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EFFECT OF WING PLANFORM AND CANARD LOCATION AND GEOMETRY ON THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A CLOSE-COUPLED CANARD WING MODEL AT SUBSONIC SPEEDS

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16. Abstract

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The 44° swept wing in the presence of the large canard attains significantly higher maximum lift coefficients than the same wing in the presence of the smaller canard with the trailing-edge flap undeflected. There is no effect of wing camber and twist on the canard lift characteristics for the canard located above the wing chord plane. The increase in lift obtained at an angle of attack of 0° by increasing the design lift coefficient of the wing is generally maintained throughout the angle-of-attack range of -4° to 44° for the wing in the presence of the high canard. The addition of the canard strake did not discernibly improve the effect of the canard trailing-edge flap on the canard lift.

The data show that, with the exception of the low-canard wing I configuration, greater gains in maximum lift coefficient are obtained by adding the canard and strake than would be anticipated by adding the equivalent area to the wing-body configuration. In the angle-of-attack range before stall occurs for the wing-alone configuration, the canard downwash has a greater unfavorable effect on the 60° swept wing than on the 44° swept wing. The experimental- and theoretical-lift data indicate that there are substantial amounts of side-edge vortex lift produced on the 44° swept wing in the presence of the canard located above or in the wing chord plane.

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SUMMARY

A generalized wind-tunnel model with canard and wing planforms typical of highly maneuverable aircraft was tested in the Langley 7- by 10-foot high-speed tunnel at a Mach number of 0.30 to determine the effect of canard location, canard size, wing sweep, and canard strake on canard-wing interference to high angles of attack. The major results of this investigation may be summarized as follows: the high-canard configuration (excluding the canard strake and canard flap), for both the 60° and 44° swept leading-edge wings, produced the highest maximum lift coefficient and the most linear pitching-moment curves; substantially larger gains in the canard lift and total lift were obtained by adding a strake to the canard located below the wing chord plane rather than by adding a strake to the canard located above the wing chord plane.

The 44° swept wing in the presence of the large canard attains significantly higher maximum lift coefficients than the same wing in the presence of the smaller canard with the trailing-edge flap undeflected. There is no effect of wing camber and twist on the canard lift characteristics for the canard located above the wing chord plane. The increase in lift obtained at an angle of attack of 0° by increasing the design lift coefficient of the wing is generally maintained throughout the angle-of-attack range of -4° to 44° for the wing in the presence of the high canard. The addition of the canard strake did not discernibly improve the effect of the canard trailing-edge flap on the canard lift.

The data show that, with the exception of the low-canard wing I configuration, greater gains in maximum lift coefficient are obtained by adding the canard and strake than would be anticipated by adding the equivalent area to the wing-body configuration. In the angle-of-attack range before stall occurs for the wing-alone configuration, the canard downwash has a greater unfavorable effect on the 60° swept wing than on the 44° swept wing. The experimental- and theoretical-lift data indicate that there are substantial amounts of side-edge vortex lift produced on the 44° swept wing in the presence of the canard located above or in the wing chord plane.

INTRODUCTION

In the studies presented in references 1 to 10, it was shown that the close-coupled canard-wing configuration can provide performance improvements to a maneuvering aircraft. It was also indicated that the aerodynamic characteristics at high angles of attack are very sensitive to configuration variables. Thus, a knowledge of the aerodynamic interaction of the canard and wing is of significant interest. In view of this interest, the National Aeronautics and Space Administration is conducting a study on canard-wing interference to high angles of attack. A generalized wind-tunnel model incorporating two balances to allow separation of the canard contribution from the total forces and moments is being used in the study.

The present investigation was conducted in the Langley high-speed 7- by 10-foot tunnel to determine the effect of canard location, canard size, wing sweep, and canard strake on canard-wing lift interference to high angles of attack. The tests were made at a Mach number of 0.30 for a Reynolds number of 1.56×10^6 based on a mean geometric chord of 23.32 cm (9.18 in.) at angles of attack from approximately -4° to 44° at 0° sideslip.

SYMBOLS

The International System of Units (SI), with the U.S. Customary Units presented in parentheses, is used for the physical quantities in this paper. Measurements and calculations were made in U.S. Customary Units. The longitudinal data presented in this report are referred to the stability-axis system with the exception of axial force and normal force which are referred to the body-axis system. The moment reference point was taken to be at fuselage station 59.16 cm (23.29 in.) for both balances.

A aspect ratio, b^2/S_w

b wing span, 50.8 cm (20.0 in.)

C_D drag coefficient, $\frac{\text{Drag}}{q_\infty S_w}$

C_L lift coefficient, $\frac{\text{Lift}}{q_\infty S_w}$

$C_{L,C}$ lift coefficient obtained from canard balance

$C_{L,d}$ wing design lift coefficient

$C_{L,M}$ lift coefficient obtained from main balance

C_m pitching-moment coefficient, $\frac{\text{Pitching moment}}{q_\infty S_w \bar{c}}$

c local chord, cm (in.)

$\bar{c}$ wing mean geometric chord, 23.32 cm (9.18 in.)

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

q_∞ free-stream dynamic pressure, Pa (lb/ft^2)

S_c exposed canard area, cm^2 (in^2)

w reference area of wing with leading and trailing edges extended to plane of symmetry, 1032.7 cm^2 (160.0 in^2)

x longitudinal distance measured from wing leading edge (positive aft), cm (in.)

y lateral distance measured from body center line (positive right side of model), cm (in.)

z vertical distance from wing chord plane to canard chord plane (positive up), cm (in.)

z_l vertical distance from wing chord plane to point on wing lower surface (positive down), cm (in.)

z_u vertical distance from wing chord plane to point on wing upper surface (positive up), cm (in.)

α angle of attack, deg

δ canard trailing-edge flap deflection (positive trailing edge down), deg

Λ_c canard leading-edge sweep angle, deg

Λ_t vertical-tail leading-edge sweep angle, deg

Λ_w wing leading-edge sweep angle, deg

Subscripts:

p	potential
vle	leading-edge vortex lift
vse	side-edge vortex lift

MODEL DESCRIPTION

A three-view drawing of the general research model is presented in figure 1. This model was designed so that various wing and canard planforms could be changed. Figure 2 defines the canard strakes used, and figure 3 presents a photograph of the model mounted in the Langley high-speed 7- by 10-foot tunnel. Table I presents the pertinent geometric parameters associated with this model.

Four different wings were tested. Two of the wings, wing I and wing II, had leading-edge sweep angles of $\Lambda_W = 60^\circ$ and $\Lambda_W = 44^\circ$, respectively. Wings I and II had untwisted wing planforms with uncambered circular-arc airfoil sections and a maximum thickness which varied linearly from 6 percent of the chord at the root to 4 percent of the chord at the tip. Wings III and IV were designed to have elliptic spanwise loading and rectangular chordwise loading at design lift coefficients $C_{L,d}$ of 0.35 and 0.70, respectively, and had the same wing planform as wing II. The airfoil section ordinates of wings III and IV are shown in table II. All four wings had the same area, wing span, and mean geometric chord. The wings were located longitudinally so that the mean geometric quarter-chord points coincided. (See table I.)

Canard I had a leading-edge sweep angle of 51.7° and an exposed area S_c of 16.0 percent of the wing reference area S_W. Canard I was equipped with a trailing-edge flap whose chord was 20 percent of the canard chord, and was tested with flap deflections δ of 0°, 10°, and 20°. Canard II had the same leading-edge sweep angle as canard I and an exposed area S_c of 28.0 percent of the wing reference area S_W. The small canard was tested in a position of 18.5 percent of the wing mean geometric chord above the wing chord plane $z/\bar{c} = 0.185$. The large canard was tested in the wing chord plane $z/\bar{c} = 0.0$ and 18.5 percent of the wing mean geometric chord above and below the wing chord plane ($z/\bar{c} = 0.185$ and -0.185, respectively). When the canard was in the wing chord plane, no body fairings were necessary (fig. 1), but when the canard was high or low, fairings were required on the fuselage to fair the canard mounting brackets into the body. Thus, there were three fuselage configurations: body fairings on the top for $z/\bar{c} = 0.185$, no body fairings for $z/\bar{c} = 0.0$, and body fairings on the bottom for $z/\bar{c} = -0.185$. (See fig. 1.)

Both canards were untwisted and had uncambered circular-arc airfoil sections. The thickness varied linearly from 6 percent of the chord at the root to 4 percent at the tip.

A highly swept flat-plate strake was attached to both canards. (See fig. 2.) The strakes had exposed areas of 24.0 percent of the exposed canard area S_c.

APPARATUS, TESTS, AND CORRECTIONS

The present investigation was conducted in the Langley high-speed 7- by 10-foot tunnel. The forces and moments were measured by means of two internally mounted six-component strain-gage balances. One balance was housed within the forward segment of the fuselage and was rigidly attached to the rearward fuselage segment; a small unsealed gap was maintained between the fuselage segments to prevent fouling. This balance (hereafter called canard balance) measured the loads on the canard and on the forward segment of the fuselage (shaded area in fig. 1). The second balance (hereafter referred to as the main balance) was housed in the rearward segment of the fuselage and measured the total model loads.

Tests were made at a Mach number of 0.30 for a free-stream Reynolds number of 1.56×10^6 based on the mean geometric chord of 23.32 cm (9.18 in.) at angles of attack from approximately -4° to 44° at a sideslip angle of 0°. All tests were made with the boundary-layer transition fixed on the model by means of narrow strips of carborundum grit (90 grit) placed 1.65 cm (0.65 in.) aft of the leading edges of the canards and wings and 3.175 cm (1.25 in.) aft of the nose of the body as outlined in reference 11.

The blockage and jet-boundary corrections were negligible and therefore were not applied. Angles of attack have been corrected for the effects of sting deflection caused by the aerodynamic load. All drag measurements were corrected to a condition of free-stream static pressure on the base of the model.

RESULTS AND DISCUSSION

The data are presented in tabular as well as in plotted form. Table III defines the configuration code that is used for the results of the wind-tunnel tests. These results are presented in table IV.

Effect of Canard Location and Geometry

The effect of canard location on the longitudinal aerodynamic characteristics for configurations with wing I $\left(\Lambda_W = 60^\circ\right)$ and wing II $\left(\Lambda_W = 44^\circ\right)$ is presented in figures 4 and 5. There is some small difference between the canard lift for the canard located above the wing chord plane ($z/\bar{c} = 0.185$) and the canard lift in the wing chord plane ($z/\bar{c} = 0.0$)

throughout the angle-of-attack range. However, the canard lift for the canard located below the wing chord plane ($z/\bar{c} = -0.185$) is substantially lower than the canard lift for the configurations with the canards above and in the wing chord plane because the low canard appears to stall at a much lower angle of attack than the canards located in the other two positions. The stalling of the low canard could be caused by the flat bottom of the fuselage and the relatively sharp fuselage corners in the vicinity of the canard. (See fig. 1.)

The total lift-coefficient curves for the configurations with wings I and II (figs. 4(a) and 5(a)) show that the highest maximum lift coefficient is obtained for the high-canard ($z/\bar{c} = 0.185$) configurations and the lowest maximum lift coefficient is obtained for the low-canard configuration ($z/\bar{c} = -0.185$). This loss in the maximum lift coefficient for the low-canard model is caused by canard stall and canard interference on the wing.

The high-canard configurations, for both wings I and II, produced more nearly linear pitching-moment coefficient curves throughout the angle-of-attack range (figs. 4(b) and 5(b)). The mid-canard configurations showed that nonlinearities in the pitching-moment coefficient curves started at an angle of attack of approximately 18°. The low-canard configurations showed nonlinearities in the pitching-moment curves between angles of attack of approximately 18° to 24°, whereas at angles of attack greater than 24° the pitching-moment curves were fairly linear. These nonlinearities in the pitching-moment curves for the mid- and low-canard configurations may be caused by canard stall. (See figs. 4(a) and 5(a).)

The data in figure 6 show the effect of adding a strake to canard II, located above and below the wing chord plane ($z/\bar{c} = 0.185$ and -0.185, respectively), in the presence of wing II. Reference 12 implies that a strake, placed on a lifting surface, generally delays the wing stall. The data in figure 6 generally indicate that substantial improvements in the canard lift, the total lift, and the pitching moment were obtained by adding the strake to canard II in the low position up to an angle of attack of 28°.

Since canards I and II and wings I and II have sharp leading edges and are flat, there is no leading-edge suction associated with these lifting surfaces. Therefore, the induced drag is a function only of the lift and of the angle of attack. The configuration that produces the highest lift at a given angle of attack would therefore produce the lowest drag characteristics at a given lift coefficient. (See figs. 4 to 6.) Therefore, no discussion of drag characteristics is made.

Effect of Wing Twist and Camber

In order to examine the effect of wing twist and camber on the canard-wing interference, wings III and IV, with $C_{L,d}$ equal to 0.35 and 0.70, respectively, were tested. The data in figure 7 show that there is no effect of wing twist and camber on the canard lift. This phenomenon indicates that the lift developed by the wing is not one of the primary

factors of wing-on canard interference. It is interesting to note that the increase in lift obtained at an angle of attack of 0° by increasing $C_{L,d}$ is generally maintained throughout the angle-of-attack range; also, the stall angle of attack remained approximately the same for wings II, III, and IV in the presence of the high canard.

The data in figure 7(b) show that an increase in the design lift coefficient of the wing results in an increase in the angle of attack at which the canard-wing configuration can be trimmed. For example, the canard-wing configuration with $C_{L,d} = 0.70$ produced a trimmed lift coefficient of approximately 1.43 at an angle of attack of approximately 18° compared with a trimmed lift coefficient of approximately 0.64 at an angle of attack of 8° for $C_{L,d} = 0.35$ (wing III). It should be noted that the configurations are unstable in pitch; to take advantage of this instability requires the use of active controls.

Effect of Canard Trailing-Edge Flaps

Figures 8 and 9 show the effect of canard (canard I) trailing-edge flap deflection with the canard strake off and on, respectively, on the longitudinal aerodynamic characteristics of the canard-wing combination. Deflecting the trailing-edge canard flap significantly increases the maximum lift coefficient of the configuration for both canard strake on and off. The addition of the canard strake does not discernibly improve the effectiveness of this canard trailing-edge flap on the canard lift.

Effect of Body Fairings

The effect of body fairings on the lift and the pitching moment is seen to be small. (See fig. 10 and ref. 9.) It should be noted that there were no body fairings on the model when the canards were in the chord plane of the wing ($z/\bar{c} = 0.0$).

Table V presents a summary of the various techniques tested; these techniques increased the maximum lift coefficient for the canard-wing configurations. These data show that with the exception of the low-canard wing I configuration, greater gains in the maximum lift coefficient are obtained by adding the canard and strake than would be anticipated by adding the equivalent area to the wing-body configuration.

Canard-Wing Lift Interference

Canard-wing interference for all three canard II positions ($z/\bar{c} = 0.185$, 0.0, and -0.185) for wings I and II are presented in figures 11 and 12, respectively. The data in figures 11 and 12 show that for the canard alone, the high canard exhibited the highest values of lift. The favorable interference of the wing on the canard, for the wing I configurations (fig. 11) was greatest for the canard located at $z/\bar{c} = 0.0$, and resulted in the mid canard exhibiting the highest maximum canard lift coefficient. The favorable interference of the wing on the canard for wing II (fig. 12) was about the same for both the high-

and mid-canard configurations, the high canard exhibiting the highest maximum canard lift coefficient. The favorable interference of the wing on the canard was substantially less for the low canard than for the other two canard positions for both wings I and II. In general, the canards in the presence of wing I exhibit higher maximum lift coefficients than the canards in the presence of wing II; this effect may be caused in part by the difference in the relative positions of the canard and the wing leading edge of wing I and wing II. (See fig. 1.)

It should be noted that the data plotted as solid symbols in figures 11 to 14 are presented only as a reference. In the angle-of-attack range before stall occurs for the wing-alone configurations, the canard downwash has a greater unfavorable effect on wing I than on wing II. (This effect is observed by noting the difference between the $C_{L,M} - C_{L,C}$ wing-alone and the appropriate $C_{L,M} - C_{L,C}$ canard-on curves in figs. 11 and 12.) The wing-alone lift $(C_{L,M} - C_{L,C})$ proves to be higher than the lift on the wing $(C_{L,M} - C_{L,C})$ in the presence of the canard for wing I over the angle-of-attack range of 0° to 32° for the high canard and over the complete angle-of-attack range tested for the mid- and low-canard configurations. However, the wing-alone lift for wing II proves to be greater than the lift on the wing in the presence of the canard and only over the angle-of-attack range of 0° to approximately 18°.

Figure 13 shows the effects on the canard-wing lift interference of placing a strake on canard II. The favorable wing-on-canard lift interference is less for the straked canard in the low position ($z/\bar{c} = -0.185$) than in the high position ($z/\bar{c} = 0.185$). The strake on the low canard significantly delays canard stall from about 18° to about 24°. (See fig. 13.) For both the high- and low-canard locations, there are small effects of the canard strake on the wing lift $(C_{L,M} - C_{L,C})$.

The effects of the canard size on the canard-wing lift interference are presented in figure 14. As would be expected, canard I produces less downwash effect on wing II (between angles of attack of 0° and approximately 18°) than does canard II. The wing in the presence of the large canard attains a significantly higher maximum lift coefficient than the wing in the presence of the small canard with no trailing-edge flap deflection ($\delta = 0.0^\circ$).

Comparison of Experimental and Theoretical Lift Characteristics

A comparison of experimental lift with theory is presented in figure 15 for the canard with and without the canard strake for the configurations with the wing off. Figures 16 and 17 present theoretical and experimental comparisons of lift for the wing in the presence of the canard $(C_{L,M} - C_{L,C})$ and the canard in the presence of the wing $C_{L,C}$. The theoretical-lift curves were obtained by the method outlined in reference 13. Since all the wings for which theoretical calculations were made had sharp leading edges, all

potential-lift $C_{L,p}$ curves presented assume no leading-edge suction. All calculations were made for a Mach number of 0.30.

Figure 15 shows the effect of adding a strake to the canard located above and below the wing chord plane ($z/\bar{c} \approx 0.185$ and -0.185) not in the presence of the wing. The solid line was obtained by assuming the vortex lift plus the potential lift on the strake and the potential lift on the canard; the dashed line was obtained by assuming the potential lift on the canard (strake off). For the canard in the high position (fig. 15(a)) the theoretical curves indicate that most of the increased-lift increment obtained by adding the strake was the lift on the strake. The strake did not prevent canard stall, since it is thought that for the canard in the high position the fuselage interference for this fuselage delays canard stall (ref. 8).

The canard, without a strake and in the low position with the wing off, stalled at an angle of attack of approximately 18° (fig. 15(b)). The straked low-canard configuration appears to stall at an angle of attack of approximately 24°. Thus, between the angles of attack of 18° and 24°, significantly more lift than the strake lift (strake lift defined as the difference between the solid and dashed line in fig. 15(b)) was added to the lift of the low canard. These observations are evidence of the strake delaying the canard stall (ref. 12). It should be noted that no attempt was made to optimize the strake shape used in this investigation; thus it seems reasonable to assume that with the proper strake design, the straked low-canard configuration could function at angles of attack greater than 24° without canard stall.

Figure 16 presents a comparison between theoretical and experimental lift for the canard above, in, and below the wing II chord plane. For the canard above and in the wing chord plane, the canard lift is somewhat higher than the potential lift and lower than that if full vortex lift is developed on the canard. The experimental data for the low canard in the presence of the wing $\left(C_{L,C}\right.$ in fig. 16(c)$\left.\right)$ follow the potential-lift curve to an angle of attack of approximately 14°; then the canard appears to stall.

When the canard is in the high position (fig. 16(a)), the experimental lift on the wing agrees with the theoretical-lift curve which is the sum of the potential, the leading-edge vortex, and the side-edge vortex lift to an angle of attack of approximately 30°. For the canard in the wing chord plane (fig. 16(b)), all theoretical curves substantially underpredict the experimental lift on the wing between the angles of attack of 8° to 30°. The experimental-lift data on the wing for the configuration with the canard below the wing chord plane (fig. 16(c)) fall between the potential-lift curve and the potential plus leading-edge vortex-lift curves. The data in figures 16(a) and 16(b) indicate that there are substantial amounts of side-edge vortex lift that need to be accounted for when theoretically determining the lift on wing II in the presence of the high or mid canard.

Figure 17 presents the comparison of theoretical and experimental lift for the configuration with the canard located above the wing chord plane in the presence of wing I. The experimental data agree with the total theoretical-lift curve $\left(C_{L,p} + C_{L,vle} + C_{L,vse}\right)$ up to an angle of attack of approximately 18°. For angles of attack greater than 18°, wing I appears to lose vortex lift.

SUMMARY OF RESULTS

A generalized wind-tunnel model, with canard and wing planforms typical of highly maneuverable aircraft, was tested in the Langley 7- by 10-foot high-speed tunnel at a Mach number of 0.30 to determine the effect of the canard location, the canard size, the wing sweep, and the canard strake on canard-wing interference to high angles of attack. The major results of this investigation may be summarized as follows:

1. The high-canard configuration (excluding the canard-strake and canard-flap configurations) for both the 60° and 44° swept leading-edge wings produced the highest maximum lift coefficient and the most linear pitching-moment curves.

2. Substantially larger gains in the canard lift and the total lift were obtained by adding a strake to the canard located below the wing chord plane than by adding a strake to the canard located above the wing chord plane.

3. The 44° swept wing in the presence of the large canard attains significantly higher maximum lift coefficients than the same wing in the presence of the smaller canard with the trailing-edge flap undeflected.

4. There is no effect of wing camber and twist on the canard lift characteristics for the canard located above the wing chord plane.

5. The increase in lift obtained at an angle of attack of 0° by increasing the design lift coefficient of the wing is generally maintained throughout the angle-of-attack range of -4° to 44° for the wing in the presence of the high canard.

6. The addition of the canard strake did not discernibly improve the effect of the canard trailing-edge flap on the canard lift.

7. The data show that with the exception of the low-canard wing I configuration, greater gains in the maximum lift coefficient are obtained by adding the canard and strake than would be anticipated by adding the equivalent area to the wing-body configuration.

8. In the angle-of-attack range before stall occurs for the wing-alone configuration, the canard downwash has a greater unfavorable effect on the 60° swept wing than on the 44° swept wing.

9. The experimental- and theoretical-lift data indicate that there are substantial amounts of side-edge vortex lift. This lift needs to be accounted for when theoretically determining the lift for the 44° swept wing in the presence of the canard located above or in the wing chord plane.

Langley Research Center,
National Aeronautics and Space Administration,
Hampton, Va., February 28, 1975.

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TABLE I.- GEOMETRIC CHARACTERISTICS OF MODEL

Body length, cm (in.)	96.52 (38.00)
Wings I, II, III, and IV:	
A	2.5
b/2, cm (in.)	25.4 (10.00)
Λ_W, wing I, deg	60
Λ_W, wings II, III, and IV, deg	44
$\bar{c}$, cm (in.)	23.32 (9.18)
Longitudinal model station of $\bar{c}/4$, cm (in.)	63.75 (25.10)
Airfoil section:	
Wings I and II	Circular arc
Wings III and IV	See table II
S_W, cm^2 (in^2)	1032.3 (160.0)
Root chord (at fuselage center line), cm (in.)	33.86 (13.33)
Tip chord, cm (in.)	6.78 (2.67)
Maximum thickness, percent chord, at –	
Root	6.0
Tip	4.0
Canard (canards I and II except when specified):	
Λ_C, deg	51.7
Airfoil section	Circular arc
S_C (canard I), cm^2 (in^2)	165.16 (25.60)
S_C (canard II), cm^2 (in^2)	288.73 (44.75)
b/2 (canard I), cm (in.)	13.97 (5.50)
b/2 (canard II), cm (in.)	17.25 (6.79)
$\bar{c}_C$ (canard I), cm (in.)	11.99 (4.72)
$\bar{c}_C$ (canard II), cm (in.)	14.83 (5.84)
Longitudinal model station of $\bar{c}_C/4$, cm (in.):	
Canard I	41.94 (16.51)
Canard II	42.09 (16.57)
Root chord (canard I at fuselage), cm (in.)	13.54 (5.33)
Root chord (canard II at fuselage), cm (in.)	17.90 (7.05)
Tip chord (canard I), cm (in.)	2.72 (1.07)
Tip chord (canard II), cm (in.)	3.58 (1.41)
Maximum thickness, percent chord at –	
Root	6.0
Tip	4.0

TABLE II.- ORDINATES OF CAMBERED WING

(a) $C_{L,d} = 0.35$ (wing III)

x/c	$\frac{y}{b/2}$ = 0.131 $\frac{c}{\bar{c}}$ = 1.300		$\frac{y}{b/2}$ = 0.259 $\frac{c}{\bar{c}}$ = 1.151		$\frac{y}{b/2}$ = 0.383 $\frac{c}{\bar{c}}$ = 1.009		$\frac{y}{b/2}$ = 0.500 $\frac{c}{\bar{c}}$ = 0.872		$\frac{y}{b/2}$ = 0.609 $\frac{c}{\bar{c}}$ = 0.745		$\frac{y}{b/2}$ = 0.707 $\frac{c}{\bar{c}}$ = 0.630		$\frac{y}{b/2}$ = 0.793 $\frac{c}{\bar{c}}$ = 0.531		$\frac{y}{b/2}$ = 0.866 $\frac{c}{\bar{c}}$ = 0.445		$\frac{y}{b/2}$ = 0.924 $\frac{c}{\bar{c}}$ = 0.379		$\frac{y}{b/2}$ = 0.966 $\frac{c}{\bar{c}}$ = 0.330		$\frac{y}{b/2}$ = 0.991 $\frac{c}{\bar{c}}$ = 0.300	
	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c
0.00	0.0599	0.0599	0.0518	0.0518	0.0459	0.0459	0.0417	0.0417	0.0370	0.0370	0.0320	0.0320	0.0258	0.0258	0.0180	0.0182	0.0091	0.0091	0.0010	0.0010	-0.0096	-0.0096
.03	.0722	.0515	.0640	.0445	.0581	.0396	.0538	.0363	.0490	.0324	.0440	.0280	.0377	.0225	.0300	.0154	.0208	.0066	.0104	-.0035	.0015	-.0120
.05	.0771	.0487	.0692	.0423	.0634	.0380	.0593	.0351	.0546	.0317	.0497	.0278	.0437	.0227	.0362	.0159	.0270	.0074	.0167	-.0024	.0079	-.0109
.08	.0803	.0461	.0727	.0404	.0671	.0365	.0631	.0340	.0586	.0310	.0539	.0275	.0480	.0227	.0407	.0164	.0318	.0082	.0217	-.0014	.0131	-.0095
.10	.0827	.0437	.0753	.0385	.0700	.0351	.0661	.0330	.0618	.0304	.0573	.0272	.0516	.0228	.0445	.0168	.0358	.0089	.0260	-.0002	.0178	-.0079
.15	.0860	.0397	.0793	.0355	.0744	.0329	.0709	.0315	.0670	.0296	.0629	.0271	.0577	.0234	.0510	.0181	.0428	.0109	.0337	.0025	.0261	-.0045
.20	.0881	.0363	.0821	.0331	.0778	.0313	.0747	.0306	.0712	.0294	.0676	.0276	.0628	.0245	.0567	.0199	.0490	.0134	.0404	.0056	.0333	-.0008
.25	.0891	.0332	.0838	.0309	.0800	.0299	.0773	.0298	.0743	.0292	.0711	.0280	.0669	.0256	.0612	.0216	.0541	.0157	.0461	.0086	.0395	.0028
.30	.0889	.0302	.0842	.0287	.0809	.0283	.0785	.0286	.0759	.0285	.0732	.0279	.0694	.0261	.0643	.0227	.0579	.0175	.0505	.0111	.0445	.0059
.35	.0874	.0271	.0833	.0262	.0804	.0263	.0783	.0270	.0761	.0274	.0737	.0270	.0704	.0258	.0659	.0231	.0601	.0187	.0536	.0130	.0482	.0085
.40	.0848	.0240	.0812	.0237	.0787	.0242	.0769	.0252	.0750	.0259	.0729	.0260	.0700	.0251	.0660	.0230	.0610	.0192	.0553	.0145	.0506	.0106
.45	.0812	.0214	.0781	.0216	.0759	.0224	.0744	.0236	.0728	.0245	.0710	.0249	.0686	.0244	.0652	.0228	.0608	.0197	.0558	.0157	.0517	.0124
.50	.0768	.0194	.0742	.0200	.0724	.0210	.0712	.0225	.0699	.0236	.0685	.0242	.0665	.0241	.0636	.0228	.0598	.0203	.0554	.0168	.0518	.0140
.55	.0718	.0179	.0698	.0189	.0684	.0201	.0675	.0217	.0665	.0230	.0655	.0239	.0639	.0240	.0614	.0231	.0581	.0210	.0542	.0179	.0509	.0153
.60	.0664	.0168	.0649	.0180	.0639	.0194	.0633	.0211	.0626	.0226	.0619	.0237	.0607	.0240	.0587	.0234	.0558	.0216	.0522	.0188	.0491	.0164
.65	.0603	.0157	.0592	.0171	.0586	.0187	.0583	.0204	.0579	.0219	.0575	.0231	.0566	.0236	.0549	.0232	.0525	.0217	.0492	.0192	.0464	.0170
.70	.0534	.0145	.0527	.0160	.0524	.0175	.0523	.0193	.0521	.0208	.0519	.0220	.0514	.0225	.0500	.0223	.0479	.0211	.0451	.0189	.0427	.0169
.75	.0457	.0130	.0453	.0145	.0452	.0159	.0452	.0175	.0457	.0193	.0452	.0200	.0449	.0206	.0438	.0205	.0422	.0196	.0398	.0178	.0378	.0162
.80	.0375	.0112	.0373	.0125	.0373	.0138	.0375	.0152	.0376	.0164	.0376	.0174	.0375	.0180	.0367	.0180	.0354	.0173	.0336	.0159	.0319	.0146
.85	.0291	.0094	.0292	.0105	.0293	.0116	.0295	.0128	.0297	.0138	.0299	.0147	.0299	.0152	.0293	.0153	.0283	.0146	.0267	.0134	.0253	.0123
.90	.0208	.0075	.0210	.0085	.0213	.0095	.0217	.0105	.0221	.0114	.0224	.0122	.0224	.0126	.0220	.0126	.0210	.0119	.0195	.0106	.0180	.0092
.95	.0119	.0052	.0123	.0059	.0127	.0066	.0131	.0074	.0136	.0081	.0139	.0087	.0141	.0091	.0137	.0090	.0129	.0082	.0144	.0069	.0099	.0055
1.00	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001

TABLE II.- ORDINATES OF CAMBERED WING – Concluded

(b) $C_{L,d} = 0.70$ (wing IV)

x/c	$\frac{y}{b/2} = 0.131$ $\frac{c}{\bar{c}} = 1.300$		$\frac{y}{b/2} = 0.259$ $\frac{c}{\bar{c}} = 1.151$		$\frac{y}{b/2} = 0.383$ $\frac{c}{\bar{c}} = 1.009$		$\frac{y}{b/2} = 0.500$ $\frac{c}{\bar{c}} = 0.872$		$\frac{y}{b/2} = 0.609$ $\frac{c}{\bar{c}} = 0.745$		$\frac{y}{b/2} = 0.707$ $\frac{c}{\bar{c}} = 0.630$		$\frac{y}{b/2} = 0.793$ $\frac{c}{\bar{c}} = 0.531$		$\frac{y}{b/2} = 0.866$ $\frac{c}{\bar{c}} = 0.445$		$\frac{y}{b/2} = 0.924$ $\frac{c}{\bar{c}} = 0.379$		$\frac{y}{b/2} = 0.966$ $\frac{c}{\bar{c}} = 0.330$		$\frac{y}{b/2} = 0.991$ $\frac{c}{\bar{c}} = 0.300$	
	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c	z_u/c	z_l/c
0.00	0.1198	0.1198	0.1037	0.1037	0.0919	0.0919	0.0835	0.0835	0.0740	0.0740	0.0640	0.0640	0.0515	0.0515	0.0364	0.0364	0.0181	0.0181	-0.0021	-0.0021	-0.0194	-0.0194
.03	.1340	.1134	.1183	.0988	.1069	.0884	.0988	.0813	.0897	.0731	.0799	.0641	.0678	.0525	.0528	.0382	.0344	.0202	.0139	.0000	-.0039	-.0175
.05	.1399	.1116	.1250	.0981	.1141	.0887	.1065	.0823	.0978	.0749	.0885	.0666	.0768	.0558	.0623	.0421	.0441	.0246	.0238	.0047	.0062	-.0125
.08	.1435	.1093	.1292	.0969	.1189	.0882	.1117	.0826	.1035	.0758	.0946	.0682	.0834	.0580	.0693	.0450	.0517	.0281	.0318	.0088	.0148	-.0077
.10	.1459	.1069	.1323	.0954	.1225	.0876	.1157	.0826	.1079	.0765	.0995	.0694	.0888	.0599	.0752	.0474	.0581	.0313	.0389	.0127	.0227	-.0031
.15	.1488	.1025	.1366	.0928	.1280	.0865	.1221	.0827	.1153	.0779	.1079	.0721	.0981	.0639	.0856	.0527	.0697	.0378	.0518	.0206	.0368	.0062
.20	.1503	.0985	.1397	.0906	.1323	.0858	.1273	.0832	.1215	.0797	.1151	.0752	.1064	.0682	.0950	.0582	.0802	.0445	.0634	.0286	.0495	.0153
.25	.1503	.0944	.1411	.0883	.1349	.0848	.1308	.0833	.1261	.0809	.1207	.0775	.1131	.0718	.1027	.0631	.0890	.0506	.0734	.0359	.0606	.0238
.30	.1484	.0897	.1406	.0851	.1354	.0828	.1321	.0822	.1282	.0808	.1237	.0784	.1171	.0738	.1079	.0663	.0955	.0552	.0813	.0419	.0696	.0310
.35	.1447	.0843	.1381	.0810	.1337	.0796	.1310	.0797	.1278	.0791	.1241	.0775	.1184	.0739	.1104	.0676	.0995	.0580	.0868	.0463	.0765	.0367
.40	.1393	.0785	.1337	.0762	.1301	.0756	.1280	.0763	.1254	.0763	.1223	.0754	.1175	.0726	.1106	.0675	.1011	.0593	.0901	.0493	.0811	.0411
.45	.1325	.0728	.1280	.0715	.1251	.0715	.1235	.0727	.1214	.0732	.1190	.0729	.1151	.0709	.1092	.0668	.1011	.0599	.0916	.0514	.0837	.0443
.50	.1249	.0675	.1214	.0671	.1192	.0678	.1181	.0693	.1166	.0703	.1149	.0706	.1117	.0693	.1068	.0661	.0998	.0603	.0915	.0529	.0846	.0468
.55	.1167	.0628	.1142	.0632	.1127	.0644	.1122	.0663	.1113	.0678	.1102	.0686	.1078	.0679	.1038	.0654	.0977	.0605	.0903	.0540	.0839	.0484
.60	.1079	.0584	.1063	.0594	.1055	.0611	.1055	.0634	.1052	.0652	.1047	.0665	.1031	.0663	.0997	.0645	.0944	.0602	.0877	.0543	.0818	.0491
.65	.0982	.0537	.0974	.0553	.0972	.0573	.0976	.0598	.0979	.0619	.0978	.0635	.0968	.0637	.0941	.0624	.0895	.0587	.0834	.0533	.0781	.0486
.70	.0873	.0484	.0871	.0503	.0873	.0525	.0880	.0550	.0886	.0572	.0889	.0589	.0883	.0594	.0863	.0585	.0824	.0555	.0771	.0509	.0724	.0467
.75	.0750	.0424	.0752	.0443	.0757	.0464	.0766	.0488	.0773	.0509	.0778	.0526	.0776	.0533	.0760	.0527	.0730	.0504	.0687	.0466	.0647	.0431
.80	.0618	.0356	.0622	.0375	.0629	.0394	.0638	.0415	.0646	.0434	.0651	.0449	.0652	.0457	.0641	.0454	.0617	.0436	.0583	.0406	.0552	.0379
.85	.0483	.0286	.0490	.0303	.0497	.0320	.0507	.0339	.0515	.0356	.0522	.0370	.0524	.0378	.0516	.0376	.0497	.0361	.0468	.0335	.0441	.0310
.90	.0349	.0217	.0358	.0233	.0367	.0248	.0378	.0265	.0388	.0281	.0396	.0294	.0400	.0301	.0393	.0299	.0375	.0284	.0345	.0256	.0317	.0229
.95	.0205	.0138	.0214	.0150	.0223	.0163	.0234	.0177	.0244	.0190	.0253	.0200	.0256	.0206	.0251	.0203	.0234	.0188	.0206	.0160	.0177	.0132
1.00	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001	.0001	-.0001

TABLE III.- TEST CONFIGURATIONS

Configuration number	Wing	Canard	Strake	$z/\bar{c}$	Vertical tail	δ, deg
74001	II	II	On	0.185	On	0
75005	II	II	Off	.185	On	0
74010	II	II	Off	.185	Off	0
74015	II	Off	Off	.185	Off	0
74020	II	Off	Off	.185	On	0
74026	Off	II	Off	.185	On	0
74032	Off	II	Off	.185	Off	0
74038	Off	II	On	.185	Off	0
74044	Off	I	On	.185	On	0
74045	Off	I	On	.185	On	10
74046	Off	I	On	.185	On	20
74047	II	I	On	.185	On	20
74048	II	I	On	.185	On	10
74049	II	I	On	.185	On	0
74050	II	I	Off	.185	On	0
74051	II	I	Off	.185	On	10
74053	II	I	Off	.185	On	20
74054	Off	I	Off	.185	On	20
74056	Off	I	Off	.185	On	0
74063	I	Off	Off	.185	On	0
74064	I	II	Off	.185	On	0
74065	I	II	Off	.185	Off	0
74067	II	II	On	.185	Off	0
74070	Off	II	On	.185	On	0
74074	Off	II	On	.185	Off	0
74077	Off	II	Off	-.185	Off	0
74081	II	II	Off	-.185	Off	0
74084	II	II	Off	-.185	On	0
74087	II	Off	Off	-.185	On	0
74090	II	Off	Off	-.185	Off	0
74093	Off	Off	Off	-.185	Off	0
74096	Off	Off	Off	-.185	On	0
74099	Off	Off	Off	.0	Off	0
74102	Off	Off	Off	.0	On	0
74106	II	Off	Off	.0	Off	0
78057	Off	Off	Off	.185	On	0
78060	Off	II	Off	.185	Off	0
78061	II	II	On	-.185	On	0
78064	II	II	On	-.185	Off	0
78067	Off	II	On	-.185	Off	0
78070	Off	II	On	-.185	On	0
78073	I	II	Off	-.185	Off	0
78074	I	Off	Off	-.185	Off	0
78075	I	II	Off	.185	Off	0
78078	I	II	Off	.185	On	0
78081	I	Off	Off	.185	On	0
78084	I	Off	Off	.185	Off	0
78136	IV	Off	Off	.185	Off	0
78137	IV	II	Off	.185	Off	0
78138	III	II	Off	.185	Off	0
78139	III	Off	Off	.185	Off	0
78158	II	II	Off	.0	Off	0
78161	II	II	Off	.0	On	0
78164	II	Off	Off	.0	On	0
78167	Off	II	Off	.0	Off	0
78175	I	II	Off	.0	Off	0
78178	I	Off	Off	.0	Off	0
78181	II	II	Off	.0	On	0

TABLE IV.- TEST DATA

Symbols used in the tabulated data are defined as follows:

CONFIG NO.	configuration number (see table III)
SECOND BALANCE	canard balance
ALPHA	angle of attack, deg
CL1	lift coefficient, main balance
CD1	drag coefficient, main balance
CM1	pitching-moment coefficient, main balance
CN1	normal-force coefficient, main balance
CA1	axial-force coefficient, main balance
CN2	normal-force coefficient, canard balance
CL2	lift coefficient, canard balance
CM2	pitching-moment coefficient, canard balance

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74001				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.35	-.2507	.0337	-.0530	-.2525	.0146	-.0983	-.0975	-.1028
-2.61	-.1496	.0238	-.0308	-.1505	.0170	-.0545	-.0541	-.0584
-.59	-.0277	.0204	-.0105	-.0279	.0201	-.0056	-.0055	-.0055
2.12	.1262	.0241	.0263	.1270	.0194	.0528	.0525	.0522
4.22	.2644	.0368	.0562	.2664	.0173	.1084	.1078	.1085
6.25	.3975	.0583	.0869	.4014	.0147	.1648	.1637	.1666
8.60	.5711	.0982	.1280	.5794	.0117	.2361	.2336	.2395
10.52	.7027	.1402	.1654	.7165	.0095	.2947	.2905	.3012
12.88	.8708	.2072	.2098	.8951	.0079	.3711	.3634	.3825
14.88	1.0286	.2793	.2430	1.0658	.0058	.4343	.4219	.4523
17.10	1.1846	.3681	.2856	1.2405	.0036	.5074	.4883	.5316
19.28	1.3427	.4714	.3342	1.4230	.0015	.5889	.5606	.6177
21.42	1.4808	.5783	.3908	1.5897	-.0023	.6717	.6317	.7043
25.74	1.7697	.8411	.5055	1.9593	-.0111	.8449	.7722	.8891
30.03	1.9834	1.1219	.5792	2.2786	-.0213	.9567	.8448	1.0271
34.38	2.0752	1.3897	.6496	2.4974	-.0250	1.0496	.8897	1.1474
38.43	2.1235	1.6507	.7123	2.6894	-.0268	1.1476	.9301	1.2629
42.34	1.9739	1.7643	.7700	2.6473	-.0253	1.1824	.9126	1.3083
-.01	-.0051	.0188	.0005	-.0051	.0188	.0024	.0024	.0008

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74005				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.40	-.2531	.0328	-.0430	-.2549	.0132	-.0985	-.0977	-.0962
-.62	-.0277	.0199	-.0025	-.0279	.0196	-.0074	-.0073	-.0092
2.13	.1297	.0236	.0239	.1305	.0188	.0509	.0506	.0462
4.08	.2504	.0344	.0448	.2522	.0164	.1001	.0996	.0940
6.21	.3990	.0566	.0685	.4028	.0131	.1561	.1551	.1466
8.53	.5638	.0944	.0937	.5716	.0098	.2173	.2153	.2055
10.49	.6890	.1355	.1119	.7022	.0077	.2616	.2581	.2491
12.62	.8305	.1923	.1301	.8525	.0062	.3126	.3065	.2991
14.76	.9811	.2622	.1491	1.0156	.0035	.3694	.3594	.3544
16.80	1.1107	.3372	.1699	1.1608	.0017	.4215	.4065	.4049
19.08	1.2514	.4322	.1879	1.3239	-.0006	.4765	.4545	.4592
21.09	1.3545	.5211	.2015	1.4513	-.0012	.5155	.4858	.4977
25.21	1.5455	.7237	.2284	1.7065	-.0035	.6020	.5510	.5781
29.56	1.7400	.9789	.2595	1.9965	-.0068	.7052	.6225	.6780
33.60	1.8125	1.1957	.2614	2.1714	-.0071	.7676	.6518	.7378
37.68	1.7072	1.3138	.2846	2.1542	-.0036	.7914	.6433	.7648
41.55	1.5493	1.3713	.2837	2.0691	-.0015	.7711	.5980	.7469
-.09	-.0089	.0182	.0018	-.0090	.0182	.0010	.0010	-.0010

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 74010					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.40	-.2549	.0330	-.0425	-.2567	.0133	-.0962	-.0955	-.0936
-2.65	-.1527	.0229	-.0243	-.1536	.0158	-.0533	-.0529	-.0534
-.59	-.0301	.0188	-.0023	-.0303	.0185	-.0056	-.0056	-.0073
2.29	.1369	.0229	.0245	.1377	.0174	.0553	.0551	.0518
4.25	.2621	.0338	.0471	.2639	.0143	.1053	.1048	.0981
6.36	.4061	.0567	.0700	.4098	.0114	.1613	.1604	.1510
8.52	.5524	.0907	.0917	.5598	.0079	.2150	.2131	.2030
10.66	.6945	.1369	.1144	.7079	.0060	.2674	.2639	.2550
12.66	.8214	.1888	.1313	.8428	.0042	.3231	.3169	.3113
14.84	.9762	.2603	.1501	1.0103	.0015	.3702	.3603	.3555
16.77	1.0967	.3297	.1707	1.1452	-.0008	.4201	.4054	.4038
19.05	1.2340	.4230	.1885	1.3045	-.0030	.4728	.4512	.4556
21.19	1.3605	.5235	.2048	1.4577	-.0036	.5210	.4909	.5032
25.16	1.5566	.7255	.2329	1.7174	-.0052	.6091	.5579	.5870
29.64	1.7380	.9782	.2604	1.9944	-.0093	.7085	.6254	.6819
33.69	1.8041	1.1915	.2652	2.1621	-.0092	.7695	.6532	.7403
37.56	1.6957	1.2963	.2856	2.1345	-.0060	.7855	.6397	.7590
-.02	-.0075	.0176	.0011	-.0075	.0176	.0033	.0033	.0015

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 74015					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.29	-.2189	.0266	.0365	-.2202	.0102	-.0100	-.0098	-.0210
-.59	-.0225	.0160	.0028	-.0226	.0157	-.0010	-.0010	-.0037
2.37	.1251	.0195	-.0193	.1258	.0143	.0067	.0066	.0106
4.05	.2179	.0280	-.0339	.2194	.0125	.0111	.0109	.0186
6.32	.3441	.0477	-.0548	.3473	.0095	.0181	.0178	.0346
8.19	.4412	.0716	-.0691	.4469	.0080	.0241	.0236	.0409
10.34	.5415	.1061	-.0809	.5518	.0072	.0315	.0308	.0525
12.20	.6208	.1415	-.0960	.6366	.0071	.0375	.0364	.0619
14.46	.6993	.1877	-.1121	.7240	.0072	.0447	.0431	.0730
16.40	.7896	.2415	-.1365	.8256	.0088	.0513	.0492	.0838
18.48	.8300	.2944	-.1734	.8805	.0162	.0598	.0574	.0968
20.46	.8518	.3371	-.1940	.9159	.0181	.0662	.0632	.1073
24.43	.9526	.4484	-.2217	1.0528	.0142	.0804	.0753	.1281
28.63	.9825	.5520	-.2244	1.1268	.0137	.0955	.0869	.1514
32.45	.9962	.6486	-.2301	1.1887	.0129	.1088	.0963	.1721
37.02	.9826	.7495	-.2392	1.2358	.0068	.1270	.1081	.1979
-.01	-.0011	.0145	.0007	-.0011	.0145	.0010	.0010	-.0004

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74020				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.20	-.2147	.0279	.0343	-.2162	.0121	-.0100	-.0098	-.0206
-.58	-.0213	.0177	.0029	-.0215	.0175	-.0005	-.0005	-.0029
2.12	.1075	.0207	-.0170	.1082	.0167	.0062	.0061	.0093
4.06	.2153	.0296	-.0343	.2168	.0143	.0110	.0109	.0184
6.19	.3309	.0477	-.0528	.3342	.0118	.0172	.0170	.0286
8.33	.4453	.0752	-.0706	.4515	.0099	.0240	.0236	.0406
10.40	.5341	.1074	-.0815	.5447	.0092	.0307	.0300	.0513
12.37	.6253	.1466	-.0979	.6422	.0093	.0374	.0362	.0618
14.36	.7091	.1918	-.1163	.7345	.0099	.0445	.0429	.0730
16.31	.7836	.2405	-.1363	.8196	.0108	.0510	.0490	.0831
18.45	.8305	.2960	-.1790	.8815	.0179	.0600	.0576	.0969
20.44	.8545	.3403	-.1966	.9195	.0204	.0660	.0631	.1064
24.43	.9597	.4544	-.2244	1.0617	.0168	.0803	.0751	.1277
28.64	.9914	.5570	-.2319	1.1370	.0136	.0947	.0863	.1505
32.61	1.0004	.6518	-.2388	1.1939	.0099	.1085	.0961	.1711
36.55	.9846	.7371	-.2424	1.2299	.0059	.1201	.1029	.1888
40.55	.9802	.8405	-.2442	1.2912	.0014	.1335	.1104	.2089
-.02	-.0013	.0166	.0005	-.0013	.0166	.0007	.0007	-.0052

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74026				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.24	-.0911	.0175	-.0865	-.0922	.0107	-.0985	-.0978	-.0988
-.56	-.0049	.0139	-.0081	-.0050	.0139	-.0052	-.0051	-.0066
2.06	.0458	.0155	.0397	.0463	.0138	.0434	.0432	.0407
4.06	.0927	.0194	.0840	.0939	.0128	.0891	.0886	.0841
6.13	.1641	.0288	.1249	.1662	.0111	.1352	.1343	.1281
8.24	.1864	.0376	.1753	.1898	.0105	.1839	.1822	.1758
10.28	.2271	.0507	.2148	.2325	.0094	.2241	.2212	.2162
12.22	.2676	.0675	.2545	.2758	.0093	.2638	.2590	.2565
14.31	.3038	.0862	.2913	.3157	.0084	.3010	.2934	.2945
16.43	.3382	.1077	.3314	.3548	.0077	.3343	.3230	.3280
18.43	.3687	.1300	.3664	.3909	.0068	.3737	.3575	.3707
20.50	.3884	.1521	.3908	.4171	.0064	.3942	.3726	.3944
24.67	.4293	.2037	.4429	.4752	.0059	.4395	.4030	.4418
28.74	.4645	.2588	.4938	.5317	.0036	.4852	.4305	.4892
32.64	.4865	.3126	.5335	.5782	.0008	.5196	.4449	.5248
36.69	.5010	.3696	.5577	.6226	-.0030	.5428	.4463	.5511
40.65	.5047	.4240	.5707	.6591	-.0072	.5595	.4396	.5700
.02	.0023	.0128	-.0006	.0023	.0128	.0020	.0020	.0006

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 74032					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
.01	-.0005	.0115	.0002	-.0005	.0115	.0006	.0006	-.0011
1.99	.0436	.0128	.0409	.0440	.0113	.0436	.0434	.0410
4.06	.0905	.0171	.0844	.0915	.0107	.0891	.0887	.0840
6.15	.1491	.0253	.1281	.1509	.0092	.1362	.1353	.1289
8.19	.1826	.0347	.1747	.1857	.0083	.1831	.1814	.1746
10.17	.2243	.0476	.2133	.2292	.0072	.2216	.2188	.2137
12.43	.2700	.0660	.2581	.2778	.0064	.2668	.2617	.2593
14.36	.3025	.0835	.2918	.3137	.0058	.3007	.2931	.2941
16.36	.3402	.1053	.3332	.3561	.0052	.3417	.3302	.3362
18.61	.3736	.1301	.3699	.3956	.0040	.3768	.3603	.3739
20.55	.3901	.1506	.3924	.4181	.0041	.3953	.3736	.3953
24.63	.4279	.2007	.4420	.4727	.0041	.4384	.4022	.4404
28.69	.4650	.2563	.4941	.5309	.0017	.4856	.4312	.4891
32.59	.4888	.3113	.5294	.5795	-.0009	.5201	.4457	.5251
36.76	.4991	.3671	.5536	.6195	-.0045	.5408	.4445	.5487
40.65	.5075	.4246	.5695	.6616	-.0085	.5615	.4414	.5716
.02	-.0004	.0113	.0005	-.0004	.0113	.0024	.0024	.0010

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 74038					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-.02	-.0007	.0117	-.0050	-.0007	.0117	.0014	.0014	.0004
1.98	.0388	.0143	.0436	.0393	.0130	.0438	.0435	.0444
4.11	.0928	.0188	.0932	.0939	.0121	.0895	.0889	.0906
6.13	.1406	.0265	.1445	.1427	.0114	.1422	.1411	.1461
8.28	.2027	.0401	.2044	.2064	.0105	.2001	.1980	.2063
10.26	.2484	.0547	.2564	.2542	.0096	.2473	.2437	.2579
12.38	.3276	.0805	.3158	.3372	.0084	.3062	.2999	.3214
14.43	.3620	.1022	.3823	.3760	.0087	.3666	.3567	.3884
16.75	.4132	.1315	.4433	.4336	.0069	.4206	.4053	.4512
18.72	.4644	.1631	.5039	.4922	.0055	.4744	.4528	.5119
20.95	.5298	.2092	.5838	.5696	.0059	.5480	.5168	.5934
24.90	.6359	.2949	.7215	.7010	-.0002	.6730	.6191	.7303
29.17	.7001	.3843	.8406	.7986	-.0056	.7617	.6785	.8451
33.39	.7088	.4557	.9124	.8427	-.0096	.8035	.6888	.9119
37.24	.7100	.5238	.9526	.8822	-.0126	.8298	.6818	.9484
41.13	.7145	.6013	.9957	.9337	-.0171	.8626	.6760	.9943
.01	-.0004	.0119	.0000	-.0004	.0119	.0072	.0072	.0068

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74044

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.68	-.0645	.0146	-.0741	-.0653	.0104	-.0629	-.0624	-.0700
-2.05	-.0363	.0129	-.0420	-.0367	.0116	-.0356	-.0354	-.0407
.27	-.0042	.0116	-.0100	-.0042	.0116	-.0060	-.0060	-.0079
2.74	.0277	.0129	.0259	.0282	.0116	.0257	.0255	.0267
4.67	.0594	.0161	.0570	.0605	.0112	.0551	.0547	.0587
6.67	.0879	.0203	.0889	.0896	.0100	.0851	.0844	.0911
9.06	.1278	.0295	.1319	.1309	.0090	.1250	.1236	.1345
11.00	.1706	.0408	.1657	.1753	.0075	.1575	.1552	.1710
12.93	.1953	.0516	.2049	.2019	.0066	.1928	.1891	.2097
14.95	.2278	.0669	.2425	.2373	.0059	.2265	.2207	.2489
16.96	.2635	.0850	.2823	.2768	.0044	.2623	.2535	.2899
19.05	.2992	.1060	.3221	.3174	.0026	.2987	.2858	.3310
20.96	.3342	.1287	.3660	.3581	.0007	.3383	.3206	.3739
25.37	.4164	.1923	.4702	.4587	-.0046	.4345	.4009	.4805
29.23	.4642	.2498	.5484	.5271	-.0087	.4987	.4470	.5575
33.37	.4726	.2952	.5952	.5571	-.0134	.5222	.4513	.6006
35.55	.4868	.3284	.6305	.5870	-.0158	.5478	.4630	.6337
37.47	.4817	.3467	.6409	.5933	-.0178	.5531	.4580	.6435
39.44	.4840	.3723	.6591	.6103	-.0200	.5655	.4580	.6613
41.32	.4877	.3991	.6741	.6298	-.0222	.5776	.4570	.6779
.36	-.0063	.0103	-.0116	-.0062	.0104	-.0056	-.0056	-.0071

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74045

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.07	-.0194	.0156	-.0390	-.0205	.0142	-.0230	-.0225	-.0394
-2.45	.0056	.0145	-.0140	.0049	.0147	.0013	.0016	-.0129
-.09	.0367	.0145	.0192	.0367	.0145	.0311	.0311	.0199
2.24	.0723	.0170	.0533	.0729	.0142	.0628	.0626	.0545
4.33	.1028	.0213	.0889	.1041	.0135	.0966	.0961	.0906
6.57	.1388	.0285	.1273	.1412	.0125	.1315	.1306	.1286
8.44	.1719	.0369	.1604	.1754	.0113	.1626	.1609	.1623
10.52	.2015	.0480	.1943	.2069	.0104	.1924	.1895	.1963
12.63	.2408	.0633	.2369	.2489	.0091	.2326	.2279	.2410
14.50	.2736	.0796	.2735	.2848	.0085	.2665	.2596	.2796
16.69	.3093	.1005	.3164	.3251	.0075	.3042	.2937	.3236
18.92	.3488	.1259	.3647	.3708	.0060	.3480	.3324	.3724
20.75	.3866	.1507	.4078	.4149	.0040	.3883	.3674	.4161
24.76	.4491	.2074	.4956	.4946	.0002	.4661	.4308	.5042
29.11	.4855	.2652	.5679	.5532	-.0044	.5181	.4636	.5756
33.13	.5006	.3155	.6206	.5916	-.0094	.5476	.4732	.6220
35.16	.5009	.3384	.6441	.6044	-.0118	.5626	.4769	.6443
37.31	.5051	.3682	.6647	.6249	-.0134	.5758	.4765	.6631
39.06	.5038	.3889	.6782	.6362	-.0155	.5848	.4742	.6765
41.18	.5044	.4183	.6900	.6550	-.0172	.5944	.4695	.6906
.00	.0317	.0133	.0165	.0317	.0133	.0296	.0296	.0184

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74046

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.96	.0037	.0178	-.0246	.0024	.0180	-.0026	-.0019	-.0244
-2.24	.0247	.0172	.0017	.0240	.0181	.0206	.0210	.0014
-.04	.0586	.0188	.0340	.0586	.0188	.0501	.0501	.0343
2.34	.0957	.0224	.0712	.0966	.0185	.0845	.0841	.0706
4.31	.1310	.0279	.1089	.1327	.0179	.1191	.1183	.1061
6.63	.1765	.0373	.1518	.1796	.0167	.1637	.1622	.1536
8.47	.2072	.0466	.1833	.2118	.0156	.1934	.1910	.1866
10.64	.2375	.0600	.2199	.2445	.0151	.2248	.2208	.2232
12.53	.2765	.0756	.2565	.2863	.0139	.2579	.2520	.2604
14.61	.3107	.0943	.3020	.3244	.0128	.3002	.2914	.3069
17.01	.3568	.1212	.3599	.3767	.0115	.3515	.3379	.3626
19.08	.3952	.1478	.4018	.4218	.0105	.3921	.3731	.4079
21.07	.4305	.1756	.4503	.4648	.0091	.4352	.4097	.4548
24.96	.4847	.2311	.5285	.5370	.0050	.5011	.4603	.5340
28.93	.5089	.2818	.5860	.5817	.0005	.5374	.4797	.5898
32.96	.5196	.3326	.6336	.6169	-.0036	.5657	.4876	.6348
34.98	.5303	.3644	.6628	.6434	-.0055	.5849	.4934	.6601
37.16	.5190	.3822	.6752	.6445	-.0090	.5894	.4859	.6708
39.09	.5139	.4049	.6859	.6541	-.0097	.5938	.4785	.6812
41.13	.5217	.4393	.7109	.6819	-.0122	.6139	.4824	.7075
.09	.0685	.0163	.0421	.0685	.0162	.0619	.0619	.0432

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74047

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.04	-.2026	.0336	.0351	-.2045	.0192	.0005	.0010	-.0237
-2.25	-.1160	.0258	.0400	-.1170	.0212	.0230	.0233	.0009
-.07	.0135	.0237	.0480	.0135	.0237	.0569	.0569	.0380
2.48	.1508	.0301	.0641	.1519	.0236	.1005	.1002	.0831
4.46	.2726	.0428	.0752	.2751	.0215	.1369	.1362	.1214
6.77	.4213	.0688	.0859	.4264	.0186	.1789	.1775	.1665
8.74	.5570	.1017	.0922	.5660	.0159	.2106	.2082	.2030
10.90	.6779	.1439	.1090	.6929	.0131	.2505	.2464	.2465
13.23	.8428	.2096	.1315	.8684	.0112	.3110	.3039	.3096
15.04	.9485	.2652	.1413	.9848	.0099	.3408	.3307	.3440
17.17	1.0913	.3461	.1647	1.1449	.0086	.3980	.3825	.4051
19.39	1.2262	.4388	.1868	1.3024	.0069	.4515	.4289	.4632
21.74	1.3543	.5452	.2180	1.4599	.0047	.5106	.4784	.5265
25.63	1.5360	.7374	.2581	1.7038	.0003	.5967	.5448	.6251
30.00	1.6943	.9706	.2960	1.9527	-.0065	.6776	.5975	.7230
34.02	1.7209	1.1589	.2824	2.0747	-.0023	.7050	.6007	.7760
36.18	1.6908	1.2321	.2941	2.0921	-.0035	.7185	.5985	.7953
38.00	1.6884	1.3122	.3083	2.1383	-.0052	.7403	.6038	.8225
40.17	1.6693	1.3984	.3275	2.1776	-.0083	.7635	.6063	.8510
42.14	1.6582	1.4877	.3542	2.2277	-.0093	.7947	.6151	.8899
.04	.0045	.0217	.0487	.0045	.0217	.0558	.0558	.0371

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74048				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.19	-.2363	.0321	.0076	-.2380	.0147	-.0336	-.0331	-.0500
-2.05	-.1202	.0225	.0161	-.1209	.0182	-.0005	-.0003	-.0151
-.09	-.0043	.0208	.0242	-.0043	.0208	.0307	.0307	.0189
2.35	.1285	.0255	.0363	.1294	.0202	.0684	.0682	.0592
4.52	.2638	.0387	.0470	.2660	.0177	.1069	.1065	.0999
6.66	.3843	.0591	.0570	.3886	.0141	.1426	.1417	.1377
8.94	.5467	.0973	.0706	.5552	.0111	.1889	.1869	.1883
10.72	.6600	.1343	.0825	.6734	.0092	.2213	.2180	.2249
13.07	.8237	.1982	.1032	.8471	.0068	.2774	.2716	.2844
15.23	.9626	.2675	.1178	.9991	.0052	.3237	.3143	.3367
17.10	1.0655	.3318	.1349	1.1160	.0038	.3649	.3514	.3813
19.52	1.1998	.4275	.1596	1.2737	.0019	.4201	.3997	.4409
21.24	1.2868	.5000	.1810	1.3805	-.0001	.4621	.4357	.4849
25.54	1.4942	.7084	.2291	1.6536	-.0051	.5635	.5166	.5981
29.84	1.7388	.9829	.2800	1.9974	-.0127	.6830	.6055	.7331
33.86	1.7503	1.1592	.2690	2.0993	-.0125	.7019	.5998	.7701
36.08	1.7530	1.2635	.2738	2.1609	-.0111	.7256	.6064	.8040
38.01	1.6695	1.2900	.2950	2.1098	-.0118	.7252	.5942	.8108
39.96	1.6643	1.3759	.3132	2.1594	-.0142	.7553	.6046	.8470
41.96	1.5739	1.3936	.3175	2.1021	-.0162	.7443	.5807	.8371
.02	-.0089	.0186	.0231	-.0089	.0186	.0301	.0301	.0190

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74049				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.10	-.2470	.0323	-.0198	-.2487	.0145	-.0699	-.0693	-.0773
-2.73	-.1494	.0255	-.0142	-.1505	.0184	-.0418	-.0415	-.0468
-.14	-.0213	.0196	-.0051	-.0213	.0195	-.0063	-.0063	-.0081
2.38	.1155	.0237	.0049	.1163	.0189	.0289	.0287	.0302
4.33	.2318	.0337	.0134	.2337	.0161	.0618	.0615	.0649
6.29	.3589	.0530	.0235	.3626	.0134	.0980	.0973	.1040
8.40	.4980	.0841	.0361	.5049	.0105	.1395	.1382	.1481
10.61	.6329	.1265	.0526	.6453	.0078	.1794	.1769	.1922
13.08	.7856	.1881	.0713	.8078	.0055	.2317	.2270	.2490
14.97	.8954	.2438	.0828	.9280	.0043	.2670	.2600	.2888
17.03	1.0229	.3161	.1013	1.0706	.0026	.3149	.3041	.3411
19.35	1.1488	.4046	.1250	1.2179	.0010	.3681	.3515	.3985
21.38	1.2446	.4874	.1486	1.3367	.0000	.4186	.3955	.4519
25.52	1.4405	.6801	.1922	1.5930	-.0069	.5161	.4751	.5589
29.74	1.4878	.8456	.2671	1.7113	-.0038	.6123	.5464	.6688
33.79	1.6299	1.0768	.2522	1.9535	-.0116	.6510	.5609	.7300
35.79	1.6402	1.1648	.2593	2.0117	-.0142	.6696	.5655	.7543
37.75	1.6465	1.2536	.2715	2.0693	-.0168	.6947	.5742	.7848
39.75	1.6420	1.3411	.2871	2.1200	-.0190	.7202	.5815	.8152
41.99	1.6446	1.4520	.3141	2.1938	-.0211	.7642	.5998	.8672
-.03	-.0223	.0184	-.0058	-.0224	.0184	-.0062	-.0062	-.0073

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74050

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.05	-.2377	.0308	-.0135	-.2393	.0139	-.0650	-.0646	-.0680
-2.54	-.1417	.0240	-.0104	-.1427	.0177	-.0394	-.0391	-.0419
-.13	-.0187	.0191	-.0029	-.0188	.0191	-.0059	-.0058	-.0069
2.21	.1041	.0223	.0029	.1048	.0183	.0258	.0256	.0264
4.41	.2384	.0340	.0095	.2404	.0155	.0617	.0614	.0628
6.33	.3560	.0521	.0135	.3595	.0125	.0940	.0935	.0957
8.70	.5060	.0867	.0207	.5133	.0092	.1332	.1320	.1365
10.58	.6189	.1230	.0259	.6309	.0073	.1626	.1605	.1672
12.71	.7459	.1739	.0300	.7658	.0055	.1958	.1922	.2016
14.84	.8605	.2325	.0364	.8914	.0044	.2305	.2245	.2373
16.91	.9712	.2990	.0434	1.0162	.0035	.2673	.2582	.2750
19.15	1.0819	.3782	.0442	1.1461	.0024	.3014	.2879	.3110
20.96	1.1684	.4497	.0478	1.2519	.0019	.3332	.3154	.3432
25.20	1.1950	.5761	.0522	1.3265	.0125	.3884	.3588	.4024
29.25	1.2710	.7245	.0632	1.4629	.0110	.4338	.3882	.4522
33.41	1.3917	.9227	.0573	1.6698	.0039	.4787	.4116	.5002
35.40	1.4250	1.0132	.0573	1.7485	.0003	.4977	.4192	.5206
37.42	1.3824	1.0599	.0764	1.7420	.0018	.5109	.4212	.5366
39.35	1.3713	1.1233	.0798	1.7727	-.0009	.5210	.4202	.5486
41.59	1.3275	1.1743	.0854	1.7723	-.0030	.5247	.4119	.5537
-.02	-.0235	.0183	-.0042	-.0235	.0183	-.0067	-.0067	-.0074

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74051

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.12	-.2185	.0316	.0107	-.2202	.0158	-.0316	-.0312	-.0440
-2.50	-.1342	.0244	.0143	-.1351	.0185	-.0059	-.0057	-.0171
-.10	-.0045	.0203	.0220	-.0046	.0203	.0277	.0277	.0173
2.25	.1230	.0249	.0308	.1239	.0200	.0627	.0625	.0534
4.42	.2522	.0365	.0375	.2543	.0169	.0991	.0987	.0900
6.47	.3808	.0577	.0440	.3849	.0144	.1342	.1334	.1256
8.64	.5195	.0899	.0455	.5271	.0108	.1680	.1664	.1616
11.02	.6685	.1390	.0500	.6828	.0087	.2031	.2000	.1993
12.76	.7720	.1825	.0515	.7932	.0075	.2295	.2248	.2272
14.93	.9002	.2464	.0580	.9333	.0062	.2666	.2591	.2657
16.91	.9998	.3081	.0618	1.0462	.0040	.2974	.2866	.2974
19.20	1.1384	.3999	.0675	1.2066	.0034	.3398	.3239	.3418
21.08	1.1948	.4620	.0713	1.2810	.0014	.3625	.3421	.3649
25.33	1.3766	.6552	.0751	1.5246	.0033	.4380	.4021	.4435
29.46	1.4391	.8213	.0639	1.6570	.0074	.4810	.4277	.4917
33.32	1.4754	.9747	.0699	1.7683	.0039	.5112	.4381	.5258
35.46	1.4799	1.0557	.0778	1.8179	.0014	.5299	.4442	.5474
37.69	1.4645	1.1314	.0847	1.8506	-.0003	.5435	.4446	.5639
39.87	1.4316	1.1943	.0928	1.8643	-.0010	.5554	.4433	.5789
41.51	1.3596	1.2024	.0966	1.8150	-.0005	.5465	.4275	.5715

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74053				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.03	-.2150	.0323	.0407	-.2167	.0171	.0028	.0033	-.0179
-2.51	-.1195	.0269	.0434	-.1206	.0217	.0265	.0268	.0065
-.23	.0097	.0244	.0506	.0096	.0244	.0600	.0600	.0417
2.15	.1346	.0293	.0615	.1356	.0242	.0975	.0972	.0793
4.50	.2802	.0444	.0716	.2828	.0223	.1408	.1401	.1229
6.50	.4069	.0662	.0749	.4117	.0197	.1731	.1717	.1558
8.61	.5409	.0988	.0701	.5496	.0167	.1988	.1964	.1857
10.61	.6592	.1387	.0746	.6735	.0149	.2260	.2221	.2151
12.69	.7859	.1909	.0744	.8086	.0136	.2565	.2504	.2479
14.88	.9185	.2560	.0804	.9535	.0115	.2949	.2854	.2880
16.90	1.0473	.3294	.0832	1.0978	.0107	.3289	.3154	.3233
18.96	1.1451	.4032	.0892	1.2140	.0094	.3618	.3434	.3574
21.10	1.2467	.4898	.0988	1.3394	.0081	.4004	.3756	.3973
25.24	1.4027	.6698	.1066	1.5544	.0078	.4669	.4261	.4676
29.38	1.5593	.8882	.0759	1.7945	.0091	.5180	.4574	.5234
33.54	1.5190	1.0213	.0836	1.8304	.0120	.5375	.4557	.5491
35.46	1.5009	1.0807	.0958	1.8495	.0095	.5490	.4560	.5634
.04	.0067	.0226	.0508	.0067	.0226	.0624	.0624	.0439

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74054				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.93	.0183	.0155	-.0063	.0172	.0167	.0149	.0154	-.0076
-2.45	.0408	.0167	.0176	.0400	.0184	.0372	.0376	.0158
-.22	.0717	.0181	.0478	.0716	.0184	.0662	.0663	.0469
2.20	.1062	.0220	.0847	.1070	.0179	.1033	.1030	.0838
4.19	.1373	.0271	.1142	.1389	.0170	.1334	.1327	.1147
6.31	.1708	.0350	.1467	.1736	.0160	.1652	.1639	.1480
8.39	.1951	.0439	.1727	.1994	.0150	.1884	.1862	.1737
10.46	.2134	.0543	.1953	.2197	.0146	.2069	.2034	.1969
12.35	.2342	.0658	.2190	.2429	.0142	.2281	.2229	.2210
14.39	.2548	.0796	.2446	.2666	.0137	.2542	.2465	.2502
16.41	.2827	.0969	.2694	.2985	.0130	.2747	.2639	.2727
18.63	.3041	.1151	.2997	.3250	.0119	.3023	.2874	.3031
20.65	.3258	.1338	.3278	.3521	.0104	.3274	.3081	.3303
24.64	.3616	.1738	.3773	.4012	.0072	.3706	.3402	.3788
28.66	.3805	.2141	.4111	.4365	.0054	.3979	.3540	.4132
32.68	.3920	.2542	.4433	.4672	.0022	.4168	.3575	.4386
34.73	.3981	.2766	.4558	.4848	.0006	.4262	.3584	.4510
36.72	.3980	.2951	.4661	.4954	-.0014	.4331	.3568	.4606
38.85	.4023	.3188	.4734	.5133	-.0040	.4386	.3530	.4689
40.71	.3975	.3347	.4736	.5196	-.0055	.4387	.3455	.4714
.08	.0689	.0159	.0474	.0689	.0158	.0667	.0667	.0471

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74056				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-2.58	-.0333	.0184	-.0418	-.0341	.0169	-.0384	-.0379	-.0421
-.03	-.0102	.0168	-.0118	-.0103	.0168	-.0107	-.0107	-.0122
2.01	.0188	.0186	.0170	.0195	.0179	.0163	.0160	.0162
4.15	.0501	.0208	.0489	.0514	.0172	.0471	.0464	.0485
6.42	.0857	.0255	.0857	.0880	.0157	.0851	.0840	.0865
8.31	.1181	.0319	.1153	.1215	.0144	.1142	.1126	.1165
10.32	.1375	.0388	.1413	.1422	.0135	.1378	.1353	.1427
12.37	.1650	.0489	.1673	.1717	.0124	.1623	.1587	.1698
14.36	.1921	.0610	.1951	.2012	.0115	.1884	.1831	.1978
16.35	.2157	.0740	.2217	.2279	.0103	.2138	.2061	.2250
18.40	.2391	.0885	.2476	.2548	.0085	.2380	.2272	.2517
20.70	.2713	.1103	.2832	.2928	.0073	.2724	.2572	.2873
24.38	.3113	.1458	.3341	.3438	.0043	.3206	.2961	.3381
28.41	.3388	.1844	.3769	.3857	.0010	.3549	.3181	.3785
32.72	.3550	.2250	.4095	.4203	-.0026	.3788	.3265	.4080
34.95	.3637	.2488	.4275	.4406	-.0044	.3932	.3316	.4250
36.62	.3695	.2669	.4353	.4557	-.0062	.3997	.3313	.4341
38.82	.3745	.2902	.4469	.4737	-.0086	.4095	.3314	.4471
40.72	.3740	.3081	.4478	.4845	-.0105	.4071	.3224	.4459
.03	-.0038	.0143	-.0072	-.0038	.0143	-.0055	-.0055	-.0079

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74063				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.08	-.2157	.0307	.0594	-.2173	.0153	-.0105	-.0103	-.0215
-2.58	-.1163	.0250	.0290	-.1173	.0197	-.0052	-.0051	-.0123
-.38	-.0028	.0211	.0009	-.0030	.0211	-.0005	-.0005	-.0026
2.13	.0914	.0230	-.0256	.0922	.0196	.0054	.0053	.0088
4.07	.2015	.0320	-.0582	.2033	.0176	.0112	.0110	.0187
6.43	.3244	.0513	-.0941	.3281	.0146	.0173	.0169	.0295
8.33	.4348	.0758	-.1252	.4412	.0120	.0238	.0232	.0405
10.26	.5440	.1078	-.1491	.5545	.0092	.0302	.0293	.0507
12.45	.6443	.1505	-.1579	.6616	.0080	.0383	.0367	.0632
14.46	.7209	.1919	-.1662	.7460	.0058	.0444	.0424	.0723
16.44	.8215	.2467	-.1820	.8577	.0042	.0531	.0502	.0854
18.56	.9142	.3101	-.1972	.9654	.0030	.0627	.0585	.0997
20.38	.9843	.3672	-.2088	1.0506	.0015	.0692	.0639	.1091
24.66	1.1538	.5277	-.2411	1.2688	-.0019	.0880	.0790	.1373
28.97	1.2830	.7029	-.2880	1.4629	-.0063	.1024	.0886	.1588
33.04	1.1628	.7532	-.2468	1.3854	-.0025	.1169	.0988	.1808
34.75	1.1591	.8016	-.2495	1.4093	-.0022	.1246	.1039	.1923
36.74	1.1237	.8348	-.2481	1.3998	-.0033	.1281	.1051	.1972
38.80	1.0993	.8788	-.2516	1.4074	-.0041	.1354	.1088	.2079
40.71	1.0727	.9150	-.2500	1.4099	-.0059	.1414	.1113	.2166
-.02	-.0178	.0193	.0026	-.0178	.0193	-.0001	-.0001	-.0023

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74064				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.16	-.2415	.0321	-.0211	-.2432	.0145	-.0963	-.0956	-.0955
-2.64	-.1337	.0251	-.0126	-.1347	.0189	-.0526	-.0522	-.0540
-.23	-.0101	.0210	.0008	-.0102	.0210	-.0021	-.0021	-.0046
2.10	.1114	.0250	.0161	.1122	.0209	.0472	.0470	.0437
4.39	.2497	.0365	.0302	.2518	.0173	.1059	.1054	.0989
6.38	.3736	.0567	.0361	.3776	.0148	.1524	.1515	.1438
8.65	.5188	.0906	.0474	.5266	.0115	.2092	.2073	.1984
10.59	.6483	.1309	.0577	.6613	.0094	.2558	.2523	.2446
12.61	.7742	.1809	.0729	.7950	.0074	.3020	.2962	.2897
14.86	.9111	.2471	.0957	.9440	.0051	.3596	.3497	.3459
17.09	1.0283	.3176	.1171	1.0763	.0014	.4082	.3933	.3932
19.11	1.1388	.3941	.1385	1.2051	-.0005	.4538	.4328	.4385
21.21	1.2673	.4910	.1638	1.3591	-.0008	.5033	.4739	.4876
25.40	1.4772	.6956	.2118	1.6328	-.0053	.6001	.5479	.5793
29.71	1.6355	.9186	.2790	1.8758	-.0127	.6984	.6153	.6724
33.88	1.7569	1.1597	.3282	2.1051	-.0167	.7854	.6635	.7565
35.92	1.7748	1.2615	.3471	2.1774	-.0196	.8133	.6717	.7840
37.94	1.7700	1.3520	.3619	2.2272	-.0221	.8338	.6726	.8041
39.93	1.7473	1.4312	.3704	2.2585	-.0241	.8485	.6678	.8184
41.92	1.7105	1.5067	.3622	2.2794	-.0218	.8558	.6563	.8258
-.04	-.0227	.0187	-.0007	-.0227	.0187	-.0030	-.0030	-.0039

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74065				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.07	-.2297	.0297	-.0213	-.2312	.0133	-.0937	-.0931	-.0924
-2.67	-.1385	.0235	-.0141	-.1394	.0170	-.0551	-.0547	-.0565
-.19	-.0151	.0186	-.0004	-.0152	.0185	-.0039	-.0038	-.0058
2.30	.1138	.0222	.0145	.1146	.0176	.0479	.0477	.0443
4.39	.2486	.0341	.0287	.2505	.0150	.1031	.1027	.0957
6.44	.3774	.0545	.0354	.3811	.0118	.1533	.1524	.1439
8.35	.5040	.0833	.0459	.5107	.0092	.2023	.2006	.1911
10.77	.6659	.1335	.0589	.6791	.0067	.2607	.2571	.2488
13.16	.8075	.1923	.0779	.8301	.0034	.3151	.3084	.3025
15.10	.9365	.2539	.0979	.9703	.0012	.3672	.3569	.3532
16.90	1.0456	.3165	.1196	1.0925	-.0012	.4124	.3976	.3968
19.35	1.1677	.4062	.1459	1.2363	-.0037	.4629	.4409	.4471
21.65	1.2900	.5063	.1686	1.3858	-.0053	.5104	.4792	.4936
25.69	1.4863	.7049	.2190	1.6450	-.0091	.6039	.5501	.5823
29.71	1.6443	.9215	.2878	1.8848	-.0147	.7040	.6200	.6778
34.35	1.7614	1.1795	.3392	2.1197	-.0201	.7913	.6650	.7617
36.41	1.7732	1.2778	.3561	2.1855	-.0241	.8170	.6714	.7869
38.03	1.7609	1.3450	.3673	2.2157	-.0253	.8299	.6689	.7996
40.20	1.7396	1.4360	.3746	2.2556	-.0262	.8468	.6643	.8164
41.76	1.7150	1.4968	.3685	2.2761	-.0259	.8547	.6571	.8246
.01	-.0203	.0172	-.0007	-.0202	.0172	-.0061	-.0061	-.0079

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74067

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.08	-.2526	.0322	-.0523	-.2542	.0142	-.1002	-.0994	-.1045
-2.61	-.1494	.0251	-.0305	-.1504	.0183	-.0560	-.0556	-.0597
-.28	-.0192	.0196	-.0031	-.0193	.0195	-.0049	-.0049	-.0072
2.19	.0979	.0215	.0208	.0986	.0178	.0395	.0392	.0382
4.25	.2446	.0344	.0517	.2465	.0162	.0992	.0986	.0996
6.41	.3968	.0583	.0860	.4008	.0137	.1613	.1601	.1629
8.59	.5540	.0944	.1240	.5619	.0105	.2271	.2247	.2307
10.70	.6961	.1394	.1632	.7099	.0077	.2903	.2859	.2976
12.88	.8527	.2013	.2060	.8761	.0061	.3618	.3541	.3730
15.01	1.0136	.2751	.2399	1.0503	.0032	.4282	.4157	.4470
17.29	1.1690	.3651	.2838	1.2247	.0012	.5012	.4817	.5253
19.42	1.3242	.4647	.3318	1.4034	-.0020	.5806	.5523	.6092
21.53	1.4786	.5785	.3963	1.5877	-.0045	.6717	.6313	.7048
25.83	1.7446	.8291	.5056	1.9316	-.0137	.8341	.7623	.8772
30.08	1.9880	1.1238	.5965	2.2835	-.0241	.9673	.8544	1.0363
34.25	2.0602	1.3702	.6502	2.4741	-.0271	1.0415	.8846	1.1383
35.74	2.1177	1.4910	.6844	2.5898	-.0268	1.0975	.9176	1.2049
36.97	2.1594	1.5966	.7060	2.6855	-.0232	1.1466	.9455	1.2628
40.67	2.0627	1.7370	.7283	2.6966	-.0269	1.1695	.9227	1.2900
42.53	1.9510	1.7539	.7601	2.6234	-.0262	1.1674	.8990	1.2930
-.04	-.0267	.0179	-.0038	-.0267	.0179	-.0053	-.0053	-.0072

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74070

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.52	-.0987	.0219	-.1035	-.1001	.0140	-.0973	-.0963	-.1022
-2.94	-.0525	.0195	-.0577	-.0534	.0168	-.0530	-.0524	-.0567
-.72	-.0053	.0181	-.0103	-.0055	.0180	-.0067	-.0066	-.0084
1.76	.0427	.0184	.0373	.0433	.0171	.0398	.0395	.0402
3.82	.0874	.0222	.0826	.0887	.0163	.0840	.0834	.0856
5.83	.1369	.0297	.1356	.1392	.0157	.1340	.1329	.1378
8.12	.1976	.0425	.1963	.2016	.0142	.1931	.1909	.1993
10.30	.2544	.0597	.2577	.2610	.0133	.2504	.2466	.2610
12.47	.3121	.0808	.3200	.3222	.0115	.3098	.3033	.3247
14.50	.3571	.1034	.3737	.3717	.0107	.3577	.3479	.3796
16.62	.4118	.1333	.4366	.4327	.0100	.4136	.3986	.4437
18.92	.4715	.1696	.5090	.5010	.0075	.4798	.4575	.5163
20.82	.5272	.2071	.5776	.5663	.0061	.5465	.5158	.5895
25.13	.6459	.3047	.7299	.7142	.0015	.6828	.6273	.7387
29.34	.7058	.3921	.8458	.8074	-.0040	.7717	.6870	.8522
33.20	.7036	.4509	.9041	.8356	-.0080	.7942	.6831	.9003
35.12	.7127	.4904	.9382	.8651	-.0089	.8196	.6907	.9319
37.39	.7093	.5285	.9582	.8844	-.0108	.8322	.6836	.9507
39.53	.7061	.5656	.9774	.9046	-.0131	.8445	.6760	.9694
41.33	.7050	.6003	.9888	.9259	-.0148	.8540	.6683	.9834
.14	-.0041	.0122	-.0111	-.0041	.0122	-.0076	-.0076	-.0090

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74074

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.70	-.0965	.0143	-.0936	-.0972	.0080	-.0960	-.0958	-.0910
-1.99	-.0524	.0129	-.0524	-.0528	.0111	-.0524	-.0522	-.0497
.31	-.0073	.0116	-.0094	-.0073	.0116	-.0092	-.0092	-.0075
2.63	.0548	.0151	.0389	.0554	.0126	.0416	.0413	.0418
4.36	.0953	.0205	.0834	.0966	.0132	.0873	.0868	.0855
6.43	.1438	.0284	.1295	.1461	.0121	.1359	.1348	.1319
8.27	.1870	.0377	.1711	.1905	.0104	.1805	.1786	.1749
10.41	.2299	.0517	.2120	.2355	.0093	.2171	.2137	.2114
12.44	.2716	.0683	.2521	.2799	.0081	.2609	.2553	.2554
14.60	.3112	.0885	.2903	.3234	.0072	.2997	.2909	.2945
16.01	.3413	.1073	.3237	.3576	.0090	.3321	.3199	.3271
18.65	.3639	.1285	.3471	.3858	.0053	.3574	.3396	.3532
20.75	.3509	.1422	.3355	.3785	.0087	.3465	.3215	.3412
24.45	.3191	.1554	.3251	.3548	.0094	.3229	.2858	.3291
28.65	.3649	.2072	.3810	.4196	.0069	.3771	.3210	.3842
32.74	.4263	.2782	.4489	.5091	.0034	.4518	.3693	.4551
34.81	.4436	.3098	.4731	.5411	.0012	.4766	.3809	.4788
36.93	.4585	.3436	.5006	.5729	-.0008	.5035	.3923	.5059
38.76	.4669	.3706	.5207	.5961	-.0033	.5221	.3974	.5249
40.75	.4790	.4044	.5379	.6269	-.0063	.5407	.4002	.5440
-.08	-.0047	.0130	-.0125	-.0047	.0130	-.0106	-.0106	-.0087

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74077

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.90	-.0959	.0149	-.0899	-.0967	.0083	-.0952	-.0948	-.0909
-2.41	-.0567	.0137	-.0531	-.0573	.0113	-.0569	-.0566	-.0550
-.15	-.0113	.0124	-.0079	-.0114	.0124	-.0105	-.0105	-.0093
2.09	.0398	.0124	.0348	.0403	.0109	.0345	.0342	.0347
4.23	.0906	.0173	.0796	.0916	.0105	.0821	.0816	.0803
5.91	.1320	.0246	.1247	.1338	.0109	.1286	.1277	.1252
8.00	.1854	.0352	.1729	.1885	.0091	.1793	.1775	.1733
10.30	.2254	.0468	.2104	.2301	.0058	.2161	.2129	.2107
12.30	.2700	.0637	.2512	.2774	.0047	.2588	.2535	.2521
14.38	.3082	.0829	.2876	.3192	.0038	.2968	.2884	.2911
16.40	.3401	.1031	.3207	.3554	.0029	.3301	.3178	.3251
18.44	.3613	.1227	.3457	.3815	.0021	.3554	.3382	.3514
20.45	.3563	.1383	.3413	.3821	.0051	.3524	.3282	.3462
22.93	.3211	.1501	.3272	.3542	.0131	.3241	.2896	.3304
28.67	.3667	.2042	.3823	.4197	.0033	.3785	.3222	.3851
30.56	.3950	.2356	.4138	.4600	.0020	.4123	.3448	.4172
31.80	.4272	.2686	.4460	.5046	.0032	.4482	.3700	.4515
34.76	.4458	.3075	.4754	.5416	-.0016	.4792	.3834	.4813
36.62	.4563	.3343	.4971	.5656	-.0038	.4992	.3907	.5012
38.75	.4700	.3695	.5208	.5978	-.0060	.5231	.3984	.5255
37.83	.4963	.3885	.5440	.6303	.0025	.5473	.4207	.5514

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74081

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.14	-.2613	.0344	-.0511	-.2631	.0155	-.1042	-.1037	-.0977
-2.72	-.1517	.0273	-.0324	-.1529	.0201	-.0616	-.0613	-.0579
-.11	-.0228	.0208	-.0098	-.0228	.0208	-.0119	-.0119	-.0106
1.94	.1073	.0258	.0131	.1081	.0221	.0363	.0361	.0368
4.14	.2377	.0361	.0353	.2397	.0189	.0892	.0887	.0870
6.24	.3624	.0561	.0577	.3663	.0164	.1429	.1419	.1381
8.38	.4546	.0795	.0753	.4613	.0124	.1844	.1824	.1782
10.65	.5866	.1208	.0905	.5988	.0103	.2334	.2296	.2277
12.52	.7055	.1675	.1028	.7250	.0106	.2811	.2748	.2757
14.67	.8180	.2234	.1131	.8479	.0090	.3173	.3074	.3112
16.65	.9161	.2823	.1186	.9586	.0080	.3511	.3367	.3445
18.85	1.0180	.3577	.1131	1.0790	.0096	.3757	.3545	.3668
21.09	1.0683	.4302	.0827	1.1516	.0169	.3612	.3313	.3542
24.91	1.1661	.5625	.0801	1.2945	.0191	.3956	.3468	.3862
29.05	1.2956	.7396	.1036	1.4917	.0176	.4748	.3998	.4619
33.16	1.3421	.8931	.1379	1.6120	.0137	.5381	.4349	.5230
35.46	1.3581	.9810	.1640	1.6754	.0110	.5768	.4548	.5604
37.30	1.3928	1.0713	.1762	1.7571	.0082	.6123	.4723	.5938
39.57	1.3965	1.1613	.1900	1.8163	.0057	.6406	.4793	.6207
41.23	1.3774	1.2120	.1967	1.8347	.0036	.6520	.4752	.6329
-.14	-.0266	.0189	-.0102	-.0266	.0188	-.0124	-.0124	-.0093

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74084

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.56	-.2767	.0295	-.0533	-.2780	.0122	-.1101	-.1098	-.1033
-1.66	-.1576	.0210	-.0312	-.1581	.0164	-.0594	-.0592	-.0557
-.64	-.0264	.0253	-.0104	-.0267	.0250	-.0138	-.0137	-.0117
1.82	.1123	.0286	.0139	.1132	.0250	.0372	.0370	.0375
3.94	.2328	.0389	.0356	.2349	.0228	.0862	.0857	.0841
6.26	.3426	.0555	.0568	.3466	.0178	.1382	.1373	.1335
8.17	.4676	.0843	.0789	.4748	.0170	.1901	.1881	.1839
10.37	.5984	.1252	.0920	.6111	.0154	.2374	.2336	.2316
12.09	.7039	.1669	.1037	.7232	.0157	.2785	.2725	.2727
14.56	.8197	.2267	.1125	.8504	.0134	.3170	.3072	.3107
16.68	.9272	.2903	.1181	.9715	.0120	.3522	.3377	.3451
18.57	1.0110	.3533	.1148	1.0708	.0129	.3740	.3538	.3651
20.70	1.0633	.4239	.0816	1.1445	.0206	.3586	.3303	.3509
22.64	1.1210	.4925	.0707	1.2242	.0229	.3674	.3301	.3607
24.89	1.1916	.5778	.0768	1.3241	.0225	.4019	.3525	.3925
28.88	1.2915	.7361	.0970	1.4864	.0208	.4695	.3960	.4556
30.84	1.3741	.8504	.1357	1.6157	.0258	.5414	.4480	.5262
35.19	1.3786	.9907	.1602	1.6976	.0153	.5823	.4605	.5651
37.30	1.4034	1.0838	.1753	1.7731	.0116	.6169	.4758	.5978
39.23	1.4019	1.1561	.1843	1.8171	.0090	.6374	.4787	.6173
38.08	1.4412	1.1494	.1965	1.8433	.0160	.6544	.4969	.6358

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74087

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.22	-.2413	.0349	.0350	-.2432	.0170	-.0127	-.0126	-.0214
-2.67	-.1262	.0262	.0162	-.1273	.0203	-.0070	-.0069	-.0109
-.58	-.0200	.0231	-.0005	-.0202	.0229	-.0018	-.0018	-.0011
1.94	.0941	.0247	-.0177	.0949	.0215	.0046	.0046	.0104
4.20	.2142	.0339	-.0383	.2161	.0181	.0096	.0095	.0203
6.16	.3204	.0491	-.0564	.3238	.0145	.0148	.0147	.0297
8.24	.4275	.0742	-.0733	.4337	.0122	.0199	.0197	.0391
10.34	.5232	.1068	-.0846	.5339	.0111	.0263	.0259	.0498
12.49	.6200	.1485	-.1037	.6374	.0109	.0323	.0316	.0602
14.34	.6893	.1868	-.1207	.7141	.0102	.0378	.0369	.0689
16.29	.7587	.2344	-.1424	.7940	.0122	.0438	.0426	.0790
18.48	.8158	.2889	-.1715	.8653	.0154	.0502	.0488	.0892
20.63	.8229	.3289	-.1886	.8860	.0179	.0562	.0546	.0984
24.25	.8731	.4138	-.2117	.9660	.0187	.0678	.0649	.1162
28.65	.8955	.5045	-.2270	1.0277	.0133	.0821	.0768	.1381
32.38	.9433	.6087	-.2430	1.1226	.0089	.0971	.0881	.1591
34.34	.9338	.6473	-.2410	1.1362	.0077	.1023	.0909	.1661
36.56	.9372	.7043	-.2416	1.1723	.0074	.1106	.0958	.1779
38.72	.9424	.7627	-.2446	1.2123	.0057	.1187	.1002	.1889
40.64	.9434	.8132	-.2432	1.2455	.0026	.1254	.1027	.1971
-.09	-.0214	.0193	-.0004	-.0214	.0193	-.0023	-.0023	-.0018

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74090

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.02	-.2217	.0309	.0331	-.2233	.0153	-.0114	-.0113	-.0192
-2.46	-.1260	.0243	.0174	-.1270	.0189	-.0071	-.0070	-.0108
-.75	-.0213	.0219	.0012	-.0216	.0216	-.0018	-.0018	-.0011
2.09	.0964	.0221	-.0173	.0972	.0186	.0056	.0055	.0116
4.23	.2087	.0305	-.0367	.2104	.0150	.0091	.0090	.0193
6.32	.3322	.0488	-.0577	.3356	.0120	.0152	.0151	.0304
8.36	.4260	.0717	-.0725	.4319	.0090	.0204	.0201	.0397
10.55	.5208	.1051	-.0834	.5312	.0079	.0263	.0259	.0498
12.49	.6149	.1440	-.1016	.6315	.0075	.0324	.0318	.0604
14.48	.6908	.1855	-.1198	.7152	.0069	.0385	.0376	.0702
16.47	.7568	.2326	-.1403	.7917	.0085	.0442	.0430	.0795
18.59	.8070	.2833	-.1675	.8552	.0113	.0501	.0488	.0888
20.44	.8172	.3209	-.1833	.8779	.0152	.0596	.0579	.1025
24.52	.8664	.4121	-.2118	.9593	.0153	.0690	.0661	.1181
28.52	.9224	.5123	-.2320	1.0551	.0098	.0811	.0758	.1366
32.70	.9495	.6179	-.2424	1.1328	.0070	.0980	.0886	.1604
34.56	.9368	.6521	-.2416	1.1414	.0055	.1031	.0914	.1675
36.74	.9457	.7116	-.2464	1.1836	.0046	.1107	.0958	.1782
38.61	.9457	.7594	-.2458	1.2128	.0034	.1170	.0988	.1864
40.41	.9331	.7965	-.2369	1.2268	.0017	.1248	.1025	.1961
.09	-.0190	.0170	-.0001	-.0190	.0170	-.0019	-.0019	-.0013

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74093

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.44	-.0074	.0081	-.0168	-.0079	.0076	-.0082	-.0083	-.0149
-2.36	.0003	.0110	-.0101	-.0001	.0110	-.0049	-.0048	-.0079
-.37	.0052	.0110	-.0019	.0051	.0110	-.0005	-.0005	.0006
2.33	.0070	.0093	.0073	.0074	.0090	.0041	.0041	.0104
4.17	.0149	.0119	.0158	.0158	.0107	.0086	.0086	.0194
6.47	.0148	.0117	.0246	.0160	.0100	.0139	.0139	.0294
8.20	.0234	.0139	.0318	.0251	.0104	.0163	.0163	.0347
9.70	.0154	.0133	.0394	.0174	.0105	.0210	.0208	.0433
12.23	.0360	.0180	.0484	.0390	.0099	.0274	.0271	.0547
14.20	.0425	.0203	.0559	.0462	.0092	.0320	.0316	.0627
15.48	.0450	.0234	.0629	.0496	.0105	.0371	.0363	.0716
18.16	.0553	.0264	.0706	.0608	.0079	.0422	.0413	.0803
19.93	.0636	.0318	.0786	.0706	.0082	.0502	.0487	.0925
24.09	.0780	.0417	.0937	.0882	.0062	.0595	.0572	.1074
26.20	.0898	.0564	.1138	.1055	.0109	.0732	.0680	.1286
32.27	.1098	.0710	.1285	.1307	.0014	.0850	.0768	.1458
34.38	.1197	.0814	.1359	.1448	-.0004	.0920	.0812	.1561
36.09	.1257	.0887	.1419	.1538	-.0023	.0975	.0845	.1642
38.06	.1353	.1009	.1483	.1687	-.0039	.1040	.0881	.1734
40.16	.1423	.1129	.1545	.1815	-.0055	.1108	.0917	.1824
.37	.0038	.0052	-.0018	.0038	.0052	-.0000	-.0000	.0017

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74096

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.76	-.0099	.0105	-.0196	-.0106	.0099	-.0096	-.0096	-.0168
-2.36	-.0035	.0098	-.0144	-.0039	.0096	-.0062	-.0062	-.0106
-.34	.0013	.0114	-.0037	.0012	.0114	-.0009	-.0009	-.0000
2.05	.0032	.0121	.0057	.0036	.0119	.0028	.0028	.0084
4.07	.0110	.0127	.0139	.0119	.0119	.0081	.0082	.0183
6.05	.0148	.0140	.0219	.0162	.0123	.0117	.0117	.0259
7.46	.0146	.0164	.0296	.0166	.0144	.0151	.0151	.0329
10.09	.0252	.0159	.0379	.0276	.0112	.0201	.0201	.0422
12.01	.0267	.0175	.0466	.0297	.0116	.0250	.0249	.0512
14.18	.0351	.0204	.0549	.0390	.0112	.0307	.0305	.0609
16.10	.0446	.0234	.0617	.0493	.0101	.0358	.0355	.0695
18.18	.0520	.0277	.0708	.0580	.0101	.0417	.0410	.0793
20.09	.0573	.0291	.0763	.0638	.0077	.0462	.0453	.0865
24.09	.0689	.0393	.0945	.0790	.0078	.0594	.0571	.1072
28.32	.0884	.0530	.1095	.1029	.0047	.0716	.0673	.1260
31.07	.1050	.0722	.1268	.1272	.0076	.0859	.0776	.1469
34.22	.1139	.0782	.1313	.1381	.0006	.0905	.0804	.1539
35.08	.1240	.0917	.1408	.1542	.0038	.0990	.0858	.1660
35.52	.1282	.1002	.1504	.1626	.0070	.1070	.0911	.1773
40.13	.1363	.1108	.1545	.1756	-.0031	.1114	.0921	.1830
.02	.0013	.0081	-.0044	.0013	.0081	-.0000	-.0000	.0009

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74099				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.99	-.0089	.0093	-.0146	-.0095	.0087	-.0068	-.0067	-.0147
-2.58	-.0051	.0111	-.0086	-.0056	.0109	-.0044	-.0043	-.0090
-.50	-.0001	.0106	-.0018	-.0002	.0106	.0004	.0004	.0001
2.71	-.0000	.0067	.0074	.0003	.0067	.0046	.0045	.0084
4.00	.0069	.0107	.0138	.0076	.0102	.0064	.0063	.0138
6.32	.0082	.0086	.0204	.0091	.0077	.0102	.0101	.0216
8.02	.0168	.0120	.0278	.0183	.0096	.0145	.0142	.0300
10.15	.0249	.0137	.0349	.0270	.0091	.0186	.0182	.0380
12.05	.0289	.0150	.0419	.0314	.0086	.0222	.0217	.0446
14.33	.0353	.0171	.0498	.0384	.0078	.0264	.0258	.0528
15.98	.0454	.0202	.0559	.0492	.0069	.0317	.0308	.0607
18.09	.0478	.0222	.0644	.0523	.0063	.0367	.0354	.0697
20.05	.0549	.0253	.0717	.0602	.0049	.0412	.0396	.0768
23.95	.0665	.0333	.0872	.0743	.0034	.0513	.0484	.0932
27.98	.0818	.0456	.1015	.0936	.0019	.0626	.0574	.1126
32.03	.1005	.0628	.1102	.1185	-.0001	.0724	.0645	.1283
34.03	.1128	.0741	.1155	.1350	-.0017	.0785	.0688	.1375
34.96	.1221	.0856	.1249	.1491	.0002	.0863	.0740	.1490
38.04	.1292	.0947	.1324	.1601	-.0050	.0915	.0766	.1560
40.08	.1345	.1045	.1381	.1702	-.0067	.0966	.0788	.1634
.13	.0006	.0071	-.0016	.0006	.0071	.0004	.0004	-.0003

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	74102				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.60	-.0087	.0099	-.0174	-.0093	.0093	-.0083	-.0082	-.0166
-1.93	-.0135	.0113	-.0105	-.0139	.0108	-.0066	-.0066	-.0115
-.41	.0039	.0122	-.0030	.0038	.0122	-.0010	-.0010	-.0013
2.15	.0069	.0117	.0057	.0073	.0114	.0027	.0027	.0064
4.14	.0082	.0123	.0134	.0091	.0117	.0059	.0058	.0136
6.10	.0147	.0118	.0187	.0159	.0102	.0098	.0097	.0208
8.24	.0154	.0134	.0281	.0171	.0110	.0122	.0119	.0278
9.94	.0227	.0148	.0346	.0249	.0107	.0178	.0174	.0372
12.23	.0292	.0168	.0418	.0321	.0102	.0231	.0226	.0464
13.97	.0359	.0186	.0501	.0393	.0094	.0276	.0269	.0542
16.41	.0461	.0230	.0579	.0507	.0090	.0326	.0317	.0629
18.12	.0521	.0254	.0641	.0575	.0080	.0358	.0347	.0686
20.01	.0565	.0279	.0717	.0627	.0069	.0399	.0384	.0754
24.00	.0686	.0368	.0867	.0776	.0057	.0487	.0459	.0915
28.29	.0858	.0489	.0999	.0987	.0024	.0609	.0560	.1106
32.14	.1029	.0650	.1147	.1217	.0003	.0721	.0643	.1288
34.26	.1112	.0744	.1192	.1338	-.0011	.0775	.0680	.1369
36.15	.1225	.0870	.1246	.1502	-.0020	.0828	.0713	.1445
38.31	.1275	.0976	.1369	.1605	-.0024	.0904	.0755	.1549
40.11	.1316	.1058	.1403	.1688	-.0039	.0981	.0802	.1653
.02	.0050	.0084	-.0036	.0050	.0084	-.0005	-.0005	-.0010

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 74106					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.12	-.2261	.0272	.0382	-.2275	.0109	-.0097	-.0096	-.0186
-2.54	-.1247	.0210	.0205	-.1255	.0155	-.0048	-.0048	-.0097
-.46	-.0138	.0175	.0023	-.0140	.0174	-.0010	-.0009	-.0014
2.26	.0911	.0184	-.0162	.0918	.0148	.0036	.0036	.0076
4.13	.2099	.0284	-.0367	.2114	.0132	.0081	.0080	.0163
6.30	.3270	.0464	-.0581	.3301	.0103	.0134	.0132	.0256
8.21	.4258	.0704	-.0736	.4315	.0089	.0177	.0175	.0342
10.46	.5333	.1075	-.0894	.5439	.0089	.0243	.0237	.0455
12.07	.5887	.1340	-.1014	.6037	.0080	.0276	.0269	.0512
14.00	.6921	.1825	-.1251	.7157	.0097	.0342	.0332	.0621
16.08	.7697	.2348	-.1505	.8046	.0123	.0394	.0381	.0713
18.55	.7876	.2825	-.1868	.8365	.0173	.0442	.0429	.0791
20.21	.7931	.3154	-.1988	.8532	.0219	.0487	.0469	.0865
24.38	.8392	.4014	-.2172	.9301	.0191	.0592	.0563	.1033
28.45	.9189	.5133	-.2448	1.0524	.0136	.0717	.0662	.1231
32.75	.9229	.6094	-.2555	1.1059	.0134	.0819	.0733	.1398
34.60	.9349	.6607	-.2556	1.1447	.0130	.0890	.0780	.1494
35.79	.9447	.6995	-.2549	1.1754	.0148	.0955	.0822	.1590
38.75	.9221	.7511	-.2441	1.1892	.0086	.1025	.0859	.1686
40.44	.8757	.7563	-.2201	1.1571	.0076	.1078	.0883	.1764
-.09	-.0216	.0155	.0026	-.0216	.0155	-.0005	-.0005	-.0009

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 78057					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-3.33	-.0624	.0145	-.0534	-.0631	.0108	-.0573	-.0569	-.0534
-1.98	-.0373	.0126	-.0303	-.0377	.0113	-.0329	-.0326	-.0317
-.91	-.0146	.0129	-.0096	-.0148	.0127	-.0097	-.0095	-.0094
2.08	.0452	.0167	.0372	.0458	.0151	.0395	.0391	.0392
3.89	.0667	.0150	.0619	.0676	.0105	.0676	.0670	.0614
5.59	.1092	.0198	.0986	.1106	.0091	.1069	.1058	.0961
7.38	.1489	.0269	.1345	.1511	.0075	.1463	.1446	.1321
9.77	.2029	.0411	.1795	.2069	.0061	.1950	.1920	.1783
11.83	.2472	.0563	.2175	.2535	.0044	.2324	.2275	.2131
14.05	.2899	.0760	.2558	.2997	.0034	.2753	.2673	.2549
16.57	.3405	.1032	.2967	.3558	.0018	.3194	.3066	.2973
18.95	.3712	.1279	.3310	.3926	.0004	.3524	.3338	.3289
20.84	.3644	.1398	.3220	.3903	.0010	.3381	.3146	.3187
22.84	.3892	.1638	.3475	.4222	-.0001	.3627	.3317	.3400
25.23	.3867	.1844	.3547	.4284	.0020	.3695	.3291	.3452
27.21	.3984	.2060	.3751	.4485	.0011	.3889	.3406	.3654
29.37	.4126	.2317	.3985	.4732	-.0004	.4083	.3509	.3846
31.57	.4228	.2554	.4166	.4940	-.0038	.4229	.3556	.3992
33.51	.4267	.2764	.4296	.5084	-.0051	.4338	.3572	.4125
35.93	.4373	.3061	.4447	.5337	-.0087	.4475	.3588	.4290
37.95	.4492	.3353	.4568	.5604	-.0119	.4618	.3618	.4436
40.12	.4527	.3636	.4620	.5804	-.0136	.4687	.3585	.4552
1.28	.0045	.0119	.0108	.0047	.0118	.0134	.0132	.0117

TABLE IV.- TEST DATA — Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78060

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.29	-.2106	.0263	.0990	-.2119	.0105	-.0092	-.0091	-.0179
-2.37	-.1113	.0183	.0508	-.1120	.0137	-.0048	-.0047	-.0096
-.34	-.0098	.0158	.0047	-.0099	.0158	-.0000	.0000	-.0003
1.92	.0990	.0184	-.0444	.0996	.0151	.0041	.0041	.0083
3.86	.1963	.0251	-.0909	.1975	.0119	.0076	.0075	.0155
5.77	.3051	.0403	-.1443	.3076	.0094	.0116	.0114	.0234
7.95	.4367	.0680	-.2079	.4419	.0069	.0164	.0161	.0324
9.90	.5385	.0984	-.2503	.5474	.0044	.0206	.0200	.0400
12.01	.6271	.1355	-.2729	.6416	.0021	.0263	.0254	.0499
13.95	.7165	.1783	-.3020	.7384	.0003	.0316	.0303	.0590
15.97	.8083	.2301	-.3345	.8404	-.0012	.0374	.0356	.0684
18.01	.8902	.2860	-.3659	.9350	-.0032	.0438	.0414	.0786
20.20	.9808	.3548	-.4019	1.0430	-.0056	.0496	.0464	.0880
22.12	1.0426	.4157	-.4270	1.1225	-.0074	.0546	.0506	.0963
23.96	1.0975	.4782	-.4530	1.1971	-.0087	.0606	.0555	.1056
26.09	1.1642	.5589	-.4917	1.2914	-.0100	.0675	.0609	.1163
28.23	1.2146	.6397	-.5253	1.3727	-.0110	.0727	.0643	.1250
30.02	1.1947	.6791	-.5226	1.3742	-.0097	.0776	.0678	.1328
32.28	1.1638	.7260	-.5187	1.3716	-.0076	.0837	.0720	.1429
33.99	1.1535	.7680	-.5258	1.3857	-.0082	.0881	.0746	.1495
36.03	1.1382	.8179	-.5446	1.4016	-.0081	.0936	.0777	.1580
38.06	1.1034	.8524	-.5473	1.3943	-.0090	.1003	.0821	.1672
40.27	1.0597	.8828	-.5203	1.3792	-.0115	.1075	.0856	.1774
-.09	-.0115	.0145	.0066	-.0119	.0145	-.0021	-.0021	-.0028

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78061

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.40	-.2751	.0387	-.0622	-.2773	.0175	-.1095	-.1090	-.1092
-2.43	-.1357	.0269	-.0320	-.1367	.0211	-.0539	-.0537	-.0530
-.28	-.0195	.0218	-.0075	-.0196	.0217	-.0086	-.0085	-.0066
2.05	.1144	.0245	.0200	.1152	.0204	.0429	.0427	.0455
4.13	.2424	.0348	.0478	.2442	.0173	.0966	.0960	.0995
6.12	.3571	.0529	.0728	.3607	.0145	.1476	.1464	.1511
8.15	.4620	.0777	.1044	.4684	.0114	.2036	.2013	.2088
10.60	.6374	.1253	.1323	.6496	.0060	.2736	.2689	.2809
12.37	.7625	.1731	.1593	.7819	.0057	.3279	.3205	.3386
14.53	.8862	.2329	.1941	.9163	.0032	.3892	.3773	.4034
16.66	1.0419	.3106	.2252	1.0873	-.0012	.4598	.4415	.4745
19.04	1.2194	.4177	.2749	1.2889	-.0029	.5539	.5250	.5642
20.96	1.3204	.4976	.3057	1.4110	-.0077	.6037	.5659	.6203
23.19	1.4511	.6091	.3543	1.5737	-.0116	.6831	.6308	.6996
25.16	1.5407	.7060	.3880	1.6947	-.0160	.7405	.6739	.7607
27.50	1.6300	.8264	.4351	1.8274	-.0195	.8060	.7198	.8283
29.37	1.5835	.8792	.3761	1.8112	-.0103	.7351	.6454	.7838
31.40	1.5857	.9561	.3769	1.8516	-.0101	.7370	.6308	.7919
33.22	1.5757	1.0180	.3824	1.8759	-.0117	.7433	.6213	.8014
35.32	1.5516	1.0836	.3927	1.8925	-.0127	.7500	.6098	.8103
37.37	1.5429	1.1595	.3959	1.9299	-.0152	.7633	.6032	.8191
39.30	1.5627	1.2583	.4028	2.0063	-.0161	.7966	.6128	.8471
41.30	1.5746	1.3581	.4186	2.0793	-.0191	.8262	.6178	.8813
-.00	-.0183	.0200	-.0065	-.0183	.0199	-.0085	-.0085	-.0072

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78064

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.40	-.2714	.0362	-.0609	-.2734	.0153	-.1095	-.1089	-.1090
-2.36	-.1248	.0244	-.0291	-.1257	.0192	-.0518	-.0515	-.0510
-.46	-.0083	.0205	-.0052	-.0084	.0205	-.0069	-.0069	-.0051
2.58	.1376	.0224	.0248	.1385	.0161	.0504	.0501	.0530
4.17	.2500	.0331	.0497	.2518	.0149	.0988	.0982	.1019
6.15	.3708	.0524	.0759	.3743	.0123	.1517	.1504	.1554
8.13	.4713	.0765	.1056	.4774	.0091	.2021	.1998	.2067
10.52	.6476	.1248	.1339	.6595	.0044	.2758	.2711	.2831
12.49	.7713	.1742	.1621	.7908	.0033	.3302	.3225	.3411
14.51	.8976	.2338	.1998	.9275	.0014	.3945	.3824	.4088
16.63	1.0613	.3140	.2315	1.1068	-.0029	.4683	.4496	.4823
18.73	1.2254	.4107	.2757	1.2924	-.0045	.5533	.5253	.5636
21.22	1.3456	.5118	.3161	1.4396	-.0099	.6188	.5791	.6362
23.45	1.4356	.6061	.3534	1.5582	-.0154	.6774	.6246	.6946
25.24	1.5477	.7102	.3961	1.7028	-.0176	.7485	.6807	.7673
27.45	1.6398	.8283	.4425	1.8370	-.0210	.8115	.7249	.8344
29.52	1.5849	.8847	.3792	1.8150	-.0111	.7339	.6429	.7837
31.46	1.5837	.9562	.3821	1.8500	-.0108	.7370	.6300	.7921
33.35	1.5724	1.0215	.3900	1.8751	-.0110	.7451	.6212	.8029
35.52	1.5460	1.0879	.3987	1.8903	-.0126	.7503	.6079	.8105
37.50	1.5255	1.1518	.3990	1.9114	-.0149	.7573	.5972	.8138
41.32	1.5687	1.3555	.4215	2.0731	-.0177	.8233	.6150	.8785
.68	-.0108	.0148	-.0057	-.0106	.0149	-.0080	-.0080	-.0070

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78067

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.37	-.0979	.0184	-.0986	-.0991	.0109	-.0956	-.0950	-.0969
-2.43	-.0480	.0152	-.0473	-.0486	.0132	-.0455	-.0452	-.0457
-.47	-.0021	.0144	-.0034	-.0022	.0144	-.0022	-.0021	-.0009
2.03	.0469	.0148	.0470	.0474	.0132	.0461	.0458	.0484
3.89	.0950	.0189	.0939	.0960	.0124	.0917	.0911	.0949
5.99	.1484	.0270	.1469	.1504	.0113	.1441	.1428	.1483
8.05	.2035	.0384	.2029	.2069	.0095	.1988	.1963	.2041
10.06	.2597	.0548	.2594	.2653	.0086	.2532	.2489	.2607
12.20	.3237	.0777	.3197	.3328	.0075	.3128	.3056	.3237
14.41	.3824	.1036	.3781	.3961	.0052	.3704	.3590	.3842
16.27	.4314	.1307	.4362	.4507	.0046	.4217	.4055	.4397
18.47	.5072	.1718	.5125	.5355	.0023	.5023	.4778	.5152
20.64	.5600	.2110	.5790	.5984	.0000	.5613	.5273	.5805
22.68	.6043	.2487	.6309	.6534	-.0035	.6127	.5683	.6351
24.52	.6305	.2815	.6724	.6904	-.0055	.6437	.5897	.6742
26.63	.5901	.2881	.6623	.6566	-.0070	.6126	.5525	.6641
28.41	.5619	.2967	.6407	.6354	-.0064	.5854	.5184	.6487
30.65	.5531	.3205	.6406	.6392	-.0063	.5790	.4980	.6470
32.29	.5458	.3367	.6441	.6413	-.0069	.5796	.4879	.6492
34.49	.5420	.3665	.6527	.6543	-.0048	.5963	.4854	.6529
36.43	.5704	.4102	.6954	.7026	-.0086	.6324	.5021	.6955
38.58	.5863	.4530	.7322	.7408	-.0115	.6633	.5126	.7319
40.53	.5921	.4886	.7594	.7676	-.0134	.6864	.5151	.7594
-.11	-.0059	.0121	-.0053	-.0059	.0121	-.0059	-.0059	-.0051

TABLE IV .- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78070

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.32	-.0952	.0194	-.0996	-.0964	.0122	-.0950	-.0944	-.0963
-2.35	-.0419	.0170	-.0453	-.0426	.0153	-.0418	-.0415	-.0418
-.42	.0002	.0156	-.0061	.0001	.0156	-.0038	-.0037	-.0027
1.95	.0468	.0162	.0433	.0473	.0146	.0434	.0431	.0457
3.86	.0931	.0204	.0881	.0942	.0141	.0881	.0874	.0910
6.08	.1483	.0288	.1455	.1506	.0129	.1435	.1421	.1474
8.12	.2058	.0415	.2025	.2096	.0120	.1997	.1972	.2051
10.05	.2572	.0563	.2526	.2630	.0105	.2476	.2434	.2556
12.46	.3277	.0823	.3214	.3377	.0096	.3148	.3074	.3258
14.19	.3785	.1049	.3723	.3927	.0089	.3654	.3543	.3785
16.19	.4259	.1315	.4297	.4457	.0075	.4139	.3982	.4317
18.19	.5041	.1724	.5078	.5328	.0064	.4974	.4737	.5105
20.68	.5604	.2152	.5778	.6003	.0034	.5613	.5272	.5807
23.11	.6180	.2628	.6486	.6716	-.0008	.6284	.5811	.6511
24.96	.6343	.2915	.6770	.6980	-.0034	.6488	.5925	.6800
26.70	.5892	.2927	.6601	.6579	-.0032	.6113	.5509	.6637
28.59	.5585	.3012	.6385	.6345	-.0028	.5829	.5153	.6468
30.63	.5512	.3222	.6376	.6385	-.0035	.5774	.4968	.6448
32.46	.5505	.3456	.6445	.6499	-.0038	.5805	.4880	.6504
34.63	.5400	.3705	.6482	.6549	-.0020	.5946	.4832	.6507
36.70	.5691	.4177	.6961	.7059	-.0053	.6338	.5014	.6963
38.65	.5844	.4576	.7314	.7422	-.0076	.6627	.5116	.7310
40.64	.5910	.4942	.7589	.7703	-.0100	.6859	.5139	.7586
-.03	-.0024	.0135	-.0062	-.0025	.0135	-.0043	-.0043	-.0033

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78073

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.44	-.2493	.0331	-.0346	-.2511	.0137	-.1061	-.1057	-.0976
-2.04	-.1069	.0211	-.0205	-.1076	.0173	-.0488	-.0486	-.0450
-.39	-.0058	.0195	-.0084	-.0060	.0195	-.0082	-.0082	-.0064
1.85	.1056	.0210	.0040	.1063	.0176	.0361	.0359	.0365
4.01	.2296	.0307	.0141	.2312	.0146	.0874	.0870	.0848
5.99	.3376	.0471	.0217	.3406	.0116	.1368	.1359	.1319
8.17	.4563	.0733	.0290	.4621	.0076	.1893	.1874	.1827
10.17	.5672	.1075	.0334	.5773	.0056	.2319	.2283	.2256
12.24	.6791	.1505	.0362	.6955	.0032	.2722	.2663	.2648
14.33	.8102	.2094	.0327	.8368	.0024	.3148	.3052	.3063
16.56	.9308	.2782	.0358	.9714	.0014	.3543	.3396	.3447
18.59	1.0132	.3421	.0405	1.0694	.0014	.3806	.3593	.3684
20.47	1.0690	.4045	.0283	1.1430	.0052	.3775	.3487	.3642
22.89	1.1855	.5064	.0259	1.2891	.0055	.4040	.3637	.3888
24.68	1.2560	.5818	.0334	1.3842	.0043	.4323	.3814	.4147
26.66	1.3043	.6584	.0543	1.4610	.0032	.4664	.4030	.4457
28.82	1.3558	.7481	.0786	1.5486	.0018	.5107	.4312	.4860
30.87	1.3902	.8311	.1002	1.6197	-.0000	.5490	.4533	.5214
32.87	1.4141	.9126	.1278	1.6829	-.0011	.5889	.4759	.5580
34.87	1.4240	.9884	.1519	1.7334	-.0033	.6242	.4935	.5905
37.04	1.4246	1.0683	.1760	1.7807	-.0054	.6595	.5086	.6237
38.74	1.4168	1.1272	.1908	1.8105	-.0075	.6832	.5154	.6464
40.96	1.4139	1.2123	.2046	1.8624	-.0115	.7087	.5179	.6720
-.08	-.0087	.0174	-.0085	-.0087	.0174	-.0091	-.0091	-.0063

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78074				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.22	-.2027	.0264	.0520	-.2040	.0114	-.0104	-.0103	-.0178
-2.14	-.0941	.0179	.0216	-.0947	.0144	-.0049	-.0049	-.0078
-.31	-.0074	.0160	-.0019	-.0075	.0160	.0010	.0010	.0028
2.08	.0931	.0170	-.0275	.0937	.0136	.0057	.0057	.0118
3.98	.2044	.0258	-.0620	.2057	.0115	.0114	.0113	.0220
5.90	.3211	.0424	-.0952	.3238	.0092	.0164	.0162	.0313
8.03	.4450	.0689	-.1324	.4502	.0061	.0223	.0220	.0418
10.13	.5639	.1040	-.1566	.5734	.0032	.0308	.0302	.0550
11.99	.6405	.1375	-.1614	.6551	.0014	.0350	.0341	.0625
14.03	.7283	.1811	-.1737	.7505	-.0008	.0416	.0402	.0732
15.96	.8164	.2306	-.1873	.8484	-.0027	.0484	.0463	.0836
18.15	.8992	.2896	-.2010	.9447	-.0048	.0556	.0527	.0947
20.12	.9764	.3508	-.2157	1.0375	-.0065	.0625	.0586	.1053
22.24	1.0494	.4200	-.2303	1.1303	-.0085	.0698	.0645	.1162
24.31	1.1150	.4937	-.2482	1.2193	-.0091	.0779	.0708	.1279
26.48	1.1789	.5752	-.2738	1.3117	-.0107	.0859	.0767	.1392
28.32	1.2151	.6416	-.2881	1.3741	-.0116	.0920	.0810	.1483
30.18	1.1991	.6828	-.2817	1.3798	-.0125	.0983	.0852	.1573
32.43	1.1715	.7309	-.2810	1.3807	-.0114	.1058	.0905	.1684
34.34	1.1506	.7729	-.2902	1.3860	-.0109	.1115	.0939	.1764
36.14	1.1245	.8067	-.3003	1.3839	-.0117	.1167	.0968	.1836
38.17	1.0844	.8365	-.3078	1.3695	-.0126	.1230	.1002	.1921
40.29	1.0531	.8740	-.3052	1.3685	-.0142	.1314	.1044	.2033
-.09	-.0062	.0147	-.0014	-.0063	.0147	.0005	.0005	.0020

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78075				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.20	-.2068	.0304	-.0202	-.2085	.0152	-.0821	-.0816	-.0819
-2.16	-.0962	.0219	-.0104	-.0970	.0183	-.0356	-.0354	-.0374
-.34	-.0011	.0192	-.0001	-.0012	.0192	.0019	.0019	-.0006
1.95	.1248	.0225	.0157	.1255	.0182	.0531	.0529	.0491
4.15	.2521	.0327	.0293	.2538	.0144	.1050	.1047	.0983
6.15	.3886	.0535	.0367	.3921	.0116	.1577	.1570	.1488
8.48	.5377	.0881	.0479	.5448	.0078	.2130	.2113	.2030
10.28	.6548	.1242	.0585	.6664	.0053	.2553	.2523	.2451
12.46	.7999	.1803	.0773	.8199	.0034	.3101	.3044	.2989
14.63	.9359	.2450	.1005	.9675	.0007	.3646	.3552	.3519
16.70	1.0568	.3147	.1239	1.1027	-.0021	.4147	.4005	.4007
18.68	1.1770	.3933	.1510	1.2409	-.0043	.4659	.4457	.4509
20.93	1.2877	.4841	.1739	1.3757	-.0077	.5109	.4826	.4958
22.94	1.3950	.5801	.1934	1.5108	-.0095	.5547	.5167	.5382
25.03	1.4869	.6805	.2194	1.6352	-.0125	.5993	.5498	.5804
27.13	1.5704	.7874	.2560	1.7567	-.0152	.6511	.5873	.6300
29.44	1.6503	.9107	.2904	1.8848	-.0179	.7034	.6216	.6796
31.04	1.7024	1.0009	.3094	1.9748	-.0202	.7372	.6416	.7121
33.39	1.7590	1.1314	.3335	2.0913	-.0236	.7780	.6607	.7516
35.41	1.7767	1.2307	.3545	2.1612	-.0263	.8052	.6687	.7785
37.30	1.7712	1.3139	.3660	2.2052	-.0280	.8231	.6686	.7971
39.46	1.7443	1.3976	.3711	2.2350	-.0296	.8344	.6601	.8083
41.50	1.7126	1.4754	.3631	2.2603	-.0296	.8438	.6505	.8179
-.01	-.0037	.0174	-.0002	-.0037	.0174	.0008	.0008	-.0016

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78078				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.36	-.2313	.0326	-.0239	-.2331	.0149	-.0918	-.0913	-.0909
-2.24	-.1192	.0225	-.0129	-.1200	.0178	-.0430	-.0428	-.0444
-.45	-.0060	.0216	-.0006	-.0062	.0216	.0008	.0009	-.0016
2.05	.1176	.0241	.0148	.1184	.0199	.0499	.0497	.0463
4.03	.2402	.0340	.0273	.2420	.0170	.1008	.1005	.0945
6.22	.3853	.0559	.0369	.3891	.0138	.1574	.1566	.1487
8.31	.5304	.0885	.0477	.5377	.0110	.2120	.2103	.2023
10.34	.6523	.1271	.0575	.6645	.0079	.2542	.2512	.2440
12.51	.7913	.1812	.0762	.8118	.0055	.3083	.3026	.2969
14.48	.9084	.2379	.0958	.9390	.0031	.3544	.3455	.3421
16.70	1.0494	.3153	.1231	1.0957	.0005	.4131	.3990	.3990
18.93	1.1704	.3991	.1502	1.2366	-.0021	.4650	.4444	.4501
20.84	1.2794	.4824	.1704	1.3673	-.0043	.5076	.4797	.4926
22.76	1.3892	.5763	.1903	1.5040	-.0060	.5513	.5141	.5348
25.16	1.4940	.6913	.2203	1.6461	-.0095	.6035	.5530	.5846
27.26	1.5739	.7970	.2545	1.7642	-.0125	.6525	.5880	.6312
29.22	1.6394	.8998	.2841	1.8700	-.0152	.6964	.6168	.6731
31.45	1.6954	1.0145	.3043	1.9757	-.0191	.7359	.6384	.7108
33.38	1.7588	1.1341	.3275	2.0926	-.0207	.7769	.6601	.7505
35.59	1.7764	1.2426	.3478	2.1677	-.0232	.8063	.6684	.7798
37.68	1.7588	1.3255	.3608	2.2022	-.0259	.8231	.6658	.7969
39.45	1.7484	1.4047	.3654	2.2426	-.0264	.8362	.6616	.8097
41.45	1.7161	1.4790	.3596	2.2653	-.0273	.8455	.6523	.8195
-.08	-.0074	.0197	-.0004	-.0075	.0197	.0008	.0008	-.0014

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78081				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.56	-.2271	.0301	.0611	-.2287	.0119	-.0120	-.0119	-.0239
-2.50	-.0964	.0215	.0226	-.0973	.0173	-.0054	-.0053	-.0122
-.34	-.0024	.0181	-.0015	-.0025	.0181	-.0005	-.0005	-.0025
2.16	.0970	.0196	-.0277	.0976	.0159	.0058	.0058	.0085
4.27	.2220	.0308	-.0648	.2236	.0142	.0114	.0114	.0192
6.13	.3316	.0477	-.0944	.3348	.0120	.0170	.0169	.0289
8.35	.4609	.0768	-.1322	.4672	.0091	.0235	.0232	.0400
10.03	.5505	.1044	-.1492	.5603	.0069	.0293	.0288	.0495
12.19	.6458	.1443	-.1562	.6617	.0047	.0373	.0363	.0619
14.09	.7320	.1870	-.1679	.7555	.0032	.0445	.0430	.0727
14.16	.7311	.1875	-.1682	.7547	.0029	.0445	.0430	.0728
18.25	.9179	.3030	-.1959	.9666	.0003	.0610	.0576	.0977
20.33	1.0024	.3693	-.2112	1.0682	-.0019	.0687	.0642	.1093
22.33	1.0789	.4392	-.2260	1.1648	-.0036	.0775	.0715	.1222
24.49	1.1273	.5058	-.2358	1.2356	-.0070	.0837	.0761	.1318
26.31	1.2111	.5911	-.2627	1.3476	-.0070	.0925	.0827	.1447
28.71	1.2897	.6961	-.2895	1.4656	-.0091	.1023	.0894	.1592
30.46	1.2479	.7237	-.2722	1.4425	-.0088	.1070	.0928	.1665
32.98	1.1620	.7461	-.2484	1.3809	-.0068	.1144	.0977	.1778
34.35	1.1380	.7711	-.2450	1.3747	-.0054	.1193	.1007	.1853
36.56	1.1215	.8237	-.2493	1.3914	-.0065	.1263	.1044	.1957
38.26	1.1065	.8630	-.2528	1.4032	-.0075	.1317	.1070	.2035
40.50	1.0743	.9042	-.2547	1.4042	-.0101	.1383	.1101	.2131
-.09	-.0063	.0168	-.0005	-.0063	.0168	-.0005	-.0005	-.0031

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	78084				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.29	-.2138	.0266	.0570	-.2152	.0105	-.0098	-.0097	-.0210
-2.52	-.0948	.0202	.0227	-.0956	.0160	-.0043	-.0043	-.0107
-.55	-.0023	.0173	-.0023	-.0025	.0173	.0006	.0006	-.0013
1.78	.1012	.0193	-.0298	.1017	.0161	.0069	.0069	.0098
3.87	.2030	.0266	-.0593	.2044	.0128	.0120	.0120	.0195
5.89	.3172	.0435	-.0920	.3200	.0107	.0176	.0175	.0291
8.01	.4443	.0706	-.1285	.4498	.0080	.0241	.0238	.0401
10.15	.5553	.1042	-.1514	.5650	.0047	.0310	.0304	.0514
12.36	.6480	.1441	-.1568	.6638	.0021	.0388	.0378	.0637
14.07	.7279	.1831	-.1671	.7506	.0007	.0461	.0446	.0746
16.14	.8244	.2375	-.1809	.8579	-.0010	.0542	.0518	.0868
18.22	.9181	.2995	-.1949	.9657	-.0026	.0625	.0591	.0993
20.13	1.0035	.3633	-.2103	1.0673	-.0042	.0707	.0661	.1116
22.52	1.0879	.4432	-.2254	1.1747	-.0071	.0802	.0738	.1258
24.45	1.1426	.5095	-.2366	1.2510	-.0092	.0875	.0794	.1365
26.72	1.2152	.5981	-.2634	1.3543	-.0122	.0947	.0846	.1473
28.50	1.2777	.6791	-.2844	1.4469	-.0127	.1027	.0901	.1592
30.28	1.2383	.7098	-.2672	1.4273	-.0113	.1086	.0944	.1682
32.26	1.1617	.7243	-.2439	1.3689	-.0076	.1148	.0986	.1781
34.39	1.1318	.7662	-.2417	1.3668	-.0070	.1210	.1021	.1875
36.46	1.1151	.8150	-.2450	1.3812	-.0073	.1283	.1063	.1981
38.22	1.0966	.8529	-.2491	1.3893	-.0084	.1330	.1084	.2048
40.13	1.0781	.8949	-.2532	1.4011	-.0107	.1392	.1112	.2140
-.06	-.0049	.0148	-.0015	-.0049	.0148	.0011	.0011	-.0008

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO.	78136				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.30	-.0296	.0568	-.1218	-.0337	.0544	-.0118	-.0117	-.0229
-2.43	.0782	.0444	-.1440	.0763	.0476	-.0075	-.0074	-.0146
-.28	.2069	.0371	-.1704	.2067	.0381	-.0016	-.0016	-.0038
2.01	.3612	.0378	-.2053	.3623	.0251	.0047	.0047	.0077
4.08	.4706	.0456	-.2245	.4726	.0120	.0098	.0097	.0171
5.97	.5678	.0584	-.2418	.5708	-.0010	.0148	.0146	.0261
8.01	.6800	.0759	-.2621	.6839	-.0196	.0219	.0215	.0377
10.22	.7905	.0988	-.2802	.7955	-.0430	.0287	.0281	.0490
12.18	.8920	.1248	-.2964	.8982	-.0663	.0355	.0344	.0598
14.43	1.0184	.1710	-.3197	1.0289	-.0881	.0436	.0420	.0726
16.19	1.1012	.2219	-.3319	1.1194	-.0940	.0509	.0485	.0835
18.52	1.1572	.2965	-.3408	1.1914	-.0864	.0598	.0563	.0970
20.58	1.1972	.3701	-.3491	1.2509	-.0744	.0677	.0631	.1090
22.38	1.2412	.4345	-.3636	1.3132	-.0707	.0735	.0680	.1182
24.29	1.2850	.5076	-.3822	1.3801	-.0658	.0803	.0735	.1286
26.34	1.2989	.5788	-.3962	1.4209	-.0575	.0880	.0797	.1403
28.41	1.3101	.6415	-.3942	1.4575	-.0592	.0950	.0847	.1512
30.25	1.3186	.6954	-.3893	1.4893	-.0635	.1004	.0882	.1599
32.41	1.3100	.7556	-.3861	1.5110	-.0643	.1080	.0930	.1715
34.63	1.2745	.8030	-.3790	1.5050	-.0635	.1142	.0965	.1810
36.30	1.2395	.8336	-.3720	1.4925	-.0620	.1184	.0986	.1873
38.38	1.1785	.8589	-.3612	1.4571	-.0584	.1244	.1020	.1969
40.21	1.1550	.8999	-.3584	1.4631	-.0585	.1306	.1051	.2054
-.10	.2064	.0371	-.1697	.2063	.0374	-.0016	-.0016	-.0040

TABLE IV.- TEST DATA – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78137

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.30	-.0569	.0570	-.2019	-.0610	.0526	-.0917	-.0911	-.0901
-2.25	.0730	.0451	-.1816	.0712	.0480	-.0428	-.0426	-.0439
-.31	.2164	.0400	-.1677	.2162	.0412	.0037	.0037	.0010
2.25	.3990	.0440	-.1567	.4004	.0283	.0602	.0601	.0561
4.01	.5186	.0552	-.1369	.5212	.0188	.1059	.1056	.0989
6.22	.6591	.0789	-.1109	.6637	.0069	.1612	.1605	.1515
8.36	.8044	.1099	-.0864	.8118	-.0082	.2176	.2159	.2069
10.92	.9633	.1561	-.0625	.9755	-.0291	.2743	.2706	.2624
12.40	1.0650	.1900	-.0490	1.0809	-.0431	.3103	.3049	.2978
14.85	1.2409	.2596	-.0290	1.2660	-.0672	.3719	.3621	.3577
16.78	1.3658	.3249	-.0109	1.4015	-.0833	.4183	.4041	.4034
18.90	1.4827	.4124	.0100	1.5364	-.0903	.4655	.4450	.4506
21.07	1.5893	.5160	.0264	1.6685	-.0899	.5104	.4818	.4948
23.13	1.6938	.6197	.0377	1.8011	-.0954	.5523	.5139	.5352
25.13	1.8121	.7349	.0474	1.9527	-.1041	.5991	.5492	.5801
27.49	1.9298	.8785	.0626	2.1174	-.1116	.6523	.5865	.6302
29.40	2.0052	1.0004	.0771	2.2381	-.1129	.6933	.6130	.6705
31.66	2.0655	1.1398	.0926	2.3564	-.1138	.7336	.6349	.7097
33.29	2.0849	1.2359	.1049	2.4211	-.1114	.7589	.6460	.7343
35.64	2.0802	1.3643	.1206	2.4855	-.1034	.7898	.6556	.7635
37.43	1.9503	1.3824	.1496	2.3890	-.0874	.7882	.6416	.7642
39.48	1.8796	1.4420	.1650	2.3676	-.0819	.7939	.6309	.7708
41.53	1.7753	1.4754	.1798	2.3072	-.0725	.7928	.6140	.7712
-.06	.2146	.0399	-.1688	.2146	.0402	.0016	.0016	-.0006

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78138

ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.30	-.1452	.0373	-.1259	-.1476	.0263	-.0957	-.0950	-.0938
-2.39	-.0212	.0264	-.1053	-.0223	.0255	-.0471	-.0469	-.0480
-.35	.1207	.0225	-.0901	.1206	.0233	.0004	.0004	-.0017
2.07	.2549	.0274	-.0690	.2557	.0182	.0494	.0492	.0459
4.21	.3778	.0388	-.0466	.3797	.0109	.0976	.0973	.0913
6.31	.5302	.0605	-.0180	.5337	.0019	.1587	.1580	.1492
8.32	.6601	.0871	.0035	.6657	-.0094	.2084	.2069	.1977
10.37	.8047	.1251	.0169	.8141	-.0218	.2562	.2533	.2451
12.64	.9441	.1779	.0325	.9601	-.0330	.3035	.2982	.2911
14.81	1.1032	.2501	.0584	1.1304	-.0402	.3649	.3556	.3510
16.72	1.2184	.3180	.0765	1.2584	-.0460	.4113	.3976	.3963
19.04	1.3606	.4161	.0942	1.4219	-.0505	.4669	.4462	.4518
20.79	1.4694	.4992	.1040	1.5509	-.0550	.5059	.4787	.4899
23.26	1.6104	.6251	.1151	1.7264	-.0618	.5589	.5199	.5405
25.29	1.7186	.7381	.1296	1.8692	-.0669	.6059	.5551	.5853
27.35	1.8025	.8550	.1450	1.9938	-.0686	.6506	.5863	.6280
29.27	1.8695	.9708	.1596	2.1055	-.0673	.6918	.6130	.6678
31.63	1.9252	1.1085	.1757	2.2206	-.0656	.7353	.6372	.7102
33.76	1.9509	1.2281	.1835	2.3044	-.0633	.7662	.6499	.7399
35.69	1.9030	1.2976	.1937	2.3026	-.0563	.7786	.6470	.7528
37.66	1.8126	1.3332	.2166	2.2495	-.0520	.7820	.6358	.7583
39.60	1.7569	1.3890	.2218	2.2391	-.0496	.7872	.6255	.7644
41.42	1.6661	1.4112	.2269	2.1830	-.0442	.7800	.6059	.7590
-.05	.1176	.0219	-.0899	.1176	.0220	-.0001	-.0000	-.0021

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO. 78139					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.24	-.1102	.0348	-.0458	-.1124	.0266	-.0102	-.0100	-.0206
-2.37	-.0205	.0241	-.0642	-.0214	.0232	-.0063	-.0062	-.0132
-.29	.1213	.0198	-.0901	.1212	.0205	.0006	.0006	-.0010
2.32	.2305	.0234	-.1100	.2312	.0141	.0062	.0062	.0097
3.92	.3319	.0304	-.1268	.3332	.0076	.0108	.0107	.0181
5.98	.4408	.0413	-.1458	.4427	-.0048	.0168	.0165	.0288
8.30	.5658	.0608	-.1672	.5686	-.0215	.0236	.0231	.0407
10.40	.6870	.0915	-.1914	.6923	-.0340	.0309	.0301	.0520
12.27	.7765	.1270	-.2055	.7858	-.0409	.0362	.0352	.0611
14.40	.8540	.1776	-.2179	.8714	-.0403	.0441	.0424	.0730
16.51	.9392	.2391	-.2380	.9684	-.0377	.0515	.0490	.0850
18.52	.9959	.2967	-.2537	1.0386	-.0350	.0592	.0560	.0963
20.60	1.0604	.3670	-.2743	1.1217	-.0296	.0672	.0629	.1088
22.26	1.0921	.4218	-.2993	1.1705	-.0233	.0729	.0681	.1176
24.37	1.1301	.4881	-.3145	1.2308	-.0218	.0813	.0750	.1304
26.14	1.1532	.5387	-.3185	1.2726	-.0245	.0873	.0797	.1396
28.17	1.1632	.5930	-.3172	1.3053	-.0264	.0943	.0847	.1506
30.43	1.1473	.6418	-.3129	1.3143	-.0277	.0998	.0882	.1596
32.35	1.1566	.6964	-.3116	1.3497	-.0305	.1078	.0935	.1716
34.57	1.1360	.7438	-.3090	1.3574	-.0322	.1141	.0970	.1812
36.29	1.1105	.7751	-.3062	1.3539	-.0326	.1184	.0991	.1879
38.15	1.0843	.8097	-.3053	1.3529	-.0330	.1239	.1022	.1963
40.08	1.0670	.8533	-.3071	1.3658	-.0340	.1284	.1041	.2033
-.10	.1131	.0189	-.0893	.1131	.0191	.0006	.0006	-.0014

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO. 78158					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.34	-.2514	.0332	-.0495	-.2532	.0141	-.1020	-.1016	-.0956
-2.32	-.1241	.0219	-.0271	-.1249	.0169	-.0507	-.0505	-.0476
-.44	-.0148	.0190	-.0046	-.0149	.0188	-.0047	-.0047	-.0034
1.89	.1014	.0205	.0186	.1020	.0171	.0427	.0426	.0421
4.00	.2334	.0307	.0412	.2350	.0143	.0956	.0952	.0914
6.12	.3741	.0512	.0601	.3775	.0110	.1497	.1489	.1424
8.28	.5157	.0821	.0800	.5221	.0069	.2031	.2015	.1934
10.06	.6394	.1187	.0941	.6503	.0051	.2450	.2420	.2348
12.48	.7895	.1769	.1138	.8091	.0021	.3000	.2943	.2876
14.46	.9156	.2356	.1314	.9455	-.0005	.3483	.3391	.3335
16.55	1.0530	.3095	.1497	1.0975	-.0033	.4012	.3868	.3836
18.57	1.1845	.3919	.1660	1.2477	-.0057	.4536	.4324	.4323
20.90	1.3063	.4928	.1643	1.3962	-.0055	.4916	.4592	.4607
23.02	1.3958	.5856	.1701	1.5136	-.0070	.5267	.4825	.4886
25.05	1.5052	.6921	.1978	1.6567	-.0103	.5865	.5294	.5429
27.11	1.5823	.7949	.2159	1.7707	-.0136	.6294	.5580	.5826
29.17	1.6398	.8959	.2424	1.8685	-.0169	.6749	.5875	.6252
31.27	1.6783	.9963	.2709	1.9516	-.0197	.7177	.6118	.6659
33.24	1.7095	1.0950	.2867	2.0300	-.0212	.7503	.6259	.6986
35.32	1.7151	1.1913	.2731	2.0882	-.0196	.7602	.6181	.7105
37.26	1.6294	1.2213	.2547	2.0363	-.0145	.7410	.5882	.6982
39.52	1.5492	1.2585	.2659	1.9959	-.0151	.7376	.5688	.6989
41.12	1.5178	1.3049	.2744	2.0016	-.0153	.7471	.5637	.7108
-.12	-.0171	.0178	-.0068	-.0172	.0178	-.0092	-.0091	-.0076

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78161				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.41	-.2577	.0356	-.0508	-.2596	.0157	-.1088	-.1082	-.1014
-2.56	-.1261	.0253	-.0270	-.1271	.0196	-.0555	-.0552	-.0515
-.39	-.0183	.0206	-.0040	-.0185	.0204	-.0096	-.0096	-.0078
2.32	.1254	.0240	.0229	.1263	.0189	.0468	.0466	.0461
4.02	.2348	.0329	.0420	.2365	.0163	.0935	.0932	.0901
6.34	.3870	.0557	.0623	.3908	.0126	.1496	.1488	.1423
8.09	.5128	.0825	.0804	.5193	.0095	.1979	.1964	.1884
10.40	.6651	.1291	.0981	.6775	.0070	.2508	.2476	.2402
12.57	.7968	.1811	.1162	.8171	.0034	.2992	.2936	.2868
14.37	.9276	.2397	.1335	.9581	.0019	.3486	.3396	.3339
16.51	1.0525	.3105	.1508	1.0974	-.0014	.3968	.3829	.3789
18.43	1.1892	.3931	.1678	1.2525	-.0030	.4512	.4308	.4302
20.90	1.3194	.5001	.1706	1.4110	-.0035	.4954	.4636	.4650
22.88	1.4092	.5912	.1727	1.5282	-.0033	.5282	.4847	.4900
24.93	1.5108	.6943	.1995	1.6627	-.0071	.5854	.5295	.5417
27.00	1.5880	.7980	.2174	1.7772	-.0098	.6280	.5576	.5813
28.89	1.6481	.8952	.2465	1.8755	-.0123	.6762	.5903	.6266
31.16	1.6857	1.0006	.2719	1.9602	-.0158	.7181	.6129	.6667
33.15	1.7203	1.1035	.2884	2.0438	-.0169	.7526	.6284	.7008
35.09	1.7257	1.1918	.2798	2.0972	-.0168	.7656	.6244	.7153
37.39	1.6519	1.2469	.2515	2.0696	-.0124	.7465	.5916	.7035
39.23	1.5719	1.2661	.2614	2.0183	-.0133	.7387	.5725	.6996
40.85	1.5322	1.3074	.2746	2.0142	-.0132	.7488	.5677	.7118
-.14	-.0198	.0198	-.0024	-.0199	.0197	-.0113	-.0113	-.0098

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78164				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.25	-.1043	.0196	-.0957	-.1054	.0119	-.0991	-.0985	-.0939
-2.26	-.0579	.0148	-.0532	-.0584	.0125	-.0536	-.0533	-.0509
-.38	-.0131	.0137	-.0126	-.0132	.0136	-.0122	-.0122	-.0109
2.19	.0335	.0132	.0324	.0339	.0119	.0338	.0336	.0334
4.01	.0825	.0173	.0759	.0835	.0115	.0800	.0796	.0775
5.91	.1286	.0229	.1160	.1303	.0095	.1232	.1224	.1184
8.01	.1822	.0342	.1677	.1852	.0085	.1757	.1742	.1686
10.15	.2260	.0468	.2084	.2308	.0063	.2169	.2141	.2100
12.28	.2694	.0637	.2512	.2768	.0050	.2603	.2555	.2531
14.38	.3097	.0829	.2888	.3206	.0034	.2975	.2899	.2899
16.06	.3428	.1025	.3224	.3578	.0036	.3304	.3195	.3227
18.26	.3774	.1272	.3579	.3983	.0025	.3677	.3513	.3599
20.45	.3697	.1436	.3518	.3966	.0054	.3622	.3383	.3510
22.07	.3713	.1580	.3554	.4035	.0069	.3651	.3353	.3559
24.19	.3970	.1833	.3841	.4372	.0045	.3937	.3558	.3822
26.30	.4288	.2147	.4197	.4795	.0025	.4299	.3821	.4175
28.37	.4533	.2448	.4507	.5152	.0000	.4592	.4009	.4460
30.23	.4644	.2687	.4712	.5365	-.0016	.4763	.4081	.4643
32.30	.4713	.2930	.4882	.5549	-.0042	.4868	.4083	.4777
34.34	.4777	.3169	.5034	.5732	-.0078	.4977	.4088	.4913
36.21	.4897	.3459	.5198	.5995	-.0102	.5139	.4134	.5092
38.40	.4949	.3755	.5292	.6211	-.0132	.5228	.4100	.5205
40.29	.4996	.4033	.5379	.6419	-.0155	.5331	.4086	.5322
.06	-.0120	.0120	-.0110	-.0119	.0120	-.0100	-.0100	-.0085

TABLE IV.- TEST DATA – Continued

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 78167					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.40	-.1092	.0191	-.0968	-.1103	.0107	-.1023	-.1017	-.0963
-2.60	-.0616	.0154	-.0532	-.0622	.0126	-.0568	-.0565	-.0536
-.50	-.0144	.0131	-.0099	-.0145	.0130	-.0122	-.0121	-.0108
2.35	.0397	.0131	.0414	.0402	.0114	.0410	.0408	.0407
3.89	.0802	.0154	.0747	.0811	.0099	.0772	.0768	.0750
5.85	.1322	.0223	.1210	.1338	.0087	.1267	.1260	.1222
8.46	.1877	.0332	.1739	.1905	.0052	.1806	.1790	.1734
9.99	.2229	.0439	.2080	.2272	.0046	.2134	.2107	.2063
12.13	.2647	.0591	.2480	.2712	.0022	.2544	.2498	.2470
14.05	.3064	.0786	.2899	.3163	.0019	.2954	.2881	.2880
16.33	.3452	.1011	.3245	.3597	.0000	.3319	.3206	.3245
18.21	.3731	.1213	.3555	.3924	-.0014	.3627	.3470	.3551
20.24	.3736	.1400	.3571	.3989	.0021	.3662	.3429	.3555
22.14	.3708	.1553	.3592	.4019	.0041	.3655	.3353	.3559
24.10	.3955	.1799	.3872	.4345	.0028	.3933	.3555	.3826
26.28	.4295	.2125	.4238	.4793	.0004	.4313	.3835	.4192
28.23	.4511	.2399	.4506	.5109	-.0021	.4565	.3991	.4432
30.48	.4655	.2689	.4748	.5376	-.0045	.4783	.4086	.4670
32.24	.4714	.2895	.4879	.5531	-.0066	.4851	.4072	.4765
34.10	.4825	.3155	.5034	.5764	-.0093	.4975	.4098	.4911
36.10	.4930	.3439	.5197	.6010	-.0126	.5137	.4136	.5091
38.25	.4995	.3743	.5292	.6240	-.0153	.5231	.4109	.5205
40.27	.5028	.4026	.5357	.6439	-.0179	.5321	.4078	.5313
-.10	-.0122	.0115	-.0092	-.0122	.0114	-.0123	-.0123	-.0110

	MAIN BALANCE				SECOND BALANCE			
			CONFIG NO. 78175					
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.50	-.2309	.0321	-.0339	-.2327	.0139	-.1059	-.1054	-.0998
-2.27	-.0937	.0210	-.0191	-.0944	.0173	-.0465	-.0463	-.0444
-.40	-.0095	.0179	-.0056	-.0097	.0178	-.0079	-.0078	-.0069
1.83	.0986	.0208	.0090	.0992	.0177	.0386	.0385	.0372
1.84	.0985	.0201	.0090	.0991	.0169	.0387	.0385	.0372
3.93	.2208	.0295	.0198	.2223	.0143	.0904	.0901	.0856
5.92	.3509	.0487	.0285	.3541	.0122	.1447	.1439	.1365
7.77	.4713	.0743	.0407	.4770	.0100	.1946	.1931	.1842
10.19	.6849	.1242	.0380	.6961	.0010	.2420	.2389	.2307
12.35	.7201	.1634	.0712	.7384	.0055	.2926	.2870	.2794
14.40	.8395	.2204	.0931	.8679	.0047	.3427	.3335	.3269
16.45	.9529	.2851	.1160	.9946	.0036	.3928	.3786	.3745
18.52	1.0729	.3615	.1386	1.1321	.0020	.4447	.4235	.4224
20.77	1.2128	.4642	.1337	1.2986	.0039	.4928	.4606	.4600
23.17	1.3647	.5884	.1245	1.4862	.0040	.5441	.4964	.5000
24.97	1.4625	.6816	.1515	1.6135	.0006	.6020	.5421	.5518
27.04	1.5716	.7987	.1713	1.7629	-.0030	.6585	.5829	.6027
29.05	1.6339	.8993	.2171	1.8650	-.0073	.7133	.6198	.6521
31.35	1.6407	.9857	.2813	1.9140	-.0117	.7631	.6481	.6981
33.32	1.6435	1.0660	.3297	1.9589	-.0122	.8090	.6724	.7419
35.39	1.6506	1.1546	.3550	2.0143	-.0146	.8459	.6866	.7779
37.22	1.6534	1.2352	.3667	2.0638	-.0166	.8707	.6903	.8022
39.50	1.6328	1.3213	.3732	2.1003	-.0191	.8871	.6816	.8213
41.08	1.6024	1.3702	.3697	2.1082	-.0200	.8818	.6623	.8198
-.16	-.0120	.0176	-.0056	-.0120	.0175	-.0088	-.0087	-.0082

TABLE IV.- TEST DATA – Concluded

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78178				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.33	-.2043	.0264	.0570	-.2057	.0110	-.0087	-.0086	-.0172
-2.36	-.0933	.0188	.0237	-.0940	.0149	-.0043	-.0043	-.0087
-.41	-.0048	.0160	-.0007	-.0049	.0160	-.0021	-.0021	-.0029
1.96	.0905	.0170	-.0270	.0910	.0139	.0047	.0047	.0084
3.83	.2029	.0256	-.0620	.2041	.0120	.0093	.0092	.0172
5.87	.3231	.0431	-.0976	.3258	.0098	.0137	.0136	.0259
8.21	.4644	.0739	-.1394	.4701	.0068	.0196	.0193	.0363
10.10	.5649	.1049	-.1596	.5745	.0043	.0266	.0260	.0473
12.19	.6438	.1410	-.1648	.6591	.0019	.0305	.0296	.0546
13.93	.7226	.1796	-.1754	.7446	.0004	.0363	.0350	.0638
16.32	.8288	.2408	-.1916	.8631	-.0018	.0439	.0417	.0758
18.13	.9055	.2934	-.2048	.9519	-.0029	.0497	.0467	.0848
20.30	.9901	.3611	-.2218	1.0539	-.0047	.0567	.0526	.0954
22.28	1.0553	.4251	-.2350	1.1377	-.0067	.0632	.0578	.1055
24.63	1.1384	.5117	-.2628	1.2481	-.0092	.0700	.0628	.1159
26.40	1.1762	.5736	-.2798	1.3086	-.0093	.0757	.0671	.1247
28.36	1.1933	.6340	-.2870	1.3512	-.0090	.0808	.0705	.1332
30.36	1.1808	.6820	-.2879	1.3636	-.0085	.0868	.0747	.1427
32.37	1.1586	.7246	-.2903	1.3665	-.0082	.0921	.0780	.1512
34.29	1.1393	.7671	-.2987	1.3735	-.0081	.0983	.0818	.1600
36.55	1.1444	.8363	-.3199	1.4174	-.0096	.1049	.0854	.1696
38.43	1.1019	.8624	-.3259	1.3993	-.0093	.1095	.0880	.1765
40.24	1.0525	.8762	-.3094	1.3695	-.0110	.1125	.0885	.1813
-.11	-.0036	.0144	-.0006	-.0036	.0144	.0000	.0000	-.0004

	MAIN BALANCE					SECOND BALANCE		
			CONFIG NO.	78181				
ALPHA DEG	CL1	CD1	CM1	CN1	CA1	CN2	CL2	CM2
-4.35	-.2553	.0340	-.0754	-.2571	.0145	-.0895	-.0893	-.1230
-1.92	-.1190	.0206	-.0335	-.1197	.0166	-.0390	-.0390	-.0544
-.20	-.0073	.0195	.0037	-.0073	.0195	.0055	.0055	.0069
1.93	.1145	.0226	.0485	.1152	.0188	.0572	.0571	.0768
4.10	.2432	.0339	.0983	.2450	.0164	.1101	.1098	.1494
6.24	.3806	.0539	.1381	.3843	.0122	.1607	.1598	.2185
8.38	.5381	.0891	.1789	.5454	.0097	.2157	.2137	.2952
10.50	.6673	.1305	.2123	.6799	.0067	.2590	.2553	.3554
12.67	.8007	.1840	.2373	.8216	.0039	.2994	.2930	.4117
14.62	.9429	.2492	.2635	.9753	.0031	.3426	.3326	.4710
16.67	1.0697	.3225	.2864	1.1172	.0022	.3834	.3684	.5254
18.90	1.1466	.3986	.2422	1.2139	.0057	.3770	.3562	.5093
20.93	1.2116	.4706	.2241	1.2998	.0066	.3849	.3581	.5173
23.16	1.3063	.5659	.2346	1.4236	.0064	.4201	.3841	.5621
25.03	1.3745	.6497	.2365	1.5203	.0071	.4475	.4029	.5975
27.02	1.4187	.7354	.2253	1.5980	.0107	.4716	.4167	.6274
28.90	1.4068	.7924	.2386	1.6146	.0137	.4915	.4263	.6530
31.11	1.4217	.8730	.2603	1.6683	.0127	.5199	.4404	.6891
33.25	1.4412	.9587	.2866	1.7309	.0114	.5516	.4562	.7300
35.13	1.4504	1.0316	.3097	1.7798	.0090	.5777	.4675	.7640
37.16	1.4477	1.1078	.3370	1.8229	.0083	.6061	.4783	.8009
39.17	1.4332	1.1749	.3640	1.8532	.0055	.6334	.4865	.8360
41.09	1.4265	1.2477	.3856	1.8952	.0028	.6546	.4893	.8633
-.10	-.0085	.0190	.0043	-.0086	.0190	.0033	.0033	.0044

TABLE V.- CHANGE IN MAXIMUM LIFT COEFFICIENT CAUSED BY PLANFORM CHANGES

Symbols used only in this set of tabulated data are:

$C_{L,max}$ maximum lift coefficient

$\Delta C_{L,max}$ change in maximum lift coefficient caused by the change in planform or geometry

$\Delta C'_{L,max}$ $\dfrac{\text{Lift on fuselage wing configuration with wing reference area of } S'}{q_\infty S'} \dfrac{S'}{S_W}$

S' S_W + (Area of canard or strake added to the configuration), cm^2 (in^2)

$z/\bar{c}$ = 0.185		$z/\bar{c}$ = 0.0		$z/\bar{c}$ = -0.185		Canard	Wing	Strake	δ	Comments
$\Delta C_{L,max}$	$\Delta C'_{L,max}$	$\Delta C_{L,max}$	$\Delta C'_{L,max}$	$\Delta C_{L,max}$	$\Delta C'_{L,max}$					
1.2777	1.2777	1.1933	1.1933	1.2151	1.2151	Off	I	Off	---	Basic configuration – wing I
.4990	.3577	.4600	.3340	.2095	.3402	II	I	Off	---	Effect of adding canard II
.9962	.9962	.9447	.9447	.9457	.9457	Off	II	Off	---	Basic configuration – wing II
.4288	.1594	-----	-----	-----	-----	I	II	Off	---	Effect of adding canard I
.2196	.0383	-----	-----	-----	-----	I	II	On	---	Effect of adding a strake to canard I
.1343	-----	-----	-----	-----	-----	I	II	Off	20	Effect of deflecting trailing-edge flap
.8078	.2789	.7704	.2645	.4508	.2648	II	II	Off	---	Effect of adding canard II
.3553	.0669	-----	-----	.2433	.0636	II	II	On	---	Effect of adding a strake to canard II

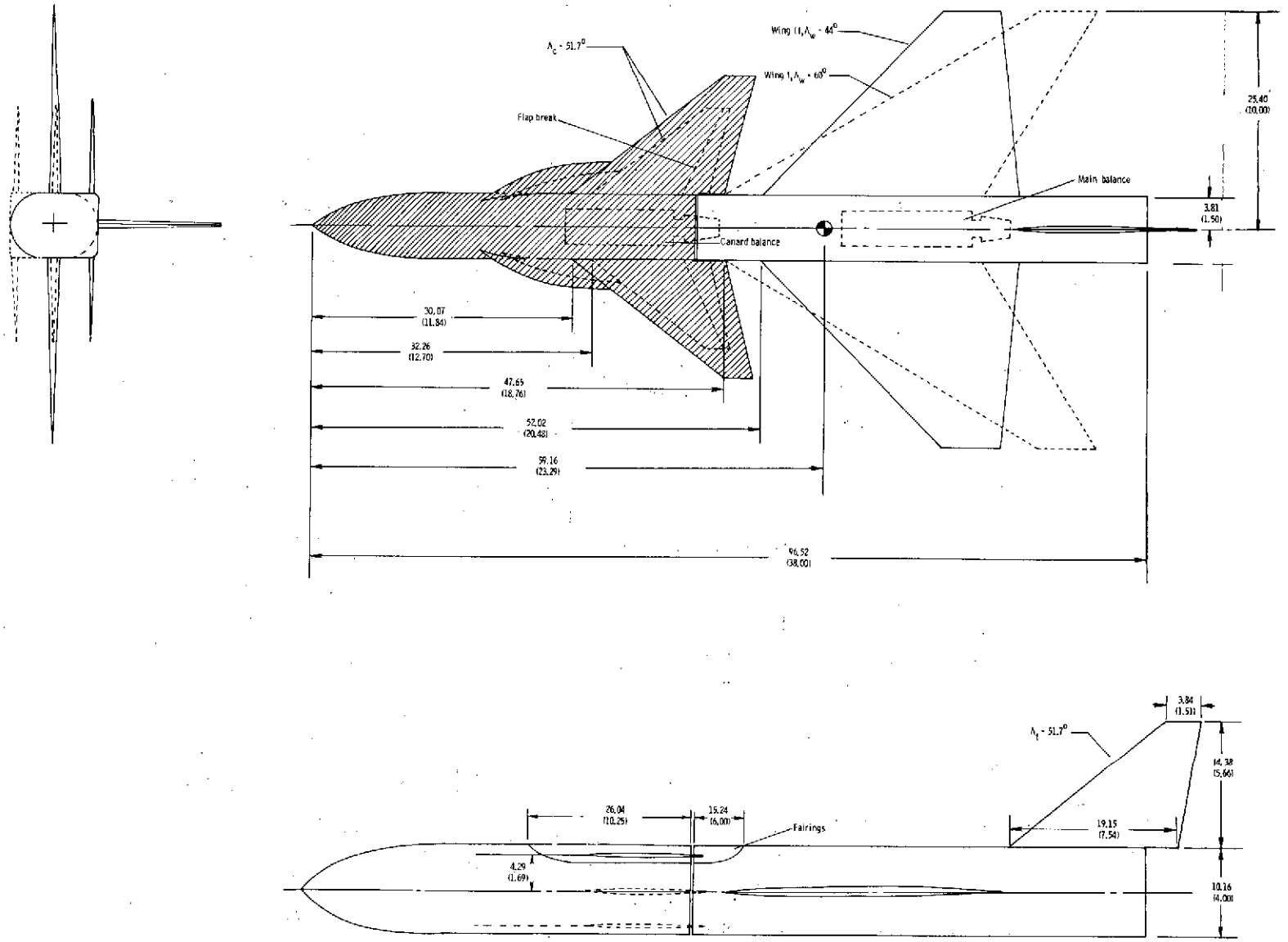

Figure 1.- Three-view sketch of model. See table I for additional details. (Dimensions are in cm (in.).)

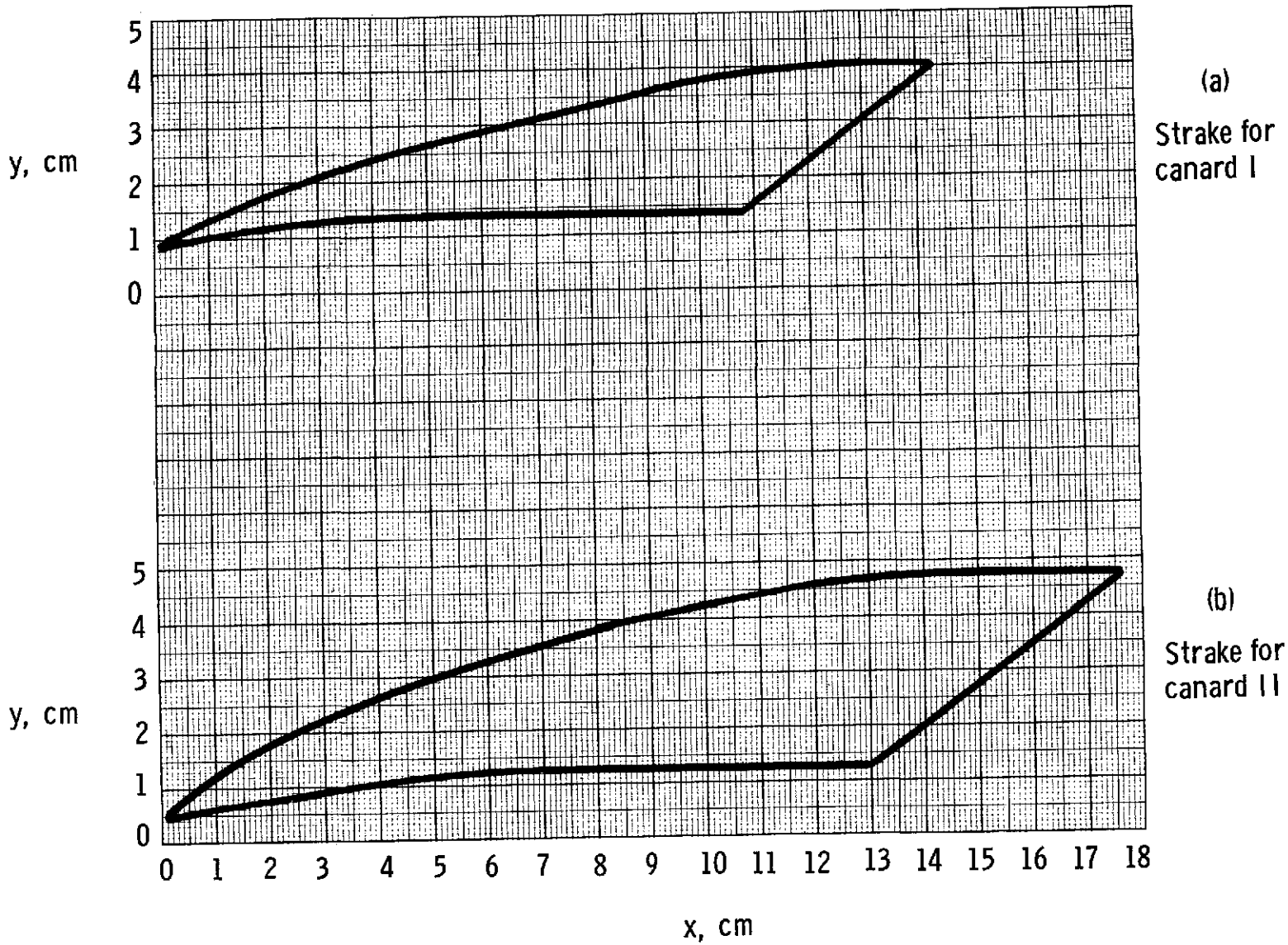

Figure 2.- Drawing of canard strakes.

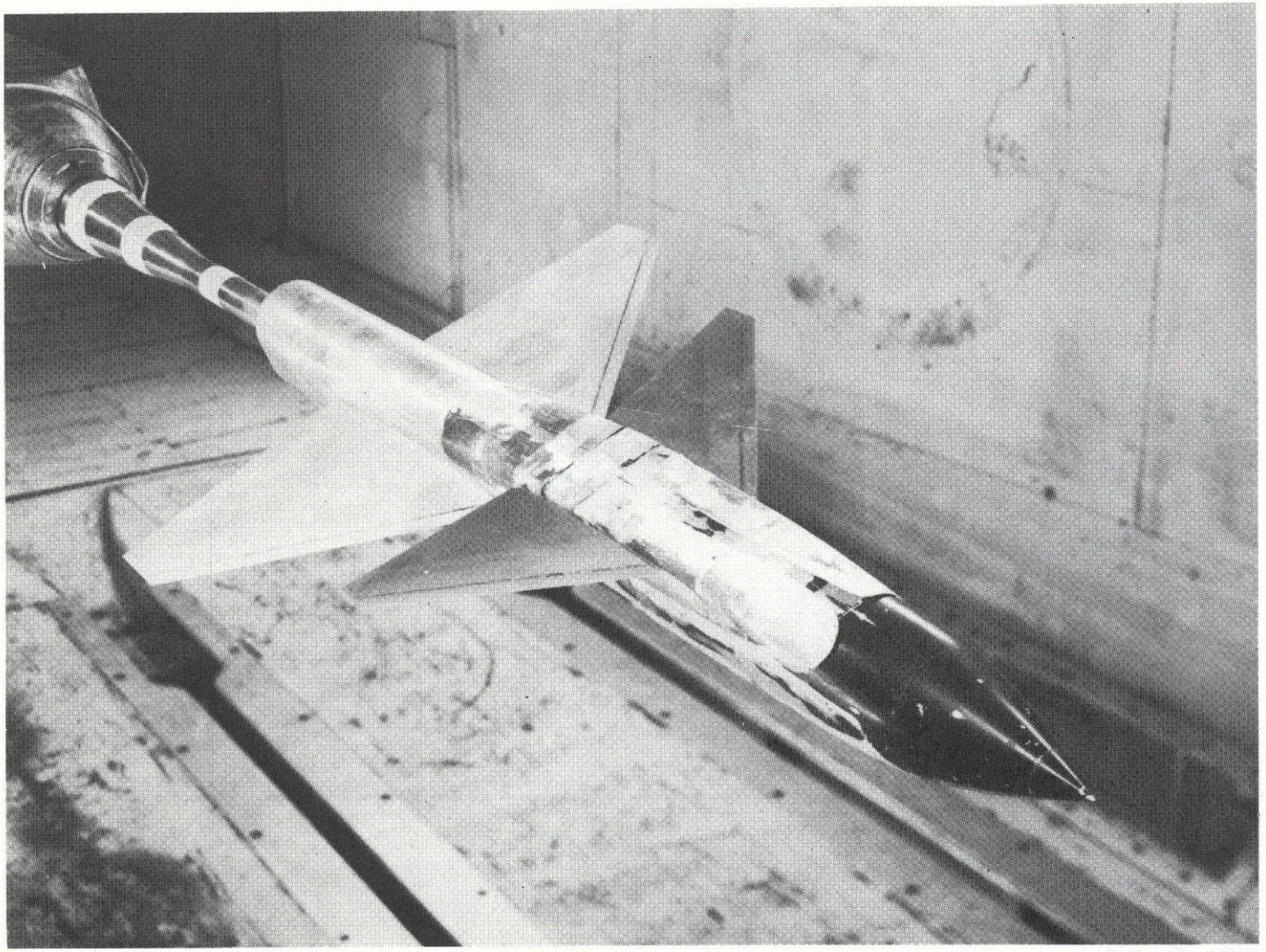

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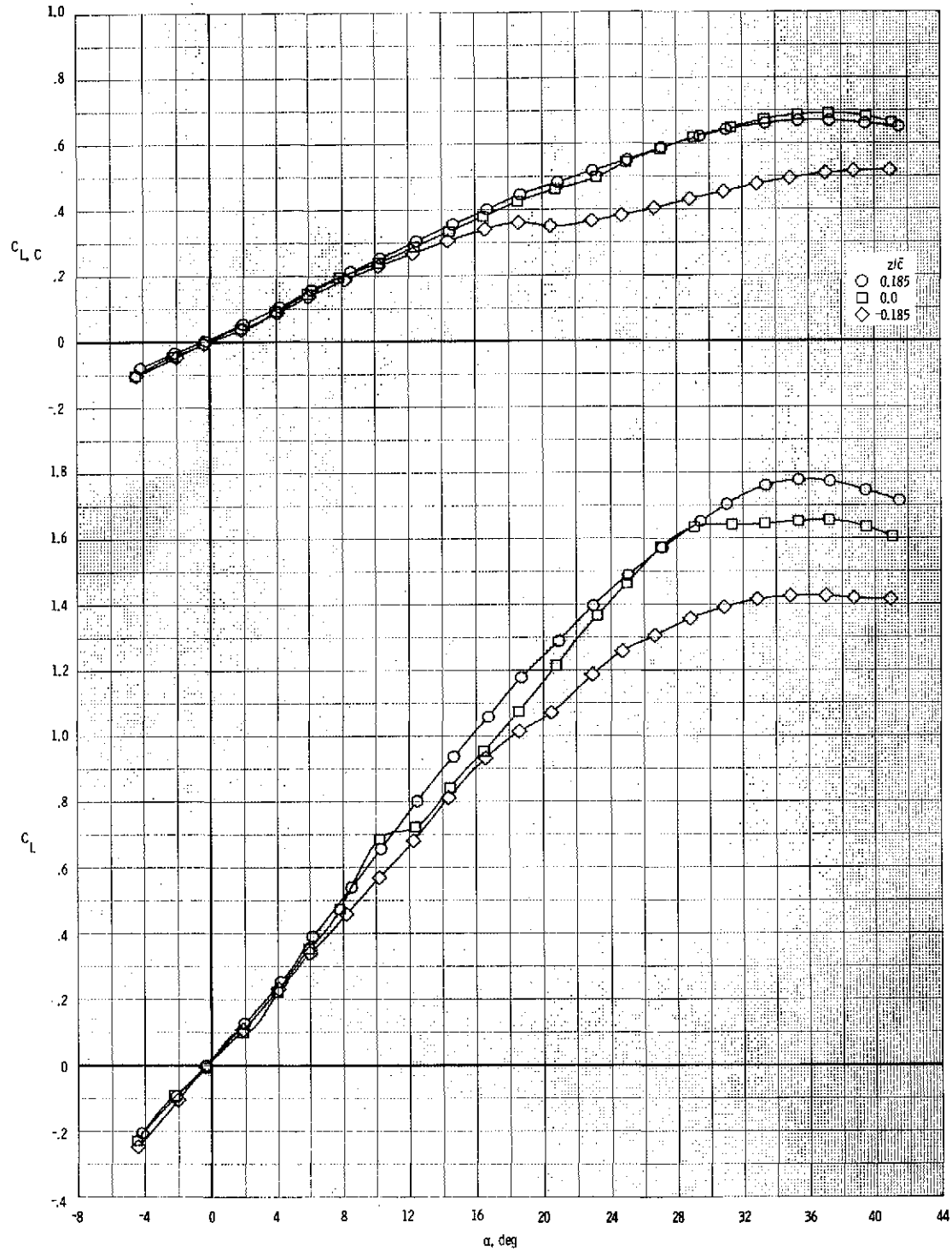
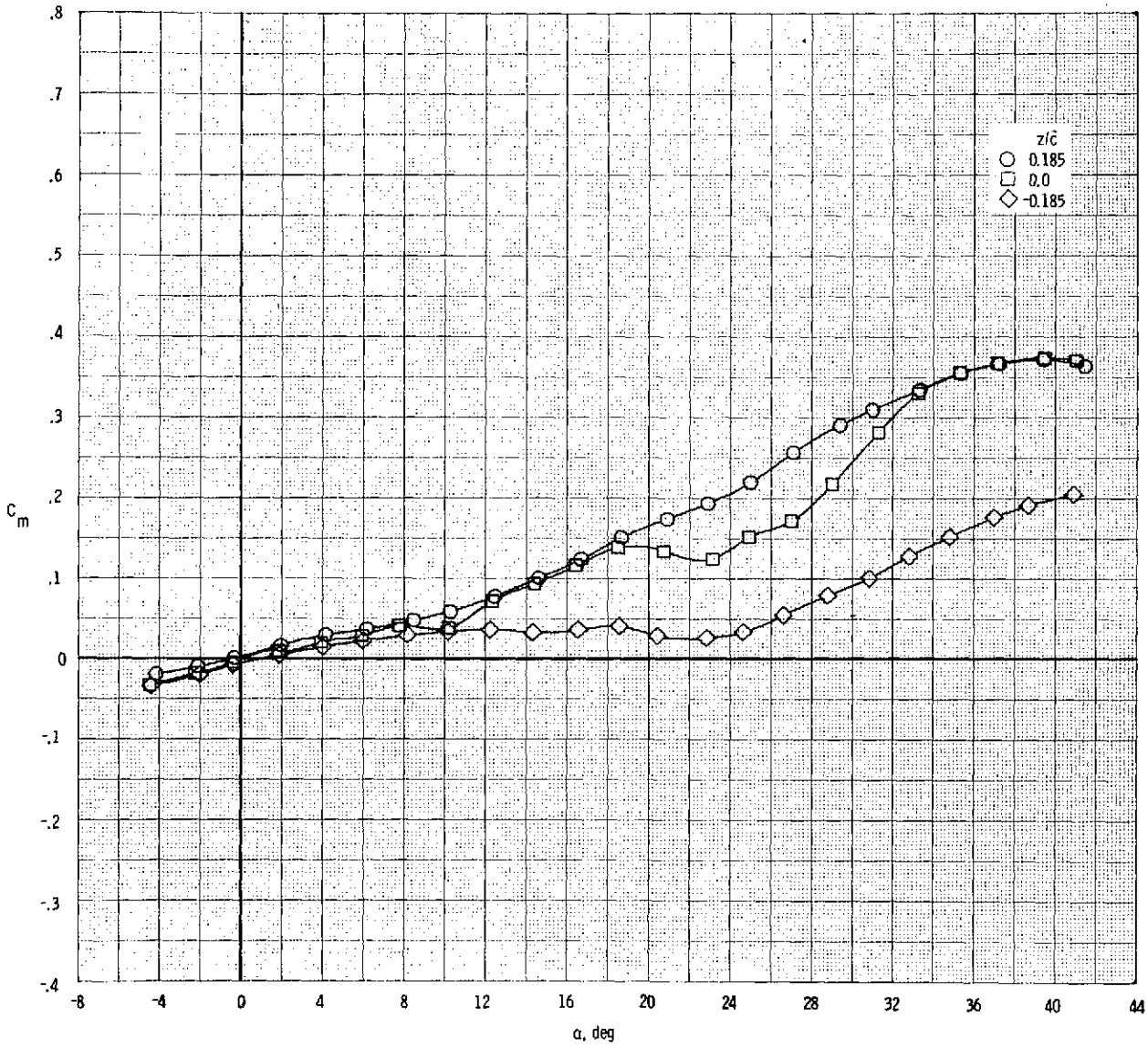
Figure 3.- Photograph of model mounted in tunnel.



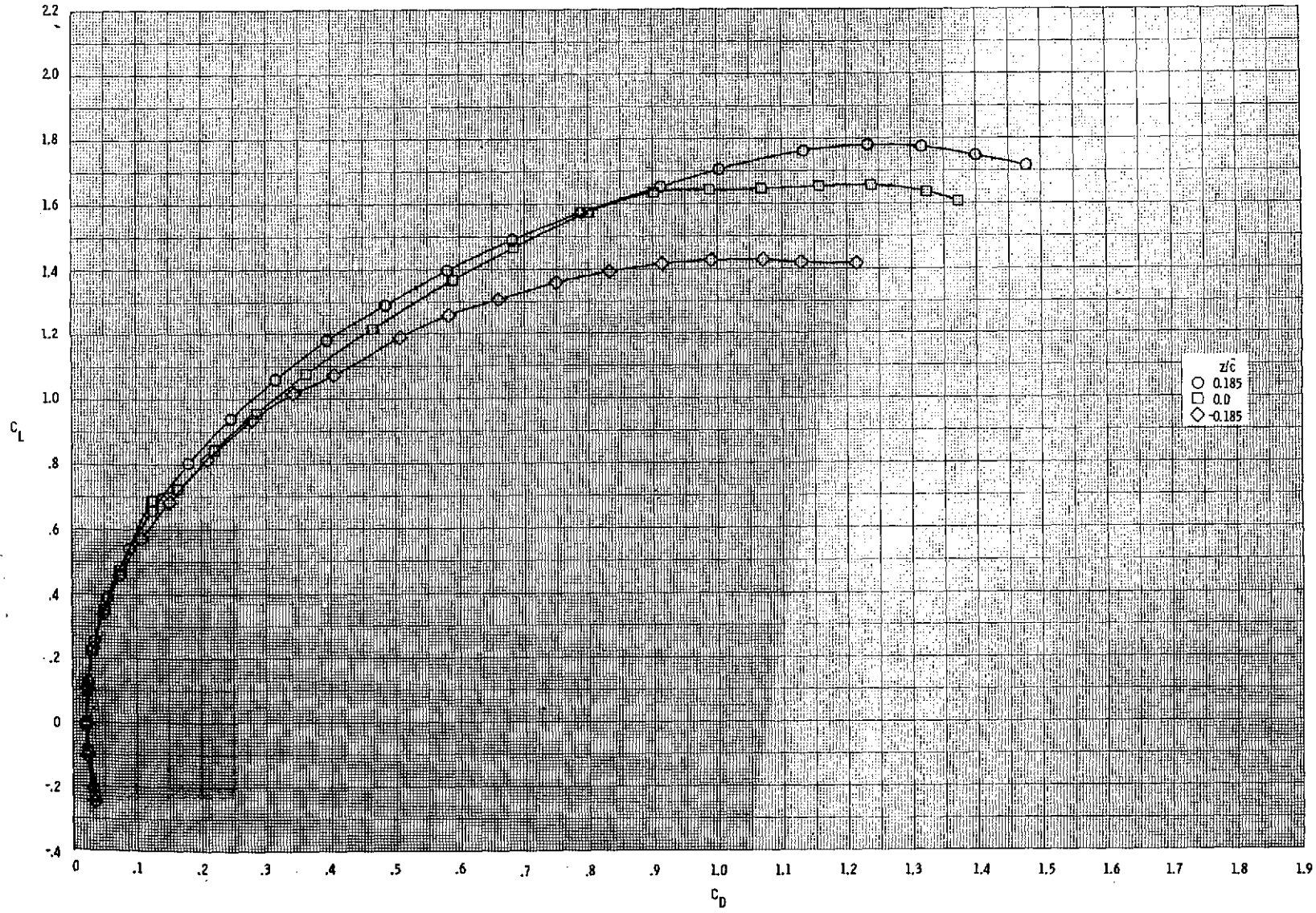
(a)

Figure 4.- Effect of canard location on the longitudinal aerodynamic characteristics for the model with canard II and wing I. Canard strake off, and vertical tail off.



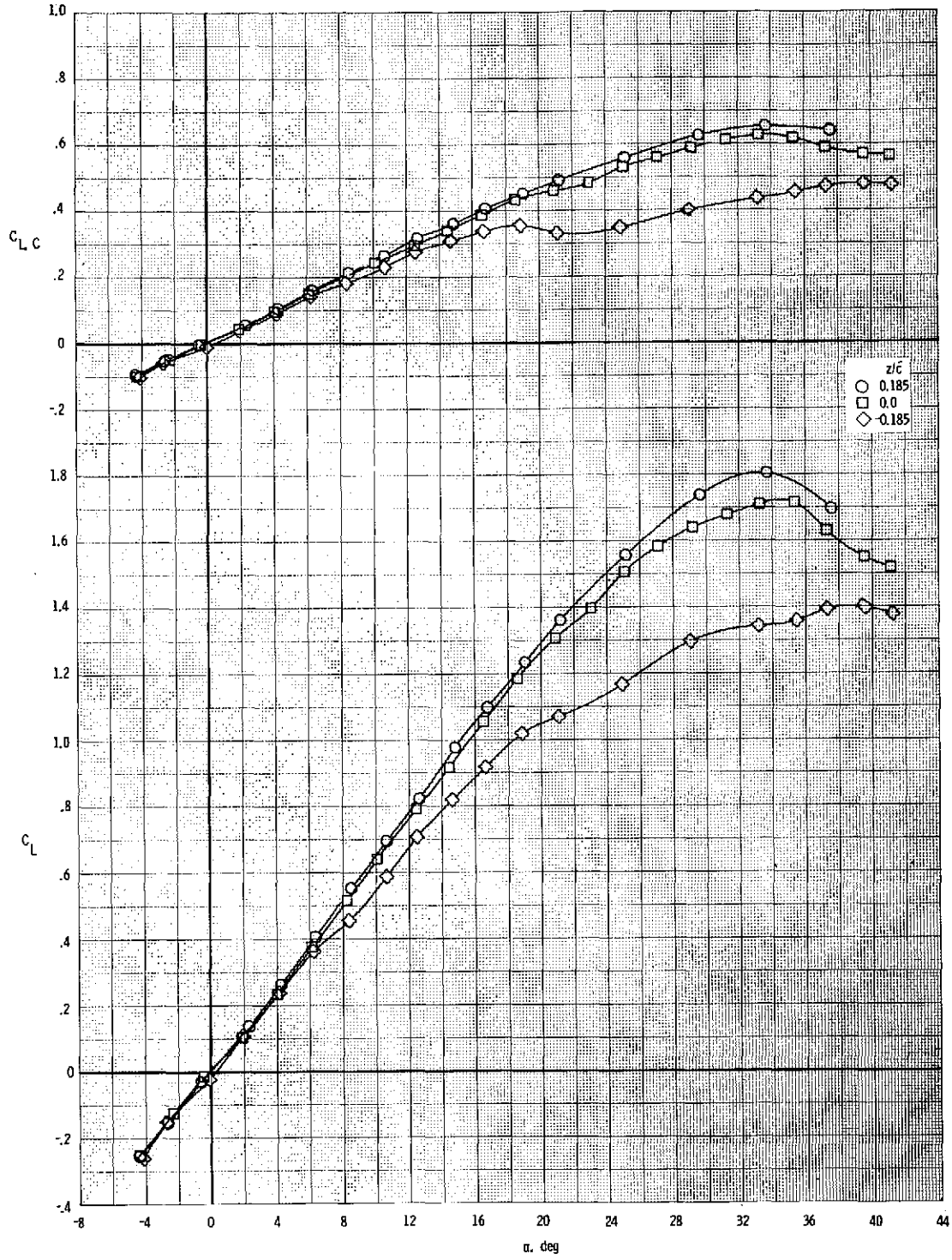
(b)

Figure 4.- Continued.



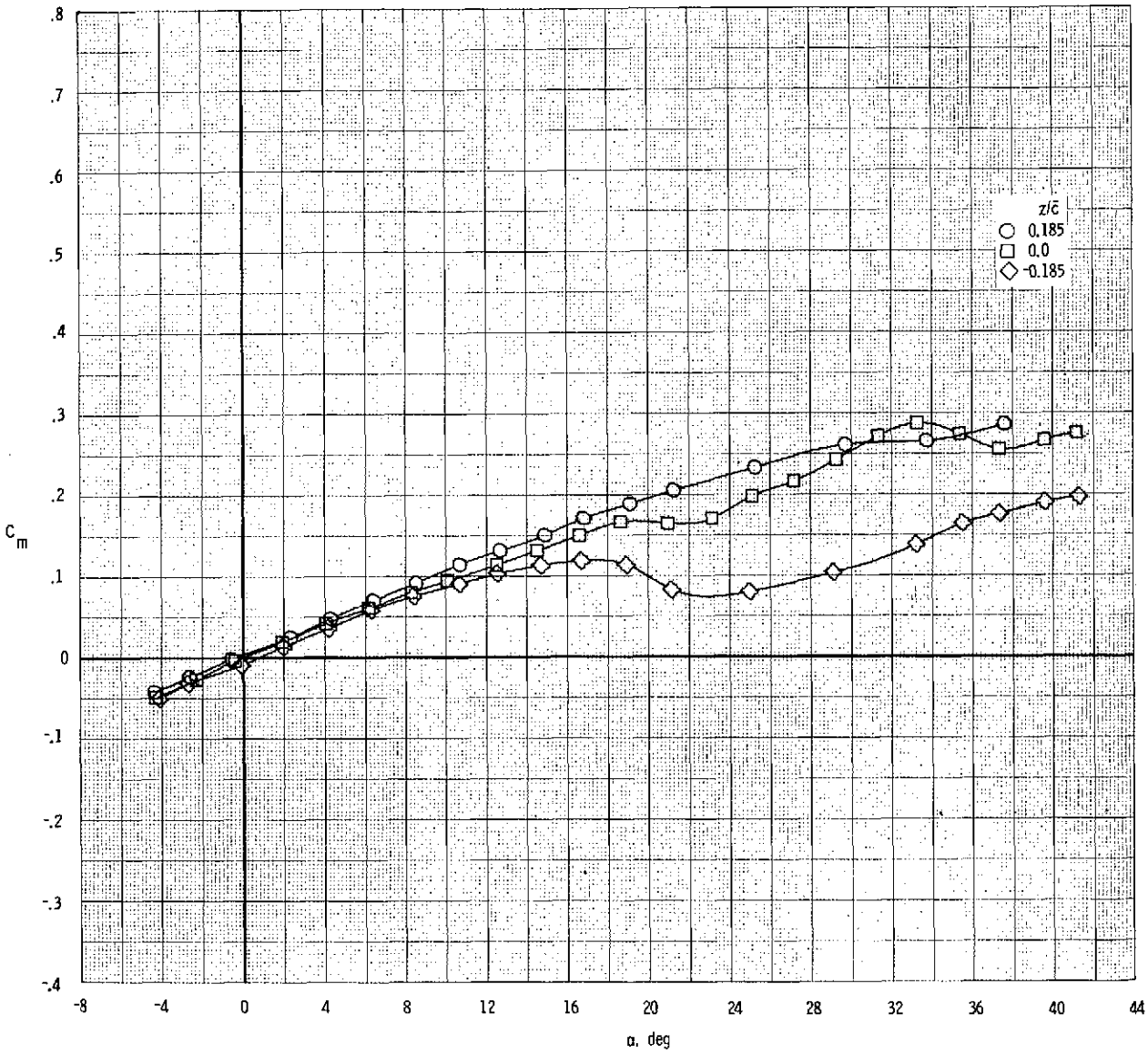
(c)

Figure 4.- Concluded.



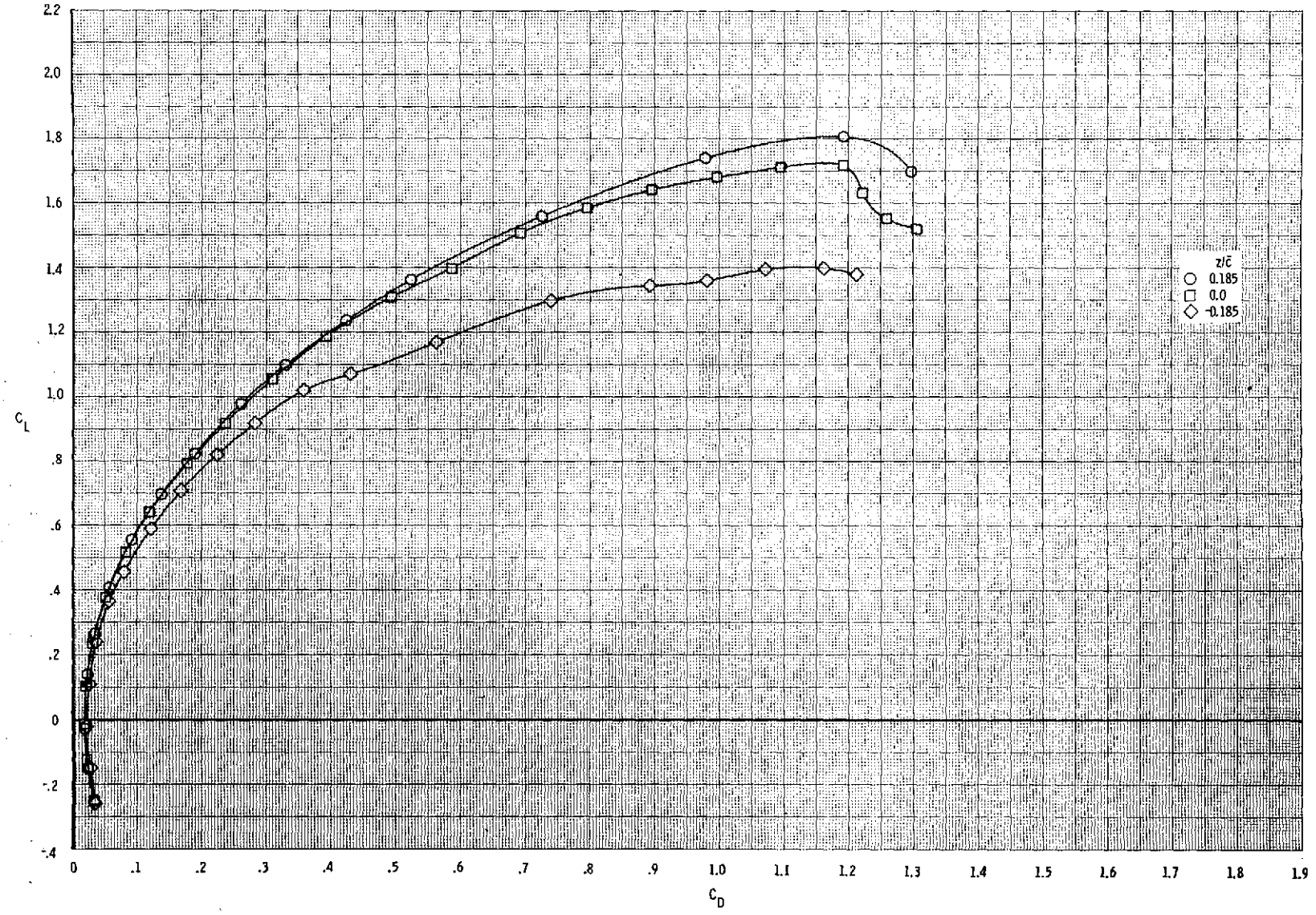
(a)

Figure 5.- Effect of canard location on the longitudinal aerodynamic characteristics for the model with canard II and wing II. Canard strake off, and vertical tail off.



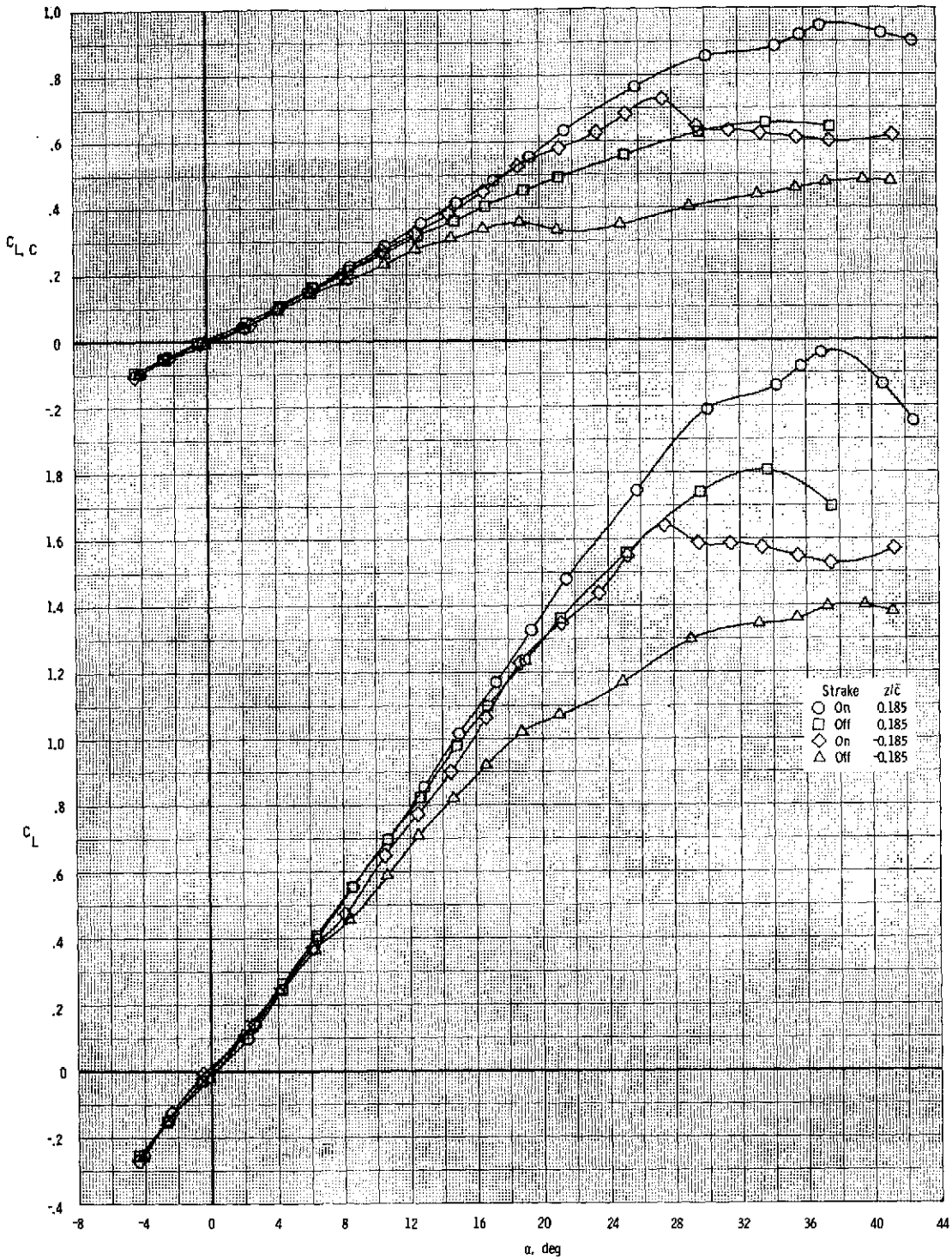
(b)

Figure 5.- Continued.



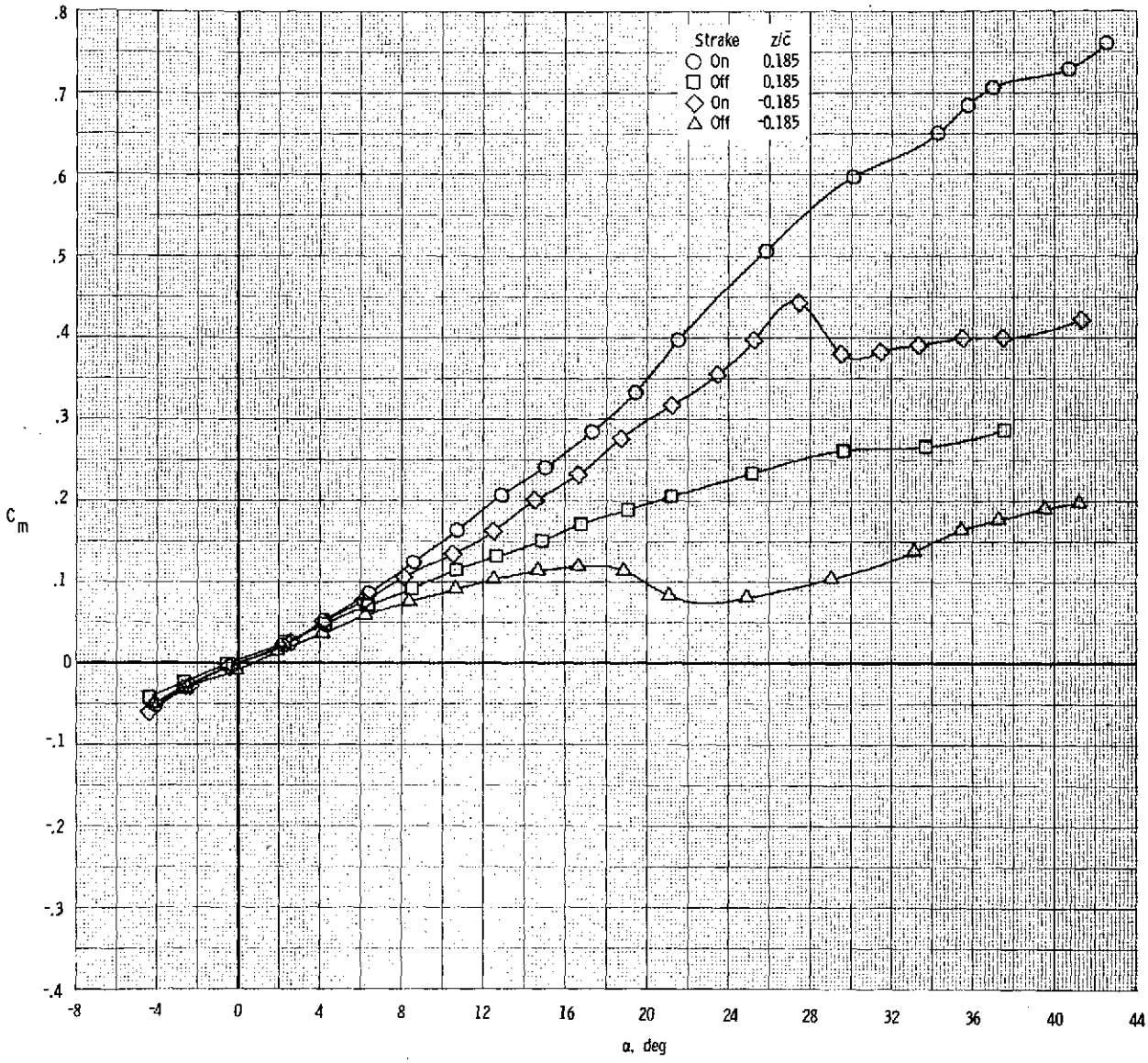
(c)

Figure 5.- Concluded.



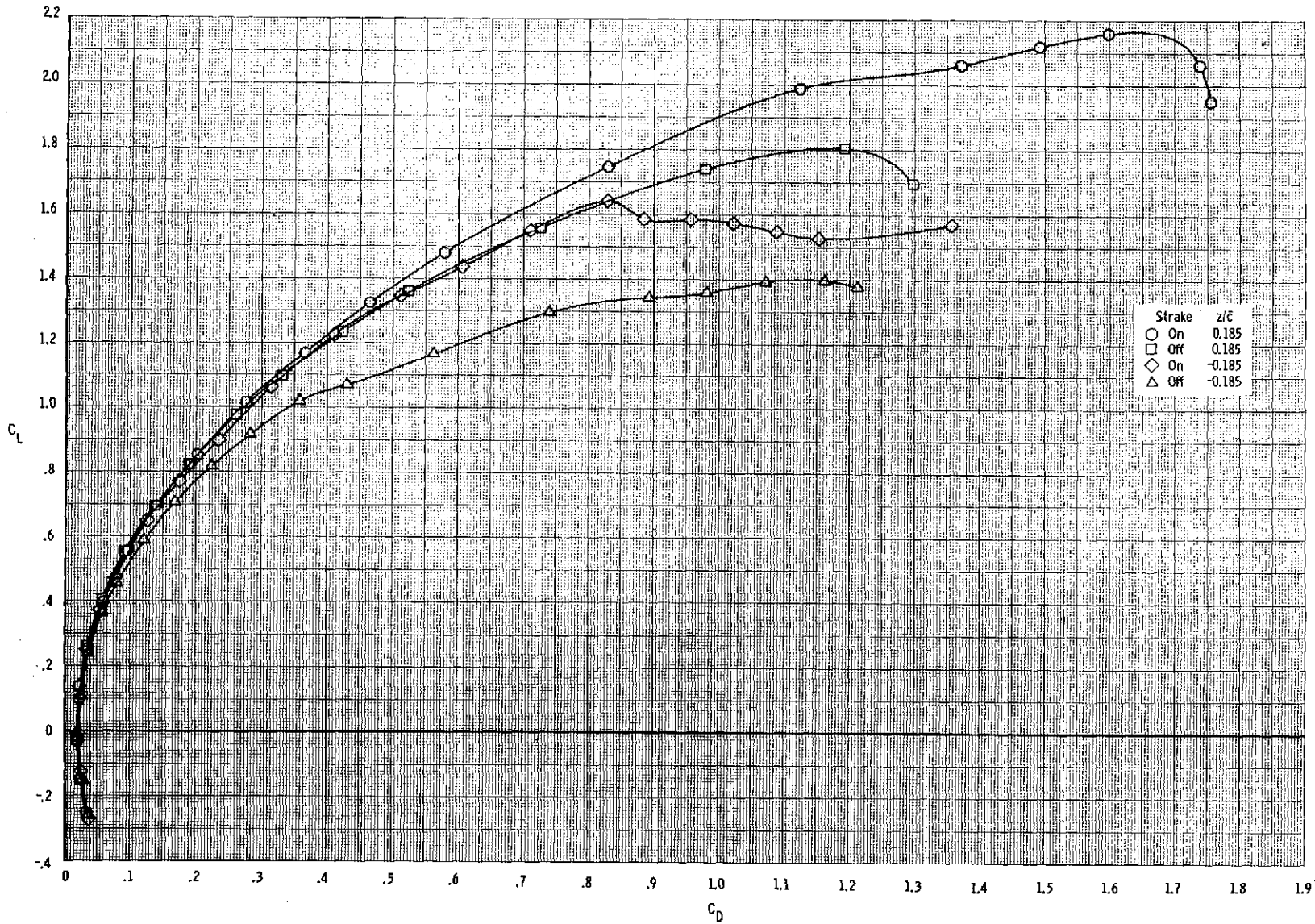
(a)

Figure 6.- Effect of canard strake on the longitudinal aerodynamic characteristics for the model with canard II, wing II, and vertical tail off.



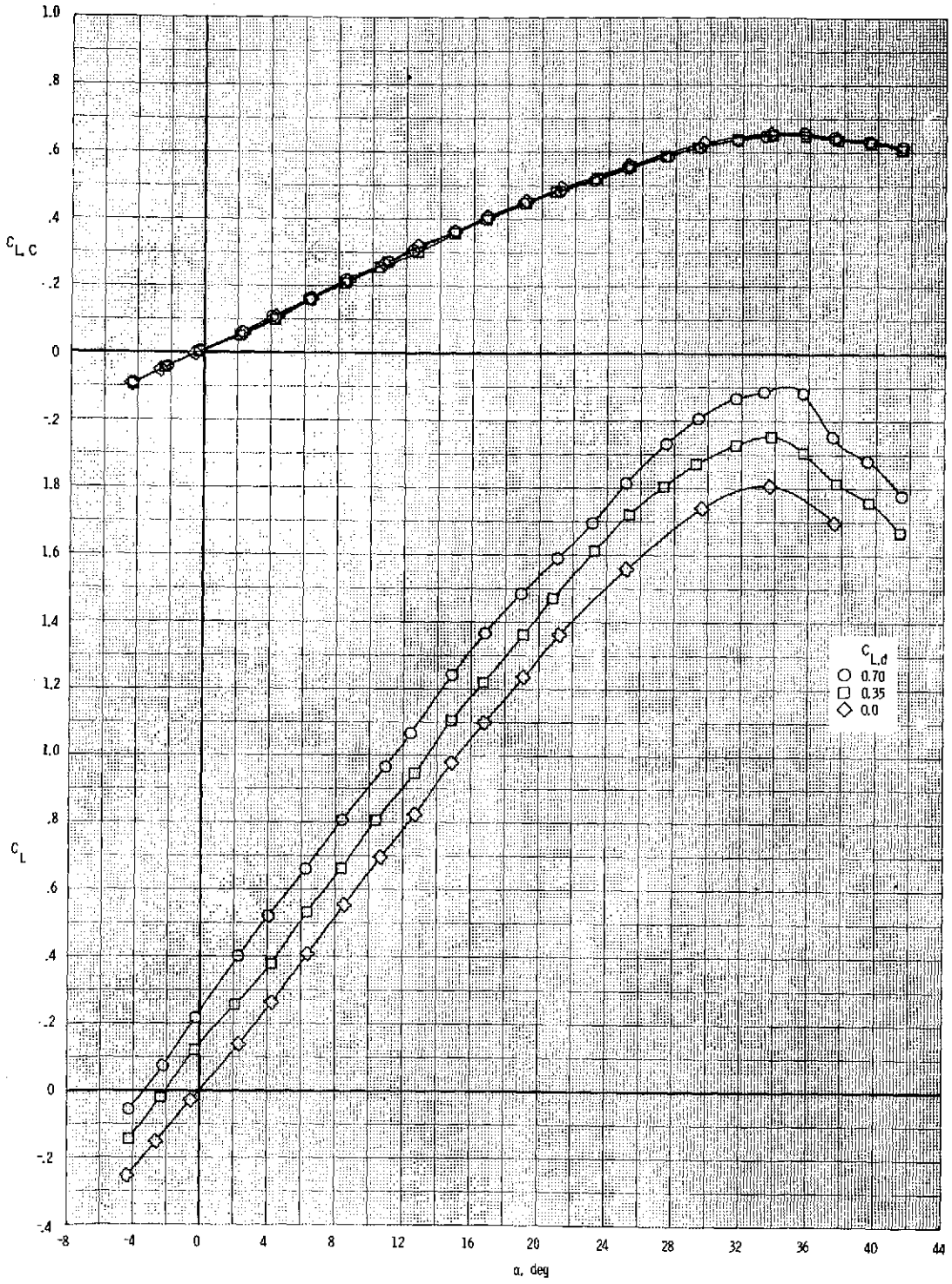
(b)

Figure 6.- Continued.



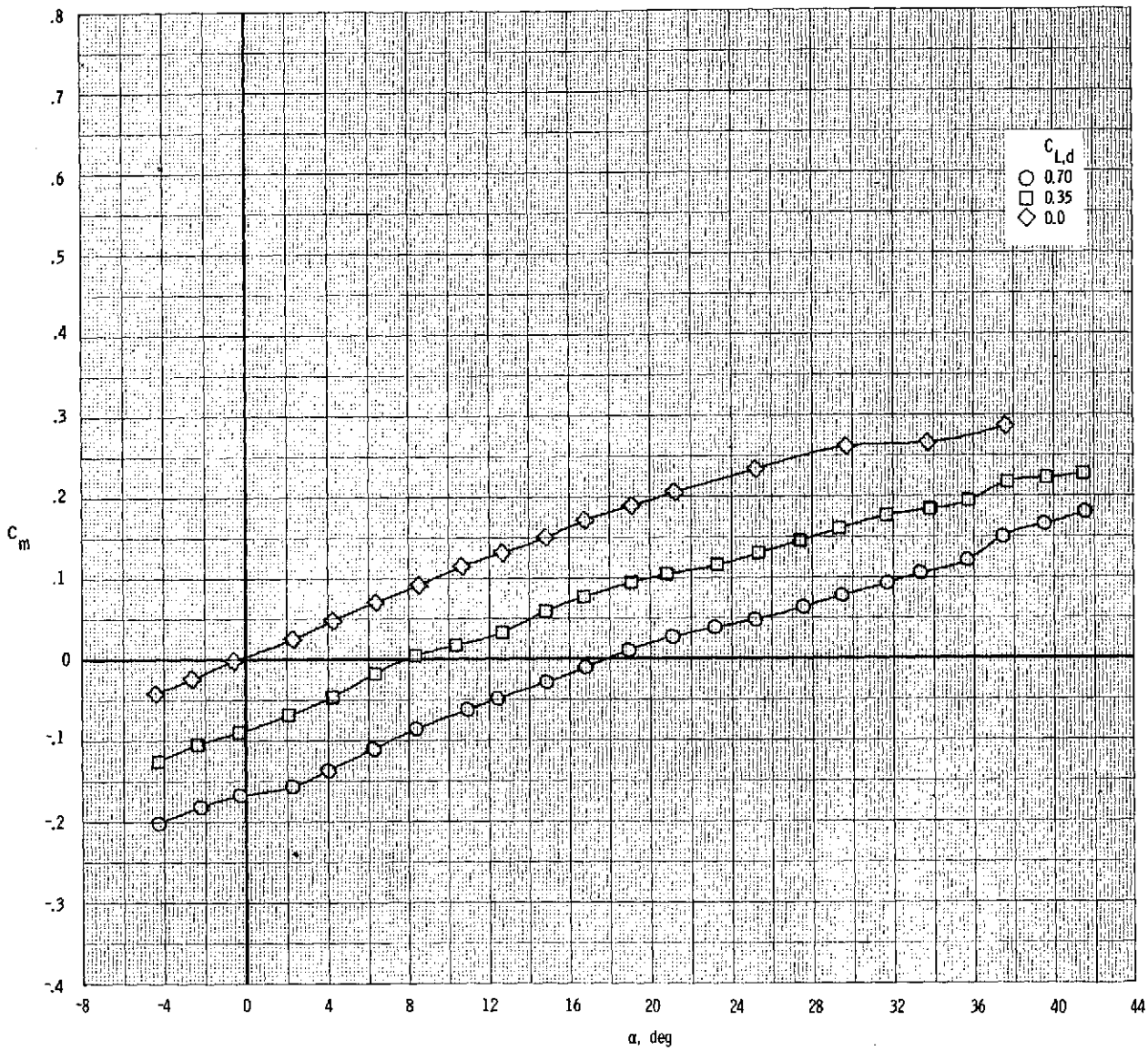
(c)

Figure 6.- Concluded.



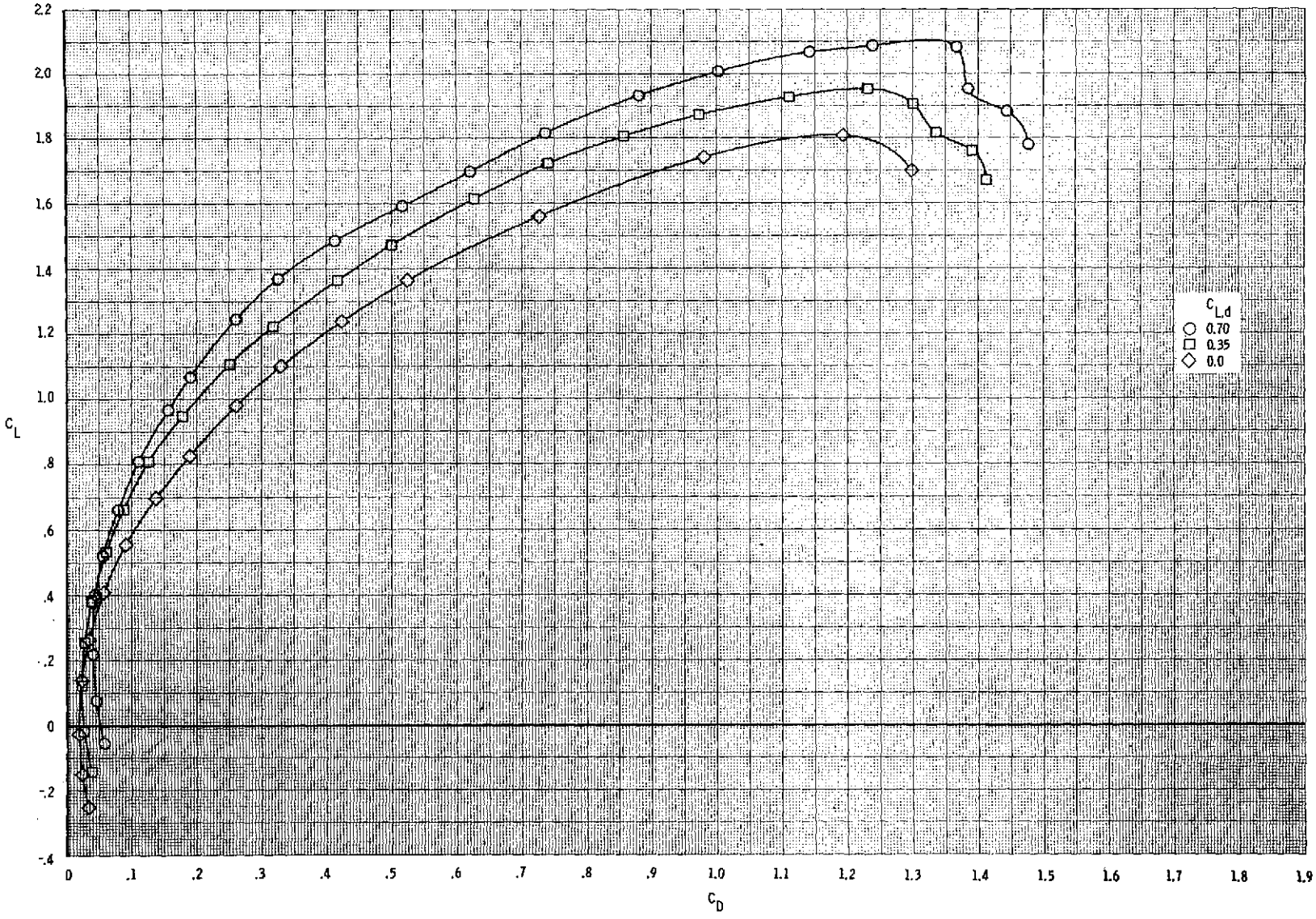
(a)

Figure 7.- Effect of wing camber and twist on the longitudinal aerodynamic characteristics of the model with canard II. $\Lambda_W = 44^O$, $z/\overline{c} = 0.185$, canard strake off, and vertical tail off.



(b)

Figure 7.- Continued.



(c)

Figure 7.- Concluded.

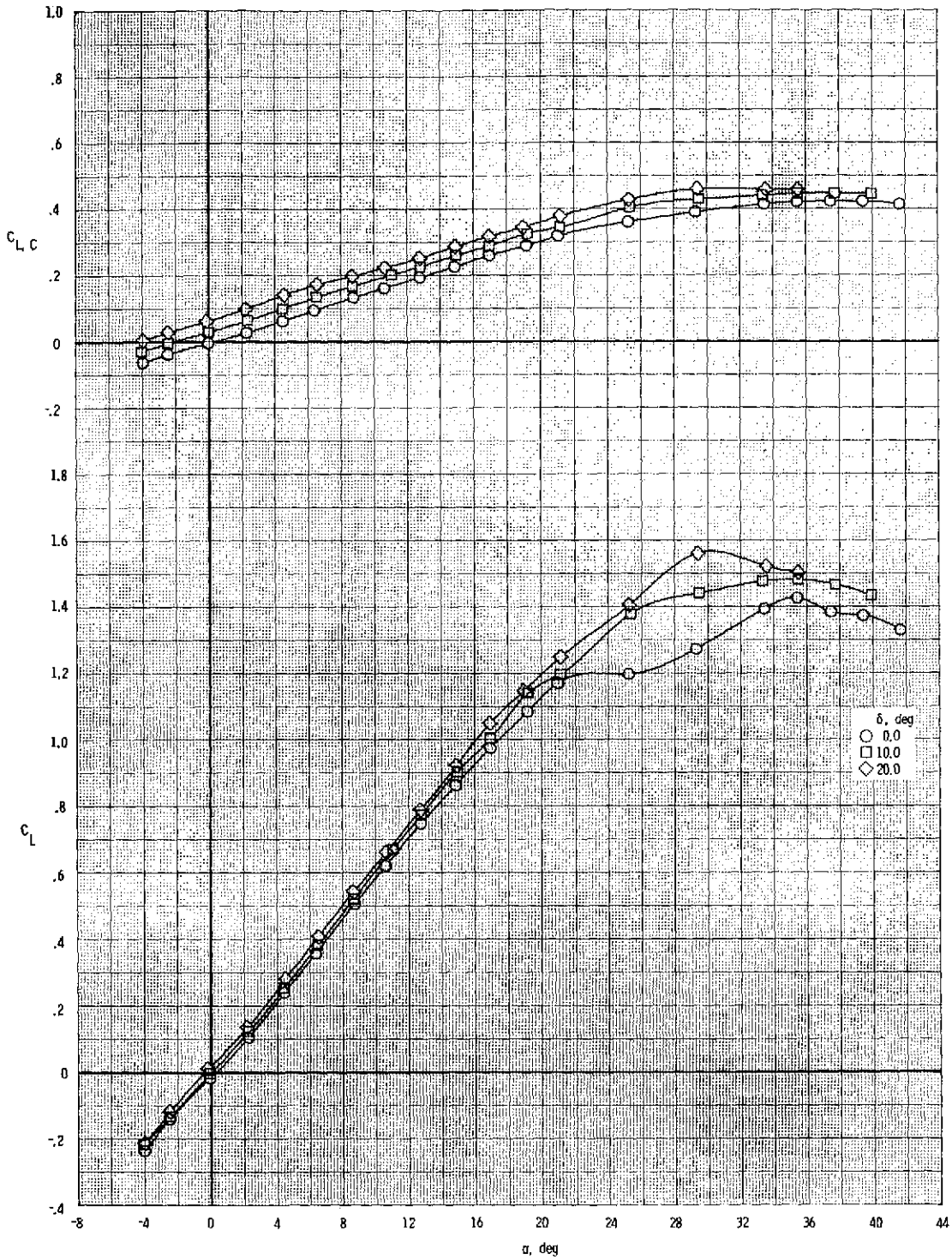


Figure 8.- Effect of canard trailing-edge flap deflection on the longitudinal aerodynamic characteristics of the model with canard I. $z/\overline{c} = 0.185$, wing II, canard strake off, and vertical tail on.

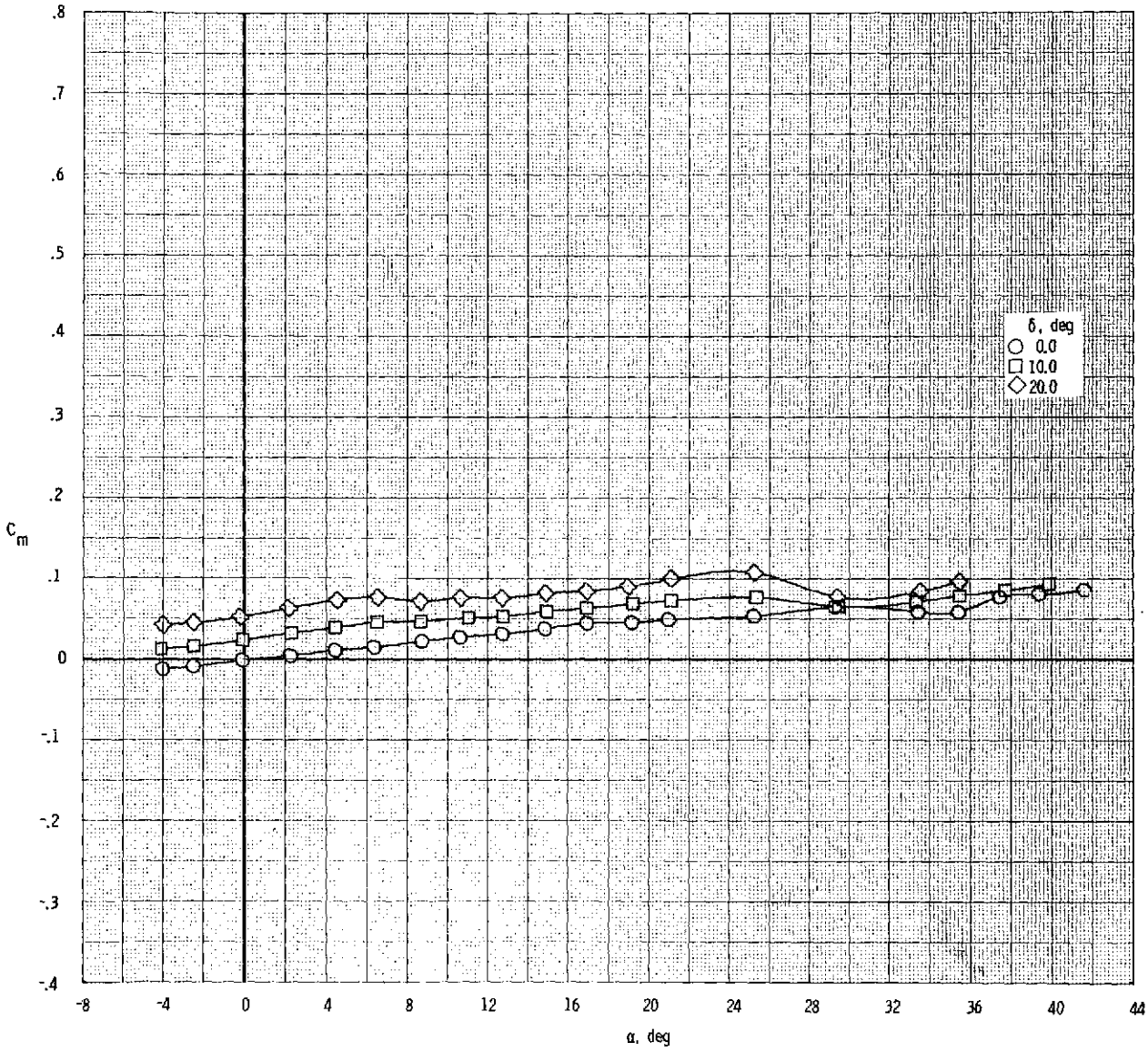


Figure 8.- Continued.

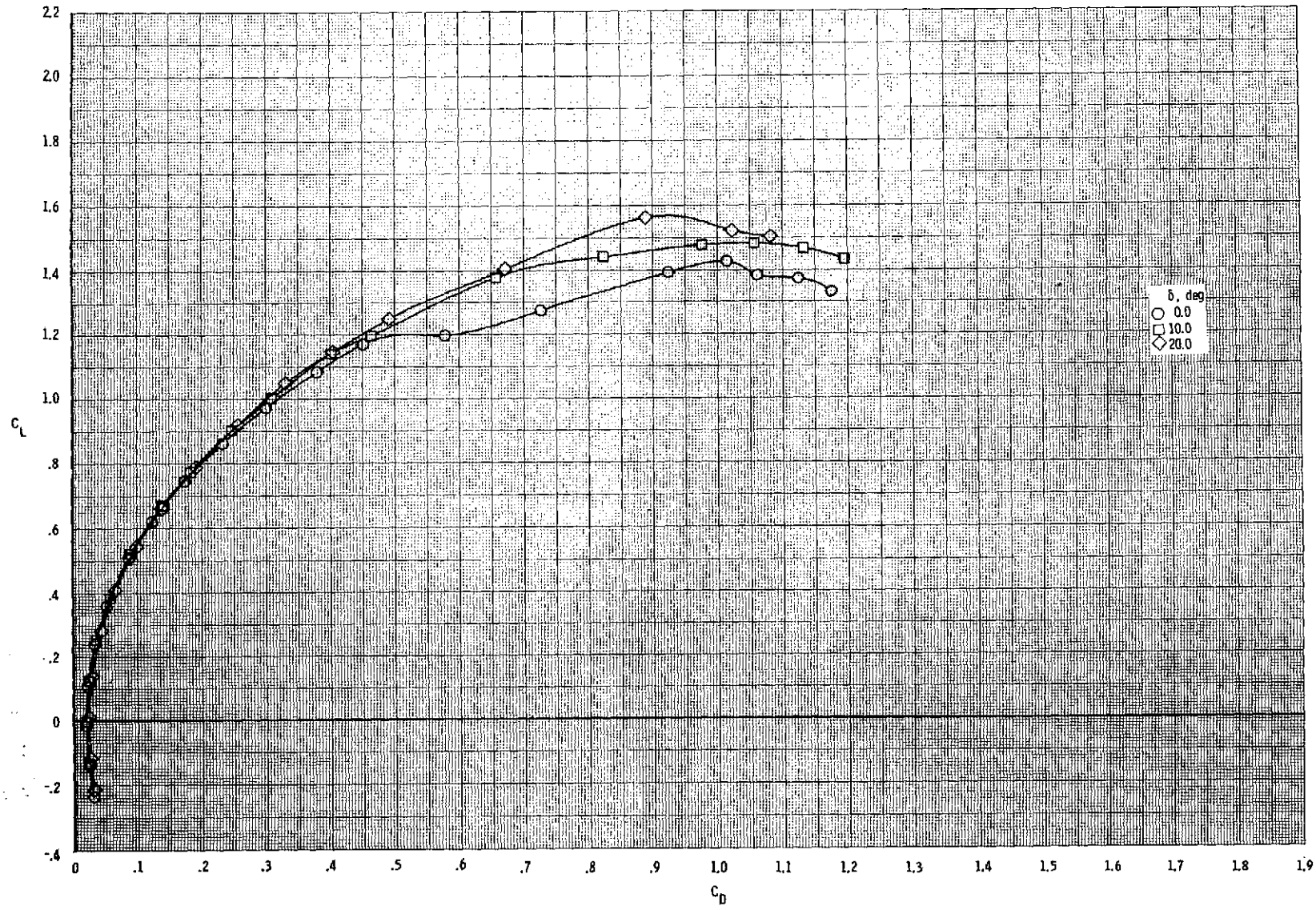


Figure 8.- Concluded.

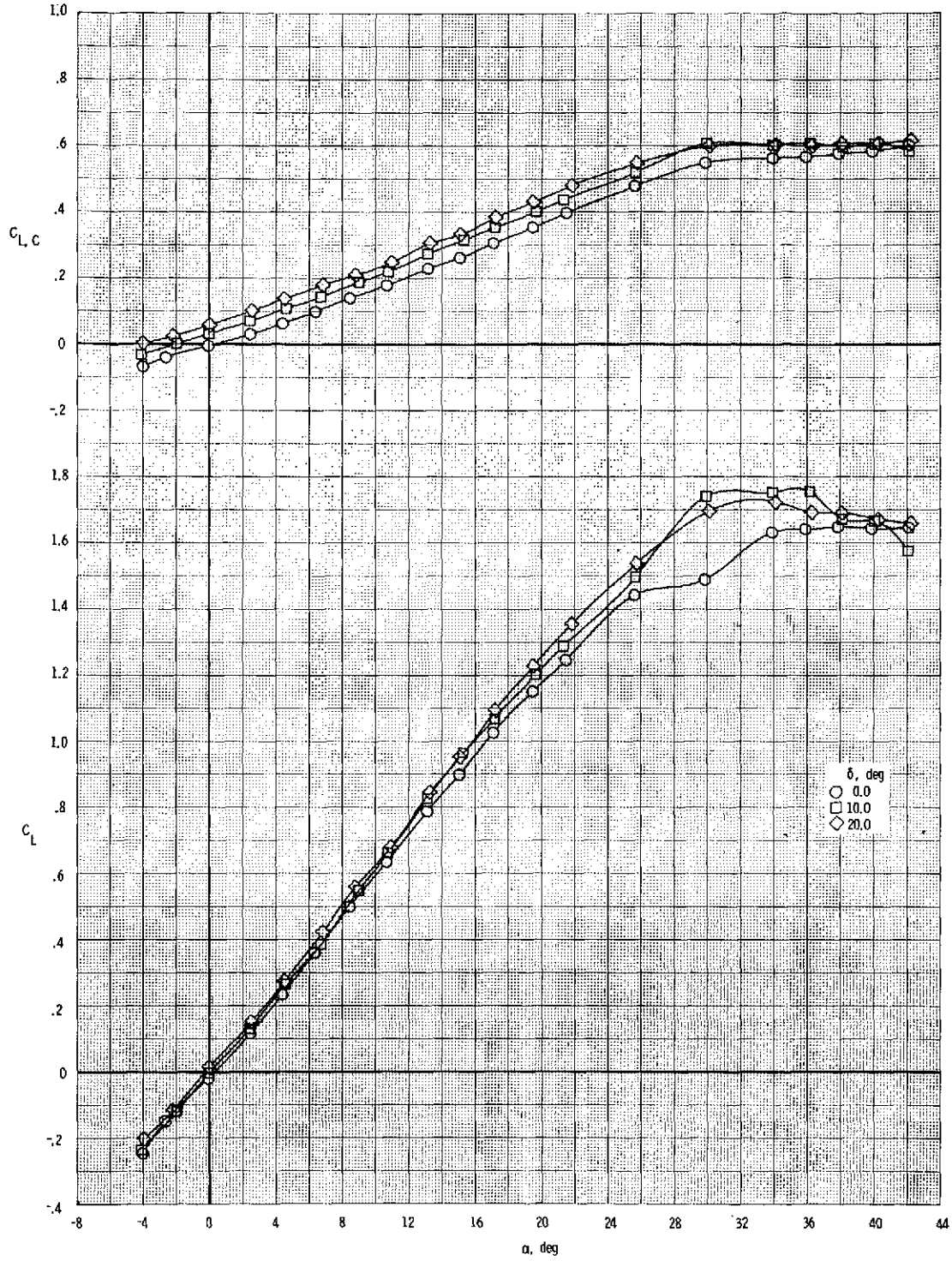


Figure 9.- Effect of canard trailing-edge flap deflection on the longitudinal aerodynamic characteristics of the model with canard I, wing II, canard strake on, and vertical tail on.

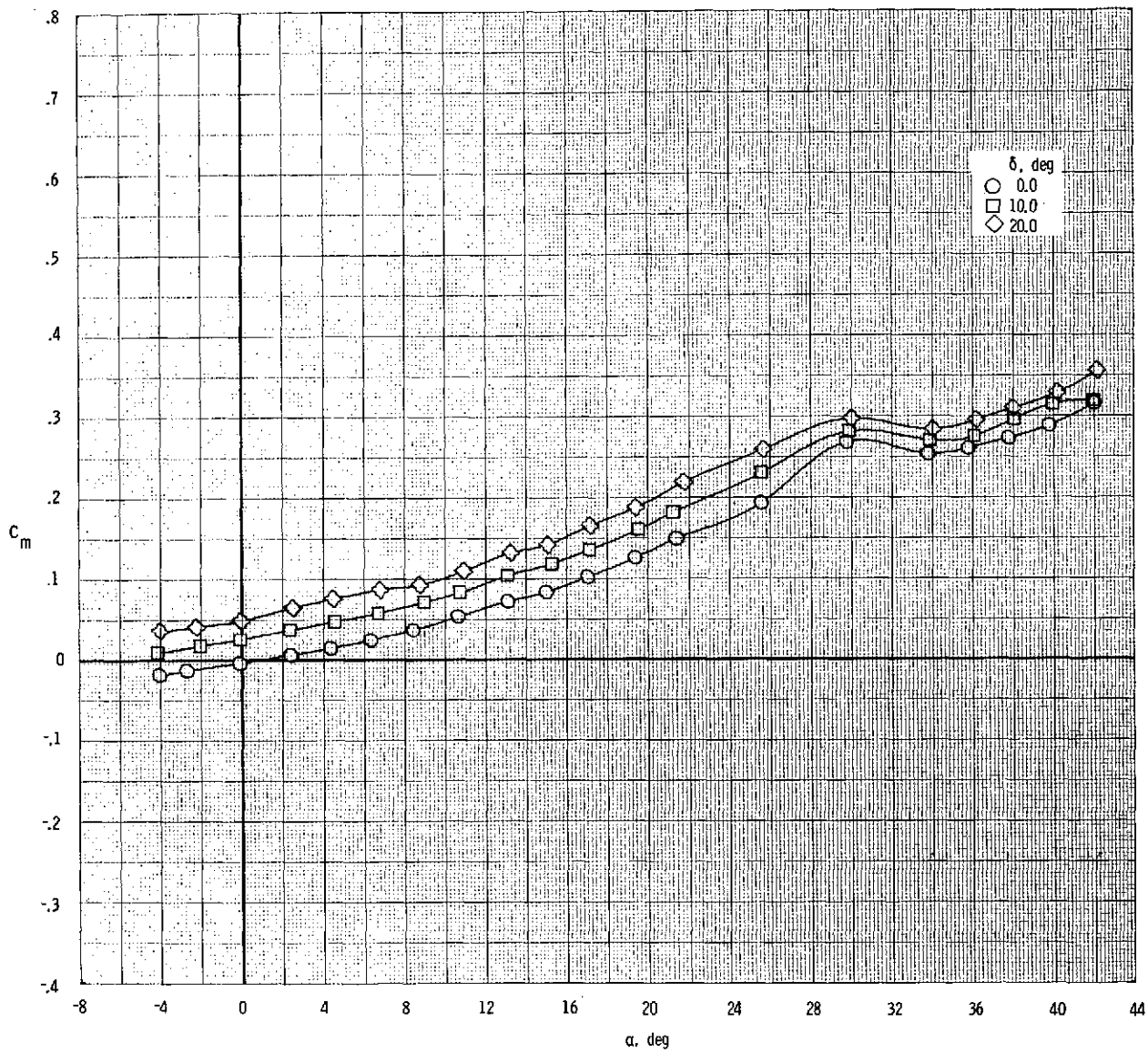


Figure 9.- Continued.

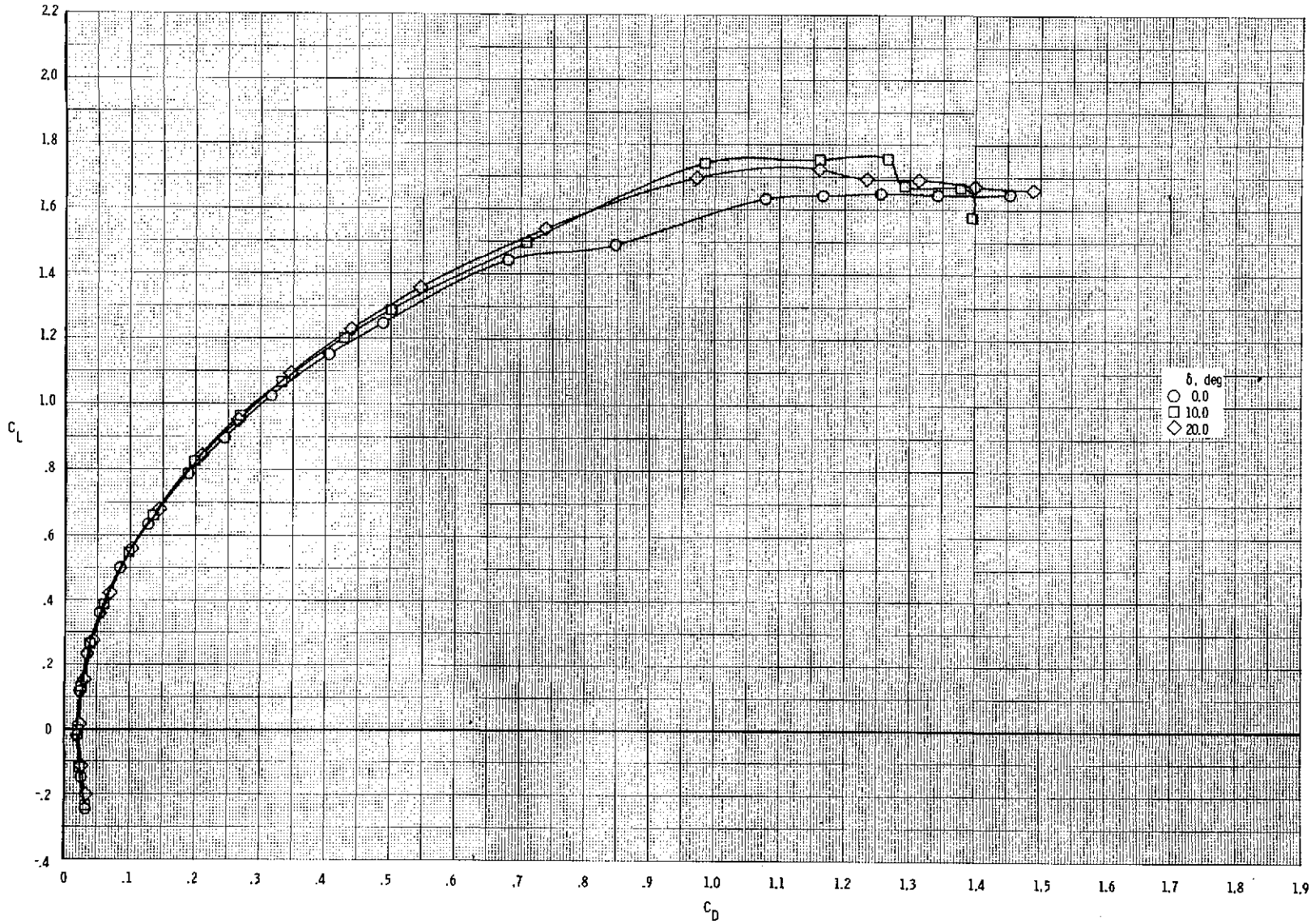


Figure 9.- Concluded.

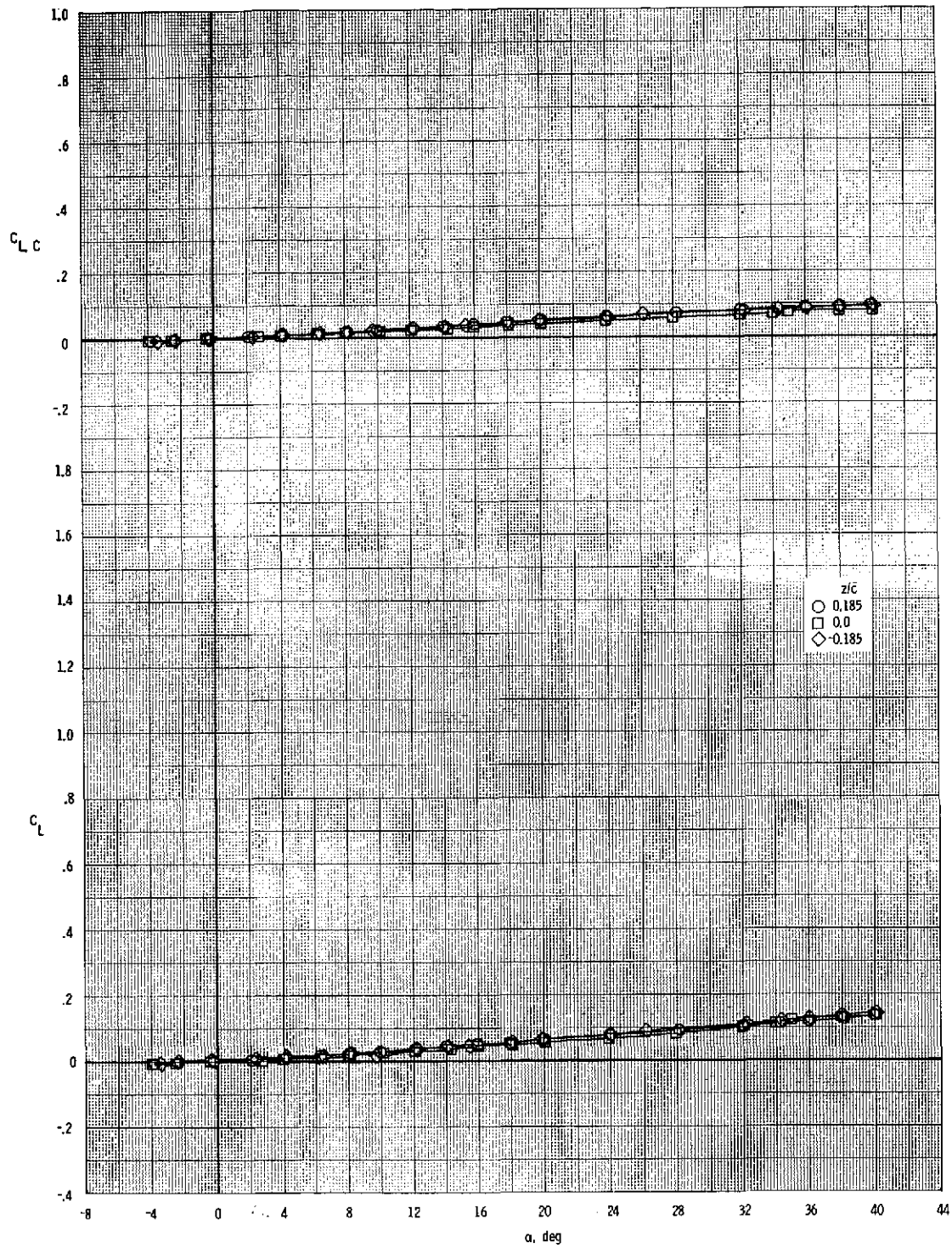


Figure 10.- Effect of body fairings on the longitudinal aerodynamic characteristics of the model with canard and wing off, and vertical tail off.

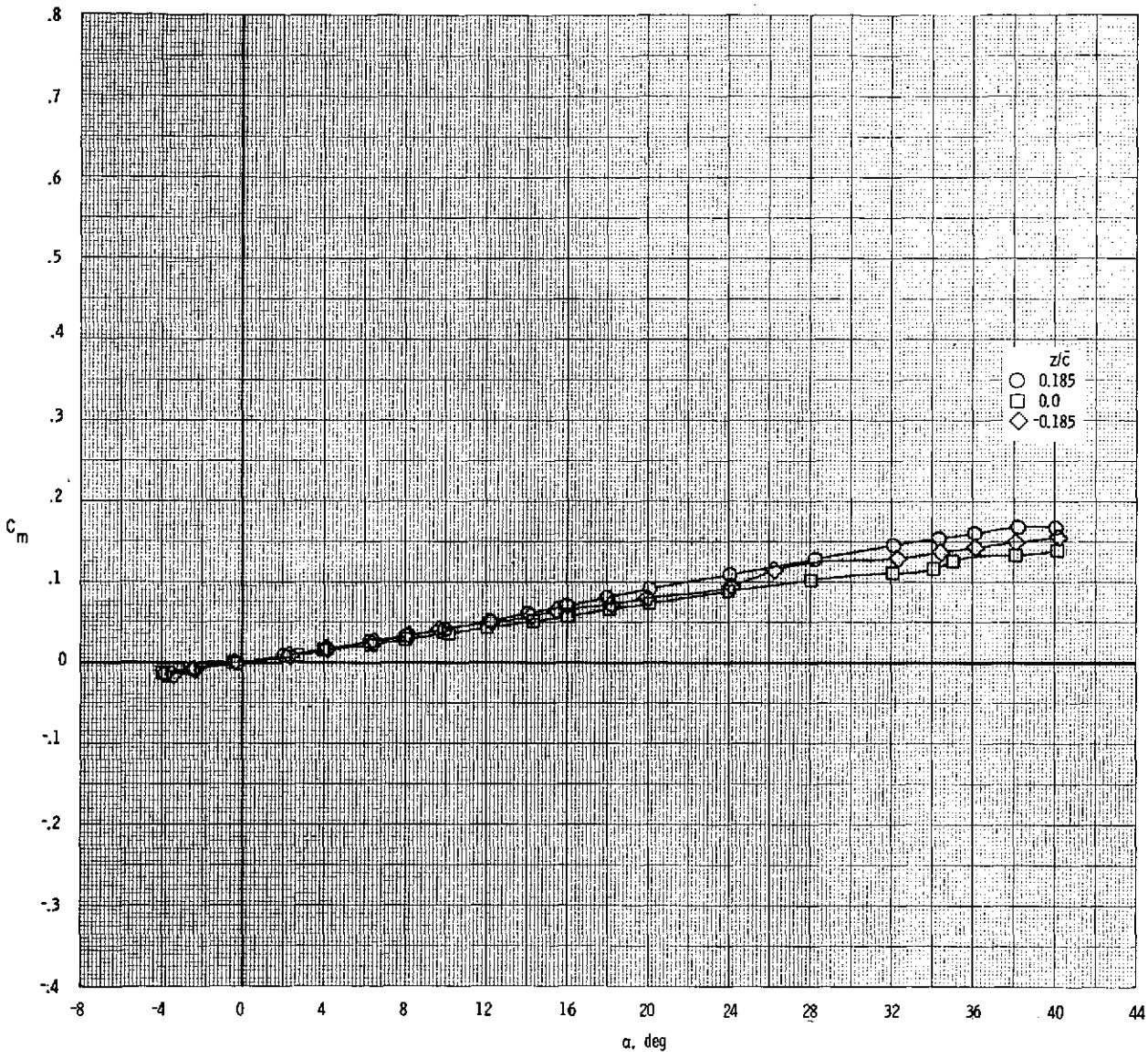


Figure 10.- Concluded.

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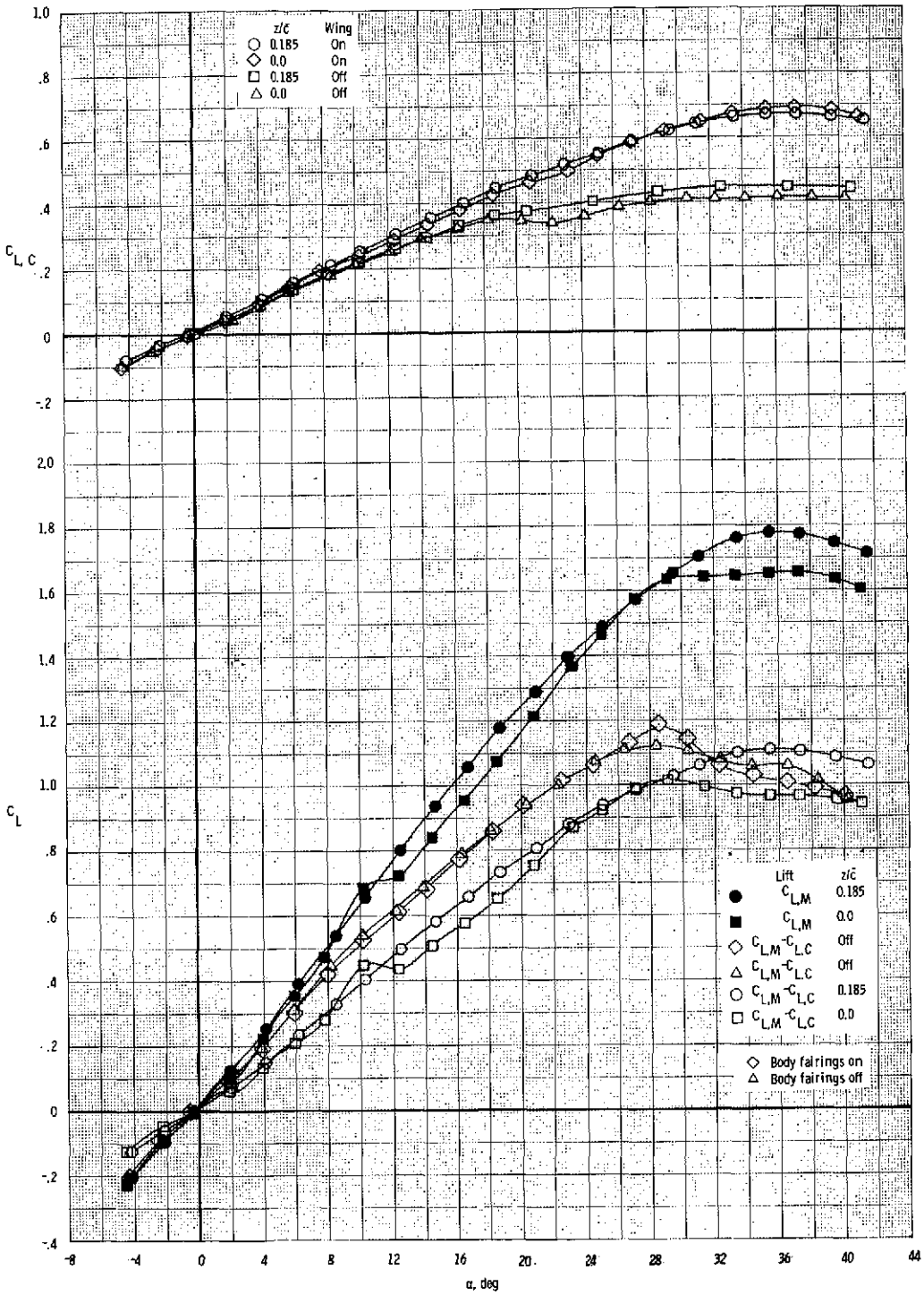
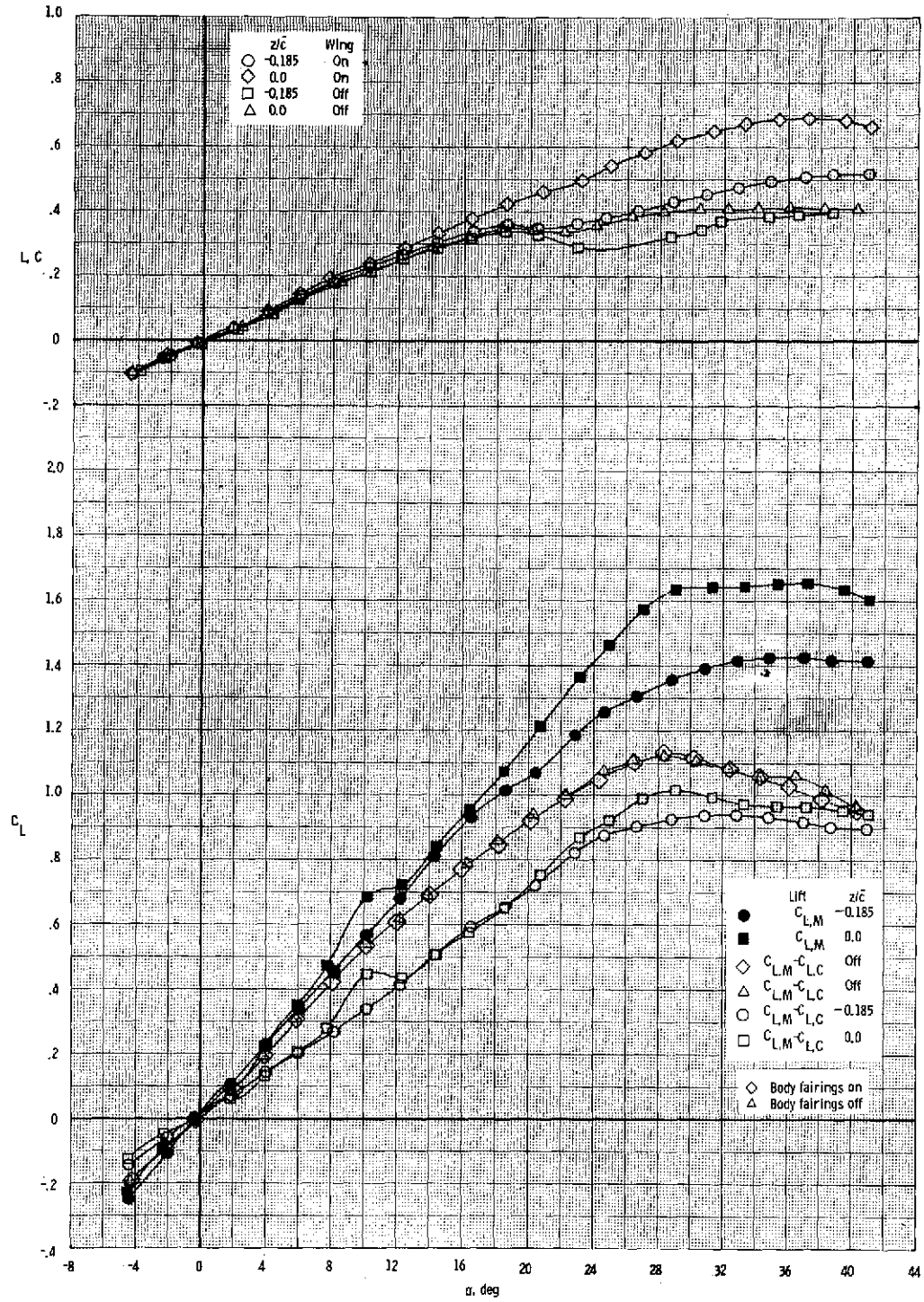


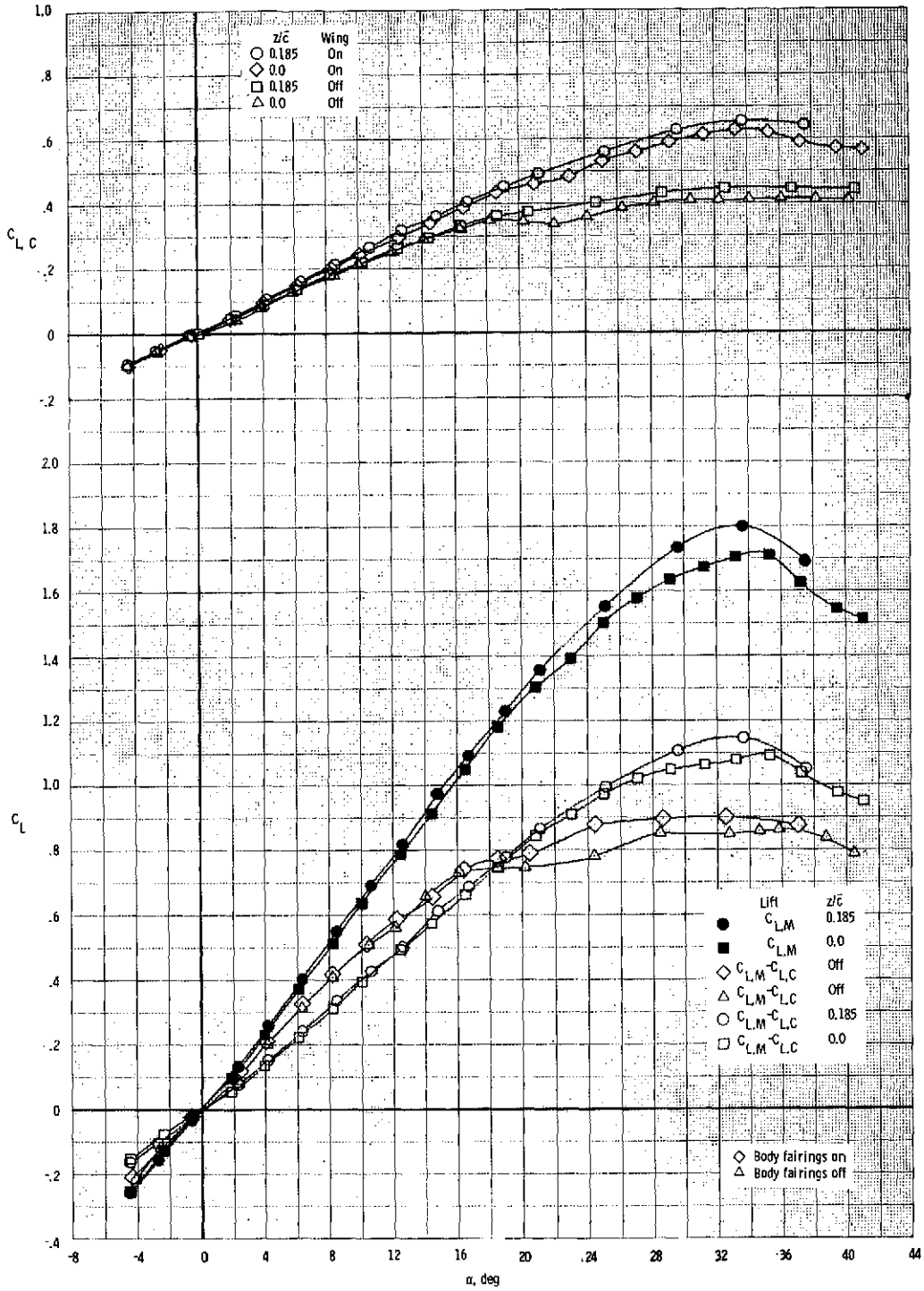
(a) $z/\bar{c} = 0.185$ and 0.0.

Figure 11.- Lift interference effects for the model with canard II, wing I, canard strake off, and vertical tail off.



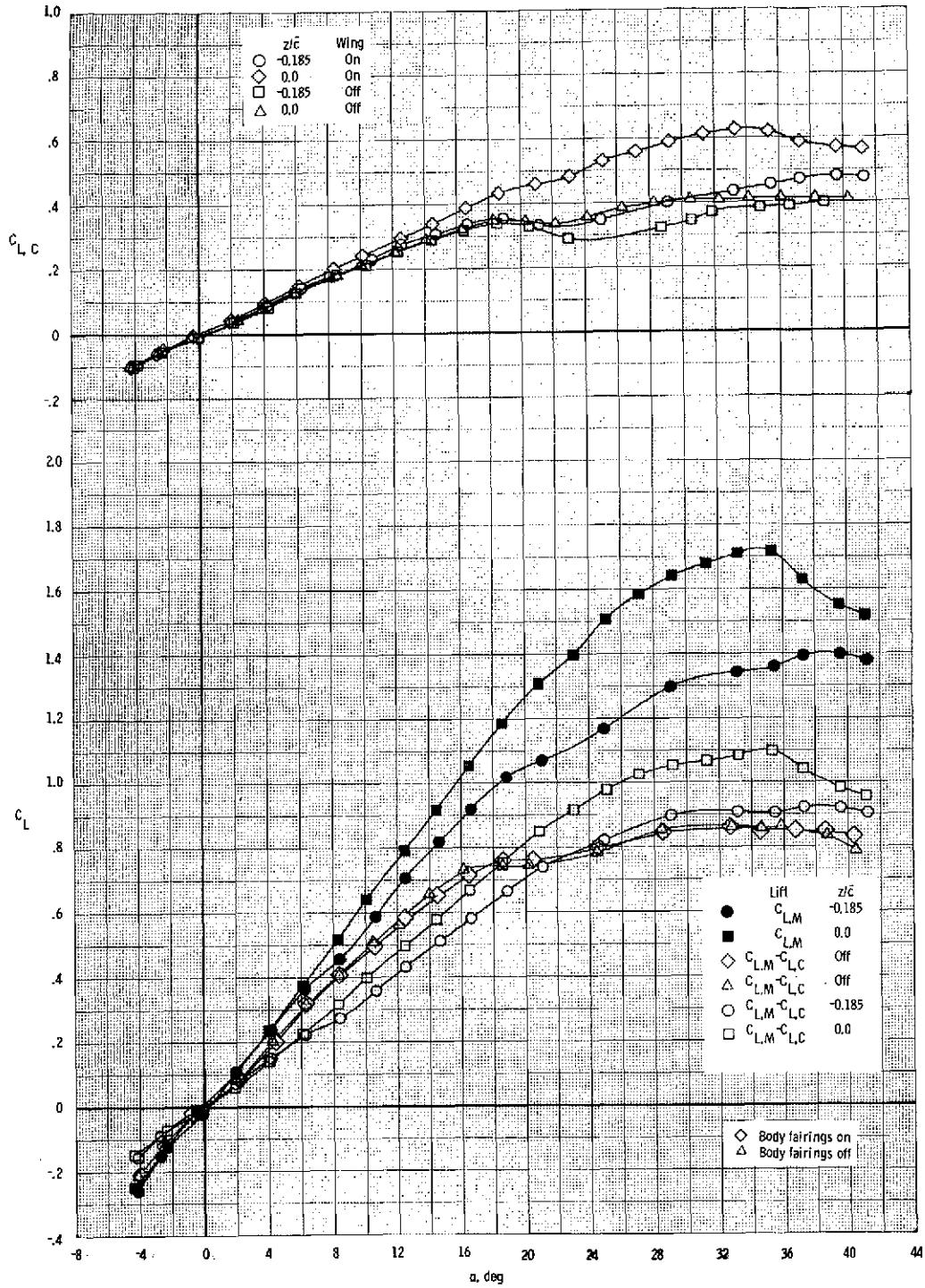
(b) $z/\bar{c}$ = 0.0 and -0.185.

Figure 11.- Concluded.



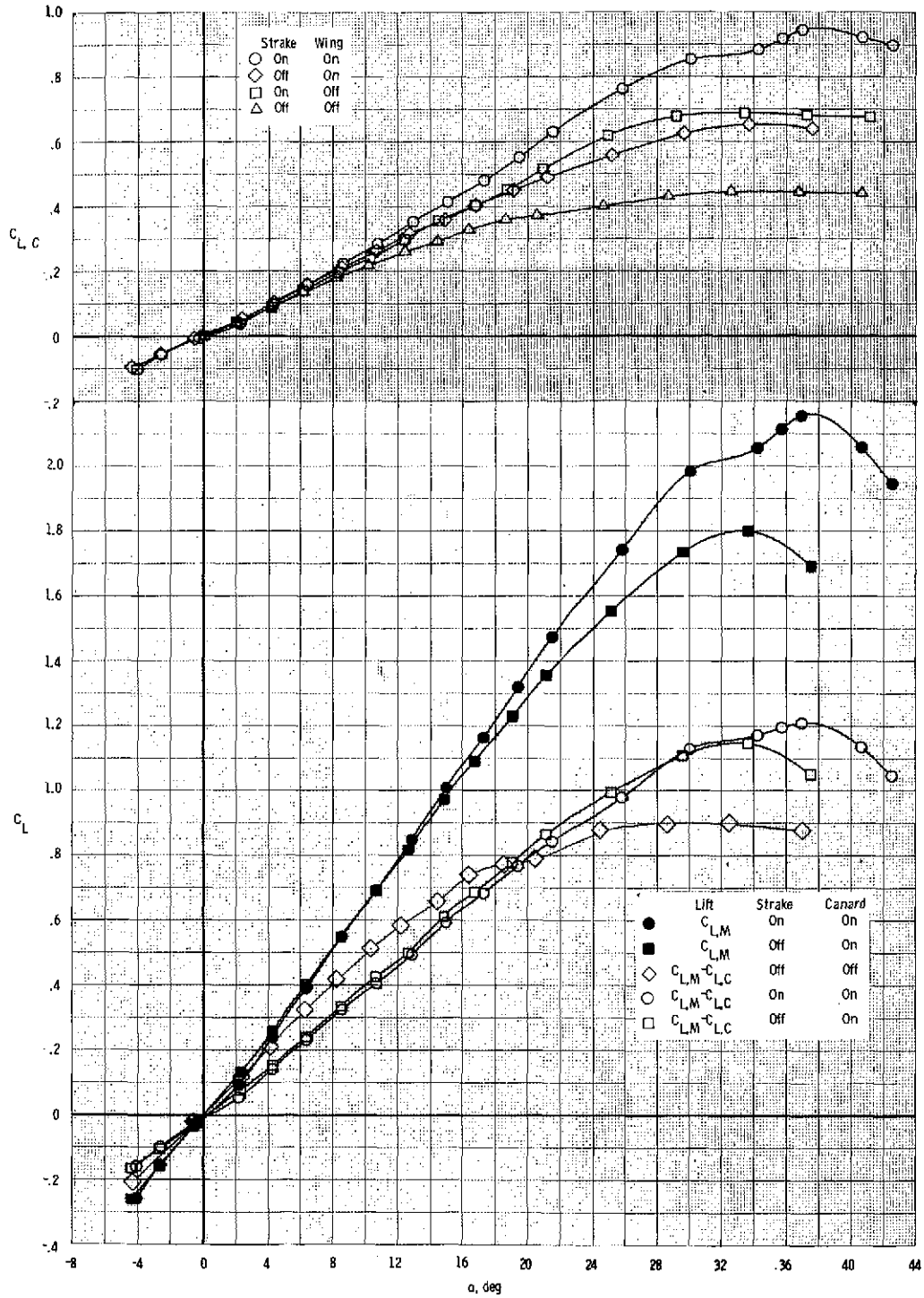
(a) $z/\bar{c} = 0.185$ and 0.0.

Figure 12.- Lift interference effects for the model with canard II, wing II, canard strake off, and vertical tail off.



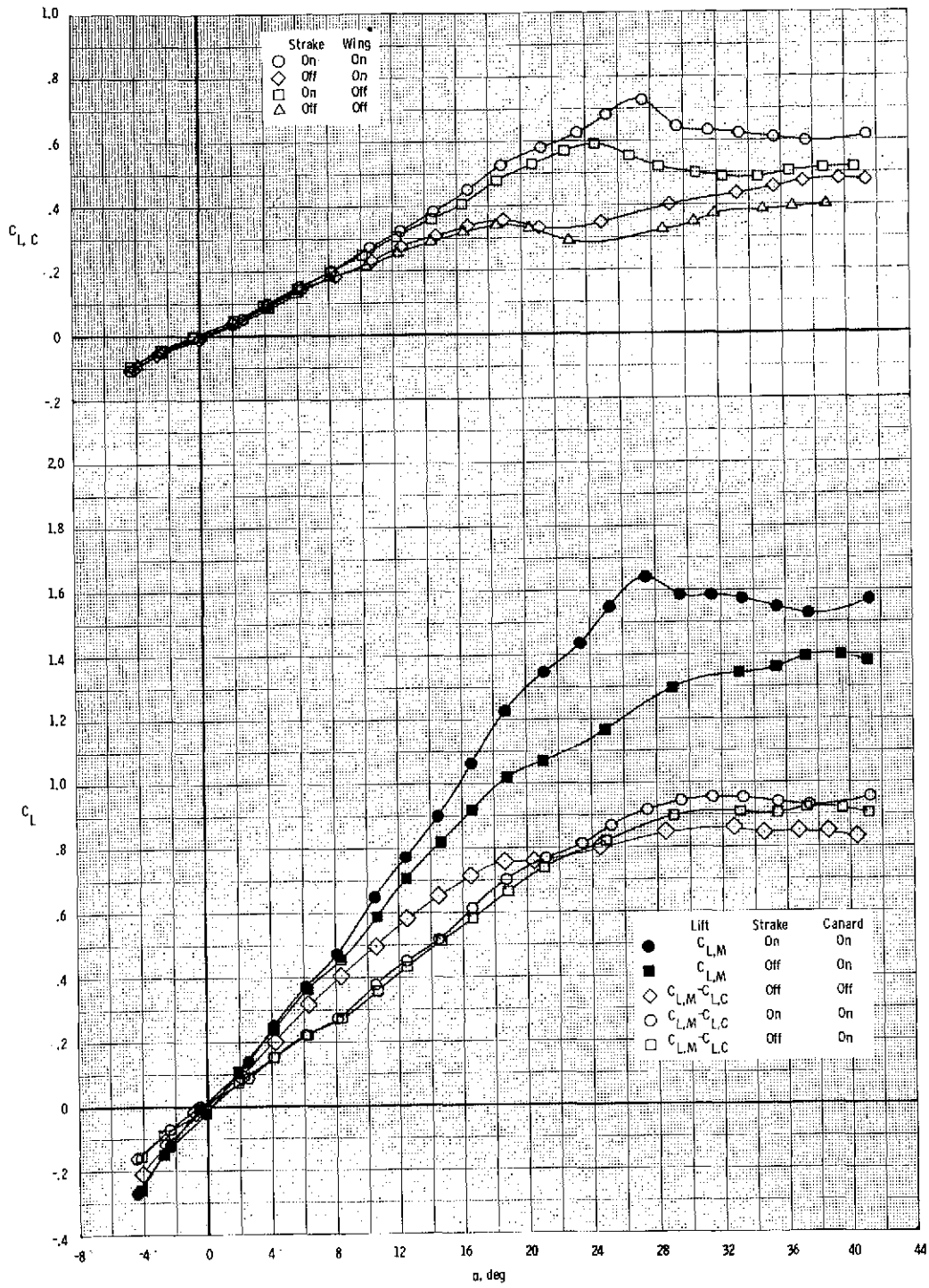
(b) $z/\bar{c}$ = 0.0 and -0.185.

Figure 12.- Concluded.



(a) $z/\bar{c} = 0.185$.

Figure 13.- Lift interference effects for the model with canard II, wing II, and vertical tail off.



(b) $z/\bar{c} = -0.185$.

Figure 13.- Concluded.

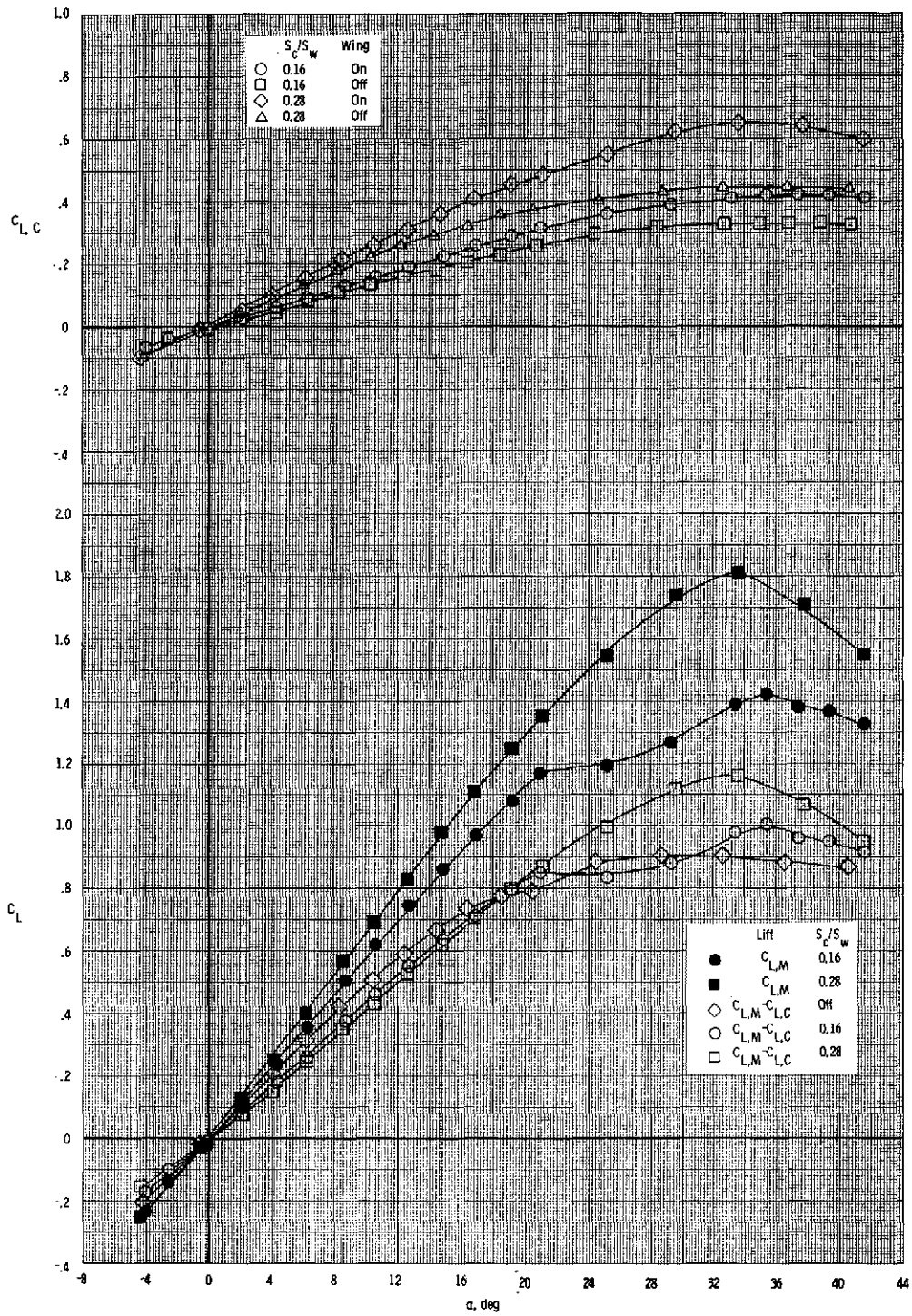
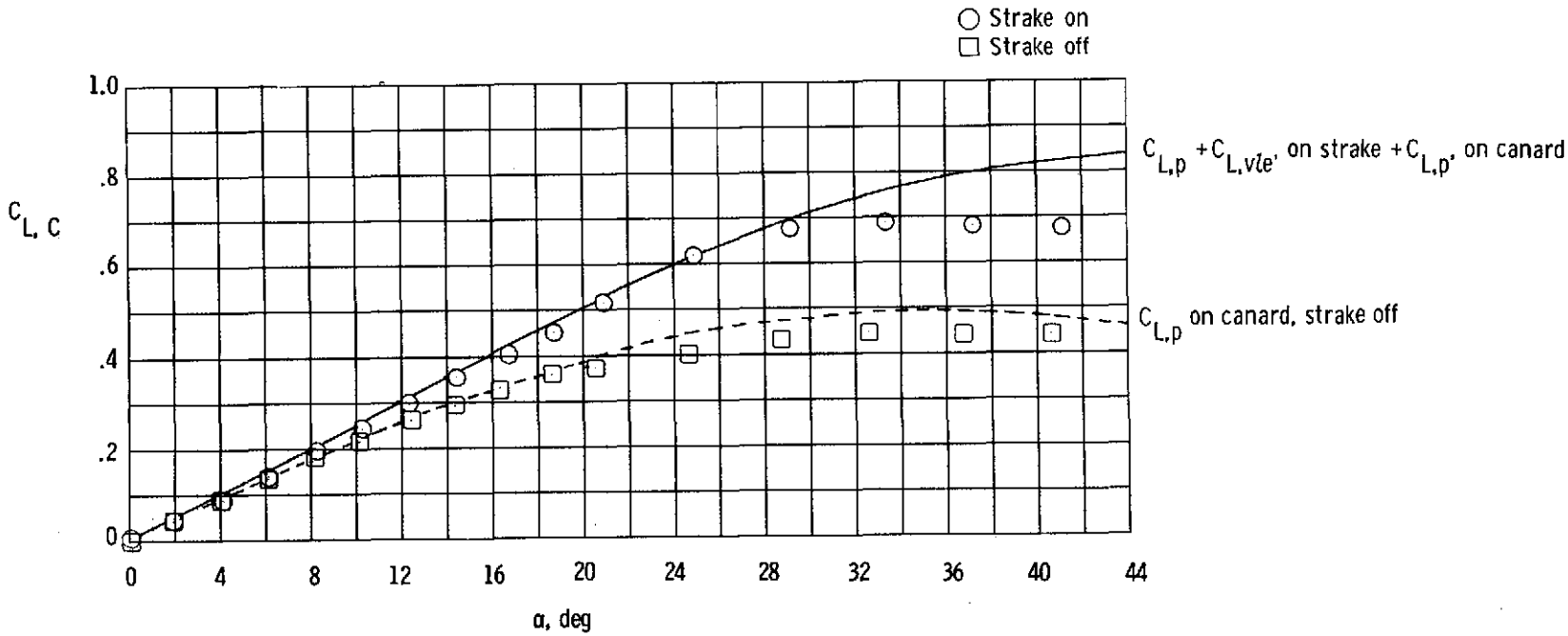
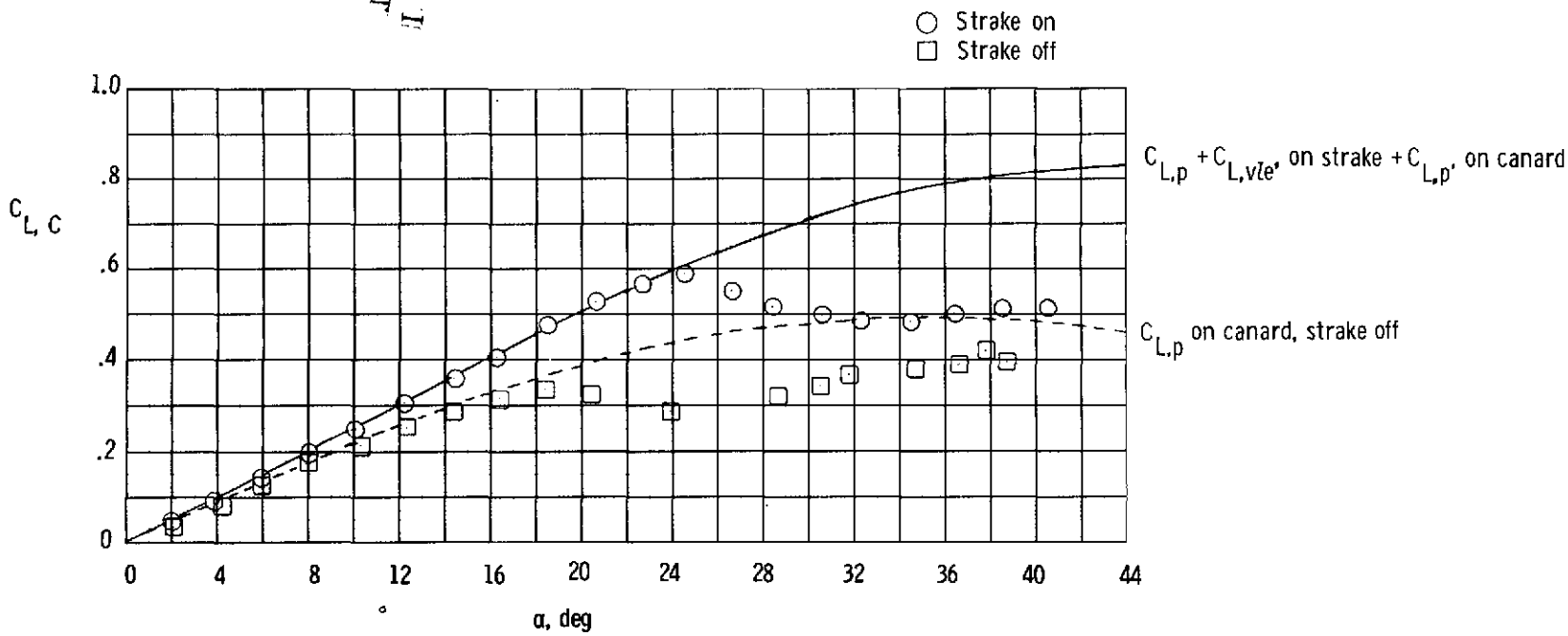


Figure 14.- Effect of canard size on lift interference effects for the model with wing II. $z/\bar{c} = 0.185$, vertical tail on, $\delta = 0^{o}$, and canard strake off.



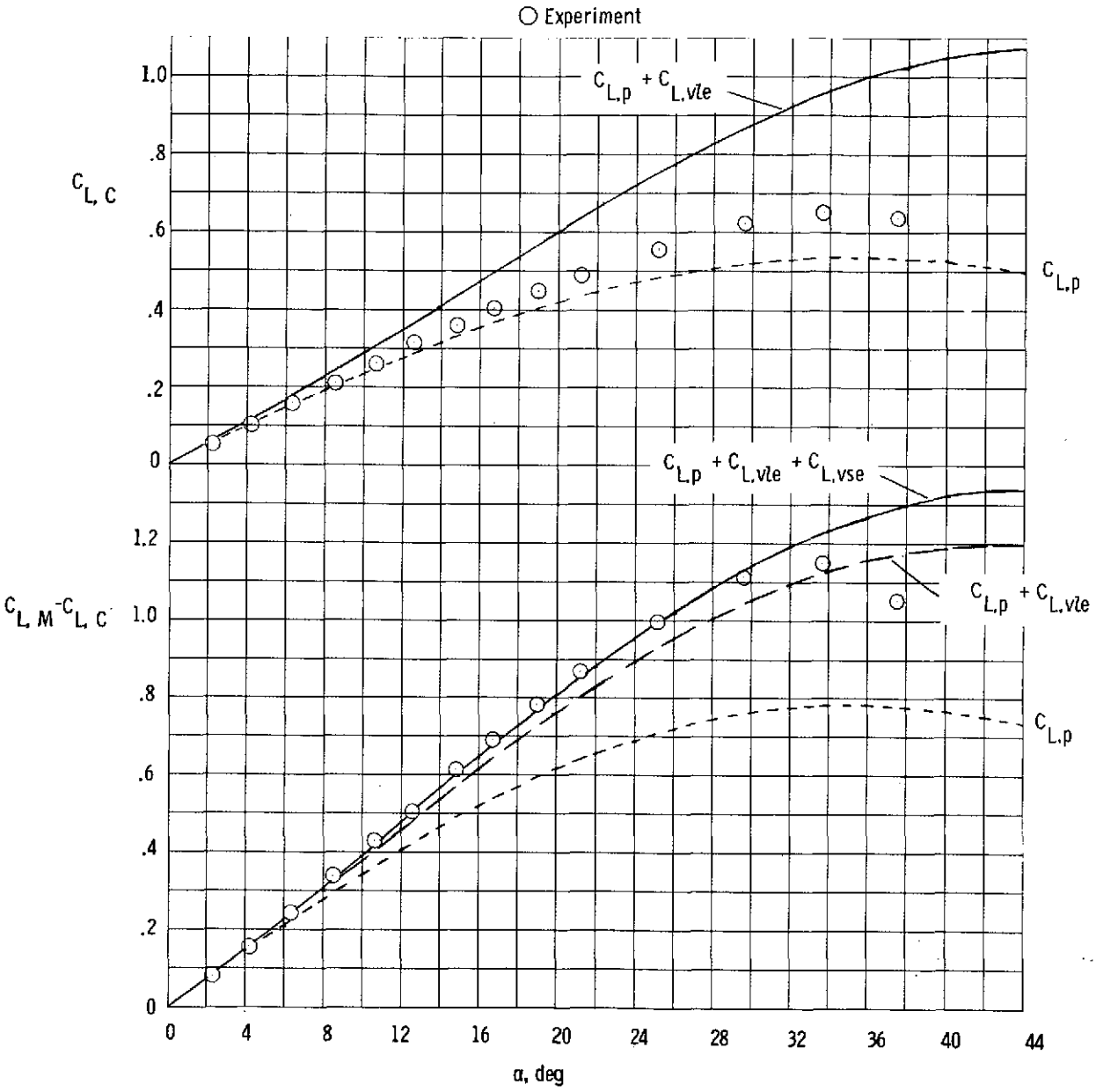
(a) $z/\overline{c} = 0.185$.

Figure 15.- Effect on canard lift of adding a strake to the canard for a model with wing off.



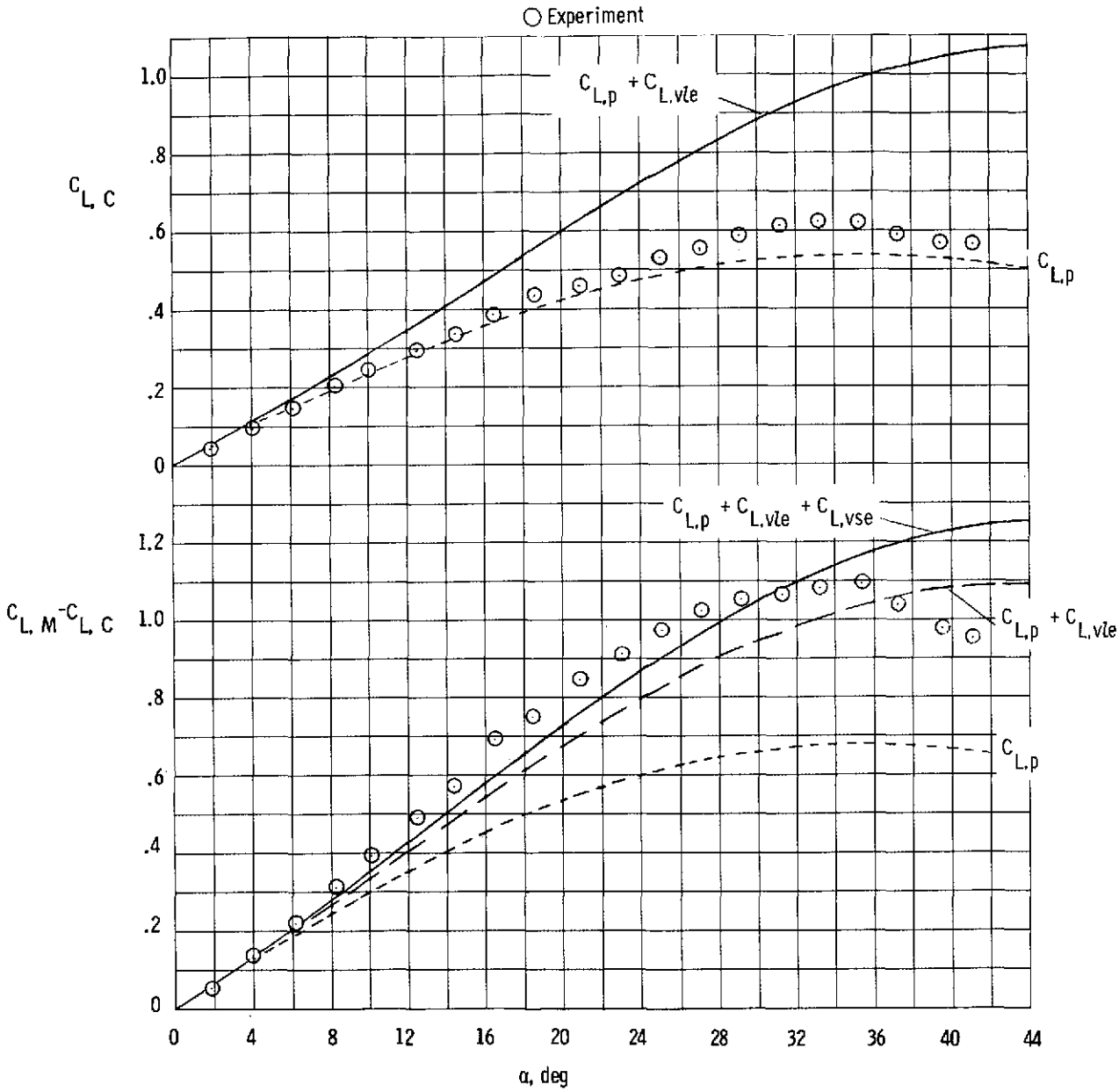
(b) $z/\bar{c} = -0.185$.

Figure 15.- Concluded.



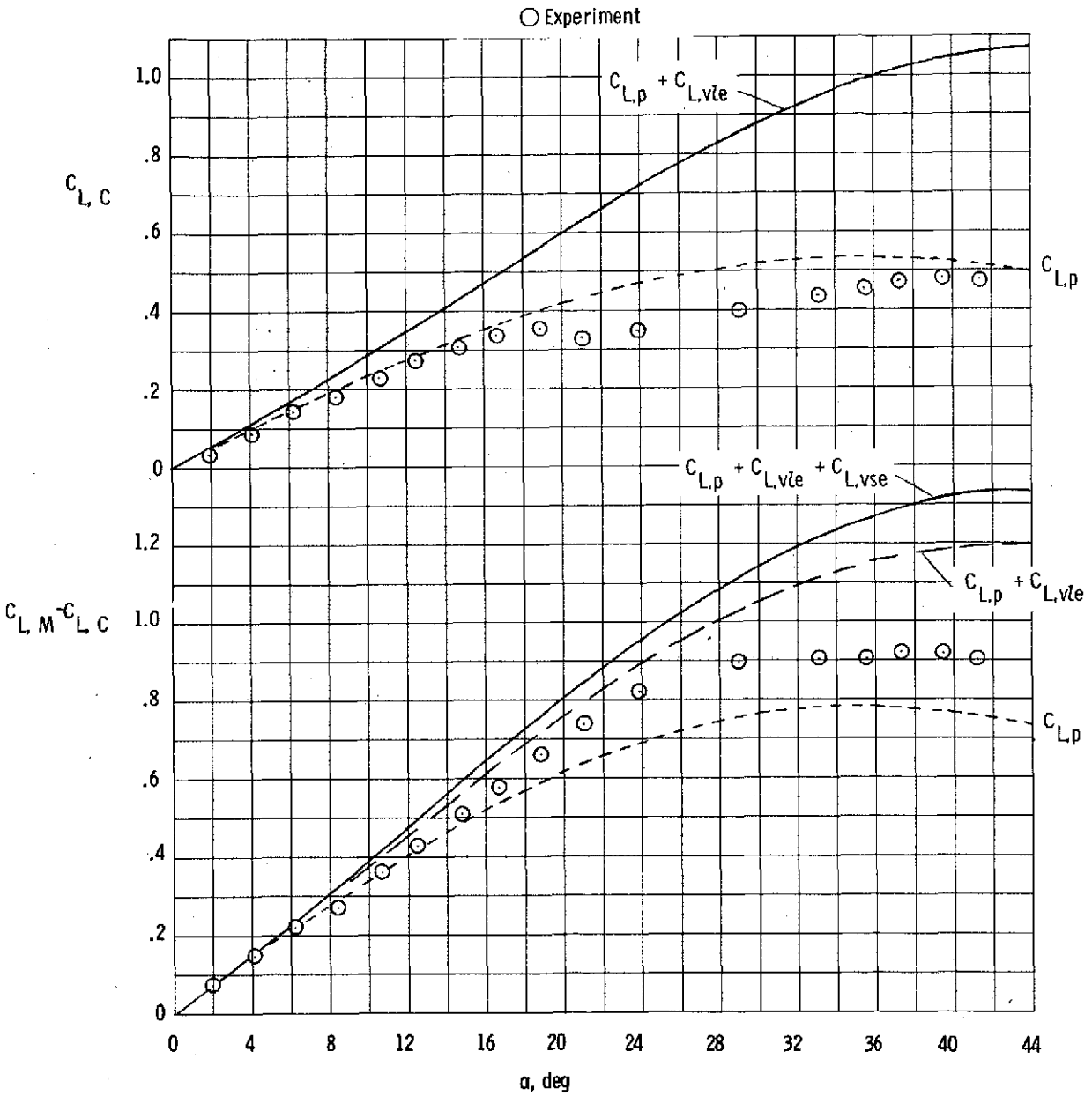
(a) $z/\bar{c} = 0.185$.

Figure 16.- Comparison of theoretical and experimental lift characteristics for canard II, wing II, and canard strake off.



(b) $z/\bar{c} = 0.0$.

Figure 16.- Continued.



(c) $z/\overline{c} = -0.185$.

Figure 16.- Concluded.

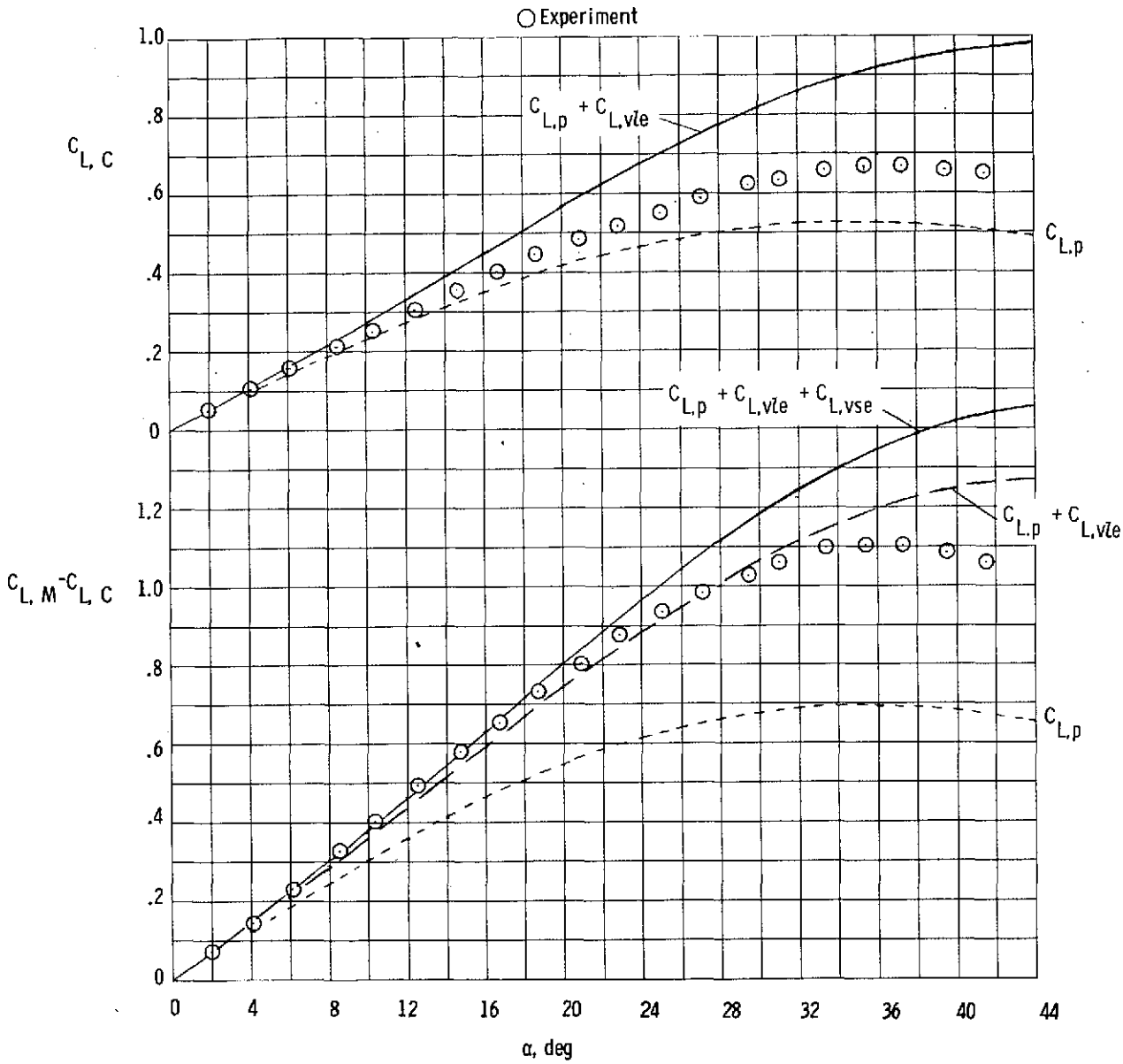


Figure 17.- Comparison of theoretical and experimental lift characteristics for $z/\overline{c} = 0.185$, canard II, wing I, and canard strake off.