720	-.0720	-.0290	-.0620	-.0320	.0150	.0550	.0120
165.000				.1330	-.0280	-.0500	-.0770	-.0830	-.0740	-.0540	.0910		.0990		-.0100
180.000	1.6630	1.3470	.3920	.0970	-.0490	-.0660	-.0750	-.0760	-.0750	-.0550	.2840	.0230	.0110	-.0220	-.0410
270.000		1.2860													

X/LT .7449 .8526 .9290

PHI

.000	-.0200	-.0180	-.0040
30.000	.0130	.0330	.0190
60.000	.0470	.0440	.0500
90.000			.1200
120.000	.0570	.0690	.2010
135.000	.0560	.2050	.1770
150.000	.0360	.2920	.2470
165.000		.4000	.2070
180.000	-.0300		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6900	1.6160	.7400	.3480	.0690	.0230	.0010	-.0030	-.0090	.0050	-.0080	.0210	.0290	.0140	.0110
30.000			.8170	.3840	.1120	.0600	.0280	.0240	.0200	.0450	.0480	.0870	.0320	.0130	.0090
60.000			.8270	.3870	.1160	.0860	.0310	.0270	.0490	.1270	.1040	.0170	-.0010	-.0030	.0160
90.000		1.6200	.7550	.3280	.0810	.0560	.0080	.0030	.1800	.5690	-.0360	-.0750	-.0880	-.0770	.0540
120.000			.6240	.2400	.0230	.0090	-.0300	-.0350	-.0360	.1450	-.0890	-.1350	-.1140	-.0880	.0140
135.000								-.0530		.0040		-.1030		-.0370	
150.000			.4990	.1500	-.0300	-.0360	-.0650	-.0710	-.0600	-.0430	-.0570	-.0100	.0490	.0310	-.0070
165.000				.1110	-.0510	-.0520	-.0770	-.0700	-.0580	-.0480	.1590		.0720		-.0080
180.000	1.6900	1.3630	.4020	.0840	-.0670	-.0630	-.0690	-.0690	-.0640	-.0400	.2650	.0520	.0150	.0110	-.0080
270.000		1.3500													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.400

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0080	-.0050	.0070
30.000	.0150	.0280	.0190
60.000	.0390	.0310	.0260
90.000			.0810
120.000	.0520	.0450	.1370
135.000	.0420	.1020	.1350
150.000	.0220	.2490	.1500
165.000		.2800	.1660
180.000	-.0430		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = -4.240

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7150	1.6440	.7450	.3510	.0890	.0410	-.0030	-.0050	-.0100	.0040	.0070	.0490	.0320	.0090	.0150
30.000			.7890	.3730	.1110	.0610	.0120	.0110	.0040	.0310	.0380	.0360	.0370	.0110	.0130
60.000			.7680	.3520	.1020	.0560	.0070	.0050	.0220	.0380	.1020	.0130	-.0160	-.0150	.0030
90.000		1.5950	.6910	.2910	.0660	.0260	-.0160	-.0180	.0260	.5610	-.0400	-.0800	-.0970	-.0850	.0290
120.000			.5810	.2200	.0200	-.0110	-.0480	-.0540	-.0410	.1510	-.0940	-.1400	-.1230	-.1020	.0170
135.000								-.0690		-.0510		-.0950		-.0160	
150.000			.4890	.1540	-.0200	-.0450	-.0750	-.0750	-.0620	-.0470	-.0120	.0760	.0260	.0360	-.0140
165.000				.1230	-.0350	-.0590	-.0780	-.0680	-.0650	-.0310	.1180		.0060		.0060
180.000	1.7150	1.3880	.4110	.1040	-.0470	-.0670	-.0690	-.0650	-.0680	-.0360	.2410	.0760	.0550	.0600	-.0010
270.000		1.4150													

X/LT	.7449	.8526	.9290
PHI			
.000	.0060	-.0070	.0060
30.000	.0100	.0230	.0150
60.000	.0300	.0180	.0080
90.000			.0330
120.000	.0450	.0170	.0900
135.000	.0180	.0420	.0950
150.000	.0030	.1740	.0870
165.000		.1870	.1090
180.000	-.0620		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7470	1.6680	.7600	.3620	.0880	.0410	-.0030	-.0050	-.0080	.0090	.0370	.0660	.0610	.0290	.0470
30.000			.7240	.3200	.0750	.0310	-.0110	-.0130	-.0180	.0170	.0180	-.0170	.0060	.0320	.0210
60.000			.6550	.2650	.0440	.0060	-.0320	-.0360	-.0140	-.0080	.1070	.0160	-.0170	-.0180	-.0010
90.000	1.5290		.5680	.2020	.0070	-.0200	-.0570	-.0610	-.0420	.5180	-.0450	-.0820	-.0970	-.0860	.0160
120.000			.4910	.1510	-.0220	-.0470	-.0760	-.0700	-.0650	.1010	-.0880	-.1330	-.1220	-.0990	.0350
135.000								-.0650		-.0490		-.0490		-.0300	
150.000			.4430	.1210	-.0380	-.0580	-.0700	-.0620	-.0620	-.0300	.0840	.0810	-.0010	.0450	-.0150
165.000				.1110	-.0420	-.0630	-.0660	-.0620	-.0630	-.0320	.1310		.0580		.0070
180.000	1.7470	1.4160	.4220	.1100	-.0440	-.0620	-.0650	-.0620	-.0640	-.0320	.2300	.0660	.0220	.1130	.0110
270.000		1.5370													

X/LT .7449 .8526 .9290

PHI			
.000	.0040	-.0060	.0030
30.000	.0070	.0160	.0130
60.000	.0250	.0110	-.0060
90.000			-.0090
120.000	.0210	-.0150	.0300
135.000	-.0100	-.0150	.0380
150.000	-.0280	.0650	.0260
165.000		.0610	.0160
180.000	-.0680		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.390

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7140	1.6280	.7450	.3630	.0880	.0390	-.0030	-.0050	-.0030	.0030	.0460	.0580	.0300	.0080	.0210
30.000			.6420	.2600	.0420	-.0010	-.0310	-.0330	-.0320	.0060	-.0080	-.0220	-.0230	-.0160	.0040
60.000			.5300	.1780	-.0050	-.0320	-.0630	-.0650	-.0350	-.0340	.1080	.0230	-.0060	-.0130	.0070
90.000	1.4050		.4420	.1180	-.0390	-.0580	-.0680	-.0540	-.0600	.4470	-.0520	-.0680	-.0870	-.0770	.0920
120.000			.3940	.0880	-.0540	-.0700	-.0590	-.0530	-.0590	-.0520	-.0990	-.1120	-.0760	-.0730	.0260
135.000								-.0530		-.0450		.0430		.0000	
150.000			.3780	.0850	-.0540	-.0710	-.0580	-.0530	-.0580	-.0360	.0530	.0620	.0240	.0120	-.0560
165.000				.0930	-.0540	-.0700	-.0600	-.0530	-.0580	-.0380	.1360		.0010		-.0400
180.000	1.7140	1.3930	.4110	.1030	-.0470	-.0650	-.0600	-.0550	-.0590	-.0370	.2420	.0730	.0780	.0560	-.0030
270.000		1.6000													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 2 ) = 2.999

BETAT ( 7 ) = 8.730

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6620	1.5740	.7160	.3350	.0840	.0390	-.0030	-.0070	-.0090	.0050	-.0110	.0060	-.0050	.0150	-.0110
30.000			.5540	.2110	.0210	-.0180	-.0480	-.0490	-.0510	-.0130	.0050	.0070	.0150	-.0040	-.0170
60.000			.4140	.1160	-.0350	-.0580	-.0830	-.0820	-.0560	-.0750	.0940	.0320	.0130	.0080	.0140
90.000		1.2780	.3220	.0650	-.0640	-.0820	-.0790	-.0720	-.0720	.3640	-.0550	-.0830	-.0810	.0110	.0250
120.000			.2920	.0480	-.0690	-.0850	-.0740	-.0730	-.0620	-.0450	-.1000	-.0680	-.0250	-.0210	-.0140
135.000								-.0710		-.0380		.0350		-.0400	
150.000			.3090	.0560	-.0680	-.0800	-.0670	-.0670	-.0740	-.0370	.0550	.0210	.0170	-.0480	-.0940
165.000			.0670	-.0640	-.0780	-.0660	-.0640	-.0700	-.0400	.1260		.0020			-.0750
180.000	1.6620	1.3470	.3780	.0930	-.0510	-.0690	-.0720	-.0670	-.0680	-.0530	.2760	.0330	.0170	-.0290	-.0510
270.000		1.6400													

X/LT .7449 .8526 .9290

PHI

.000	-.0210	-.0220	-.0240
30.000	-.0110	.0030	-.0080
60.000	-.0030	-.0090	-.0230
90.000			-.0440
120.000	-.0550	-.0750	-.0550
135.000	-.0950	-.0300	-.0790
150.000	-.0600	-.0240	-.0670
165.000		-.0560	-.0670
180.000	-.0340		

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.710

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6600	1.5930	.6940	.3220	.0770	.0320	.0050	.0020	-.0170	-.0080	-.0040	.0190	-.0200	-.0230	-.0140
30.000			.8170	.3930	.1320	.0790	.0430	.0380	.0190	.0420	.0580	.0810	.0260	.0040	-.0050
60.000			.8540	.4210	.1460	.1090	.0560	.0360	.0500	.0670	.1290	.0380	.0020	.0030	.0120
90.000		1.6360	.7890	.3700	.1160	.0850	.0350	.0230	.0600	.0960	.0100	-.0590	-.0720	-.0640	-.0290
120.000			.6500	.2720	.0560	.0340	-.0050	-.0210	-.0110	.1630	-.0500	-.1100	-.1130	-.0860	.0070
135.000								-.0430		-.0260		-.0820		-.0600	
150.000			.4970	.1630	-.0040	-.0160	-.0430	-.0600	-.0560	-.0490	-.0200	-.0330	-.0520	.0850	.0070
165.000				.1150	-.0280	-.0370	-.0610	-.0710	-.0660	-.0460	.0660		.0430		-.0200
180.000	1.6600	1.3370	.3700	.0820	-.0490	-.0530	-.0580	-.0670	-.0670	-.0460	.3020	.0210	.0380	.0070	-.0520
270.000		1.2840													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7300	1.6510	.7230	.3330	.0790	.0360	.0070	.0040	-.0070	.0050	.0170	.0320	.0260	.0100	.0050
30.000			.7690	.3510	.1010	.0510	.0210	.0160	.0070	.0300	.0170	.0020	.0410	.0110	.0020
60.000			.7480	.3280	.0870	.0600	.0150	.0160	.0200	.0190	.1060	.0290	-.0090	-.0170	-.0120
90.000	1.6100		.6730	.2720	.0530	.0300	-.0090	-.0150	.0070	.6540	-.0020	-.0660	-.0790	-.0740	-.0450
120.000			.5620	.1980	.0130	-.0060	-.0370	-.0430	-.0360	.0970	-.0590	-.1140	-.1200	-.1100	-.0300
135.000								-.0550		-.0450		-.0850		-.0620	
150.000			.4550	.1340	-.0240	-.0350	-.0590	-.0530	-.0500	-.0400	-.0190	.0390	.0280	-.0110	-.0230
165.000				.1090	-.0360	-.0450	-.0500	-.0500	-.0510	-.0340	.0640		.0100		.0000
180.000	1.7300	1.3970	.3850	.0900	-.0460	-.0510	-.0440	-.0490	-.0510	-.0380	.2360	.0490	.0180	.0560	.0020
270.000		1.4210													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0080	-.0020	.0050												
30.000	-.0020	.0170	.0150												
60.000	-.0020	.0210	.0170												
90.000			.0200												
120.000	.0140	.0190	.0460												
135.000	.0050	.0250	.0860												
150.000	.0000	.0670	.0650												
165.000		.0930	.0760												
180.000	-.0370														

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7490	1.6680	.7310	.3380	.0820	.0380	.0080	.0040	-.0010	.0100	.0340	.0460	.0420	.0290	.0310
30.000			.7030	.2950	.0710	.0260	.0020	-.0010	-.0100	.0090	.0120	-.0090	-.0170	.0210	.0250
60.000			.6310	.2430	.0400	.0180	-.0160	.0000	-.0030	.0100	.0980	.0290	-.0120	-.0250	-.0050
90.000	1.5280		.5440	.1840	.0070	-.0110	-.0370	-.0460	-.0260	.6070	-.0100	-.0680	-.0790	-.0690	-.0510
120.000			.4620	.1320	-.0240	-.0310	-.0490	-.0430	-.0410	.0170	-.0570	-.0960	-.1040	-.0790	-.0230
135.000								-.0410		-.0380		-.0360		-.0490	
150.000			.4080	.1020	-.0390	-.0430	-.0380	-.0400	-.0400	-.0370	.0130	.0310	-.0070	.0150	-.0140
165.000				.0920	-.0430	-.0480	-.0380	-.0390	-.0420	-.0400	.1180		.0670		.0210
180.000	1.7490	1.4080	.3860	.0900	-.0450	-.0490	-.0390	-.0400	-.0440	-.0440	.2240	.0190	.0390	.1160	.0310
270.000		1.5320													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + 19 EXTERNAL TANK

(RBNT15)

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	.0080	-.0010	-.0010
30.000	.0050	.0110	.0130
60.000	-.0040	.0160	.0120
90.000			.0010
120.000	.0100	-.0020	.0100
135.000	-.0200	-.0100	.0160
150.000	-.0460	-.0050	-.0140
165.000		-.0070	-.0010
180.000	-.0330		

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.460

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7360	1.6490	.7240	.3370	.0830	.0390	.0100	.0060	-.0080	-.0030	.0340	.0570	.0260	.0050	.0120
30.000			.6290	.2450	.0430	.0040	-.0150	-.0190	-.0320	.0010	-.0030	-.0120	-.0160	-.0190	.0040
60.000			.5160	.1690	-.0010	-.0150	-.0450	-.0480	-.0300	-.0380	.0970	.0340	-.0050	-.0190	.0000
90.000		1.4250	.4230	.1100	-.0310	-.0410	-.0470	-.0480	-.0540	.4920	-.0210	-.0640	-.0660	-.0590	.0010
120.000			.3670	.0800	-.0460	-.0530	-.0390	-.0480	-.0510	-.0590	-.0500	-.0840	-.0900	-.0450	-.0190
135.000								-.0470		-.0410		-.0560		-.0230	
150.000			.3560	.0750	-.0500	-.0530	-.0400	-.0480	-.0520	-.0370	-.0080	-.0050	.0270	.0440	-.0460
165.000				.0800	-.0470	-.0530	-.0400	-.0510	-.0520	-.0350	.1320		.0290		-.0170
180.000	1.7360	1.4020	.3840	.0910	-.0430	-.0520	-.0410	-.0520	-.0530	-.0330	.2380	.0500	.0380	.0650	.0070
270.000		1.6130													

X/LT .7449 .8526 .9290

PHI

.000	-.0020	-.0030	-.0010
30.000	-.0080	.0070	.0090
60.000	.0130	.0090	-.0090
90.000			-.0390
120.000	-.0110	-.0330	-.0140
135.000	-.0390	-.0600	-.0210
150.000	-.0510	-.0430	-.0390
165.000		-.0460	-.0350
180.000	-.0370		





DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT15)

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.880

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0250	-.0250	-.0260
30.000	-.0290	-.0070	-.0120
60.000	-.0080	-.0100	-.0240
90.000			-.0660
120.000	-.0560	-.0790	-.0580
135.000	-.0760	-.0730	-.0670
150.000	-.0520	-.0440	-.0690
165.000		-.0620	-.0710
180.000	-.0470		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.498

BETAT ( 1 ) = -8.370

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6500	1.6250	.8100	.4030	.1150	.0580	.0010	-.0010	.0010	.0170	.0410	.0350	.0380	.0270	.0110
30.000			.9190	.4810	.1760	.1120	.0460	.0490	.0460	.0730	.0630	.0770	.0360	.0240	.0480
60.000			.9310	.4820	.1790	.1150	.0520	.0470	.0880	.6290	.1000	.0190	.0210	.0260	.0640
90.000	1.6350		.8350	.4000	.1220	.0680	.0090	.0060	.4210	.3890	-.1000	-.0940	-.0990	-.0800	.0760
120.000			.6680	.2740	.0400	-.0050	-.0520	-.0570	-.0520	.1070	-.1860	-.2060	-.1600	.0140	.0540
135.000								-.0880		.0450		-.1400		.0270	
150.000			.4970	.1550	-.0360	-.0710	-.1070	-.0990	-.0890	-.0740	-.1130	-.0890	.0730	.0250	.0230
165.000				.1090	-.0650	-.0950	-.0990	-.0930	-.0900	-.0530	.2950		-.0060		-.0140
180.000	1.6500	1.3050	.3750	.0740	-.0820	-.1100	-.0920	-.0900	-.0960	-.0490	.1880	.0470	-.0430	-.0050	-.0540
270.000		1.2860													

X/LT .7449 .8526 .9290

## PHI

.000	.0040	.0040	.0240
30.000	.0490	.0480	.0350
60.000	.0740	.0560	.0990
90.000			.1130
120.000	.0690	.1150	.2350
135.000	.0990	.2810	.2130
150.000	.0640	.2960	.2460
165.000		.4860	.1620
180.000	-.0430		

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.270

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6680	1.6430	.8160	.4060	.1180	.0610	.0080	.0060	.0120	.0290	.0460	.0830	.0470	.0300	.0170
30.000			.8980	.4540	.1590	.0960	.0370	.0360	.0430	.0720	.0470	.1020	.0410	.0330	.0410
60.000			.8770	.4360	.1450	.0910	.0270	.0290	.0740	.6170	.1060	.0200	.0110	.0350	.0440
90.000	1.6000		.7720	.3490	.0840	.0410	-.0140	-.0060	.4010	.3810	-.0930	-.0960	-.1060	-.0890	.0530
120.000			.6320	.2350	.0130	-.0220	-.0630	-.0610	-.0570	.1020	-.1830	-.2100	-.1750	-.0630	.0320
135.000								-.0860		.0550		-.1420		.0540	
150.000			.4780	.1380	-.0470	-.0740	-.1040	-.0860	-.0780	-.0680	-.0750	-.0250	.0320	.0060	.0080



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.160

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2930 .0920

180.000 -.0790

MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7000 1.6630 .8380 .4200 .1140 .0570 .0090 .0070 .0200 .0300 .0940 .1180 .0620 .0390 .0370

30.000 .8040 .3780 .0950 .0360 -.0060 -.0070 .0110 .0520 .0370 .0020 .0440 .0390 .0390 .0350

60.000 .7080 .2890 .0470 .0090 -.0390 -.0430 .0110 -.0110 .1180 .0210 -.0170 -.0060 .0350

90.000 1.4880 .5990 .2010 -.0130 -.0380 -.0780 -.0660 .0920 .3420 -.0890 -.1100 -.1290 -.0940 .0830

120.000 .4860 .1310 -.0540 -.0730 -.1030 -.0720 -.0720 .1110 -.1720 -.2230 -.1810 -.0150 .0460

135.000 .4300 .0930 -.0770 -.0940 -.0820 -.0680 -.0660 -.0180 .1330 .0280 -.0020 -.0240 -.0540

150.000 .0830 -.0820 -.0960 -.0790 -.0690 -.0660 -.0160 .1650 .1200 .0680

165.000 1.7000 1.3460 .4070 .0830 -.0820 -.0940 -.0810 -.0680 -.0670 -.0170 .2170 .2040 .1740 .0060 -.0670

180.000 1.4980

X/LT .7449 .8526 .9290

PHI

.000 .0200 .0230 .0470

30.000 .0310 .0460 .0350

60.000 .0500 .0280 .0270

90.000 .0810

120.000 -.0010 .0780 .0920

135.000 -.0110 .1270 .0560

150.000 -.0070 .1630 .0470

165.000 .1650 -.0070

180.000 -.0950

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 1 ) = 2.496

BETAT ( 5 ) = 4.330

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6880	1.6490	.8260	.4160	.1180	.0640	.0050	.0060	.0190	.0270	.0690	.0790	.0450	.0210	.0420
30.000			.7180	.3150	.0660	.0150	-.0330	-.0330	-.0150	.0910	-.0070	-.0080	.0260	.0260	.0290
60.000			.5930	.2080	.0020	-.0380	-.0780	-.0800	-.0260	-.0720	.1300	.0190	.0110	.0270	.0550
90.000		1.3910	.4640	.1310	-.0470	-.0780	-.0920	-.0670	-.0210	.3000	-.1080	-.1170	-.1110	-.0400	.0580
120.000			.3950	.0860	-.0720	-.0980	-.0810	-.0690	-.0700	.0220	-.1970	-.1980	-.1190	.0060	.0240
135.000								-.0690		-.0810		-.0030		-.0520	
150.000			.3790	.0720	-.0800	-.0920	-.0790	-.0640	-.0720	-.0420	.1160	.0900	.0390	-.0550	-.0860
165.000				.0730	-.0800	-.0950	-.0810	-.0650	-.0720	-.0390	.1590		.0700		-.0920
180.000	1.6880	1.3390	.3940	.0810	-.0770	-.0970	-.0810	-.0680	-.0720	-.0390	.2170	.1510	.0700	.0070	-.0570
270.000		1.5810													
X/LT	.7449	.8526	.9290												
PHI															
.000	.0310	.0300	.0300												
30.000	.0320	.0360	.0270												
60.000	.0320	.0100	.0030												
90.000			.0480												
120.000	-.0320	.0250	.0450												
135.000	-.0450	.0580	-.0230												
150.000	-.0450	.0390	-.0160												
165.000		.0300	-.0070												
180.000	-.0780														

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6660	1.6290	.8130	.4060	.1140	.0570	.0060	.0030	.0090	.0160	.0490	.0500	.0380	.0330	.0150
30.000			.6720	.2900	.0450	-.0040	-.0450	-.0450	-.0350	.0900	.0590	.0440	.0310	.0200	.0090
60.000			.5340	.1660	-.0230	-.0570	-.0960	-.0950	-.0550	-.0910	.1420	.0400	.0240	.0230	.0430
90.000		1.3290	.4200	.0930	-.0710	-.0980	-.1230	-.0980	-.0700	.2880	-.0920	-.0870	-.1060	.0250	.0270
120.000			.3680	.0590	-.0880	-.1110	-.1010	-.0980	-.0810	.0370	-.1690	-.1760	-.1000	.0070	-.0160
135.000								-.1000		-.0130		-.0040		-.0820	
150.000			.3480	.0550	-.0940	-.1100	-.1010	-.0990	-.0690	-.0200	.1530	.0760	.0100	-.0740	-.1130
165.000				.0580	-.0900	-.1030	-.0890	-.0970	-.0770	-.0230	.1480		.0330		-.1150
180.000	1.6660	1.3210	.3800	.0740	-.0850	-.1030	-.0860	-.0930	-.0810	-.0350	.2010	.0200	.0320	-.0160	-.0630
270.000		1.6060													
X/LT	.7449	.8526	.9290												
PHI															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 1 ) = 2.498      BETAT ( 6 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK      DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	.0150	.0110	.0210
30.000	.0150	.0130	.0060
60.000	.0070	.0110	-.0140
90.000			.0160
120.000	-.0640	-.0080	.0210
135.000	-.0700	.0180	-.0380
150.000	-.0650	-.0120	-.0680
165.000		-.0350	-.0730
180.000	-.0650		

MACH ( 1 ) = 2.498      BETAT ( 7 ) = 8.600

SECTION ( 1 ) EXTERNAL TANK      DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6550	1.6140	.8120	.4090	.1190	.0620	.0120	.0080	.0090	.0400	.0170	.0120	.0270	.0240	.0140
30.000			.6370	.2730	.0350	-.0150	-.0530	-.0540	-.0510	.0070	.0860	.0400	.0170	.0230	.0050
60.000			.4800	.1510	-.0410	-.0730	-.1080	-.1080	-.0530	-.1110	.1310	.0530	.0330	.0240	.0380
90.000		1.2820	.3760	.0680	-.0850	-.1090	-.1070	-.0910	-.0710	.2530	-.0930	-.0990	-.0910	.0590	-.0010
120.000			.3180	.0430	-.0950	-.1130	-.0980	-.0920	-.0690	-.0130	-.1740	-.1230	-.0030	.0070	.0420
135.000								-.0910		-.0100		.0110		-.0880	
150.000			.3220	.0440	-.0970	-.1070	-.0890	-.0910	-.0670	-.0300	.1450	.0450	-.0100	-.0890	-.1040
165.000				.0490	-.0930	-.0980	-.0850	-.0890	-.0840	-.0300	.1230		-.0100		-.1150
180.000	1.6550	1.3060	.3720	.0700	-.0850	-.1060	-.0860	-.0860	-.0840	-.0480	.1710	.0280	-.0610	-.0120	-.0640
270.000		1.6380													

X/LT      .7449      .8526      .9290

X/LT	.7449	.8526	.9290
PHI			
.000	.0040	.0110	.0020
30.000	.0130	.0060	.0020
60.000	.0160	.0060	-.0110
90.000			-.0010
120.000	-.0650	-.0160	-.0270
135.000	-.0910	.0050	-.0720
150.000	-.0650	-.0510	-.0610
165.000		-.0770	-.0870
180.000	-.0390		

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.530

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6480	1.6240	.7710	.3730	.1150	.0640	.0160	.0130	.0130	.0230	.0160	.0190	.0000	.0280	.0110
30.000			.8870	.4600	.1770	.1150	.0560	.0550	.0520	.0770	.0720	.1090	.0530	.0320	.0300
60.000			.8980	.4660	.1790	.1210	.0630	.0580	.0840	.3170	.1400	.0480	.0300	.0350	.0530
90.000	1.6280		.7960	.3850	.1260	.0780	.0270	.0300	.3370	.5520	-.0260	-.0650	-.0680	-.0440	.0010
120.000			.6320	.2620	.0480	.0140	-.0270	-.0270	-.0130	.1230	-.1180	-.1490	-.1340	-.0690	.0600
135.000								-.0550		-.0140		-.1180		-.0730	
150.000			.4620	.1460	-.0240	-.0460	-.0770	-.0740	-.0690	-.0350	-.0780	-.0750	-.0260	.0430	.0100
165.000				.1010	-.0470	-.0680	-.0800	-.0670	-.0670	-.0620	.0310		.0650		-.0110
180.000	1.6480	1.2950	.3340	.0680	-.0630	-.0810	-.0710	-.0660	-.0690	-.0600	.1970	.0300	-.0210	-.0400	-.0400
270.000		1.2750													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0030	-.0030	.0100												
30.000	.0380	.0510	.0370												
60.000	.0600	.0600	.0540												
90.000			.1260												
120.000	.0470	.0630	.1320												
135.000	.0510	.2210	.1810												
150.000	.0580	.2870	.2330												
165.000		.4090	.1850												
180.000	-.0210														

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -6.380

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6760	1.6460	.7860	.3830	.1170	.0650	.0160	.0140	.0150	.0270	.0080	.0370	.0450	.0200	.0270
30.000			.8670	.4400	.1570	.0980	.0460	.0430	.0410	.0670	.0660	.0910	.0610	.0360	.0320
60.000			.8480	.4190	.1440	.0930	.0390	.0340	.0600	.1200	.1350	.0430	.0240	.0360	.0400
90.000	1.6070		.7370	.3370	.0940	.0500	.0040	.0080	.1650	.5380	-.0280	-.0440	-.0710	-.0590	-.0180
120.000			.5910	.2290	.0260	-.0070	-.0440	-.0440	-.0270	.1080	-.1210	-.1500	-.1400	-.0910	.0270
135.000								-.0670		-.0300		-.1180		-.0700	
150.000			.4400	.1330	-.0300	-.0540	-.0800	-.0620	-.0630	-.0350	-.0690	-.0580	.0290	.0120	-.0080
165.000				.0960	-.0510	-.0710	-.0690	-.0610	-.0650	-.0650	.1070	.0450			-.0080
180.000	1.6760	1.3120	.3460	.0700	-.0630	-.0780	-.0630	-.0620	-.0670	-.0540	.2070	.0370	.0100	.0110	-.0260
270.000		1.3350													
X/LT	.7449	.8526	.9290												
PHI															





AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7290	1.6900	.8180	.4060	.1250	.0740	.0210	.0180	.0230	.0330	.0540	.0850	.0820	.0580	.0520
30.000			.7730	.3670	.1060	.0570	.0090	.0050	.0090	.0460	.0420	.0050	.0180	.0580	.0410
60.000			.6750	.2880	.0620	.0210	-.0230	-.0240	.0070	.0200	.1450	.0460	.0170	.0120	.0220
90.000	1.5080		.5560	.2010	.0120	-.0220	-.0550	-.0470	-.0330	.4910	-.0300	-.0620	-.0750	-.0670	-.0090
120.000			.4530	.1340	-.0270	-.0530	-.0730	-.0510	-.0600	.0920	-.1170	-.1420	-.1250	-.0890	-.0060
135.000								-.0510		-.0500		-.0650		-.0330	
150.000			.3900	.0980	-.0490	-.0700	-.0590	-.0520	-.0530	-.0440	.0750	.0470	.0110	.0200	-.0290
165.000				.0880	-.0510	-.0710	-.0600	-.0520	-.0540	-.0460	.1200		-.0090		-.0100
180.000	1.7290	1.3600	.3680	.0870	-.0540	-.0720	-.0580	-.0540	-.0540	-.0480	.1970	.0670	-.0090	.0780	-.0070
270.000		1.5210													
X/LT	.7449	.8526	.9290												
PHI															
.000	.0230	.0180	.0250												
30.000	.0270	.0360	.0340												
60.000	.0310	.0320	.0080												
90.000			.0220												
120.000	.0100	-.0260	.0420												
135.000	-.0130	.0160	.0330												
150.000	-.0390	.0770	.0230												
165.000		.0830	.0170												
180.000	-.0750														

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 4.400

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6980	1.6550	.8050	.3950	.1230	.0710	.0220	.0180	.0160	.0220	.0580	.0780	.0520	.0330	.0370
30.000			.6870	.3010	.0710	.0260	-.0130	-.0170	-.0160	.0220	.0190	.0030	.0120	.0340	.0260
60.000			.5460	.1960	.0100	-.0200	-.0550	-.0550	-.0210	-.0170	.1450	.0550	.0250	.0280	.0290
90.000	1.3900		.4300	.1190	-.0340	-.0570	-.0670	-.0520	-.0600	.4150	-.0350	-.0590	-.0710	-.0620	.0070
120.000			.3650	.0800	-.0560	-.0710	-.0580	-.0520	-.0540	-.0430	-.1150	-.1310	-.1130	-.0750	.0010
135.000								-.0500		-.0520		-.0050		-.0160	
150.000			.3350	.0680	-.0600	-.0640	-.0570	-.0500	-.0570	-.0440	.0600	.0540	-.0190	-.0100	-.0730
165.000				.0700	-.0590	-.0680	-.0560	-.0520	-.0570	-.0440	.1320		.0130		-.0550
180.000	1.6980	1.3400	.3600	.0790	-.0570	-.0720	-.0580	-.0530	-.0580	-.0450	.2100	.0490	.0660	.0390	-.0210
270.000		1.5860													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 2) = 2.999

BETAT ( 5) = 4.400

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	.0190	.0190	.0280
30.000	.0120	.0380	.0290
60.000	.0450	.0180	.0010
90.000			.0070
120.000	-.0240	-.0410	.0270
135.000	-.0620	.0020	-.0130
150.000	-.0520	.0160	-.0150
165.000		.0300	-.0050
180.000	-.0610		

MACH ( 2) = 2.999

BETAT ( 6) = 6.580

SECTION ( 1)EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6650	1.6220	.7870	.3880	.1210	.0710	-.0190	.0160	.0060	.0070	.0540	.0380	.0400	.0240	.0240
30.000			.6390	.2700	.0560	.0140	-.0260	-.0270	-.0330	.0050	.0270	.0310	.0360	.0240	.0140
60.000			.4850	.1620	-.0060	-.0370	-.0680	-.0700	-.0420	-.0480	.1360	.0600	.0340	.0240	.0400
90.000		1.3200	.3720	.0900	-.0490	-.0720	-.0750	-.0700	-.0730	.3680	-.0370	-.0580	-.0670	-.0330	.0840
120.000			.3110	.0570	-.0650	-.0800	-.0690	-.0700	-.0670	-.0510	-.1210	-.1350	-.0770	-.0580	-.0020
135.000								-.0690		-.0310		.0320		-.0260	
150.000			.3040	.0540	-.0650	-.0810	-.0640	-.0710	-.0670	-.0380	.0970	.0700	-.0130	-.0270	-.0860
165.000				.0580	-.0650	-.0730	-.0630	-.0710	-.0680	-.0400	.1110		.0270		-.0640
180.000	1.6650	1.3130	.3460	.0740	-.0580	-.0770	-.0640	-.0710	-.0670	-.0460	.1960	.0380	.0030	.0050	-.0310
270.000		1.6040													

X/LT .7449 .8526 .9290

PHI

.000	.0060	.0130	.0200
30.000	.0180	.0320	.0220
60.000	.0210	.0120	.0000
90.000			-.0110
120.000	-.0430	-.0510	-.0250
135.000	-.0760	-.0260	-.0440
150.000	-.0620	.0060	-.0300
165.000		-.0320	-.0610
180.000	-.0420		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.690

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0140	-.0050	.0090
30.000	.0190	.0460	.0390
60.000	.0400	.0590	.0410
90.000			.0780
120.000	.0380	.0480	.1290
135.000	.0230	.0640	.1430
150.000	.0300	.2340	.1560
165.000		.2330	.2020
180.000	-.0460		

MACH ( 3 ) = 3.502 BETAT ( 2 ) = -6.500

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.6610	.7730	.3760	.1060	.0570	.0260	.0240	.0190	.0260	.0220	.0450	.0330	.0120	.0110
30.000			.8540	.4140	.1440	.0890	.0520	.0470	.0440	.0660	.0740	.0430	.0680	.0490	.0170
60.000			.8360	.4120	.1320	.0980	.0480	.0470	.0560	.0680	.1580	.0640	.0290	.0240	.0250
90.000		1.6220	.7270	.3170	.0840	.0570	.0150	.0140	.0360	.6470	.0190	-.0360	-.0530	-.0480	-.0340
120.000			.5740	.2090	.0210	.0060	-.0270	-.0290	-.0240	.1150	-.0750	-.1140	-.1090	-.0870	-.0130
135.000								-.0460		-.0480		-.0900		-.0850	
150.000			.4290	.1190	-.0300	-.0370	-.0590	-.0480	-.0460	-.0480	-.0310	-.0520	-.0250	.0290	-.0150
165.000				.0830	-.0490	-.0520	-.0540	-.0460	-.0470	-.0480	.0430		.0220		-.0280
180.000	1.6920	1.3230	.3290	.0590	-.0590	-.0600	-.0510	-.0450	-.0500	-.0450	.2200	.0390	-.0230	.0110	-.0340
270.000		1.3480													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0040	.0060	.0150
30.000	.0210	.0380	.0340
60.000	.0260	.0440	.0360
90.000			.0440
120.000	.0210	.0280	.0810
135.000	.0060	.0540	.1060
150.000	.0110	.1660	.1040
165.000		.1470	.1420
180.000	-.0370		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.320

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7110	1.6800	.7820	.3780	.1100	.0600	.0280	.0240	.0200	.0260	.0340	.0610	.0470	.0300	.0190
30.000			.8230	.3890	.1290	.0740	.0400	.0370	.0310	.0560	.0630	.0250	.0690	.0460	.0280
60.000			.7750	.3580	.1040	.0720	.0240	.0380	.0370	.0560	.1530	.0640	.0230	.0150	.0270
90.000		1.5900	.6630	.2660	.0530	.0310	-.0060	-.0090	.0120	.6270	.0170	-.0340	-.0560	-.0510	-.0320
120.000			.5240	.1750	-.0010	-.0130	-.0400	-.0430	-.0400	.0030	-.0740	-.1160	-.1130	-.0970	-.0160
135.000								-.0540		-.0470		-.0940		-.0800	
150.000			.4060	.1030	-.0370	-.0430	-.0570	-.0480	-.0410	-.0380	.0030	-.0260	.0070	.0160	-.0060
165.000				.0810	-.0500	-.0520	-.0500	-.0480	-.0450	-.0350	.0460		.0000		-.0020
180.000	1.7110	1.3380	.3340	.0660	-.0560	-.0570	-.0470	-.0450	-.0470	-.0400	.2030	.0420	.0210	.0580	.0030
270.000		1.4090													
X/LT	.7449	.8526	.9290												
PHI															
.000	.0190	.0220	.0260												
30.000	.0270	.0400	.0380												
60.000	.0240	.0390	.0380												
90.000			.0270												
120.000	.0290	.0190	.0460												
135.000	.0080	.0360	.0960												
150.000	-.0020	.0930	.0660												
165.000		.0980	.0810												
180.000	-.0400														

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .050

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7280	1.6890	.7920	.3820	.1060	.0600	.0260	.0220	.0210	.0230	.0510	.0600	.0610	.0390	.0390
30.000			.7540	.3320	.0930	.0450	.0160	.0110	.0100	.0380	.0500	.0110	-.0030	.0240	.0380
60.000			.6550	.2670	.0490	.0250	-.0110	-.0160	.0070	.0260	.1400	.0580	.0160	.0070	.0120
90.000		1.5100	.5370	.1780	.0020	-.0140	-.0410	-.0430	-.0230	.5620	.0020	-.0450	-.0600	-.0590	-.0380
120.000			.4330	.1130	-.0340	-.0410	-.0540	-.0400	-.0440	.0410	-.0770	-.1100	-.0940	-.0900	-.0400
135.000								-.0390		-.0380		-.0480		-.0860	
150.000			.3640	.0750	-.0530	-.0550	-.0470	-.0400	-.0440	-.0400	.0080	-.0170	-.0210	.0170	-.0150
165.000				.0650	-.0580	-.0550	-.0450	-.0400	-.0440	-.0480	.1080		-.0030		.0140
180.000	1.7280	1.3560	.3400	.0620	-.0580	-.0560	-.0450	-.0390	-.0460	-.0500	.1810	.0210	-.0120	.0810	.0120
270.000		1.5150													
X/LT	.7449	.8526	.9290												
PHI															



AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.686

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.6480	.7720	.3750	.1090	.0570	.0280	.0220	.0170	.0180	.0340	.0310	.0350	.0120	.0130
30.000			.6230	.2470	.0460	.0050	-.0130	-.0170	-.0210	.0180	-.0010	.0010	.0250	.0160	-.0020
60.000			.4670	.1400	-.0140	-.0260	-.0530	-.0500	-.0270	-.0400	.0740	.0370	.0250	.0240	.0170
90.000	1.3320		.3530	.0700	-.0540	-.0570	-.0480	-.0440	-.0480	.3550	-.0360	-.0490	-.0550	-.0500	.0480
120.000			.2900	.0390	-.0670	-.0500	-.0470	-.0430	-.0480	-.0880	-.1010	-.1080	-.0790	-.0600	-.0230
135.000								-.0440		-.0680		.0010		-.0290	
150.000			.2840	.0370	-.0690	-.0500	-.0440	-.0440	-.0470	-.0640	.0480	.0530	.0070	-.0080	-.0700
165.000				.0440	-.0660	-.0520	-.0440	-.0460	-.0470	-.0610	.0890		.0120		-.0550
180.000	1.6890	1.3230	.3310	.0580	-.0620	-.0580	-.0470	-.0460	-.0460	-.0620	.1910	.0380	-.0310	-.0030	-.0430
270.000		1.6250													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0040	.0030	.0030												
30.000	-.0070	.0200	.0170												
60.000	.0120	.0090	.0150												
90.000			-.0570												
120.000	-.0390	-.0620	-.0340												
135.000	-.0690	-.0660	-.0460												
150.000	-.0570	-.0390	-.0530												
165.000		-.0600	-.0480												
180.000	-.0400														

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.900

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6470	1.6040	.7490	.3630	.1030	.0540	.0270	.0220	.0160	.0180	.0130	.0260	.0090	.0010	-.0070
30.000			.5760	.2150	.0270	-.0080	-.0200	-.0240	-.0320	.0060	.0150	.0290	.0230	-.0020	-.0320
60.000			.4070	.1050	-.0350	-.0410	-.0530	-.0540	-.0400	-.0630	.0430	.0380	.0300	.0220	.0020
90.000	1.2640		.2940	.0380	-.0680	-.0560	-.0510	-.0520	-.0520	.2870	-.0270	-.0460	-.0500	-.0430	.0000
120.000			.2480	.0170	-.0770	-.0500	-.0500	-.0500	-.0550	-.0730	-.1000	-.1050	-.0340	-.0470	-.0370
135.000								-.0520		-.0560		.0330		-.0370	
150.000			.2520	.0200	-.0770	-.0500	-.0500	-.0490	-.0550	-.0530	.0800	.0360	.0030	-.0370	-.0780
165.000				.0300	-.0750	-.0560	-.0510	-.0510	-.0550	-.0470	.1030		-.0440		-.0790
180.000	1.6470	1.2900	.3130	.0490	-.0660	-.0630	-.0530	-.0520	-.0540	-.0460	.2130	.0230	.0170	-.0330	-.0560
270.000		1.6270													
X/LT	.7449	.8526	.9290												

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT16)

MACH ( 3) = 3.502

BETAT ( 7) = 8.900

SECTION ( 1) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0190	-.0060	-.0060
30.000	-.0260	.0090	.0050
60.000	.0020	.0120	.0070
90.000			-.0570
120.000	-.0640	-.0770	-.0520
135.000	-.0800	-.0650	-.0610
150.000	-.0520	-.0380	-.0650
165.000		-.0560	-.0590
180.000	-.0490		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .500  
 RUDFLR = .000

MACH ( 1 ) = 2.499

BETAT ( 1 ) = -8.390

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6550	1.3100	.3730	.0970	-.0740	-.1110	-.1290	-.1190	-.1110	-.0870	-.0230	-.0540	-.0990	-.1210	-.0850
30.000			.4890	.1600	-.0350	-.0770	-.1020	-.1030	-.1040	-.0940	-.1300	-.1880	-.1830	-.1470	-.1170
60.000			.6610	.2660	.0370	-.0020	-.0490	-.0510	-.0530	.0990	-.1970	-.2260	-.1810	-.1560	-.0480
90.000		1.6340	.8290	.3980	.1200	.0720	.0150	.0120	.4200	.3400	-.1210	-.1200	-.0770	-.0220	.0090
120.000			.9190	.4810	.1760	.1230	.0600	.0470	.0900	.6270	.0810	.0940	.0980	.2500	.2220
135.000								.0510		.1180		.2500		.1590	
150.000			.9180	.4780	.1730	.1200	.0550	.0440	.0470	.0730	.5680	.2410	.2400	.1400	.1210
165.000				.4370	.1470	.0980	.0360	.0260	.0290	.0850	.4960		.1990		.0490
180.000	1.6550	1.6190	.8190	.3850	.1100	.0680	.0100	.0000	.0100	.0840	.3630	.1100	.0740	.0160	-.0300
270.000		1.2800													

X/LT .7449 .8526 .9290

PHI

.000	-.0940	-.0690	-.0470
30.000	-.1150	-.1130	-.1000
60.000	-.0710	-.0880	-.0640
90.000			.0790
120.000	.0930	.1400	.1520
135.000	.0960	.2740	.1480
150.000	.1190	.3000	.2000
165.000		.5030	.1590
180.000	-.0260		

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.280

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6700	1.3250	.3830	.0980	-.0690	-.1060	-.1180	-.1010	-.1020	-.0740	.0100	-.0050	-.0770	-.0950	-.0520
30.000			.4750	.1470	-.0420	-.0810	-.1040	-.1040	-.0970	-.0990	-.1040	-.1610	-.1680	-.1160	-.0850
60.000			.6170	.2310	.0140	-.0180	-.0640	-.0670	-.0640	.0920	-.1810	-.2160	-.1910	-.1460	-.0540
90.000		1.6040	.7610	.3510	.0890	.0460	-.0100	-.0110	.3970	.3490	-.1000	-.1350	-.0550	-.0310	-.0030
120.000			.8700	.4360	.1420	.0960	.0390	.0280	.0680	.6360	.1040	.1060	.0880	.2230	.1830
135.000								.0380		.1090		.2360		.1410	
150.000			.8950	.4520	.1570	.1070	.0460	.0360	.0510	.0900	.3620	.2150	.1790	.1330	.1100



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 1 ) = 2.498

BETAT ( 3 ) = -4.160

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .3530 .0550

180.000 .0230

MACH ( 1 ) = 2.498

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.6930 1.3370 .3930 .1090 -.0540 -.0900 -.1170 -.1050 -.1010 -.0710 -.0080 .0280 .0000 -.0600 -.0790

30.000 .4110 .1090 -.0530 -.0890 -.1190 -.1110 -.0990 -.0970 -.0500 -.1100 -.1080 -.0980 -.0840

60.000 .4760 .1460 -.0350 -.0730 -.1080 -.1030 -.1030 .0760 -.1910 -.2300 -.2060 -.1810 -.0620

90.000 1.4860 .5800 .2140 .0060 -.0390 -.0790 -.0780 .1380 .2950 -.1070 -.1260 -.0280 -.0520 -.0630

120.000 .6900 .2940 .0610 .0110 -.0380 -.0460 -.0030 .0310 .1080 .1320 .0430 .1380 .1080

135.000 .0270 .1530 .1430 .1010

150.000 .7880 .3790 .1130 .0540 .0010 -.0110 -.0070 .1530 .2960 .1480 .1440 .0640 .0640

165.000 .3990 .1240 .0660 .0120 .0000 .0040 .0260 .3900 .1500 .0720

180.000 1.6930 1.6550 .8310 .3990 .1280 .0720 .0130 .0030 .0090 .0340 .3210 -.0280 .1410 .1850 .0740

270.000 1.4830

X/LT .7449 .8526 .9290

PHI

.000 -.0700 -.0220 -.0160

30.000 -.0570 -.0480 -.0470

60.000 -.0380 -.0560 -.0420

90.000 .0070

120.000 .0230 .0080 .0230

135.000 .0420 .0690 .0080

150.000 .0420 .1500 -.0280

165.000 .1980 -.0180

180.000 .0230

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 1 ) = 2.498

BETAT ( 5 ) = 4.330

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6850	1.3220	.3920	.1050	-.0560	-.0960	-.1170	-.1030	-.1020	-.0690	.0030	-.0120	-.0490	-.0740	-.0600
30.000			.3690	.0890	-.0720	-.1010	-.1190	-.1020	-.1010	-.0580	-.0860	-.0480	-.0640	-.0870	-.0990
60.000			.3880	.0840	-.0660	-.0950	-.1230	-.1080	-.1070	.0690	-.1850	-.2180	-.1860	-.1800	-.0530
90.000	1.3880		.4610	.1310	-.0410	-.0720	-.1070	-.1070	.0720	.2910	-.1180	-.0850	-.0220	-.0780	-.0670
120.000			.5740	.2060	.0070	-.0320	-.0730	-.0800	-.0360	.0030	.1990	.1040	.0830	.0960	.0550
135.000								-.0540		.0550		.0820		.1110	
150.000			.7100	.3140	.0650	.0220	-.0260	-.0320	.0120	.1350	.2140	.0590	.0970	.0720	.0320
165.000				.3610	.0980	.0470	-.0040	-.0130	.0370	.1080	.3010		.1020		.0150
180.000	1.6850	1.6490	.8140	.3990	.1210	.0730	.0150	.0060	.0490	.1010	.3420	.1050	.1420	.0560	.0320
270.000		1.5660													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0780	-.0410	-.0340												
30.000	-.0500	-.0280	-.0270												
60.000	-.0300	-.0530	-.0400												
90.000			-.0270												
120.000	-.0020	-.0060	-.0220												
135.000	.0020	.0270	-.0580												
150.000	.0120	.0130	-.0650												
165.000		.0220	-.0610												
180.000	.0310														

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.470

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6690	1.3060	.3790	.1030	-.0750	-.1100	-.1220	-.1090	-.1120	-.0890	-.0110	.0010	-.0680	-.0940	-.0610
30.000			.3450	.0730	-.0860	-.1180	-.1190	-.1040	-.1050	-.0420	-.0890	-.0720	-.0650	-.0960	-.1130
60.000			.3540	.0590	-.0880	-.1010	-.1020	-.1050	-.1110	.0430	-.1740	-.1970	-.1770	-.1740	-.0440
90.000	1.3290		.4090	.0920	-.0710	-.0890	-.0980	-.1000	-.0180	.2630	-.0970	-.0600	-.0410	-.1010	-.0710
120.000			.5180	.1660	-.0270	-.0510	-.0880	-.0730	-.0670	-.0400	.2180	.0860	.0740	.0880	.0450
135.000								-.0670		.0370		.0960		.0880	
150.000			.6720	.2780	.0420	.0090	-.0380	-.0530	.0100	.1010	.1940	-.0260	.0800	.0430	.0070
165.000				.3320	.0800	.0390	-.0110	-.0270	.0180	.0810	.2980		.0570		-.0300
180.000	1.6690	1.6350	.8120	.3850	.1100	.0700	.0140	-.0030	.0290	.0890	.3520	.1180	.0940	.0260	-.0200
270.000		1.5950													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 2) = 2.999

BETAT ( 1) = -8.540

SECTION ( 1)EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6580	1.3060	.3400	.0880	-.0750	-.1070	-.0930	-.0930	-.0870	-.0760	-.0340	-.0650	-.1020	-.1110	-.0910
30.000			.4630	.1280	-.0400	-.0730	-.0700	-.0710	-.0700	-.0750	-.0740	-.1210	-.1320	-.1240	-.1020
60.000			.6330	.2390	.0270	.0160	-.0230	-.0290	-.0220	.1250	-.1130	-.1540	-.1440	-.1120	-.0370
90.000	1.6380		.8000	.3650	.1040	.0830	.0320	.0330	.3610	.5170	-.0380	-.0780	-.0780	-.0030	.0200
120.000			.8960	.4470	.1560	.1290	.0690	.0610	.0890	.4430	.1360	.0440	.0950	.1100	.1790
135.000								.0610		.1080		.2320		.1660	
150.000			.8950	.4440	.1490	.1240	.0650	.0600	.0580	.0810	.1360	.2780	.1990	.1940	.0970
165.000				.4030	.1220	.1030	.0480	.0470	.0400	.0940	.4740		.1580		.1100
180.000	1.6580	1.6170	.7790	.3480	.0890	.0730	.0250	.0210	.0170	.0640	.4410	.0790	.1690	.0380	.0360
270.000		1.2720													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0740	-.0860	-.0550												
30.000	-.1180	-.1020	-.1080												
60.000	-.0650	-.0630	-.0540												
90.000			.0390												
120.000	.1450	.0970	.1410												
135.000	.1250	.2870	.1800												
150.000	.1020	.3330	.2380												
165.000		.4850	.2240												
180.000	.0050														

MACH ( 2) = 2.999

BETAT ( 2) = -4.240

SECTION ( 1)EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7070	1.3420	.3590	.1010	-.0540	-.0840	-.0920	-.0810	-.0770	-.0720	-.0380	-.0060	-.0280	-.0540	-.0500
30.000			.4290	.1200	-.0360	-.0700	-.0830	-.0840	-.0740	-.0720	-.0370	-.1070	-.1200	-.1090	-.0670
60.000			.5450	.1850	.0030	-.0210	-.0540	-.0570	-.0520	.1090	-.1160	-.1550	-.1500	-.1230	-.0950
90.000	1.5870		.6800	.2830	.0580	.0250	-.0170	-.0180	.0520	.4900	-.0280	-.0650	-.0700	-.0050	-.0180
120.000			.7920	.3690	.1100	.0720	.0220	.0160	.0450	.0570	.1410	.0860	.1000	.0780	.1260
135.000								.0280		.0740		.2780		.0980	
150.000			.8420	.4100	.1330	.0940	.0410	.0280	.0350	.0850	.2950	.1680	.1410	.1550	.0790
165.000				.4010	.1270	.0900	.0370	.0280	.0380	.0650	.4740		.1530		.0690
180.000	1.7070	1.6670	.8040	.3750	.1130	.0770	.0250	.0300	.0250	.0560	.4310	.0200	.1410	.0630	.0580
270.000		1.4000													
X/LT	.7449	.8526	.9290												
PHI															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.240

## SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0570	-.0600	-.0350
30.000	-.0590	-.0670	-.0730
60.000	-.0390	-.0840	-.0640
90.000			-.0290
120.000	.0840	.0460	.0760
135.000	.0670	.1330	.1040
150.000	.0610	.2630	.1140
165.000		.3190	.0980
180.000	.0160		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

## SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7220	1.3490	.3660	.1050	-.0460	-.0770	-.0880	-.0800	-.0710	-.0550	-.0200	.0040	.0220	-.0210	-.0410
30.000			.3890	.1060	-.0480	-.0750	-.0900	-.0870	-.0710	-.0710	-.0620	-.0740	-.0860	-.0900	-.0570
60.000			.4550	.1270	-.0300	-.0500	-.0800	-.0800	-.0700	.0940	-.1200	-.1560	-.1510	-.1450	-.0780
90.000		1.5060	.5580	.1940	.0070	-.0210	-.0550	-.0510	-.0320	.4440	-.0300	-.0800	-.0280	-.0120	-.0400
120.000			.6730	.2810	.0570	.0230	-.0200	-.0220	.0050	.0310	.1420	.1470	.0660	.1030	.0750
135.000								-.0050		.1170		.1640		.0850	
150.000			.7730	.3600	.1000	.0610	.0130	.0120	.0100	.0070	.2780	.1310	.0690	.0760	.0920
165.000				.3770	.1140	.0740	.0250	.0220	.0190	.0170	.4570		.1780		.0840
180.000	1.7220	1.6850	.8130	.3830	.1170	.0810	.0280	.0220	.0240	.0200	.4240	.0550	.1660	.0660	.0880
270.000		1.5020													

X/LT	.7449	.8526	.9290
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PHI			
.000	-.0530	-.0450	-.0280
30.000	-.0550	-.0420	-.0510
60.000	-.0440	-.0560	-.0390
90.000			-.0050
120.000	.0390	.0320	.0350
135.000	.0410	.0550	.0390
150.000	.0350	.1460	.0150
165.000		.1980	.0150
180.000	.0230		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 2 ) = 2.999 BETAT ( 4 ) = 4.410

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7030	1.3320	.3550	.0990	-.0600	-.0910	-.0900	-.0780	-.0670	-.0670	-.0350	-.0140	-.0440	-.0590	-.0450
30.000			.3320	.0620	-.0700	-.0980	-.0930	-.0800	-.0740	-.0590	-.0720	-.0450	-.0460	-.0590	-.0700
60.000			.3590	.0620	-.0690	-.0730	-.0940	-.0850	-.0790	.0560	-.1230	-.1590	-.1510	-.1490	-.1020
90.000	1.3970		.4330	.1060	-.0490	-.0540	-.0810	-.0770	-.0210	.4250	-.0420	-.0940	-.0140	-.0260	-.0640
120.000			.5450	.1830	-.0050	-.0160	-.0520	-.0520	-.0110	-.0100	.1460	.1340	.0290	.0840	.0780
135.000								-.0340		.0350		.1450		.0690	
150.000			.6840	.2860	.0540	.0330	-.0120	-.0110	.0260	.0600	.1690	.0320	.0820	.0370	.0500
165.000				.3300	.0820	.0540	.0090	.0080	.0390	.0580	.3810		.0970		.0460
180.000	1.7030	1.6680	.7960	.3650	.1050	.0750	.0250	.0250	.0430	.0580	.4260	.0590	.1340	.0660	.0460
270.000		1.5760													

X/LT .7449 .8526 .9290

PHI			
.000	-.0620	-.0610	-.0500
30.000	-.0900	-.0400	-.0310
60.000	-.0420	-.0400	-.0460
90.000			-.0420
120.000	.0180	.0000	-.0140
135.000	.0210	.0240	-.0140
150.000	-.0010	.0500	-.0260
165.000		.0280	-.0340
180.000	.0110		

MACH ( 2 ) = 2.999 BETAT ( 5 ) = 8.760

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6570	1.2900	.3400	.0880	-.0530	-.0840	-.0940	-.0890	-.0800	-.0750	-.0420	-.0480	-.0940	-.1060	-.0750
30.000			.2810	.0490	-.0720	-.0950	-.0930	-.0860	-.0870	-.0740	-.0800	-.0840	-.0640	-.0670	-.0780
60.000			.2760	.0340	-.0760	-.0870	-.0930	-.0850	-.0750	-.0580	-.1120	-.1360	-.1290	-.1230	-.0960
90.000	1.2730		.3230	.0590	-.0670	-.0820	-.1000	-.0680	-.0420	.2980	-.0440	-.0330	-.0070	-.0530	-.0510
120.000			.4270	.1250	-.0280	-.0500	-.0730	-.0590	-.0420	-.0680	.0940	.1010	.0680	.0970	.0340
135.000								-.0590		.0410		.0360		.0790	
150.000			.5970	.2380	.0320	.0040	-.0330	-.0430	-.0020	.0460	.1860	-.0430	.0000	-.0460	-.0270
165.000				.3010	.0710	.0370	-.0070	-.0160	.0030	.0240	.3060		.0810		-.0430
180.000	1.6570	1.6210	.7680	.3600	.1070	.0680	.0200	.0130	.0090	.0620	.4230	.0640	.1590	.0410	.0370
270.000		1.6260													

X/LT .7449 .8526 .9290

PHI

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.760

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP		
X/LT	.7449	.8526	.9290	
PHI				
.000	-.0670	-.0840	-.0710	
30.000	-.0810	-.0490	-.0580	
60.000	-.0570	-.0480	-.0600	
90.000			-.0470	
120.000	-.0160	-.0500	-.0610	
135.000	-.0360	-.0130	-.0710	
150.000	-.0220	.0100	-.0640	
165.000		-.0330	-.0710	
180.000	.0020			

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.700

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372	
PHI																
.000	1.6600	1.3080	.3210	.1030	-.0190	-.0530	-.0730	-.0640	-.0750	-.0720	-.0460	-.0510	-.0890	-.0900	-.0530	
30.000			.4390	.1450	-.0020	-.0530	-.0570	-.0570	-.0680	-.0750	-.0460	-.0940	-.1010	-.0890	-.0670	
60.000			.6080	.2580	.0600	.0230	-.0120	-.0210	-.0230	.1230	-.0720	-.1150	-.1130	-.0970	-.0300	
90.000		1.6450	.7760	.3820	.1290	.0860	.0370	.0190	.0810	.6510	.0120	-.0490	-.0530	-.0150	.0330	
120.000			.8790	.4580	.1780	.1280	.0700	.0520	.0700	.1100	.1610	.0670	.1010	.1130	.1920	
135.000								.0550		.0970		.2170		.1570		
150.000			.8800	.4520	.1740	.1230	.0680	.0520	.0490	.0940	.1280	.2630	.1890	.1750	.1260	
165.000				.4130	.1480	.1030	.0680	.0360	.0300	.0920	.4290		.1470		.1030	
180.000	1.6600	1.6220	.7620	.3580	.1160	.0750	.0300	.0130	.0080	.0480	.4740	.0540	.1490	.1020	.0660	
270.000		1.2700														
SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP														
X/LT	.7449	.8526	.9290													
PHI																
.000	-.0480	-.0760	-.0430													
30.000	-.0780	-.0870	-.0850													
60.000	-.0430	-.0540	-.0320													
90.000			-.0250													
120.000	.1580	.1090	.1490													
135.000	.1330	.1520	.1810													
150.000	.0920	.3270	.2000													
165.000		.3620	.2380													
180.000	.0120															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.510

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7030	1.3350	.3330	.0940	-.0300	-.0610	-.0770	-.0690	-.0670	-.0670	-.0510	-.0340	-.0390	-.0540	-.0540
30.000			.4300	.1320	-.0130	-.0430	-.0670	-.0690	-.0650	-.0690	-.0490	-.0920	-.0940	-.0930	-.0750
60.000			.5820	.2200	.0350	.0000	-.0330	-.0380	-.0320	.1060	-.0790	-.1200	-.1140	-.1020	-.0630
90.000	1.6360		.7370	.3270	.0970	.0530	.0080	.0060	.0290	.6220	.0090	-.0460	-.0540	-.0070	.0040
120.000			.8420	.4060	.1430	.0940	.0460	.0350	.0520	.0600	.1500	.0660	.0920	.0830	.1480
135.000								.0430		.0800		.2810		.1280	
150.000			.8650	.4270	.1540	.1050	.0520	.0430	.0390	.0890	.2270	.2060	.1740	.1350	.1060
165.000				.4040	.1410	.0920	.0520	.0360	.0320	.0540	.4230		.1590		.0720
180.000	1.7030	1.6620	.7900	.3650	.1160	.0730	.0260	.0210	.0220	.0430	.4770	.0390	.1240	.0930	.0430
270.000		1.3550													

X/LT .7449 .8526 .9290

PHI			
.000	-.0560	-.0670	-.0510
30.000	-.0790	-.0840	-.0830
60.000	-.0480	-.0700	-.0500
90.000			-.0440
120.000	.1190	.0730	.1040
135.000	.0890	.1030	.1340
150.000	.0700	.2520	.1550
165.000		.3090	.1530
180.000	.0100		

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.320

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7230	1.3510	.3390	.1010	-.0300	-.0590	-.0680	-.0610	-.0700	-.0660	-.0480	-.0160	-.0330	-.0410	-.0390
30.000			.4120	.1160	-.0210	-.0480	-.0650	-.0680	-.0690	-.0680	-.0520	-.0830	-.1040	-.1040	-.0600
60.000			.5340	.1870	.0170	-.0080	-.0390	-.0440	-.0470	.0790	-.0770	-.1160	-.1250	-.1070	-.0870
90.000	1.6050		.6740	.2820	.0680	.0350	-.0060	-.0160	.0050	.6020	.0060	-.0580	-.0660	-.0110	-.0020
120.000			.7790	.3660	.1150	.0760	.0310	.0150	.0360	.0430	.1490	.0550	.0910	.0790	.1320
135.000								.0250		.0700		.2990		.1240	
150.000			.8340	.4040	.1370	.0960	.0470	.0290	.0320	.0740	.2680	.2320	.1130	.0770	.0830
165.000				.3950	.1320	.0930	.0470	.0280	.0330	.0610	.4500		.1320		.0890
180.000	1.7230	1.6810	.7920	.3700	.1170	.0820	.0460	.0180	.0230	.0500	.4760	.0130	.0810	.0770	.0750
270.000		1.4050													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT17)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.490

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7180	1.3440	.3410	.1010	-.0260	-.0590	-.0680	-.0530	-.0700	-.0670	-.0450	-.0150	-.0230	-.0400	-.0300
30.000			.3180	.0670	-.0430	-.0670	-.0690	-.0590	-.0710	-.0670	-.0740	-.0650	-.0330	-.0400	-.0440
60.000			.3420	.0740	-.0410	-.0560	-.0720	-.0640	-.0790	-.0020	-.0750	-.1210	-.1120	-.1070	-.0910
90.000	1.4090		.4200	.1150	-.0230	-.0390	-.0620	-.0770	-.0430	.4810	-.0200	-.0660	-.0110	.0050	-.0370
120.000			.5370	.1910	.0190	-.0070	-.0370	-.0530	-.0050	-.0180	.1020	.1290	.0490	.0790	.0410
135.000								-.0390		.0060		.1620		.0470	
150.000			.6770	.2880	.0720	.0400	.0010	-.0160	.0200	.0430	.1410	.0490	.0750	.0520	.0580
165.000				.3330	.1000	.0620	.0180	.0020	.0320	.0610	.4070		.0610		.0420
180.000	1.7180	1.6810	.7920	.3700	.1180	.0800	.0200	.0160	.0420	.0600	.4660	.0430	.0920	.0670	.0560
270.000		1.5900													

X/LT .7449 .8526 .9290

PHI			
.000	-.0410	-.0540	-.0560
30.000	-.0720	-.0450	-.0420
60.000	-.0610	-.0440	-.0430
90.000			-.0310
120.000	.0160	.0130	-.0010
135.000	.0240	.0320	.0010
150.000	.0340	.0570	-.0130
165.000		.0220	-.0170
180.000	.0310		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.700

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6970	1.3200	.3350	.1010	-.0290	-.0610	-.0690	-.0640	-.0710	-.0670	-.0500	-.0420	-.0490	-.0640	-.0250
30.000			.2900	.0540	-.0470	-.0720	-.0690	-.0660	-.0780	-.0670	-.0690	-.0500	-.0320	-.0400	-.0460
60.000			.2960	.0520	-.0510	-.0620	-.0680	-.0650	-.0910	-.0220	-.0680	-.1190	-.1090	-.1030	-.0800
90.000	1.3410		.3570	.0830	-.0360	-.0550	-.0730	-.0710	-.0660	.3740	-.0270	-.0490	.0010	-.0050	-.0260
120.000			.4720	.1530	.0000	-.0240	-.0500	-.0640	-.0350	-.0520	.1170	.1190	.0450	.1010	.0500
135.000								-.0460		.0120		.0910		.0720	
150.000			.6300	.2590	.0560	.0250	-.0120	-.0250	-.0060	.0410	.1350	.0080	.0170	.0170	.0140
165.000				.3140	.0870	.0510	.0120	-.0060	-.0030	.0420	.3760		.0600		.0040
180.000	1.6970	1.6600	.7800	.3650	.1150	.0760	.0310	.0150	.0130	.0290	.4650	.0330	.1170	.1020	.0530
270.000		1.6190													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT18) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499

BETAT ( 1 ) = -8.420

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6810	1.4100	.4750	.1580	-.0350	-.0750	-.1000	-.0970	-.0680	-.0380	.0200	-.0110	-.0620	-.0900	-.0650
30.000			.6010	.2300	.0130	-.0320	-.0640	-.0640	-.0510	-.0430	-.0470	-.1230	-.1270	-.1030	-.0510
60.000			.7410	.3280	.0770	.0380	-.0150	-.0190	.0010	.2290	-.1300	-.1570	-.1140	-.0290	-.0310
90.000	1.6590		.8490	.4120	.1320	.0860	.0270	.0280	.4020	.3750	-.1340	-.1710	-.1410	-.0480	.0050
120.000			.8780	.4370	.1460	.1040	.0410	.0360	.0730	.5090	.0160	-.0370	.0280	.1080	.1930
135.000								.0310		.0760		.1090		.1210	
150.000			.8200	.3950	.1150	.0760	.0170	.0170	.0200	.0340	.1970	.2040	.2080	.1090	.0750
165.000				.3470	.0880	.0490	-.0060	-.0040	-.0030	.0400	.4800		.1920		.0290
180.000	1.6810	1.5600	.6970	.2980	.0550	.0230	-.0300	-.0260	-.0110	.0440	.3700	.1000	.0840	-.0060	-.0420
270.000		1.3060													

X/LT .7449 .8526 .9290

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	-.0720	-.0710	-.0470												
30.000	-.0600	-.0950	-.0830												
60.000	-.0600	-.0250	.0160												
90.000			.0910												
120.000	.0950	.1330	.1630												
135.000	.0810	.2910	.1610												
150.000	.0880	.3110	.2170												
165.000		.4500	.1760												
180.000	-.0570														

MACH ( 1 ) = 2.498

BETAT ( 2 ) = -6.300

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6930	1.4200	.4870	.1620	-.0370	-.0740	-.0980	-.0970	-.0720	-.0440	.0110	-.0140	-.0480	-.0790	-.0580
30.000			.5810	.2130	.0030	-.0430	-.0730	-.0730	-.0630	-.0530	-.0320	-.1140	-.1240	-.1030	-.0460
60.000			.6930	.2910	.0510	.0110	-.0350	-.0380	-.0210	.2210	-.1340	-.1680	-.1340	-.0540	-.0420
90.000	1.6240		.7860	.3620	.0940	.0520	-.0040	-.0020	.3780	.3710	-.1360	-.1750	-.1390	-.0650	-.0180
120.000			.8210	.3930	.1150	.0730	.0120	.0090	.0450	.5060	.0130	-.0140	.0120	.0800	.1370
135.000								.0070		.0460		.1440		.0910	
150.000			.7940	.3720	.0970	.0570	.0020	.0010	.0060	.0210	.2250	.1900	.1730	.0870	.0500





AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT18)

MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .3050 .0720

180.000 -.0540

MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7260 1.4420 .4970 .1880 -.0330 -.0720 -.1000 -.1000 -.0670 -.0480 .0160 .0210 .0190 -.0220 -.0520

30.000 .5110 .1600 -.0320 -.0710 -.1010 -.0980 -.0650 -.0550 -.0650 -.0410 -.0610 -.0830 -.0530

60.000 .5490 .1760 -.0220 -.0540 -.0890 -.0890 -.0600 .2080 -.1220 -.1660 -.1520 -.0760 -.0690

90.000 1.5120 .6020 .2140 .0000 -.0320 -.0730 -.0590 .1260 .3620 -.1290 -.1710 -.0970 -.0780 -.0620

120.000 .6590 .2580 .0250 -.0100 -.0550 -.0490 -.0110 .0690 .0360 .0370 -.0090 .0890 .0730

135.000 .7040 .2960 .0470 .0090 -.0390 -.0320 -.0230 .0680 .2950 .1410 .1140 .0420 .0220

150.000 .3080 .0540 .0150 -.0350 -.0280 -.0230 -.0080 .3720 .1380 .0210

165.000 1.7260 1.6020 .7250 .3100 .0570 .0170 -.0320 -.0250 -.0230 -.0060 .3160 -.0230 .1340 .1530 .0290

180.000 1.5090

X/LT .7449 .8526 .9290

PHI

.000 -.0560 -.0250 -.0130

30.000 -.0470 -.0350 -.0270

60.000 -.0040 -.0420 -.0460

90.000 -.0130

120.000 .0110 -.0230 .0380

135.000 -.0020 .0640 .0030

150.000 -.0050 .1300 -.0230

165.000 .1800 -.0140

180.000 -.0520







AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT10)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.260

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0550	-.0550	-.0440
30.000	-.0500	-.0450	-.0520
60.000	-.0570	-.0460	-.0230
90.000			-.0050
120.000	.0640	.0310	.0610
135.000	.0440	.0650	.0910
150.000	.0430	.2060	.1000
165.000		.2510	.0840
180.000	-.0160		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7480	1.4560	.4670	.1700	-.0210	-.0550	-.0730	-.0730	-.0550	-.0460	-.0130	.0050	.0090	-.0010	-.0150
30.000			.4780	.1500	-.0200	-.0550	-.0710	-.0740	-.0560	-.0470	-.0520	-.0320	-.0400	-.0540	-.0690
60.000			.5140	.1660	-.0100	-.0340	-.0660	-.0690	-.0490	.1170	-.0650	-.1180	-.1180	-.0930	-.0880
90.000		1.5290	.5700	.2010	.0090	-.0180	-.0540	-.0550	-.0320	.5100	-.0650	-.1090	-.1040	-.0520	-.0570
120.000			.6260	.2400	.0330	.0030	-.0360	-.0380	-.0140	-.0170	.0690	.0390	.0290	-.0050	.0460
135.000								-.0310		.0130		.1770		.0530	
150.000			.6770	.2820	.0550	.0210	-.0220	-.0230	-.0210	.0010	.2140	.1400	.0540	.0540	.0410
165.000				.2900	.0600	.0260	-.0160	-.0210	-.0180	-.0200	.3920		.1640		.0520
180.000	1.7480	1.6220	.6960	.2930	.0610	.0290	-.0140	-.0190	-.0160	-.0160	.3920	.0430	.1600	.0760	.0560
270.000		1.5280													

X/LT .7449 .8526 .9290

PHI

.000	-.0570	-.0500	-.0240
30.000	-.0540	-.0370	-.0420
60.000	-.0320	-.0360	-.0350
90.000			-.0240
120.000	.0250	-.0120	.0080
135.000	.0270	.0230	.0250
150.000	-.0030	.0780	.0020
165.000		.1110	.0180
180.000	-.0180		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT18)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.390

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7270	1.4340	.4600	.1540	-.0340	-.0680	-.0730	-.0760	-.0620	-.0470	-.0310	-.0070	-.0420	-.0460	-.0480
30.000			.4190	.1050	-.0500	-.0800	-.0840	-.0730	-.0600	-.0480	-.0670	-.0590	-.0350	-.0400	-.0610
60.000			.4110	.0960	-.0530	-.0610	-.0860	-.0730	-.0610	-.0090	-.0620	-.1110	-.1140	-.0820	-.0880
90.000		1.4190	.4460	.1130	-.0450	-.0550	-.0790	-.0710	-.0610	.4810	-.0620	-.1130	-.0760	-.0540	-.0660
120.000			.5060	.1530	-.0220	-.0350	-.0660	-.0640	-.0610	.0650	.1030	.0950	.0020	.0340	.0460
135.000								-.0530		.0570		.1300		.0150	
150.000			.5920	.2170	.0130	-.0060	-.0420	-.0420	-.0410	-.0120	.1330	.0410	.0590	.0360	-.0030
165.000				.2490	.0320	.0110	-.0290	-.0290	-.0260	.0110	.3030		.0630		.0250
180.000	1.7270	1.6000	.6770	.2760	.0470	.0260	-.0180	-.0170	.0020	.0140	.3800	.0100	.0630	.0460	.0410
270.000		1.6030													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0540	-.0540	-.0570												
30.000	-.0710	-.0360	-.0300												
60.000	-.0420	-.0350	-.0440												
90.000			-.0520												
120.000	.0010	-.0360	-.0320												
135.000	-.0150	-.0150	-.0300												
150.000	-.0240	.0100	-.0370												
165.000		-.0420	-.0390												
180.000	-.0160														

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.720

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6860	1.3930	.4400	.1450	-.0400	-.0730	-.0800	-.0810	-.0730	-.0560	-.0370	-.0290	-.0470	-.0760	-.0690
30.000			.3570	.0690	-.0680	-.0970	-.0900	-.0800	-.0740	-.0490	-.0740	-.0870	-.0450	-.0470	-.0690
60.000			.3210	.0480	-.0770	-.0800	-.0870	-.0800	-.0740	-.0620	-.0740	-.1070	-.0900	-.0460	-.0740
90.000		1.2980	.3360	.0550	-.0750	-.0780	-.0930	-.0820	-.0260	.4160	-.0980	-.1000	-.0480	-.0550	-.0610
120.000			.3960	.0890	-.0580	-.0630	-.0780	-.0470	-.0590	-.0820	.0560	.0590	-.0090	.0660	.0070
135.000								-.0520		-.0190		.0570		.0230	
150.000			.5170	.1620	-.0150	-.0290	-.0610	-.0550	-.0250	.0150	.1040	-.0400	-.0220	-.0530	-.0730
165.000				.2120	.0120	-.0060	-.0420	-.0460	-.0170	-.0020	.2770		.0210		-.0650
180.000	1.6860	1.5660	.6560	.2630	.0400	.0190	-.0220	-.0240	-.0200	.0060	.3790	.0520	.1070	.0270	.0070
270.000		1.6530													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT18)

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.720

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0670	-.0790	-.0820
30.000	-.0700	-.0480	-.0520
60.000	-.0660	-.0480	-.0550
90.000			-.0640
120.000	-.0420	-.0640	-.0550
135.000	-.0690	-.0540	-.0800
150.000	-.0440	.0050	-.0770
165.000		-.0590	-.0700
180.000	-.0230		

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.730

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6780	1.3950	.4260	.1540	-.0080	-.0400	-.0630	-.0650	-.0600	-.0480	-.0410	-.0490	-.0670	-.0780	-.0530
30.000			.5440	.2110	.0310	-.0070	-.0380	-.0420	-.0430	-.0460	-.0170	-.0550	-.0830	-.0900	-.0720
60.000			.6870	.3060	.0850	.0430	.0010	-.0040	.0030	.1780	-.0290	-.0820	-.0940	-.0770	-.0300
90.000		1.6520	.7950	.3860	.1290	.0810	.0320	.0250	.0770	.6770	-.0090	-.0830	-.0900	-.0700	-.0150
120.000			.8270	.4070	.1430	.0950	.0460	.0320	.0490	.1780	.0910	.0000	.0200	.0300	.0780
135.000								.0260		.0500		.0330		.0880	
150.000			.7710	.3630	.1170	.0720	.0280	.0160	.0100	.0390	.0460	.3050	.1330	.1530	.0750
165.000				.3170	.0920	.0520	.0090	.0010	-.0040	.0380	.2600		.1080		.0560
180.000	1.6780	1.5540	.6430	.2700	.0610	.0290	-.0110	-.0180	-.0220	.0160	.4300	.0390	.1410	.0610	.0250
270.000		1.2900													

X/LT .7449 .8526 .9290

PHI

.000	-.0590	-.0620	-.0530
30.000	-.0590	-.0670	-.0650
60.000	-.0380	-.0400	-.0230
90.000			-.0080
120.000	.1240	.1020	.1260
135.000	.0800	.1100	.1820
150.000	.0550	.2530	.1620
165.000		.2200	.2050
180.000	-.0030		





AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT18)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0450	-.0370	-.0320
30.000	-.0430	-.0340	-.0410
60.000	-.0530	-.0400	-.0220
90.000			-.0180
120.000	.0680	.0470	.0650
135.000	.0430	.0570	.0970
150.000	.0210	.1580	.0730
165.000		.1850	.0890
180.000	.0240		

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7620	1.4610	.4460	.1530	-.0110	-.0440	-.0580	-.0590	-.0460	-.0440	-.0290	-.0060	.0070	.0040	-.0130
30.000			.4570	.1400	-.0120	-.0420	-.0560	-.0600	-.0470	-.0460	-.0680	-.0510	-.0370	-.0400	-.0520
60.000			.4930	.1590	-.0030	-.0240	-.0510	-.0580	-.0450	.0130	-.0670	-.0940	-.0930	-.0890	-.0790
90.000		1.5410	.5490	.1930	.0140	-.0100	-.0380	-.0420	-.0240	.6140	-.0290	-.0770	-.0840	-.0460	-.0420
120.000			.6100	.2320	.0380	.0090	-.0230	-.0300	-.0120	-.0210	.0620	.0220	.0450	.0100	.0410
135.000								-.0240		.0010		.1690		.0210	
150.000			.6610	.2680	.0550	.0280	-.0090	-.0180	-.0200	.0070	.1760	.1340	.0870	.0770	.0540
165.000				.2780	.0590	.0330	-.0060	-.0140	-.0140	-.0190	.3770		.0200		.0840
180.000	1.7620	1.6390	.6780	.2800	.0620	.0340	-.0070	-.0120	-.0150	-.0120	.4350	.0020	.1200	.0720	.0950
270.000		1.5370													

X/LT .7449 .8526 .9290

PHI

.000	-.0330	-.0380	-.0330
30.000	-.0400	-.0300	-.0350
60.000	-.0430	-.0330	-.0290
90.000			-.0130
120.000	.0320	.0140	.0220
135.000	.0220	.0260	.0380
150.000	.0190	.0500	.0060
165.000		.0610	-.0110
180.000	.0240		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT18)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.470

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7410	1.4400	.4370	.1500	-.0250	-.0590	-.0550	-.0570	-.0520	-.0460	-.0350	.0050	-.0250	-.0240	-.0260
30.000			.3970	.0920	-.0400	-.0700	-.0630	-.0560	-.0520	-.0500	-.0600	-.0410	-.0170	-.0250	-.0410
60.000			.3930	.0850	-.0480	-.0440	-.0620	-.0570	-.0550	-.0640	-.0590	-.0820	-.0890	-.0770	-.0760
90.000	1.4290		.4290	.1040	-.0390	-.0390	-.0610	-.0580	-.0530	.0240	-.0240	-.0720	-.0700	-.0350	-.0370
120.000			.4930	.1420	-.0200	-.0210	-.0470	-.0560	-.0300	.0230	.0610	.0080	.0340	.0090	.0220
135.000								-.0470		.0080		.1410		.0250	
150.000			.5840	.2010	.0140	.0050	-.0240	-.0370	-.0090	.0160	.0820	.0430	.0400	.0470	.0170
165.000				.2320	.0300	.0200	-.0130	-.0240	-.0050	.0150	.3870		.0610		.0220
180.000	1.7410	1.6180	.6680	.2610	.0460	.0360	-.0040	-.0140	.0030	.0080	.4320	.0140	.0970	.0660	.0410
270.000		1.6160													

X/LT .7449 .8526 .9290

PHI			
.000	-.0450	-.0410	-.0520
30.000	-.0530	-.0480	-.0360
60.000	-.0490	-.0290	-.0360
90.000			-.0350
120.000	.0010	-.0130	-.0190
135.000	-.0020	-.0120	-.0180
150.000	-.0040	.0080	-.0270
165.000		-.0340	-.0320
180.000	.0060		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7260	1.4230	.4310	.1750	-.0110	-.0460	-.0600	-.0580	-.0510	-.0410	-.0500	-.0370	-.0410	-.0410	-.0310
30.000			.3670	.0900	-.0360	-.0640	-.0600	-.0570	-.0630	-.0320	-.0590	-.0640	-.0410	-.0440	-.0440
60.000			.3440	.0740	-.0450	-.0580	-.0540	-.0570	-.0660	-.0540	-.0600	-.0990	-.0920	-.0690	-.0610
90.000	1.3670		.3670	.0850	-.0410	-.0580	-.0560	-.0500	-.0670	.4040	-.0560	-.0890	-.0620	-.0330	-.0320
120.000			.4300	.1220	-.0240	-.0410	-.0630	-.0510	-.0310	-.0470	.0390	.0810	.0170	.0520	.0230
135.000								-.0500		-.0220		.0760		.0320	
150.000			.5390	.1900	.0110	-.0100	-.0420	-.0410	-.0160	-.0060	.0460	-.0080	.0150	.0300	-.0250
165.000				.2280	.0360	.0090	-.0280	-.0240	-.0090	-.0080	.3270		.0260		-.0250
180.000	1.7260	1.6020	.6580	.2690	.0570	.0240	-.0110	-.0090	-.0060	-.0030	.4080	.0170	.1170	.0880	.0170
270.000		1.6460													

X/LT .7449 .8526 .9290

AMES 87-707 IA9 02A + S3 + T9 EXTERNAL TANK

(RBNT18)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0470	-.0530	-.0610
30.000	-.0570	-.0430	-.0420
60.000	-.0460	-.0380	-.0420
90.000			-.0380
120.000	-.0040	-.0280	-.0250
135.000	-.0200	-.0410	-.0460
150.000	-.0230	-.0160	-.0400
165.000		-.0590	-.0460
180.000	-.0120		

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.870

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6860	1.3890	.4220	.1430	-.0100	-.0420	-.0560	-.0610	-.0610	-.0570	-.0590	-.0700	-.0650	-.0650	-.0500
30.000			.3330	.0770	-.0400	-.0620	-.0600	-.0600	-.0580	-.0570	-.0660	-.0560	-.0380	-.0490	-.0600
60.000			.3000	.0540	-.0470	-.0520	-.0550	-.0590	-.0620	-.0690	-.0670	-.0910	-.0690	-.0480	-.0620
90.000		1.2920	.3120	.0610	-.0490	-.0550	-.0490	-.0660	-.0680	.3120	-.0630	-.0790	-.0370	-.0220	-.0290
120.000			.3750	.0970	-.0340	-.0500	-.0640	-.0630	-.0510	-.0310	.0270	.1150	.0130	.0670	.0070
135.000								-.0680		-.0170		.0120		.0080	
150.000			.4910	.1700	.0050	-.0190	-.0440	-.0600	-.0430	-.0090	.0810	-.0310	-.0100	-.0380	-.0540
165.000				.2120	.0310	.0040	-.0260	-.0420	-.0420	-.0270	.2730		.0300		-.0350
180.000	1.6860	1.5620	.6390	.2640	.0580	.0290	-.0080	-.0240	-.0260	.0020	.3960	.0400	.1190	.0470	.0050
270.000		1.6520													

X/LT .7449 .8526 .9290

PHI

.000	-.0630	-.0700	-.0770
30.000	-.0700	-.0570	-.0590
60.000	-.0560	-.0520	-.0520
90.000			-.0520
120.000	-.0290	-.0560	-.0600
135.000	-.0680	-.0610	-.0600
150.000	-.0460	-.0250	-.0330
165.000		-.0610	-.0430
180.000	-.0180		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.430

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6840	1.4890	.5770	.2270	.0090	-.0420	-.0720	-.0730	-.0670	-.0280	-.0020	.0040	-.0290	-.0690	-.0620
30.000			.7010	.3070	.0580	.0050	-.0330	-.0350	-.0280	-.0060	.0360	-.0670	-.0880	-.0830	-.0380
60.000			.8110	.3790	.1100	.0650	.0080	.0040	.0360	.3610	-.0640	-.1120	-.0950	-.0530	.0230
90.000		1.6650	.8550	.4100	.1300	.0860	.0220	.0250	.3970	.4040	-.1410	-.1660	-.1000	.0620	.0140
120.000			.8160	.3840	.1120	.0670	.0110	.0110	.0370	.3680	-.0600	-.1100	-.0350	.0360	.1480
135.000								-.0050		.0440		.0260		.0800	
150.000			.7160	.3110	.0600	.0230	-.0270	-.0260	-.0190	-.0200	.0690	.1760	.1180	.0750	.0300
165.000				.2620	.0290	-.0040	-.0490	-.0480	-.0170	.0360	.3590		.1140		.0070
180.000	1.6840	1.4870	.5900	.2160	-.0020	-.0280	-.0680	-.0630	-.0220	.0250	.3350	.0820	.0560	-.0140	-.0500
270.000		1.3080													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0650	-.0570	-.0490												
30.000		-.0400	-.0510	-.0530											
60.000		-.0010	-.0280	.0060											
90.000			.0900												
120.000	.0820	.1320	.1620												
135.000	.0640	.2890	.1830												
150.000	.0450	.3040	.2350												
165.000		.4540	.1900												
180.000	-.0580														

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.310

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7070	1.5060	.5960	.2310	.0060	-.0400	-.0740	-.0780	-.0600	-.0240	-.0010	.0150	-.0160	-.0550	-.0560
30.000			.6800	.2970	.0480	-.0040	-.0470	-.0480	-.0310	-.0150	.0510	-.0560	-.0840	-.0740	-.0330
60.000			.7620	.3410	.0810	.0340	-.0190	-.0190	.0130	.3590	-.0650	-.1220	-.1090	-.0670	.0110
90.000		1.6380	.7960	.3650	.0950	.0490	-.0060	.0060	.3680	.4000	-.1400	-.1750	-.1160	.0340	-.0010
120.000			.7700	.3460	.0860	.0380	-.0130	-.0050	.0160	.3690	-.0590	-.1140	-.0570	.0280	.1120
135.000								-.0240		.0170		.0260		.0580	
150.000			.6950	.2950	.0470	.0070	-.0400	-.0360	-.0170	-.0030	.1090	.1490	.0750	.0580	.0170

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.310

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
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PHI

165.000			.2550	.0250	-.0120	-.0570	-.0530	-.0140	.0290	.3150		.1380		.0050	
180.000	1.7070	1.5110	.6030	.2190	.0020	-.0300	-.0740	-.0590	-.0240	.0200	.3160	.0990	.0780	.0130	-.0290
270.000		1.3670													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0460	-.0430	-.0360
30.000	-.0280	-.0410	-.0470
60.000	-.0030	-.0380	-.0080
90.000			.0650
120.000	.0620	.0670	.1200
135.000	.0500	.2330	.1440
150.000	.0380	.2880	.1780
165.000		.3590	.1420
180.000	-.0670		

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
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PHI

.000	1.7270	1.5230	.6070	.2340	.0060	-.0430	-.0720	-.0710	-.0630	-.0310	.0010	.0210	-.0230	-.0390	-.0320
30.000			.6570	.2630	.0320	-.0170	-.0540	-.0540	-.0440	-.0240	-.0070	-.0440	-.0750	-.0690	-.0410
60.000			.7120	.2970	.0510	.0150	-.0350	-.0370	-.0070	.3590	-.0640	-.1240	-.1200	-.0770	-.0050
90.000		1.6110	.7390	.3140	.0630	.0250	-.0280	-.0290	.3270	.3980	-.1440	-.1760	-.1210	.0030	-.0230
120.000			.7200	.3040	.0530	.0170	-.0300	-.0280	-.0010	.3730	-.0500	-.1080	-.0640	.0020	.0770
135.000								-.0380		-.0030		.0360		.0280	
150.000			.6750	.2690	.0310	-.0020	-.0470	-.0470	-.0170	.0220	.1650	.1310	.0370	.0370	.0090
165.000				.2450	.0160	-.0160	-.0560	-.0570	-.0210	.0190	.3290		.1160		.0080
180.000	1.7270	1.5280	.6120	.2200	.0000	-.0280	-.0670	-.0690	-.0330	.0140	.3080	.1040	.1410	.0410	-.0250
270.000		1.4260													

X/LT	.7449	.8526	.9290
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PHI

.000	-.0510	-.0380	-.0270
30.000	-.0260	-.0380	-.0390
60.000	-.0100	-.0470	-.0200
90.000			.0230
120.000	.0380	.0220	.0840
135.000	.0310	.1590	.1010
150.000	.0080	.2220	.1150

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.180

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2570 .0960

180.000 -.0880

MACH ( 1 ) = 2.499

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7380 1.5290 .6160 .2540 .0090 -.0380 -.0740 -.0750 -.0650 -.0390 .0400 .0470 .0140 .0000 -.0150

30.000 .6080 .2270 .0060 -.0400 -.0770 -.0760 -.0520 -.0410 -.0490 .0220 -.0190 -.0550 -.0580

60.000 .6120 .2190 .0020 -.0330 -.0750 -.0740 -.0450 .2790 -.0480 -.1190 -.1260 -.0660 -.0070

90.000 1.5300 .6160 .2220 .0050 -.0330 -.0750 -.0720 .1150 .3920 -.1420 -.1790 -.0870 -.0350 -.0470

120.000 .6160 .2230 .0040 -.0310 -.0710 -.0730 -.0420 .2770 -.0390 -.0620 -.0530 -.0220 .0580

135.000 .6220 .2270 .0050 -.0310 -.0700 -.0750 -.0420 .0160 .2380 .1150 .0280 .0270 -.0290

150.000 .2250 .0060 -.0280 -.0700 -.0740 -.0530 .0200 .3000 .1480 .0180

165.000 1.7380 1.5290 .6190 .2240 .0060 -.0280 -.0720 -.0740 -.0610 .0080 .2940 -.0070 .1510 .0920 -.0190

180.000 1.5220

X/LT .7449 .8526 .9290

PHI

.000 -.0500 -.0210 -.0130

30.000 -.0220 -.0290 -.0270

60.000 -.0050 -.0440 -.0340

90.000 .0040 -.0270 .0310

120.000 -.0140 .0520 .0160

135.000 -.0360 .1220 .0060

150.000 .1550 -.0020

165.000 -.0960

180.000

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.300

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7320	1.5180	.6040	.2510	.0050	-.0450	-.0710	-.0720	-.0570	-.0300	.0220	.0110	-.0200	-.0320	-.0300
30.000			.5360	.1820	-.0230	-.0660	-.0860	-.0840	-.0550	-.0310	-.0380	-.0550	-.0110	-.0270	-.0600
60.000			.4980	.1430	-.0400	-.0620	-.0940	-.0760	-.0650	.0430	-.0290	-.1000	-.1040	-.0240	-.0010
90.000		1.4280	.4900	.1370	-.0450	-.0630	-.0970	-.0670	-.0450	.3640	-.1420	-.1650	-.0250	-.0420	-.0350
120.000			.5060	.1460	-.0400	-.0600	-.0950	-.0680	-.0610	.0320	-.0150	-.0010	-.0540	.0610	.0260
135.000								-.0860		.1030		.0550		-.0050	
150.000			.5490	.1780	-.0240	-.0470	-.0840	-.0780	-.0590	.0520	.1600	.0560	.0190	.0070	-.0700
165.000				.1960	-.0120	-.0390	-.0770	-.0720	-.0410	.0340	.2320		.1400		-.0590
180.000	1.7320	1.5330	.6100	.2190	.0000	-.0260	-.0670	-.0640	-.0320	.0270	.2940	.1040	.1320	.0460	-.0220
270.000		1.6070													

X/LT .7449 .8526 .9290

PHI			
.000	-.0460	-.0330	-.0360
30.000	-.0410	-.0260	-.0260
60.000	-.0250	-.0430	-.0360
90.000			-.0420
120.000	-.0380	-.0500	-.0140
135.000	-.0560	.0030	-.0590
150.000	-.0660	-.0040	-.0630
165.000		.0160	-.0590
180.000	-.0810		

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.430

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7040	1.4890	.5920	.2330	.0060	-.0370	-.0700	-.0730	-.0650	-.0280	.0100	-.0020	-.0180	-.0570	-.0370
30.000			.5040	.1690	-.0270	-.0670	-.0930	-.0880	-.0620	-.0440	-.0390	-.0780	-.0550	-.0510	-.0590
60.000			.4520	.1230	-.0470	-.0760	-.0900	-.0780	-.0740	-.0220	-.0160	-.0890	-.0950	-.0130	.0010
90.000		1.3640	.4370	.1150	-.0560	-.0800	-.0820	-.0750	-.0680	.3340	-.1390	-.1570	-.0180	-.0360	-.0540
120.000			.4520	.1240	-.0510	-.0730	-.0980	-.0810	-.0530	-.0110	.0010	.0200	-.0490	.0430	.0060
135.000								-.0950		.0270		.0420		-.0370	
150.000			.5150	.1660	-.0300	-.0550	-.0890	-.0620	-.0660	.0280	.1070	.0290	.0630	-.0310	-.0950
165.000				.1870	-.0170	-.0440	-.0830	-.0590	-.0430	.0160	.2290		.0500		-.0800
180.000	1.7040	1.5100	.5990	.2200	.0030	-.0300	-.0680	-.0680	-.0350	-.0060	.3260	.0640	.0570	.0080	-.0430
270.000		1.6300													

X/LT .7449 .8526 .9290

PHI

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.430

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0470	-.0440	-.0490
30.000	-.0350	-.0280	-.0380
60.000	-.0380	-.0470	-.0370
90.000			-.0320
120.000	-.0620	-.0490	-.0440
135.000	-.0790	-.0170	-.0970
150.000	-.0880	-.0330	-.0950
165.000		-.0380	-.1250
180.000	-.0720		

MACH ( 1 ) = 2.498

BETAT ( 7 ) = 8.550

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	-1.6950	1.4800	.5810	.2560	.0030	-.0440	-.0750	-.0780	-.0720	-.0420	-.0130	.0010	-.0270	-.0700	-.0640
30.000			.4710	.1490	-.0400	-.0820	-.1070	-.0940	-.0700	-.0440	-.0650	-.0850	-.0360	-.0430	-.0510
60.000			.4070	.0970	-.0650	-.0920	-.0900	-.0840	-.0810	-.0580	-.0100	-.0710	-.0800	.0060	-.0120
90.000		1.3170	.3930	.0850	-.0730	-.0980	-.0910	-.0830	-.0440	.3170	-.1420	-.1580	.0100	-.0030	-.0610
120.000			.4120	.0960	-.0680	-.0910	-.1120	-.0830	-.0600	-.0180	.0100	.0170	-.0140	.0210	-.0300
135.000								-.0820		.0040		.0360		-.0340	
150.000			.4790	.1380	-.0460	-.0720	-.0840	-.0710	-.0630	.0170	.1110	.0070	.0130	-.0690	-.1030
165.000				.1710	-.0230	-.0560	-.0920	-.0710	-.0440	.0060	.2050		-.0130		-.1170
180.000	1.6950	1.5000	.5910	.2130	.0000	-.0350	-.0780	-.0730	-.0420	-.0070	.3330	.0590	.0450	-.0320	-.0610
270.000		1.6660													

X/LT .7449 .8526 .9290

PHI

.000	-.0610	-.0540	-.0640
30.000	-.0400	-.0420	-.0510
60.000	-.0540	-.0540	-.0400
90.000			-.0270
120.000	-.0810	-.0690	-.0880
135.000	-.1090	-.0400	-.1180
150.000	-.0950	-.0880	-.1240
165.000		-.0880	-.1300
180.000	-.0660		



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.580

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6910	1.4910	.5420	.2110	.0080	-.0300	-.0550	-.0570	-.0480	-.0250	.0100	.0100	-.0390	-.0470	-.0510
30.000			.6640	.2840	.0600	.0160	-.0210	-.0230	-.0190	-.0050	-.0180	-.0270	-.0590	-.0640	-.0560
60.000			.7700	.3540	.1040	.0620	.0120	.0090	.0150	.2350	-.0050	-.0740	-.0750	-.0570	.0100
90.000	1.6610		.8120	.3860	.1230	.0800	.0270	.0370	.3000	.5850	-.0610	-.1250	-.0870	-.0090	.0430
120.000			.7730	.3620	.1040	.0660	.0160	.0180	.0370	.3380	-.0010	-.0660	-.0310	-.0210	.1290
135.000								.0030		.0140		-.0170		.0870	
150.000			.6770	.2890	.0590	.0280	-.0150	-.0120	-.0130	-.0070	.0060	.2540	.0950	.1170	.0300
165.000				.2410	.0330	.0050	-.0340	-.0300	-.0270	.0010	.2420		.1130		.0140
180.000	1.6910	1.4890	.5520	.1970	.0070	-.0170	-.0520	-.0460	-.0210	.0040	.3640	.0680	.0920	.0120	.0040
270.000		1.3080													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0590	-.0560	-.0420												
30.000	-.0300	-.0360	-.0440												
60.000	.0050	-.0300	-.0150												
90.000			.0060												
120.000	.0970	.0770	.1170												
135.000	.0760	.2200	.1680												
150.000	.0410	.2650	.2100												
165.000		.3560	.2020												
180.000	-.0340														

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.260

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7380	1.5280	.5670	.2330	.0090	-.0280	-.0470	-.0500	-.0510	-.0300	-.0090	.0110	-.0080	-.0300	-.0230
30.000			.6220	.2420	.0330	-.0090	-.0310	-.0340	-.0370	-.0200	-.0100	-.0030	-.0420	-.0540	-.0450
60.000			.6720	.2750	.0530	.0250	-.0180	-.0220	-.0120	.1720	-.0030	-.0760	-.0870	-.0790	-.0170
90.000	1.6130		.6940	.2890	.0590	.0330	-.0110	-.0140	.0310	.5780	-.0590	-.1260	-.1060	-.0280	-.0170
120.000			.6790	.2810	.0530	.0270	-.0150	-.0230	-.0020	.2090	.0050	-.0630	-.0460	-.0290	.0580
135.000								-.0280		-.0070		.0310		.0160	
150.000			.6380	.2520	.0350	.0120	-.0280	-.0340	-.0180	.0150	.0590	.1710	.0820	.0920	.0120
165.000				.2300	.0220	.0010	-.0380	-.0420	-.0170	.0040	.2290		.0620		.0350
180.000	1.7380	1.5340	.5770	.2060	.0100	-.0080	-.0440	-.0500	-.0230	-.0030	.3660	.0320	.0790	.0510	.0370
270.000		1.4330													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-707 1A9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.380

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7320	1.5120	.5560	.2180	.0080	-.0310	-.0570	-.0590	-.0460	-.0270	-.0070	.0070	-.0220	-.0340	-.0330
30.000			.4970	.1590	-.0150	-.0520	-.0730	-.0740	-.0460	-.0340	-.0420	-.0610	-.0520	-.0400	-.0430
60.000			.4560	.1290	-.0320	-.0550	-.0800	-.0630	-.0520	-.0720	-.0060	-.0650	-.0800	-.0760	-.0150
90.000		1.4210	.4440	.1220	-.0370	-.0580	-.0770	-.0500	-.0550	.4520	-.0760	-.1220	-.0740	-.0380	-.0620
120.000			.4630	.1310	-.0320	-.0530	-.0780	-.0570	-.0550	-.0070	.0050	.0230	-.0220	-.0200	.0200
135.000								-.0680	.0100			.0610		-.0070	
150.000			.5100	.1630	-.0140	-.0380	-.0690	-.0630	-.0310	-.0030	.0900	.0330	.0420	.0330	-.0270
165.000				.1840	-.0030	-.0280	-.0620	-.0520	-.0230	-.0140	.2730		.0410		-.0050
180.000	1.7320	1.5310	.5740	.2070	-.0070	-.0180	-.0540	-.0470	-.0180	-.0170	.3660	.0270	.0570	.0460	.0190
270.000		1.6110													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0450	-.0410	-.0450												
30.000	-.0450	-.0320	-.0350												
60.000	-.0240	-.0440	-.0490												
90.000			-.0650												
120.000	-.0160	-.0580	-.0350												
135.000	-.0350	-.0620	-.0350												
150.000	-.0640	-.0370	-.0540												
165.000		-.0770	-.0600												
180.000	-.0450														

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.710

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6920	1.4720	.5350	.2070	-.0050	-.0420	-.0550	-.0590	-.0500	-.0380	-.0430	-.0340	-.0240	-.0500	-.0580
30.000			.4260	.1090	-.0460	-.0780	-.0830	-.0810	-.0560	-.0410	-.0420	-.0590	-.0250	-.0300	-.0570
60.000			.3540	.0670	-.0690	-.0720	-.0920	-.0770	-.0590	-.0600	-.0140	-.0520	-.0590	-.0400	-.0160
90.000		1.3020	.3350	.0550	-.0730	-.0760	-.0780	-.0680	-.0340	.4000	-.0800	-.1270	-.0350	-.0270	-.0460
120.000			.3600	.0670	-.0690	-.0710	-.0840	-.0510	-.0620	-.0690	-.0270	.0270	-.0380	.0230	-.0070
135.000								-.0480	-.0470			.0620		-.0230	
150.000			.4380	.1130	-.0470	-.0540	-.0600	-.0500	-.0430	-.0050	.0770	-.0300	.0010	-.0430	-.0920
165.000				.1460	-.0270	-.0390	-.0670	-.0500	-.0310	-.0030	.2260		.0360		-.0650
180.000	1.6920	1.4960	.5500	.1870	-.0050	-.0190	-.0520	-.0500	-.0280	-.0120	.3570	.0650	.1000	.0080	-.0060
270.000		1.6620													
X/LT	.7449	.8526	.9290												
PHI															



## AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.540

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7300	1.5220	.5380	.2060	.0190	-.0150	-.0390	-.0410	-.0450	-.0240	-.0170	-.0040	-.0220	-.0200	-.0090
30.000			.6300	.2580	.0580	.0180	-.0160	-.0180	-.0220	-.0140	-.0180	-.0030	-.0420	-.0540	-.0420
60.000			.7110	.3090	.0850	.0470	.0060	.0010	.0120	.1260	.0150	-.0490	-.0670	-.0660	-.0190
90.000	1.6540		.7460	.3340	.0990	.0590	.0170	.0130	.0320	.6990	-.0170	-.0920	-.0880	-.0550	.0100
120.000			.7190	.3170	.0880	.0510	.0100	.0020	.0150	.1580	.0270	-.0460	-.0400	-.0270	.0390
135.000								-.0080		.0010		-.0160		.0370	
150.000			.6450	.2670	.0560	.0270	-.0120	-.0190	-.0170	-.0010	-.0030	.2890	.0820	.0930	.0320
165.000				.2320	.0380	.0090	-.0230	-.0280	-.0300	-.0010	.1440		.0700		.0340
180.000	1.7300	1.5230	.5490	.2020	.0200	-.0050	-.0360	-.0410	-.0320	-.0100	.3980	.0190	.1400	.0680	.0210
270.000		1.3770													

X/LT .7449 .8526 .9290

PHI			
.000	-.0420	-.0360	-.0270
30.000	-.0250	-.0210	-.0310
60.000	.0050	-.0280	-.0180
90.000			-.0120
120.000	.0650	.0670	.0590
135.000	.0420	.0630	.1350
150.000	.0220	.1260	.1020
165.000		.1110	.1090
180.000	-.0190		

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7480	1.5340	.5500	.2110	.0250	-.0130	-.0380	-.0390	-.0410	-.0240	-.0160	-.0030	-.0170	-.0330	-.0060
30.000			.6050	.2420	.0460	.0060	-.0220	-.0250	-.0280	-.0180	-.0140	.0030	-.0300	-.0460	-.0410
60.000			.6630	.2720	.0620	.0280	-.0080	-.0150	-.0040	.0070	.0120	-.0550	-.0690	-.0690	-.0310
90.000	1.6250		.6860	.2870	.0690	.0350	-.0050	-.0120	.0130	.6880	-.0230	-.0880	-.0900	-.0550	-.0180
120.000			.6700	.2770	.0620	.0320	-.0080	-.0150	-.0010	.0080	.0200	-.0440	-.0380	-.0380	.0080
135.000								-.0210		-.0090		-.0060		.0210	
150.000			.6240	.2490	.0460	.0190	-.0170	-.0250	-.0200	.0000	.0220	.1550	.0780	.0630	.0210
165.000				.2280	.0360	.0060	-.0250	-.0330	-.0190	-.0030	.1490		.0810		.0280
180.000	1.7480	1.5410	.5610	.2060	.0220	-.0020	-.0330	-.0400	-.0180	-.0090	.3890	.0250	.0590	.0800	.0300
270.000		1.4350													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.340

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0340	-.0270	-.0180
30.000	-.0290	-.0180	-.0270
60.000	-.0050	-.0330	-.0210
90.000			-.0130
120.000	.0380	.0520	.0330
135.000	.0170	.0500	.0870
150.000	.0070	.0780	.0560
165.000		.1050	.0550
180.000	-.0020		

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7750	1.5530	.5640	.2130	.0280	-.0090	-.0350	-.0410	-.0280	-.0220	-.0080	.0220	.0040	-.0040	.0170
30.000			.5500	.2020	.0240	-.0100	-.0370	-.0400	-.0280	-.0220	-.0430	-.0560	-.0100	-.0120	-.0250
60.000			.5510	.1970	.0200	-.0080	-.0380	-.0410	-.0270	-.0490	.0010	-.0560	-.0740	-.0750	-.0250
90.000		1.5490	.5540	.1990	.0190	-.0080	-.0360	-.0310	-.0240	.6230	-.0280	-.0930	-.0950	-.0540	-.0360
120.000			.5540	.2020	.0230	-.0050	-.0360	-.0280	-.0180	-.0390	.0040	-.0450	-.0400	-.0110	-.0060
135.000								-.0260		-.0190		.1450		.0200	
150.000			.5640	.2080	.0230	-.0050	-.0330	-.0260	-.0180	-.0170	.1150	.0830	.0480	.0200	.0230
165.000				.2070	.0260	-.0040	-.0320	-.0270	-.0160	-.0140	.2140		.0440		.0400
180.000	1.7750	1.5680	.5670	.2080	.0240	-.0010	-.0310	-.0280	-.0130	-.0160	.3770	.0180	.0930	.0930	.0640
270.000		1.5580													

X/LT	.7449	.8526	.9290
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PHI			
.000	-.0140	-.0340	-.0240
30.000	-.0300	-.0190	-.0290
60.000	-.0120	-.0380	-.0290
90.000			-.0290
120.000	.0200	.0050	-.0190
135.000	.0050	.0050	.0180
150.000	-.0110	.0120	-.0130
165.000		.0070	-.0390
180.000	-.0080		

AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.460

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7560	1.5300	.5480	.2180	.0250	-.0130	-.0410	-.0440	-.0380	-.0320	-.0260	-.0050	-.0150	-.0400	-.0070
30.000			.4790	.1580	.0010	-.0320	-.0540	-.0390	-.0400	-.0370	-.0260	-.0540	-.0330	-.0260	-.0320
60.000			.4390	.1300	-.0150	-.0400	-.0470	-.0390	-.0460	-.0680	-.0210	-.0540	-.0710	-.0710	-.0200
90.000		1.4360	.4280	.1230	-.0190	-.0440	-.0410	-.0410	-.0500	.3940	-.0520	-.0990	-.0830	-.0450	-.0450
120.000			.4420	.1320	-.0170	-.0400	-.0390	-.0400	-.0510	-.0630	-.0110	.0130	-.0130	-.0230	.0080
135.000								-.0370		-.0300		.0420		-.0060	
150.000			.4930	.1650	.0000	-.0260	-.0500	-.0370	-.0360	-.0200	.0970	.0370	.0230	.0240	-.0220
165.000				.1840	.0110	-.0170	-.0440	-.0400	-.0260	-.0130	.2150		.0570		-.0100
180.000	1.7560	1.5530	.5600	.2050	.0210	-.0070	-.0380	-.0420	-.0190	-.0100	.3770	.0230	.0490	.0880	.0160
270.000		1.6330													
X/LT	.7449	.8526	.9290												
PHI															
.000	-.0420	-.0400	-.0450												
30.000	-.0410	-.0350	-.0400												
60.000	-.0290	-.0410	-.0490												
90.000			-.0560												
120.000	-.0070	-.0350	-.0560												
135.000	-.0280	-.0480	-.0460												
150.000	-.0440	-.0300	-.0500												
165.000		-.0610	-.0540												
180.000	-.0220														

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7230	1.4950	.5290	.2040	.0200	-.0150	-.0420	-.0440	-.0450	-.0350	-.0300	-.0260	-.0390	-.0260	-.0310
30.000			.4380	.1340	-.0100	-.0410	-.0590	-.0470	-.0430	-.0400	-.0290	-.0380	-.0320	-.0320	-.0450
60.000			.3810	.0990	-.0300	-.0500	-.0480	-.0470	-.0460	-.0680	-.0320	-.0500	-.0610	-.0580	-.0200
90.000		1.3600	.3650	.0890	-.0360	-.0470	-.0400	-.0540	-.0430	.2670	-.0580	-.0990	-.0670	-.0320	-.0410
120.000			.3890	.1000	-.0310	-.0480	-.0390	-.0460	-.0500	-.0620	-.0180	.0430	-.0120	-.0200	-.0020
135.000								-.0450		-.0260		.0590		-.0050	
150.000			.4510	.1400	-.0120	-.0350	-.0590	-.0460	-.0380	-.0110	.0310	-.0110	.0080	-.0050	-.0450
165.000				.1670	.0040	-.0240	-.0500	-.0510	-.0340	-.0100	.2970		.0310		-.0320
180.000	1.7230	1.5210	.5470	.1970	.0200	-.0090	-.0400	-.0420	-.0350	-.0160	.3810	.0120	.1270	.0500	.0000
270.000		1.6580													
X/LT	.7449	.8526	.9290												
PHI															

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT19)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.660

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0530	-.0460	-.0610
30.000	-.0460	-.0340	-.0380
60.000	-.0400	-.0420	-.0480
90.000			-.0530
120.000	-.0270	-.0460	-.0540
135.000	-.0490	-.0710	-.0620
150.000	-.0510	-.0360	-.0510
165.000		-.0620	-.0460
180.000	-.0330		

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.860

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.4660	.5120	.1970	.0170	-.0160	-.0440	-.0470	-.0420	-.0330	-.0500	-.0380	-.0670	-.0720	-.0460
30.000			.4010	.1140	-.0210	-.0490	-.0670	-.0530	-.0450	-.0360	-.0360	-.0280	-.0340	-.0480	-.0560
60.000			.3300	.0710	-.0410	-.0620	-.0570	-.0540	-.0450	-.0600	-.0450	-.0500	-.0560	-.0410	-.0190
90.000		1.2930	.3110	.0610	-.0490	-.0580	-.0540	-.0470	-.0370	.2450	-.0700	-.0970	-.0380	-.0420	-.0270
120.000			.3340	.0740	-.0440	-.0550	-.0470	-.0470	-.0440	-.0630	-.0190	.0450	-.0230	.0200	-.0040
135.000								-.0460		-.0260		.0050		-.0080	
150.000			.4110	.1190	-.0250	-.0440	-.0640	-.0470	-.0360	-.0190	.0180	-.0410	-.0160	-.0380	-.0690
165.000				.1500	-.0080	-.0310	-.0550	-.0500	-.0340	-.0190	.2490		.0190		-.0460
180.000	1.6890	1.4900	.5290	.1910	.0150	-.0110	-.0410	-.0340	-.0360	-.0240	.3670	.0280	.0730	.0520	-.0040
270.000		1.6640													

X/LT	.7449	.8526	.9290
------	-------	-------	-------

PHI			
.000	-.0570	-.0590	-.0630
30.000	-.0480	-.0420	-.0490
60.000	-.0350	-.0490	-.0530
90.000			-.0600
120.000	-.0400	-.0670	-.0590
135.000	-.0740	-.0710	-.0610
150.000	-.0470	-.0330	-.0620
165.000		-.0650	-.0610
180.000	-.0320		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT25) ( 15 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = 4.000 CRBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.410

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6820	1.5720	.6920	.3170	.0530	.0010	-.0400	-.0400	-.0320	-.0150	-.0190	-.0290	.0220	-.0170	-.0430
30.000			.8120	.3850	.1120	.0530	.0040	.0030	.0130	.0380	.0700	.0070	-.0290	-.0370	-.0330
60.000			.8730	.4270	.1410	.0890	.0280	.0230	.0640	.5120	.0210	-.0480	-.0400	-.0190	.0200
90.000	1.6590		.8440	.4050	.1210	.0740	.0160	.0210	.3990	.4140	-.1240	-.1670	-.1430	.0180	.0940
120.000			.7440	.3250	.0690	.0270	-.0250	-.0210	-.0020	.2320	-.1260	-.1600	-.0680	-.0170	.1060
135.000								-.0450		.1030		-.0610		.0620	
150.000			.6030	.2230	.0010	-.0280	-.0720	-.0670	-.0500	-.0390	-.0340	.0420	.0890	.0240	.0120
165.000				.1720	-.0290	-.0550	-.0920	-.0780	-.0480	-.0310	.3010		.0370		-.0250
180.000	1.6820	1.4080	.4820	.1340	-.0490	-.0750	-.1000	-.0700	-.0550	-.0190	.2900	.0570	.0250	-.0460	-.0630
270.000		1.3100													

X/LT .7449 .8526 .9290

PHI	
.000	-.0540
30.000	-.0090
60.000	.0190
90.000	.0560
120.000	.0560
135.000	.0590
150.000	.0600
165.000	.4750
180.000	-.0440

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.290

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7030	1.5900	.7050	.3250	.0590	.0080	-.0300	-.0330	-.0240	-.0070	-.0110	.0500	.0130	-.0030	-.0180
30.000			.7880	.3690	.1020	.0420	-.0030	-.0020	.0040	.0290	.0120	.0230	-.0250	-.0310	-.0130
60.000			.8230	.3880	.1140	.0670	.0090	.0070	.0430	.5120	.0270	-.0510	-.0540	-.0360	.0140
90.000	1.6360		.7890	.3590	.0900	.0480	-.0030	-.0020	.3750	.4130	-.1230	-.1690	-.1510	-.0230	.1040
120.000			.7040	.2910	.0450	.0120	-.0350	-.0360	-.0170	.2260	-.1270	-.1630	-.0840	-.0210	.1160
135.000								-.0560		.0150		-.0620		.0270	
150.000			.5820	.2100	-.0060	-.0300	-.0700	-.0730	-.0430	-.0280	.0130	.1020	.0580	.0320	.0190



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT20)

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.170

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2740 .0900

180.000 -.0880

MACH ( 1 ) = 2.499

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0000 .0452 .1098 .1744 .1905 .2121 .2336 .2674 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7300 1.6060 .7240 .3330 .0610 .0090 -.0310 -.0310 -.0320 -.0080 .0640 .0800 .0400 .0200 .0030

30.000 .7080 .3010 .0520 .0010 -.0390 -.0340 -.0250 -.0090 -.0130 -.0060 .0440 .0100 -.0200

60.000 .6650 .2600 .0290 -.0040 -.0520 -.0490 -.0210 .0380 .0370 -.0520 -.0640 -.0510 .0070

90.000 1.5200 .6110 .2180 .0070 -.0280 -.0670 -.0690 .0900 .3890 -.1230 -.1670 -.1560 .0000 .0780

120.000 .5600 .1820 -.0170 -.0440 -.0810 -.0820 -.0620 .2160 -.1120 -.1440 -.1090 -.0100 .0550

135.000 .5180 .1630 -.0330 -.0560 -.0900 -.0770 -.0710 .0050 .1520 .0890 .0270 .0070 -.0580

150.000 .1540 -.0370 -.0590 -.0910 -.0750 -.0740 .0090 .1960 .0770 .0770 .0770 .0770 .0770

165.000 1.7300 1.4480 .5070 .1490 -.0370 -.0590 -.0890 -.0730 -.0730 .0070 .2550 .0870 .2320 .0670 .0440

180.000 1.5220 .5070 .1490 -.0370 -.0590 -.0890 -.0730 -.0730 .0070 .2550 .0870 .2320 .0670 .0440

X/LT .7449 .8526 .9290

PHI

.000 -.0350 -.0050 .0080

30.000 -.0070 .0030 -.0040

60.000 .0150 -.0120 -.0040

90.000 .0150

120.000 -.0070 .0000 .0770

135.000 -.0250 .0890 .0420

150.000 -.0420 .1330 .0180

165.000 .1490 -.0110

180.000 -.1100

AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK

(RBNT20)

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.310

SECTION ( 1 )	EXTERNAL TANK		DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7230	1.5950	.7170	.3420	.0580	.0060	-.0300	-.0320	-.0300	.0040	.0580	.0650	.0130	-.0090	-.0020
30.000			.6350	.2420	.0200	-.0250	-.0560	-.0570	-.0340	.0040	-.0230	-.0410	-.0210	-.0150	-.0370
60.000			.5500	.1760	-.0140	-.0450	-.0820	-.0810	-.0440	-.0690	.0600	-.0270	-.0500	-.0350	.0310
90.000		1.4270	.4880	.1390	-.0430	-.0650	-.0970	-.0640	-.0370	.3620	-.1190	-.1600	-.1270	.0550	.0540
120.000			.4550	.1170	-.0540	-.0760	-.0780	-.0690	-.0690	.0690	-.1080	-.1020	-.0770	.0440	.0200
135.000								-.0700		-.0120		.0300		-.0340	
150.000			.4630	.1220	-.0560	-.0760	-.0780	-.0720	-.0690	.0120	.1420	.0760	-.0120	-.0350	-.0960
165.000			.1300	-.0520	-.0730	-.0820	-.0730	-.0670	.0150	.2130		.1250		-.0880	
180.000	1.7230	1.4440	.4980	.1440	-.0440	-.0650	-.0870	-.0730	-.0680	.0060	.2670	.0920	.1190	.0330	-.0520
270.000		1.6060													

X/LT .7449 .8526 .9290

PHI	.000	30.000	60.000	90.000	120.000	135.000	150.000	165.000	180.000
	-.0280	-.0090	-.0040						
	-.0140	-.0040	-.0120						
	-.0050	-.0250	-.0290						
			-.0070						
	-.0450	.0240	.0200						
	-.0620	.0230	-.0390						
	-.0790	.0140	-.0380						
		.0120	-.0480						
	-.0890								

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.430

SECTION ( 1 )	EXTERNAL TANK		DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6970	1.5680	.7010	.3390	.0590	.0070	-.0360	-.0400	-.0280	.0030	.0270	.0410	.0020	-.0070	-.0050
30.000			.5920	.2270	.0080	-.0380	-.0730	-.0710	-.0450	-.0110	-.0310	-.0560	-.0490	-.0180	-.0310
60.000			.4920	.1480	-.0350	-.0670	-.1010	-.0960	-.0560	-.0920	.0740	-.0180	-.0370	-.0270	.0190
90.000		1.3570	.4330	.1070	-.0610	-.0880	-.1060	-.0820	-.0600	.3470	-.1140	-.1600	-.0790	.0680	.0190
120.000			.4110	.0920	-.0680	-.0910	-.0940	-.0820	-.0700	.0250	-.1010	-.0540	-.0590	.0290	-.0150
135.000								-.0840		.0260		.0160		-.0580	
150.000			.4250	.1070	-.0640	-.0860	-.1140	-.0780	-.0600	.0060	.1170	.0610	.0260	-.0610	-.1060
165.000			.1210	-.0580	-.0830	-.0930	-.0770	-.0590	.0040	.1990		.0670		-.1040	
180.000	1.6970	1.4220	.4830	.1400	-.0470	-.0750	-.0980	-.0700	-.0600	-.0050	.2720	.0620	.0600	-.0090	-.0570
270.000		1.6270													

X/LT .7449 .8526 .9290

PHI

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT2D)

MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.430

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0330	-.0200	-.0160
30.000	-.0220	-.0080	-.0210
60.000	-.0230	-.0360	-.0370
90.000			-.0110
120.000	-.0710	.0020	-.0110
135.000	-.0860	.0220	-.0810
150.000	-.0780	-.0310	-.0820
165.000		-.0360	-.0830
180.000	-.0650		

MACH ( 1 ) = 2.499 BETAT ( 7 ) = 8.560

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6920	1.5630	.7010	.3260	.0570	.0060	-.0320	-.0330	.0000	-.0120	.0120	.0170	-.0190	-.0390
30.000			.5630	.2020	-.0040	-.0470	-.0770	-.0540	-.0190	-.0130	-.0430	.0020	-.0160	-.0360
60.000			.4450	.1190	-.0520	-.0730	-.1040	-.0890	-.0660	-.1070	.0770	-.0050	-.0210	-.0170
90.000		1.3110	.3880	.0810	-.0750	-.0920	-.0840	-.0810	-.0530	.3050	-.1180	-.1470	-.0040	.0650
120.000			.3700	.0720	-.0790	-.0930	-.0860	-.0850	-.0560	-.0340	-.0830	-.0210	-.0540	.0330
135.000								-.0820		-.0120		.0290		-.0480
150.000			.3990	.0900	-.0720	-.0900	-.0790	-.0880	-.0670	-.0040	.0670	.0410	-.0050	-.0760
165.000				.1070	-.0630	-.0820	-.0800	-.0800	-.0680	-.0110	.1650		-.0090	-.1130
180.000	1.6920	1.4140	.4770	.1360	-.0480	-.0690	-.0950	-.0760	-.0590	-.0230	.2810	.0540	.0100	-.0380
270.000		1.6670												-.0610

X/LT .7449 .8526 .9290

PHI

.000	-.0410	-.0300	-.0330
30.000	-.0190	-.0200	-.0300
60.000	-.0280	-.0360	-.0440
90.000			-.0310
120.000	-.0730	-.0340	-.0640
135.000	-.1090	-.0080	-.1100
150.000	-.0700	-.0740	-.0990
165.000		-.1010	-.1070
180.000	-.0360		



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT25)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.250

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0160	-.0190	-.0070
30.000	-.0110	.0090	.0000
60.000	.0170	.0080	.0000
90.000			.0120
120.000	.0410	.0160	.0750
135.000	.0410	.0540	.0990
150.000	.0000	.1750	.0990
165.000		.2290	.0990
180.000	-.0530		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7470	1.6220	.6920	.3120	.0650	.0210	-.0130	-.0190	-.0200	-.0120	.0190	.0660	.0410	.0190	.0260
30.000			.6710	.2840	.0580	.0120	-.0210	-.0240	-.0200	-.0010	-.0050	-.0310	.0180	.0260	-.0100
60.000			.6240	.2440	.0340	.0040	-.0350	-.0380	-.0160	-.0200	.0720	-.0140	-.0410	-.0470	-.0310
90.000		1.5270	.5700	.2040	.0100	-.0180	-.0510	-.0520	-.0350	.5520	-.0530	-.1120	-.1140	-.0980	.0310
120.000			.5150	.1690	-.0100	-.0320	-.0620	-.0670	-.0510	.1070	-.0580	-.1100	-.1000	-.0620	.0260
135.000								-.0720		-.0290		-.0000		-.0400	
150.000			.4790	.1500	-.0200	-.0420	-.0700	-.0720	-.0530	-.0220	.0780	.0990	.0280	.0390	-.0250
165.000			.1420	-.0260	-.0440	-.0720	-.0730	-.0560	-.0220	.1690		.0260			.0120
180.000	1.7470	1.4550	.4680	.1410	-.0260	-.0440	-.0740	-.0760	-.0530	-.0090	.2710	.0410	.0680	.1410	.0210
270.000		1.5350													

X/LT .7449 .8526 .9290

PHI

.000	-.0200	-.0250	-.0100
30.000	-.0240	.0030	-.0050
60.000	.0080	-.0030	-.0180
90.000			-.0350
120.000	.0110	-.0210	.0190
135.000	-.0080	-.0330	.0340
150.000	-.0470	.0470	.0210
165.000		.0760	.0210
180.000	-.0590		





AMES 87-757 1A9 O2A + S3 + T9 EXTERNAL TANK

(RBNT25)

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.725

SECTION ( 1 ) EXTERNAL TANK				DEPENDENT VARIABLE CP			
X/LT	.7449	.8526	.9290				
PHI							
.000	-.0500	-.0450	-.0460				
30.000	-.0350	-.0200	-.0290				
60.000	-.0300	-.0330	-.0410				
90.000			-.0630				
120.000	-.0670	-.0860	-.0640				
135.000	-.0930	-.0440	-.0920				
150.000	-.0710	-.0100	-.0890				
165.000		-.0710	-.0830				
180.000	-.0520						

MACH ( 3 ) = 3.502

BETAT ( 1 ) = -8.725

SECTION ( 1 ) EXTERNAL TANK				DEPENDENT VARIABLE CP											
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6750	1.5610	.6390	.2790	.0630	.0190	-.0090	-.0130	-.0160	-.0070	-.0210	-.0460	-.0310	-.0280	-.0080
30.000			.7660	.3610	.1180	.0680	.0270	.0270	.0190	.0330	.0210	.0130	.0020	-.0150	-.0100
60.000			.8280	.4050	.1410	.1000	.0490	.0450	.0560	.1130	.0780	-.0350	-.0180	-.0160	.0090
90.000		1.6510	.8020	.3860	.1280	.0880	.0420	.0370	.0730	.7010	-.0180	-.0770	-.0800	-.0720	.0460
120.000			.6940	.3060	.0800	.0510	-.0090	.0050	.0140	.1770	-.0470	-.0870	-.0880	-.0360	-.0080
135.000								-.0140		-.0250		-.0660		-.0350	
150.000			.5490	.2060	.0240	.0020	-.0300	-.0330	-.0310	-.0500	-.0300	.0080	.0120	.1960	.0280
165.000				.1600	.0000	-.0190	-.0460	-.0470	-.0470	-.0410	.0720		.0720		.0060
180.000	1.6750	1.3920	.4210	.1200	-.0220	-.0360	-.0590	-.0510	-.0480	-.0510	.3010	.0400	.0470	.0380	-.0230
270.000		1.2920													

SECTION ( 1 ) EXTERNAL TANK				DEPENDENT VARIABLE CP			
X/LT	.7449	.8526	.9290				
PHI							
.000	-.0290	-.0390	-.0240				
30.000	-.0080	.0040	.0000				
60.000	.0340	.0290	.0230				
90.000			.0390				
120.000	.0580	.0620	.0960				
135.000	.0590	.0690	.1540				
150.000	.0360	.2330	.1430				
165.000		.1920	.1790				
180.000	-.0380						

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT2D)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.530

SECTION ( 1 )	EXTERNAL TANK														
	DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7180	1.5990	.6580	.2890	.0660	.0230	-.0080	-.0130	-.0110	.0020	-.0020	.0010	.0020	-.0180	-.0020
30.000			.7510	.3420	.1040	.0550	.0180	.0150	.0140	.0290	.0190	.0400	.0060	-.0140	-.0070
60.000			.7850	.3630	.1160	.0760	.0280	.0240	.0410	.0290	.0800	-.0020	-.0240	-.0290	-.0060
90.000		1.6510	.7490	.3350	.0980	.0630	.0200	.0190	.0400	.6950	-.0110	-.0780	-.0850	-.0800	.0230
120.000			.6660	.2670	.0570	.0280	-.0050	-.0070	.0010	.1400	-.0370	-.0880	-.0880	-.0550	-.0180
135.000								-.0240		-.0300		-.0660		-.0490	
150.000			.5360	.1930	.0140	-.0060	-.0340	-.0360	-.0330	-.0400	-.0450	.0270	.0660	.0830	.0060
165.000				.1560	-.0040	-.0220	-.0500	-.0460	-.0390	-.0350	.0590		.0600		-.0030
180.000	1.7180	1.4280	.4320	.1270	-.0190	-.0350	-.0540	-.0390	-.0400	-.0390	.3360	.0230	.0300	.0300	-.0110
270.000		1.3640													

X/LT .7449 .8526 .9290

SECTION ( 1 )	EXTERNAL TANK		
	DEPENDENT VARIABLE CP		
X/LT	.0000	.0009	.0452
PHI			
.000	-.0240	-.0330	-.0140
30.000	-.0080	.0030	-.0060
60.000	.0190	.0140	.0070
90.000			.0110
120.000	.0520	.0340	.0720
135.000	.0410	.0290	.1110
150.000	.0150	.1550	.0970
165.000		.1510	.1080
180.000	-.0420		

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

SECTION ( 1 )	EXTERNAL TANK														
	DEPENDENT VARIABLE CP														
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7400	1.6170	.6670	.2930	.0640	.0220	-.0050	-.0080	-.0170	.0040	.0010	.0100	.0140	-.0060	-.0050
30.000			.7210	.3170	.0860	.0400	.0090	.0050	-.0020	.0170	.0030	-.0130	.0180	-.0060	-.0070
60.000			.7270	.3160	.0840	.0530	.0080	.0050	.0160	.0170	.0670	-.0050	-.0300	-.0350	-.0200
90.000		1.6200	.6820	.2830	.0630	.0350	-.0040	-.0100	.0130	.6780	-.0140	-.0730	-.0870	-.0840	-.0060
120.000			.6040	.2280	.0330	.0100	-.0240	-.0300	-.0200	.1150	-.0410	-.0890	-.0890	-.0720	.0250
135.000								-.0410		-.0410		-.0630		-.0070	
150.000			.5150	.1730	.0010	-.0160	-.0430	-.0480	-.0370	-.0330	-.0250	.1660	.0410	.0130	-.0040
165.000				.1460	-.0110	-.0280	-.0490	-.0420	-.0400	-.0280	.0750		.0350		-.0010
180.000	1.7400	1.4470	.4420	.1280	-.0220	-.0330	-.0390	-.0380	-.0380	-.0340	.2720	.0450	-.0060	.0550	.0240
270.000		1.4310													

X/LT .7449 .8526 .9290

PHI

## AMES 87-757 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT25)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.330

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

## PHI

.000	-.0120	-.0220	-.0100
30.000	-.0140	-.0010	-.0030
60.000	.0050	.0080	-.0010
90.000			.0000
120.000	.0370	.0190	.0420
135.000	.0180	.0120	.0790
150.000	-.0040	.0530	.0620
165.000		.0860	.0600
180.000	-.0320		

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .060

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000	1.7630	1.6350	.6780	.3000	.0690	.0260	-.0080	-.0120	-.0100	.0140	.0160	.0440	.0310	.0170	.0210
30.000			.6580	.2720	.0620	.0190	-.0140	-.0180	-.0130	.0110	-.0100	-.0310	-.0120	.0280	.0090
60.000			.6100	.2370	.0410	.0090	-.0270	-.0300	-.0040	-.0050	.0590	.0020	-.0260	-.0360	-.0240
90.000		1.5380	.5530	.1970	.0180	-.0090	-.0410	-.0340	-.0180	.6440	-.0160	-.0780	-.0870	-.0820	-.0190
120.000			.4950	.1610	-.0020	-.0260	-.0520	-.0310	-.0280	-.0220	-.0350	-.0850	-.0800	-.0770	-.0070
135.000								-.0280		-.0350		-.0030		-.0180	
150.000			.4580	.1430	-.0130	-.0340	-.0400	-.0290	-.0280	-.0330	.0220	.0800	.0300	-.0050	-.0040
165.000				.1350	-.0150	-.0370	-.0370	-.0300	-.0290	-.0320	.1330		.0210		.0100
180.000	1.7630	1.4680	.4490	.1330	-.0170	-.0370	-.0350	-.0290	-.0300	-.0360	.2700	.0320	.0720	.1400	.0400
270.000		1.5470													

X/LT .7449 .8526 .9290

## PHI

.000	.0000	-.0100	-.0070
30.000	-.0120	.0000	.0010
60.000	-.0040	.0000	-.0060
90.000			-.0150
120.000	.0260	.0010	-.0150
135.000	-.0090	-.0090	.0240
150.000	-.0330	-.0040	-.0090
165.000		-.0070	-.0070
180.000	-.0220		

## AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT20)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.460

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7440	1.6120	.6660	.2920	.0640	.0240	-.0130	-.0160	-.0110	.0000	-.0080	.0040	.0060	-.0140	.0000
30.000			.5810	.2200	.0300	-.0070	-.0330	-.0360	-.0230	-.0010	-.0460	-.0670	-.0320	-.0300	-.0130
60.000			.4860	.1570	-.0050	-.0300	-.0530	-.0430	-.0280	-.0430	.0350	-.0310	-.0250	-.0320	-.0200
90.000	1.4270		.4210	.1180	-.0260	-.0440	-.0390	-.0300	-.0290	.3990	-.0740	-.0860	-.0840	-.0540	.0350
120.000			.3890	.0970	-.0370	-.0490	-.0400	-.0320	-.0330	-.1000	-.0860	-.0740	-.0490	-.0370	.0080
135.000								-.0320		-.0740		.0460		-.0340	
150.000			.3960	.1030	-.0360	-.0510	-.0400	-.0300	-.0350	-.0670	-.0260	.0130	-.0020	.0260	-.0380
165.000				.1110	-.0280	-.0460	-.0430	-.0310	-.0360	-.0620	.1190		.0480		-.0100
180.000	1.7440	1.4500	.4390	.1260	-.0200	-.0400	-.0470	-.0320	-.0360	-.0570	.2600	.0450	-.0080	.0530	.0170
270.000		1.6240													

X/LT .7449 .8526 .9290

PHI			
.000	-.0190	-.0230	-.0230
30.000	-.0240	-.0080	-.0130
60.000	.0060	-.0100	-.0290
90.000			-.0430
120.000	-.0090	-.0400	-.0340
135.000	-.0410	-.0640	-.0480
150.000	-.0590	-.0450	-.0470
165.000		-.0640	-.0490
180.000	-.0350		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7130	1.5800	.6580	.2890	.0680	.0250	-.0130	-.0170	-.0150	-.0100	-.0010	.0000	.0000	-.0170	-.0090
30.000			.5340	.1980	.0230	-.0130	-.0400	-.0460	-.0280	-.0070	-.0290	-.0320	-.0120	-.0080	-.0180
60.000			.4270	.1270	-.0150	-.0430	-.0520	-.0460	-.0380	-.0530	.0460	-.0050	-.0180	-.0190	-.0140
90.000	1.3520		.3630	.0880	-.0370	-.0550	-.0450	-.0380	-.0370	.3190	-.0580	-.0830	-.0770	.0000	.0240
120.000			.3520	.0760	-.0420	-.0530	-.0450	-.0390	-.0430	-.0670	-.0760	-.0590	-.0300	-.0340	-.0030
135.000								-.0370		-.0590		.0080		-.0180	
150.000			.3610	.0910	-.0390	-.0570	-.0450	-.0380	-.0430	-.0440	.0640	-.0060	-.0160	-.0140	-.0600
165.000				.1050	-.0300	-.0530	-.0500	-.0380	-.0420	-.0380	.1480		.0020		-.0430
180.000	1.7130	1.4240	.4260	.1270	-.0180	-.0440	-.0560	-.0410	-.0410	-.0350	.3120	.0240	.0250	.0330	-.0180
270.000		1.6490													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT25)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0330	-.0330	-.0290
30.000	-.0330	-.0150	-.0160
60.000	-.0140	-.0190	-.0290
90.000			-.0590
120.000	-.0300	-.0530	-.0540
135.000	-.0640	-.0740	-.0580
150.000	-.0560	-.0510	-.0570
165.000		-.0670	-.0620
180.000	-.0460		

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.870

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6770	1.5450	.6360	.2900	.0670	.0250	-.0090	-.0160	-.0120	-.0010	-.0250	-.0160	-.0370	-.0290	-.0140
30.000			.4890	.1760	.0130	-.0220	-.0460	-.0490	-.0350	-.0100	-.0250	-.0140	-.0160	-.0360	-.0430
60.000			.3740	.0970	-.0300	-.0510	-.0510	-.0500	-.0390	-.0600	.0060	-.0120	-.0120	-.0140	-.0050
90.000	1.2840		.3100	.0610	-.0470	-.0580	-.0480	-.0420	-.0420	.2520	-.0660	-.0840	-.0490	.0210	.0250
120.000			.3100	.0550	-.0480	-.0530	-.0480	-.0420	-.0480	-.0660	-.0760	.0170	-.0410	.0100	-.0040
135.000								-.0410		-.0610		.0140		-.0220	
150.000			.3290	.0710	-.0440	-.0600	-.0480	-.0420	-.0460	-.0460	.0740	-.0350	-.0210	-.0470	-.0620
165.000				.0920	-.0350	-.0540	-.0510	-.0450	-.0460	-.0370	.1610		.0110		-.0480
180.000	1.6770	1.3960	.4150	.1220	-.0190	-.0410	-.0620	-.0460	-.0440	-.0440	.3100	.0410	.0450	.0220	-.0340
270.000		1.6580													

X/LT .7449 .8526 .9290

PHI

.000	-.0380	-.0380	-.0400
30.000	-.0330	-.0210	-.0230
60.000	-.0170	-.0250	-.0340
90.000			-.0710
120.000	-.0460	-.0770	-.0620
135.000	-.0700	-.0700	-.0620
150.000	-.0610	-.0470	-.0620
165.000		-.0610	-.0810
180.000	-.0430		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT21) ( 19 MAY 73 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.390

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6700	1.6030	.7470	.3570	.0820	.0280	-.0120	-.0130	-.0090	.0090	.0080	-.0010	.0330	.0060	-.0170
30.000			.8660	.4310	.1440	.0800	.0340	.0320	.0350	.0630	.0570	.0430	.0020	-.0090	.0060
60.000			.9050	.4520	.1580	.1100	.0460	.0460	.0830	.5810	.0620	-.0170	-.0140	.0100	.0360
90.000		1.6500	.8420	.4010	.1190	.0800	.0210	.0250	.4120	.4020	-.1150	-.1440	-.1240	-.0650	.0820
120.000			.7100	.2970	.0510	.0190	-.0300	-.0310	-.0200	.1670	-.1600	-.1860	-.0940	-.0340	.0750
135.000								-.0590		.0900		-.1040		.0810	
150.000			.5520	.1860	-.0190	-.0410	-.0800	-.0810	-.0640	-.0680	-.0750	-.0320	.0830	.0220	.0160
165.000				.1380	-.0480	-.0650	-.0980	-.0820	-.0630	-.0560	.3320		.0140		-.0240
180.000	1.6700	1.3580	.4280	.1020	-.0690	-.0830	-.0820	-.0760	-.0700	-.0360	.2580	.0810	-.0090	-.0190	-.0610
270.000		1.3030													

X/LT .7449 .8526 .9290

PHI

.000	-.0260	-.0130	.0040
30.000	.0190	.0250	.0160
60.000	.0440	.0430	.0830
90.000			.0900
120.000	.0590	.1020	.2660
135.000	.0590	.2720	.2140
150.000	.0800	.2950	.2330
165.000		.4730	.1630
180.000	-.0470		

MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.280

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6900	1.6210	.7660	.3620	.0810	.0220	-.0200	-.0180	-.0160	.0010	.0110	.0590	.0210	.0130	-.0110
30.000			.8460	.4060	.1190	.0580	.0130	.0090	.0120	.0420	.0110	.0550	.0050	-.0040	-.0040
60.000			.8540	.4040	.1200	.0740	.0150	.0110	.0480	.5650	.0620	-.0230	-.0260	-.0100	.0050
90.000		1.6220	.7810	.3440	.0780	.0400	-.0150	-.0110	.3790	.3980	-.1160	-.1480	-.1320	-.0080	.0730
120.000			.6590	.2520	.0220	-.0090	-.0560	-.0580	-.0470	.1560	-.1620	-.1920	-.1210	-.0660	.0530
135.000								-.0800		.0740		-.1130		.0170	
150.000			.5290	.1630	-.0370	-.0600	-.0970	-.0950	-.0620	-.0400	-.0370	.0270	.0370	.0080	.0040



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT21)

MACH ( 1 ) = 2.499

BETAT ( 3 ) = -4.175

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2960 .0890

180.000 -.0880

MACH ( 1 ) = 2.499

BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.7210 1.6410 .7770 .3710 .1900 .1450 -.0110 -.0120 -.0100 .0070 .0720 .0890 .0560 .0370 .0120

30.000 .7550 .4000 .1790 .1330 -.0200 -.0220 -.0110 .0240 .0080 -.0110 .0620 .0320 .0050

60.000 .6840 .3500 .1470 .0030 -.0430 -.0440 -.0060 .0040 .0730 -.0200 -.0340 -.0250 .0050

90.000 1.5090 .5980 .2960 .1150 -.0290 -.0700 -.0690 .0900 .3670 -.1110 -.1490 -.1370 -.0480 .0870

120.000 .5210 .2500 .0870 -.0570 -.0940 -.0870 -.0630 .1600 -.1500 -.1730 -.1220 -.0100 .0550

135.000 .4700 .2260 .0700 -.0740 -.0910 -.0750 -.0690 -.0070 .1330 .0710 -.0100 -.0030 -.0620

150.000 .2190 .0670 -.0760 -.0830 -.0730 -.0730 -.0030 .1650 .1160 .1160 .1160 .1160 .1160 .1160

165.000 1.7210 1.4010 .4480 .2150 .0670 -.0780 -.0790 -.0740 -.0740 -.0030 .2190 .0740 .2120 .0380 .0620

180.000 1.5130

X/LT .7449 .8526 .9290

PHI

.000 -.0140 .0000 .0170

30.000 .0020 .0220 .0120

60.000 .0240 .0050 .0080

90.000 .0490

120.000 -.0080 .0280 .0870

135.000 -.0080 .1070 .0450

150.000 -.0360 .1450 .0290

165.000 .1510 -.0200

180.000 -.1150





DATE 19 SEP 73

TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT21)

MACH ( 1 ) = 2.498

BETAT ( 6 ) = 6.440

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.7449	.8526	.9290
PHI			
.000	-.0230	-.0030	.0020
30.000	-.0110	.0060	-.0050
60.000	-.0200	-.0210	-.0270
90.000			.0100
120.000	-.0750	.0020	.0280
135.000	-.0780	.0230	-.0620
150.000	-.0810	-.0180	-.0790
165.000		-.0140	-.0720
180.000	-.0660		

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.570

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6690	1.5850	.7540	.3610	.0850	.0310	-.0090	-.0090	-.0180	.0120	.0000	.0210	.0240	.0050	-.0120
30.000			.5990	.2280	.0160	-.0300	-.0610	-.0590	-.0570	-.0050	.0290	.0070	.0090	-.0040	-.0220
60.000			.4570	.1300	-.0390	-.0690	-.1020	-.0980	-.0700	-.1190	.1150	.0240	.0080	.0120	.0240
90.000		1.2960	.3780	.0740	-.0790	-.0960	-.0920	-.0910	-.0760	.2910	-.1020	-.1290	-.0680	.0600	-.0090
120.000			.3460	.0590	-.0870	-.0980	-.0870	-.0940	-.0710	-.0210	-.1400	-.0500	-.0600	.0050	-.0490
135.000								-.0920		-.0150		.0240		-.0680	
150.000			.3590	.0660	-.0850	-.0970	-.0790	-.0880	-.0840	-.0170	.1250	.0600	-.0060	-.0860	-.1070
165.000				.0780	-.0790	-.0920	-.0790	-.0840	-.0840	-.0190	.1490		-.0100		-.1230
180.000	1.6690	1.3610	.4230	.1000	-.0670	-.0840	-.0850	-.0850	-.0850	-.0340	.2500	.0670	-.0170	-.0140	-.0780
270.000		1.6500													

X/LT	.7449	.8526	.9290
PHI			
.000	-.0290	-.0150	-.0150
30.000	-.0070	-.0070	-.0170
60.000	-.0150	-.0190	-.0340
90.000			-.0120
120.000	-.0760	-.0250	-.0430
135.000	-.1020	.0080	-.1030
150.000	-.0780	-.0610	-.0860
165.000		-.0970	-.1050
180.000	-.0480		

## AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT21)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.550

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6680	1.5970	.7150	.3320	.0790	.0320	-.0020	-.0050	-.0130	-.0020	-.0170	-.0090	-.0300	-.0170	-.0290
30.000			.8350	.4100	.1390	.0830	.0390	.0360	.0270	.0500	.0440	.0670	.0210	.0040	-.0070
60.000			.8730	.4370	.1570	.1100	.0520	.0470	.0680	.3220	.1020	.0140	.0020	.0040	.0190
90.000	1.6440		.8090	.3860	.1220	.0820	.0280	.0210	.3210	.5750	-.0430	-.0890	-.0860	-.0760	.0440
120.000			.6700	.2820	.0570	.0280	-.0150	-.0240	-.0200	.1550	-.0950	-.1330	-.1110	-.0680	.0200
135.000								-.0470		.0040		-.1030		-.0650	
150.000			.5160	.1750	-.0080	-.0280	-.0600	-.0670	-.0710	-.0360	-.0670	-.0350	.0140	.0450	.0040
165.000			.1280	-.0350	-.0480	-.0770	-.0800	-.0730	-.0590	.0870		.0980		-.0190	
180.000	1.6680	1.3490	.3890	.0890	-.0550	-.0670	-.0760	-.0740	-.0740	-.0580	.2810	.0180	.0130	-.0280	-.0520
270.000		1.2900													

X/LT .7449 .8526 .9290

PHI

.000	-.0310	-.0240	-.0110
30.000	.0000	.0300	.0170
60.000	.0400	.0400	.0450
90.000			.1120
120.000	.0500	.0630	.1920
135.000	.0500	.1990	.1720
150.000	.0300	.2840	.2410
165.000		.3910	.2040
180.000	-.0370		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.240

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7120	1.6350	.7430	.3460	.0860	.0390	.0020	-.0020	.0010	.0130	-.0010	.0390	.0370	.0140	.0140
30.000			.7870	.3660	.1090	.0570	.0170	.0140	.0150	.0430	.0340	.0280	.0410	.0110	.0060
60.000			.7640	.3460	.0960	.0580	.0100	.0050	.0330	.0410	.0990	.0100	-.0110	-.0140	-.0060
90.000	1.5900		.6840	.2870	.0580	.0270	-.0150	-.0150	.0320	.5590	-.0400	-.0930	-.0940	-.0870	.0220
120.000			.5760	.2120	.0140	-.0110	-.0470	-.0450	-.0300	.1470	-.0960	-.1390	-.1210	-.1190	.0140
135.000								-.0570		-.0530		-.0970		-.0250	
150.000			.4790	.1470	-.0260	-.0440	-.0720	-.0670	-.0520	-.0430	-.0090	.0700	.0340	.0240	-.0190
165.000			.1250	-.0400	-.0570	-.0770	-.0620	-.0550	-.0260	.0970		.0090		-.0040	
180.000	1.7120	1.3860	.4090	.0990	-.0500	-.0630	-.0730	-.0610	-.0590	-.0320	.2420	.0890	.0640	.0560	-.0090
270.000		1.4130													

X/LT .7449 .8526 .9290

PHI













## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT21)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.470

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7340	1.6470	.7270	.3380	.0940	.0480	.0110	-.0060	-.0010	.0030	.0220	.0370	.0250	.0050	.0060
30.000			.6300	.2530	.0540	.0100	-.0150	-.0190	-.0230	.0070	-.0140	-.0220	-.0170	-.0160	-.0010
60.000			.5100	.1750	.0090	-.0150	-.0440	-.0480	-.0230	-.0340	.0830	.0230	-.0060	-.0120	-.0030
90.000	1.4180		.4210	.1170	-.0240	-.0420	-.0430	-.0420	-.0430	.4720	-.0330	-.0720	-.0650	-.0590	.0030
120.000			.3710	.0880	-.0390	-.0500	-.0390	-.0390	-.0430	-.0730	-.0620	-.0840	-.0860	-.0520	-.0250
135.000								-.0390		-.0530		-.0010		-.0260	
150.000			.3560	.0810	-.0430	-.0510	-.0380	-.0410	-.0430	-.0500	-.0210	-.0040	.0270	.0370	-.0520
165.000				.0870	-.0390	-.0510	-.0400	-.0430	-.0430	-.0480	.1160		.0340		-.0230
180.000	1.7340	1.4050	.3870	.1000	-.0350	-.0470	-.0400	-.0430	-.0430	-.0480	.2300	.0480	.0200	.0540	.0010
270.000		1.6190													

X/LT .7449 .8526 .9290

PHI

.000	-.0090	-.0080	-.0100
30.000	-.0110	.0020	.0030
60.000	.0080	.0020	-.0170
90.000			-.0490
120.000	-.0170	-.0430	-.0220
135.000	-.0450	-.0690	-.0350
150.000	-.0560	-.0500	-.0440
165.000		-.0490	-.0410
180.000	-.0440		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7060	1.6150	.7150	.3350	.0910	.0450	.0090	.0050	.0030	.0010	.0220	.0110	.0130	-.0090	.0160
30.000			.5820	.2280	.0380	.0000	-.0230	-.0280	-.0280	.0050	-.0090	-.0120	.0040	.0010	-.0080
60.000			.4480	.1390	-.0100	-.0320	-.0520	-.0460	-.0320	-.0520	.0680	.0210	.0010	.0000	.0000
90.000	1.3460		.3610	.0830	-.0390	-.0500	-.0400	-.0360	-.0410	.3590	-.0430	-.0710	-.0670	-.0530	.0570
120.000			.3210	.0620	-.0500	-.0460	-.0410	-.0400	-.0440	-.0760	-.0700	-.0830	-.0620	-.0360	-.0110
135.000								-.0420		-.0540		.0320		-.0150	
150.000			.3250	.0660	-.0500	-.0480	-.0400	-.0400	-.0450	-.0500	-.0160	-.0050	-.0060	-.0060	-.0670
165.000				.0770	-.0420	-.0550	-.0410	-.0410	-.0440	-.0500	.1220		.0220		-.0440
180.000	1.7060	1.3820	.3790	.0950	-.0350	-.0500	-.0460	-.0420	-.0440	-.0480	.2730	.0280	-.0170	.0160	-.0320
270.000		1.6450													

X/LT .7449 .8526 .9290

PHI

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT21)

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.670

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	-.0180	-.0210	-.0200
30.000	-.0190	-.0020	-.0050
60.000	.0040	-.0090	-.0180
90.000			-.0630
120.000	-.0340	-.0650	-.0450
135.000	-.0650	-.0730	-.0520
150.000	-.0490	-.0450	-.0520
165.000		-.0590	-.0530
180.000	-.0480		

MACH ( 3 ) = 3.502

BETAT ( 7 ) = 8.890

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6630	1.5740	.6940	.3230	.0860	.0440	.0120	.0050	.0000	.0090	-.0120	-.0030	-.0220	-.0170	-.0150
30.000			.5330	.1970	.0260	-.0120	-.0320	-.0360	-.0350	-.0020	-.0130	.0010	.0010	-.0250	-.0410
60.000			.3910	.1030	-.0260	-.0430	-.0600	-.0510	-.0420	-.0660	.0300	.0130	.0080	.0000	-.0080
90.000		1.2770	.3070	.0550	-.0540	-.0520	-.0460	-.0470	-.0490	.2880	-.0530	-.0680	-.0630	-.0220	.0290
120.000			.2740	.0400	-.0590	-.0500	-.0460	-.0490	-.0520	-.0780	-.0750	-.0740	-.0390	-.0380	-.0220
135.000								-.0460		-.0620		.0290		-.0370	
150.000			.2920	.0500	-.0580	-.0550	-.0480	-.0500	-.0520	-.0560	-.0070	-.0220	-.0100	-.0510	-.0740
165.000				.0630	-.0520	-.0600	-.0480	-.0490	-.0520	-.0560	.1700		-.0220		-.0710
180.000	1.6630	1.3490	.3670	.0880	-.0410	-.0500	-.0550	-.0530	-.0530	-.0600	.2870	.0200	.0400	.0020	-.0530
270.000		1.6440													

X/LT .7449 .8526 .9290

PHI

.000	-.0290	-.0280	-.0280
30.000	-.0290	-.0100	-.0120
60.000	-.0080	-.0100	-.0230
90.000			-.0690
120.000	-.0570	-.0800	-.0620
135.000	-.0790	-.0760	-.0670
150.000	-.0550	-.0480	-.0710
165.000		-.0630	-.0770
180.000	-.0480		

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8495 INCHES YMRP = .0000 INCHES  
 BREF = 39.8495 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

MACH ( 1 ) = 2.499

BETAT ( 1 ) = -8.370

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6500	1.6280	.8050	.4020	.1120	.0570	.0060	.0030	.0090	.0260	.0410	.0340	.0345	.0230	-.0200
30.000			.9210	.4770	.1780	.1100	.0510	.0500	.0530	.0820	.0630	.0820	.0320	.0170	.0340
60.000			.9330	.4790	.1750	.1190	.0530	.0510	.0930	.6370	.1040	.0210	.0160	.0290	.0470
90.000	1.6320		.8340	.3990	.1210	.0690	.0140	.0130	.4250	.3820	-.0970	-.1130	-.1080	-.0920	.0570
120.000			.6690	.2710	.0340	-.0040	-.0490	-.0510	-.0490	.1090	-.1770	-.2150	-.1680	-.0180	.0390
135.000								-.0800		.0460		-.1480		.0120	
150.000			.4960	.1500	-.0420	-.0660	-.1030	-.0950	-.0830	-.0750	-.1100	-.0940	.0680	.0110	.0060
165.000				.1060	-.0660	-.0900	-.1000	-.0870	-.0850	-.0500	.2980		-.0100		-.0330
180.000	1.6500	1.3060	.3790	.0720	-.0840	-.1030	-.0900	-.0840	-.0880	-.0460	.1920	.0470	-.0480	-.0210	-.0700
270.000		1.2880													
X/LT	.7445	.8526	.9290												
PHI															
.000	-.0110	.0060	.0250												
30.000	.0340	.0480	.0370												
60.000	.0570	.0490	.0960												
90.000			.1130												
120.000	.0570	.1080	.2340												
135.000	.0800	.2740	.2150												
150.000	.0580	.2950	.2460												
165.000		.4880	.1640												
180.000	-.0430														

MACH ( 1 ) = 2.499

BETAT ( 2 ) = -6.260

SECTION ( 1 ) EXTERNAL TANK		DEPENDENT VARIABLE CP													
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6750	1.6500	.8220	.4050	.0950	.0380	.0100	.0050	.0040	.0180	.0400	.0830	.0460	.0270	.0010
30.000			.8980	.4360	.1370	.0720	.0380	.0370	.0360	.0640	.0420	.1020	.0410	.0320	.0250
60.000			.8750	.4150	.1280	.0910	.0260	.0360	.0650	.6140	.1060	.0170	.0070	.0230	.0270
90.000	1.6050		.7660	.3280	.0630	.0410	-.0100	-.0100	.3910	.3770	-.0930	-.1240	-.1090	-.0940	.0370
120.000			.6190	.2130	-.0120	-.0220	-.0630	-.0730	-.0670	.1000	-.1850	-.2140	-.1780	-.0850	.0130
135.000								-.0970		.0540		-.1440		.0380	
150.000			.4730	.1140	-.0740	-.0720	-.1060	-.0950	-.0850	-.0670	-.0770	-.0250	.0280	-.0040	-.0090



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.150

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

165.000 .2880 .0860

180.000 -.0860

MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060

SECTION ( 1 ) EXTERNAL TANK DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1955 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000 1.6960 1.6640 .8320 .4170 .0970 .0450 .0140 .0080 .0150 .0180 .0870 .1110 .0710 .0520 .0260

30.000 .7980 .3510 .0780 .0170 -.0030 .0070 .0030 .0470 .0360 -.0070 .0570 .0500 .0260

60.000 .7010 .2740 .0350 .0130 -.0360 -.0360 .0060 -.0090 .1110 .0140 -.0050 .0020 .0260

90.000 1.4890 .5860 .1830 -.0290 -.0330 -.0730 -.0670 .0930 .3330 -.0950 -.1130 -.1170 -.0890 .0680

120.000 .4880 .1150 -.0730 -.0690 -.1000 -.0750 -.0770 .1010 -.1820 -.2130 -.1700 -.0320 .0350

135.000 .4170 .0740 -.0960 -.0880 -.0780 -.0750 -.0740 -.0290 .1250 .0370 .0070 -.0340 -.0650

150.000 .0640 -.1000 -.0930 -.0750 -.0720 -.0730 -.0230 .1610 .1280 .1280 -.0790

165.000 1.6960 1.3450 .3940 .0620 -.1000 -.0930 -.0760 -.0740 -.0740 -.0220 .2070 .2220 .1830 -.0050 -.0800

270.000 1.4960

X/LT .7449 .8526 .9290

PHI

.000 .0080 .0150 .0320

30.000 .0180 .0390 .0270

60.000 .0400 .0370 .0210

90.000 .0740

120.000 -.0110 .0740 .0870

135.000 -.0130 .1190 .0500

150.000 -.0170 .1570 .0370

165.000 .1550 -.0090

180.000 -.1050

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 1 ) = 2.499

BETAT ( 5 ) = 4.330

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6940	1.6530	.8290	.4190	.1210	.0610	.0070	.0050	.0160	.0230	.0840	.0950	.0560	.0300	.0250
30.000			.7220	.3140	.0650	.0140	-.0280	-.0260	-.0220	.0810	.0230	.0010	.0330	.0350	.0240
60.000			.5870	.2080	.0090	-.0350	-.0760	-.0720	-.0230	-.0750	.1420	.0350	.0200	.0280	.0400
90.000	1.3970		.4690	.1300	-.0470	-.0770	-.0940	-.0690	-.0310	.3090	-.0740	-.1130	-.1030	-.0340	.0450
120.000			.4000	.0830	-.0730	-.0950	-.0780	-.0730	-.0770	.0360	-.1780	-.1870	-.1010	-.0090	.0130
135.000								-.0730		-.0620		.0100		-.0670	
150.000			.3740	.0700	-.0800	-.0890	-.0770	-.0730	-.0750	-.0230	.1290	.1010	.0540	-.0700	-.1040
165.000				.0730	-.0810	-.0910	-.0770	-.0730	-.0760	-.0180	.1710		.0890		-.1080
180.000	1.6940	1.3400	.3960	.0820	-.0790	-.0940	-.0790	-.0730	-.0760	-.0250	.2260	.1630	.0860	-.0110	-.0730
270.000		1.5800													

X/LT .7449 .8526 .9290

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	.0170	.0260	.0330												
30.000	.0200	.0340	.0180												
60.000	.0200	.0060	.0030												
90.000			.0450												
120.000	-.0460	.0200	.0440												
135.000	-.0470	.0570	-.0230												
150.000	-.0420	.0420	-.0220												
165.000		.0300	-.0120												
180.000	-.0820														

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6670	1.6310	.8190	.3870	.1020	.0430	.0110	.0080	.0020	.0180	.0600	.0580	.0450	.0350	.0120
30.000			.6780	.2680	.0300	-.0200	-.0390	-.0380	-.0360	.0900	.0600	.0490	.0410	.0270	.0100
60.000			.5270	.1520	-.0420	-.0510	-.0910	-.0890	-.0410	-.0910	.1490	.0490	.0340	.0310	.0390
90.000	1.3360		.4140	.0770	-.0880	-.0900	-.1200	-.0960	-.0700	.2900	-.0800	-.1070	-.0980	.0250	.0300
120.000			.3570	.0400	-.1050	-.1050	-.0990	-.0960	-.0800	.0450	-.1690	-.1700	-.0950	-.0090	-.0170
135.000								-.0960		-.0080		.0050		-.0830	
150.000			.3470	.0380	-.1100	-.1090	-.0990	-.0890	-.0680	-.0170	.1550	.0870	.0180	-.0750	-.1180
165.000				.0440	-.1090	-.1010	-.0840	-.0890	-.0780	-.0180	.1540		.0400		-.1210
180.000	1.6670	1.3210	.3830	.0580	-.1040	-.0990	-.0800	-.0880	-.0840	-.0300	.2020	.0300	.0410	-.0190	-.0680
270.000		1.6070													

X/LT .7449 .8526 .9290

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 1 ) = 2.499

BETAT ( 6 ) = 6.460

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9290

PHI

.000	.0030	.0190	.0300
30.000	.0090	.0250	.0160
60.000	.0080	.0080	-.0060
90.000			.0270
120.000	-.0620	.0030	.0300
135.000	-.0660	.0260	-.0320
150.000	-.0720	-.0070	-.0610
165.000		-.0360	-.0610
180.000	-.0640		

MACH ( 1 ) = 2.499

BETAT ( 7 ) = 8.600

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.6480	1.6100	.8120	.3990	.0940	.0350	.0110	.0070	.0100	.0350	.0210	.0330	.0370	.0370	-.0200
30.000			.6390	.2410	.0080	-.0400	-.0510	-.0490	-.0430	.0340	.0610	.0410	.0230	.0130	-.0170
60.000			.4740	.1180	-.0590	-.0680	-.1050	-.1030	-.0620	-.1130	.1360	.0550	.0440	.0410	.0270
90.000		1.2750	.3640	.0430	-.1110	-.1050	-.1080	-.0980	-.0730	.2570	-.0900	-.1000	-.0890	.0630	-.0110
120.000			.3220	.0170	-.1210	-.1100	-.0940	-.0980	-.0690	-.0120	-.1740	-.1250	-.0860	-.0020	-.0500
135.000								-.0970		-.0100		.0130		-.1020	
150.000			.3240	.0200	-.1230	-.1020	-.0870	-.0860	-.0810	-.0280	.1530	.0510	-.0010	-.1010	-.1110
165.000				.0280	-.1190	-.0940	-.0830	-.0830	-.0840	-.0300	.1260		.0010		-.1120
180.000	1.6480	1.3060	.3750	.0470	-.1130	-.1020	-.0820	-.0800	-.0860	-.0450	.1730	.0340	-.0500	-.0230	-.0770
270.000		1.6370													

X/LT .7449 .8526 .9290

PHI

.000	-.0160	.0030	.0050
30.000	.0050	.0020	-.0060
60.000	.0040	.0020	-.0220
90.000			-.0100
120.000	-.0730	-.0230	-.0250
135.000	-.1010	.0000	-.0760
150.000	-.0720	-.0580	-.0630
165.000		-.0840	-.0970
180.000	-.0450		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 2 ) = 2.999

BETAT ( 1 ) = -8.530

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6520	1.6260	.7760	.3820	.1110	.0620	.0210	.0170	.0080	.0120	.0240	.0120	-.0040	.0180	-.0010
30.000			.8900	.4570	.1750	.1110	.0610	.0580	.0480	.0750	.0700	.1110	.0520	.0300	.0240
60.000			.8990	.4610	.1720	.1240	.0650	.0600	.0780	.2950	.1400	.0500	.0300	.0320	.0480
90.000	1.6270		.7960	.3770	.1200	.0800	.0280	.0230	.3170	.5500	-.0230	-.0740	-.0700	-.0580	.0000
120.000			.6290	.2560	.0440	.0150	-.0250	-.0320	-.0200	.1210	-.1160	-.1510	-.1360	-.0720	.0570
135.000								-.0600		-.0130		-.1190		-.0770	
150.000			.4650	.1430	-.0270	-.0440	-.0730	-.0790	-.0780	-.0310	-.0750	-.0760	-.0330	.0390	.0040
165.000				.0980	-.0510	-.0650	-.0770	-.0750	-.0750	-.0630	.0270		.0680		-.0190
180.000	1.6520	1.2990	.3410	.0640	-.0670	-.0760	-.0670	-.0750	-.0770	-.0640	.2050	.0200	-.0210	-.0440	-.0440
270.000		1.2800													

X/LT .7449 .8526 .9290

PHI

.000	-.0070	-.0040	.0140
30.000	.0310	.0530	.0410
60.000	.0540	.0620	.0540
90.000			.1250
120.000	.0420	.0620	.1270
135.000	.0410	.2180	.1790
150.000	.0400	.2830	.2360
165.000		.4080	.1860
180.000	-.0220		

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.230

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7010	1.6690	.8020	.3940	.1150	.0630	.0270	.0250	.0140	.0210	.0290	.0610	.0590	.0410	.0230
30.000			.8390	.4080	.1360	.0780	.0390	.0390	.0250	.0560	.0590	.0300	.0760	.0450	.0230
60.000			.7870	.3680	.1090	.0740	.0240	.0210	.0350	.0590	.1360	.0420	.0200	.0180	.0230
90.000	1.5770		.6750	.2820	.0550	.0310	-.0120	-.0200	.0290	.5200	-.0270	-.0750	-.0730	-.0660	-.0220
120.000			.5420	.1890	-.0010	-.0170	-.0510	-.0610	-.0550	.1070	-.1220	-.1510	-.1460	-.1230	-.0040
135.000								-.0730		-.0620		-.1150		-.0500	
150.000			.4280	.1140	-.0420	-.0530	-.0790	-.0660	-.0650	-.0570	-.0230	-.0110	.0100	.0120	-.0160
165.000				.0860	-.0560	-.0640	-.0590	-.0650	-.0680	-.0430	.1070		.0470		-.0140
180.000	1.7010	1.3370	.3580	.0710	-.0650	-.0680	-.0570	-.0640	-.0680	-.0470	.2070	.0560	.0730	.0400	-.0240
270.000		1.4040													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 2 ) = 2.999

BETAT ( 2 ) = -4.230

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9295

PHI

.000	.0160	.0160	.0260
30.000	.0250	.0430	.0370
60.000	.0310	.0390	.0250
90.000			.0570
120.000	.0310	.0370	.1000
135.000	.0120	.0370	.0870
150.000	.0050	.1680	.0870
165.000		.2000	.1000
180.000	-.0660		

MACH ( 2 ) = 2.999

BETAT ( 3 ) = .060

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

PHI

.000	1.7150	1.6760	.8130	.4030	.1170	.0660	.0250	.0220	.0200	.0190	.0520	.0950	.0750	.0540	.0480
30.000			.7730	.3560	.1010	.0490	.0130	.0080	.0070	.0420	.0500	.0010	.0160	.0510	.0400
60.000			.6730	.2760	.0540	.0230	-.0200	-.0240	.0050	.0200	.1450	.0450	.0130	.0080	.0180
90.000		1.4980	.5560	.1940	.0030	-.0200	-.0530	-.0470	-.0340	.4910	-.0350	-.0780	-.0780	-.0740	-.0130
120.000			.4520	.1270	-.0370	-.0530	-.0680	-.0560	-.0630	.0910	-.1160	-.1450	-.1290	-.0950	-.0110
135.000								-.0540		-.0510		-.0680		-.0350	
150.000			.3880	.0880	-.0570	-.0680	-.0580	-.0540	-.0640	-.0420	.0690	.0460	.0070	.0180	-.0310
165.000				.0810	-.0590	-.0700	-.0560	-.0550	-.0630	-.0440	.1210		-.0130		-.0120
180.000	1.7150	1.3530	.3700	.0780	-.0610	-.0710	-.0570	-.0570	-.0630	-.0450	.1980	.0640	-.0150	.0780	-.0090
270.000		1.5110													

X/LT .7449 .8526 .9295

PHI

.000	.0190	.0140	.0220
30.000	.0220	.0340	.0340
60.000	.0280	.0310	.0080
90.000			.0180
120.000	.0090	-.0270	.0410
135.000	-.0110	.0140	.0320
150.000	-.0270	.0760	.0190
165.000		.0820	.0130
180.000	-.0750		

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 2 ) = 2.999

BETAT ( 4 ) = 4.400

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6970	1.6570	.7960	.3900	.1110	.0580	.0280	.0240	.0140	.0140	.0630	.0810	.0490	.0260	.0230
30.000			.6830	.2900	.0600	.0120	-.0090	-.0140	-.0230	.0200	.0300	.0100	.0230	.0290	.0080
60.000			.5450	.1860	-.0040	-.0170	-.0500	-.0540	-.0290	-.0210	.1540	.0630	.0180	.0180	.0110
90.000		1.3900	.4300	.1070	-.0490	-.0530	-.0660	-.0620	-.0680	.4210	-.0250	-.0800	-.0790	-.0720	.0910
120.000			.3570	.0640	-.0700	-.0690	-.0560	-.0610	-.0630	-.0310	-.1080	-.1400	-.1220	-.0940	-.0160
135.000								-.0600		-.0440		-.0120		-.0320	
150.000			.3320	.0540	-.0740	-.0650	-.0550	-.0600	-.0630	-.0350	.0780	.0530	-.0210	-.0240	-.0860
165.000				.0540	-.0740	-.0660	-.0550	-.0600	-.0660	-.0330	.1430		.0050		-.0690
180.000	1.6970	1.3370	.3570	.0650	-.0720	-.0690	-.0570	-.0640	-.0670	-.0340	.2120	.0460	.0600	.0230	-.0360
270.000		1.5850													

X/LT .7449 .8526 .9290

PHI

.000	.0040	.0150	.0210
30.000	-.0040	.0340	.0240
60.000	.0250	.0120	-.0030
90.000			.0010
120.000	-.0390	-.0470	.0210
135.000	-.0620	-.0060	-.0160
150.000	-.0640	.0100	-.0200
165.000		.0240	-.0150
180.000	-.0650		

MACH ( 2 ) = 2.999

BETAT ( 5 ) = 8.750

SECTION ( 1 ) EXTERNAL TANK

DEPENDENT VARIABLE CP

X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6500	1.6050	.7720	.3840	.1130	.0610	.0190	.0150	.0150	.0220	.0120	.0190	-.0010	.0200	-.0070
30.000			.5980	.2390	.0350	-.0070	-.0360	-.0370	-.0400	-.0050	.0380	.0350	.0260	.0040	-.0080
60.000			.4290	.1240	-.0340	-.0520	-.0790	-.0820	-.0500	-.0720	.0950	.0470	.0350	.0270	.0110
90.000		1.2700	.3190	.0540	-.0710	-.0840	-.0810	-.0740	-.0770	.3270	-.0480	-.0690	-.0670	-.0010	.0300
120.000			.2720	.0300	-.0810	-.0870	-.0760	-.0730	-.0620	-.0570	-.1310	-.1330	-.0510	-.0670	-.0290
135.000								-.0730		-.0410		.0240		-.0570	
150.000			.2790	.0330	-.0810	-.0750	-.0700	-.0700	-.0630	-.0520	.0820	.0630	.0080	-.0580	-.0170
165.000				.0400	-.0770	-.0750	-.0680	-.0640	-.0700	-.0540	.0940		-.0110		-.0900
180.000	1.6500	1.3010	.3400	.0610	-.0680	-.0810	-.0690	-.0640	-.0660	-.0620	.1940	.0250	-.0240	-.0510	-.0620
270.000		1.6310													

X/LT .7449 .8526 .9290

PHI



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 3 ) = 3.502

BETAT ( 2 ) = -6.490

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6900	1.6620	.7780	.3780	.1070	.0580	.0290	.0240	.0180	.0260	.0200	.0430	.0300	.0100	.0140
30.000			.8590	.4230	.1440	.0880	.0540	.0520	.0450	.0670	.0740	.0420	.0650	.0360	.0220
60.000			.8400	.4170	.1350	.1030	.0490	.0430	.0560	.0670	.1590	.0640	.0240	.0180	.0320
90.000	1.6200		.7320	.3180	.0840	.0590	.0160	.0120	.0340	.6510	.0200	-.0490	-.0560	-.0520	-.0330
120.000			.5830	.2090	.0220	.0070	-.0240	-.0280	-.0260	.1090	-.0730	-.1170	-.1140	-.0830	-.0080
135.000								-.0480		-.0500		-.0940		-.0790	
150.000			.4310	.1170	-.0310	-.0340	-.0570	-.0520	-.0470	-.0480	-.0310	-.0580	-.0320	.0350	-.0120
165.000				.0830	-.0490	-.0480	-.0510	-.0480	-.0500	-.0470	.0430		.0200		-.0250
180.000	1.6900	1.3270	.3320	.0600	-.0600	-.0570	-.0470	-.0490	-.0480	-.0460	.2240	.0360	-.0270	.0130	-.0280
270.000		1.3490													
X/LT	.7449	.8526	.9290												
PHI															
.000	.0030	.0000	.0090												
30.000	.0260	.0350	.0300												
60.000	.0300	.0360	.0240												
90.000			.0380												
120.000	.0250	.0200	.0750												
135.000	.0100	.0460	.1020												
150.000	.0030	.1620	.1020												
165.000		.1430	.1350												
180.000	-.0440														

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.310

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7140	1.6810	.7900	.3830	.1010	.0510	.0280	.0240	.0190	.0240	.0180	.0430	.0380	.0260	.0210
30.000			.8300	.3870	.1210	.0650	.0420	.0380	.0310	.0570	.0440	.0060	.0630	.0430	.0270
60.000			.7820	.3440	.0940	.0730	.0280	.0220	.0350	.0490	.1330	.0460	.0200	.0110	.0200
90.000	1.5920		.6690	.2620	.0450	.0340	-.0050	-.0110	.0140	.6220	-.0030	-.0540	-.0610	-.0560	-.0440
120.000			.5380	.1660	-.0090	-.0110	-.0400	-.0440	-.0390	.0750	-.0950	-.1190	-.1180	-.0980	-.0210
135.000								-.0540		-.0670		-.0970		-.0850	
150.000			.4110	.0950	-.0480	-.0440	-.0590	-.0480	-.0480	-.0590	-.0140	-.0350	.0010	.0150	-.0110
165.000				.0710	-.0590	-.0520	-.0500	-.0470	-.0490	-.0530	.0270		-.0040		-.0100
180.000	1.7140	1.3430	.3390	.0540	-.0680	-.0580	-.0440	-.0470	-.0490	-.0590	.1870	.0350	.0150	.0540	-.0020
270.000		1.4130													
X/LT	.7449	.8526	.9290												
PHI															

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 3 ) = 3.502

BETAT ( 3 ) = -4.315

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .7449 .8526 .9295

## PHI

.000	.0170	.0120	.0130
30.000	.0220	.0310	.0290
60.000	.0220	.0310	.0170
90.000			.0170
120.000	.0270	.0100	.0370
135.000	.0030	.0280	.0860
150.000	-.0020	.0830	.0560
165.000		.0870	.0720
180.000	-.0500		

MACH ( 3 ) = 3.502

BETAT ( 4 ) = .060

## SECTION ( 1 ) EXTERNAL TANK

## DEPENDENT VARIABLE CP

X/LT .0000 .0009 .0452 .1098 .1744 .1905 .2121 .2336 .2874 .3412 .3950 .4489 .5027 .5565 .6372

## PHI

.000	1.7300	1.6900	.7950	.3860	.1170	.0680	.0320	.0250	.0230	.0230	.0380	.0710	-.0640	.0470	.0470
30.000			.7570	.3440	.1020	.0550	.0200	.0140	.0130	.0400	.0370	.0040	-.0010	.0240	.0390
60.000			.6560	.2710	.0590	.0300	-.0070	-.0130	.0090	.0250	.1300	.0500	.0180	.0080	.0150
90.000		1.5090	.5360	.1850	.0120	-.0070	-.0380	-.0360	-.0220	.5560	-.0070	-.0540	-.0580	-.0560	-.0390
120.000			.4330	.1210	-.0240	-.0380	-.0470	-.0390	-.0450	.0310	-.0860	-.1070	-.0950	-.0840	-.0380
135.000								-.0390		-.0450		-.0460		-.0810	
150.000			.3660	.0850	-.0430	-.0510	-.0400	-.0390	-.0400	-.0470	-.0040	-.0180	-.0180	.0220	-.0080
165.000				.0760	-.0470	-.0500	-.0400	-.0390	-.0390	-.0560	.1000		.0000		.0140
180.000	1.7300	1.3590	.3450	.0710	-.0490	-.0500	-.0410	-.0400	-.0380	-.0580	.1690	.0250	-.0090	.0830	.0150
270.000		1.5190													

X/LT .7449 .8526 .9295

## PHI

.000	.0230	.0150	.0150
30.000	.0250	.0280	.0270
60.000	.0150	.0270	.0110
90.000			-.0050
120.000	-.0030	-.0140	.0040
135.000	-.0290	-.0160	.0080
150.000	-.0450	.0070	-.0100
165.000		.0190	-.0010
180.000	-.0430		

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK

(RBNT22)

MACH ( 3 ) = 3.502

BETAT ( 5 ) = 4.480

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.7150	1.6740	.7870	.3810	.1200	-.0710	-.0300	-.0250	-.0230	-.0220	-.0380	-.0570	-.0420	-.0280	-.0240
30.000			.6730	.2850	-.0710	-.0290	-.0030	-.0070	-.0070	-.0270	-.0080	-.0000	-.0120	-.0160	-.0210
60.000			.5320	.1970	-.0170	-.0100	-.0390	-.0430	-.0170	-.0040	-.1130	-.0490	-.0230	-.0150	-.0190
90.000	1.4030		.4120	.1110	-.0260	-.0430	-.0560	-.0410	-.0480	-.4630	-.0200	-.0530	-.0540	-.0520	-.0300
120.000			.3440	.0710	-.0470	-.0550	-.0460	-.0400	-.0410	-.0660	-.0680	-.0910	-.0760	-.0330	-.0310
135.000								-.0410		-.0590		-.0540		-.0210	
150.000			.3120	.0610	-.0520	-.0540	-.0440	-.0390	-.0420	-.0550	-.0340	-.0260	-.0140	-.0220	-.0500
165.000				.0620	-.0490	-.0560	-.0460	-.0400	-.0410	-.0540	.1090		-.0150		-.0250
180.000	1.7150	1.3470	.3360	.0710	-.0480	-.0580	-.0470	-.0410	-.0420	-.0550	.1930	.0370	.0190	.0520	-.0040
270.000		1.6010													

X/LT .7449 .8526 .9290

PHI			
.000	.0130	.0130	.0100
30.000	.0040	.0190	.0200
60.000	.0180	.0190	-.0010
90.000			-.0420
120.000	-.0170	-.0370	-.0180
135.000	-.0480	-.0540	-.0200
150.000	-.0650	-.0480	-.0390
165.000		-.0640	-.0490
180.000	-.0490		

MACH ( 3 ) = 3.502

BETAT ( 6 ) = 6.700

SECTION ( 1 ) EXTERNAL TANK			DEPENDENT VARIABLE CP												
X/LT	.0000	.0009	.0452	.1098	.1744	.1905	.2121	.2336	.2874	.3412	.3950	.4489	.5027	.5565	.6372
PHI															
.000	1.6890	1.6450	.7770	.3800	.1170	-.0700	-.0310	-.0260	-.0240	-.0190	-.0390	-.0320	-.0270	-.0080	-.0150
30.000			.6260	.2670	-.0560	-.0170	-.0090	-.0150	-.0190	-.0200	-.0080	-.0120	-.0210	-.0110	-.0000
60.000			.4710	.1590	-.0030	-.0230	-.0490	-.0520	-.0230	-.0400	-.0810	-.0440	-.0210	-.0200	-.0170
90.000	1.3290		.3560	.0780	-.0420	-.0530	-.0430	-.0380	-.0430	-.3580	-.0310	-.0590	-.0580	-.0540	-.0470
120.000			.2990	.0480	-.0560	-.0450	-.0410	-.0410	-.0410	-.0810	-.0960	-.1120	-.0820	-.0620	-.0220
135.000								-.0400		-.0600		.0070		-.0280	
150.000			.2870	.0480	-.0580	-.0460	-.0410	-.0400	-.0420	-.0580	.0540	.0490	.0060	-.0050	-.0680
165.000				.0540	-.0550	-.0500	-.0440	-.0410	-.0450	-.0540	.0960		.0090		-.0530
180.000	1.6890	1.3260	.3320	.0690	-.0500	-.0570	-.0430	-.0420	-.0440	-.0530	.1980	.0330	-.0380	-.0050	-.0420
270.000		1.6260													

X/LT .7449 .8526 .9290

PHI



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBND1) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

BETAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	ALPHAT ( 1 ) = -8.100	X/LT .977	1.000
		PHI	
		.000	-.1290 - .1270
		90.000	-.1350
		180.000	-.1440
MACH ( 1 ) = 2.498	ALPHAT ( 2 ) = -6.070	X/LT .977	1.000
		PHI	
		.000	-.1310 - .1230
		90.000	-.1290
		180.000	-.1420
MACH ( 1 ) = 2.498	ALPHAT ( 3 ) = -4.030	X/LT .977	1.000
		PHI	
		.000	-.1200 - .1130
		90.000	-.1250
		180.000	-.1350
MACH ( 1 ) = 2.498	ALPHAT ( 4 ) = -2.000	X/LT .977	1.000
		PHI	
		.000	-.1040 - .1010
		90.000	-.1150
		180.000	-.1250
MACH ( 1 ) = 2.498	ALPHAT ( 5 ) = .000	X/LT .977	1.000
		PHI	
		.000	-.0940 - .0870
		90.000	-.1120
		180.000	-.1220
MACH ( 1 ) = 2.498	ALPHAT ( 6 ) = 1.930	X/LT .977	1.000
		PHI	
		.000	-.0890 - .0860
		90.000	-.1060
		180.000	-.1050
MACH ( 1 ) = 2.498	ALPHAT ( 7 ) = 3.900	X/LT .977	1.000
		PHI	
		.000	-.0860 - .0770
		90.000	-.0960
		180.000	-.0980



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNYU1)

SECTION ( 1)EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498	ALPHAT( 8) = 5.950	X/LT	.977	1.000
		PHI		
		.000	-.0760	-.0720
		90.000	-.0800	
		180.000	-.0830	
MACH ( 1) = 2.498	ALPHAT( 9) = 8.010	X/LT	.977	1.000
		PHI		
		.000	-.0550	-.0550
		90.000	-.0710	
		180.000	-.0730	
MACH ( 2) = 2.999	ALPHAT( 1) = -8.070	X/LT	.977	1.000
		PHI		
		.000	-.1030	-.0980
		90.000	-.1080	
		180.000	-.1100	
MACH ( 2) = 2.999	ALPHAT( 2) = -6.100	X/LT	.977	1.000
		PHI		
		.000	-.1140	-.1080
		90.000	-.1140	
		180.000	-.1210	
MACH ( 2) = 2.999	ALPHAT( 3) = -4.070	X/LT	.977	1.000
		PHI		
		.000	-.0990	-.0940
		90.000	-.0980	
		180.000	-.1040	
MACH ( 2) = 2.999	ALPHAT( 4) = -2.000	X/LT	.977	1.000
		PHI		
		.000	-.0940	-.0910
		90.000	-.0990	
		180.000	-.1020	
MACH ( 2) = 2.999	ALPHAT( 5) = -0.020	X/LT	.977	1.000
		PHI		
		.000	-.0900	-.0910
		90.000	-.0980	
		180.000	-.1060	
MACH ( 2) = 2.999	ALPHAT( 6) = 1.930	X/LT	.977	1.000
		PHI		
		.000	-.0850	-.0830
		90.000	-.0870	
		180.000	-.0970	

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TABULATED PRESSURE DATA - IA9C

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AMES 67-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY01)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 ALPHAT( 7) = 3.960	X/LT .977 1.000
	FHI
	.000 -.0910 -.0910
	90.000 -.0910
	180.000 -.1040
MACH ( 2) = 2.999 ALPHAT( 8) = 5.990	X/LT .977 1.000
	FHI
	.000 -.0800 -.0800
	90.000 -.0840
	180.000 -.0950
MACH ( 2) = 2.999 ALPHAT( 9) = 8.000	X/LT .977 1.000
	FHI
	.000 -.0650 -.0630
	90.000 -.0700
	180.000 -.0830
MACH ( 3) = 3.502 ALPHAT( 1) = -8.080	X/LT .977 1.000
	FHI
	.000 -.0350 -.0350
	90.000 -.0360
	180.000 -.0350
MACH ( 3) = 3.502 ALPHAT( 2) = -6.080	X/LT .977 1.000
	FHI
	.000 -.0790 -.0740
	90.000 -.0880
	180.000 -.0910
MACH ( 3) = 3.502 ALPHAT( 3) = -4.070	X/LT .977 1.000
	FHI
	.000 -.0790 -.0760
	90.000 -.0850
	180.000 -.0900
MACH ( 3) = 3.502 ALPHAT( 4) = -2.020	X/LT .977 1.000
	FHI
	.000 -.0720 -.0660
	90.000 -.0740
	180.000 -.0790
MACH ( 3) = 3.502 ALPHAT( 5) = -.530	X/LT .977 1.000
	FHI
	.000 -.0720 -.0670
	90.000 -.0740
	180.000 -.0780

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY01)

SECTION ( 1) EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502	ALPHAT( 6) = 1.950	X/LT	.977	1.000
		PHI		
		.000	-.0750	-.0720
		90.000	-.0800	
		180.000	-.0830	
MACH ( 3) = 3.502	ALPHAT( 7) = 3.960	X/LT	.977	1.000
		PHI		
		.000	-.0700	-.0690
		90.000	-.0750	
		180.000	-.0820	
MACH ( 3) = 3.502	ALPHAT( 8) = 5.970	X/LT	.977	1.000
		PHI		
		.000	-.0680	-.0660
		90.000	-.0740	
		180.000	-.0760	
MACH ( 3) = 3.502	ALPHAT( 9) = 8.010	X/LT	.977	1.000
		PHI		
		.000	-.0680	-.0630
		90.000	-.0730	
		180.000	-.0730	



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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY02) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE

DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.400	X/LT	.977	1.000
		PHI		
		.000	-.1610	-.1500
		90.000	-.1700	
		180.000	-.1640	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.280	X/LT	.977	1.000
		PHI		
		.000	-.1550	-.1500
		90.000	-.1660	
		180.000	-.1590	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.170	X/LT	.977	1.000
		PHI		
		.000	-.1520	-.1430
		90.000	-.1570	
		180.000	-.1610	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.060	X/LT	.977	1.000
		PHI		
		.000	-.1380	-.1310
		90.000	-.1460	
		180.000	-.1520	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.180	X/LT	.977	1.000
		PHI		
		.000	-.1370	-.1310
		90.000	-.1380	
		180.000	-.1470	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.320	X/LT	.977	1.000
		PHI		
		.000	-.1470	-.1400
		90.000	-.1470	
		180.000	-.1520	
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 6.460	X/LT	.977	1.000
		PHI		
		.000	-.1570	-.1500
		90.000	-.1570	
		180.000	-.1620	

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(INCH)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 8) = 8.590	X/LT .977 1.000
	FHI
	.000 -.1610 -.1530
	90.000 -.1530
	180.000 -.1630
MACH ( 2) = 2.999 BETAT ( 1) = -8.560	X/LT .977 1.000
	FHI
	.000 -.1290 -.1150
	90.000 -.1370
	180.000 -.1290
MACH ( 2) = 2.999 BETAT ( 2) = -6.400	X/LT .977 1.000
	FHI
	.000 -.1170 -.1130
	90.000 -.1270
	180.000 -.1290
MACH ( 2) = 2.999 BETAT ( 3) = -4.250	X/LT .977 1.000
	FHI
	.000 -.1200 -.1160
	90.000 -.1270
	180.000 -.1320
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	X/LT .977 1.000
	FHI
	.000 -.1050 -.1020
	90.000 -.1150
	180.000 -.1210
MACH ( 2) = 2.999 BETAT ( 5) = 2.230	X/LT .977 1.000
	FHI
	.000 -.1080 -.1060
	90.000 -.1130
	180.000 -.1220
MACH ( 2) = 2.999 BETAT ( 6) = 4.400	X/LT .977 1.000
	FHI
	.000 -.1140 -.1100
	90.000 -.1180
	180.000 -.1270
MACH ( 2) = 2.999 BETAT ( 7) = 6.580	X/LT .977 1.000
	FHI
	.000 -.1150 -.1100
	90.000 -.1180
	180.000 -.1240

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY02)

SECTION (1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH (2) = 2.999 BETAT (8) = 8.750	X/LT	.977	1.000
	PHI		
	.000	-.1220	-.1150
	90.000	-.1170	
	180.000	-.1220	
MACH (3) = 3.502 BETAT (1) = -8.710	X/LT	.977	1.000
	PHI		
	.000	-.0950	-.0830
	90.000	-.0920	
	180.000	-.0950	
MACH (3) = 3.502 BETAT (2) = -6.520	X/LT	.977	1.000
	PHI		
	.000	-.0890	-.0840
	90.000	-.0930	
	180.000	-.0970	
MACH (3) = 3.502 BETAT (3) = -4.330	X/LT	.977	1.000
	PHI		
	.000	-.0900	-.0860
	90.000	-.0940	
	180.000	-.0970	
MACH (3) = 3.502 BETAT (4) = -2.140	X/LT	.977	1.000
	PHI		
	.000	-.0870	-.0840
	90.000	-.0960	
	180.000	-.1040	
MACH (3) = 3.502 BETAT (5) = 2.260	X/LT	.977	1.000
	PHI		
	.000	-.0860	-.0750
	90.000	-.0930	
	180.000	-.0970	
MACH (3) = 3.502 BETAT (6) = 4.480	X/LT	.977	1.000
	PHI		
	.000	-.0880	-.0840
	90.000	-.0920	
	180.000	-.0960	
MACH (3) = 3.502 BETAT (7) = 6.690	X/LT	.977	1.000
	PHI		
	.000	-.0910	-.0810
	90.000	-.0950	
	180.000	-.0960	

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RSNY62)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 8) = 8.910	X/LT .977 1.000
	FHI
	.000 -.0930 -.0880
	90.000 -.0910
	180.000 -.0990

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY03) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.420	X/LT .977 1.000 PHI .000 -.1540 -.1470 90.000 -.1620 180.000 -.1570
MACH ( 1) = 2.498 BETAT ( 2) = -6.290	X/LT .977 1.000 PHI .000 -.1540 -.1500 90.000 -.1620 180.000 -.1560
MACH ( 1) = 2.498 BETAT ( 3) = -4.180	X/LT .977 1.000 PHI .000 -.1470 -.1450 90.000 -.1550 180.000 -.1560
MACH ( 1) = 2.498 BETAT ( 4) = -2.070	X/LT .977 1.000 PHI .000 -.1360 -.1300 90.000 -.1410 180.000 -.1470
MACH ( 1) = 2.498 BETAT ( 5) = 2.180	X/LT .977 1.000 PHI .000 -.1370 -.1310 90.000 -.1350 180.000 -.1460
MACH ( 1) = 2.498 BETAT ( 6) = 4.310	X/LT .977 1.000 PHI .000 -.1410 -.1370 90.000 -.1390 180.000 -.1440
MACH ( 1) = 2.498 BETAT ( 7) = 6.440	X/LT .977 1.000 PHI .000 -.1530 -.1480 90.000 -.1540 180.000 -.1580



## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY03)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 8) = 8.570	X/LT .977 1.000
	FHI
	.000 -.1560 -.1500
	90.000 -.1570
	180.000 -.1640
MACH ( 2) = 2.999 BETAT ( 1) = -8.570	X/LT .977 1.000
	FHI
	.000 -.1240 -.1140
	90.000 -.1310
	180.000 -.1200
MACH ( 2) = 2.999 BETAT ( 2) = -6.420	X/LT .977 1.000
	FHI
	.000 -.1150 -.1120
	90.000 -.1200
	180.000 -.1260
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	X/LT .977 1.000
	FHI
	.000 -.1180 -.1140
	90.000 -.1210
	180.000 -.1290
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	X/LT .977 1.000
	FHI
	.000 -.1030 -.1020
	90.000 -.1120
	180.000 -.1180
MACH ( 2) = 2.999 BETAT ( 5) = 2.220	X/LT .977 1.000
	FHI
	.000 -.1120 -.1060
	90.000 -.1130
	180.000 -.1280
MACH ( 2) = 2.999 BETAT ( 6) = 4.390	X/LT .977 1.000
	FHI
	.000 -.1090 -.1030
	90.000 -.1040
	180.000 -.1170
MACH ( 2) = 2.999 BETAT ( 7) = 6.560	X/LT .977 1.000
	FHI
	.000 -.1190 -.1130
	90.000 -.1190
	180.000 -.1230

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY03)

SECTION (1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH (2) = 2.999 BETAT (8) = 8.730	X/LT .977 1.000
	PHI
	.000 -.1180 -.1100
	90.000 -.1140
	180.000 -.1150
MACH (3) = 3.502 BETAT (1) = -8.730	X/LT .977 1.000
	PHI
	.000 -.0990 -.0880
	90.000 -.1000
	180.000 -.1020
MACH (3) = 3.502 BETAT (2) = -6.530	X/LT .977 1.000
	PHI
	.000 -.0990 -.0930
	90.000 -.1000
	180.000 -.1020
MACH (3) = 3.502 BETAT (3) = -4.340	X/LT .977 1.000
	PHI
	.000 -.0950 -.0940
	90.000 -.1020
	180.000 -.1080
MACH (3) = 3.502 BETAT (4) = -2.140	X/LT .977 1.000
	PHI
	.000 -.0850 -.0820
	90.000 -.0900
	180.000 -.0950
MACH (3) = 3.502 BETAT (5) = 2.260	X/LT .977 1.000
	PHI
	.000 -.0840 -.0810
	90.000 -.0860
	180.000 -.0940
MACH (3) = 3.502 BETAT (6) = 4.470	X/LT .977 1.000
	PHI
	.000 -.0860 -.0800
	90.000 -.0900
	180.000 -.0960
MACH (3) = 3.502 BETAT (7) = 6.680	X/LT .977 1.000
	PHI
	.000 -.0920 -.0840
	90.000 -.0920
	180.000 -.0970

AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY53)

SECTION ( 1)EXTERNAL TANK BASE

DEPENDENT VARIABLE CP

MACH ( 3) = 3.502 BETAT ( 8) = 8.890

X/LT	.977	1.000
PHI		
.000	-.0920	-.0810
90.000	-.0890	
180.000	-.0910	

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY04) (10 MAY 73)

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION (1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH (1) = 2.498 BETAT (1) = -8.430	X/LT .977 1.000 PHI .000 -.1440 -.1440 90.000 -.1570 180.000 -.1520
MACH (1) = 2.498 BETAT (2) = -6.310	X/LT .977 1.000 PHI .000 -.1480 -.1440 90.000 -.1550 180.000 -.1530
MACH (1) = 2.498 BETAT (3) = -4.190	X/LT .977 1.000 PHI .000 -.1440 -.1380 90.000 -.1490 180.000 -.1450
MACH (1) = 2.498 BETAT (4) = -2.070	X/LT .977 1.000 PHI .000 -.1260 -.1170 90.000 -.1330 180.000 -.1390
MACH (1) = 2.498 BETAT (5) = 2.180	X/LT .977 1.000 PHI .000 -.1300 -.1230 90.000 -.1280 180.000 -.1390
MACH (1) = 2.498 BETAT (6) = 4.300	X/LT .977 1.000 PHI .000 -.1440 -.1360 90.000 -.1400 180.000 -.1440
MACH (1) = 2.498 BETAT (7) = 6.430	X/LT .977 1.000 PHI .000 -.1480 -.1460 90.000 -.1500 180.000 -.1550

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RENY114)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 8) = 8.550	X/LT .977 1.000
	PHI
	.000 -.1380 -.1380
	90.000 -.1500
180.000 -.1530	
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LT .977 1.000
	PHI
	.000 -.1070 -.1030
	90.000 -.1150
180.000 -.1120	
MACH ( 2) = 2.999 BETAT ( 2) = -6.420	X/LT .977 1.000
	PHI
	.000 -.1180 -.1140
	90.000 -.1220
180.000 -.1220	
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	X/LT .977 1.000
	PHI
	.000 -.1120 -.1050
	90.000 -.1180
180.000 -.1180	
MACH ( 2) = 2.999 BETAT ( 4) = -2.110	X/LT .977 1.000
	PHI
	.000 -.1050 -.1000
	90.000 -.1110
180.000 -.1200	
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	X/LT .977 1.000
	PHI
	.000 -.1020 -.0960
	90.000 -.1000
180.000 -.1140	
MACH ( 2) = 2.999 BETAT ( 6) = 4.380	X/LT .977 1.000
	PHI
	.000 -.1150 -.1080
	90.000 -.1100
180.000 -.1170	
MACH ( 2) = 2.999 BETAT ( 7) = 6.550	X/LT .977 1.000
	PHI
	.000 -.1160 -.1120
	90.000 -.1160
180.000 -.1160	

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## TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY54)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 8) = 8.710	X/LT	.977	1.000
	FHI		
	.000	-.1150	-.1110
	90.000	-.1180	
	180.000	-.1190	
MACH ( 3) = 3.502 BETAT ( 1) = -8.740	X/LT	.977	1.000
	FHI		
	.000	-.0940	-.0910
	90.000	-.0950	
	180.000	-.0970	
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	X/LT	.977	1.000
	FHI		
	.000	-.1000	-.0970
	90.000	-.1040	
	180.000	-.1030	
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	X/LT	.977	1.000
	FHI		
	.000	-.0970	-.0890
	90.000	-.1010	
	180.000	-.1000	
MACH ( 3) = 3.502 BETAT ( 4) = -2.150	X/LT	.977	1.000
	FHI		
	.000	-.0850	-.0830
	90.000	-.0930	
	180.000	-.0960	
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LT	.977	1.000
	FHI		
	.000	-.0880	-.0820
	90.000	-.0860	
	180.000	-.0950	
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LT	.977	1.000
	FHI		
	.000	-.0940	-.0870
	90.000	-.0920	
	180.000	-.1000	
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LT	.977	1.000
	FHI		
	.000	-.1020	-.0980
	90.000	-.1050	
	180.000	-.1090	

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(BNY114)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 8) = 8.875	X/LT .977 1.000
	PHI
	.000 -.0940 -.0900
	90.000 -.0940
	180.000 -.1010

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY05) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = -2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.430	X/LT .977 1.000 PHI .000 -.1430 -.1160 90.000 -.1590 180.000 -.1450
MACH ( 1) = 2.498 BETAT ( 2) = -6.310	X/LT .977 1.000 PHI .000 -.1510 -.1280 90.000 -.1570 180.000 -.1470
MACH ( 1) = 2.498 BETAT ( 3) = -4.190	X/LT .977 1.000 PHI .000 -.1310 -.1190 90.000 -.1420 180.000 -.1320
MACH ( 1) = 2.498 BETAT ( 4) = -2.070	X/LT .977 1.000 PHI .000 -.1170 -.1020 90.000 -.1250 180.000 -.1320
MACH ( 1) = 2.498 BETAT ( 5) = 2.180	X/LT .977 1.000 PHI .000 -.1120 -.1050 90.000 -.1070 180.000 -.1300
MACH ( 1) = 2.498 BETAT ( 6) = 4.300	X/LT .977 1.000 PHI .000 -.1290 -.1200 90.000 -.1210 180.000 -.1310
MACH ( 1) = 2.498 BETAT ( 7) = 6.420	X/LT .977 1.000 PHI .000 -.1440 -.1240 90.000 -.1350 180.000 -.1380



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY05)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 8) = 8.540	X/LT .977 1.000 PHI .000 -.1350 -.1240 90.000 -.1320 180.000 -.1390
MACH ( 2) = 2.999 BETAT ( 1) = -8.590	X/LT .977 1.000 PHI .000 -.1020 -.0940 90.000 -.1030 180.000 -.1040
MACH ( 2) = 2.999 BETAT ( 2) = -6.440	X/LT .977 1.000 PHI .000 -.1180 -.1030 90.000 -.1240 180.000 -.1190
MACH ( 2) = 2.999 BETAT ( 3) = -4.270	X/LT .977 1.000 PHI .000 -.1000 -.0930 90.000 -.1040 180.000 -.1040
MACH ( 2) = 2.999 BETAT ( 4) = -2.110	X/LT .977 1.000 PHI .000 -.0880 -.0820 90.000 -.0990 180.000 -.1050
MACH ( 2) = 2.999 BETAT ( 5) = 2.220	X/LT .977 1.000 PHI .000 -.0910 -.0860 90.000 -.0900 180.000 -.1030
MACH ( 2) = 2.999 BETAT ( 6) = 4.370	X/LT .977 1.000 PHI .000 -.0920 -.0870 90.000 -.0880 180.000 -.0970
MACH ( 2) = 2.999 BETAT ( 7) = 6.530	X/LT .977 1.000 PHI .000 -.0940 -.0920 90.000 -.1010 180.000 -.1020

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY05)

SECTION ( 1)EXTERNAL TANK BASE	DEFENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 8) = 8.700	X/LT .977 1.000 PHI .000 -.1030 -.0960 90.000 -.1020 180.000 -.0990
MACH ( 3) = 3.502 BETAT ( 1) = -8.750	X/LT .977 1.000 PHI .000 -.0840 -.0840 90.000 -.0900 180.000 -.0900
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	X/LT .977 1.000 PHI .000 -.0900 -.0840 90.000 -.0950 180.000 -.0910
MACH ( 3) = 3.502 BETAT ( 3) = -4.350	X/LT .977 1.000 PHI .000 -.0940 -.0800 90.000 -.0940 180.000 -.0930
MACH ( 3) = 3.502 BETAT ( 4) = -2.140	X/LT .977 1.000 PHI .000 -.0860 -.0800 90.000 -.0890 180.000 -.0910
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LT .977 1.000 PHI .000 -.0810 -.0790 90.000 -.0800 180.000 -.0880
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LT .977 1.000 PHI .000 -.0890 -.0820 90.000 -.0850 180.000 -.0870
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LT .977 1.000 PHI .000 -.0890 -.0850 90.000 -.0900 180.000 -.0880

AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK BASE

(RBNY15)

SECTION ( 1 ) EXTERNAL TANK BASE

DEPENDENT VARIABLE CP

MACH ( 3 ) = 3.502	BETAT ( 8 ) = 8.860	X/LT	.977	1.000
		PHI		
		.000	-.0910	-.0850
		90.000	-.0920	
		180.000	-.0920	

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY06) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE		DEPENDENT VARIABLE CP	
MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.430	X/LT	.977 1.000
		PHI	
		.000	-.1230 -.1130
		90.000	-.1460
		180.000	-.1330
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.310	X/LT	.977 1.000
		PHI	
		.000	-.1190 -.1050
		90.000	-.1420
		180.000	-.1260
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.190	X/LT	.977 1.000
		PHI	
		.000	-.1110 -.0970
		90.000	-.1330
		180.000	-.1250
MACH ( 1 ) = 2.498	BETAT ( 4 ) = -2.070	X/LT	.977 1.000
		PHI	
		.000	-.0940 -.0800
		90.000	-.1220
		180.000	-.1280
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 2.170	X/LT	.977 1.000
		PHI	
		.000	-.0960 -.0930
		90.000	-.0970
		180.000	-.1210
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 4.290	X/LT	.977 1.000
		PHI	
		.000	-.1100 -.1020
		90.000	-.1020
		180.000	-.1230
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 6.410	X/LT	.977 1.000
		PHI	
		.000	-.1220 -.1170
		90.000	-.1250
		180.000	-.1240

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNYD6)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 8) = 8.540	X/LT .977 1.000 PHI .000 -.1250 -.1170 90.000 -.1270 180.000 -.1290
MACH ( 2) = 2.999 BETAT ( 1) = -8.590	X/LT .977 1.000 PHI .000 -.1000 -.0950 90.000 -.1080 180.000 -.1010
MACH ( 2) = 2.999 BETAT ( 2) = -6.430	X/LT .977 1.000 PHI .000 -.0990 -.0950 90.000 -.1080 180.000 -.1040
MACH ( 2) = 2.999 BETAT ( 3) = -4.270	X/LT .977 1.000 PHI .000 -.0930 -.0810 90.000 -.1010 180.000 -.0990
MACH ( 2) = 2.999 BETAT ( 4) = -2.110	X/LT .977 1.000 PHI .000 -.0810 -.0720 90.000 -.0930 180.000 -.1010
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	X/LT .977 1.000 PHI .000 -.0830 -.0800 90.000 -.0810 180.000 -.0960
MACH ( 2) = 2.999 BETAT ( 6) = 4.370	X/LT .977 1.000 PHI .000 -.0920 -.0870 90.000 -.0920 180.000 -.0990
MACH ( 2) = 2.999 BETAT ( 7) = 6.530	X/LT .977 1.000 PHI .000 -.0970 -.0920 90.000 -.0970 180.000 -.0980

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY06)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 8) = 8.690	X/LT .977 1.000
	PHI
	.000 -.0990 -.0960
	90.000 -.0990
	180.000 -.0980
MACH ( 3) = 3.502 BETAT ( 1) = -8.750	X/LT .977 1.000
	PHI
	.000 -.0880 -.0820
	90.000 -.0890
	180.000 -.0880
MACH ( 3) = 3.502 BETAT ( 2) = -6.550	X/LT .977 1.000
	PHI
	.000 -.0890 -.0840
	90.000 -.0940
	180.000 -.0890
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	X/LT .977 1.000
	PHI
	.000 -.0880 -.0810
	90.000 -.0870
	180.000 -.0870
MACH ( 3) = 3.502 BETAT ( 4) = -2.150	X/LT .977 1.000
	PHI
	.000 -.0830 -.0760
	90.000 -.0870
	180.000 -.0880
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LT .977 1.000
	PHI
	.000 -.0840 -.0800
	90.000 -.0830
	180.000 -.0880
MACH ( 3) = 3.502 BETAT ( 6) = 4.450	X/LT .977 1.000
	PHI
	.000 -.0870 -.0840
	90.000 -.0860
	180.000 -.0900
MACH ( 3) = 3.502 BETAT ( 7) = 6.650	X/LT .977 1.000
	PHI
	.000 -.0910 -.0880
	90.000 -.0890
	180.000 -.0920

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY06)

SECTION ( 1)EXTERNAL TANK BASE

DEPENDENT VARIABLE CP

MACH ( 3) = 3.502	BETAT ( 8) = 8.850	X/LT	.977	1.000
		FHI		
		.000	-.0900	-.0850
		90.000	-.0900	
		180.000	-.0900	

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY07) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 2.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.430	X/LT .977 1.000 PHI .000 -.1230 -.1050 90.000 -.1430 180.000 -.1280
MACH ( 1) = 2.498 BETAT ( 2) = -6.310	X/LT .977 1.000 PHI .000 -.1150 -.1010 90.000 -.1310 180.000 -.1180
MACH ( 1) = 2.498 BETAT ( 3) = -4.190	X/LT .977 1.000 PHI .000 -.0980 -.0920 90.000 -.1150 180.000 -.1120
MACH ( 1) = 2.498 BETAT ( 4) = -2.060	X/LT .977 1.000 PHI .000 -.0860 -.0790 90.000 -.1150 180.000 -.1160
MACH ( 1) = 2.498 BETAT ( 5) = 2.170	X/LT .977 1.000 PHI .000 -.0850 -.0860 90.000 -.0920 180.000 -.1150
MACH ( 1) = 2.498 BETAT ( 6) = 4.290	X/LT .977 1.000 PHI .000 -.0920 -.0890 90.000 -.0830 180.000 -.1120
MACH ( 1) = 2.498 BETAT ( 7) = 6.410	X/LT .977 1.000 PHI .000 -.1120 -.1030 90.000 -.1030 180.000 -.1140



## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY07)

SECTION (1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 8 ) = 8.540	X/LT .977 1.000
	PHI
	.000 -.1200 -.1080
	90.000 -.1230
	180.000 -.1230
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.590	X/LT .977 1.000
	PHI
	.000 -.0990 -.0910
	90.000 -.1100
	180.000 -.0950
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.420	X/LT .977 1.000
	PHI
	.000 -.0970 -.0780
	90.000 -.1130
	180.000 -.0970
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.270	X/LT .977 1.000
	PHI
	.000 -.0870 -.0700
	90.000 -.0980
	180.000 -.0980
MACH ( 2 ) = 2.999 BETAT ( 4 ) = -2.110	X/LT .977 1.000
	PHI
	.000 -.0770 -.0700
	90.000 -.0910
	180.000 -.0980
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 2.210	X/LT .977 1.000
	PHI
	.000 -.0740 -.0720
	90.000 -.0760
	180.000 -.0920
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 4.370	X/LT .977 1.000
	PHI
	.000 -.0830 -.0740
	90.000 -.0790
	180.000 -.0960
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 6.530	X/LT .977 1.000
	PHI
	.000 -.0910 -.0830
	90.000 -.0870
	180.000 -.0880

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY07)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 8) = 8.690	X/LT	.977	1.000
	PHI		
	.000	-.1000	-.0880
	90.000	-.0950	
	180.000	-.0940	
MACH ( 3) = 3.502 BETAT ( 1) = -8.730	X/LT	.977	1.000
	PHI		
	.000	-.0830	-.0790
	90.000	-.0880	
	180.000	-.0880	
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	X/LT	.977	1.000
	PHI		
	.000	-.0840	-.0750
	90.000	-.0890	
	180.000	-.0840	
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	X/LT	.977	1.000
	PHI		
	.000	-.0810	-.0710
	90.000	-.0840	
	180.000	-.0790	
MACH ( 3) = 3.502 BETAT ( 4) = -2.140	X/LT	.977	1.000
	PHI		
	.000	-.0730	-.0680
	90.000	-.0810	
	180.000	-.0850	
MACH ( 3) = 3.502 BETAT ( 5) = 2.250	X/LT	.977	1.000
	PHI		
	.000	-.0740	-.0720
	90.000	-.0770	
	180.000	-.0835	
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LT	.977	1.000
	PHI		
	.000	-.0800	-.0750
	90.000	-.0770	
	180.000	-.0770	
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LT	.977	1.000
	PHI		
	.000	-.0910	-.0860
	90.000	-.0870	
	180.000	-.0870	

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY07)

SECTION ( 1) EXTERNAL TANK BASE

DEPENDENT VARIABLE CP

MACH ( 3) = 3.502 BETAT ( 8) = 8.850

X/LT .977 1.000

PHI

.000 -.0930 -.0870

90.000 -.0920

180.000 -.0920

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY08) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.420	X/LT .977 1.000
	PHI
	.000 -.1220 -.0960
	90.000 -.1380 180.000 -.1170
MACH ( 1) = 2.498 BETAT ( 2) = -6.300	X/LT .977 1.000
	PHI
	.000 -.1070 -.0890
	90.000 -.1210 180.000 -.1060
MACH ( 1) = 2.498 BETAT ( 3) = -4.190	X/LT .977 1.000
	PHI
	.000 -.0890 -.0820
	90.000 -.1070 180.000 -.1060
MACH ( 1) = 2.498 BETAT ( 4) = -2.070	X/LT .977 1.000
	PHI
	.000 -.0780 -.0710
	90.000 -.1060 180.000 -.1080
MACH ( 1) = 2.498 BETAT ( 5) = 2.170	X/LT .977 1.000
	PHI
	.000 -.0780 -.0830
	90.000 -.0910 180.000 -.1050
MACH ( 1) = 2.498 BETAT ( 6) = 4.300	X/LT .977 1.000
	PHI
	.000 -.0820 -.0800
	90.000 -.0800 180.000 -.1100
MACH ( 1) = 2.498 BETAT ( 7) = 6.420	X/LT .977 1.000
	PHI
	.000 -.1040 -.0950
	90.000 -.0890 180.000 -.1070

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY08)

SECTION ( 1) EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498	BETAT ( 8) = 8.550	X/LT	.977	1.000
		PHI		
		.000	-.1170	-.1000
		90.000	-.1120	
		180.000	-.1160	
MACH ( 2) = 2.999	BETAT ( 1) = -8.580	X/LT	.977	1.000
		PHI		
		.000	-.0940	-.0830
		90.000	-.1000	
		180.000	-.0910	
MACH ( 2) = 2.999	BETAT ( 2) = -6.420	X/LT	.977	1.000
		PHI		
		.000	-.0930	-.0700
		90.000	-.1020	
		180.000	-.0920	
MACH ( 2) = 2.999	BETAT ( 3) = -4.260	X/LT	.977	1.000
		PHI		
		.000	-.0780	-.0620
		90.000	-.0920	
		180.000	-.0940	
MACH ( 2) = 2.999	BETAT ( 4) = -2.100	X/LT	.977	1.000
		PHI		
		.000	-.0670	-.0710
		90.000	-.0800	
		180.000	-.0920	
MACH ( 2) = 2.999	BETAT ( 5) = 2.210	X/LT	.977	1.000
		PHI		
		.000	-.0710	-.0680
		90.000	-.0760	
		180.000	-.0920	
MACH ( 2) = 2.999	BETAT ( 6) = 4.370	X/LT	.977	1.000
		PHI		
		.000	-.0780	-.0680
		90.000	-.0730	
		180.000	-.0960	
MACH ( 2) = 2.999	BETAT ( 7) = 6.540	X/LT	.977	1.000
		PHI		
		.000	-.0850	-.0760
		90.000	-.0800	
		180.000	-.0850	



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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY08)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 8) = 8.700	X/LT .977 1.000
	PHI
	.000 -.0950 -.0840
	90.000 -.0920
	180.000 -.0900
MACH ( 3) = 3.502 BETAT ( 1) = -8.720	X/LT .977 1.000
	PHI
	.000 -.0820 -.0810
	90.000 -.0860
	180.000 -.0870
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	X/LT .977 1.000
	PHI
	.000 -.0780 -.0690
	90.000 -.0830
	180.000 -.0760
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	X/LT .977 1.000
	PHI
	.000 -.0700 -.0650
	90.000 -.0720
	180.000 -.0730
MACH ( 3) = 3.502 BETAT ( 4) = -2.140	X/LT .977 1.000
	PHI
	.000 -.0630 -.0610
	90.000 -.0750
	180.000 -.0780
MACH ( 3) = 3.502 BETAT ( 5) = 2.260	X/LT .977 1.000
	PHI
	.000 -.0670 -.0690
	90.000 -.0680
	180.000 -.0770
MACH ( 3) = 3.502 BETAT ( 6) = 4.460	X/LT .977 1.000
	PHI
	.000 -.0760 -.0730
	90.000 -.0750
	180.000 -.0780
MACH ( 3) = 3.502 BETAT ( 7) = 6.660	X/LT .977 1.000
	PHI
	.000 -.0810 -.0740
	90.000 -.0780
	180.000 -.0760

AMES 87-7117 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY08)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 8) = 8.860	X/LT .977 1.000
	PHI
	.000 -.0780 -.0800
	90.000 -.0830
	180.000 -.0850

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBND9) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUCFLR = .500

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.410	X/LT .977 1.000
	FHI
	.000 -.1040 -.0880
	90.000 -.1170 180.000 -.0990
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.290	X/LT .977 1.000
	FHI
	.000 -.0880 -.0790
	90.000 -.1040 180.000 -.0940
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.170	X/LT .977 1.000
	FHI
	.000 -.0750 -.0660
	90.000 -.0930 180.000 -.0950
MACH ( 1 ) = 2.498 BETAT ( 4 ) = -2.060	X/LT .977 1.000
	FHI
	.000 -.0610 -.0570
	90.000 -.0880 180.000 -.0890
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 2.180	X/LT .977 1.000
	FHI
	.000 -.0630 -.0670
	90.000 -.0750 180.000 -.0890
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 4.300	X/LT .977 1.000
	FHI
	.000 -.0750 -.0680
	90.000 -.0710 180.000 -.1020
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 6.440	X/LT .977 1.000
	FHI
	.000 -.0840 -.0790
	90.000 -.0730 180.000 -.0980



## AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK BASE

(RBNY09)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498 BETAT ( 8) = 8.570	X/LT	.977	1.000
	PHI		
	.000	-.1000	-.0900
	90.000	-.0920	
	180.000	-.1010	
MACH ( 2) = 2.999 BETAT ( 1) = -8.560	X/LT	.977	1.000
	PHI		
	.000	-.0910	-.0750
	90.000	-.0930	
	180.000	-.0820	
MACH ( 2) = 2.999 BETAT ( 2) = -6.400	X/LT	.977	1.000
	PHI		
	.000	-.0900	-.0660
	90.000	-.0950	
	180.000	-.0820	
MACH ( 2) = 2.999 BETAT ( 3) = -4.250	X/LT	.977	1.000
	PHI		
	.000	-.0710	-.0560
	90.000	-.0840	
	180.000	-.0880	
MACH ( 2) = 2.999 BETAT ( 4) = -2.100	X/LT	.977	1.000
	PHI		
	.000	-.0580	-.0650
	90.000	-.0730	
	180.000	-.0850	
MACH ( 2) = 2.999 BETAT ( 5) = 2.210	X/LT	.977	1.000
	PHI		
	.000	-.0610	-.0610
	90.000	-.0630	
	180.000	-.0810	
MACH ( 2) = 2.999 BETAT ( 6) = 4.380	X/LT	.977	1.000
	PHI		
	.000	-.0720	-.0640
	90.000	-.0660	
	180.000	-.0870	
MACH ( 2) = 2.999 BETAT ( 7) = 6.550	X/LT	.977	1.000
	PHI		
	.000	-.0740	-.0700
	90.000	-.0660	
	180.000	-.0730	

AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY09)

SECTION ( 1)EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999	BETAT ( 8) = 8.720	X/LT	.977	1.000
		PHI		
		.000	-.0910	-.0800
		90.000	-.0830	
		180.000	-.0790	
MACH ( 3) = 3.502	BETAT ( 1) = -8.715	X/LT	.977	1.000
		PHI		
		.000	-.0780	-.0750
		90.000	-.0830	
		180.000	-.0840	
MACH ( 3) = 3.502	BETAT ( 2) = -6.510	X/LT	.977	1.000
		PHI		
		.000	-.0790	-.0690
		90.000	-.0810	
		180.000	-.0780	
MACH ( 3) = 3.502	BETAT ( 3) = -4.320	X/LT	.977	1.000
		PHI		
		.000	-.0680	-.0610
		90.000	-.0750	
		180.000	-.0750	
MACH ( 3) = 3.502	BETAT ( 4) = -2.130	X/LT	.977	1.000
		PHI		
		.000	-.0600	-.0590
		90.000	-.0720	
		180.000	-.0700	
MACH ( 3) = 3.502	BETAT ( 5) = 2.260	X/LT	.977	1.000
		PHI		
		.000	-.0550	-.0540
		90.000	-.0560	
		180.000	-.0630	
MACH ( 3) = 3.502	BETAT ( 6) = 4.470	X/LT	.977	1.000
		PHI		
		.000	-.0670	-.0600
		90.000	-.0610	
		180.000	-.0690	
MACH ( 3) = 3.502	BETAT ( 7) = 6.670	X/LT	.977	1.000
		PHI		
		.000	-.0820	-.0720
		90.000	-.0740	
		180.000	-.0780	

AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK BASE

(RBNY09)

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3 ) = 3.502 BETAT ( 8 ) = 8.880	X/LT .977 1.000
	FHI
	.000 -.0770 -.0760
	90.000 -.0810
	180.000 -.0820

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY10) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = .000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.380	X/LT .977 1.000 PHI .000 -.0890 -.0770 90.000 -.1060 180.000 -.0850
MACH ( 1) = 2.498 BETAT ( 2) = -6.270	X/LT .977 1.000 PHI .000 -.0780 -.0690 90.000 -.0930 180.000 -.0850
MACH ( 1) = 2.498 BETAT ( 3) = -4.170	X/LT .977 1.000 PHI .000 -.0600 -.0530 90.000 -.0780 180.000 -.0800
MACH ( 1) = 2.498 BETAT ( 4) = -2.060	X/LT .977 1.000 PHI .000 -.0460 -.0430 90.000 -.0700 180.000 -.0720
MACH ( 1) = 2.498 BETAT ( 5) = 2.180	X/LT .977 1.000 PHI .000 -.0490 -.0540 90.000 -.0660 180.000 -.0810
MACH ( 1) = 2.498 BETAT ( 6) = 4.320	X/LT .977 1.000 PHI .000 -.0590 -.0550 90.000 -.0590 180.000 -.0950
MACH ( 1) = 2.498 BETAT ( 7) = 6.450	X/LT .977 1.000 PHI .000 -.0790 -.0740 90.000 -.0650 180.000 -.0900

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RSNY11)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 8) = 8.580	X/LT .977 1.000
	PHI
	.000 -.0890 -.0830
	90.000 -.0740
	180.000 -.0860
MACH ( 2) = 2.999 BETAT ( 1) = -8.540	X/LT .977 1.000
	PHI
	.000 -.0880 -.0700
	90.000 -.0880
	180.000 -.0730
MACH ( 2) = 2.999 BETAT ( 2) = -6.390	X/LT .977 1.000
	PHI
	.000 -.0810 -.0610
	90.000 -.0860
	180.000 -.0760
MACH ( 2) = 2.999 BETAT ( 3) = -4.240	X/LT .977 1.000
	PHI
	.000 -.0690 -.0520
	90.000 -.0820
	180.000 -.0820
MACH ( 2) = 2.999 BETAT ( 4) = -2.090	X/LT .977 1.000
	PHI
	.000 -.0610 -.0510
	90.000 -.0790
	180.000 -.0790
MACH ( 2) = 2.999 BETAT ( 5) = 2.230	X/LT .977 1.000
	PHI
	.000 -.0570 -.0510
	90.000 -.0550
	180.000 -.0740
MACH ( 2) = 2.999 BETAT ( 6) = 4.400	X/LT .977 1.000
	PHI
	.000 -.0610 -.0570
	90.000 -.0610
	180.000 -.0780
MACH ( 2) = 2.999 BETAT ( 7) = 6.570	X/LT .977 1.000
	PHI
	.000 -.0720 -.0690
	90.000 -.0610
	180.000 -.0710

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## TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY10)

SECTION (1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH (2) = 2.999 BETAT (8) = 8.740	X/LT	.977	1.000
	PHI		
	.000	-.0790	-.0720
	90.000	-.0740	
	180.000	-.0720	
MACH (3) = 3.502 BETAT (1) = -8.690	X/LT	.977	1.000
	PHI		
	.000	-.0730	-.0700
	90.000	-.0780	
	180.000	-.0770	
MACH (3) = 3.502 BETAT (2) = -6.550	X/LT	.977	1.000
	PHI		
	.000	-.0730	-.0690
	90.000	-.0770	
	180.000	-.0700	
MACH (3) = 3.502 BETAT (3) = -4.310	X/LT	.977	1.000
	PHI		
	.000	-.0700	-.0500
	90.000	-.0730	
	180.000	-.0700	
MACH (3) = 3.502 BETAT (4) = -2.130	X/LT	.977	1.000
	PHI		
	.000	-.0540	-.0520
	90.000	-.0670	
	180.000	-.0650	
MACH (3) = 3.502 BETAT (5) = 2.260	X/LT	.977	1.000
	PHI		
	.000	-.0540	-.0550
	90.000	-.0580	
	180.000	-.0620	
MACH (3) = 3.502 BETAT (6) = 4.480	X/LT	.977	1.000
	PHI		
	.000	-.0670	-.0570
	90.000	-.0620	
	180.000	-.0700	
MACH (3) = 3.502 BETAT (7) = 6.690	X/LT	.977	1.000
	PHI		
	.000	-.0660	-.0610
	90.000	-.0620	
	180.000	-.0620	

AMES 87-757 IA9 Q2A + S3 + T9 EXTERNAL TANK BASE

(RSNY10)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 8) = 8.900	X/LT .977 1.000
	PHI
	.000 -.0725 -.0690
	90.000 -.0790
	180.000 -.0760

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY11) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.390	X/LT .977 1.000 PHI .000 - .1580 - .1450 90.000 - .1670 180.000 - .1600
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.270	X/LT .977 1.000 PHI .000 - .1490 - .1480 90.000 - .1610 180.000 - .1570
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.160	X/LT .977 1.000 PHI .000 - .1420 - .1390 90.000 - .1470 180.000 - .1580
MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060	X/LT .977 1.000 PHI .000 - .1260 - .1210 90.000 - .1300 180.000 - .1370
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.330	X/LT .977 1.000 PHI .000 - .1410 - .1340 90.000 - .1400 180.000 - .1450
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.460	X/LT .977 1.000 PHI .000 - .1460 - .1350 90.000 - .1460 180.000 - .1510
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 8.600	X/LT .977 1.000 PHI .000 - .1530 - .1430 90.000 - .1440 180.000 - .1550



## AMES 87-707 IA9 CQA + S3 + T9 EXTERNAL TANK BASE

(RBNY11)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 1) = -8.560	X/LT .977 1.000 PHI .000 -.1190 -.1100 90.000 -.1270 180.000 -.1210
MACH ( 2) = 2.999 BETAT ( 2) = -6.410	X/LT .977 1.000 PHI .000 -.1140 -.1090 90.000 -.1200 180.000 -.1220
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	X/LT .977 1.000 PHI .000 -.1070 -.1040 90.000 -.1180 180.000 -.1180
MACH ( 2) = 2.999 BETAT ( 4) = .050	X/LT .977 1.000 PHI .000 -.1030 -.0970 90.000 -.1120 180.000 -.1120
MACH ( 2) = 2.999 BETAT ( 5) = 4.400	X/LT .977 1.000 PHI .000 -.1070 -.1050 90.000 -.1130 180.000 -.1200
MACH ( 2) = 2.999 BETAT ( 6) = 6.580	X/LT .977 1.000 PHI .000 -.1160 -.1120 90.000 -.1160 180.000 -.1240
MACH ( 2) = 2.999 BETAT ( 7) = 8.750	X/LT .977 1.000 PHI .000 -.1150 -.1090 90.000 -.1120 180.000 -.1170
MACH ( 3) = 3.502 BETAT ( 1) = -8.710	X/LT .977 1.000 PHI .000 -.0810 -.0770 90.000 -.0830 180.000 -.0830

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY11)

SECTION ( 1)EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502	BETAT ( 2) = -6.520	X/LT	.977	1.000
		PHI		
		.000	-.0930	-.0910
		90.000	-.0960	
		180.000	-.0990	
MACH ( 3) = 3.502	BETAT ( 3) = -4.330	X/LT	.977	1.000
		PHI		
		.000	-.0830	-.0810
		90.000	-.0870	
		180.000	-.0920	
MACH ( 3) = 3.502	BETAT ( 4) = .050	X/LT	.977	1.000
		PHI		
		.000	-.0780	-.0730
		90.000	-.0850	
		180.000	-.0860	
MACH ( 3) = 3.502	BETAT ( 5) = 4.470	X/LT	.977	1.000
		PHI		
		.000	-.0830	-.0790
		90.000	-.0840	
		180.000	-.0840	
MACH ( 3) = 3.502	BETAT ( 6) = 6.690	X/LT	.977	1.000
		PHI		
		.000	-.0870	-.0860
		90.000	-.0910	
		180.000	-.0940	
MACH ( 3) = 3.502	BETAT ( 7) = 8.900	X/LT	.977	1.000
		PHI		
		.000	-.0830	-.0790
		90.000	-.0830	
		180.000	-.0890	

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY12) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDDLR = .000

SECTION ( 1)EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 1) = 2.498	BETAT ( 1) = -8.420	X/LT	.977	1.000
		PHI		
		.000	-.1380	-.1310
		90.000	-.1480	
		180.000	-.1490	
MACH ( 1) = 2.498	BETAT ( 2) = -6.300	X/LT	.977	1.000
		PHI		
		.000	-.1450	-.1390
		90.000	-.1510	
		180.000	-.1510	
MACH ( 1) = 2.498	BETAT ( 3) = -4.180	X/LT	.977	1.000
		PHI		
		.000	-.1360	-.1290
		90.000	-.1450	
		180.000	-.1390	
MACH ( 1) = 2.498	BETAT ( 4) = .560	X/LT	.977	1.000
		PHI		
		.000	-.1070	-.1000
		90.000	-.1110	
		180.000	-.1240	
MACH ( 1) = 2.498	BETAT ( 5) = 4.310	X/LT	.977	1.000
		PHI		
		.000	-.1360	-.1300
		90.000	-.1330	
		180.000	-.1350	
MACH ( 1) = 2.498	BETAT ( 6) = 6.430	X/LT	.977	1.000
		PHI		
		.000	-.1460	-.1400
		90.000	-.1450	
		180.000	-.1510	
MACH ( 1) = 2.498	BETAT ( 7) = 8.560	X/LT	.977	1.000
		PHI		
		.000	-.1360	-.1300
		90.000	-.1440	
		180.000	-.1460	

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY12)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LT .977 1.000 PHI .000 -.1110 -.1090 90.000 -.1190 180.000 -.1140
MACH ( 2) = 2.999 BETAT ( 2) = -6.430	X/LT .977 1.000 PHI .000 -.1130 -.1090 90.000 -.1150 180.000 -.1200
MACH ( 2) = 2.999 BETAT ( 3) = -4.270	X/LT .977 1.000 PHI .000 -.1060 -.1000 90.000 -.1100 180.000 -.1140
MACH ( 2) = 2.999 BETAT ( 4) = .050	X/LT .977 1.000 PHI .000 -.0930 -.0870 90.000 -.0930 180.000 -.0980
MACH ( 2) = 2.999 BETAT ( 5) = 4.380	X/LT .977 1.000 PHI .000 -.1070 -.1000 90.000 -.1000 180.000 -.1080
MACH ( 2) = 2.999 BETAT ( 6) = 6.550	X/LT .977 1.000 PHI .000 -.1070 -.1040 90.000 -.1080 180.000 -.1100
MACH ( 2) = 2.999 BETAT ( 7) = 8.710	X/LT .977 1.000 PHI .000 -.1030 -.1030 90.000 -.1050 180.000 -.1070
MACH ( 3) = 3.502 BETAT ( 1) = -8.740	X/LT .977 1.000 PHI .000 -.0790 -.0750 90.000 -.0800 180.000 -.0810

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY12)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 2) = -6.540	X/LT .977 1.000
	PHI
	.000 -.0870 -.0830
	90.000 -.0900
	180.000 -.0910
MACH ( 3) = 3.502 BETAT ( 3) = -4.350	X/LT .977 1.000
	PHI
	.000 -.0800 -.0730
	90.000 -.0850
	180.000 -.0880
MACH ( 3) = 3.502 BETAT ( 4) = .050	X/LT .977 1.000
	PHI
	.000 -.0700 -.0670
	90.000 -.0750
	180.000 -.0790
MACH ( 3) = 3.502 BETAT ( 5) = 4.460	X/LT .977 1.000
	PHI
	.000 -.0810 -.0770
	90.000 -.0800
	180.000 -.0890
MACH ( 3) = 3.502 BETAT ( 6) = 6.660	X/LT .977 1.000
	PHI
	.000 -.0830 -.0790
	90.000 -.0840
	180.000 -.0890
MACH ( 3) = 3.502 BETAT ( 7) = 8.860	X/LT .977 1.000
	PHI
	.000 -.0810 -.0800
	90.000 -.0820
	180.000 -.0860

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY13) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0310 SCALE

## PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUCFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.498 BETAT ( 1) = -8.420	X/LT .977 1.000
	PHI
	.000 -.1190 -.1070
	90.000 -.1390 180.000 -.1300
MACH ( 1) = 2.498 BETAT ( 2) = -6.300	X/LT .977 1.000
	PHI
	.000 -.1170 -.0980
	90.000 -.1390 180.000 -.1200
MACH ( 1) = 2.498 BETAT ( 3) = -4.180	X/LT .977 1.000
	PHI
	.000 -.1000 -.0840
	90.000 -.1220 180.000 -.1140
MACH ( 1) = 2.498 BETAT ( 4) = .060	X/LT .977 1.000
	PHI
	.000 -.0850 -.0730
	90.000 -.1050 180.000 -.1160
MACH ( 1) = 2.498 BETAT ( 5) = 4.300	X/LT .977 1.000
	PHI
	.000 -.1000 -.0920
	90.000 -.0950 180.000 -.1140
MACH ( 1) = 2.498 BETAT ( 6) = 6.420	X/LT .977 1.000
	PHI
	.000 -.1150 -.1070
	90.000 -.1170 180.000 -.1170
MACH ( 1) = 2.498 BETAT ( 7) = 8.540	X/LT .977 1.000
	PHI
	.000 -.1190 -.1120
	90.000 -.1240 180.000 -.1220

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY13)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LT	.977	1.000
	PHI		
	.000	-.0930	-.0850
	90.000	-.1010	
	180.000	-.0950	
MACH ( 2) = 2.999 BETAT ( 2) = -6.420	X/LT	.977	1.000
	PHI		
	.000	-.0910	-.0800
	90.000	-.1000	
	180.000	-.0940	
MACH ( 2) = 2.999 BETAT ( 3) = -4.260	X/LT	.977	1.000
	PHI		
	.000	-.0850	-.0640
	90.000	-.0920	
	180.000	-.0900	
MACH ( 2) = 2.999 BETAT ( 4) = .060	X/LT	.977	1.000
	PHI		
	.000	-.0740	-.0740
	90.000	-.0810	
	180.000	-.0890	
MACH ( 2) = 2.999 BETAT ( 5) = 4.380	X/LT	.977	1.000
	PHI		
	.000	-.0830	-.0720
	90.000	-.0820	
	180.000	-.0900	
MACH ( 2) = 2.999 BETAT ( 6) = 6.540	X/LT	.977	1.000
	PHI		
	.000	-.0960	-.0880
	90.000	-.0960	
	180.000	-.1000	
MACH ( 2) = 2.999 BETAT ( 7) = 8.690	X/LT	.977	1.000
	PHI		
	.000	-.0960	-.0890
	90.000	-.0970	
	180.000	-.0970	
MACH ( 3) = 3.502 BETAT ( 1) = -8.750	X/LT	.977	1.000
	PHI		
	.000	-.0750	-.0730
	90.000	-.0800	
	180.000	-.0770	

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY13)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 2) = -6.550	X/LT .977 1.000
	PHI
	.000 -.0730 -.0690
	90.000 -.0730
	180.000 -.0730
MACH ( 3) = 3.502 BETAT ( 3) = -4.350	X/LT .977 1.000
	PHI
	.000 -.0760 -.0680
	90.000 -.0760
	180.000 -.0740
MACH ( 3) = 3.502 BETAT ( 4) = .050	X/LT .977 1.000
	PHI
	.000 -.0640 -.0650
	90.000 -.0680
	180.000 -.0730
MACH ( 3) = 3.502 BETAT ( 5) = 4.450	X/LT .977 1.000
	PHI
	.000 -.0730 -.0690
	90.000 -.0730
	180.000 -.0760
MACH ( 3) = 3.502 BETAT ( 6) = 6.650	X/LT .977 1.000
	PHI
	.000 -.0750 -.0730
	90.000 -.0770
	180.000 -.0770
MACH ( 3) = 3.502 BETAT ( 7) = 8.840	X/LT .977 1.000
	PHI
	.000 -.0780 -.0730
	90.000 -.0780
	180.000 -.0780



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY14) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDDLFL = .000

## SECTION ( 1 ) EXTERNAL TANK BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.410	X/LT	.977	1.000
		PHI		
		.000	-.1130	-.0880
		90.000	-.1290	
		180.000	-.1100	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.290	X/LT	.977	1.000
		PHI		
		.000	-.0990	-.0820
		90.000	-.1150	
		180.000	-.1010	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.180	X/LT	.977	1.000
		PHI		
		.000	-.0810	-.0710
		90.000	-.1010	
		180.000	-.0990	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0790	-.0750
		90.000	-.0870	
		180.000	-.0910	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.310	X/LT	.977	1.000
		PHI		
		.000	-.0800	-.0760
		90.000	-.0760	
		180.000	-.1040	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.430	X/LT	.977	1.000
		PHI		
		.000	-.0920	-.0840
		90.000	-.0770	
		180.000	-.0970	
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.560	X/LT	.977	1.000
		PHI		
		.000	-.1160	-.0990
		90.000	-.1110	
		180.000	-.1110	

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY14)

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 2 ) = 2.999 BETAT ( 1 ) = -8.560	X/LT	.977	1.000
	PHI		
	.000	-.0870	-.0710
	90.000	-.0960	
	180.000	-.0830	
MACH ( 2 ) = 2.999 BETAT ( 2 ) = -6.410	X/LT	.977	1.000
	PHI		
	.000	-.0890	-.0660
	90.000	-.0980	
	180.000	-.0850	
MACH ( 2 ) = 2.999 BETAT ( 3 ) = -4.250	X/LT	.977	1.000
	PHI		
	.000	-.0750	-.0520
	90.000	-.0910	
	180.000	-.0950	
MACH ( 2 ) = 2.999 BETAT ( 4 ) = .060	X/LT	.977	1.000
	PHI		
	.000	-.0690	-.0630
	90.000	-.0710	
	180.000	-.0830	
MACH ( 2 ) = 2.999 BETAT ( 5 ) = 4.380	X/LT	.977	1.000
	PHI		
	.000	-.0800	-.0680
	90.000	-.0720	
	180.000	-.0950	
MACH ( 2 ) = 2.999 BETAT ( 6 ) = 6.550	X/LT	.977	1.000
	PHI		
	.000	-.0900	-.0800
	90.000	-.0840	
	180.000	-.0880	
MACH ( 2 ) = 2.999 BETAT ( 7 ) = 8.710	X/LT	.977	1.000
	PHI		
	.000	-.0960	-.0860
	90.000	-.0950	
	180.000	-.0900	
MACH ( 3 ) = 3.502 BETAT ( 1 ) = -8.730	X/LT	.977	1.000
	PHI		
	.000	-.0710	-.0710
	90.000	-.0770	
	180.000	-.0800	

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY14)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	X/LT	.977	1.000
	PHI		
	.000	-.0770	-.0690
	90.000	-.0830	
	180.000	-.0750	
MACH ( 3) = 3.502 BETAT ( 3) = -4.340	X/LT	.977	1.000
	PHI		
	.000	-.0700	-.0640
	90.000	-.0730	
	180.000	-.0720	
MACH ( 3) = 3.502 BETAT ( 4) = .050	X/LT	.977	1.000
	PHI		
	.000	-.0600	-.0580
	90.000	-.0670	
	180.000	-.0690	
MACH ( 3) = 3.502 BETAT ( 5) = 4.450	X/LT	.977	1.000
	PHI		
	.000	-.0660	-.0590
	90.000	-.0640	
	180.000	-.0670	
MACH ( 3) = 3.502 BETAT ( 6) = 6.660	X/LT	.977	1.000
	PHI		
	.000	-.0770	-.0690
	90.000	-.0740	
	180.000	-.0760	
MACH ( 3) = 3.502 BETAT ( 7) = 8.860	X/LT	.977	1.000
	PHI		
	.000	-.0750	-.0760
	90.000	-.0780	
	180.000	-.0810	

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY15) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUCFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.498 BETAT ( 1 ) = -8.390	X/LT .977 1.000 PHI .000 -.0990 -.0760 90.000 -.1120 180.000 -.0920
MACH ( 1 ) = 2.498 BETAT ( 2 ) = -6.280	X/LT .977 1.000 PHI .000 -.0860 -.0740 90.000 -.1010 180.000 -.0900
MACH ( 1 ) = 2.498 BETAT ( 3 ) = -4.160	X/LT .977 1.000 PHI .000 -.0690 -.0550 90.000 -.0870 180.000 -.0900
MACH ( 1 ) = 2.498 BETAT ( 4 ) = .060	X/LT .977 1.000 PHI .000 -.0660 -.0620 90.000 -.0720 180.000 -.0790
MACH ( 1 ) = 2.498 BETAT ( 5 ) = 4.310	X/LT .977 1.000 PHI .000 -.0630 -.0530 90.000 -.0610 180.000 -.0940
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.440	X/LT .977 1.000 PHI .000 -.0780 -.0720 90.000 -.0640 180.000 -.0900
MACH ( 1 ) = 2.498 BETAT ( 7 ) = 8.570	X/LT .977 1.000 PHI .000 -.0940 -.0740 90.000 -.0840 180.000 -.0970

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY15)

SECTION ( 1) EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999	BETAT ( 1) = -8.550	X/LT	.977	1.000
		PHI		
		.000	-.0850	-.0640
		90.000	-.0870	
		180.000	-.0770	
MACH ( 2) = 2.999	BETAT ( 2) = -6.400	X/LT	.977	1.000
		PHI		
		.000	-.0820	-.0540
		90.000	-.0850	
		180.000	-.0750	
MACH ( 2) = 2.999	BETAT ( 3) = -4.240	X/LT	.977	1.000
		PHI		
		.000	-.0670	-.0490
		90.000	-.0820	
		180.000	-.0840	
MACH ( 2) = 2.999	BETAT ( 4) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0650	-.0610
		90.000	-.0680	
		180.000	-.0810	
MACH ( 2) = 2.999	BETAT ( 5) = 4.390	X/LT	.977	1.000
		PHI		
		.000	-.0640	-.0520
		90.000	-.0590	
		180.000	-.0810	
MACH ( 2) = 2.999	BETAT ( 6) = 6.570	X/LT	.977	1.000
		PHI		
		.000	-.0740	-.0670
		90.000	-.0660	
		180.000	-.0720	
MACH ( 2) = 2.999	BETAT ( 7) = 8.730	X/LT	.977	1.000
		PHI		
		.000	-.0900	-.0800
		90.000	-.0860	
		180.000	-.0800	
MACH ( 3) = 3.502	BETAT ( 1) = -8.710	X/LT	.977	1.000
		PHI		
		.000	-.0710	-.0680
		90.000	-.0760	
		180.000	-.0780	

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY15)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 2) = -6.520	X/LT .977 1.000
	PHI
	.000 -.0770 -.0650
	90.000 -.0810
	180.000 -.0760
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	X/LT .977 1.000
	PHI
	.000 -.0650 -.0560
	90.000 -.0710
	180.000 -.0730
MACH ( 3) = 3.502 BETAT ( 4) = .050	X/LT .977 1.000
	PHI
	.000 -.0600 -.0570
	90.000 -.0650
	180.000 -.0680
MACH ( 3) = 3.502 BETAT ( 5) = 4.460	X/LT .977 1.000
	PHI
	.000 -.0660 -.0580
	90.000 -.0620
	180.000 -.0690
MACH ( 3) = 3.502 BETAT ( 6) = 6.660	X/LT .977 1.000
	PHI
	.000 -.0740 -.0640
	90.000 -.0710
	180.000 -.0720
MACH ( 3) = 3.502 BETAT ( 7) = 8.880	X/LT .977 1.000
	PHI
	.000 -.0760 -.0760
	90.000 -.0800
	180.000 -.0830

AMES 87-707 IA9 CQA + S3 + T9 EXTERNAL TANK BASE

(RBNY16) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 CRBINC = .500  
 RUDDER = -15.000 ELEVON = .000  
 RUDFLR = .000

## SECTION ( 1 ) EXTERNAL TANK BASE

## DEPENDENT VARIABLE CP

MACH ( 1 ) = 2.498	BETAT ( 1 ) = -8.370	X/LT	.977	1.000
		PHI		
		.000	-.0860	-.0740
		90.000	-.1010	
		180.000	-.0790	
MACH ( 1 ) = 2.498	BETAT ( 2 ) = -6.270	X/LT	.977	1.000
		PHI		
		.000	-.0720	-.0570
		90.000	-.0870	
		180.000	-.0820	
MACH ( 1 ) = 2.498	BETAT ( 3 ) = -4.160	X/LT	.977	1.000
		PHI		
		.000	-.0550	-.0420
		90.000	-.0750	
		180.000	-.0760	
MACH ( 1 ) = 2.498	BETAT ( 4 ) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0530	-.0490
		90.000	-.0670	
		180.000	-.0690	
MACH ( 1 ) = 2.498	BETAT ( 5 ) = 4.330	X/LT	.977	1.000
		PHI		
		.000	-.0550	-.0500
		90.000	-.0520	
		180.000	-.0870	
MACH ( 1 ) = 2.498	BETAT ( 6 ) = 6.460	X/LT	.977	1.000
		PHI		
		.000	-.0710	-.0660
		90.000	-.0550	
		180.000	-.0830	
MACH ( 1 ) = 2.498	BETAT ( 7 ) = 8.600	X/LT	.977	1.000
		PHI		
		.000	-.0840	-.0770
		90.000	-.0730	
		180.000	-.0830	

## AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY16)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 1) = -8.530	X/LT	.977	1.000
	PHI		
	.000	-.0890	-.0690
	90.000	-.0890	
	180.000	-.0790	
MACH ( 2) = 2.999 BETAT ( 2) = -6.380	X/LT	.977	1.000
	PHI		
	.000	-.0880	-.0650
	90.000	-.0920	
	180.000	-.0840	
MACH ( 2) = 2.999 BETAT ( 3) = -4.230	X/LT	.977	1.000
	PHI		
	.000	-.0690	-.0520
	90.000	-.0820	
	180.000	-.0840	
MACH ( 2) = 2.999 BETAT ( 4) = .060	X/LT	.977	1.000
	PHI		
	.000	-.0650	-.0590
	90.000	-.0660	
	180.000	-.0790	
MACH ( 2) = 2.999 BETAT ( 5) = 4.400	X/LT	.977	1.000
	PHI		
	.000	-.0530	-.0410
	90.000	-.0560	
	180.000	-.0740	
MACH ( 2) = 2.999 BETAT ( 6) = 6.580	X/LT	.977	1.000
	PHI		
	.000	-.0700	-.0620
	90.000	-.0580	
	180.000	-.0680	
MACH ( 2) = 2.999 BETAT ( 7) = 8.750	X/LT	.977	1.000
	PHI		
	.000	-.0790	-.0670
	90.000	-.0750	
	180.000	-.0710	
MACH ( 3) = 3.502 BETAT ( 1) = -8.690	X/LT	.977	1.000
	PHI		
	.000	-.0690	-.0670
	90.000	-.0760	
	180.000	-.0720	



## AMES 87-757 IA9 Q2A + S3 + T9 EXTERNAL TANK BASE

(RNNY16)

SECTION ( 1)EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502	BETAT ( 2) = -6.500	X/LT	.977	1.000
		PHI		
		.000	-.0750	-.0610
		90.000	-.0780	
		180.000	-.0730	
MACH ( 3) = 3.502	BETAT ( 3) = -4.320	X/LT	.977	1.000
		PHI		
		.000	-.0690	-.0500
		90.000	-.0730	
		180.000	-.0700	
MACH ( 3) = 3.502	BETAT ( 4) = .050	X/LT	.977	1.000
		PHI		
		.000	-.0640	-.0600
		90.000	-.0690	
		180.000	-.0710	
MACH ( 3) = 3.502	BETAT ( 5) = 4.470	X/LT	.977	1.000
		PHI		
		.000	-.0640	-.0530
		90.000	-.0610	
		180.000	-.0690	
MACH ( 3) = 3.502	BETAT ( 6) = 6.680	X/LT	.977	1.000
		PHI		
		.000	-.0600	-.0560
		90.000	-.0580	
		180.000	-.0570	
MACH ( 3) = 3.502	BETAT ( 7) = 8.900	X/LT	.977	1.000
		PHI		
		.000	-.0690	-.0700
		90.000	-.0730	
		180.000	-.0770	

AMES 87-707 1A9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY17) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.499 BETAT ( 1) = -8.390	X/LT .977 1.000 PHI .000 -.1570 -.1470 90.000 -.1650 180.000 -.1610
MACH ( 1) = 2.499 BETAT ( 2) = -6.280	X/LT .977 1.000 PHI .000 -.1560 -.1490 90.000 -.1660 180.000 -.1570
MACH ( 1) = 2.498 BETAT ( 3) = -4.160	X/LT .977 1.000 PHI .000 -.1450 -.1400 90.000 -.1530 180.000 -.1620
MACH ( 1) = 2.498 BETAT ( 4) = .060	X/LT .977 1.000 PHI .000 -.1240 -.1200 90.000 -.1320 180.000 -.1400
MACH ( 1) = 2.498 BETAT ( 5) = 4.330	X/LT .977 1.000 PHI .000 -.1440 -.1360 90.000 -.1420 180.000 -.1460
MACH ( 1) = 2.499 BETAT ( 6) = 6.470	X/LT .977 1.000 PHI .000 -.1510 -.1450 90.000 -.1500 180.000 -.1550
MACH ( 1) = 2.499 BETAT ( 7) = 8.600	X/LT .977 1.000 PHI .000 -.1520 -.1450 90.000 -.1430 180.000 -.1580

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY17)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999 BETAT ( 1) = -8.540	X/LT	.977	1.000
	FHI		
	.000	-.1130	-.1000
	90.000	-.1220	
	180.000	-.1140	
MACH ( 2) = 2.999 BETAT ( 2) = -4.240	X/LT	.977	1.000
	FHI		
	.000	-.1050	-.0990
	90.000	-.1130	
	180.000	-.1150	
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LT	.977	1.000
	FHI		
	.000	-.0980	-.0900
	90.000	-.1060	
	180.000	-.1060	
MACH ( 2) = 2.999 BETAT ( 4) = 4.410	X/LT	.977	1.000
	FHI		
	.000	-.1030	-.1010
	90.000	-.1070	
	180.000	-.1170	
MACH ( 2) = 2.999 BETAT ( 5) = 8.760	X/LT	.977	1.000
	FHI		
	.000	-.1130	-.1070
	90.000	-.1060	
	180.000	-.1150	
MACH ( 3) = 3.502 BETAT ( 1) = -8.700	X/LT	.977	1.000
	FHI		
	.000	-.0760	-.0580
	90.000	-.0750	
	180.000	-.0750	
MACH ( 3) = 3.502 BETAT ( 2) = -6.510	X/LT	.977	1.000
	FHI		
	.000	-.0820	-.0780
	90.000	-.0840	
	180.000	-.0860	
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	X/LT	.977	1.000
	FHI		
	.000	-.0770	-.0740
	90.000	-.0830	
	180.000	-.0850	

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY17)

SECTION ( 1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 4) = .060	X/LT .977 1.000
	PHI
	.000 -.0720 -.0670
	90.000 -.0820
	180.000 -.0830
MACH ( 3) = 3.502 BETAT ( 5) = 4.490	X/LT .977 1.000
	PHI
	.000 -.0740 -.0710
	90.000 -.0790
	180.000 -.0830
MACH ( 3) = 3.502 BETAT ( 6) = 6.700	X/LT .977 1.000
	PHI
	.000 -.0770 -.0750
	90.000 -.0800
	180.000 -.0830
MACH ( 3) = 3.502 BETAT ( 7) = 8.910	X/LT .977 1.000
	PHI
	.000 -.0780 -.0740
	90.000 -.0790
	180.000 -.0850

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY18) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = -4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.499 BETAT ( 1) = -8.420	X/LT .977 1.000 PHI .000 -.1350 -.1330 90.000 -.1470 180.000 -.1460
MACH ( 1) = 2.498 BETAT ( 2) = -6.300	X/LT .977 1.000 PHI .000 -.1450 -.1380 90.000 -.1480 180.000 -.1480
MACH ( 1) = 2.499 BETAT ( 3) = -4.180	X/LT .977 1.000 PHI .000 -.1430 -.1370 90.000 -.1500 180.000 -.1430
MACH ( 1) = 2.499 BETAT ( 4) = .060	X/LT .977 1.000 PHI .000 -.1120 -.1060 90.000 -.1130 180.000 -.1240
MACH ( 1) = 2.498 BETAT ( 5) = 4.310	X/LT .977 1.000 PHI .000 -.1400 -.1320 90.000 -.1340 180.000 -.1350
MACH ( 1) = 2.498 BETAT ( 6) = 6.430	X/LT .977 1.000 PHI .000 -.1460 -.1410 90.000 -.1490 180.000 -.1520
MACH ( 1) = 2.498 BETAT ( 7) = 8.560	X/LT .977 1.000 PHI .000 -.1360 -.1370 90.000 -.1480 180.000 -.1510

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY18)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 1) = -8.580	X/LT .977 1.000 PHI .000 -.1010 -.0990 90.000 -.1090 180.000 -.1060
MACH ( 2) = 2.999 BETAT ( 2) = -4.260	X/LT .977 1.000 PHI .000 -.1040 -.0950 90.000 -.1080 180.000 -.1100
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LT .977 1.000 PHI .000 -.0890 -.0840 90.000 -.0890 180.000 -.0940
MACH ( 2) = 2.999 BETAT ( 4) = 4.390	X/LT .977 1.000 PHI .000 -.1030 -.0940 90.000 -.0940 180.000 -.1020
MACH ( 2) = 2.999 BETAT ( 5) = 8.720	X/LT .977 1.000 PHI .000 -.1030 -.1010 90.000 -.1030 180.000 -.1080
MACH ( 3) = 3.502 BETAT ( 1) = -8.730	X/LT .977 1.000 PHI .000 -.0770 -.0760 90.000 -.0800 180.000 -.0830
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	X/LT .977 1.000 PHI .000 -.0820 -.0770 90.000 -.0860 180.000 -.0880
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	X/LT .977 1.000 PHI .000 -.0740 -.0690 90.000 -.0790 180.000 -.0830

## AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY18)

SECTION ( 1) EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 3) = 3.502	BETAT ( 4) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0660	-.0659
		90.000	-.0700	
		180.000	-.0750	
MACH ( 3) = 3.502	BETAT ( 5) = 4.470	X/LT	.977	1.000
		PHI		
		.000	-.0740	-.0690
		90.000	-.0720	
		180.000	-.0840	
MACH ( 3) = 3.502	BETAT ( 6) = 6.670	X/LT	.977	1.000
		PHI		
		.000	-.0790	-.0750
		90.000	-.0780	
		180.000	-.0830	
MACH ( 3) = 3.502	BETAT ( 7) = 8.870	X/LT	.977	1.000
		PHI		
		.000	-.0760	-.0720
		90.000	-.0730	
		180.000	-.0760	

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TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY19) ( 10 MAY 73 )

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

PARAMETRIC DATA

ALPHAT = .000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE

DEPENDENT VARIABLE CP

MACH ( 1) = 2.499	BETAT ( 1) = -8.430	X/LT	.977	1.000
		PHI		
		.000	-.1190	-.1090
		90.000	-.1420	
		180.000	-.1290	
MACH ( 1) = 2.499	BETAT ( 2) = -6.310	X/LT	.977	1.000
		PHI		
		.000	-.1200	-.1020
		90.000	-.1390	
		180.000	-.1240	
MACH ( 1) = 2.499	BETAT ( 3) = -4.180	X/LT	.977	1.000
		PHI		
		.000	-.1110	-.0930
		90.000	-.1300	
		180.000	-.1190	
MACH ( 1) = 2.499	BETAT ( 4) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0920	-.0840
		90.000	-.1110	
		180.000	-.1170	
MACH ( 1) = 2.499	BETAT ( 5) = 4.300	X/LT	.977	1.000
		PHI		
		.000	-.1060	-.0990
		90.000	-.1000	
		180.000	-.1200	
MACH ( 1) = 2.499	BETAT ( 6) = 6.430	X/LT	.977	1.000
		PHI		
		.000	-.1200	-.1120
		90.000	-.1160	
		180.000	-.1170	
MACH ( 1) = 2.498	BETAT ( 7) = 8.550	X/LT	.977	1.000
		PHI		
		.000	-.1240	-.1160
		90.000	-.1260	
		180.000	-.1260	



## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY19)

SECTION ( 1)EXTERNAL TANK BASE		DE	MENT VARIABLE CP	
MACH ( 2) = 2.999	BETAT ( 1) = -8.580	X/LT	.977	1.000
		PHI		
		.000	-.0940	-.0870
		90.000	-.1040	
		180.000	-.0970	
MACH ( 2) = 2.999	BETAT ( 2) = -4.260	X/LT	.977	1.000
		PHI		
		.000	-.0860	-.0740
		90.000	-.0940	
		180.000	-.0920	
MACH ( 2) = 2.999	BETAT ( 3) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0740	-.0740
		90.000	-.0820	
		180.000	-.0900	
MACH ( 2) = 2.999	BETAT ( 4) = 4.380	X/LT	.977	1.000
		PHI		
		.000	-.0880	-.0810
		90.000	-.0860	
		180.000	-.0930	
MACH ( 2) = 2.999	BETAT ( 5) = 8.710	X/LT	.977	1.000
		PHI		
		.000	-.0930	-.0910
		90.000	-.0920	
		180.000	-.0930	
MACH ( 3) = 3.502	BETAT ( 1) = -8.740	X/LT	.977	1.000
		PHI		
		.000	-.0730	-.0710
		90.000	-.0790	
		180.000	-.0770	
MACH ( 3) = 3.502	BETAT ( 2) = -6.540	X/LT	.977	1.000
		PHI		
		.000	-.0720	-.0670
		90.000	-.0770	
		180.000	-.0720	
MACH ( 3) = 3.502	BETAT ( 3) = -4.340	X/LT	.977	1.000
		PHI		
		.000	-.0690	-.0610
		90.000	-.0720	
		180.000	-.0710	

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AMES 87-707 IA9 C2A + S3 + T9 EXTERNAL TANK BASE

(RBNY19)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 4) = .960	X/LT .977 1.000
	PHI
	.000 -.0630 -.0610
	90.000 -.0650
	180.000 -.0680
MACH ( 3) = 3.502 BETAT ( 5) = 4.460	X/LT .977 1.000
	PHI
	.000 -.0710 -.0650
	90.000 -.0680
	180.000 -.0700
MACH ( 3) = 3.502 BETAT ( 6) = 6.660	X/LT .977 1.000
	PHI
	.000 -.0730 -.0700
	90.000 -.0740
	180.000 -.0760
MACH ( 3) = 3.502 BETAT ( 7) = 8.860	X/LT .977 1.000
	PHI
	.000 -.0760 -.0710
	90.000 -.0760
	180.000 -.0760

AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY25) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4215 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 4.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1) = 2.499 BETAT ( 1) = -8.410	X/LT .977 1.000 PHI .000 -.1130 -.0880 90.000 -.1320 180.000 -.1120
MACH ( 1) = 2.499 BETAT ( 2) = -6.290	X/LT .977 1.000 PHI .000 -.0970 -.0820 90.000 -.1120 180.000 -.1010
MACH ( 1) = 2.499 BETAT ( 3) = -4.170	X/LT .977 1.000 PHI .000 -.0810 -.0730 90.000 -.0980 180.000 -.0980
MACH ( 1) = 2.499 BETAT ( 4) = .060	X/LT .977 1.000 PHI .000 -.0800 -.0760 90.000 -.0870 180.000 -.0920
MACH ( 1) = 2.499 BETAT ( 5) = 4.310	X/LT .977 1.000 PHI .000 -.0760 -.0740 90.000 -.0720 180.000 -.1020
MACH ( 1) = 2.499 BETAT ( 6) = 6.430	X/LT .977 1.000 PHI .000 -.0930 -.0850 90.000 -.0790 180.000 -.1000
MACH ( 1) = 2.499 BETAT ( 7) = 8.560	X/LT .977 1.000 PHI .000 -.1100 -.0940 90.000 -.1050 180.000 -.1090

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY20)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 1) = -8.570	X/LT .977 1.000
	FHI
	.000 -.0910 -.0800
	90.000 -.0970
	180.000 -.0850
MACH ( 2) = 2.999 BETAT ( 2) = -4.250	X/LT .977 1.000
	FHI
	.000 -.0770 -.0590
	90.000 -.0910
	180.000 -.0940
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LT .977 1.000
	FHI
	.000 -.0700 -.0680
	90.000 -.0730
	180.000 -.0860
MACH ( 2) = 2.999 BETAT ( 4) = 4.390	X/LT .977 1.000
	FHI
	.000 -.0770 -.0650
	90.000 -.0690
	180.000 -.0920
MACH ( 2) = 2.999 BETAT ( 5) = 8.720	X/LT .977 1.000
	FHI
	.000 -.0910 -.0820
	90.000 -.0880
	180.000 -.0860
MACH ( 3) = 3.502 BETAT ( 1) = -8.720	X/LT .977 1.000
	FHI
	.000 -.0680 -.0670
	90.000 -.0730
	180.000 -.0760
MACH ( 3) = 3.502 BETAT ( 2) = -6.530	X/LT .977 1.000
	FHI
	.000 -.0690 -.0630
	90.000 -.0760
	180.000 -.0710
MACH ( 3) = 3.502 BETAT ( 3) = -4.330	X/LT .977 1.000
	FHI
	.000 -.0670 -.0550
	90.000 -.0690
	180.000 -.0670

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY25)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 4) = .060	X/LT .977 1.000
	PHI
	.000 -.0550 -.0520
	90.000 -.0580
	180.000 -.0620
MACH ( 3) = 3.502 BETAT ( 5) = 4.460	X/LT .977 1.000
	PHI
	.000 -.0710 -.0640
	90.000 -.0660
	180.000 -.0690
MACH ( 3) = 3.502 BETAT ( 6) = 6.670	X/LT .977 1.000
	PHI
	.000 -.0720 -.0640
	90.000 -.0690
	180.000 -.0700
MACH ( 3) = 3.502 BETAT ( 7) = 8.870	X/LT .977 1.000
	PHI
	.000 -.0700 -.0690
	90.000 -.0720
	180.000 -.0740

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## TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY21) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0000 SCALE

## PARAMETRIC DATA

ALPHAT = 6.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP		
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.390	X/LT	.977	1.000
	PHI		
	.000	-.0980	-.0790
	90.000	-.1130	
	180.000	-.0940	
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.280	X/LT	.977	1.000
	PHI		
	.000	-.0840	-.0740
	90.000	-.1000	
	180.000	-.0890	
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.170	X/LT	.977	1.000
	PHI		
	.000	-.0700	-.0600
	90.000	-.0880	
	180.000	-.0900	
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	X/LT	.977	1.000
	PHI		
	.000	-.0710	-.0660
	90.000	-.0760	
	180.000	-.0800	
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.310	X/LT	.977	1.000
	PHI		
	.000	-.0620	-.0570
	90.000	-.0670	
	180.000	-.0660	
MACH ( 1 ) = 2.498 BETAT ( 6 ) = 6.440	X/LT	.977	1.000
	PHI		
	.000	-.0800	-.0740
	90.000	-.0670	
	180.000	-.0930	
MACH ( 1 ) = 2.499 BETAT ( 7 ) = 8.570	X/LT	.977	1.000
	PHI		
	.000	-.0920	-.0840
	90.000	-.0830	
	180.000	-.0960	

## AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY21)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 2) = 2.999 BETAT ( 1) = -8.550	X/LT .977 1.000
	PHI
	.000 -.0880 -.0720
	90.000 -.0900
	180.000 -.0800
MACH ( 2) = 2.999 BETAT ( 2) = -4.240	X/LT .977 1.000
	PHI
	.000 -.0670 -.0520
	90.000 -.0830
	180.000 -.0880
MACH ( 2) = 2.999 BETAT ( 3) = .060	X/LT .977 1.000
	PHI
	.000 -.0640 -.0610
	90.000 -.0660
	180.000 -.0780
MACH ( 2) = 2.999 BETAT ( 4) = 4.400	X/LT .977 1.000
	PHI
	.000 -.0660 -.0580
	90.000 -.0610
	180.000 -.0810
MACH ( 2) = 2.999 BETAT ( 5) = 8.730	X/LT .977 1.000
	PHI
	.000 -.0870 -.0750
	90.000 -.0810
	180.000 -.0730
MACH ( 3) = 3.502 BETAT ( 1) = -6.710	X/LT .977 1.000
	PHI
	.000 -.0640 -.0630
	90.000 -.0690
	180.000 -.0740
MACH ( 3) = 3.502 BETAT ( 2) = -6.510	X/LT .977 1.000
	PHI
	.000 -.0710 -.0580
	90.000 -.0730
	180.000 -.0670
MACH ( 3) = 3.502 BETAT ( 3) = -4.320	X/LT .977 1.000
	PHI
	.000 -.0550 -.0450
	90.000 -.0630
	180.000 -.0650

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## TABULATED PRESSURE DATA - IA9C

AMES 87-757 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY21)

## SECTION ( 1) EXTERNAL TANK BASE

## DEPENDENT VARIABLE CP

MACH ( 3) = 3.502 BETAT ( 4) = .060

X/LT	.977	1.000
PHI		
.000	-.0560	-.0560
90.000	-.0610	
180.000	-.0650	

MACH ( 3) = 3.502 BETAT ( 5) = 4.470

X/LT	.977	1.000
PHI		
.000	-.0620	-.0540
90.000	-.0560	
180.000	-.0660	

MACH ( 3) = 3.502 BETAT ( 6) = 6.670

X/LT	.977	1.000
PHI		
.000	-.0690	-.0600
90.000	-.0650	
180.000	-.0670	

MACH ( 3) = 3.502 BETAT ( 7) = 8.890

X/LT	.977	1.000
PHI		
.000	-.0650	-.0660
90.000	-.0700	
180.000	-.0740	



AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY22) ( 10 MAY 73 )

## REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = 28.5300 INCHES  
 LREF = 39.8490 INCHES YMRP = .0000 INCHES  
 BREF = 39.8490 INCHES ZMRP = .0000 INCHES  
 SCALE = .0300 SCALE

## PARAMETRIC DATA

ALPHAT = 8.000 ORBINC = .500  
 RUDDER = -10.000 ELEVON = .000  
 RUDFLR = .000

SECTION ( 1 ) EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 1 ) = 2.499 BETAT ( 1 ) = -8.370	X/LT .977 1.000 PHI .000 -.0860 -.0710 90.000 -.0990 180.000 -.0810
MACH ( 1 ) = 2.499 BETAT ( 2 ) = -6.260	X/LT .977 1.000 PHI .000 -.0770 -.0650 90.000 -.0920 180.000 -.0870
MACH ( 1 ) = 2.499 BETAT ( 3 ) = -4.150	X/LT .977 1.000 PHI .000 -.0570 -.0510 90.000 -.0740 180.000 -.0780
MACH ( 1 ) = 2.499 BETAT ( 4 ) = .060	X/LT .977 1.000 PHI .000 -.0580 -.0560 90.000 -.0700 180.000 -.0740
MACH ( 1 ) = 2.499 BETAT ( 5 ) = 4.330	X/LT .977 1.000 PHI .000 -.0540 -.0500 90.000 -.0530 180.000 -.0860
MACH ( 1 ) = 2.499 BETAT ( 6 ) = 6.460	X/LT .977 1.000 PHI .000 -.0670 -.0640 90.000 -.0560 180.000 -.0810
MACH ( 1 ) = 2.499 BETAT ( 7 ) = 8.600	X/LT .977 1.000 PHI .000 -.0800 -.0750 90.000 -.0660 180.000 -.0760

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## TABULATED PRESSURE DATA - IA9C

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AMES 87-707 IA9 Q2A + S3 + T9 EXTERNAL TANK BASE

(RBNY22)

SECTION ( 1)EXTERNAL TANK BASE		DEPENDENT VARIABLE CP		
MACH ( 2) = 2.999	BETAT ( 1) = -8.530	X/LT	.977	1.000
		PHI		
		.000	-.0840	-.0630
		90.000	-.0830	
		180.000	-.0690	
MACH ( 2) = 2.999	BETAT ( 2) = -4.230	X/LT	.977	1.000
		PHI		
		.000	-.0610	-.0450
		90.000	-.0750	
		180.000	-.0770	
MACH ( 2) = 2.999	BETAT ( 3) = .060	X/LT	.977	1.000
		PHI		
		.000	-.0600	-.0510
		90.000	-.0600	
		180.000	-.0740	
MACH ( 2) = 2.999	BETAT ( 4) = 4.400	X/LT	.977	1.000
		PHI		
		.000	-.0590	-.0540
		90.000	-.0560	
		180.000	-.0730	
MACH ( 2) = 2.999	BETAT ( 5) = 8.750	X/LT	.977	1.000
		PHI		
		.000	-.0770	-.0700
		90.000	-.0700	
		180.000	-.0690	
MACH ( 3) = 3.502	BETAT ( 1) = -8.680	X/LT	.977	1.000
		PHI		
		.000	-.0650	-.0620
		90.000	-.0710	
		180.000	-.0700	
MACH ( 3) = 3.502	BETAT ( 2) = -6.490	X/LT	.977	1.000
		PHI		
		.000	-.0710	-.0580
		90.000	-.0730	
		180.000	-.0680	
MACH ( 3) = 3.502	BETAT ( 3) = -4.310	X/LT	.977	1.000
		PHI		
		.000	-.0620	-.0420
		90.000	-.0620	
		180.000	-.0630	

AMES 87-707 IA9 O2A + S3 + T9 EXTERNAL TANK BASE

(RBNY22)

SECTION ( 1)EXTERNAL TANK BASE	DEPENDENT VARIABLE CP
MACH ( 3) = 3.502 BETAT ( 4) = .060	X/LT .977 1.000
	PHI
	.000 -.0580 -.0560
	90.000 -.0650
	180.000 -.0640
MACH ( 3) = 3.502 BETAT ( 5) = 4.480	X/LT .977 1.000
	PHI
	.000 -.0590 -.0490
	90.000 -.0550
	180.000 -.0610
MACH ( 3) = 3.502 BETAT ( 6) = 6.700	X/LT .977 1.000
	PHI
	.000 -.0530 -.0490
	90.000 -.0530
	180.000 -.0540
MACH ( 3) = 3.502 BETAT ( 7) = 8.910	X/LT .977 1.000
	PHI
	.000 -.0620 -.0590
	90.000 -.0650
	180.000 -.0690

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