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# THE EFFECT OF CANARD LEADING-EDGE SWEEP AND DIHEDRAL ANGLE ON THE LONGITUDINAL AND LATERAL AERODYNAMIC CHARACTERISTICS OF A CLOSE-COUPLED CANARD-WING CONFIGURATION

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16. Abstract

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In general, the effect of canard sweep on lift is small up to an angle of attack of $16^{\circ}$. However, for angles of attack greater than $16^{\circ}$, an increase in the canard sweep results in an increase in lift developed by the canard when the canard is above or in the wing chord plane. This increased lift results in a lift increase for the total configuration for the canard above the wing chord plane. For the canard in the wing chord plane, the increased canard lift is partially lost by increased interference on the wing.

For the configurations with the canard in the wing chord plane, increasing the canard dihedral angle from $-18.6^{\circ}$ to $18.6^{\circ}$ increased the maximum lift coefficient of the configuration. For the configurations with the canard above the wing chord plane, the highest maximum lift coefficient was developed when the canard had no dihedral.

In general, the configuration with the canards above the wing chord plane produced more linear pitching-moment curves throughout the angle-of-attack range than did the configuration with the canard in the wing chord plane. The theoretical data would seem to indicate that, when in the presence of each other, the canard and the wing generate vortex lift.

For the canard in the wing chord plane, the effect of canard dihedral on the total $C_{l_\beta}$ (partial derivative of rolling moment with respect to sideslip), for the configuration with the wing on, is small up to an angle of attack of approximately $8^{\circ}$. From $8^{\circ}$ to approximately $20^{\circ}$, the effect of canard dihedral on the total $C_{l_\beta}$ is as expected (the higher the dihedral angle, the more negative the $C_{l_\beta}$). However, above $22^{\circ}$, the configuration with the highest canard dihedral becomes the most unstable. The instability could be associated with canard characteristics, wing interference characteristics, or the wing-alone characteristics. The canard-wing configuration, with a $60^{\circ}$ swept canard, produced large unstable lateral-stability breaks.

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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 high-speed 7- by 10-foot tunnel at a Mach number of 0.30. The test was conducted in order to determine the effects of canard sweep and canard dihedral on canard-wing interference at high angles of attack.

In general, the effect of canard sweep on lift is small up to an angle of attack of $16^{\circ}$. However, for angles of attack greater than $16^{\circ}$, an increase in the canard sweep results in an increase in lift developed by the canard when the canard is above or in the wing chord plane. This increased lift results in a lift increase for the total configuration for the canard above the wing chord plane. For the canard in the wing chord plane, the increased canard lift is partially lost by increased interference on the wing.

For the configurations with the canard in the wing chord plane, increasing the canard dihedral angle from $-18.6^{\circ}$ to $18.6^{\circ}$ increased the maximum lift coefficient of the configuration. For the configurations with the canard above the wing chord plane, the highest maximum lift coefficient was developed when the canard had no dihedral.

In general, the configuration with the canards above the wing chord plane produced more linear pitching-moment curves throughout the angle-of-attack range than did the configuration with the canard in the wing chord plane. The theoretical data would seem to indicate that, when in the presence of each other, the canard and the wing generate vortex lift.

For the canard in the wing chord plane, the effect of canard dihedral on the total $C_{l_\beta}$ (partial derivative of rolling moment with respect to sideslip), for the configuration with the wing on, is small up to an angle of attack of approximately $8^{\circ}$. From $8^{\circ}$ to approximately $20^{\circ}$, the effect of canard dihedral on the total $C_{l_\beta}$ is as expected (the higher the dihedral angle, the more negative the $C_{l_\beta}$). However, above $22^{\circ}$, the configuration with the highest canard dihedral becomes the most unstable. The instability

could be associated with canard characteristics, wing interference characteristics, or the wing-alone characteristics. The canard-wing configuration, with a $60^{\circ}$ swept canard, produced large unstable lateral-stability breaks.

## INTRODUCTION

Past investigations (refs. 1 to 9) have indicated that the use of a canard on maneuvering-aircraft configurations can offer several attractive features, such as increased trimmed-lift capability (refs. 1 and 2) and reduced trimmed drag (refs. 3 and 4). In addition, the geometric characteristics of the close-coupled canard-wing configurations offer the potential for an improved longitudinal progression of cross-sectional area for operational configurations. This improved progression could result in reduced wave drag at low supersonic speeds. The canard not only is useful for longitudinal control, but it can also be used to provide direct lift and direct side-force control.

In view of these potential benefits in maneuvering-aircraft technology offered by the canard configurations, the National Aeronautics and Space Administration is conducting a study with a generalized wind-tunnel model which incorporates two balances. This model allows a separation of the canard and the wing contribution from the total forces and moments.

The present investigation was conducted in the Langley high-speed 7- by 10-foot tunnel in order to determine the effect of canard leading-edge sweep and canard dihedral angle on canard-wing interference effects at high angles of attack. The tests were conducted at a Mach number of 0.30 for a Reynolds number of $1.56 \times 10^{6}$, based on a mean geometric chord $\bar{c}$, and at angles of attack from approximately $-4^{\circ}$ to $40^{\circ}$ with $-5^{\circ}$, $0^{\circ}$, and $5^{\circ}$ sideslip.

## SYMBOLS

The International System of Units, with the U.S. Customary Units presented in parentheses, is used for the physical quantities found in this paper. Measurements and calculations were made in U.S. Customary Units. The data presented in this report are referred to the stability-axis system, with the exception of the side-force and normal-force data, which are referred to the body-axis system. The moment reference point was taken to be at the fuselage station 59.14 cm (23.28 in.).

A aspect ratio (2.5), $b^2/S$

b wing span, 50.8 cm (20 in.)

$b_C$ canard span, 34.50 cm (13.58 in.)

$C_D$ drag coefficient, $\frac{\text{Drag}}{qS}$

$C_L$ lift coefficient, $\frac{\text{Lift}}{qS}$

$C_Y$ side-force coefficient, $\frac{\text{Side force}}{qS}$

$C_\ell$ rolling-moment coefficient, $\frac{\text{Rolling moment}}{qSb}$

$C_m$ pitching-moment coefficient, $\frac{\text{Pitching moment}}{qS\bar{c}}$

$C_n$ yawing-moment coefficient, $\frac{\text{Yawing moment}}{qSb}$

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

$\ell$ longitudinal distance from model nose to canard leading edge

M free-stream Mach number

q free-stream dynamic pressure, $N/m^2$ ($lb/ft^2$)

S reference area of wing with leading and trailing edges extended to plane of symmetry, 1032.26 $cm^2$ (160.00 $in^2$)

$S_C$ canard area (exposed), 288.71 $cm^2$ (44.75 $in^2$)

z vertical distance between the chord planes of the canard and wing, positive up

$\alpha$ angle of attack, deg

$\beta$ angle of sideslip, deg

$\Lambda_C$ leading-edge sweep angle of canard, deg

$\Lambda_W$ leading-edge sweep angle of wing, deg

$\phi$ canard dihedral angle, positive tip up, deg

Subscripts:

| | |
|---|---|
| C | load measured on canard balance |
| M | load measured on main balance |
| p | potential |
| v | vortex |
| $\beta$ | partial derivative of the quantity subscripted with respect to $\beta$, $\frac{\partial(\ )}{\partial\beta}$, per deg |

## DESCRIPTION OF MODEL

A sketch of the general research model showing the canards and the wing studied is presented in figure 1. Table I contains the pertinent geometric parameters associated with this model. A photograph of one of the model configurations mounted in the test section of the Langley high-speed 7- by 10-foot tunnel is presented as figure 2.

The untwisted wing planform used on this model had a leading-edge sweep angle $\Lambda_W$ of 44.0°. The wing had an uncambered, circular-arc airfoil section with a thickness distribution which varied linearly from 6 percent of the chord at the root to 4 percent at the tip.

Five different untwisted canard planforms were tested on this model; the sweep angle and the dihedral angle for each canard planform are listed below:

| Canard | $\Lambda_C$, deg | $\phi$, deg |
|---|---|---|
| I | 44.0 | 0.0 |
| II | 51.7 | 0.0 |
| III | 60.0 | 0.0 |
| IV | 51.7 | -18.6 |
| V | 51.7 | 18.6 |

All five canards had the same exposed area, root chord, tip chord, uncambered circular-arc airfoil sections, and thickness distribution which varied linearly from 6 percent of the chord at the root to 4 percent at the tip. The exposed area of the canard was 28.0 percent of the wing reference area. Each canard was tested in the chord plane of the wing ($z/\bar{c}$ = 0.0) and in a position 18.5 percent of the wing mean geometric chord above the

wing chord plane ($z/\bar{c}$ = 0.185). As indicated in figure 1, the canards in the wing chord plane were located in two slightly different longitudinal locations.

The body fairings shown in figure 2 were installed to fair the canard mounting brackets into the fuselage. These fairings were removed when the canard was in the plane of the wing, making the fuselage symmetric about a horizontal plane passing through the center of the model.

## APPARATUS, TESTS, AND CORRECTIONS

The present investigation was conducted in the Langley high-speed 7- by 10-foot tunnel (ref. 10). 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 in order to prevent fouling. This balance (hereafter called the canard balance) measured the loads on the canard and forward segment of the fuselage (shaded areas 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 $1.56 \times 10^6$, based on the mean geometric chord $\bar{c}$, and at angles of attack from approximately $-4^\circ$ to $40^\circ$ at sideslip angles of $-5^\circ$, $0^\circ$, and $5^\circ$. All tests were made with a boundary-layer transition fixed on the model by means of narrow strips of carborundum (No. 90 grit) placed on the body, wings, and canards, as outlined in reference 11.

Angles of attack have been corrected for the effects of balance and sting deflection caused by the loads. All drag measurements were corrected to a condition of free-stream static pressure acting on the base of the model. Jet boundary and blockage corrections were found to be negligible, and therefore were not applied to the data.

## PRESENTATION OF RESULTS

Table II defines the configuration code that is used for the results of the wind-tunnel tests which are presented in table III. In addition to the tabulated data, the data are presented in figures. An outline of the contents of these data plots follows:

## RESULTS AND DISCUSSION

### Longitudinal Aerodynamic Characteristics

The effects caused by a variation in the canard leading-edge sweep ($\Lambda_C = 44.0^o$, $51.7^o$, and $60.0^o$) on the longitudinal aerodynamic characteristics for canard-wing configurations at a Mach number of 0.30 are presented in figures 3 and 4. In general, there is

little difference between the lift curves $(C_{L,C}$ and $C_L)$ for both the high $(z/\bar{c} = 0.185)$ and the mid $(z/\bar{c} = 0.0)$ canard configurations up to an angle of attack of approximately $16^\circ$. However, for angles of attack greater than $16^\circ$, an increase in the canard sweep for either canard position (figs. 3 and 4) results in an increase in lift developed by the canard. For the canard in the high position, this increased lift results in a lift increase for the total configuration. For the canard in the wing chord plane, the increased canard lift is partially lost by increased interference with the wing.

Since the canards and the wing have sharp leading edges, there is no leading-edge suction. Therefore, the induced drag is a function both of the lift and of the angle of attack. The configuration that produces the highest lift at a given angle of attack would, then, produce the lowest drag due to lift. (See figs. 3 and 4.)

The pitching moment for the complete configuration with the canard above the wing chord plane remains relatively linear throughout the angle-of-attack range (fig. 3(b)). The mid canard configuration, however, exhibits some nonlinearities in the pitching-moment curves at the higher angles of attack (fig. 4(b)).

The effects of the canard dihedral angle $\phi$ on the longitudinal aerodynamic characteristics are presented in figures 5 and 6. For the configuration with the canards above the wing chord plane (fig. 5), the canard configuration with no dihedral $(\phi = 0.0^\circ)$ produced the highest maximum lift coefficient, whereas the configuration with a canard dihedral angle of $\phi = -18.6^\circ$ (anhedral) exhibited a slightly lower maximum lift coefficient. Deflecting the canard to a dihedral angle of $18.6^\circ$ resulted in a large decrease in the maximum lift developed. It is interesting to note that the decrease in maximum lift is primarily the result of the canard interference on the wing, since the canard lift does not exhibit the abrupt lift loss that is exhibited by the wing.

For canard-wing configurations with the canard in the wing chord plane (fig. 6), the configuration with $\phi = 18.6^\circ$ produced the highest maximum lift coefficient. The canard-wing configuration with $\phi = -18.6^\circ$ exhibits the lowest maximum lift coefficient since the canard is effectively located below the wing and exerts a less favorable interference on the wing than do the other two mid canard configurations shown in figure 6. (The configurations for which data are presented in figure 6 had the longitudinal position of the canard at $\ell/\bar{c} = 1.345$ as compared with $\ell/\bar{c} = 1.304$ for the rest of the configurations. See fig. 1.) It is interesting to note that although the configuration with $\phi = 18.6^\circ$ $(z/\bar{c} = 0.0)$ yields the maximum configuration lift coefficient (fig. 6), the maximum canard lift coefficient occurs for the $\phi = 0.0^\circ$ $(z/\bar{c} = 0.0)$ configuration. This result indicates that the canard wake from the $\phi = 18.6^\circ$ $(z/\bar{c} = 0.0)$ configuration interacts with the wing flow field in a more favorable manner than does that of the $(z/\bar{c} = 0.0)$ configuration.

The pitching moments for the complete configuration with the canard above the wing chord plane remain relatively linear throughout the angle-of-attack range (fig. 5). The pitching moments for the canard in the wing chord plane exhibit nonlinearities at angles of attack higher than approximately $18^{\circ}$ (fig. 6).

Figures 7 to 14 present the lift interference of the canard on the wing and of the wing on the canard for all the configurations tested. For all the configurations studied, the lift on the wing $(C_{L,M} - C_{L,C})$ not in the presence of the canard is greater than the lift on the wing $(C_{L,M} - C_{L,C})$ in the presence of the canard up to an angle of attack of approximately $18^{\circ}$. (The difference in $C_{L,M} - C_{L,C}$ is due to canard downwash.) Beyond an angle of attack of $18^{\circ}$, the wing not in the presence of the canard has stalled, and it produces a lower lift than the wing in the presence of the canard which has not stalled.

In general, the effects of canard leading-edge sweep on the lift interference effects of the canard on the wing are small until wing stall occurs. (See figs. 7 to 10.) Canards I, II, and III exhibit higher lifting capabilities in the high position ($z/\bar{c} = 0.185$) than in the mid position ($z/\bar{c} = 0.0$). (Ref. 8 confirms this result.) It should be noted again that the fuselage fairings are on for the configuration with $z/\bar{c} = 0.185$ and are off for the configuration with $z/\bar{c} = 0.0$. This difference in fuselage shape does produce some changes in maximum lift coefficient for the canard-off configurations with fairings on and off. (See figs. 7 and 9.)

The canard downwash effects on the wing between the angles of attack of $0^{\circ}$ and $18^{\circ}$ for the canard-wing configuration with $\phi = 18.6^{\circ}$ and $z/\bar{c} = 0.185$ (fig. 11) are approximately one-half that for the canard-wing configuration with $\phi = 0.0^{\circ}$ and $z/\bar{c} = 0.185$. This result is not surprising since the dihedral ($\phi = 18.6^{\circ}$) in the canard is placing the canard wake further from the wing than the canard with no dihedral ($\phi = 0.0^{\circ}$). For the case of the canard above the wing chord plane, there is little effect of canard dihedral on the lift interference of the wing on the canard (figs. 11 to 13).

The data in figures 13 and 14 show that for the canard (II, IV, or V) in the wing chord plane, the least favorable canard-on-wing and wing-on-canard lift interference occurred for the configuration with $\phi = -18.6^{\circ}$ (fig. 14). This result is expected since the canard-wing configuration with canard II below the wing chord plane ($z/\bar{c} = -0.185$), reported in reference 9, exhibited considerably lower lifting capabilities than did the configurations with canard II at $z/\bar{c} = 0.185$ or 0.0.

## Comparison of Experimental and Theoretical Lift Characteristics

A comparison of the experimental lift with theoretical lift is presented in figures 15 to 19 for the wing alone, for the wing in the presence of the canard, and for the canard alone. The lift curves for the potential flow case $(C_{L,p})$ were predicted by using the

vortex-lattice program of reference 12 and the vortex-lift case $\left(C_{L,(p+v)}\right)$ by the method of reference 13. All calculations were made for the canard in the high position $(z/\bar{c} = 0.185)$.

The canard potential-lift theory curves for canards I and II (figs. 15 and 16), with the wing off, predict a higher lift than the experimental data at the higher angles of attack, and indicate a flow separation on the canards. The canard potential-lift theory curve for canard III, with wing off (fig. 17), agrees with experimental data up to an angle of attack of about $16^{\circ}$. Beyond this point the potential theory underpredicts the experimental data and indicates that the canard leading-edge sweep and fuselage flow field may be delaying canard separation. For the configurations with the wing on, the canard potential-lift theory underpredicts the experimental data at angles of attack above $24^{\circ}$, $8^{\circ}$, and $4^{\circ}$ for canards I, II, and III, respectively; but at no time do any of these canards develop the full theoretical vortex lift. It should be noted that the fuselage interference effects may not have been treated properly; this may account for some of the differences between the theory and the experiment.

The data in figures 15 to 17 show that for the wing alone, the wing potential-lift theory agrees with the experiment up to an angle of attack of approximately $16^{\circ}$. Beyond this point the potential theory overpredicts the experimental data and indicates flow separation on the wing. The vortex-lift theory $\left(C_{L,(p+v)}\right)$, for the wing in the presence of canards I and II (figs. 15 and 16), predicts a lift lower than the experimental data at angles of attack below approximately $32^{\circ}$. The vortex-lift theory for the wing in the presence of canard III (fig. 17) agrees with the experiment at angles of attack below approximately $32^{\circ}$.

In general, the data in figures 18 and 19 indicate that canards IV and V in the presence of the wing generate some vortex lift whereas the canard alone does not. For the wing in the presence of canard V (fig. 18), the wing appears to produce full vortex lift up to an angle of attack of approximately $22^{\circ}$. At that time the vortex appears to break down and stall occurs. The vortex-lift theory underpredicts the experiment for the wing in the presence of canard IV. (See fig. 19.)

These theoretical data seem to indicate that the canard and wing generate vortex lift when in the presence of each other. In some cases the leading-edge vortex-lift theory underpredicts the experimental $C_{L,M} - C_{L,C}$ (figs. 15, 16 and 19); this result suggests the possibility that there may be tip-vortex lift effects (ref. 14). Further studies are required to understand the flow field produced by a close-coupled canard-wing configuration.

## Lateral Aerodynamic Characteristics

The effect of canard sweep on the direct contribution of the canard to the lateral directional characteristics and the effect of canard sweep on the wing interference on the canard in terms of the lateral-directional characteristics are shown in figures 20 and 21; the effects are generally small. The effect of canard sweep on total $C_{l_\beta}$ (fig. 20) is very small up to an angle of attack of $12^\circ$, above which there is a significant effect. There is a strong unstable $C_{l_\beta}$ break for canard III $(\Lambda_C = 60^\circ)$ at an angle of attack of approximately $16^\circ$. At the higher angles of attack, that is, above $26^\circ$, the configuration exhibits a strong stable break.

The effect of canard sweep on $C_{n_\beta}$ (fig. 20) is generally negligible up to an angle of attack of approximately $24^\circ$; above $24^\circ$ some differences are evident. All three canard-wing configurations shown in figure 20 were strongly unstable in $C_{n_\beta}$, a situation which is expected since the configurations have no vertical tail.

The effect of canard dihedral on canard $C_{n_\beta}$ and $C_{Y_\beta}$ is small up to an angle of attack of $32^\circ$ for both the wing-on and wing-off configurations (figs. 22 and 23). However, the effect of canard dihedral on canard $C_{l_\beta}$ is, as expected (the higher the dihedral the more negative the $C_{l_\beta}$), up to an angle of attack of approximately $22^\circ$. At angles of attack higher than $22^\circ$, the trend reverses (the lower the dihedral the more negative $C_{l_\beta}$) for wing-on configurations; whereas for the wing-off configurations the $C_{l_\beta}$ curves are as expected. There is an exception in the region between the angles of attack of $18^\circ$ and $26^\circ$, where the canard V configuration $C_{l_\beta}$ curve shows an unstable break at approximately $18^\circ$ and a stable break at $22^\circ$.

The effect of canard dihedral on the total $C_{l_\beta}$ (fig. 22) for the configuration with the wing on is small up to an angle of attack of approximately $8^\circ$; from $8^\circ$ to approximately $20^\circ$ the effect of canard dihedral on the total $C_{l_\beta}$ is as expected (the higher the dihedral angle, the more negative the $C_{l_\beta}$). Above $22^\circ$ the configuration with the highest canard dihedral becomes the most unstable, which, as indicated previously, could be associated with the canard characteristics, the wing interference characteristics, or the wing-alone characteristics.

All three dihedral canard-wing configurations were strongly unstable in $C_{n_\beta}$ since the configurations had no vertical tail.

## CONCLUSIONS

A generalized wind-tunnel model, with canard and wing planforms typical of highly maneuverable aircraft, was tested in the Langley high-speed 7- by 10-foot tunnel at a Mach number of 0.3. The test was conducted in order to determine the effects of canard

sweep and canard dihedral on canard-wing interference to a high angle of attack. The major results of this investigation may be summarized as follows:

1. In general, the effect of canard sweep on lift is small up to an angle of attack of $16^{\circ}$. However, for angles of attack greater than $16^{\circ}$, increasing the canard sweep results in an increase in lift developed by the canard for the canard above or in the wing chord plane. This increased lift results in a lift increase for the total configuration when the canard is above the wing chord plane. For the canard in the wing chord plane, the increased canard lift is partially lost by increased interference on the wing.

2. For the configurations with the canard in the wing chord plane, increasing the canard dihedral angle from $-18.6^{\circ}$ to $18.6^{\circ}$ increased the maximum lift coefficient of the configuration. For the configurations with the canard above the wing chord plane, the highest maximum lift coefficient was developed when the canard had no dihedral.

3. In general, the configuration with the canards above the wing chord plane produced more linear pitching-moment curves throughout the angle-of-attack range than did the configuration with the canard in the wing chord plane.

4. The theoretical data would seem to indicate that the canard and wing generate vortex lift when in the presence of each other.

5. The effect of canard dihedral, for the canard in the wing chord plane, on the total $C_{l_\beta}$ (partial derivative of rolling moment with respect to sideslip) for the configuration with the wing on, is small up to an angle of attack of approximately $8^{\circ}$; from $8^{\circ}$ to approximately $20^{\circ}$ the effect of canard dihedral on the total $C_{l_\beta}$ is as expected (the higher the dihedral angle, the more negative the $C_{l_\beta}$). However, above $22^{\circ}$, the configuration with the highest canard dihedral becomes the most unstable. The instability could be associated with the canard characteristics, wing interference characteristics, or the wing-alone characteristics.

6. The canard-wing configuration, with $60^{\circ}$ swept canard, produced large unstable lateral-stability breaks.

Langley Research Center,
National Aeronautics and Space Administration,
Hampton, Va., October 10, 1974.

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TABLE I.- GEOMETRIC CHARACTERISTICS

| | |
|---|---|
| Body length, cm (in.) | 96.52 (38.00) |
| Wing: | |
| A | 2.5 |
| b/2, cm (in.) | 25.4 (10.00) |
| $\Lambda_W$, deg | 44 |
| $\bar{c}$, cm (in.) | 23.32 (9.18) |
| Airfoil section | Circular arc |
| S, $cm^2$ ($in^2$) | 1032.26 (160.00) |
| Root chord, cm (in.) | 29.79 (11.73) |
| Tip chord, cm (in.) | 6.78 (2.67) |
| Maximum thickness, percent chord, at – | |
| Root | 6 |
| Tip | 4 |
| Canards I, II, III, IV, and V: | |
| $\Lambda_C$ of canard I, deg | 44 |
| $\phi$ of canard I, deg | 0 |
| $\Lambda_C$ of canard II, deg | 51.7 |
| $\phi$ of canard II, deg | 0 |
| $\Lambda_C$ of canard III, deg | 60 |
| $\phi$ of canard III, deg | 0 |
| $\Lambda_C$ of canard IV, deg | 51.7 |
| $\phi$ of canard IV, deg | -18.6 |
| $\Lambda_C$ of canard V, deg | 51.7 |
| $\phi$ of canard V, deg | 18.6 |
| Airfoil section | Circular arc |
| $S_C$, $cm^2$ ($in^2$) | 288.71 (44.75) |
| $b_C/2$, cm (in.) | 17.25 (6.79) |
| Root chord, cm (in.) | 17.97 (7.05) |
| Tip chord, cm (in.) | 3.59 (1.41) |
| Maximum thickness, percent chord, at – | |
| Root | 6 |
| Tip | 4 |

TABLE II.- CONFIGURATIONS

| Configuration as listed in table III | Wing | Canard | $\Lambda_C$, deg | $\phi$, deg | z/$\bar{c}$ | $\ell/\bar{c}$ | $\beta$, deg |
|---|---|---|---|---|---|---|---|
| 74010 | On | On | 51.7 | 0.0 | 0.185 | 1.304 | 0.0 |
| 74011 | On | On | 51.7 | 0.0 | .185 | 1.304 | 5.0 |
| 74012 | On | On | 51.7 | 0.0 | .185 | 1.304 | -5.0 |
| 74015 | On | Off | --- | ---- | .185 | ---- | 0.0 |
| 74016 | On | Off | --- | ---- | .185 | ---- | -5.0 |
| 74017 | On | Off | --- | ---- | .185 | ---- | 5.0 |
| 74032 | Off | On | 51.7 | 0.0 | .185 | 1.304 | 0.0 |
| 74033 | Off | On | 51.7 | 0.0 | .185 | 1.304 | -5.0 |
| 74034 | Off | On | 51.7 | 0.0 | .185 | 1.304 | 5.0 |
| 74106 | On | Off | --- | ---- | 0.0 | ---- | 0.0 |
| 74107 | On | Off | --- | ---- | 0.0 | ---- | 5.0 |
| 74108 | On | Off | --- | ---- | 0.0 | ---- | -5.0 |
| 78023 | Off | On | 51.7 | 0.0 | 0.0 | 1.345 | 0.0 |
| 78024 | Off | On | 51.7 | 0.0 | 0.0 | 1.345 | 5.0 |
| 78025 | Off | On | 51.7 | 0.0 | 0.0 | 1.345 | -5.0 |
| 78032 | On | On | 51.7 | 0.0 | 0.0 | 1.345 | 0.0 |
| 78033 | On | On | 51.7 | 0.0 | 0.0 | 1.345 | 5.0 |
| 78034 | On | On | 51.7 | 0.0 | 0.0 | 1.345 | -5.0 |
| 78044 | On | On | 51.7 | -18.6 | 0.0 | 1.345 | 0.0 |
| 78045 | On | On | 51.7 | -18.6 | 0.0 | 1.345 | 5.0 |
| 78046 | On | On | 51.7 | -18.6 | 0.0 | 1.345 | -5.0 |
| 78047 | Off | On | 51.7 | -18.6 | 0.0 | 1.345 | 0.0 |
| 78048 | Off | On | 51.7 | -18.6 | 0.0 | 1.345 | 5.0 |
| 78049 | Off | On | 51.7 | -18.6 | 0.0 | 1.345 | -5.0 |
| 78051 | On | On | 51.7 | 18.6 | 0.0 | 1.345 | 0.0 |
| 78052 | On | On | 51.7 | 18.6 | 0.0 | 1.345 | 5.0 |
| 78054 | On | On | 51.7 | 18.6 | 0.0 | 1.345 | -5.0 |
| 78055 | Off | On | 51.7 | 18.6 | 0.0 | 1.345 | 0.0 |
| 78056 | Off | On | 51.7 | 18.6 | 0.0 | 1.345 | 5.0 |
| 78057 | Off | On | 51.0 | 18.6 | 0.0 | 1.345 | -5.0 |
| 78114 | On | On | 44.0 | 0.0 | .185 | 1.304 | 0.0 |
| 78115 | On | On | 44.0 | 0.0 | .185 | 1.304 | 5.0 |
| 78116 | On | On | 44.0 | 0.0 | .185 | 1.304 | -5.0 |
| 78120 | Off | On | 44.0 | 0.0 | .185 | 1.304 | 0.0 |
| 78121 | Off | On | 44.0 | 0.0 | .185 | 1.304 | 5.0 |
| 78122 | Off | On | 44.0 | 0.0 | .185 | 1.304 | -5.0 |
| 78123 | Off | On | 60.0 | 0.0 | .185 | 1.304 | 0.0 |
| 78124 | Off | On | 60.0 | 0.0 | .185 | 1.304 | 5.0 |
| 78125 | Off | On | 60.0 | 0.0 | .185 | 1.304 | -5.0 |
| 78126 | On | On | 60.0 | 0.0 | .185 | 1.304 | 0.0 |
| 78127 | On | On | 60.0 | 0.0 | .185 | 1.304 | 5.0 |
| 78128 | On | On | 60.0 | 0.0 | .185 | 1.304 | -5.0 |
| 78129 | On | On | 51.7 | -18.6 | .185 | 1.304 | 0.0 |
| 78131 | On | On | 51.7 | 18.6 | .185 | 1.304 | 0.0 |
| 78133 | Off | On | 51.7 | 18.6 | .185 | 1.304 | 0.0 |
| 78134 | Off | On | 51.7 | -18.6 | .185 | 1.304 | 0.0 |
| 78158 | On | On | 51.7 | 0.0 | 0.0 | 1.304 | 0.0 |
| 78167 | Off | On | 51.7 | 0.0 | 0.0 | 1.304 | 0.0 |
| 78171 | On | On | 60.0 | 0.0 | 0.0 | 1.304 | 0.0 |
| 78172 | On | On | 44.0 | 0.0 | 0.0 | 1.304 | 0.0 |
| 78173 | Off | On | 44.0 | 0.0 | 0.0 | 1.304 | 0.0 |
| 78174 | Off | On | 60.0 | 0.0 | 0.0 | 1.304 | 0.0 |

TABLE III.- TABULATED RESULTS

The symbols used in the tabulated data are defined as follows:

| | |
|---|---|
| CONFIG NO. | Configuration number (see table II) |
| ALPHA | Angle of attack, deg |
| BETA | Angle of sideslip, deg |
| CL1 | Lift coefficient, main balance |
| CD1 | Drag coefficient, main balance |
| CM1 | Pitching-moment coefficient, main balance |
| CR1 | Rolling-moment coefficient, main balance |
| CY1 | Yawing-moment coefficient, main balance |
| CS1 | Side-force coefficient, main balance |
| CL2 | Lift coefficient, canard balance |
| CM2 | Pitching-moment coefficient, canard balance |
| CR2 | Rolling-moment coefficient, canard balance |
| CY2 | Yawing-moment coefficient, canard balance |
| CS2 | Side-force coefficient, canard balance |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74010

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.40 | .00 | -.2549 | .0330 | -.0425 | -.0002 | .0006 | .0022 | -.0955 | -.0936 | .0004 | .0004 | .0001 |
| -2.65 | -.01 | -.1527 | .0229 | -.0243 | .0003 | .0010 | .0024 | -.0529 | -.0534 | .0004 | .0021 | .0032 |
| -.59 | -.00 | -.0301 | .0188 | -.0023 | .0003 | .0010 | .0013 | -.0056 | -.0073 | .0005 | .0008 | .0010 |
| 2.29 | .01 | .1369 | .0229 | .0245 | .0002 | .0010 | .0007 | .0551 | .0518 | .0007 | .0006 | .0006 |
| 4.25 | .02 | .2621 | .0338 | .0471 | -.0000 | .0011 | -.0004 | .1048 | .0981 | .0006 | .0001 | -.0003 |
| 6.36 | .02 | .4061 | .0567 | .0700 | .0005 | .0013 | -.0016 | .1604 | .1510 | .0010 | .0003 | .0002 |
| 8.52 | -.02 | .5524 | .0907 | .0917 | .0002 | .0017 | .0003 | .2131 | .2030 | .0008 | .0005 | .0006 |
| 10.66 | .03 | .6945 | .1369 | .1144 | .0011 | .0012 | -.0030 | .2639 | .2550 | .0006 | -.0000 | -.0004 |
| 12.66 | .03 | .8214 | .1888 | .1313 | .0002 | .0014 | -.0033 | .3169 | .3113 | .0006 | .0001 | -.0002 |
| 14.84 | .04 | .9762 | .2603 | .1501 | .0006 | .0014 | -.0044 | .3603 | .3555 | .0005 | .0001 | -.0002 |
| 16.77 | .03 | 1.0967 | .3297 | .1707 | .0004 | .0013 | .0091 | .4054 | .4038 | .0004 | .0002 | -.0004 |
| 19.05 | .06 | 1.2340 | .4230 | .1885 | .0001 | .0019 | -.0073 | .4512 | .4556 | -.0001 | -.0001 | -.0011 |
| 21.19 | .06 | 1.3605 | .5235 | .2048 | .0004 | .0020 | -.0082 | .4909 | .5032 | -.0005 | .0000 | -.0010 |
| 25.16 | .07 | 1.5566 | .7255 | .2329 | .0016 | .0024 | -.0076 | .5579 | .5870 | -.0003 | .0000 | -.0007 |
| 29.64 | .09 | 1.7380 | .9782 | .2604 | .0028 | .0008 | -.0085 | .6254 | .6819 | .0001 | -.0002 | -.0010 |
| 33.69 | .10 | 1.8041 | 1.1915 | .2652 | .0056 | -.0038 | -.0057 | .6532 | .7403 | .0017 | -.0015 | -.0014 |
| 37.56 | .18 | 1.6957 | 1.2963 | .2856 | .0177 | -.0374 | -.0117 | .6397 | .7590 | .0015 | -.0097 | -.0138 |
| -.02 | -.00 | -.0075 | .0176 | .0011 | -.0002 | .0006 | -.0002 | .0033 | .0015 | .0005 | .0003 | -.0000 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74011

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.60 | 4.38 | .0971 | .0226 | .0197 | -.0036 | -.0121 | -.0318 | .0437 | .0411 | -.0028 | -.0154 | -.0181 |
| 2.25 | 4.50 | .1388 | .0241 | .0291 | -.0044 | -.0125 | -.0327 | .0585 | .0553 | -.0032 | -.0166 | -.0208 |
| 3.80 | 4.73 | .2405 | .0315 | .0444 | -.0062 | -.0134 | -.0353 | .0970 | .0917 | -.0038 | -.0165 | -.0205 |
| 5.76 | 4.80 | .3777 | .0505 | .0630 | -.0076 | -.0142 | -.0370 | .1468 | .1392 | -.0041 | -.0171 | -.0222 |
| 7.84 | 4.94 | .5249 | .0813 | .0851 | -.0101 | -.0144 | -.0388 | .1985 | .1892 | -.0040 | -.0175 | -.0234 |
| 10.05 | 5.00 | .6622 | .1235 | .1051 | -.0081 | -.0155 | -.0406 | .2475 | .2393 | -.0044 | -.0181 | -.0252 |
| 12.30 | 5.05 | .8098 | .1810 | .1292 | -.0105 | -.0162 | -.0409 | .3014 | .2938 | -.0049 | -.0188 | -.0272 |
| 14.59 | 5.10 | .9628 | .2527 | .1490 | -.0095 | -.0169 | -.0414 | .3551 | .3495 | -.0056 | -.0192 | -.0284 |
| 16.90 | 5.22 | 1.1036 | .3354 | .1685 | -.0081 | -.0185 | -.0436 | .4037 | .4023 | -.0061 | -.0206 | -.0313 |
| 19.52 | 5.23 | 1.2464 | .4411 | .1828 | -.0045 | -.0215 | -.0390 | .4487 | .4540 | -.0056 | -.0216 | -.0334 |
| 21.37 | 5.30 | 1.3559 | .5286 | .1947 | -.0050 | -.0260 | -.0386 | .4861 | .4968 | -.0061 | -.0234 | -.0370 |
| 26.13 | 5.35 | 1.5645 | .7626 | .2112 | -.0033 | -.0336 | -.0361 | .5572 | .5879 | -.0061 | -.0264 | -.0429 |
| 30.33 | 5.40 | 1.7118 | .9928 | .2480 | -.0037 | -.0457 | -.0430 | .6199 | .6774 | -.0085 | -.0309 | -.0523 |
| 34.77 | 5.47 | 1.7478 | 1.2005 | .2882 | -.0026 | -.0596 | -.0620 | .6521 | .7461 | -.0119 | -.0346 | -.0611 |
| 39.21 | 5.72 | 1.6740 | 1.3511 | .3055 | -.0105 | -.0603 | -.0893 | .6411 | .7752 | -.0171 | -.0358 | -.0677 |
| 1.86 | 4.97 | .1076 | .0207 | .0247 | -.0041 | -.0128 | -.0326 | .0478 | .0459 | -.0031 | -.0158 | -.0187 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74012

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.09 | -4.71 | .1594 | .0261 | .0302 | .0044 | .0131 | .0249 | .0662 | .0624 | .0045 | .0150 | .0175 |
| 3.87 | -4.69 | .2110 | .0333 | .0385 | .0051 | .0133 | .0274 | .0859 | .0807 | .0049 | .0152 | .0181 |
| 5.94 | -4.90 | .3625 | .0496 | .0607 | .0074 | .0153 | .0312 | .1426 | .1343 | .0057 | .0166 | .0209 |
| 8.06 | -4.95 | .5097 | .0808 | .0809 | .0079 | .0160 | .0316 | .1962 | .1869 | .0052 | .0166 | .0217 |
| 10.23 | -4.92 | .6534 | .1236 | .1015 | .0072 | .0164 | .0290 | .2433 | .2354 | .0052 | .0168 | .0228 |
| 12.52 | -4.94 | .8077 | .1824 | .1273 | .0109 | .0176 | .0294 | .3004 | .2932 | .0057 | .0175 | .0246 |
| 14.72 | -5.05 | .9486 | .2508 | .1451 | .0102 | .0186 | .0282 | .3495 | .3444 | .0064 | .0183 | .0267 |
| 17.02 | -5.09 | 1.0878 | .3323 | .1654 | .0089 | .0209 | .0281 | .3985 | .3971 | .0063 | .0190 | .0280 |
| 19.29 | -5.14 | 1.2192 | .4255 | .1756 | .0049 | .0242 | .0238 | .4354 | .4398 | .0059 | .0204 | .0302 |
| 21.48 | -5.13 | 1.3418 | .5251 | .1928 | .0050 | .0269 | .0211 | .4807 | .4918 | .0059 | .0214 | .0326 |
| 26.11 | -5.18 | 1.5740 | .7626 | .2299 | .0065 | .0320 | .0177 | .5650 | .5961 | .0069 | .0240 | .0383 |
| 30.57 | -5.31 | 1.7441 | 1.0168 | .2582 | .0127 | .0409 | .0232 | .6332 | .6927 | .0096 | .0283 | .0485 |
| 35.03 | -5.21 | 1.7786 | 1.2309 | .2869 | .0185 | .0433 | .0396 | .6578 | .7551 | .0141 | .0286 | .0530 |
| 39.27 | -5.35 | 1.6896 | 1.3646 | .3046 | .0162 | .0584 | .0696 | .6491 | .7811 | .0200 | .0338 | .0660 |
| 3.56 | -5.24 | .1864 | .0270 | .0350 | .0052 | .0143 | .0290 | .0772 | .0722 | .0051 | .0159 | .0185 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74015

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.29 | -.04 | -.2189 | .0266 | .0365 | .0003 | .0004 | .0033 | -.0098 | -.0210 | -.0001 | .0004 | -.0000 |
| -.59 | -.01 | -.0225 | .0160 | .0028 | .0002 | -.0037 | -.0006 | -.0010 | -.0037 | .0000 | .0002 | -.0004 |
| 2.37 | -.00 | .1251 | .0195 | -.0193 | .0005 | .0005 | -.0014 | .0066 | .0106 | -.0000 | .0002 | -.0003 |
| 4.05 | .00 | .2179 | .0280 | -.0339 | .0007 | .0005 | -.0017 | .0109 | .0186 | -.0000 | -.0001 | -.0006 |
| 6.32 | -.02 | .3441 | .0477 | -.0548 | .0001 | -.0011 | -.0037 | .0178 | .0346 | -.0000 | .0002 | -.0002 |
| 8.19 | -.03 | .4412 | .0716 | -.0691 | .0003 | .0010 | -.0049 | .0236 | .0409 | .0000 | .0003 | -.0001 |
| 10.34 | -.03 | .5415 | .1061 | -.0809 | -.0001 | .0025 | -.0063 | .0308 | .0525 | .0000 | .0003 | -.0000 |
| 12.20 | -.03 | .6208 | .1415 | -.0960 | -.0001 | .0018 | -.0084 | .0364 | .0619 | .0001 | .0004 | .0001 |
| 14.46 | -.04 | .6993 | .1877 | -.1121 | .0004 | .0013 | -.0081 | .0431 | .0730 | .0001 | .0006 | .0005 |
| 16.40 | -.05 | .7896 | .2415 | -.1365 | .0001 | .0009 | -.0062 | .0492 | .0838 | .0001 | .0006 | .0006 |
| 18.48 | -.05 | .8300 | .2944 | -.1734 | .0001 | .0031 | -.0119 | .0574 | .0968 | .0001 | .0006 | .0006 |
| 20.46 | -.06 | .8518 | .3371 | -.1940 | .0005 | .0033 | -.0122 | .0632 | .1073 | .0002 | .0008 | .0011 |
| 24.43 | -.06 | .9526 | .4484 | -.2217 | .0064 | -.0020 | -.0095 | .0753 | .1281 | .0003 | .0008 | .0012 |
| 28.63 | -.05 | .9825 | .5520 | -.2244 | .0131 | -.0140 | -.0172 | .0869 | .1514 | .0002 | .0004 | .0004 |
| 32.45 | -.06 | .9962 | .6486 | -.2301 | .0067 | -.0088 | -.0077 | .0963 | .1721 | .0008 | .0014 | .0026 |
| 37.02 | -.09 | .9826 | .7495 | -.2392 | .0019 | -.0046 | .0133 | .1081 | .1979 | .0020 | .0028 | .0062 |
| -.01 | -.00 | -.0011 | .0145 | .0007 | -.0000 | -.0015 | -.0005 | .0010 | -.0004 | -.0000 | -.0025 | -.0054 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74016

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.12 | -4.85 | .1412 | .0226 | -.0230 | .0024 | .0130 | .0152 | .0090 | .0139 | .0007 | .0135 | .0137 |
| 3.74 | -4.87 | .1764 | .0250 | -.0287 | .0028 | .0135 | .0164 | .0098 | .0161 | .0008 | .0137 | .0140 |
| 5.69 | -4.99 | .2937 | .0394 | -.0503 | .0041 | .0137 | .0198 | .0153 | .0252 | .0013 | .0148 | .0160 |
| 7.85 | -5.04 | .4130 | .0646 | -.0687 | .0044 | .0151 | .0220 | .0218 | .0370 | .0018 | .0154 | .0175 |
| 9.96 | -5.12 | .5131 | .0960 | -.0810 | .0038 | .0156 | .0254 | .0287 | .0489 | .0025 | .0162 | .0193 |
| 12.18 | -5.22 | .6092 | .1373 | -.0957 | .0033 | .0169 | .0293 | .0363 | .0609 | .0033 | .0173 | .0219 |
| 14.32 | -5.17 | .7073 | .1868 | -.1122 | .0041 | .0184 | .0334 | .0451 | .0754 | .0041 | .0181 | .0236 |
| 16.58 | -5.19 | .7797 | .2398 | -.1312 | .0046 | .0188 | .0388 | .0508 | .0855 | .0049 | .0184 | .0251 |
| 18.61 | -5.17 | .8028 | .2858 | -.1712 | .0069 | .0195 | .0385 | .0578 | .0965 | .0057 | .0192 | .0273 |
| 20.76 | -5.16 | .8057 | .3241 | -.1755 | .0140 | .0111 | .0468 | .0641 | .1076 | .0066 | .0197 | .0290 |
| 25.32 | -5.29 | .9073 | .4417 | -.2013 | .0314 | -.0132 | .0559 | .0775 | .1318 | .0083 | .0198 | .0311 |
| 29.58 | -5.20 | .9503 | .5510 | -.2197 | .0225 | -.0016 | .0713 | .0904 | .1572 | .0104 | .0207 | .0355 |
| 33.81 | -5.19 | .9712 | .6543 | -.2271 | .0317 | -.0039 | .0716 | .1006 | .1798 | .0133 | .0223 | .0416 |
| 37.97 | -5.17 | .9399 | .7344 | -.2284 | .0341 | .0012 | .0987 | .1037 | .1925 | .0181 | .0256 | .0536 |
| 40.08 | -4.70 | .9647 | .8108 | -.2331 | .0304 | .0075 | .1056 | .1093 | .2061 | .0197 | .0257 | .0567 |
| 3.67 | -5.30 | .1659 | .0240 | -.0266 | .0028 | .0143 | .0168 | .0108 | .0171 | .0008 | .0141 | .0141 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74017

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.61 | 4.32 | .0857 | .0195 | -.0122 | -.0012 | -.0120 | -.0207 | .0077 | .0104 | -.0004 | -.0125 | -.0131 |
| 2.25 | 4.49 | .1216 | .0207 | -.0195 | -.0021 | -.0123 | -.0220 | .0076 | .0114 | -.0006 | -.0133 | -.0144 |
| 3.72 | 4.66 | .2037 | .0265 | -.0335 | -.0028 | -.0128 | -.0251 | .0110 | .0178 | -.0009 | -.0138 | -.0153 |
| 5.71 | 4.76 | .3184 | .0419 | -.0524 | -.0037 | -.0131 | -.0279 | .0169 | .0285 | -.0013 | -.0141 | -.0160 |
| 7.73 | 4.86 | .4251 | .0649 | -.0686 | -.0040 | -.0132 | -.0325 | .0224 | .0385 | -.0019 | -.0154 | -.0178 |
| 9.81 | 4.96 | .5201 | .0952 | -.0807 | -.0051 | -.0134 | -.0378 | .0287 | .0492 | -.0024 | -.0154 | -.0188 |
| 12.08 | 5.05 | .6173 | .1386 | -.0963 | -.0034 | -.0148 | -.0427 | .0376 | .0633 | -.0031 | -.0160 | -.0206 |
| 14.19 | 5.08 | .7079 | .1859 | -.1146 | -.0040 | -.0158 | -.0501 | .0447 | .0749 | -.0040 | -.0173 | -.0234 |
| 16.39 | 5.18 | .7888 | .2398 | -.1369 | -.0060 | -.0173 | -.0559 | .0503 | .0856 | -.0049 | -.0183 | -.0258 |
| 18.64 | 5.15 | .8274 | .2947 | -.1761 | -.0104 | -.0154 | -.0584 | .0580 | .0984 | -.0056 | -.0184 | -.0267 |
| 20.81 | 5.30 | .8308 | .3347 | -.1845 | -.0112 | -.0142 | -.0634 | .0646 | .1098 | -.0063 | -.0185 | -.0276 |
| 25.09 | 5.14 | .9124 | .4400 | -.2055 | -.0297 | .0158 | -.0695 | .0771 | .1321 | -.0073 | -.0176 | -.0276 |
| 29.36 | 5.25 | .9543 | .5476 | -.2215 | -.0244 | .0113 | -.0763 | .0885 | .1554 | -.0093 | -.0187 | -.0317 |
| 33.77 | 5.33 | .9809 | .6603 | -.2277 | -.0243 | .0075 | -.0855 | .0991 | .1787 | -.0114 | -.0193 | -.0353 |
| 38.13 | 5.43 | .9451 | .7401 | -.2203 | -.0268 | .0007 | -.0968 | .1062 | .1974 | -.0141 | -.0202 | -.0407 |
| 40.25 | 5.29 | .9350 | .7871 | -.2218 | -.0256 | .0002 | -.1014 | .1091 | .2060 | -.0153 | -.0203 | -.0432 |
| 1.82 | 4.92 | .0936 | .0187 | -.0137 | -.0016 | -.0125 | -.0225 | .0080 | .0109 | -.0005 | -.0135 | -.0144 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74032

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .01 | -.00 | -.0005 | .0115 | .0002 | .0006 | .0008 | .0066 | .0006 | -.0011 | .0005 | .0009 | .0007 |
| 1.99 | -.03 | .0436 | .0128 | .0409 | .0009 | .0010 | .0061 | .0434 | .0410 | .0008 | .0012 | .0012 |
| 4.06 | -.06 | .0905 | .0171 | .0844 | .0010 | .0010 | .0074 | .0887 | .0840 | .0009 | .0009 | .0008 |
| 6.15 | -.09 | .1491 | .0253 | .1281 | .0014 | .0027 | .0083 | .1353 | .1289 | .0010 | .0006 | .0002 |
| 8.19 | -.12 | .1826 | .0347 | .1747 | .0008 | .0008 | .0083 | .1814 | .1746 | .0007 | .0005 | .0003 |
| 10.17 | -.15 | .2243 | .0476 | .2133 | .0009 | .0005 | .0083 | .2188 | .2137 | .0007 | -.0000 | -.0008 |
| 12.43 | -.19 | .2700 | .0660 | .2581 | .0006 | .0003 | .0100 | .2617 | .2593 | .0006 | .0007 | .0006 |
| 14.36 | -.21 | .3025 | .0835 | .2918 | .0004 | .0002 | .0100 | .2931 | .2941 | .0005 | .0009 | .0008 |
| 16.36 | -.21 | .3402 | .1053 | .3332 | .0000 | -.0001 | .0111 | .3302 | .3362 | .0004 | .0012 | .0012 |
| 18.61 | -.27 | .3736 | .1301 | .3699 | .0002 | .0003 | .0118 | .3603 | .3739 | .0007 | .0014 | .0016 |
| 20.55 | -.31 | .3901 | .1506 | .3924 | -.0001 | -.0006 | .0123 | .3736 | .3953 | .0006 | .0012 | .0011 |
| 24.63 | -.19 | .4279 | .2007 | .4420 | -.0000 | -.0011 | .0143 | .4022 | .4404 | .0006 | .0003 | -.0002 |
| 28.69 | -.22 | .4650 | .2563 | .4941 | -.0004 | -.0007 | .0165 | .4312 | .4891 | .0006 | .0010 | .0010 |
| 32.59 | -.25 | .4888 | .3113 | .5294 | .0003 | -.0001 | .0205 | .4457 | .5251 | .0013 | .0011 | .0015 |
| 36.76 | -.26 | .4991 | .3671 | .5536 | .0020 | .0008 | .0217 | .4445 | .5487 | .0023 | .0009 | .0023 |
| 40.65 | -.29 | .5075 | .4246 | .5695 | .0015 | .0003 | .0228 | .4414 | .5716 | .0023 | .0012 | .0032 |
| .02 | -.00 | -.0004 | .0113 | .0005 | .0005 | .0007 | .0064 | .0024 | .0010 | .0005 | .0009 | .0007 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74033

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.21 | -4.84 | .0510 | .0148 | .0594 | .0047 | .0158 | .0317 | .0611 | .0582 | .0047 | .0159 | .0187 |
| 3.75 | -4.88 | .0608 | .0155 | .0719 | .0051 | .0163 | .0349 | .0737 | .0702 | .0051 | .0165 | .0198 |
| 5.90 | -5.06 | .1137 | .0215 | .1215 | .0058 | .0165 | .0419 | .1249 | .1194 | .0060 | .0167 | .0204 |
| 7.86 | -5.05 | .1589 | .0297 | .1623 | .0053 | .0159 | .0472 | .1675 | .1608 | .0057 | .0178 | .0232 |
| 9.92 | -5.10 | .2036 | .0428 | .2045 | .0045 | .0155 | .0512 | .2082 | .2036 | .0054 | .0183 | .0248 |
| 12.04 | -5.16 | .2462 | .0592 | .2449 | .0046 | .0149 | .0551 | .2468 | .2448 | .0057 | .0185 | .0263 |
| 14.32 | -5.16 | .2920 | .0806 | .2875 | .0043 | .0148 | .0562 | .2883 | .2899 | .0060 | .0196 | .0281 |
| 16.59 | -5.25 | .3310 | .1036 | .3297 | .0032 | .0147 | .0633 | .3261 | .3317 | .0061 | .0205 | .0295 |
| 18.66 | -5.27 | .3601 | .1267 | .3569 | .0020 | .0153 | .0616 | .3465 | .3582 | .0049 | .0219 | .0316 |
| 20.78 | -5.29 | .3840 | .1502 | .3840 | .0013 | .0149 | .0666 | .3641 | .3826 | .0052 | .0229 | .0336 |
| 25.19 | -5.31 | .4374 | .2084 | .4479 | .0000 | .0154 | .0755 | .4073 | .4447 | .0059 | .0257 | .0391 |
| 29.62 | -5.38 | .4887 | .2769 | .5181 | -.0014 | .0152 | .0912 | .4486 | .5084 | .0079 | .0292 | .0463 |
| 33.84 | -5.42 | .5081 | .3352 | .5603 | -.0008 | .0150 | .1049 | .4634 | .5496 | .0114 | .0304 | .0515 |
| 38.38 | -5.36 | .5117 | .3953 | .5788 | .0023 | .0137 | .1315 | .4548 | .5717 | .0176 | .0296 | .0558 |
| 40.44 | -5.46 | .5065 | .4170 | .5775 | .0026 | .0125 | .1422 | .4441 | .5736 | .0195 | .0287 | .0564 |
| 3.07 | -4.86 | .0475 | .0144 | .0578 | .0047 | .0158 | .0323 | .0595 | .0522 | .0048 | .0158 | .0184 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74034

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.82 | 5.02 | .0324 | .0131 | .0404 | -.0032 | -.0176 | -.0237 | .0420 | .0409 | -.0030 | -.0154 | -.0184 |
| 2.40 | 4.80 | .0430 | .0134 | .0514 | -.0032 | -.0154 | -.0239 | .0531 | .0510 | -.0031 | -.0148 | -.0179 |
| 3.70 | 4.66 | .0740 | .0160 | .0817 | -.0035 | -.0155 | -.0254 | .0846 | .0816 | -.0036 | -.0155 | -.0192 |
| 5.78 | 4.85 | .1198 | .0219 | .1232 | -.0038 | -.0155 | -.0299 | .1281 | .1232 | -.0040 | -.0162 | -.0215 |
| 7.76 | 4.89 | .1887 | .0338 | .1655 | -.0037 | -.0156 | -.0335 | .1742 | .1687 | -.0041 | -.0166 | -.0226 |
| 9.84 | 4.96 | .2139 | .0445 | .2077 | -.0033 | -.0156 | -.0355 | .2138 | .2094 | -.0039 | -.0171 | -.0238 |
| 12.17 | 5.03 | .2633 | .0635 | .2514 | -.0036 | -.0163 | -.0384 | .2573 | .2555 | -.0045 | -.0182 | -.0262 |
| 14.13 | 5.03 | .3001 | .0817 | .2891 | -.0039 | -.0168 | -.0384 | .2917 | .2926 | -.0048 | -.0187 | -.0276 |
| 16.45 | 5.13 | .3386 | .1050 | .3309 | -.0038 | -.0171 | -.0413 | .3301 | .3365 | -.0052 | -.0200 | -.0300 |
| 18.75 | 5.13 | .3623 | .1289 | .3551 | -.0037 | -.0174 | -.0392 | .3444 | .3573 | -.0037 | -.0214 | -.0318 |
| 20.79 | 5.22 | .3909 | .1540 | .3842 | -.0019 | -.0181 | -.0474 | .3667 | .3862 | -.0043 | -.0228 | -.0347 |
| 25.16 | 5.25 | .4496 | .2141 | .4527 | -.0027 | -.0202 | -.0461 | .4149 | .4539 | -.0058 | -.0251 | -.0399 |
| 29.51 | 5.23 | .4921 | .2783 | .5151 | -.0038 | -.0201 | -.0577 | .4513 | .5125 | -.0097 | -.0286 | -.0490 |
| 33.79 | 5.37 | .5088 | .3359 | .5572 | -.0028 | -.0181 | -.0832 | .4632 | .5491 | -.0122 | -.0297 | -.0526 |
| 38.14 | 5.41 | .5200 | .3981 | .5813 | -.0020 | -.0172 | -.1056 | .4612 | .5759 | -.0154 | -.0315 | -.0582 |
| 40.44 | 5.37 | .5165 | .4264 | .5813 | -.0023 | -.0160 | -.1160 | .4506 | .5807 | -.0170 | -.0304 | -.0582 |
| 1.74 | 4.97 | .0365 | .0129 | .0382 | -.0030 | -.0162 | -.0230 | .0401 | .0386 | -.0030 | -.0153 | -.0183 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74106

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.12 | -.00 | -.2261 | .0272 | .0382 | .0003 | .0000 | .0056 | -.0096 | -.0186 | -.0000 | .0006 | .0008 |
| -2.54 | -.01 | -.1247 | .0210 | .0205 | .0002 | .0002 | .0007 | -.0048 | -.0097 | -.0000 | .0004 | .0005 |
| -.46 | -.00 | -.0138 | .0175 | .0023 | .0000 | .0006 | -.0004 | -.0009 | -.0014 | -.0000 | .0007 | .0008 |
| 2.26 | .00 | .0911 | .0184 | -.0162 | .0003 | .0012 | -.0013 | .0036 | .0076 | .0000 | .0008 | .0007 |
| 4.13 | .01 | .2099 | .0284 | -.0367 | .0003 | .0012 | -.0029 | .0080 | .0163 | -.0000 | .0006 | .0005 |
| 6.30 | .01 | .3270 | .0464 | -.0581 | .0004 | .0013 | -.0049 | .0132 | .0256 | .0000 | .0008 | .0009 |
| 8.21 | .01 | .4258 | .0704 | -.0736 | .0003 | .0016 | -.0046 | .0175 | .0342 | .0001 | .0013 | .0017 |
| 10.46 | .02 | .5333 | .1075 | -.0894 | .0001 | .0018 | -.0068 | .0237 | .0455 | .0001 | .0011 | .0011 |
| 12.07 | .02 | .5887 | .1340 | -.1014 | .0002 | .0019 | -.0064 | .0269 | .0512 | .0002 | .0015 | .0017 |
| 14.00 | -.00 | .6921 | .1825 | -.1251 | .0002 | .0022 | -.0072 | .0332 | .0621 | .0003 | .0018 | .0019 |
| 16.08 | .01 | .7697 | .2348 | -.1505 | .0003 | .0029 | -.0085 | .0381 | .0713 | .0004 | .0019 | .0023 |
| 18.55 | .01 | .7876 | .2825 | -.1868 | -.0005 | .0039 | -.0120 | .0429 | .0791 | .0004 | .0018 | .0018 |
| 20.21 | .04 | .7931 | .3154 | -.1988 | .0001 | .0039 | -.0105 | .0469 | .0865 | .0005 | .0020 | .0021 |
| 24.38 | .01 | .8392 | .4014 | -.2172 | -.0030 | .0087 | -.0167 | .0563 | .1033 | .0006 | .0019 | .0016 |
| 28.45 | -.01 | .9189 | .5133 | -.2448 | -.0221 | .0269 | .0058 | .0662 | .1231 | .0012 | .0032 | .0036 |
| 32.75 | -.02 | .9229 | .6094 | -.2555 | -.0130 | .0177 | -.0151 | .0733 | .1398 | -.0002 | .0007 | -.0024 |
| 34.60 | .09 | .9349 | .6607 | -.2556 | .0034 | -.0116 | -.0449 | .0780 | .1494 | -.0023 | -.0023 | -.0097 |
| 35.79 | .09 | .9447 | .6995 | -.2549 | -.0020 | -.0144 | -.0476 | .0822 | .1590 | -.0042 | -.0047 | -.0159 |
| 38.75 | .08 | .9221 | .7511 | -.2441 | -.0093 | -.0174 | -.0618 | .0859 | .1686 | -.0075 | -.0082 | -.0253 |
| 40.44 | .10 | .8757 | .7563 | -.2201 | -.0121 | -.0184 | -.0817 | .0883 | .1764 | -.0113 | -.0120 | -.0347 |
| -.09 | -.00 | -.0216 | .0155 | .0026 | .0000 | .0003 | -.0003 | -.0005 | -.0009 | -.0000 | .0005 | .0005 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74107

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -2.75 | 4.09 | -.1719 | .0205 | .0282 | .0025 | -.0118 | -.0187 | -.0017 | -.0066 | .0005 | -.0131 | -.0148 |
| -1.02 | 4.49 | -.0723 | .0194 | .0113 | .0011 | -.0120 | -.0197 | .0038 | .0028 | .0002 | -.0134 | -.0157 |
| .25 | 4.08 | -.0125 | .0249 | .0005 | -.0001 | -.0108 | -.0189 | .0065 | .0082 | -.0001 | -.0119 | -.0131 |
| 1.36 | 4.18 | .0615 | .0227 | -.0104 | -.0013 | -.0083 | -.0176 | .0032 | .0058 | -.0001 | -.0071 | -.0056 |
| 3.13 | 4.46 | .1487 | .0260 | -.0254 | -.0025 | -.0089 | -.0196 | .0059 | .0114 | -.0003 | -.0083 | -.0072 |
| 5.04 | 4.91 | .2589 | .0374 | -.0475 | -.0033 | -.0097 | -.0245 | .0103 | .0202 | -.0007 | -.0103 | -.0100 |
| 7.26 | 5.07 | .3828 | .0603 | -.0692 | -.0041 | -.0097 | -.0291 | .0150 | .0292 | -.0012 | -.0114 | -.0121 |
| 9.30 | 4.92 | .4829 | .0897 | -.0847 | -.0034 | -.0094 | -.0317 | .0190 | .0374 | -.0014 | -.0111 | -.0123 |
| 11.47 | 5.30 | .5872 | .1298 | -.1047 | -.0025 | -.0112 | -.0351 | .0256 | .0493 | -.0021 | -.0128 | -.0149 |
| 13.79 | 5.31 | .6784 | .1777 | -.1248 | -.0032 | -.0122 | -.0425 | .0315 | .0594 | -.0025 | -.0129 | -.0154 |
| 15.94 | 5.36 | .7492 | .2270 | -.1477 | -.0033 | -.0138 | -.0474 | .0366 | .0689 | -.0031 | -.0134 | -.0170 |
| 18.14 | 5.13 | .7807 | .2770 | -.1870 | -.0061 | -.0147 | -.0443 | .0424 | .0788 | -.0036 | -.0132 | -.0174 |
| 20.12 | 5.68 | .7558 | .3010 | -.1874 | -.0037 | -.0043 | -.0547 | .0469 | .0863 | -.0043 | -.0143 | -.0192 |
| 24.57 | 5.71 | .8222 | .3993 | -.2196 | -.0211 | .0135 | -.0791 | .0564 | .1044 | -.0058 | -.0152 | -.0227 |
| 29.11 | 5.22 | .9070 | .5255 | -.2486 | -.0287 | .0123 | -.0889 | .0670 | .1261 | -.0086 | -.0173 | -.0311 |
| 33.22 | 5.86 | .9077 | .6155 | -.2462 | -.0167 | -.0207 | -.1245 | .0750 | .1442 | -.0139 | -.0235 | -.0466 |
| 35.50 | 6.25 | .9066 | .6656 | -.2523 | -.0240 | -.0216 | -.1279 | .0780 | .1514 | -.0170 | -.0262 | -.0546 |
| 37.93 | 5.31 | .9130 | .7276 | -.2496 | -.0264 | -.0265 | -.1359 | .0835 | .1652 | -.0196 | -.0268 | -.0605 |
| 39.92 | 5.45 | .9026 | .7682 | -.2531 | -.0305 | -.0273 | -.1425 | .0845 | .1701 | -.0229 | -.0290 | -.0671 |
| .19 | 4.17 | .0099 | .0198 | -.0018 | -.0004 | -.0083 | -.0175 | .0015 | .0010 | -.0000 | -.0064 | -.0044 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 74108

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -2.52 | -4.04 | -.1538 | .0182 | .0256 | -.0025 | .0115 | .0162 | -.0058 | -.0127 | -.0005 | .0158 | .0189 |
| -.84 | -4.27 | -.0516 | .0180 | .0089 | -.0009 | .0119 | .0155 | -.0013 | -.0039 | -.0002 | .0167 | .0205 |
| .35 | -3.75 | .0139 | .0178 | -.0021 | .0000 | .0111 | .0119 | .0015 | .0015 | .0001 | .0162 | .0201 |
| 1.42 | -4.56 | .0397 | .0217 | -.0064 | .0008 | .0096 | .0113 | .0086 | .0124 | .0002 | .0117 | .0123 |
| 3.35 | -4.67 | .1299 | .0246 | -.0225 | .0020 | .0103 | .0104 | .0111 | .0179 | .0005 | .0114 | .0115 |
| 5.27 | -4.97 | .2408 | .0359 | -.0430 | .0035 | .0118 | .0137 | .0147 | .0253 | .0009 | .0127 | .0134 |
| 7.03 | -4.95 | .3568 | .0568 | -.0645 | .0049 | .0127 | .0150 | .0157 | .0297 | .0013 | .0139 | .0149 |
| 9.85 | -5.15 | .4854 | .0922 | -.0852 | .0038 | .0131 | .0202 | .0233 | .0423 | .0018 | .0138 | .0149 |
| 12.11 | -4.76 | .5803 | .1326 | -.1013 | .0031 | .0130 | .0176 | .0283 | .0515 | .0023 | .0138 | .0158 |
| 13.95 | -4.81 | .6681 | .1754 | -.1196 | .0032 | .0140 | .0197 | .0329 | .0607 | .0028 | .0145 | .0170 |
| 16.23 | -4.86 | .7533 | .2313 | -.1452 | .0027 | .0164 | .0201 | .0386 | .0702 | .0035 | .0157 | .0192 |
| 18.39 | -4.69 | .7901 | .2817 | -.1858 | .0033 | .0221 | .0095 | .0432 | .0783 | .0040 | .0154 | .0191 |
| 20.50 | -5.17 | .7783 | .3142 | -.1930 | .0108 | .0164 | .0210 | .0487 | .0878 | .0050 | .0170 | .0219 |
| 25.28 | -5.00 | .8645 | .4285 | -.2253 | .0267 | -.0083 | .0303 | .0591 | .1082 | .0062 | .0166 | .0224 |
| 29.77 | -4.62 | .9118 | .5386 | -.2397 | .0265 | -.0097 | .0169 | .0679 | .1269 | .0069 | .0154 | .0216 |
| 33.51 | -5.12 | .9262 | .6300 | -.2490 | .0231 | -.0060 | .0212 | .0763 | .1455 | .0084 | .0164 | .0237 |
| 35.43 | -5.44 | .9173 | .6677 | -.2483 | .0235 | -.0048 | .0271 | .0806 | .1547 | .0093 | .0170 | .0253 |
| 37.77 | -5.74 | .9016 | .7113 | -.2422 | .0216 | -.0059 | .0217 | .0836 | .1634 | .0083 | .0148 | .0207 |
| 40.12 | -4.36 | .8773 | .7502 | -.2224 | .0093 | -.0107 | -.0085 | .0892 | .1771 | .0010 | .0047 | -.0009 |
| .15 | -4.38 | -.0171 | .0215 | .0029 | -.0001 | .0086 | .0119 | .0058 | .0069 | .0001 | .0113 | .0122 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78023

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.42 | -.00 | -.1001 | .0171 | -.0862 | .0004 | .0012 | .0013 | -.0956 | -.0876 | .0003 | .0008 | .0005 |
| -2.39 | .01 | -.0505 | .0128 | -.0442 | .0001 | .0014 | .0016 | -.0487 | -.0450 | .0003 | .0008 | .0006 |
| -.31 | -.00 | -.0024 | .0114 | -.0044 | .0004 | .0010 | .0023 | -.0060 | -.0060 | .0004 | .0011 | .0011 |
| 2.12 | -.00 | .0455 | .0127 | .0398 | .0006 | .0018 | .0010 | .0412 | .0380 | .0005 | .0006 | .0002 |
| 3.81 | -.00 | .0832 | .0152 | .0737 | .0005 | .0016 | .0012 | .0774 | .0709 | .0005 | .0013 | .0016 |
| 5.89 | -.00 | .1373 | .0219 | .1167 | .0006 | .0016 | .0005 | .1260 | .1151 | .0006 | .0012 | .0015 |
| 8.18 | -.01 | .1921 | .0336 | .1657 | .0006 | .0011 | .0013 | .1773 | .1629 | .0008 | .0015 | .0019 |
| 9.97 | -.01 | .2282 | .0449 | .1987 | .0006 | .0013 | .0008 | .2102 | .1960 | .0008 | .0017 | .0024 |
| 12.16 | .00 | .2747 | .0624 | .2403 | .0006 | .0011 | -.0000 | .2525 | .2379 | .0007 | .0014 | .0019 |
| 14.11 | -.00 | .3112 | .0808 | .2743 | .0006 | .0015 | .0011 | .2846 | .2714 | .0008 | .0017 | .0025 |
| 16.14 | .01 | .3499 | .1027 | .3100 | .0007 | .0018 | -.0004 | .3179 | .3062 | .0007 | .0016 | .0025 |
| 18.16 | .01 | .3898 | .1256 | .3414 | .0007 | .0016 | -.0010 | .3458 | .3378 | .0009 | .0017 | .0029 |
| 20.25 | .02 | .3704 | .1421 | .3307 | .0004 | .0015 | -.0001 | .3267 | .3253 | .0005 | .0020 | .0034 |
| 22.16 | .02 | .3706 | .1558 | .3357 | .0001 | .0014 | .0006 | .3220 | .3278 | .0006 | .0022 | .0039 |
| 24.20 | .02 | .3986 | .1836 | .3646 | .0003 | .0012 | .0008 | .3440 | .3567 | .0007 | .0018 | .0032 |
| 26.31 | .03 | .4305 | .2155 | .3975 | .0003 | .0014 | -.0004 | .3686 | .3870 | .0009 | .0022 | .0043 |
| 28.31 | .04 | .4524 | .2440 | .4255 | .0001 | .0004 | .0012 | .3860 | .4122 | .0010 | .0016 | .0032 |
| 30.24 | .05 | .4682 | .2706 | .4490 | .0003 | .0004 | .0023 | .3963 | .4323 | .0011 | .0012 | .0027 |
| 32.36 | .07 | .4750 | .2962 | .4674 | .0001 | -.0013 | .0040 | .3992 | .4477 | .0010 | -.0005 | -.0005 |
| 34.36 | .08 | .4799 | .3204 | .4794 | -.0003 | -.0013 | .0068 | .3982 | .4586 | .0015 | .0007 | .0022 |
| 36.17 | .08 | .4800 | .3399 | .4882 | -.0008 | -.0004 | .0045 | .3961 | .4668 | .0007 | .0013 | .0029 |
| 38.25 | .10 | .4833 | .3666 | .4985 | -.0009 | .0013 | -.0016 | .3948 | .4794 | .0002 | .0018 | .0038 |
| 40.25 | .09 | .4924 | .3988 | .5090 | -.0022 | -.0011 | -.0065 | .3943 | .4927 | -.0008 | .0001 | .0007 |
| .01 | .00 | -.0024 | .0104 | -.0022 | .0002 | .0012 | .0016 | -.0083 | -.0084 | .0003 | .0009 | .0008 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78024

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.21 | 4.47 | -.0790 | .0148 | -.0660 | .0014 | -.0103 | -.0114 | -.0767 | -.0714 | .0016 | -.0113 | -.0122 |
| -1.94 | 4.64 | -.0526 | .0132 | -.0427 | .0011 | -.0107 | -.0123 | -.0503 | -.0472 | .0013 | -.0117 | -.0126 |
| -1.04 | 4.66 | -.0347 | .0132 | -.0281 | .0007 | -.0111 | -.0103 | -.0338 | -.0324 | .0009 | -.0116 | -.0124 |
| 1.94 | 3.96 | .0435 | .0133 | .0401 | -.0002 | -.0086 | -.0181 | .0368 | .0339 | -.0003 | -.0100 | -.0105 |
| 3.59 | 4.22 | .0837 | .0150 | .0729 | -.0007 | -.0095 | -.0198 | .0725 | .0660 | -.0007 | -.0103 | -.0108 |
| 5.16 | 4.83 | .1226 | .0196 | .1060 | -.0011 | -.0104 | -.0227 | .1090 | .0990 | -.0012 | -.0117 | -.0124 |
| 7.35 | 4.89 | .1761 | .0294 | .1523 | -.0011 | -.0107 | -.0231 | .1588 | .1447 | -.0015 | -.0117 | -.0128 |
| 9.65 | 5.07 | .2225 | .0425 | .1949 | -.0016 | -.0113 | -.0244 | .2027 | .1885 | -.0018 | -.0120 | -.0136 |
| 12.23 | 5.13 | .2733 | .0623 | .2400 | -.0015 | -.0114 | -.0253 | .2481 | .2337 | -.0020 | -.0124 | -.0148 |
| 13.89 | 5.17 | .3113 | .0797 | .2711 | -.0019 | -.0125 | -.0250 | .2795 | .2661 | -.0023 | -.0130 | -.0159 |
| 16.15 | 5.25 | .3532 | .1038 | .3098 | -.0026 | -.0140 | -.0220 | .3170 | .3055 | -.0028 | -.0137 | -.0175 |
| 18.47 | 5.29 | .3881 | .1317 | .3369 | -.0029 | -.0166 | -.0089 | .3414 | .3343 | -.0024 | -.0145 | -.0183 |
| 20.38 | 5.83 | .3943 | .1491 | .3398 | -.0016 | -.0226 | .0090 | .3352 | .3359 | -.0011 | -.0206 | -.0266 |
| 22.71 | 5.48 | .3933 | .1685 | .3448 | -.0046 | -.0169 | -.0013 | .3303 | .3371 | -.0042 | -.0149 | -.0200 |
| 24.86 | 5.95 | .4207 | .1970 | .3753 | -.0061 | -.0162 | -.0037 | .3531 | .3658 | -.0059 | -.0146 | -.0197 |
| 27.49 | 5.42 | .4538 | .2353 | .4156 | -.0061 | -.0120 | -.0016 | .3806 | .4027 | -.0061 | -.0108 | -.0163 |
| 29.22 | 5.76 | .4738 | .2621 | .4399 | -.0059 | -.0108 | -.0075 | .3958 | .4256 | -.0070 | -.0115 | -.0159 |
| 31.37 | 6.13 | .4843 | .2897 | .4617 | -.0043 | -.0084 | -.0221 | .4030 | .4449 | -.0082 | -.0129 | -.0192 |
| 33.77 | 5.38 | .4749 | .3100 | .4727 | -.0002 | -.0060 | -.0490 | .3927 | .4501 | -.0068 | -.0144 | -.0231 |
| 35.92 | 5.66 | .4810 | .3373 | .4875 | .0029 | -.0035 | -.0629 | .3932 | .4635 | -.0071 | -.0155 | -.0260 |
| 37.86 | 5.94 | .4945 | .3697 | .5078 | .0054 | .0005 | -.0676 | .4012 | .4853 | -.0069 | -.0134 | -.0229 |
| 39.97 | 6.21 | .5038 | .4032 | .5175 | .0099 | .0064 | -.0819 | .4011 | .4988 | -.0061 | -.0104 | -.0177 |
| 1.28 | 4.18 | .0283 | .0122 | .0279 | -.0001 | -.0079 | -.0200 | .0217 | .0197 | .0000 | -.0096 | -.0099 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78025

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.18 | -4.53 | -.0629 | .0146 | -.0534 | -.0008 | .0132 | .0121 | -.0669 | -.0630 | -.0007 | .0127 | .0134 |
| -1.91 | -4.78 | -.0333 | .0143 | -.0270 | -.0006 | .0136 | .0123 | -.0385 | -.0367 | -.0004 | .0131 | .0142 |
| -.72 | -4.75 | -.0115 | .0135 | -.0081 | -.0000 | .0125 | .0116 | -.0181 | -.0180 | .0001 | .0123 | .0128 |
| 2.04 | -4.36 | .0277 | .0131 | .0286 | .0010 | .0124 | .0202 | .0228 | .0203 | .0011 | .0124 | .0130 |
| 3.80 | -4.54 | .0694 | .0151 | .0648 | .0015 | .0132 | .0230 | .0622 | .0561 | .0018 | .0134 | .0144 |
| 5.58 | -5.02 | .1167 | .0200 | .1034 | .0022 | .0148 | .0235 | .1036 | .0934 | .0027 | .0149 | .0163 |
| 7.38 | -4.97 | .1636 | .0284 | .1448 | .0025 | .0155 | .0271 | .1485 | .1345 | .0030 | .0156 | .0181 |
| 9.91 | -5.17 | .2183 | .0431 | .1929 | .0029 | .0160 | .0277 | .1989 | .1838 | .0035 | .0161 | .0193 |
| 12.55 | -5.10 | .2760 | .0645 | .2402 | .0032 | .0160 | .0276 | .2464 | .2317 | .0039 | .0165 | .0208 |
| 14.18 | -5.00 | .3106 | .0809 | .2702 | .0034 | .0165 | .0273 | .2765 | .2622 | .0041 | .0167 | .0216 |
| 16.55 | -5.06 | .3591 | .1085 | .3130 | .0044 | .0192 | .0237 | .3183 | .3067 | .0046 | .0178 | .0242 |
| 19.36 | -4.92 | .3811 | .1366 | .3282 | .0027 | .0224 | -.0004 | .3261 | .3228 | .0025 | .0201 | .0263 |
| 20.89 | -5.30 | .3942 | .1519 | .3379 | .0031 | .0251 | -.0064 | .3307 | .3312 | .0032 | .0234 | .0322 |
| 22.93 | -5.01 | .3970 | .1709 | .3486 | .0051 | .0200 | .0012 | .3332 | .3389 | .0057 | .0187 | .0273 |
| 25.28 | -5.48 | .4298 | .2036 | .3810 | .0066 | .0200 | .0065 | .3573 | .3699 | .0073 | .0191 | .0285 |
| 27.57 | -4.75 | .4599 | .2383 | .4182 | .0061 | .0152 | .0042 | .3817 | .4025 | .0073 | .0158 | .0242 |
| 29.38 | -5.04 | .4737 | .2636 | .4407 | .0083 | .0138 | .0161 | .3939 | .4242 | .0084 | .0171 | .0275 |
| 31.49 | -5.38 | .4754 | .2856 | .4583 | .0031 | .0110 | .0349 | .3940 | .4363 | .0094 | .0187 | .0311 |
| 33.77 | -5.73 | .4776 | .3107 | .4748 | -.0000 | .0059 | .0580 | .3934 | .4492 | .0106 | .0188 | .0322 |
| 35.91 | -5.01 | .4823 | .3385 | .4902 | -.0028 | .0021 | .0688 | .3945 | .4642 | .0094 | .0160 | .0284 |
| 38.03 | -5.16 | .4892 | .3672 | .5062 | -.0050 | -.0023 | .0744 | .3985 | .4814 | .0100 | .0140 | .0258 |
| 39.98 | -5.45 | .5009 | .4008 | .5166 | -.0097 | -.0090 | .0965 | .4008 | .4971 | .0103 | .0115 | .0221 |
| 1.40 | -4.71 | .0119 | .0109 | .0151 | .0005 | .0123 | .0198 | .0053 | .0027 | .0008 | .0120 | .0124 |
| -.12 | -.00 | .6981 | .0500 | 3.3064 | -.3703 | 3.5141 | -.0737 | -.8949 | -9.5644 | .1876 | 1.2429 | .0465 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78032

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.28 | .00 | -.2428 | .0331 | -.0433 | -.0004 | .0009 | .0029 | -.0990 | -.0882 | .0000 | .0007 | .0005 |
| -2.53 | -.00 | -.1290 | .0233 | -.0255 | -.0002 | .0007 | .0018 | -.0528 | -.0478 | .0001 | .0004 | -.0000 |
| -.67 | .00 | -.0146 | .0202 | -.0024 | -.0002 | .0012 | .0016 | -.0063 | -.0054 | .0001 | .0009 | .0008 |
| 2.25 | .00 | .1312 | .0221 | .0209 | .0004 | .0012 | -.0004 | .0507 | .0471 | .0002 | .0009 | .0009 |
| 3.89 | .00 | .2247 | .0291 | .0363 | .0009 | .0011 | -.0006 | .0881 | .0798 | .0003 | .0010 | .0011 |
| 6.17 | -.00 | .3762 | .0509 | .0561 | .0008 | .0015 | -.0014 | .1488 | .1349 | .0003 | .0013 | .0019 |
| 8.19 | .00 | .5204 | .0816 | .0730 | .0010 | .0016 | -.0033 | .2021 | .1840 | .0005 | .0012 | .0019 |
| 10.36 | .00 | .6656 | .1253 | .0884 | .0010 | .0016 | -.0043 | .2504 | .2310 | .0005 | .0013 | .0019 |
| 12.78 | .00 | .8073 | .1827 | .1066 | .0019 | .0015 | -.0054 | .3012 | .2799 | .0006 | .0011 | .0017 |
| 14.61 | .01 | .9448 | .2440 | .1242 | .0017 | .0020 | -.0064 | .3503 | .3275 | .0006 | .0014 | .0025 |
| 16.64 | .01 | 1.0742 | .3150 | .1421 | .0019 | .0021 | -.0090 | .3970 | .3736 | .0008 | .0014 | .0027 |
| 18.56 | .01 | 1.1923 | .3908 | .1558 | .0014 | .0024 | -.0090 | .4382 | .4149 | .0007 | .0013 | .0026 |
| 20.99 | -.01 | 1.3346 | .4982 | .1720 | .0016 | .0024 | -.0113 | .4897 | .4668 | .0006 | .0014 | .0031 |
| 22.81 | .01 | 1.4168 | .5849 | .1667 | -.0007 | .0032 | -.0156 | .5008 | .4809 | -.0005 | .0041 | .0068 |
| 25.11 | .01 | 1.5245 | .6997 | .1892 | .0024 | .0023 | -.0143 | .5420 | .5299 | .0010 | .0015 | .0035 |
| 27.36 | .01 | 1.5834 | .8005 | .2104 | .0027 | .0020 | -.0137 | .5661 | .5635 | .0012 | .0012 | .0033 |
| 29.54 | .02 | 1.6265 | .9025 | .2438 | .0021 | .0029 | -.0173 | .5995 | .6100 | .0013 | .0014 | .0039 |
| 31.38 | .02 | 1.6411 | .9791 | .2685 | .0024 | .0034 | -.0162 | .6185 | .6416 | .0018 | .0017 | .0046 |
| 33.29 | .02 | 1.6510 | 1.0604 | .2930 | .0028 | .0031 | -.0151 | .6339 | .6748 | .0019 | .0015 | .0044 |
| 35.53 | .06 | 1.6546 | 1.1541 | .2978 | .0027 | .0021 | -.0169 | .6281 | .6914 | .0011 | .0010 | .0036 |
| 37.92 | .09 | 1.6386 | 1.2463 | .2653 | .0030 | .0007 | -.0190 | .6029 | .6883 | .0012 | .0014 | .0055 |
| 39.39 | .12 | 1.5722 | 1.2673 | .2390 | .0022 | -.0059 | -.0226 | .5721 | .6698 | .0007 | -.0015 | .0008 |
| 41.11 | .11 | 1.5189 | 1.3011 | .2363 | .0008 | -.0072 | -.0194 | .5550 | .6682 | .0004 | -.0015 | .0007 |
| -.08 | -.00 | -.0135 | .0172 | -.0025 | -.0005 | .0008 | .0015 | -.0063 | -.0052 | .0001 | .0009 | .0008 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78033

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.56 | 4.15 | -.2272 | .0290 | -.0399 | .0055 | -.0123 | -.0055 | -.0930 | -.0831 | .0014 | -.0113 | -.0121 |
| -2.24 | 4.62 | -.1398 | .0245 | -.0238 | .0037 | -.0131 | -.0067 | -.0554 | -.0497 | .0010 | -.0121 | -.0130 |
| -.96 | 4.41 | -.0780 | .0211 | -.0103 | .0021 | -.0129 | -.0067 | -.0294 | -.0253 | .0006 | -.0118 | -.0123 |
| 1.92 | 3.63 | .1061 | .0215 | .0250 | -.0029 | -.0053 | -.0309 | .0443 | .0422 | -.0005 | -.0098 | -.0109 |
| 3.55 | 4.12 | .2055 | .0270 | .0372 | -.0046 | -.0064 | -.0288 | .0830 | .0763 | -.0010 | -.0107 | -.0119 |
| 5.17 | 4.65 | .3174 | .0401 | .0509 | -.0065 | -.0079 | -.0327 | .1261 | .1147 | -.0016 | -.0125 | -.0144 |
| 7.35 | 5.02 | .4647 | .0670 | .0701 | -.0083 | -.0085 | -.0316 | .1845 | .1688 | -.0018 | -.0127 | -.0147 |
| 9.80 | 4.79 | .6225 | .1105 | .0841 | -.0087 | -.0083 | -.0297 | .2330 | .2151 | -.0021 | -.0121 | -.0144 |
| 12.05 | 4.91 | .7863 | .1673 | .1025 | -.0092 | -.0094 | -.0314 | .2893 | .2685 | -.0024 | -.0128 | -.0159 |
| 14.34 | 4.73 | .9379 | .2358 | .1192 | -.0090 | -.0103 | -.0268 | .3433 | .3210 | -.0030 | -.0126 | -.0161 |
| 16.52 | 4.75 | 1.0717 | .3105 | .1373 | -.0086 | -.0112 | -.0242 | .3911 | .3680 | -.0035 | -.0127 | -.0169 |
| 18.70 | 5.30 | 1.2131 | .4003 | .1564 | -.0090 | -.0134 | -.0221 | .4436 | .4202 | -.0046 | -.0143 | -.0192 |
| 20.92 | 4.85 | 1.3246 | .4956 | .1596 | -.0013 | -.0133 | -.0047 | .4682 | .4485 | -.0010 | -.0164 | -.0196 |
| 23.30 | 5.27 | 1.4289 | .6006 | .1861 | -.0032 | -.0174 | .0040 | .5153 | .4992 | -.0020 | -.0195 | -.0251 |
| 25.94 | 4.89 | 1.5420 | .7302 | .2204 | -.0025 | -.0205 | .0047 | .5725 | .5625 | -.0026 | -.0201 | -.0272 |
| 28.33 | 5.30 | 1.6017 | .8454 | .2148 | .0019 | -.0341 | -.0003 | .5817 | .5856 | -.0065 | -.0208 | -.0335 |
| 30.78 | 5.70 | 1.6043 | .9377 | .2230 | -.0046 | -.0466 | -.0121 | .5859 | .6071 | -.0088 | -.0292 | -.0512 |
| 32.52 | 5.10 | 1.6403 | 1.0252 | .2541 | -.0103 | -.0370 | -.0094 | .6092 | .6445 | -.0082 | -.0258 | -.0468 |
| 34.65 | 5.21 | 1.6468 | 1.1135 | .2658 | -.0175 | -.0350 | -.0125 | .6115 | .6654 | -.0095 | -.0266 | -.0503 |
| 36.55 | 5.47 | 1.6481 | 1.1935 | .2760 | -.0209 | -.0369 | -.0157 | .6144 | .6865 | -.0104 | -.0272 | -.0527 |
| 38.50 | 5.72 | 1.6276 | 1.2639 | .2782 | -.0217 | -.0364 | -.0217 | .6093 | .7002 | -.0107 | -.0266 | -.0531 |
| 40.52 | 5.97 | 1.5908 | 1.3271 | .2788 | -.0223 | -.0322 | -.0242 | .5988 | .7098 | -.0104 | -.0235 | -.0487 |
| 1.17 | 3.89 | .0525 | .0179 | .0189 | -.0019 | -.0049 | -.0278 | .0236 | .0232 | -.0002 | -.0096 | -.0110 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78034

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.39 | -4.47 | -.1790 | .0254 | -.0316 | -.0047 | .0102 | .0156 | -.0744 | -.0682 | -.0009 | .0117 | .0123 |
| -1.62 | -4.69 | -.0713 | .0204 | -.0127 | -.0027 | .0098 | .0147 | -.0282 | -.0250 | -.0005 | .0124 | .0135 |
| -.71 | -4.91 | -.0325 | .0192 | -.0052 | -.0014 | .0101 | .0133 | -.0119 | -.0104 | -.0001 | .0120 | .0128 |
| 2.02 | -4.23 | .0769 | .0214 | .0125 | .0024 | .0096 | .0132 | .0307 | .0285 | .0008 | .0103 | .0099 |
| 3.74 | -4.52 | .1801 | .0271 | .0291 | .0052 | .0102 | .0143 | .0722 | .0660 | .0014 | .0115 | .0116 |
| 5.16 | -4.85 | .2793 | .0382 | .0433 | .0078 | .0108 | .0165 | .1073 | .0944 | .0020 | .0118 | .0118 |
| 7.26 | -5.09 | .4159 | .0621 | .0633 | .0101 | .0125 | .0168 | .1642 | .1482 | .0025 | .0134 | .0144 |
| 10.15 | -4.90 | .6104 | .1138 | .0838 | .0106 | .0122 | .0165 | .2303 | .2122 | .0030 | .0136 | .0159 |
| 12.21 | -5.01 | .7536 | .1644 | .0984 | .0115 | .0132 | .0158 | .2791 | .2586 | .0035 | .0143 | .0174 |
| 14.47 | -5.12 | .9060 | .2319 | .1152 | .0122 | .0144 | .0128 | .3314 | .3085 | .0041 | .0147 | .0188 |
| 16.80 | -5.12 | 1.0551 | .3139 | .1331 | .0130 | .0172 | .0064 | .3865 | .3640 | .0051 | .0159 | .0217 |
| 19.09 | -4.92 | 1.1939 | .4036 | .1546 | .0130 | .0168 | -.0022 | .4356 | .4123 | .0056 | .0151 | .0214 |
| 21.48 | -4.82 | 1.3141 | .5094 | .1608 | .0069 | .0184 | -.0238 | .4647 | .4455 | .0026 | .0178 | .0228 |
| 23.65 | -5.27 | 1.4074 | .6056 | .1856 | .0082 | .0223 | -.0343 | .5090 | .4936 | .0036 | .0216 | .0297 |
| 25.96 | -4.90 | 1.5102 | .7204 | .2182 | .0079 | .0243 | -.0387 | .5601 | .5505 | .0041 | .0221 | .0318 |
| 28.12 | -5.30 | 1.5635 | .8191 | .2362 | .0051 | .0365 | -.0398 | .5863 | .5878 | .0062 | .0264 | .0415 |
| 30.42 | -4.76 | 1.6136 | .9315 | .2369 | .0043 | .0407 | -.0315 | .5959 | .6130 | .0080 | .0247 | .0437 |
| 32.39 | -5.02 | 1.6187 | 1.0119 | .2404 | .0164 | .0439 | -.0224 | .5939 | .6279 | .0105 | .0302 | .0566 |
| 34.51 | -5.33 | 1.6333 | 1.1054 | .2546 | .0241 | .0430 | -.0202 | .6011 | .6525 | .0118 | .0308 | .0597 |
| 37.14 | -4.62 | 1.6330 | 1.2158 | .2714 | .0272 | .0341 | -.0126 | .6060 | .6824 | .0123 | .0255 | .0526 |
| 38.97 | -4.81 | 1.6165 | 1.2856 | .2684 | .0285 | .0358 | -.0036 | .5987 | .6925 | .0138 | .0258 | .0546 |
| 41.00 | -5.06 | 1.5738 | 1.3449 | .2576 | .0271 | .0347 | .0054 | .5820 | .6959 | .0142 | .0234 | .0517 |
| 1.21 | -4.41 | .0294 | .0189 | .0044 | .0013 | .0086 | .0168 | .0105 | .0096 | .0005 | .0109 | .0095 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78044

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.32 | -.01 | -.2561 | .0337 | -.0378 | .0005 | -.0010 | .0021 | -.0944 | -.0840 | -.0002 | .0004 | .0004 |
| -2.42 | -.00 | -.1198 | .0237 | -.0195 | .0002 | -.0007 | .0014 | -.0434 | -.0390 | -.0002 | .0005 | .0005 |
| -.59 | -.00 | -.0084 | .0204 | -.0051 | .0003 | -.0003 | .0003 | -.0028 | -.0017 | -.0002 | .0007 | .0007 |
| 2.01 | .00 | .1336 | .0230 | .0126 | .0006 | -.0003 | -.0007 | .0468 | .0441 | -.0001 | .0010 | .0013 |
| 4.32 | .01 | .2565 | .0330 | .0299 | .0011 | -.0000 | -.0025 | .0953 | .0873 | -.0000 | .0008 | .0009 |
| 6.29 | .01 | .3675 | .0509 | .0440 | .0008 | .0001 | -.0018 | .1398 | .1285 | .0001 | .0014 | .0019 |
| 8.05 | .01 | .4659 | .0743 | .0571 | .0009 | .0002 | -.0028 | .1798 | .1662 | .0001 | .0014 | .0019 |
| 10.43 | .01 | .6011 | .1163 | .0661 | .0017 | .0005 | -.0037 | .2210 | .2076 | .0002 | .0014 | .0016 |
| 12.31 | .02 | .7289 | .1635 | .0744 | .0015 | .0008 | -.0054 | .2583 | .2440 | .0003 | .0014 | .0019 |
| 14.58 | .03 | .8526 | .2231 | .0832 | .0011 | .0013 | -.0063 | .2969 | .2821 | .0003 | .0013 | .0016 |
| 16.69 | .03 | 1.0065 | .3015 | .0963 | .0010 | .0019 | -.0089 | .3462 | .3300 | .0005 | .0016 | .0023 |
| 18.52 | .02 | 1.1203 | .3733 | .1089 | .0007 | .0019 | -.0104 | .3852 | .3689 | .0004 | .0013 | .0019 |
| 20.67 | .04 | 1.2185 | .4605 | .0983 | .0005 | .0014 | -.0119 | .3950 | .3821 | .0003 | .0010 | .0013 |
| 22.91 | .02 | 1.3154 | .5548 | .1224 | .0014 | .0017 | -.0114 | .4358 | .4261 | .0005 | .0015 | .0025 |
| 24.97 | .03 | 1.3638 | .6305 | .1464 | .0020 | .0018 | -.0133 | .4681 | .4631 | .0005 | .0015 | .0023 |
| 27.18 | .07 | 1.4219 | .7260 | .1777 | .0024 | .0019 | -.0165 | .5110 | .5150 | .0006 | .0013 | .0018 |
| 29.09 | .13 | 1.4487 | .8015 | .2023 | .0028 | .0011 | -.0183 | .5381 | .5521 | .0007 | .0009 | .0013 |
| 31.07 | .13 | 1.4635 | .8781 | .2257 | .0023 | .0017 | -.0153 | .5610 | .5885 | .0006 | .0009 | .0012 |
| 33.09 | .13 | 1.4764 | .9579 | .2368 | .0029 | .0021 | -.0139 | .5673 | .6112 | .0007 | .0016 | .0032 |
| 35.13 | .18 | 1.4764 | 1.0326 | .2425 | .0042 | -.0001 | -.0139 | .5642 | .6275 | .0010 | .0016 | .0033 |
| 36.96 | .19 | 1.4808 | 1.1066 | .2436 | .0061 | -.0030 | -.0080 | .5599 | .6387 | .0032 | .0034 | .0089 |
| 38.87 | .18 | 1.4745 | 1.1769 | .2420 | .0060 | .0039 | .0040 | .5515 | .6466 | .0057 | .0070 | .0184 |
| 41.11 | .18 | 1.4375 | 1.2404 | .2320 | .0056 | .0052 | .0052 | .5327 | .6467 | .0065 | .0073 | .0200 |
| .09 | .00 | -.0097 | .0168 | -.0038 | .0003 | -.0000 | -.0020 | -.0034 | -.0024 | -.0002 | .0003 | -.0002 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78045

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.37 | 4.46 | -.2153 | .0282 | -.0322 | .0049 | -.0121 | -.0206 | -.0788 | -.0702 | .0042 | -.0139 | -.0190 |
| -1.93 | 4.52 | -.1296 | .0214 | -.0218 | .0039 | -.0131 | -.0203 | -.0472 | -.0416 | .0037 | -.0149 | -.0200 |
| -.79 | 4.49 | -.0697 | .0202 | -.0131 | .0022 | -.0120 | -.0210 | -.0238 | -.0202 | .0028 | -.0142 | -.0185 |
| 1.87 | 3.71 | .1220 | .0233 | .0169 | -.0017 | -.0100 | -.0221 | .0454 | .0441 | .0017 | -.0107 | -.0132 |
| 3.51 | 4.16 | .2142 | .0284 | .0277 | -.0036 | -.0104 | -.0243 | .0797 | .0735 | .0017 | -.0115 | -.0146 |
| 4.95 | 5.00 | .2975 | .0379 | .0393 | -.0068 | -.0120 | -.0261 | .1108 | .1015 | .0013 | -.0142 | -.0178 |
| 7.71 | 4.89 | .4517 | .0687 | .0580 | -.0079 | -.0110 | -.0275 | .1731 | .1596 | .0005 | -.0134 | -.0167 |
| 10.15 | 4.94 | .5949 | .1117 | .0700 | -.0074 | -.0112 | -.0295 | .2199 | .2054 | .0000 | -.0138 | -.0176 |
| 12.18 | 5.04 | .7247 | .1602 | .0762 | -.0056 | -.0117 | -.0322 | .2580 | .2429 | -.0004 | -.0146 | -.0194 |
| 14.35 | 5.18 | .8705 | .2253 | .0859 | -.0059 | -.0130 | -.0353 | .3038 | .2877 | -.0012 | -.0157 | -.0212 |
| 16.80 | 5.21 | 1.0232 | .3086 | .0980 | -.0059 | -.0143 | -.0324 | .3521 | .3360 | -.0021 | -.0157 | -.0217 |
| 18.69 | 5.78 | 1.1372 | .3827 | .1079 | -.0059 | -.0180 | -.0307 | .3914 | .3747 | -.0029 | -.0181 | -.0255 |
| 20.88 | 5.23 | 1.2476 | .4764 | .1093 | -.0018 | -.0209 | -.0102 | .4157 | .4023 | -.0023 | -.0213 | -.0317 |
| 23.76 | 5.81 | 1.3577 | .5943 | .1311 | -.0023 | -.0337 | -.0002 | .4628 | .4634 | -.0046 | -.0267 | -.0442 |
| 25.77 | 5.54 | 1.4173 | .6793 | .1488 | .0004 | -.0386 | .0006 | .4884 | .4867 | -.0059 | -.0245 | -.0423 |
| 28.02 | 5.92 | 1.4705 | .7764 | .1743 | -.0020 | -.0501 | -.0021 | .5174 | .5261 | -.0087 | -.0296 | -.0542 |
| 29.85 | 6.28 | 1.4889 | .8474 | .2001 | -.0061 | -.0536 | -.0120 | .5402 | .5595 | -.0106 | -.0329 | -.0619 |
| 32.42 | 5.57 | 1.4822 | .9338 | .2230 | -.0120 | -.0466 | -.0228 | .5529 | .5907 | -.0111 | -.0307 | -.0608 |
| 34.74 | 5.92 | 1.5059 | 1.0337 | .2305 | -.0178 | -.0468 | -.0339 | .5632 | .6190 | -.0133 | -.0330 | -.0677 |
| 36.81 | 6.24 | 1.4944 | 1.1072 | .2360 | -.0214 | -.0442 | -.0395 | .5633 | .6367 | -.0142 | -.0323 | -.0678 |
| 38.96 | 6.53 | 1.4658 | 1.1719 | .2405 | -.0247 | -.0379 | -.0382 | .5554 | .6485 | -.0148 | -.0280 | -.0603 |
| 40.40 | 6.71 | 1.4437 | 1.2140 | .2406 | -.0266 | -.0287 | -.0280 | .5466 | .6531 | -.0129 | -.0216 | -.0464 |
| 1.09 | 4.21 | .0688 | .0190 | .0077 | -.0005 | -.0105 | -.0209 | .0250 | .0248 | .0019 | -.0107 | -.0131 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78046

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.20 | -4.51 | -.1849 | .0263 | -.0240 | -.0047 | .0128 | .0139 | -.0680 | -.0600 | -.0042 | .0128 | .0158 |
| -1.65 | -4.54 | -.0911 | .0217 | -.0109 | -.0030 | .0124 | .0107 | -.0318 | -.0270 | -.0032 | .0120 | .0142 |
| -.61 | -4.81 | -.0396 | .0205 | -.0042 | -.0016 | .0126 | .0090 | -.0143 | -.0115 | -.0028 | .0122 | .0141 |
| 1.88 | -4.18 | .0697 | .0213 | .0076 | .0017 | .0117 | .0242 | .0234 | .0222 | -.0019 | .0125 | .0157 |
| 3.90 | -4.59 | .1944 | .0276 | .0244 | .0047 | .0128 | .0247 | .0693 | .0635 | -.0018 | .0137 | .0176 |
| 5.18 | -4.92 | .2734 | .0365 | .0352 | .0072 | .0136 | .0279 | .1006 | .0926 | -.0014 | .0155 | .0198 |
| 7.52 | -4.98 | .4151 | .0628 | .0546 | .0104 | .0146 | .0283 | .1590 | .1463 | -.0003 | .0170 | .0219 |
| 9.85 | -4.95 | .5423 | .0982 | .0682 | .0107 | .0134 | .0248 | .2017 | .1874 | .0004 | .0155 | .0198 |
| 11.98 | -5.30 | .6810 | .1468 | .0769 | .0103 | .0154 | .0270 | .2443 | .2304 | .0011 | .0182 | .0243 |
| 14.31 | -5.35 | .8317 | .2121 | .0851 | .0093 | .0164 | .0261 | .2904 | .2759 | .0019 | .0188 | .0258 |
| 16.73 | -5.28 | .9888 | .2946 | .0971 | .0096 | .0178 | .0198 | .3415 | .3264 | .0030 | .0184 | .0254 |
| 18.93 | -5.08 | 1.1319 | .3830 | .1065 | .0092 | .0197 | .0143 | .3844 | .3678 | .0035 | .0178 | .0257 |
| 21.16 | -5.01 | 1.2317 | .4739 | .1076 | .0066 | .0249 | -.0124 | .4071 | .3947 | .0034 | .0227 | .0337 |
| 23.33 | -5.45 | 1.3239 | .5653 | .1270 | .0079 | .0336 | -.0229 | .4483 | .4389 | .0051 | .0273 | .0440 |
| 25.72 | -5.13 | 1.4092 | .6700 | .1394 | .0047 | .0396 | -.0293 | .4790 | .4778 | .0068 | .0251 | .0429 |
| 28.00 | -5.53 | 1.4608 | .7659 | .1658 | .0056 | .0509 | -.0260 | .5057 | .5127 | .0092 | .0285 | .0514 |
| 30.44 | -4.98 | 1.4844 | .8595 | .2080 | .0109 | .0479 | -.0201 | .5381 | .5598 | .0109 | .0287 | .0538 |
| 32.52 | -5.24 | 1.4832 | .9309 | .2220 | .0171 | .0480 | -.0112 | .5479 | .5840 | .0129 | .0302 | .0584 |
| 34.27 | -5.48 | 1.4999 | 1.0073 | .2283 | .0227 | .0477 | .0013 | .5552 | .6044 | .0146 | .0328 | .0657 |
| 36.60 | -5.82 | 1.5160 | 1.1080 | .2336 | .0290 | .0460 | .0104 | .5644 | .6356 | .0172 | .0335 | .0687 |
| 38.85 | -4.91 | 1.4876 | 1.1803 | .2369 | .0288 | .0246 | .0002 | .5534 | .6450 | .0139 | .0223 | .0471 |
| 40.85 | -5.10 | 1.4360 | 1.2224 | .2406 | .0266 | .0133 | -.0051 | .5386 | .6476 | .0112 | .0155 | .0328 |
| 1.43 | -5.40 | .0296 | .0142 | .0020 | .0006 | .0107 | .0253 | .0097 | .0104 | -.0020 | .0129 | .0162 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78047

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.31 | .00 | -.0906 | .0165 | -.0792 | -.0002 | .0018 | -.0026 | -.0857 | -.0790 | -.0002 | .0002 | -.0000 |
| -2.44 | .00 | -.0436 | .0133 | -.0400 | -.0001 | .0016 | -.0024 | -.0443 | -.0428 | -.0002 | -.0004 | -.0009 |
| -.31 | .00 | -.0047 | .0120 | -.0047 | -.0001 | .0017 | -.0026 | -.0028 | -.0018 | -.0002 | .0009 | .0010 |
| 1.89 | -.00 | .0365 | .0129 | .0327 | -.0002 | .0016 | -.0011 | .0375 | .0361 | -.0002 | .0011 | .0013 |
| 3.89 | -.00 | .0807 | .0152 | .0696 | .0001 | .0015 | -.0017 | .0758 | .0704 | -.0001 | .0007 | .0006 |
| 5.80 | -.00 | .1248 | .0213 | .1075 | .0001 | .0016 | -.0016 | .1190 | .1106 | -.0000 | .0009 | .0010 |
| 7.97 | -.00 | .1731 | .0316 | .1512 | .0001 | .0018 | -.0015 | .1650 | .1535 | .0000 | .0013 | .0018 |
| 10.21 | -.00 | .2138 | .0440 | .1883 | .0002 | .0016 | -.0013 | .2018 | .1901 | .0001 | .0010 | .0012 |
| 12.22 | -.00 | .2515 | .0594 | .2229 | .0002 | .0017 | -.0011 | .2364 | .2251 | .0002 | .0015 | .0020 |
| 14.16 | -.00 | .2870 | .0771 | .2549 | .0003 | .0017 | -.0016 | .2666 | .2562 | .0002 | .0015 | .0021 |
| 16.04 | -.01 | .3193 | .0958 | .2842 | .0003 | .0016 | .0010 | .2956 | .2869 | .0003 | .0015 | .0019 |
| 18.37 | -.01 | .3555 | .1208 | .3190 | .0005 | .0018 | -.0019 | .3284 | .3229 | .0005 | .0019 | .0028 |
| 20.15 | -.01 | .3638 | .1393 | .3224 | .0008 | .0012 | -.0012 | .3275 | .3267 | .0004 | .0010 | .0011 |
| 22.59 | -.01 | .3815 | .1649 | .3396 | .0005 | .0016 | -.0038 | .3367 | .3448 | .0003 | .0014 | .0018 |
| 24.07 | -.00 | .4032 | .1849 | .3616 | .0006 | .0019 | -.0057 | .3552 | .3667 | .0003 | .0016 | .0022 |
| 26.24 | -.00 | .4372 | .2181 | .3991 | .0006 | .0017 | -.0048 | .3837 | .4024 | .0003 | .0014 | .0019 |
| 28.27 | .00 | .4633 | .2494 | .4337 | .0008 | .0010 | -.0055 | .4061 | .4336 | .0004 | .0006 | .0007 |
| 30.36 | -.01 | .4812 | .2789 | .4625 | .0008 | .0009 | -.0045 | .4194 | .4579 | .0007 | .0010 | .0008 |
| 32.79 | -.02 | .4950 | .3131 | .4893 | .0009 | .0007 | -.0086 | .4267 | .4795 | .0004 | .0000 | -.0014 |
| 34.31 | -.01 | .4977 | .3320 | .5021 | .0008 | .0013 | .0028 | .4269 | .4904 | .0013 | .0020 | .0033 |
| 36.48 | -.02 | .4993 | .3577 | .5072 | .0025 | .0062 | .0288 | .4188 | .4970 | .0038 | .0084 | .0190 |
| 38.45 | -.00 | .5040 | .3850 | .5189 | .0041 | .0084 | .0253 | .4177 | .5097 | .0047 | .0092 | .0220 |
| 40.37 | -.02 | .5044 | .4105 | .5293 | .0033 | .0062 | .0065 | .4153 | .5203 | .0031 | .0060 | .0148 |
| -.05 | .00 | -.0061 | .0109 | -.0043 | -.0002 | .0016 | .0003 | -.0018 | -.0008 | -.0002 | .0007 | .0005 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78048

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.45 | 4.64 | -.0826 | .0153 | -.0706 | .0042 | -.0118 | -.0216 | -.0736 | -.0671 | .0044 | -.0135 | -.0182 |
| -1.91 | 4.46 | -.0504 | .0129 | -.0431 | .0035 | -.0120 | -.0206 | -.0431 | -.0388 | .0035 | -.0138 | -.0182 |
| -.75 | 4.56 | -.0296 | .0131 | -.0245 | .0028 | -.0121 | -.0198 | -.0230 | -.0205 | .0028 | -.0134 | -.0171 |
| 1.73 | 4.00 | .0346 | .0130 | .0318 | .0018 | -.0109 | -.0239 | .0360 | .0351 | .0018 | -.0115 | -.0145 |
| 3.20 | 4.19 | .0658 | .0145 | .0604 | .0018 | -.0117 | -.0250 | .0666 | .0623 | .0017 | -.0123 | -.0160 |
| 4.98 | 4.85 | .1084 | .0188 | .0934 | .0015 | -.0135 | -.0272 | .1030 | .0957 | .0013 | -.0141 | -.0179 |
| 7.29 | 4.85 | .1631 | .0285 | .1429 | .0010 | -.0139 | -.0274 | .1557 | .1444 | .0008 | -.0142 | -.0181 |
| 9.59 | 4.89 | .2114 | .0425 | .1841 | -.0001 | -.0143 | -.0268 | .1982 | .1861 | -.0003 | -.0139 | -.0174 |
| 12.19 | 4.93 | .2518 | .0583 | .2225 | -.0003 | -.0138 | -.0252 | .2346 | .2229 | -.0004 | -.0134 | -.0171 |
| 13.68 | 5.02 | .2823 | .0730 | .2504 | -.0007 | -.0147 | -.0261 | .2636 | .2529 | -.0009 | -.0144 | -.0192 |
| 16.09 | 5.23 | .3275 | .0981 | .2870 | -.0019 | -.0165 | -.0264 | .3009 | .2922 | -.0019 | -.0155 | -.0209 |
| 18.23 | 5.22 | .3615 | .1223 | .3175 | -.0030 | -.0183 | -.0234 | .3290 | .3235 | -.0026 | -.0156 | -.0217 |
| 20.36 | 5.73 | .3786 | .1459 | .3228 | -.0034 | -.0250 | -.0052 | .3322 | .3329 | -.0023 | -.0208 | -.0306 |
| 22.64 | 5.28 | .3904 | .1683 | .3363 | -.0060 | -.0222 | .0071 | .3365 | .3444 | -.0033 | -.0148 | -.0211 |
| 24.99 | 5.72 | .4233 | .1997 | .3693 | -.0077 | -.0235 | .0098 | .3608 | .3753 | -.0046 | -.0158 | -.0226 |
| 27.22 | 5.28 | .4566 | .2358 | .4113 | -.0077 | -.0202 | .0107 | .3907 | .4137 | -.0049 | -.0139 | -.0200 |
| 29.18 | 5.56 | .4812 | .2668 | .4407 | -.0080 | -.0190 | .0093 | .4107 | .4429 | -.0057 | -.0137 | -.0199 |
| 31.11 | 5.91 | .5013 | .2983 | .4701 | -.0068 | -.0164 | .0043 | .4253 | .4684 | -.0064 | -.0143 | -.0210 |
| 33.36 | 5.30 | .5075 | .3270 | .4951 | -.0043 | -.0117 | -.0072 | .4304 | .4883 | -.0061 | -.0127 | -.0196 |
| 35.96 | 5.55 | .5035 | .3546 | .5106 | .0003 | -.0038 | -.0162 | .4250 | .4992 | -.0056 | -.0101 | -.0144 |
| 37.75 | 5.78 | .1184 | .0878 | .1214 | .0013 | .0009 | -.0030 | .0986 | .1185 | -.0008 | -.0014 | -.0014 |
| 39.95 | 6.09 | .5289 | .4252 | .5406 | .0146 | .0149 | -.0320 | .4317 | .5358 | -.0016 | -.0025 | .0015 |
| 1.18 | 4.42 | .0203 | .0105 | .0200 | .0018 | -.0109 | -.0240 | .0219 | .0219 | .0019 | -.0111 | -.0139 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78049

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.33 | -4.54 | -.0606 | .0146 | -.0550 | -.0042 | .0132 | .0186 | -.0584 | -.0529 | -.0043 | .0136 | .0174 |
| -1.63 | -4.65 | -.0256 | .0137 | -.0232 | -.0032 | .0128 | .0146 | -.0238 | -.0205 | -.0032 | .0131 | .0164 |
| -.75 | -4.61 | -.0092 | .0135 | -.0085 | -.0028 | .0122 | .0129 | -.0090 | -.0066 | -.0027 | .0129 | .0159 |
| 1.98 | -3.97 | .0299 | .0137 | .0239 | -.0021 | .0118 | .0177 | .0277 | .0273 | -.0020 | .0114 | .0136 |
| 3.63 | -4.25 | .0647 | .0155 | .0544 | -.0020 | .0138 | .0215 | .0624 | .0580 | -.0018 | .0135 | .0171 |
| 5.25 | -4.68 | .1037 | .0196 | .0890 | -.0014 | .0155 | .0242 | .0981 | .0908 | -.0013 | .0151 | .0187 |
| 7.20 | -4.73 | .1508 | .0273 | .1302 | -.0009 | .0160 | .0250 | .1419 | .1312 | -.0006 | .0158 | .0200 |
| 9.34 | -5.02 | .1946 | .0388 | .1707 | -.0000 | .0166 | .0255 | .1824 | .1704 | .0003 | .0163 | .0202 |
| 11.67 | -4.89 | .2440 | .0562 | .2137 | .0006 | .0172 | .0240 | .2251 | .2130 | .0008 | .0166 | .0214 |
| 13.90 | -4.87 | .2842 | .0751 | .2493 | .0012 | .0180 | .0252 | .2614 | .2507 | .0015 | .0173 | .0232 |
| 16.06 | -4.89 | .3229 | .0967 | .2826 | .0025 | .0188 | .0251 | .2952 | .2864 | .0025 | .0175 | .0238 |
| 18.35 | -4.80 | .3602 | .1226 | .3163 | .0036 | .0195 | .0215 | .3267 | .3208 | .0033 | .0175 | .0244 |
| 20.39 | -5.26 | .3735 | .1435 | .3195 | .0042 | .0264 | .0035 | .3276 | .3275 | .0029 | .0223 | .0322 |
| 22.68 | -4.97 | .3918 | .1684 | .3365 | .0064 | .0250 | -.0118 | .3361 | .3434 | .0038 | .0178 | .0261 |
| 24.84 | -5.38 | .4257 | .1998 | .3651 | .0083 | .0257 | -.0157 | .3593 | .3731 | .0051 | .0180 | .0256 |
| 27.18 | -4.72 | .4582 | .2355 | .4080 | .0084 | .0212 | -.0206 | .3897 | .4115 | .0056 | .0146 | .0206 |
| 29.55 | -5.07 | .4871 | .2727 | .4445 | .0081 | .0188 | -.0171 | .4116 | .4442 | .0065 | .0147 | .0206 |
| 31.49 | -5.37 | .5033 | .3027 | .4685 | .0071 | .0156 | -.0115 | .4239 | .4679 | .0072 | .0143 | .0198 |
| 33.65 | -4.84 | .5085 | .3313 | .4939 | .0048 | .0103 | -.0023 | .4280 | .4860 | .0071 | .0122 | .0172 |
| 35.91 | -5.00 | .5071 | .3570 | .5097 | .0005 | .0041 | .0086 | .4266 | .4995 | .0068 | .0109 | .0148 |
| 38.05 | -5.26 | .5117 | .3866 | .5261 | -.0046 | -.0034 | .0194 | .4265 | .5140 | .0062 | .0084 | .0094 |
| 39.93 | -5.46 | .5193 | .4166 | .5394 | -.0108 | -.0110 | .0285 | .4273 | .5288 | .0044 | .0054 | .0032 |
| 1.12 | -4.25 | .0050 | .0120 | .0052 | -.0021 | .0115 | .0170 | .0069 | .0070 | -.0020 | .0113 | .0134 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78051

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.22 | .01 | -.2490 | .0319 | -.0295 | .0003 | .0009 | .0032 | -.0910 | -.0834 | .0005 | .0017 | .0026 |
| -2.31 | .00 | -.1312 | .0222 | -.0150 | .0004 | .0013 | .0030 | -.0451 | -.0422 | .0006 | .0018 | .0027 |
| -.18 | .00 | -.0172 | .0181 | .0002 | .0005 | .0011 | .0012 | -.0044 | -.0046 | .0006 | .0018 | .0028 |
| 2.04 | -.00 | .1159 | .0211 | .0157 | .0009 | .0012 | .0019 | .0410 | .0372 | .0007 | .0019 | .0029 |
| 4.10 | -.01 | .2416 | .0308 | .0333 | .0012 | .0010 | .0009 | .0882 | .0788 | .0009 | .0020 | .0033 |
| 6.28 | -.01 | .3911 | .0532 | .0514 | .0013 | .0014 | -.0002 | .1434 | .1282 | .0010 | .0018 | .0032 |
| 8.49 | -.02 | .5470 | .0874 | .0721 | .0011 | .0017 | -.0020 | .2005 | .1805 | .0009 | .0020 | .0036 |
| 10.62 | -.03 | .6800 | .1309 | .0874 | .0016 | .0018 | -.0028 | .2463 | .2249 | .0010 | .0022 | .0042 |
| 12.56 | -.03 | .8128 | .1817 | .1013 | .0019 | .0018 | -.0046 | .2924 | .2690 | .0010 | .0021 | .0042 |
| 14.72 | -.01 | .9566 | .2483 | .1156 | .0020 | .0014 | -.0053 | .3408 | .3160 | .0012 | .0022 | .0047 |
| 16.73 | .00 | 1.0852 | .3196 | .1321 | .0020 | .0019 | -.0057 | .3853 | .3604 | .0012 | .0020 | .0044 |
| 18.87 | .00 | 1.2208 | .4072 | .1478 | .0018 | .0016 | -.0067 | .4322 | .4086 | .0013 | .0022 | .0049 |
| 21.13 | .00 | 1.3529 | .5092 | .1659 | .0026 | .0019 | -.0093 | .4802 | .4596 | .0014 | .0022 | .0052 |
| 23.01 | .03 | 1.4564 | .6010 | .1855 | .0025 | .0019 | -.0116 | .5224 | .5043 | .0015 | .0021 | .0053 |
| 25.15 | .00 | 1.5611 | .7113 | .2100 | .0023 | .0021 | -.0139 | .5702 | .5541 | .0015 | .0022 | .0053 |
| 27.39 | .00 | 1.6261 | .8235 | .1814 | .0037 | .0021 | -.0104 | .5477 | .5455 | .0025 | .0015 | .0055 |
| 29.56 | .01 | 1.6853 | .9335 | .1965 | .0045 | .0012 | -.0108 | .5666 | .5777 | .0024 | .0013 | .0049 |
| 31.51 | .02 | 1.7170 | 1.0279 | .2155 | .0055 | .0005 | -.0098 | .5848 | .6104 | .0029 | .0009 | .0045 |
| 33.46 | .04 | 1.7264 | 1.1156 | .2208 | .0041 | .0014 | -.0082 | .5930 | .6348 | .0032 | .0012 | .0053 |
| 35.54 | .04 | 1.6618 | 1.1709 | .1734 | .0004 | .0096 | -.0022 | .5611 | .6239 | .0030 | .0026 | .0065 |
| 37.46 | .03 | 1.5927 | 1.2070 | .1653 | -.0005 | .0162 | -.0035 | .5362 | .6155 | .0032 | .0061 | .0128 |
| 39.14 | .06 | 1.5414 | 1.2407 | .1637 | .0012 | .0156 | -.0015 | .5207 | .6133 | .0038 | .0067 | .0145 |
| 41.21 | .07 | 1.4845 | 1.2847 | .1676 | .0040 | .0108 | -.0024 | .5061 | .6157 | .0039 | .0050 | .0117 |
| .06 | .00 | -.0161 | .0168 | .0007 | .0006 | .0010 | .0020 | -.0050 | -.0051 | .0006 | .0015 | .0021 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78052

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.46 | 4.56 | -.2232 | .0278 | -.0284 | .0043 | -.0124 | -.0137 | -.0795 | -.0730 | -.0019 | -.0130 | -.0158 |
| -1.90 | 4.16 | -.1395 | .0212 | -.0174 | .0020 | -.0115 | -.0133 | -.0479 | -.0445 | -.0022 | -.0120 | -.0147 |
| -.76 | 4.24 | -.0782 | .0197 | -.0088 | .0006 | -.0112 | -.0144 | -.0251 | -.0237 | -.0024 | -.0120 | -.0145 |
| 1.99 | 3.86 | .1162 | .0214 | .0195 | -.0015 | -.0097 | -.0242 | .0436 | .0398 | -.0017 | -.0105 | -.0130 |
| 3.66 | 4.25 | .2266 | .0289 | .0330 | -.0034 | -.0110 | -.0284 | .0840 | .0753 | -.0028 | -.0118 | -.0157 |
| 5.26 | 4.80 | .3306 | .0413 | .0458 | -.0050 | -.0121 | -.0304 | .1215 | .1089 | -.0037 | -.0130 | -.0171 |
| 7.52 | 4.95 | .4890 | .0712 | .0640 | -.0065 | -.0129 | -.0325 | .1780 | .1603 | -.0041 | -.0133 | -.0179 |
| 9.92 | 5.04 | .6415 | .1145 | .0831 | -.0068 | -.0129 | -.0312 | .2310 | .2100 | -.0042 | -.0132 | -.0183 |
| 12.36 | 4.95 | .7976 | .1744 | .1008 | -.0097 | -.0134 | -.0324 | .2851 | .2622 | -.0052 | -.0131 | -.0194 |
| 14.58 | 4.81 | .9470 | .2433 | .1187 | -.0100 | -.0131 | -.0300 | .3365 | .3120 | -.0054 | -.0127 | -.0194 |
| 17.01 | 4.88 | 1.1041 | .3309 | .1368 | -.0103 | -.0135 | -.0296 | .3915 | .3669 | -.0062 | -.0130 | -.0207 |
| 19.30 | 5.51 | 1.2371 | .4224 | .1511 | -.0121 | -.0159 | -.0287 | .4385 | .4152 | -.0075 | -.0145 | -.0237 |
| 21.67 | 5.04 | 1.3563 | .5272 | .1477 | -.0026 | -.0149 | -.0014 | .4580 | .4398 | -.0024 | -.0141 | -.0174 |
| 23.71 | 5.49 | 1.4431 | .6203 | .1513 | .0003 | -.0206 | .0064 | .4826 | .4709 | -.0023 | -.0182 | -.0236 |
| 26.25 | 5.15 | 1.5567 | .7505 | .1737 | .0033 | -.0222 | .0010 | .5327 | .5282 | -.0026 | -.0185 | -.0244 |
| 28.38 | 5.46 | 1.6204 | .8554 | .1894 | .0022 | -.0287 | .0018 | .5590 | .5646 | -.0042 | -.0219 | -.0316 |
| 30.47 | 5.89 | 1.5762 | .9110 | .1770 | .0093 | -.0561 | -.0170 | .5464 | .5671 | -.0059 | -.0303 | -.0471 |
| 32.77 | 5.44 | 1.5941 | 1.0088 | .1831 | .0066 | -.0593 | -.0288 | .5505 | .5882 | -.0070 | -.0299 | -.0494 |
| 34.71 | 5.73 | 1.6184 | 1.0989 | .1964 | .0009 | -.0585 | -.0339 | .5620 | .6161 | -.0082 | -.0307 | -.0520 |
| 37.01 | 6.06 | 1.6112 | 1.1876 | .2043 | -.0017 | -.0606 | -.0433 | .5635 | .6370 | -.0095 | -.0320 | -.0550 |
| 39.15 | 6.34 | 1.5751 | 1.2509 | .2097 | -.0029 | -.0586 | -.0532 | .5561 | .6492 | -.0107 | -.0315 | -.0563 |
| 40.73 | 6.58 | 1.5462 | 1.2970 | .2130 | -.0025 | -.0531 | -.0666 | .5479 | .6564 | -.0111 | -.0302 | -.0556 |
| 1.18 | 4.14 | .0617 | .0183 | .0133 | -.0003 | -.0096 | -.0236 | .0247 | .0226 | -.0013 | -.0104 | -.0126 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78054

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -2.84 | -4.42 | -.1663 | .0234 | -.0171 | -.0020 | .0119 | .0172 | -.0611 | -.0578 | .0032 | .0142 | .0181 |
| -1.92 | -4.83 | -.1054 | .0218 | -.0085 | -.0008 | .0119 | .0148 | -.0392 | -.0389 | .0033 | .0136 | .0171 |
| -.60 | -4.72 | -.0341 | .0200 | .0022 | .0011 | .0116 | .0142 | -.0086 | -.0084 | .0035 | .0137 | .0173 |
| 2.05 | -4.57 | .0757 | .0206 | .0125 | .0024 | .0112 | .0245 | .0275 | .0240 | .0030 | .0136 | .0174 |
| 3.91 | -4.77 | .1962 | .0283 | .0286 | .0055 | .0125 | .0266 | .0688 | .0593 | .0046 | .0143 | .0194 |
| 5.50 | -4.93 | .3044 | .0411 | .0411 | .0076 | .0138 | .0292 | .1110 | .0985 | .0054 | .0159 | .0223 |
| 7.73 | -5.34 | .4601 | .0700 | .0593 | .0098 | .0155 | .0298 | .1667 | .1496 | .0063 | .0175 | .0253 |
| 9.91 | -5.31 | .6088 | .1099 | .0784 | .0101 | .0157 | .0297 | .2183 | .1972 | .0063 | .0174 | .0260 |
| 12.16 | -5.27 | .7586 | .1645 | .0977 | .0137 | .0165 | .0281 | .2714 | .2489 | .0075 | .0183 | .0291 |
| 14.60 | -5.14 | .9200 | .2369 | .1170 | .0152 | .0172 | .0224 | .3275 | .3031 | .0081 | .0178 | .0294 |
| 16.89 | -5.15 | 1.0634 | .3160 | .1344 | .0157 | .0170 | .0199 | .3741 | .3484 | .0088 | .0176 | .0303 |
| 19.57 | -5.10 | 1.2287 | .4250 | .1527 | .0148 | .0184 | .0117 | .4350 | .4118 | .0095 | .0178 | .0317 |
| 21.48 | -5.57 | 1.3118 | .5043 | .1444 | .0086 | .0205 | -.0153 | .4408 | .4213 | .0058 | .0199 | .0299 |
| 23.71 | -5.29 | 1.4208 | .6108 | .1503 | .0039 | .0235 | -.0264 | .4739 | .4617 | .0047 | .0219 | .0328 |
| 25.82 | -5.71 | 1.4949 | .7081 | .1629 | .0011 | .0306 | -.0227 | .5072 | .5022 | .0059 | .0259 | .0399 |
| 28.23 | -5.04 | 1.6101 | .8445 | .1928 | .0042 | .0281 | -.0206 | .5593 | .5627 | .0069 | .0246 | .0398 |
| 30.55 | -5.43 | 1.5773 | .9132 | .1857 | -.0021 | .0549 | -.0058 | .5512 | .5705 | .0089 | .0332 | .0559 |
| 32.46 | -5.77 | 1.5645 | .9766 | .1870 | -.0012 | .0656 | .0155 | .5471 | .5800 | .0124 | .0367 | .0654 |
| 34.92 | -5.17 | 1.5879 | 1.0874 | .1966 | .0068 | .0604 | .0207 | .5499 | .6028 | .0134 | .0343 | .0647 |
| 37.06 | -5.45 | 1.5998 | 1.1820 | .2059 | .0127 | .0594 | .0278 | .5594 | .6302 | .0156 | .0355 | .0689 |
| 39.06 | -5.70 | 1.5760 | 1.2482 | .2122 | .0110 | .0603 | .0362 | .5565 | .6451 | .0158 | .0359 | .0699 |
| 41.12 | -5.97 | 1.5353 | 1.3043 | .2166 | .0079 | .0540 | .0544 | .5447 | .6542 | .0155 | .0341 | .0679 |
| 1.27 | -4.80 | .0234 | .0182 | .0058 | .0010 | .0111 | .0254 | .0103 | .0082 | .0024 | .0133 | .0167 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78055

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.50 | -.00 | -.0880 | .0164 | -.0797 | .0006 | .0011 | .0012 | -.0839 | -.0787 | .0005 | .0009 | .0015 |
| -2.41 | -.00 | -.0402 | .0135 | -.0369 | .0006 | .0011 | .0005 | -.0369 | -.0353 | .0005 | .0009 | .0014 |
| -.36 | -.00 | -.0011 | .0110 | -.0044 | .0008 | .0005 | .0022 | -.0076 | -.0104 | .0006 | -.0002 | -.0002 |
| 1.87 | .00 | .0427 | .0134 | .0347 | .0008 | .0007 | .0008 | .0387 | .0354 | .0006 | .0009 | .0015 |
| 3.79 | .00 | .0847 | .0155 | .0696 | .0009 | .0006 | .0019 | .0762 | .0686 | .0008 | .0006 | .0013 |
| 5.94 | .00 | .1305 | .0223 | .1107 | .0009 | .0006 | .0013 | .1225 | .1120 | .0009 | .0014 | .0027 |
| 7.94 | .00 | .1784 | .0319 | .1528 | .0010 | .0007 | .0021 | .1660 | .1518 | .0009 | .0010 | .0022 |
| 9.88 | -.00 | .2170 | .0436 | .1880 | .0007 | .0004 | .0017 | .2004 | .1858 | .0005 | .0006 | .0016 |
| 12.05 | .00 | .2602 | .0603 | .2271 | .0006 | .0006 | .0010 | .2411 | .2271 | .0008 | .0013 | .0028 |
| 13.99 | .00 | .2977 | .0775 | .2621 | .0006 | .0004 | .0012 | .2743 | .2608 | .0007 | .0010 | .0025 |
| 16.57 | .00 | .3432 | .1037 | .3057 | .0005 | .0002 | .0013 | .3139 | .3033 | .0007 | .0010 | .0025 |
| 18.33 | .00 | .3650 | .1210 | .3314 | .0005 | .0004 | .0009 | .3363 | .3301 | .0007 | .0015 | .0031 |
| 20.31 | .00 | .3882 | .1436 | .3551 | .0003 | .0005 | -.0003 | .3539 | .3525 | .0005 | .0014 | .0029 |
| 22.21 | -.00 | .3551 | .1499 | .3270 | -.0004 | .0007 | -.0021 | .3134 | .3207 | -.0001 | .0019 | .0033 |
| 24.16 | .00 | .3598 | .1659 | .3379 | .0002 | .0003 | .0015 | .3140 | .3290 | .0007 | .0018 | .0038 |
| 26.11 | .01 | .3835 | .1905 | .3611 | .0000 | -.0001 | .0033 | .3282 | .3486 | .0007 | .0014 | .0032 |
| 28.00 | .00 | .4014 | .2143 | .3833 | .0002 | -.0004 | .0053 | .3420 | .3696 | .0009 | .0011 | .0031 |
| 30.43 | .02 | .4141 | .2417 | .4031 | .0001 | -.0008 | .0094 | .3494 | .3885 | .0012 | .0011 | .0035 |
| 32.44 | .00 | .4205 | .2637 | .4167 | .0002 | -.0011 | .0139 | .3534 | .4043 | .0018 | .0014 | .0044 |
| 34.36 | -.01 | .4232 | .2824 | .4287 | -.0001 | -.0021 | .0161 | .3531 | .4145 | .0019 | .0004 | .0027 |
| 36.26 | .00 | .4345 | .3087 | .4384 | -.0003 | -.0018 | .0188 | .3535 | .4252 | .0017 | .0009 | .0031 |
| 38.36 | .01 | .4377 | .3332 | .4465 | -.0001 | -.0008 | .0181 | .3514 | .4353 | .0021 | .0020 | .0052 |
| 40.06 | .01 | .4422 | .3556 | .4535 | .0001 | -.0003 | .0211 | .3509 | .4450 | .0026 | .0027 | .0067 |
| -.12 | -.00 | -.0060 | .0108 | -.0048 | .0007 | .0008 | .0005 | -.0039 | -.0044 | .0006 | .0004 | .0004 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78056

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.34 | 4.57 | -.0703 | .0135 | -.0669 | -.0013 | -.0130 | -.0197 | -.0698 | -.0663 | -.0012 | -.0148 | -.0193 |
| -1.61 | 4.40 | -.0435 | .0124 | -.0360 | -.0015 | -.0123 | -.0191 | -.0360 | -.0348 | -.0015 | -.0140 | -.0180 |
| -.89 | 4.39 | -.0267 | .0122 | -.0241 | -.0015 | -.0123 | -.0185 | -.0228 | -.0227 | -.0016 | -.0139 | -.0178 |
| 1.84 | 3.75 | .0377 | .0130 | .0359 | -.0024 | -.0112 | -.0215 | .0383 | .0349 | -.0026 | -.0110 | -.0132 |
| 3.62 | 3.95 | .0771 | .0149 | .0697 | -.0032 | -.0114 | -.0239 | .0747 | .0677 | -.0034 | -.0117 | -.0150 |
| 5.24 | 4.54 | .1128 | .0192 | .1017 | -.0037 | -.0129 | -.0276 | .1089 | .0986 | -.0043 | -.0134 | -.0177 |
| 7.24 | 4.87 | .1596 | .0274 | .1420 | -.0045 | -.0133 | -.0310 | .1522 | .1387 | -.0050 | -.0141 | -.0190 |
| 9.70 | 4.74 | .2126 | .0417 | .1862 | -.0037 | -.0127 | -.0308 | .1981 | .1838 | -.0045 | -.0135 | -.0183 |
| 11.66 | 4.83 | .2500 | .0564 | .2199 | -.0045 | -.0128 | -.0335 | .2327 | .2193 | -.0053 | -.0136 | -.0195 |
| 14.07 | 4.85 | .2954 | .0774 | .2616 | -.0045 | -.0132 | -.0306 | .2739 | .2618 | -.0053 | -.0137 | -.0199 |
| 16.35 | 5.02 | .3406 | .1019 | .2981 | -.0047 | -.0148 | -.0247 | .3093 | .2995 | -.0053 | -.0142 | -.0208 |
| 18.66 | 4.88 | .3737 | .1267 | .3306 | -.0041 | -.0146 | -.0172 | .3349 | .3288 | -.0046 | -.0139 | -.0200 |
| 20.89 | 5.46 | .3681 | .1425 | .3266 | -.0001 | -.0192 | .0100 | .3189 | .3241 | -.0009 | -.0190 | -.0229 |
| 22.75 | 5.14 | .3915 | .1647 | .3490 | -.0009 | -.0185 | .0065 | .3343 | .3438 | -.0021 | -.0192 | -.0245 |
| 25.22 | 5.67 | .3904 | .1860 | .3562 | -.0045 | -.0157 | -.0215 | .3317 | .3482 | -.0068 | -.0181 | -.0271 |
| 27.07 | 5.01 | .3996 | .2053 | .3744 | -.0043 | -.0109 | -.0292 | .3406 | .3649 | -.0073 | -.0142 | -.0227 |
| 29.27 | 5.39 | .4171 | .2326 | .3988 | -.0037 | -.0092 | -.0440 | .3538 | .3869 | -.0091 | -.0159 | -.0271 |
| 31.75 | 5.81 | .4268 | .2593 | .4197 | -.0018 | -.0066 | -.0607 | .3595 | .4053 | -.0104 | -.0175 | -.0311 |
| 33.71 | 6.14 | .4358 | .2837 | .4344 | .0008 | -.0059 | -.0807 | .3608 | .4183 | -.0112 | -.0208 | -.0369 |
| 35.84 | 5.35 | .4412 | .3084 | .4446 | .0029 | -.0040 | -.0759 | .3595 | .4303 | -.0091 | -.0180 | -.0318 |
| 37.92 | 5.60 | .4498 | .3367 | .4565 | .0061 | -.0004 | -.0928 | .3611 | .4450 | -.0094 | -.0175 | -.0320 |
| 39.79 | 5.83 | .4601 | .3654 | .4646 | .0100 | .0018 | -.1115 | .3620 | .4575 | -.0093 | -.0185 | -.0341 |
| 1.28 | 3.94 | .0244 | .0114 | .0240 | -.0020 | -.0107 | -.0205 | .0246 | .0224 | -.0022 | -.0107 | -.0127 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78057

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.33 | -4.56 | -.0624 | .0145 | -.0534 | .0026 | .0133 | .0178 | -.0569 | -.0534 | .0023 | .0139 | .0181 |
| -1.98 | -4.10 | -.0373 | .0126 | -.0303 | .0024 | .0117 | .0151 | -.0326 | -.0317 | .0022 | .0121 | .0156 |
| -.41 | -4.35 | -.0146 | .0129 | -.0096 | .0025 | .0114 | .0144 | -.0095 | -.0094 | .0024 | .0128 | .0168 |
| 2.08 | -3.09 | .0452 | .0167 | .0372 | .0034 | .0089 | .0085 | .0391 | .0392 | .0033 | .0078 | .0082 |
| 3.89 | -4.26 | .0667 | .0150 | .0619 | .0047 | .0130 | .0230 | .0670 | .0614 | .0049 | .0124 | .0163 |
| 5.59 | -4.46 | .1092 | .0198 | .0986 | .0053 | .0130 | .0281 | .1058 | .0961 | .0054 | .0133 | .0183 |
| 7.38 | -4.65 | .1489 | .0269 | .1345 | .0058 | .0135 | .0326 | .1446 | .1321 | .0062 | .0145 | .0207 |
| 9.77 | -4.47 | .2029 | .0411 | .1795 | .0050 | .0128 | .0324 | .1920 | .1783 | .0056 | .0143 | .0209 |
| 11.83 | -4.55 | .2472 | .0563 | .2175 | .0056 | .0127 | .0363 | .2275 | .2131 | .0062 | .0143 | .0220 |
| 14.05 | -4.54 | .2899 | .0760 | .2558 | .0056 | .0137 | .0343 | .2673 | .2549 | .0062 | .0150 | .0234 |
| 16.57 | -4.54 | .3405 | .1032 | .2967 | .0055 | .0147 | .0270 | .3066 | .2973 | .0061 | .0152 | .0238 |
| 18.95 | -4.44 | .3712 | .1279 | .3310 | .0045 | .0143 | .0188 | .3338 | .3289 | .0054 | .0155 | .0239 |
| 20.84 | -4.87 | .3644 | .1398 | .3220 | .0006 | .0177 | -.0058 | .3146 | .3187 | .0017 | .0193 | .0250 |
| 22.84 | -4.52 | .3892 | .1638 | .3475 | .0010 | .0167 | -.0002 | .3317 | .3400 | .0026 | .0194 | .0269 |
| 25.23 | -4.97 | .3867 | .1844 | .3547 | .0044 | .0142 | .0260 | .3291 | .3452 | .0072 | .0185 | .0296 |
| 27.21 | -4.49 | .3984 | .2060 | .3751 | .0046 | .0099 | .0373 | .3406 | .3654 | .0088 | .0162 | .0284 |
| 29.37 | -4.79 | .4126 | .2317 | .3985 | .0039 | .0063 | .0572 | .3509 | .3846 | .0109 | .0163 | .0308 |
| 31.57 | -5.16 | .4228 | .2554 | .4166 | .0027 | .0040 | .0764 | .3556 | .3992 | .0124 | .0174 | .0344 |
| 33.51 | -5.40 | .4267 | .2764 | .4296 | .0008 | .0024 | .0945 | .3572 | .4125 | .0141 | .0193 | .0388 |
| 35.93 | -5.74 | .4373 | .3061 | .4447 | -.0022 | .0001 | .1137 | .3588 | .4290 | .0152 | .0208 | .0427 |
| 37.95 | -6.00 | .4492 | .3353 | .4568 | -.0050 | -.0027 | .1363 | .3618 | .4436 | .0164 | .0211 | .0454 |
| 40.12 | -4.96 | .4527 | .3636 | .4620 | -.0082 | -.0042 | .1207 | .3585 | .4552 | .0125 | .0173 | .0371 |
| 1.28 | -4.57 | .0045 | .0119 | .0108 | .0035 | .0121 | .0205 | .0132 | .0117 | .0033 | .0117 | .0139 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78114

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.20 | .01 | -.2462 | .0323 | -.0485 | -.0010 | .0010 | .0036 | -.0947 | -.1004 | .0001 | .0013 | .0017 |
| -2.39 | .00 | -.1245 | .0238 | -.0230 | -.0008 | .0011 | .0026 | -.0458 | -.0495 | .0001 | .0012 | .0015 |
| -.36 | .00 | -.0111 | .0199 | -.0003 | -.0004 | .0011 | .0021 | -.0024 | -.0047 | .0002 | .0011 | .0013 |
| 2.25 | -.00 | .1419 | .0239 | .0322 | .0001 | .0015 | .0008 | .0567 | .0569 | .0005 | .0013 | .0014 |
| 4.05 | -.01 | .2511 | .0331 | .0562 | .0002 | .0008 | -.0002 | .0997 | .1007 | .0004 | .0010 | .0011 |
| 6.16 | -.01 | .3977 | .0549 | .0809 | .0004 | .0017 | -.0013 | .1528 | .1551 | .0004 | .0013 | .0016 |
| 8.16 | -.01 | .5352 | .0858 | .0995 | .0006 | .0020 | -.0026 | .1985 | .2046 | .0005 | .0016 | .0020 |
| 10.65 | -.00 | .6861 | .1356 | .1232 | -.0000 | .0018 | -.0046 | .2480 | .2575 | .0005 | .0014 | .0019 |
| 12.53 | -.00 | .8169 | .1871 | .1375 | .0001 | .0020 | -.0056 | .2890 | .3018 | .0004 | .0012 | .0015 |
| 14.92 | .00 | .9689 | .2618 | .1568 | .0006 | .0021 | -.0059 | .3380 | .3557 | .0004 | .0015 | .0019 |
| 16.67 | -.01 | 1.0771 | .3259 | .1642 | .0003 | .0027 | -.0058 | .3678 | .3889 | .0002 | .0020 | .0027 |
| 18.75 | -.00 | 1.1896 | .4063 | .1770 | -.0000 | .0030 | -.0098 | .3988 | .4272 | .0002 | .0021 | .0027 |
| 21.11 | .00 | 1.3104 | .5067 | .1985 | -.0005 | .0032 | -.0100 | .4437 | .4811 | -.0001 | .0021 | .0027 |
| 23.11 | .01 | 1.4068 | .5994 | .2174 | .0002 | .0032 | -.0127 | .4806 | .5274 | -.0001 | .0024 | .0031 |
| 24.89 | -.03 | 1.4906 | .6891 | .2348 | .0012 | .0026 | -.0134 | .5143 | .5704 | -.0002 | .0020 | .0025 |
| 27.40 | .01 | 1.6017 | .8249 | .2540 | .0022 | .0027 | -.0136 | .5581 | .6297 | .0000 | .0024 | .0034 |
| 29.20 | .02 | 1.6688 | .9250 | .2664 | .0033 | .0027 | -.0139 | .5838 | .6681 | .0002 | .0023 | .0036 |
| 31.25 | .02 | 1.7288 | 1.0399 | .2742 | .0029 | .0021 | -.0148 | .6071 | .7075 | .0003 | .0019 | .0029 |
| 33.55 | .06 | 1.7105 | 1.1295 | .2804 | .0098 | -.0102 | -.0172 | .6142 | .7341 | .0007 | -.0001 | .0002 |
| 35.64 | .11 | 1.6644 | 1.1882 | .2973 | .0159 | -.0261 | -.0187 | .6107 | .7475 | .0010 | -.0028 | -.0037 |
| 37.17 | .11 | 1.6332 | 1.2328 | .3015 | .0142 | -.0278 | -.0196 | .6053 | .7549 | .0006 | -.0035 | -.0051 |
| 39.26 | .07 | 1.5696 | 1.2799 | .3070 | .0056 | -.0111 | -.0120 | .5955 | .7626 | .0009 | -.0006 | -.0005 |
| 41.13 | .08 | 1.5281 | 1.3298 | .3091 | .0027 | .0010 | -.0088 | .5823 | .7630 | .0016 | .0020 | .0035 |
| -.10 | .00 | -.0159 | .0187 | .0011 | -.0001 | .0014 | .0019 | -.0035 | -.0060 | .0003 | .0011 | .0011 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78115

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.33 | 4.82 | -.2028 | .0286 | -.0431 | .0047 | -.0144 | -.0204 | -.0762 | -.0822 | -.0012 | -.0173 | -.0223 |
| -1.88 | 4.66 | -.1257 | .0230 | -.0249 | .0026 | -.0144 | -.0199 | -.0443 | -.0490 | -.0016 | -.0167 | -.0217 |
| -.62 | 4.69 | -.0627 | .0206 | -.0112 | .0012 | -.0147 | -.0244 | -.0191 | -.0228 | -.0020 | -.0171 | -.0223 |
| 1.82 | 3.85 | .1185 | .0245 | .0379 | -.0026 | -.0128 | -.0236 | .0505 | .0523 | -.0028 | -.0130 | -.0154 |
| 3.43 | 4.28 | .2164 | .0295 | .0503 | -.0047 | -.0136 | -.0296 | .0880 | .0886 | -.0034 | -.0142 | -.0177 |
| 5.26 | 5.04 | .3388 | .0442 | .0725 | -.0070 | -.0159 | -.0352 | .1329 | .1355 | -.0042 | -.0168 | -.0216 |
| 7.29 | 5.31 | .4845 | .0717 | .0920 | -.0084 | -.0167 | -.0379 | .1813 | .1860 | -.0044 | -.0177 | -.0233 |
| 9.43 | 5.40 | .6333 | .1125 | .1132 | -.0080 | -.0173 | -.0403 | .2291 | .2371 | -.0047 | -.0180 | -.0243 |
| 12.15 | 5.26 | .7955 | .1770 | .1383 | -.0103 | -.0171 | -.0352 | .2840 | .2959 | -.0053 | -.0182 | -.0257 |
| 14.79 | 5.46 | .9575 | .2572 | .1542 | -.0077 | -.0188 | -.0389 | .3323 | .3491 | -.0051 | -.0196 | -.0279 |
| 16.84 | 5.50 | 1.0747 | .3288 | .1674 | -.0066 | -.0202 | -.0394 | .3723 | .3960 | -.0058 | -.0202 | -.0294 |
| 18.93 | 5.44 | 1.1930 | .4113 | .1845 | -.0061 | -.0214 | -.0404 | .4103 | .4390 | -.0068 | -.0203 | -.0306 |
| 21.03 | 6.02 | 1.3112 | .5051 | .2024 | -.0084 | -.0256 | -.0458 | .4526 | .4886 | -.0092 | -.0229 | -.0360 |
| 24.17 | 5.74 | 1.4495 | .6468 | .2252 | -.0081 | -.0271 | -.0470 | .5055 | .5560 | -.0098 | -.0225 | -.0369 |
| 25.82 | 6.11 | 1.4989 | .7243 | .2343 | -.0055 | -.0388 | -.0553 | .5340 | .5937 | -.0115 | -.0266 | -.0450 |
| 28.14 | 5.61 | 1.5983 | .8512 | .2602 | -.0058 | -.0393 | -.0558 | .5741 | .6487 | -.0116 | -.0258 | -.0449 |
| 30.62 | 6.04 | 1.6662 | .9774 | .2797 | -.0100 | -.0430 | -.0601 | .6025 | .6943 | -.0133 | -.0280 | -.0500 |
| 32.41 | 6.37 | 1.6972 | 1.0675 | .2935 | -.0101 | -.0506 | -.0697 | .6184 | .7256 | -.0150 | -.0310 | -.0563 |
| 34.70 | 5.52 | 1.7123 | 1.1760 | .3080 | -.0098 | -.0475 | -.0712 | .6292 | .7560 | -.0145 | -.0281 | -.0525 |
| 37.01 | 5.85 | 1.6704 | 1.2487 | .3169 | -.0117 | -.0533 | -.0858 | .6223 | .7683 | -.0171 | -.0301 | -.0579 |
| 39.09 | 6.15 | 1.6212 | 1.3048 | .3245 | -.0153 | -.0561 | -.0998 | .6121 | .7757 | -.0203 | -.0319 | -.0638 |
| 40.93 | 6.40 | 1.5726 | 1.3506 | .3235 | -.0183 | -.0537 | -.1142 | .5990 | .7770 | -.0226 | -.0325 | -.0668 |
| 1.05 | 4.12 | .0636 | .0201 | .0197 | -.0016 | -.0124 | -.0229 | .0302 | .0301 | -.0023 | -.0128 | -.0154 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78116

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.41 | -4.84 | -.1926 | .0273 | -.0384 | -.0052 | .0144 | .0230 | -.0721 | -.0773 | .0016 | .0182 | .0232 |
| -1.45 | -4.52 | -.0775 | .0217 | -.0121 | -.0021 | .0131 | .0186 | -.0237 | -.0272 | .0018 | .0160 | .0205 |
| -.46 | -4.72 | -.0321 | .0206 | -.0016 | -.0007 | .0137 | .0193 | -.0050 | -.0079 | .0023 | .0165 | .0209 |
| 1.88 | -4.24 | .0734 | .0218 | .0198 | .0015 | .0128 | .0211 | .0347 | .0346 | .0030 | .0133 | .0153 |
| 3.77 | -4.34 | .1989 | .0295 | .0458 | .0043 | .0141 | .0224 | .0822 | .0834 | .0040 | .0143 | .0169 |
| 5.08 | -4.96 | .2827 | .0389 | .0625 | .0064 | .0162 | .0262 | .1148 | .1172 | .0047 | .0168 | .0205 |
| 7.50 | -4.97 | .4632 | .0705 | .0877 | .0078 | .0168 | .0282 | .1760 | .1805 | .0048 | .0174 | .0224 |
| 9.69 | -5.04 | .6062 | .1099 | .1075 | .0081 | .0175 | .0289 | .2221 | .2303 | .0051 | .0180 | .0239 |
| 12.02 | -5.06 | .7505 | .1652 | .1326 | .0101 | .0180 | .0279 | .2713 | .2827 | .0054 | .0185 | .0252 |
| 14.33 | -5.08 | .8982 | .2334 | .1466 | .0089 | .0196 | .0260 | .3165 | .3322 | .0054 | .0197 | .0272 |
| 16.88 | -5.10 | 1.0525 | .3231 | .1624 | .0068 | .0226 | .0220 | .3619 | .3836 | .0054 | .0211 | .0299 |
| 19.10 | -4.96 | 1.1783 | .4100 | .1759 | .0064 | .0242 | .0170 | .4012 | .4303 | .0063 | .0211 | .0310 |
| 21.06 | -5.43 | 1.2796 | .4931 | .1919 | .0077 | .0281 | .0190 | .4380 | .4730 | .0078 | .0237 | .0361 |
| 23.79 | -5.08 | 1.4283 | .6272 | .2182 | .0082 | .0297 | .0177 | .4968 | .5443 | .0088 | .0233 | .0375 |
| 25.86 | -5.52 | 1.5059 | .7275 | .2291 | .0073 | .0392 | .0225 | .5313 | .5900 | .0104 | .0269 | .0445 |
| 28.29 | -4.81 | 1.6147 | .8633 | .2582 | .0084 | .0394 | .0212 | .5778 | .6533 | .0100 | .0255 | .0435 |
| 30.49 | -5.15 | 1.6831 | .9818 | .2797 | .0116 | .0420 | .0261 | .6075 | .6999 | .0119 | .0277 | .0487 |
| 32.78 | -5.52 | 1.7245 | 1.0983 | .2983 | .0138 | .0474 | .0333 | .6276 | .7396 | .0139 | .0299 | .0539 |
| 34.82 | -5.89 | 1.7183 | 1.1810 | .3107 | .0132 | .0550 | .0474 | .6324 | .7614 | .0162 | .0331 | .0611 |
| 36.90 | -5.13 | 1.7029 | 1.2650 | .3151 | .0116 | .0488 | .0515 | .6311 | .7795 | .0151 | .0293 | .0554 |
| 39.11 | -5.30 | 1.6478 | 1.3258 | .3283 | .0114 | .0521 | .0627 | .6202 | .7886 | .0164 | .0309 | .0592 |
| 40.96 | -5.47 | 1.5931 | 1.3703 | .3366 | .0176 | .0383 | .0658 | .6142 | .8006 | .0179 | .0294 | .0585 |
| 1.01 | -4.36 | .0216 | .0197 | .0077 | .0007 | .0118 | .0215 | .0153 | .0142 | .0026 | .0131 | .0148 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78120

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.28 | .01 | -.0976 | .0173 | -.0986 | -.0000 | .0025 | .0020 | -.0923 | -.0982 | .0000 | .0013 | .0016 |
| -2.26 | .00 | -.0522 | .0132 | -.0505 | .0001 | .0022 | .0021 | -.0475 | -.0515 | .0001 | .0011 | .0013 |
| -.23 | .00 | -.0060 | .0123 | -.0041 | .0002 | .0024 | .0006 | -.0031 | -.0047 | .0001 | .0012 | .0014 |
| 2.03 | -.00 | .0435 | .0136 | .0444 | .0003 | .0024 | .0013 | .0436 | .0443 | .0002 | .0008 | .0007 |
| 4.00 | -.01 | .0889 | .0170 | .0894 | .0004 | .0025 | .0023 | .0875 | .0895 | .0003 | .0012 | .0015 |
| 6.02 | -.01 | .1347 | .0231 | .1367 | .0005 | .0025 | .0023 | .1331 | .1372 | .0004 | .0013 | .0017 |
| 8.08 | -.02 | .1785 | .0332 | .1826 | .0005 | .0025 | .0033 | .1758 | .1828 | .0005 | .0017 | .0025 |
| 10.22 | -.02 | .2189 | .0468 | .2247 | .0006 | .0022 | .0031 | .2147 | .2260 | .0005 | .0014 | .0019 |
| 12.23 | -.03 | .2562 | .0624 | .2626 | .0007 | .0022 | .0027 | .2480 | .2629 | .0004 | .0015 | .0020 |
| 14.30 | -.03 | .2897 | .0805 | .3009 | .0007 | .0022 | .0035 | .2811 | .3010 | .0003 | .0009 | .0008 |
| 16.15 | -.04 | .3182 | .0990 | .3297 | .0001 | .0020 | .0047 | .3058 | .3300 | -.0000 | .0016 | .0018 |
| 18.25 | -.04 | .3382 | .1187 | .3530 | .0003 | .0016 | .0050 | .3212 | .3524 | .0004 | .0019 | .0026 |
| 20.41 | -.06 | .3622 | .1405 | .3850 | -.0008 | .0008 | .0054 | .3429 | .3830 | -.0004 | .0021 | .0027 |
| 22.28 | -.06 | .3876 | .1637 | .4147 | -.0012 | .0007 | .0065 | .3638 | .4117 | -.0006 | .0024 | .0030 |
| 24.38 | -.06 | .4144 | .1910 | .4472 | -.0018 | .0007 | .0051 | .3853 | .4425 | -.0010 | .0025 | .0027 |
| 26.33 | -.06 | .4384 | .2184 | .4769 | -.0021 | .0008 | .0063 | .4044 | .4709 | -.0010 | .0030 | .0035 |
| 28.44 | -.08 | .4620 | .2500 | .5076 | -.0015 | .0018 | .0082 | .4243 | .5028 | -.0007 | .0035 | .0045 |
| 30.60 | -.06 | .4744 | .2775 | .5286 | -.0017 | .0003 | .0137 | .4321 | .5222 | .0001 | .0035 | .0052 |
| 32.55 | -.06 | .4843 | .3043 | .5456 | -.0019 | -.0003 | .0147 | .4371 | .5395 | .0002 | .0034 | .0051 |
| 34.49 | -.06 | .4926 | .3319 | .5585 | -.0019 | -.0005 | .0191 | .4385 | .5527 | .0006 | .0033 | .0053 |
| 36.62 | -.05 | .4959 | .3587 | .5672 | -.0020 | -.0011 | .0203 | .4357 | .5628 | .0011 | .0035 | .0060 |
| 38.37 | -.06 | .4997 | .3833 | .5735 | -.0025 | -.0010 | .0195 | .4333 | .5724 | .0010 | .0036 | .0061 |
| 40.46 | -.07 | .5005 | .4116 | .5781 | -.0024 | -.0012 | .0201 | .4274 | .5797 | .0014 | .0035 | .0059 |
| -.07 | .00 | -.0085 | .0116 | -.0058 | .0002 | .0017 | .0022 | -.0041 | -.0060 | .0002 | .0006 | .0005 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78121

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.46 | 4.84 | -.0976 | .0158 | -.0840 | -.0015 | -.0168 | -.0219 | -.0805 | -.0867 | -.0014 | -.0182 | -.0231 |
| -1.91 | 4.67 | -.0543 | .0141 | -.0484 | -.0017 | -.0154 | -.0210 | -.0439 | -.0483 | -.0018 | -.0169 | -.0217 |
| -.78 | 4.59 | -.0366 | .0129 | -.0270 | -.0019 | -.0154 | -.0222 | -.0230 | -.0264 | -.0021 | -.0171 | -.0221 |
| 1.89 | 4.09 | .0377 | .0135 | .0455 | -.0027 | -.0134 | -.0241 | .0448 | .0462 | -.0029 | -.0136 | -.0164 |
| 3.56 | 4.32 | .0769 | .0154 | .0827 | -.0033 | -.0135 | -.0277 | .0797 | .0820 | -.0035 | -.0143 | -.0176 |
| 5.28 | 4.99 | .1135 | .0198 | .1253 | -.0040 | -.0150 | -.0340 | .1203 | .1241 | -.0044 | -.0164 | -.0209 |
| 7.36 | 5.08 | .1588 | .0284 | .1712 | -.0039 | -.0149 | -.0378 | .1641 | .1706 | -.0044 | -.0169 | -.0222 |
| 9.60 | 5.10 | .2059 | .0420 | .2154 | -.0038 | -.0144 | -.0407 | .2055 | .2157 | -.0046 | -.0171 | -.0232 |
| 11.86 | 5.08 | .2498 | .0594 | .2585 | -.0037 | -.0142 | -.0411 | .2443 | .2588 | -.0049 | -.0176 | -.0246 |
| 13.92 | 5.22 | .2827 | .0770 | .2921 | -.0033 | -.0151 | -.0413 | .2750 | .2938 | -.0047 | -.0185 | -.0258 |
| 16.36 | 5.34 | .3206 | .1012 | .3276 | -.0030 | -.0161 | -.0434 | .3052 | .3304 | -.0048 | -.0201 | -.0284 |
| 18.50 | 5.32 | .3470 | .1226 | .3602 | -.0039 | -.0156 | -.0434 | .3288 | .3610 | -.0061 | -.0198 | -.0292 |
| 20.50 | 5.87 | .3769 | .1464 | .3931 | -.0048 | -.0160 | -.0561 | .3556 | .3935 | -.0080 | -.0222 | -.0335 |
| 23.14 | 5.32 | .4191 | .1827 | .4410 | -.0052 | -.0152 | -.0563 | .3913 | .4408 | -.0086 | -.0213 | -.0338 |
| 25.08 | 5.71 | .4446 | .2100 | .4695 | -.0056 | -.0182 | -.0620 | .4128 | .4688 | -.0095 | -.0243 | -.0392 |
| 27.03 | 6.14 | .4605 | .2361 | .4854 | -.0060 | -.0196 | -.0672 | .4213 | .4842 | -.0107 | -.0264 | -.0433 |
| 29.42 | 5.53 | .4671 | .2636 | .5023 | -.0053 | -.0186 | -.0772 | .4238 | .4982 | -.0113 | -.0267 | -.0455 |
| 31.70 | 5.88 | .4755 | .2925 | .5169 | -.0054 | -.0199 | -.0922 | .4245 | .5121 | -.0133 | -.0298 | -.0517 |
| 33.67 | 6.25 | .4812 | .3175 | .5262 | -.0067 | -.0186 | -.1040 | .4243 | .5218 | -.0157 | -.0291 | -.0526 |
| 35.89 | 5.45 | .4801 | .3421 | .5396 | -.0070 | -.0149 | -.0963 | .4222 | .5330 | -.0158 | -.0239 | -.0463 |
| 38.11 | 5.73 | .4852 | .3719 | .5518 | -.0074 | -.0142 | -.1107 | .4218 | .5479 | -.0183 | -.0245 | -.0498 |
| 40.07 | 6.00 | .4880 | .3979 | .5596 | -.0075 | -.0143 | -.1208 | .4194 | .5590 | -.0201 | -.0256 | -.0535 |
| 1.12 | 4.28 | .0194 | .0119 | .0286 | -.0025 | -.0120 | -.0234 | .0270 | .0275 | -.0025 | -.0130 | -.0156 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78122

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.33 | -4.94 | -.0810 | .0157 | -.0674 | .0018 | .0199 | .0212 | -.0675 | -.0725 | .0017 | .0187 | .0236 |
| -1.48 | -4.32 | -.0378 | .0131 | -.0270 | .0019 | .0173 | .0201 | -.0274 | -.0309 | .0019 | .0164 | .0207 |
| -.49 | -4.56 | -.0179 | .0132 | -.0061 | .0023 | .0172 | .0205 | -.0062 | -.0084 | .0023 | .0164 | .0207 |
| 1.95 | -4.30 | .0227 | .0134 | .0345 | .0031 | .0157 | .0236 | .0319 | .0328 | .0031 | .0136 | .0159 |
| 3.66 | -4.49 | .0618 | .0148 | .0747 | .0040 | .0160 | .0292 | .0705 | .0732 | .0040 | .0149 | .0179 |
| 5.05 | -4.98 | .0940 | .0181 | .1089 | .0047 | .0181 | .0350 | .1027 | .1061 | .0048 | .0170 | .0211 |
| 7.36 | -4.92 | .1465 | .0271 | .1629 | .0046 | .0174 | .0421 | .1542 | .1595 | .0048 | .0172 | .0220 |
| 9.40 | -5.13 | .1902 | .0386 | .2047 | .0049 | .0172 | .0458 | .1948 | .2043 | .0053 | .0188 | .0253 |
| 11.78 | -5.08 | .2374 | .0561 | .2496 | .0046 | .0172 | .0477 | .2338 | .2471 | .0054 | .0194 | .0267 |
| 14.16 | -4.79 | .2782 | .0767 | .2902 | .0039 | .0167 | .0470 | .2694 | .2877 | .0050 | .0191 | .0264 |
| 16.35 | -4.91 | .3124 | .0983 | .3239 | .0032 | .0175 | .0511 | .2984 | .3224 | .0047 | .0208 | .0292 |
| 18.71 | -4.79 | .3439 | .1223 | .3572 | .0021 | .0157 | .0471 | .3236 | .3557 | .0046 | .0215 | .0307 |
| 20.74 | -5.29 | .3714 | .1455 | .3903 | .0033 | .0159 | .0632 | .3502 | .3882 | .0073 | .0242 | .0362 |
| 23.07 | -5.06 | .4045 | .1766 | .4300 | .0032 | .0155 | .0678 | .3793 | .4258 | .0078 | .0244 | .0377 |
| 25.14 | -5.48 | .4302 | .2045 | .4575 | .0027 | .0171 | .0793 | .3973 | .4520 | .0088 | .0278 | .0438 |
| 27.43 | -4.90 | .4544 | .2372 | .4882 | .0019 | .0159 | .0829 | .4169 | .4815 | .0090 | .0273 | .0441 |
| 29.43 | -5.23 | .4667 | .2633 | .5073 | .0024 | .0167 | .0997 | .4231 | .4976 | .0111 | .0300 | .0501 |
| 31.65 | -5.57 | .4766 | .2919 | .5253 | .0024 | .0167 | .1184 | .4274 | .5144 | .0136 | .0323 | .0555 |
| 33.90 | -4.86 | .4844 | .3214 | .5382 | .0019 | .0146 | .1147 | .4281 | .5291 | .0138 | .0297 | .0528 |
| 36.13 | -5.14 | .4879 | .3494 | .5469 | .0026 | .0146 | .1245 | .4253 | .5392 | .0155 | .0294 | .0540 |
| 38.07 | -5.38 | .4973 | .3797 | .5570 | .0041 | .0169 | .1319 | .4266 | .5556 | .0168 | .0300 | .0562 |
| 40.09 | -5.62 | .5121 | .4152 | .5727 | .0066 | .0215 | .1398 | .4310 | .5801 | .0183 | .0321 | .0614 |
| 1.12 | -4.40 | .0024 | .0125 | .0140 | .0026 | .0155 | .0222 | .0143 | .0144 | .0026 | .0133 | .0157 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78123

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.08 | .00 | -.0841 | .0161 | -.0716 | -.0007 | .0013 | .0006 | -.0820 | -.0743 | -.0005 | .0005 | .0004 |
| -2.25 | .00 | -.0423 | .0130 | -.0359 | -.0006 | .0011 | -.0007 | -.0411 | -.0391 | -.0005 | .0005 | .0001 |
| -.24 | .00 | -.0024 | .0122 | -.0016 | -.0004 | .0014 | .0002 | -.0050 | -.0068 | -.0003 | .0008 | .0006 |
| 1.95 | -.00 | .0410 | .0137 | .0351 | -.0004 | .0014 | .0004 | .0373 | .0318 | -.0003 | .0006 | .0001 |
| 3.95 | -.00 | .0829 | .0163 | .0692 | -.0004 | .0014 | .0006 | .0773 | .0662 | -.0004 | .0006 | .0002 |
| 6.20 | -.00 | .1337 | .0234 | .1118 | -.0002 | .0013 | .0024 | .1252 | .1081 | -.0002 | .0009 | .0007 |
| 7.96 | -.01 | .1759 | .0327 | .1473 | -.0002 | .0012 | .0026 | .1664 | .1447 | -.0001 | .0011 | .0010 |
| 10.28 | -.02 | .2292 | .0477 | .1941 | .0002 | .0009 | .0037 | .2179 | .1931 | .0002 | .0015 | .0017 |
| 12.11 | -.04 | .2618 | .0615 | .2272 | .0001 | .0015 | .0020 | .2482 | .2251 | .0001 | .0013 | .0014 |
| 14.18 | -.05 | .2997 | .0798 | .2650 | .0002 | .0013 | .0022 | .2839 | .2674 | .0003 | .0014 | .0016 |
| 16.18 | -.08 | .3362 | .1004 | .3017 | .0002 | .0009 | .0041 | .3191 | .3005 | .0005 | .0015 | .0016 |
| 18.43 | -.06 | .3756 | .1266 | .3451 | .0007 | .0014 | .0031 | .3544 | .3413 | .0007 | .0015 | .0017 |
| 20.09 | -.10 | .4120 | .1505 | .3819 | .0003 | .0009 | .0044 | .3899 | .3792 | .0009 | .0024 | .0035 |
| 22.35 | -.13 | .4433 | .1802 | .4165 | -.0014 | -.0006 | .0087 | .4172 | .4145 | -.0002 | .0023 | .0025 |
| 24.21 | -.16 | .4615 | .2047 | .4409 | -.0020 | -.0018 | .0130 | .4307 | .4363 | .0001 | .0029 | .0039 |
| 26.47 | -.18 | .4802 | .2355 | .4690 | -.0023 | -.0018 | .0180 | .4401 | .4627 | -.0002 | .0024 | .0028 |
| 28.35 | -.18 | .4928 | .2613 | .4909 | -.0019 | -.0016 | .0198 | .4534 | .4820 | .0003 | .0023 | .0029 |
| 30.52 | -.19 | .5031 | .2903 | .5118 | -.0014 | -.0014 | .0210 | .4596 | .5012 | .0008 | .0022 | .0031 |
| 32.36 | -.19 | .5094 | .3145 | .5271 | -.0013 | -.0013 | .0214 | .4616 | .5140 | .0012 | .0024 | .0037 |
| 34.44 | -.19 | .5119 | .3404 | .5393 | -.0013 | -.0019 | .0216 | .4602 | .5252 | .0013 | .0020 | .0032 |
| 36.75 | -.20 | .5151 | .3712 | .5477 | -.0011 | -.0013 | .0192 | .4548 | .5335 | .0016 | .0020 | .0034 |
| 38.53 | -.22 | .5147 | .3942 | .5494 | -.0009 | -.0010 | .0200 | .4479 | .5369 | .0016 | .0019 | .0032 |
| 40.22 | -.18 | .5142 | .4168 | .5522 | -.0017 | -.0016 | .0188 | .4427 | .5425 | .0017 | .0021 | .0035 |
| -.08 | .00 | -.0025 | .0114 | -.0024 | -.0006 | .0022 | .0017 | -.0056 | -.0072 | -.0003 | .0009 | .0007 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78124

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.45 | 4.89 | -.0861 | .0154 | -.0634 | -.0025 | -.0149 | -.0212 | -.0741 | -.0698 | -.0020 | -.0174 | -.0236 |
| -1.82 | 4.60 | -.0510 | .0127 | -.0356 | -.0029 | -.0141 | -.0219 | -.0399 | -.0397 | -.0024 | -.0167 | -.0234 |
| -.69 | 4.55 | -.0304 | .0128 | -.0183 | -.0028 | -.0135 | -.0232 | -.0201 | -.0227 | -.0026 | -.0161 | -.0226 |
| 1.85 | 4.06 | .0343 | .0138 | .0363 | -.0037 | -.0133 | -.0247 | .0375 | .0319 | -.0035 | -.0140 | -.0155 |
| 3.33 | 4.29 | .0643 | .0147 | .0629 | -.0045 | -.0131 | -.0293 | .0666 | .0568 | -.0045 | -.0145 | -.0169 |
| 5.13 | 4.86 | .1038 | .0194 | .0977 | -.0051 | -.0143 | -.0358 | .1033 | .0889 | -.0053 | -.0166 | -.0207 |
| 7.20 | 4.93 | .1528 | .0276 | .1392 | -.0054 | -.0140 | -.0422 | .1517 | .1320 | -.0058 | -.0170 | -.0224 |
| 9.42 | 5.34 | .2000 | .0399 | .1807 | -.0057 | -.0146 | -.0497 | .1958 | .1738 | -.0064 | -.0184 | -.0252 |
| 11.85 | 5.35 | .2507 | .0580 | .2255 | -.0050 | -.0142 | -.0527 | .2422 | .2193 | -.0063 | -.0190 | -.0274 |
| 13.97 | 5.19 | .2943 | .0775 | .2647 | -.0056 | -.0139 | -.0535 | .2814 | .2601 | -.0071 | -.0187 | -.0283 |
| 16.27 | 5.27 | .3319 | .0998 | .3038 | -.0054 | -.0145 | -.0538 | .3171 | .3006 | -.0073 | -.0193 | -.0300 |
| 18.59 | 5.29 | .3691 | .1255 | .3441 | -.0049 | -.0154 | -.0573 | .3503 | .3396 | -.0071 | -.0206 | -.0327 |
| 20.64 | 5.83 | .3915 | .1479 | .3712 | -.0036 | -.0161 | -.0662 | .3693 | .3657 | -.0073 | -.0240 | -.0382 |
| 22.89 | 5.36 | .4258 | .1788 | .4044 | -.0030 | -.0155 | -.0631 | .3954 | .3991 | -.0068 | -.0229 | -.0372 |
| 25.08 | 5.82 | .4573 | .2114 | .4384 | -.0026 | -.0172 | -.0745 | .4208 | .4312 | -.0078 | -.0267 | -.0435 |
| 27.53 | 5.32 | .4949 | .2530 | .4820 | -.0021 | -.0167 | -.0766 | .4537 | .4747 | -.0080 | -.0261 | -.0436 |
| 29.60 | 5.69 | .5136 | .2849 | .5079 | -.0032 | -.0186 | -.0883 | .4679 | .4995 | -.0104 | -.0290 | -.0501 |
| 31.74 | 6.05 | .5272 | .3168 | .5291 | -.0047 | -.0201 | -.1020 | .4736 | .5175 | -.0133 | -.0313 | -.0562 |
| 33.66 | 6.37 | .5335 | .3436 | .5432 | -.0056 | -.0211 | -.1144 | .4755 | .5318 | -.0156 | -.0334 | -.0614 |
| 36.00 | 5.48 | .5252 | .3680 | .5574 | -.0061 | -.0170 | -.1064 | .4685 | .5422 | -.0162 | -.0282 | -.0551 |
| 38.34 | 5.76 | .5251 | .3989 | .5644 | -.0075 | -.0181 | -.1231 | .4598 | .5487 | -.0193 | -.0301 | -.0608 |
| 40.08 | 6.00 | .5255 | .4227 | .5691 | -.0079 | -.0186 | -.1303 | .4541 | .5552 | -.0208 | -.0307 | -.0637 |
| 1.17 | 4.35 | .0203 | .0118 | .0242 | -.0034 | -.0128 | -.0251 | .0244 | .0197 | -.0031 | -.0138 | -.0154 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78125

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.21 | -4.91 | -.0656 | .0146 | -.0464 | .0009 | .0181 | .0218 | -.0569 | -.0539 | .0012 | .0170 | .0221 |
| -1.69 | -4.53 | -.0345 | .0135 | -.0222 | .0010 | .0159 | .0178 | -.0281 | -.0292 | .0013 | .0151 | .0199 |
| -.75 | -4.75 | -.0144 | .0132 | -.0059 | .0014 | .0161 | .0197 | -.0093 | -.0122 | .0017 | .0155 | .0204 |
| 1.97 | -4.31 | .0239 | .0131 | .0276 | .0023 | .0160 | .0206 | .0285 | .0240 | .0026 | .0138 | .0141 |
| 3.86 | -4.61 | .0613 | .0148 | .0628 | .0038 | .0173 | .0281 | .0664 | .0569 | .0040 | .0158 | .0174 |
| 5.18 | -5.01 | .0907 | .0179 | .0896 | .0047 | .0182 | .0348 | .0954 | .0822 | .0048 | .0177 | .0209 |
| 7.53 | -4.95 | .1465 | .0272 | .1373 | .0050 | .0177 | .0430 | .1491 | .1296 | .0054 | .0183 | .0229 |
| 9.58 | -5.26 | .1924 | .0388 | .1766 | .0056 | .0181 | .0497 | .1923 | .1702 | .0063 | .0196 | .0258 |
| 11.73 | -5.14 | .2403 | .0549 | .2181 | .0052 | .0179 | .0538 | .2350 | .2120 | .0063 | .0204 | .0282 |
| 13.96 | -5.20 | .2846 | .0740 | .2586 | .0059 | .0179 | .0567 | .2740 | .2518 | .0073 | .0205 | .0293 |
| 16.41 | -5.18 | .3294 | .0988 | .3026 | .0063 | .0186 | .0576 | .3139 | .2967 | .0079 | .0213 | .0317 |
| 18.60 | -5.01 | .3597 | .1217 | .3391 | .0054 | .0175 | .0594 | .3427 | .3320 | .0075 | .0215 | .0325 |
| 20.62 | -5.52 | .3867 | .1453 | .3694 | .0042 | .0181 | .0697 | .3665 | .3614 | .0077 | .0249 | .0381 |
| 22.85 | -5.13 | .4201 | .1759 | .4016 | .0029 | .0168 | .0716 | .3903 | .3926 | .0073 | .0247 | .0384 |
| 25.15 | -5.59 | .4496 | .2081 | .4361 | .0028 | .0178 | .0877 | .4151 | .4253 | .0091 | .0282 | .0451 |
| 27.51 | -4.86 | .4843 | .2480 | .4779 | .0014 | .0155 | .0865 | .4450 | .4658 | .0085 | .0267 | .0432 |
| 29.72 | -5.19 | .5076 | .2832 | .5087 | .0020 | .0174 | .0990 | .4628 | .4952 | .0106 | .0294 | .0493 |
| 31.53 | -5.47 | .5213 | .3107 | .5279 | .0027 | .0182 | .1110 | .4716 | .5146 | .0129 | .0319 | .0568 |
| 34.40 | -4.94 | .5328 | .3516 | .5519 | .0016 | .0147 | .1118 | .4770 | .5382 | .0133 | .0297 | .0526 |
| 36.19 | -5.17 | .5371 | .3785 | .5617 | .0023 | .0159 | .1253 | .4730 | .5482 | .0158 | .0310 | .0570 |
| 37.98 | -5.41 | .5337 | .3997 | .5654 | .0037 | .0165 | .1378 | .4646 | .5529 | .0182 | .0320 | .0607 |
| 39.87 | -5.61 | .5340 | .4262 | .5667 | .0052 | .0168 | .1493 | .4547 | .5561 | .0204 | .0316 | .0626 |
| 1.22 | -4.40 | .0029 | .0129 | .0133 | .0021 | .0164 | .0221 | .0123 | .0079 | .0023 | .0141 | .0145 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78126

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.25 | .00 | -.2489 | .0323 | -.0271 | -.0011 | .0007 | .0028 | -.0877 | -.0775 | -.0005 | .0008 | .0011 |
| -2.18 | .00 | -.1299 | .0216 | -.0124 | -.0006 | .0006 | .0011 | -.0422 | -.0396 | -.0005 | .0010 | .0012 |
| -.30 | .00 | -.0062 | .0194 | .0028 | -.0005 | .0007 | .0017 | .0020 | -.0001 | -.0003 | .0008 | .0005 |
| 1.83 | .00 | .1160 | .0226 | .0168 | -.0004 | .0010 | -.0002 | .0453 | .0390 | -.0003 | .0008 | .0006 |
| 4.04 | .00 | .2491 | .0334 | .0349 | -.0000 | .0012 | -.0013 | .0959 | .0806 | -.0003 | .0011 | .0012 |
| 6.10 | .00 | .3971 | .0550 | .0539 | .0003 | .0016 | -.0024 | .1540 | .1312 | -.0001 | .0012 | .0013 |
| 8.28 | .01 | .5405 | .0873 | .0725 | .0001 | .0017 | -.0034 | .2086 | .1784 | -.0000 | .0013 | .0014 |
| 10.30 | .01 | .6615 | .1255 | .0925 | .0005 | .0017 | -.0030 | .2547 | .2196 | .0002 | .0015 | .0018 |
| 12.34 | .02 | .8067 | .1800 | .1088 | -.0001 | .0017 | -.0064 | .3040 | .2692 | .0002 | .0014 | .0015 |
| 14.62 | .01 | .9667 | .2525 | .1264 | .0002 | .0031 | -.0071 | .3586 | .3222 | .0003 | .0013 | .0015 |
| 16.64 | .02 | 1.0953 | .3255 | .1449 | .0005 | .0026 | -.0068 | .4056 | .3708 | .0005 | .0016 | .0020 |
| 18.78 | .03 | 1.2125 | .4066 | .1633 | .0006 | .0029 | -.0087 | .4494 | .4150 | .0008 | .0017 | .0021 |
| 20.99 | .03 | 1.3711 | .5176 | .1904 | -.0004 | .0033 | -.0103 | .5129 | .4801 | .0007 | .0019 | .0024 |
| 23.32 | .03 | 1.5025 | .6352 | .2121 | -.0006 | .0034 | -.0113 | .5623 | .5359 | .0005 | .0020 | .0025 |
| 25.13 | .03 | 1.5948 | .7329 | .2279 | -.0006 | .0040 | -.0123 | .5972 | .5775 | .0005 | .0022 | .0029 |
| 27.20 | .03 | 1.6809 | .8462 | .2464 | -.0023 | .0054 | -.0114 | .6325 | .6241 | .0003 | .0023 | .0030 |
| 29.43 | .02 | 1.7460 | .9662 | .2617 | .0008 | .0038 | -.0096 | .6607 | .6667 | .0004 | .0025 | .0033 |
| 31.43 | .01 | 1.8057 | 1.0837 | .2670 | .0034 | .0019 | -.0116 | .6831 | .7038 | .0004 | .0021 | .0025 |
| 33.34 | .01 | 1.8416 | 1.1922 | .2638 | .0068 | -.0025 | -.0132 | .6954 | .7326 | .0014 | .0011 | .0018 |
| 35.49 | .01 | 1.8631 | 1.3089 | .2633 | .0063 | -.0012 | -.0114 | .7033 | .7602 | .0020 | .0008 | .0018 |
| 37.38 | .09 | 1.8208 | 1.3732 | .2708 | .0065 | -.0042 | -.0116 | .6972 | .7721 | .0019 | -.0004 | .0000 |
| 37.54 | .02 | 1.8165 | 1.3770 | .2708 | .0079 | -.0059 | -.0130 | .6953 | .7711 | .0022 | -.0003 | .0004 |
| 39.55 | .07 | 1.6968 | 1.3845 | .2783 | .0159 | -.0352 | -.0185 | .6624 | .7555 | .0019 | -.0081 | -.0118 |
| 41.31 | .07 | 1.6145 | 1.4032 | .2822 | .0074 | -.0197 | -.0090 | .6390 | .7481 | .0016 | -.0045 | -.0061 |
| .00 | -.00 | -.0112 | .0181 | .0021 | -.0004 | .0012 | .0008 | -.0007 | -.0028 | -.0002 | .0011 | .0013 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78127

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.16 | 4.56 | -.1969 | .0257 | -.0226 | .0034 | -.0144 | -.0191 | -.0687 | -.0627 | -.0019 | -.0168 | -.0212 |
| -2.00 | 4.67 | -.1306 | .0219 | -.0142 | .0024 | -.0145 | -.0220 | -.0426 | -.0395 | -.0023 | -.0167 | -.0212 |
| -.71 | 4.62 | -.0652 | .0203 | -.0051 | .0010 | -.0143 | -.0216 | -.0168 | -.0167 | -.0024 | -.0163 | -.0208 |
| 1.76 | 3.81 | .1153 | .0236 | .0200 | -.0026 | -.0129 | -.0247 | .0452 | .0392 | -.0034 | -.0127 | -.0152 |
| 3.82 | 4.36 | .2411 | .0316 | .0359 | -.0049 | -.0136 | -.0284 | .0924 | .0786 | -.0046 | -.0134 | -.0167 |
| 5.00 | 5.12 | .3221 | .0414 | .0447 | -.0065 | -.0162 | -.0354 | .1224 | .1049 | -.0053 | -.0162 | -.0209 |
| 7.65 | 4.89 | .5221 | .0795 | .0675 | -.0081 | -.0157 | -.0414 | .1961 | .1674 | -.0060 | -.0165 | -.0231 |
| 9.83 | 5.23 | .6548 | .1188 | .0860 | -.0084 | -.0164 | -.0428 | .2428 | .2103 | -.0060 | -.0166 | -.0236 |
| 12.08 | 5.08 | .8024 | .1752 | .1089 | -.0113 | -.0164 | -.0431 | .2995 | .2638 | -.0062 | -.0169 | -.0253 |
| 14.46 | 5.22 | .9634 | .2486 | .1275 | -.0108 | -.0176 | -.0456 | .3551 | .3182 | -.0078 | -.0177 | -.0280 |
| 16.85 | 5.28 | 1.1095 | .3339 | .1486 | -.0081 | -.0187 | -.0489 | .4084 | .3754 | -.0076 | -.0184 | -.0299 |
| 18.94 | 5.90 | 1.2345 | .4185 | .1689 | -.0090 | -.0230 | -.0543 | .4564 | .4234 | -.0097 | -.0209 | -.0346 |
| 21.64 | 5.25 | 1.3901 | .5433 | .1907 | -.0060 | -.0221 | -.0503 | .5156 | .4879 | -.0093 | -.0190 | -.0329 |
| 24.02 | 5.78 | 1.4815 | .6528 | .1949 | .0010 | -.0332 | -.0537 | .5509 | .5318 | -.0090 | -.0236 | -.0406 |
| 25.90 | 6.24 | 1.5386 | .7402 | .2003 | .0048 | -.0449 | -.0593 | .5750 | .5634 | -.0092 | -.0279 | -.0477 |
| 28.34 | 5.63 | 1.6623 | .8848 | .2222 | .0012 | -.0423 | -.0596 | .6228 | .6227 | -.0093 | -.0264 | -.0466 |
| 30.31 | 5.99 | 1.7494 | 1.0065 | .2390 | -.0063 | -.0431 | -.0698 | .6565 | .6691 | -.0120 | -.0285 | -.0520 |
| 32.65 | 6.39 | 1.8148 | 1.1414 | .2585 | -.0144 | -.0441 | -.0773 | .6858 | .7163 | -.0150 | -.0302 | -.0576 |
| 35.01 | 5.58 | 1.8637 | 1.2822 | .2760 | -.0188 | -.0347 | -.0729 | .7105 | .7618 | -.0146 | -.0263 | -.0523 |
| 37.13 | 5.89 | 1.8200 | 1.3541 | .2845 | -.0181 | -.0426 | -.0866 | .7045 | .7750 | -.0171 | -.0303 | -.0609 |
| 39.52 | 5.93 | 1.6938 | 1.3802 | .2848 | -.0299 | -.0117 | -.1026 | .6673 | .7619 | -.0208 | -.0234 | -.0543 |
| 40.94 | 6.17 | 1.6351 | 1.4006 | .2819 | -.0286 | -.0111 | -.1107 | .6461 | .7527 | -.0223 | -.0247 | -.0583 |
| 1.16 | 4.35 | .0730 | .0201 | .0143 | -.0019 | -.0126 | -.0243 | .0294 | .0253 | -.0031 | -.0126 | -.0152 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78128

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -3.25 | -4.58 | -.1838 | .0260 | -.0173 | -.0047 | .0139 | .0209 | -.0628 | -.0576 | .0009 | .0166 | .0204 |
| -1.56 | -4.50 | -.0798 | .0214 | -.0036 | -.0025 | .0133 | .0204 | -.0237 | -.0234 | .0012 | .0157 | .0193 |
| -.57 | -4.44 | -.0293 | .0205 | .0031 | -.0011 | .0128 | .0157 | -.0044 | -.0059 | .0016 | .0152 | .0186 |
| 2.00 | -3.95 | .0928 | .0235 | .0179 | .0015 | .0127 | .0180 | .0378 | .0336 | .0027 | .0127 | .0143 |
| 3.68 | -4.39 | .1904 | .0285 | .0291 | .0038 | .0141 | .0241 | .0733 | .0625 | .0038 | .0143 | .0169 |
| 5.49 | -4.82 | .3207 | .0441 | .0446 | .0062 | .0167 | .0298 | .1221 | .1037 | .0047 | .0169 | .0212 |
| 7.38 | -5.04 | .4485 | .0677 | .0595 | .0076 | .0177 | .0312 | .1703 | .1455 | .0054 | .0175 | .0229 |
| 9.80 | -4.93 | .6170 | .1117 | .0809 | .0083 | .0182 | .0314 | .2304 | .1989 | .0059 | .0179 | .0240 |
| 12.17 | -4.92 | .7665 | .1682 | .1074 | .0094 | .0188 | .0318 | .2889 | .2540 | .0061 | .0184 | .0260 |
| 14.50 | -4.83 | .9240 | .2391 | .1240 | .0107 | .0198 | .0299 | .3438 | .3074 | .0074 | .0186 | .0277 |
| 16.68 | -4.87 | 1.0656 | .3175 | .1443 | .0081 | .0210 | .0317 | .3939 | .3605 | .0080 | .0197 | .0303 |
| 19.14 | -4.73 | 1.2236 | .4194 | .1664 | .0077 | .0231 | .0290 | .4546 | .4221 | .0090 | .0197 | .0312 |
| 21.19 | -5.15 | 1.3280 | .5076 | .1805 | .0057 | .0275 | .0324 | .4922 | .4642 | .0099 | .0222 | .0361 |
| 23.83 | -4.91 | 1.4743 | .6399 | .1981 | .0049 | .0293 | .0320 | .5426 | .5229 | .0098 | .0222 | .0370 |
| 25.92 | -5.33 | 1.5540 | .7470 | .1989 | .0002 | .0430 | .0362 | .5750 | .5646 | .0103 | .0269 | .0455 |
| 28.33 | -4.72 | 1.7135 | .9056 | .2333 | .0112 | .0319 | .0270 | .6356 | .6340 | .0101 | .0235 | .0404 |
| 30.38 | -4.98 | 1.7842 | 1.0251 | .2497 | .0157 | .0353 | .0284 | .6675 | .6793 | .0121 | .0255 | .0454 |
| 32.70 | -5.33 | 1.8293 | 1.1493 | .2699 | .0202 | .0382 | .0385 | .6931 | .7228 | .0144 | .0275 | .0510 |
| 34.78 | -5.62 | 1.8453 | 1.2554 | .2851 | .0234 | .0426 | .0495 | .7068 | .7563 | .0170 | .0299 | .0573 |
| 37.10 | -4.92 | 1.8220 | 1.3532 | .2966 | .0193 | .0435 | .0508 | .7099 | .7813 | .0163 | .0290 | .0566 |
| 39.21 | -4.96 | 1.7105 | 1.3773 | .3003 | .0381 | -.0022 | .0608 | .6812 | .7757 | .0207 | .0210 | .0489 |
| 40.71 | -5.14 | 1.6461 | 1.3966 | .2915 | .0348 | -.0012 | .0763 | .6545 | .7603 | .0225 | .0218 | .0526 |
| 1.24 | -4.38 | .0390 | .0199 | .0092 | .0004 | .0126 | .0208 | .0173 | .0139 | .0022 | .0128 | .0146 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78129

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.33 | -.00 | -.2573 | .0327 | -.0354 | -.0010 | .0009 | .0034 | -.0943 | -.0926 | -.0002 | -.0001 | -.0004 |
| -2.23 | -.00 | -.1254 | .0220 | -.0170 | -.0006 | .0010 | .0016 | -.0458 | -.0466 | -.0002 | -.0006 | -.0013 |
| -.41 | -.00 | -.0111 | .0199 | -.0006 | -.0004 | .0010 | .0013 | -.0039 | -.0053 | -.0002 | -.0004 | -.0009 |
| 2.20 | .00 | .1197 | .0222 | .0182 | -.0003 | .0014 | .0011 | .0427 | .0401 | -.0002 | .0001 | -.0001 |
| 4.24 | .00 | .2420 | .0326 | .0384 | .0001 | .0014 | .0000 | .0911 | .0861 | -.0002 | -.0001 | -.0005 |
| 6.24 | .01 | .3789 | .0531 | .0535 | .0001 | .0018 | -.0010 | .1389 | .1323 | -.0001 | .0002 | -.0001 |
| 8.22 | .01 | .4890 | .0778 | .0671 | -.0001 | .0020 | -.0020 | .1778 | .1705 | -.0001 | .0001 | -.0002 |
| 10.42 | .02 | .6421 | .1232 | .0840 | .0007 | .0023 | -.0031 | .2259 | .2202 | .0000 | .0002 | -.0002 |
| 12.52 | .02 | .7766 | .1754 | .0974 | .0005 | .0022 | -.0047 | .2681 | .2633 | -.0001 | .0002 | -.0002 |
| 14.56 | .02 | .8931 | .2321 | .1116 | .0005 | .0022 | -.0072 | .3067 | .3035 | -.0001 | .0003 | -.0001 |
| 16.67 | .02 | 1.0414 | .3110 | .1342 | .0012 | .0025 | -.0075 | .3585 | .3574 | .0000 | .0006 | .0004 |
| 18.65 | .02 | 1.1720 | .3931 | .1544 | .0001 | .0030 | -.0099 | .4070 | .4092 | -.0002 | .0008 | .0005 |
| 20.89 | .03 | 1.2922 | .4869 | .1749 | .0003 | .0036 | -.0110 | .4510 | .4601 | -.0004 | .0003 | -.0005 |
| 22.92 | .03 | 1.4095 | .5887 | .1952 | .0004 | .0036 | -.0120 | .4932 | .5102 | -.0004 | .0011 | .0012 |
| 25.61 | .03 | 1.5219 | .7183 | .2165 | .0021 | .0055 | -.0108 | .5349 | .5641 | .0000 | .0028 | .0049 |
| 27.53 | .05 | 1.5881 | .8143 | .2291 | .0040 | .0055 | -.0089 | .5589 | .5981 | .0006 | .0026 | .0050 |
| 29.26 | .04 | 1.6578 | .9130 | .2455 | .0048 | .0041 | -.0109 | .5863 | .6374 | .0006 | .0018 | .0034 |
| 31.36 | .00 | 1.7171 | 1.0282 | .2624 | .0054 | .0034 | -.0124 | .6106 | .6771 | .0004 | .0010 | .0017 |
| 33.74 | -.03 | 1.7546 | 1.1549 | .2661 | .0053 | .0035 | -.0130 | .6309 | .7169 | .0009 | .0016 | .0029 |
| 35.46 | .02 | 1.7245 | 1.2136 | .2602 | .0046 | .0028 | -.0131 | .6262 | .7253 | .0007 | .0010 | .0015 |
| 37.70 | .04 | 1.6654 | 1.2747 | .2718 | .0067 | -.0034 | -.0121 | .6184 | .7358 | .0008 | .0001 | .0000 |
| 39.44 | .06 | 1.6037 | 1.3079 | .2837 | .0066 | -.0113 | -.0134 | .6091 | .7417 | -.0001 | -.0017 | -.0037 |
| 41.39 | .05 | 1.5490 | 1.3520 | .2861 | .0039 | -.0065 | -.0094 | .5954 | .7433 | .0002 | -.0004 | -.0008 |
| .04 | .00 | -.0126 | .0176 | .0001 | -.0004 | .0011 | .0013 | -.0061 | -.0076 | -.0002 | -.0004 | -.0010 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78131

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.23 | -.00 | -.2543 | .0315 | -.0390 | -.0004 | .0005 | .0072 | -.0894 | -.0895 | .0007 | .0017 | .0026 |
| -2.31 | .00 | -.1216 | .0200 | -.0210 | .0010 | .0006 | .0070 | -.0437 | -.0447 | .0009 | .0021 | .0030 |
| -.24 | .00 | .0035 | .0173 | -.0010 | .0008 | .0008 | .0069 | -.0009 | -.0027 | .0009 | .0019 | .0027 |
| 2.11 | -.01 | .1447 | .0212 | .0191 | .0012 | .0005 | .0067 | .0474 | .0447 | .0011 | .0020 | .0028 |
| 4.18 | -.02 | .2899 | .0319 | .0395 | .0028 | -.0001 | .0115 | .0940 | .0889 | .0014 | .0027 | .0036 |
| 6.40 | -.03 | .4403 | .0560 | .0606 | .0027 | .0003 | .0099 | .1493 | .1421 | .0016 | .0028 | .0041 |
| 8.46 | -.05 | .5769 | .0891 | .0824 | .0025 | .0008 | .0068 | .1995 | .1913 | .0015 | .0029 | .0044 |
| 10.67 | -.12 | .7097 | .1328 | .1038 | .0024 | .0005 | .0095 | .2431 | .2368 | .0016 | .0035 | .0053 |
| 12.77 | -.15 | .8491 | .1887 | .1231 | .0030 | .0003 | .0101 | .2907 | .2856 | .0017 | .0038 | .0057 |
| 14.80 | -.21 | .9637 | .2512 | .1441 | .0022 | .0019 | .0074 | .3348 | .3315 | .0017 | .0038 | .0065 |
| 17.01 | -.26 | 1.0948 | .3286 | .1617 | .0032 | .0015 | .0081 | .3800 | .3812 | .0017 | .0043 | .0072 |
| 19.19 | -.31 | 1.2188 | .4158 | .1725 | .0025 | .0011 | .0053 | .4182 | .4264 | .0016 | .0040 | .0063 |
| 21.52 | -.39 | 1.3302 | .5139 | .1798 | .0021 | .0004 | .0056 | .4530 | .4696 | .0009 | .0040 | .0056 |
| 23.66 | -.43 | 1.4237 | .6124 | .1851 | .0029 | -.0005 | .0014 | .4825 | .5069 | .0007 | .0039 | .0052 |
| 25.66 | -.35 | 1.4043 | .6714 | .1965 | .0174 | -.0166 | .0024 | .4982 | .5306 | .0019 | .0024 | .0040 |
| 27.70 | -.38 | 1.3773 | .7237 | .2139 | .0059 | -.0069 | .0042 | .5150 | .5578 | .0006 | .0037 | .0044 |
| 29.88 | -.35 | 1.4264 | .8183 | .2260 | .0073 | -.0107 | .0092 | .5355 | .5923 | .0015 | .0034 | .0048 |
| 31.90 | -.28 | 1.4776 | .9179 | .2319 | .0079 | -.0118 | .0096 | .5515 | .6222 | .0024 | .0025 | .0052 |
| 33.82 | -.22 | 1.5165 | 1.0128 | .2340 | .0092 | -.0139 | .0093 | .5620 | .6475 | .0033 | .0017 | .0055 |
| 35.82 | -.20 | 1.5348 | 1.1022 | .2346 | .0092 | -.0140 | .0106 | .5634 | .6643 | .0040 | .0014 | .0060 |
| 37.91 | -.16 | 1.5303 | 1.1828 | .2365 | .0094 | -.0154 | .0115 | .5624 | .6809 | .0047 | .0010 | .0064 |
| 39.97 | -.16 | 1.5170 | 1.2595 | .2393 | .0086 | -.0126 | .0118 | .5558 | .6907 | .0052 | .0011 | .0071 |
| 41.92 | -.14 | 1.4841 | 1.3163 | .2398 | .0076 | -.0094 | .0081 | .5457 | .6967 | .0053 | .0012 | .0074 |
| -.00 | .00 | .0133 | .0147 | -.0026 | .0019 | .0001 | .0107 | -.0009 | -.0024 | .0010 | .0025 | .0031 |

# TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78133

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.33 | -.00 | -.0589 | .0112 | -.0833 | .0037 | .0004 | .0080 | -.0759 | -.0761 | .0012 | .0021 | .0028 |
| -2.52 | -.00 | -.0163 | .0104 | -.0416 | .0035 | .0006 | .0082 | -.0345 | -.0358 | .0012 | .0021 | .0029 |
| -.23 | -.00 | .0244 | .0086 | -.0036 | .0037 | .0000 | .0107 | .0044 | .0036 | .0013 | .0021 | .0027 |
| 2.10 | .00 | .0729 | .0101 | .0362 | .0041 | -.0005 | .0133 | .0456 | .0444 | .0015 | .0019 | .0023 |
| 4.05 | .00 | .1102 | .0146 | .0769 | .0037 | .0000 | .0119 | .0871 | .0849 | .0018 | .0022 | .0034 |
| 6.39 | .01 | .1446 | .0208 | .1178 | .0032 | .0004 | .0120 | .1277 | .1240 | .0018 | .0022 | .0038 |
| 8.59 | .01 | .1950 | .0338 | .1696 | .0027 | .0004 | .0113 | .1775 | .1727 | .0017 | .0021 | .0040 |
| 10.50 | .00 | .2270 | .0457 | .2059 | .0023 | .0002 | .0124 | .2115 | .2088 | .0014 | .0020 | .0039 |
| 12.60 | .01 | .2658 | .0621 | .2473 | .0018 | .0002 | .0133 | .2497 | .2495 | .0015 | .0022 | .0046 |
| 14.71 | .01 | .3034 | .0805 | .2863 | .0015 | -.0000 | .0142 | .2849 | .2884 | .0014 | .0023 | .0047 |
| 16.70 | .01 | .3363 | .1003 | .3211 | .0009 | -.0001 | .0187 | .3150 | .3229 | .0011 | .0027 | .0054 |
| 18.99 | .01 | .3632 | .1227 | .3534 | .0001 | -.0014 | .0157 | .3394 | .3562 | .0006 | .0027 | .0047 |
| 20.81 | .01 | .3807 | .1416 | .3768 | -.0015 | -.0025 | .0139 | .3553 | .3781 | -.0003 | .0023 | .0033 |
| 23.27 | .02 | .4069 | .1704 | .4031 | -.0019 | -.0034 | .0164 | .3717 | .4037 | -.0005 | .0024 | .0031 |
| 25.28 | .02 | .4171 | .1920 | .4231 | -.0028 | -.0040 | .0193 | .3812 | .4219 | -.0006 | .0024 | .0030 |
| 27.39 | -.01 | .4424 | .2198 | .4429 | -.0031 | -.0056 | .0256 | .3926 | .4425 | -.0006 | .0032 | .0034 |
| 29.39 | -.00 | .4484 | .2429 | .4667 | -.0032 | -.0044 | .0262 | .4015 | .4620 | -.0002 | .0033 | .0041 |
| 31.40 | -.01 | .4564 | .2677 | .4829 | -.0027 | -.0029 | .0265 | .4066 | .4784 | .0005 | .0037 | .0054 |
| 33.42 | -.00 | .4614 | .2914 | .4951 | -.0018 | -.0020 | .0264 | .4072 | .4904 | .0009 | .0034 | .0054 |
| 35.40 | -.01 | .4643 | .3149 | .5032 | -.0017 | -.0014 | .0256 | .4046 | .4995 | .0010 | .0034 | .0054 |
| 37.52 | -.01 | .4629 | .3383 | .5095 | -.0010 | -.0007 | .0240 | .3992 | .5060 | .0016 | .0036 | .0063 |
| 39.40 | .01 | .4620 | .3603 | .5138 | -.0006 | .0003 | .0275 | .3943 | .5123 | .0022 | .0039 | .0074 |
| 41.82 | .00 | .4676 | .3922 | .5129 | .0019 | .0001 | .0339 | .3859 | .5181 | .0040 | .0042 | .0096 |
| .90 | .00 | .0086 | .0059 | -.0023 | .0020 | .0011 | .0059 | -.0002 | -.0016 | .0013 | .0017 | .0026 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78134

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.35 | -.00 | -.0846 | .0157 | -.0849 | .0000 | .0004 | .0021 | -.0850 | -.0835 | -.0005 | .0011 | .0015 |
| -2.46 | .00 | -.0433 | .0148 | -.0426 | -.0003 | .0007 | .0023 | -.0417 | -.0422 | -.0004 | .0010 | .0011 |
| -.36 | -.00 | -.0050 | .0119 | -.0064 | -.0000 | .0006 | .0008 | -.0041 | -.0041 | -.0003 | .0013 | .0016 |
| 2.32 | .00 | .0405 | .0134 | .0371 | -.0005 | .0007 | -.0030 | .0394 | .0385 | -.0003 | .0010 | .0011 |
| 4.26 | -.00 | .0748 | .0160 | .0745 | -.0009 | .0009 | -.0018 | .0769 | .0747 | -.0004 | .0009 | .0012 |
| 6.42 | .00 | .1269 | .0209 | .1148 | .0001 | .0006 | -.0002 | .1201 | .1169 | -.0002 | .0013 | .0013 |
| 8.48 | -.00 | .1680 | .0301 | .1536 | -.0000 | .0005 | .0001 | .1595 | .1558 | -.0002 | .0012 | .0011 |
| 10.60 | -.00 | .2026 | .0421 | .1927 | -.0003 | .0009 | -.0005 | .1951 | .1930 | -.0000 | .0013 | .0011 |
| 12.63 | -.00 | .2382 | .0560 | .2266 | .0000 | .0005 | -.0011 | .2282 | .2286 | .0001 | .0011 | .0005 |
| 14.84 | -.01 | .2746 | .0744 | .2638 | -.0002 | .0004 | .0008 | .2621 | .2663 | .0000 | .0015 | .0012 |
| 17.13 | -.01 | .3137 | .0972 | .3022 | -.0002 | .0006 | -.0014 | .2956 | .3038 | -.0000 | .0014 | .0009 |
| 19.30 | -.01 | .3416 | .1173 | .3341 | -.0003 | .0000 | -.0028 | .3228 | .3355 | -.0002 | .0012 | .0004 |
| 21.26 | -.01 | .3758 | .1430 | .3726 | -.0006 | -.0005 | .0006 | .3559 | .3757 | -.0004 | .0008 | -.0007 |
| 23.35 | -.00 | .4024 | .1669 | .4025 | -.0008 | -.0002 | -.0007 | .3774 | .4042 | -.0007 | .0010 | -.0005 |
| 25.75 | -.01 | .4162 | .1953 | .4317 | -.0011 | -.0013 | -.0004 | .3902 | .4303 | -.0007 | -.0003 | -.0029 |
| 27.53 | -.01 | .4367 | .2207 | .4535 | -.0011 | -.0008 | .0025 | .4014 | .4500 | -.0004 | .0013 | .0004 |
| 29.79 | -.00 | .4612 | .2549 | .4837 | -.0010 | -.0008 | .0036 | .4177 | .4781 | -.0002 | .0018 | .0016 |
| 31.70 | -.05 | .4737 | .2820 | .5081 | -.0013 | -.0004 | .0060 | .4304 | .5018 | .0001 | .0020 | .0023 |
| 33.72 | -.06 | .4790 | .3086 | .5318 | -.0024 | -.0006 | .0104 | .4378 | .5214 | .0001 | .0020 | .0025 |
| 35.68 | -.06 | .4855 | .3352 | .5503 | -.0029 | -.0010 | .0116 | .4418 | .5378 | .0002 | .0018 | .0023 |
| 37.87 | -.08 | .4889 | .3631 | .5653 | -.0033 | -.0014 | .0121 | .4435 | .5538 | .0000 | .0011 | .0009 |
| 40.10 | -.07 | .4983 | .3971 | .5722 | -.0034 | -.0022 | .0143 | .4396 | .5629 | .0003 | .0014 | .0010 |
| 42.17 | -.10 | .5007 | .4265 | .5763 | -.0032 | -.0025 | .0144 | .4346 | .5712 | .0005 | .0012 | .0003 |
| -.09 | .00 | -.0253 | .0139 | -.0066 | -.0020 | .0017 | -.0040 | -.0098 | -.0107 | -.0005 | .0005 | .0010 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78158

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.34 | -.00 | -.2514 | .0332 | -.0495 | -.0007 | .0010 | .0015 | -.1016 | -.0956 | .0002 | .0009 | .0008 |
| -2.32 | .00 | -.1241 | .0219 | -.0271 | -.0007 | .0007 | .0020 | -.0505 | -.0476 | .0002 | .0009 | .0008 |
| -.44 | .00 | -.0148 | .0190 | -.0046 | -.0007 | .0007 | .0017 | -.0047 | -.0034 | .0002 | .0012 | .0013 |
| 1.89 | -.00 | .1014 | .0205 | .0186 | -.0002 | .0009 | -.0000 | .0426 | .0421 | .0004 | .0009 | .0010 |
| 4.00 | .00 | .2334 | .0307 | .0412 | -.0001 | .0012 | -.0015 | .0952 | .0914 | .0005 | .0010 | .0011 |
| 6.12 | .00 | .3741 | .0512 | .0601 | .0003 | .0014 | -.0016 | .1489 | .1424 | .0005 | .0011 | .0014 |
| 8.28 | .00 | .5157 | .0821 | .0800 | .0004 | .0013 | -.0050 | .2015 | .1934 | .0005 | .0008 | .0009 |
| 10.06 | .00 | .6394 | .1187 | .0941 | .0006 | .0013 | -.0022 | .2420 | .2348 | .0005 | .0008 | .0010 |
| 12.48 | .00 | .7895 | .1769 | .1138 | .0011 | .0015 | -.0078 | .2943 | .2876 | .0004 | .0007 | .0010 |
| 14.46 | .01 | .9156 | .2356 | .1314 | .0012 | .0016 | -.0089 | .3391 | .3335 | .0004 | .0008 | .0013 |
| 16.55 | .01 | 1.0530 | .3095 | .1497 | .0013 | .0017 | -.0107 | .3868 | .3836 | .0005 | .0009 | .0014 |
| 18.57 | .01 | 1.1845 | .3919 | .1660 | .0013 | .0017 | -.0133 | .4324 | .4323 | .0005 | .0006 | .0012 |
| 20.90 | -.01 | 1.3063 | .4928 | .1643 | -.0016 | .0015 | -.0211 | .4592 | .4607 | -.0014 | .0022 | .0012 |
| 23.02 | .00 | 1.3958 | .5856 | .1701 | -.0014 | .0029 | -.0204 | .4825 | .4886 | -.0013 | .0035 | .0053 |
| 25.05 | .03 | 1.5052 | .6921 | .1978 | -.0017 | .0036 | -.0233 | .5294 | .5429 | -.0016 | .0040 | .0063 |
| 27.11 | .00 | 1.5823 | .7949 | .2159 | -.0026 | .0054 | -.0222 | .5580 | .5826 | -.0010 | .0032 | .0058 |
| 29.17 | -.01 | 1.6398 | .8959 | .2424 | -.0039 | .0074 | -.0269 | .5875 | .6252 | -.0010 | .0036 | .0070 |
| 31.27 | .01 | 1.6783 | .9963 | .2709 | -.0025 | .0080 | -.0275 | .6118 | .6659 | -.0009 | .0037 | .0077 |
| 33.24 | .03 | 1.7095 | 1.0950 | .2867 | .0003 | .0068 | -.0261 | .6259 | .6986 | -.0007 | .0053 | .0112 |
| 35.32 | .01 | 1.7151 | 1.1913 | .2731 | .0025 | .0056 | -.0245 | .6181 | .7105 | .0008 | .0059 | .0145 |
| 37.26 | .03 | 1.6294 | 1.2213 | .2547 | .0048 | -.0117 | -.0305 | .5882 | .6982 | .0003 | -.0003 | .0032 |
| 39.52 | .05 | 1.5492 | 1.2585 | .2659 | .0026 | -.0238 | -.0357 | .5688 | .6989 | -.0014 | -.0040 | -.0046 |
| 41.12 | .03 | 1.5178 | 1.3049 | .2744 | -.0002 | -.0211 | -.0315 | .5637 | .7108 | -.0012 | -.0030 | -.0027 |
| -.12 | -.00 | -.0171 | .0178 | -.0068 | -.0002 | .0009 | -.0001 | -.0091 | -.0076 | .0008 | .0004 | .0001 |

## TABLE III.- TABULATED RESULTS – Continued

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78167

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.40 | .01 | -.1092 | .0191 | -.0968 | .0009 | .0016 | .0018 | -.1017 | -.0963 | .0010 | .0012 | .0011 |
| -2.60 | .00 | -.0616 | .0154 | -.0532 | .0010 | .0014 | .0009 | -.0565 | -.0536 | .0011 | .0010 | .0009 |
| -.50 | .00 | -.0144 | .0131 | -.0099 | .0008 | .0014 | .0011 | -.0121 | -.0108 | .0009 | .0010 | .0012 |
| 2.35 | -.00 | .0397 | .0131 | .0414 | .0008 | .0009 | .0011 | .0408 | .0407 | .0010 | .0010 | .0009 |
| 3.89 | -.00 | .0802 | .0154 | .0747 | .0012 | .0009 | -.0003 | .0768 | .0750 | .0012 | .0009 | .0010 |
| 5.85 | -.00 | .1322 | .0223 | .1210 | .0011 | .0008 | .0012 | .1260 | .1222 | .0012 | .0009 | .0010 |
| 8.46 | -.01 | .1877 | .0332 | .1739 | .0011 | .0004 | .0020 | .1790 | .1734 | .0013 | .0008 | .0012 |
| 9.99 | -.00 | .2229 | .0439 | .2080 | .0009 | .0007 | .0021 | .2107 | .2063 | .0011 | .0010 | .0018 |
| 12.13 | -.01 | .2647 | .0591 | .2480 | .0008 | .0005 | .0024 | .2498 | .2470 | .0011 | .0012 | .0020 |
| 14.05 | -.01 | .3064 | .0786 | .2899 | .0007 | .0005 | .0024 | .2881 | .2880 | .0010 | .0014 | .0025 |
| 16.33 | -.01 | .3452 | .1011 | .3245 | .0007 | .0005 | .0011 | .3206 | .3245 | .0009 | .0012 | .0023 |
| 18.21 | -.02 | .3731 | .1213 | .3555 | .0007 | .0007 | .0007 | .3470 | .3551 | .0010 | .0012 | .0024 |
| 20.24 | -.02 | .3736 | .1400 | .3571 | -.0010 | .0021 | -.0059 | .3429 | .3555 | -.0006 | .0030 | .0040 |
| 22.14 | -.02 | .3708 | .1553 | .3592 | -.0001 | .0017 | -.0038 | .3353 | .3559 | .0004 | .0027 | .0050 |
| 24.10 | -.02 | .3955 | .1799 | .3872 | -.0000 | .0022 | -.0051 | .3555 | .3826 | .0000 | .0021 | .0040 |
| 26.28 | -.02 | .4295 | .2125 | .4238 | -.0003 | .0031 | -.0063 | .3835 | .4192 | -.0001 | .0032 | .0062 |
| 28.23 | -.02 | .4511 | .2399 | .4506 | -.0001 | .0043 | -.0074 | .3991 | .4432 | .0001 | .0048 | .0092 |
| 30.48 | -.01 | .4655 | .2689 | .4748 | -.0009 | .0042 | .0052 | .4086 | .4670 | .0008 | .0068 | .0136 |
| 32.24 | -.04 | .4714 | .2895 | .4879 | -.0002 | .0071 | .0137 | .4072 | .4765 | .0005 | .0083 | .0165 |
| 34.10 | -.04 | .4825 | .3155 | .5034 | -.0001 | .0082 | .0223 | .4098 | .4911 | .0016 | .0106 | .0218 |
| 36.10 | -.04 | .4930 | .3439 | .5197 | .0001 | .0074 | .0127 | .4136 | .5091 | .0017 | .0093 | .0195 |
| 38.25 | -.04 | .4995 | .3743 | .5292 | -.0005 | .0050 | .0061 | .4109 | .5205 | .0013 | .0071 | .0153 |
| 40.27 | -.03 | .5028 | .4026 | .5357 | -.0027 | .0014 | .0018 | .4078 | .5313 | .0002 | .0046 | .0104 |
| -.10 | .00 | -.0122 | .0115 | -.0092 | .0008 | .0014 | .0019 | -.0123 | -.0110 | .0009 | .0009 | .0006 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78171

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.22 | .00 | -.2503 | .0321 | -.0334 | -.0003 | .0016 | .0052 | -.0975 | -.0820 | -.0003 | .0012 | .0015 |
| -2.42 | .00 | -.1325 | .0221 | -.0194 | -.0013 | .0012 | .0044 | -.0506 | -.0436 | -.0003 | .0014 | .0017 |
| -.59 | .00 | -.0150 | .0197 | -.0023 | -.0009 | .0013 | .0026 | -.0061 | -.0053 | -.0002 | .0010 | .0012 |
| 2.02 | -.00 | .1160 | .0221 | .0160 | -.0000 | .0017 | .0022 | .0438 | .0381 | -.0002 | .0012 | .0015 |
| 4.22 | -.00 | .2415 | .0323 | .0314 | .0004 | .0017 | .0013 | .0942 | .0796 | -.0001 | .0010 | .0011 |
| 6.10 | -.00 | .3716 | .0519 | .0452 | .0004 | .0018 | .0003 | .1444 | .1217 | -.0001 | .0012 | .0014 |
| 7.97 | -.00 | .5102 | .0812 | .0612 | .0005 | .0019 | -.0030 | .1983 | .1681 | .0001 | .0014 | .0017 |
| 10.08 | .00 | .6496 | .1231 | .0789 | .0011 | .0017 | -.0018 | .2507 | .2157 | .0001 | .0007 | .0002 |
| 12.37 | .00 | .8080 | .1816 | .0939 | .0016 | .0020 | -.0044 | .3033 | .2671 | .0003 | .0015 | .0019 |
| 14.51 | .00 | .9098 | .2350 | .1056 | .0016 | .0022 | -.0053 | .3396 | .3016 | .0004 | .0013 | .0015 |
| 16.47 | .00 | 1.0720 | .3147 | .1239 | .0013 | .0021 | -.0069 | .3985 | .3581 | .0006 | .0011 | .0014 |
| 18.65 | -.01 | 1.2231 | .4066 | .1433 | .0011 | .0024 | -.0087 | .4547 | .4135 | .0005 | .0010 | .0011 |
| 20.75 | .00 | 1.3135 | .4858 | .1574 | .0015 | .0020 | -.0113 | .4879 | .4482 | .0005 | .0006 | .0005 |
| 23.10 | .01 | 1.4911 | .6213 | .1956 | .0012 | .0011 | -.0145 | .5655 | .5262 | .0003 | .0004 | .0001 |
| 24.99 | .01 | 1.5650 | .7094 | .2172 | .0007 | .0015 | -.0163 | .6016 | .5663 | .0001 | -.0003 | -.0013 |
| 27.31 | .01 | 1.6687 | .8362 | .2552 | .0002 | .0014 | -.0182 | .6533 | .6264 | -.0002 | -.0005 | -.0020 |
| 29.45 | .05 | 1.6918 | .9254 | .2753 | -.0019 | .0022 | -.0230 | .6649 | .6513 | -.0012 | -.0010 | -.0041 |
| 31.22 | -.02 | 1.6742 | .9903 | .2659 | -.0069 | .0089 | -.0315 | .6468 | .6485 | -.0041 | .0025 | -.0039 |
| 33.30 | -.02 | 1.6730 | 1.0772 | .2711 | -.0016 | .0055 | -.0239 | .6459 | .6656 | -.0023 | .0018 | -.0025 |
| 35.21 | .00 | 1.6814 | 1.1657 | .2651 | .0027 | .0022 | -.0259 | .6428 | .6832 | -.0018 | .0009 | -.0023 |
| 37.03 | .01 | 1.6591 | 1.2326 | .2569 | .0039 | -.0011 | -.0282 | .6317 | .6937 | -.0006 | .0011 | .0005 |
| 39.23 | .05 | 1.6084 | 1.2928 | .2703 | .0052 | -.0175 | -.0294 | .6194 | .7062 | -.0000 | -.0026 | -.0041 |
| 41.08 | .06 | 1.5617 | 1.3394 | .2727 | .0026 | -.0221 | -.0244 | .6022 | .7096 | .0004 | -.0027 | -.0030 |
| -.14 | .00 | -.0164 | .0174 | -.0017 | -.0004 | .0020 | .0032 | -.0061 | -.0052 | -.0001 | .0012 | .0014 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78172

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.53 | -.01 | -.2569 | .0340 | -.0594 | -.0002 | .0004 | .0033 | -.1041 | -.1066 | -.0001 | .0007 | .0006 |
| -2.22 | -.01 | -.1045 | .0222 | -.0297 | -.0005 | .0001 | .0006 | -.0448 | -.0465 | -.0001 | .0003 | .0001 |
| -.35 | -.00 | -.0100 | .0187 | -.0074 | -.0002 | .0001 | .0047 | -.0048 | -.0049 | -.0000 | .0006 | .0007 |
| 1.87 | .00 | .1092 | .0211 | .0218 | .0003 | .0003 | -.0009 | .0447 | .0461 | .0001 | .0005 | .0003 |
| 4.01 | .01 | .2370 | .0314 | .0485 | .0003 | .0003 | -.0014 | .0970 | .0992 | .0002 | .0006 | .0004 |
| 6.21 | .01 | .3841 | .0534 | .0711 | .0007 | .0003 | -.0025 | .1514 | .1551 | .0001 | .0006 | .0005 |
| 8.09 | .02 | .5171 | .0830 | .0859 | .0004 | .0004 | -.0042 | .1943 | .2004 | .0001 | .0011 | .0016 |
| 10.23 | .03 | .6482 | .1242 | .1002 | .0007 | -.0002 | -.0045 | .2357 | .2449 | .0002 | .0007 | .0007 |
| 12.70 | .03 | .8095 | .1881 | .1188 | .0011 | .0006 | -.0107 | .2861 | .2986 | .0001 | .0005 | .0005 |
| 14.58 | .03 | .9196 | .2442 | .1277 | .0010 | .0006 | -.0085 | .3195 | .3339 | .0001 | .0005 | .0005 |
| 16.58 | .04 | 1.0234 | .3111 | .1252 | .0015 | .0005 | -.0101 | .3407 | .3566 | .0001 | .0003 | .0001 |
| 18.78 | .04 | 1.1383 | .3944 | .1178 | .0011 | .0007 | -.0114 | .3537 | .3766 | .0002 | .0001 | -.0007 |
| 20.61 | .05 | 1.2268 | .4673 | .1240 | .0011 | .0007 | -.0130 | .3756 | .4044 | .0000 | -.0001 | -.0007 |
| 22.71 | .05 | 1.3459 | .5664 | .1403 | .0010 | .0005 | -.0169 | .4152 | .4520 | -.0002 | -.0005 | -.0014 |
| 24.80 | .06 | 1.4501 | .6695 | .1645 | .0007 | .0011 | -.0195 | .4571 | .5029 | -.0005 | -.0003 | -.0008 |
| 27.47 | .07 | 1.5727 | .8120 | .2032 | -.0005 | .0036 | -.0214 | .5128 | .5737 | -.0009 | .0020 | .0032 |
| 28.99 | .07 | 1.6274 | .8928 | .2208 | -.0003 | .0051 | -.0214 | .5372 | .6087 | -.0010 | .0040 | .0070 |
| 31.30 | .04 | 1.6780 | 1.0088 | .2401 | .0018 | .0059 | -.0215 | .5598 | .6499 | -.0005 | .0060 | .0107 |
| 33.35 | .05 | 1.6955 | 1.1047 | .2505 | .0033 | .0041 | -.0207 | .5724 | .6810 | -.0003 | .0061 | .0111 |
| 35.29 | .07 | 1.6532 | 1.1631 | .2430 | .0035 | -.0043 | -.0253 | .5632 | .6880 | -.0012 | .0022 | .0035 |
| 37.49 | .05 | 1.5467 | 1.1819 | .2542 | .0052 | -.0287 | -.0380 | .5425 | .6844 | -.0033 | -.0056 | -.0119 |
| 39.39 | .08 | 1.5195 | 1.2417 | .2687 | .0001 | -.0251 | -.0361 | .5401 | .6993 | -.0035 | -.0046 | -.0103 |
| 41.21 | .02 | 1.4976 | 1.3035 | .2803 | -.0027 | -.0192 | -.0321 | .5422 | .7215 | -.0035 | -.0035 | -.0080 |
| -.13 | .00 | -.0087 | .0176 | -.0048 | -.0003 | .0007 | .0036 | -.0042 | -.0042 | .0001 | -.0004 | -.0013 |

# TABLE III.- TABULATED RESULTS – Concluded

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78173

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.51 | -.00 | -.1001 | .0171 | -.1000 | .0003 | .0007 | .0013 | -.0948 | -.0976 | -.0001 | .0009 | .0011 |
| -2.22 | -.00 | -.0517 | .0124 | -.0498 | -.0001 | .0011 | .0014 | -.0462 | -.0478 | -.0001 | .0008 | .0009 |
| -.38 | -.00 | -.0059 | .0119 | -.0065 | -.0000 | .0005 | .0007 | -.0048 | -.0048 | -.0000 | .0009 | .0012 |
| 2.15 | .00 | .0478 | .0130 | .0479 | .0002 | .0007 | -.0002 | .0482 | .0503 | .0001 | -.0001 | -.0008 |
| 3.88 | .00 | .0893 | .0160 | .0881 | .0003 | .0006 | .0006 | .0878 | .0912 | .0002 | .0009 | .0009 |
| 5.97 | .00 | .1385 | .0239 | .1370 | .0003 | .0010 | -.0001 | .1354 | .1402 | .0002 | .0010 | .0010 |
| 7.89 | .01 | .1827 | .0334 | .1792 | .0004 | .0004 | -.0023 | .1747 | .1812 | .0002 | .0011 | .0011 |
| 10.23 | .00 | .2263 | .0481 | .2232 | .0006 | .0014 | .0002 | .2158 | .2267 | .0003 | .0010 | .0012 |
| 12.42 | .00 | .2673 | .0661 | .2648 | .0004 | .0004 | -.0004 | .2537 | .2680 | .0002 | .0010 | .0012 |
| 14.63 | .00 | .3021 | .0863 | .3005 | .0004 | .0007 | -.0010 | .2850 | .3031 | .0004 | .0011 | .0013 |
| 16.18 | .01 | .3223 | .1018 | .3165 | .0001 | .0006 | -.0028 | .3006 | .3195 | .0002 | .0009 | .0009 |
| 18.06 | .01 | .3193 | .1146 | .3163 | .0002 | .0011 | -.0028 | .2945 | .3195 | .0001 | .0012 | .0014 |
| 20.35 | .01 | .3209 | .1302 | .3203 | .0001 | .0012 | -.0014 | .2881 | .3232 | .0002 | .0018 | .0028 |
| 22.23 | .01 | .3428 | .1501 | .3467 | -.0000 | .0005 | -.0027 | .3071 | .3480 | .0003 | .0017 | .0027 |
| 24.03 | .02 | .3696 | .1732 | .3772 | -.0004 | .0007 | -.0031 | .3301 | .3776 | -.0000 | .0018 | .0029 |
| 26.20 | .02 | .3976 | .2021 | .4099 | -.0013 | .0018 | .0011 | .3519 | .4091 | -.0003 | .0039 | .0066 |
| 28.11 | .00 | .4173 | .2275 | .4346 | -.0025 | .0047 | .0127 | .3651 | .4322 | -.0006 | .0085 | .0151 |
| 30.41 | .00 | .4376 | .2583 | .4618 | -.0028 | .0069 | .0209 | .3780 | .4575 | -.0001 | .0115 | .0206 |
| 32.56 | -.01 | .4552 | .2888 | .4834 | -.0027 | .0080 | .0261 | .3859 | .4780 | .0003 | .0129 | .0233 |
| 34.55 | -.00 | .4689 | .3167 | .5003 | -.0026 | .0081 | .0281 | .3922 | .4969 | .0005 | .0129 | .0232 |
| 36.18 | -.00 | .4826 | .3449 | .5143 | -.0020 | .0082 | .0255 | .3953 | .5112 | .0007 | .0119 | .0216 |
| 38.29 | -.01 | .4947 | .3787 | .5269 | -.0012 | .0079 | .0169 | .3990 | .5302 | .0007 | .0105 | .0187 |
| 40.33 | -.01 | .5032 | .4125 | .5309 | -.0017 | .0059 | .0143 | .3972 | .5423 | .0006 | .0088 | .0159 |
| -.11 | .00 | -.0058 | .0109 | -.0040 | -.0001 | .0018 | -.0005 | -.0047 | -.0047 | .0001 | .0017 | .0021 |

MAIN BALANCE — SECOND BALANCE

CONFIG NO. 78174

| ALPHA DEG | BETA DEG | CL1 | CD1 | CM1 | CR1 | CY1 | CS1 | CL2 | CM2 | CR2 | CY2 | CS2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -4.38 | .18 | -.0900 | .0169 | -.0745 | -.0010 | .0031 | .0118 | -.0833 | -.0717 | -.0008 | .0036 | .0057 |
| -2.28 | .09 | -.0427 | .0126 | -.0356 | -.0008 | .0032 | .0103 | -.0395 | -.0347 | -.0006 | .0037 | .0057 |
| -.45 | .01 | .0059 | .0113 | -.0033 | -.0000 | .0015 | .0060 | -.0033 | -.0029 | -.0004 | .0024 | .0036 |
| 2.06 | -.01 | .0457 | .0127 | .0379 | -.0004 | .0013 | .0009 | .0428 | .0374 | -.0004 | .0014 | .0018 |
| 3.79 | .03 | .0839 | .0160 | .0689 | -.0005 | .0008 | -.0019 | .0794 | .0685 | -.0004 | .0008 | .0008 |
| 5.73 | .12 | .1300 | .0224 | .1062 | -.0007 | .0001 | -.0057 | .1226 | .1059 | -.0004 | -.0002 | -.0008 |
| 7.93 | .26 | .1819 | .0334 | .1491 | -.0005 | .0002 | -.0086 | .1718 | .1488 | -.0005 | -.0008 | -.0021 |
| 10.25 | .55 | .2339 | .0489 | .1938 | -.0006 | -.0017 | -.0138 | .2192 | .1923 | -.0006 | -.0022 | -.0045 |
| 12.58 | .84 | .2777 | .0668 | .2354 | -.0008 | -.0023 | -.0161 | .2595 | .2346 | -.0008 | -.0029 | -.0057 |
| 14.31 | 1.21 | .3093 | .0825 | .2648 | -.0008 | -.0034 | -.0199 | .2889 | .2647 | -.0012 | -.0041 | -.0077 |
| 16.32 | 1.42 | .3491 | .1048 | .3036 | -.0009 | -.0035 | -.0209 | .3255 | .3027 | -.0013 | -.0043 | -.0081 |
| 18.41 | 1.64 | .3881 | .1303 | .3415 | -.0008 | -.0030 | -.0218 | .3612 | .3419 | -.0014 | -.0041 | -.0078 |
| 20.15 | 1.85 | .4186 | .1529 | .3713 | -.0010 | -.0032 | -.0294 | .3870 | .3712 | -.0018 | -.0048 | -.0092 |
| 22.27 | 2.05 | .4519 | .1824 | .4096 | -.0013 | -.0030 | -.0263 | .4175 | .4064 | -.0021 | -.0047 | -.0091 |
| 24.59 | 2.32 | .4766 | .2130 | .4353 | -.0017 | -.0040 | -.0283 | .4344 | .4328 | -.0025 | -.0048 | -.0098 |
| 26.32 | 2.48 | .4697 | .2311 | .4307 | -.0034 | -.0026 | -.0307 | .4224 | .4283 | -.0039 | -.0029 | -.0093 |
| 28.47 | 2.68 | .4813 | .2591 | .4517 | -.0030 | -.0008 | -.0292 | .4307 | .4481 | -.0036 | -.0012 | -.0042 |
| 30.54 | 2.87 | .4958 | .2882 | .4776 | -.0034 | .0000 | -.0234 | .4413 | .4708 | -.0033 | .0007 | -.0001 |
| 32.38 | 3.04 | .5057 | .3140 | .4988 | -.0035 | -.0002 | -.0161 | .4474 | .4899 | -.0028 | .0014 | .0018 |
| 34.56 | 3.21 | .5135 | .3436 | .5203 | -.0032 | -.0001 | -.0079 | .4478 | .5070 | -.0019 | .0017 | .0036 |
| 36.56 | 3.39 | .5177 | .3702 | .5339 | -.0020 | -.0005 | -.0020 | .4471 | .5203 | -.0008 | .0012 | .0037 |
| 38.69 | 3.56 | .5211 | .4005 | .5458 | -.0005 | -.0009 | -.0019 | .4434 | .5319 | .0002 | .0002 | .0034 |
| 40.50 | 3.70 | .5196 | .4235 | .5497 | -.0008 | -.0015 | -.0111 | .4352 | .5372 | -.0002 | -.0008 | .0015 |
| .16 | .02 | -.0063 | .0102 | -.0031 | -.0001 | -.0039 | -.0235 | -.0051 | -.0048 | -.0003 | -.0070 | -.0125 |

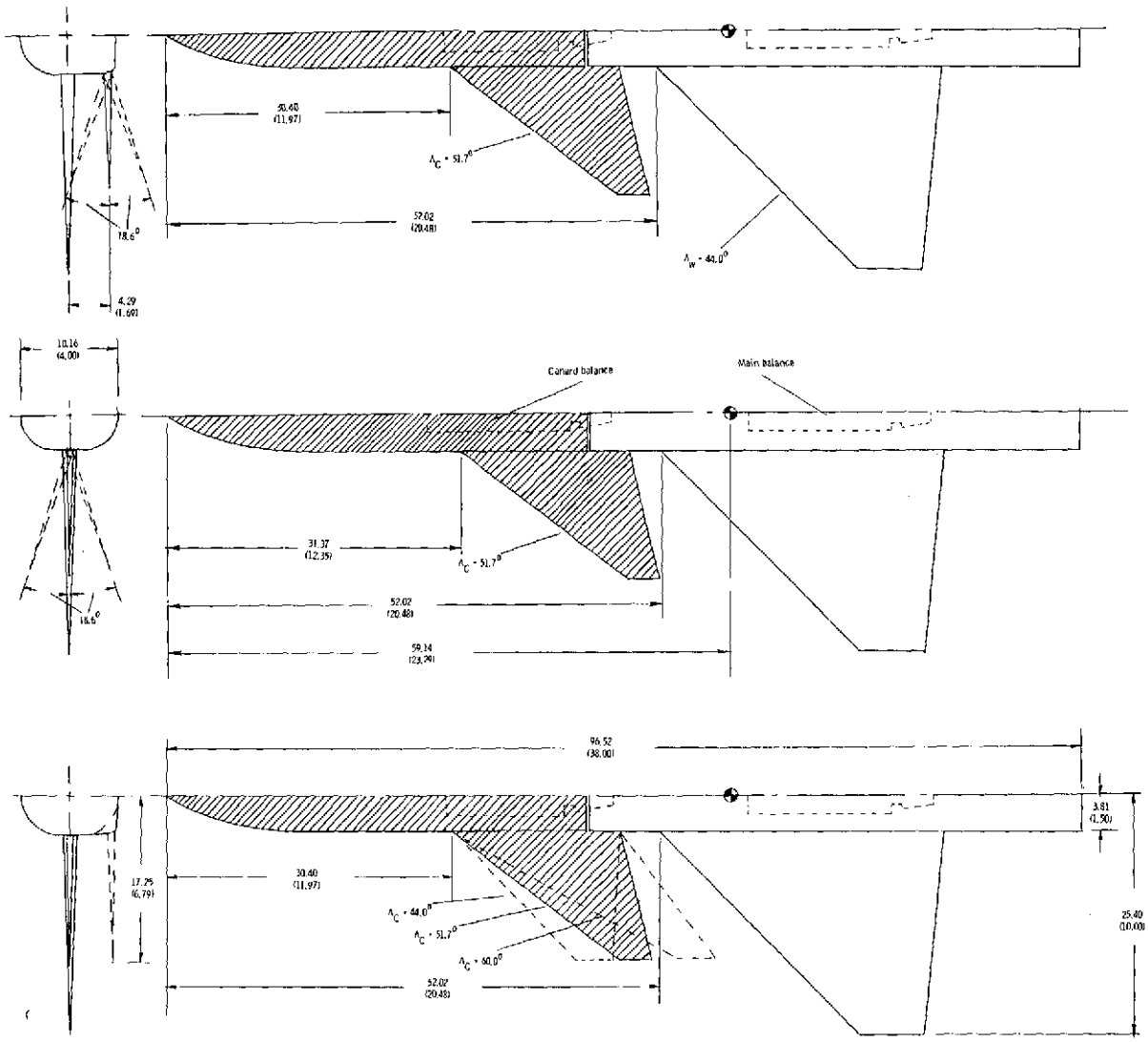
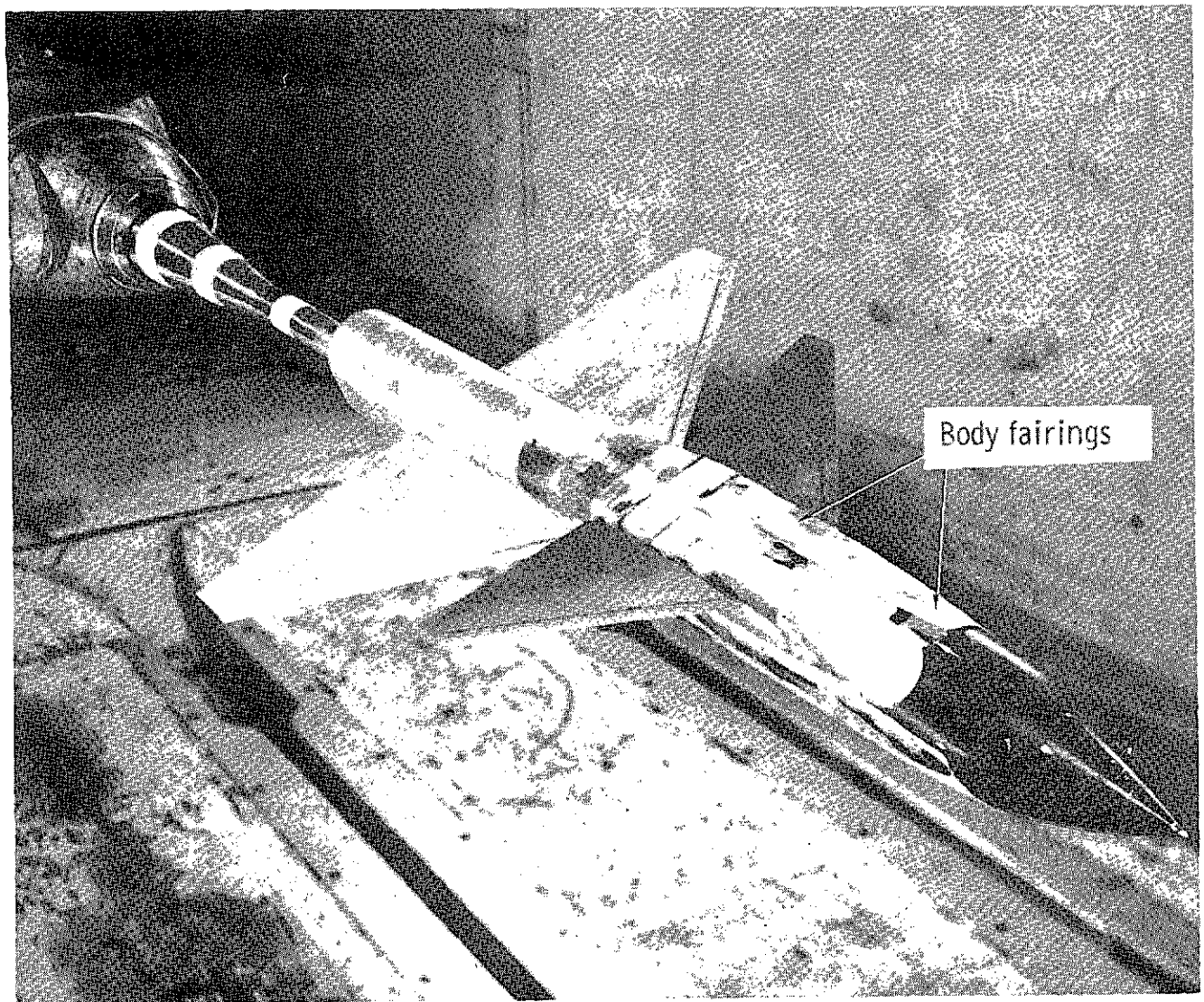



Figure 1.- Model drawings; dimensions in centimeters (inches).




L-73-8751.1

Figure 2.- Photograph of model mounted in the Langley high-speed 7- by 10-foot tunnel.

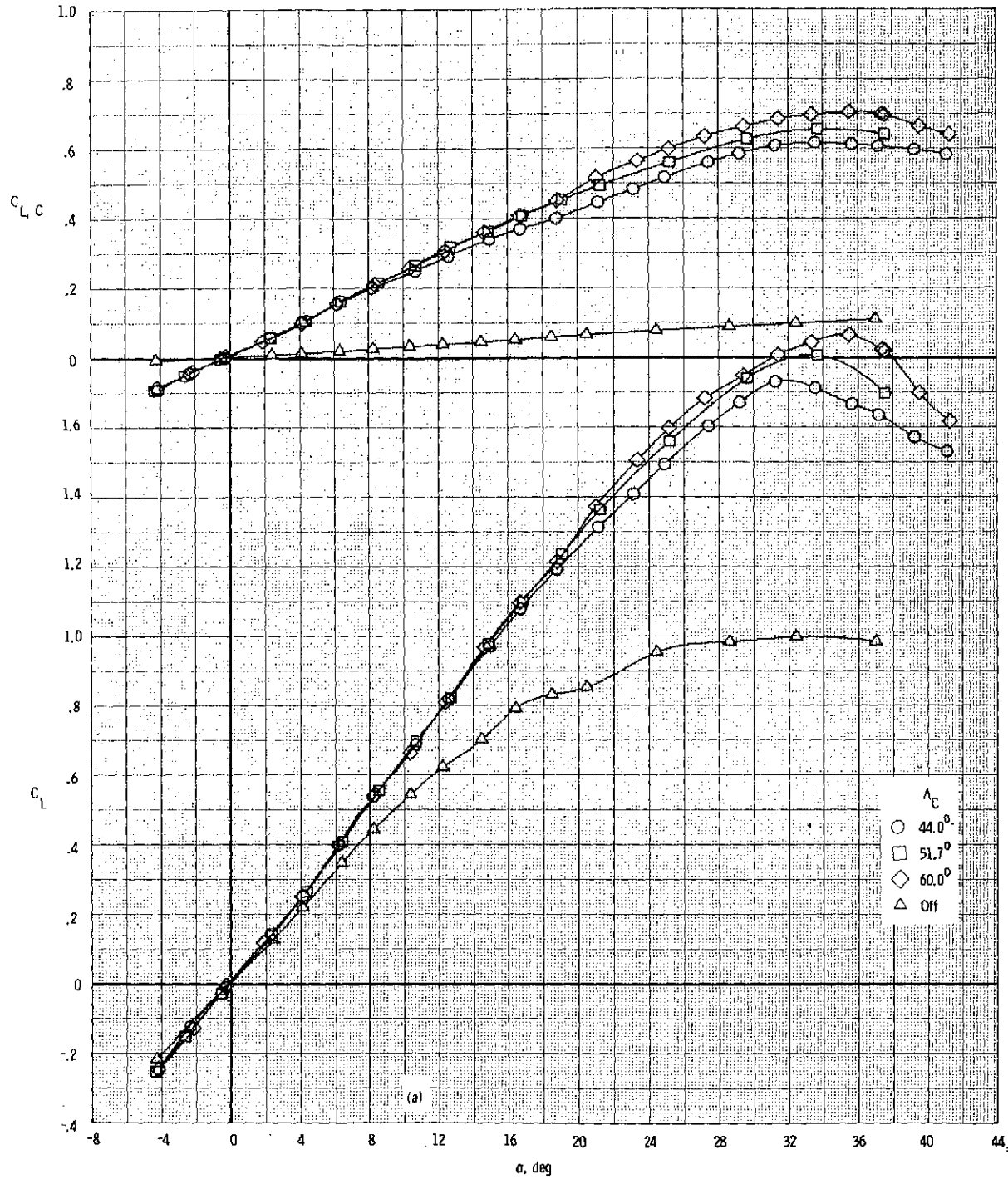



Figure 3.- The effect of canard leading-edge sweep on the longitudinal aerodynamic characteristics for the model with $z/\bar{c} = 0.185$, $\phi = 0.0^{\circ}$, and $\ell/\bar{c} = 1.304$.

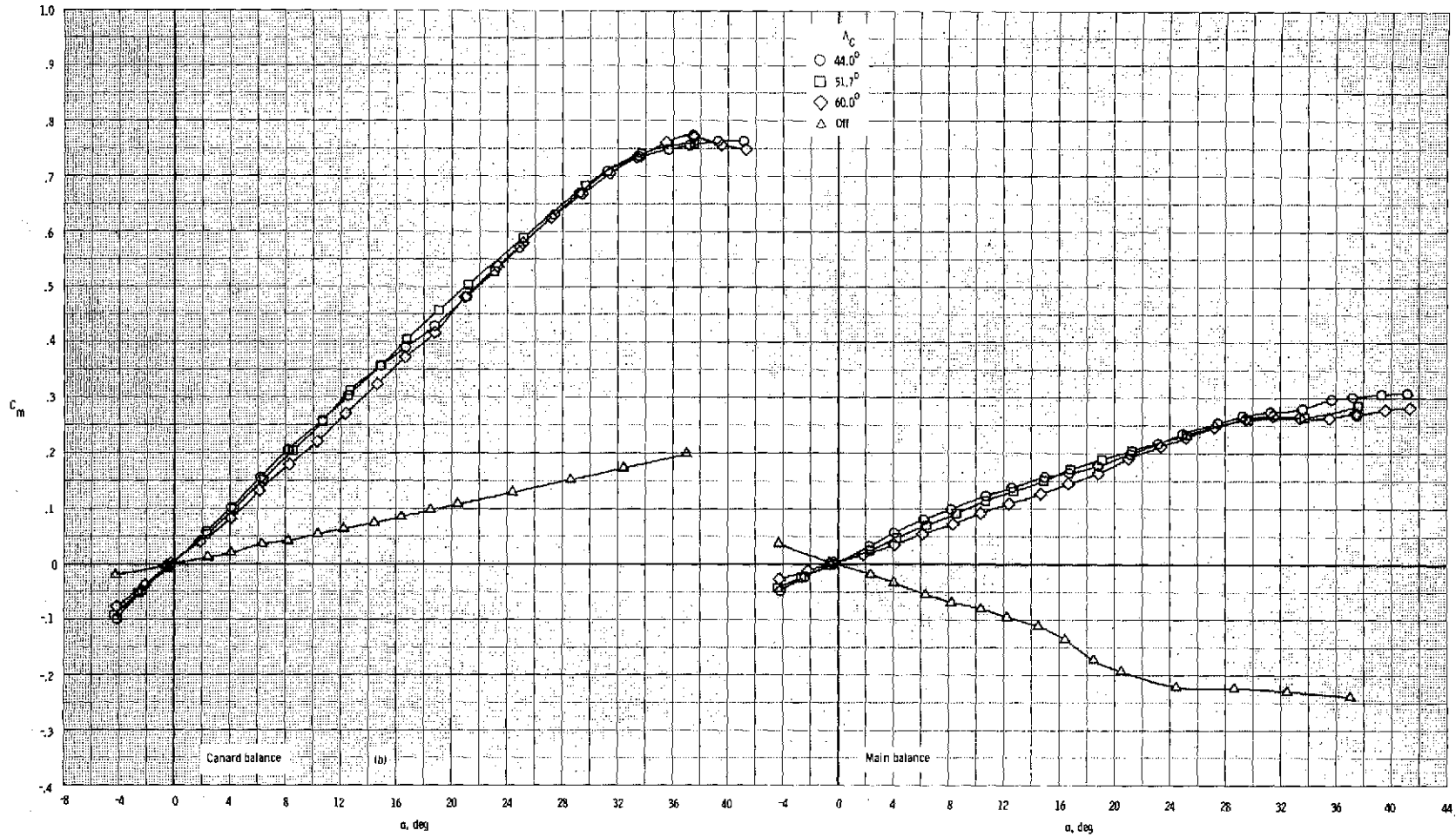



Figure 3.- Continued.

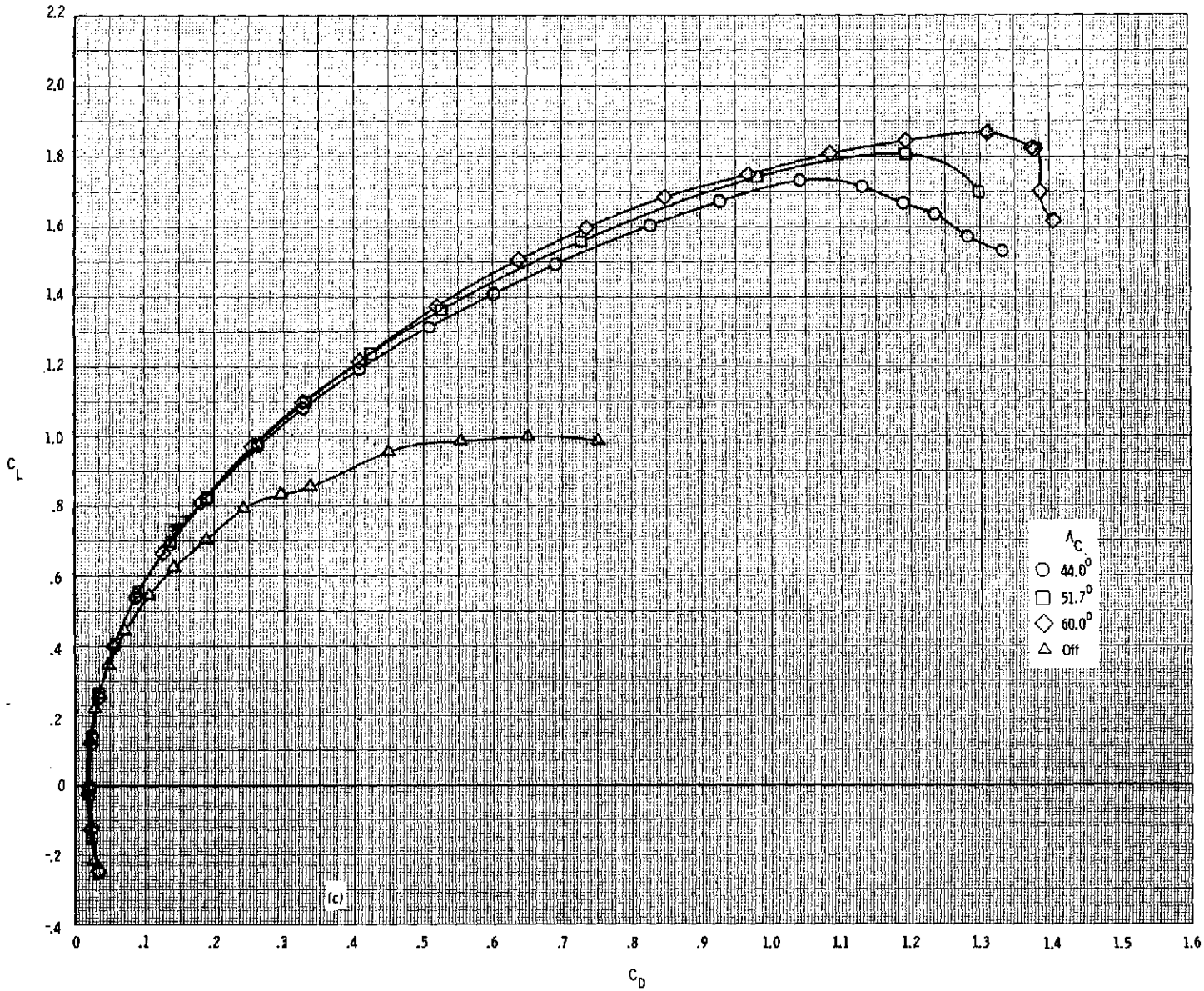



Figure 3.- Concluded.

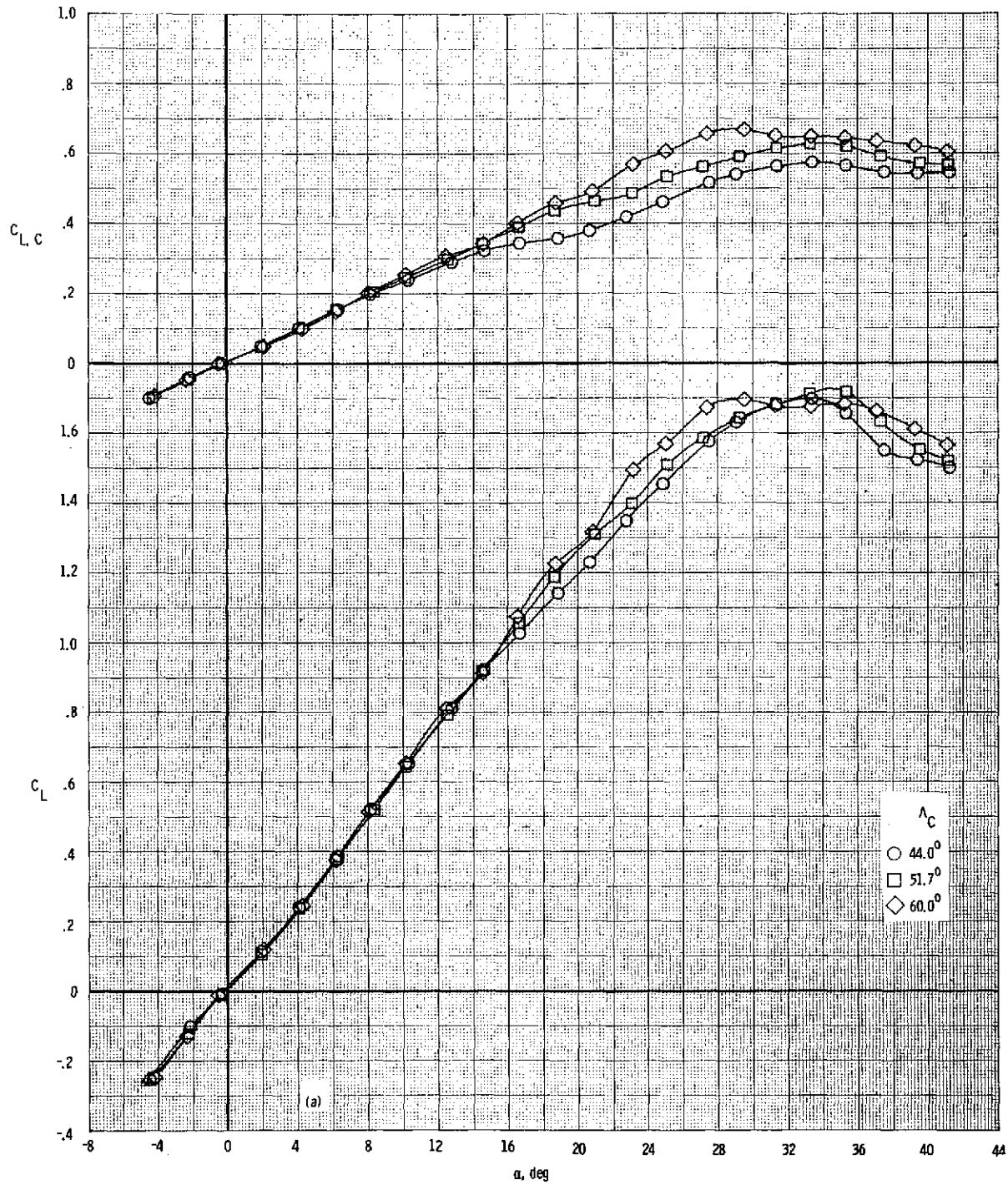



Figure 4.- The effect of canard leading-edge sweep on the longitudinal aerodynamic characteristics for the model with $z/\bar{c} = 0.0$, $\phi = 0.0^{o}$, and $\ell/\bar{c} = 1.304$.

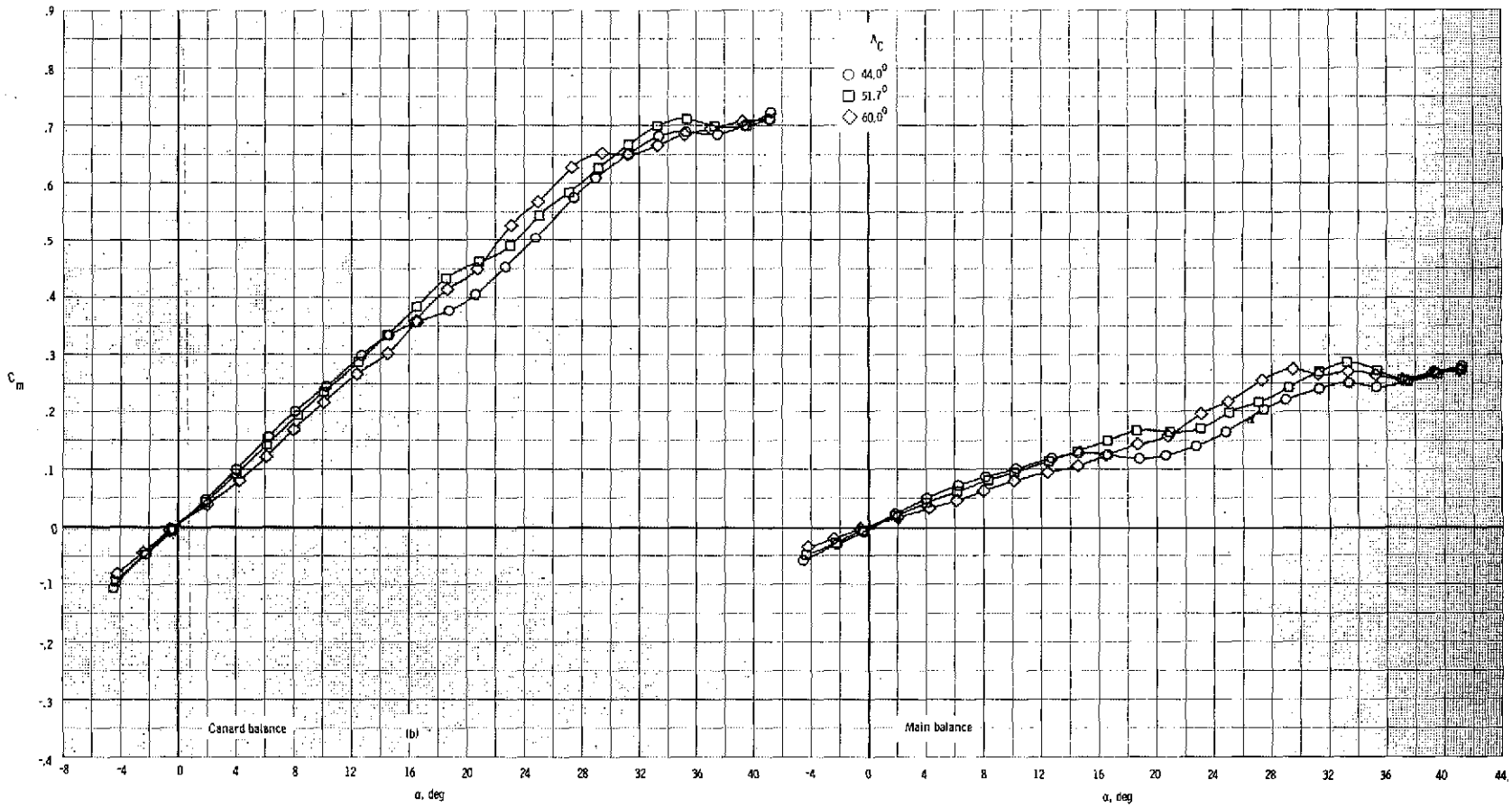



Figure 4.- Continued.

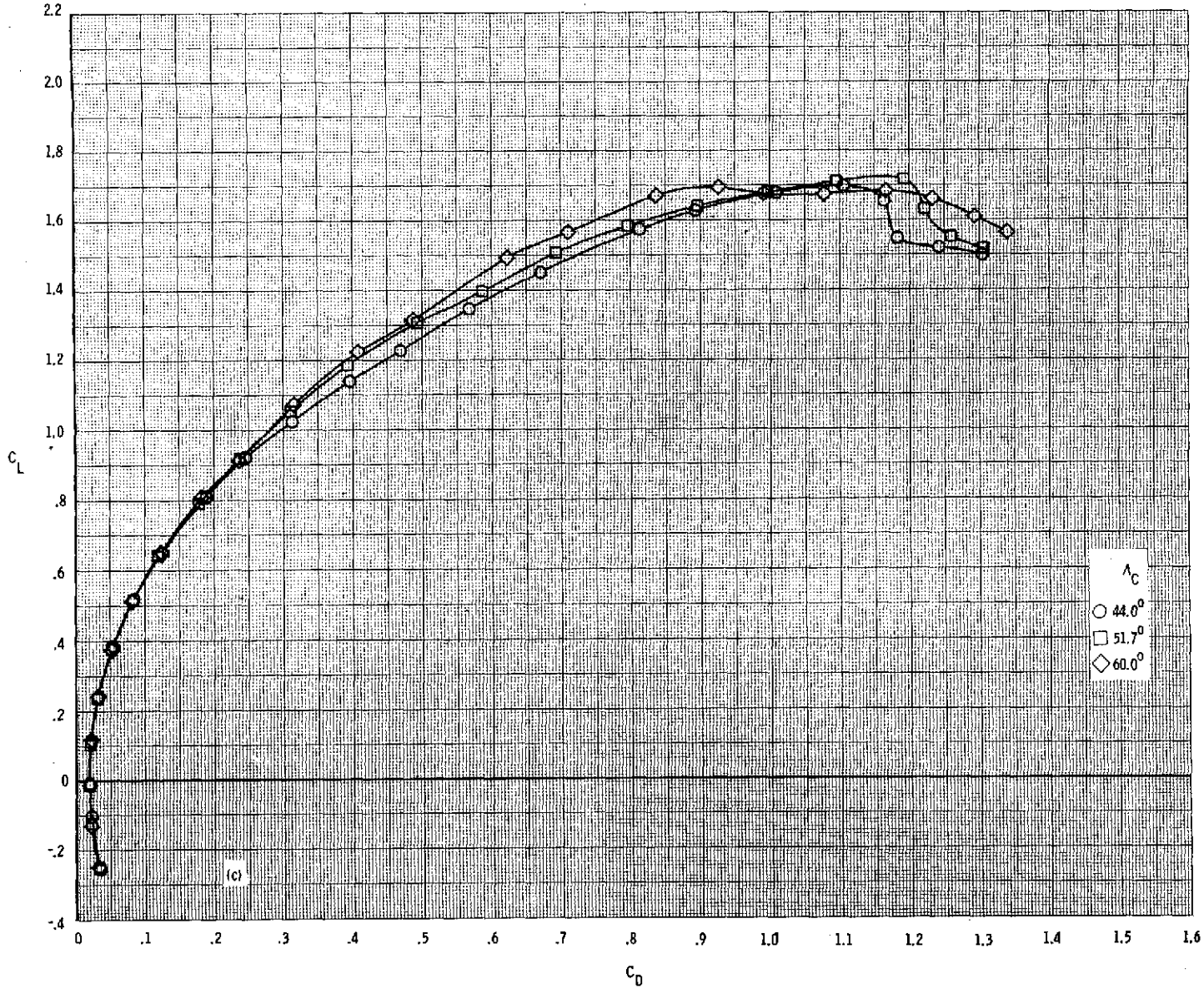



Figure 4.- Concluded.

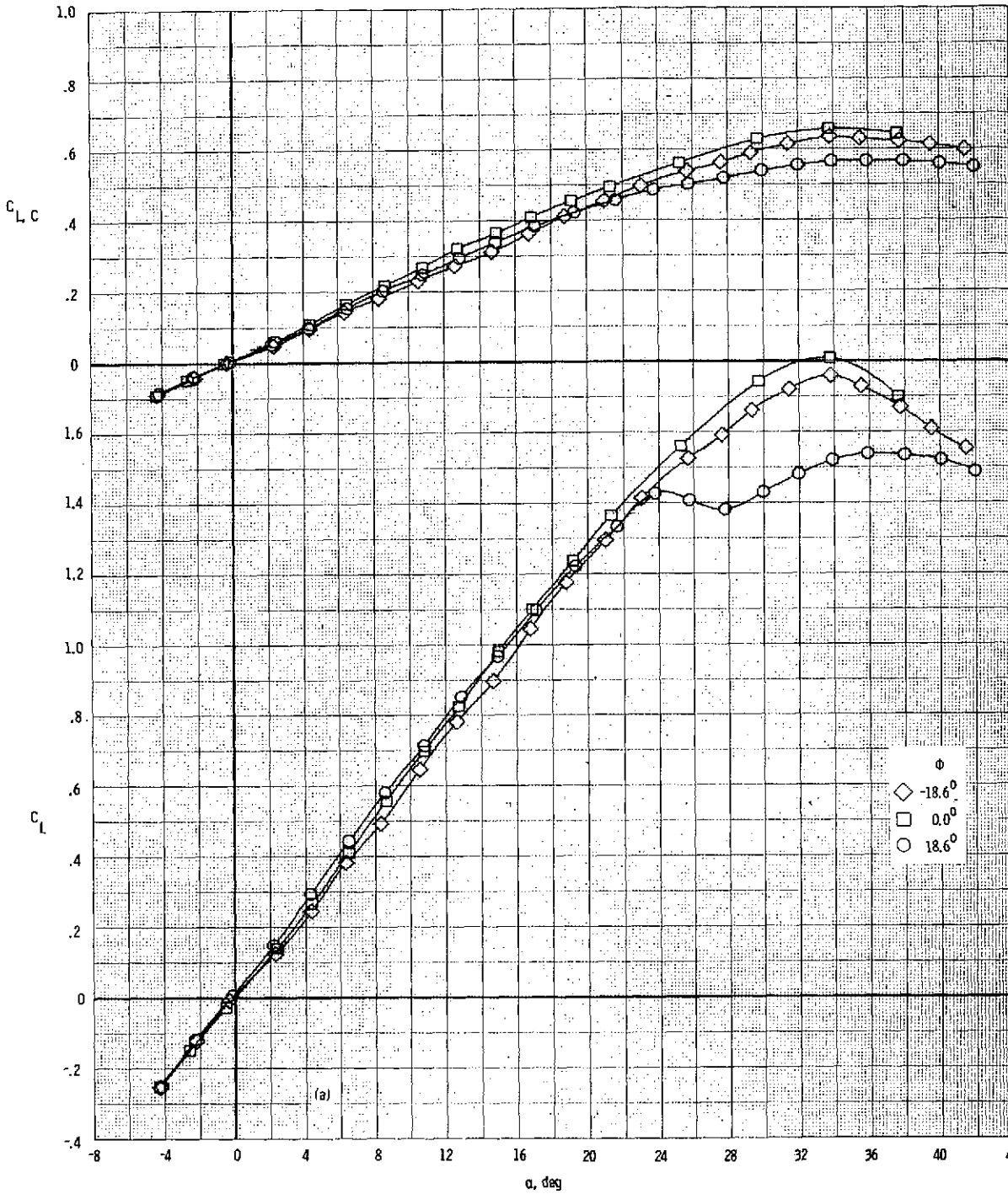



Figure 5.- The effect of canard dihedral angle on the longitudinal aerodynamic characteristics for the model with $z/\bar{c} = 0.185$, $\Lambda_C = 51.7^{\circ}$, and $\ell/\bar{c} = 1.304$.

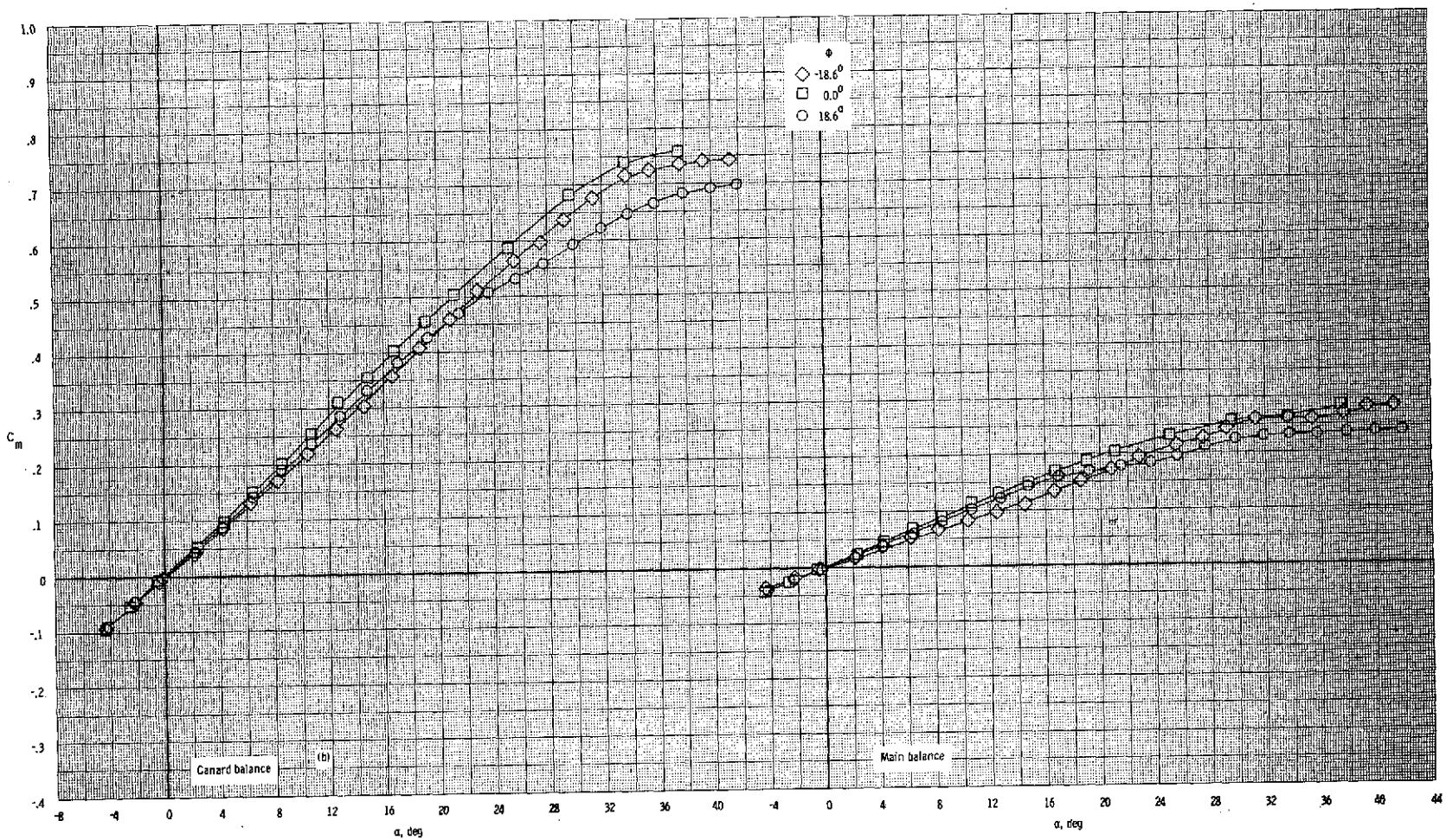



Figure 5.- Continued.

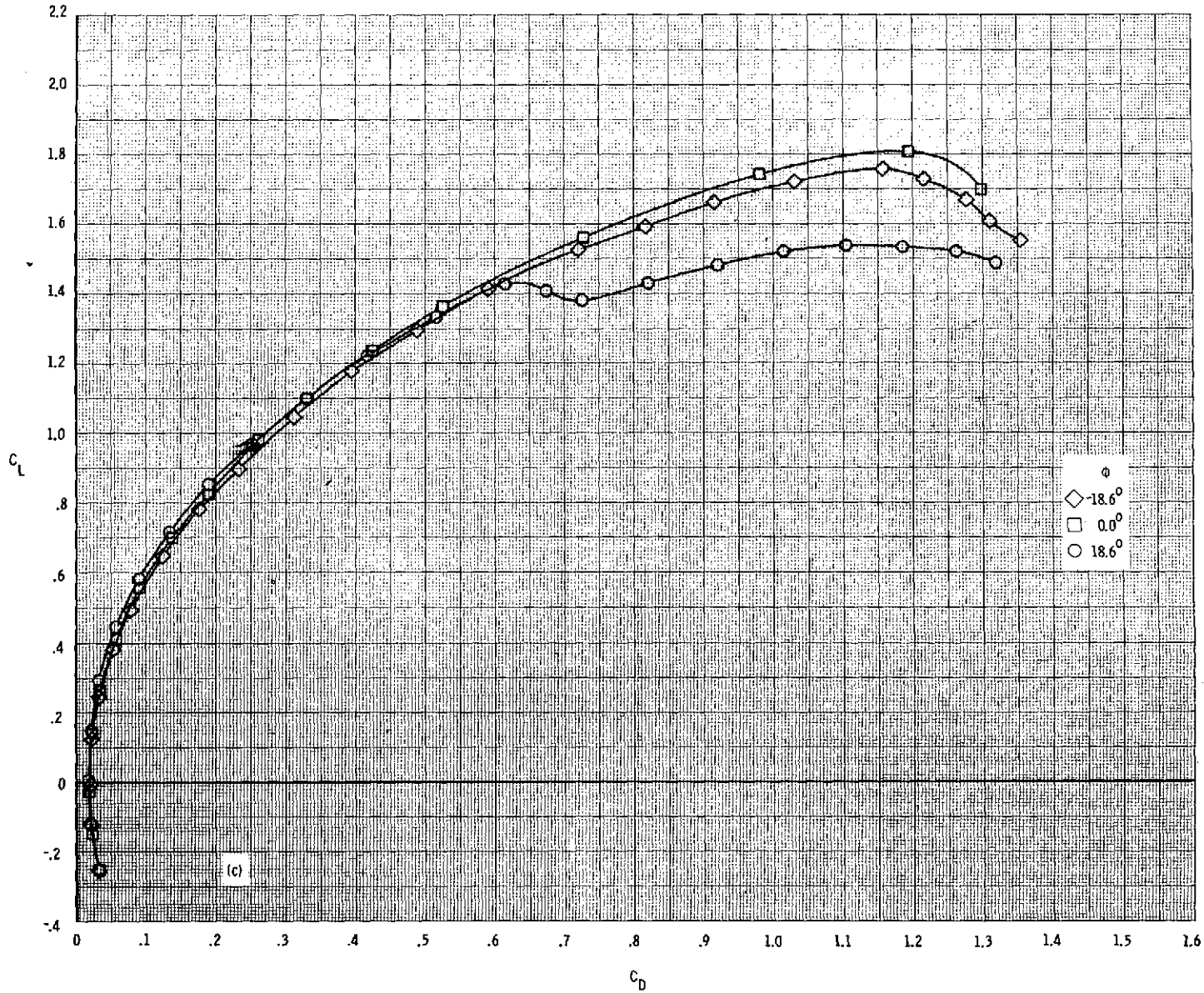



Figure 5.- Concluded.

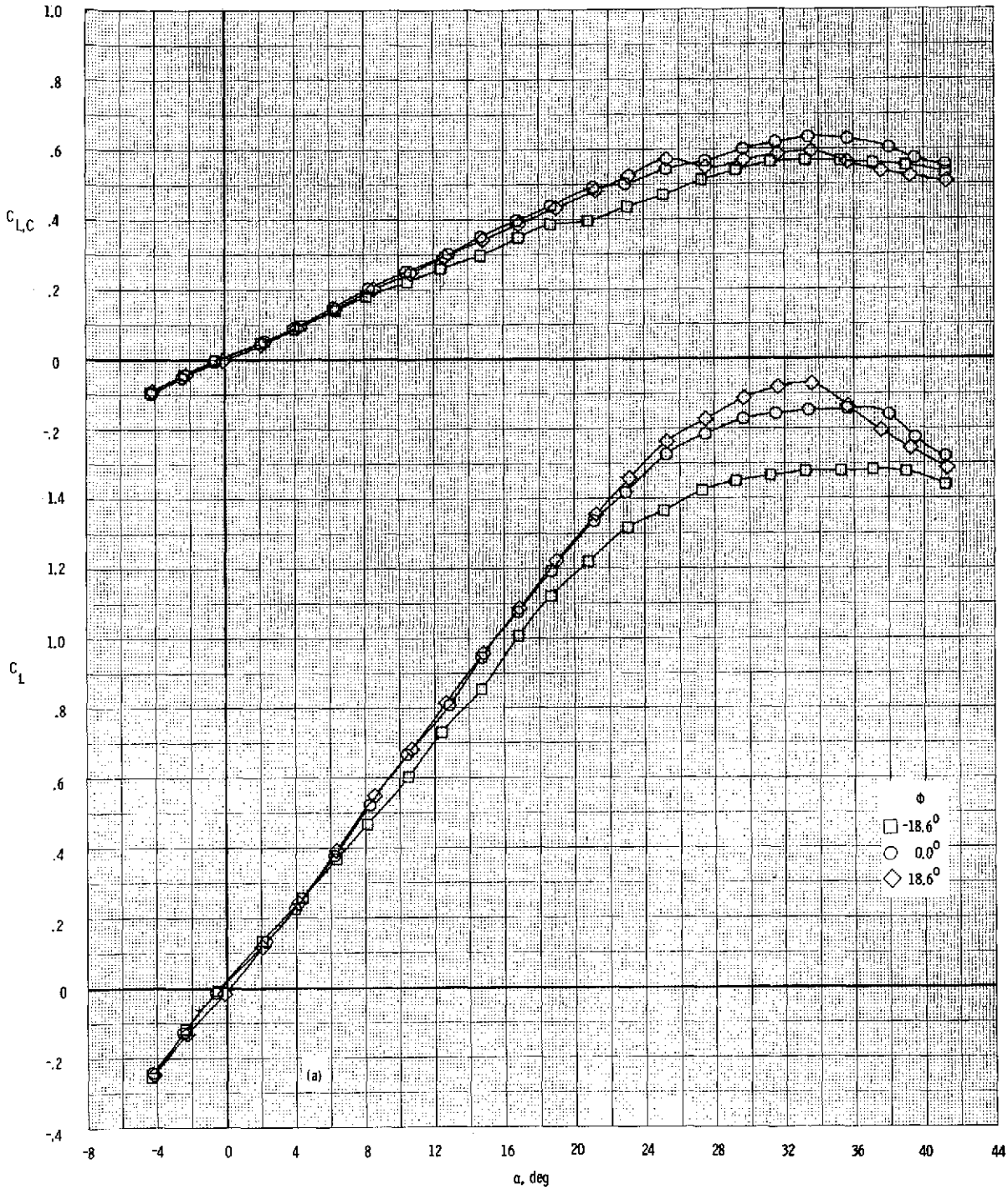



Figure 6.- The effect of canard dihedral angle on the longitudinal aerodynamic characteristics for the model with $z/\bar{c} = 0.0$, $\Lambda_C = 51.7^{\circ}$, and $\ell/\bar{c} = 1.345$.

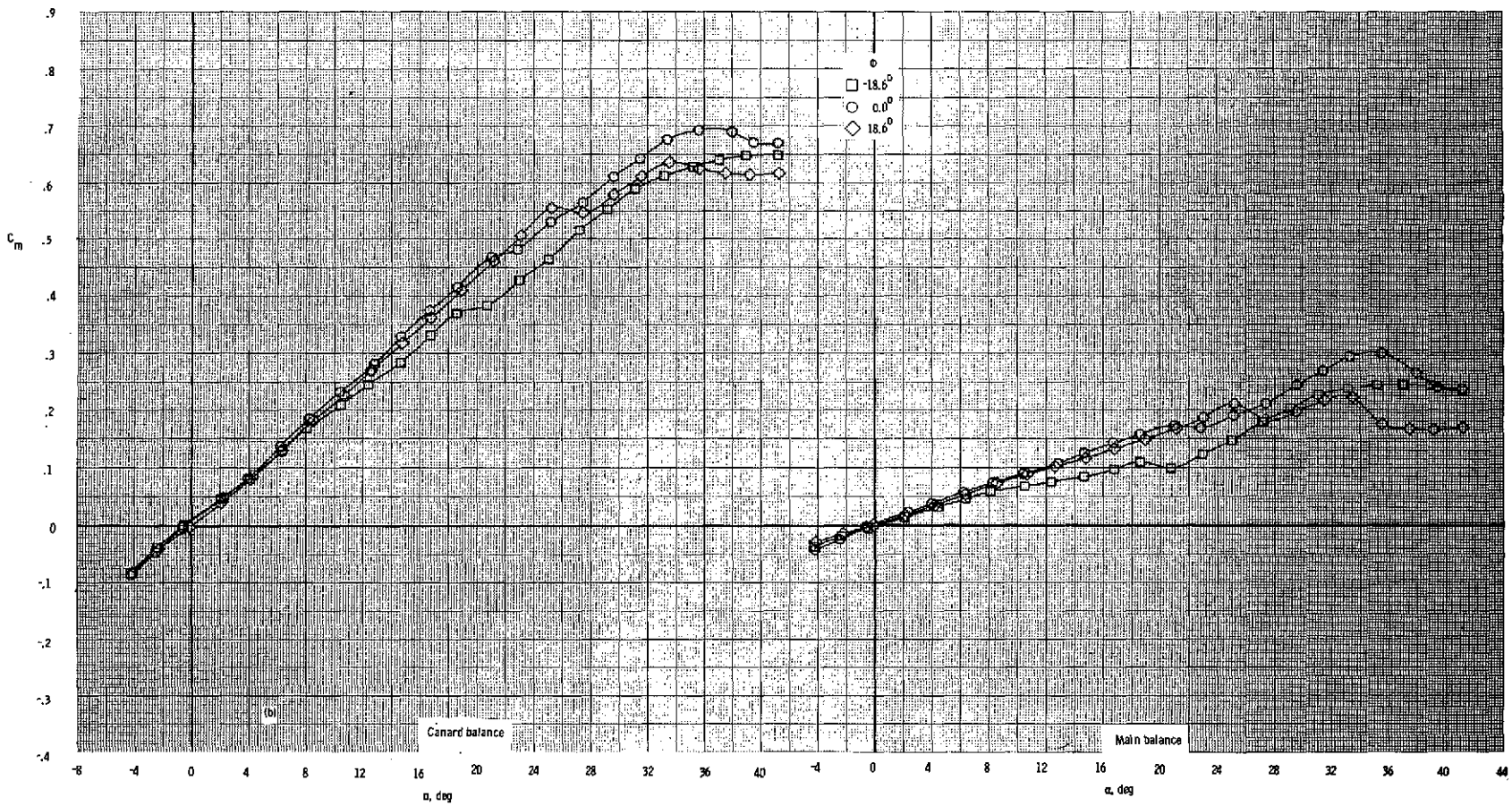



Figure 6.- Continued.

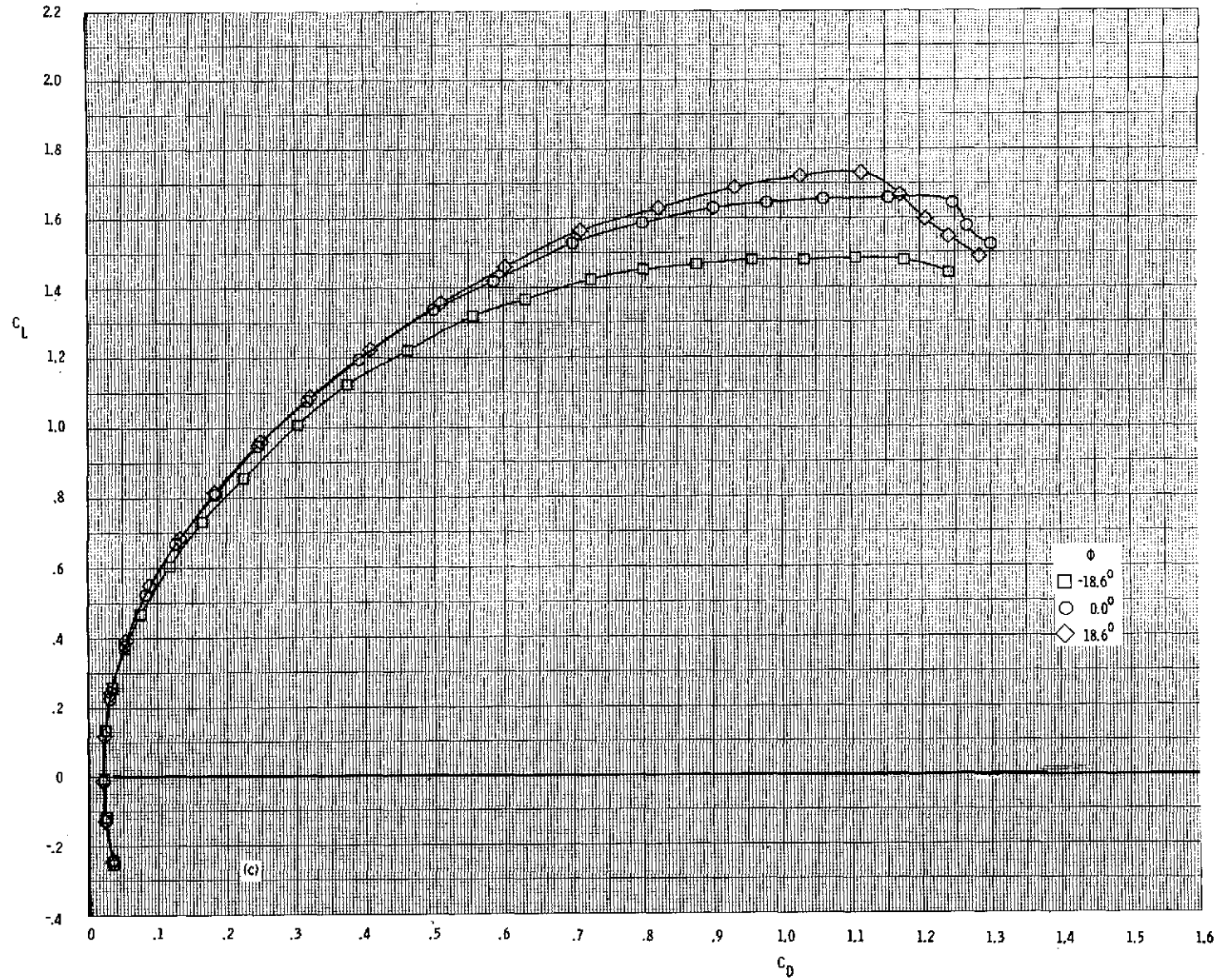



Figure 6.- Concluded.

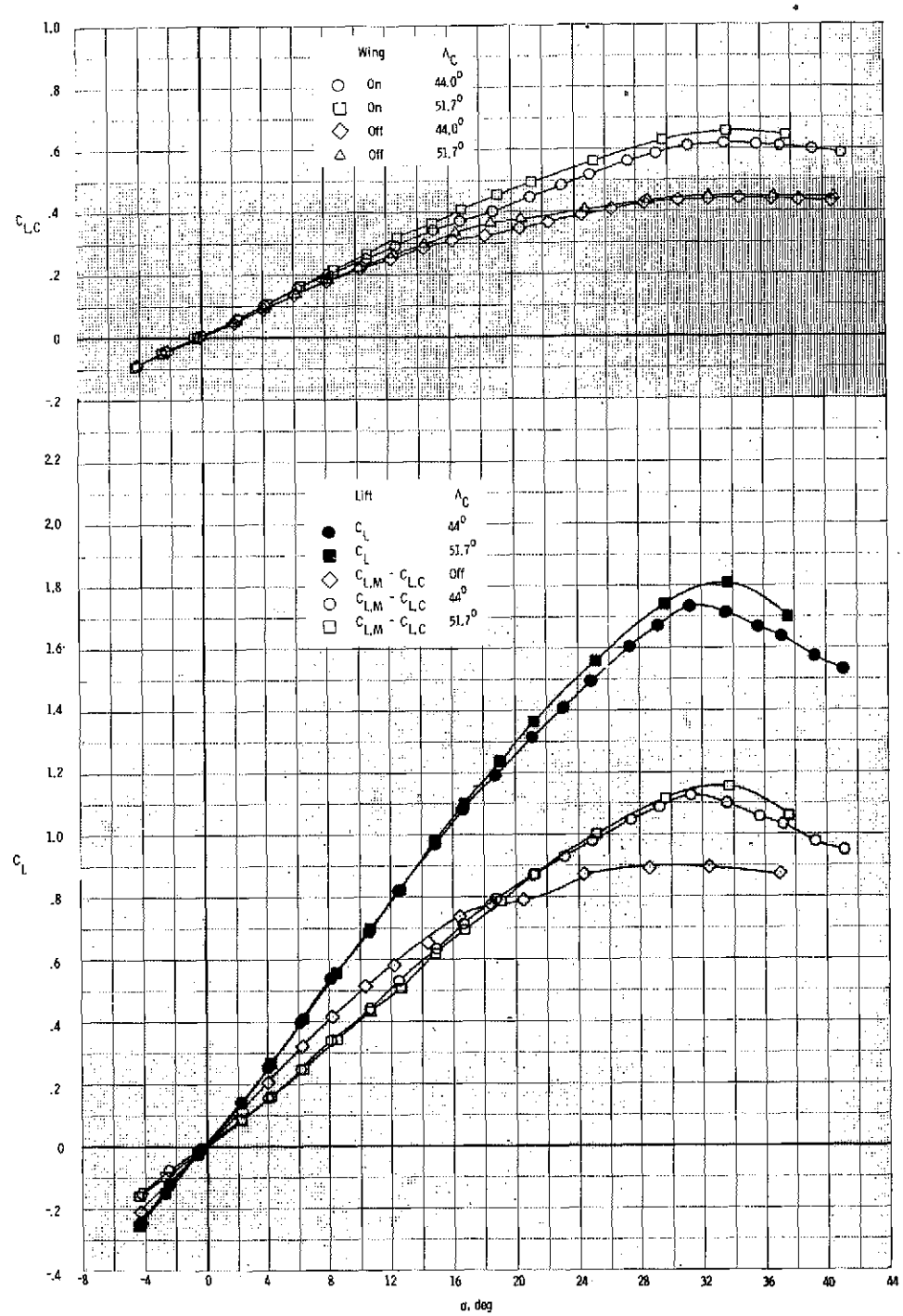



Figure 7.- Comparison of canard-wing lift interference effects for canard leading-edge sweep of $44^{o}$ and $51.7^{o}$, $z/\bar{c} = 0.185$, $\phi = 0.0^{o}$, and $\ell/\bar{c} = 1.304$.

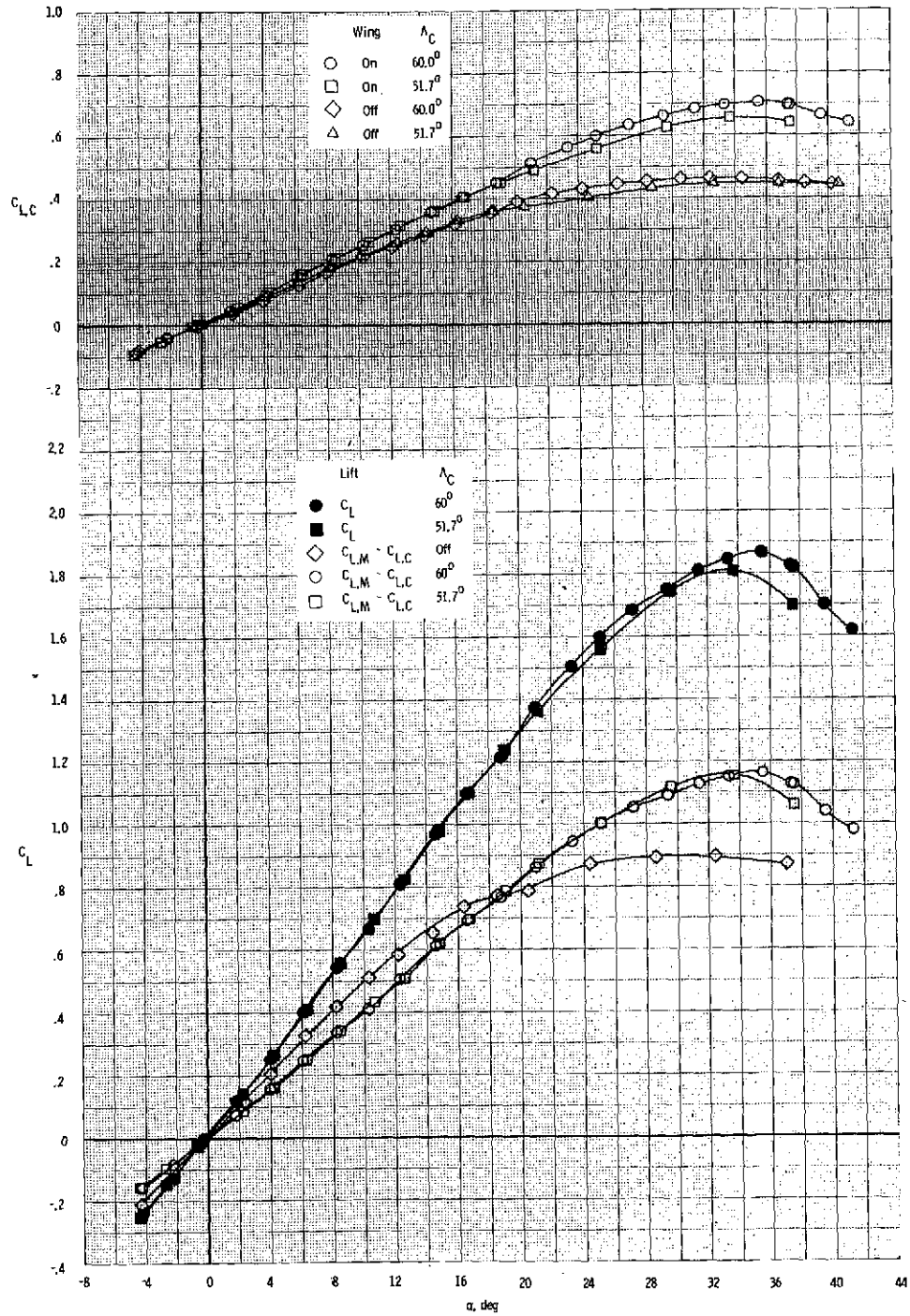



Figure 8.- Comparison of canard-wing lift interference effects for canard leading-edge sweep of 51.7° and 60°, $z/\bar{c} = 0.185$, $\phi = 0.0°$, and $\ell/\bar{c} = 1.304$.

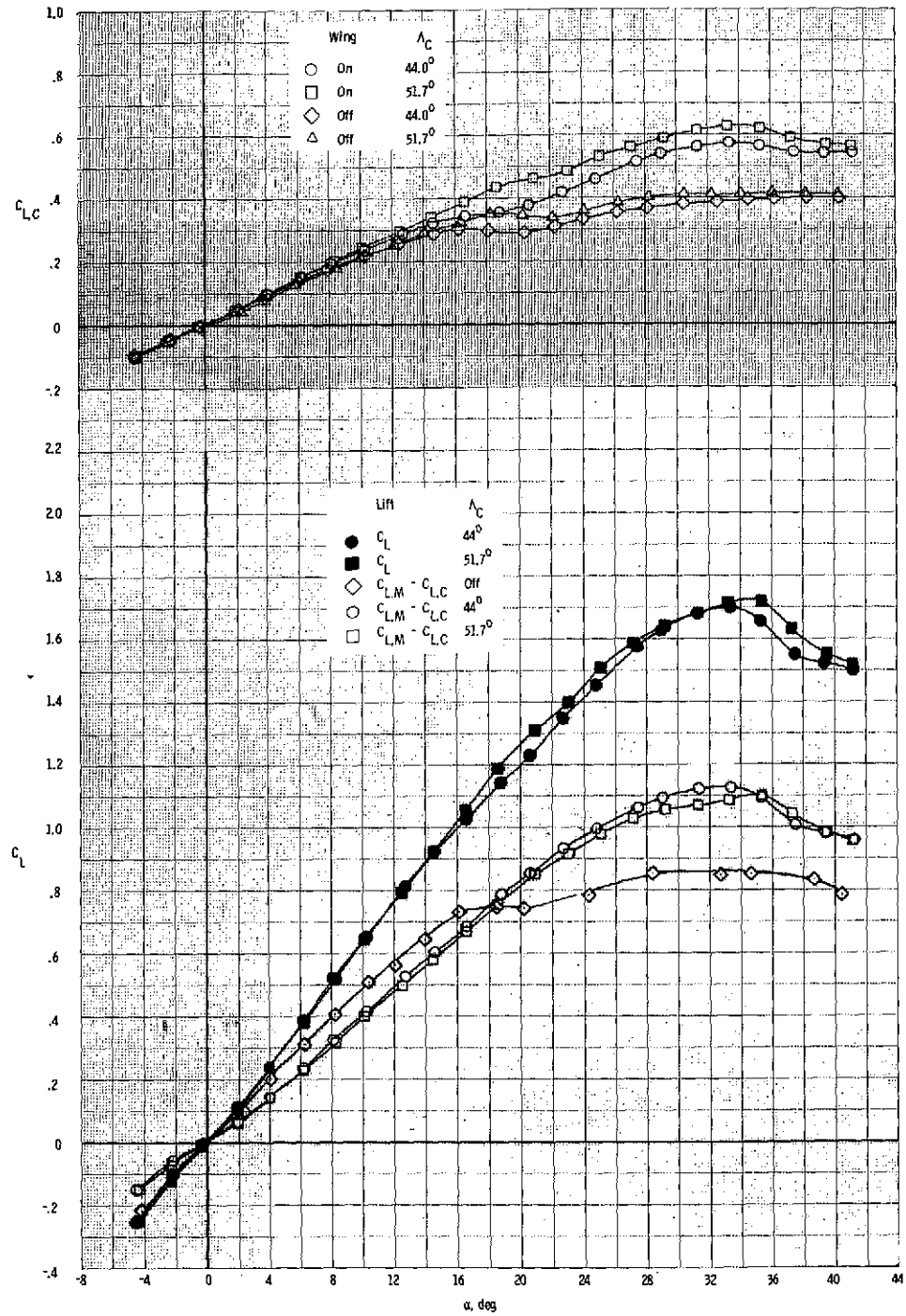



Figure 9.- Comparison of canard-wing lift interference effects for canard leading-edge sweep of $44^{O}$ and $51.7^{O}$, $z/\bar{c} = 0.0$, $\phi = 0.0^{O}$, and $\ell/\bar{c} = 1.304$.

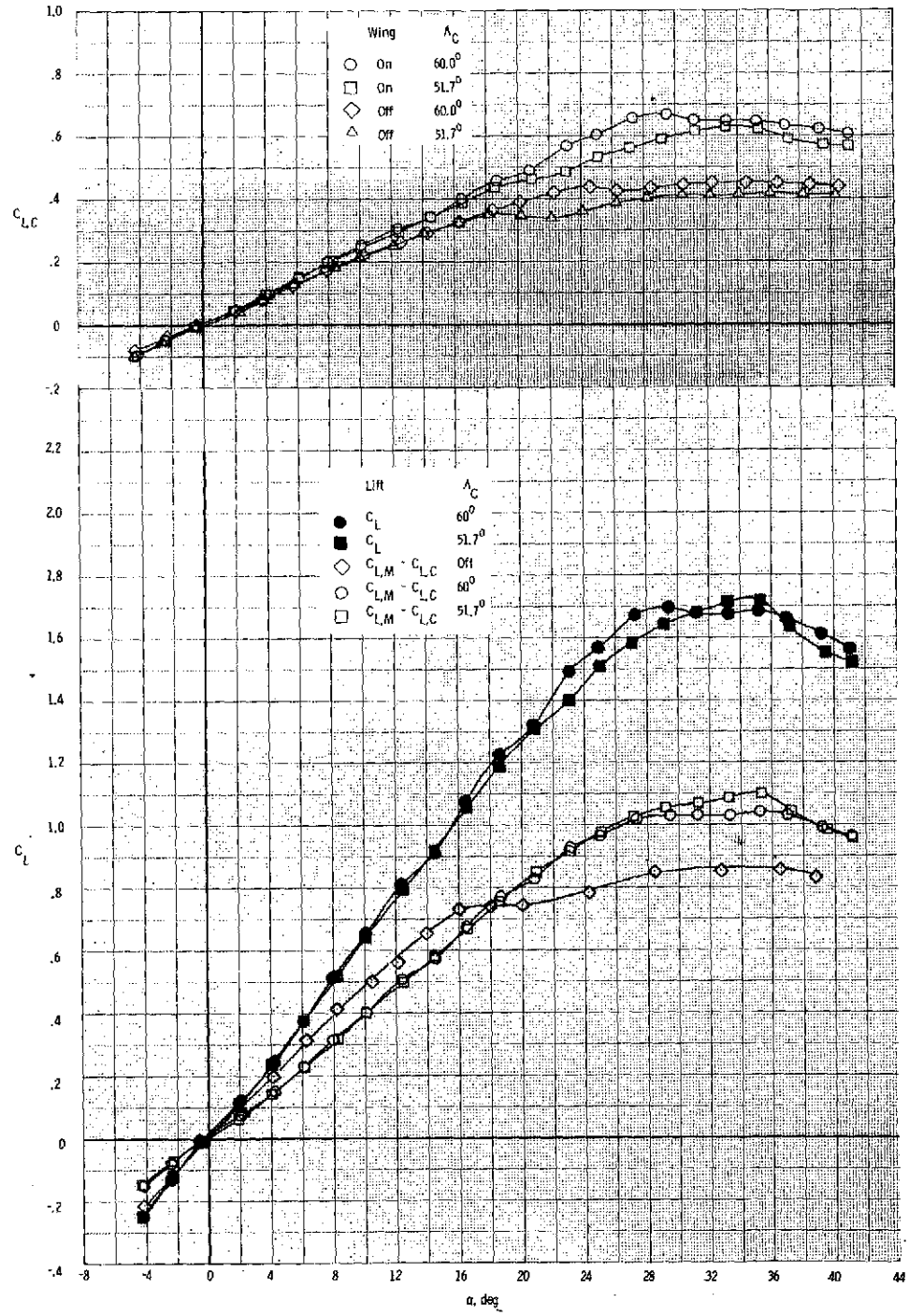



Figure 10.- Comparison of canard-wing lift interference effects for canard leading-edge sweep of 51.7° and 60°, $z/\bar{c} = 0.0$, $\phi = 0.0°$, and $\ell/\bar{c} = 1.304$.

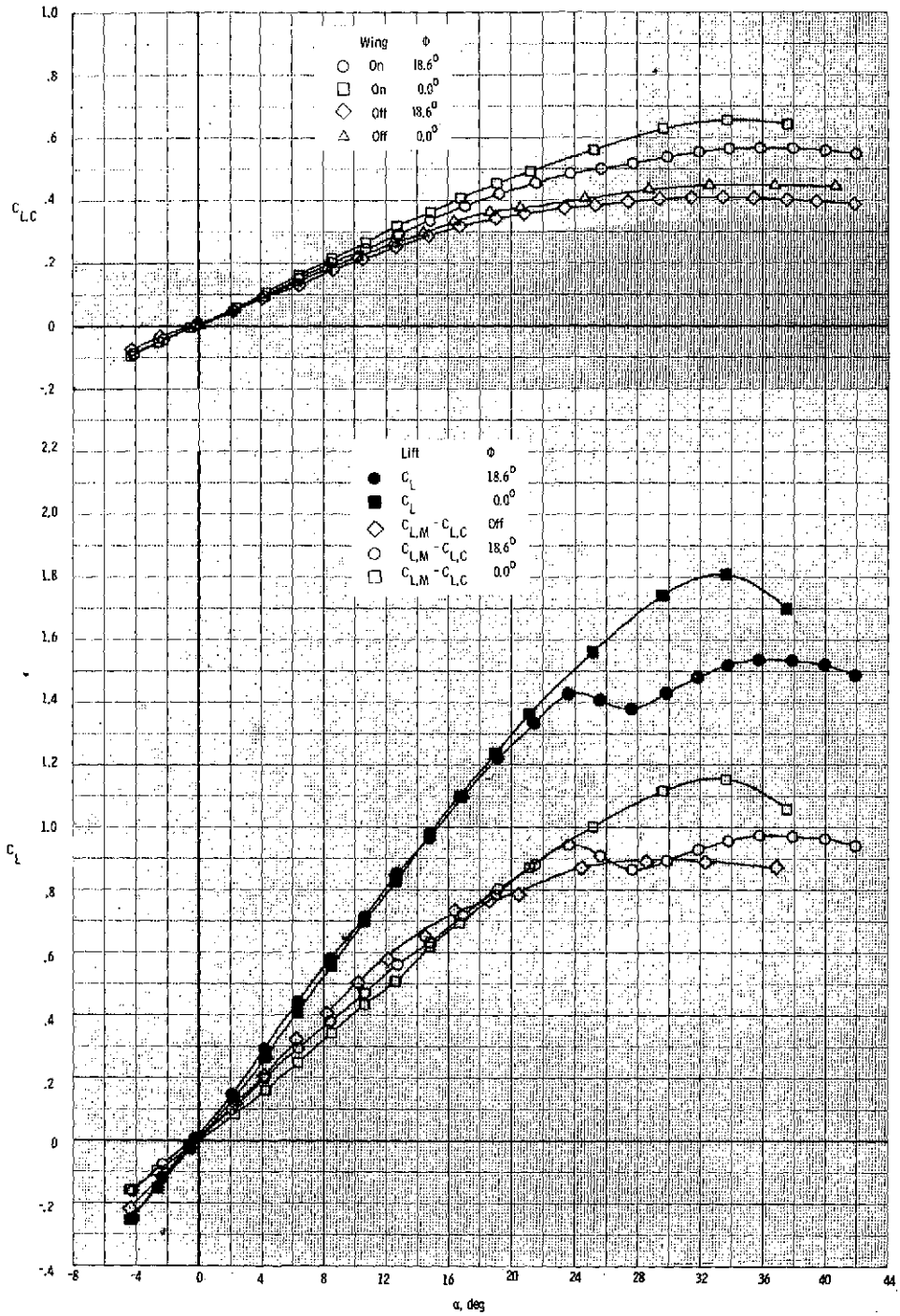



Figure 11.- Comparison of canard-wing lift interference effects for $z/\bar{c} = 0.185$, $\Lambda_C = 51.7^o$, $\ell/c = 1.304$, and $\phi = 18.6^o$ and $0.0^o$.

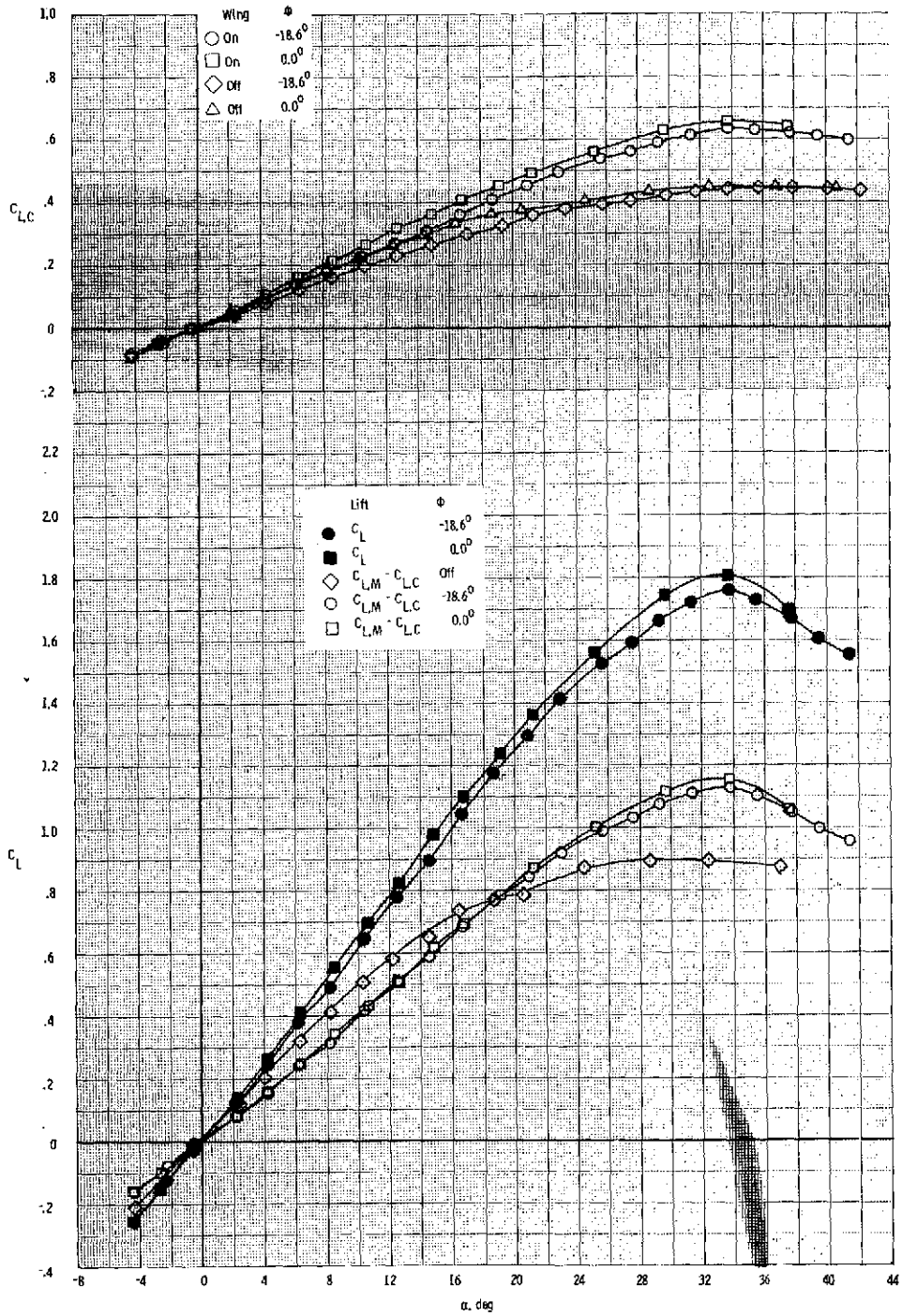



Figure 12.- Comparison of canard-wing lift interference effect for $z/\bar{c} = 0.185$, $\Lambda_C = 51.7^{\circ}$, $\ell/c = 1.304$, and $\phi = -18.6^{\circ}$ and $0.0^{\circ}$.

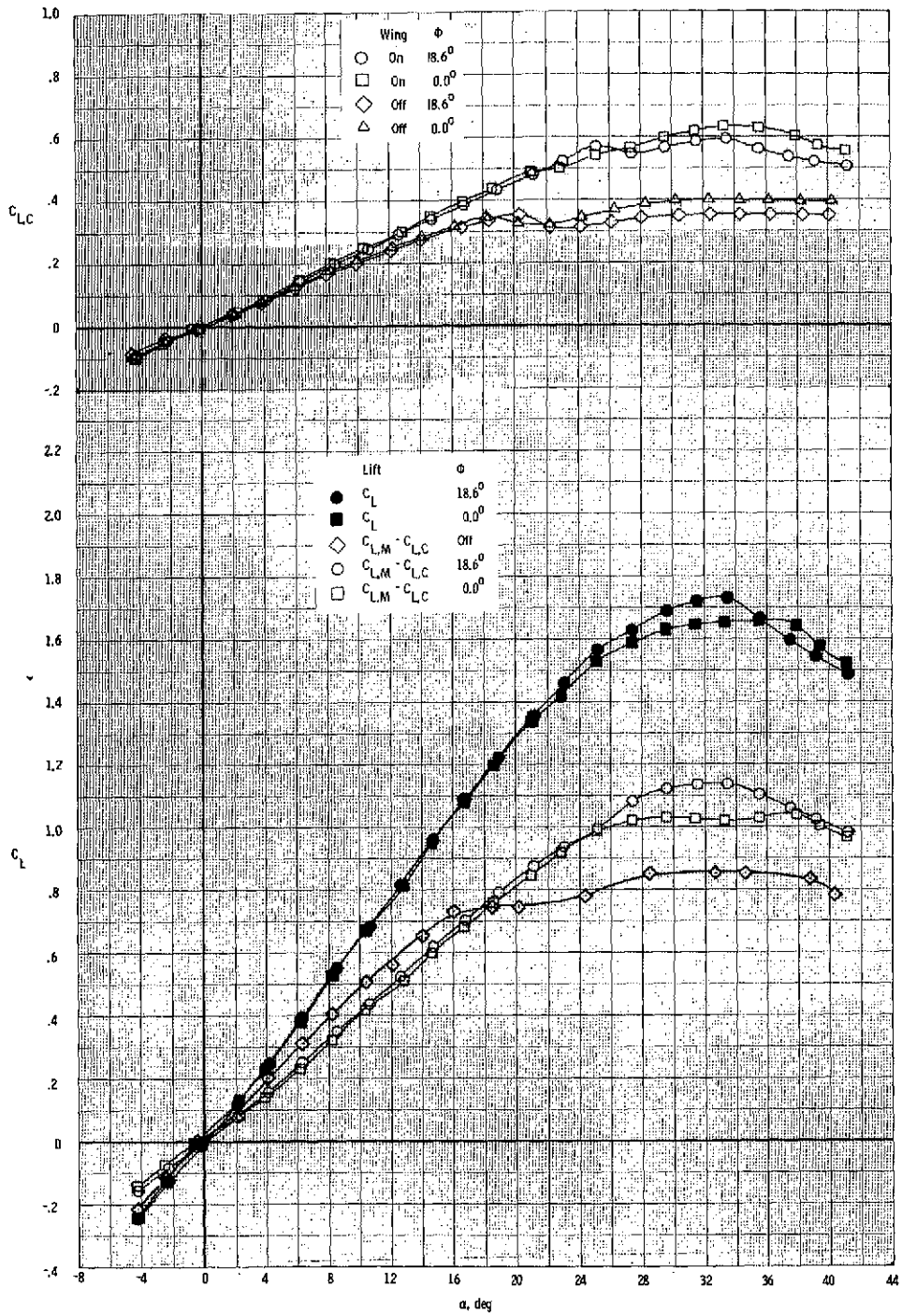



Figure 13.- Comparison of canard-wing lift interference effects for $z/\bar{c} = 0.0$, $\Lambda_C = 51.7^O$, $\ell/\bar{c} = 1.345$, $\phi = 18.6^O$ and $0.0^O$.

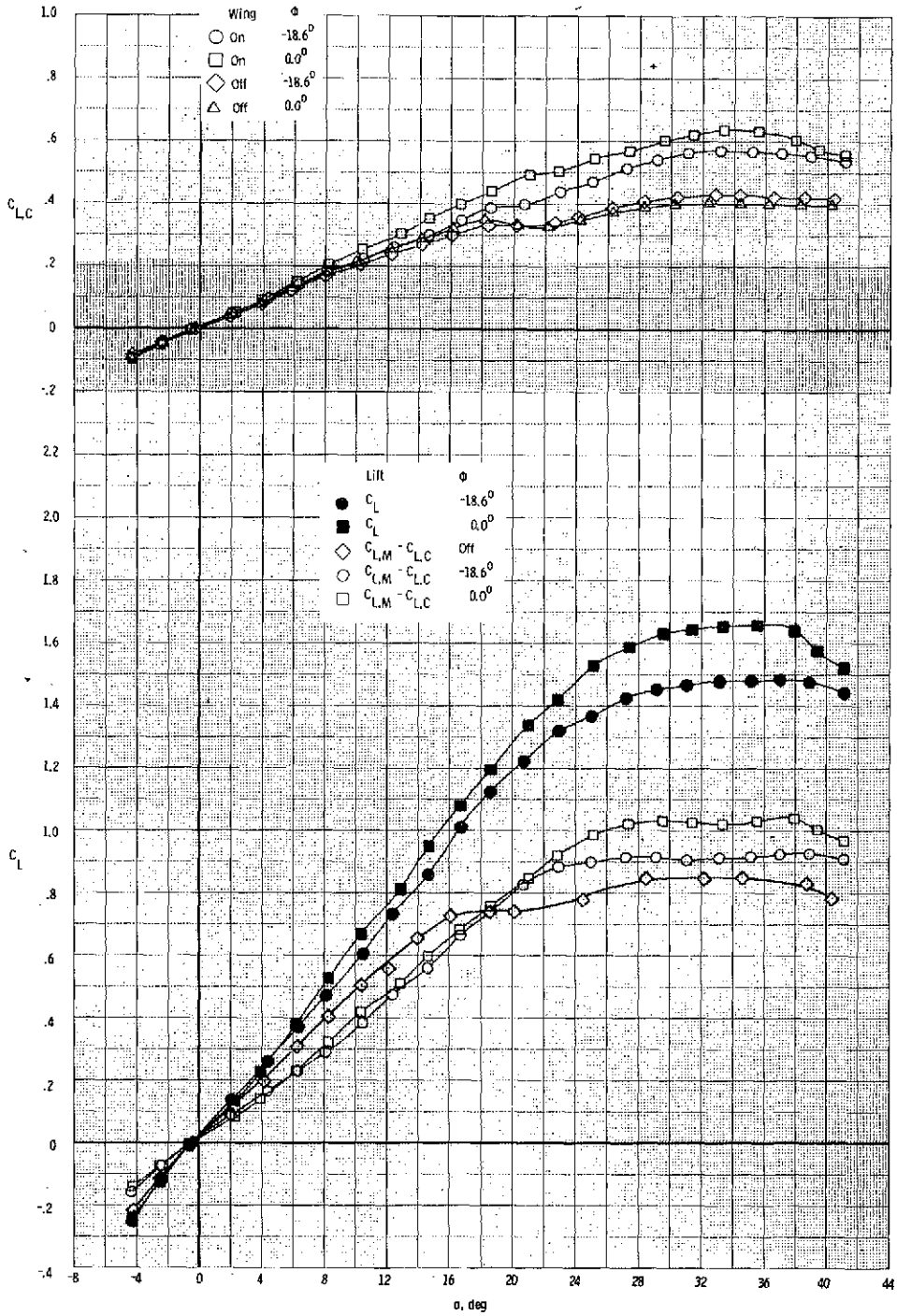



Figure 14.- Comparison of canard-wing lift interference effects for $z/\bar{c} = 0.0$, $\Lambda_C = 51.7^o$, $\ell/\bar{c} = 1.345$, and $\phi = -18.6^o$ and $0.0^o$.

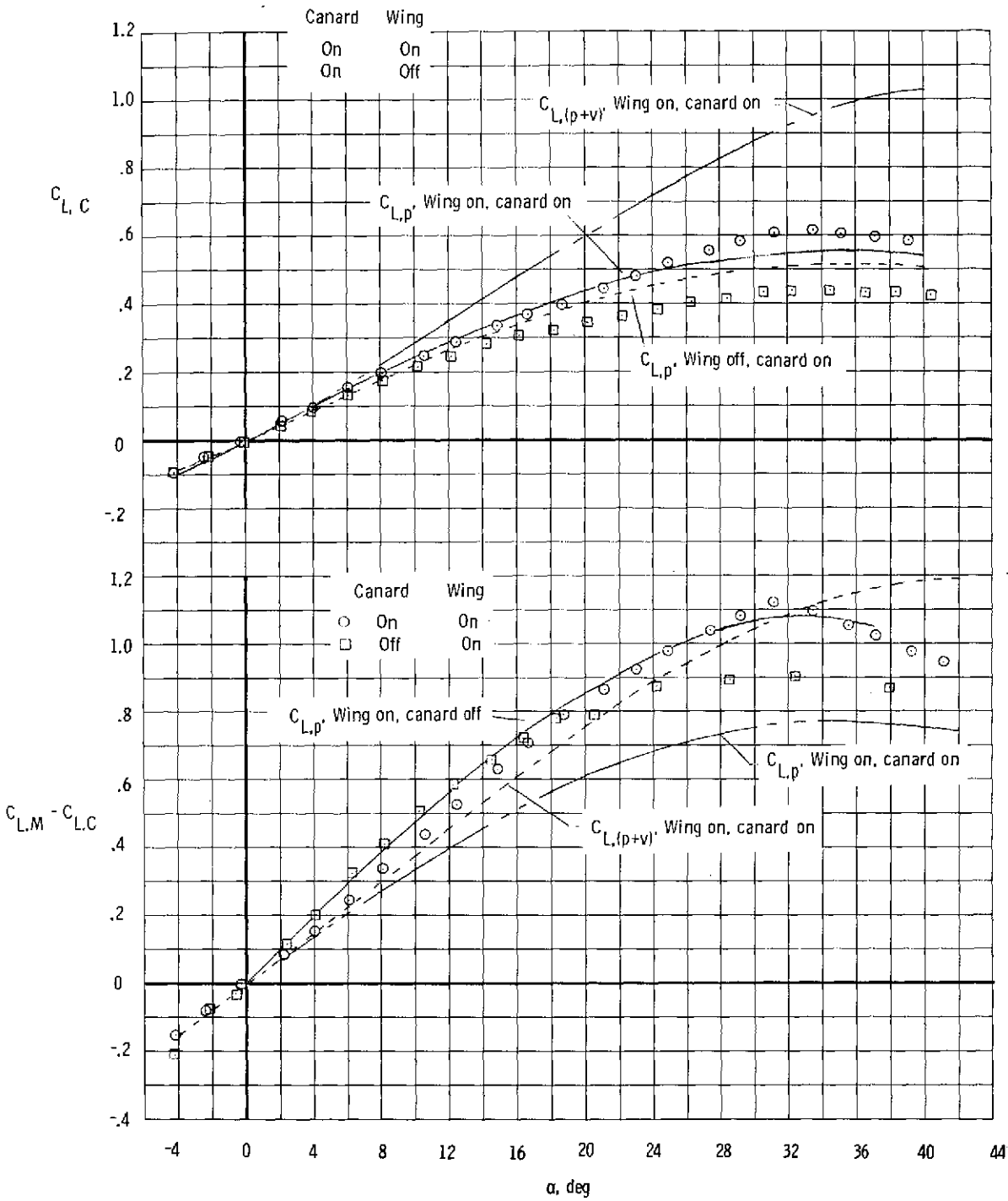



Figure 15.- Comparison of theory and experiment for $z/\bar{c} = 0.185$, $\phi = 0.0^{o}$, $\Lambda_C = 44.0^{o}$, and $\ell/\bar{c} = 1.304$.

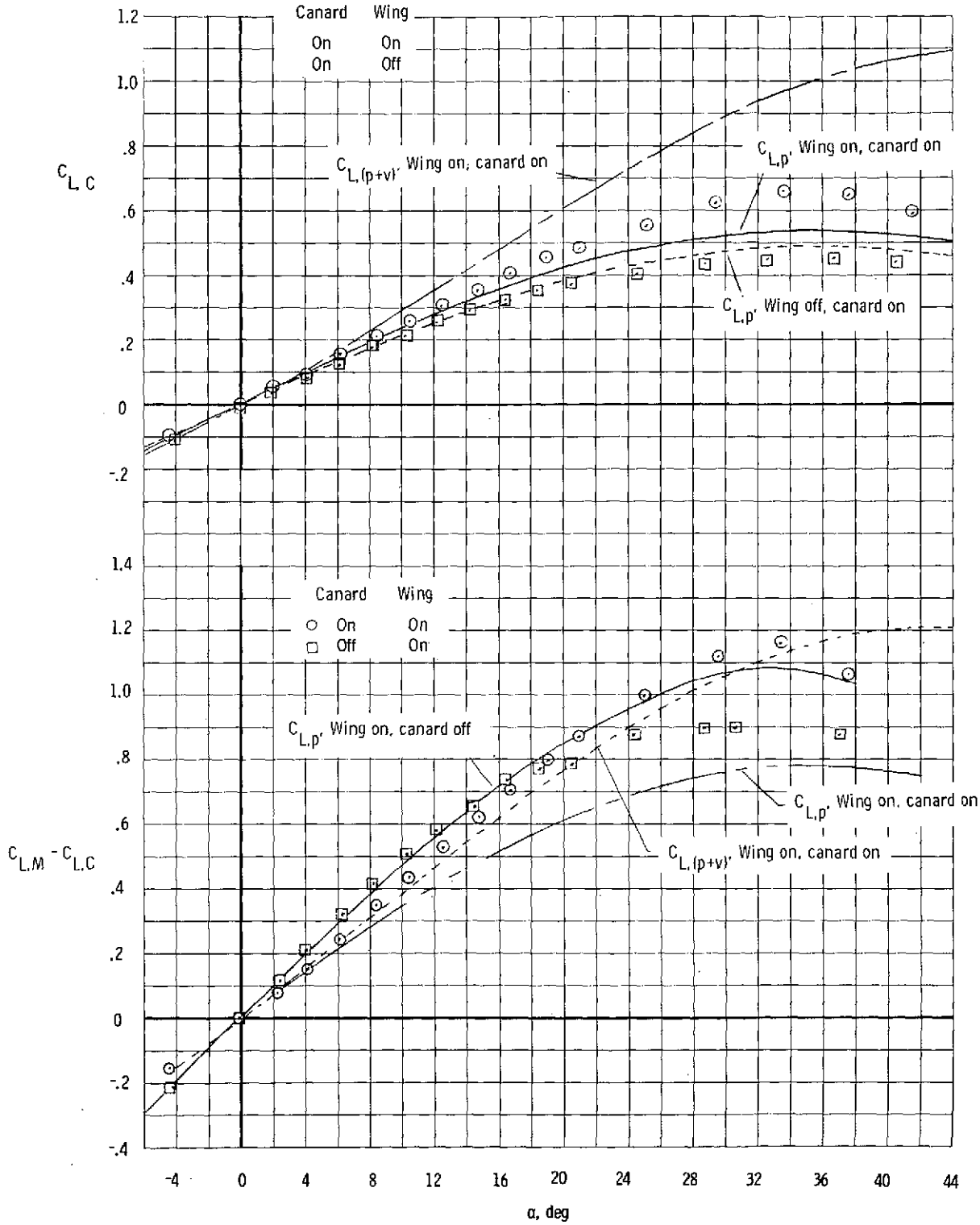



Figure 16.- Comparison of theory and experiment for $z/\bar{c} = 0.185$, $\phi = 0.0^{\circ}$, $\Lambda_C = 51.7^{\circ}$, and $\ell/\bar{c} = 1.304$.

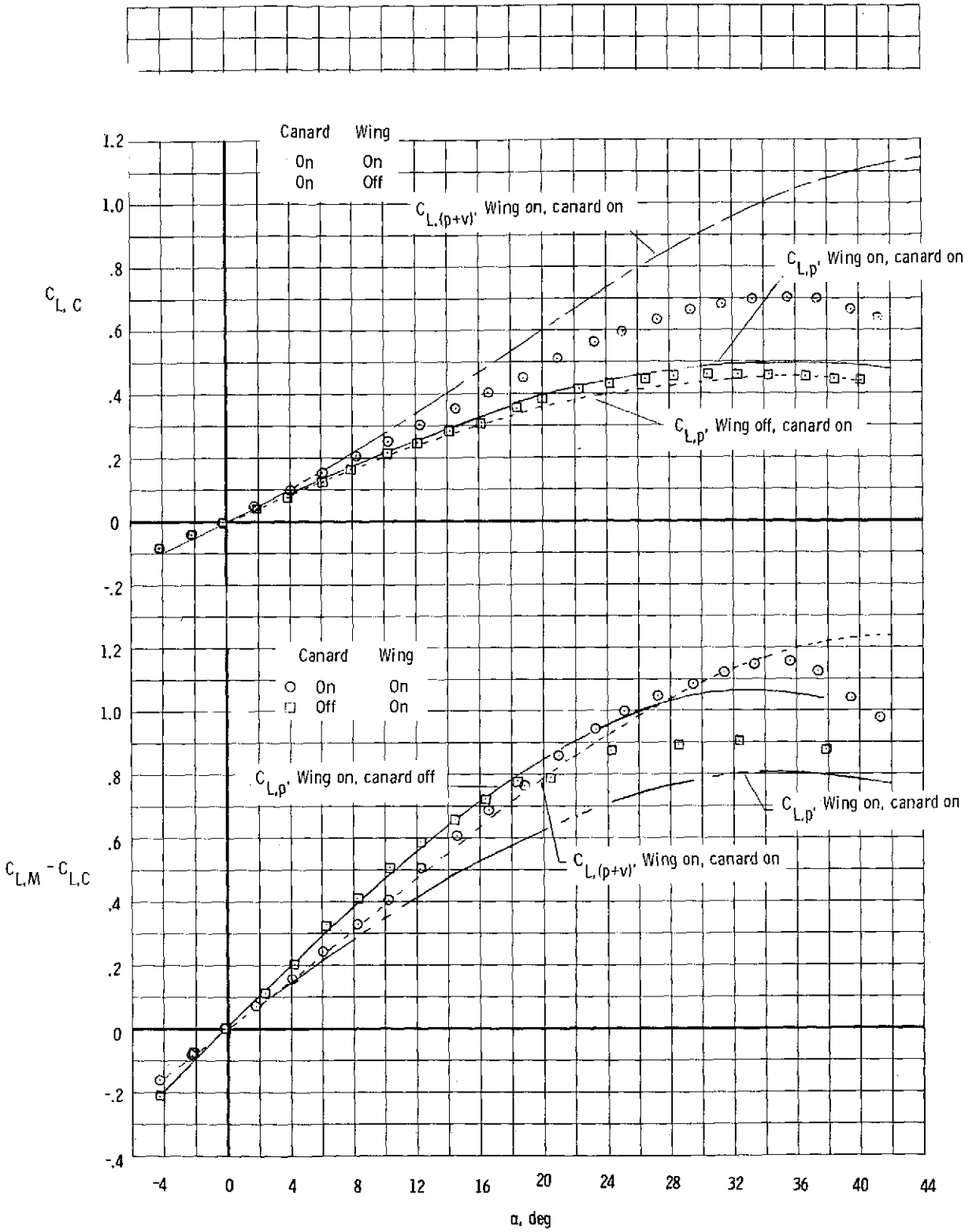



Figure 17.- Comparison of theory and experiment for $z/\bar{c} = 0.185$, $\phi = 0.0^{o}$, $\Lambda_C = 60.0^{o}$, and $\ell/\bar{c} = 1.304$.

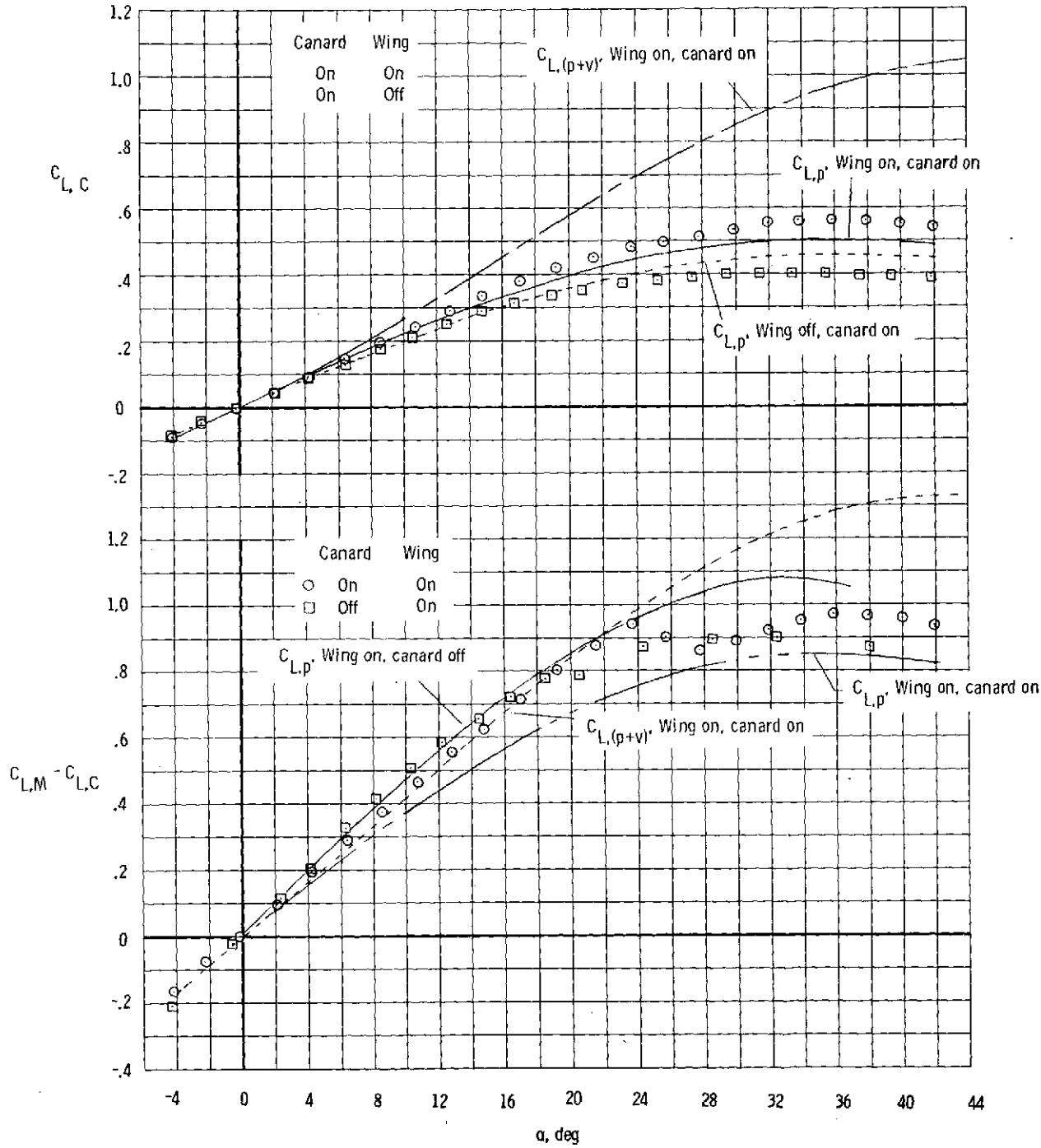



Figure 18.- Comparison of theory and experiment for $z/\bar{c} = 0.185$, $\phi = 18.6^{o}$, $\Lambda_C = 51.7^{o}$, and $\ell/\bar{c} = 1.304$.

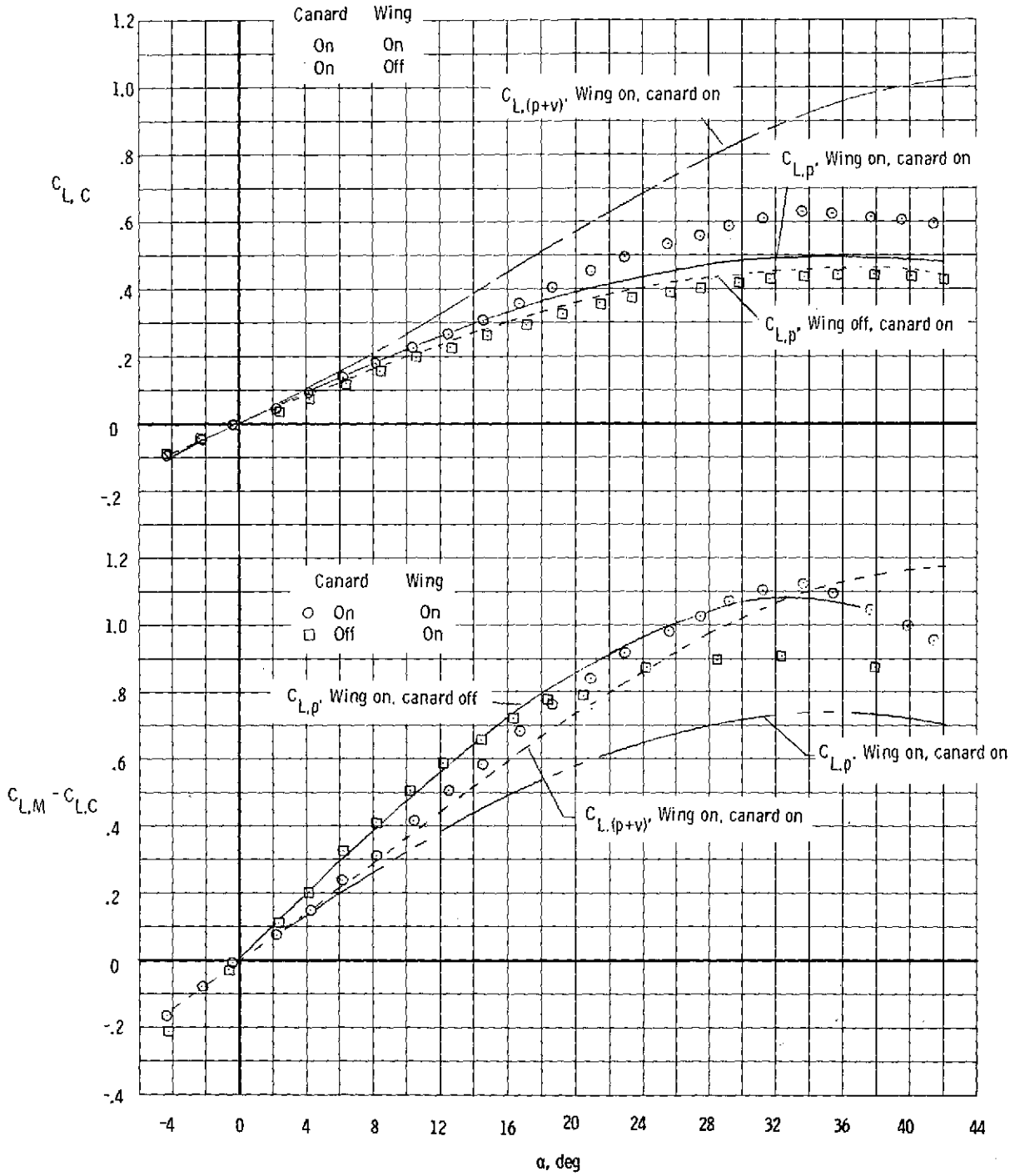



Figure 19.- Comparison of theory and experiment for $z/\bar{c} = 0.185$, $\phi = -18.6^{\circ}$, $\Lambda_C = 51.7^{\circ}$, and $\ell/\bar{c} = 1.304$.

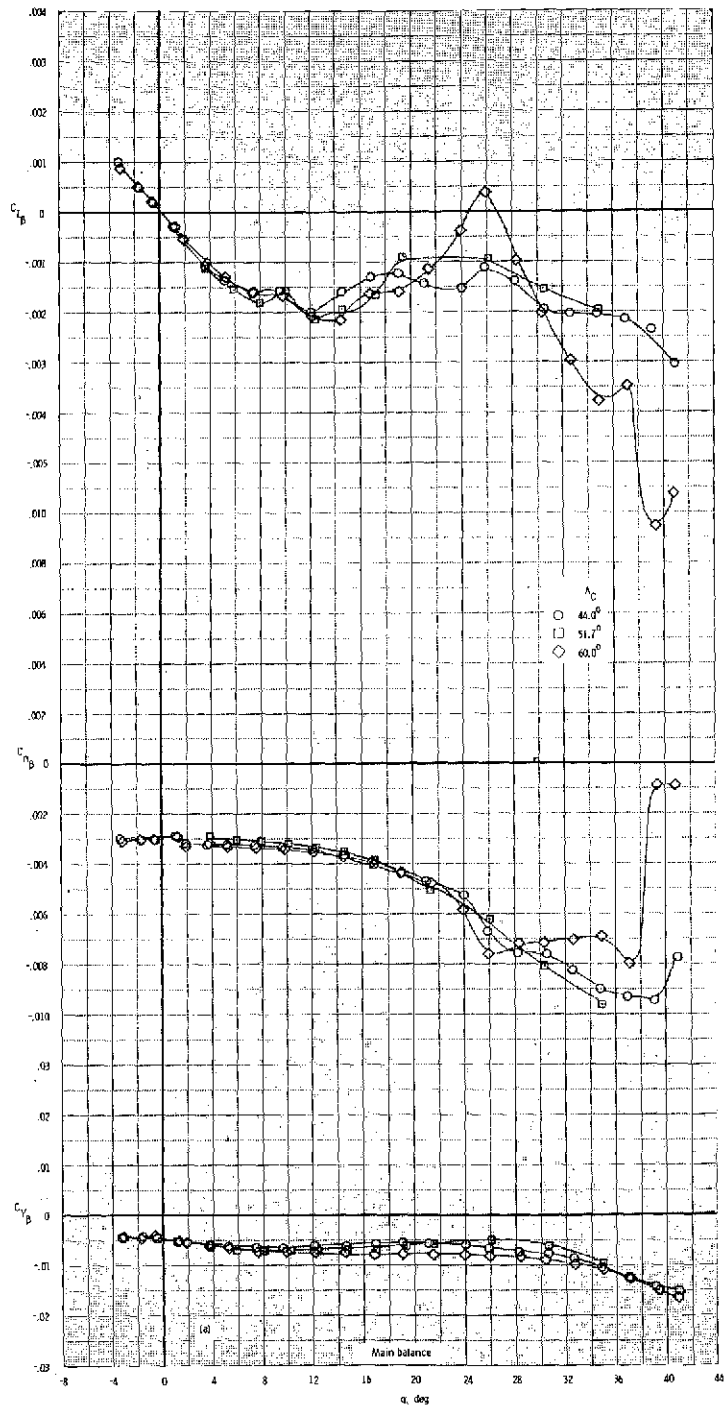



Figure 20.- Effect of canard leading-edge sweep on lateral-stability derivatives for models with $z/\bar{c} = 0.185$, $\ell/\bar{c} = 1.304$, and wing on.

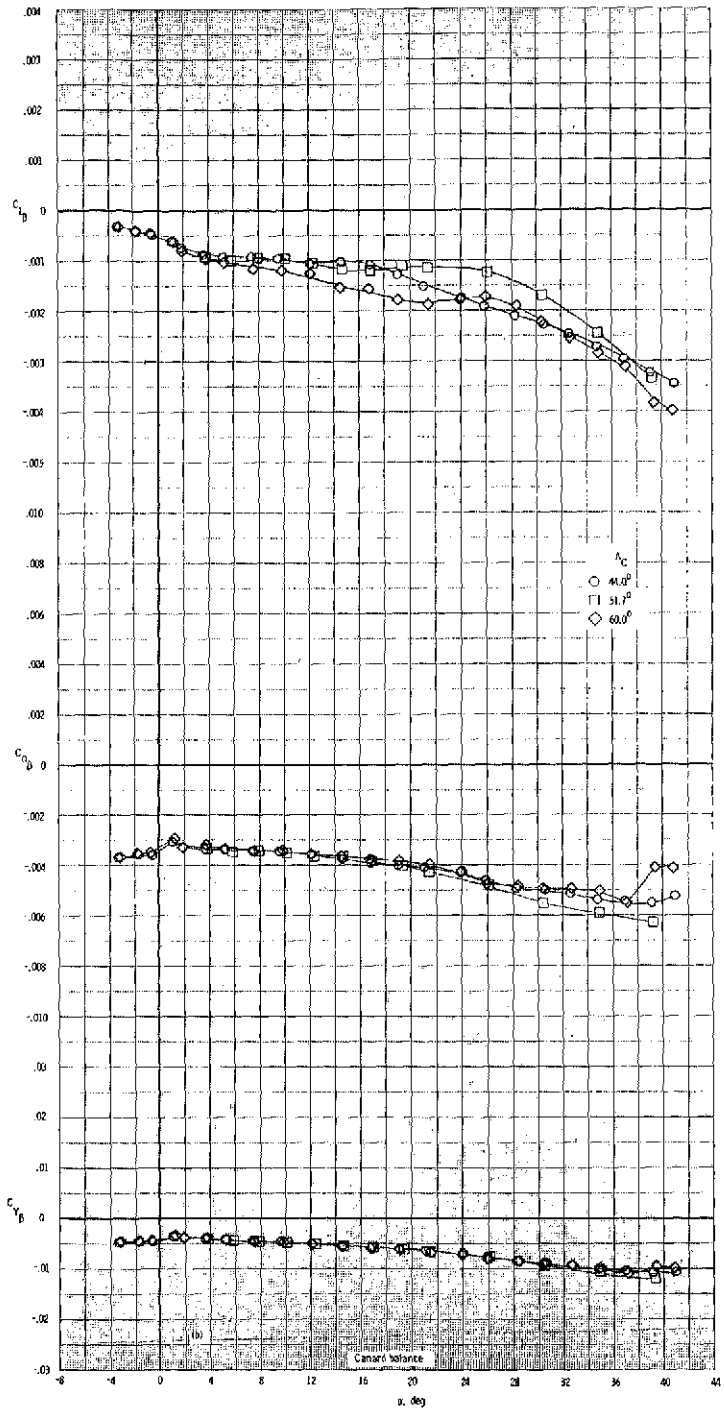



Figure 20.- Concluded.

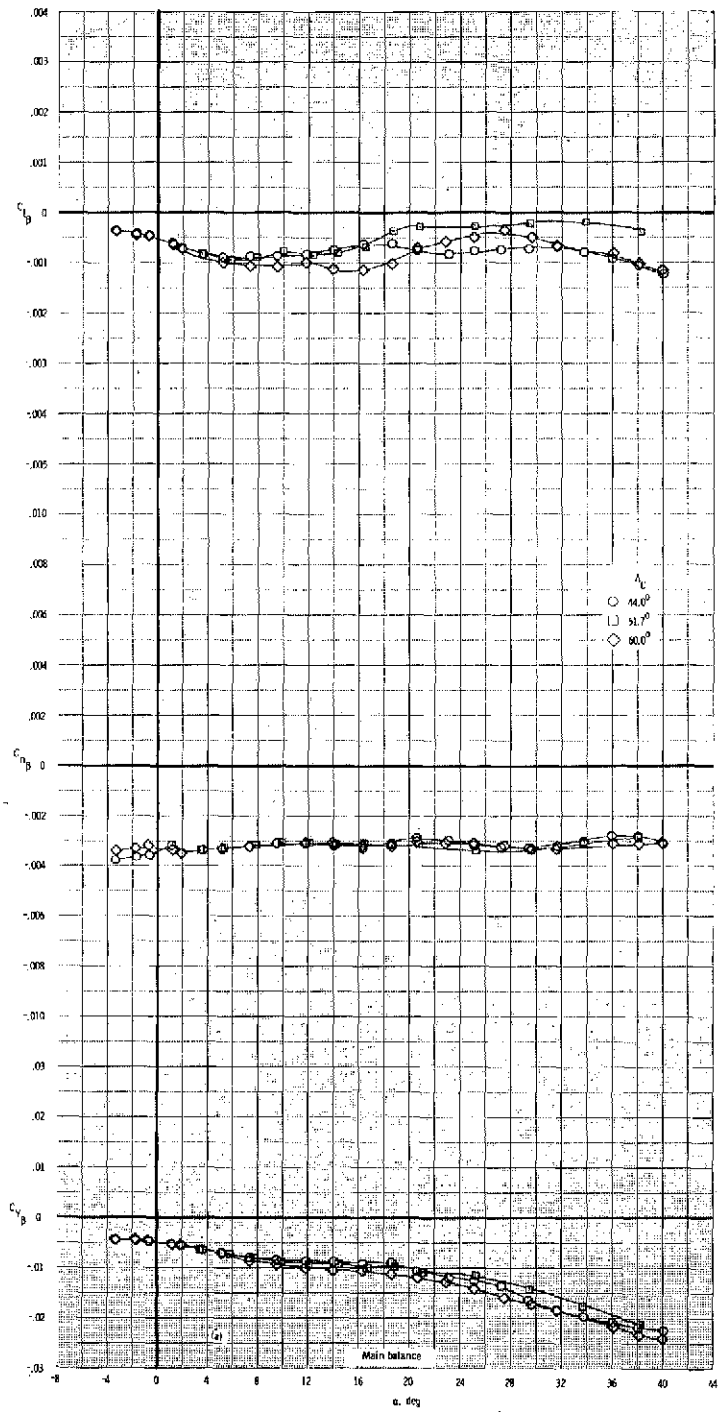



Figure 21.- Effect of canard leading-edge sweep on lateral-stability derivatives for models with $z/\bar{c} = 0.185$, $\ell/\bar{c} = 1.304$, and wing off.

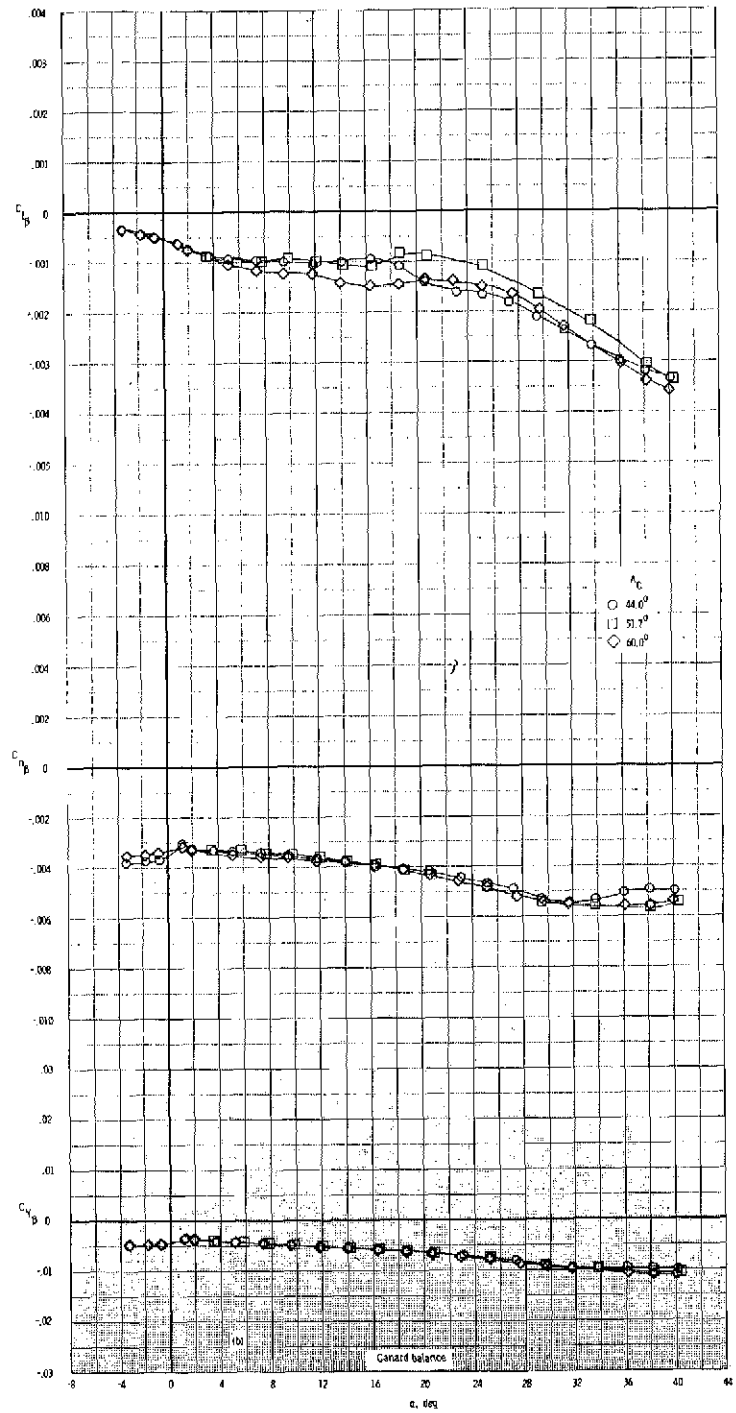



Figure 21.- Concluded.

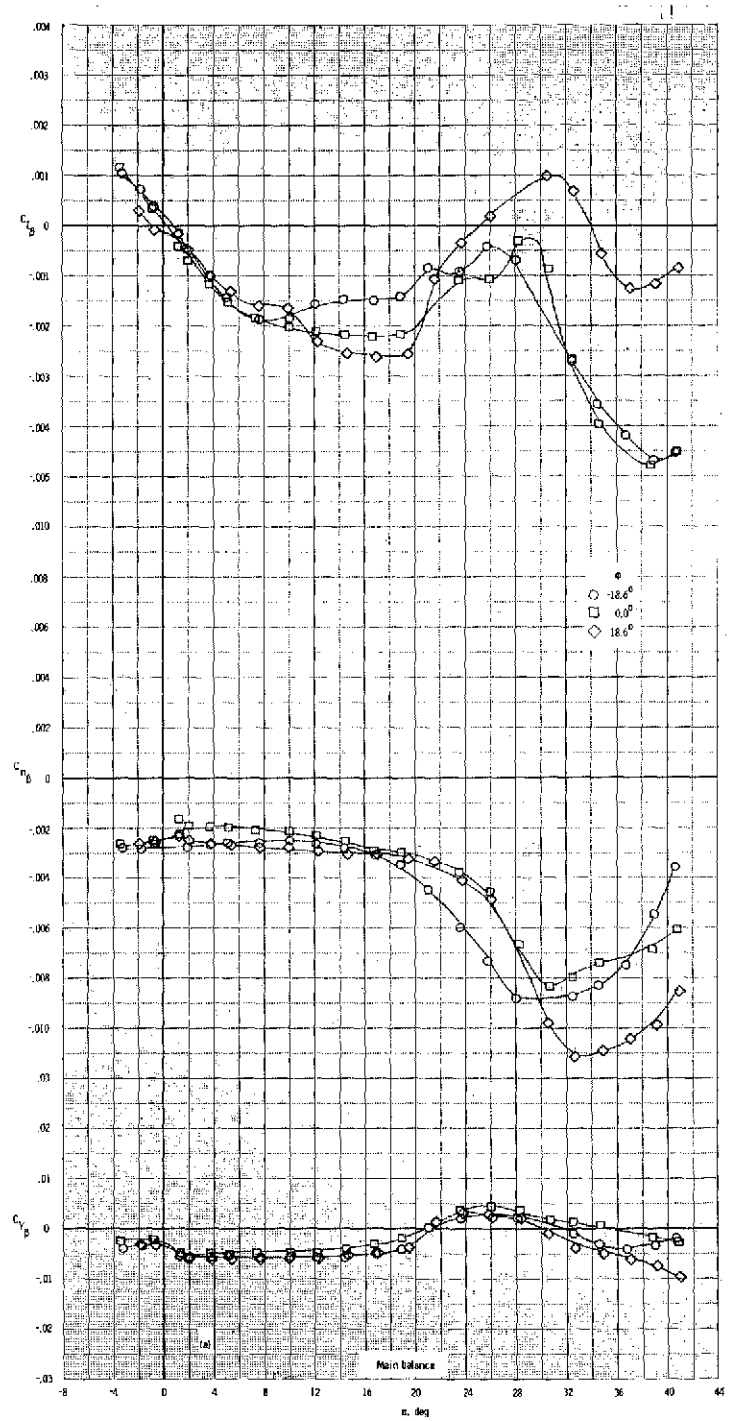



Figure 22.- Effect of canard dihedral on lateral-stability derivatives for models with $z/\bar{c} = 0.0$, $\ell/\bar{c} = 1.345$, and wing on.

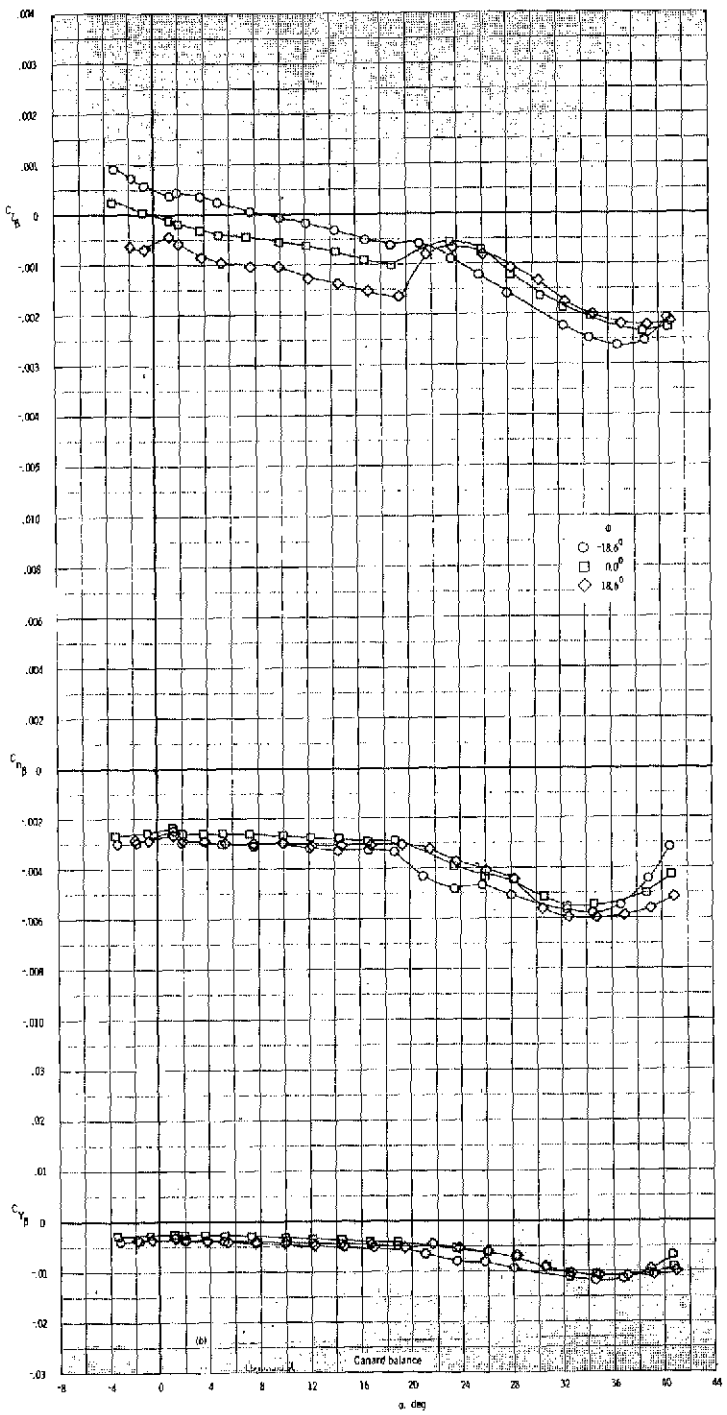



Figure 22.- Concluded.

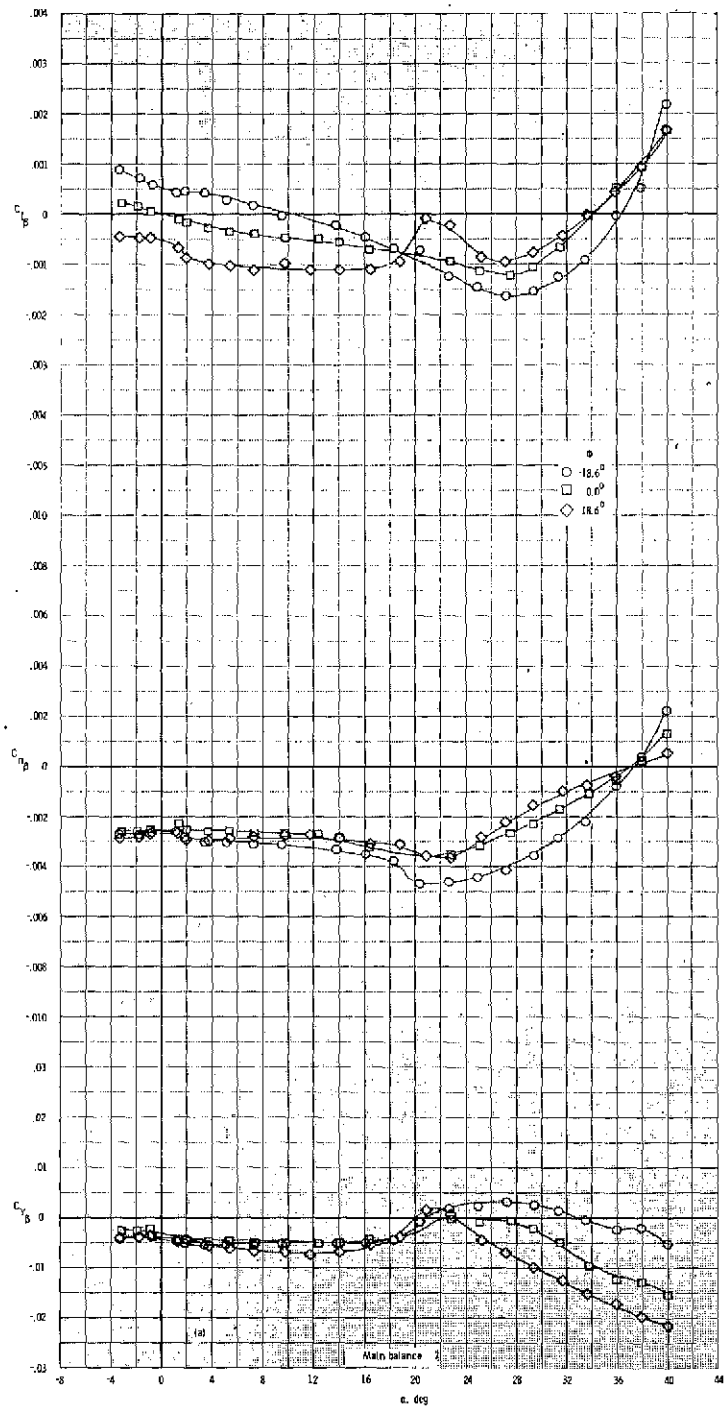



Figure 23.- Effect of canard dihedral on lateral-stability derivatives for models with $z/\bar{c} = 0.0$, $\ell/\bar{c} = 1.345$, and wing off.

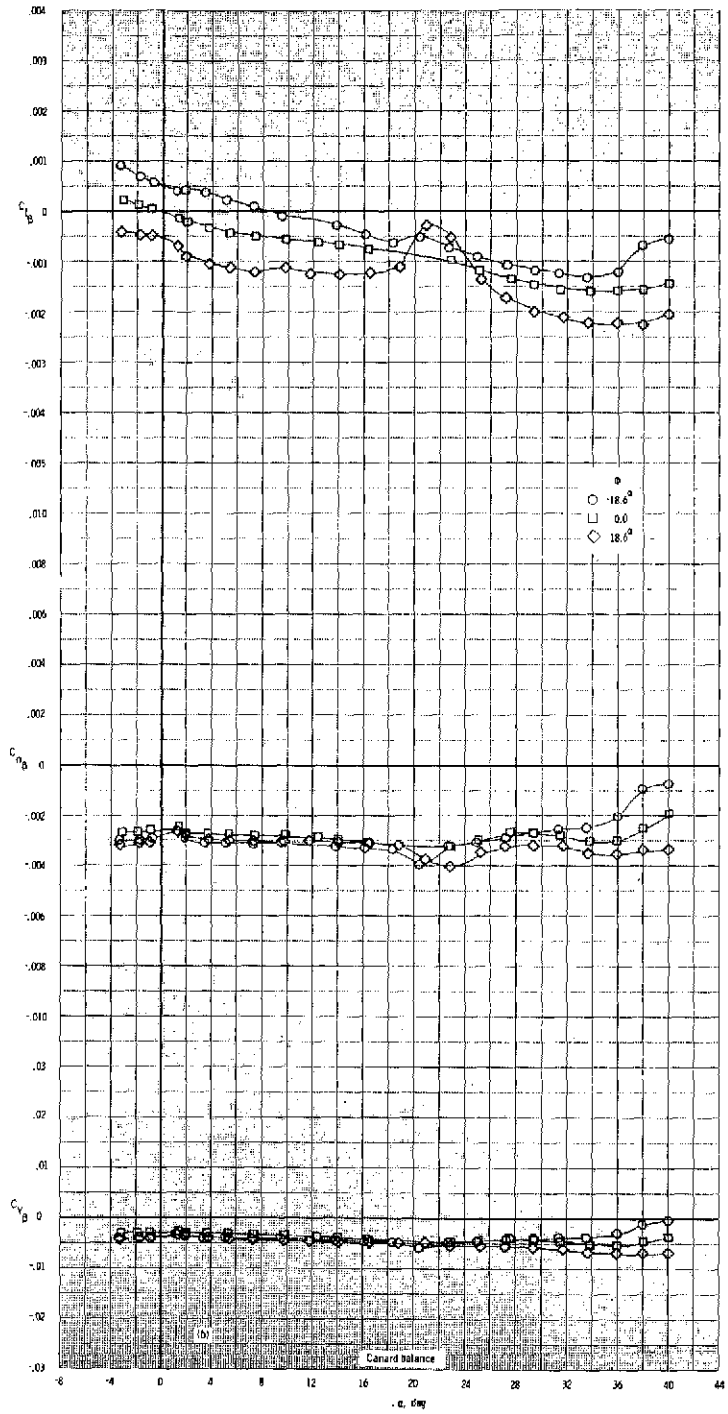



Figure 23.- Concluded.