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Low-Speed Aerodynamic Performance of a High-Aspect-Ratio Supercritical-Wing Transport Model Equipped With Full-Span Slat and Part-Span Double-Slotted Flaps

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SUMMARY

An investigation was conducted in the Langley V/STOL tunnel to determine the static longitudinal and lateral-directional aerodynamic characteristics of an advanced high-aspect-ratio supercritical-wing transport model equipped with a full-span leading-edge slat and part-span double-slotted trailing-edge flaps. This wide-body transport model was also equipped with spoiler and aileron control surfaces, flow-through nacelles, landing gear, movable horizontal tails, and interchangeable wing tips with aspect ratios of 10 and 12. The model was tested with leading-edge slat and trailing-edge flap combinations representative of cruise, climb, take-off, and landing wing configurations. The tests were conducted at free-stream conditions corresponding to Reynolds numbers (based on mean geometric chord) of 0.97 to 1.63×10^6 and corresponding Mach numbers of 0.12 to 0.20, through an angle-of-attack range of -2° to 24° and a sideslip-angle range of -10° to 5°.

The test results show that, for the aspect-ratio-10 wing configurations, the cruise wing had a maximum trimmed lift coefficient of 1.23 and a lift-drag ratio of 16.24; the climb wing, a lift coefficient of 1.93 and a lift-drag ratio of 11.03; the take-off wing, a lift coefficient of 2.29 and a lift-drag ratio of 9.82; and the landing wing, a lift coefficient of 2.47 and a lift-drag ratio of 7.00. The aspect-ratio-12 take-off and landing wing configurations had only slightly higher maximum lift coefficient and lift-drag values than those for the corresponding aspect-ratio-10 wing configurations. Also, for the aspect-ratio-10 wing configurations, the climb wing had less lateral-directional stability than the cruise wing, and the take-off and landing wing configurations had almost identical stability at the same lift coefficient. The take-off and landing wing configurations also had greater lateral-directional stability than the cruise wing configuration.

INTRODUCTION

In recent years, NASA has been actively involved in an aeronautical research project to improve the energy efficiency of modern wide-body jet transport aircraft. The Aircraft Energy Efficiency (ACEE) project was formulated to encourage industry participation and to coordinate the industry and NASA research efforts. One element of the ACEE project is the Energy Efficient Transport (EET) program which is concerned primarily with the development of advanced aerodynamics and active-controls technology for application to derivative or next-generation transport aircraft. A part of the EET program has been the development, by NASA Langley Research Center personnel, of advanced supercritical wings with greater section thickness-chord ratios, higher aspect ratios, higher cruise lift coefficients, and lower sweepback than the conventional wings of current transports. These supercritical wings have been tested extensively in the Langley wind tunnels to determine their high-speed cruise performance characteristics (refs. 1 and 2). Because of their high cruise lift

coefficients and high aspect ratios, these wings could be smaller and more fuel efficient than currently used wings if take-off and landing requirements could be met.

The present investigation was conducted to determine the low-speed performance characteristics of a representative high-aspect-ratio supercritical wing equipped with a conventionally sized high-lift flap system. The model tested was a 3.66-m (12.0-ft) span model of an advanced long-range wide-body jet transport with cruise wing and fuselage dimensions similar to those of the NASA SCW-2a supercritical wing tested in the Langley 8-foot transonic pressure tunnel and reported in references 1 and 2. This wing had an aspect ratio of 12, a 27^{o} quarter-chord sweep, and streamwise supercritical airfoil sections that varied in maximum thickness-chord ratio from approximately 0.15 at the wing root to 0.10 at the tip.

The high-lift flap system consisted of a part-span double-slotted trailing-edge flap and a full-span leading-edge slat. The trailing-edge flap consisted of a large vane and small aft flap combination, as opposed to the more conventionally used small vane and large flap combinations. Vane-flap combinations similar to the combination used on this model have recently been under development by several aircraft manufacturers and have achieved maximum two-dimensional lift coefficients approaching those of more complex triple-slotted flap combinations. The model was also equipped with inboard high-speed ailerons, outboard low-speed ailerons, two wing-mounted flow-through nacelles, landing gear, movable horizontal tails, and interchangeable wing tips with aspect ratios of 10 and 12.

The model was tested in the Langley V/STOL tunnel with wing leading-edge slat and trailing-edge flap combinations representative of cruise, climb, take-off, and landing wing configurations. The model was instrumented with a six-component strain-gage balance to measure aerodynamic forces and moments and with chordwise pressure taps at three spanwise stations to determine representative wing and flap loads. The pressure data obtained from this investigation are presented in graphic and tabular form in references 3 and 4. This report presents and discusses the static longitudinal and lateral-directional aerodynamic data obtained during this investigation.

SYMBOLS AND ABBREVIATIONS

The longitudinal forces and moments presented in this report are referenced to the stability-axis system and the lateral forces and moments to the body-axis system. The moment data are referred to a moment center located in the model plane of symmetry at a point 50.14 cm (19.74 in.) longitudinally aft of the wing leading edge and 6.60 cm (2.60 in.) vertically below the wing reference plane. The longitudinal location of the moment center corresponds to the quarter-chord point location of the mean geometric chord of the aspect-ratio-12 wing. The aerodynamic coefficient data for the aspect-ratio-12 wing configurations are based on a wing reference area of 1.11 m^2 (12 ft^2) and a reference span of 3.66 m (12.0 ft), and the coefficient data for the aspect-ratio-10 wing configurations are based on a wing reference area of 1.04 m^2 (11.21 ft^2) and a refer-

ence span of 3.23 m (10.59 ft). These reference wing areas are based on the trapezoidal planform which extends from the model center line to the wing tip. The aspect-ratio-12 wing had a mean geometric chord of 33.02 cm (13.00 in.) and the aspect-ratio-10 wing, 34.90 cm (13.74 in.); however, an approximate average value of 34.04 cm (13.40 in.) was used as the reference mean geometric chord for both the aspect-ratio-10 and aspect-ratio-12 wing configurations. This average value also corresponded to the value of the local wing chord at the wing trailing-edge break station.

All measurements and calculations were made in the U.S. Customary Units. Values presented herein are given in the International System of Units (SI), with the equivalent values in U.S. Customary Units given parenthetically.

A aspect ratio, $\frac{b^2}{S}$

b wing span, m (ft)

c local streamwise wing chord, cm (in.)

$\bar{c}$ reference mean geometric chord, cm (in.)

C_D drag coefficient, $\frac{\text{Drag}}{qS}$ (CD in computer-generated tables)

C_L lift coefficient, $\frac{\text{Lift}}{qS}$ (CL in computer-generated tables)

C_l rolling-moment coefficient, $\frac{\text{Rolling moment}}{qSb}$ (CRM in computer-generated tables

C_{l_β} effective dihedral parameter based on increment of C_l between $\beta = -10^\circ$ and 5°; $\frac{\partial C_l}{\partial \beta}$; 1/deg

C_m pitching-moment coefficient, $\frac{\text{Pitching moment}}{qS\bar{c}}$ (CPM in computer-generated tables)

C_n yawing-moment coefficient, $\frac{\text{Yawing moment}}{qSb}$ (CYM in computer-generated tables)

C_{n_β} directional stability parameter based on increment of C_n between $\beta = -10^\circ$ and 5°; $\frac{\partial C_n}{\partial \beta}$; 1/deg

C_Y side-force coefficient, $\frac{\text{Side force}}{qS}$ (CSF in computer-generated tables)

C_{Y_β} side-force parameter based on increment of C_Y between $\beta = -10^\circ$ and 5°; $\frac{\partial C_Y}{\partial \beta}$; 1/deg

$\frac{\partial C_m}{\partial C_L}$ longitudinal stability parameter (CMCL in computer-generated tables)

i_t incidence of horizontal tail, positive for leading edge up, deg (ISUBT in computer-generated tables)

L/D lift-drag ratio (L/D in computer-generated tables)

L.E. leading edge

M free-stream Mach number (MACH in computer-generated tables)

q free-stream dynamic pressure, kPa (lb/ft^2) (Q in computer-generated tables)

$R_{\bar{c}}$ free-stream Reynolds number based on $\bar{c}$

S wing reference area, m^2 (ft^2)

T.E. trailing edge

t/c wing thickness-chord ratio

α angle of attack of model reference center line, positive nose up, deg (ALPHA in computer-generated tables)

β angle of sideslip of model reference center line, positive nose left, deg (BETA in computer-generated tables)

δ_a aileron deflection angle, positive for trailing edge down, deg

δ_f flap deflection angle, positive for trailing edge down, deg

δ_s slat deflection angle, positive for trailing edge down, deg

δ_{sp} spoiler deflection angle, positive for trailing edge up, deg

δ_v vane deflection angle, positive for trailing edge down, deg

ε downwash angle at horizontal tail, deg

η nondimensional wing semispan location

Subscripts:

corr corrected

ℓ left

max maximum

r right

Abbreviation:

W.R.P. wing reference plane

MODEL DESCRIPTION

The model tested during this investigation had a 3.66-m (12.0-ft) span and was representative of an advanced long-range wide-body jet transport with cruise wing and fuselage dimensions scaled from those of the NASA SCW-2a high-aspect-ratio supercritical model developed at the NASA Langley Research Center and reported in reference 1. The wing on this model was equipped with conventionally sized low- and high-speed ailerons, full-span leading-edge slat, and part-span double-slotted trailing-edge flaps. A drawing showing the overall model components is presented in figure 1(a), and a detailed wing planform layout of the control and flap surfaces in figure 1(b). Photographs of the model installed in the Langley V/STOL tunnel are shown in figure 2. The pertinent model geometric characteristics are summarized in table I. Detailed wing and flap component surface coordinates are given in reference 3.

The model was fabricated with aluminum wings and glass fiber fuselage and empennage for minimal deflections at the design conditions of a maximum tunnel dynamic pressure of 2.87 kPa (60.0 lb/ft^2) and a maximum wing lift coefficient of 3.0. The empennage consisted of movable horizontal tails without elevators and a fixed vertical fin without a rudder. The horizontal tails were mounted to the model with a geared, pivoting bracket that allowed for incidence angles from -15° to 15° in 5° increments. The model was also equipped with two wing-mounted, flow-through nacelles with scaled external dimensions similar to those of a typical high-bypass-ratio (approximately 6) turbofan engine used on current wide-body jets. A third tail-mounted nacelle was not simulated on this model because of the expected minimal influence this nacelle would have on the performance of the flap system. The model was also equipped with simulated landing gear and doors attached to the wing and fuselage underside near the nose. The wheel-well cavities were not simulated on this model.

The basic cruise wing was designed with an aspect-ratio-12 trapezoidal planform which extended from the model center line to the wing tip and had 27° quarter-chord sweep. The wing had an inboard trailing-edge extension that started at the $\eta = 0.383$ wing semispan station and increased the chord at the center line by 40 percent. The wing was fabricated with a removable tip section which could be easily replaced with a shorter tip to produce an aspect-ratio-10 wing planform. The aspect-ratio-12 wing had streamwise supercritical-wing sections with maximum thickness-chord ratios of 0.144 at the side-of-body semispan location ($\eta = 0.096$), 0.12 at the trailing-edge break station ($\eta = 0.383$), and 0.10 at the wing tip ($\eta = 1.0$). The wing was mounted to the fuselage with 5° dihedral and -1° of incidence at the wing root.

The wing was fabricated with removable leading- and trailing-edge segments. The cruise wing segments could be removed easily and replaced with a leading-edge slat and trailing-edge flap/aileron segments. The trailing-edge flap and low- and high-speed aileron surface areas were sized and positioned spanwise for the aspect-ratio-10 wing based on a comparative analysis of several existing designs for lower aspect-ratio-6 to aspect-ratio-8 transport wings. The aspect-ratio-12 flap system was obtained by simply extending the outboard leading-edge slat and the outboard low-speed aileron segments. Four wing configurations were possible with either the aspect-ratio-10 or aspect-ratio-12 tips. These configurations were: (1) cruise, with slat, vane, and flap nested; (2) climb, with slat deflected -50° and vane and flap nested; (3) take-off, with slat deflected -50° and vane and flap deflected 15°; and (4) landing, with slat deflected -50° and vane and flap deflected 30°. The aspect-ratio-10 wing configurations were used during a majority of the tests because the flap and aileron surface areas were better proportioned than the corresponding areas for the aspect-ratio-12 wing.

Control and Flap Systems

The trailing-edge flap was a part-span inboard and outboard double-slotted flap that consisted of an advanced design large vane and small aft flap combination as compared with the more conventionally used small vane and large aft flap combinations. Advanced designs similar to this combination have recently been under development by several aircraft manufacturers and have experimentally achieved maximum two-dimensional lift coefficients approaching those achieved by the more complex triple-slotted flap systems. The structural loads produced by this flap combination are less severe than those of the conventional combinations because a greater percentage of the total vane/flap loads are generated by the more closely coupled large vane component.

The flap segments were equipped with spoilers that could be deflected to either 45° or 60°, which are primarily ground-spoiler and speed-brake deflections. A simple hinged, high-speed aileron segment was positioned outboard of the break station, and two simple hinged, low-speed aileron segments were positioned outboard of the outboard flap segment. The high-speed aileron could be deflected from 30° to -50°, and the low-speed ailerons from 30° to -30°.

Slat and Flap Settings

The slat, vane, and flap components were set at deflections representative of either climb, take-off, or landing wing configurations, and the corresponding gaps and overlaps were then optimized for maximum lift using the theoretical two-dimensional, multicomponent airfoil analysis program described in reference 5. A sketch of the deflection, gap, and overlap definition employed during this investigation is presented in figure 3. The deflections and overlaps are defined relative to the longest chord of the particular components. The longest chord is defined as the distance from the midpoint of the trailing-edge base of the component to the forward-most leading-edge coordinate. The overlap is defined as the distance from the lower surface trailing-edge coordinate of the forward component along its longest chord to a point at which a perpendicular dropped from that chord intersects the forward-most coordinate on the leading edge of the aft component. The gap is defined as the shortest distance from the lower surface trailing-edge coordinate of the forward component to the upper surface of the aft component.

The component geometries of the flapped wing section at the trailing-edge break station were used to perform the theoretical two-dimensional gap and overlap optimizations. The results of the optimization are summarized in table II. These two-dimensional deflections, gaps, and overlaps were incorporated into the actual three-dimensional wing using positioning jigs located at the edges of the leading-edge slat and trailing-edge flap segments. The gaps and overlaps of the inboard flap segment were set at constant values along its span and were based on the local cruise wing chord at the trailing-edge break station. The gaps and overlaps of the outboard flap segment were set at constant percentage values based on the local chord. The gap and overlap of the leading-edge slat were set at constant percentage values based on the local chord of the wing without the trailing-edge extension (trapezoidal planform). The leading-edge slat brackets were attached in planes perpendicular to the wing leading edge, and the trailing-edge flap brackets were attached in planes parallel to the model symmetry plane. No attempts were made to account for the deflection of either the slat or flap brackets under aerodynamic loading.

Wing Pressure Taps

The pressure data obtained during this investigation are presented in both graphic and tabular form in references 3 and 4. The wing was instrumented with chordwise rows of surface static-pressure taps at three spanwise stations labeled A, B, and C, as illustrated in figure 4(a). Stations A and B had 71 pressure taps each, and station C had 48 taps, for a total of 190 taps. Several component combinations were possible at each station and are identified in table III and illustrated in figure 4(b). All combinations shown in figure 4(b) were possible at stations A and B; however, only combinations using components A, E, and F were possible at station C.

TESTS AND CORRECTIONS

The tests were conducted in the Langley V/STOL wind tunnel, which has a test section of 4.42 m (14.50 ft) by 6.63 m (21.75 ft). The wind-tunnel tests were conducted at free-stream dynamic pressures from 0.96 to 2.87 kPa (20.0 to 60.0 lb/ft^2), with corresponding Reynolds numbers of 0.97 to 1.63×10^6 based on the reference mean geometric chord of 34.04 cm (13.4 in.), and with corresponding Mach numbers of 0.12 to 0.20. The model was tested through an angle-of-attack range of -2^o to 24^o and a sideslip-angle range of -10^o to 5^o. All tests were conducted with the model positioned near the tunnel center line to simulate out-of-ground effects.

The aerodynamic forces and moments were measured by a six-component strain-gage balance mounted inside the fuselage such that the model and balance moment centers were coincident along the model center line. The angle of attack was set by the pitch drive of the model support system and measured by an electronic inclinometer mounted inside the forward portion of the fuselage. The sideslip angle was set by the yaw drive of the model support system and measured by an electronic counter mounted to the yaw-drive gearing system. The wing surface static pressures were measured by either 17.24 or 34.47 kPa (2.5 or 5.0 lb/in^2) differential pressure transducers and six 48-port scanning valves. Fuselage chamber and base pressures were measured by 6.89 kPa (1.0 lb/in^2) differential pressure transducers.

Boundary-layer transition strips were located 2.54 cm (1.0 in.) normal to the leading edge on both upper and lower surfaces of the cruise wing, horizontal and vertical tails, and outer surfaces of the flow-through nacelles. The transition roughness was sized according to reference 6 and required a commercial No. 60 abrasive grit sparsely applied.

Wind-tunnel jet-boundary corrections were determined according to reference 7 and were applied to the force and moment data. These corrections were applied as follows:

$$C_{D,corr} = C_D + J_1 (C_L)^2$$

$$C_{m,corr} = C_m + J_3 C_L \quad \text{(for tail-on data)}$$

$$\alpha_{corr} = \alpha + J_2 C_L$$

where $J_1 = 0.0045$, $J_2 = 0.2581$, and $J_3 = 0.011$. Wing, body, and wake solid-blockage corrections were also applied to the data and were determined according to reference 8. Drag corrections due to model chamber and base pressures referenced to free-stream static pressure were also applied to the data. No corrections were made to the data due to tunnel flow angularity because no provisions were made to test the model in the inverted position.

PRESENTATION OF RESULTS

The possible test variables and wing configuration combinations were quite numerous for this high-lift research model. Only combinations representative of the more significant configurations were tested during this investigation. The particular longitudinal and lateral-directional test variables and wing-configuration combinations tested are presented in the following table:

Test variable	Figure index for wing configurations of -						
	Cruise		Climb	Take-off		Landing	
	A = 10	A = 12	A = 10	A = 10	A = 12	A = 10	A = 12
Longitudinal data:							
Reynolds number	5(a)	5(b)	6	7(a), 7(b)	7(c)	8(a), 8(b)	8(c)
Horizontal-tail deflection (summary, fig. 13)	9	-----	10	11(a), 11(b)	11(c), 11(d)	12(a), 12(b)	12(c), 12(d)
Leading-edge slat deflected/nested	-----	-----	14	14	-----	14	-----
Aspect ratio	15(a)	15(a)	---	15	15	15	15
Ailerons deflected to increase flap span	-----	-----	---	16(a)	16(b)	16(c)	16(d)
Spoiler deflection	-----	-----	---	-----	-----	17	-----
Nacelles on/off	18(a)	-----	---	-----	-----	18(b)	-----
Landing gear on/off	-----	-----	---	-----	-----	19	-----
Transition strips on/off	20	-----	---	-----	-----	-----	-----
Lateral data:							
Sideslip angle	21(a) to 21(d)	21(e), 21(f)	22	23	-----	24	-----
High-speed aileron deflection	25	-----	---	-----	-----	-----	-----
Low-speed aileron deflection	-----	-----	---	26	-----	27	-----
Combined high- and low-speed aileron deflection (summary, fig. 29)	-----	-----	---	-----	-----	28	-----

Unless otherwise stated on the figure, the nacelles and horizontal tails ($i_t = 0^o$) were on for all four wing configurations tested. In addition, unless otherwise stated, the gear was off for the cruise, climb, and take-off wing configurations, and it was on for the landing wing configurations. Listed on each figure are the run numbers corresponding to the data plotted. The tabulated longitudinal stability-axis and lateral body-axis data for all the runs presented in this report are given in appendix A. The trim longitudinal stability-axis data obtained by interpolation of test data for various horizontal-tail deflections are given in appendix B.

DISCUSSION OF RESULTS

The discussion of the test results is divided into two main sections: (1) the static longitudinal aerodynamic characteristics of the model and (2) the static lateral-directional aerodynamic characteristics.

Longitudinal Characteristics

Untrimmed characteristics.- The experimental data showing the longitudinal aerodynamic characteristics of the cruise, climb, take-off, and

landing wing configurations with the horizontal tails set at 0° are presented in figures 5 to 8, respectively. A summary of the tail-on performance for the aspect-ratio-10 and aspect-ratio-12 wing configurations is also presented in figure 15(a).

As shown in figure 5, the aspect-ratio-10 cruise wing had a maximum C_L of approximately 1.5, and the aspect-ratio-12 cruise wing with nacelles removed had approximately 1.4. This 0.1 loss of C_L for the aspect-ratio-12 cruise wing can be attributed to the fact that the nacelles had been removed. Both cruise wing configurations were longitudinally stable for angles of attack from -2° to approximately 10°, and longitudinally unstable from 10° to approximately 16°. After 16° angle of attack, both wing configurations were again longitudinally stable. In general, the usable C_L range for transport aircraft is limited by the angle of attack corresponding to neutral longitudinal stability $\left(\frac{\partial C_m}{\partial C_L} \approx 0\right)$. The angle of attack corresponding to neutral stability for the cruise wing configurations tested during this investigation occurred approximately 2° prior to the angle of attack corresponding to maximum C_L. A more desirable characteristic would be for the angle of attack corresponding to neutral stability to occur after the maximum C_L is obtained.

Analysis of the wing pressure data (ref. 3) showed that, at the angle of attack corresponding to maximum C_L conditions (stall angle), the flow had separated near the wing tip and the flow separation progressed inboard toward the wing-body juncture as the angle of attack was increased. This tip stall behavior caused an increase in the percent of the total wing load carried inboard forward of the geometric moment center, thereby producing unstable behavior. This type of unstable behavior could possibly be reduced or eliminated and the wing maximum C_L increased by drooping the wing leading edge near the wing tips to prevent separation. At the design flight conditions ($M = 0.80$), however, this additional leading-edge droop could possibly cause the formation of outboard shocks, with a corresponding reduction in the drag-rise Mach number.

During the climb segment of the flight profile of many current wide-body transports, C_L generally ranges from 0.8 to 1.2 and requires relatively high L/D to meet the engine-out rate-of-climb performance requirements. These performance requirements can be obtained by deploying some type of leading-edge device to alter the effective chordwise camber and spanwise twist distribution of the wing for more optimum performance at higher C_L. The climb configuration for this model was obtained by deflecting a 15.5-percent chord leading-edge slat a constant -50° along the wing span. As shown in figure 6, deploying the leading-edge slat increased the attainable maximum C_L from 1.5 to 2.1 and, compared to the cruise wing configuration, greatly reduced the unstable behavior of the model. Although the pitching-moment data do not show a definite neutral stability point, a slight decrease in the longitudinal stability is indicated between 12° to 16° angle of attack. Analysis of the wing pressure data showed that the climb wing configuration had the same type of tip stall behavior as that exhibited by the cruise wing. This tip stall behavior was due to the fact that the slat was deflected a constant -50°, which essentially produced a constant spanwise camber and twist change. A more desirable stall

behavior could possibly be obtained if the spanwise slat deflections can be tailored such that the flow initially separates near the wing-body juncture and moves outboard as the angle of attack is increased. However, few analytical or design methods are currently available to tailor the spanwise slat deflections; therefore, experimental investigations remain the only reliable method.

The take-off configuration for this model was obtained by deploying the slat a constant -50° and by deploying the double-slotted, trailing-edge flaps so that the vane was deflected 15° relative to the main and the flap was deflected 15° relative to the vane. Likewise, the landing configuration was obtained by deflecting the vane and flap 30°. As shown in figure 7, both the aspect-ratio-10 and aspect-ratio-12 take-off wing configurations had a maximum C_L of approximately 2.5. As shown in figure 8, the aspect-ratio-10 landing wing had a maximum C_L of approximately 2.9, and the aspect-ratio-12 had a maximum C_L of 2.8. Both the aspect-ratio-10 and aspect-ratio-12 take-off and landing wing configurations had slightly unstable longitudinal characteristics after an angle of attack of approximately 16° which is approximately 3° prior to the angle of attack for maximum C_L. Analysis of the wing pressure data presented in reference 3 for both wing configurations showed that the flow separated initially near the wing tips at about the same angle of attack as that corresponding to angle for maximum C_L. This was the same type stall behavior exhibited by the cruise and climb wings.

Analysis of the lateral data for both the take-off and landing wing configurations showed a large increase in rolling moment at about the same angles of attack as those corresponding to neutral longitudinal stability, which indicated asymmetry of the vane and flap positioning. A thorough check of the vane and flap positioning after the tests were completed revealed a 0.6-cm (0.25-in.) lateral displacement of the left wing inboard flap system. By correcting the lateral displacement of this flap segment, it is expected that the unstable behavior of the take-off and landing wing configurations may be reduced but not necessarily eliminated and that the maximum C_L may also be increased. Therefore, the maximum untrimmed and trimmed C_L obtained for the take-off and landing wing configurations tested during this investigation is probably conservative.

Effect of Reynolds number.- The effect of a small change in Reynolds number on the longitudinal aerodynamic characteristics of the cruise, climb, take-off, and landing wing configurations is presented in figures 5 to 8, respectively. In addition, presented in figures 7(b) and 8(b) are the effects of Reynolds number on the performance of the aspect-ratio-10 take-off and landing wing configurations with the leading-edge slat nested. The Reynolds number variation was small and ranged in value from 0.97 to 1.63×10^6, based on the reference mean geometric chord. This small variation in Reynolds number had the expected negligible effects on the aerodynamic characteristics of the wing configurations tested for angles of attack below the stall angle. Larger variations are shown in the data for angles of attack above the stall angle and are believed to be due primarily to the large dynamic oscillations of this rather flexible large-span model mounted on the highly cantilevered model support system. Higher maximum C_L and improved longitudinal stability characteristics are expected by increasing the Reynolds number to values ranging from 4.5 to 6.0×10^6.

Trimmed characteristics.- The effect of horizontal-tail deflection on the longitudinal aerodynamic characteristics of the cruise, climb, take-off, and landing wing configurations is presented in figures 9 to 12, respectively. The longitudinal trim characteristics ($C_m = 0$) are also presented for each configuration and were determined by interpolating the experimental data curves to obtain data at incremental tail incidences. The maximum trim C_L is defined as the highest value of C_L obtained prior to neutral stability of the model. A summary of the trim performance for the wing configurations tested is presented in figure 13(a). The tail-off and tail-on performance data presented in figures 9 to 12 were used to determine the tail downwash angles presented in figure 13(b). The tail downwash angle at a given model angle of attack is defined as the angle where the tail-on pitching moment equals the tail-off pitching moment (i.e., the tail is at zero lift for a symmetric tail).

The aspect-ratio-10 cruise wing had a maximum trimmed L/D of 16.24 at a C_L of 0.78 and a maximum trimmed C_L of 1.23. The aspect-ratio-10 climb wing had a maximum trimmed L/D of 11.03 at a C_L of 1.08 and a maximum trimmed C_L of 1.93. The aspect-ratio-10 take-off and landing wing configurations had maximum trimmed L/D values of 9.82 and 7.00 and maximum trimmed C_L values of 2.29 and 2.47, respectively. The values of the longitudinal stability parameter $\partial C_m/\partial C_L$ are tabulated in appendix B and range in value from -0.10 to -0.20 over the lower angle-of-attack range for the aspect-ratio-10 wing configurations. This range of values may seem to be high; however, they are typical for this type of wide-body transport which generally requires that stability be maintained over a wide range of center-of-gravity locations.

The aspect-ratio-12 take-off and landing wing configurations had maximum trimmed L/D values of 10.17 and 7.30 and maximum trimmed C_L values of 2.29 and 2.52, respectively. These maximum C_L values were almost identical to those obtained for the corresponding aspect-ratio-10 take-off and landing wing configurations. It was expected that the maximum C_L values for the aspect-ratio-12 configuration would be slightly lower than those for the aspect-ratio-10 configuration since (1) both aspect-ratio wings had the same physical flap systems (lower flap-to-wing span ratios); and (2) higher negative tail loads were required to trim the higher aspect-ratio wings. However, one possible explanation for the slightly higher maximum C_L values for the aspect-ratio-12 wings could be due to the fact that the reduced flap-to-wing span ratio unloaded the wing-tip sections, thereby increasing the angle of attack for neutral longitudinal stability by about 2°. The trimmed data also showed a slight increase in L/D at a given C_L as the aspect ratio was increased from 10 to 12. The actual improvement obtained was smaller than expected and was probably due to the fact that the higher aspect-ratio wings required higher tail loads to trim, which resulted, therefore, in higher trim drag penalties. Theoretically, a larger increase in L/D was expected than actually obtained because the drag contribution due to the flaps was the same for both aspect-ratio wings, and the induced drag was lower for the higher aspect-ratio-12 wings. The overall improvement in trimmed performance as a result of increasing the aspect ratio from 10 to 12 is considered to be negligible for the take-off and landing wing configurations tested.

The trim data for the aspect-ratio-10 climb, take-off, and landing wing configurations showed that as flap deflection was increased, less tail-down load was required to trim the model at the same C_L. This result indicates that a larger percentage of the total wing load was shifted inboard and forward of the moment center as the flap deflection was increased.

Effect of leading-edge slat.- The effects of the leading-edge slat deflection on the longitudinal aerodynamic characteristics of the aspect-ratio-10 wing configurations with the horizontal tails on and off are presented in figure 14. These data show the tremendous effects of deflecting the leading-edge slat on the maximum C_L capability of the climb, take-off, and landing wing configurations. Deflecting the slat resulted in an approximate 40 percent increase in maximum C_L and an approximate 2^o increase in the angle of attack needed to obtain the same C_L. As expected, the maximum C_L and angle-of-attack increments were almost identical with either the horizontal tails on or off.

Effect of aspect ratio.- The effects of increased aspect ratio on the untrimmed longitudinal aerodynamic characteristics of the cruise, take-off, and landing wing configurations with the horizontal tails on are presented in figure 15(a), and with the horizontal tails off in figure 15(b). These data, like the trimmed performance data presented in figure 13(a), show the negligible effects of increasing the aspect ratio from 10 to 12. As previously discussed, these negligible effects were primarily due to the fact that the aspect ratio was increased by extending the tip, which resulted in a reduction in the flap-to-wing-span ratio.

Effects of deflecting ailerons to increase flap span.- The effects of deflecting the high- and low-speed ailerons to increase the maximum C_L capabilities of the aspect-ratio-10 and aspect-ratio-12 take-off and landing wing configurations are presented in figure 16. For the take-off configuration, the high- and low-speed ailerons were both deflected 5^o so as to visually best match the aileron surface contours with those of their adjacent deflected vane/flap components. For the landing configurations, the high-speed aileron was deflected 18^o and the low-speed aileron 17^o. The data presented in figure 16 show incremental C_L improvements generally less then 0.1 for both the aspect-ratio-10 and aspect-ratio-12 wing configurations. Negligible improvements in maximum C_L were demonstrated except for the aspect-ratio-10 take-off configuration, which showed an unexpected 0.3 increase.

The data also showed a slight negative shift in C_m, with essentially no change in the angles of attack for model neutral stability. This indicated that increased horizontal-tail down loads will be required to trim the model; these down loads will, in turn, probably offset any improvements obtained in C_L. However, the data do show the beneficial effect of the reduction in C_D at constant C_L as a result of deflecting the ailerons. This beneficial effect can primarily be attributed to an expected reduction in wing induced drag as a result of the improved smoothness of the spanwise load distribution. However, it is also possible that this beneficial improvement in C_D would be offset by the increase in trim drag as a result of the increase in tail loads required to trim the model.

Effect of spoiler deflection.- The effects of inboard and outboard spoiler deflection on the longitudinal aerodynamic characteristics of the aspect-ratio-10 landing wing configuration are presented in figure 17. The spoilers were deflected either 45° or 60°, both of which are primarily ground, and not flight, spoiler deflections. The tests were performed out of ground effects; however, similar spoiler performance trends are expected in ground effects. The data generally show that the largest C_L loss occurred during the initial 45° of spoiler deflection and that a rather small C_L loss of 0.1 was obtained by increasing the deflection to 60°. Deflecting the inboard spoilers 45° resulted in an approximate C_L loss of 0.6 at a given angle of attack and a corresponding shift of -0.25 in C_m. This negative shift in C_m was expected because spoiling the lift inboard moves a larger percentage of the total wing load aft of the model moment center. Deflecting the outboard spoilers 45° results in an approximate C_L loss of 0.45 at a given angle of attack and a corresponding +0.40 shift in C_m. Here again, this positive shift in C_m was expected because spoiling the lift outboard moves a larger percentage of the total wing load forward of the model moment center. Deflecting the inboard spoilers 60° and the outboard spoilers 45° had the expected additive effects and resulted in an approximate C_L loss of 1.2 at a given angle of attack and a corresponding slight positive shift in C_m. Deflecting the spoilers also results in the expected large increase in C_D at a given value of C_L.

Effect of nacelles.- The effects of the nacelles on the longitudinal aerodynamic characteristics of the aspect-ratio-10 cruise and landing wing configurations are presented in figure 18. These data show that removing the nacelles resulted in an approximate 0.1 reduction in untrimmed maximum C_L for the cruise wing configuration and essentially no change in maximum C_L for the landing wing configuration. The data also generally show a slight reduction in C_D and a slight positive shift in C_m at angles of attack below stall. At angles of attack past stall, the trends are less definitive due to the flexibility of the model and its support system. It is not uncommon that removing nacelles causes a decrease in the maximum C_L because the nacelles themselves produce a lift increment, and they also increase the local wing loads due to an increase in the local induced angles of attack.

Effect of landing gear.- The effect of the landing gear on the longitudinal aerodynamic characteristics of the aspect-ratio-10 landing wing configuration is presented in figure 19. These data show that at a given angle of attack, adding the landing gear resulted in an approximate C_L loss of 0.06 and a slight positive shift in C_D and C_m. These C_L losses were expected due to the interaction of the low-energy wakes generated by the gear with the high-energy flow through the main/vane and vane/flap slots. In general, this interaction reduces the energy of the flow through the slots and thereby reduces the lift increment generated by the inboard flap system.

Effect of transition strips.- The effect of removing the leading-edge boundary-layer transition strips on the longitudinal aerodynamic characteristics of the aspect-ratio-10 cruise wing is presented in figure 20. Data are presented for a Reynolds number of 0.97 and 1.63×10^6 and show that removing the transition grit strips had no discernible effect on the cruise wing performance. This result was expected due to the fact that, after removing the transition

grit, natural transition probably occurred slightly aft of the grit location because of the peakedness of the wing leading-edge pressures at these low subsonic Mach numbers.

Lateral-Directional Characteristics

Effect of sideslip angle.- The effects of sideslip angle on the lateral-directional aerodynamic characteristics of the aspect-ratio-10 cruise, climb, take-off, and landing wing configurations are presented in figures 21 to 24. Data for the aspect-ratio-12 cruise wing configuration are also presented in figures 21(e) and 21(f). The static lateral-directional stability derivatives are presented for each configuration for angles of attack below stall and were computed from the lateral body-axis data obtained at sideslip angles from -10° to 5°. The horizontal and vertical tails were on for all configurations tested. The cruise wing configurations had a geometric dihedral of 5°, and the horizontal tails had a geometric dihedral of 10°; the geometric dihedral produced the expected stable lateral-directional characteristics.

The values for the lateral-directional stability parameters for the aspect-ratio-10 and aspect-ratio-12 cruise wing configurations were almost identical. Addition of the nacelles to the aspect-ratio-10 cruise wing caused an approximate -0.0075 negative shift in the side-force stability parameter C_{Y_β}. This beneficial negative shift is believed to be primarily due to the vertical-fin effects of the nacelle-pylon assemblies.

The aspect-ratio-10 climb wing configuration had less lateral stability than the cruise wing configuration. The effective dihedral parameter C_{l_β} showed an approximate 0.001 positive shift, and the side-force parameter C_{Y_β}, an approximate 0.005 positive shift. This reduction in lateral stability is believed to be primarily due to a decrease in geometric dihedral which was caused by deflecting the leading-edge slats spanwise at a constant angle.

The aspect-ratio-10 take-off and landing wing configurations had almost identical lateral-directional stability at the same C_L, and both were more stable than the climb wing configurations. It was expected that the landing wing would have slightly less lateral stability than the take-off wing due to the inboard shift in wing loading as the flap deflection was increased. The directional-stability parameter C_{n_β} which is governed primarily by the vertical tail area and location, ranged in value from 0.002 to 0.004, which is typical for this type of wide-body transport.

Effect of aileron deflection.- The effects of high-speed aileron deflection on the lateral aerodynamic characteristics of the aspect-ratio-10 cruise wing configuration are presented in figure 25. Plots of rolling-moment coefficient C_l versus aileron deflection δ_a are also presented. (Summary plots of C_l versus δ_a, which show the effects of high- and low-speed aileron deflections for all the configurations tested, are presented in fig. 29.) The data for high-speed left-aileron-only deflections show that negative deflections

(trailing edge up) produced approximately twice the C_l as that produced by positive deflections. Differential deflections of the right and left ailerons produced the expected results obtained by adding the absolute values for positive and negative left-aileron-only deflections.

The effects of the low-speed aileron deflections on the lateral aerodynamic characteristics of the aspect-ratio-10 take-off and landing wing configurations are presented in figures 26 and 27, respectively. These data show that negative left-aileron-only deflections produced approximately twice the C_l as positive deflections for the take-off configuration and nearly four times as much for the landing configuration. Negative left-aileron-only deflections produced more negative C_l for the landing than for the take-off wing configuration. Unexpectedly, however, positive deflections produced less positive C_l for the landing than for the take-off configuration. Differential deflections of the right and left ailerons also produced the expected additive results.

The effects of combined high- and low-speed aileron deflections on the lateral aerodynamic characteristics of the landing wing configurations are presented in figure 28. Here again these data show the expected results obtained by adding the values of C_l produced by deflecting separately the high- and low-speed ailerons. None of the data presented for the various configuration and aileron combinations tested shows significant effects on the lateral aerodynamic coefficients other than C_l.

SUMMARY OF RESULTS

An investigation was conducted in the Langley V/STOL tunnel to determine the static longitudinal and lateral aerodynamic characteristics of an advanced high-aspect-ratio supercritical wing transport model equipped with a full-span leading-edge slat and part-span double-slotted trailing-edge flaps. This wide-body transport model was also equipped with spoiler and aileron control surfaces, flow-through nacelles, landing gear, movable horizontal tails, and interchangeable aspect-ratio-10 and aspect-ratio-12 wing tips. The results of this investigation are summarized as follows:

1. For the aspect-ratio-10 configurations, the cruise wing had a maximum trimmed lift coefficient of 1.23 and a lift-drag ratio of 16.24; the climb wing, a lift coefficient of 1.93 and a lift-drag ratio of 11.03; the take-off wing, a lift coefficient of 2.29 and a lift-drag ratio of 9.82; and the landing wing, a lift coefficient of 2.47 and a lift-drag ratio of 7.00. Although the aspect-ratio-12 take-off and landing wing configurations had only slightly higher maximum lift-coefficient and lift-drag values than those for the aspect-ratio-10 wings, the increase in aspect ratio produced negligible improvements in overall performance.

2. All the aspect-ratio-10 and aspect-ratio-12 configurations tested exhibited wing-tip stall behavior, followed by mildly unstable longitudinal stability.

3. Removing the nacelles resulted in an approximate 0.1 reduction in maximum lift coefficient for the aspect-ratio-10 cruise wing configuration and essentially no change in maximum lift coefficient for the landing configuration.

4. Deflecting the leading-edge slats results in an approximate 40-percent increase in the maximum lift coefficients obtained for the aspect-ratio-10 climb, take-off, and landing wing configurations.

5. Adding the landing gear to the aspect-ratio-10 landing wing configuration resulted in an approximate loss in lift coefficient of 0.06 and a slight positive shift in drag coefficient and pitching moment.

6. Deflecting the inboard spoiler 60° and the outboard spoilers 45° resulted in an approximate lift coefficient loss of 1.2 for the aspect-ratio-10 landing wing configuration.

7. For the aspect-ratio-10 wing configurations, the climb wing had less lateral-directional stability than the cruise wing, and the take-off and landing wings had almost identical stability at the same lift coefficient. The take-off and landing wings also had greater lateral-directional stability than the cruise wing.

8. For the aspect-ratio-10 configurations, negative deflections of the high- and/or low-speed ailerons produced approximately twice the rolling moment as positive deflections for the cruise and take-off wing configurations and nearly four times the rolling moment for the landing wing configuration. Positive low-speed aileron deflections produced less rolling moment for the landing wing than for the take-off wing. Differential deflections of the right and left high- and low-speed ailerons produced the expected results obtained by adding the absolute values for positive and negative left-aileron-only deflections.

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APPENDIX A

LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA

The force and moment data, presented graphically in figures 5 to 29, are presented in tabular form in this appendix. The longitudinal data, C_L, C_D, C_m, and L/D (CL, CD, CPM, and L/D, respectively, in tabular form) are referenced to the stability-axis system, and the lateral data C_l, C_n, and C_Y (CRM, CYM, and CSF, respectively, in tabular form) are referenced to the body-axis system. These data were obtained during test 186 conducted in the Langley V/STOL tunnel.

APPENDIX A

RUN NUMBER 1 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.118	.97 (20.17)	.02	.02	.2608	.0243	-.0499	.0003	.0012	-.0084	10.72
.118	.96 (20.12)	-.00	-2.05	.0265	.0245	.0112	-.0003	.0010	-.0081	1.08
.118	.96 (20.14)	-.00	.03	.2574	.0248	-.0532	.0004	.0011	-.0094	10.39
.118	.96 (20.14)	.00	2.09	.4741	.0276	-.1146	.0002	.0009	-.0103	17.17
.118	.96 (20.14)	.00	4.14	.6805	.0339	-.1697	.0002	.0007	-.0101	20.09
.118	.96 (20.14)	.00	6.21	.8734	.0421	-.2195	-.0001	.0004	-.0095	20.73
.118	.96 (20.14)	.01	8.27	1.0607	.0544	-.2621	-.0004	.0000	-.0080	19.49
.118	.96 (20.14)	.01	10.35	1.2193	.0749	-.2860	-.0003	-.0014	-.0058	16.28
.117	.96 (19.97)	.01	12.33	1.1675	.1730	-.1628	.0049	.0014	-.0108	6.75
.118	.97 (20.26)	.01	14.32	1.1304	.2402	-.1184	-.0016	-.0003	-.0080	4.71
.118	.97 (20.27)	.01	16.36	1.1518	.3063	-.2817	-.0053	-.0018	-.0063	3.76
.118	.97 (20.29)	.02	18.34	1.1594	.3617	-.3514	.0022	-.0005	-.0037	3.21
.118	.97 (20.30)	.02	20.35	1.2081	.4281	-.5282	.0016	-.0009	-.0027	2.82
.118	.97 (20.27)	.02	22.41	1.2685	.5022	-.6733	.0011	-.0009	-.0025	2.53
.118	.97 (20.27)	.02	24.41	1.3180	.5769	-.7638	.0004	-.0010	-.0022	2.28

RUN NUMBER 2 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.145	1.45 (30.32)	-.00	.06	.2529	.0251	-.0445	.0006	.0010	-.0120	10.07
.145	1.45 (30.21)	-.00	-2.09	.0107	.0246	.0232	.0003	.0008	-.0042	.44
.145	1.45 (30.21)	-.00	.03	.2511	.0253	-.0410	-.0001	.0012	-.0070	9.91
.145	1.45 (30.21)	.00	2.15	.4935	.0296	-.1051	-.0007	.0010	-.0054	16.65
.145	1.45 (30.21)	.00	4.16	.7055	.0384	-.1602	-.0000	.0008	-.0048	18.40
.145	1.45 (30.21)	.00	6.27	.9164	.0516	-.2125	.0002	.0009	-.0048	17.76
.145	1.45 (30.21)	.01	8.29	1.1166	.0668	-.2578	-.0012	.0000	-.0026	16.71
.145	1.45 (30.21)	.01	10.33	1.2918	.0866	-.2896	-.0005	-.0002	-.0028	14.92
.144	1.44 (30.06)	.03	12.36	1.3223	.1610	-.2227	.0259	.0147	-.0226	8.21
.145	1.45 (30.30)	.02	14.33	1.2510	.2549	-.1402	.0048	.0021	-.0046	4.91
.145	1.46 (30.42)	.01	16.40	1.2717	.3368	-.2843	-.0001	.0003	-.0056	3.78
.145	1.46 (30.46)	.00	18.40	1.3114	.4067	-.4490	-.0097	-.0026	-.0055	3.22
.145	1.46 (30.50)	-.00	20.43	1.3272	.4712	-.5927	-.0101	-.0042	-.0023	2.82
.145	1.46 (30.49)	-.00	22.38	1.3680	.5402	-.7067	-.0089	-.0047	-.0077	2.53
.145	1.45 (30.38)	-.00	24.41	1.4201	.6177	-.7678	-.0071	-.0041	-.0076	2.30

RUN NUMBER 3 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.168	1.93 (40.38)	-.00	-2.05	.0178	.0242	.0229	.0002	.0008	-.0033	.73
.168	1.93 (40.38)	-.00	.01	.2551	.0251	-.0393	.0003	.0010	-.0033	10.15
.168	1.93 (40.37)	.00	4.20	.7137	.0393	-.1589	.0002	.0009	-.0021	18.17
.167	1.93 (40.31)	.01	8.29	1.1283	.0688	-.2590	-.0004	.0006	-.0017	16.41
.168	1.93 (40.35)	.05	12.39	1.3415	.1645	-.2212	.0275	.0153	-.0201	8.15
.168	1.94 (40.42)	.02	16.41	1.3029	.3211	-.1948	.0009	.0009	.0021	4.06
.168	1.94 (40.51)	-.00	20.38	1.3464	.4685	-.5526	-.0069	-.0028	-.0031	2.87
.168	1.95 (40.65)	-.01	24.42	1.4133	.6187	-.7726	-.0069	-.0034	-.0100	2.28

RUN NUMBER 4 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.206	2.90 (60.51)	-.00	-2.06	.0225	.0238	.0262	.0020	.0008	-.0022	.94
.206	2.90 (60.47)	-.00	.01	.2595	.0247	-.0369	.0018	.0011	-.0034	10.50
.206	2.89 (60.40)	.00	4.17	.7175	.0387	-.1571	.0009	.0010	-.0033	18.54
.206	2.89 (60.41)	.00	8.30	1.1375	.0681	-.2600	-.0000	.0008	-.0035	16.70
.206	2.89 (60.39)	.07	12.40	1.3581	.1649	-.2241	.0284	.0156	-.0216	8.24
.206	2.90 (60.57)	.02	16.35	1.3176	.3165	-.1886	.0016	.0010	.0005	4.16

APPENDIX A

RUN NUMBER 5 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.168	1.94 (40.58)	-10.01	.12	.2763	.0099	-.1233	.0290	-.0202	.1501	27.85
.168	1.94 (40.43)	-10.02	-2.05	.0348	.0073	-.0566	.0269	-.0226	.1554	4.73
.168	1.94 (40.42)	-10.01	.08	.2775	.0096	-.1271	.0300	-.0202	.1485	28.94
.168	1.94 (40.42)	-10.00	2.13	.4978	.0151	-.1828	.0321	-.0182	.1440	32.96
.168	1.93 (40.41)	-9.99	4.24	.7216	.0254	-.2431	.0337	-.0172	.1438	28.46
.168	1.93 (40.38)	-9.98	6.30	.9279	.0392	-.3063	.0356	-.0166	.1445	23.67
.168	1.93 (40.38)	-9.97	8.37	1.1322	.0563	-.3626	.0382	-.0160	.1464	20.10
.168	1.93 (40.39)	-9.96	10.37	1.2939	.0797	-.3939	.0403	-.0162	.1468	16.23
.167	1.92 (40.13)	-9.95	12.43	1.4366	.1210	-.3918	.0359	-.0142	.1454	11.87
.167	1.92 (40.02)	-9.96	14.38	1.3159	.2352	-.3536	.0221	-.0173	.1534	5.59
.168	1.93 (40.36)	-9.96	16.38	1.3301	.3155	-.4300	.0203	-.0177	.1605	4.22
.168	1.94 (40.45)	-9.96	18.41	1.3757	.3820	-.5378	.0172	-.0164	.1544	3.60
.168	1.94 (40.61)	-9.96	20.43	1.4024	.4523	-.5994	.0154	-.0125	.1423	3.10
.168	1.95 (40.64)	-9.95	22.42	1.3916	.5333	-.6205	.0188	-.0052	.1113	2.61
.168	1.95 (40.65)	-9.94	24.46	1.4354	.6141	-.7011	.0202	-.0000	.0992	2.34

RUN NUMBER 6 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.30)	-5.00	-2.05	.0225	.0209	.0014	.0128	-.0106	.0704	1.08
.167	1.93 (40.30)	-5.00	.05	.2643	.0215	-.0661	.0153	-.0096	.0688	12.31
.167	1.93 (40.29)	-4.99	2.13	.4960	.0264	-.1272	.0167	-.0083	.0643	18.77
.167	1.93 (40.30)	-4.99	4.22	.7102	.0359	-.1855	.0168	-.0073	.0616	19.78
.167	1.93 (40.25)	-4.98	6.23	.9063	.0492	-.2436	.0173	-.0072	.0621	18.44
.168	1.93 (40.37)	-4.97	8.30	1.1236	.0640	-.3037	.0199	-.0079	.0668	17.56
.168	1.93 (40.38)	-4.97	10.38	1.3007	.0839	-.3431	.0210	-.0085	.0696	15.50
.168	1.94 (40.42)	-4.94	12.39	1.3552	.1559	-.2890	.0393	.0037	.0531	8.69
.167	1.92 (40.14)	-4.96	14.35	1.2871	.2445	-.2255	.0135	-.0091	.0747	5.26
.167	1.92 (40.04)	-4.97	16.37	1.3124	.3101	-.3148	.0075	-.0107	.0791	4.23
.167	1.92 (40.01)	-4.97	18.38	1.3300	.3970	-.4577	.0063	-.0115	.0712	3.35
.168	1.95 (40.66)	-4.98	20.40	1.3551	.4656	-.6511	.0008	-.0136	.0680	2.91
.168	1.94 (40.54)	-4.99	22.41	1.3634	.5351	-.7739	-.0009	-.0141	.0622	2.55
.168	1.94 (40.59)	-4.98	24.46	1.4058	.6104	-.8031	.0030	-.0105	.0544	2.30

RUN NUMBER 7 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.168	1.93 (40.33)	-.00	-2.05	.0080	.0237	.0259	-.0002	.0008	-.0079	.34
.168	1.93 (40.33)	-.00	.03	.2438	.0251	-.0395	.0007	.0012	-.0083	9.70
.168	1.93 (40.33)	.00	2.08	.4782	.0294	-.0987	-.0005	.0006	-.0078	16.26
.168	1.93 (40.33)	.00	4.18	.7030	.0380	-.1593	-.0007	.0007	-.0067	18.51
.168	1.93 (40.33)	.01	6.23	.9200	.0501	-.2113	.0011	.0010	-.0076	18.35
.168	1.93 (40.34)	.01	8.30	1.1144	.0664	-.2603	-.0001	.0005	-.0058	16.79
.167	1.93 (40.25)	.01	10.36	1.2913	.0868	-.2926	-.0004	.0002	-.0057	14.88
.167	1.92 (40.12)	.05	12.36	1.3264	.1604	-.2220	.0277	.0152	-.0252	8.27
.168	1.94 (40.48)	.02	14.35	1.2705	.2480	-.1546	.0048	.0021	-.0065	5.12
.168	1.93 (40.35)	.01	16.39	1.2937	.3117	-.2042	-.0011	.0001	-.0016	4.15
.168	1.93 (40.33)	.01	18.35	1.3070	.3984	-.3926	.0006	-.0002	-.0056	3.28
.168	1.94 (40.61)	-.00	20.38	1.3327	.4635	-.5749	-.0095	-.0037	-.0075	2.88
.168	1.94 (40.62)	-.01	22.39	1.3611	.5349	-.7041	-.0087	-.0044	-.0115	2.54
.169	1.95 (40.81)	-.00	24.41	1.4009	.6108	-.7739	-.0066	-.0038	-.0151	2.29

RUN NUMBER 8 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.23)	5.00	-2.06	.0222	.0187	-.0071	-.0137	.0124	-.0890	1.19
.168	1.93 (40.34)	5.00	.06	.2542	.0204	-.0711	-.0141	.0112	-.0825	12.47
.168	1.93 (40.34)	5.00	2.09	.4897	.0248	-.1290	-.0150	.0101	-.0817	19.76
.168	1.94 (40.43)	4.99	4.19	.7223	.0334	-.1959	-.0170	.0091	-.0805	21.60
.168	1.94 (40.45)	4.99	6.28	.9375	.0468	-.2616	-.0200	.0081	-.0776	20.01
.168	1.94 (40.46)	4.99	8.32	1.1277	.0631	-.3162	-.0204	.0083	-.0778	17.89
.168	1.94 (40.46)	4.98	10.34	1.3036	.0831	-.3602	-.0224	.0085	-.0813	15.69
.168	1.93 (40.35)	5.03	12.35	1.2967	.1580	-.2754	.0143	.0256	-.1008	8.21
.168	1.93 (40.37)	5.03	14.36	1.3415	.2222	-.2562	.0142	.0201	-.1010	6.04
.168	1.94 (40.56)	5.00	16.38	1.2989	.3119	-.2607	-.0099	.0108	-.0842	4.16
.168	1.93 (40.33)	4.99	18.37	1.2966	.3914	-.3884	-.0101	.0101	-.0864	3.31
.168	1.93 (40.36)	4.97	20.40	1.3399	.4622	-.5572	-.0188	.0052	-.0791	2.90
.168	1.94 (40.53)	4.98	22.38	1.3952	.5339	-.6281	-.0156	.0035	-.0758	2.61
.168	1.94 (40.57)	4.98	24.45	1.4560	.6096	-.7040	-.0115	-.0007	-.0752	2.39

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RUN NUMBER 12 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.89 (60.45)	-.00	-2.06	.0160	.0249	.0254	.0017	.0008	-.0029	.64
.204	2.89 (60.38)	-.00	.01	.2489	.0257	-.0172	.0010	.0012	-.0051	9.67
.204	2.89 (60.32)	.00	4.16	.6987	.0398	-.0998	.0007	.0010	-.0041	17.56
.204	2.89 (60.46)	.01	8.35	1.1243	.0713	-.1717	-.0005	.0007	-.0041	15.78
.204	2.89 (60.35)	.03	12.45	1.4308	.1362	-.1829	.0108	.0063	-.0120	10.50
.204	2.90 (60.54)	-.00	16.31	1.3168	.3102	-.1099	-.0062	-.0008	.0005	4.24
.205	2.91 (60.84)	-.01	20.38	1.4190	.4442	-.3343	-.0066	.0009	-.0032	3.19
.205	2.91 (60.80)	.01	24.39	1.4760	.6132	-.6493	.0029	-.0003	-.0061	2.41

RUN NUMBER 13 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.40)	-10.02	-2.04	.0503	.0063	-.0640	.0290	-.0272	.1666	8.02
.166	1.93 (40.39)	-10.02	.16	.2706	.0104	-.1078	.0305	-.0251	.1611	26.14
.166	1.93 (40.40)	-10.01	2.14	.4987	.0164	-.1534	.0336	-.0228	.1533	30.40
.166	1.93 (40.40)	-10.01	4.26	.7331	.0246	-.1990	.0382	-.0211	.1531	29.82
.166	1.93 (40.38)	-10.00	6.44	.9791	.0413	-.2524	.0403	-.0196	.1502	23.69
.166	1.93 (40.33)	-9.99	8.44	1.1624	.0632	-.2877	.0416	-.0207	.1583	18.38
.166	1.93 (40.31)	-9.98	10.32	1.3091	.0813	-.3120	.0435	-.0189	.1547	16.11
.165	1.93 (40.21)	-9.97	12.37	1.4666	.1191	-.3255	.0479	-.0107	.1444	12.31
.165	1.92 (40.04)	-9.93	14.50	1.5182	.1986	-.2817	.0623	.0012	.1335	7.65
.165	1.93 (40.21)	-9.99	16.33	1.3667	.3091	-.3848	.0117	-.0234	.1690	4.42
.167	1.95 (40.78)	-9.97	18.31	1.4046	.3876	-.5006	.0177	-.0197	.1655	3.62
.167	1.95 (40.71)	-9.98	20.44	1.4381	.4623	-.5574	.0173	-.0157	.1490	3.11
.166	1.95 (40.69)	-9.98	22.53	1.4645	.5302	-.5793	.0156	-.0075	.1333	2.76
.166	1.94 (40.43)	-9.97	24.50	1.4740	.6279	-.6606	.0176	.0009	.1068	2.35
.166	1.94 (40.54)	-9.97	25.62	1.4583	.6716	-.7224	.0201	.0009	.1076	2.17

RUN NUMBER 14 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.43)	-5.00	-2.03	.0336	.0203	-.0011	.0145	-.0132	.0754	1.65
.166	1.93 (40.41)	-5.00	.18	.2905	.0207	-.0501	.0194	-.0115	.0730	14.06
.166	1.94 (40.42)	-5.00	2.10	.4842	.0273	-.0887	.0147	-.0110	.0704	17.73
.166	1.94 (40.42)	-4.99	4.06	.6891	.0384	-.1349	.0173	-.0094	.0688	17.93
.166	1.94 (40.43)	-4.98	6.29	.9198	.0540	-.1759	.0181	-.0093	.0661	17.02
.166	1.93 (40.41)	-4.98	8.29	1.1157	.0718	-.2180	.0219	-.0095	.0678	15.54
.165	1.92 (40.18)	-4.97	10.36	1.3069	.0894	-.2465	.0241	-.0092	.0747	14.61
.165	1.92 (40.09)	-4.94	12.41	1.3884	.1576	-.2119	.0433	.0057	.0518	8.81
.166	1.95 (40.67)	-4.92	14.48	1.4810	.2064	-.2148	.0519	.0105	.0446	7.18
.166	1.94 (40.48)	-4.98	16.41	1.3456	.3149	-.2335	.0024	-.0132	.0801	4.27
.166	1.93 (40.27)	-4.98	18.32	1.3685	.3845	-.3169	.0066	-.0108	.0754	3.56
.166	1.93 (40.31)	-4.96	20.33	1.3493	.4666	-.4160	.0145	-.0102	.0780	2.89
.165	1.92 (40.15)	-4.96	22.36	1.3931	.5460	-.5958	.0126	-.0082	.0668	2.55
.165	1.91 (39.95)	-4.96	24.39	1.4363	.6259	-.7032	.0117	-.0057	.0571	2.29

RUN NUMBER 15 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.51)	.00	-2.08	.0124	.0248	.0249	-.0046	.0012	-.0122	.50
.166	1.93 (40.40)	-.00	.05	.2681	.0251	-.0240	.0010	.0018	-.0124	10.67
.166	1.93 (40.38)	.00	2.23	.4895	.0324	-.0620	-.0008	.0009	-.0075	15.12
.166	1.93 (40.37)	.00	4.23	.7115	.0392	-.0936	-.0050	.0001	-.0092	18.17
.165	1.93 (40.22)	.00	6.23	.9094	.0536	-.1382	.0020	.0010	-.0066	16.97
.165	1.92 (40.07)	.00	8.33	1.1426	.0727	-.1727	-.0001	.0005	-.0095	15.71
.165	1.92 (40.10)	.01	10.36	1.3024	.0967	-.2003	-.0039	-.0004	-.0118	13.46
.166	1.93 (40.36)	.04	12.49	1.3729	.1603	-.1525	.0309	.0198	-.0348	8.56
.166	1.93 (40.40)	.01	14.37	1.2797	.2518	-.0676	-.0013	.0003	-.0061	5.08
.165	1.93 (40.21)	.00	16.34	1.3016	.3132	-.1210	-.0095	-.0016	-.0006	4.16
.166	1.93 (40.31)	.00	18.36	1.3643	.3843	-.2124	-.0073	-.0000	-.0006	3.55
.166	1.94 (40.42)	.01	20.23	1.3345	.4673	-.4178	-.0000	.0012	-.0073	2.86
.166	1.94 (40.43)	.01	22.44	1.3717	.5472	-.6259	.0002	.0000	-.0047	2.51
.166	1.93 (40.26)	-.01	24.41	1.4311	.6246	-.7251	-.0084	-.0039	-.0155	2.29

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RUN NUMBER 16 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.44)	5.00	-2.05	.0315	.0186	-.0084	-.0127	.0147	-.0921	1.69
.166	1.93 (40.40)	5.00	.01	.2658	.0195	-.0545	-.0185	.0138	-.0940	13.66
.166	1.93 (40.39)	5.00	2.09	.5172	.0264	-.0932	-.0169	.0119	-.0857	19.58
.166	1.93 (40.39)	4.99	4.15	.7007	.0365	-.1385	-.0181	.0112	-.0874	19.21
.166	1.93 (40.39)	4.99	6.29	.9559	.0496	-.1903	-.0198	.0105	-.0817	19.28
.166	1.93 (40.40)	4.99	8.39	1.1435	.0703	-.2367	-.0224	.0102	-.0867	16.27
.166	1.94 (40.42)	4.98	10.36	1.3147	.0912	-.2696	-.0245	.0111	-.0880	14.42
.166	1.94 (40.42)	4.98	12.45	1.4752	.1202	-.2818	-.0235	.0096	-.0888	12.28
.165	1.92 (40.15)	5.02	14.41	1.3731	.2271	-.1853	.0097	.0224	-.1089	6.05
.165	1.92 (40.08)	4.98	16.39	1.3188	.3210	-.1790	-.0180	.0111	-.0901	4.11
.165	1.92 (40.16)	4.99	18.35	1.3163	.3967	-.3045	-.0130	.0126	-.0958	3.32
.166	1.93 (40.22)	4.98	20.36	1.3589	.4718	-.4485	-.0141	.0115	-.0903	2.88
.166	1.93 (40.28)	4.97	22.43	1.4321	.5471	-.5974	-.0178	.0036	-.0814	2.62
.166	1.93 (40.34)	4.98	24.43	1.4858	.6227	-.6623	-.0129	.0001	-.0792	2.39

RUN NUMBER 17 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.117	.97 (20.31)	.00	-2.08	-.0088	.0302	.0037	-.0003	.0007	-.0060	-.29
.117	.97 (20.28)	.00	.02	.2354	.0303	-.0296	-.0004	.0009	-.0090	7.77
.117	.97 (20.28)	.00	2.10	.4701	.0347	-.0652	.0003	.0009	-.0087	13.54
.117	.97 (20.28)	.00	4.07	.6754	.0445	-.0941	-.0004	.0007	-.0076	15.18
.117	.97 (20.29)	.00	6.23	.9042	.0611	-.1306	.0016	.0010	-.0064	14.81
.117	.97 (20.27)	.00	8.26	1.1040	.0779	-.1466	-.0011	.0004	-.0076	14.17
.117	.97 (20.27)	.00	10.28	1.2727	.1029	-.1649	-.0016	.0007	-.0056	12.37
.117	.97 (20.26)	.01	12.34	1.3361	.1760	-.0975	.0024	.0020	-.0110	7.59
.117	.97 (20.16)	.00	14.35	1.3570	.2567	-.1378	-.0022	-.0004	-.0063	5.29
.116	.96 (19.98)	.01	16.32	1.3275	.3588	-.3480	.0021	.0001	-.0092	3.70
.116	.96 (20.00)	.01	18.28	1.3749	.4262	-.4085	.0008	.0002	-.0126	3.23
.117	.97 (20.21)	.01	20.40	1.3890	.5004	-.6293	.0008	-.0022	-.0107	2.78
.117	.97 (20.24)	.01	22.42	1.4316	.5695	-.6761	-.0015	-.0022	-.0134	2.51
.117	.97 (20.23)	.01	24.46	1.4502	.6431	-.7128	-.0001	-.0006	-.0110	2.26

RUN NUMBER 18 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.144	1.46 (30.48)	.00	-2.07	.0043	.0295	.0069	-.0015	.0011	-.0122	.14
.144	1.46 (30.48)	-.00	.01	.2299	.0296	-.0283	.0003	.0006	-.0066	7.77
.144	1.46 (30.48)	.00	2.13	.4714	.0349	-.0584	.0012	.0008	-.0059	13.49
.144	1.46 (30.47)	-.00	4.22	.7013	.0432	-.0973	-.0008	.0004	-.0120	16.24
.144	1.46 (30.46)	.00	6.30	.9056	.0600	-.1242	-.0045	.0000	-.0055	15.10
.144	1.46 (30.46)	.00	8.31	1.1174	.0743	-.1499	-.0009	.0002	-.0051	15.05
.144	1.46 (30.43)	.00	10.43	1.3256	.1008	-.1593	-.0016	.0002	-.0124	13.15
.143	1.45 (30.28)	.02	12.41	1.4146	.1576	-.1263	.0202	.0135	-.0291	8.97
.143	1.45 (30.25)	.01	14.49	1.4276	.2279	-.0609	.0051	.0022	-.0108	6.27
.143	1.45 (30.19)	.00	16.34	1.4065	.3168	-.1795	-.0052	-.0030	.0104	4.44
.143	1.44 (30.01)	.01	18.22	1.3847	.4209	-.4356	-.0004	.0010	-.0090	3.29
.143	1.44 (30.00)	.01	20.33	1.3779	.4915	-.6138	-.0010	-.0021	-.0017	2.80
.143	1.43 (29.96)	.00	22.41	1.4203	.5638	-.6743	.0002	-.0024	-.0079	2.52
.143	1.43 (29.95)	.00	24.45	1.4561	.6374	-.7078	-.0021	-.0003	-.0112	2.28

RUN NUMBER 19 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.39)	.00	-2.07	-.0080	.0291	.0051	-.0006	.0007	-.0066	-.27
.166	1.93 (40.38)	.00	.02	.2301	.0290	-.0289	-.0004	.0010	-.0074	7.94
.166	1.94 (40.45)	.00	2.08	.4817	.0327	-.0614	-.0019	.0009	-.0122	14.74
.166	1.93 (40.33)	.00	4.23	.6934	.0439	-.0941	-.0007	.0007	-.0077	15.79
.166	1.93 (40.30)	.00	6.26	.8996	.0587	-.1215	.0004	.0008	-.0061	15.32
.166	1.93 (40.27)	.00	8.36	1.1193	.0771	-.1474	-.0016	.0001	-.0064	14.52
.165	1.92 (40.11)	.00	10.30	1.3064	.0982	-.1621	-.0001	.0008	-.0082	13.30
.165	1.92 (40.00)	.01	12.33	1.3628	.1743	-.0988	.0055	.0037	-.0136	7.82
.165	1.92 (40.02)	.02	14.41	1.4450	.2308	-.0680	.0057	.0031	-.0123	6.26
.165	1.92 (40.00)	.02	16.46	1.5151	.2812	-.0518	.0054	.0025	-.0112	5.39
.166	1.93 (40.21)	.00	18.32	1.4630	.3764	-.2569	-.0037	-.0009	-.0023	3.89
.166	1.93 (40.29)	.01	20.33	1.4040	.4932	-.6166	.0017	-.0013	-.0085	2.85
.166	1.93 (40.39)	.01	22.40	1.4170	.5636	-.6974	-.0005	.0007	-.0145	2.51
.166	1.94 (40.42)	.00	24.43	1.4630	.6387	-.7050	-.0007	-.0005	-.0118	2.29

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RUN NUMBER 20 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.49)	.00	-2.05	-.0046	.0282	.0061	.0014	.0008	-.0062	-.16
.204	2.89 (60.40)	.00	.07	.2395	.0279	-.0283	.0017	.0012	-.0065	8.59
.204	2.90 (60.47)	.00	2.13	.4729	.0322	-.0597	.0012	.0004	-.0052	14.70
.204	2.89 (60.39)	.00	4.18	.6974	.0424	-.0933	.0005	.0010	-.0079	16.47
.204	2.89 (60.34)	.00	6.23	.9152	.0568	-.1186	-.0003	.0007	-.0079	16.12
.204	2.89 (60.30)	.00	8.36	1.1283	.0764	-.1479	-.0008	.0005	-.0074	14.77
.204	2.89 (60.41)	.00	10.41	1.3193	.0998	-.1675	-.0009	.0006	-.0079	13.22
.204	2.90 (60.49)	.02	12.44	1.4668	.1426	-.1457	.0106	.0063	-.0136	10.28
.204	2.90 (60.47)	.03	14.42	1.4706	.2265	-.0651	.0079	.0040	-.0105	6.49
.204	2.90 (60.47)	.03	16.41	1.5245	.2801	-.0463	.0053	.0026	-.0108	5.44
.204	2.90 (60.59)	.01	18.29	1.4786	.3695	-.2657	-.0046	-.0009	.0042	4.00
.204	2.90 (60.59)	.00	20.42	1.4927	.4703	-.4766	-.0027	.0015	-.0085	3.17
.204	2.91 (60.75)	-.00	22.51	1.5645	.5501	-.5449	-.0047	.0023	-.0088	2.84
.205	2.91 (60.86)	-.01	24.44	1.5740	.6348	-.6596	-.0039	.0040	-.0115	2.48

RUN NUMBER 21 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.25)	-10.01	-1.98	.0235	.0071	-.0861	.0303	-.0258	.1963	3.34
.166	1.94 (40.51)	-10.00	.04	.2626	.0089	-.1258	.0337	-.0232	.1860	29.43
.166	1.93 (40.33)	-9.99	2.12	.4909	.0138	-.1553	.0352	-.0211	.1826	35.52
.166	1.93 (40.33)	-9.99	4.20	.7084	.0254	-.1849	.0361	-.0197	.1780	27.87
.166	1.93 (40.32)	-9.98	6.33	.9299	.0423	-.2280	.0358	-.0196	.1791	21.99
.166	1.93 (40.30)	-9.97	8.32	1.1510	.0610	-.2552	.0402	-.0179	.1747	18.86
.166	1.93 (40.30)	-9.96	10.42	1.3044	.0899	-.2826	.0404	-.0173	.1813	14.52
.165	1.92 (40.12)	-9.94	12.49	1.4763	.1494	-.2938	.0487	-.0054	.1587	9.88
.166	1.93 (40.31)	-9.97	14.47	1.4466	.2444	-.2464	.0138	-.0198	.1785	5.92
.166	1.94 (40.47)	-9.97	16.47	1.4936	.3063	-.2898	.0116	-.0181	.1736	4.88
.166	1.93 (40.21)	-9.98	18.39	1.4670	.4022	-.5080	.0045	-.0198	.1825	3.65
.166	1.95 (40.62)	-9.99	20.40	1.5023	.4809	-.5399	-.0025	-.0117	.1585	3.12
.167	1.95 (40.67)	-9.99	22.41	1.4978	.5720	-.6322	-.0018	-.0058	.1387	2.62
.167	1.95 (40.67)	-9.99	24.40	1.4777	.6390	-.7168	-.0010	-.0050	.1322	2.31

RUN NUMBER 22 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.35)	-5.00	-2.02	.0155	.0219	-.0240	.0152	-.0126	.0921	.71
.166	1.93 (40.32)	-5.00	.04	.2407	.0233	-.0617	.0164	-.0117	.0897	10.34
.166	1.93 (40.30)	-5.00	2.21	.4652	.0286	-.0879	.0179	-.0096	.0803	16.27
.166	1.93 (40.28)	-4.99	4.19	.6853	.0389	-.1234	.0178	-.0087	.0798	17.63
.166	1.93 (40.27)	-4.99	6.28	.9271	.0561	-.1620	.0204	-.0073	.0766	16.53
.166	1.93 (40.28)	-4.98	8.36	1.1135	.0778	-.1921	.0189	-.0097	.0806	14.31
.166	1.93 (40.34)	-4.97	10.42	1.3075	.0992	-.2189	.0196	-.0103	.0850	13.19
.166	1.94 (40.56)	-4.96	12.45	1.4575	.1525	-.2097	.0343	.0035	.0692	9.56
.165	1.92 (40.11)	-4.98	14.45	1.4457	.2307	-.1257	.0092	-.0112	.0886	6.27
.166	1.93 (40.22)	-4.98	16.48	1.4569	.3097	-.1551	.0082	-.0087	.0751	4.70
.166	1.94 (40.47)	-4.98	18.28	1.4337	.4195	-.4008	.0058	-.0119	.0858	3.42
.166	1.94 (40.54)	-4.98	20.46	1.4342	.4979	-.5705	.0021	-.0091	.0791	2.88
.166	1.95 (40.63)	-4.98	22.44	1.4195	.5644	-.7194	.0047	-.0107	.0708	2.52
.167	1.95 (40.66)	-4.99	24.49	1.4690	.6439	-.7405	.0008	-.0078	.0715	2.28

RUN NUMBER 23 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.08)	.00	-2.01	.0031	.0263	.0041	.0016	.0005	-.0072	.12
.165	1.92 (40.09)	.00	.11	.2368	.0276	-.0257	-.0001	.0005	-.0095	8.59
.166	1.93 (40.40)	.00	2.18	.4774	.0328	-.0586	.0024	.0007	-.0064	14.54
.166	1.94 (40.43)	.00	4.15	.6619	.0428	-.0896	-.0015	.0008	-.0108	15.45
.166	1.94 (40.47)	.00	6.30	.9013	.0589	-.1203	-.0007	.0004	-.0043	15.30
.166	1.94 (40.48)	.00	8.35	1.1311	.0756	-.1474	-.0009	.0004	-.0069	14.97
.166	1.94 (40.48)	.00	10.35	1.3227	.0994	-.1653	-.0021	-.0000	-.0132	13.31
.166	1.94 (40.45)	.03	12.41	1.4135	.1586	-.1191	.0204	.0135	-.0262	8.91
.166	1.93 (40.38)	.02	14.38	1.4398	.2297	-.0674	.0062	.0033	-.0089	6.27
.166	1.93 (40.36)	.02	16.43	1.5376	.2814	-.0546	.0071	.0032	-.0135	5.46
.166	1.94 (40.58)	.01	18.39	1.4826	.3826	-.2190	-.0010	-.0018	.0085	3.87
.166	1.93 (40.34)	.01	20.35	1.4290	.4967	-.5493	-.0023	.0020	-.0110	2.88
.166	1.94 (40.50)	.01	22.44	1.4228	.5675	-.6837	-.0005	.0003	-.0160	2.51
.167	1.95 (40.71)	.01	24.47	1.4567	.6400	-.7090	-.0010	.0002	-.0128	2.28

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RUN NUMBER 24 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.15)	5.00	-2.01	.0417	.0178	-.0308	-.0167	.0137	-.1084	2.34
.165	1.92 (40.14)	5.00	.13	.2542	.0226	-.0680	-.0146	.0128	-.0990	11.23
.166	1.94 (40.48)	5.00	2.06	.4420	.0261	-.0934	-.0172	.0121	-.1054	16.93
.166	1.94 (40.50)	4.99	4.12	.7039	.0392	-.1318	-.0192	.0094	-.0937	17.97
.166	1.94 (40.61)	4.99	6.23	.9244	.0508	-.1597	-.0186	.0096	-.0967	18.21
.166	1.94 (40.47)	4.99	8.37	1.1297	.0706	-.2070	-.0168	.0114	-.0970	16.01
.166	1.93 (40.35)	4.98	10.39	1.3288	.0939	-.2354	-.0228	.0102	-.0976	14.14
.166	1.94 (40.52)	4.98	12.53	1.4999	.1301	-.2489	-.0216	.0089	-.0987	11.53
.166	1.93 (40.30)	5.00	14.35	1.3890	.2530	-.1587	-.0017	.0138	-.1017	5.49
.165	1.92 (40.12)	5.00	16.36	1.4307	.3186	-.1928	-.0071	.0111	-.0885	4.49
.165	1.92 (40.17)	5.00	18.19	1.4050	.4221	-.4506	-.0058	.0141	-.1017	3.33
.166	1.94 (40.60)	4.99	20.26	1.4475	.5001	-.5829	-.0082	.0129	-.1012	2.89
.166	1.94 (40.61)	4.99	22.36	1.4432	.5677	-.7001	-.0063	.0097	-.0900	2.54
.167	1.95 (40.78)	5.00	24.42	1.4718	.6409	-.7157	-.0017	.0073	-.0859	2.30

RUN NUMBER 25 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.18)	.00	-2.04	.0533	.0242	-.1386	.0004	.0004	-.0036	2.20
.166	1.93 (40.29)	.00	.01	.2580	.0249	-.0920	.0008	.0009	-.0055	10.36
.166	1.93 (40.30)	.00	2.07	.4575	.0297	-.0450	-.0008	.0007	-.0060	15.39
.166	1.93 (40.36)	.00	4.15	.6652	.0375	.0029	.0003	.0006	-.0062	17.73
.166	1.94 (40.41)	.00	6.31	.8553	.0499	.0491	-.0006	.0004	-.0068	17.13
.166	1.93 (40.34)	.00	8.23	1.0316	.0645	.0926	-.0008	.0004	-.0067	16.00
.165	1.92 (40.16)	.00	10.35	1.2142	.0823	.1488	.0003	.0008	-.0084	14.75
.165	1.92 (40.12)	.01	12.39	1.2545	.1555	.2569	.0057	.0033	-.0094	8.07
.165	1.92 (40.13)	.02	14.40	1.3223	.2036	.3407	.0058	.0027	-.0111	6.49
.165	1.92 (40.20)	.02	16.34	1.3740	.2467	.3969	.0061	.0024	-.0103	5.57
.166	1.94 (40.49)	.02	18.49	1.4313	.2959	.4683	.0054	.0010	-.0080	4.84
.166	1.93 (40.33)	.02	20.34	1.1459	.4165	.2838	.0023	-.0018	-.0064	2.75
.166	1.94 (40.42)	.01	22.30	1.1175	.4578	.2978	-.0000	-.0010	-.0045	2.44
.166	1.94 (40.50)	.01	24.33	1.1477	.5149	.3247	-.0011	-.0023	-.0066	2.23

RUN NUMBER 26 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.34)	.00	-2.13	-.3008	.0940	.8165	.0003	.0008	-.0075	-3.20
.166	1.93 (40.31)	.00	-.07	-.0681	.0768	.8219	-.0009	.0009	-.0074	-.89
.166	1.93 (40.32)	-.00	2.04	.1534	.0646	.8243	-.0004	.0009	-.0078	2.37
.166	1.93 (40.32)	.00	4.12	.3909	.0530	.7924	.0001	.0014	-.0088	7.37
.166	1.93 (40.34)	.00	6.15	.6149	.0557	.7417	.0003	.0007	-.0075	11.04
.166	1.93 (40.33)	.00	8.27	.8240	.0666	.7170	-.0017	.0003	-.0060	12.37
.166	1.93 (40.32)	.01	10.17	1.0103	.0783	.7022	-.0001	.0007	-.0068	12.91
.166	1.93 (40.26)	.03	12.36	1.1239	.1311	.7387	.0168	.0114	-.0180	8.57
.165	1.92 (40.08)	.02	14.39	1.1687	.1916	.7949	.0057	.0027	-.0111	6.10
.166	1.93 (40.37)	.02	16.41	1.2438	.2336	.8194	.0062	.0026	-.0108	5.33
.166	1.94 (40.48)	.02	18.46	1.3058	.2775	.8418	.0054	.0011	-.0099	4.71
.166	1.93 (40.37)	.01	20.33	1.1319	.4095	.2391	.0015	-.0033	-.0029	2.76
.166	1.93 (40.41)	.01	22.37	1.1642	.4632	.1489	-.0003	-.0015	-.0044	2.51
.166	1.94 (40.49)	.01	24.45	1.2260	.5275	.0921	-.0007	-.0016	-.0076	2.32

RUN NUMBER 27 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.58)	.00	-2.14	-.2304	.0455	.5899	-.0002	.0008	-.0057	-5.07
.166	1.93 (40.40)	.00	-.06	.0152	.0389	.5458	-.0009	.0008	-.0066	.39
.166	1.93 (40.30)	-.00	2.09	.2468	.0383	.5103	-.0001	.0006	-.0054	6.45
.166	1.93 (40.30)	-.00	4.06	.4774	.0422	.4792	.0002	.0006	-.0058	11.32
.166	1.93 (40.31)	-.00	6.35	.7228	.0513	.4401	-.0007	.0004	-.0069	14.09
.166	1.93 (40.27)	.00	8.27	.9175	.0637	.4166	-.0007	.0005	-.0067	14.40
.166	1.93 (40.23)	.00	10.32	1.1157	.0807	.3986	-.0014	.0002	-.0079	13.82
.166	1.93 (40.32)	.01	12.34	1.1829	.1500	.4534	.0056	.0031	-.0089	7.89
.166	1.94 (40.57)	.01	14.29	1.2527	.1973	.4858	.0052	.0025	-.0100	6.35
.166	1.94 (40.51)	.01	16.35	1.3338	.2418	.5190	.0055	.0024	-.0109	5.52
.166	1.94 (40.51)	-.00	18.35	1.2868	.3312	.3335	-.0038	-.0006	.0049	3.89
.167	1.95 (40.72)	.01	20.34	1.2258	.4253	-.0440	.0014	-.0025	-.0052	2.88
.167	1.95 (40.71)	.00	22.42	1.2573	.4822	-.1602	-.0007	-.0005	-.0079	2.61
.167	1.95 (40.74)	.00	24.45	1.3184	.5539	-.2165	-.0003	-.0016	-.0096	2.38
.163	1.87 (38.95)	.00	24.45	1.3296	.5577	-.2248	-.0005	-.0012	-.0098	2.38

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RUN NUMBER 28 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.38)	.00	-2.09	-.1223	.0329	.2892	.0006	.0007	-.0061	-3.71
.166	1.93 (40.33)	.00	-.00	.1266	.0301	.2526	.0004	.0009	-.0065	4.20
.166	1.93 (40.33)	-.00	2.07	.3542	.0322	.2195	-.0002	.0006	-.0053	10.99
.166	1.94 (40.46)	-.00	4.09	.5861	.0389	.1874	.0004	.0009	-.0086	15.12
.166	1.93 (40.33)	.00	6.24	.8132	.0507	.1631	.0001	.0009	-.0073	16.05
.166	1.93 (40.32)	.00	8.45	1.0283	.0686	.1430	-.0001	.0009	-.0094	15.00
.166	1.93 (40.32)	.00	10.47	1.2281	.0864	.1299	.0001	.0009	-.0088	14.21
.165	1.92 (40.05)	.01	12.40	1.2800	.1602	.1944	.0062	.0040	-.0127	7.99
.166	1.93 (40.33)	.01	14.37	1.3534	.2109	.2267	.0060	.0035	-.0131	6.42
.166	1.94 (40.57)	.01	16.40	1.4273	.2583	.2482	.0057	.0029	-.0140	5.53
.166	1.95 (40.64)	.00	18.36	1.3865	.3510	.0564	-.0025	.0002	.0014	3.95
.166	1.94 (40.45)	.01	20.68	1.3206	.4631	-.3833	.0013	-.0016	-.0081	2.85
.166	1.94 (40.50)	.00	22.44	1.3502	.5205	-.4496	-.0001	.0001	-.0115	2.59
.166	1.94 (40.50)	.00	24.57	1.4019	.5972	-.4841	.0002	-.0009	-.0112	2.35

RUN NUMBER 29 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.60)	.00	-2.06	.0060	.0275	-.0050	-.0012	.0011	-.0099	.22
.166	1.93 (40.38)	.00	-.04	.2221	.0279	-.0355	-.0005	.0010	-.0063	7.98
.166	1.93 (40.37)	-.00	2.10	.4567	.0330	-.0673	-.0004	.0008	-.0056	13.84
.166	1.93 (40.37)	-.00	4.19	.6962	.0427	-.1003	.0002	.0009	-.0067	16.30
.166	1.94 (40.43)	.00	6.26	.9067	.0574	-.1259	-.0001	.0009	-.0065	15.79
.166	1.93 (40.39)	.00	8.30	1.1197	.0757	-.1525	-.0005	.0006	-.0059	14.79
.166	1.93 (40.38)	.00	10.40	1.3141	.0983	-.1692	-.0006	.0006	-.0070	13.37
.166	1.93 (40.33)	.02	12.32	1.4021	.1547	-.1312	.0199	.0141	-.0238	9.06
.165	1.92 (40.11)	.01	14.47	1.4499	.2320	-.0723	.0057	.0032	-.0121	6.25
.166	1.93 (40.29)	.01	16.43	1.5202	.2819	-.0622	.0060	.0025	-.0091	5.39
.166	1.93 (40.39)	-.00	18.43	1.4765	.3827	-.2695	-.0042	-.0016	.0037	3.86
.166	1.93 (40.34)	.01	20.47	1.4159	.4998	-.6164	.0026	-.0017	-.0064	2.83
.166	1.94 (40.47)	.00	22.46	1.4207	.5653	-.6927	-.0006	.0001	-.0121	2.51
.166	1.93 (40.28)	-.00	24.47	1.4725	.6428	-.7143	-.0000	-.0006	-.0108	2.29

RUN NUMBER 30 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.35)	.00	-2.06	.0941	.0277	-.2907	.0005	.0004	-.0047	3.40
.166	1.93 (40.35)	.00	-.02	.3318	.0303	-.3326	-.0004	.0008	-.0058	10.96
.166	1.93 (40.37)	-.00	2.10	.5654	.0385	-.3728	-.0005	.0007	-.0052	14.69
.166	1.93 (40.36)	-.00	4.11	.7847	.0504	-.4060	-.0017	.0007	-.0093	15.55
.166	1.93 (40.36)	-.00	6.35	1.0175	.0696	-.4319	-.0018	.0004	-.0074	14.62
.166	1.93 (40.33)	.00	8.43	1.2274	.0913	-.4568	-.0015	.0001	-.0044	13.44
.166	1.93 (40.31)	.00	10.47	1.4196	.1156	-.4627	-.0023	.0002	-.0114	12.28
.166	1.94 (40.60)	.01	12.45	1.4598	.1972	-.3959	.0062	.0039	-.0139	7.40
.166	1.94 (40.53)	.01	14.53	1.5365	.2560	-.3696	.0061	.0026	-.0124	6.00
.166	1.94 (40.56)	.01	16.44	1.6227	.3095	-.3734	.0052	.0018	-.0115	5.24
.166	1.94 (40.52)	-.00	18.44	1.5654	.4206	-.5602	-.0058	-.0036	.0054	3.72
.166	1.93 (40.27)	.00	20.50	1.4681	.5475	-.8524	.0011	-.0003	-.0123	2.68
.167	1.95 (40.68)	.00	22.44	1.4698	.6123	-.8926	-.0004	.0006	-.0139	2.40
.166	1.94 (40.60)	.00	24.44	1.5105	.6870	-.8861	-.0003	-.0003	-.0142	2.20

RUN NUMBER 31 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.34)	.00	-2.01	.2061	.0341	-.6088	.0003	.0004	-.0047	6.04
.166	1.94 (40.50)	.00	.08	.4396	.0403	-.6465	-.0011	.0005	-.0055	10.92
.166	1.94 (40.51)	-.00	2.15	.6854	.0507	-.6849	-.0001	.0007	-.0065	13.51
.166	1.94 (40.47)	-.00	4.25	.8969	.0677	-.7063	-.0011	-.0003	-.0042	13.25
.166	1.94 (40.47)	.00	6.35	1.1261	.0919	-.7428	-.0010	.0002	-.0059	12.25
.166	1.93 (40.32)	.00	8.45	1.3243	.1241	-.7502	-.0020	.0003	-.0081	10.67
.165	1.92 (40.17)	.00	10.45	1.4996	.1582	-.7423	-.0014	.0001	-.0071	9.48
.165	1.92 (40.12)	.01	12.43	1.5551	.2379	-.6846	.0060	.0037	-.0144	6.54
.166	1.94 (40.44)	.01	14.48	1.6292	.2989	-.6519	.0054	.0034	-.0139	5.45
.166	1.94 (40.56)	-.00	16.45	1.5846	.3992	-.7410	-.0045	-.0022	.0022	3.97
.166	1.93 (40.32)	-.00	18.43	1.6314	.4758	-.7876	-.0066	-.0026	.0053	3.43
.166	1.94 (40.55)	.01	20.50	1.5099	.6014	-1.0152	.0016	-.0002	-.0119	2.51
.166	1.94 (40.57)	.00	22.46	1.5005	.6645	-1.0191	-.0009	.0011	-.0154	2.26
.166	1.94 (40.48)	.00	24.47	1.5313	.7386	-1.0052	-.0007	.0001	-.0151	2.07

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RUN NUMBER 32 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.39)	.00	-1.97	.3258	.0539	-.9572	-.0001	.0005	-.0038	6.04
.166	1.93 (40.39)	.00	.06	.5479	.0719	-.9581	-.0005	.0011	-.0068	7.62
.166	1.93 (40.40)	.00	2.15	.7726	.0922	-.9373	.0013	.0013	-.0086	8.38
.166	1.93 (40.32)	-.00	4.21	.9736	.1165	-.9048	.0001	.0010	-.0073	8.36
.166	1.93 (40.32)	-.00	6.30	1.1688	.1432	-.8752	-.0017	.0009	-.0105	8.16
.165	1.92 (40.17)	.00	8.42	1.3566	.1737	-.8489	-.0020	.0007	-.0121	7.81
.165	1.92 (40.13)	.00	10.39	1.5165	.2059	-.8398	-.0011	.0006	-.0106	7.36
.166	1.93 (40.26)	.01	12.42	1.5847	.2959	-.8051	.0042	.0032	-.0137	5.36
.166	1.93 (40.29)	.01	14.48	1.6528	.3543	-.7603	.0055	.0035	-.0158	4.67
.166	1.93 (40.27)	.01	16.53	1.7272	.4176	-.7427	.0052	.0031	-.0162	4.14
.165	1.91 (39.88)	.00	18.44	1.5708	.5761	-1.0259	-.0027	.0015	-.0126	2.73
.167	1.96 (40.84)	.01	20.42	1.5193	.6486	-1.1004	.0022	-.0009	-.0115	2.34
.167	1.96 (40.84)	.00	22.43	1.5008	.7106	-1.0897	-.0000	.0003	-.0141	2.11
.167	1.95 (40.69)	.00	24.47	1.5268	.7828	-1.0501	.0002	-.0003	-.0151	1.95

RUN NUMBER 33 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.05)	.00	-2.08	-.0649	.0306	.0206	-.0123	.0004	-.0115	-2.12
.166	1.94 (40.47)	.00	.04	.1749	.0299	-.0074	-.0109	-.0002	-.0071	5.84
.166	1.94 (40.47)	-.00	2.08	.4067	.0341	-.0365	-.0109	-.0006	-.0049	11.93
.166	1.94 (40.44)	-.00	4.20	.6280	.0435	-.0604	-.0107	-.0006	-.0056	14.44
.166	1.94 (40.43)	-.01	6.29	.8624	.0567	-.0835	-.0118	-.0011	-.0064	15.21
.166	1.93 (40.40)	-.01	8.34	1.0657	.0743	-.1076	-.0120	-.0017	-.0044	14.34
.166	1.93 (40.38)	-.01	10.41	1.2632	.0965	-.1292	-.0102	-.0017	-.0040	13.09
.166	1.93 (40.29)	.00	12.34	1.3334	.1680	-.0798	-.0001	.0032	-.0120	7.94
.166	1.93 (40.32)	.01	14.35	1.4123	.2229	-.0541	.0001	.0024	-.0123	6.34
.166	1.94 (40.54)	.01	16.43	1.4892	.2751	-.0370	.0012	.0016	-.0089	5.41
.166	1.94 (40.55)	-.01	18.39	1.4525	.3746	-.2677	-.0078	-.0022	.0076	3.88
.166	1.94 (40.59)	.00	20.40	1.3916	.4922	-.6199	-.0010	-.0014	-.0076	2.83
.166	1.94 (40.62)	-.00	22.46	1.4030	.5576	-.6838	-.0032	-.0003	-.0076	2.52
.166	1.95 (40.63)	-.01	24.42	1.4544	.6327	-.7010	-.0040	-.0009	-.0097	2.30

RUN NUMBER 34 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.34)	.00	-2.06	-.0337	.0285	.0146	-.0068	.0004	-.0079	-1.18
.166	1.93 (40.34)	-.00	.06	.2131	.0279	-.0206	-.0071	.0008	-.0090	7.65
.166	1.93 (40.34)	-.00	2.10	.4394	.0323	-.0498	-.0070	.0004	-.0105	13.60
.166	1.94 (40.42)	-.00	4.18	.6651	.0416	-.0765	-.0063	.0002	-.0082	15.99
.166	1.94 (40.43)	-.00	6.21	.8733	.0552	-.1032	-.0057	.0002	-.0084	15.82
.166	1.93 (40.39)	-.00	8.28	1.0930	.0728	-.1312	-.0071	-.0005	-.0085	15.01
.166	1.93 (40.36)	-.00	10.33	1.2813	.0947	-.1456	-.0050	-.0004	-.0057	13.54
.165	1.93 (40.21)	.01	12.38	1.3470	.1699	-.0864	.0029	.0033	-.0101	7.93
.165	1.92 (40.11)	.01	14.46	1.4285	.2260	-.0564	.0024	.0025	-.0090	6.32
.165	1.92 (40.10)	.01	16.45	1.5014	.2770	-.0437	.0029	.0019	-.0102	5.42
.166	1.94 (40.44)	-.00	18.40	1.4603	.3761	-.2644	-.0063	-.0017	.0041	3.88
.166	1.93 (40.34)	.00	20.42	1.3965	.4925	-.6253	.0003	-.0015	-.0078	2.84
.167	1.95 (40.69)	-.00	22.40	1.4035	.5565	-.6895	-.0026	.0003	-.0108	2.52
.166	1.94 (40.58)	-.00	24.49	1.4575	.6352	-.7075	-.0027	-.0003	-.0114	2.29

RUN NUMBER 35 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.29)	.00	-2.05	-.0029	.0277	.0067	-.0005	.0007	-.0078	-.11
.166	1.93 (40.22)	.00	.03	.2392	.0276	-.0287	.0007	.0007	-.0062	8.67
.166	1.93 (40.27)	-.00	2.07	.4732	.0317	-.0597	-.0003	.0010	-.0090	14.91
.166	1.93 (40.38)	.00	4.16	.6823	.0427	-.0884	-.0018	.0006	-.0075	16.00
.166	1.93 (40.38)	.00	6.33	.9159	.0571	-.1167	-.0020	.0004	-.0074	16.05
.166	1.93 (40.35)	.00	8.30	1.1187	.0747	-.1444	-.0015	-.0000	-.0050	14.99
.166	1.93 (40.31)	.00	10.42	1.3172	.0979	-.1620	-.0000	.0006	-.0082	13.45
.165	1.92 (40.15)	.01	12.37	1.3665	.1744	-.0953	.0063	.0036	-.0128	7.83
.166	1.93 (40.31)	.01	14.35	1.4385	.2272	-.0643	.0050	.0029	-.0124	6.33
.166	1.93 (40.34)	.01	16.44	1.5151	.2803	-.0527	.0045	.0021	-.0108	5.40
.166	1.93 (40.38)	.00	18.48	1.4791	.3834	-.2587	-.0043	-.0020	.0053	3.86
.166	1.94 (40.57)	.01	20.41	1.4001	.4956	-.6316	.0009	-.0004	-.0107	2.82
.166	1.94 (40.57)	.00	22.42	1.4255	.5647	-.6847	.0002	-.0002	-.0112	2.52
.166	1.94 (40.61)	-.00	24.47	1.4702	.6414	-.7090	-.0014	-.0005	-.0104	2.29

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RUN NUMBER 36 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.27)	.00	-2.05	.0170	.0280	-.0004	.0019	.0011	-.0094	.61
.166	1.93 (40.32)	-.00	-.00	.2386	.0280	-.0326	.0022	.0011	-.0062	8.53
.166	1.93 (40.32)	.00	2.15	.4819	.0335	-.0646	.0012	.0010	-.0088	14.38
.166	1.93 (40.33)	.00	4.21	.7111	.0434	-.0943	.0011	.0007	-.0074	16.40
.166	1.93 (40.34)	.00	6.27	.9207	.0580	-.1215	.0033	.0013	-.0084	15.89
.166	1.93 (40.30)	.00	8.27	1.1230	.0763	-.1501	.0008	.0005	-.0071	14.71
.166	1.93 (40.35)	.00	10.36	1.3137	.0996	-.1687	.0010	.0002	-.0057	13.19
.165	1.92 (40.18)	.01	12.41	1.3723	.1784	-.0994	.0068	.0032	-.0125	7.69
.166	1.93 (40.25)	.01	14.42	1.4423	.2321	-.0677	.0064	.0024	-.0100	6.21
.165	1.92 (40.20)	.01	16.43	1.5166	.2831	-.0513	.0039	.0013	-.0104	5.36
.166	1.93 (40.31)	.00	18.41	1.4802	.3831	-.2581	-.0035	-.0024	.0075	3.86
.166	1.93 (40.28)	.01	20.53	1.4041	.5022	-.6466	.0020	-.0009	-.0093	2.80
.166	1.93 (40.35)	.00	22.45	1.4260	.5675	-.6910	-.0010	.0004	-.0130	2.51
.166	1.93 (40.37)	.00	24.41	1.4686	.6405	-.7066	.0006	-.0004	-.0100	2.29

RUN NUMBER 37 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.30)	-.00	-2.05	.0216	.0292	-.0006	.0067	.0007	-.0053	.74
.165	1.92 (40.19)	-.00	-.03	.2547	.0298	-.0308	.0053	.0012	-.0065	8.55
.166	1.94 (40.51)	.00	2.16	.5061	.0350	-.0664	.0060	.0014	-.0083	14.46
.166	1.94 (40.48)	.00	4.18	.7267	.0451	-.0941	.0046	.0010	-.0061	16.12
.166	1.93 (40.39)	.00	6.20	.9170	.0603	-.1211	.0036	.0010	-.0077	15.20
.166	1.93 (40.40)	.01	8.40	1.1532	.0801	-.1536	.0030	.0005	-.0051	14.39
.166	1.93 (40.28)	.01	10.31	1.3273	.1019	-.1731	.0036	.0005	-.0057	13.02
.166	1.94 (40.49)	.01	12.35	1.3768	.1813	-.1008	.0070	.0025	-.0113	7.60
.166	1.93 (40.39)	.02	14.42	1.4558	.2358	-.0693	.0066	.0020	-.0099	6.17
.166	1.93 (40.22)	.01	16.41	1.5177	.2886	-.0508	.0028	.0002	-.0072	5.26
.166	1.93 (40.38)	.00	18.49	1.4923	.3909	-.2635	-.0035	-.0023	.0047	3.82
.166	1.93 (40.41)	.01	20.47	1.4112	.5050	-.6304	.0018	-.0014	-.0059	2.79
.166	1.95 (40.66)	.01	22.49	1.4278	.5724	-.6934	.0008	-.0010	-.0107	2.49
.166	1.94 (40.58)	.00	24.46	1.4745	.6468	-.7063	.0001	-.0014	-.0075	2.28

RUN NUMBER 38 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.11)	-.00	-2.05	-.0205	.0323	.0131	.0156	.0019	-.0072	-.63
.166	1.92 (40.19)	-.00	.01	.2028	.0319	-.0142	.0162	.0025	-.0099	6.36
.166	1.93 (40.27)	.00	2.05	.4217	.0366	-.0400	.0141	.0024	-.0105	11.51
.166	1.93 (40.28)	.01	4.18	.6539	.0460	-.0651	.0149	.0027	-.0105	14.21
.166	1.93 (40.27)	.01	6.25	.8775	.0590	-.0842	.0133	.0028	-.0136	14.87
.166	1.93 (40.29)	.01	8.27	1.0801	.0769	-.1056	.0138	.0027	-.0114	14.05
.166	1.93 (40.30)	.02	10.35	1.2764	.1008	-.1367	.0130	.0027	-.0117	12.67
.166	1.93 (40.29)	.02	12.38	1.4497	.1334	-.1473	.0085	-.0017	-.0053	10.86
.165	1.92 (40.06)	.02	14.44	1.4342	.2289	-.0577	.0097	.0020	-.0104	6.27
.166	1.94 (40.51)	.02	16.45	1.5041	.2822	-.0399	.0047	-.0004	-.0050	5.33
.166	1.94 (40.50)	.00	18.50	1.4843	.3853	-.2750	-.0033	-.0025	.0037	3.85
.167	1.95 (40.72)	.02	20.42	1.3870	.4914	-.6181	.0053	-.0006	-.0113	2.82
.166	1.94 (40.61)	.01	22.44	1.4061	.5611	-.6849	.0036	.0001	-.0143	2.51
.166	1.94 (40.52)	.01	24.42	1.4548	.6364	-.7057	.0019	.0004	-.0148	2.29

RUN NUMBER 40 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.49)	-.00	-2.05	-.0092	.0288	.0102	.0086	.0016	-.0066	-.32
.166	1.94 (40.47)	.00	.07	.2213	.0291	-.0243	.0071	.0019	-.0105	7.61
.166	1.94 (40.48)	.00	2.06	.4489	.0335	-.0546	.0073	.0016	-.0078	13.39
.166	1.94 (40.50)	.00	4.13	.6676	.0436	-.0809	.0070	.0015	-.0078	15.33
.166	1.94 (40.48)	.00	6.22	.8969	.0572	-.1082	.0066	.0017	-.0081	15.68
.166	1.94 (40.43)	.01	8.30	1.0907	.0775	-.1318	.0057	.0015	-.0094	14.08
.166	1.94 (40.43)	.01	10.60	1.3197	.1014	-.1545	.0056	.0014	-.0097	13.02
.165	1.92 (40.17)	.01	12.36	1.3622	.1738	-.0921	.0083	.0027	-.0122	7.84
.165	1.92 (40.14)	.02	14.38	1.4364	.2276	-.0610	.0077	.0024	-.0108	6.31
.165	1.92 (40.08)	.02	16.48	1.5134	.2823	-.0431	.0046	.0006	-.0067	5.36
.165	1.92 (40.17)	.00	18.54	1.4817	.3853	-.2709	-.0043	-.0024	.0053	3.85
.166	1.93 (40.32)	.01	20.44	1.4014	.4963	-.6338	.0035	-.0012	-.0094	2.82
.166	1.94 (40.56)	.01	22.42	1.4167	.5627	-.6829	.0014	.0003	-.0107	2.52
.166	1.94 (40.43)	.01	24.43	1.4615	.6378	-.7099	.0013	-.0002	-.0121	2.29

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RUN NUMBER 46 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.38)	-10.01	-2.07	-.0838	.0842	-.1310	.0229	-.0276	.1948	-1.00
.167	1.94 (40.49)	-10.01	-.00	.0983	.0597	-.1560	.0182	-.0257	.1826	1.65
.167	1.94 (40.54)	-10.01	2.06	.2984	.0473	-.1988	.0186	-.0237	.1783	6.31
.167	1.94 (40.52)	-10.00	4.13	.5505	.0471	-.2427	.0254	-.0225	.1779	11.68
.167	1.94 (40.51)	-10.00	6.21	.7673	.0593	-.2730	.0263	-.0224	.1792	12.94
.167	1.94 (40.47)	-10.00	8.30	.9888	.0796	-.3085	.0242	-.0233	.1818	12.43
.167	1.93 (40.34)	-10.00	10.33	1.1873	.1054	-.3242	.0183	-.0242	.1830	11.26
.167	1.93 (40.22)	-10.00	12.57	1.3902	.1368	-.3429	.0127	-.0250	.1875	10.16
.166	1.92 (40.11)	-10.00	14.45	1.5536	.1692	-.3552	.0106	-.0261	.1904	9.18
.166	1.92 (40.15)	-10.00	16.44	1.7214	.2043	-.3667	.0097	-.0274	.1925	8.43
.167	1.92 (40.17)	-10.01	18.54	1.8728	.2515	-.3706	.0050	-.0312	.2040	7.45
.167	1.93 (40.21)	-10.02	20.55	1.9737	.3082	-.4069	-.0010	-.0346	.2107	6.40
.167	1.94 (40.54)	-10.00	22.54	2.0062	.4018	-.5394	.0112	-.0374	.1841	4.99
.167	1.93 (40.36)	-10.00	24.62	2.1293	.4769	-.5615	.0125	-.0348	.1744	4.46

RUN NUMBER 47 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.168	1.96 (40.84)	-5.00	-2.09	-.0986	.0994	-.0642	.0128	-.0131	.0877	-.99
.168	1.96 (40.85)	-5.00	-.03	.0765	.0762	-.0834	.0095	-.0129	.0873	1.00
.168	1.96 (40.84)	-5.00	2.07	.3042	.0604	-.1151	.0096	-.0114	.0808	5.04
.168	1.96 (40.86)	-5.00	4.14	.5419	.0615	-.1708	.0116	-.0104	.0806	8.82
.168	1.96 (40.84)	-4.99	6.27	.7663	.0731	-.2096	.0124	-.0103	.0809	10.48
.168	1.95 (40.82)	-4.99	8.26	.9758	.0910	-.2425	.0125	-.0125	.0855	10.72
.168	1.95 (40.79)	-5.00	10.28	1.1617	.1140	-.2609	.0046	-.0159	.0911	10.19
.168	1.95 (40.75)	-5.00	12.41	1.3658	.1410	-.2731	.0005	-.0183	.0953	9.69
.167	1.94 (40.61)	-5.00	14.41	1.5396	.1737	-.2818	-.0022	-.0197	.0973	8.87
.167	1.94 (40.62)	-5.01	16.42	1.7078	.2103	-.2869	-.0058	-.0220	.0992	8.12
.167	1.94 (40.54)	-5.01	18.52	1.8669	.2517	-.3396	-.0046	-.0221	.1004	7.42
.168	1.95 (40.73)	-5.01	20.55	1.9567	.3239	-.4577	-.0040	-.0237	.0946	6.04
.168	1.95 (40.64)	-5.02	22.64	2.0495	.4104	-.5461	-.0028	-.0304	.0904	4.99
.167	1.94 (40.42)	-5.02	24.61	2.1245	.5117	-.6222	-.0052	-.0245	.0847	4.15

RUN NUMBER 48 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.168	1.96 (40.85)	.00	-2.13	-.1130	.1040	-.0342	.0000	.0003	-.0064	-1.09
.168	1.96 (40.84)	.00	-.06	.0687	.0802	-.0477	-.0007	.0007	-.0083	.86
.168	1.96 (40.89)	-.00	2.04	.2845	.0643	-.0795	-.0019	.0005	-.0088	4.43
.168	1.96 (40.90)	-.00	4.14	.5416	.0647	-.1344	-.0017	.0000	-.0074	8.37
.168	1.96 (40.92)	-.00	6.20	.7567	.0754	-.1668	-.0020	-.0004	-.0059	10.04
.168	1.95 (40.72)	-.00	8.26	.9761	.0928	-.1974	-.0032	-.0015	-.0070	10.52
.167	1.94 (40.45)	-.01	10.33	1.1738	.1170	-.2291	-.0098	-.0043	-.0022	10.03
.167	1.93 (40.38)	-.02	12.41	1.3782	.1427	-.2488	-.0115	-.0054	-.0022	9.66
.166	1.92 (40.12)	-.02	14.40	1.5519	.1759	-.2539	-.0175	-.0084	.0013	8.82
.166	1.92 (40.10)	-.03	16.46	1.7297	.2111	-.2631	-.0205	-.0104	.0037	8.20
.167	1.93 (40.28)	-.04	18.61	1.8978	.2569	-.3135	-.0207	-.0117	.0013	7.39
.167	1.94 (40.43)	-.04	20.66	2.0442	.3097	-.4151	-.0194	-.0111	.0057	6.60
.167	1.93 (40.33)	-.05	22.60	2.0828	.4151	-.5524	-.0229	-.0067	.0172	5.02
.166	1.92 (40.15)	-.04	24.60	2.1559	.5148	-.6165	-.0167	-.0073	-.0003	4.19

RUN NUMBER 49 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.38)	5.00	-2.09	-.0892	.0953	-.0731	-.0116	.0147	-.1050	-.94
.167	1.93 (40.32)	5.00	-.07	.0823	.0736	-.0866	-.0107	.0139	-.1019	1.12
.167	1.94 (40.45)	5.01	2.07	.3152	.0576	-.1235	-.0117	.0120	-.0954	5.47
.167	1.94 (40.61)	5.00	4.15	.5609	.0593	-.1752	-.0133	.0103	-.0931	9.47
.167	1.94 (40.62)	5.00	6.25	.7737	.0703	-.2193	-.0171	.0099	-.0960	11.01
.167	1.94 (40.58)	4.99	8.29	.9915	.0878	-.2523	-.0188	.0093	-.0970	11.29
.167	1.94 (40.59)	4.99	10.32	1.1952	.1118	-.2836	-.0219	.0081	-.0985	10.69
.167	1.94 (40.60)	4.98	12.42	1.4020	.1393	-.3059	-.0255	.0065	-.0983	10.06
.167	1.94 (40.45)	4.97	14.47	1.5826	.1747	-.3023	-.0297	.0047	-.0976	9.06
.166	1.92 (40.13)	4.96	16.46	1.7432	.2113	-.3427	-.0327	.0027	-.0946	8.25
.166	1.92 (40.10)	4.94	18.53	1.8453	.2772	-.4391	-.0406	-.0005	-.0860	6.66
.166	1.92 (40.06)	4.94	20.54	1.9672	.3477	-.5240	-.0397	.0032	-.0816	5.66
.167	1.93 (40.27)	4.93	22.60	2.1135	.4172	-.5660	-.0377	.0066	-.0800	5.07
.167	1.94 (40.48)	4.92	24.70	2.2376	.4920	-.5693	-.0421	.0061	-.0799	4.55

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RUN NUMBER 50 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.168	1.95 (40.69)	.00	-2.07	-.0638	.1005	-.1642	.0017	.0007	-.0041	-.64
.167	1.92 (40.20)	.00	.01	.0942	.0760	-.0916	.0002	.0003	-.0042	1.24
.167	1.93 (40.34)	-.00	2.08	.2985	.0596	-.0521	-.0009	.0002	-.0049	5.00
.167	1.93 (40.34)	-.00	4.15	.5069	.0594	-.0240	-.0001	.0000	-.0075	8.54
.167	1.93 (40.41)	-.00	6.16	.6952	.0666	.0275	-.0007	-.0002	-.0074	10.44
.167	1.93 (40.36)	-.01	8.21	.8863	.0795	.0760	-.0025	-.0012	-.0075	11.14
.167	1.93 (40.33)	-.01	10.32	1.0492	.1007	.1250	-.0086	-.0036	-.0039	10.42
.167	1.93 (40.32)	-.03	12.34	1.2240	.1213	.1806	-.0129	-.0061	-.0001	10.09
.167	1.92 (40.18)	-.04	14.35	1.3862	.1472	.2353	-.0158	-.0076	.0017	9.42
.167	1.93 (40.34)	-.04	16.42	1.5471	.1763	.2893	-.0203	-.0105	.0041	8.77
.167	1.93 (40.31)	-.05	18.51	1.6815	.2080	.3410	-.0198	-.0116	.0028	8.08
.167	1.93 (40.21)	-.05	20.52	1.7861	.2450	.3882	-.0205	-.0121	.0062	7.29
.167	1.93 (40.38)	-.07	22.54	1.7910	.3238	.3527	-.0244	-.0075	.0195	5.53
.167	1.93 (40.36)	-.06	24.53	1.8456	.3992	.3632	-.0181	-.0108	.0039	4.62

RUN NUMBER 51 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.44)	.00	-2.16	-.3826	.1689	.7827	.0010	.0001	-.0049	-2.27
.167	1.94 (40.52)	.00	-.15	-.2241	.1280	.8030	.0007	.0006	-.0084	-1.75
.168	1.95 (40.65)	-.00	2.03	-.0121	.0938	.8034	-.0008	.0003	-.0082	-.13
.168	1.95 (40.73)	-.00	4.04	.2359	.0725	.7416	.0022	.0006	-.0068	3.25
.168	1.95 (40.73)	-.00	6.10	.4572	.0727	.7013	-.0014	-.0008	-.0080	6.29
.167	1.94 (40.47)	-.02	8.21	.6746	.0816	.6639	-.0014	-.0016	-.0062	8.27
.167	1.93 (40.39)	-.02	10.29	.8847	.0959	.6328	-.0079	-.0041	-.0056	9.23
.167	1.92 (40.18)	-.02	12.30	1.0768	.1138	.6102	-.0105	-.0055	-.0019	9.46
.167	1.92 (40.17)	-.03	14.38	1.2587	.1411	.5875	-.0157	-.0079	-.0017	8.92
.166	1.92 (40.03)	-.04	16.45	1.4580	.1668	.5649	-.0193	-.0103	.0028	8.74
.167	1.92 (40.18)	-.04	18.44	1.6208	.1992	.5291	-.0181	-.0105	.0018	8.14
.167	1.92 (40.17)	-.05	20.51	1.7489	.2429	.4896	-.0204	-.0128	.0089	7.20
.167	1.93 (40.29)	-.06	22.48	1.7905	.3229	.3219	-.0228	-.0064	.0175	5.54
.167	1.93 (40.21)	-.05	24.57	1.8822	.4067	.2274	-.0168	-.0099	.0050	4.63

RUN NUMBER 52 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.47)	.00	-2.13	-.3097	.1212	.5435	.0005	.0008	-.0055	-2.56
.167	1.94 (40.48)	.00	-.09	-.1341	.0913	.5293	.0004	.0007	-.0069	-1.47
.167	1.94 (40.58)	-.00	2.05	.0929	.0679	.4947	-.0002	.0009	-.0070	1.37
.168	1.95 (40.64)	-.00	4.15	.3560	.0619	.4341	-.0001	.0003	-.0063	5.75
.168	1.94 (40.61)	-.00	6.08	.5532	.0654	.4003	-.0006	.0002	-.0048	8.46
.168	1.94 (40.61)	-.02	8.25	.7807	.0763	.3621	-.0013	.0001	-.0067	10.24
.167	1.94 (40.55)	-.02	10.27	.9861	.0926	.3285	-.0041	-.0010	-.0080	10.65
.167	1.94 (40.49)	-.02	12.29	1.2073	.1108	.2885	-.0030	-.0007	-.0065	10.89
.167	1.93 (40.33)	-.02	14.37	1.4037	.1375	.2705	-.0056	-.0020	-.0070	10.21
.166	1.92 (40.08)	-.03	16.43	1.5746	.1708	.2564	-.0079	-.0038	.0004	9.22
.167	1.93 (40.23)	-.02	18.56	1.7526	.2069	.2262	-.0055	-.0028	-.0056	8.47
.167	1.92 (40.20)	-.03	20.51	1.8627	.2486	.1887	-.0073	-.0049	-.0003	7.49
.166	1.92 (40.04)	-.04	22.55	1.9151	.3369	.0221	-.0125	-.0005	.0122	5.68
.167	1.94 (40.47)	-.04	24.62	1.9920	.4242	-.0577	-.0098	-.0060	.0007	4.70

RUN NUMBER 53 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.25)	.00	-2.13	-.2153	.1101	.2475	-.0005	.0014	-.0119	-1.96
.167	1.94 (40.41)	.00	-.08	-.0342	.0814	.2310	.0005	.0010	-.0068	-.42
.167	1.93 (40.39)	-.00	2.03	.2002	.0616	.1943	-.0001	.0008	-.0075	3.25
.167	1.94 (40.57)	-.00	4.03	.4483	.0586	.1443	.0001	.0006	-.0083	7.65
.167	1.93 (40.36)	-.01	6.17	.6555	.0661	.1174	-.0006	.0007	-.0090	9.92
.167	1.93 (40.37)	-.01	8.33	.8750	.0803	.0899	-.0007	.0005	-.0086	10.90
.166	1.93 (40.21)	-.01	10.31	1.0888	.0978	.0522	-.0026	-.0001	-.0110	11.13
.166	1.93 (40.21)	-.02	12.55	1.3099	.1233	.0123	-.0049	-.0012	-.0087	10.63
.166	1.92 (40.13)	-.02	14.44	1.4992	.1492	.0010	-.0047	-.0011	-.0064	10.05
.166	1.92 (40.08)	-.02	16.54	1.6682	.1841	-.0088	-.0082	-.0030	-.0053	9.06
.166	1.92 (40.19)	-.02	18.70	1.8404	.2263	-.0423	-.0062	-.0029	-.0074	8.13
.167	1.93 (40.32)	-.02	20.59	1.9674	.2705	-.1077	-.0064	-.0032	-.0057	7.27
.167	1.93 (40.30)	-.03	22.69	1.9979	.3698	-.3036	-.0116	-.0027	.0152	5.40
.167	1.93 (40.24)	-.03	24.60	2.0889	.4608	-.3718	-.0101	-.0051	-.0001	4.53

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RUN NUMBER 54 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.62)	.00	-2.10	-.1152	.1031	-.0236	.0002	.0011	-.0082	-1.12
.167	1.93 (40.26)	.00	-.10	.0545	.0791	-.0370	-.0005	.0007	-.0050	.69
.166	1.91 (39.82)	-.00	2.16	.3063	.0615	-.0748	-.0003	.0006	-.0060	4.98
.167	1.93 (40.26)	-.00	4.08	.5354	.0624	-.1262	-.0007	.0006	-.0080	8.58
.166	1.92 (40.16)	-.00	6.20	.7563	.0725	-.1591	-.0014	.0003	-.0075	10.43
.166	1.92 (40.11)	-.01	8.26	.9610	.0886	-.1905	-.0025	.0000	-.0085	10.84
.166	1.92 (40.11)	-.01	10.40	1.1813	.1115	-.2327	-.0045	-.0011	-.0063	10.60
.166	1.92 (40.10)	-.02	12.39	1.3792	.1348	-.2591	-.0047	-.0014	-.0075	10.23
.166	1.92 (40.10)	-.02	14.50	1.5747	.1691	-.2665	-.0075	-.0027	-.0045	9.31
.166	1.92 (40.17)	-.02	16.57	1.7607	.2034	-.2834	-.0085	-.0033	-.0060	8.66
.166	1.93 (40.22)	-.02	18.50	1.9175	.2464	-.3280	-.0063	-.0037	-.0060	7.78
.167	1.93 (40.32)	-.02	20.55	2.0548	.3029	-.4200	-.0067	-.0047	-.0034	6.78
.167	1.93 (40.35)	-.04	22.49	2.0868	.4047	-.5741	-.0135	-.0032	.0146	5.16
.166	1.92 (40.19)	-.03	24.72	2.1598	.5104	-.6306	-.0103	-.0050	-.0037	4.23

RUN NUMBER 55 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.36)	.00	-2.09	-.0125	.1017	-.3253	.0005	.0009	-.0075	-.12
.168	1.95 (40.75)	.00	-.08	.1639	.0801	-.3420	-.0005	.0008	-.0059	2.05
.166	1.92 (40.01)	-.00	2.09	.4141	.0660	-.3889	-.0016	.0007	-.0091	6.28
.167	1.93 (40.33)	-.00	4.29	.6545	.0722	-.4400	-.0011	.0002	-.0075	9.06
.166	1.92 (40.03)	-.01	6.15	.8550	.0826	-.4581	-.0004	.0003	-.0077	10.35
.167	1.93 (40.24)	-.01	8.32	1.0696	.1028	-.4851	-.0016	.0002	-.0098	10.41
.166	1.92 (40.09)	-.02	10.36	1.2811	.1265	-.5152	-.0038	-.0011	-.0071	10.13
.166	1.92 (40.09)	-.02	12.43	1.4652	.1557	-.5305	-.0049	-.0020	-.0056	9.41
.166	1.91 (39.93)	-.02	14.42	1.6650	.1904	-.5474	-.0068	-.0040	-.0031	8.75
.166	1.92 (40.08)	-.02	16.52	1.8582	.2357	-.5808	-.0070	-.0035	-.0045	7.89
.166	1.92 (40.19)	-.02	18.70	2.0154	.2934	-.6301	-.0070	-.0042	-.0058	6.87
.167	1.94 (40.51)	-.02	20.59	2.1268	.3542	-.6825	-.0084	-.0049	-.0051	6.00
.167	1.93 (40.37)	-.03	22.75	2.1399	.4670	-.8029	-.0127	-.0026	.0115	4.58
.166	1.92 (40.15)	-.03	24.58	2.2137	.5565	-.8334	-.0106	-.0041	-.0047	3.98

RUN NUMBER 56 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.25)	.00	-1.99	.0921	.1064	-.6442	-.0002	.0004	-.0051	.87
.167	1.94 (40.52)	.00	.01	.2791	.0877	-.6660	-.0005	.0007	-.0059	3.18
.167	1.93 (40.26)	-.00	2.05	.5097	.0783	-.7080	-.0016	.0002	-.0056	6.51
.167	1.95 (40.70)	-.00	4.14	.7525	.0858	-.7499	-.0002	.0004	-.0074	8.77
.167	1.93 (40.36)	-.00	6.19	.9557	.1021	-.7687	.0002	.0000	-.0072	9.36
.167	1.93 (40.40)	-.00	8.39	1.1634	.1270	-.7818	-.0036	-.0013	-.0062	9.16
.167	1.93 (40.26)	-.02	10.29	1.3486	.1555	-.7870	-.0055	-.0022	-.0057	8.67
.166	1.93 (40.24)	-.02	12.56	1.5517	.1949	-.7653	-.0062	-.0024	-.0064	7.96
.166	1.92 (40.16)	-.02	14.60	1.7343	.2397	-.7670	-.0057	-.0023	-.0045	7.23
.166	1.92 (40.16)	-.02	16.44	1.8948	.2810	-.7647	-.0074	-.0028	-.0055	6.74
.166	1.92 (40.19)	-.02	18.57	2.0347	.3384	-.7646	-.0063	-.0032	-.0073	6.01
.166	1.93 (40.23)	-.04	20.68	2.0947	.4374	-.9045	-.0160	-.0029	.0000	4.79
.166	1.93 (40.22)	-.04	22.57	2.1555	.5142	-.9383	-.0138	-.0022	.0095	4.19
.166	1.92 (40.02)	-.03	24.62	2.2405	.6126	-.9582	-.0067	-.0009	-.0100	3.66

RUN NUMBER 57 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.36)	.00	-2.07	.2059	.1247	-.9712	-.0003	.0002	-.0064	1.65
.167	1.94 (40.50)	.00	.00	.3765	.1166	-.9481	.0011	.0009	-.0056	3.23
.167	1.94 (40.45)	-.00	2.13	.5876	.1178	-.9413	-.0004	.0006	-.0060	4.99
.167	1.94 (40.44)	-.00	4.07	.8065	.1311	-.9239	.0008	.0011	-.0091	6.15
.167	1.93 (40.38)	-.00	6.35	1.0330	.1561	-.9341	-.0005	.0013	-.0119	6.62
.166	1.93 (40.22)	-.02	8.36	1.2075	.1782	-.9107	-.0047	-.0002	-.0117	6.77
.167	1.93 (40.33)	-.02	10.33	1.3774	.2025	-.8851	-.0051	-.0014	-.0074	6.80
.166	1.93 (40.21)	-.02	12.56	1.5705	.2373	-.8377	-.0059	-.0020	-.0062	6.62
.166	1.92 (40.18)	-.02	14.56	1.7414	.2797	-.8183	-.0053	-.0015	-.0095	6.23
.166	1.92 (40.18)	-.02	16.71	1.8974	.3296	-.7973	-.0087	-.0035	-.0062	5.76
.166	1.92 (40.13)	-.02	18.51	2.0243	.3782	-.7959	-.0061	-.0030	-.0084	5.35
.166	1.93 (40.26)	-.03	20.56	2.1121	.4566	-.8747	-.0100	-.0042	-.0033	4.63
.167	1.93 (40.30)	-.03	22.60	2.1533	.5609	-.9867	-.0114	-.0004	.0044	3.84
.167	1.93 (40.27)	-.03	24.66	2.2312	.6558	-1.0026	-.0095	-.0045	-.0082	3.40

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RUN NUMBER 58 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.117	.97 (20.22)	.00	-2.10	-.1236	.1059	-.0528	.0000	.0011	-.0080	-1.17
.118	.97 (20.30)	.00	-.05	.0427	.0849	-.0599	-.0005	.0014	-.0096	.50
.118	.98 (20.36)	-.00	2.04	.2522	.0670	-.0852	-.0011	.0015	-.0111	3.77
.118	.97 (20.26)	-.00	4.06	.4902	.0628	-.1349	-.0003	.0014	-.0124	7.80
.117	.97 (20.23)	-.01	6.17	.7290	.0734	-.1707	-.0002	.0014	-.0146	9.94
.117	.97 (20.20)	-.01	8.19	.9115	.0906	-.1970	-.0015	.0007	-.0120	10.06
.117	.97 (20.16)	-.02	10.40	1.1487	.1130	-.2500	-.0027	-.0003	-.0080	10.17
.117	.96 (20.14)	-.02	12.38	1.3374	.1394	-.2838	-.0050	-.0010	-.0099	9.59
.118	.97 (20.33)	-.02	14.45	1.5237	.1684	-.3013	-.0056	-.0016	-.0096	9.05
.118	.97 (20.30)	-.02	16.55	1.7082	.2074	-.3004	-.0061	-.0023	-.0097	8.24
.118	.97 (20.30)	-.02	18.54	1.8782	.2488	-.3573	-.0052	-.0029	-.0098	7.55
.118	.97 (20.35)	-.02	20.61	2.0169	.3062	-.4450	-.0063	-.0044	-.0098	6.59
.118	.98 (20.37)	-.02	22.62	2.0976	.3763	-.5134	-.0067	-.0048	-.0073	5.57
.117	.97 (20.21)	-.03	24.57	2.1377	.5006	-.6497	-.0070	-.0047	-.0115	4.27

RUN NUMBER 59 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.144	1.45 (30.39)	.00	-2.08	-.1159	.1060	-.0516	.0001	.0011	-.0083	-1.09
.143	1.44 (30.01)	.00	.00	.0509	.0836	-.0603	-.0008	.0013	-.0085	.61
.144	1.44 (30.17)	-.00	2.04	.2417	.0672	-.0839	-.0012	.0010	-.0084	3.60
.144	1.44 (30.17)	-.01	4.17	.5261	.0630	-.1383	.0006	.0016	-.0137	8.35
.144	1.45 (30.29)	-.01	6.18	.7275	.0753	-.1700	-.0017	.0009	-.0120	9.66
.145	1.46 (30.59)	-.01	8.27	.9358	.0913	-.2040	-.0011	.0008	-.0127	10.25
.144	1.45 (30.23)	-.02	10.23	1.1214	.1119	-.2401	-.0035	-.0003	-.0100	10.02
.144	1.45 (30.29)	-.02	12.37	1.3543	.1378	-.2827	-.0059	-.0015	-.0058	9.83
.144	1.45 (30.19)	-.02	14.49	1.5463	.1692	-.2945	-.0063	-.0020	-.0060	9.14
.143	1.44 (30.03)	-.02	16.45	1.7241	.2067	-.2984	-.0076	-.0034	-.0060	8.34
.144	1.45 (30.26)	-.02	18.57	1.9167	.2509	-.3532	-.0059	-.0034	-.0075	7.64
.144	1.46 (30.44)	-.02	20.71	2.0474	.3114	-.4397	-.0064	-.0047	-.0074	6.58
.144	1.45 (30.37)	-.03	22.54	2.1225	.3758	-.5092	-.0069	-.0060	-.0016	5.65
.144	1.44 (30.09)	-.03	24.54	2.1418	.5015	-.6470	-.0055	-.0053	-.0100	4.27

RUN NUMBER 60 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.39)	.00	-2.07	-.1234	.1040	-.0439	.0006	.0011	-.0070	-1.19
.167	1.93 (40.28)	.00	-.03	.0512	.0810	-.0594	.0000	.0014	-.0075	.63
.167	1.93 (40.33)	-.00	1.98	.2771	.0640	-.0907	.0027	.0017	-.0078	4.33
.167	1.94 (40.43)	-.00	4.13	.5252	.0642	-.1404	.0001	.0011	-.0102	8.18
.167	1.94 (40.45)	-.01	6.13	.7380	.0737	-.1751	-.0004	.0013	-.0119	10.01
.167	1.93 (40.41)	-.02	8.23	.9456	.0899	-.2020	-.0018	.0004	-.0109	10.51
.166	1.93 (40.21)	-.02	10.37	1.1638	.1131	-.2469	-.0037	-.0006	-.0082	10.29
.167	1.93 (40.34)	-.02	12.40	1.3647	.1379	-.2787	-.0050	-.0015	-.0075	9.89
.167	1.93 (40.36)	-.02	14.40	1.5475	.1692	-.2912	-.0071	-.0025	-.0078	9.15
.167	1.94 (40.42)	-.02	16.45	1.7353	.2045	-.2972	-.0072	-.0034	-.0066	8.48
.167	1.94 (40.54)	-.02	18.49	1.9029	.2484	-.3441	-.0060	-.0046	-.0087	7.66
.167	1.94 (40.49)	-.03	20.61	2.0514	.3057	-.4253	-.0065	-.0062	-.0072	6.71
.167	1.94 (40.52)	-.03	22.62	2.1393	.3795	-.4933	-.0086	-.0076	-.0017	5.64
.167	1.93 (40.34)	-.04	24.60	2.1509	.5077	-.6468	-.0087	-.0064	-.0080	4.24

RUN NUMBER 61 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.205	2.90 (60.48)	.00	-2.12	-.1212	.1036	-.0449	.0010	.0013	-.0070	-1.17
.205	2.89 (60.42)	.00	-.04	.0701	.0789	-.0662	.0011	.0017	-.0087	.89
.205	2.89 (60.36)	-.00	2.10	.3048	.0619	-.1053	.0006	.0015	-.0109	4.92
.205	2.89 (60.42)	-.00	4.11	.5410	.0628	-.1474	.0006	.0014	-.0112	8.62
.206	2.92 (60.88)	-.00	6.21	.7508	.0732	-.1760	-.0004	.0010	-.0103	10.26
.205	2.90 (60.63)	-.01	8.23	.9589	.0898	-.2046	-.0011	.0004	-.0107	10.68
.205	2.89 (60.37)	-.02	10.29	1.1704	.1116	-.2431	-.0036	-.0008	-.0094	10.48
.205	2.90 (60.48)	-.02	12.44	1.3825	.1391	-.2765	-.0049	-.0015	-.0074	9.94
.205	2.88 (60.15)	-.02	14.48	1.5670	.1697	-.2842	-.0060	-.0021	-.0065	9.23
.205	2.90 (60.51)	-.03	16.52	1.7518	.2060	-.2927	-.0072	-.0032	-.0064	8.50
.206	2.91 (60.84)	-.03	18.47	1.9030	.2478	-.3345	-.0064	-.0036	-.0097	7.68
.205	2.90 (60.61)	-.03	20.60	2.0526	.3060	-.4105	-.0051	-.0051	-.0087	6.71
.206	2.91 (60.72)	-.06	22.59	2.1065	.3845	-.5019	-.0152	-.0110	.0054	5.48
.206	2.92 (60.95)	-.06	24.70	2.1407	.5146	-.6459	-.0112	-.0066	-.0072	4.16

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RUN NUMBER 62 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.51)	-10.04	-1.97	.2620	.0858	-.1622	.0097	-.0289	.2035	3.05
.167	1.94 (40.49)	-10.04	.13	.6569	.0800	-.2352	.0262	-.0262	.1919	8.22
.167	1.94 (40.52)	-10.03	2.36	1.0093	.0930	-.2684	.0378	-.0239	.1877	10.85
.167	1.94 (40.50)	-10.02	4.34	1.2551	.1107	-.2967	.0413	-.0218	.1854	11.34
.167	1.94 (40.41)	-10.01	6.48	1.4783	.1375	-.3400	.0435	-.0211	.1876	10.75
.167	1.93 (40.39)	-10.00	8.49	1.7024	.1660	-.3892	.0463	-.0196	.1857	10.26
.166	1.93 (40.22)	-9.99	10.71	1.9261	.2063	-.4360	.0495	-.0176	.1852	9.33
.166	1.93 (40.30)	-9.97	12.59	2.0824	.2402	-.4602	.0518	-.0152	.1789	8.67
.166	1.92 (40.14)	-9.96	14.75	2.2425	.2824	-.4798	.0496	-.0163	.1837	7.94
.167	1.93 (40.39)	-9.95	16.70	2.3671	.3249	-.4966	.0496	-.0165	.1889	7.29
.166	1.93 (40.30)	-9.95	18.78	2.4640	.3717	-.4836	.0435	-.0193	.1996	6.63
.167	1.94 (40.55)	-9.93	20.81	2.5194	.4307	-.5082	.0495	-.0171	.1906	5.85
.167	1.93 (40.41)	-9.94	22.79	2.5211	.5280	-.6183	.0395	-.0138	.1866	4.77
.166	1.93 (40.29)	-9.89	24.87	2.6025	.6430	-.5998	.0576	.0045	.1597	4.05

RUN NUMBER 63 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.95 (40.80)	-5.01	-2.02	.2506	.1046	-.0586	.0058	-.0141	.1003	2.39
.167	1.95 (40.76)	-5.01	.07	.6460	.0966	-.1498	.0147	-.0119	.0916	6.69
.167	1.95 (40.73)	-5.00	2.27	.9879	.1080	-.1972	.0201	-.0100	.0842	9.14
.167	1.95 (40.73)	-5.00	4.33	1.2330	.1265	-.2387	.0214	-.0093	.0840	9.74
.167	1.95 (40.66)	-4.99	6.43	1.4570	.1521	-.2825	.0213	-.0087	.0812	9.58
.167	1.94 (40.57)	-4.98	8.47	1.6796	.1805	-.3300	.0227	-.0089	.0824	9.31
.167	1.94 (40.45)	-4.97	10.52	1.8902	.2144	-.3701	.0226	-.0093	.0827	8.82
.167	1.93 (40.38)	-4.97	12.65	2.0990	.2526	-.4099	.0242	-.0089	.0847	8.31
.167	1.93 (40.32)	-4.96	14.53	2.2543	.2915	-.4214	.0229	-.0097	.0868	7.73
.166	1.93 (40.33)	-4.96	16.72	2.3880	.3302	-.4246	.0210	-.0100	.0912	7.23
.166	1.93 (40.31)	-4.95	18.73	2.4826	.3734	-.4314	.0181	-.0111	.0947	6.65
.166	1.93 (40.24)	-4.97	20.64	2.3834	.4773	-.5910	.0100	-.0167	.1006	4.99
.166	1.93 (40.22)	-4.96	22.73	2.5039	.5564	-.6387	.0140	-.0160	.0940	4.50
.166	1.92 (40.07)	-4.94	24.73	2.5133	.6592	-.5766	.0221	-.0065	.0855	3.81

RUN NUMBER 64 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.39)	-.01	-2.06	.2626	.1092	-.0035	.0030	.0015	-.0077	2.40
.166	1.93 (40.26)	-.01	.14	.6655	.1008	-.1108	.0042	.0017	-.0057	6.60
.166	1.93 (40.21)	-.01	2.21	.9824	.1107	-.1691	.0015	.0018	-.0102	8.88
.166	1.93 (40.20)	-.00	4.27	1.2286	.1294	-.2138	.0021	.0018	-.0092	9.50
.166	1.92 (40.19)	-.00	6.42	1.4654	.1532	-.2562	-.0000	.0010	-.0076	9.56
.166	1.92 (40.13)	-.00	8.51	1.6867	.1832	-.2979	.0006	.0016	-.0101	9.20
.166	1.92 (40.19)	.00	10.55	1.8905	.2184	-.3335	-.0000	.0013	-.0093	8.65
.166	1.93 (40.22)	.01	12.56	2.0996	.2502	-.3643	.0004	.0017	-.0103	8.39
.166	1.92 (40.18)	.01	14.60	2.2532	.2939	-.3952	-.0032	-.0002	-.0073	7.67
.166	1.92 (40.14)	-.00	16.62	2.3881	.3311	-.4091	-.0042	-.0004	-.0106	7.21
.166	1.92 (40.18)	-.03	18.63	2.3619	.4057	-.4943	-.0205	-.0058	.0176	5.82
.166	1.92 (40.12)	-.05	20.72	2.4649	.4712	-.5110	-.0285	-.0106	.0292	5.23
.166	1.93 (40.20)	-.02	22.78	2.5063	.5750	-.5975	-.0097	-.0001	-.0043	4.36
.167	1.93 (40.39)	-.04	24.82	2.6618	.6516	-.6393	-.0148	-.0073	.0058	4.09

RUN NUMBER 65 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.62)	4.99	-2.06	.2520	.1029	-.0585	-.0019	.0159	-.1034	2.45
.167	1.94 (40.60)	4.99	.15	.6613	.0940	-.1575	-.0111	.0150	-.1037	7.04
.167	1.94 (40.60)	4.99	2.26	.9773	.1049	-.2071	-.0166	.0129	-.0998	9.31
.167	1.94 (40.60)	4.98	4.25	1.2302	.1211	-.2504	-.0182	.0120	-.0990	10.16
.167	1.94 (40.60)	4.98	6.37	1.4393	.1490	-.2960	-.0216	.0110	-.0987	9.66
.167	1.94 (40.60)	4.98	8.51	1.7040	.1768	-.3483	-.0218	.0120	-.1040	9.64
.167	1.94 (40.47)	4.97	10.55	1.9045	.2099	-.3970	-.0255	.0116	-.1072	9.08
.166	1.93 (40.35)	4.97	12.61	2.0847	.2482	-.4376	-.0246	.0124	-.1102	8.40
.166	1.93 (40.27)	4.96	14.66	2.2455	.2909	-.4746	-.0262	.0122	-.1130	7.72
.166	1.92 (40.12)	4.95	16.66	2.3722	.3296	-.4712	-.0306	.0104	-.1120	7.20
.165	1.91 (39.86)	4.92	18.64	2.3671	.4068	-.5360	-.0466	.0067	-.0852	5.82
.165	1.90 (39.79)	4.90	20.77	2.5027	.4703	-.5418	-.0529	.0029	-.0781	5.32
.166	1.91 (39.95)	4.90	22.81	2.5987	.5395	-.5697	-.0477	.0074	-.0819	4.82
.166	1.92 (40.06)	4.86	24.79	2.6343	.6522	-.6425	-.0588	-.0127	-.0685	4.04

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RUN NUMBER 66 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.95 (40.64)	-.02	-1.95	.3814	.1125	-.2420	.0052	.0013	-.0064	3.39
.167	1.94 (40.52)	-.02	.07	.7116	.0982	-.2727	.0032	.0016	-.0093	7.24
.167	1.93 (40.40)	-.02	2.27	1.0123	.0998	-.2615	.0039	.0015	-.0082	10.14
.166	1.93 (40.38)	-.02	4.33	1.2457	.1078	-.2280	.0009	.0009	-.0073	11.56
.166	1.93 (40.29)	-.02	6.38	1.4423	.1204	-.1867	-.0000	.0008	-.0097	11.97
.166	1.93 (40.22)	-.02	8.39	1.6296	.1397	-.1540	.0005	.0011	-.0106	11.66
.166	1.92 (40.19)	-.02	10.53	1.8325	.1589	-.1078	-.0011	.0005	-.0112	11.53
.166	1.92 (40.17)	-.02	12.57	2.0091	.1808	-.0654	-.0000	.0011	-.0100	11.11
.166	1.92 (40.14)	-.02	14.59	2.1560	.2125	-.0298	-.0016	.0003	-.0092	10.14
.166	1.92 (40.15)	-.03	16.67	2.2831	.2376	.0190	-.0045	-.0021	-.0057	9.61
.166	1.93 (40.34)	-.05	18.63	2.2486	.2941	.0037	-.0200	-.0059	.0204	7.64
.166	1.93 (40.36)	-.07	20.62	2.3256	.3391	.0586	-.0302	-.0098	.0277	6.86
.166	1.93 (40.25)	-.06	22.69	2.3460	.4161	.0578	-.0162	-.0061	.0046	5.64
.166	1.93 (40.24)	-.06	24.77	2.4621	.4721	.1088	-.0149	-.0065	.0044	5.21

RUN NUMBER 67 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.62)	-.02	-2.06	-.0084	.1838	.7566	.0034	.0017	-.0107	-.05
.167	1.94 (40.51)	-.02	.06	.4009	.1584	.6850	.0037	.0017	-.0076	2.53
.167	1.94 (40.51)	-.02	2.13	.6811	.1541	.6566	.0034	.0017	-.0092	4.42
.167	1.94 (40.58)	-.02	4.27	.9414	.1538	.6432	.0013	.0016	-.0102	6.12
.167	1.94 (40.58)	-.02	6.36	1.1615	.1613	.6232	.0018	.0017	-.0078	7.20
.167	1.94 (40.58)	-.02	8.39	1.3899	.1680	.5680	.0009	.0013	-.0086	8.27
.167	1.94 (40.58)	-.02	10.40	1.6003	.1914	.5388	-.0003	.0013	-.0117	8.36
.167	1.94 (40.57)	-.02	12.49	1.8029	.2194	.4997	-.0001	.0013	-.0102	8.22
.167	1.94 (40.49)	-.02	14.57	1.9792	.2544	.4530	-.0012	.0009	-.0078	7.78
.166	1.93 (40.28)	-.02	16.56	2.1416	.2890	.4044	-.0025	-.0005	-.0077	7.41
.166	1.93 (40.33)	-.05	18.70	2.1594	.3596	.2268	-.0173	-.0033	.0172	6.01
.166	1.93 (40.31)	-.07	20.72	2.2601	.4143	.1782	-.0281	-.0087	.0280	5.46
.166	1.93 (40.35)	-.05	22.69	2.3160	.4989	.0702	-.0146	-.0047	.0043	4.64
.167	1.94 (40.56)	-.05	24.81	2.4354	.5661	.0576	-.0132	-.0067	.0040	4.30

RUN NUMBER 68 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.54)	-.02	-2.05	.0453	.1409	.5959	.0034	.0012	-.0046	.32
.167	1.94 (40.61)	-.02	.04	.4421	.1127	.4838	.0061	.0033	-.0088	3.92
.167	1.94 (40.60)	-.02	2.18	.7830	.1122	.4118	.0038	.0017	-.0092	6.98
.167	1.94 (40.60)	-.02	4.35	1.0443	.1250	.3682	.0030	.0015	-.0087	8.36
.167	1.94 (40.42)	-.02	6.33	1.2650	.1426	.3248	.0002	.0010	-.0098	8.87
.167	1.94 (40.43)	-.02	8.38	1.4953	.1654	.2836	.0025	.0018	-.0113	9.04
.167	1.94 (40.49)	-.02	10.42	1.6939	.1924	.2477	.0016	.0014	-.0103	8.80
.167	1.94 (40.48)	-.02	12.50	1.8930	.2245	.2087	-.0003	.0005	-.0074	8.43
.166	1.93 (40.23)	-.02	14.61	2.0939	.2617	.1622	-.0002	.0012	-.0095	8.00
.166	1.92 (40.17)	-.02	16.57	2.2330	.2989	.1200	-.0025	-.0007	-.0044	7.47
.166	1.93 (40.30)	-.05	18.61	2.2277	.3672	-.0189	-.0188	-.0038	.0175	6.07
.166	1.93 (40.30)	-.07	20.66	2.3379	.4263	-.0445	-.0273	-.0080	.0248	5.48
.166	1.93 (40.38)	-.05	22.63	2.3705	.5108	-.1413	-.0163	-.0054	.0020	4.64
.167	1.94 (40.42)	-.05	24.81	2.5288	.5834	-.1586	-.0141	-.0080	.0029	4.33

RUN NUMBER 69 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.95 (40.63)	-.02	-2.03	.1583	.1109	.2935	.0020	.0004	-.0053	1.43
.167	1.94 (40.42)	-.02	.11	.5737	.0982	.1824	.0016	.0009	-.0065	5.84
.167	1.94 (40.57)	-.02	2.26	.8967	.1054	.1256	.0017	.0013	-.0086	8.51
.167	1.94 (40.58)	-.02	4.32	1.1543	.1212	.0803	-.0000	.0007	-.0089	9.53
.167	1.94 (40.45)	-.02	6.36	1.3842	.1415	.0378	-.0017	.0002	-.0089	9.78
.167	1.94 (40.43)	-.02	8.44	1.6039	.1700	.0032	-.0039	-.0007	-.0057	9.43
.166	1.93 (40.38)	-.02	10.52	1.8422	.1999	-.0306	-.0029	-.0000	-.0066	9.21
.166	1.93 (40.38)	-.03	12.54	2.0277	.2348	-.0590	-.0061	-.0013	-.0055	8.64
.166	1.93 (40.27)	-.03	14.70	2.2316	.2743	-.0965	-.0077	-.0021	-.0017	8.14
.166	1.92 (40.10)	-.03	16.66	2.3545	.3139	-.1166	-.0086	-.0038	.0024	7.50
.166	1.92 (40.16)	-.05	18.63	2.3175	.3792	-.2263	-.0202	-.0053	.0168	6.11
.166	1.93 (40.28)	-.07	20.78	2.4424	.4473	-.2804	-.0314	-.0100	.0250	5.46
.166	1.93 (40.37)	-.05	22.76	2.4686	.5393	-.3506	-.0168	-.0052	.0067	4.58
.166	1.93 (40.32)	-.04	24.74	2.5944	.6180	-.3504	-.0105	-.0000	-.0009	4.20

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RUN NUMBER 70 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.57)	-.02	-1.99	.2930	.1042	.0030	.0026	.0012	-.0093	2.81
.167	1.94 (40.46)	-.02	.16	.6764	.0964	-.0982	.0015	.0012	-.0097	7.02
.167	1.94 (40.54)	-.02	2.27	.9852	.1076	-.1541	-.0000	.0007	-.0081	9.16
.167	1.94 (40.46)	-.02	4.26	1.2362	.1240	-.1957	-.0002	.0009	-.0099	9.97
.167	1.94 (40.51)	-.02	6.37	1.4711	.1489	-.2332	-.0016	.0004	-.0072	9.88
.166	1.93 (40.35)	-.02	8.42	1.6870	.1799	-.2702	-.0049	-.0007	-.0049	9.38
.166	1.93 (40.30)	-.03	10.55	1.9301	.2146	-.3094	-.0056	-.0011	-.0050	8.99
.166	1.93 (40.24)	-.03	12.65	2.1411	.2512	-.3388	-.0061	-.0009	-.0070	8.52
.166	1.92 (40.12)	-.03	14.66	2.3130	.2909	-.3647	-.0090	-.0030	-.0007	7.95
.166	1.93 (40.30)	-.03	16.72	2.4467	.3298	-.3729	-.0103	-.0042	-.0010	7.42
.166	1.93 (40.35)	-.06	18.70	2.4138	.4058	-.4777	-.0241	-.0086	.0252	5.95
.166	1.93 (40.32)	-.07	20.68	2.4969	.4692	-.5143	-.0308	-.0117	.0319	5.32
.166	1.93 (40.31)	-.05	22.75	2.5237	.5738	-.5601	-.0129	-.0022	.0011	4.40
.166	1.93 (40.28)	-.05	24.74	2.6564	.6530	-.5869	-.0117	-.0010	-.0039	4.07

RUN NUMBER 71 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.41)	-.02	-2.01	.3644	.1056	-.2767	.0026	.0010	-.0074	3.45
.166	1.93 (40.41)	-.02	.24	.7903	.1004	-.3891	.0025	.0014	-.0063	7.87
.167	1.94 (40.42)	-.02	2.27	1.0893	.1143	-.4417	.0016	.0012	-.0069	9.53
.166	1.93 (40.40)	-.02	4.30	1.3300	.1351	-.4842	-.0002	.0009	-.0073	9.84
.166	1.93 (40.38)	-.02	6.42	1.5707	.1630	-.5223	-.0031	.0005	-.0089	9.63
.166	1.93 (40.36)	-.02	8.46	1.7910	.1949	-.5589	-.0041	-.0000	-.0078	9.19
.166	1.93 (40.26)	-.03	10.52	2.0157	.2318	-.5895	-.0067	-.0015	-.0043	8.70
.166	1.92 (40.13)	-.03	12.64	2.2132	.2738	-.6093	-.0069	-.0016	-.0046	8.08
.167	1.94 (40.45)	-.03	14.75	2.4002	.3158	-.6264	-.0097	-.0032	-.0009	7.60
.167	1.94 (40.50)	-.03	16.66	2.5187	.3541	-.6214	-.0097	-.0040	.0035	7.11
.166	1.93 (40.34)	-.06	18.75	2.4866	.4389	-.7175	-.0248	-.0115	.0309	5.67
.166	1.93 (40.34)	-.08	20.78	2.5678	.5077	-.7289	-.0327	-.0124	.0289	5.06
.166	1.93 (40.34)	-.05	22.72	2.5910	.6115	-.7776	-.0175	-.0059	.0022	4.24
.166	1.93 (40.41)	-.06	24.76	2.7386	.6943	-.8250	-.0195	-.0078	.0042	3.94

RUN NUMBER 72 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.51)	-.02	-1.95	.5118	.1114	-.6114	.0037	.0010	-.0073	4.59
.166	1.93 (40.39)	-.02	.19	.8955	.1113	-.7157	.0011	.0009	-.0070	8.05
.166	1.93 (40.41)	-.02	2.24	1.1950	.1277	-.7684	.0011	.0005	-.0062	9.36
.166	1.93 (40.21)	-.02	4.36	1.4630	.1517	-.8050	-.0014	-.0004	-.0057	9.65
.166	1.93 (40.23)	-.02	6.41	1.6784	.1826	-.8284	-.0027	-.0013	-.0035	9.19
.166	1.93 (40.36)	-.03	8.49	1.8990	.2198	-.8544	-.0056	-.0018	-.0042	8.64
.166	1.93 (40.37)	-.03	10.61	2.1271	.2574	-.8728	-.0053	-.0010	-.0069	8.26
.166	1.93 (40.38)	-.03	12.61	2.3110	.3005	-.8891	-.0086	-.0028	-.0072	7.69
.167	1.94 (40.47)	-.03	14.68	2.4748	.3490	-.8906	-.0094	-.0041	-.0005	7.09
.167	1.94 (40.49)	-.04	16.73	2.5809	.3991	-.8462	-.0123	-.0053	.0017	6.47
.166	1.93 (40.36)	-.05	18.73	2.5193	.4850	-.9283	-.0228	-.0097	.0258	5.19
.166	1.93 (40.30)	-.07	20.76	2.5923	.5528	-.9005	-.0322	-.0121	.0281	4.69
.166	1.93 (40.38)	-.05	22.75	2.6293	.6664	-.9632	-.0130	-.0009	-.0032	3.95
.166	1.93 (40.39)	-.05	24.88	2.7448	.7551	-.9611	-.0110	.0013	-.0038	3.64

RUN NUMBER 73 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.46)	-.02	-1.92	.6099	.1262	-.9343	.0037	.0008	-.0050	4.83
.167	1.94 (40.55)	-.02	.18	.9867	.1309	-1.0306	.0007	.0011	-.0083	7.54
.166	1.91 (40.00)	-.02	2.25	1.2900	.1511	-1.0699	-.0007	.0000	-.0093	8.54
.166	1.93 (40.28)	-.02	4.38	1.5542	.1864	-1.0884	-.0013	.0015	-.0116	8.34
.166	1.92 (40.11)	-.02	6.44	1.7408	.2243	-1.0621	-.0034	.0006	-.0104	7.76
.166	1.93 (40.28)	-.03	8.50	1.9430	.2669	-1.0448	-.0060	.0001	-.0119	7.28
.166	1.93 (40.35)	-.03	10.66	2.1673	.3112	-1.0400	-.0071	-.0004	-.0117	6.96
.167	1.94 (40.52)	-.03	12.63	2.3488	.3535	-1.0551	-.0068	-.0008	-.0090	6.64
.167	1.94 (40.59)	-.03	14.66	2.4974	.3966	-1.0167	-.0087	-.0017	-.0043	6.30
.167	1.94 (40.58)	-.04	16.67	2.5859	.4376	-.9387	-.0135	-.0059	.0044	5.91
.166	1.93 (40.27)	-.06	18.73	2.5322	.5300	-1.0271	-.0263	-.0110	.0297	4.78
.167	1.94 (40.47)	-.07	20.75	2.6031	.5987	-.9974	-.0308	-.0114	.0243	4.35
.167	1.94 (40.61)	-.06	22.75	2.6439	.7045	-1.0618	-.0206	-.0076	.0028	3.75
.167	1.94 (40.44)	-.06	24.86	2.7692	.7915	-1.0534	-.0192	-.0084	.0026	3.50

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RUN NUMBER 74 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.55)	-.02	-1.99	.2658	.1051	.0079	.0037	.0006	-.0043	2.53
.166	1.92 (40.19)	-.02	.10	.6832	.0985	-.1112	.0059	.0003	-.0077	6.93
.166	1.94 (40.46)	-.02	2.25	.9973	.1087	-.1700	.0080	.0001	-.0077	9.17
.166	1.92 (40.14)	-.02	4.32	1.2627	.1266	-.2129	.0064	-.0004	-.0060	9.97
.166	1.93 (40.29)	-.02	6.48	1.5082	.1555	-.2568	.0040	-.0008	-.0046	9.70
.166	1.93 (40.26)	-.02	8.45	1.7140	.1810	-.2917	.0010	-.0015	-.0035	9.47
.166	1.92 (40.13)	-.02	10.47	1.9373	.2142	-.3264	.0005	-.0011	-.0063	9.04
.166	1.93 (40.28)	-.02	12.57	2.1235	.2536	-.3518	-.0027	-.0029	-.0016	8.37
.166	1.92 (40.13)	-.02	14.56	2.3069	.2912	-.3808	-.0039	-.0032	-.0007	7.92
.166	1.92 (40.19)	-.03	16.64	2.4619	.3343	-.3911	-.0053	-.0042	.0025	7.37
.166	1.92 (40.12)	-.04	18.72	2.4124	.4072	-.4914	-.0176	-.0077	.0235	5.92
.166	1.93 (40.36)	-.05	20.71	2.5345	.4736	-.5469	-.0217	-.0091	.0306	5.35
.166	1.93 (40.39)	-.03	22.68	2.5423	.5703	-.5782	-.0065	-.0009	.0006	4.46
.166	1.94 (40.46)	-.04	24.88	2.6758	.6639	-.5997	-.0096	-.0013	.0008	4.03

RUN NUMBER 75 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.47)	-.02	-1.99	.2363	.1097	.0371	.0122	.0014	-.0045	2.15
.167	1.94 (40.61)	-.02	.13	.6557	.1015	-.0802	.0208	.0017	-.0038	6.46
.166	1.92 (40.19)	-.02	2.19	.9503	.1115	-.1267	.0229	.0016	-.0059	8.52
.166	1.93 (40.21)	-.01	4.30	1.2224	.1290	-.1717	.0225	.0020	-.0062	9.48
.166	1.92 (40.15)	-.01	6.48	1.4519	.1550	-.2080	.0186	.0014	-.0080	9.37
.166	1.92 (40.12)	-.01	8.41	1.6737	.1825	-.2421	.0180	.0010	-.0023	9.17
.166	1.93 (40.23)	-.00	10.43	1.8881	.2163	-.2778	.0156	.0012	-.0065	8.73
.166	1.93 (40.30)	-.00	12.61	2.0987	.2562	-.3054	.0114	-.0005	-.0038	8.19
.166	1.93 (40.32)	-.00	14.61	2.2694	.2954	-.3311	.0097	-.0015	.0010	7.68
.166	1.93 (40.33)	-.00	16.68	2.4102	.3354	-.3452	.0064	-.0027	.0000	7.19
.166	1.93 (40.37)	-.02	18.68	2.3772	.4052	-.4446	-.0053	-.0049	.0205	5.87
.166	1.93 (40.26)	-.03	20.77	2.4969	.4729	-.5012	-.0071	-.0041	.0264	5.28
.166	1.93 (40.31)	-.02	22.71	2.5440	.5743	-.5493	-.0012	-.0028	.0029	4.43
.167	1.94 (40.49)	-.03	24.78	2.6715	.6565	-.5800	-.0055	-.0041	.0034	4.07

RUN NUMBER 77 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.49)	-.02	-1.97	.2613	.1075	.0208	.0072	.0011	-.0086	2.43
.166	1.93 (40.23)	-.02	.12	.6494	.1002	-.0858	.0132	.0011	-.0059	6.48
.166	1.93 (40.23)	-.02	2.21	.9416	.1111	-.1319	.0112	.0002	-.0060	8.47
.166	1.93 (40.21)	-.02	4.27	1.2133	.1272	-.1728	.0096	.0002	-.0066	9.54
.166	1.93 (40.21)	-.02	6.45	1.4586	.1517	-.2082	.0094	-.0001	-.0042	9.62
.166	1.92 (40.16)	-.02	8.48	1.6779	.1806	-.2418	.0040	-.0017	-.0051	9.29
.166	1.93 (40.24)	-.02	10.48	1.9098	.2165	-.2768	.0039	-.0017	-.0062	8.82
.166	1.93 (40.27)	-.02	12.52	2.0978	.2544	-.3008	.0004	-.0032	-.0027	8.25
.166	1.93 (40.28)	-.02	14.56	2.2814	.2940	-.3288	-.0032	-.0046	-.0028	7.76
.166	1.93 (40.31)	-.06	16.70	2.3541	.3431	-.3040	-.0278	-.0156	.0089	6.86
.166	1.93 (40.34)	-.07	18.62	2.3908	.3866	-.3135	-.0285	-.0178	.0130	6.18
.166	1.93 (40.40)	-.10	20.69	2.4328	.4765	-.4535	-.0459	-.0215	.0359	5.11
.167	1.94 (40.45)	-.10	22.65	2.4725	.5692	-.5226	-.0394	-.0241	.0196	4.34
.166	1.93 (40.41)	-.08	24.75	2.5783	.6619	-.5329	-.0269	-.0159	.0108	3.90

RUN NUMBER 78 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.28)	-.02	-2.06	.2095	.1139	.0561	.0154	.0026	-.0056	1.84
.166	1.92 (40.16)	-.02	.11	.6293	.1058	-.0637	.0276	.0021	-.0036	5.95
.166	1.93 (40.25)	-.01	2.15	.9309	.1159	-.1118	.0311	.0025	-.0067	8.03
.166	1.93 (40.24)	-.01	4.34	1.2046	.1350	-.1541	.0299	.0029	-.0079	8.92
.166	1.93 (40.24)	-.00	6.29	1.4113	.1582	-.1870	.0275	.0025	-.0074	8.92
.166	1.93 (40.22)	.00	8.45	1.6627	.1867	-.2215	.0277	.0030	-.0083	8.91
.166	1.92 (40.19)	.01	10.76	1.9028	.2248	-.2552	.0250	.0027	-.0098	8.46
.166	1.92 (40.16)	.01	12.54	2.0872	.2561	-.2792	.0214	.0014	-.0067	8.15
.166	1.92 (40.19)	.01	14.74	2.2722	.3021	-.3067	.0167	-.0001	-.0054	7.52
.166	1.93 (40.23)	-.03	16.61	2.3087	.3556	-.2837	-.0103	-.0130	.0109	6.49
.166	1.93 (40.32)	-.04	18.59	2.3172	.4141	-.3431	-.0203	-.0166	.0248	5.60
.166	1.93 (40.38)	-.07	20.68	2.4024	.4870	-.4247	-.0280	-.0163	.0322	4.93
.167	1.94 (40.44)	-.06	22.86	2.4545	.5889	-.4922	-.0211	-.0172	.0144	4.17
.166	1.93 (40.39)	-.06	24.71	2.5682	.6614	-.5186	-.0201	-.0168	.0125	3.88

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RUN NUMBER 79 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.43)	-.02	-1.98	.2408	.1072	.0156	-.0001	.0004	-.0061	2.25
.166	1.93 (40.40)	-.02	.11	.6536	.1001	-.1105	.0065	-.0010	-.0047	6.53
.166	1.93 (40.39)	-.02	2.25	.9916	.1113	-.1707	.0091	-.0009	-.0070	8.91
.166	1.93 (40.33)	-.02	4.32	1.2719	.1272	-.2160	.0097	-.0009	-.0049	10.00
.166	1.93 (40.28)	-.02	6.36	1.4917	.1525	-.2511	.0056	-.0019	-.0075	9.78
.166	1.92 (40.14)	-.02	8.52	1.7262	.1864	-.2835	.0038	-.0025	-.0074	9.26
.166	1.92 (40.11)	-.02	10.52	1.9410	.2197	-.3144	.0004	-.0038	-.0044	8.84
.166	1.92 (40.20)	-.02	12.50	2.1320	.2598	-.3384	-.0015	-.0042	-.0045	8.21
.166	1.93 (40.21)	-.02	14.61	2.3149	.3028	-.3632	-.0054	-.0058	-.0013	7.64
.166	1.93 (40.27)	-.06	16.67	2.3654	.3565	-.3324	-.0320	-.0198	.0152	6.64
.166	1.93 (40.36)	-.09	18.57	2.3381	.4219	-.4221	-.0442	-.0233	.0382	5.54
.166	1.93 (40.39)	-.11	20.79	2.4452	.4902	-.4678	-.0475	-.0248	.0411	4.99
.167	1.94 (40.44)	-.08	22.70	2.4609	.5899	-.5140	-.0280	-.0170	.0126	4.17
.166	1.93 (40.37)	-.09	24.76	2.5868	.6745	-.5487	-.0276	-.0167	.0093	3.84

RUN NUMBER 80 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.57)	-.02	-2.02	.2225	.1085	.0106	.0010	-.0003	-.0001	2.05
.167	1.93 (40.36)	-.02	.11	.6510	.0983	-.1061	.0057	.0000	-.0016	6.62
.167	1.93 (40.39)	-.02	2.41	1.0092	.1081	-.1683	.0054	.0002	-.0053	9.33
.167	1.93 (40.31)	-.02	4.26	1.2240	.1257	-.2021	.0029	-.0005	-.0022	9.74
.166	1.92 (40.19)	-.02	6.36	1.4646	.1499	-.2376	.0019	-.0008	-.0043	9.77
.166	1.92 (40.16)	-.02	8.42	1.6900	.1806	-.2691	-.0001	-.0018	-.0007	9.36
.166	1.92 (40.14)	-.02	10.48	1.9399	.2165	-.3045	-.0015	-.0019	-.0030	8.96
.167	1.93 (40.35)	-.03	12.54	2.1306	.2549	-.3271	-.0060	-.0040	-.0009	8.36
.167	1.93 (40.36)	-.03	14.54	2.2981	.2966	-.3484	-.0100	-.0056	.0025	7.75
.167	1.93 (40.39)	-.08	16.61	2.3526	.3498	-.3159	-.0374	-.0190	.0141	6.73
.167	1.94 (40.45)	-.10	18.65	2.3311	.4198	-.3988	-.0506	-.0236	.0363	5.55
.167	1.94 (40.48)	-.12	20.65	2.4199	.4819	-.4495	-.0526	-.0246	.0414	5.02
.167	1.94 (40.54)	-.11	22.68	2.4675	.5788	-.5274	-.0396	-.0215	.0180	4.26
.167	1.94 (40.47)	-.11	24.68	2.5868	.6571	-.5514	-.0381	-.0234	.0169	3.94

RUN NUMBER 81 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.26)	-.02	-1.97	.2555	.1071	.0055	.0026	.0006	-.0058	2.38
.166	1.93 (40.25)	-.02	.07	.6323	.0975	-.0938	-.0014	.0004	-.0067	6.48
.166	1.93 (40.24)	-.02	2.30	.9838	.1069	-.1551	.0018	.0007	-.0063	9.20
.166	1.93 (40.24)	-.02	4.32	1.2197	.1256	-.1909	-.0020	-.0001	-.0063	9.71
.166	1.93 (40.24)	-.03	6.34	1.4578	.1478	-.2267	-.0011	.0002	-.0060	9.86
.166	1.93 (40.21)	-.03	8.40	1.6799	.1782	-.2602	-.0029	-.0008	-.0063	9.43
.166	1.93 (40.22)	-.03	10.50	1.9007	.2141	-.2923	-.0068	-.0024	-.0060	8.88
.166	1.92 (40.20)	-.03	12.52	2.1066	.2496	-.3208	-.0072	-.0025	-.0063	8.44
.166	1.92 (40.14)	-.04	14.57	2.2849	.2919	-.3460	-.0096	-.0035	-.0049	7.83
.166	1.92 (40.15)	-.04	16.61	2.4315	.3323	-.3585	-.0105	-.0052	-.0007	7.32
.166	1.93 (40.22)	-.07	18.70	2.3951	.4090	-.4572	-.0255	-.0107	.0235	5.86
.166	1.93 (40.22)	-.08	20.69	2.4952	.4680	-.4901	-.0315	-.0125	.0244	5.33
.166	1.93 (40.22)	-.05	22.70	2.5171	.5703	-.5461	-.0115	-.0018	-.0050	4.41
.166	1.92 (40.09)	-.05	24.72	2.6456	.6532	-.5654	-.0098	-.0013	-.0061	4.05

RUN NUMBER 82 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.92 (40.19)	-.02	-2.01	.2123	.1096	.0197	-.0034	-.0002	-.0047	1.94
.167	1.94 (40.48)	-.02	.14	.6244	.0991	-.0798	-.0065	.0001	-.0074	6.30
.167	1.94 (40.48)	-.02	2.15	.9243	.1076	-.1264	-.0069	-.0001	-.0085	8.59
.167	1.94 (40.46)	-.03	4.35	1.2098	.1248	-.1738	-.0078	-.0003	-.0072	9.69
.167	1.94 (40.47)	-.03	6.33	1.4173	.1485	-.2044	-.0097	-.0013	-.0055	9.54
.167	1.94 (40.46)	-.03	8.56	1.6779	.1788	-.2460	-.0112	-.0020	-.0069	9.38
.167	1.94 (40.42)	-.03	10.52	1.8788	.2128	-.2786	-.0119	-.0025	-.0067	8.83
.166	1.93 (40.21)	-.04	12.68	2.1139	.2515	-.3101	-.0130	-.0035	-.0051	8.41
.166	1.93 (40.21)	-.04	14.63	2.2835	.2892	-.3362	-.0134	-.0039	-.0042	7.90
.166	1.93 (40.22)	-.04	16.62	2.4162	.3324	-.3437	-.0144	-.0055	-.0023	7.27
.167	1.93 (40.28)	-.07	18.76	2.3892	.4083	-.4478	-.0307	-.0117	.0241	5.85
.166	1.93 (40.25)	-.09	20.68	2.4888	.4688	-.4821	-.0348	-.0126	.0232	5.31
.167	1.93 (40.34)	-.07	22.70	2.5562	.5700	-.5669	-.0216	-.0065	-.0046	4.48
.167	1.94 (40.44)	-.07	25.04	2.7078	.6595	-.5922	-.0198	-.0091	-.0020	4.11

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RUN NUMBER 83 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.31)	-.02	-2.01	.2209	.1108	.0297	-.0056	-.0003	-.0066	1.99
.166	1.92 (40.12)	-.02	.07	.5838	.1012	-.0576	-.0118	-.0004	-.0077	5.77
.167	1.93 (40.25)	-.02	2.24	.9198	.1100	-.1106	-.0122	-.0006	-.0089	8.36
.166	1.93 (40.25)	-.03	4.32	1.1862	.1267	-.1538	-.0158	-.0016	-.0080	9.36
.167	1.93 (40.25)	-.03	6.40	1.4155	.1499	-.1891	-.0159	-.0022	-.0055	9.44
.166	1.92 (40.20)	-.04	8.52	1.6474	.1809	-.2237	-.0186	-.0034	-.0058	9.11
.166	1.92 (40.20)	-.04	10.61	1.8844	.2144	-.2588	-.0209	-.0052	-.0036	8.79
.166	1.92 (40.18)	-.05	12.51	2.0817	.2497	-.2869	-.0202	-.0050	-.0029	8.34
.166	1.92 (40.19)	-.05	14.78	2.2814	.2951	-.3198	-.0222	-.0066	-.0015	7.73
.167	1.93 (40.33)	-.06	16.63	2.4214	.3345	-.3304	-.0229	-.0086	.0008	7.24
.167	1.94 (40.58)	-.08	18.59	2.3899	.4031	-.4310	-.0355	-.0121	.0226	5.93
.167	1.95 (40.63)	-.09	20.89	2.4943	.4695	-.4811	-.0383	-.0126	.0260	5.31
.167	1.95 (40.64)	-.06	22.71	2.5006	.5645	-.5222	-.0187	-.0023	-.0050	4.43
.167	1.94 (40.62)	-.06	24.72	2.6228	.6454	-.5527	-.0147	-.0005	-.0069	4.06

RUN NUMBER 84 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.21)	-.01	-2.05	.1842	.1148	.0468	-.0130	-.0018	-.0053	1.60
.167	1.93 (40.27)	-.02	.09	.5731	.1045	-.0399	-.0163	-.0018	-.0075	5.49
.167	1.94 (40.44)	-.03	2.16	.9054	.1122	-.0919	-.0199	-.0026	-.0084	8.07
.167	1.94 (40.44)	-.03	4.39	1.1843	.1291	-.1361	-.0205	-.0029	-.0096	9.17
.167	1.94 (40.44)	-.04	6.29	1.3996	.1504	-.1694	-.0225	-.0043	-.0062	9.31
.167	1.94 (40.44)	-.04	8.40	1.6253	.1793	-.2031	-.0243	-.0055	-.0066	9.06
.167	1.94 (40.45)	-.05	10.47	1.8380	.2153	-.2373	-.0266	-.0068	-.0051	8.54
.167	1.94 (40.45)	-.06	12.68	2.0678	.2537	-.2689	-.0268	-.0081	.0005	8.15
.167	1.94 (40.46)	-.06	14.70	2.2529	.2911	-.2989	-.0272	-.0088	.0007	7.74
.167	1.94 (40.47)	-.07	16.61	2.3847	.3292	-.3094	-.0278	-.0102	.0014	7.24
.167	1.94 (40.52)	-.08	18.59	2.3817	.3949	-.4066	-.0397	-.0134	.0199	6.03
.167	1.94 (40.44)	-.10	20.71	2.4652	.4632	-.4630	-.0411	-.0147	.0304	5.32
.167	1.93 (40.38)	-.07	22.78	2.5077	.5691	-.5240	-.0206	-.0028	-.0071	4.41
.167	1.94 (40.43)	-.07	24.80	2.6269	.6502	-.5469	-.0192	-.0015	-.0078	4.04

RUN NUMBER 93 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.29)	-.02	-1.95	.2712	.1042	.0029	.0000	.0006	-.0058	2.60
.166	1.93 (40.24)	-.02	.12	.6915	.0964	-.1150	.0007	.0010	-.0093	7.18
.166	1.92 (40.19)	-.02	2.30	1.0405	.1087	-.1777	.0007	.0009	-.0092	9.57
.166	1.92 (40.19)	-.02	4.44	1.3088	.1294	-.2167	-.0013	.0006	-.0101	10.12
.166	1.93 (40.22)	-.02	6.47	1.5400	.1546	-.2498	-.0037	-.0002	-.0113	9.96
.166	1.93 (40.22)	-.03	8.58	1.7679	.1866	-.2815	-.0045	-.0003	-.0117	9.48
.166	1.93 (40.22)	-.03	10.71	1.9821	.2228	-.3125	-.0057	-.0006	-.0130	8.90
.166	1.93 (40.21)	-.03	12.67	2.1721	.2602	-.3287	-.0069	-.0017	-.0102	8.35
.166	1.93 (40.21)	-.03	14.56	2.3408	.2990	-.3360	-.0081	-.0027	-.0109	7.83
.166	1.93 (40.23)	-.04	16.80	2.5074	.3454	-.3276	-.0061	-.0027	-.0103	7.26
.167	1.93 (40.37)	-.05	18.86	2.5943	.3974	-.2930	-.0096	-.0066	-.0080	6.53
.167	1.94 (40.43)	-.02	20.83	2.5464	.4724	-.3235	.0047	.0033	-.0053	5.39
.167	1.93 (40.39)	-.05	22.78	2.6132	.5524	-.3347	-.0101	.0009	.0040	4.73
.166	1.92 (40.14)	-.05	24.76	2.6236	.6543	-.4658	-.0065	.0036	-.0045	4.01

RUN NUMBER 96 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.31)	-.02	-1.97	.3367	.1037	-.2438	.0017	.0004	-.0056	3.25
.167	1.93 (40.30)	-.02	.13	.7128	.0962	-.2768	.0005	.0008	-.0091	7.41
.167	1.93 (40.29)	-.02	2.22	1.0079	.1061	-.2606	.0015	.0006	-.0085	9.50
.167	1.93 (40.29)	-.02	4.36	1.2569	.1235	-.2262	-.0006	.0005	-.0102	10.18
.167	1.93 (40.30)	-.02	6.44	1.4546	.1469	-.1820	-.0026	-.0003	-.0088	9.90
.167	1.93 (40.29)	-.02	8.48	1.6656	.1717	-.1395	-.0028	-.0004	-.0101	9.70
.166	1.93 (40.27)	-.03	10.52	1.8468	.2011	-.0947	-.0038	-.0007	-.0095	9.19
.166	1.93 (40.26)	-.03	12.55	2.0485	.2342	-.0476	-.0047	-.0013	-.0093	8.75
.167	1.93 (40.32)	-.04	14.58	2.1946	.2712	.0002	-.0066	-.0028	-.0050	8.09
.167	1.93 (40.33)	-.03	16.63	2.3395	.3054	.0598	-.0057	-.0030	-.0068	7.66
.167	1.93 (40.35)	-.04	18.66	2.4221	.3481	.1389	-.0091	-.0071	-.0037	6.96
.167	1.93 (40.41)	-.02	20.70	2.3631	.4130	.2053	.0080	.0034	-.0027	5.72
.167	1.94 (40.42)	-.02	22.69	2.4247	.4713	.2407	.0022	.0060	.0074	5.14
.167	1.93 (40.39)	-.05	24.68	2.3572	.5626	.2476	-.0074	.0028	-.0009	4.19

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RUN NUMBER 99 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.205	2.91 (60.68)	-.02	-1.97	.3253	.1201	-.0113	.0077	.0011	-.0121	2.71
.205	2.90 (60.65)	-.02	.14	.6942	.1116	-.1085	.0066	.0022	-.0122	6.22
.205	2.90 (60.64)	-.02	2.30	.9823	.1207	-.1673	.0003	.0011	-.0127	8.14
.205	2.90 (60.64)	-.02	4.31	1.2224	.1374	-.2070	.0004	.0009	-.0109	8.90
.205	2.90 (60.54)	-.02	6.37	1.4494	.1598	-.2405	-.0011	.0005	-.0107	9.07
.205	2.89 (60.35)	-.02	8.43	1.6867	.1868	-.2782	-.0025	-.0002	-.0078	9.03
.205	2.89 (60.35)	-.02	10.50	1.8943	.2193	-.3050	-.0041	-.0007	-.0081	8.64
.205	2.89 (60.27)	-.03	12.64	2.1147	.2569	-.3216	-.0045	-.0010	-.0061	8.23
.204	2.88 (60.21)	-.03	14.60	2.2826	.2985	-.3261	-.0053	-.0012	-.0056	7.65
.204	2.88 (60.16)	-.03	16.69	2.4573	.3422	-.3205	-.0056	-.0017	-.0067	7.18
.205	2.89 (60.32)	-.04	18.71	2.5256	.3938	-.2866	-.0073	-.0050	-.0075	6.41
.205	2.89 (60.45)	-.01	20.70	2.5013	.4646	-.3142	.0040	.0043	-.0038	5.38
.205	2.90 (60.53)	-.06	22.73	2.5391	.5435	-.3580	-.0121	-.0012	.0117	4.67
.205	2.90 (60.55)	-.05	24.69	2.5303	.6401	-.5075	-.0049	.0030	-.0043	3.95

RUN NUMBER 100 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.117	.97 (20.26)	-.02	-1.96	.2264	.1061	.0159	.0027	.0013	-.0100	2.13
.117	.97 (20.26)	-.02	.11	.5981	.0949	-.0906	.0016	.0014	-.0114	6.31
.117	.97 (20.27)	-.02	2.23	.9356	.1015	-.1727	.0000	.0009	-.0083	9.22
.117	.97 (20.27)	-.02	4.30	1.2043	.1170	-.2287	.0004	.0009	-.0085	10.30
.117	.97 (20.27)	-.03	6.42	1.4500	.1385	-.2847	-.0024	-.0002	-.0067	10.47
.117	.97 (20.27)	-.03	8.51	1.6784	.1645	-.3390	-.0024	.0000	-.0070	10.21
.117	.97 (20.27)	-.03	10.49	1.8909	.1924	-.3867	-.0030	-.0003	-.0061	9.83
.117	.97 (20.27)	-.03	12.58	2.0880	.2275	-.4204	-.0041	-.0012	-.0056	9.18
.117	.97 (20.27)	-.03	14.63	2.2683	.2632	-.4400	-.0066	-.0021	-.0088	8.62
.117	.97 (20.28)	-.04	16.69	2.4041	.3033	-.4465	-.0063	-.0036	-.0032	7.93
.118	.97 (20.29)	-.04	18.74	2.4944	.3554	-.4364	-.0093	-.0067	-.0016	7.02
.118	.97 (20.32)	-.03	20.76	2.5198	.4232	-.4486	.0012	.0001	-.0020	5.95
.118	.97 (20.34)	-.03	22.76	2.5557	.4985	-.4938	.0021	.0051	.0056	5.13
.117	.97 (20.26)	-.02	24.74	2.5560	.5930	-.6335	.0062	.0079	-.0084	4.31

RUN NUMBER 101 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.144	1.45 (30.35)	-.03	-2.03	.2094	.1058	.0186	.0002	.0009	-.0075	1.98
.144	1.45 (30.33)	-.03	.10	.5881	.0931	-.0932	.0038	.0013	-.0076	6.31
.144	1.45 (30.33)	-.02	2.23	.9108	.1007	-.1658	-.0001	.0005	-.0086	9.04
.144	1.45 (30.32)	-.03	4.30	1.1827	.1151	-.2263	.0003	.0006	-.0088	10.28
.144	1.45 (30.30)	-.03	6.40	1.4283	.1356	-.2813	-.0010	.0002	-.0088	10.53
.144	1.45 (30.26)	-.03	8.39	1.6559	.1590	-.3339	-.0018	.0001	-.0078	10.41
.144	1.44 (30.14)	-.03	10.57	1.8873	.1902	-.3852	-.0043	-.0010	-.0062	9.92
.144	1.44 (30.13)	-.03	12.58	2.0932	.2231	-.4237	-.0041	-.0013	-.0059	9.38
.144	1.44 (30.13)	-.04	14.60	2.2832	.2637	-.4499	-.0063	-.0029	-.0055	8.66
.144	1.45 (30.21)	-.04	16.68	2.4422	.3097	-.4530	-.0067	-.0047	-.0004	7.89
.144	1.45 (30.28)	-.04	18.72	2.5361	.3626	-.4242	-.0070	-.0059	-.0014	7.00
.144	1.46 (30.41)	-.01	20.68	2.5166	.4293	-.4398	.0099	.0042	-.0075	5.86
.144	1.46 (30.45)	-.02	22.72	2.5856	.5022	-.5058	.0035	.0040	.0055	5.15
.144	1.46 (30.50)	-.02	24.78	2.5771	.5977	-.6211	.0066	.0070	-.0031	4.31

RUN NUMBER 102 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.39)	-.02	-2.04	.2229	.1060	.0254	.0010	.0005	-.0063	2.10
.167	1.94 (40.55)	-.02	.09	.6123	.0928	-.0923	.0018	.0009	-.0078	6.60
.167	1.94 (40.50)	-.02	2.20	.9261	.0994	-.1661	.0005	.0006	-.0091	9.32
.167	1.94 (40.45)	-.02	4.34	1.1971	.1144	-.2306	-.0008	.0004	-.0076	10.46
.166	1.93 (40.32)	-.03	6.33	1.4250	.1339	-.2816	-.0016	-.0000	-.0066	10.64
.167	1.94 (40.44)	-.03	8.50	1.6793	.1631	-.3395	-.0038	-.0008	-.0067	10.30
.167	1.94 (40.59)	-.03	10.54	1.9032	.1904	-.3865	-.0023	-.0003	-.0078	9.99
.167	1.94 (40.57)	-.03	12.53	2.0897	.2245	-.4184	-.0053	-.0021	-.0043	9.31
.167	1.94 (40.52)	-.04	14.63	2.2759	.2624	-.4427	-.0061	-.0027	-.0033	8.67
.167	1.94 (40.53)	-.03	16.63	2.4127	.3021	-.4365	-.0042	-.0033	-.0032	7.99
.167	1.94 (40.57)	-.04	18.71	2.5099	.3581	-.4091	-.0059	-.0048	-.0022	7.01
.167	1.94 (40.62)	-.00	20.73	2.4744	.4297	-.4405	.0073	.0048	-.0023	5.76
.167	1.95 (40.65)	-.04	22.72	2.5047	.5023	-.4422	-.0057	-.0001	.0120	4.99
.167	1.93 (40.38)	-.04	24.73	2.5279	.6004	-.5909	-.0060	.0011	.0013	4.21

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RUN NUMBER 103 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.205	2.89 (60.40)	-.02	-2.01	.2630	.1042	.0105	.0063	.0009	-.0052	2.52
.205	2.89 (60.37)	-.02	.12	.6537	.0934	-.0974	.0020	.0011	-.0083	7.00
.205	2.90 (60.49)	-.03	2.25	.9676	.0996	-.1705	.0007	.0006	-.0084	9.71
.205	2.90 (60.52)	-.02	4.35	1.2088	.1157	-.2292	-.0001	.0006	-.0086	10.44
.205	2.90 (60.48)	-.02	6.35	1.4396	.1360	-.2756	-.0015	.0000	-.0074	10.58
.205	2.89 (60.37)	-.02	8.47	1.6777	.1637	-.3296	-.0026	-.0004	-.0065	10.25
.205	2.90 (60.46)	-.02	10.48	1.8800	.1946	-.3706	-.0032	-.0008	-.0063	9.66
.205	2.89 (60.43)	-.03	12.54	2.0877	.2310	-.3947	-.0056	-.0022	-.0046	9.04
.205	2.90 (60.55)	-.04	14.65	2.2561	.2737	-.4024	-.0054	-.0021	-.0037	8.24
.205	2.90 (60.59)	-.04	16.72	2.3937	.3188	-.3949	-.0035	-.0019	-.0072	7.51
.205	2.91 (60.69)	-.01	18.68	2.4568	.3721	-.3566	.0025	.0011	-.0119	6.60
.205	2.91 (60.76)	-.03	20.66	2.4306	.4413	-.4095	-.0025	.0006	.0043	5.51
.206	2.91 (60.80)	-.05	22.73	2.5174	.5139	-.4318	-.0074	.0003	.0118	4.90
.205	2.91 (60.71)	-.04	24.75	2.5304	.6088	-.5792	-.0040	.0029	.0003	4.16

RUN NUMBER 104 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.47)	-.02	-1.96	.3270	.1036	-.2283	.0022	.0005	-.0059	3.16
.167	1.95 (40.65)	-.03	.11	.6869	.0932	-.2773	.0018	.0010	-.0096	7.37
.167	1.94 (40.55)	-.03	2.30	.9924	.1007	-.2798	-.0010	.0004	-.0102	9.86
.167	1.94 (40.55)	-.03	4.29	1.2070	.1164	-.2727	-.0004	.0004	-.0083	10.37
.167	1.94 (40.55)	-.03	6.30	1.4183	.1344	-.2475	-.0032	-.0004	-.0093	10.55
.167	1.94 (40.55)	-.02	8.49	1.6317	.1598	-.2256	-.0040	-.0010	-.0075	10.21
.167	1.94 (40.55)	-.02	10.50	1.8226	.1847	-.1916	-.0057	-.0021	-.0073	9.87
.167	1.94 (40.51)	-.03	12.50	1.9893	.2162	-.1572	-.0055	-.0024	-.0056	9.20
.167	1.94 (40.42)	-.03	14.55	2.1411	.2481	-.1118	-.0052	-.0022	-.0057	8.63
.166	1.92 (40.15)	-.03	16.67	2.2803	.2884	-.0609	-.0051	-.0031	-.0070	7.91
.166	1.92 (40.17)	-.03	18.62	2.3651	.3292	-.0037	-.0031	-.0020	-.0086	7.18
.166	1.93 (40.26)	-.02	20.65	2.3237	.3975	.0724	.0021	.0009	-.0023	5.85
.167	1.95 (40.66)	-.04	22.70	2.3543	.4615	.1060	-.0091	-.0006	.0128	5.10
.167	1.95 (40.73)	-.04	24.70	2.3066	.5346	.0782	-.0062	.0014	-.0015	4.31

RUN NUMBER 105 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.46)	-.03	-1.97	.3251	.1068	-.2606	.0005	.0005	-.0061	3.04
.167	1.94 (40.45)	-.02	.15	.7231	.0983	-.3771	.0003	.0006	-.0081	7.36
.167	1.94 (40.44)	-.02	2.29	1.0395	.1095	-.4550	-.0012	.0003	-.0091	9.49
.167	1.94 (40.45)	-.02	4.22	1.2896	.1273	-.5165	-.0024	.0000	-.0078	10.13
.167	1.94 (40.45)	-.03	6.42	1.5483	.1509	-.5730	-.0026	-.0000	-.0091	10.26
.167	1.94 (40.46)	-.03	8.45	1.7688	.1785	-.6142	-.0033	-.0007	-.0072	9.91
.167	1.94 (40.44)	-.03	10.53	1.9672	.2134	-.6450	-.0059	-.0018	-.0079	9.22
.166	1.93 (40.24)	-.04	12.59	2.1550	.2535	-.6599	-.0068	-.0031	-.0050	8.50
.167	1.93 (40.37)	-.04	14.65	2.3545	.2989	-.6725	-.0066	-.0025	-.0081	7.88
.167	1.94 (40.55)	-.03	16.64	2.4851	.3410	-.6614	-.0044	-.0030	-.0062	7.29
.167	1.94 (40.59)	-.03	18.74	2.5918	.3915	-.6410	-.0017	-.0007	-.0083	6.62
.167	1.95 (40.77)	-.03	20.67	2.5192	.4686	-.6352	-.0008	-.0007	.0044	5.38
.168	1.95 (40.82)	-.04	22.70	2.5880	.5457	-.6396	-.0075	-.0015	.0127	4.74
.168	1.96 (40.85)	-.04	24.74	2.5629	.6513	-.7936	-.0041	.0027	-.0064	3.93

RUN NUMBER 106 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.93 (40.38)	-.03	-2.02	.2200	.1071	.0029	.0011	.0003	-.0050	2.06
.167	1.93 (40.37)	-.03	.15	.6355	.0946	-.1159	.0013	.0006	-.0086	6.72
.167	1.93 (40.35)	-.02	2.17	.9373	.1018	-.1914	.0008	.0006	-.0088	9.21
.167	1.93 (40.35)	-.03	4.27	1.2243	.1157	-.2535	-.0000	.0008	-.0099	10.58
.167	1.93 (40.35)	-.02	6.44	1.4574	.1395	-.3030	-.0019	.0001	-.0111	10.45
.167	1.93 (40.36)	-.02	8.43	1.6709	.1672	-.3515	-.0027	-.0002	-.0102	9.99
.167	1.93 (40.36)	-.03	10.49	1.9008	.1966	-.3969	-.0049	-.0015	-.0103	9.67
.167	1.93 (40.37)	-.04	12.57	2.0894	.2351	-.4207	-.0067	-.0030	-.0060	8.89
.167	1.93 (40.37)	-.03	14.63	2.2601	.2736	-.4342	-.0063	-.0027	-.0073	8.26
.167	1.93 (40.38)	-.03	16.74	2.4088	.3200	-.4304	-.0042	-.0026	-.0084	7.53
.167	1.94 (40.42)	-.02	18.74	2.4991	.3733	-.4091	.0042	.0027	-.0151	6.69
.167	1.94 (40.49)	-.03	20.69	2.4640	.4433	-.4134	-.0015	.0005	-.0034	5.56
.167	1.94 (40.53)	-.05	22.72	2.5443	.5131	-.4587	-.0108	-.0029	.0112	4.96
.167	1.94 (40.61)	-.04	24.68	2.5356	.6072	-.6100	-.0056	-.0006	.0001	4.18

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RUN NUMBER 107 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.51)	-.03	-2.02	.1430	.1098	.2687	.0019	.0006	-.0066	1.30
.167	1.94 (40.49)	-.03	.08	.5312	.0959	.1550	-.0005	.0008	-.0097	5.54
.167	1.94 (40.49)	-.03	2.17	.8363	.1003	.0797	.0012	.0007	-.0089	8.34
.166	1.93 (40.22)	-.03	4.26	1.1162	.1125	.0149	-.0002	.0006	-.0108	9.92
.166	1.93 (40.22)	-.02	6.40	1.3523	.1340	-.0384	-.0032	-.0003	-.0107	10.09
.166	1.93 (40.22)	-.02	8.39	1.5926	.1551	-.0882	-.0033	-.0009	-.0072	10.27
.166	1.93 (40.22)	-.03	10.46	1.8193	.1830	-.1279	-.0043	-.0013	-.0090	9.94
.166	1.93 (40.22)	-.04	12.58	2.0229	.2158	-.1614	-.0076	-.0033	-.0093	9.37
.166	1.93 (40.24)	-.04	14.63	2.2097	.2521	-.1858	-.0073	-.0034	-.0072	8.76
.166	1.93 (40.26)	-.04	16.64	2.3404	.2971	-.1895	-.0086	-.0059	-.0040	7.88
.168	1.95 (40.83)	-.04	18.69	2.4384	.3453	-.1761	-.0073	-.0053	-.0049	7.06
.168	1.96 (40.89)	-.01	20.66	2.4242	.4102	-.2264	.0071	.0040	-.0056	5.91
.168	1.95 (40.82)	-.05	22.77	2.4753	.4839	-.2328	-.0095	-.0011	.0078	5.11
.167	1.95 (40.65)	-.04	24.69	2.4613	.5692	-.3904	-.0064	-.0005	-.0002	4.32

RUN NUMBER 108 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.38)	-.03	-2.02	.0592	.1336	.5563	.0024	.0002	-.0071	.44
.165	1.93 (40.24)	-.03	.09	.4525	.1069	.4459	.0025	.0007	-.0066	4.23
.165	1.93 (40.22)	-.03	2.16	.7679	.1038	.3542	-.0008	.0002	-.0094	7.40
.165	1.92 (40.20)	-.03	4.19	1.0176	.1135	.2961	-.0004	.0001	-.0073	8.96
.165	1.92 (40.20)	-.03	6.30	1.2602	.1307	.2395	-.0018	-.0002	-.0070	9.64
.165	1.92 (40.20)	-.03	6.30	1.2672	.1307	.2456	-.0042	-.0007	-.0107	9.70
.165	1.92 (40.20)	-.03	8.46	1.5128	.1517	.1788	-.0033	-.0010	-.0069	9.97
.165	1.92 (40.20)	-.03	10.60	1.7337	.1781	.1330	-.0040	-.0016	-.0036	9.73
.165	1.92 (40.04)	-.03	12.51	1.9084	.2075	.0935	-.0029	-.0011	-.0060	9.20
.165	1.92 (40.02)	-.03	14.72	2.1066	.2441	.0634	-.0066	-.0036	-.0033	8.63
.165	1.92 (40.03)	-.04	16.74	2.2488	.2815	.0508	-.0082	-.0057	-.0006	7.99
.165	1.92 (40.05)	-.04	18.82	2.3748	.3247	.0598	-.0062	-.0047	-.0050	7.31
.165	1.92 (40.10)	.00	20.65	2.3824	.3905	.0372	.0108	.0037	-.0088	6.10
.165	1.92 (40.17)	.01	22.67	2.4001	.4593	-.1385	.0113	.0071	-.0190	5.23
.165	1.92 (40.02)	.00	24.66	2.4428	.5432	-.2139	.0069	.0094	-.0103	4.50

RUN NUMBER 109 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.50)	-.02	-1.94	.2965	.1017	-.0151	.0011	.0008	-.0098	2.91
.166	1.94 (40.48)	-.02	.14	.7110	.0926	-.1559	.0012	.0008	-.0091	7.68
.166	1.94 (40.48)	-.02	2.16	.9993	.1024	-.2308	-.0004	.0003	-.0090	9.75
.166	1.94 (40.47)	-.02	4.37	1.2817	.1186	-.2963	-.0013	.0002	-.0096	10.80
.165	1.93 (40.27)	-.02	6.44	1.5279	.1413	-.3463	-.0022	-.0002	-.0093	10.81
.165	1.92 (40.13)	-.02	8.42	1.7372	.1698	-.3921	-.0034	-.0006	-.0092	10.23
.165	1.92 (40.11)	-.03	10.51	1.9669	.2009	-.4343	-.0045	-.0013	-.0093	9.79
.166	1.93 (40.32)	-.03	12.56	2.1471	.2416	-.4583	-.0067	-.0027	-.0077	8.89
.166	1.93 (40.36)	-.03	14.61	2.3046	.2829	-.4639	-.0079	-.0038	-.0046	8.15
.166	1.94 (40.52)	-.03	16.62	2.4432	.3203	-.4559	-.0061	-.0035	-.0083	7.63
.166	1.95 (40.68)	-.02	18.68	2.5058	.3785	-.4186	.0020	.0008	-.0117	6.62
.166	1.95 (40.68)	-.00	20.73	2.5320	.4425	-.4544	.0084	.0039	-.0093	5.72
.166	1.93 (40.38)	-.00	22.72	2.5928	.5169	-.5065	.0066	.0068	.0008	5.02
.165	1.93 (40.21)	-.00	24.71	2.6023	.6164	-.6545	.0069	.0086	-.0101	4.22

RUN NUMBER 124 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.25)	.00	-1.79	1.0672	.1856	-.4424	-.0003	.0013	-.0103	5.75
.166	1.94 (40.51)	-.00	.36	1.3821	.2064	-.4351	-.0029	.0018	-.0131	6.70
.166	1.94 (40.51)	-.00	2.47	1.6139	.2264	-.3912	-.0039	.0015	-.0129	7.13
.166	1.94 (40.50)	-.00	4.47	1.7944	.2485	-.3364	-.0058	.0002	-.0107	7.22
.166	1.94 (40.51)	-.00	6.55	1.9729	.2747	-.2861	-.0030	.0007	-.0083	7.18
.166	1.94 (40.50)	-.00	8.58	2.1363	.3003	-.2350	-.0023	.0008	-.0052	7.11
.166	1.94 (40.49)	-.00	10.69	2.3140	.3254	-.1685	-.0006	.0013	-.0074	7.11
.166	1.94 (40.50)	-.00	12.72	2.4431	.3599	-.1149	-.0051	-.0011	-.0010	6.79
.166	1.94 (40.45)	-.00	14.69	2.5457	.3929	-.0545	-.0036	.0009	-.0068	6.48
.166	1.93 (40.34)	-.00	16.78	2.6522	.4304	.0213	-.0017	.0019	-.0111	6.16
.166	1.93 (40.28)	.00	18.76	2.6998	.4822	.1184	-.0009	-.0002	-.0085	5.60
.166	1.93 (40.31)	.03	20.75	2.6955	.5343	.2072	.0127	.0098	-.0175	5.05
.166	1.93 (40.35)	.01	22.66	2.6363	.5761	.2507	-.0003	.0062	-.0024	4.58
.166	1.94 (40.44)	-.01	24.64	2.5272	.6633	.2607	-.0111	.0057	.0149	3.81

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RUN NUMBER 150 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.56)	-10.01	-1.82	.8194	.1508	-.2373	.0198	-.0288	.2315	5.43
.167	1.94 (40.55)	-10.00	.43	1.2714	.1756	-.2577	.0446	-.0246	.2027	7.24
.166	1.94 (40.55)	-9.99	2.44	1.5111	.1954	-.2809	.0468	-.0228	.1964	7.73
.167	1.94 (40.55)	-9.98	4.50	1.6884	.2209	-.2989	.0487	-.0209	.1895	7.64
.166	1.94 (40.53)	-9.97	6.54	1.8995	.2479	-.3280	.0488	-.0208	.1888	7.66
.166	1.94 (40.47)	-9.95	8.64	2.1221	.2778	-.3659	.0558	-.0181	.1823	7.64
.166	1.93 (40.40)	-9.94	10.66	2.2930	.3139	-.4046	.0566	-.0191	.1839	7.31
.166	1.93 (40.25)	-9.93	12.73	2.4690	.3504	-.4289	.0582	-.0190	.1820	7.05
.166	1.92 (40.10)	-9.91	14.78	2.6105	.3896	-.4329	.0619	-.0180	.1797	6.70
.165	1.90 (39.76)	-9.89	16.77	2.7100	.4342	-.4348	.0634	-.0194	.1833	6.24
.165	1.91 (39.98)	-9.86	18.80	2.6780	.5010	-.4193	.0764	-.0192	.1596	5.35
.166	1.93 (40.27)	-9.85	20.81	2.7512	.5478	-.4152	.0731	-.0213	.1614	5.02
.166	1.94 (40.42)	-9.86	22.84	2.6802	.6442	-.2881	.0584	-.0234	.1618	4.16
.166	1.94 (40.49)	-9.84	24.93	2.7323	.7198	-.3062	.0635	-.0180	.1609	3.80

RUN NUMBER 151 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.57)	-5.01	-1.81	.8605	.1759	-.1180	.0147	-.0131	.1049	4.89
.167	1.94 (40.56)	-5.00	.36	1.2460	.1977	-.1836	.0265	-.0117	.0992	6.30
.167	1.94 (40.55)	-4.99	2.36	1.4860	.2165	-.2241	.0273	-.0101	.0910	6.86
.166	1.94 (40.55)	-4.98	4.43	1.7006	.2378	-.2524	.0287	-.0096	.0891	7.15
.167	1.94 (40.55)	-4.97	6.55	1.9164	.2680	-.2787	.0296	-.0093	.0857	7.15
.166	1.94 (40.50)	-4.96	8.57	2.1145	.2971	-.3098	.0298	-.0096	.0856	7.12
.166	1.94 (40.42)	-4.95	10.66	2.3243	.3293	-.3427	.0310	-.0097	.0868	7.06
.166	1.93 (40.25)	-4.94	12.69	2.4762	.3672	-.3576	.0309	-.0104	.0853	6.74
.166	1.93 (40.24)	-4.93	14.73	2.6159	.4086	-.3635	.0330	-.0098	.0850	6.40
.166	1.93 (40.22)	-4.92	16.77	2.7336	.4444	-.3576	.0324	-.0123	.0882	6.15
.166	1.93 (40.25)	-4.92	18.77	2.7942	.4938	-.3428	.0317	-.0157	.0861	5.66
.167	1.94 (40.58)	-4.90	20.77	2.7569	.5708	-.3795	.0435	-.0168	.0574	4.83
.167	1.95 (40.68)	-4.87	22.79	2.7410	.6464	-.3645	.0531	-.0070	.0515	4.24
.167	1.95 (40.74)	-4.87	24.83	2.7454	.7199	-.4242	.0452	-.0104	.0548	3.81

RUN NUMBER 152 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.47)	-.00	-1.87	.8001	.1847	-.0543	.0035	.0004	-.0030	4.33
.166	1.94 (40.46)	-.00	.29	1.2069	.2027	-.1467	.0081	-.0002	-.0034	5.95
.166	1.94 (40.45)	.00	2.37	1.4880	.2216	-.1937	.0055	.0004	-.0024	6.71
.166	1.94 (40.45)	.01	4.41	1.7108	.2424	-.2250	.0056	.0011	-.0044	7.06
.166	1.94 (40.44)	.01	6.56	1.9645	.2679	-.2595	.0065	.0012	-.0024	7.33
.166	1.94 (40.45)	.02	8.53	2.1033	.3030	-.2832	.0055	.0011	-.0013	6.94
.166	1.93 (40.33)	.02	10.64	2.2970	.3373	-.3159	.0038	.0003	-.0017	6.81
.166	1.93 (40.36)	.03	12.66	2.4893	.3746	-.3349	.0047	.0017	-.0042	6.65
.166	1.93 (40.39)	.03	14.69	2.6467	.4142	-.3339	.0045	.0010	-.0019	6.39
.166	1.94 (40.43)	.04	16.72	2.7590	.4504	-.3084	.0038	-.0003	-.0067	6.13
.166	1.94 (40.46)	.03	18.75	2.8467	.5084	-.2928	-.0029	-.0064	-.0018	5.60
.167	1.94 (40.60)	.01	20.69	2.8287	.5535	-.3665	-.0160	-.0103	.0193	5.11
.167	1.95 (40.75)	.02	22.64	2.6961	.6587	-.5586	-.0024	-.0029	-.0045	4.09
.167	1.95 (40.65)	.06	24.81	2.6772	.7549	-.5298	.0152	.0093	-.0199	3.55

RUN NUMBER 153 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.53)	5.00	-1.85	.8180	.1752	-.1175	.0007	.0137	-.1153	4.67
.166	1.94 (40.52)	5.00	.31	1.2189	.1925	-.1844	-.0112	.0124	-.1053	6.33
.166	1.94 (40.52)	5.00	2.35	1.4687	.2106	-.2189	-.0170	.0113	-.0995	6.98
.166	1.94 (40.52)	4.99	4.41	1.6936	.2341	-.2432	-.0148	.0113	-.0948	7.24
.166	1.94 (40.52)	4.99	6.47	1.8825	.2667	-.2695	-.0164	.0111	-.0950	7.06
.166	1.94 (40.52)	4.99	8.55	2.1083	.2961	-.3006	-.0182	.0128	-.0999	7.12
.166	1.94 (40.53)	4.99	10.65	2.2917	.3328	-.3282	-.0218	.0122	-.1010	6.89
.166	1.94 (40.53)	4.98	12.66	2.4653	.3644	-.3415	-.0225	.0139	-.1065	6.77
.166	1.94 (40.54)	4.98	14.66	2.6065	.4021	-.3451	-.0243	.0133	-.1085	6.48
.166	1.94 (40.55)	4.97	16.71	2.7171	.4459	-.3409	-.0268	.0124	-.1035	6.09
.166	1.94 (40.49)	4.95	18.69	2.7456	.4895	-.3277	-.0367	.0060	-.0946	5.61
.166	1.94 (40.46)	4.93	20.75	2.7543	.5766	-.3470	-.0444	.0091	-.0785	4.78
.166	1.94 (40.53)	4.94	22.77	2.7706	.6524	-.3280	-.0329	.0203	-.0874	4.25
.167	1.94 (40.59)	4.93	24.82	2.7458	.7218	-.2727	-.0325	.0141	-.0883	3.80

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RUN NUMBER 154 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.50)	.00	-1.88	.6995	.2234	.4505	-.0031	.0009	-.0043	3.13
.166	1.94 (40.48)	.00	.27	1.0578	.2294	.4018	-.0037	.0003	-.0060	4.61
.166	1.94 (40.46)	-.00	2.37	1.3210	.2332	.3775	-.0061	.0003	-.0056	5.67
.166	1.94 (40.43)	-.00	4.37	1.5361	.2391	.3290	-.0041	-.0011	-.0002	6.43
.166	1.93 (40.27)	-.00	6.50	1.7493	.2630	.2961	-.0033	-.0008	.0017	6.65
.166	1.93 (40.28)	-.00	8.50	1.9737	.2867	.2647	-.0030	-.0008	.0029	6.88
.166	1.94 (40.43)	-.00	10.58	2.1740	.3180	.2331	-.0056	-.0020	.0048	6.84
.166	1.94 (40.44)	-.00	12.66	2.3656	.3436	.2107	-.0041	-.0007	.0038	6.88
.166	1.94 (40.45)	-.01	14.67	2.5012	.3812	.1982	-.0090	-.0034	.0023	6.56
.166	1.94 (40.45)	-.01	16.73	2.6277	.4094	.1909	-.0096	-.0036	-.0007	6.42
.166	1.94 (40.48)	-.03	18.72	2.7216	.4625	.1902	-.0183	-.0105	.0046	5.88
.166	1.94 (40.52)	-.05	20.66	2.6918	.5251	.0045	-.0351	-.0140	.0340	5.13
.166	1.93 (40.41)	-.02	22.61	2.5923	.6263	-.1744	-.0085	-.0018	-.0086	4.14
.166	1.94 (40.45)	-.02	24.84	2.6431	.7022	-.1790	-.0076	-.0014	-.0077	3.76

RUN NUMBER 155 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.22)	.00	-1.85	.7850	.1865	.2086	-.0025	-.0003	-.0050	4.21
.166	1.93 (40.35)	.00	.27	1.1675	.2029	.1224	-.0004	-.0002	-.0039	5.75
.166	1.93 (40.38)	-.00	2.35	1.4350	.2206	.0783	-.0013	-.0007	-.0003	6.50
.166	1.94 (40.44)	-.00	4.42	1.6536	.2408	.0483	-.0023	-.0003	-.0042	6.87
.166	1.94 (40.44)	-.00	6.50	1.8740	.2661	.0111	-.0015	-.0002	.0013	7.04
.166	1.94 (40.46)	-.00	8.51	2.0558	.2975	-.0143	-.0054	-.0025	.0048	6.91
.166	1.94 (40.45)	-.00	10.57	2.2555	.3279	-.0486	-.0071	-.0026	.0023	6.88
.166	1.94 (40.46)	-.00	12.65	2.4395	.3604	-.0689	-.0054	-.0010	.0011	6.77
.166	1.94 (40.46)	-.01	14.71	2.5908	.3948	-.0765	-.0086	-.0021	-.0012	6.56
.166	1.94 (40.47)	-.01	16.74	2.7019	.4295	-.0680	-.0109	-.0047	-.0005	6.29
.166	1.94 (40.49)	-.03	18.75	2.8148	.4790	-.0602	-.0215	-.0125	.0039	5.88
.166	1.94 (40.54)	-.05	20.65	2.7778	.5343	-.1862	-.0330	-.0151	.0291	5.20
.167	1.95 (40.63)	-.04	22.72	2.6936	.6419	-.3945	-.0178	-.0081	-.0052	4.20
.166	1.94 (40.50)	-.04	24.78	2.7276	.7153	-.3962	-.0154	-.0107	-.0008	3.81

RUN NUMBER 156 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.49)	.00	-1.83	.8736	.1830	-.0901	-.0044	.0000	-.0042	4.77
.166	1.94 (40.48)	.00	.30	1.2667	.1998	-.1760	-.0012	-.0002	-.0042	6.34
.166	1.94 (40.47)	-.00	2.35	1.5165	.2188	-.2182	-.0038	-.0009	.0006	6.93
.166	1.93 (40.41)	-.00	4.42	1.7287	.2452	-.2442	-.0035	-.0006	-.0016	7.05
.166	1.93 (40.34)	-.00	6.48	1.9241	.2761	-.2782	-.0047	-.0010	.0018	6.97
.166	1.94 (40.54)	-.00	8.60	2.1765	.3058	-.3158	-.0053	-.0008	-.0004	7.12
.167	1.94 (40.60)	-.00	10.63	2.3625	.3364	-.3485	-.0050	-.0008	.0007	7.02
.167	1.94 (40.61)	-.01	12.69	2.5351	.3764	-.3609	-.0085	-.0026	.0023	6.73
.167	1.94 (40.56)	-.01	14.71	2.6750	.4176	-.3671	-.0092	-.0021	-.0034	6.41
.167	1.94 (40.57)	-.01	16.78	2.7853	.4522	-.3497	-.0108	-.0039	.0001	6.16
.167	1.94 (40.60)	-.03	18.76	2.8922	.5046	-.3383	-.0202	-.0110	.0065	5.73
.167	1.95 (40.66)	-.06	20.73	2.8414	.5734	-.4706	-.0356	-.0149	.0373	4.96
.167	1.95 (40.73)	-.04	22.67	2.7465	.6642	-.6013	-.0177	-.0087	-.0077	4.14
.167	1.94 (40.60)	-.03	24.85	2.7897	.7454	-.5903	-.0146	-.0105	-.0052	3.74

RUN NUMBER 157 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.54)	.01	-1.85	.8095	.1927	-.0297	-.0240	-.0039	-.0014	4.20
.166	1.94 (40.53)	.00	.30	1.2207	.2097	-.1104	-.0253	-.0040	-.0025	5.82
.166	1.94 (40.53)	-.01	2.32	1.4280	.2311	-.1449	-.0277	-.0053	-.0019	6.18
.166	1.94 (40.53)	-.01	4.38	1.6601	.2506	-.1760	-.0274	-.0063	.0025	6.62
.166	1.94 (40.52)	-.02	6.50	1.8891	.2776	-.2111	-.0260	-.0058	.0026	6.81
.166	1.94 (40.51)	-.02	8.55	2.0972	.3050	-.2432	-.0290	-.0073	.0044	6.88
.166	1.94 (40.52)	-.03	10.65	2.2825	.3403	-.2805	-.0290	-.0085	.0074	6.71
.166	1.93 (40.27)	-.03	12.65	2.4491	.3829	-.2995	-.0279	-.0085	.0066	6.40
.166	1.93 (40.23)	-.03	14.72	2.6239	.4206	-.3133	-.0284	-.0084	.0077	6.24
.167	1.95 (40.83)	-.04	16.76	2.7492	.4472	-.2938	-.0297	-.0097	.0021	6.15
.167	1.95 (40.71)	-.04	18.78	2.8722	.4960	-.3078	-.0280	-.0108	.0045	5.79
.167	1.95 (40.64)	-.06	20.74	2.8492	.5636	-.4205	-.0407	-.0159	.0346	5.06
.167	1.95 (40.73)	-.05	22.67	2.7340	.6632	-.5745	-.0269	-.0100	-.0026	4.12
.167	1.95 (40.72)	-.05	24.71	2.7748	.7315	-.5599	-.0226	-.0100	-.0020	3.79

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RUN NUMBER 158 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.52)	.00	-1.85	.8367	.1874	-.0510	-.0162	-.0017	-.0039	4.46
.166	1.94 (40.51)	.00	.28	1.2409	.2029	-.1331	-.0152	-.0016	-.0052	6.12
.166	1.94 (40.51)	-.00	2.31	1.4654	.2233	-.1674	-.0204	-.0028	-.0027	6.56
.166	1.93 (40.27)	-.01	4.41	1.7055	.2454	-.1994	-.0204	-.0027	-.0017	6.95
.166	1.92 (40.15)	-.01	6.51	1.9272	.2726	-.2353	-.0221	-.0043	.0024	7.07
.166	1.92 (40.16)	-.02	8.50	2.0870	.3094	-.2646	-.0239	-.0049	.0025	6.75
.166	1.92 (40.15)	-.02	10.54	2.2825	.3367	-.3009	-.0209	-.0046	.0042	6.78
.166	1.92 (40.09)	-.02	12.66	2.4671	.3745	-.3167	-.0223	-.0051	.0028	6.59
.166	1.92 (40.10)	-.03	14.77	2.6174	.4187	-.3288	-.0215	-.0042	.0005	6.25
.166	1.92 (40.20)	-.03	16.76	2.7625	.4553	-.3172	-.0241	-.0085	.0047	6.07
.167	1.94 (40.56)	-.04	18.79	2.8992	.5019	-.3212	-.0257	-.0099	.0018	5.78
.167	1.95 (40.71)	-.06	20.73	2.8456	.5724	-.4470	-.0403	-.0144	.0353	4.97
.167	1.95 (40.76)	-.05	22.67	2.7324	.6574	-.5930	-.0232	-.0063	-.0081	4.16
.167	1.95 (40.67)	-.04	24.87	2.7730	.7417	-.5735	-.0186	-.0092	-.0071	3.74

RUN NUMBER 159 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.30)	.00	-1.87	.8329	.1849	-.0623	-.0131	-.0004	-.0082	4.50
.166	1.93 (40.33)	.00	.30	1.2697	.2036	-.1562	-.0105	-.0010	-.0041	6.24
.166	1.93 (40.32)	-.00	2.35	1.5147	.2221	-.1957	-.0099	-.0008	-.0029	6.82
.166	1.93 (40.32)	-.01	4.43	1.7396	.2460	-.2249	-.0159	-.0021	-.0066	7.07
.166	1.93 (40.36)	-.01	6.51	1.9463	.2760	-.2586	-.0139	-.0023	-.0003	7.05
.167	1.94 (40.62)	-.01	8.53	2.1232	.3048	-.2852	-.0144	-.0022	-.0012	6.97
.167	1.94 (40.60)	-.01	10.57	2.3244	.3336	-.3213	-.0134	-.0022	-.0016	6.97
.166	1.93 (40.40)	-.02	12.66	2.5029	.3763	-.3412	-.0150	-.0026	-.0000	6.65
.166	1.93 (40.38)	-.02	14.71	2.6597	.4127	-.3438	-.0176	-.0037	-.0016	6.45
.166	1.93 (40.38)	-.02	16.74	2.7660	.4545	-.3301	-.0179	-.0057	-.0006	6.09
.166	1.93 (40.36)	-.03	18.79	2.9019	.5032	-.3309	-.0213	-.0096	.0050	5.77
.167	1.95 (40.79)	-.06	20.74	2.8730	.5619	-.4193	-.0353	-.0148	.0258	5.11
.167	1.94 (40.61)	-.04	22.68	2.7392	.6654	-.5889	-.0206	-.0085	-.0080	4.12
.166	1.94 (40.47)	-.04	24.87	2.7811	.7409	-.5836	-.0191	-.0106	-.0055	3.75

RUN NUMBER 160 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.33)	.00	-1.84	.8954	.1819	-.0939	.0005	.0007	-.0070	4.92
.166	1.93 (40.33)	-.00	.34	1.3051	.2021	-.1825	-.0035	-.0004	-.0044	6.46
.166	1.93 (40.39)	-.00	2.32	1.5207	.2225	-.2187	-.0052	-.0013	.0005	6.83
.166	1.93 (40.39)	-.00	4.43	1.7409	.2473	-.2459	-.0039	-.0007	-.0020	7.04
.166	1.93 (40.39)	-.00	6.53	1.9731	.2744	-.2848	-.0039	-.0007	.0006	7.19
.166	1.93 (40.39)	-.00	8.60	2.1764	.3032	-.3152	-.0038	.0004	-.0024	7.18
.166	1.93 (40.34)	-.01	10.62	2.3519	.3346	-.3447	-.0048	-.0009	.0013	7.03
.166	1.93 (40.26)	-.01	12.63	2.5221	.3722	-.3603	-.0073	-.0009	.0003	6.78
.166	1.93 (40.26)	-.01	14.67	2.6664	.4086	-.3657	-.0077	-.0005	-.0014	6.53
.166	1.92 (40.15)	-.02	16.68	2.7662	.4459	-.3408	-.0129	-.0044	-.0012	6.20
.166	1.92 (40.16)	-.03	18.77	2.8738	.5055	-.3360	-.0193	-.0104	.0041	5.69
.166	1.92 (40.18)	-.05	20.88	2.9465	.5457	-.3099	-.0282	-.0151	.0106	5.40
.167	1.95 (40.73)	-.04	22.72	2.7926	.6461	-.4604	-.0181	-.0145	-.0231	4.32
.167	1.95 (40.81)	-.04	24.84	2.7722	.7421	-.5749	-.0175	-.0157	-.0027	3.74

RUN NUMBER 161 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.56)	.00	-1.84	.9070	.1808	-.1143	.0067	-.0003	-.0014	5.02
.167	1.94 (40.55)	.00	.29	1.2762	.1993	-.1936	.0025	-.0007	-.0026	6.40
.167	1.94 (40.55)	-.00	2.37	1.5396	.2186	-.2341	.0025	-.0009	.0008	7.04
.167	1.94 (40.53)	-.00	4.43	1.7550	.2407	-.2600	.0037	.0002	-.0026	7.29
.167	1.94 (40.50)	-.00	6.51	1.9625	.2735	-.2972	-.0011	-.0017	.0044	7.17
.166	1.93 (40.41)	-.00	8.58	2.1452	.3078	-.3248	-.0014	-.0012	.0034	6.97
.166	1.93 (40.23)	-.00	10.62	2.3475	.3377	-.3556	-.0021	-.0018	.0045	6.95
.166	1.93 (40.23)	-.00	12.68	2.5259	.3764	-.3719	-.0047	-.0022	.0003	6.71
.166	1.93 (40.26)	-.01	14.72	2.6991	.4130	-.3742	-.0069	-.0026	-.0016	6.54
.166	1.93 (40.32)	-.01	16.76	2.8124	.4561	-.3524	-.0089	-.0043	-.0005	6.17
.166	1.93 (40.39)	-.03	18.79	2.9151	.5058	-.3344	-.0190	-.0107	.0006	5.76
.167	1.95 (40.68)	-.04	20.82	2.9684	.5539	-.3247	-.0251	-.0157	.0100	5.36
.167	1.96 (40.87)	-.02	22.66	2.7169	.6773	-.5865	-.0084	-.0013	-.0091	4.01
.167	1.95 (40.62)	-.02	24.79	2.7606	.7619	-.5780	-.0059	-.0028	-.0128	3.62

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RUN NUMBER 162 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.22)	.00	-1.68	.8003	.1860	-.0913	-.0029	-.0007	-.0031	4.30
.166	1.92 (40.20)	-.00	.30	1.2851	.2020	-.2005	.0057	-.0013	-.0037	6.36
.166	1.92 (40.20)	-.00	2.35	1.5321	.2222	-.2330	.0021	-.0020	-.0016	6.89
.166	1.92 (40.19)	-.00	4.44	1.7574	.2466	-.2647	.0012	-.0020	.0004	7.13
.166	1.92 (40.18)	.00	6.49	1.9645	.2724	-.2944	.0012	-.0018	.0030	7.21
.166	1.92 (40.11)	.00	8.55	2.1533	.3043	-.3241	.0002	-.0014	.0016	7.08
.166	1.92 (40.07)	.00	10.63	2.3477	.3408	-.3583	-.0015	-.0022	.0013	6.89
.166	1.92 (40.08)	-.00	12.71	2.5189	.3817	-.3738	-.0033	-.0022	.0004	6.60
.166	1.93 (40.26)	-.00	14.79	2.7032	.4158	-.3736	-.0044	-.0025	.0009	6.50
.166	1.93 (40.35)	-.01	16.82	2.7852	.4630	-.3546	-.0085	-.0050	-.0009	6.02
.166	1.93 (40.37)	-.02	18.79	2.8999	.5085	-.3332	-.0163	-.0115	.0027	5.70
.166	1.93 (40.39)	-.03	20.84	2.9779	.5544	-.3164	-.0224	-.0158	.0115	5.37
.167	1.94 (40.52)	-.01	22.64	2.7284	.6821	-.5876	-.0059	-.0024	-.0115	4.00
.166	1.94 (40.45)	-.03	24.87	2.7922	.7478	-.5963	-.0147	-.0120	-.0026	3.73

RUN NUMBER 163 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.45)	.00	-1.85	.8264	.1852	-.0944	.0003	-.0015	-.0002	4.46
.166	1.94 (40.43)	-.00	.33	1.2879	.2037	-.2008	.0071	-.0013	-.0016	6.32
.166	1.94 (40.43)	.00	2.33	1.5295	.2231	-.2371	.0048	-.0017	-.0012	6.86
.166	1.94 (40.43)	.00	4.41	1.7426	.2476	-.2651	.0024	-.0028	.0016	7.04
.166	1.94 (40.42)	.00	6.52	1.9540	.2751	-.2960	.0053	-.0014	.0025	7.10
.166	1.92 (40.13)	.00	8.59	2.1576	.3092	-.3254	.0021	-.0021	.0037	6.98
.166	1.92 (40.09)	.00	10.61	2.3751	.3347	-.3599	.0022	-.0015	.0014	7.10
.166	1.92 (40.10)	.00	12.63	2.5041	.3796	-.3750	-.0006	-.0025	.0017	6.60
.166	1.92 (40.18)	-.00	14.73	2.6962	.4157	-.3802	-.0039	-.0033	.0020	6.49
.166	1.93 (40.28)	-.00	16.74	2.8047	.4621	-.3672	-.0054	-.0050	.0017	6.07
.166	1.93 (40.30)	-.01	18.81	2.9430	.5090	-.3659	-.0079	-.0089	.0048	5.78
.166	1.93 (40.33)	-.03	20.82	2.9574	.5510	-.3134	-.0280	-.0188	.0172	5.37
.166	1.94 (40.49)	-.02	22.68	2.7661	.6818	-.6078	-.0132	-.0122	.0010	4.06
.166	1.94 (40.49)	-.02	24.90	2.7976	.7576	-.5940	-.0102	-.0130	.0025	3.69

RUN NUMBER 164 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.51)	-.00	-1.84	.8742	.1961	-.0599	.0280	.0028	-.0044	4.46
.167	1.94 (40.50)	-.00	.30	1.2342	.2152	-.1315	.0270	.0025	-.0043	5.73
.167	1.94 (40.50)	.00	2.33	1.4675	.2360	-.1673	.0229	.0025	-.0011	6.22
.167	1.94 (40.50)	.01	4.41	1.6815	.2586	-.1920	.0228	.0025	-.0005	6.50
.166	1.93 (40.37)	.01	6.51	1.9023	.2851	-.2256	.0248	.0039	.0013	6.67
.166	1.93 (40.25)	.02	8.57	2.0973	.3176	-.2567	.0232	.0044	-.0017	6.60
.166	1.92 (40.19)	.02	10.62	2.2801	.3528	-.2906	.0216	.0042	-.0013	6.46
.166	1.92 (40.20)	.03	12.67	2.4521	.3898	-.3110	.0197	.0042	-.0018	6.29
.166	1.92 (40.19)	.03	14.73	2.6307	.4192	-.3104	.0169	.0033	-.0034	6.27
.166	1.92 (40.18)	.03	16.71	2.7310	.4606	-.3003	.0153	.0020	-.0033	5.93
.166	1.92 (40.18)	.03	18.77	2.8557	.5106	-.3040	.0127	.0025	-.0080	5.59
.166	1.93 (40.24)	.00	20.68	2.7950	.5828	-.4298	-.0040	-.0043	.0302	4.80
.166	1.93 (40.33)	.01	22.68	2.7075	.6778	-.5603	.0036	-.0022	-.0040	3.99
.166	1.93 (40.32)	.01	24.85	2.7478	.7517	-.5571	.0051	-.0040	-.0052	3.66

RUN NUMBER 165 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.49)	-.00	-1.86	.8262	.1897	-.0652	.0152	.0013	-.0020	4.36
.166	1.94 (40.48)	-.00	.28	1.2549	.2074	-.1634	.0180	.0014	-.0047	6.05
.166	1.94 (40.47)	.00	2.33	1.4836	.2278	-.1900	.0177	.0014	.0037	6.51
.166	1.93 (40.24)	.01	4.40	1.7221	.2488	-.2219	.0168	.0013	-.0004	6.92
.166	1.93 (40.24)	.01	6.50	1.9120	.2812	-.2499	.0143	.0010	.0003	6.80
.166	1.93 (40.23)	.01	8.59	2.1402	.3109	-.2839	.0152	.0022	.0013	6.88
.166	1.93 (40.24)	.02	10.63	2.3329	.3456	-.3219	.0127	.0013	.0024	6.75
.166	1.93 (40.27)	.02	12.75	2.5360	.3778	-.3407	.0135	.0043	-.0060	6.71
.166	1.93 (40.29)	.02	15.75	2.7148	.4384	-.3253	.0078	-.0000	-.0009	6.19
.166	1.93 (40.31)	.01	17.76	2.8086	.4833	-.3084	-.0038	-.0078	.0064	5.81
.166	1.93 (40.32)	.00	18.77	2.8751	.5036	-.3079	-.0058	-.0085	.0018	5.71
.167	1.95 (40.79)	-.02	20.75	2.8218	.5867	-.4263	-.0162	-.0083	.0310	4.81
.167	1.95 (40.68)	.01	22.74	2.7204	.6796	-.5595	.0006	-.0045	-.0004	4.00
.167	1.95 (40.74)	.00	24.91	2.7686	.7583	-.5746	-.0011	-.0034	-.0103	3.65

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RUN NUMBER 166 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.32)	-.00	-1.86	.8285	.1860	-.0680	.0050	.0007	-.0027	4.45
.166	1.93 (40.31)	-.00	.28	1.2546	.2043	-.1722	.0144	.0009	-.0030	6.14
.166	1.93 (40.30)	.00	2.36	1.5132	.2225	-.2111	.0130	.0003	.0024	6.80
.166	1.93 (40.30)	.00	4.46	1.7375	.2475	-.2399	.0109	.0012	-.0010	7.02
.166	1.93 (40.29)	.01	6.48	1.9353	.2741	-.2697	.0095	.0005	.0026	7.06
.166	1.93 (40.25)	.01	8.58	2.1330	.3078	-.3025	.0081	.0006	.0022	6.93
.166	1.93 (40.24)	.01	10.64	2.3296	.3404	-.3362	.0063	.0004	.0006	6.84
.166	1.93 (40.25)	.01	12.68	2.5114	.3795	-.3533	.0028	-.0007	.0032	6.62
.166	1.93 (40.25)	.01	14.71	2.6511	.4143	-.3549	.0018	.0007	-.0022	6.40
.166	1.93 (40.25)	.01	16.75	2.7702	.4510	-.3377	-.0030	-.0019	-.0040	6.14
.166	1.93 (40.27)	-.01	18.77	2.8787	.5023	-.3205	-.0131	-.0088	.0001	5.73
.166	1.93 (40.34)	-.02	20.88	2.9354	.5561	-.2997	-.0187	-.0138	.0097	5.28
.166	1.94 (40.43)	-.02	22.77	2.7697	.6412	-.4533	-.0134	-.0163	-.0220	4.32
.166	1.93 (40.36)	-.01	24.85	2.7645	.7580	-.5730	-.0055	-.0035	-.0076	3.65

RUN NUMBER 168 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.92 (40.16)	.00	-1.85	.8418	.1884	-.0717	-.0158	-.0018	.0001	4.47
.166	1.92 (40.17)	.00	.28	1.2417	.2064	-.1580	-.0149	-.0027	-.0002	6.02
.166	1.92 (40.19)	-.00	2.35	1.4887	.2257	-.1930	-.0147	-.0033	.0035	6.60
.166	1.93 (40.28)	-.01	4.40	1.6950	.2497	-.2197	-.0165	-.0034	.0027	6.79
.166	1.93 (40.28)	-.01	6.50	1.9072	.2780	-.2522	-.0165	-.0037	.0052	6.86
.166	1.93 (40.27)	-.01	8.56	2.1240	.3045	-.2856	-.0177	-.0042	.0055	6.98
.166	1.93 (40.28)	-.01	10.64	2.2875	.3426	-.3161	-.0173	-.0036	.0031	6.68
.166	1.93 (40.28)	-.02	12.67	2.4837	.3793	-.3409	-.0204	-.0053	.0049	6.55
.166	1.93 (40.28)	-.02	14.71	2.6529	.4145	-.3416	-.0194	-.0054	.0033	6.40
.166	1.93 (40.30)	-.02	16.76	2.7706	.4518	-.3213	-.0196	-.0062	-.0008	6.13
.166	1.93 (40.32)	-.03	18.75	2.8719	.5024	-.3191	-.0242	-.0107	.0044	5.72
.166	1.93 (40.34)	-.04	20.84	2.9511	.5482	-.3027	-.0297	-.0140	.0084	5.38
.166	1.94 (40.46)	-.04	22.64	2.7297	.6641	-.5716	-.0219	-.0095	-.0020	4.11
.167	1.94 (40.52)	-.04	24.89	2.7818	.7437	-.5758	-.0189	-.0107	-.0018	3.74

RUN NUMBER 169 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.92 (40.20)	-.00	-1.83	.9339	.1820	-.1184	.0081	-.0003	-.0015	5.13
.166	1.92 (40.20)	-.00	.30	1.3099	.2034	-.1983	.0079	-.0000	-.0043	6.44
.166	1.92 (40.19)	.00	2.37	1.5768	.2206	-.2395	.0081	.0004	-.0007	7.15
.166	1.92 (40.18)	.00	4.45	1.7831	.2462	-.2663	.0073	.0003	-.0026	7.24
.166	1.93 (40.24)	.00	6.55	2.0325	.2732	-.3044	.0079	.0014	-.0039	7.44
.166	1.93 (40.25)	.01	8.61	2.2093	.3067	-.3361	.0056	.0001	.0004	7.20
.166	1.93 (40.26)	.00	10.62	2.3852	.3415	-.3625	.0018	-.0014	-.0003	6.98
.166	1.93 (40.27)	.00	12.70	2.5511	.3800	-.3735	-.0016	-.0021	.0012	6.71
.166	1.93 (40.27)	.00	14.74	2.6811	.4167	-.3703	-.0040	-.0017	-.0011	6.43
.166	1.93 (40.27)	-.01	16.69	2.7609	.4542	-.3262	-.0134	-.0086	.0044	6.08
.166	1.93 (40.25)	-.02	18.84	2.8914	.5076	-.3370	-.0161	-.0108	.0030	5.70
.166	1.93 (40.28)	-.03	20.85	2.9089	.5620	-.3877	-.0249	-.0142	.0202	5.18
.166	1.93 (40.37)	-.03	22.84	2.7657	.6504	-.4709	-.0185	-.0162	-.0225	4.25
.166	1.93 (40.30)	-.03	24.86	2.7936	.7507	-.5931	-.0109	-.0128	-.0033	3.72

RUN NUMBER 170 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.57)	-.00	-1.86	.8202	.1866	-.1031	.0024	-.0008	-.0022	4.40
.167	1.94 (40.55)	-.00	.34	1.3266	.2051	-.2086	.0097	-.0012	-.0027	6.47
.167	1.94 (40.55)	.00	2.37	1.5418	.2244	-.2338	.0084	-.0007	-.0039	6.87
.167	1.94 (40.52)	.00	4.44	1.7630	.2490	-.2627	.0059	-.0014	.0005	7.08
.166	1.94 (40.45)	.00	6.54	1.9902	.2768	-.2957	.0062	-.0009	.0008	7.19
.166	1.93 (40.29)	.00	8.57	2.1959	.3110	-.3290	.0062	-.0008	-.0002	7.06
.166	1.93 (40.30)	.01	10.62	2.3819	.3463	-.3644	.0050	-.0010	-.0001	6.88
.166	1.93 (40.31)	.01	12.72	2.5687	.3833	-.3742	.0018	-.0009	-.0011	6.70
.166	1.93 (40.33)	-.00	14.74	2.7000	.4232	-.3661	-.0046	-.0040	.0003	6.38
.166	1.93 (40.35)	-.01	16.77	2.7859	.4646	-.3289	-.0110	-.0085	.0049	6.00
.166	1.93 (40.37)	-.02	18.79	2.9053	.5134	-.3267	-.0157	-.0125	.0064	5.66
.166	1.94 (40.42)	-.03	20.80	2.8926	.5795	-.4257	-.0273	-.0168	.0296	4.99
.167	1.94 (40.52)	-.03	22.65	2.7568	.6765	-.5979	-.0152	-.0116	.0032	4.08
.167	1.94 (40.58)	-.02	24.88	2.7960	.7647	-.5948	-.0119	-.0137	.0008	3.66

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RUN NUMBER 171 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.96 (40.95)	-.00	-1.87	.8386	.1903	-.1076	.0102	-.0027	.0022	4.41
.166	1.94 (40.42)	-.00	.33	1.3165	.2088	-.2037	.0085	-.0026	-.0029	6.30
.166	1.93 (40.28)	.00	2.40	1.5662	.2291	-.2326	.0089	-.0029	.0022	6.84
.166	1.93 (40.39)	.00	4.48	1.7658	.2574	-.2624	.0048	-.0035	.0033	6.86
.166	1.93 (40.40)	.00	6.56	1.9831	.2880	-.2927	.0038	-.0040	.0061	6.89
.166	1.93 (40.40)	.00	8.57	2.1892	.3153	-.3296	.0001	-.0050	.0054	6.94
.166	1.93 (40.40)	.00	10.62	2.3650	.3521	-.3604	.0029	-.0035	.0060	6.72
.166	1.93 (40.41)	.00	12.68	2.5219	.3915	-.3720	.0004	-.0043	.0056	6.44
.166	1.93 (40.41)	.00	14.74	2.6739	.4299	-.3621	-.0037	-.0057	.0060	6.22
.166	1.94 (40.43)	-.01	16.75	2.7407	.4693	-.3101	-.0150	-.0128	.0088	5.84
.166	1.94 (40.43)	-.01	18.81	2.9079	.5114	-.3272	-.0098	-.0117	.0115	5.69
.167	1.94 (40.48)	-.02	20.88	2.9642	.5662	-.3126	-.0199	-.0187	.0138	5.24
.167	1.95 (40.67)	-.01	22.78	2.7627	.6649	-.4412	-.0040	-.0099	-.0217	4.15
.167	1.95 (40.71)	-.01	24.88	2.7551	.7663	-.5594	-.0034	-.0064	-.0042	3.60

RUN NUMBER 172 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.37)	-.01	-1.87	.8091	.2114	-.0529	.0378	.0056	-.0071	3.83
.166	1.94 (40.42)	-.00	.26	1.1903	.2342	-.1419	.0445	.0083	-.0126	5.08
.167	1.94 (40.55)	.01	2.36	1.4613	.2532	-.1738	.0378	.0094	-.0165	5.77
.167	1.94 (40.54)	.02	4.42	1.6614	.2744	-.2156	.0402	.0092	-.0111	6.06
.167	1.94 (40.55)	.03	6.47	1.8560	.3013	-.2422	.0358	.0081	-.0120	6.16
.167	1.94 (40.53)	.03	8.56	2.0392	.3323	-.2707	.0358	.0083	-.0105	6.14
.167	1.94 (40.51)	.04	10.60	2.2474	.3581	-.3040	.0360	.0099	-.0119	6.28
.167	1.94 (40.48)	.05	12.64	2.3981	.3962	-.2913	.0328	.0085	-.0101	6.05
.166	1.93 (40.41)	.06	14.71	2.5488	.4306	-.2684	.0297	.0081	-.0066	5.92
.166	1.93 (40.27)	.06	16.74	2.6839	.4691	-.2249	.0227	.0064	-.0112	5.72
.167	1.94 (40.47)	.06	18.77	2.8089	.5223	-.1994	.0200	.0032	-.0099	5.38
.167	1.94 (40.60)	.04	20.78	2.8059	.5731	-.3014	.0097	-.0002	.0157	4.90
.167	1.95 (40.69)	.05	22.64	2.6618	.6713	-.4972	.0115	-.0011	-.0091	3.96
.167	1.95 (40.70)	.04	24.83	2.7092	.7513	-.5150	.0073	-.0025	-.0043	3.61

RUN NUMBER 173 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.32)	-.01	-1.89	.7922	.1978	-.0573	.0244	.0032	-.0026	4.00
.166	1.93 (40.31)	.00	.33	1.2364	.2181	-.1633	.0358	.0053	-.0109	5.67
.166	1.93 (40.31)	.01	2.35	1.4921	.2378	-.2023	.0286	.0061	-.0074	6.27
.166	1.93 (40.31)	.01	4.42	1.7008	.2625	-.2295	.0272	.0056	-.0040	6.48
.166	1.93 (40.29)	.02	6.50	1.9153	.2905	-.2602	.0284	.0063	-.0079	6.59
.166	1.93 (40.35)	.03	8.60	2.1374	.3182	-.2970	.0265	.0054	-.0048	6.72
.166	1.93 (40.41)	.04	10.59	2.3075	.3499	-.3284	.0264	.0064	-.0101	6.59
.166	1.94 (40.41)	.04	12.67	2.4671	.3885	-.3304	.0211	.0047	-.0045	6.35
.166	1.94 (40.42)	.04	14.75	2.6206	.4250	-.3171	.0163	.0029	-.0003	6.17
.166	1.94 (40.43)	.04	16.76	2.7237	.4577	-.2713	.0130	.0017	-.0062	5.95
.166	1.94 (40.45)	.03	18.77	2.8263	.5103	-.2510	.0017	-.0063	.0020	5.54
.167	1.94 (40.49)	.01	20.75	2.8154	.5645	-.3524	-.0123	-.0121	.0258	4.99
.166	1.94 (40.43)	.03	22.68	2.6828	.6762	-.5196	.0066	-.0010	-.0072	3.97
.166	1.94 (40.44)	.03	24.86	2.7494	.7597	-.5424	.0038	-.0041	-.0063	3.62

RUN NUMBER 174 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.55)	-.00	-1.81	.9330	.1872	-.0915	.0204	.0029	-.0113	4.98
.167	1.94 (40.57)	-.00	.34	1.3109	.2078	-.1718	.0212	.0037	-.0122	6.31
.167	1.94 (40.52)	.00	2.39	1.5593	.2275	-.2074	.0198	.0047	-.0114	6.85
.167	1.94 (40.51)	.01	4.49	1.7876	.2485	-.2330	.0186	.0035	-.0119	7.19
.167	1.94 (40.51)	.02	6.49	1.9685	.2763	-.2585	.0202	.0048	-.0116	7.12
.166	1.93 (40.37)	.02	8.56	2.1737	.3069	-.2969	.0176	.0049	-.0137	7.08
.166	1.93 (40.38)	.02	10.63	2.3571	.3441	-.3347	.0137	.0033	-.0111	6.85
.166	1.93 (40.36)	.03	12.70	2.5209	.3820	-.3524	.0105	.0031	-.0074	6.60
.166	1.93 (40.28)	.02	14.70	2.6704	.4155	-.3426	.0048	.0009	-.0040	6.43
.166	1.93 (40.29)	.02	16.72	2.7777	.4601	-.3202	.0015	-.0012	-.0029	6.04
.166	1.93 (40.32)	.01	18.75	2.8934	.5122	-.3068	-.0102	-.0101	.0054	5.65
.167	1.94 (40.50)	.01	20.82	2.9267	.5681	-.2717	-.0041	-.0030	-.0028	5.15
.167	1.95 (40.74)	-.00	22.70	2.7791	.6444	-.4411	-.0089	-.0145	-.0184	4.31
.167	1.95 (40.80)	-.00	24.85	2.7726	.7490	-.5859	-.0089	-.0112	-.0000	3.70

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RUN NUMBER 175 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.43)	-.00	-1.76	1.0335	.1836	-.1446	-.0009	.0005	-.0091	5.63
.167	1.93 (40.39)	-.00	.30	1.3649	.2047	-.2133	.0059	.0018	-.0107	6.67
.167	1.94 (40.56)	.00	2.39	1.5966	.2210	-.2474	.0041	.0013	-.0097	7.23
.167	1.94 (40.50)	.00	4.41	1.8080	.2495	-.2690	.0042	.0014	-.0102	7.25
.167	1.94 (40.60)	.01	6.45	2.0070	.2813	-.2973	.0047	.0012	-.0071	7.13
.167	1.94 (40.62)	.01	8.57	2.2015	.3110	-.3315	.0034	.0009	-.0077	7.08
.167	1.94 (40.50)	.01	10.61	2.3859	.3450	-.3625	.0044	.0007	-.0075	6.91
.167	1.95 (40.80)	.01	12.64	2.5295	.3842	-.3751	.0038	.0010	-.0084	6.58
.166	1.93 (40.33)	.02	14.69	2.6691	.4226	-.3652	.0027	.0000	-.0076	6.32
.167	1.93 (40.40)	.02	16.77	2.7780	.4590	-.3357	.0004	-.0005	-.0099	6.05
.167	1.94 (40.46)	.00	18.77	2.8566	.5173	-.3185	-.0081	-.0040	-.0102	5.52
.167	1.94 (40.44)	-.02	20.79	2.8865	.5690	-.2955	-.0198	-.0095	.0001	5.07
.167	1.94 (40.51)	-.04	22.81	2.7143	.6939	-.5782	-.0225	-.0134	.0021	3.91
.167	1.95 (40.69)	-.02	24.75	2.6762	.7874	-.5234	-.0090	-.0038	-.0080	3.40

RUN NUMBER 177 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.118	.97 (20.33)	-.00	-1.82	.8373	.1784	-.0797	-.0007	.0014	-.0163	4.69
.117	.97 (20.28)	-.00	.21	1.2354	.1982	-.1594	-.0023	.0017	-.0162	6.23
.117	.96 (20.15)	.00	2.40	1.5197	.2197	-.2005	-.0048	.0007	-.0099	6.92
.117	.96 (20.01)	.00	4.46	1.7477	.2445	-.2310	-.0028	.0012	-.0129	7.15
.117	.96 (20.00)	.00	6.54	1.9540	.2688	-.2601	-.0050	.0000	-.0065	7.27
.117	.96 (20.00)	.01	8.84	2.1578	.3055	-.2934	-.0052	.0002	-.0080	7.06
.117	.96 (19.99)	.01	10.54	2.3202	.3321	-.3231	-.0059	.0001	-.0077	6.99
.117	.96 (20.00)	.01	12.67	2.4868	.3716	-.3470	-.0080	-.0008	-.0068	6.69
.117	.96 (20.00)	.01	14.78	2.6533	.4094	-.3563	-.0099	-.0014	-.0066	6.48
.117	.96 (20.03)	.01	16.69	2.7568	.4449	-.3560	-.0141	-.0031	-.0051	6.20
.118	.97 (20.33)	-.00	18.79	2.8311	.4977	-.3482	-.0269	-.0119	.0023	5.69
.118	.97 (20.35)	-.00	20.74	2.9034	.5431	-.3005	-.0274	-.0142	.0007	5.35
.118	.98 (20.46)	.00	22.80	2.7671	.6391	-.4356	-.0146	-.0133	-.0307	4.33
.118	.98 (20.50)	-.00	24.73	2.6350	.7593	-.5073	-.0157	-.0068	-.0026	3.47

RUN NUMBER 178 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.144	1.46 (30.44)	-.00	-1.80	.9005	.1805	-.0827	.0031	.0018	-.0154	4.99
.144	1.46 (30.43)	-.00	.29	1.2776	.2026	-.1623	-.0005	.0015	-.0111	6.31
.144	1.46 (30.42)	.00	2.46	1.5367	.2223	-.2026	-.0025	.0011	-.0108	6.91
.144	1.45 (30.22)	.00	4.40	1.7357	.2443	-.2287	-.0018	.0011	-.0095	7.10
.144	1.45 (30.22)	.00	6.45	1.9241	.2746	-.2558	-.0042	.0002	-.0080	7.01
.144	1.45 (30.21)	.01	8.50	2.1418	.3010	-.2903	-.0030	.0012	-.0115	7.12
.144	1.45 (30.19)	.01	10.76	2.3376	.3378	-.3266	-.0053	-.0005	-.0054	6.92
.144	1.45 (30.19)	.01	12.65	2.4885	.3743	-.3473	-.0042	.0008	-.0070	6.65
.144	1.45 (30.18)	.01	14.68	2.6307	.4061	-.3487	-.0068	-.0013	-.0042	6.48
.144	1.44 (30.18)	.01	16.68	2.7461	.4408	-.3351	-.0096	-.0026	-.0033	6.23
.144	1.45 (30.19)	-.00	18.80	2.8463	.4974	-.3338	-.0199	-.0105	.0038	5.72
.144	1.45 (30.21)	-.01	20.75	2.9046	.5478	-.3108	-.0225	-.0124	.0033	5.30
.144	1.45 (30.28)	.00	22.78	2.7822	.6383	-.4333	-.0121	-.0139	-.0287	4.36
.144	1.45 (30.19)	.01	24.76	2.6303	.7660	-.4920	-.0093	-.0037	-.0067	3.43

RUN NUMBER 179 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.94 (40.51)	-.00	-1.86	.8838	.1828	-.0782	-.0013	.0013	-.0104	4.83
.167	1.94 (40.52)	-.00	.28	1.2453	.1994	-.1689	.0019	.0015	-.0115	6.25
.167	1.94 (40.42)	.00	2.41	1.4997	.2207	-.2163	-.0037	.0008	-.0103	6.79
.167	1.93 (40.40)	.00	4.40	1.7079	.2407	-.2464	-.0029	.0011	-.0120	7.10
.167	1.93 (40.40)	.00	6.46	1.9115	.2680	-.2768	-.0030	.0004	-.0078	7.13
.167	1.93 (40.29)	.01	8.53	2.1103	.2998	-.3060	-.0028	.0003	-.0073	7.04
.166	1.93 (40.27)	.01	10.57	2.2870	.3338	-.3384	-.0047	-.0010	-.0030	6.85
.166	1.93 (40.23)	.01	12.61	2.4680	.3690	-.3561	-.0043	-.0006	-.0054	6.69
.166	1.93 (40.21)	.01	14.68	2.6404	.4074	-.3529	-.0032	-.0007	-.0072	6.48
.166	1.93 (40.32)	.01	16.76	2.7543	.4471	-.3359	-.0080	-.0023	-.0060	6.16
.167	1.93 (40.39)	-.01	18.76	2.8445	.4971	-.3244	-.0172	-.0090	-.0003	5.72
.167	1.94 (40.46)	-.01	20.68	2.7645	.5696	-.4279	-.0087	-.0056	-.0325	4.85
.167	1.94 (40.45)	-.01	22.82	2.6453	.6751	-.5388	-.0101	-.0035	-.0086	3.92
.167	1.94 (40.53)	-.00	24.74	2.6241	.7674	-.4925	-.0056	-.0013	-.0127	3.42

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RUN NUMBER 180 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.205	2.90 (60.67)	-.00	-1.82	.9548	.1856	-.0941	.0010	.0008	-.0066	5.14
.205	2.91 (60.71)	.00	.33	1.2896	.2019	-.1768	-.0011	.0013	-.0091	6.39
.205	2.90 (60.48)	-.00	2.37	1.5165	.2198	-.2143	-.0029	.0014	-.0104	6.90
.205	2.89 (60.41)	-.00	4.44	1.7176	.2430	-.2410	-.0031	.0009	-.0098	7.07
.205	2.91 (60.75)	.00	6.49	1.9262	.2702	-.2686	-.0020	.0004	-.0064	7.13
.205	2.89 (60.42)	.00	8.49	2.1163	.3007	-.2994	-.0019	.0007	-.0068	7.04
.205	2.90 (60.61)	.00	10.61	2.3207	.3340	-.3389	-.0023	.0011	-.0071	6.95
.205	2.90 (60.55)	.00	12.66	2.4883	.3732	-.3556	-.0038	.0003	-.0060	6.67
.205	2.90 (60.54)	-.00	14.67	2.6329	.4098	-.3532	-.0069	-.0016	-.0052	6.42
.205	2.90 (60.54)	-.01	16.71	2.7493	.4471	-.3320	-.0086	-.0025	-.0072	6.15
.205	2.90 (60.56)	-.03	18.78	2.8596	.5000	-.3287	-.0178	-.0091	-.0003	5.72
.205	2.90 (60.55)	-.02	20.88	2.7392	.5848	-.4908	-.0128	-.0064	-.0250	4.68
.205	2.91 (60.77)	-.06	22.76	2.7259	.6716	-.5826	-.0199	-.0106	-.0050	4.06
.205	2.91 (60.71)	-.11	24.75	2.7224	.7522	-.5652	-.0328	-.0213	.0051	3.62

RUN NUMBER 188 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.34)	.00	-1.82	1.0259	.1818	-.4396	.0021	.0013	-.0092	5.64
.166	1.93 (40.36)	.00	.31	1.3443	.2003	-.4335	-.0011	.0010	-.0089	6.71
.166	1.93 (40.36)	-.00	2.43	1.5722	.2216	-.3952	-.0028	.0007	-.0085	7.09
.166	1.93 (40.40)	-.00	4.50	1.7585	.2437	-.3401	-.0029	.0003	-.0076	7.21
.166	1.93 (40.40)	-.00	6.52	1.9381	.2677	-.2847	-.0020	.0003	-.0077	7.24
.166	1.93 (40.40)	-.00	8.52	2.0911	.2939	-.2379	-.0018	.0003	-.0074	7.11
.166	1.93 (40.40)	-.00	10.56	2.2400	.3232	-.1852	-.0028	-.0010	-.0046	6.93
.166	1.93 (40.39)	-.01	12.67	2.4211	.3550	-.1229	-.0033	-.0006	-.0055	6.82
.167	1.94 (40.54)	-.01	14.70	2.5490	.3859	-.0650	-.0043	-.0010	-.0039	6.61
.167	1.94 (40.54)	-.01	16.65	2.6349	.4114	.0043	-.0081	-.0037	-.0042	6.40
.167	1.94 (40.57)	-.03	18.72	2.7171	.4605	.0788	-.0175	-.0094	-.0027	5.90
.167	1.95 (40.63)	-.02	20.69	2.6181	.5268	.0455	-.0095	-.0104	-.0267	4.97
.167	1.94 (40.57)	-.04	22.73	2.5285	.6085	.0146	-.0186	-.0083	-.0038	4.16
.167	1.94 (40.58)	-.04	24.87	2.5635	.6698	.0607	-.0176	-.0114	.0024	3.83

RUN NUMBER 190 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.29)	.00	-1.82	.9614	.1822	-.1056	.0005	.0005	-.0063	5.28
.167	1.94 (40.52)	.00	.29	1.3155	.2000	-.1831	.0001	.0010	-.0075	6.58
.167	1.94 (40.54)	-.00	2.39	1.5643	.2190	-.2215	.0003	.0016	-.0096	7.12
.166	1.94 (40.49)	-.00	4.44	1.7758	.2451	-.2477	-.0002	.0010	-.0090	7.24
.166	1.94 (40.50)	-.00	6.50	1.9811	.2753	-.2817	-.0001	.0005	-.0086	7.20
.166	1.94 (40.46)	-.00	8.57	2.1713	.3061	-.3193	-.0001	.0007	-.0086	7.09
.166	1.94 (40.43)	-.00	10.59	2.3540	.3364	-.3532	-.0022	.0002	-.0110	7.00
.166	1.93 (40.36)	-.00	12.63	2.5018	.3769	-.3606	-.0014	.0007	-.0094	6.64
.167	1.94 (40.56)	-.00	14.69	2.6485	.4137	-.3489	-.0033	-.0000	-.0082	6.40
.167	1.94 (40.57)	-.01	16.72	2.7547	.4502	-.3193	-.0072	-.0018	-.0086	6.12
.167	1.95 (40.68)	-.03	18.75	2.8687	.4992	-.3143	-.0185	-.0094	-.0047	5.75
.166	1.93 (40.40)	-.03	20.76	2.7469	.5970	-.5496	-.0176	-.0112	-.0076	4.60
.166	1.94 (40.51)	-.04	22.87	2.8122	.6581	-.4757	-.0175	-.0149	-.0225	4.27
.166	1.94 (40.49)	-.04	24.79	2.8037	.7589	-.6366	-.0187	-.0105	-.0003	3.69

RUN NUMBER 191 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.55)	.00	-2.06	.0038	.2113	-.2135	.0018	.0011	-.0112	.02
.166	1.94 (40.57)	.00	.08	.4794	.2129	-.4131	.0008	.0012	-.0103	2.25
.167	1.94 (40.58)	-.00	2.19	.8116	.2260	-.4967	.0003	.0016	-.0124	3.59
.167	1.94 (40.58)	-.00	4.24	1.0494	.2423	-.5225	.0017	.0019	-.0136	4.33
.167	1.94 (40.58)	-.00	6.30	1.2604	.2607	-.5371	.0019	.0016	-.0123	4.83
.167	1.94 (40.58)	-.00	8.38	1.4783	.2800	-.5510	.0007	.0014	-.0136	5.28
.167	1.94 (40.58)	-.00	10.47	1.6804	.3055	-.5664	-.0008	.0009	-.0141	5.50
.166	1.94 (40.58)	-.00	12.49	1.8719	.3350	-.5763	-.0015	.0009	-.0147	5.59
.166	1.94 (40.56)	-.01	14.55	2.0576	.3708	-.5808	-.0032	.0003	-.0109	5.55
.166	1.93 (40.24)	-.01	16.65	2.2413	.4104	-.5857	-.0036	-.0005	-.0086	5.46
.165	1.92 (40.06)	-.01	18.60	2.3557	.4478	-.5670	-.0055	-.0014	-.0098	5.26
.166	1.92 (40.12)	-.03	20.69	2.4886	.5030	-.5423	-.0166	-.0101	-.0009	4.95
.166	1.93 (40.33)	-.03	22.68	2.5303	.6020	-.6146	-.0154	-.0056	-.0063	4.20
.166	1.93 (40.37)	-.03	24.75	2.6257	.6886	-.6640	-.0143	-.0079	.0001	3.81

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RUN NUMBER 192 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.58)	.00	-2.06	-.0849	.2245	-.2474	-.0010	.0006	-.0106	-.38
.166	1.94 (40.58)	-.00	.10	.3431	.2233	-.4178	-.0008	.0009	-.0084	1.54
.166	1.94 (40.56)	-.00	2.18	.7140	.2364	-.5132	.0008	.0015	-.0122	3.02
.166	1.94 (40.56)	-.00	4.20	.9710	.2523	-.5321	.0020	.0023	-.0140	3.85
.166	1.94 (40.57)	-.00	6.29	1.1832	.2724	-.5669	.0013	.0012	-.0105	4.34
.166	1.94 (40.56)	-.00	8.33	1.3749	.2930	-.5896	-.0009	.0011	-.0161	4.69
.166	1.94 (40.55)	-.00	10.37	1.5598	.3181	-.6125	-.0008	.0003	-.0112	4.90
.166	1.93 (40.36)	-.00	12.45	1.7749	.3463	-.6320	-.0010	.0010	-.0122	5.13
.166	1.93 (40.27)	-.01	14.51	1.9715	.3815	-.6504	-.0032	.0003	-.0097	5.17
.166	1.93 (40.25)	-.00	16.59	2.1605	.4230	-.6725	-.0025	.0003	-.0094	5.11
.166	1.93 (40.24)	-.01	18.68	2.2961	.4612	-.6705	-.0041	-.0015	-.0100	4.98
.166	1.93 (40.25)	-.03	20.72	2.4058	.5149	-.6476	-.0153	-.0096	.0027	4.67
.166	1.93 (40.41)	-.03	22.82	2.4904	.6202	-.7090	-.0154	-.0055	-.0066	4.02
.166	1.94 (40.45)	-.03	24.80	2.5735	.6995	-.7423	-.0146	-.0077	-.0025	3.68

RUN NUMBER 193 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.167	1.95 (40.63)	.00	-2.15	-.3047	.2603	-.0991	.0017	.0014	-.0146	-1.17
.166	1.94 (40.60)	.00	-.08	-.0755	.2475	-.1349	-.0023	.0009	-.0131	-.30
.166	1.94 (40.60)	-.00	2.05	.2254	.2466	-.2066	.0026	.0011	-.0099	.91
.166	1.94 (40.60)	-.00	4.04	.4845	.2501	-.2340	.0019	.0015	-.0105	1.94
.166	1.94 (40.60)	-.00	6.20	.7192	.2640	-.2463	.0027	.0021	-.0131	2.72
.166	1.94 (40.60)	-.00	8.21	.9080	.2746	-.2503	.0014	.0008	-.0121	3.31
.166	1.94 (40.60)	-.00	10.26	1.0900	.2926	-.2602	.0017	.0005	-.0101	3.72
.166	1.94 (40.61)	-.00	12.33	1.2726	.3150	-.2609	.0012	.0001	-.0098	4.04
.166	1.94 (40.61)	-.00	14.42	1.4797	.3437	-.2694	.0007	.0000	-.0093	4.31
.166	1.94 (40.58)	-.00	16.45	1.6450	.3763	-.2812	-.0006	-.0007	-.0077	4.37
.166	1.94 (40.55)	-.00	18.54	1.8402	.4176	-.3091	-.0013	-.0022	-.0064	4.41
.166	1.94 (40.57)	-.00	20.64	2.0180	.4696	-.3479	-.0005	-.0023	-.0053	4.30
.167	1.95 (40.63)	-.00	22.69	2.1140	.5610	-.4088	-.0016	-.0012	-.0063	3.77
.167	1.95 (40.70)	-.01	24.77	2.2507	.6545	-.4876	-.0020	.0002	-.0079	3.44

RUN NUMBER 194 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.50)	.00	-2.14	-.3480	.2712	-.0670	-.0001	.0010	-.0125	-1.28
.166	1.94 (40.49)	.00	-.07	-.1294	.2567	-.0982	-.0000	.0016	-.0111	-.50
.166	1.94 (40.49)	-.00	2.07	.1591	.2574	-.1572	.0024	.0011	-.0111	.62
.166	1.94 (40.48)	-.00	4.09	.4209	.2589	-.1869	.0002	.0015	-.0127	1.63
.166	1.94 (40.49)	-.00	6.18	.6366	.2725	-.1886	.0028	.0021	-.0120	2.34
.166	1.94 (40.49)	.00	8.19	.8312	.2836	-.1865	.0037	.0018	-.0122	2.93
.166	1.94 (40.49)	.00	10.24	1.0180	.3003	-.1875	.0040	.0016	-.0127	3.39
.166	1.94 (40.50)	.00	12.34	1.2062	.3234	-.1937	.0035	.0007	-.0099	3.73
.166	1.94 (40.49)	.00	14.42	1.3827	.3521	-.1977	.0018	.0001	-.0072	3.93
.166	1.93 (40.35)	.00	16.43	1.5780	.3834	-.2142	.0021	-.0001	-.0093	4.12
.167	1.95 (40.65)	.00	18.48	1.7551	.4270	-.2435	.0009	-.0017	-.0088	4.11
.167	1.95 (40.78)	.00	20.62	1.9296	.4783	-.2787	.0013	-.0020	-.0055	4.03
.167	1.95 (40.74)	-.00	22.67	2.0381	.5636	-.3445	.0016	.0001	-.0085	3.62
.166	1.94 (40.51)	-.01	24.70	2.1712	.6505	-.4177	-.0018	.0010	-.0126	3.34

RUN NUMBER 197 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.51)	.00	-1.94	.4379	.2257	.2180	-.0026	-.0006	-.0020	1.94
.166	1.94 (40.46)	.00	.18	.7606	.2286	.1650	-.0020	.0003	-.0043	3.33
.166	1.94 (40.46)	-.00	2.24	1.0144	.2419	.1351	-.0009	.0008	-.0046	4.19
.166	1.94 (40.45)	-.00	4.27	1.2195	.2581	.1275	-.0027	.0001	-.0034	4.73
.166	1.94 (40.46)	-.00	6.40	1.4294	.2804	.1152	-.0028	-.0001	-.0037	5.10
.166	1.93 (40.31)	-.00	8.43	1.6223	.3047	.0930	-.0035	-.0005	-.0020	5.32
.166	1.93 (40.21)	-.00	10.53	1.8229	.3345	.0676	-.0036	-.0010	-.0009	5.45
.166	1.93 (40.25)	-.01	12.50	2.0124	.3692	.0365	-.0041	-.0011	-.0004	5.45
.166	1.93 (40.31)	-.01	14.60	2.2086	.4042	.0072	-.0034	-.0004	-.0043	5.46
.166	1.93 (40.32)	-.01	16.63	2.3708	.4458	-.0164	-.0059	-.0036	-.0023	5.32
.166	1.93 (40.33)	-.01	18.70	2.5290	.4926	-.0495	-.0056	-.0047	-.0036	5.13
.166	1.93 (40.39)	-.00	20.72	2.6318	.5452	-.1105	-.0020	-.0026	-.0084	4.83
.166	1.94 (40.53)	-.01	22.57	2.4331	.6419	-.3787	-.0034	-.0003	-.0028	3.79
.166	1.94 (40.50)	-.01	24.72	2.5183	.7319	-.4409	-.0042	-.0002	-.0067	3.44

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RUN NUMBER 198 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.61)	.00	-1.98	.3290	.2409	.2694	-.0040	-.0012	-.0060	1.37
.166	1.93 (40.38)	.00	.13	.6605	.2432	.2165	-.0022	.0005	-.0071	2.72
.166	1.93 (40.38)	-.00	2.21	.9397	.2535	.1786	-.0024	.0005	-.0061	3.71
.166	1.93 (40.40)	-.00	4.33	1.1657	.2712	.1713	-.0009	.0003	-.0013	4.30
.166	1.93 (40.40)	-.00	6.34	1.3534	.2911	.1590	-.0009	.0004	-.0032	4.65
.166	1.93 (40.40)	-.00	8.43	1.5611	.3157	.1429	-.0007	.0002	-.0029	4.94
.166	1.94 (40.42)	-.00	10.43	1.7297	.3448	.1226	-.0020	-.0009	-.0002	5.02
.166	1.94 (40.42)	-.00	12.50	1.9215	.3768	.0937	-.0025	-.0010	-.0004	5.10
.166	1.94 (40.42)	-.01	14.55	2.1048	.4132	.0679	-.0047	-.0026	.0015	5.09
.166	1.94 (40.43)	-.01	16.62	2.2776	.4529	.0422	-.0047	-.0039	.0008	5.03
.166	1.94 (40.45)	-.00	18.69	2.4284	.5051	.0087	-.0035	-.0032	-.0030	4.81
.166	1.94 (40.47)	-.01	20.77	2.5636	.5562	-.0469	-.0037	-.0017	-.0086	4.61
.166	1.94 (40.57)	-.01	22.55	2.3645	.6423	-.3304	-.0034	-.0012	-.0040	3.68
.166	1.95 (40.62)	-.01	24.68	2.4545	.7313	-.4008	-.0047	-.0001	-.0046	3.36

RUN NUMBER 199 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.116	.96 (20.15)	.00	-1.85	.7646	.1718	-.1077	.0051	.0016	-.0078	4.45
.116	.96 (20.14)	-.00	.34	1.2286	.1842	-.2217	-.0026	.0006	-.0082	6.67
.116	.96 (20.13)	-.00	2.44	1.4831	.2024	-.2865	-.0021	.0009	-.0069	7.33
.116	.96 (20.01)	-.00	4.46	1.7067	.2237	-.3386	-.0032	.0002	-.0072	7.63
.116	.95 (19.94)	-.00	6.44	1.9093	.2476	-.3859	-.0050	-.0007	-.0069	7.71
.117	.98 (20.42)	-.00	8.67	2.1570	.2824	-.4477	-.0037	-.0005	-.0017	7.64
.117	.98 (20.48)	-.00	10.65	2.2973	.3089	-.4887	-.0055	-.0012	-.0035	7.44
.117	.98 (20.43)	-.00	12.61	2.4688	.3359	-.5135	-.0037	.0003	-.0046	7.35
.117	.98 (20.42)	-.00	14.86	2.6053	.3698	-.5241	-.0082	-.0009	-.0070	7.05
.117	.97 (20.30)	-.01	16.83	2.6748	.4114	-.5023	-.0111	-.0041	-.0042	6.50
.117	.97 (20.30)	-.01	18.80	2.7642	.4632	-.5065	-.0164	-.0093	.0003	5.97
.117	.97 (20.33)	-.00	20.78	2.7071	.5394	-.5851	-.0051	-.0063	-.0303	5.02
.116	.96 (20.13)	-.01	22.96	2.6422	.6496	-.7167	-.0074	-.0007	-.0106	4.07
.116	.96 (20.03)	-.01	24.74	2.6793	.7123	-.7367	-.0074	-.0001	-.0106	3.76

RUN NUMBER 200 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.143	1.46 (30.39)	.00	-1.87	.8078	.1715	-.1068	.0025	.0010	-.0073	4.71
.143	1.45 (30.28)	.00	.25	1.2144	.1855	-.2216	-.0012	.0008	-.0059	6.55
.143	1.45 (30.26)	-.00	2.35	1.4727	.2055	-.2849	-.0056	-.0001	-.0022	7.17
.143	1.45 (30.23)	-.00	4.44	1.7066	.2253	-.3396	-.0045	-.0003	-.0052	7.57
.143	1.45 (30.19)	-.00	6.44	1.9055	.2500	-.3896	-.0039	-.0003	-.0023	7.62
.142	1.44 (30.08)	-.00	8.75	2.1464	.2806	-.4486	-.0041	-.0006	-.0015	7.65
.144	1.47 (30.62)	-.00	10.54	2.3154	.3076	-.4944	-.0033	-.0001	-.0040	7.53
.143	1.45 (30.38)	-.00	12.73	2.4640	.3418	-.5183	-.0053	-.0002	-.0060	7.21
.143	1.45 (30.30)	-.01	14.95	2.6244	.3773	-.5234	-.0087	-.0020	-.0046	6.96
.143	1.45 (30.30)	-.01	16.74	2.7195	.4150	-.5057	-.0133	-.0048	-.0032	6.55
.143	1.45 (30.32)	-.02	18.72	2.7981	.4689	-.5037	-.0149	-.0082	.0012	5.97
.143	1.45 (30.36)	-.01	20.76	2.7311	.5458	-.5996	-.0035	-.0052	-.0351	5.00
.143	1.44 (30.10)	-.01	22.97	2.6492	.6505	-.7353	-.0069	.0002	-.0083	4.07
.142	1.44 (30.01)	-.01	24.77	2.6924	.7192	-.7420	-.0072	-.0008	-.0087	3.74

RUN NUMBER 201 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.93 (40.35)	.00	-1.91	.8700	.1733	-.1190	-.0021	-.0000	-.0028	5.02
.165	1.93 (40.34)	.00	.26	1.2322	.1877	-.2281	-.0028	.0005	-.0041	6.56
.165	1.93 (40.30)	-.00	2.34	1.4850	.2046	-.2918	-.0044	-.0001	-.0031	7.26
.165	1.93 (40.33)	-.00	4.39	1.7093	.2257	-.3445	-.0042	-.0004	-.0013	7.57
.166	1.94 (40.58)	-.00	6.46	1.9314	.2476	-.3971	-.0035	-.0002	-.0024	7.80
.166	1.94 (40.45)	-.00	8.53	2.1301	.2789	-.4470	-.0053	-.0009	-.0011	7.64
.166	1.94 (40.41)	-.01	10.56	2.3137	.3076	-.4965	-.0061	-.0012	-.0028	7.52
.165	1.93 (40.28)	-.01	12.62	2.4894	.3427	-.5252	-.0079	-.0019	-.0004	7.26
.166	1.96 (40.84)	-.01	14.69	2.6456	.3755	-.5351	-.0095	-.0022	-.0019	7.05
.166	1.93 (40.41)	-.02	16.76	2.7277	.4142	-.5050	-.0132	-.0049	-.0020	6.59
.165	1.93 (40.34)	-.02	18.75	2.8216	.4694	-.4966	-.0153	-.0087	.0018	6.01
.166	1.95 (40.69)	-.02	20.65	2.6612	.5532	-.6869	-.0119	-.0062	-.0110	4.81
.166	1.94 (40.62)	-.02	22.80	2.6623	.6456	-.7334	-.0078	-.0001	-.0061	4.12
.166	1.94 (40.44)	-.03	24.75	2.6998	.7198	-.7372	-.0120	-.0029	-.0029	3.75

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RUN NUMBER 202 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.60)	.00	-1.82	.9393	.1761	-.1400	-.0000	.0003	-.0031	5.34
.204	2.90 (60.55)	.00	.20	1.2384	.1887	-.2294	-.0029	.0008	-.0050	6.56
.204	2.90 (60.52)	-.00	2.35	1.4898	.2050	-.2966	-.0027	.0004	-.0029	7.27
.203	2.89 (60.37)	-.00	4.38	1.7190	.2235	-.3456	-.0033	-.0001	-.0006	7.69
.203	2.88 (60.23)	-.00	6.60	1.9356	.2540	-.3991	-.0041	-.0006	.0014	7.62
.204	2.90 (60.57)	-.01	8.57	2.1586	.2765	-.4534	-.0040	-.0008	.0004	7.81
.204	2.90 (60.58)	-.01	10.53	2.3176	.3069	-.4977	-.0057	-.0019	.0038	7.55
.204	2.90 (60.57)	-.01	12.82	2.5012	.3442	-.5289	-.0081	-.0021	-.0003	7.27
.204	2.90 (60.60)	-.02	14.73	2.6443	.3756	-.5315	-.0106	-.0030	.0006	7.04
.204	2.91 (60.71)	-.03	16.80	2.7494	.4156	-.5029	-.0162	-.0062	-.0007	6.62
.204	2.92 (60.97)	-.03	18.73	2.8128	.4773	-.4777	-.0136	-.0050	-.0018	5.89
.204	2.91 (60.86)	-.01	20.77	2.7468	.5517	-.5988	-.0026	-.0027	-.0376	4.98
.203	2.89 (60.39)	-.04	22.87	2.6929	.6379	-.7546	-.0139	-.0063	-.0012	4.22
.205	2.94 (61.30)	-.03	24.72	2.7303	.7191	-.7544	-.0085	-.0009	-.0041	3.80

RUN NUMBER 203 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.93 (40.32)	.00	-1.80	.9102	.1735	-.1420	-.0014	.0004	-.0072	5.25
.165	1.93 (40.35)	.00	.27	1.2527	.1875	-.2470	.0013	.0016	-.0108	6.68
.165	1.93 (40.33)	-.00	2.36	1.5076	.2035	-.3140	.0006	.0020	-.0137	7.41
.165	1.93 (40.31)	-.00	4.38	1.7104	.2259	-.3656	.0014	.0021	-.0145	7.57
.165	1.93 (40.30)	.00	6.44	1.9271	.2506	-.4185	.0036	.0027	-.0148	7.69
.165	1.93 (40.30)	.00	8.51	2.1053	.2791	-.4742	.0018	.0016	-.0134	7.54
.165	1.93 (40.28)	.00	10.58	2.2947	.3112	-.5272	.0014	.0012	-.0118	7.37
.165	1.93 (40.40)	.00	12.61	2.4513	.3456	-.5488	.0010	.0012	-.0126	7.09
.166	1.94 (40.43)	.00	14.67	2.5814	.3767	-.5320	.0008	.0019	-.0144	6.85
.165	1.93 (40.31)	-.00	16.71	2.6814	.4195	-.5055	-.0023	.0000	-.0093	6.39
.165	1.93 (40.34)	-.02	18.73	2.7991	.4763	-.4957	-.0091	-.0044	-.0079	5.88
.165	1.93 (40.39)	-.01	20.76	2.7488	.5555	-.6187	-.0026	-.0032	-.0322	4.95
.165	1.93 (40.37)	-.03	22.82	2.7256	.6474	-.7611	-.0121	-.0052	-.0032	4.21
.166	1.95 (40.74)	-.01	24.77	2.7292	.7280	-.7441	-.0017	.0030	-.0120	3.75

RUN NUMBER 204 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.52)	.00	-1.78	.9828	.1745	-.2036	-.0074	-.0021	-.0024	5.63
.166	1.94 (40.49)	.00	.30	1.3497	.1906	-.3063	-.0077	-.0019	-.0038	7.08
.165	1.93 (40.28)	-.00	2.41	1.5969	.2091	-.3580	-.0085	-.0022	-.0032	7.64
.166	1.93 (40.24)	-.01	4.42	1.8016	.2347	-.3993	-.0120	-.0035	-.0010	7.68
.165	1.93 (40.30)	-.01	6.52	2.0148	.2628	-.4410	-.0136	-.0043	.0005	7.67
.165	1.93 (40.28)	-.01	8.62	2.2079	.2933	-.4884	-.0138	-.0048	.0018	7.53
.166	1.93 (40.33)	-.02	10.62	2.3754	.3251	-.5287	-.0139	-.0051	.0032	7.31
.165	1.93 (40.31)	-.02	12.63	2.5212	.3578	-.5448	-.0126	-.0043	-.0006	7.05
.166	1.93 (40.34)	-.01	14.69	2.6442	.3940	-.5321	-.0090	-.0020	-.0034	6.71
.166	1.93 (40.38)	-.02	16.77	2.7542	.4365	-.5131	-.0097	-.0024	-.0027	6.31
.166	1.94 (40.56)	-.03	18.75	2.8124	.4868	-.4933	-.0166	-.0074	-.0019	5.78
.166	1.93 (40.37)	-.02	20.73	2.7612	.5698	-.6495	-.0089	-.0056	-.0275	4.85
.166	1.94 (40.46)	-.04	22.85	2.7631	.6315	-.6517	-.0144	-.0131	-.0182	4.38
.166	1.94 (40.59)	-.01	24.77	2.7594	.7447	-.7806	-.0034	.0018	-.0105	3.71

RUN NUMBER 205 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.38)	.00	-1.81	.9659	.1781	-.4181	.0003	.0010	-.0030	5.42
.166	1.93 (40.38)	-.00	.34	1.3096	.1950	-.4435	.0012	.0011	-.0047	6.71
.166	1.93 (40.39)	-.00	2.40	1.5403	.2109	-.4283	-.0004	.0010	-.0032	7.30
.166	1.93 (40.39)	-.00	4.57	1.7490	.2311	-.3900	.0007	.0009	-.0016	7.57
.166	1.93 (40.39)	-.00	6.52	1.9178	.2526	-.3598	-.0002	.0002	-.0001	7.59
.166	1.93 (40.39)	-.00	8.55	2.0931	.2738	-.3294	.0009	.0004	-.0003	7.65
.166	1.93 (40.40)	-.00	10.54	2.2310	.2998	-.3005	.0010	.0002	.0031	7.44
.166	1.93 (40.41)	-.00	12.62	2.3803	.3291	-.2585	-.0011	-.0002	.0022	7.23
.166	1.93 (40.35)	-.00	14.74	2.5118	.3561	-.1988	-.0018	.0008	-.0003	7.05
.165	1.93 (40.29)	-.01	16.74	2.5925	.3928	-.1371	-.0044	-.0006	-.0015	6.60
.165	1.93 (40.25)	-.02	18.84	2.6707	.4420	-.0621	-.0097	-.0051	-.0027	6.04
.166	1.94 (40.61)	-.00	20.88	2.6145	.5110	-.0878	.0011	-.0026	-.0371	5.12
.167	1.95 (40.79)	-.02	22.72	2.5593	.5538	-.0634	-.0084	-.0098	-.0229	4.62
.165	1.93 (40.29)	-.01	24.71	2.4814	.6402	-.0823	-.0042	.0022	-.0091	3.88

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RUN NUMBER 206 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.93 (40.26)	.00	-1.97	.5673	.2608	.6163	.0002	.0017	-.0040	2.18
.166	1.95 (40.67)	.00	.19	.9551	.2608	.5457	.0020	.0016	-.0072	3.66
.166	1.95 (40.66)	-.00	2.34	1.2164	.2612	.5096	-.0008	.0014	-.0035	4.66
.166	1.95 (40.65)	-.00	4.32	1.4197	.2643	.4954	.0010	.0019	-.0033	5.37
.166	1.95 (40.64)	-.00	6.66	1.6462	.2720	.4749	.0008	.0018	-.0022	6.05
.165	1.93 (40.27)	.00	8.45	1.8097	.2793	.4463	.0022	.0025	-.0036	6.48
.165	1.92 (40.17)	.00	10.69	2.0239	.2973	.3947	.0012	.0030	-.0042	6.81
.165	1.93 (40.22)	-.00	12.70	2.2075	.3154	.3452	-.0020	-.0005	.0012	7.00
.166	1.95 (40.74)	-.00	14.73	2.3439	.3433	.3134	-.0024	.0003	-.0018	6.83
.166	1.95 (40.77)	-.01	16.79	2.4434	.3753	.3028	-.0044	-.0006	-.0002	6.51
.166	1.94 (40.57)	-.02	18.84	2.5504	.4245	.2905	-.0092	-.0055	-.0006	6.01
.166	1.94 (40.61)	-.00	20.79	2.5354	.4936	.0698	-.0003	-.0039	-.0318	5.14
.166	1.94 (40.41)	-.03	22.78	2.5228	.5445	.0213	-.0109	-.0122	-.0137	4.63
.166	1.93 (40.32)	-.01	24.80	2.5340	.6506	-.1528	-.0027	.0023	-.0106	3.90

RUN NUMBER 207 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.95 (40.65)	.00	-1.90	.6364	.2195	.4431	.0014	.0018	-.0035	2.90
.166	1.95 (40.66)	.00	.21	1.0177	.2206	.3616	.0028	.0018	-.0053	4.61
.166	1.94 (40.53)	-.00	2.41	1.2919	.2189	.3087	-.0011	.0020	-.0080	5.90
.166	1.93 (40.38)	-.00	4.53	1.5072	.2262	.2468	.0003	.0001	-.0001	6.66
.165	1.93 (40.24)	.00	6.50	1.7203	.2439	.1937	.0036	.0011	.0019	7.05
.165	1.92 (40.20)	.00	8.61	1.9186	.2685	.1449	.0018	.0006	.0023	7.15
.165	1.92 (40.20)	.00	10.63	2.1174	.2942	.0951	.0015	.0007	.0007	7.20
.165	1.93 (40.21)	-.00	12.70	2.2842	.3232	.0563	-.0015	-.0004	.0031	7.07
.165	1.93 (40.29)	-.00	14.71	2.4502	.3541	.0332	-.0003	.0023	-.0012	6.92
.166	1.93 (40.34)	-.01	16.78	2.5468	.3918	.0357	-.0054	-.0019	-.0001	6.50
.166	1.93 (40.36)	-.02	18.82	2.6616	.4424	.0226	-.0086	-.0042	-.0030	6.02
.166	1.94 (40.42)	-.00	20.74	2.6321	.5105	-.1624	.0006	-.0030	-.0315	5.16
.166	1.94 (40.46)	-.03	22.89	2.5923	.5661	-.1942	-.0104	-.0123	-.0144	4.58
.166	1.93 (40.39)	-.01	24.77	2.5850	.6590	-.3416	-.0030	.0011	-.0084	3.92

RUN NUMBER 208 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.60)	.00	-1.85	.7170	.1836	.2076	.0024	.0011	.0004	3.90
.166	1.95 (40.65)	.00	.29	1.1252	.1942	.0923	.0048	.0015	-.0023	5.79
.166	1.95 (40.64)	-.00	2.42	1.3893	.2076	.0280	.0014	.0017	-.0043	6.69
.166	1.95 (40.63)	-.00	4.42	1.5996	.2234	-.0206	.0020	.0016	-.0029	7.16
.166	1.94 (40.58)	.00	6.49	1.8078	.2447	-.0733	.0026	.0015	.0001	7.39
.166	1.94 (40.44)	.00	8.56	2.0085	.2713	-.1251	.0032	.0019	-.0025	7.40
.166	1.93 (40.38)	.00	10.60	2.2036	.2969	-.1782	.0025	.0019	-.0020	7.42
.166	1.93 (40.38)	.00	12.67	2.3756	.3308	-.2112	-.0002	.0013	-.0016	7.18
.166	1.93 (40.39)	-.00	14.72	2.5143	.3610	-.2238	-.0009	.0021	-.0035	6.97
.166	1.93 (40.41)	-.01	16.72	2.6018	.3992	-.2127	-.0048	-.0004	-.0037	6.52
.166	1.93 (40.33)	-.02	18.76	2.7183	.4514	-.2162	-.0091	-.0043	-.0038	6.02
.166	1.93 (40.39)	-.00	20.76	2.6825	.5232	-.3620	.0013	-.0033	-.0311	5.13
.166	1.94 (40.43)	-.02	22.88	2.6480	.5794	-.3811	-.0104	-.0116	-.0159	4.57
.165	1.92 (40.10)	-.01	24.81	2.6391	.6813	-.5263	-.0030	.0027	-.0100	3.87

RUN NUMBER 209 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.13)	.00	-1.84	.8572	.1769	-.0923	.0038	.0016	-.0036	4.84
.165	1.92 (40.17)	.00	.22	1.1913	.1954	-.1880	.0030	.0017	-.0063	6.10
.166	1.94 (40.49)	.00	2.33	1.4798	.2080	-.2635	.0042	.0017	-.0040	7.11
.166	1.94 (40.50)	-.00	4.40	1.6928	.2311	-.3129	.0022	.0015	-.0017	7.32
.166	1.94 (40.50)	.00	6.48	1.9039	.2553	-.3629	.0035	.0019	-.0034	7.46
.166	1.94 (40.50)	.00	8.53	2.0921	.2833	-.4112	.0012	.0005	.0006	7.38
.166	1.94 (40.50)	.00	10.57	2.2767	.3116	-.4613	.0006	.0007	-.0025	7.31
.166	1.94 (40.50)	-.00	12.60	2.4517	.3390	-.4896	-.0012	.0009	-.0042	7.23
.166	1.94 (40.52)	.00	14.66	2.5873	.3785	-.5003	-.0010	.0016	-.0024	6.84
.166	1.94 (40.58)	-.01	16.76	2.7000	.4177	-.4894	-.0050	-.0003	-.0040	6.46
.166	1.95 (40.63)	-.01	18.76	2.7818	.4668	-.4737	-.0079	-.0039	-.0044	5.96
.166	1.93 (40.38)	-.00	20.75	2.7267	.5438	-.5824	-.0001	-.0011	-.0406	5.01
.166	1.93 (40.31)	-.02	22.81	2.6719	.6259	-.7080	-.0110	-.0053	-.0100	4.27
.165	1.91 (39.93)	-.01	24.72	2.6891	.7129	-.7182	-.0016	.0023	-.0126	3.77

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RUN NUMBER 210 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.37)	.00	-1.82	.9468	.1784	-.3931	-.0044	.0002	-.0032	5.31
.166	1.93 (40.37)	-.00	.35	1.3360	.1974	-.5029	-.0008	.0007	-.0057	6.77
.166	1.93 (40.36)	-.00	2.44	1.5975	.2155	-.5595	-.0015	.0009	-.0051	7.41
.166	1.93 (40.35)	-.00	4.43	1.7975	.2393	-.6053	-.0021	.0009	-.0051	7.51
.166	1.93 (40.34)	-.00	6.55	2.0243	.2653	-.6575	-.0001	.0012	-.0035	7.63
.166	1.93 (40.33)	-.00	8.56	2.2258	.2961	-.7132	-.0012	.0005	-.0025	7.52
.166	1.93 (40.41)	-.00	10.67	2.4099	.3317	-.7564	-.0006	.0013	-.0045	7.26
.166	1.94 (40.42)	-.00	12.69	2.5715	.3656	-.7730	-.0023	.0008	-.0034	7.03
.166	1.94 (40.43)	-.00	14.74	2.7083	.4005	-.7699	-.0015	.0025	-.0054	6.76
.166	1.94 (40.45)	-.01	16.74	2.7868	.4426	-.7354	-.0053	-.0001	-.0052	6.30
.166	1.94 (40.48)	-.02	18.73	2.8862	.5009	-.7147	-.0097	-.0053	-.0016	5.76
.166	1.94 (40.55)	-.00	20.69	2.7925	.5745	-.7869	-.0006	-.0004	-.0396	4.86
.166	1.93 (40.40)	-.02	22.70	2.7235	.6652	-.9139	-.0106	-.0034	-.0049	4.09
.166	1.93 (40.39)	-.01	24.82	2.7423	.7482	-.9056	-.0043	.0011	-.0078	3.67

RUN NUMBER 211 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.50)	.00	-1.77	1.1180	.1830	-.7149	.0010	.0010	-.0108	6.11
.166	1.94 (40.50)	.00	.35	1.4416	.2058	-.8037	-.0004	.0010	-.0096	7.00
.166	1.94 (40.49)	-.00	2.40	1.6894	.2269	-.8629	-.0010	.0012	-.0063	7.45
.166	1.94 (40.49)	-.00	4.47	1.9178	.2516	-.9124	-.0010	.0013	-.0050	7.62
.166	1.94 (40.50)	-.00	6.58	2.1152	.2848	-.9578	-.0030	.0004	-.0032	7.43
.166	1.93 (40.30)	-.00	8.58	2.3107	.3124	-1.0021	-.0012	.0014	-.0065	7.40
.165	1.93 (40.25)	-.00	10.65	2.5036	.3475	-1.0309	-.0014	.0005	-.0035	7.20
.165	1.93 (40.26)	-.01	12.75	2.6610	.3924	-1.0417	-.0044	-.0013	-.0016	6.78
.166	1.94 (40.42)	-.00	14.74	2.7948	.4330	-1.0269	-.0015	.0001	.0010	6.46
.166	1.94 (40.56)	-.01	16.81	2.8644	.4802	-.9590	-.0058	-.0022	-.0019	5.96
.166	1.95 (40.69)	-.02	18.79	2.9445	.5411	-.9078	-.0092	-.0045	-.0025	5.44
.166	1.95 (40.67)	-.02	20.53	2.6936	.6201	-.9955	-.0102	-.0038	-.0039	4.34
.166	1.94 (40.48)	-.02	22.73	2.7503	.7060	-1.0485	-.0116	-.0049	.0001	3.90
.166	1.93 (40.41)	-.01	24.78	2.7607	.7884	-1.0336	-.0015	.0026	-.0088	3.50

RUN NUMBER 212 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.42)	.00	-1.78	1.1315	.1994	-.9757	-.0100	-.0006	-.0065	5.67
.166	1.93 (40.41)	.00	.37	1.5315	.2228	-1.0871	-.0011	.0009	-.0068	6.87
.166	1.93 (40.40)	-.00	2.48	1.7685	.2498	-1.1344	-.0041	-.0001	-.0056	7.08
.166	1.93 (40.38)	-.00	4.51	1.9862	.2781	-1.1772	-.0023	-.0007	-.0029	7.14
.165	1.92 (40.18)	-.00	6.56	2.2011	.3143	-1.2067	-.0040	-.0009	-.0021	7.00
.165	1.92 (40.18)	-.00	8.62	2.3654	.3554	-1.2185	-.0025	-.0009	.0002	6.71
.166	1.93 (40.38)	-.00	10.63	2.5610	.3937	-1.2079	-.0025	.0010	-.0062	6.50
.166	1.94 (40.57)	-.01	12.71	2.6982	.4342	-1.1714	-.0060	-.0014	-.0010	6.21
.166	1.94 (40.62)	-.00	14.77	2.8165	.4752	-1.1219	-.0027	.0014	-.0024	5.93
.166	1.95 (40.74)	-.01	16.73	2.8788	.5174	-1.0480	-.0067	-.0020	-.0025	5.56
.166	1.95 (40.64)	-.02	18.74	2.9270	.5742	-.9732	-.0094	-.0059	.0006	5.10
.166	1.94 (40.45)	-.00	20.68	2.8180	.6453	-.9813	.0005	-.0005	-.0464	4.37
.166	1.93 (40.35)	-.02	22.78	2.7896	.7155	-1.0205	-.0107	-.0094	-.0265	3.90
.166	1.93 (40.36)	-.01	24.86	2.7672	.8327	-1.1025	-.0019	.0026	-.0091	3.32

RUN NUMBER 213 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.53)	.00	-1.79	1.1208	.1860	-.4689	-.0009	.0004	-.0047	6.03
.204	2.90 (60.50)	.00	.28	1.4012	.2033	-.4535	-.0032	.0004	-.0054	6.89
.204	2.90 (60.52)	-.00	2.37	1.6118	.2226	-.4078	-.0036	.0000	-.0031	7.24
.204	2.90 (60.52)	-.00	4.48	1.8133	.2447	-.3478	-.0039	-.0001	-.0010	7.41
.204	2.90 (60.52)	-.01	6.54	1.9900	.2720	-.2999	-.0058	-.0015	.0028	7.32
.204	2.89 (60.38)	-.01	8.54	2.1525	.2994	-.2501	-.0047	-.0011	.0013	7.19
.204	2.90 (60.62)	-.01	10.59	2.3116	.3297	-.1979	-.0061	-.0019	.0026	7.01
.204	2.90 (60.64)	-.01	12.64	2.4667	.3606	-.1363	-.0073	-.0023	.0022	6.84
.204	2.90 (60.56)	-.02	14.69	2.5935	.3902	-.0725	-.0105	-.0036	.0012	6.65
.204	2.90 (60.61)	-.02	16.70	2.6801	.4214	-.0042	-.0122	-.0042	.0005	6.36
.204	2.90 (60.51)	-.05	18.75	2.7692	.4696	.0753	-.0204	-.0110	.0026	5.90
.204	2.90 (60.60)	-.06	20.70	2.5266	.5468	-.0244	-.0228	-.0115	.0015	4.62
.205	2.93 (61.26)	-.06	22.71	2.5573	.6131	.0131	-.0203	-.0086	-.0013	4.17
.205	2.93 (61.11)	-.06	24.72	2.5880	.6760	.0480	-.0195	-.0104	.0016	3.83

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RUN NUMBER 221 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.53)	.00	-1.78	1.1428	.1832	-.4674	-.0001	.0006	-.0032	6.24
.205	2.92 (61.02)	-.00	.38	1.4146	.2039	-.4567	-.0031	.0003	-.0053	6.94
.205	2.92 (61.03)	-.00	2.54	1.6247	.2241	-.4205	-.0049	.0000	-.0032	7.25
.205	2.92 (61.03)	-.00	4.52	1.8147	.2436	-.3767	-.0057	-.0009	.0015	7.45
.205	2.92 (61.03)	-.01	6.52	1.9949	.2650	-.3328	-.0055	-.0010	.0027	7.53
.205	2.92 (60.89)	-.01	8.54	2.1476	.2892	-.2893	-.0070	-.0015	.0042	7.43
.203	2.88 (60.13)	-.01	10.56	2.2991	.3167	-.2440	-.0080	-.0018	.0020	7.26
.203	2.88 (60.12)	-.01	12.61	2.4540	.3452	-.1905	-.0076	-.0022	.0025	7.11
.203	2.88 (60.11)	-.01	14.66	2.5967	.3757	-.1339	-.0085	-.0019	.0008	6.91
.203	2.88 (60.09)	-.01	16.68	2.7060	.3998	-.0621	-.0071	-.0023	-.0013	6.77
.203	2.88 (60.13)	-.03	18.70	2.7937	.4471	.0100	-.0162	-.0091	.0006	6.25
.204	2.91 (60.69)	-.01	20.67	2.7149	.5093	-.0104	-.0023	-.0080	-.0346	5.33
.205	2.91 (60.85)	-.05	22.66	2.5851	.5768	-.0423	-.0178	-.0090	-.0049	4.48
.205	2.91 (60.81)	-.05	24.82	2.6347	.6341	.0053	-.0165	-.0112	-.0018	4.16

RUN NUMBER 222 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.48)	.00	-1.68	1.1764	.1719	-.4804	-.0029	.0002	-.0017	6.84
.204	2.90 (60.46)	.00	.32	1.4497	.1922	-.4705	-.0037	.0000	.0001	7.54
.204	2.90 (60.60)	-.00	2.37	1.6442	.2148	-.4358	-.0074	-.0007	.0002	7.65
.204	2.90 (60.62)	-.00	4.41	1.8319	.2356	-.3862	-.0066	-.0005	-.0006	7.78
.204	2.90 (60.61)	-.01	6.52	2.0262	.2603	-.3411	-.0074	-.0007	-.0008	7.78
.204	2.90 (60.57)	-.01	8.56	2.1947	.2887	-.2983	-.0075	-.0009	-.0004	7.60
.204	2.90 (60.51)	-.01	10.59	2.3543	.3167	-.2472	-.0079	-.0009	-.0022	7.43
.204	2.90 (60.60)	-.01	12.64	2.5065	.3458	-.1959	-.0068	-.0015	.0002	7.25
.204	2.90 (60.60)	-.01	14.68	2.6381	.3795	-.1369	-.0094	-.0018	-.0041	6.95
.204	2.90 (60.54)	-.01	16.71	2.7453	.4072	-.0718	-.0080	-.0023	-.0045	6.73
.204	2.90 (60.58)	-.03	18.74	2.8047	.4494	.0044	-.0147	-.0091	-.0044	6.24
.204	2.91 (60.71)	-.01	20.75	2.7516	.5132	-.0076	-.0027	-.0092	-.0377	5.36
.204	2.90 (60.67)	-.05	22.74	2.6343	.5781	-.0272	-.0180	-.0088	.0012	4.56
.205	2.91 (60.76)	-.05	24.77	2.6831	.6363	.0182	-.0164	-.0103	-.0003	4.22

RUN NUMBER 224 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.89 (60.46)	.00	-1.69	1.3966	.1800	-.4795	-.0023	.0028	-.0143	7.76
.204	2.89 (60.42)	.00	.34	1.5784	.1993	-.4432	-.0026	.0032	-.0163	7.92
.204	2.90 (60.51)	-.00	2.50	1.7656	.2225	-.3879	-.0019	.0030	-.0166	7.94
.204	2.90 (60.57)	-.00	4.54	1.9314	.2467	-.3443	-.0018	.0026	-.0173	7.83
.204	2.89 (60.29)	-.00	6.55	2.0905	.2711	-.2958	.0007	.0031	-.0172	7.71
.204	2.91 (60.76)	-.01	8.44	2.0146	.3506	-.1252	-.0065	.0008	-.0159	5.75
.204	2.90 (60.62)	.01	10.49	1.9383	.4153	-.0389	.0071	.0063	-.0337	4.67
.204	2.90 (60.67)	-.00	12.48	1.7665	.4735	-.0037	-.0047	-.0002	-.0134	3.73
.205	2.91 (60.84)	.01	14.41	1.7350	.5250	.0572	.0044	.0019	-.0188	3.30
.204	2.91 (60.70)	.02	16.47	1.6895	.5798	.0717	.0053	.0039	-.0365	2.91
.205	2.92 (61.01)	.04	18.45	1.6730	.6244	.1337	.0132	.0023	-.0334	2.68
.205	2.92 (60.95)	.00	20.40	1.5165	.6818	.0916	-.0021	.0002	-.0009	2.22
.205	2.93 (61.15)	-.03	22.52	1.4604	.7414	.1079	-.0100	-.0035	-.0143	1.97
.205	2.92 (60.97)	-.01	24.46	1.4108	.7873	.1556	-.0023	-.0001	-.0073	1.79

RUN NUMBER 229 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.22)	.00	-1.75	1.2025	.1808	-.1149	-.0024	.0013	-.0116	6.65
.166	1.93 (40.33)	.00	.33	1.4473	.1950	-.1528	-.0016	.0019	-.0165	7.42
.166	1.93 (40.32)	-.00	2.48	1.6624	.2185	-.1905	-.0025	.0016	-.0179	7.61
.166	1.93 (40.32)	-.00	4.55	1.8535	.2464	-.2251	-.0009	.0018	-.0177	7.52
.166	1.93 (40.22)	-.00	6.50	2.0815	.2721	-.2579	-.0024	.0013	-.0116	7.65
.166	1.93 (40.30)	-.01	8.48	2.0467	.3589	-.1115	-.0048	.0012	-.0112	5.70
.166	1.93 (40.38)	-.01	10.72	2.0338	.4271	-.0357	-.0079	-.0001	-.0074	4.76
.166	1.93 (40.40)	.00	12.52	2.0016	.4652	.0042	.0030	.0022	-.0171	4.30
.166	1.93 (40.37)	.02	14.46	1.8665	.5431	-.1107	.0135	.0099	-.0581	3.44
.166	1.94 (40.58)	-.01	16.50	1.6977	.6409	-.2805	-.0052	-.0005	-.0084	2.65
.166	1.95 (40.63)	-.01	18.53	1.6927	.7085	-.3776	-.0043	-.0002	-.0105	2.39
.166	1.94 (40.56)	-.01	20.49	1.6949	.7758	-.4627	-.0040	-.0009	-.0113	2.18
.167	1.95 (40.79)	-.00	22.48	1.6922	.8555	-.5939	-.0009	-.0010	-.0073	1.98
.167	1.95 (40.80)	-.01	24.61	1.7182	.9378	-.6469	-.0026	-.0009	-.0084	1.83

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RUN NUMBER 230 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.62)	.00	-1.77	1.2137	.1808	-.1190	-.0031	.0015	-.0113	6.71
.204	2.90 (60.58)	.00	.22	1.4358	.1954	-.1546	-.0016	.0027	-.0136	7.35
.204	2.90 (60.56)	-.00	2.67	1.6897	.2214	-.1985	-.0010	.0027	-.0157	7.63
.204	2.89 (60.44)	-.00	4.40	1.8749	.2406	-.2294	-.0009	.0025	-.0153	7.79
.204	2.89 (60.40)	-.00	6.69	2.0979	.2753	-.2618	-.0025	.0016	-.0109	7.62
.204	2.89 (60.33)	-.01	8.57	2.0331	.3524	-.1125	-.0060	.0004	-.0073	5.77
.204	2.89 (60.33)	-.01	10.65	2.0256	.4178	-.0318	-.0080	.0010	-.0114	4.85
.203	2.87 (59.99)	.00	12.50	1.9997	.4657	.0067	.0027	.0018	-.0152	4.29
.203	2.87 (59.95)	.01	14.54	2.0026	.5221	.0375	.0036	.0019	-.0131	3.84
.202	2.85 (59.45)	-.01	16.55	1.7063	.6183	-.2800	-.0055	.0013	-.0063	2.76
.205	2.91 (60.80)	-.01	18.56	1.6989	.6766	-.3601	-.0029	.0015	-.0046	2.51
.205	2.92 (61.00)	-.02	20.43	1.6963	.7631	-.5015	-.0051	-.0018	-.0092	2.22
.205	2.92 (61.00)	-.02	22.63	1.6961	.8340	-.5873	-.0047	-.0015	-.0165	2.03
.205	2.93 (61.24)	-.02	24.48	1.7332	.9196	-.6488	-.0052	.0013	-.0166	1.88

RUN NUMBER 233 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.165	1.92 (40.20)	.00	-1.94	.6634	.0656	-.0806	.0008	.0017	-.0175	10.11
.166	1.93 (40.24)	.00	.18	.9181	.0782	-.1237	-.0002	.0015	-.0137	11.74
.166	1.93 (40.23)	-.00	2.26	1.1623	.0950	-.1615	.0011	.0017	-.0130	12.23
.166	1.93 (40.23)	-.00	4.30	1.3922	.1161	-.1952	-.0004	.0015	-.0146	11.99
.166	1.93 (40.23)	-.00	6.53	1.6359	.1447	-.2294	-.0006	.0010	-.0130	11.31
.165	1.92 (40.12)	-.00	8.50	1.8393	.1745	-.2583	-.0002	.0014	-.0163	10.54
.165	1.92 (40.14)	-.00	10.44	1.8158	.2680	-.1293	-.0023	.0010	-.0142	6.78
.165	1.92 (40.19)	-.00	12.47	1.8739	.3329	-.0865	-.0003	.0013	-.0152	5.63
.166	1.95 (40.63)	.01	14.46	1.8870	.3902	-.0333	.0074	.0022	-.0153	4.84
.167	1.95 (40.73)	-.00	16.33	1.6666	.5066	-.2975	-.0024	.0000	-.0132	3.29
.166	1.94 (40.48)	-.00	18.53	1.6409	.5885	-.5300	-.0019	.0002	-.0104	2.79
.166	1.94 (40.45)	-.01	20.45	1.6544	.6589	-.6453	-.0025	-.0002	-.0153	2.51
.166	1.94 (40.59)	-.01	22.46	1.6763	.7367	-.6913	-.0046	.0004	-.0146	2.28
.166	1.95 (40.68)	-.01	24.48	1.6869	.8124	-.7238	-.0044	-.0002	-.0148	2.08

RUN NUMBER 234 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.89 (60.44)	.00	-1.93	.6630	.0650	-.0772	.0020	.0012	-.0120	10.20
.204	2.89 (60.43)	.00	.19	.9128	.0775	-.1211	.0015	.0017	-.0134	11.78
.203	2.88 (60.16)	-.00	2.27	1.1588	.0948	-.1610	.0013	.0018	-.0129	12.23
.204	2.90 (60.58)	-.00	4.28	1.4100	.1149	-.1964	.0001	.0018	-.0144	12.27
.205	2.91 (60.87)	.00	6.37	1.6264	.1415	-.2278	.0002	.0014	-.0124	11.49
.203	2.88 (60.21)	.00	8.45	1.8474	.1722	-.2600	-.0005	.0010	-.0132	10.73
.204	2.89 (60.33)	-.01	10.42	1.8431	.2604	-.1454	-.0048	.0003	-.0132	7.08
.204	2.89 (60.46)	-.00	12.47	1.8630	.3248	-.0824	-.0013	.0029	-.0188	5.74
.204	2.90 (60.61)	.01	14.46	1.8833	.3912	-.0344	.0071	.0028	-.0163	4.81
.204	2.90 (60.67)	-.01	16.37	1.6468	.4871	-.3482	-.0050	.0010	-.0080	3.38
.204	2.90 (60.65)	-.01	18.51	1.6904	.5589	-.4460	-.0040	.0013	-.0086	3.02
.204	2.91 (60.73)	-.01	20.48	1.7362	.6289	-.5196	-.0021	.0021	-.0098	2.76
.205	2.92 (61.05)	-.01	22.40	1.7011	.7143	-.7088	-.0023	-.0036	-.0153	2.38
.205	2.92 (60.95)	-.01	24.50	1.7104	.7898	-.7323	-.0035	-.0020	-.0212	2.17

RUN NUMBER 238 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.53)	.00	-1.83	.7749	.0631	-.3243	.0023	.0015	-.0116	12.28
.204	2.89 (60.36)	.00	.19	.9830	.0758	-.2890	.0018	.0020	-.0133	12.98
.204	2.89 (60.26)	-.00	2.27	1.1868	.0927	-.2545	.0009	.0022	-.0151	12.80
.204	2.89 (60.44)	-.00	4.34	1.3922	.1118	-.2174	-.0003	.0016	-.0138	12.45
.204	2.89 (60.28)	-.00	6.47	1.5958	.1344	-.1822	-.0005	.0013	-.0116	11.88
.204	2.90 (60.47)	.00	8.45	1.7733	.1588	-.1458	-.0006	.0012	-.0126	11.17
.204	2.90 (60.66)	.00	10.44	1.7184	.2550	.0091	.0022	.0039	-.0192	6.74
.204	2.91 (60.79)	-.01	14.31	1.6200	.3772	.1214	-.0044	.0002	-.0093	4.30
.205	2.91 (60.82)	-.01	16.43	1.5657	.4438	.1065	-.0049	.0008	-.0223	3.53
.204	2.90 (60.64)	-.00	18.41	1.4811	.5182	.0798	-.0021	.0007	-.0055	2.86
.205	2.92 (61.00)	.00	20.42	1.4307	.5667	.1014	-.0001	-.0020	-.0063	2.52
.205	2.92 (61.00)	.01	22.47	1.4025	.6130	.1325	.0014	-.0044	-.0090	2.29
.205	2.93 (61.11)	-.02	24.52	1.3961	.6704	.1865	-.0066	-.0055	-.0147	2.08

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RUN NUMBER 240 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.52)	.00	-1.93	.4997	.0955	-.2878	.0015	.0003	-.0050	5.23
.204	2.89 (60.36)	.00	.15	.8032	.0923	-.2902	.0031	.0015	-.0116	8.70
.204	2.90 (60.63)	.00	2.17	1.0493	.1010	-.2688	.0021	.0019	-.0144	10.39
.204	2.89 (60.43)	-.00	4.40	1.2774	.1211	-.2372	-.0010	.0008	-.0120	10.55
.204	2.90 (60.47)	-.00	6.28	1.4764	.1396	-.2012	-.0007	.0010	-.0118	10.57
.204	2.89 (60.44)	-.00	8.57	1.6818	.1682	-.1619	-.0044	-.0003	-.0112	10.00
.204	2.89 (60.35)	-.01	10.60	1.8641	.1957	-.1228	-.0075	-.0014	-.0106	9.52
.204	2.90 (60.59)	-.05	12.53	1.9709	.2324	-.0421	-.0314	-.0116	-.0021	8.48
.204	2.89 (60.29)	-.06	14.56	2.1282	.2674	.0105	-.0376	-.0153	.0004	7.96
.204	2.90 (60.51)	-.08	16.59	2.2647	.3032	.0658	-.0411	-.0187	.0039	7.47
.204	2.90 (60.54)	-.08	18.62	2.3490	.3476	.1170	-.0370	-.0184	.0015	6.76
.204	2.90 (60.51)	-.04	20.63	2.2942	.4147	.1342	-.0144	-.0059	-.0169	5.53
.204	2.91 (60.72)	-.04	22.67	2.3271	.4686	.1500	-.0120	-.0040	-.0159	4.97
.204	2.90 (60.59)	-.02	24.64	2.2911	.5535	.1430	-.0056	.0038	-.0132	4.14

RUN NUMBER 245 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.57)	.00	-2.03	.2784	.1051	-.0318	-.0005	.0013	-.0111	2.65
.166	1.94 (40.44)	.00	.12	.7247	.0959	-.1464	.0017	.0017	-.0153	7.56
.166	1.94 (40.43)	-.00	2.25	1.0098	.1094	-.2005	-.0009	.0013	-.0143	9.23
.166	1.93 (40.40)	-.00	4.29	1.2763	.1271	-.2410	.0006	.0022	-.0162	10.04
.166	1.93 (40.31)	-.00	6.41	1.5272	.1520	-.2739	-.0022	.0012	-.0136	10.05
.165	1.92 (40.14)	-.00	8.42	1.7653	.1806	-.3108	-.0029	.0009	-.0142	9.77
.165	1.92 (40.14)	-.00	10.51	1.9784	.2178	-.3387	-.0022	.0013	-.0139	9.09
.165	1.92 (40.17)	-.01	12.61	2.1877	.2577	-.3605	-.0056	-.0005	-.0134	8.49
.166	1.93 (40.25)	-.01	14.64	2.3780	.2958	-.3664	-.0077	-.0019	-.0106	8.04
.166	1.93 (40.40)	-.00	16.72	2.5222	.3402	-.3646	-.0046	-.0005	-.0141	7.41
.166	1.94 (40.54)	-.01	18.75	2.6099	.3835	-.3635	-.0056	-.0012	-.0121	6.81
.166	1.95 (40.67)	-.02	20.78	2.6694	.4446	-.3960	-.0163	-.0106	.0009	6.00
.167	1.95 (40.73)	.00	22.78	2.6437	.5470	-.4766	.0039	-.0006	-.0391	4.83
.167	1.95 (40.71)	-.01	24.79	2.6819	.6521	-.6036	-.0025	.0008	-.0156	4.11

RUN NUMBER 247 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.94 (40.46)	.00	-2.03	.2906	.1035	-.0372	-.0002	.0011	-.0079	2.81
.166	1.94 (40.43)	.00	.09	.6924	.0974	-.1608	.0004	.0014	-.0117	7.11
.166	1.93 (40.40)	-.00	2.20	1.0210	.1090	-.2245	-.0011	.0014	-.0139	9.37
.166	1.93 (40.40)	-.00	4.29	1.2986	.1262	-.2659	-.0017	.0016	-.0151	10.29
.166	1.93 (40.40)	-.00	6.36	1.5274	.1517	-.2999	-.0036	.0013	-.0169	10.07
.166	1.93 (40.31)	-.00	8.41	1.7515	.1813	-.3327	-.0059	.0004	-.0150	9.66
.165	1.92 (40.13)	-.00	10.52	1.9880	.2163	-.3623	-.0052	.0003	-.0126	9.19
.165	1.93 (40.22)	-.00	12.60	2.2015	.2561	-.3823	-.0057	-.0001	-.0138	8.60
.166	1.93 (40.29)	-.00	14.65	2.3846	.2997	-.3918	-.0069	-.0012	-.0117	7.96
.166	1.94 (40.62)	-.00	16.72	2.5208	.3392	-.3875	-.0067	-.0021	-.0104	7.43
.166	1.95 (40.63)	-.00	18.66	2.6187	.3822	-.3893	-.0067	-.0019	-.0105	6.85
.166	1.94 (40.52)	-.00	20.75	2.6997	.4448	-.4297	-.0056	-.0007	-.0097	6.07
.166	1.94 (40.59)	.01	22.73	2.6936	.5344	-.5240	.0019	-.0009	-.0360	5.04
.166	1.93 (40.30)	-.05	24.69	2.6520	.6485	-.5936	-.0272	-.0169	.0023	4.09

RUN NUMBER 251 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.166	1.93 (40.37)	.00	-2.09	-.0737	.0986	-.1611	-.0008	.0003	-.0052	-.75
.166	1.93 (40.35)	.00	-.07	.0644	.0774	-.1018	-.0006	.0009	-.0063	.83
.166	1.93 (40.34)	.00	1.86	.2455	.0621	-.0567	.0027	.0012	-.0065	3.96
.166	1.93 (40.33)	.00	4.08	.4718	.0586	-.0277	.0020	.0011	-.0093	8.05
.166	1.93 (40.33)	.00	6.18	.6716	.0659	.0240	.0001	.0006	-.0088	10.19
.166	1.93 (40.34)	.00	8.22	.8440	.0777	.0717	-.0023	-.0002	-.0080	10.87
.166	1.93 (40.33)	.00	10.33	1.0401	.0936	.1228	-.0010	-.0000	-.0087	11.11
.166	1.93 (40.35)	.00	12.31	1.1988	.1142	.1619	-.0027	-.0008	-.0074	10.50
.166	1.93 (40.35)	.00	14.36	1.3701	.1390	.2057	-.0039	-.0015	-.0056	9.86
.166	1.93 (40.33)	.00	16.44	1.5487	.1644	.2608	-.0042	-.0019	-.0042	9.42
.166	1.93 (40.23)	.00	18.50	1.6961	.1956	.3044	-.0040	-.0025	-.0044	8.67
.166	1.93 (40.37)	-.00	20.53	1.7589	.2456	.3087	-.0076	-.0019	-.0041	7.16
.166	1.93 (40.41)	.00	22.46	1.7642	.3043	.3055	-.0031	-.0026	-.0065	5.80
.166	1.93 (40.22)	-.01	24.51	1.8025	.3859	.3328	-.0111	-.0088	-.0000	4.67

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RUN NUMBER 255 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.117	.98 (20.39)	.00	-2.08	.0126	.0258	-.0745	.0021	.0000	-.0006	.49
.117	.98 (20.37)	.00	-.21	.2257	.0278	-.1055	-.0035	.0008	-.0110	8.13
.117	.97 (20.32)	-.00	2.01	.4662	.0328	-.1363	.0007	.0009	-.0076	14.21
.117	.97 (20.33)	-.00	4.22	.7178	.0428	-.1580	-.0001	.0012	-.0114	16.76
.117	.97 (20.31)	-.00	6.30	.9164	.0594	-.1797	.0010	.0012	-.0106	15.42
.117	.97 (20.31)	.00	8.28	1.1175	.0774	-.2119	.0011	.0016	-.0128	14.45
.117	.97 (20.31)	.00	10.27	1.2953	.0995	-.2245	-.0012	.0006	-.0112	13.01
.117	.97 (20.30)	.00	12.41	1.3619	.1774	-.1575	.0013	.0012	-.0125	7.68
.117	.97 (20.25)	.00	14.43	1.4266	.2322	-.1198	.0012	.0008	-.0122	6.14
.117	.96 (20.15)	.00	16.37	1.3405	.3448	-.3397	-.0003	-.0002	-.0074	3.89
.116	.96 (19.99)	.00	18.34	1.3774	.4262	-.5157	.0016	.0001	-.0125	3.23
.116	.96 (19.95)	.00	20.32	1.3858	.4951	-.6680	.0011	-.0004	-.0102	2.80
.116	.96 (19.97)	.00	22.34	1.4225	.5711	-.7508	.0007	-.0009	-.0098	2.49
.117	.97 (20.22)	.00	24.47	1.4645	.6492	-.7726	.0009	-.0007	-.0135	2.26

RUN NUMBER 258 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.204	2.90 (60.57)	.00	-2.10	.0163	.0271	-.0638	.0025	.0011	-.0058	.60
.204	2.90 (60.47)	.00	-.01	.2444	.0284	-.0985	.0019	.0019	-.0083	8.62
.204	2.89 (60.30)	-.00	2.08	.4841	.0343	-.1284	.0023	.0022	-.0090	14.10
.204	2.89 (60.33)	.00	4.15	.7095	.0451	-.1557	.0032	.0027	-.0108	15.72
.204	2.89 (60.37)	.00	6.21	.9219	.0613	-.1807	.0009	.0026	-.0126	15.03
.204	2.90 (60.53)	.00	8.24	1.1338	.0807	-.2097	.0019	.0027	-.0118	14.05
.204	2.89 (60.44)	.01	10.30	1.3282	.1050	-.2267	.0029	.0036	-.0135	12.65
.204	2.90 (60.59)	.04	12.43	1.4542	.1606	-.1909	.0220	.0140	-.0262	9.05
.204	2.89 (60.41)	.03	14.39	1.4859	.2272	-.1347	.0126	.0058	-.0187	6.54
.204	2.90 (60.64)	.01	16.40	1.5324	.2861	-.1010	.0042	.0018	-.0124	5.36
.205	2.91 (60.85)	.00	18.44	1.4562	.4078	-.4563	-.0016	.0014	-.0088	3.57
.205	2.92 (60.89)	-.00	20.47	1.5156	.4776	-.5511	-.0025	.0012	-.0084	3.17
.205	2.92 (60.91)	-.01	22.46	1.5659	.5494	-.6167	-.0047	.0028	-.0111	2.85
.205	2.92 (60.99)	.01	24.37	1.5141	.6290	-.7480	.0037	-.0036	-.0151	2.41

RUN NUMBER 259 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.203	2.88 (60.11)	.00	-2.10	.0125	.0246	-.0687	.0015	.0006	-.0055	.51
.204	2.89 (60.42)	.00	.01	.2680	.0253	-.1102	.0014	.0009	-.0063	10.60
.204	2.89 (60.43)	.00	2.09	.4962	.0318	-.1393	.0015	.0010	-.0085	15.60
.204	2.90 (60.48)	.00	4.21	.7209	.0434	-.1646	.0009	.0008	-.0069	16.62
.204	2.89 (60.45)	-.00	6.25	.9382	.0582	-.1893	-.0006	.0007	-.0098	16.12
.204	2.89 (60.32)	.00	8.29	1.1478	.0778	-.2196	.0001	.0005	-.0080	14.74
.204	2.89 (60.41)	.00	10.42	1.3461	.1022	-.2353	.0002	.0005	-.0086	13.18
.204	2.90 (60.51)	.03	12.42	1.4668	.1545	-.2003	.0171	.0104	-.0216	9.50
.204	2.89 (60.32)	.02	14.36	1.4712	.2285	-.1336	.0083	.0044	-.0159	6.44
.204	2.89 (60.43)	.00	16.44	1.4577	.3215	-.2540	-.0017	-.0010	.0023	4.53
.204	2.91 (60.79)	.00	18.36	1.4595	.4071	-.4524	-.0014	.0015	-.0090	3.59
.205	2.92 (60.97)	-.00	20.36	1.5170	.4752	-.5519	-.0025	.0011	-.0078	3.19
.205	2.92 (61.01)	-.00	22.41	1.5768	.5511	-.6221	-.0037	.0021	-.0074	2.86
.204	2.91 (60.76)	.01	24.47	1.5194	.6351	-.7544	.0040	-.0040	-.0148	2.39

RUN NUMBER 262 LONGITUDINAL STABILITY-AXIS AND LATERAL BODY-AXIS DATA TEST NUMBER 186

MACH	Q,KPA (PSF)	BETA,DEG	ALPHA,DEG	CL	CD	CPM	CRM	CYM	CSF	L/D
.117	.98 (20.41)	.00	-2.06	.0505	.0245	-.0780	-.0026	.0013	-.0130	2.06
.117	.98 (20.37)	.00	.01	.2732	.0266	-.1143	-.0020	.0008	-.0111	10.26
.117	.97 (20.36)	-.00	2.14	.5091	.0328	-.1422	-.0003	.0010	-.0120	15.50
.117	.97 (20.35)	-.00	4.09	.6969	.0440	-.1617	.0006	.0010	-.0109	15.85
.117	.97 (20.35)	-.00	6.22	.9194	.0590	-.1851	-.0003	.0006	-.0106	15.59
.117	.97 (20.28)	.00	8.27	1.1216	.0787	-.2126	-.0018	.0002	-.0115	14.25
.117	.97 (20.25)	.00	10.39	1.3087	.1029	-.2257	-.0001	.0003	-.0094	12.72
.117	.97 (20.24)	.00	12.41	1.3608	.1802	-.1564	.0023	.0017	-.0130	7.55
.117	.97 (20.16)	.00	14.39	1.4287	.2342	-.1176	.0021	.0008	-.0111	6.10
.116	.96 (20.08)	.00	16.33	1.3574	.3561	-.3395	.0020	.0005	-.0124	3.81
.117	.97 (20.25)	.01	18.38	1.3906	.4361	-.5393	.0015	.0008	-.0125	3.19
.117	.97 (20.32)	.01	20.39	1.3939	.5051	-.6943	.0024	-.0006	-.0118	2.76
.117	.97 (20.34)	.00	22.40	1.4206	.5729	-.7509	-.0004	-.0000	-.0095	2.48
.117	.97 (20.36)	.00	24.44	1.4614	.6467	-.7659	.0006	.0002	-.0156	2.26

APPENDIX B

LONGITUDINAL TRIM PERFORMANCE DATA

The longitudinal trim performance data, presented graphically in figures 9 to 13, are presented in tabular form in this appendix.

APPENDIX B

TRIM PERFORMANCE DATA FOR ASPECT-RATIO-10 CRUISE WING

ALPHA,DEG	ISUBT,DEG	CL	CD	L/D	CMCL
-.856	-.400	.1256	.0275	4.575	-.1411
-.091	-.600	.2043	.0281	7.278	-.1386
.682	-.800	.2841	.0292	9.717	-.1369
1.448	-1.000	.3641	.0310	11.763	-.1374
2.184	-1.200	.4429	.0331	13.372	-.1397
2.890	-1.400	.5207	.0357	14.594	-.1396
3.607	-1.600	.5997	.0387	15.484	-.1355
4.393	-1.800	.6832	.0425	16.061	-.1258
5.311	-2.000	.7752	.0477	16.241	-.1138
6.378	-2.200	.8780	.0555	15.809	-.1034
7.512	-2.400	.9869	.0657	15.019	-.1087
8.449	-2.600	1.0797	.0724	14.915	-.1337
9.310	-2.800	1.1670	.0768	15.198	-.1141
9.415	-2.820	1.1775	.0775	15.203	-.1042
9.536	-2.840	1.1892	.0783	15.182	-.0897
9.692	-2.860	1.2040	.0797	15.109	-.0648
10.000	-2.874	1.2315	.0834	14.759	-.0119

TRIM PERFORMANCE DATA FOR ASPECT-RATIO-10 CLIMB WING

ALPHA,DEG	ISUBT,DEG	CL	CD	L/D	CMCL
-.578	-.600	-.0024	.0847	-.028	-.0984
.395	-.800	.0902	.0743	1.214	-.1237
1.111	-1.000	.1651	.0678	2.436	-.1496
1.676	-1.200	.2269	.0637	3.561	-.1768
2.143	-1.400	.2793	.0614	4.549	-.2029
2.554	-1.600	.3261	.0602	5.420	-.2184
2.944	-1.800	.3706	.0596	6.216	-.2244
3.334	-2.000	.4149	.0596	6.962	-.2218
3.750	-2.200	.4613	.0600	7.683	-.2079
4.242	-2.400	.5137	.0610	8.417	-.1775
4.897	-2.600	.5788	.0630	9.188	-.1402
5.799	-2.800	.6631	.0668	9.921	-.1152
6.763	-3.000	.7528	.0722	10.429	-.1242
7.602	-3.200	.8330	.0777	10.717	-.1419
8.315	-3.400	.9034	.0831	10.878	-.1609
8.945	-3.600	.9669	.0881	10.972	-.1749
9.530	-3.800	1.0263	.0931	11.024	-.1855
10.094	-4.000	1.0827	.0981	11.034	-.1944
10.654	-4.200	1.1368	.1034	11.000	-.1984
11.230	-4.400	1.1907	.1091	10.915	-.1925
11.862	-4.600	1.2489	.1159	10.777	-.1641
12.684	-4.800	1.3272	.1256	10.570	-.1044
14.860	-5.000	1.5359	.1555	9.876	-.0296
16.690	-5.200	1.6768	.1865	8.990	-.1450
17.451	-5.400	1.7333	.2008	8.632	-.1993
18.091	-5.600	1.7817	.2127	8.376	-.2015
18.749	-5.800	1.8317	.2244	8.164	-.2031
19.379	-6.000	1.8771	.2353	7.977	-.2756
19.816	-6.200	1.9035	.2437	7.810	-.5106
20.114	-6.400	1.9169	.2505	7.653	-.8423
20.345	-6.600	1.9243	.2564	7.504	-1.2197
20.540	-6.800	1.9284	.2620	7.360	-1.6541
20.714	-7.000	1.9305	.2674	7.221	-2.1677
20.871	-7.200	1.9313	.2726	7.086	-2.7842
20.945	-7.300	1.9312	.2751	7.020	-3.1395

APPENDIX B

TRIM PERFORMANCE DATA FOR ASPECT-RATIO-10 TAKEOFF WING

ALPHA, DEG	ISUBT, DEG	CL	CD	L/D	CMCL
-.860	-1.000	.4818	.0982	4.907	-.2638
-.359	-1.400	.5623	.0971	5.793	-.2421
.225	-1.800	.6527	.0971	6.721	-.2124
.950	-2.200	.7593	.0991	7.662	-.1799
1.870	-2.600	.8854	.1039	8.523	-.1608
2.893	-3.000	1.0148	.1107	9.164	-.1688
3.927	-3.400	1.1359	.1188	9.562	-.1782
4.976	-3.800	1.2517	.1280	9.776	-.1812
5.511	-4.000	1.3087	.1332	9.823	-.1804
6.066	-4.200	1.3662	.1391	9.820	-.1761
6.657	-4.400	1.4256	.1461	9.755	-.1686
7.294	-4.600	1.4883	.1544	9.636	-.1590
7.961	-4.800	1.5551	.1636	9.504	-.1510
8.623	-5.000	1.6254	.1727	9.414	-.1460
9.282	-5.200	1.6977	.1817	9.344	-.1446
9.956	-5.400	1.7704	.1910	9.268	-.1415
10.707	-5.600	1.8443	.2021	9.124	-.1391
11.522	-5.800	1.9155	.2152	8.900	-.1526
12.226	-6.000	1.9730	.2272	8.685	-.1936
12.785	-6.200	2.0189	.2370	8.520	-.2226
13.274	-6.400	2.0595	.2456	8.386	-.2344
13.762	-6.600	2.1010	.2542	8.265	-.2098
14.386	-6.800	2.1557	.2649	8.139	-.1360
15.715	-7.000	2.2667	.2873	7.891	-.1501
16.238	-7.200	2.2902	.2977	7.692	-.7387
16.517	-7.400	2.2936	.3042	7.540	-1.8703
16.726	-7.600	2.2920	.3094	7.407	-5.5397

TRIM PERFORMANCE DATA FOR ASPECT-RATIO-10 LANDING WING

ALPHA, DEG	ISUBT, DEG	CL	CD	L/D	CMCL
-.886	-2.000	1.0541	.1929	5.465	-.2258
-.603	-2.200	1.1032	.1954	5.646	-.2197
-.290	-2.400	1.1539	.1982	5.823	-.2117
.066	-2.600	1.2070	.2014	5.994	-.2006
.486	-2.800	1.2640	.2052	6.161	-.1857
1.002	-3.000	1.3270	.2099	6.324	-.1658
1.660	-3.200	1.3994	.2158	6.484	-.1439
2.440	-3.400	1.4812	.2229	6.645	-.1333
3.248	-3.600	1.5658	.2304	6.796	-.1334
4.048	-3.800	1.6479	.2385	6.909	-.1406
4.849	-4.000	1.7245	.2479	6.956	-.1503
5.654	-4.200	1.7968	.2585	6.952	-.1554
6.459	-4.400	1.8694	.2691	6.946	-.1511
7.254	-4.600	1.9443	.2791	6.967	-.1479
8.026	-4.800	2.0190	.2885	6.997	-.1522
8.404	-4.900	2.0551	.2934	7.004	-.1559
8.781	-5.000	2.0904	.2985	7.002	-.1590
9.152	-5.100	2.1238	.3040	6.986	-.1615
9.528	-5.200	2.1569	.3099	6.961	-.1616
9.913	-5.300	2.1903	.3161	6.929	-.1589
10.312	-5.400	2.2246	.3229	6.890	-.1535
10.732	-5.500	2.2603	.3301	6.847	-.1459
11.185	-5.600	2.2984	.3381	6.797	-.1353
11.694	-5.700	2.3401	.3471	6.742	-.1203
12.318	-5.800	2.3894	.3577	6.680	-.0958
13.391	-5.900	2.4688	.3745	6.592	-.0361

APPENDIX B

TRIM PERFORMANCE DATA FOR ASPECT-RATIO-12 LANDING WING

ALPHA,DEG	ISUBT,DEG	CL	CD	L/D	CMCL
-.793	-2.500	.9858	.1880	5.243	-.2847
-.199	-3.000	1.0787	.1919	5.620	-.2761
.475	-3.500	1.1758	.1958	6.006	-.2636
1.299	-4.000	1.2796	.2004	6.384	-.2460
2.359	-4.500	1.3931	.2073	6.719	-.2293
3.575	-5.000	1.5123	.2163	6.990	-.2303
4.670	-5.500	1.6152	.2259	7.152	-.2495
5.705	-6.000	1.7114	.2358	7.256	-.2534
6.770	-6.500	1.8086	.2478	7.300	-.2498
7.889	-7.000	1.9065	.2615	7.290	-.2555
8.967	-7.500	2.0012	.2746	7.288	-.2632
10.019	-8.000	2.0962	.2874	7.295	-.2589
11.238	-8.500	2.1961	.3039	7.227	-.2409
12.896	-9.000	2.3199	.3277	7.079	-.1587
14.102	-9.260	2.4172	.3454	6.999	-.1207
14.276	-9.290	2.4298	.3481	6.981	-.1186
14.464	-9.320	2.4427	.3510	6.959	-.1160
14.600	-9.340	2.4514	.3532	6.941	-.1138
14.826	-9.370	2.4648	.3569	6.907	-.1095
15.000	-9.390	2.4741	.3597	6.877	-.1053
15.163	-9.406	2.4820	.3625	6.846	-.0966
16.000	-9.420	2.5168	.3776	6.666	-.0978

TRIM PERFORMANCE DATA FOR ASPECT-RATIO-12 TAKEOFF WING

ALPHA,DEG	ISUBT,DEG	CL	CD	L/D	CMCL
-.849	-1.250	.4364	.0979	4.457	-.2863
-.596	-1.500	.4789	.0967	4.950	-.2826
-.047	-2.000	.5660	.0953	5.941	-.2726
.255	-2.250	.6110	.0951	6.427	-.2661
.581	-2.500	.6574	.0953	6.898	-.2587
1.306	-3.000	.7552	.0972	7.772	-.2431
2.115	-3.500	.8595	.1005	8.553	-.2324
2.958	-4.000	.9670	.1045	9.257	-.2285
3.843	-4.500	1.0748	.1096	9.806	-.2284
4.830	-5.000	1.1813	.1176	10.045	-.2285
5.961	-5.500	1.2955	.1292	10.027	-.2245
7.032	-6.000	1.4110	.1399	10.083	-.2198
8.078	-6.500	1.5292	.1504	10.169	-.2064
9.282	-7.000	1.6577	.1642	10.097	-.1847
10.671	-7.500	1.7902	.1826	9.802	-.1951
12.045	-8.000	1.9086	.2030	9.401	-.1950
13.679	-8.500	2.0505	.2287	8.967	-.1386
14.871	-8.760	2.1453	.2494	8.601	-.1211
14.981	-8.780	2.1531	.2515	8.562	-.1195
15.096	-8.800	2.1611	.2536	8.520	-.1174
15.216	-8.820	2.1693	.2559	8.476	-.1140
15.344	-8.840	2.1778	.2584	8.428	-.1088
15.481	-8.860	2.1868	.2611	8.376	-.1014
15.634	-8.880	2.1967	.2640	8.320	-.0910
15.810	-8.900	2.2080	.2675	8.255	-.0764
16.036	-8.920	2.2227	.2719	8.176	-.0539
17.000	-8.925	2.2881	.2902	7.886	-.0441

REFERENCES

1. Bartlett, Dennis W.: Wind-Tunnel Investigation of Several High Aspect-Ratio Supercritical Wing Configurations on a Wide-Body-Type Fuselage. NASA TM X-71996, 1977.

2. Bartlett, Dennis W.; and Patterson, James C., Jr.: NASA Supercritical-Wing Technology. NASA TM-78731, 1978.

3. Morgan, Harry L., Jr.: Model Geometry Description and Pressure Distribution Data From Tests of EET High-Lift Research Model Equipped With Full-Span Slat and Part-Span Flaps. NASA TM-80048, 1979.

4. Morgan, Harry L., Jr.: Supplemental Pressure Distribution Data From Tests of EET High-Lift Research Model Equipped with Full-Span Slat and Part-Span Flaps. NASA TM-80049, 1979.

5. Stevens, W. A.; Goradia, S. H.; and Braden, J. A.: Mathematical Model for Two-Dimensional Multi-Component Airfoils in Viscous Flow. NASA CR-1843, 1971.

6. Braslow, Albert L.; and Knox, Eugene C.: Simplified Method for Determination of Critical Height of Distributed Roughness Particles for Boundary Layer Transition at Mach Numbers From 0 to 5. NACA TN 4363, 1958.

7. Gillis, Clarence L.; Polhamus, Edward C.; and Gray, Joseph L., Jr.: Charts for Determining Jet-Boundary Corrections for Complete Models in 7- by 10-Foot Closed Rectangular Wind Tunnels. NACA WR L-123, 1945. (Formerly NACA ARR L5G31.)

8. Herriot, John G.: Blockage Corrections for Three-Dimensional-Flow Closed-Throat Wind Tunnels, With Consideration of the Effect of Compressibility. NACA Rep. 995, 1950. (Supersedes NACA RM A7B28.)

TABLE I.- MODEL GEOMETRIC CHARACTERISTICS

Fuselage:	
Length, m (ft)	3.02 (9.91)
Maximum diameter, cm (in.)	35.05 (13.8)
Supercritical wing:[a]	
Area (trapezoidal reference), m^2 (ft^2)	1.12 (12.0)
Area (wetted), m^2 (ft^2)	1.03 (11.1)
Span, m (ft)	3.66 (12.0)
Quarter-chord sweep, deg	27
Aspect ratio	12
Taper ratio (trapezoidal reference)	0.33
Reference geometric chord, cm (in.)	34.04 (13.4)
Dihedral, deg	5
Root incidence, deg	-1
Body station of wing leading edge at root, m (ft)	1.18 (3.86)
Body station of moment reference center, m (ft)	1.68 (5.50)
Side-of-body airfoil (η = 0.096) -	
Chord, cm (in.)	56.23 (22.14)
$(t/c)_{max}$	0.144
Twist, deg	2.5
Trailing-edge break airfoil (η = 0.383) -	
Chord, cm (in.)	34.04 (13.4)
$(t/c)_{max}$	0.12
Twist, deg	0.5
Tip airfoil (η = 1.0) -	
Chord, cm (in.)	15.24 (6.0)
$(t/c)_{max}$	0.10
Twist, deg	-1.5
Horizontal tail:[a]	
Area, m^2 (ft^2)	0.42 (4.5)
Span, m (ft)	1.26 (4.14)
Aspect ratio	3.78
Quarter-chord sweep, deg	35
Dihedral, deg	10
Taper ratio	0.36
Mean geometric chord, cm (in.)	35.56 (14.0)
Body station of tail leading edge at root, m (ft)	2.45 (8.03)
Body station of one-quarter of mean geometric chord, m (ft)	2.76 (9.05)
Root airfoil (symmetric at fuselage center line) -	
Chord, cm (in.)	48.77 (19.2)
$(t/c)_{max}$	0.095
Tip airfoil (symmetric) -	
Chord, cm (in.)	17.88 (7.0)
$(t/c)_{max}$	0.085
Vertical tail:	
Area, m (ft^2)	0.19 (2.1)
Height, cm (in.)	58.47 (23.0)
Quarter-chord sweep, deg	40
Mean geometric chord, cm (in.)	35.05 (13.8)
Height of root chord above model center line, cm (in.)	14.02 (5.52)
Body station of tail leading edge at root, m (ft)	2.42 (7.9)
Body station of moment reference center (one-quarter chord), m (ft)	2.74 (9.0)
Root airfoil (NACA 0012) -	
Chord, cm (in.)	48.13 (18.9)
$(t/c)_{max}$	0.12
Tip airfoil (NACA 0012) -	
Chord, cm (in.)	16.84 (6.6)
$(t/c)_{max}$	0.12

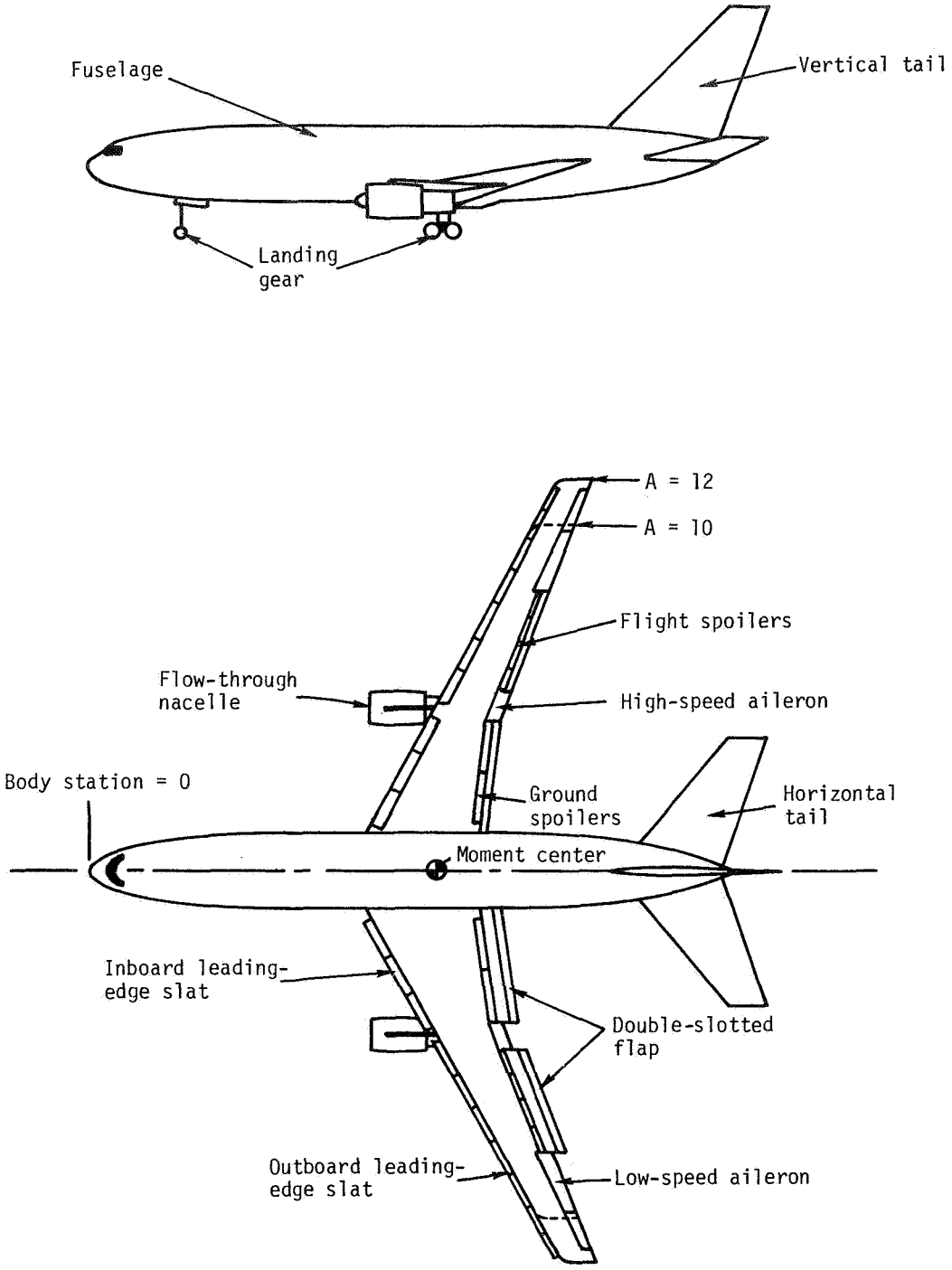
[a]Dihedral not included in span and area dimensions.

TABLE II.- SUMMARY OF RESULTS FROM TWO-DIMENSIONAL OPTIMIZATION OF GAP AND OVERLAP SETTINGS OF FLAPPED AIRFOIL AT TRAILING-EDGE BREAK STATION

Wing configuration	Component	Deflection, deg	Gap/c	Overlap/c
Climb	Slat	-50	0.02	0.02
Take-off	Slat	-50	.02	.02
	Vane	15	.015	.04
	Flap	15	.01	.01
Landing	Slat	-50	.02	.02
	Vane	30	.02	.03
	Flap	30	.01	.005

TABLE III.- DESCRIPTION OF COMPONENT LABEL AT SPANWISE PRESSURE-TAP STATION

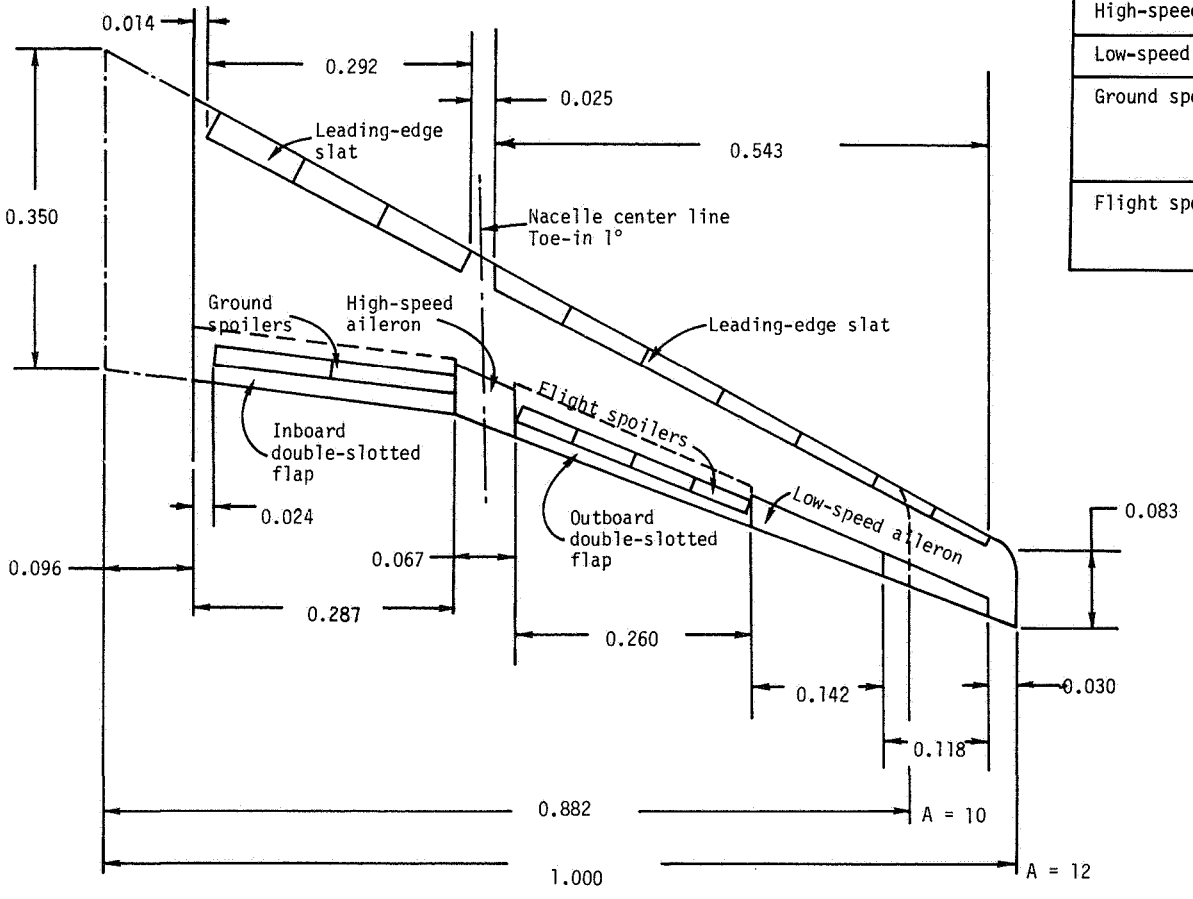
Component label	Component description
A	Leading-edge slat
B	Main with slat, vane, and flap extended
C	Vane
D	Flap
E	Main with slat extended and vane and flap nested
F	Main with slat, vane, and flap nested (cruise section)
G	Main with slat nested and vane and flap extended



(a) Configuration components.

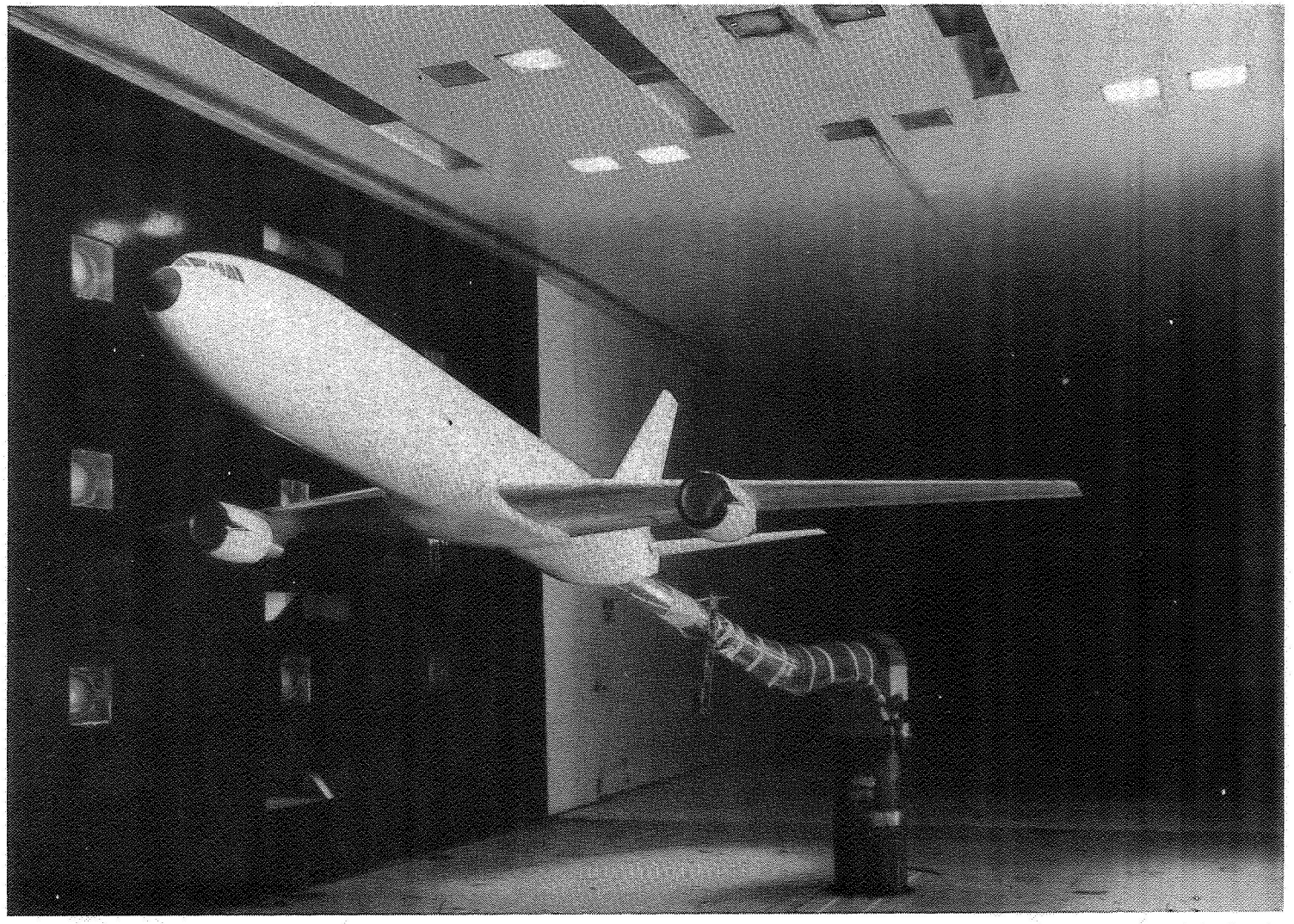
Figure 1.- Geometric characteristics of high-lift research model.

Leading-edge slat	15.5-percent c
Inboard double-slotted flap	Constant chord 30-percent c at η = 0.383
Outboard double-slotted flap	30-percent c
High-speed aileron	30-percent c
Low-speed aileron	30-percent c
Ground spoilers	Constant chord L.E. 78.5-percent c, T.E. 90-percent c At η = 0.383
Flight spoilers	11.5-percent c L.E. 78.5-percent c T.E. 90-percent c



(b) Planform details. (All measurements nondimensionalized by semispan.)

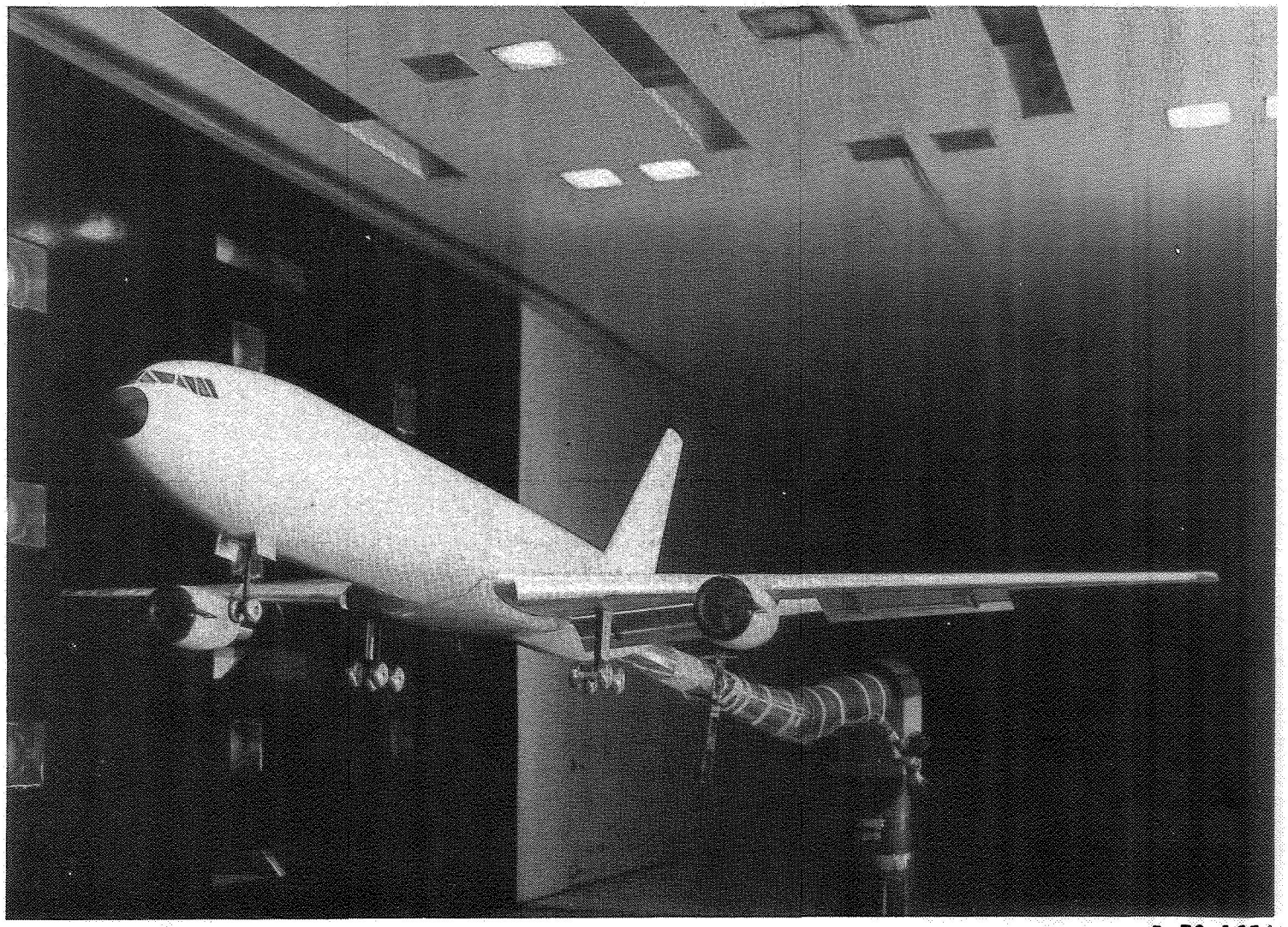
Figure 1.- Concluded.



L-78-1267

(a) Cruise configuration.

Figure 2.- High-lift research model installed in Langley V/STOL tunnel.



L-78-1654

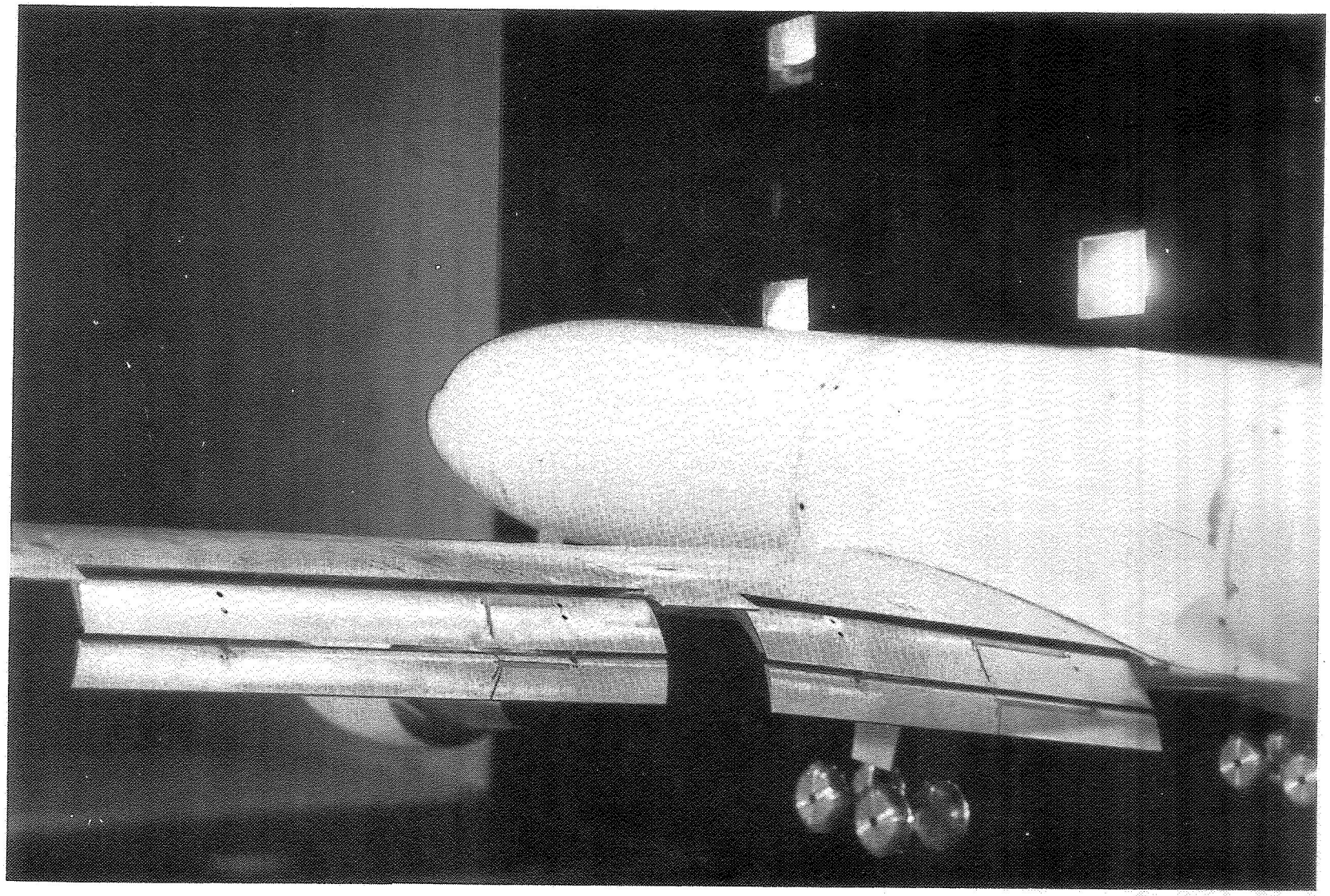
(b) Landing configuration.

Figure 2.- Continued.

L-78-1651

(c) Leading-edge slat details.

Figure 2.- Continued.



L-78-1652

(d) Trailing-edge flap details.

Figure 2.- Concluded.

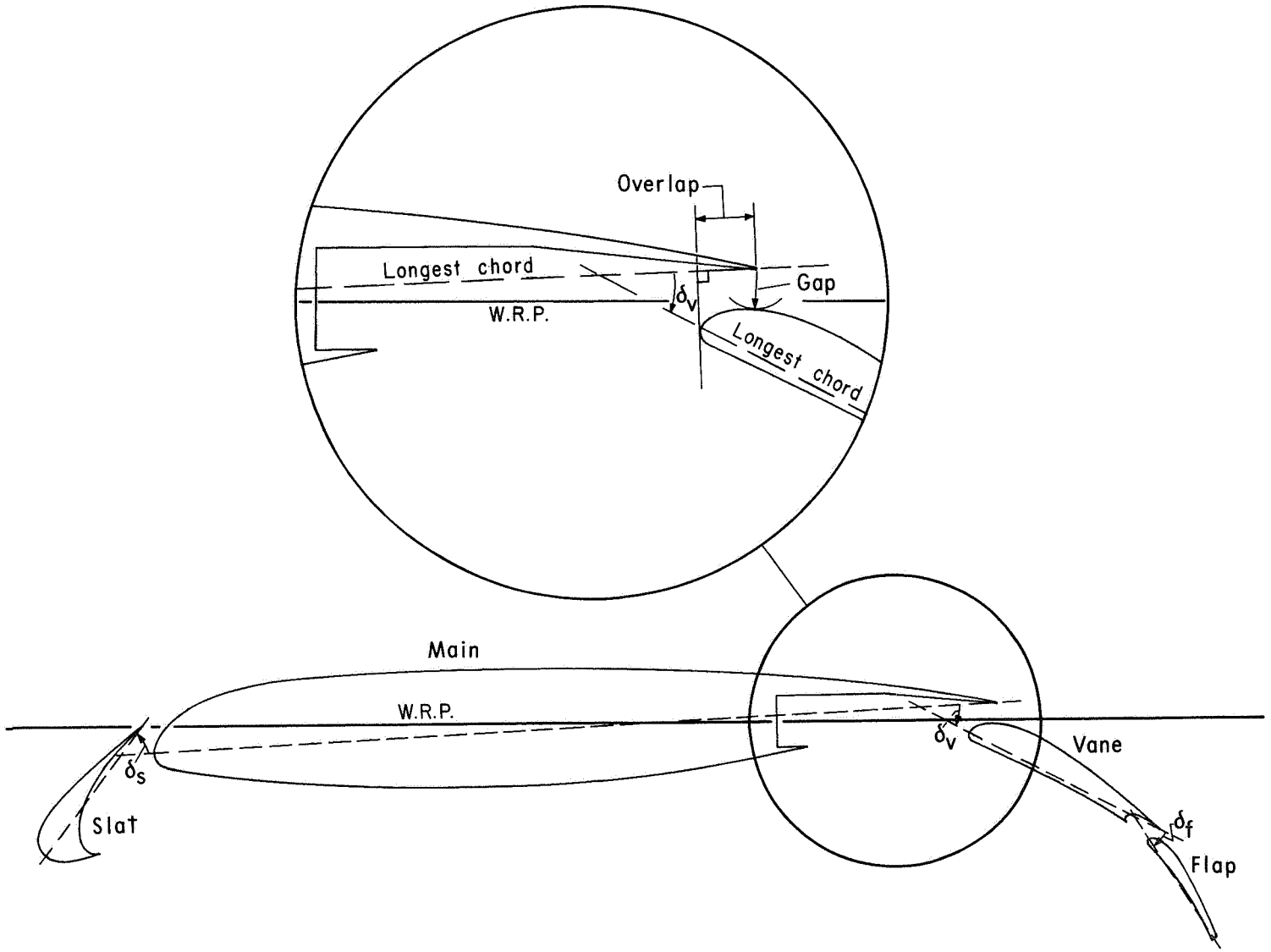
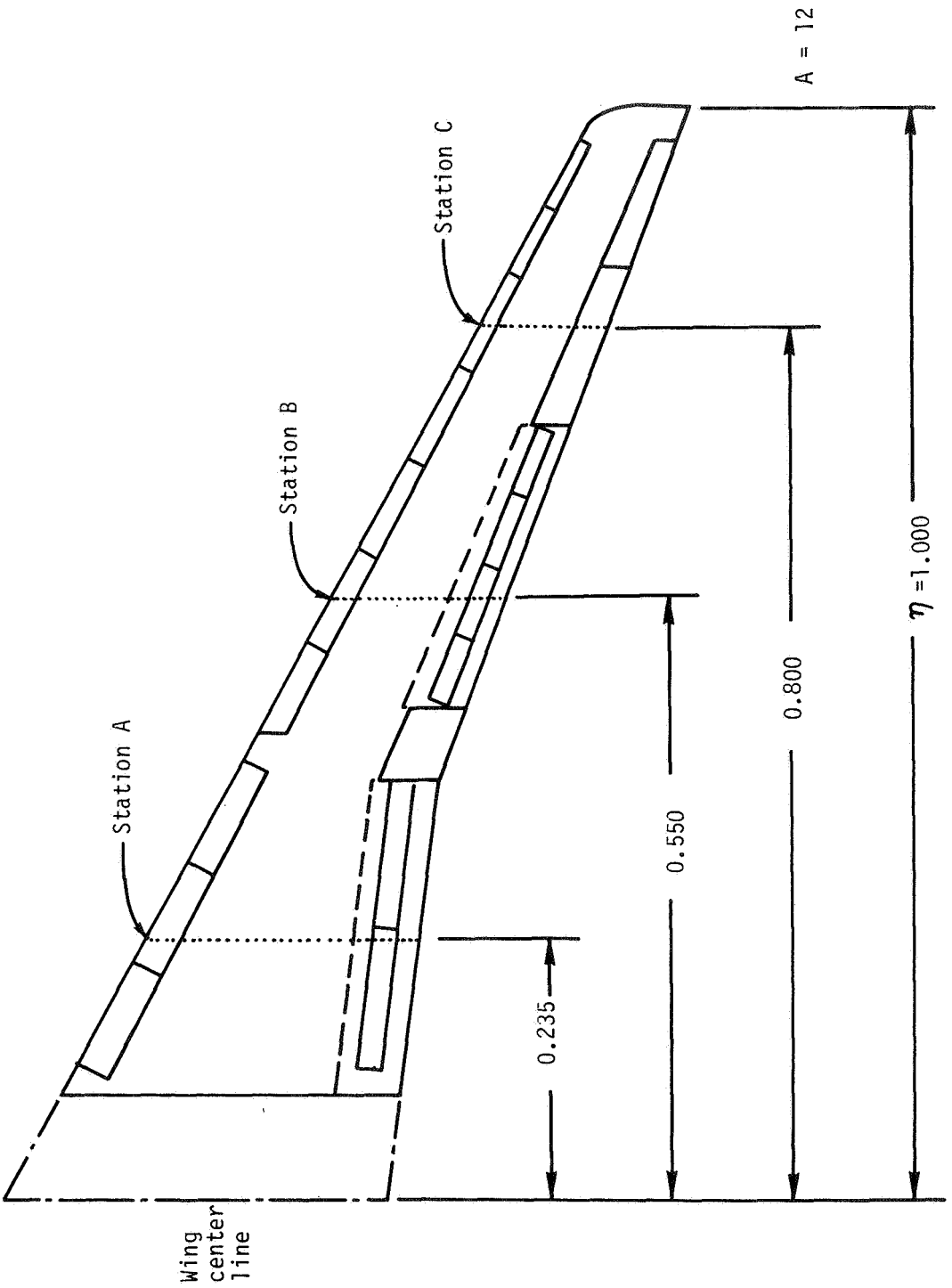
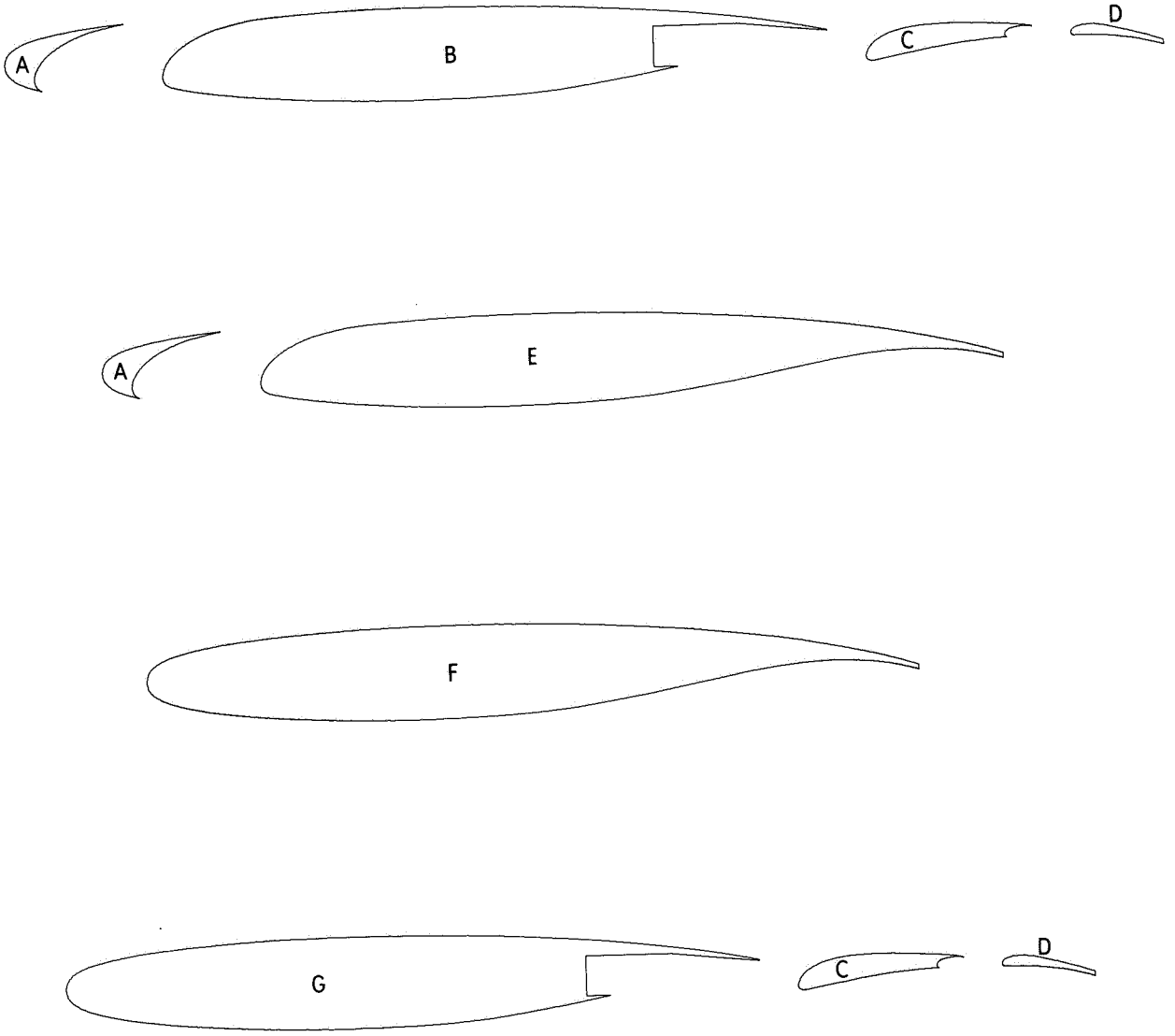


Figure 3.- Definition of gap, overlap, and deflection for slat, vane, and flap.



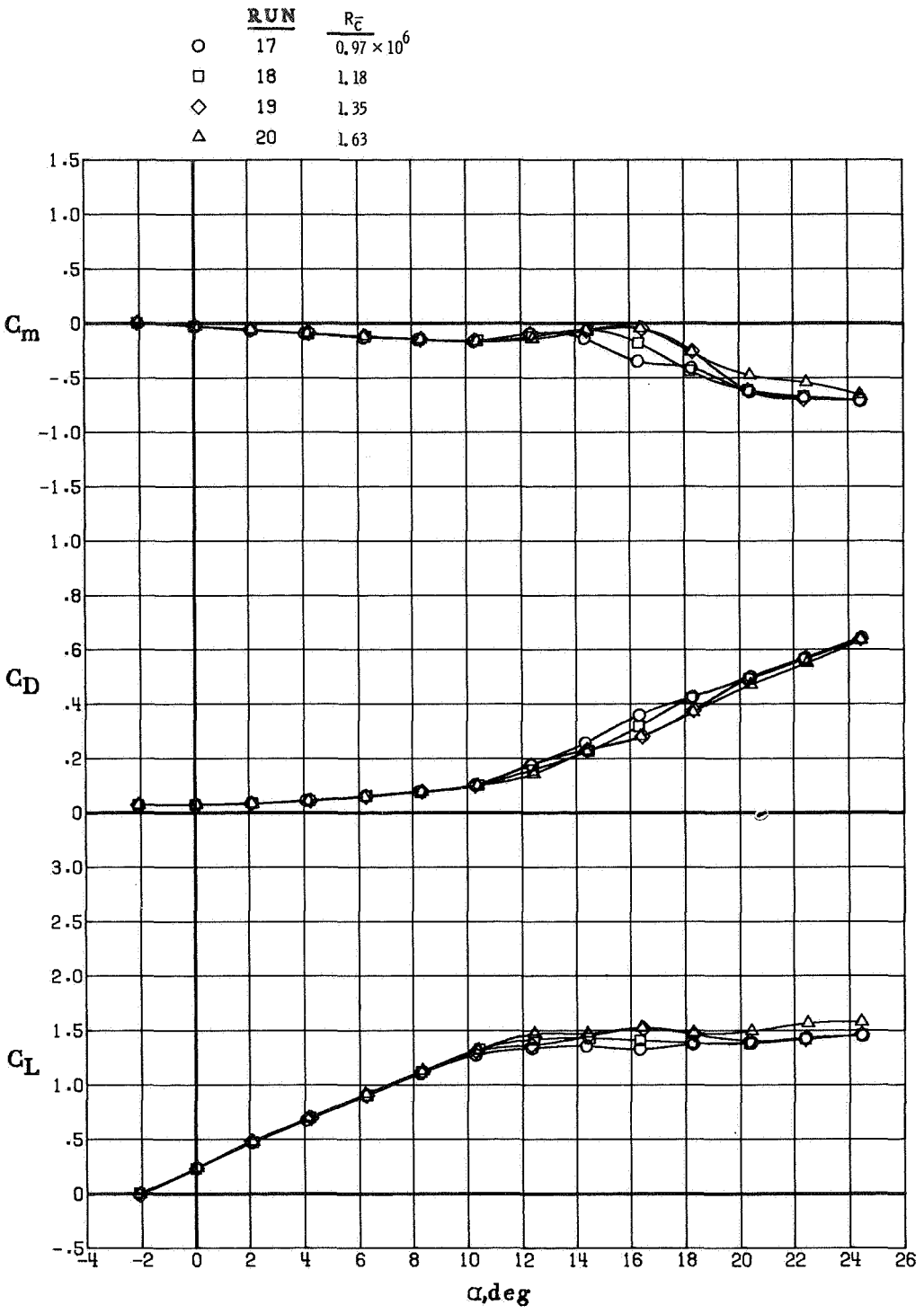
(a) Spanwise tap stations.

Figure 4.- Wing pressure-tap layout.



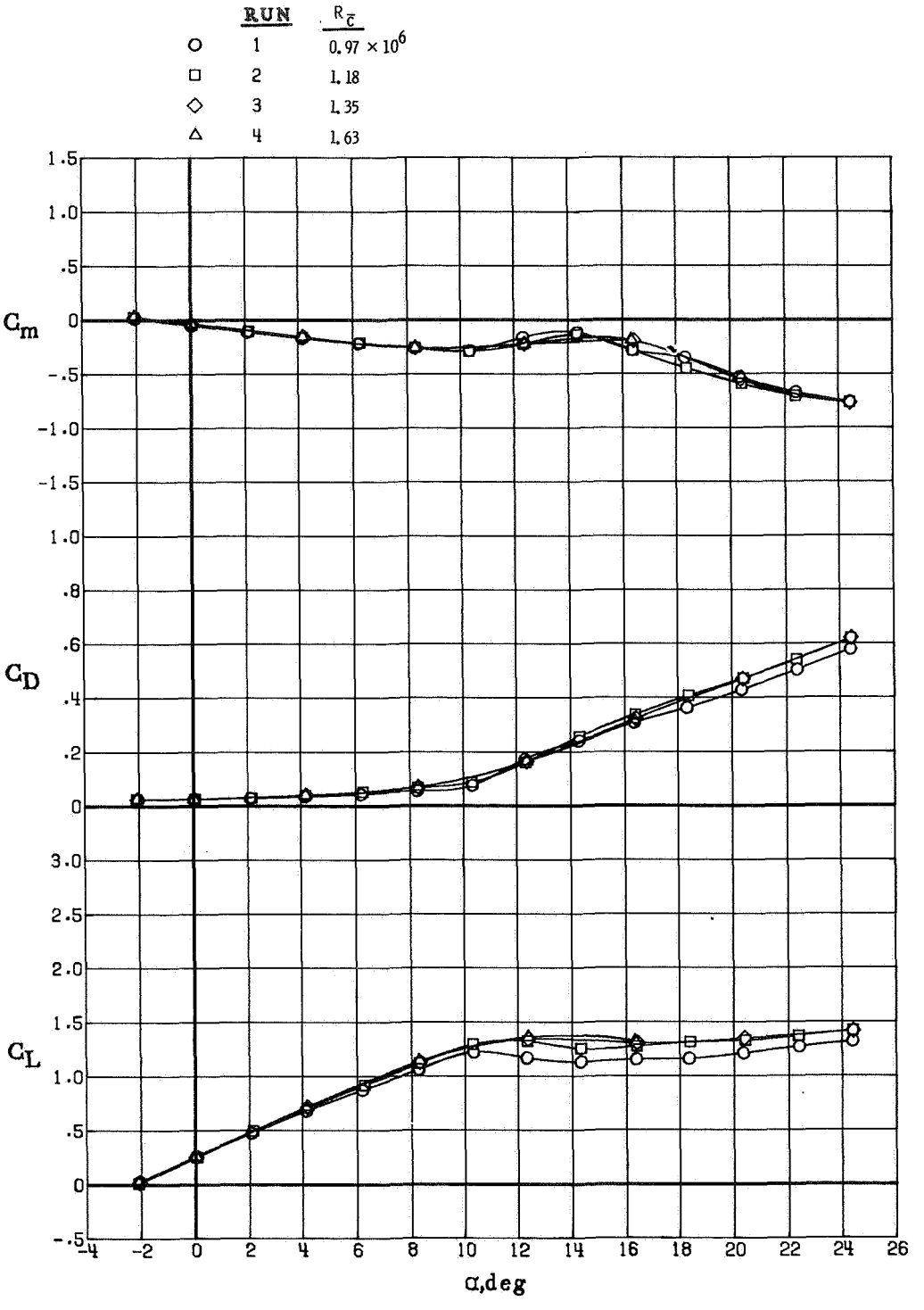
(b) Chordwise component combinations and labels.

Figure 4.- Concluded.



(a) Aspect-ratio-10 cruise wing.

Figure 5.- Effect of Reynolds number on longitudinal aerodynamic characteristics of cruise wing configurations.



(b) Aspect-ratio-12 cruise wing with nacelles off.

Figure 5.- Concluded.

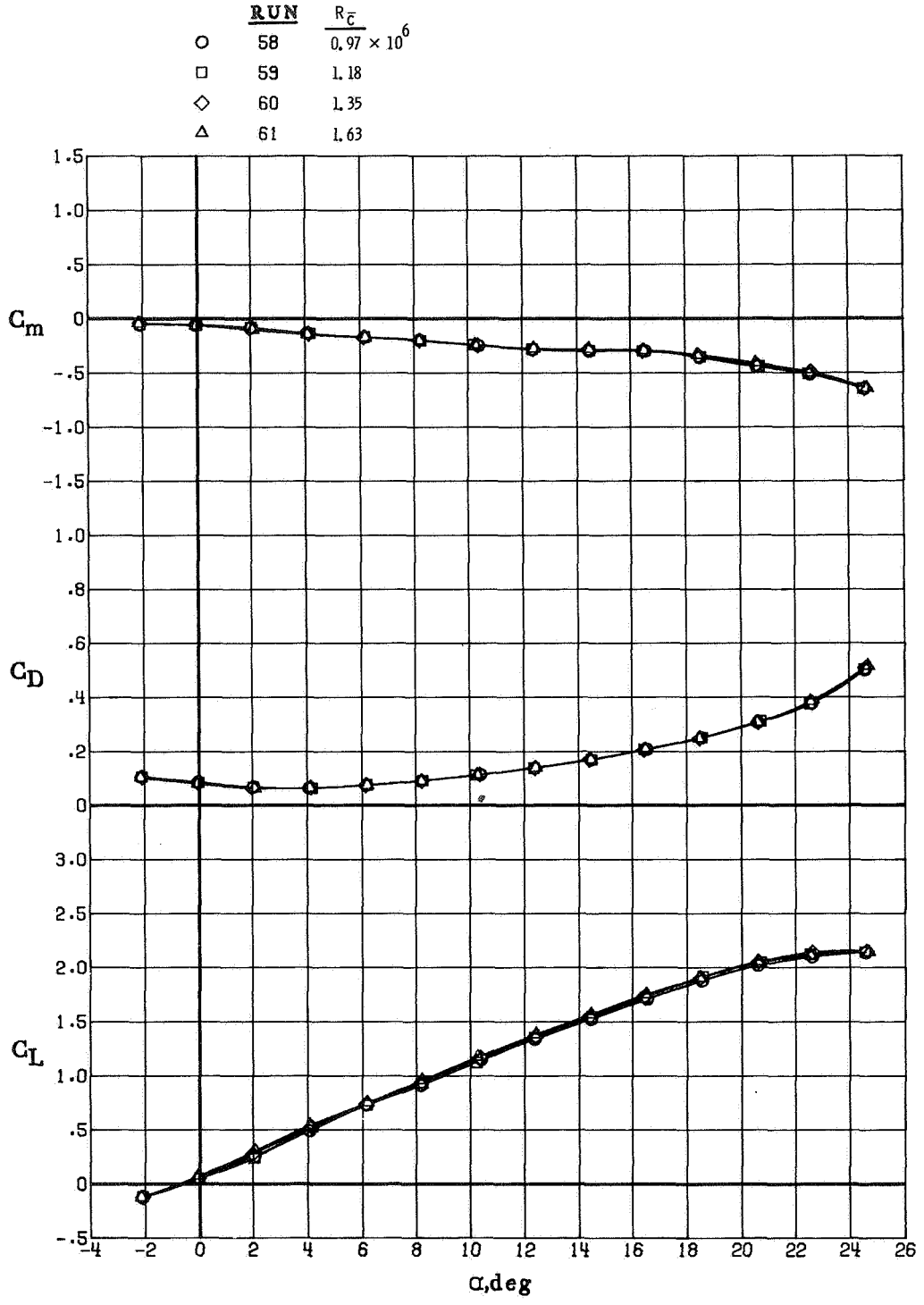
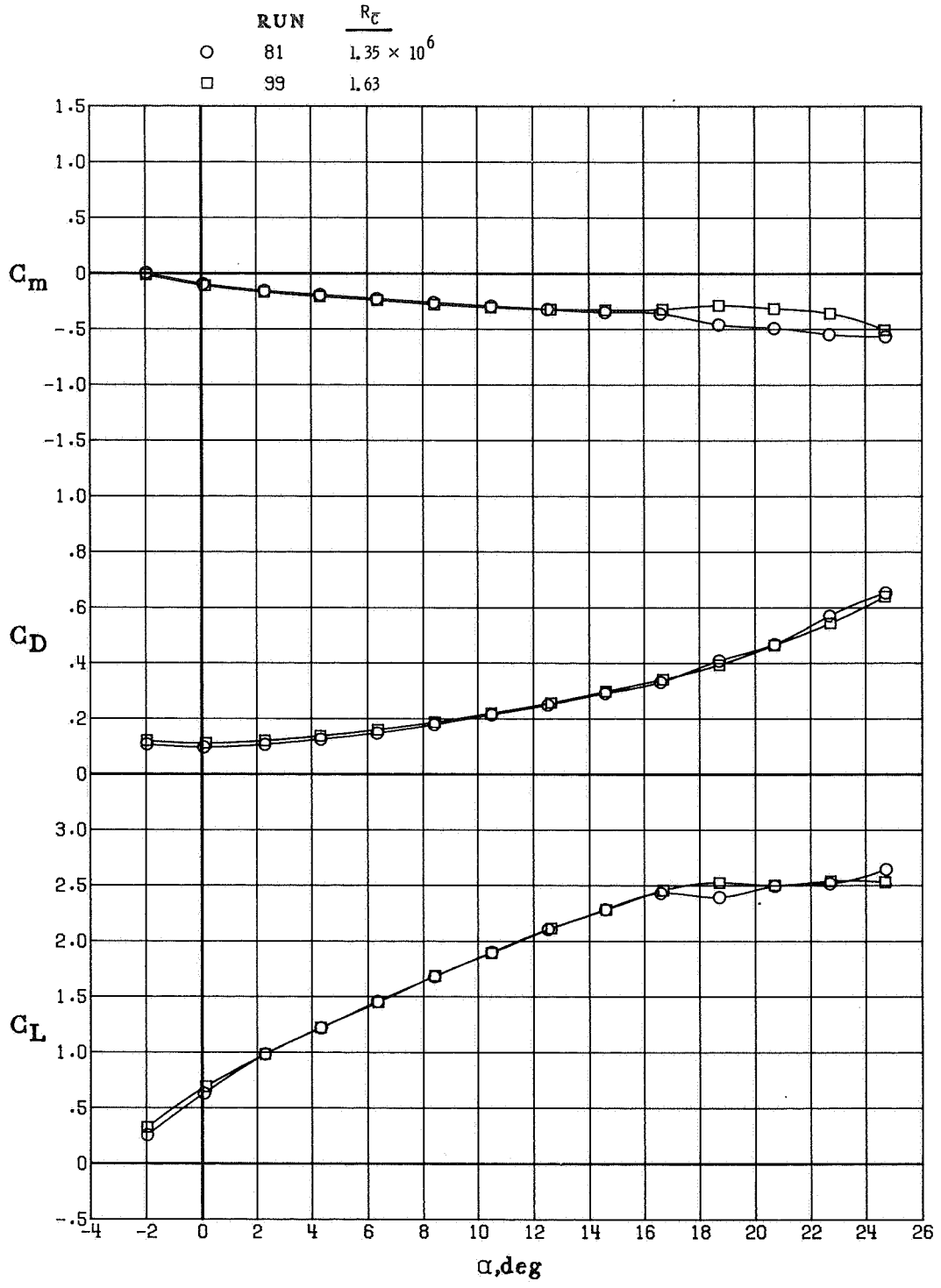
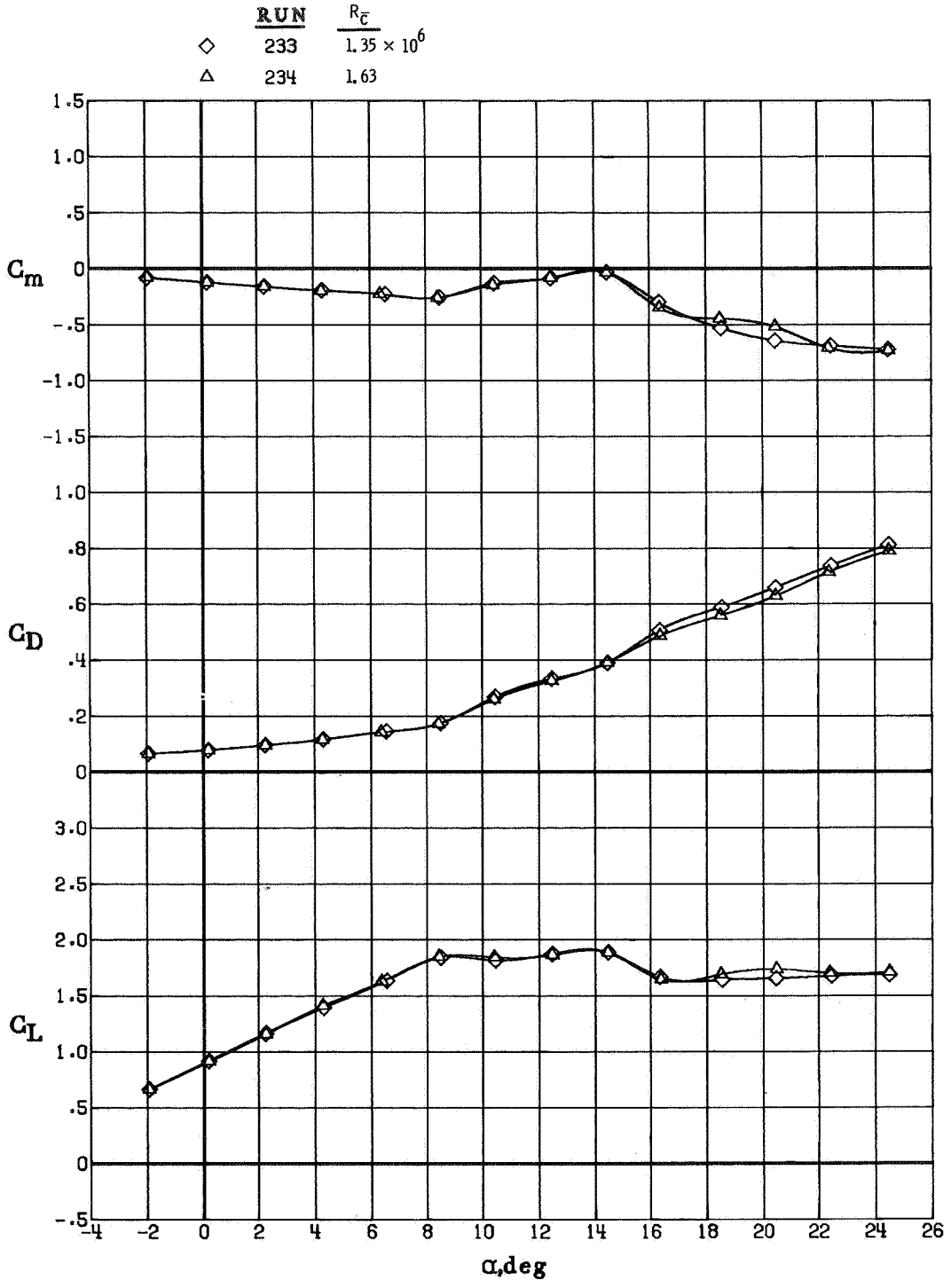


Figure 6.- Effect of Reynolds number on longitudinal aerodynamic characteristics of aspect-ratio-10 climb wing configuration.



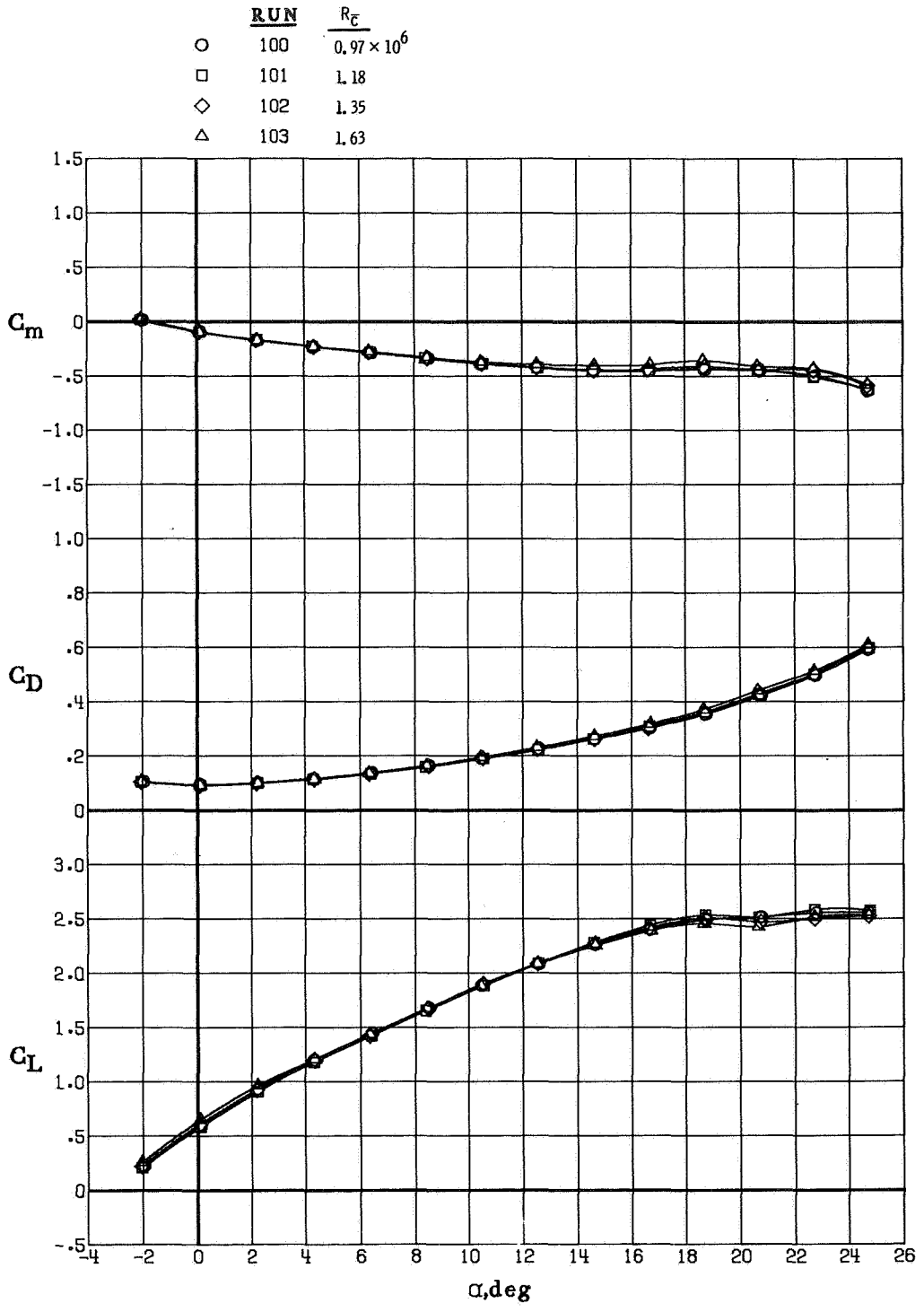
(a) Aspect-ratio-10 take-off wing.

Figure 7.- Effect of Reynolds number on longitudinal aerodynamic characteristics of take-off wing configurations.



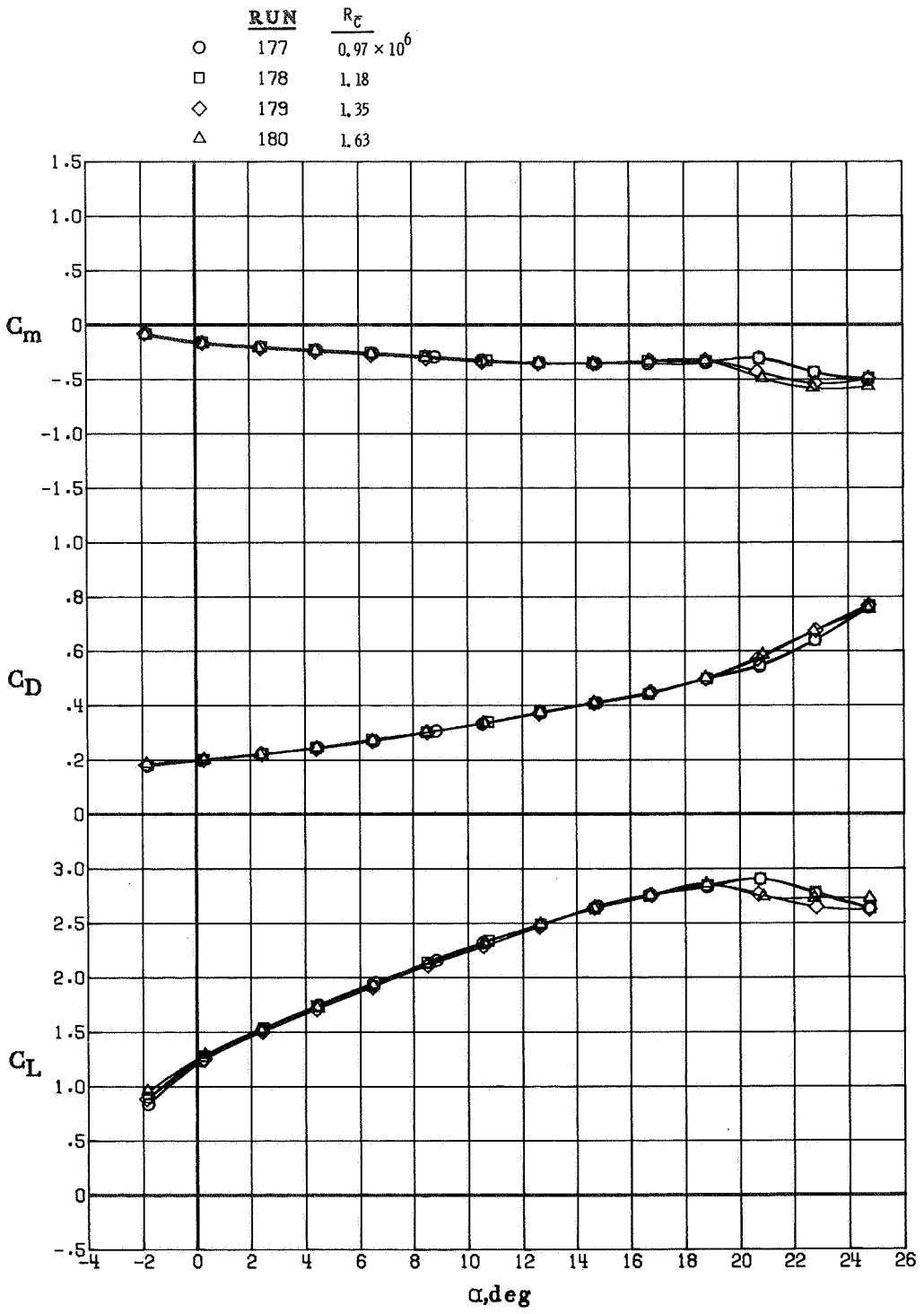
(b) Aspect-ratio-10 take-off wing with slat nested.

Figure 7.- Continued.



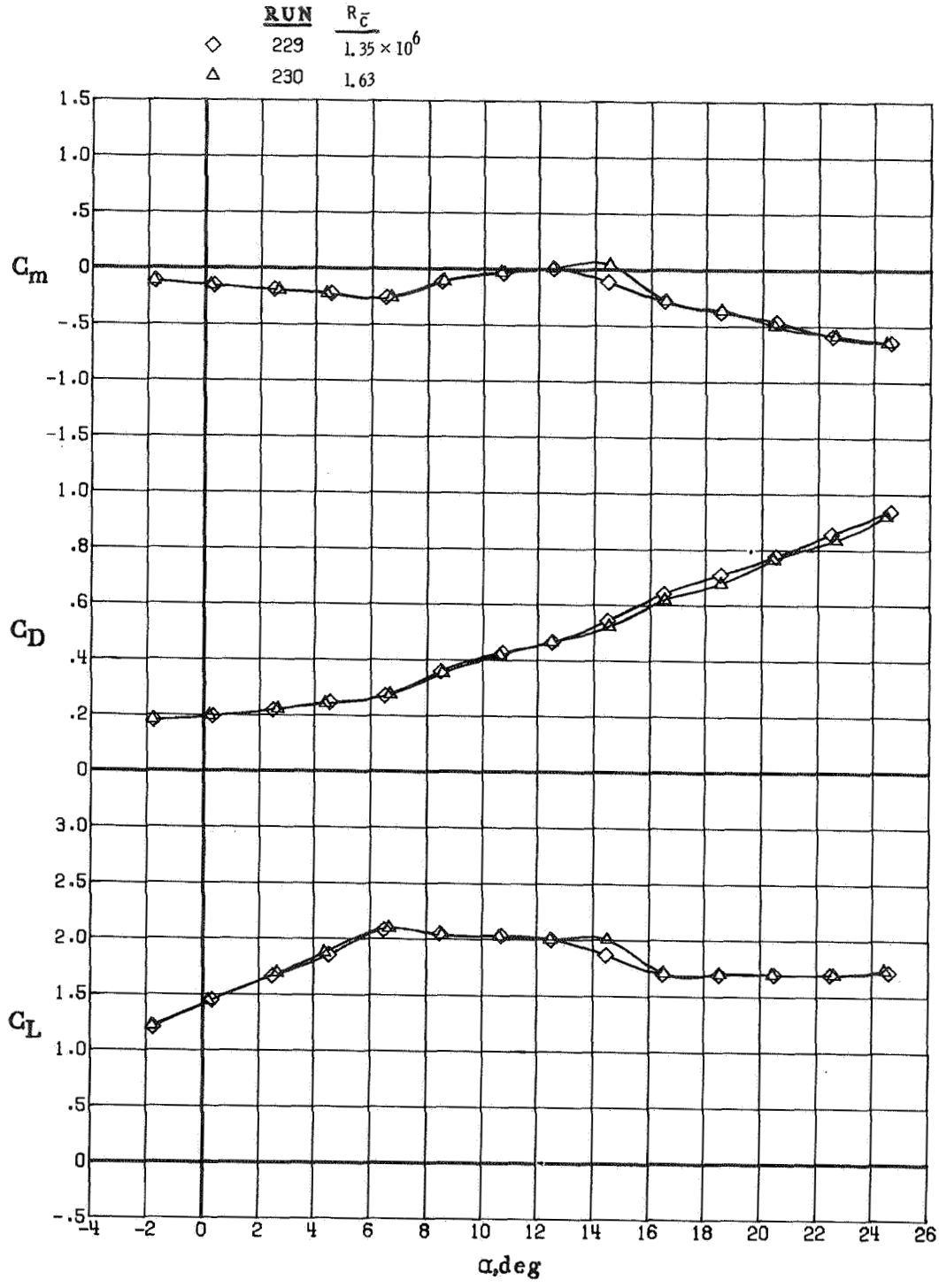
(c) Aspect-ratio-12 take-off wing.

Figure 7.- Concluded.



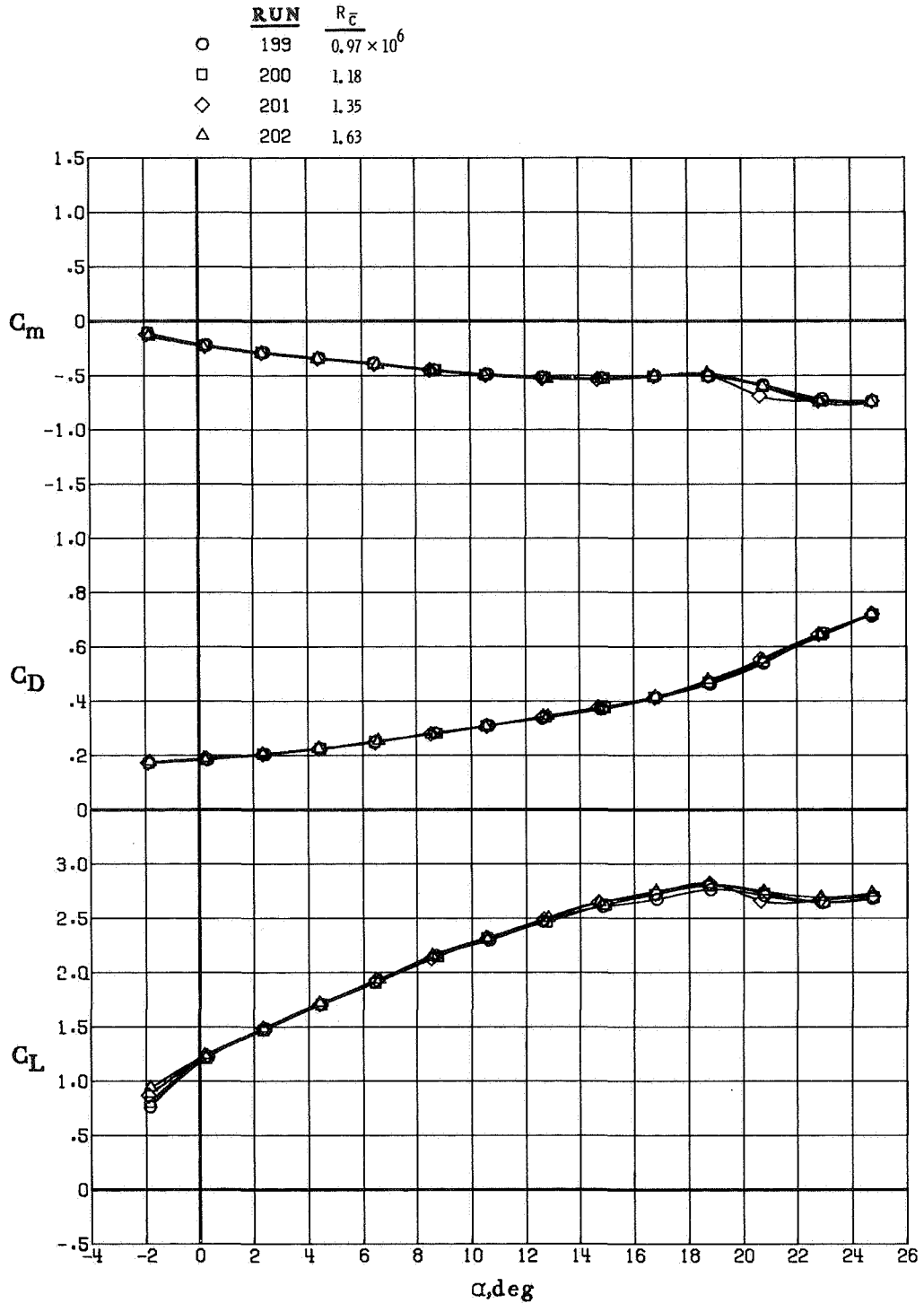
(a) Aspect-ratio-10 landing wing.

Figure 8.- Effect of Reynolds number on longitudinal aerodynamic characteristics of landing wing configurations.



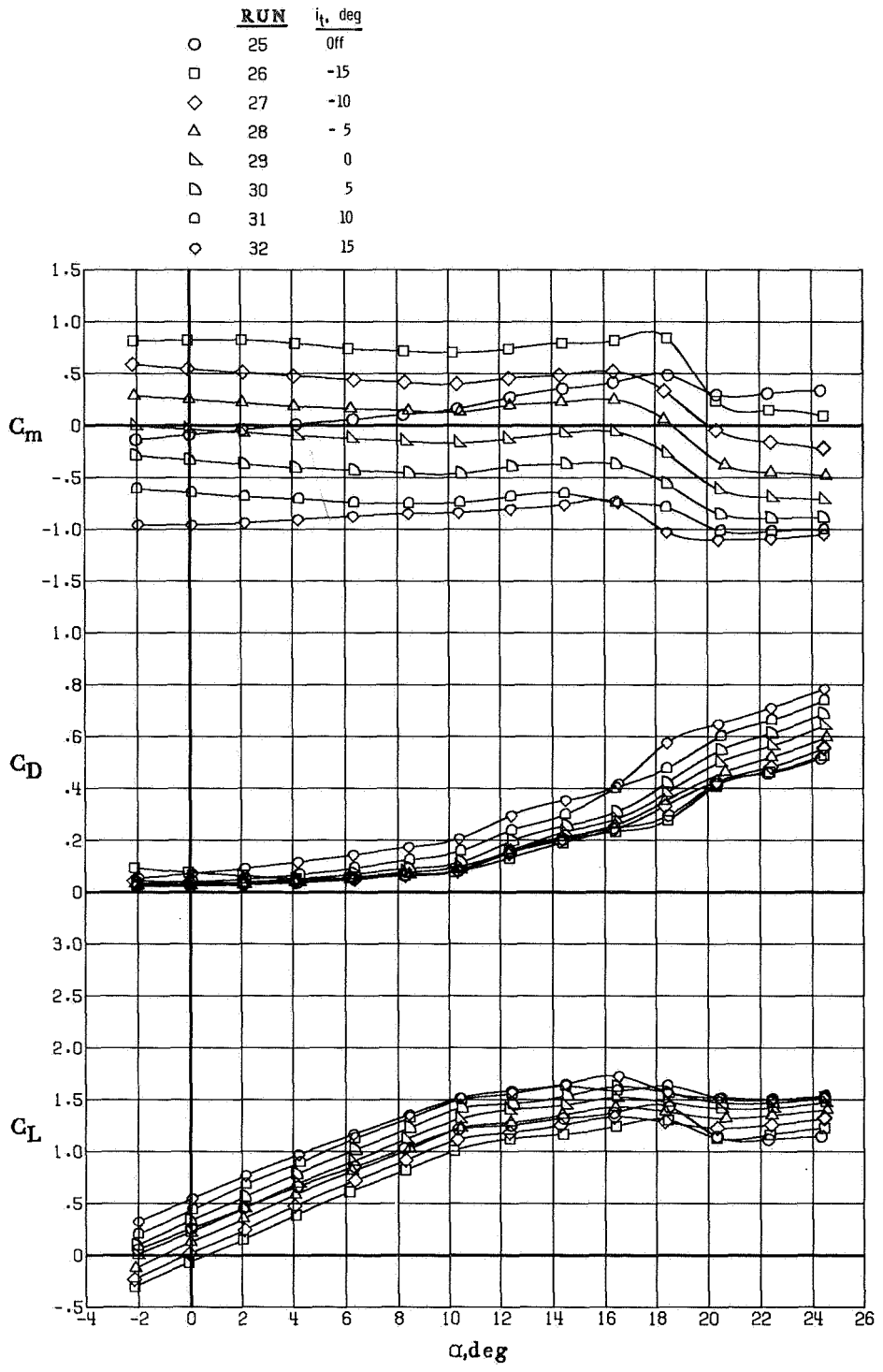
(b) Aspect-ratio-10 landing wing with slat nested.

Figure 8.- Continued.



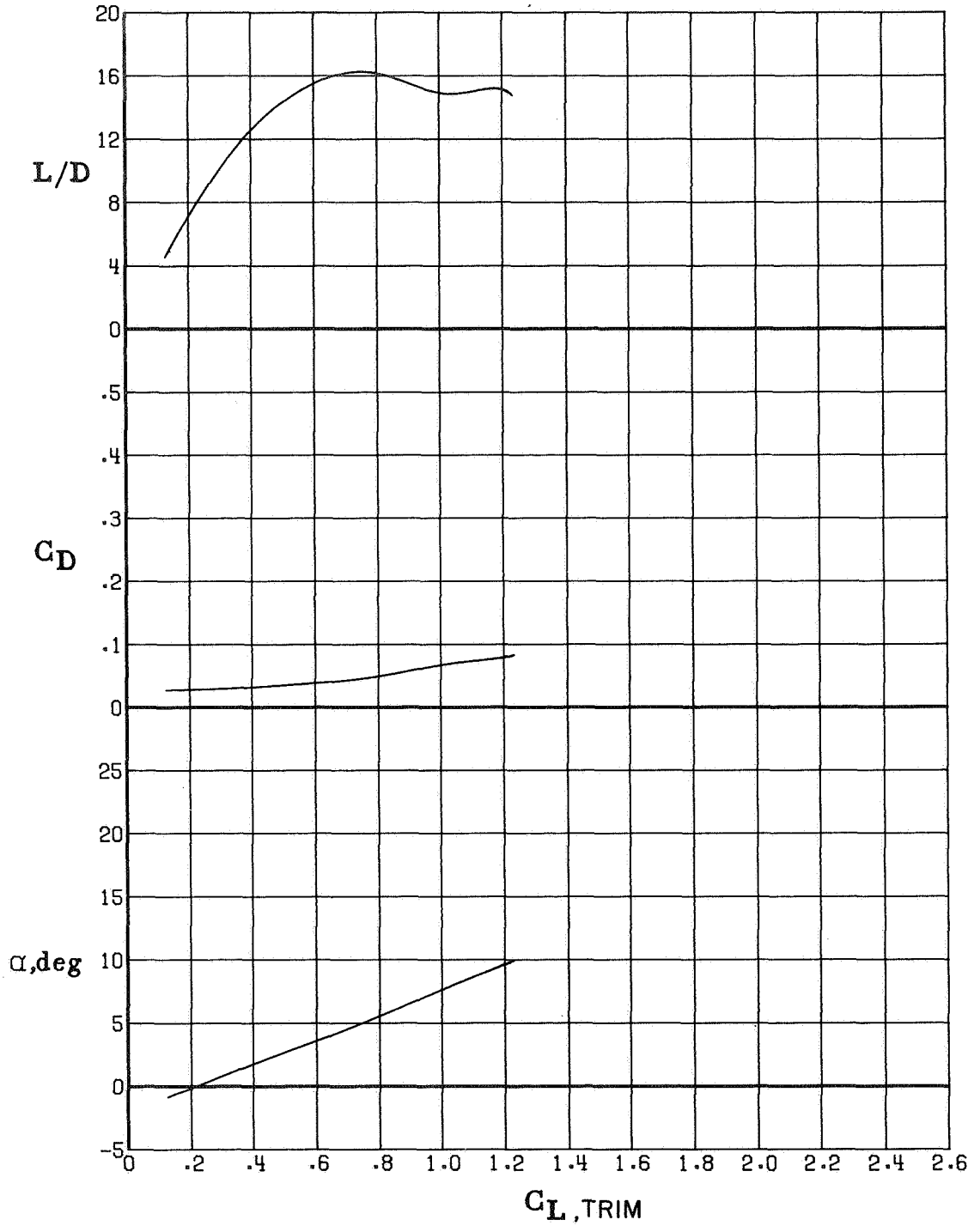
(c) Aspect-ratio-12 landing wing.

Figure 8.- Concluded.



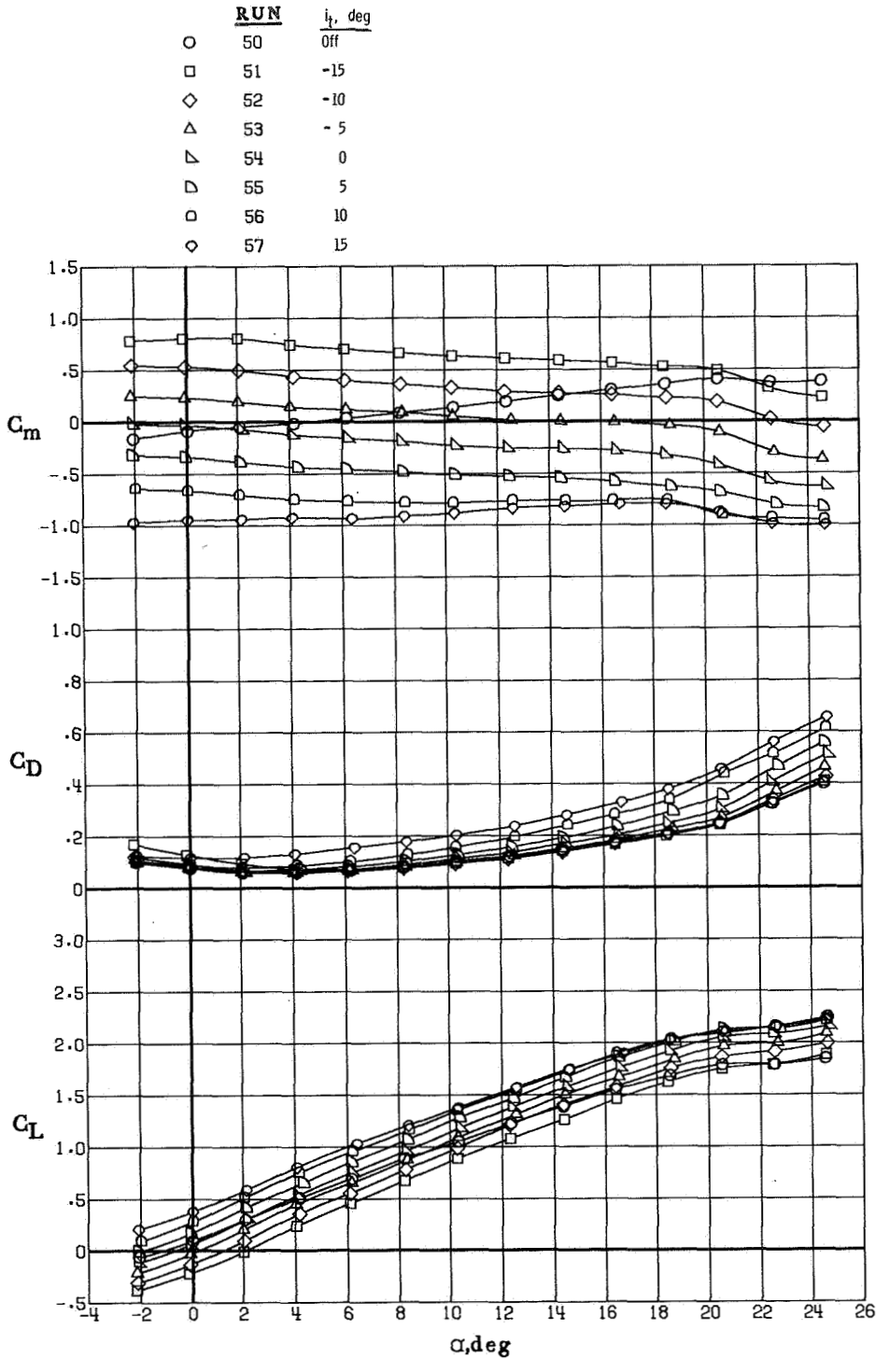
(a) Aspect-ratio-10 cruise wing.

Figure 9.- Effect of horizontal-tail deflection on longitudinal aerodynamic characteristics of cruise wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



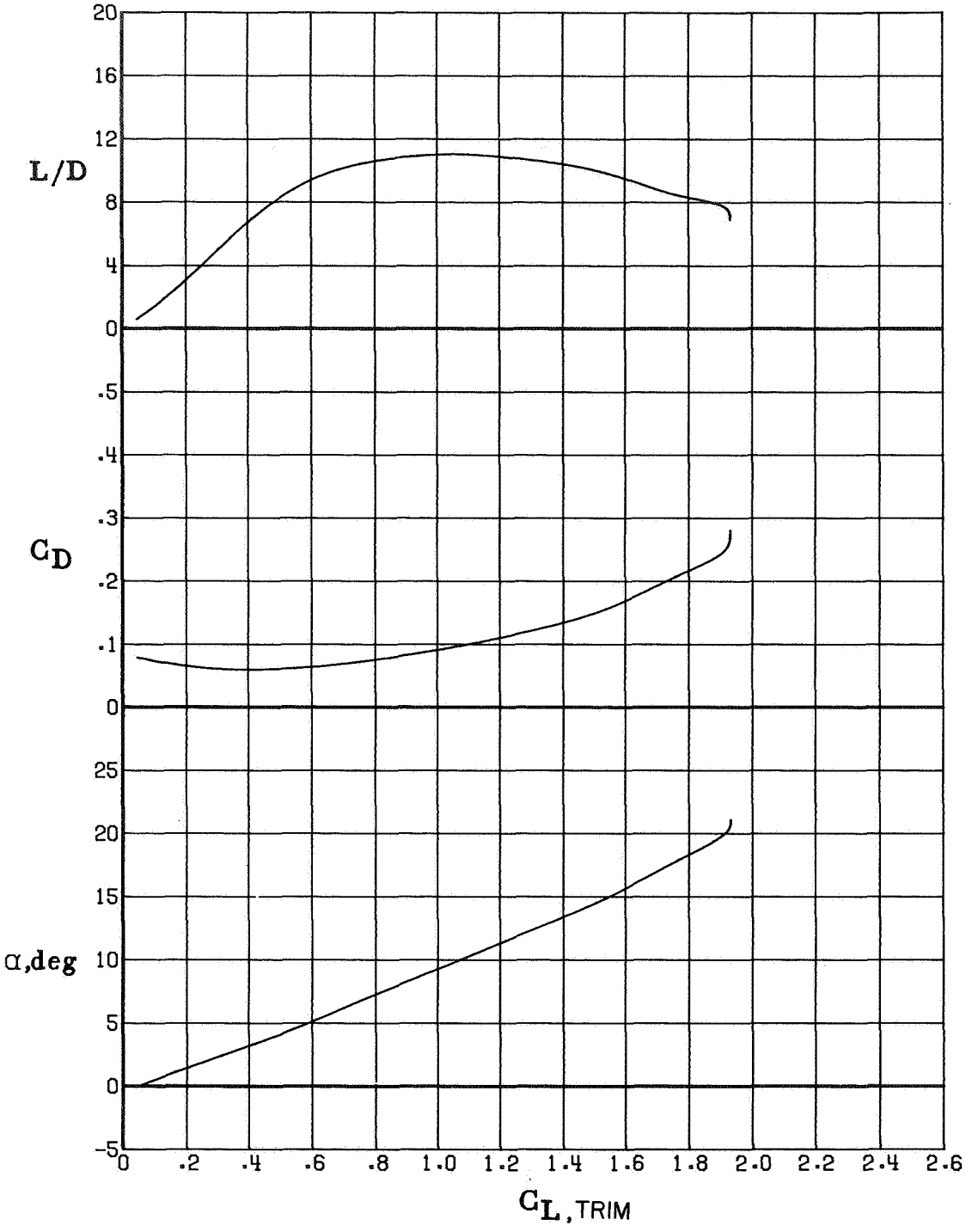
(b) Trim performance of aspect-ratio-10 cruise wing.

Figure 9.- Concluded.



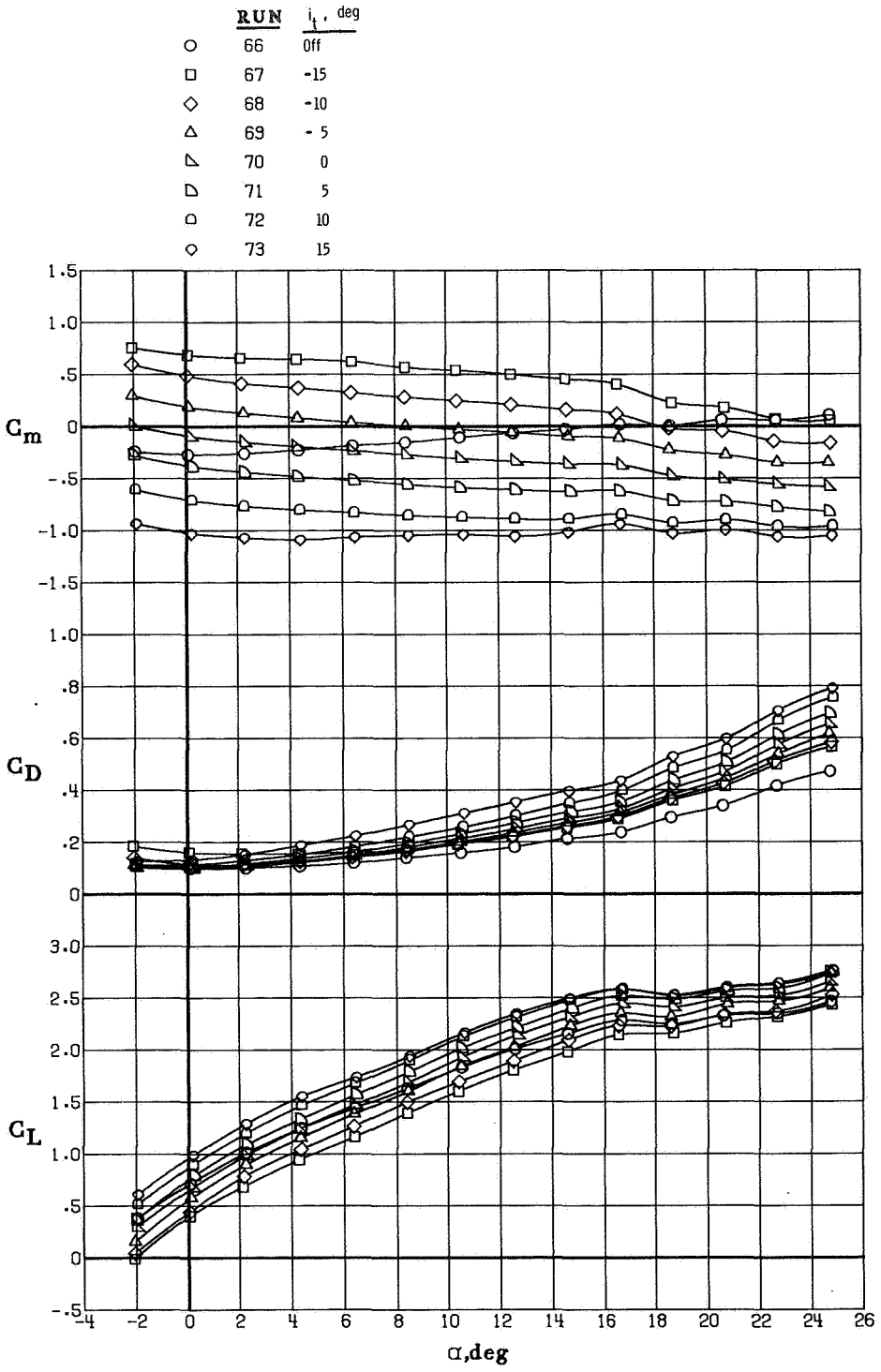
(a) Aspect-ratio-10 climb wing.

Figure 10.- Effect of horizontal-tail deflection on longitudinal aerodynamic characteristics of climb wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



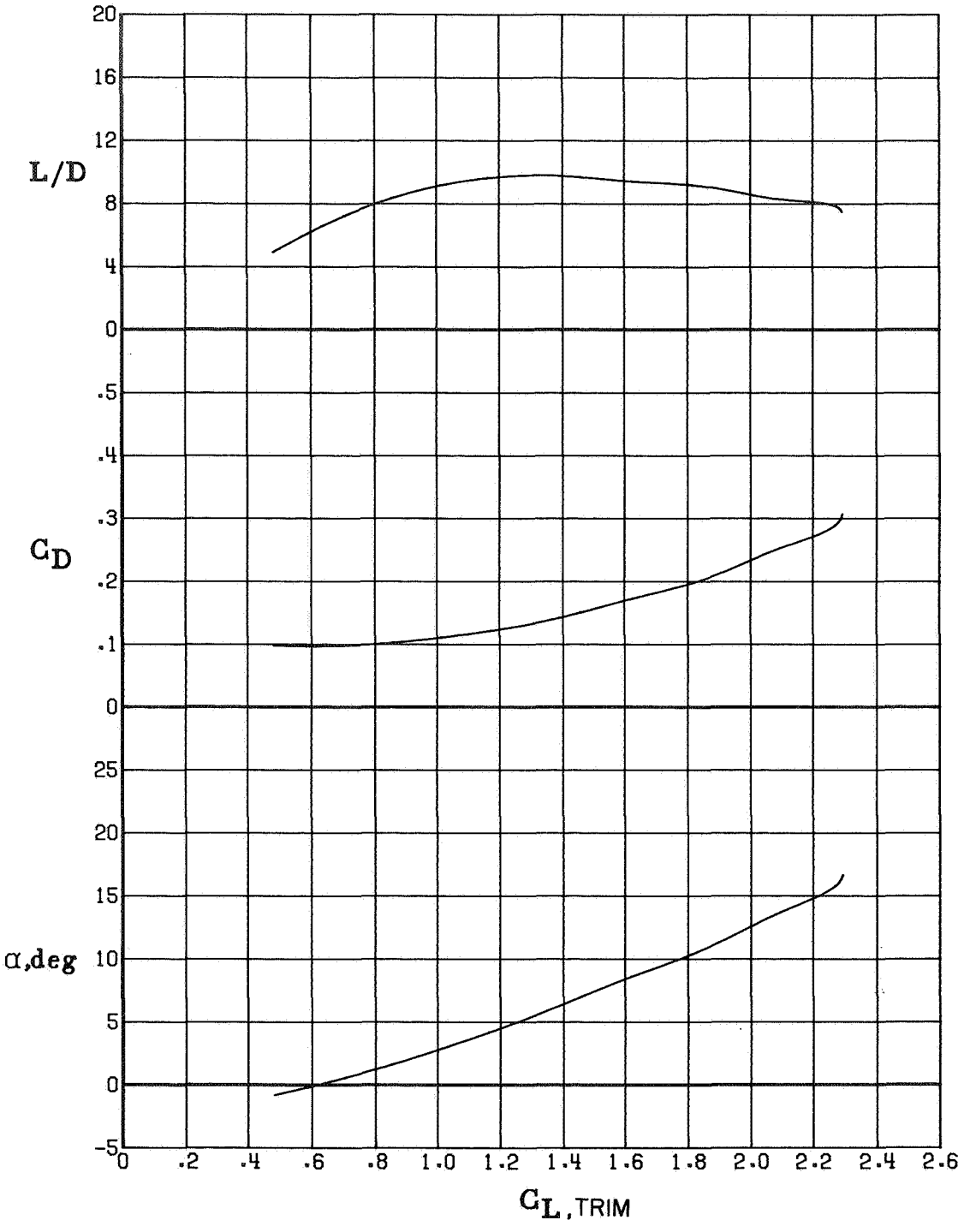
(b) Trim performance of aspect-ratio-10 climb wing.

Figure 10.- Concluded.



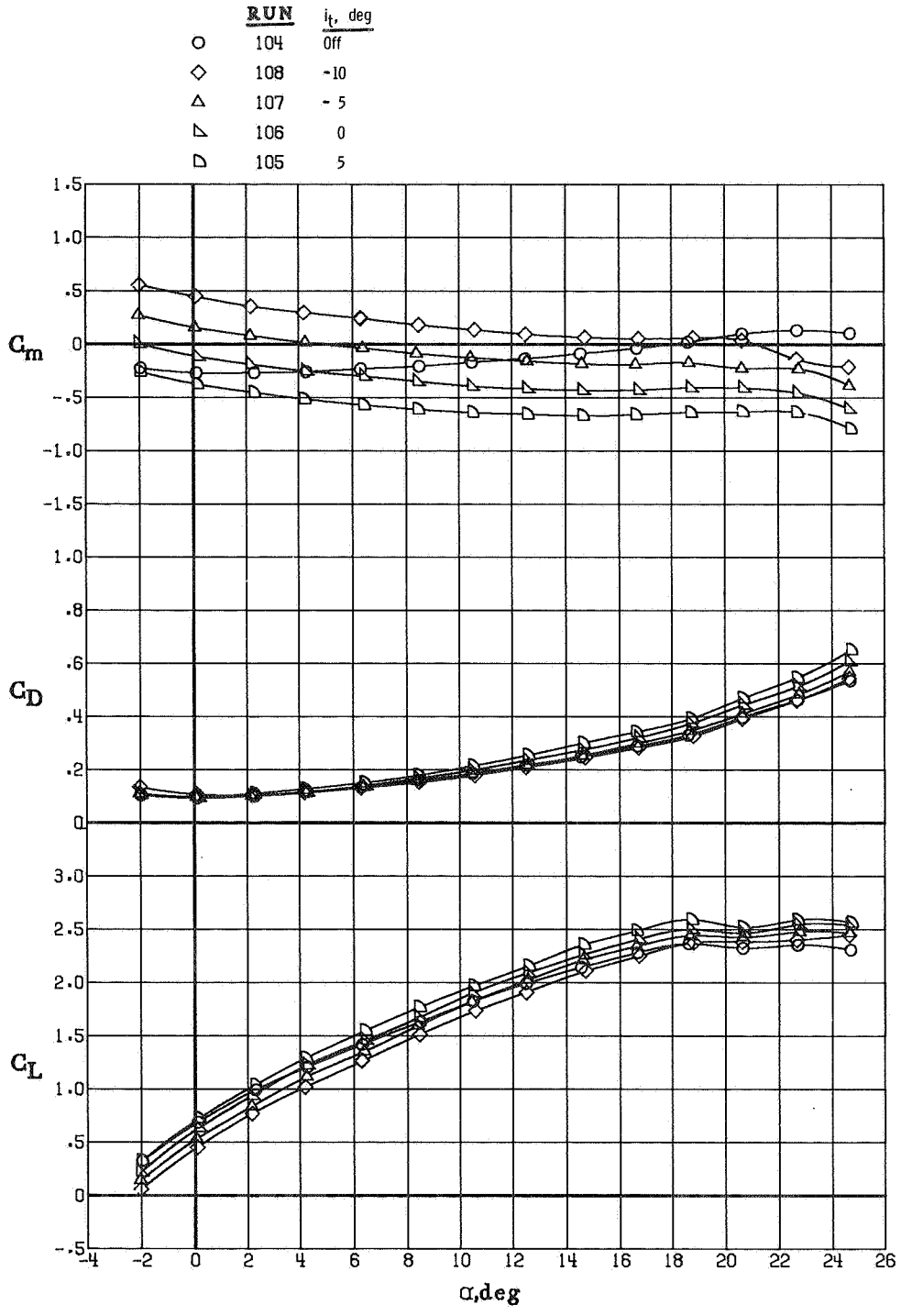
(a) Aspect-ratio-10 take-off wing.

Figure 11.- Effect of horizontal-tail deflection on longitudinal aerodynamic characteristics of take-off wing configurations. $R_{\bar{c}} = 1.35 \times 10^6$.



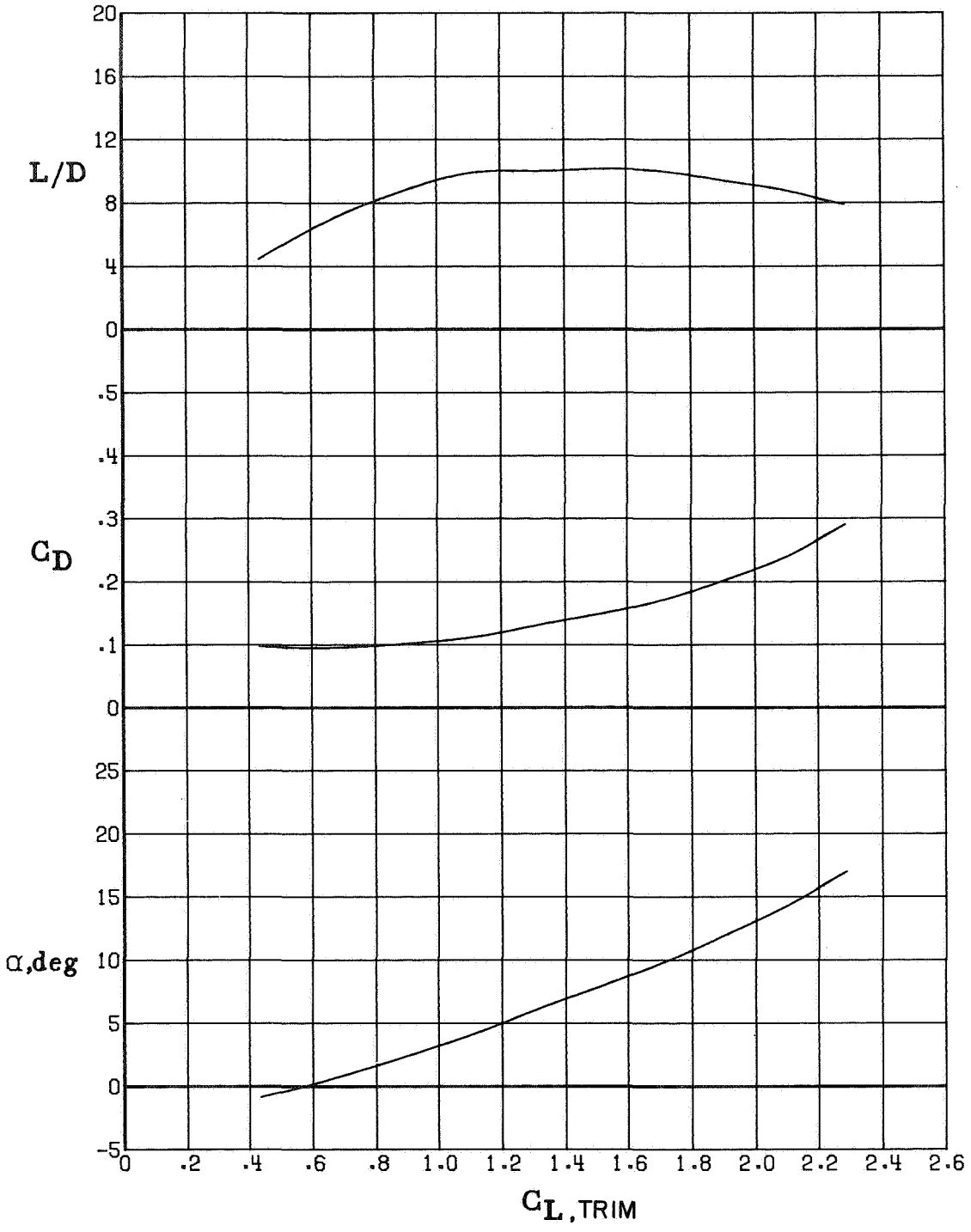
(b) Trim performance of aspect-ratio-10 take-off wing.

Figure 11.- Continued.



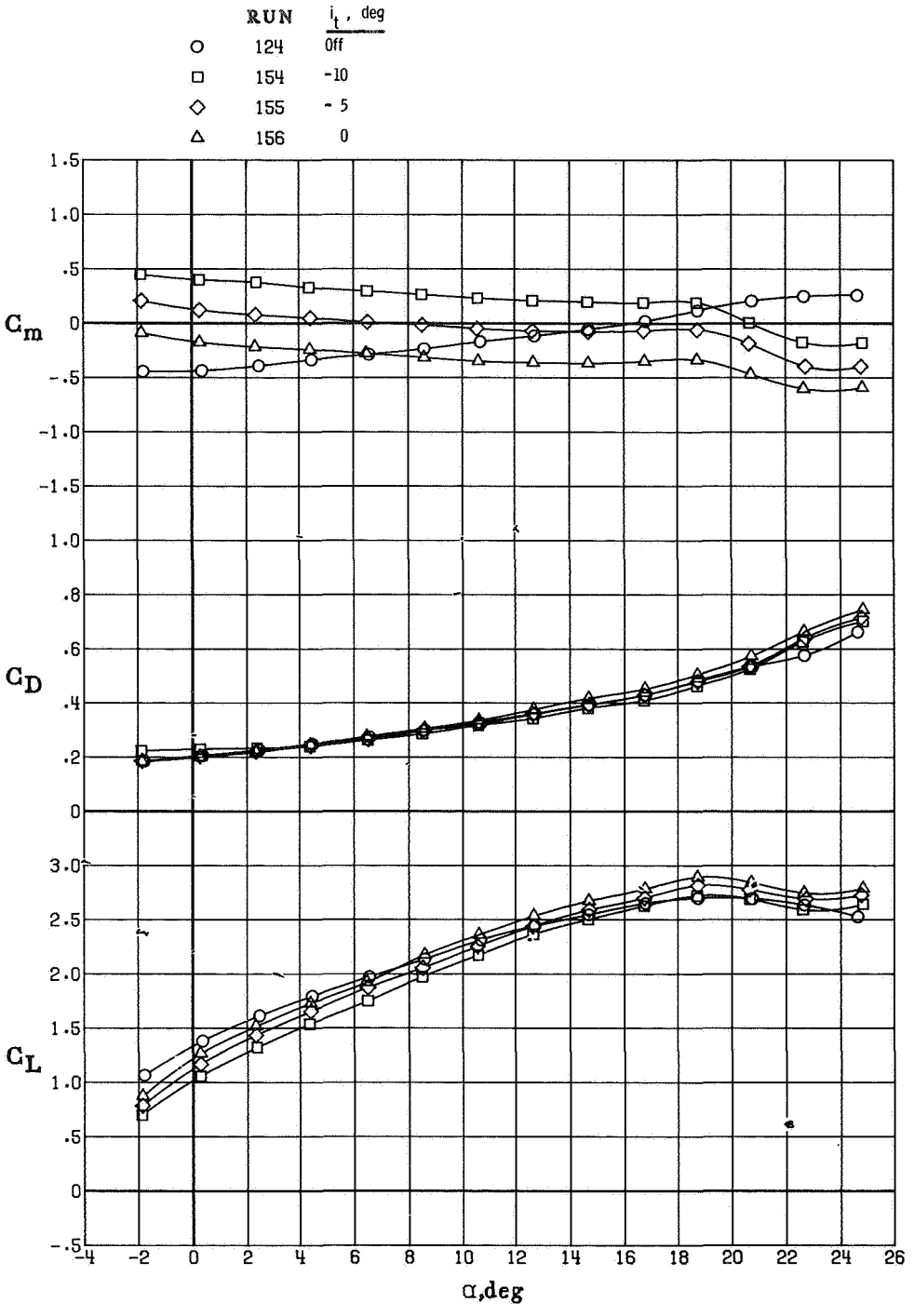
(c) Aspect-ratio-12 take-off wing.

Figure 11.- Continued.



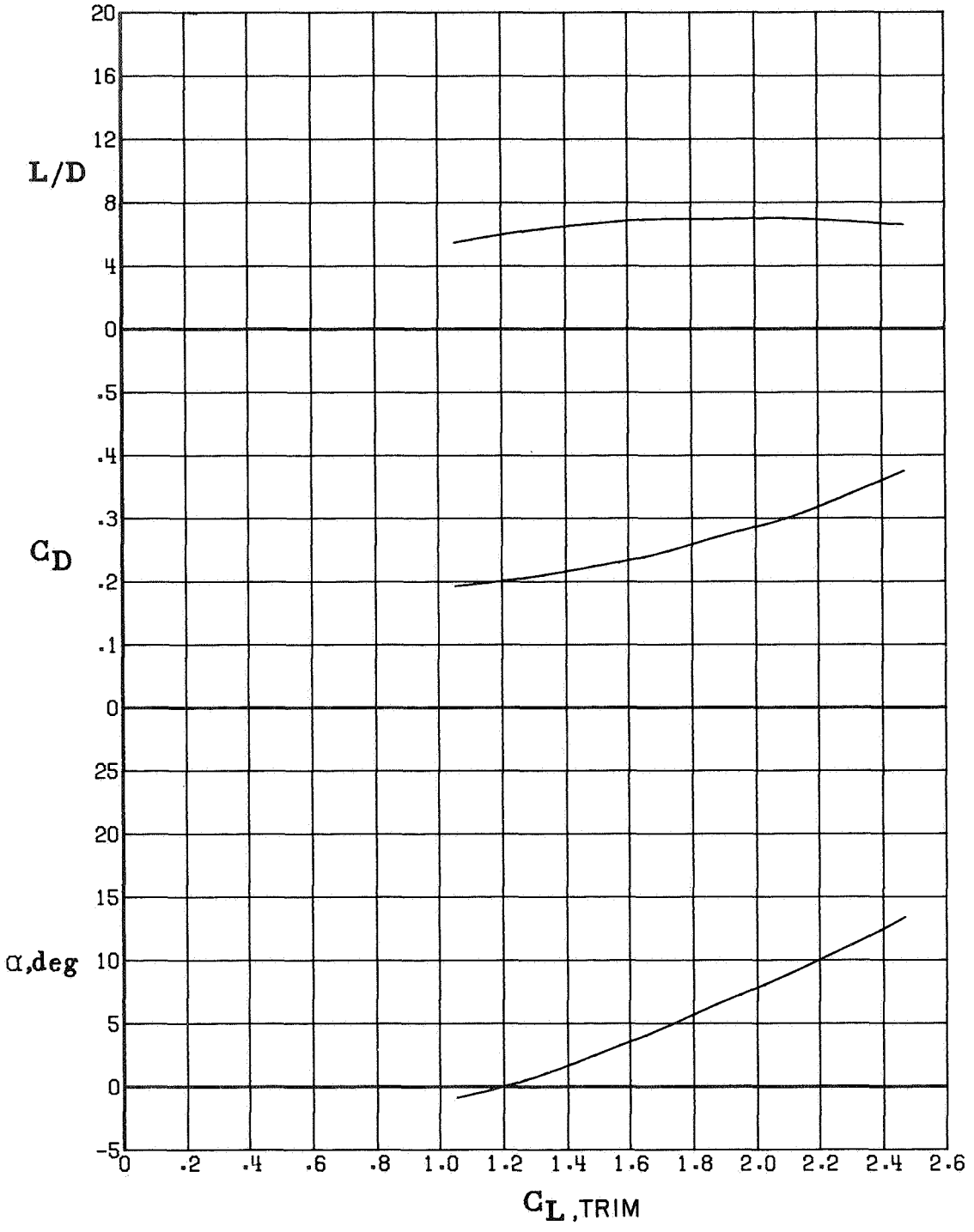
(d) Trim performance of aspect-ratio-12 take-off wing.

Figure 11.- Concluded.



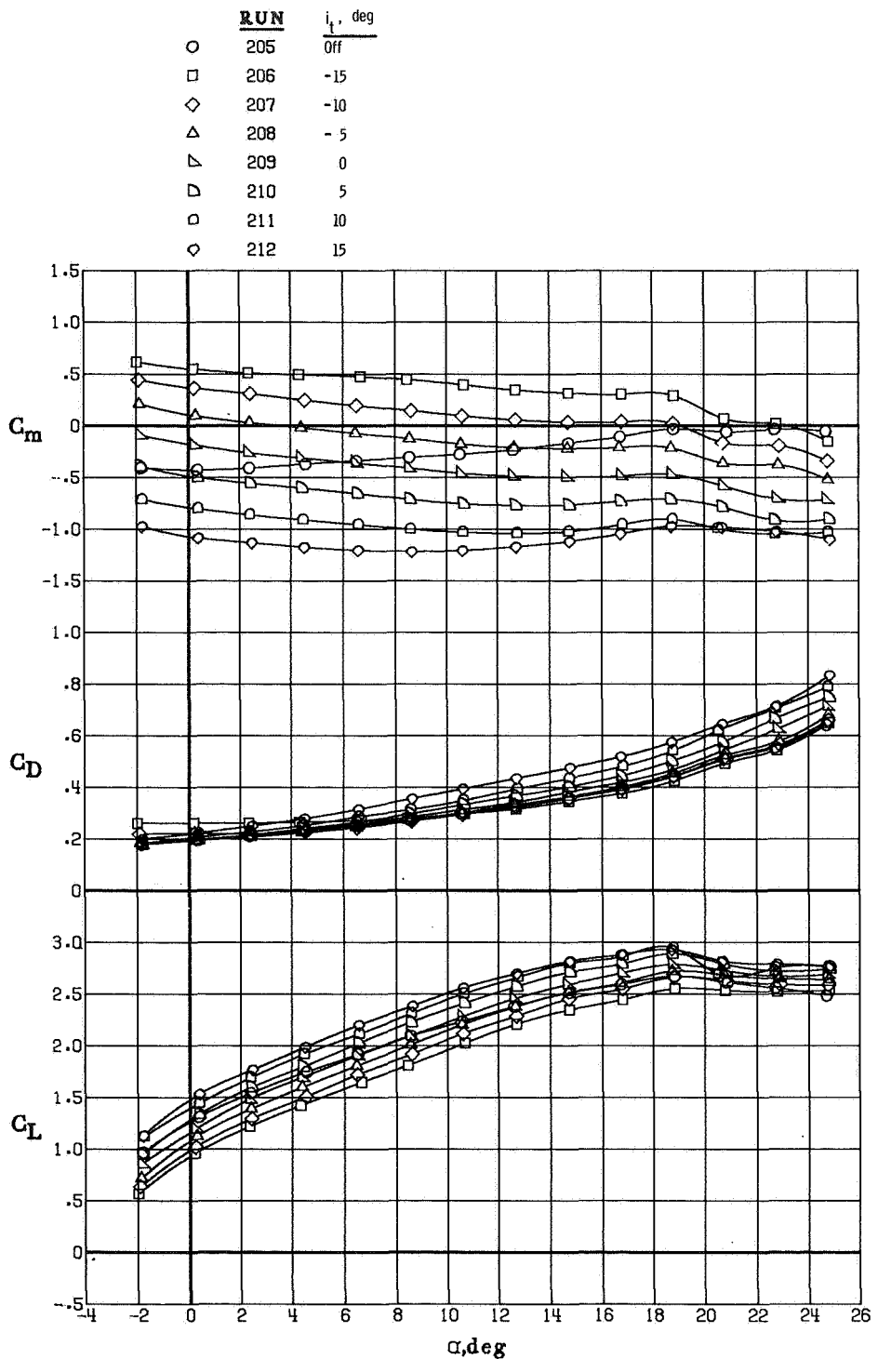
(a) Aspect-ratio-10 landing wing.

Figure 12.- Effect of horizontal-tail deflection on longitudinal aerodynamic characteristics of landing wing configurations. $R_{\bar{c}} = 1.35 \times 10^6$.



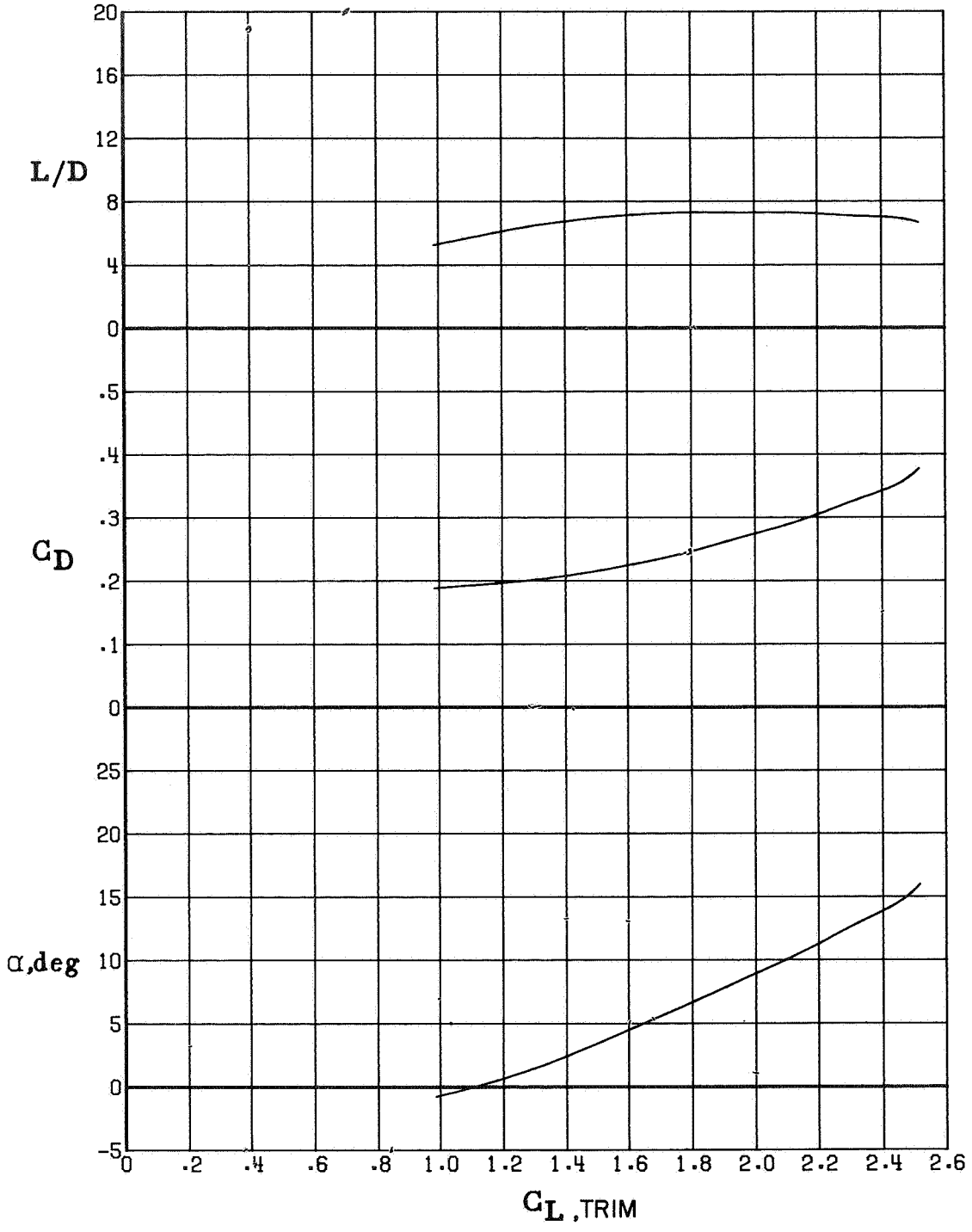
(b) Trim performance of aspect-ratio-10 landing wing.

Figure 12.- Continued.



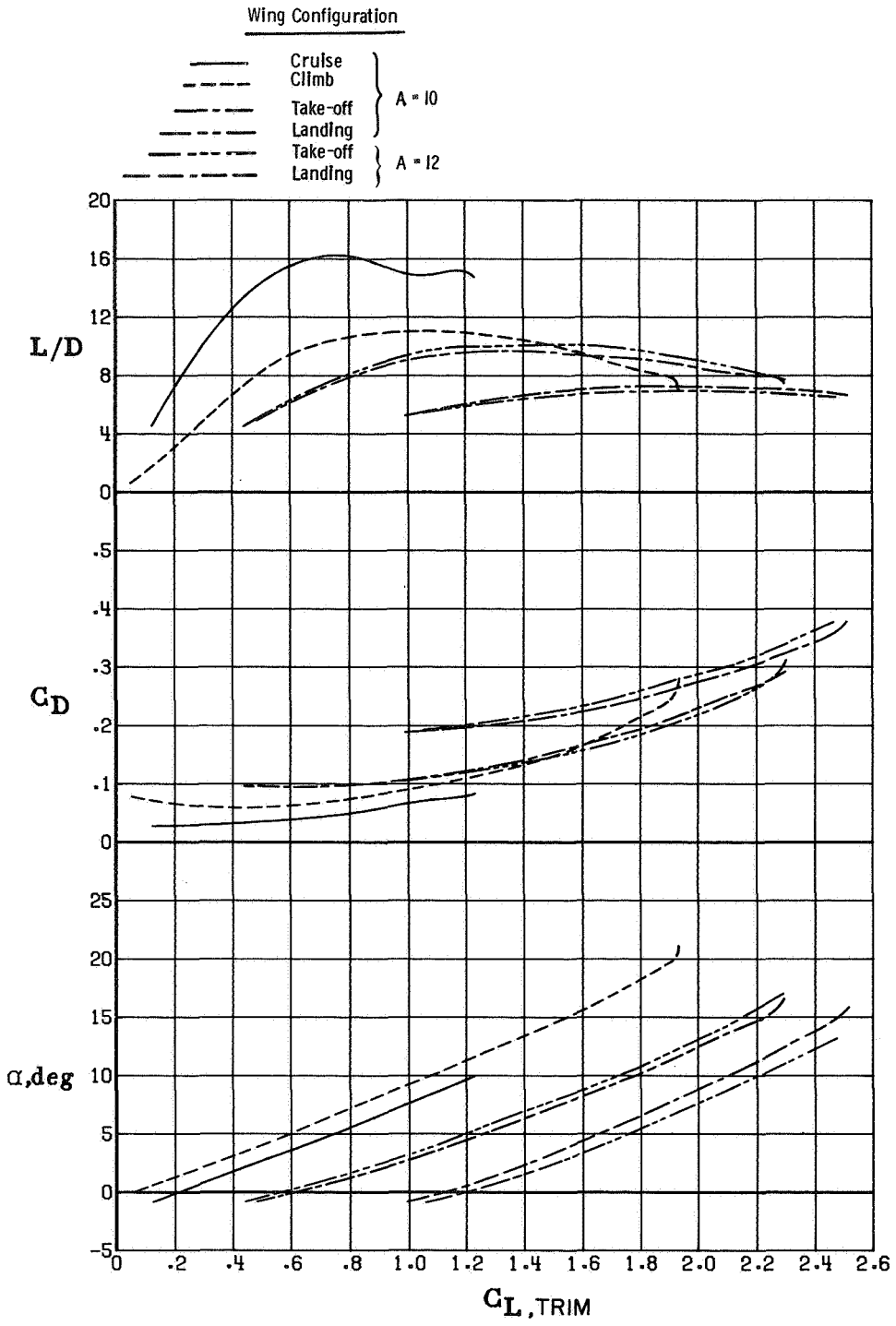
(c) Aspect-ratio-12 landing wing.

Figure 12.- Continued.



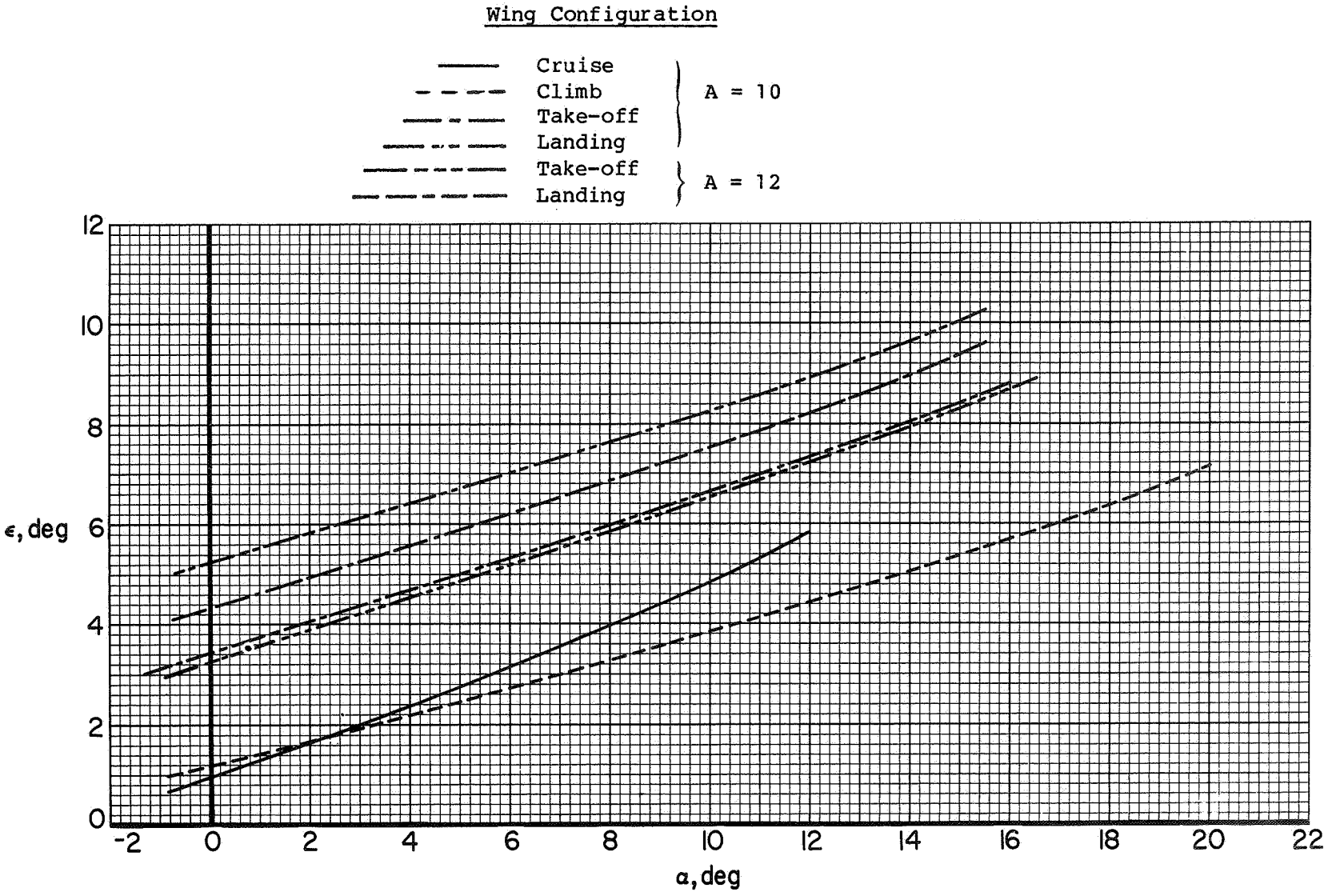
(d) Trim performance of aspect-ratio-12 landing wing.

Figure 12.- Concluded.



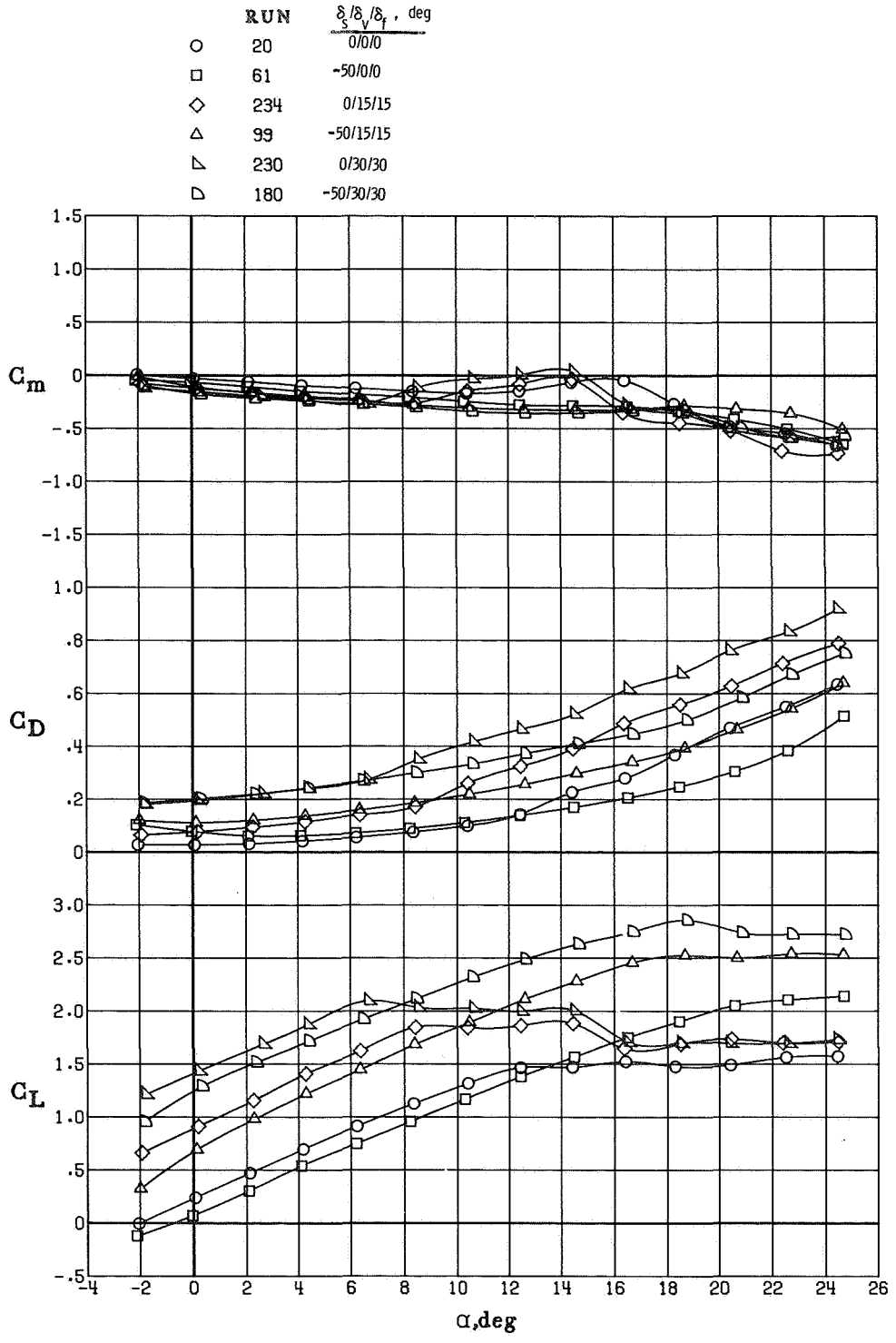
(a) Trim performance.

Figure 13.- Summary of trimmed and tail-off longitudinal aerodynamic characteristics of climb, cruise, take-off, and landing wing configurations. $R_{\bar{c}} = 1.35 \times 10^6$.



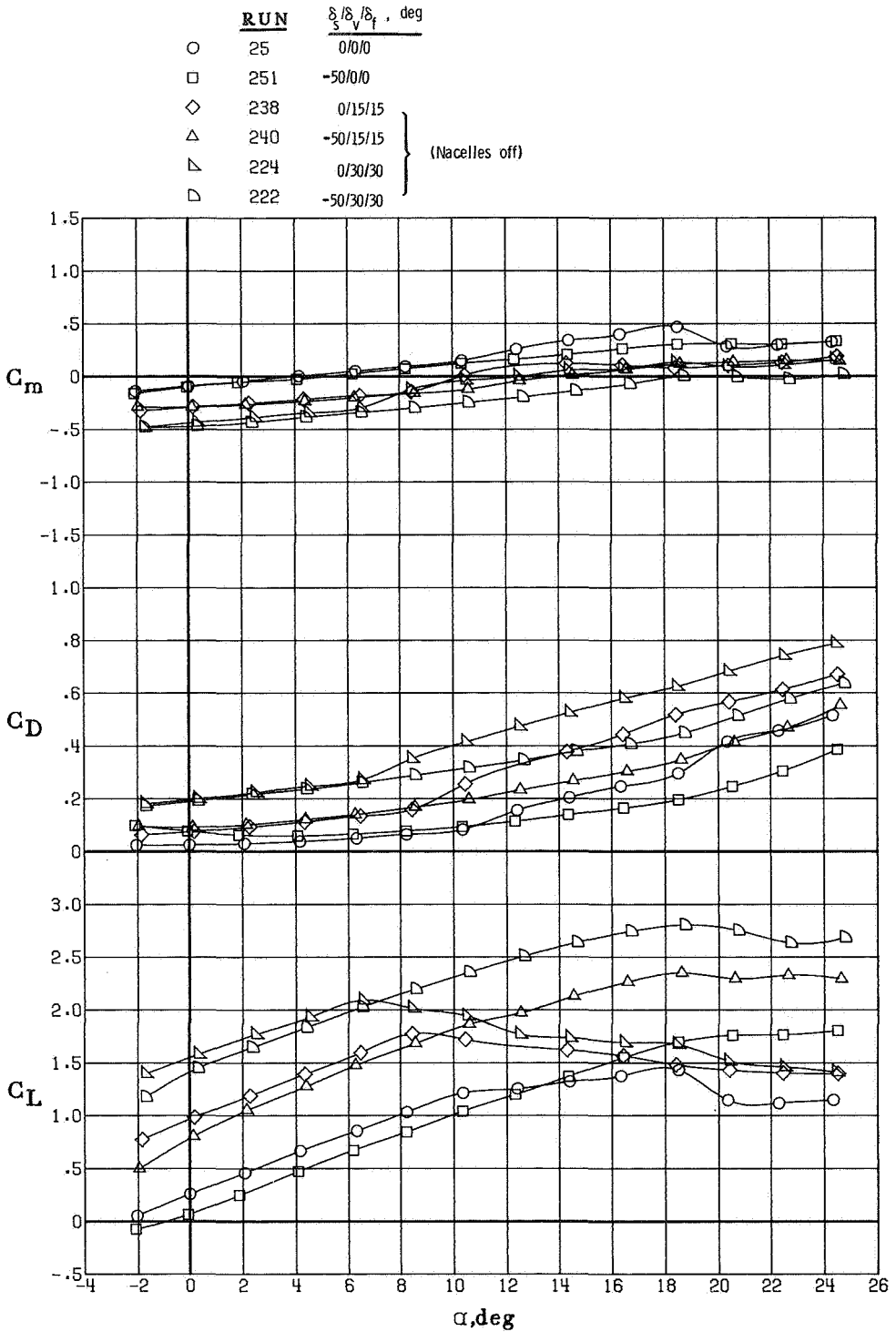
(b) Tail downwash angles.

Figure 13.- Concluded.



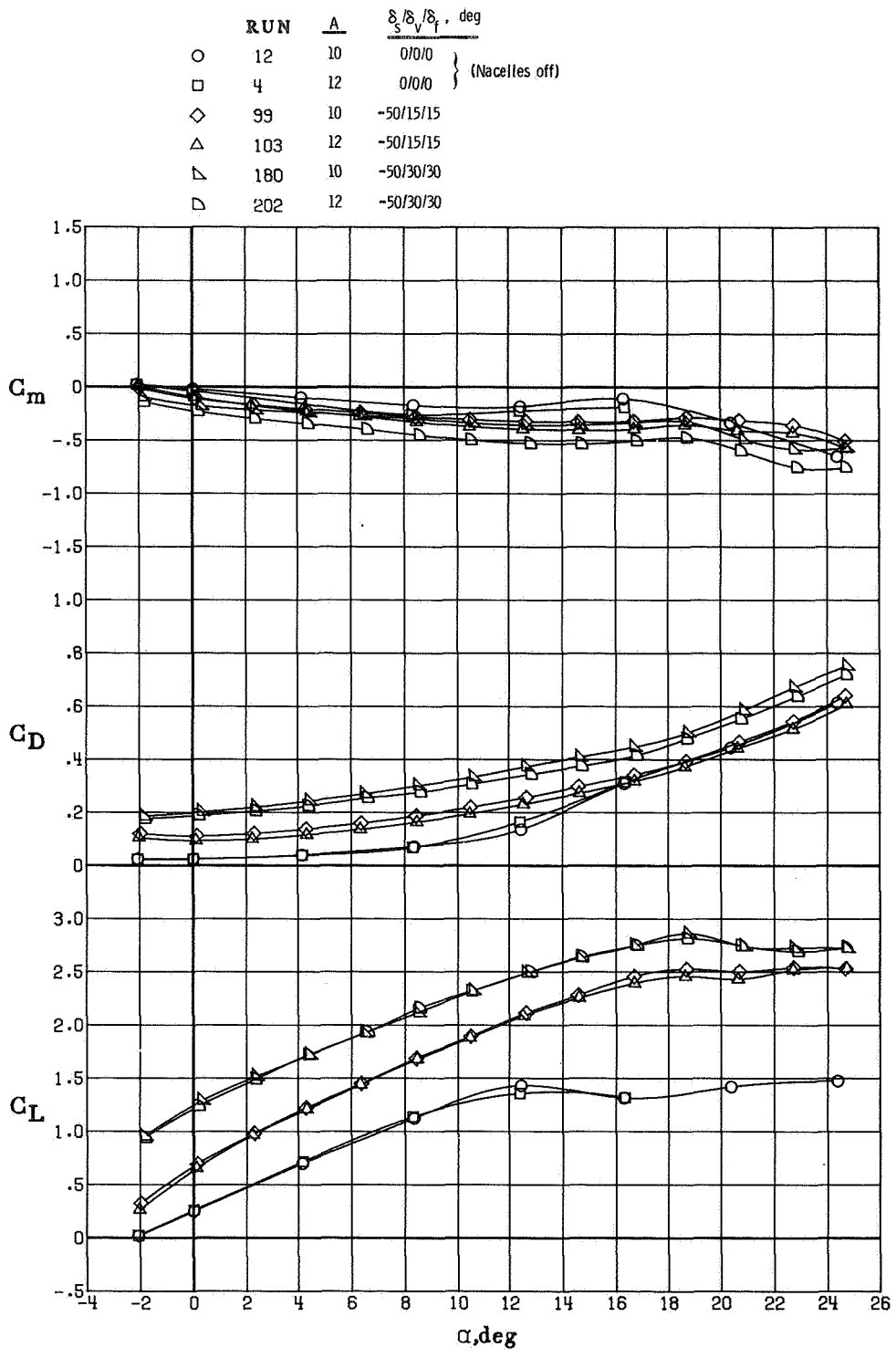
(a) Tail-on performance.

Figure 14.- Effect of slat deflection on longitudinal aerodynamic characteristics of aspect-ratio-10 climb, take-off, and landing wing configurations. $R_{\bar{c}} = 1.63 \times 10^6$.



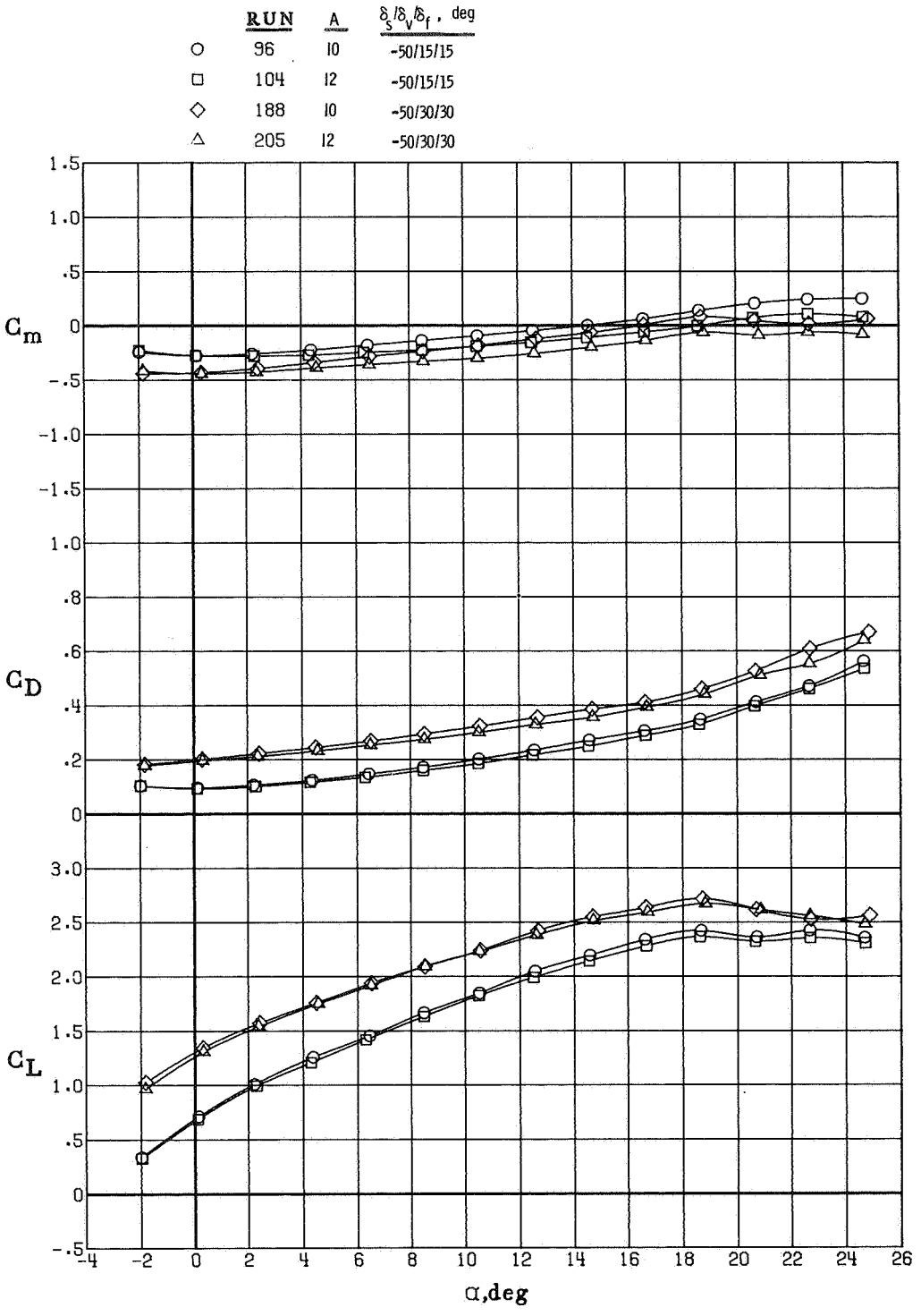
(b) Tail-off performance.

Figure 14.- Concluded.



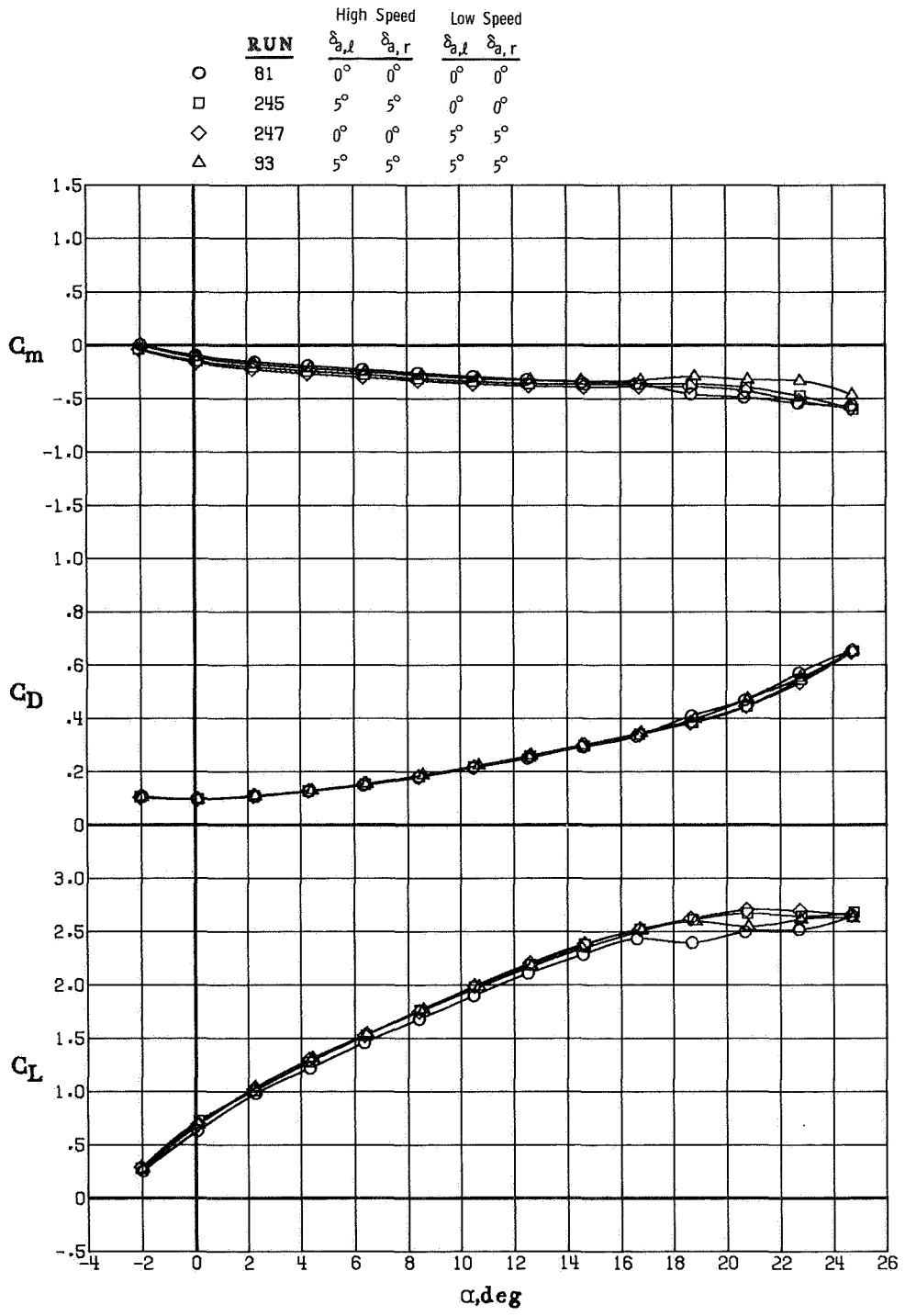
(a) Tail-on performance.

Figure 15.- Summary of effects of aspect ratio on longitudinal aerodynamic characteristics of cruise, take-off, and landing wing configurations. $R_c = 1.63 \times 10^6$.



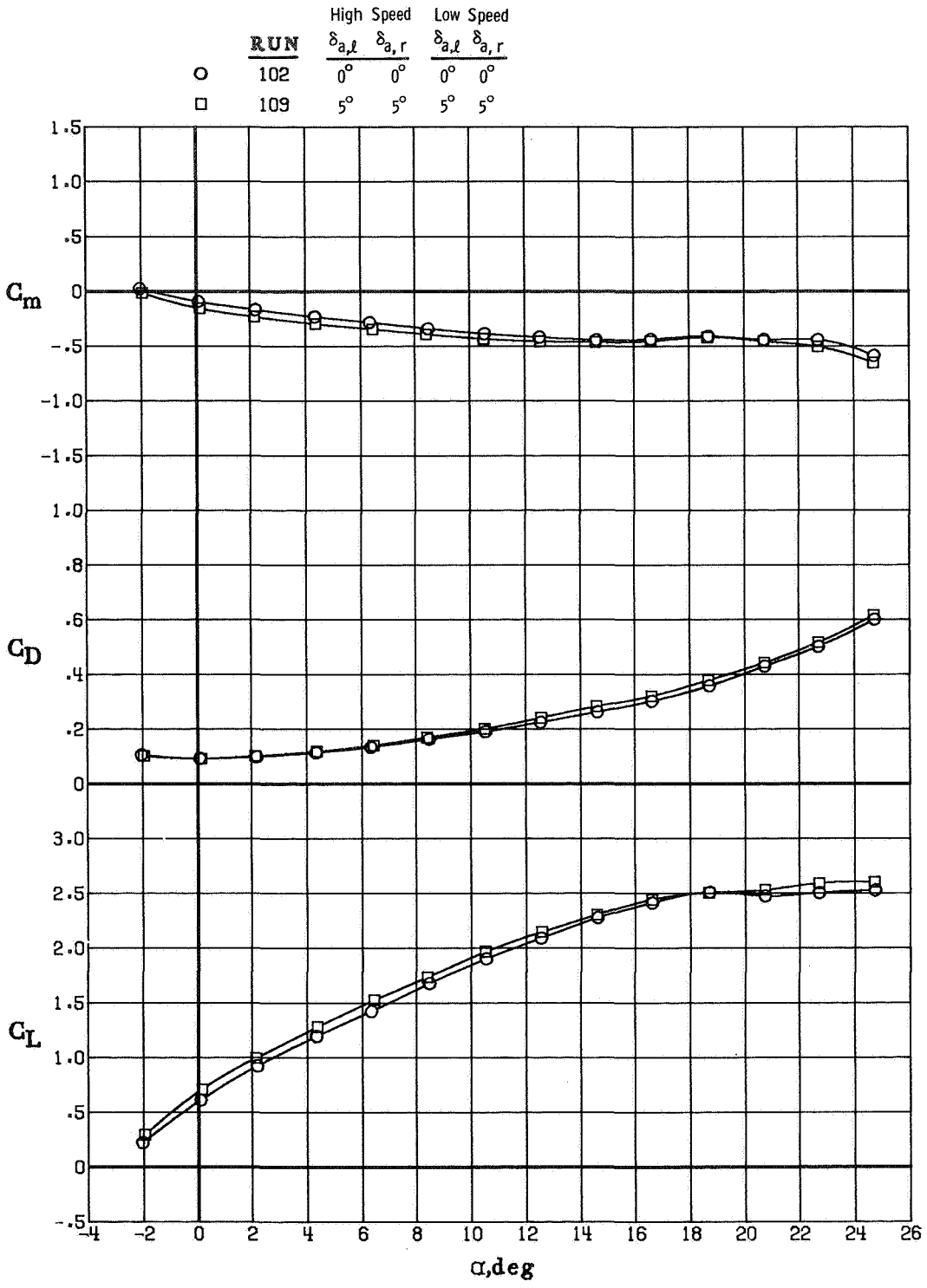
(b) Tail-off performance.

Figure 15.- Concluded.



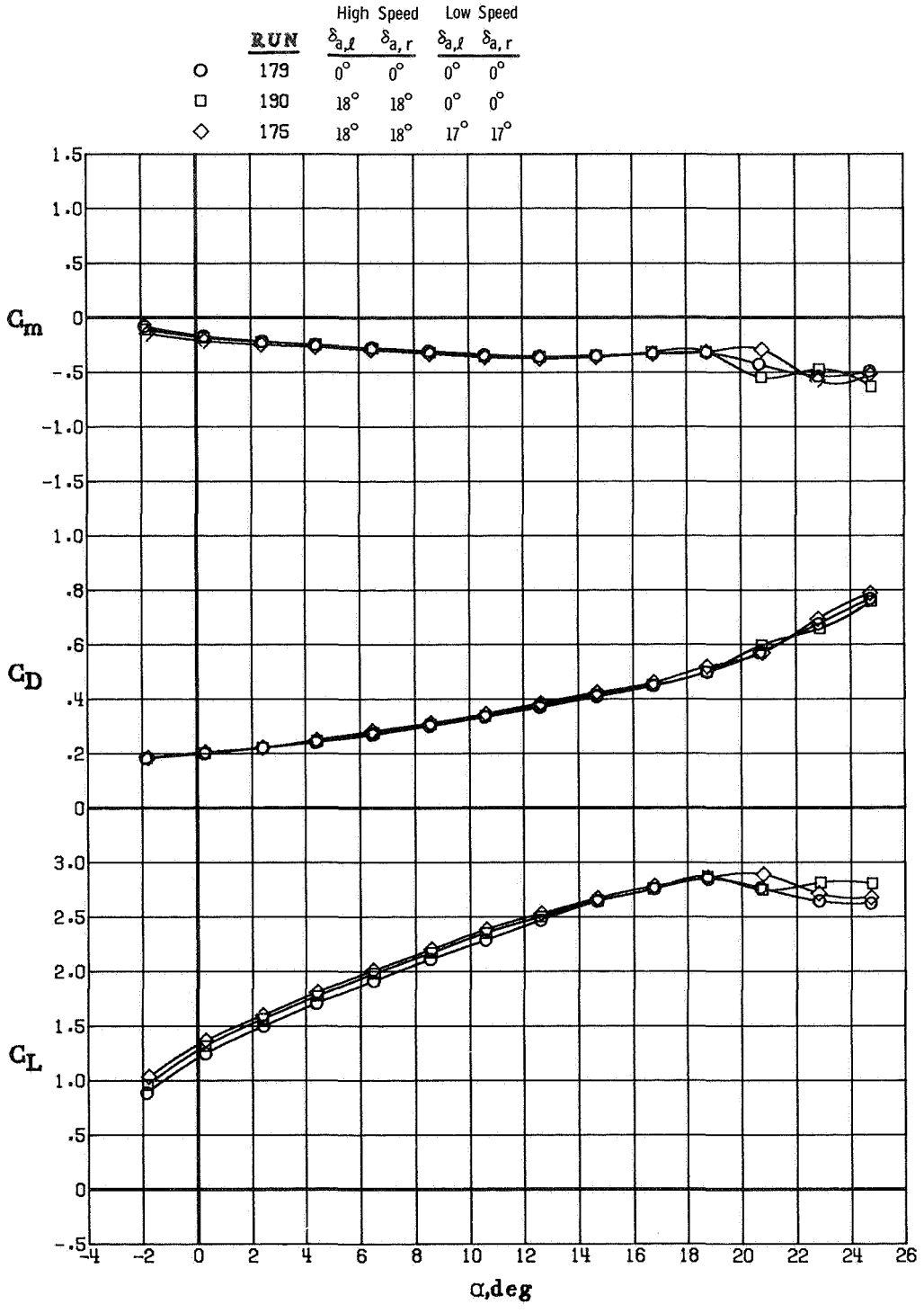
(a) Aspect-ratio-10 take-off wing.

Figure 16.- Effects of deflecting high- and low-speed ailerons to increase flap span on longitudinal aerodynamic characteristics of take-off and landing wing configurations. $R_{\bar{c}} = 1.35 \times 10^6$.



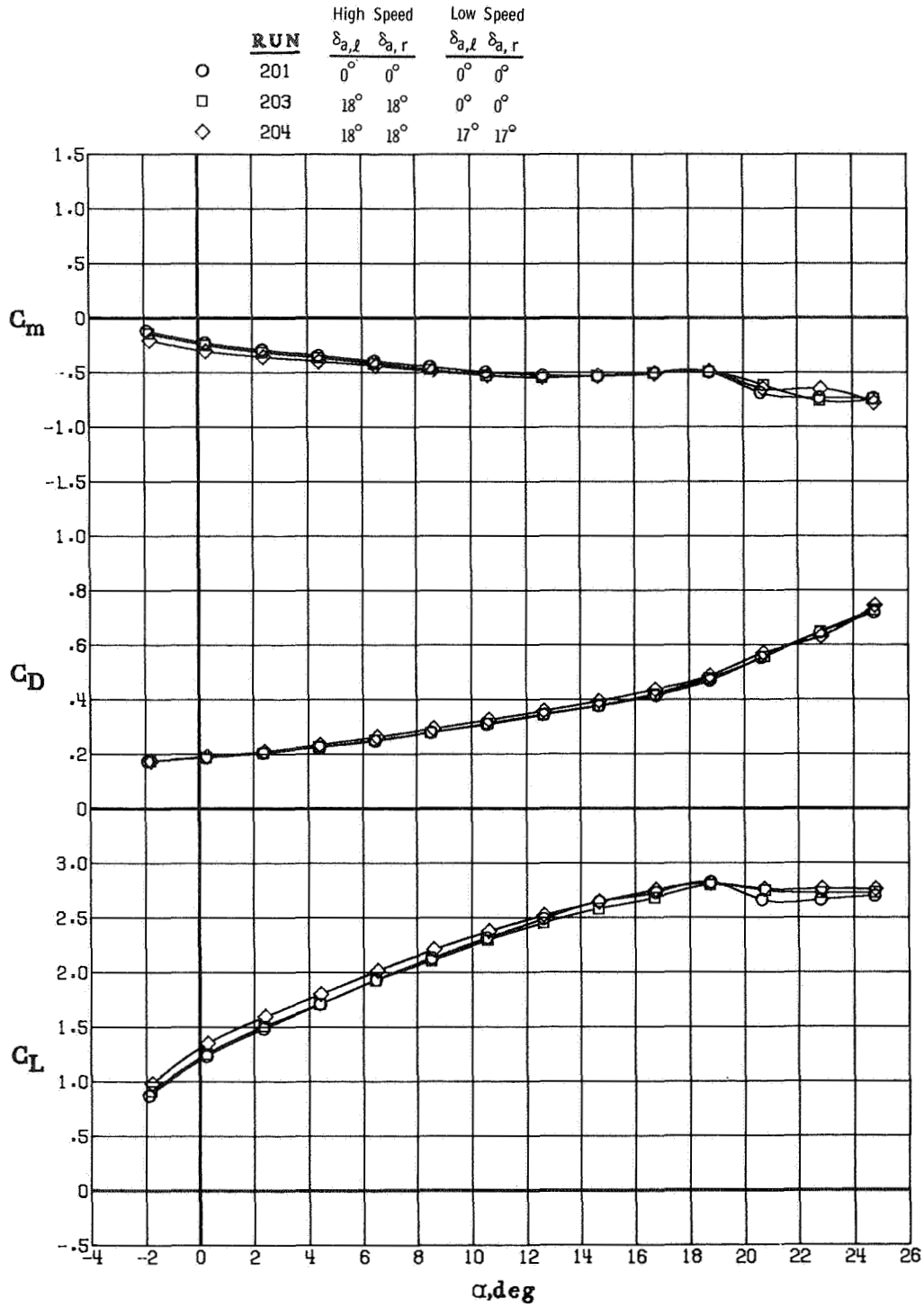
(b) Aspect-ratio-12 take-off wing.

Figure 16.- Continued.



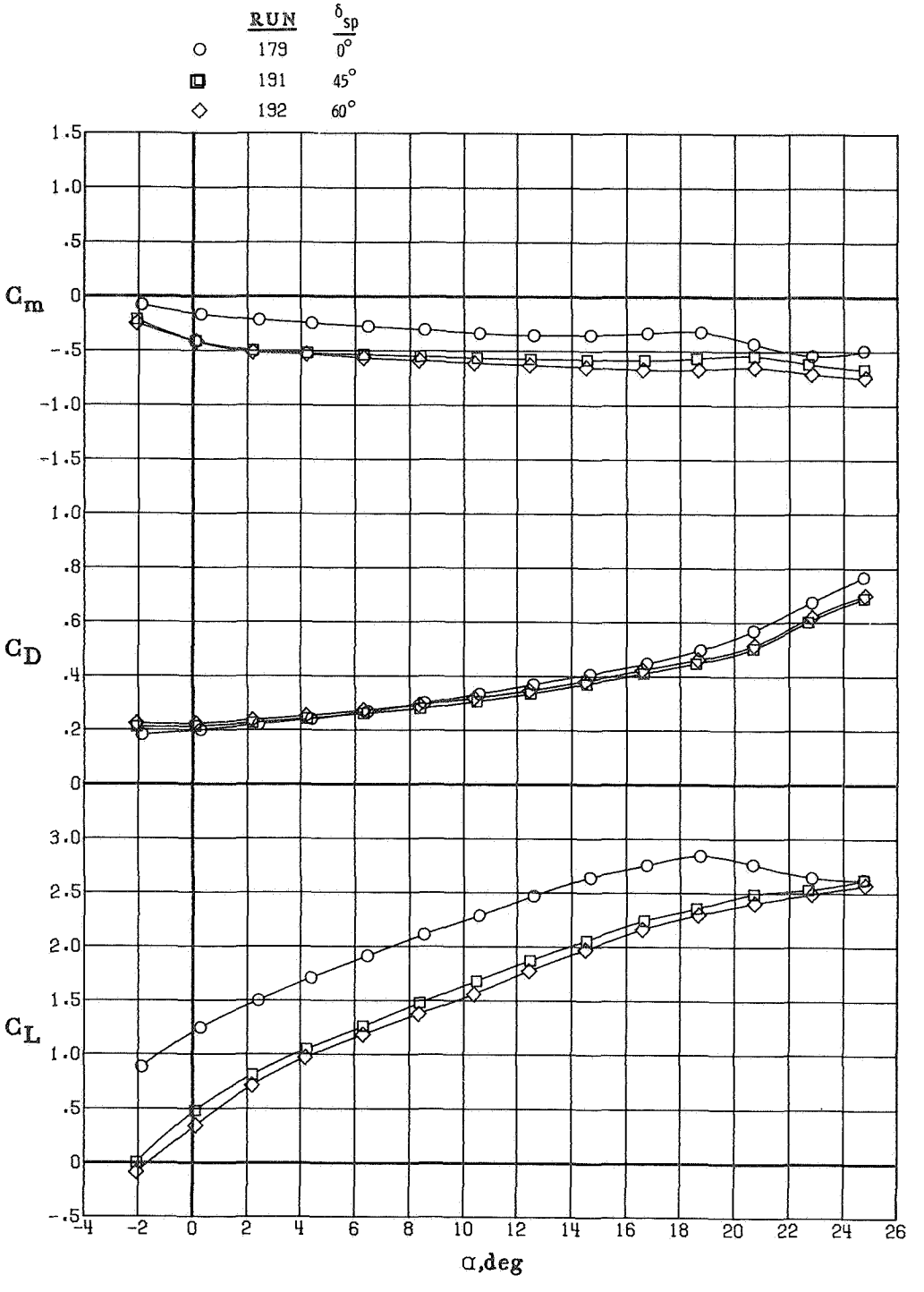
(c) Aspect-ratio-10 landing wing.

Figure 16.- Continued.



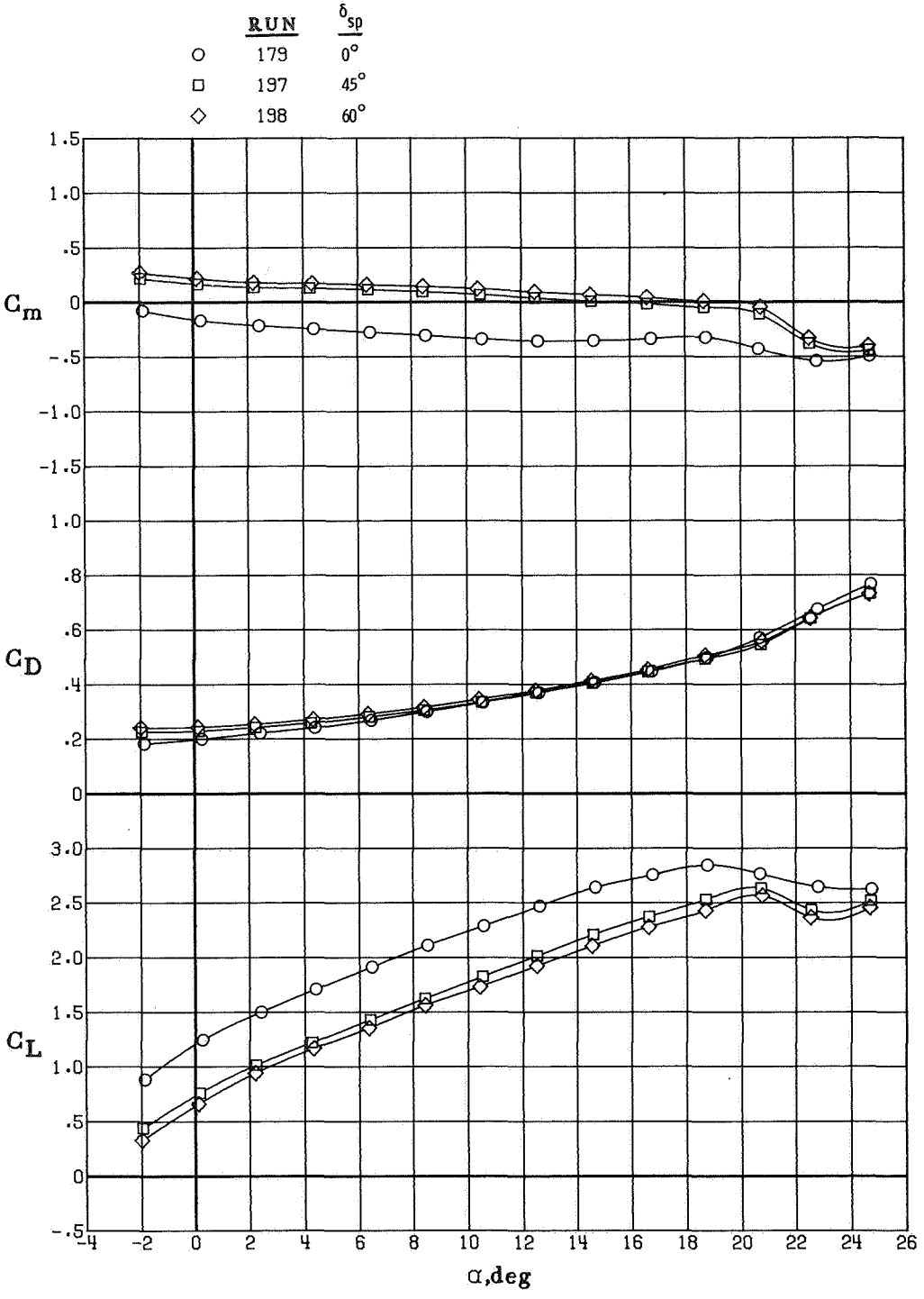
(d) Aspect-ratio-12 landing wing.

Figure 16.- Concluded.



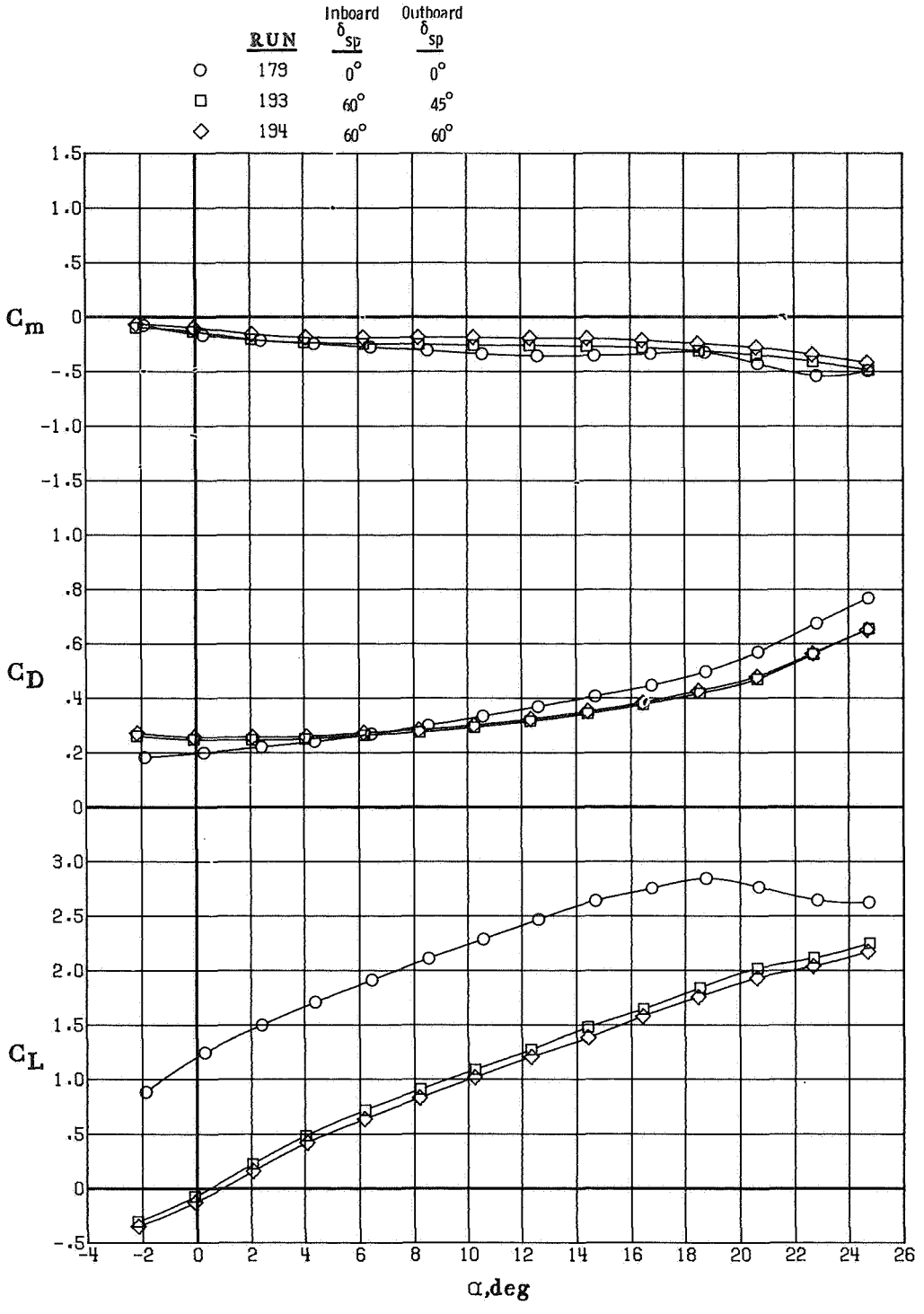
(a) Inboard spoilers deflected.

Figure 17.- Effects of deflecting inboard and outboard spoilers on longitudinal aerodynamic characteristics of aspect-ratio-10 landing wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



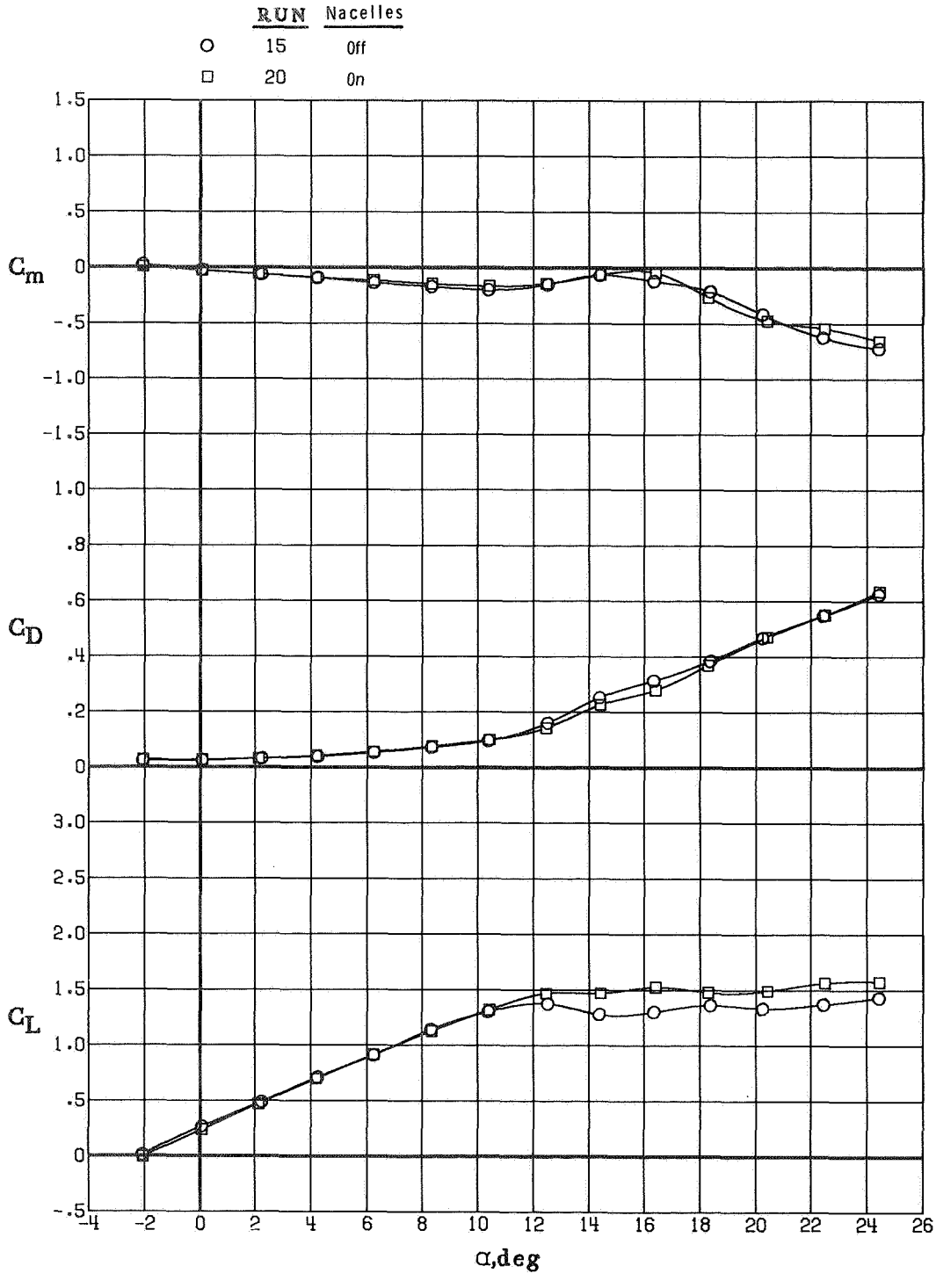
(b) Outboard spoilers deflected.

Figure 17.- Continued.



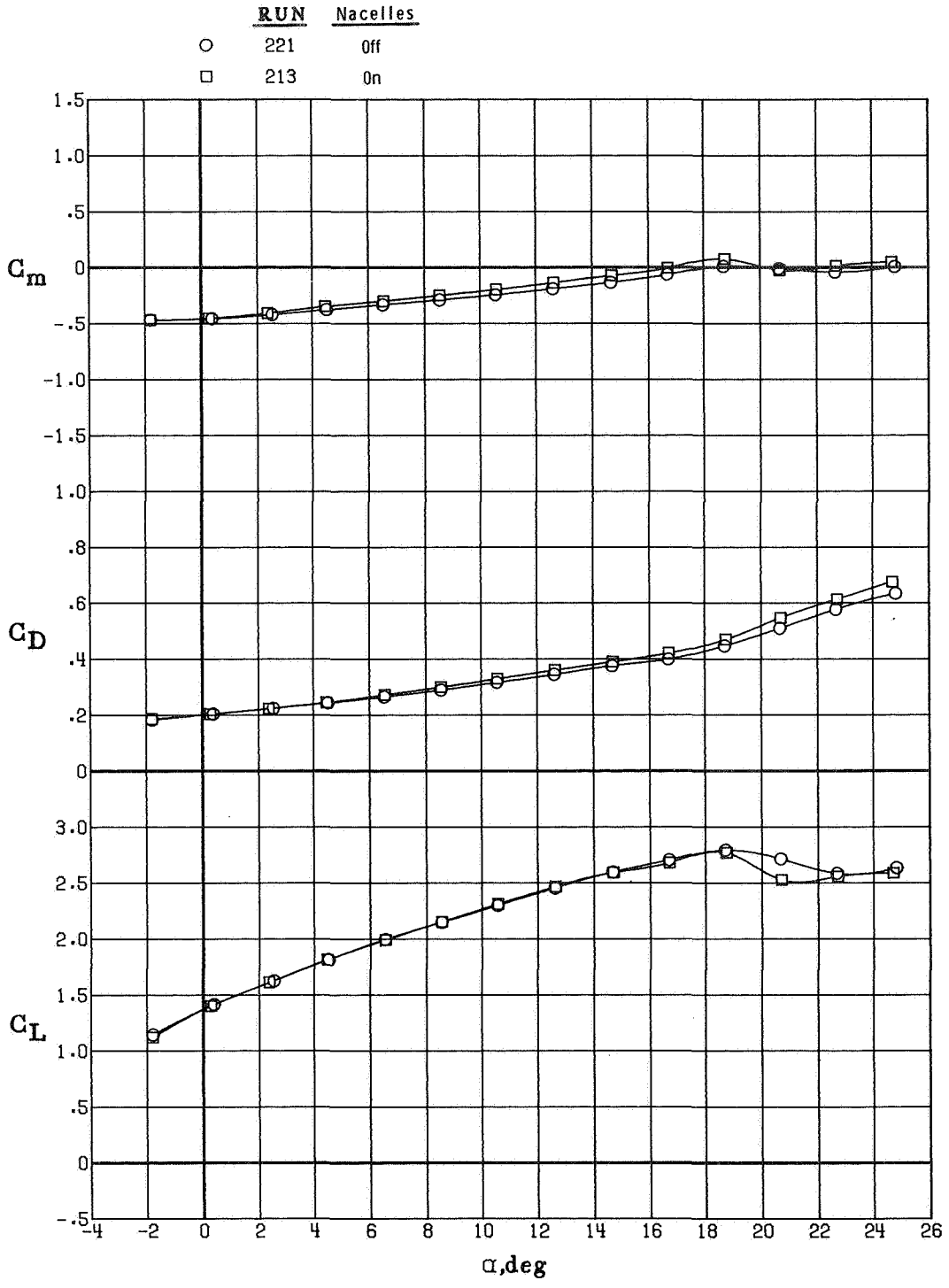
(c) Inboard and outboard spoilers deflected.

Figure 17.- Concluded.



(a) Aspect-ratio-10 cruise wing.

Figure 18.- Effects of nacelles on longitudinal aerodynamic characteristics of aspect-ratio-10 cruise and landing wing configurations. $R_{\bar{c}} = 1.63 \times 10^6$.



(b) Aspect-ratio-10 landing wing with tail off.

Figure 18.- Concluded.

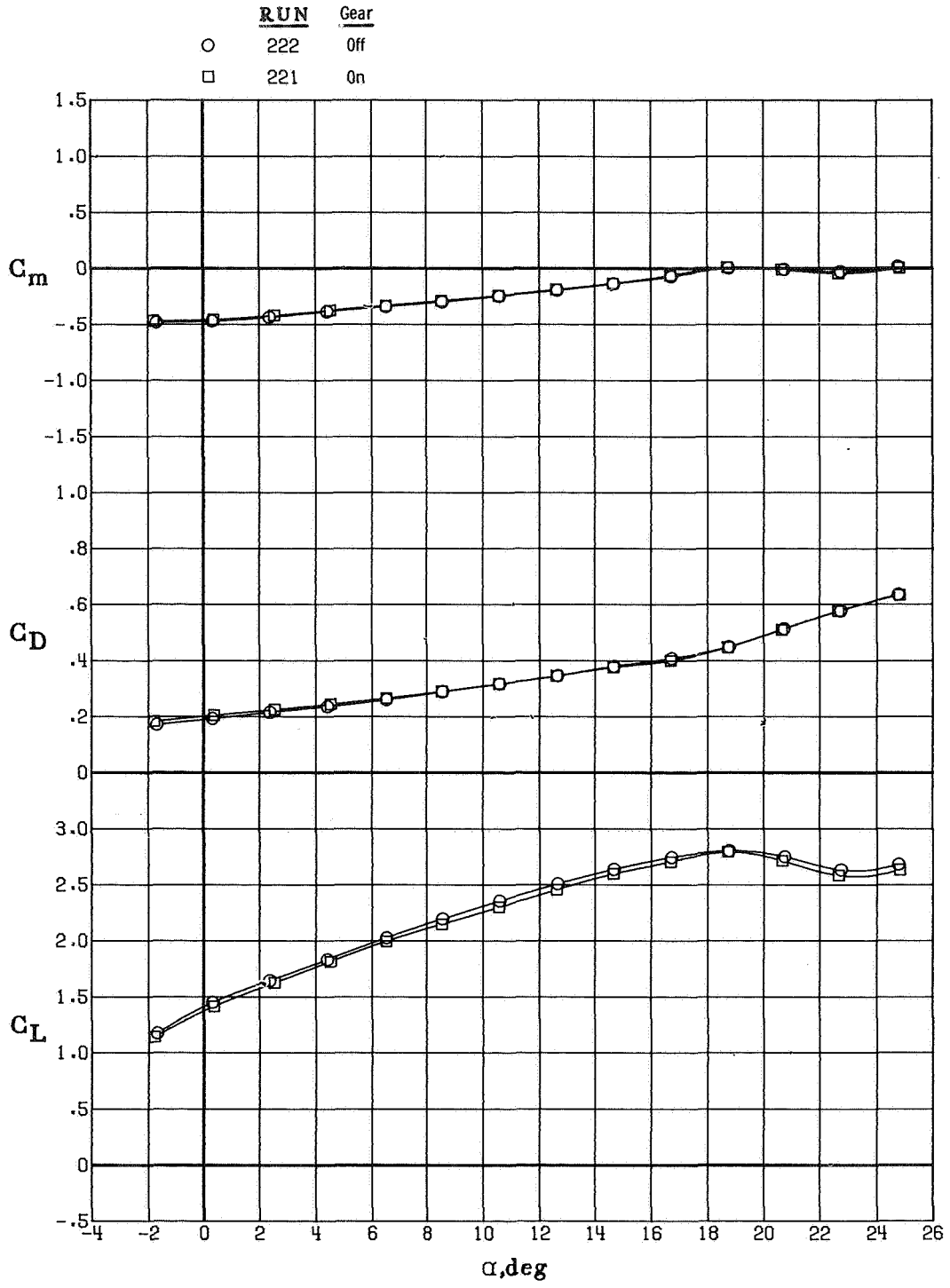
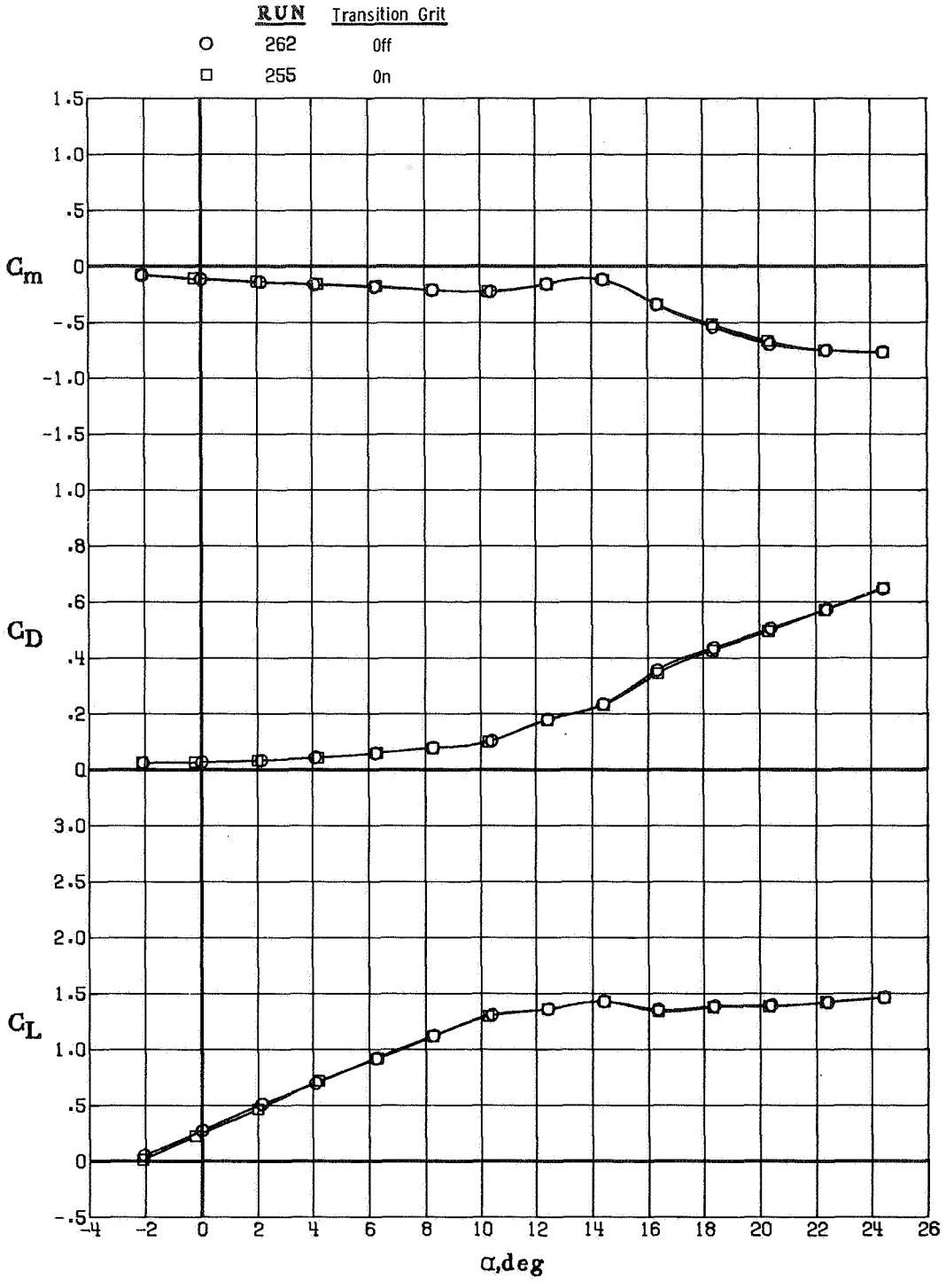
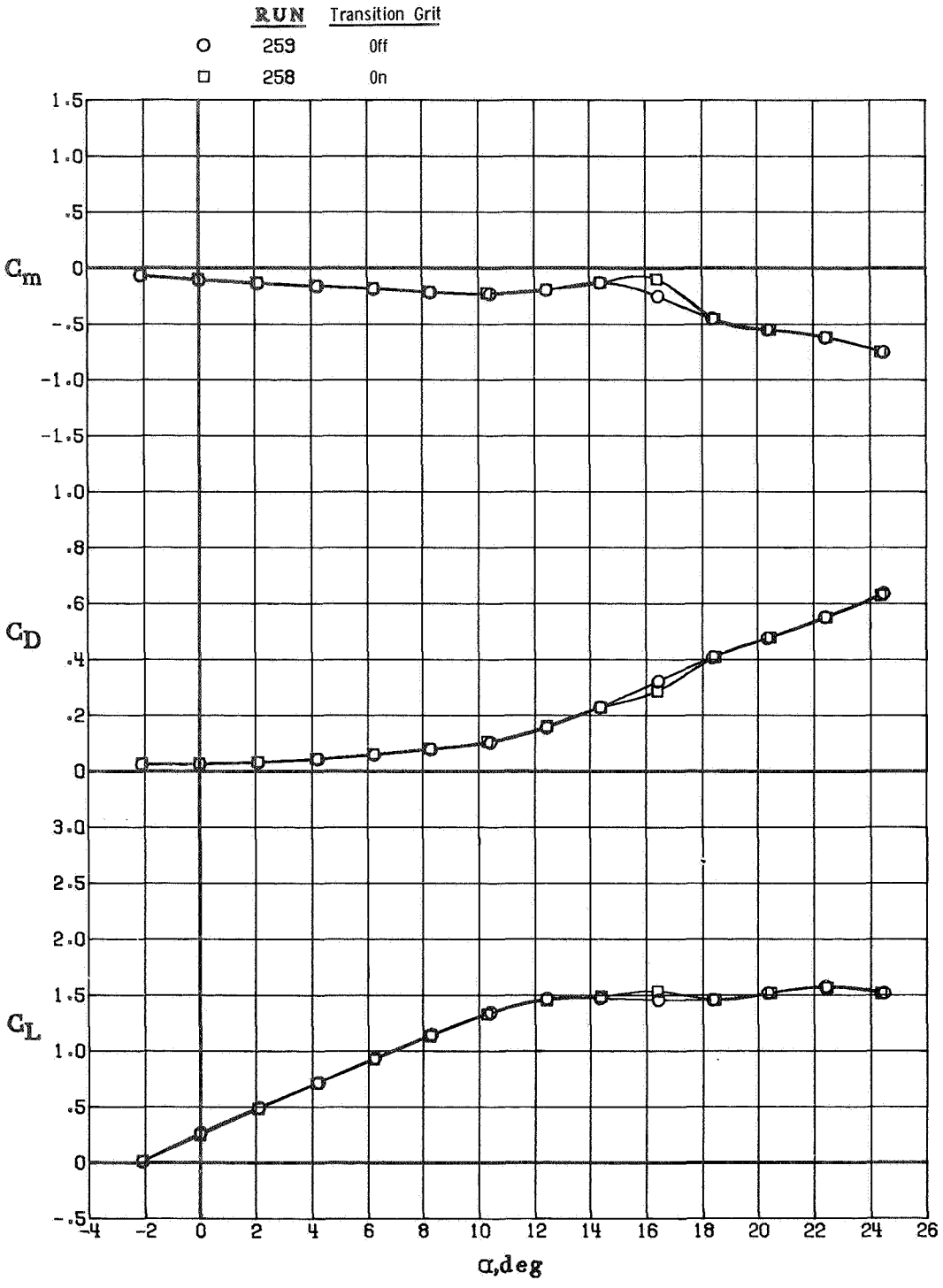


Figure 19.- Effect of landing gear on longitudinal aerodynamic characteristics of aspect-ratio-10 landing wing configuration with tail and nacelles off. $R_{\bar{c}} = 1.63 \times 10^6$.



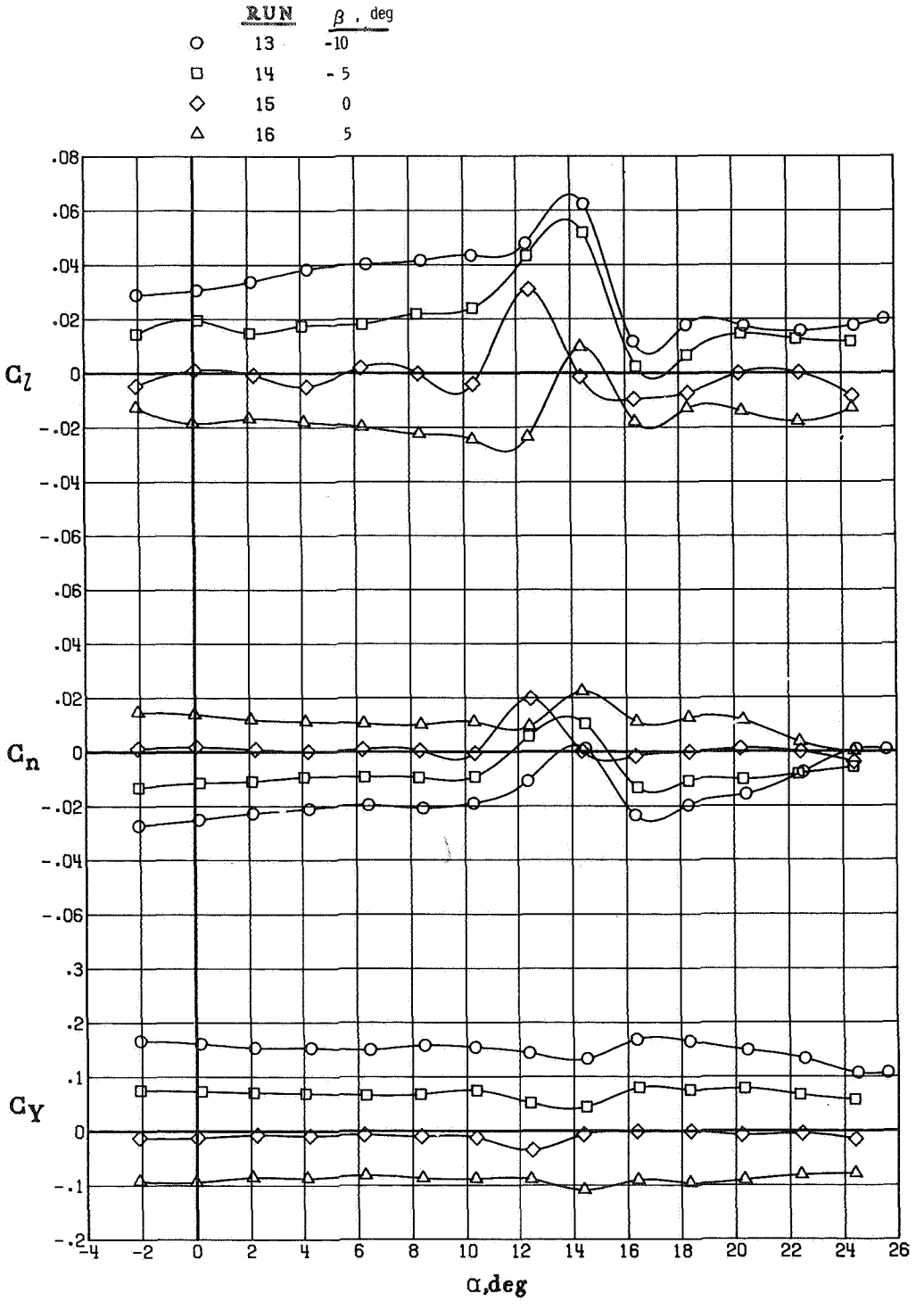
(a) $R_{\bar{c}} = 0.97 \times 10^6$.

Figure 20.- Effect of transition strips on longitudinal aerodynamic characteristics of aspect-ratio-10 cruise wing configuration.



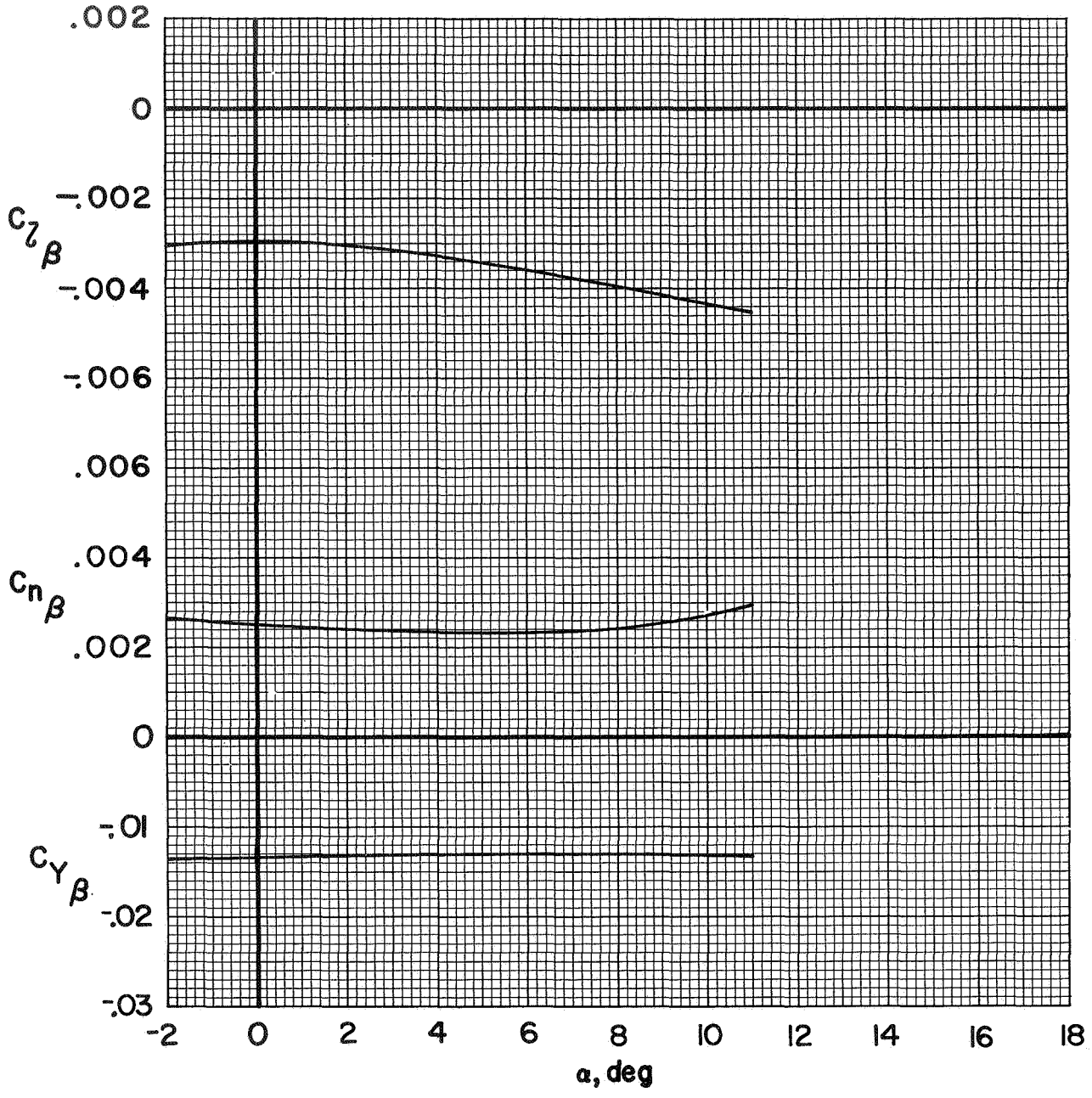
(b) $R_{\bar{c}} = 1.63 \times 10^6$.

Figure 20.- Concluded.



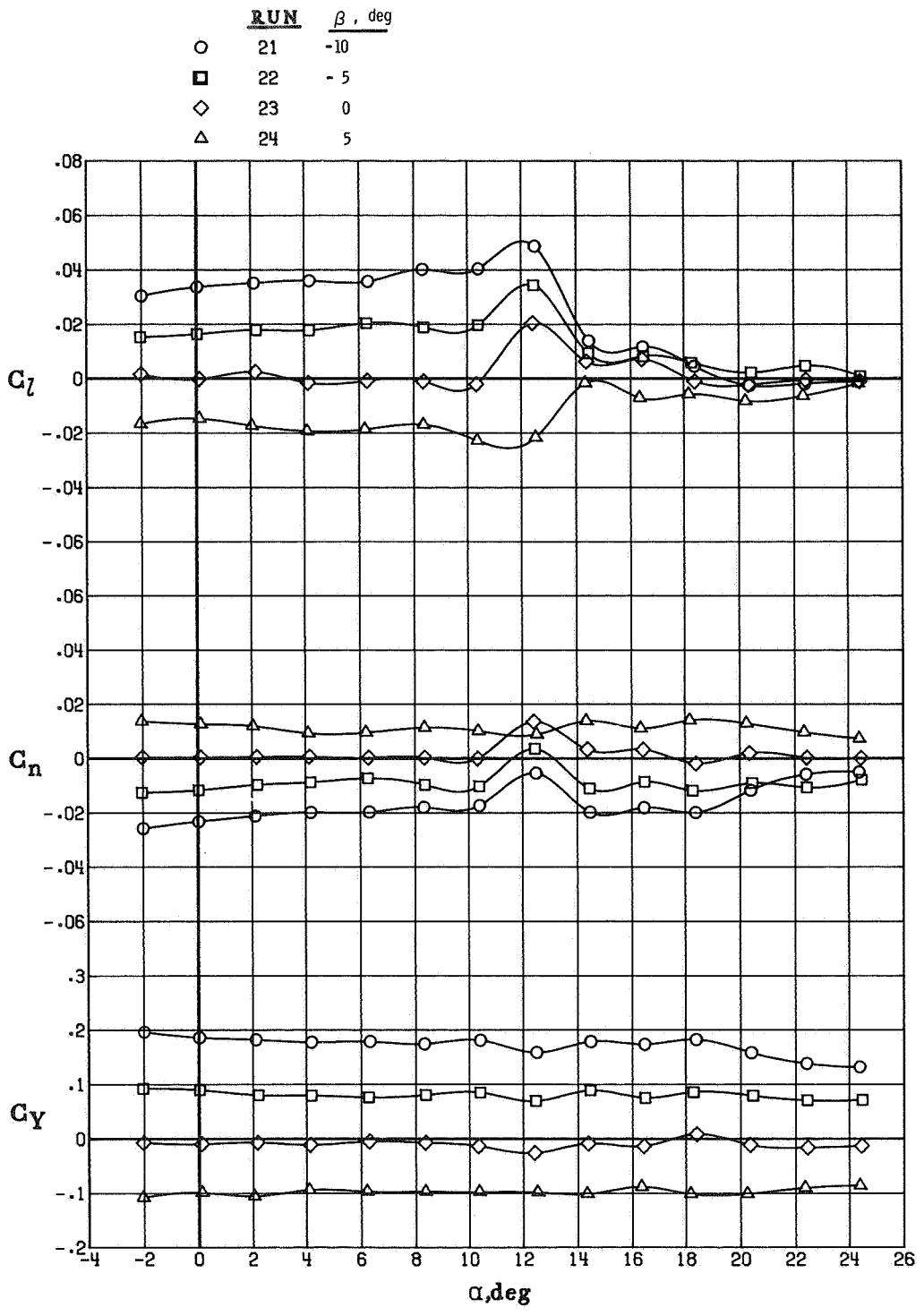
(a) Lateral data for aspect-ratio-10 cruise wing with nacelles off.

Figure 21.- Effect of sideslip on lateral aerodynamic characteristics of cruise wing configurations. $R_{\bar{c}} = 1.35 \times 10^6$.



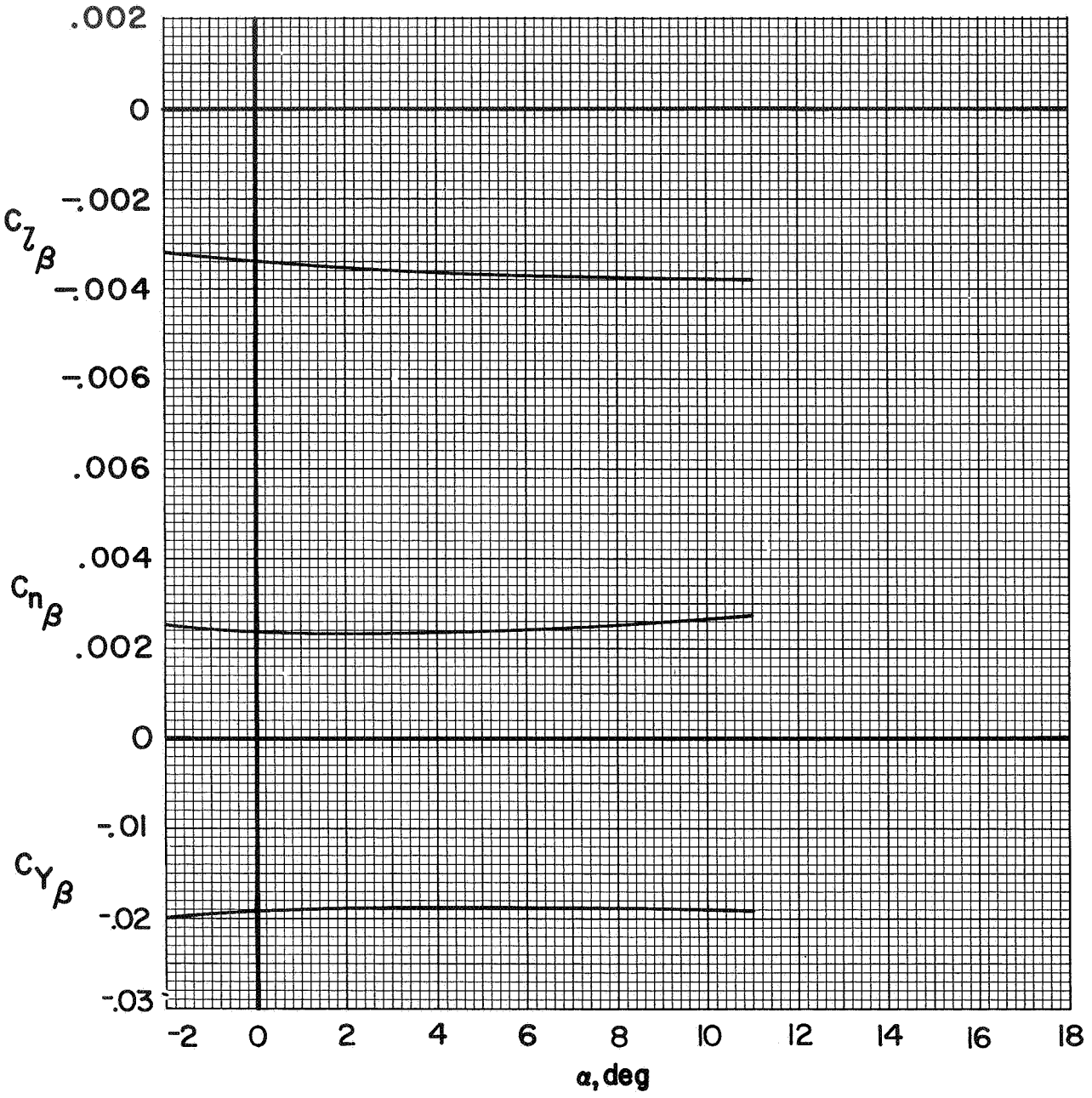
(b) Lateral-stability derivatives for aspect-ratio-10 cruise wing with nacelles off.

Figure 21.- Continued.



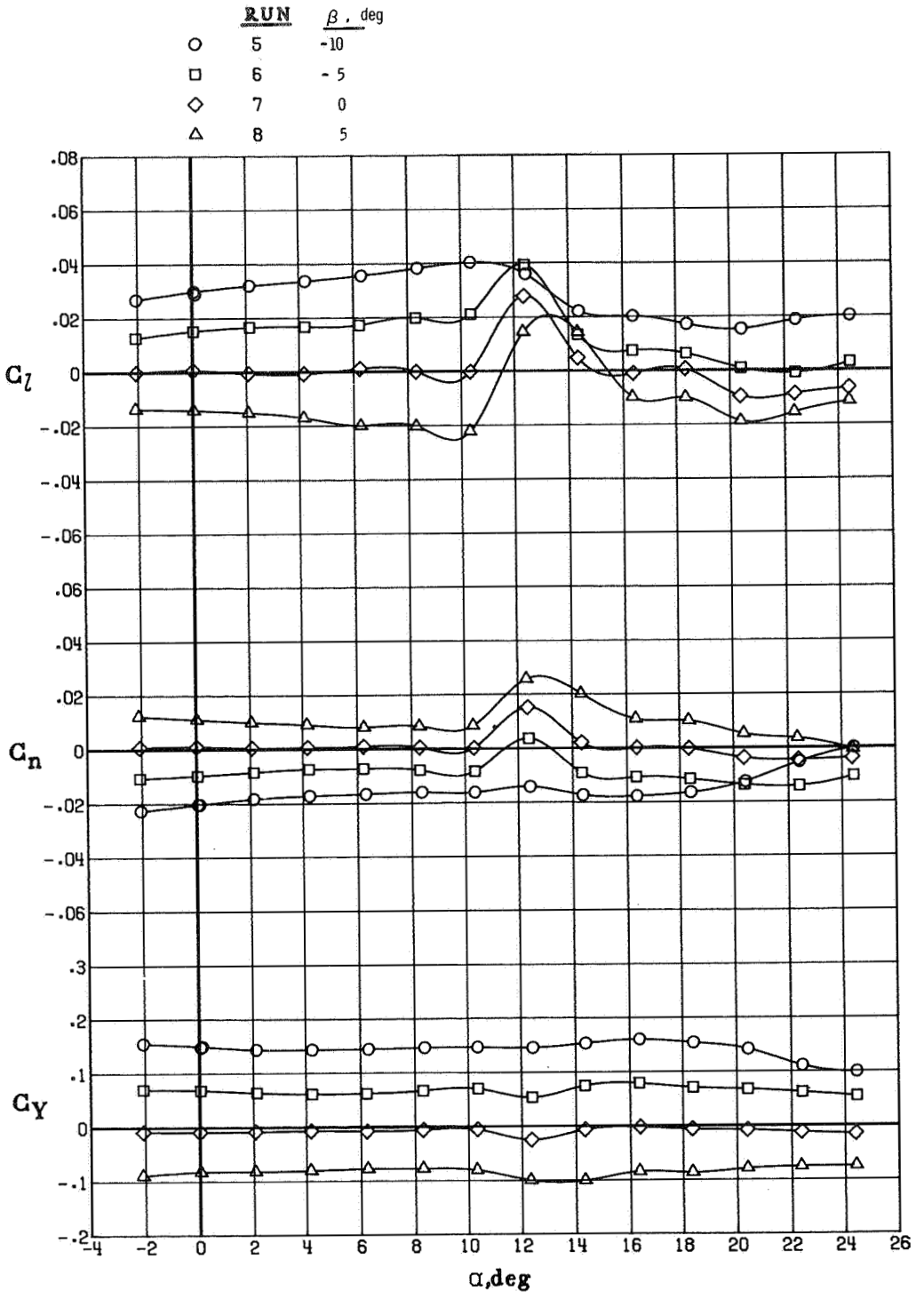
(c) Lateral data for aspect-ratio-10 cruise wing.

Figure 21.- Continued.



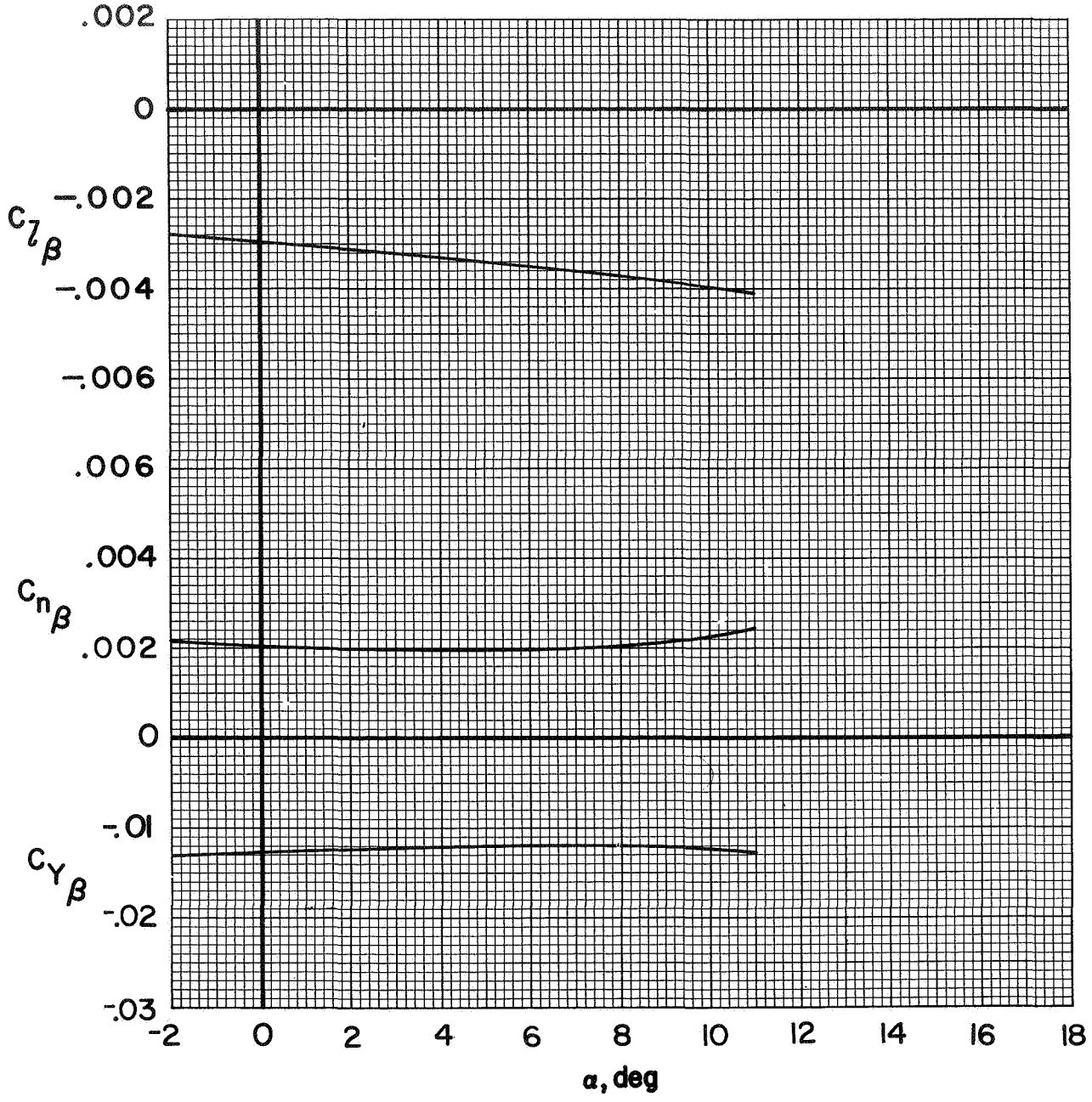
(d) Lateral-stability derivatives for aspect-ratio-10 cruise wing.

Figure 21.- Continued.



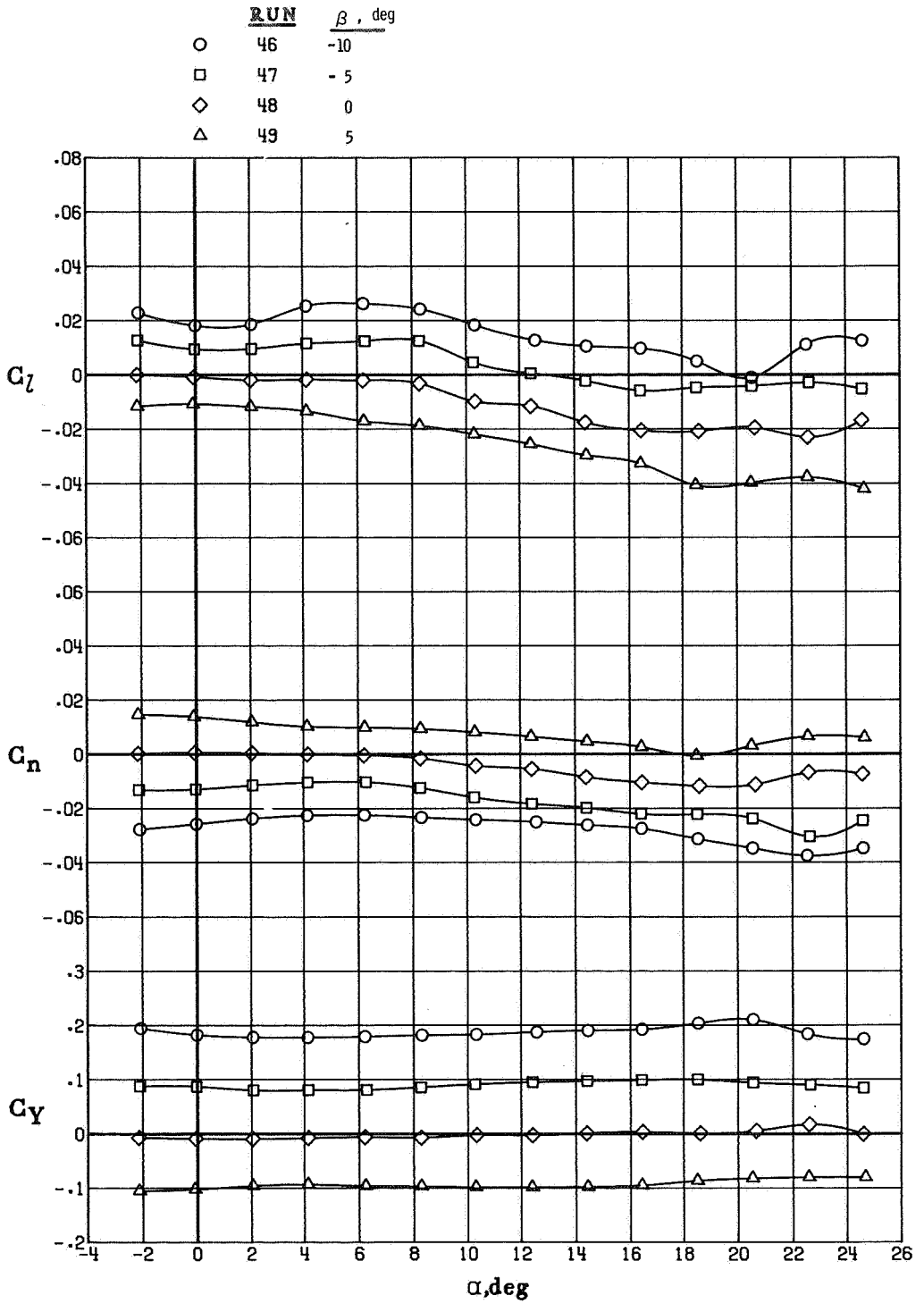
(e) Lateral data for aspect-ratio-12 cruise wing with nacelles off.

Figure 21.- Continued.



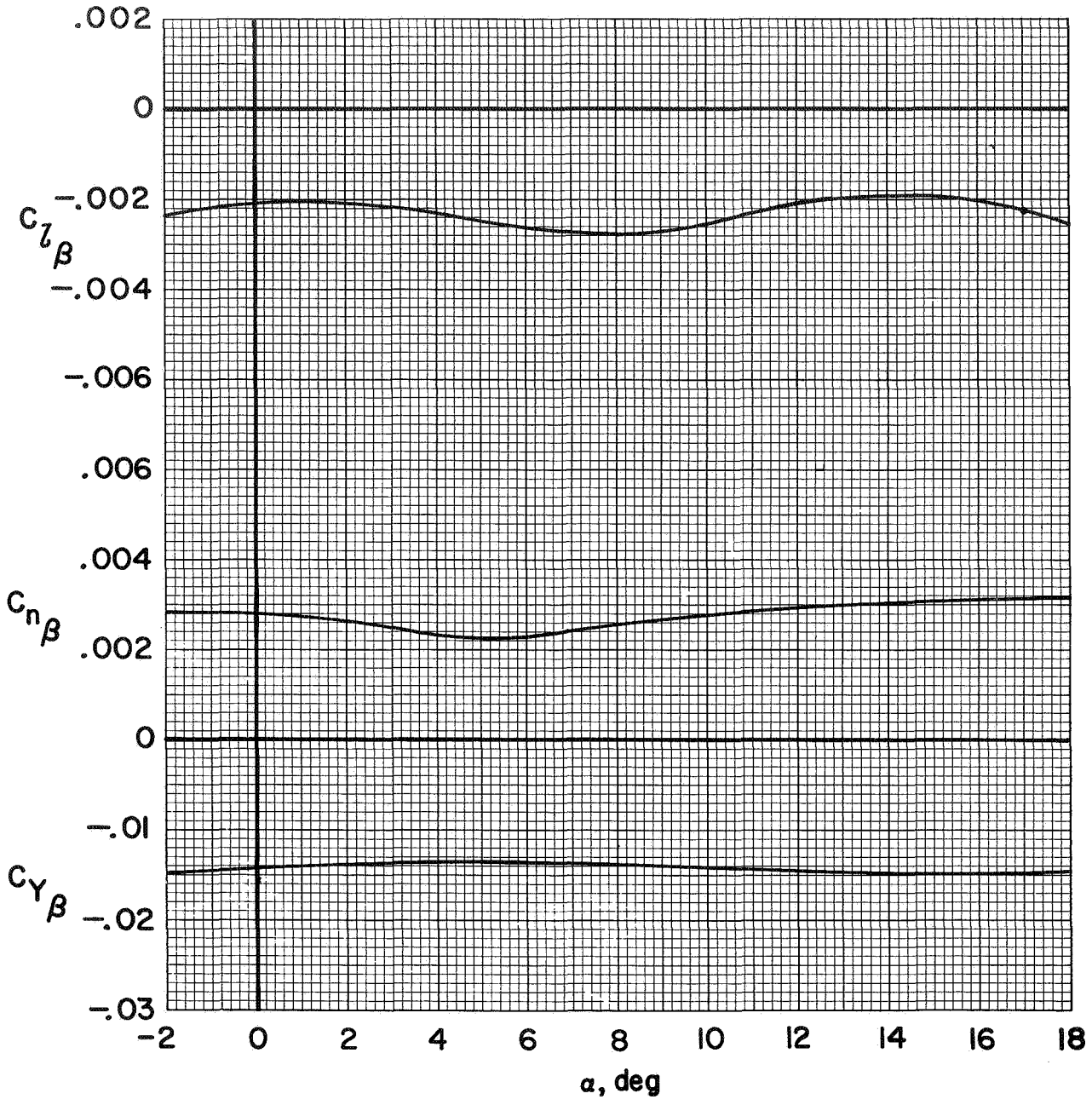
(f) Lateral-stability derivatives for aspect-ratio-12 cruise wing with nacelles off.

Figure 21.- Concluded.



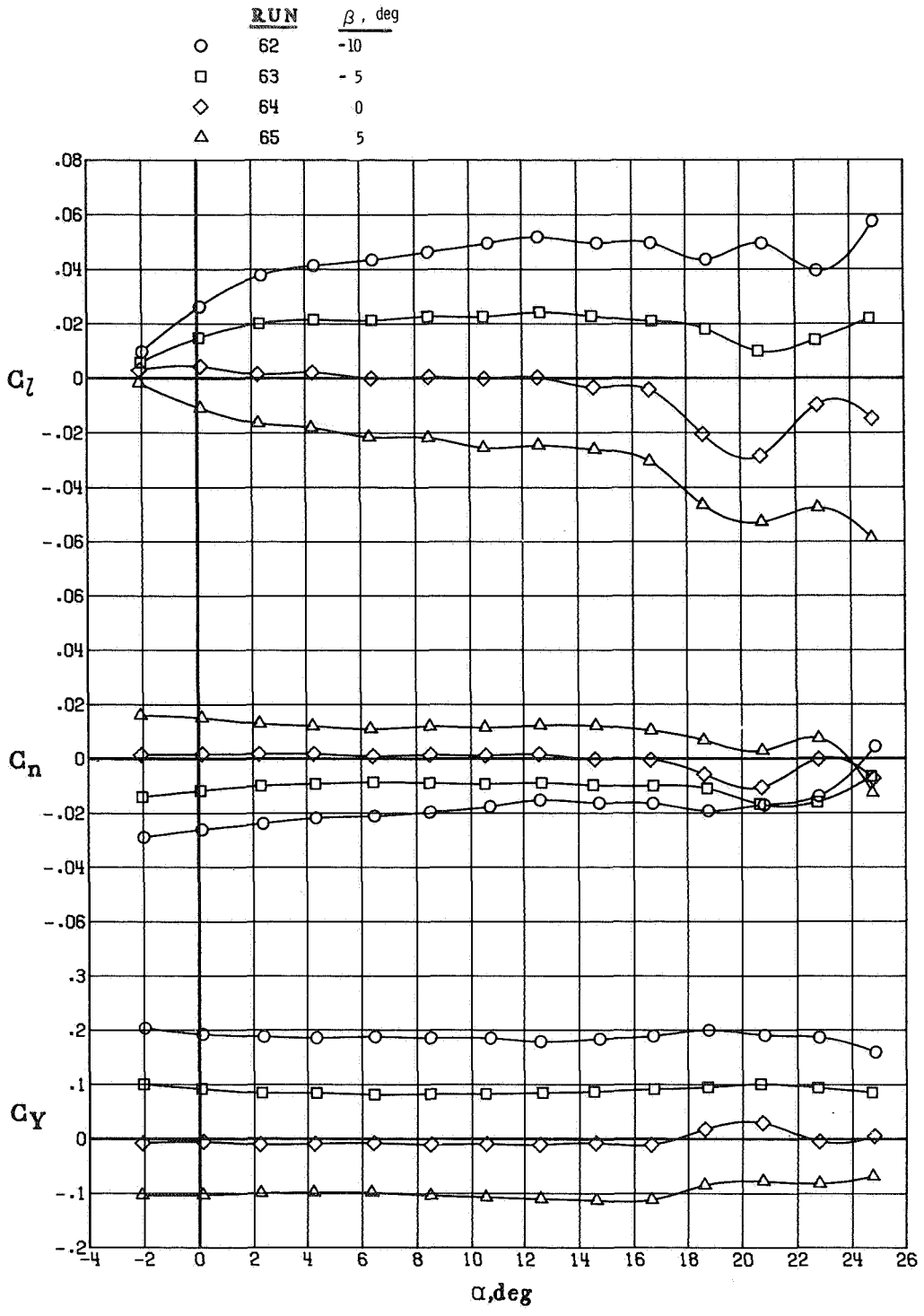
(a) Lateral data for aspect-ratio-10 climb wing.

Figure 22.- Effect of sideslip on lateral aerodynamic characteristics of aspect-ratio-10 climb wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



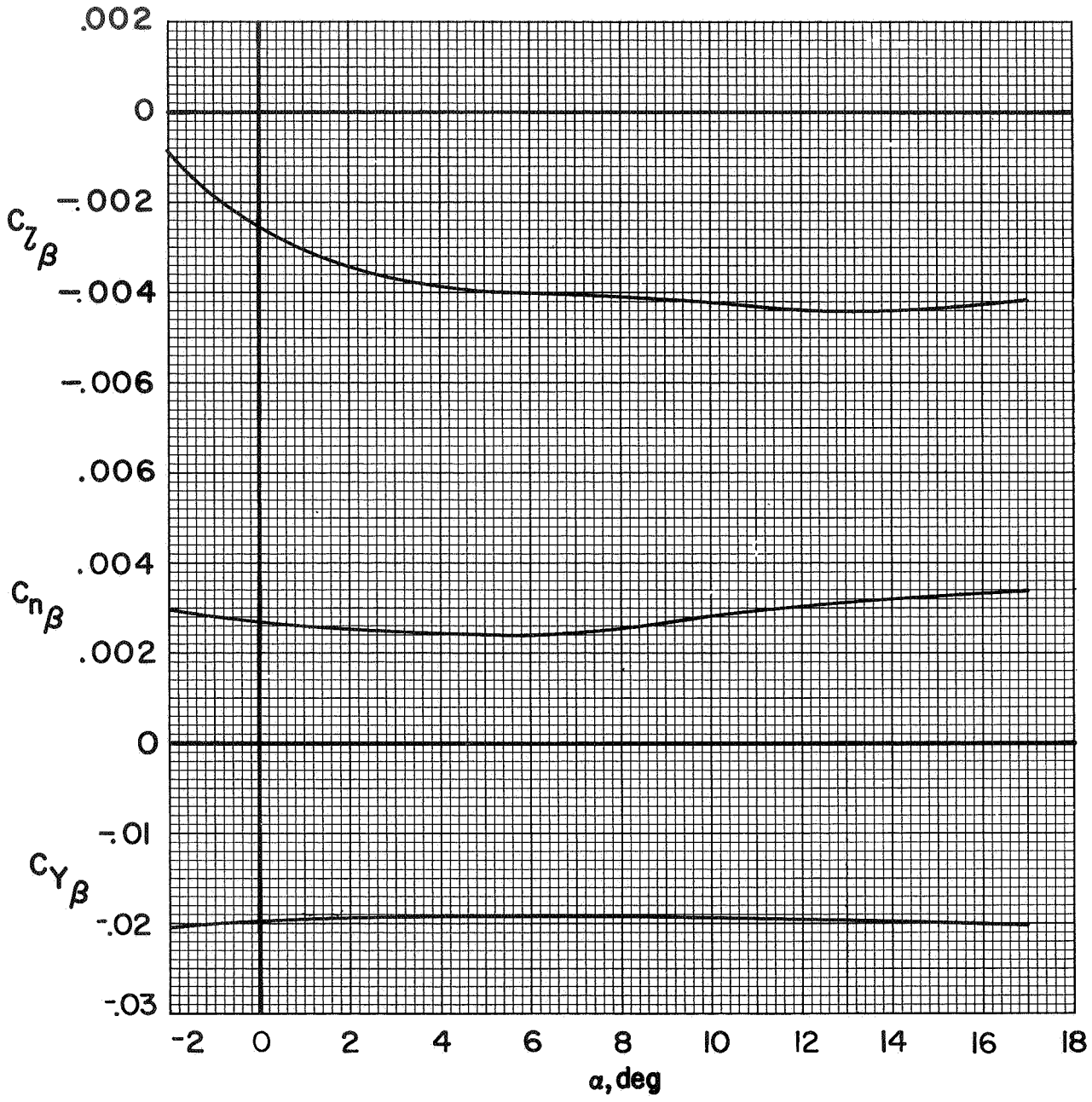
(b) Lateral-stability derivatives for aspect-ratio-10 climb wing.

Figure 22.- Concluded.



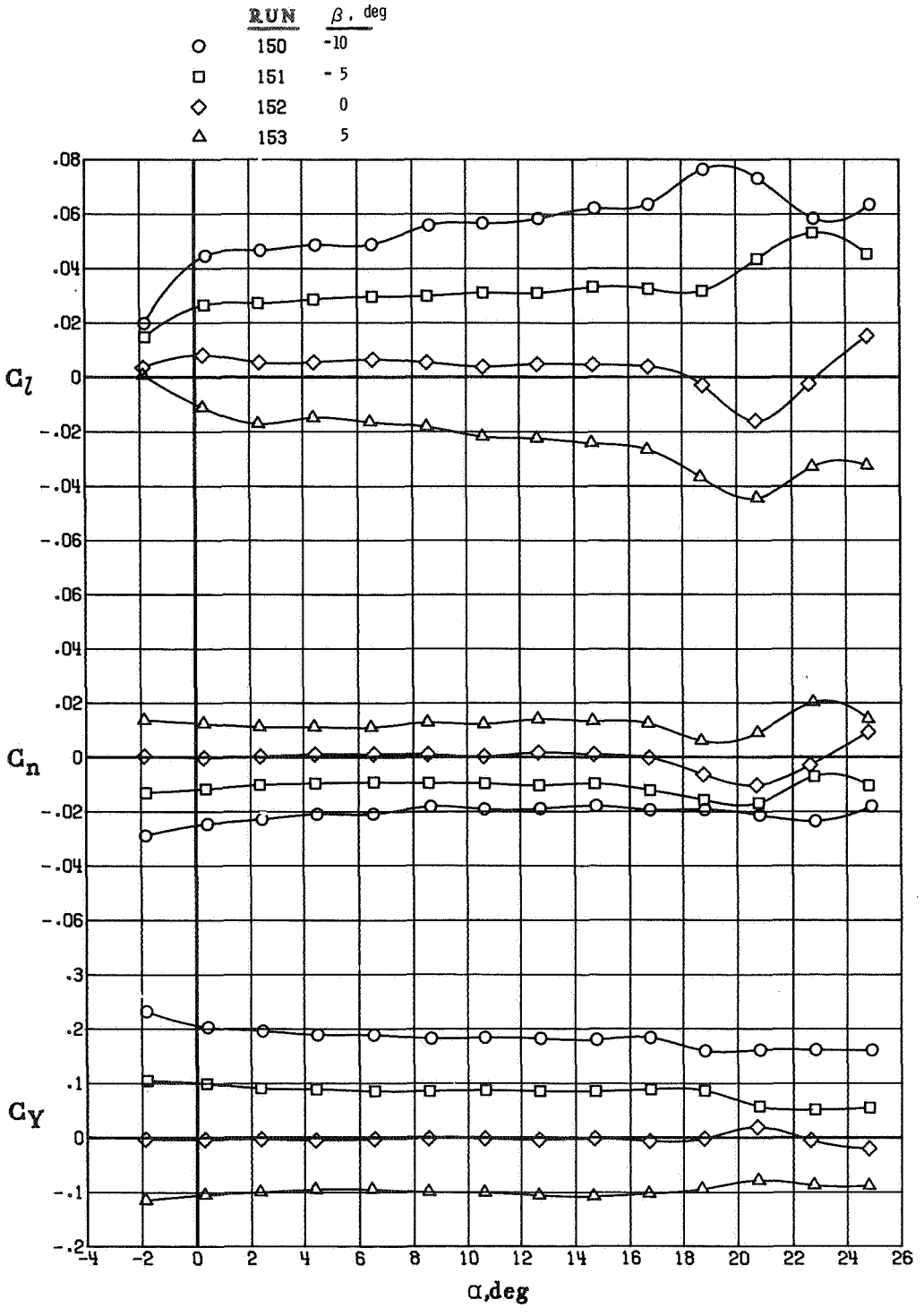
(a) Lateral data for aspect-ratio-10 take-off wing.

Figure 23.- Effect of sideslip on lateral aerodynamic characteristics of aspect-ratio-10 take-off wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



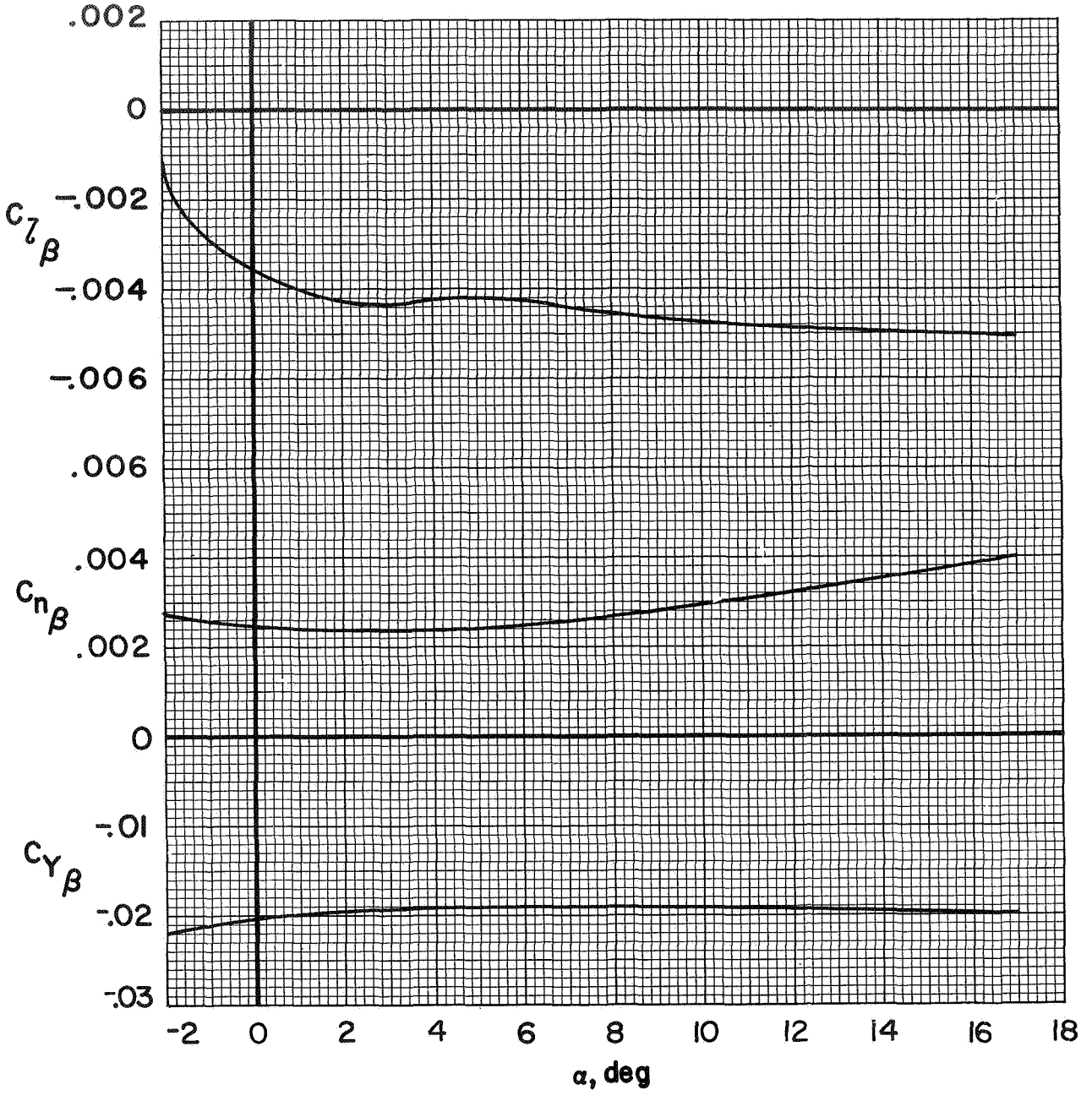
(b) Lateral-stability derivatives for aspect-ratio-10 take-off wing.

Figure 23.- Concluded.



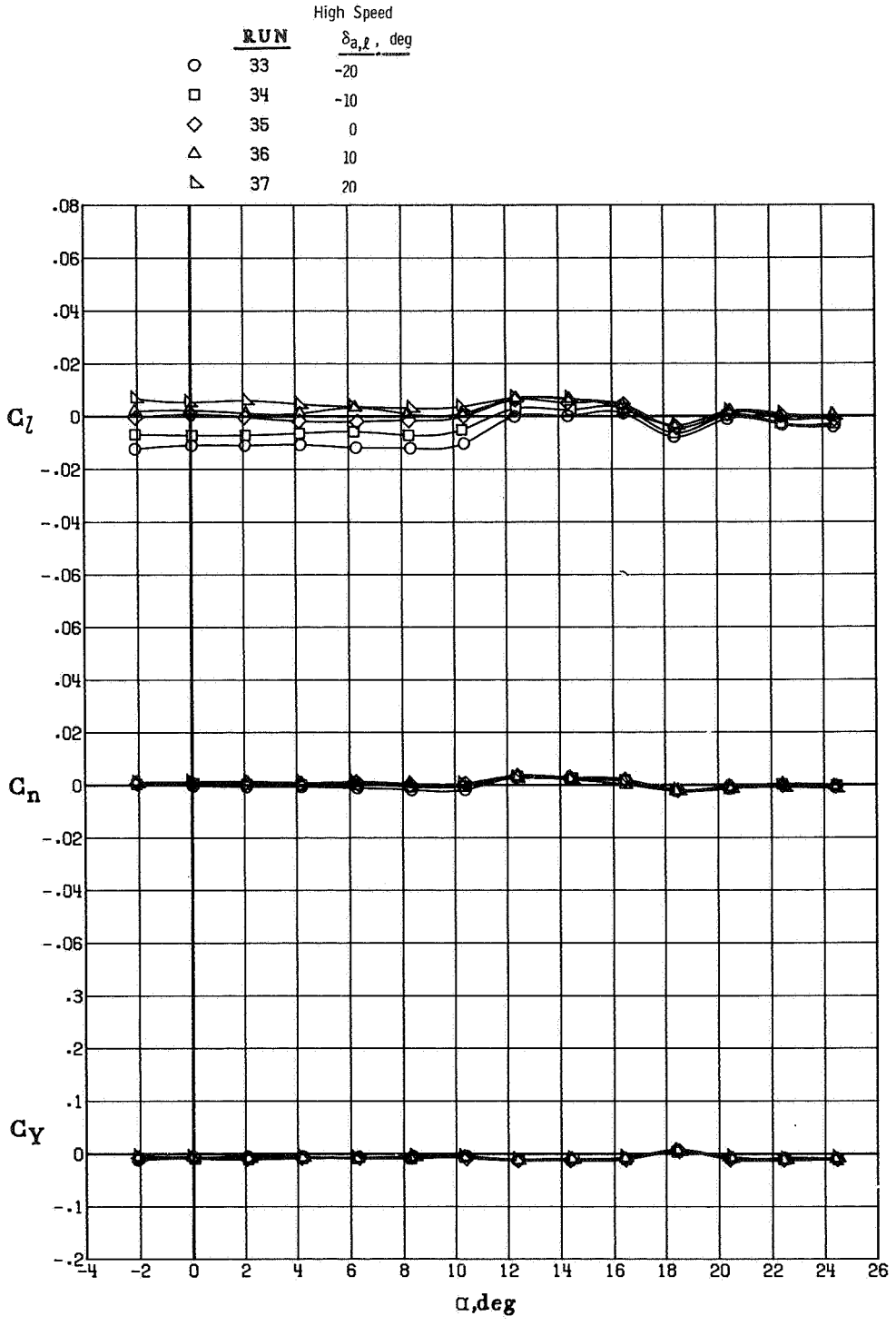
(a) Lateral data for aspect-ratio-10 landing wing.

Figure 24.- Effect of sideslip on lateral aerodynamic characteristics of aspect-ratio-10 landing wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



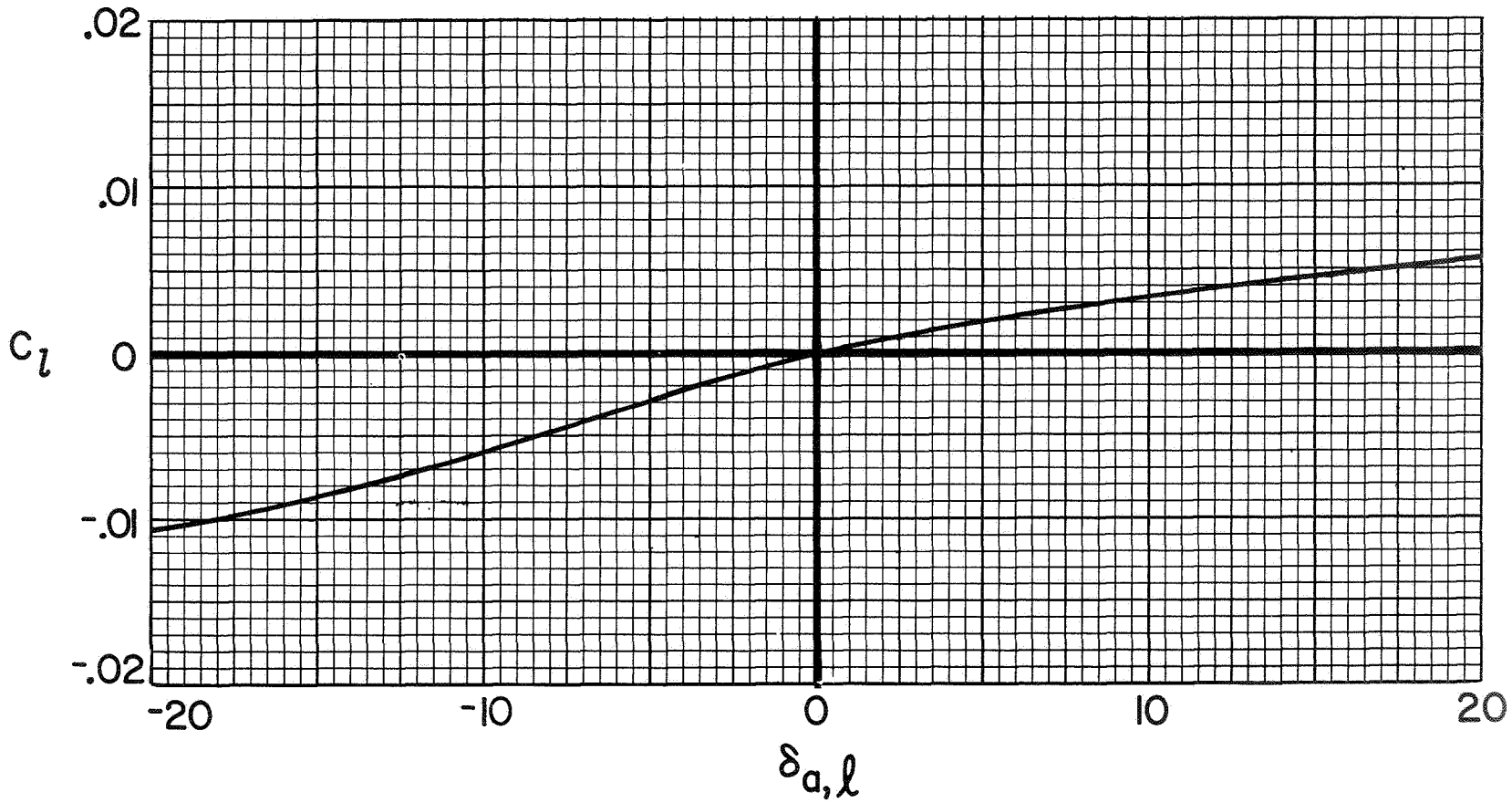
(b) Lateral-stability derivatives for aspect-ratio-10 landing wing.

Figure 24.- Concluded.



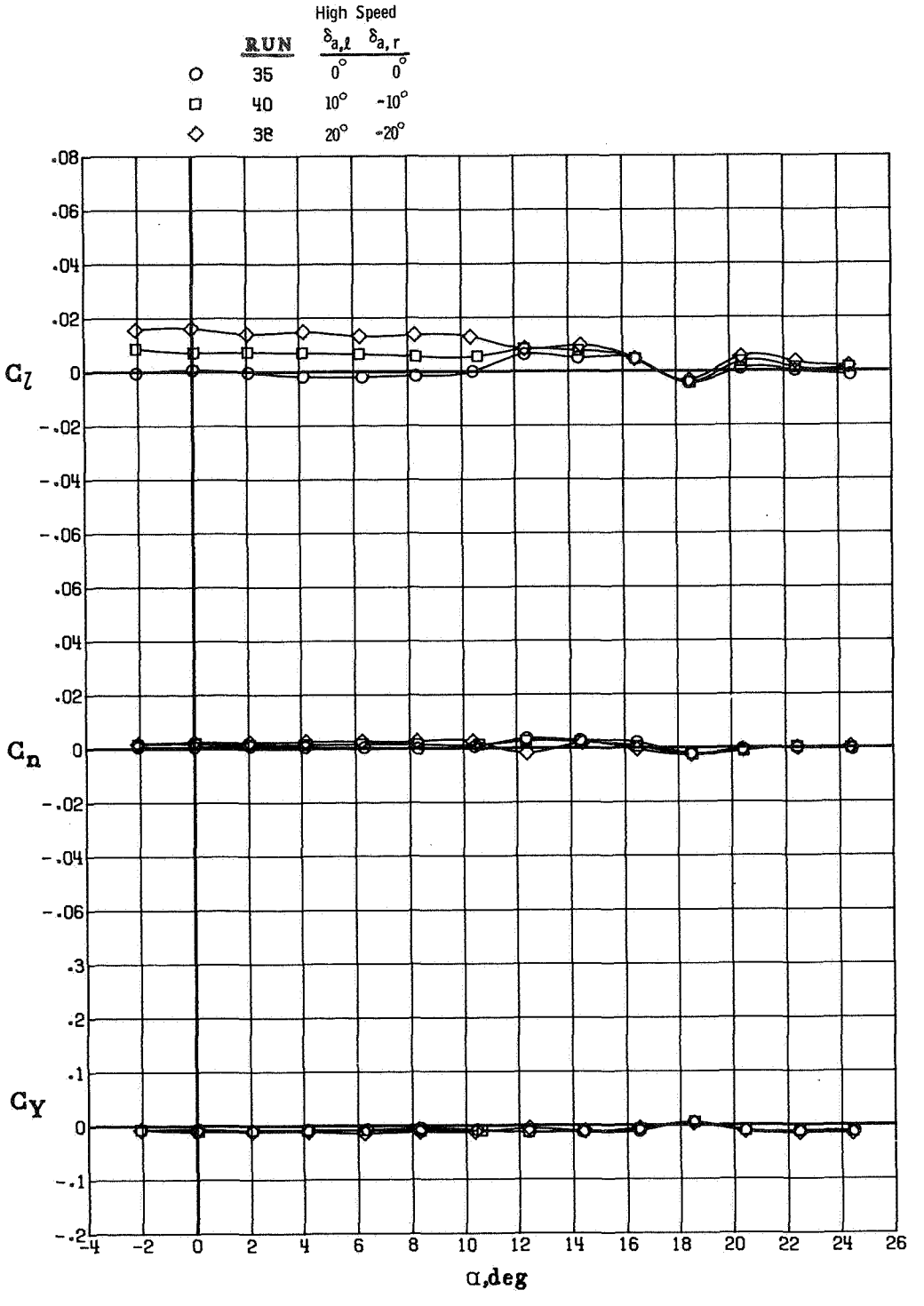
(a) Lateral data with left aileron deflected.

Figure 25.- Effect of high-speed aileron deflection on lateral aerodynamic characteristics of aspect-ratio-10 cruise wing. $R_{\bar{c}} = 1.35 \times 10^6$.



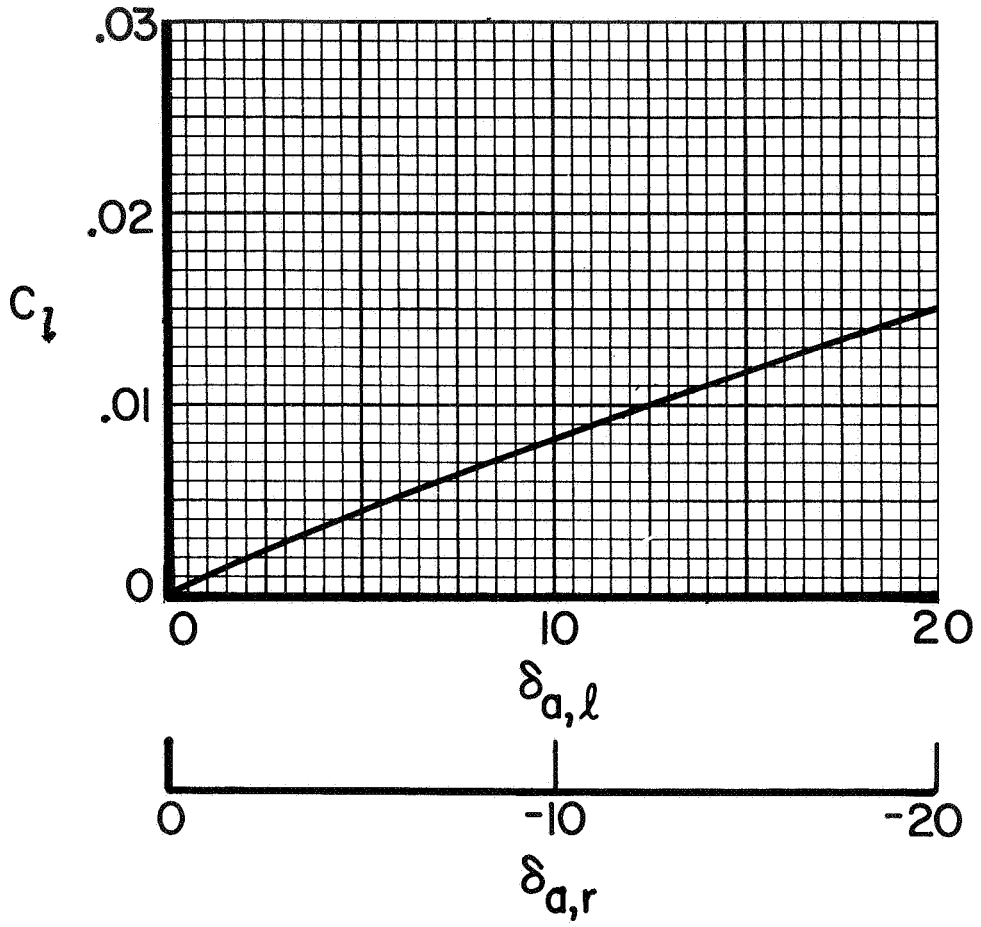
(b) Rolling-moment coefficient versus left aileron deflection for angle-of-attack range of -2° to 10°.

Figure 25.- Continued.



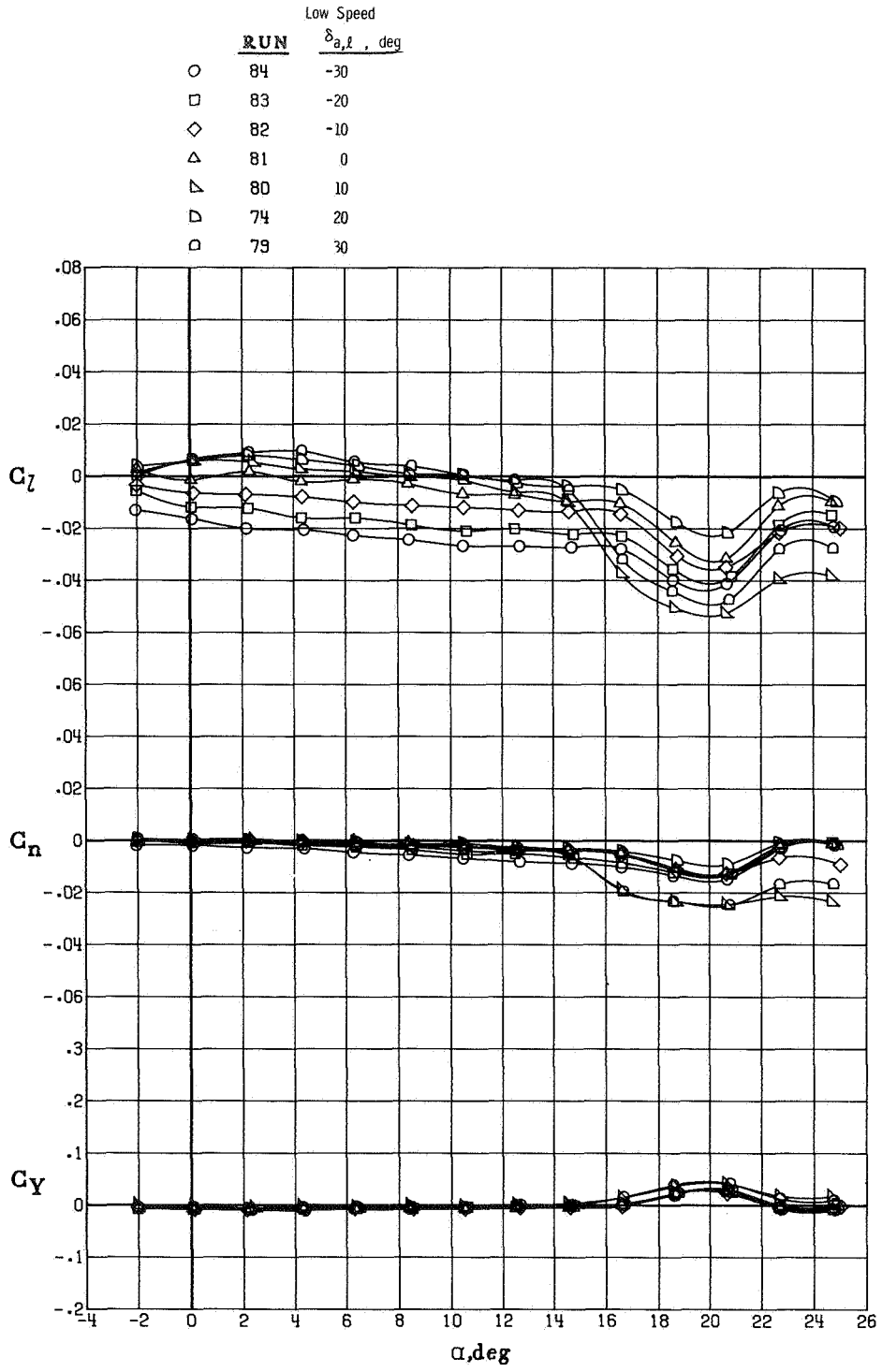
(c) Lateral data with differential deflections of right and left ailerons.

Figure 25.- Continued.



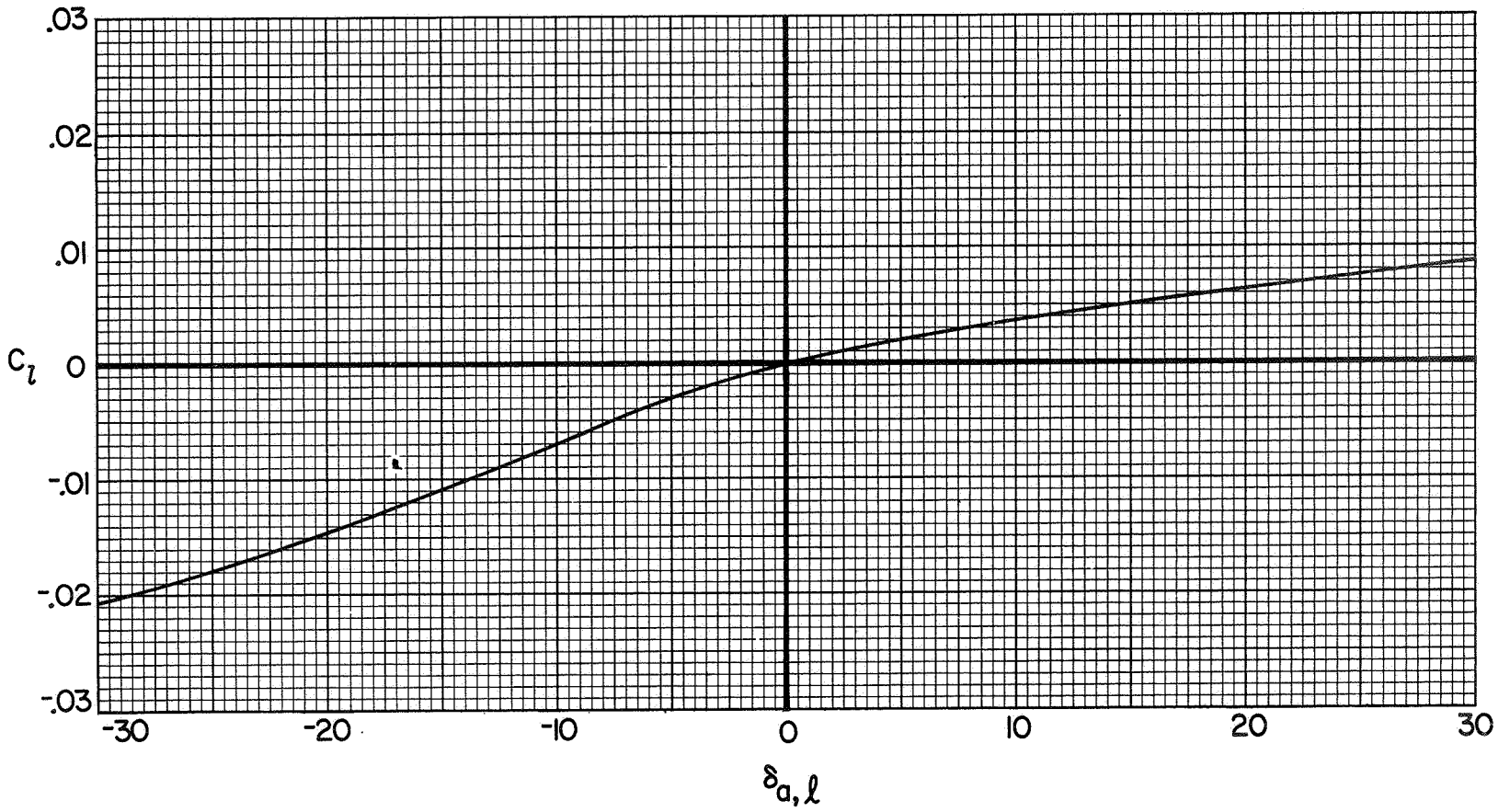
(d) Rolling-moment coefficient versus differential deflections of right and left ailerons for angle-of-attack range of -2^{o} to 10^{o}.

Figure 25.- Concluded.



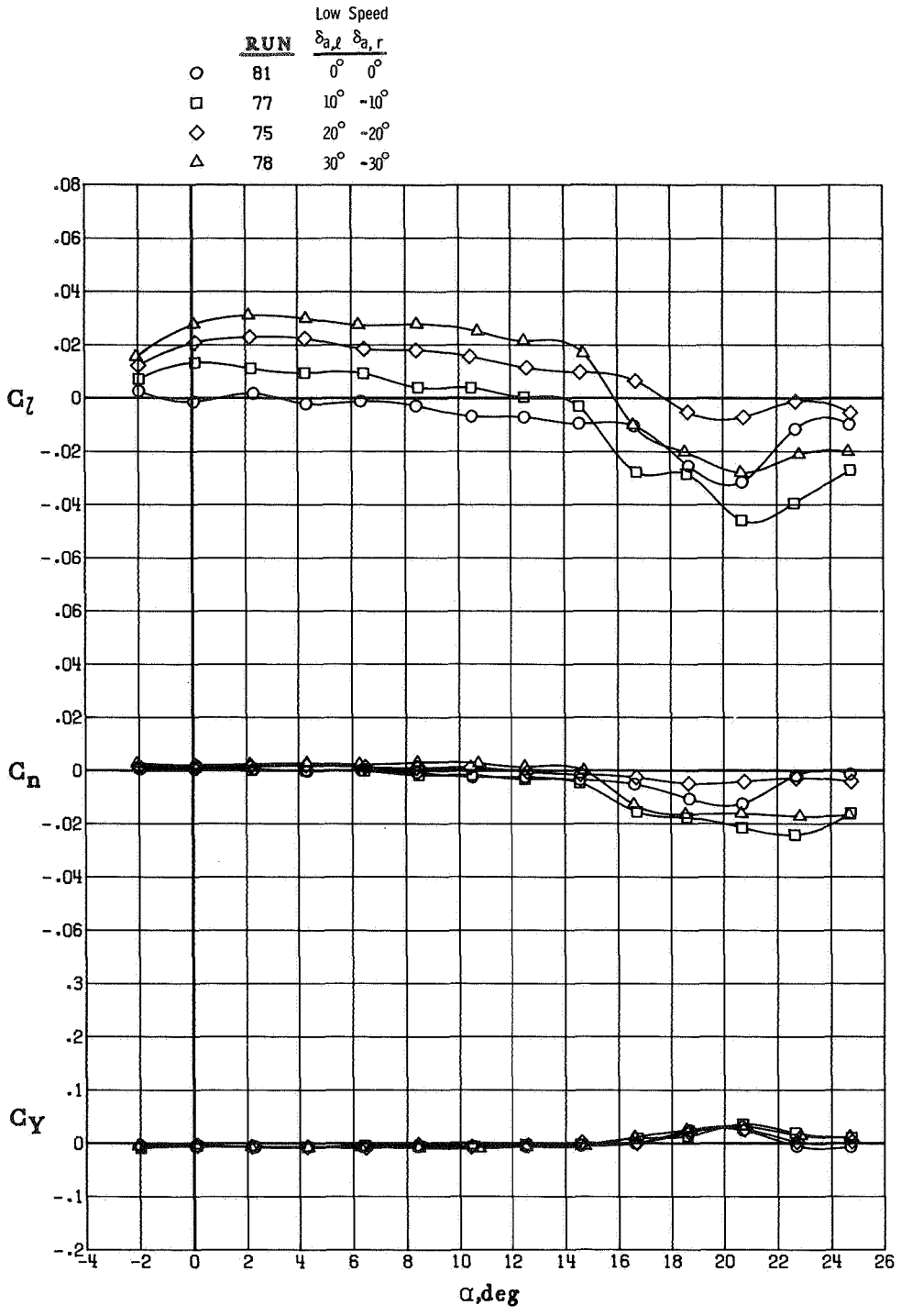
(a) Lateral data with left aileron deflected.

Figure 26.- Effect of low-speed aileron deflection on lateral aerodynamic characteristics of aspect-ratio-10 take-off wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



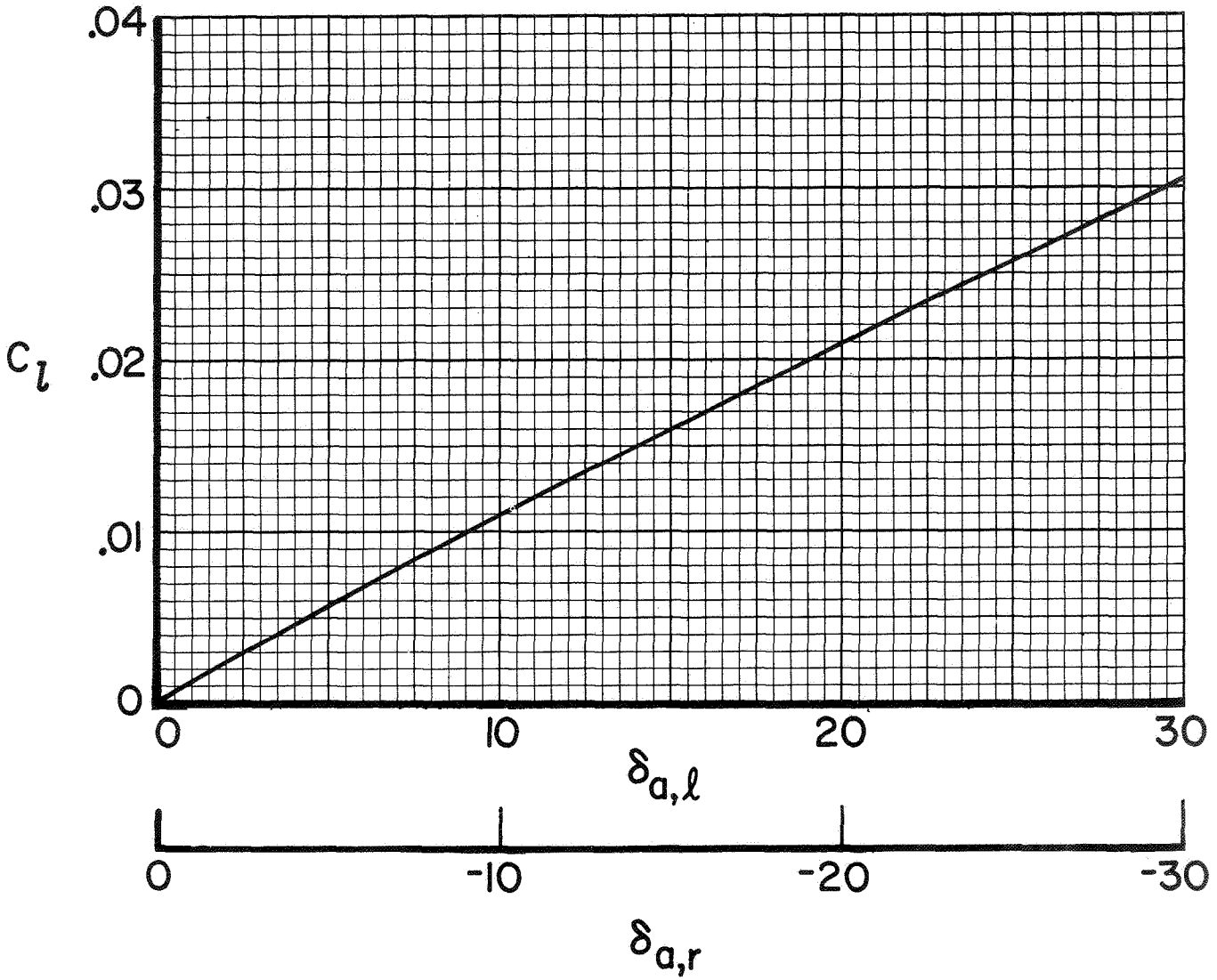
(b) Rolling-moment coefficient versus left aileron deflection for angle-of-attack range of 2^{o} to 12^{o}.

Figure 26.- Continued.



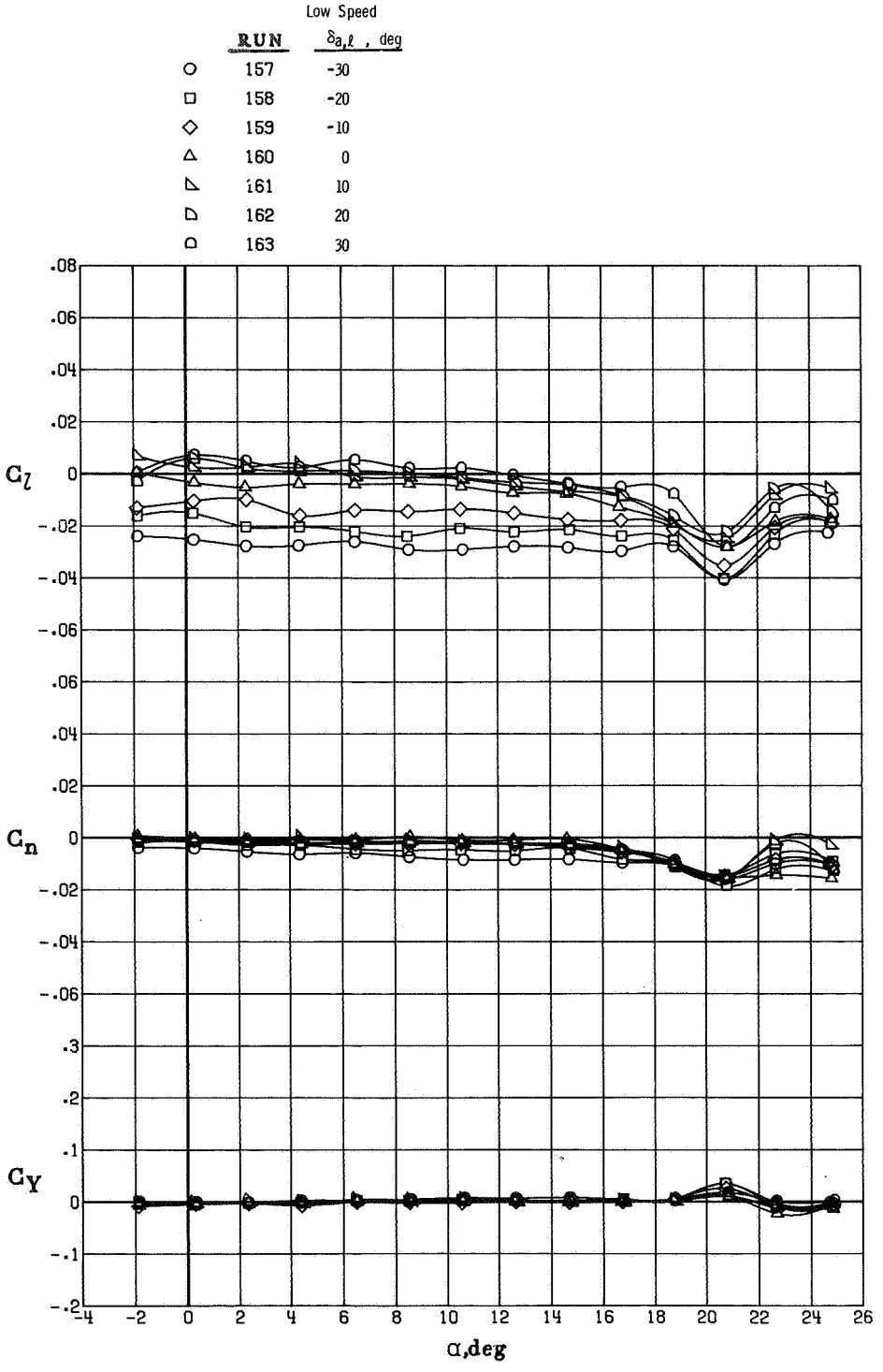
(c) Lateral data with differential deflections of right and left ailerons.

Figure 26.- Continued.



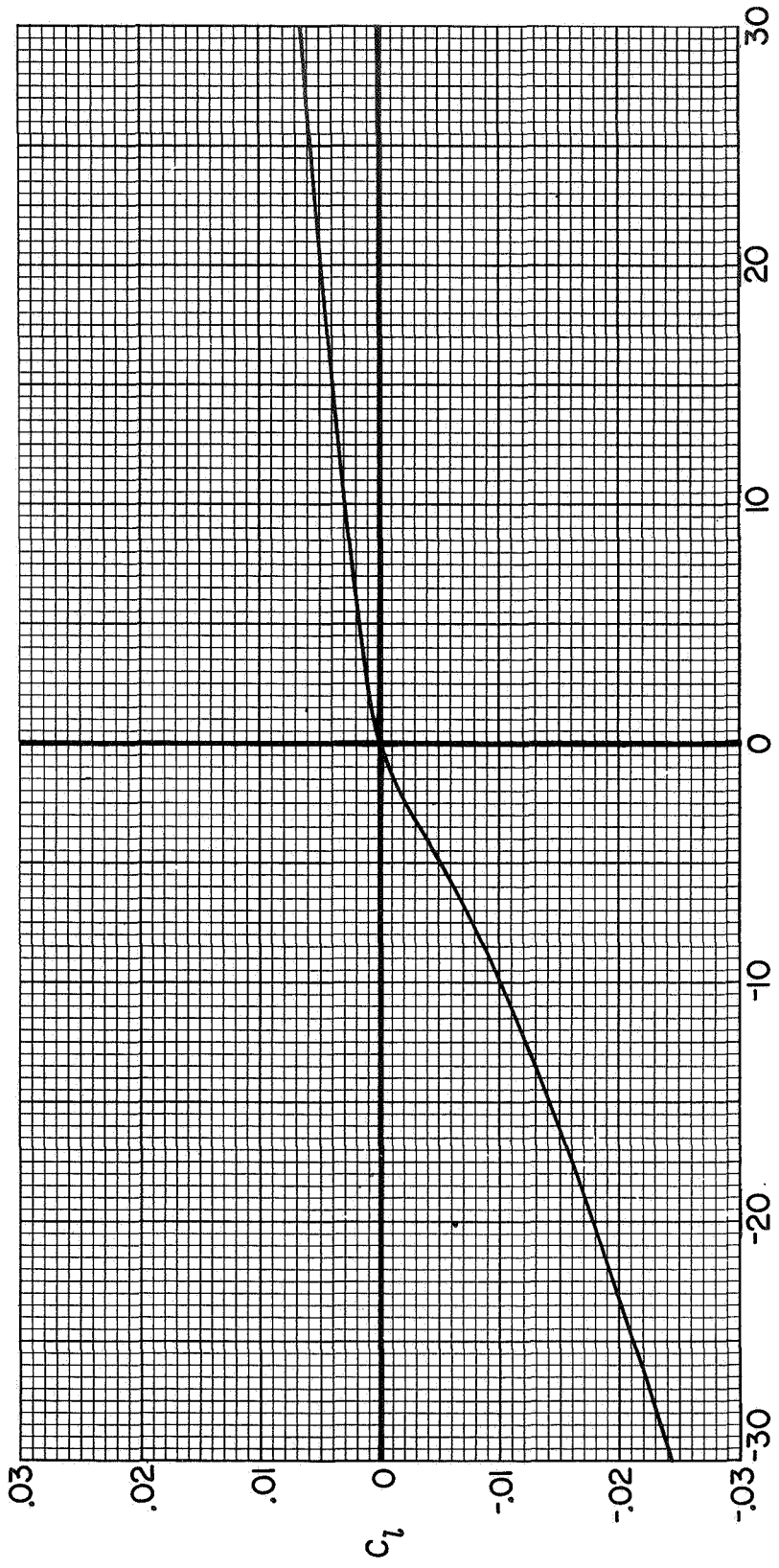
(d) Rolling-moment coefficient versus differential deflections of right and left ailerons for angle-of-attack range of 2^o to 12^o.

Figure 26.- Concluded.



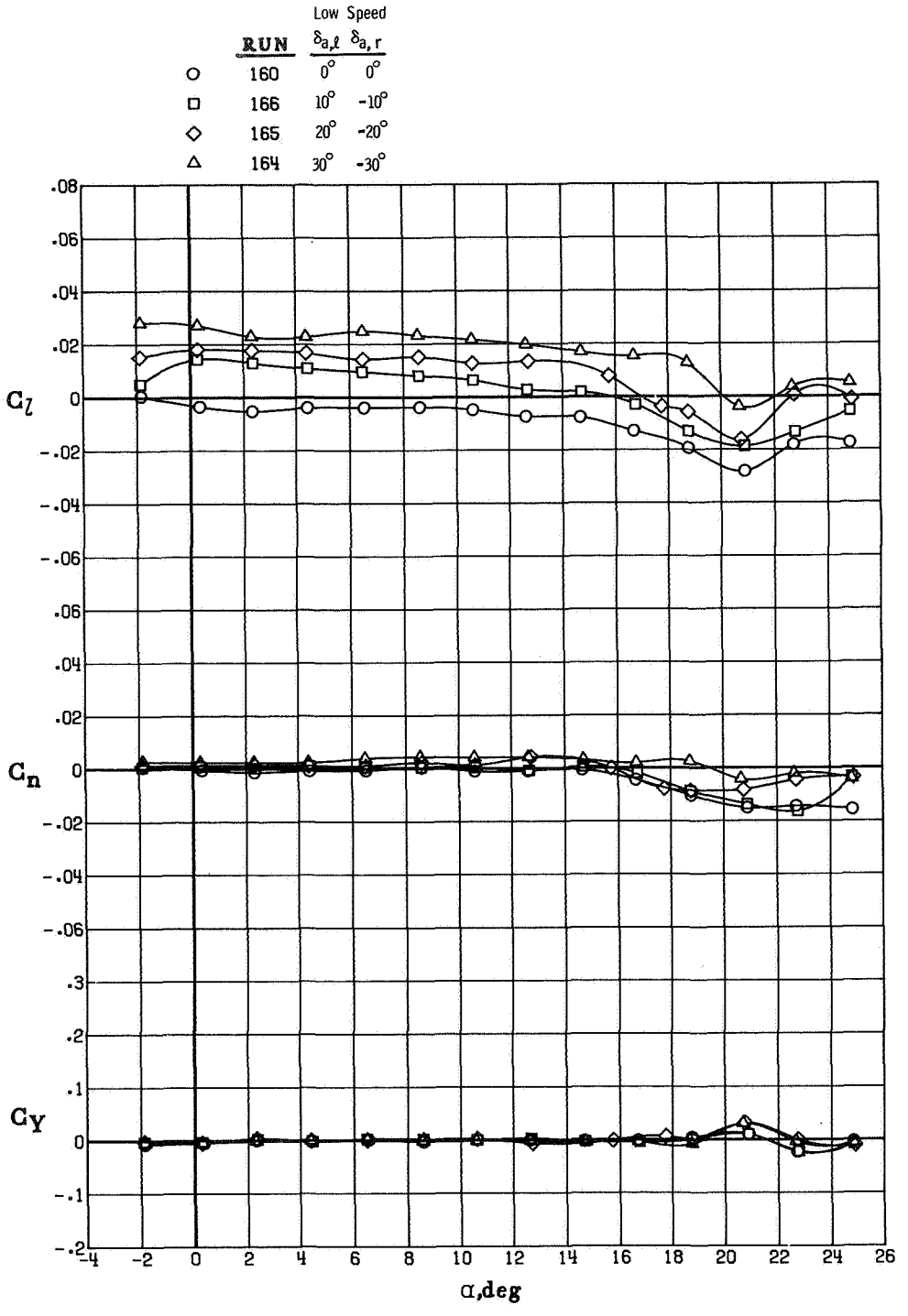
(a) Lateral data with left aileron deflected.

Figure 27.- Effect of low-speed aileron deflection on lateral aerodynamic characteristics of aspect-ratio-10 landing wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



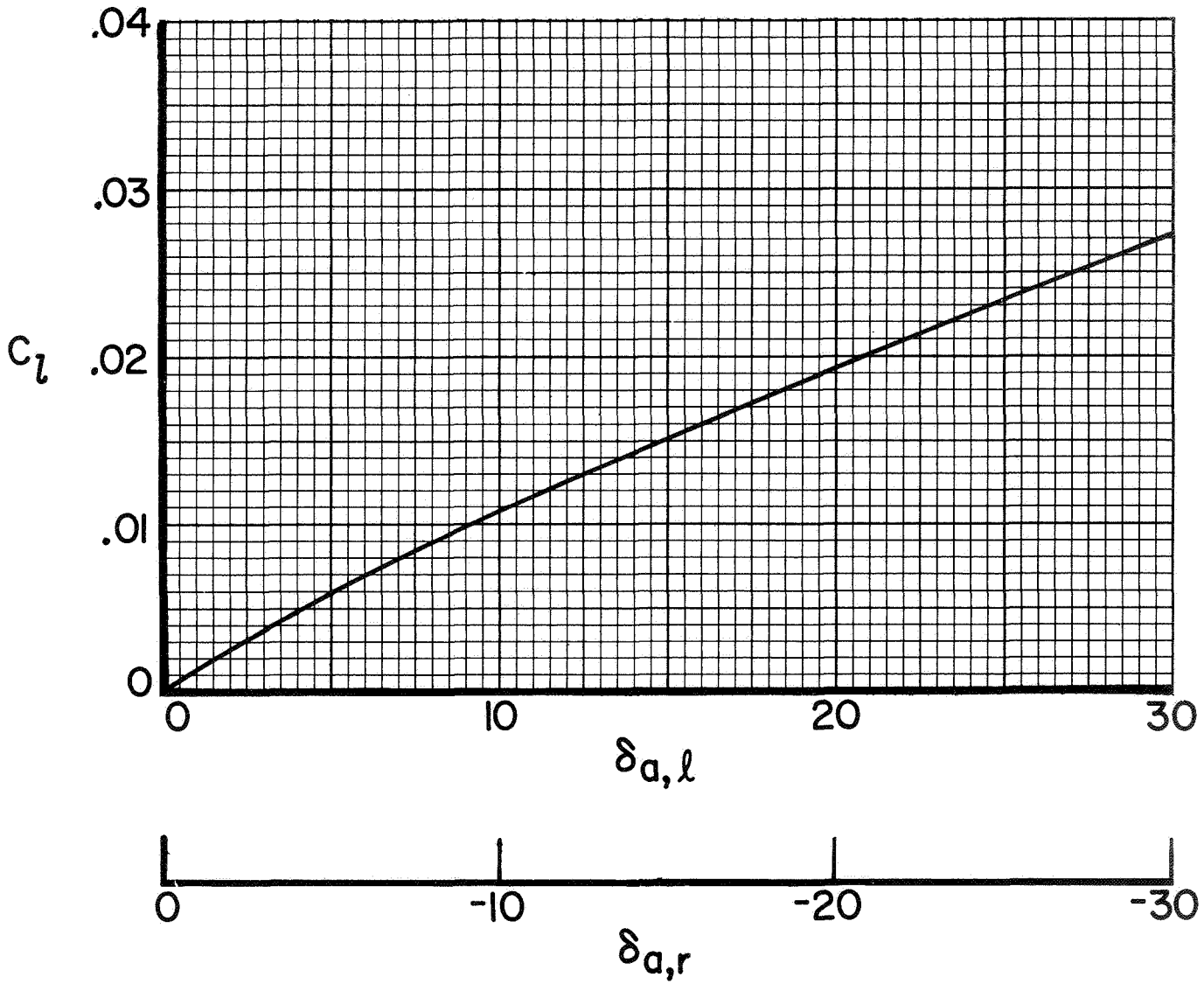
(b) Rolling-moment coefficient versus left aileron deflection for angle-of-attack range of 2° to 12°.

Figure 27.- Continued.



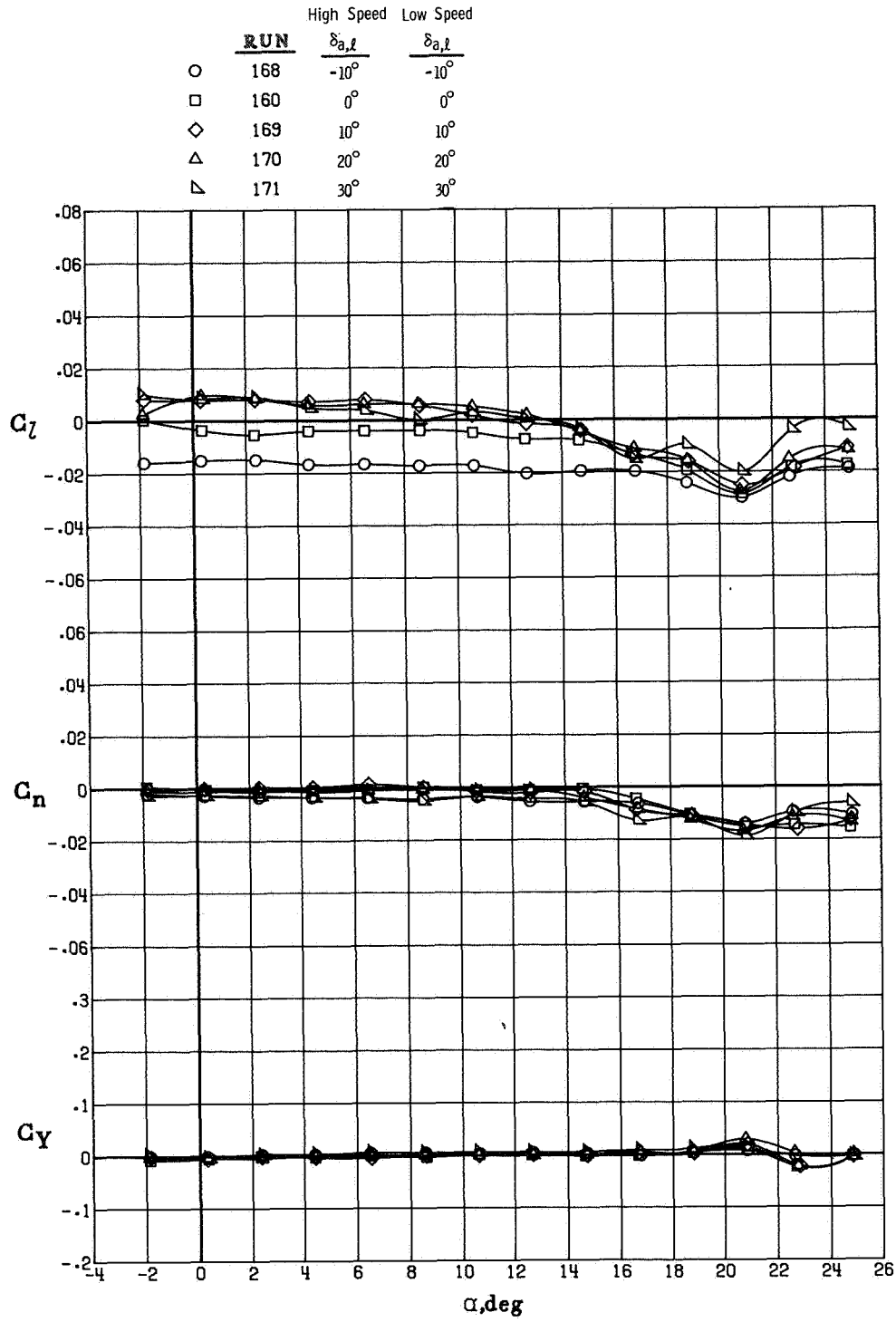
(c) Lateral data with differential deflections of right and left ailerons.

Figure 27.- Continued.



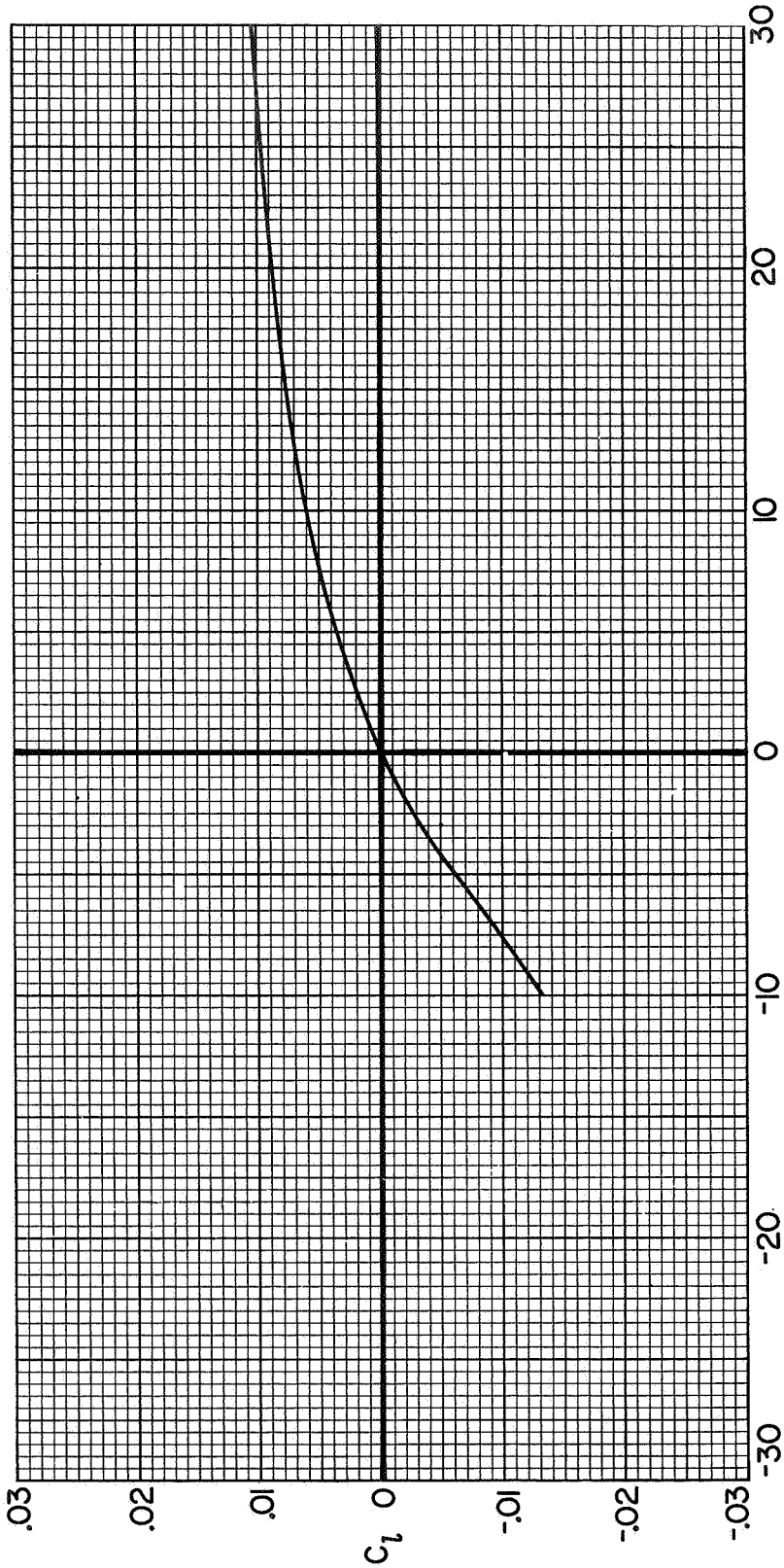
(d) Rolling-moment coefficient versus differential deflections of right and left ailerons for angle-of-attack range of 2° to 12°.

Figure 27.- Concluded.



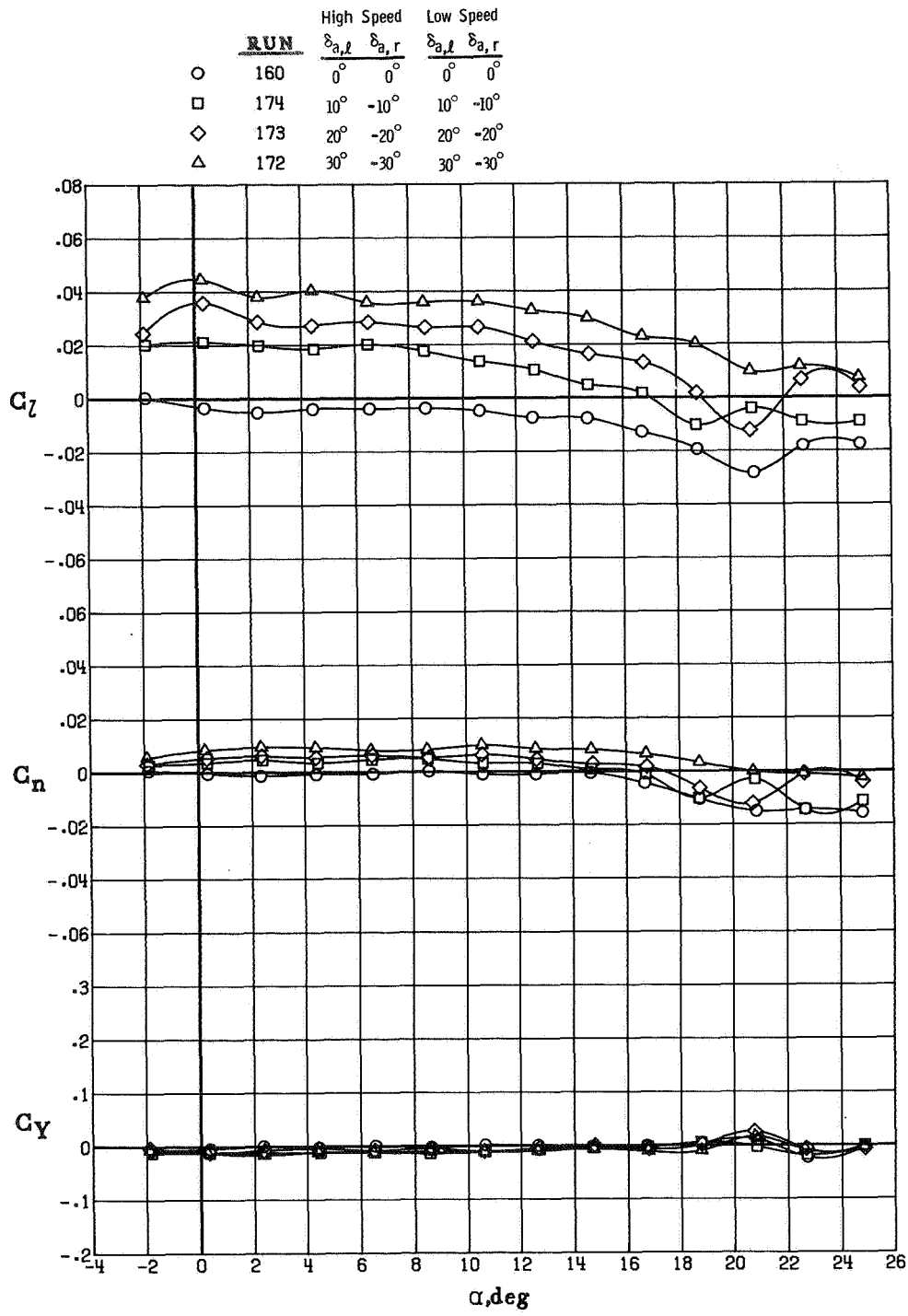
(a) Lateral data with left ailerons deflected.

Figure 28.- Effects of combined low- and high-speed aileron deflections on lateral aerodynamic characteristics of aspect-ratio-10 landing wing configuration. $R_{\bar{c}} = 1.35 \times 10^6$.



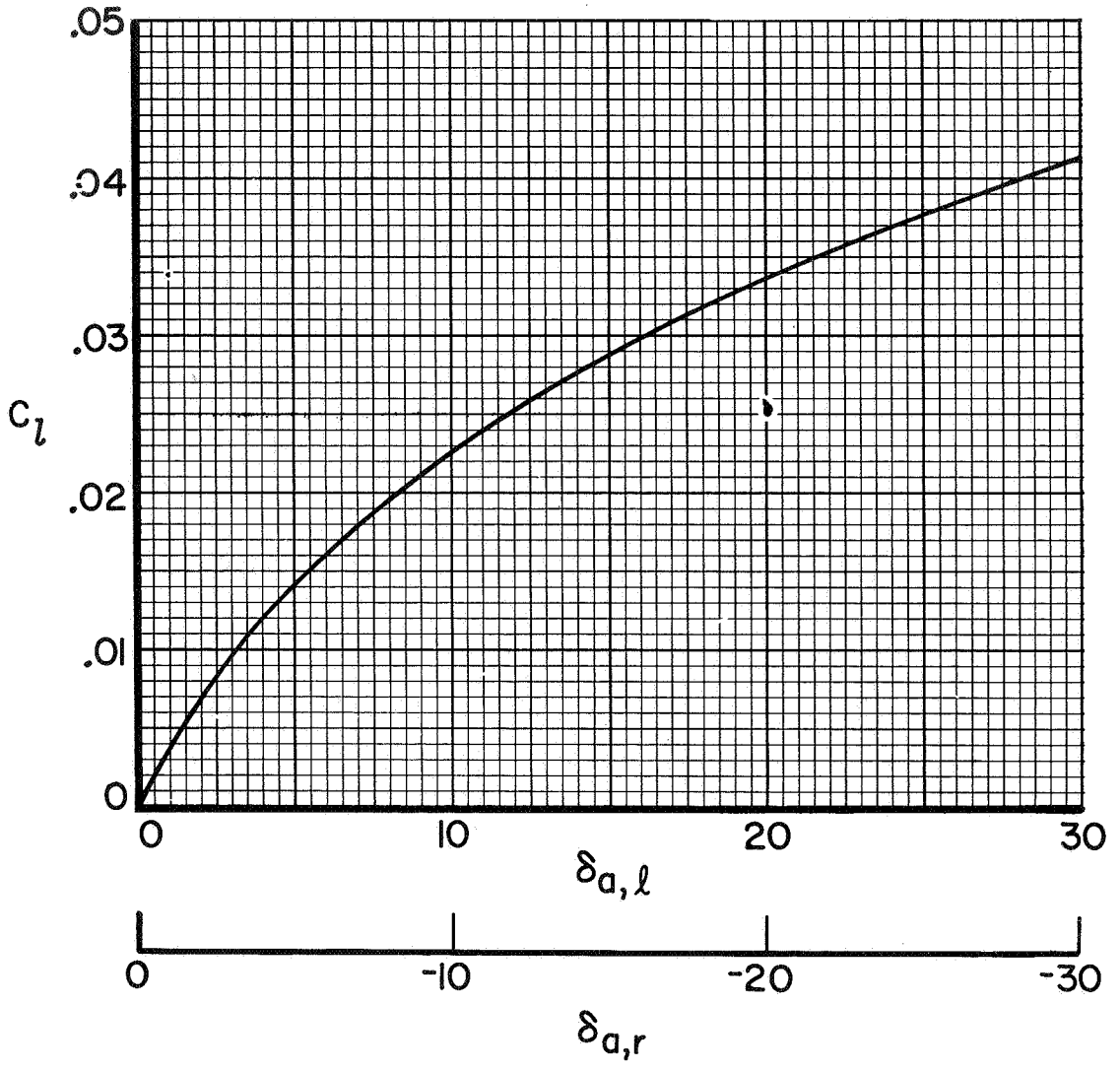
(b) Rolling-moment coefficient versus left aileron deflection for angle-of-attack range of 2° to 12°.

Figure 28.- Continued.



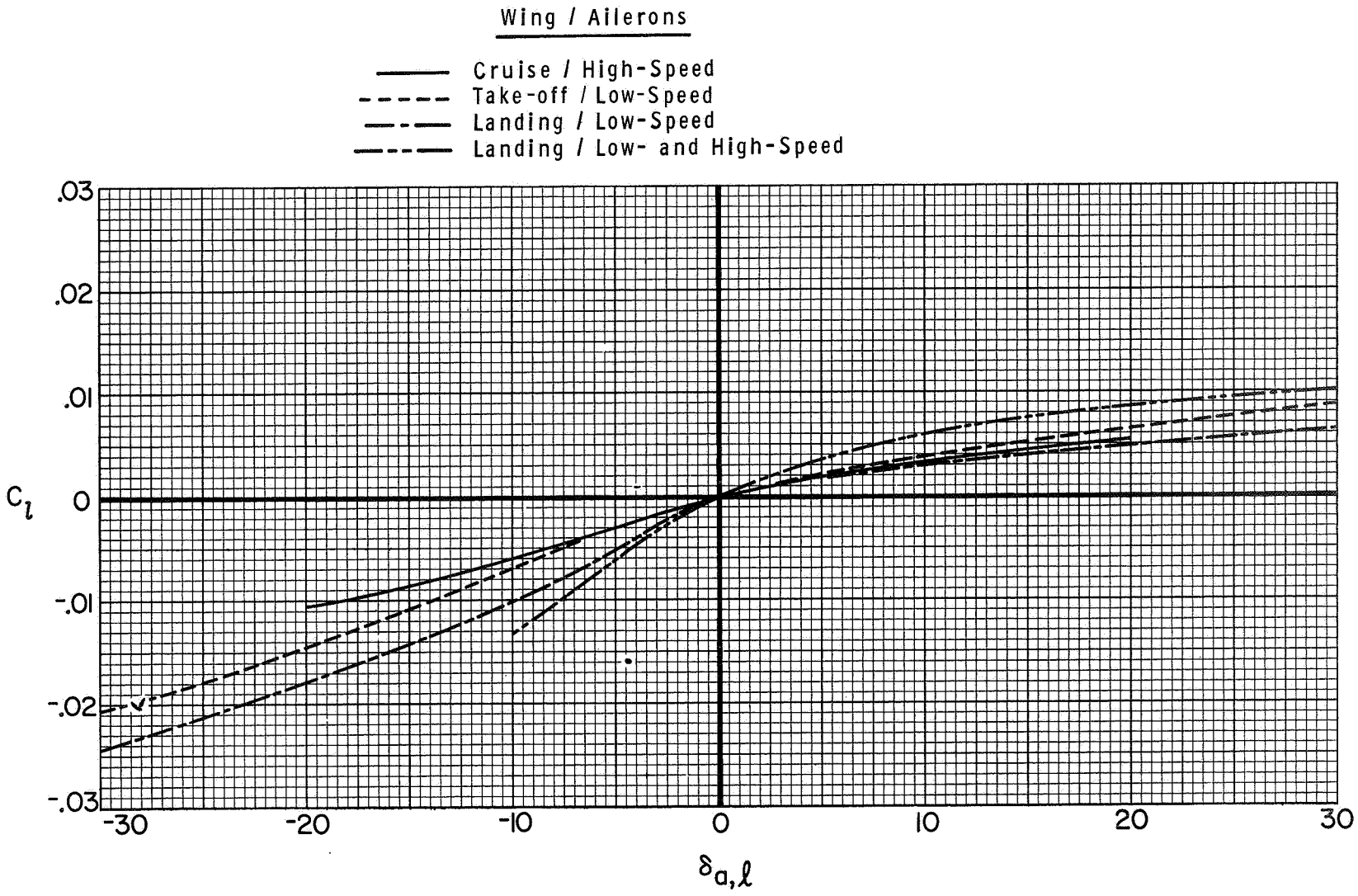
(c) Lateral data with differential deflections of right and left ailerons.

Figure 28.- Continued.



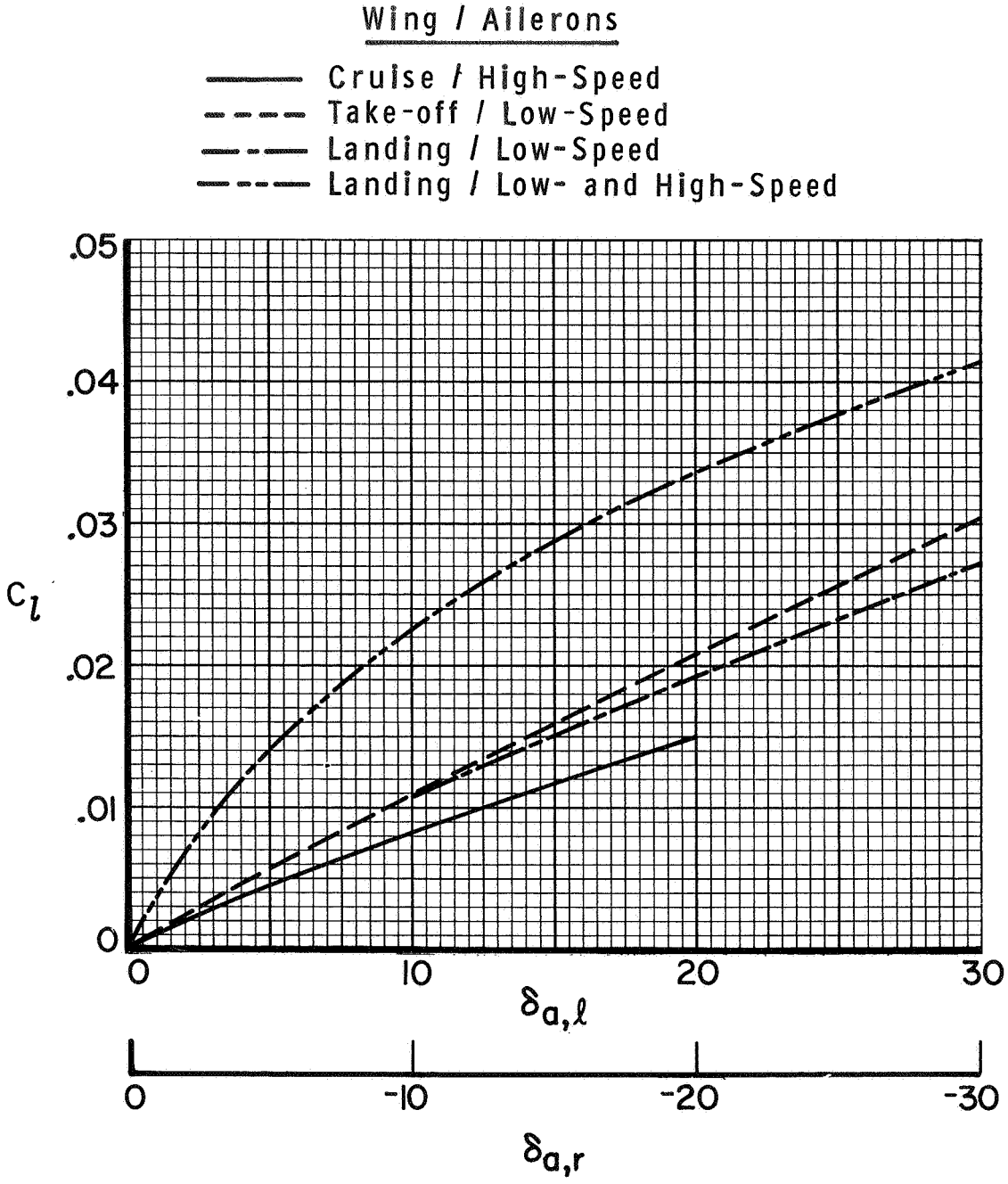
(d) Rolling-moment coefficient versus differential deflections of right and left ailerons for angle-of-attack range of 2^o to 12^o.

Figure 28.- Concluded.



(a) Left aileron deflection.

Figure 29.- Summary of effects of aileron deflection on rolling-moment coefficient for aspect-ratio-10 cruise, take-off, and landing wing configurations. $R_{\bar{c}} = 1.35 \times 10^6$.



(b) Differential right and left aileron deflections.

Figure 29.- Concluded.

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LOW-SPEED AERODYNAMIC PERFORMANCE OF A HIGH-ASPECT-RATIO SUPERCRITICAL-WING TRANSPORT MODEL EQUIPPED WITH FULL-SPAN SLAT AND PART-SPAN DOUBLE-SLOTTED FLAPS	December 1979
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16. Abstract

An investigation was conductd in the Langley V/STOL tunnel to determine the static longitudinal and lateral-directional aerodynamic characteristics of an advanced high-aspect-ratio supercritical-wing transport model equipped with a full-span leading-edge slat and part-span double-slotted trailing-edge flaps. This wide-body transport model was also equipped with spoiler and aileron control surfaces, flow-through nacelles, landing gear, movable horizontal tails, and interchangeable wing tips with aspect ratios of 10 and 12. The model was tested with leading-edge slat and trailing-edge flap combinations representative of cruise, climb, take-off, and landing wing configurations. The tests were conducted at free-stream conditions corresponding to Reynolds numbers (based on mean geometric chord) of 0.97 to 1.63 $\times 10^6$ and corresponding Mach numbers of 0.12 to 0.20, through an angle-of-attack range of -2° to 24° and a sideslip-angle range of -10° to 5°.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
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