NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

(NASA-CR-147630) RESULTS OF A CARRIER AIRCRAFT (MODEL AX13191-4) VERIFICATION TEST IN THE BOEING TRANSONIC WIND TUNNEL USING A 0.03-SCALE 747 CAM/ORBITER MODEL 45-0 (CA6), VOLUME 1 (Chrysler Corp.) 624 p

N77-20081 HC A99/MF A01

Unclas
G3/05 54582



SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER CORPORATION

October, 1976

DMS-DR-2262
NASA CR-147,630

VOLUME 1 OF 2

# RESULTS OF A CARRIER AIRCRAFT (MODEL AX13191-4) VERIFICATION TEST IN THE BOEING TRANSONIC WIND TUNNEL USING A 0.03-SCALE 747 CAM/ORBITER MODEL 45-0

(CA6)

by

747 Aerodynamics, 747 Flight Controls
and Wind Tunnel Test Group
Boeing Aerospace Company

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

| | |
|---|---|
| Test Number: | BTWT 1472 |
| NASA Series Number: | CA6 |
| Model Number: | AX13191-4 (Carrier), 45-0 (Orbiter) |
| Test Dates: | May 20 through June 6, 1975 |
| Occupancy Hours: | 265 |

FACILITY COORDINATOR:

R. W. Sendek
The Boeing Company
Orgn. B-8342 M/S 1W-82
P. O. Box 3707
Seattle, Washington 98124

Phone: (206) 655-3037

PROJECT ENGINEER:

J. R. Cornelius
The Boeing Company
Orgn. B-8342 M/S 1W-82
P. O. Box 3707
Seattle, Washington 98124

Phone: (206) 655-1644

AERODYNAMICS ANALYSIS ENGINEERS:

E. G. Dickson
The Boeing Company
Orgn. B-8260 M/S OL-23
P. O. Box 3707
Seattle, Washington 98124
Phone: (206) 342-1293

A. R. Wolfla
The Boeing Company
Orgn. B-8241 M/S OL-21
P. O. Box 3707
Seattle, Washington 98124
Phone: (206) 342-1700

DATA MANAGEMENT SERVICES:

Prepared by: Liaison--D. A. Sarver, J. E. Vaughn
Operations--Maurice Moser, Jr.

Reviewed by: G. G. McDonald

Approved: J. L. Glynn
J. L. Glynn, Manager
Data Operations

Concurrence: N. D. Kemp
N. D. Kemp, Manager
Data Management Services

Chrysler Corporation Space Division assumes no responsibility for the data presented other than display characteristics.

RESULTS OF A CARRIER AIRCRAFT (MODEL AX13191-4)

VERIFICATION TEST IN THE BOEING TRANSONIC WIND TUNNEL

USING A 0.03-SCALE 747 CAM/ORBITER MODEL 45-0

(CA6)

by

747 Aerodynamics, 747 Flight Controls
and Wind Tunnel Test Group
Boeing Aerospace Company

ABSTRACT

Tested in the 8- x 12-foot Transonic Wind Tunnel was a 0.03-scale model of the 747 CAM/Orbiter. Force and moment data were obtained on each vehicle both mated and separated. The investigation included the effects of orbiter incidence, orbiter tail cone, orbiter strut fairings, elevon, and body flap settings. Analysis of the data indicated the 747 is suitable as a carrier of the Orbiter in both the ALT launch and ferry mode. The effect of configuration changes on drag and stability was determined.

TABLE OF CONTENTS

## INDEX OF MODEL FIGURES

## INDEX OF DATA FIGURES

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (CONTINUED)

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (Continued)

## INDEX OF DATA FIGURES (Continued)



SCHEDULES:

A) CL vs ALPHAO; CL vs CD; ALPHAO, CL vs CLM; CLN, CY, CSL vs ALPHAO

B) CLN, CSL, CY vs BETAO

C) CL vs ALPHAW; CL vs CD; ALPHAW, CL vs CLM; CLN, CY, CSL vs ALPHAW

## INTRODUCTION

Previous 747/Orbiter mated configuration testing (CA5) was accomplished in the Boeing Transonic Wind Tunnel in September 1974 to obtain high speed data for the ferry and launch configurations. At that time, the baseline configuration included orbiter tailcone $TC_5$ for both ferry and launch configurations. Subsequent to that test, the following changes were made to the baseline configuration:

1) Tailcone $TC_5$ replaced by $TC_4$ for ferry
2) Tailcone off for launch
3) Flaps up, gear up launch configuration

Therefore, one of the primary objectives of the CA6 configuration refinement test was to determine the impact of the tailcone configuration changes on drag, directional stability, and rudder power. The other test configuration changes were directed toward reducing drag for the ferry and launch climb configurations.

As a result of some of the conclusions reached following the CA23 separation test conducted at Ames Research Center (ARC) in March and April 1975, considerable interest was shown in obtaining sufficient data from the CA6 to verify those conclusions. Therefore, additional mated data were obtained as well as Orbiter alone and 747/CAM alone data.

Test objectives are summarized as follows:

1) Verify the suitability of the 747/CAM for ferry with $TC_4$ on and for air launch with $TC_4$ on or off.

2) Determine the effects of the configuration changes:

- various support strut fairings
- Orbiter incidence
- Orbiter elevon on ferry and launch climb performance and stability characteristics
- Orbiter body flap setting on launch climb performance

3) Measure Orbiter alone data to enable NASA/RI to calculate proximity effects.

4) Obtain comparative data with the CA23 test

5) Conduct selected flow visualization studies

Test CA6 was conducted in the Boeing 8- x 12-ft. Transonic Wind Tunnel (BTWT) May 20 to June 6, 1975. Occupancy time was 265 hours, including loads testing. Loads tests were made to obtain horizontal tail-off force and pitching moment data to be used together with the CA9 high speed pressure test data. Total number of data runs was 423. Test designation is BTWT 1472.

All of the test objectives were accomplished.

Volume 1 contains data figures and Volume 2 contains the appendix of tabulated source data.

## NOMENCLATURE
General

| SYMBOL | PLOT SYMBOL | DEFINITION |
|---|---|---|
| a | | speed of sound; m/sec, ft/sec |
| $C_p$ | CP | pressure coefficient; $(p_l - p_\infty)/q$ |
| M | MACH | Mach number; V/a |
| p | | pressure; $N/m^2$, psf |
| q | Q(NSM) Q(PSF) | dynamic pressure; $1/2\rho V^2$, $N/m^2$, psf |
| RN/L | RN/L | unit Reynolds number; per m, per ft |
| V | | velocity; m/sec, ft/sec |
| $\alpha$ | ALPHA | angle of attack, degrees |
| $\beta$ | BETA | angle of sideslip, degrees |
| $\psi$ | PSI | angle of yaw, degrees |
| $\phi$ | PHI | angle of roll, degrees |
| $\rho$ | | mass density; $kg/m^3$, $slugs/ft^3$ |

Reference & C.G. Definitions

| SYMBOL | PLOT SYMBOL | DEFINITION |
|---|---|---|
| $A_b$ | | base area; $m^2$, $ft^2$ |
| b | BREF | wing span or reference span; m, ft |
| c.g. | | center of gravity |
| $\ell_{REF}$ $\bar{c}$ | LREF | reference length or wing mean aerodynamic chord; m, ft |
| S | SREF | wing area or reference area; $m^2$, $ft^2$ |
| | MRP | moment reference point |
| | XMRP | moment reference point on X axis |
| | YMRP | moment reference point on Y axis |
| | ZMRP | moment reference point on Z axis |

SUBSCRIPTS

| | |
|---|---|
| b | base |
| l | local |
| s | static conditions |
| t | total conditions |
| $\infty$ | free stream |

NOMENCLATURE
(Continued)

Stability-Axis System

| SYMBOL | PLOT SYMBOL | DEFINITION |
|---|---|---|
| $C_L$ | CL | lift coefficient; $\frac{\text{lift}}{qS}$, CAM |
| $C_D$ | CD | drag coefficient; $\frac{\text{drag}}{qS}$, CAM |
| $C_Y$ | CY | side-force coefficient; $\frac{\text{side force}}{qS}$, CAM |
| $C_m$ | CLM | pitching-moment coefficient; $\frac{\text{pitching moment}}{qS\ell_{MAC}}$, CAM |
| $C_n$ | CLN | yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$, CAM |
| $C_\ell$ | CSL | rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$, CAM |
| $C_{L_O}$ | CL | lift coefficient; $\frac{\text{lift}}{qS}$, ORB |
| $C_{D_O}$ | CD | drag coefficient; $\frac{\text{drag}}{qS}$, ORB |
| $C_{Y_O}$ | CY | side-force coefficient; $\frac{\text{side-force}}{qS}$, ORB |
| $C_{m_O}$ | CLM | pitching-moment coefficient; $\frac{\text{pitching-moment}}{qS\ \text{MAC}}$, ORB |
| $C_{n_O}$ | CLN | yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$, ORB |
| $C_{\ell_O}$ | CSL | rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$, ORB |

ORIGINAL PAGE IS OF POOR QUALITY

NOMENCLATURE
(Continued)

Body-Axis System

| SYMBOL | PLOT SYMBOL | DEFINITION |
|---|---|---|
| $C_N$ | CN | normal-force coefficient; $\frac{\text{normal force}}{qS}$, CAM |
| $C_A$ | CA | axial-force coefficient; $\frac{\text{axial force}}{qS}$, CAM |
| $C_Y$ | CY | side-force coefficient; $\frac{\text{side force}}{qS}$, CAM |
| $C_m$ | CLM | pitching-moment coefficient; $\frac{\text{pitching moment}}{qS\ell_{MAC}}$, CAM |
| $C_n$ | CYN | yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$, CAM |
| $C_\ell$ | CBL | rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$, CAM |
| $C_{N_O}$ | CN | normal-force coefficient; $\frac{\text{normal-force}}{qS}$, ORB |
| $C_{A_O}$ | CA | axial-force coefficient; $\frac{\text{axial force}}{qS}$, ORB |
| $C_{Y_O}$ | CY | side-force coefficient; $\frac{\text{side force}}{qS}$, ORB |
| $C_{m_O}$ | CLM | pitching-moment coefficient; $\frac{\text{pitching moment}}{qS\ \text{MAC}}$, ORB |
| $C_{n_O}$ | CYN | yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$, ORB |
| $C_{\ell_O}$ | CBL | rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$, ORB |

## NOMENCLATURE (Continued)
Additions to Standard List

| Symbol | Plot Symbol | Definition |
|---|---|---|
| BSTA | | carrier fuselage station, in. |
| BWL | | carrier water line, in. |
| - | CDFFC | skin friction drag increment of Carrier |
| - | CDFFO | skin friction drag increment of Orbiter |
| FS | | fuselage station, in. |
| $i_{ORB}$ | IORB | Orbiter incidence angle, deg. |
| MS | | model station, in. |
| $p_{t_\infty}$ | PT-PSF | freestream total pressure - psf |
| $p_\infty$ | PS-PSF | freestream static pressure - psf |
| $q_\infty$ | Q(PSF) | freestream dynamic pressure - psf |
| $s_{i-j}$ | Si-j | spoiler nos. i through j deflection angle, deg. |
| $T_\infty$ | TB11 | freestream temperature - $^{o}R$ |
| WL | | waterline, in. |
| WP | | water plane, in. |
| Xc | XC | carrier longitudinal station, in. |
| Xo | XO | Orbiter longitudinal station, in. |
| Yc | YC | carrier lateral station, in. |
| Yo | YO | Orbiter lateral station, in. |
| Zc | ZC | carrier vertical station, in. |
| Zo | ZO | Orbiter vertical station, in. |
| $\alpha_c$ | ALPHAC | carrier fuselage angle of attack, deg. |

NOMENCLATURE (Continued)
Additions to Standard List

| Symbol | Plot Symbol | Definition |
|---|---|---|
| $\alpha_O$ | ALPHAO | Orbiter angle of attack, $= i_{ORB} - 2^o + \alpha_{WDP} - \Delta i_{ORB}$, deg. |
| $\alpha_{WDP}$ | ALPHAW | Carrier wing angle of attack, $\alpha_{WDP} = \alpha_c + 2^o$, deg. |
| $\beta_c$ | BETAC | carrier sideslip angle, deg. |
| $\beta_O$ | BETAO | Orbiter sideslip angle, deg. |
| $\Delta i_{ORB}$ | DIORB | change in Orbiter incidence due to support strut and balance deflections, deg. |
| $\Delta\alpha_O$ | DALFAO | wall interference correction to orbiter angle of attack |
| $\Delta\alpha_c$ | DALFAC | wall interference correction to carrier angle of attack |
| $\Delta p_1$ | DPC1 | differential pressure in balance cavity area (local static pressure - freestream static pressure)- psf |
| $\Delta p_2$ | DPC2 | |
| $\Delta p_3$ | DPC3 | |
| $\Delta p_4$ | DPC4 | |
| $\delta e_{IB}$ | ELV-IB | carrier inboard elevator deflection, deg. |
| $\delta e_{OB}$ | ELV-OB | carrier outboard elevator deflection, deg. |
| $\delta e$ | ELEVON | Orbiter elevon deflection angle, deg. |
| $\delta_{BF}$ | BDFLAP | Orbiter body flap deflection angle, deg. |
| $\delta_{RL}$ | RUD-L | carrier lower rudder panel deflection angle, deg. |
| $\delta_{RU}$ | RUD-U | carrier upper rudder panel deflection angle, deg. |

NOMENCLATURE (Concluded)
Additions to Standard List

| Symbol | Plot Symbol | Definition |
|---|---|---|
| $\delta_R$ | RUDDER | Orbiter rudder deflection angle, deg. |
| $\delta_{SB}$ | SPDBRK | Orbiter speedbrake deflection angle, deg. |
| $\delta_{WDP}$ | STAB | carrier horizontal stabilizer deflection angle, with respect to wing, deg. |
| $\phi_{ORB}$ | PHIO | orbiter roll angle, deg. |
| | CAM | carrier aircraft modification |
| | FWD ST | forward strut angle |
| | WNGHGT | wing height, vertical distance from tunnel floor, inches |

## CONFIGURATIONS INVESTIGATED

Tested were Orbiter alone, 747 Carrier alone, and mated 747/Orbiter installations. The .03-scale models represented the baseline configuration.

747/Orbiter

In the mated configuration, the 747/CAM model was attached to a blade and offset sting (WTC 506) in the lower rear fuselage. Installation is shown in figure 3a and 3b. The Orbiter model was mounted to the 747 carrier through a 3-point strut support system. The support struts were tested unfaired and faired using various combinations of the strut fairings (figures 2g and 2h).

Forces on the two models were recorded independently on separate internal balances. The carrier balance (6226) measured total carrier plus Orbiter forces and moments and the Orbiter balance (660G) measured Orbiter forces and moments.

Orbiter

The .03 scale Orbiter model 45-0 was tested alone, mounted on the MC 1-1200 straight sting. Orbiter forces and moments were measured by the same balance as in the mated configuration. Pitch data were obtained with elevon deflections of 0° and +5°. Yaw data at $\alpha_0 = 0°$ were obtained by rolling the model 90° and pitching through the required angle of attack range.

747 Carrier Aircraft

The .03 scale 747 model AX13191-4 was mounted on the WTC 506 swept strut sting, the same as in the mated configuration. The 6226 balance was used to measure 747 forces and moments.

The carrier was tested alone in the basic 747 configuration and in the 747 CAM configuration, with the 200 ft.$^2$ horizontal tail tip fins and orbiter support structure.

Test Variables

Carrier wing angle of attack = -4° to 12°

Orbiter angle of attack = 0 to 16°

Yaw angle = -10°, -6°, -4°, -2°, 0°, +4°

Carrier Configuration Variables

Orbiter support structure and fairings

Stabilizer FRL = -1°, 0°, 1°, 2°, 5°

Rudder (upr/lwr) = 0/0, 3/3, 10/10, 0/10, 10/0

Inflight speed brakes 0/0/0 and 0/45/20

Elevator (inbd/outbd) = 0/0, 10/10, -10/-10

Horizontal tail off and on

Horizontal tail tip fins and vertical tail off and on

Model upright and inverted

Orbiter Configuration Variables

Nominal Orbiter incidence = 3°, 4.25°, 6°, 8°
Tail cone off, tail cone on ($TC_4$)
Elevons 0°, ±5°, -10°
Body flap 0°, -11.7°
Elevon gaps open and sealed (one run)
Model upright and inverted

## TEST FACILITY DESCRIPTION

The Boeing Transonic Wind Tunnel (BTWT) is a continuous flow, closed circuit, single return, atmospheric facility with the following characteristics:

| Test Section Flow Parameters | | Test Section Dimensions | |
|---|---|---|---|
| Freestream Condition | Range | Description | Value |
| Mach number | 0 thru 1.15 | Cross-section (minus corner fillets), ft. | 8 x 12 |
| Dynamic pressure, psia | 0 thru 6.3 | Length, ft. | 14.5 |
| Static pressure, psia | 15 to 5.4 | Area, $ft^2$ | 88 |
| Stagnation pressure | atmospheric | | |
| Maximum unit Reynolds number, per foot | $4 \times 10^6$ | | |
| Maximum total temperature, °F | 160 | | |

The test section can be operated with either solid or slotted walls. The slotted wall configuration consists of 16 slots which can vary wall porosity from 3.5% to 11%.

Test data acquisition, recording, computations, and display are done by an XDS-9300 computer and Astro data sub-system.

## DATA REDUCTION

### Wall Corrections

Data were corrected for wall effects using the standard BTWT lift interference factor for 11% slotted walls, $\delta_o = -.11$ in the equation:

$$\Delta\alpha_{wall} = 57.3\ \delta_o\ \frac{S_{ref}}{\text{Tunnel Area}}\ C_L$$

For the 747 alone or the Orbiter alone, the correction is straight forward. For the mated 747/Orbiter, $\Delta\alpha_{wall}$ was based on total $C_L$ of the 747 + Orbiter as measured by the 747 balance, and this value of $\Delta\alpha_{wall}$ was used for the Orbiter balance data as well as the 747 balance data.

Drag correction for the mated configuration using the $\Delta\alpha_{wall}$ as determined above along with the appropriate $C_L$ of either the 747 balance or the Orbiter balance is:

$$\text{Orbiter balance:}\quad \Delta C_D = (\Delta\alpha_{wall})(C_{L_{(orb)}})$$

$$= \left[57.3\ \delta_o\ \frac{S_{ref}}{\text{Tunnel Area}}\ C_{L_{(747+orb)}}\right]\left[C_{L_{(orb)}}\right]$$

$$\text{747 balance:}\quad \Delta C_D = \left[57.3\ \delta_o\ \frac{S_{ref}}{\text{Tunnel Area}}\ C_{L_{(747+orb)}}\right]\left[C_{L_{(747+orb)}}\right]$$

### Upflow

The model was flown upright and inverted at each Mach number for the following configurations: Orbiter alone, with the wing at 48 inches and 57 inches above the tunnel floor, and 747 alone, with the wing at 49 inches above the tunnel floor. The upflow correction thus obtained at zero lift was applied to 747 balance data or Orbiter balance data at all angles of attack. The upflow derived with the Orbiter at 57 inches was applied to the Orbiter balance data in the mated configuration.

Blockage

Standard practice at BTWT is not to apply blockage corrections to the data for a slotted test section because they are considered small. For the 747 alone configuration, the correction to dynamic pressure, q, is less than .3% over the range of Mach number tested in CA6. This correction is directly proportional to volume of the model. Since the volume of the 747 plus Orbiter is 1/3 more than that of the 747 alone, q correction for the mated configuration is less than .4%.

Reynolds Number Correction

A Reynolds number correction was applied to all model drag data. This correction is necessary as a consequence of total temperature variation of the tunnel flow. The correction is applied to each model component (wing, horizontal tail, nacelle, etc.) by estimating the skin friction coefficient for each and correcting to a nominal Reynolds number per foot if the test RN is more than ± 25000 from the nominal.

The model wetted areas and reference lengths used to correct to the nominal Reynolds number are as follows:

| Model | Component | Ref. Length | Wetted Area |
|---|---|---|---|
| 747 | Body | 6.75 ft. | 12.71 $ft^2$ |
| 747 | Flap track fairings | .65 | .84 |
| 747 | Horizontal tail | .617 | 2.175 |
| 747 | Nacelles (internal) | .248 | 1.7 |
| 747 | Nacelles (external) | .2875 | 1.245 |

DATA REDUCTION (Continued)

| Model | Component | Ref. Length | Wetted Area |
|---|---|---|---|
| 747 | Nacelle struts | .638 ft. | .650 $ft^2$ |
| 747 | Vertical tail | .6940 | 1.53 |
| 747 | Wing | .9058 | 8.28 |
| Orbiter | Body (TC on) | 4.155 | 7.2252 |
| Orbiter | Body (TC off) | 3.225 | 5.5692 |
| Orbiter | Vertical tail | .4995 | .6941 |
| Orbiter | Wing | 1.1868 | 3.5775 |

Mounting Strut Tare Corrections

Data in this report were corrected for 747 model support system interference only where noted. These effects were evaluated for the 747 alone configuration in previous BTWT tests. The tares were extrapolated for the M = .3 case.

All carrier aerodynamic forces and moments measured were reduced to coefficient form in the body and stability axis systems using the following carrier reference dimensions:

| Symbol | Description | Model Scale | Full Scale |
|---|---|---|---|
| S | 747 wing area, $ft^2$ | 4.95 | 5500 |
| b | 747 wing span, in. | 70.44 | 2348 |
| $\bar{c}$ | 747 wing mean aerodynamic chord, in. | 9.834 | 327.8 |
| $X_{MRP}$ | 747 longitudinal moment reference point, in. $X_c$ | 40.196 | 1339.91 |
| $Y_{MRP}$ | 747 lateral moment reference point, in. $Y_c$ | 0.0 | 0.0 |
| $Z_{MRP}$ | 747 vertical moment reference point, in. $Z_c$ | 5.7225 | 190.75 |

DATA REDUCTION (Concluded)

Orbiter aerodynamic forces and moments measured by the Orbiter internal balance were also reduced to coefficient form in body and stability axis systems using Orbiter reference dimensions as listed below:

| | | |
|---|---|---|
| SREF | = | 2690 $ft^2$ |
| LREF | = | 474.8 in. |
| BREF | = | 936.67 in. |
| XMRP | = | 1109.0 in. XO |
| YMRP | = | 0.0 in. YO |
| ZMRP | = | 375.0 in. ZO |

## RESULTS AND DISCUSSION

For launch climb, the $TC_4$ fairing was found to give a considerably greater drag saving than the $TC_5$ fairing tested in CA5.

| Test | $\Delta C_D$ | Tailcone |
|---|---|---|
| CA6 | .0152 | $TC_4$ |
| CA5 | .0110 | $TC_5$ |

The $TC_4$ tailcone fairing consistently performs better than $TC_5$; a similar improvement was observed for the ferry configuration. Both orbiter strut fairings and an up (-5°) orbiter elevon reduce the climb drag for near-ceiling conditions ($C_L$ = .75), the model scale increments being $\Delta C_D$ = -43 counts and -15 counts, respectively.

For the typical ferry cruise condition at $C_L$ = 0.6, the faired orbiter support struts reduce the wind tunnel drag coefficient by 41 counts. Other fairing configurations gave up to 62 drag counts reduction. However, these gains were made with high fineness ratio (long chord) forward strut fairings, which caused further deterioration in directional stability below the minimum guideline level. Ferry drag was reduced by decreasing the Orbiter incidence to 3° (from 4.25°). The 15 count (approximate) reduction in wind tunnel drag was partly a result of the reduced forward support strut length. A five-degree up orbiter elevon angle was tested but gave no improvement in ferry drag.

## REFERENCES


"Pre-test Information for Testing the 747/Space Shuttle Orbiter in the Boeing 8 x 12-foot Transonic Wind Tunnel. Test No. CA-6," E. Dickson, L. Watts, Boeing Doc. D180-18380-1, May 8, 1975.

"Aerodynamic Design Data Book, Volume 1, Orbiter Vehicle," December 1974, SD 72-SH-0060-1H.

"Analysis of CA5 High Speed Test of Boeing 747 Space Shuttle Orbiter Carrier (BTWT Test 1431," Boeing Doc. D180-18411-1, R. M. Miller, dated October 31, 1974.

"Model Assembly" (TE 1007), Boeing Dwg. 65-69716.

"Wing," $W_{44.1}$, Boeing Dwg. No. 65-89585.

"Horizontal Tail Assembly," $H_{15}$, Boeing Dwg. No. 65-66630.

"Nacelle Assembly," $N_{57}$ & $N_{58}$.

"Nacelle Installation," $N_{57}$ & $N_{58}$, Boeing Dwg. No. 1007-97.

"Vertical Tail," $V_{9.1}$, Boeing Dwg. No. 1007-26.

"Orbiter Configuration Control Drawing," NR Dwg. No. VL70-000140A.

"Orbiter Lines Baseline," NR Dwg. No. VL70-000147B.

"Boeing Model 747-200B Aerodynamic Summary," Boeing Dwg. No. 65B00097.

TABLE I.

| TEST : CA6 | | | DATE : Post-Test |
|---|---|---|---|

TEST CONDITIONS

| MACH NUMBER | REYNOLDS NUMBER (per foot) | DYNAMIC PRESSURE (pounds/sq. inch) | STAGNATION TEMPERATURE (degrees Fahrenheit) |
|---|---|---|---|
| 0.3 | $1.88 \times 10^6$ | 0.87 | 90 |
| 0.4 | $2.36 \times 10^6$ | 1.50 | 97 |
| 0.5 | $2.75 \times 10^6$ | 2.17 | 104 |
| 0.6 | $3.06 \times 10^6$ | 2.90 | 112 |
| 0.7 | $3.33 \times 10^6$ | 3.64 | 114 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

BALANCE UTILIZED: Boeing 6226 (747), Boeing 660G (Orbiter)

| | CAPACITY: 660G | CAPACITY: 6226 | | ACCURACY: | COEFFICIENT TOLERANCE: |
|---|---|---|---|---|---|
| NF | 1335 | 4750 | lbs | $\pm$ 0.1% | |
| SF | 1780 | 2380 | lbs | $\pm$ 0.1% | |
| AF | 133 | 360 | lbs | $\pm$ 0.1% | |
| PM | 2015 | 21000 | in-lbs | $\pm$ 0.1% | |
| RM | 2015 | 8300 | in-lbs | $\pm$ 0.1% | |
| YM | 4265 | 8300 | in-lbs | $\pm$ 0.1% | |

COMMENTS:

## TABLE II

**TEST:** CA6

**DATA SET/RUN NUMBER COLLATION SUMMARY**

**DATE:** Post-Test

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | CARRIER $\delta$ | CARRIER $\delta_{e_{u/b}}$ | CARRIER $\delta_{e_{i/b}}$ | CARRIER $\beta$ | CARRIER $\phi$ | ORBITER $\alpha$ | ORBITER $\beta$ | ORBITER $\delta_e$ | ORBITER $\delta_r$ | ORBITER $\delta_{BF}$ | ORBITER $\phi$ | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP001 | $ORB + F_8 N_{28}^{24.1}$ | | | | | | | ▷1 | 0 | 0 | 0 | 0 | 0 | 9 | | 8 | 7 | 6 |
| 02 | | | | | | | | ▷1 | | 5 | | | | 14 | | 13 | 12 | 11 |
| 03 | | | | | | | | ▷2 | | | | | | 18 | | 17 | 16 | 15 |
| 04 | | | | | | | | 0 | 15 | | | | 90 | 23 | | 22 | 21 | 20 |
| 05 | | | | | | | | ▷4 | 0 | | | | 180 | 28 | | 27 | 26 | 25 |
| 06 | | | | | | | | ▷5 | | | | | | 32 | | 31 | 30 | 29 |
| 07 | | | | | | | | ▷5 | | | | | | 39 | | 36 | 38 | 37 |
| 08 | | | | | | | | ▷4 | | | | | | 43 | | 42 | 41 | 40 |
| 09 | | | | | | | | ▷2 | | | | | 0 | 48 | | 47 | 46 | 45 |
| 10 | | | | | | | | ▷1 | | | | | | 52 | | 51 | 50 | 49 |
| 11 | ELEVON GAP SEALED | | | | | | | ▷1 | | | | | | | | | 54 | |
| * 12 | $K_1 + H_{18.1} V_{9.1}$ | ▷6 | 2.13 | 0 | 0 | 0 | 0 | | | | | | | 65 | | 64 | 63 | 62 |
| 13 | | | -1.0 | | | | | | | | | | | 70 | | 69 | 68 | 67 |
| 14 | | | 4.9 | | | | | | | | | | | 75 | | 74 | 73 | 72 |
| 15 | | | | | 10 | | | | | | | | | | | | 78 | |
| 16 | | | | | -10 | | | | | | | | | | | | 80 | |
| 17 | | | .06 | | -10 | | | | | | | | | 84 | | | 83 | 82 |
| 18 | | | .03 | | -10 | | | | | | | | | 88 | | | 87 | 86 |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

▷1 $\alpha_o$ = 0 to 17°

▷2 $\alpha_o$ = -1 to 1.8°

▷4 $\alpha_o$ = 1 to 15°

* $K_1 = B_{27.0} N_{28}^{22} M_{20.0}^{20} T_{19} W_{99.1} + TS^{8}{}_1$

ORIGINAL PAGE IS OF POOR QUALITY

ORIGINAL PAGE IS OF POOR QUALITY

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\alpha$ | $\delta_R$ | $\delta_e$ | $\beta$ | $\phi$ | $\delta_{SP}$ | ORBITER $L_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGPO 19 | $K_1 + H_{15.1} V_{9.1}$ | 6 | -.03 | 0 | 10 | 0 | 0 | | | | | | | 92 | | | 91 | 90 |
| 20 | | 6 | | | 0 | | | | | | | | | 97 | | 96 | 95 | 94 |
| 21 | | 7 | | | | | | | | | | | | 102 | | 101 | 100 | 99 |
| 22 | | 8 | | | | | 180 | | | | | | | 107 | | 106 | 105 | 104 |
| 23 | | 9 | | | | -4 | 0 | | | | | | | 111 | | | 110 | |
| 24 | | | | | | +2 | | | | | | | | 115 | | | 114 | |
| 25 | | | | | | 4 | | | | | | | | 118 | | | 117 | |
| 26 | | | | | | 6 | | | | | | | | 120 | | | 119 | |
| 27 | | | | | | 10 | | | | | | | | 123 | | | 122 | |
| 28 | | | | 3 | | 0 | | | | | | | | 126 | | | 125 | |
| 29 | | | | 10 | | | | | | | | | | 131 | | | 130 | |
| 30 | | | | 0/10 | | | | | | | | | | 133 | | | 132 | |
| 31 | | | | 10/0 | | | | | | | | | | 135 | | | 134 | |
| * 32 | $K_2 + H_{15.1} V_{9.1}$ | | .96 | 0 | | | | | | | | | | 140 | | 139 | 138 | 137 |
| 33 | STRIPS SEALED | | .96 | | | | | | | | | | | 145 | | 144 | 143 | 142 |
| 34 | $K_2 + H_{15.1} V_{9.1} S_{1-12} AT_{110}^{103.1}$ + ORB [illegible] | 6 | [illegible] | | | +4 | | 0/45/20 | 6 | 5 | 0 | 0 | | | | | 154 | |
| 35 | $AT_{110}^{101}$ | | | | | | | | | | | | | | | | 156 | |
| 36 | $AT_{105}^{103.1}$ | | | | | | | | | | | | | | | | 158 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

6 $\alpha_6 = -1.7$ to $1.0°$

6 $\alpha_6 = -4$ to $12°$

* $K_2$ = same as $K_1$ except trip strips removed from inside nacelle primary

## TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\delta$ | $\delta_R$ L/R | $\delta_e$ L/R | $\beta$ | $\phi$ | $\delta_{SP}$ | ORBITER $i_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP037 | $K_2F_{H6}\Delta_1V_{9.1}S_{1-12}AT^{103.1}_{105}N^{24}_{28}$ + ORB $F_6$ | 6 | 4.5 | 0 | 0 | 0 | 0 | 0/45/[illegible] | 6 | 5 | 0 | 0 | | | | | 160 | |
| 38 | $AT^{103.1}_{95-14.3,12.2}$ | | | | | 4 | | | | | | | | | | | 162 | |
| 39 | $AT^{103.2}_{95-14.3,12.2}$ | | | | | 4 | | | | | | | | | | | 163 | |
| 40 | — | | | | | 0 | | | | | | | | | | | 165 | |
| 41 | $AT^{93.1}_{95-14.3,12.2}$ | | | | | 4 | | | | | | | | | | | 166 | |
| 42 | $AT^{108}_{95-14.3,12.3}$ | | | | | 4 | | | | | | | | | | | 169 | |
| 43 | — | | | | | | | | | | | | | | | | 170 | |
| 44 | $AT^{108.1}_{95-14.3,12.3}$ | | | | | | | | | | | | | | | | 174 | |
| 45 | $AT^{108}_{110}$ | | | | | | | | | | | | | | | | 177 | |
| 46 | — | | | | | 0 | | | | | | | | | | | 179 | |
| 47 | $AT^{93.1}_{110}$ | | | | | 4 | | | | | | | | | | | 181 | |
| 48 | $AT^{108}_{111}$ | | | | | | | | | | | | | | | | 183 | |
| 49 | $AT^{108}_{111.1}$ | | | | | | | | | | | | | | | | 185 | |
| 50 | $AT^{103.2}_{111.1}$ | | | | | | | | | | | | | | | | 187 | |
| 51 | — | | | | | 0 | | | | | | | | | | | 189 | |
| 52 | | 9 | | | | -4 | | | | | | | | | | | | 191 |
| 53 | $AT^{108.1}_{95-14.3,12.3}$ | | | | | 2 | | | | | | | | | | | 195 | 194 |
| 54 | — | | | | | 4 | | | | | | | | | | | 198 | 197 |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

7 $\alpha_c$ = -1 to 2°

8 $\alpha_c$ = -15 to 18°

9 $\alpha_c$ = -4 to 12

ORIGINAL PAGE IS OF POOR QUALITY

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\delta$ | $\delta_a$ 4/4 | $\delta_e$ 3/3 | $\beta$ | $\phi$ | $\delta_{SP}$ | ORBITER $L_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGPO 55 | $K_2 + H_{15.6} V_{9.1} S_{1-12}$ [illegible] + ORB $F_8$ [illegible] | 9 | 4.51 | 0 | 0 | 6 | 0 | [illegible] | 6 | 5 | 0 | 0 | | | | | 201 | 200 |
| | | | | | | | | | | | | | | | | | | |
| RGPO 57 | [illegible] + ORB $F_8$ [illegible] | 9 | 4.81 | 0 | 0 | -4 | 0 | [illegible] | 6 | 5 | 0 | 0 | | | | | 206 | 205 |
| 58 | | 3.9 | | | | -4 | | | | | | | | | OIL | FLOW | 207 | |
| 59 | | 9 | | | | 0 | | | | | | | | 212 | | 211 | 210 | 209 |
| 60 | | 3.85 | | | | | | | | | | | | | OIL | FLOW | 213 | |
| 61 | | 9 | | 3 | | | | | | | | | | | | | 216 | 215 |
| 62 | | | | 10 | | | | | | | | | | | | | 218 | 217 |
| 63 | | | | 0/10 | | | | | | | | | | | | | 220 | 219 |
| 64 | | | | 10/0 | | | | | | | | | | | | | 222 | 221 |
| 65 | | 6 | 4.34 | 0 | 9°.29'/10 | | | | | | | | | | | | 225 | 224 |
| 66 | | | 4.34 | | -10°.4'/-9°.36' | | | | | | | | | | | | 228 | 227 |
| 67 | | | .04 | | 0 | | | | | | | | | | | 232 | 231 | 230 |
| 68 | | | 2.13 | | | | | | | | | | | | | 237 | 236 | 235 |
| 69 | | | -1.06 | | | | | | | | | | | | | | 239 | |
| 70 | $K_2 + H_{6.1}$ [illegible] $S_{1-12}$ [illegible] + ORB $F_8$ [illegible] | 9 | 4.7 | — | | | | | | | | | | | | | 243 | 242 |
| 71 | | | | | | -4 | | | | | | | | | | | 246 | 245 |
| 72 | | | | | | 4 | | | | | | | | | | | 249 | 248 |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\beta$ | $\delta_R$ 4/L | $\delta_e$ 3/0 | $\theta$ | $\phi$ | $\delta_{SP}$ | ORBITER $i_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP073 | $K_2$ + H15.6 $S_{1-12}$ AT $^{103.1}_{95-11.3}$ + ORB FSN38 | 9 | 4.77 | — | 0 | 10 | 0 | 9/45/24 | 6 | 5 | 0 | 0 | | | | | 251 | |
| 74 | $K_2$ + $V_{9.1}$ $S_{1-12}$ AT $^{103.1}_{95-11.3}$ + ORB FSN38 | 6 | — | 0 | — | 0 | | | | 5 | | | | | | | 254 | 253 |
| 75 | | | | | — | | | | | 0 | | | | | | | 255 | |
| 76 | $K_2$ + H15.6.1 $V_{9.1}$ $S_{1-12}$ AT $^{103.1}_{95-11.3}$ + ORB FSN38 | | 0 | | 0 | | | | | | | | | | | | 257 | |
| 77 | | | 2.21 | | | | | | | | | | | | | | 259 | |
| 78 | | | 4.83 | | | | | | | | | | | | | | 261 | |
| 79 | | | -1.01 | | | | | | | | | | | | | | 263 | |
| 80 | $K_2$ + H15.6.1 $V_{9.1}$ $S_{1-12}$ AT $^{103.1}_{95-11.3}$ + ORB TC4 | | -1.01 | | | | | | | 5 | | — | | | | | 265 | |
| 81 | | | 4.84 | | | | | | | | | | | | | | 267 | |
| 82 | | 3.79 | | | | | | | | | | | | | OIL FLOW | | 268 | |
| 83 | $K_2$ + H15.6.1 $V_{9.1}$ $S_{1-12}$ AT $^{103.1}_{95-11.4}$ + ORB TC4 | 6 | | | | | | | | | | | | | | | 270 | |
| 84 | $K_2$ + H15.6.1 $V_{9.1}$ $S_{1-12}$ AT $^{103.1}_{105}$ + ORB TC4 | | | | | | | | | | | | | | | | 272 | |
| 85 | | | 0 | | | | | | | | | | | | | | 274 | |
| 86 | | | 1.98 | | | | | | | | | | | | | | 276 | |
| 87 | | 9 | 4.25 | | | -4 | | | | | | | | | | | 278 | |
| 88 | | | | | | +4 | | | | | | | | | | | 280 | |
| 89 | | | | | | 2 | | | | | | | | | | | 282 | |
| 90 | | | | | | 6 | | | | | | | | | | | 284 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

TABLE II (Continued)

| TEST : | DATA SET/RUN NUMBER COLLATION SUMMARY | DATE : |
|---|---|---|

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\ell$ | $\delta_{e}$ +/L | $\delta_{e}$ T/R | $\beta$ | $\phi$ | $\delta_{SP}$ | ORBITER $\angle_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP091 | $K_2 H_{15.6.1} V_{9.1} S_{1-12} AT^{103.1}_{105}$ + ORB TC4 | 5 | 4.85 | 0 | 0 | 10 | 0 | 9.5/20 | 6 | 5 | 0 | — | | | | | 286 | | |
| 092 | | | | 3 | | 0 | | | | | | | | | | | 288 | | |
| 093 | | | | 10 | | | | | | | | | | | | | 290 | | |
| 094 | $K_2 H_{15.1} S_{1-12} AT^{103.1}_{105}$ + ORB TC4 | | 4.79 | — | | | | | | | | | | | | | 294 | | |
| 095 | | | | | | -4 | | | | | | | | | | | 296 | | |
| 096 | | | | | | 4 | | | | | | | | | | | 298 | | |
| 097 | | | | | | -10 | | | | | | | | | | | 299 | | |
| 098 | $K_2 V_{9.1} S_{1-12} AT^{103.1}_{105}$ + ORB TC4 | | — | 0 | — | 0 | | | | | | | | | | | 301 | | |
| 099 | $K_2 H_{15.6.1} V_{9.1} S_{1-12} AT^{103.1}_{105}$ + ORB F8 N28 | 6 | 2.15 | | 0 | | | | | | | 0 | | | | | 303 | | |
| 100 | | | -.02 | | | | | | | | | | | | | | 305 | | |
| 101 | | | 4.77 | | | | | | | | | | | | | | 307 | | |
| 102 | | | | | | -4 | | | | | | | | | | | 309 | | |
| 103 | | | | | | 2 | | | | | | | | | | | 311 | | |
| 104 | | | | | | 4 | | | | | | | | | | | 313 | | |
| 105 | | | | | | 6 | | | | | | | | | | | 315 | | |
| 106 | | | | | | 10 | | | | | | | | | | | 317 | | |
| 107 | | | | 10 | | 0 | | | | | | | | | | | 319 | | |
| 108 | N28 $AT^{103.1}_{95.[illegible]}$ | | | 0 | | 0 | | | | | | | | | | | 322 | 321 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

ORIGINAL PAGE IS OF POOR QUALITY

TABLE II (Continued)

TEST: | DATA SET/RUN NUMBER COLLATION SUMMARY | DATE:

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER | | | | | | | ORBITER | | | | | MACH NUMBERS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $\alpha$ | $i$ | $\delta_{R}$ | $\delta_{e}$ | $\beta$ | $\phi$ | $\delta_{SP}$ | $i_{ORB}$ | $\delta_{e}$ | $\delta_{r}$ | $\delta_{BF}$ | | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
| RGP109 | K2H1E6L1V4S1-12 AT [illegible] + ORB FBN [illegible] | 6 | 4.77 | 0 | 0 | 0 | 0 | 9/45/20 | 6 | 5 | 0 | 0 | | | | | 325 | 324 |
| 10 | | | | | | 10 | | | | | | | | | | | 327 | |
| 11 | | | | | | 6 | | | | | | | | | | | 330 | 329 |
| 12 | +ORB FBN 24/28 | | | | | 2 | | | | | | | | | | | 333 | 332 |
| 13 | | | | | | -4 | | | | | | | | | | | 336 | 335 |
| 14 | | | | | | 4 | | | | | | | | | | | 339 | 338 |
| 15 | AT 15-23 | | | | | 4 | | | | | | | | | | | 342 | 341 |
| 16 | | | 4.75 | | | 0 | | | | | | | | | | | 345 | 344 |
| 17 | AT [illegible] | | | | | | | | 8.11 | | | | | | | | 347 | |
| 18 | | | | | 10 | | | | | | | | | | | | 349 | |
| 19 | | | | | -10 | | | | | | | | | | | | 351 | |
| 20 | | | 2.06 | | 0 | | | | | | | | | | | | 355 | |
| 21 | | | -.9 | | | | | | | | | | | | | | 357 | |
| 22 | | | 4.85 | | | -4 | | | | | | | | | | | 359 | |
| 23 | | | | | | 2 | | | | | | | | | | | 361 | |
| 24 | | 9 | | | | 4 | | | | | | | | | | | 363 | |
| 25 | | | | | | 6 | | | | | | | | | | | 365 | |
| 26 | | | | | | 10 | | | | | | | | | | | 367 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | | CARRIER $\alpha$ | CARRIER $\delta$ | CARRIER $\delta_R$ W/L | CARRIER $\delta_e$ % | CARRIER $\beta$ | CARRIER $\phi$ | CARRIER $\delta_{SP}$ | ORBITER $\angle_{ORB}$ | ORBITER $\delta_e$ | ORBITER $\delta_r$ | ORBITER $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP127 | $K_2H_{15.61}$ ... $S_{1-12}$ + ORB FR N12 | $AT^{102.1}_{95.143}$ | 9 | 4.85 | — | 0 | 10 | 0 | 9/45/20 | 8.11 | 5 | 0 | 0 | | | | | 369 | |
| 28 | | | | | | | 4 | | | | | | | | | | | 371 | |
| 29 | | | | | | | -4 | | | | | | | | | | | 373 | |
| 30 | | | | | | | 0 | | | | | | | | | | | 375 | |
| 31 | $V_{9.1}S_{1-12}$ + ORB FR N38 | $AT^{102.1}_{95.143}$ | | — | 0 | — | | | | | | | | | | | | 377 | |
| 32 | $K_2H_{15.61}V_{9.1}S_{1-12}$ + ORB FR N38 | $AT^{102.1}_{95.143}$ | | 4.95 | | 0 | | | | 4.27 | | | | | | | | 380 | 381 |
| 33 | | | | -.96 | | | | | | | | | | | | | | 383 | |
| 34 | | $AT^{112.1}_{111.2}$ | | 2.07 | | | | | | 6.03 | | | | | | | | 385 | |
| 35 | | $AT^{112}_{111.1}$ | | 2.07 | | | | | | | | | | | | | | 386 | |
| 36 | | | | 4.98 | | | | | | | | | | | | | | 389 | |
| 37 | | | | | | | 2 | | | | | | | | | | | 391 | |
| 38 | | | | | | | 4 | | | | | | | | | | | 393 | |
| 39 | | | | | | | 6 | | | | | | | | | | | 396 | |
| 40 | | | 6 | .97 | | | 0 | | % | | -10 | | | | | | | 398 | |
| 41 | | | | | | | | | | | -5 | | | | | | | 400 | |
| 42 | | | | | | | | | | | 0 | | | | | | | 402 | |
| 43 | | | | 2.04 | | | | | | | -0 | | | | | | | 404 | |
| 44 | | | | | | | | | | | -5 | | | | | | | 406 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER α | CARRIER α | CARRIER δR % | CARRIER δe % | CARRIER β | CARRIER Ø | CARRIER δSP | ORBITER ∠ORB | ORBITER δe | ORBITER δr | ORBITER δBF | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP145 | $K_2H_{15.6.1}V_{9.1}S_{1-12}$ + ORB FD $N_{33}$ AT $^{112}_{111.1}$ | 6 | 2.09 | 0 | 0 | 0 | 0 | 0/0 | 6.03 | -10 | 0 | 0 | | | | | 408 | |
| 46 | | | 2.09 | | | | | | | | | -11.7 | | | | | 410 | |
| 47 | $K_2H_{15.6.1}V_{9.1}$ ORB FRN AT $^{112}_{111.1}$ | | .15 | | | | | | | | | -11.7 | | | | | 413 | |
| 48 | | | | | | | | | | -5 | | 0 | | 418 | | 417 | 416 | 415 |
| 49 | | | | | | -4 | | | | | | | | 421 | | | 420 | |
| 50 | | | | | | 2 | | | | | | | | 424 | | | 423 | |
| 51 | | | | | | 4 | | | | | | | | 427 | | | 426 | |
| 52 | | | | | | 6 | | | | | | | | 430 | | | 429 | |
| 53 | | | .11 | | | 10 | | | | | | | | 433 | | | 432 | |
| 54 | | | .16 | 3 | | 0 | | | | | | | | 436 | | | 435 | |
| 55 | | | | 10 | | | | | | | | | | 439 | | | 438 | |
| 56 | | | | 0 | [illegible] | | | | | | | | | 443 | | | 442 | 441 |
| 57 | | | .14 | | [illegible] | | | | | | | | | 447 | | | 446 | 445 |
| 58 | | | 1.95 | | 0 | | | | | | | | | 452 | | 451 | 450 | 449 |
| 59 | | | 1.94 | | | | | | | | | | | 457 | | 456 | 455 | 454 |
| 60 | $K_2H_{6.1}$ + ORB FR $N_{33}$ AT $^{112}_{111.1}$ | 9 | .01 | — | | | | | | | | | | 460 | | | 459 | |
| 61 | | | | | | -4 | | | | | | | | 463 | | | 462 | |
| 62 | | | | | | 4 | | | | | | | | 466 | | | 465 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

ORIGINAL PAGE IS OF POOR QUALITY

TABLE II (Continued)

TEST : 

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | CARRIER $\beta$ | CARRIER $\delta_{RWL}$ | CARRIER $\delta_{e\%}$ | CARRIER $\psi$ | CARRIER $\phi$ | CARRIER $\delta_{SP}$ | ORBITER $i_{ORB}$ | ORBITER $\delta_e$ | ORBITER $\delta_r$ | ORBITER $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP163 | $K_2H_1S_{5.1}$ + ORB FN N34 AT 112 111.1 | 9 | .01 | — | 0 | 10 | 0 | 0 | 6.03 | -5 | 0 | 0 | | 470 | | | 469 | |
| 64 | $K_2$ $V_{9.1}$ + ORB FB N $^{24}_{25}$ AT 112 111.1 | 6 | — | 0 | — | 0 | | | | -5 | | | | 475 | | 474 | 472 | 473 |
| 65 | | 6 | — | | — | 0 | | | | 0 | | | | | | | 477 | |
| 66 | $K_2H_1S_{5.1}V_{9.1}$ + ORB TC4 AT 112 111.1 | 9 | .06 | | 0 | 2 | | | 4.25 | | | — | | 481 | | | 480 | |
| 67 | | | | | | 4 | | | | | | | | 484 | | | 483 | |
| 68 | $K_2H_1S_{6.1}V_{9.1}$ + ORB TC4 AT 112 111.1 | | | | | 0 | | | | | | | | 488 | | 487 | 486 | |
| 69 | | | | | | 0 | | | | -5 | | | | 492 | | 491 | 490 | |
| 70 | | 6 | | | | 0 | | | | | | | | | | | 493 | |
| 71 | | 9 | | | | 2 | | | | | | | | 496 | | | 495 | |
| 72 | | | | | | 2 | | | | 0 | | | | 499 | | | 498 | |
| 73 | | | | | | 4 | | | | | | | | 502 | | | 501 | |
| 74 | | | | | | 6 | | | | | | | | 505 | | | 504 | |
| 75 | | | | | | 10 | | | | | | | | 508 | | | 507 | |
| 76 | | | | | | -4 | | | | | | | | 511 | | | 510 | |
| 77 | | | | 3 | | 0 | | | | | | | | 514 | | | 513 | |
| 78 | | | | 10 | | | | | | | | | | 517 | | | 516 | |
| 79 | | | | 0/10 | | | | | | | | | | 520 | | | 519 | |
| 80 | | | | 10/0 | | | | | | | | | | 523 | | | 522 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\delta$ | $\delta_{R}$ 4/L | $\delta_e$ 3/10 | $\beta$ | $\phi$ | $\delta_{SP}$ | ORBITER $i_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP181 | $K_2H_{15.6.1}V_{9.1}$ +ORBTC4 AT 112/111.4 | 6 | -.06 | 0 | 9°43'/9°55' | 0 | 0 | 0 | 4.25 | 0 | 0 | — | | 526 | | | 525 | |
| 82 | | | -.10 | | | | | | | | | | | 528 | | | 527 | |
| 83 | | | | | -9°39'/-10°1' | | | | | | | | | 531 | | | 530 | |
| 84 | | | -1.01 | | 0 | | | | | | | | | 535 | | 534 | 533 | |
| 85 | | | 1.97 | | | | | | | | | | | 539 | | 538 | 537 | |
| 86 | $K_2H_{15.1}$ +ORBTC4 AT 112/111.1 | | -.12 | — | | | | | | | | | | 542 | | | 541 | |
| 87 | | | | | | -4 | | | | | | | | 545 | | | 544 | |
| 88 | | | | | | 4 | | | | | | | | 548 | | | 547 | |
| 89 | | | | | | 10 | | | | | | | | 551 | | | 550 | |
| 90 | $K_2$ $V_{9.1}$ +ORBTC4 AT 112/111.1 | | — | 0 | — | 0 | | | | | | | | 555 | | 554 | 553 | |
| 91 | $K_2H_{15.6.1}V_{9.1}$ +ORBTC4 AT 112/111.1 | | -.04 | | 0 | | | | 3.15 | | | | | | TAPE MODEL | ON | 557 | |
| 92 | | | | | | | | | | | | | | | BAD | ORBITER CLM | 558 | |
| 93 | | | | | | 2 | | | | | | | | | | | 561 | |
| 94 | | | | | | 4 | | | | | | | | | | | 563 | |
| 95 | | | | | | 10 | | | | | | | | | | | 565 | |
| 96 | | | | | | 6 | | | | | | | | | | | 567 | |
| 97 | | | | | | -4 | | | | | | | | | | | 569 | |
| 98 | | | | | | 0 | | | | | | | | | | | 572 | |

TEST RUN NUMBERS

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

COEFFICENTS

IDVAR (1) IDVAR (2) NDV

$\alpha$ OR $\beta$ SCHEDULES

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | | CARRIER α | $\delta_f$ | $\delta_{e\,4/2}$ | $\delta_{e\,3/0}$ | β | φ | $\delta_{SP}$ | ORBITER $i_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP199 | $K_2$ $V_{9.1}$ + ORB TC4 | $AT^{112}_{111.1}$ | 6 | — | 0 | — | 0 | 0 | 0 | 3.15 | 0 | 0 | — | | | | | 577 | |
| 200 | ——— | $AT^{103.1}_{105}$ | | — | | — | | | | 4.25 | | | | | | | | 579 | |
| 201 | $K_2 H_{15.6.1}$ $V_{9.1}$ + ORB TC4 | ——— | | 1.96 | | 0 | | | | | | | | | | | | 582 | |
| 202 | ——— | | | -1.01 | | | | | | | | | | | | | | 584 | |
| 203 | | | | -.04 | | | | | | | | | | | | | | 586 | |
| 204 | | | 9 | | | | -4 | | | | | | | | | | | 588 | |
| 205 | | | 3.9 | | | | -4 | | | | | | | | | OIL FLOW | | 589 | |
| 206 | | | 9 | | | | 4 | | | | | | | | | | | 591 | |
| 207 | | | | | | | 2 | | | | | | | | | | | 593 | |
| 208 | | | | | | | 10 | | | | | | | | | | | 595 | |
| 209 | | | | | | | 6 | | | | | | | | | | | 597 | |
| 210 | $K_2 H_{15.1}$ + ORB TC4 | | | | — | | 10 | | | | | | | | | | | 599 | |
| 211 | ——— | | | | | | 4 | | | | | | | | | | | 601 | |
| 212 | | | | | | | -4 | | | | | | | | | | | 603 | |
| 213 | | | | | | | 0 | | | | | | | | | | | 605 | |
| 214 | $K_2 H_{15.6.1}$ $V_{9.1}$ + ORB Fa Nat. | | 6 | -.02 | 0 | | | | | | | | 0 | | | | | 607 | |
| 215 | $K_2$ $V_{9.1}$ + ORB Fa N 28 | | | — | | — | | | | | | | | | | 610 | | | 609 |
| 216 | ——— | | | | | | | | 9/45/20 | | | | | | | 613 | | | 612 |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

ORIGINAL PAGE IS OF POOR QUALITY

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER α | β | $\delta_{R\#1}$ | $\delta_{E\#1}$ | Q | [illegible] | $\delta_{SP}$ | ORBITER $L_{ORB}$ | $\delta_e$ | $\delta_r$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP217 | $K_2$ $V_{9.1}$ + ORB FAN 28 $AT^{103.1}_{105}$ | 9 | – | O | – | O | | 0/45/20 | 8.07 | O | O | O | | | 616 | | | 615 |
| 18 | | 10 | | | | | | O | | | | O | | | 619 | | | 618 |
| 19 | $K_2$ $V_{9.1}$ + ORB TC4 | | | | | | | O | | | | – | | | 622 | | | 621 |
| 20 | | 9 | | | | | | 0/45/20 | | | | | | | 625 | | | 624 |
| 21 | | | | | | | | 0/45/20 | 4.23 | | | | | | 629 | | | 628 |
| 22 | | 10 | | | | | | O | 4.23 | | | | | | 632 | | | 631 |
| 23 | $K_2$ $V_{9.1}$ | | | | | | | | – | – | – | | | | 635 | | | 634 |
| 24 | $K_2$ $V_{9.1}$ $AT^{103.3}_{105}$ | 6 | | | | | 4.25 | | | | | | | | 638 | | | 637 |
| 25 | $K_2$ $H_{15.6.1}$ $V_{9.1}$ $S_{1-12}$ $AT^{103.3}_{95.30}$ | | SO7 | | O | | 4.25 | 0/45/20 | | | | | | | | | 640 | |
| 26 | | | | | | | 6 | | | | | | | | | | 642 | |
| 27 | | 9 | | | | -4 | | | | | | | | | | | 645 | |
| 28 | | | | | | 2 | | | | | | | | | | | 647 | |
| 29 | | | | | | 4 | | | | | | | | | | | 649 | |
| 30 | | | | | | 6 | | | | | | | | | | | 651 | |
| 31 | | | | | | 10 | | | | | | | | | | | 653 | |
| 32 | $K_2$ $H_{15.6.1}$ $V_{9.1}$ $AT^{103.3}_{95.30}$ | 6 | | | | O | | O | | | | | | 658 | | 657 | 656 | 655 |
| 33 | $K_2$ $H_{15.6.1}$ $V_{9.1}$ $S_{1-12}$ $AT^{103.3}_{95.30}$ | | SO6 | | 9°48' / 10°0' | | | 0/45/20 | | | | | | | | | 660 | |
| 34 | | | SO1 | | -9°35' / -10°8' | | | 0/45/20 | | | | | | | | | 662 | |

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

TABLE II (Continued)

TEST :

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE :

| DATA SET IDENTIFIER | CONFIGURATION | CARRIER $\alpha$ | $\delta$ | $\delta_{e}$ i/i | $\delta_{e}$ o/o | $\beta$ | FWD STRUT ANGLE | $\delta_{SP}$ | ORBITER $\angle_{ORB}$ | $\delta_{e}$ | $\delta_{r}$ | $\delta_{BF}$ | | MACH NUMBERS 0.3 | 0.4 | 0.5 | 0.6 | 0.7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RGP235 | $K_2H_{15.6.1}V_{9.1}S_{1-12}$ $AT^{103.3}_{95-113}$ | 6 | 5.04 | 10 | 0 | 0 | 6 | 0/45/20 | — | — | — | — | | | | | 664 | |
| 36 | | | 4.06 | 0 | | | | 0/45/20 | | | | | | | | | 666 | |
| 37 | $K_2H_{15.6.1}V_{9.1}$ $AT^{103.3}_{111.1}$ | | 5.07 | | | | | 0 | | | | | | 671 | | 670 | 669 | 668 |
| 38 | $AT^{112}_{111.1}$ | | | | | | | 0 | | | | | | 676 | | 675 | 674 | 673 |
| 39 | $K_2H_{15.6.1}V_{9.1}S_{1-12}$ | 9 | | | | | | 0/45/20 | | | | | | | | | 678 | |
| 40 | | | | | | 2 | | | | | | | | | | | 680 | |
| 41 | | | | | | 4 | | | | | | | | | | | 682 | |
| 42 | | | | | | 10 | | | | | | | | | | | 684 | |
| 43 | | | .99 | | | 0 | | | | | | | | | | | 686 | |
| 44 | $K_2H_{15.6.1}V_{9.1}$ | 6 | .99 | | | | | 0 | | | | | | 691 | | 690 | 689 | 688 |
| 45 | $AT^{108}_{111.1}$ | | 5.03 | | | | | | | | | | | 696 | | 695 | 694 | 693 |
| 46 | $K_2H_{15.6.1}V_{9.1}$ | | | | | | — | | | | | | | 701 | | 700 | 699 | 698 |
| 47 | $K_2H_{15.1}V_{9.1}$ | | | | | | — | | | | | | | 706 | | 705 | 704 | 703 |
| 48 | $K_2H_{15.6.1}V_{9.1}$ + ORB TC4 $AT^{112}_{111.1}$ | | 1.93 | | | | | 0 | 3.15 | 0 | 0 | | | | | | 575 | |

TEST RUN NUMBERS

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

COEFFICENTS

IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

43

TABLE II. (Concluded)

Coefficient Schedules

| | | |
|---|---|---|
| | R & B | data are 747 data. |
| | A & C | data are Orbiter data. |
| | R data | BETA, PHI, ALPHAC, IORD, CL, CD, CLM, CY, CLN, CSL |
| | B data | DPC1, DPC2, DPC3, DPC4, PT-PSF, PS-PSF, Q(PSF), TB11, CDFFC |
| Orbiter Alone - | A data | BETAO, PHIO, IORB, CL, CD, CLM, CY, CLN, CSL |
| | C data | DALFAO, IORD, CDFFO |
| Orbiter with Carrier - | A data | ALPHAO, BETAO, PHIO, IORD, CL, CD, CLM, CY, CLN, CSL |
| | C data | DALFAC, ALPHAC, ALPHAO, DALFAO, IORD, CDFFO |

TABLE III. - MODEL DIMENSIONAL DATA

a. Carrier Model

MODEL COMPONENT: $B_{27.8}$

GENERAL DESCRIPTION: BODY, 747 Project with A.P.V. exit.

MODEL SCALE: 0.03

DRAWING NUMBER: 65-69716

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| Length, in. | 2702 | 81.06 |
| Max. Width, in. | 255 | 7.65 |
| Max. Depth | ___ | ___ |
| Fineness Ratio | | |
| Area | | |
| Max. Cross-Sectional | ___ | ___ |
| Planform | ___ | ___ |
| Wetted, $ft^2$ | 424 | .3816 |
| Base | ___ | ___ |

TABLE IIIa. - Continued.

MODEL COMPONENT: Horizontal Tail - $H_{15.1}$

GENERAL DESCRIPTION: Swept Horizontal Tail With Planform Radius Fillet at L.E. - Body Intersection.

MODEL SCALE= 0.03

DRAWING NUMBER: 65-66630, 69-49180, 1007-477

| DIMENSIONS: | Full Scale | Model Scale |
|---|---|---|
| EXPOSED DATA (one side) | | |
| Area- $ft^2$ | 736 | 0.6625 |
| Span- in. | 436.5 | 13.095 |
| Aspect Ratio | | |
| Taper Ratio | | |
| Dihedral Angle-deg. | 7 | 7 |
| Incidence Angle-deg. | | |
| Sweep Back Angle-deg. L. E. | 43.08 | 43.08 |
| Chords-in. | | |
| Root | 388 | 11.64 |
| Tip | 97 | 2.91 |
| MAC | | |
| Apex Location-in. | | |
| $X_o$ | | |
| $Y_o$ | | |
| $Z_b$ | | |
| .25 MAC Location-in. | | |
| $X_c$ Station | 2564 | 76.920 |
| $Y_o$ | | |
| $Z_o$ | | |

TABLE IIIa. - Continued.

MODEL COMPONENT: Horizontal Tail H15.6.1

GENERAL DESCRIPTION: Horizontal tail with vertical fins on each tip at body B.L. 12.82

MODEL SCALE: 0.03

DRAWING NUMBER: 1319-60

| DIMENSIONS: | Full Scale | Model Scale |
|---|---|---|
| Exposed Data (one side) | | |
| Area - $ft^2$ | 200 | 0.18 |
| Span - in. | 251.44 | 7.543 |
| Aspect Ratio | 2.19 | 2.19 |
| Taper Ratio | 1.00 | 1.00 |
| Dihedral Angle-deg. | 0 | 0 |
| Incidence Angle-deg. | - | - |
| Sweep Back Angle-deg. | 0 | 0 |
| Chords - in. | 114.54 | 3.43 |

TABLE IIIa. - Continued.

MODEL DIMENSIONAL DATA

MODEL COMPONENT: $M_{25}$

GENERAL DESCRIPTION: Inboard 747, $J_{T9D}$ Nacelle strut

Model Scale: 0.03

DRAWING NUMBER

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| Wing B.L. of nacelle ℄, in. | 470.0 | 14.100 |
| Cont angle, deg. inboard | 2 | 2 |

TABLE IIIa. - Continued.

MODEL COMPONENT: $M_{26.8}$

GENERAL DESCRIPTION: Outboard 747, & $J_{T9D}$ Nacelle

Strut

Model Scale: 0.03

DRAWING NUMBER 937-590

| DIMENSIONS | FULL SCALE | MODEL SCALE |
|---|---|---|
| Wing, B.L. of nacelle & in. | 834.0 | 25.02 |
| Cant angle, Deg. inboard (toe in at LE Int.) | 2 | 2 |

TABLE IIIa. (Continued)

MODEL COMPONENT: $N_{57}$

GENERAL DESCRIPTION Inboard Fan Cowl and Primary

747 Nacelle, flow thru type - JT9D Blow-In Doors

Model Scale: 0.03

DRAWING NUMBER 5.0 1007-96, 97

| DIMENSIONS | FULL SCALE | MODEL SCALE |
|---|---|---|
| LENGTH: | | |
| Cowl | 104.0 | 3.120 |
| Nac. Assy | 219.17 | 6.575 |
| OUTSIDE DIAMETER: | | |
| Cowl | 101.67 | 3.05 |
| Engine | 68.67 | 2.06 |
| INSIDE DIAMETER (T.E.) | | |
| Cowl | 91.67 | 2.75 |
| Engine | 53.33 | 1.60 |
| LOCATION, WING LE, W.B.L. | 470.0 | 14.10 |

TABLE IIIa. (Continued)

MODEL COMPONENT: $N_{58}$

GENERAL DESCRIPTION: Outboard fan cowl and primary

747 Nacelle, flow thru type - JT9D Blow-In Doors

Model Scale: 0.03

DRAWING NUMBER 5.0. 1.007-96, -97

| DIMENSIONS | FULL SCALE | MODEL SCALE |
|---|---|---|
| LENGTH: | | |
| Cowl | 104.0 | 3.120 |
| Nac. Assy. | 219.17 | 6.575 |
| OUTSIDE DIAMETER | | |
| Cowl | 101.67 | 3.05 |
| Engine | 68.67 | 2.06 |
| INSIDE DIAMETER (T.E.) | | |
| Cowl | 91.67 | 2.75 |
| Engine | 53.33 | 1.60 |
| LOCATION, WING, LE, WBL | 834.0 | 25.02 |

TABLE IIIa. - Continued.

MODEL COMPONENT: SPOILERS - $S_{1-12}$

GENERAL DESCRIPTION: Multi-panel flight spoilers. Four outboard and two inboard spoilers per side. Subscript denotes spoiler panel $S_1$ is the most outboard L.H. panel and $S_{12}$ is most outboard R.H. panel.

747 MODEL SCALE: 0.030 MODEL: 1065

DRAWING NO.: 65-71450, S. O. 1065-51, -59, -81, -173

| DIMENSIONS: (one panel) | FULL SCALE | MODEL SCALE |
|---|---|---|
| Outboard $S_{1-4}$ and $S_{9-12}$ ($Ft^2$) | 21.48 | 0.0193 |
| Span (equivalent), in. | 6.25 | 0.1875 |
| Chord, in. | 3.44 | 0.1032 |
| Inboard $S_{5-6}$ and $S_{7-8}$ ($Ft^2$) | 35.31 | 0.0318 |
| Span (equivalent), in. | 7.50 | 0.225 |
| Chord, in. | 4.71 | 0.1413 |

TABLE IIIa. (Continued)

MODEL COMPONENT: $T_{19}$

GENERAL DESCRIPTION: Flap track fairings, 4 on each side

MODEL SCALE: 0.03

DRAWING NUMBER 5.0. 1007-403

| DIMENSIONS | FULL SCALE | MODEL SCALE |
|---|---|---|
| WBL of Track No. 1, in. | 235.3 | 7.06 |
| WBL of Track No. 2, in. | 353. | 10.59 |
| WBL of Track No. 3, in. | 652. | 17.56 |
| WBL of Track No. 4, in. | 743.6 | 22.31 |
| Distance from wing trailing edge to track trailing edge, in. | 50. | 1.5 |
| LENGTH: | | |
| Track No. 1 | 276.66 | 8.30 |
| Track No. 2 | 255.0 | 7.65 |
| Track No. 3 | 206.66 | 6.20 |
| Track No. 4 | 193.33 | 5.80 |
| MAX. WIDTH: | | |
| Track No. 1 | 30.0 | .90 |
| Track No. 2 | 30.0 | .90 |
| Track No. 3 | 28.33 | .85 |
| Track No. 4 | 28.33 | .85 |
| DEPTH BELOW WING: | | |
| Track No. 1 | 37.33 | 1.12 |
| Track No. 2 | 36.66 | 1.10 |
| Track No. 3 | 28.33 | .85 |
| Track No. 4 | 28.33 | .85 |

TABLE IIIa. - Continued.

MODEL COMPONENT: $V_{9.1}$

GENERAL DESCRIPTION: Swept Vertical Tail

Model Scale: 0.03

DRAWING NUMBER: 65-6.9716; 1007-26, -610; 937-319

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| TOTAL DATA | | |
| Area (Theo)- $Ft^2$ | 830 | .7470 |
| Planform | | |
| Span (Theo) - In. | 386.5 | 11.595 |
| Aspect Ratio | | |
| Rate of Taper | | |
| Taper Ratio | | |
| Sweep-Back Angles, Degrees | | |
| Leading Edge | 50.12 | 50.12 |
| Trailing Edge | | |
| 0.25 Element Line | | |
| Chords: | | |
| Root (Theo) WP-in. | 461.67 | 13.85 |
| Tip (Theo) WP-in. | 157 | 4.71 |
| MAC | | |
| Fus. Sta. of .25 MAC | 2529.6 | 75.888 |
| W. P. of .25 MAC | | |
| B.L. of .25 MAC | | |
| Airfoil Section | | |
| Leading Wedge Angle-Deg. | | |
| Trailing Wedge Angle-Deg. | | |
| Leading Edge Radius | | |
| Void Area | | |
| Blanketed Area | | |

TABLE IIIa. - Concluded.

MODEL COMPONENT: WING - $W_{44.1}$

GENERAL DESCRIPTION: Swept 747 Wing

MODEL SCALE: 0.03

DWG. NO.: 65-89585

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| TOTAL | | |
| Area (Theo.) $Ft^2$ | 5500 | 4.95 |
| Planform | 2348 | 70.44 |
| Span (Theo. In.) | 6.96 | 6.96 |
| Aspect Ratio | | |
| Rate of Taper | | |
| Taper Ratio | 7 | 7 |
| Dihedral Angle, degrees | | |
| Incidence Angle, degrees | | |
| Aerodynamic Twist, degrees | | |
| Swept Back Angles, degrees | | |
| Leading Edge | | |
| Trailing Edge | | |
| 0.25 Element Line | | |
| Chords: | | |
| Root (Theo) B.P.O.O. | | |
| Tip, (Theo) B.P. | | |
| MAC | 327.8 | 9.834 |
| Fus. Sta. of .25 MAC | 1339.91 | 40.197 |
| W. P. of .25 MAC | 190.75 | 5.7225 |
| B. L. of .25 MAC | | |

TABLE III. MODEL DIMENSIONAL DATA
b. Orbiter

MODEL COMPONENT : BODY - $B_{26}$

GENERAL DESCRIPTION : Configuration 140A/B orbiter fuselage

NOTE: $B_{26}$ is identical to $B_{24}$ except underside of fuselage has been refaired to accept $W_{116}$.

MODEL SCALE: 0.030

DRAWING NUMBER . VL70-000143B -000200, -000205, -006089, -000145, -000140A, -000140B

| DIMENSIONS : | FULL SCALE | MODEL SCALE |
|---|---|---|
| Length (OML: Fwd Sta. $X_o$=235) In. | 1293.3 | 38.799 |
| Length (IML: Fwd Sta. $X_o$=238) In. | 1290.3 | 38.709 |
| Max Width (@ $X_o$ = 1528.3) In. | 264.00 | 7.920 |
| Max Depth (@ $X_o$ = 1464) In. | 250.00 | 7.500 |
| Fineness Ratio | 0.264 | 0.264 |
| Area - $Ft^2$ | | |
| Max. Cross-Sectional | 340.88 | 0.3068 |
| Planform | | |
| Wetted | | |
| Base | | |

ORIGINAL PAGE IS OF POOR QUALITY

TABLE IIIb. (Continued)

MODEL COMPONENT : CANOPY - $C_9$

GENERAL DESCRIPTION : Configuration 3A. Canopy used with fuselage $B_{26}$.

MODEL SCALE: 0.030 MODEL DWG: SS-A00147, Release 12

DRAWING NUMBER : VL70-000143A

| DIMENSIONS : | FULL SCALE | MODEL SCALE |
|---|---|---|
| Length ($X_o$ = 434.643 to 578), In. | 143.357 | 4.301 |
| Max Width (@ $X_o$ = 513.127), In. | 152.412 | 4.572 |
| Max Depth (@ $X_o$ = 485.0), In. | 25.00 | 0.750 |
| Fineness Ratio | | |
| Area | | |
| Max. Cross-Sectional | | |
| Planform | | |
| Wetted | | |
| Base | | |

TABLE IIIb. (Continued)

MODEL COMPONENT: SLOTTED ELEVON (6 -INCH GAP) - $E_{43}$

GENERAL DESCRIPTION: Configuration 140A/B Orbiter elevon.

NOTE: $E_{43}$ is a slotted version of $E_{26}$. Data are for one side.

MODEL SCALE: 0.030

DRAWING NUMBER: VL70-000200 -006089, -006092

| DIMENSIONS: | FULL-SCALE | MODEL SCALE |
|---|---|---|
| Area - $Ft^2$ | 210.0 | 0.189 |
| Span (equivalent) . In. | 349.2 | 10.476 |
| Inb'd equivalent chord . In. | 118.004 | 3.540 |
| Outb'd equivalent chord , In. | 55.192 | 1.656 |
| Ratio movable surface chord/ total surface chord | | |
| At Inb'd equiv. chord | 0.2096 | 0.2096 |
| At Outb'd equiv. chord | 0.4004 | 0.4004 |
| Sweep Back Angles, degrees | | |
| Leading Edge | 0.00 | 0.00 |
| Tailing Edge | - 10.056 | - 10.056 |
| Hingeline | 0.00 | 0.00 |
| Area Moment (Product of area and $\bar{c}$) (~~[illegible]~~) . $Ft^3$ | 1587.25 | 0.043 |
| Mean Aerodynamic Chord, In. | 90.7 | 2.721 |

ORIGINAL PAGE IS OF POOR QUALITY

TABLE IIIb. (Concluded)

MODEL COMPONENT : BODY FLAP – $F_8$

GENERAL DESCRIPTION : Configuration 140A/B orbiter body flap

Hingeline located at $X_o$ = 1528.3, $Z_o$ = 284.3

MODEL SCALE: 0.030 MODEL DWG: SS-A00147, Release 12

DRAWING NUMBER : VL70-000140A, -000145

| DIMENSIONS : | FULL SCALE | MODEL SCALE |
|---|---|---|
| Length ($X_o$=1520 to $X_o$=1613) In. | 93.00 | 2.79 |
| Max Width (In.) | 262.0 | 7.86 |
| Max Depth (@ $X_o$ = 1520) In. | 23.00 | 0.69 |
| Fineness Ratio | | |
| Area – $Ft^2$ | | |
| Max. Cross-Sectional | | |
| Planform | 150.525 | 0.135 |
| Wetted | | |
| Base | 41.847 | 0.038 |

TABLE IIIb. (Continued)

MODEL COMPONENT : OMS POD - M16

GENERAL DESCRIPTION : Configuration 140C orbiter OMS pod - short pod.

MODEL SCALE: 0.030

DRAWING NUMBER : VL70-008401, -008410

| DIMENSIONS : | FULL SCALE | MODEL SCALE |
|---|---|---|
| Length (OMS Fwd Sta. $X_o$=1310.5). In. | 258.50 | 7.755 |
| Max Width (@ $X_o$ = 1511). In. | 136.8 | 4.104 |
| Max Depth (@ X = 1511). In. | 74.70 | 2.241 |
| Fineness Ratio | 2.484 | 2.484 |
| Area - $Ft^2$ | | |
| Max. Cross-Sectional | 58.864 | 0.053 |
| Planform | | |
| Wetted | | |
| Base | | |

TABLE IIIb. (Continued)

MODEL COMPONENT: MPS NOZZLES - $N_{24}$

GENERAL DESCRIPTION: Configuration 140A/B Orbiter MPS Nozzles

MODEL SCALE: 0.030 MODEL DWG: SS-A00147, Release 12

DRAWING NUMBER: VL70-005030A, -000140A

| DIMENSIONS: | | FULL SCALE | MODEL SCALE |
|---|---|---|---|
| Length - In. | | | |
| Gimbal Point to Exit Plane | | 157.0 | 4.71 |
| Throat to Exit Plane | | 99.2 | 2.976 |
| Diameter - In. | | | |
| Exit | | 91.000 | 2.73 |
| Throat | | | |
| Inlet | | | |
| Area - $ft^2$ | | | |
| Exit | | 45.166 | 0.0407 |
| Throat | | | |
| Gimbal Point (Station) - In. | | | |
| Upper Nozzle | | | |
| X | | 1445.00 | 43.35 |
| Y | | 0.0 | 0.0 |
| Z | | 443.00 | 13.29 |
| Lower Nozzles | | | |
| X | | 1468.170 | 44.045 |
| Y | ± | 53.000 | ± 1.59 |
| Z | | 342.640 | 10.279 |
| Null Position - Deg. | | | |
| Upper Nozzle | | | |
| Pitch | | 16 | 16 |
| Yaw | | 0 | 0 |
| Lower Nozzle | | | |
| Pitch | | 10 | 10 |
| Yaw | | 3.5 | 3.5 |



ORIGINAL PAGE IS
OF POOR QUALITY

TABLE IIIb. (Continued)

MODEL COMPONENT: OMS NOZZLES - $N_{28}$

GENERAL DESCRIPTION: Configuration 140A/B Orbiter OMS Nozzles

MODEL SCALE: 0.030

DRAWING NUMBER: VL70-000140A (Location), SS-A00106, Release 5 (Contour)

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| MACH NO. | | |
| Length - In. | | |
| Gimbal Point to Exit Plane | | |
| Throat to Exit Plane | | |
| Diameter - In. | | |
| Exit | | |
| Throat | | |
| Inlet | | |
| Area - $ft^2$ | | |
| Max. Cross-Sectional (1 nozzle) | | |
| Throat | | |
| Gimbal Point (Station) - In. | | |
| Left Nozzle | | |
| $X_o$ | 1518.0 | 45.54 |
| $Y_o$ | -88.0 | -2.64 |
| $Z_o$ | 492.0 | 14.76 |
| Right Nozzles | | |
| $X_o$ | 1518.0 | 45.54 |
| $Y_o$ | 88.0 | 2.64 |
| $Z_o$ | 492.0 | 14.76 |
| Null Position - Deg. | | |
| Left Nozzle | | |
| Pitch | 15°49' | 15°49' |
| Yaw | 12°17' | 12°17' |
| Right Nozzle | | |
| Pitch | 15°49' | 15°49' |
| Yaw | 12°17' | 12°17' |

TABLE IIIb. (Continued)

MODEL COMPONENT: RUDDER - $R_5$

GENERAL DESCRIPTION: Configuration 140C orbiter rudder (identical to Configuration 140A/B rudder)

MODEL SCALE: 0.030

DRAWING NUMBER: VL70-000146B, -000095

| DIMENSIONS: | FULL-SCALE | MODEL SCALE |
|---|---|---|
| Area - $Ft^2$ | 100.15 | 0.090 |
| Span (equivalent). In. | 201.00 | 6.030 |
| Inb'd equivalent chord. In. | 91.585 | 2.748 |
| Outb'd equivalent chord, In. | 50.833 | 1.525 |
| Ratio movable surface chord/ total surface chord | | |
| At Inb'd equiv. chord | 0.400 | 0.400 |
| At Outb'd equiv. chord | 0.400 | 0.400 |
| Sweep Back Angles, degrees | | |
| Leading Edge | 34.83 | 34.83 |
| Tailing Edge | 26.25 | 26.25 |
| Hingeline | 34.83 | 34.83 |
| Area Moment (Product of larea & $\bar{c}$). $Ft.^3$ | 610.92 | 0.165 |
| Mean Aerodynamic Chord, In. | 73.2 | 2.196 |

ORIGINAL PAGE IS OF POOR QUALITY

TABLE IIIb. (Continued)

MODEL COMPONENT: TAIL CONE - $TC_4$

GENERAL DESCRIPTION: Fairing mounted on orbiter fuselage base

MODEL SCALE: 0.030

DRAWING NUMBER: Boeing Drawing 1319

REF: R.I. Dwg. BCDV70-830

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| Length - in. | 435.0 | 13.05 |
| Max Width - in. | 303.33 | 9.10 |
| Max Height - in. | 265.00 | 7.95 |
| Fineness Ratio | | |
| Area - $FT^2$ | | |
| Projected Frontal Area Max Cross-Sectional | 468.0 | .4212 |
| Planform | | |
| Wetted | | |
| Base | | |

TABLE IIIb. (Continued)

MODEL COMPONENT: VERTICAL - $V_8$

GENERAL DESCRIPTION: Configuration 140C orbiter vertical tail (identical to configuration 140A/B vertical tail).

MODEL SCALE: 0.030

DRAWING NUMBER: VL70-000140C, -000146B

| DIMENSIONS: | FULL SCALE | MODEL SCALE |
|---|---|---|
| TOTAL DATA | | |
| Area (Theo) - $Ft^2$ | | |
| Planform | 413.243 | 0.372 |
| Span (Theo) - In. | 315.72 | 9.472 |
| Aspect Ratio | 1.675 | 1.675 |
| Rate of Taper | 0.507 | 0.507 |
| Taper Ratio | 0.404 | 0.404 |
| Sweep-Back Angles, Degrees. | | |
| Leading Edge | 45.00 | 45.00 |
| Trailing Edge | 26.25 | 26.25 |
| 0.25 Element Line | 41.13 | 41.13 |
| Chords: | | |
| Root (Theo) WP | 268.50 | 8.055 |
| Tip (Theo) WP | 108.47 | 3.254 |
| MAC | 199.81 | 5.994 |
| Fus. Sta. of .25 MAC | 1463.35 | 43.901 |
| W.P. of .25 MAC | 635.52 | 19.066 |
| B.L. of .25 MAC | 0.00 | 0.00 |
| Airfoil Section | | |
| Leading Wedge Angle - Deg. | 10.00 | 10.00 |
| Trailing Wedge Angle - Deg. | 14.92 | 14.92 |
| Leading Edge Radius | 2.00 | 0.060 |
| Void Area | 13.17 | 0.0012 |
| Blanketed Area | 0.0 | 0.0 |

ORIGINAL PAGE IS OF POOR QUALITY

TABLE IIIb. (Concluded)

MODEL COMPONENT: WING-$W_{116}$

GENERAL DESCRIPTION: Configuration 4

NOTE: Identical to $W_{114}$ except airfoil thickness. Dihedral angle is along trailing edge of wing.

MODEL SCALE: 0.030

TEST NO. DWG. NO. VL70-000140A, -000200



| DIMENSIONS: | FULL-SCALE | MODEL SCALE |
|---|---|---|
| TOTAL DATA | | |
| Area (Theo.) $Ft^2$ | | |
| Planform | 2690.00 | 2.421 |
| Span (Theo In. | 936.68 | 28.10 |
| Aspect Ratio | 2.265 | 2.265 |
| Rate of Taper | 1.177 | 1.177 |
| Taper Ratio | 0.200 | 0.200 |
| Dihedral Angle, degrees | 3.500 | 3.500 |
| Incidence Angle, degrees | 0.500 | 0.500 |
| Aerodynamic Twist, degrees | 3.000 | 3.000 |
| Sweep Back Angles, degrees | | |
| Leading Edge | 45.000 | 45.000 |
| Trailing Edge | - 10.056 | - 10.056 |
| 0.25 Element Line | 35.209 | 35.209 |
| Chords: | | |
| Root (Theo) B.P.0.0. | 689.24 | 20.677 |
| Tip, (Theo) B.P. | 137.85 | 4.136 |
| MAC | 474.81 | 14.244 |
| Fus. Sta. of .25 MAC | 1136.83 | 34.105 |
| W.P. of .25 MAC | 290.58 | 8.717 |
| B.L. of .25 MAC | 182.13 | 5.464 |
| EXPOSED DATA | | |
| Area (Theo) $Ft^2$ | 1751.50 | 1.576 |
| Span, (Theo) In. BP108 | 720.68 | 21.620 |
| Aspect Ratio | 2.059 | 2.059 |
| Taper Ratio | 0.245 | 0.245 |
| Chords | | |
| Root BP108 | 562.09 | 16.863 |
| Tip 1.00 $\frac{b}{2}$ | 137.85 | 4.136 |
| MAC | 392.83 | 11.785 |
| Fus. Sta. of .25 MAC | 1185.98 | 35.579 |
| W.P. of .25 MAC | 294.30 | 8.829 |
| B.L. of .25 MAC | 251.77 | 7.553 |
| Airfoil Section (Rockwell Mod NASA) XXXX-64 | | |
| Root $\frac{b}{2}$ = | 0.113 | 0.113 |
| Tip $\frac{b}{2}$ = | 0.120 | 0.120 |
| Data for (1) of (2) Sides | | |
| Leading Edge Cuff | | |
| Planform Area $Ft^2$ | 113.18 | 0.102 |
| Leading Edge Intersects Fus M. L. @ Sta | 500.00 | 15.00 |
| Leading Edge Intersects Wing @ Sta | 1024.00 | 30.72 |

Notes:

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

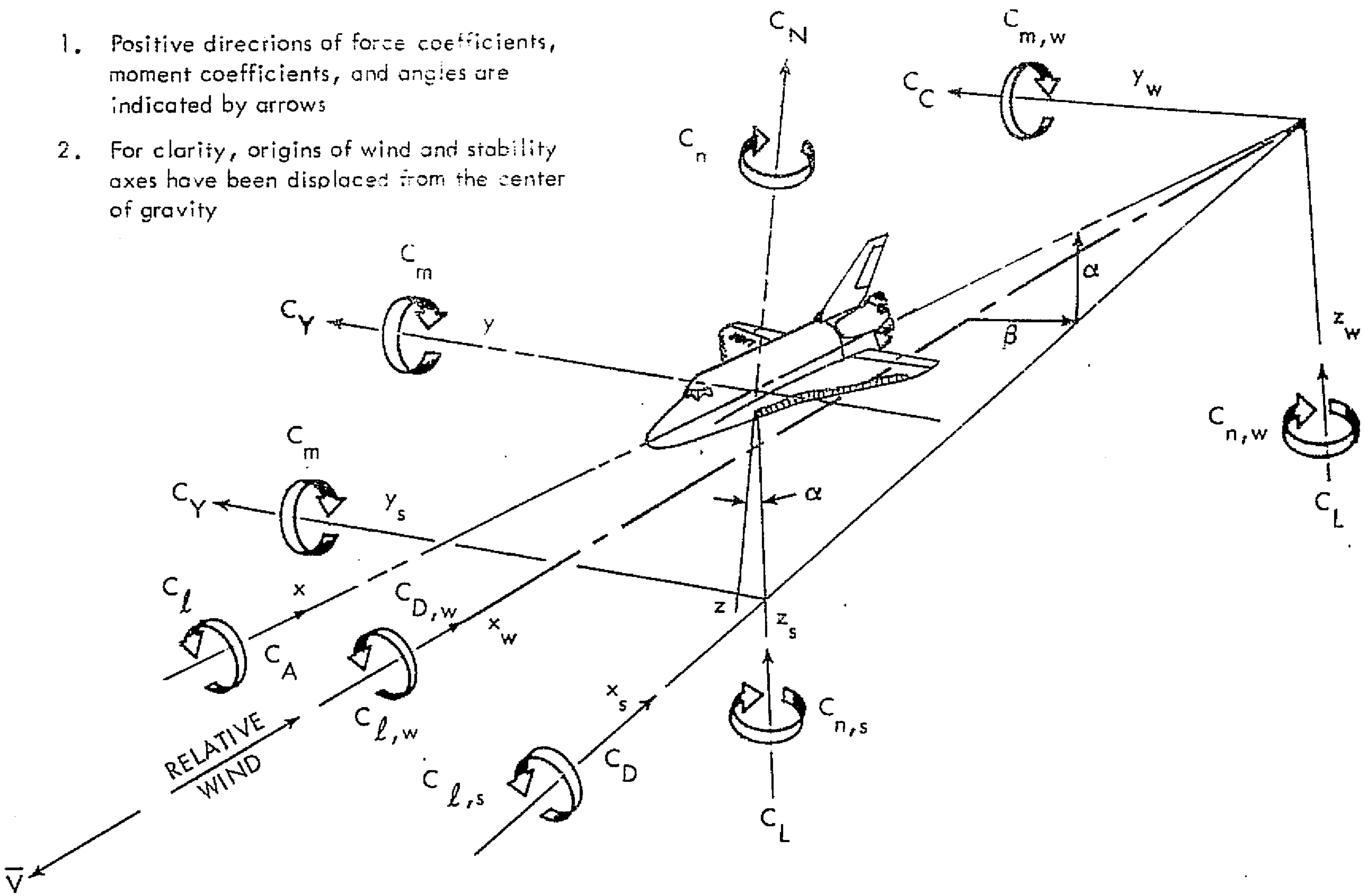
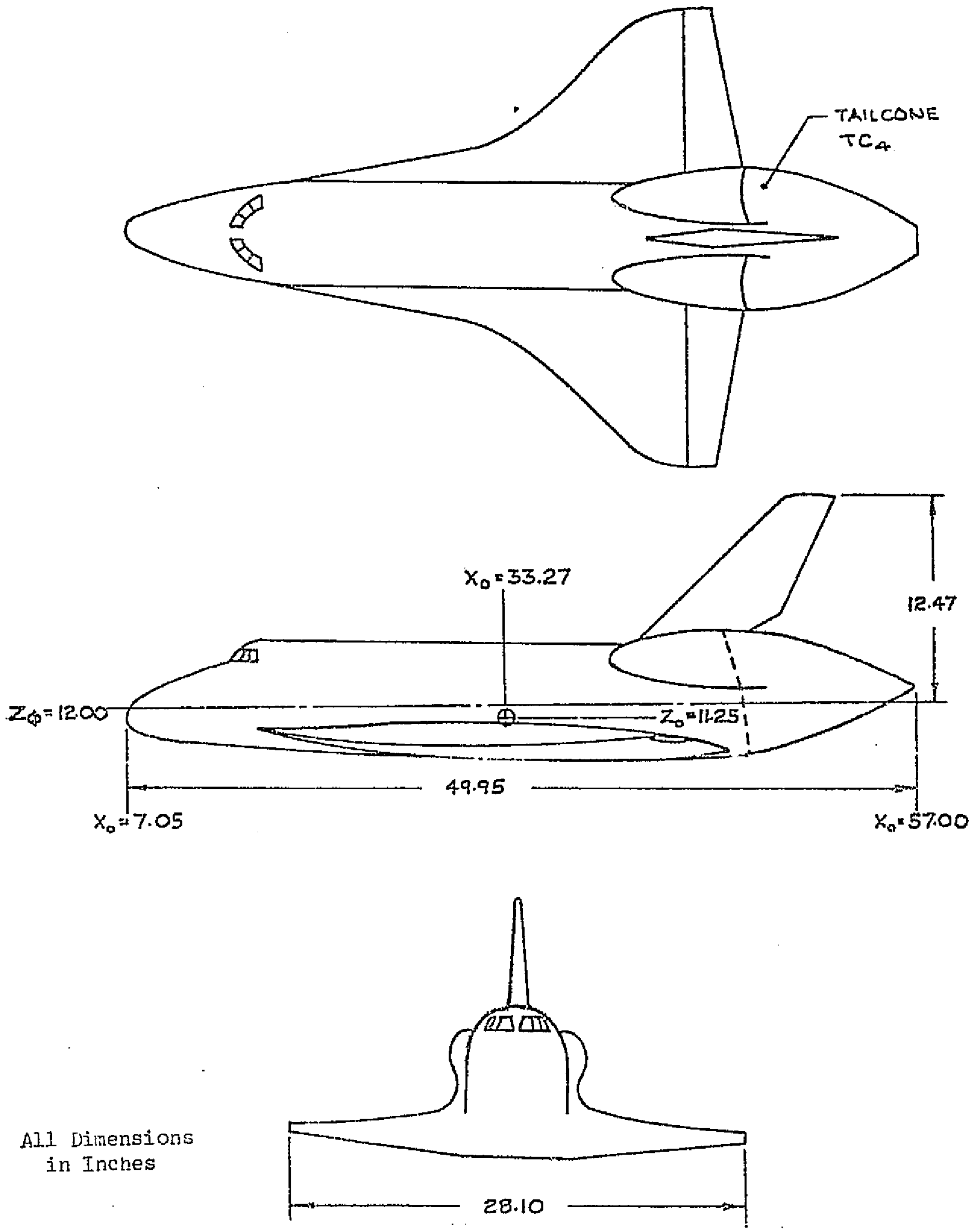
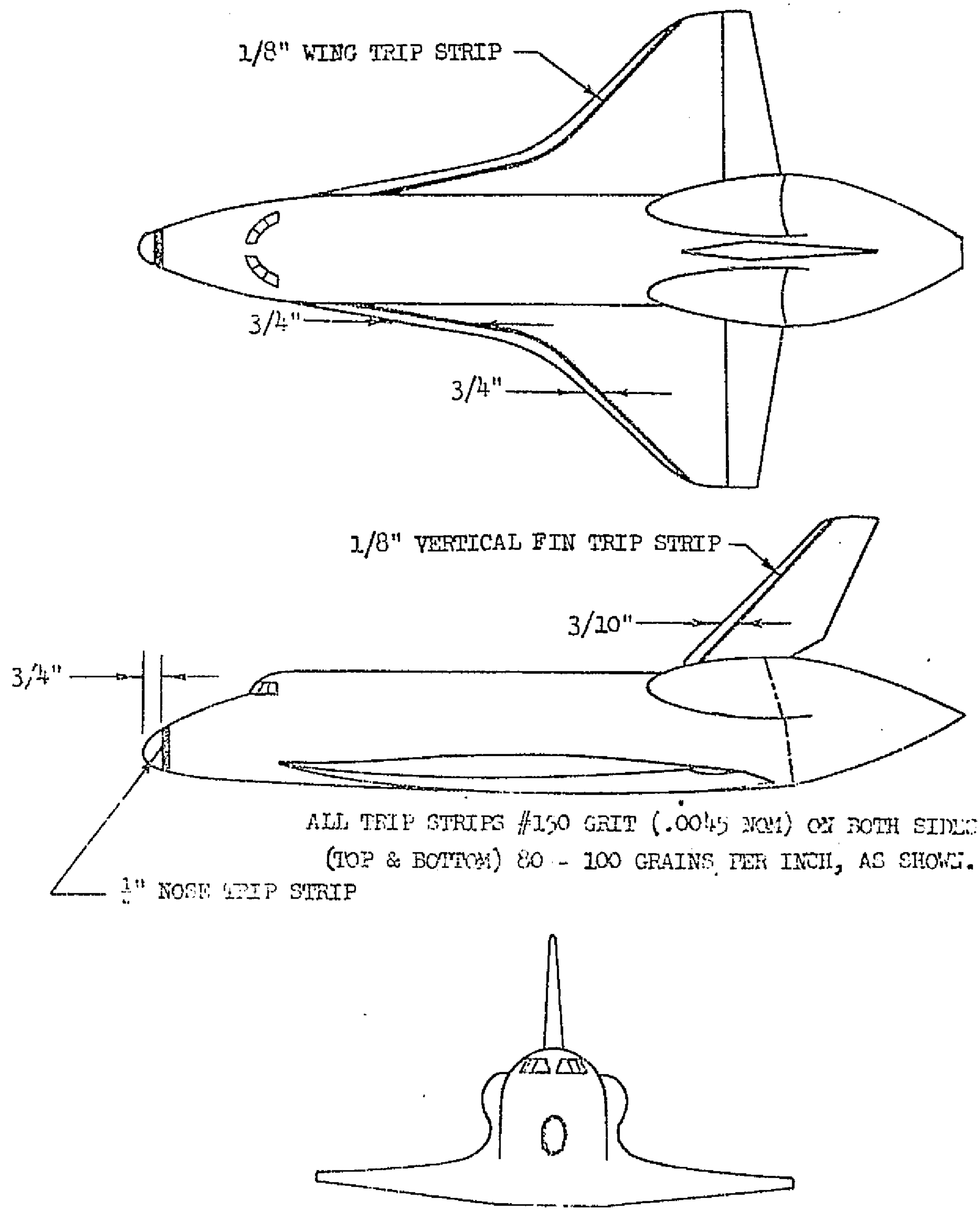



Figure 1. Axis Systems



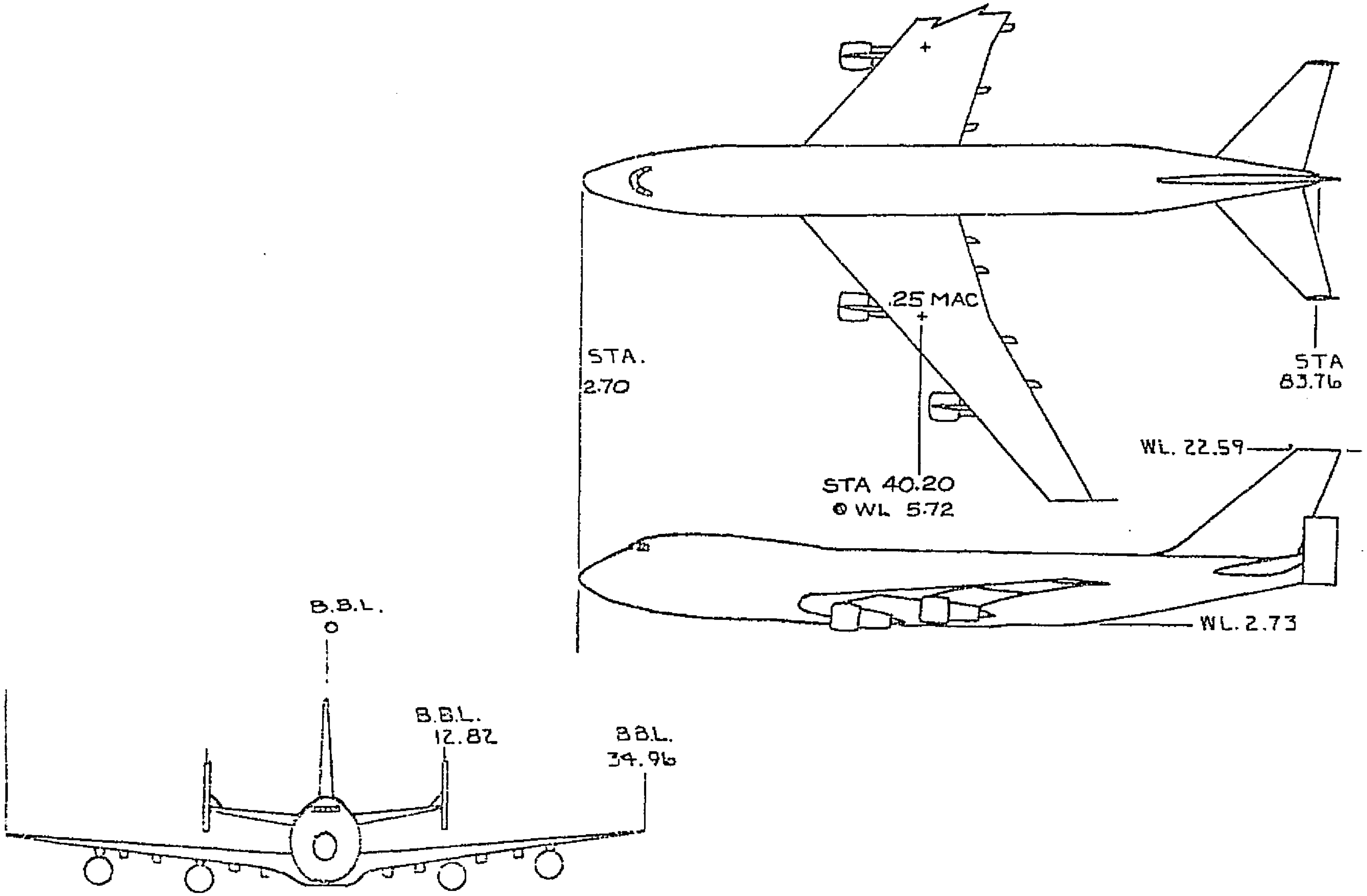

All Dimensions
in Inches

a. Orbiter Configuration Model 45-0
Figure 2. Model Sketches




b. Orbiter Trip Strip Definition

Figure 2. Continued




c. 747-100 Configuration Model #AX13191-4

Figure 2. Continued

747 Carrier Boundary Layer Trips

WING

Wing upper and lower surface: 10% local chord, 120 grit 80 to 100 grains/inch, 0.1 inch wide.

EMPENNAGE (All surfaces, top and bottom)

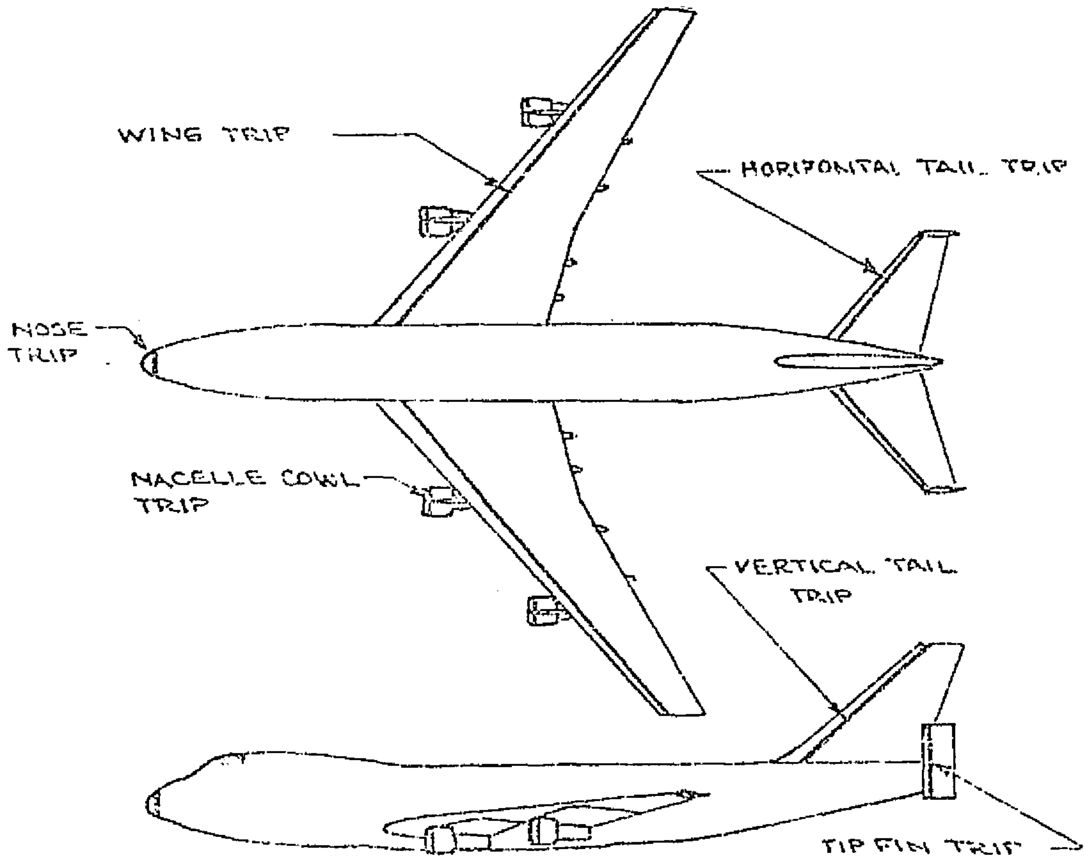
10% local chord 0.1 inch wide, 120 grit, 80 to 100 grains/inch.

BODY NOSE

0.75 inch back from L.E. 100 grit 0.1 inch wide, 80-100 grains/inch.

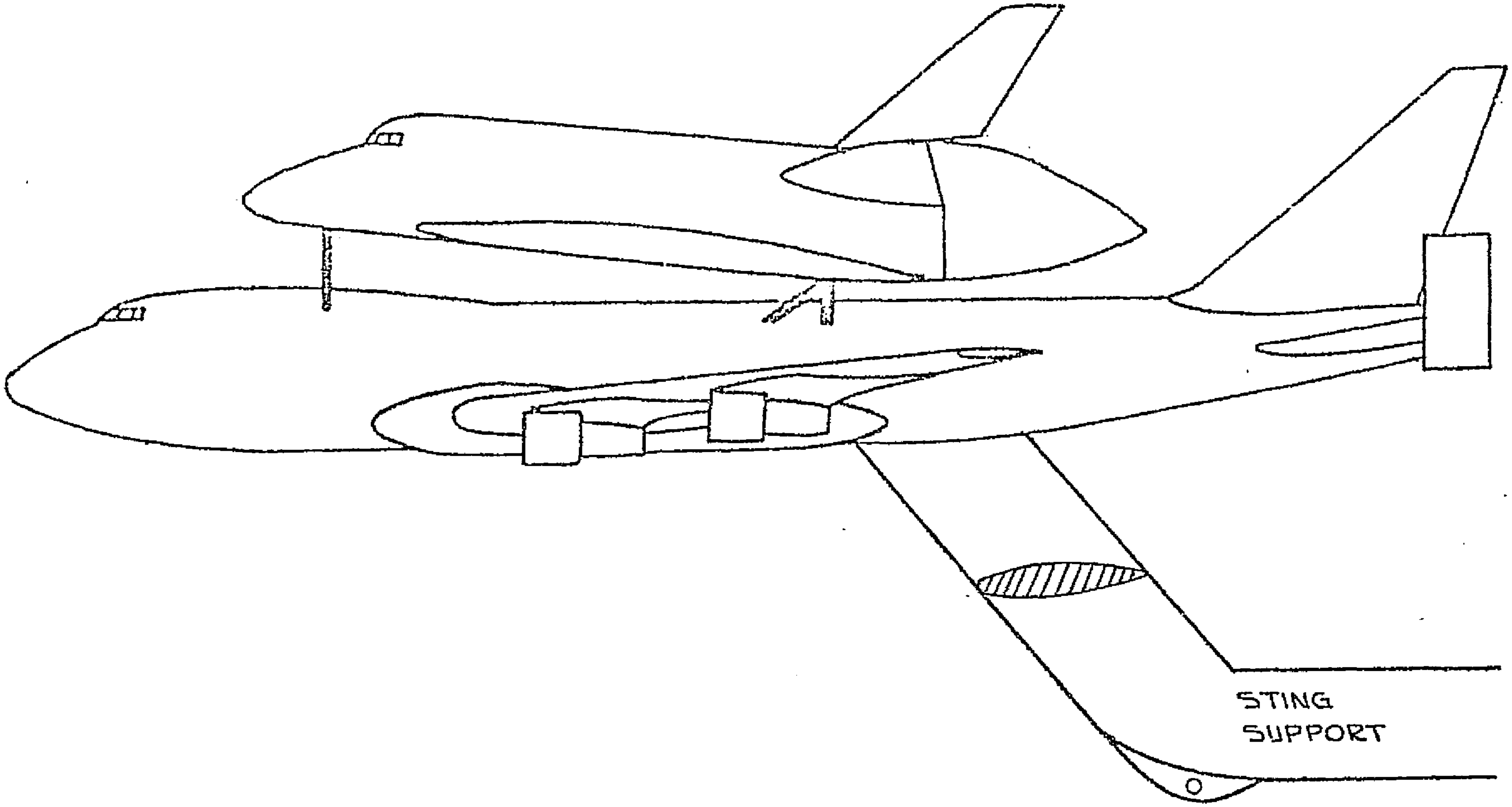
NACELLE

Fan cowl .4 inch from L.E. (inside and outside), 100 grit, 80-100 grains/inch, 0.10 inch wide. Primary, at the fan cowl exit plane, (outside surface only), 100 grit, 80-100 grains/inch, .10 inch wide.



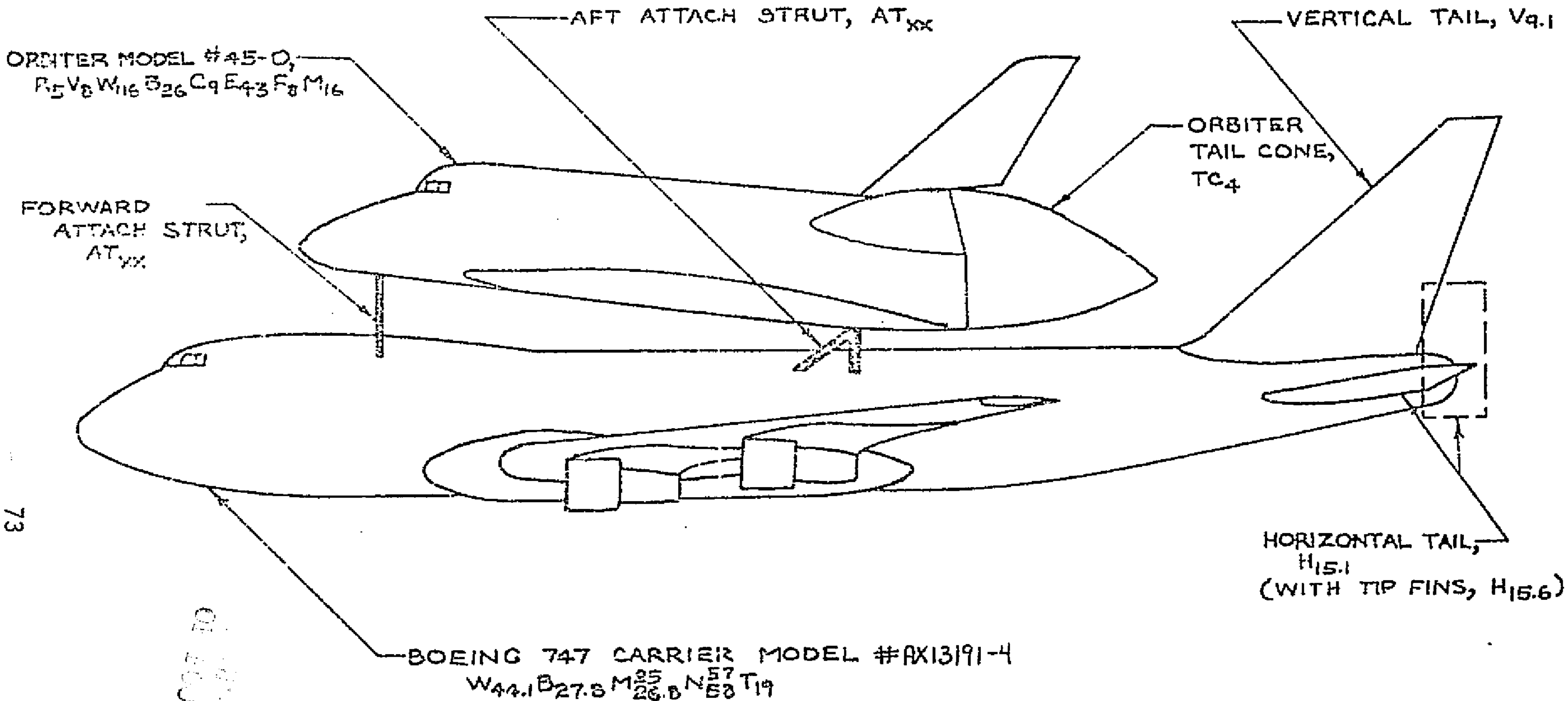

d. Trip Strip Definition AX13191-4

Figure 2. Continued




e. Orbiter/Carrier Model

Figure 2. Continued

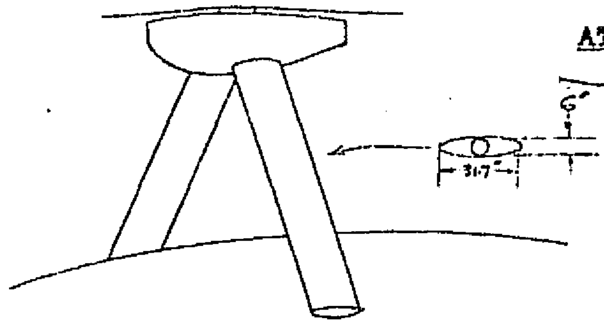




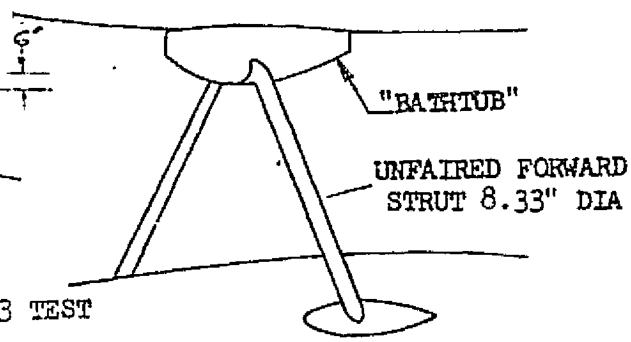

f. Orbiter/Carrier Model Nomenclature

Figure 2. Continued

AT 93.1 MEDIUM CHORD FWD FAIRING




AT 103 UNFAIRED FWD STRUT




NOTE: AT 93 WAS SIMILAR CONFIG ON CA23 TEST

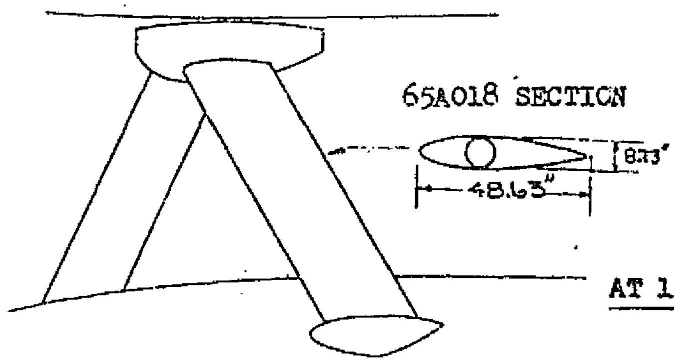
MODIFICATIONS

AT 103.1 UPPER END FAIRING REMOVED

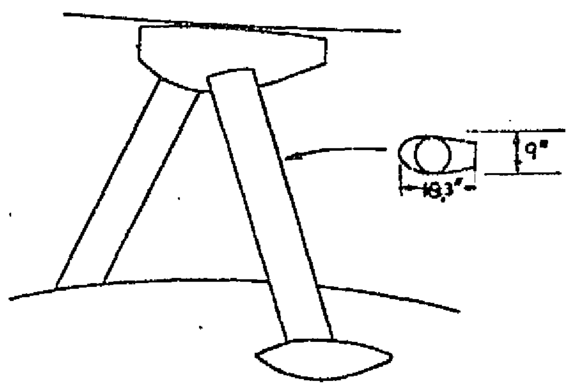
AT 103.2 TUBE SUPPORTS FLAT SIDED 4.67" WIDE

AT 103.3 ORBITER OFF, UPPER END FAIRING OFF, SPACER NORMALLY INSIDE ORBITER REMOVED

AT 108 LONG CHORD FWD FAIRING



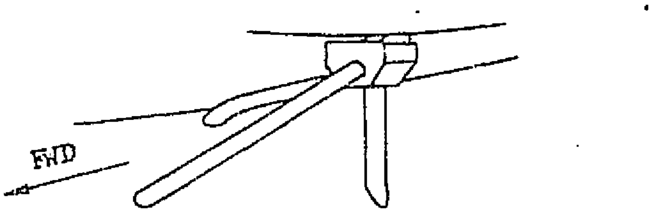

AT 112 SHORT TRUNCATED FWD FAIRING




g. Forward Support Configurations

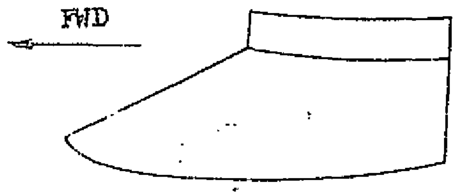
Figure 2. Continued

AT 105 UNFAIRED AFT SUPPORT STRUTS



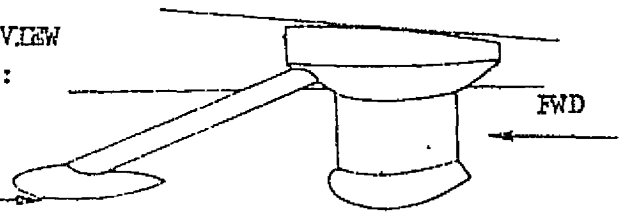

FRONT QUARTER VIEW

AT 110 FULLY FAIRED AFT SUPPORT



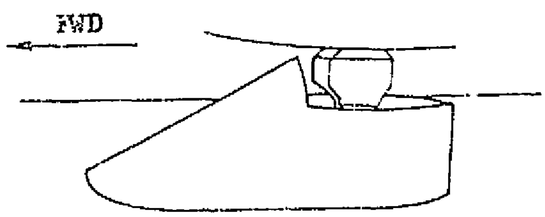

AT 111 MINIMUM AFT FAIRING

REAR QUARTER VIEW
MODIFICATIONS:
AT 111.1
LOWER FORWARD
STRUT REMOVED




SIDE VIEW

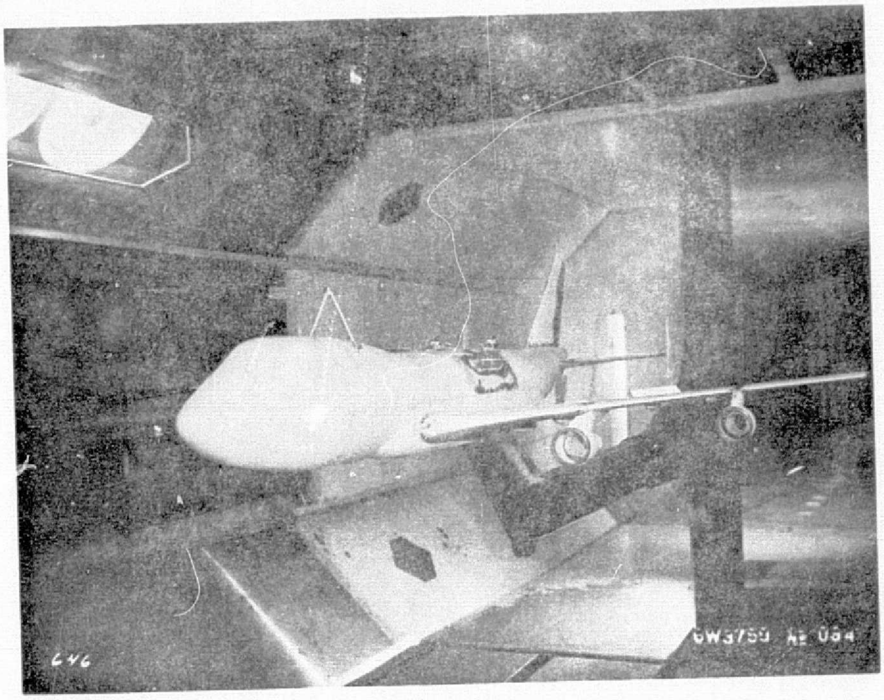
AT 95 (CONFIG. PREVIOUSLY TESTED IN CA23 AS 95.11, 12)



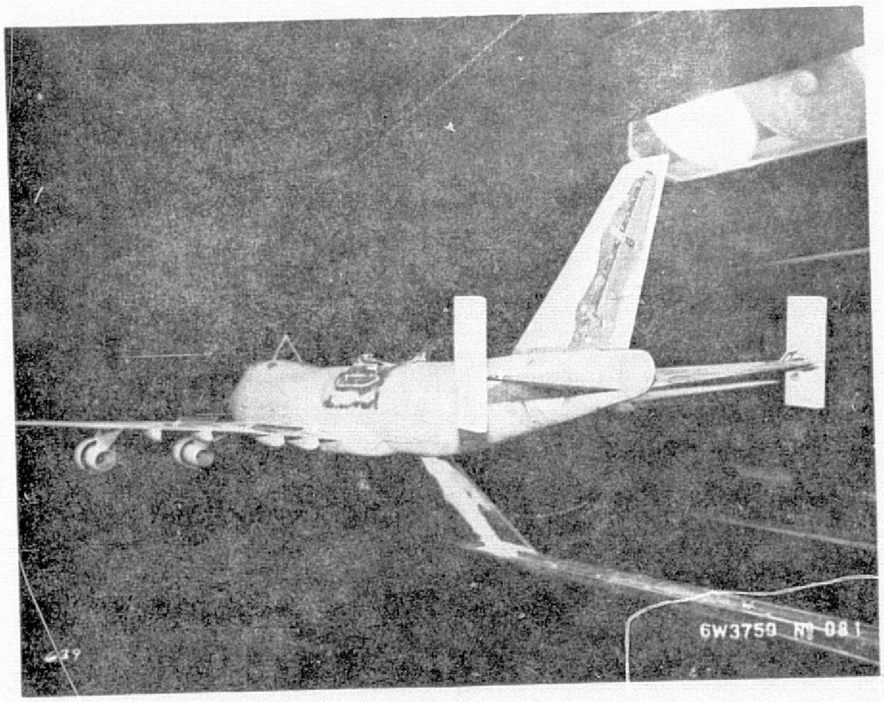

SIDE STRUTS ARE SAME AS AT 111.1

h. Aft Support Configurations

Figure 2. Concluded

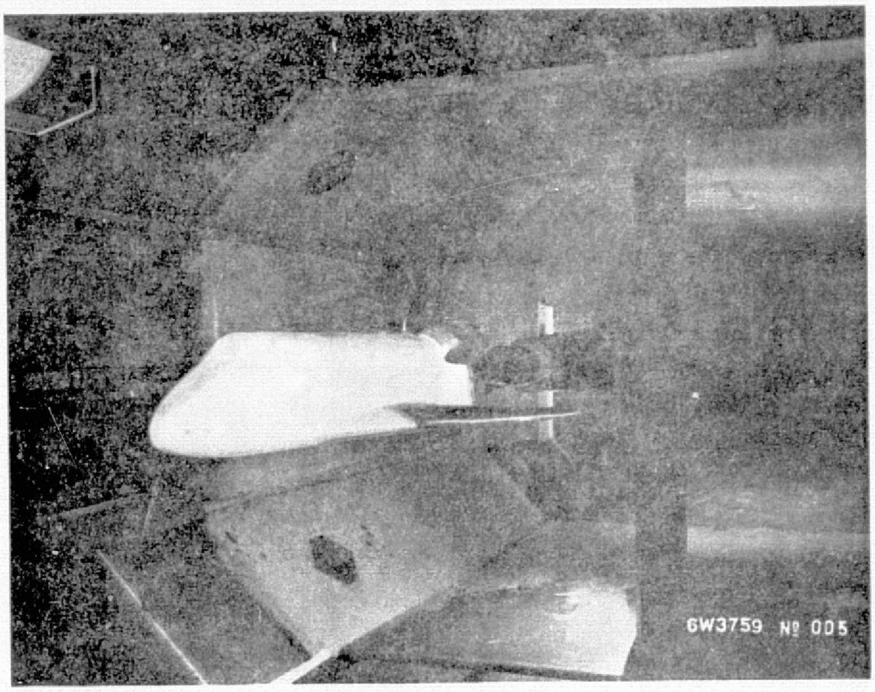


a. 747 CAM Alone Front View

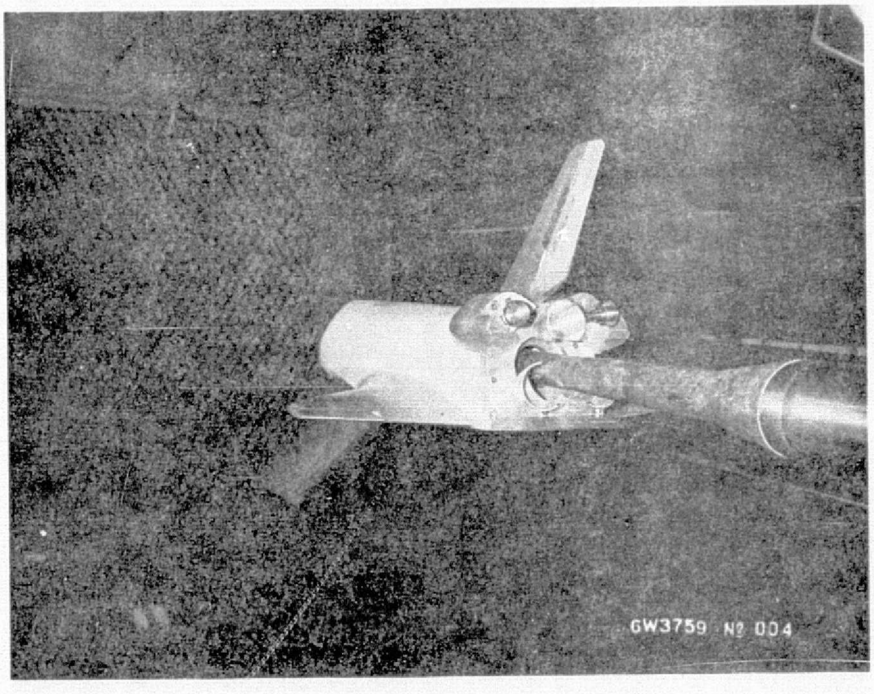


b. 747 CAM Alone Aft View

Figure 3. Model Photographs

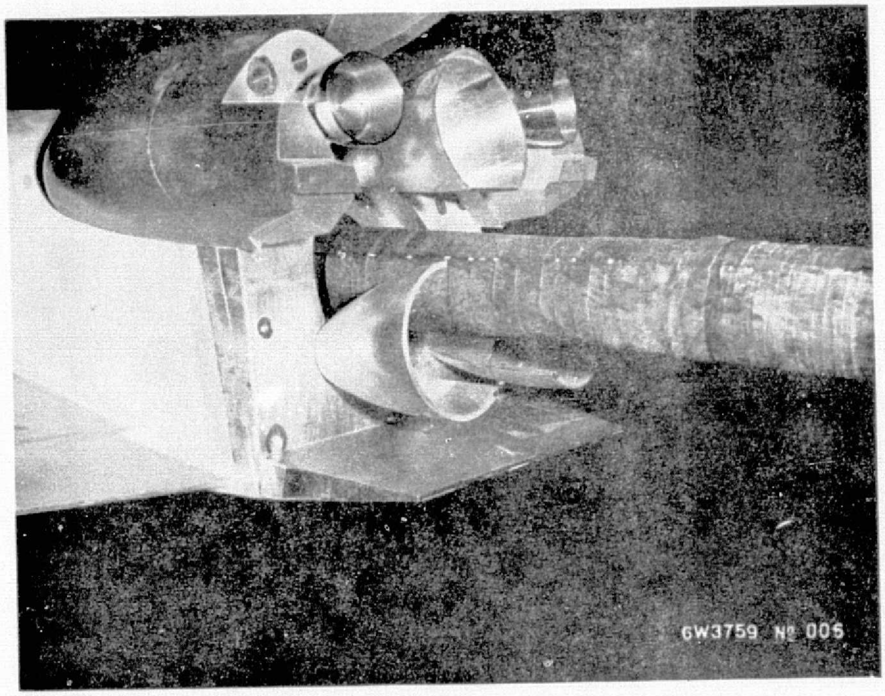



c. Orbiter Alone Front View

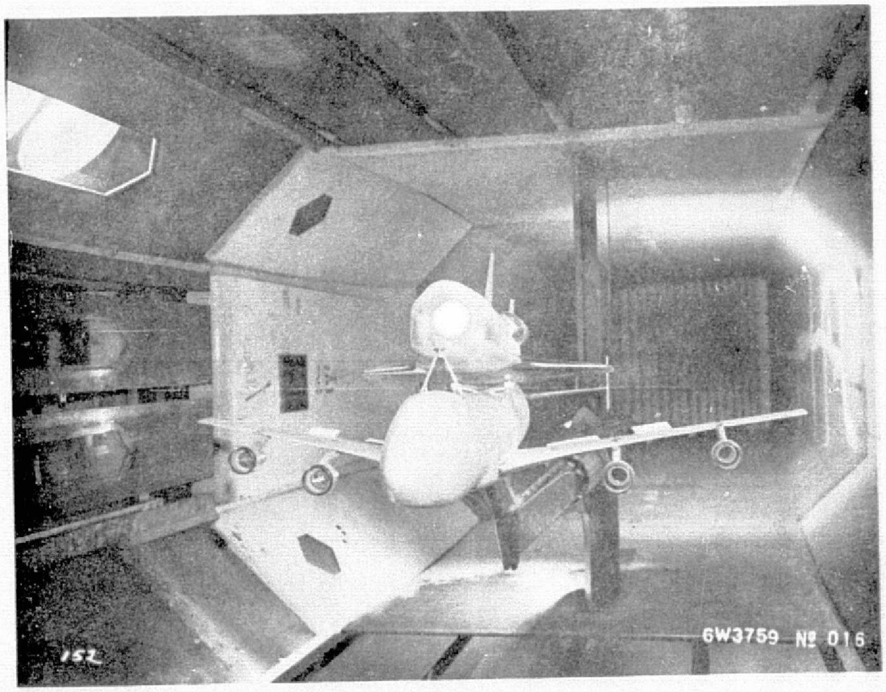



d. Orbiter Alone Aft View

Figure 3. Continued.

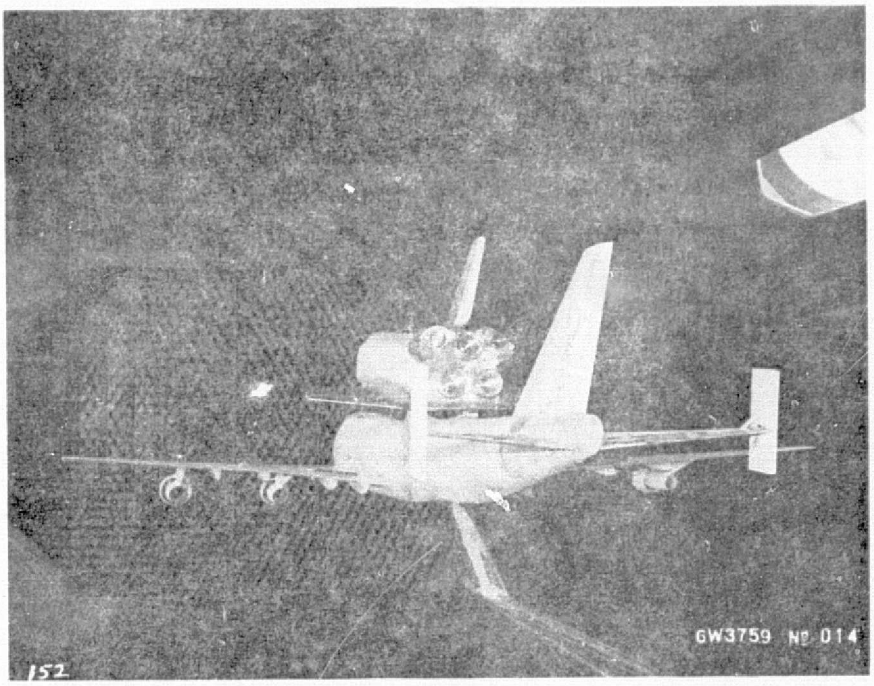



e. Orbiter Base Details

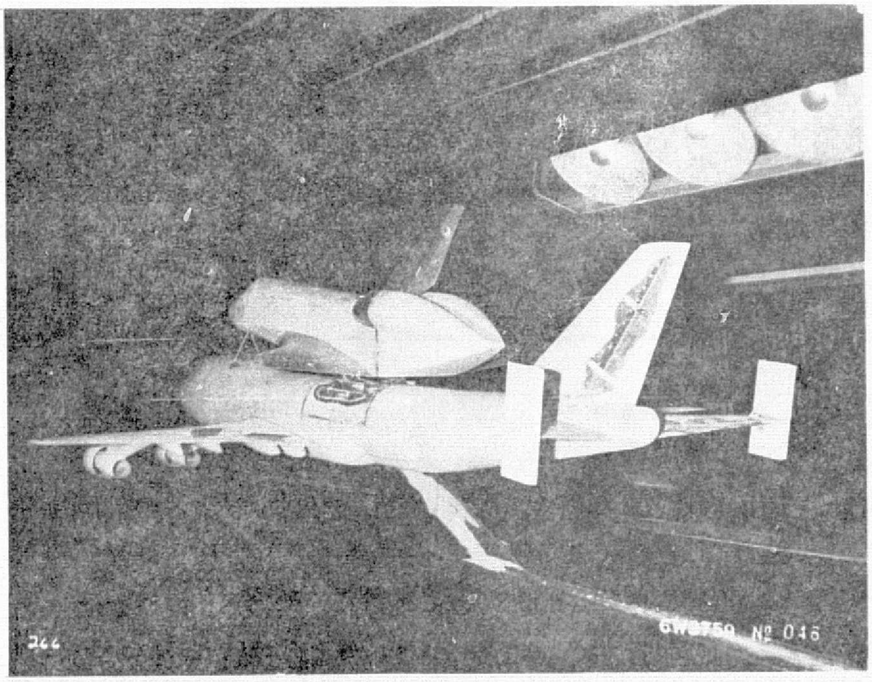



f. Mated Configuration Front View

Figure 3. Continued.

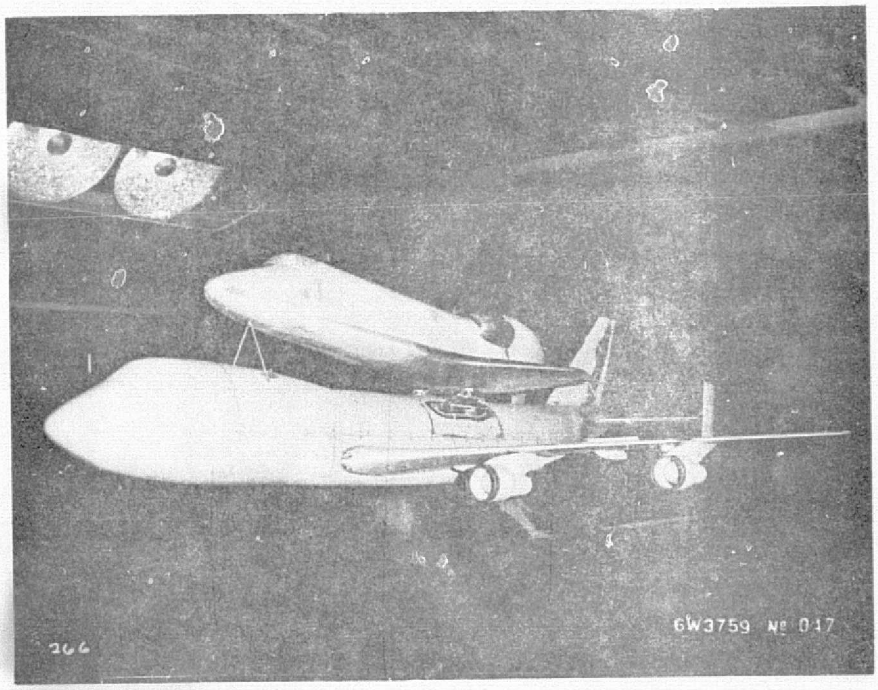



g. Mated Configuration Aft View



h. Mated Configuration (Tail Cone On) Aft View

Figure 3. Continued.




i. Mated Configuration (Tail Cone On) Front View

Figure 3. Concluded.

DATA FIGURES

CA6 ORBF8N24/28(AGP001)

| SYMBOL | MACH | | PARAMETRIC VALUES | | |
|---|---|---|---|---|---|
| ○ | .301 | BETA | .000 | ELEVON | .000 |
| □ | .501 | RUDDER | .000 | BDFLAP | .000 |
| ◇ | .600 | PHI | .000 | WNGHGT | 48.000 |
| △ | .700 | | | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

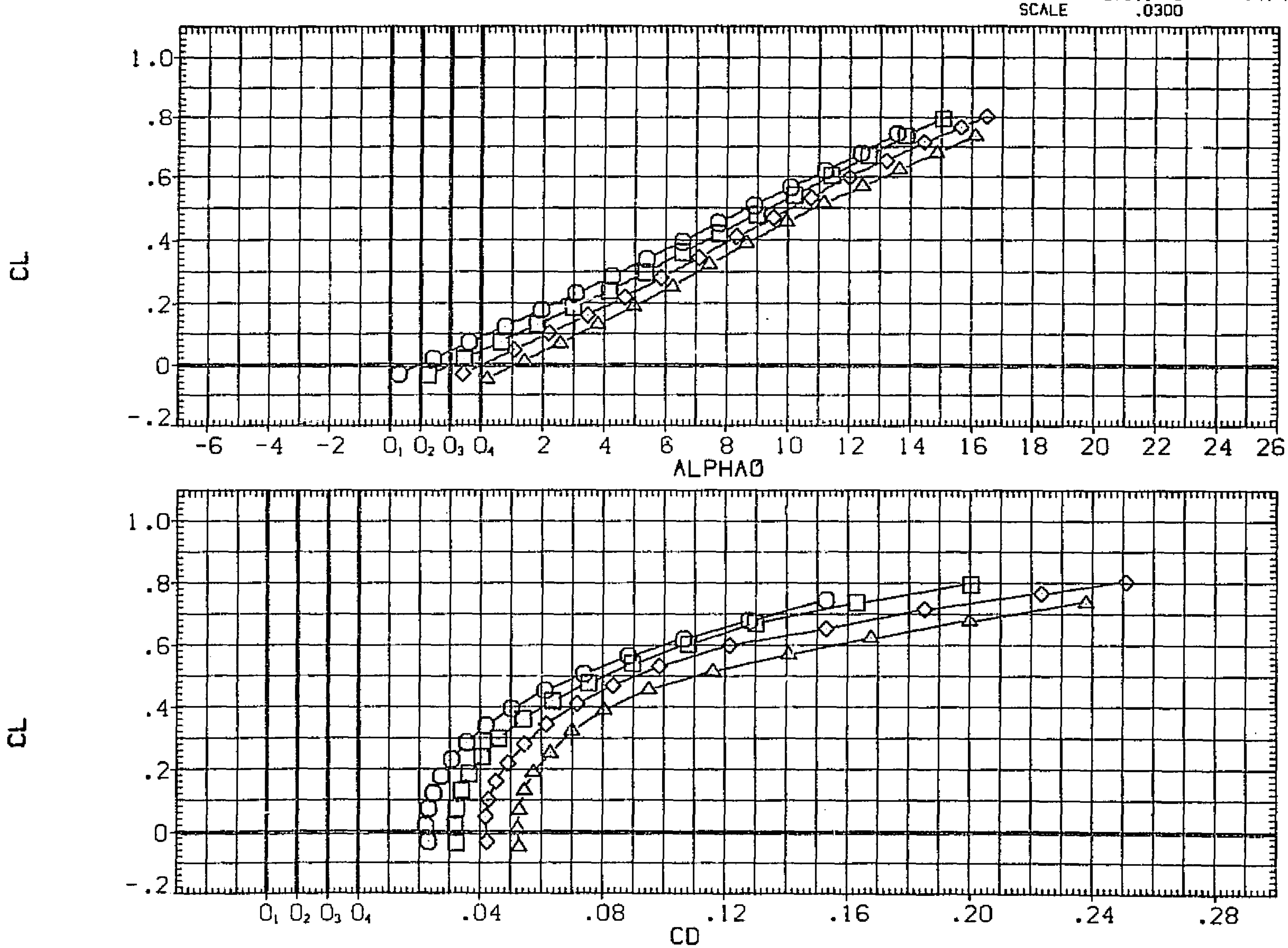



FIG. 4 ORBITER ALONE CHARACTERISTICS, ELEVON 0

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .301 | BETA | .000 | ELEVON | .000 |
| □ | .501 | RUDDER | .000 | BDFLAP | .000 |
| ◇ | .600 | PHI | .000 | WNGHGT | 48.000 |
| △ | .700 | | | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

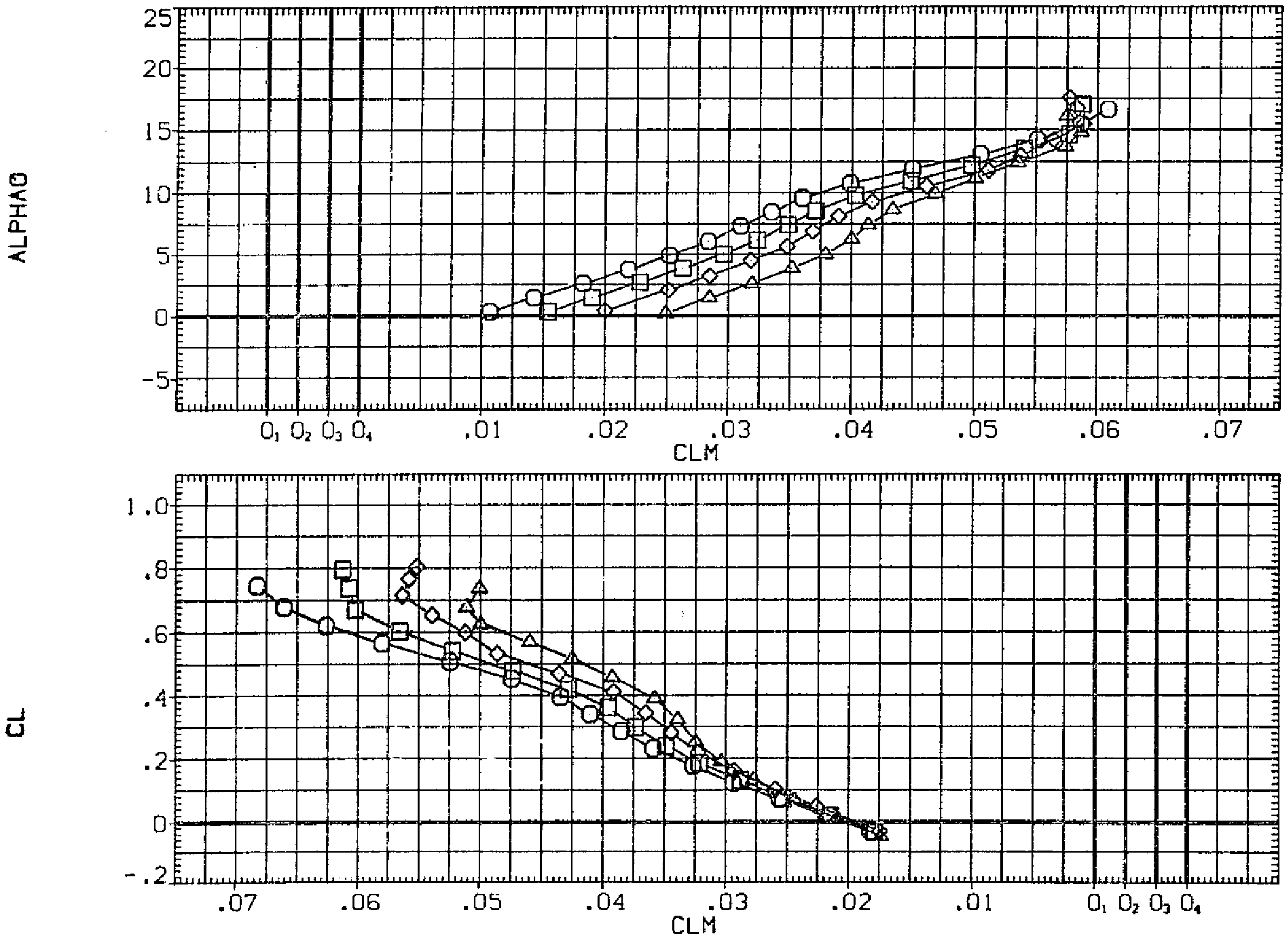



FIG. 4 ORBITER ALONE CHARACTERISTICS, ELEVON 0

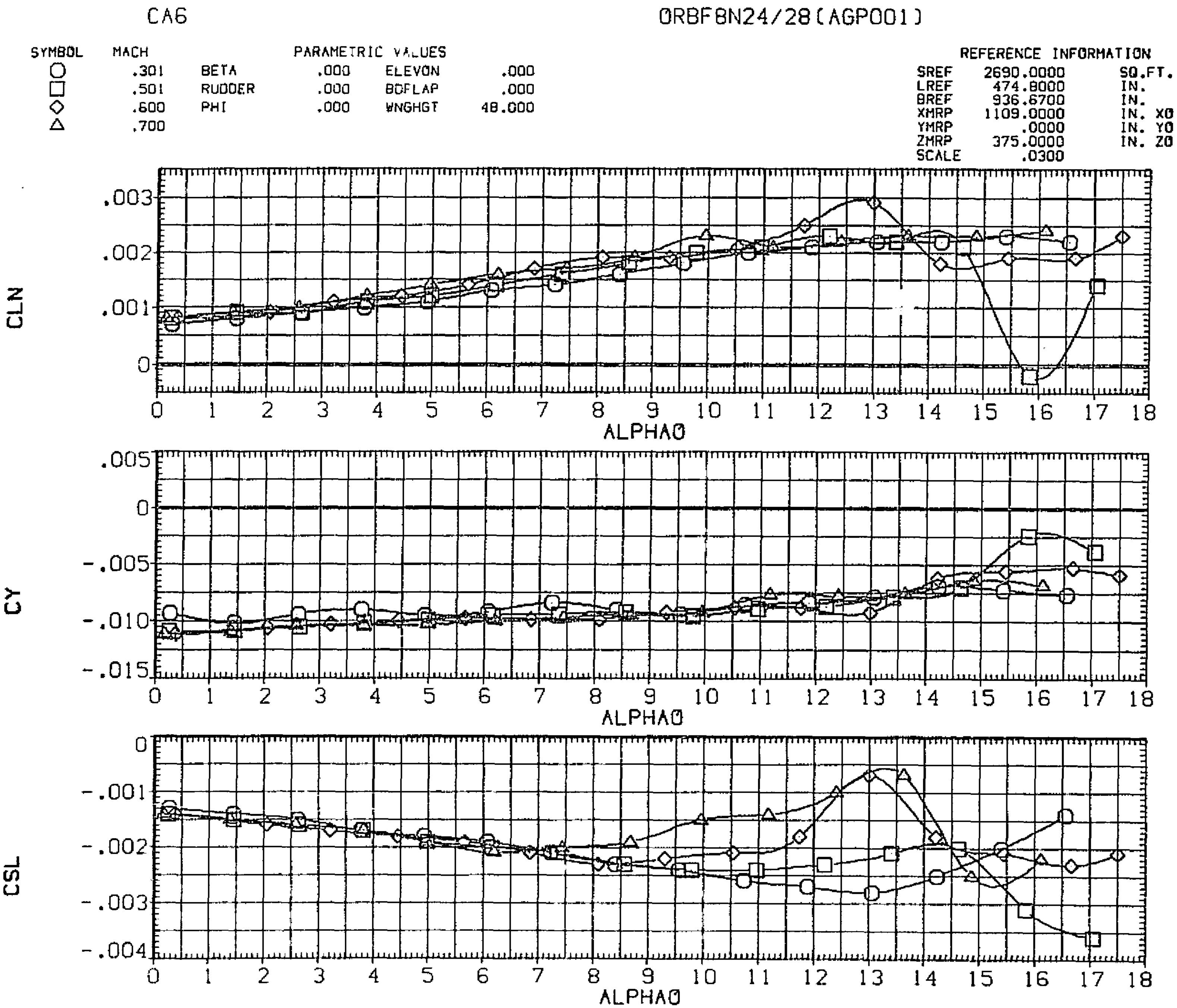



FIG. 4 ORBITER ALONE CHARACTERISTICS, ELEVON 0

CA6 ORBF8N24/28(AGP002)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | BETA | .000 | ELEVON | 5.000 |
| □ | .500 | RUDDER | .000 | BDFLAP | .000 |
| ◇ | .601 | PHI | .000 | WNGHGT | 48.000 |
| △ | .701 | | | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

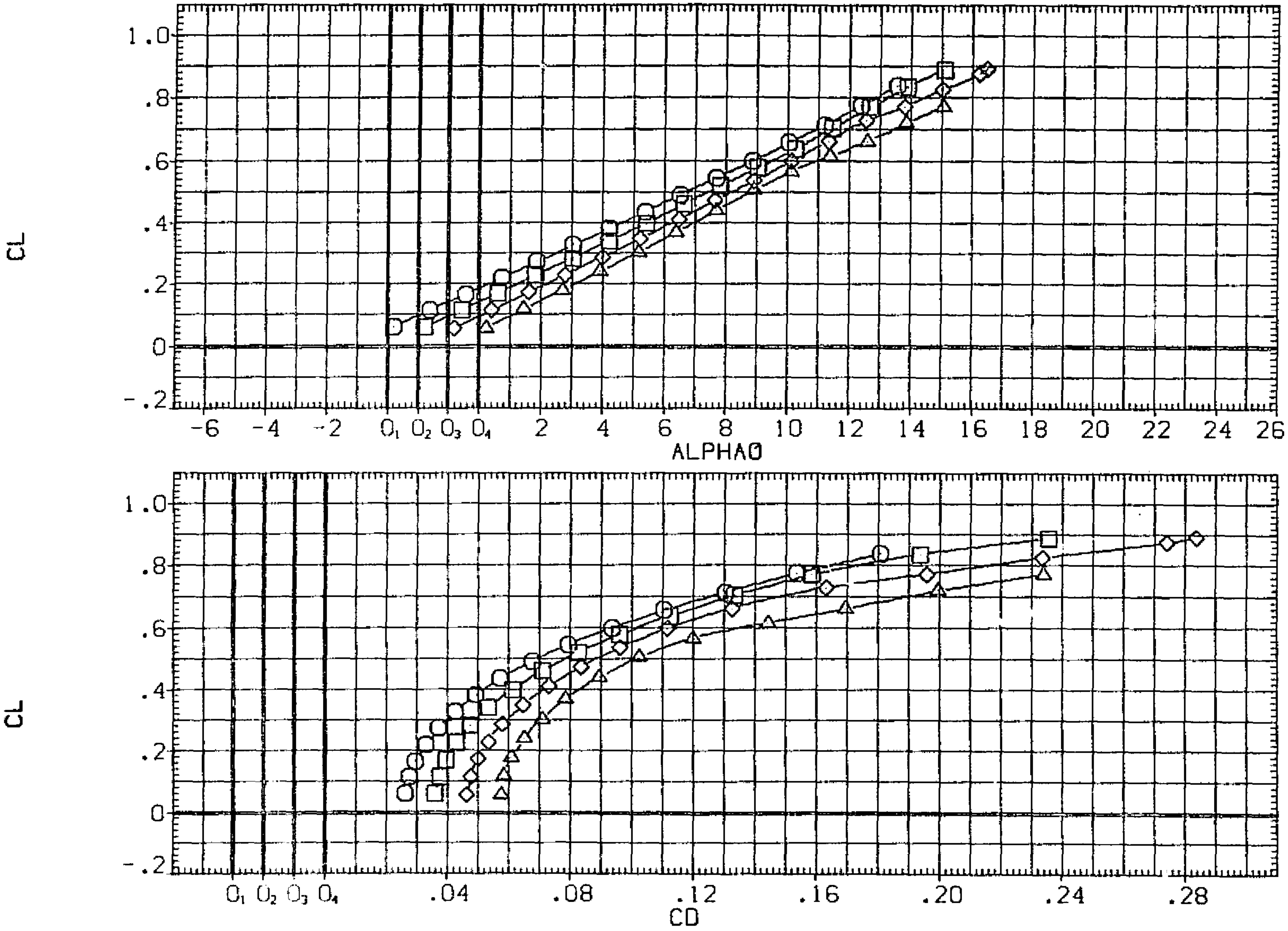



FIG. 5 ORBITER ALONE CHARACTERISTICS, ELEVON 5

CA6 ORBF8N24/28(AGP002)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | BETA | .000 | ELEVON | 5.000 |
| □ | .500 | RUDDER | .000 | BDFLAP | .000 |
| ◇ | .601 | PHI | .000 | WNGHGT | 48.000 |
| △ | .701 | | | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

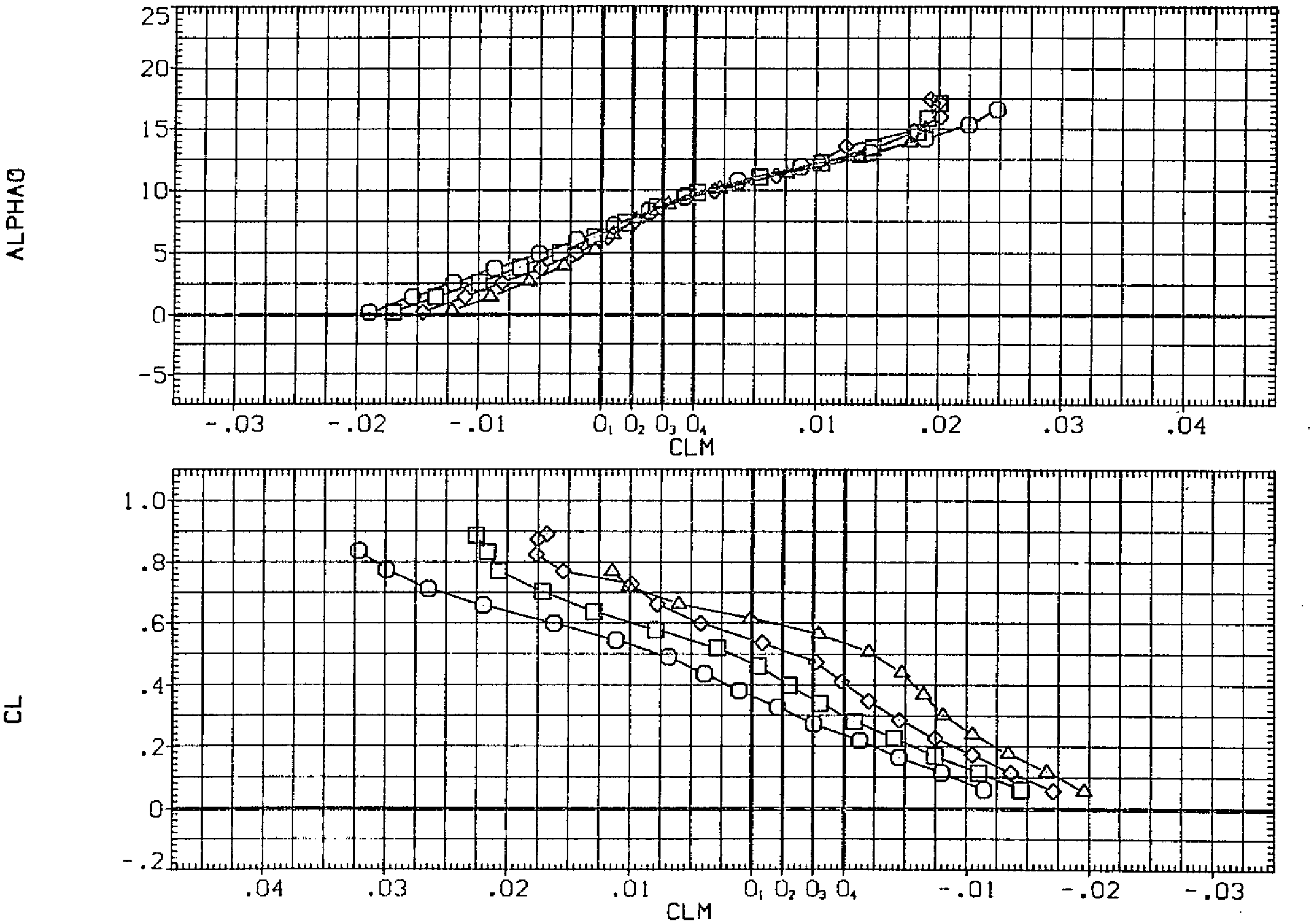



FIG. 5 ORBITER ALONE CHARACTERISTICS, ELEVON 5

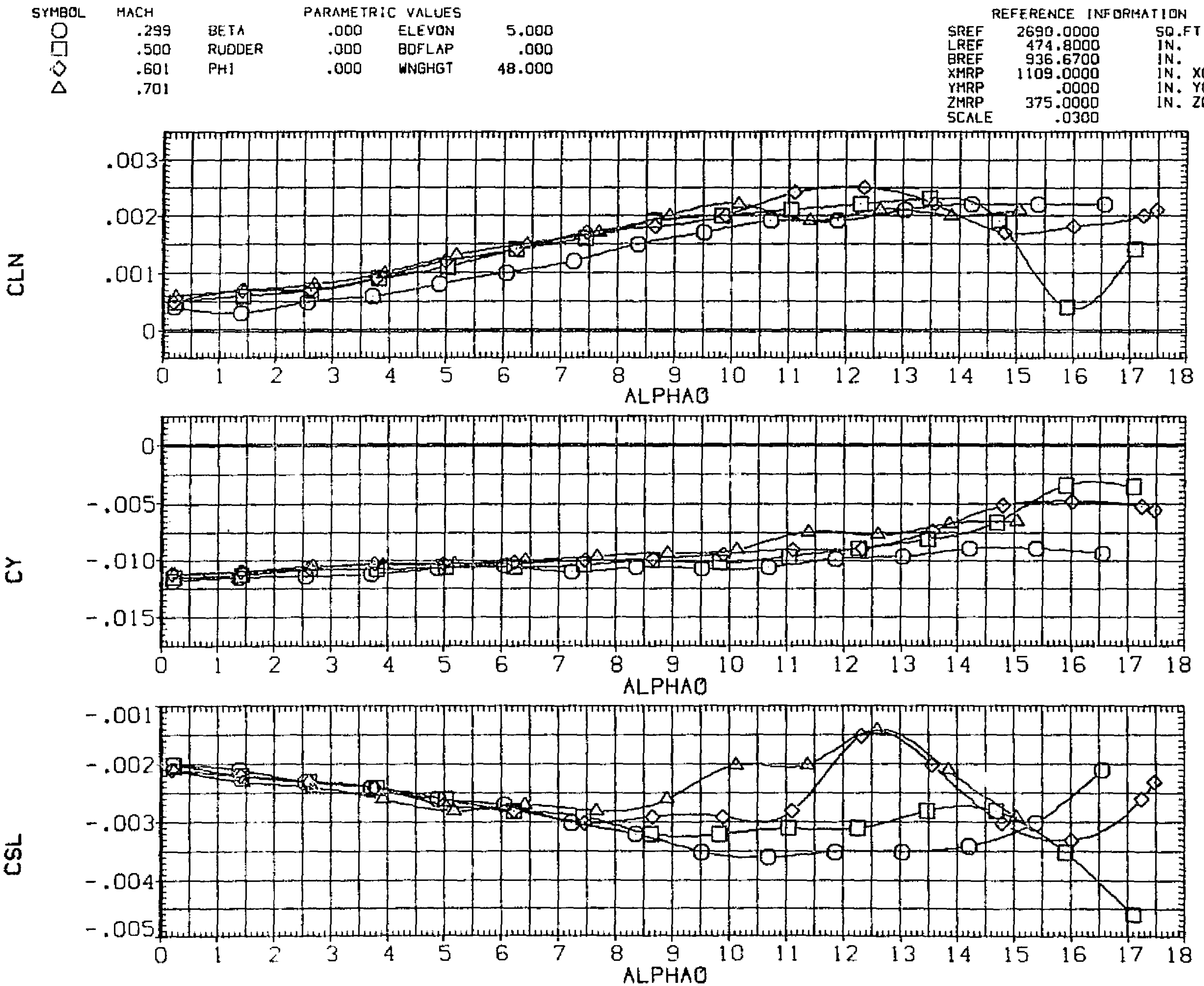
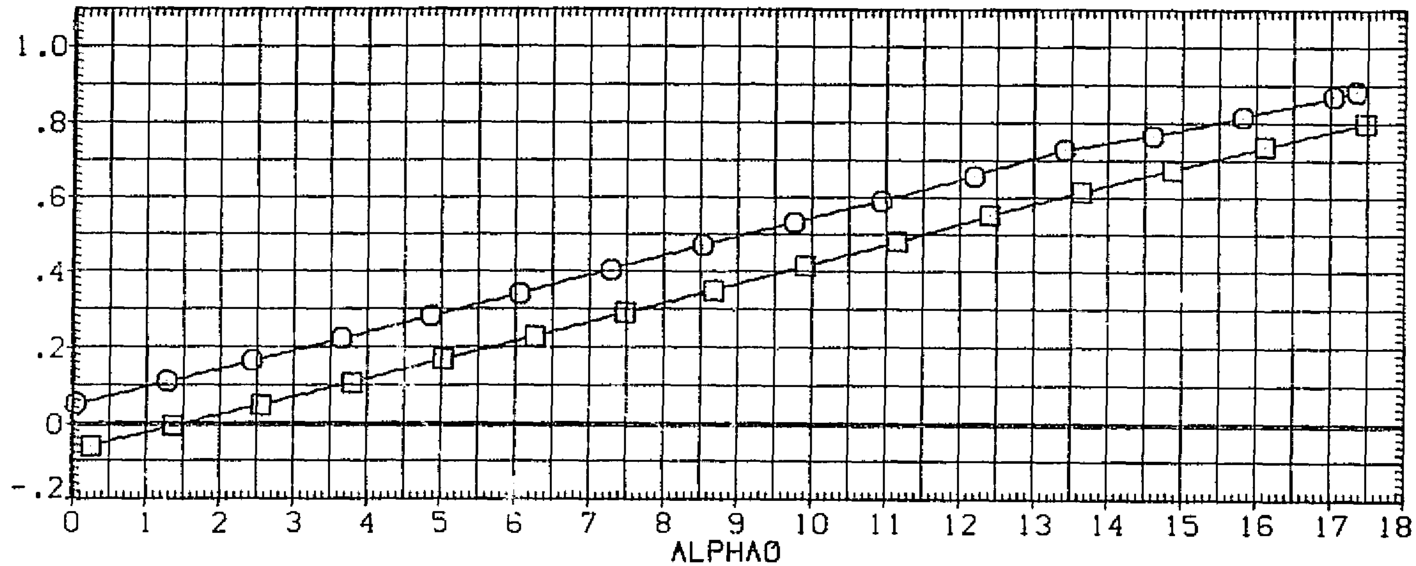



FIG. 5 ØRBITER ALØNE CHARACTERISTICS, ELEVØN 5

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (BGP011) | □ | CA6 (ELEVON GAP SEALED) | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |



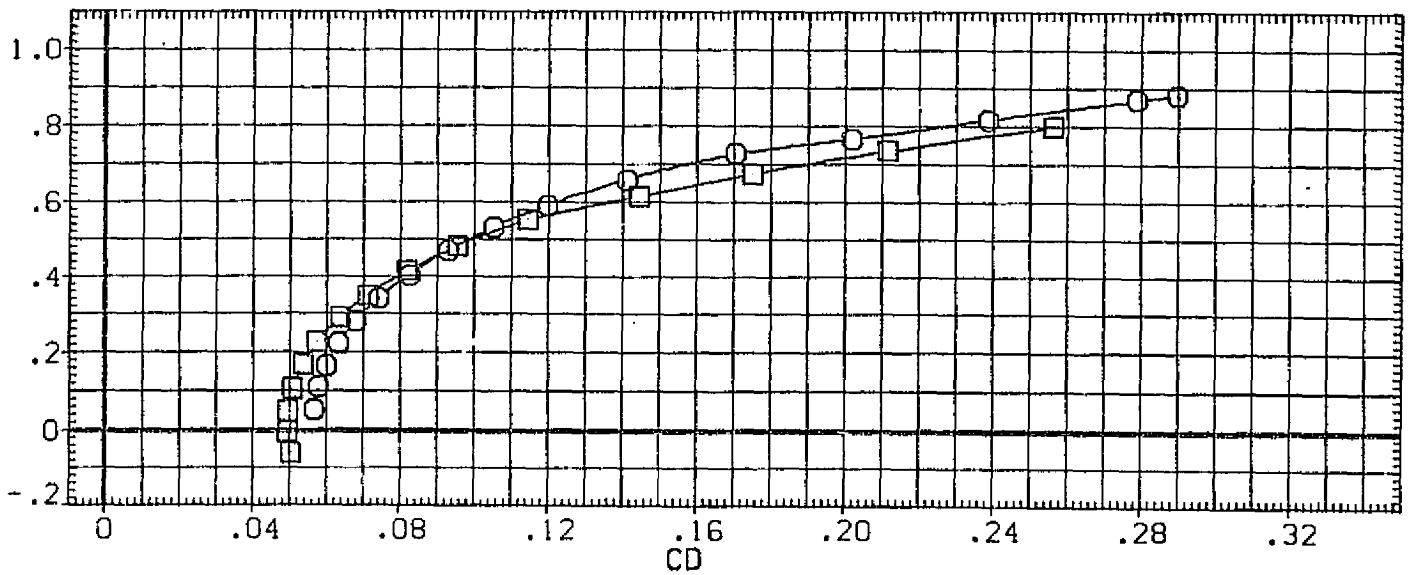




FIG. 6 EFFECT OF ELEVON GAP, ORBITER ALONE

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (BGP011) | □ | CA6 (ELEVON GAP SEALED) | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

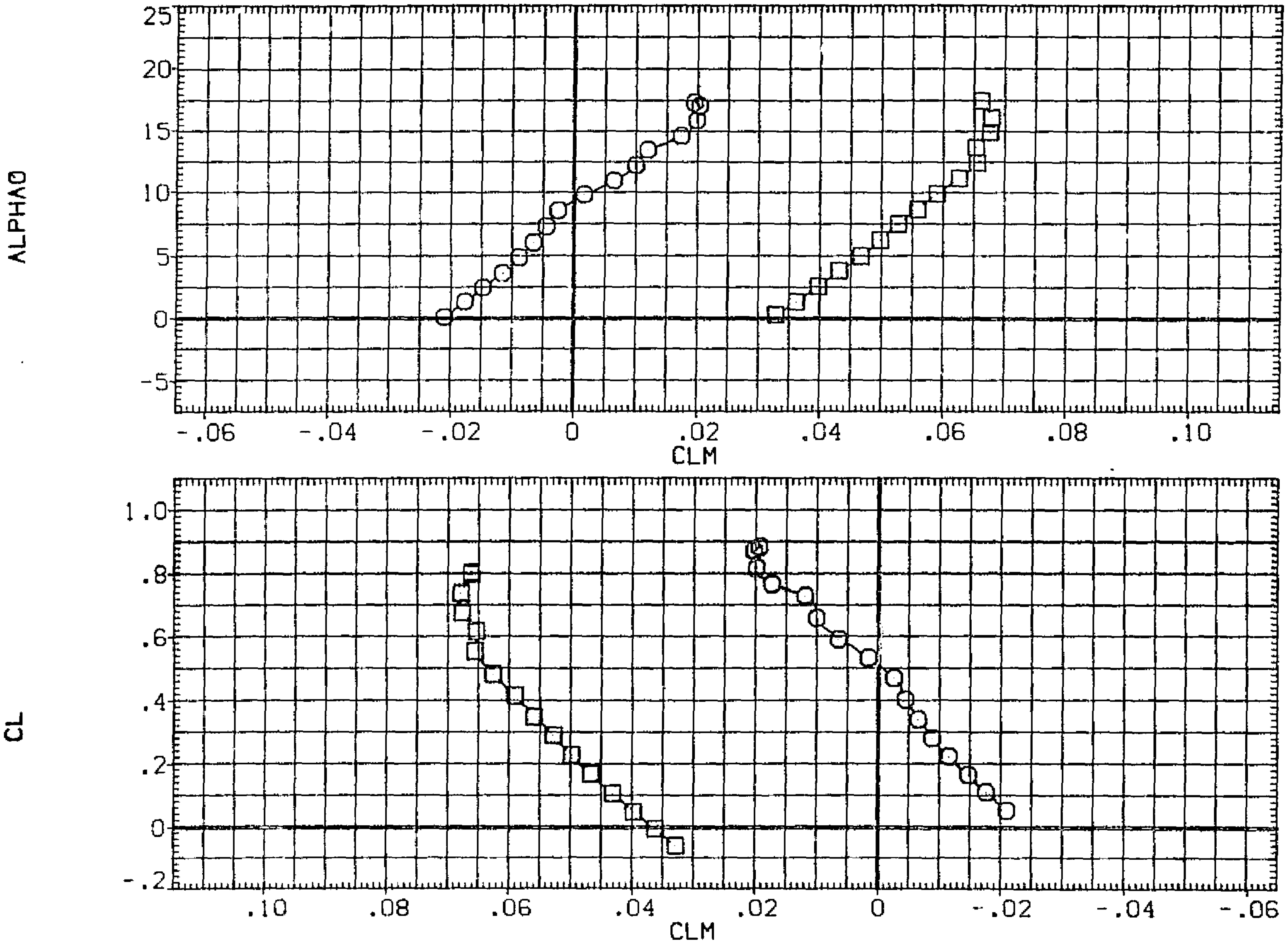



FIG. 6 EFFECT OF ELEVON GAP, ORBITER ALONE

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (BGP011) | □ | CA6 (ELEVON GAP SEALED) | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

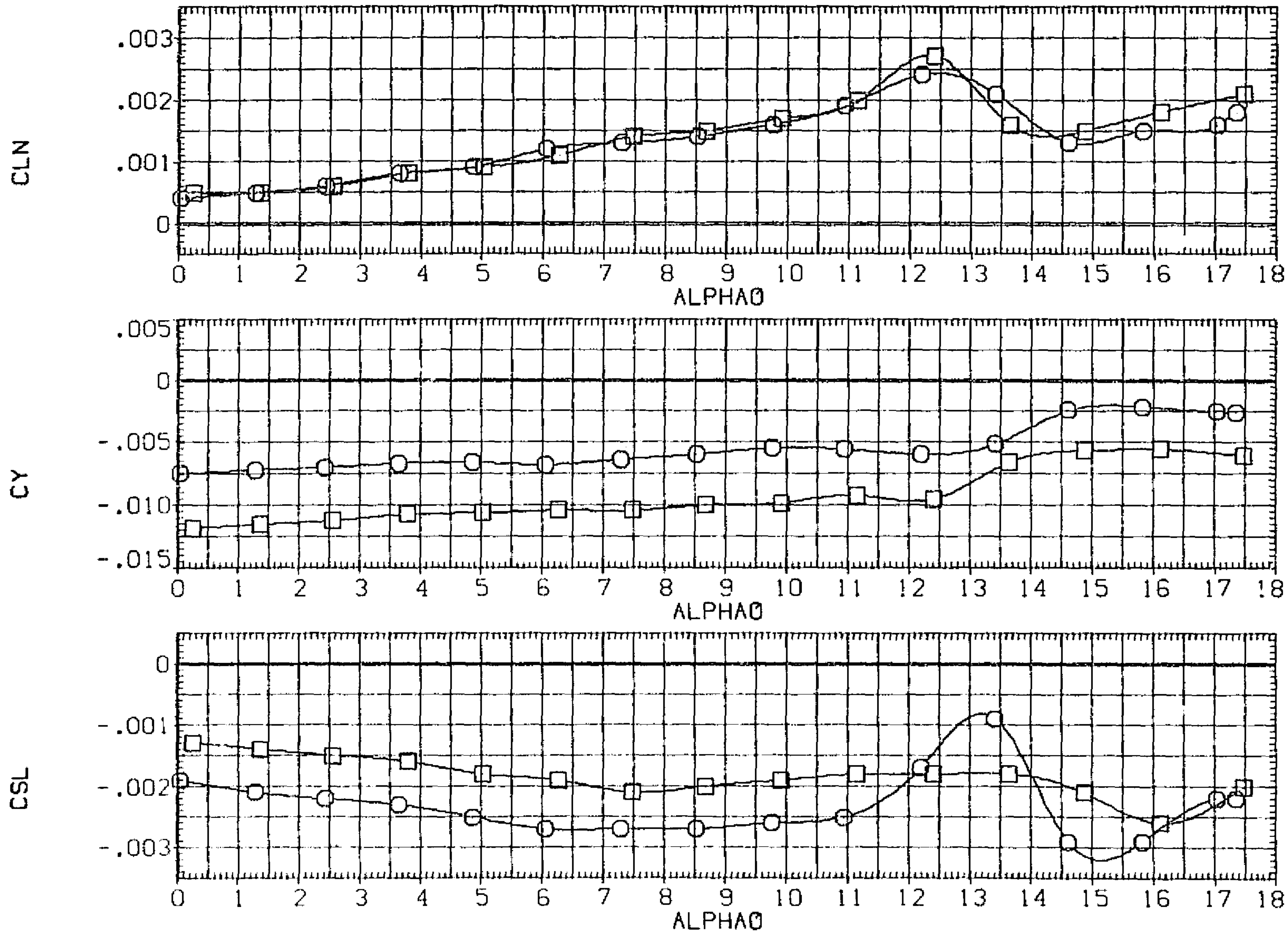



FIG. 6 EFFECT OF ELEVON GAP, ORBITER ALONE

(A)MACH = .60

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | ALPHA | .000 | ELEVON | 5.000 |
| □ | .501 | RUDDER | .000 | BDFLAP | .000 |
| ◇ | .600 | PHI | 90.000 | | |
| △ | .700 | | | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

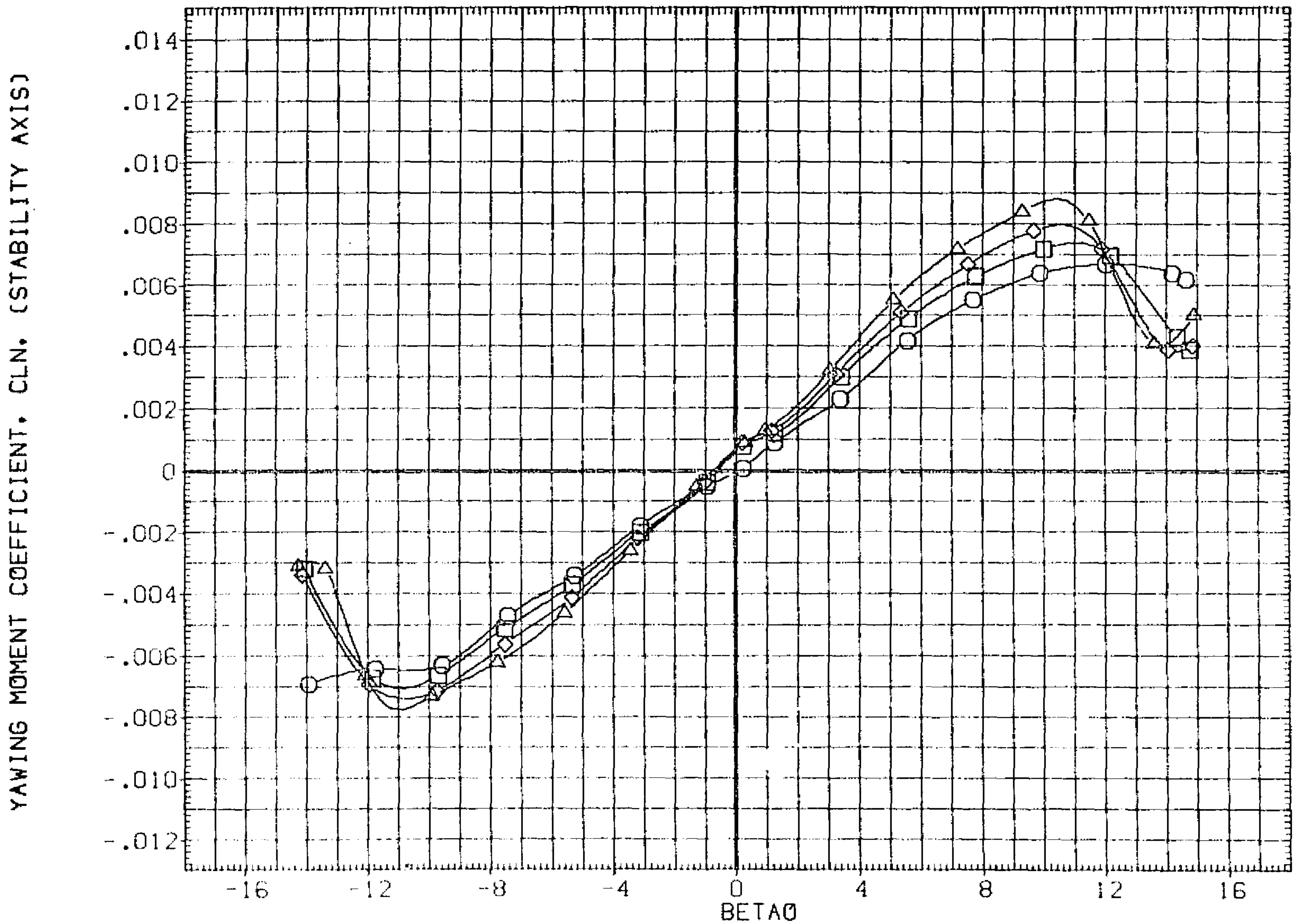



FIG. 7 LATERAL-DIRECTIONAL CHARACTERISTICS, ORBITER ALONE, ELEVON 5

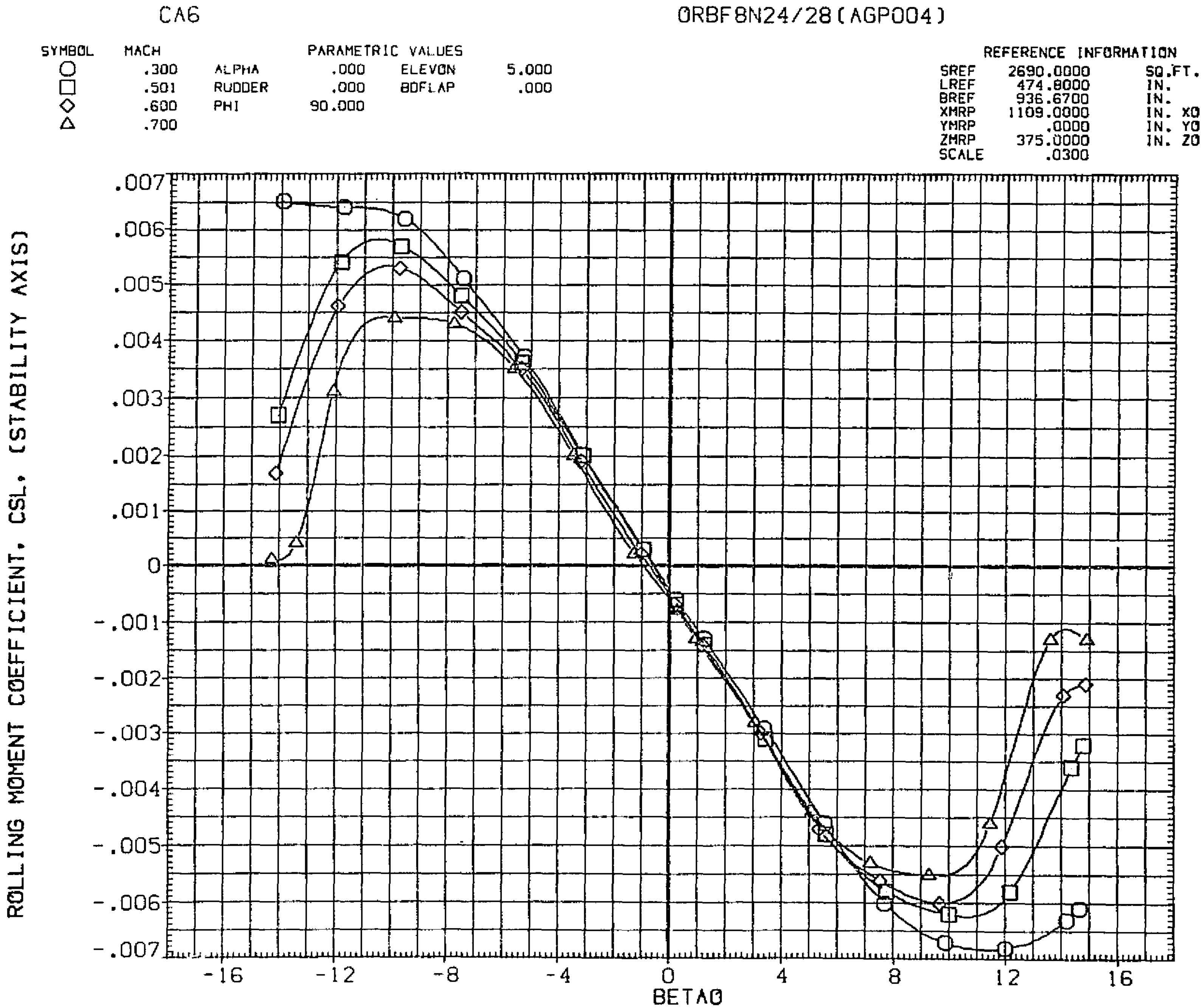



FIG. 7 LATERAL-DIRECTIONAL CHARACTERISTICS, ORBITER ALONE, ELEVON 5

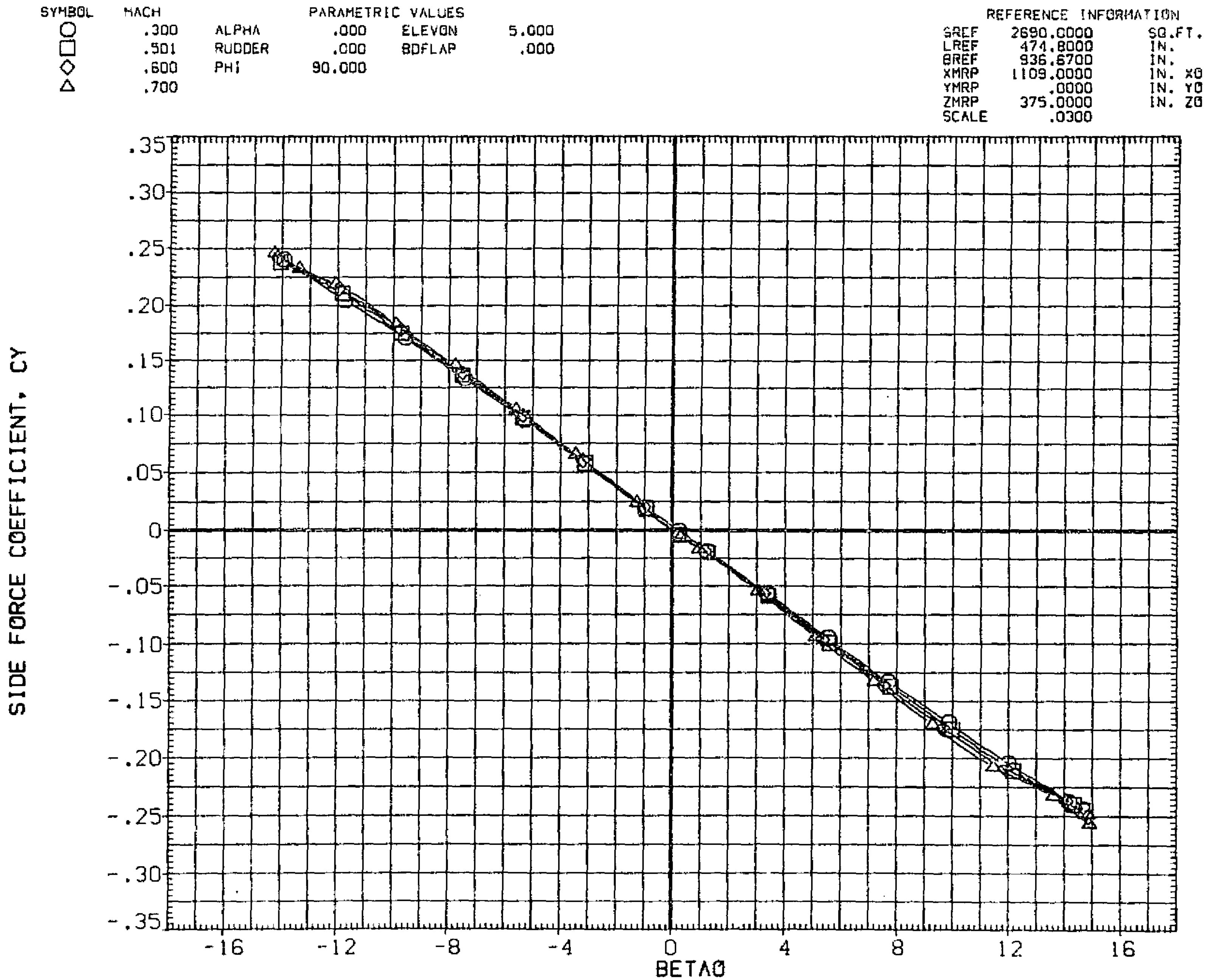



FIG. 7 LATERAL-DIRECTIONAL CHARACTERISTICS, ORBITER ALONE, ELEVON 5

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

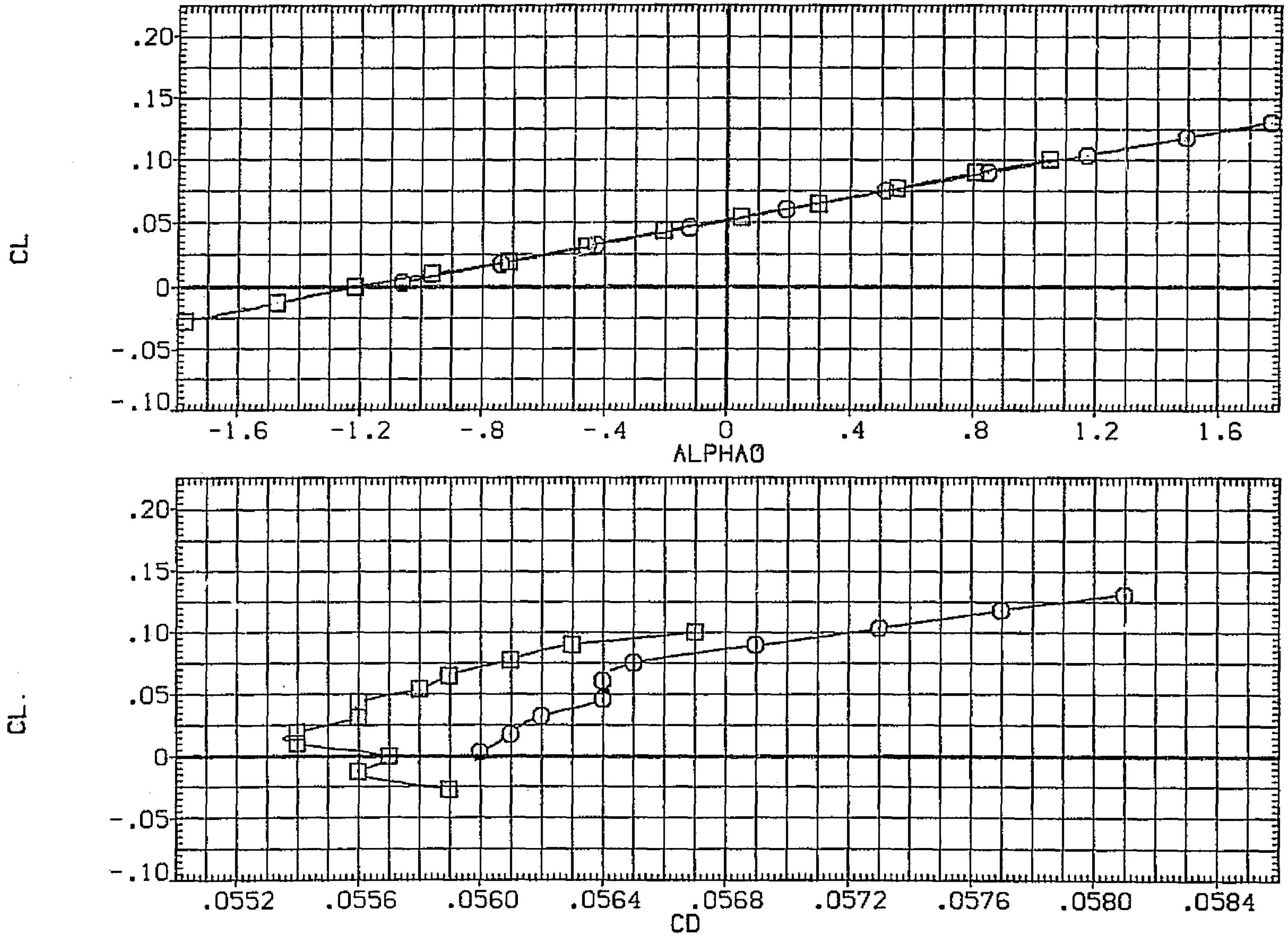



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

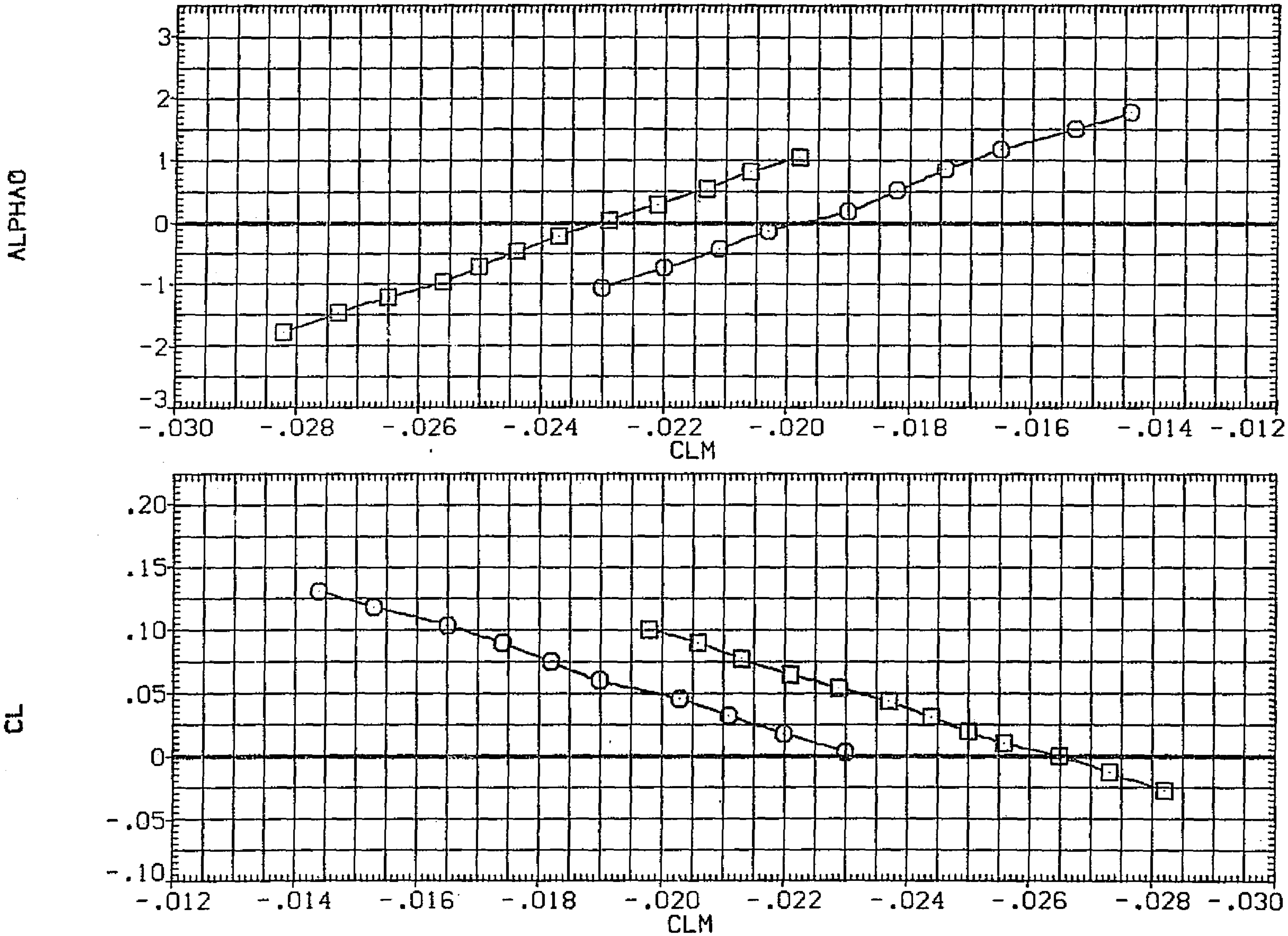



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

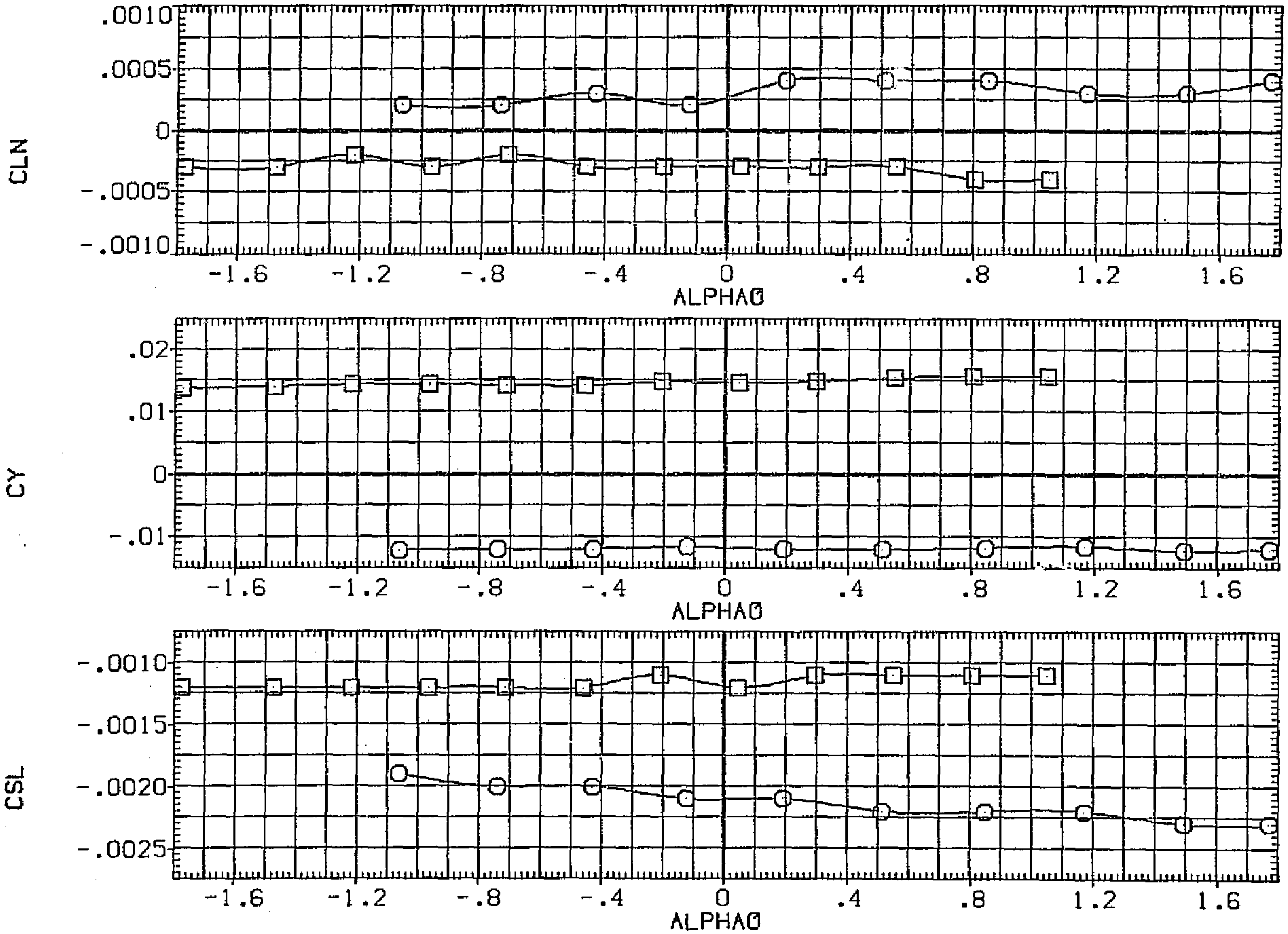



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

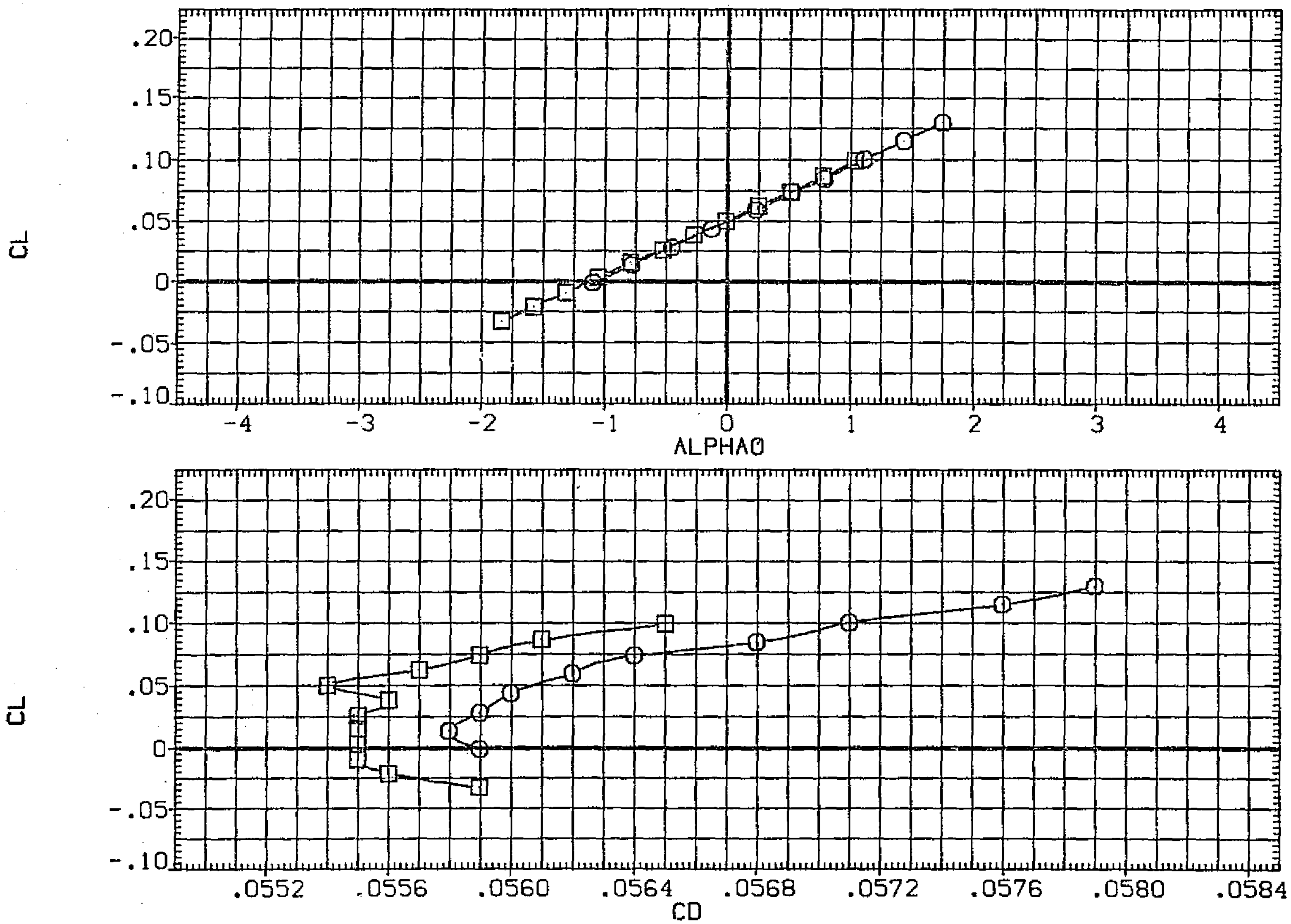



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

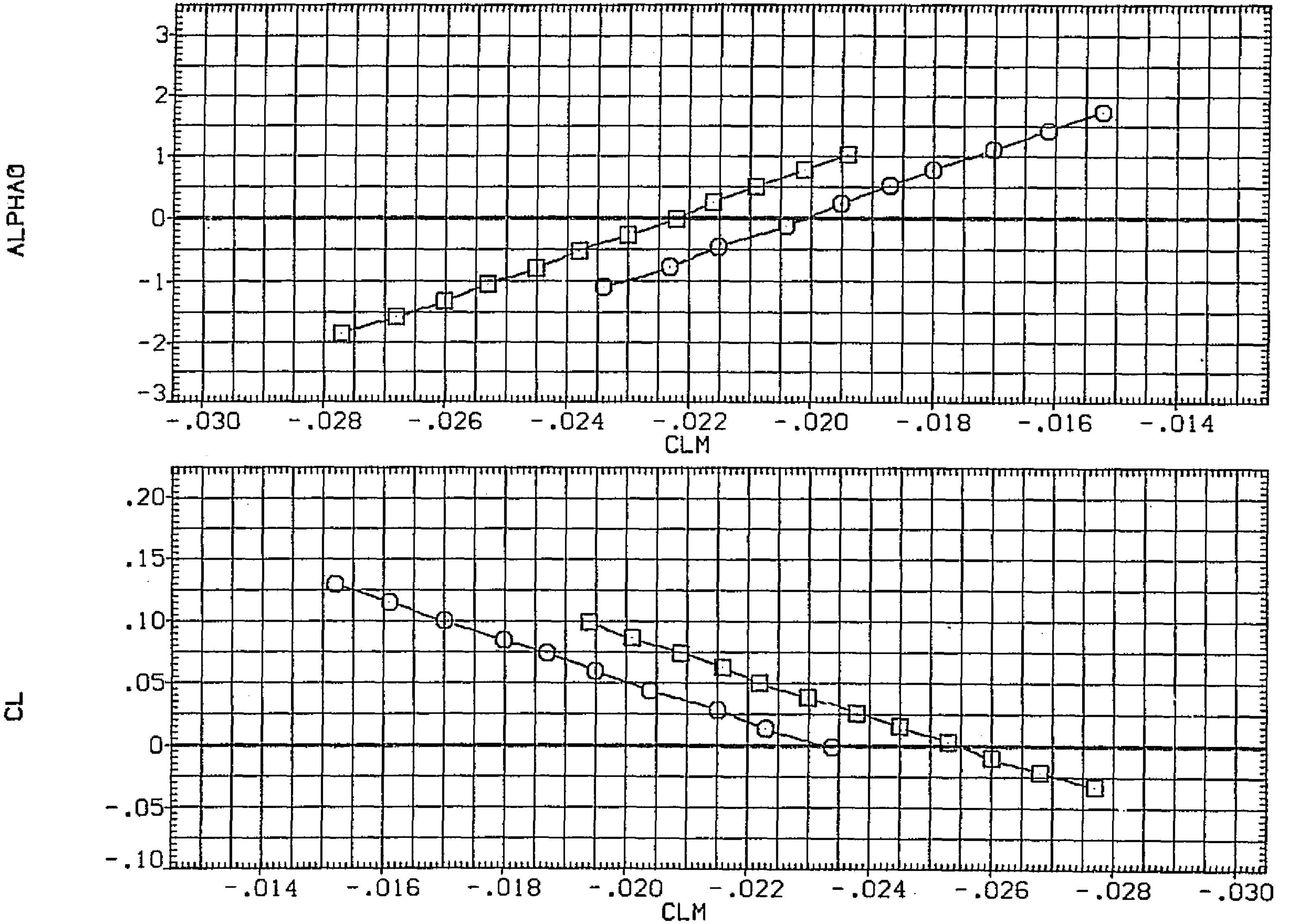



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

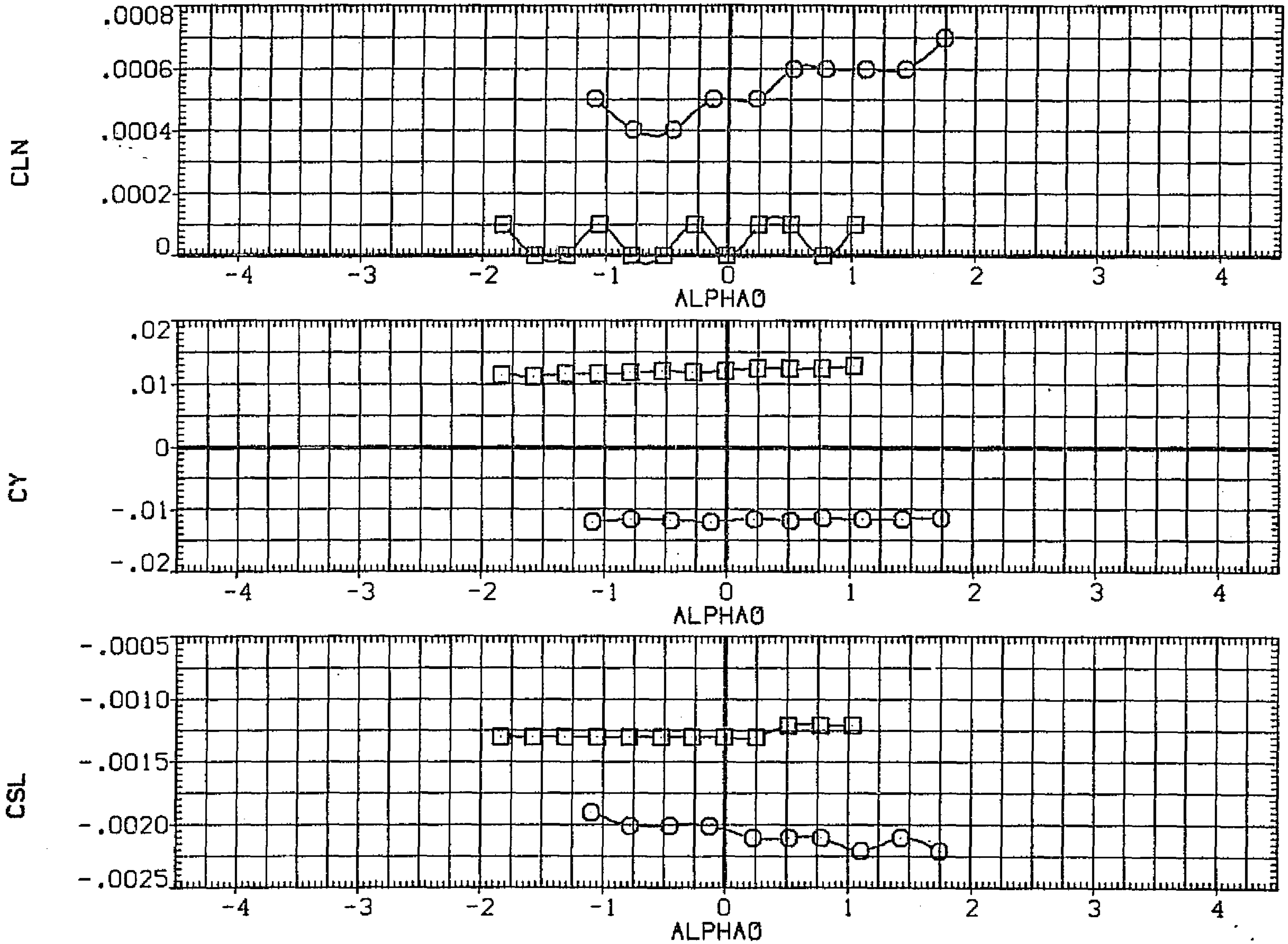



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | VNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZHRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

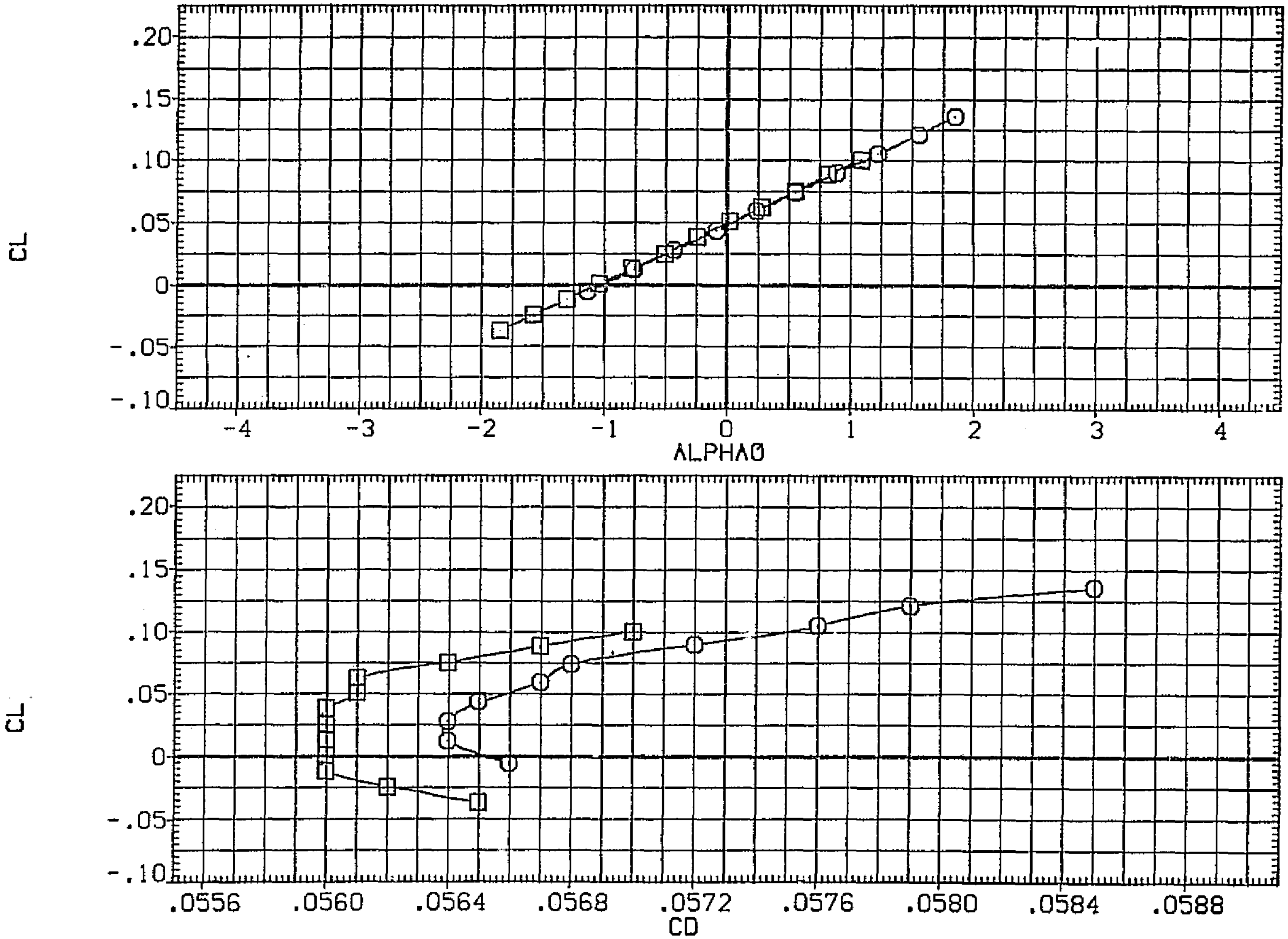



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

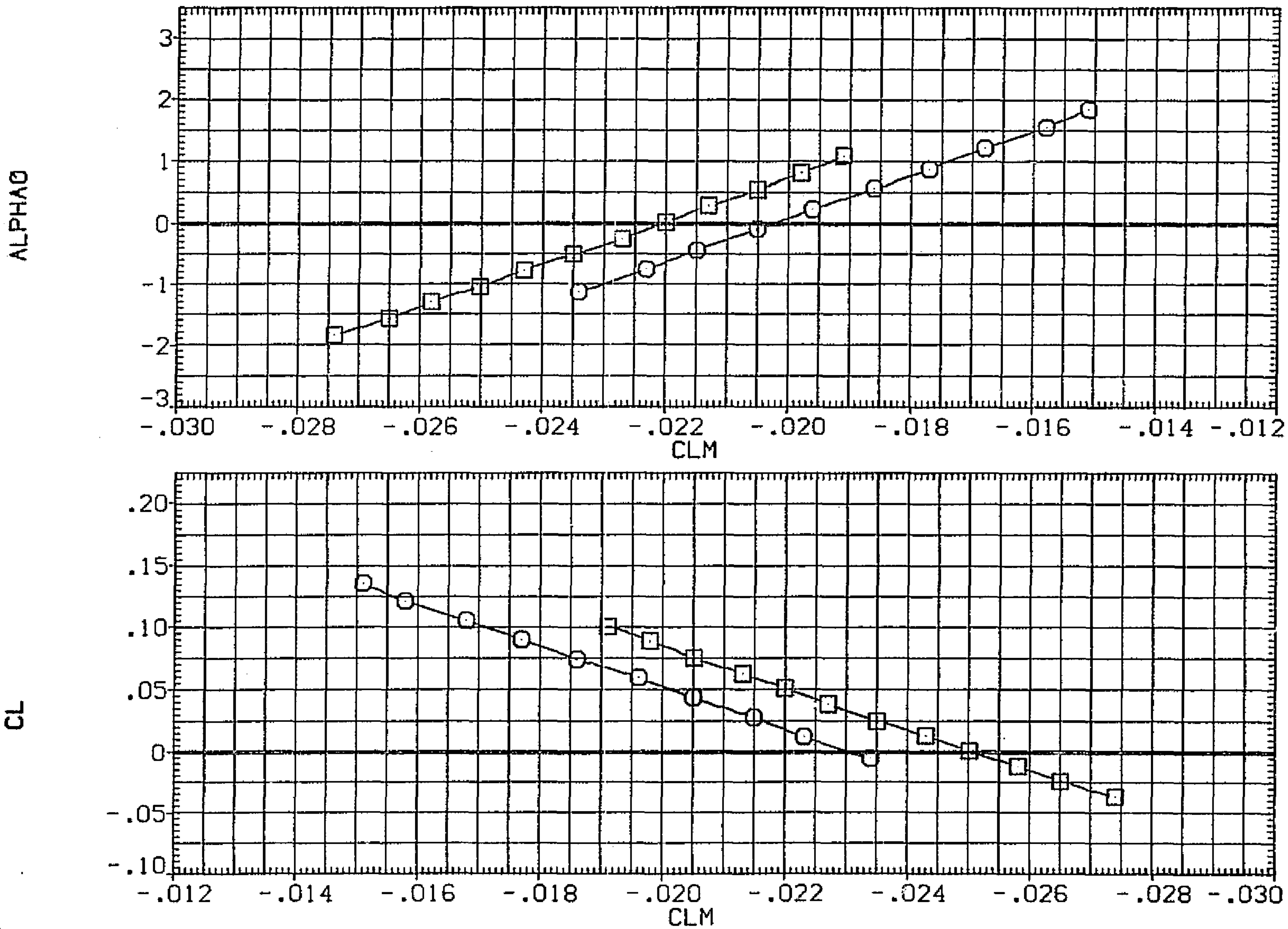



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

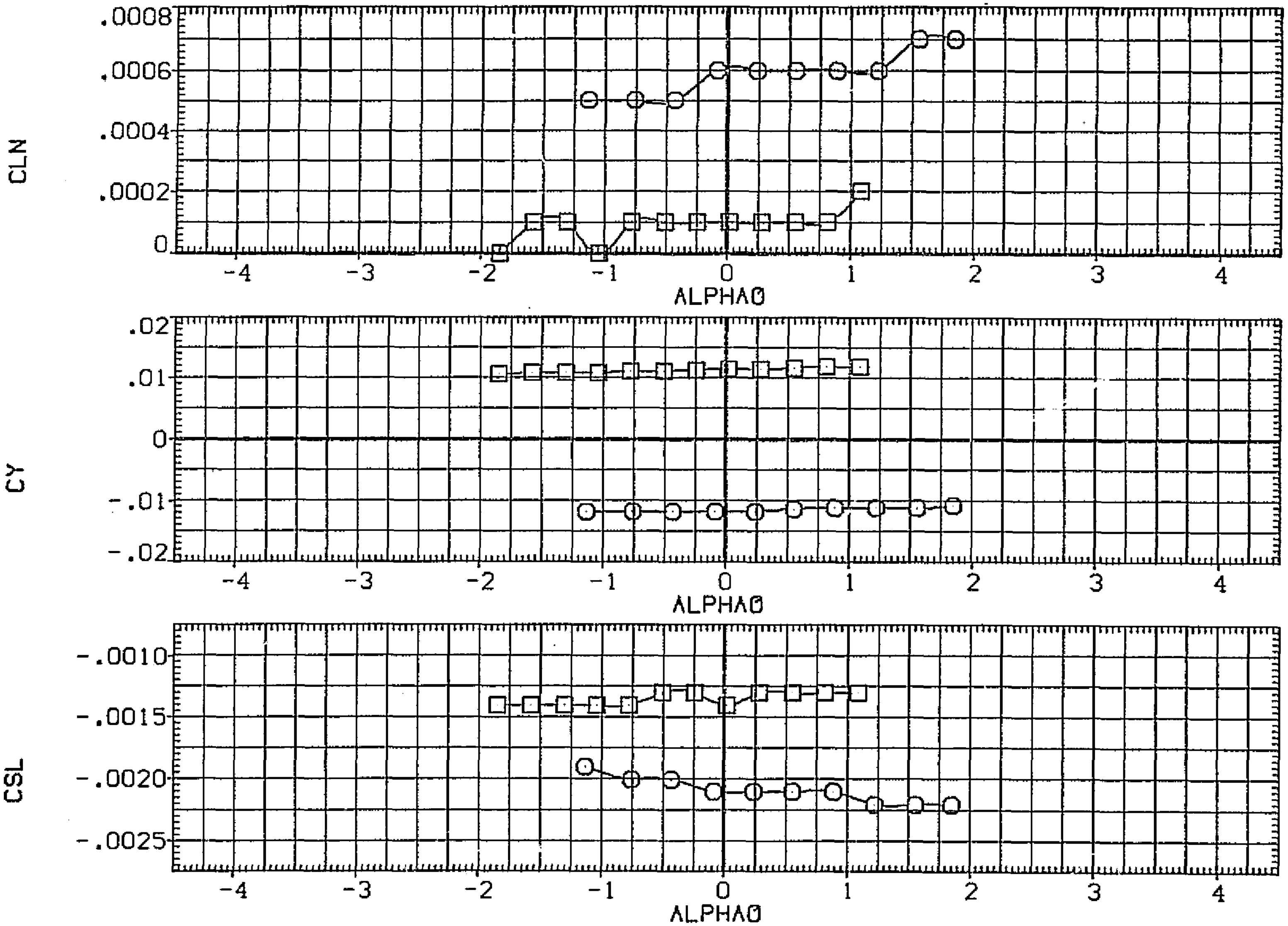



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

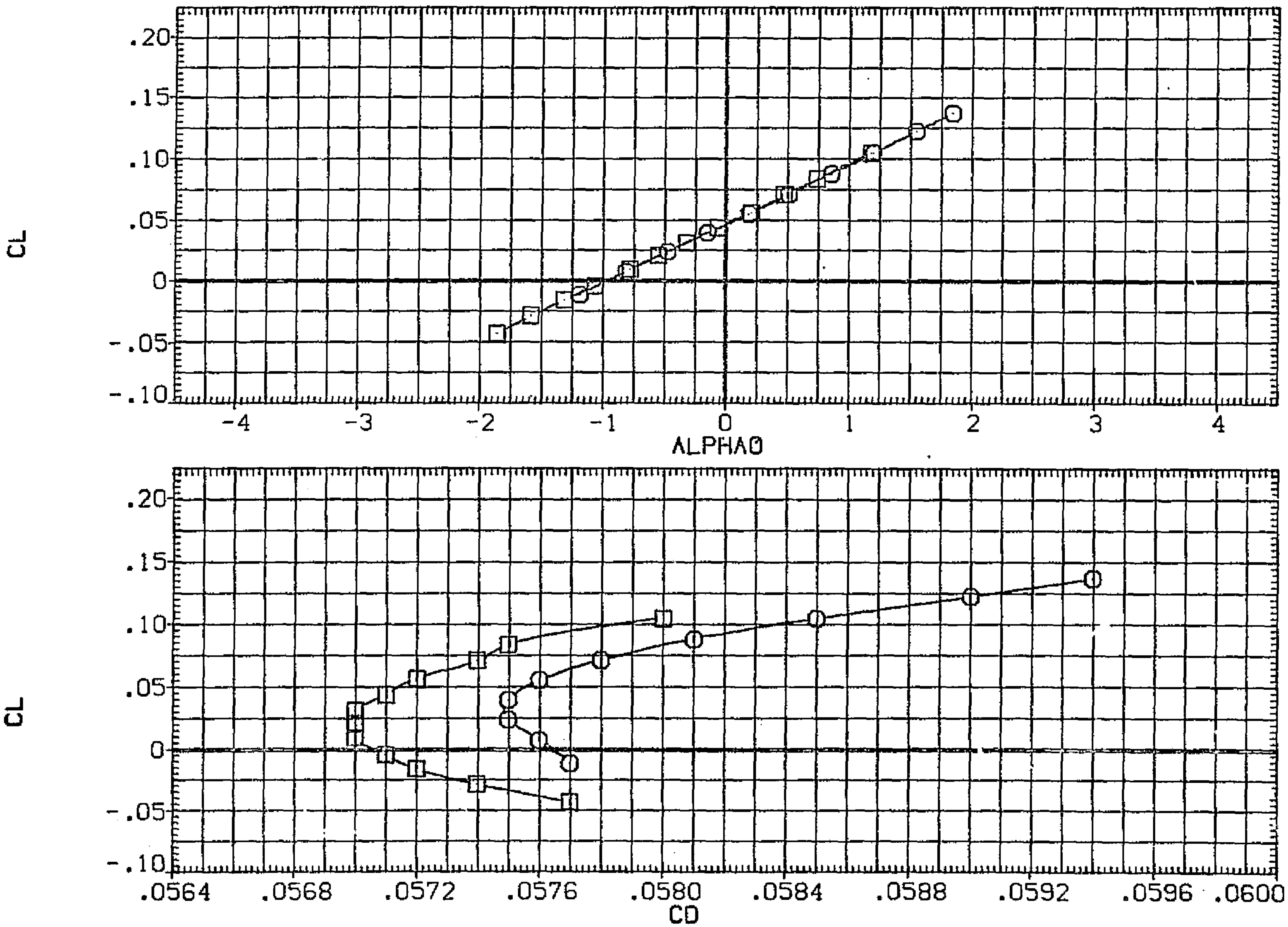



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

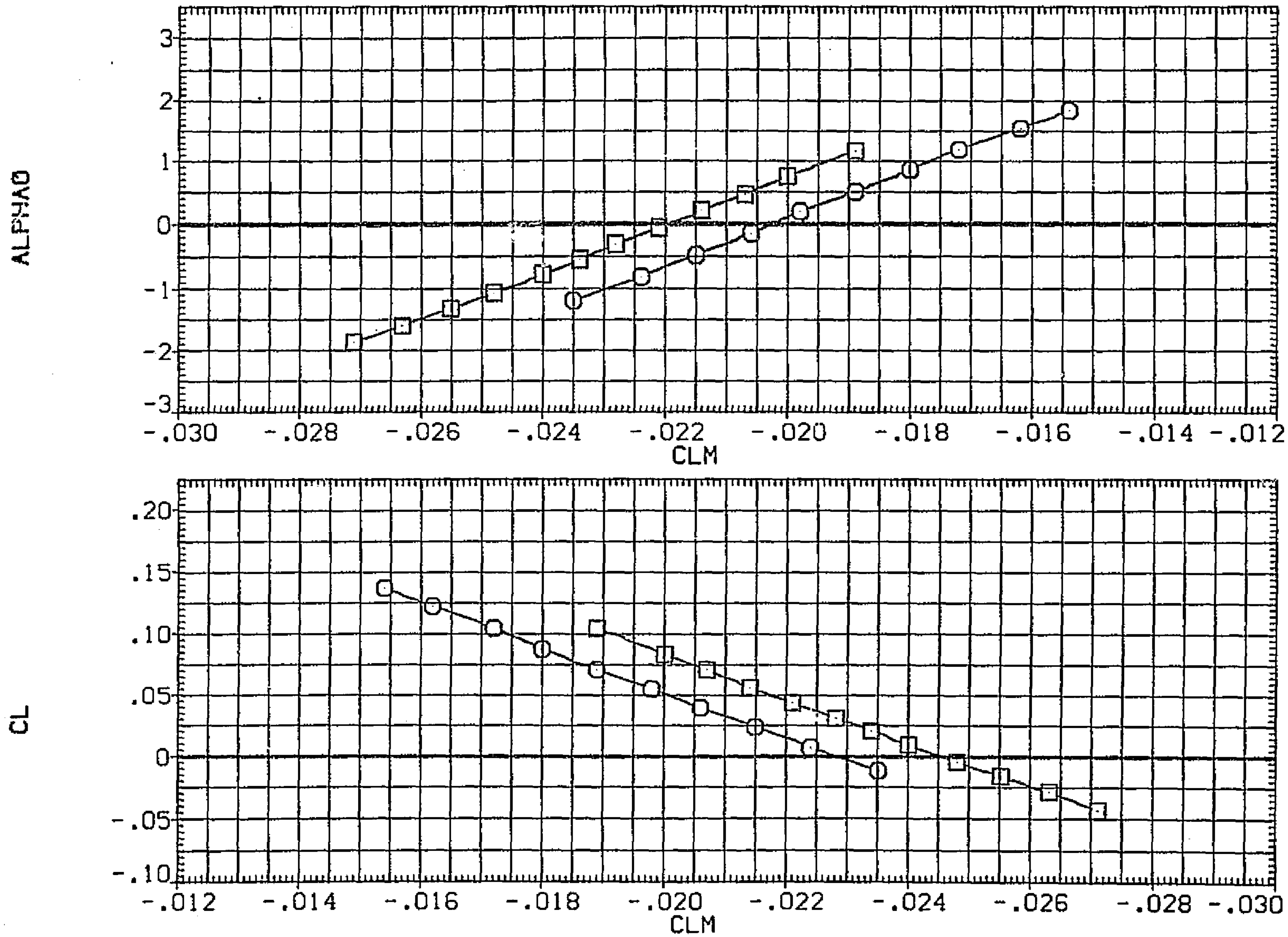



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP003) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP006) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

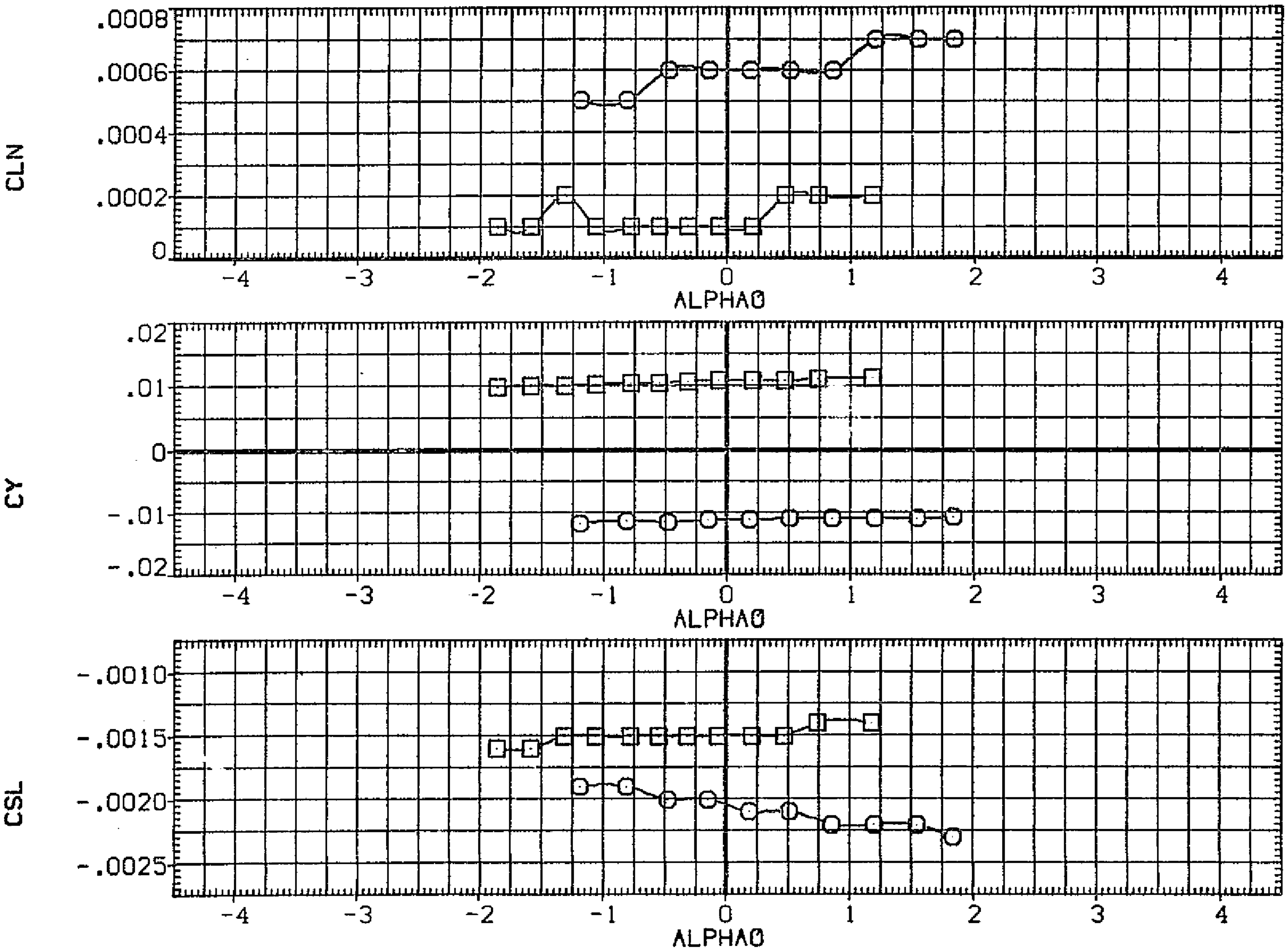



FIG. 8 ORBITER ALONE, UPFLOW CORRECTION, WING AT 48 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

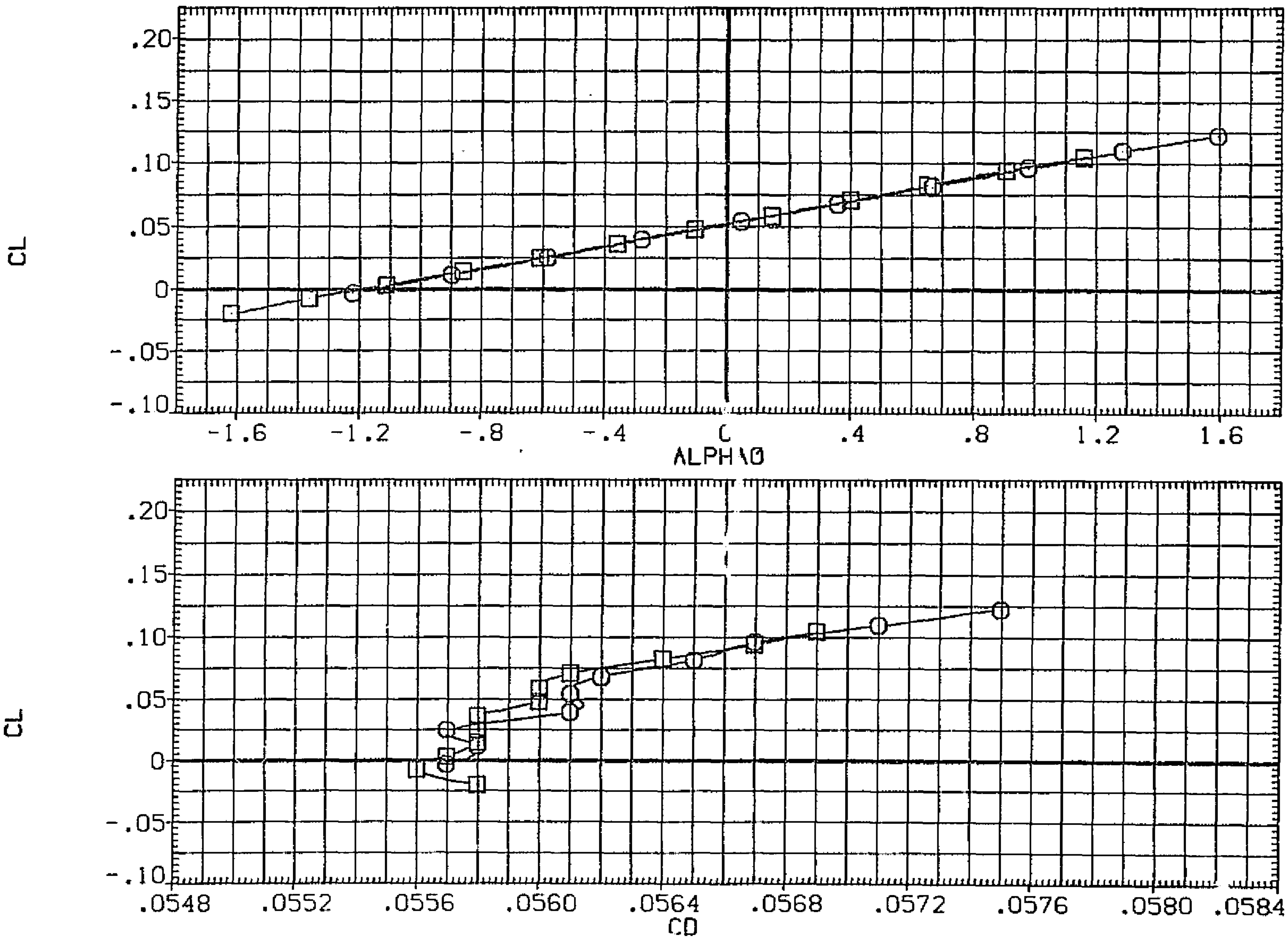



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(A)MACH = .30

| DATA SET SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|
| (AGP009) ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

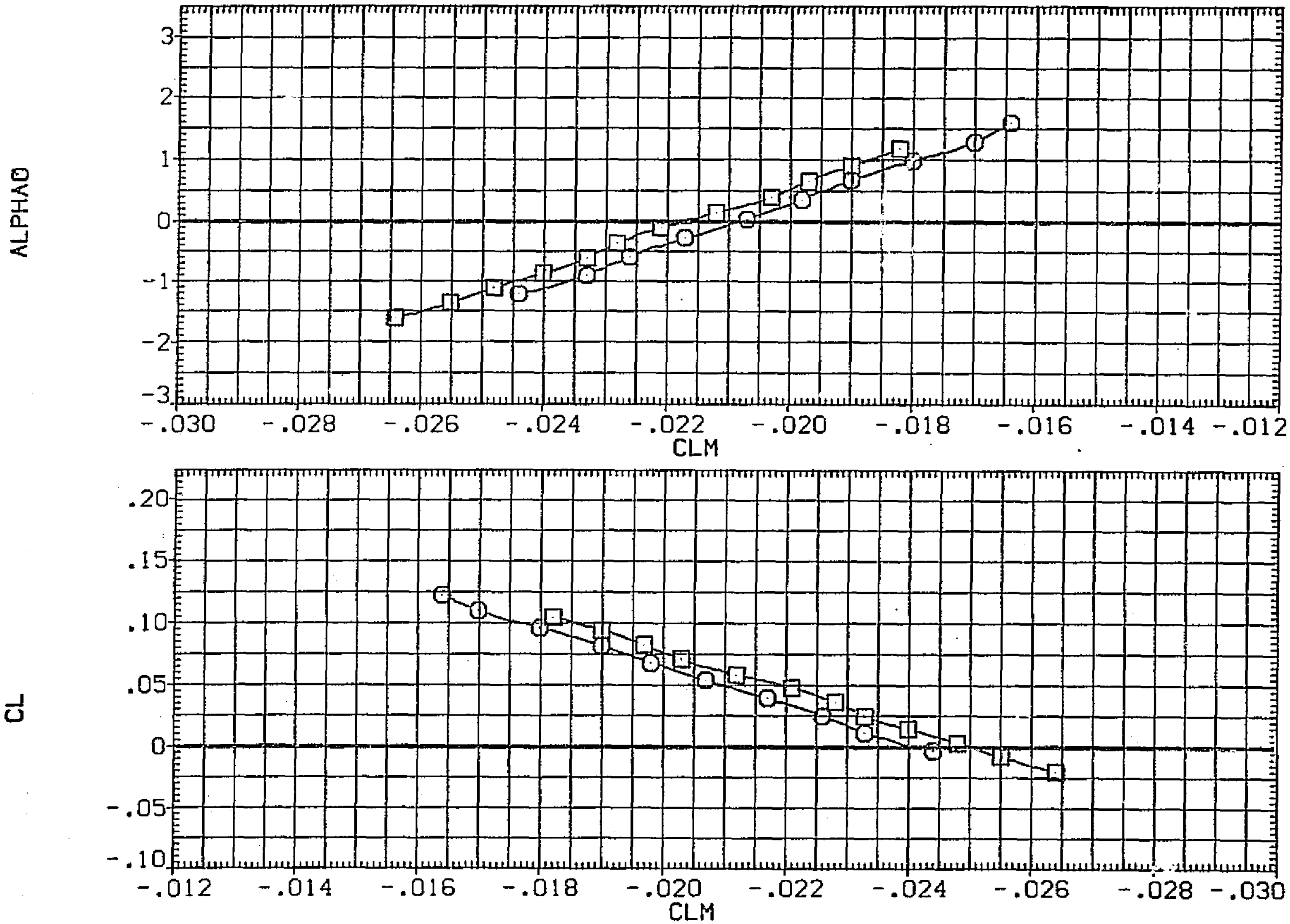



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

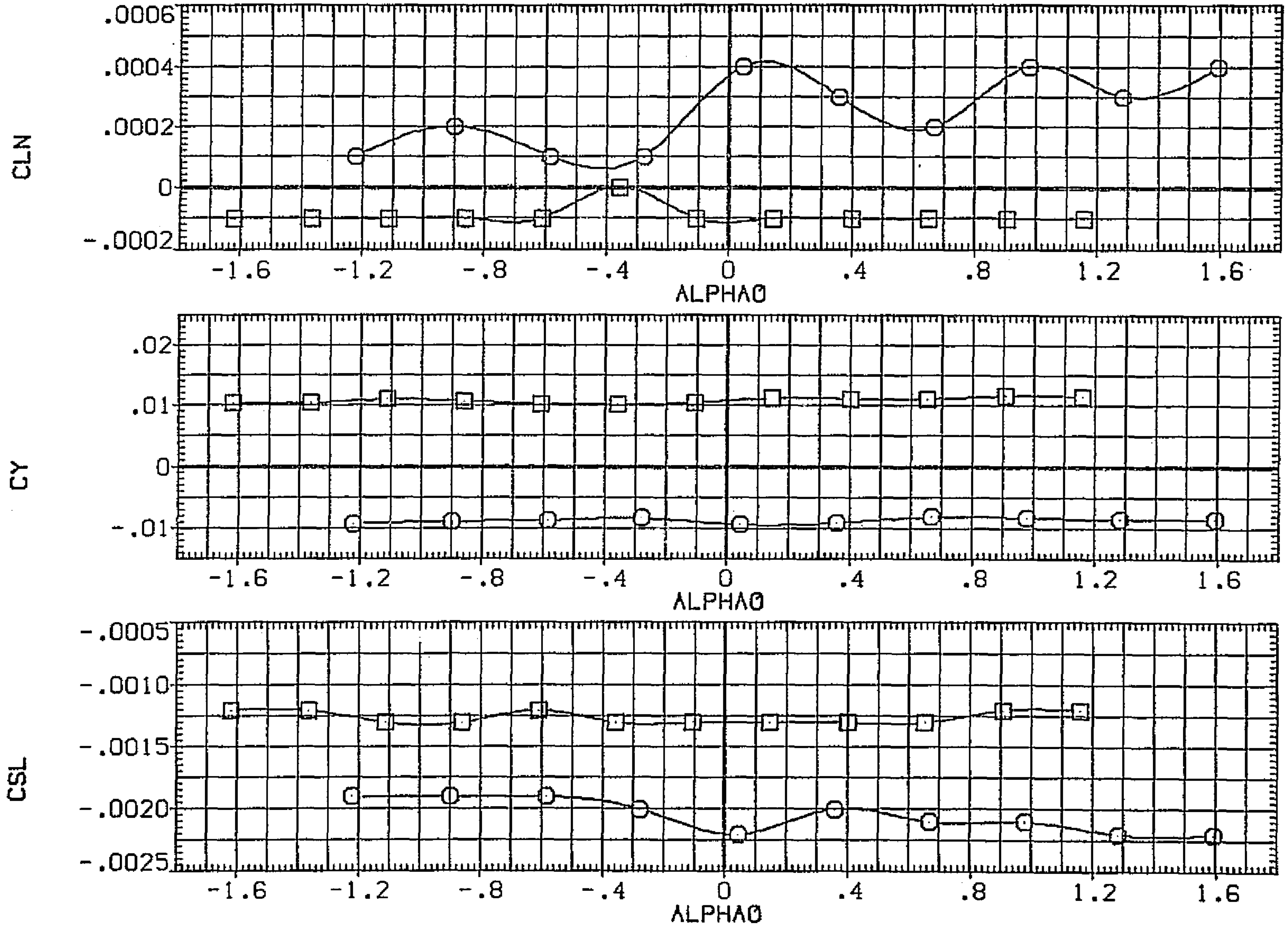



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

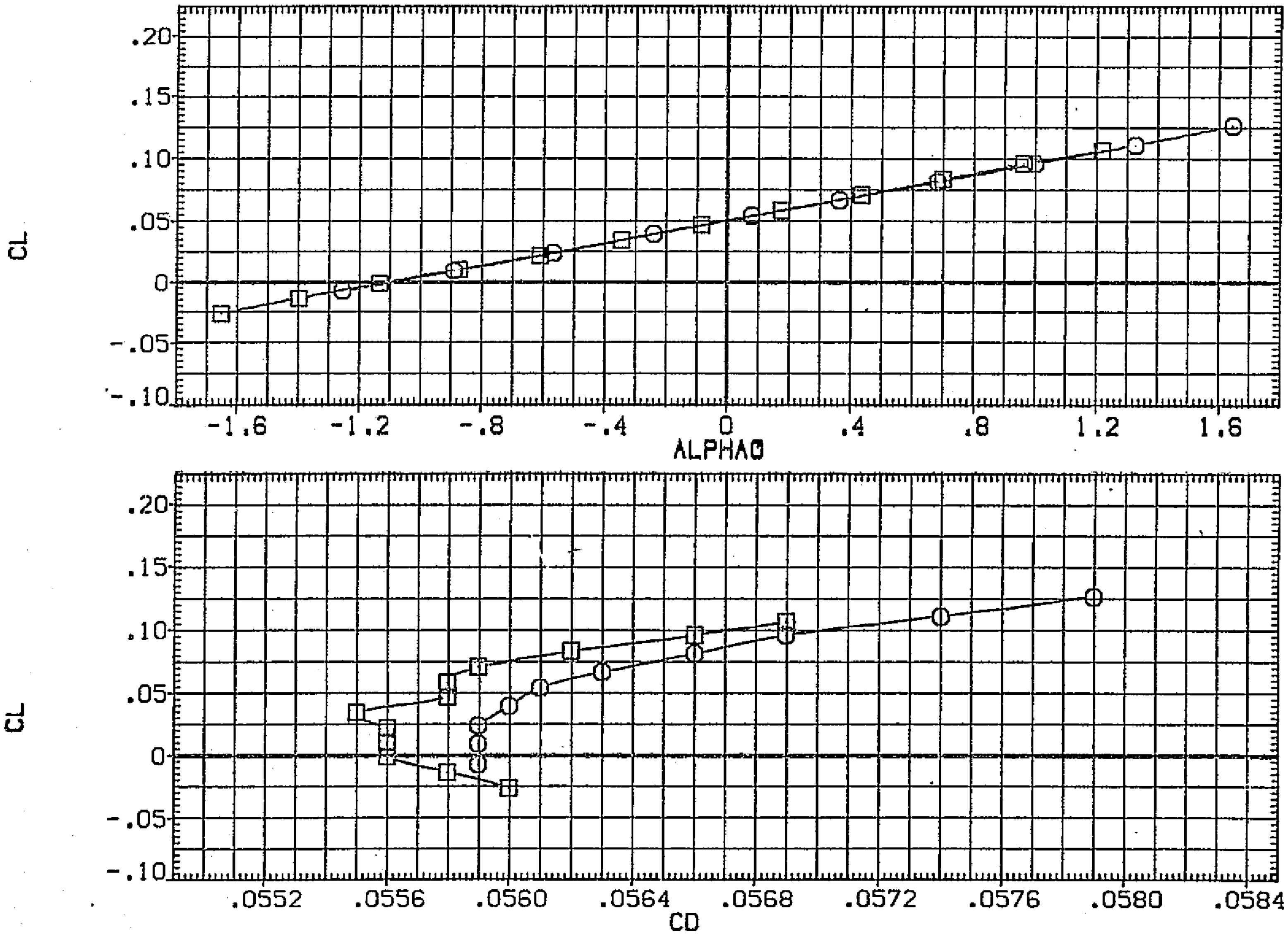



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(B)MACH = .50

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

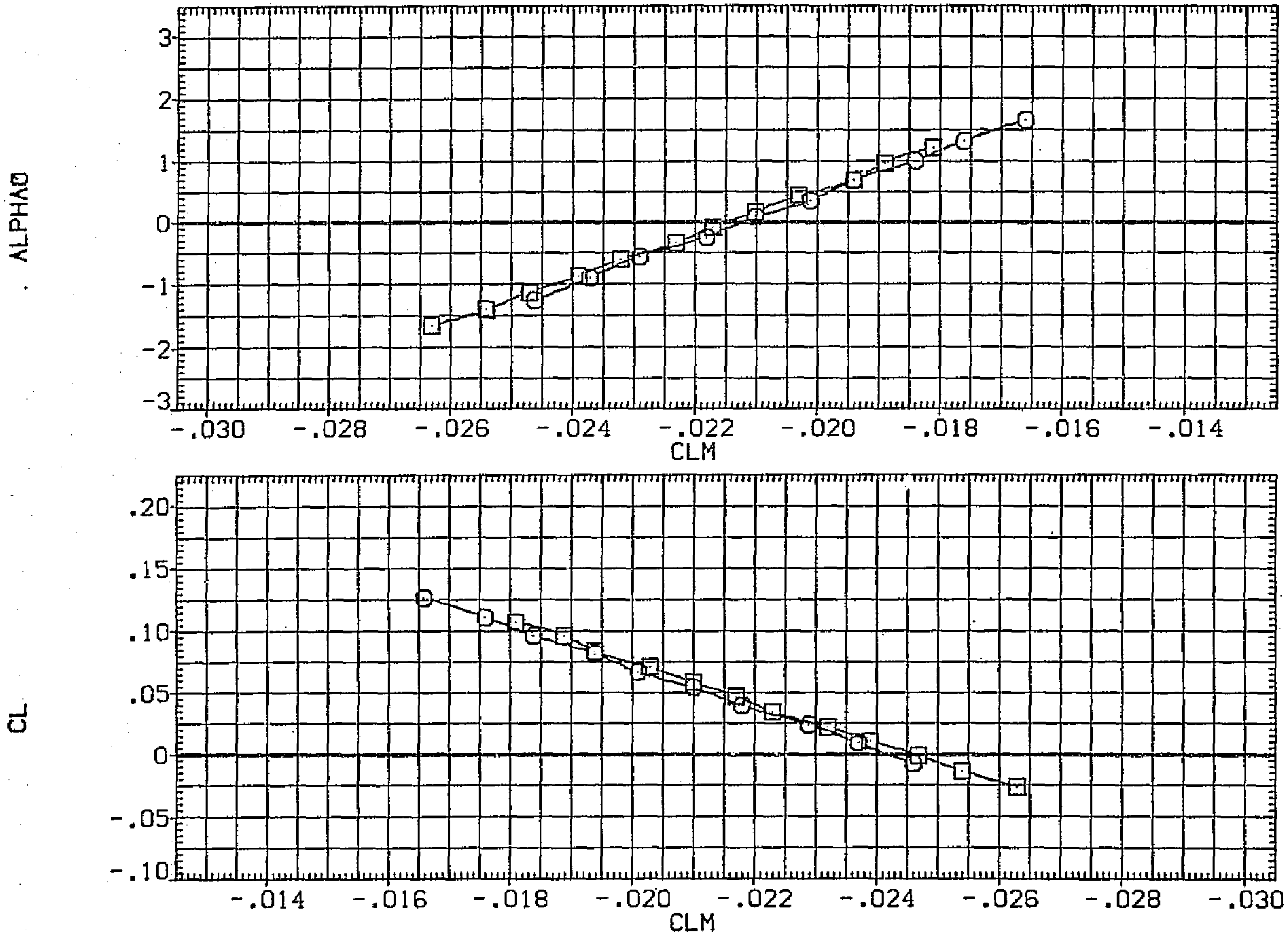



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

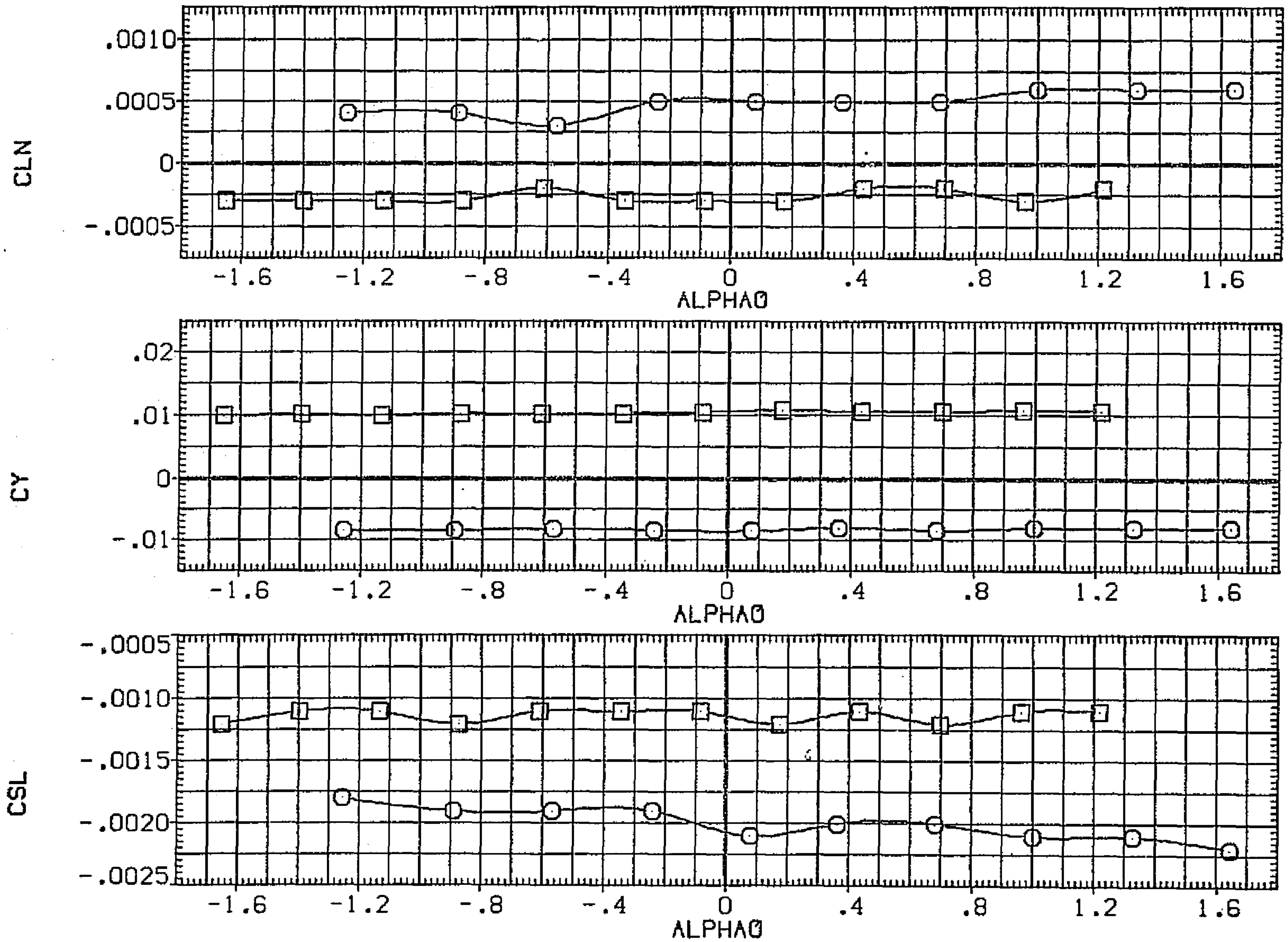



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

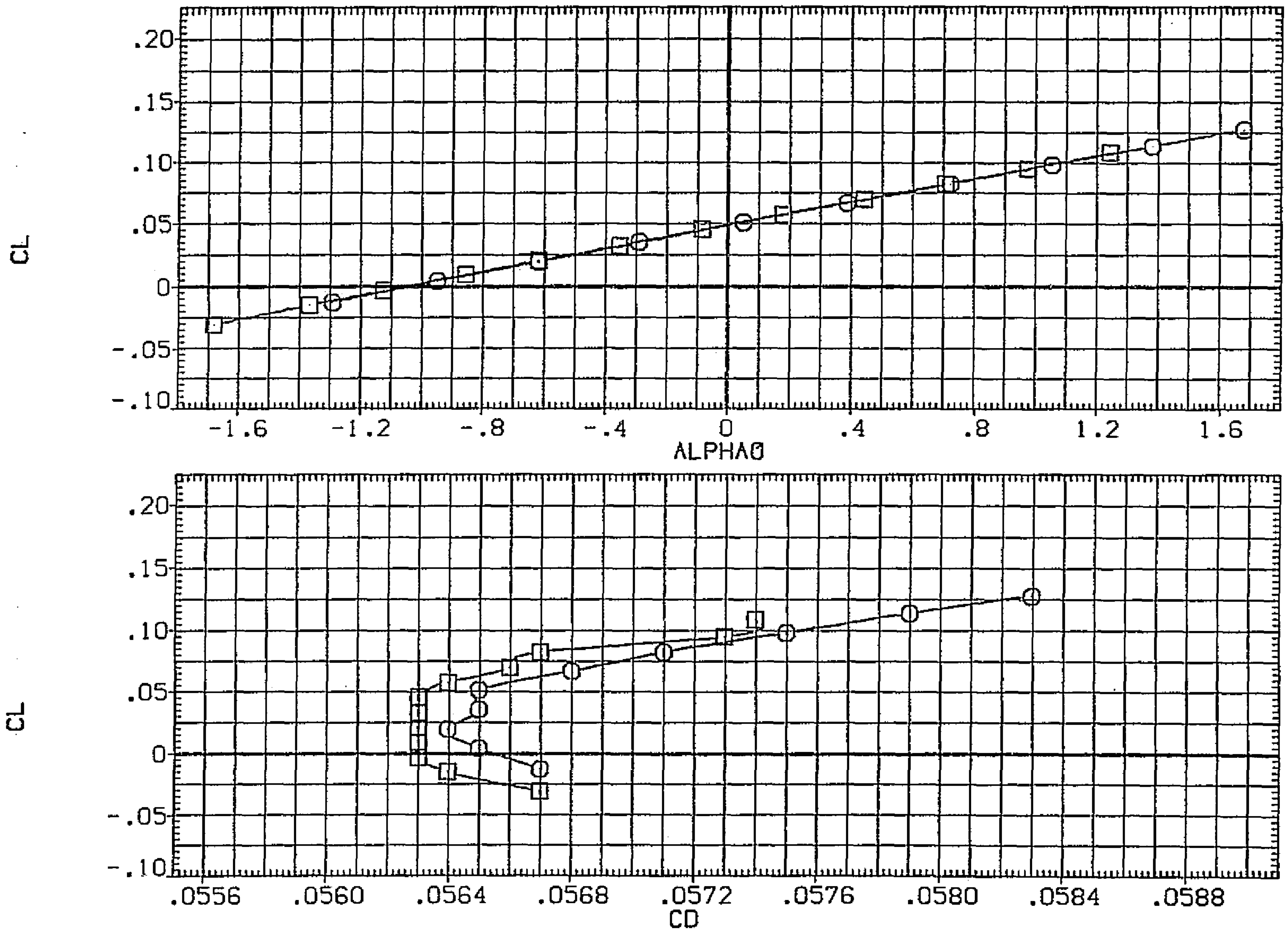



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

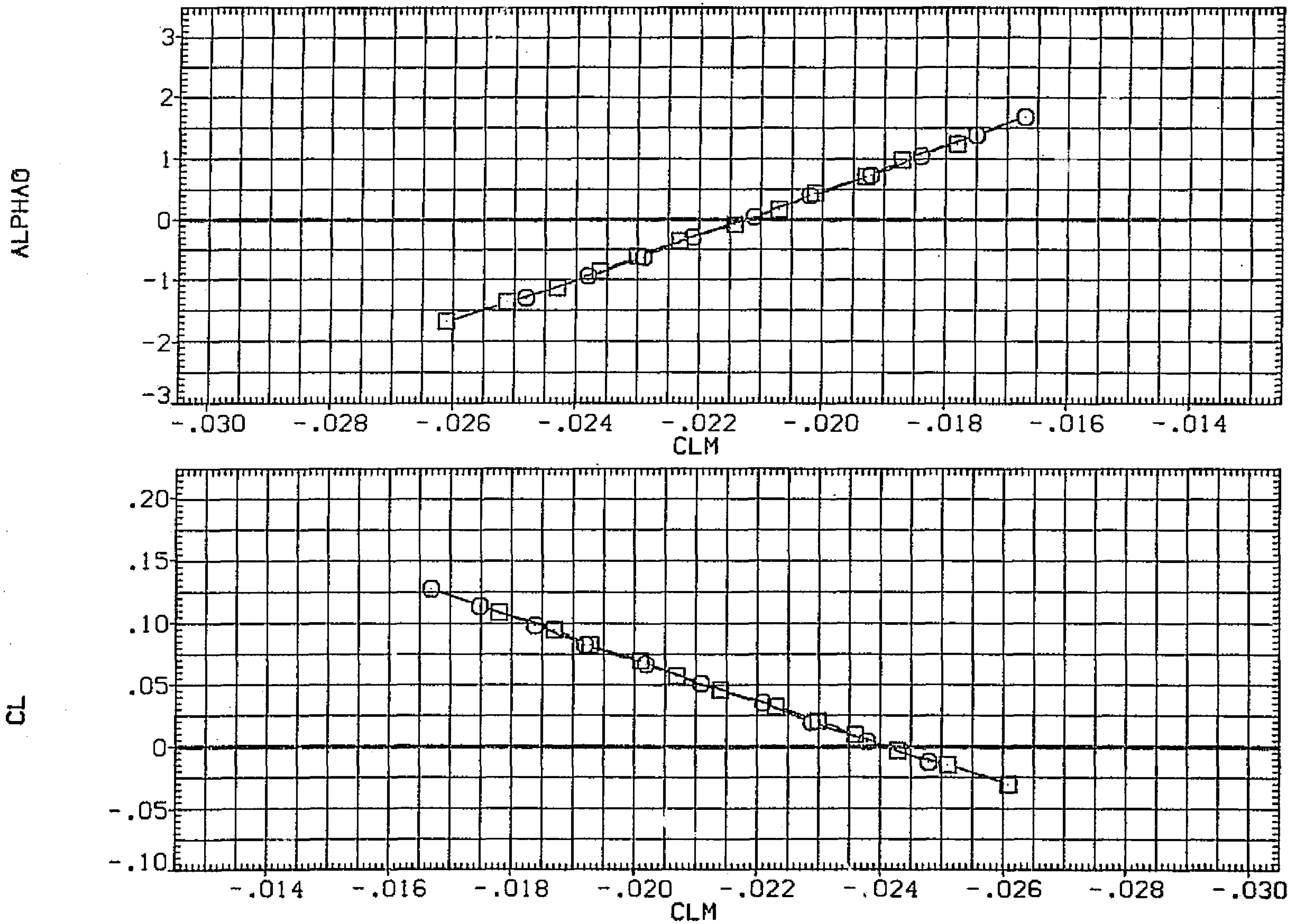



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

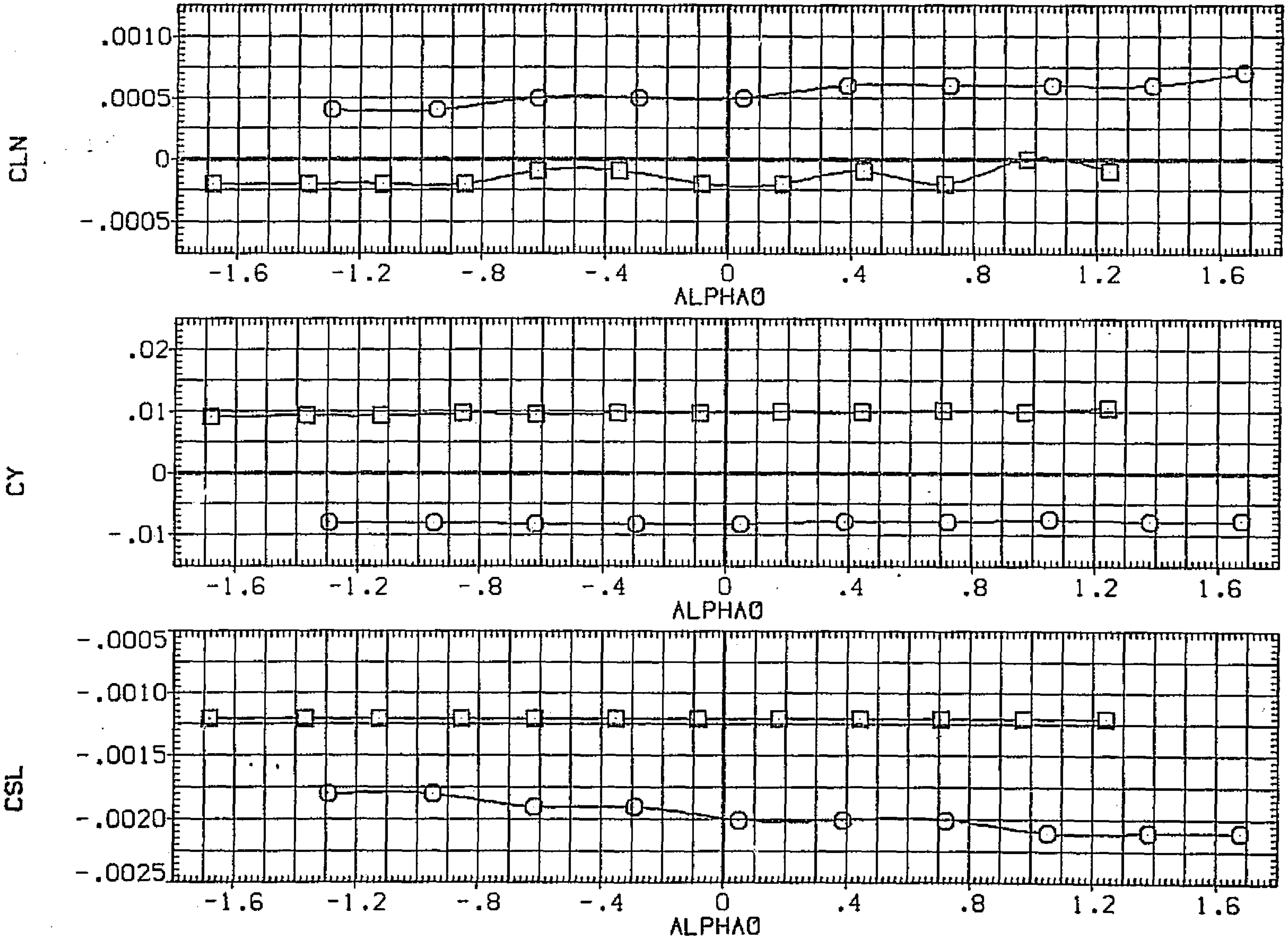



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
| --- | --- | --- | --- | --- | --- | --- | --- |
| (AGP009) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

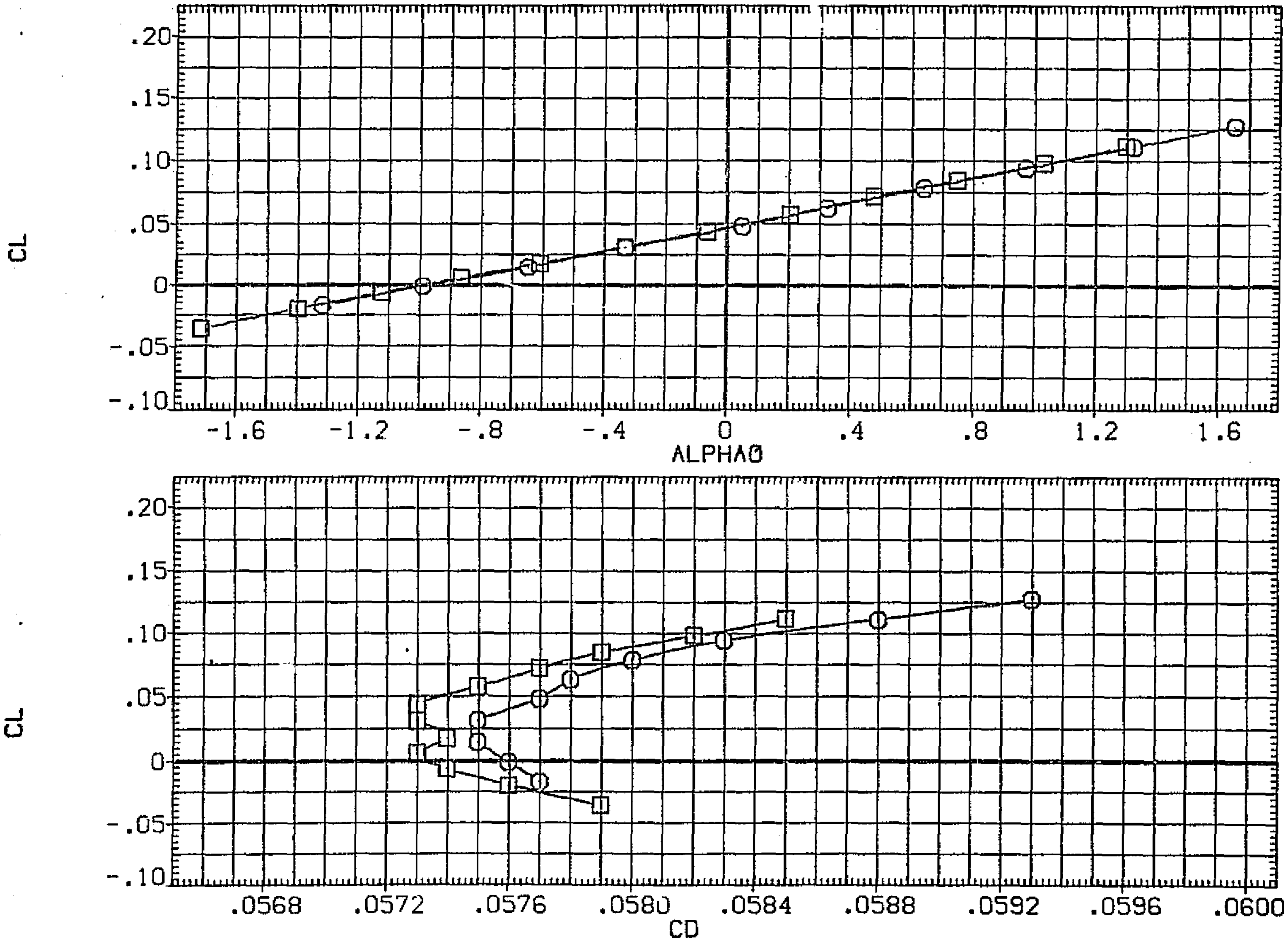



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

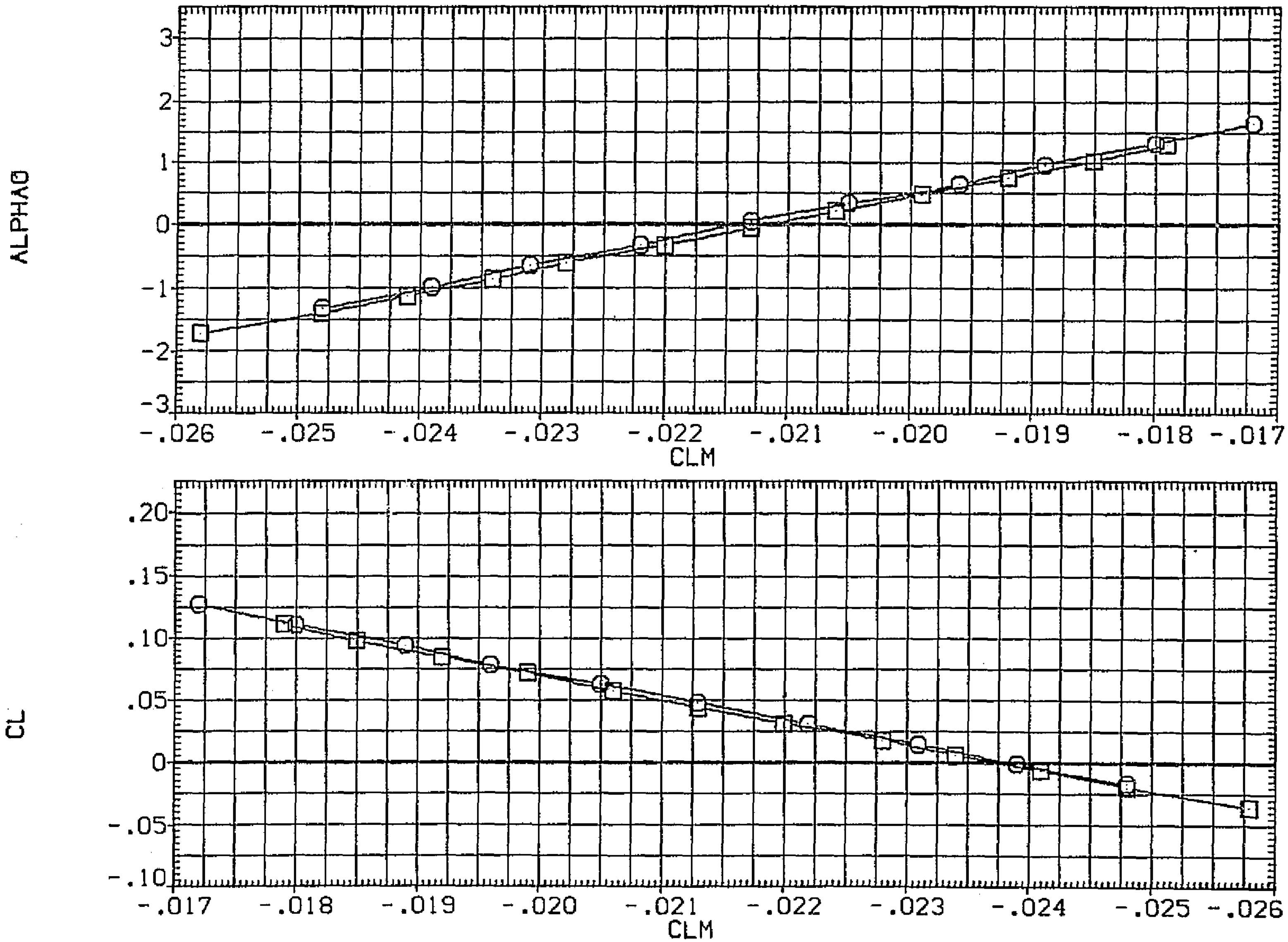



FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP009) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP007) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

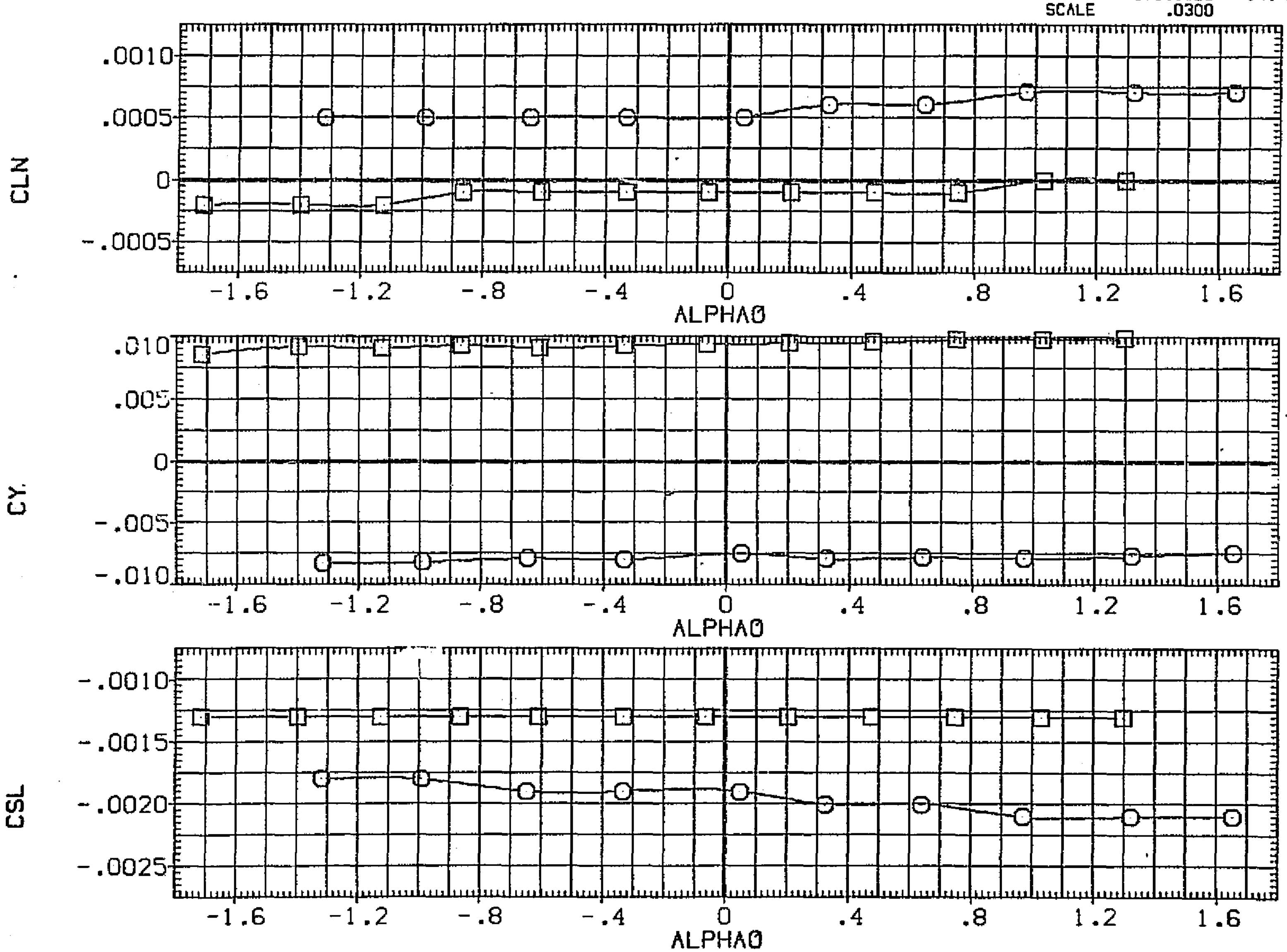


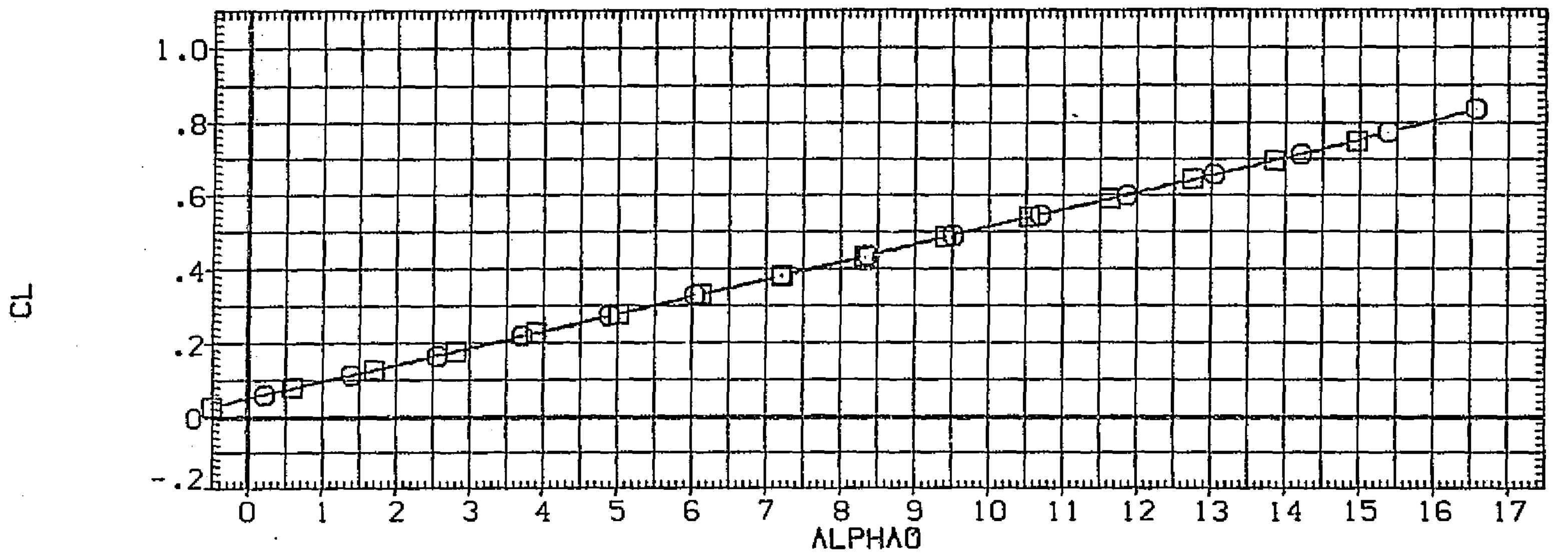

FIG. 9 ORBITER ALONE, UPFLOW CORRECTION, WING AT 57 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |



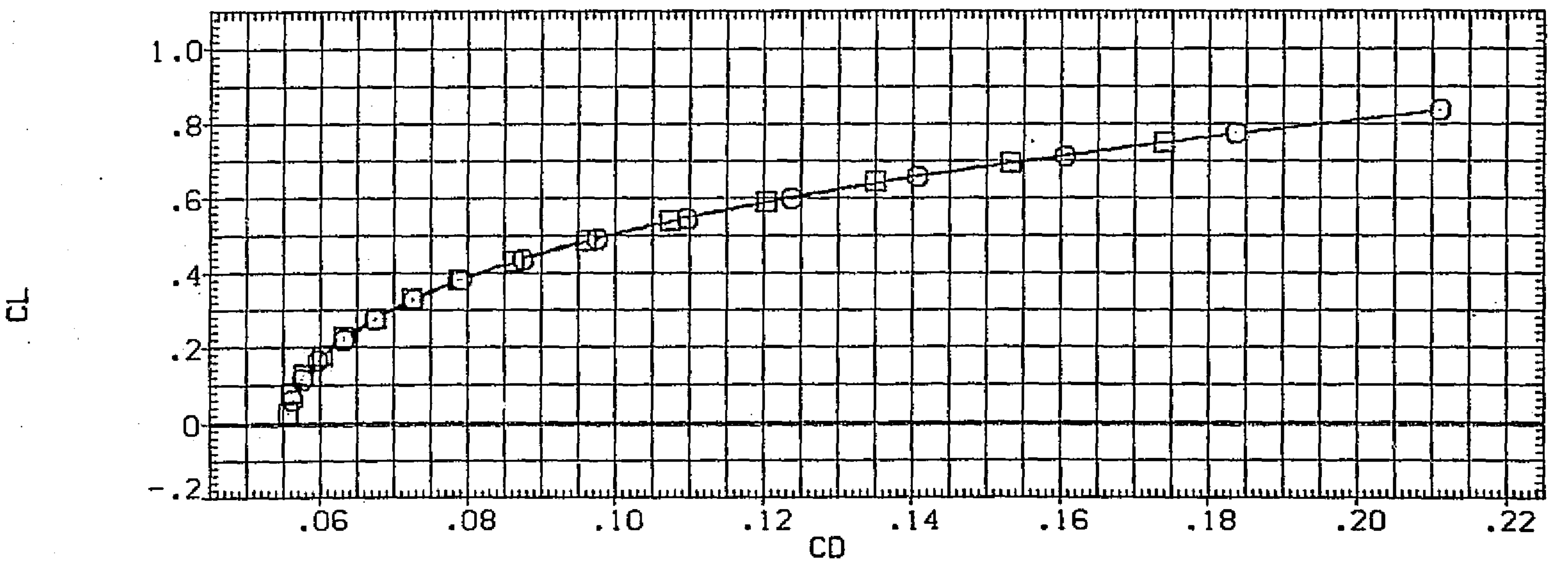




FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | UNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

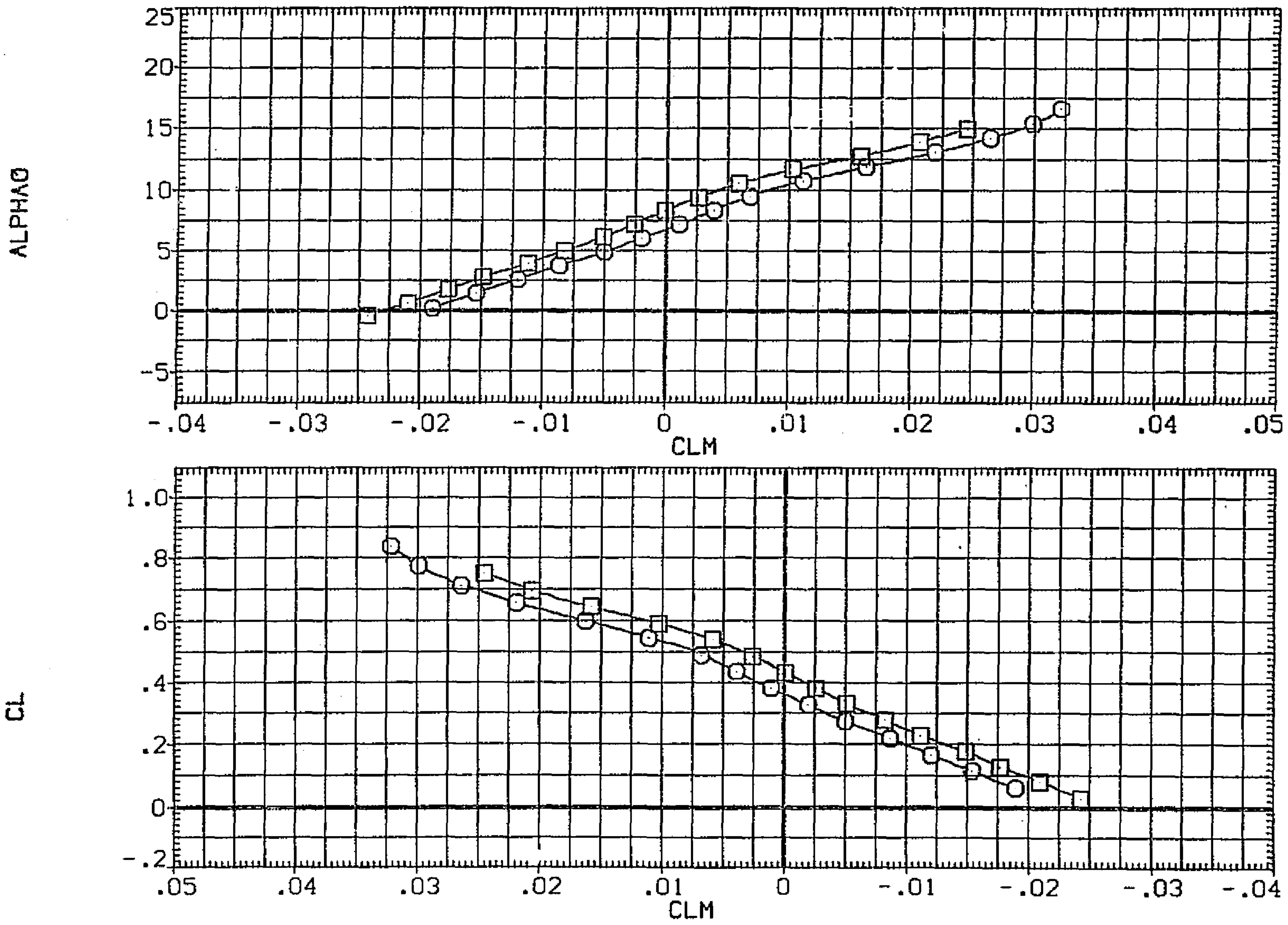



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

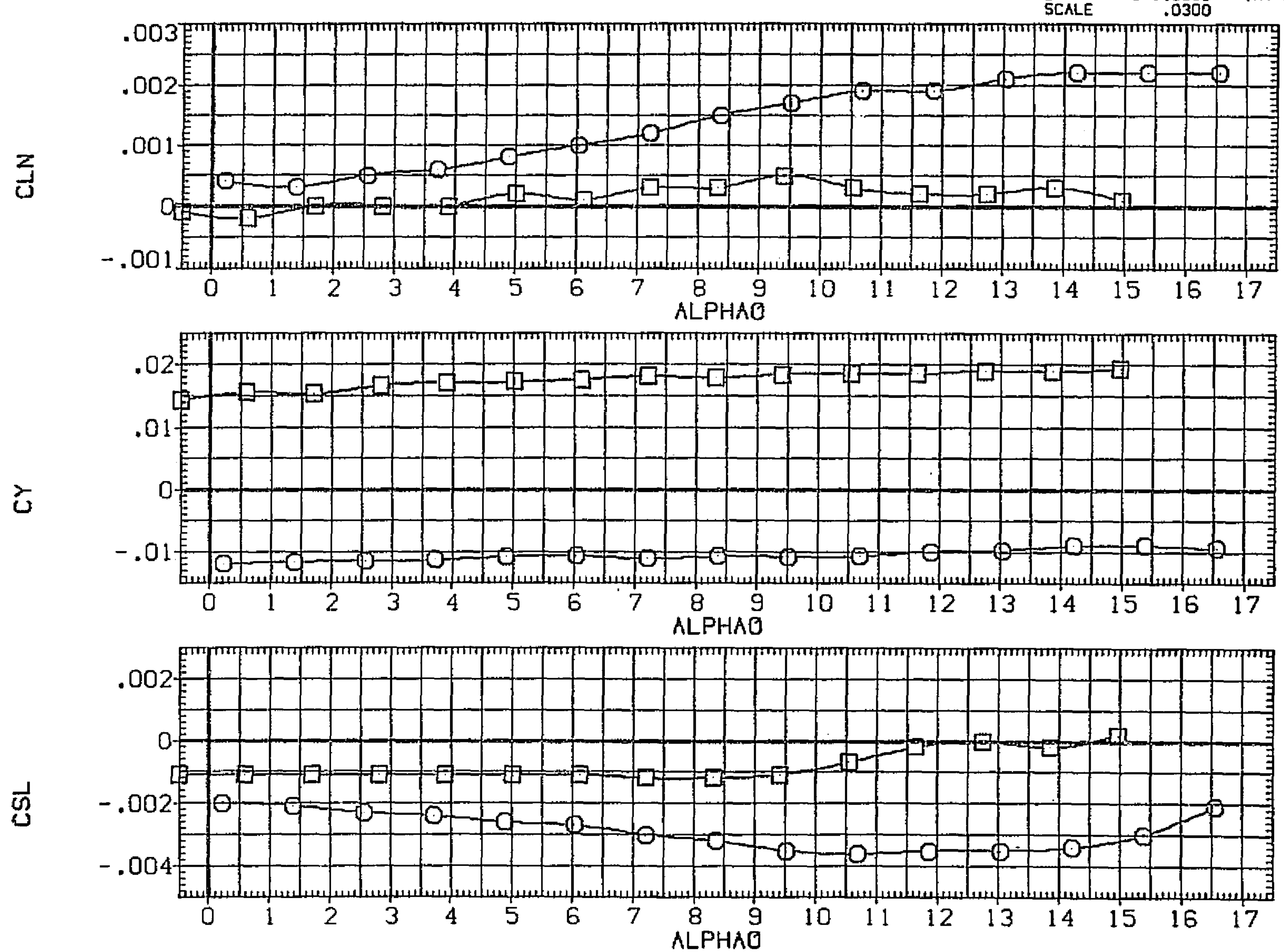



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

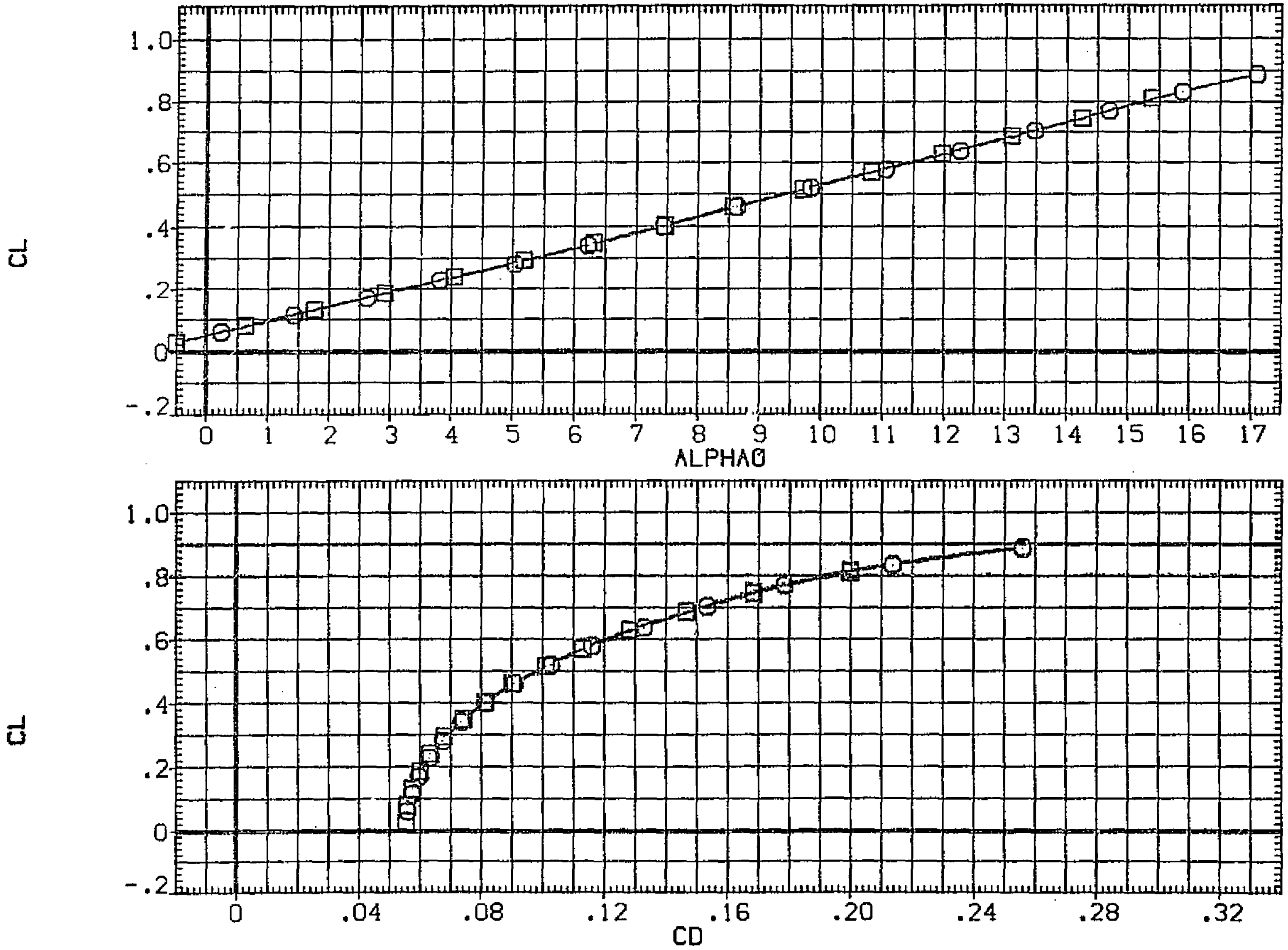



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

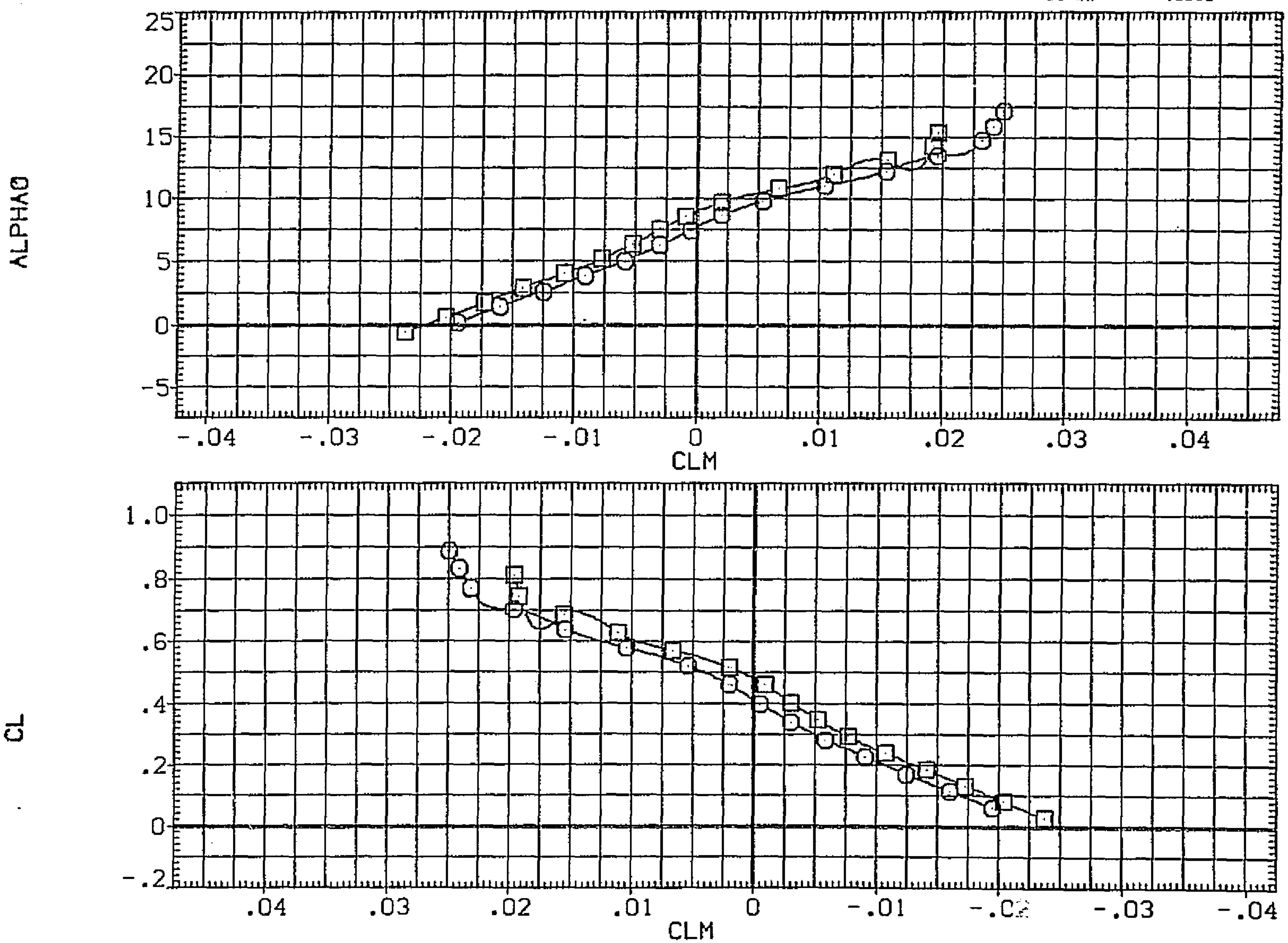



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES
(B)MACH = .50

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

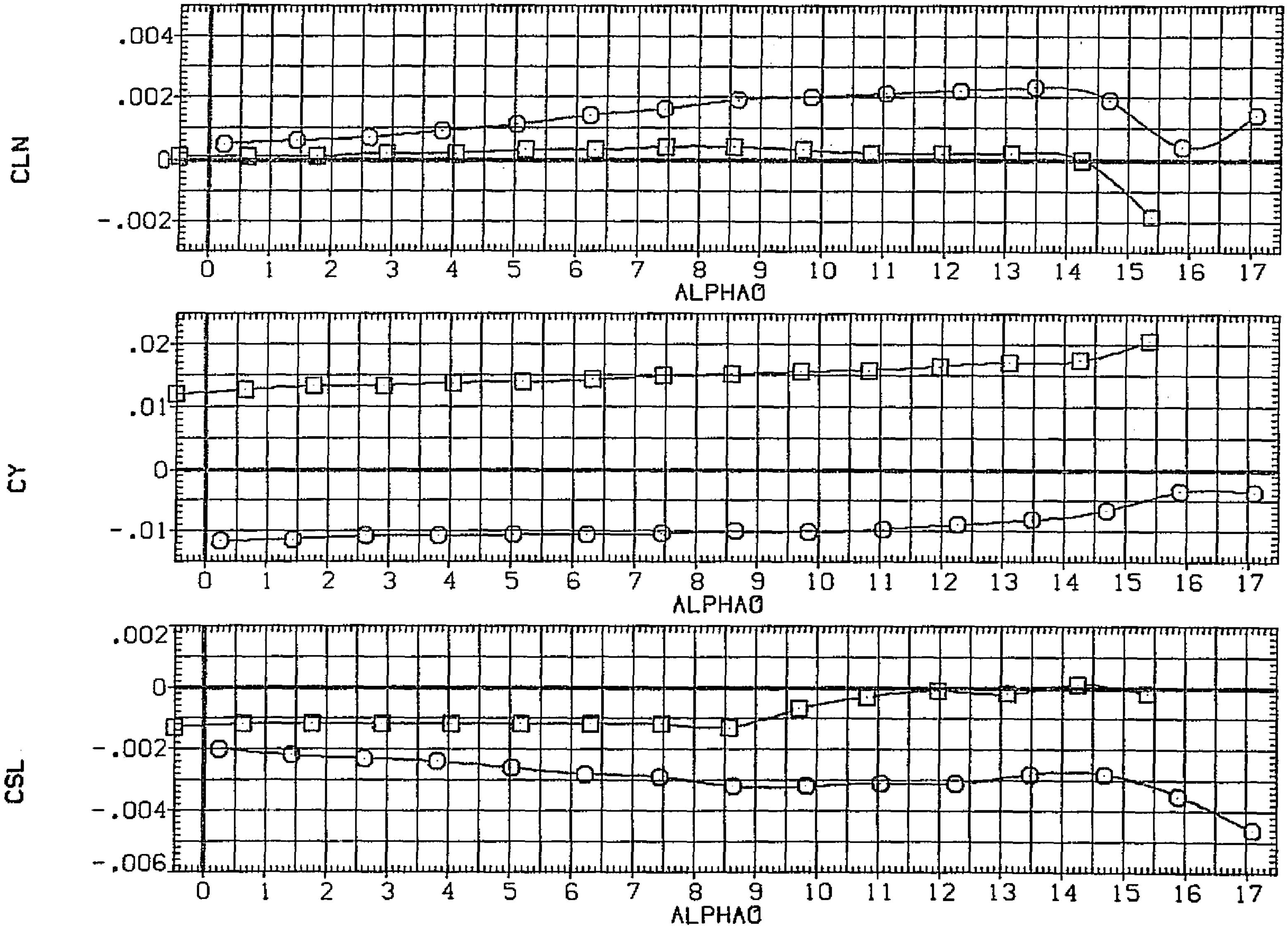



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

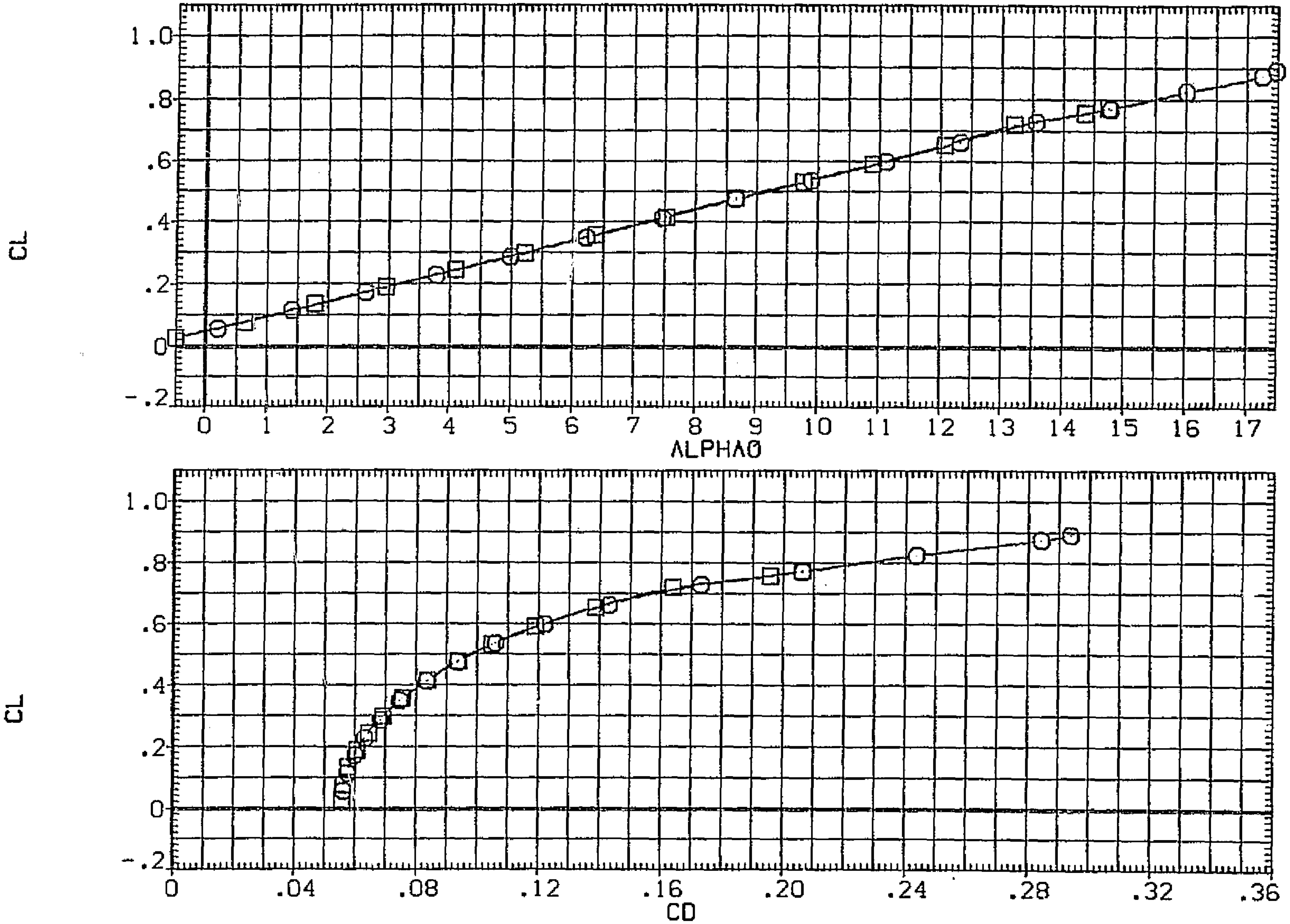



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES
(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

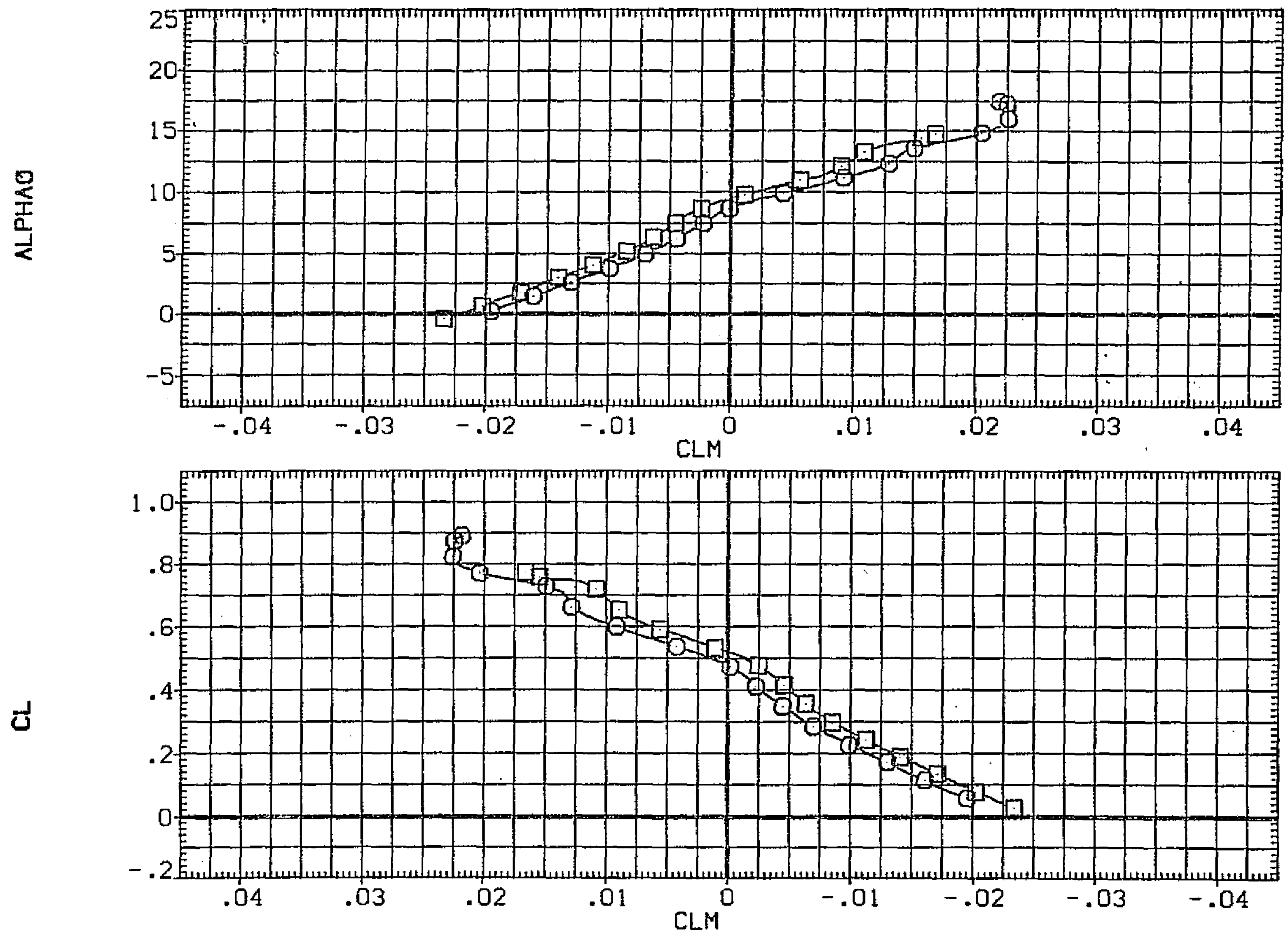



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

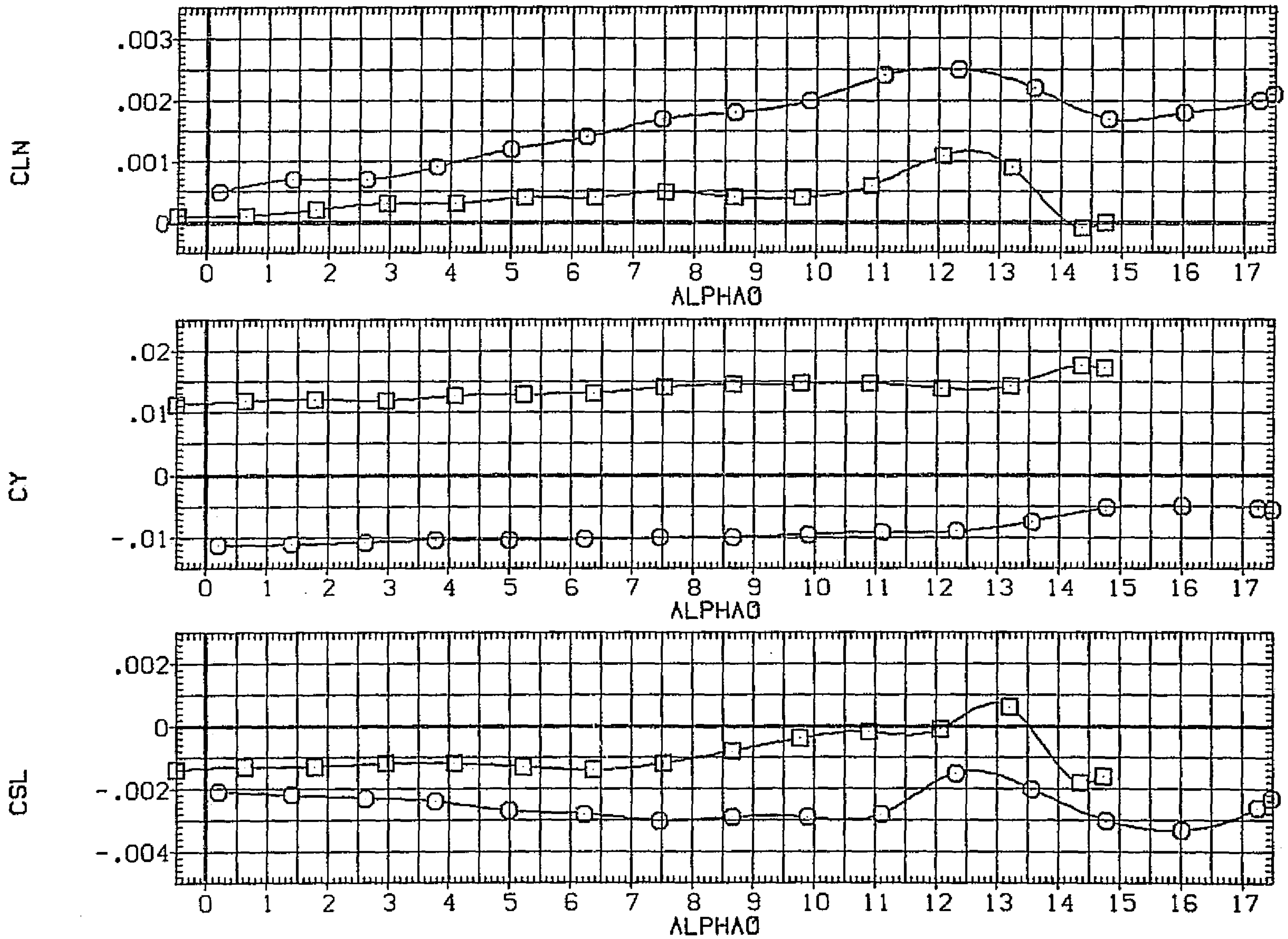



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

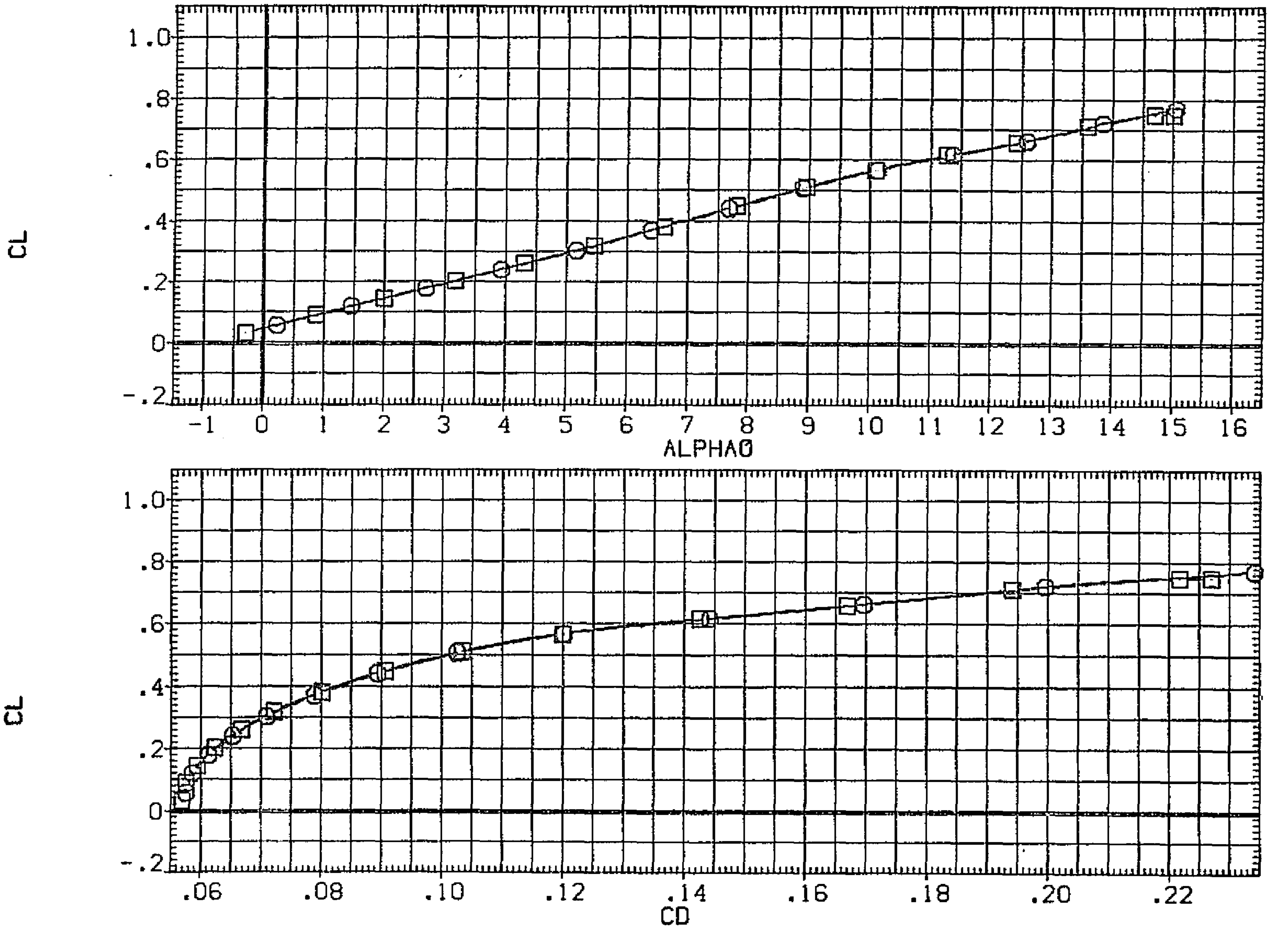



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

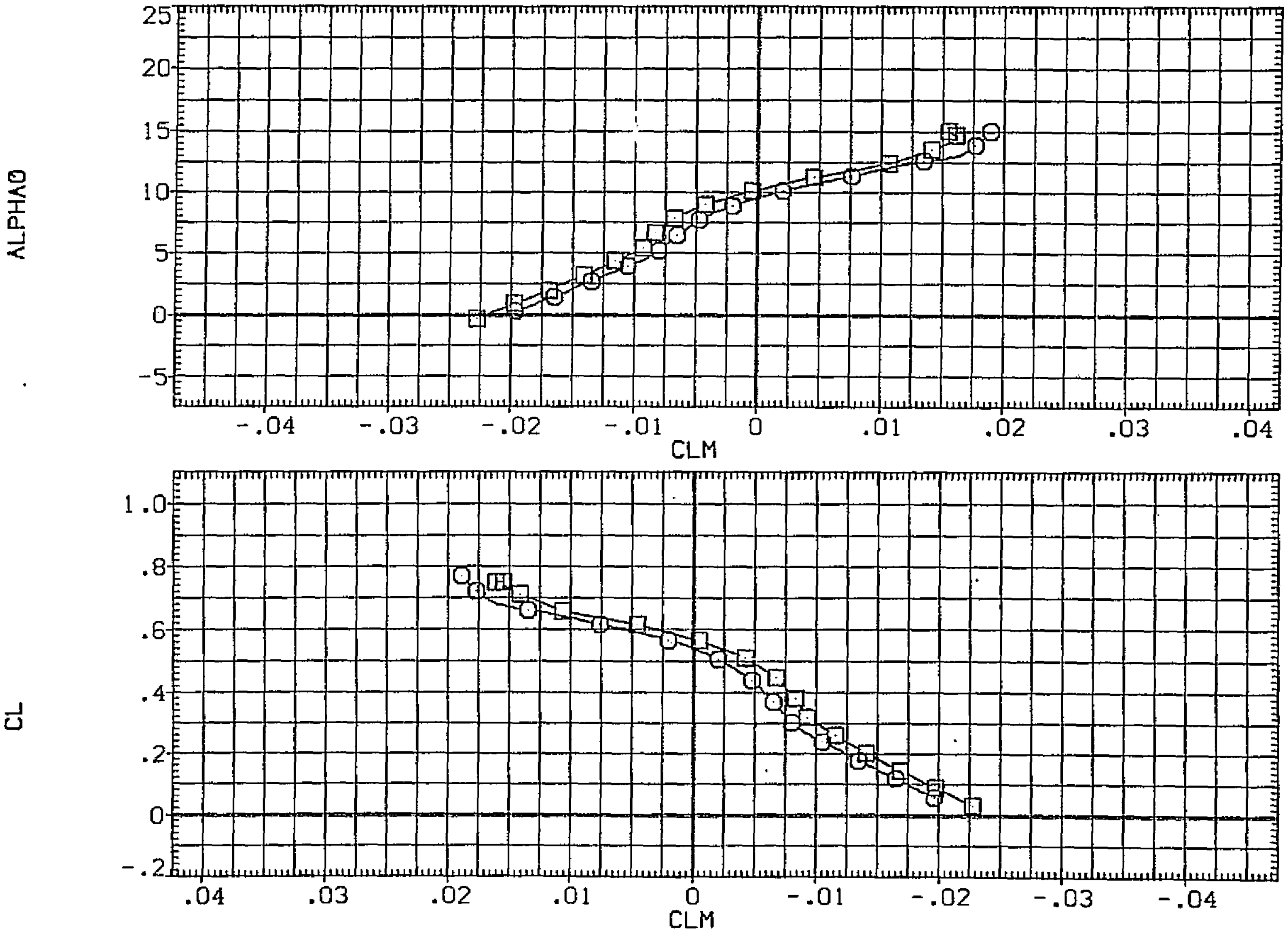



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES
(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP002) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |
| (AGP005) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

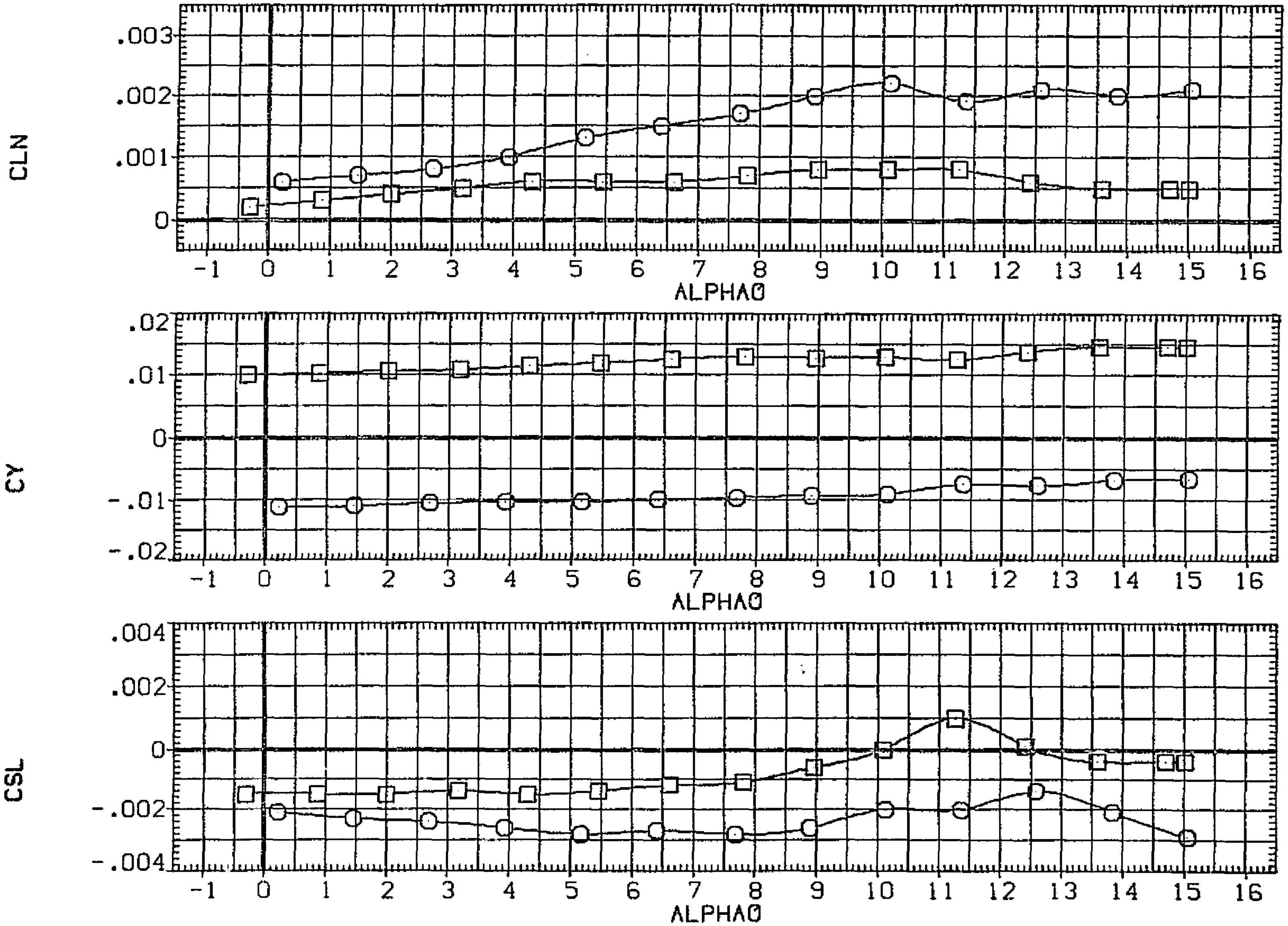



FIG. 10 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 48 INCHES

(D)MACH = .70

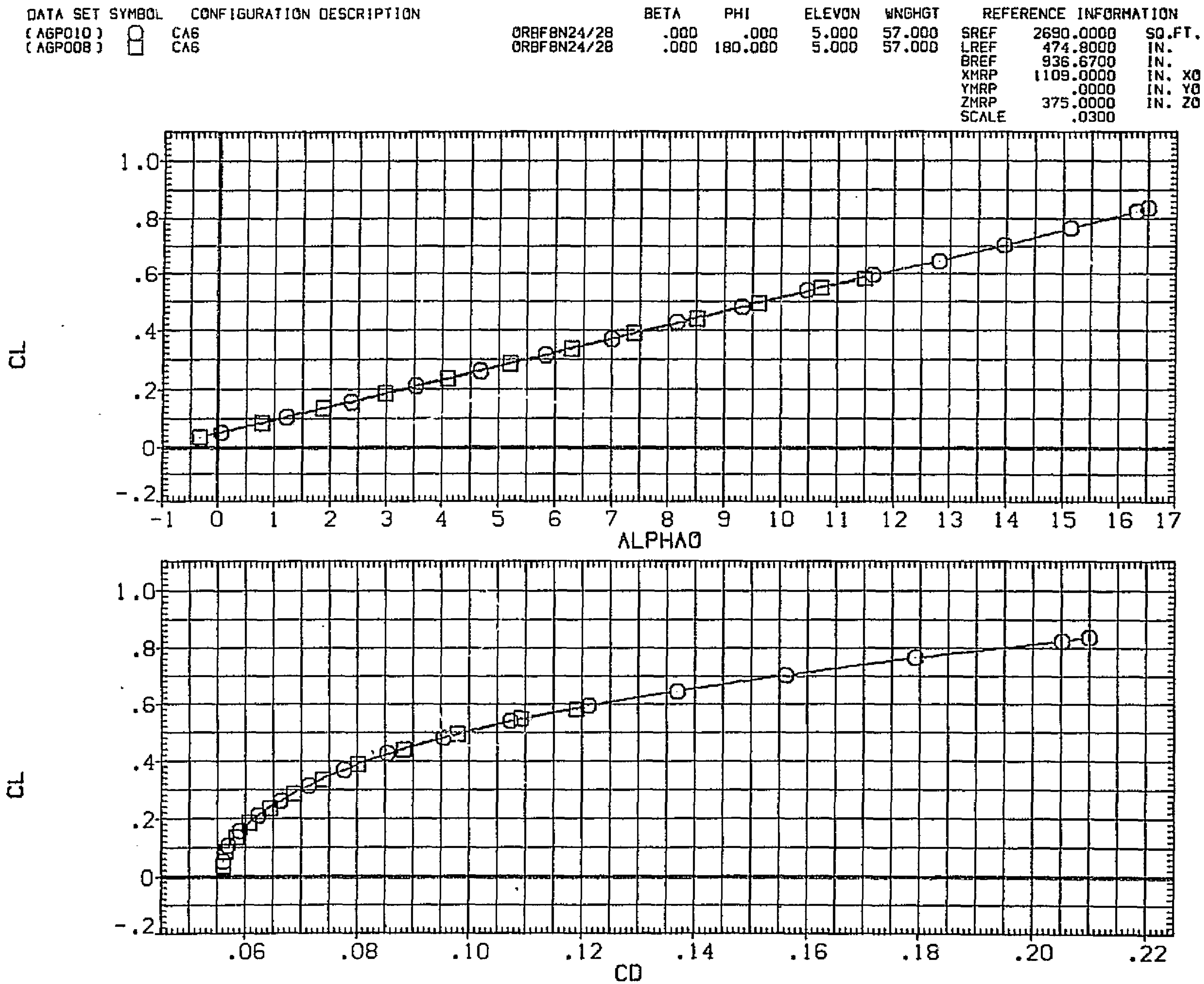



FIG. 11 MØDEL UPRIGHT AND INVERTED, ØRBITER ALØNE, WING AT 57 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

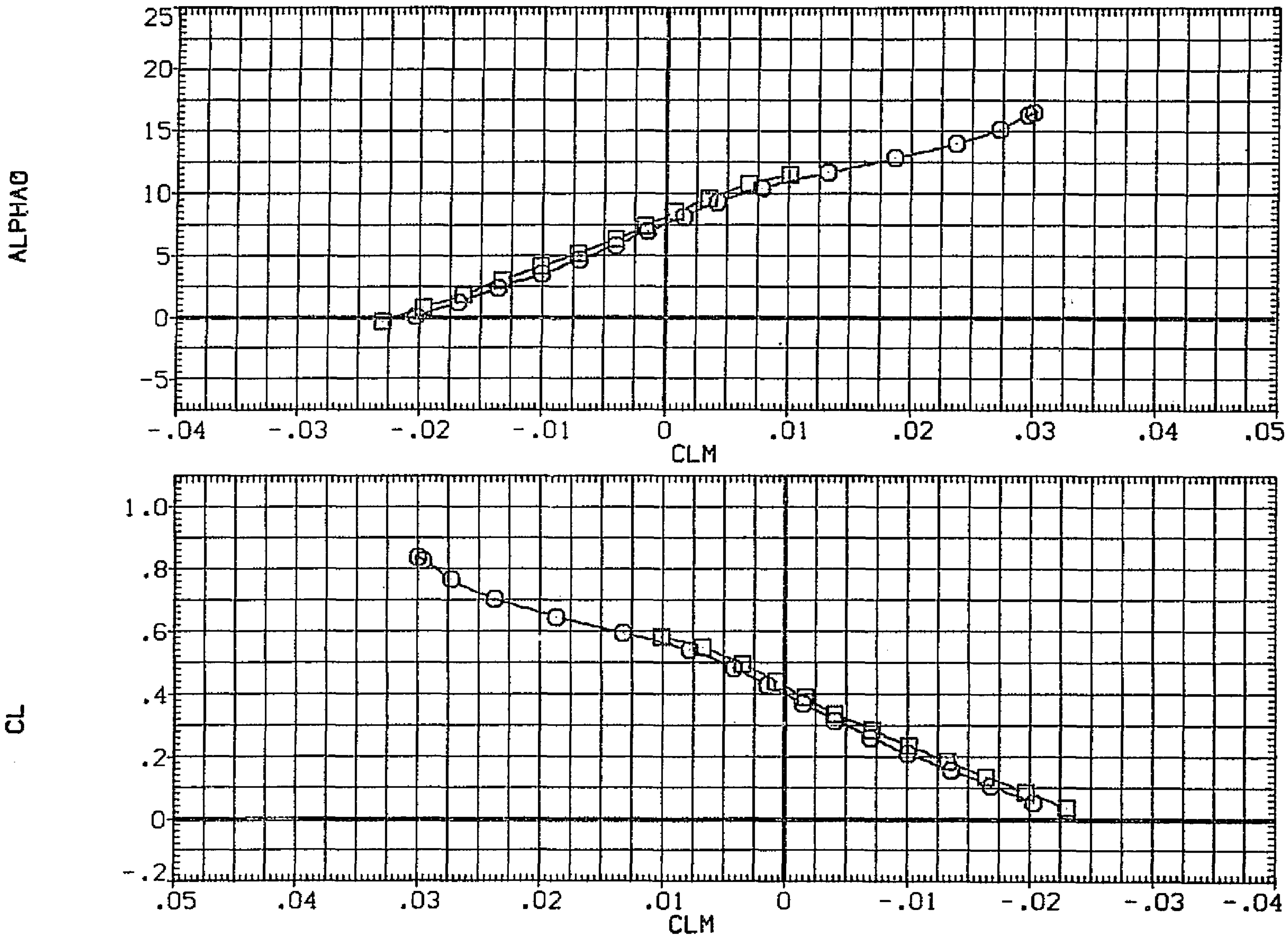



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CAG | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CAG | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

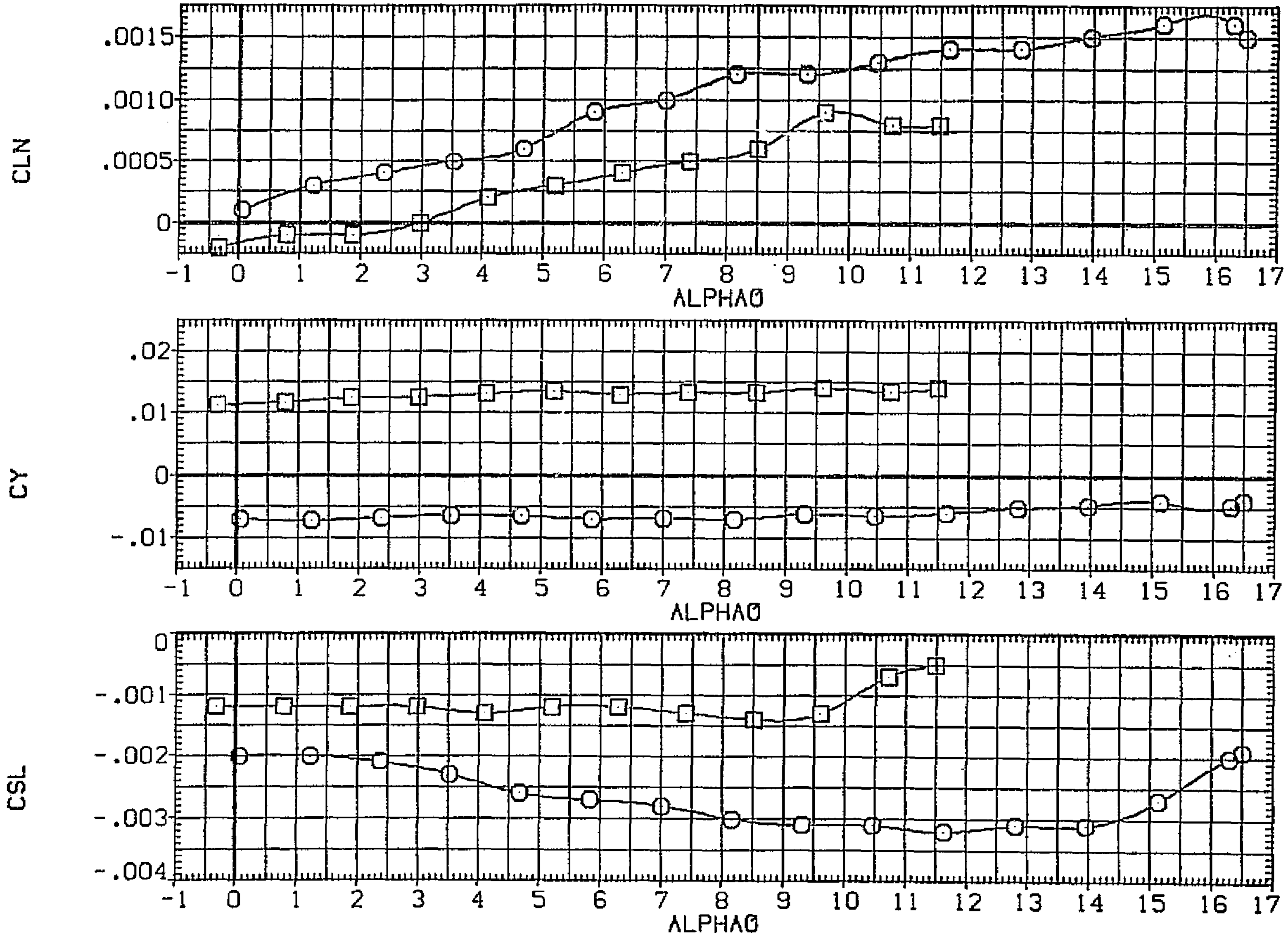


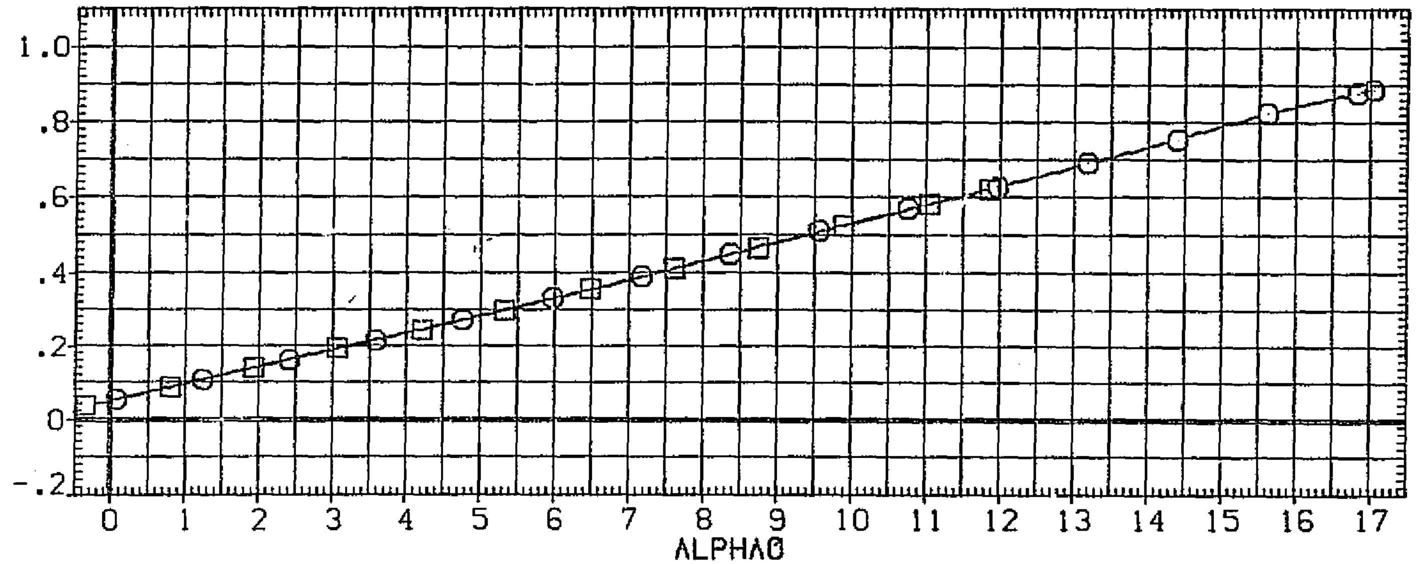

FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |



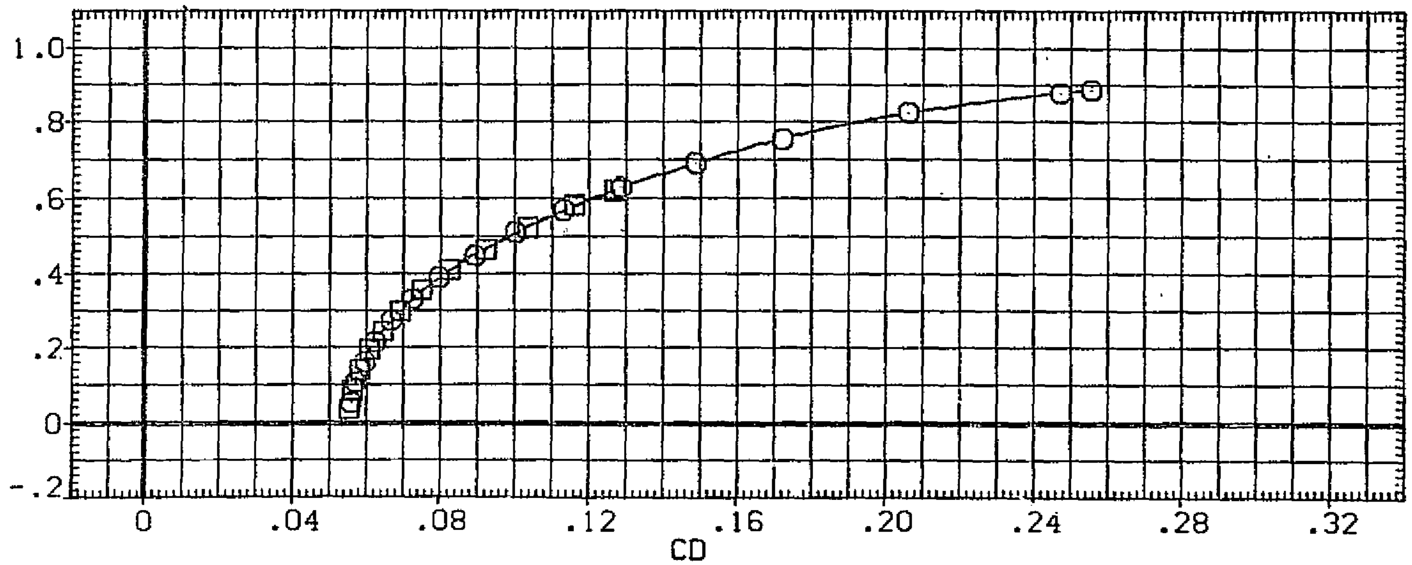




FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

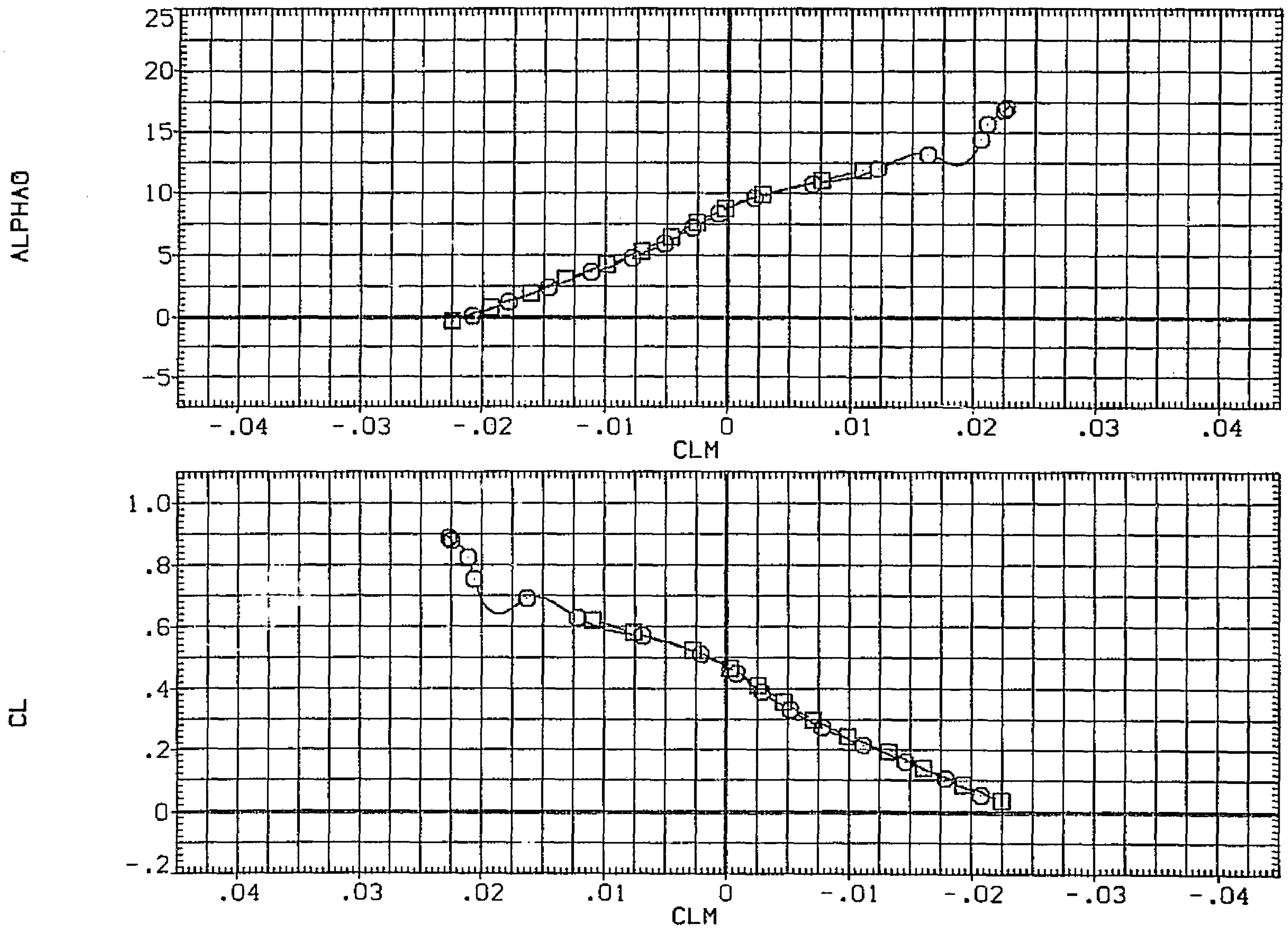



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | UNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

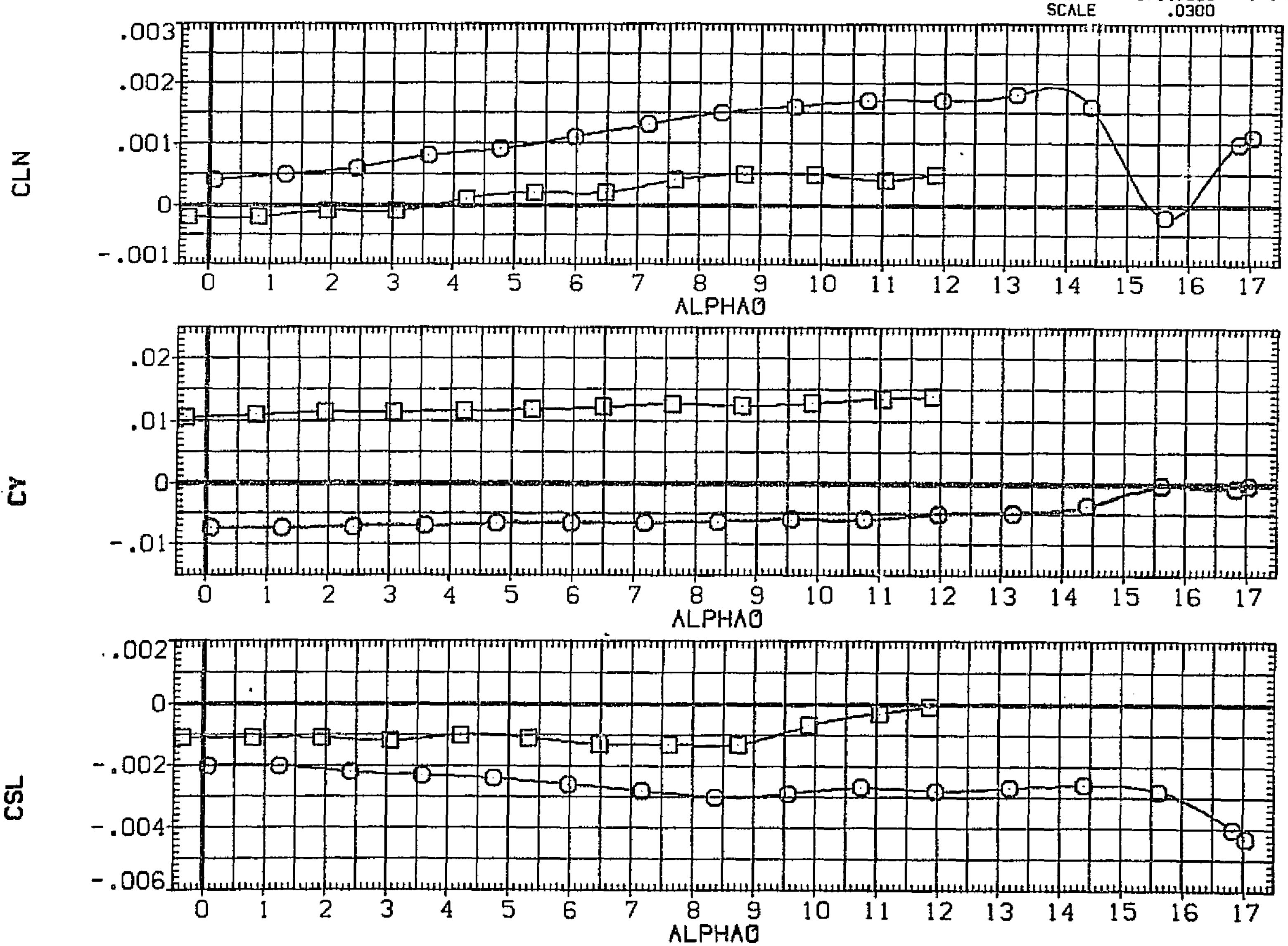



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

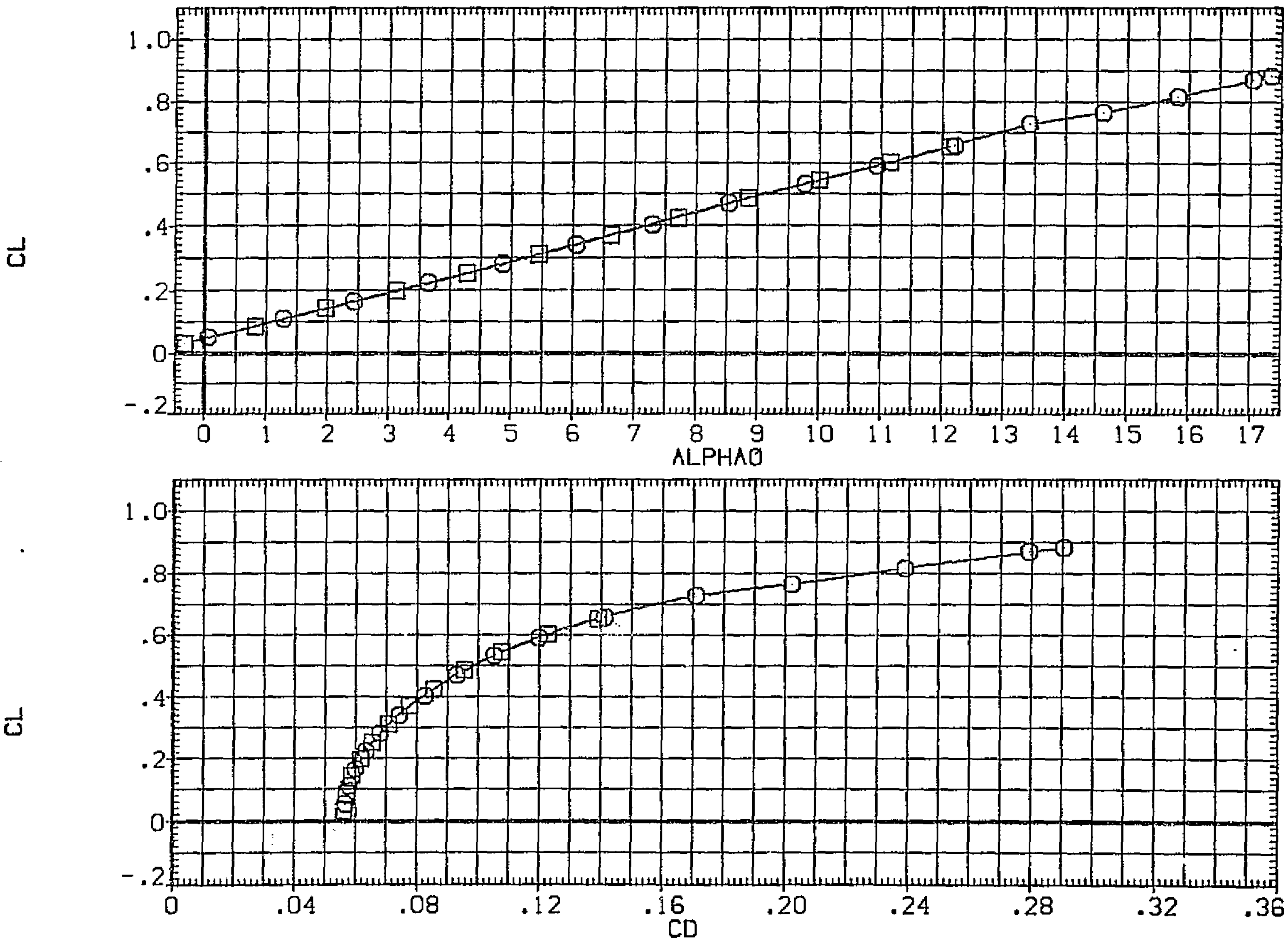



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

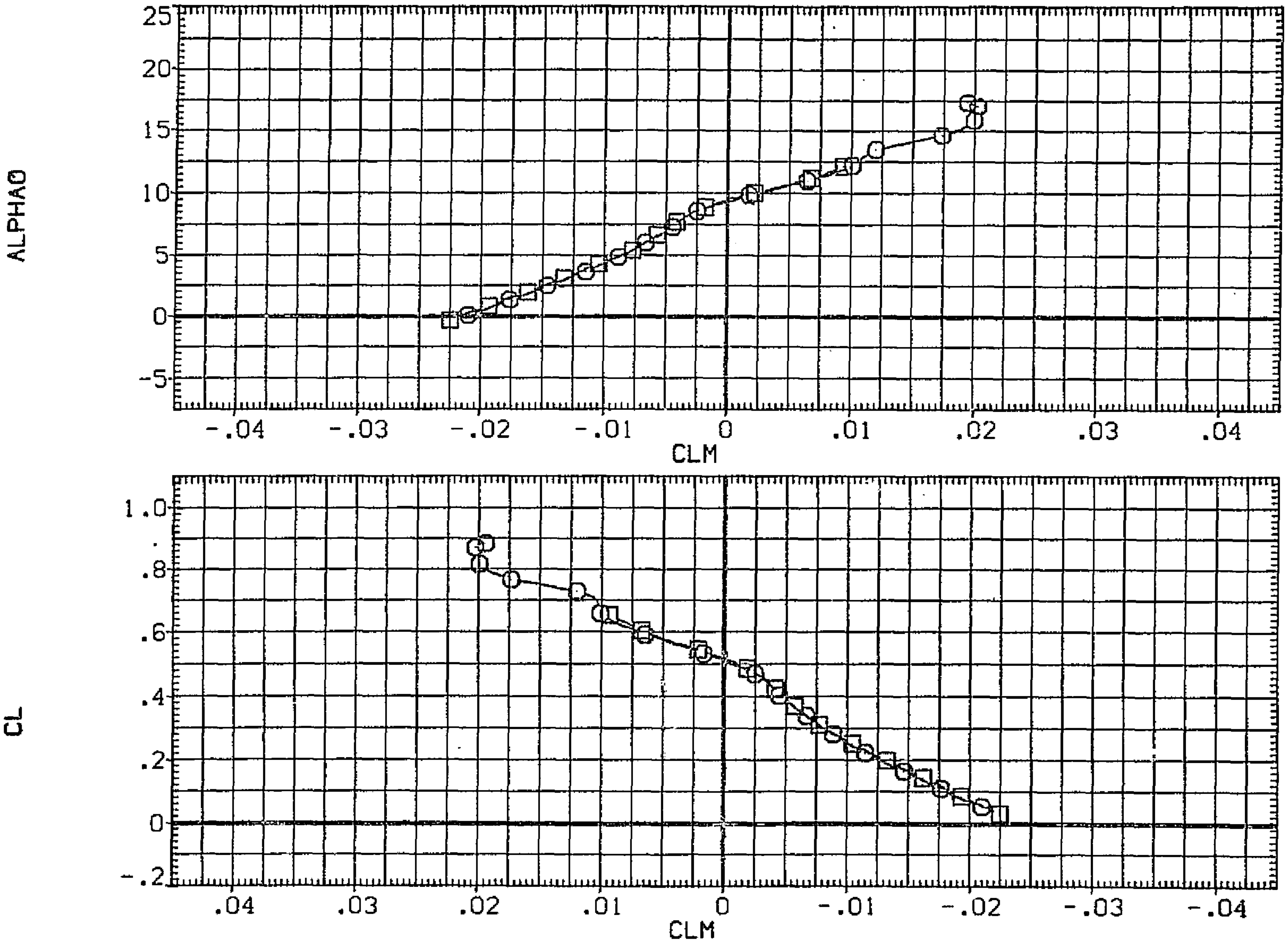



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

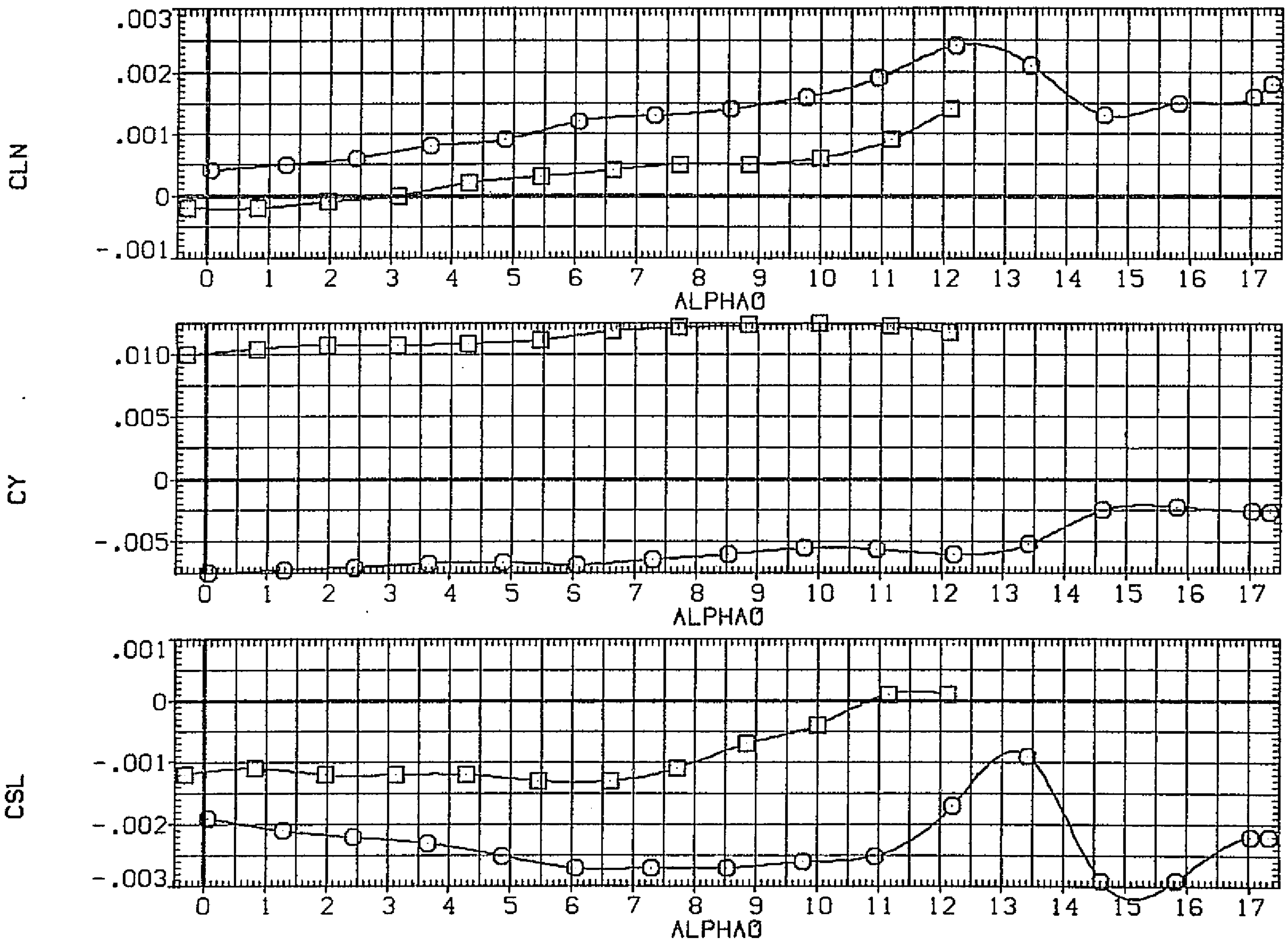



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

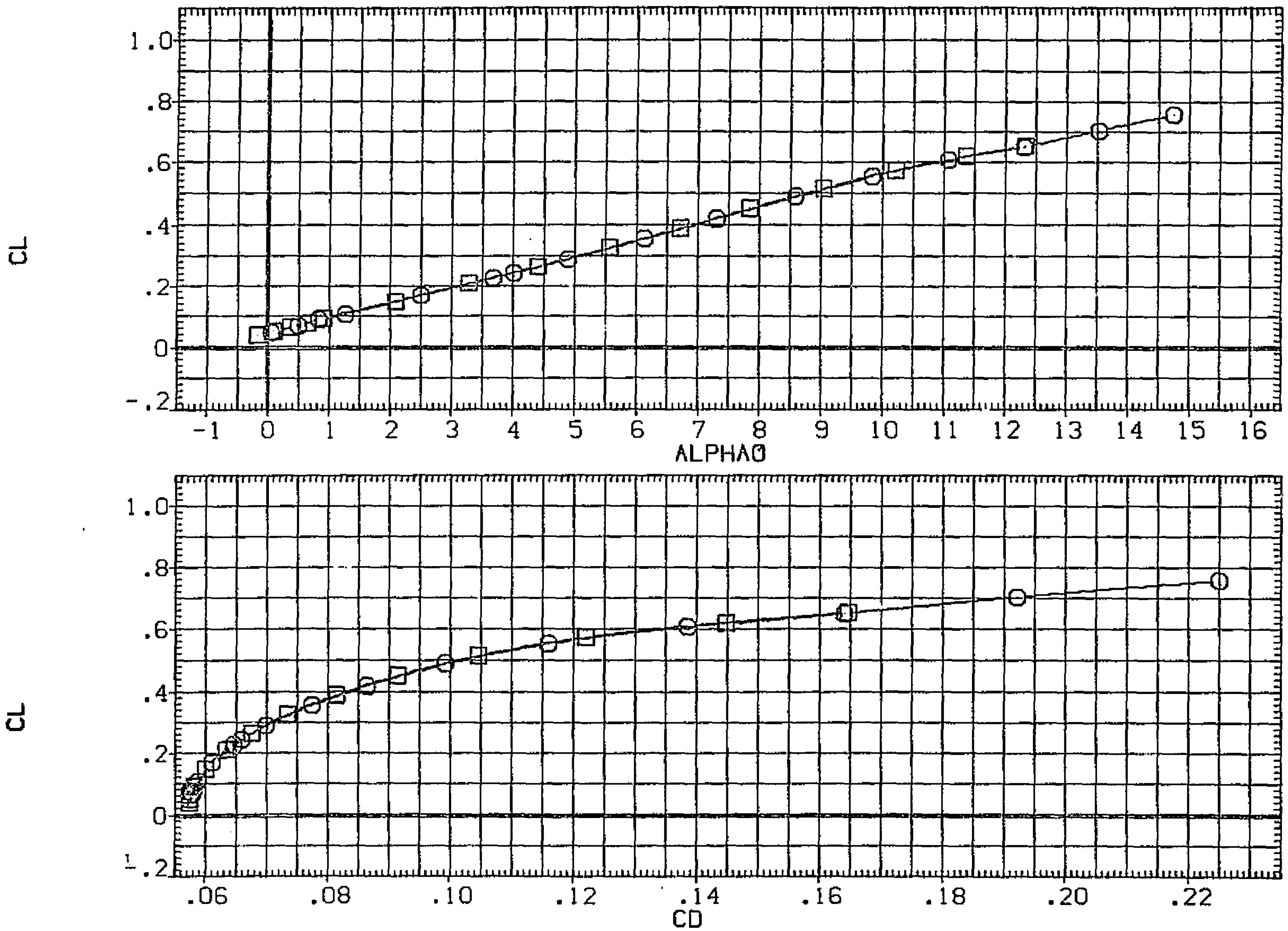



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP008) | □ | CA6 | ORBF8N24/28 | .000 | 180.000 | 5.000 | 57.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

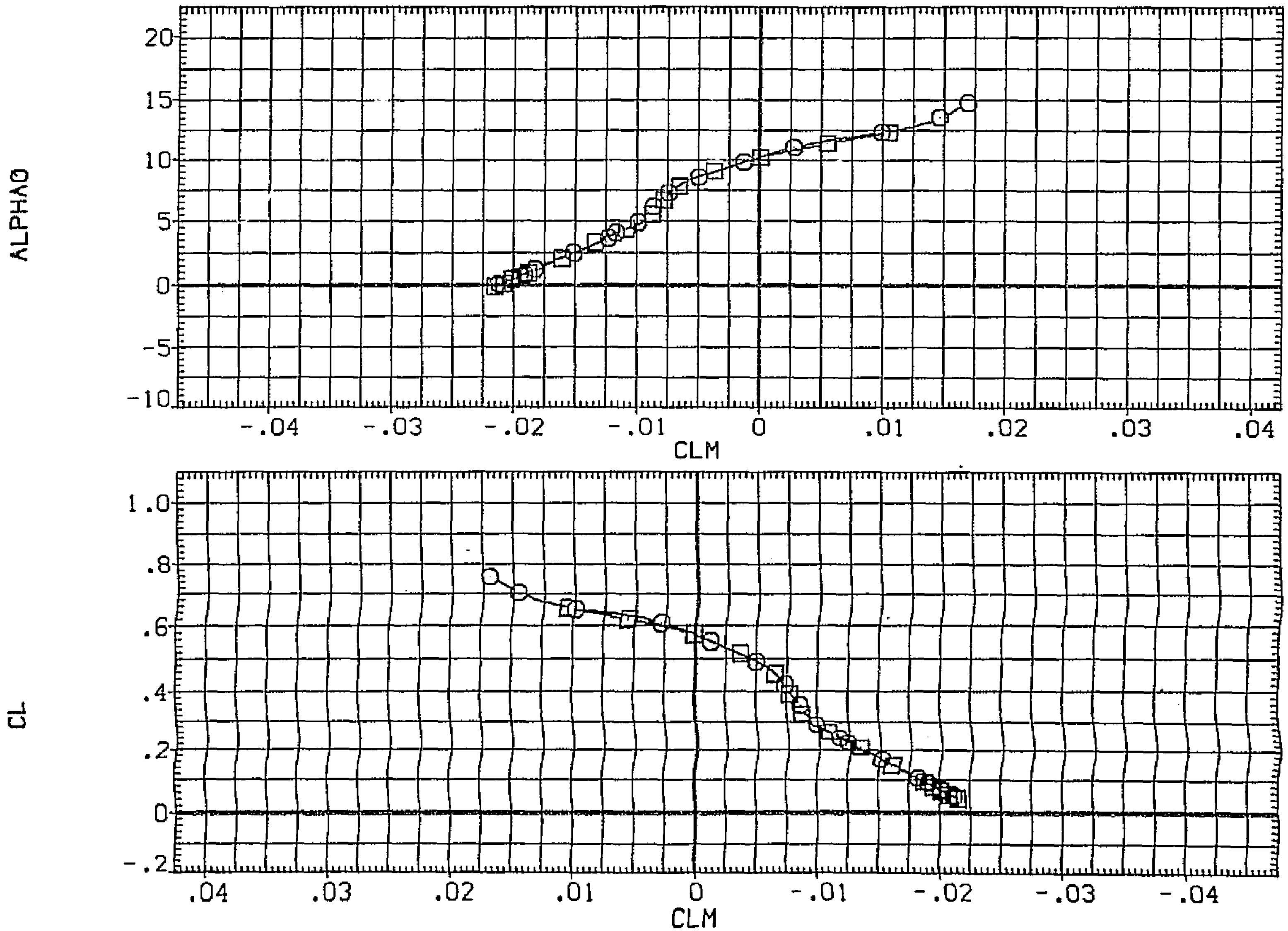



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| [AGP010] | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| [AGP008] | □ | CA6 | ORBFBN24/28 | .000 | 180.000 | 5.000 | 57.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

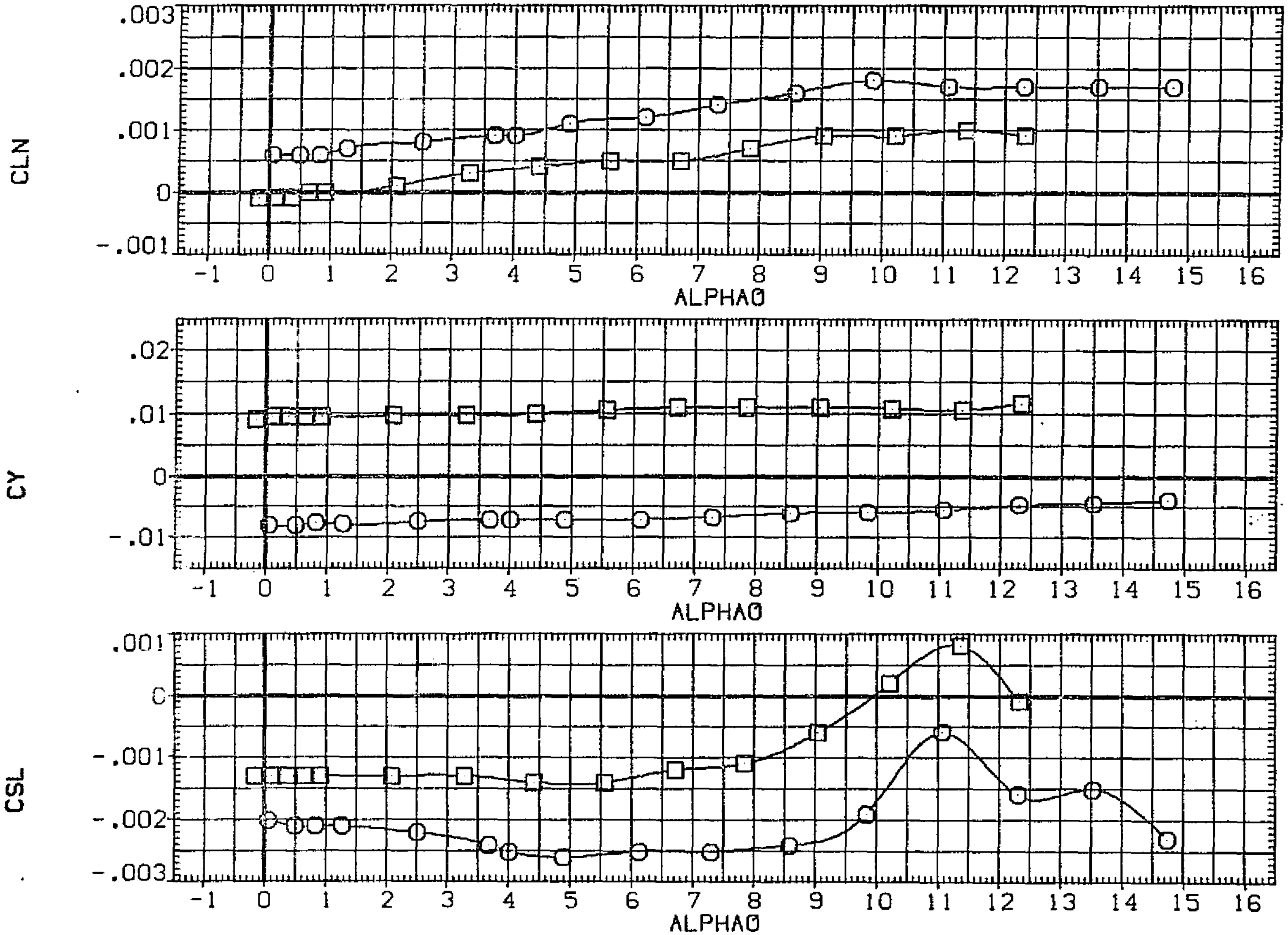



FIG. 11 MODEL UPRIGHT AND INVERTED, ORBITER ALONE, WING AT 57 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

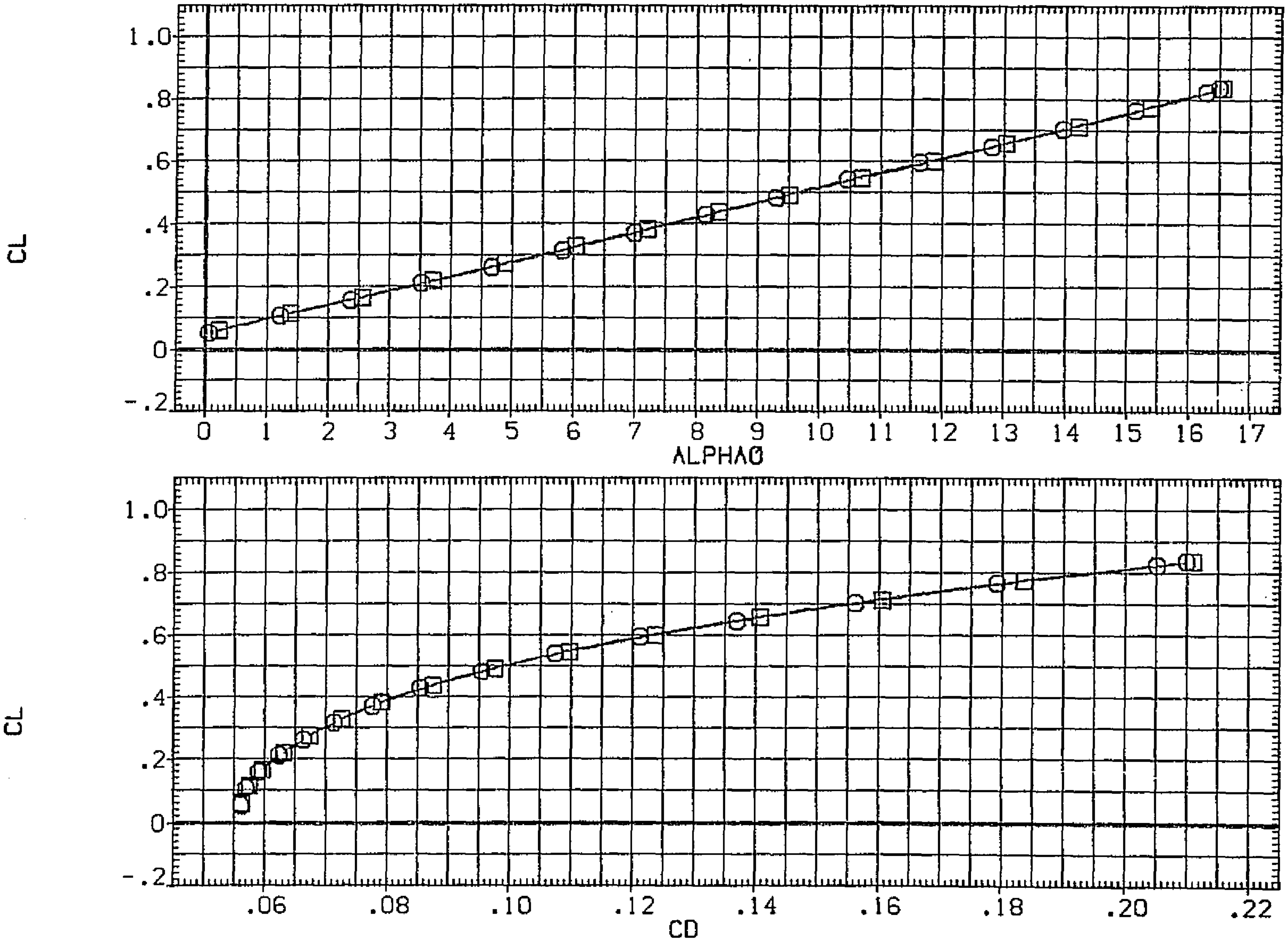



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL
(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

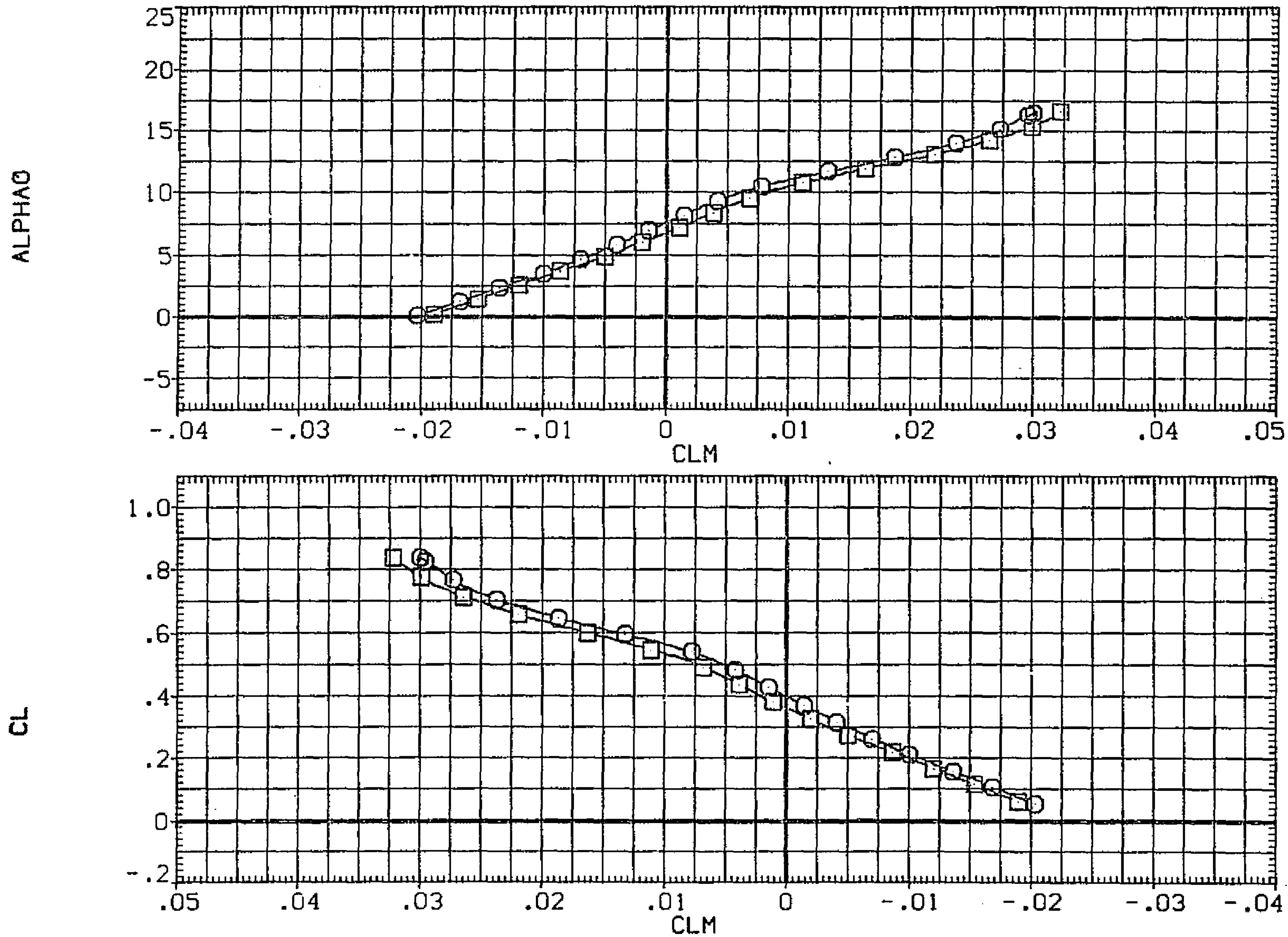



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

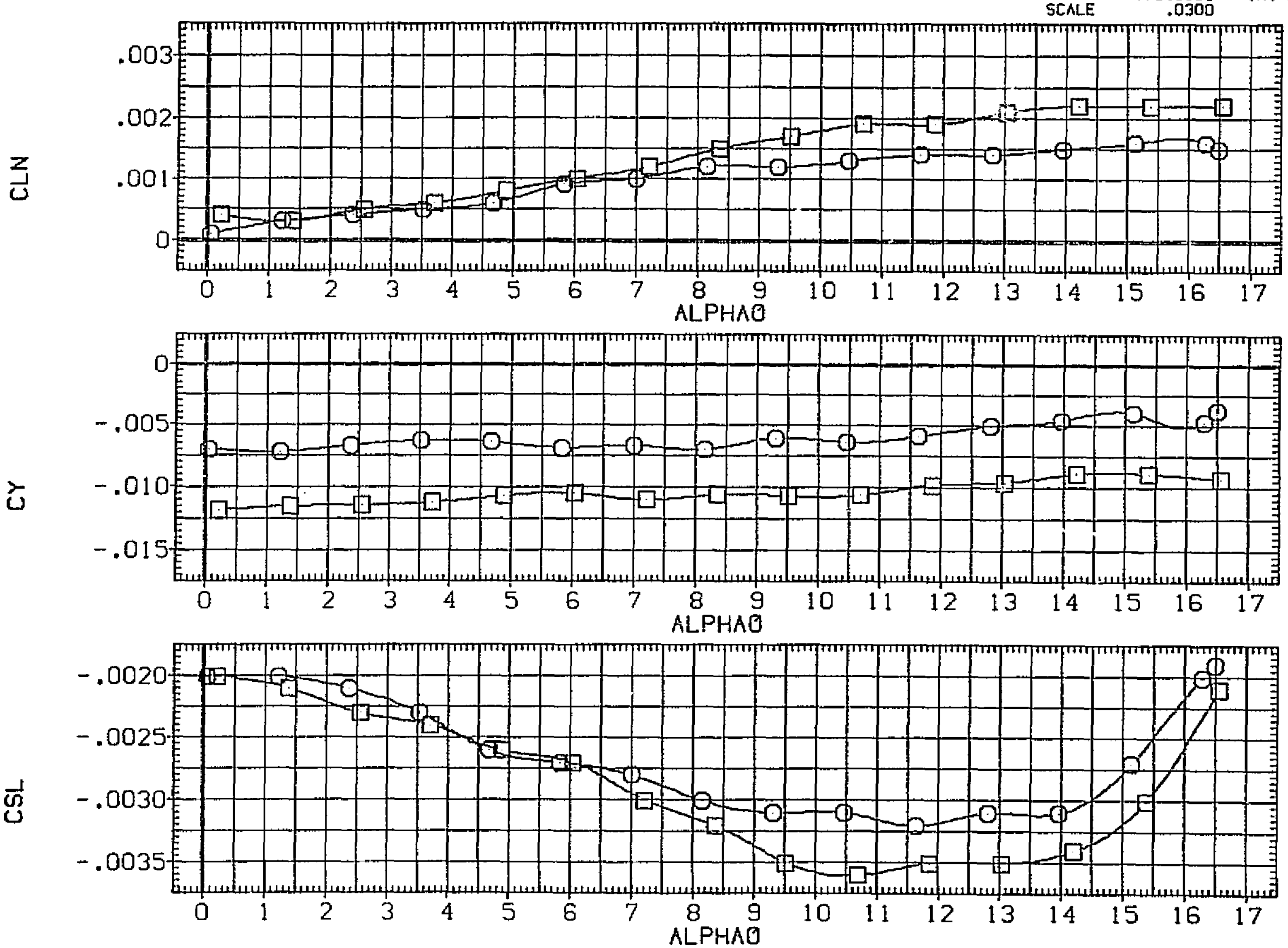



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

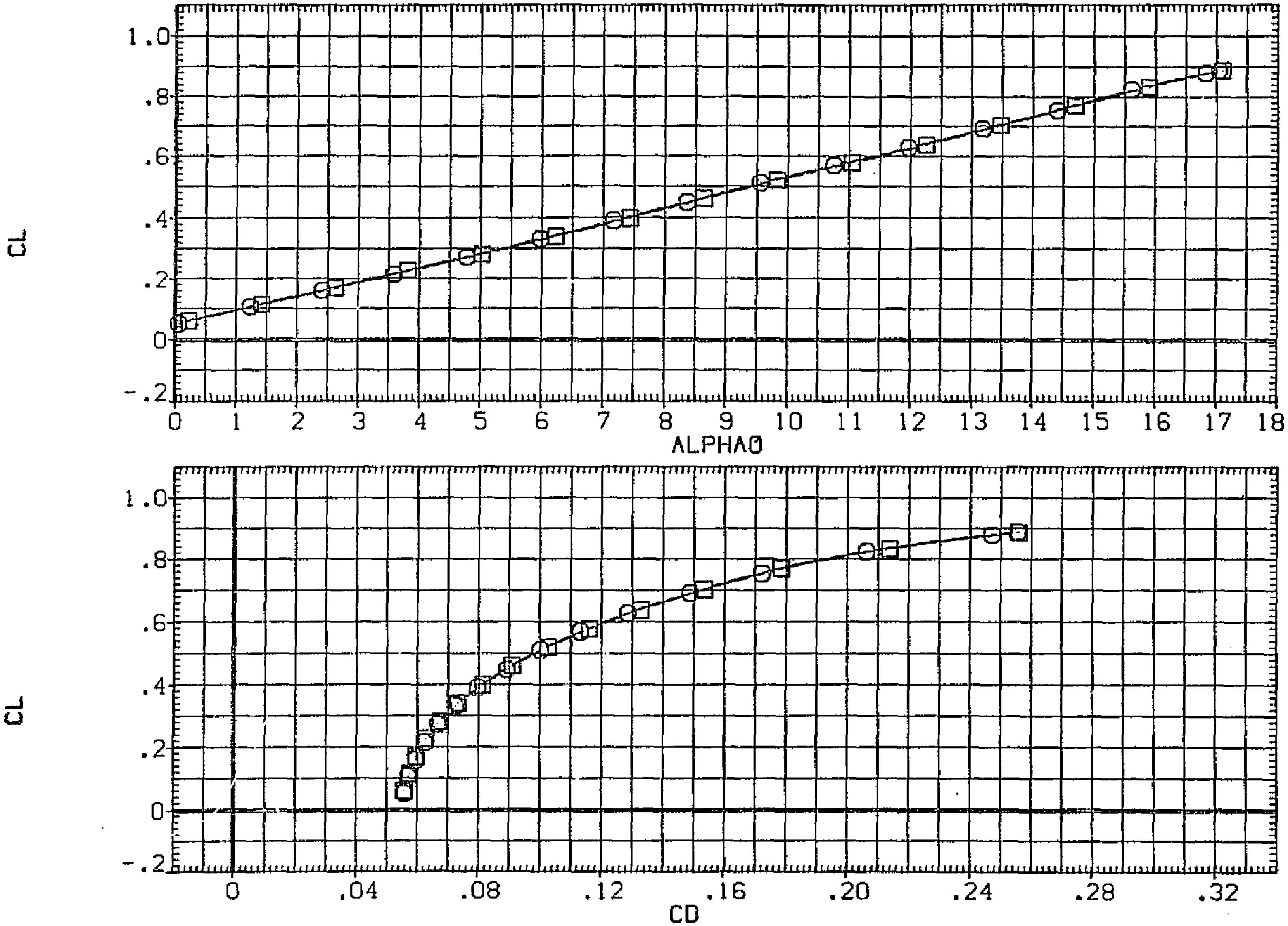


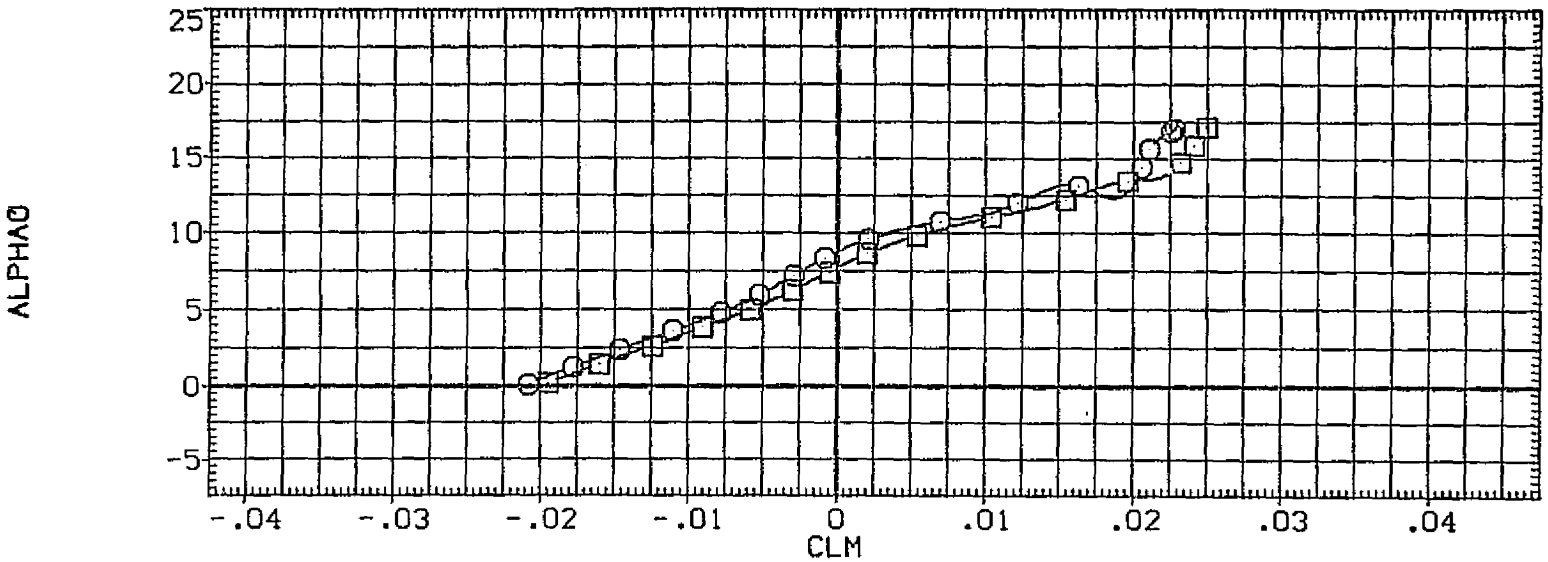

FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |



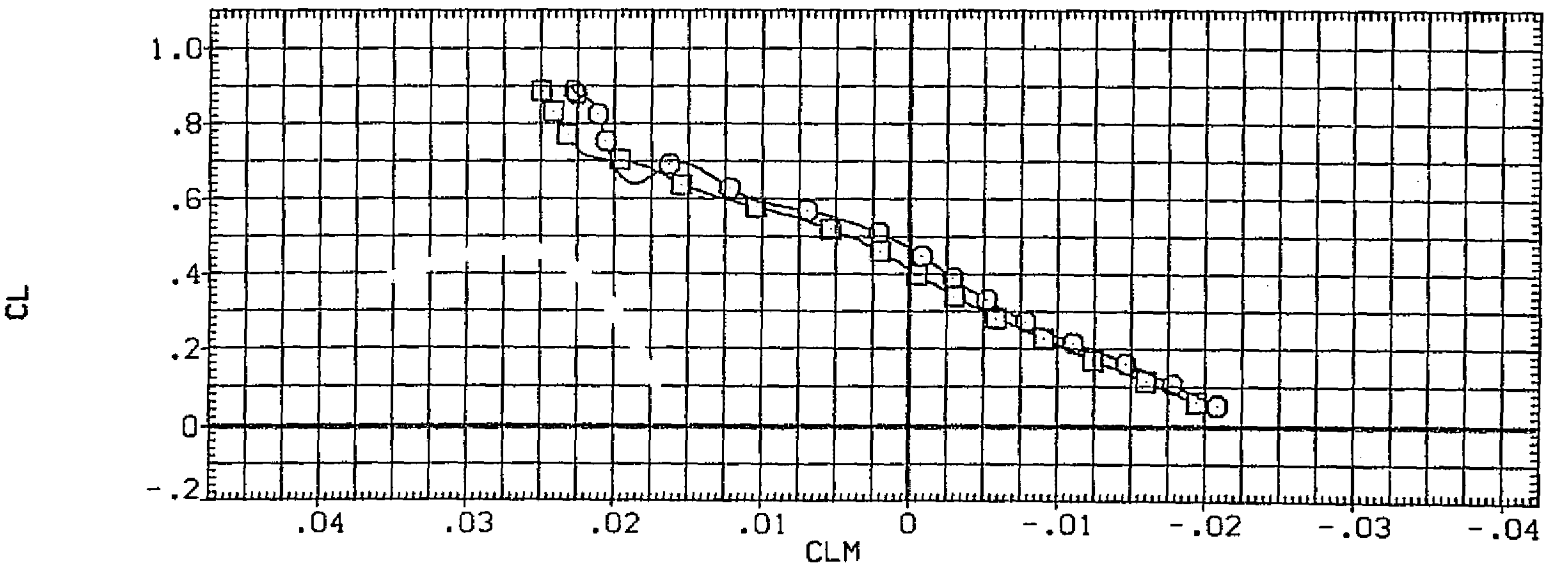




FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CAG | ORBFBN24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CAG | ORBFBN24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

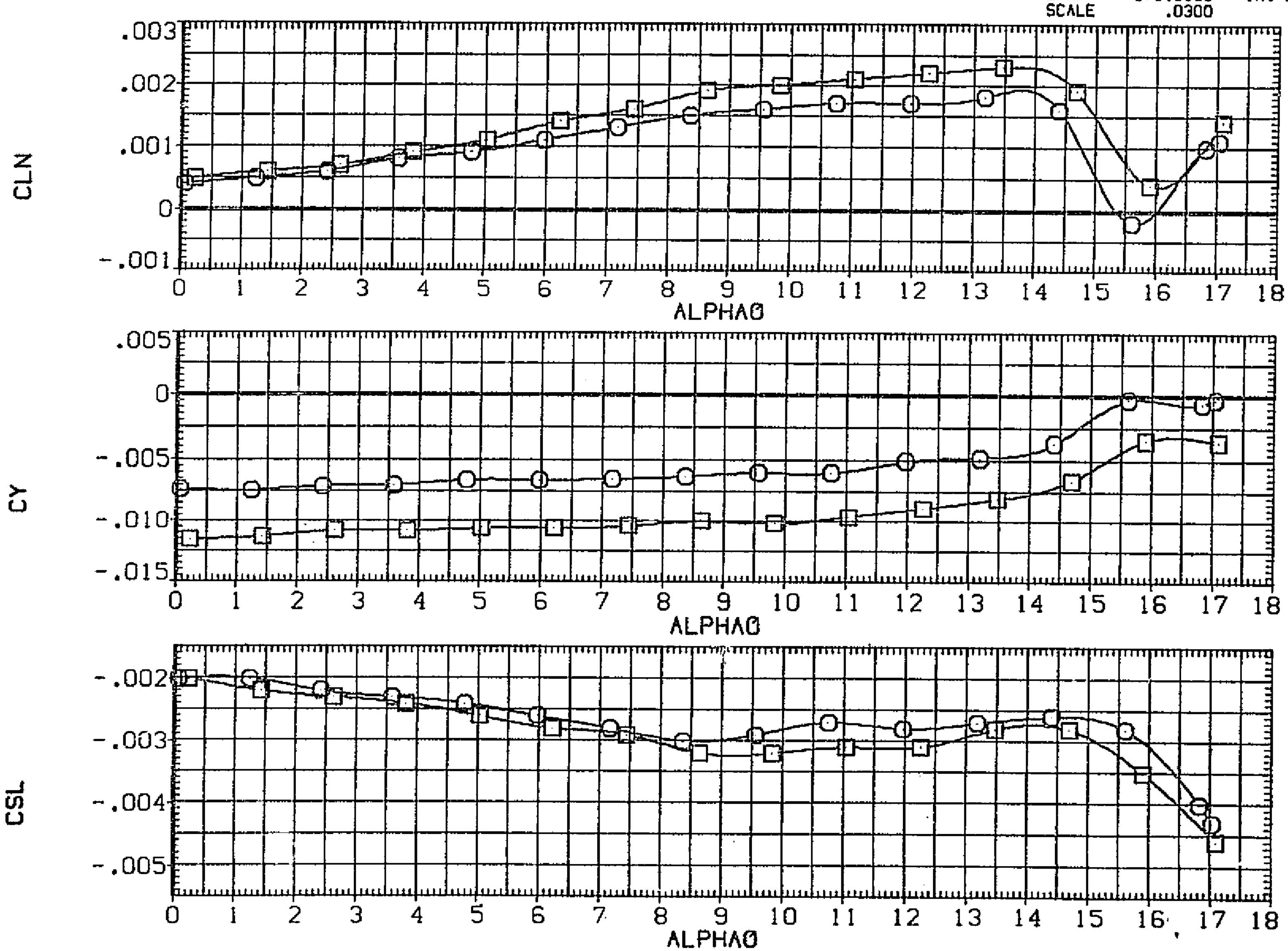



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

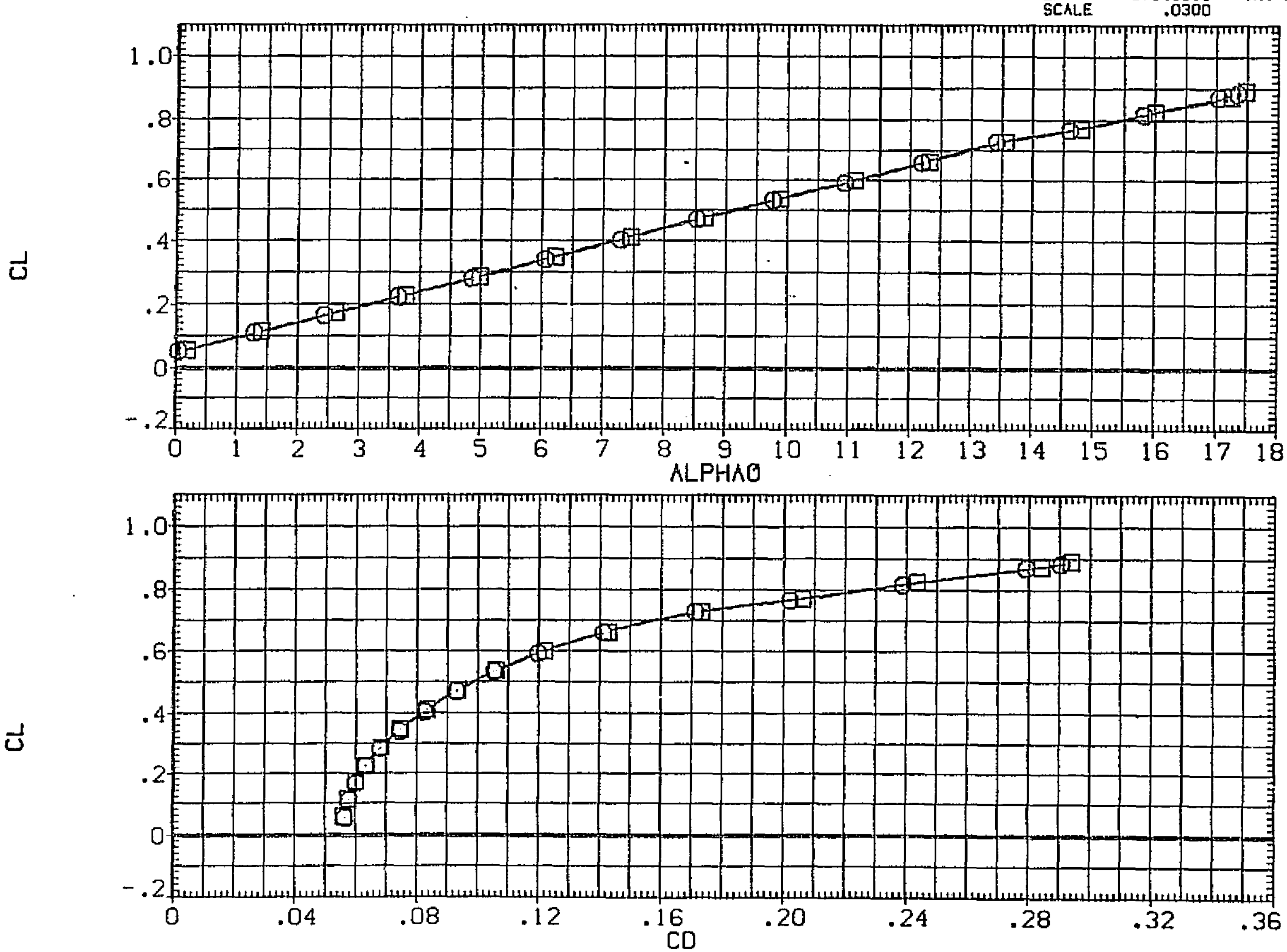



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

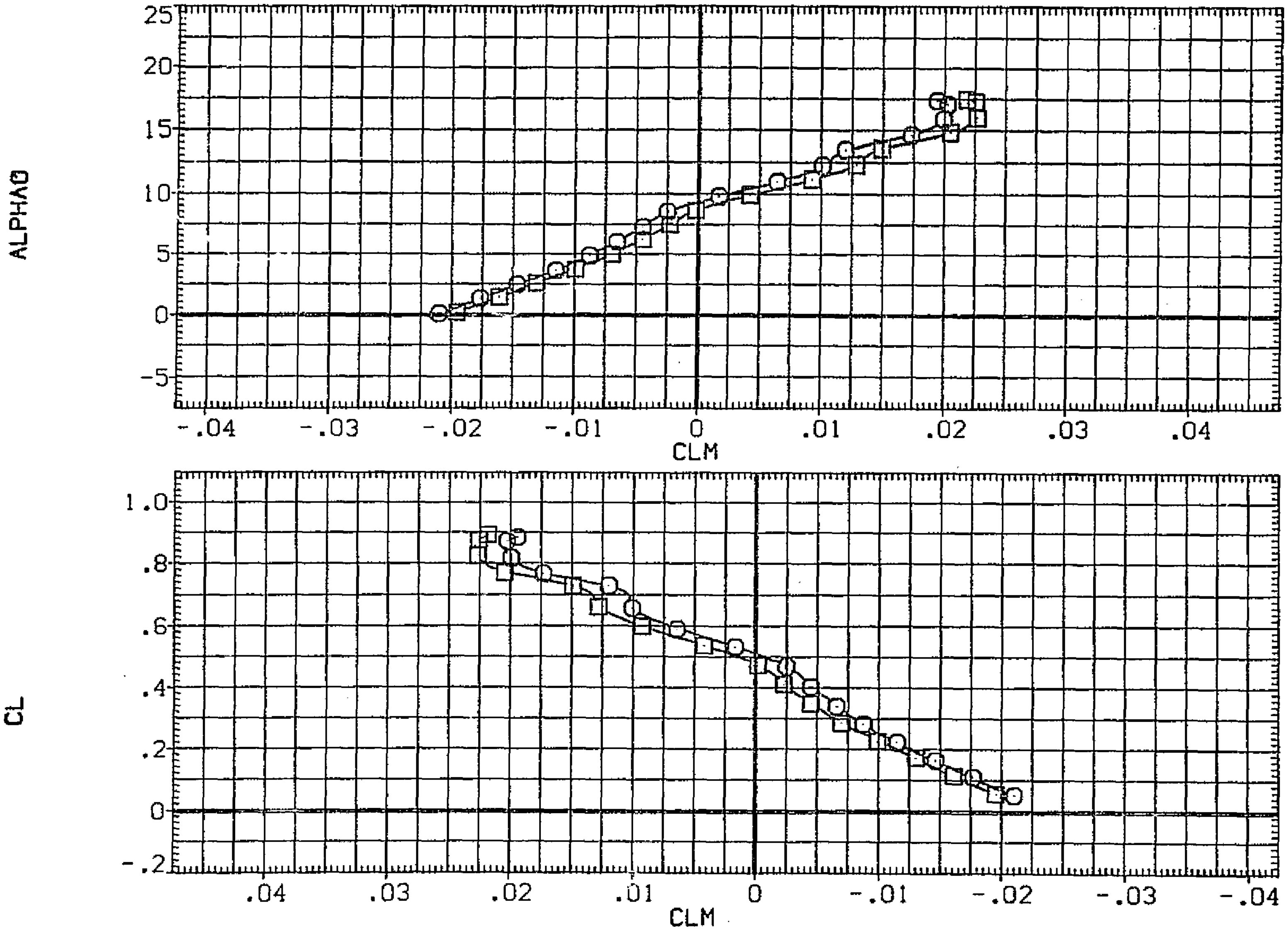



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | WNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

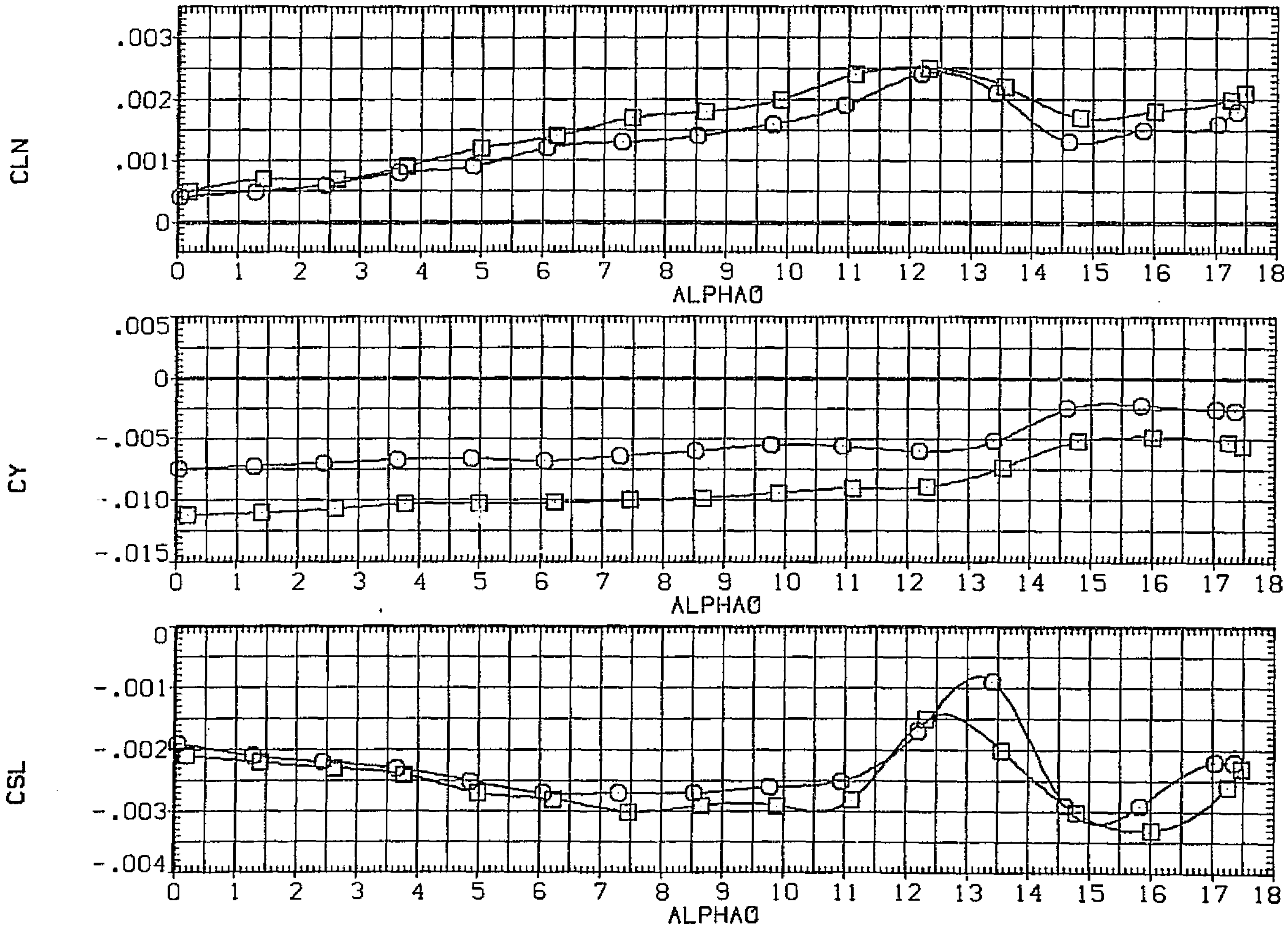



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | VNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

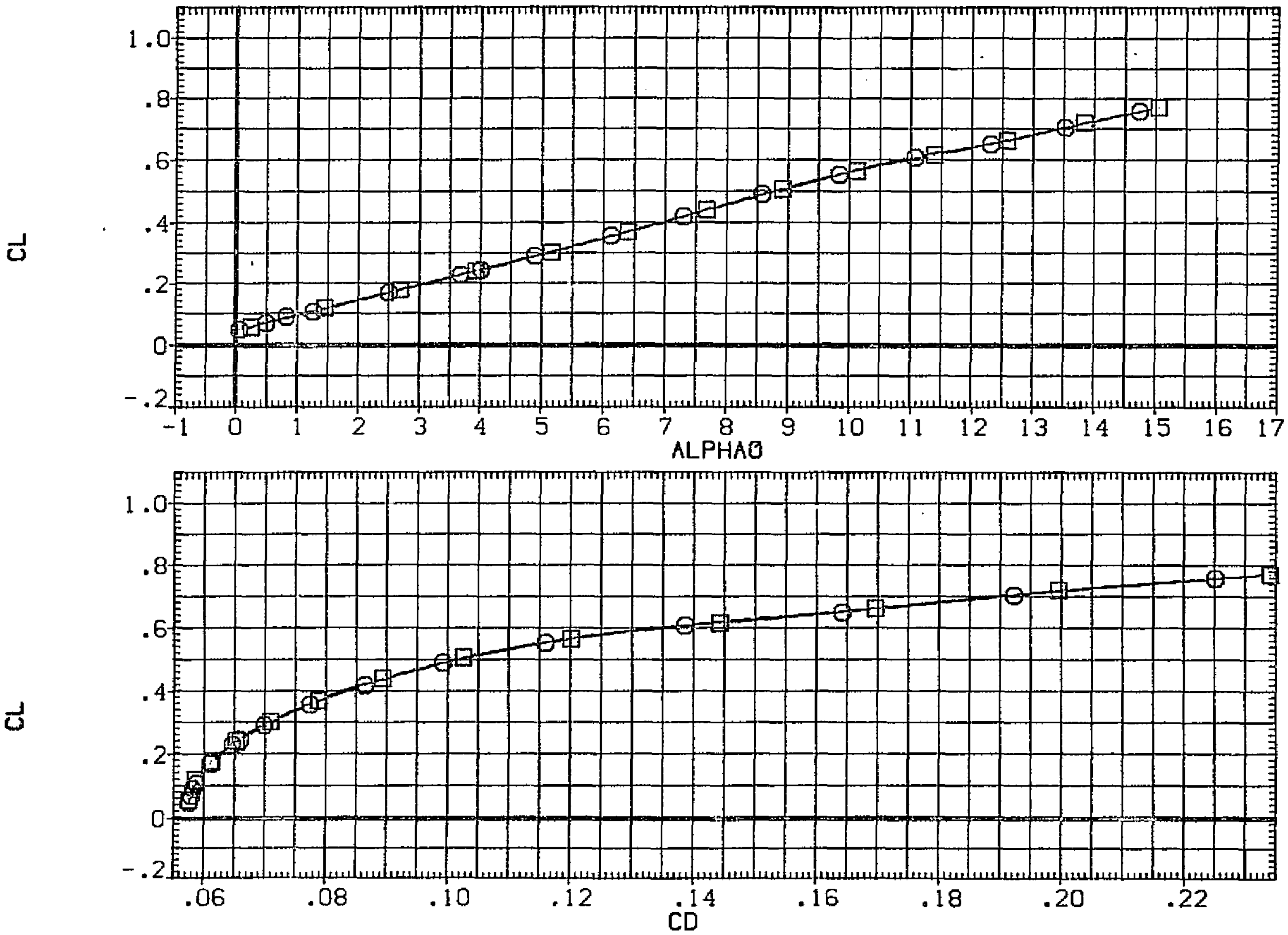



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL
(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | PHI | ELEVON | ѴNGHGT |
|---|---|---|---|---|---|---|---|
| (AGP010) | ○ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 57.000 |
| (AGP002) | □ | CA6 | ORBF8N24/28 | .000 | .000 | 5.000 | 48.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 2690.0000 | SQ.FT. |
| LREF | 474.8000 | IN. |
| BREF | 936.6700 | IN. |
| XMRP | 1109.0000 | IN. XO |
| YMRP | .0000 | IN. YO |
| ZMRP | 375.0000 | IN. ZO |
| SCALE | .0300 | |

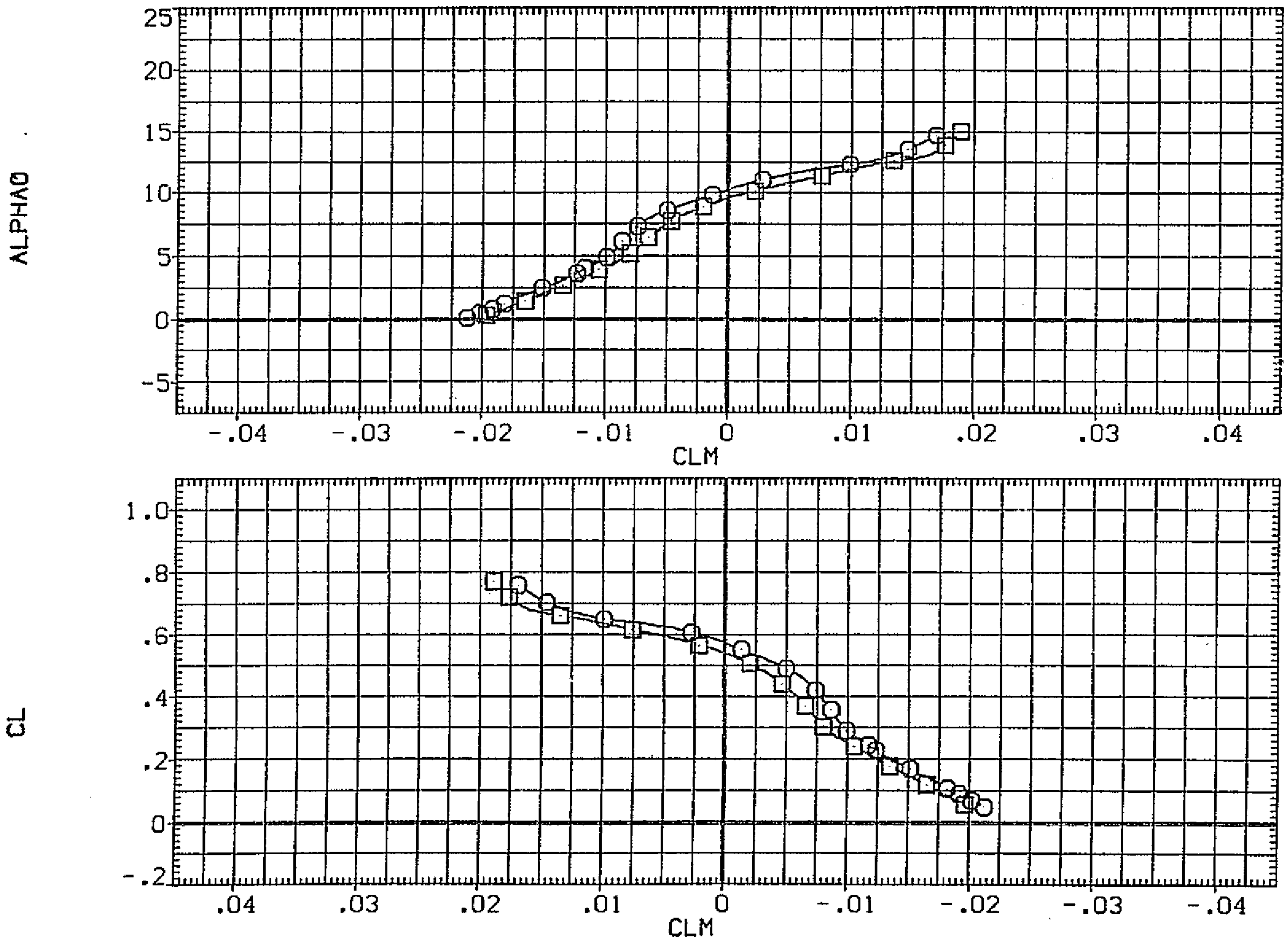



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(D)MACH = .70

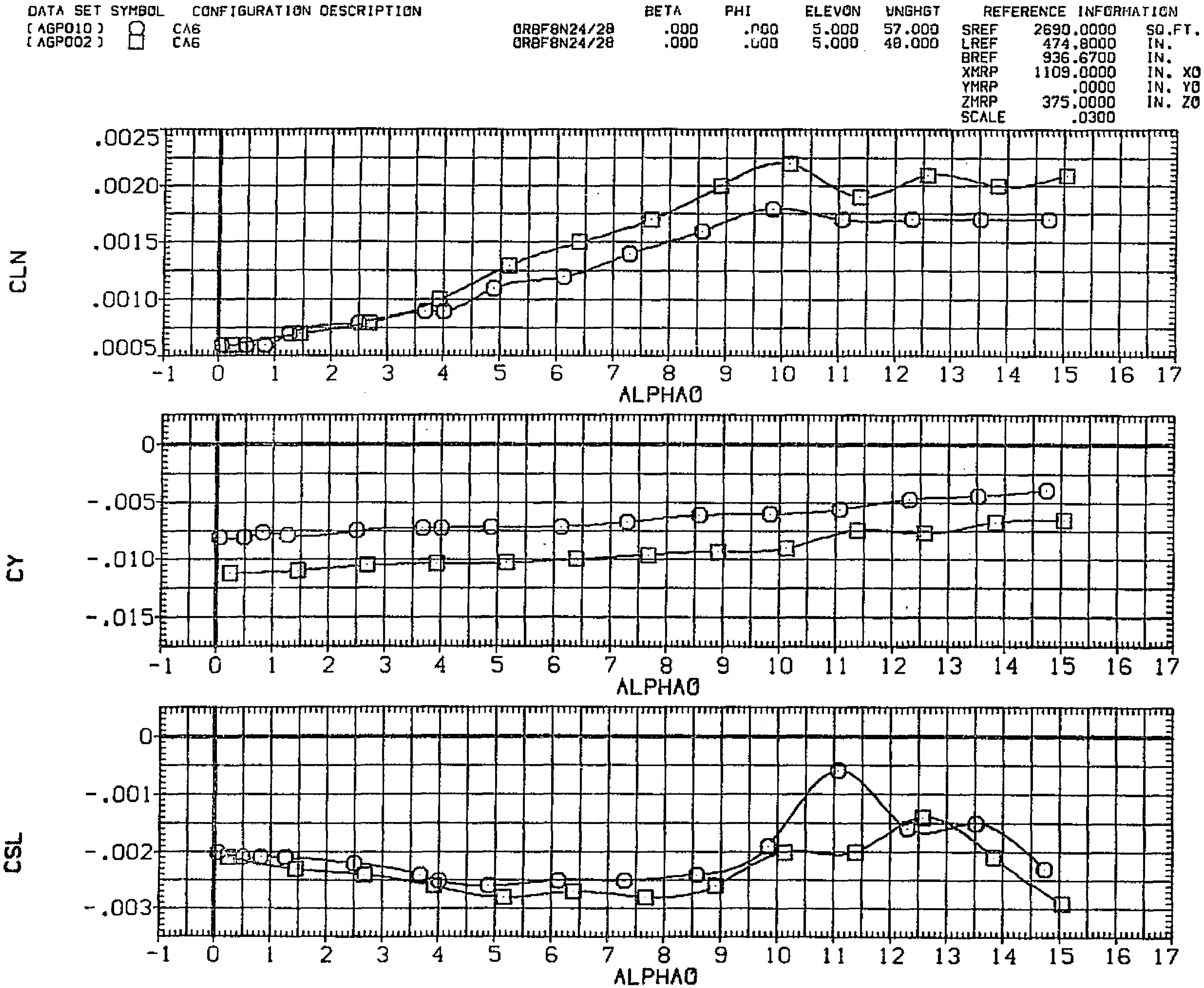



FIG. 12 EFFECT OF ORBITER HEIGHT IN TUNNEL

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

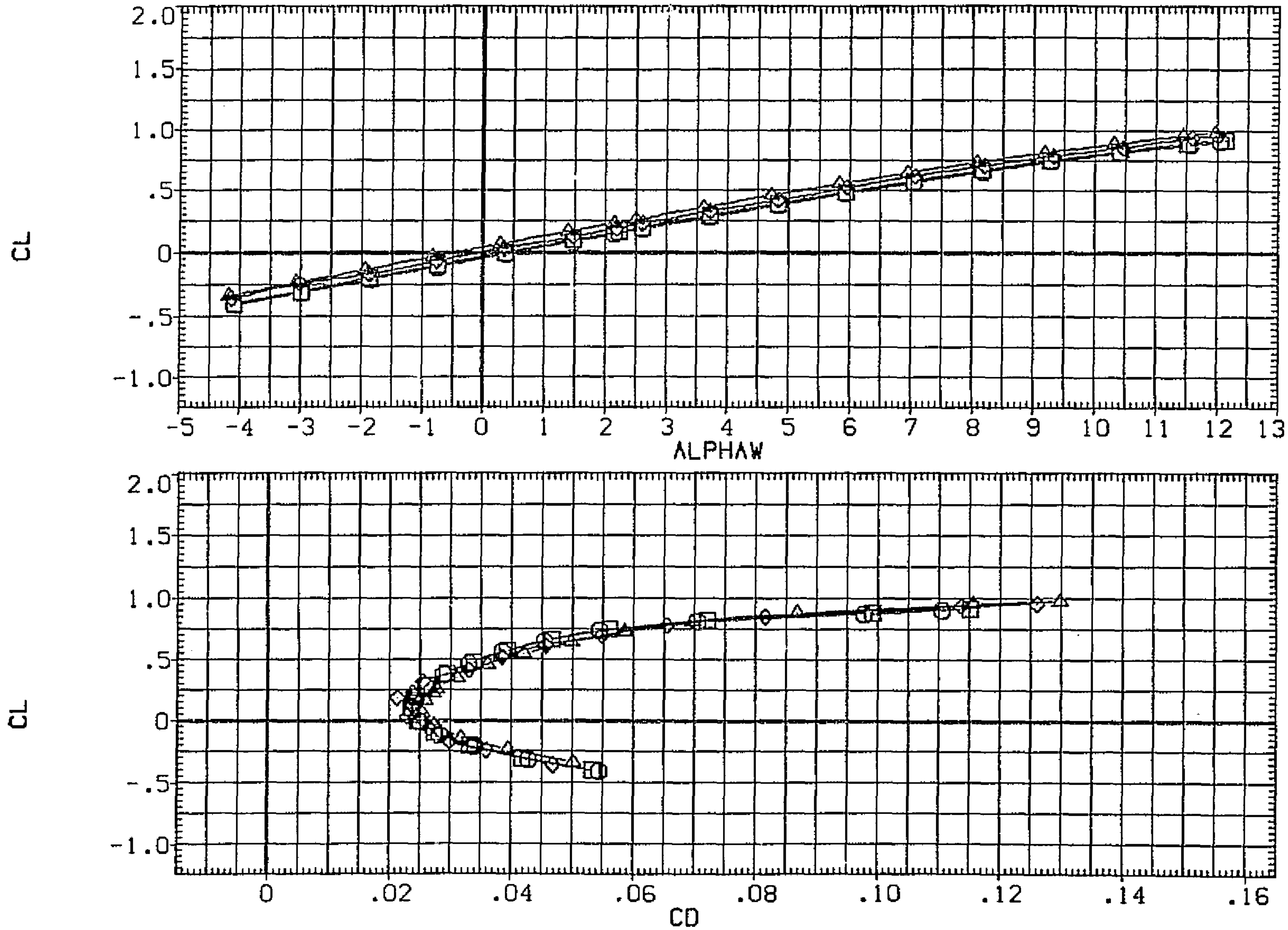



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

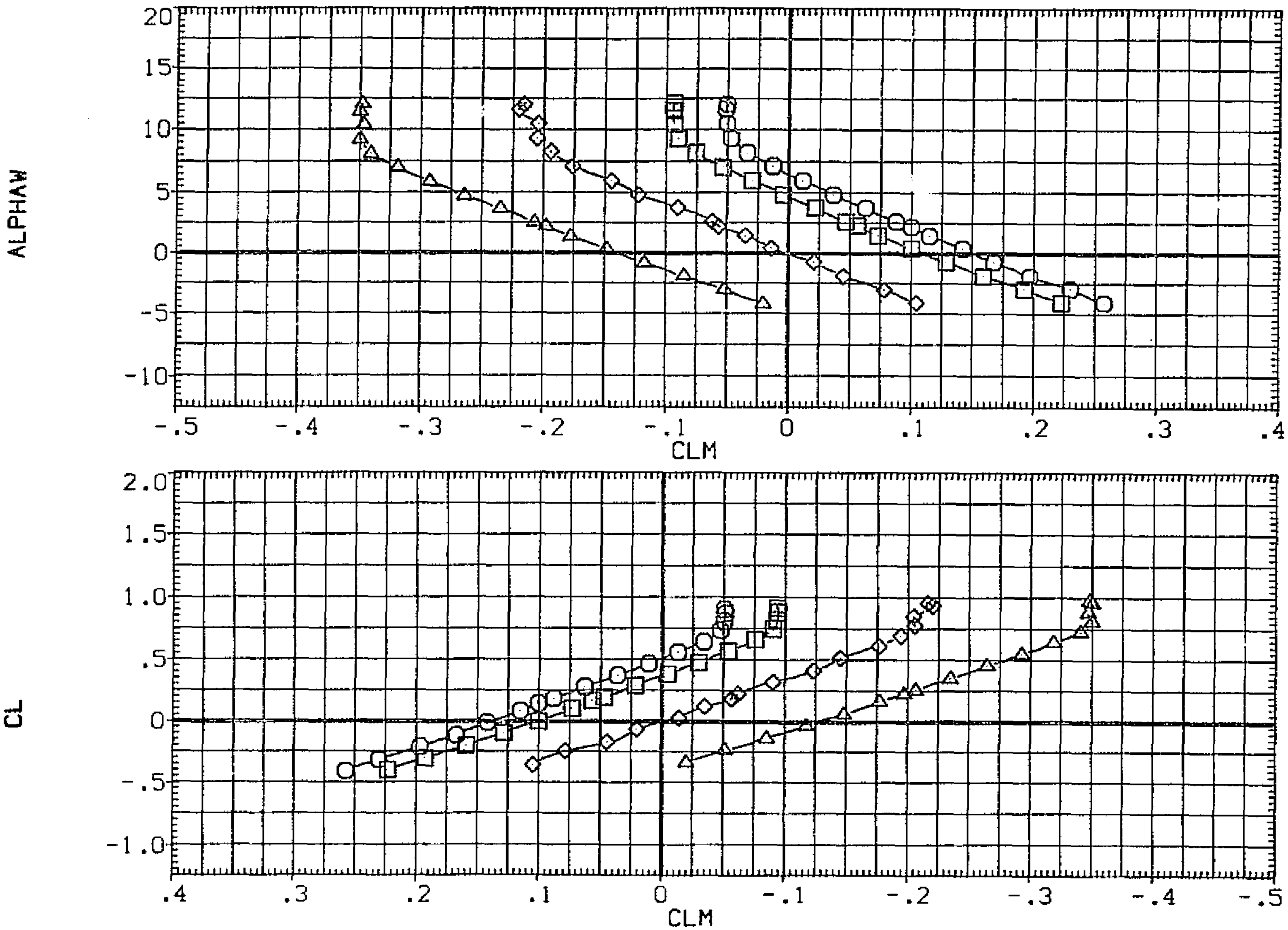



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

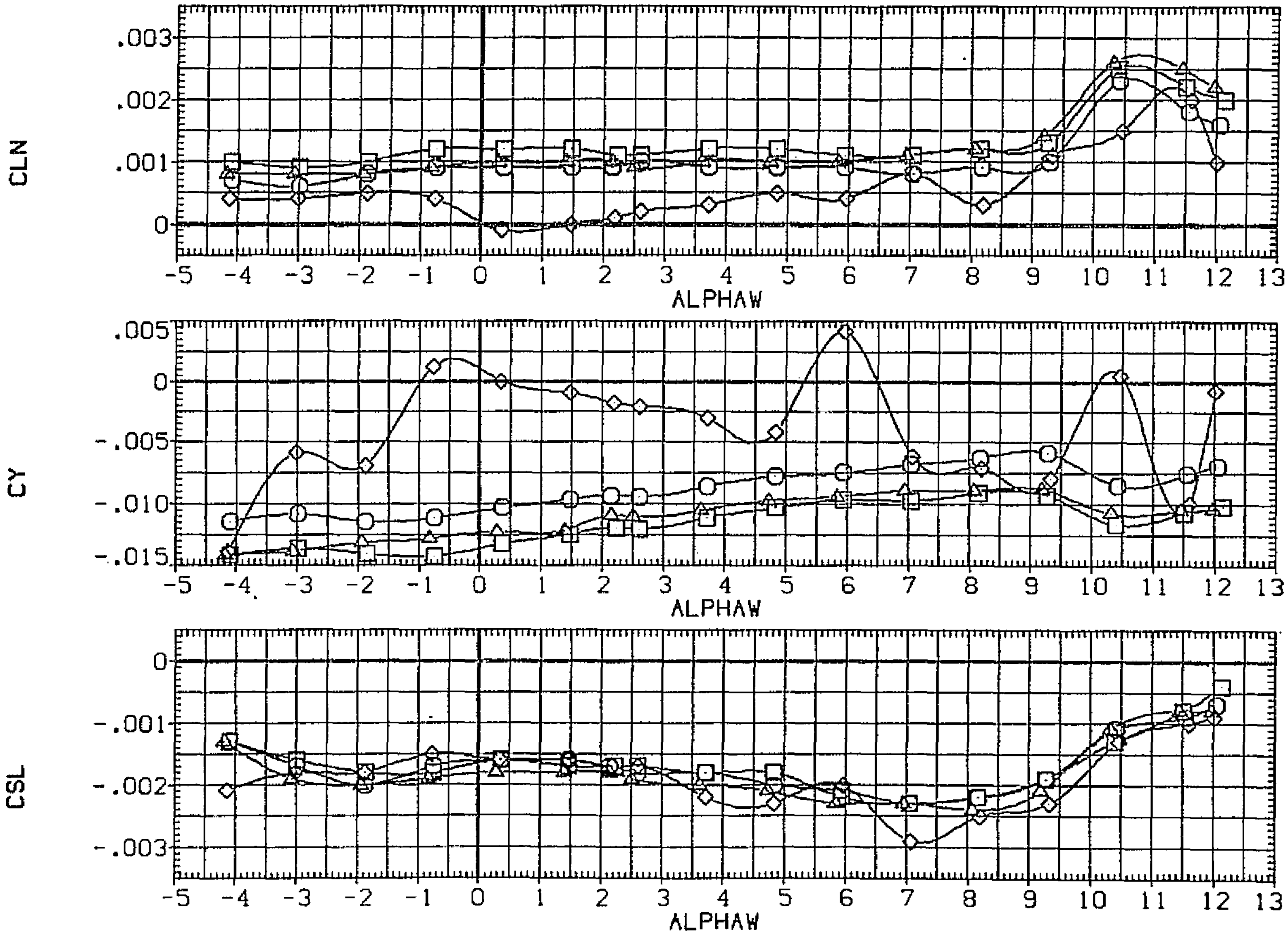



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

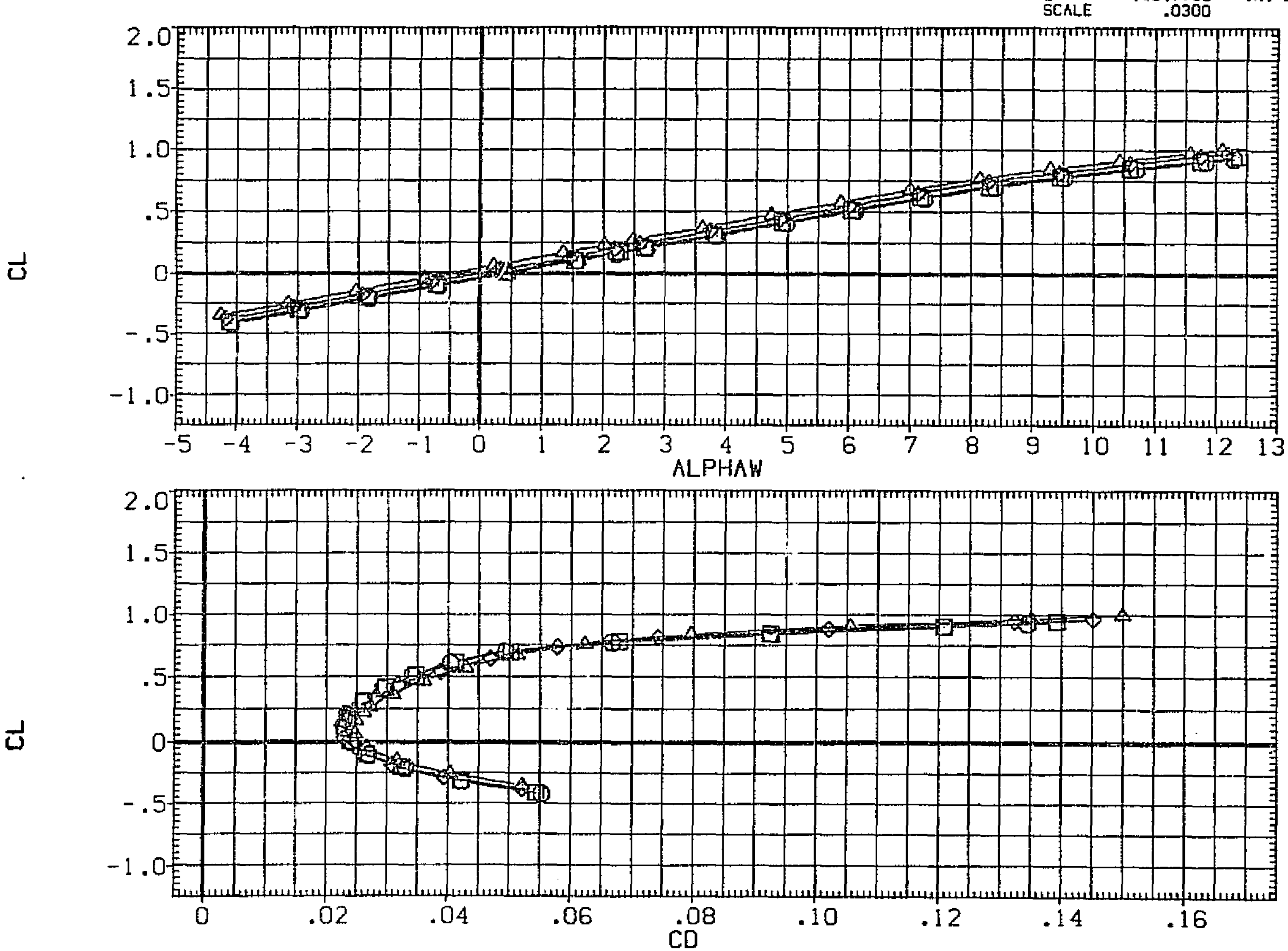



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

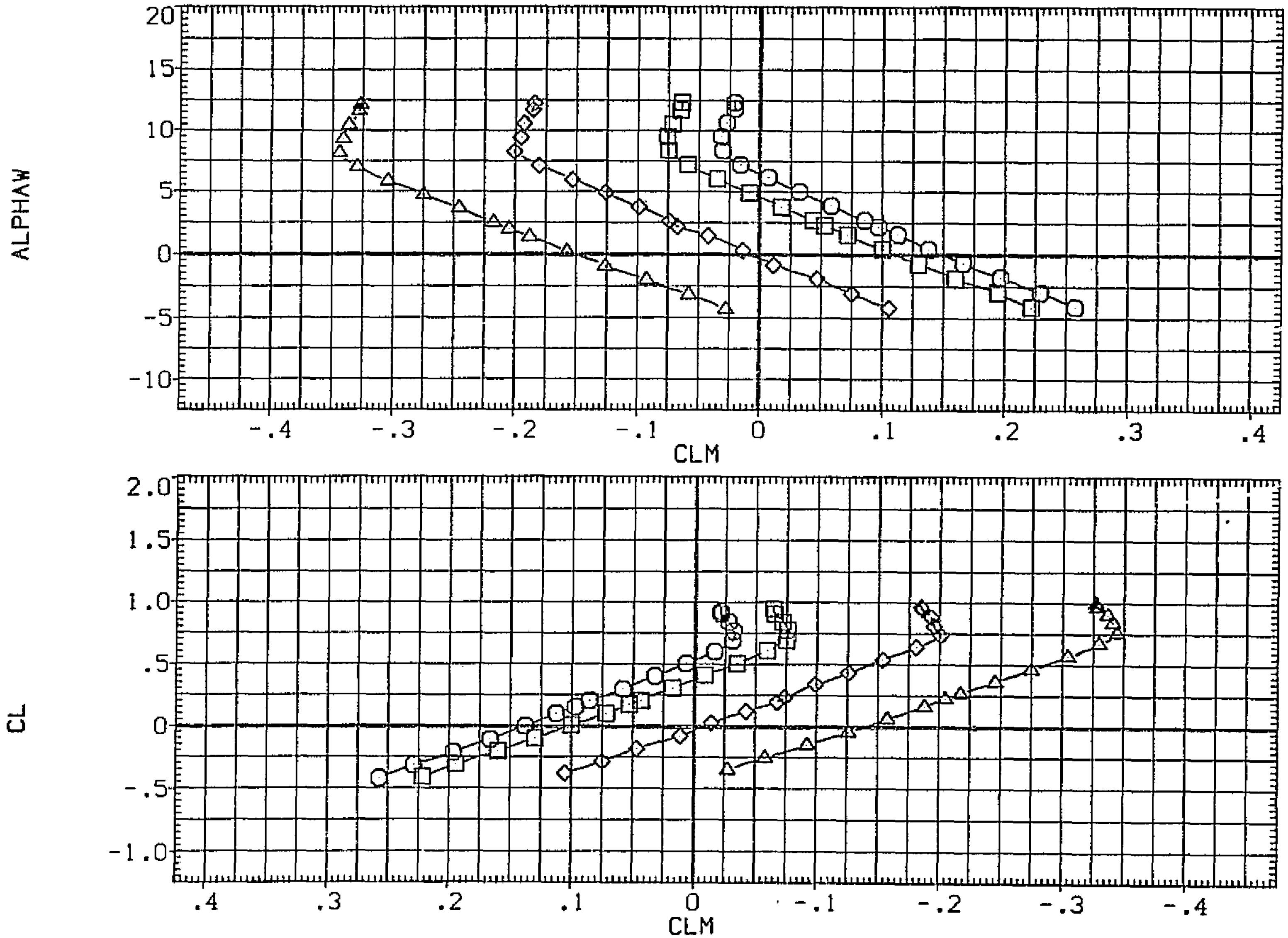



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(B)MACH = .50

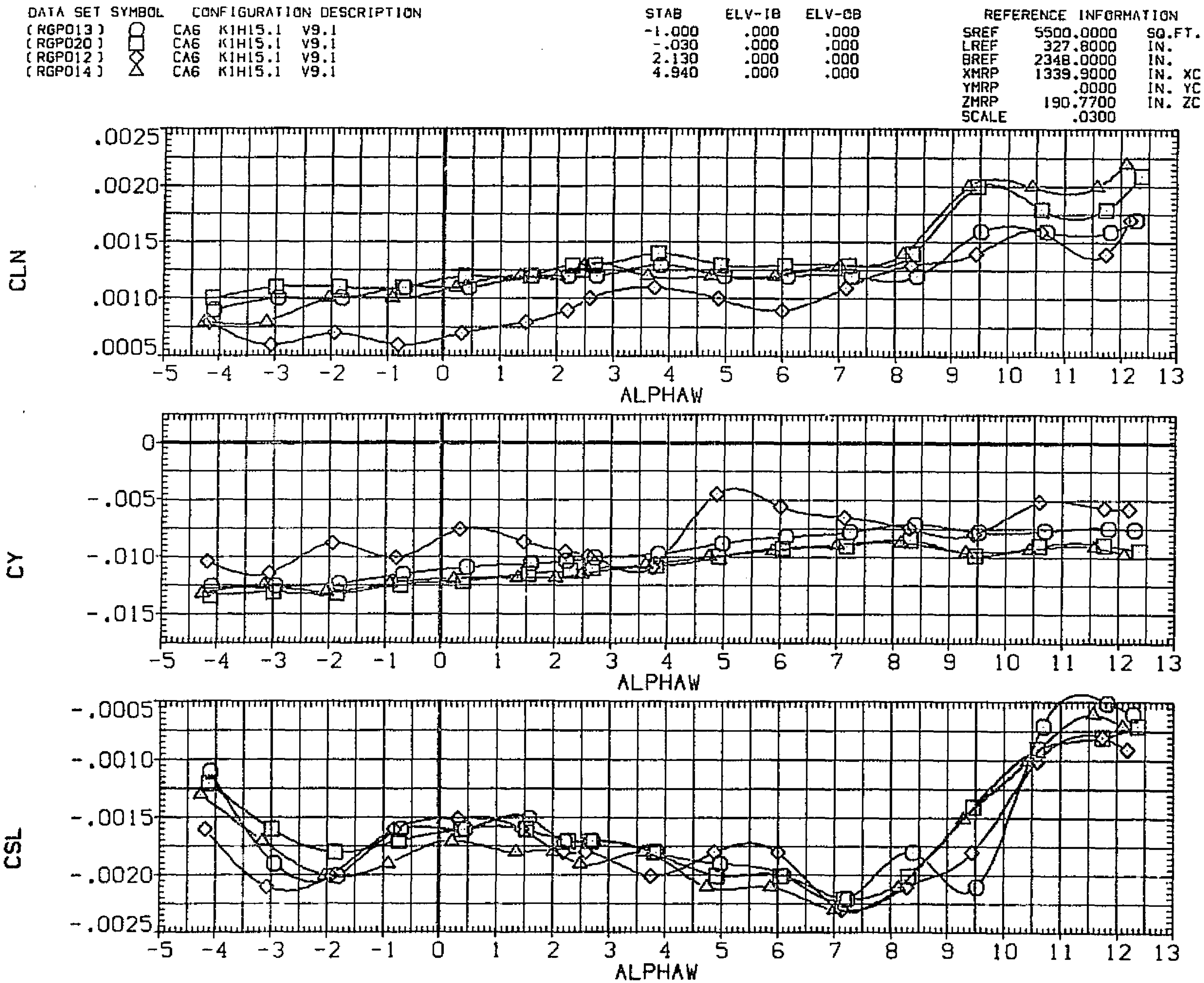



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

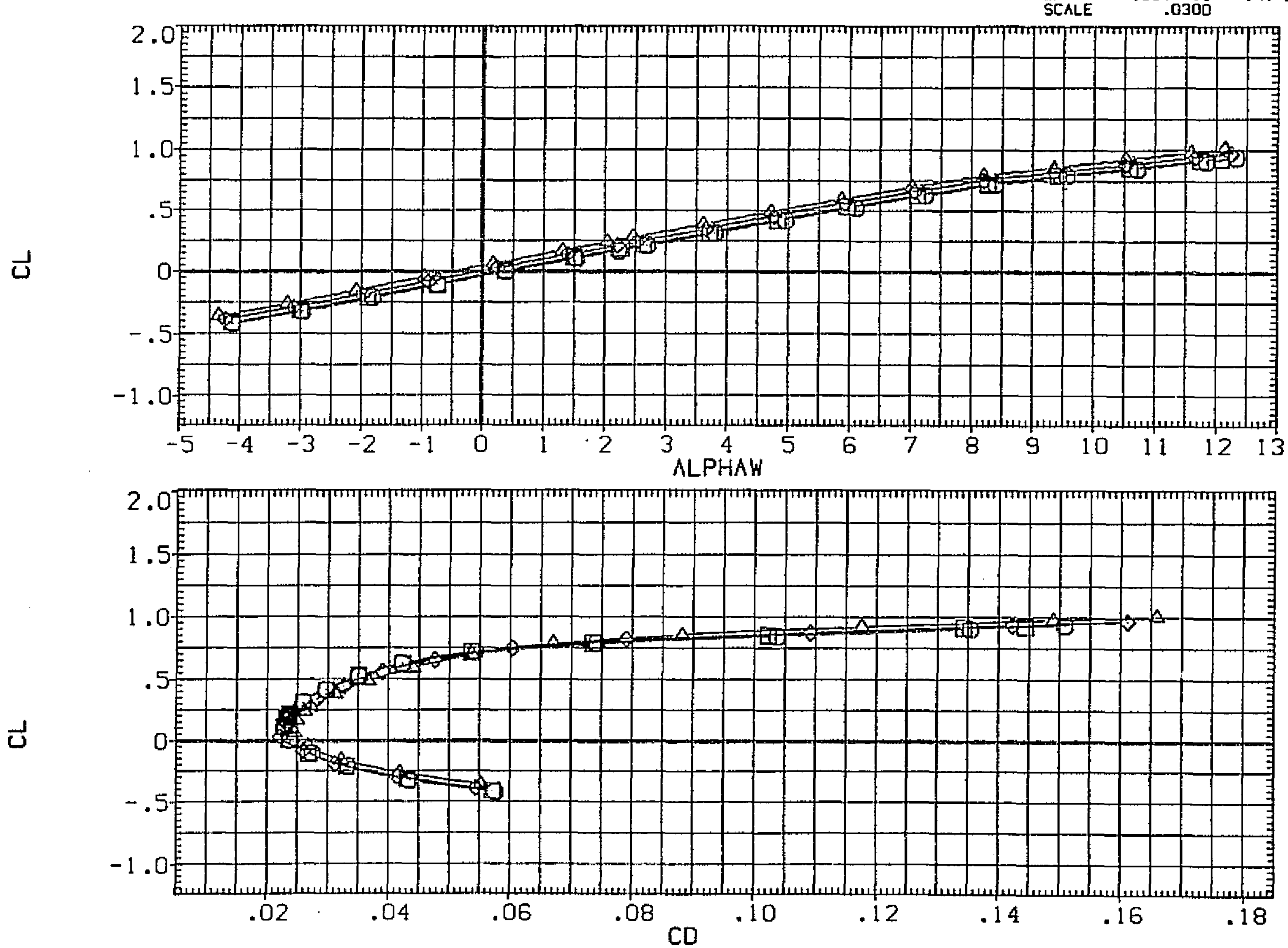



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

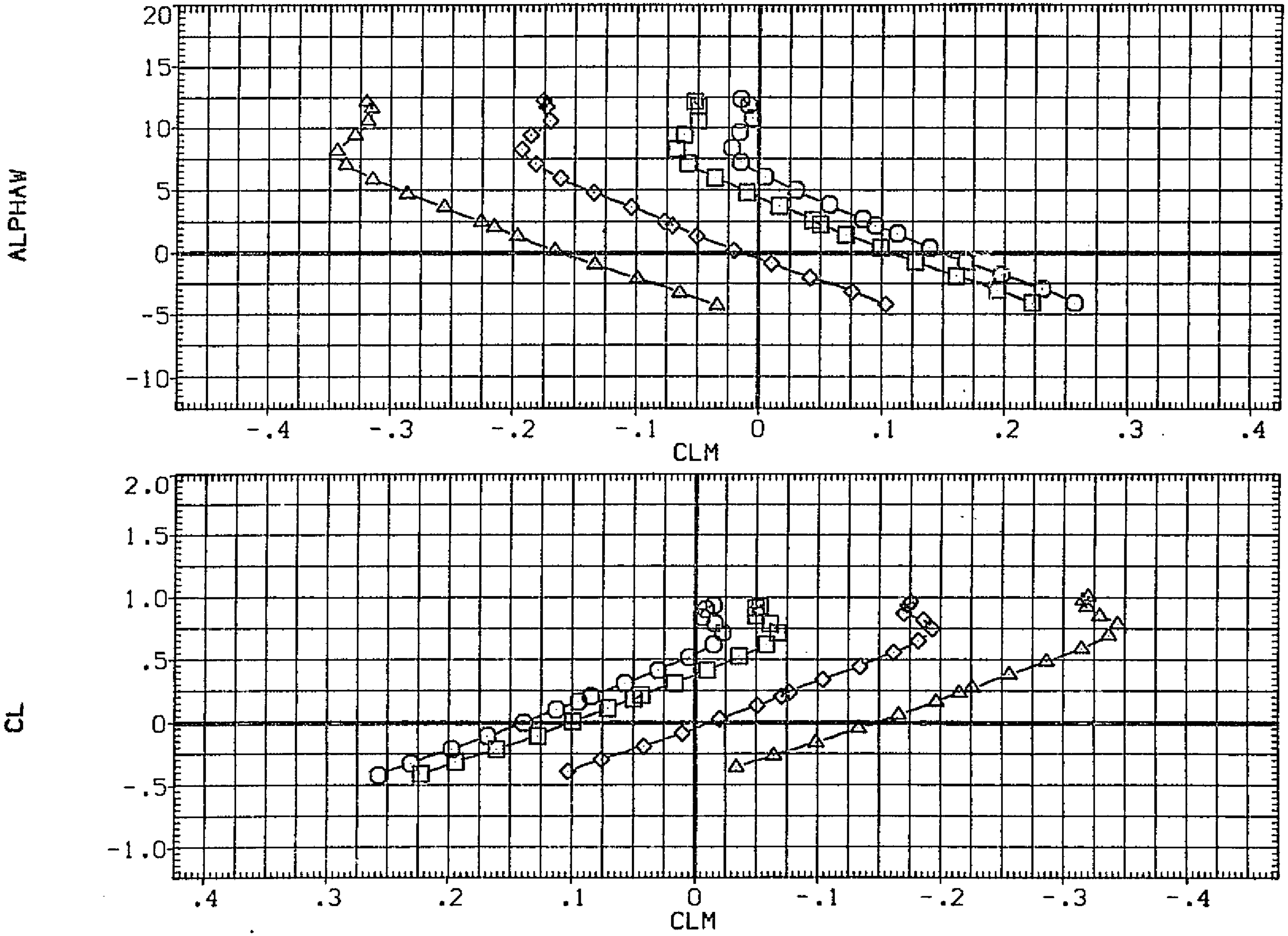



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

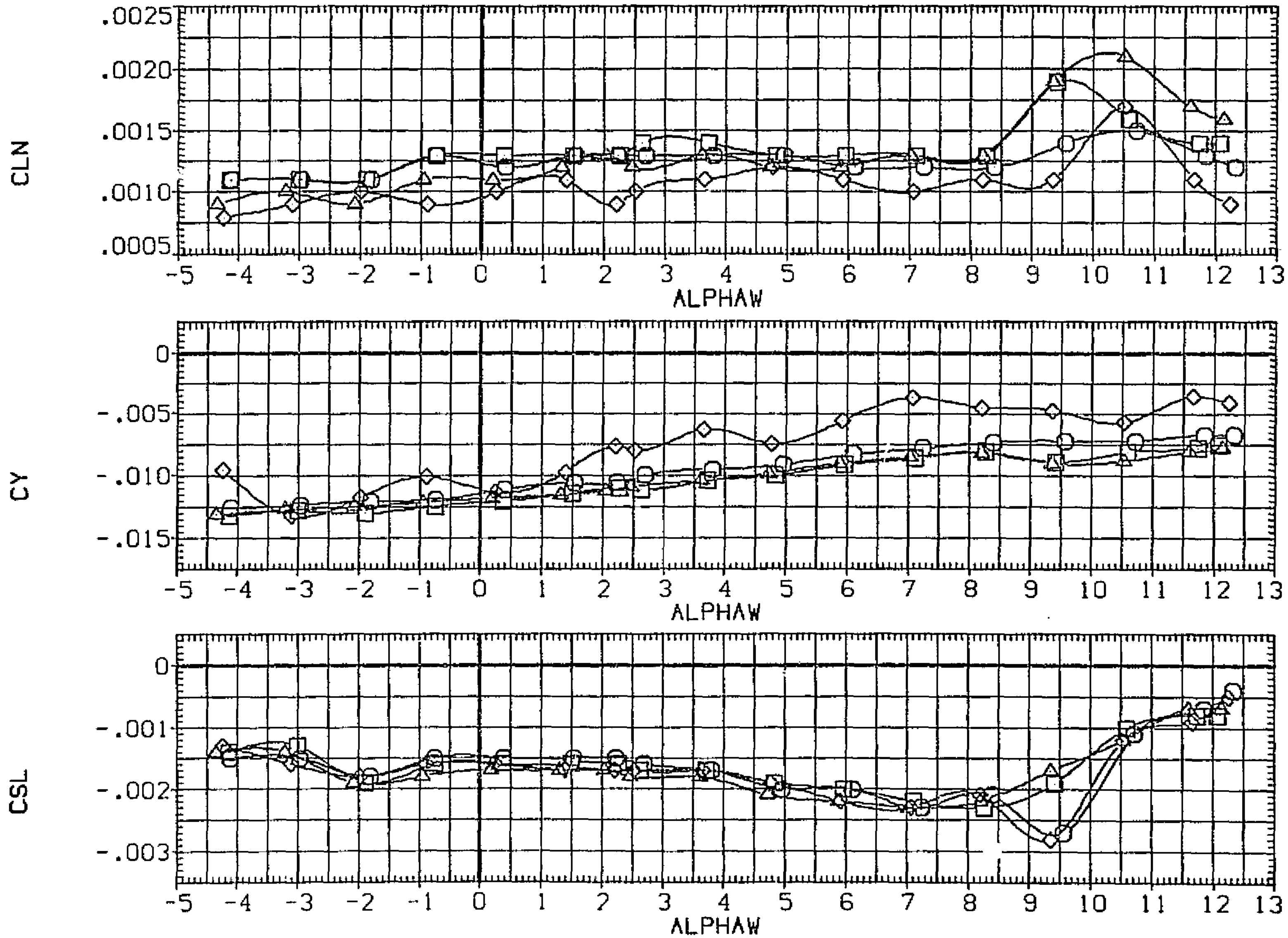



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

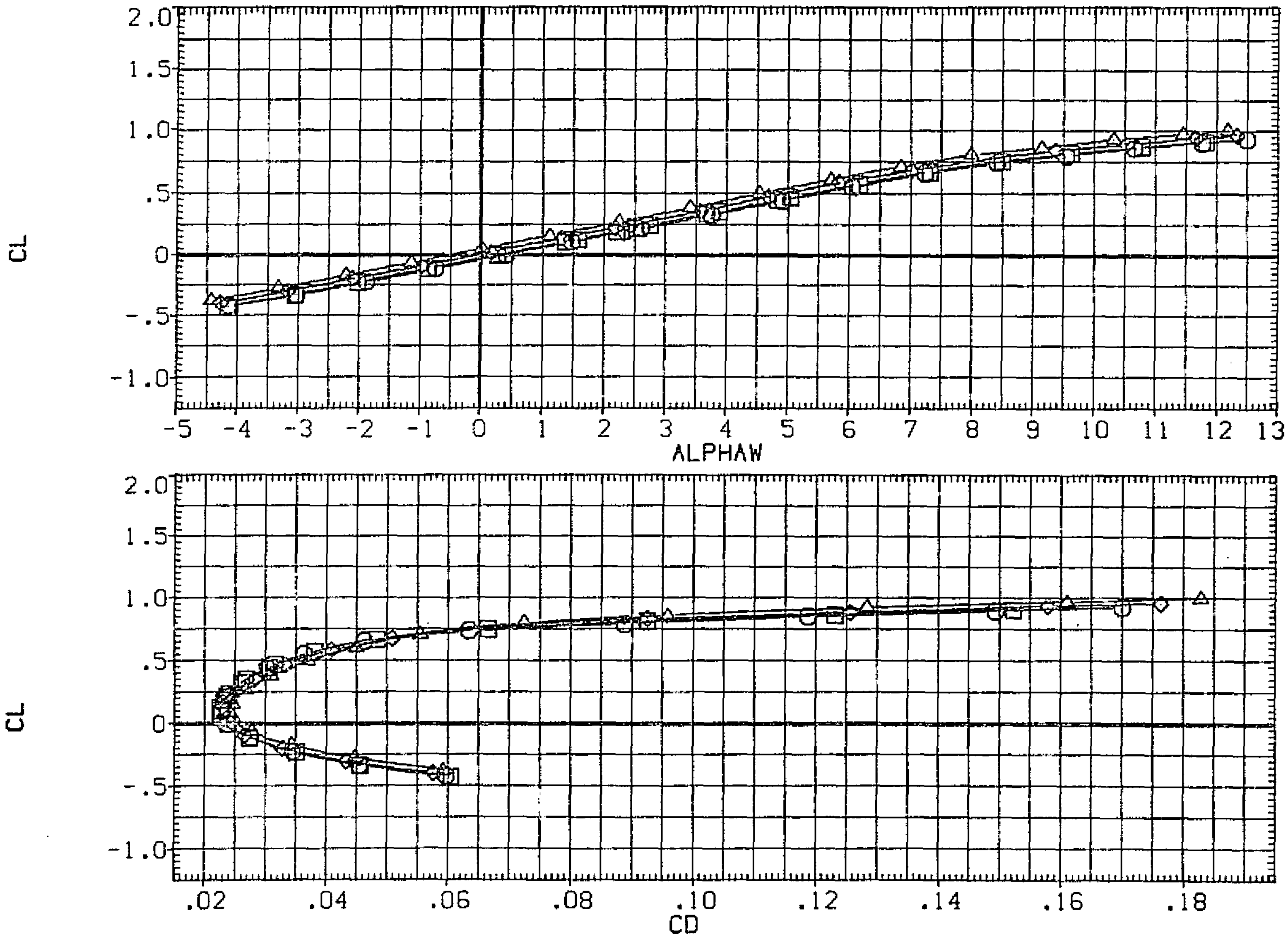



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9300 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

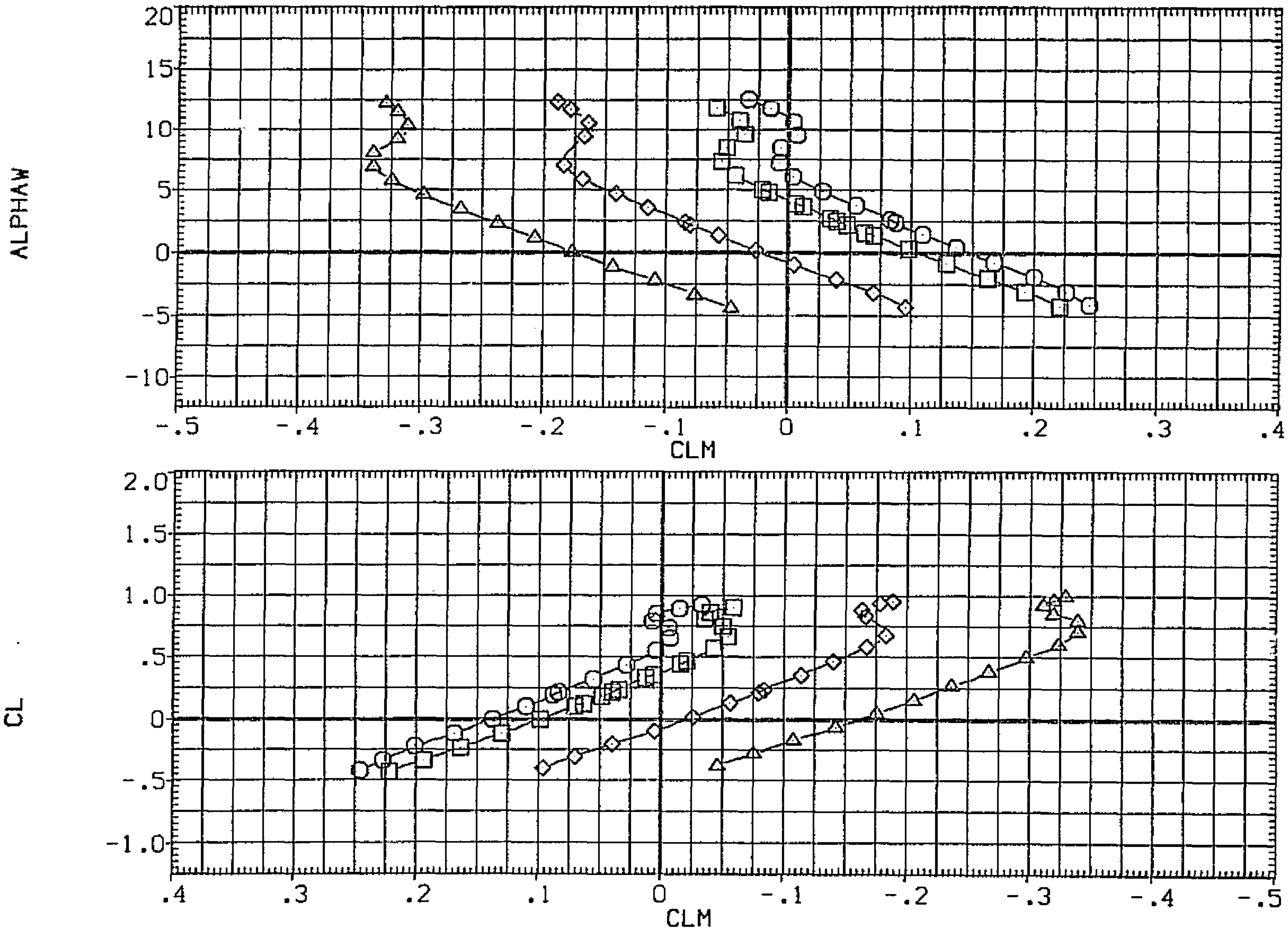



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP013) | ○ | CA6 K1H15.1 V9.1 | -1.000 | .000 | .000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP012) | ◇ | CA6 K1H15.1 V9.1 | 2.130 | .000 | .000 |
| (RGP014) | △ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

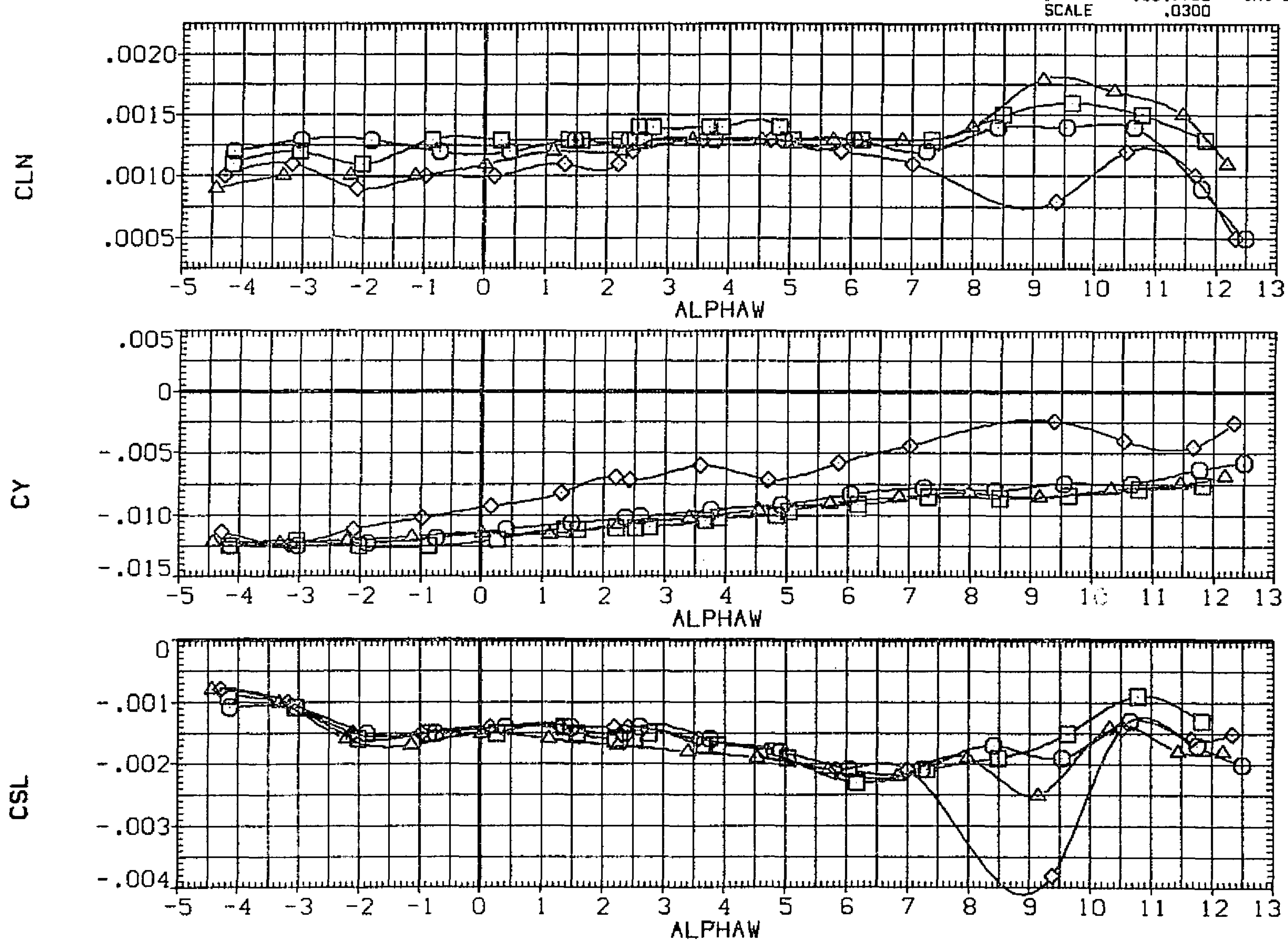



FIG. 13 STABILIZER EFFECTIVENESS, BASIC 747 ALONE

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP016) | ○ | CA6 K1H15.1 V9.1 | 4.940 | -10.000 | -10.000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |
| (RGP015) | ◇ | CA6 K1H15.1 V9.1 | 4.940 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

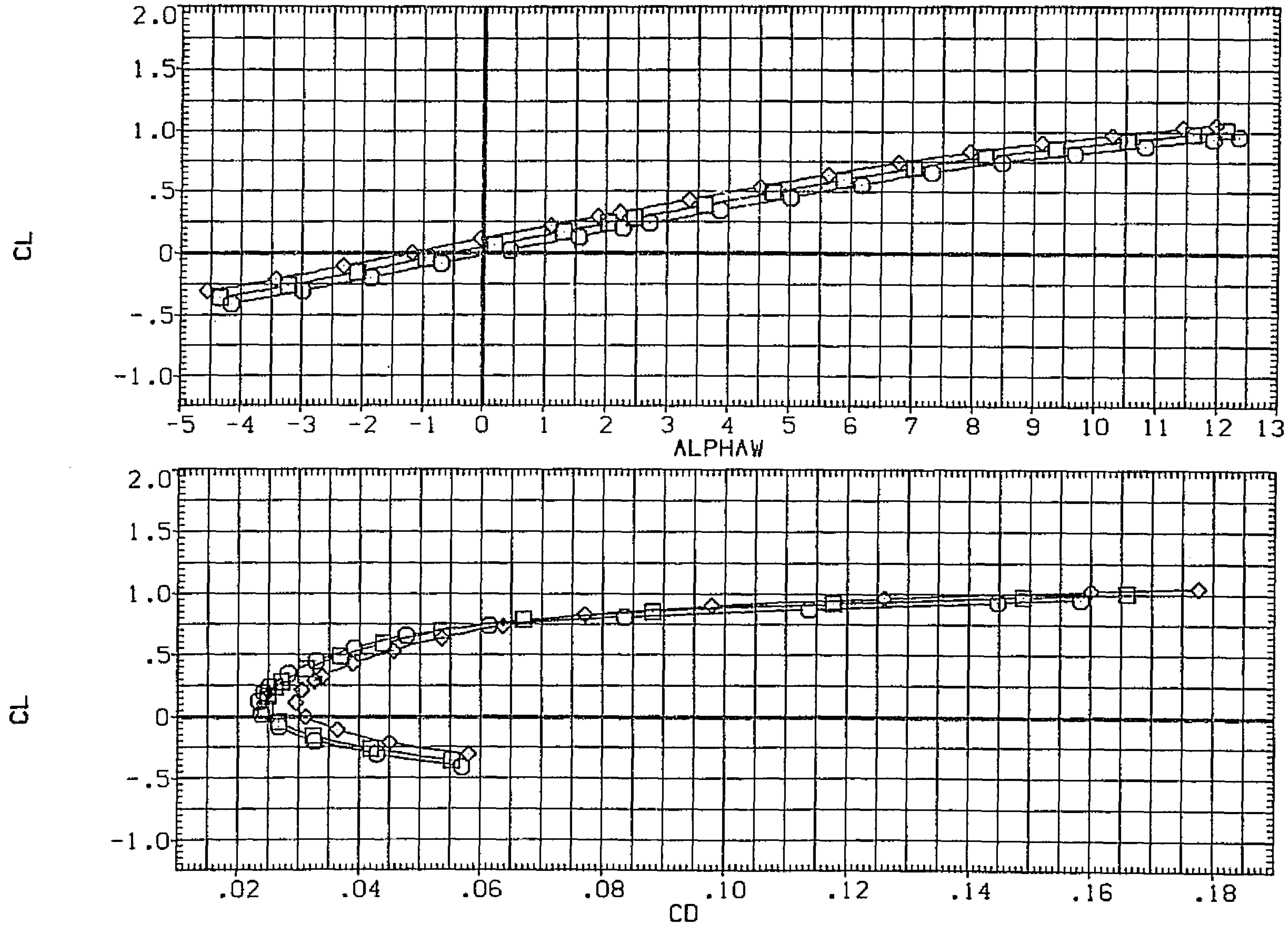



FIG. 14 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| [RGP016] | ○ | CA6 K1H15.1 V9.1 | 4.940 | -10.000 | -10.000 |
| [RGP014] | □ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |
| [RGP015] | ◇ | CA6 K1H15.1 V9.1 | 4.940 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

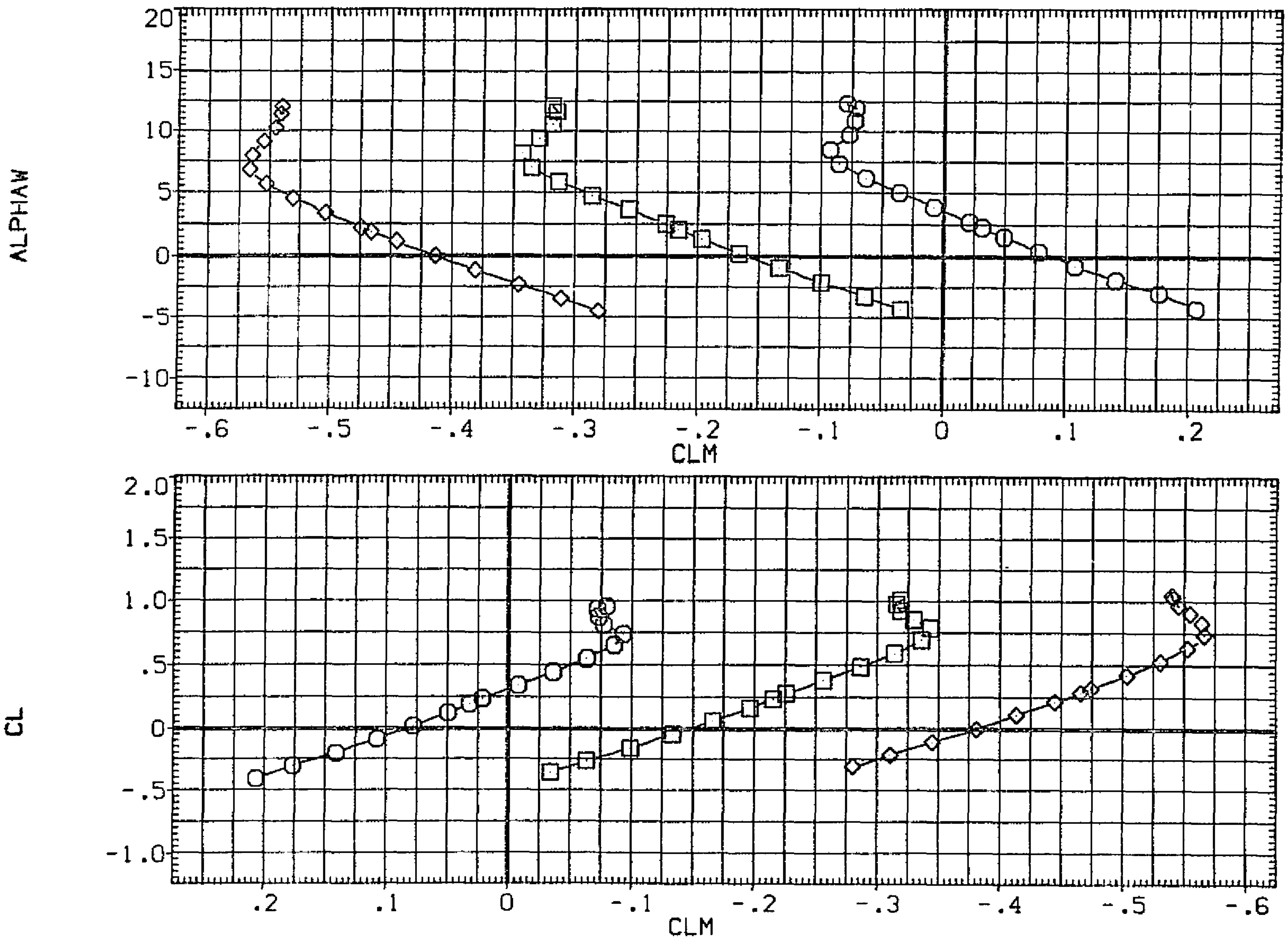



FIG. 14 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP016) | ○ | CA6 K1H15.1 V9.1 | 4.940 | -10.000 | -10.000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | 4.940 | .000 | .000 |
| (RGP015) | ◇ | CA6 K1H15.1 V9.1 | 4.940 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

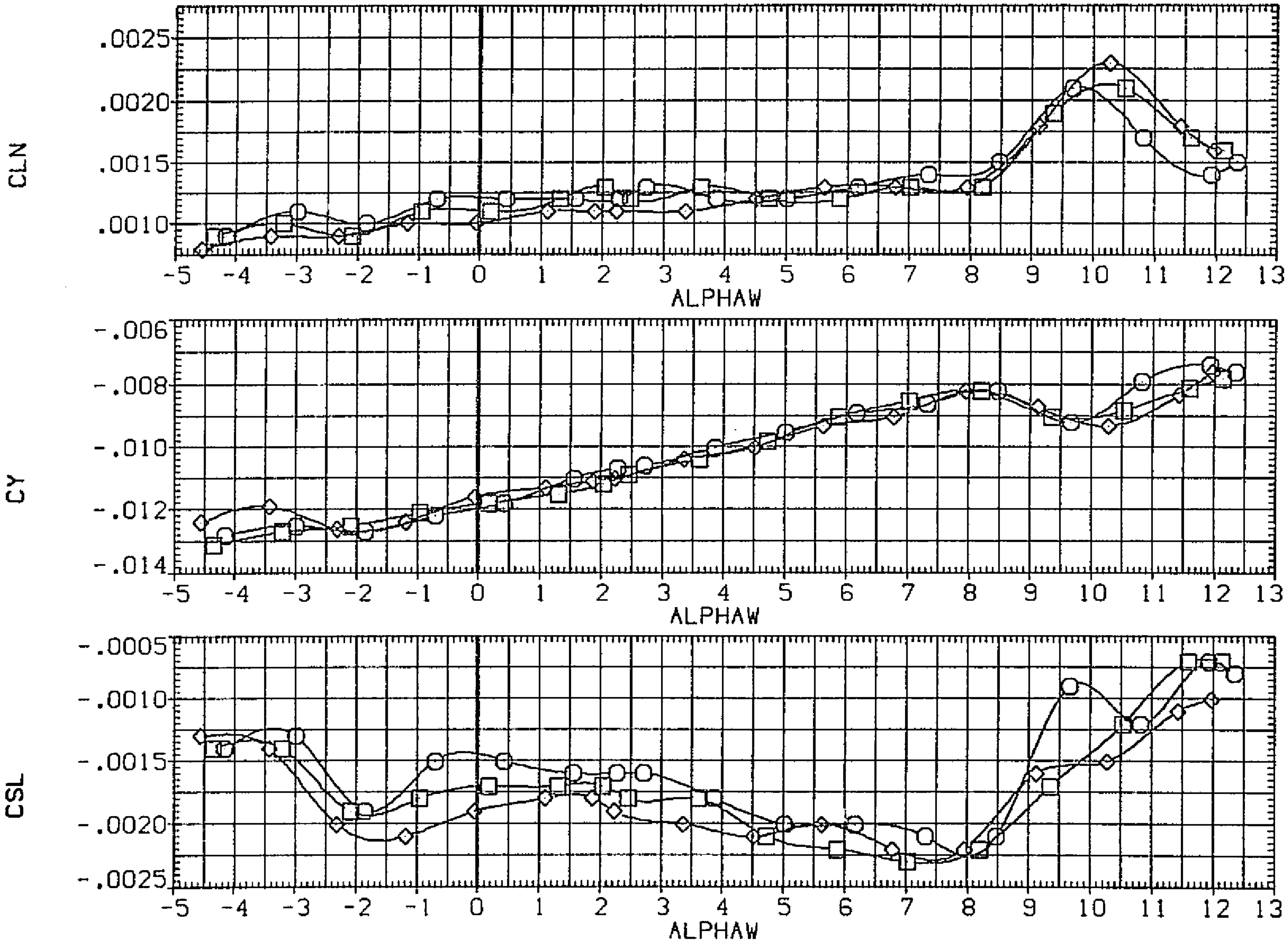


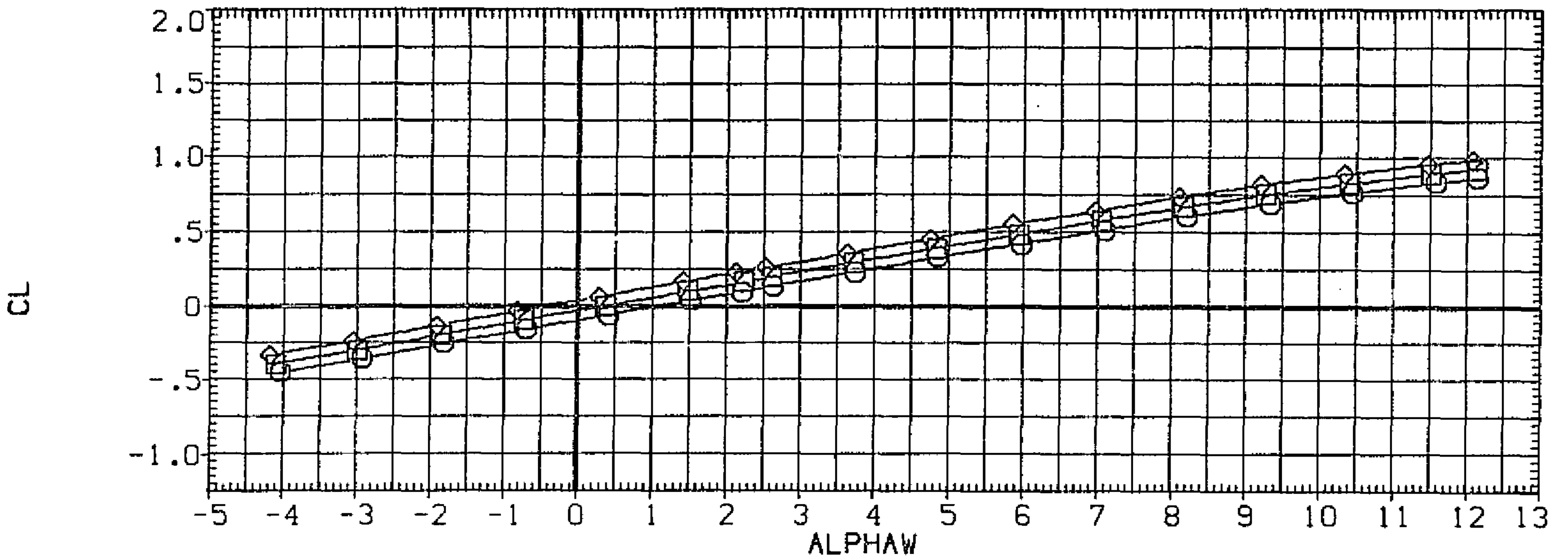

FIG. 14 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



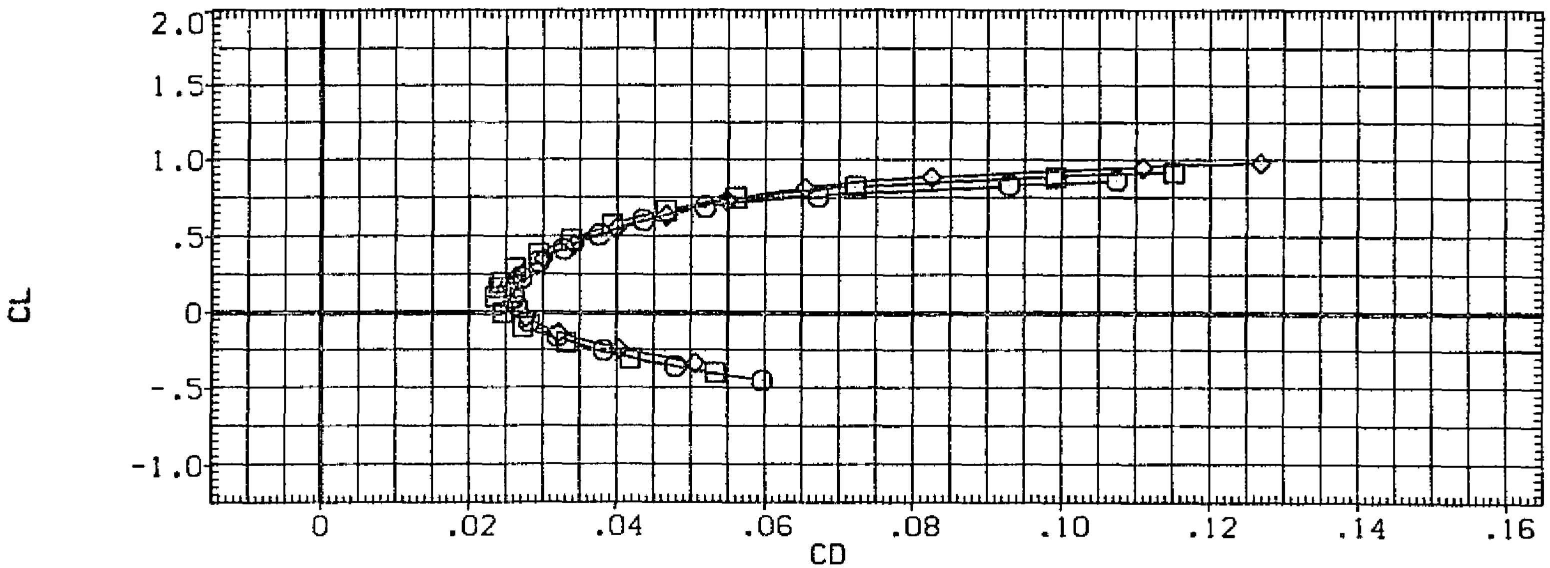




FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

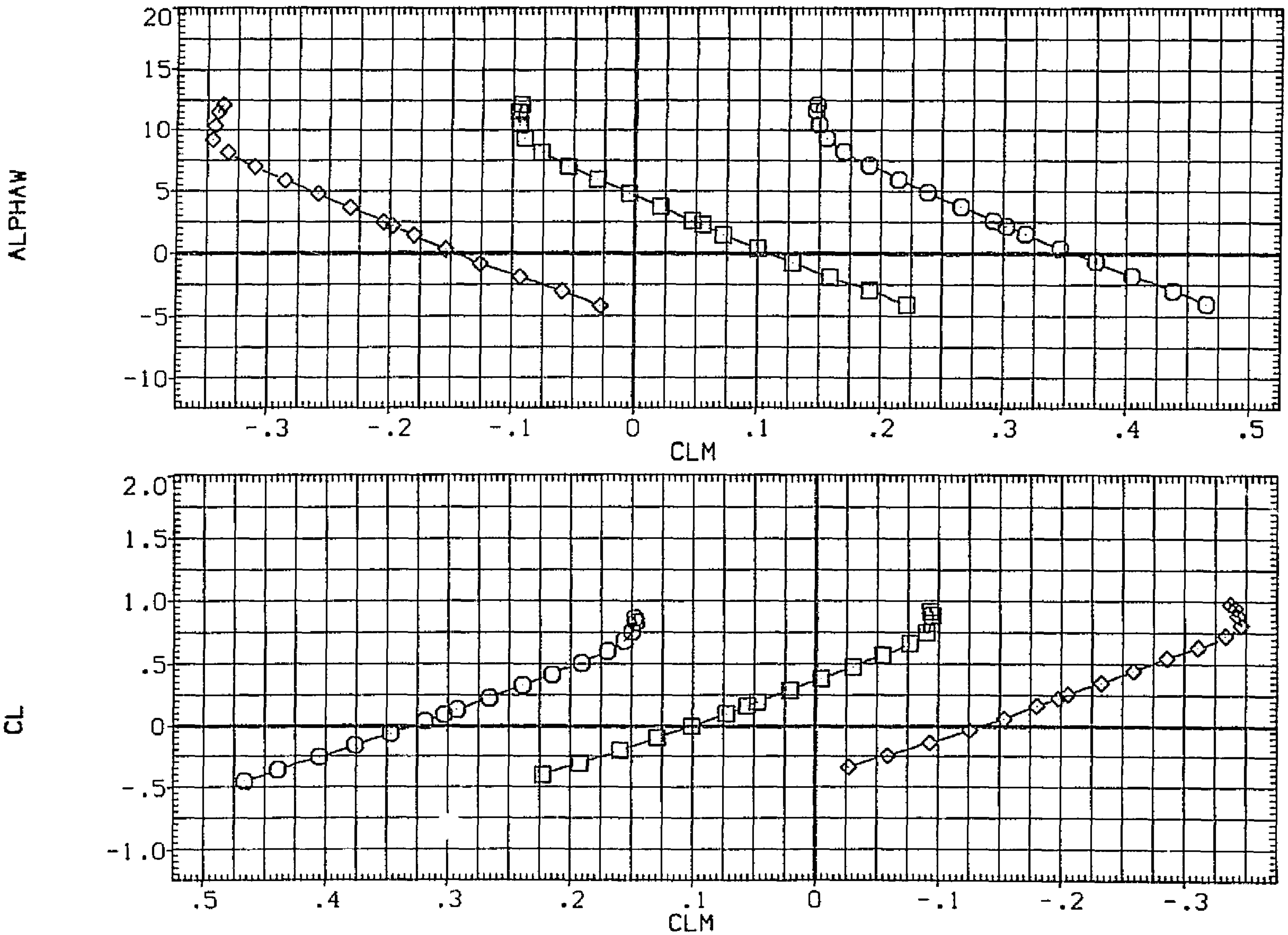



FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(A)MACH = .30

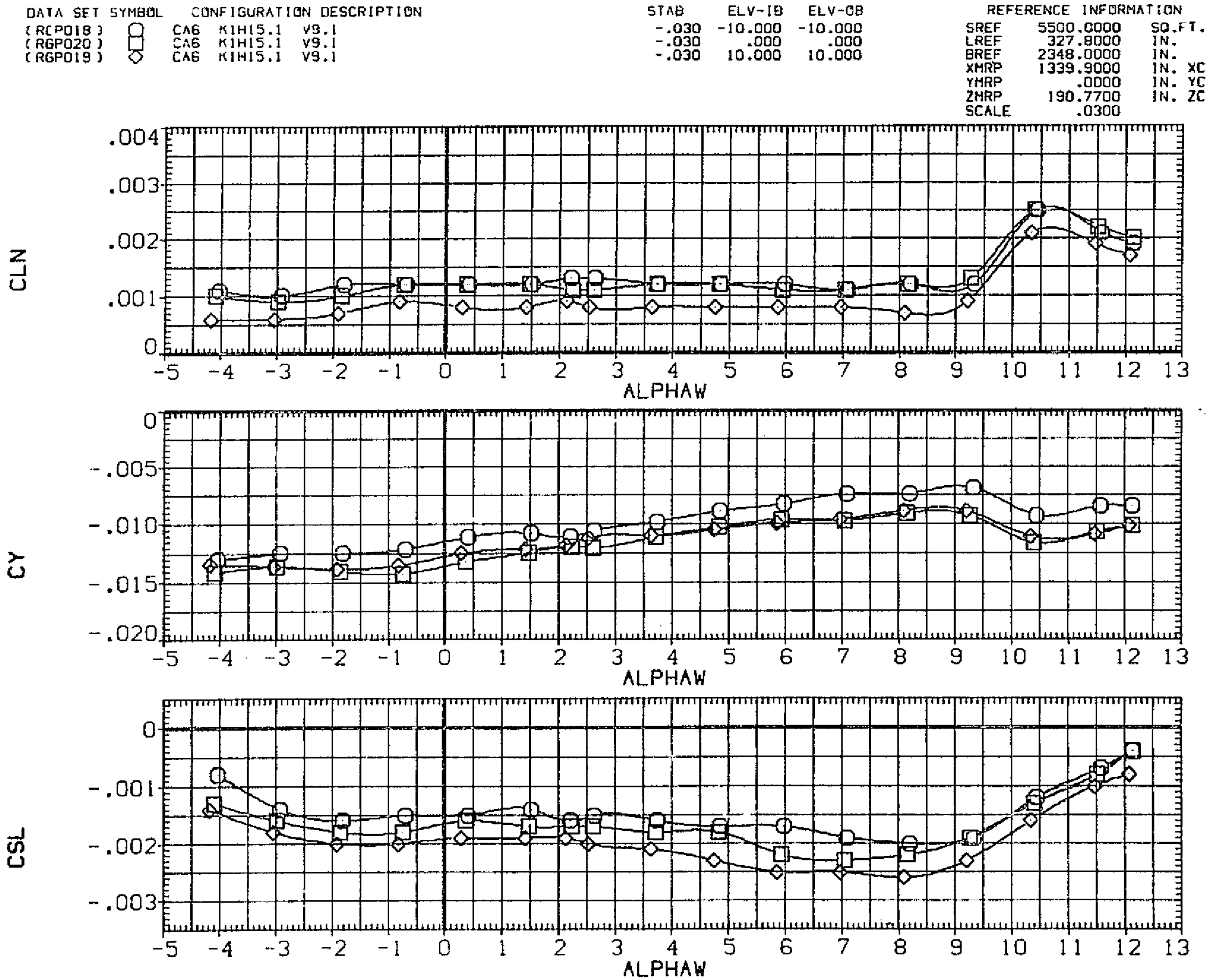


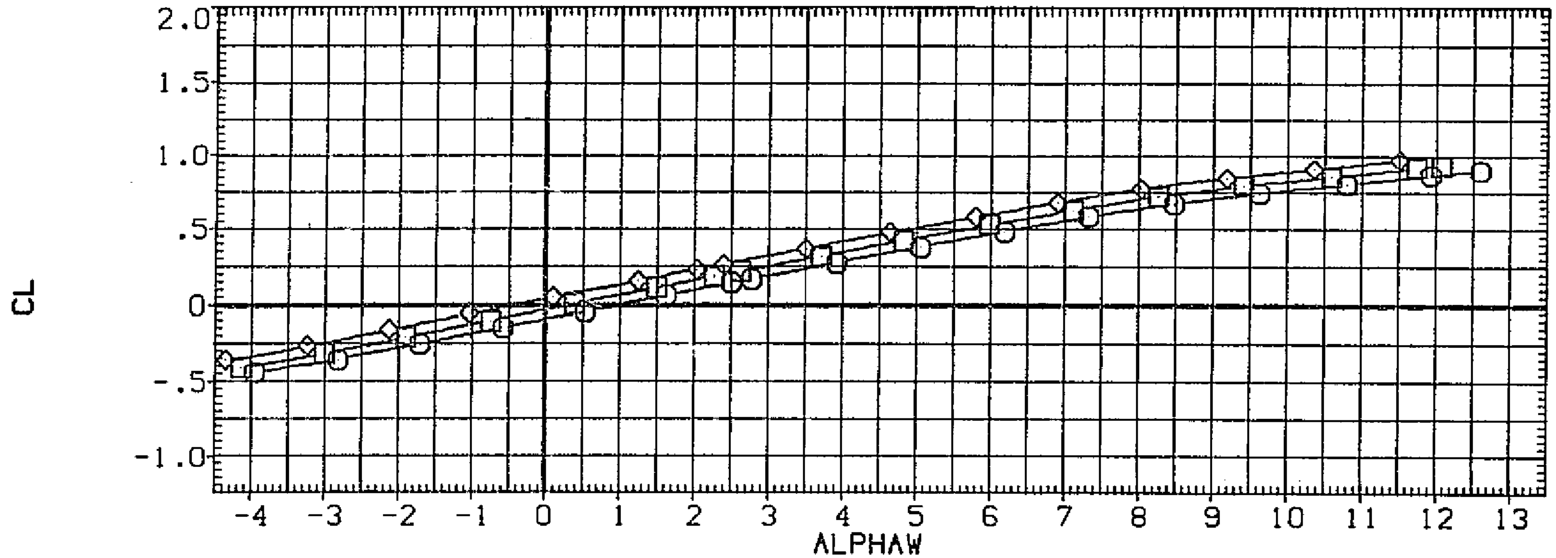

FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



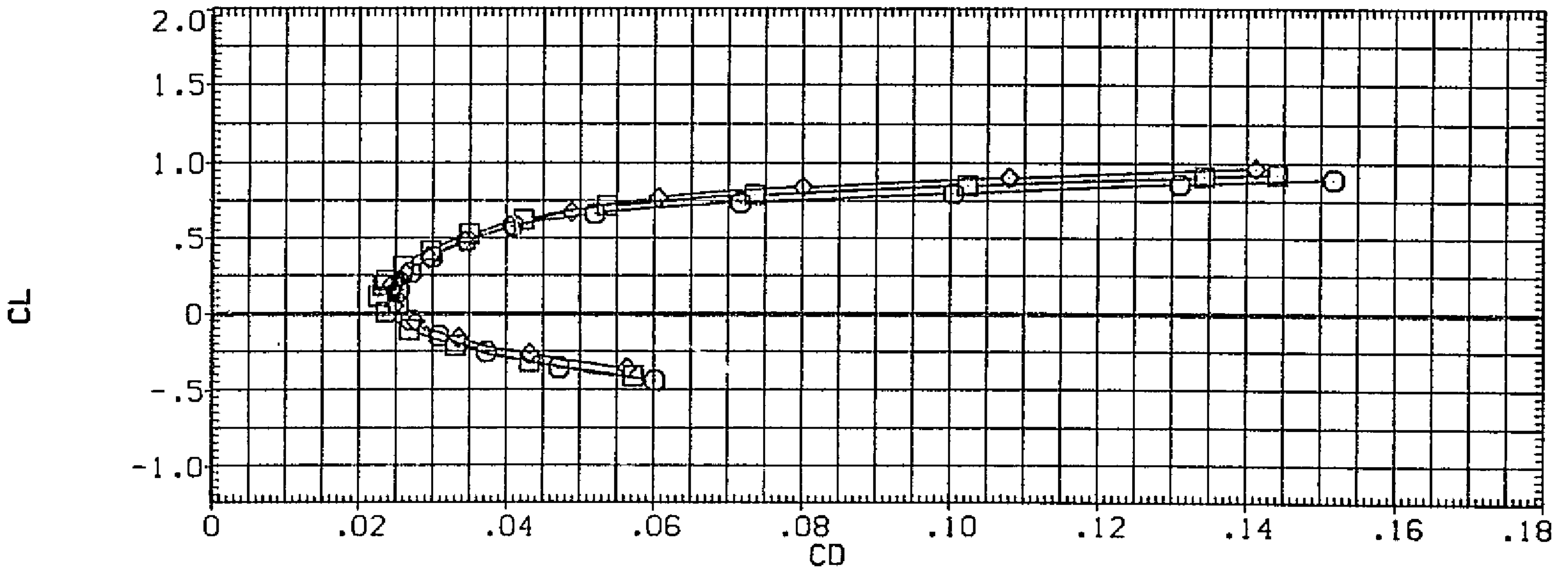




FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

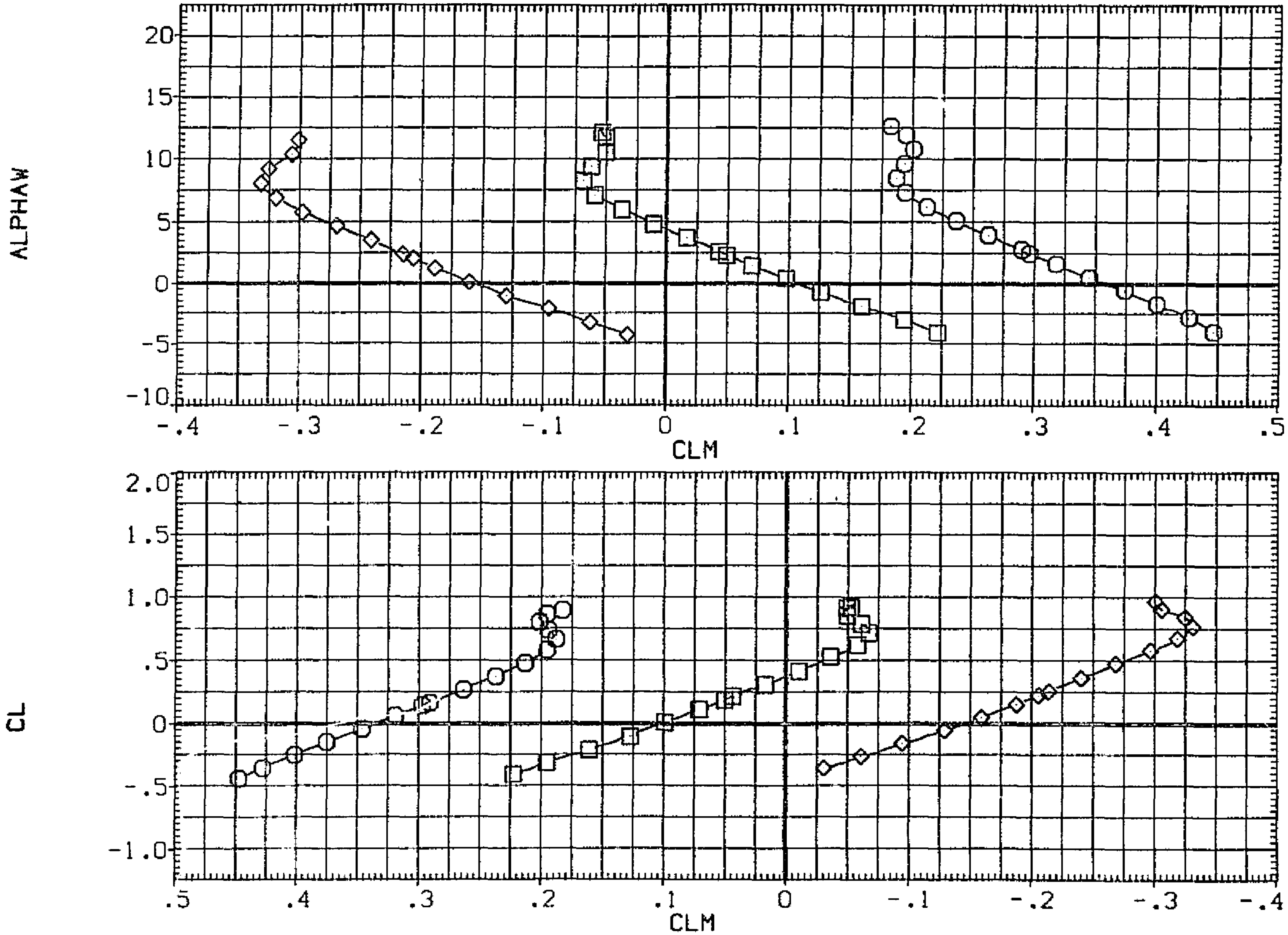



FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

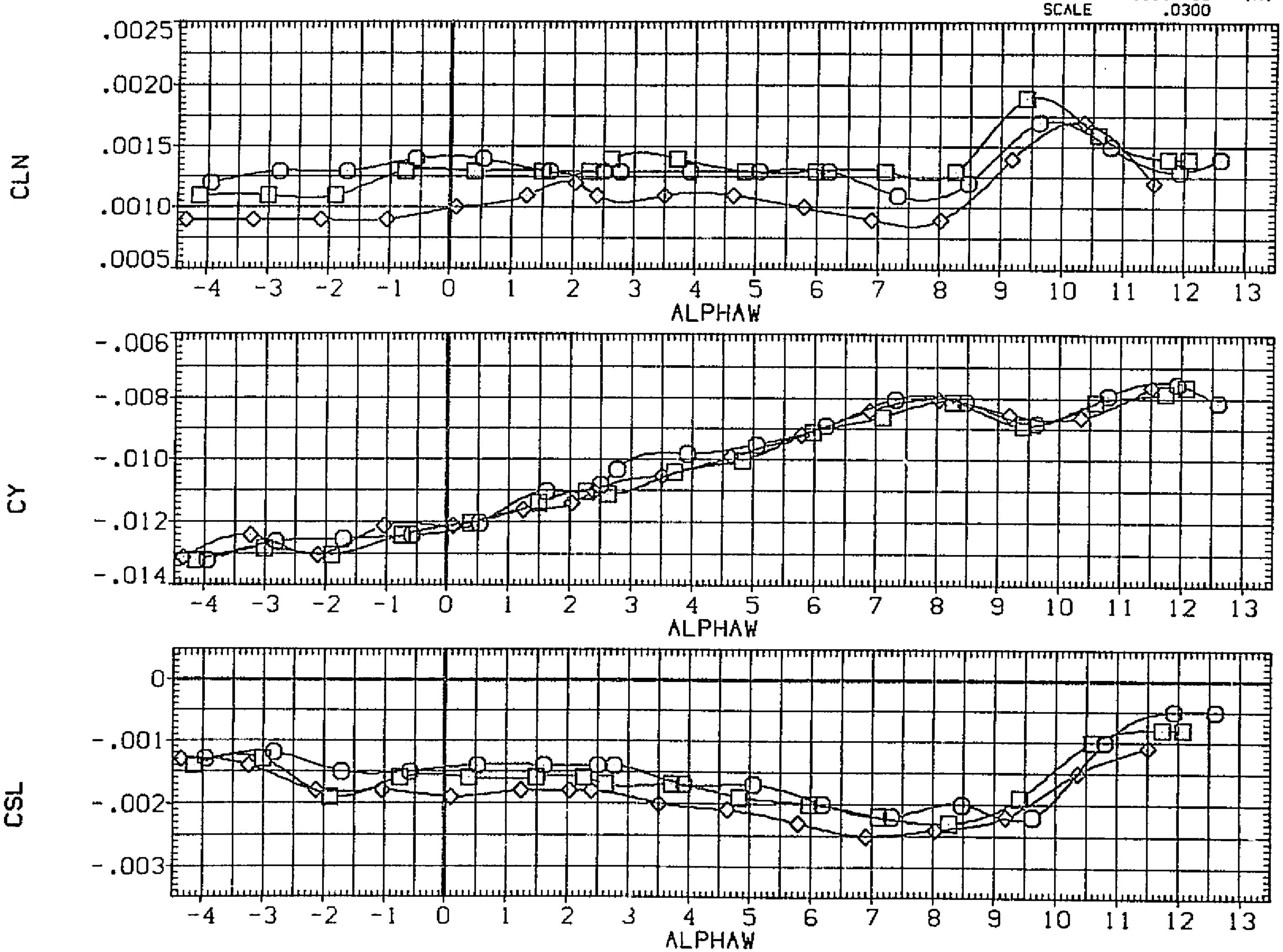



FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

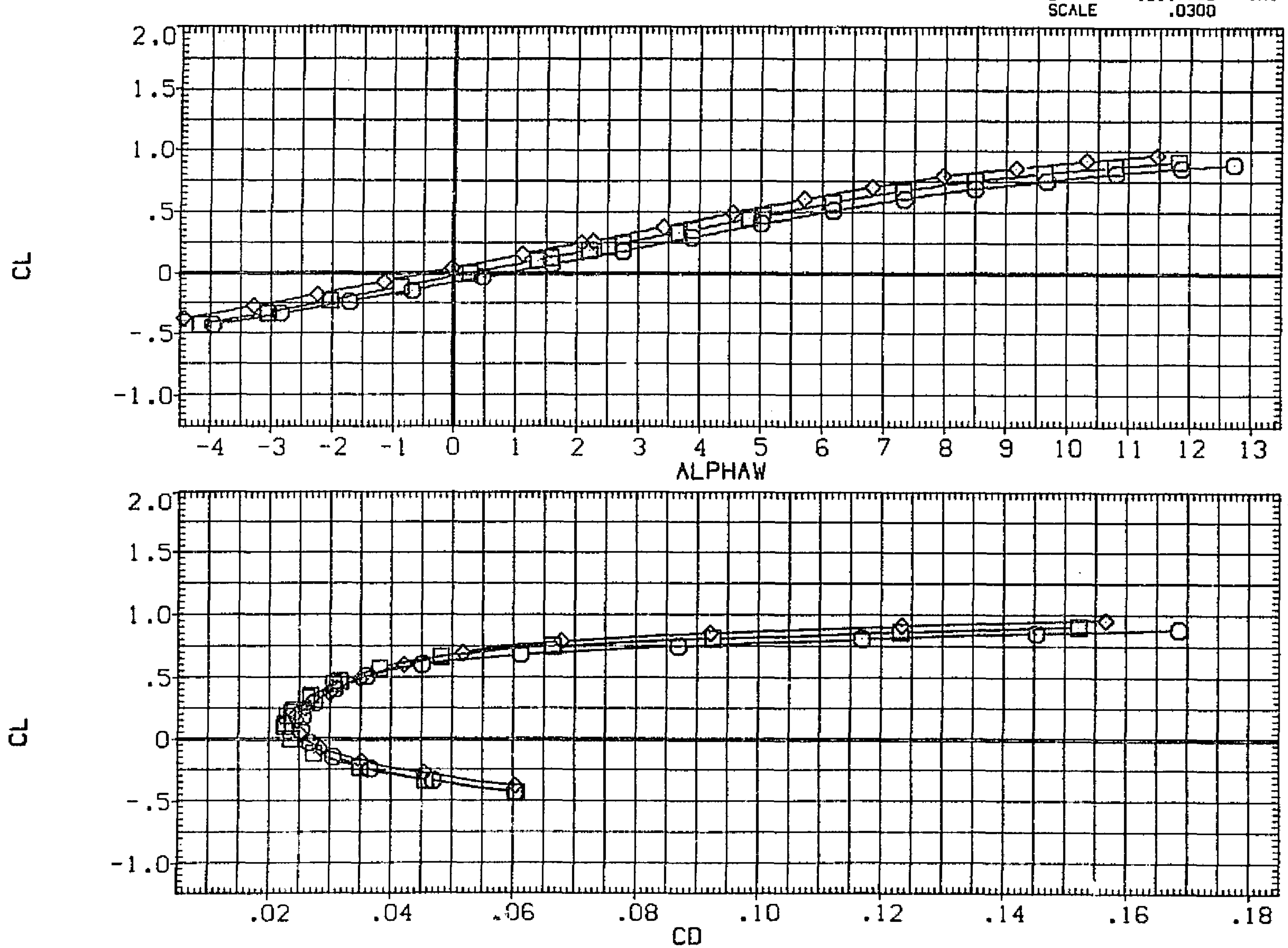



FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.3000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

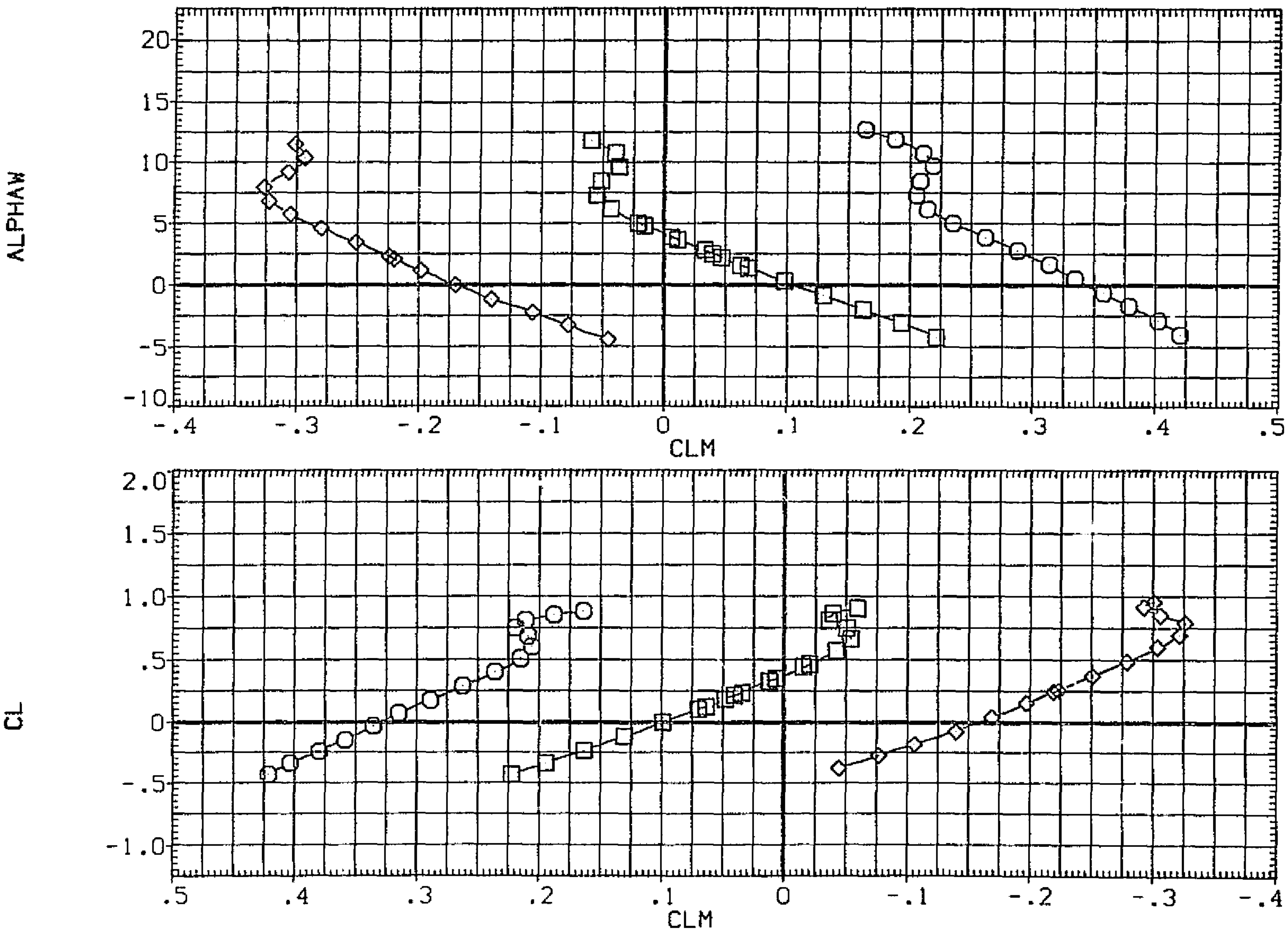



FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|
| (RGP018) | ○ | CA6 K1H15.1 V9.1 | -.030 | -10.000 | -10.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | -.030 | .000 | .000 |
| (RGP019) | ◇ | CA6 K1H15.1 V9.1 | -.030 | 10.000 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

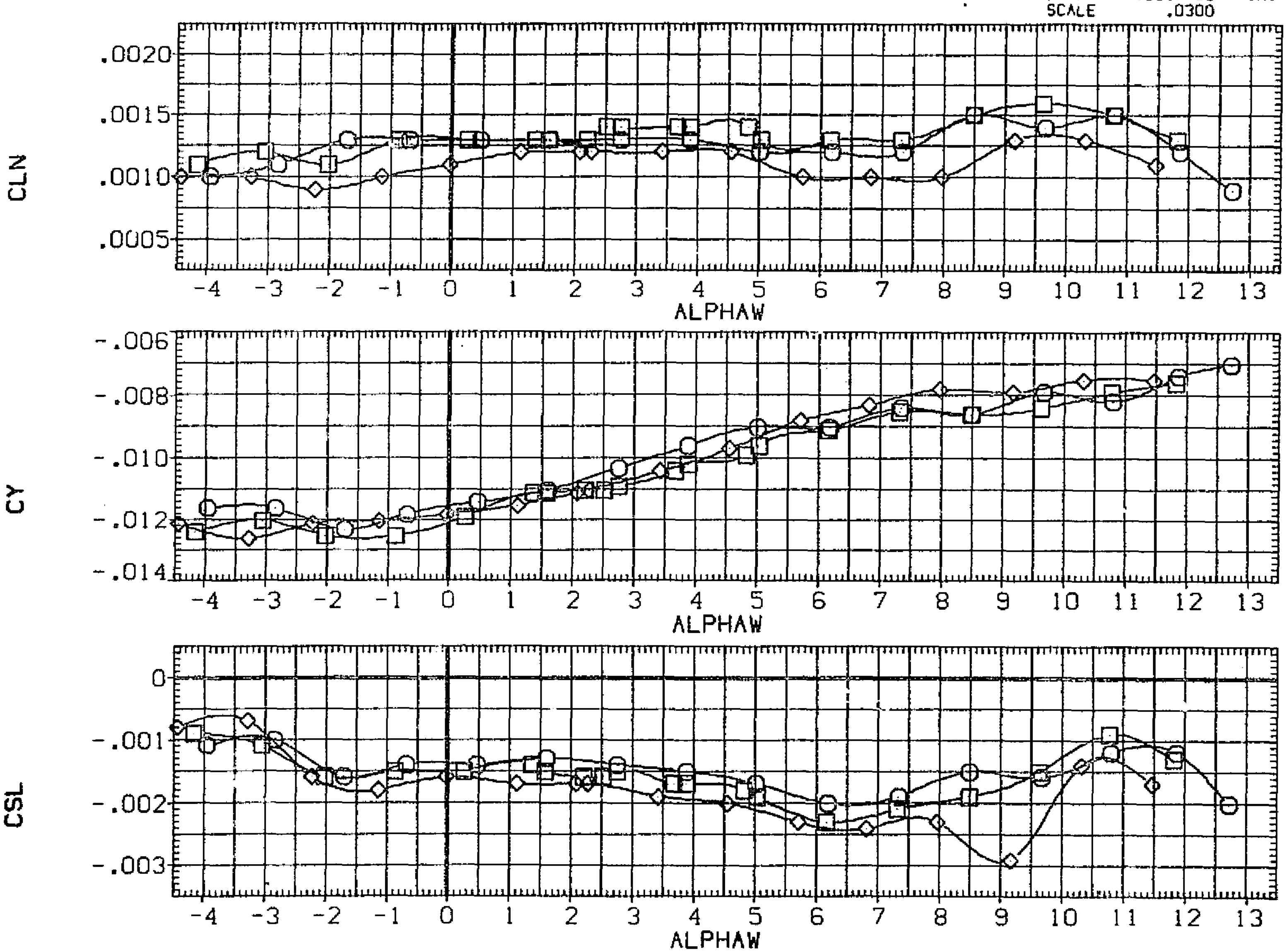



FIG. 15 ELEVATOR EFFECTIVENESS, BASIC 747 ALONE, STABILIZER 0

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP023) | □ | CA6 K1H15.1 V9.1 | -4.000 | -.030 | .000 | .000 |
| (RGP024) | ⊗ | CA6 K1H15.1 V9.1 | 2.000 | -.030 | .000 | .000 |
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | -.030 | .000 | .000 |
| (RGP025) | △ | CA6 K1H15.1 V9.1 | 4.000 | -.030 | .000 | .000 |
| (RGP026) | ▷ | CA6 K1H15.1 V9.1 | 6.000 | -.030 | .000 | .000 |
| (RGP027) | D | CA6 K1H15.1 V9.1 | 10.000 | -.030 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

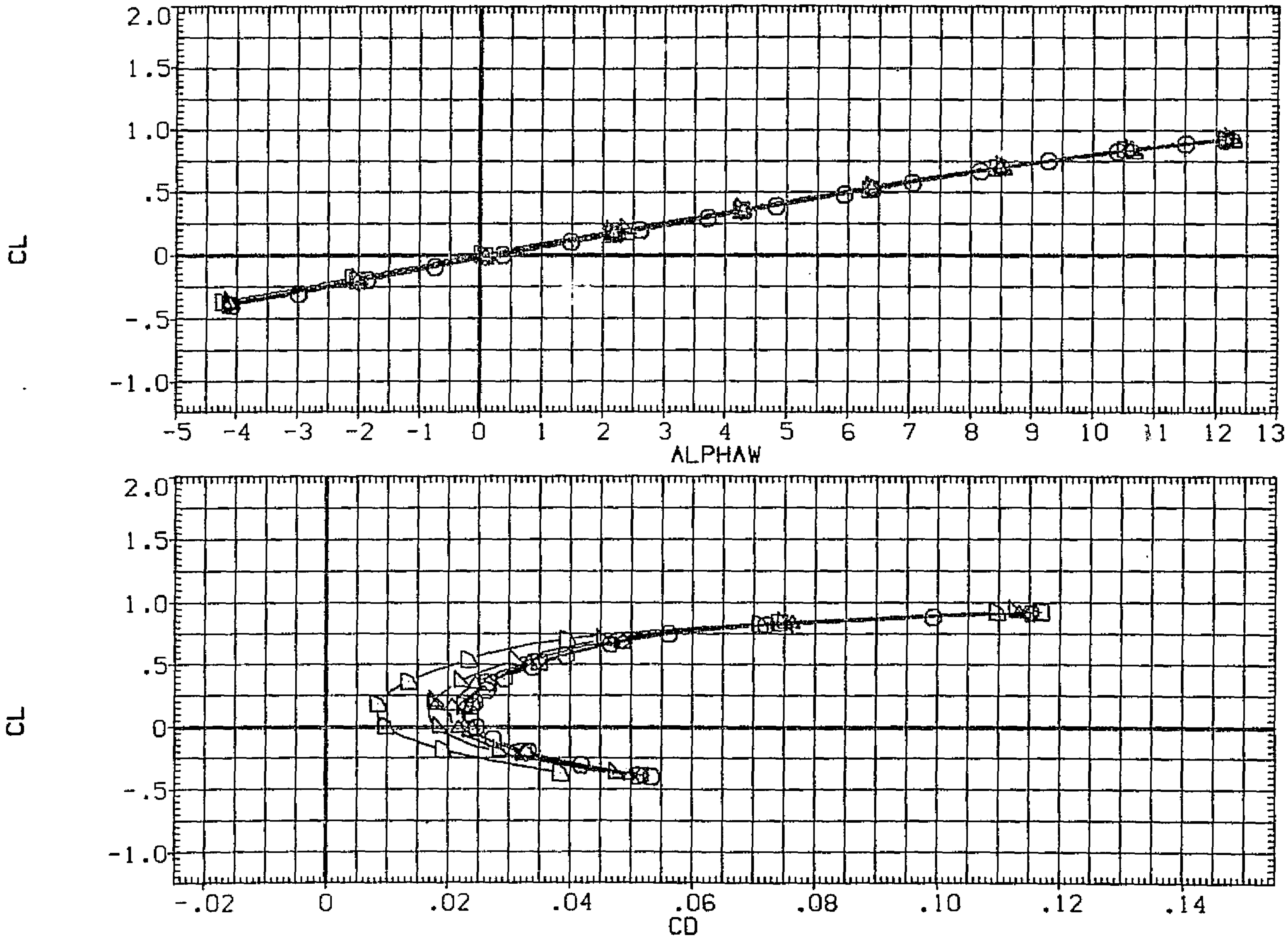



FIG. 16 LATERAL-DIRECTIONAL STABILITY, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP023) | | CA6 K1H15.1 V9.1 | -4.000 | -.030 | .000 | .000 |
| (RGP024) | | CA6 K1H15.1 V9.1 | 2.000 | -.030 | .000 | .000 |
| (RGP020) | | CA6 K1H15.1 V9.1 | .000 | -.030 | .000 | .000 |
| (RGP025) | | CA6 K1H15.1 V9.1 | 4.000 | -.030 | .000 | .000 |
| (RGP026) | | CA6 K1H15.1 V9.1 | 6.000 | -.030 | .000 | .000 |
| (RGP027) | | CA6 K1H15.1 V9.1 | 10.000 | -.030 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

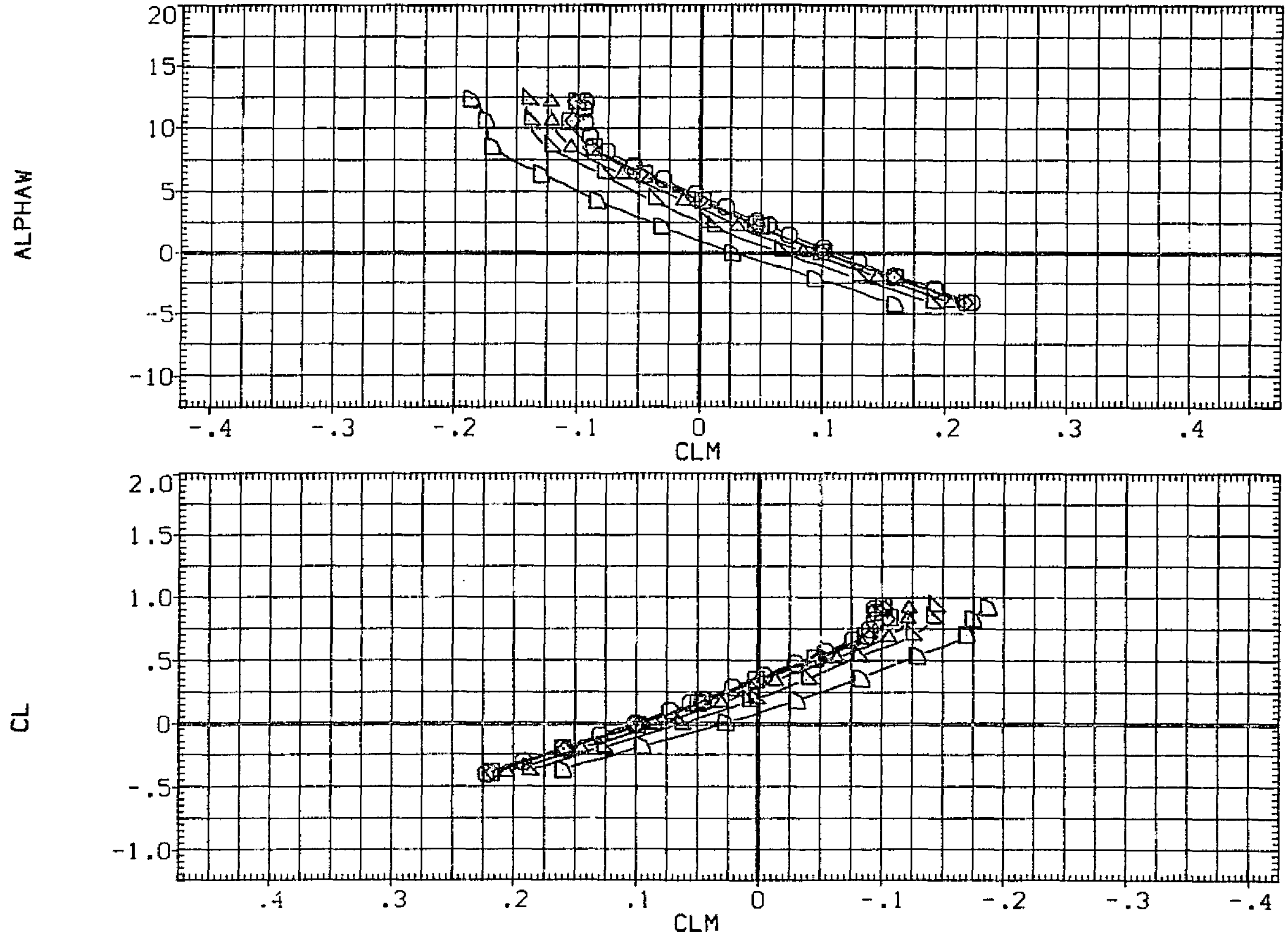



FIG. 16 LATERAL-DIRECTIONAL STABILITY, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP023) | □ | CA6 K1H15.1 V9.1 | -4.000 | -.030 | .000 | .000 |
| (RGP024) | ◇ | CA6 K1H15.1 V9.1 | 2.000 | -.030 | .000 | .000 |
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | -.030 | .000 | .000 |
| (RGP025) | △ | CA6 K1H15.1 V9.1 | 4.000 | -.030 | .000 | .000 |
| (RGP026) | | CA6 K1H15.1 V9.1 | 6.000 | -.030 | .000 | .000 |
| (RGP027) | | CA6 K1H15.1 V9.1 | 10.000 | -.030 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

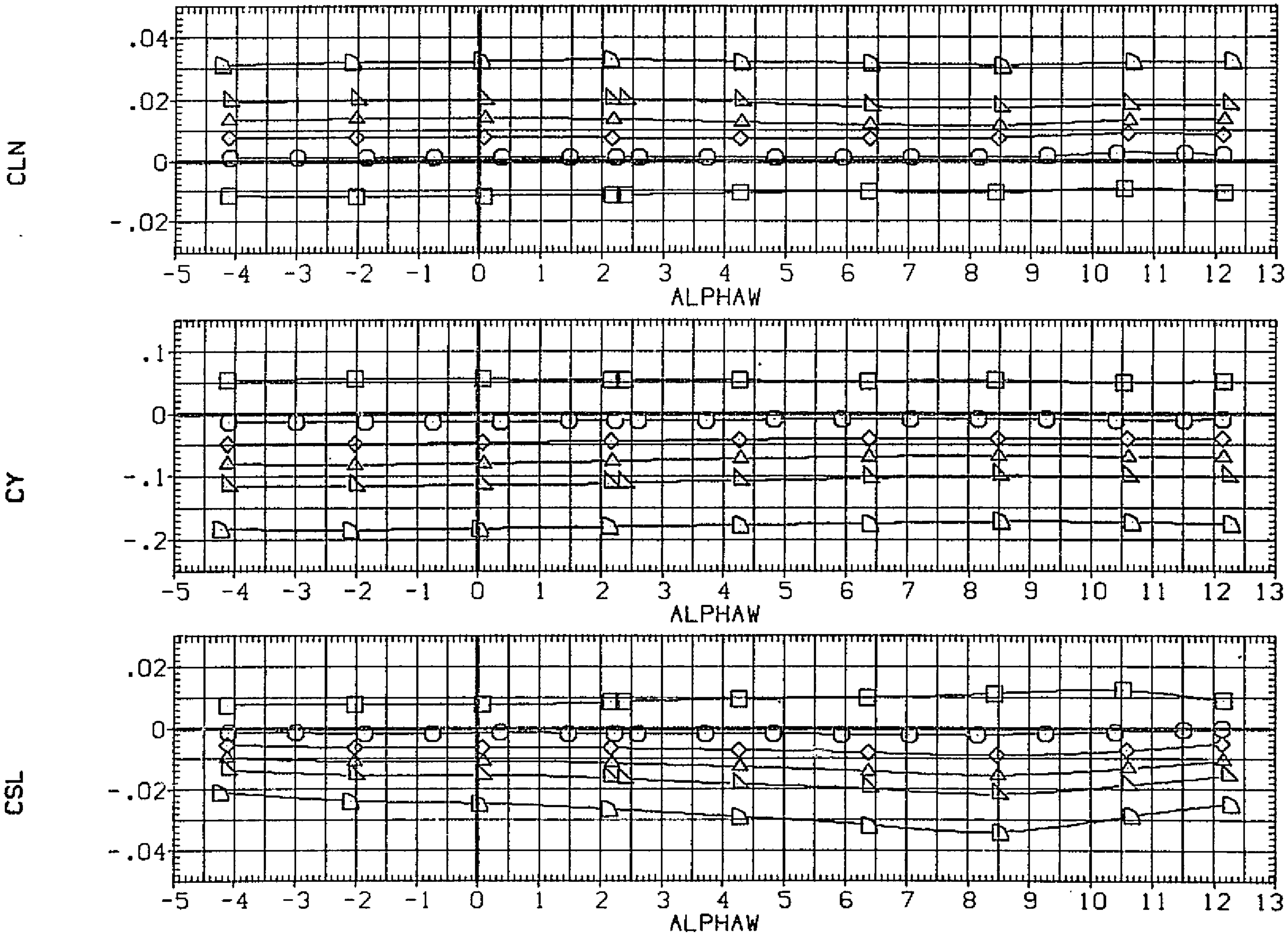



FIG. 16 LATERAL-DIRECTIONAL STABILITY, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP023) | □ | CA6 K1H15.1 V9.1 | -4.000 | -.030 | .000 | .000 |
| (RGP024) | ◇ | CA6 K1H15.1 V9.1 | 2.000 | -.030 | .000 | .000 |
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | -.030 | .000 | .000 |
| (RGP025) | △ | CA6 K1H15.1 V9.1 | 4.000 | -.030 | .000 | .000 |
| (RGP026) | ◁ | CA6 K1H15.1 V9.1 | 6.000 | -.030 | .000 | .000 |
| (RGP027) | ◺ | CA6 K1H15.1 V9.1 | 10.000 | -.030 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

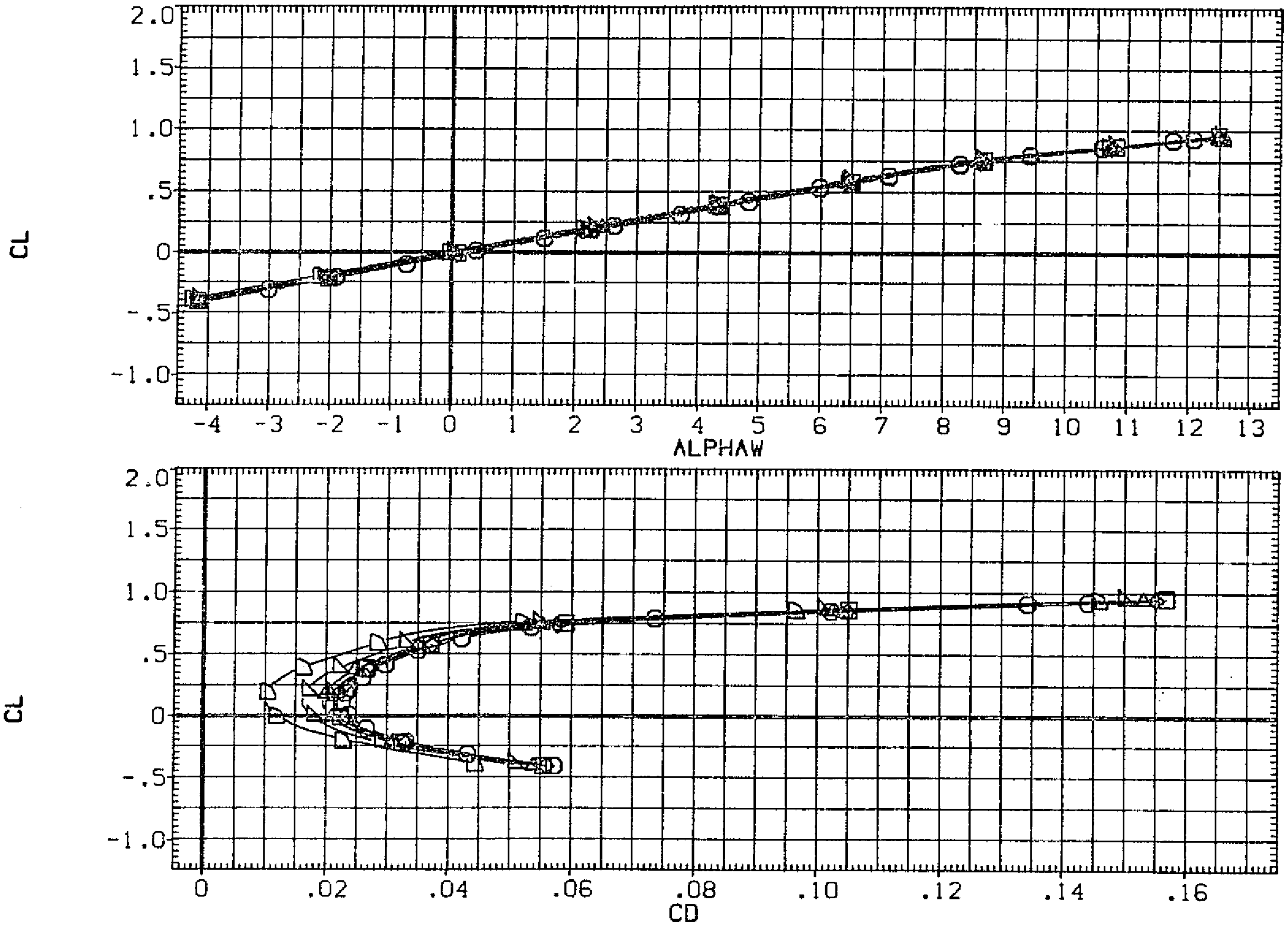



FIG. 16 LATERAL-DIRECTIONAL STABILITY, BASIC 747 ALONE

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP023) | □ | CA6 K1H15.1 V9.1 | -4.000 | -.030 | .000 | .000 |
| (RGP024) | ◇ | CA6 K1H15.1 V9.1 | 2.000 | -.030 | .000 | .000 |
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | -.030 | .000 | .000 |
| (RGP025) | △ | CA6 K1H15.1 V9.1 | 4.000 | -.030 | .000 | .000 |
| (RGP026) | ◁ | CA6 K1H15.1 V9.1 | 6.000 | -.030 | .000 | .000 |
| (RGP027) | ◻ | CA6 K1H15.1 V9.1 | 10.000 | -.030 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

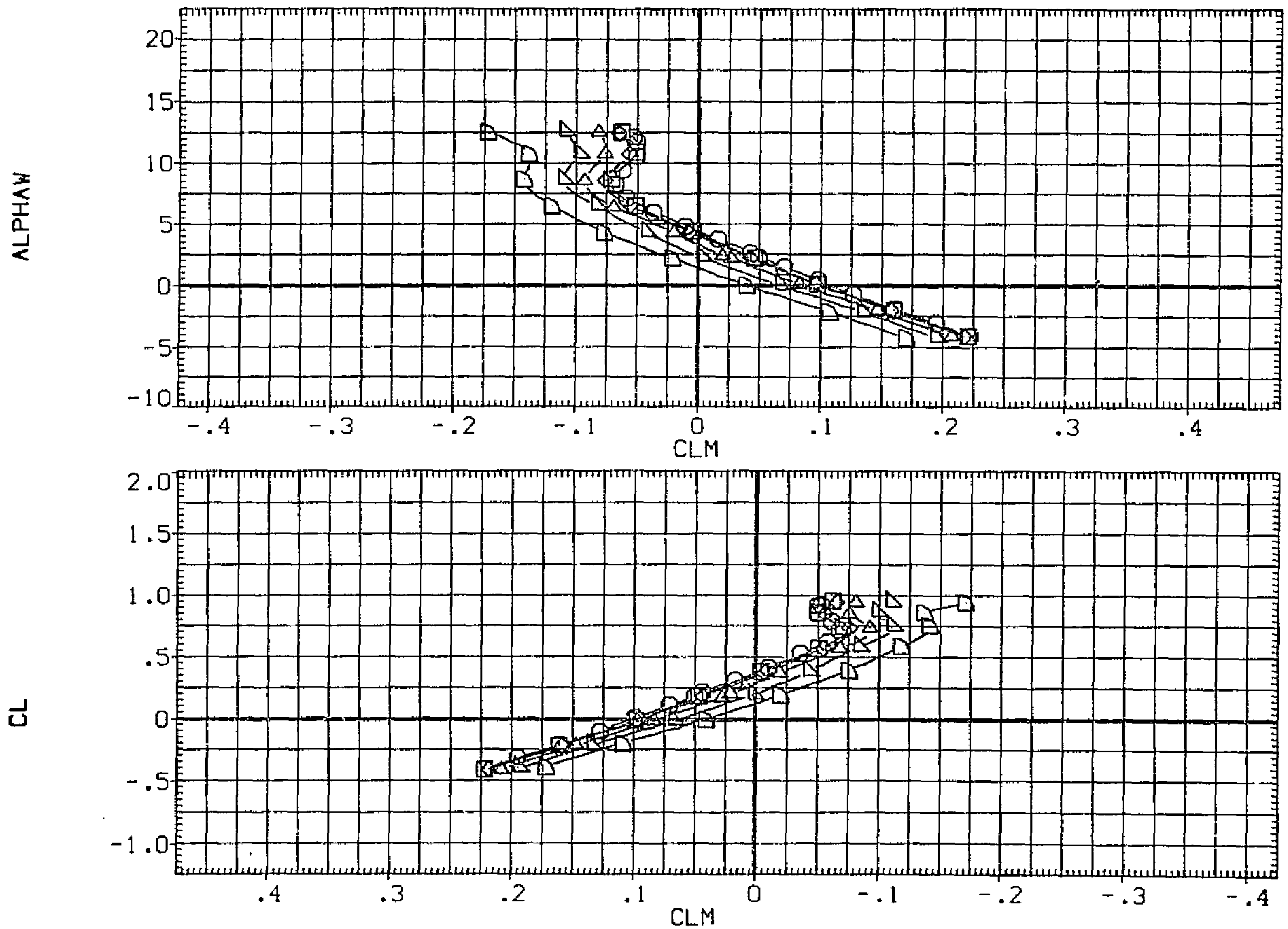



FIG. 16 LATERAL-DIRECTIONAL STABILITY, BASIC 747 ALONE

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP023) | □ | CA6 K1H15.1 V9.1 | -4.000 | -.030 | .000 | .000 |
| (RGP024) | ◇ | CA6 K1H15.1 V9.1 | 2.000 | -.030 | .000 | .000 |
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | -.030 | .000 | .000 |
| (RGP025) | △ | CA6 K1H15.1 V9.1 | 4.000 | -.030 | .000 | .000 |
| (RGP026) | ◺ | CA6 K1H15.1 V9.1 | 6.000 | -.030 | .000 | .000 |
| (RGP027) | D | CA6 K1H15.1 V9.1 | 10.000 | -.030 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

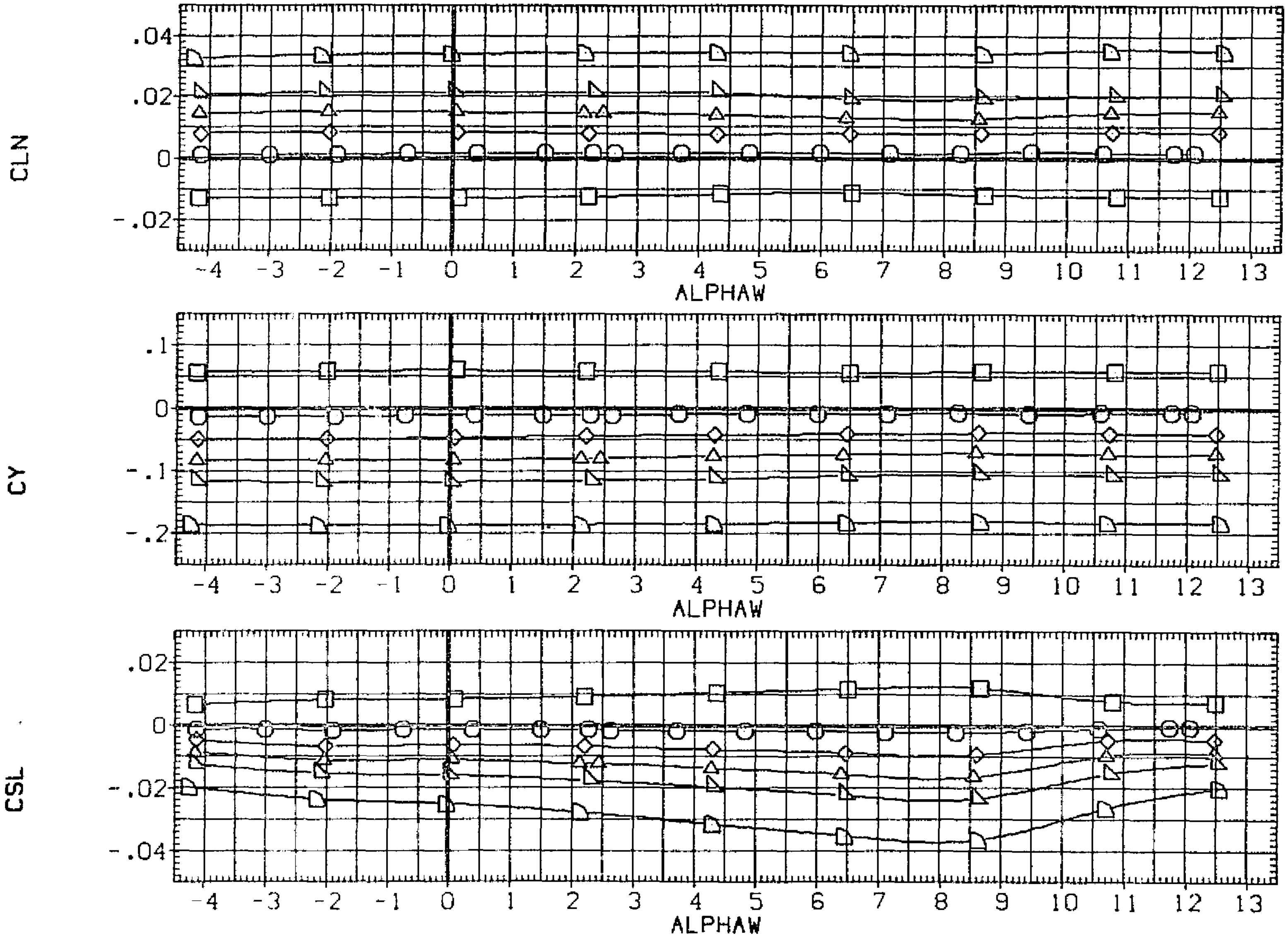



FIG. 16 LATERAL-DIRECTIONAL STABILITY, BASIC 747 ALONE

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 | -.030 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP028) | □ | CA6 K1H15.1 V9.1 | 3.000 | 3.000 | -.030 | .000 | LREF | 327.8000 | IN. |
| (RGP029) | ◇ | CA6 K1H15.1 V9.1 | 10.000 | 10.000 | -.030 | .000 | BREF | 2348.0000 | IN. |
| (RGP030) | △ | CA6 K1H15.1 V9.1 | .000 | 10.000 | -.030 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP031) | ◺ | CA6 K1H15.1 V9.1 | 10.000 | .000 | -.030 | .000 | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

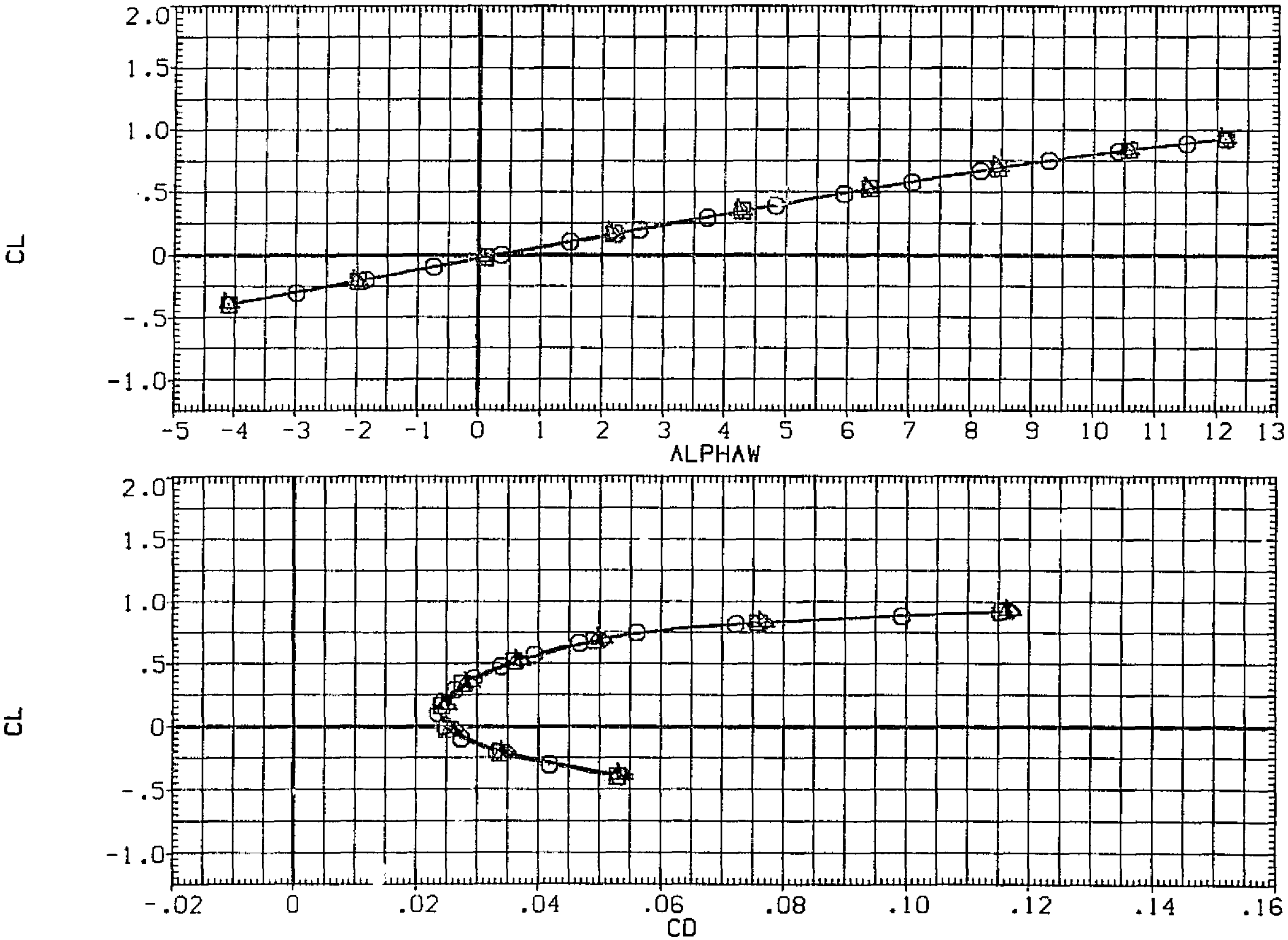



FIG. 17 RUDDER EFFECTIVENESS, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 | -.030 | .000 |
| (RGP028) | □ | CA6 K1H15.1 V9.1 | 3.000 | 3.000 | -.030 | .000 |
| (RGP029) | ◇ | CA6 K1H15.1 V9.1 | 10.000 | 10.000 | -.030 | .000 |
| (RGP030) | △ | CA6 K1H15.1 V9.1 | .000 | 10.000 | -.030 | .000 |
| (RGP031) | ◺ | CA6 K1H15.1 V9.1 | 10.000 | .000 | -.030 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

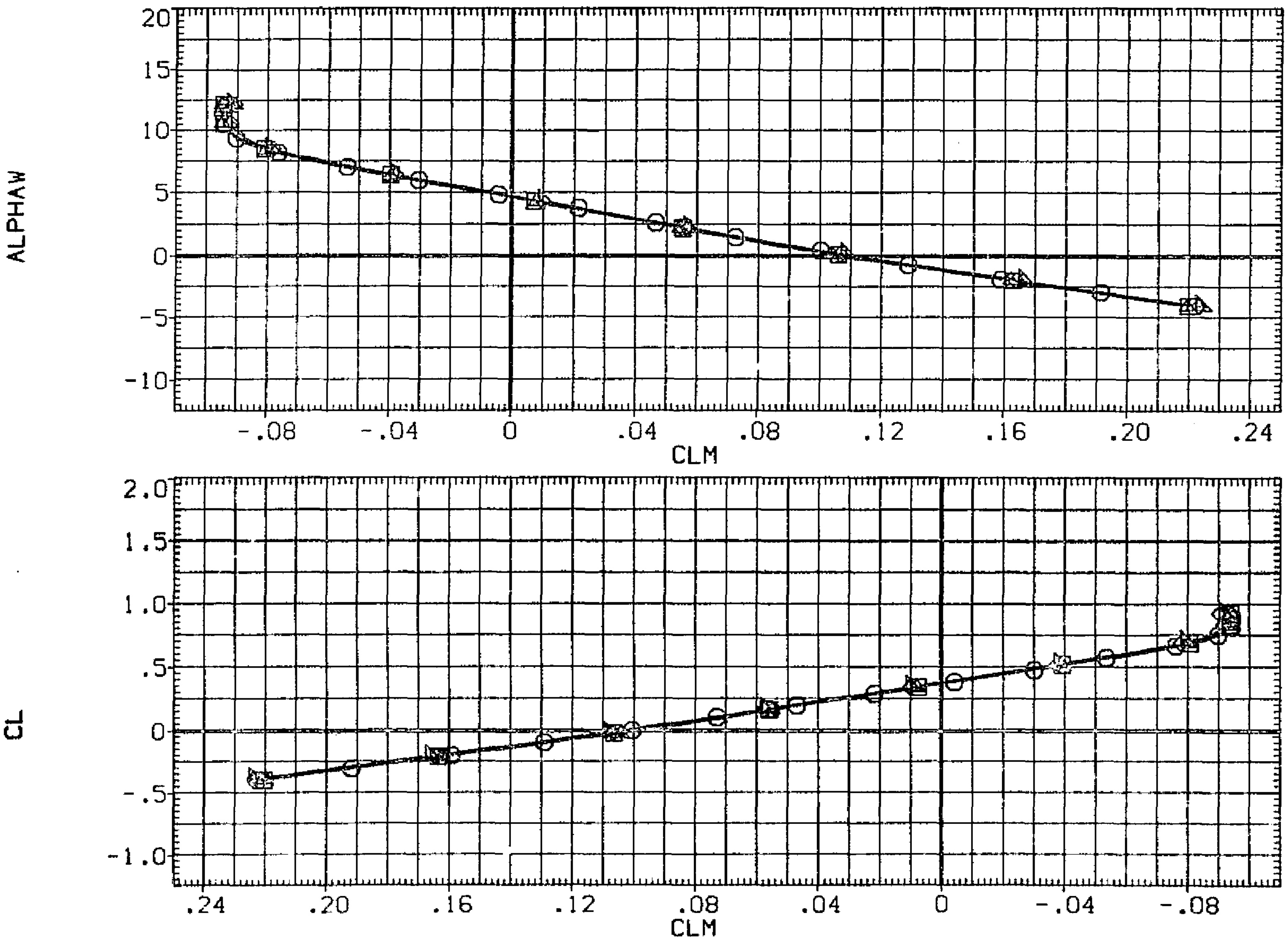



FIG. 17 RUDDER EFFECTIVENESS, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 | -.030 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP028) | □ | CA6 K1H15.1 V9.1 | 3.000 | 3.000 | -.030 | .000 | LREF | 327.8000 | IN. |
| (RGP029) | ◇ | CA6 K1H15.1 V9.1 | 10.000 | 10.000 | -.030 | .000 | BREF | 2348.0000 | IN. |
| (RGP030) | △ | CA6 K1H15.1 V9.1 | .000 | 10.000 | -.030 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP031) | ◺ | CA6 K1H15.1 V9.1 | 10.000 | .000 | -.030 | .000 | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

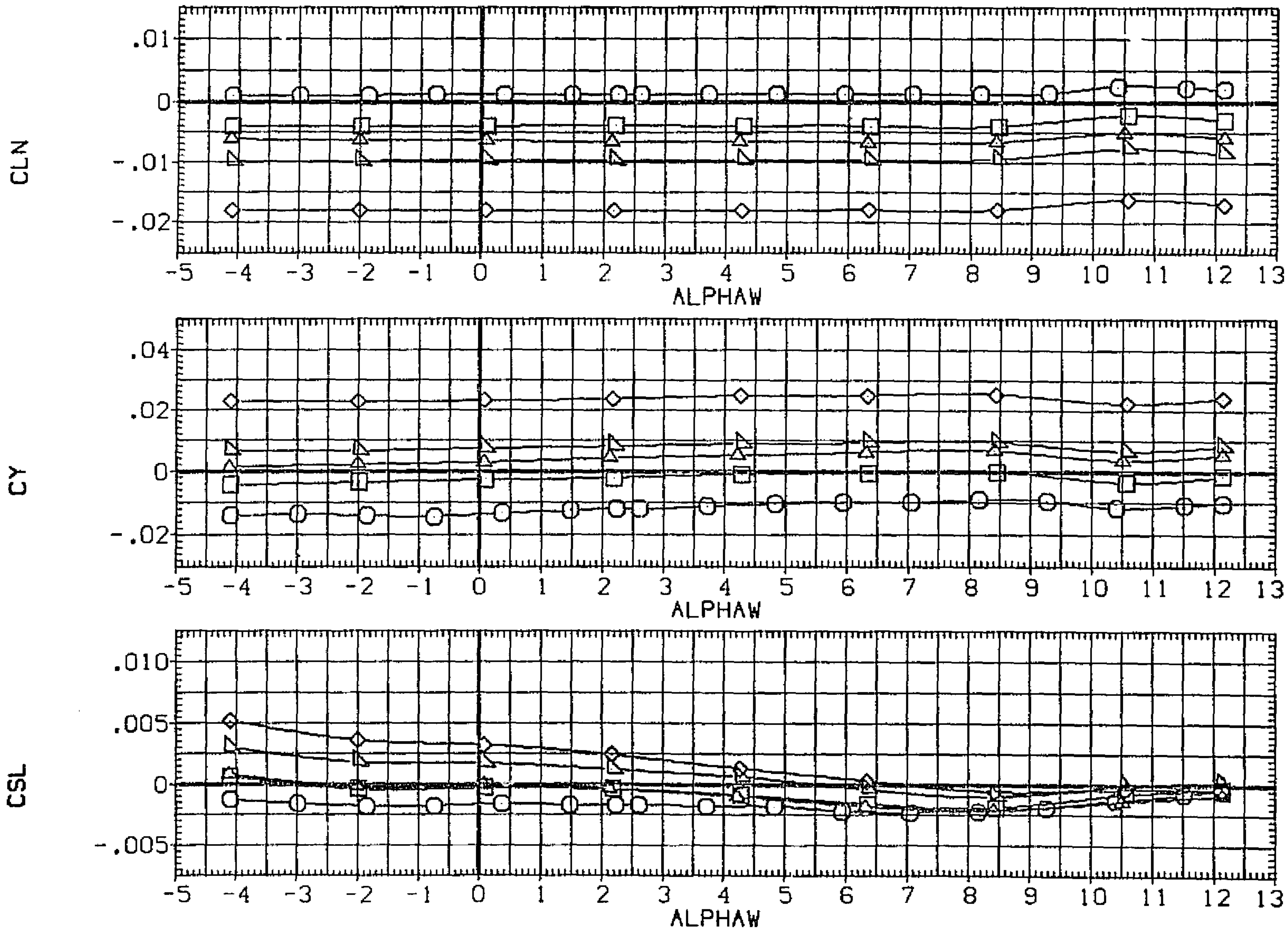



FIG. 17 RUDDER EFFECTIVENESS, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 | -.030 | .000 |
| (RGP028) | □ | CA6 K1H15.1 V9.1 | 3.000 | 3.000 | -.030 | .000 |
| (RGP029) | ◇ | CA6 K1H15.1 V9.1 | 10.000 | 10.000 | -.030 | .000 |
| (RGP030) | △ | CA6 K1H15.1 V9.1 | .000 | 10.000 | -.030 | .000 |
| (RGP031) | ◺ | CA6 K1H15.1 V9.1 | 10.000 | .000 | -.030 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

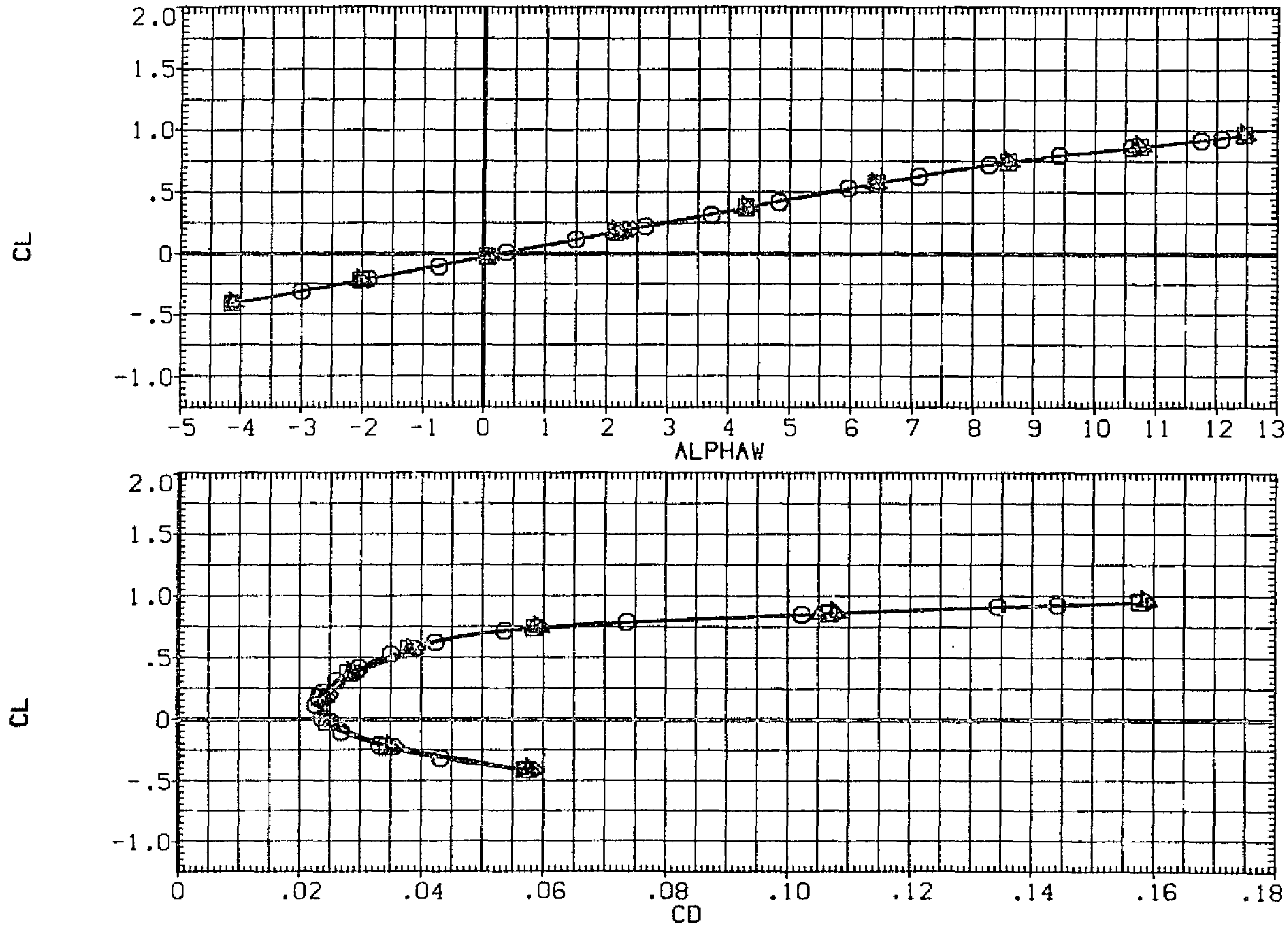
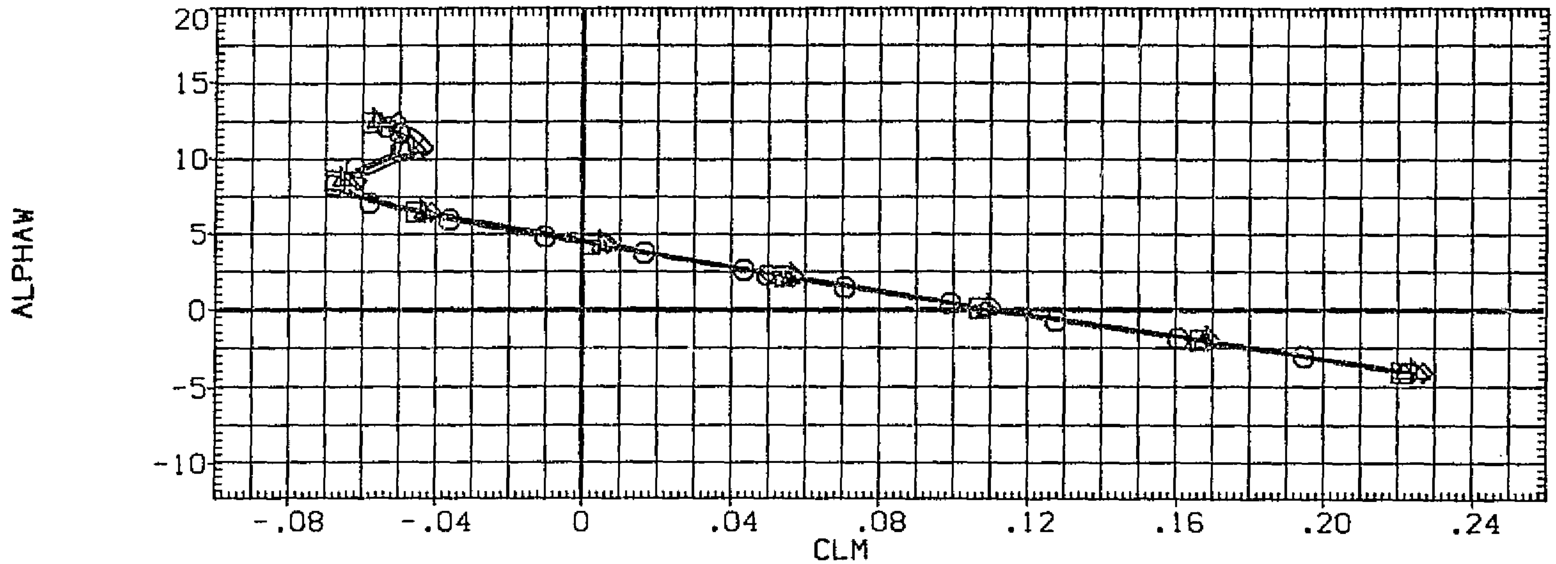



FIG. 17 RUDDER EFFECTIVENESS, BASIC 747 ALONE

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP020) | | CA6 K1H15.1 V9.1 | .000 | .000 | -.030 | .000 |
| (RGP028) | | CA6 K1H15.1 V9.1 | 3.000 | 3.000 | -.030 | .000 |
| (RGP029) | | CA6 K1H15.1 V9.1 | 10.000 | 10.000 | -.030 | .000 |
| (RGP030) | | CA6 K1H15.1 V9.1 | .000 | 10.000 | -.030 | .000 |
| (RGP031) | | CA6 K1H15.1 V9.1 | 10.000 | .000 | -.030 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



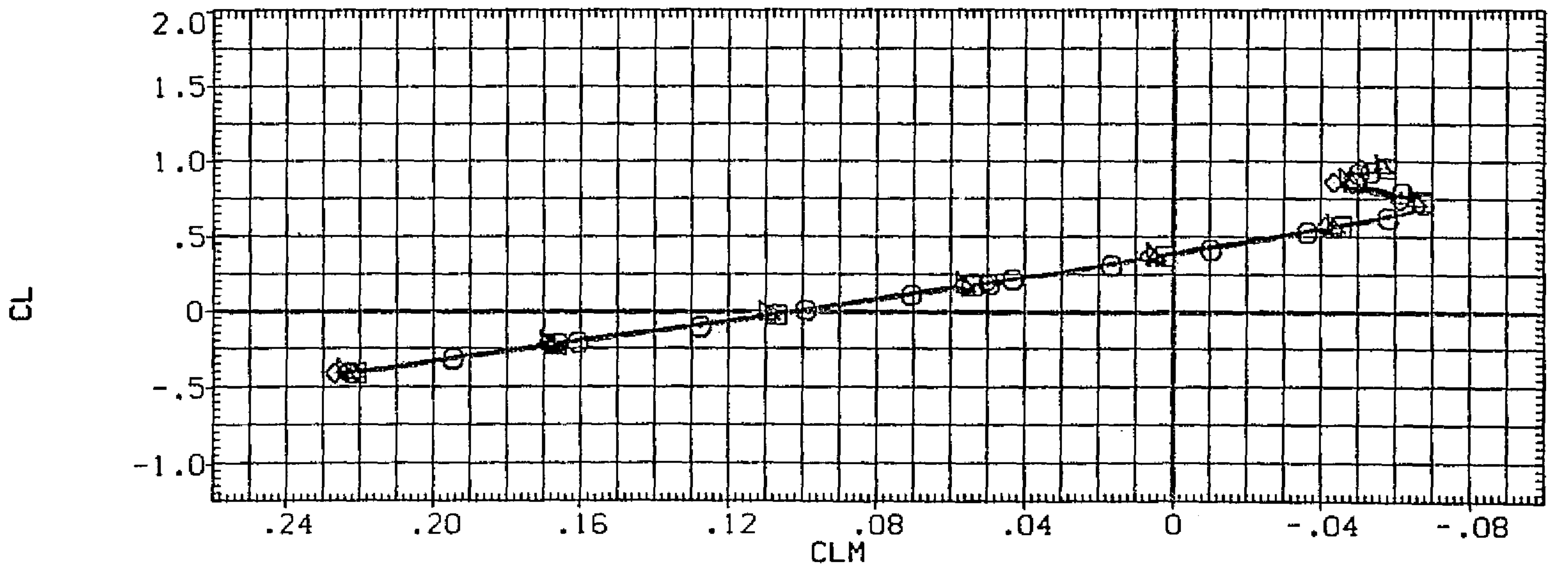




FIG. 17 RUDDER EFFECTIVENESS, BASIC 747 ALONE

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP020) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 | -.030 | .000 |
| (RGP028) | □ | CA6 K1H15.1 V9.1 | 3.000 | 3.000 | -.030 | .000 |
| (RGP029) | ◇ | CA6 K1H15.1 V9.1 | 10.000 | 10.000 | -.030 | .000 |
| (RGP030) | △ | CA6 K1H15.1 V9.1 | .000 | 10.000 | -.030 | .000 |
| (RGP031) | ◺ | CA6 K1H15.1 V9.1 | 10.000 | .000 | -.030 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

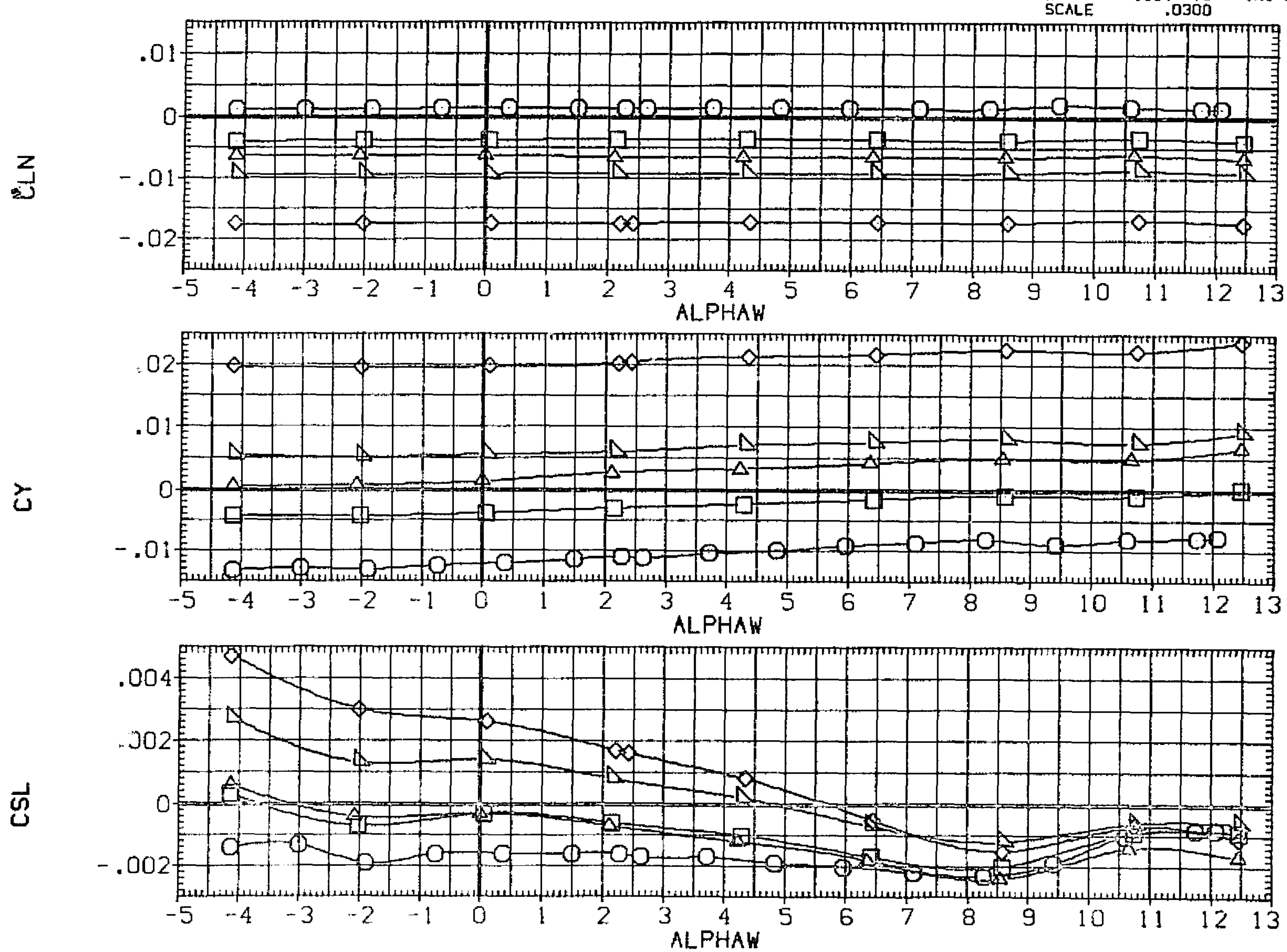



FIG. 17 RUDDER EFFECTIVENESS, BASIC 747 ALONE

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

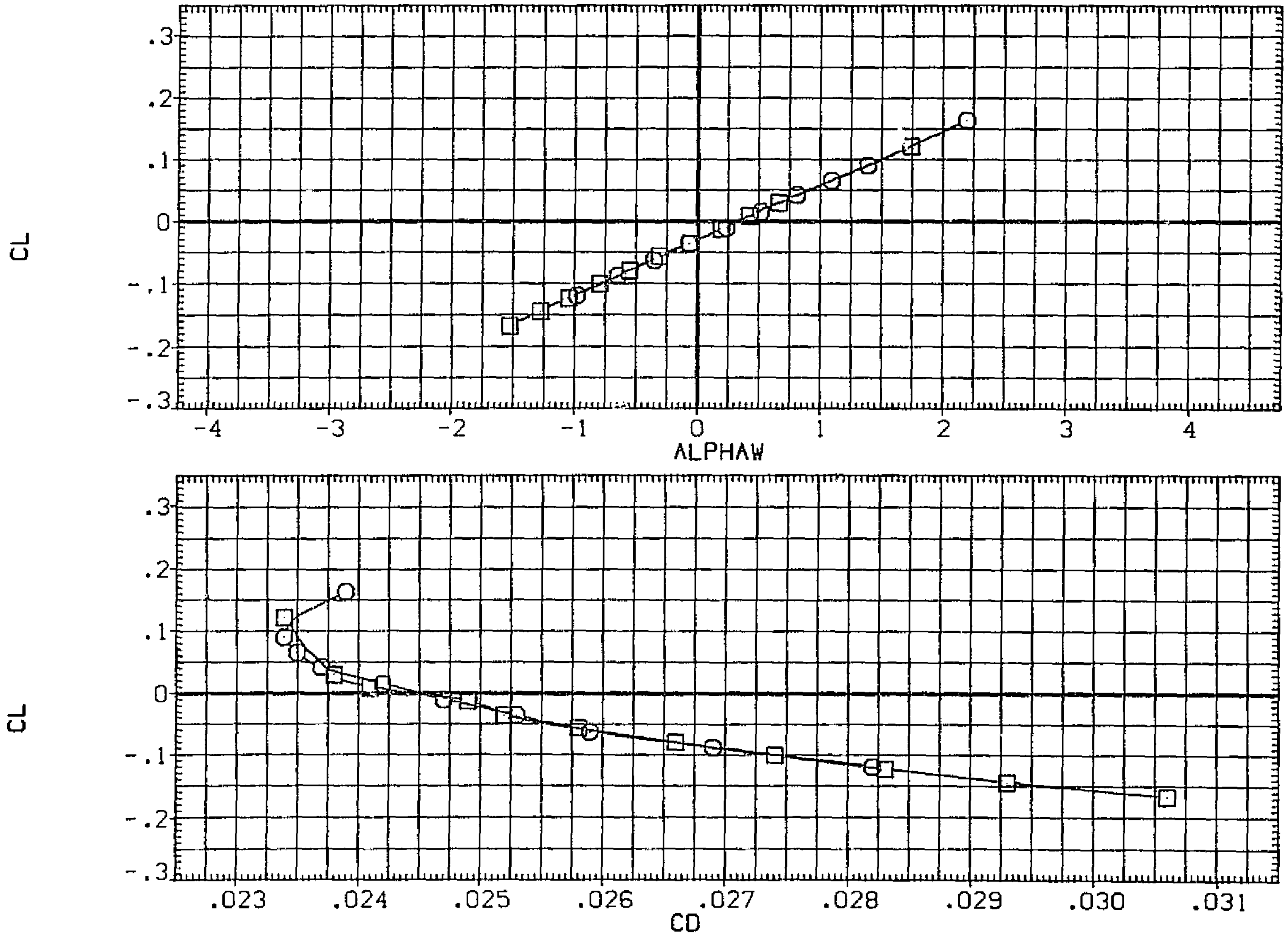



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

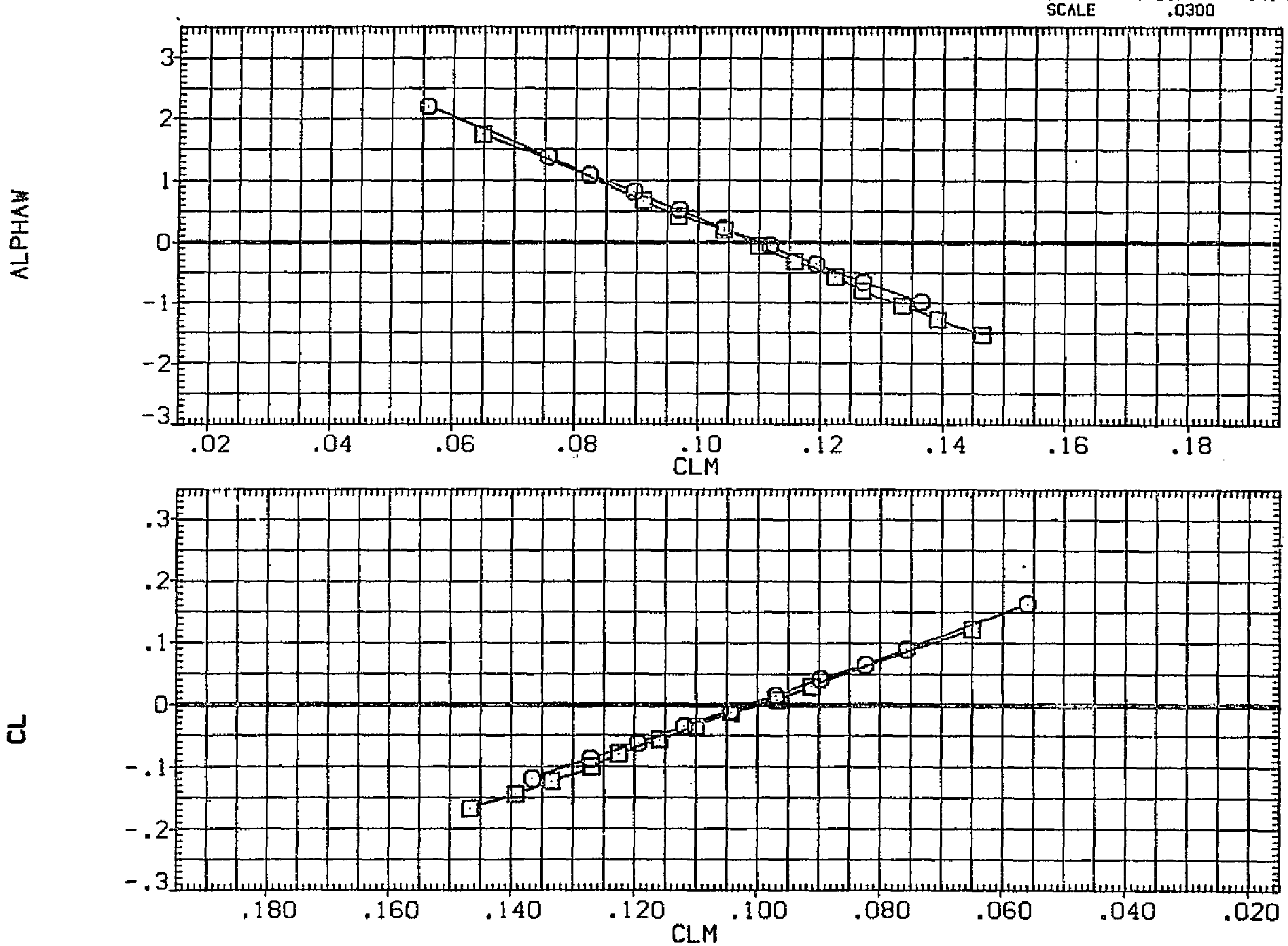



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

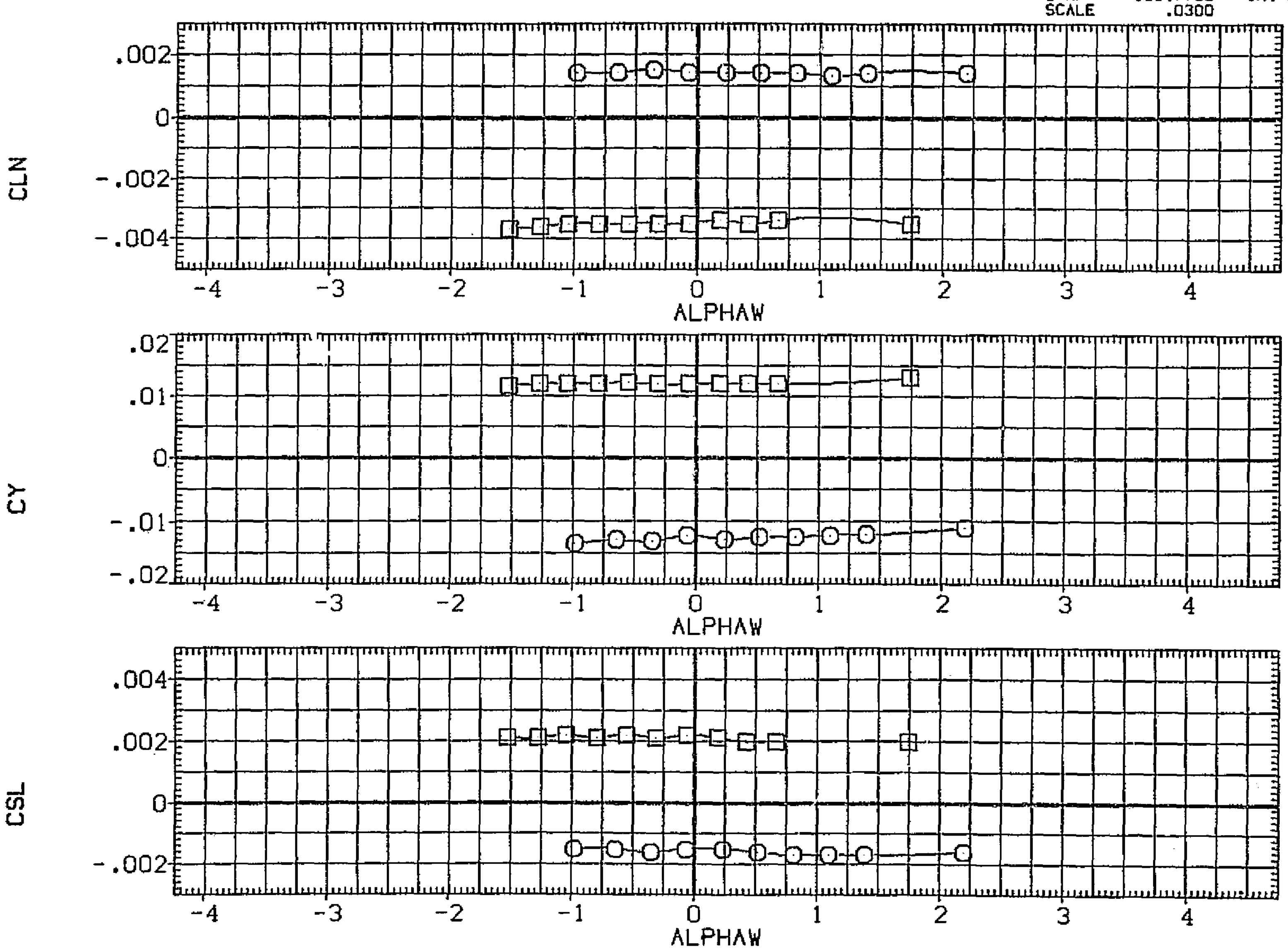



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

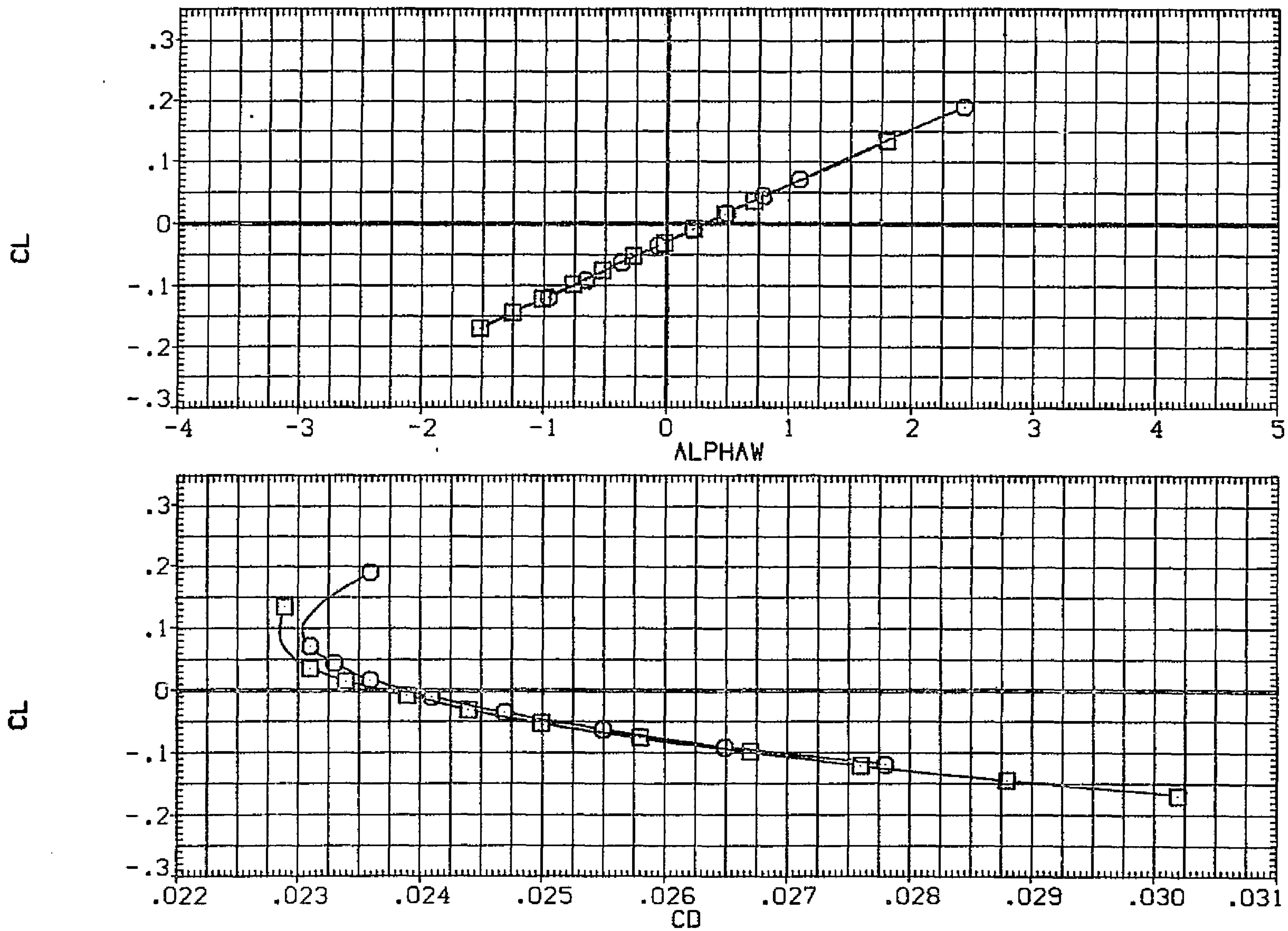



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

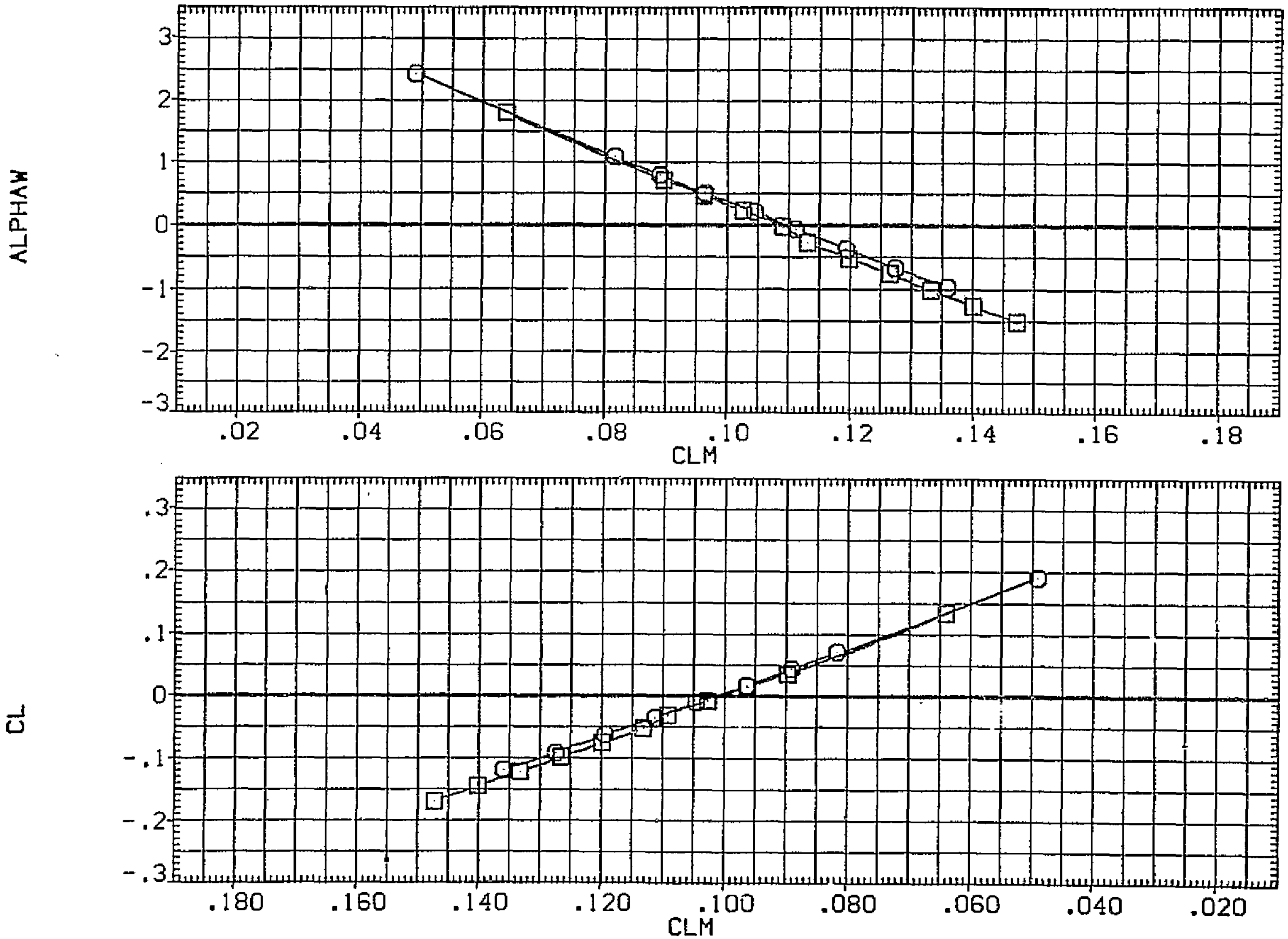



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

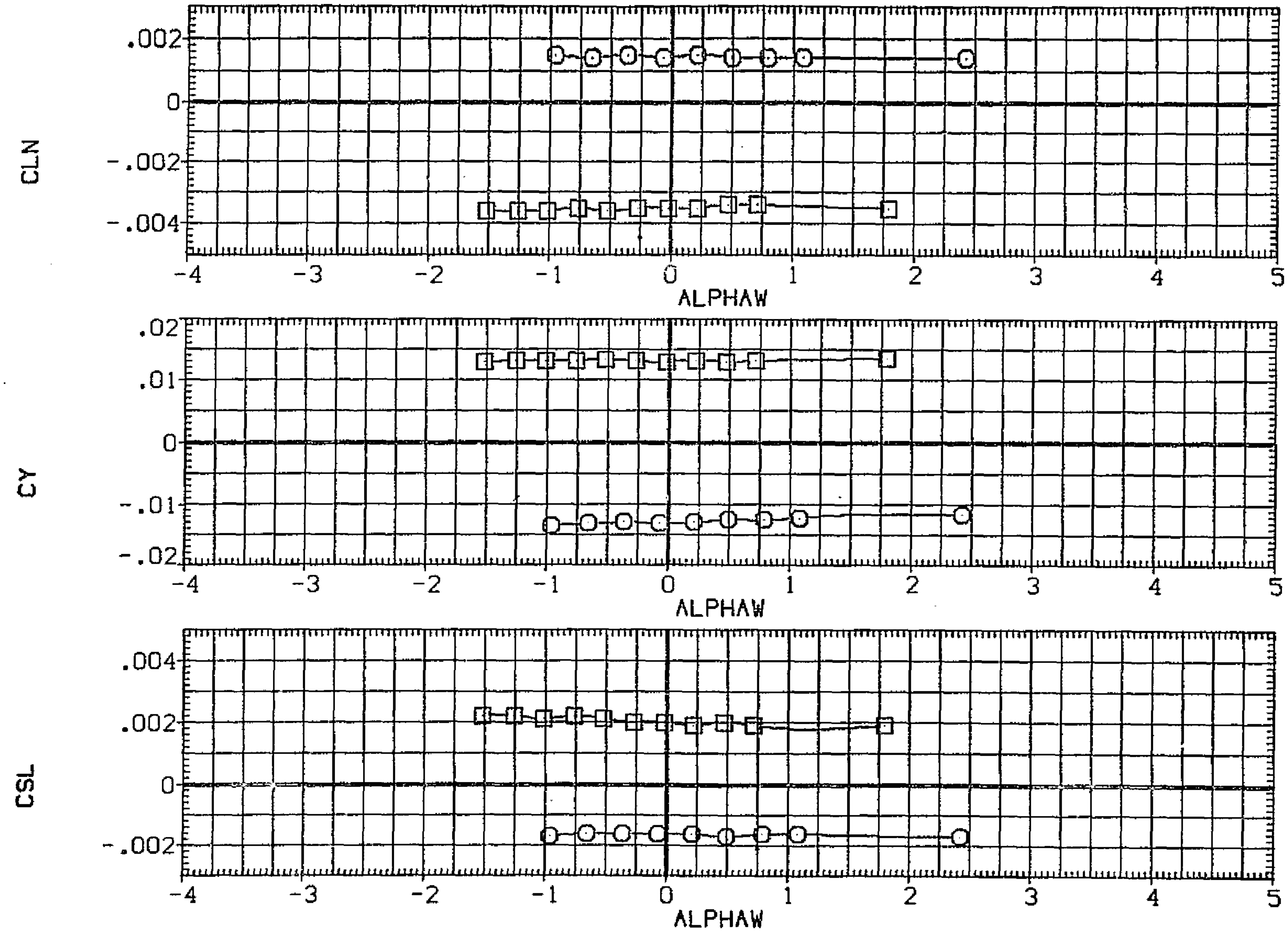



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES
(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

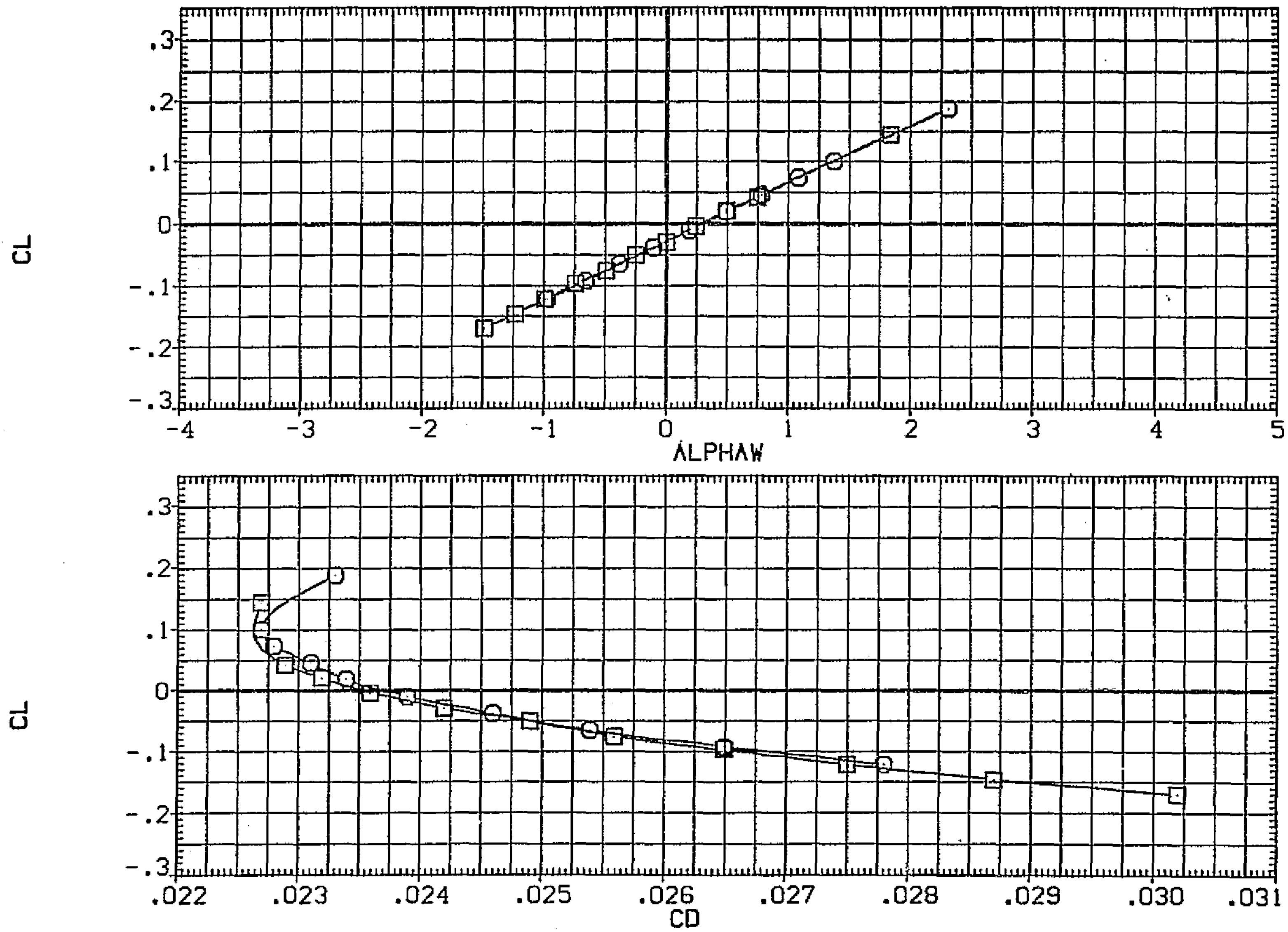



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

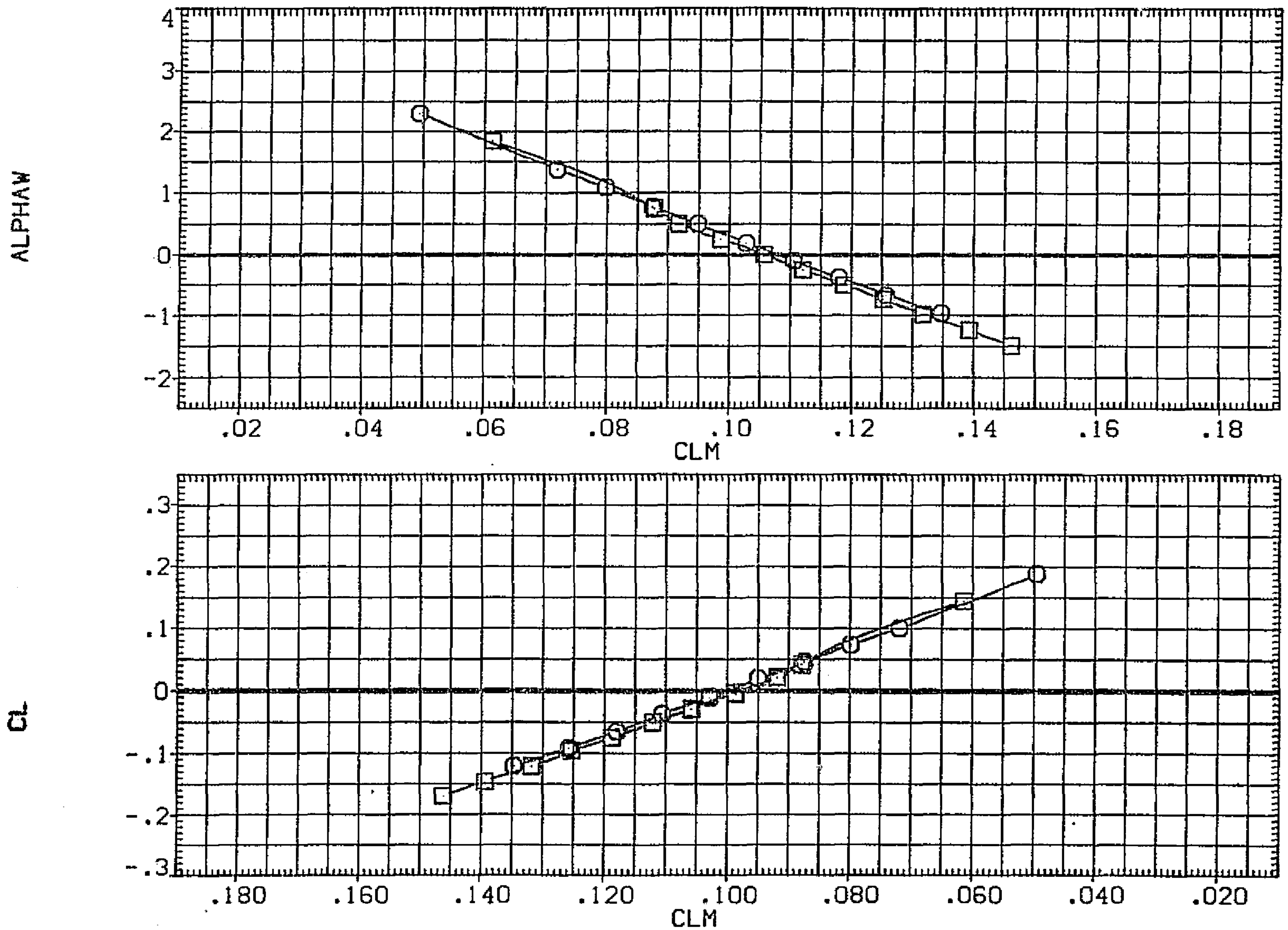



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

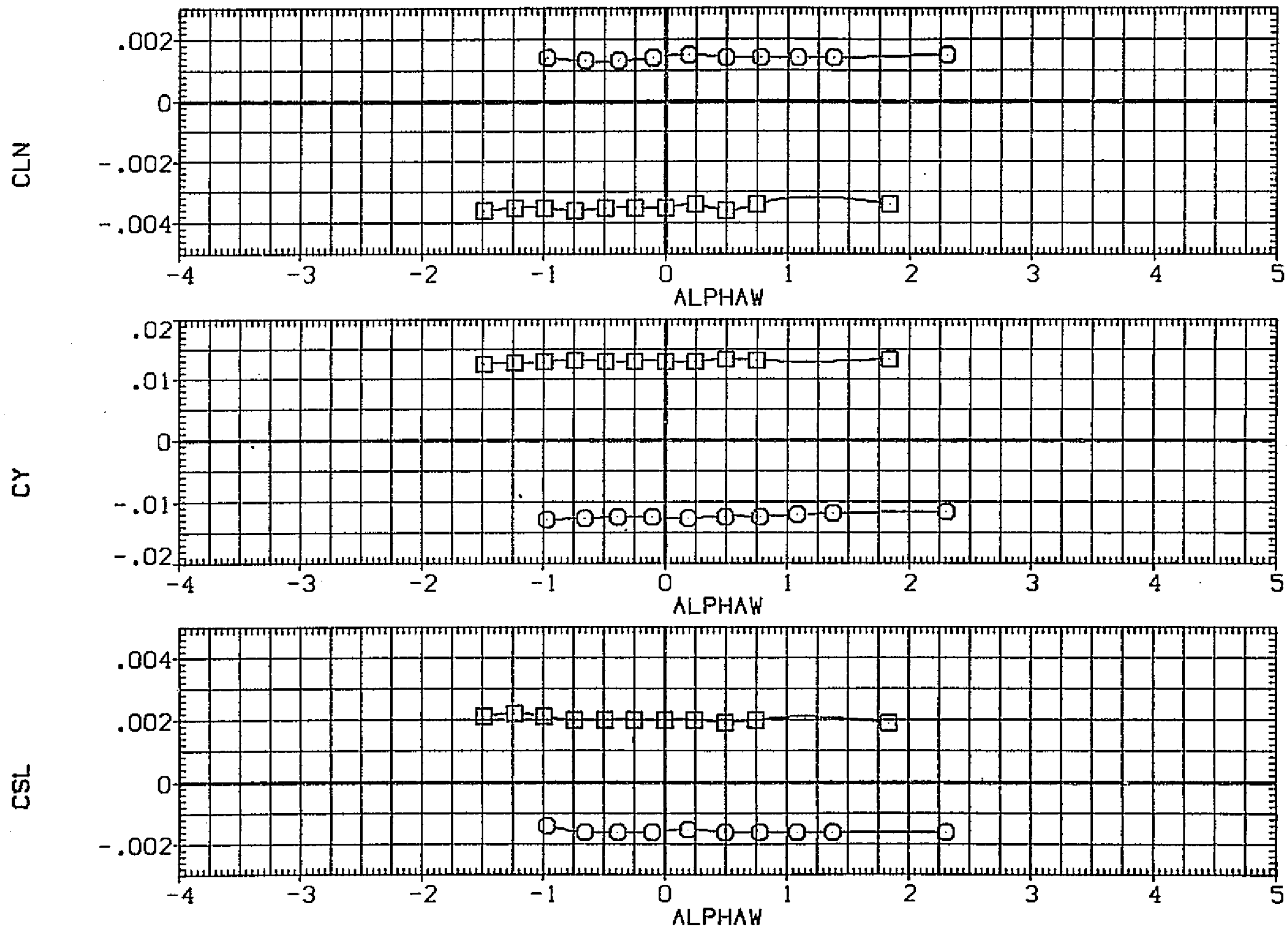


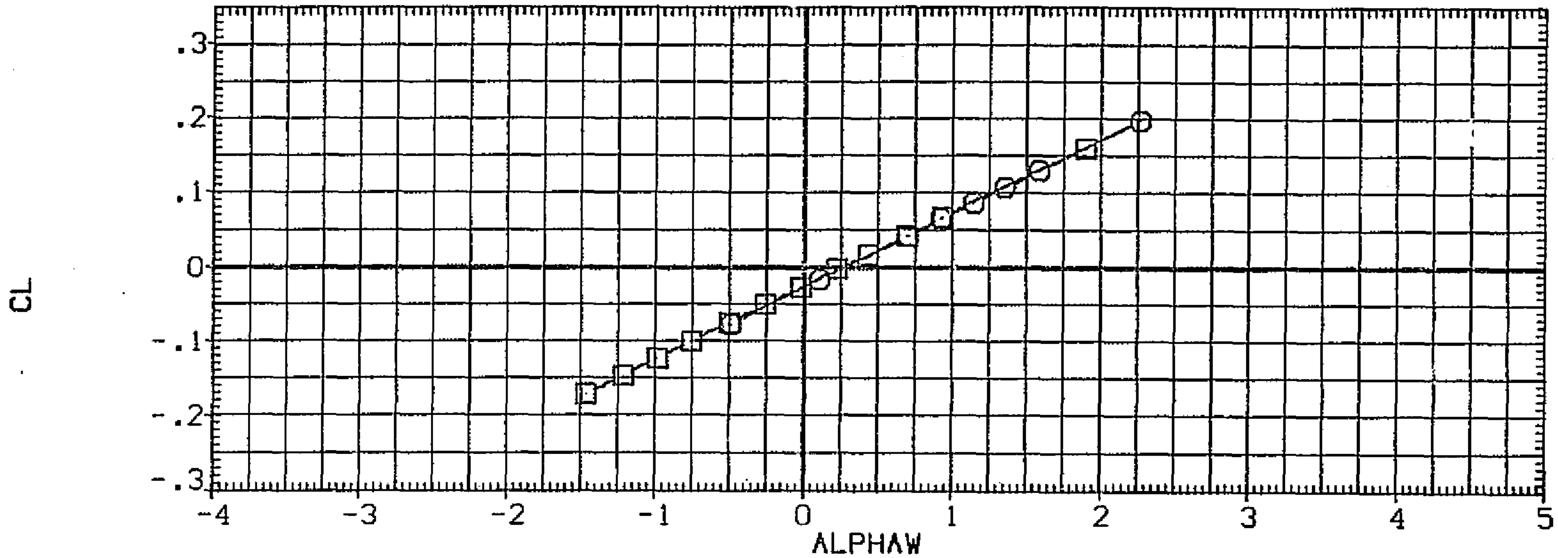

FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



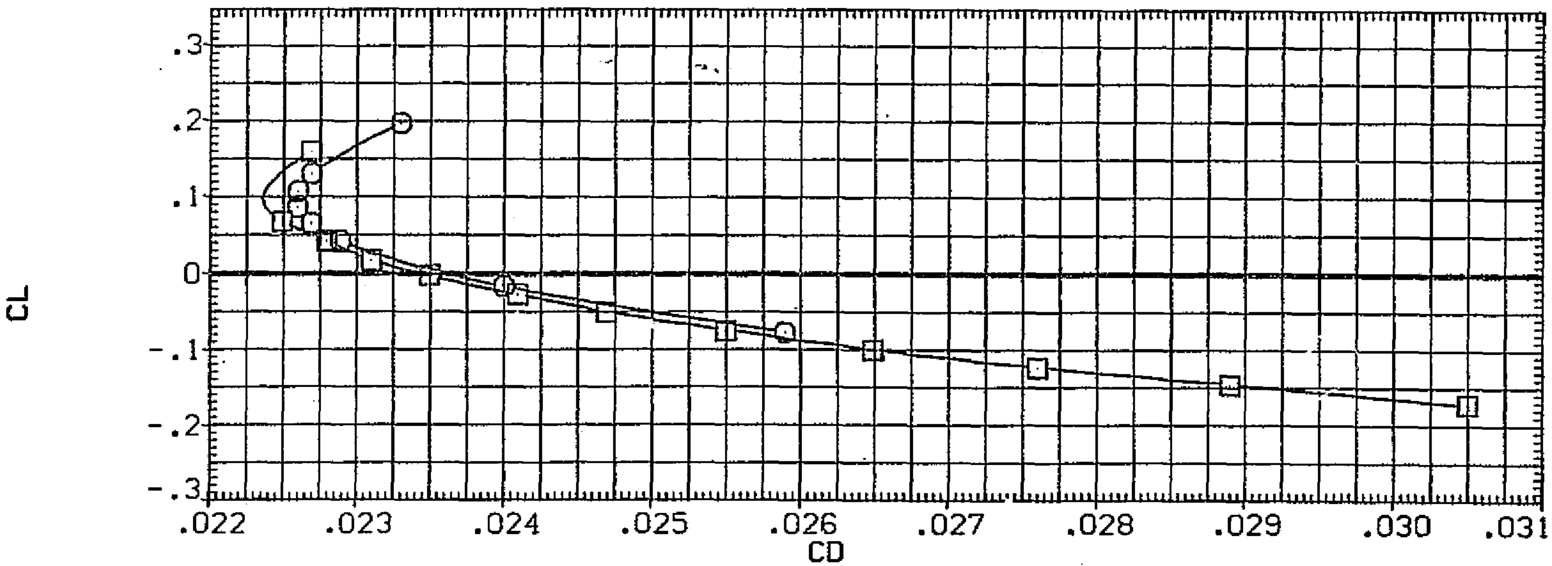




FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

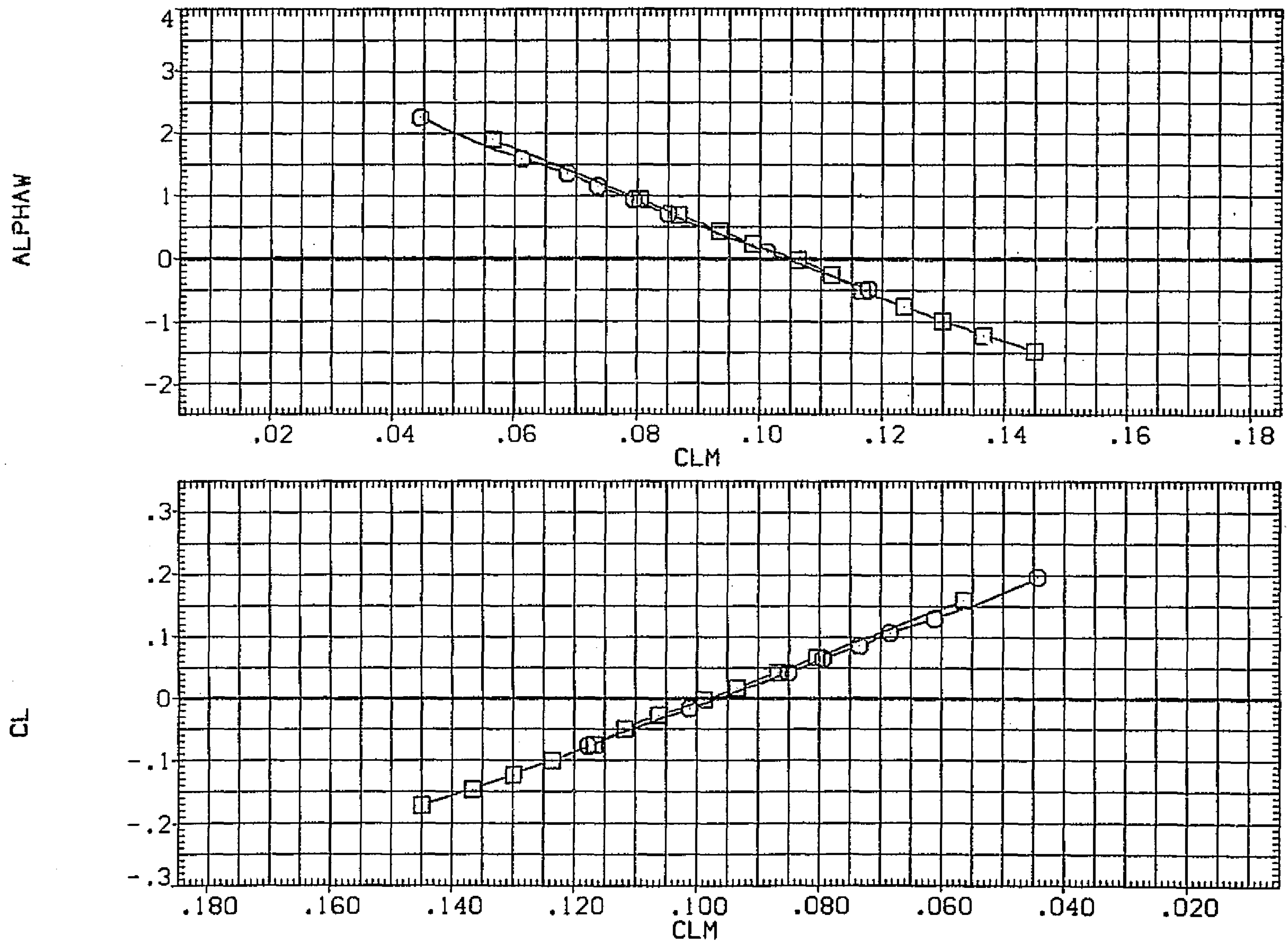



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | PHI | BETA |
|---|---|---|---|---|
| (RGP021) | ○ | CA6 K1H15.1 V9.1 | .000 | .000 |
| (RGP022) | □ | CA6 K1H15.1 V9.1 | 180.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

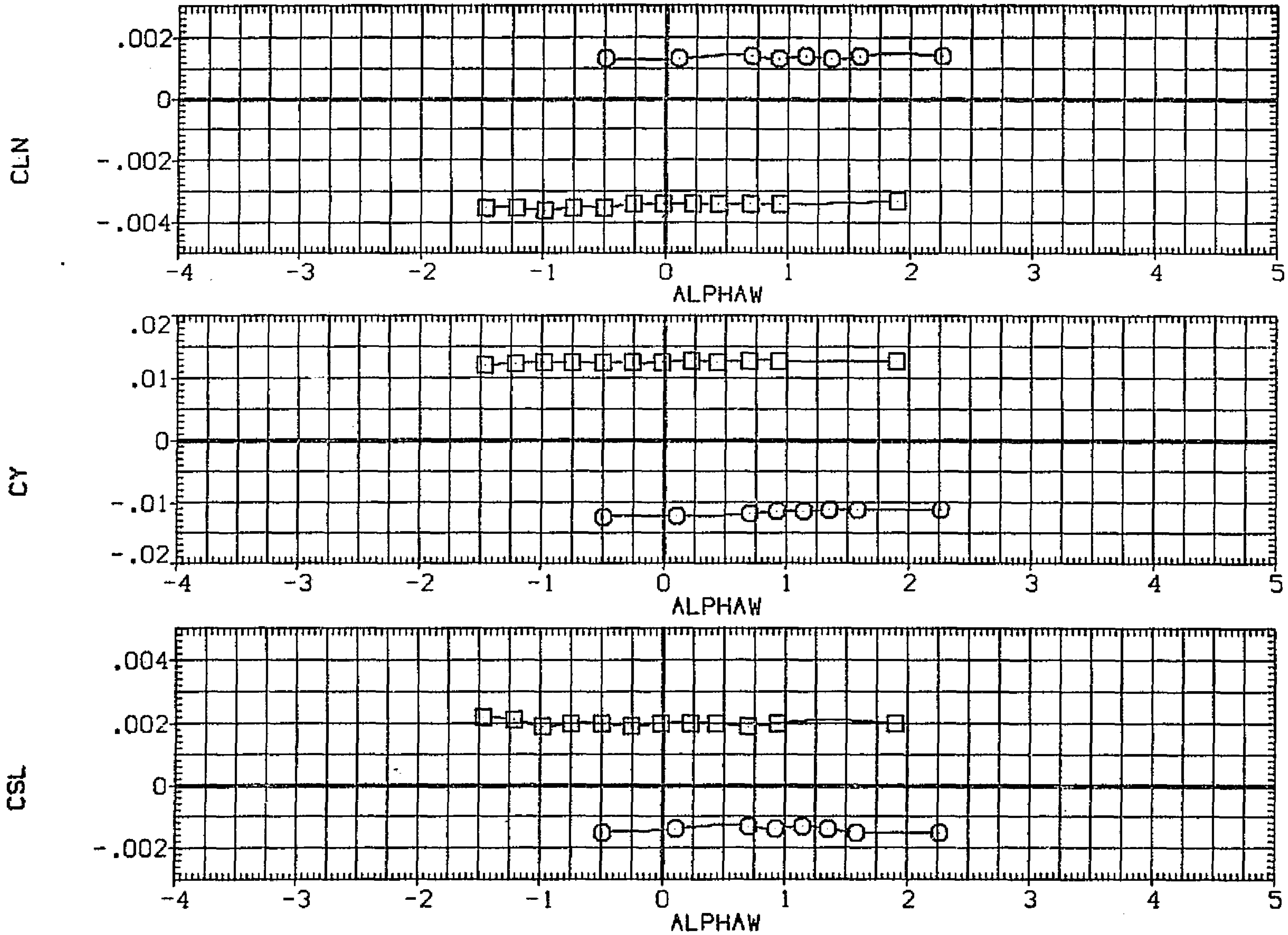



FIG. 18 747 ALONE UPFLOW CORRECTION, WING AT 49 INCHES

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP037) | ○ | CA6 K2H15.6.IV9.IS1-12 AT103.1/105 ORBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP040) | □ | CA6 K2H15.6.IV9.IS1-12 AT103.2/95-.20RBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP046) | ◇ | CA6 K2H15.6.IV9.IS1-12 AT108 /110 ORBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP051) | △ | CA6 K2H15.6.IV9.IS1-12 AT103.2/111.10RBFBN24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

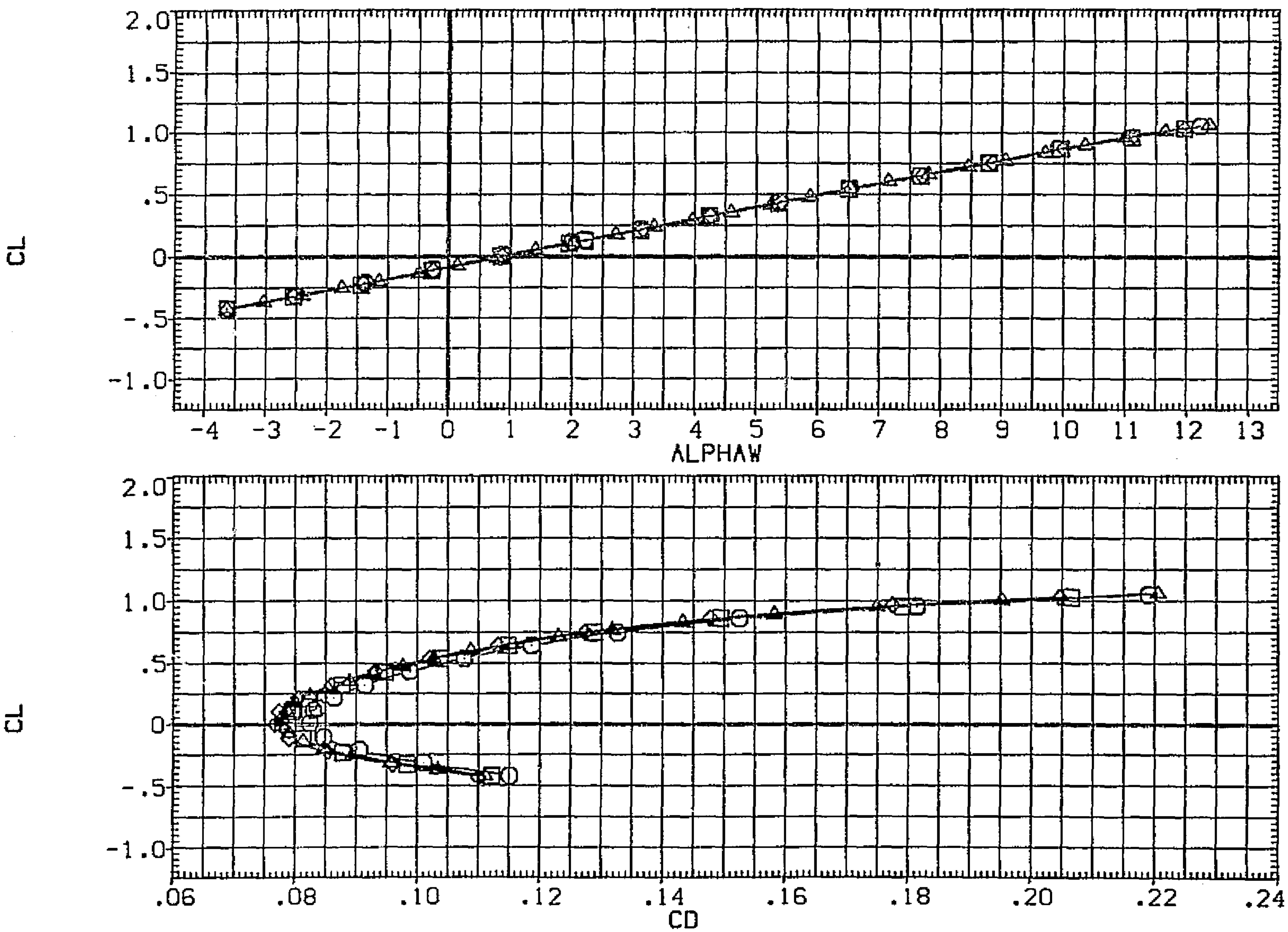



FIG. 19 EFFECT OF ORB. SUPPORT STRUT FAIRINGS, LAUNCH CONFIGURATION, BETA 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP037) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP040) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP046) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 ORBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP051) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.2/111.1ORBF8N24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

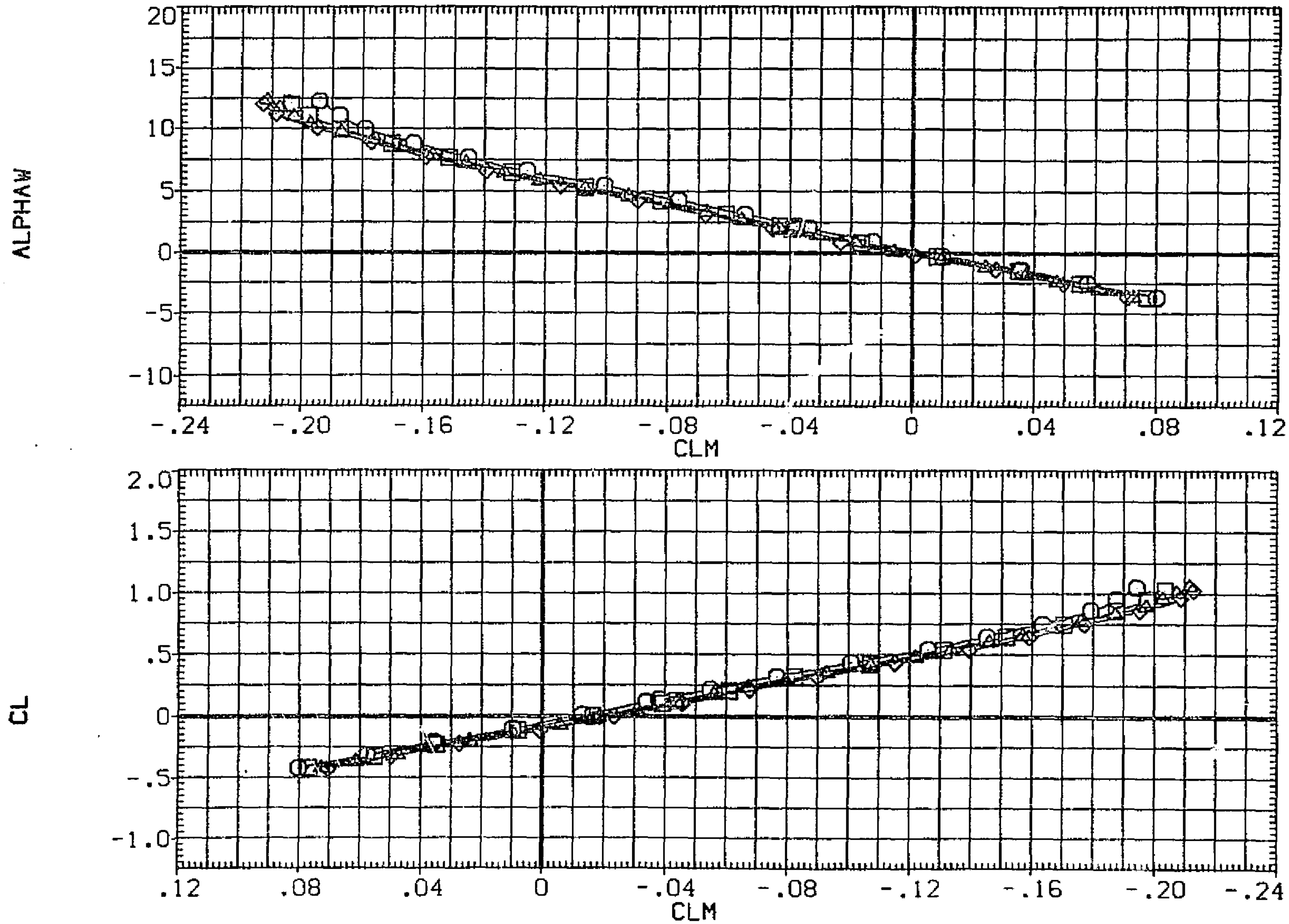



FIG. 19 EFFECT OF ORB. SUPPORT STRUT FAIRINGS, LAUNCH CONFIGURATION, BETA 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP037) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP040) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP046) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 ORBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP051) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.2/111.10RBFBN24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

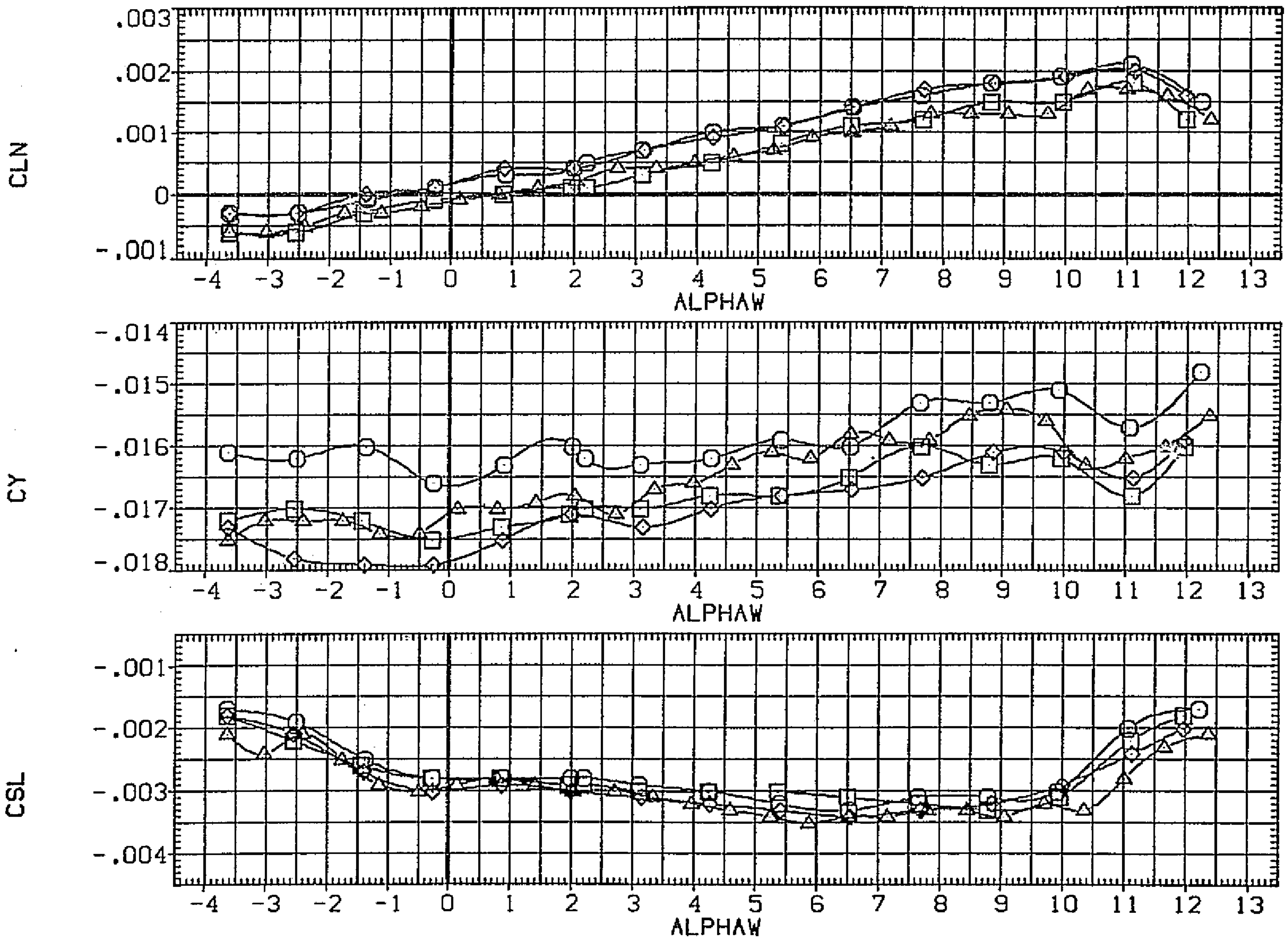



FIG. 19 EFFECT OF ORB. SUPPORT STRUT FAIRINGS, LAUNCH CONFIGURATION, BETA 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP034) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP035) | □ | CA6 K2H15.6.1V9.1S1-12 AT103 /110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP047) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT 93.1/110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

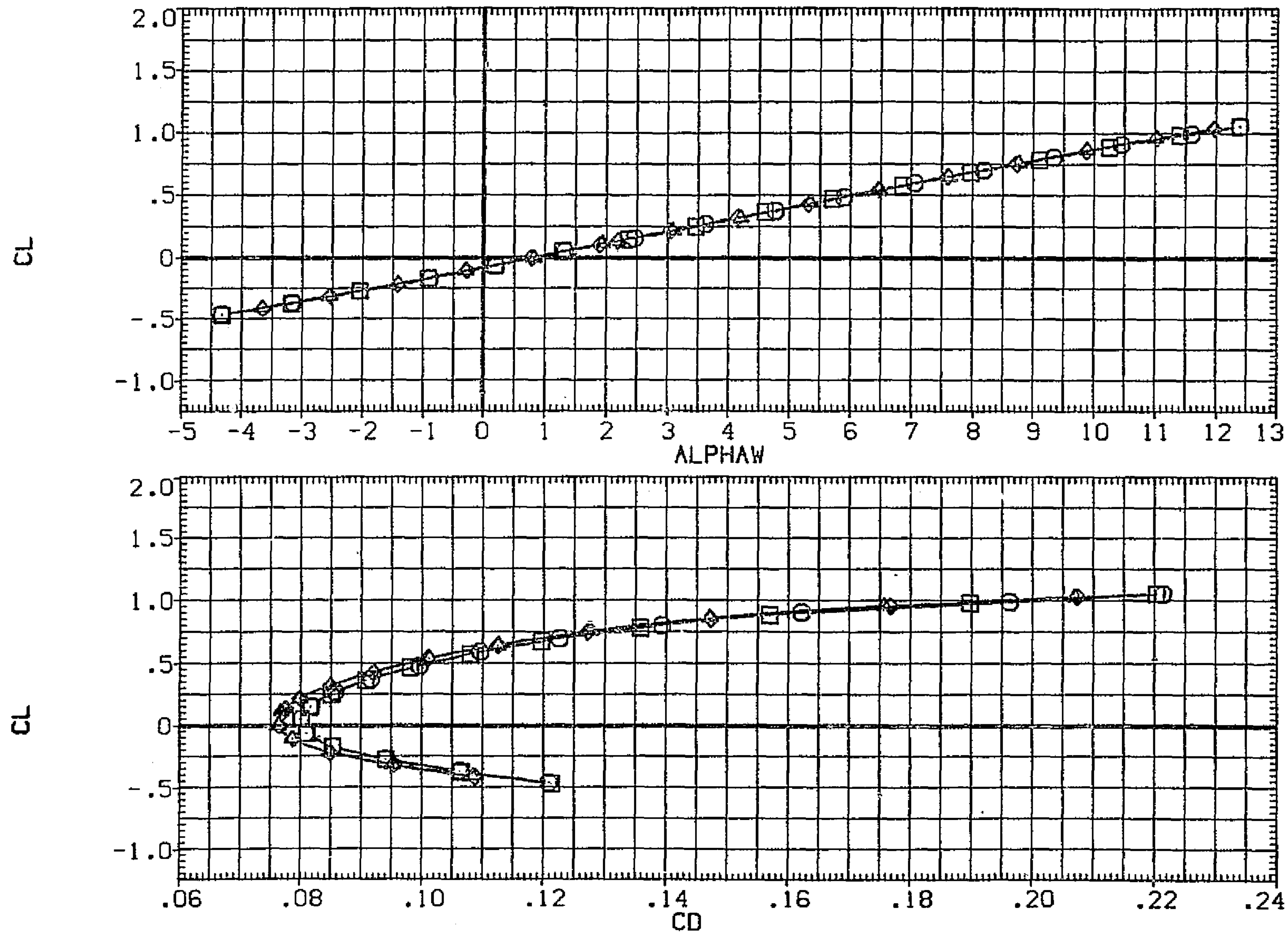



FIG. 20 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT FAIRED

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP034) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP035) | □ | CA6 K2H15.6.1V9.1S1-12 AT103 /110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP047) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT 93.1/110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 | ORBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

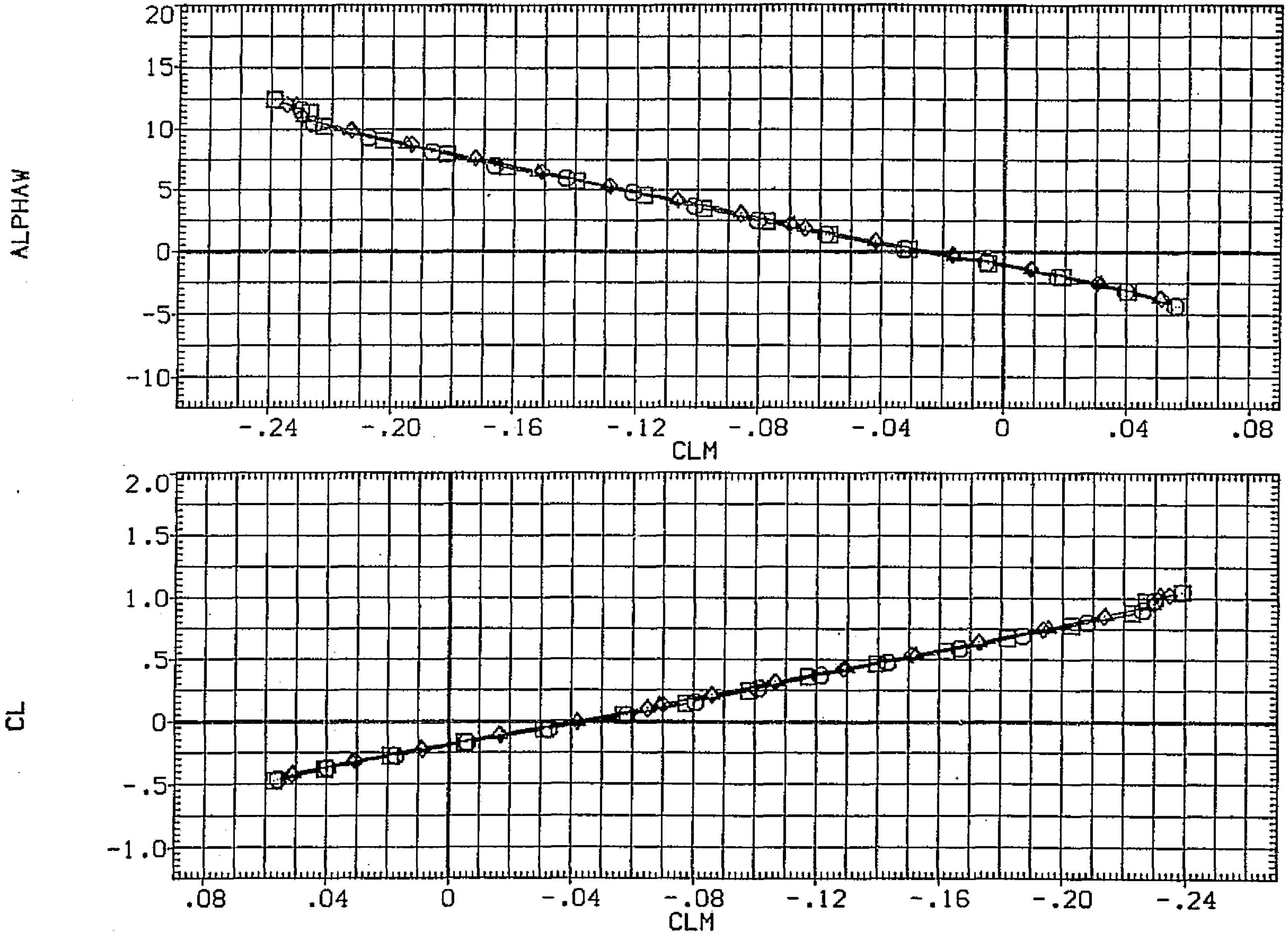



FIG. 20 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT FAIRED

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP034) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP035) | □ | CA6 K2H15.6.1V9.1S1-12 AT103 /110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP047) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT 93.1/110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

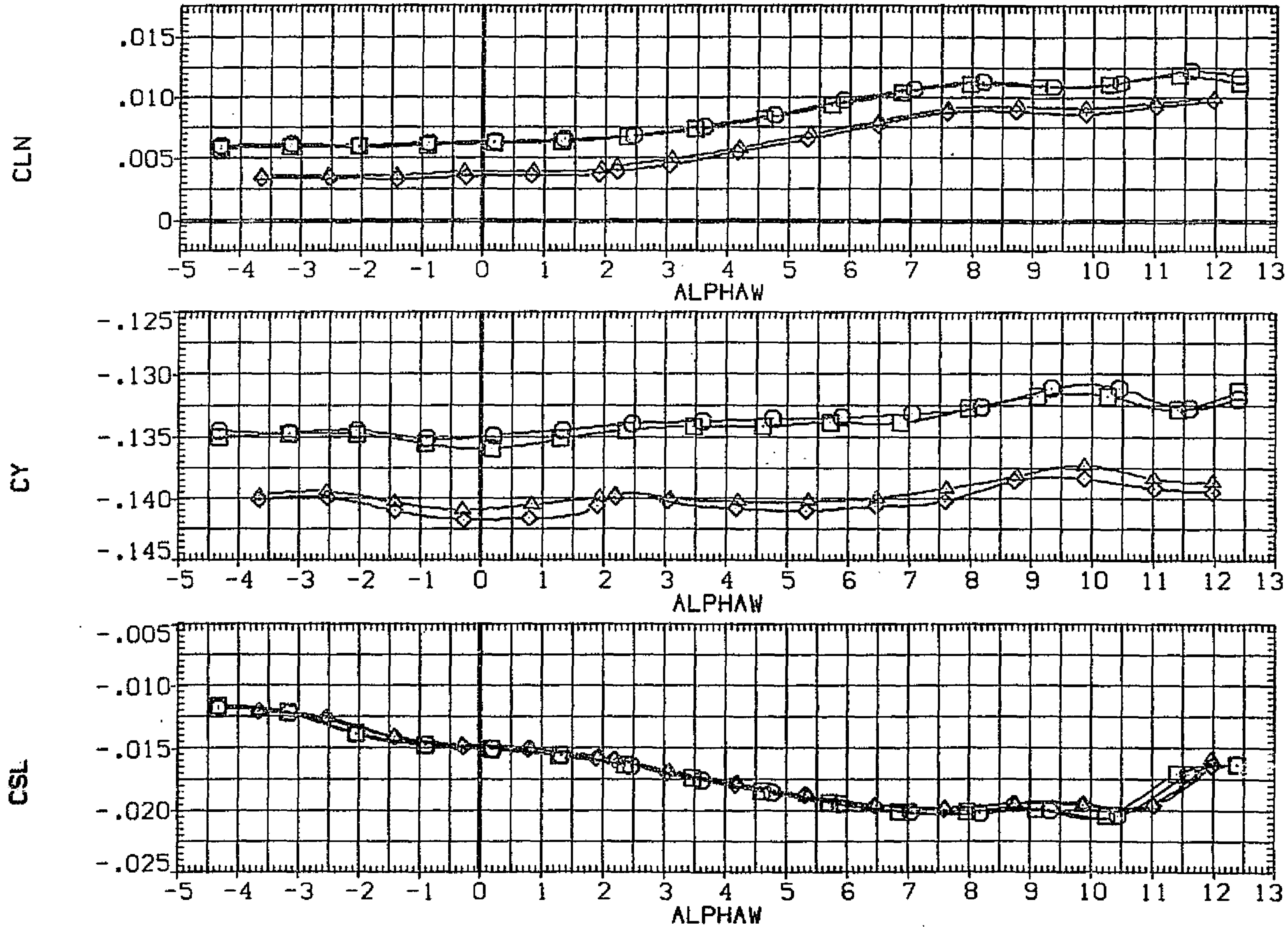



FIG. 20 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT FAIRED

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP043) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 0RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP048) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /111 0RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP049) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

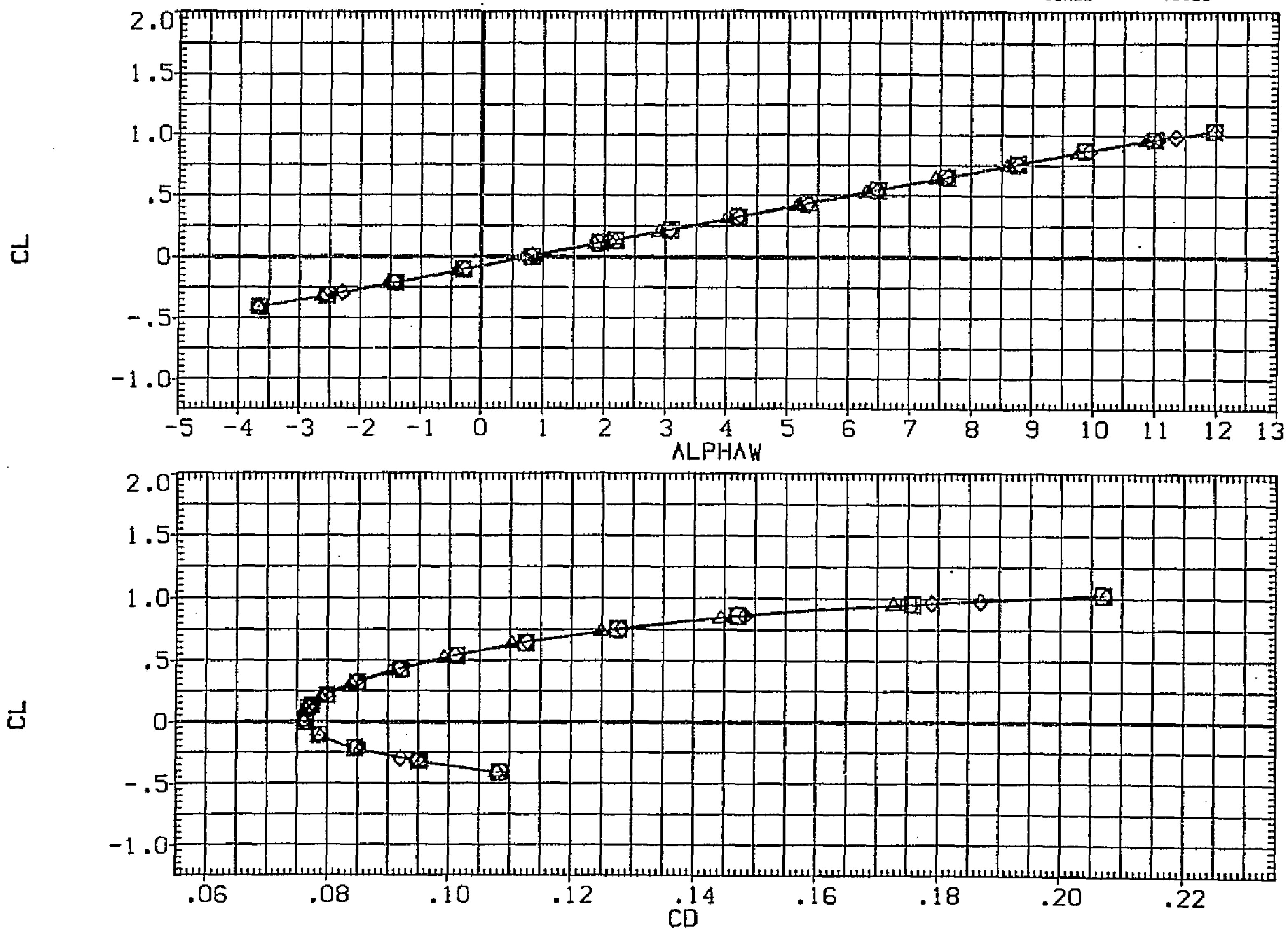



FIG. 21 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT FAIRED

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP043) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 0RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP048) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /111 0RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP049) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

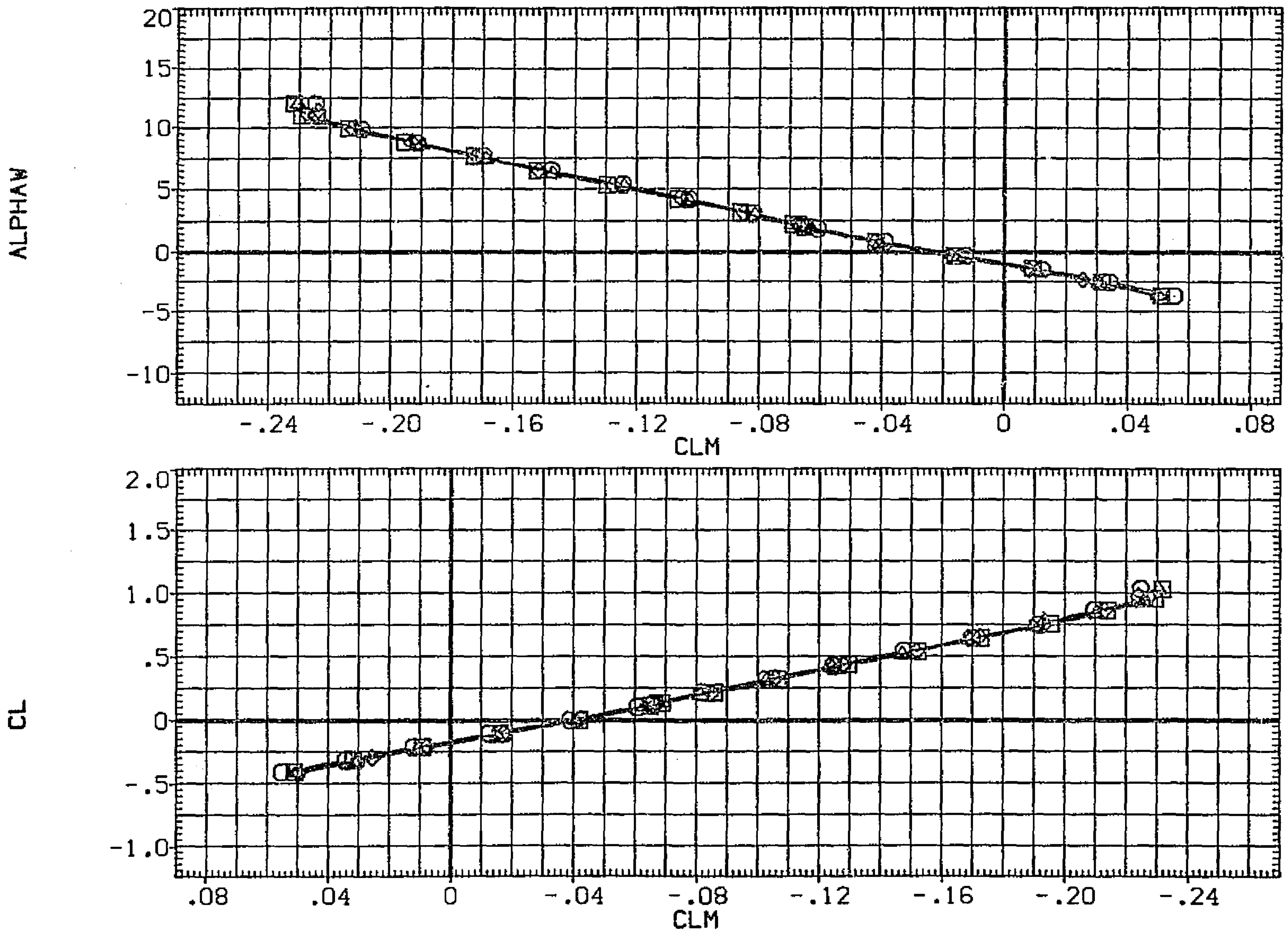



FIG. 21 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT FAIRED

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP043) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP048) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /111 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP049) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

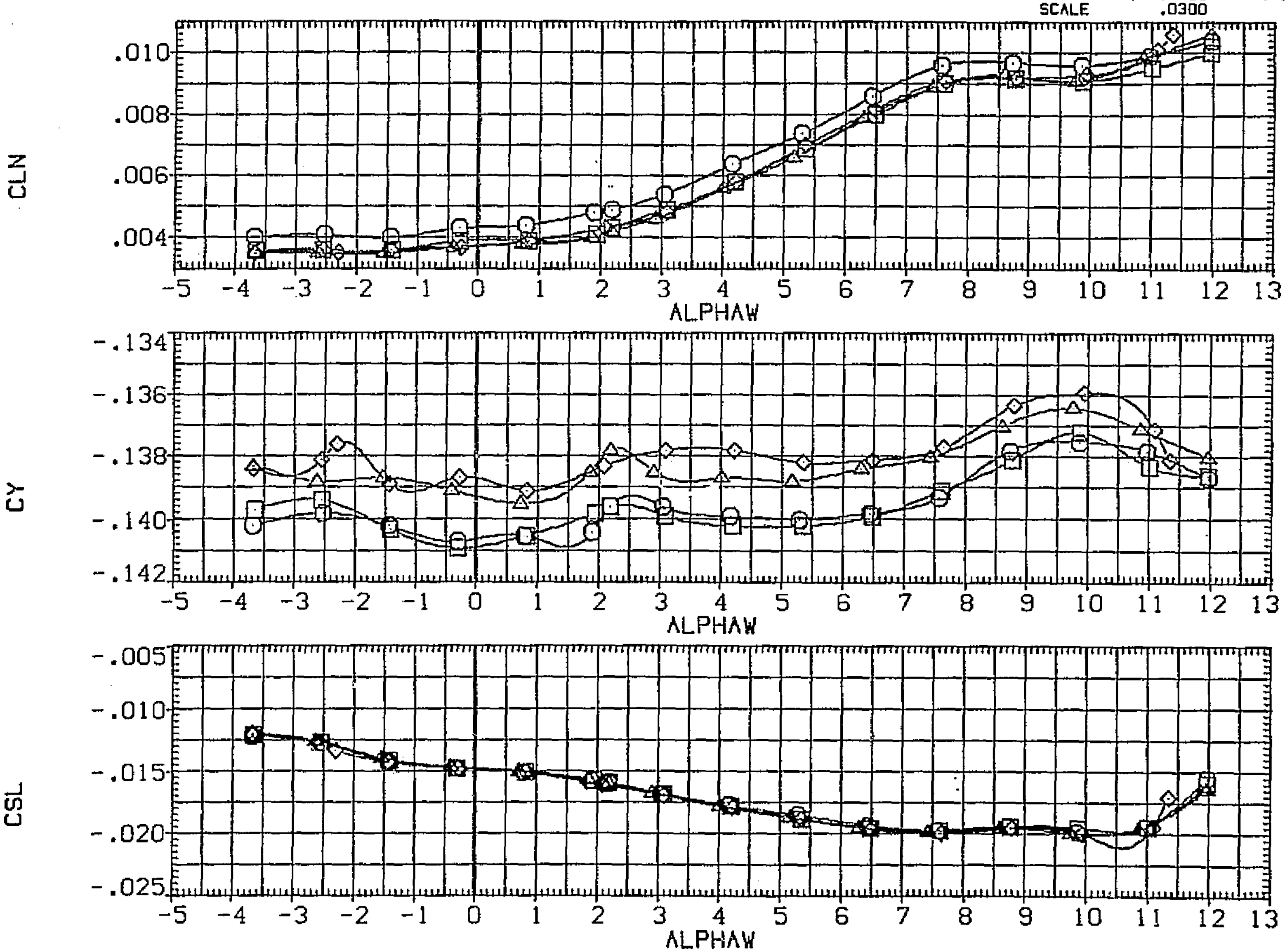



FIG. 21 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT FAIRED

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP034) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/110 ØRBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP036) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ØRBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP038) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

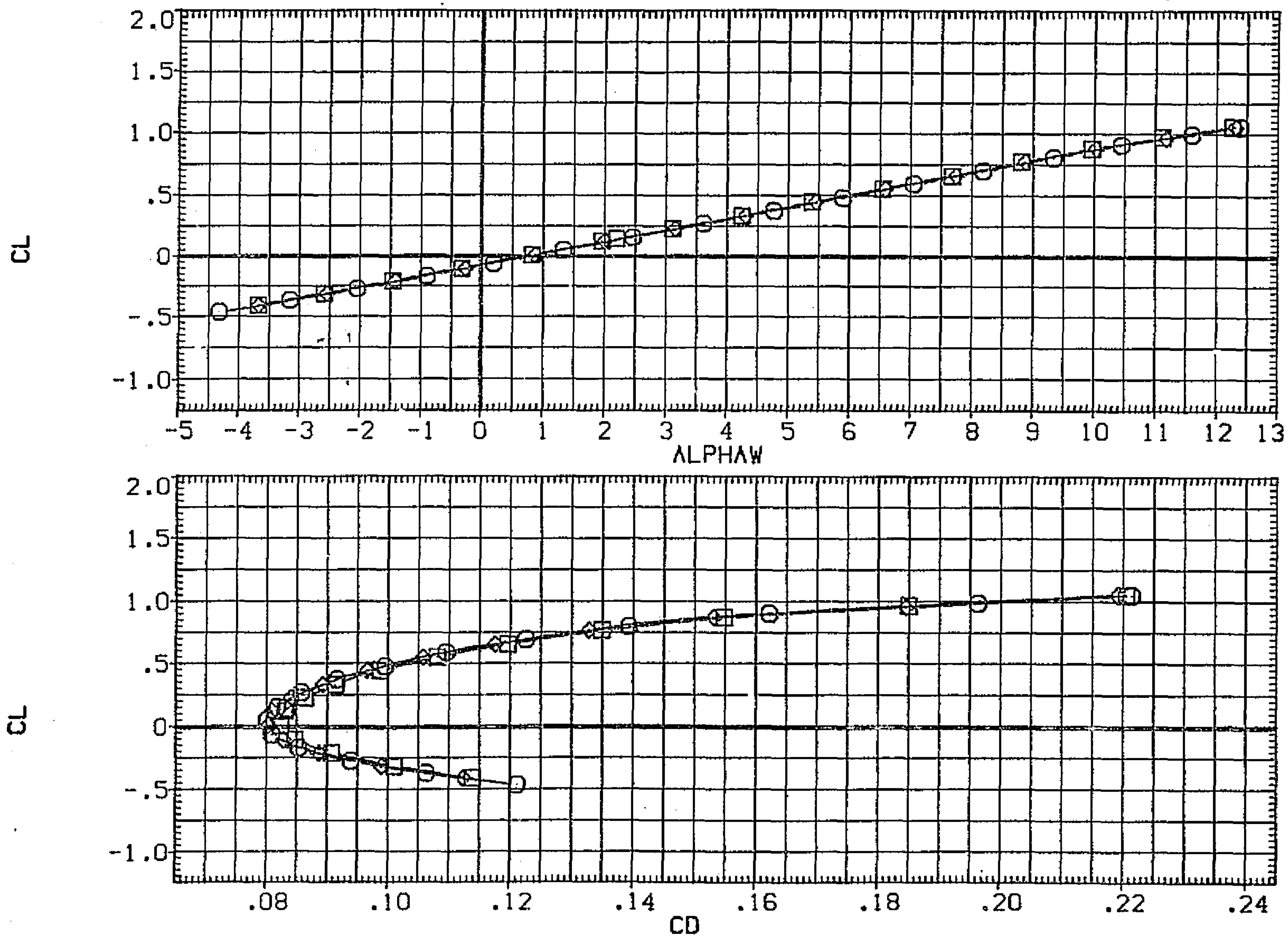



FIG. 22 ØRB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT UNFAIRED (AT103.1)

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP034) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/110 ORBFBN24/28 | 4.890 | 4.000 | 6.000 |
| (RGP036) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.890 | 4.000 | 6.000 |
| (RGP038) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.20RBFBN24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

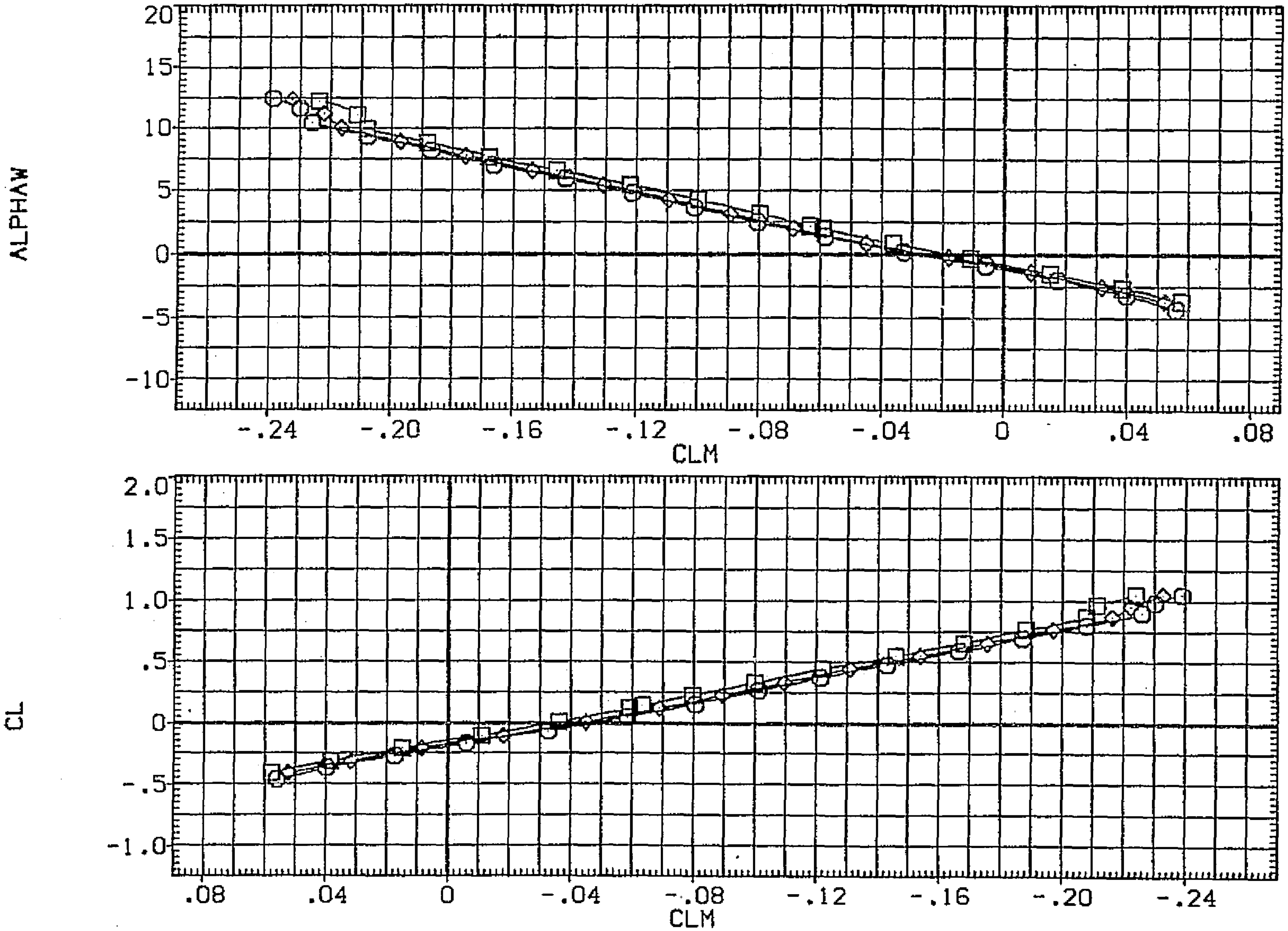



FIG. 22 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT UNFAIRED (AT103.1)

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| [RGP034] | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| [RGP036] | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| [RGP038] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

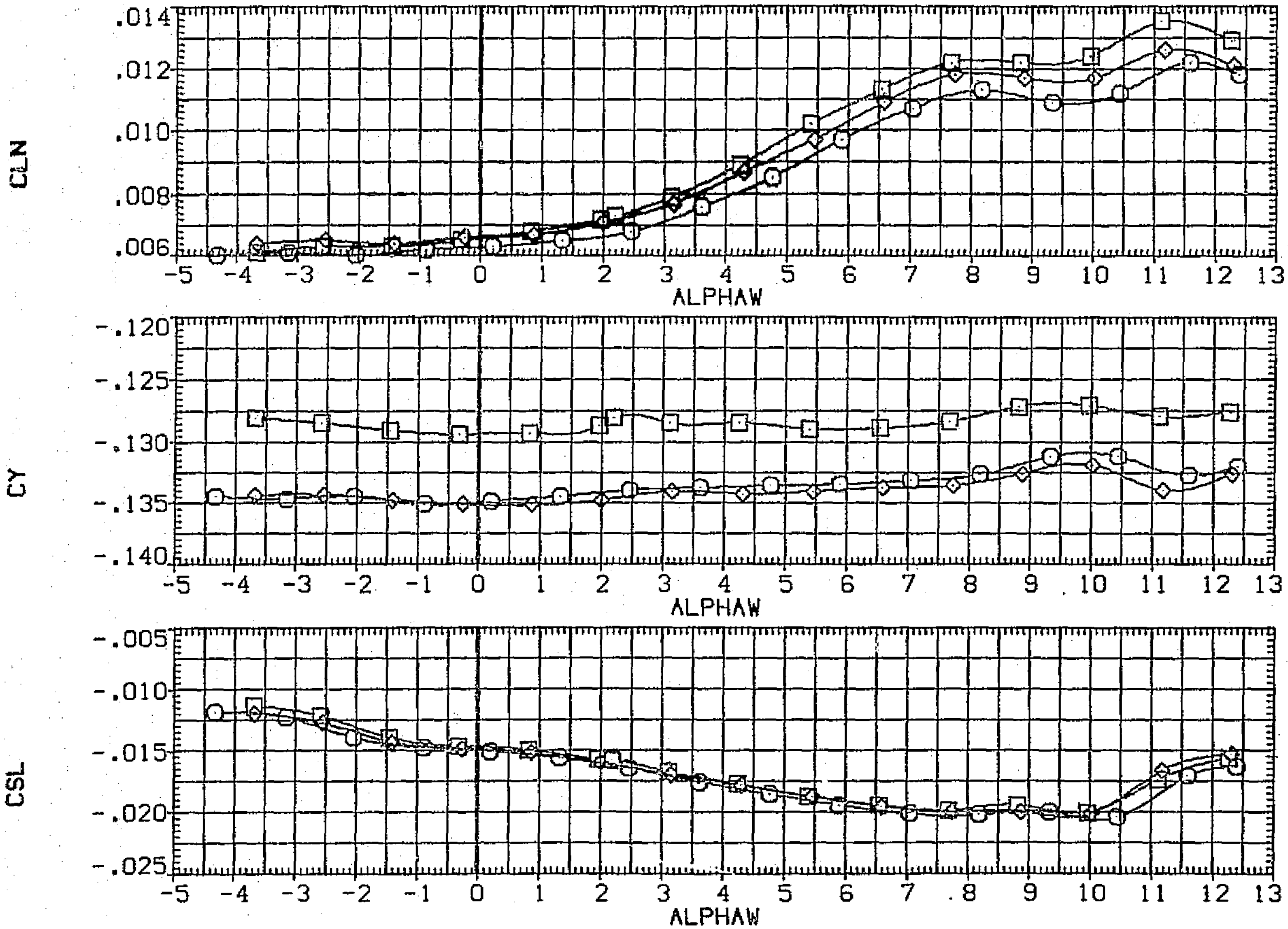



FIG. 22 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT UNFAIRED (AT103.1)

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP038) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP039) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP041) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT 93.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP043) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

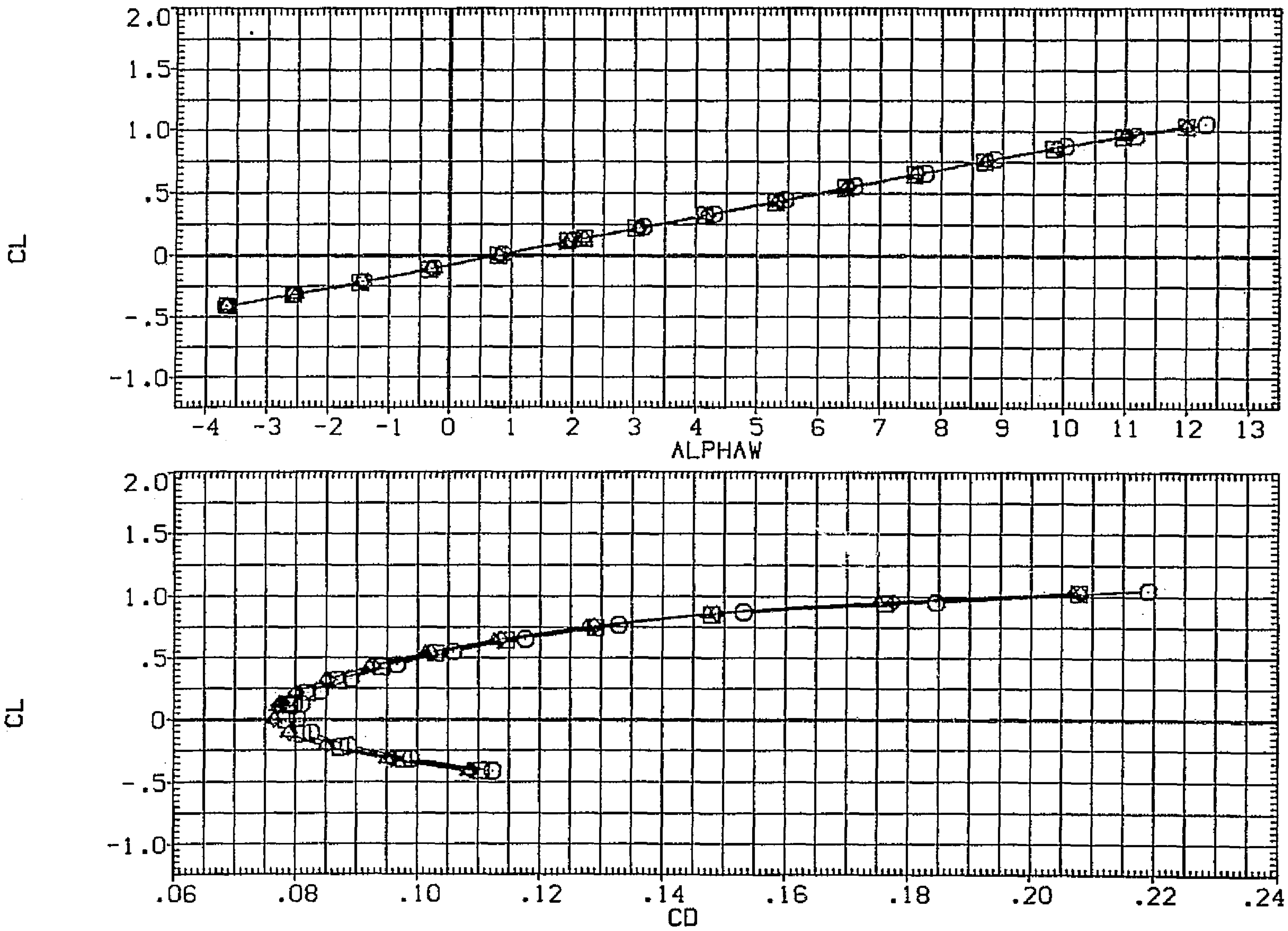



FIG. 23 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23 FAIRING

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP038) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP039) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP041) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT 93.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP043) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

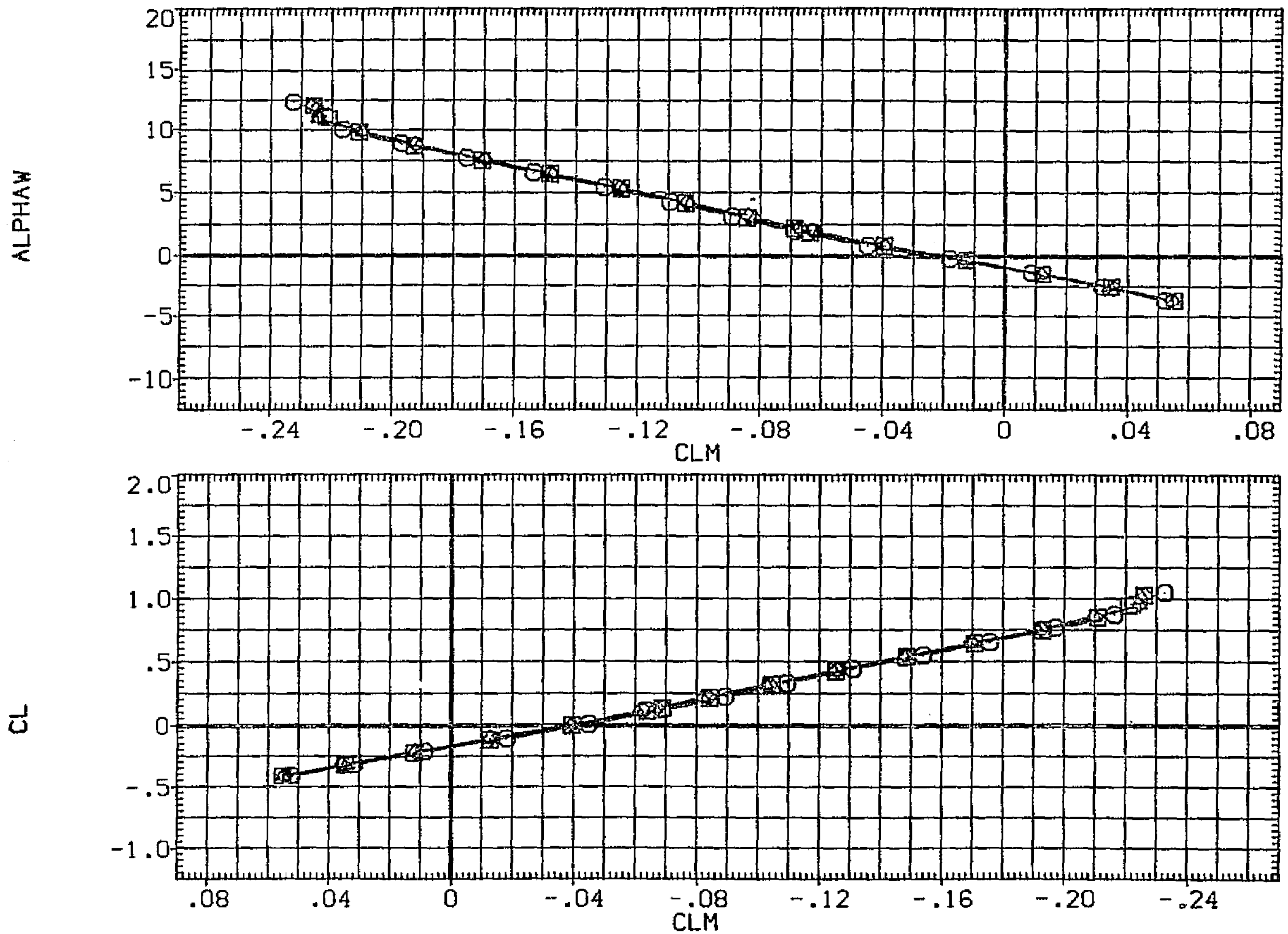



FIG. 23 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23 FAIRING

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP038) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP039) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP041) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT 93.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP043) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

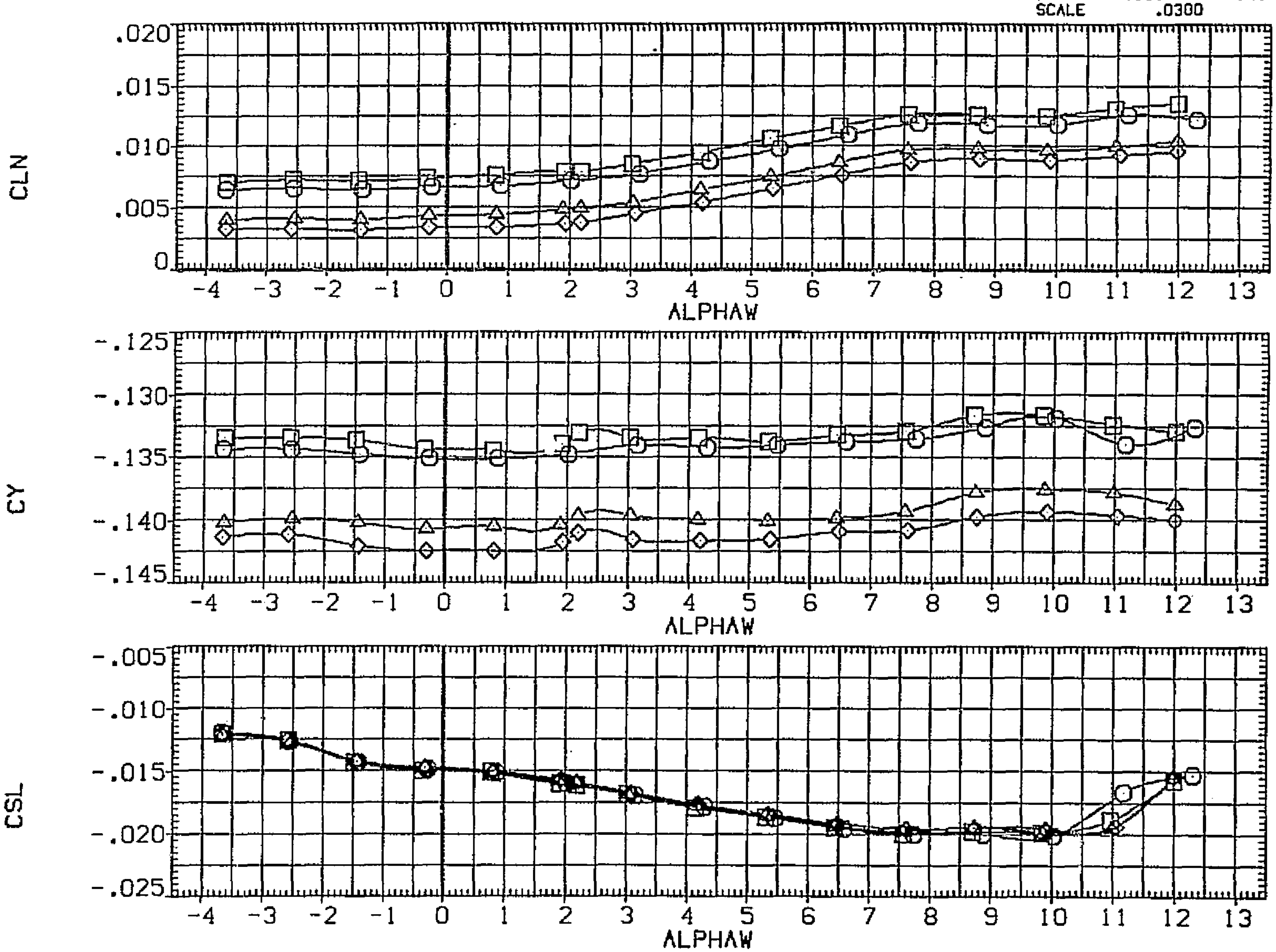



FIG. 23 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23 FAIRING

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP039) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP050) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

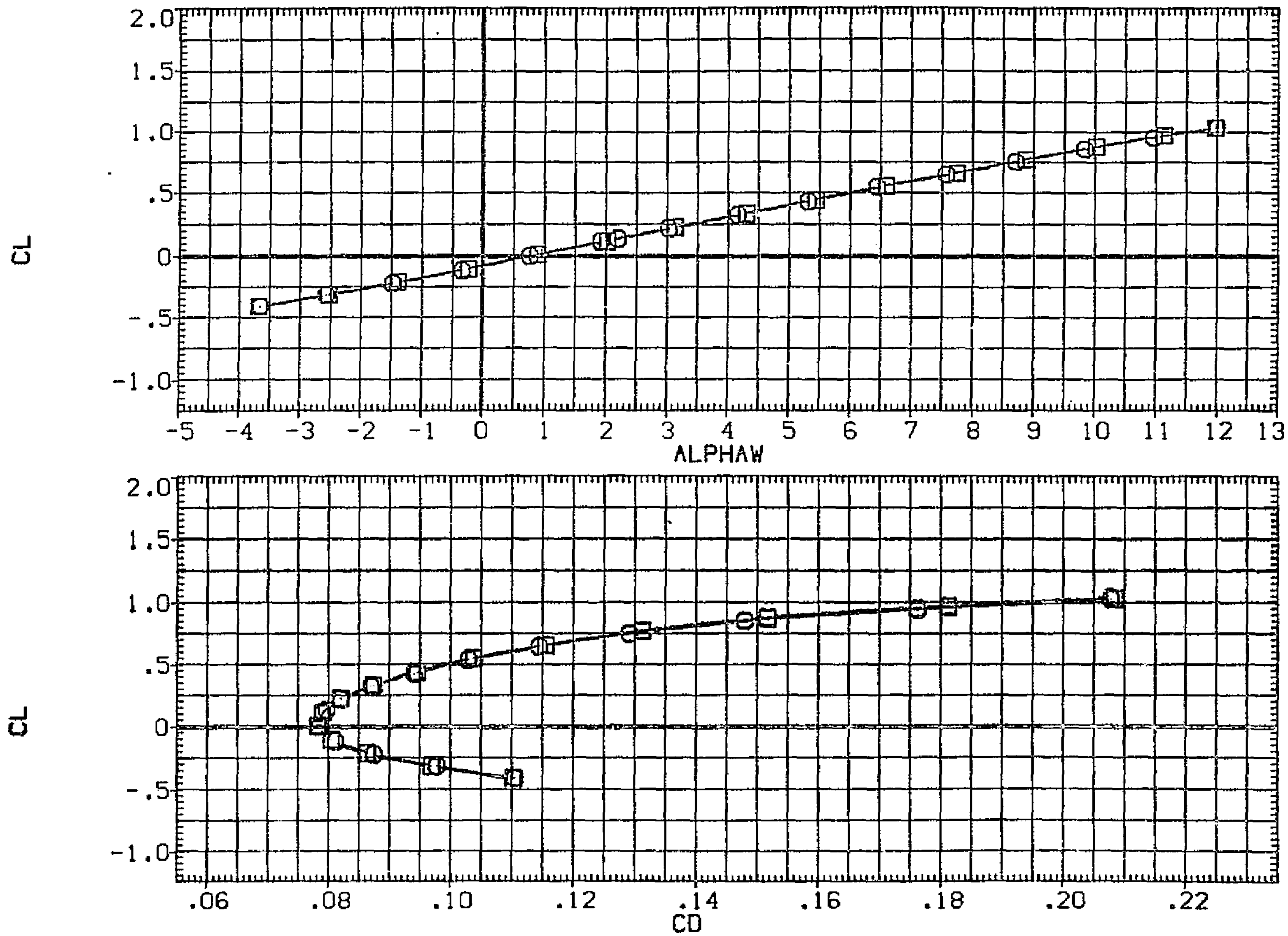



FIG. 24 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT UNFAIRED (AT103.2)

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
| --- | --- | --- | --- | --- | --- |
| (RGP039) | ○ | CA6 K2H15.6.[illegible].151-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP050) | □ | CA6 K2H15.6.[illegible].151-12 AT103.2/111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

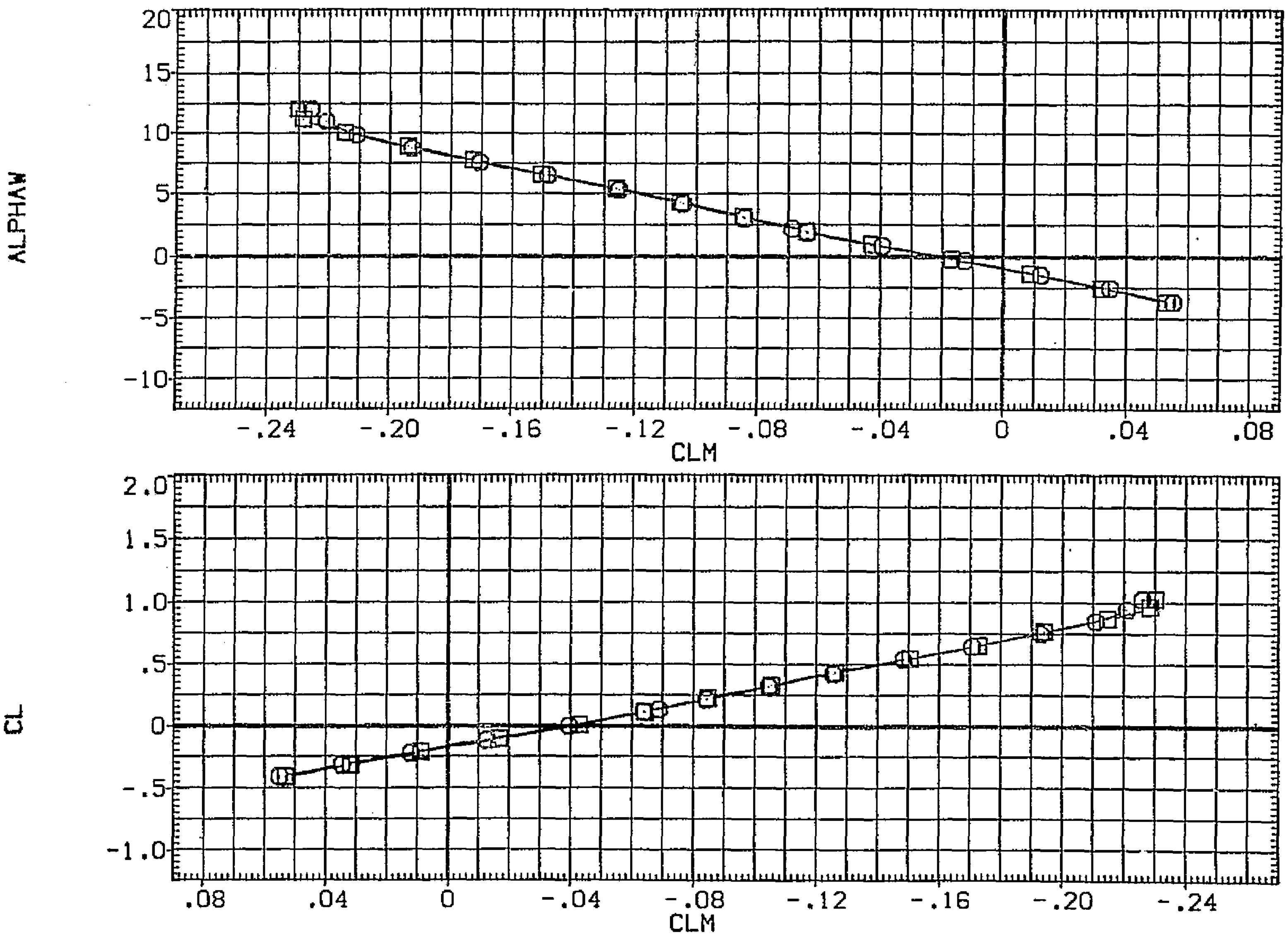



FIG. 24 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT UNFAIRED (AT103.2)

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP039) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP050) | □ | CA6 K2H15.6.IV9.1S1-12 AT103.2/111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

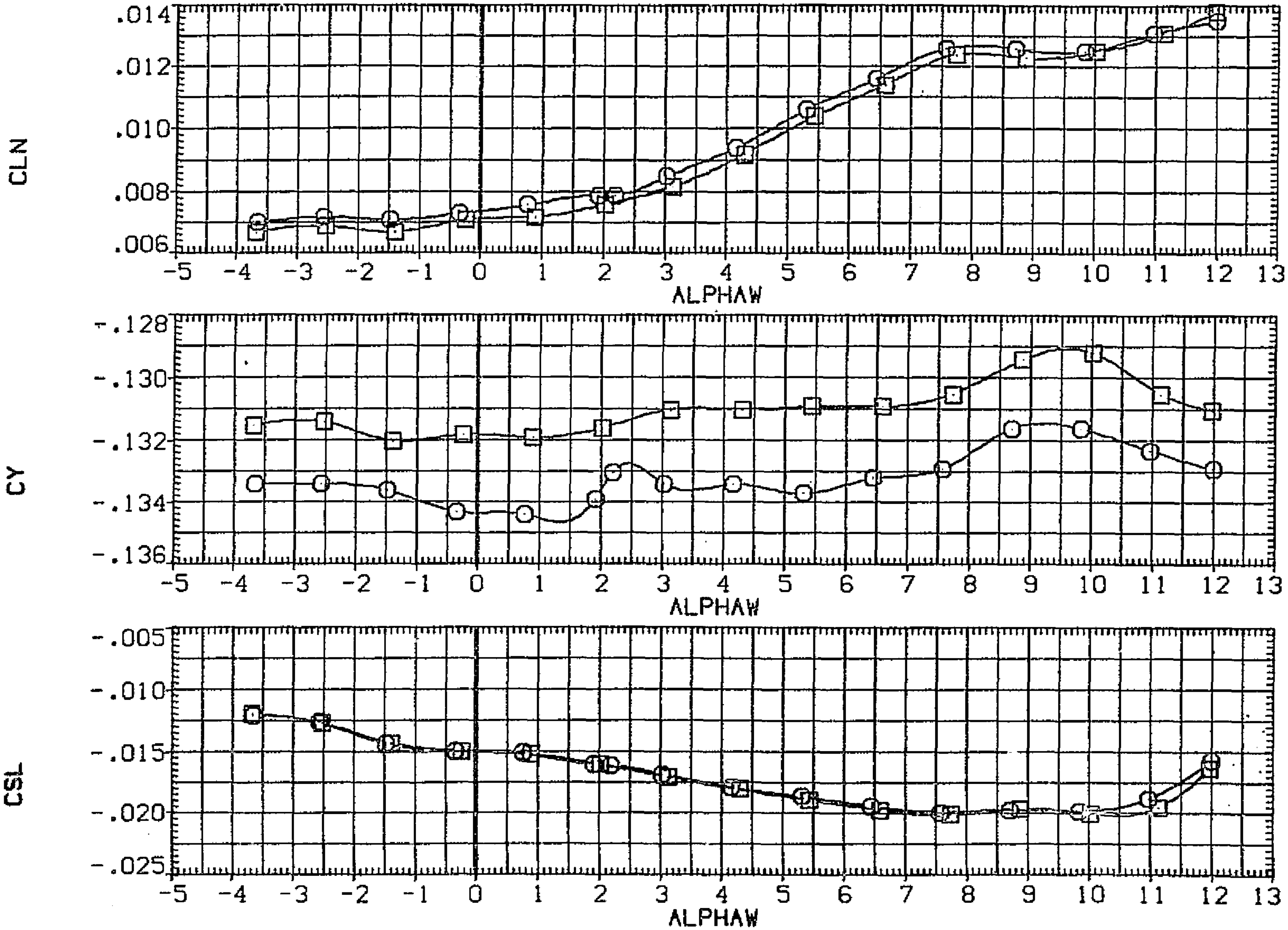



FIG. 24 ORB. AFT STRUT TRADES, LAUNCH CONFIG., FWD. STRUT UNFAIRED (AT103.2)

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP043) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP044) | □ | CA6 K2H15.6.1V9.1S1-12 AT108.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

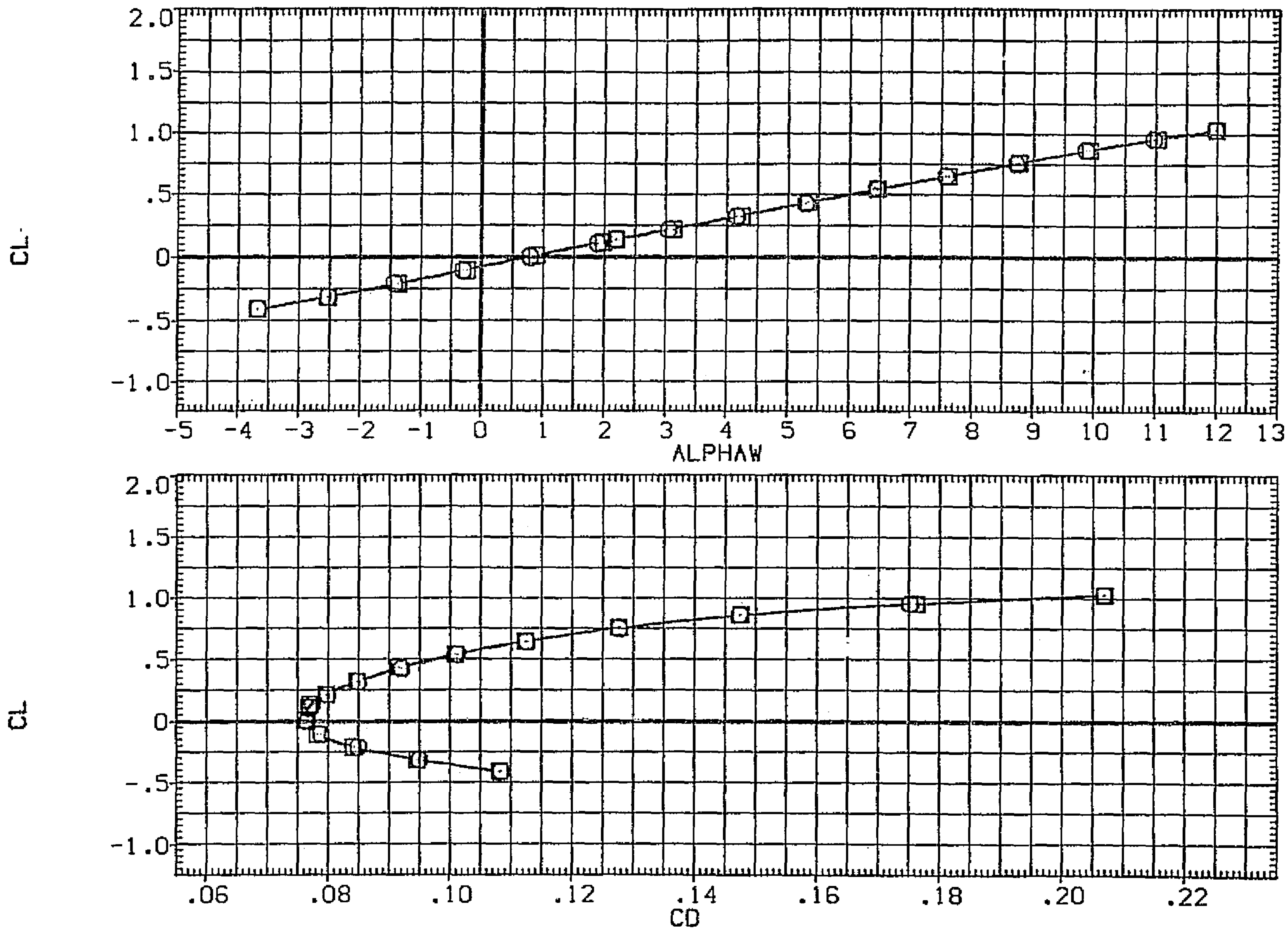



FIG. 25 EFFECT OF SEALING GAP BETWEEN FWD. BATHTUB FAIRING AND ORB., LAUNCH CFGN

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP043) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 /95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP044) | □ | CA6 K2H15.6.1V9.1S1-12 AT108.1/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

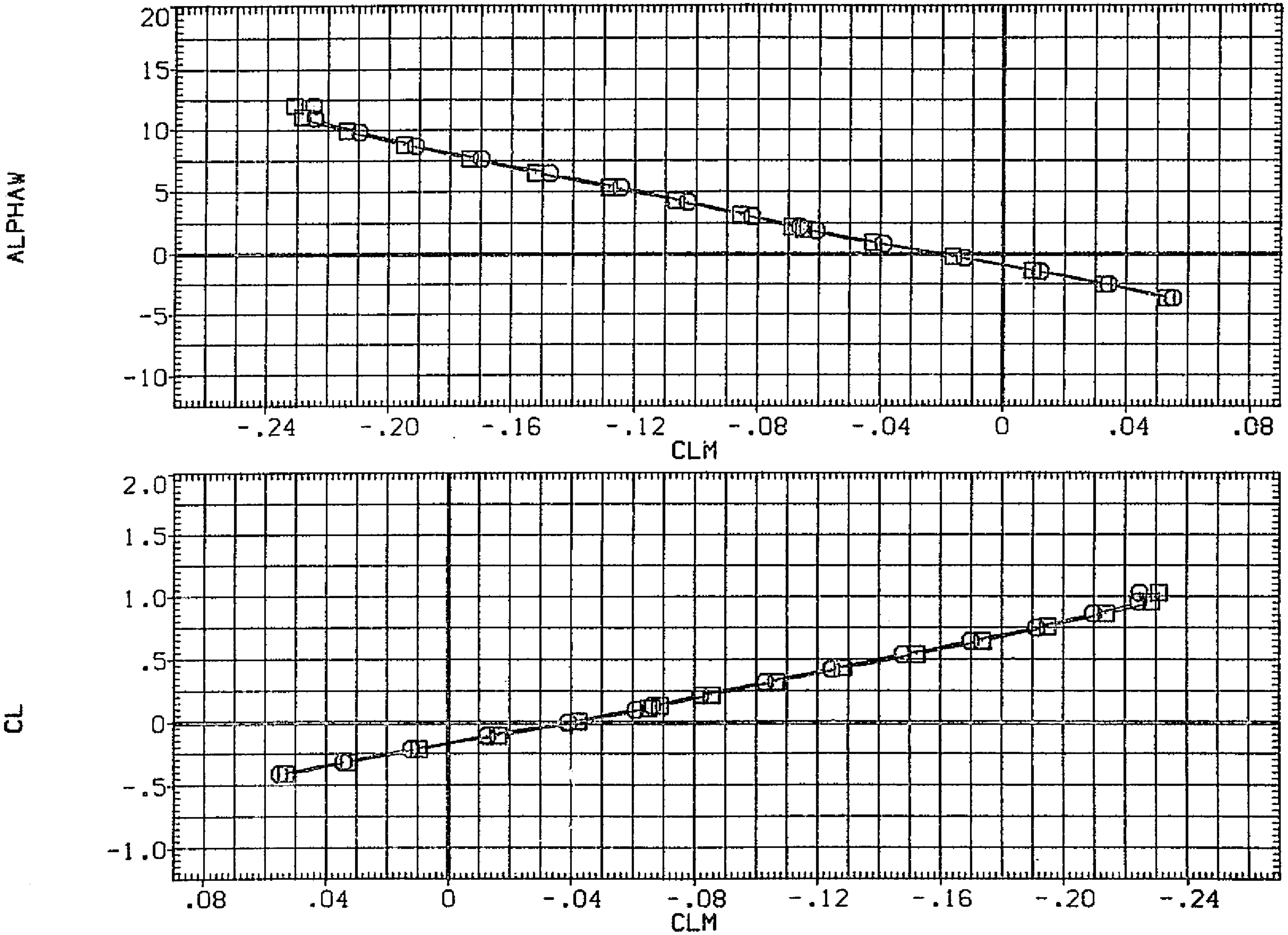



FIG. 25 EFFECT OF SEALING GAP BETWEEN FWD. BATHTUB FAIRING AND ORB., LAUNCH CFGN

(A)MACH = .60

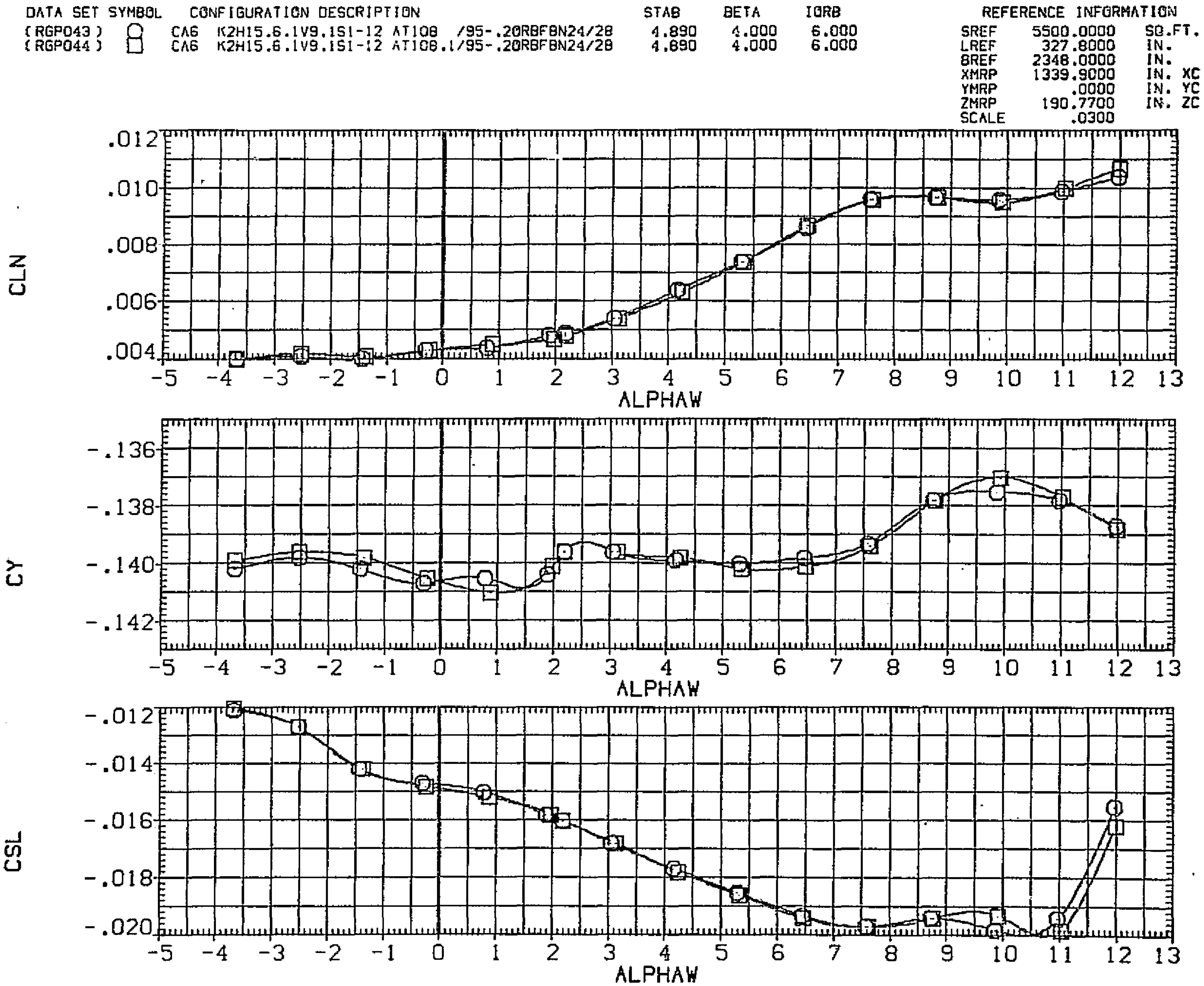



FIG. 25 EFFECT OF SEALING GAP BETWEEN FWD. BATHTUB FAIRING AND ORB., LAUNCH CFGN

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP036) | ○ | CA6 K2H15.6.1V9.1SI-12 AT103.1/105 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP039) | □ | CA6 K2H15.6.1V9.1SI-12 AT103.2/95-.2ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | ◇ | CA6 K2H15.6.1V9.1SI-12 AT108 /110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP050) | △ | CA6 K2H15.6.1V9.1SI-12 AT103.2/111.1ORBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

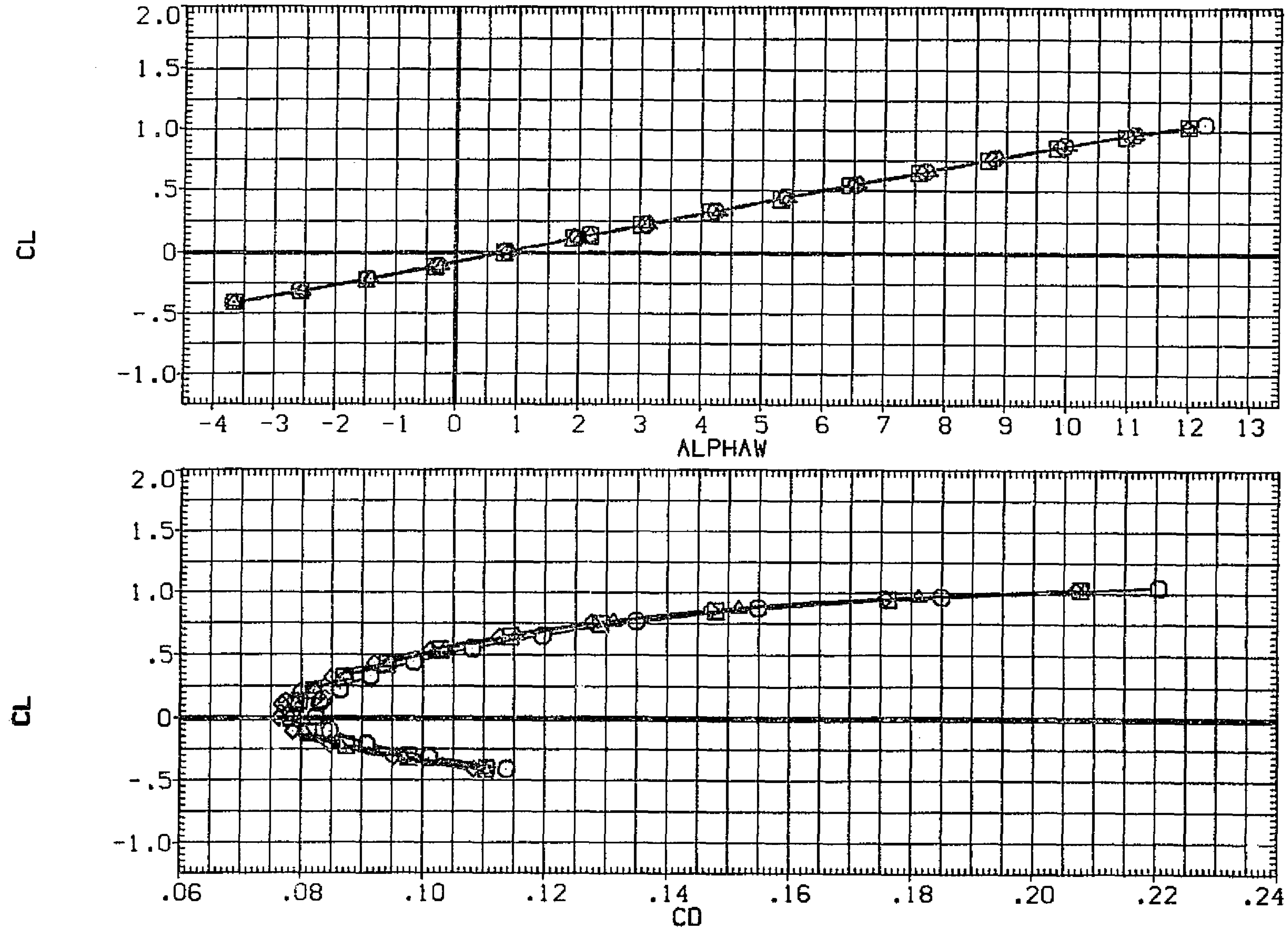



FIG. 26 EFFECT OF ORB. SUPPORT STRUT FAIRINGS, LAUNCH CONFIG., BETA 4

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP036) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP039) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.20RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 ORBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP050) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.2/111.10RBF8N24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

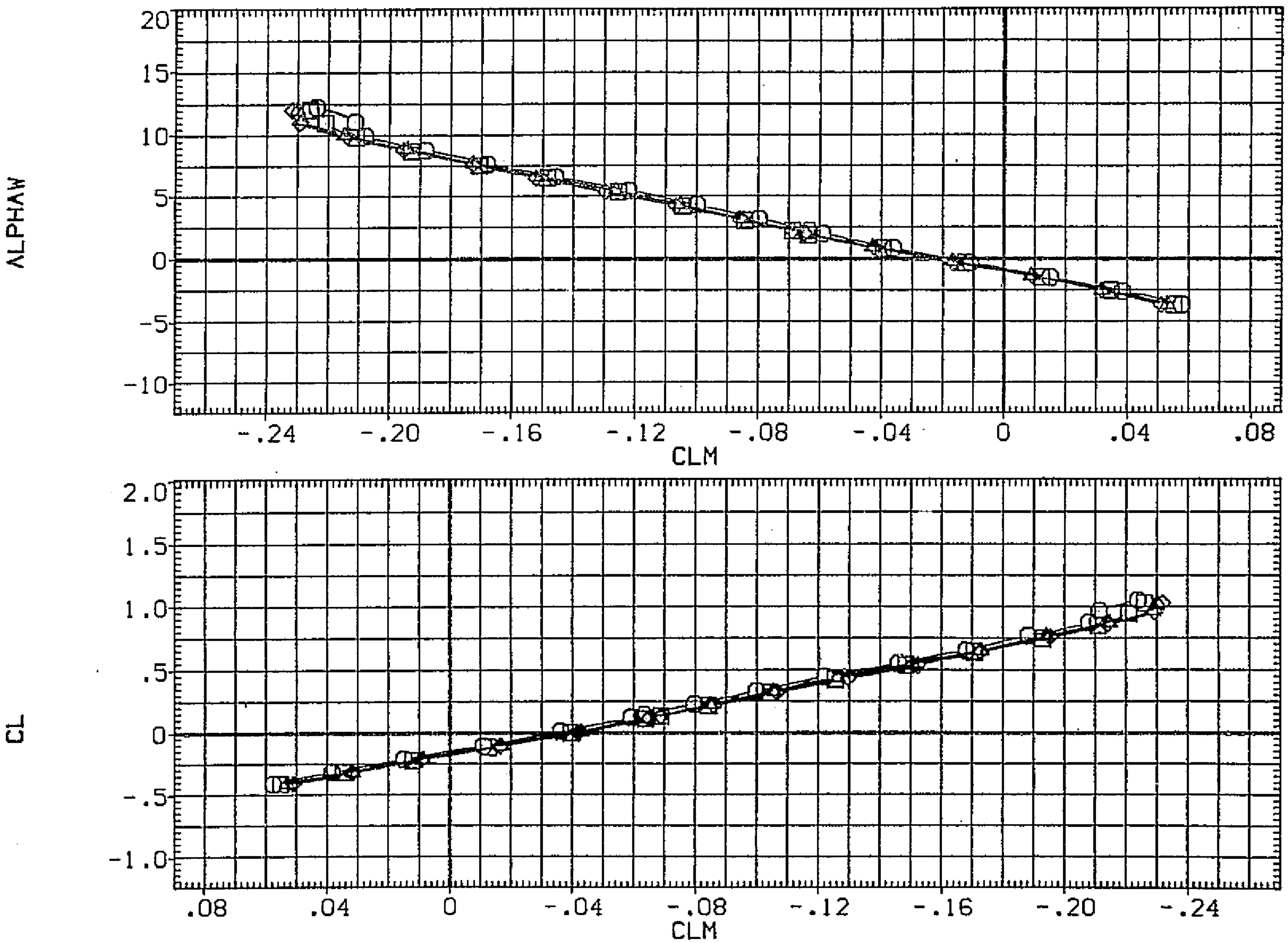



FIG. 26 EFFECT OF ORB. SUPPORT STRUT FAIRINGS, LAUNCH CONFIG., BETA 4

(A)MACH = .60

| DATA SET SYMBOL | | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP036) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.890 | 4.000 | 6.000 |
| (RGP039) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.2/95-.2ORBFBN24/28 | 4.890 | 4.000 | 6.000 |
| (RGP045) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 /110 ORBFBN24/28 | 4.890 | 4.000 | 6.000 |
| (RGP050) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.2/111.1ORBFBN24/28 | 4.890 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

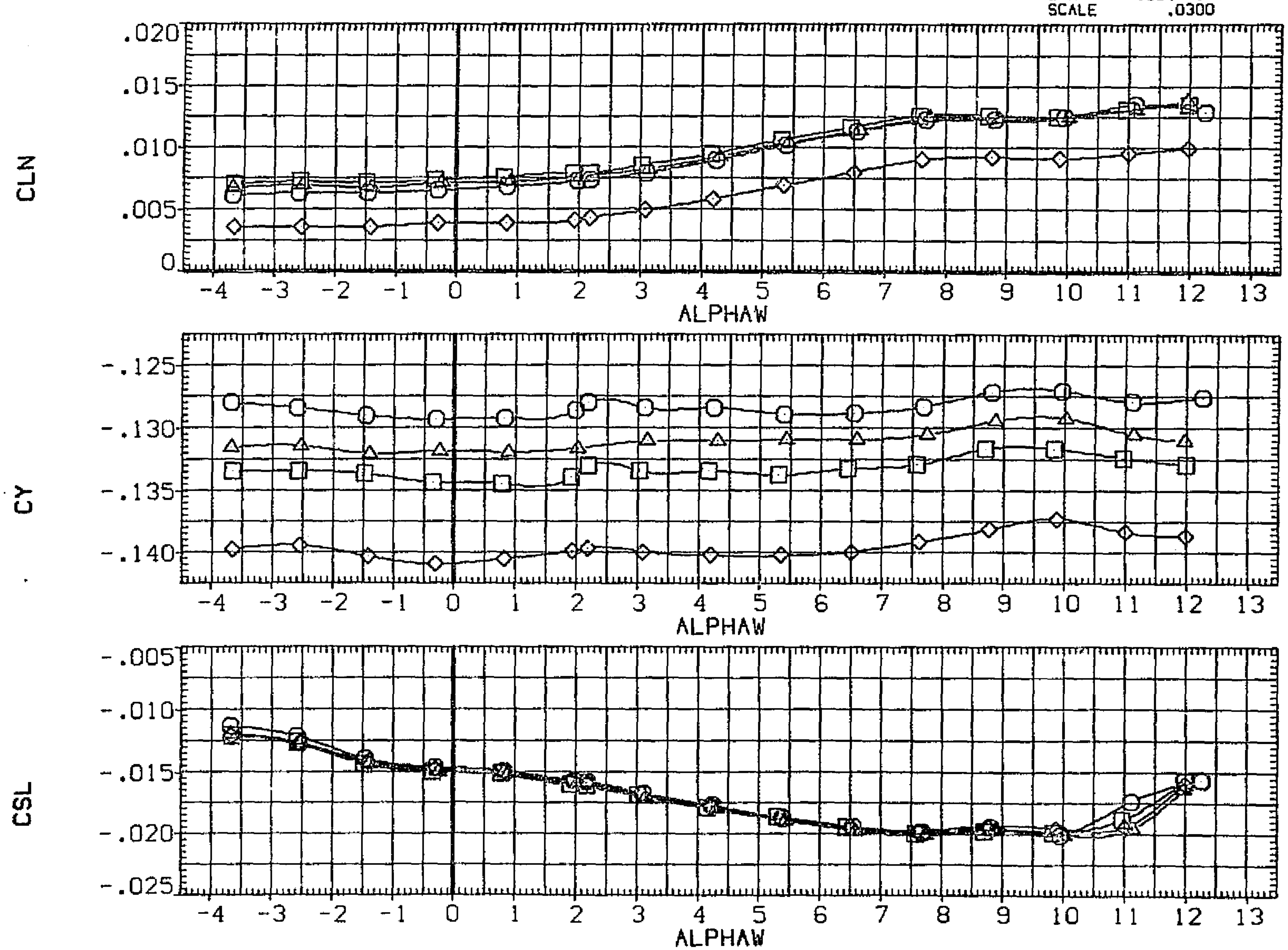



FIG. 26 EFFECT OF ORB. SUPPORT STRUT FAIRINGS, LAUNCH CONFIG., BETA 4

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP057) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | -4.000 | 6.000 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP053) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 2.000 | 6.000 |
| (RGP054) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP055) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

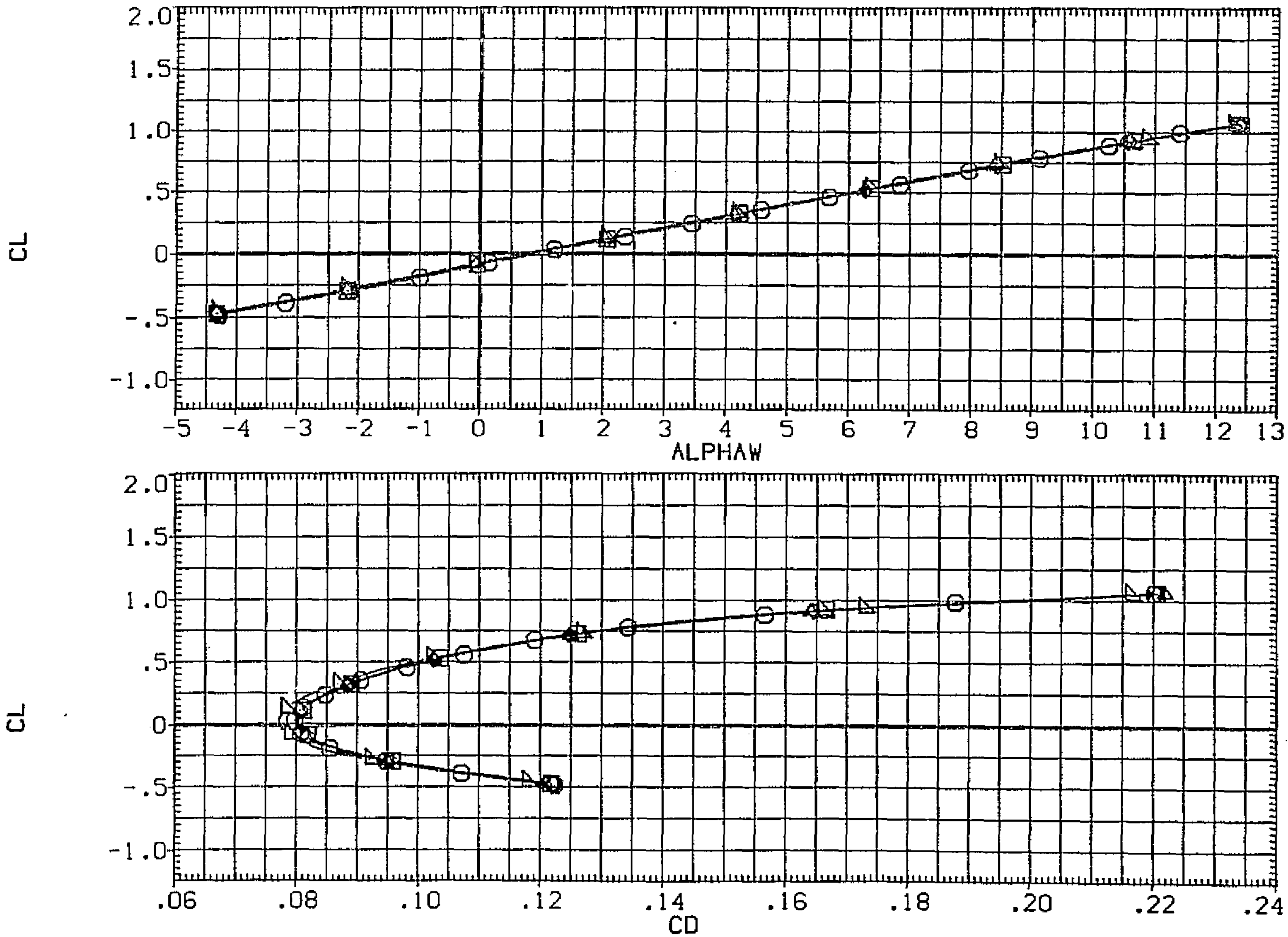



FIG. 27 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP057) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | -4.000 | 6.000 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP053) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 2.000 | 6.000 |
| (RGP054) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP055) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

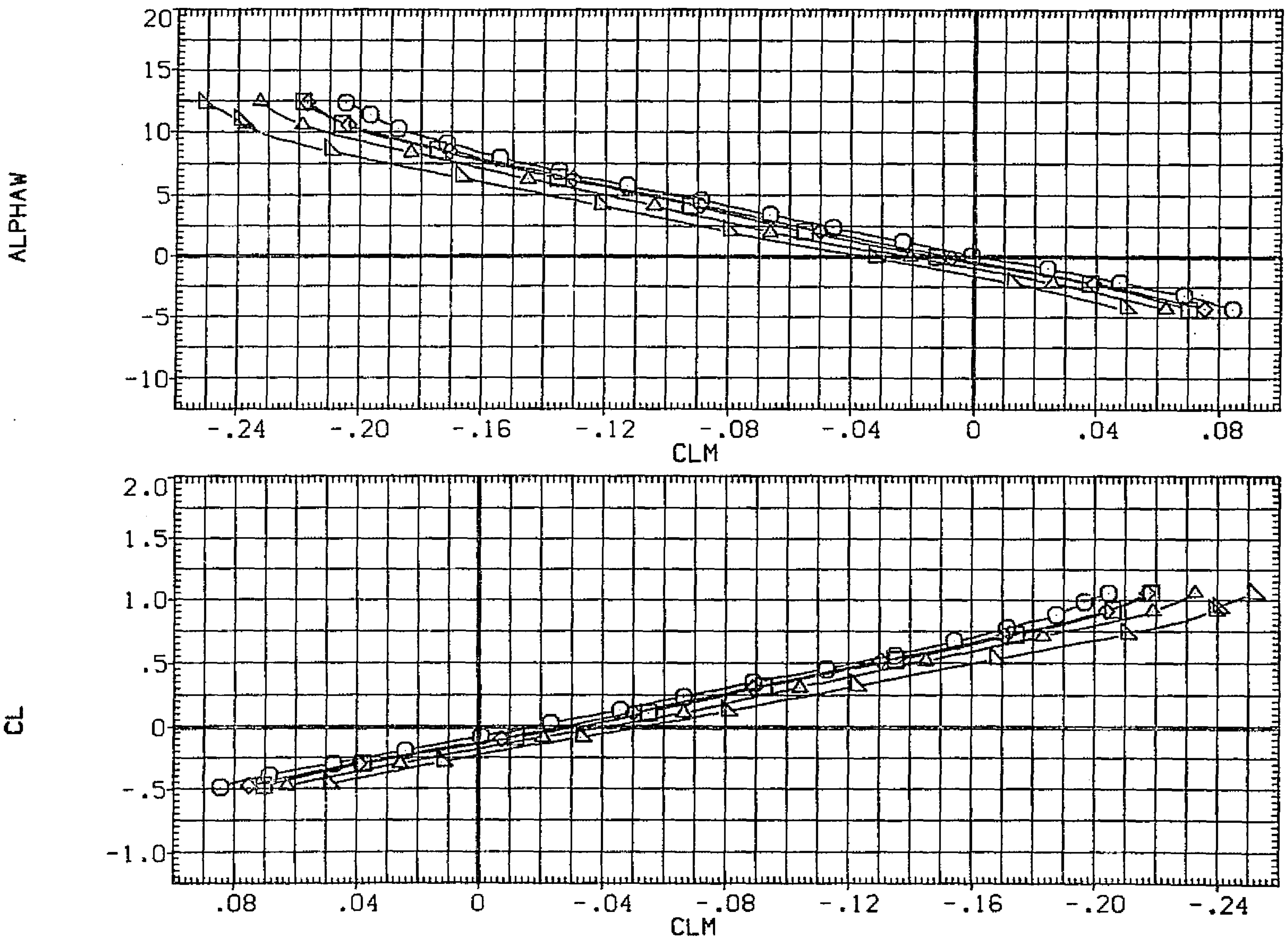



FIG. 27 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP057) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | -4.000 | 6.000 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP053) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 2.000 | 6.000 |
| (RGP054) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP055) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

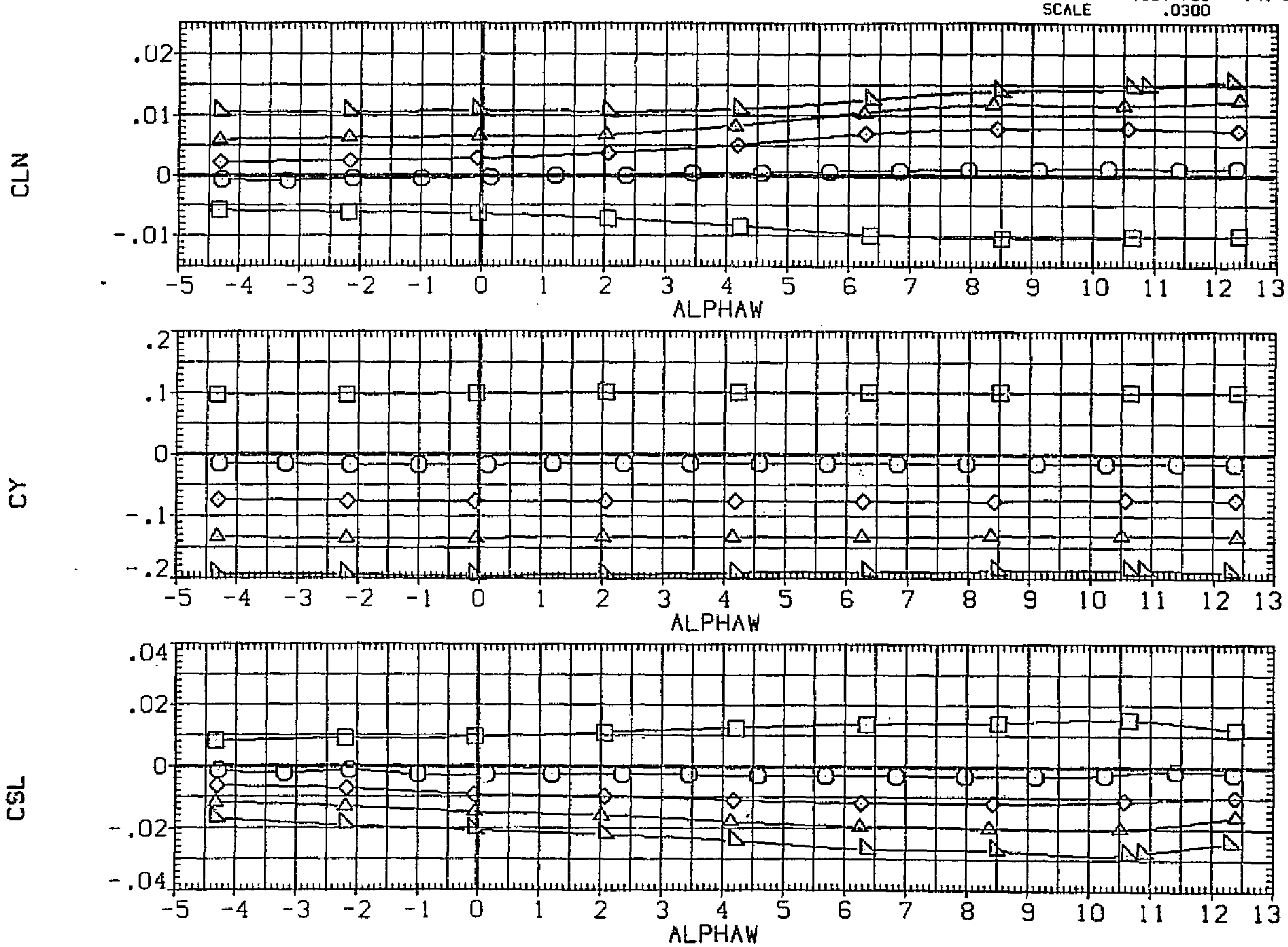



FIG. 27 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP057) | □ | CA6 K2H15.6.IV9.IS1-12 AT103.1/95-.30RBF8N24/28 | 4.990 | -4.000 | 6.000 |
| (RGP059) | ○ | CA6 K2H15.6.IV9.IS1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP053) | ◇ | CA6 K2H15.6.IV9.IS1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 2.000 | 6.000 |
| (RGP054) | △ | CA6 K2H15.6.IV9.IS1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP055) | ◺ | CA6 K2H15.6.IV9.IS1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

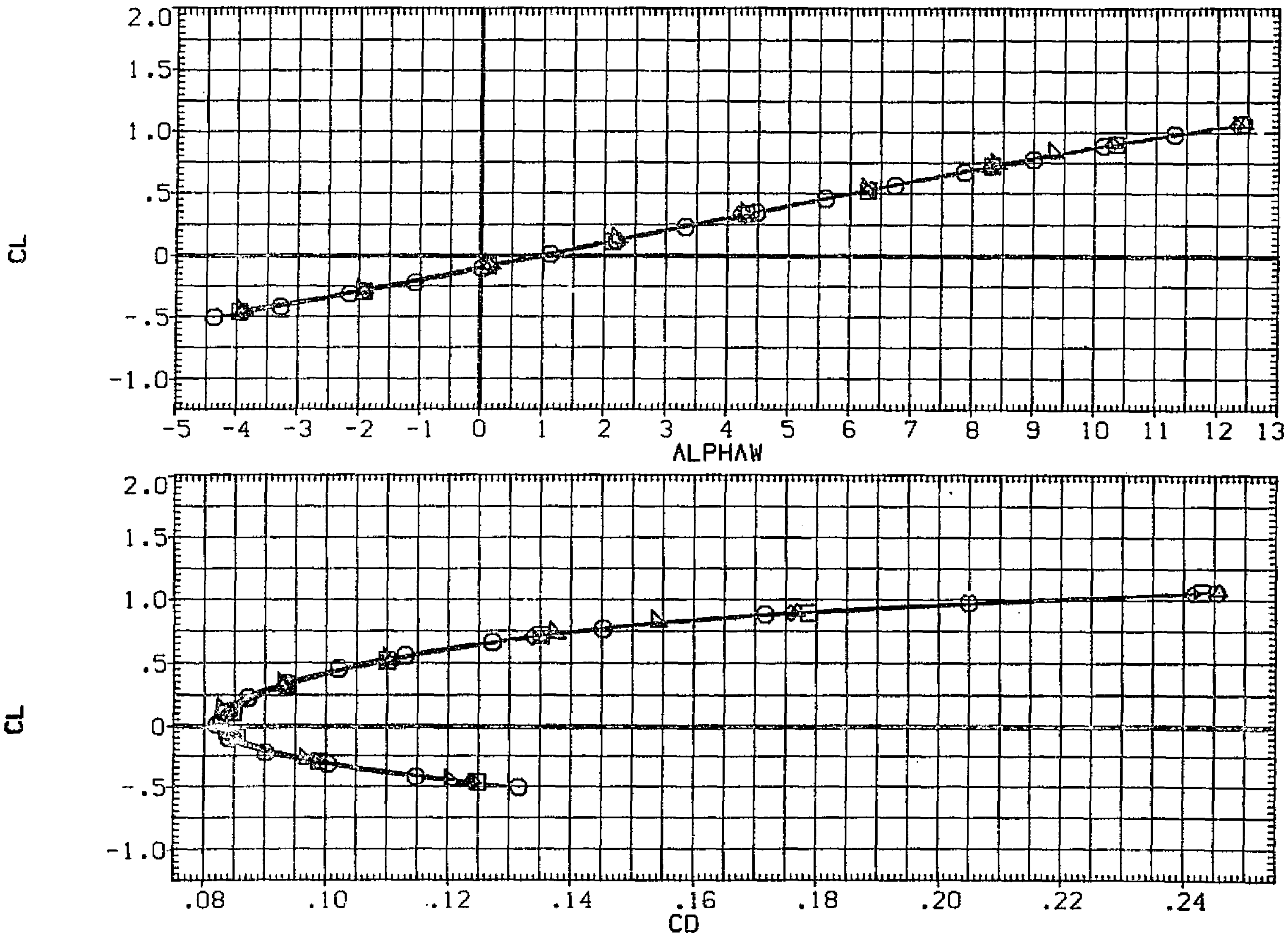



FIG. 27 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP057) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | -4.000 | 6.000 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP053) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 2.000 | 6.000 |
| (RGP054) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP055) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

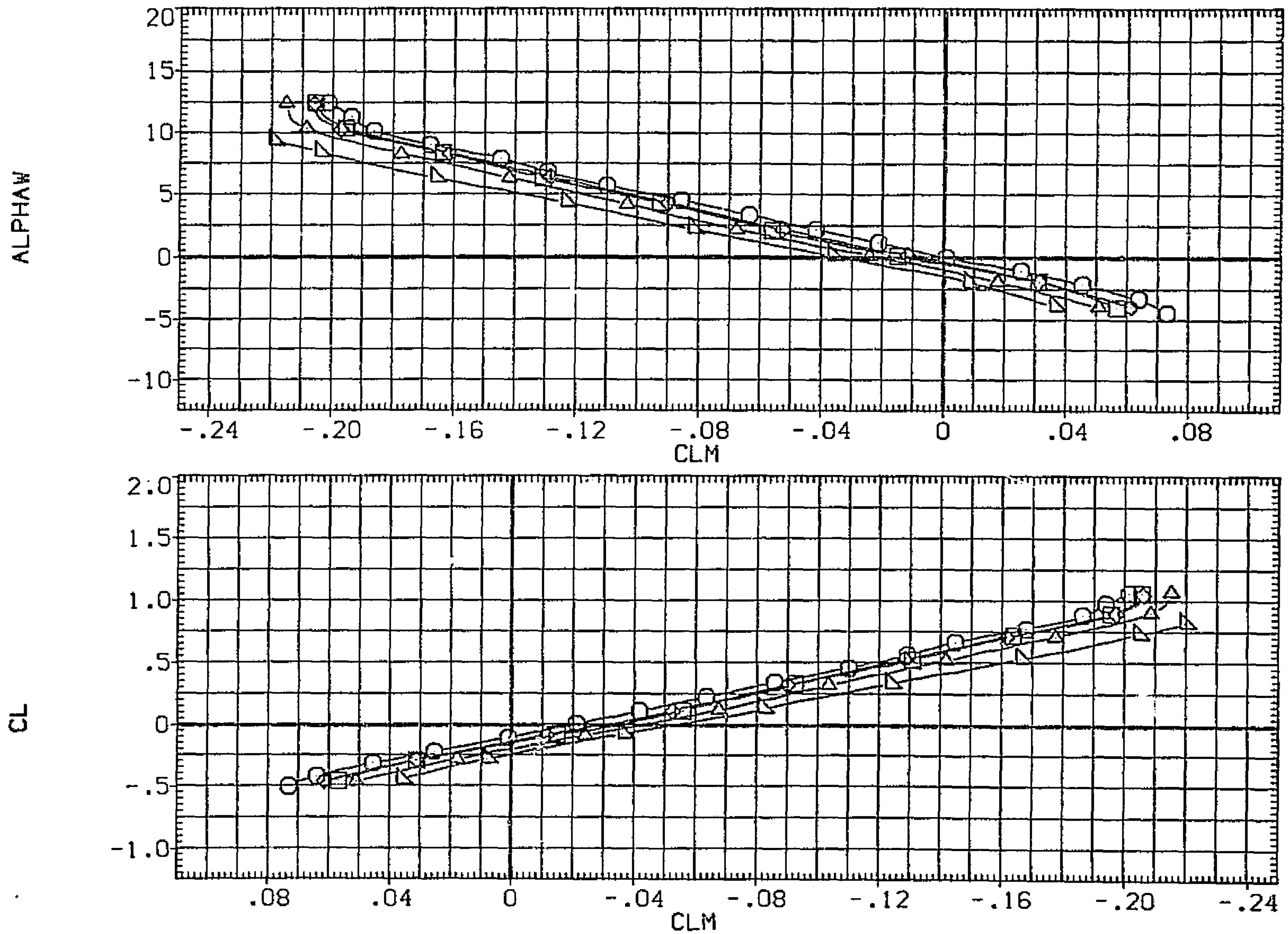



FIG. 27 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP057) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | -4.000 | 6.000 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP053) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 2.000 | 6.000 |
| (RGP054) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP055) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

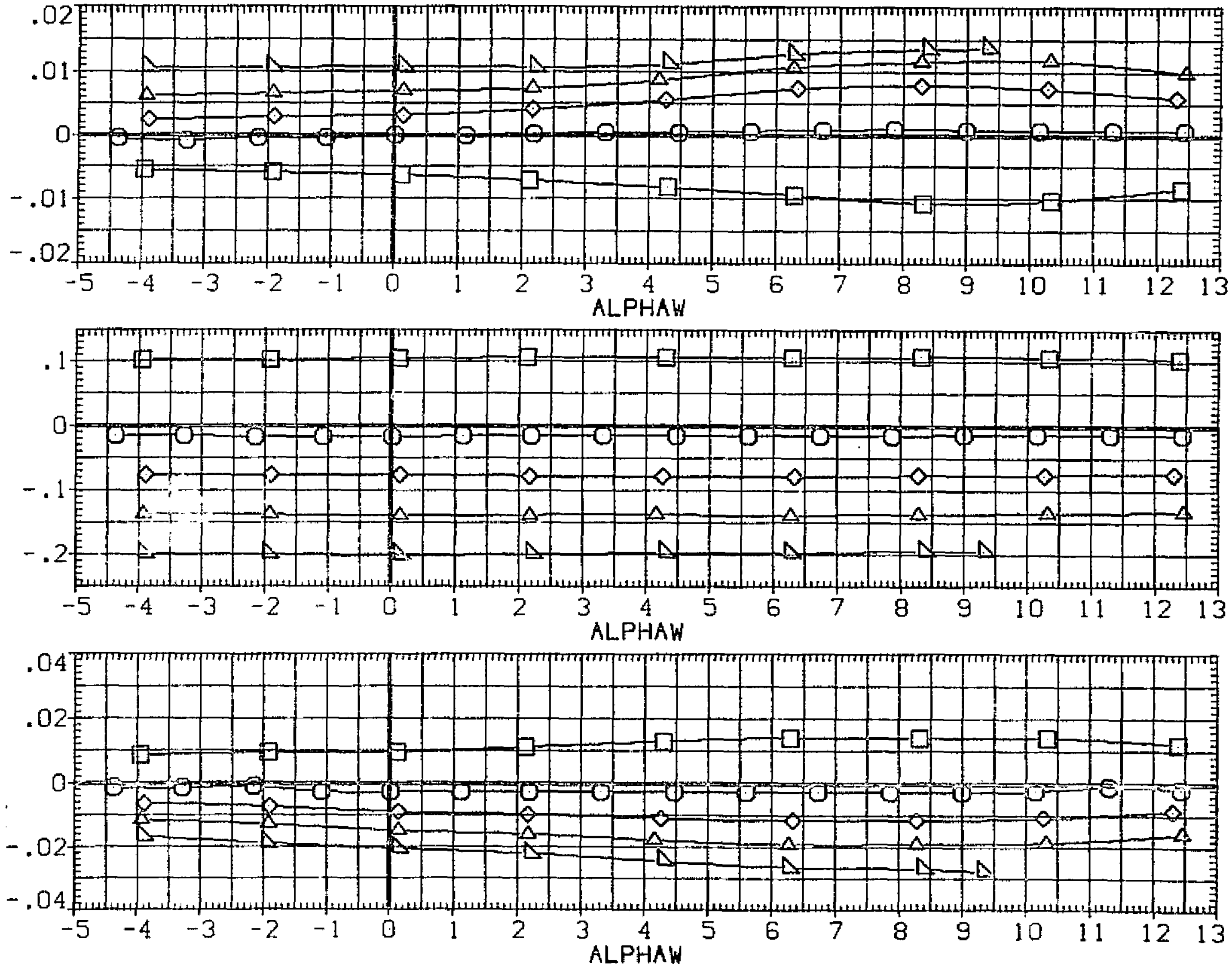



FIG. 27 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG.
(B)MACH = .70

CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28(RGP059)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 4.890 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | SPOILR | 2.000 | ELEVON | 5.000 |
| | | BDFLAP | .000 | IORB | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

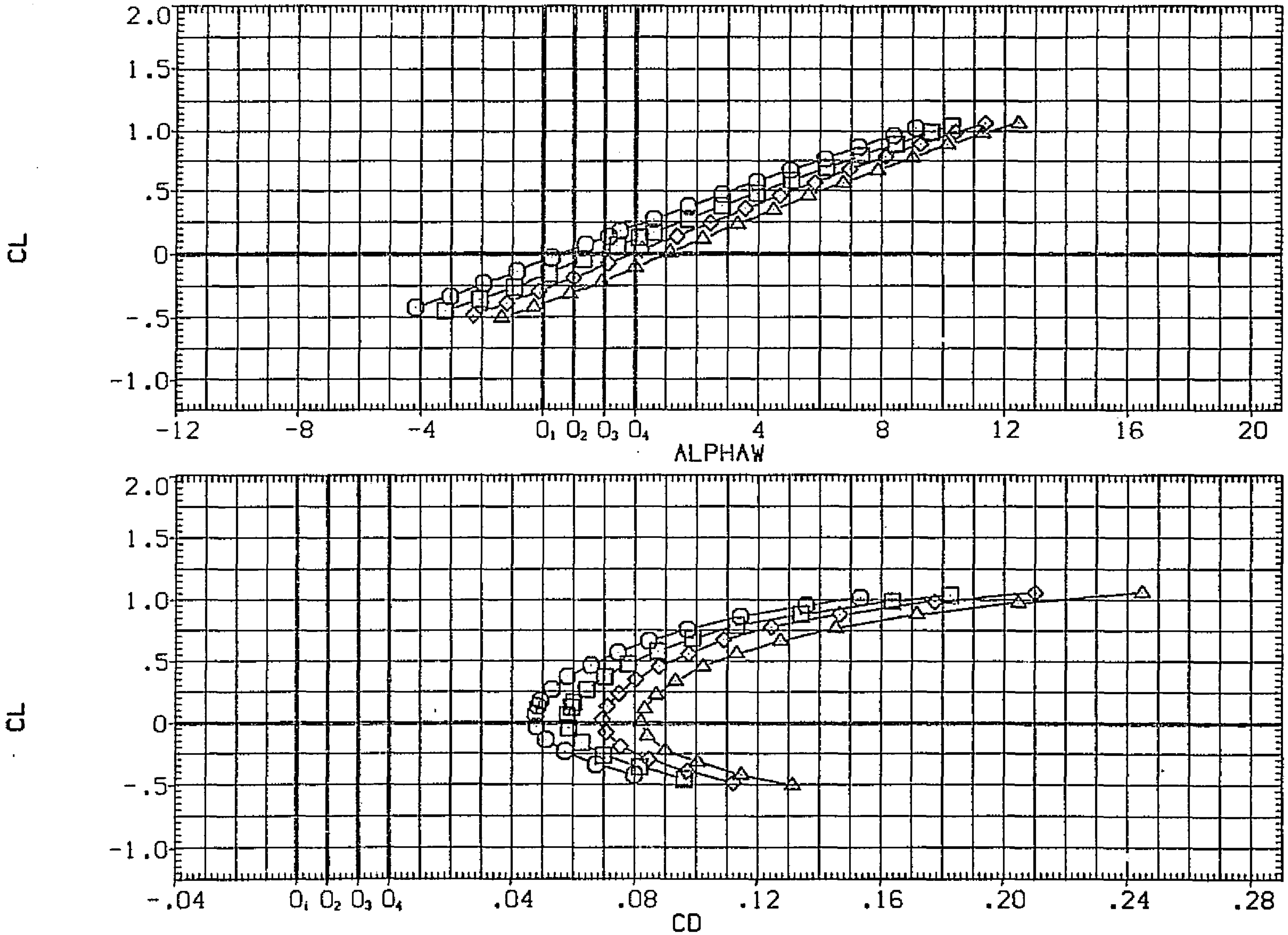



FIG. 28 MACH NUMBER EFFECTS, LAUNCH CONFIGURATION

CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28(RGP059)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 4.890 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | SPOILR | 2.000 | ELEVON | 5.000 |
| | | BDFLAP | .000 | IORB | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

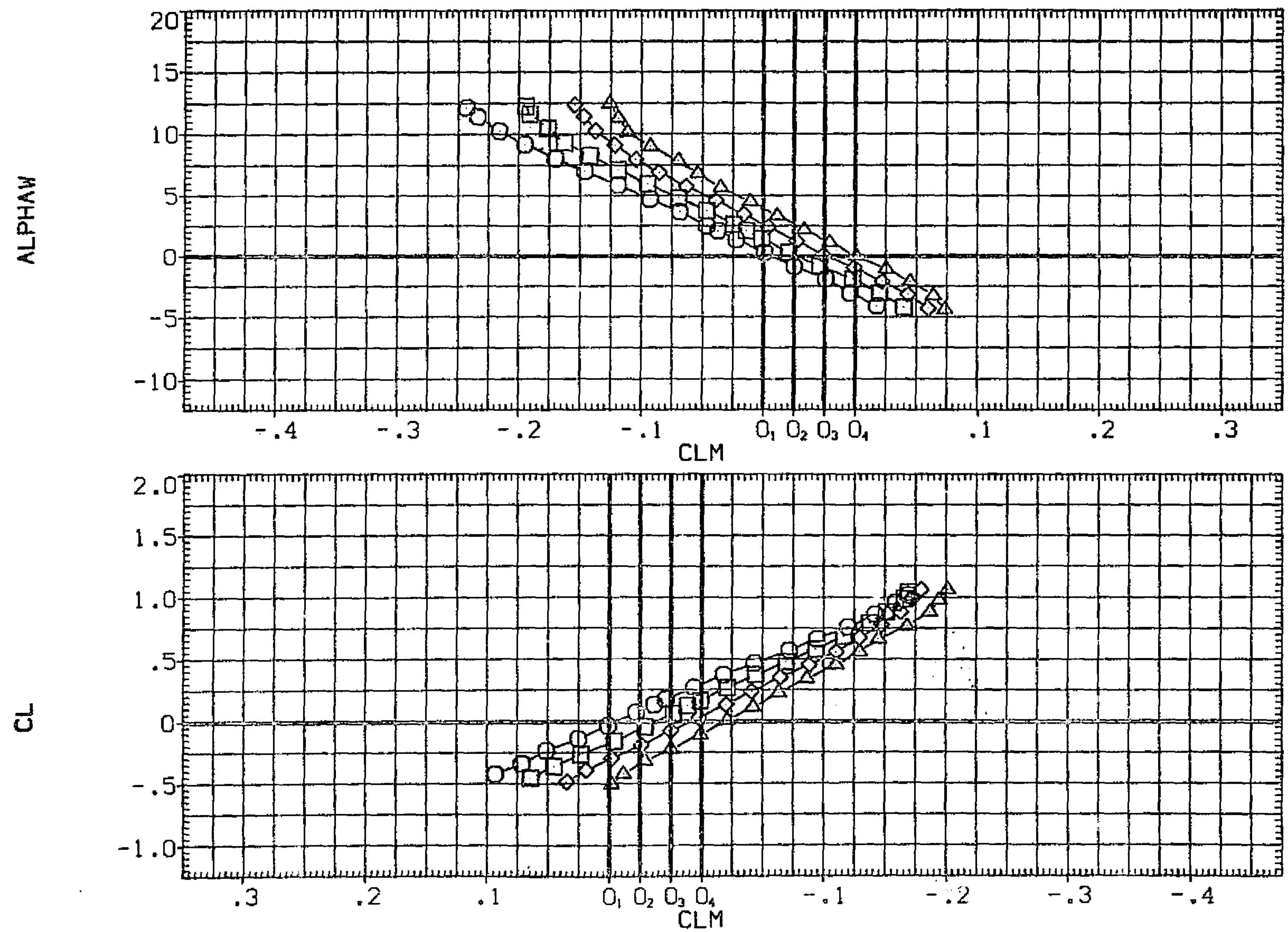



FIG. 28 MACH NUMBER EFFECTS, LAUNCH CONFIGURATION

CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28(RGP059)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 4.890 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | SPOILR | 2.000 | ELEVON | 5.000 |
| | | BDFLAP | .000 | IORB | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

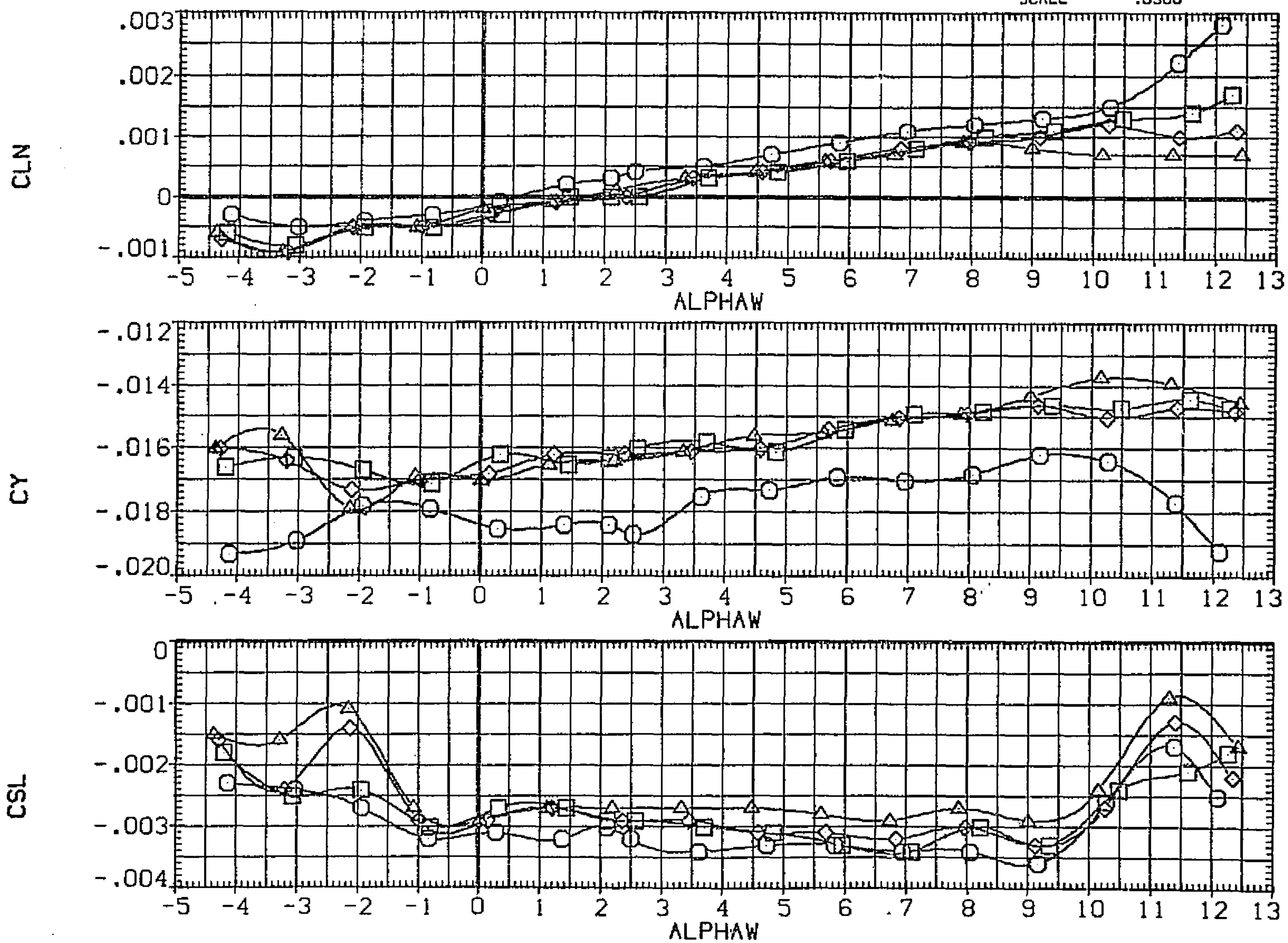



FIG. 28 MACH NUMBER EFFECTS, LAUNCH CONFIGURATION

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP061) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP062) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 10.000 | .000 | .000 |
| (RGP063) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 10.000 | .000 | .000 |
| (RGP064) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | .000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

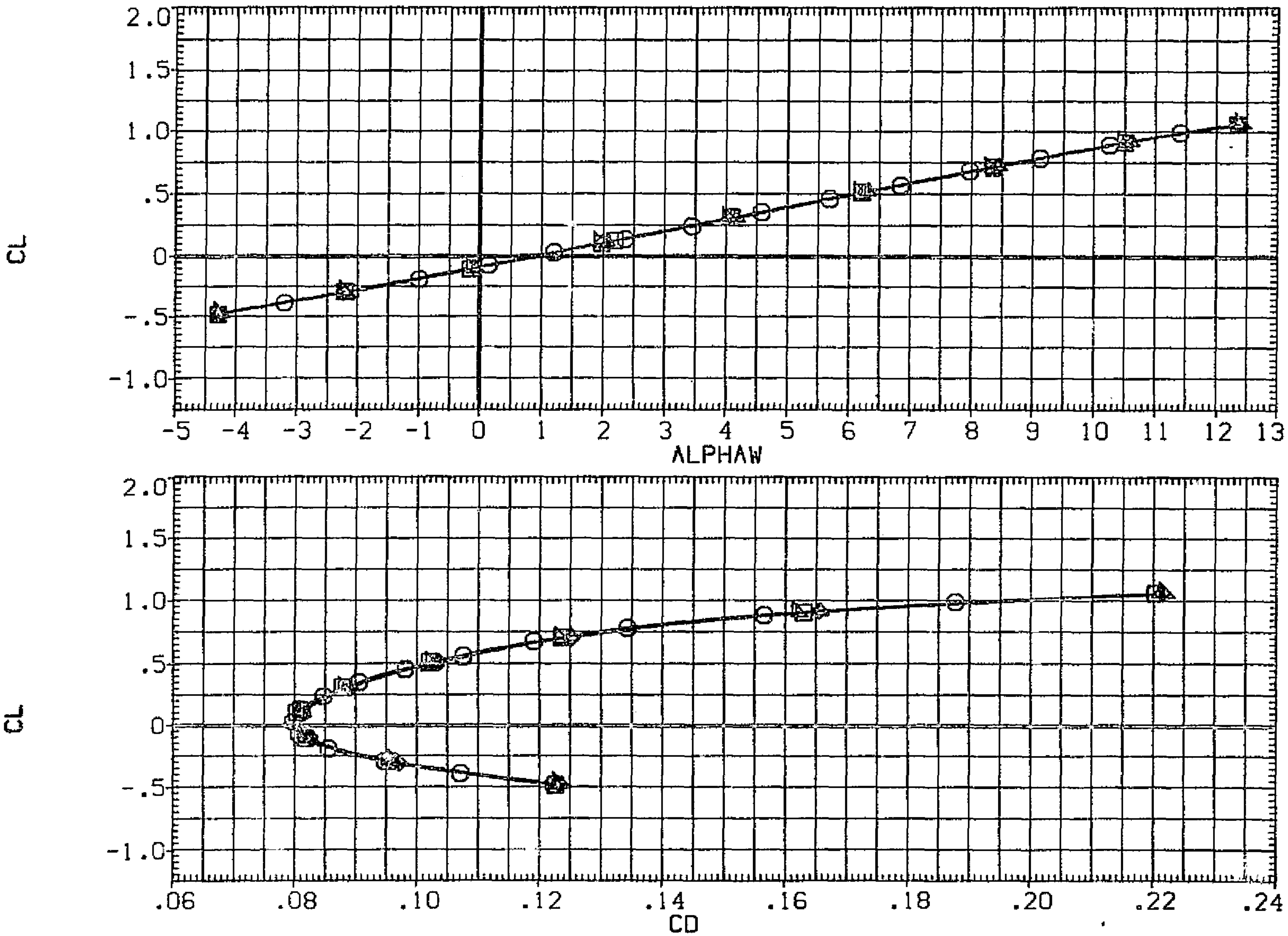



FIG. 29 RUDDER EFFECTIVENESS, LAUNCH CONFIG.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP061) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP062) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 10.000 | .000 | .000 |
| (RGP063) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 10.000 | .000 | .000 |
| (RGP064) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | .000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

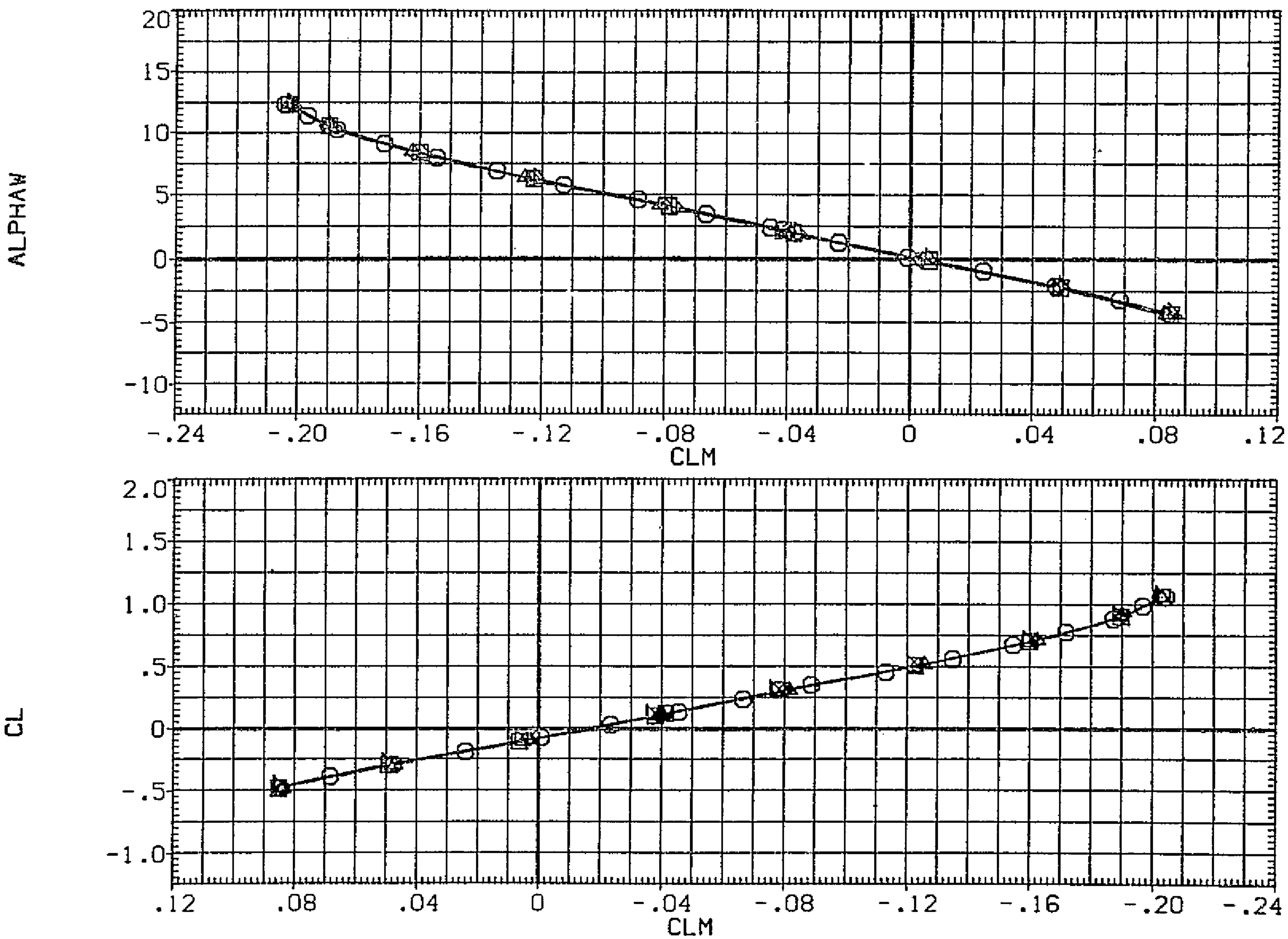



FIG. 29 RUDDER EFFECTIVENESS, LAUNCH CONFIG.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
| --- | --- | --- | --- | --- | --- | --- |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP061) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP062) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 10.000 | .000 | .000 |
| (RGP063) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 10.000 | .000 | .000 |
| (RGP064) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | .000 | .000 | .000 |

| REFERENCE INFORMATION | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

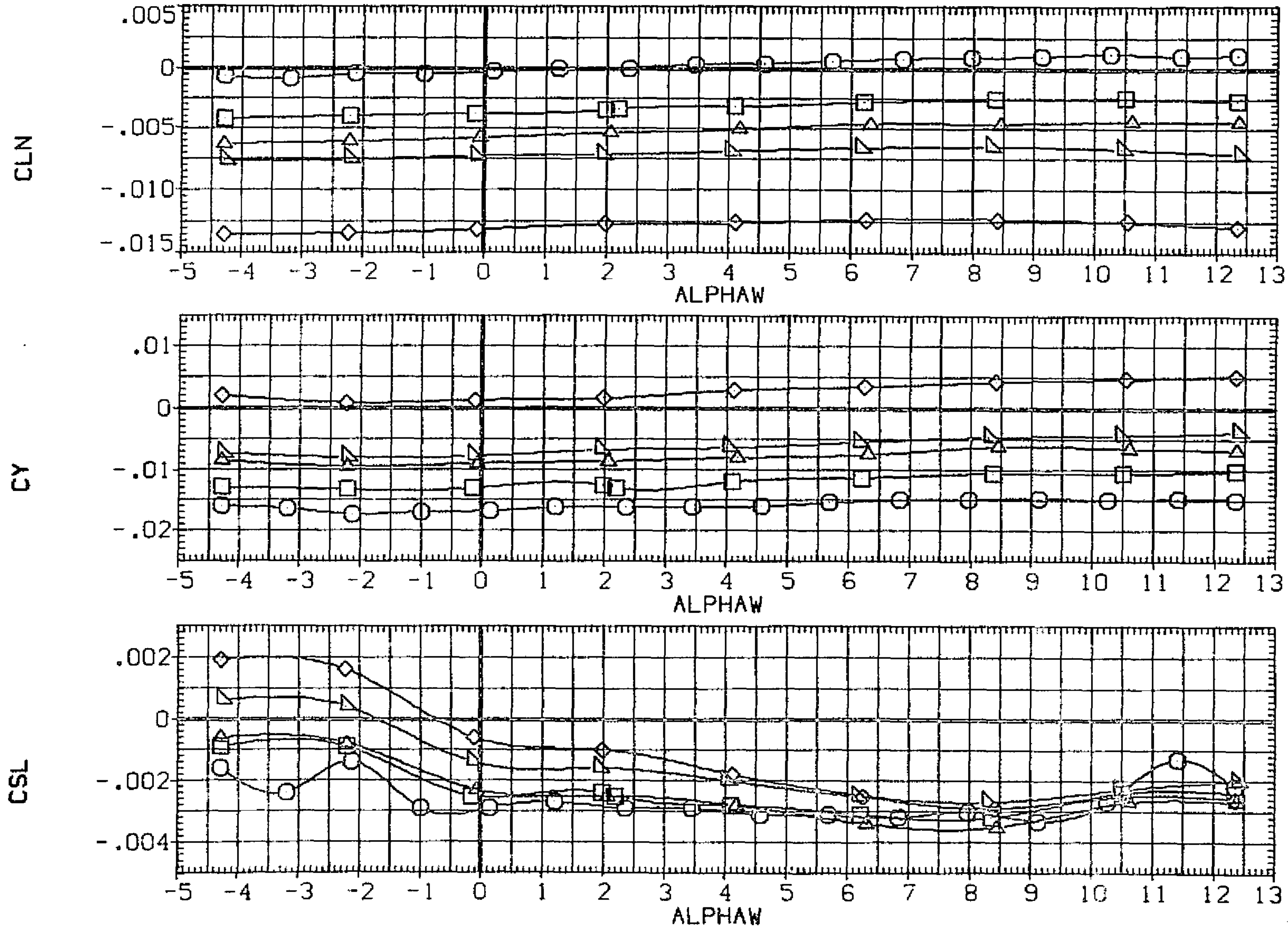



FIG. 29 RUDDER EFFECTIVENESS, LAUNCH CONFIG.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP061) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP062) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 10.000 | .000 | .000 |
| (RGP063) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 10.000 | .000 | .000 |
| (RGP064) | ◁ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | .000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

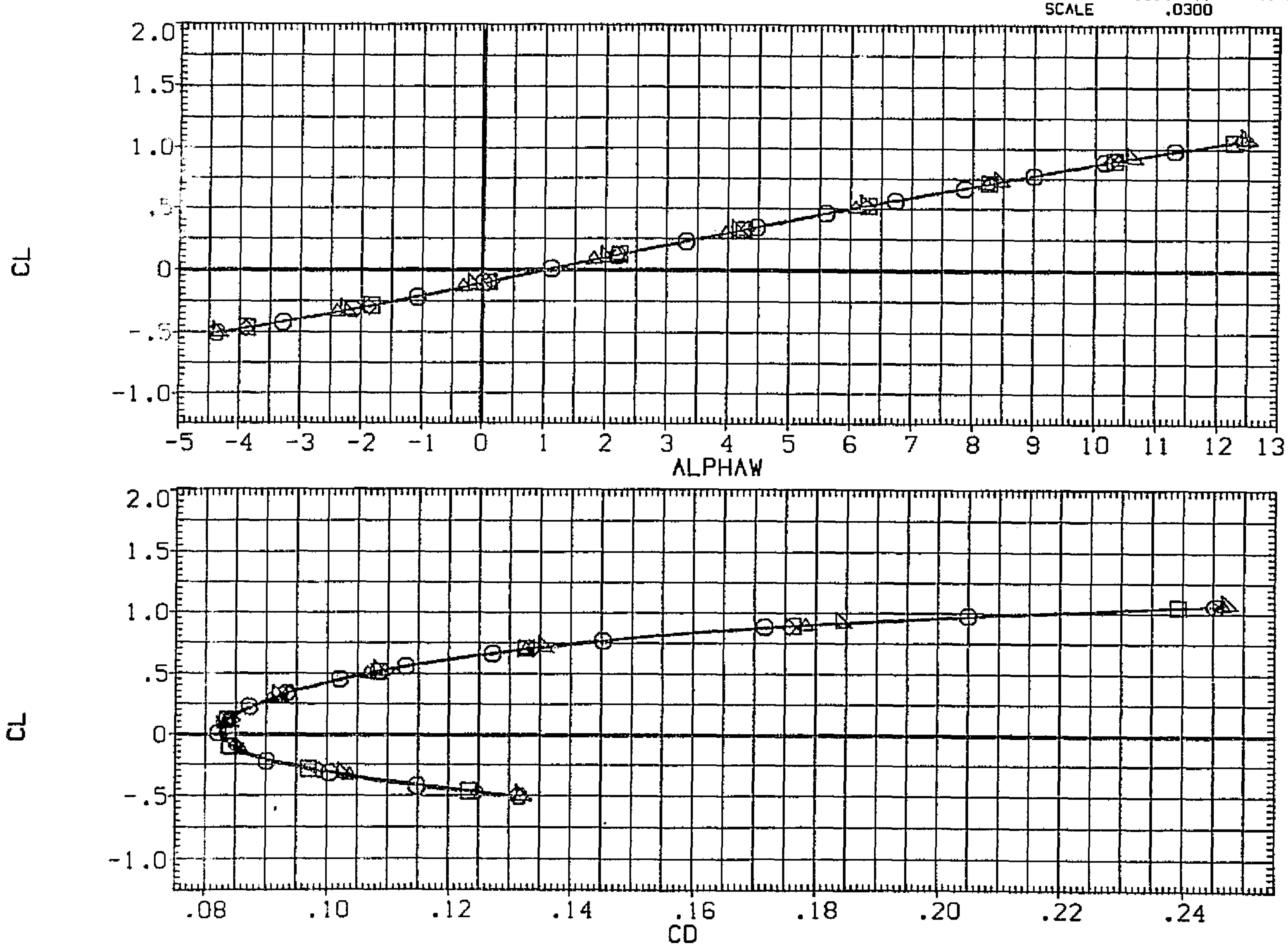



FIG. 29 RUDDER EFFECTIVENESS, LAUNCH CONFIG.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP061) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP062) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 10.000 | .000 | .000 |
| (RGP063) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 10.000 | .000 | .000 |
| (RGP064) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | .000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

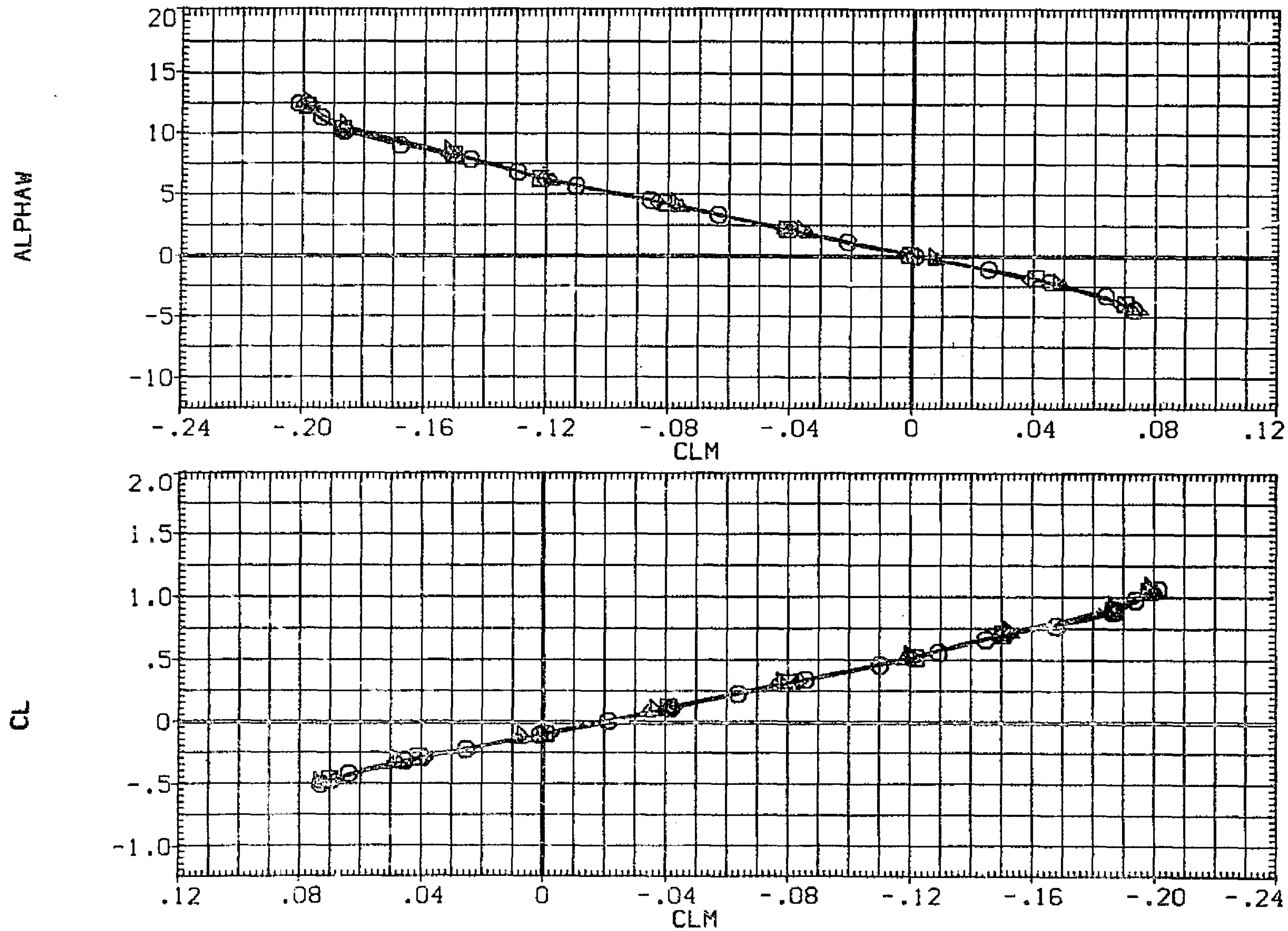



FIG. 29 RUDDER EFFECTIVENESS, LAUNCH CONFIG.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP061) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 3.000 | 3.000 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP062) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 10.000 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP063) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 10.000 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP064) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | .000 | .000 | .000 | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

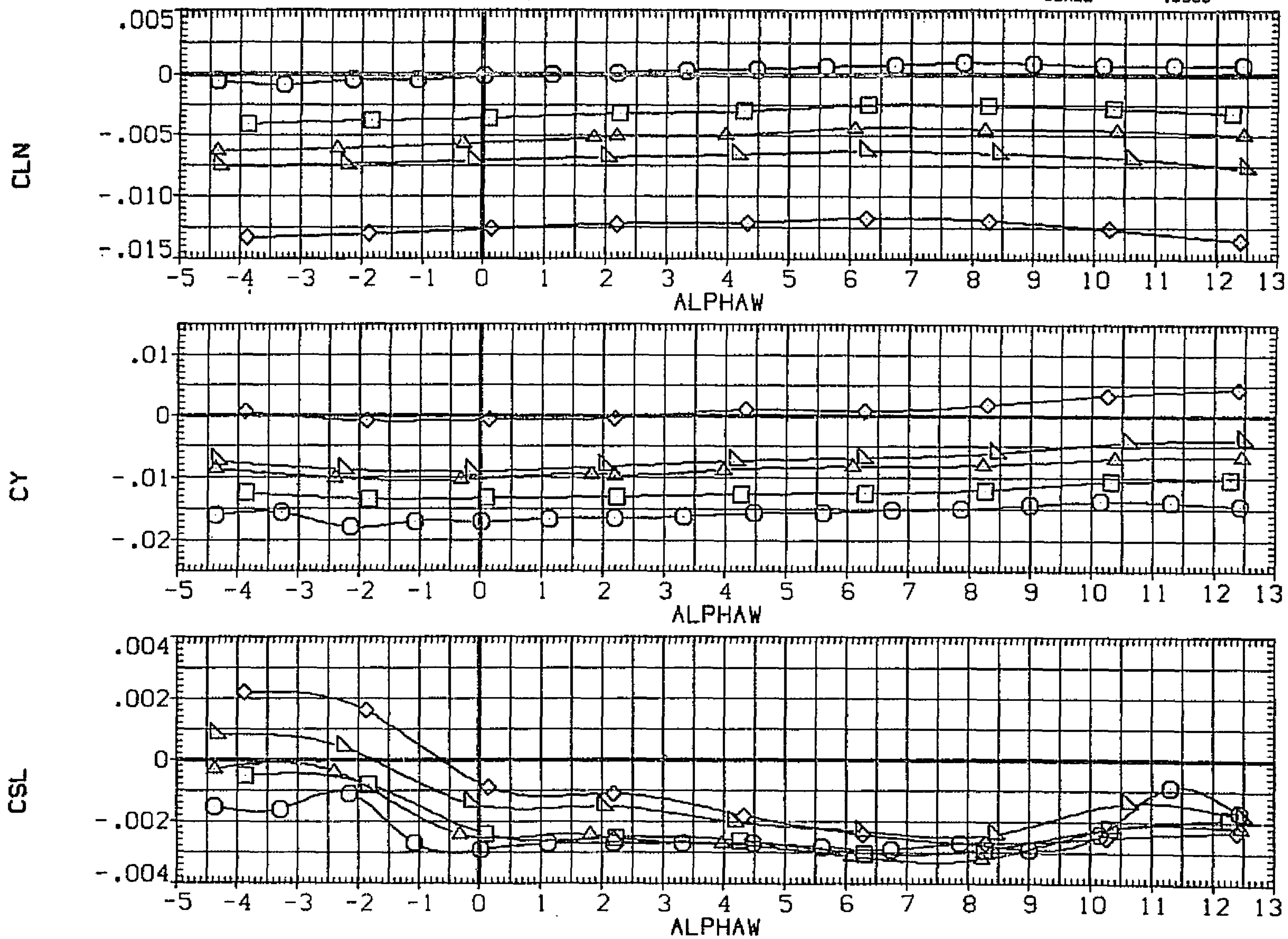



FIG. 29 RUDDER EFFECTIVENESS, LAUNCH CONFIG.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP066) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.790 | 6.000 | -10.683 | -9.934 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | .000 | .000 |
| (RGP065) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.840 | 6.000 | 9.484 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

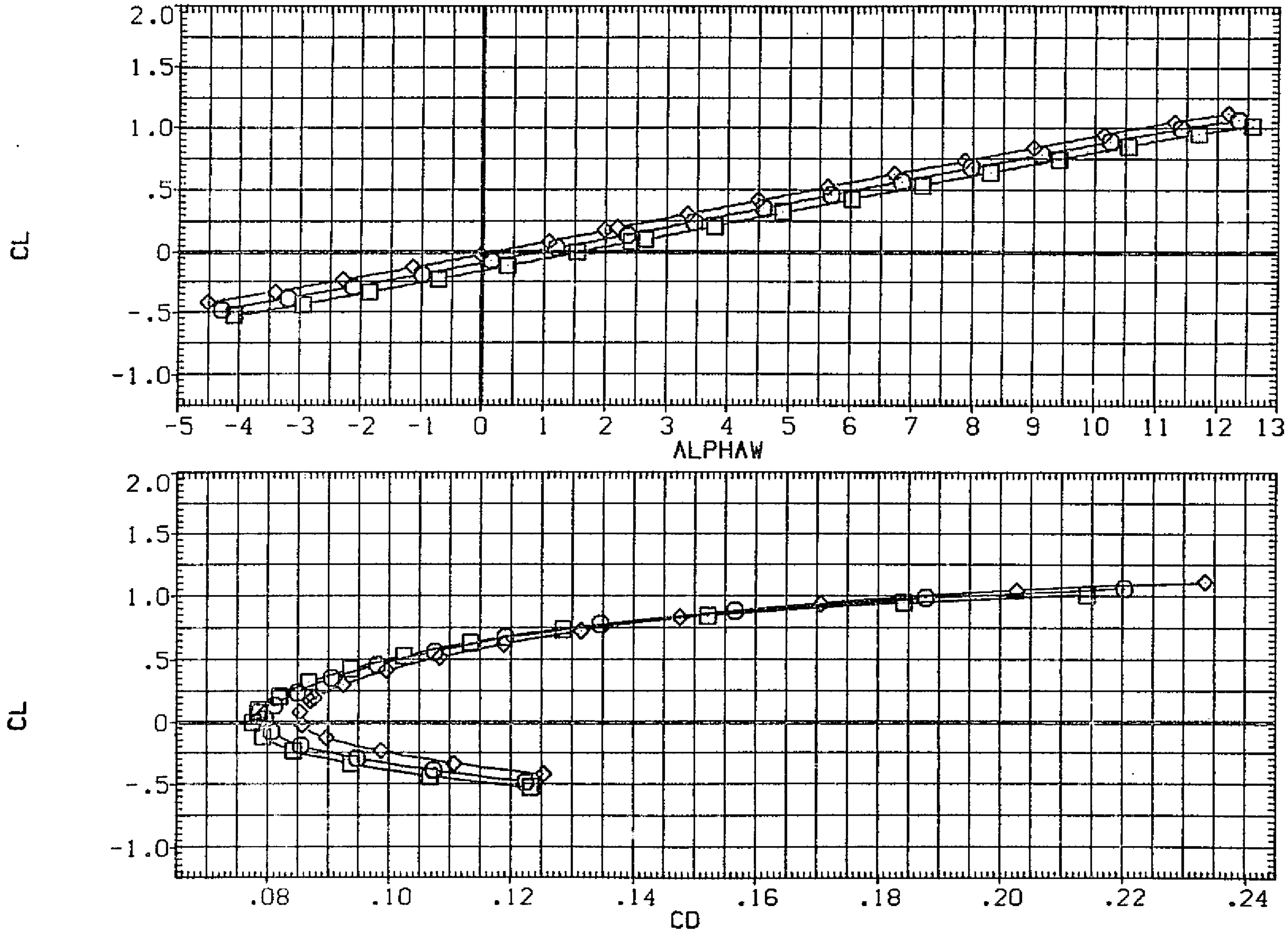


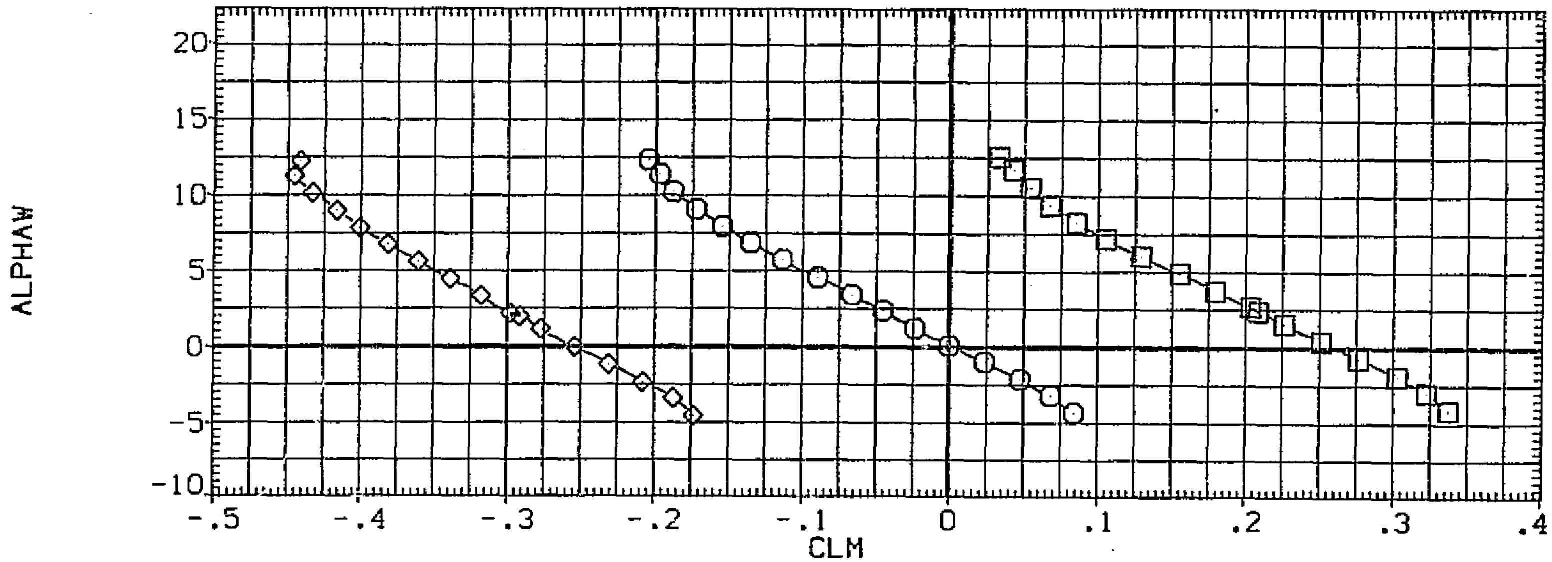

FIG. 30 ELEVATOR EFFECTIVENESS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP066) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.790 | 6.000 | -10.683 | -9.934 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | .000 | .000 |
| (RGP065) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.840 | 6.000 | 9.484 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZHRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



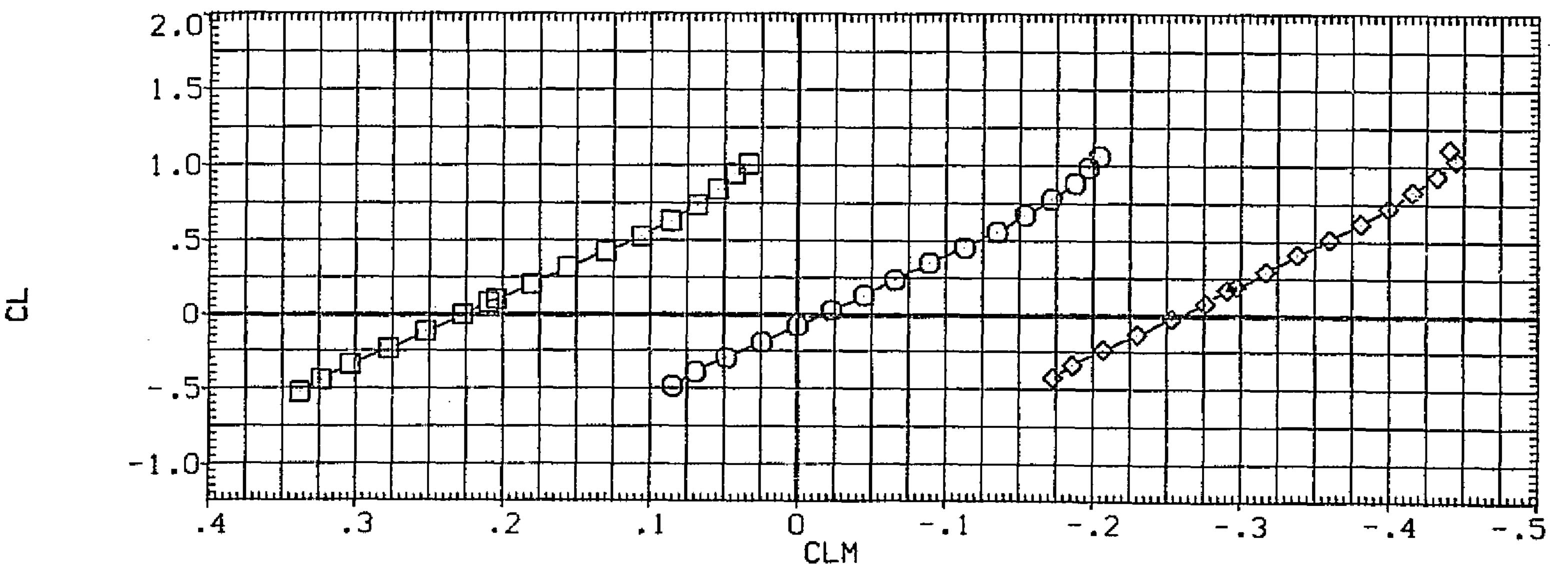




FIG. 30 ELEVATOR EFFECTIVENESS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP066) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 4.790 | 6.000 | -10.683 | -9.934 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | .000 | .000 |
| (RGP065) | ◇ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 4.840 | 6.000 | 9.484 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

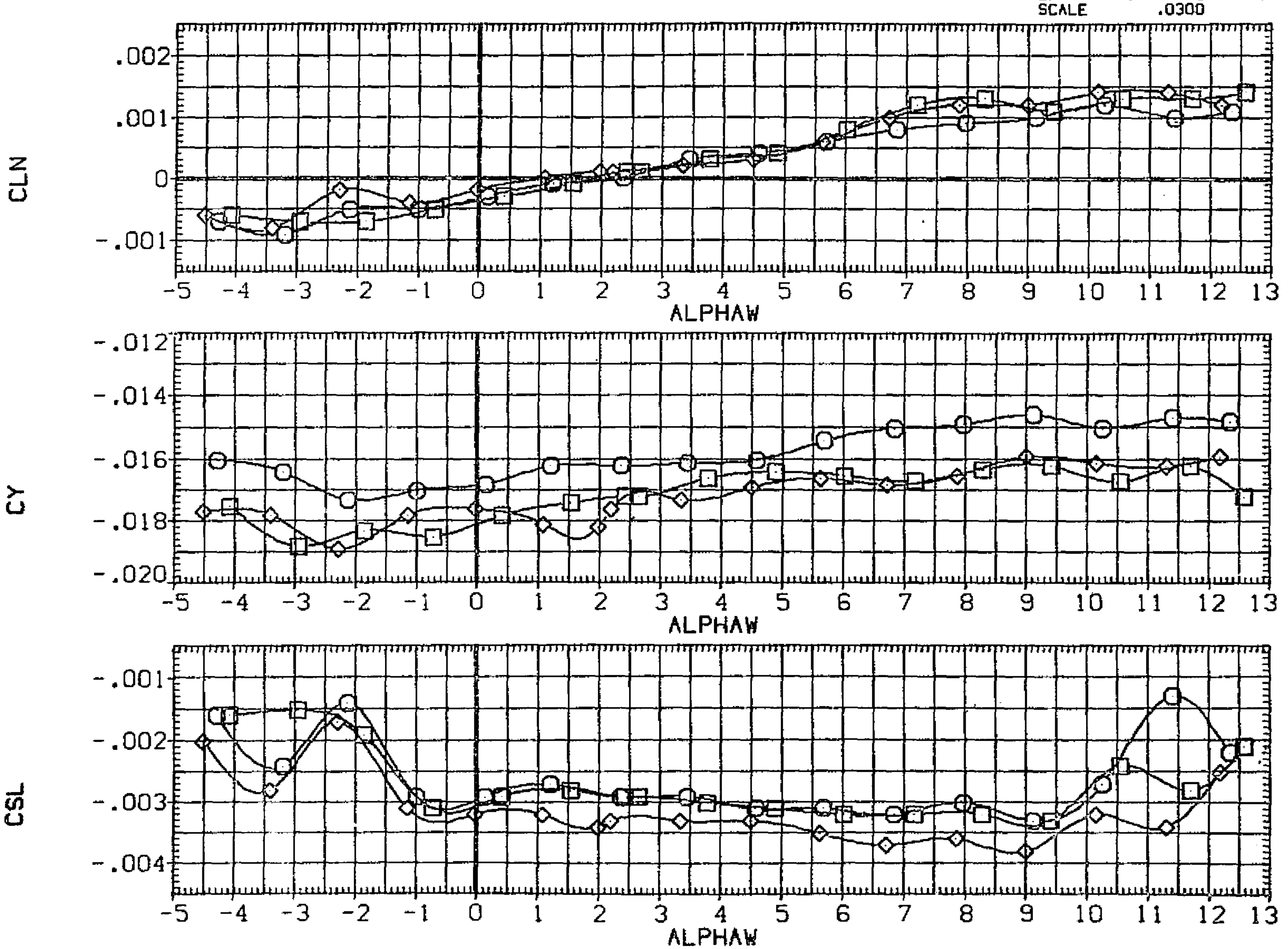



FIG. 30 ELEVATOR EFFECTIVENESS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP066) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.790 | 6.000 | -10.683 | -9.934 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | .000 | .000 |
| (RGP065) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.840 | 6.000 | 9.484 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

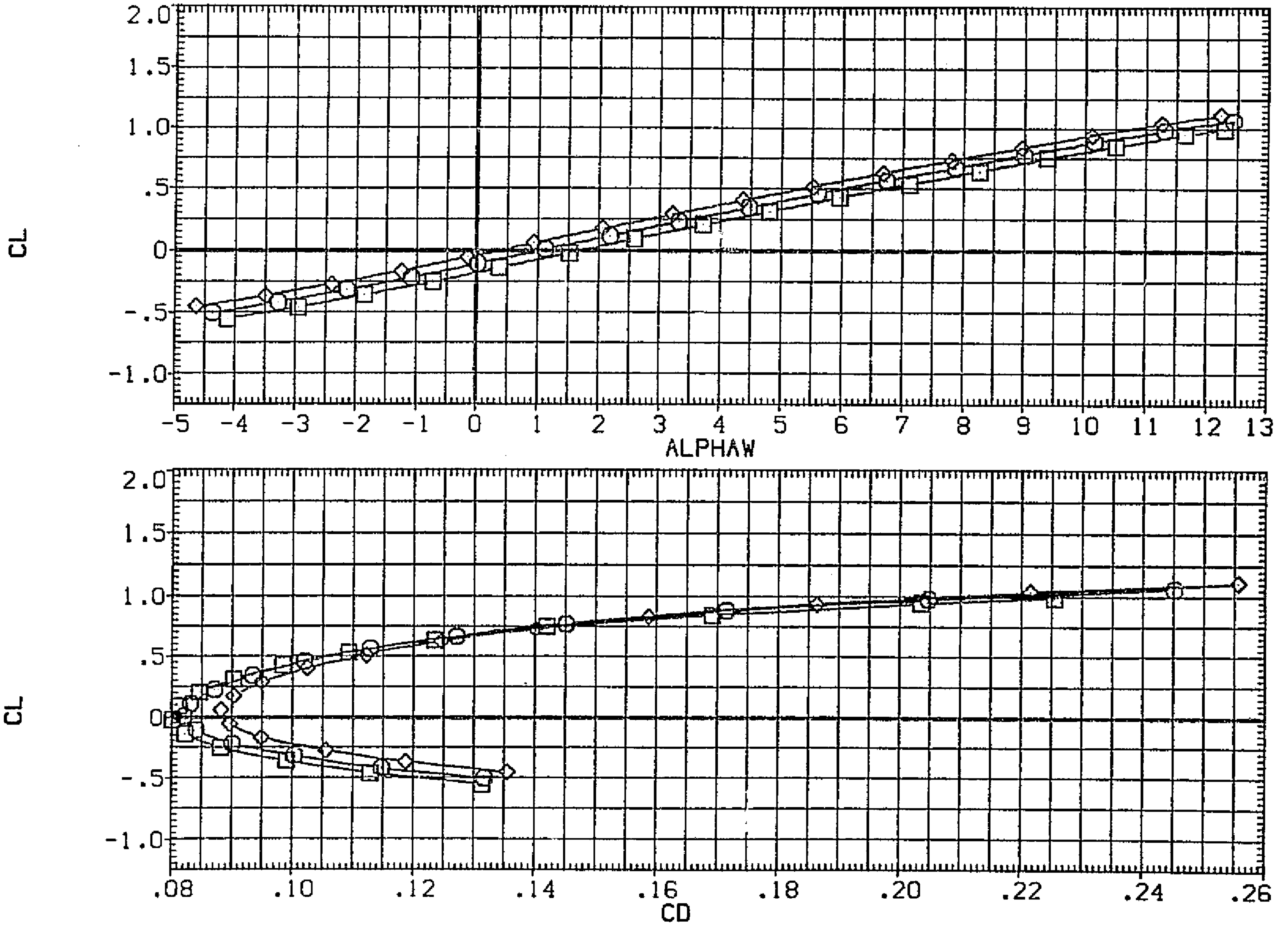



FIG. 30 ELEVATOR EFFECTIVENESS, LAUNCH CONFIGURATION

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP066) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.790 | 6.000 | -10.683 | -9.934 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | .000 | .000 |
| (RGP065) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.840 | 6.000 | 9.484 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

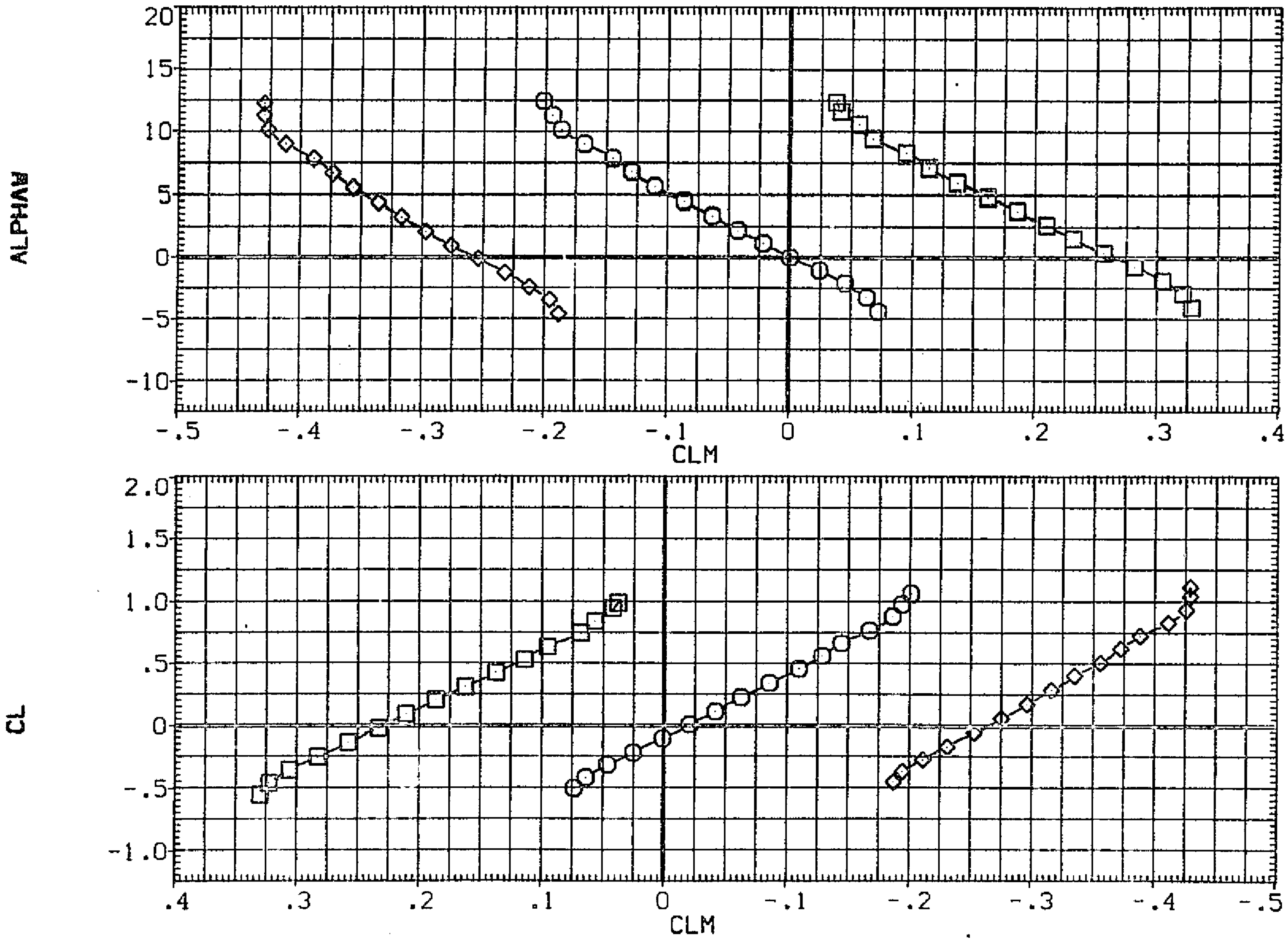



FIG. 30 ELEVATOR EFFECTIVENESS, LAUNCH CONFIGURATION

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP066) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.790 | 6.000 | -10.683 | -9.934 |
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | .000 | .000 |
| (RGP065) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.840 | 6.000 | 9.484 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

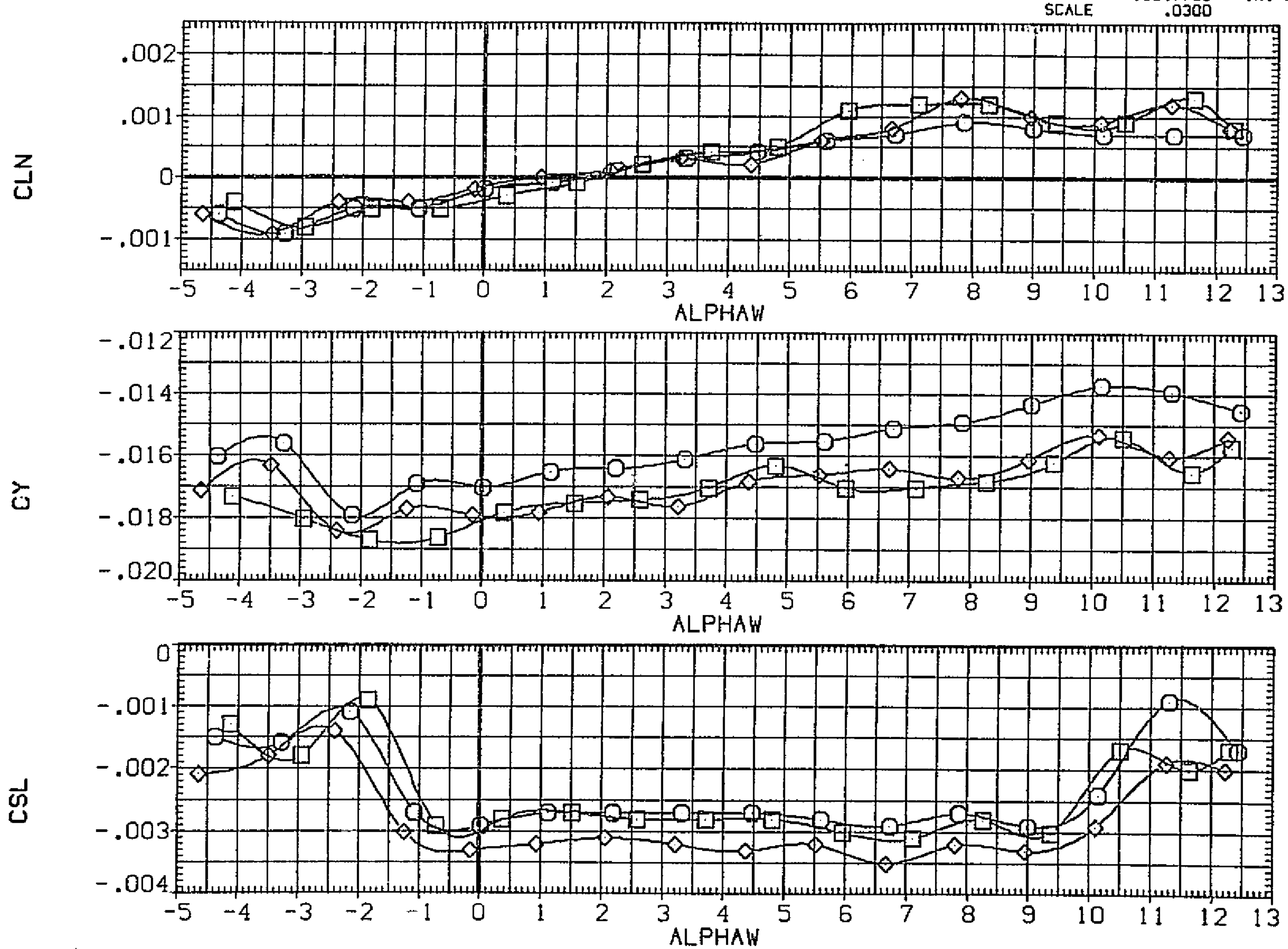



FIG. 30 ELEVATOR EFFECTIVENESS, LAUNCH CONFIGURATION

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP076) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | 6.000 |
| (RGP079) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP077) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.210 | .000 | 6.000 |
| (RGP078) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.830 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

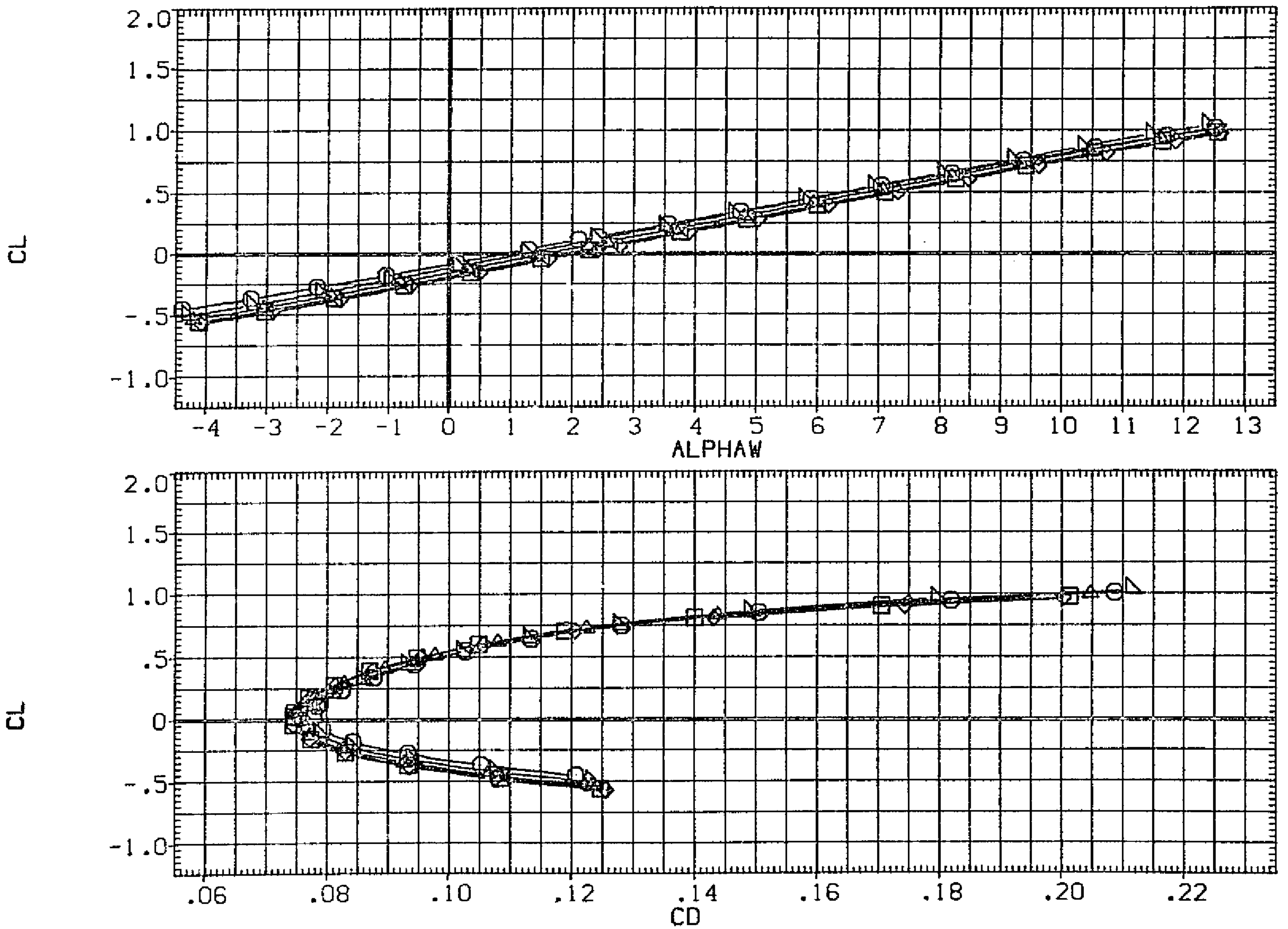



FIG. 31 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP076) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | 6.000 |
| (RGP079) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP077) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.210 | .000 | 6.000 |
| (RGP078) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.830 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

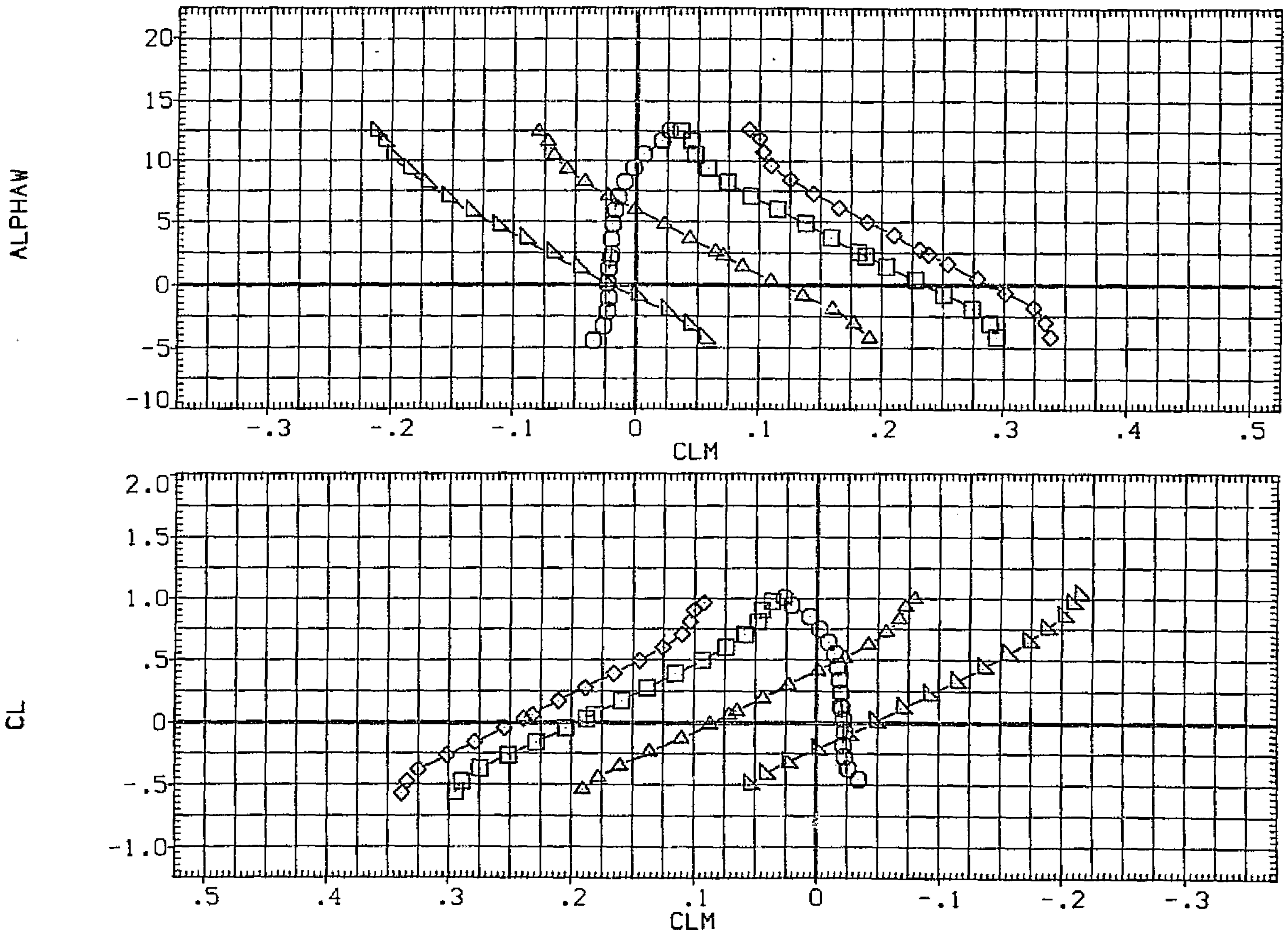



FIG. 31 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP076) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | .000 | 6.000 |
| (RGP079) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP077) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.210 | .000 | 6.000 |
| (RGP078) | ⊿ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.830 | .000 | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

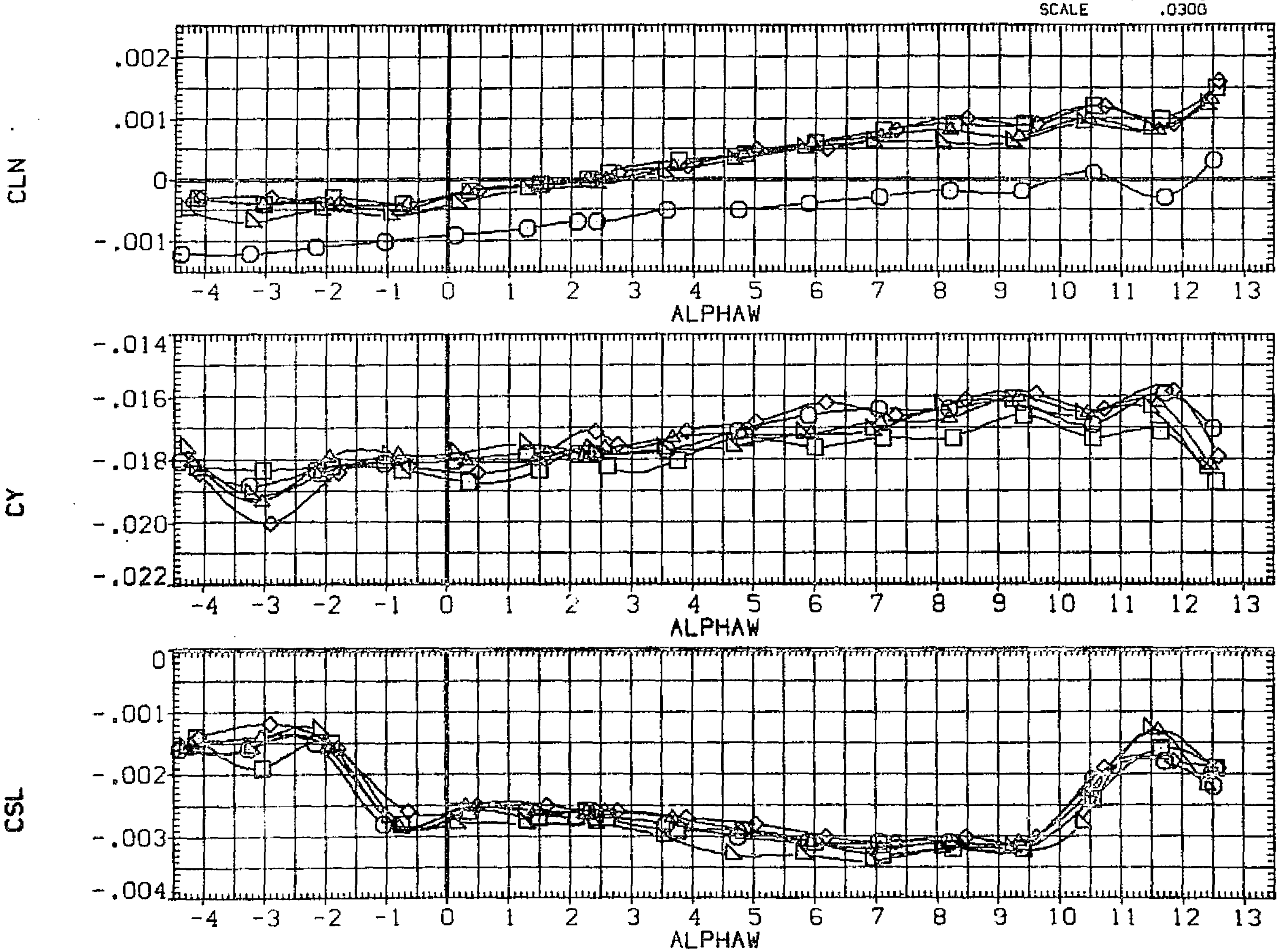



FIG. 31 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | DATA NOT AVAILABLE | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | DATA NOT AVAILABLE | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

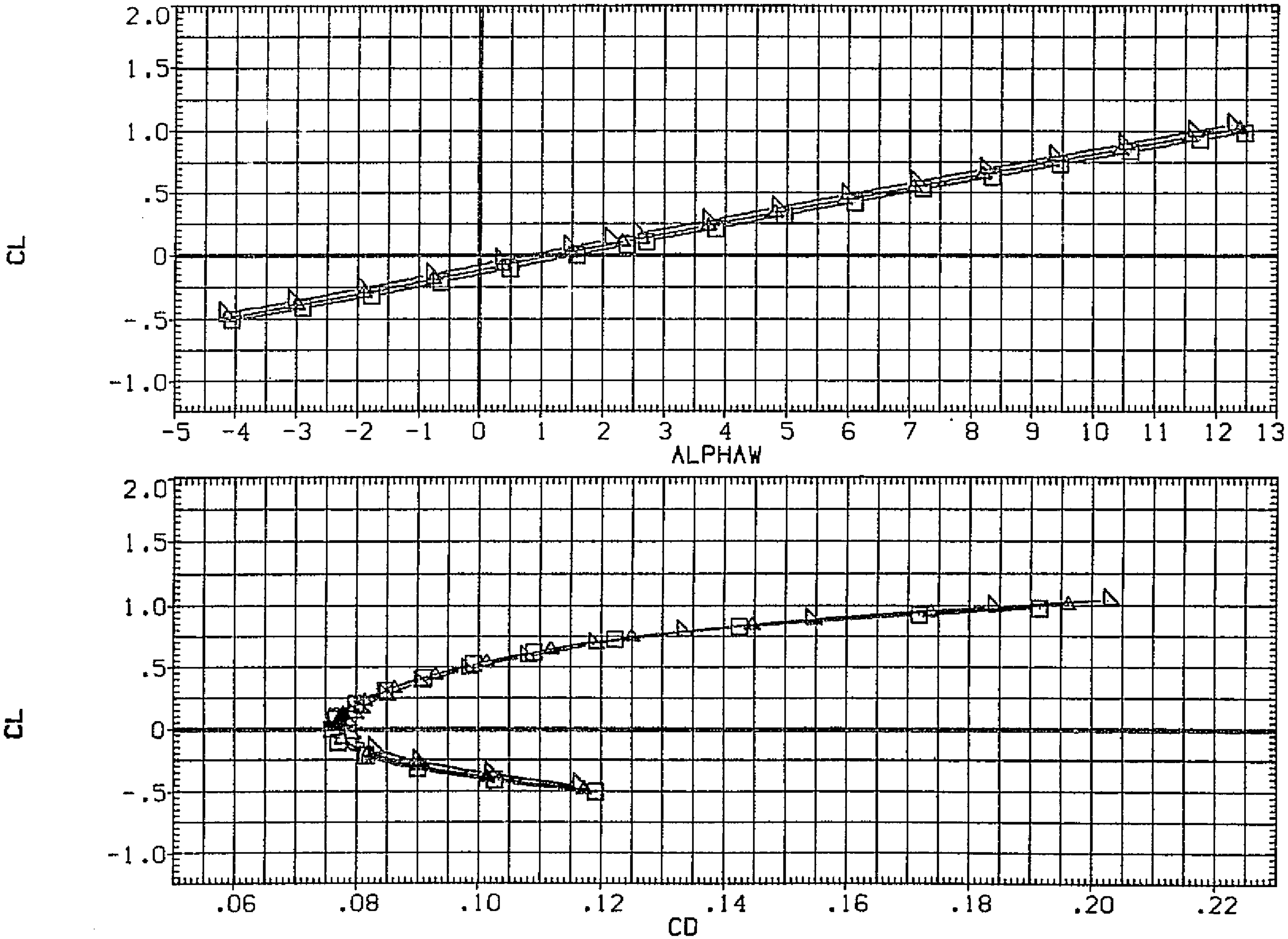



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(A)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | DATA NOT AVAILABLE | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | DATA NOT AVAILABLE | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

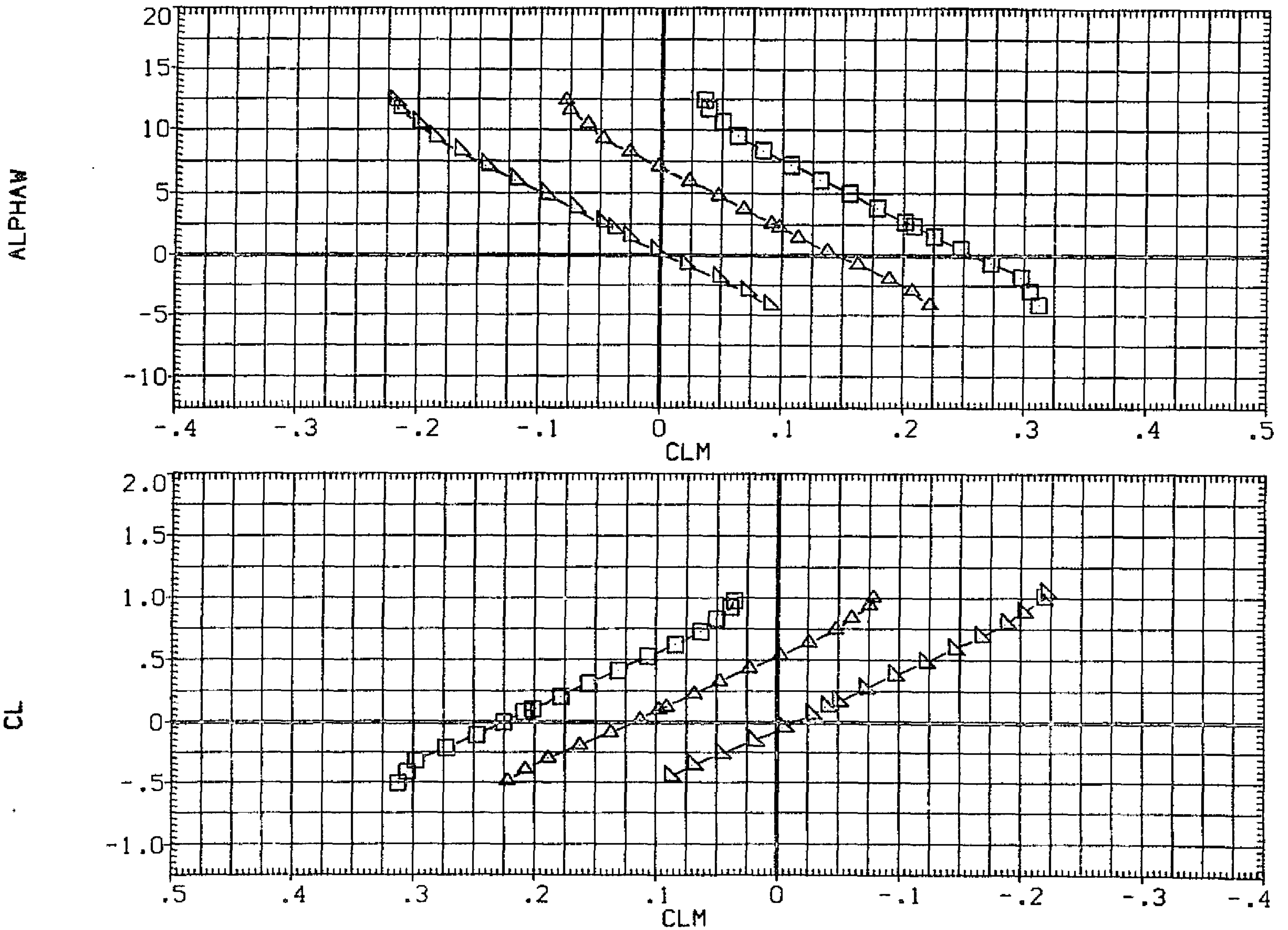



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(A)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | DATA NOT AVAILABLE | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | DATA NOT AVAILABLE | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

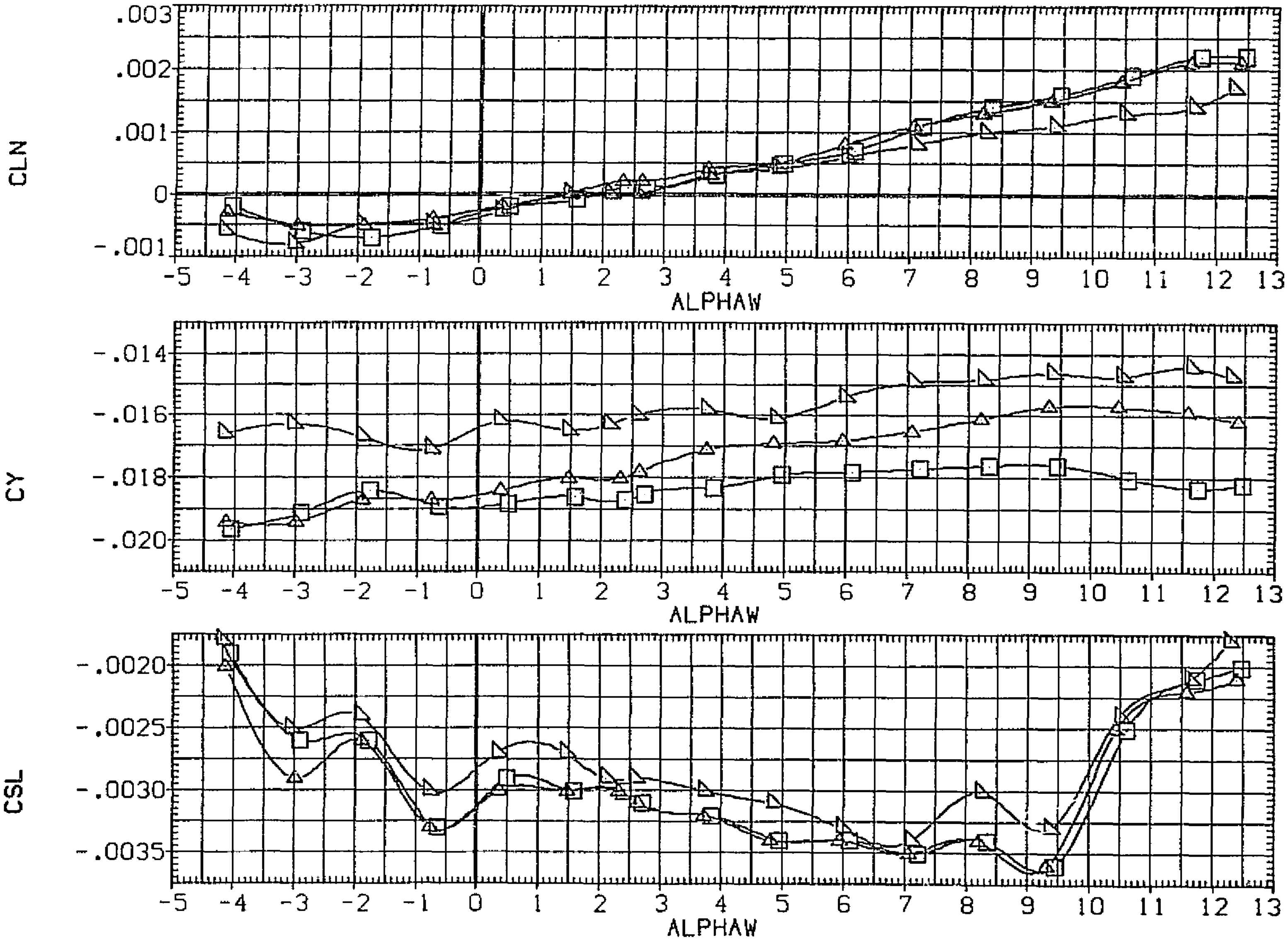



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(A)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◁ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

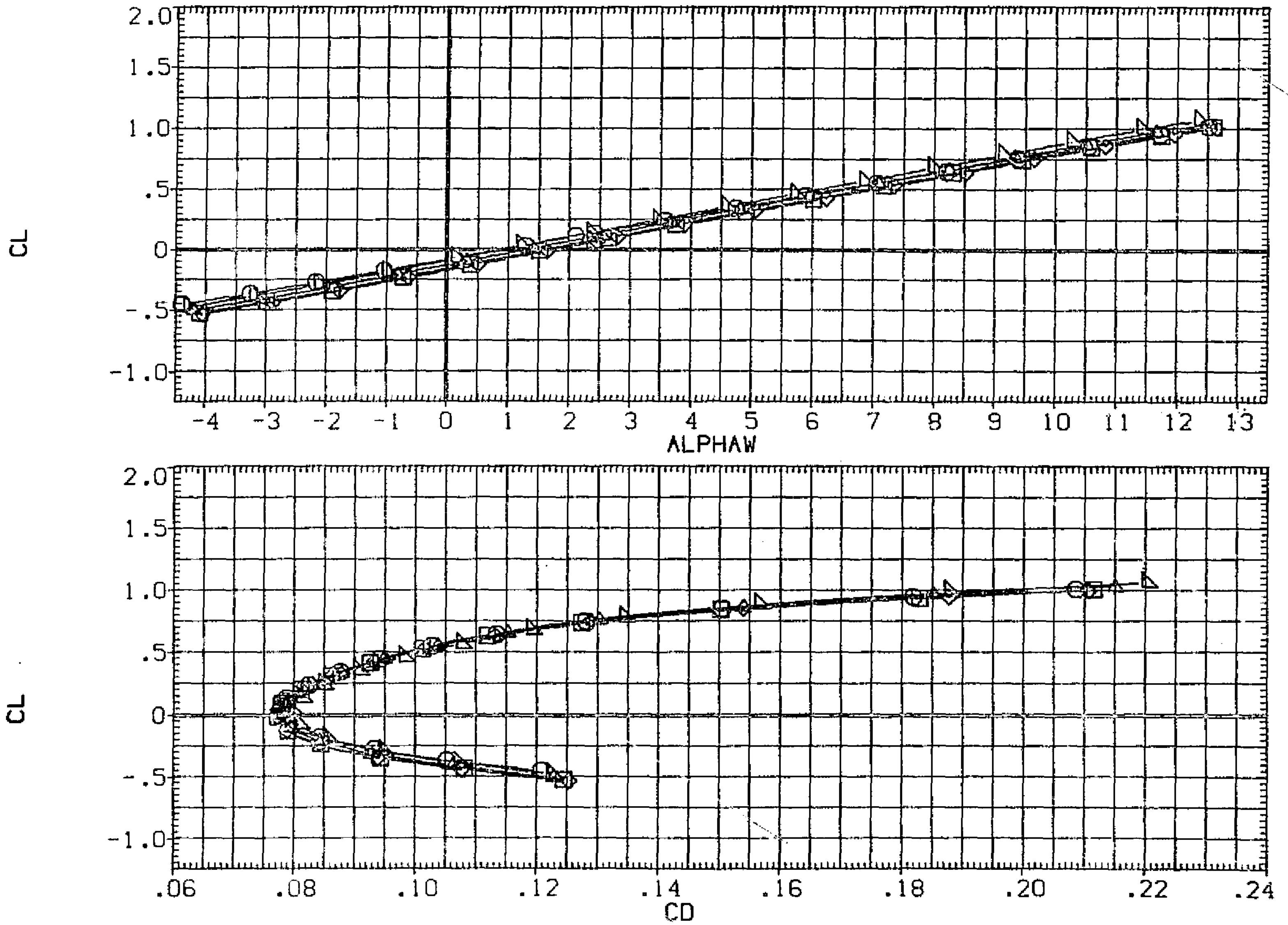



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBFBN24/28 | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

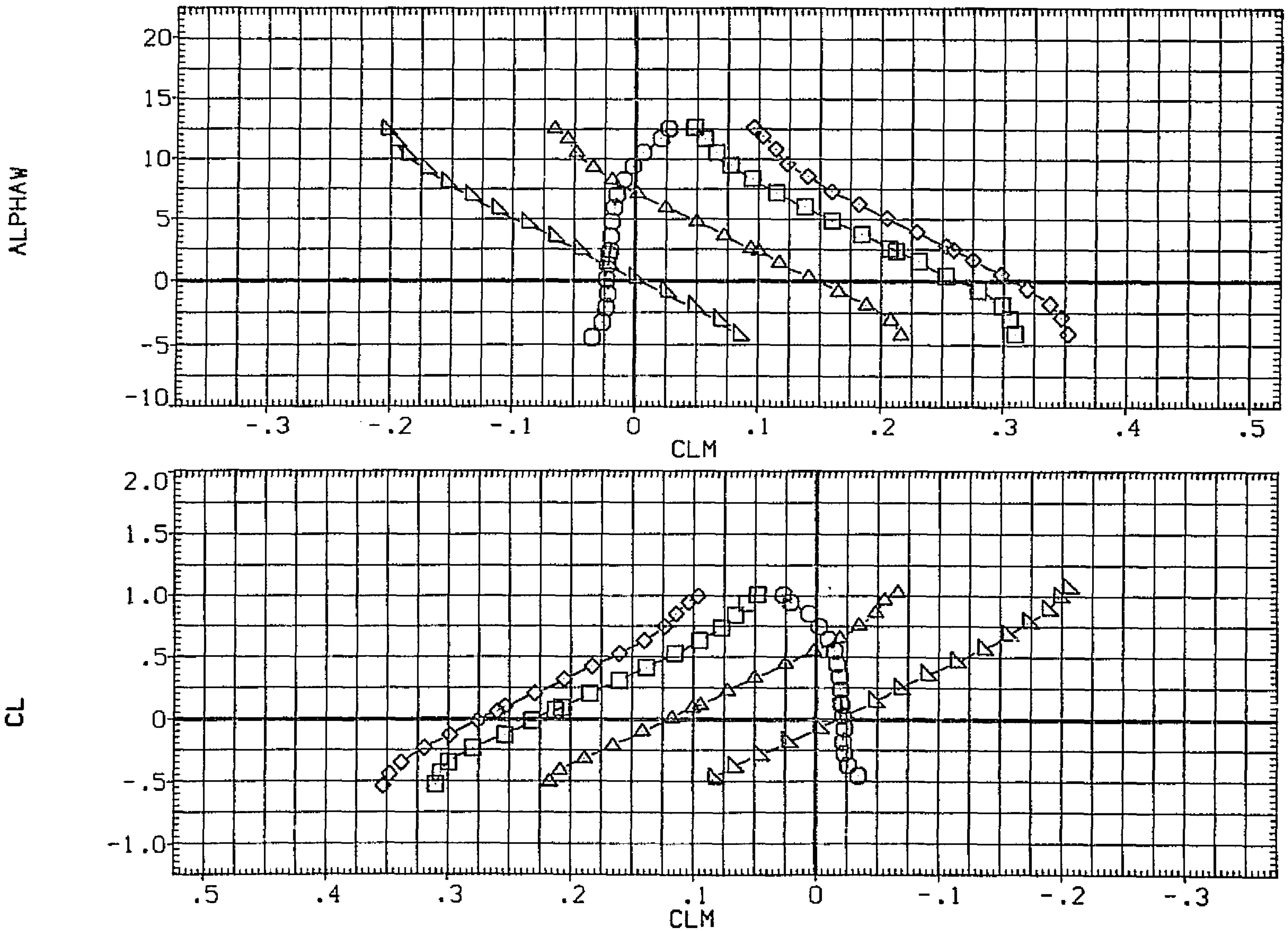



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

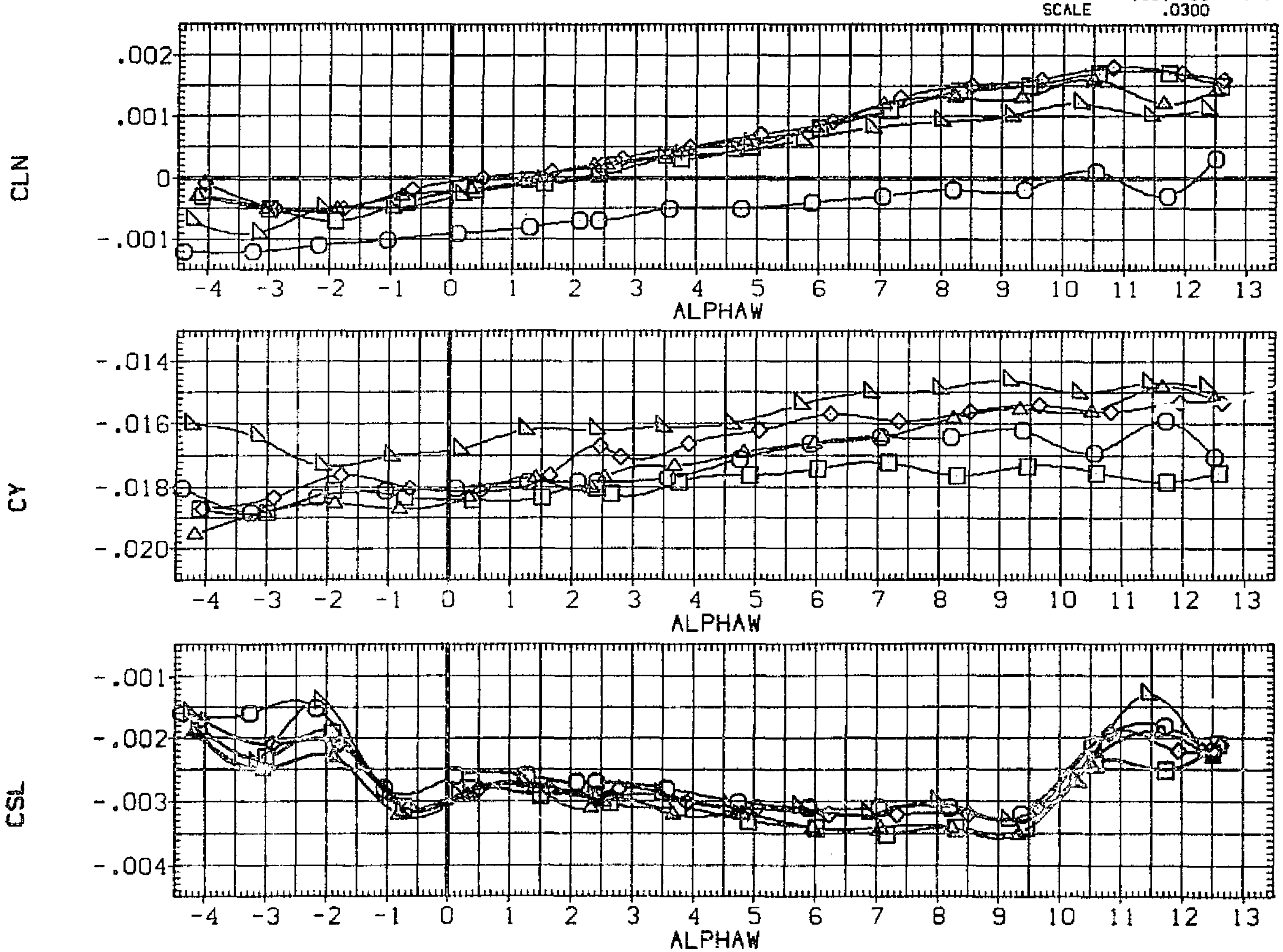



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | DATA NOT AVAILABLE | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◸ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

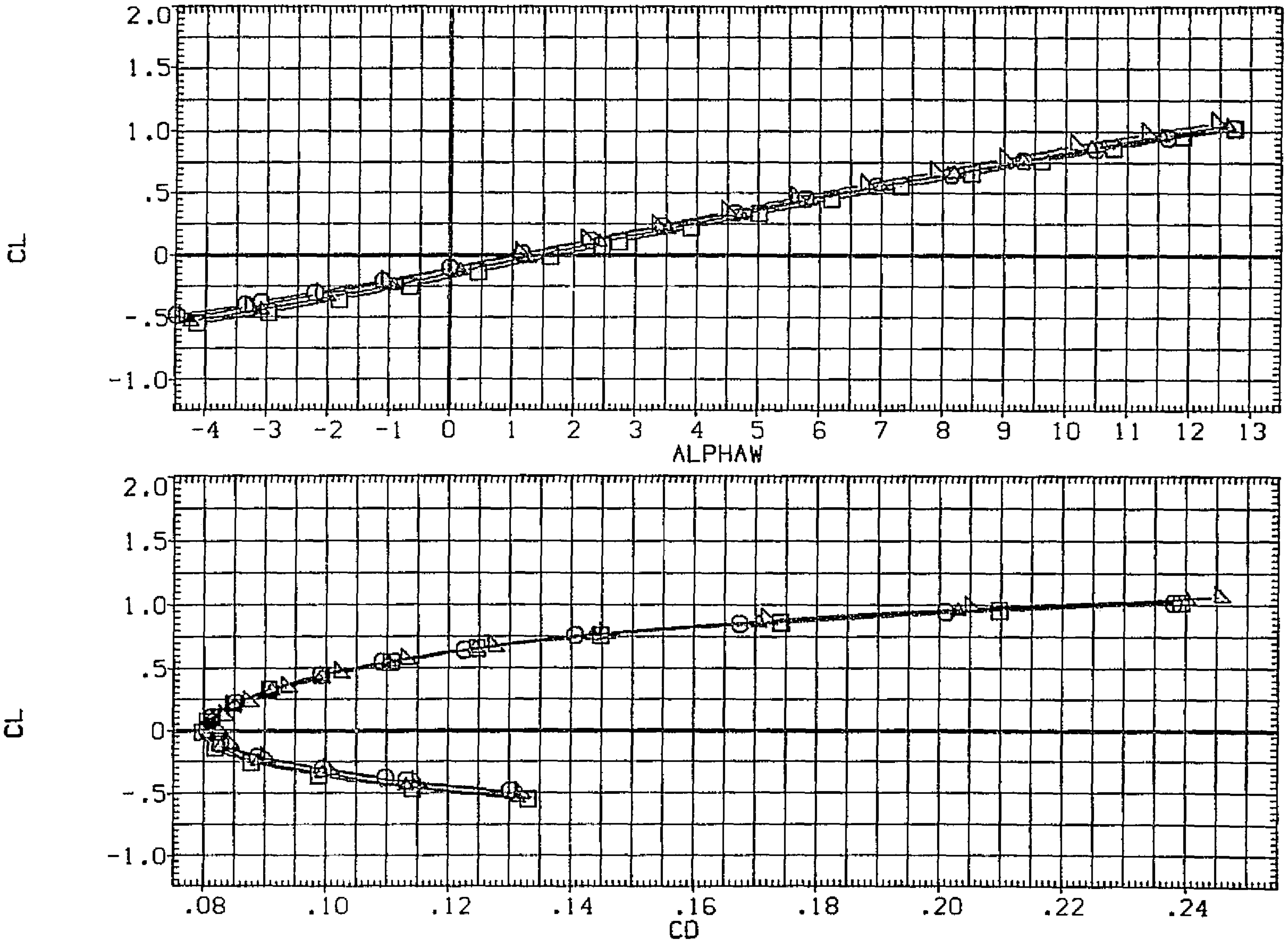



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | DATA NOT AVAILABLE | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

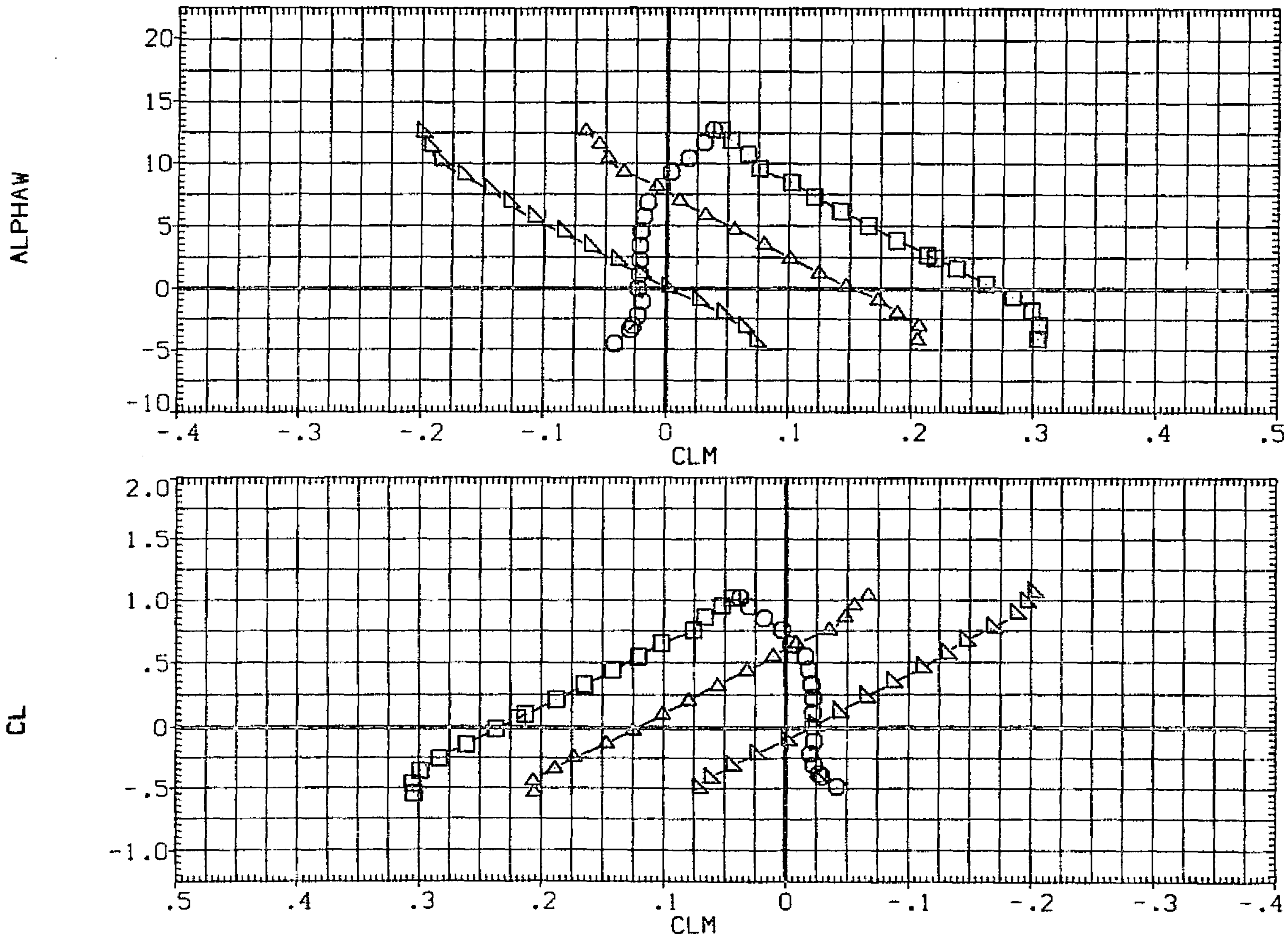



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP074) | ○ | CA6 K2 V9.151-12 AT103.1/95-.30RBF8N24/28 | | .000 | 6.000 |
| (RGP067) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | .040 | .000 | 6.000 |
| (RGP069) | ◇ | DATA NOT AVAILABLE | -1.010 | .000 | 6.000 |
| (RGP068) | △ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 2.130 | .000 | 6.000 |
| (RGP059) | ◺ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/29 | 4.890 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

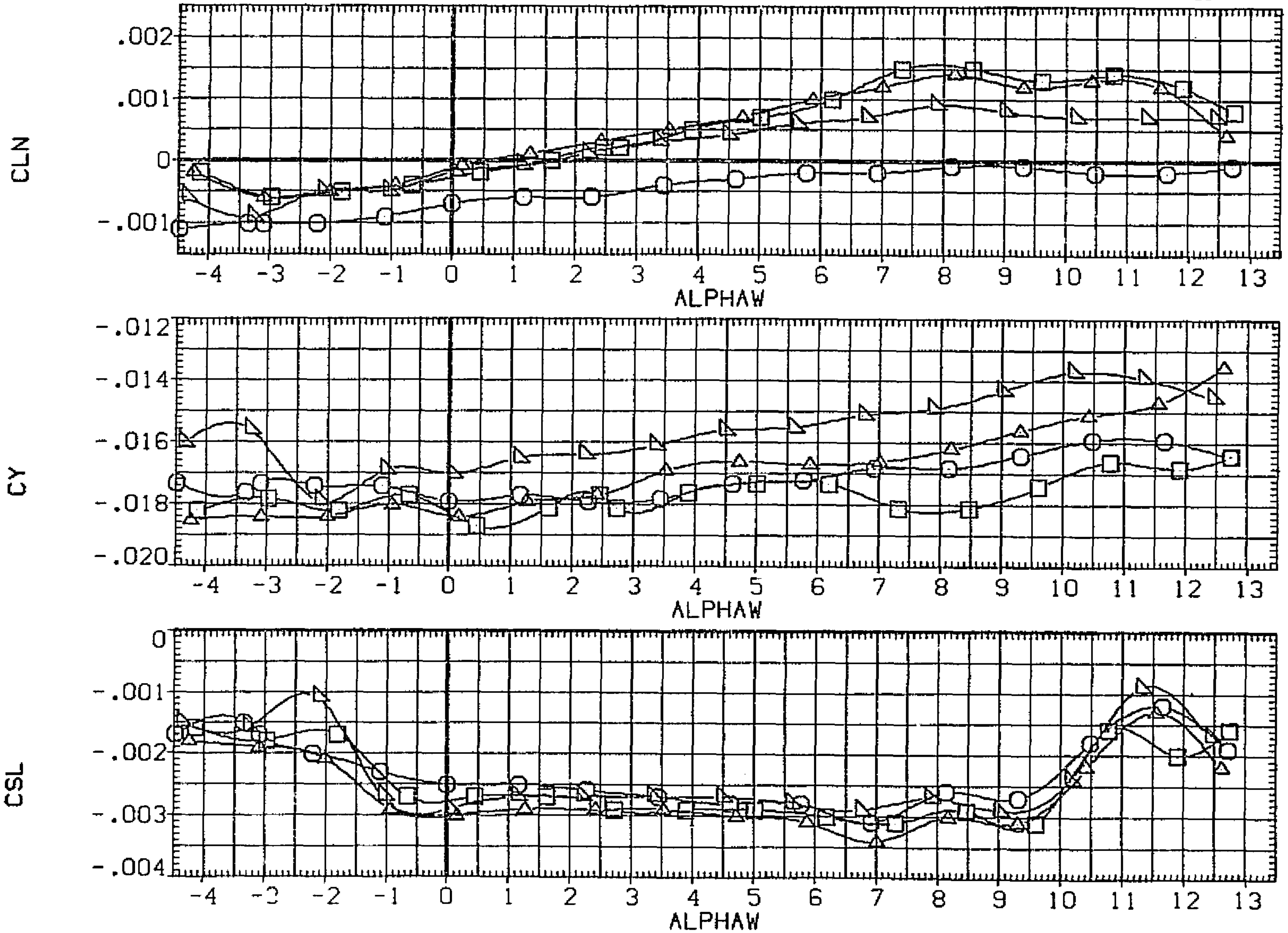



FIG. 32 STABILIZER EFFECTIVENESS, LAUNCH CONFIGURATION, ELEVON = 5

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | STAB | IORB |
|---|---|---|---|---|---|---|---|
| (RGP071) | □ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | -4.000 | 4.770 | 6.000 |
| (RGP070) | ⌑ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 4.770 | 6.000 |
| (RGP072) | ◇ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.000 | 4.770 | 6.000 |
| (RGP073) | △ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 4.770 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

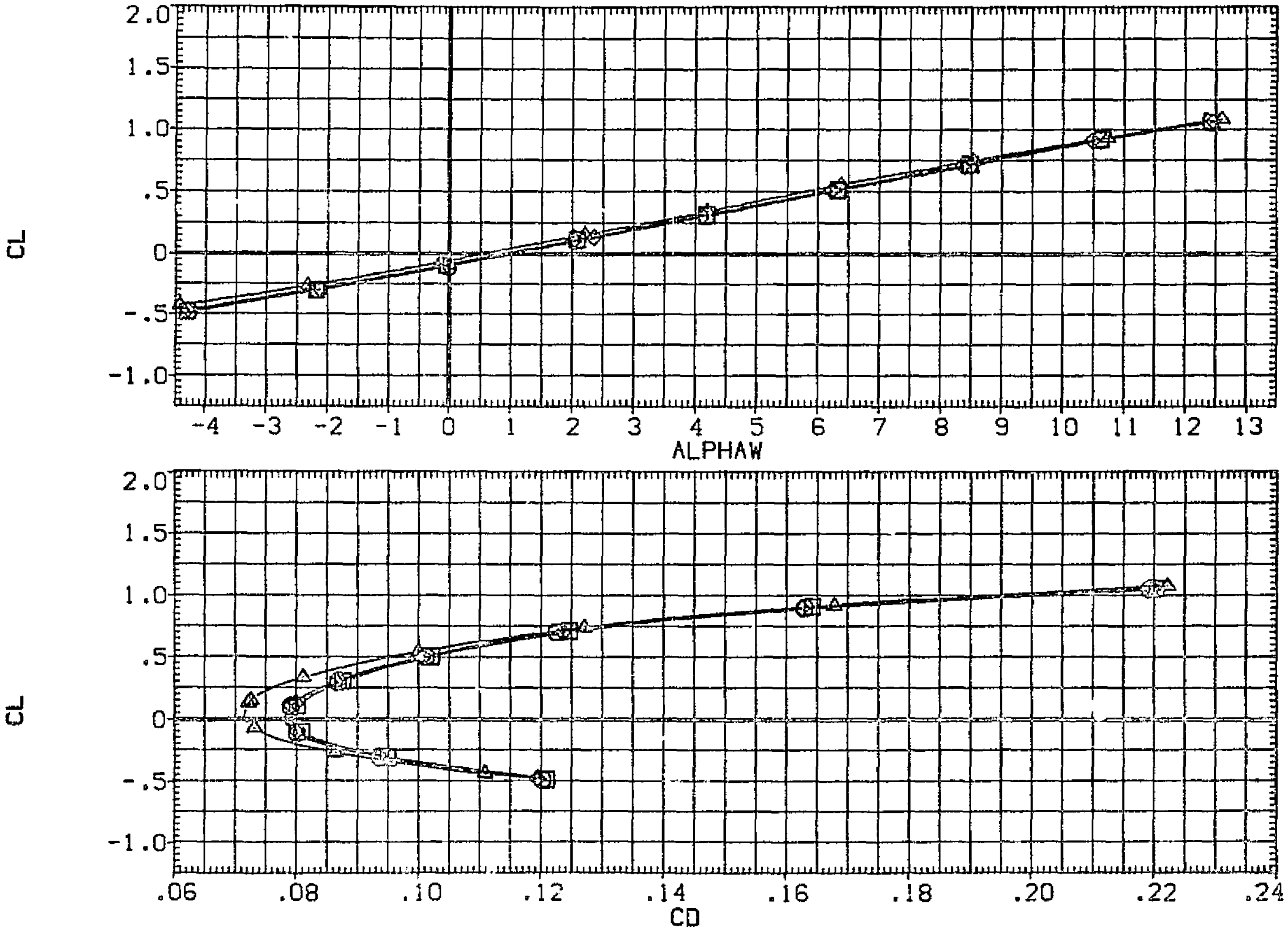



FIG. 33 EFFECT OF ALL VERTICAL TAILS OFF ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | STAB | IORB |
|---|---|---|---|---|---|---|
| (RGP071) | □ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | -4.000 | 4.770 | 6.000 |
| (RGP070) | ○ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 4.770 | 6.000 |
| (RGP072) | ◇ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.000 | 4.770 | 6.000 |
| (RGP073) | △ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 4.770 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

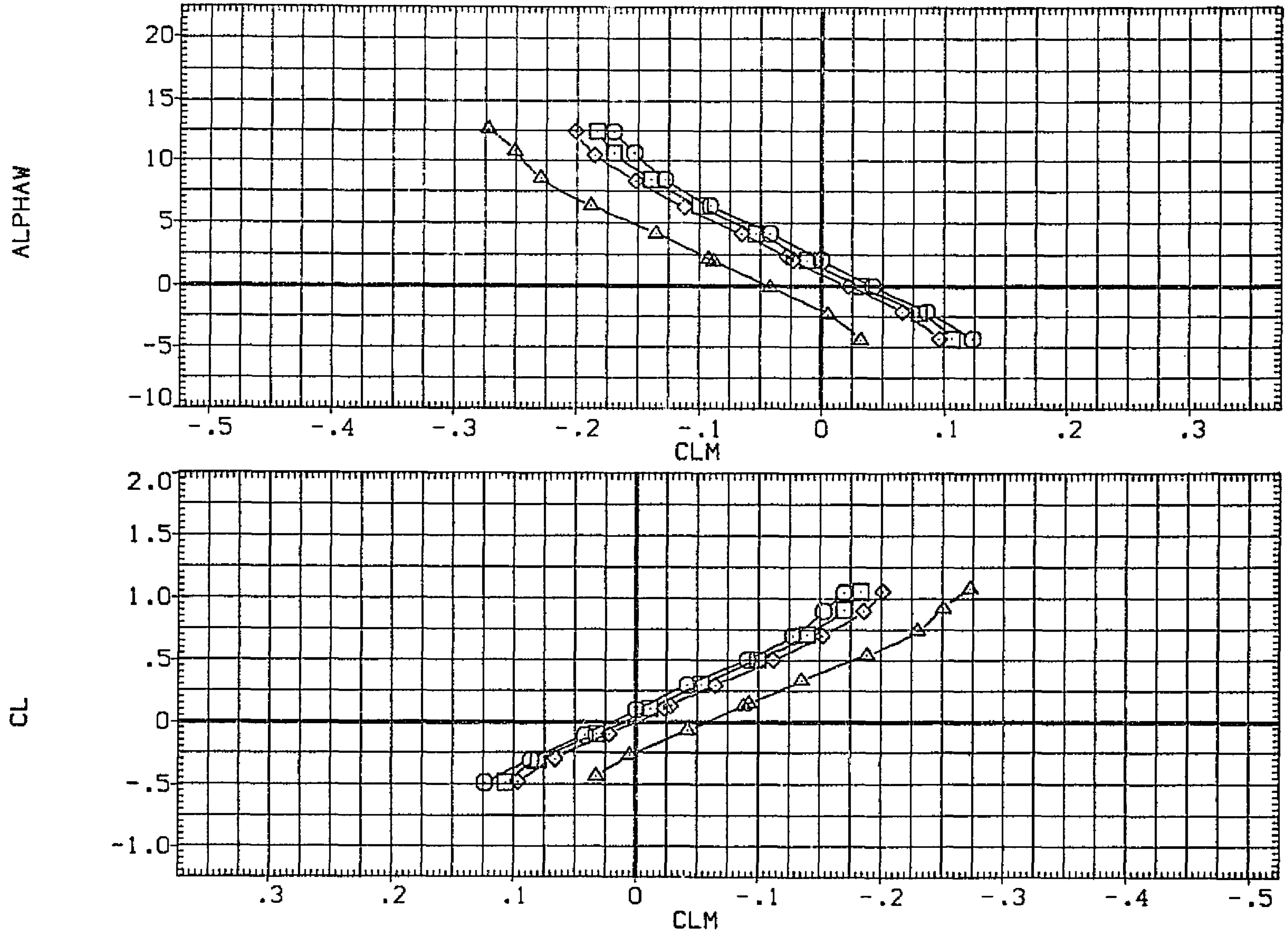



FIG. 33 EFFECT OF ALL VERTICAL TAILS OFF ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | STAB | IORB |
|---|---|---|---|---|---|---|---|
| (RGP071) | □ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | -4.000 | 4.770 | 6.000 |
| (RGP070) | ○ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 4.770 | 6.000 |
| (RGP072) | ◇ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.000 | 4.770 | 6.000 |
| (RGP073) | △ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 10.000 | 4.770 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

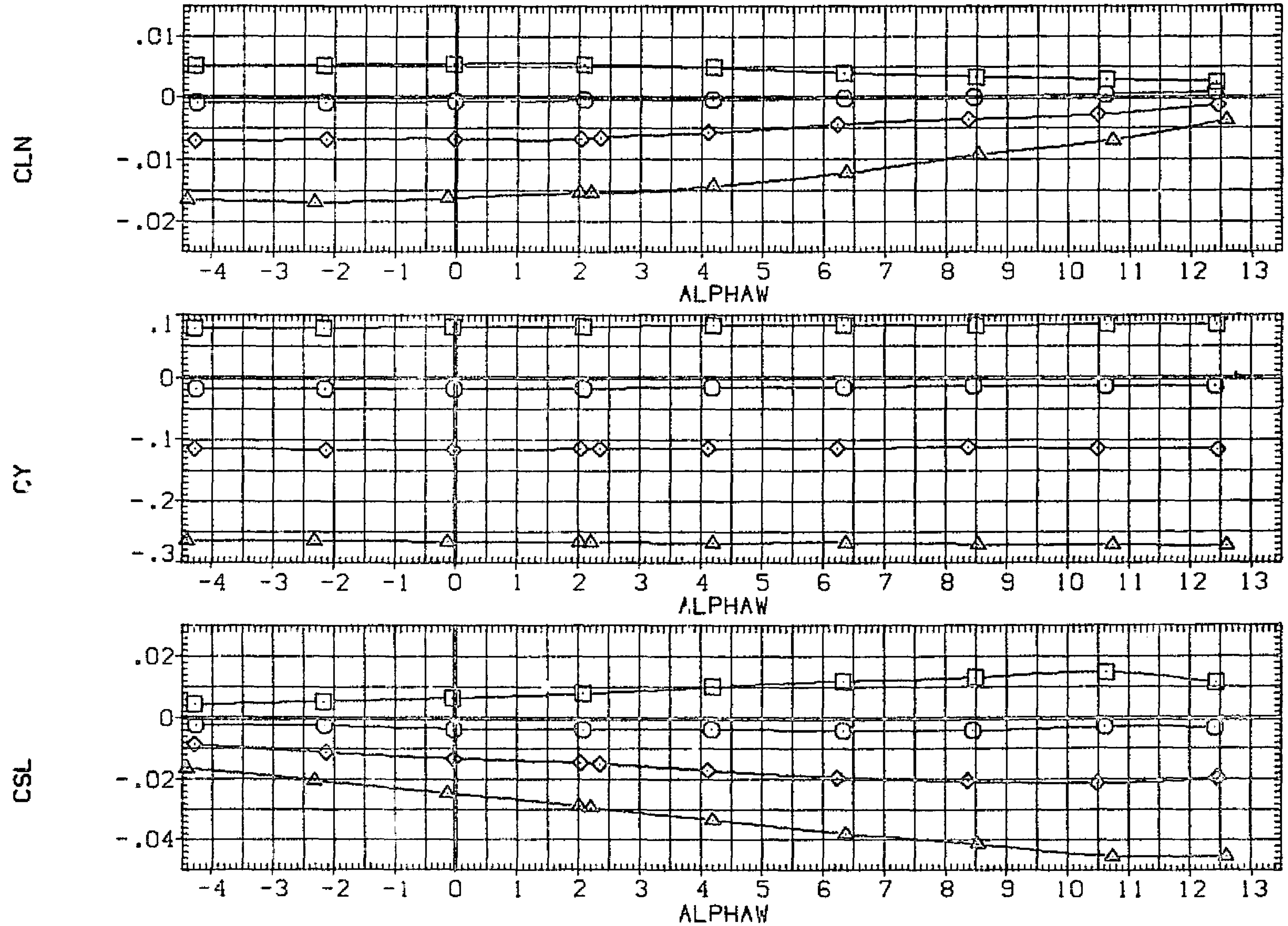



FIG. 33 EFFECT OF ALL VERTICAL TAILS OFF ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | IORB |
|---|---|---|---|---|---|
| (RGP071) | □ | CA6 K2H15.1 S1-12 AT103.1/95-.30RBF8N24/28 | -4.000 | 4.770 | 6.000 |
| (RGP070) | ○ | CA6 K2H15.1 S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 4.770 | 6.000 |
| (RGP072) | ◇ | CA6 K2H15.1 S1-12 AT103.1/95-.30RBF8N24/28 | 4.000 | 4.770 | 6.000 |
| (RGP073) | △ | DATA NOT AVAILABLE | 10.000 | 4.770 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

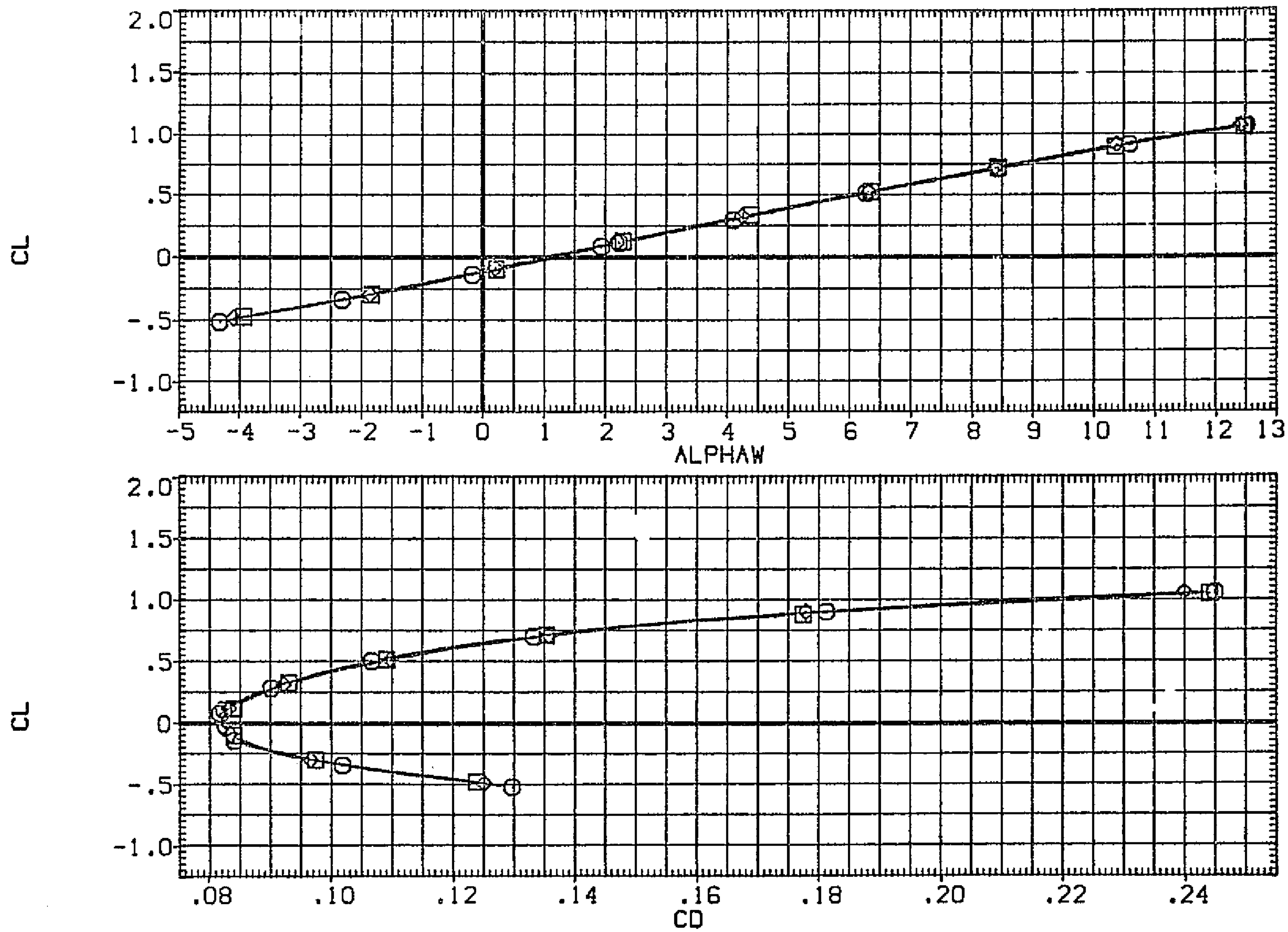



FIG. 33 EFFECT OF ALL VERTICAL TAILS OFF ON LAUNCH CONFIGURATION
(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | IORB |
|---|---|---|---|---|---|
| (RGP071) | □ | CA6 K2H15.1 S1-12 AT103.1/95-.30RBF8N24/28 | -4.000 | 4.770 | 6.000 |
| (RGP070) | ○ | CA6 K2H15.1 S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 4.770 | 6.000 |
| (RGP072) | ◇ | CA6 K2H15.1 S1-12 AT103.1/95-.30RBF8N24/28 | 4.000 | 4.770 | 6.000 |
| (RGP073) | △ | DATA NOT AVAILABLE | 10.000 | 4.770 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

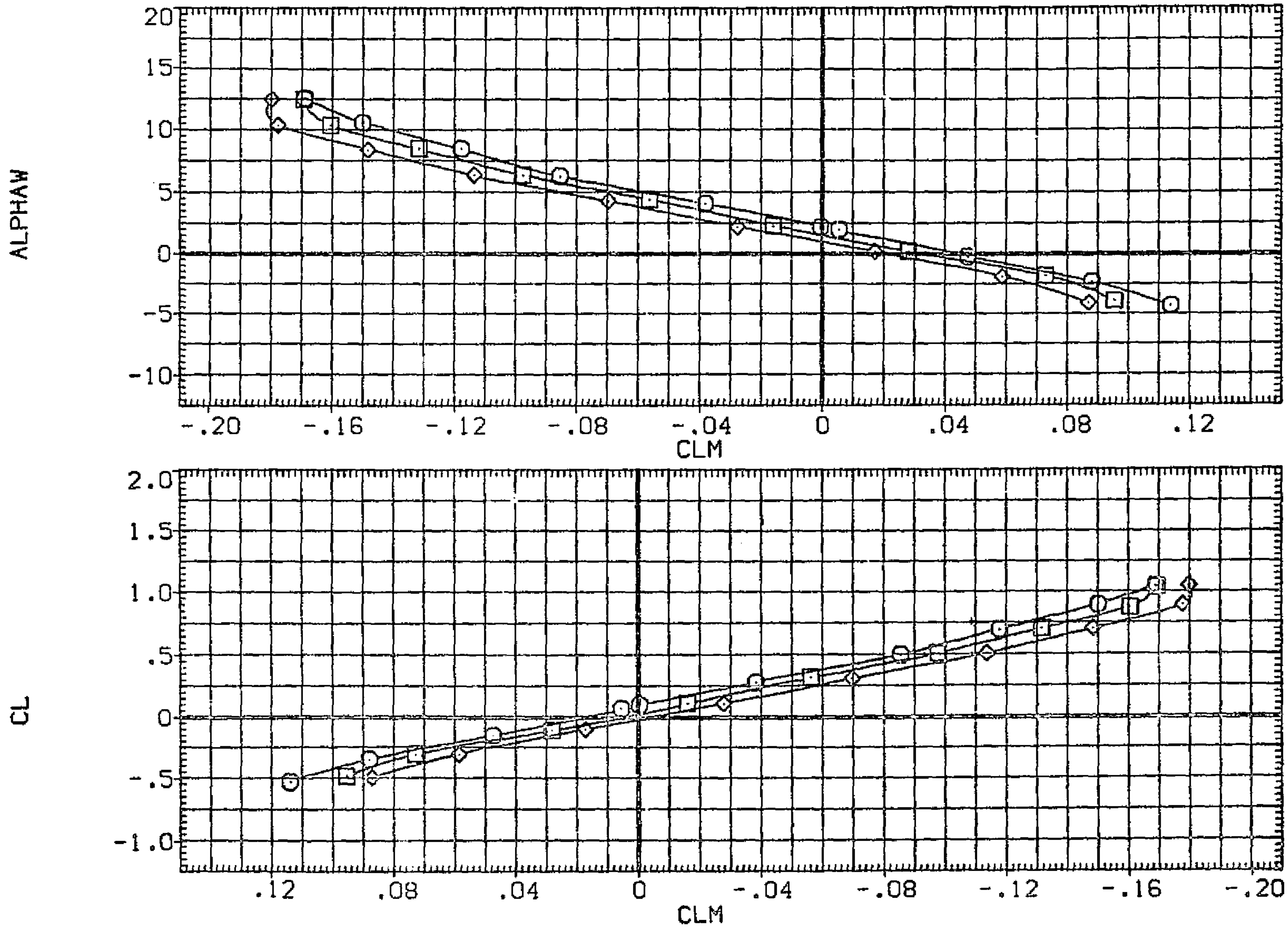



FIG. 33 EFFECT OF ALL VERTICAL TAILS OFF ON LAUNCH CONFIGURATION

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | STAB | IORB |
|---|---|---|---|---|---|---|
| (RGP071) | □ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | -4.000 | 4.770 | 6.000 |
| (RGP070) | ○ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 4.770 | 6.000 |
| (RGP072) | ◇ | CA6 K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.000 | 4.770 | 6.000 |
| (RGP073) | △ | DATA NOT AVAILABLE | | 10.000 | 4.770 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

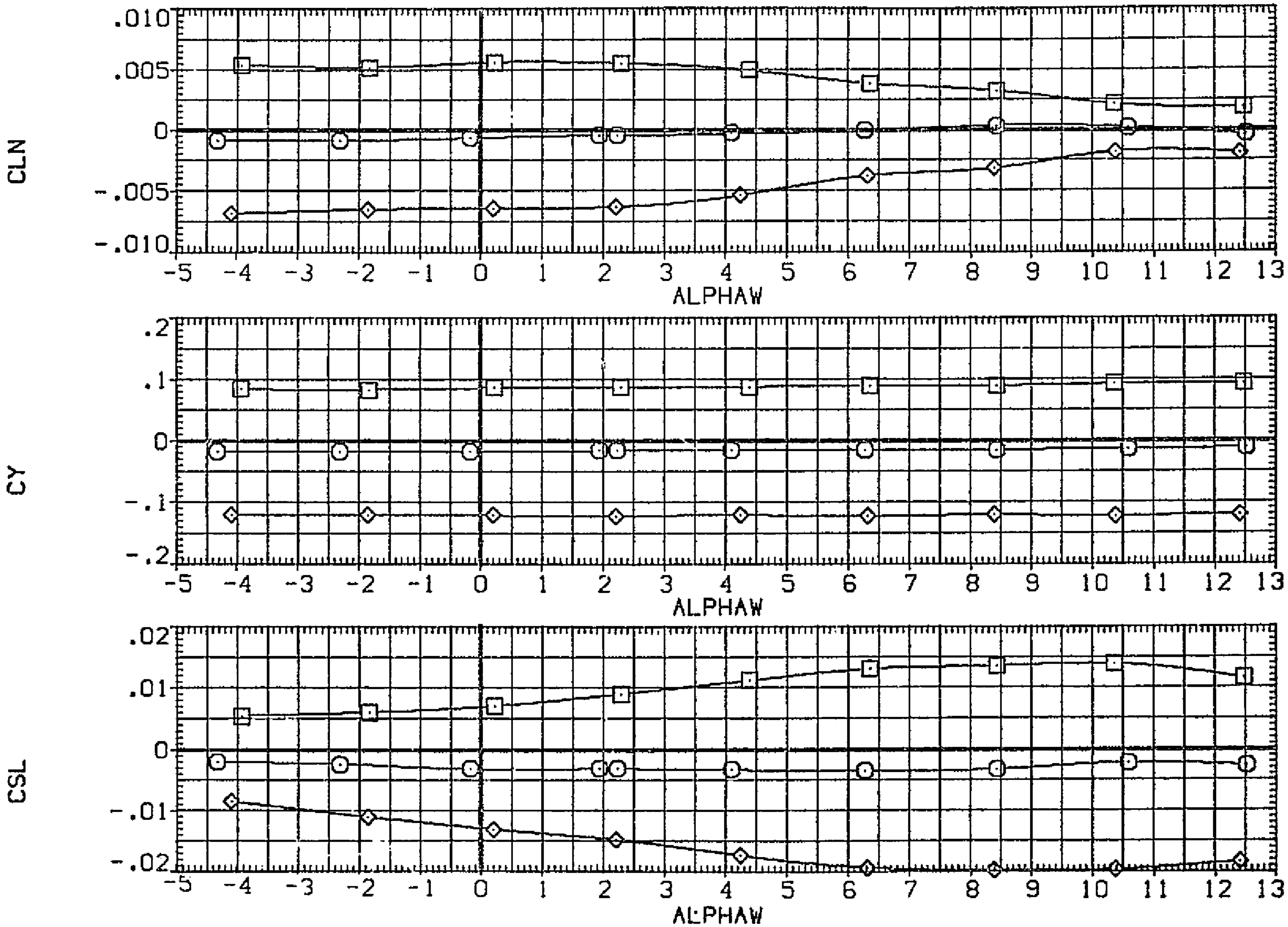



FIG. 33 EFFECT OF ALL VERTICAL TAILS OFF ON LAUNCH CONFIGURATION

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP101) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.770 | .000 | 6.000 |
| (RGP084) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

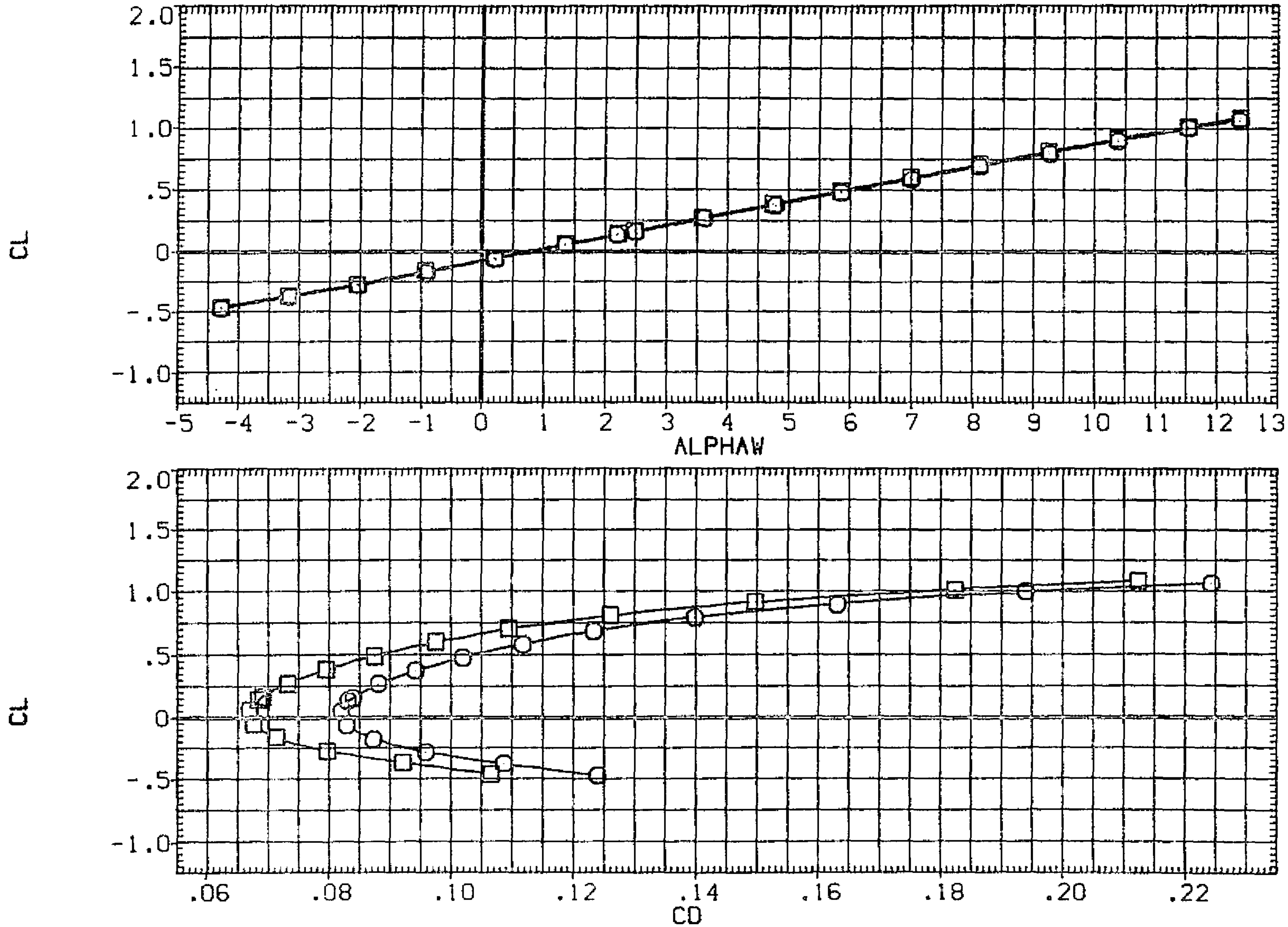



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION STAB BETA IORB

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP101) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.770 | .000 | 6.000 |
| (RGP084) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

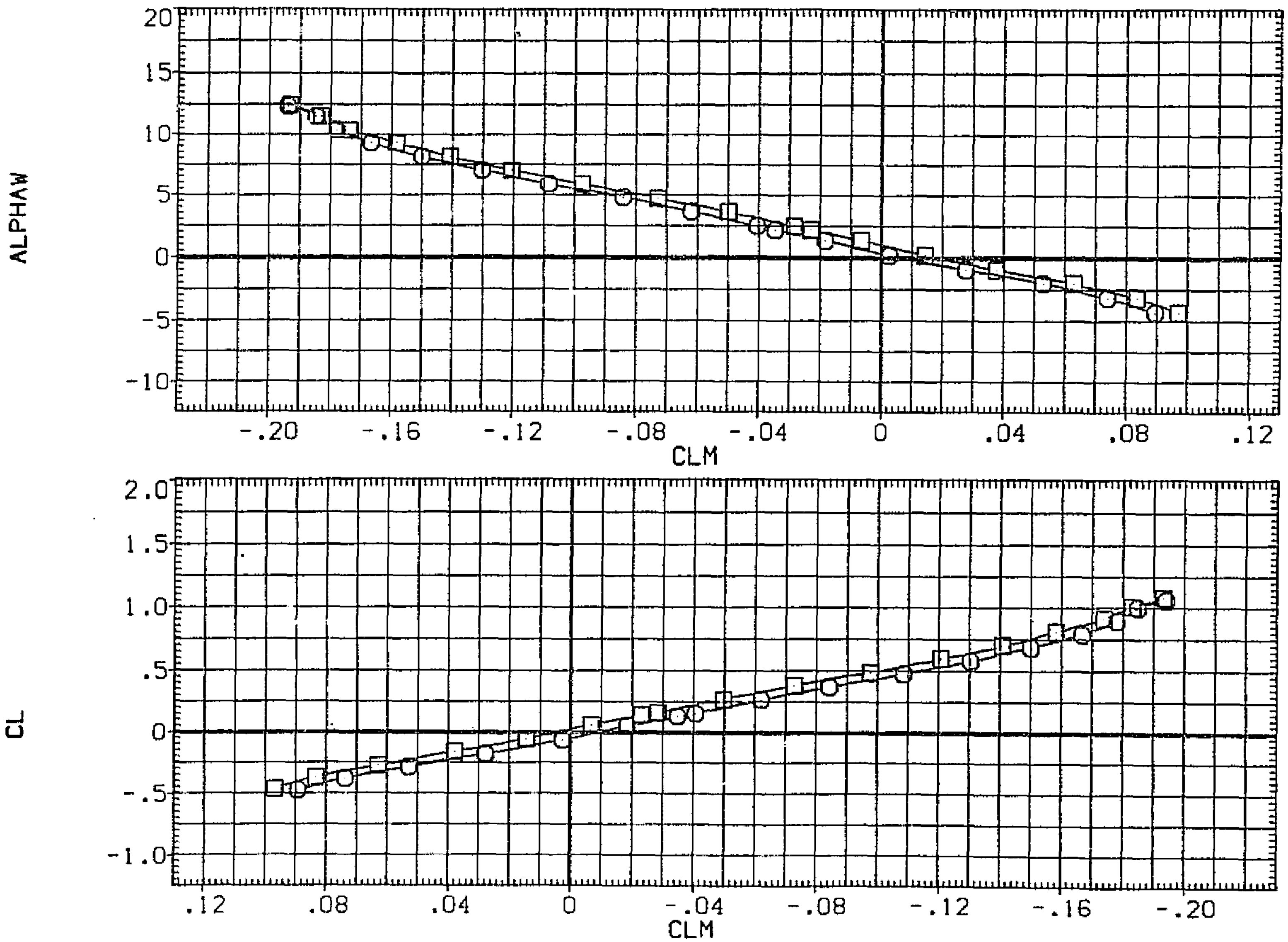



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP101) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.770 | .000 | 6.000 |
| (RGP084) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

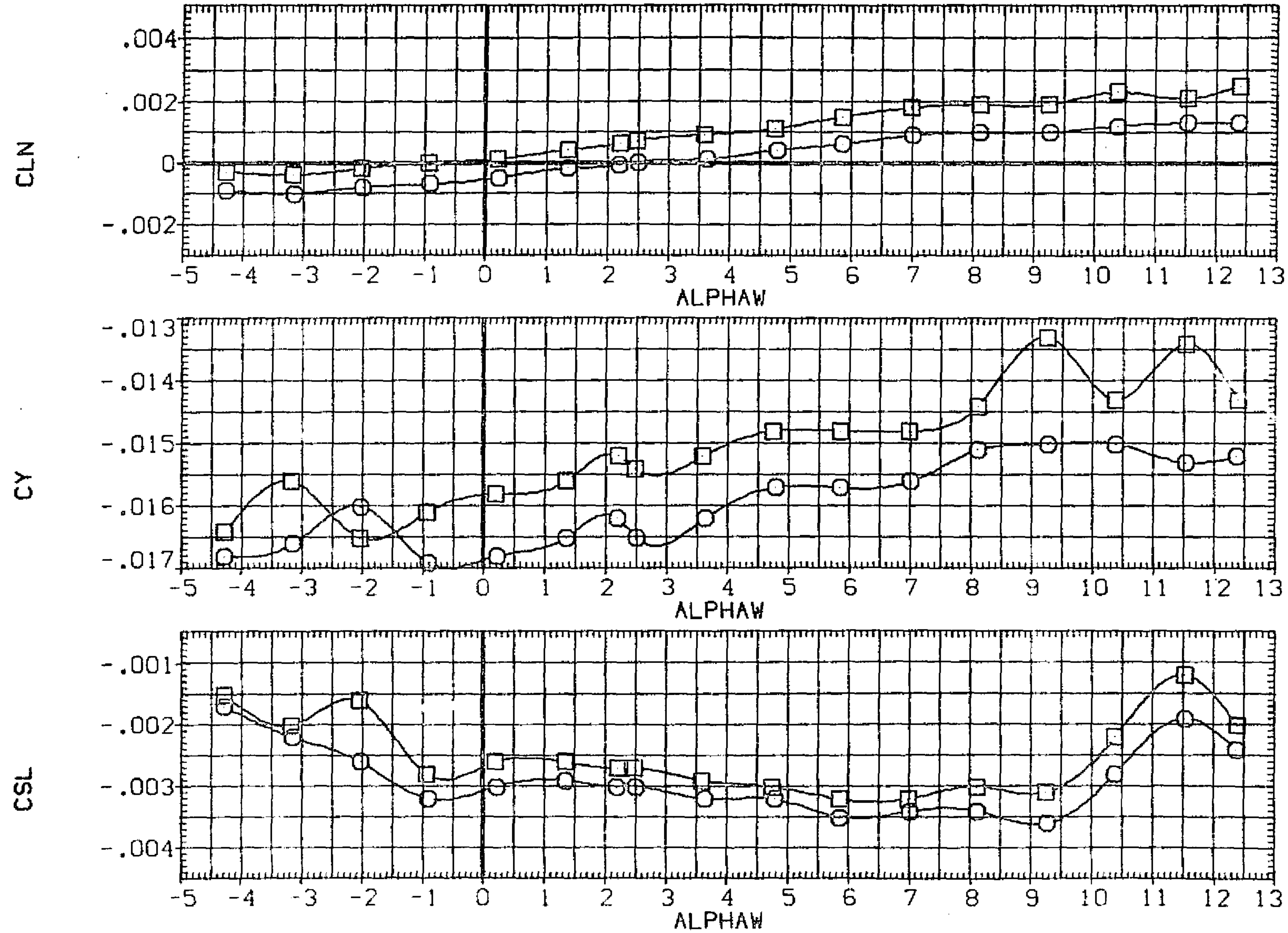



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
| --- | --- | --- | --- | --- | --- |
| (RGP100) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | -.020 | .000 | 6.000 |
| (RGP185) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 1.970 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

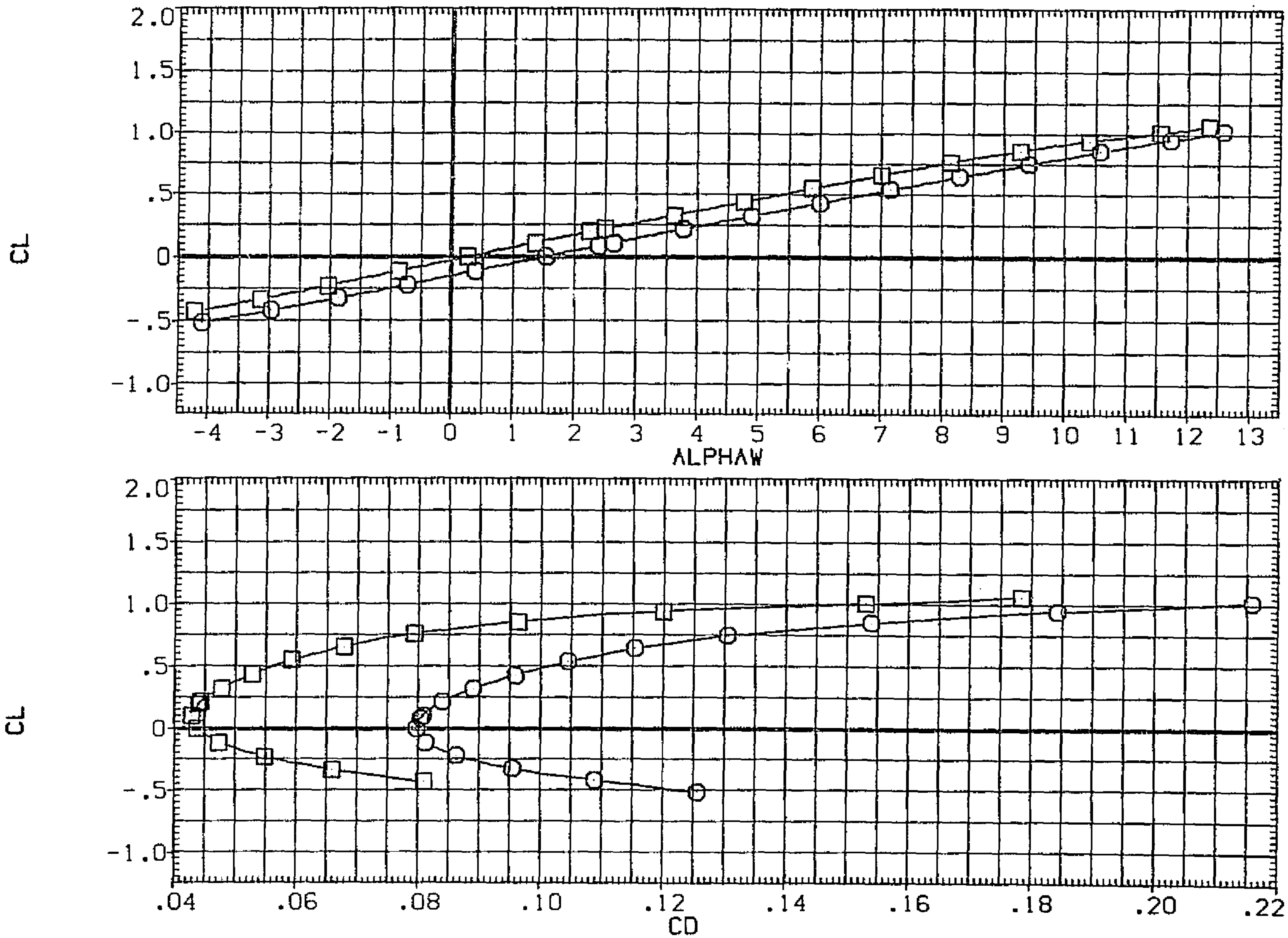



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
| --- | --- | --- | --- | --- | --- |
| (RGP100) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/105 ORBF8N24/28 | -.020 | .000 | 6.000 |
| (RGP185) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.1ORB TC4 | 1.970 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

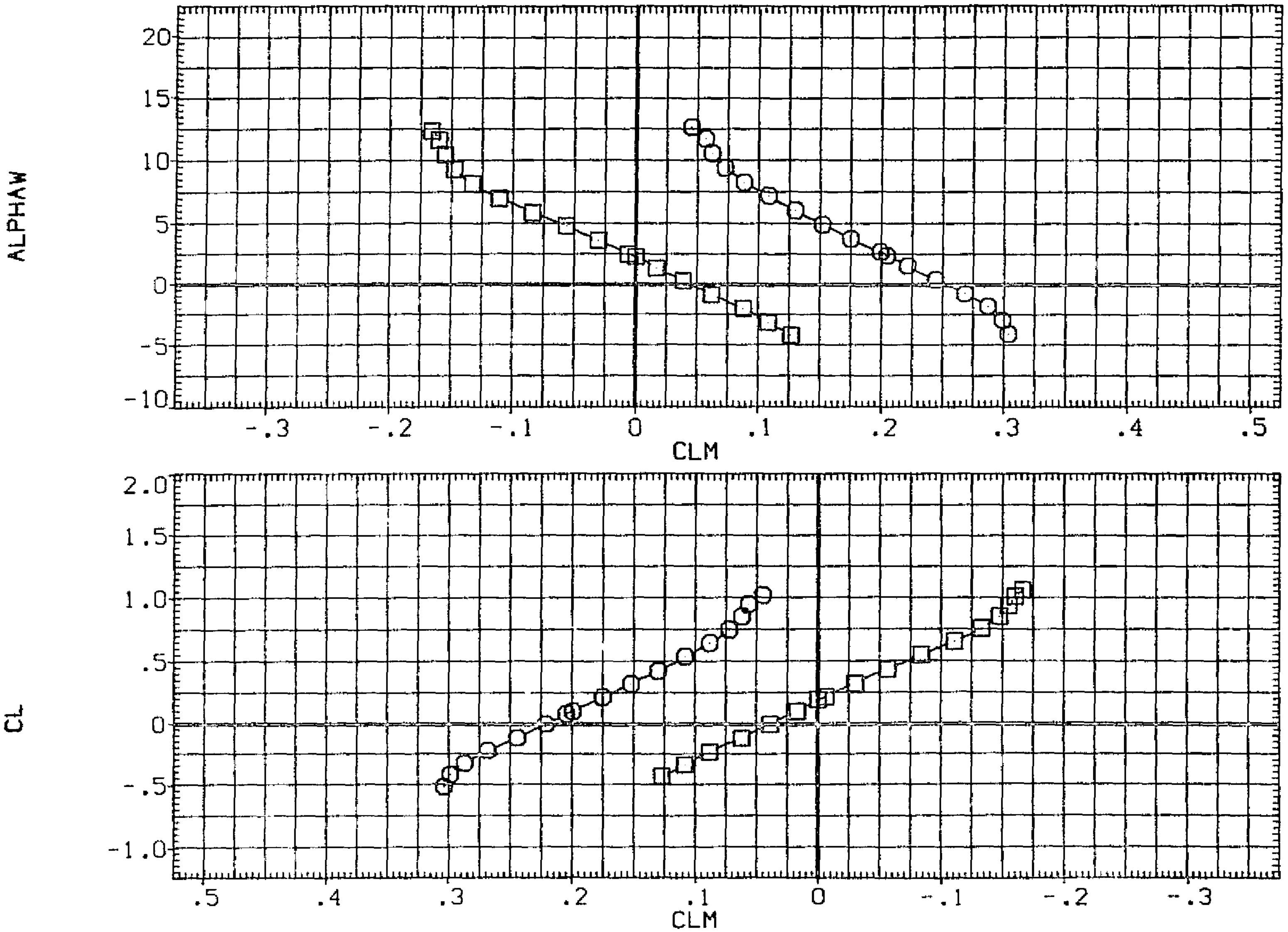



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP100) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | .000 | 6.000 |
| (RGP185) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | 1.970 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

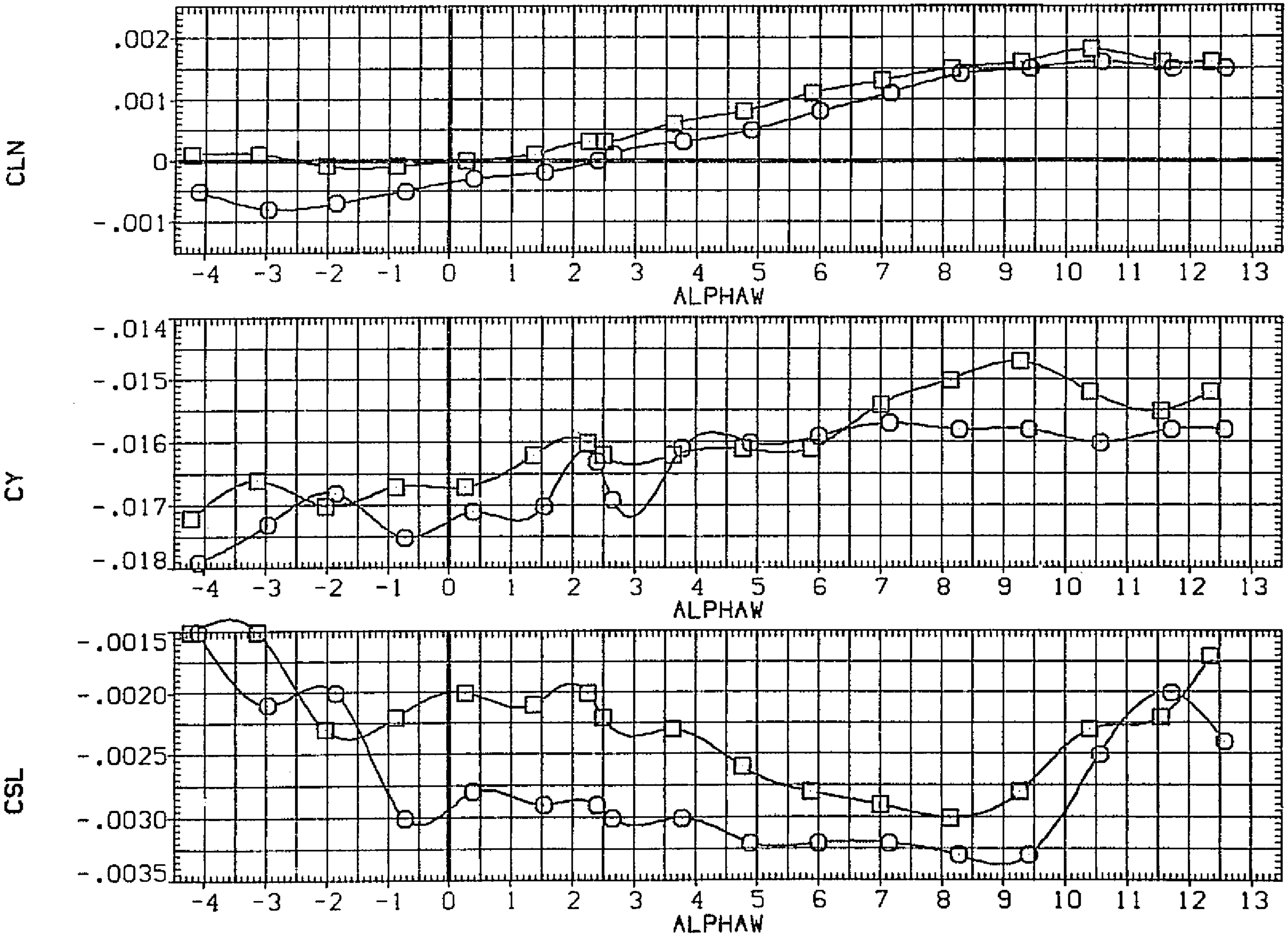


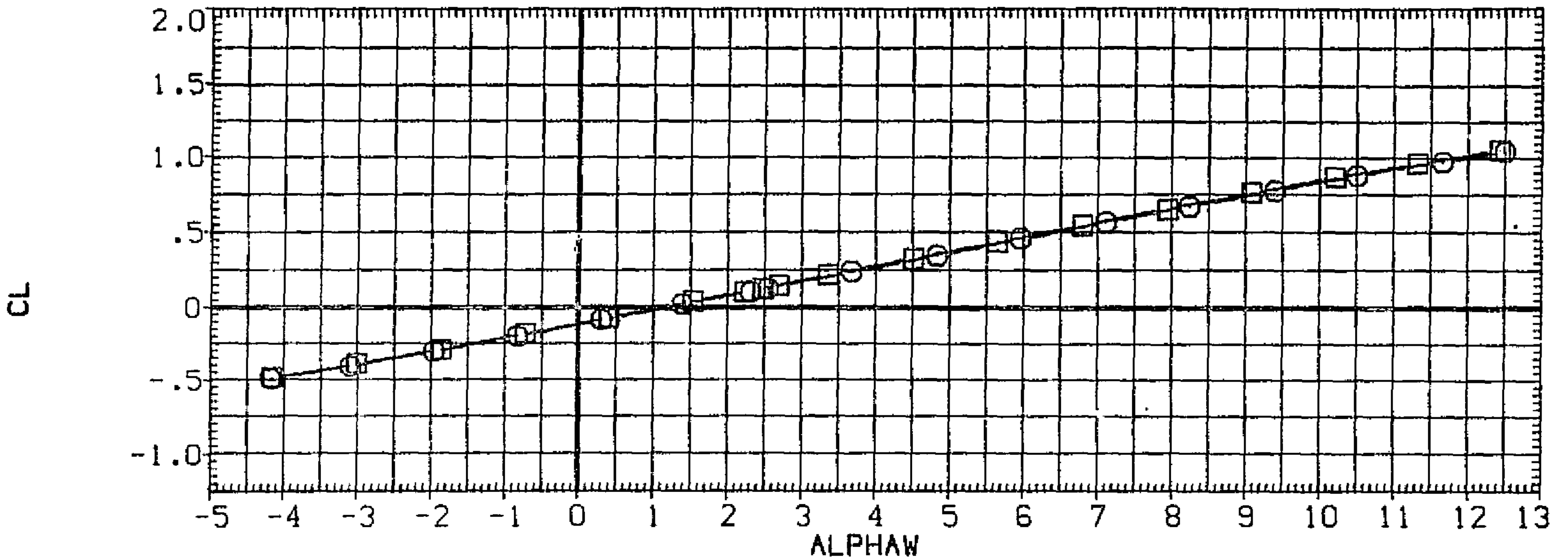

FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP099) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.1/105 ORBFBN24/28 | 2.150 | .000 | 6.000 |
| (RGP086) | □ | CA6 K2H15.6.IV9.1S1-12 AT103.1/105 ORB TC4 | 1.980 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



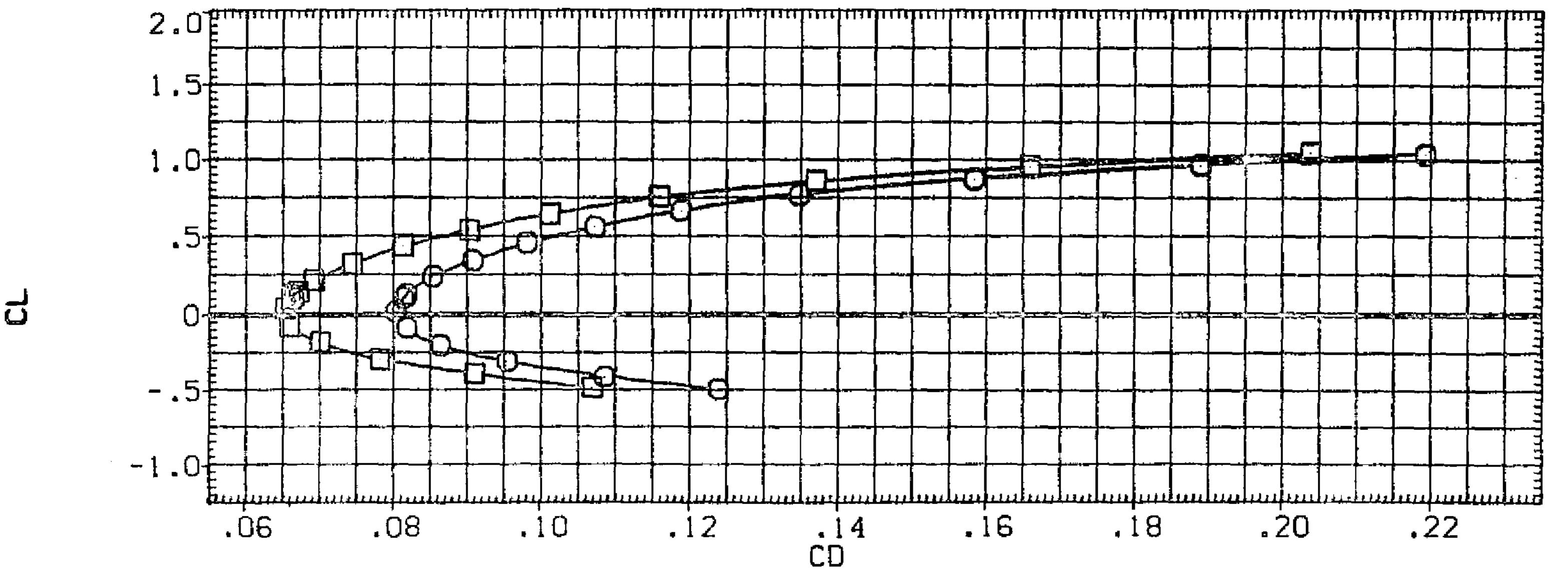




FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP099) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORBF8N24/28 | 2.150 | .000 | 6.000 |
| (RGP086) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB TC4 | 1.980 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

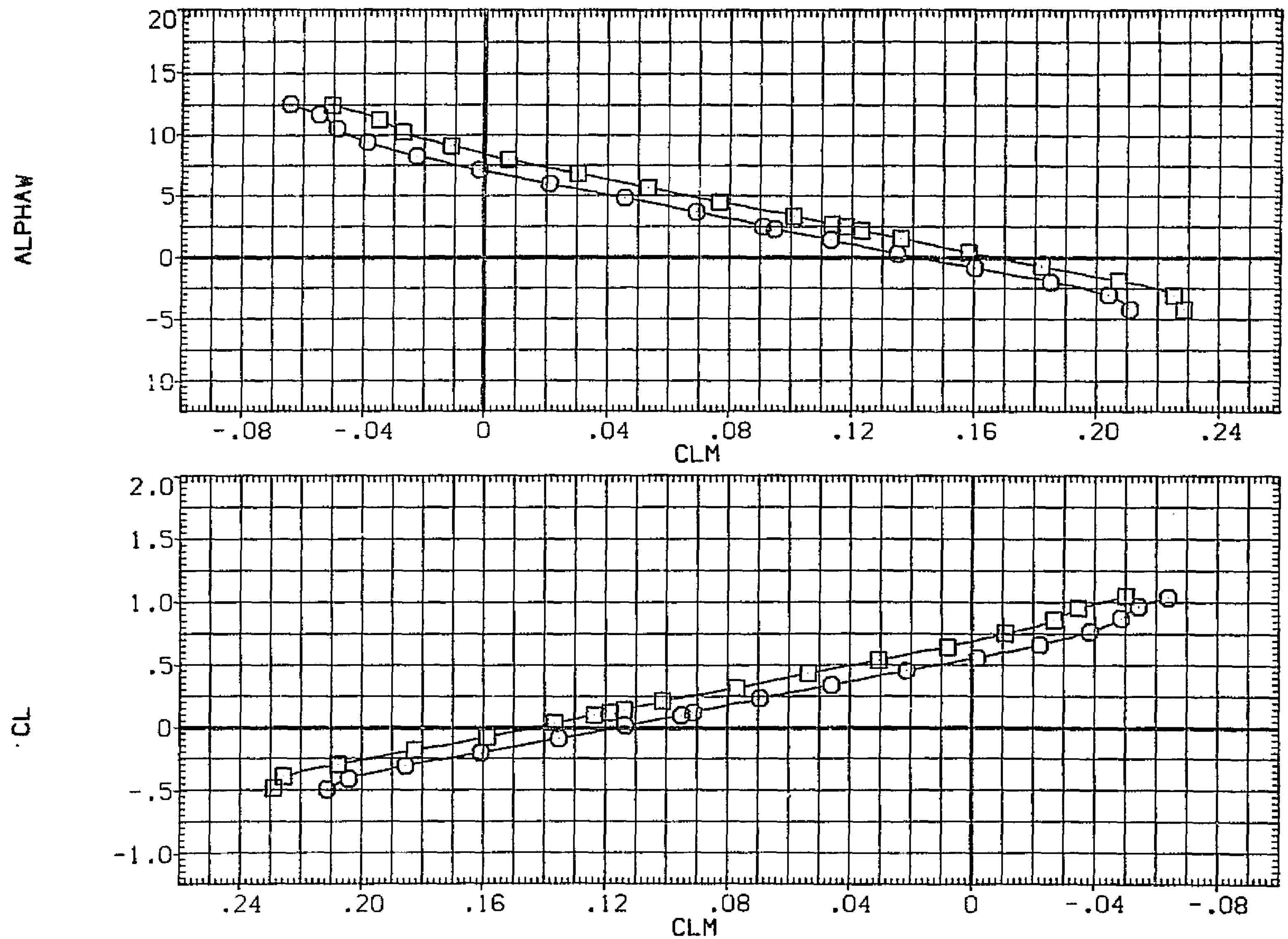



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP099) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 2.150 | .000 | 6.000 |
| (RGP086) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 1.980 | .000 | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

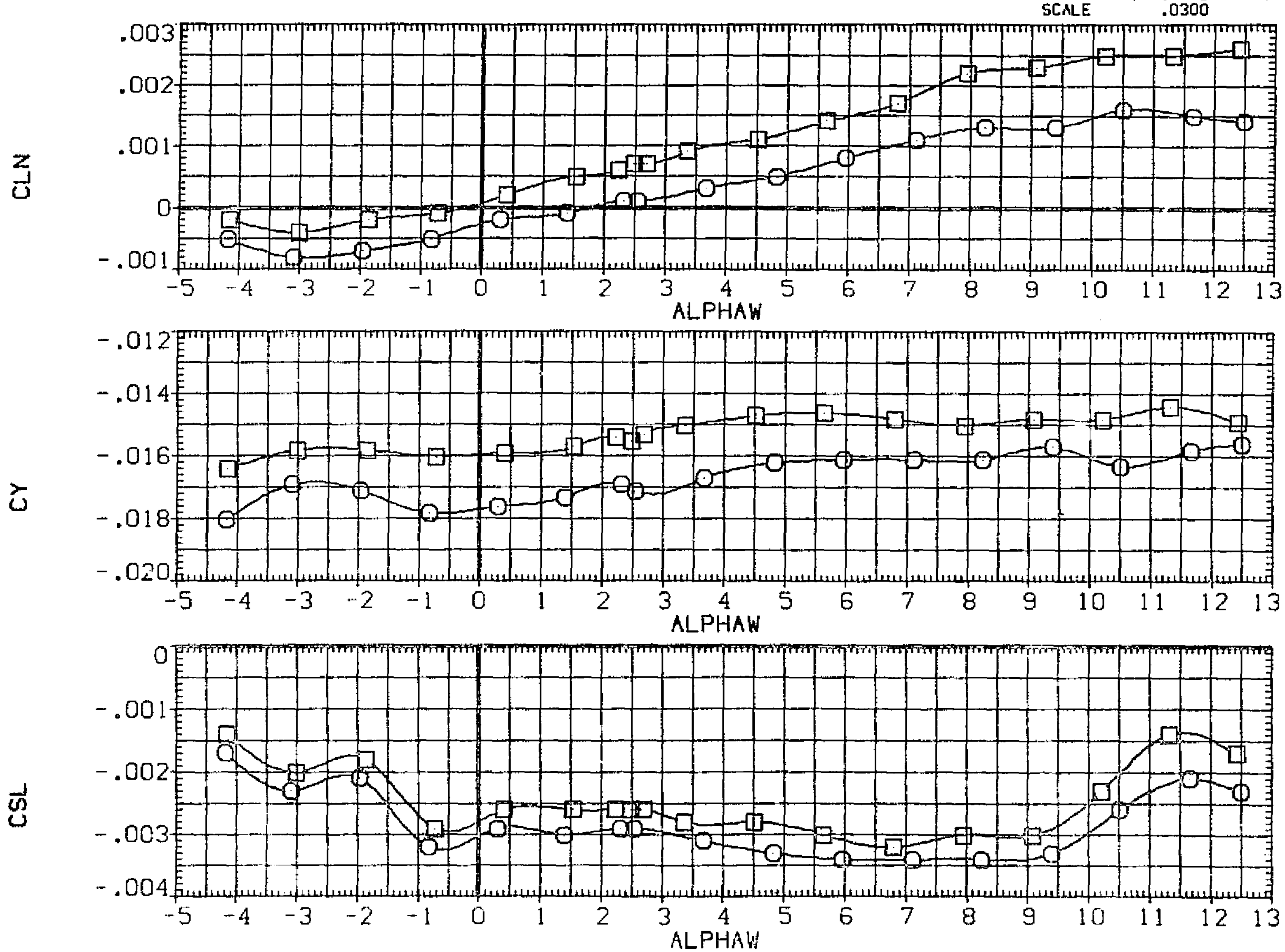



FIG. 34 TAILCONE EFFECTS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP132) | ○ | CA6 K2H15.6.1V9.1S1-12 A1103.1/95-.30RBFBN24/28 | 4.950 | .000 | 4.270 |
| (RGP059) | □ | CA6 K2H15.6.1V9.1S1-12 A1103.1/95-.30RBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP117) | ◇ | CA6 K2H15.6.1V9.1S1-12 A1103.1/95.3 ORBFBN24/28 | 4.750 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

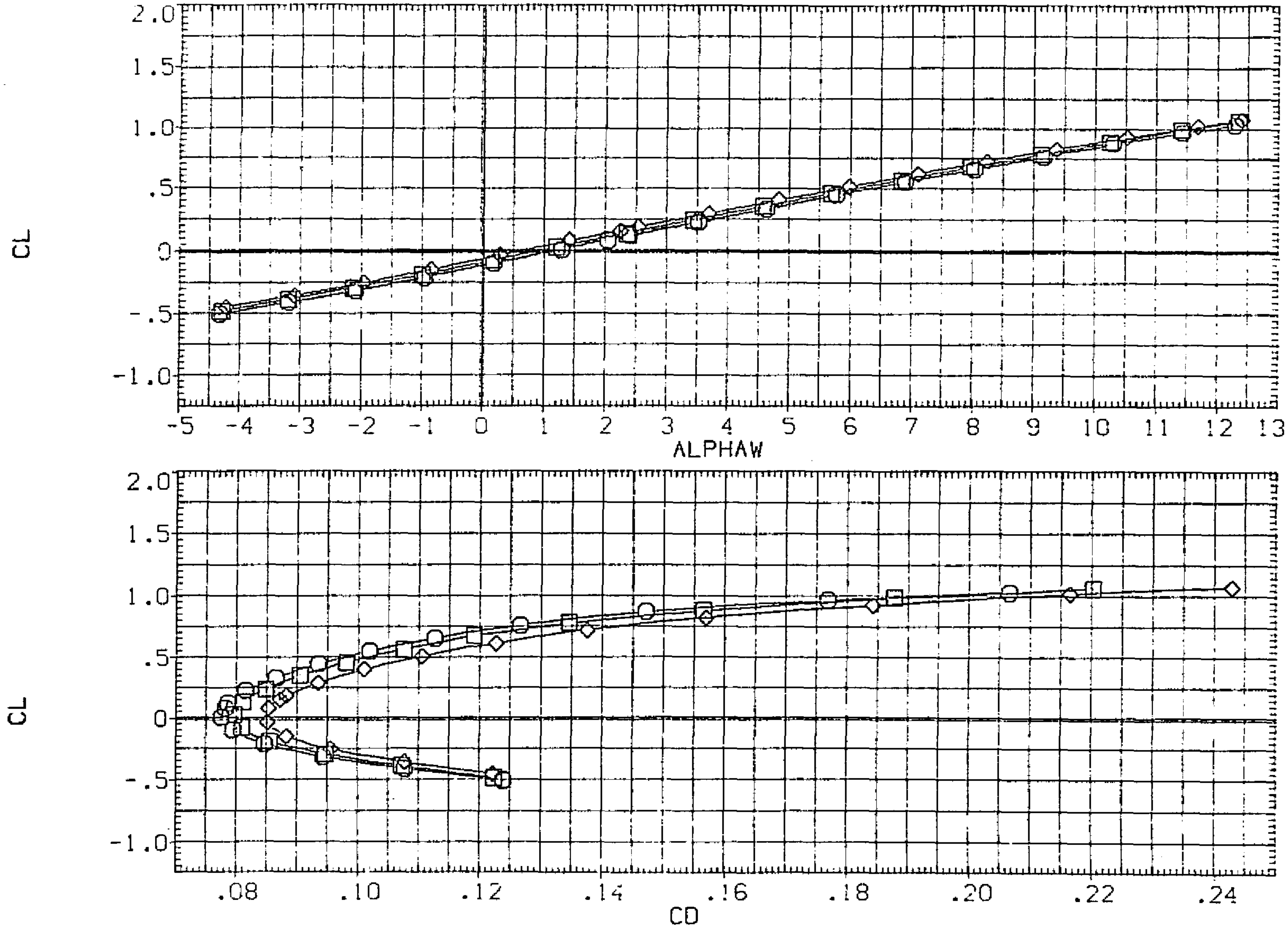



FIG. 35 ØRBITER INCIDENCE EFFECTS ØN LAUNCH CØNFIGURATIØN, SPØILER 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP132) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.950 | .000 | 4.270 |
| (RGP059) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP117) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 0RBF8N24/28 | 4.750 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

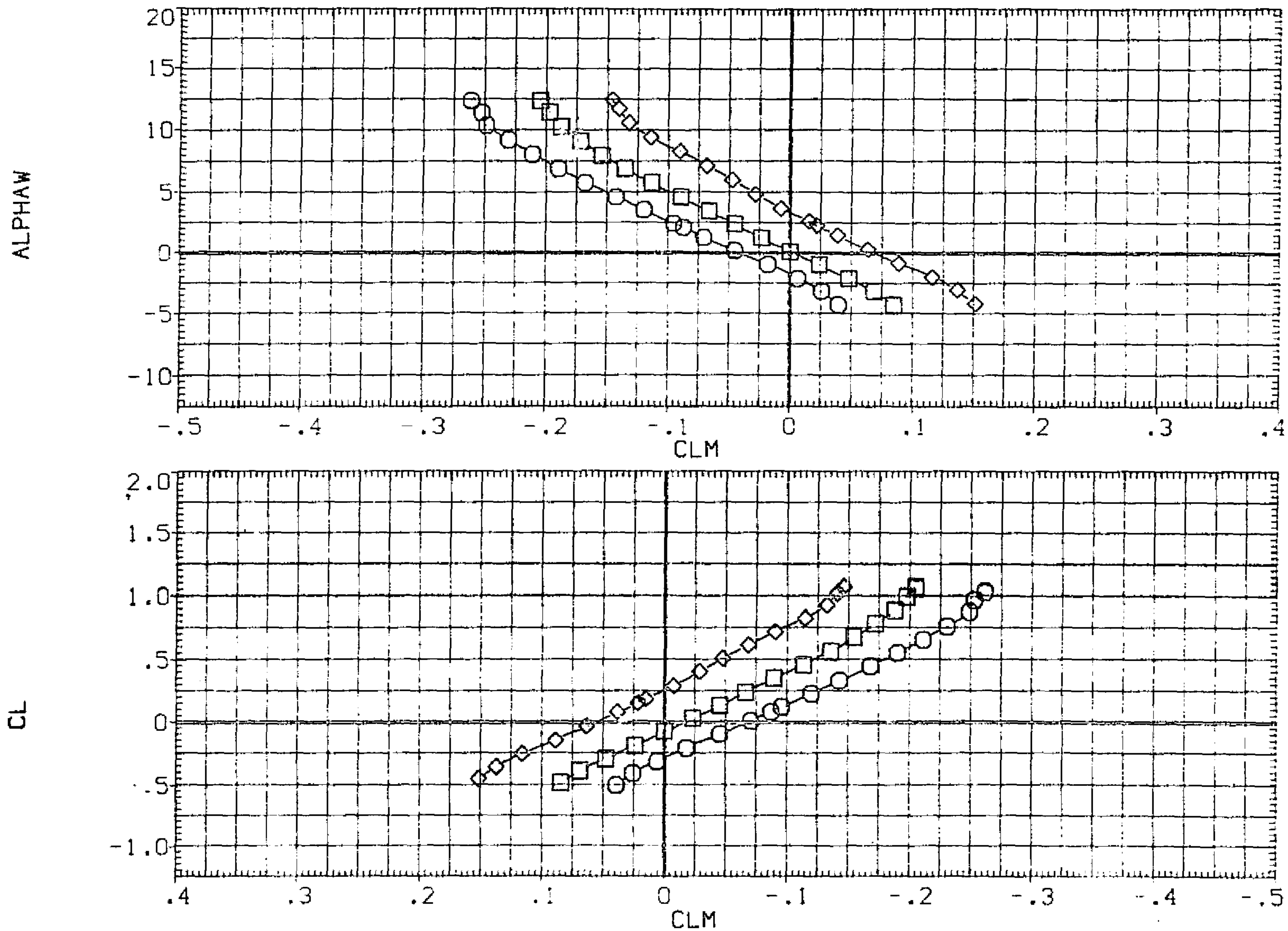



FIG. 35 ORBITER INCIDENCE EFFECTS ON LAUNCH CONFIGURATION, SPOILER 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP132) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.950 | .000 | 4.270 |
| (RGP059) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP117) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

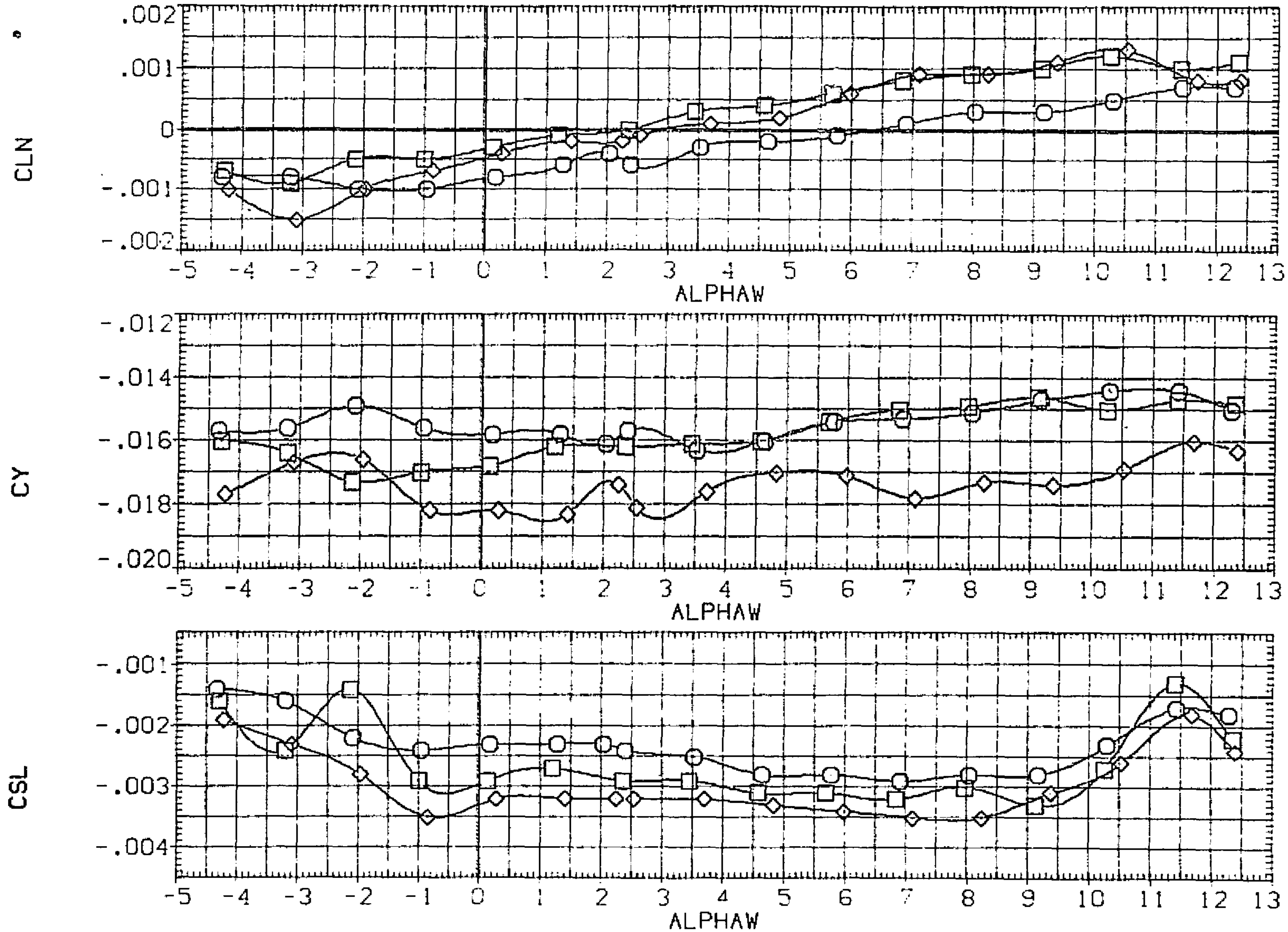



FIG. 35 ORBITER INCIDENCE EFFECTS ON LAUNCH CONFIGURATION, SPOILER 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP069) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | 6.000 | 5.000 |
| (RGP079) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

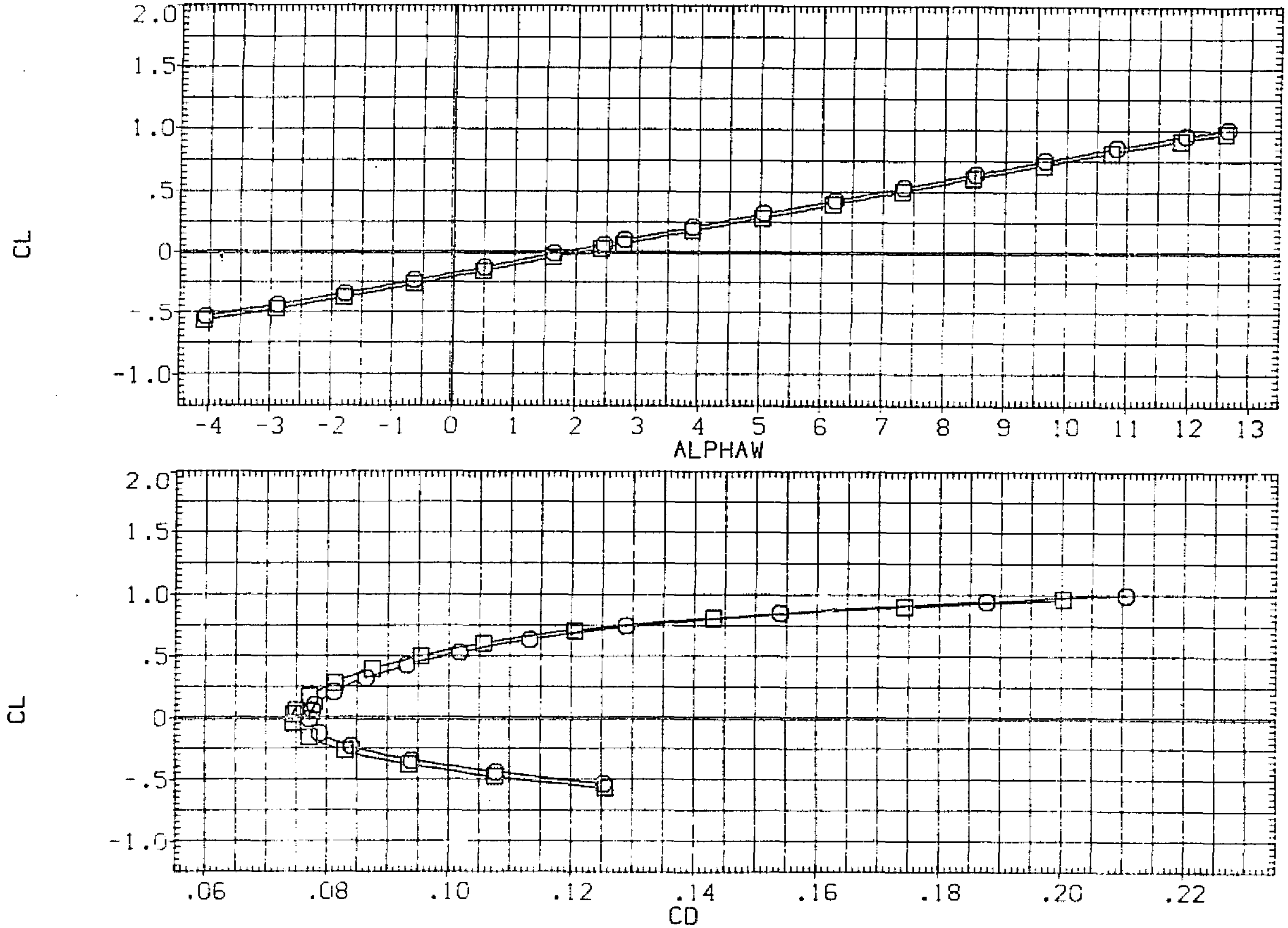



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP069) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | 6.000 | 5.000 |
| (RGP079) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

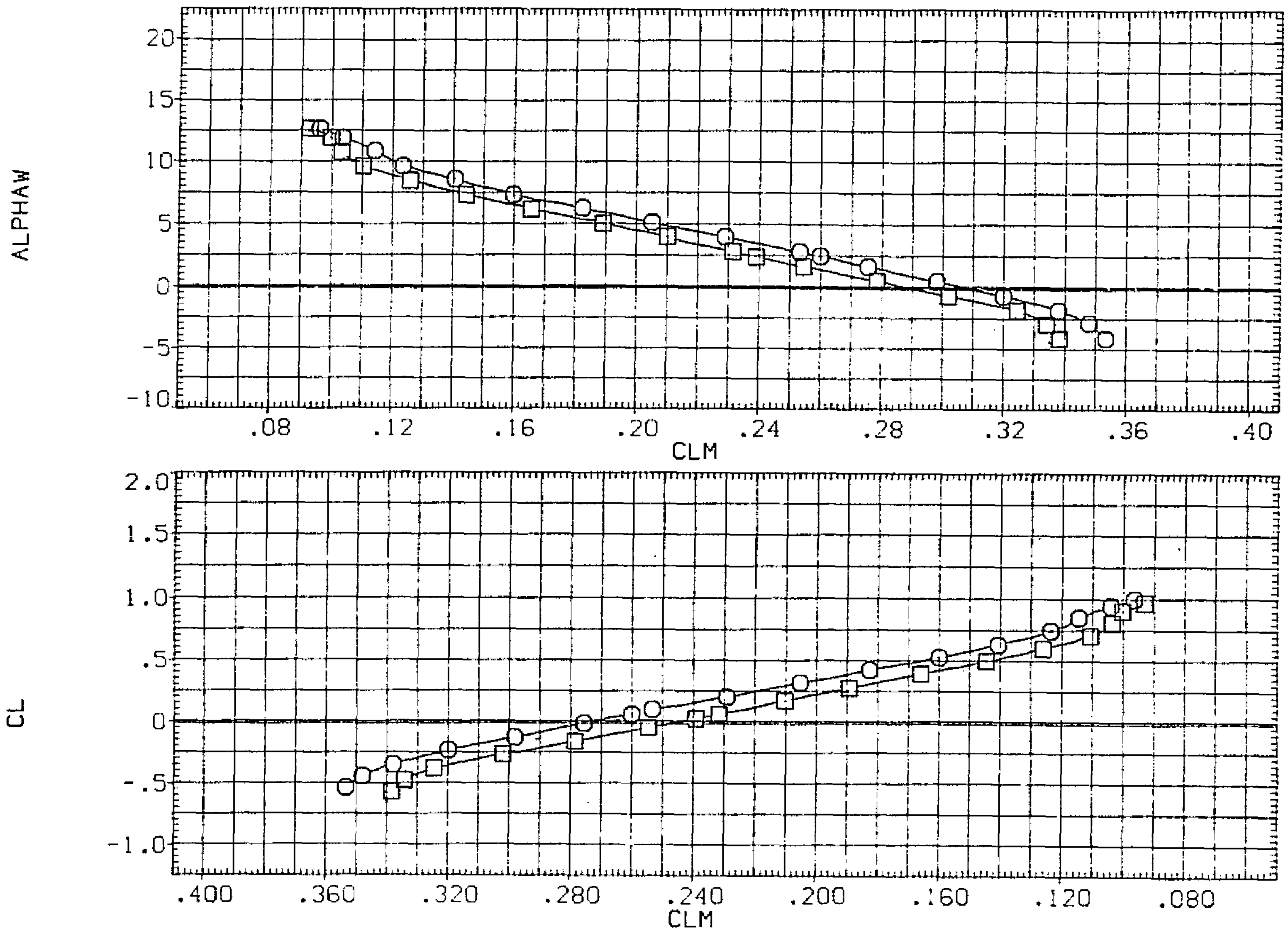



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP069) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95-.30RBFBN24/28 | -1.010 | 6.000 | 5.000 |
| (RGP079) | □ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95-.30RBFBN24/28 | -1.010 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

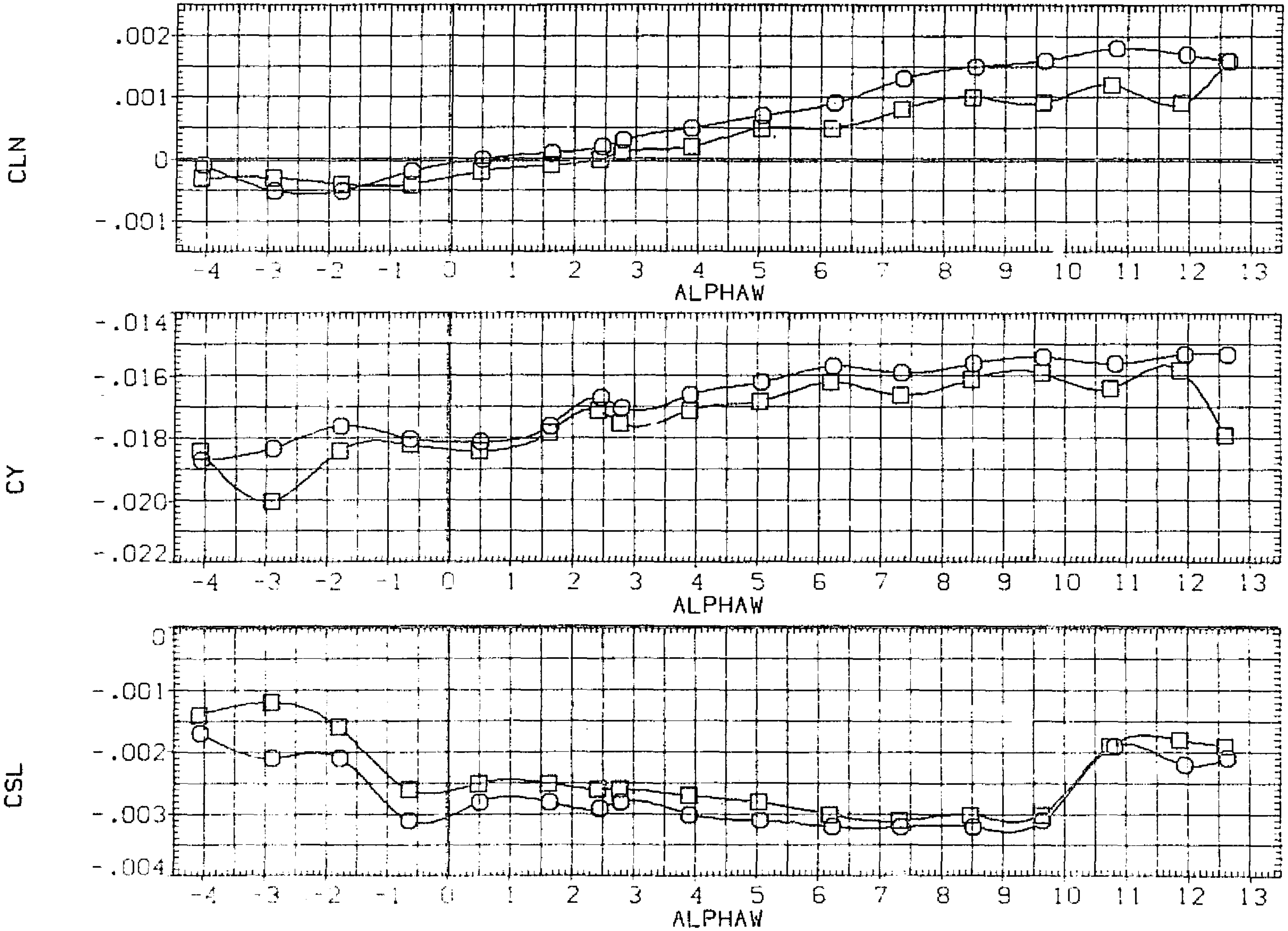



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP067) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | .040 | 6.000 | 5.000 |
| (RGP076) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | .000 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

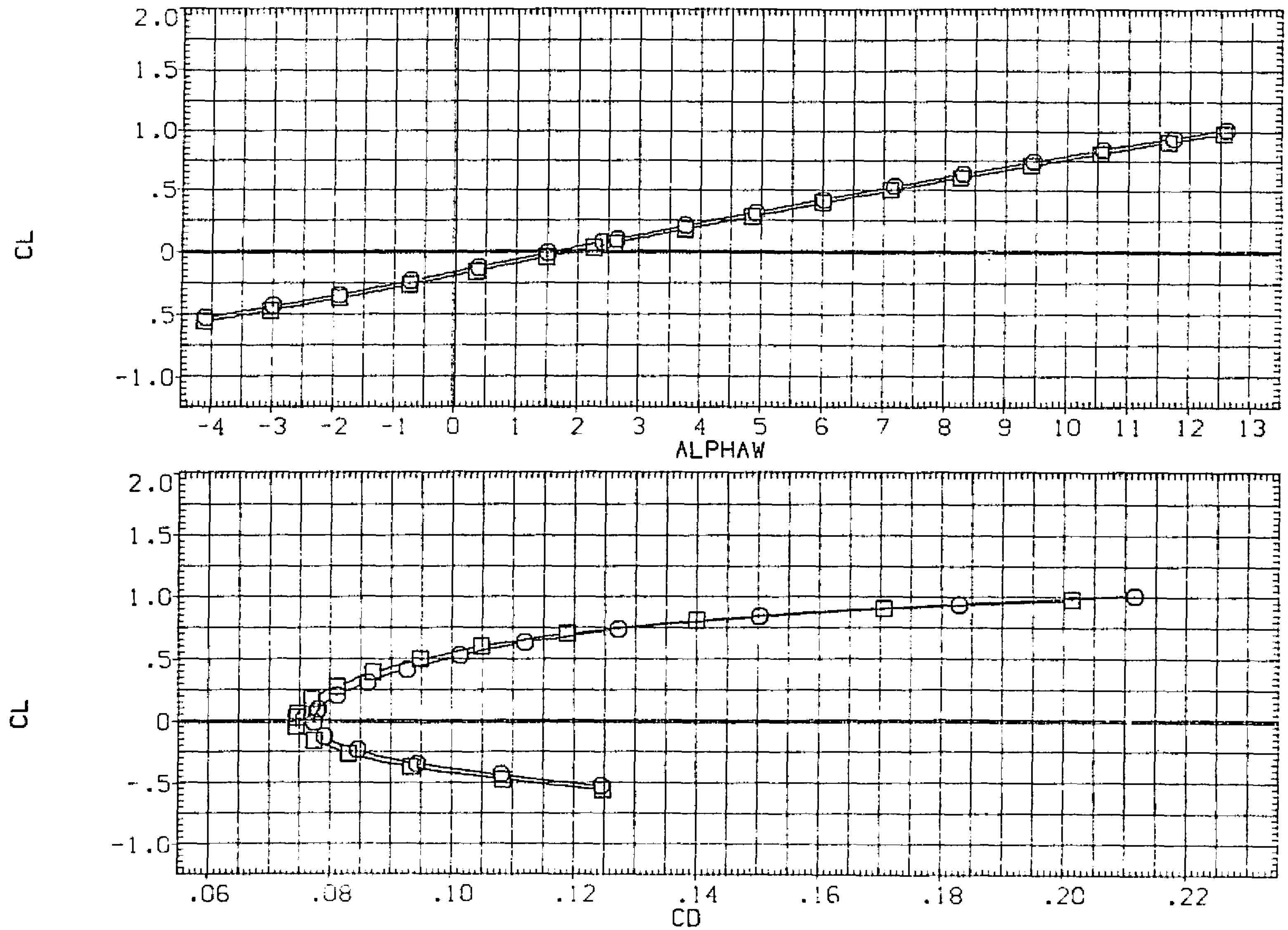



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP067) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | .040 | 6.000 | 5.000 |
| (RGP076) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | .000 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

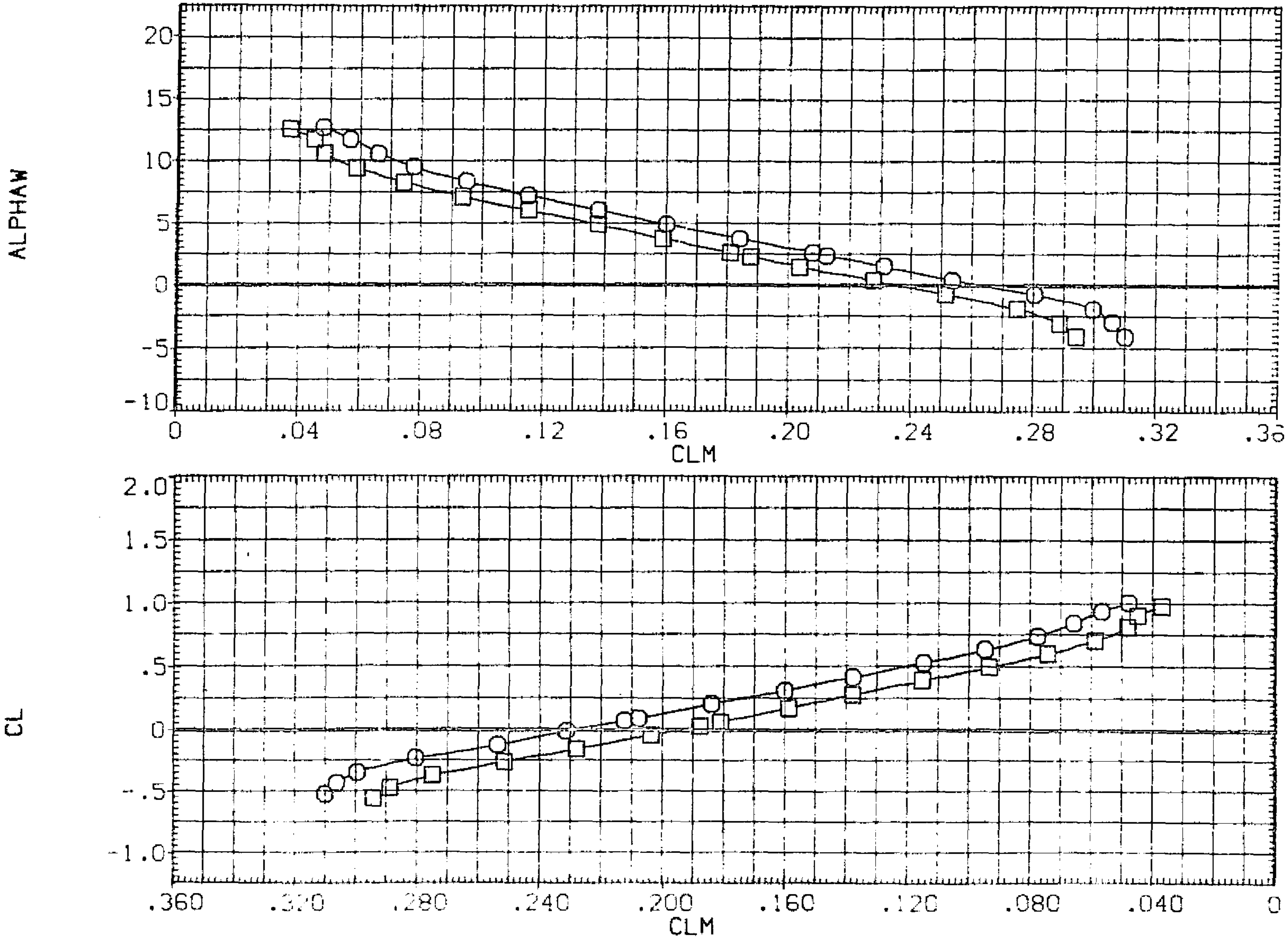



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP067) | ○ | CA6 K2H15.6.1V8.1S1-12 AT103.1/95-.30RBF8N24/28 | .040 | 6.000 | 5.000 |
| (RGP076) | □ | CA6 K2H15.6.1V8.1S1-12 AT103.1/95-.30RBF8N24/28 | .000 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

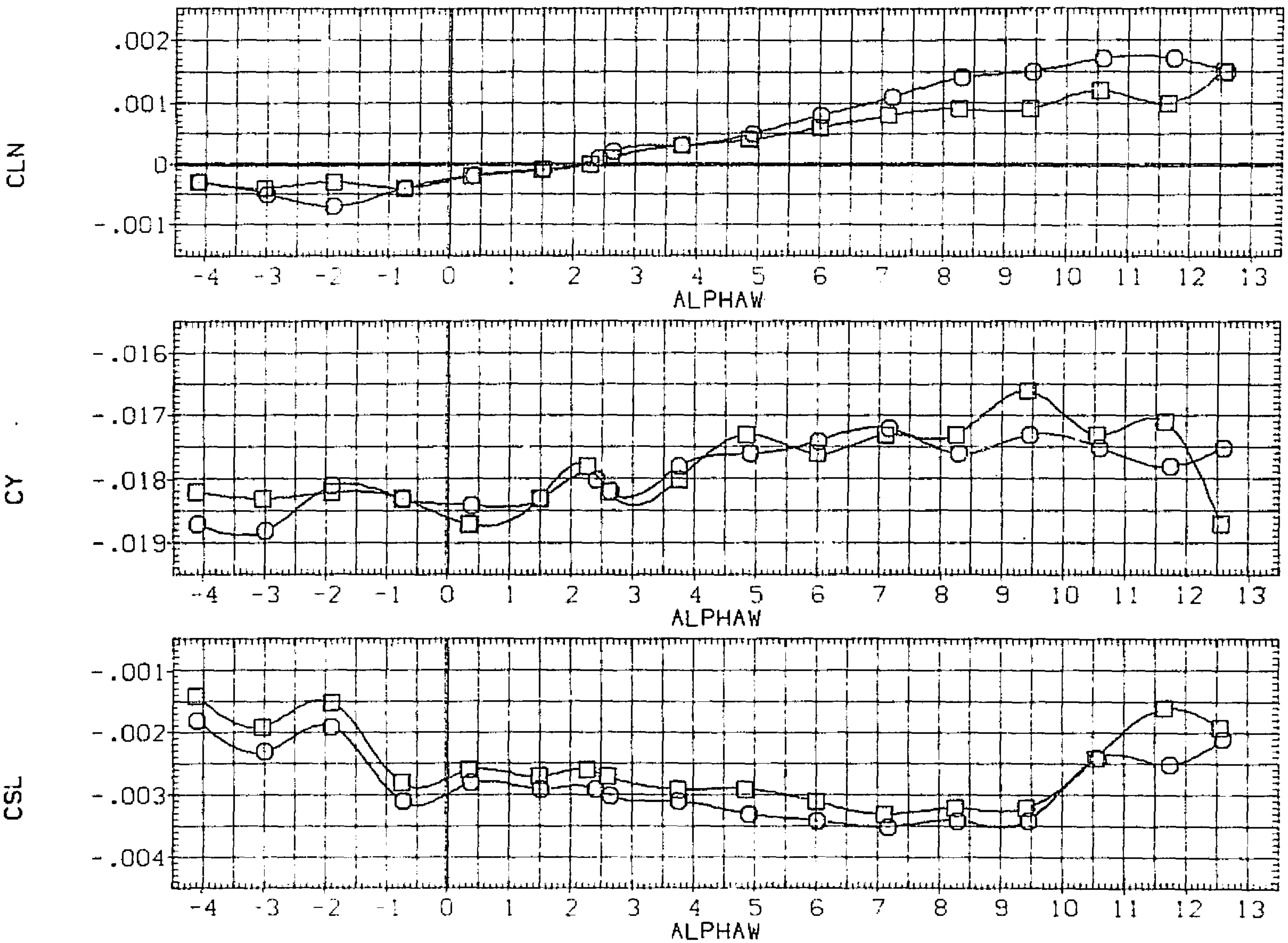



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP068) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | 6.000 | 5.000 |
| (RGP077) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.210 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 32, 8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

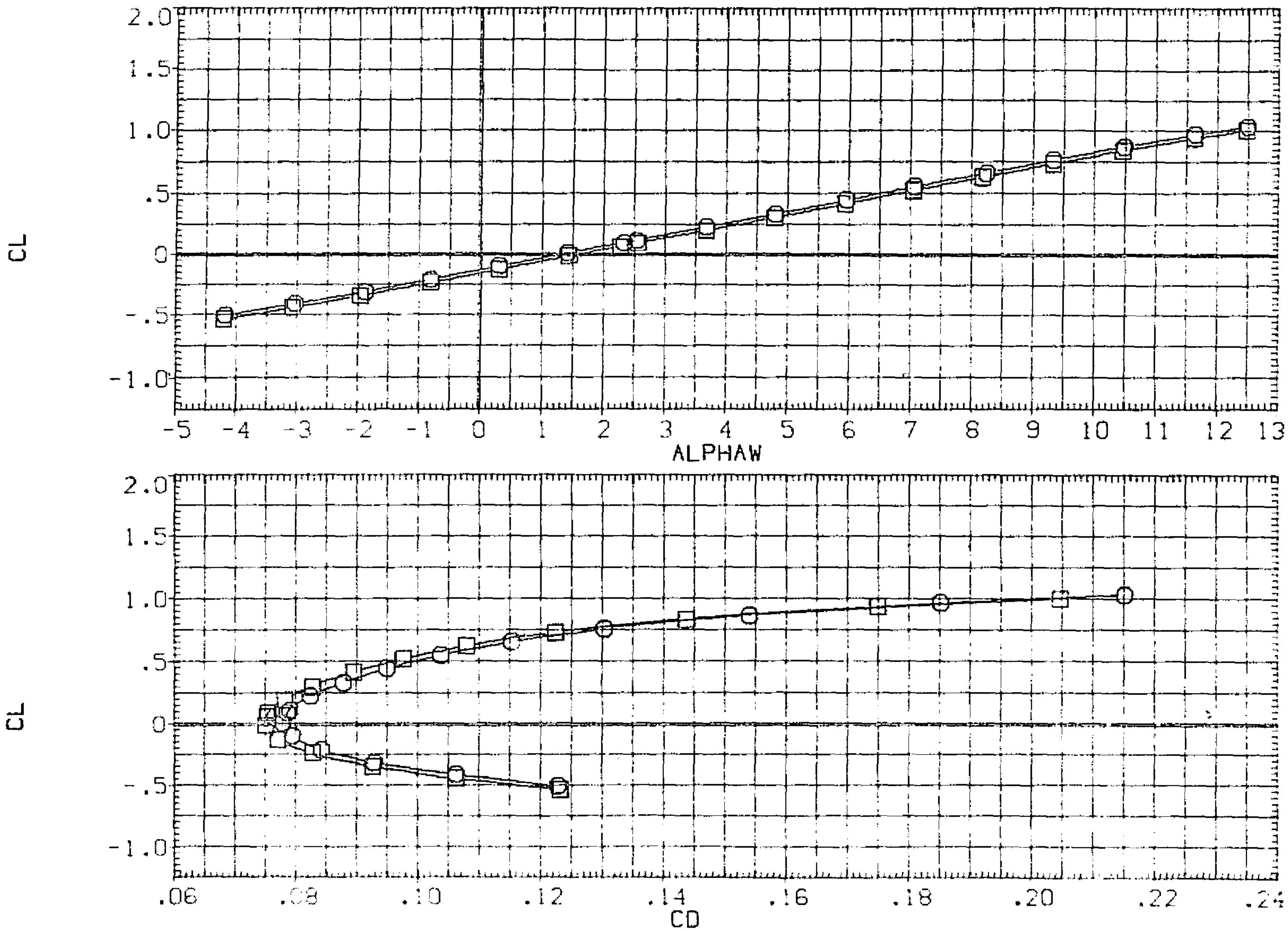



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP068) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.130 | 6.000 | 5.000 |
| (RGP077) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 2.210 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9[illegible] | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

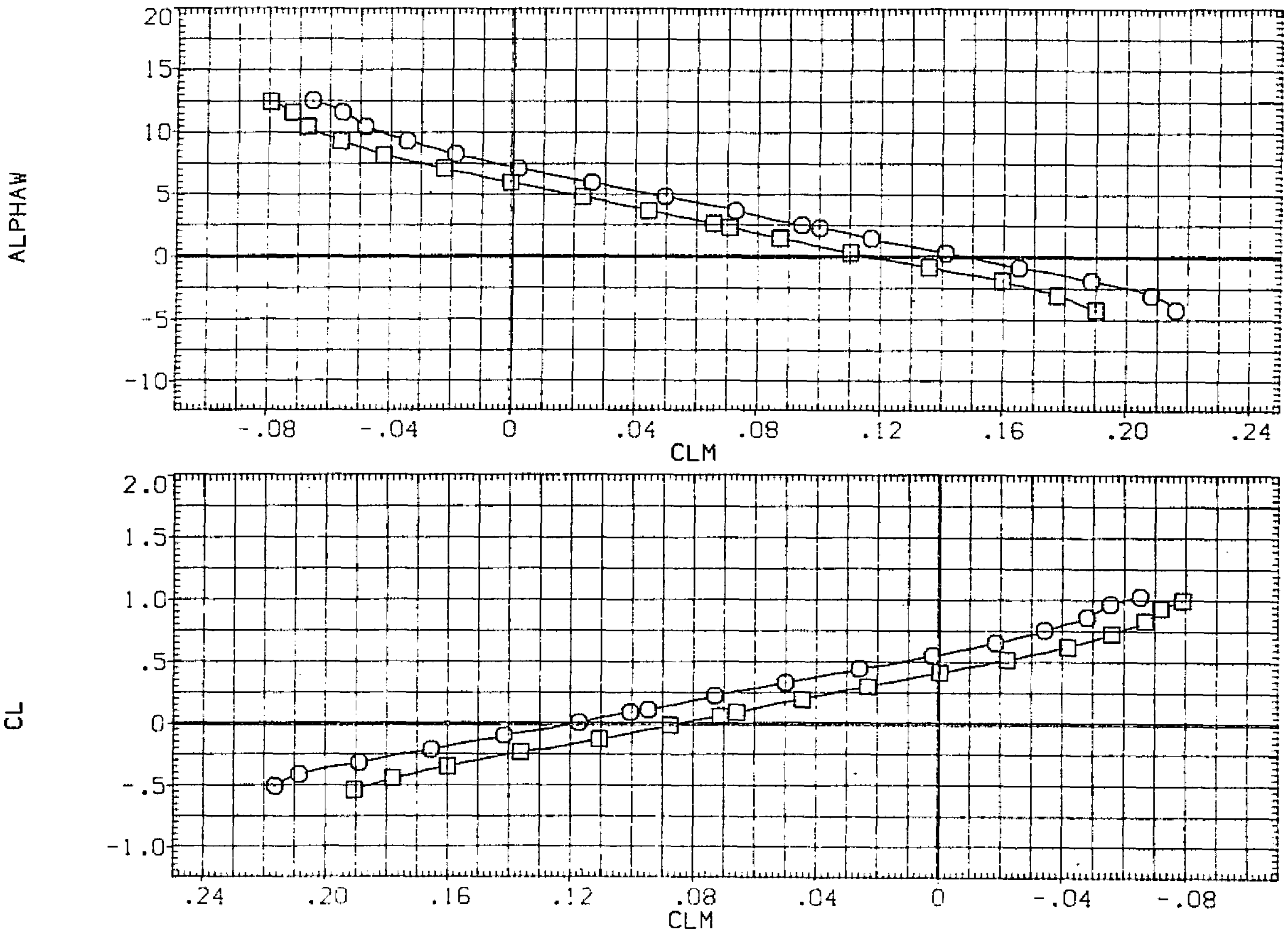



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP068) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 2.130 | 6.000 | 5.000 |
| (RGP077) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | 2.210 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

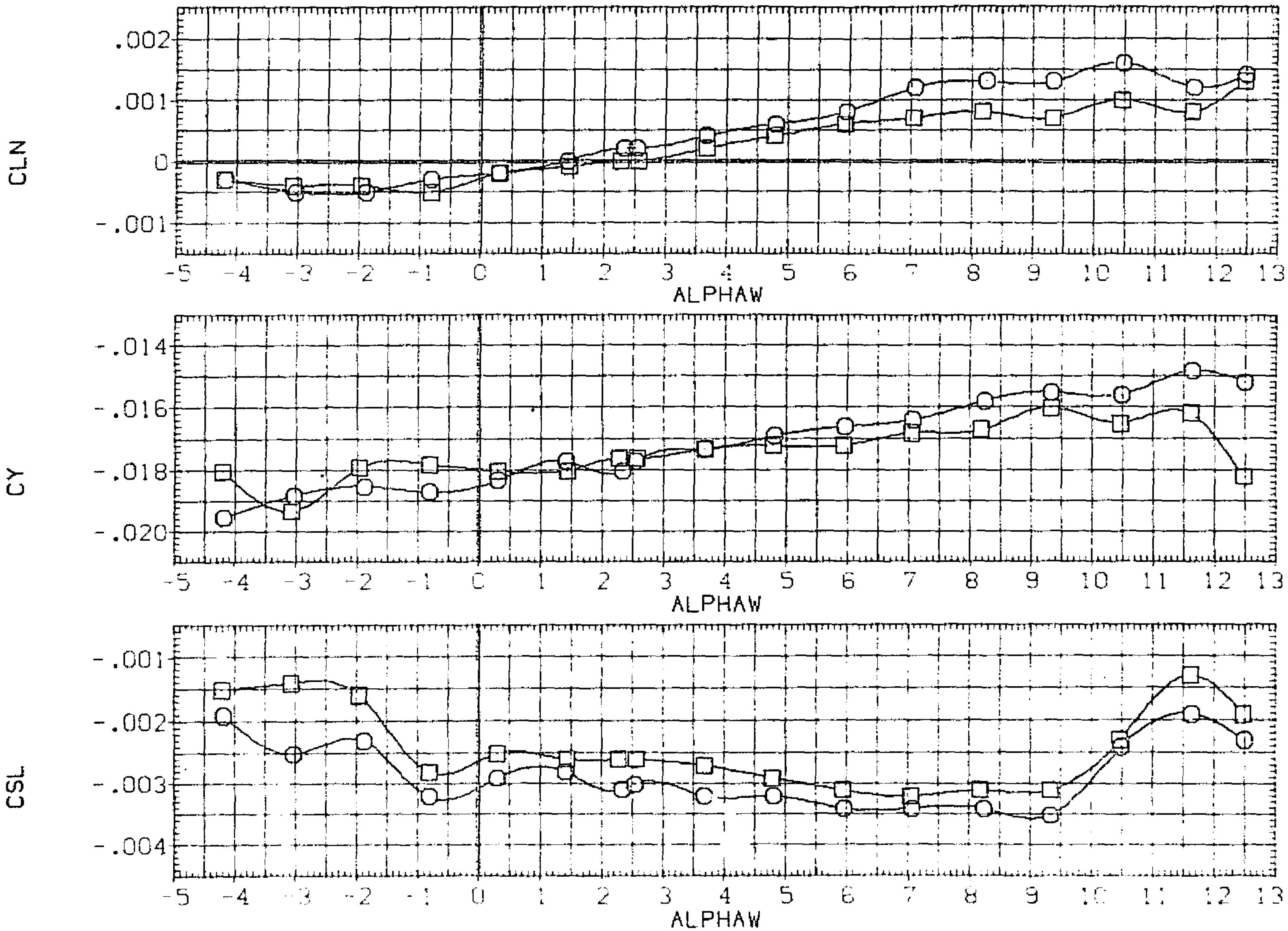



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 4.890 | 6.000 | 5.000 |
| (RGP078) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 4.830 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

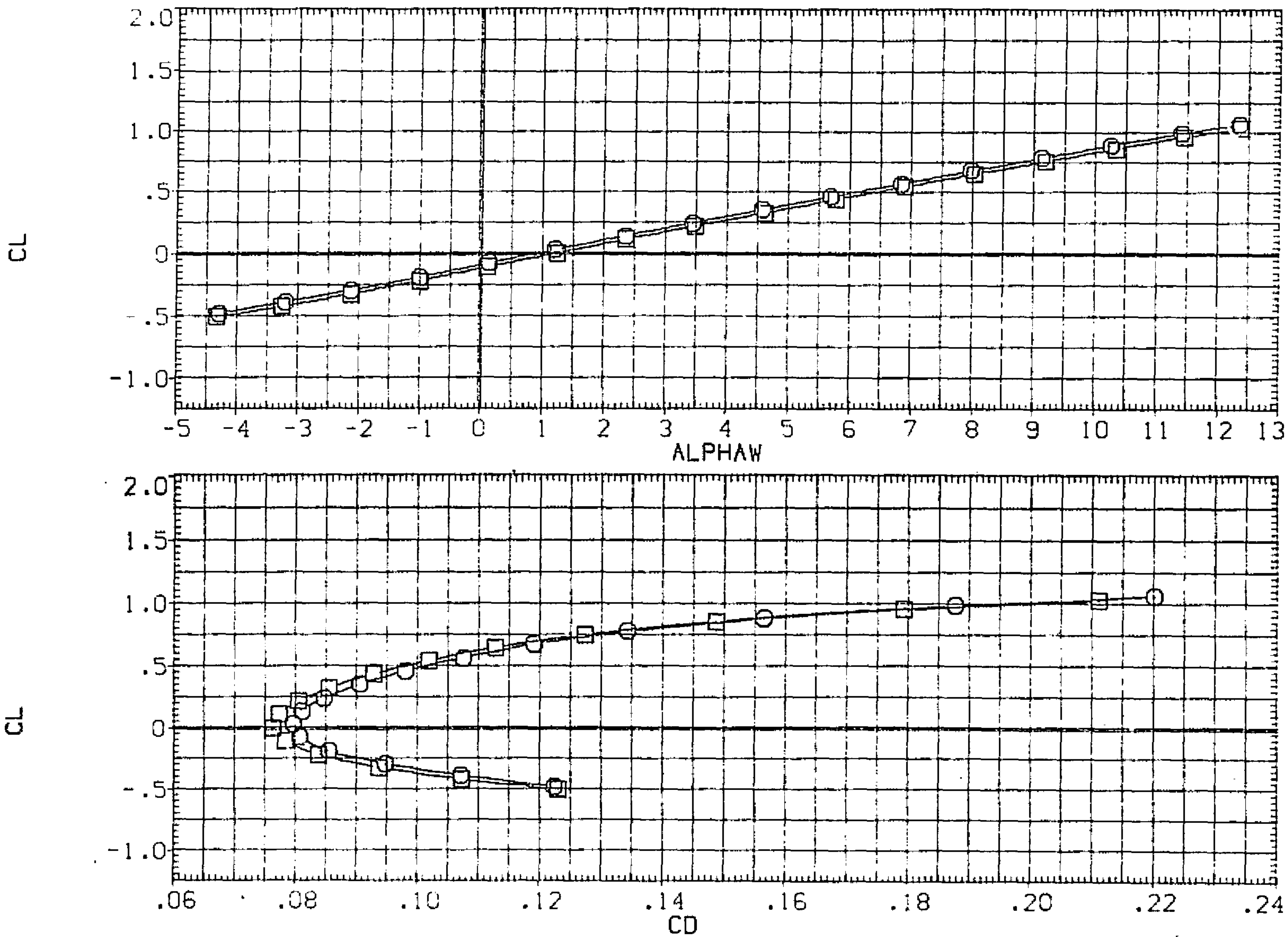



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGF059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 5.000 |
| (RGF078) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.830 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

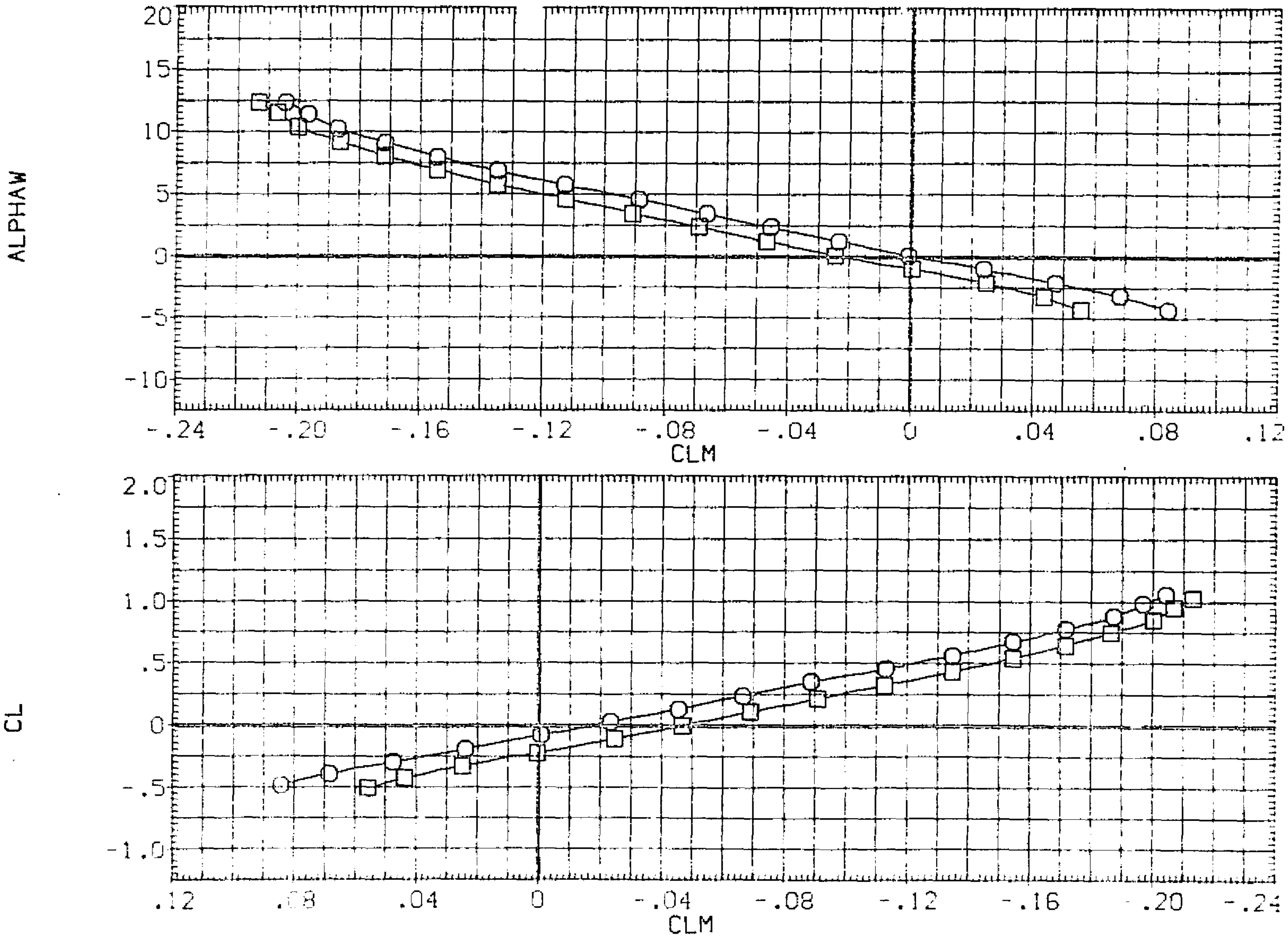



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 6.000 | 5.000 |
| (RGP078) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.830 | 6.000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

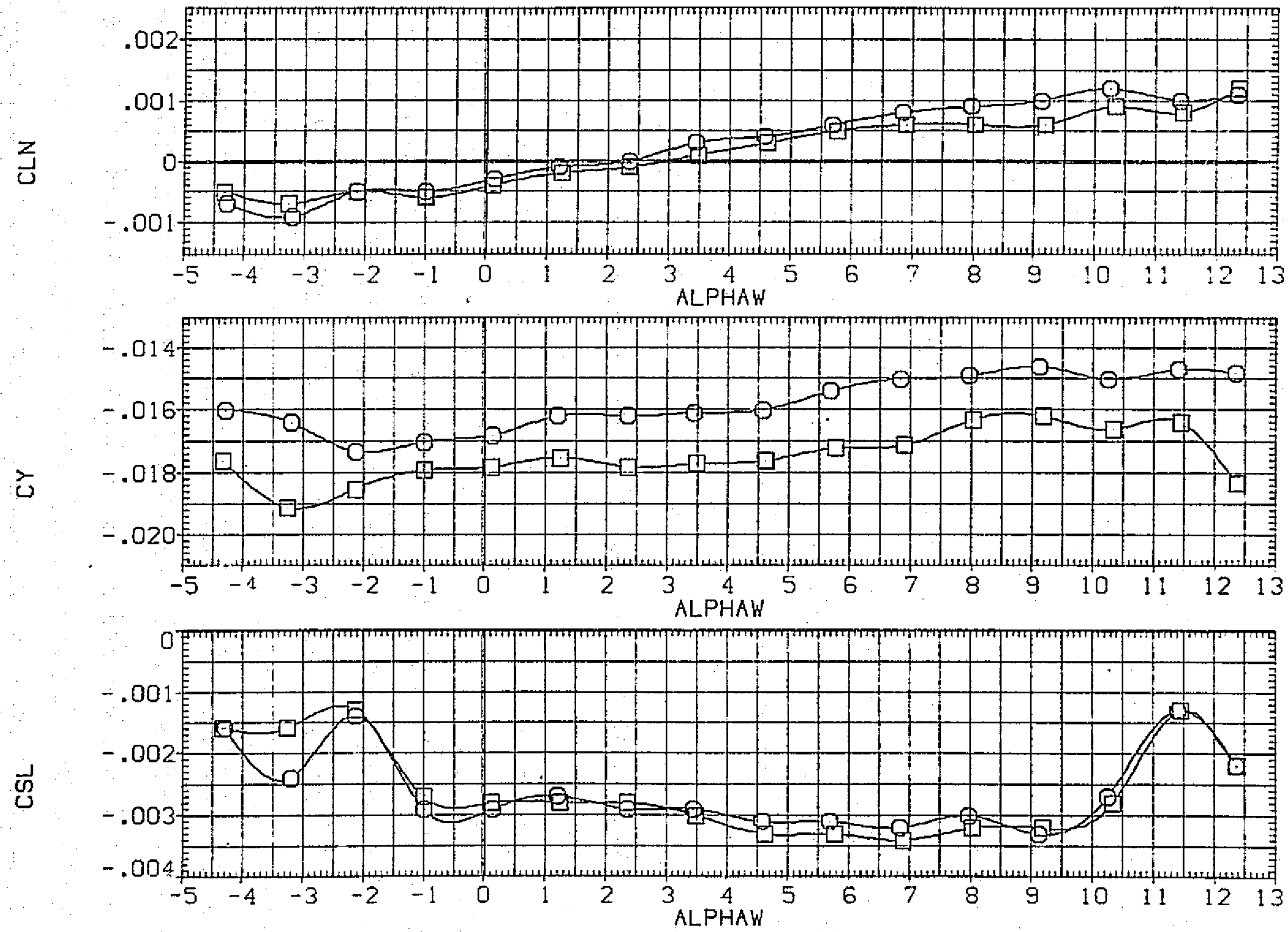



FIG. 36 ORBITER ELEVON EFFECTS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|---|---|
| (RGP098) | ○ | CA6 | K2 V9.1S1-12 | AT103.1/105 | ORB | TC4 | | .000 | 6.000 |
| (RGP085) | □ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORB | TC4 | .000 | .000 | 6.000 |
| (RGP086) | ◇ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORB | TC4 | 1.980 | .000 | 6.000 |
| (RGP084) | △ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORB | TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

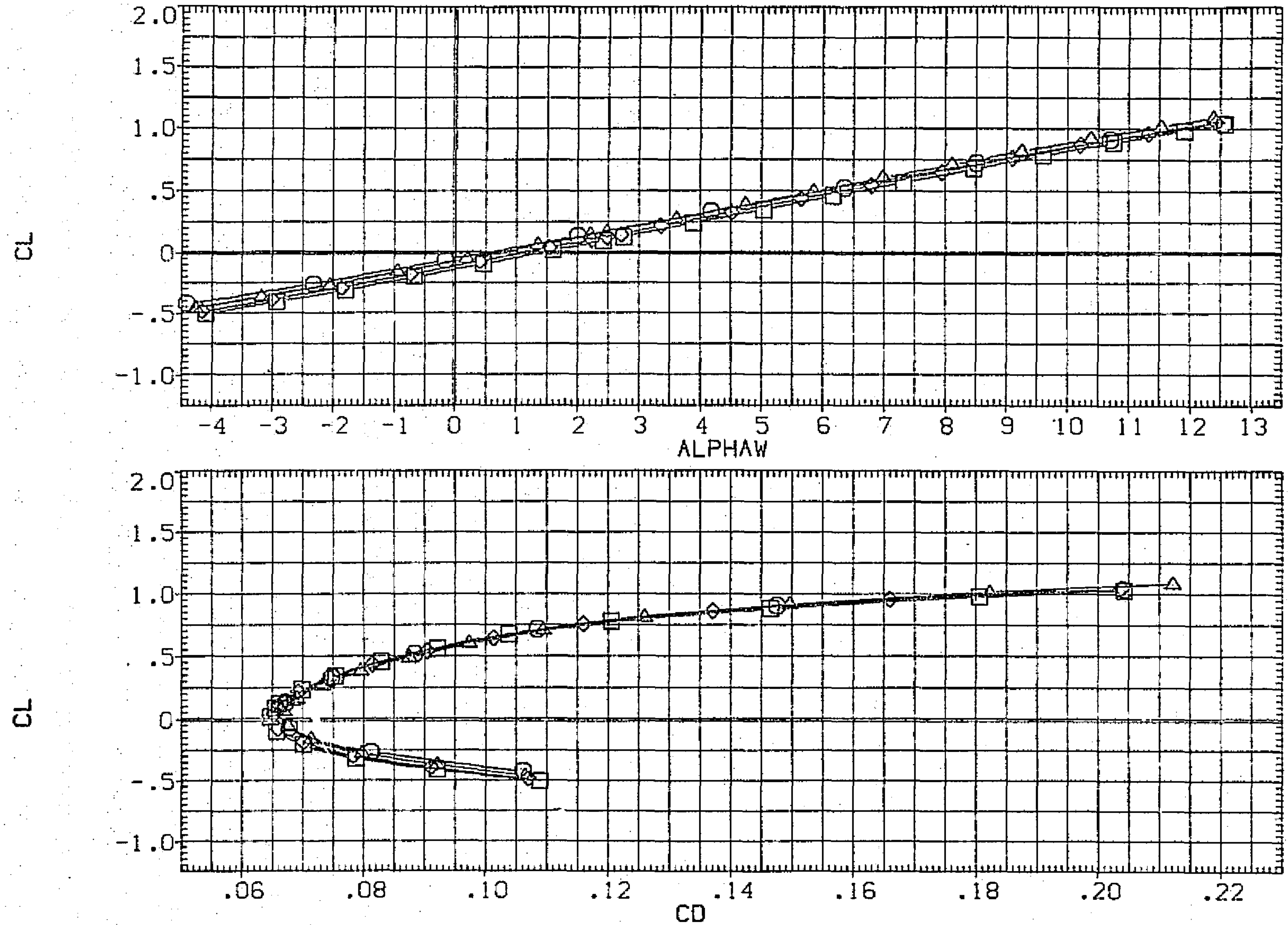



FIG. 37 STABILIZER EFFECTIVENESS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP098) | ○ | CA6 K2 V9.IS1-12 AT103.1/105 ORB TC4 | | .000 | 6.000 |
| (RGP085) | □ | CA6 K2H15.6.1V9.IS1-12 AT103.1/105 ORB TC4 | .000 | .000 | 6.000 |
| (RGP086) | ◇ | CA6 K2H15.6.1V9.IS1-12 AT103.1/105 ORB TC4 | 1.980 | .000 | 6.000 |
| (RGP084) | △ | CA6 K2H15.6.1V9.IS1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

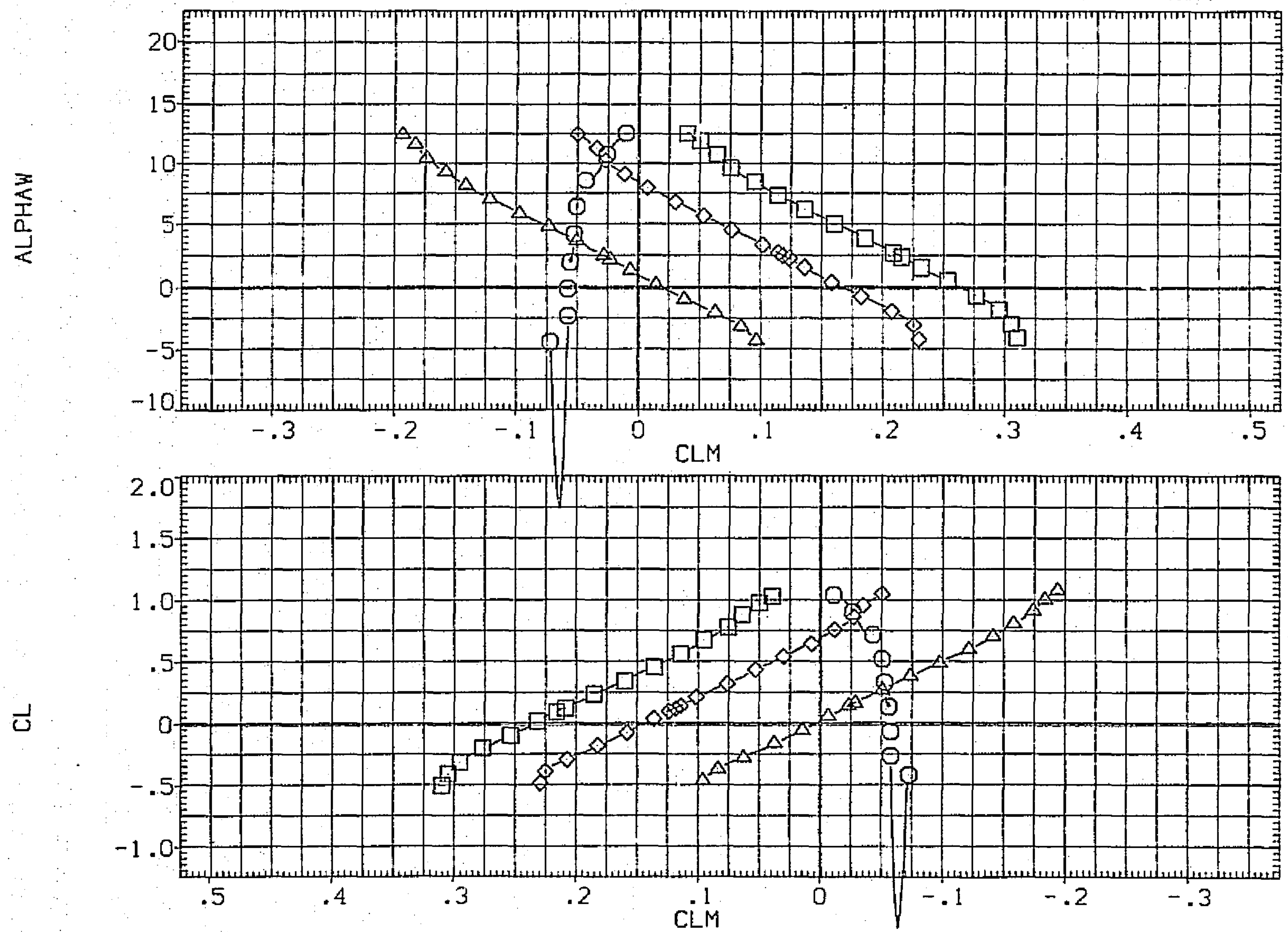



FIG. 37 STABILIZER EFFECTIVENESS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORG |
|---|---|---|---|---|---|
| (RGP098) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | | .000 | 6.000 |
| (RGP085) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | .000 | .000 | 6.000 |
| (RGP086) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 1.980 | .000 | 6.000 |
| (RGP084) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

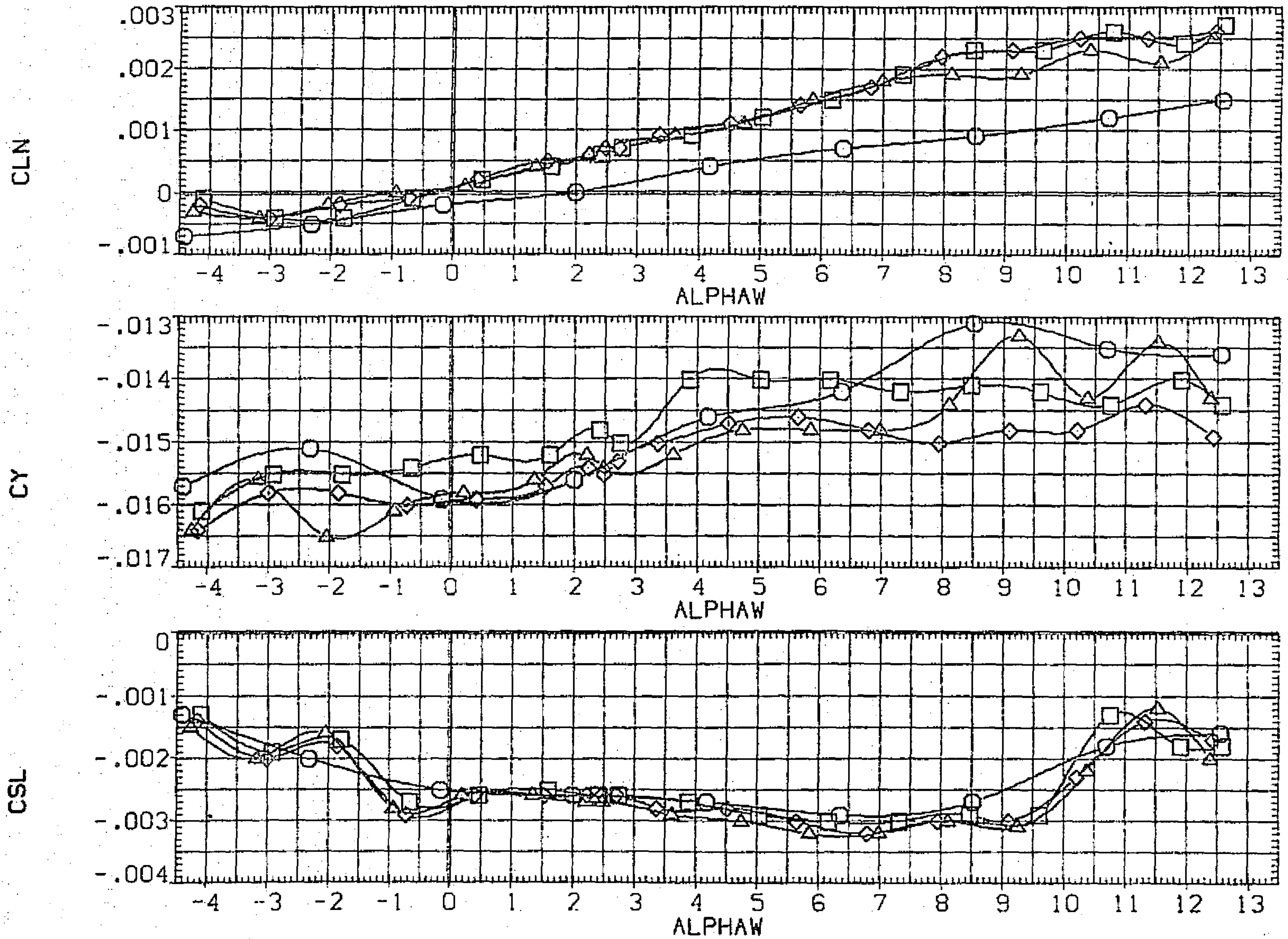



FIG. 37 STABILIZER EFFECTIVENESS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP087) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | -4.000 | 6.000 |
| (RGP084) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |
| (RGP089) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 2.000 | 6.000 |
| (RGP088) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 4.000 | 6.000 |
| (RGP090) | ◁ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 6.000 | 6.000 |
| (RGP091) | D | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 10.000 | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

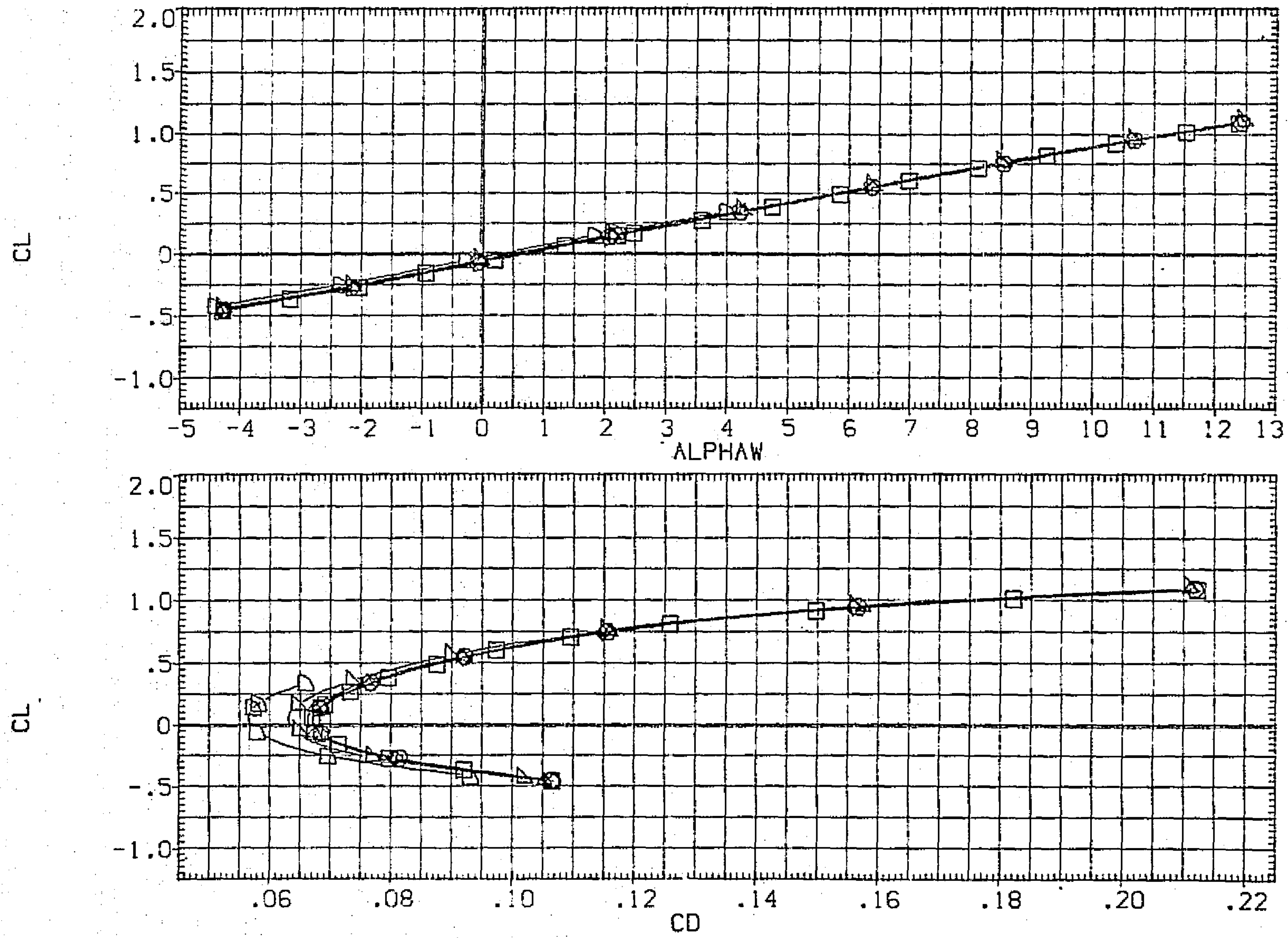



FIG. 38 LATERAL-DIRECTIONAL STABILITY OF LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP087) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | -4.000 | 6.000 |
| (RGP084) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.840 | .000 | 6.000 |
| (RGP089) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 2.000 | 6.000 |
| (RGP088) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 4.000 | 6.000 |
| (RGP090) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.650 | 6.000 | 6.000 |
| (RGP091) | D | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.850 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

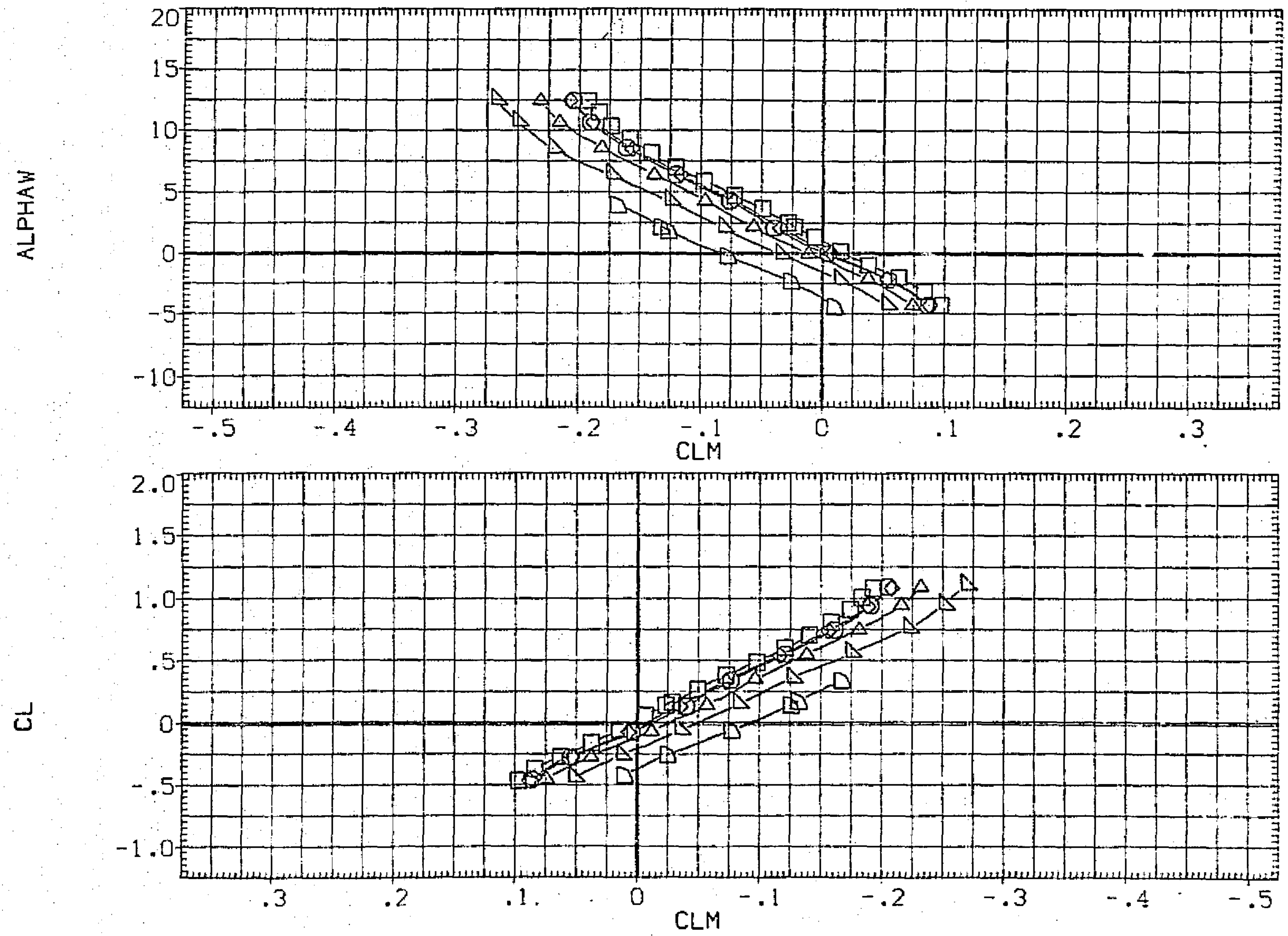



FIG. 38 LATERAL-DIRECTIONAL STABILITY OF LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP087) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.850 | -4.000 | 6.000 |
| (RGP084) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.840 | .000 | 6.000 |
| (RGP089) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.850 | 2.000 | 6.000 |
| (RGP088) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.850 | 4.000 | 6.000 |
| (RGP090) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.850 | 6.000 | 6.000 |
| (RGP091) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.850 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

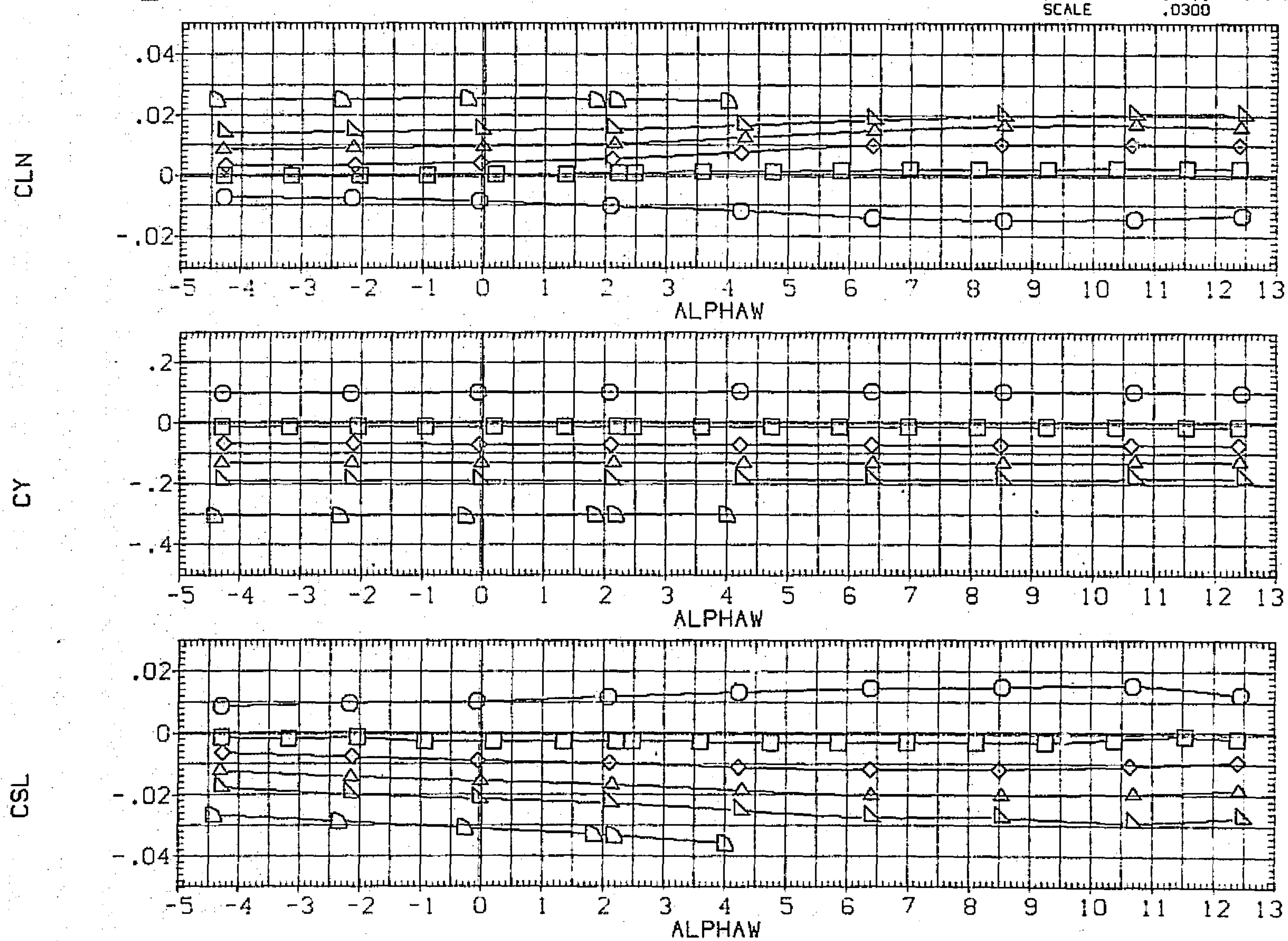


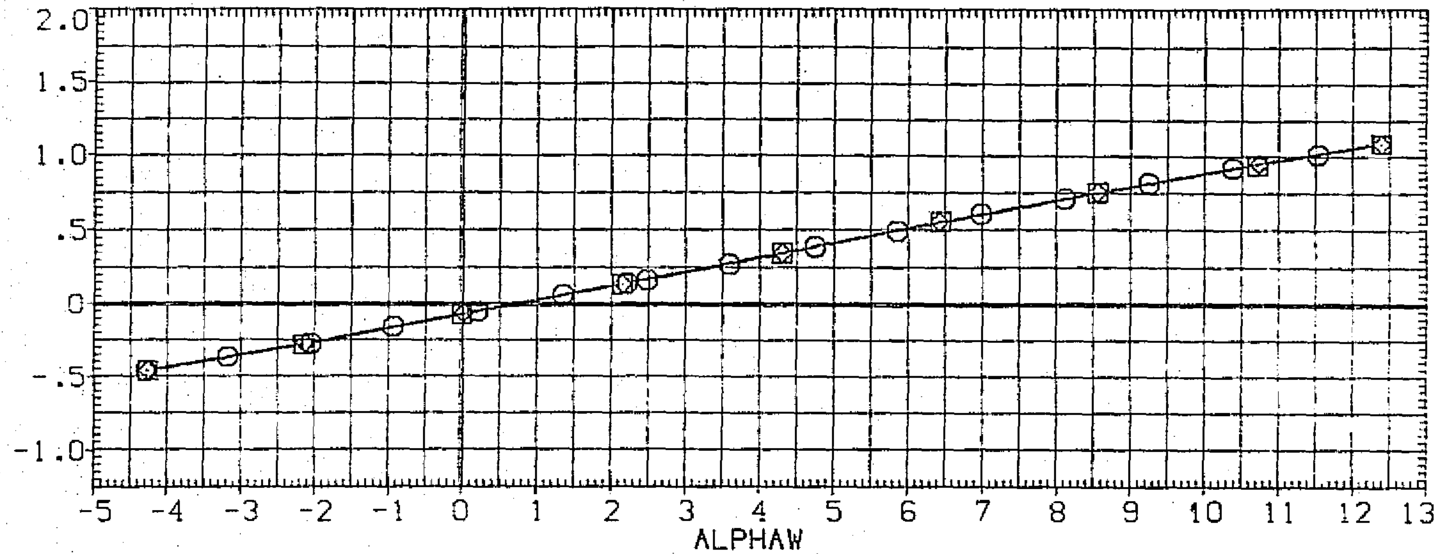

FIG. 38 LATERAL-DIRECTIONAL STABILITY OF LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP084) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | .000 | .000 | 4.840 | .000 |
| (RGP092) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 3.000 | 3.000 | 4.850 | .000 |
| (RGP093) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 10.000 | 10.000 | 4.850 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0[illegible]00 | |



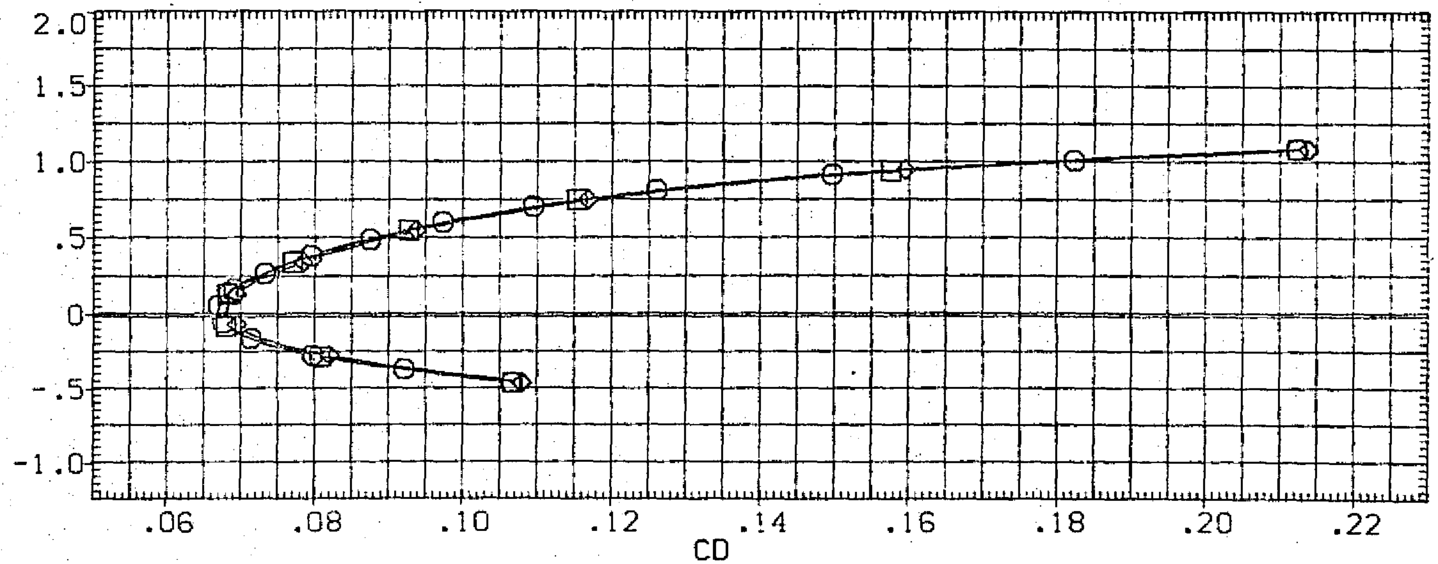




FIG. 39 RUDDER EFFECTIVENESS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP084) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | .000 | .000 | 4.840 | .000 |
| (RGP092) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 3.000 | 3.000 | 4.850 | .000 |
| (RGP093) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 10.000 | 10.000 | 4.850 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

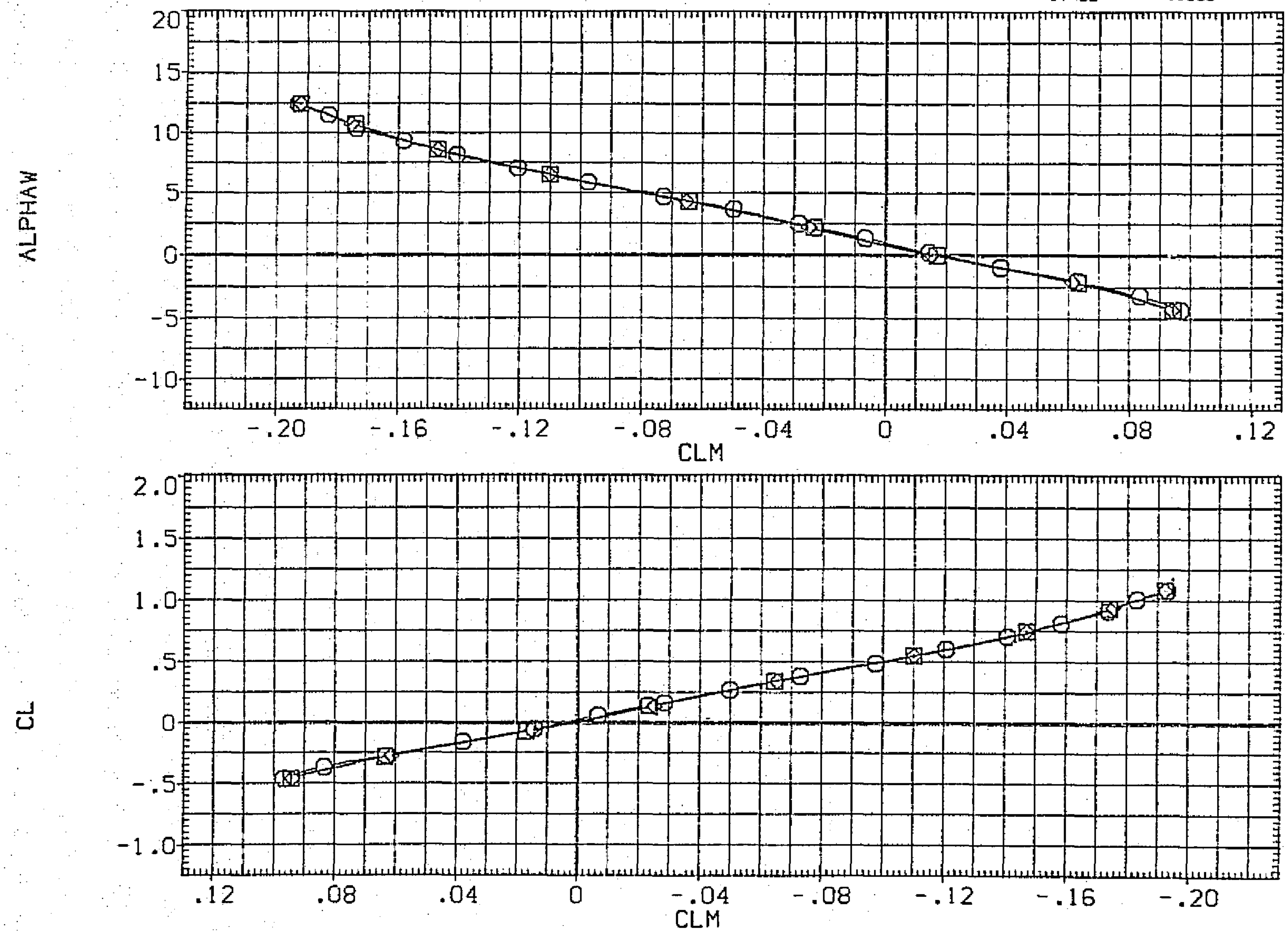



FIG. 39 RUDDER EFFECTIVENESS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP084) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | .000 | .000 | 4.840 | .000 |
| (RGP092) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 3.000 | 3.000 | 4.850 | .000 |
| (RGP093) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 10.000 | 10.000 | 4.850 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

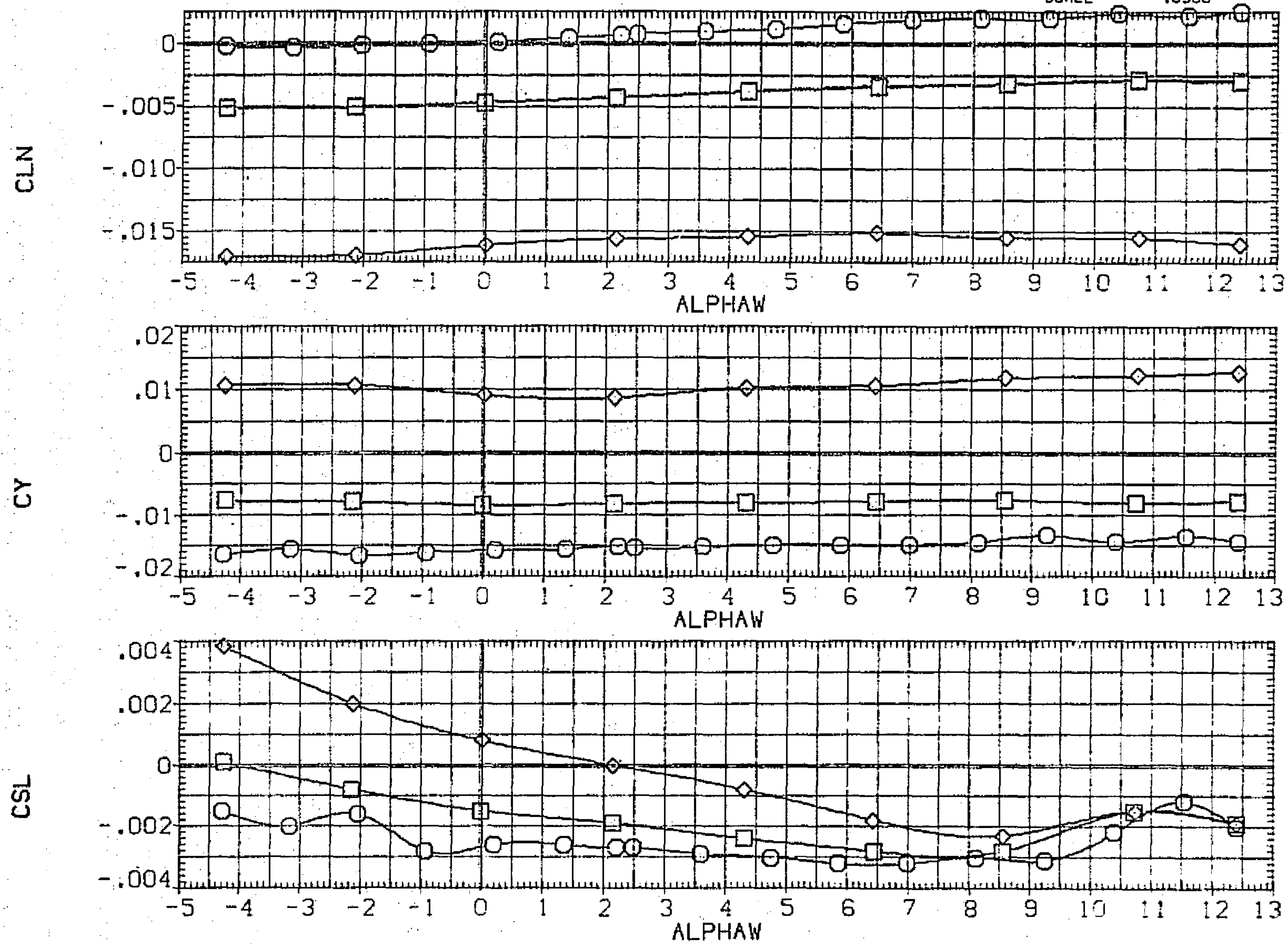



FIG. 39 RUDDER EFFECTIVENESS ON LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|---|---|
| (RGP095) | ○ | CA6 | K2H15.1 | S1-12 AT103.1/105 | ORB | TC4 | 4.790 | -4.000 | 6.000 |
| (RGP094) | □ | CA6 | K2H15.1 | S1-12 AT103.1/105 | ORB | TC4 | 4.790 | .000 | 6.000 |
| (RGP096) | ◇ | CA6 | K2H15.1 | S1-12 AT103.1/105 | ORB | TC4 | 4.790 | 4.000 | 6.000 |
| (RGP097) | △ | CA6 | K2H15.1 | S1-12 AT103.1/105 | ORB | TC4 | 4.790 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

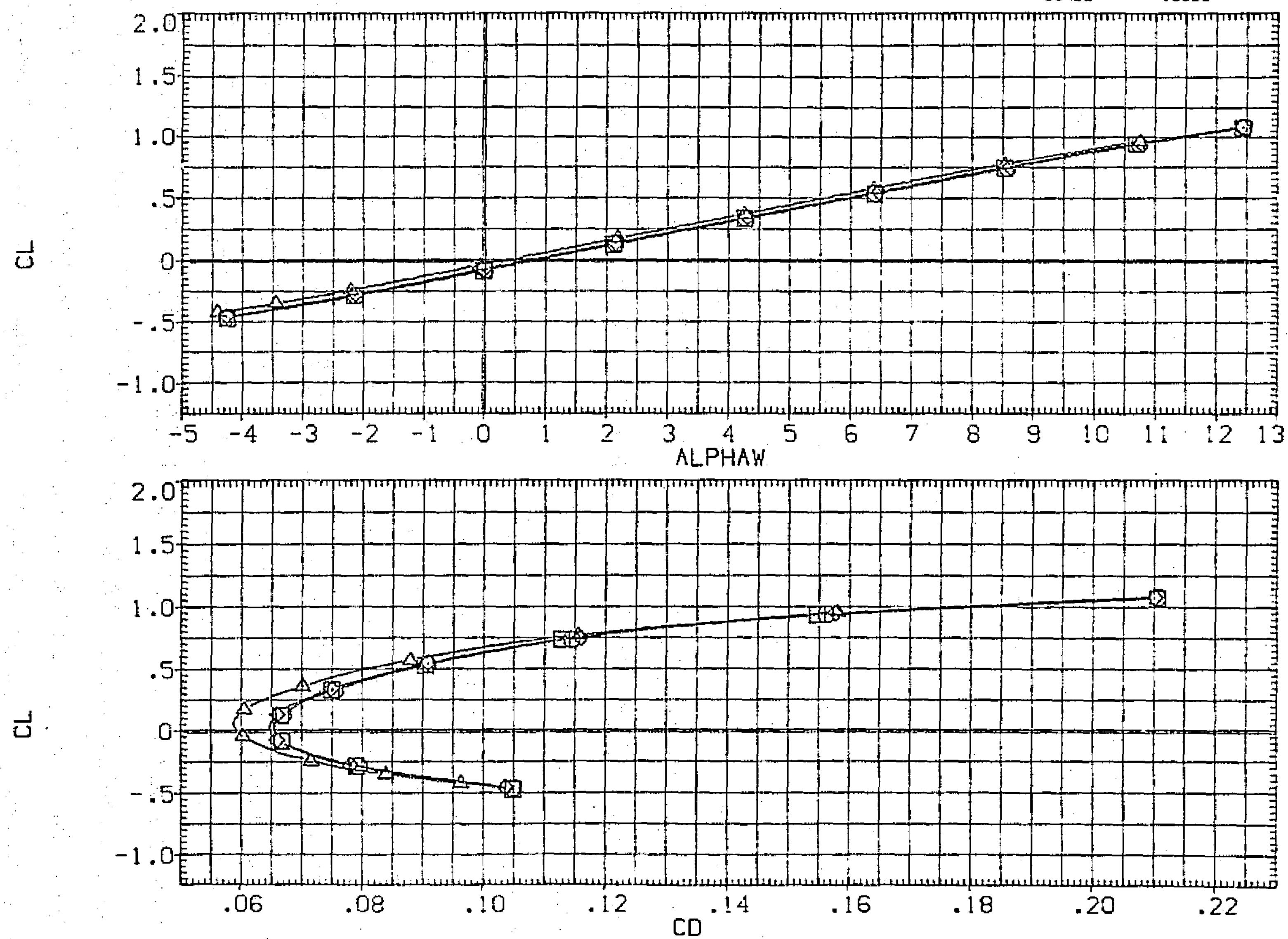



FIG. 40 EFFECT OF SIDESLIP, ALL VERTICAL TAILS OFF, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP095) | ○ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | -4.000 | 6.000 |
| (RGP094) | □ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | .000 | 6.000 |
| (RGP096) | ◇ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | 4.000 | 6.000 |
| (RGP097) | △ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

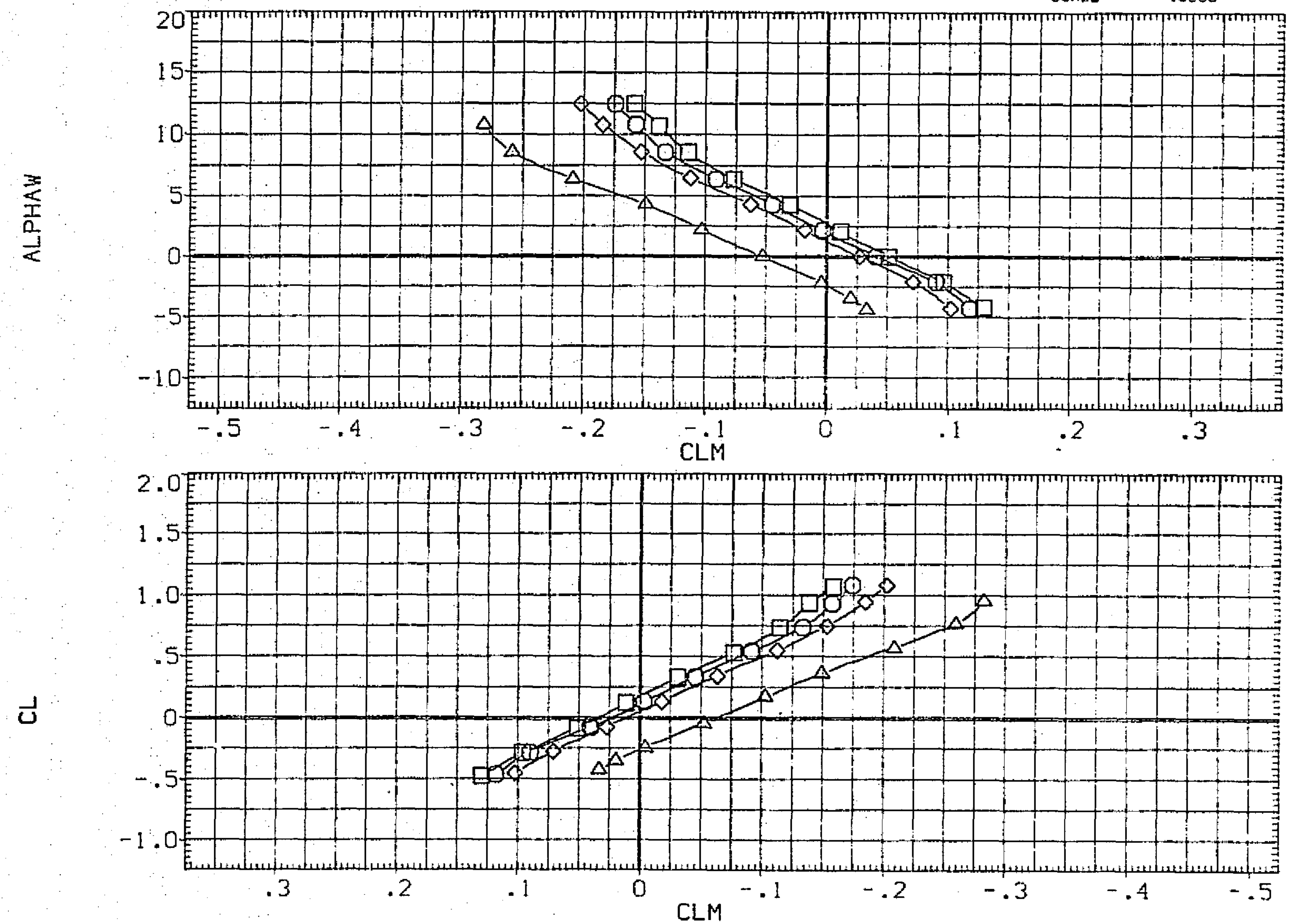



FIG. 40 EFFECT OF SIDESLIP, ALL VERTICAL TAILS OFF, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP095) | ○ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | -4.000 | 6.000 |
| (RGP094) | □ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | .000 | 6.000 |
| (RGP096) | ◇ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | 4.000 | 6.000 |
| (RGP097) | △ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.790 | 10.000 | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

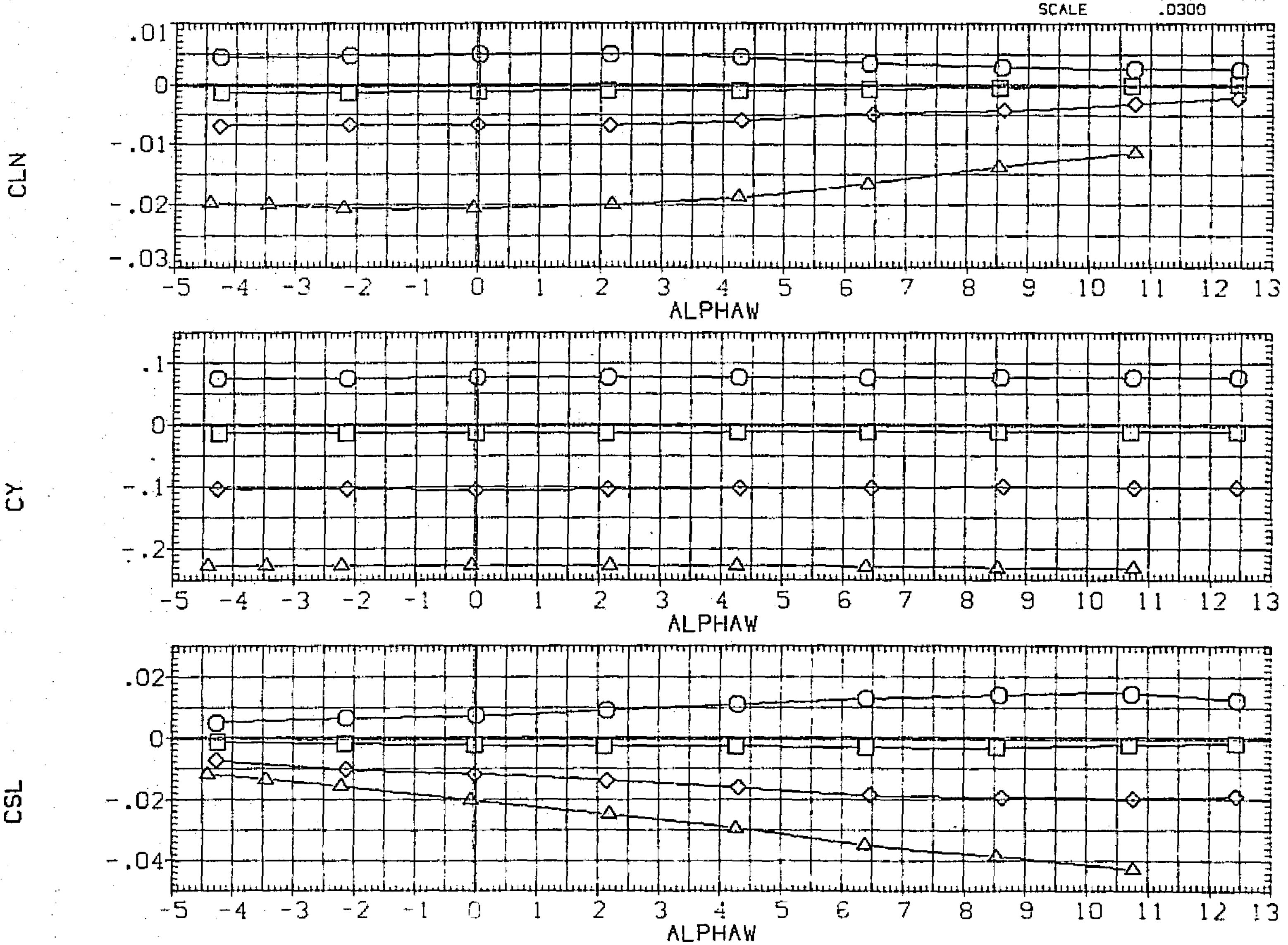



FIG. 40 EFFECT OF SIDESLIP, ALL VERTICAL TAILS OFF, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| [RGP133] | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -.960 | .000 | 4.270 |
| [RGP069] | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| [RGP121] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | -.900 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

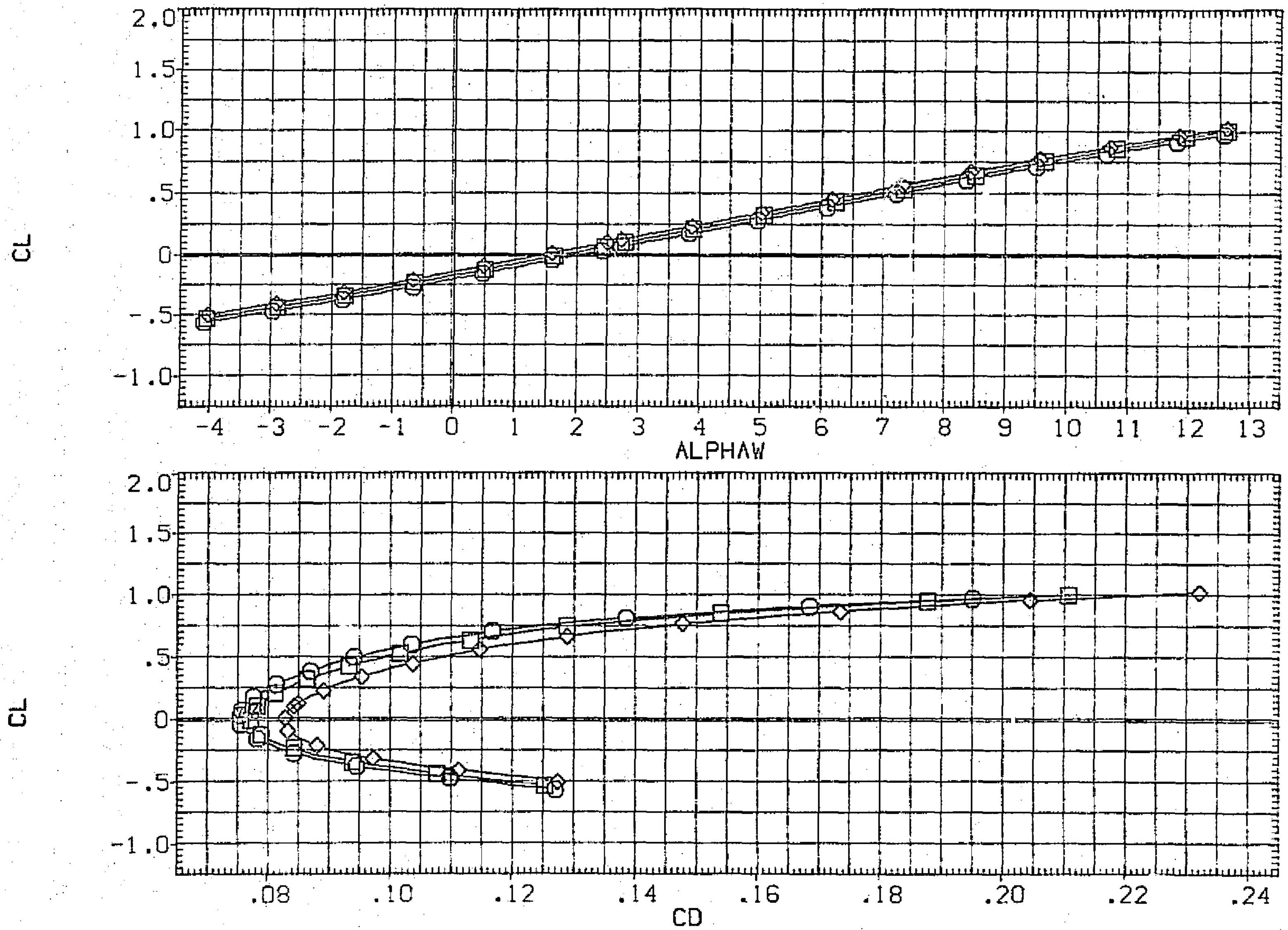



FIG. 41 ORBITER INCIDENCE EFFECTS ON LAUNCH CONFIGURATION, SPOILER -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP133) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/S5-.30RBF8N24/28 | -.960 | .000 | 4.270 |
| (RGP069) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP121) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 0RBF8N24/28 | -.900 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

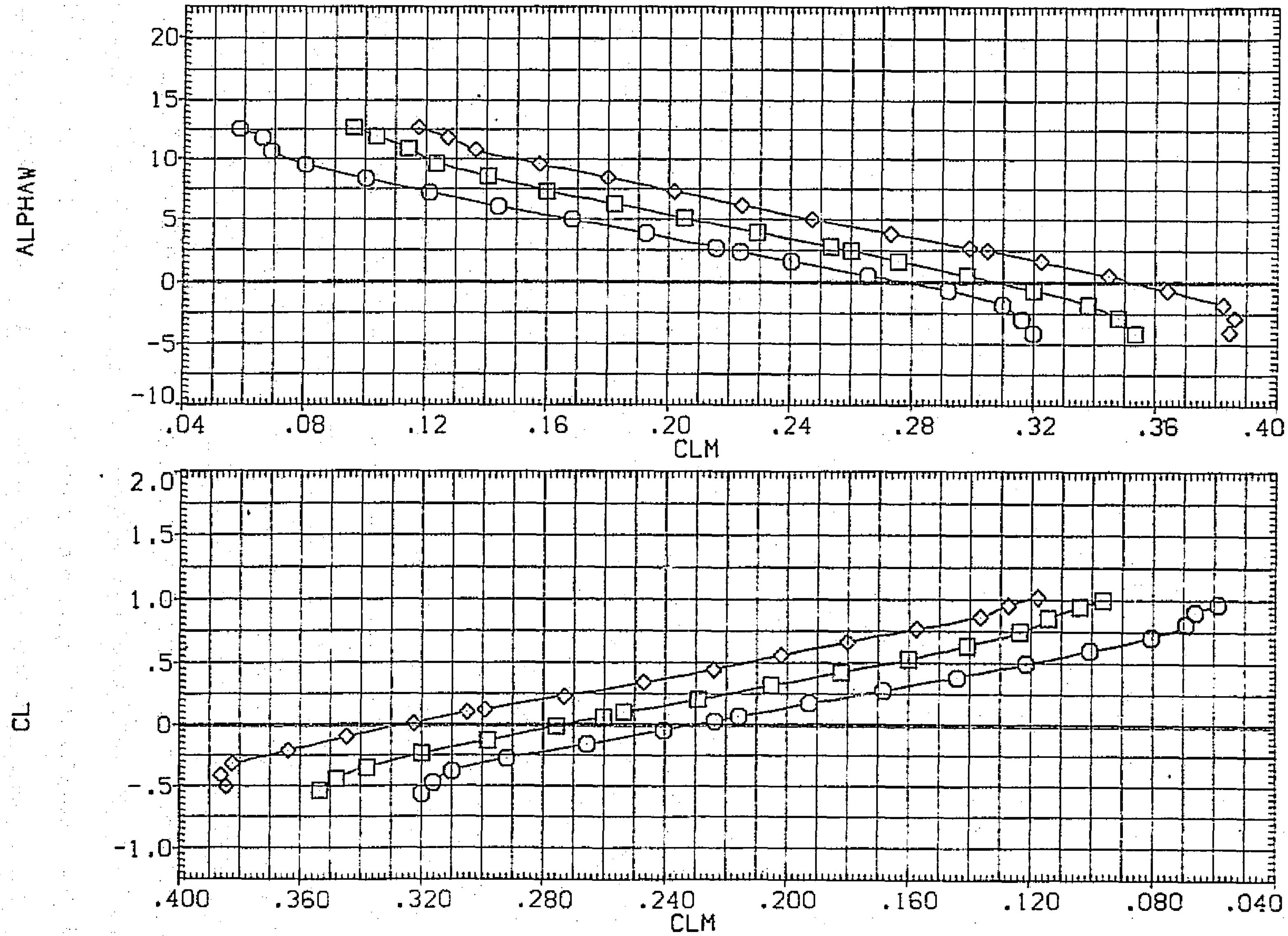



FIG. 41 ORBITER INCIDENCE EFFECTS ON LAUNCH CONFIGURATION, SPOILER -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP133) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | -.960 | .000 | 4.270 |
| (RGP069) | □ | CA6 K2H15.6.1V9.151-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP121) | ◇ | CA6 K2H15.6.1V9.151-12 AT112 /95 ORBF8N24/28 | -.900 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

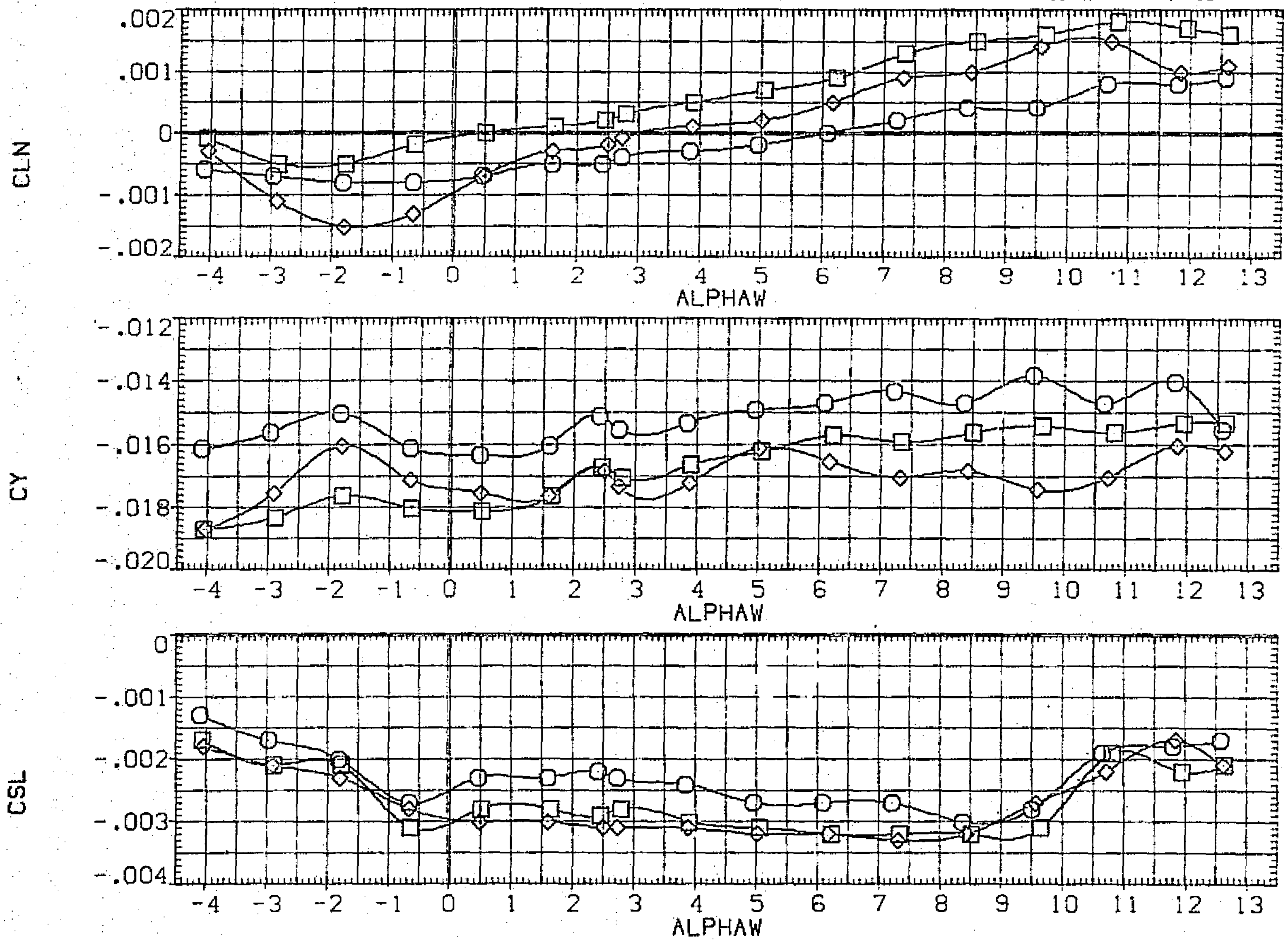



FIG. 41 ORBITER INCIDENCE EFFECTS ON LAUNCH CONFIGURATION, SPOILER -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP108) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP109) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP116) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.750 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

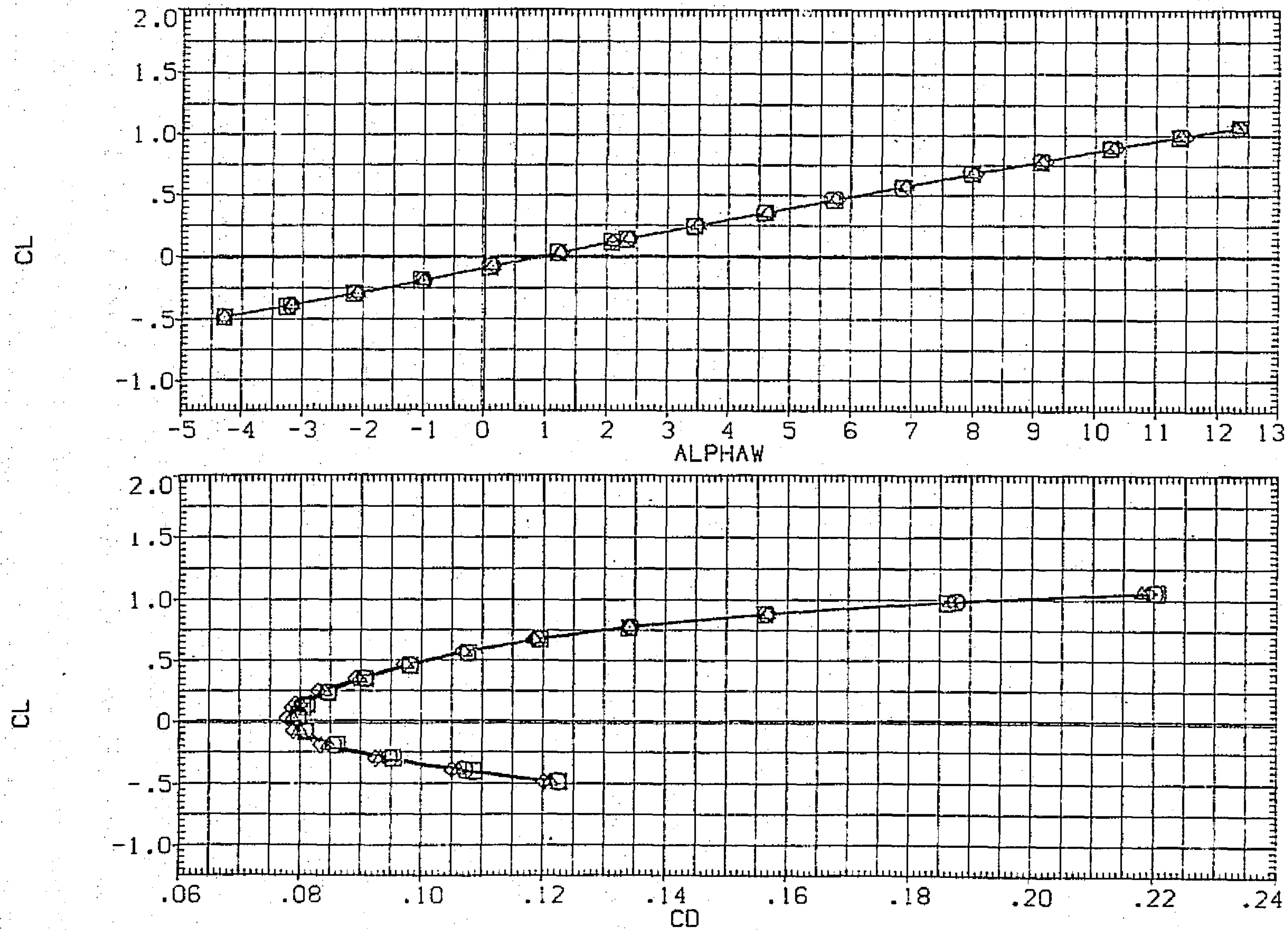


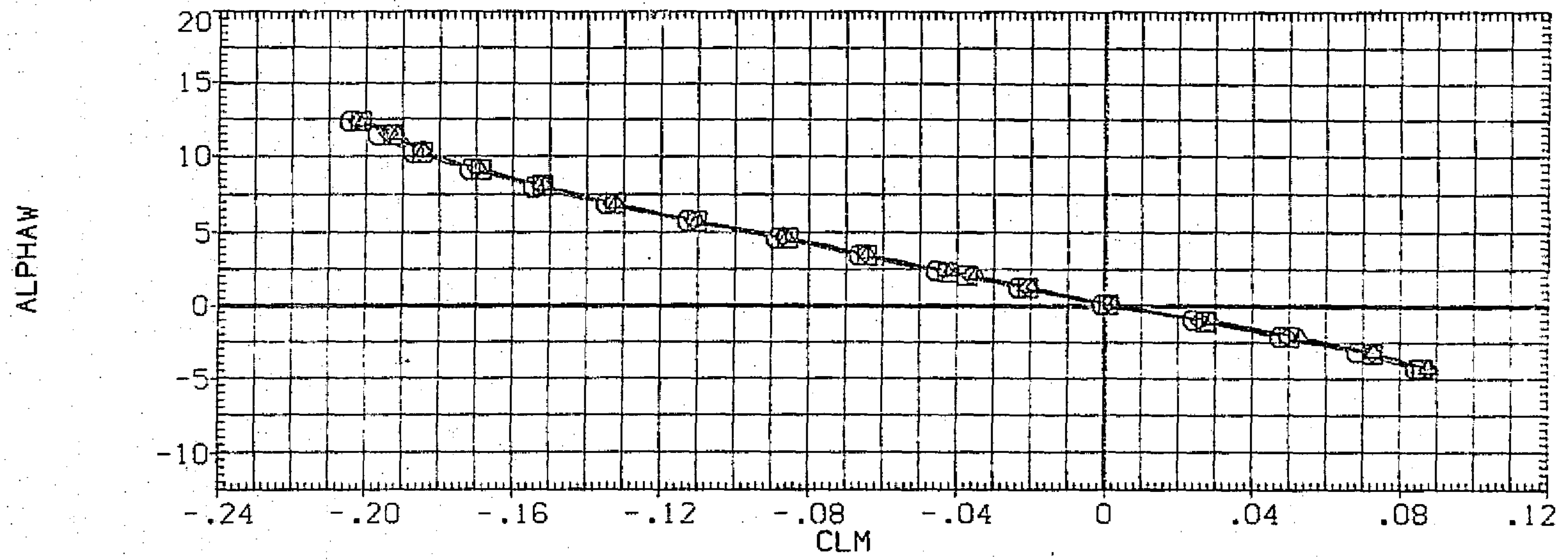

FIG. 42 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP108) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP109) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP116) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.750 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



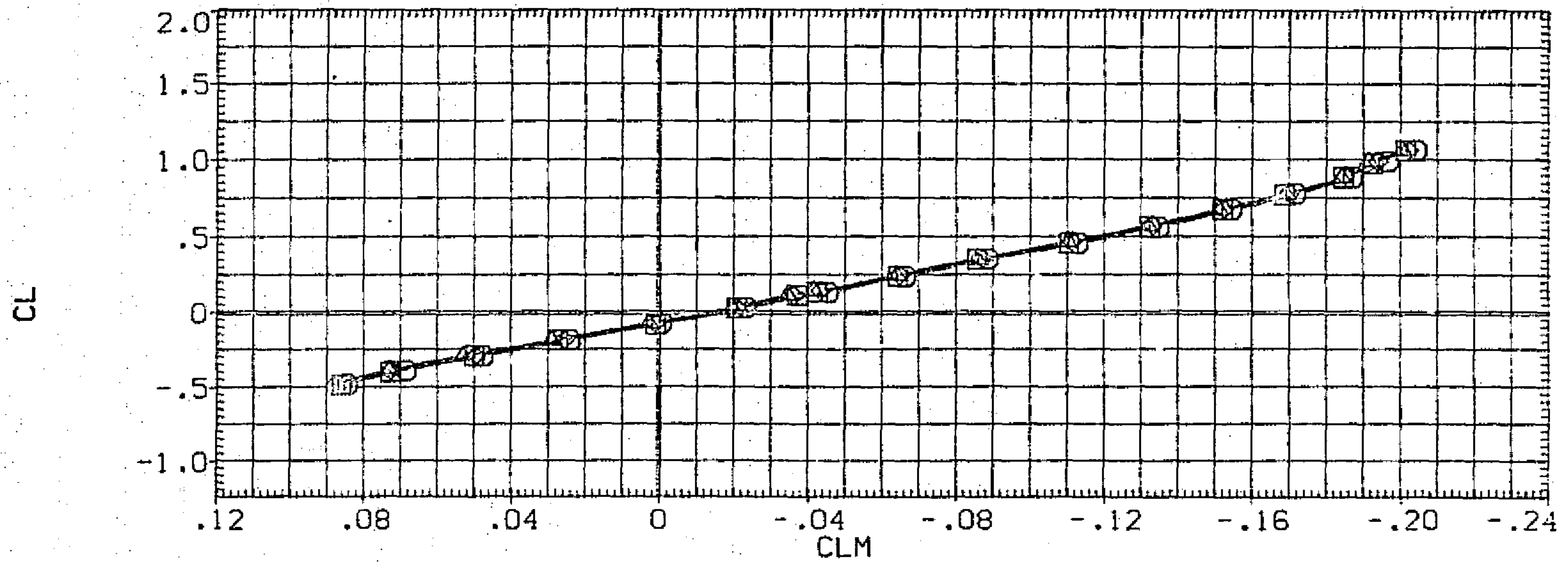




FIG. 42 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP108) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP109) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP116) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.750 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

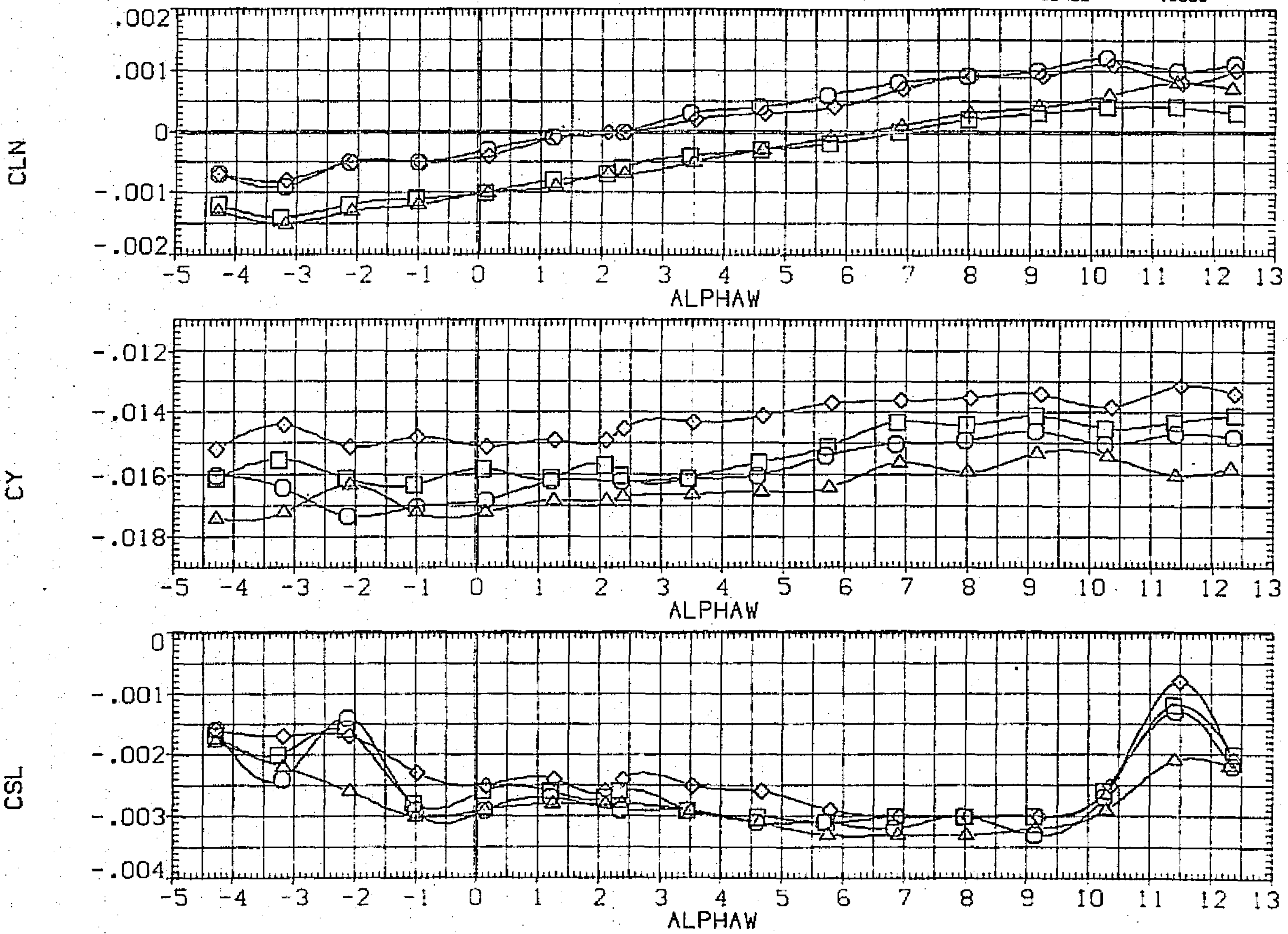



FIG. 42 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP108) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP109) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP116) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.750 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

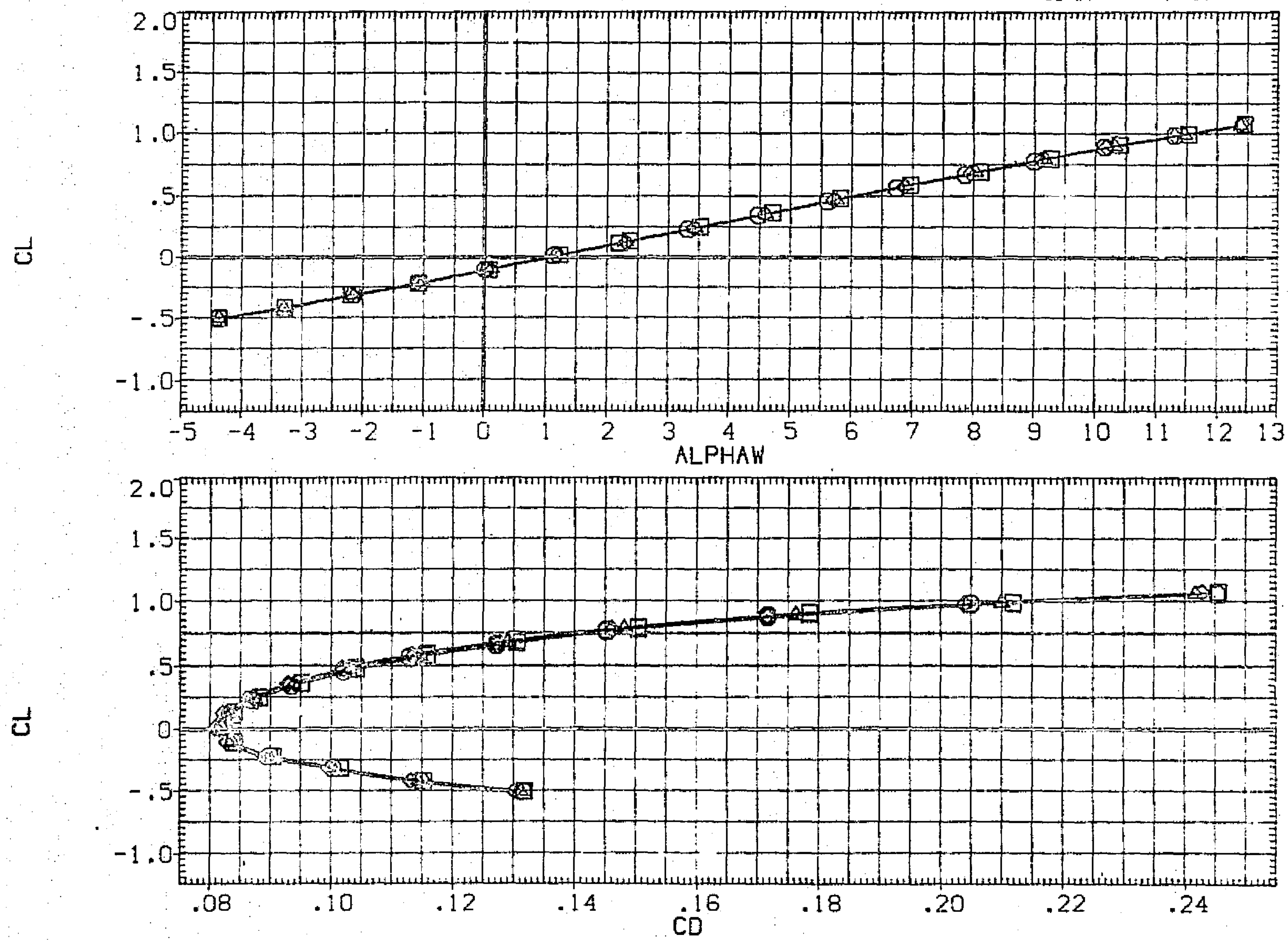



FIG. 42 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 0

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP059) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP108) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP109) | ⧖ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP116) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.750 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

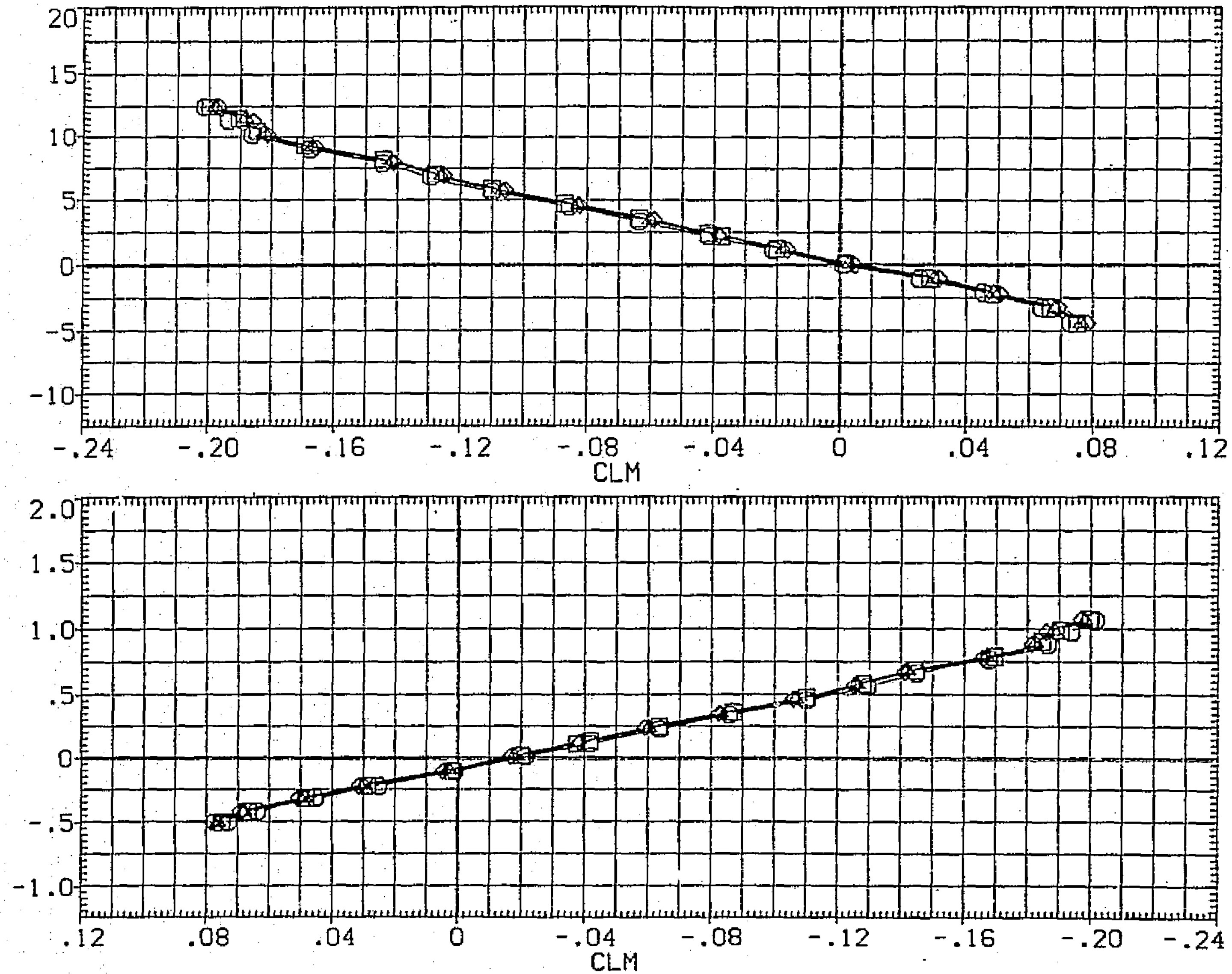



FIG. 42 ØRB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 0

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| [RGP059] | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| [RGP108] | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| [RGP109] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| [RGP116] | △ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.750 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

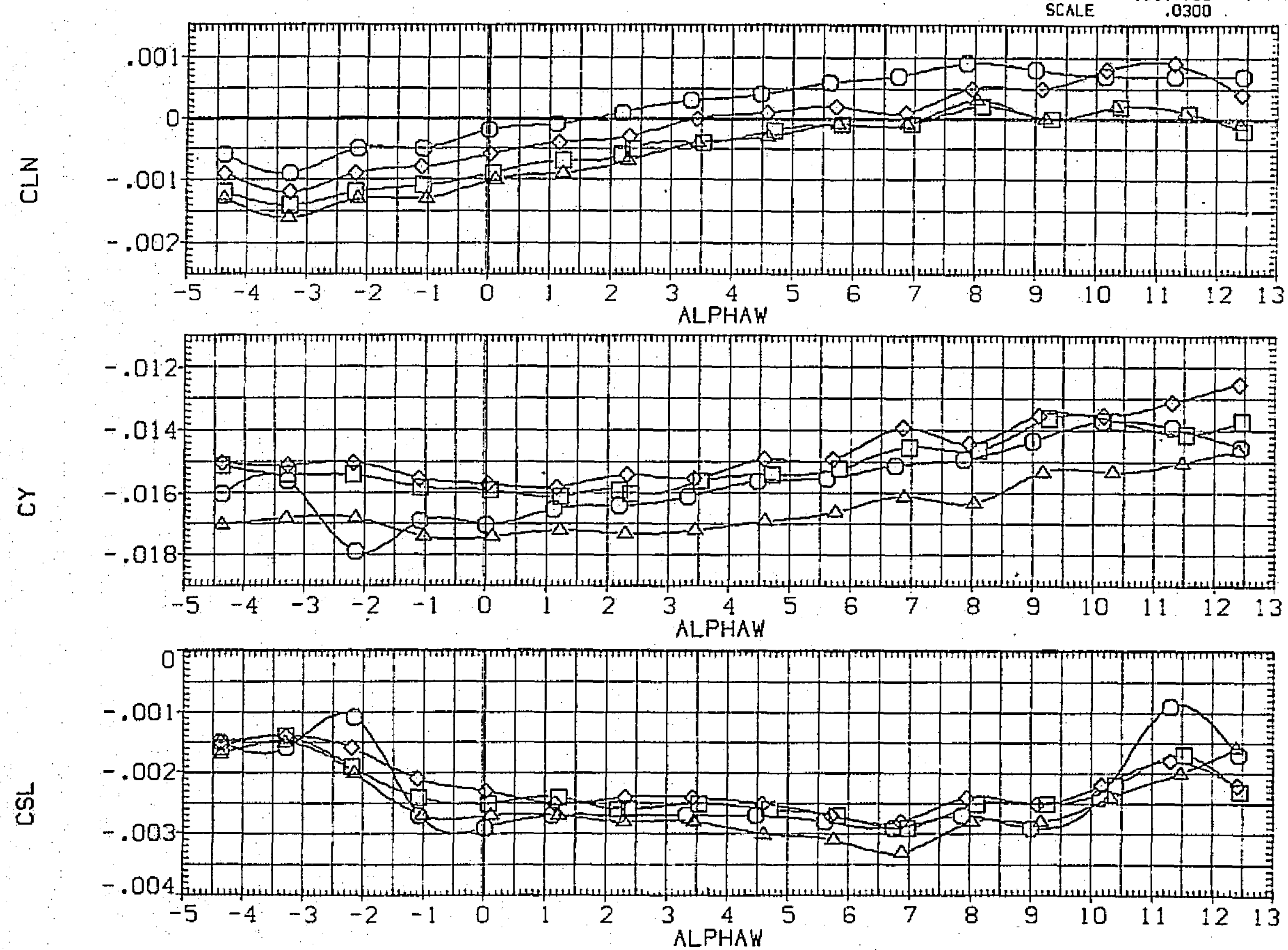



FIG. 42 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 0

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP054) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 4.890 | 4.000 | 6.000 |
| (RGP114) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBFBN24/28 | 4.770 | 4.000 | 6.000 |
| (RGP115) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBFBN24/28 | 4.770 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

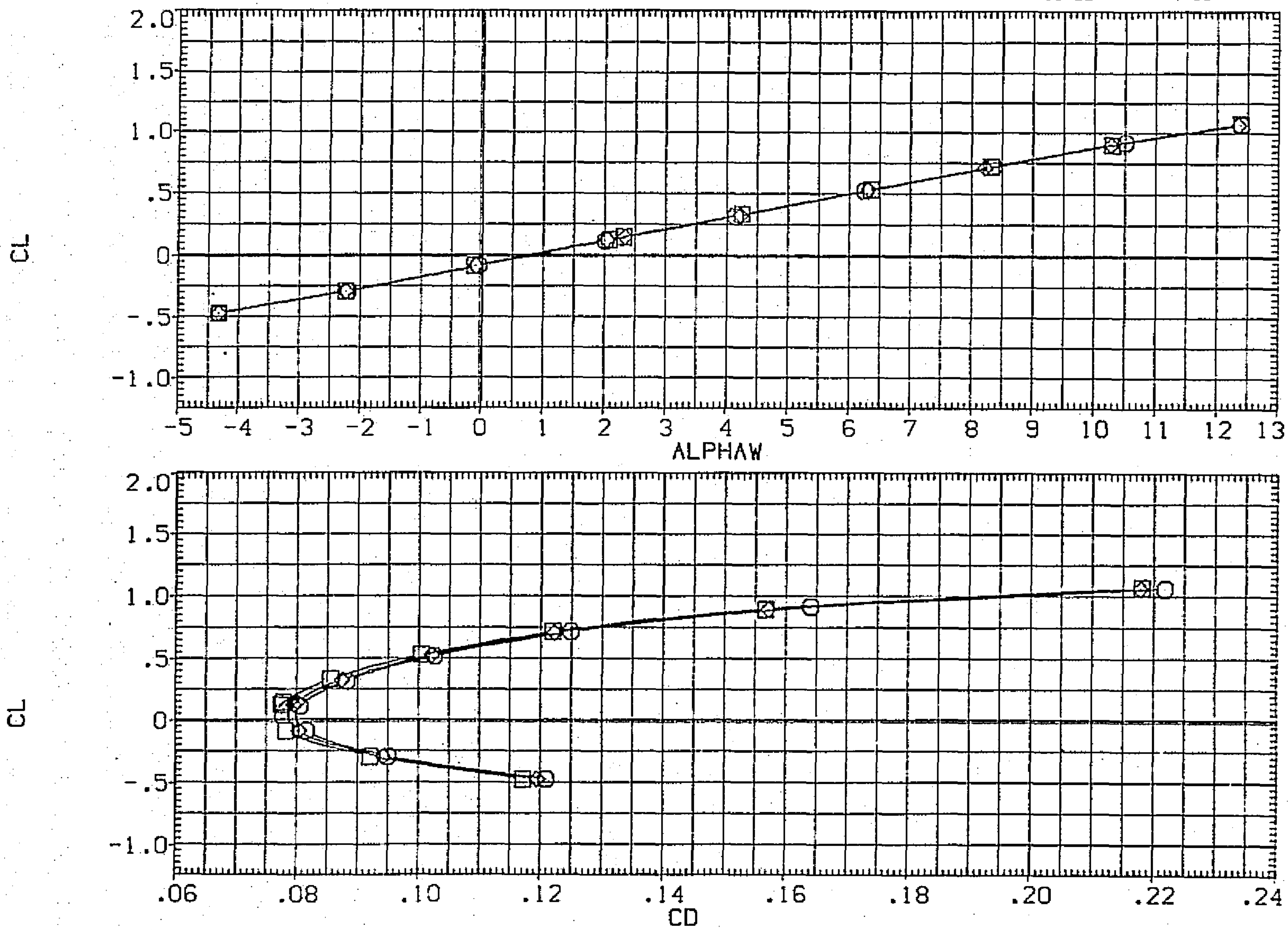



FIG. 43 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 4

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP054) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP114) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP115) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

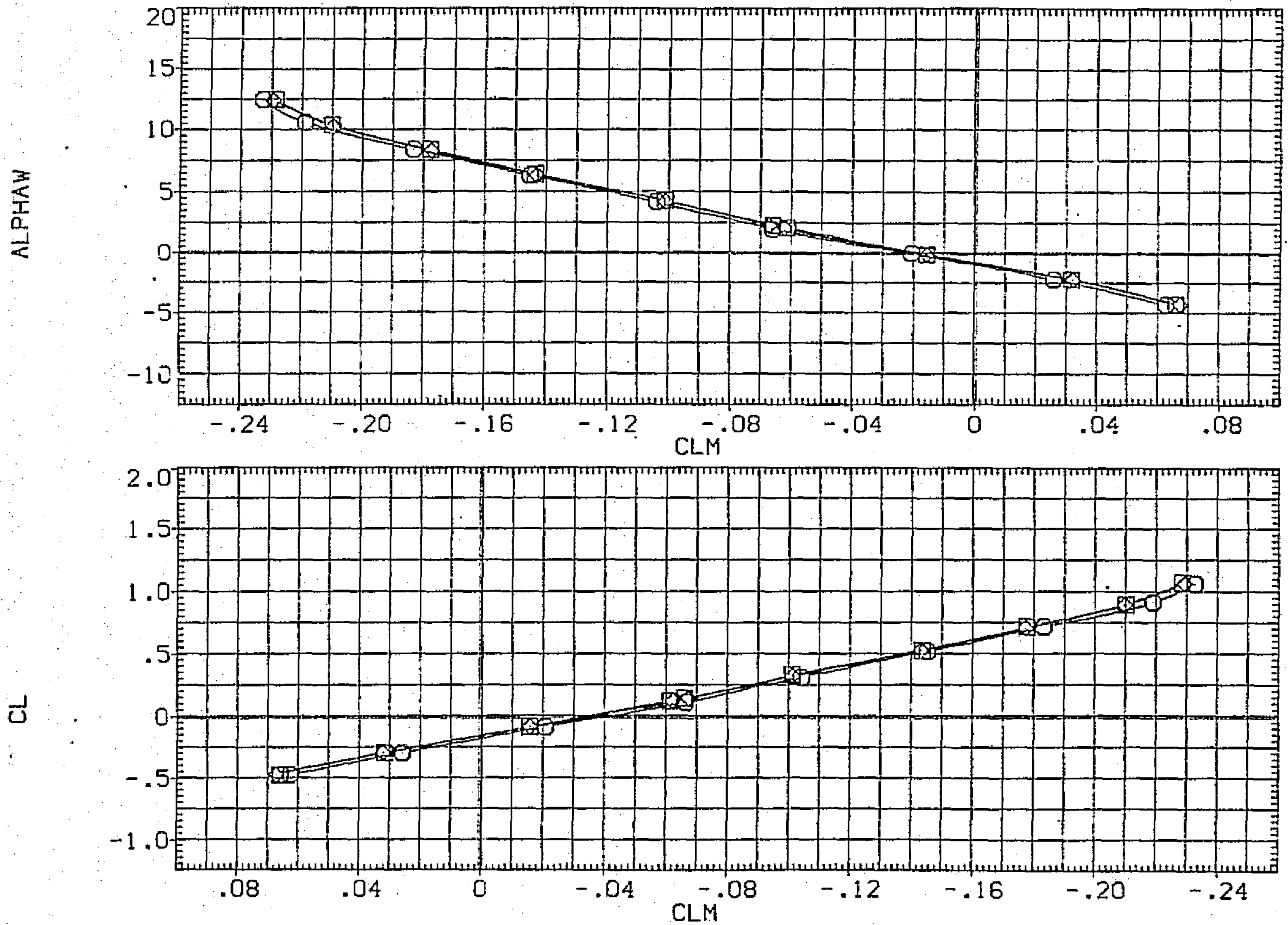



FIG. 43 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 4

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP054) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP114) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP115) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

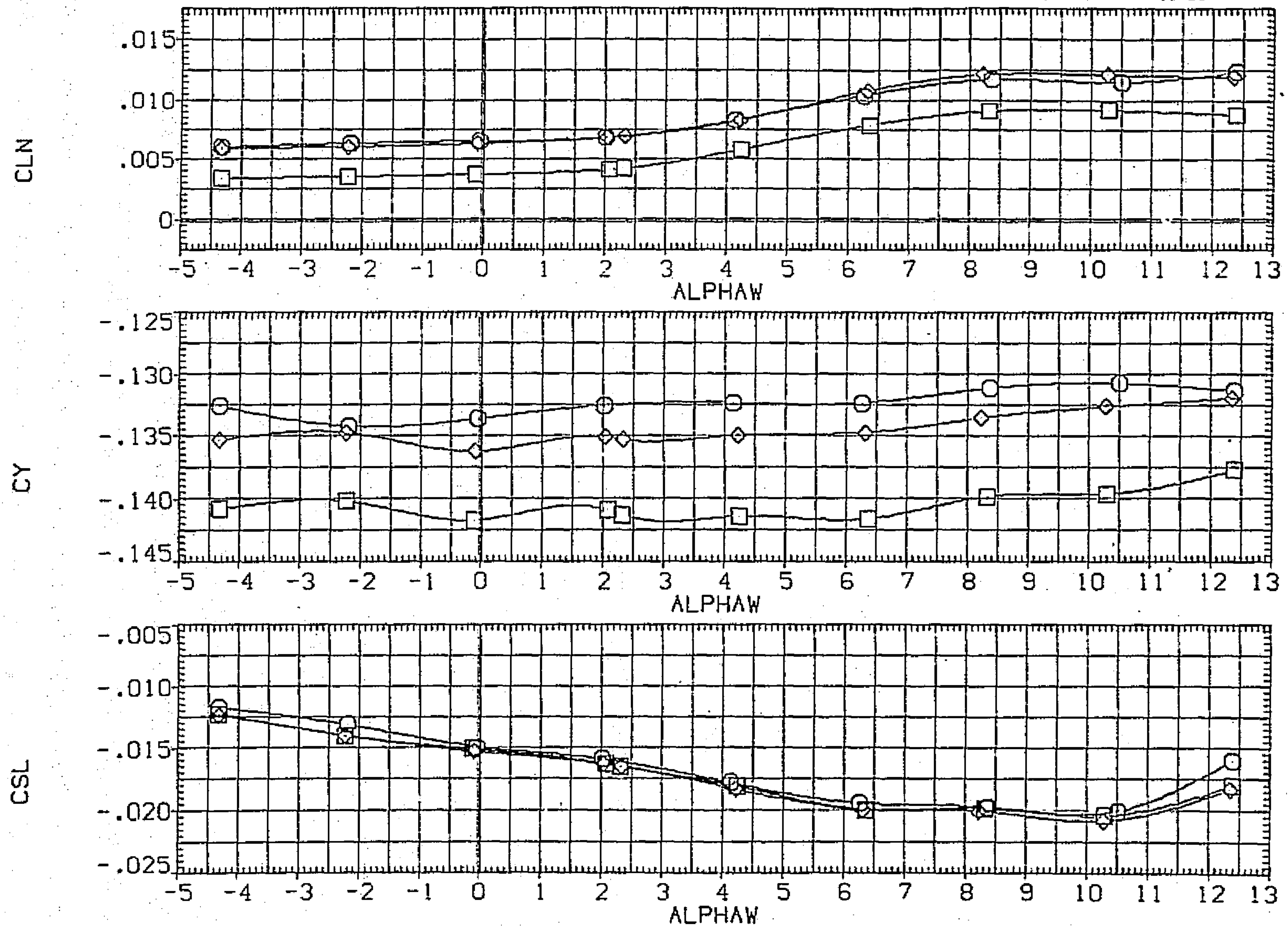



FIG. 43 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 4

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP054) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP114) | □ | CA6 K2H15.6.IV9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP115) | ◇ | CA6 K2H15.6.IV9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

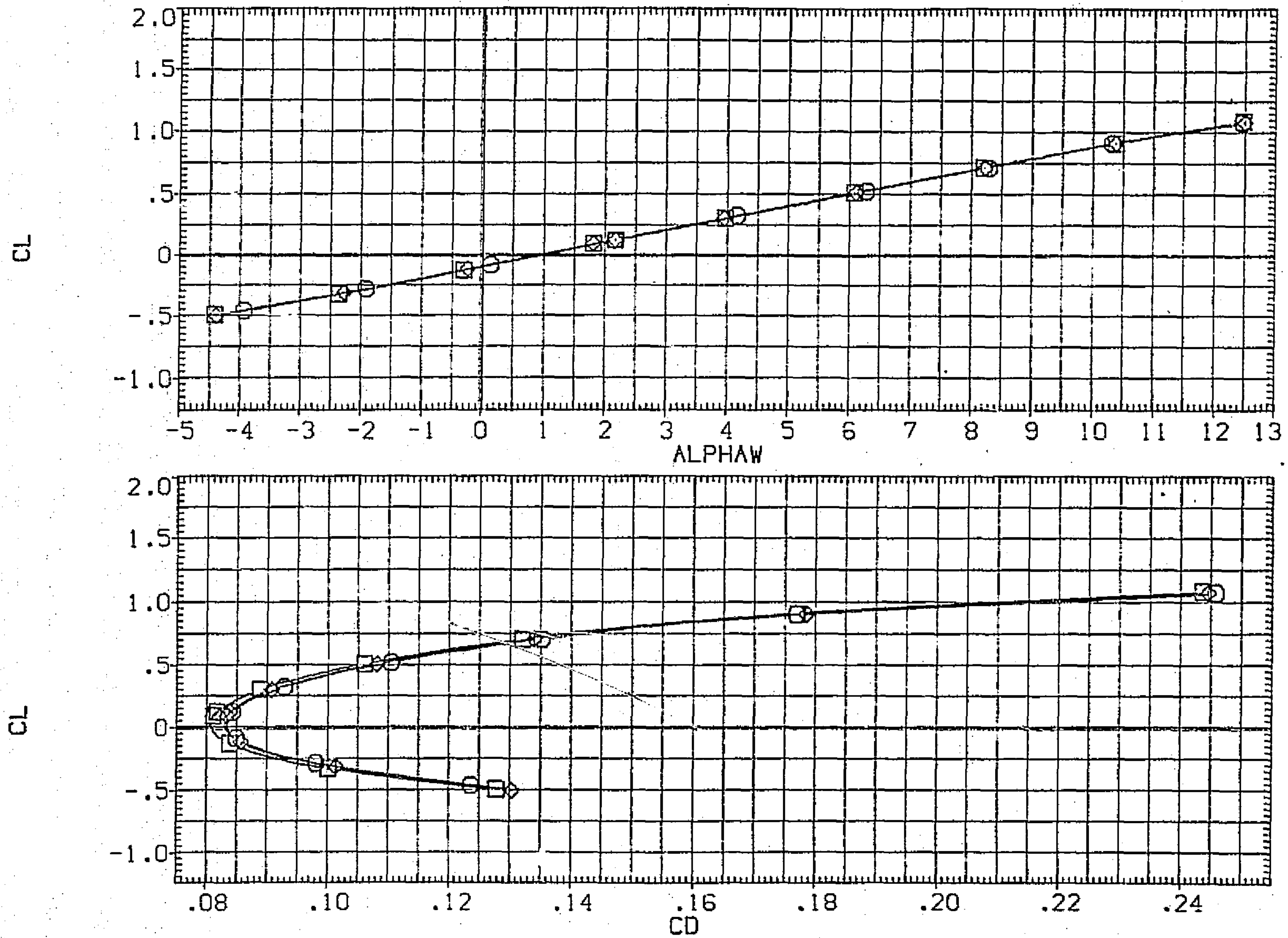


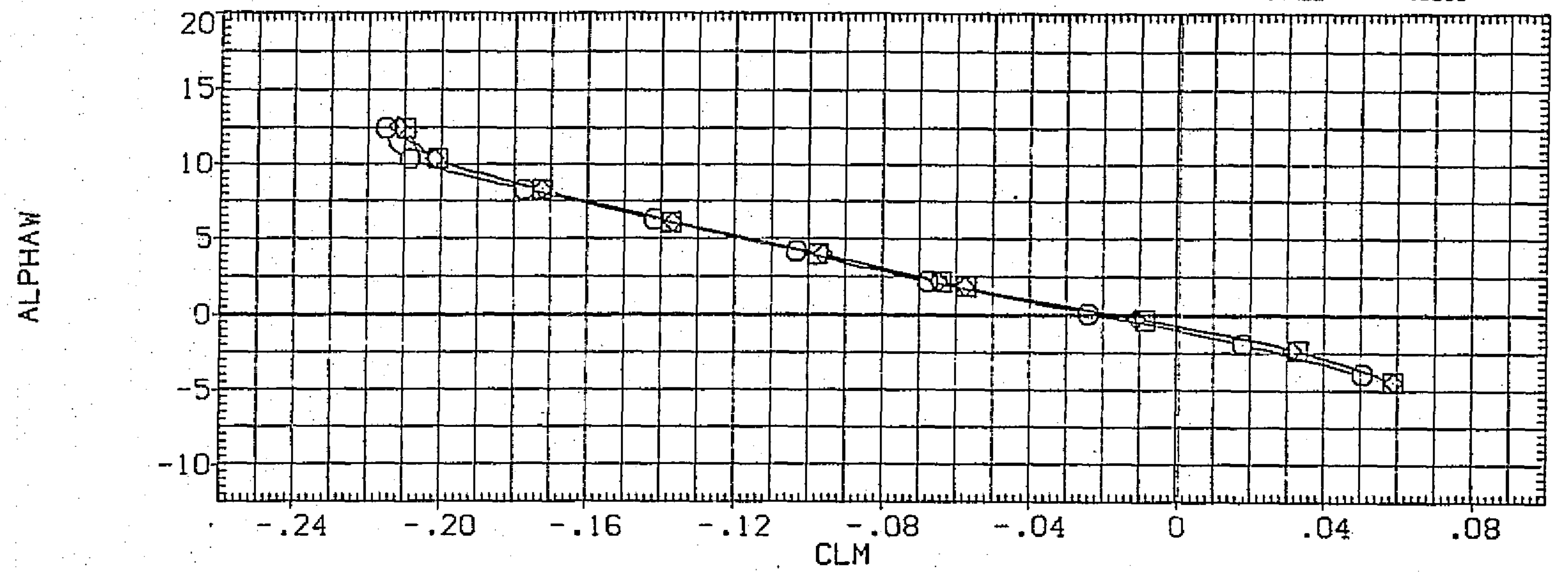

FIG. 43 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 4

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP054) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP114) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP115) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



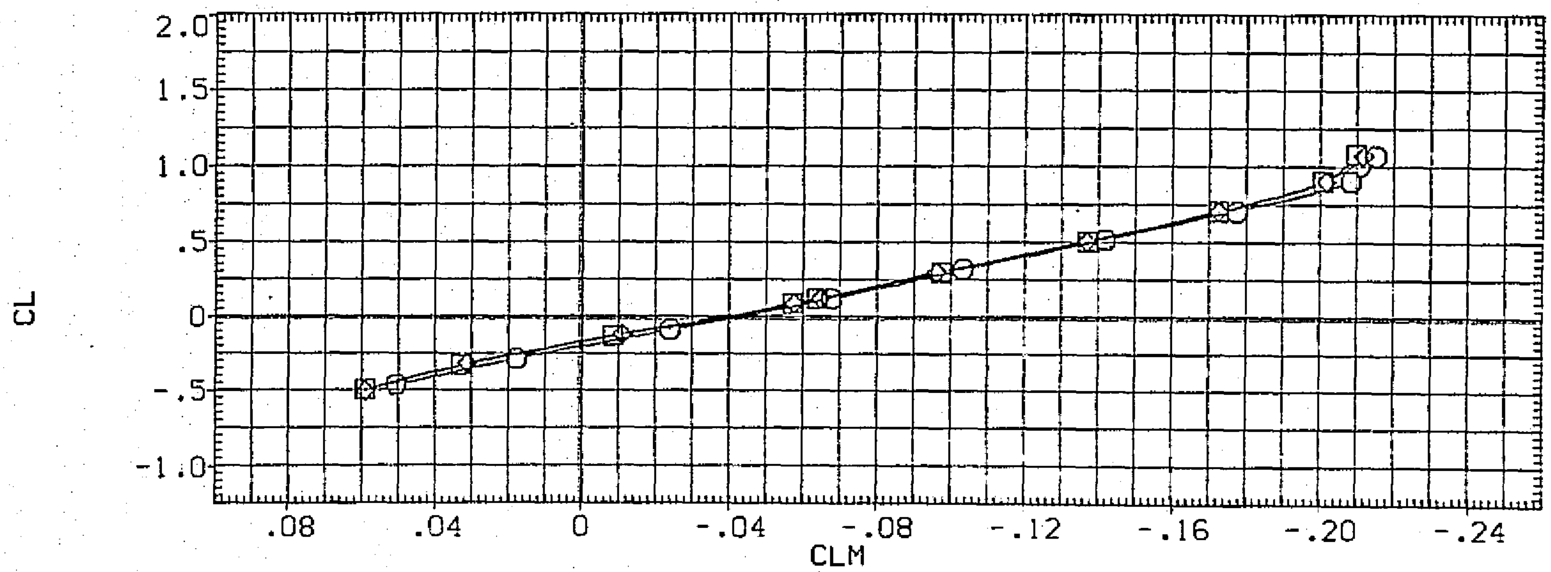




FIG. 43 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 4

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP054) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | 4.000 | 6.000 |
| (RGP114) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP115) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

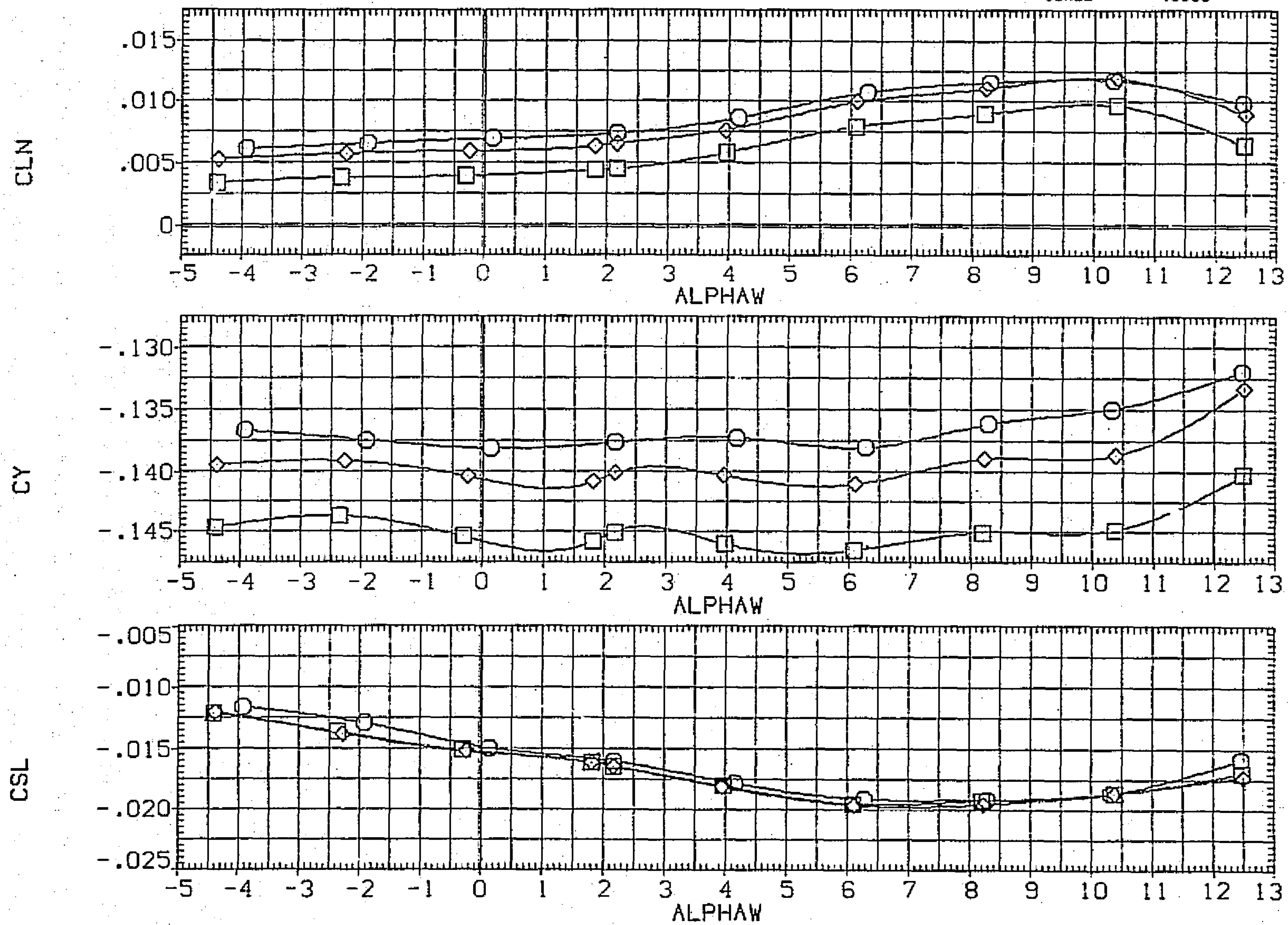



FIG. 43 ORB. FWD. STRUT TRADES, LAUNCH CONFIG., AFT STRUT CA23, BETA 4

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP081) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | 4.840 | .000 | 6.000 |
| (RGP083) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.40RB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

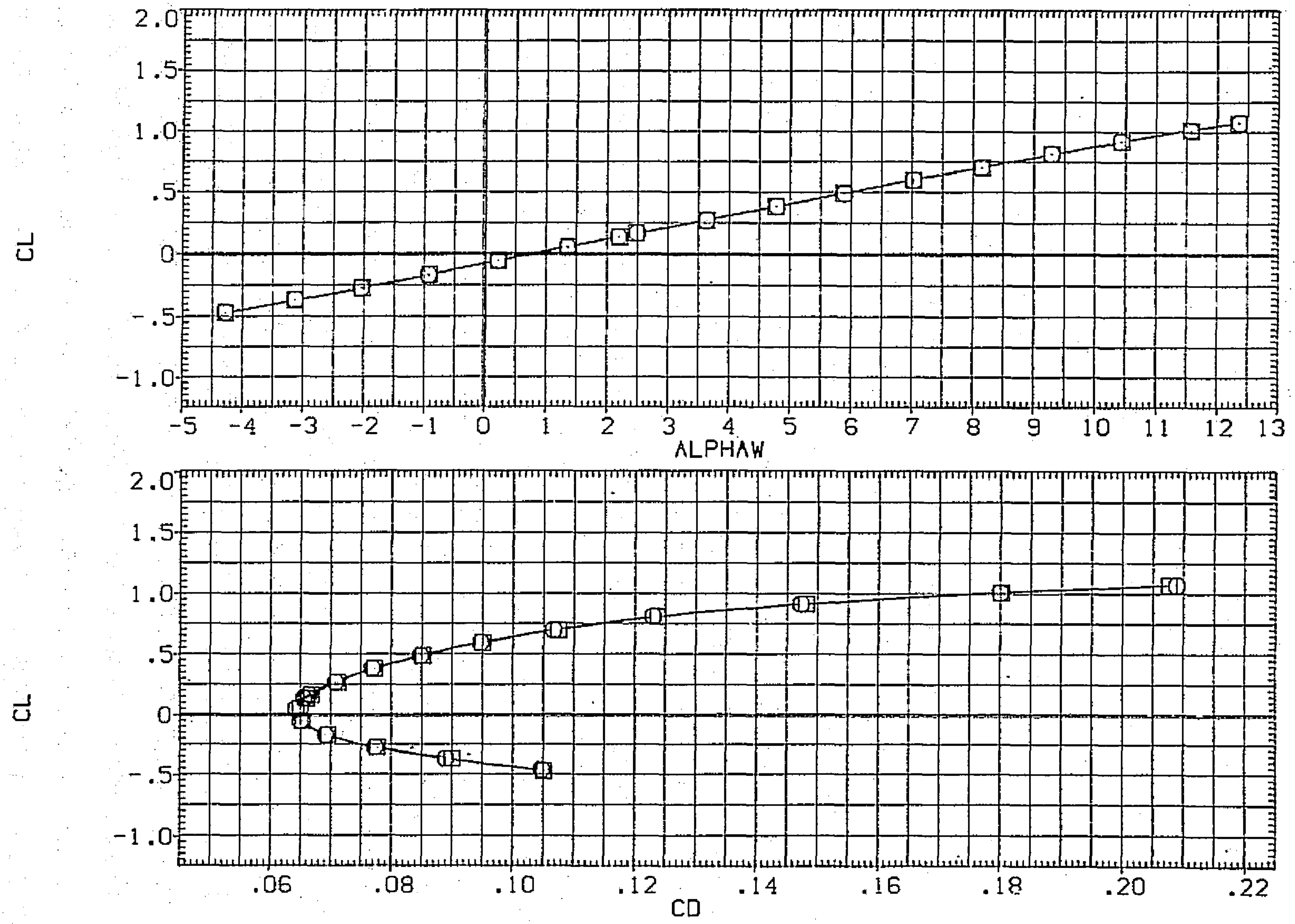



FIG. 44 EFFECT OF SIDE STRUT FAIRINGS ON LAUNCH CONFIG., CA23 AFT STRUT

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP081) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95-.30RB TC4 | 4.840 | .000 | 6.000 |
| (RGP083) | □ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95-.40RB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

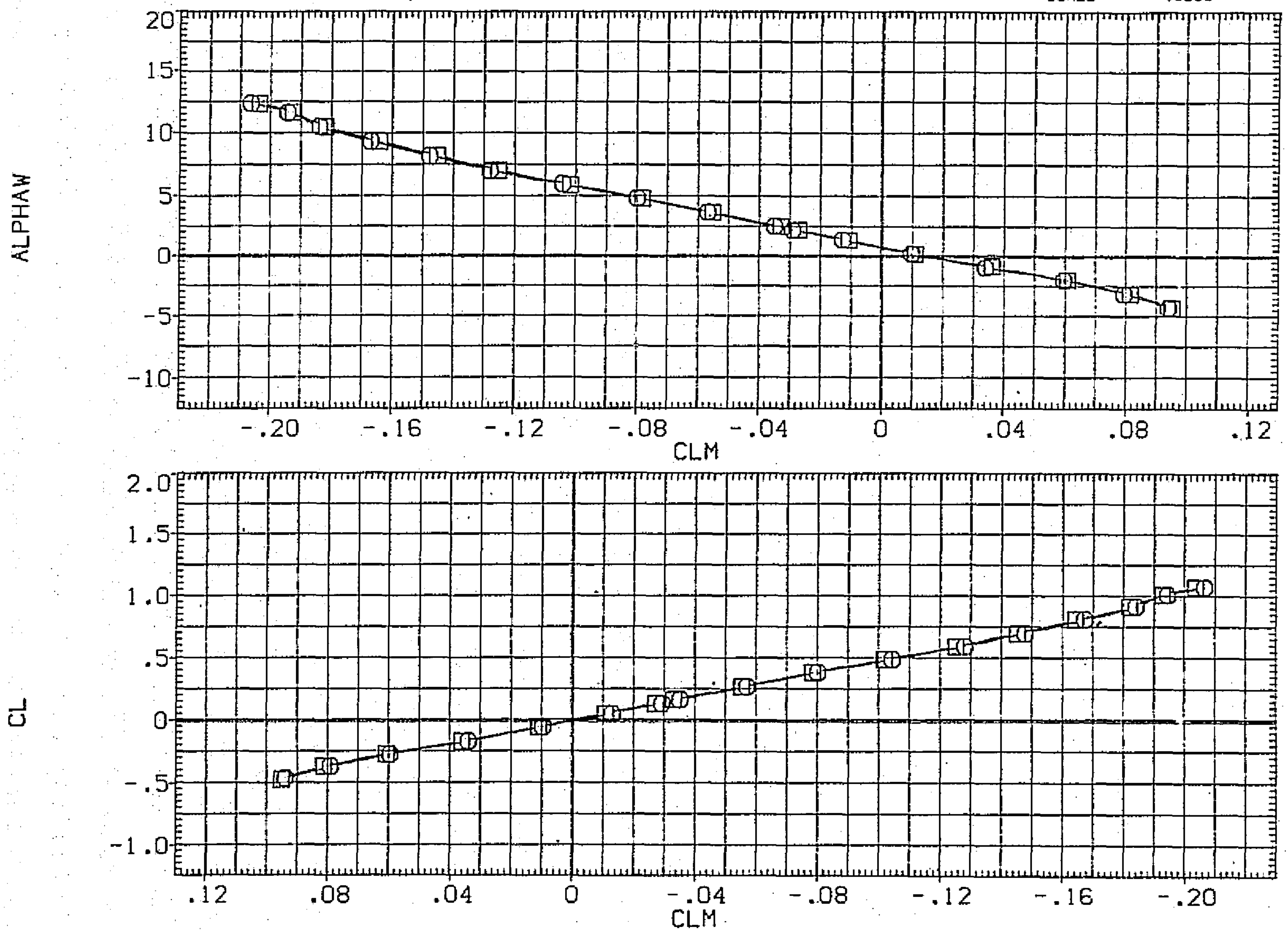



FIG. 44 EFFECT OF SIDE STRUT FAIRINGS ON LAUNCH CONFIG., CA23 AFT STRUT

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP081) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | 4.840 | .000 | 6.000 |
| (RGP083) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.40RB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

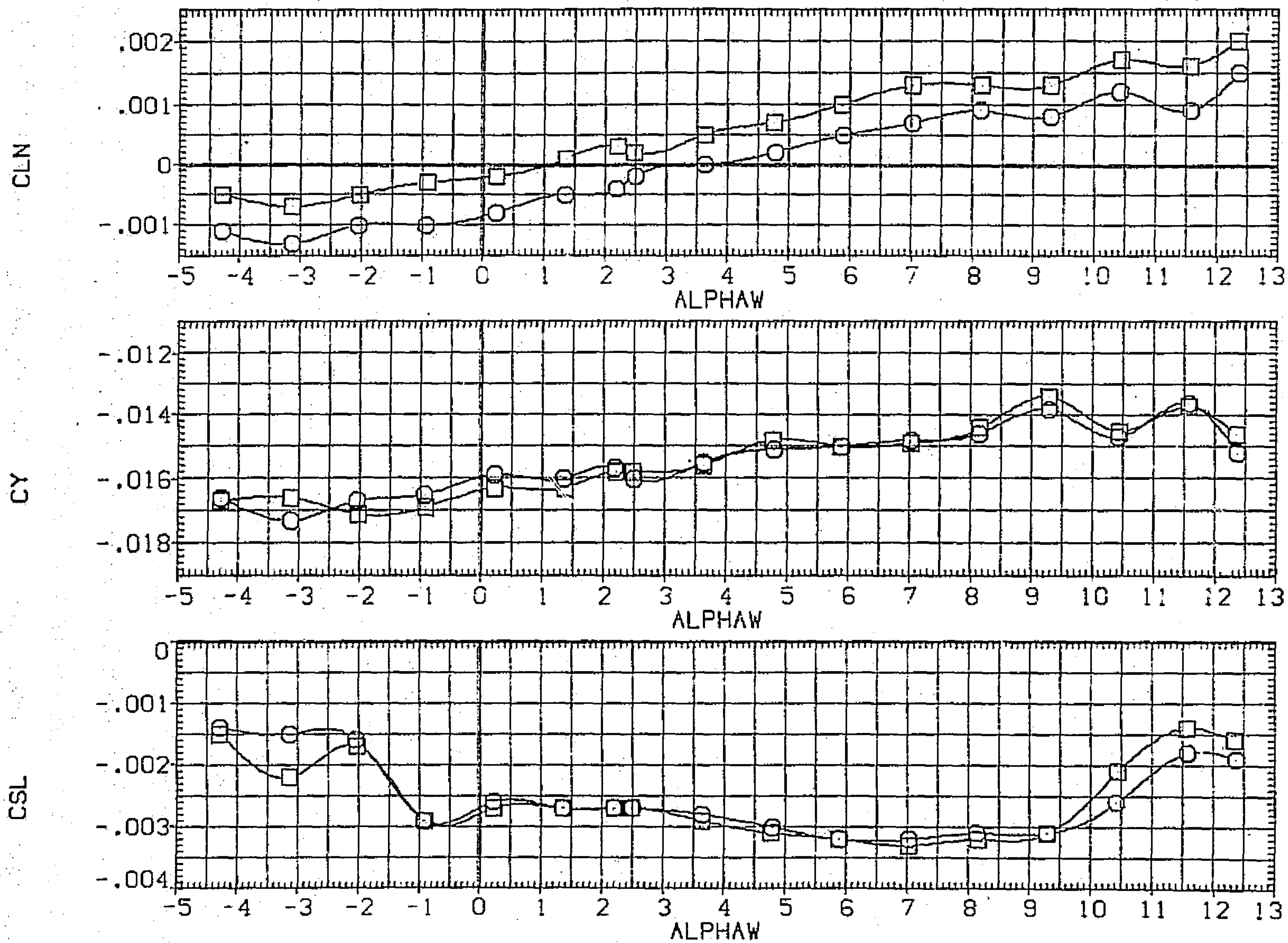



FIG. 44 EFFECT OF SIDE STRUT FAIRINGS ON LAUNCH CONFIG., CA23 AFT STRUT

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP037) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP059) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBFBN24/28 | 4.890 | .000 | 6.000 |
| (RGP136) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 -111.10RBFBN24/28 | 4.980 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

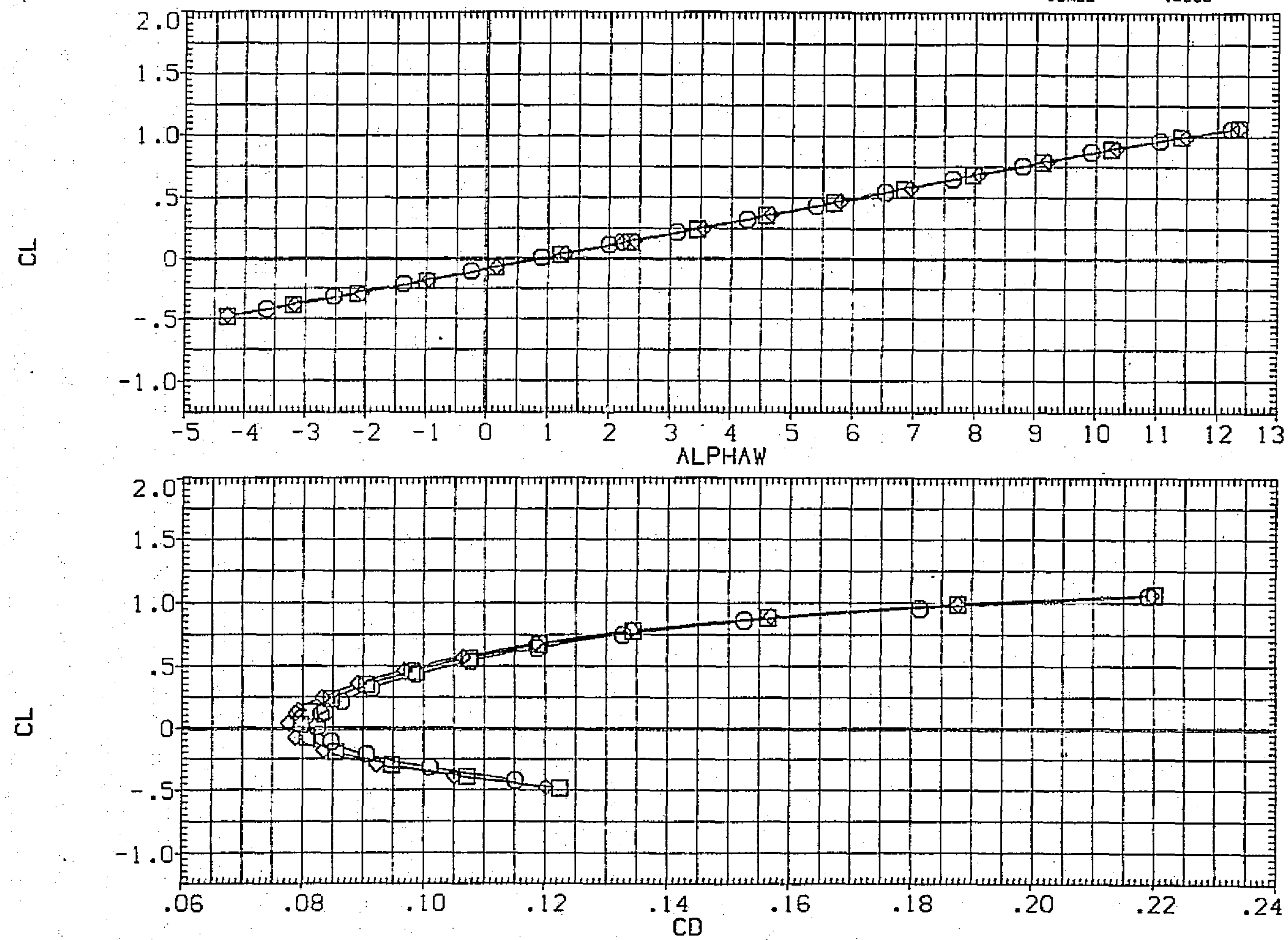



FIG. 45 COMPARISON OF CANDIDATE FAIRING CONFIGURATIONS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP037) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP059) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.3ORBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP136) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N2 /28 | 4.980 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

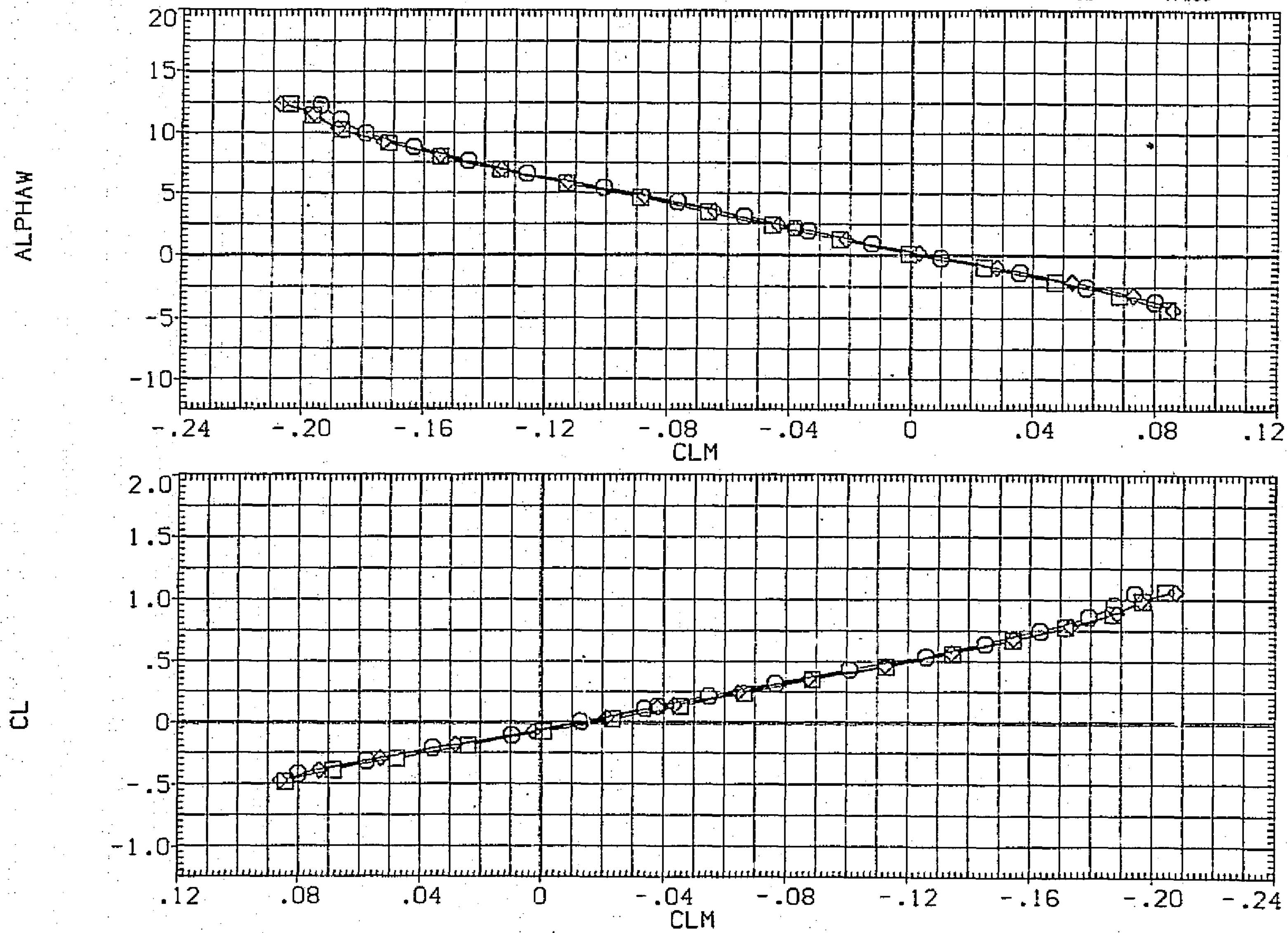



FIG. 45 COMPARISON OF CANDIDATE FAIRING CONFIGURATIONS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP037) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP059) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP136) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.980 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

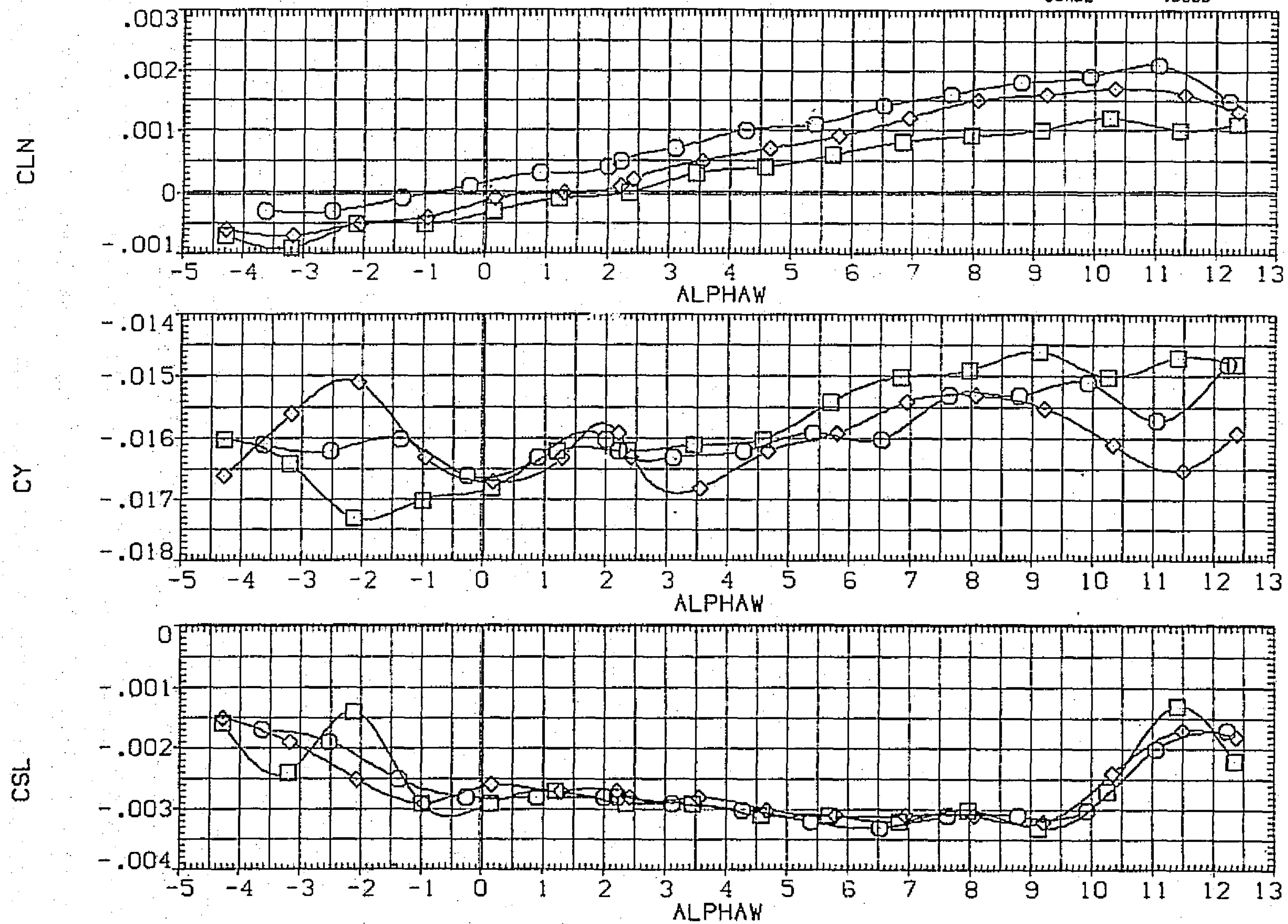



FIG. 45 COMPARISON OF CANDIDATE FAIRING CONFIGURATIONS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP135) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBFBN24/28 | 2.070 | .000 | 6.030 |
| (RGP134) | □ | CA6 K2H15.6.1V9.1S1-12 AT112.1/111.20RBFBN24/28 | 2.070 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

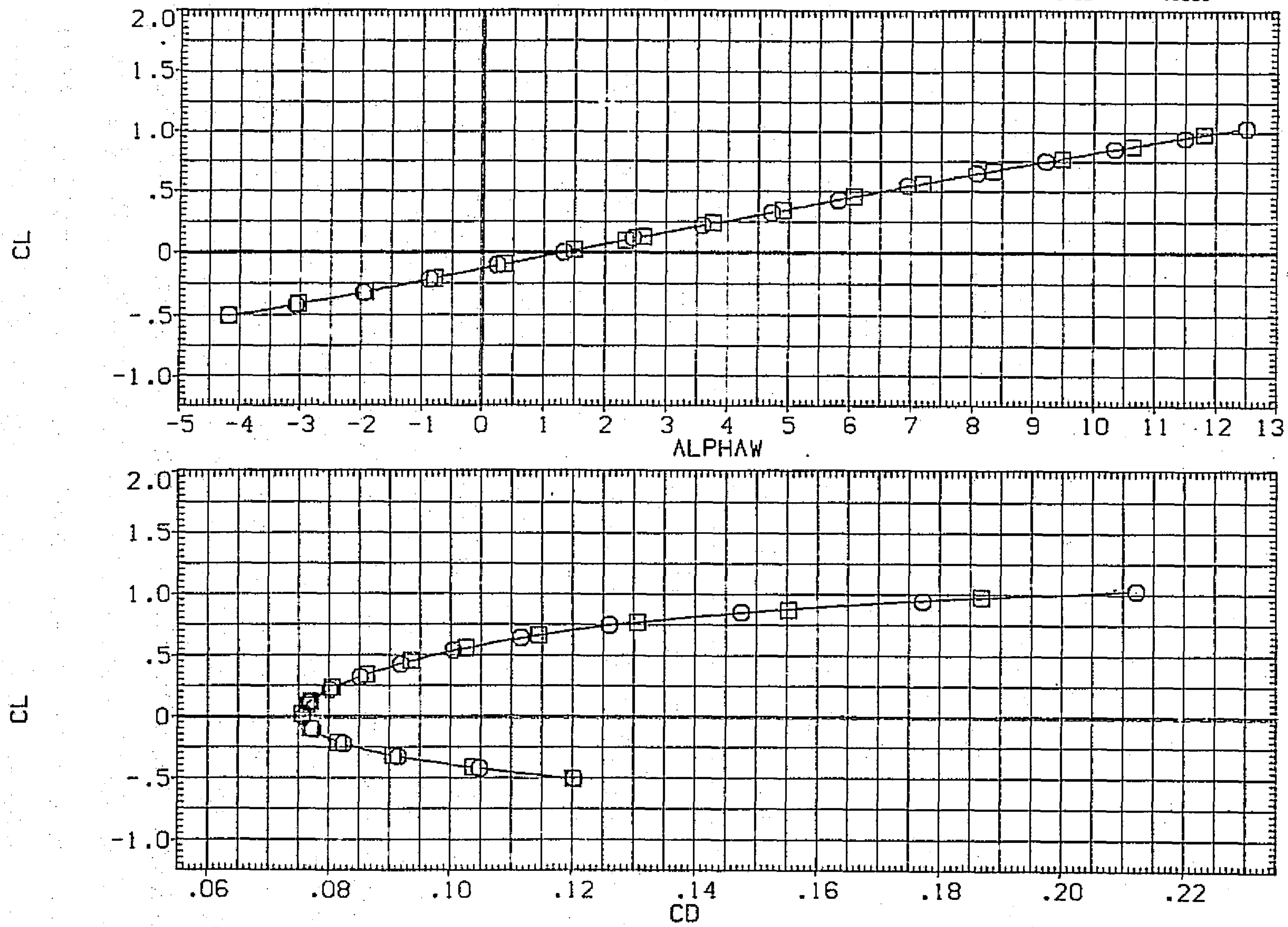



FIG. 46 EFFECT OF TRIP STRIPS ON SUPPORT STRUT FAIRINGS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP135) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 2.070 | .000 | 6.030 |
| (RGP134) | □ | CA6 K2H15.6.1V9.1S1-12 AT112.1/111.20RBF8N24/28 | 2.070 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

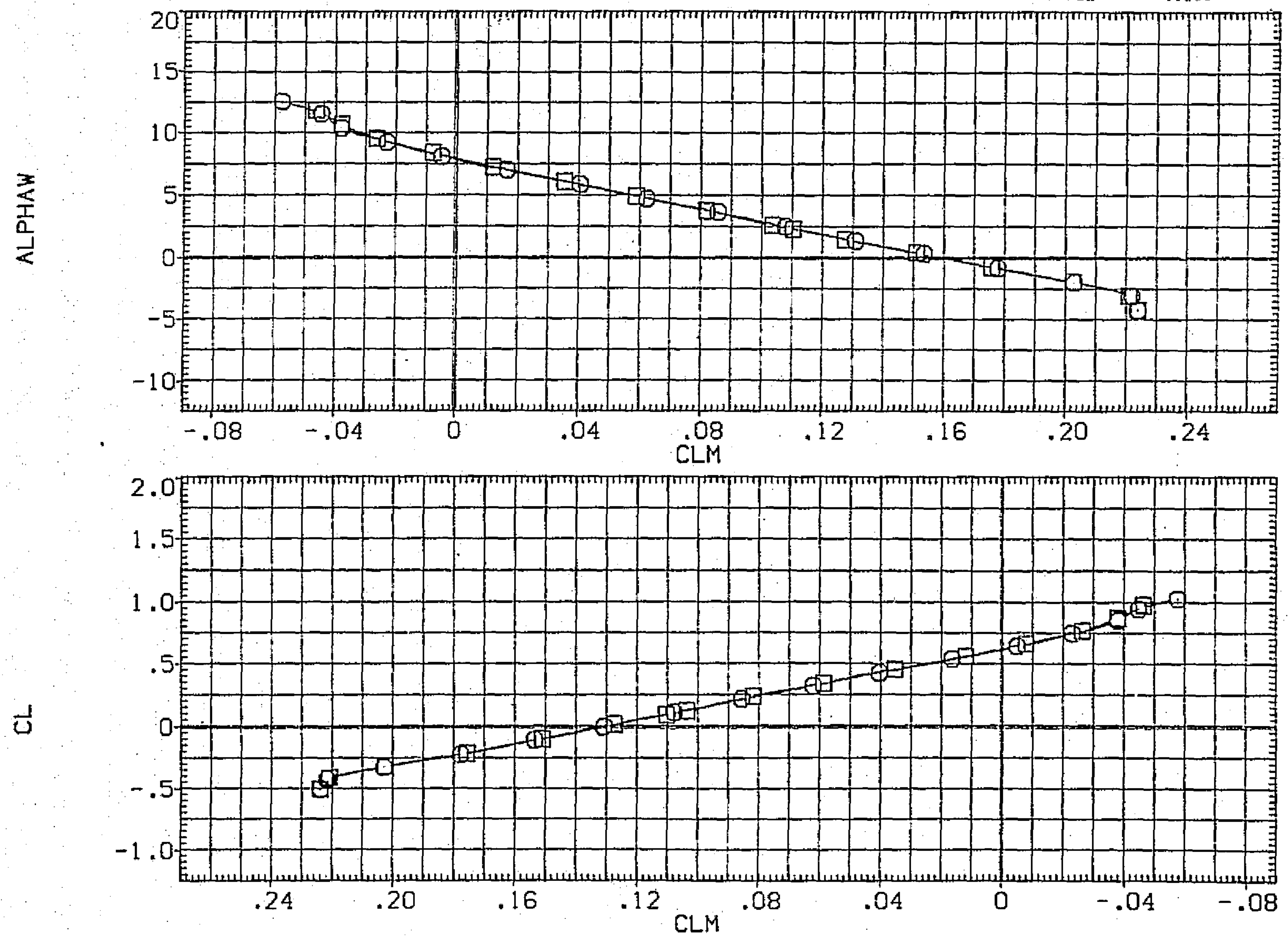



FIG. 46 EFFECT OF TRIP STRIPS ON SUPPORT STRUT FAIRINGS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP135) | ○ | CA6 K2H15.6.IV9.IS1-12 AT112 /I11.10RBF8N24/28 | 2.070 | .000 | 6.030 |
| (RGP134) | □ | CA6 K2H15.6.IV9.IS1-12 AT112.1/I11.20RBF8N24/28 | 2.070 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

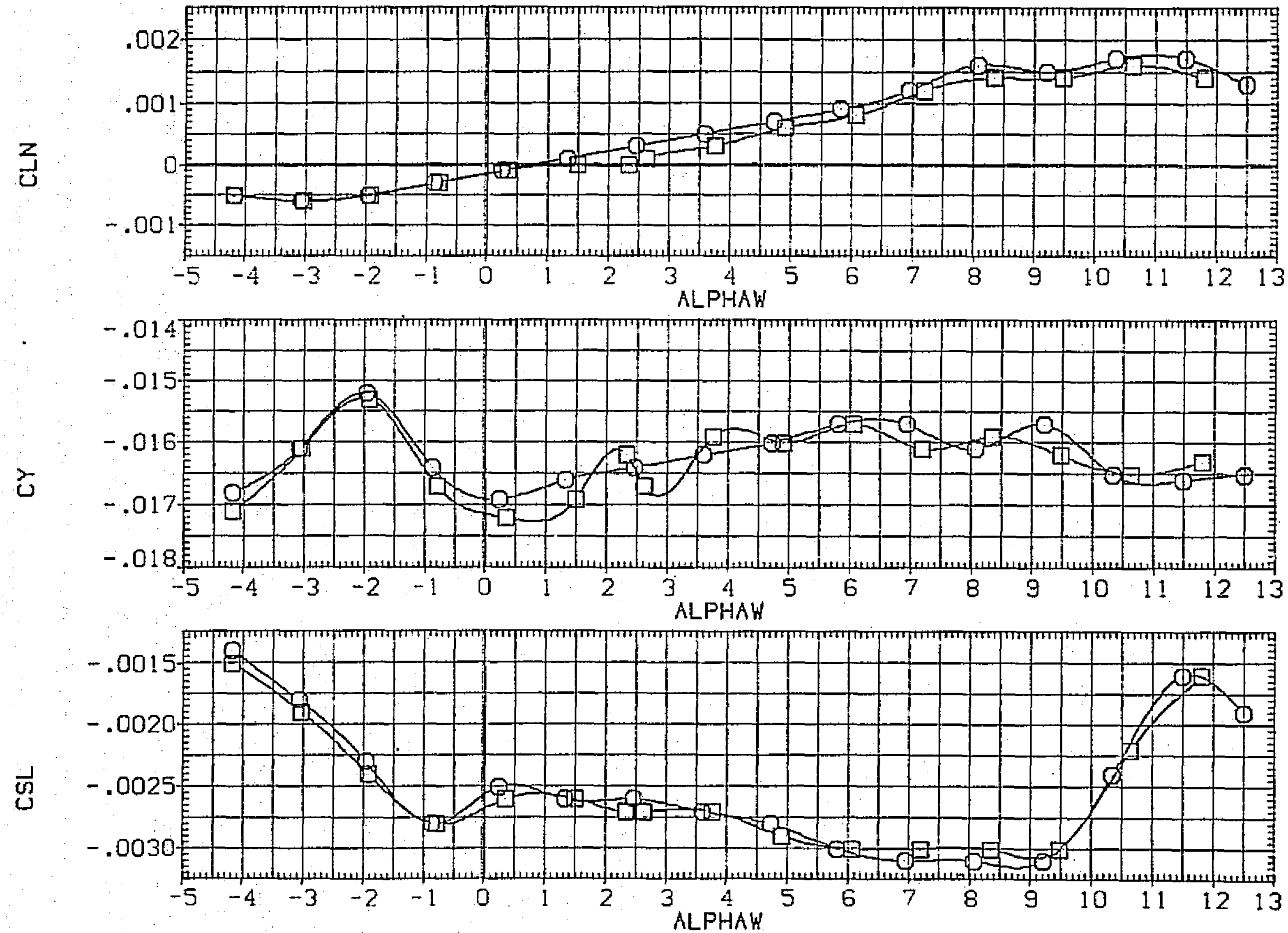



FIG. 46 EFFECT OF TRIP STRIPS ON SUPPORT STRUT FAIRINGS, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP100) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | -.020 | .000 | 6.000 |
| (RGP099) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 2.150 | .000 | 6.000 |
| (RGP101) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | 4.770 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

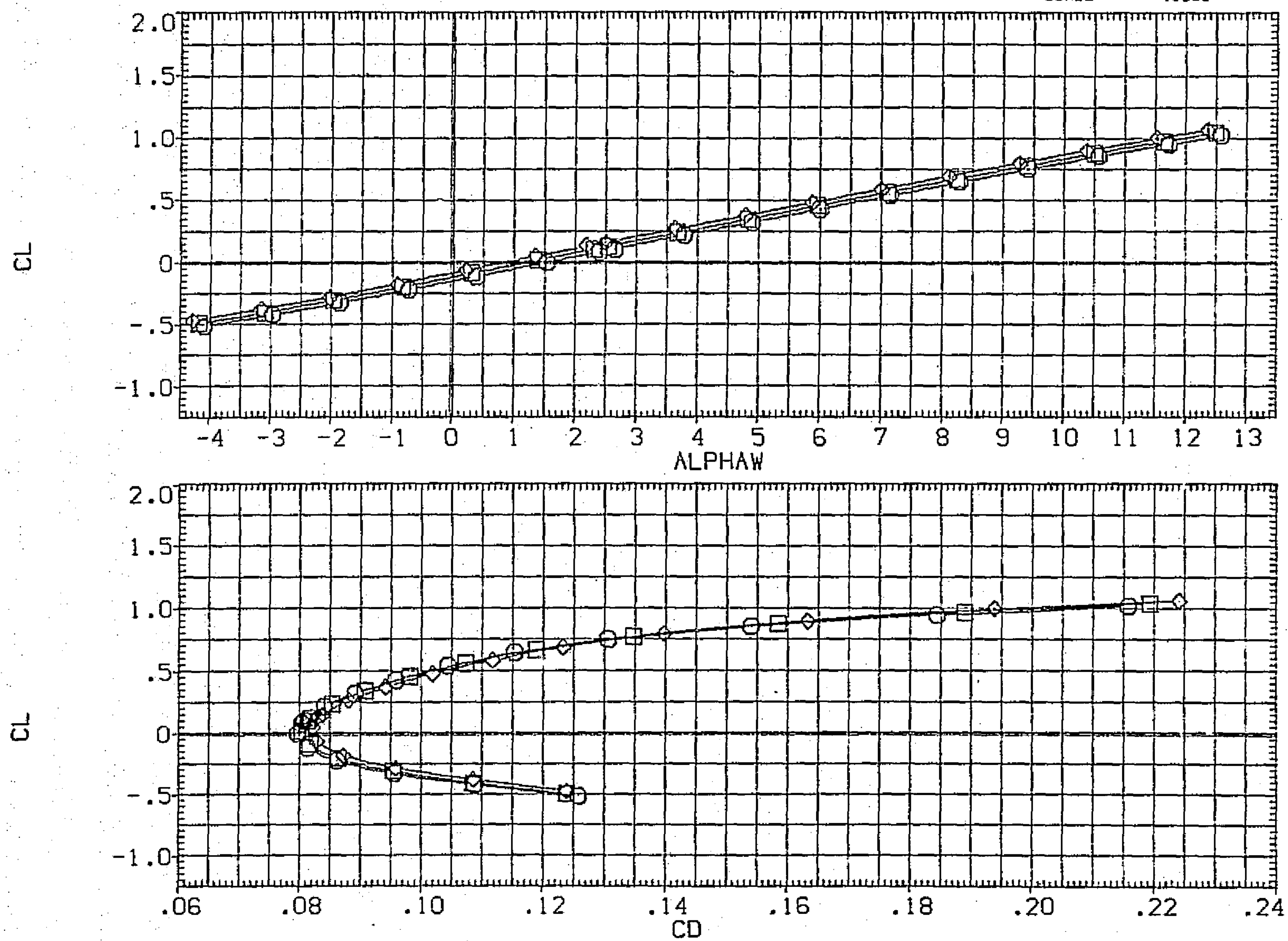



FIG. 47 STABILIZER EFFECTIVENESS, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP100) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | .000 | 6.000 |
| (RGP099) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 2.150 | .000 | 6.000 |
| (RGP101) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

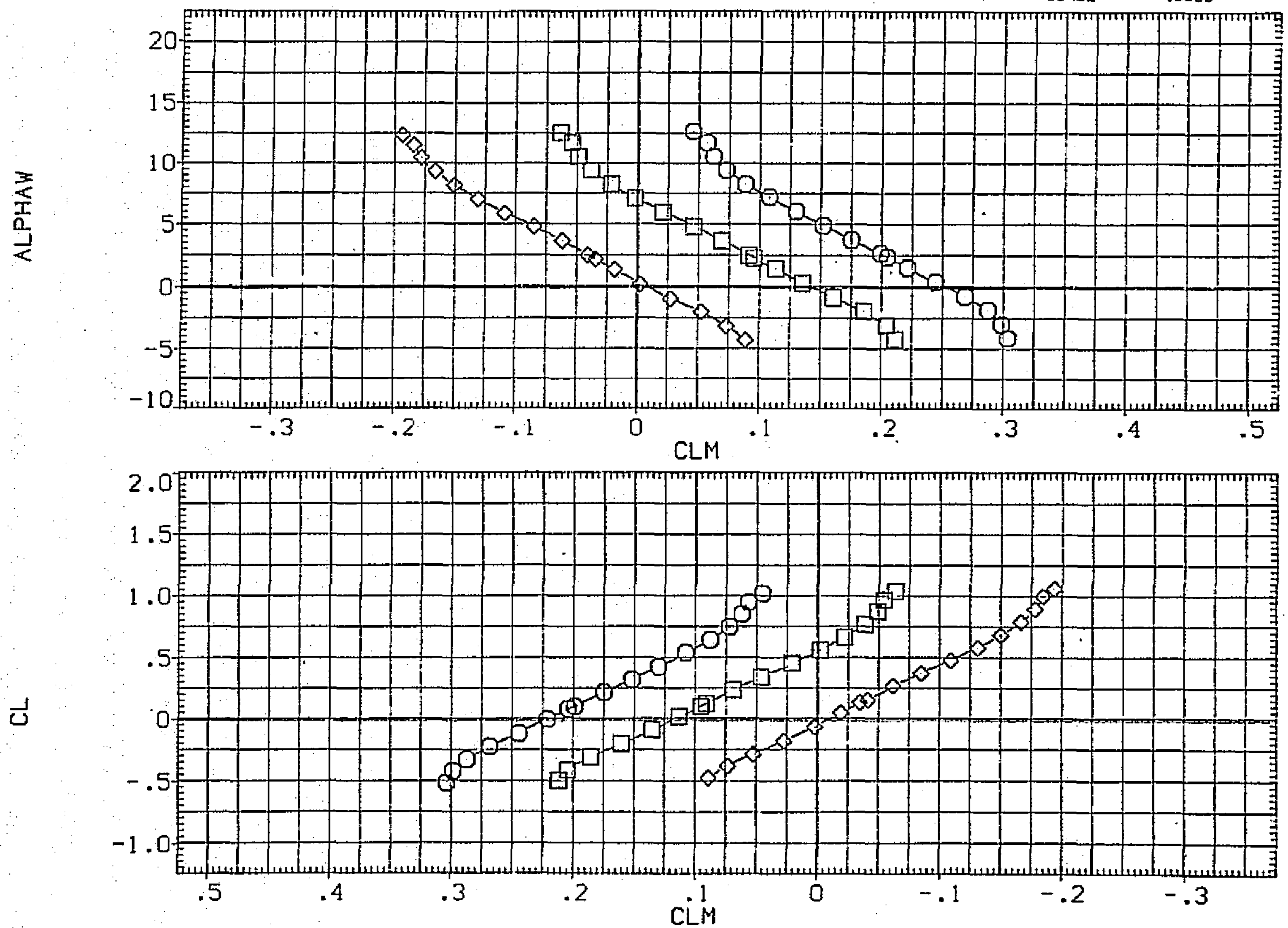



FIG. 47 STABILIZER EFFECTIVENESS, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP100) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | .000 | 6.000 |
| (RGP099) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 2.150 | .000 | 6.000 |
| (RGP101) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

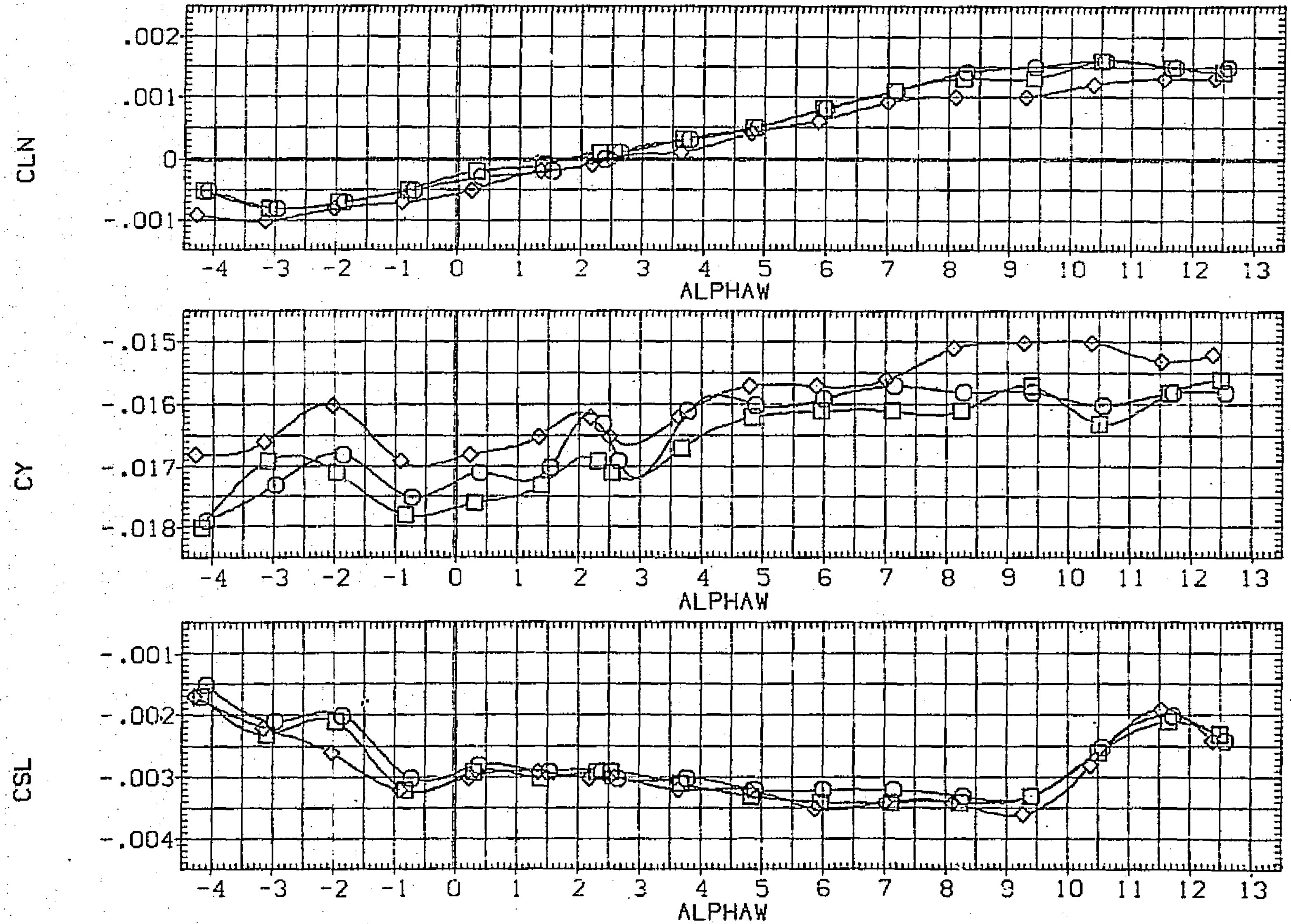



FIG. 47 STABILIZER EFFECTIVENESS, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|---|
| (RGP102) | ○ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP101) | □ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP103) | ◇ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP104) | △ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP105) | ▷ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP106) | ◺ | CA6 | K2H15.6.1V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

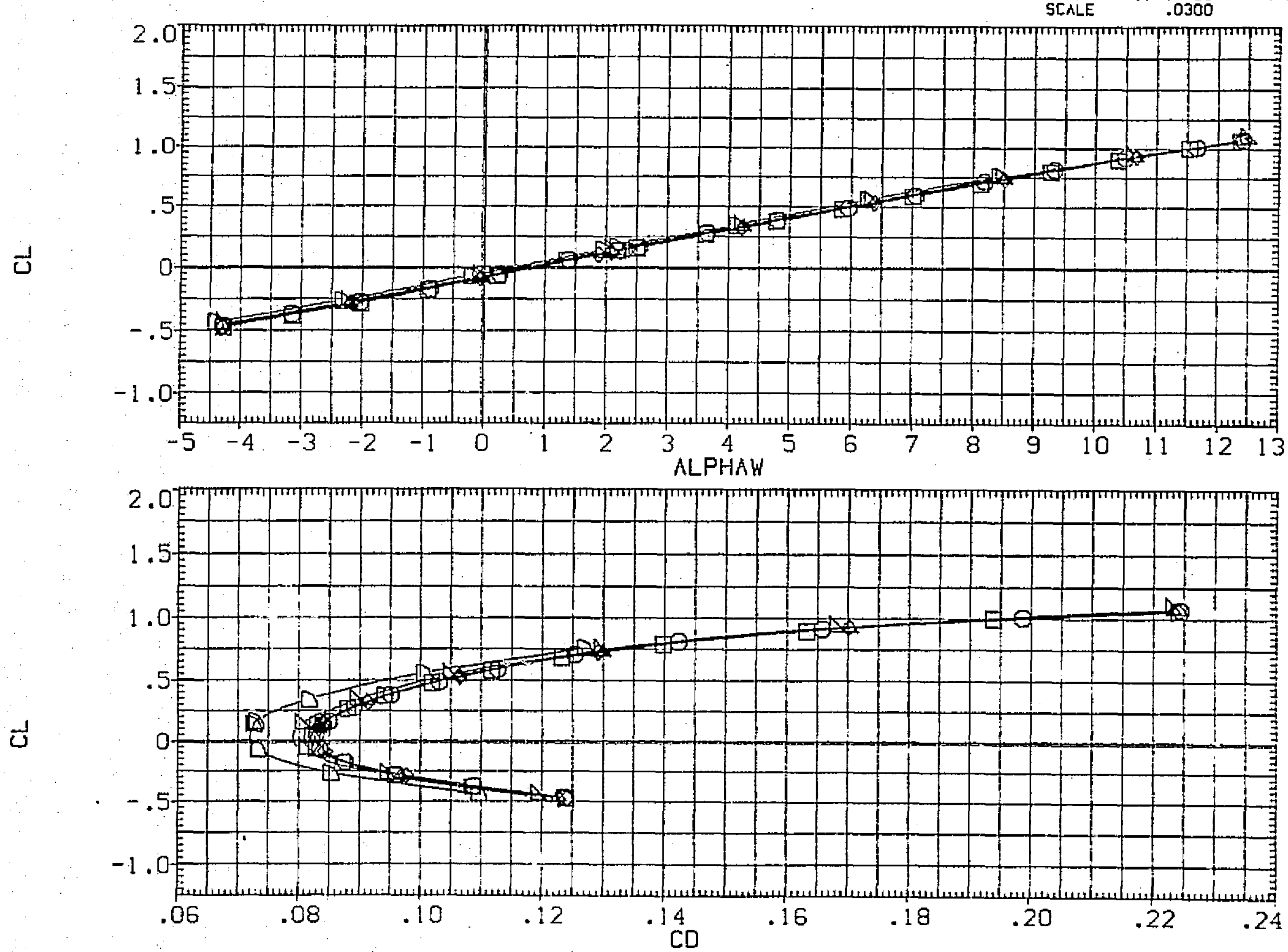



FIG. 48 LATERAL-DIRECTIONAL STABILITY, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|---|
| (RGP102) | ○ | CA6 | K2H15.6.IV9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP101) | □ | CA6 | K2H15.6.IV9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP103) | ◇ | CA6 | K2H15.6.IV9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP104) | △ | CA6 | K2H15.6.IV9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP105) | ◺ | CA6 | K2H15.6.IV9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP106) | D | CA6 | K2H15.6.IV9.1S1-12 | AT103.1/105 | ORBF8N24/28 | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

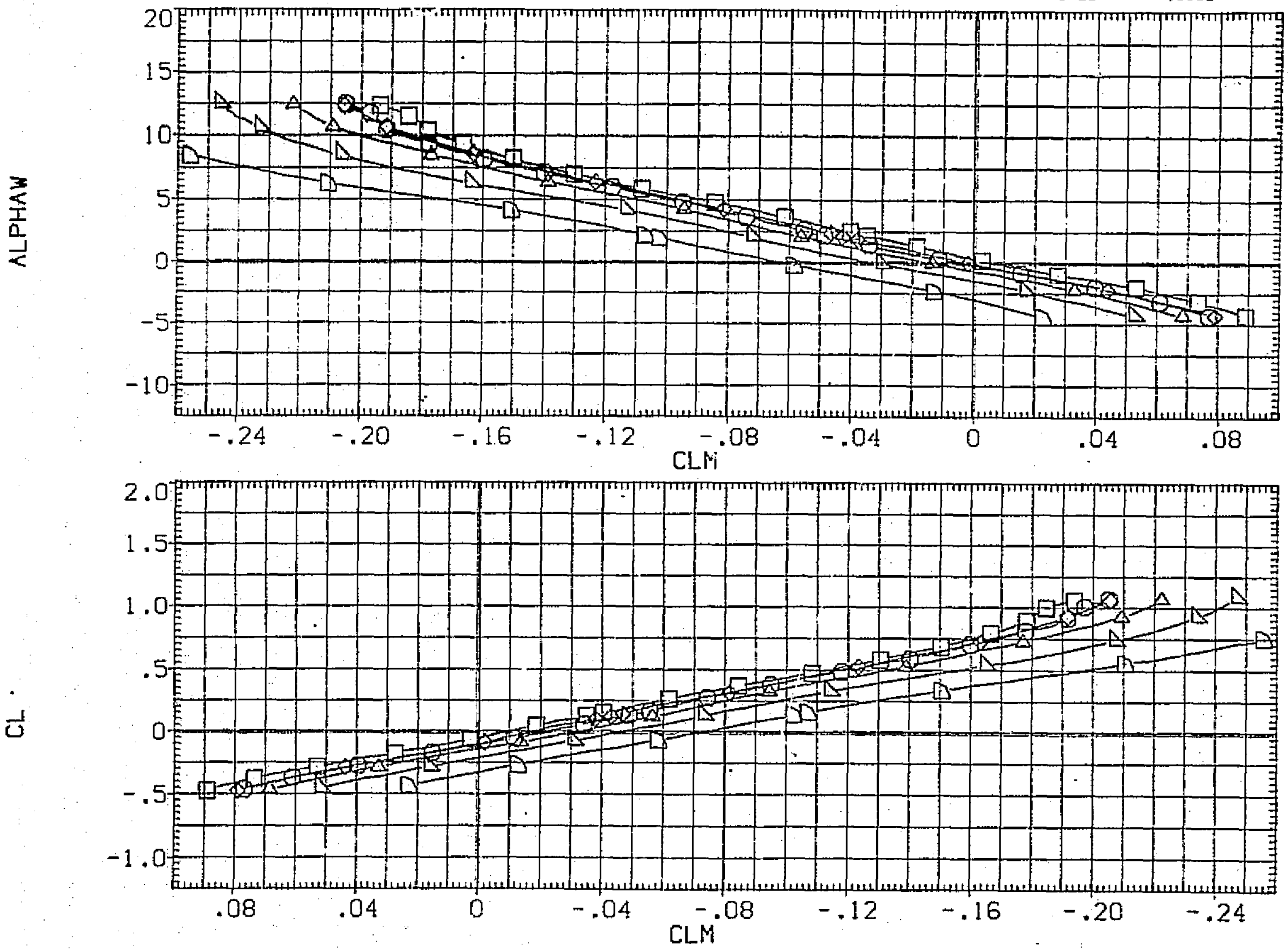



FIG. 48 LATERAL-DIRECTIONAL STABILITY, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP102) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP101) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP103) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP104) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP105) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP106) | D | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

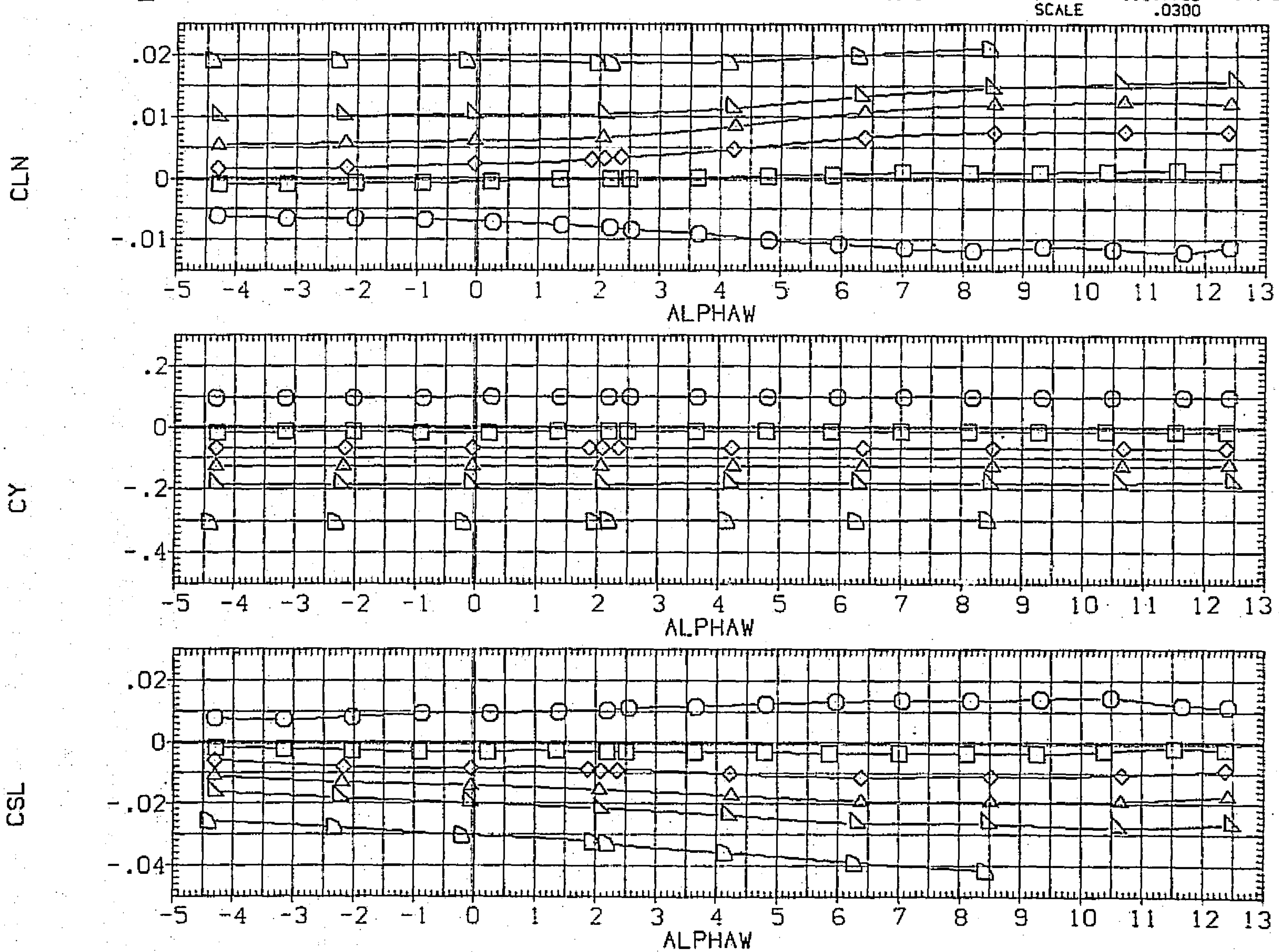



FIG. 48 LATERAL-DIRECTIONAL STABILITY, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP101) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | .000 | 4.770 | .000 |
| (RGP107) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 10.000 | 10.000 | 4.770 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

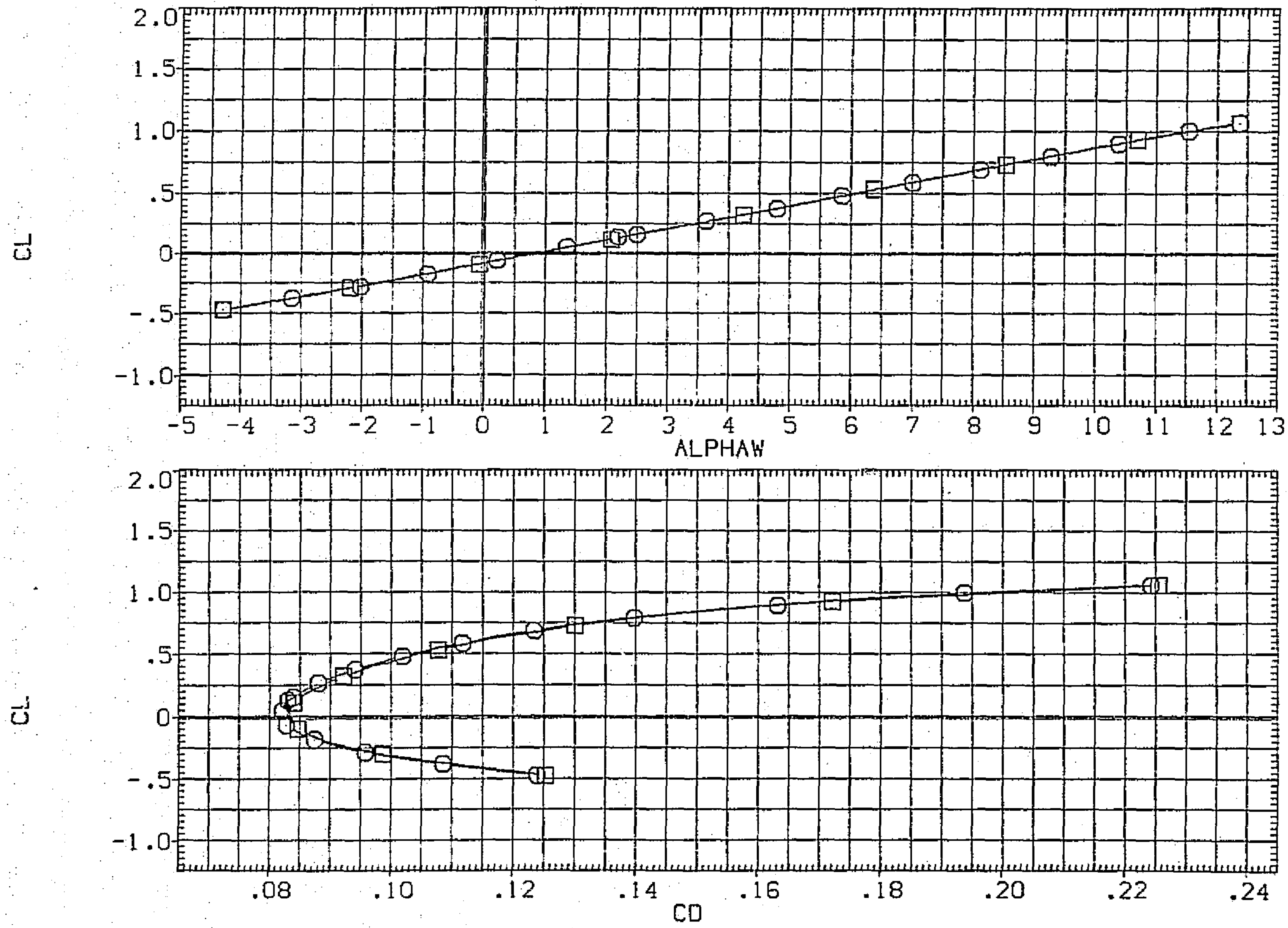



FIG. 49 RUDDER EFFECTIVENESS, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP101) | ○ | CAG K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | .000 | 4.770 | .000 |
| (RGP107) | □ | CAG K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 10.000 | 10.000 | 4.770 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

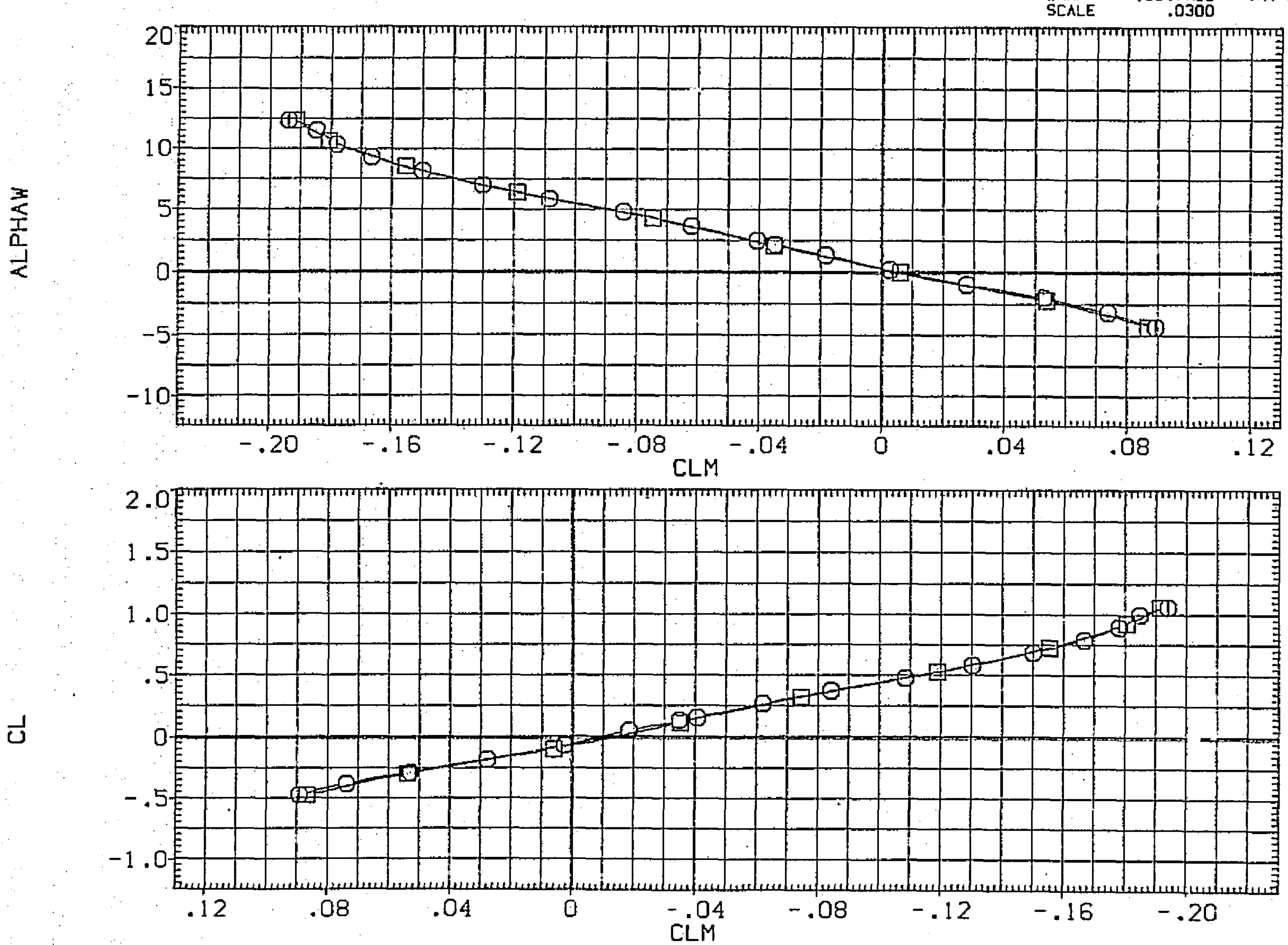



FIG. 49 RUDDER EFFECTIVENESS, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | STAB | BETA |
|---|---|---|---|---|---|---|
| (RGP101) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | .000 | 4.770 | .000 |
| (RGP107) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | 10.000 | 10.000 | 4.770 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

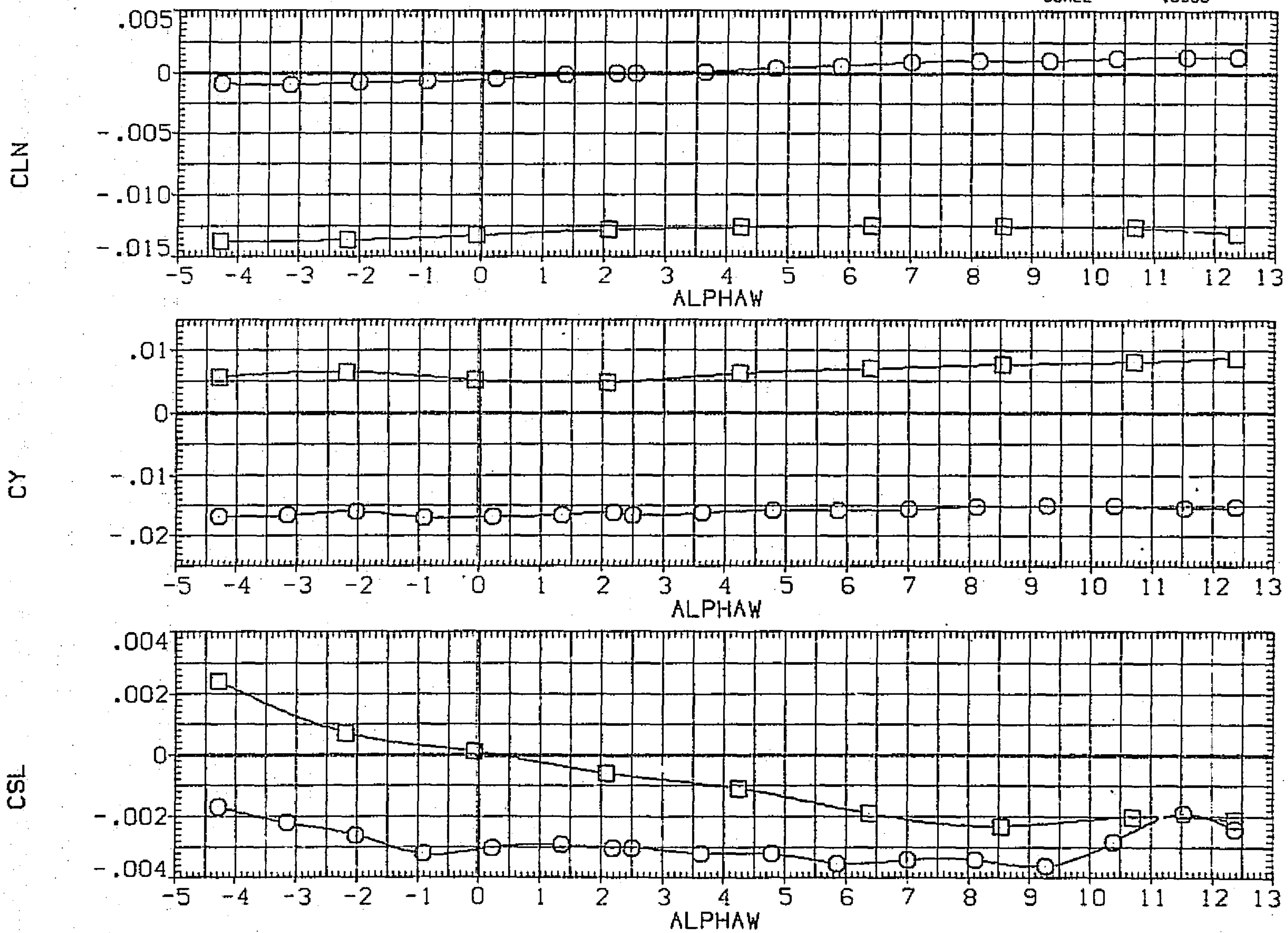



FIG. 49 RUDDER EFFECTIVENESS, STRUT FAIRINGS OFF, TC OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP113) | ○ | CA6 K2H15.6.IV9.IS1-12 AT108 I/95-.30RBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP109) | □ | CA6 K2H15.6.IV9.IS1-12 AT108 I/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP112) | ◇ | CA6 K2H15.6.IV9.IS1-12 AT108 I/95-.30RBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP114) | △ | CA6 K2H15.6.IV9.IS1-12 AT108 I/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP111) | ◁ | CA6 K2H15.6.IV9.IS1-12 AT108 I/95-.30RBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP110) | D | CA6 K2H15.6.IV9.IS1-12 AT108 I/95-.30RBF8N24/28 | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

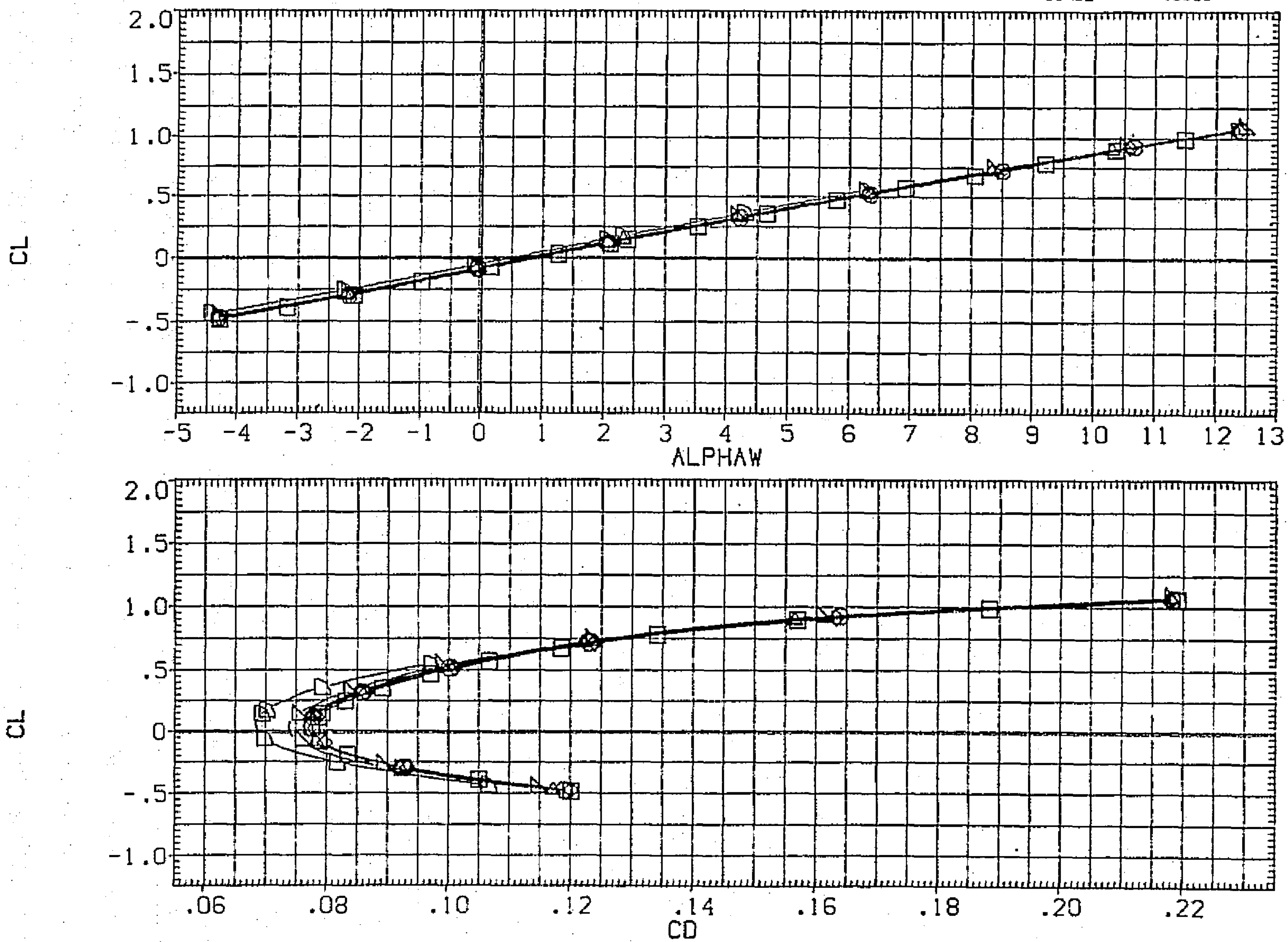



FIG. 50 LATERAL-DIRECTIONAL STABILITY, FAIRINGS CA23 AFT AND LONG CHORD FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
| --- | --- | --- | --- | --- | --- |
| (RGP113) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP109) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP112) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP114) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP111) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP110) | ◗ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

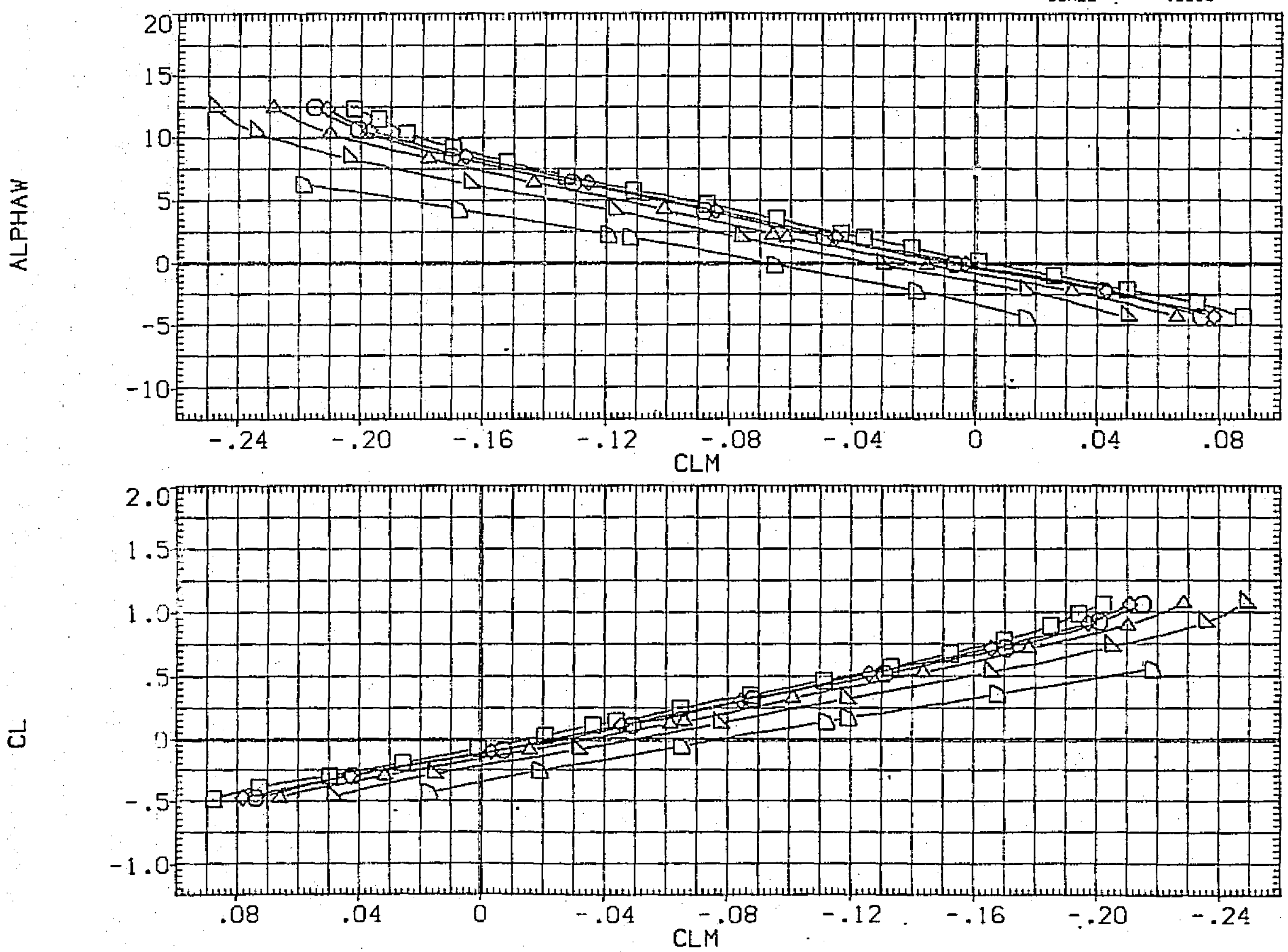



FIG. 50 LATERAL-DIRECTIONAL STABILITY, FAIRINGS CA23 AFT AND LONG CHORD FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP113) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP109) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP112) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP114) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP111) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP110) | D | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

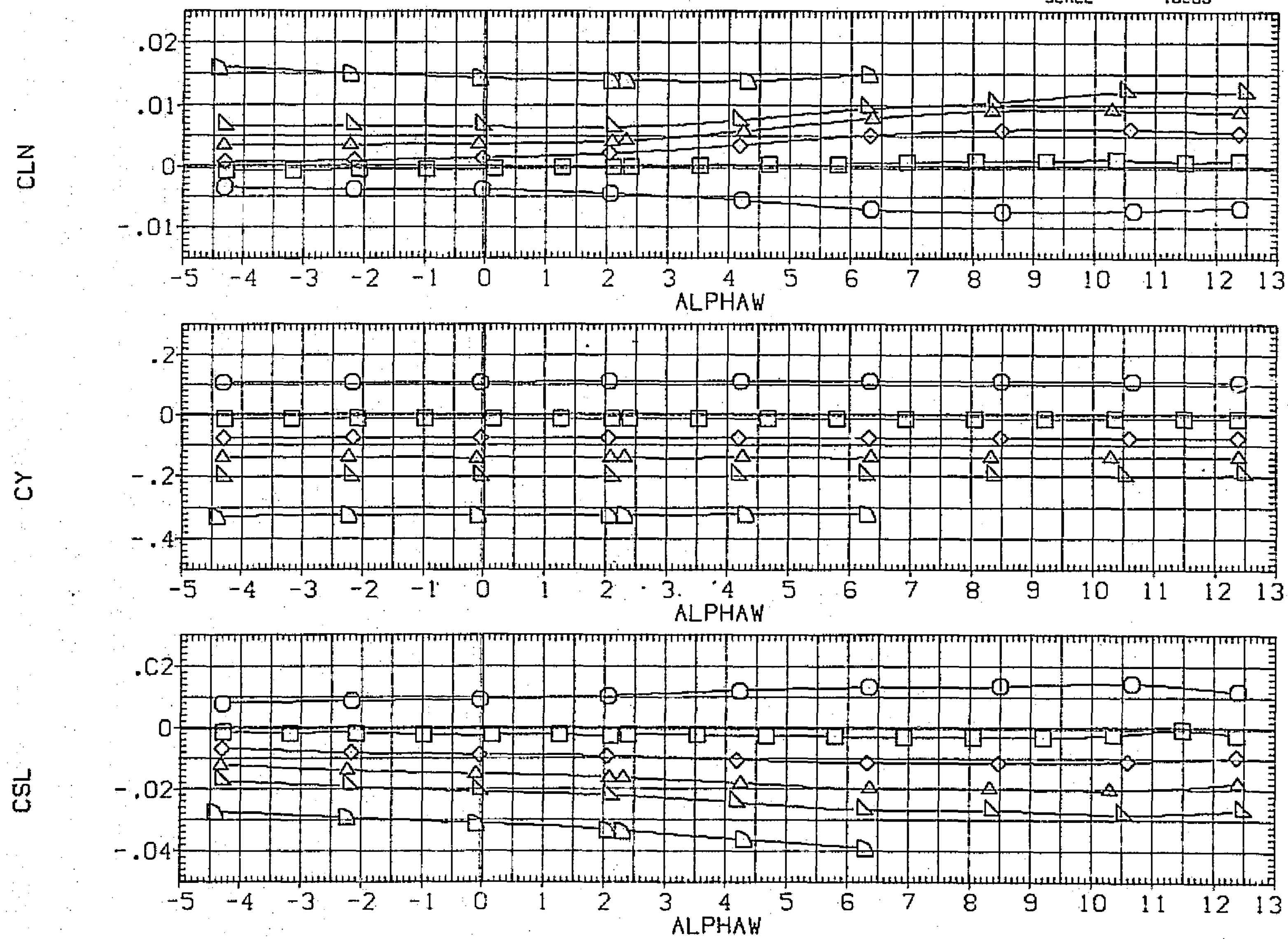



FIG. 50 LATERAL-DIRECTIONAL STABILITY, FAIRINGS CA23 AFT AND LONG CHORD FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP113) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP109) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP112) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP114) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP111) | ▷ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP110) | ◁ | DATA NOT AVAILABLE | 4.770 | 10.000 | 6.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

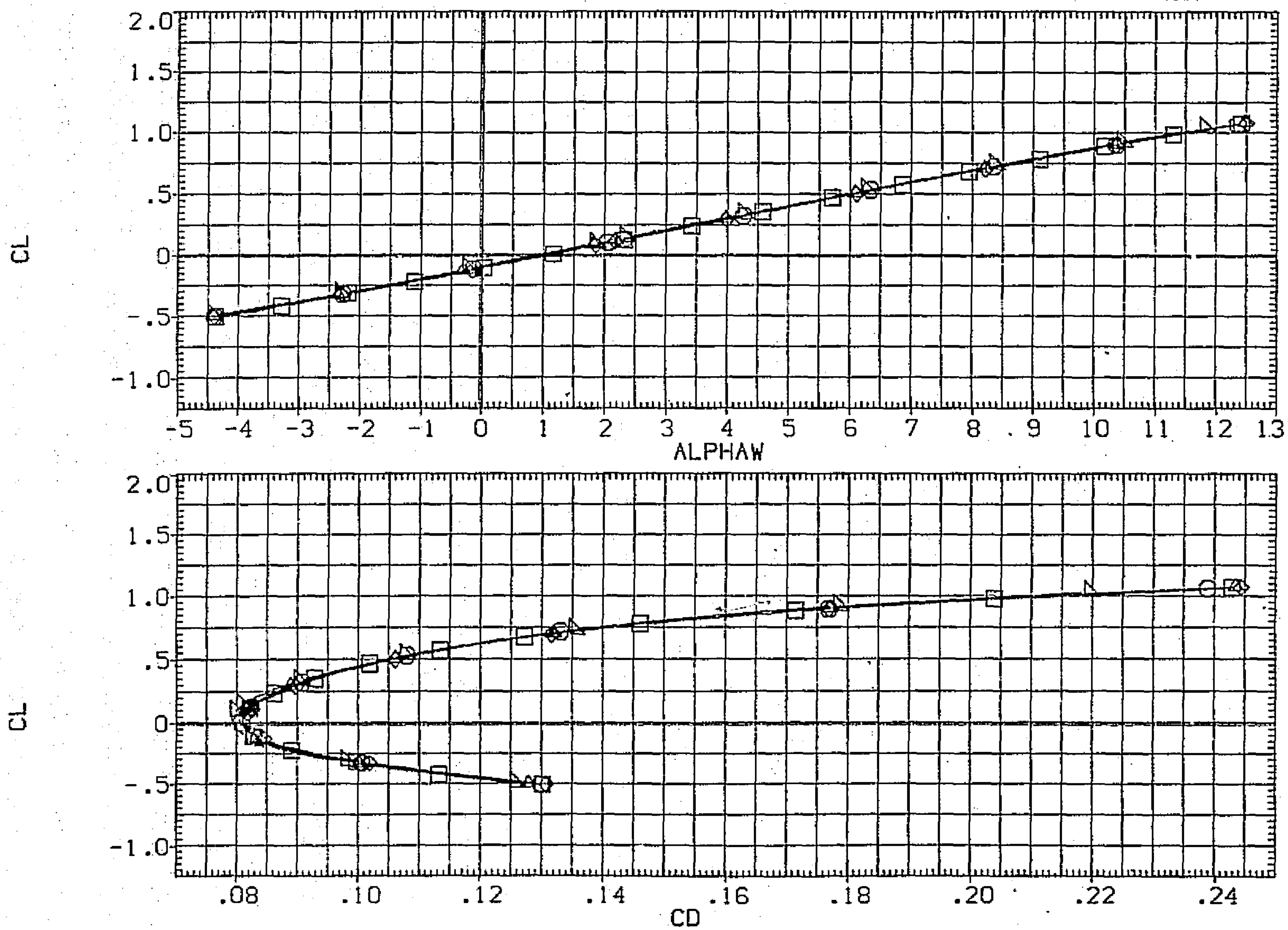



FIG. 50 LATERAL-DIRECTIONAL STABILITY, FAIRINGS CA23 AFT AND LONG CHORD FWD.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP113) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP109) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP112) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP114) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP111) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP110) | ◻ | DATA NOT AVAILABLE | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

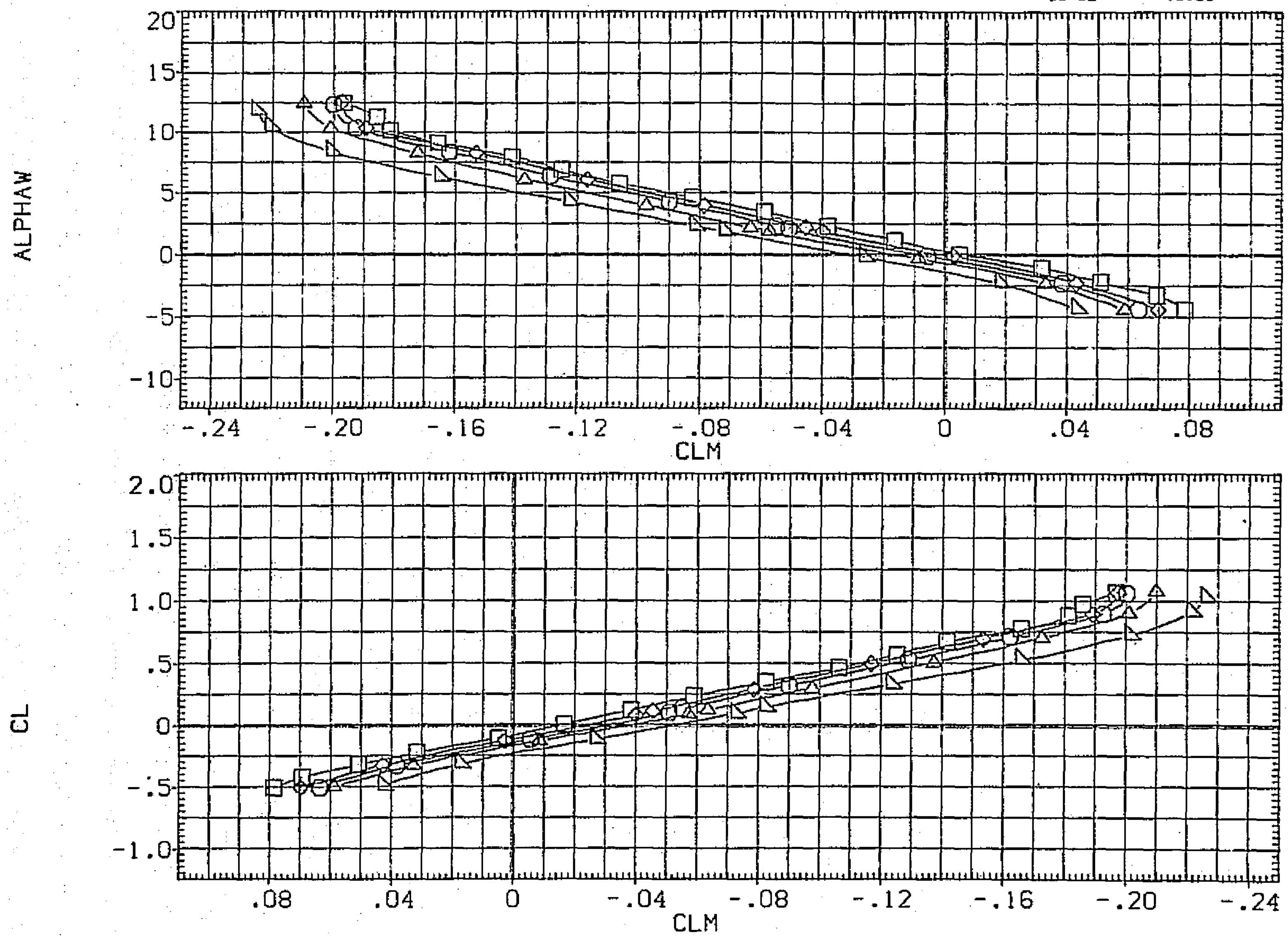



FIG. 50 LATERAL-DIRECTIONAL STABILITY, FAIRINGS CA23 AFT AND LONG CHORD FWD.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP113) | ○ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | -4.000 | 6.000 |
| (RGP109) | □ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | .000 | 6.000 |
| (RGP112) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 2.000 | 6.000 |
| (RGP114) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 4.000 | 6.000 |
| (RGP111) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT108 1/95-.30RBF8N24/28 | 4.770 | 6.000 | 6.000 |
| (RGP110) | ◺ | DATA NOT AVAILABLE | 4.770 | 10.000 | 6.000 |

REFERENCE INFORMATION

| | | | |
|---|---|---|---|
| SREF | 5500.0000 | SQ.FT. | |
| LREF | 327.8000 | IN. | |
| BREF | 2348.0000 | IN. | |
| XMRP | 1339.9000 | IN. | XC |
| YMRP | .0000 | IN. | YC |
| ZMRP | 190.7700 | IN. | ZC |
| SCALE | .0300 | | |

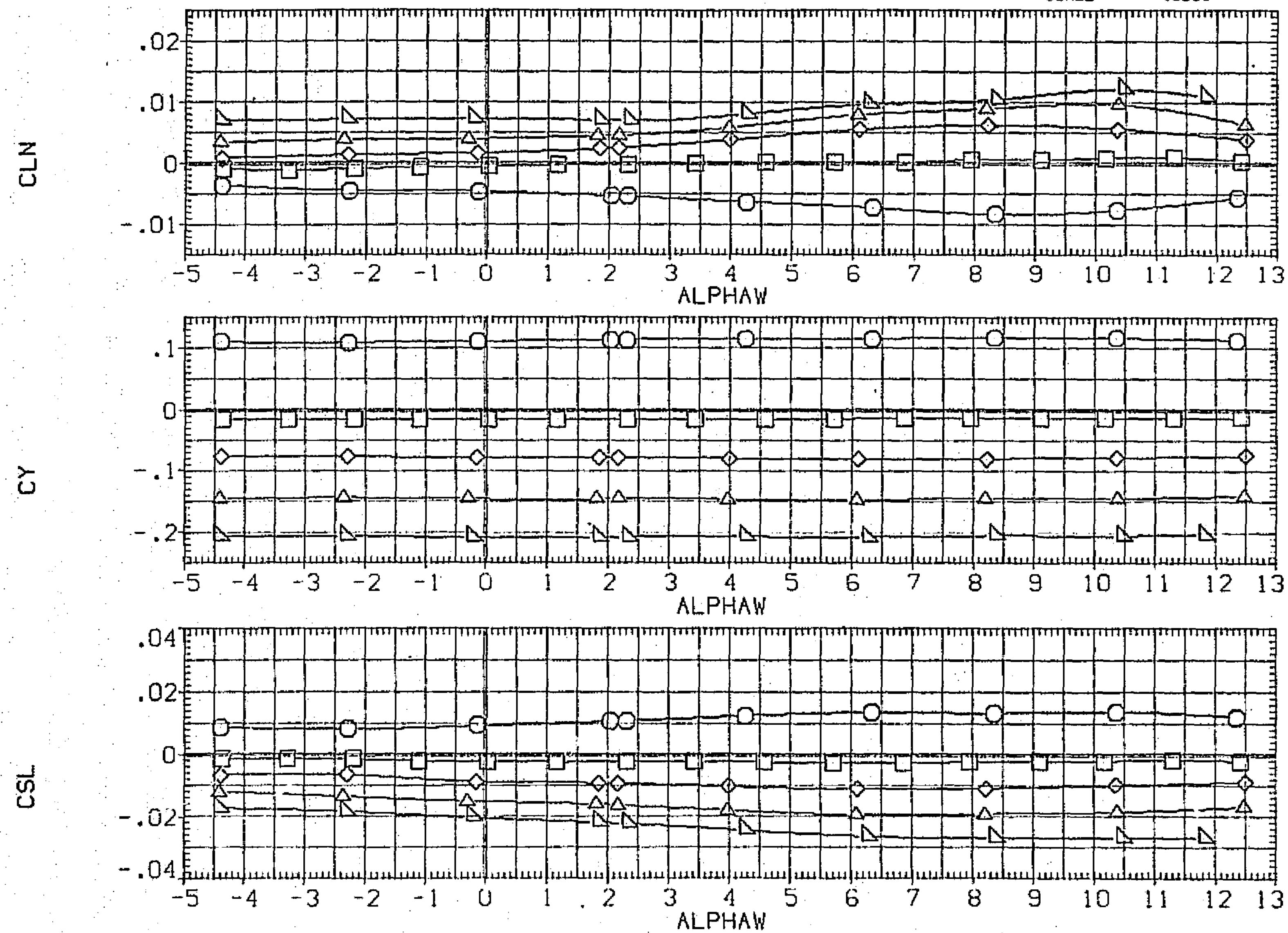



FIG. 50 LATERAL-DIRECTIONAL STABILITY, FAIRINGS CA23 AFT AND LONG CHORD FWD.

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP129) | □ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | -4.000 | 8.110 |
| (RGP130) | ○ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | .000 | 8.110 |
| (RGP128) | ◇ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | 4.000 | 8.110 |
| (RGP127) | △ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | 10.000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

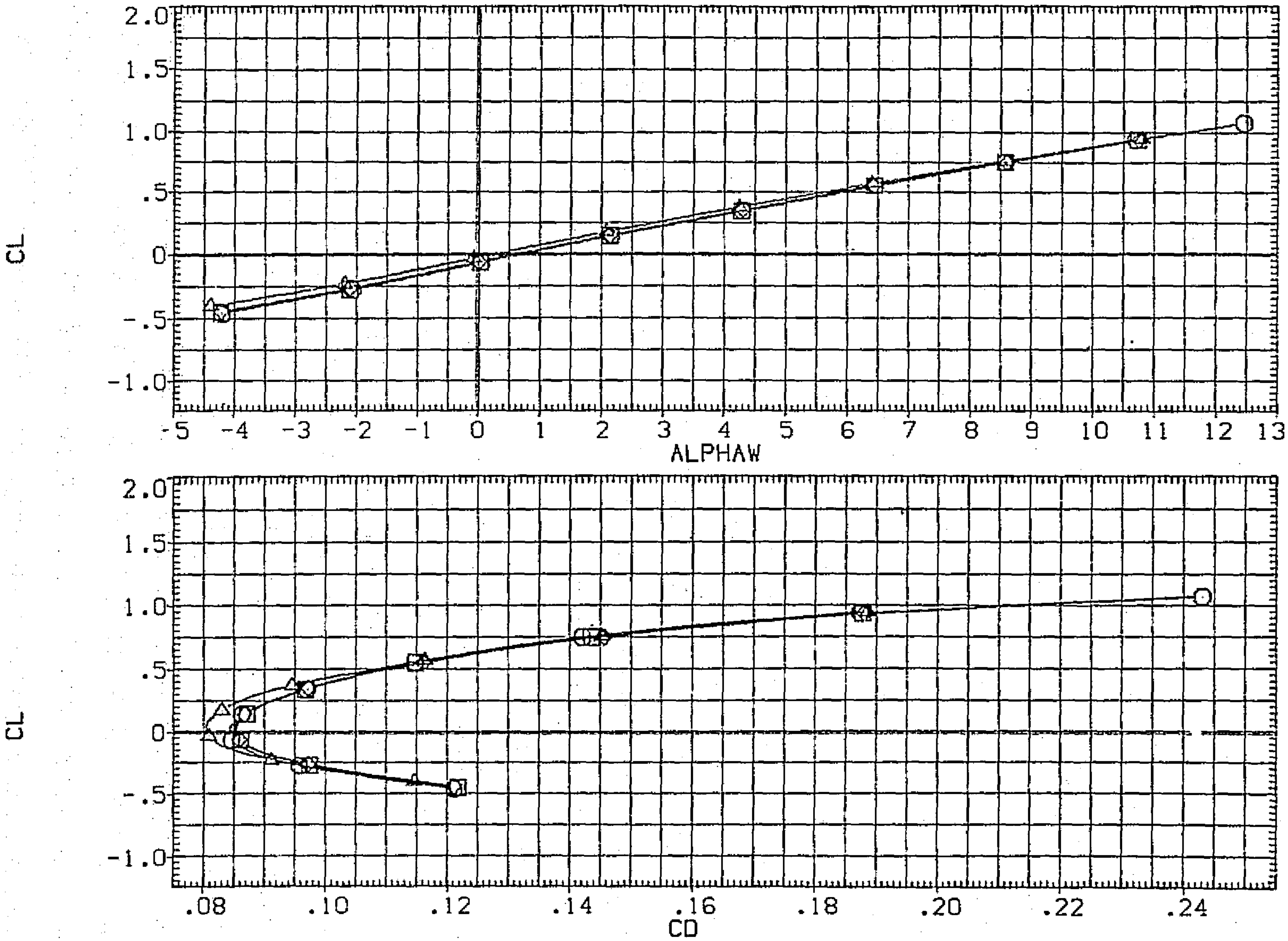



FIG. 51 ALL VERTICAL TAILS OFF, LAUNCH CONFIG., CA23 AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP129) | □ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | -4.000 | 8.110 |
| (RGP130) | ○ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | .000 | 8.110 |
| (RGP128) | ◇ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | 4.000 | 8.110 |
| (RGP127) | △ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | 10.000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

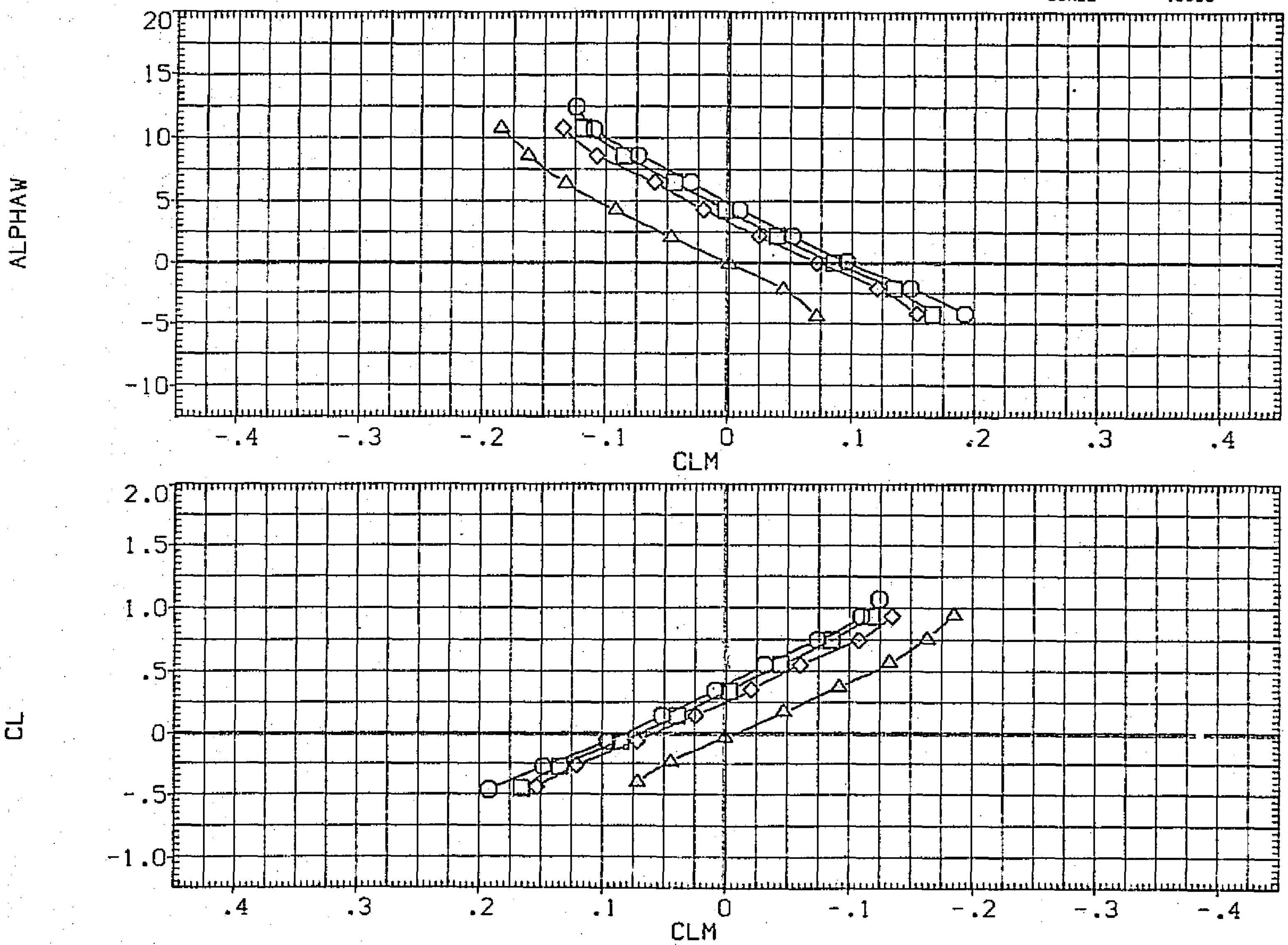



FIG. 51 ALL VERTICAL TAILS OFF, LAUNCH CONFIG., CA23 AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | STAB | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP129) | □ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | -4.000 | 8.110 |
| (RGP130) | ○ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | .000 | 8.110 |
| (RGP128) | ◇ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | 4.000 | 8.110 |
| (RGP127) | △ | CA6 | K2H15.1 | S1-12 AT103.1/95-.30RBF8N24/28 | 4.850 | 10.000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

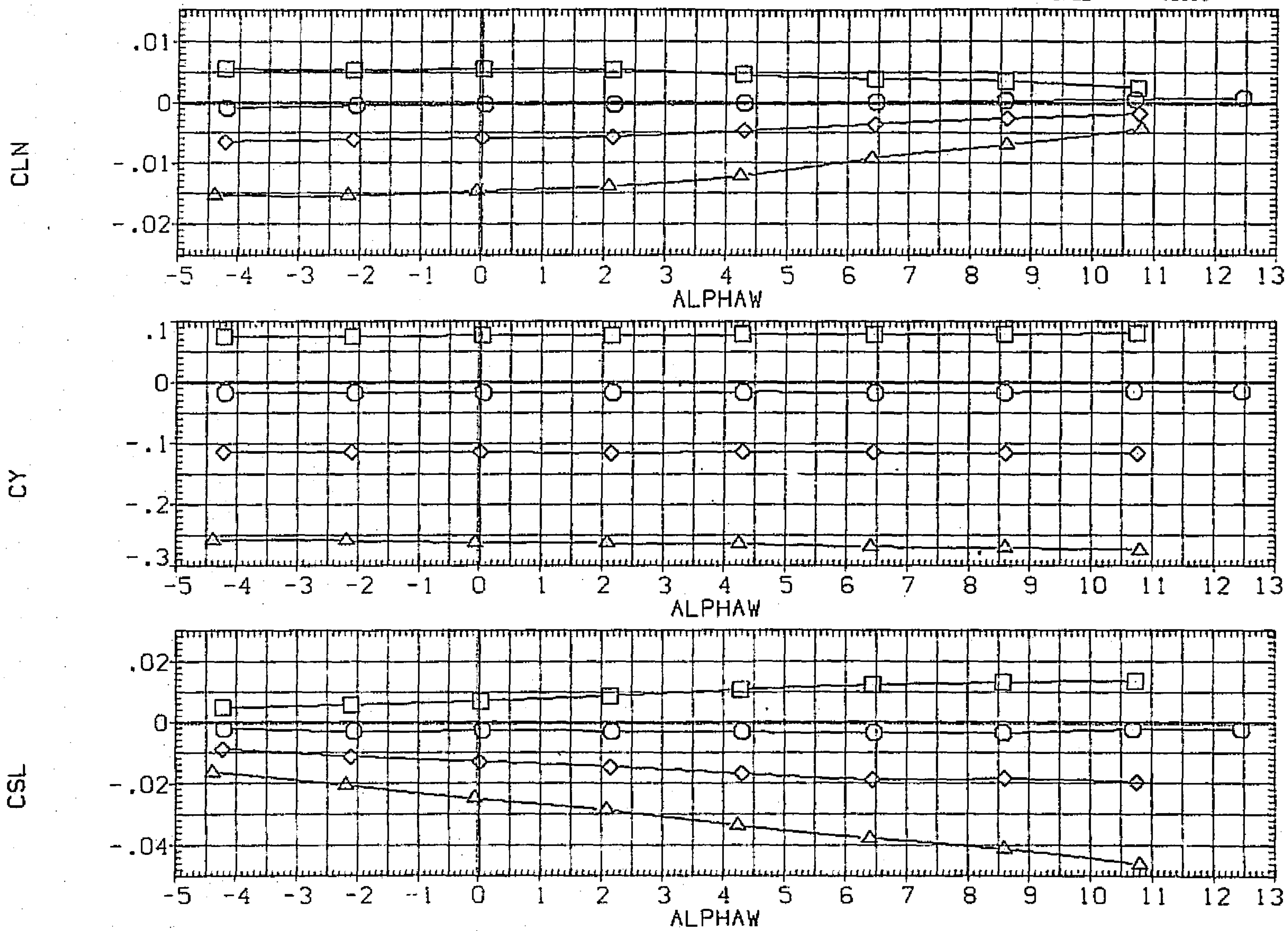



FIG. 51 ALL VERTICAL TAILS OFF, LAUNCH CONFIG., CA23 AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP122) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 4.850 | -4.000 | 8.110 |
| (RGP117) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |
| (RGP123) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 2.000 | 8.110 |
| (RGP124) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 4.000 | 8.110 |
| (RGP125) | ▷ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 6.000 | 8.110 |
| (RGP126) | ◁ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 10.000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

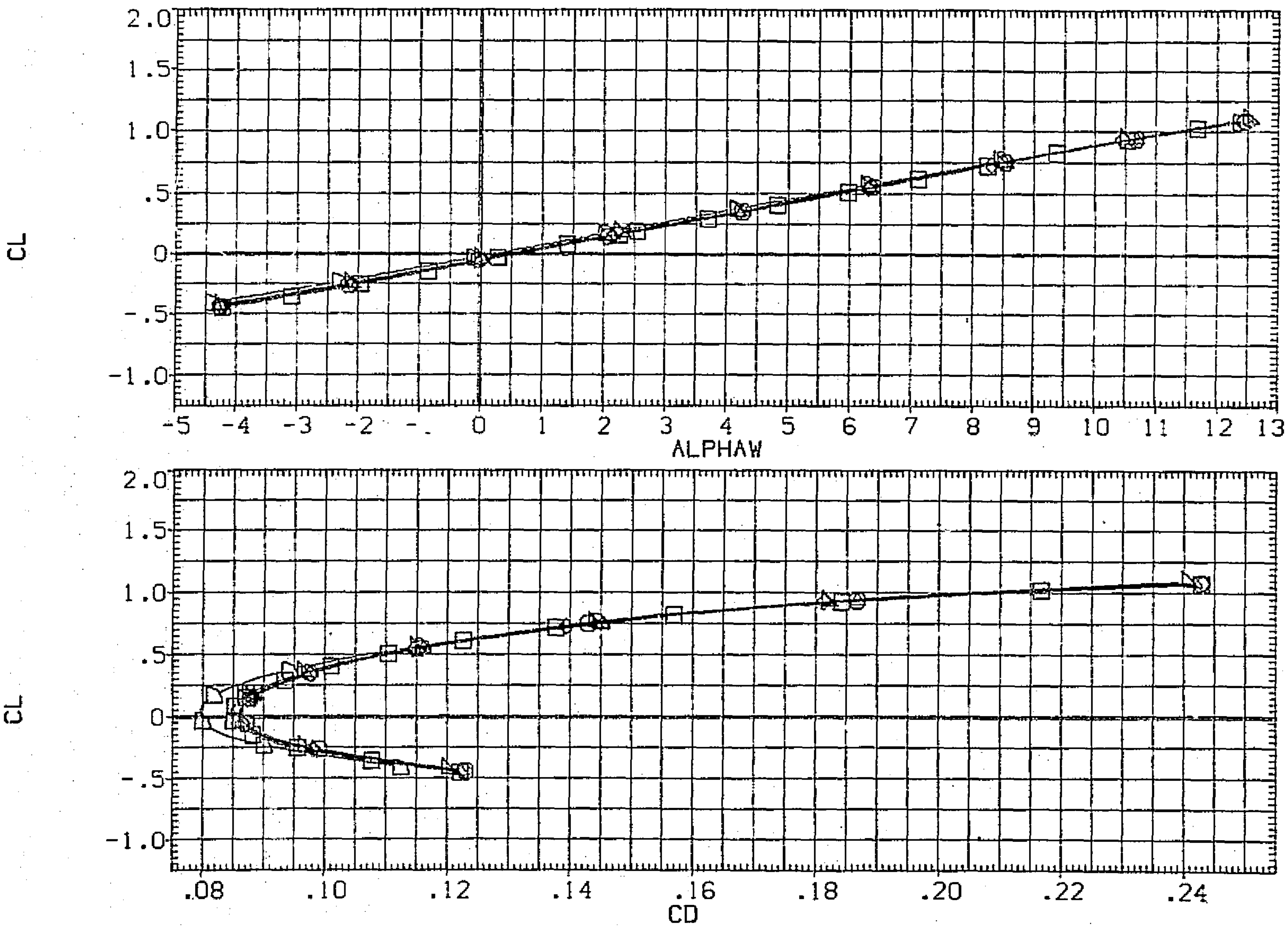



FIG. 52 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG., CA23 AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP122) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 4.850 | -4.000 | 8.110 |
| (RGP117) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95 3 ORBF8N24/28 | 4.750 | .000 | 8.110 |
| (RGP123) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 2.000 | 8.110 |
| (RGP124) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 4.000 | 8.110 |
| (RGP125) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 6.000 | 8.110 |
| (RGP126) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 10.000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

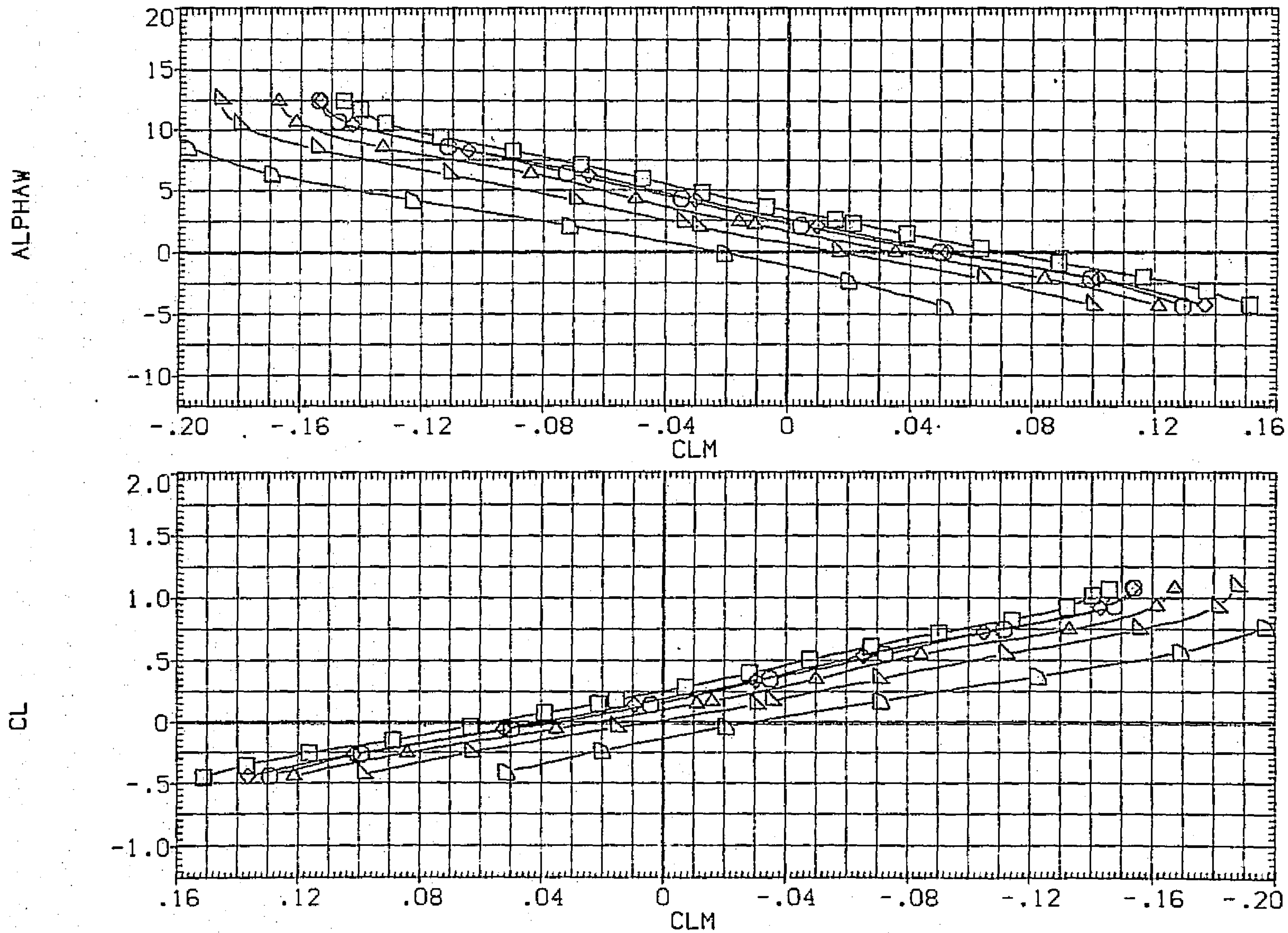



FIG. 52 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG., CA23 AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP122) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 4.850 | -4.000 | 8.110 |
| (RGP117) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |
| (RGP123) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 2.000 | 8.110 |
| (RGP124) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 4.000 | 8.110 |
| (RGP125) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 6.000 | 8.110 |
| (RGP126) | D | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.850 | 10.000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

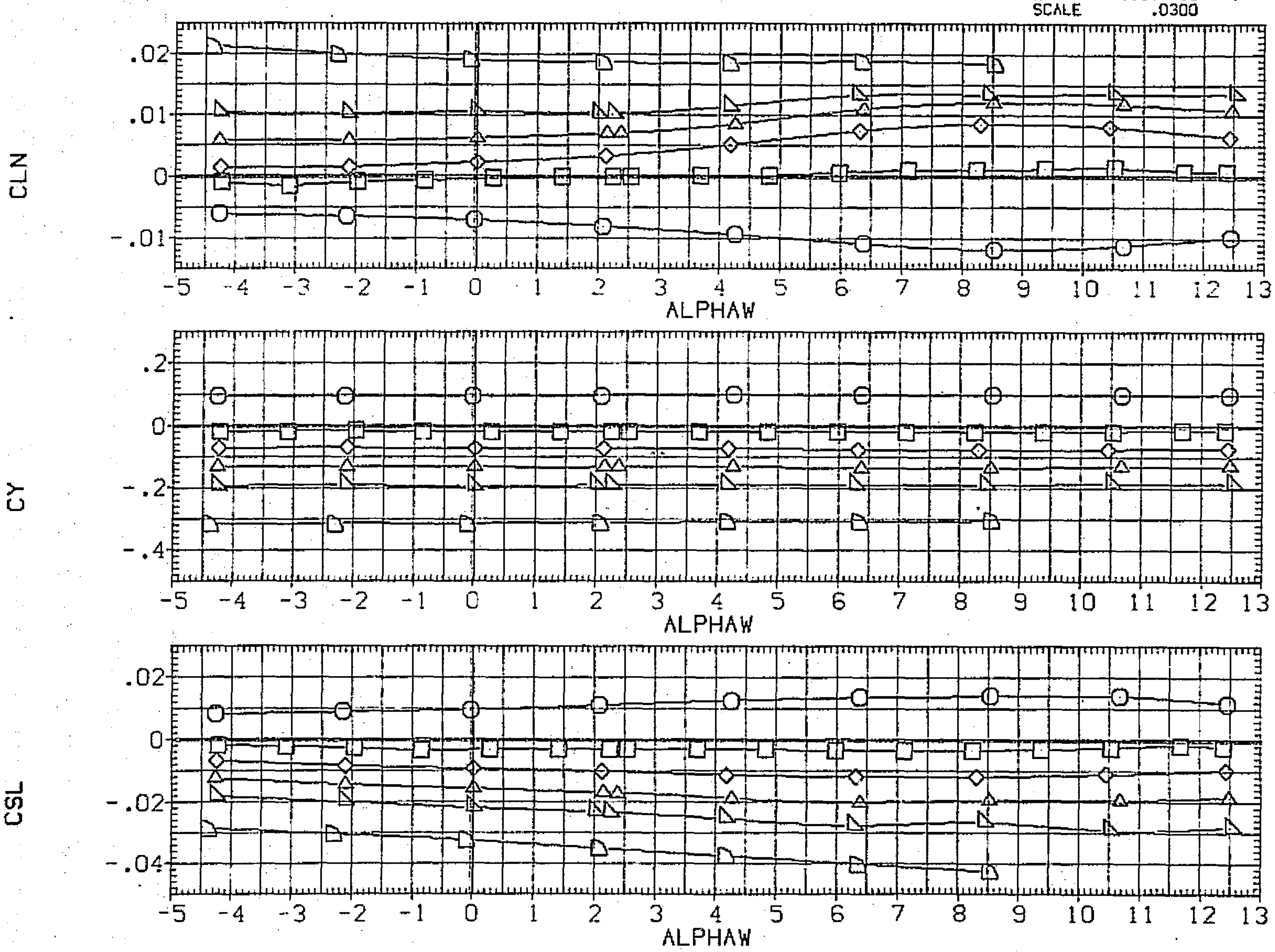



FIG. 52 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG., CA23 AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP131) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 8.110 |
| (RGP121) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | -.900 | .000 | 8.110 |
| (RGP120) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 2.060 | .000 | 8.110 |
| (RGP117) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

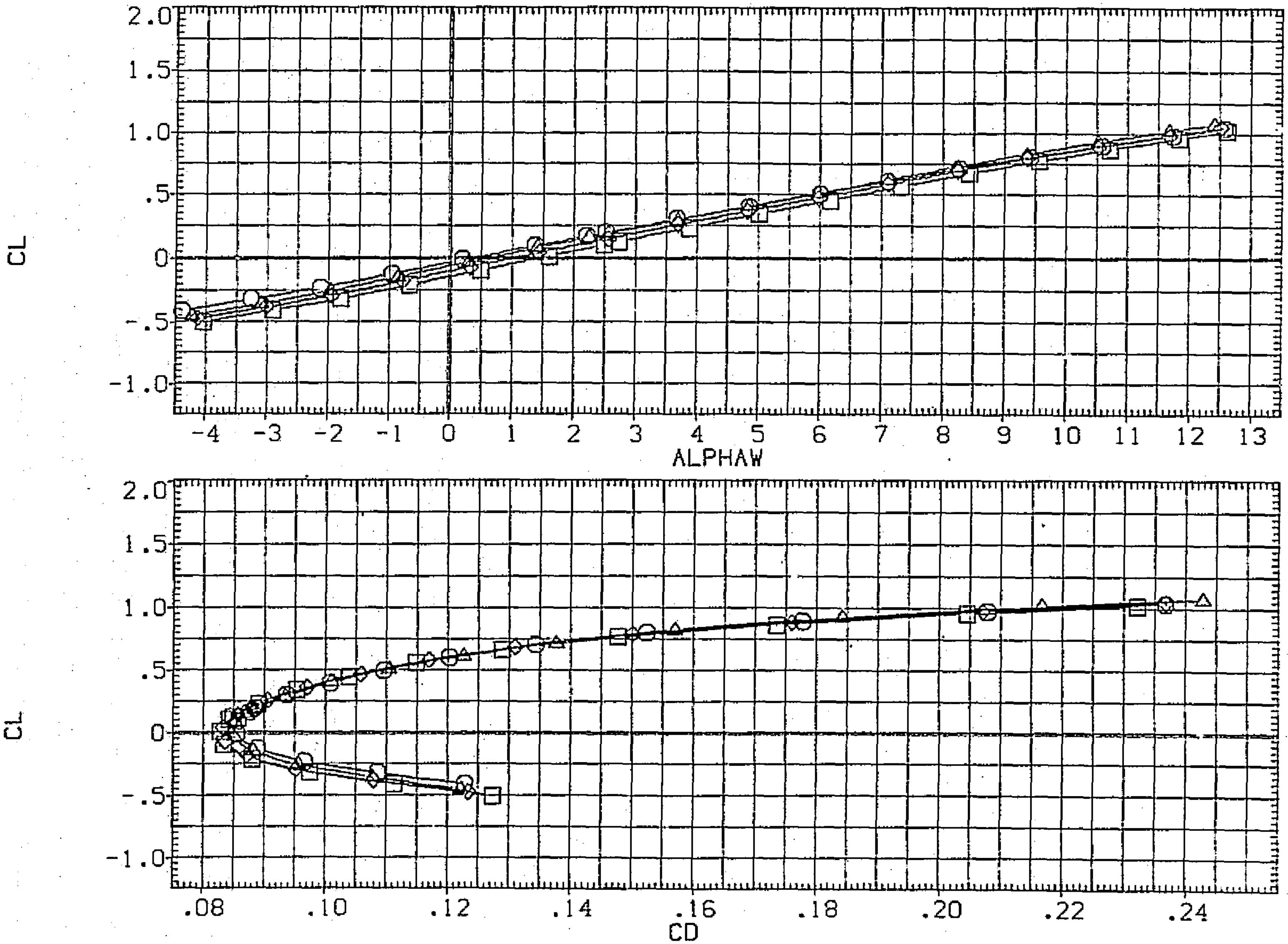



FIG. 53 STABILIZER EFFECTIVENESS, LAUNCH CONFIG., CA23AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP131) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 8.110 |
| (RGP121) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | -.900 | .000 | 8.110 |
| (RGP120) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 2.060 | .000 | 8.110 |
| (RGP117) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

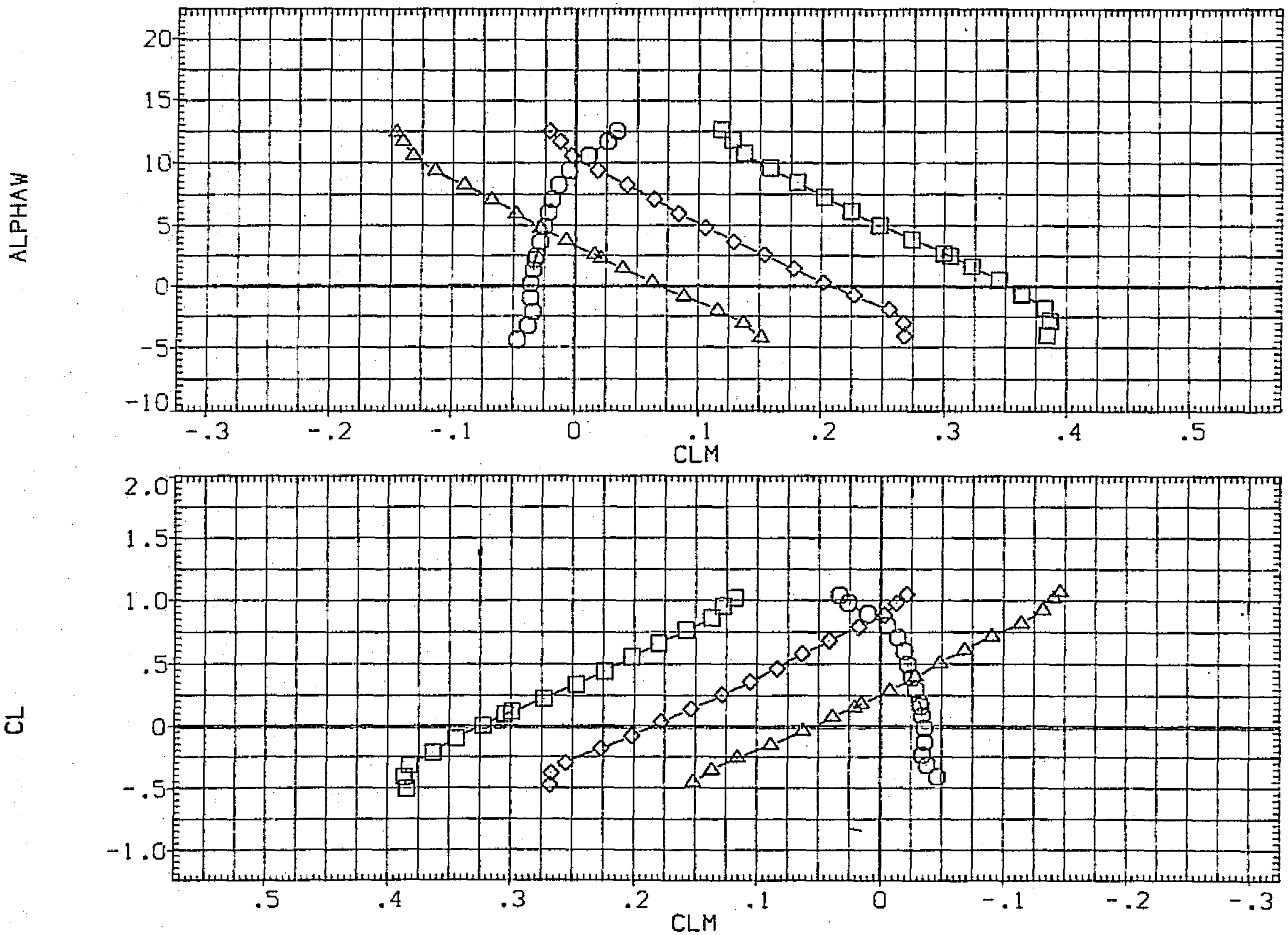



FIG. 53 STABILIZER EFFECTIVENESS, LAUNCH CONFIG., CA23AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP131) | ○ | CA6 K2 V9.1S1-12 AT103.1/95-.30RBF8N24/28 | | .000 | 8.110 |
| (RGP121) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | -.900 | .000 | 8.110 |
| (RGP120) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 2.060 | .000 | 8.110 |
| (RGP117) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

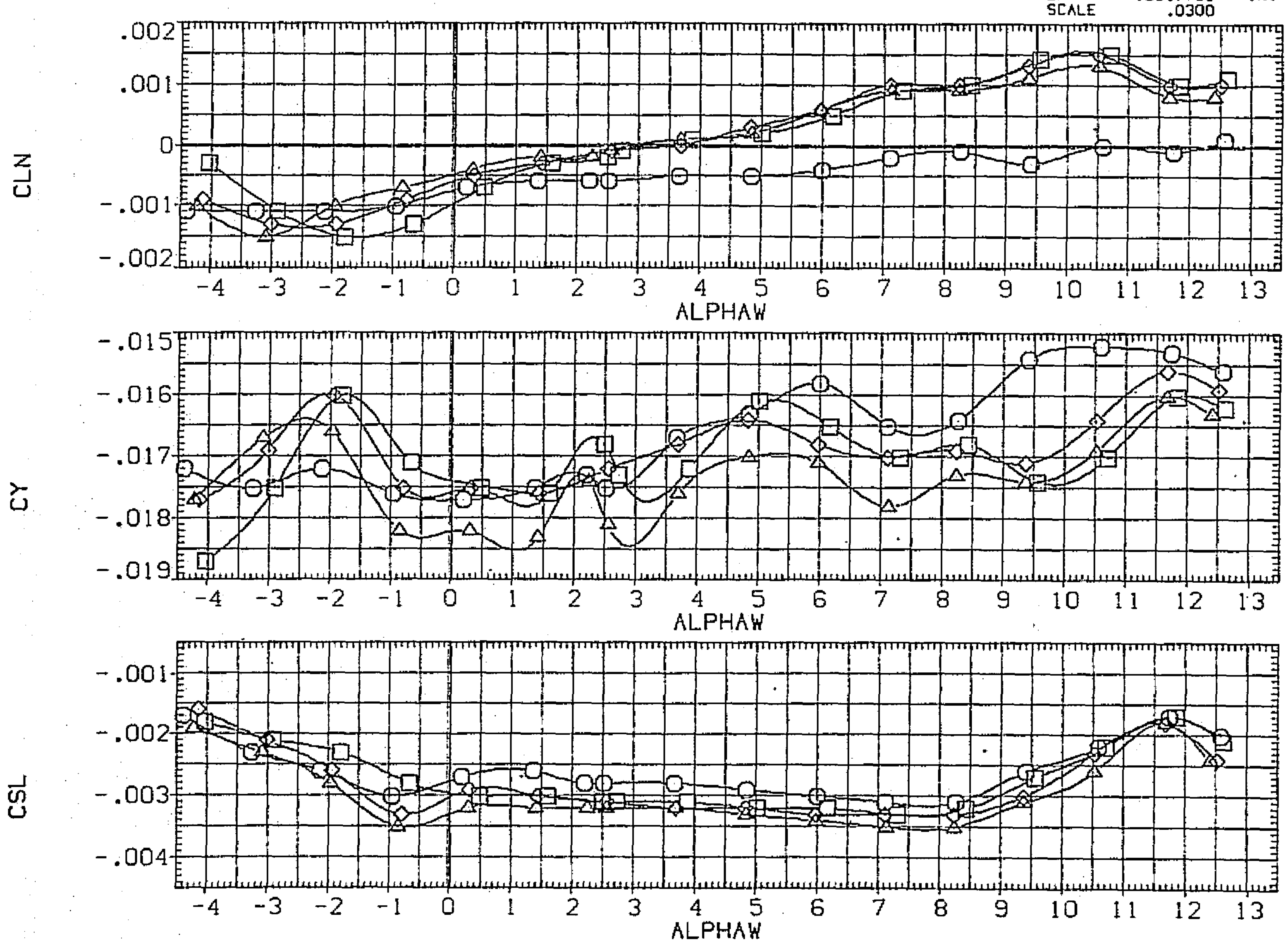



FIG. 53 STABILIZER EFFECTIVENESS, LAUNCH CONFIG., CA23AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | STAB | BETA | 10RB |
|---|---|---|---|---|---|---|
| (RGP136) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 4.980 | .000 | 6.030 |
| (RGP137) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 4.980 | 2.000 | 6.030 |
| (RGP138) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 4.980 | 4.000 | 6.030 |
| (RGP139) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 4.980 | 6.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

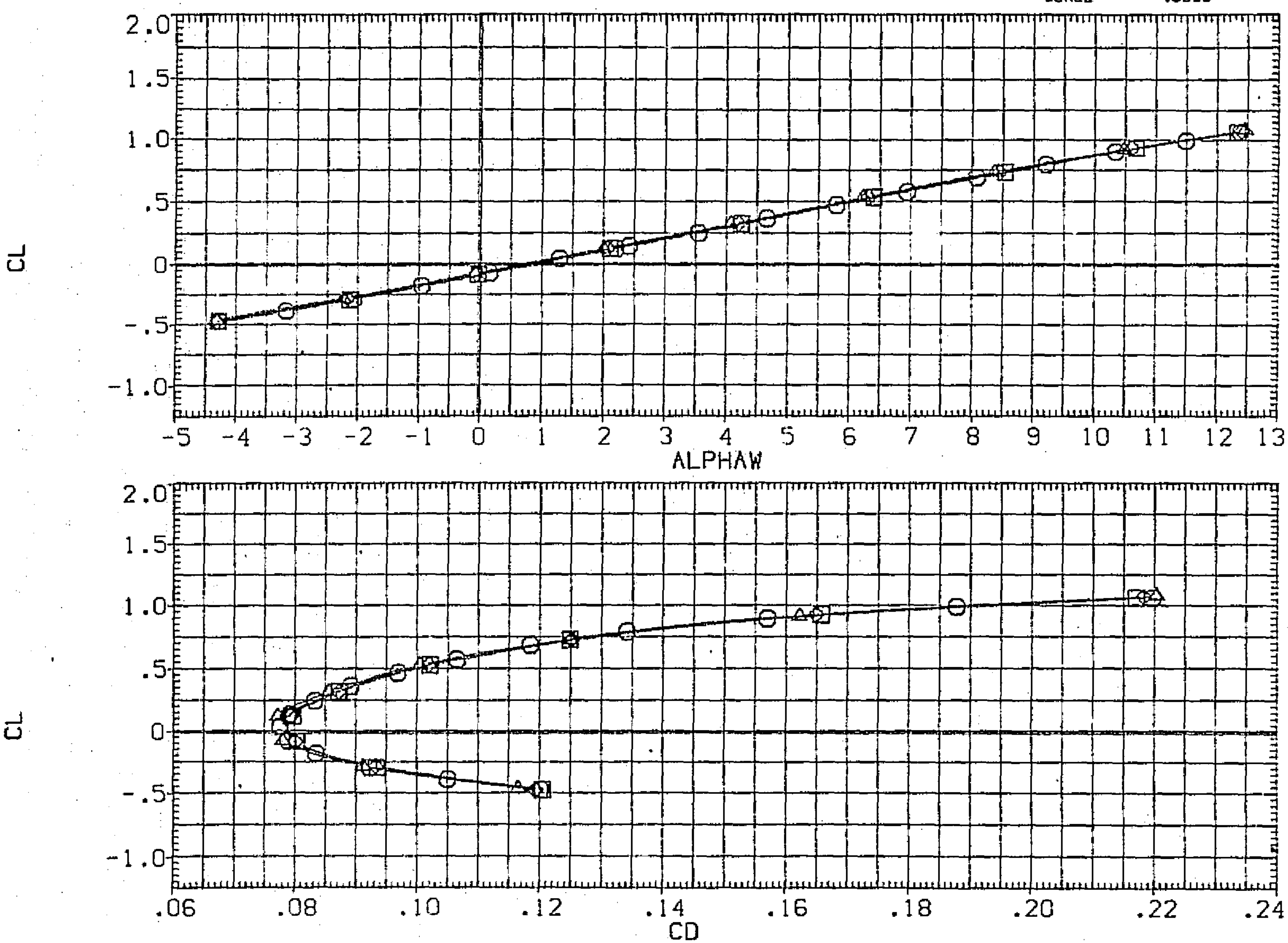



FIG. 54 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG., MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP136) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.980 | .000 | 6.030 |
| (RGP137) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.980 | 2.000 | 6.030 |
| (RGP138) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.980 | 4.000 | 6.030 |
| (RGP139) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.980 | 6.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

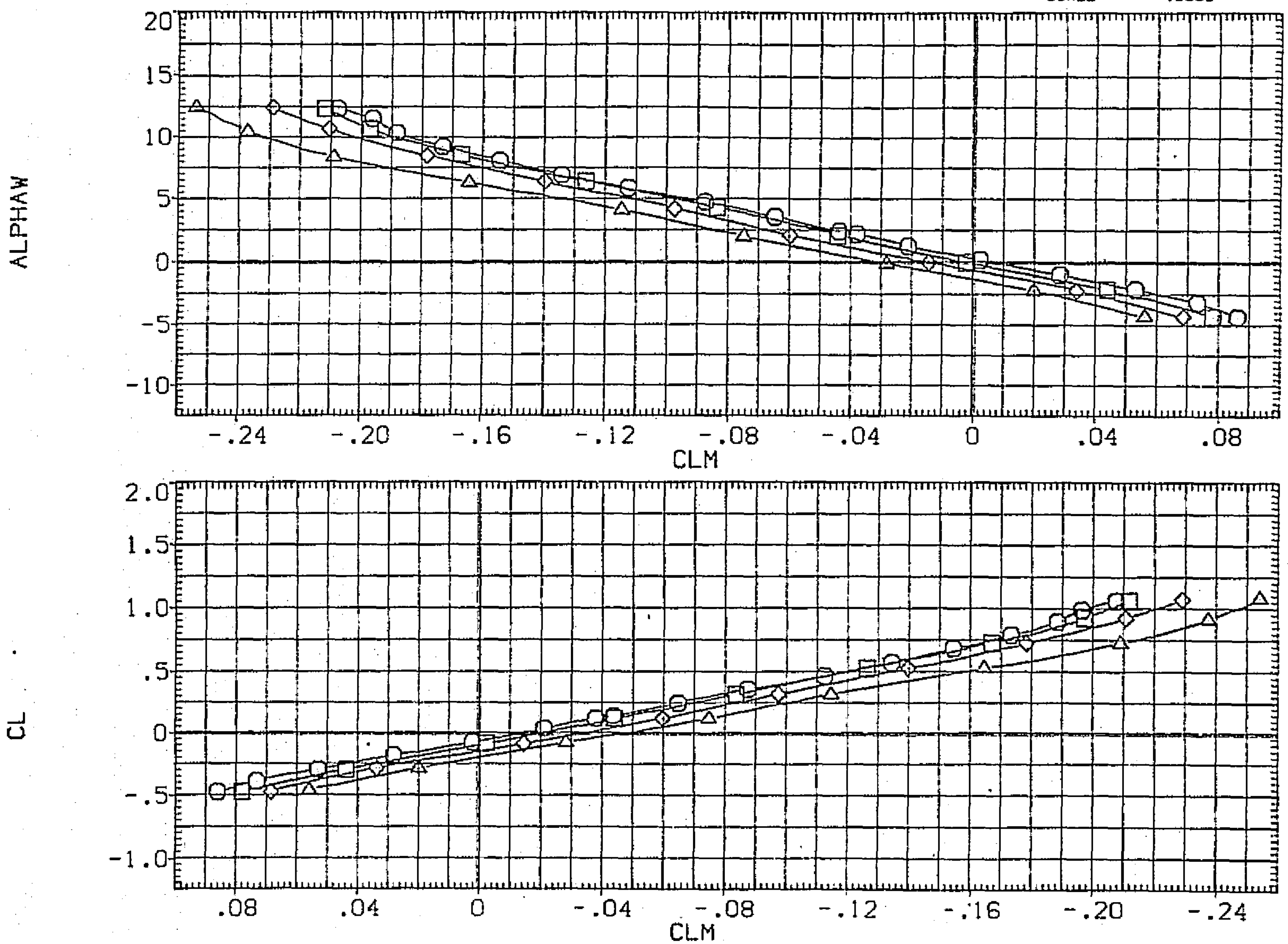



FIG. 54 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG., MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP136) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.980 | .000 | 6.030 |
| (RGP137) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.980 | 2.000 | 6.030 |
| (RGP138) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.980 | 4.000 | 6.030 |
| (RGP139) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.980 | 6.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

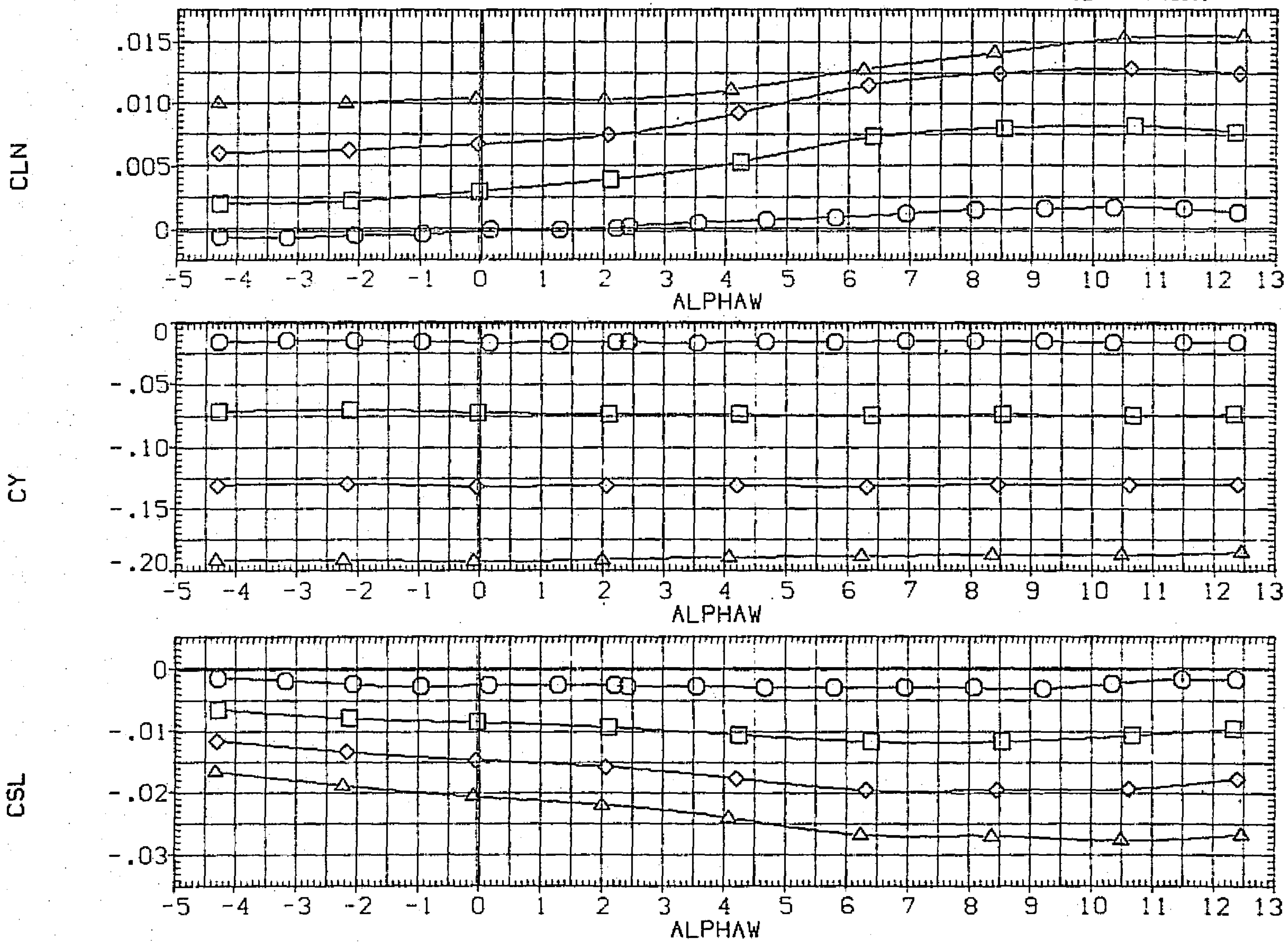



FIG. 54 LATERAL-DIRECTIONAL STABILITY, LAUNCH CONFIG., MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP135) | ○ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.1ORBF8N24/28 | 2.070 | .000 | 6.030 |
| (RGP136) | □ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.1ORBF8N24/28 | 4.980 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

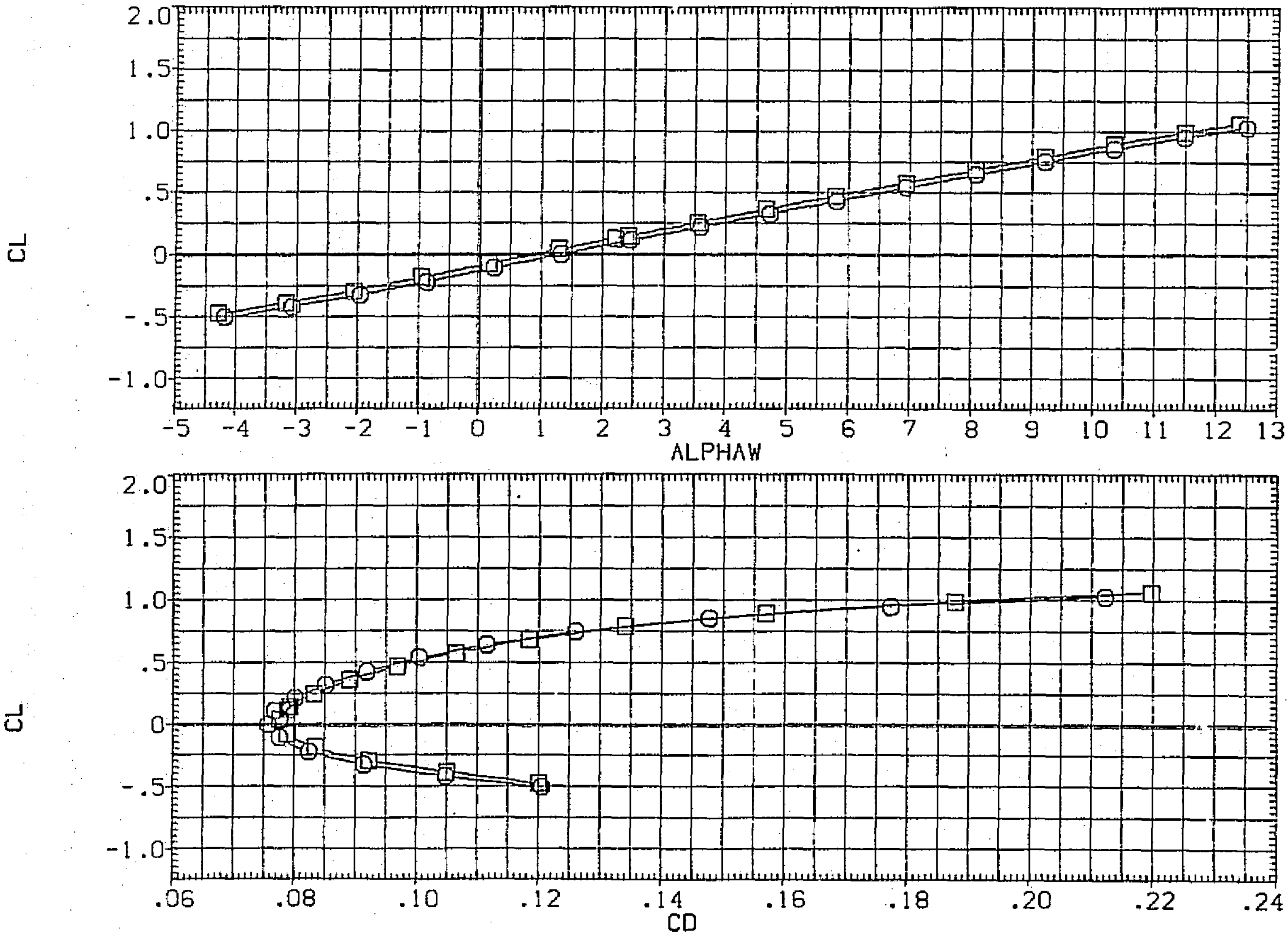



FIG. 55 STABILIZER EFFECTIVENESS, LAUNCH CONFIG., MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP135) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.070 | .000 | 6.030 |
| (RGP136) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.980 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

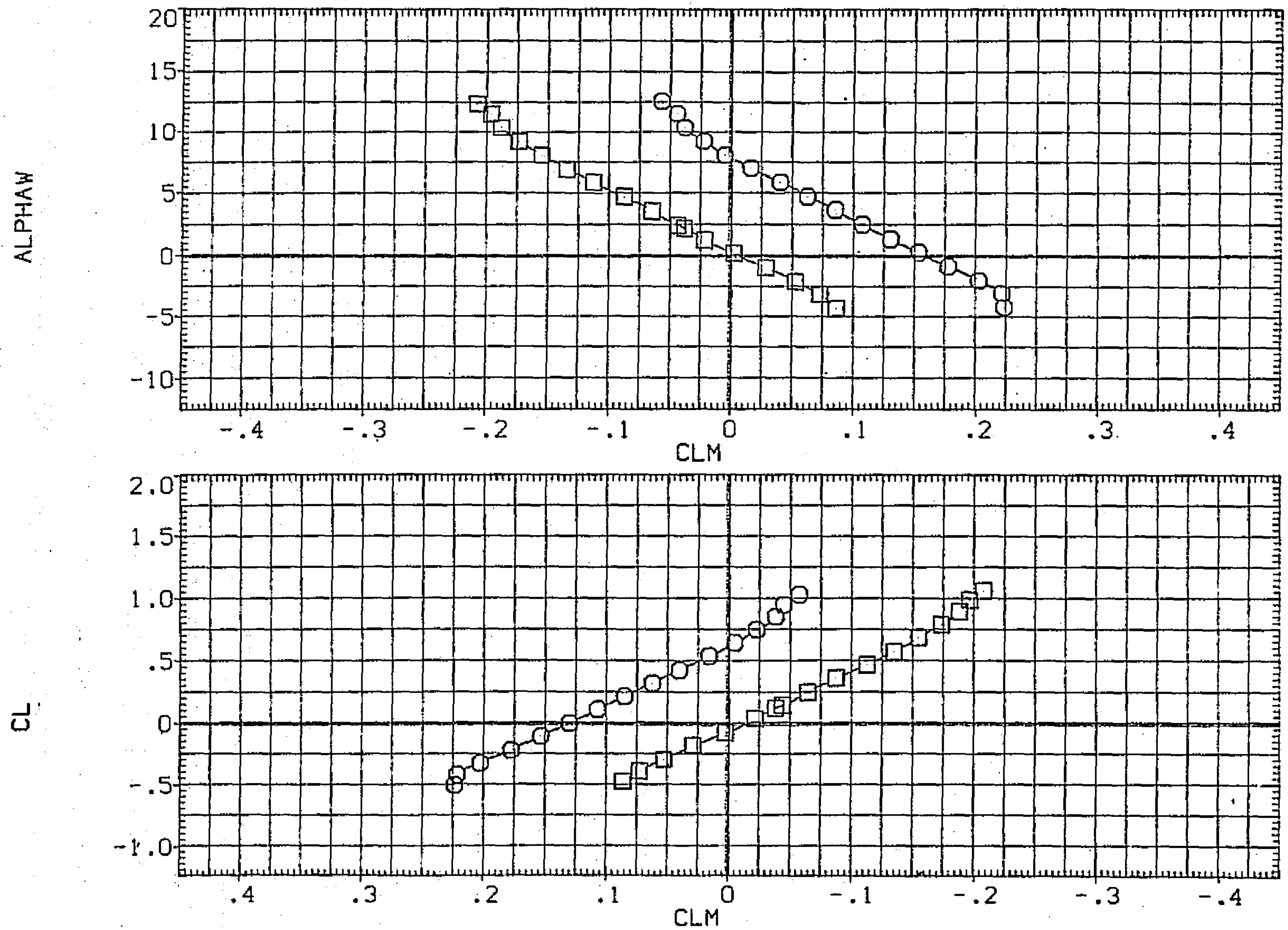



FIG. 55 STABILIZER EFFECTIVENESS, LAUNCH CONFIG., MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP135) | ○ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | 2.070 | .000 | 6.030 |
| (RGP136) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | 4.980 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

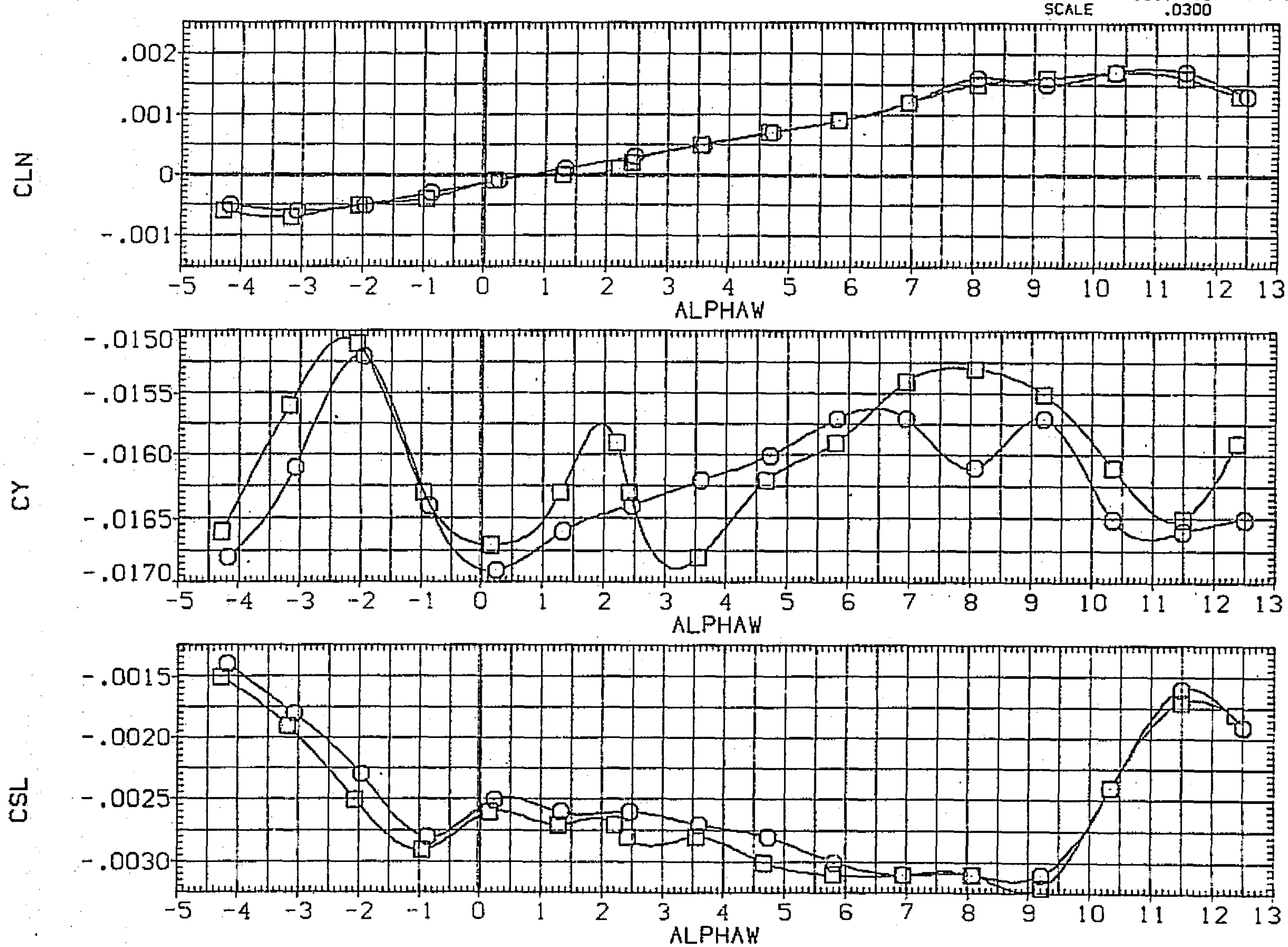



FIG. 55 STABILIZER EFFECTIVENESS, LAUNCH CONFIG., MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP119) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /95 ORBF8N24/28 | 4.750 | 8.110 | -10.000 | -10.000 |
| (RGP117) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | 8.110 | .000 | .000 |
| (RGP118) | ◇ | CA6 K2H15.6.IV9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | 8.110 | 10.000 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

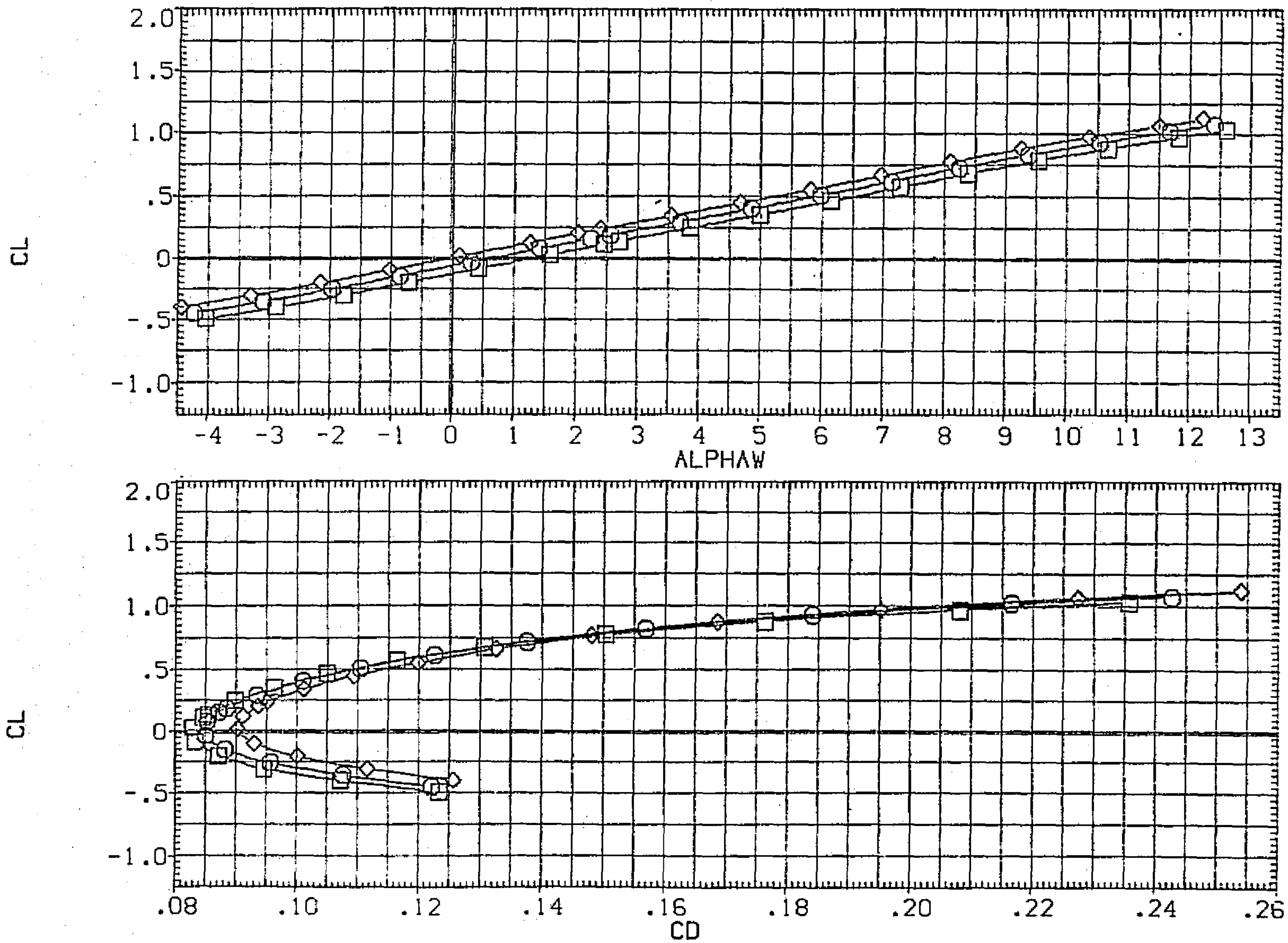



FIG. 56 ELEVATOR EFFECTIVENESS, LAUNCH CONFIG., CA23AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP119) | □ | CA6 K2H15.6.1V9.151-12 AT112 /95 ORBF8N24/28 | 4.750 | 8.110 | -10.000 | -10.000 |
| (RGP117) | ○ | CA6 K2H15.6.1V9.151-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | 8.110 | .000 | .000 |
| (RGP118) | ◇ | CA6 K2H15.6.1V9.151-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | 8.110 | 10.000 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

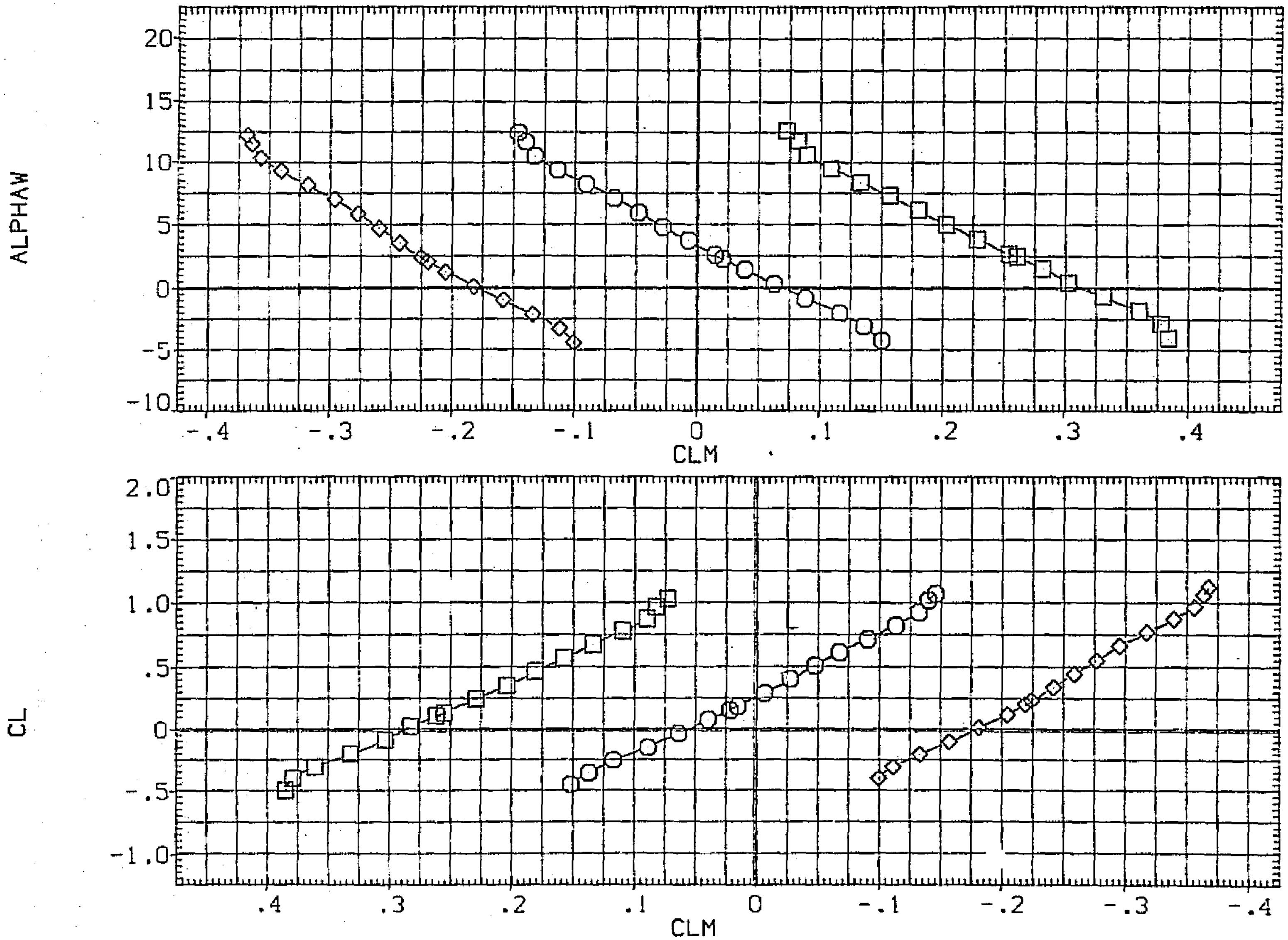



FIG. 56 ELEVATOR EFFECTIVENESS, LAUNCH CONFIG., CA23AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP119) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | 4.750 | 8.110 | -10.000 | -10.000 |
| (RGP117) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | 8.110 | .000 | .000 |
| (RGP118) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | 8.110 | 10.000 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

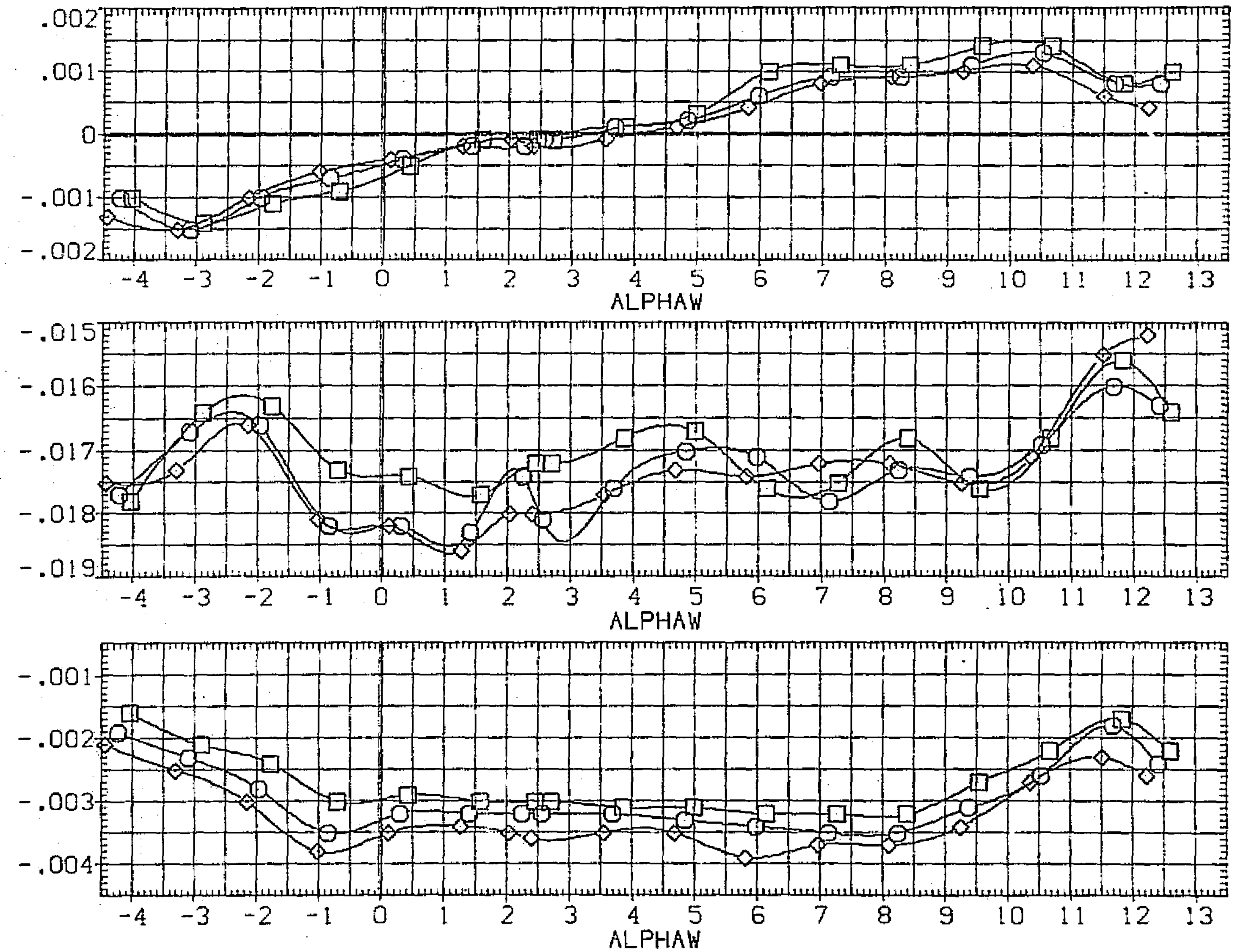



FIG. 56 ELEVATOR EFFECTIVENESS, LAUNCH CONFIG., CA23AFT AND ROUND FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP069) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP080) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | -1.010 | .000 | 6.000 |
| (RGP059) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP081) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

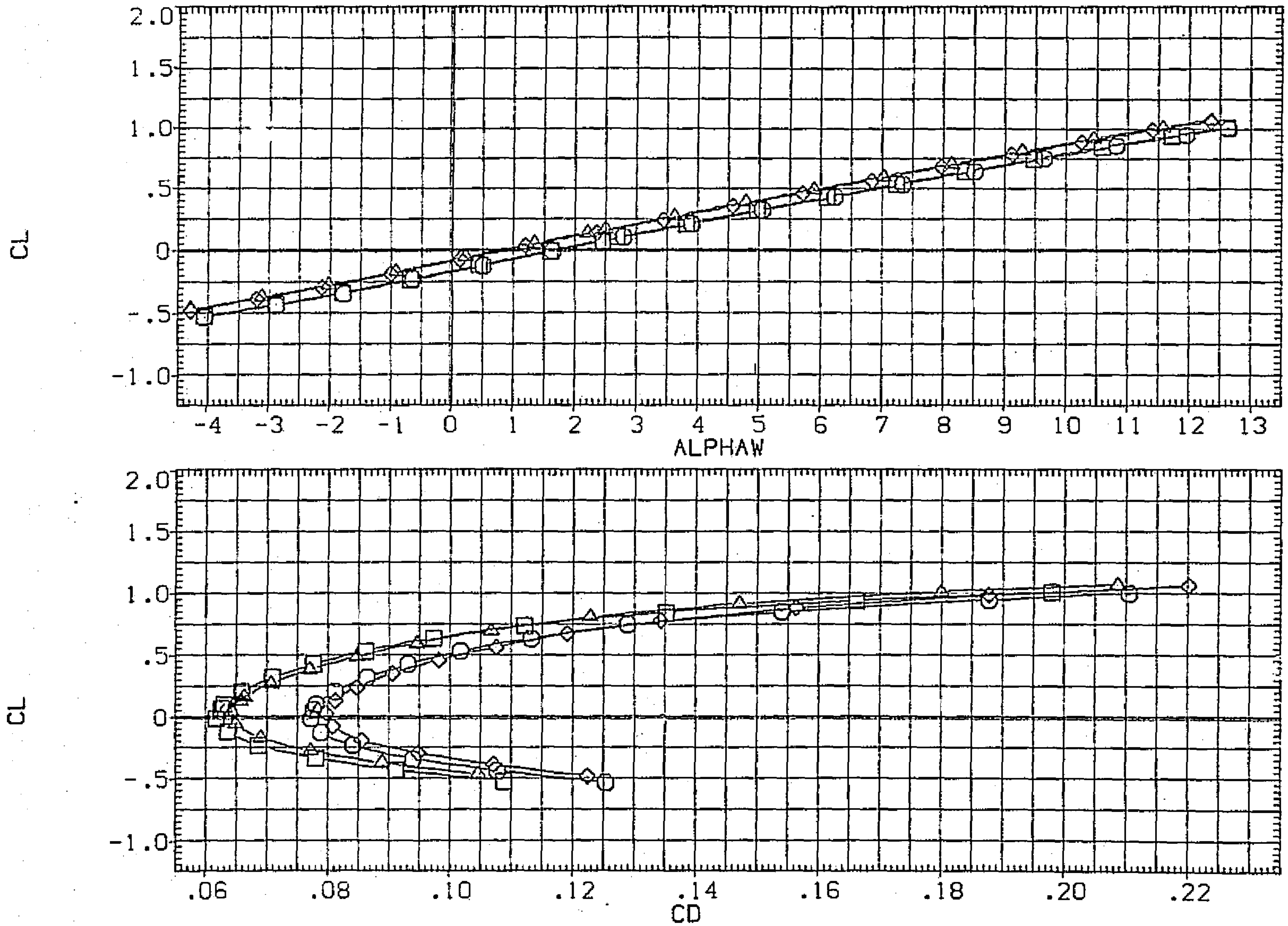



FIG. 57 EFFECT OF T.C. FAIRING ON LONGITUDINAL STABILITY, ALT LAUNCH

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP069) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP080) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | -1.010 | .000 | 6.000 |
| (RGP059) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP081) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

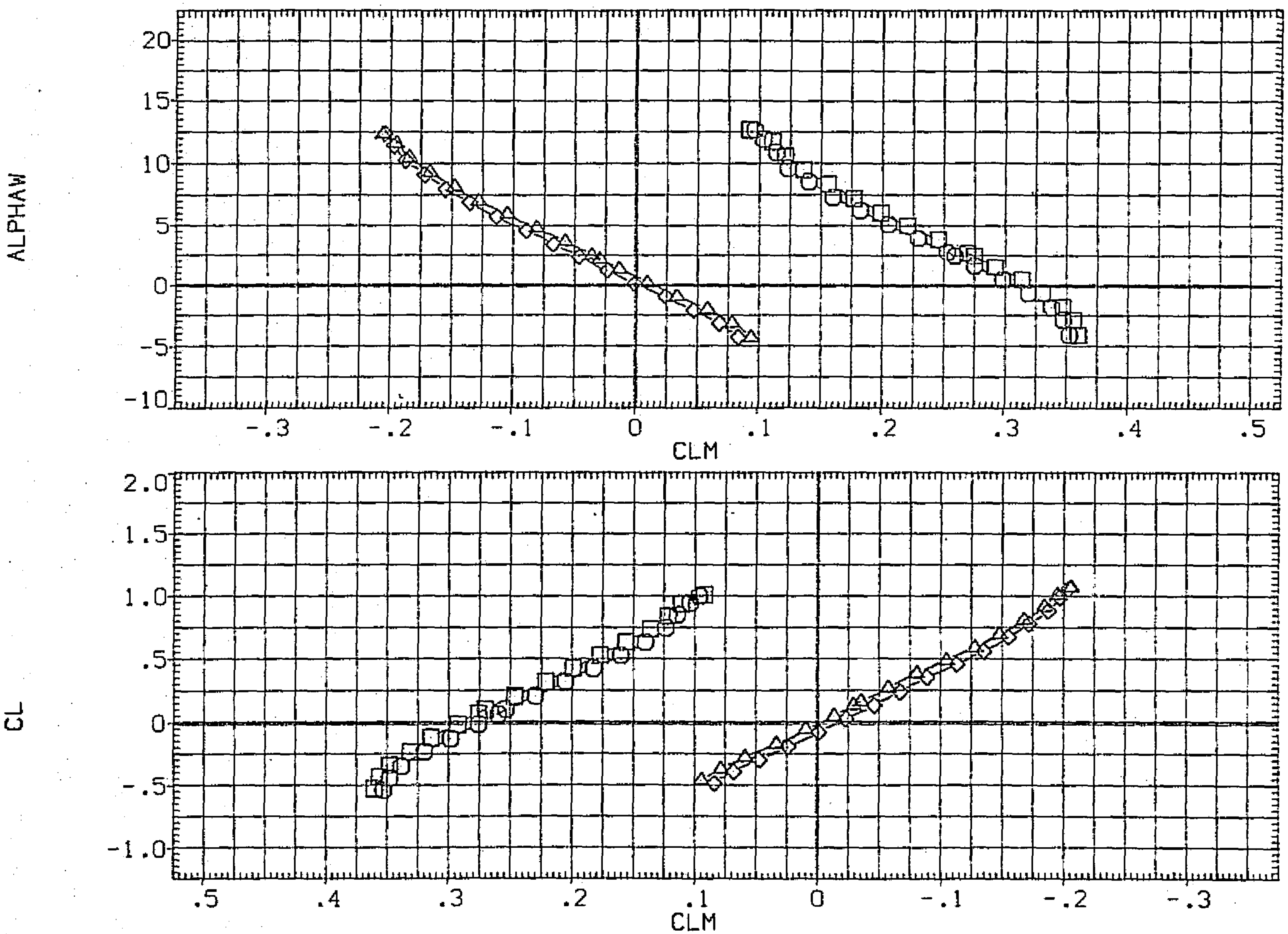



FIG. 57 EFFECT OF T.C. FAIRING ON LONGITUDINAL STABILITY, ALT LAUNCH

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP069) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | -1.010 | .000 | 6.000 |
| (RGP080) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | -1.010 | .000 | 6.000 |
| (RGP059) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RBF8N24/28 | 4.890 | .000 | 6.000 |
| (RGP081) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95-.30RB TC4 | 4.840 | .000 | 6.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

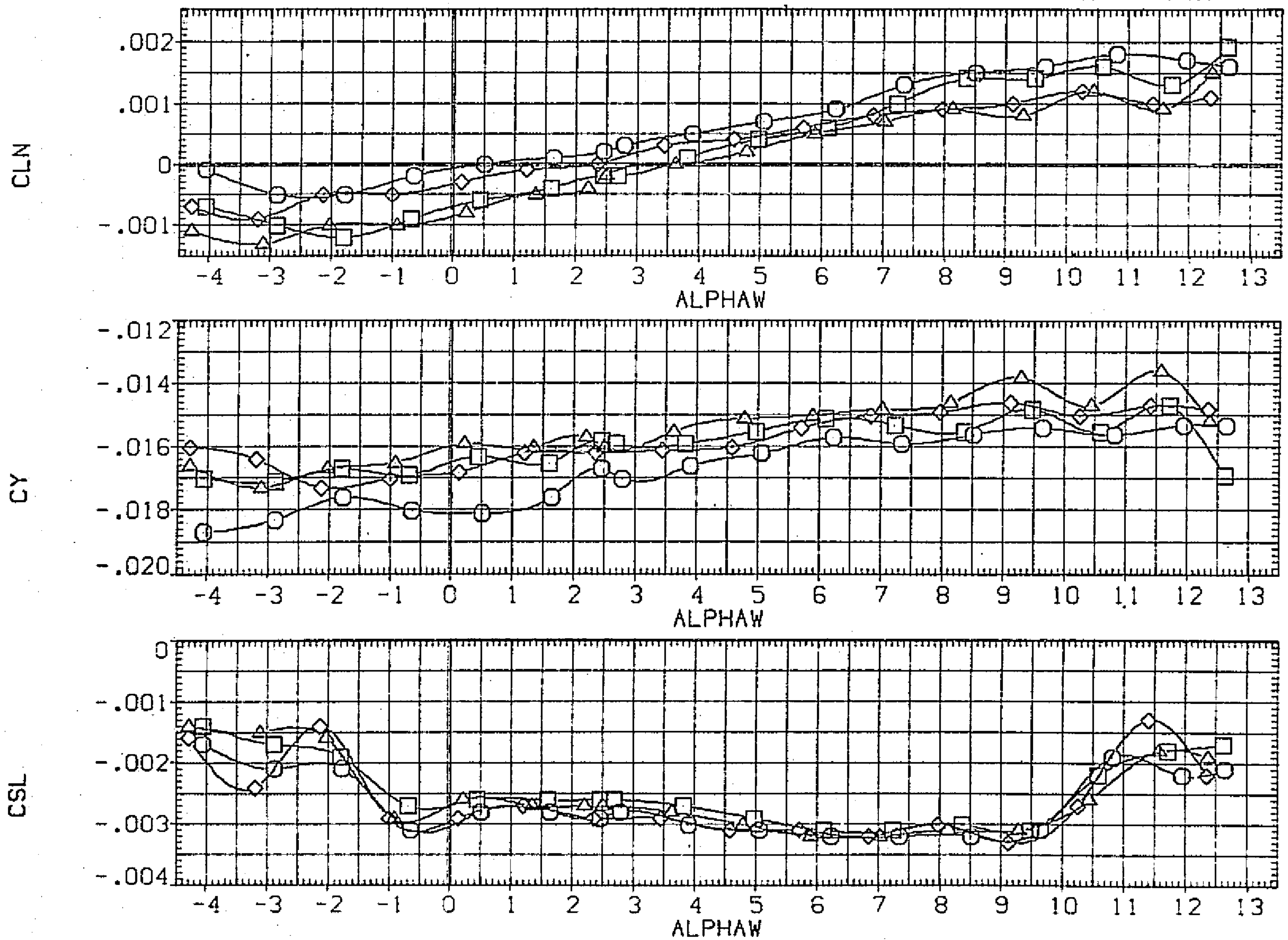



FIG. 57 EFFECT OF T.C. FAIRING ON LONGITUDINAL STABILITY, ALT LAUNCH

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP165) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORBF8N24/28 | | 6.030 | .000 |
| (RGP142) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .970 | 6.030 | .000 |
| (RGP143) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.040 | 6.030 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

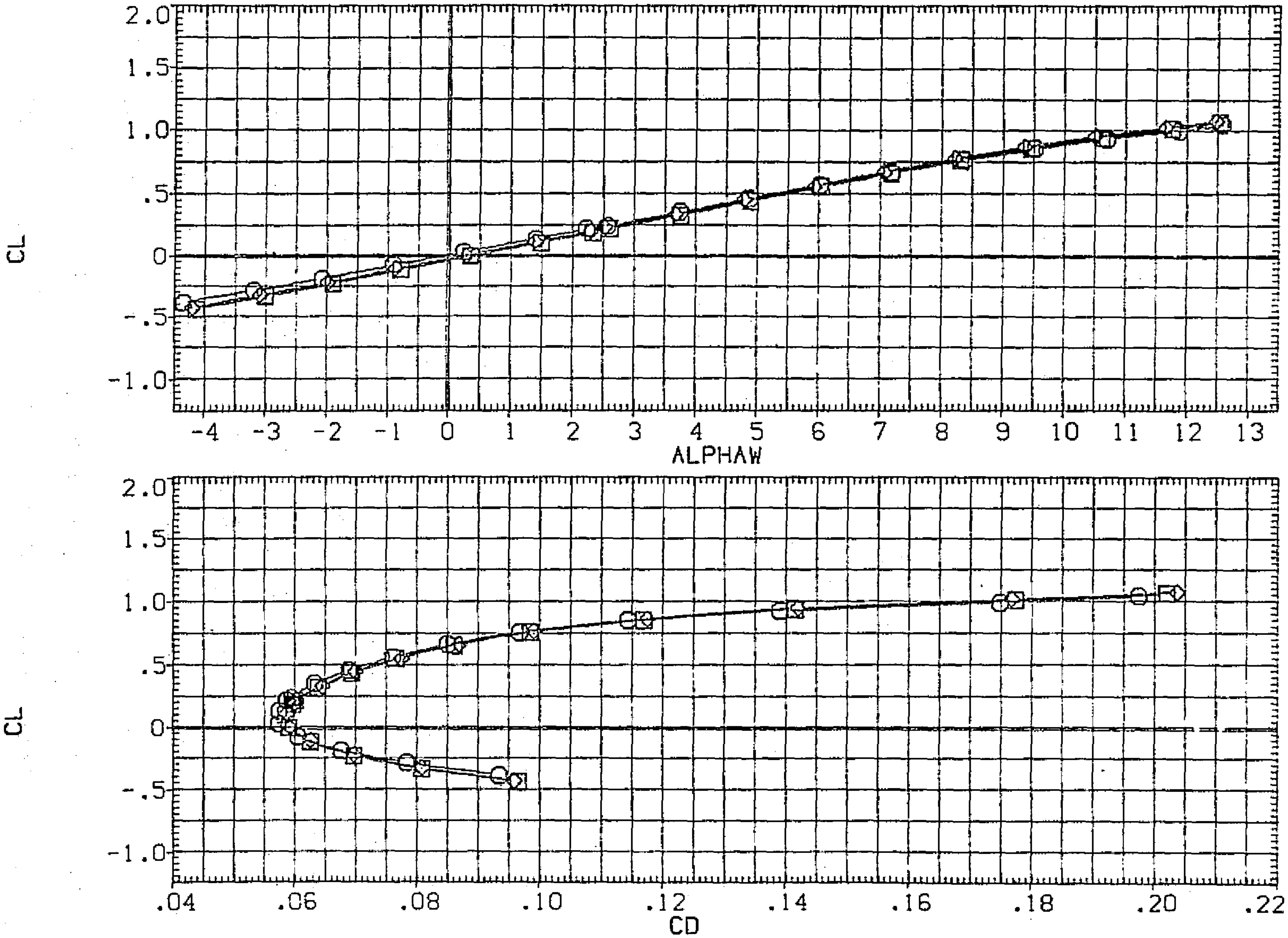



FIG. 58 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP165) | ○ | CA6 K2 V9.1S1-12 AT112 /111.10RBF8N24/28 | | 6.030 | .000 |
| (RGP142) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .970 | 6.030 | .000 |
| (RGP143) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 2.040 | 6.030 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

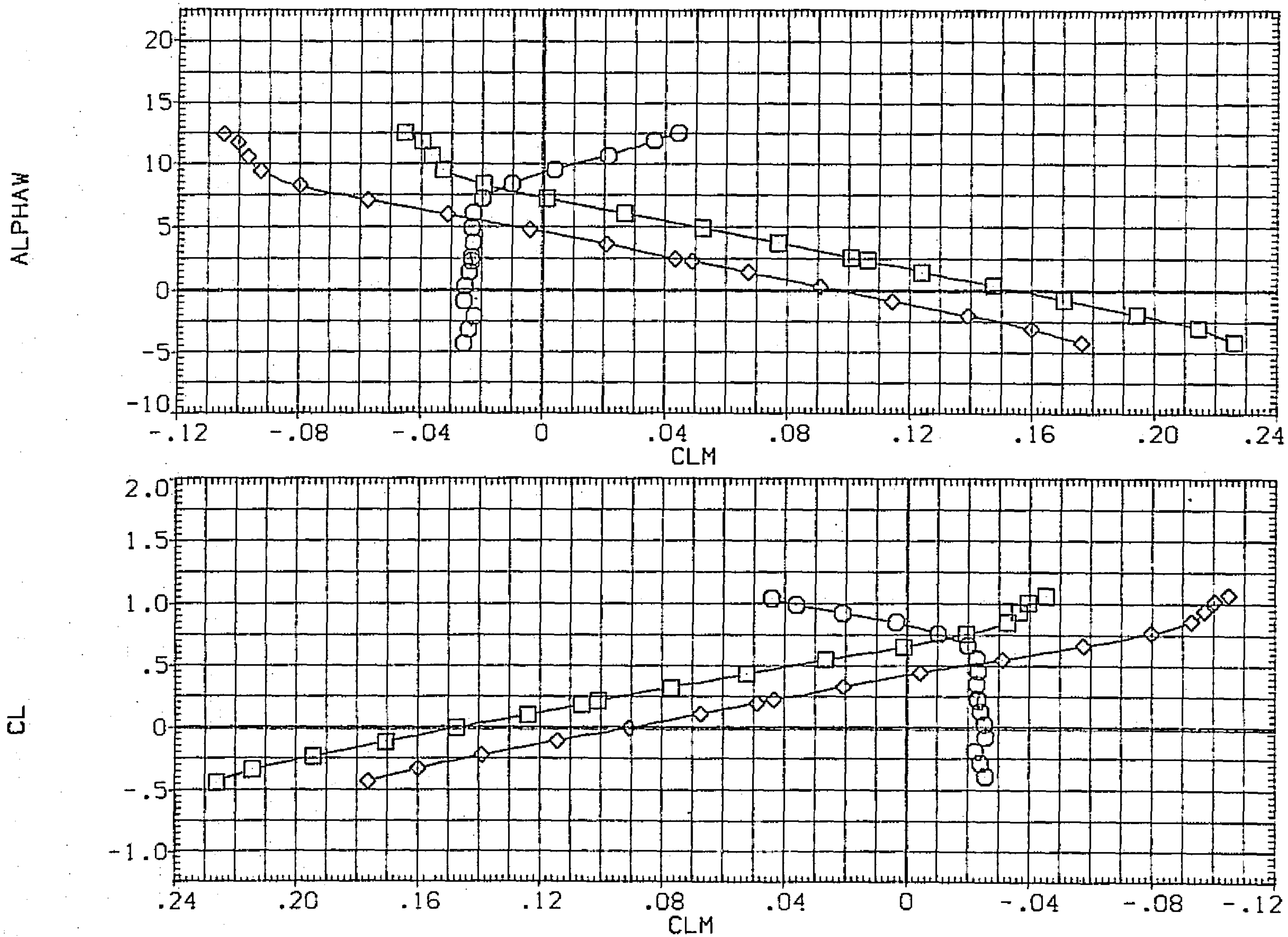



FIG. 58 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP165) | ○ | CA6 K2 V9.1S1-12 AT112 /111.10RBF8N24/28 | | 6.030 | .000 |
| (RGP142) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .970 | 6.030 | .000 |
| (RGP143) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 2.040 | 6.030 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

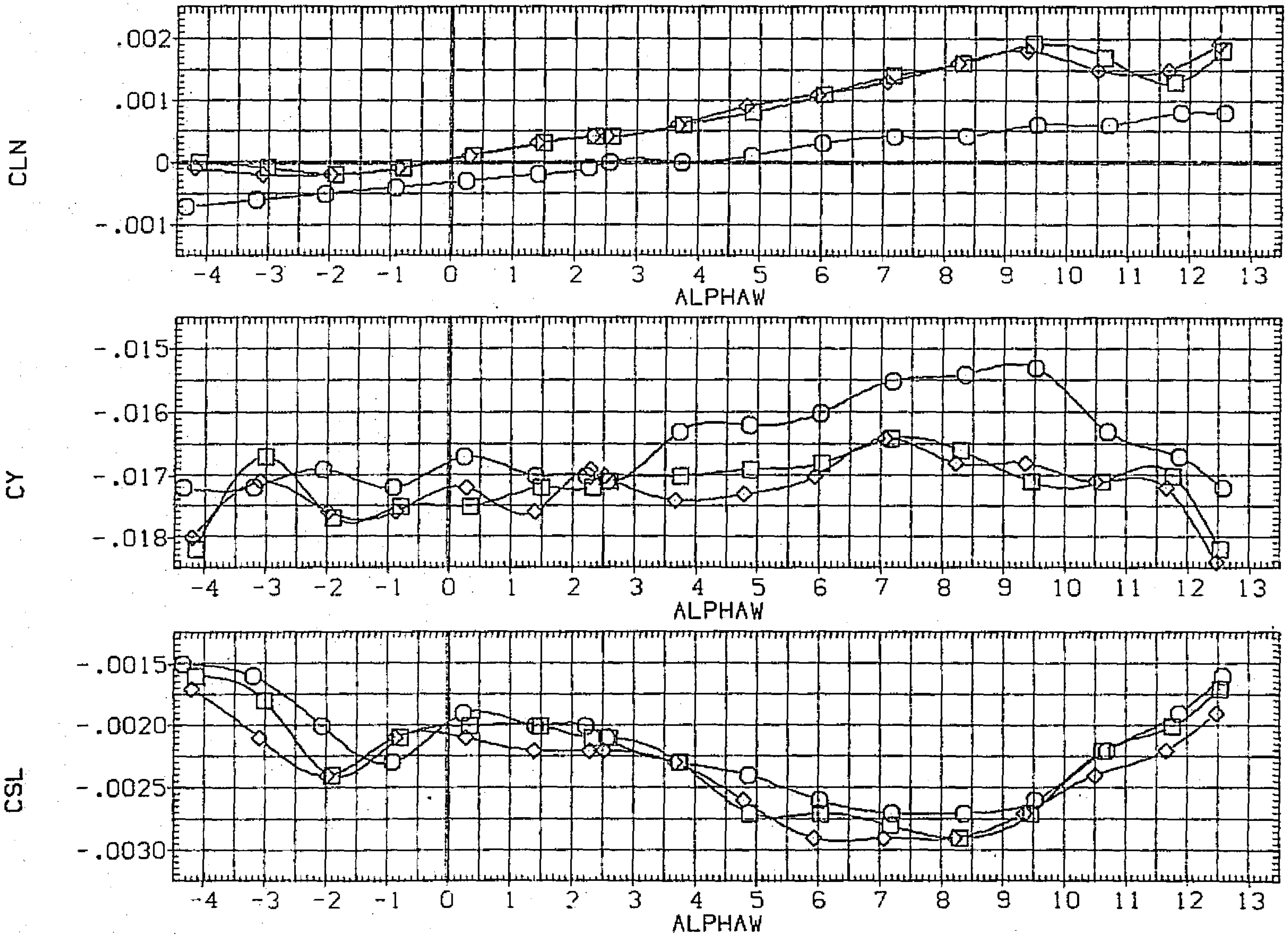



FIG. 58 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORBFBN24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

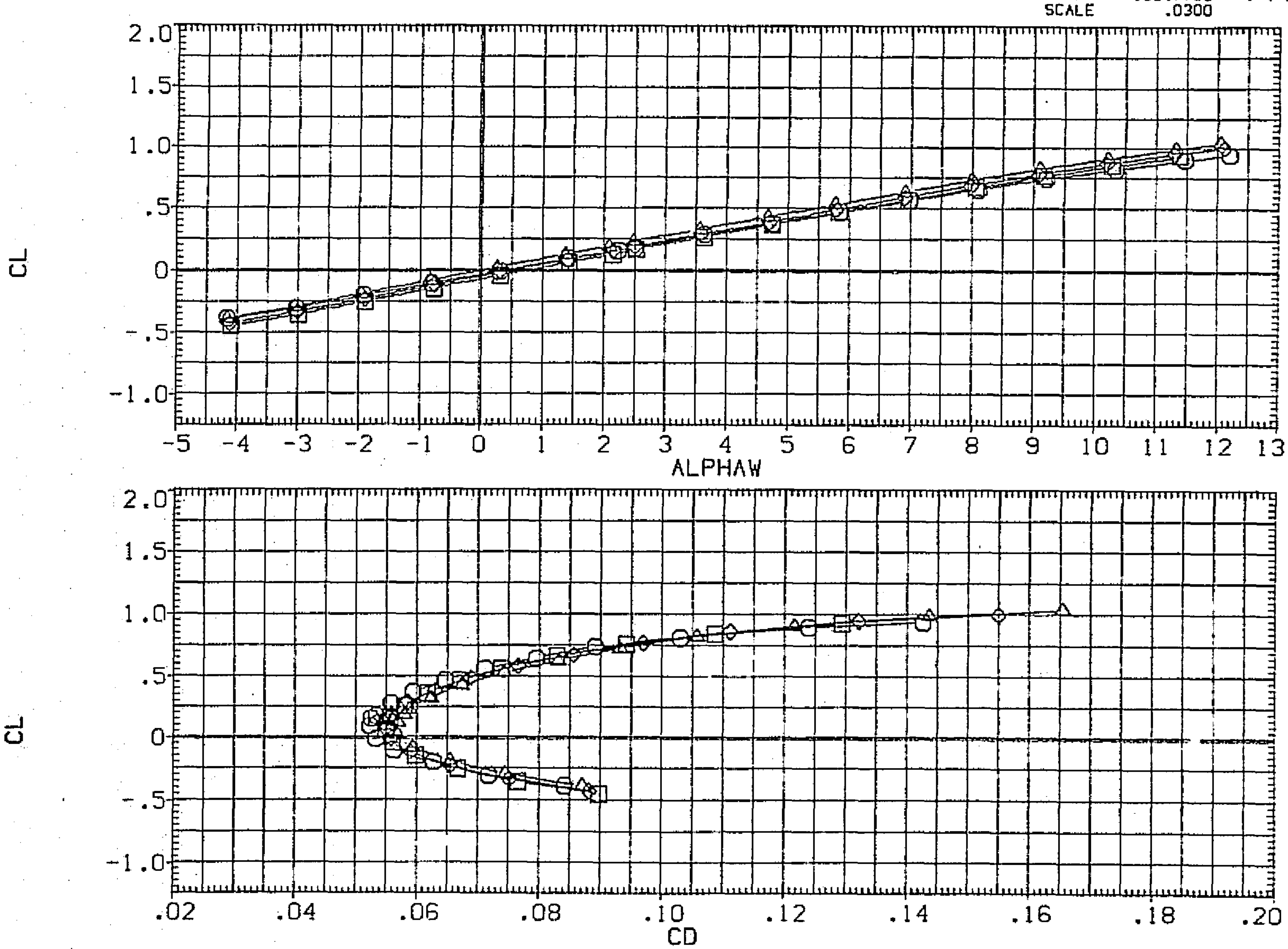



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.IS1-12 AT112 /111.1ORBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.1ORBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.1ORBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

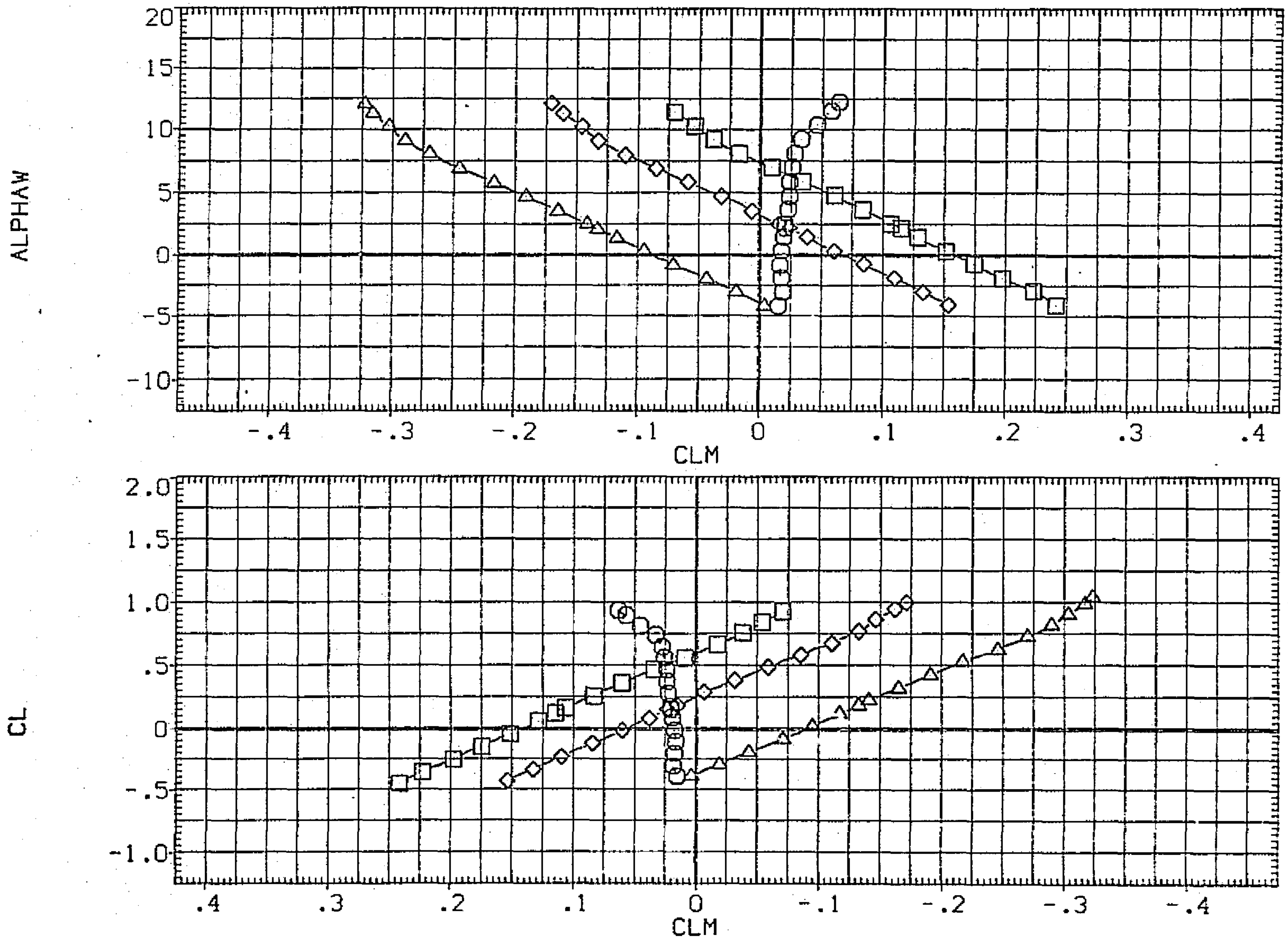



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

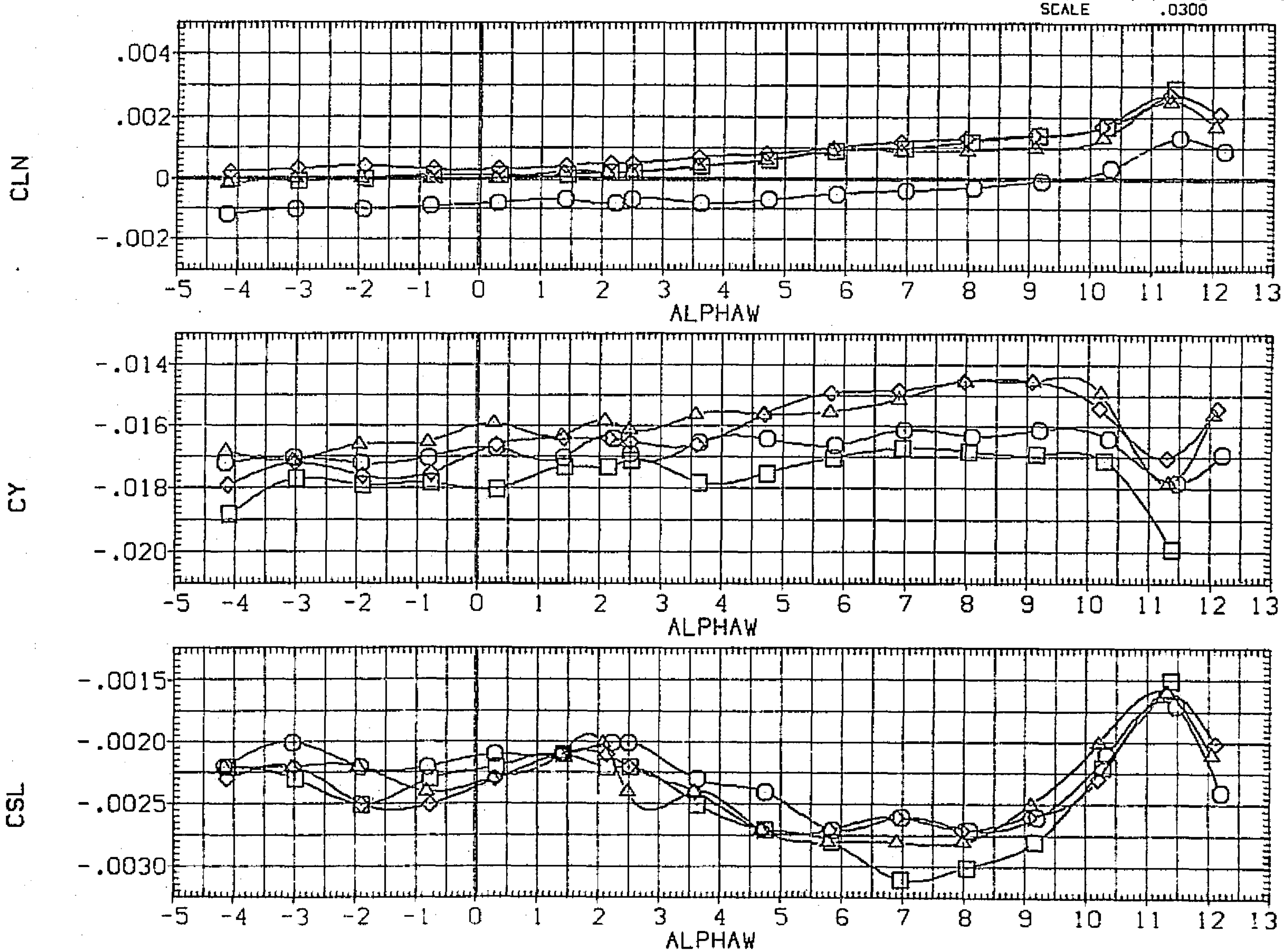


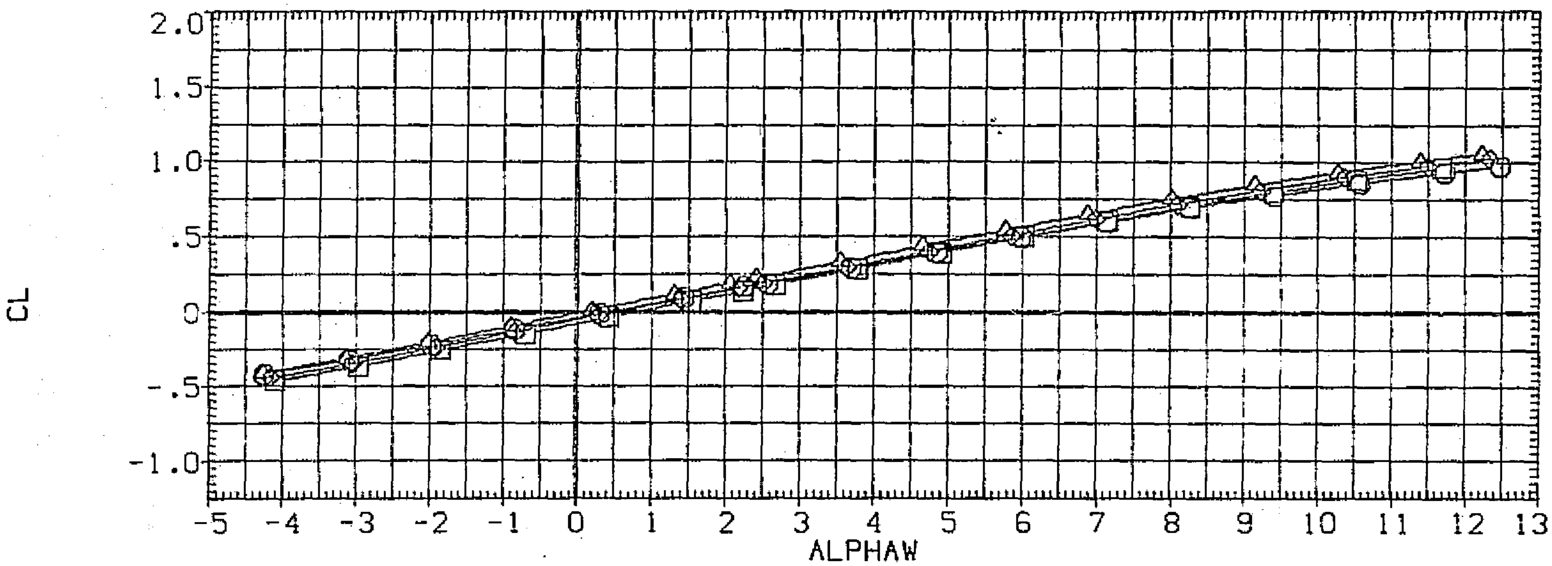

FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.10RBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 1.940 | 6.030, | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



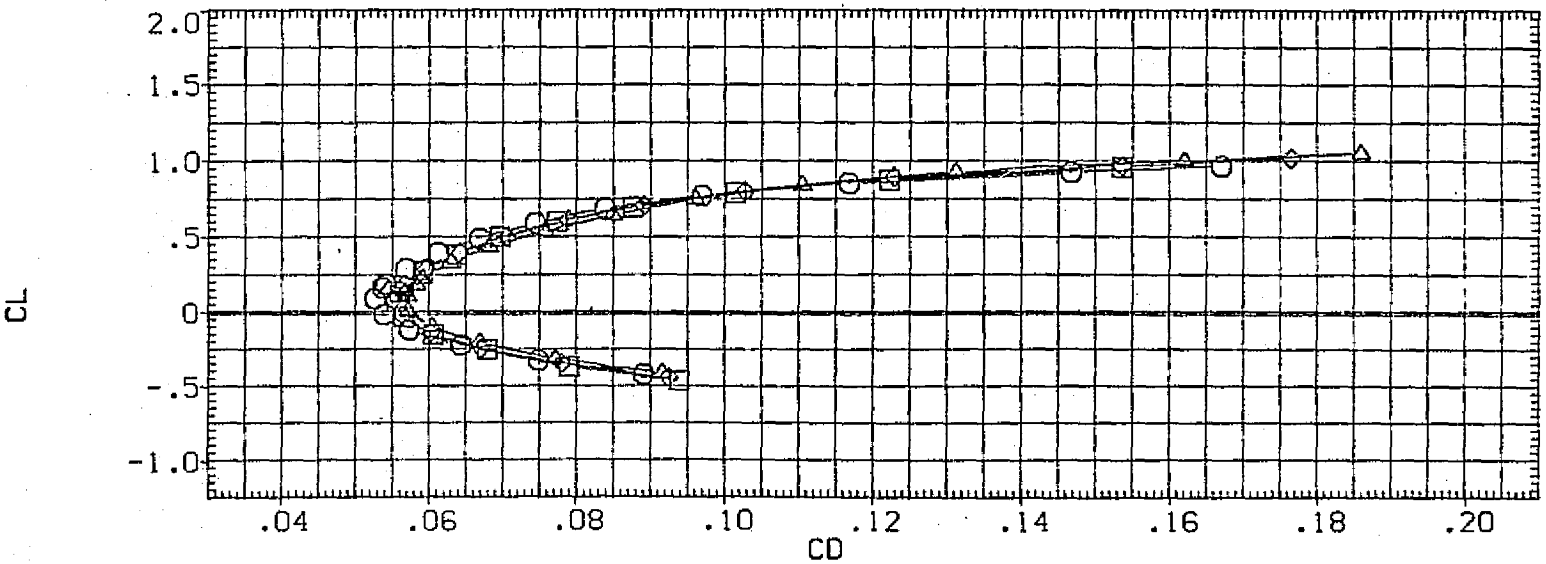




FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

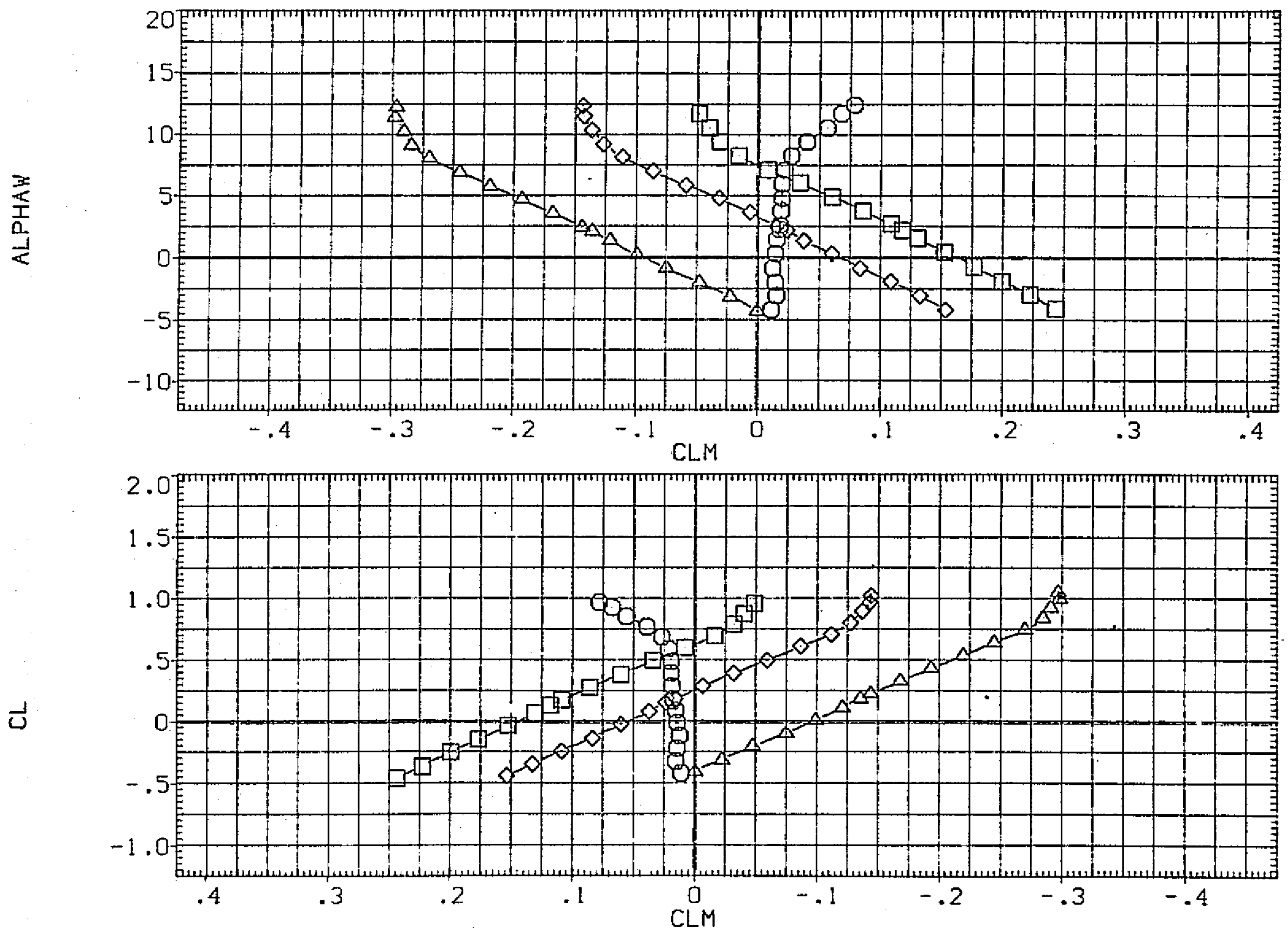



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.10RBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

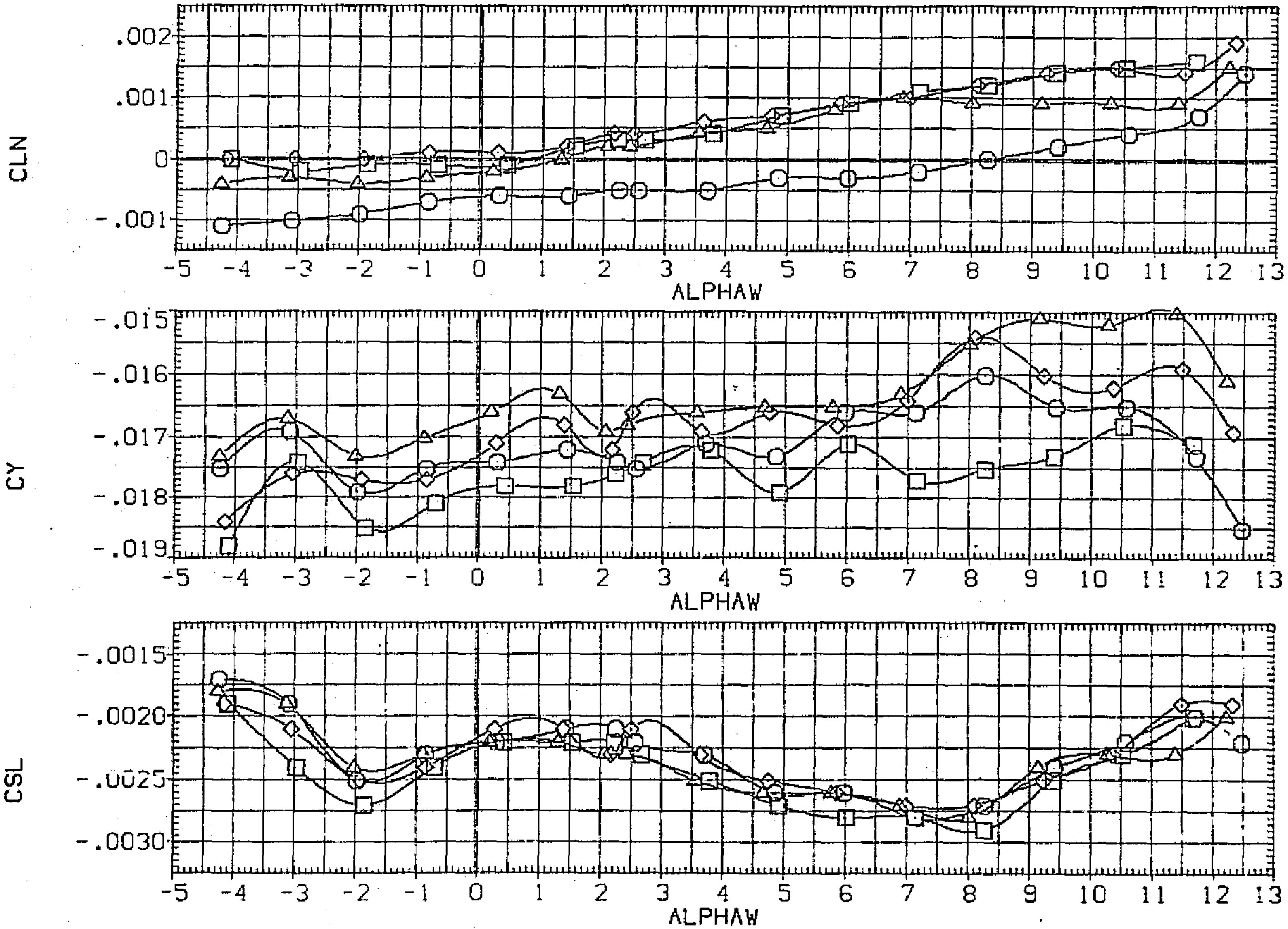



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | STAB | IORB | ELEVON |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP141) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | .970 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP144) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 2.040 | 6.030 | -5.000 |
| (RGP158) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | 4.950 | 6.030 | -5.000 |
| (RGP164) | ◗ | CA6 K2 V9.1S1-12 AT112 | /111.10RBF8N24/28 | | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

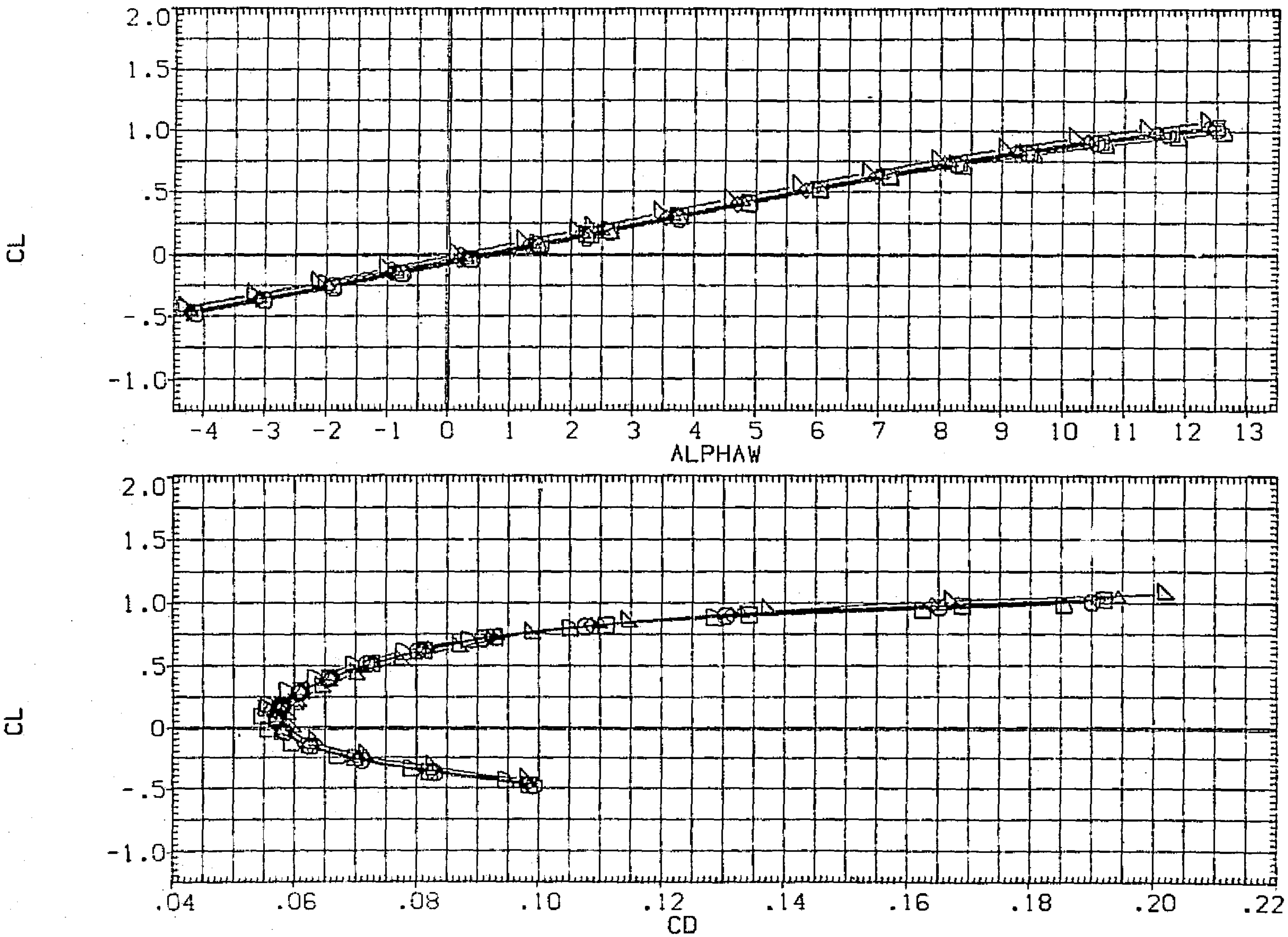



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP141) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | .970 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP144) | △ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | 2.040 | 6.030 | -5.000 |
| (RGP158) | ◺ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | 4.950 | 6.030 | -5.000 |
| (RGP164) | D | CA6 K2 V9.151-12 AT112 /111.10RBF8N24/28 | | 6.030 | -5.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

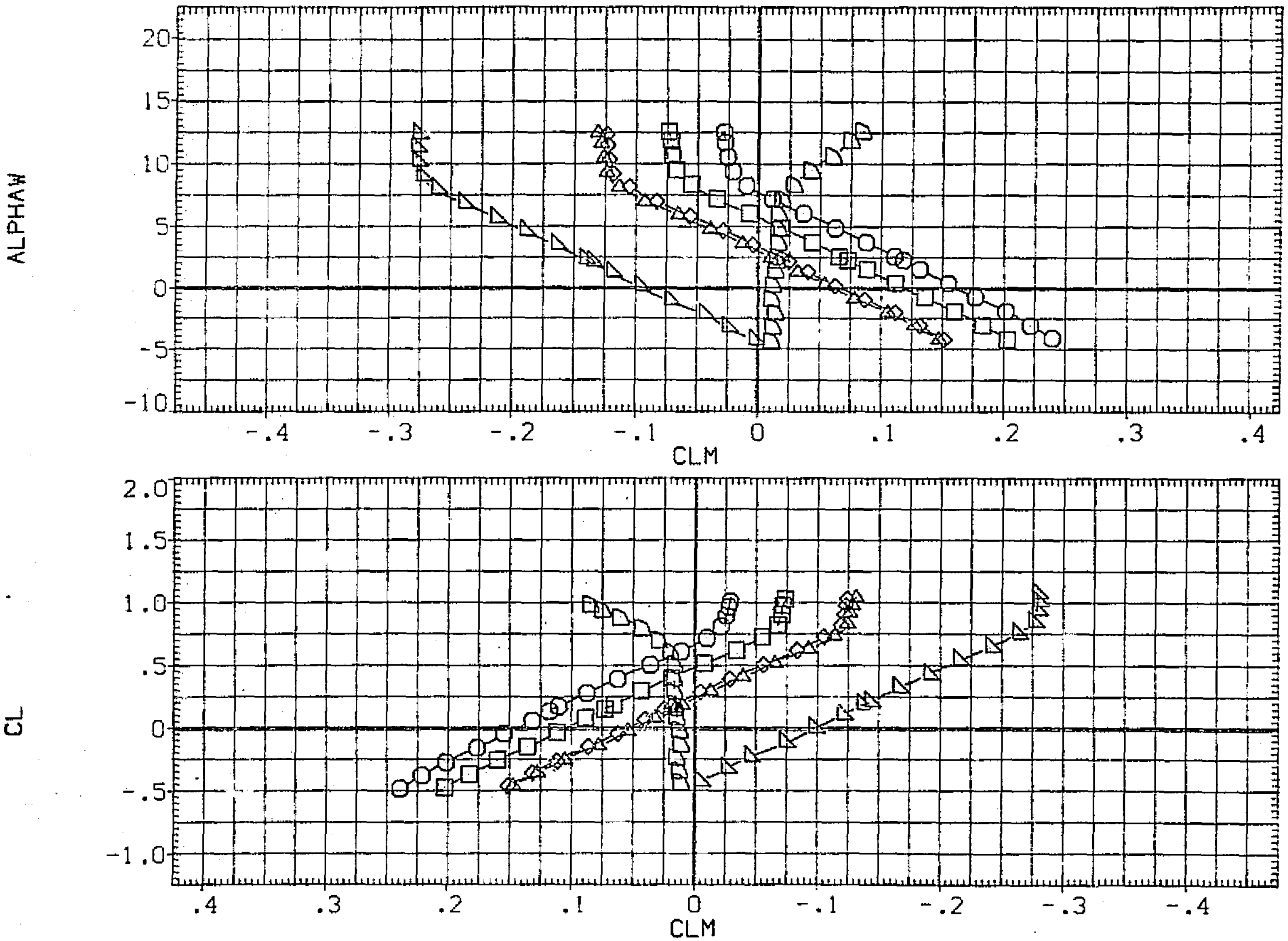



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP141) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .970 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP144) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 2.040 | 6.030 | -5.000 |
| (RGP158) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.950 | 6.030 | -5.000 |
| (RGP164) | ◸ | CA6 K2 V9.1S1-12 AT112 /111.10RBF8N24/28 | | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

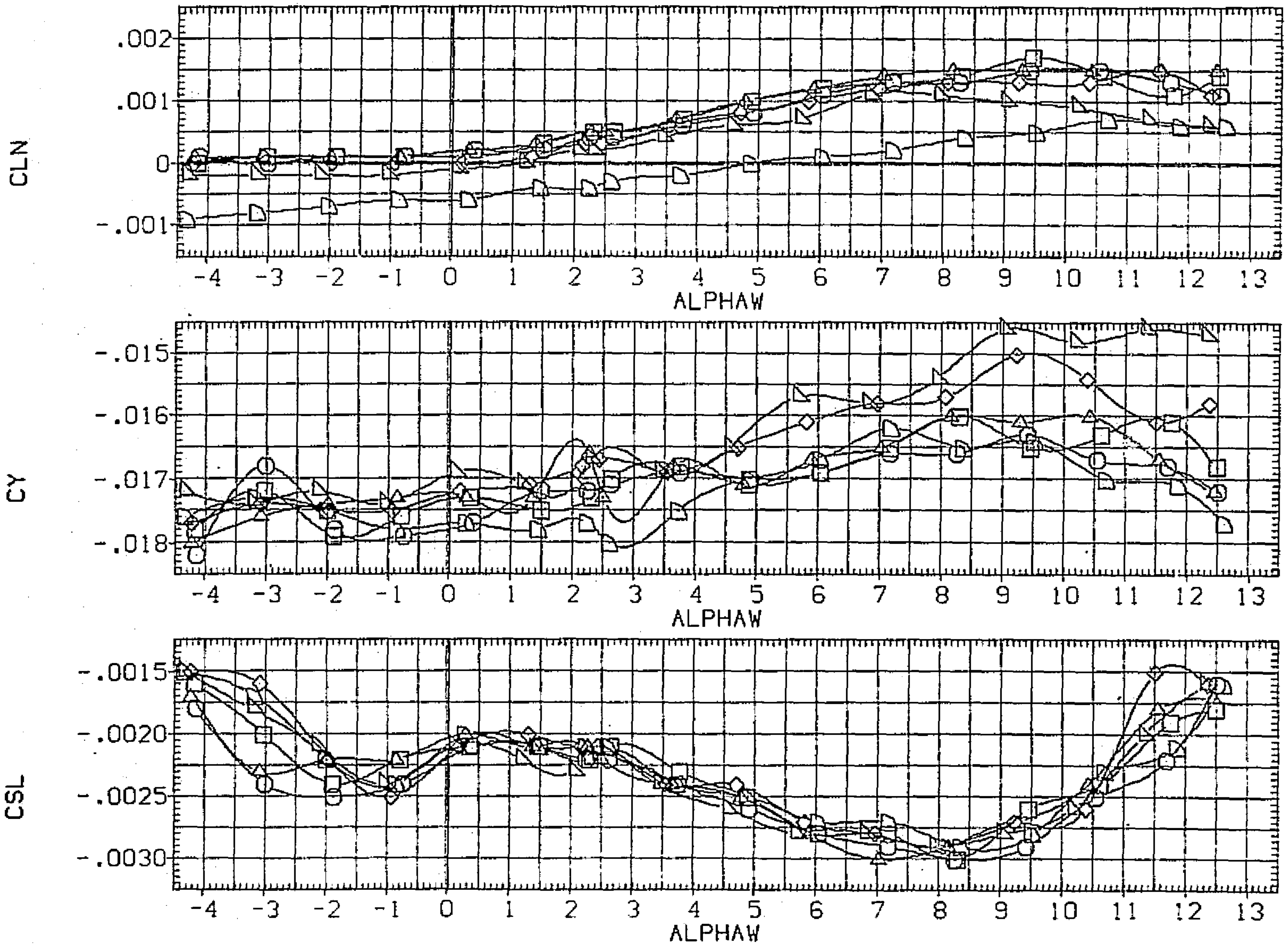



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.10RBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

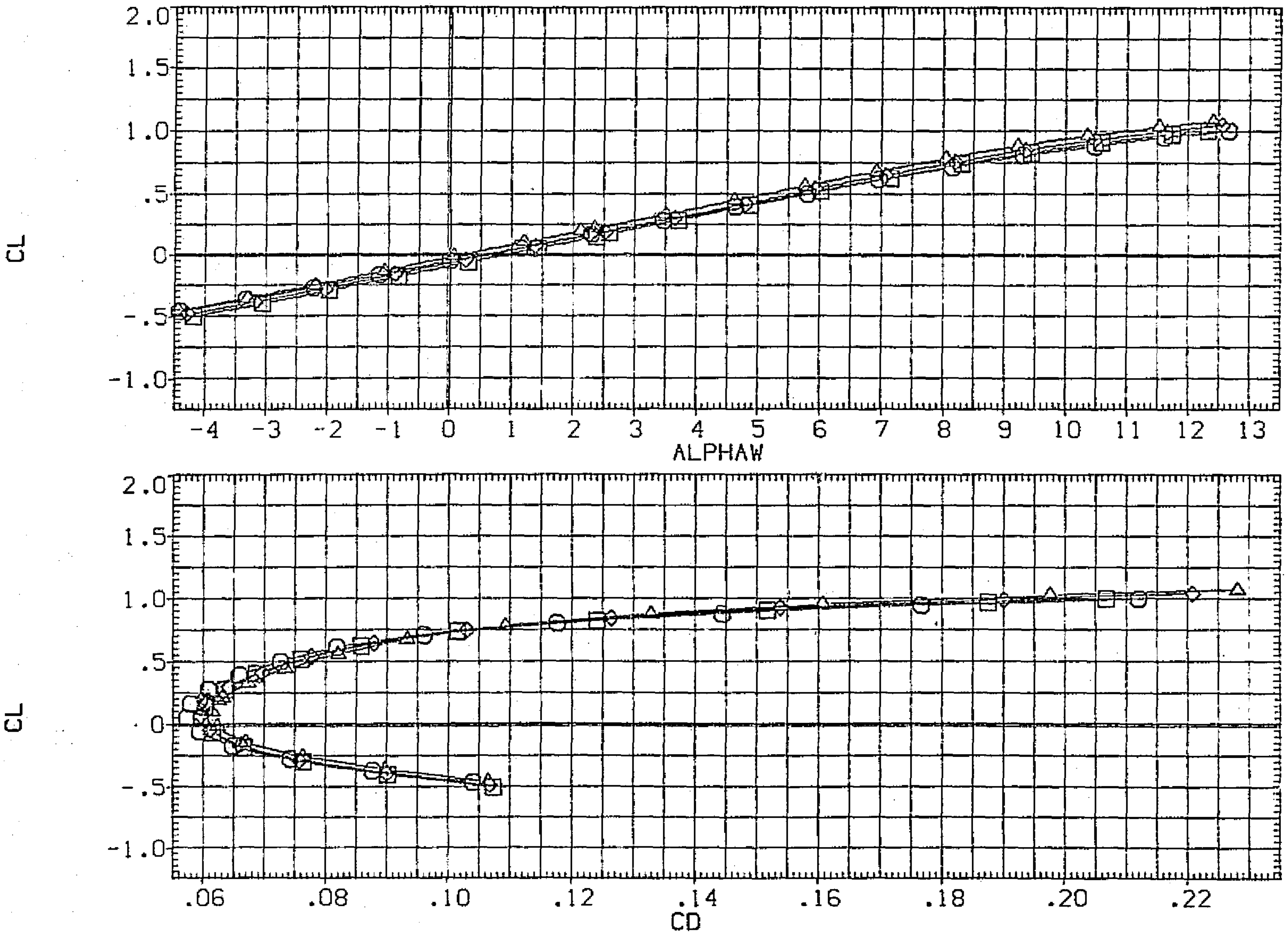



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORBFBN24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

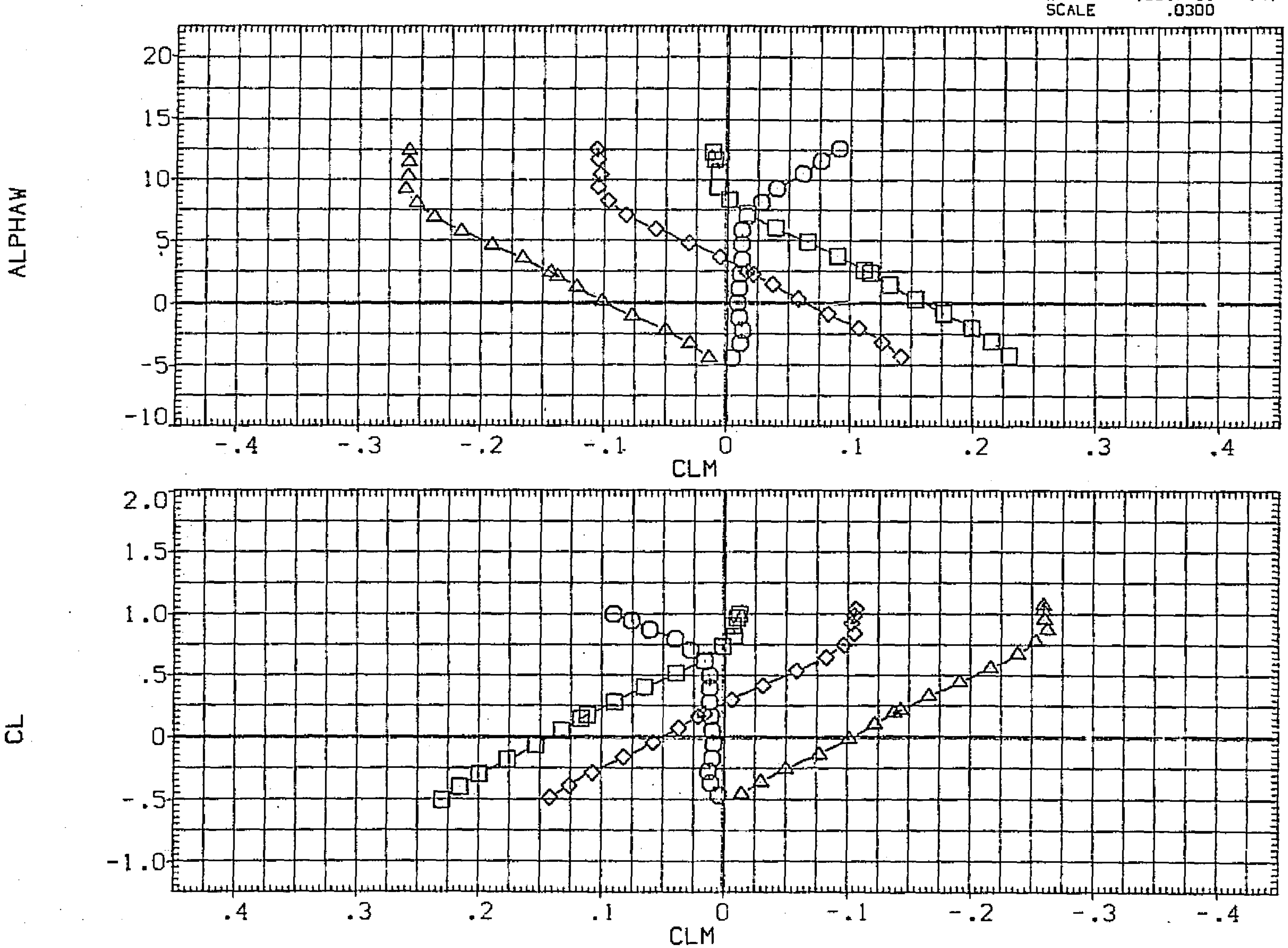



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP164) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORBF8N24/28 | | 6.030 | -5.000 |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | -5.000 |
| (RGP159) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 1.940 | 6.030 | -5.000 |
| (RGP158) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.950 | 6.030 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

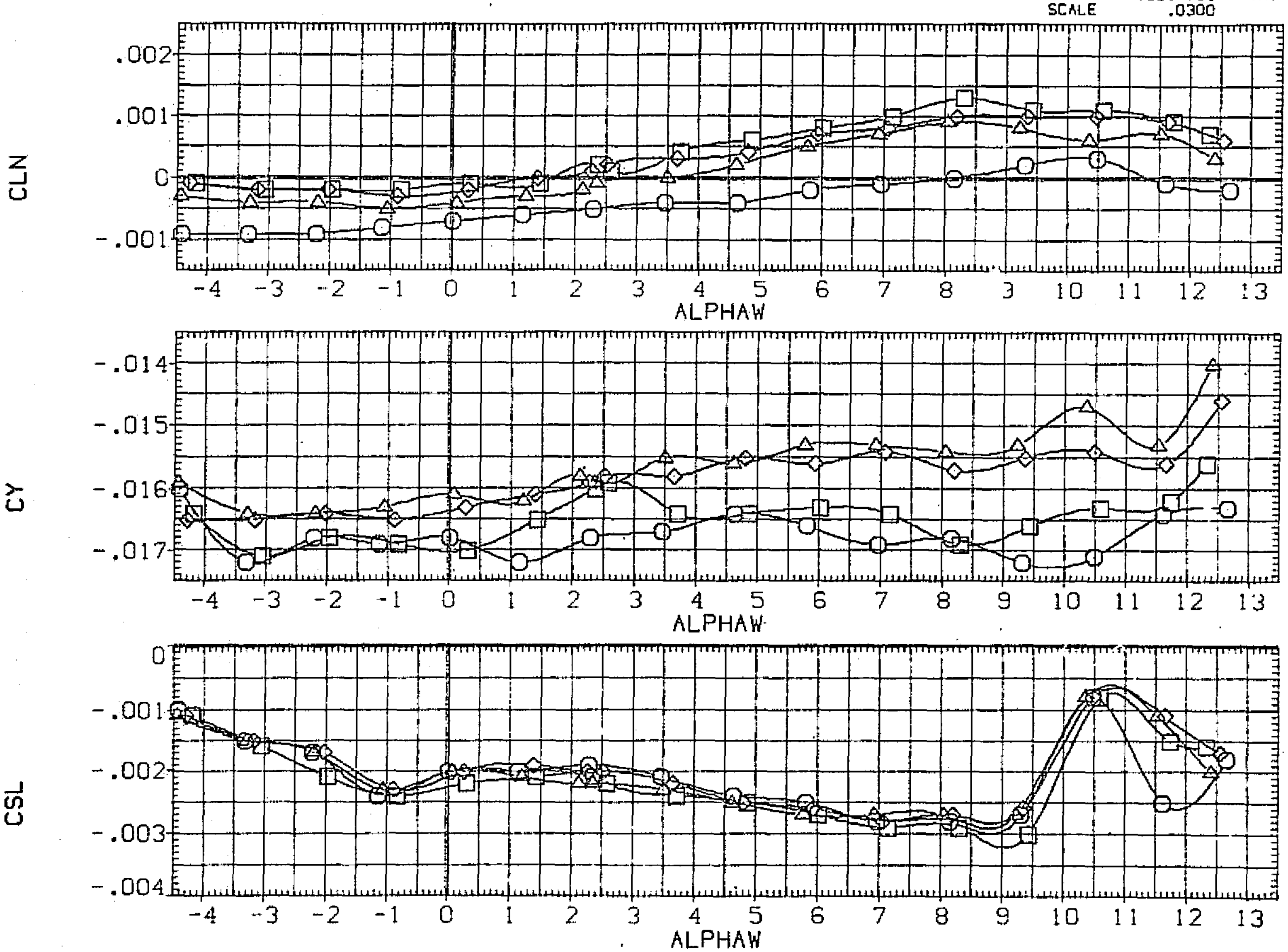



FIG. 59 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -5

(A)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP140) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .970 | .000 | 6.030 |
| (RGP145) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.040 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

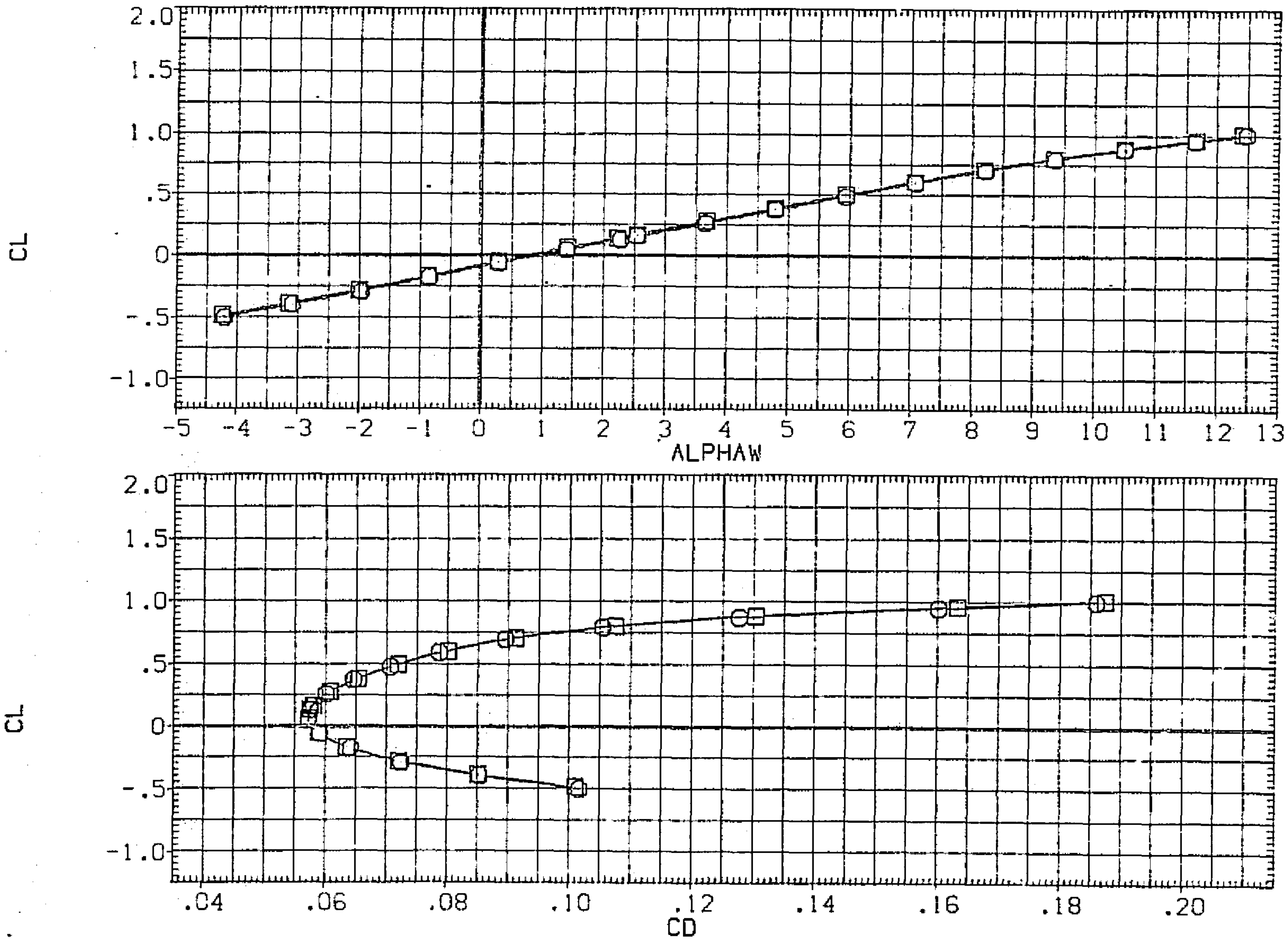



FIG. 60 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -10, BDFLAP 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP140) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .970 | .000 | 6.030 |
| (RGP145) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.040 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

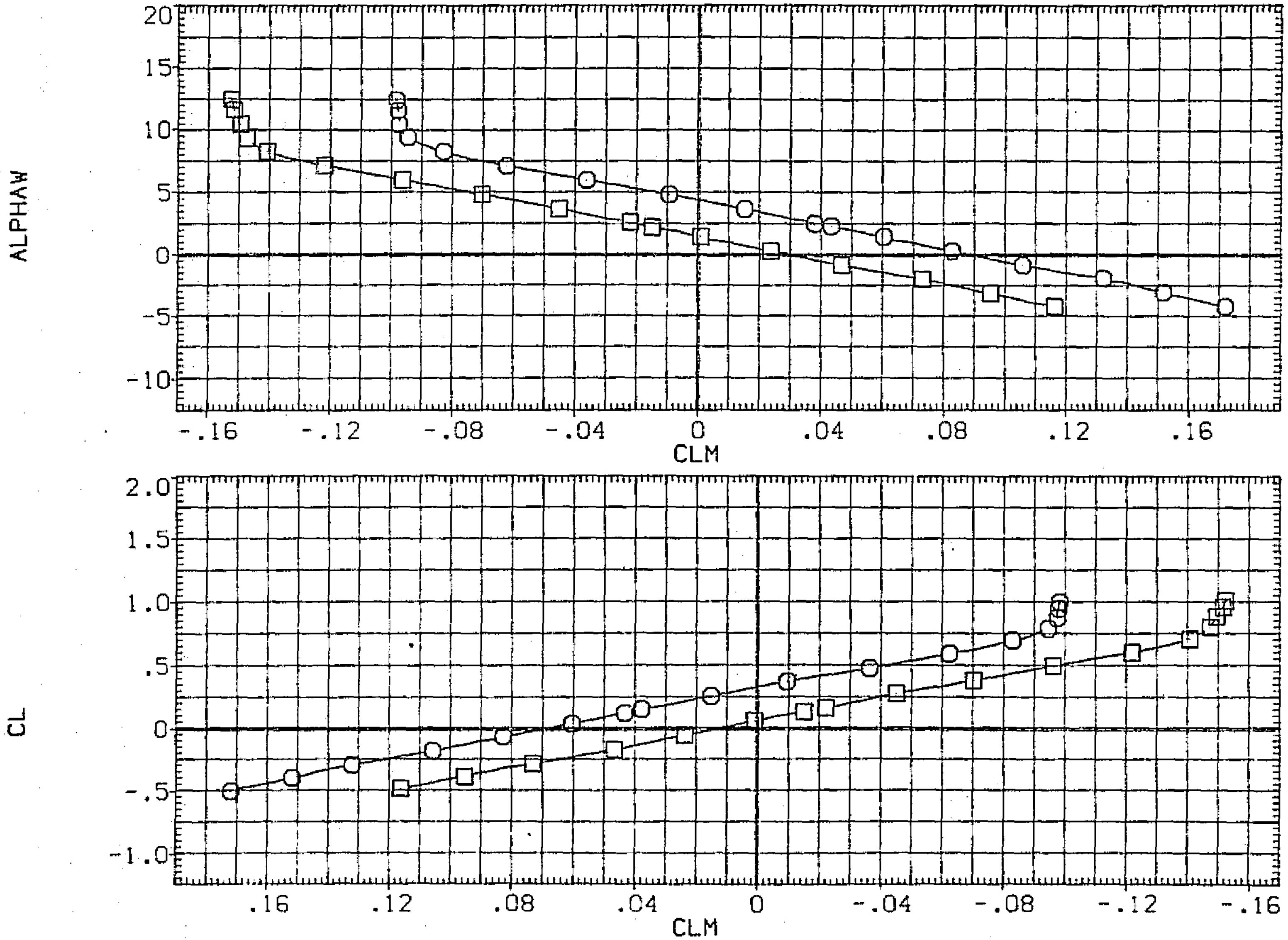



FIG. 60 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -10, BDFLAP 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP140) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .970 | .000 | 6.030 |
| (RGP145) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.040 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

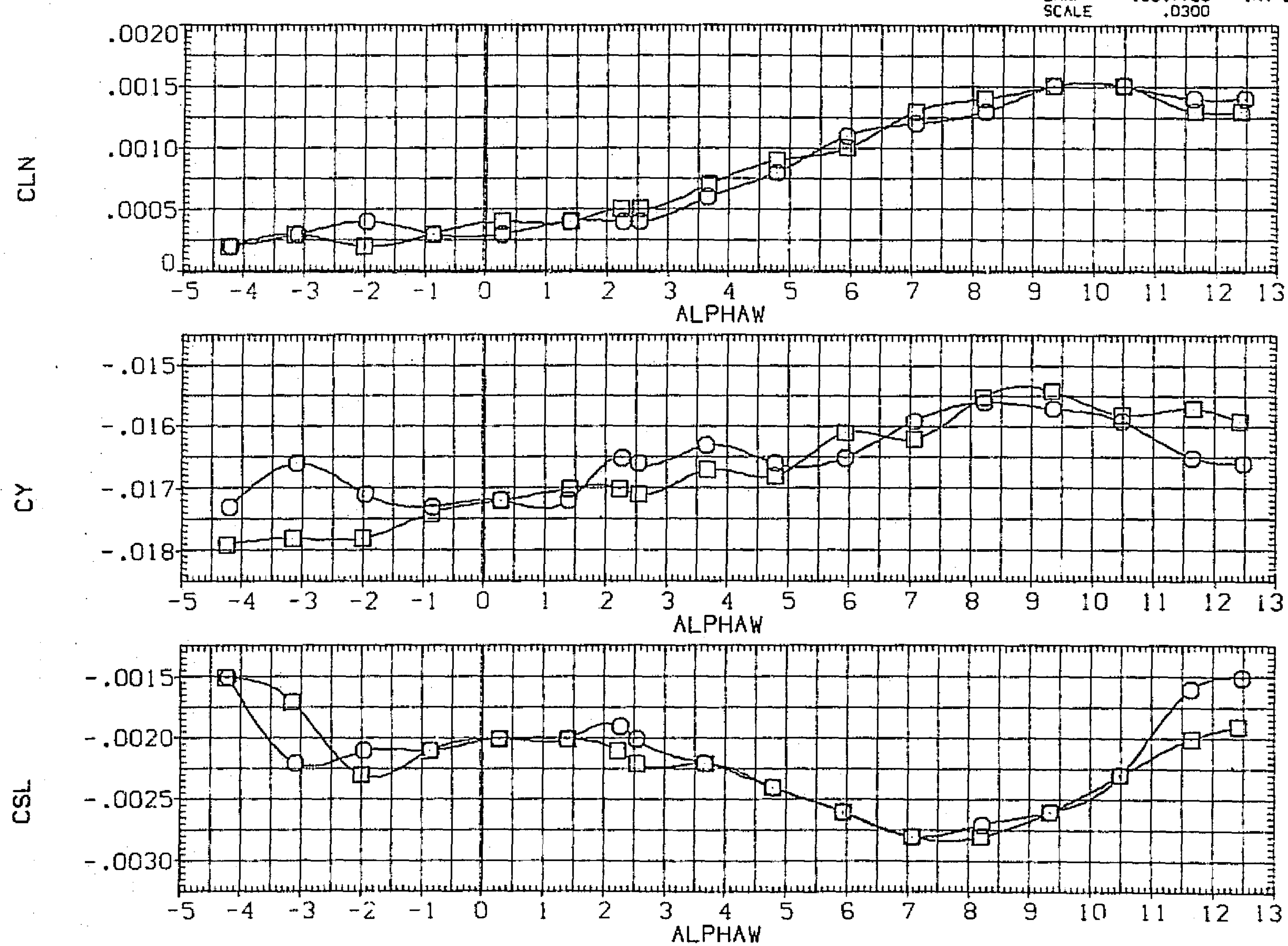



FIG. 60 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -10, BDFLAP 0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP147) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | .000 | 6.030 |
| (RGP146) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.040 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

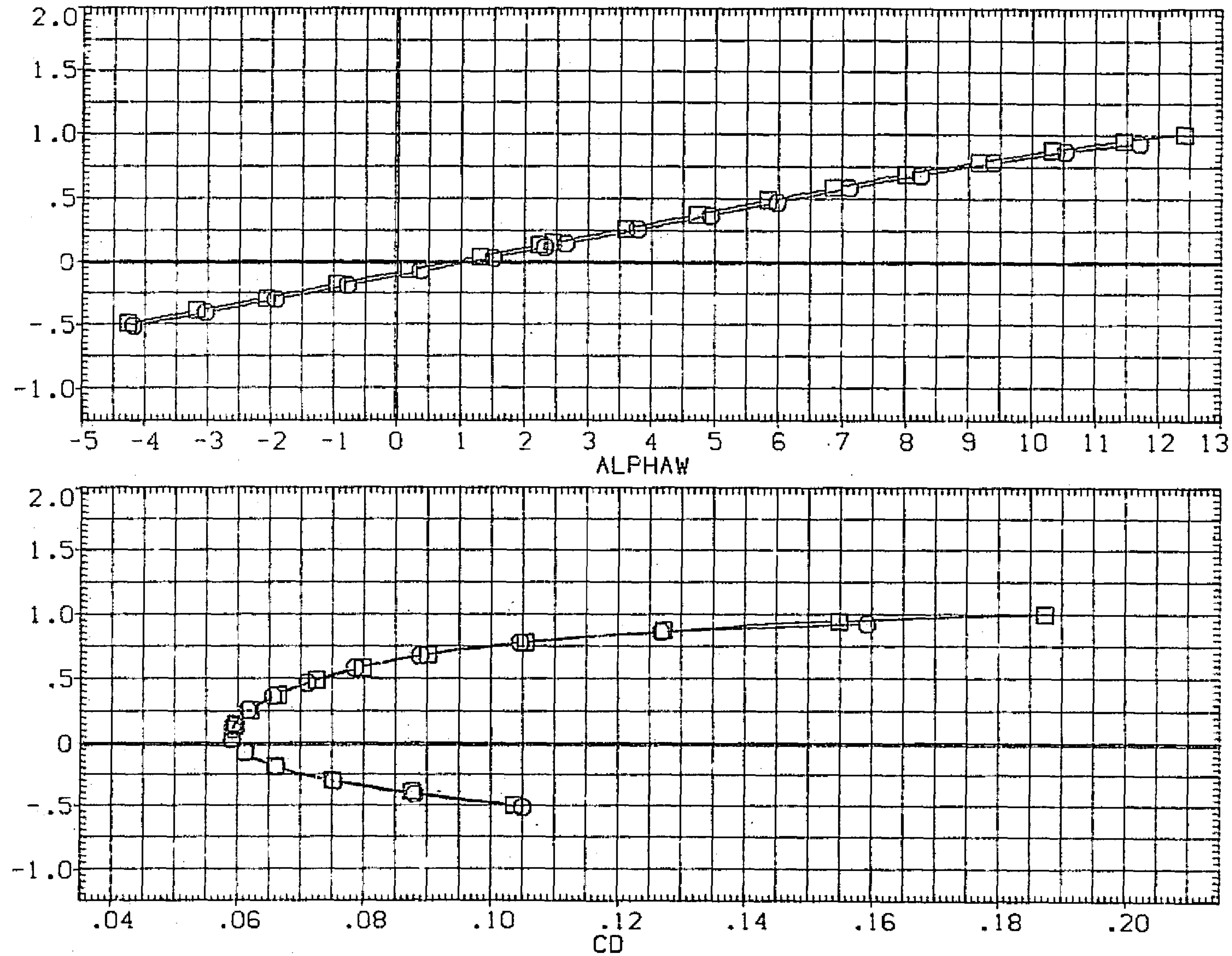



FIG. 61 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -10, BDFLAP -11.7

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP147) | ○ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RBF8N24/28 | .150 | .000 | 6.030 |
| (RGP146) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RBF8N24/28 | 2.040 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

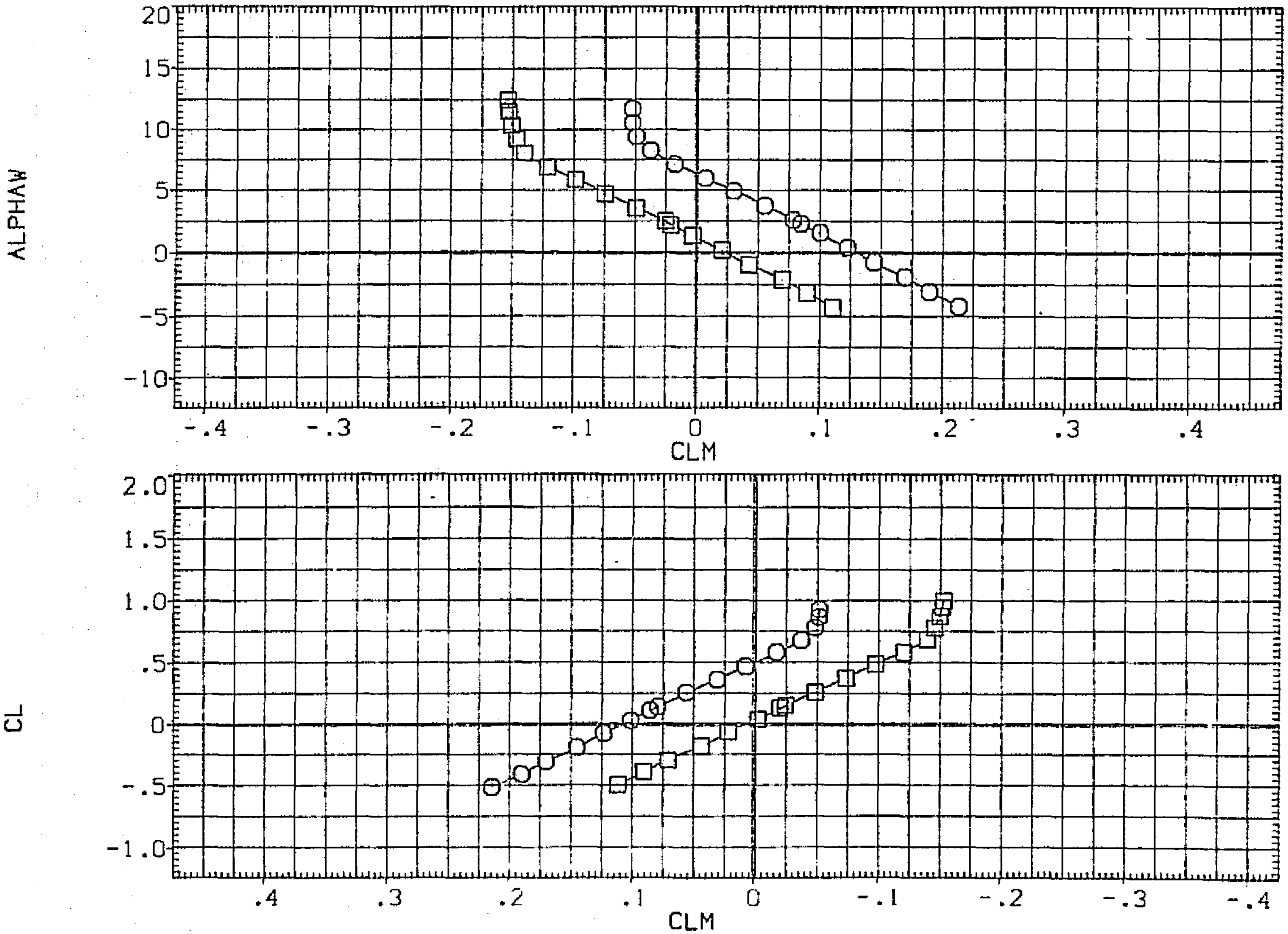



FIG. 61 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -10, BDFLAP -11.7

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP147) | ○ | CA6 K2H15.6.1V9.151-12 AT112 /111.1ORBF8N24/28 | .150 | .000 | 6.030 |
| (RGP146) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.1ORBF8N24/28 | 2.040 | .000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

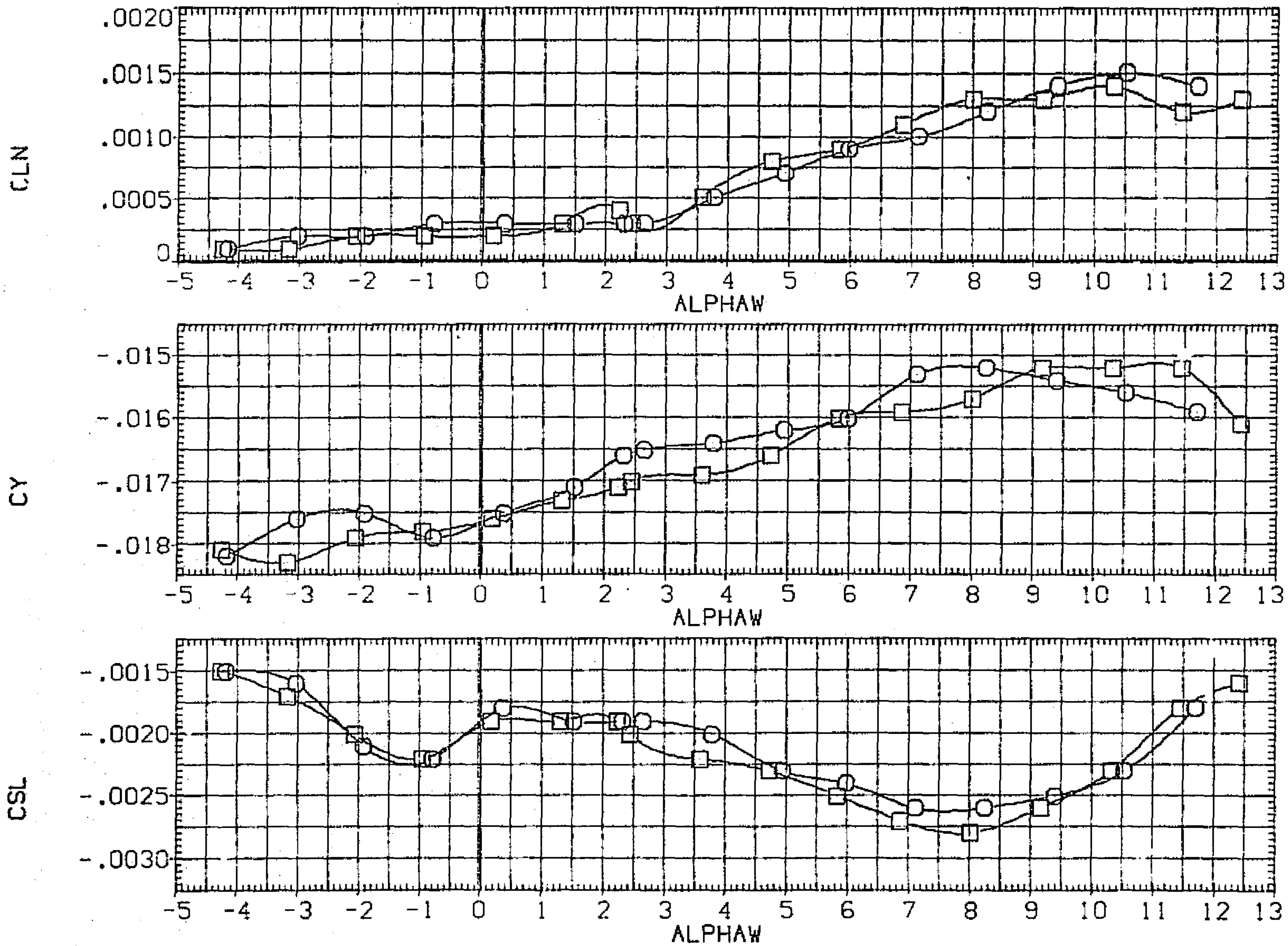



FIG. 61 STABILIZER EFFECTIVENESS, ALT CLIMB, ELEVON -10, BDFLAP -11.7

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /I11.1ORBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /I11.1ORBF8N24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /I11.1ORBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

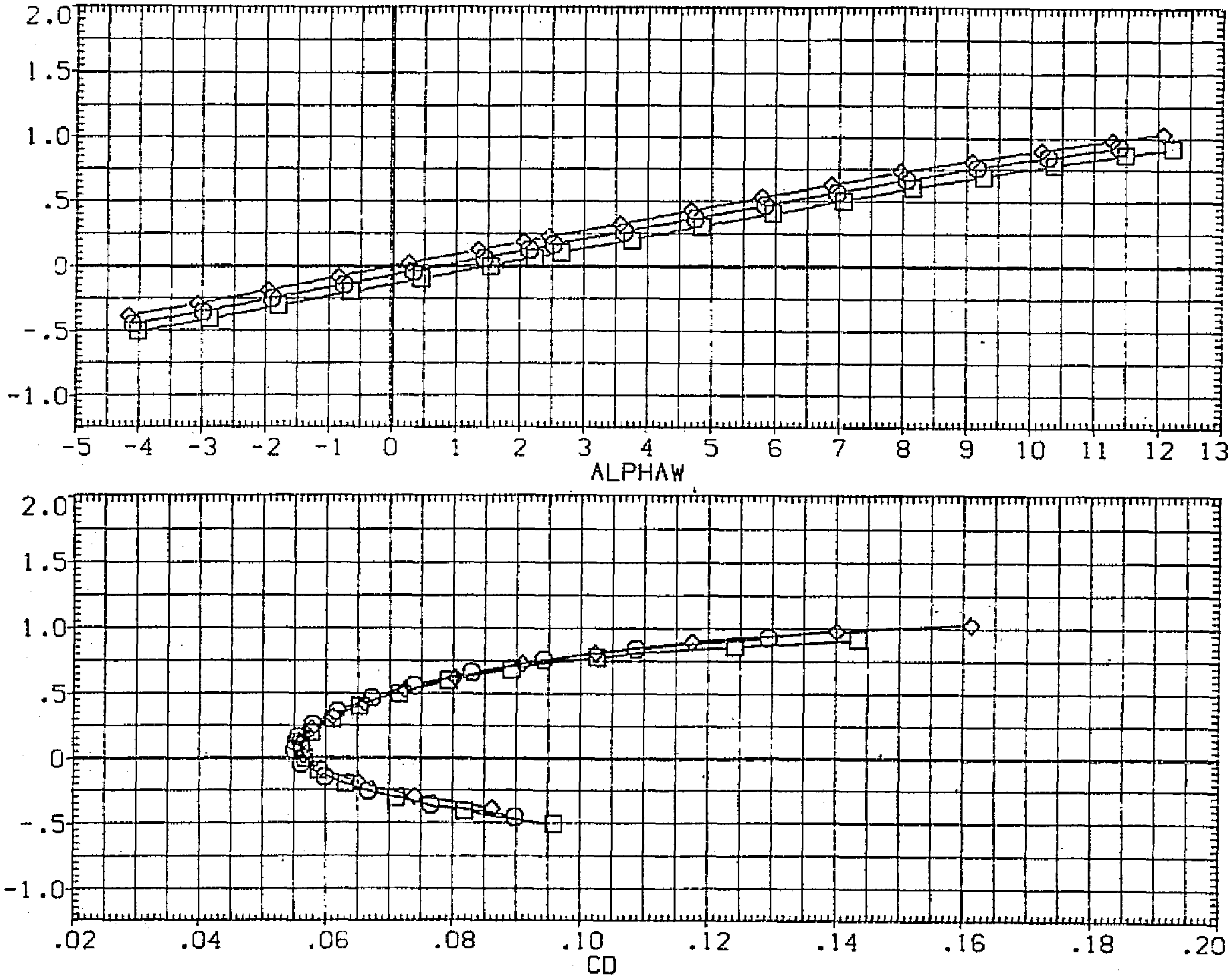



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1ORBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1ORBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

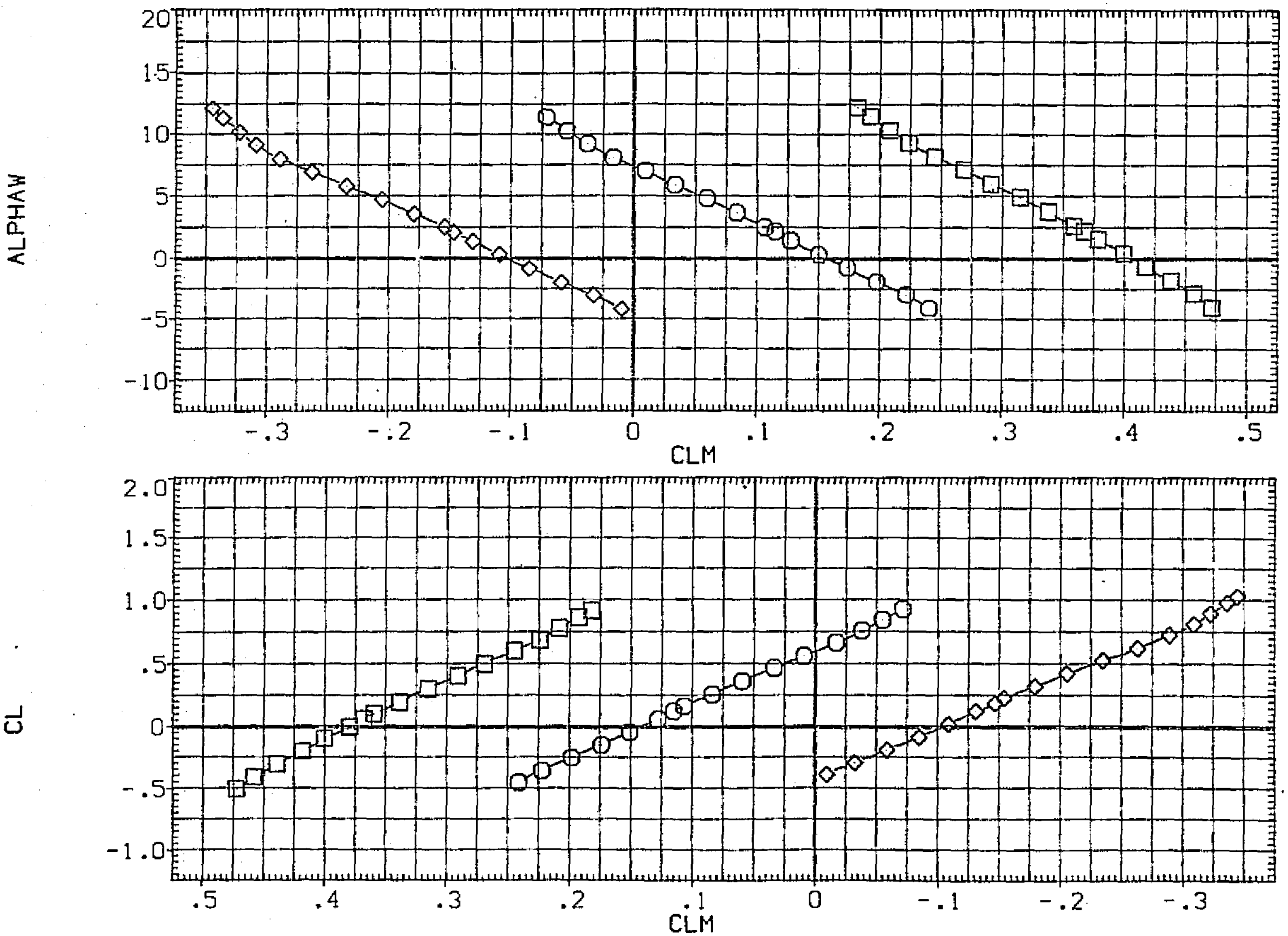



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .160 | 6.030 | 9.167 | 10.033 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

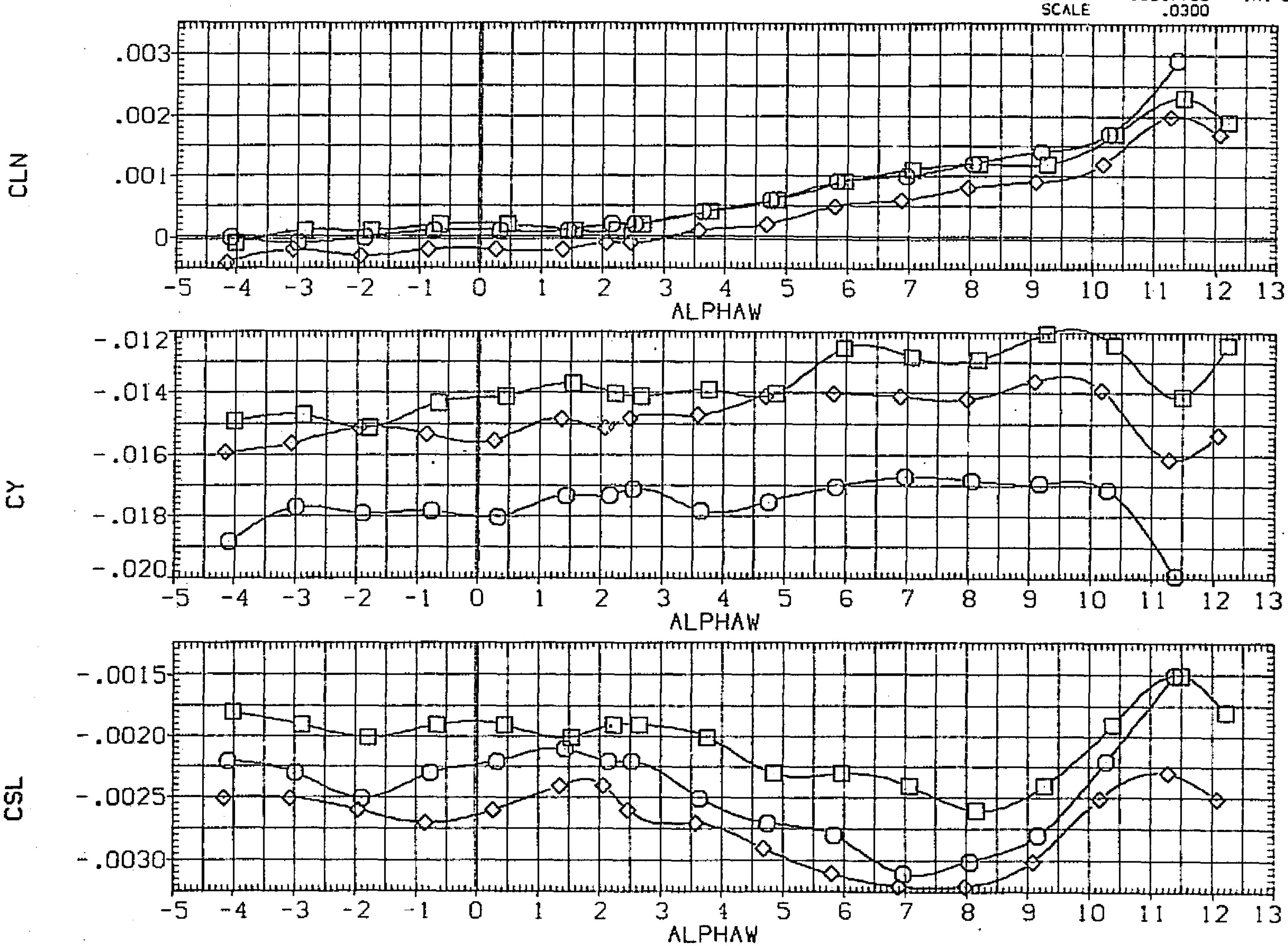



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| [RGP157] | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| [RGP148] | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | .000 | .000 |
| [RGP156] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

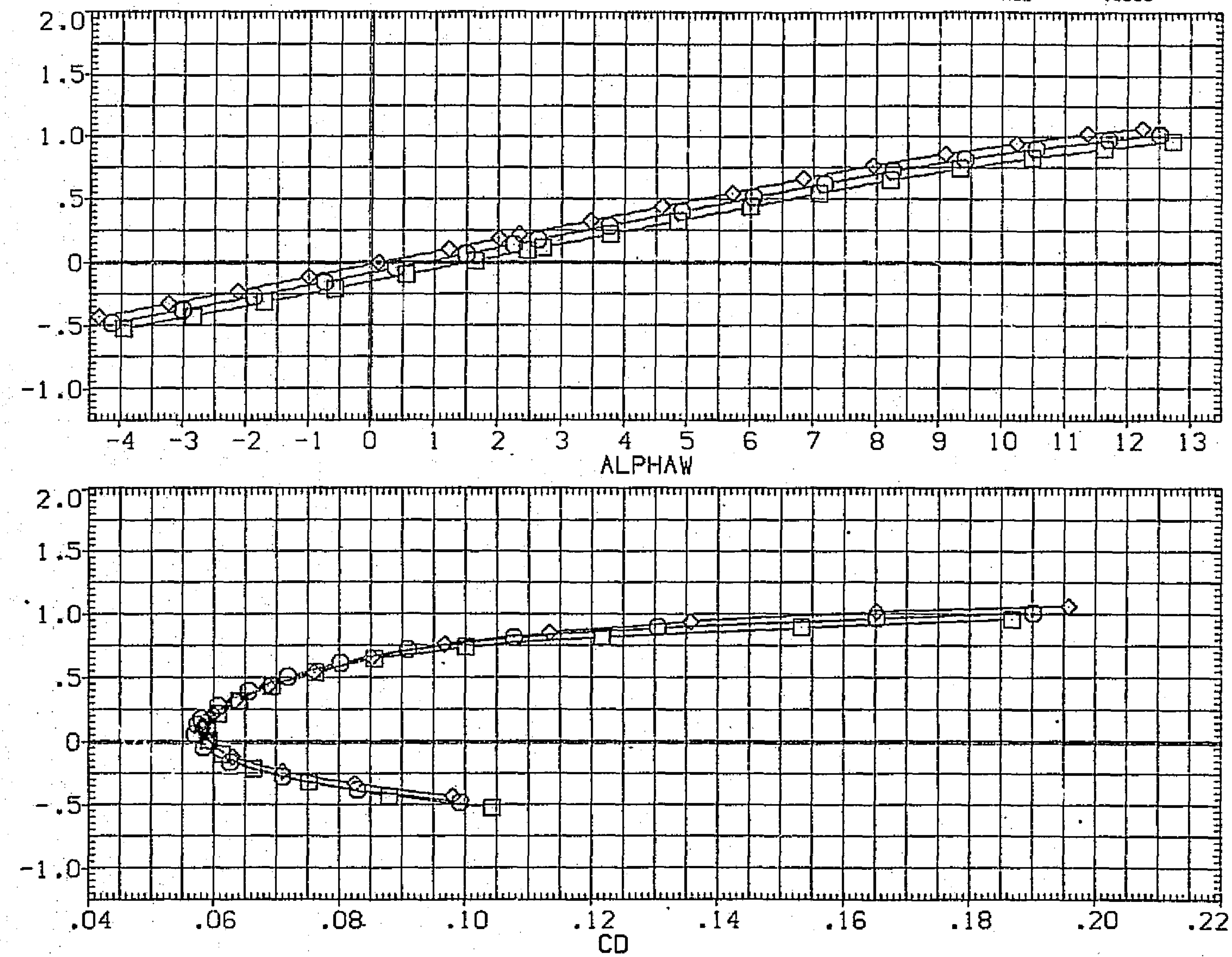



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

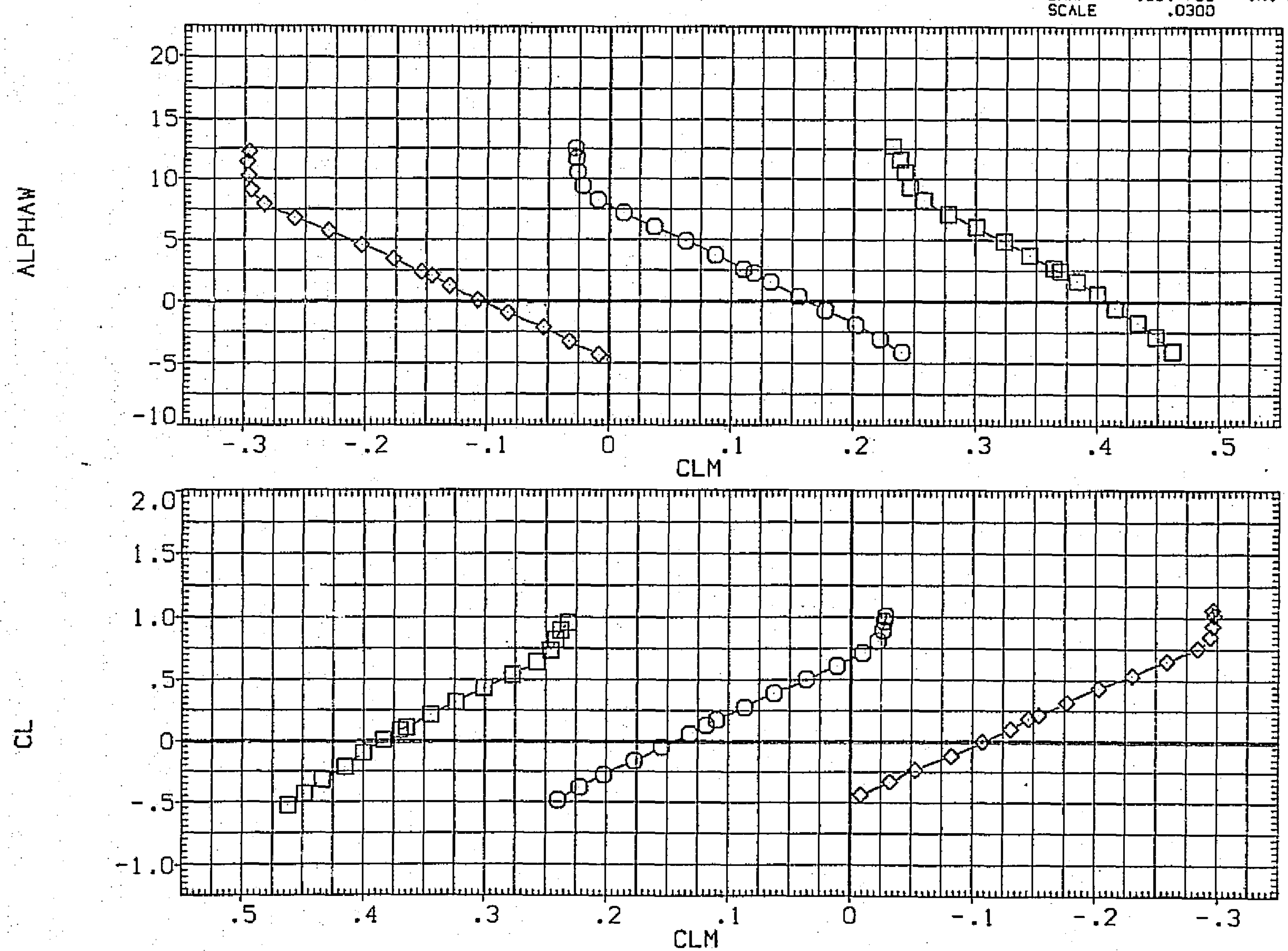



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .160 | 6.030 | 9.167 | 10.033 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

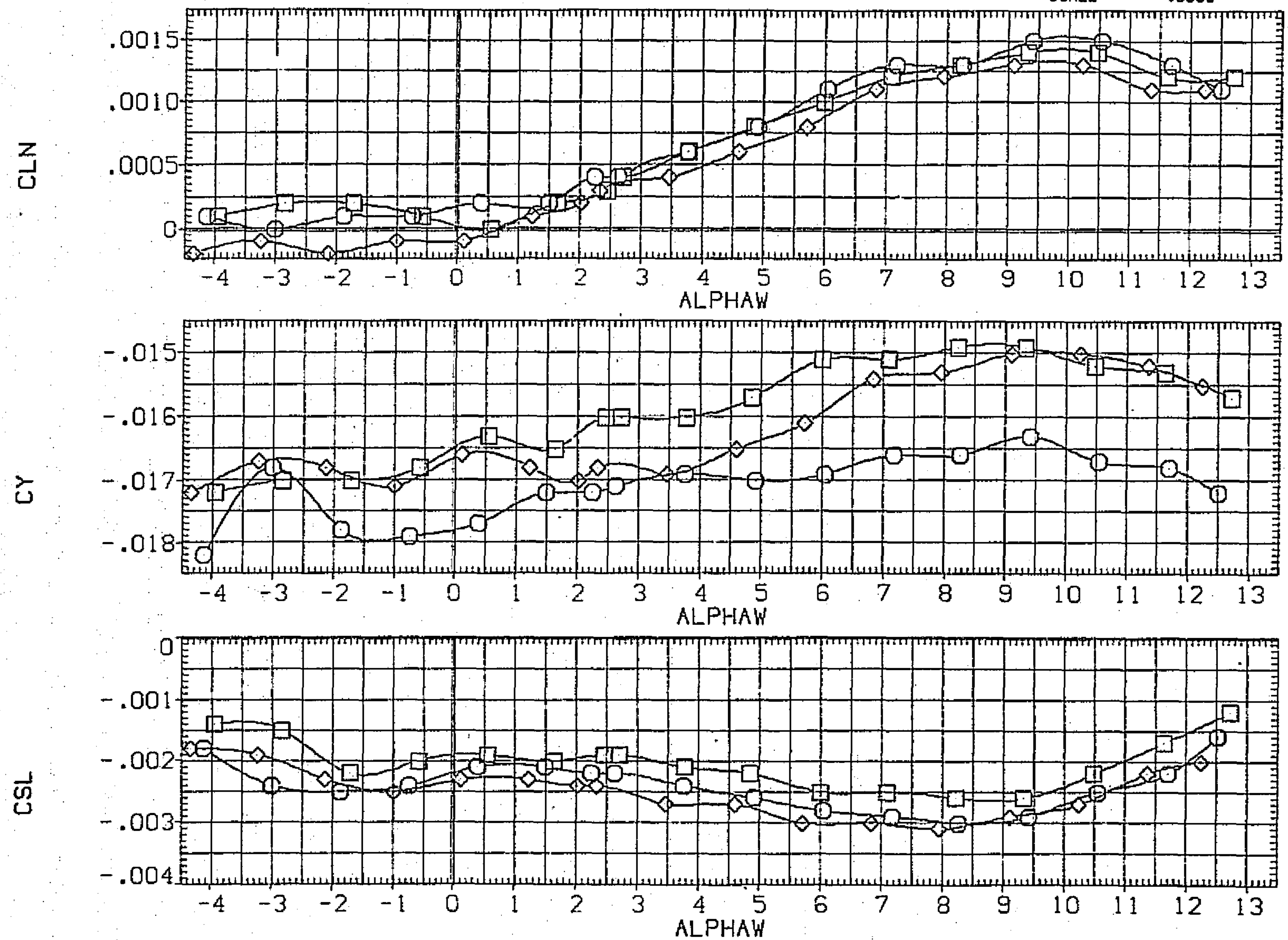



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.IV9.151-12 AT112 /111.1ORBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.IV9.151-12 AT112 /111.1ORBF8N24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.IV9.151-12 AT112 /111.1ORBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

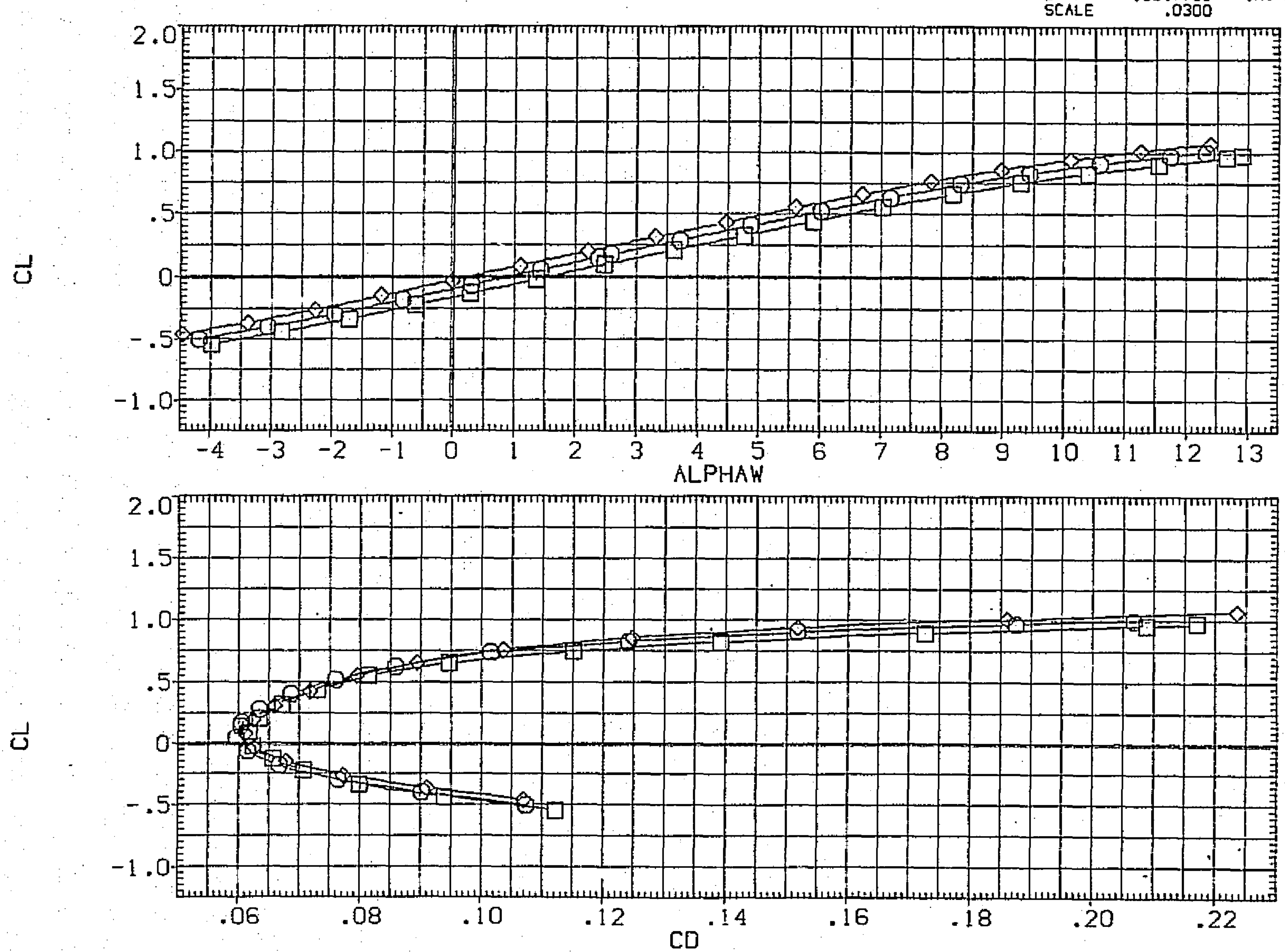



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

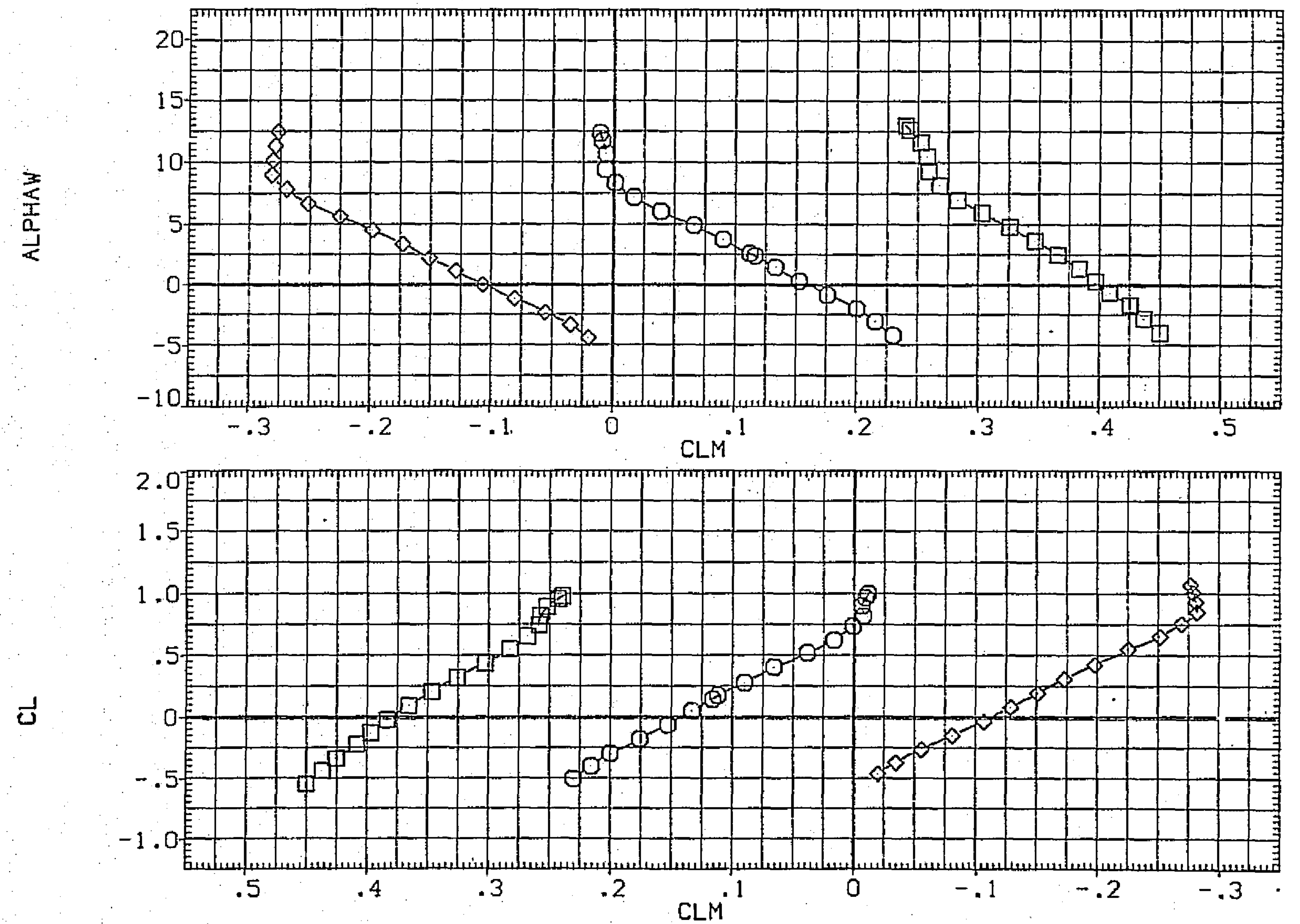



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|
| (RGP157) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | .140 | 6.030 | -9.733 | -9.900 |
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | .150 | 6.030 | .000 | .000 |
| (RGP156) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.10RBF8N24/28 | .160 | 6.030 | 9.167 | 10.033 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

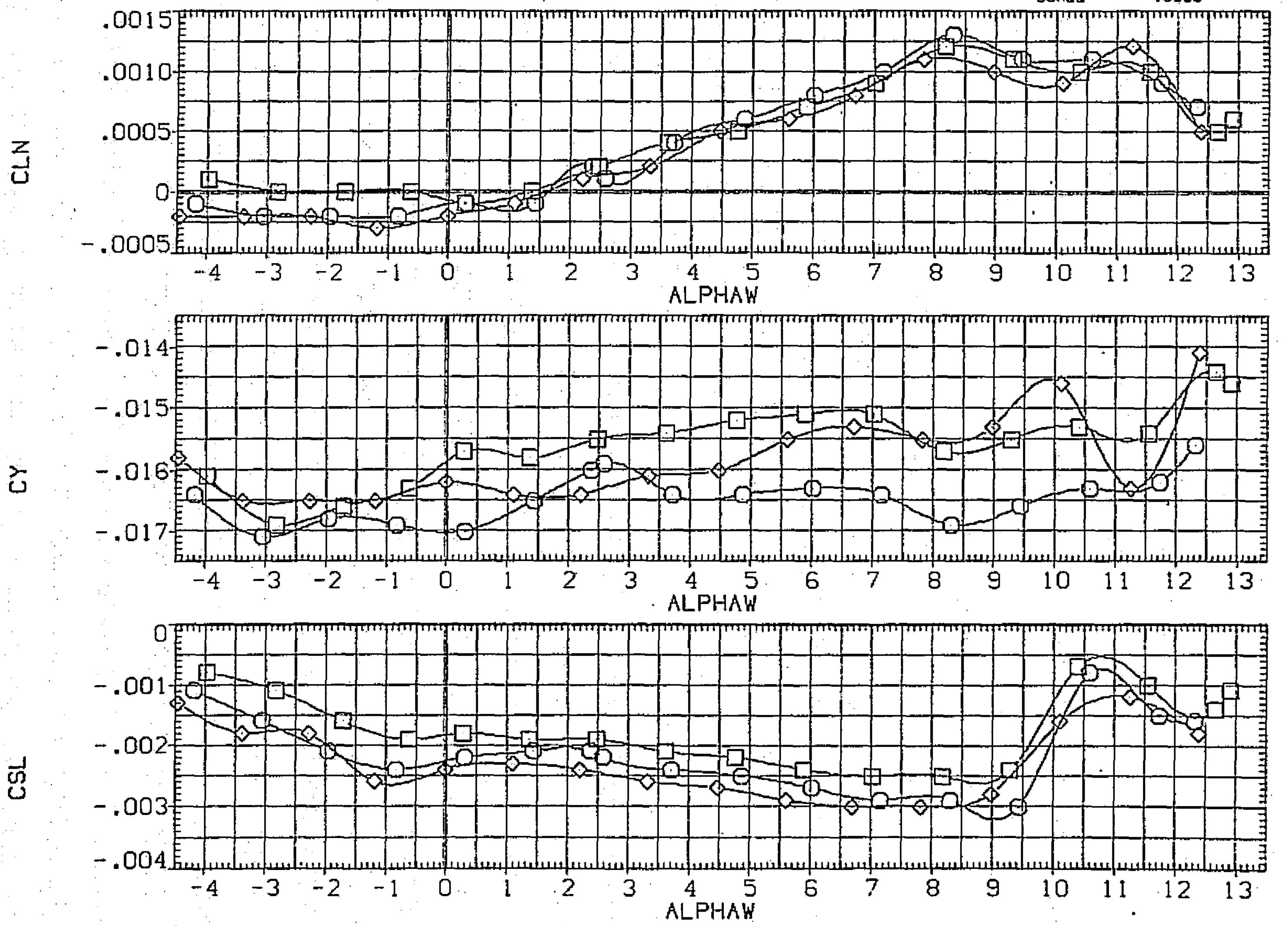



FIG. 62 ELEVATOR EFFECTIVENESS, ALT CLIMB, IORB 6

(C)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (RGP149) | ○ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | -4.000 | 6.030 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP148) | □ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | .000 | 6.030 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP150) | ◇ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 2.000 | 6.030 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP151) | △ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 4.000 | 6.030 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP152) | ◺ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 6.000 | 6.030 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP153) | D | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 10.000 | 6.030 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | | | SCALE | .0300 | |

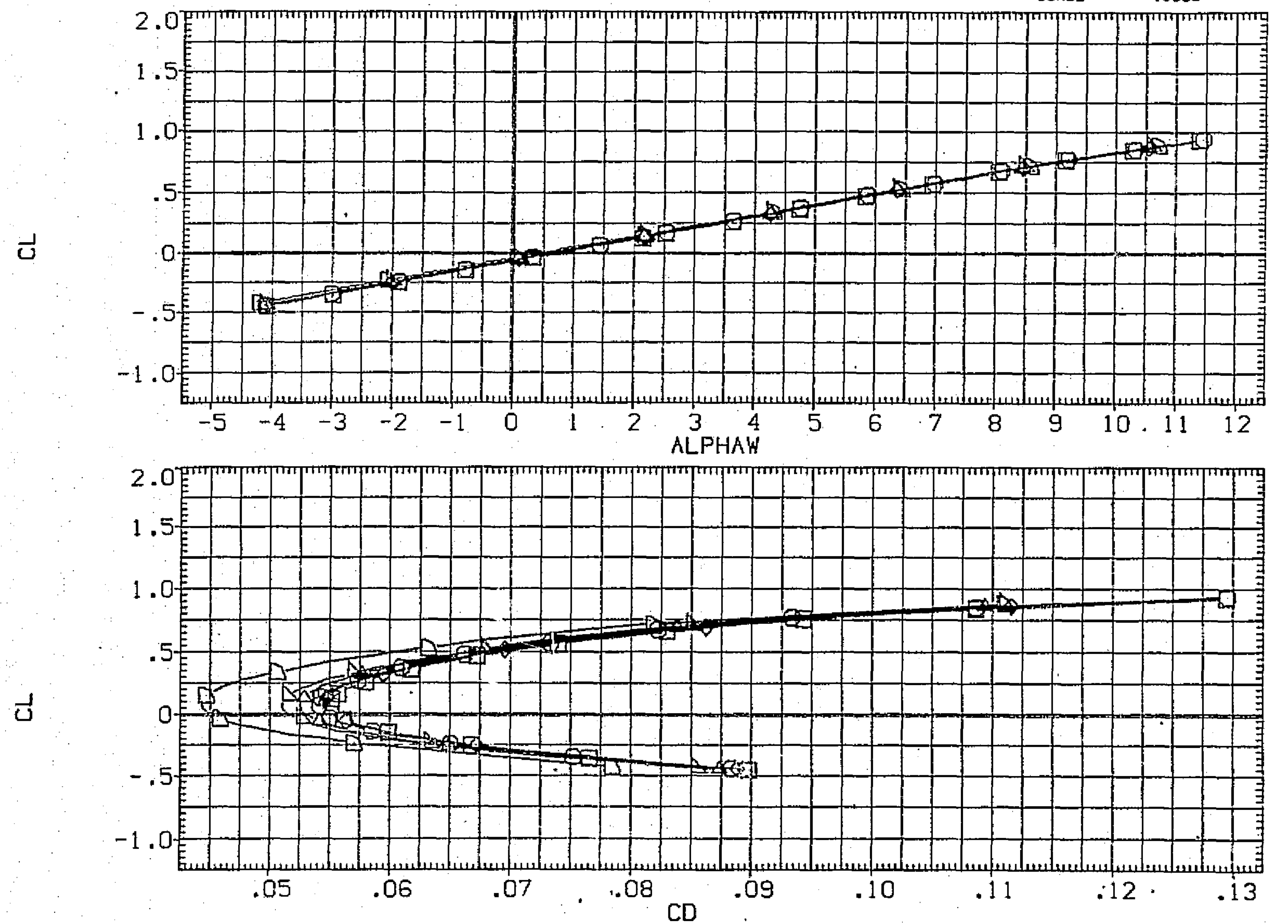



FIG. 63 LATERAL-DIRECTIONAL STABILITY, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (RGP149) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | -4.000 | 6.030 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | .000 | 6.030 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP150) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 2.000 | 6.030 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP151) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 4.000 | 6.030 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP152) | ◁ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 6.000 | 6.030 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP153) | D | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 10.000 | 6.030 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | | SCALE | .0300 | |

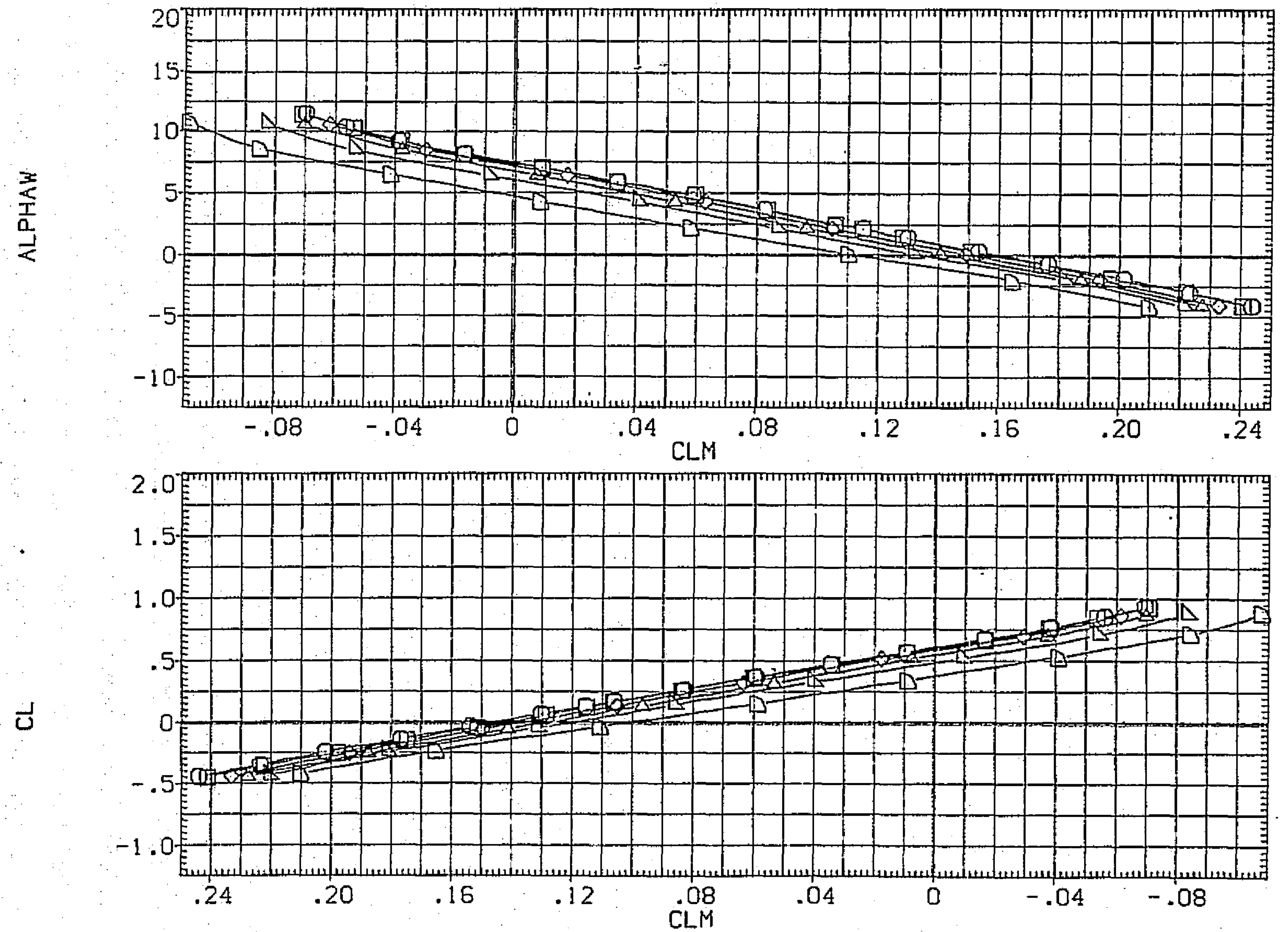



FIG. 63 LATERAL-DIRECTIONAL STABILITY, ALT CLIMB, IØRB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| [RGP149] | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | -4.000 | 6.030 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| [RGP148] | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .000 | 6.030 | .000 | .000 | LREF | 327.8000 | IN. |
| [RGP150] | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 2.000 | 6.030 | .000 | .000 | BREF | 2348.0000 | IN. |
| [RGP151] | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 4.000 | 6.030 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| [RGP152] | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 6.000 | 6.030 | .000 | .000 | YMRP | .0000 | IN. YC |
| [RGP153] | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 10.000 | 6.030 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

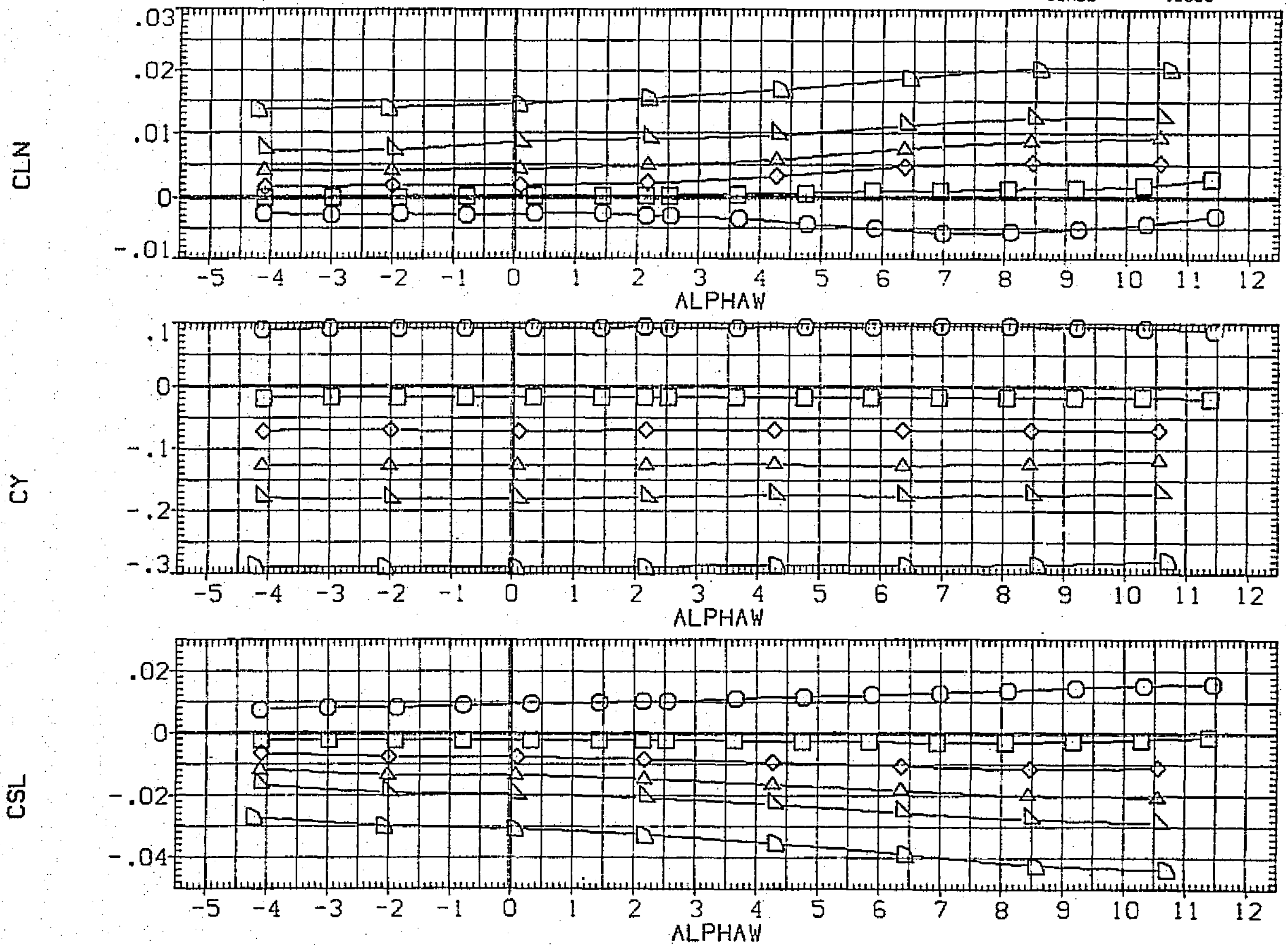



FIG. 63 LATERAL-DIRECTIONAL STABILITY, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP149) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | -4.000 | 6.030 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .000 | 6.030 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP150) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 2.000 | 6.030 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP151) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 4.000 | 6.030 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP152) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 6.000 | 6.030 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP153) | ◻ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 10.000 | 6.030 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

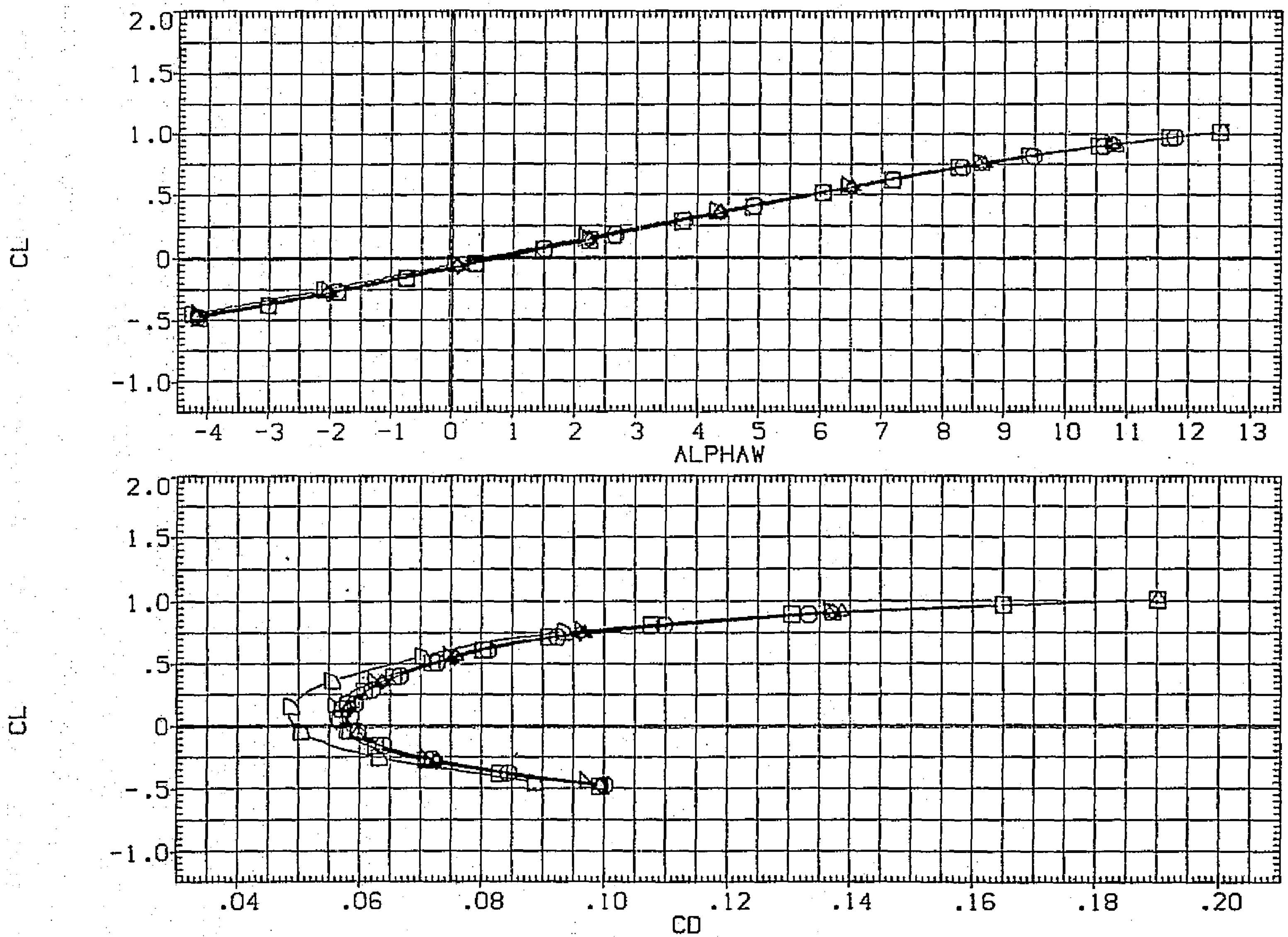



FIG. 63 LATERAL-DIRECTIONAL STABILITY, ALT CLIMB, IORB 6

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (RGP149) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | -4.000 | 6.030 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP148) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | .000 | 6.030 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP150) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 2.000 | 6.030 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP151) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 4.000 | 6.030 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP152) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 6.000 | 6.030 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP153) | ◻ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 10.000 | 6.030 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | | SCALE | .0300 | |

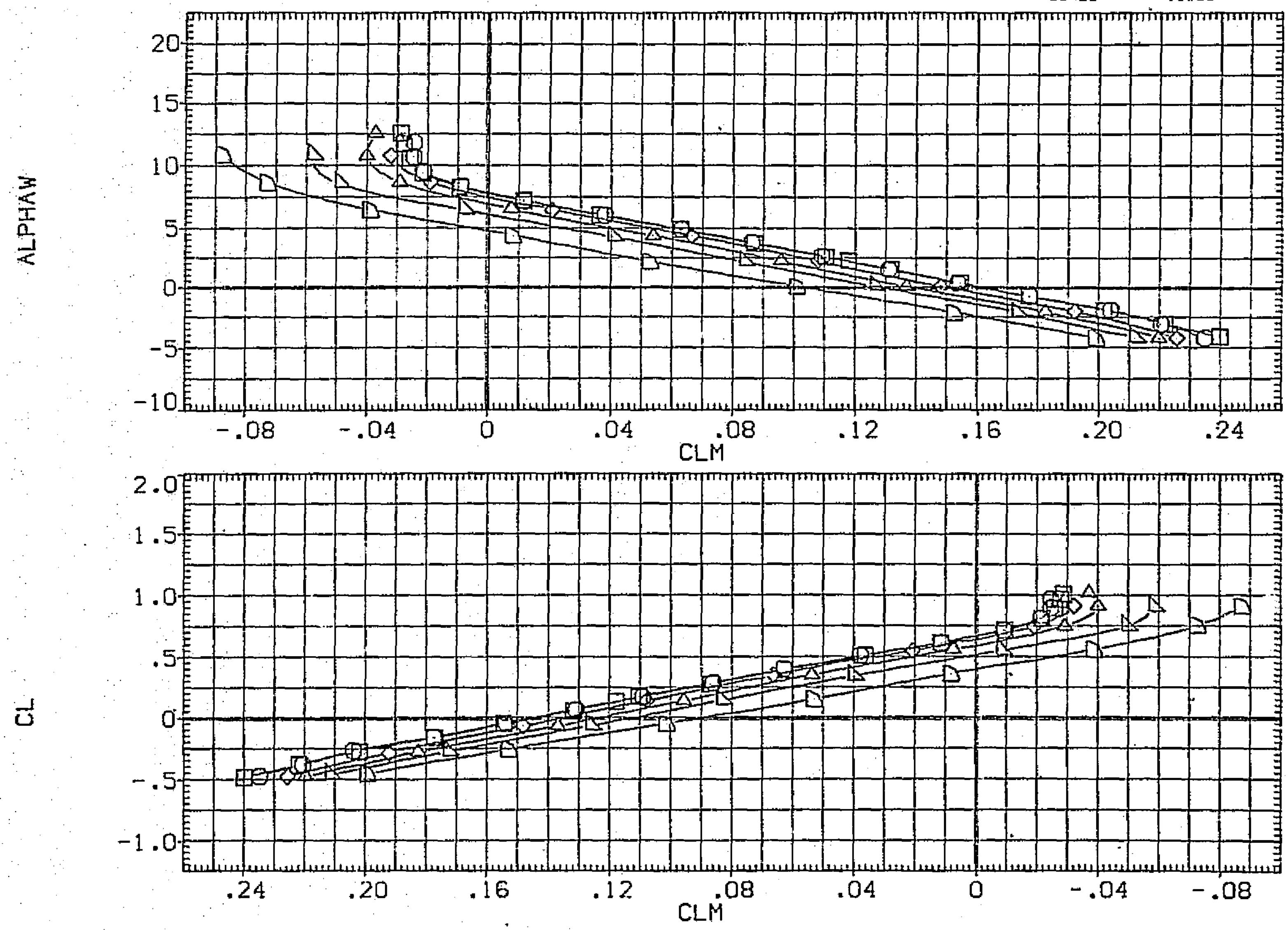



FIG. 63 LATERAL-DIRECTIONAL STABILITY, ALT CLIMB, IORB 6

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|---|
| (RGP149) | ○ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | -4.000 | 6.030 | .000 | .000 |
| (RGP148) | □ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | .000 | 6.030 | .000 | .000 |
| (RGP150) | ◇ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 2.000 | 6.030 | .000 | .000 |
| (RGP151) | △ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 4.000 | 6.030 | .000 | .000 |
| (RGP152) | ◺ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 6.000 | 6.030 | .000 | .000 |
| (RGP153) | ◗ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 10.000 | 6.030 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

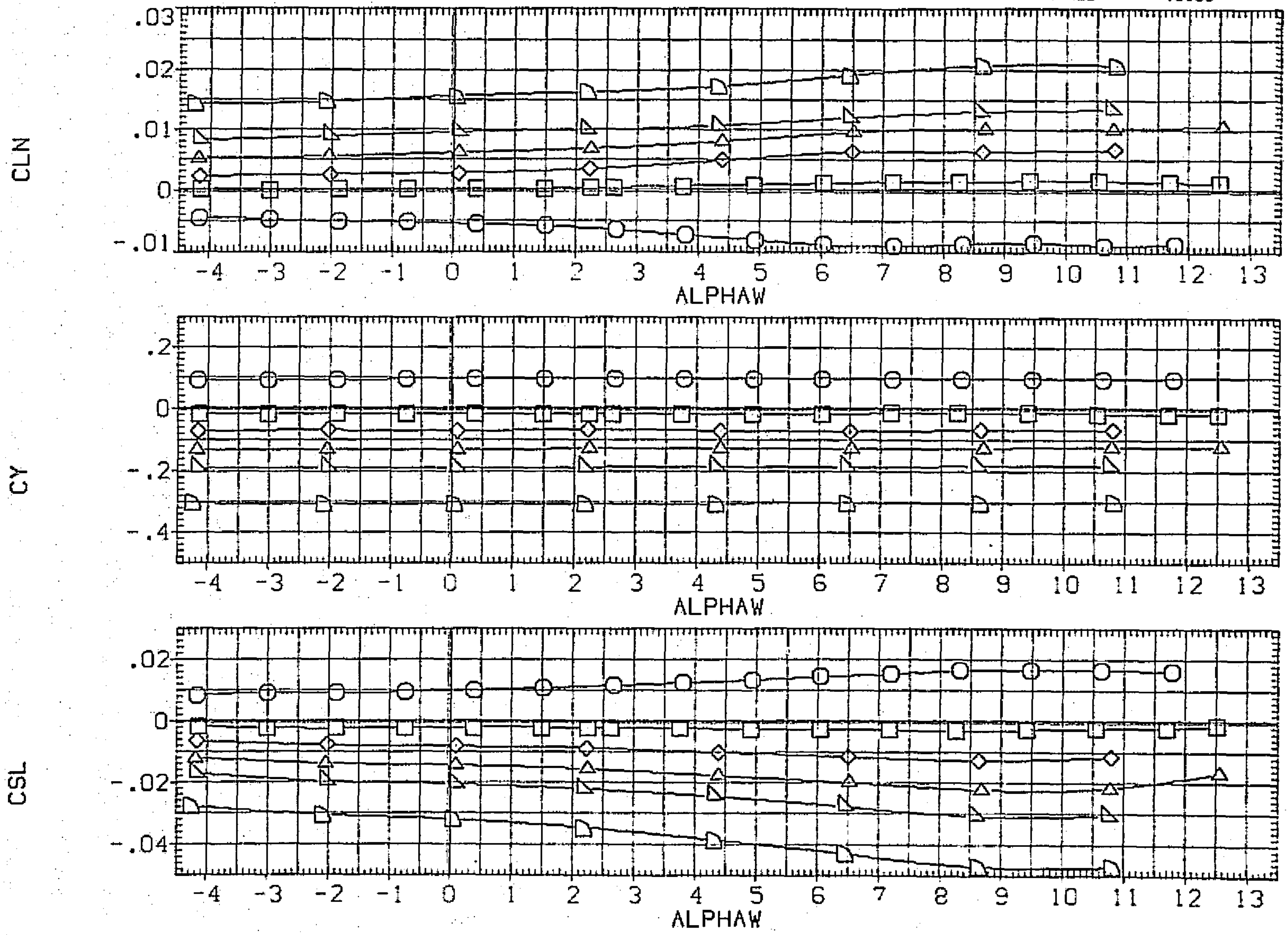



FIG. 63 LATERAL-DIRECTIONAL STABILITY, ALT CLIMB, IORB 6

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 10.000 | 10.000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

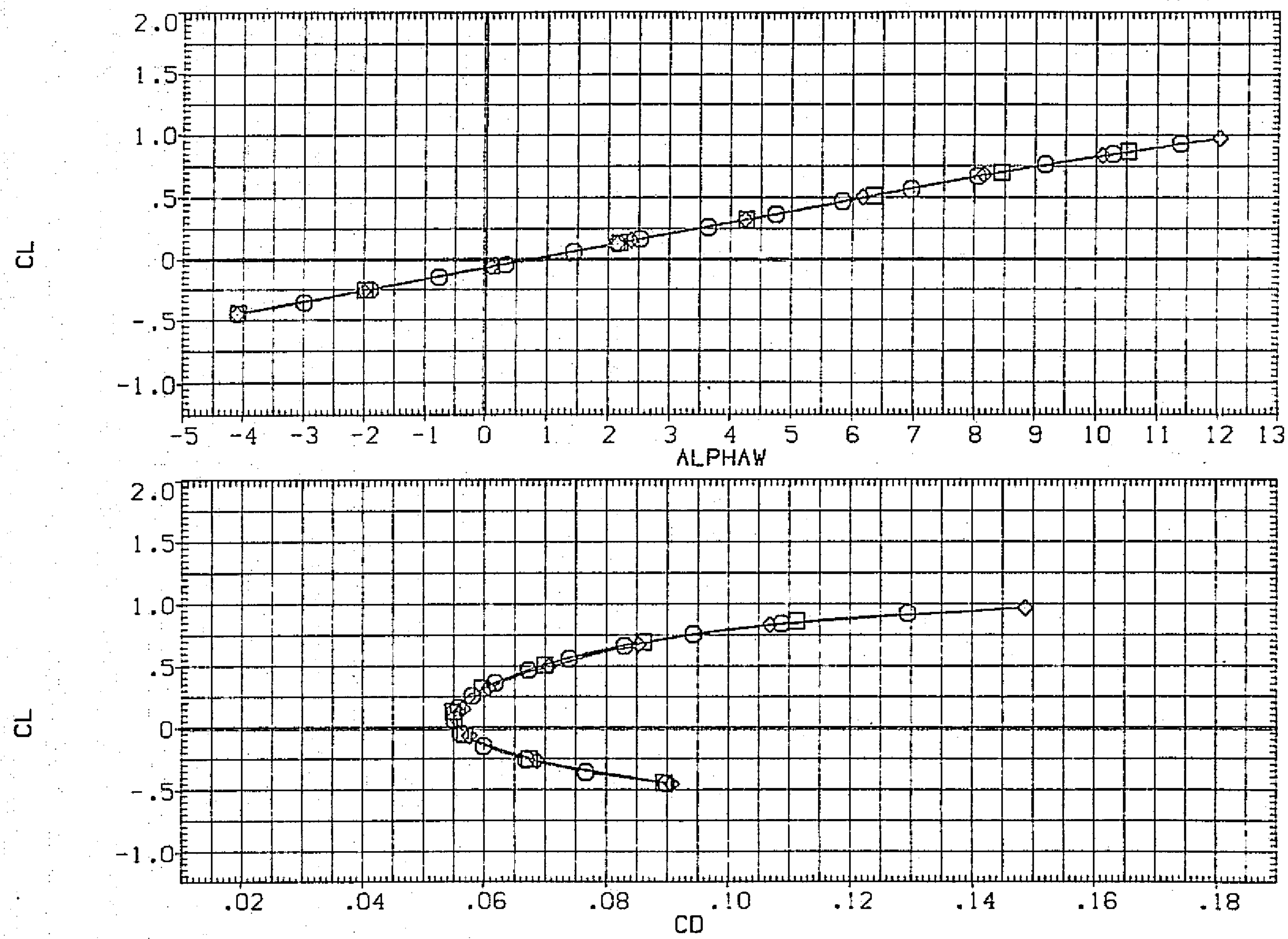



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 | /111.1ORBF8N24/28 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

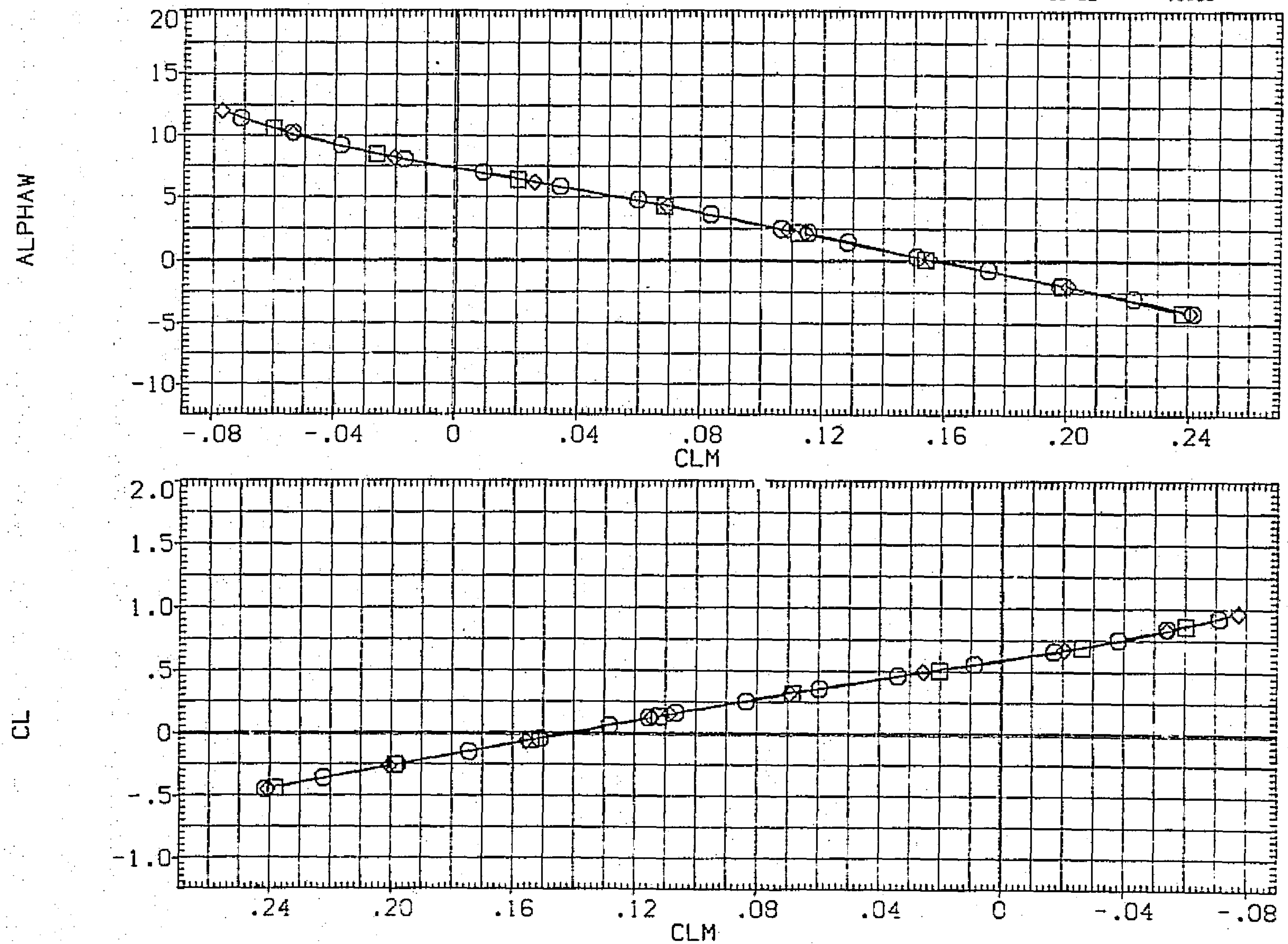



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IØRB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

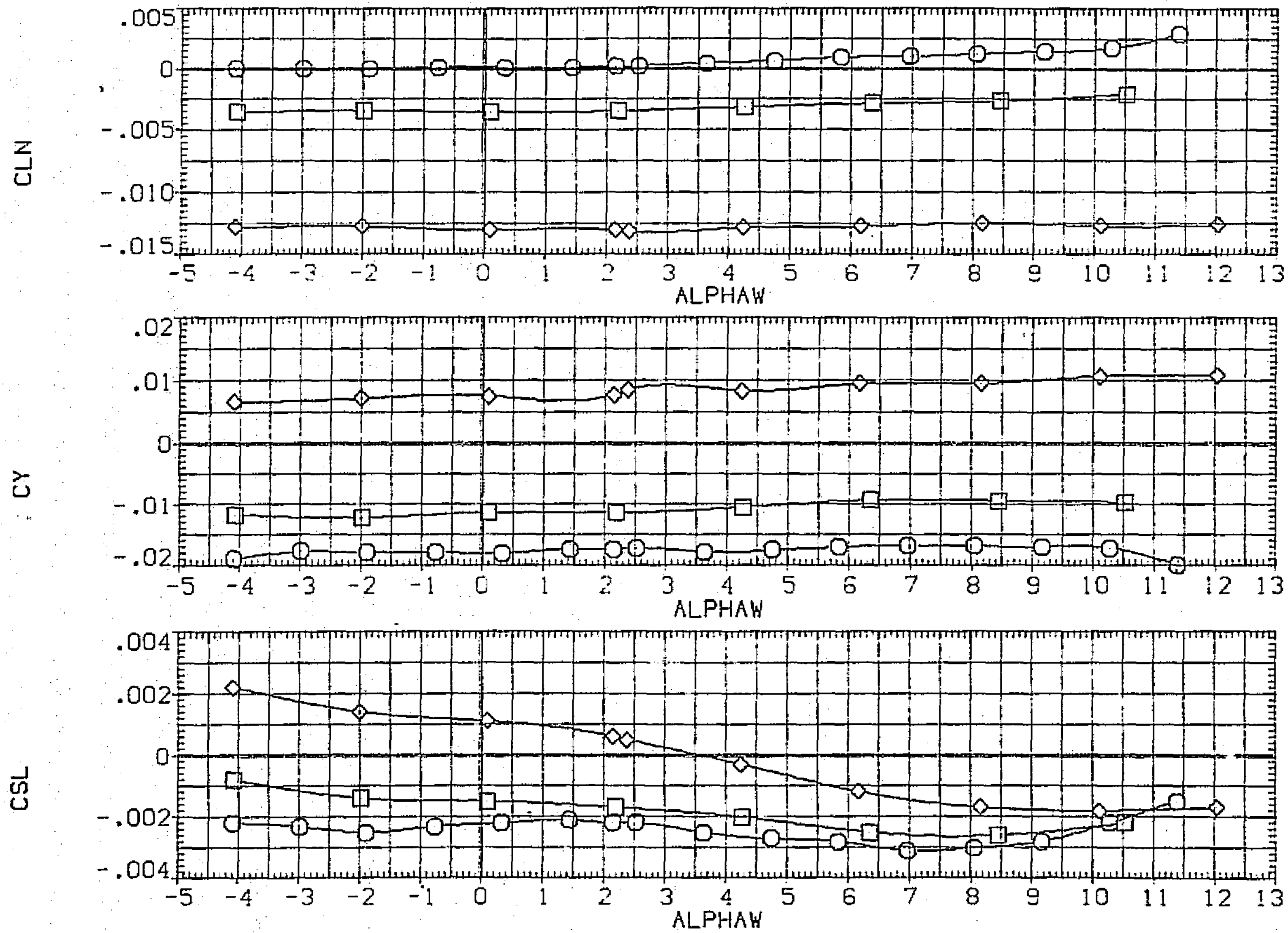



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | DATA NOT AVAILABLE | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | DATA NOT AVAILABLE | 10.000 | 10.000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

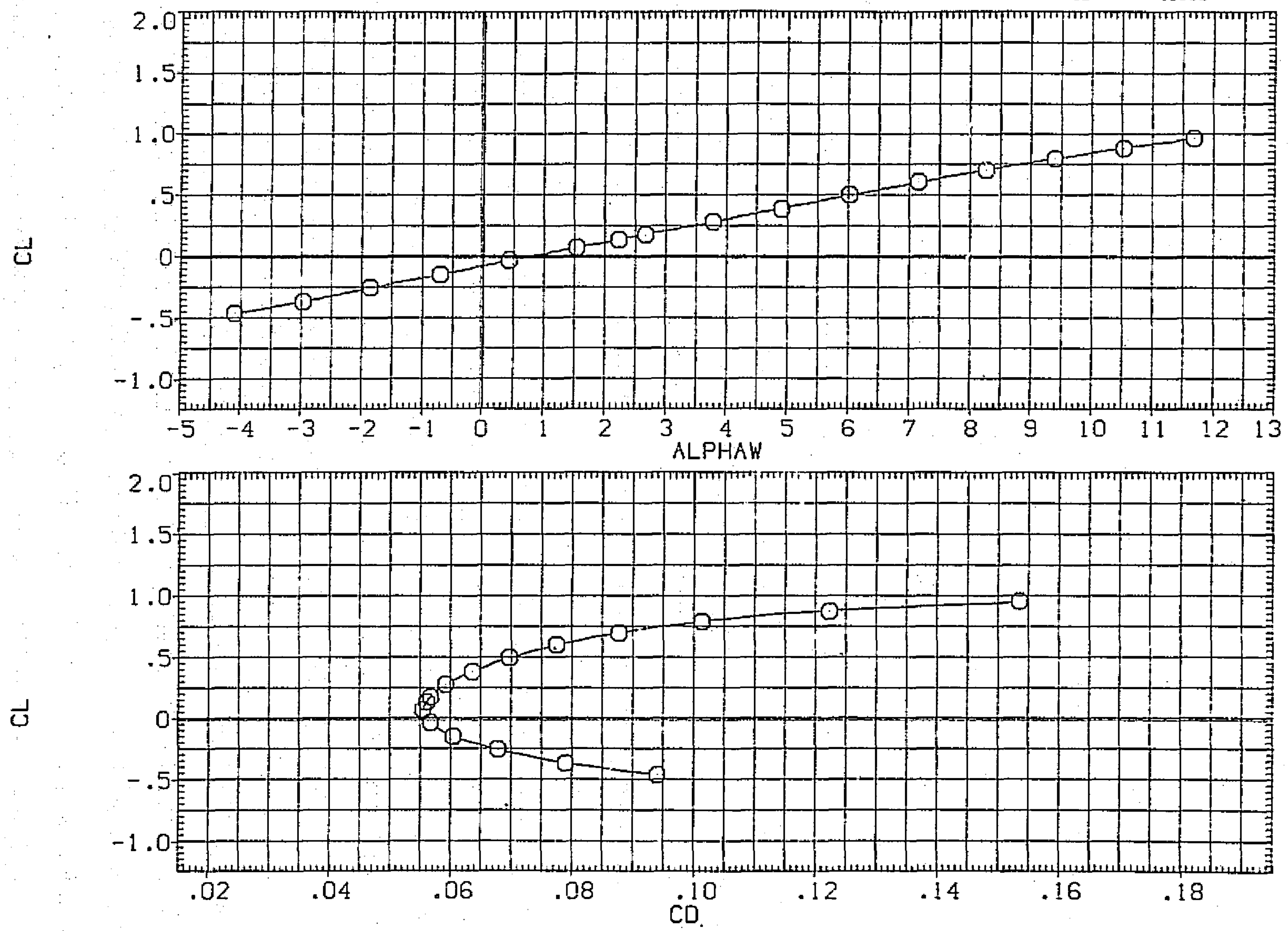


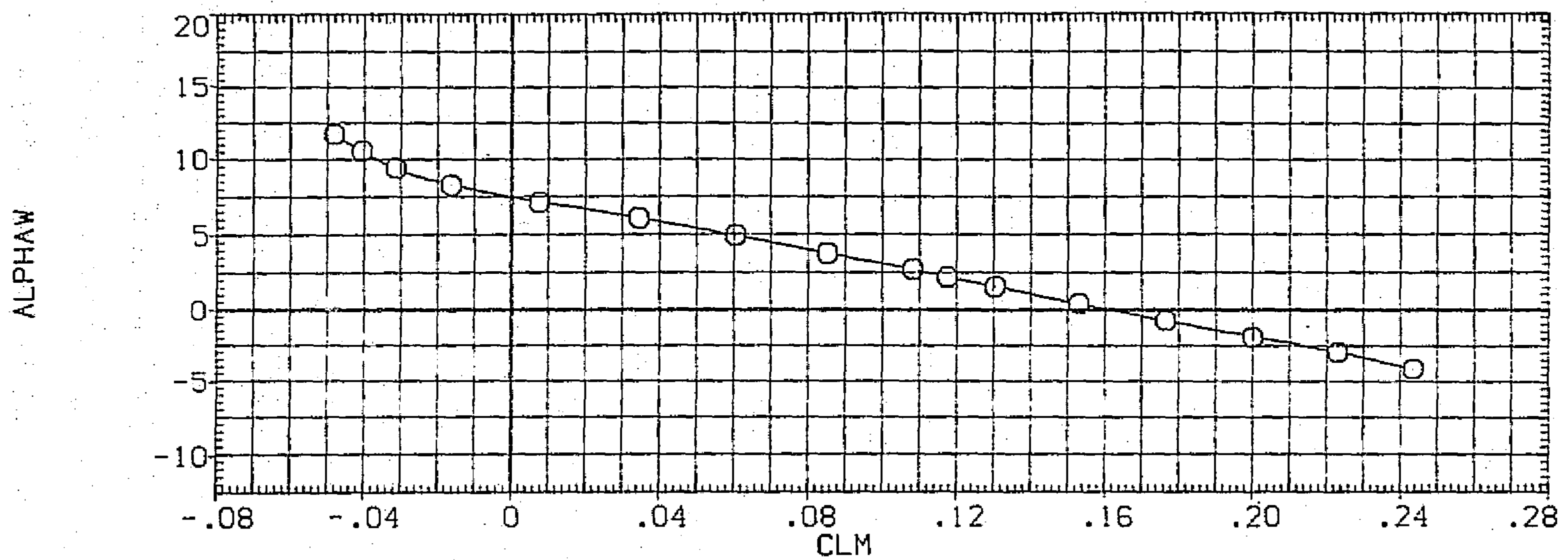

FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
| --- | --- | --- | --- | --- | --- | --- |
| (RGP148) | ○ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RBFBN24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | DATA NOT AVAILABLE | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | DATA NOT AVAILABLE | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



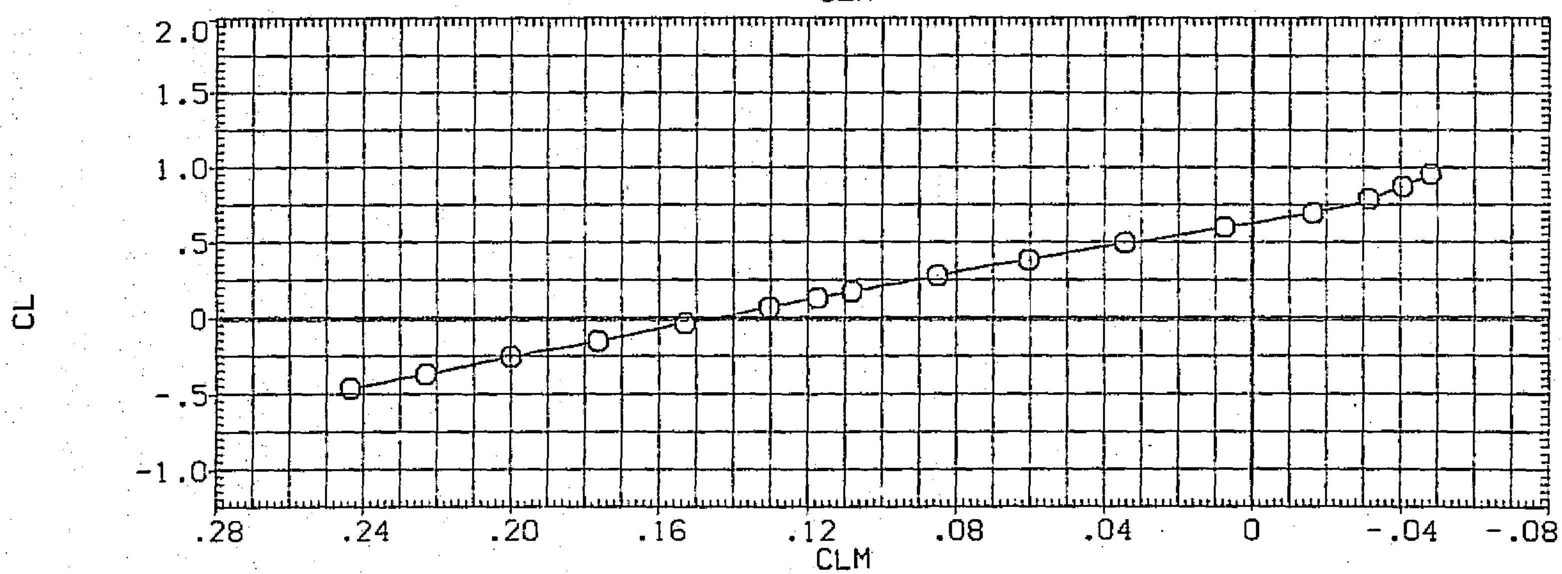




FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CAG K2H15.6.1V9.151-12 AT112 /111.10RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | DATA NOT AVAILABLE | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | DATA NOT AVAILABLE | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

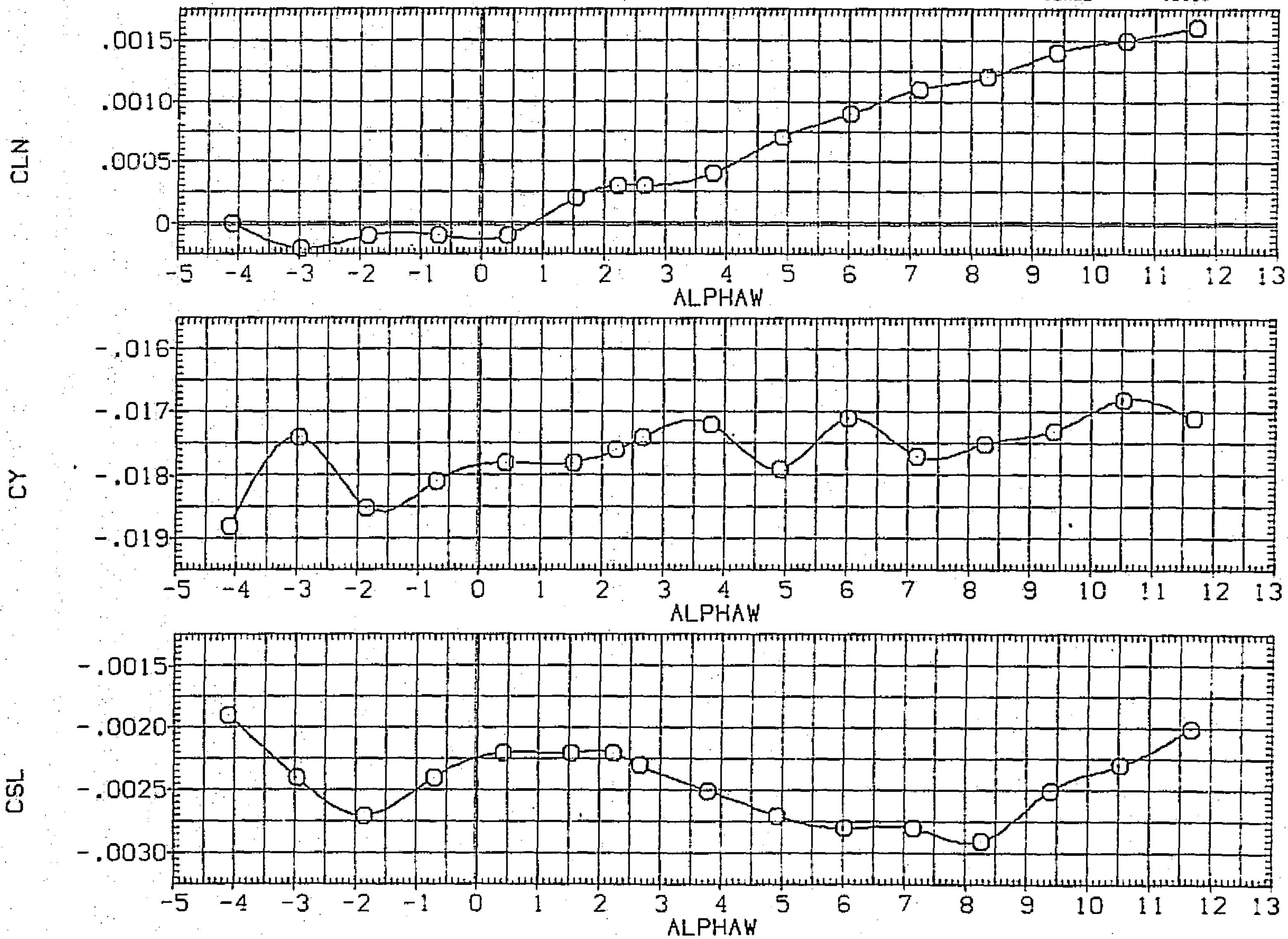



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

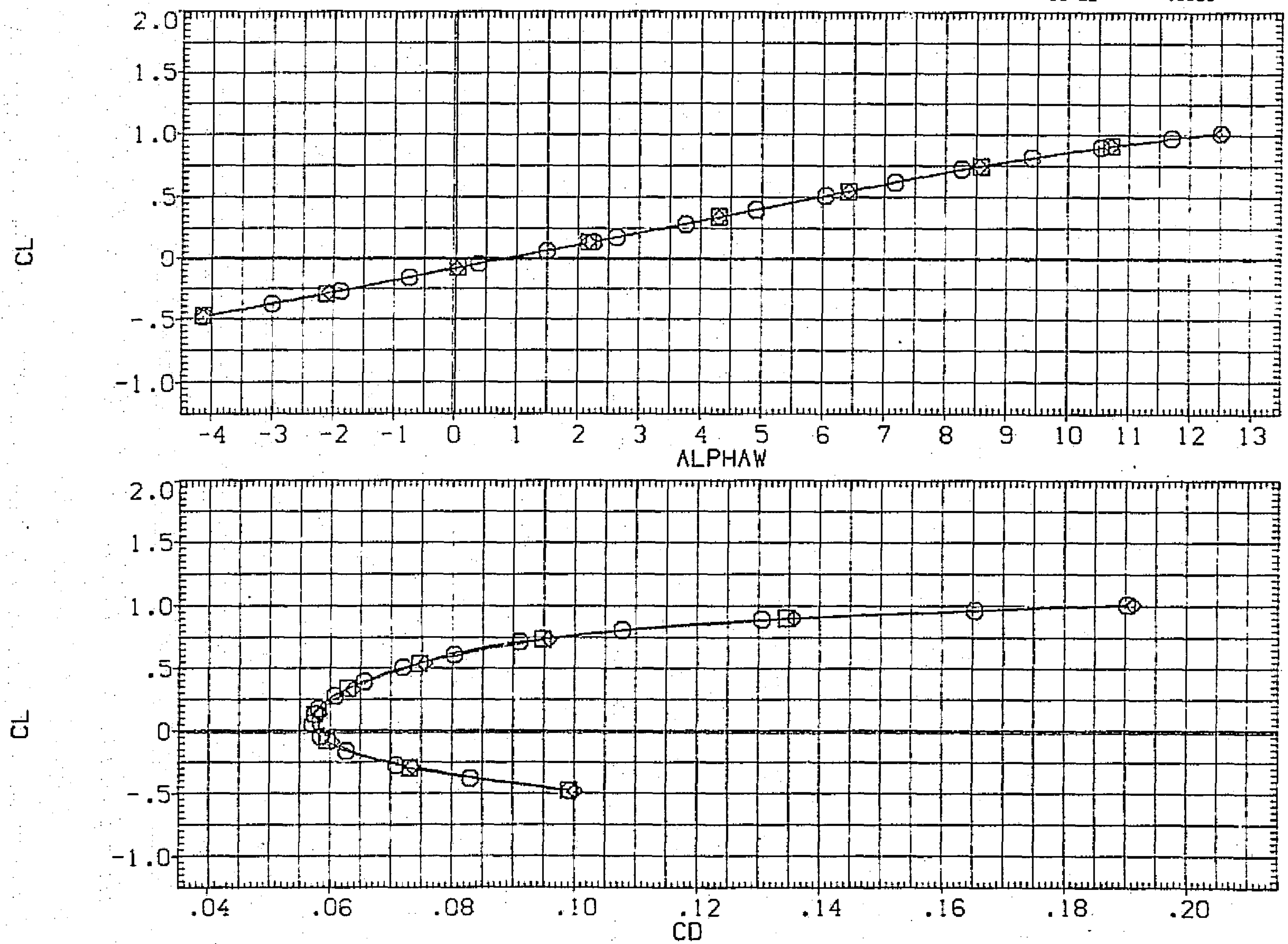



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBFBN24/28 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

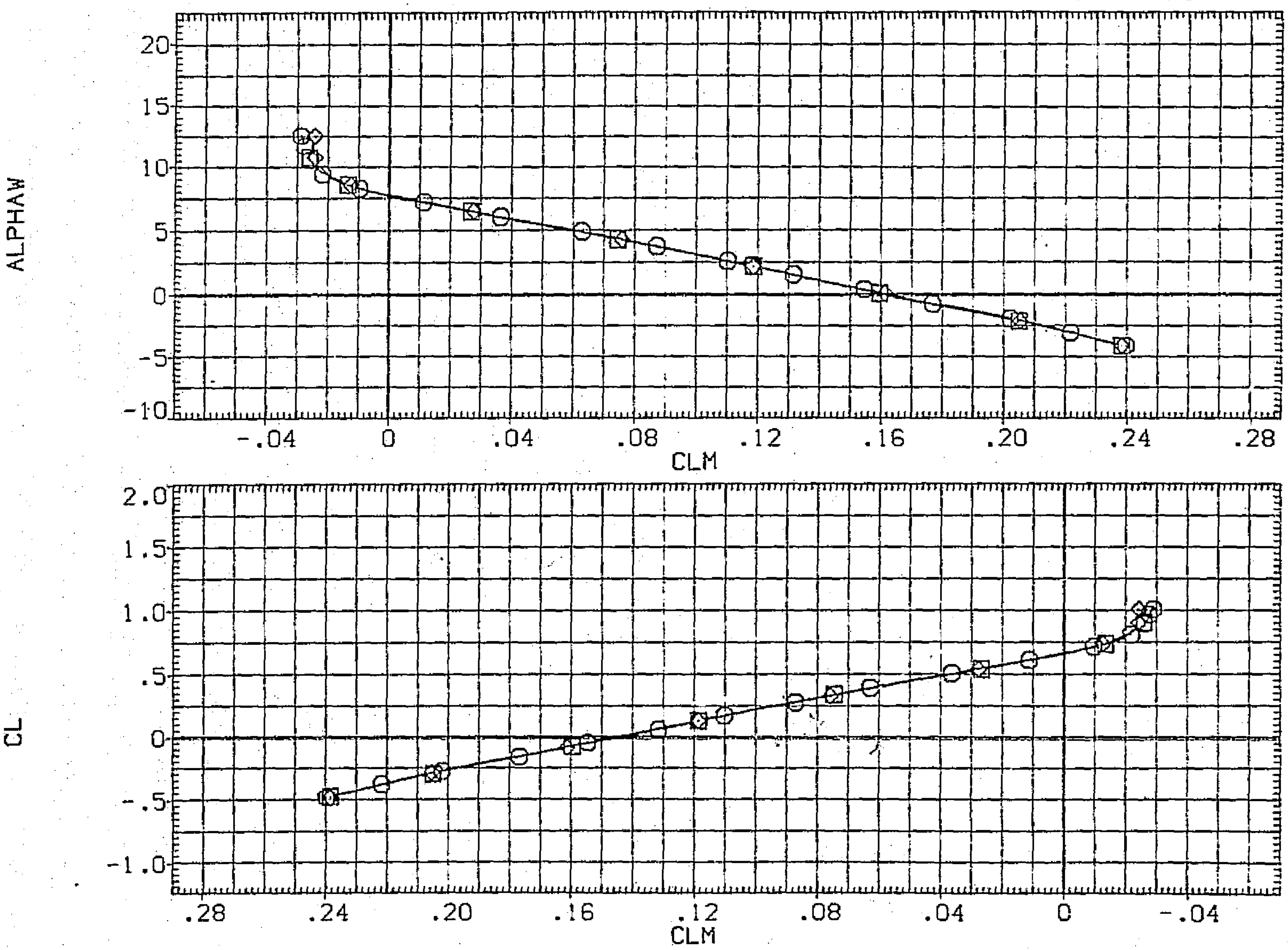



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORBF8N24/28 | 10.000 | 10.000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

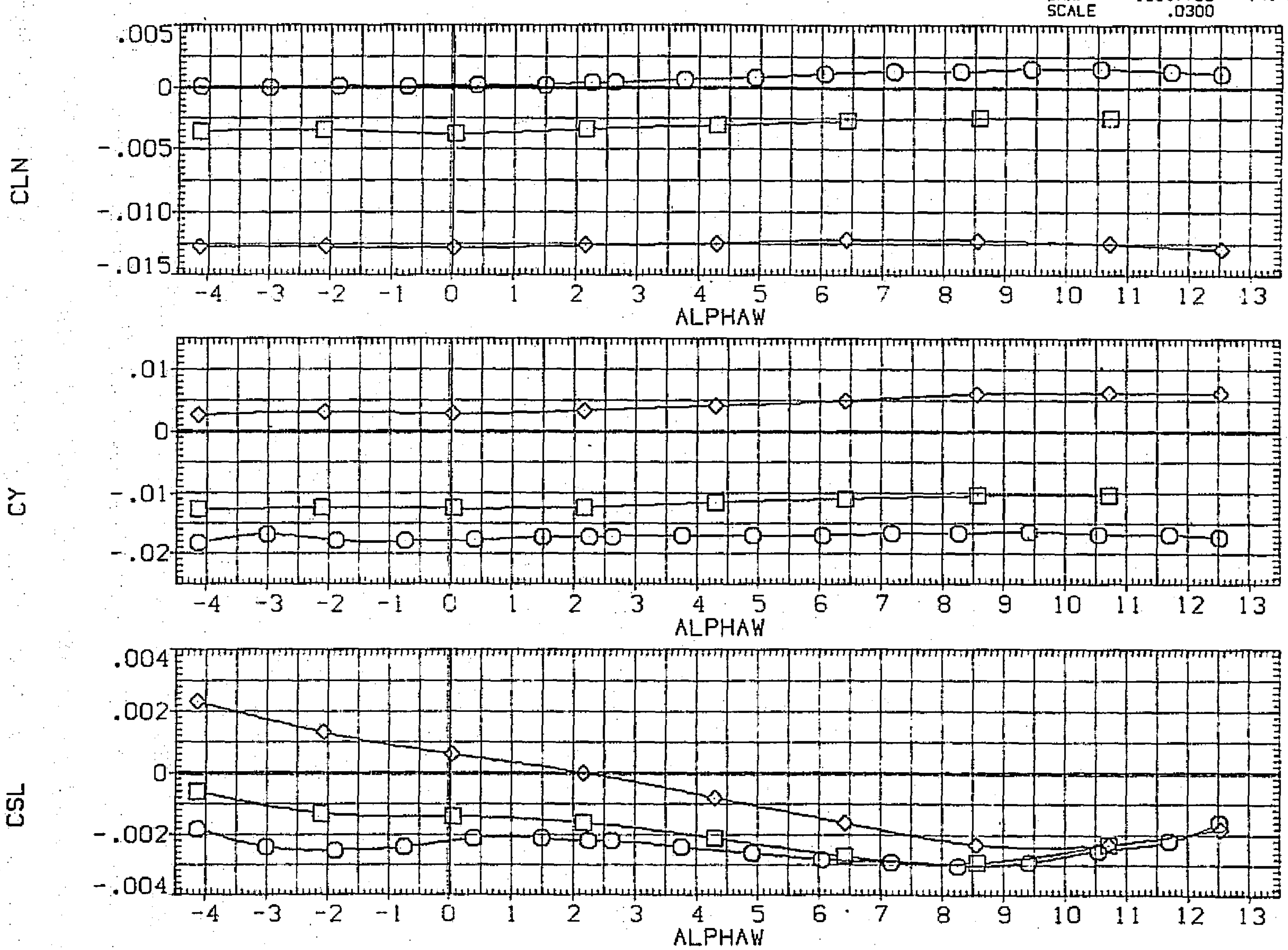



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | DATA NOT AVAILABLE | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | DATA NOT AVAILABLE | 10.000 | 10.000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

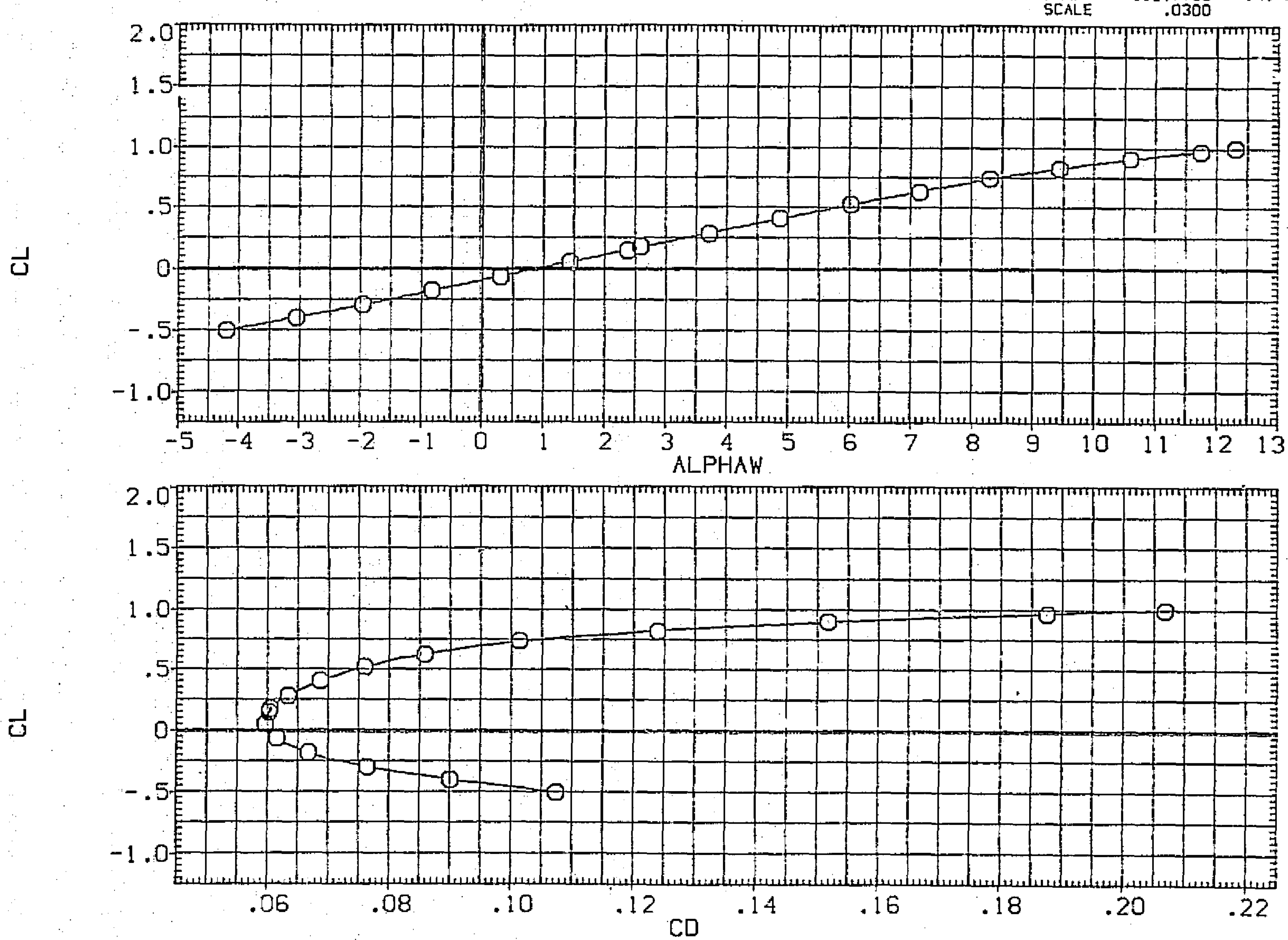



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IØRB 6

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | DATA NOT AVAILABLE | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | DATA NOT AVAILABLE | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

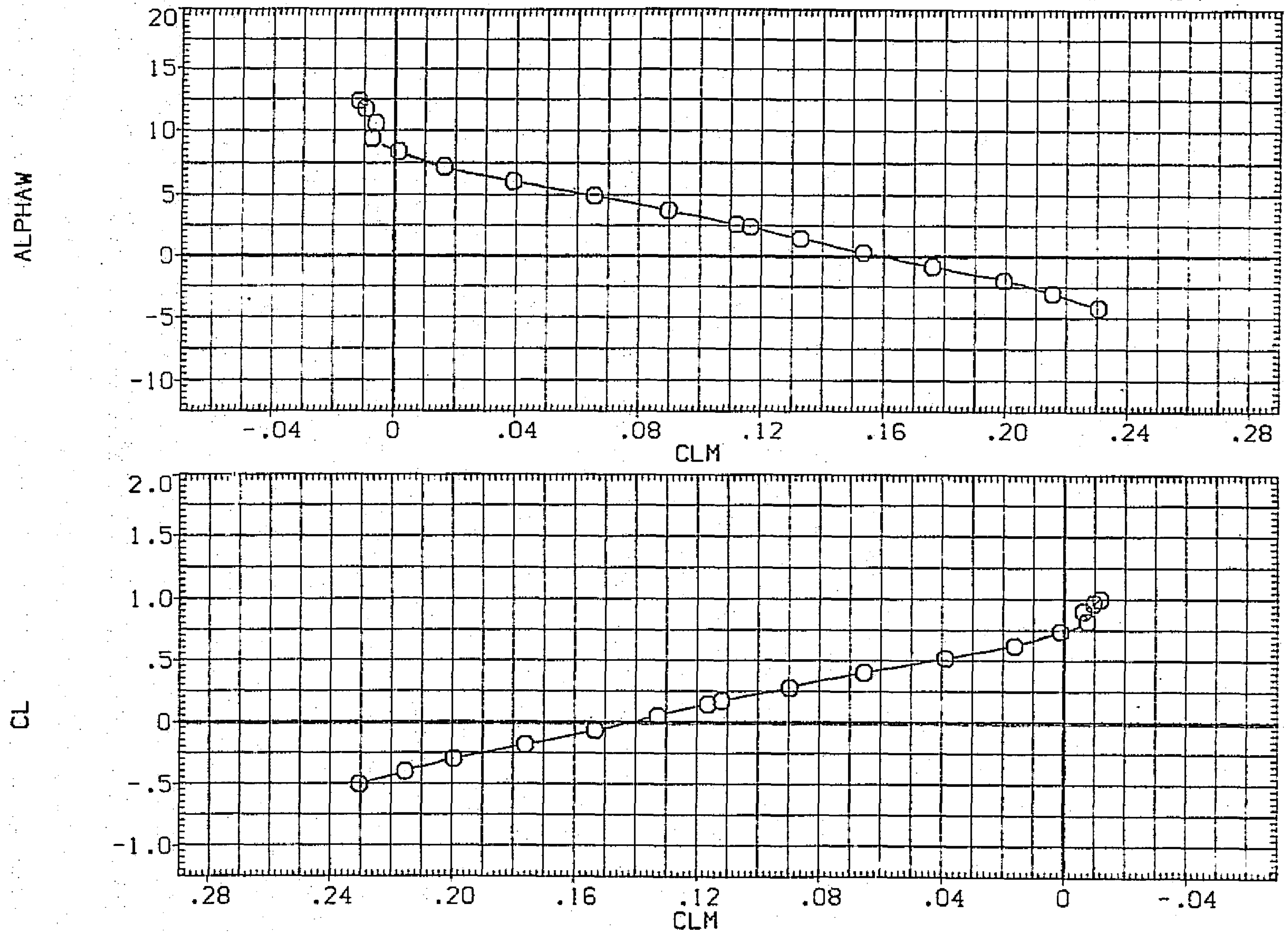



FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP148) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RBF8N24/28 | .000 | .000 | .000 | .000 |
| (RGP154) | □ | DATA NOT AVAILABLE | 3.000 | 3.000 | .000 | .000 |
| (RGP155) | ◇ | DATA NOT AVAILABLE | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

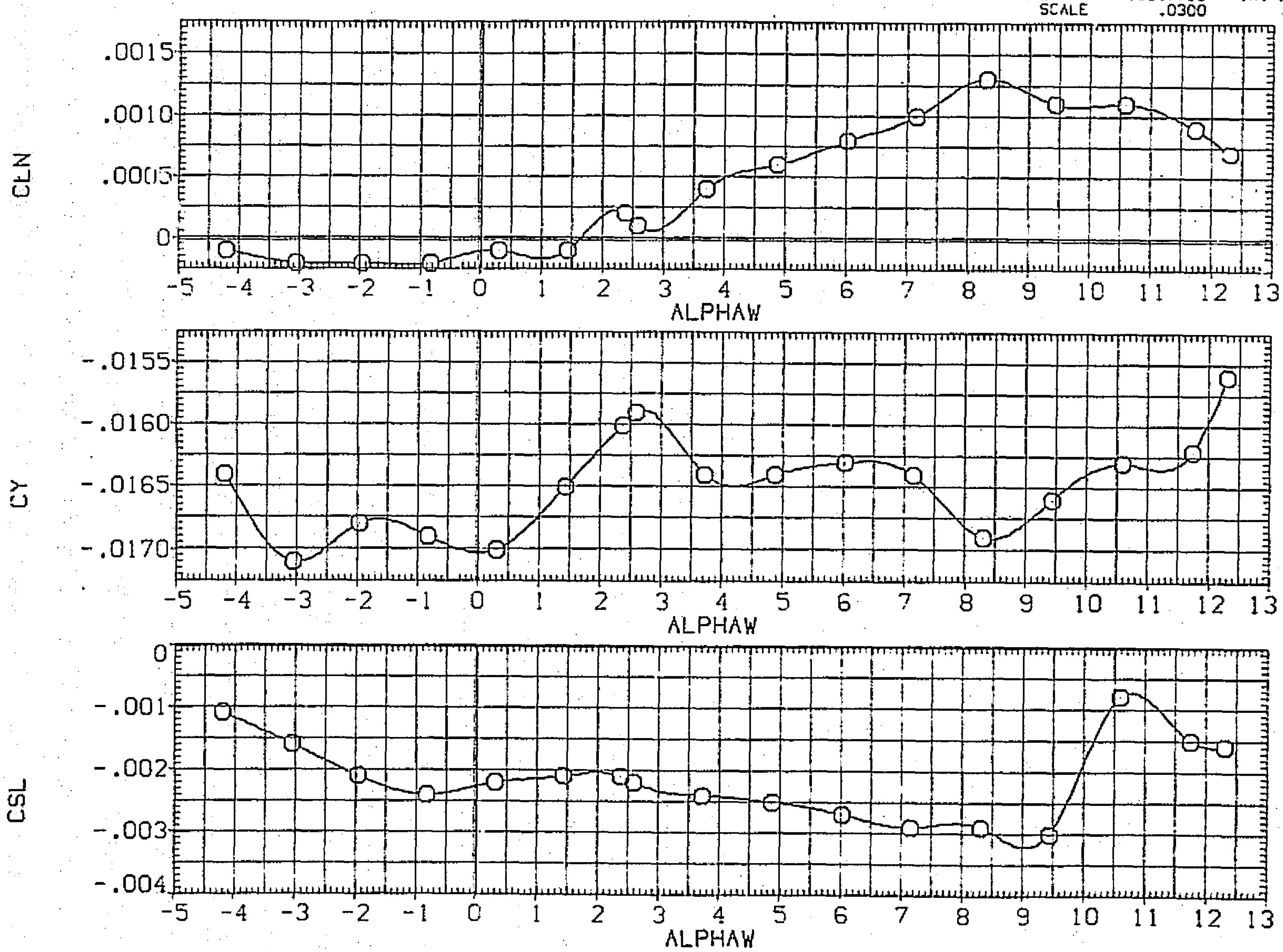


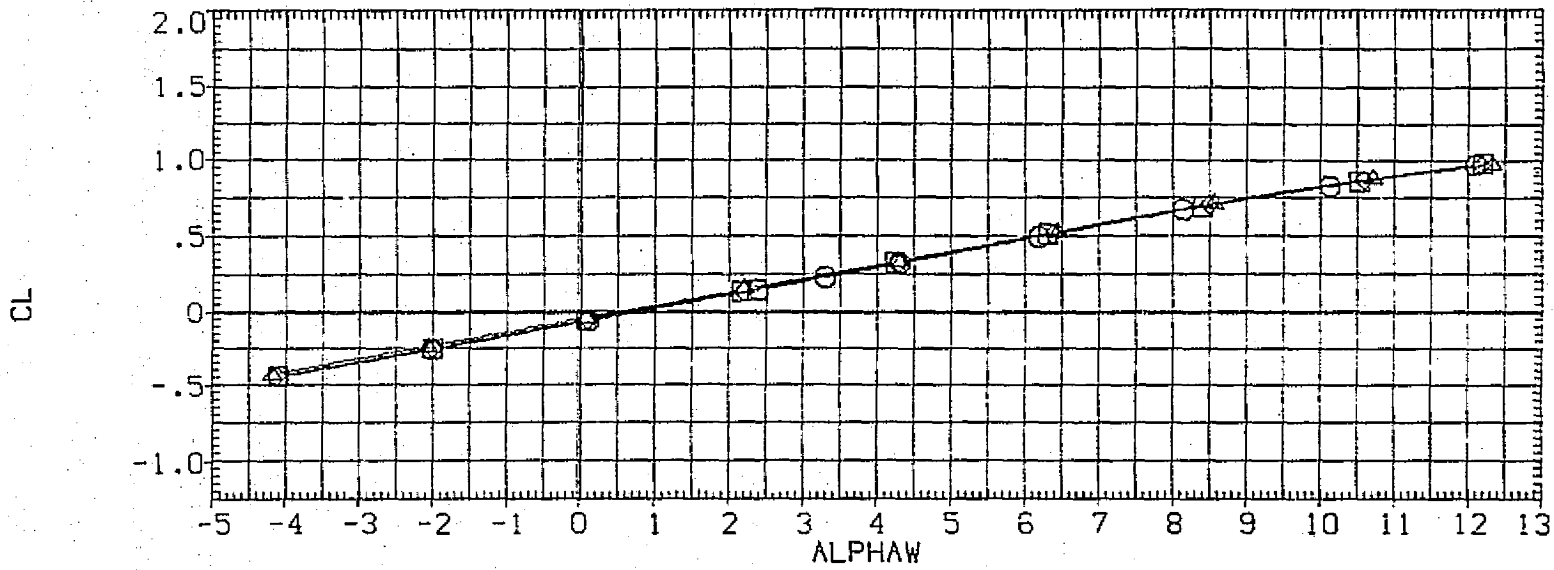

FIG. 64 RUDDER EFFECTIVENESS, ALT CLIMB, IORB 6

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP161) | □ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | -4.000 | 6.030 |
| (RGP160) | ○ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | .000 | 6.030 |
| (RGP162) | ◇ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | 4.000 | 6.030 |
| (RGP163) | △ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | 10.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



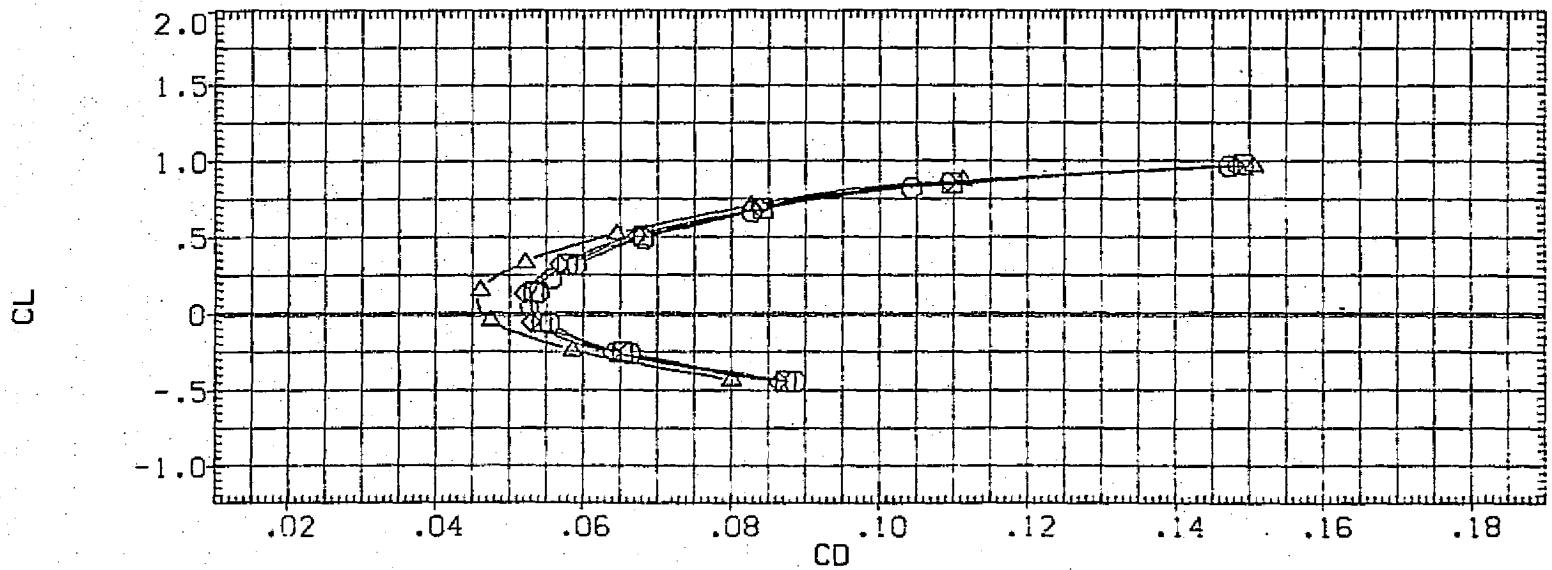




FIG. 65 LATERAL-DIRECTIONAL STABILITY, ALL VERTICAL TAILS OFF, ALT CLIMB

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP161) | □ | CA6 K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | -4.000 | 6.030 |
| (RGP160) | ○ | CA6 K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | .000 | 6.030 |
| (RGP162) | ◇ | CA6 K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | 4.000 | 6.030 |
| (RGP163) | △ | CA6 K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | 10.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

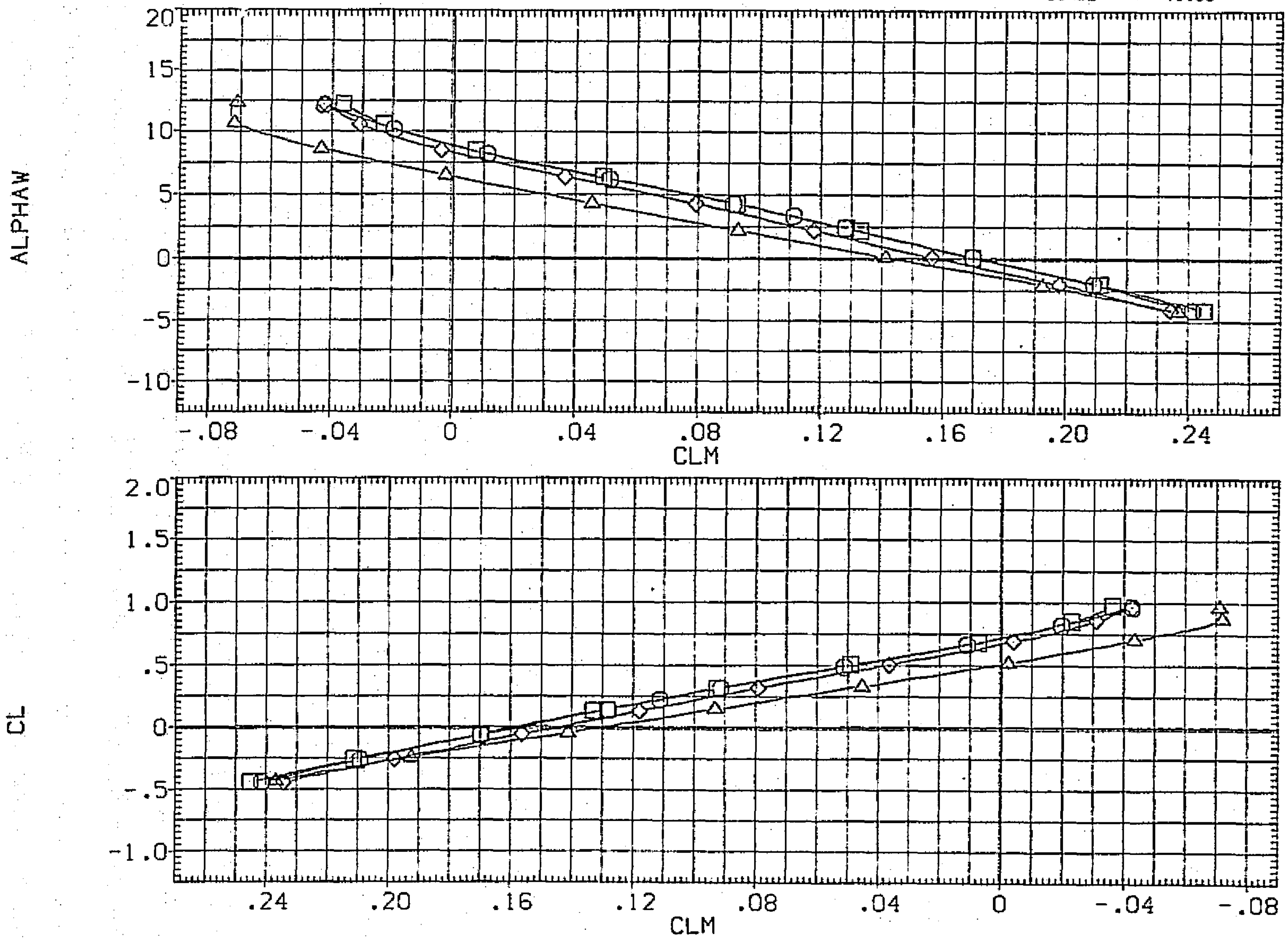



FIG. 65 LATERAL-DIRECTIONAL STABILITY, ALL VERTICAL TAILS OFF, ALT CLIMB

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP161) | □ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | -4.000 | 6.030 |
| (RGP160) | ○ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | .000 | 6.030 |
| (RGP162) | ◇ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | 4.000 | 6.030 |
| (RGP163) | △ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | 10.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

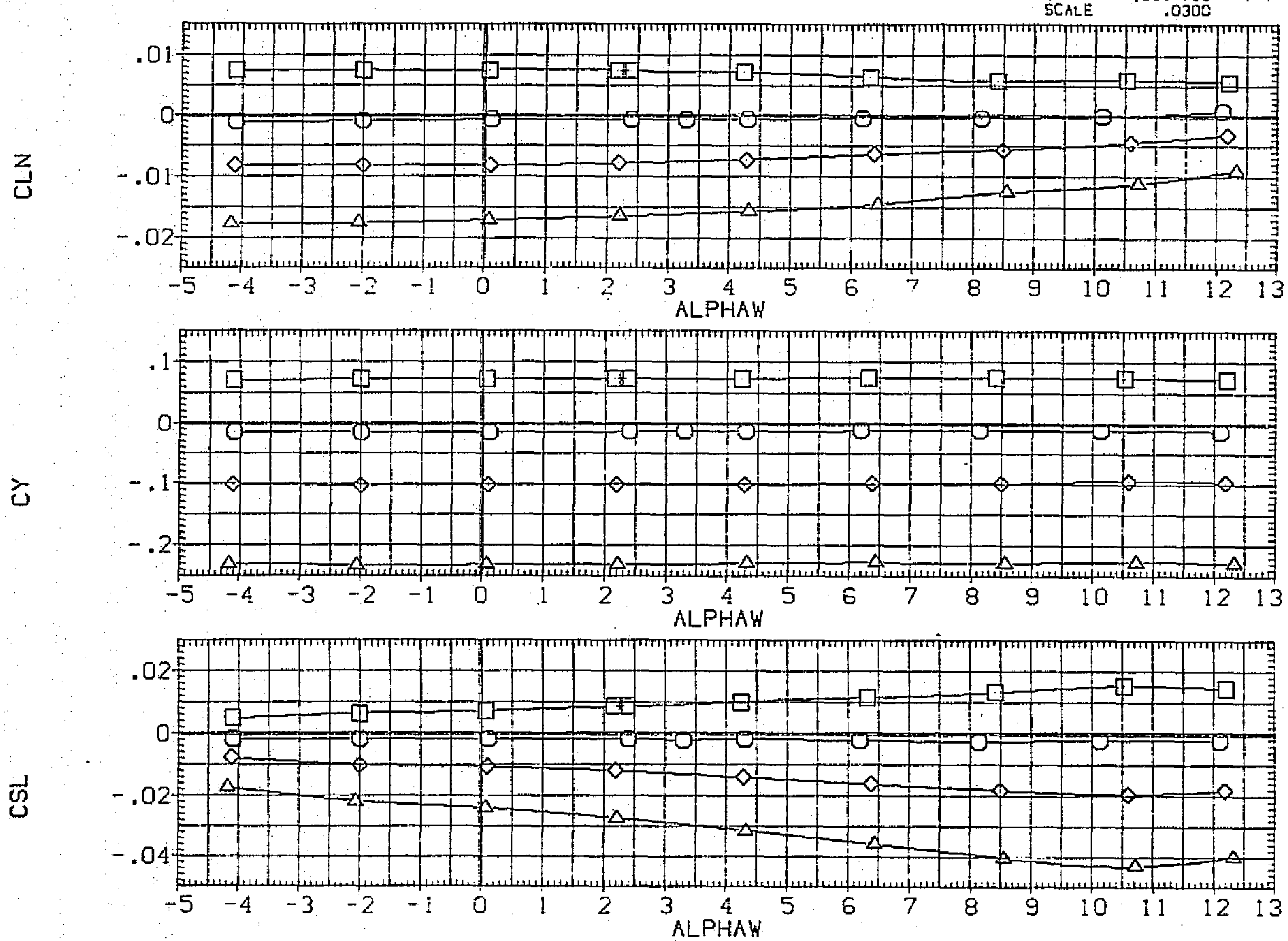


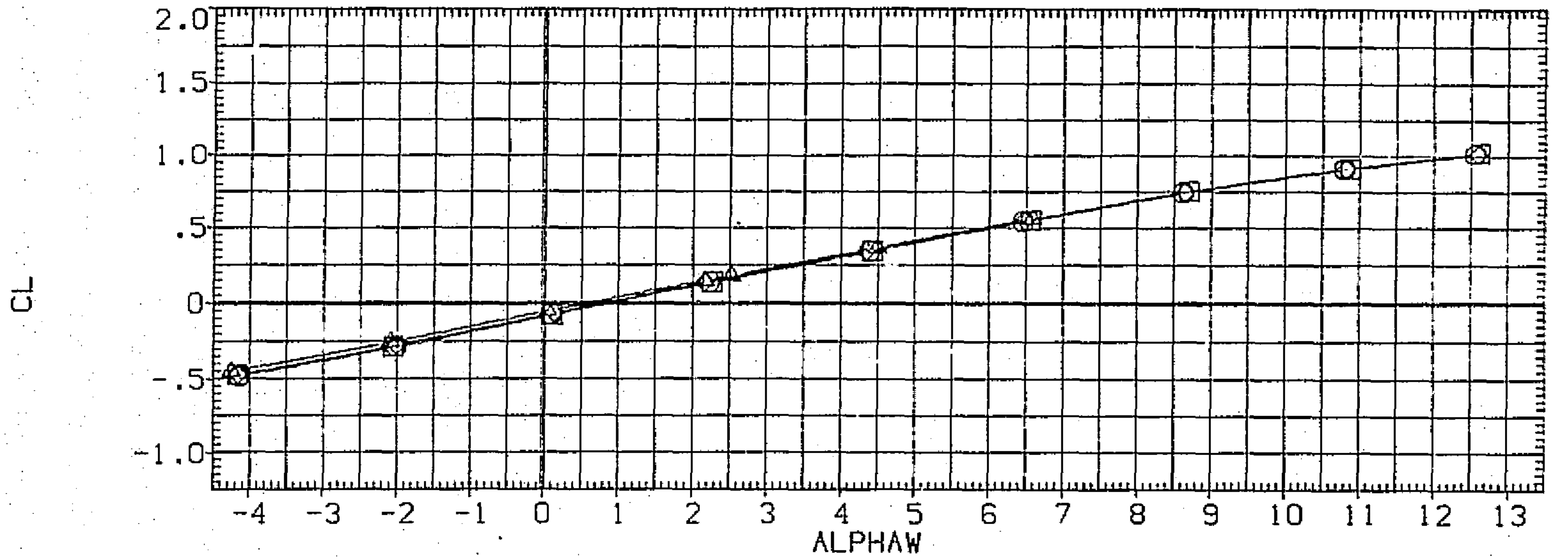

FIG. 65 LATERAL-DIRECTIONAL STABILITY, ALL VERTICAL TAILS OFF, ALT CLIMB

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP161) | □ | CA6 K2H15.1 | S1-12 | AT112 | /111.1ORBF8N24/28 | -4.000 | 6.030 |
| (RGP160) | ○ | CA6 K2H15.1 | S1-12 | AT112 | /111.1ORBF8N24/28 | .000 | 6.030 |
| (RGP162) | ◇ | CA6 K2H15.1 | S1-12 | AT112 | /111.1ORBF8N24/28 | 4.000 | 6.030 |
| (RGP163) | △ | CA6 K2H15.1 | S1-12 | AT112 | /111.1ORBF8N24/28 | 10.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



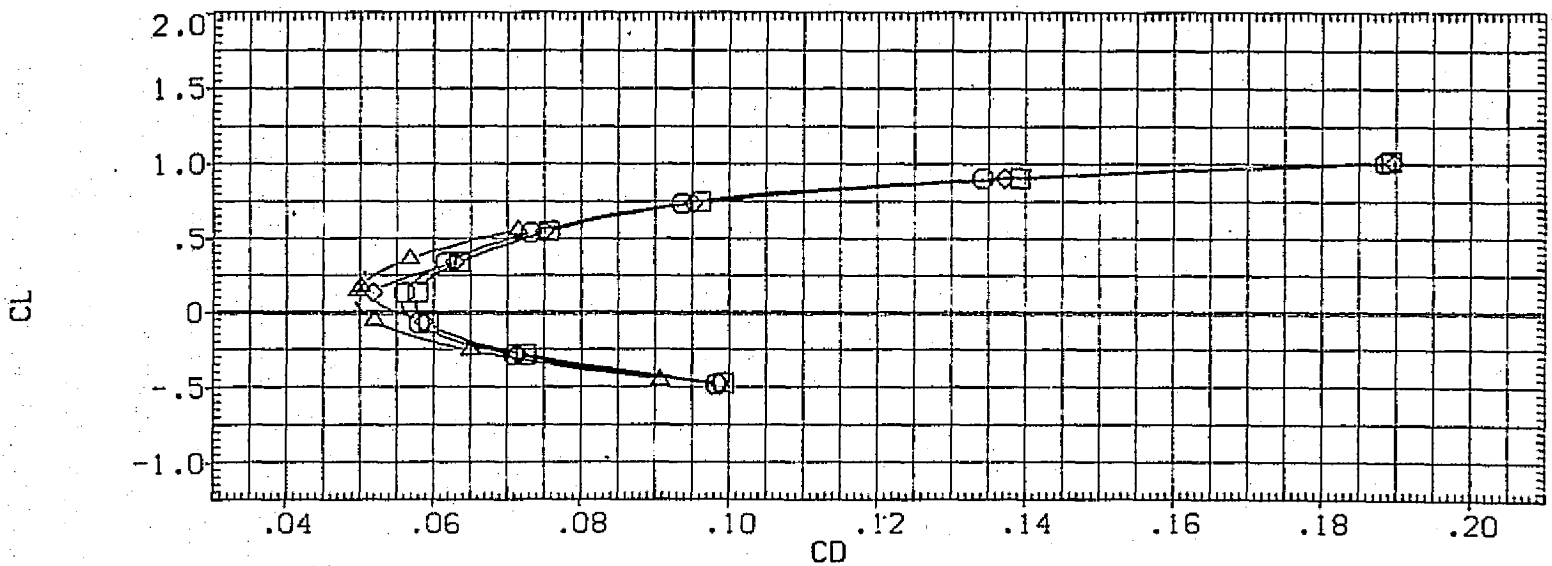



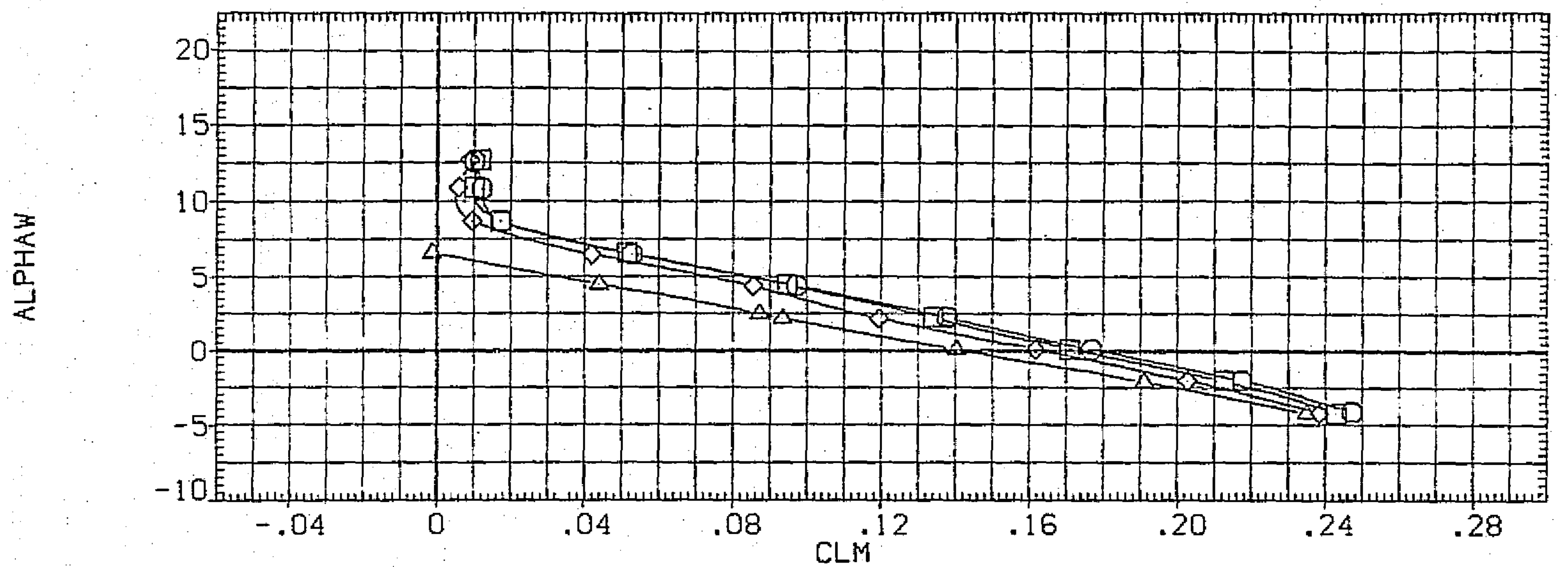

FIG. 65 LATERAL-DIRECTIONAL STABILITY, ALL VERTICAL TAILS OFF, ALT CLIMB

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP161) | □ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | -4.000 | 6.030 |
| (RGP160) | ○ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | .000 | 6.030 |
| (RGP162) | ◇ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | 4.000 | 6.030 |
| (RGP163) | △ | CA6 K2H15.1 S1-12 AT112 /111.10RBF8N24/28 | 10.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



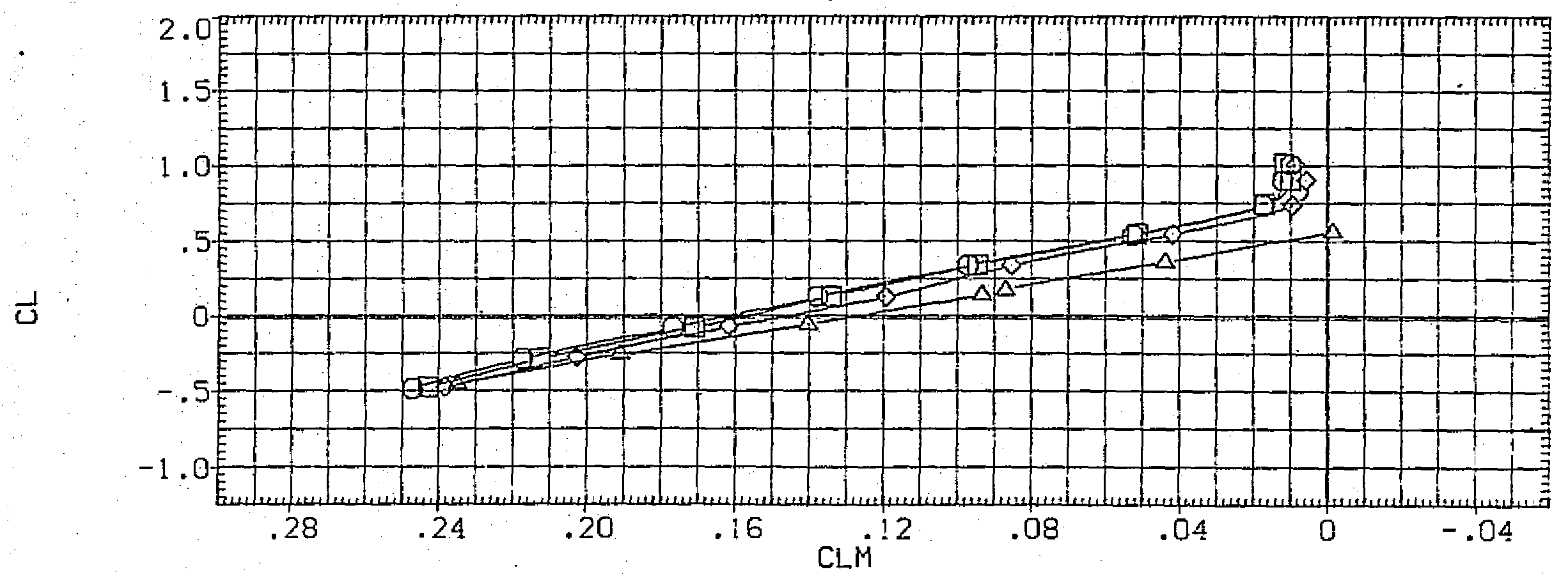




FIG. 65 LATERAL-DIRECTIONAL STABILITY, ALL VERTICAL TAILS OFF, ALT CLIMB

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP161) | □ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | -4.000 | 6.030 |
| (RGP160) | ○ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | .000 | 6.030 |
| (RGP162) | ◇ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | 4.000 | 6.030 |
| (RGP163) | △ | CA6 | K2H15.1 | S1-12 AT112 | /111.10RBF8N24/28 | 10.000 | 6.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

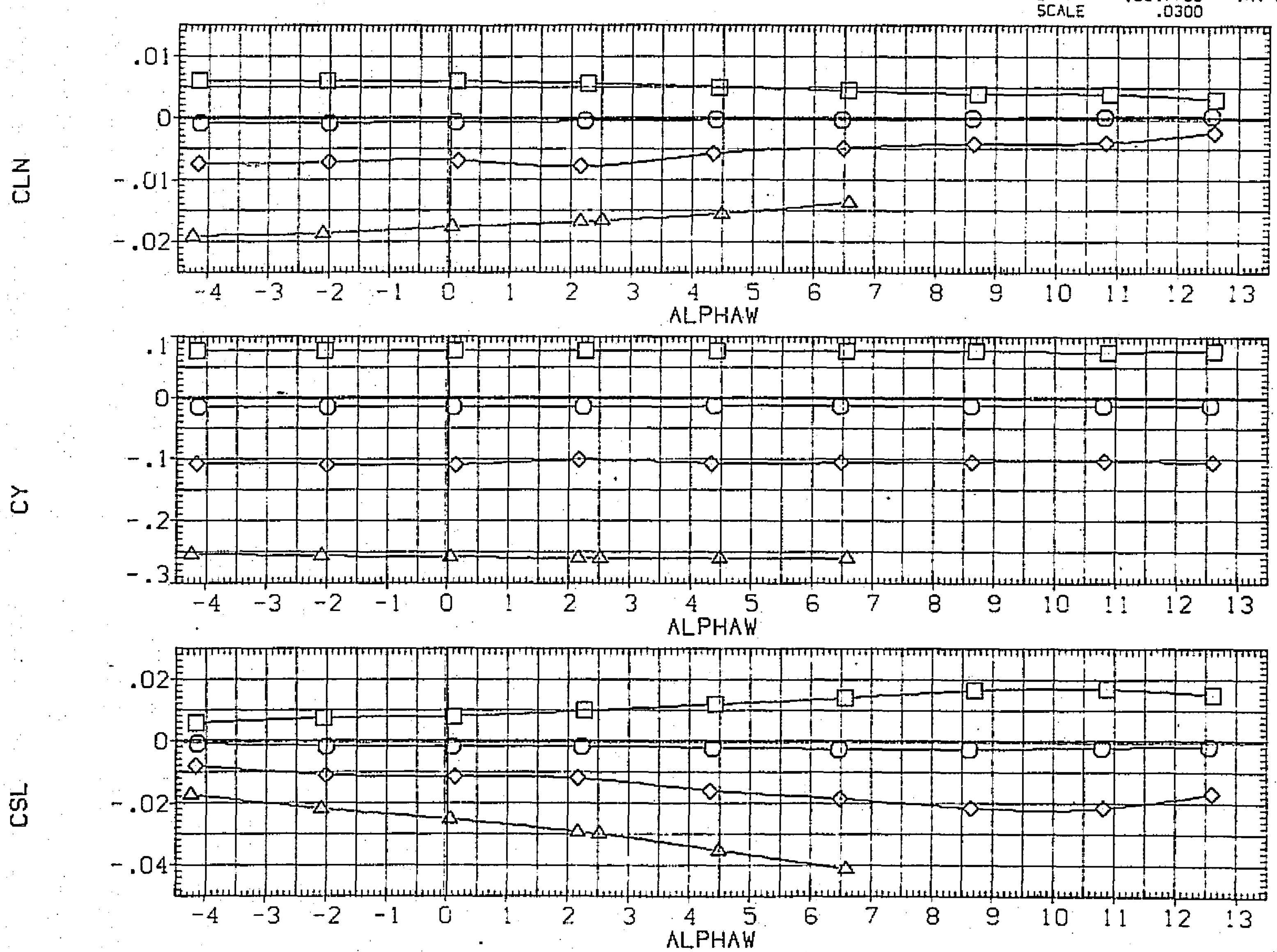



FIG. 65 LATERAL-DIRECTIONAL STABILITY, ALL VERTICAL TAILS OFF, ALT CLIMB

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (AGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 |
| (AGP169) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

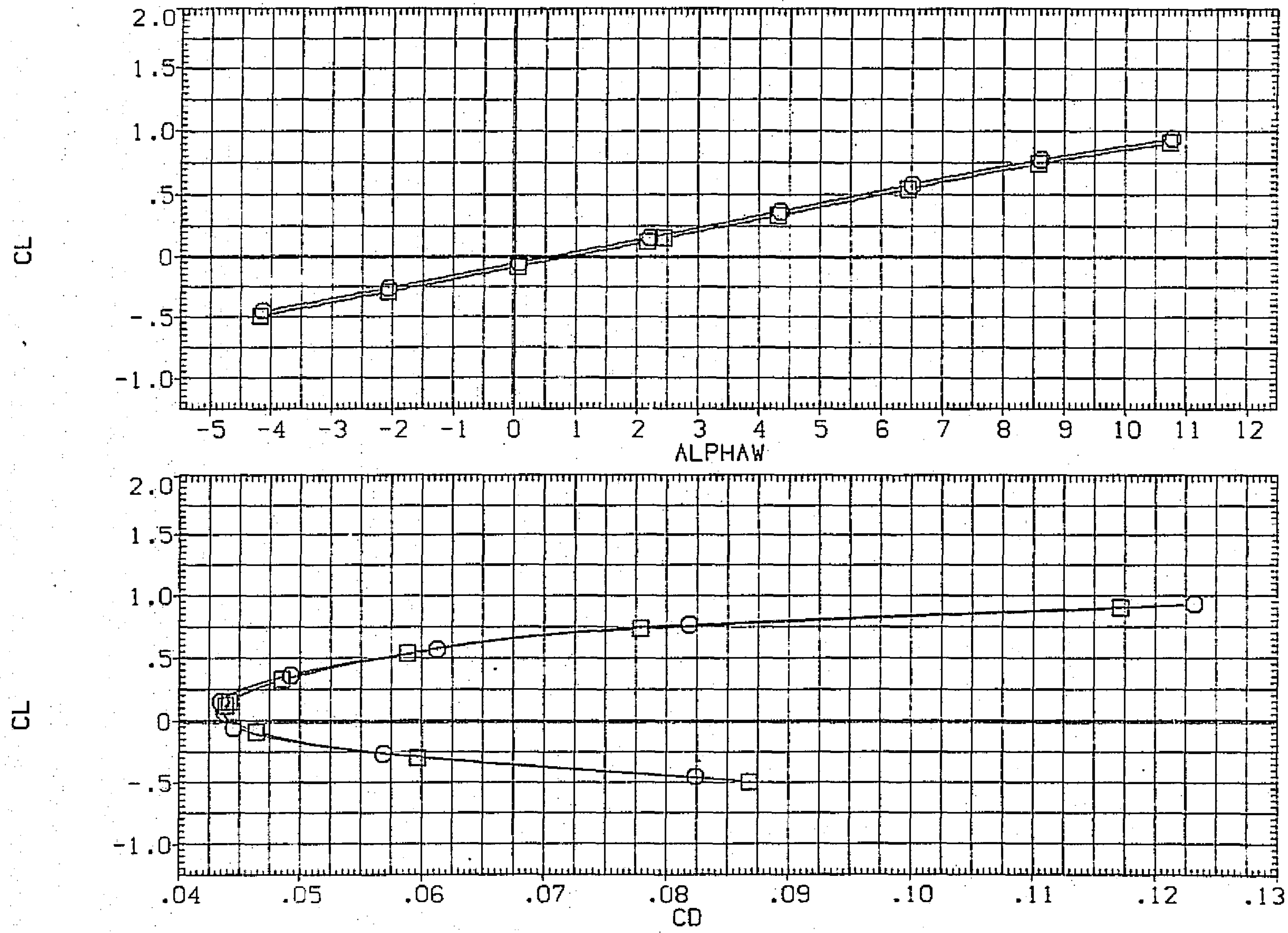



FIG. 66 ORBITER ELEVON EFFECTS, FERRY, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (AGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 |
| (AGP169) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

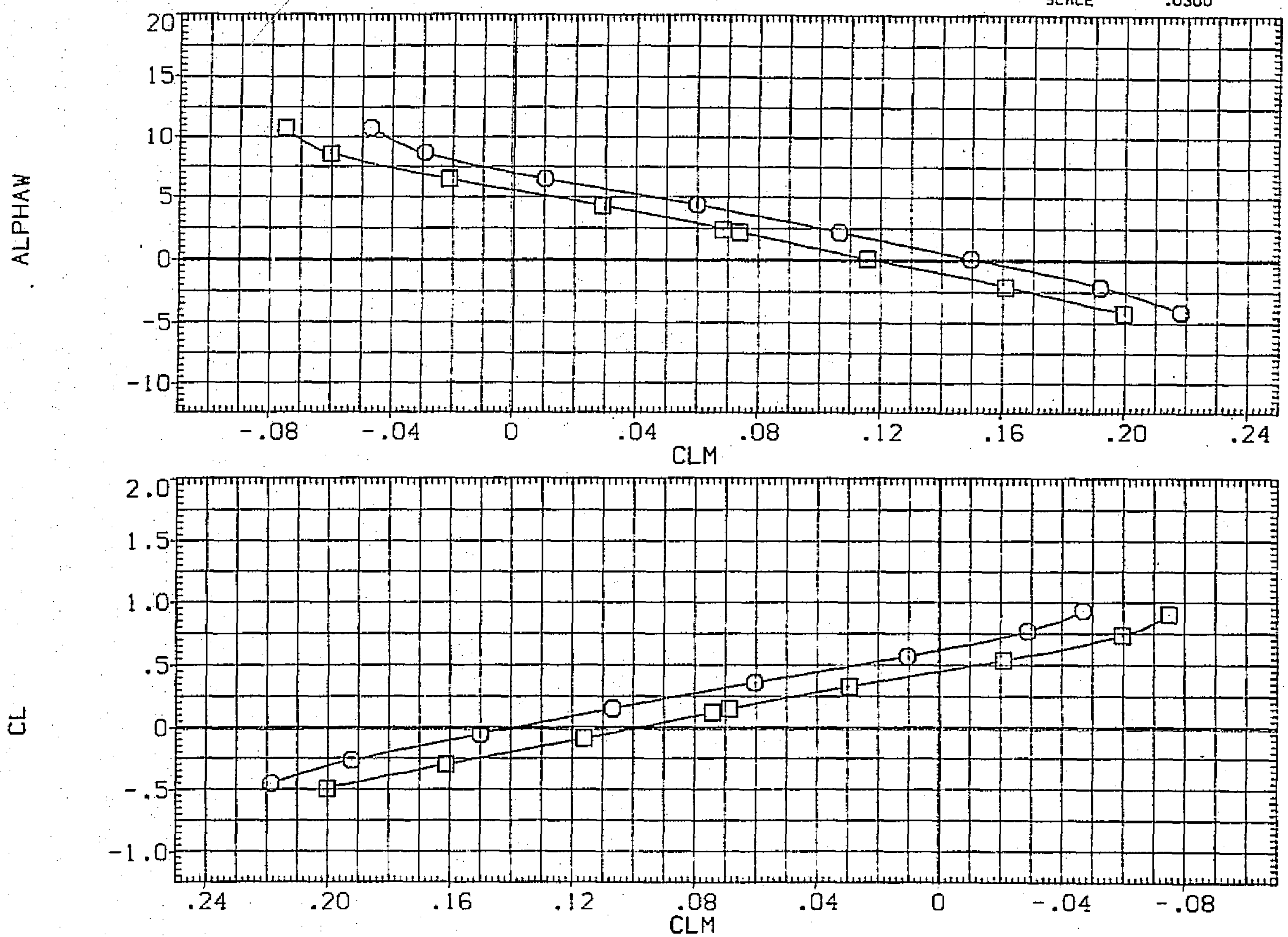



FIG. 66 ORBITER ELEVON EFFECTS, FERRY, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (AGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 |
| (AGP169) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | -5.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

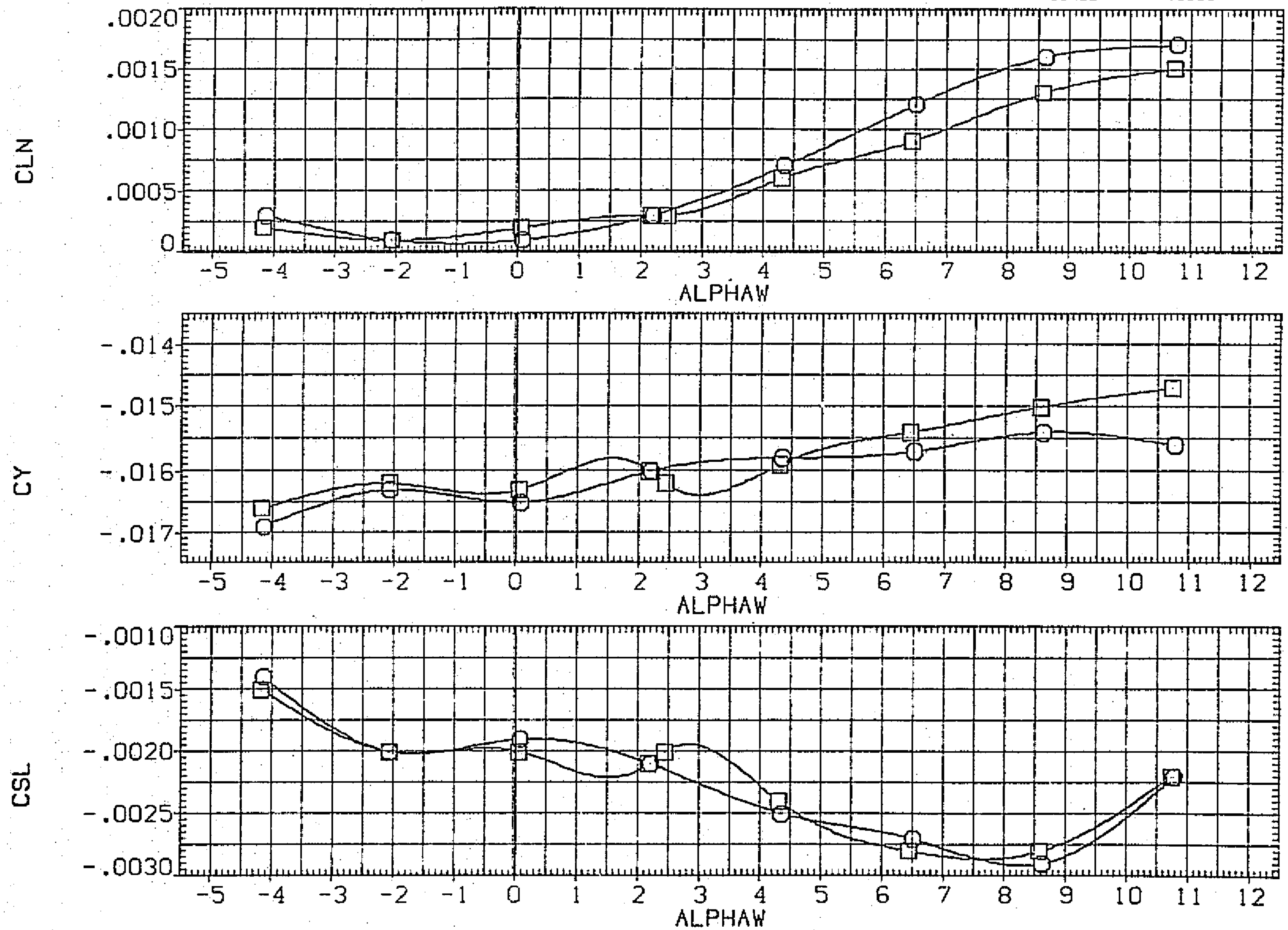



FIG. 66 ORBITER ELEVON EFFECTS, FERRY, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP171) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

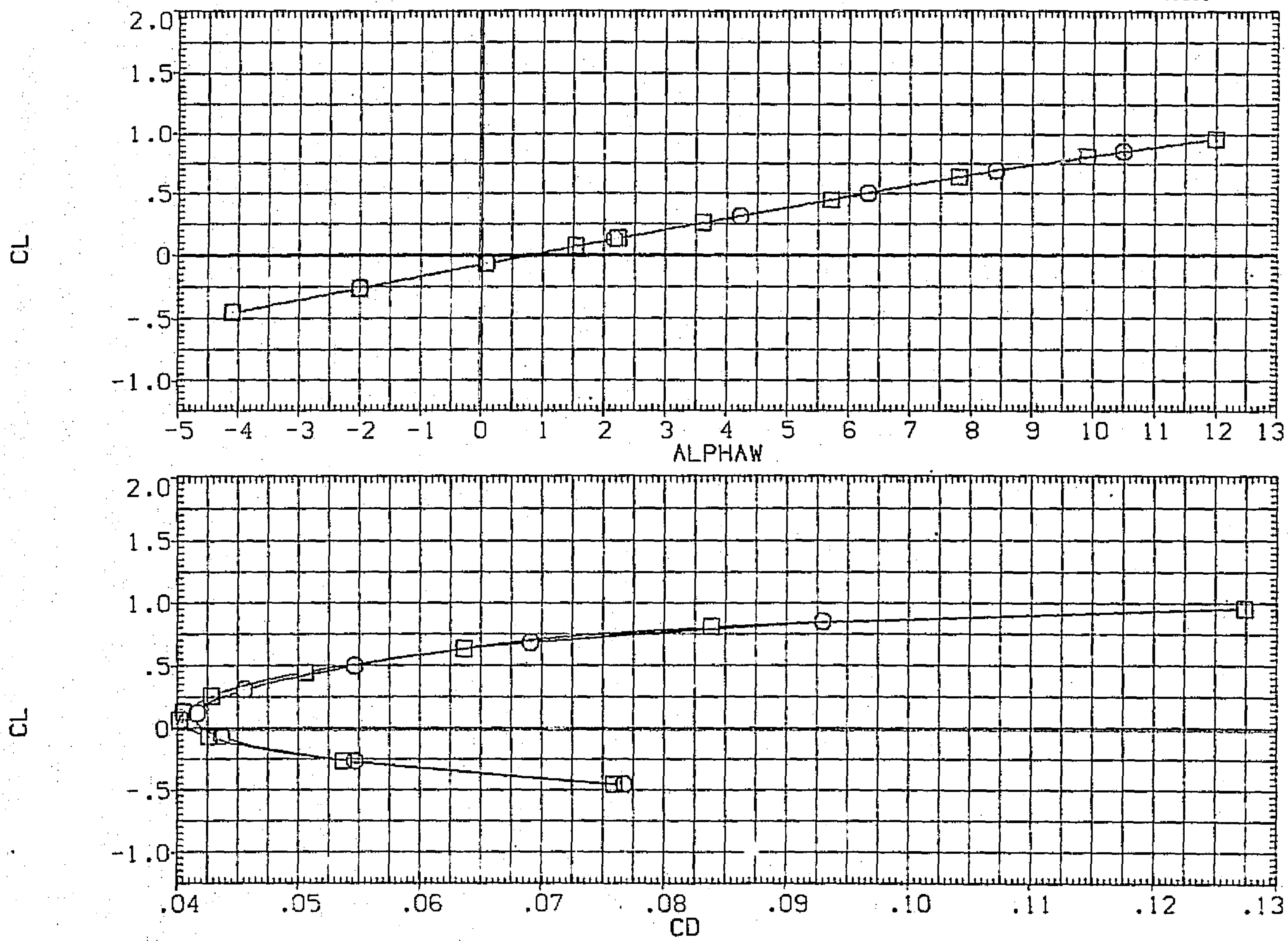



FIG. 67 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON -5

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | 4.250 |
| (RGP171) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 2.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

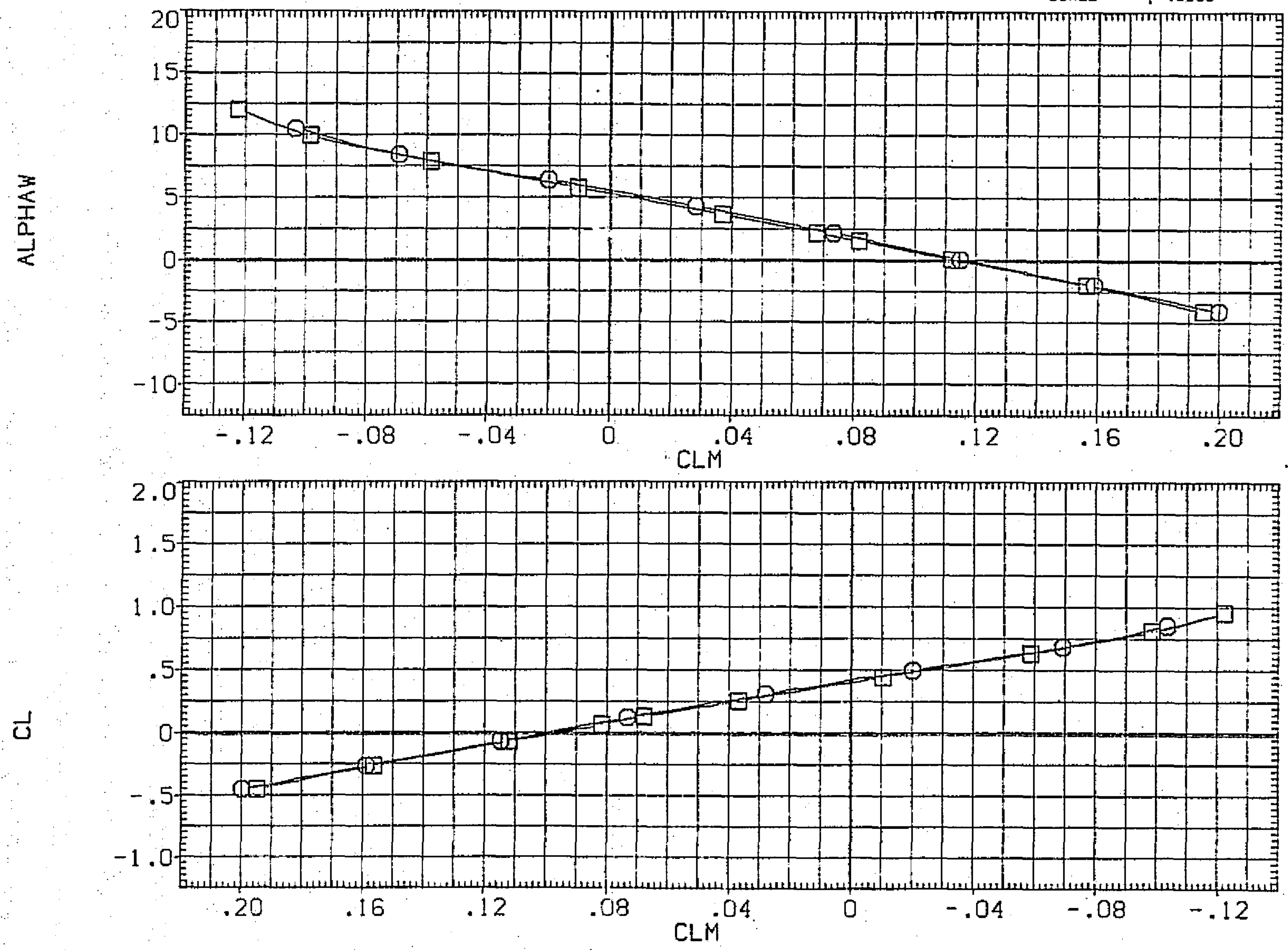



FIG. 67 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON -5

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP171) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

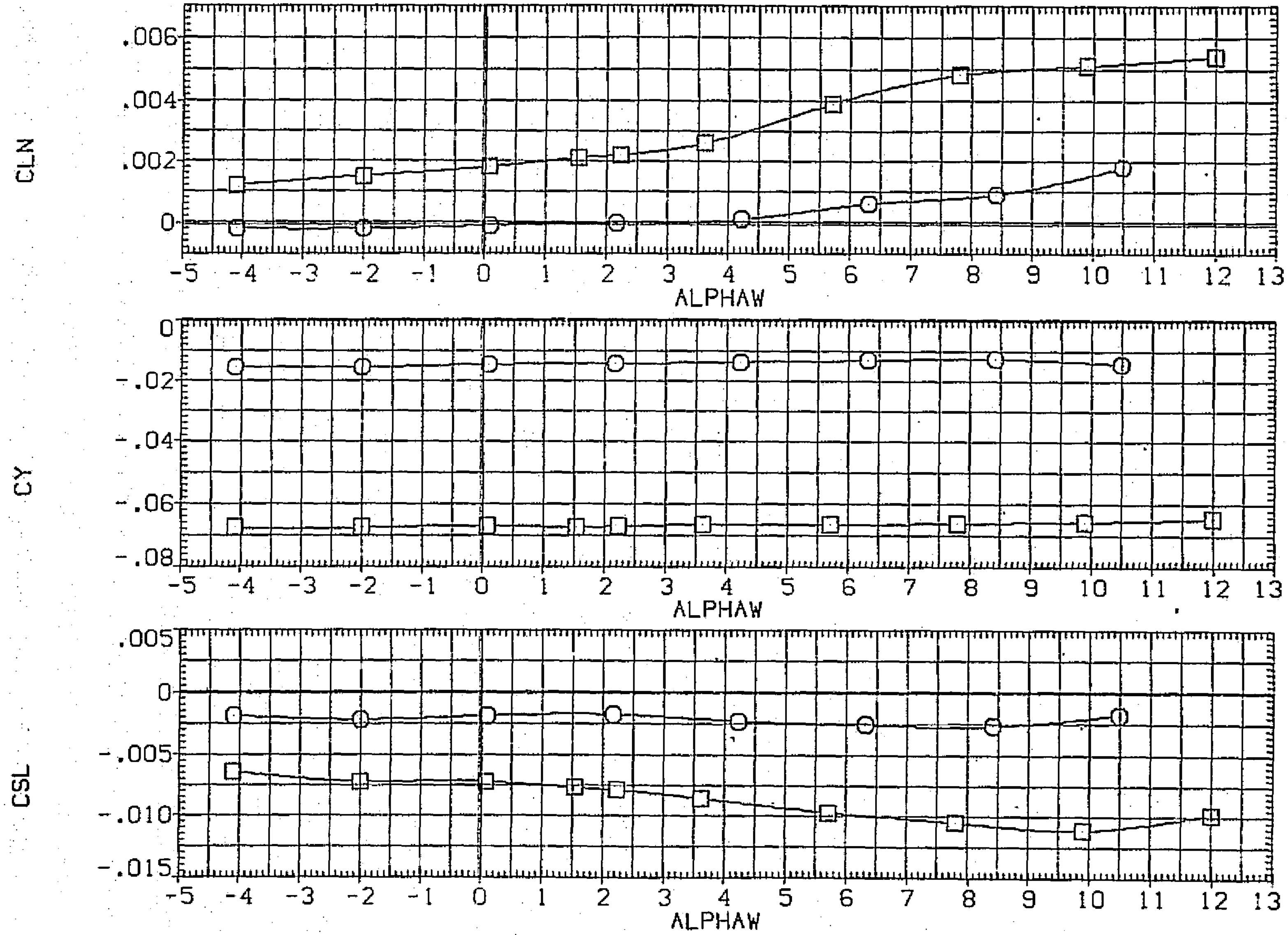



FIG. 67 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON -5

(A)MACH = .30

DATA SET SYMBOL CONFIGURATION DESCRIPTION BETA IORB

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | 4.250 |
| (RGP171) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 2.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

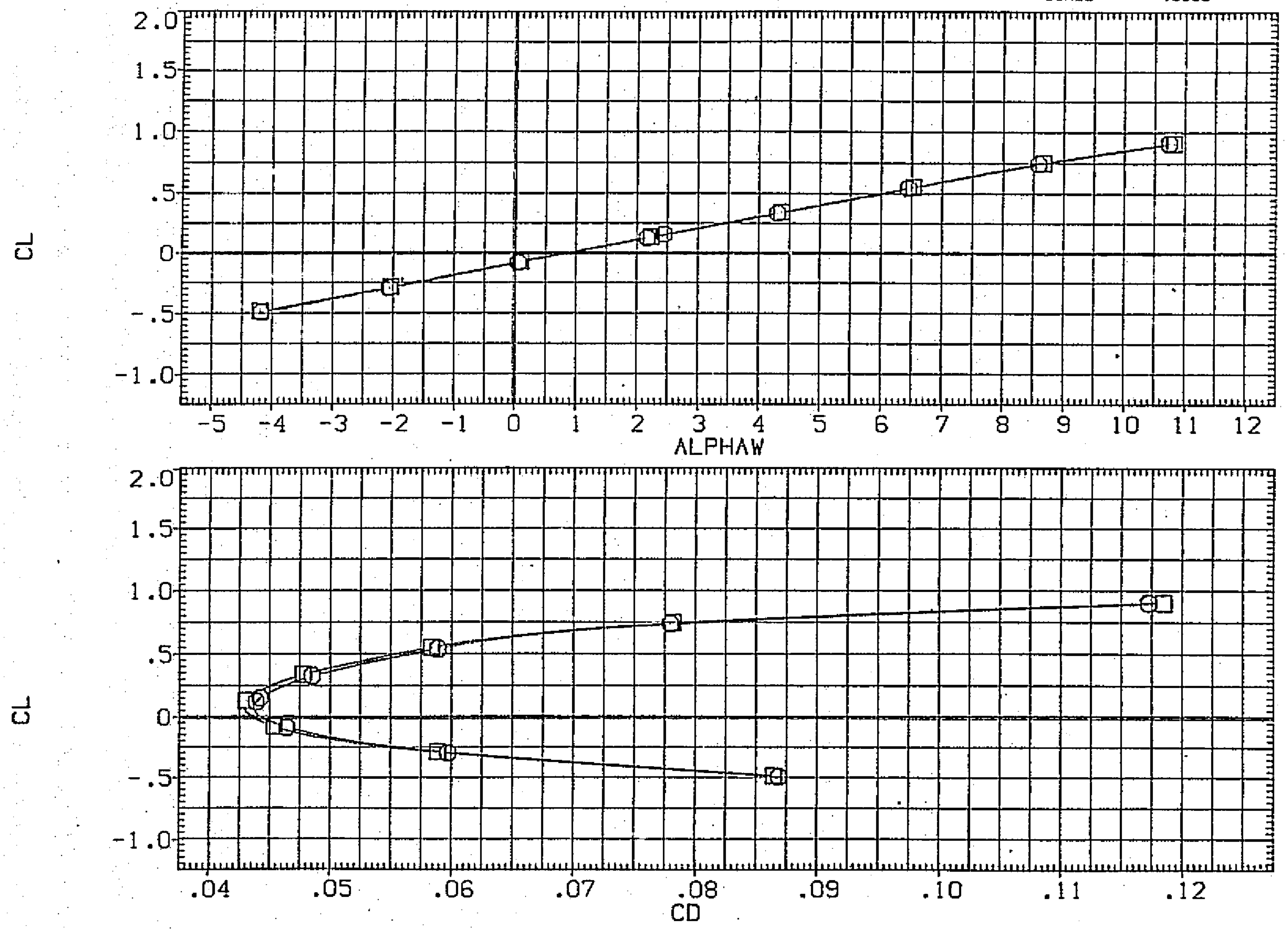


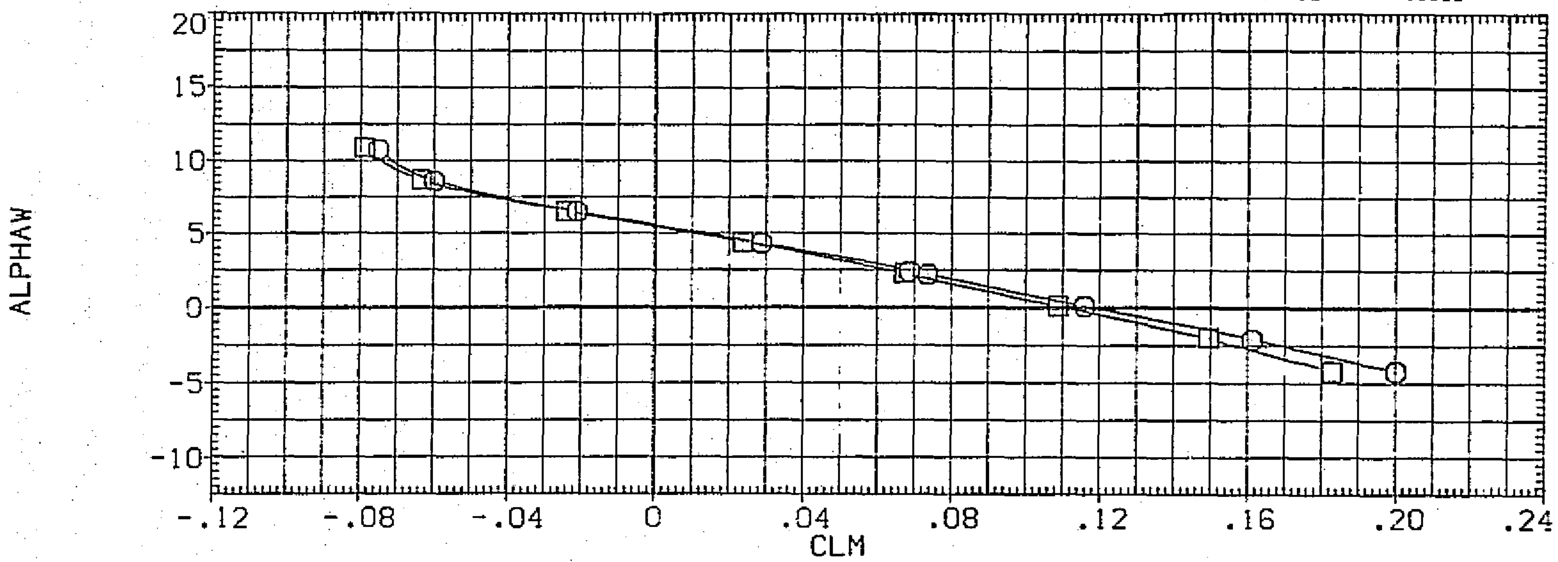

FIG. 67 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON -5

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | .000 | 4.250 |
| (RGP171) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | 2.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



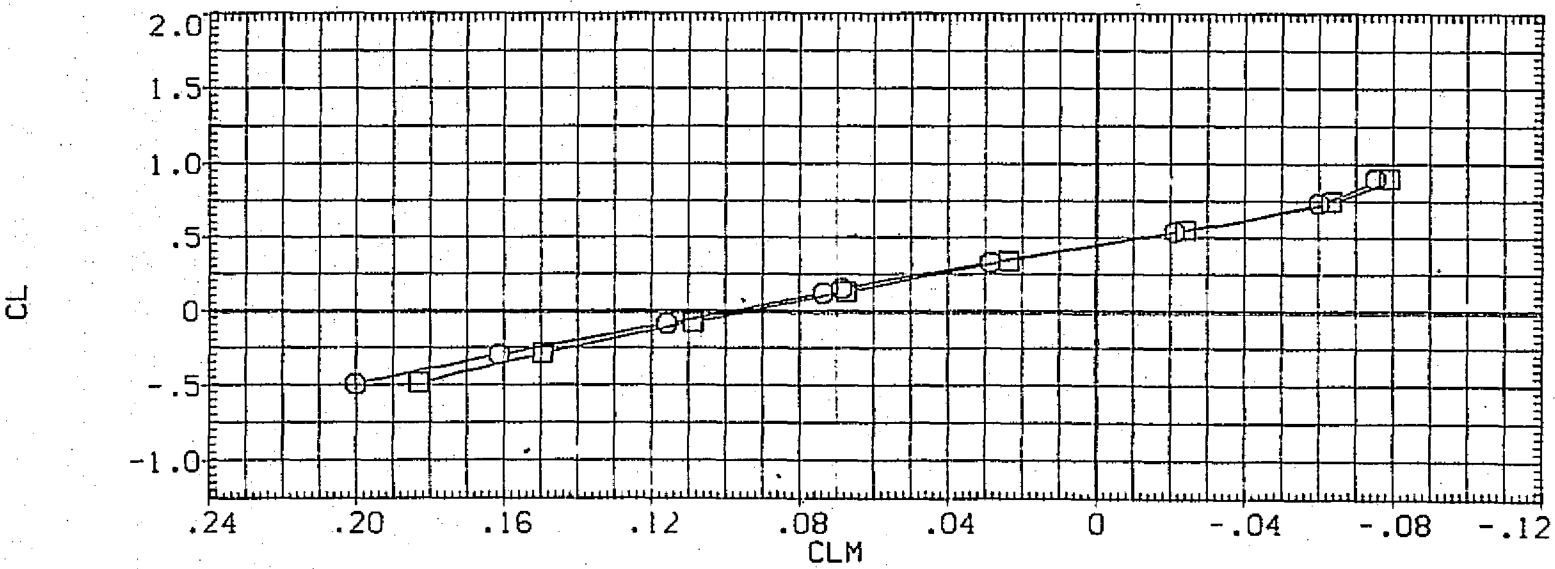




FIG. 67 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON -5

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP171) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

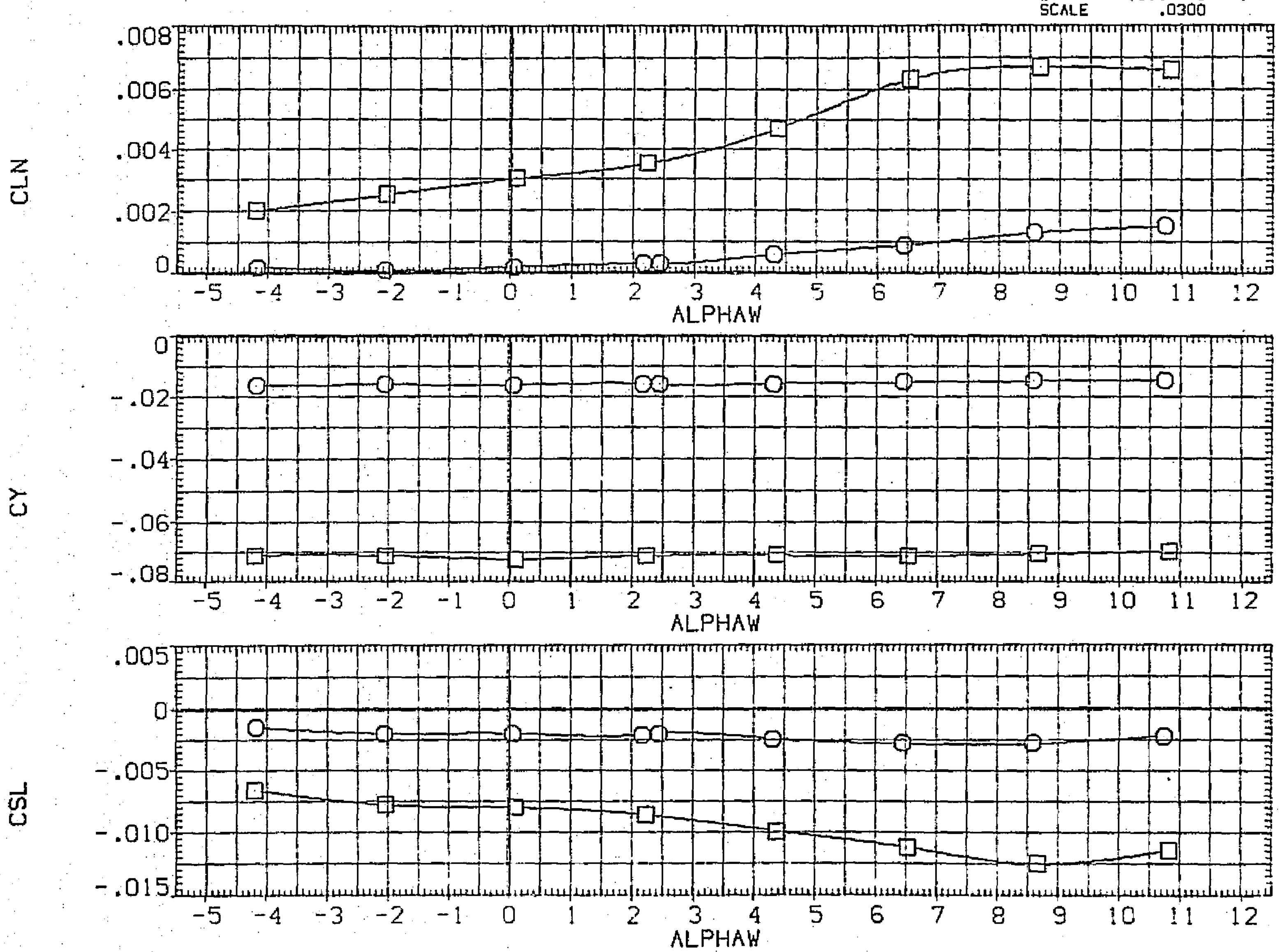



FIG. 67 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON -5

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP176) | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -4.000 | 4.250 |
| (RGP168) | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP172) | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |
| (RGP173) | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 4.000 | 4.250 |
| (RGP174) | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 6.000 | 4.250 |
| (RGP175) | | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 4.250 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

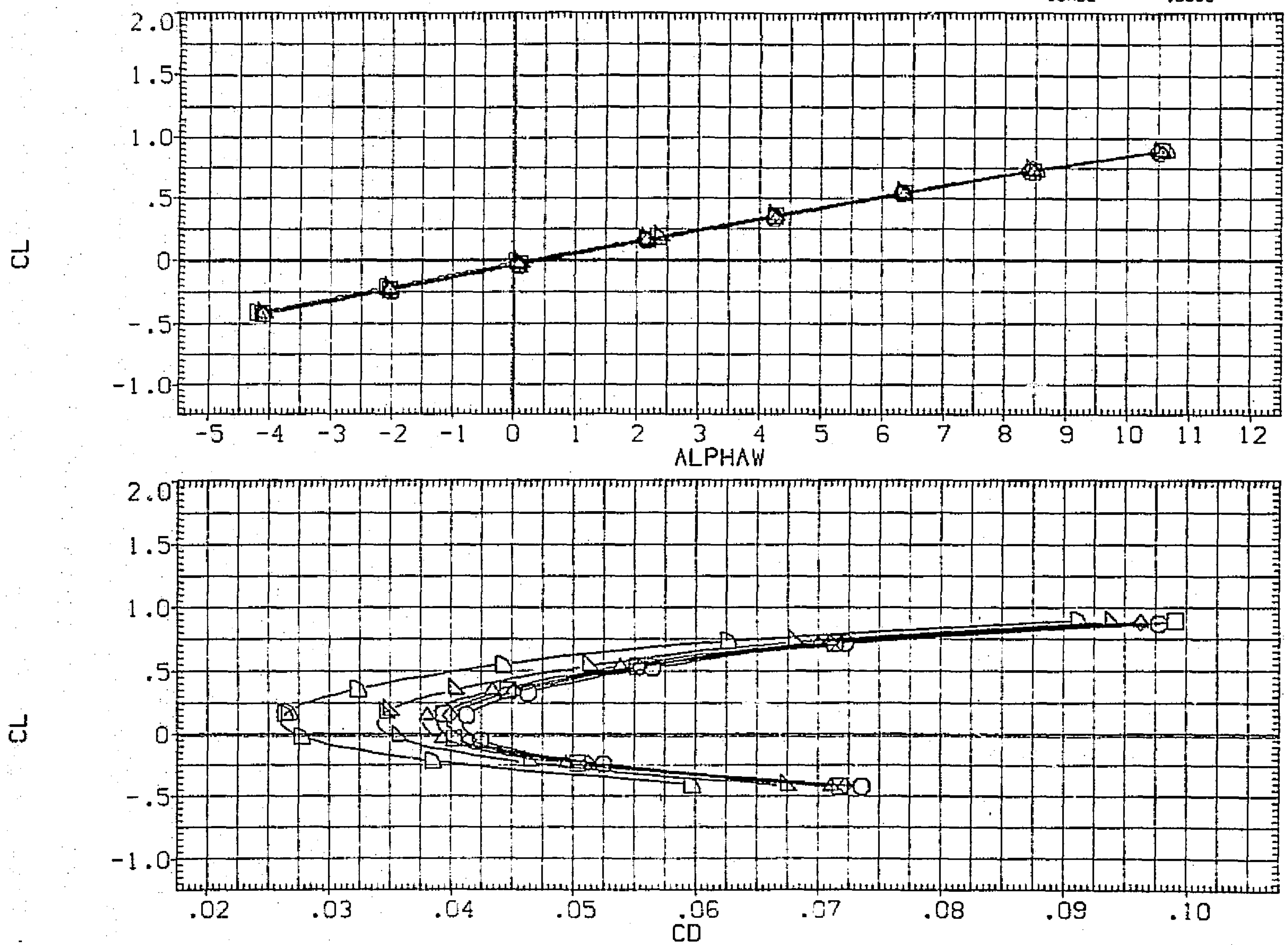



FIG. 68 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP176) | □ | CA6 K2H15.6.IV9.1SI-12 AT112 /111.IORB TC4 | -4.000 | 4.250 |
| (RGP168) | ○ | CA6 K2H15.6.IV9.1SI-12 AT112 /111.IORB TC4 | .000 | 4.250 |
| (RGP172) | ◇ | CA6 K2H15.6.IV9.1SI-12 AT112 /111.IORB TC4 | 2.000 | 4.250 |
| (RGP173) | △ | CA6 K2H15.6.IV9.1SI-12 AT112 /111.IORB TC4 | 4.000 | 4.250 |
| (RGP174) | ◺ | CA6 K2H15.6.IV9.1SI-12 AT112 /111.IORB TC4 | 6.000 | 4.250 |
| (RGP175) | D | CA6 K2H15.6.IV9.1SI-12 AT112 /111.IORB TC4 | 10.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

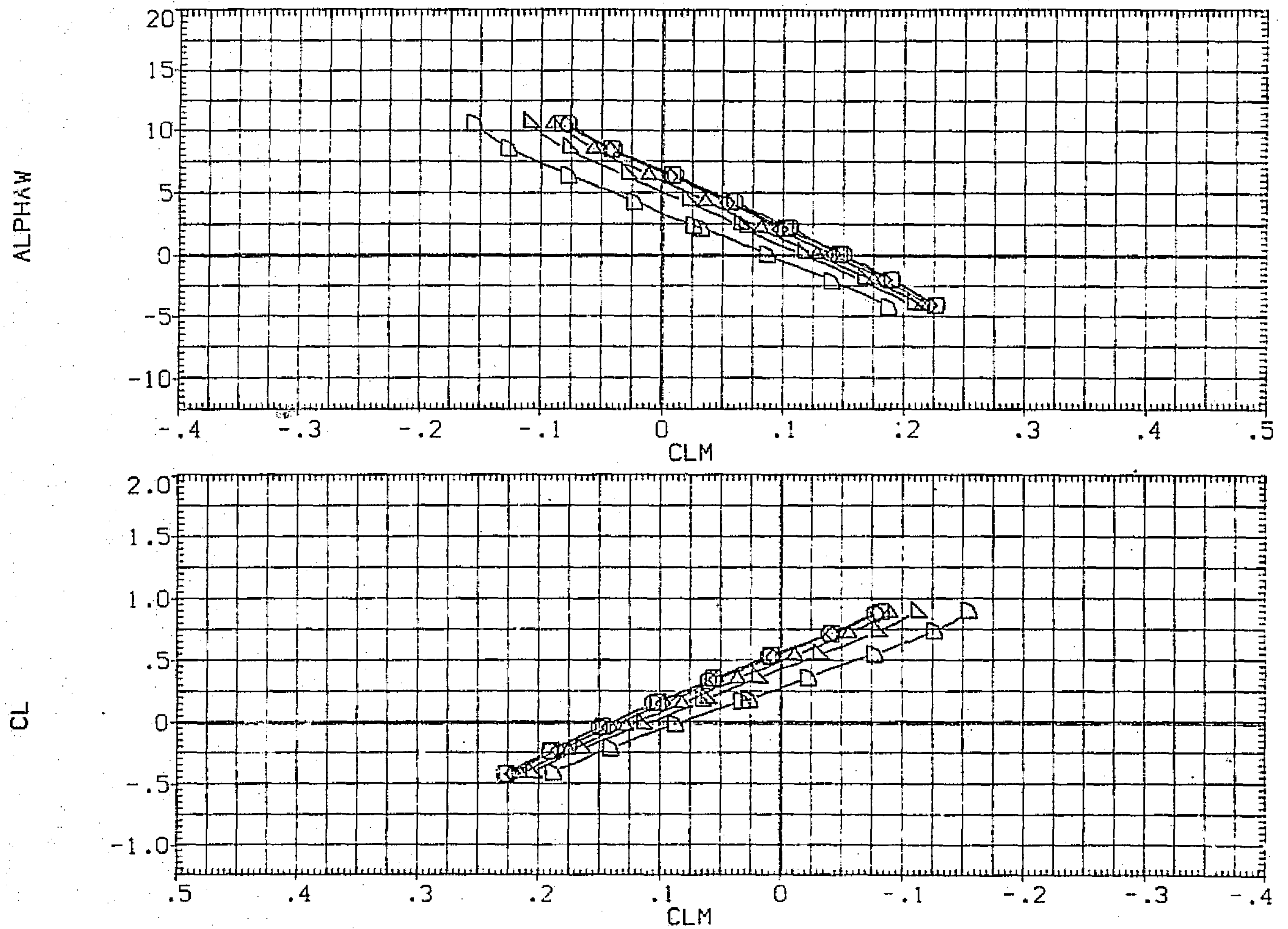



FIG. 68 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP176) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -4.000 | 4.250 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP172) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |
| (RGP173) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 4.000 | 4.250 |
| (RGP174) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 6.000 | 4.250 |
| (RGP175) | ◗ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

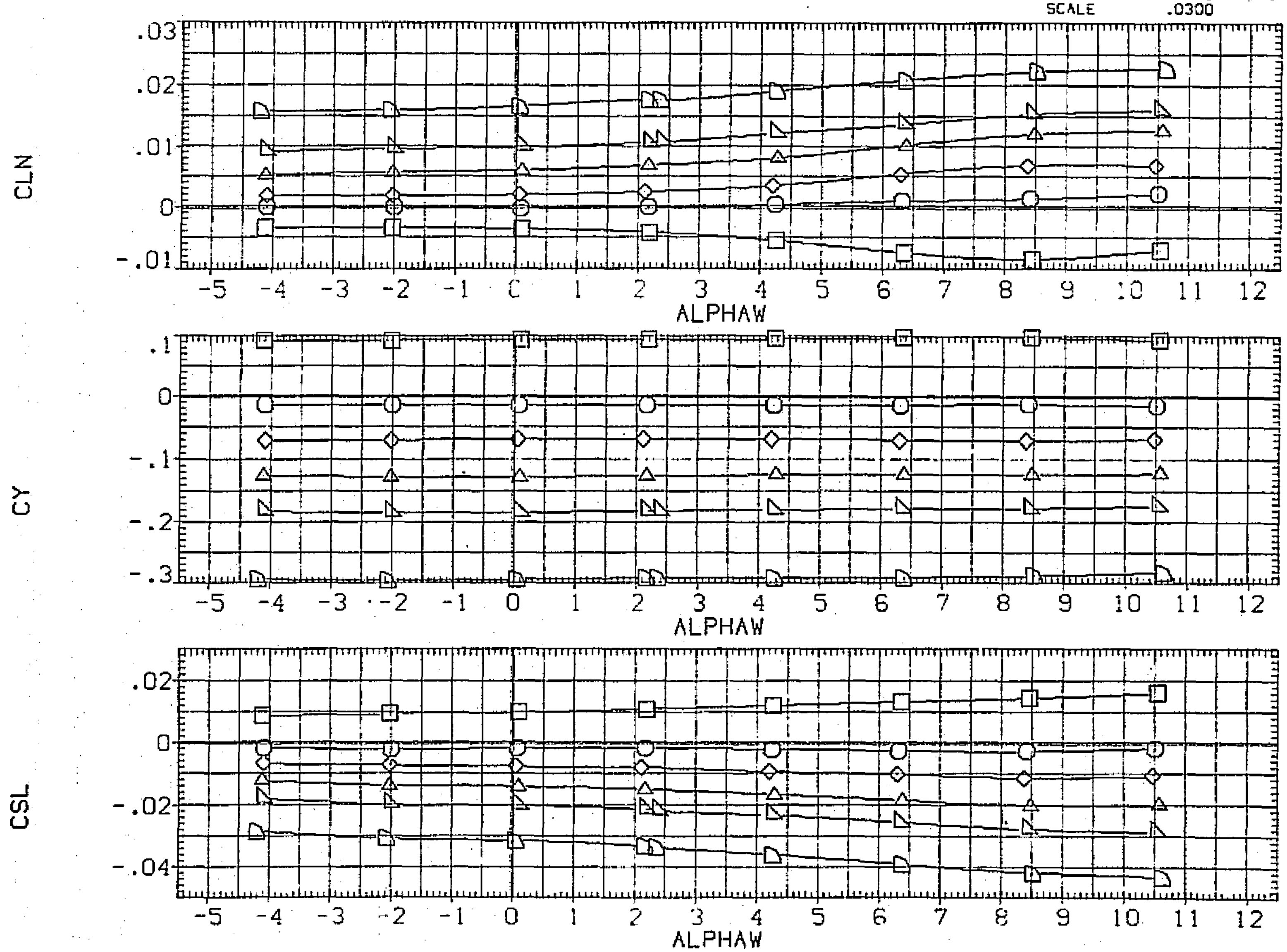



FIG. 68 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON 0

(A)MACH = .30

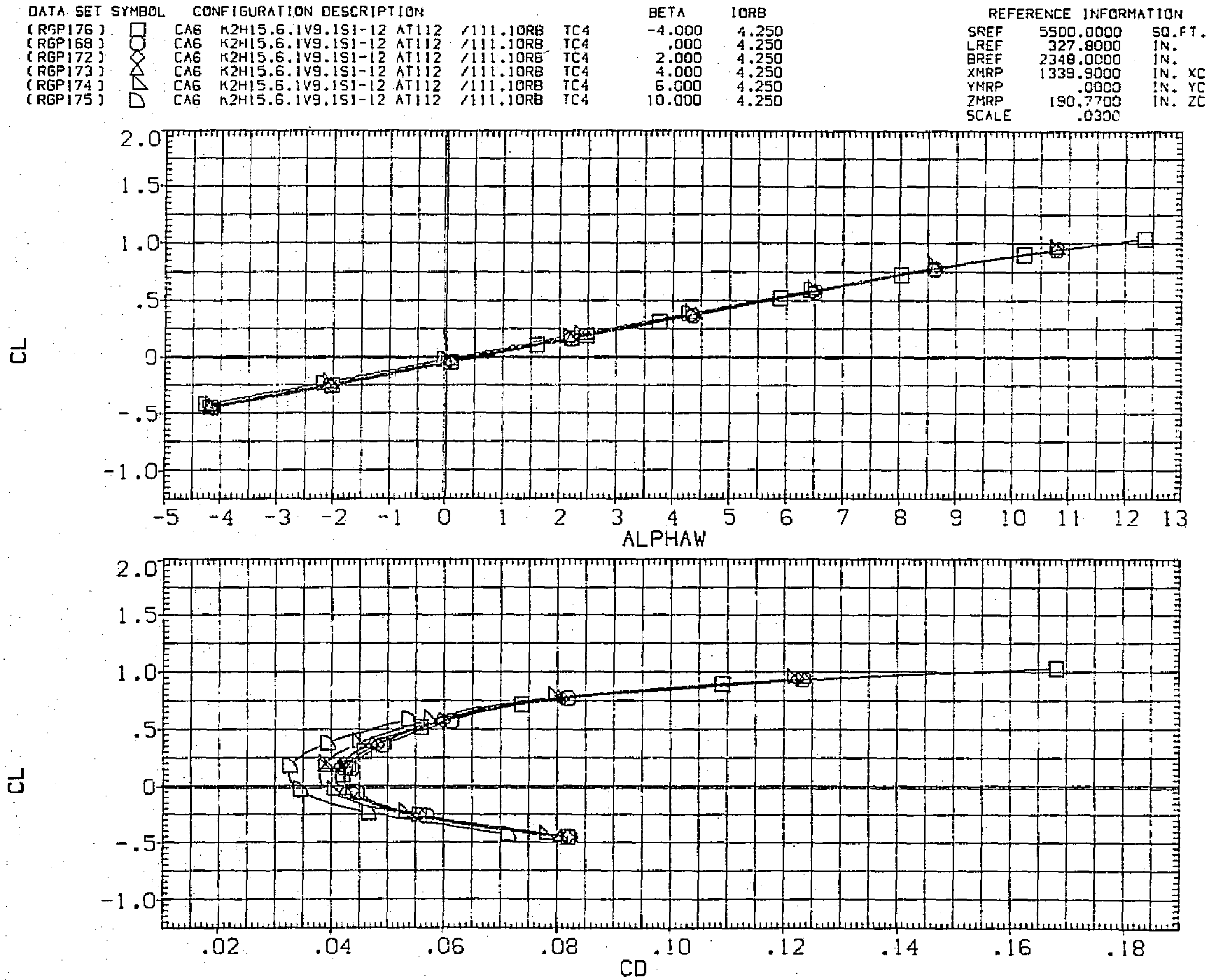



FIG. 68 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON 0

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP176) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -4.000 | 4.250 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP172) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |
| (RGP173) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 4.000 | 4.250 |
| (RGP174) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 6.000 | 4.250 |
| (RGP175) | ◻ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

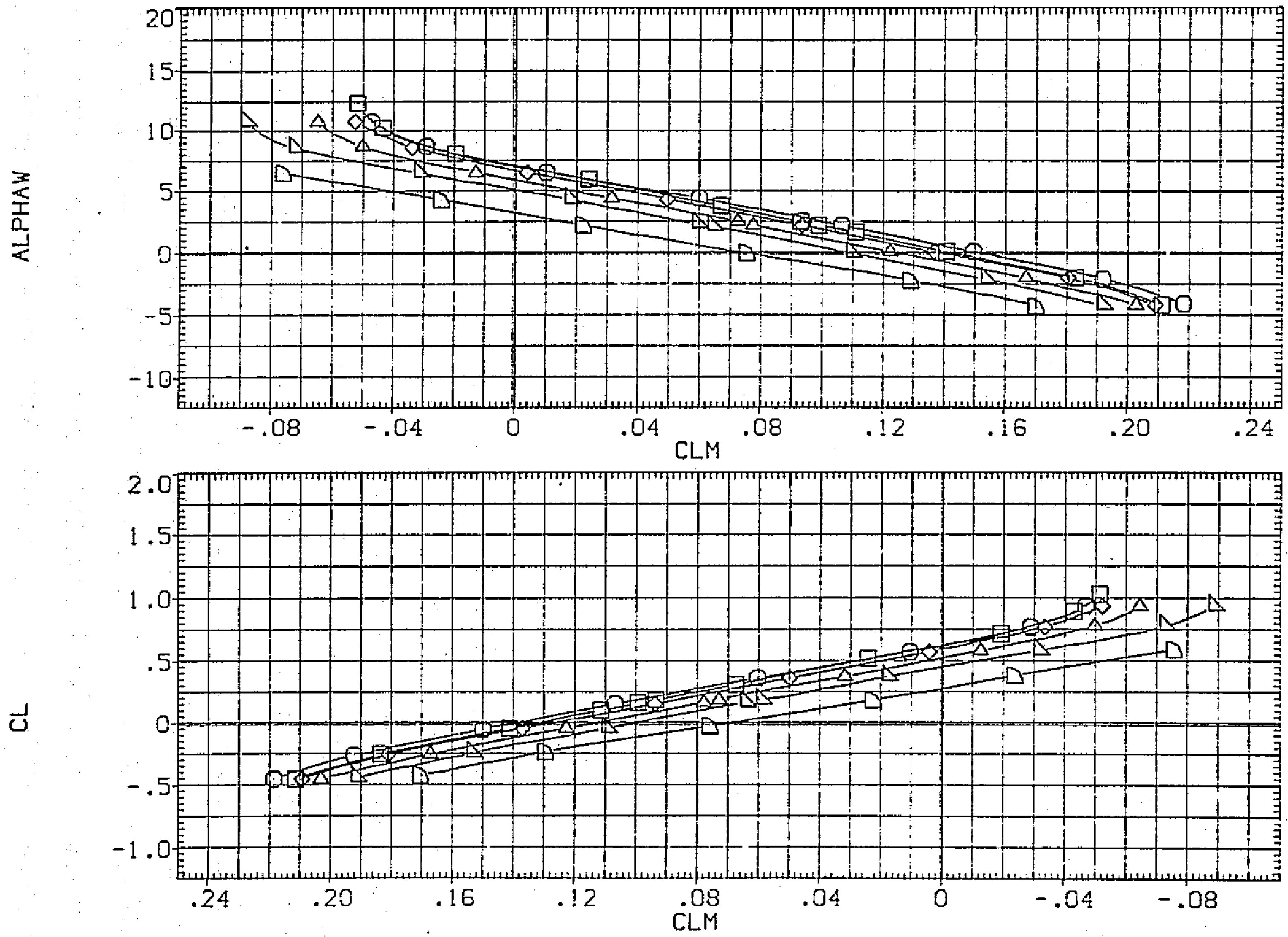



FIG. 68 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON 0

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP176) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -4.000 | 4.250 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 |
| (RGP172) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 2.000 | 4.250 |
| (RGP173) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 4.000 | 4.250 |
| (RGP174) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 6.000 | 4.250 |
| (RGP175) | ◻ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

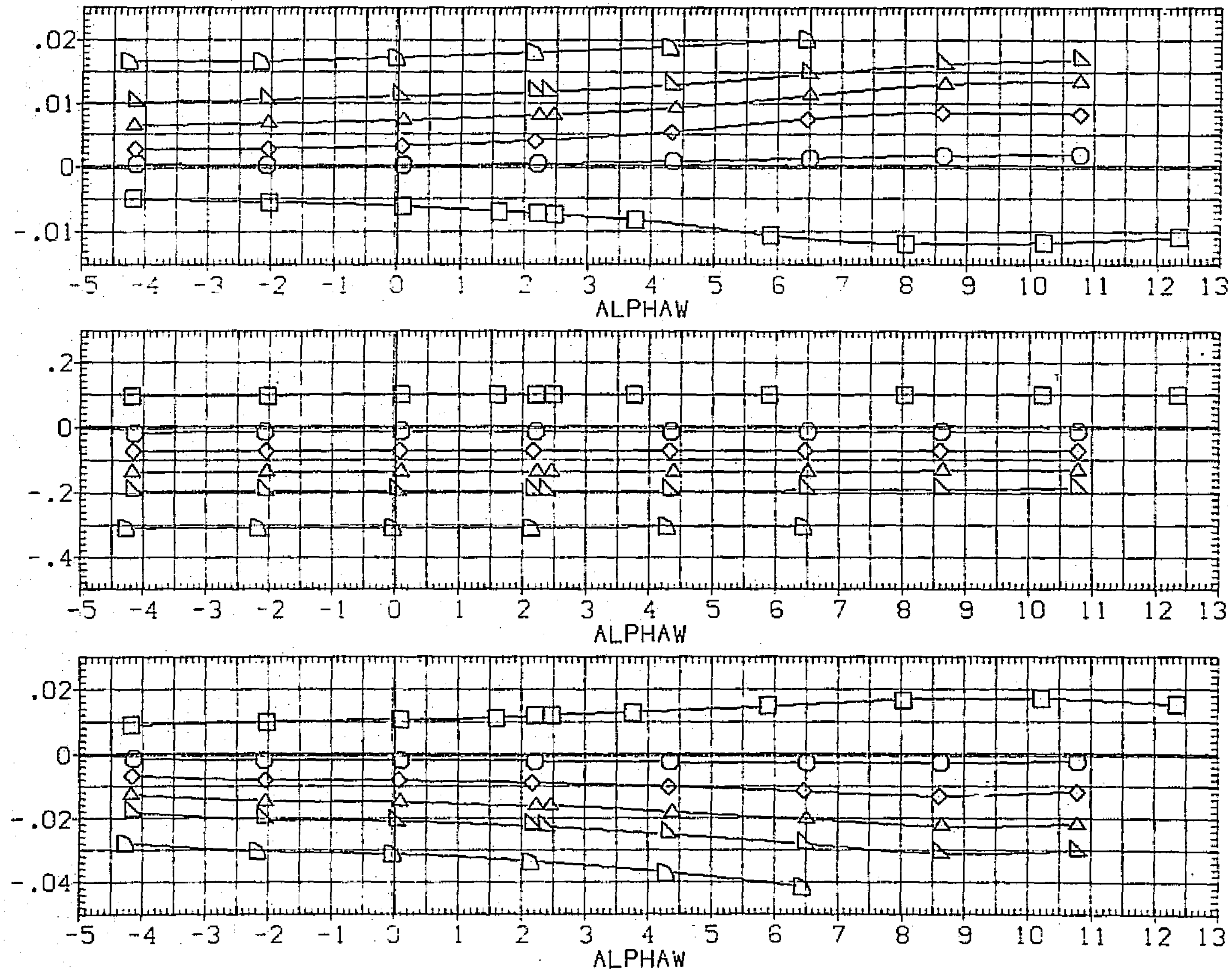



FIG. 68 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 4.25, ELEVON 0

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | .000 | .000 | .000 |
| (RGP177) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 3.000 | 3.000 | .000 | .000 |
| (RGP178) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 10.000 | .000 | .000 |
| (RGP179) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 10.000 | .000 | .000 |
| (RGP180) | ⊿ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | .000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

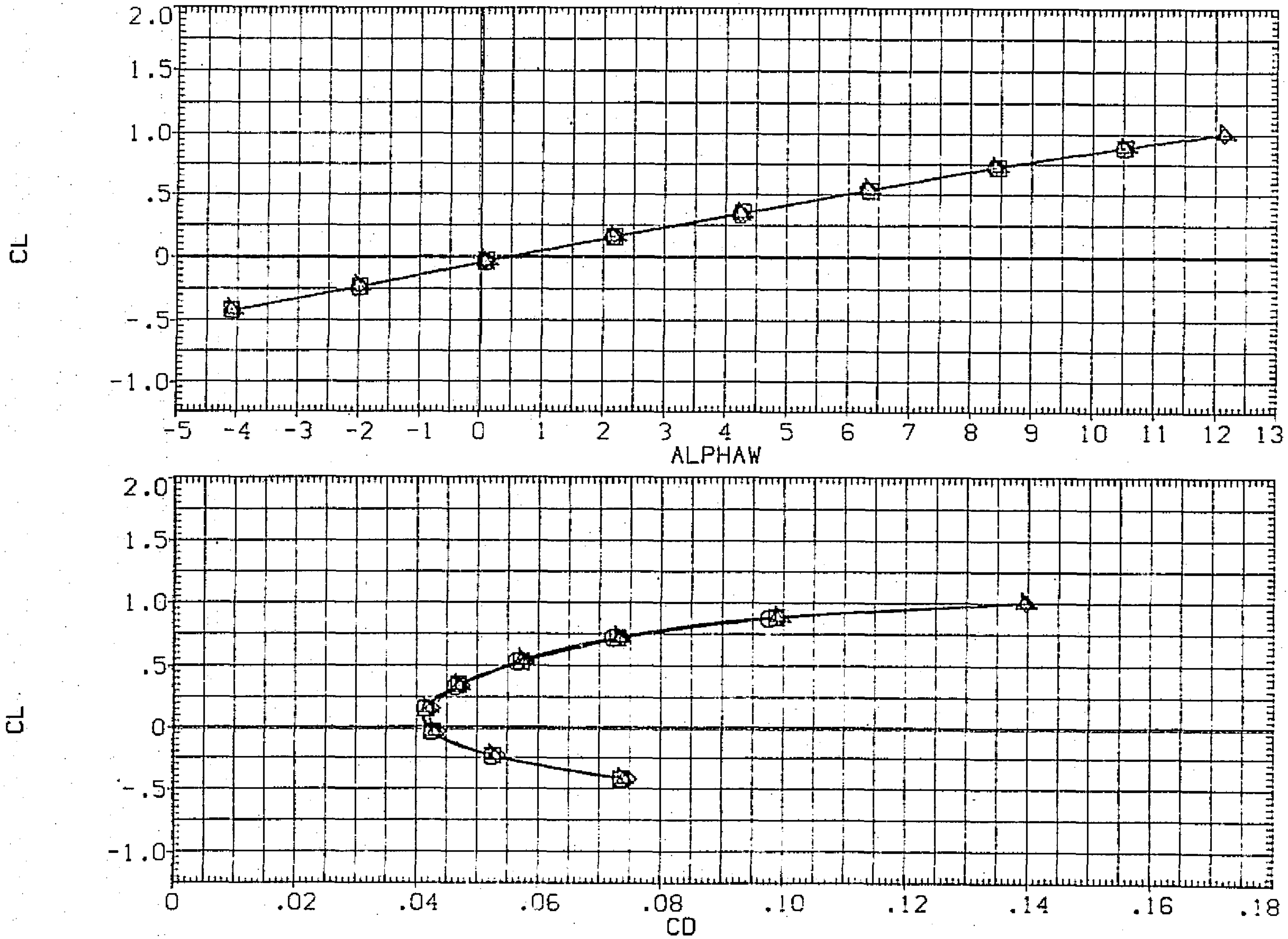



FIG. 69 RUDDER EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP168) | ○ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.IORB TC4 | .000 | .000 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP177) | □ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.IORB TC4 | 3.000 | 3.000 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP178) | ◇ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.IORB TC4 | 10.000 | 10.000 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP179) | △ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.IORB TC4 | .000 | 10.000 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP180) | ◺ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.IORB TC4 | 10.000 | .000 | .000 | .000 | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

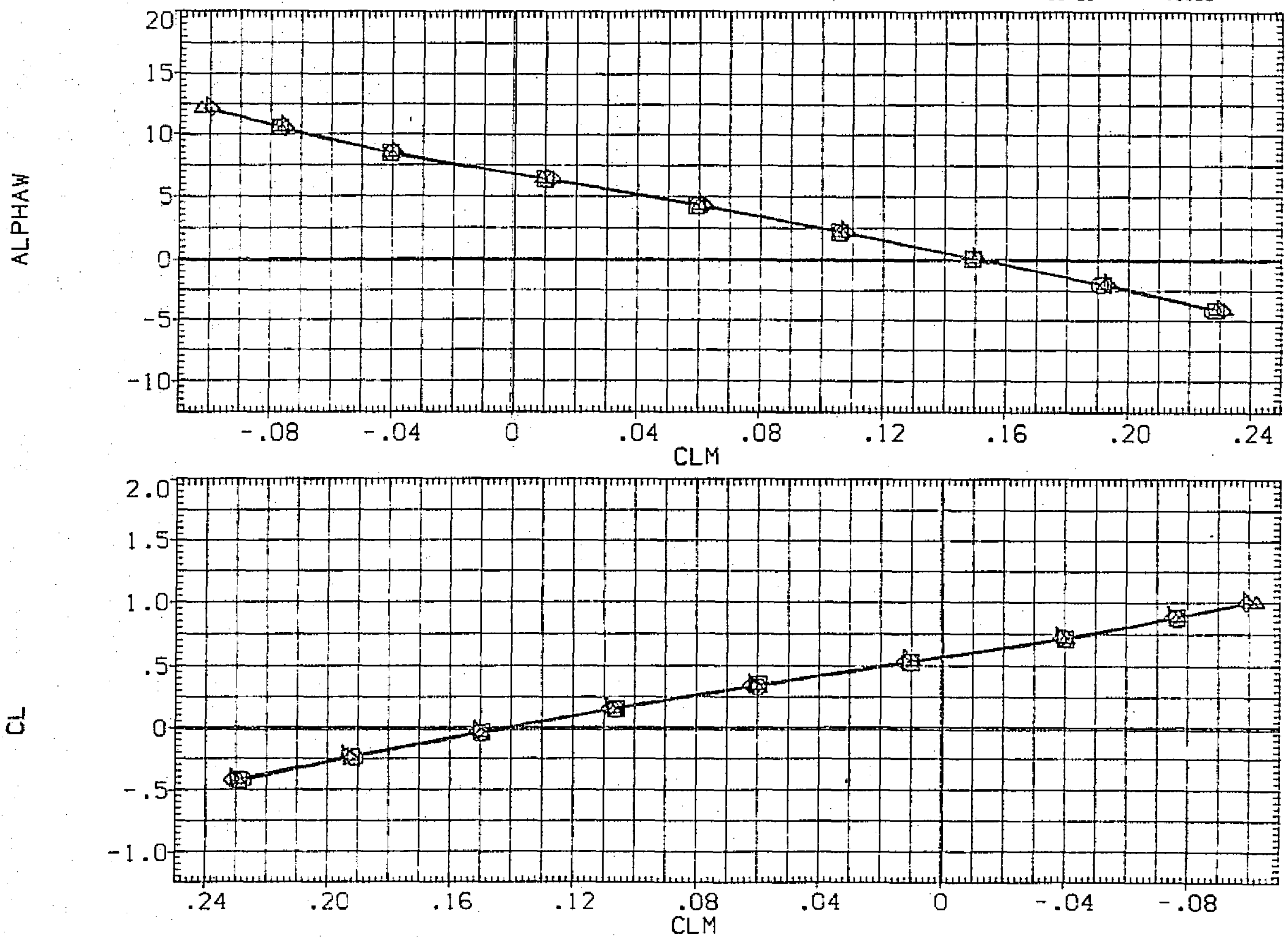



FIG. 69 RUDDER EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP168) | ○ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RB TC4 | .000 | .000 | .000 | .000 |
| (RGP177) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RB TC4 | 3.000 | 3.000 | .000 | .000 |
| (RGP178) | ◇ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RB TC4 | 10.000 | 10.000 | .000 | .000 |
| (RGP179) | △ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RB TC4 | .000 | 10.000 | .000 | .000 |
| (RGP180) | ◺ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RB TC4 | 10.000 | .000 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

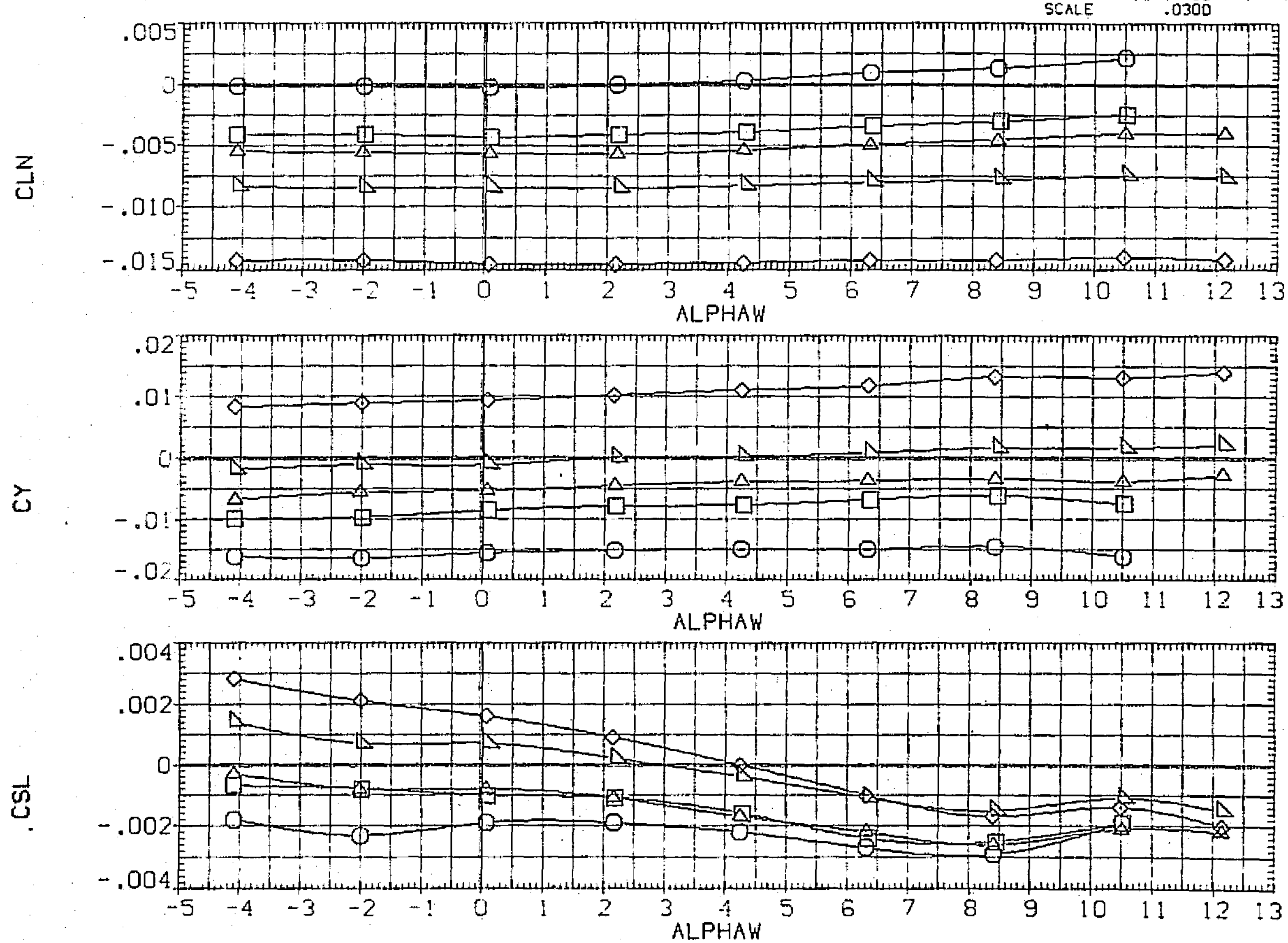



FIG. 69 RUDDER EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP169) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | .000 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP177) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 3.000 | 3.000 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP178) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 10.000 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP179) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | 10.000 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP180) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | .000 | .000 | .000 | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

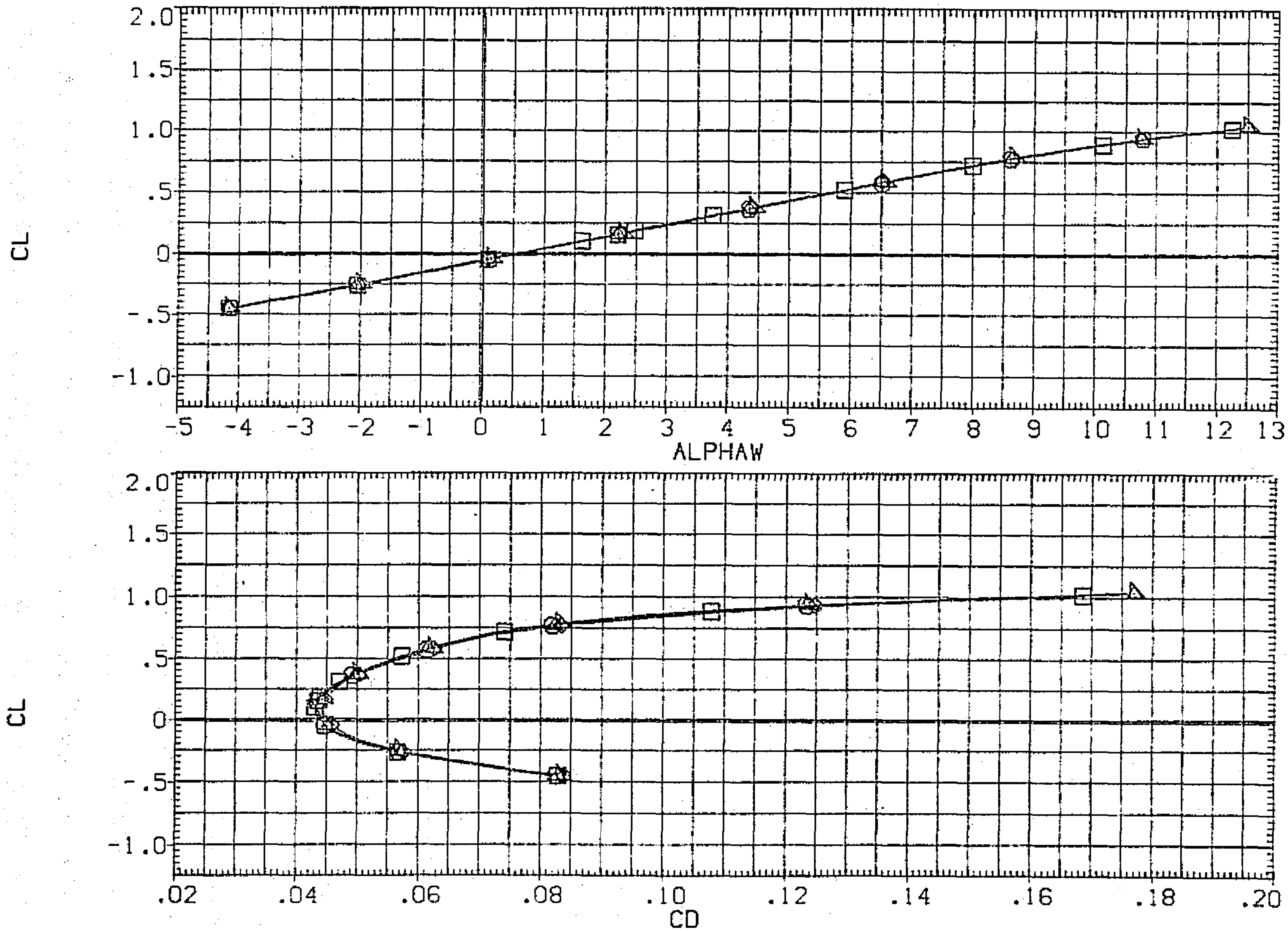



FIG. 69 RUDDER EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | .000 | .000 | .000 |
| (RGP177) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 3.000 | 3.000 | .000 | .000 |
| (RGP178) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 10.000 | 10.000 | .000 | .000 |
| (RGP179) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | 10.000 | .000 | .000 |
| (RGP180) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 10.000 | .000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

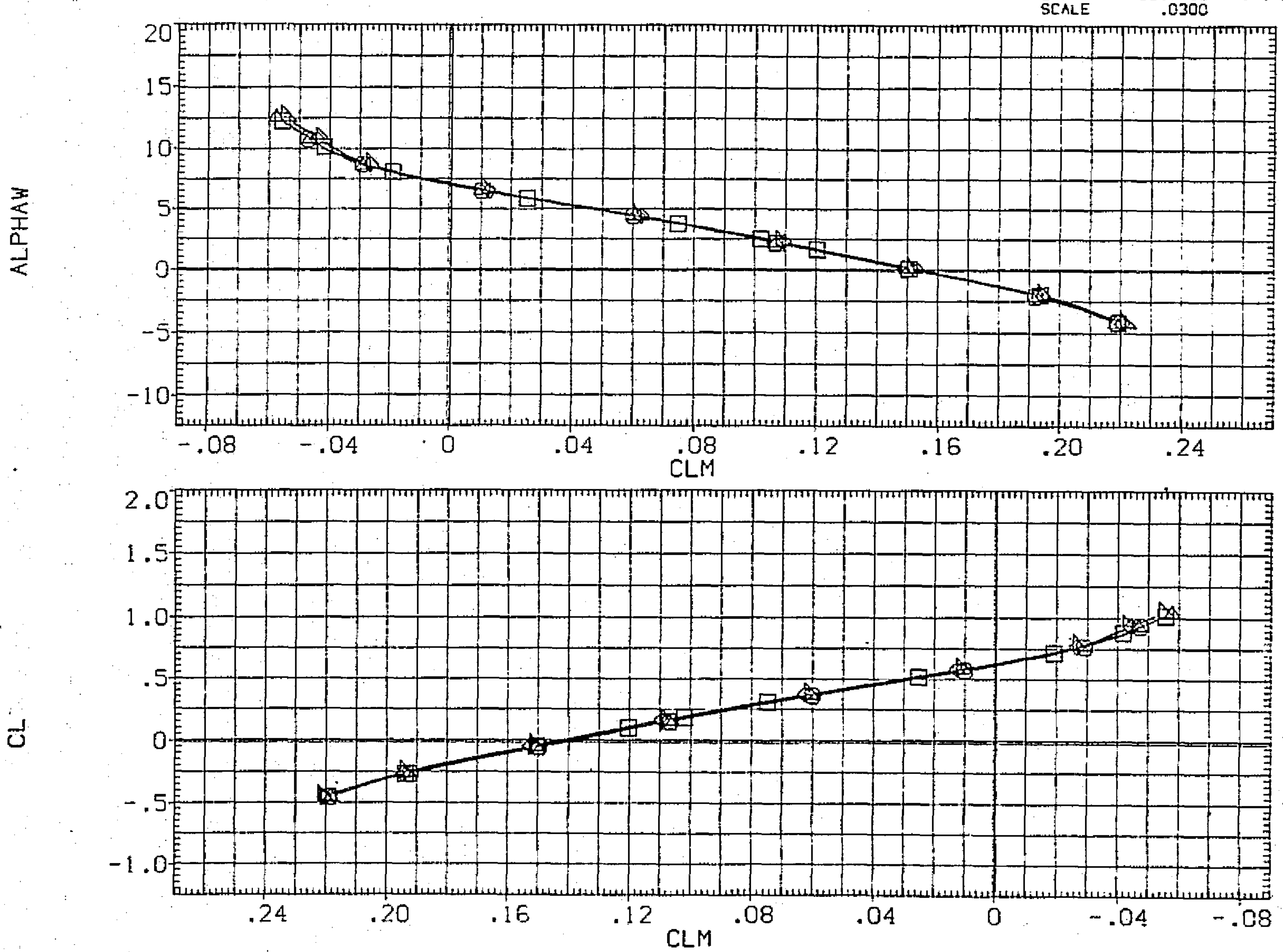



FIG. 69 RUDDER EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | .000 | .000 | .000 |
| (RGP177) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 3.000 | 3.000 | .000 | .000 |
| (RGP178) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 10.000 | 10.000 | .000 | .000 |
| (RGP179) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | 10.000 | .000 | .000 |
| (RGP180) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 10.000 | .000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

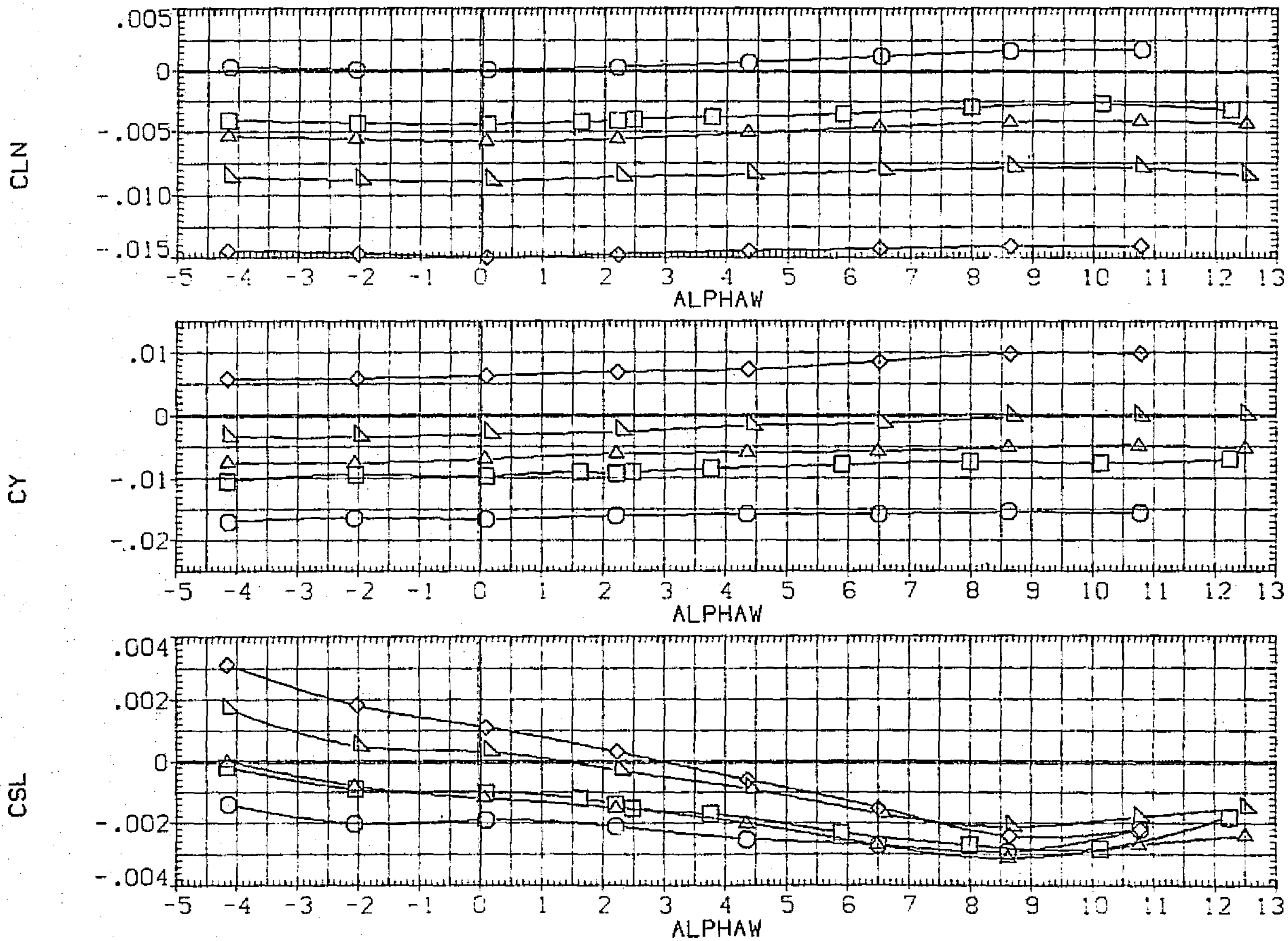



FIG. 69 RUDDER EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP183) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.100 | 4.250 | -9.566 | -10.017 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP182) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.100 | 4.250 | 9.720 | 9.950 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

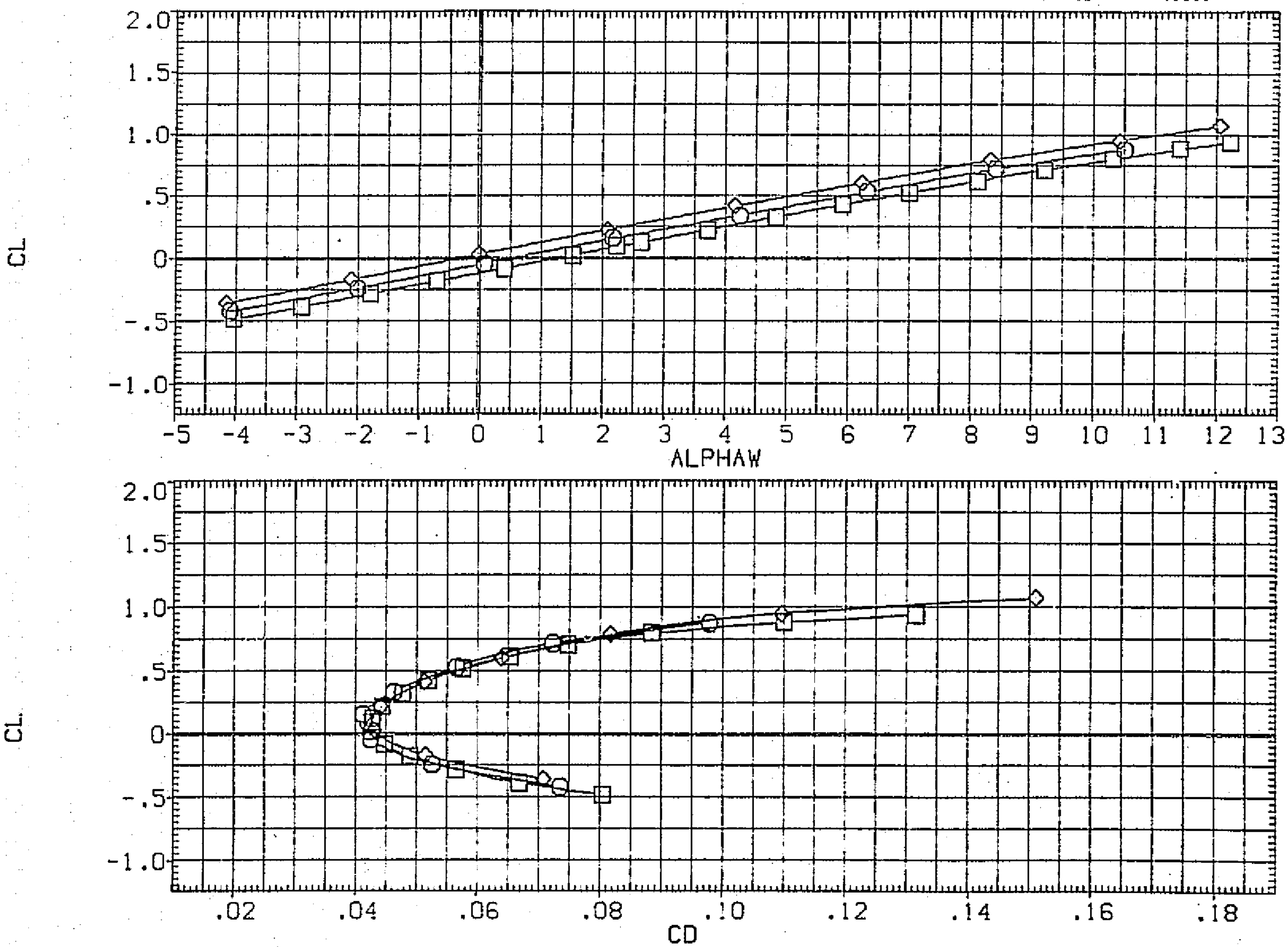



FIG. 70 ELEVATOR EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP183) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.100 | 4.250 | -9.566 | -10.017 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP182) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.100 | 4.250 | 9.720 | 9.950 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

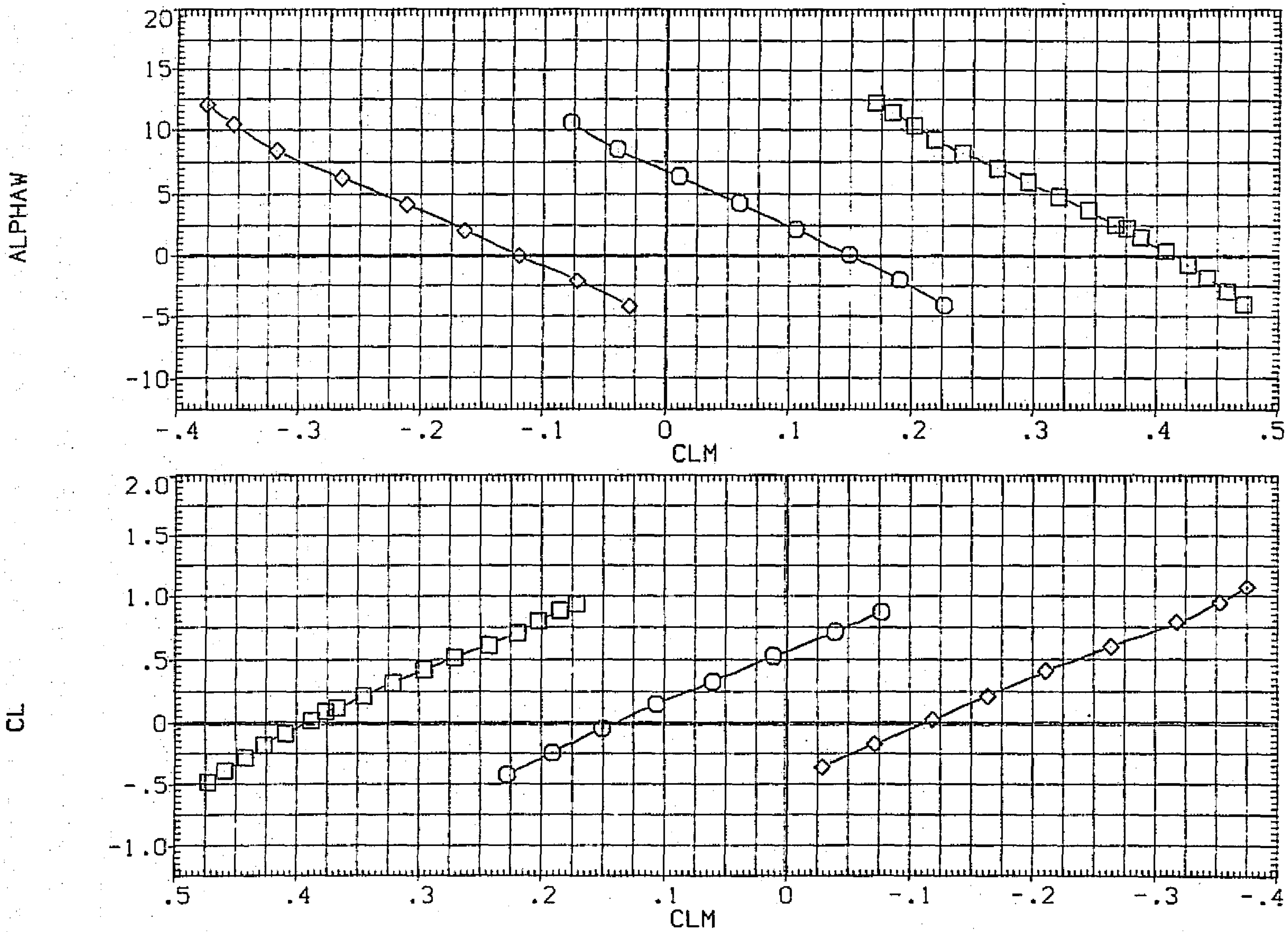



FIG. 70 ELEVATOR EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP183) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.IORB TC4 | -.100 | 4.250 | -9.566 | -10.017 |
| (RGP168) | ○ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.IORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP182) | ◇ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.IORB TC4 | -.100 | 4.250 | 9.720 | 9.950 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

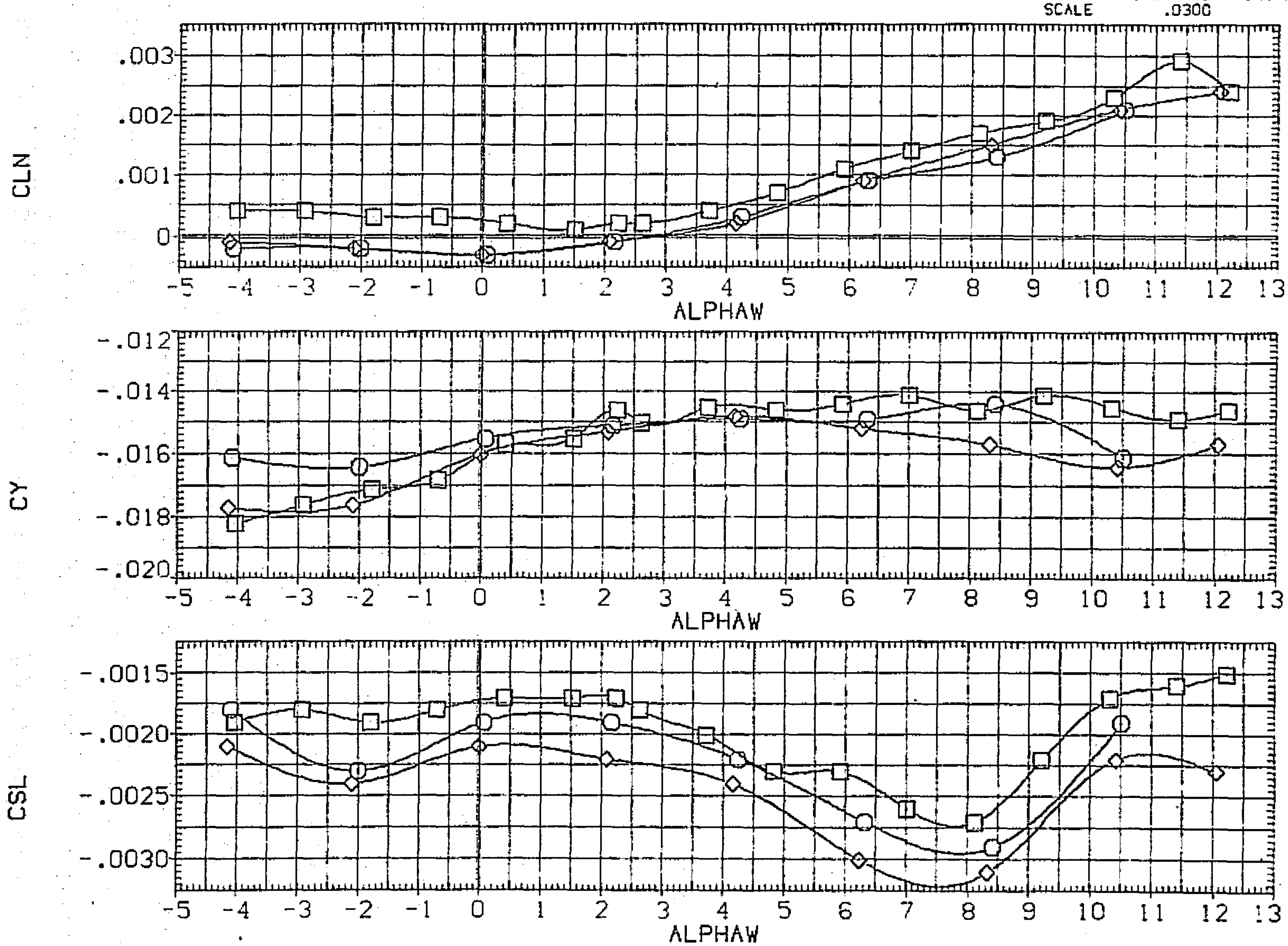


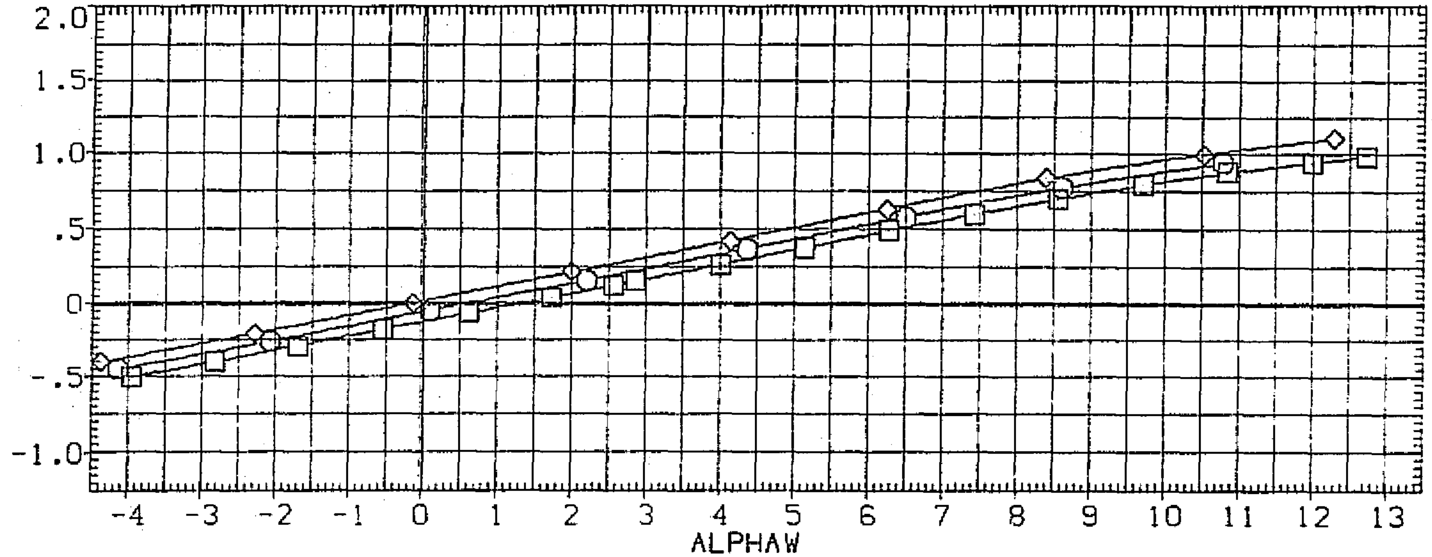

FIG. 70 ELEVATOR EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP183) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.100 | 4.250 | -9.566 | -10.017 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP182) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.100 | 4.250 | 9.720 | 9.950 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



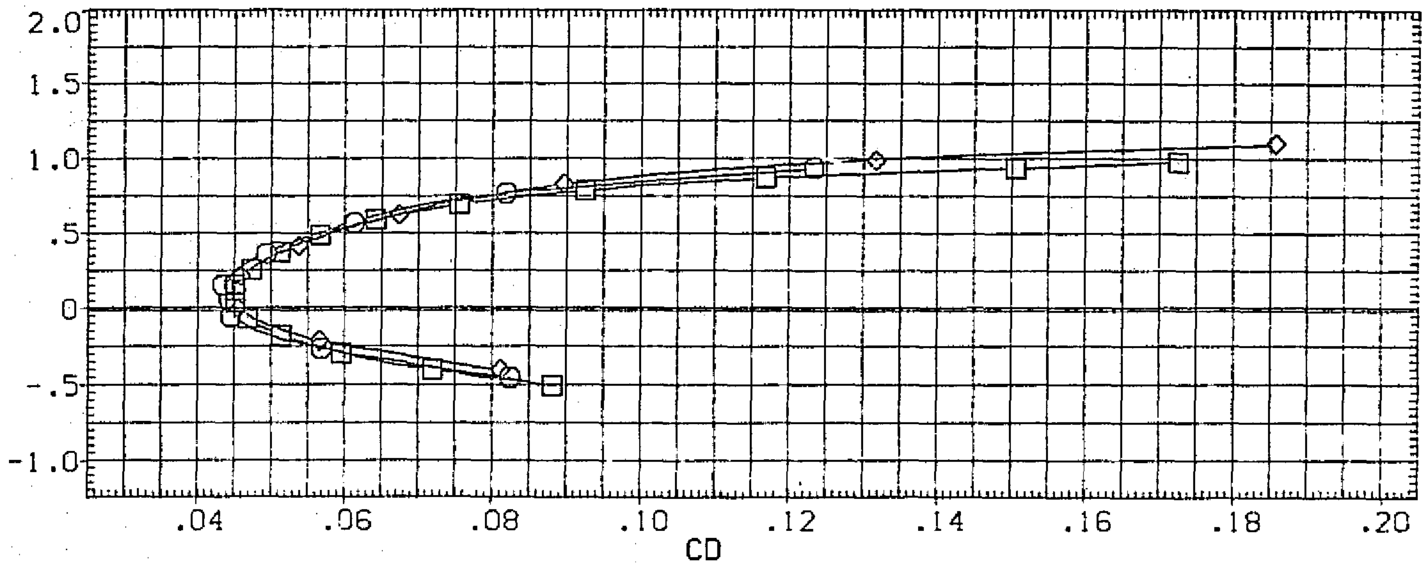




FIG. 70 ELEVATOR EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP183) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.100 | 4.250 | -9.566 | -10.017 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP182) | ◇ | CA6 K2H15.6.1.9.1S1-12 AT112 /111.10RB TC4 | -.100 | 4.250 | 9.720 | 9.950 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

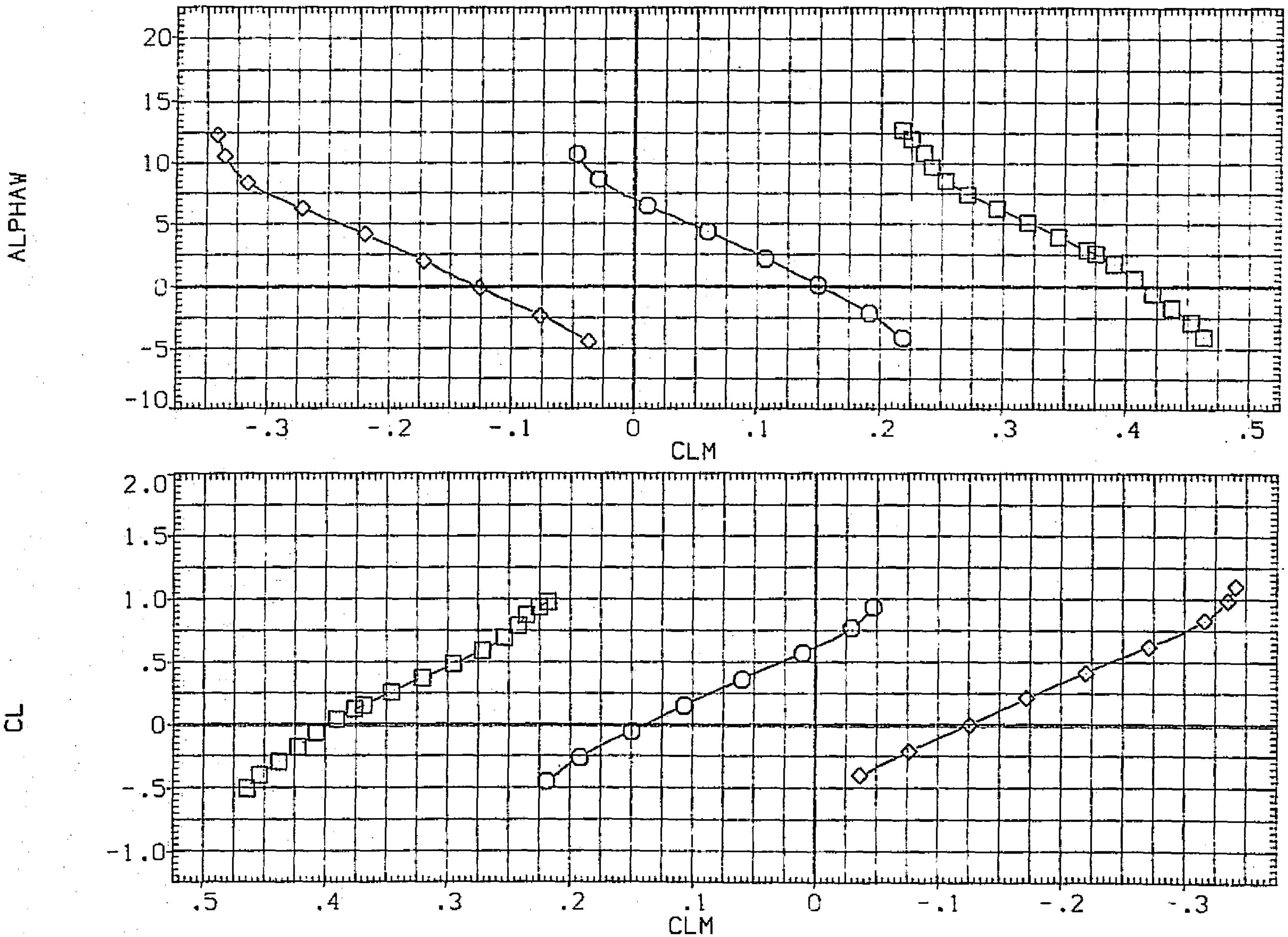



FIG. 70 ELEVATOR EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP183) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.100 | 4.250 | -9.566 | -10.017 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP182) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.100 | 4.250 | 9.720 | 9.950 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

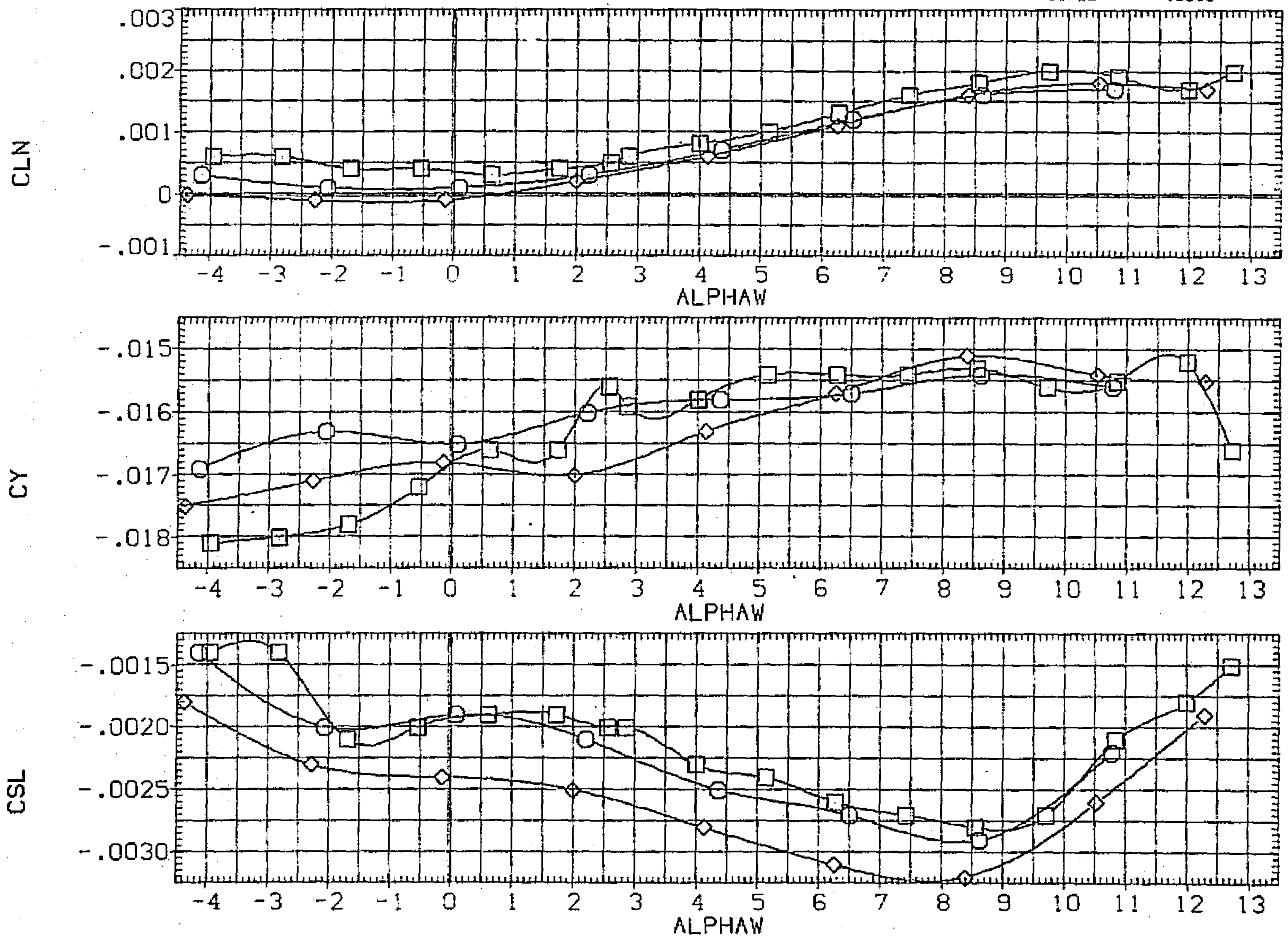



FIG. 70 ELEVATOR EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.1S1-12 AT112 /111.IORB TC4 | | 4.250 | | | SREF | 5500.0000 | SQ.FT. |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | -1.010 | 4.250 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | -.060 | 4.250 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | 1.970 | 4.250 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| | | | | | | | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

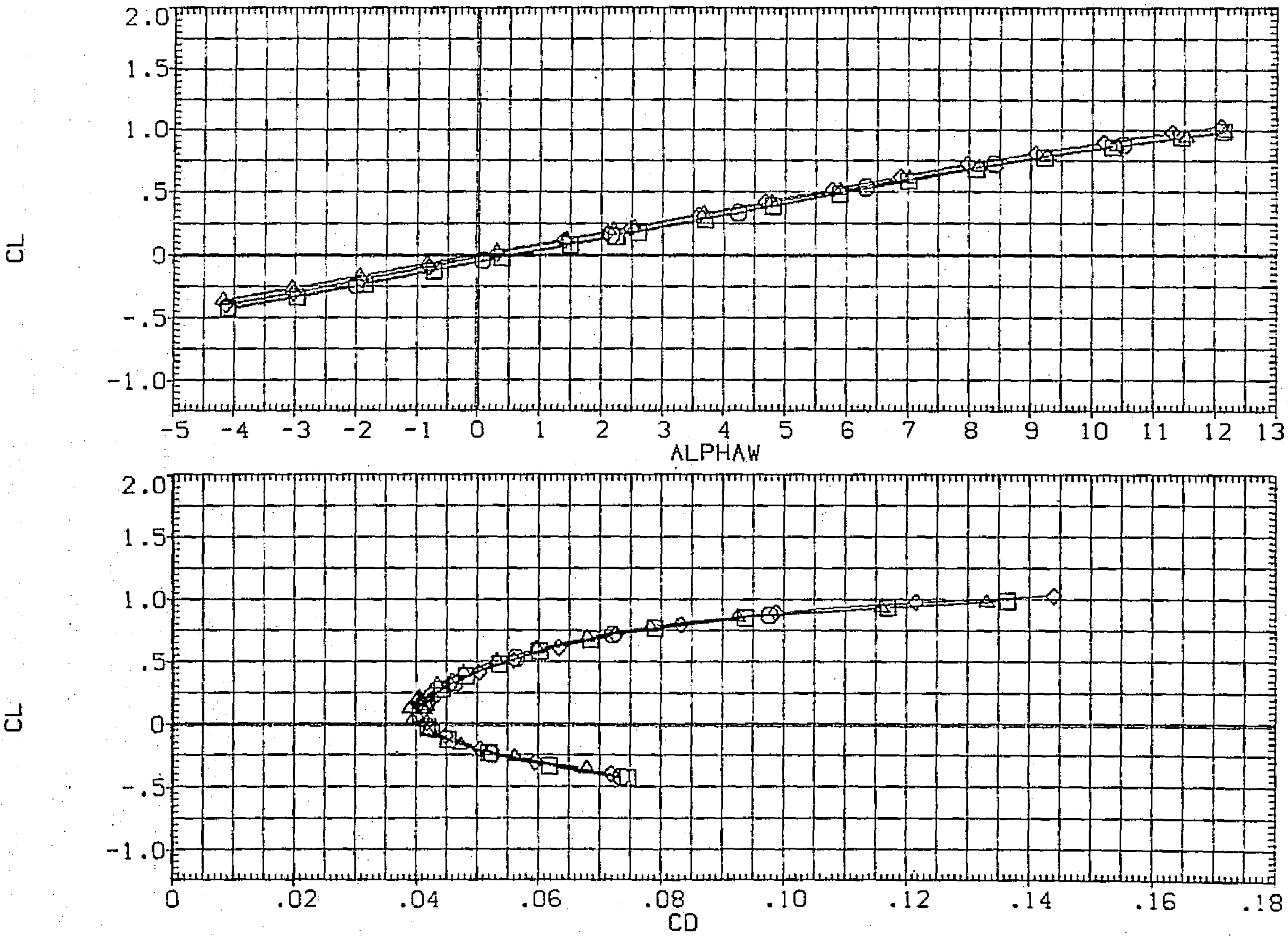



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.151-12 AT112 /111.10RB TC4 | | 4.250 | | |
| (RGP184) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RB TC4 | -1.010 | 4.250 | .000 | .000 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RB TC4 | 1.970 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

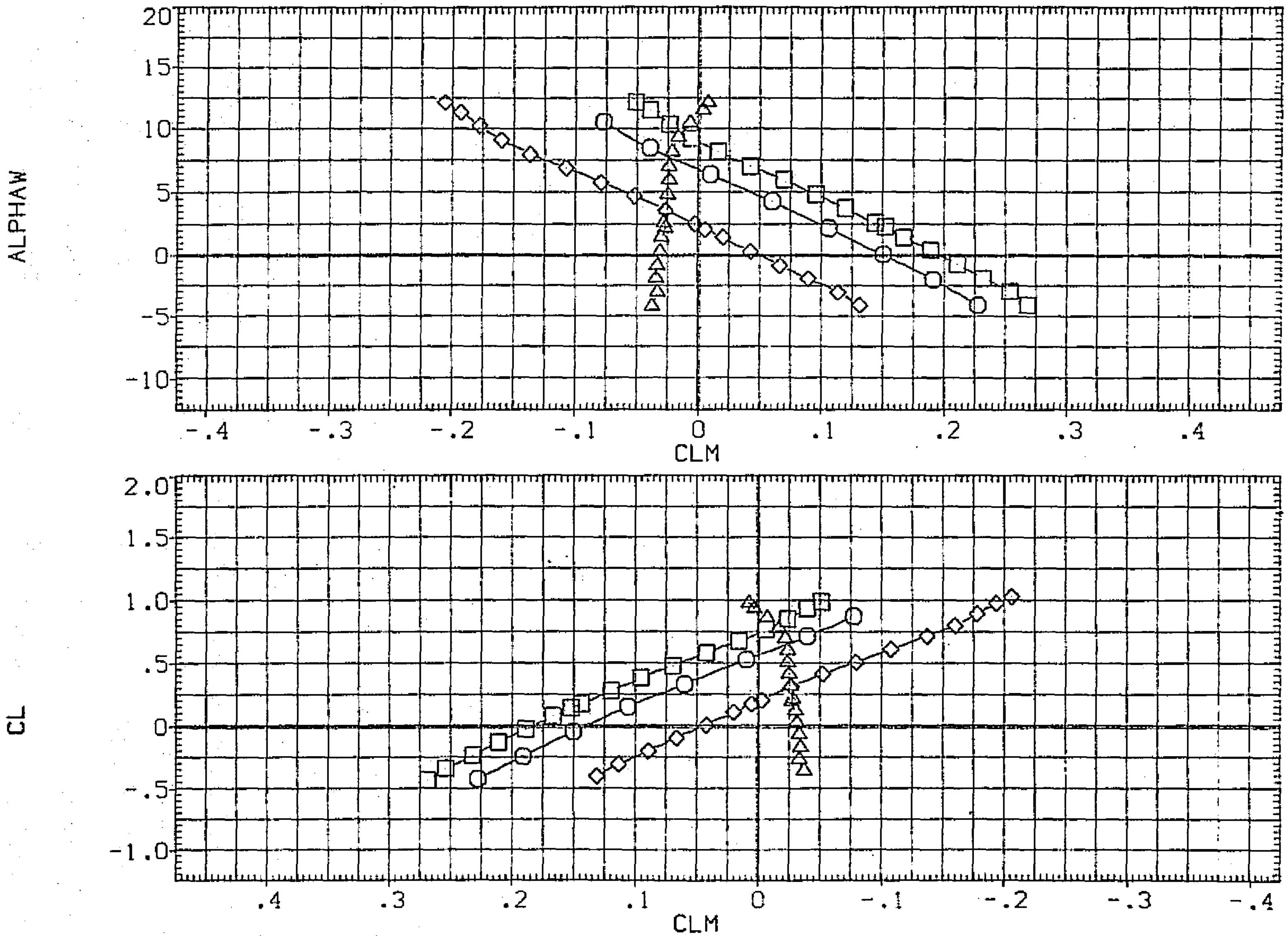



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.1S1-12 AT112 /111.10RB TC4 | | 4.250 | | | SREF | 5500.0000 | SQ.FT. |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -1.010 | 4.250 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 1.970 | 4.250 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| | | | | | | | YMRP | .0000 | IN. YC |
| | | | | | | | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

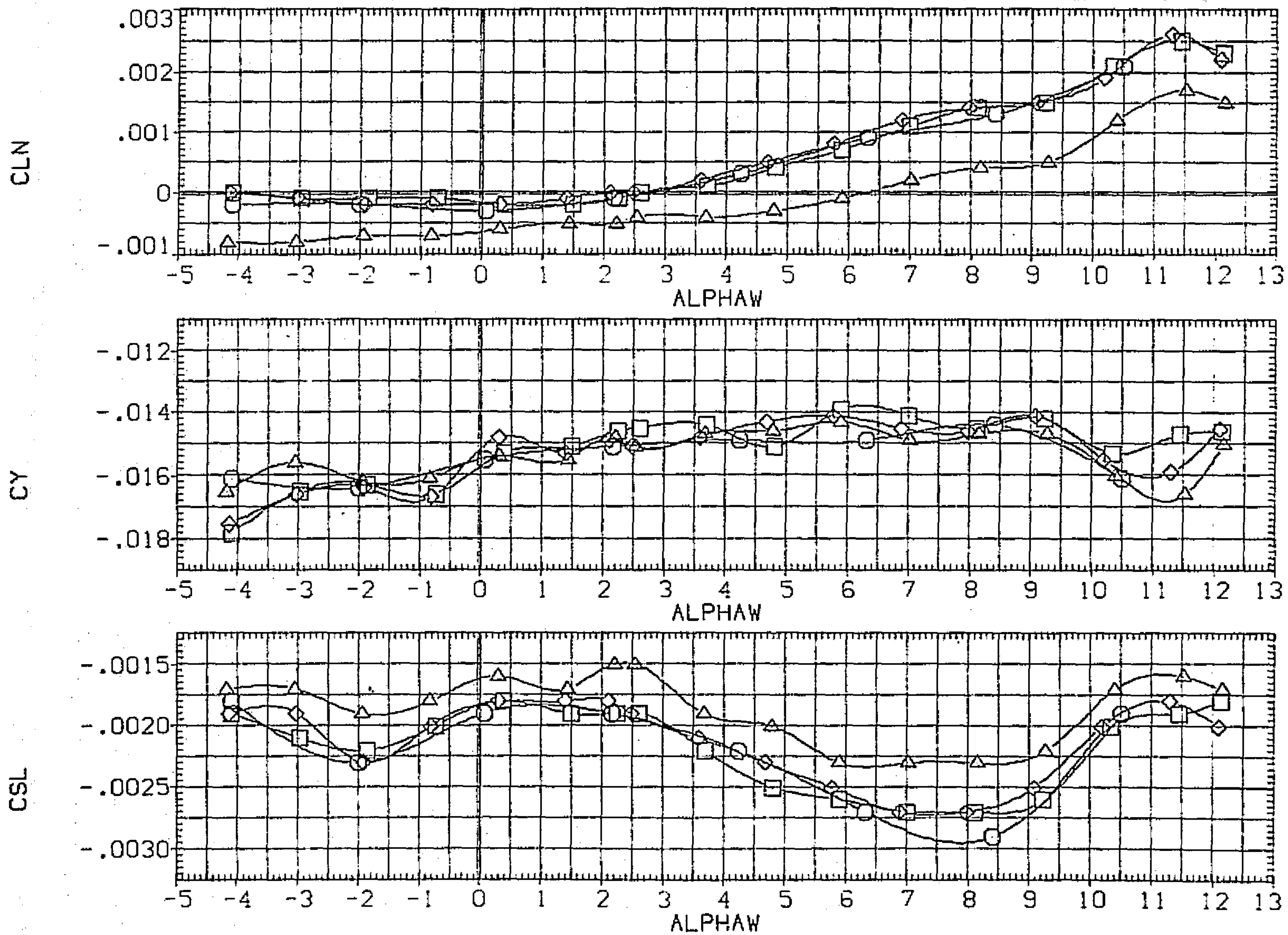


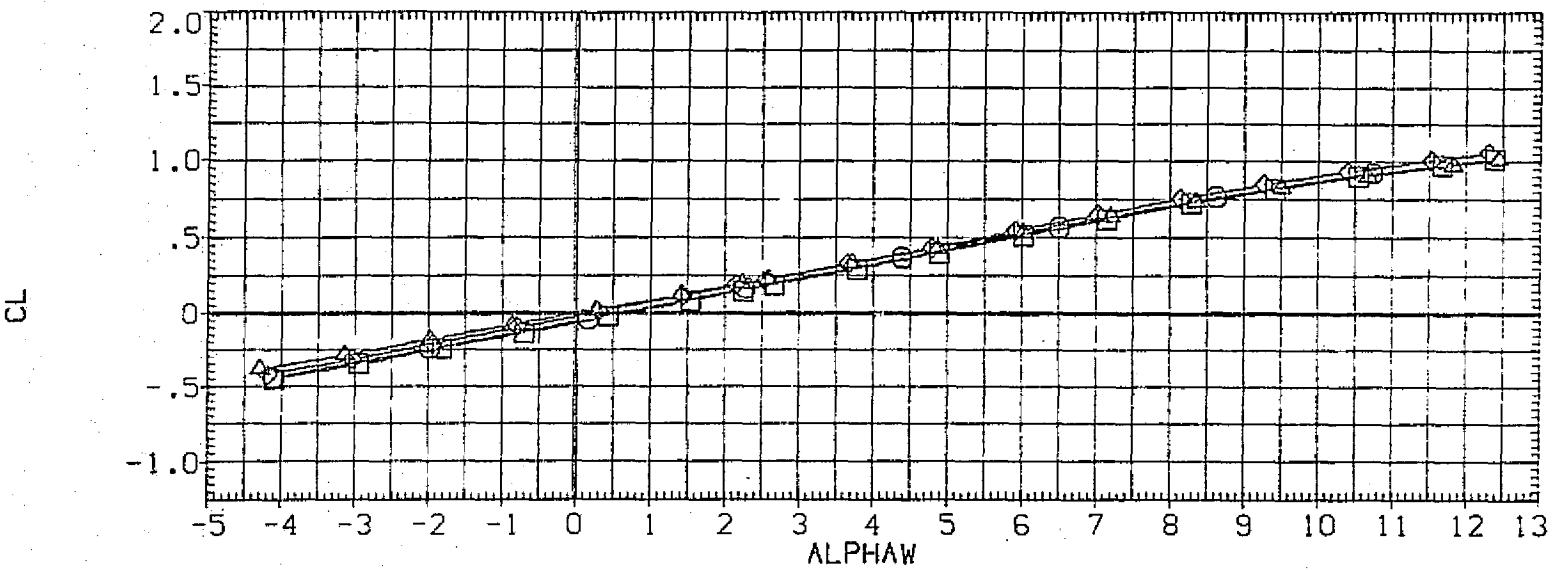

FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.1S1-12 AT112 /111.1ORB TC4 | | 4.250 | | |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | 4.250 | .000 | .000 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 1.970 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



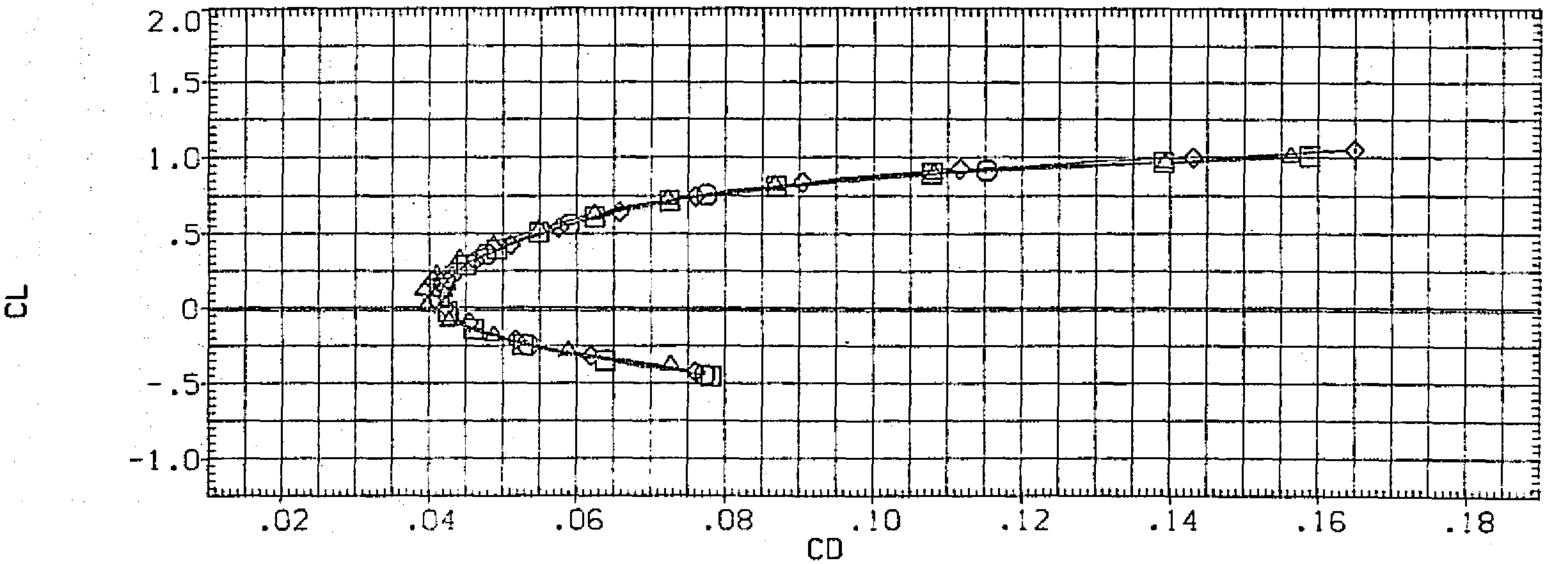




FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.1S1-12 AT112 /111.1ORB TC4 | | 4.250 | | |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | 4.250 | .000 | .000 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 1.970 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

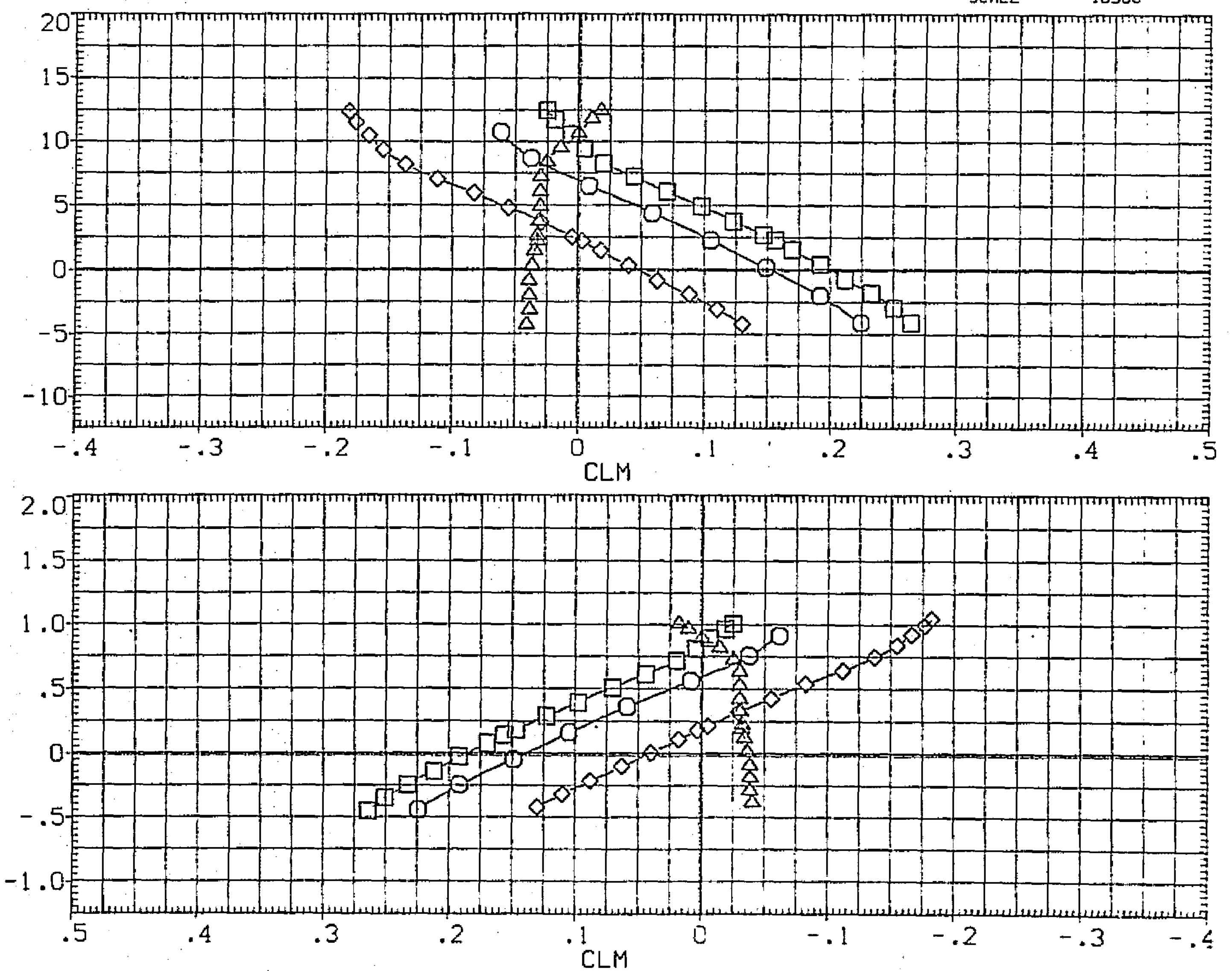



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.IS1-12 AT112 /111.IORB TC4 | | 4.250 | | |
| (RGP184) | □ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.IORB TC4 | -1.010 | 4.250 | .000 | .000 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.IORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.IORB TC4 | 1.970 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

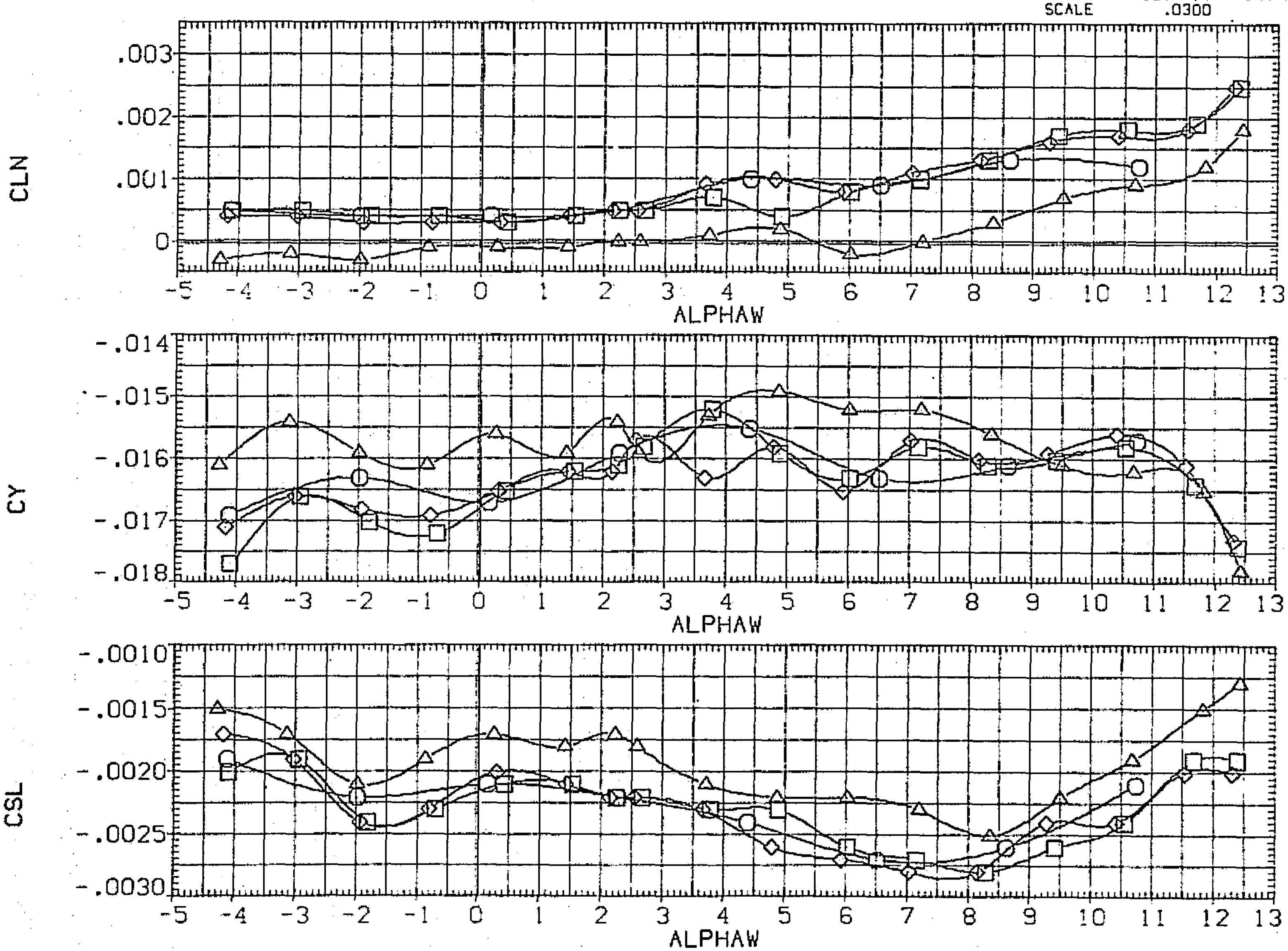



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.1S1-12 AT112 /111.10RB TC4 | | 4.250 | | |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -1.010 | 4.250 | .000 | .000 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 1.970 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

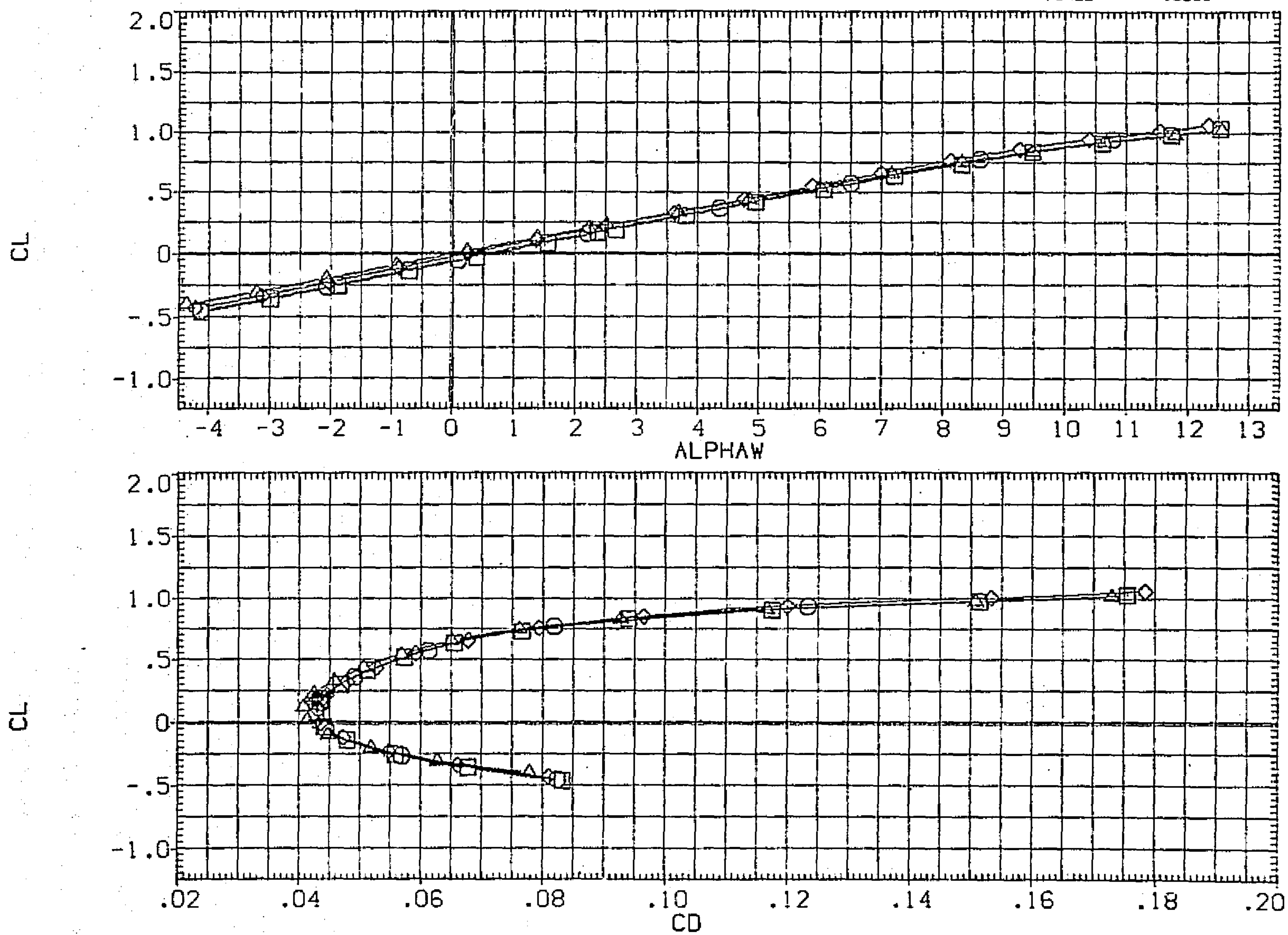



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| [RGP190] | △ | CA6 K2 V9.1S1-12 AT112 /111.10RB TC4 | | 4.250 | | |
| [RGP184] | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -1.010 | 4.250 | .000 | .000 |
| [RGP168] | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | 4.250 | .000 | .000 |
| [RGP185] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 1.970 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

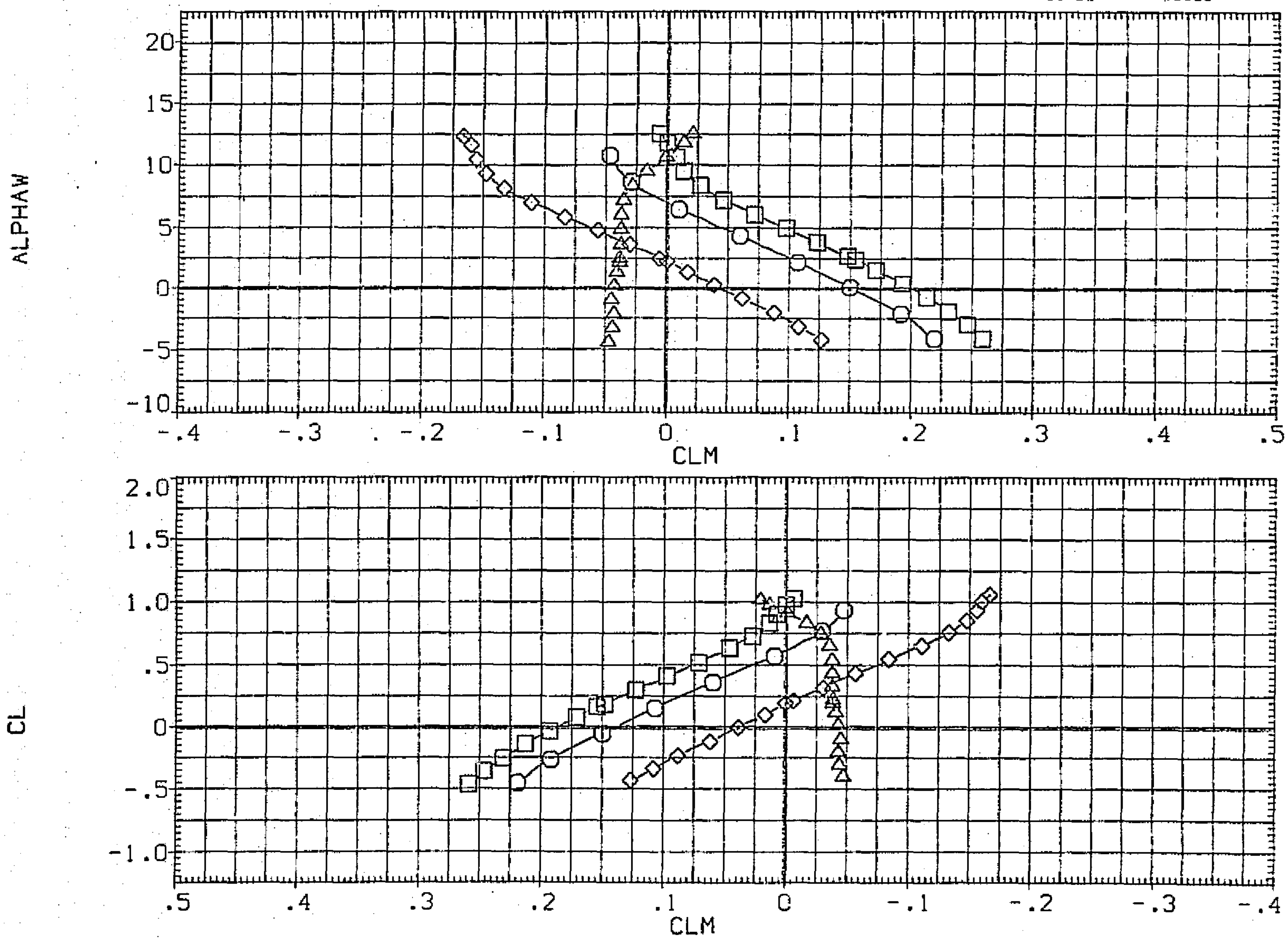



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP190) | △ | CA6 K2 V9.1S1-12 AT112 /111.1ORB TC4 | | 4.250 | | |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | 4.250 | .000 | .000 |
| (RGP168) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | 4.250 | .000 | .000 |
| (RGP185) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 1.970 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

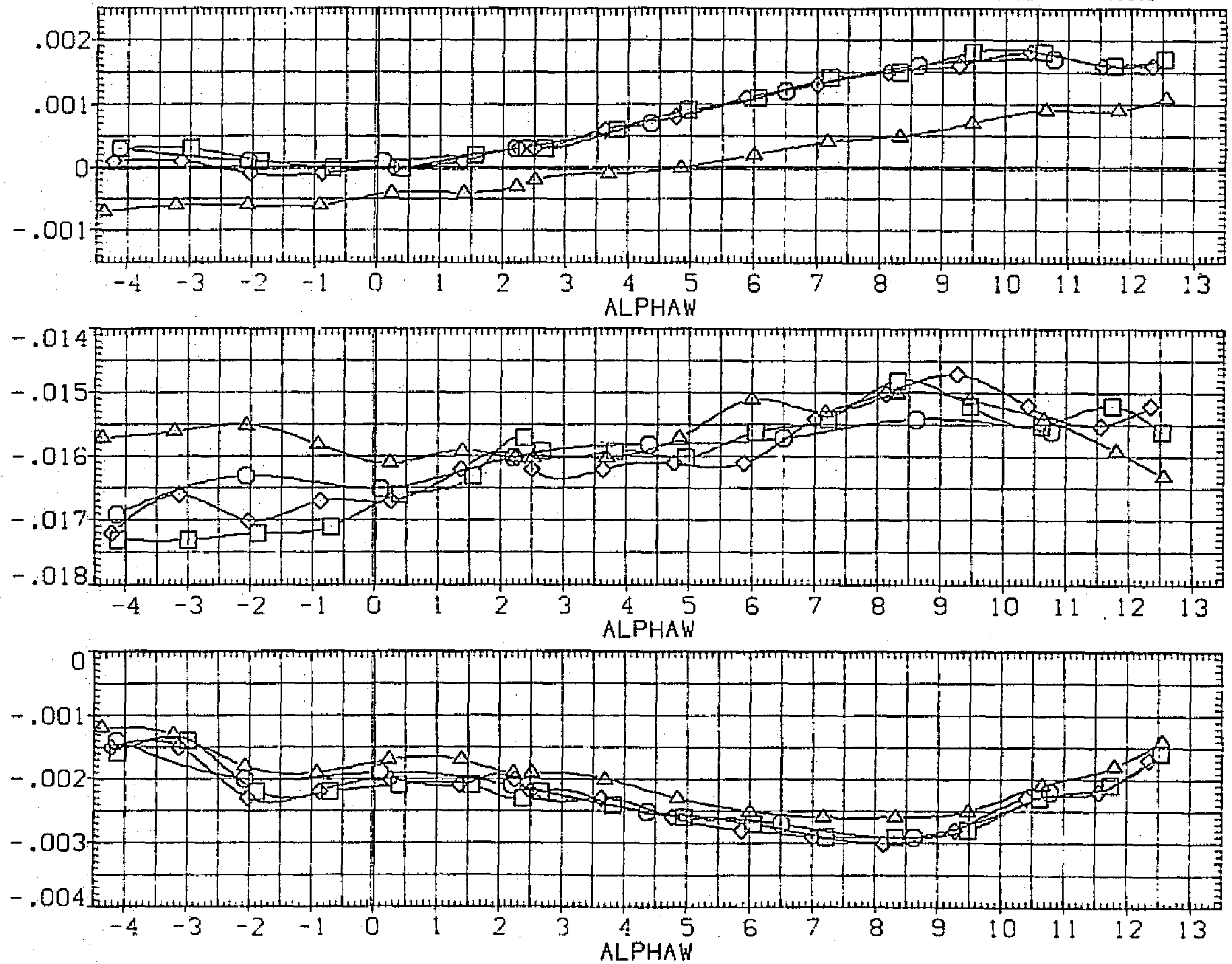



FIG. 71 STABILIZER EFFECTIVENESS, FERRY, IORB 4.25

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP187) | □ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP186) | ○ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 | .000 | .000 |
| (RGP188) | ◇ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP189) | △ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | 10.000 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

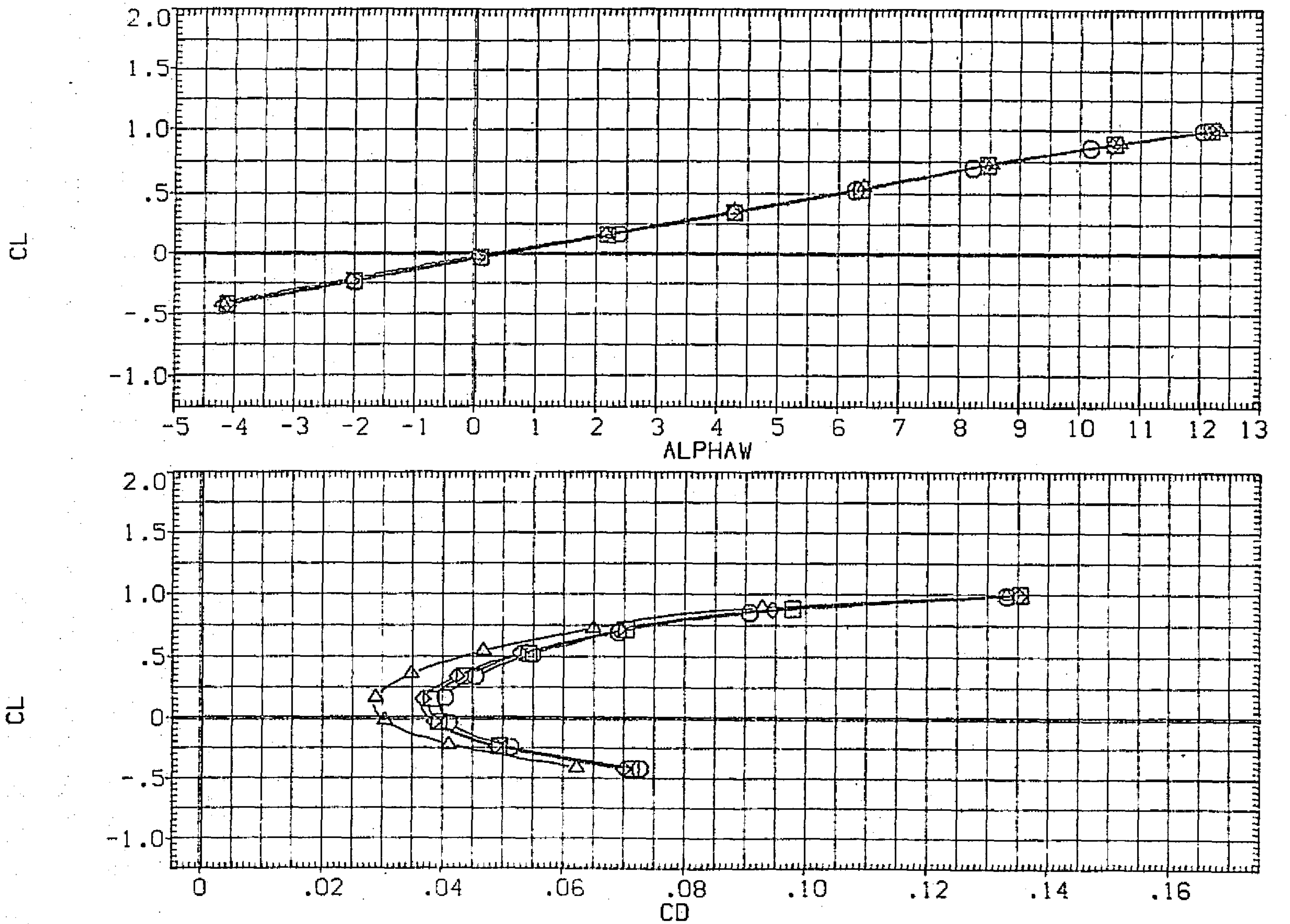



FIG. 72 ALL VERTICAL TAILS OFF, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP187) | □ | CA6 K2H15.1 S1-12 AT112 /111.IORB TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP186) | ○ | CA6 K2H15.1 S1-12 AT112 /111.IORB TC4 | .000 | 4.250 | .000 | .000 |
| (RGP188) | ◇ | CA6 K2H15.1 S1-12 AT112 /111.IORB TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP189) | △ | CA6 K2H15.1 S1-12 AT112 /111.IORB TC4 | 10.000 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

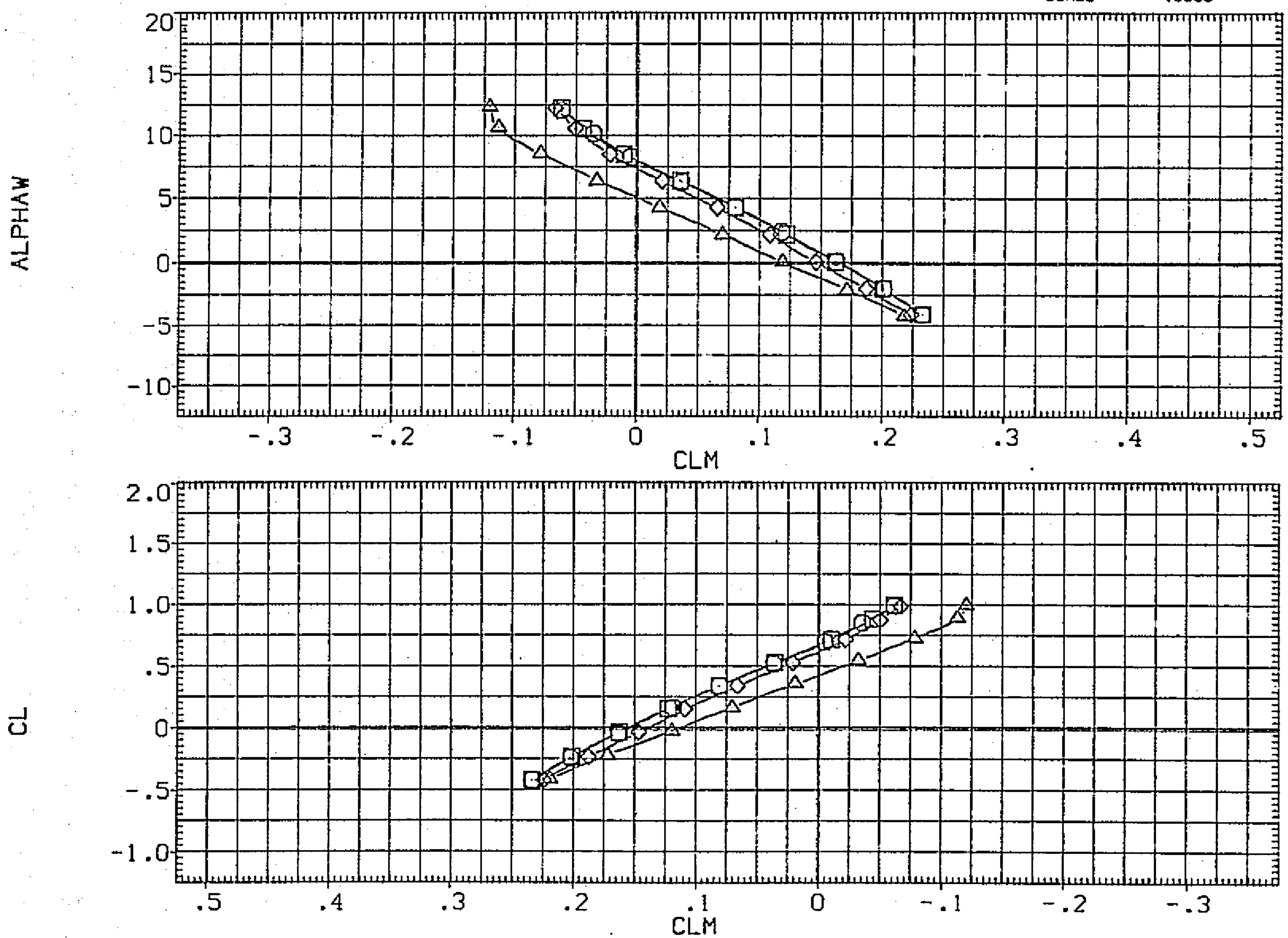



FIG. 72 ALL VERTICAL TAILS OFF, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|---|---|---|
| (RGP187) | □ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP186) | ○ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | .000 | 4.250 | .000 | .000 |
| (RGP188) | ◇ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP189) | △ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | 10.000 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

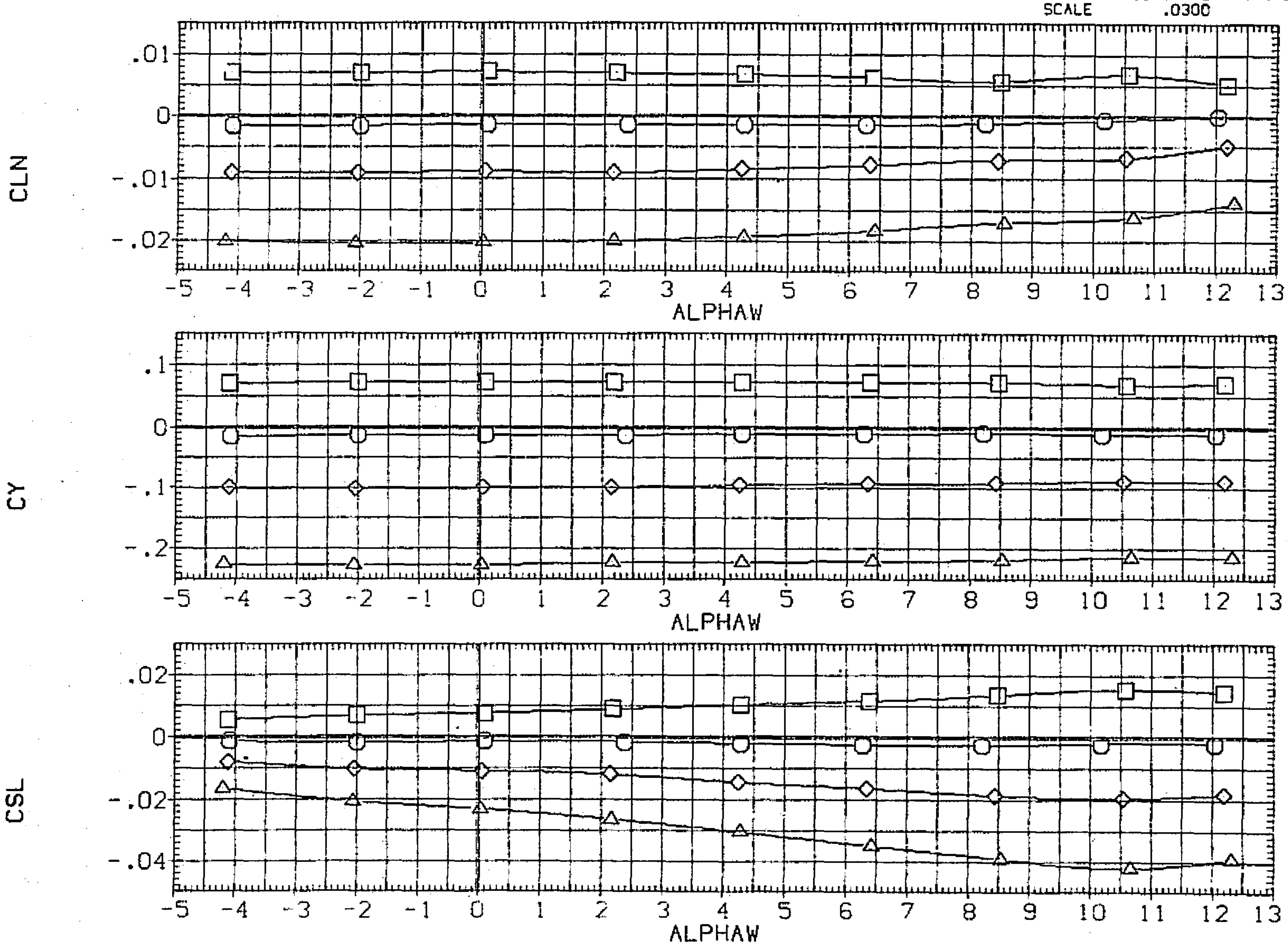



FIG. 72 ALL VERTICAL TAILS OFF, FERRY, IORB 4.25

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP187) | □ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP186) | ○ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | .000 | 4.250 | .000 | .000 |
| (RGP188) | ◇ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP189) | △ | CA6 K2H15.1 S1-12 AT112 /111.1ORB TC4 | 10.000 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

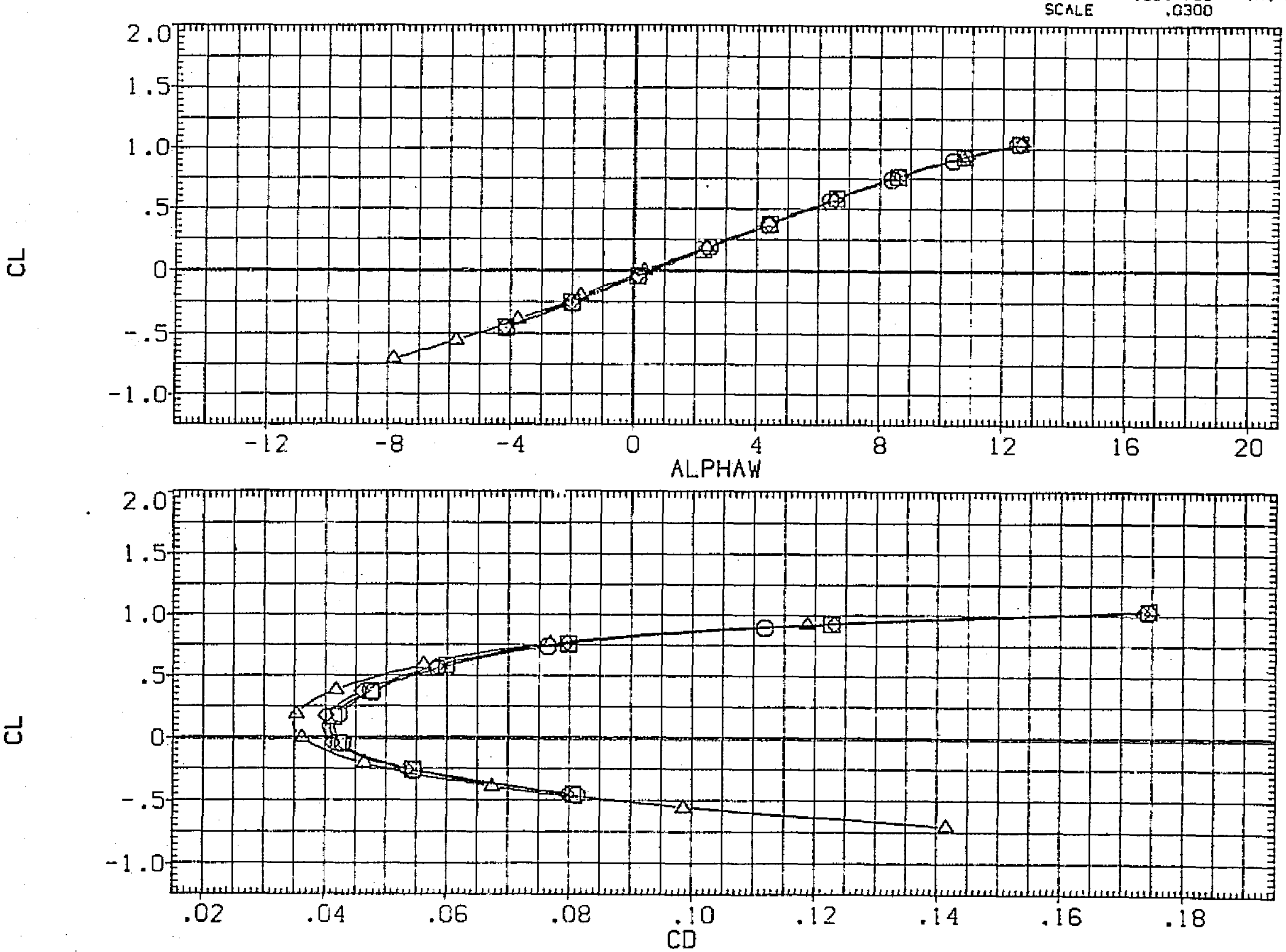



FIG. 72 ALL VERTICAL TAILS OFF, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP187) | □ | CA6 K2H15.1 S1-12 AT112 /111.10RB TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP186) | ○ | CA6 K2H15.1 S1-12 AT112 /111.10RB TC4 | .000 | 4.250 | .000 | .000 |
| (RGP188) | ◇ | CA6 K2H15.1 S1-12 AT112 /111.10RB TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP189) | △ | CA6 K2H15.1 S1-12 AT112 /111.10RB TC4 | 10.000 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

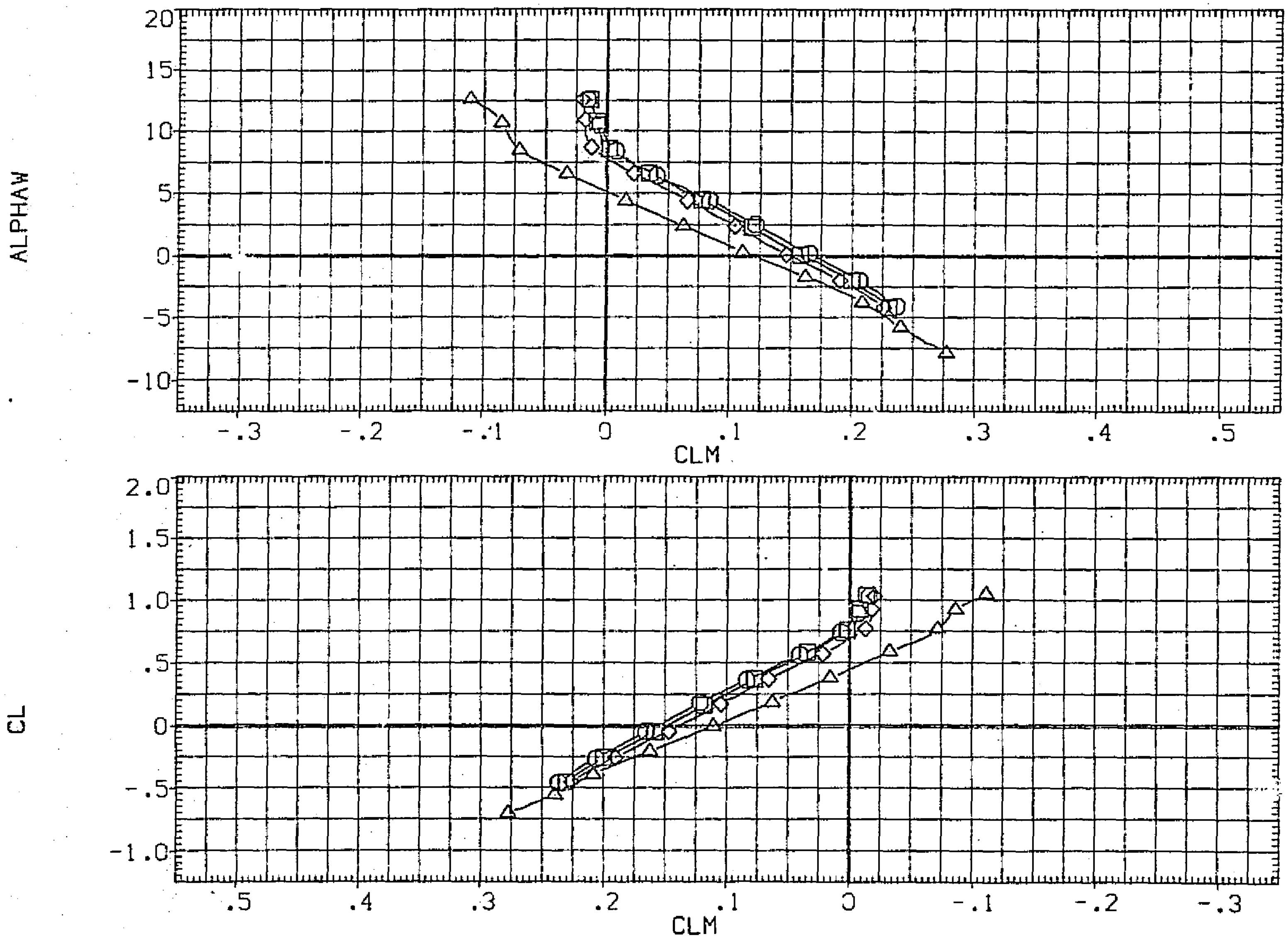



FIG. 72 ALL VERTICAL TAILS OFF, FERRY, IORB 4.25

(B)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|---|---|---|
| (RGP187) | □ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP186) | ○ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | .000 | 4.250 | .000 | .000 |
| (RGP188) | ◇ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP189) | △ | CA6 | K2H15.1 | S1-12 AT112 | /111.IORB | TC4 | 10.000 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

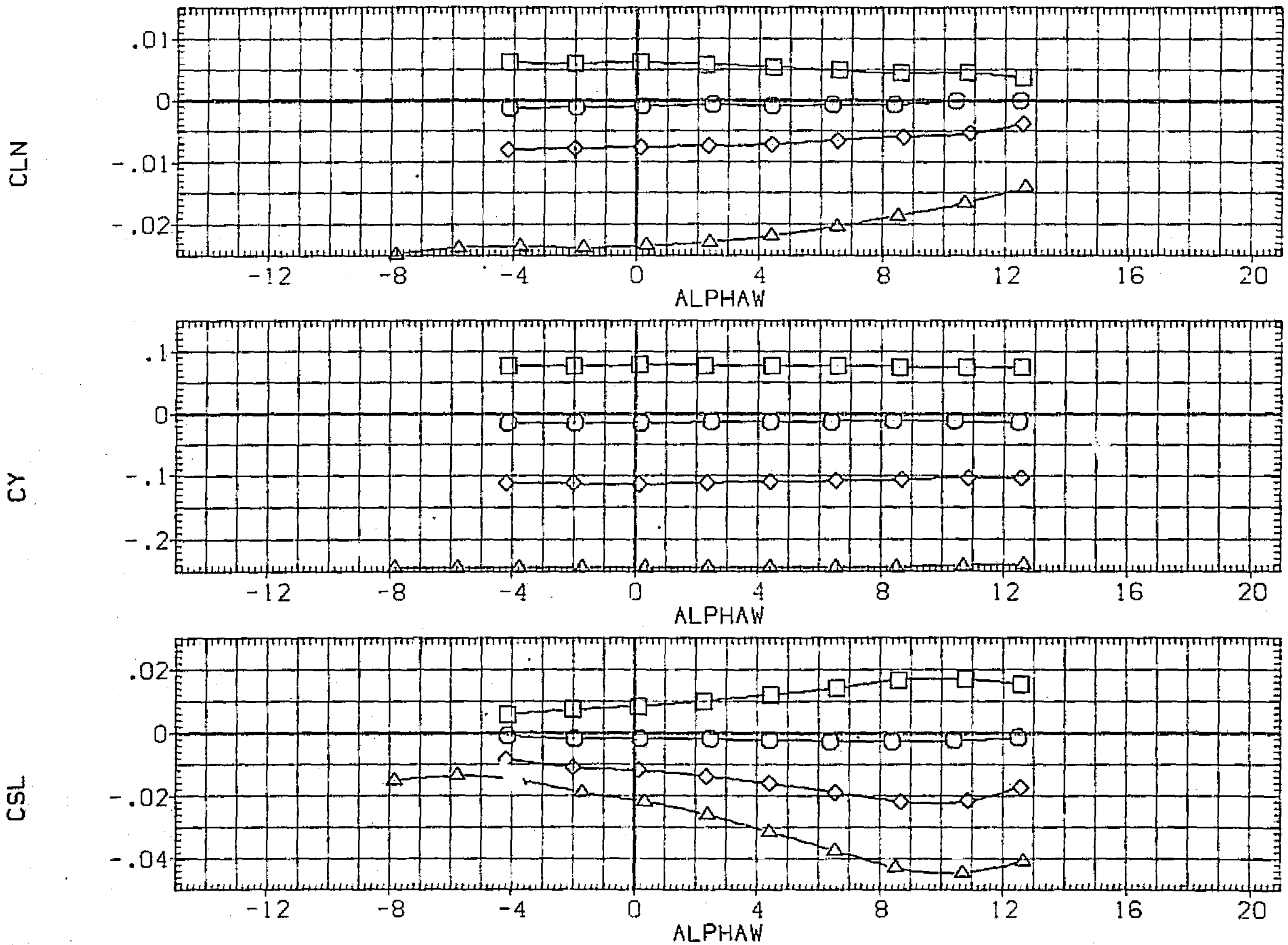



FIG. 72 ALL VERTICAL TAILS OFF, FERRY, IORB 4.25

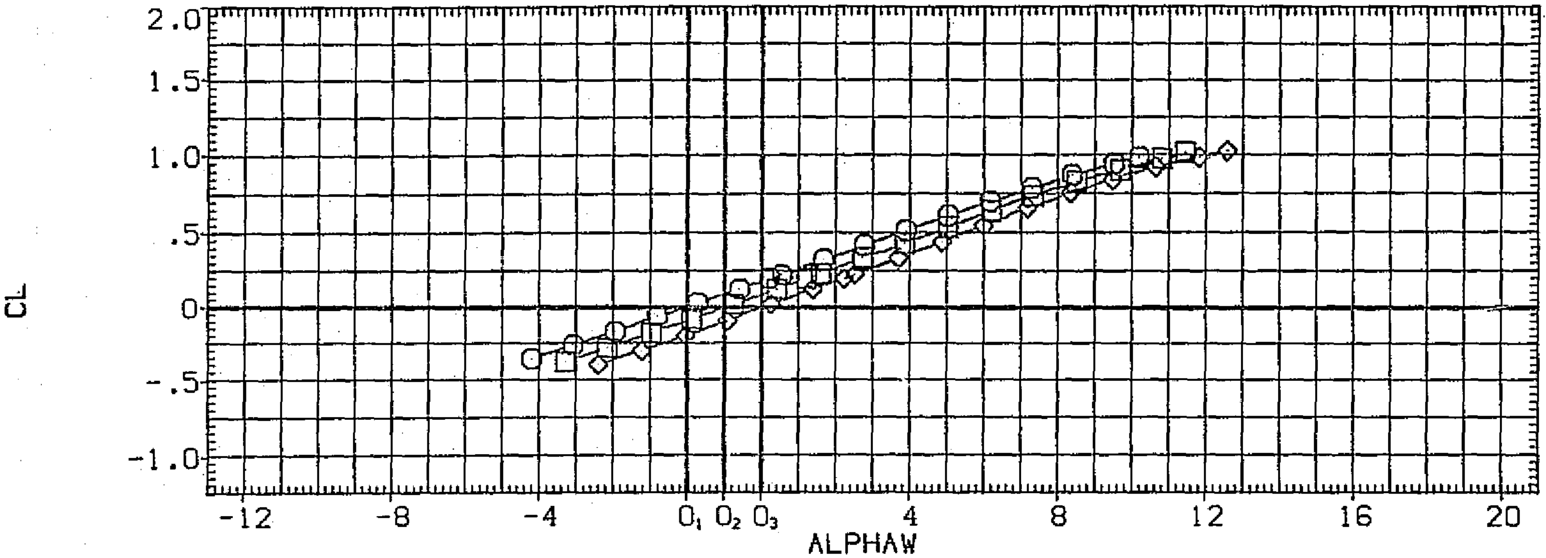
(B)MACH = .60

CA6 K2 V9.1S1-12 AT112 /111.1ORB TC4 (RGP190)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | RUD-U | .000 | RUD-L | .000 |
| □ | .500 | BETA | .000 | SPOILR | .000 |
| ◇ | .600 | ELEVON | .000 | IORB | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



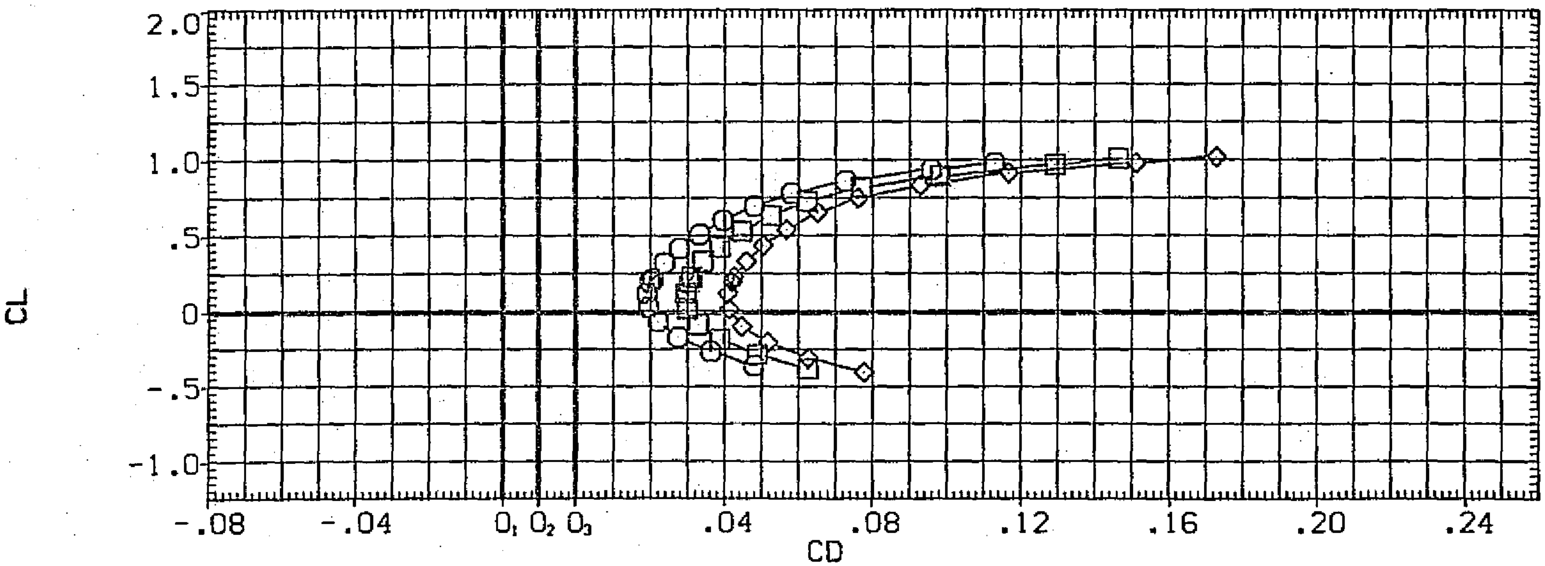




FIG. 73 HORIZONTAL TAIL OFF, FERRY, IORB 4.25

CA6 K2 V9.1S1-12 AT112 /111.1ORB TC4 (RGP190)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | RUD-U | .000 | RUD-L | .000 |
| □ | .500 | BETA | .000 | SPOILR | .000 |
| ◇ | .600 | ELEVON | .000 | IORB | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

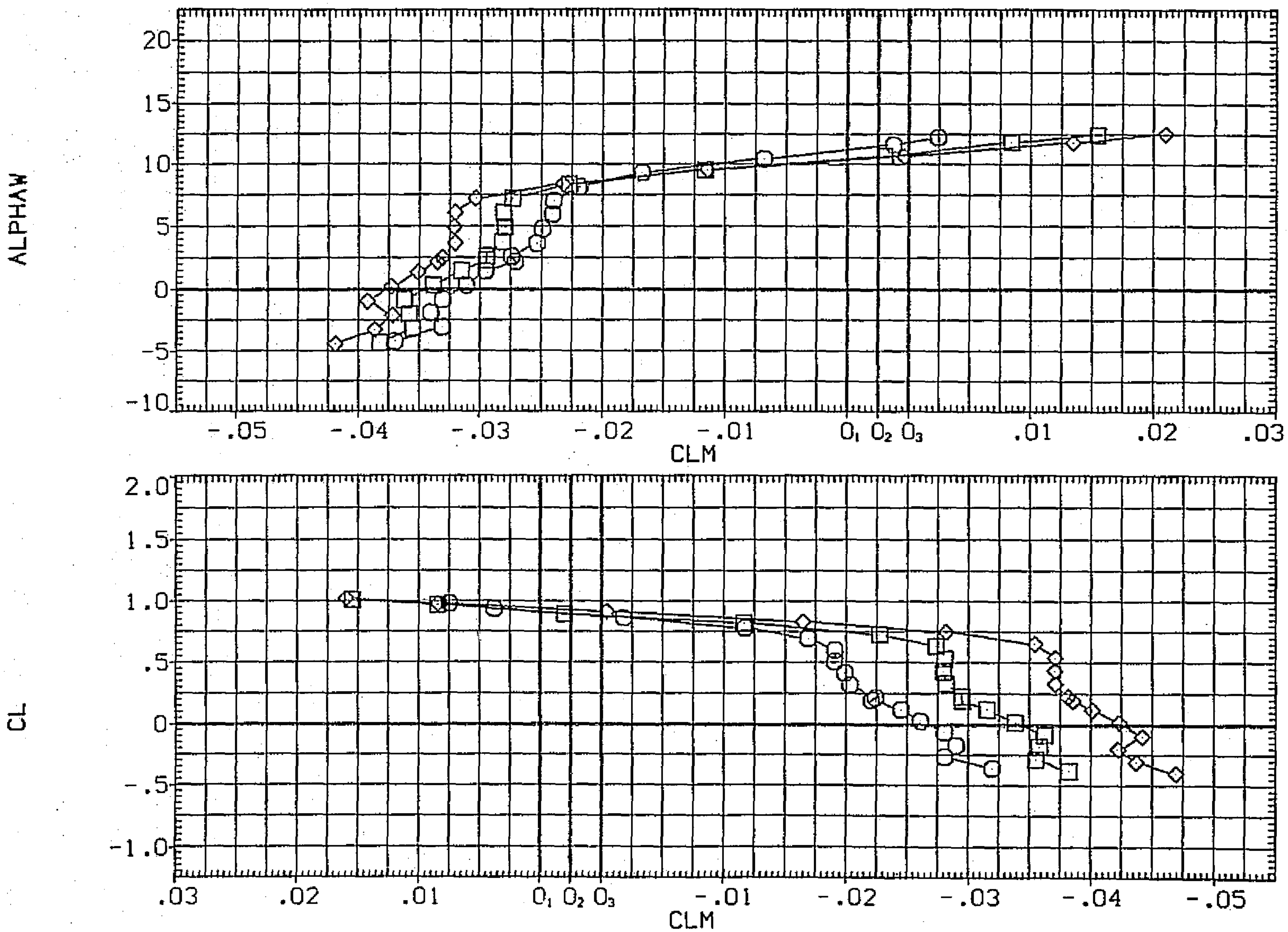



FIG. 73 HORIZONTAL TAIL OFF, FERRY, IORB 4.25

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | RUD-U | .000 | RUD-L | .000 |
| □ | .500 | BETA | .000 | SPOILR | .000 |
| ◇ | .600 | ELEVON | .000 | IORB | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

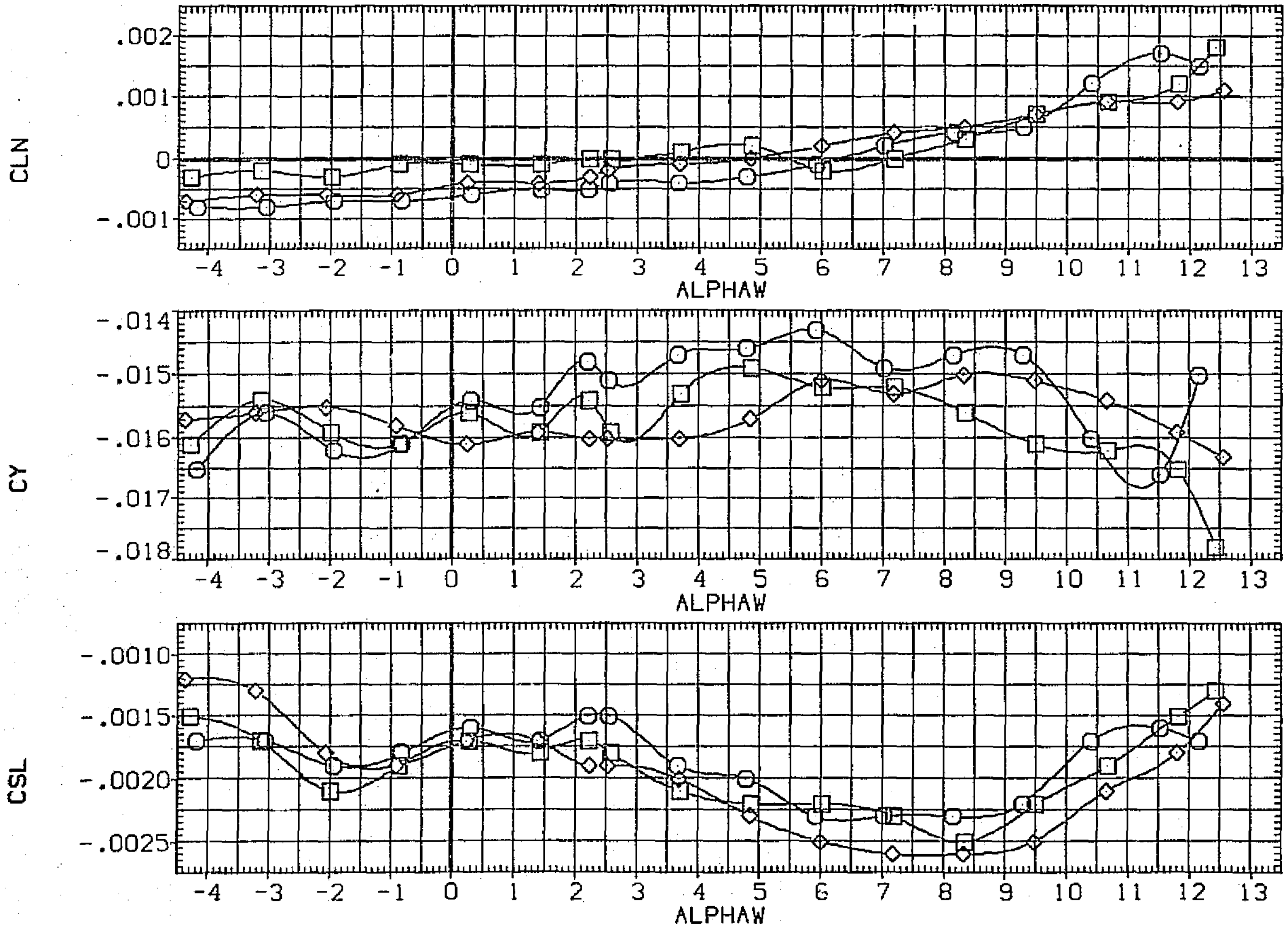



FIG. 73 HORIZONTAL TAIL OFF, FERRY, IORB 4.25

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP199) | ○ | CA6 K2 V9.1S1-12 AT112 /111.1ORB TC4 | | 3.150 | .000 |
| (RGP192) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.040 | 3.150 | .000 |
| (RGP248) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 1.930 | 3.150 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

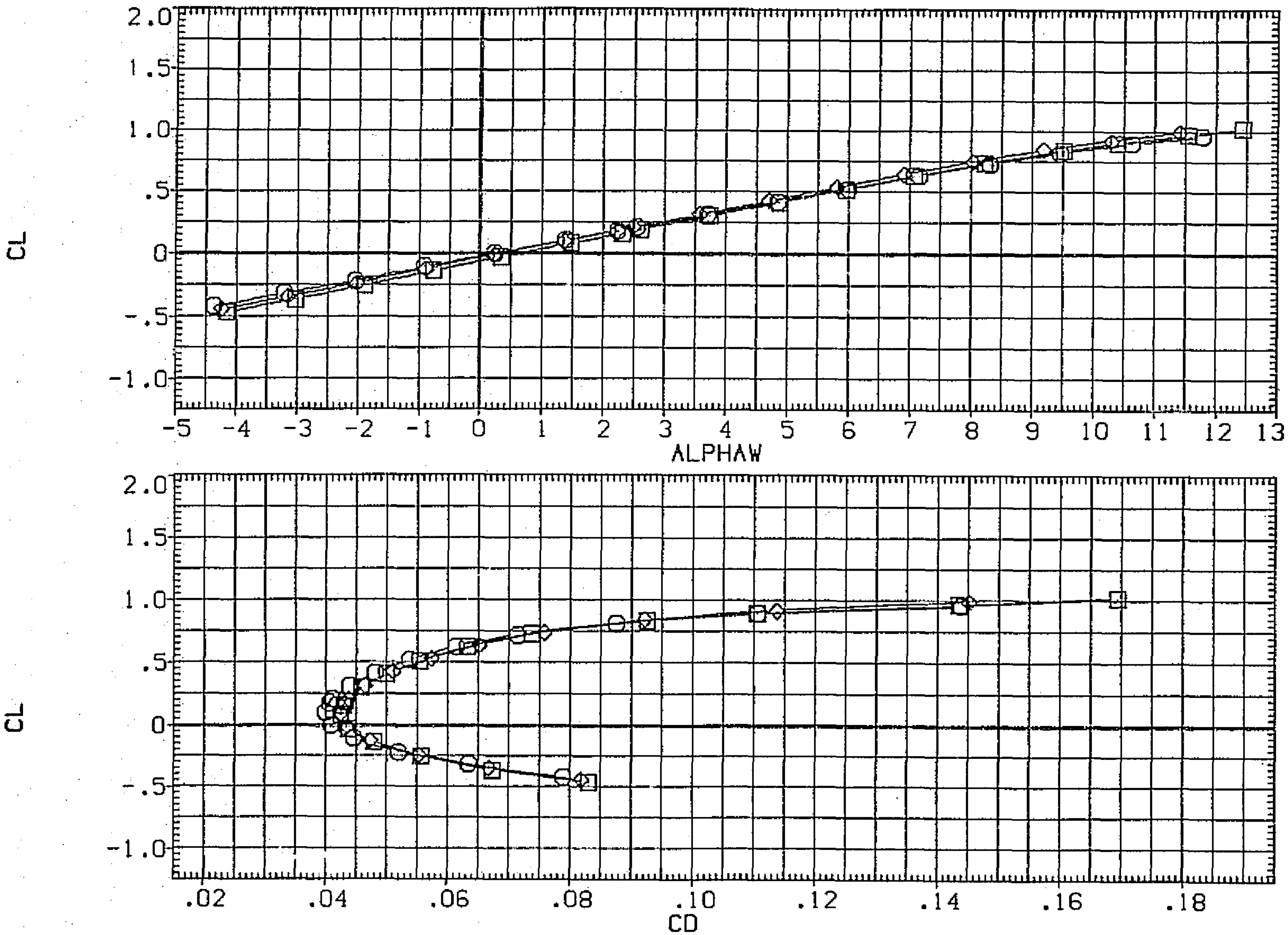



FIG. 74 STABILIZER EFFECTIVENESS, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP199) | ○ | CA6 K2 V9.IS1-12 AT112 /111.1ORB TC4 | | 3.150 | .000 |
| (RGP192) | □ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.1ORB TC4 | -.040 | 3.150 | .000 |
| (RGP248) | ◇ | CA6 K2H15.6.1V9.IS1-12 AT112 /111.1ORB TC4 | 1.930 | 3.150 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

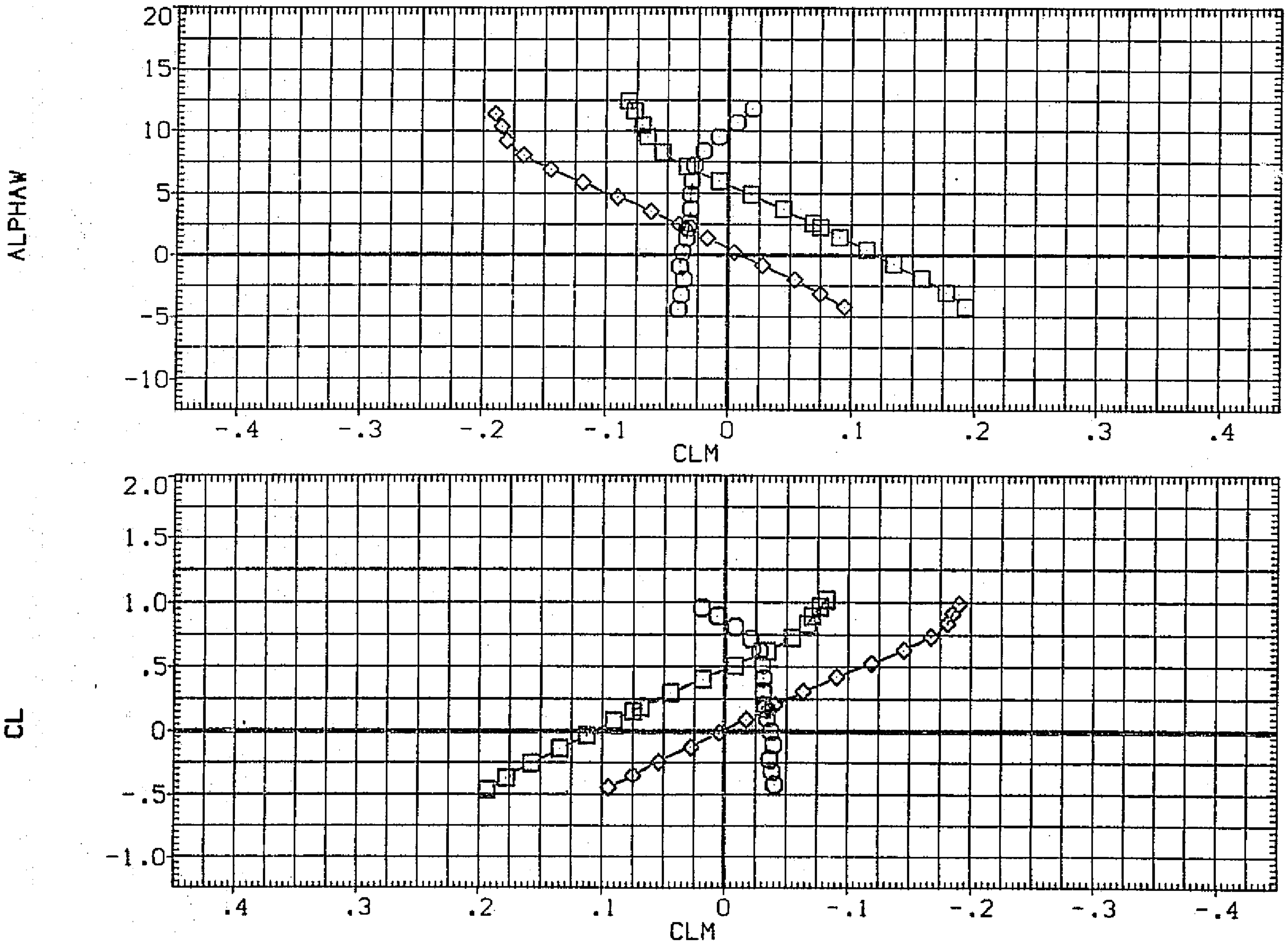



FIG. 74 STABILIZER EFFECTIVENESS, FERRY, IORB 3.0
(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELEVON |
|---|---|---|---|---|---|
| (RGP199) | ○ | CA6 K2 V9.151-12 AT112 /111.10RB TC4 | | 3.150 | .000 |
| (RGP192) | □ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RB TC4 | -.040 | 3.150 | .000 |
| (RGP248) | ◇ | CA6 K2H15.6.1V9.151-12 AT112 /111.10RB TC4 | 1.930 | 3.150 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

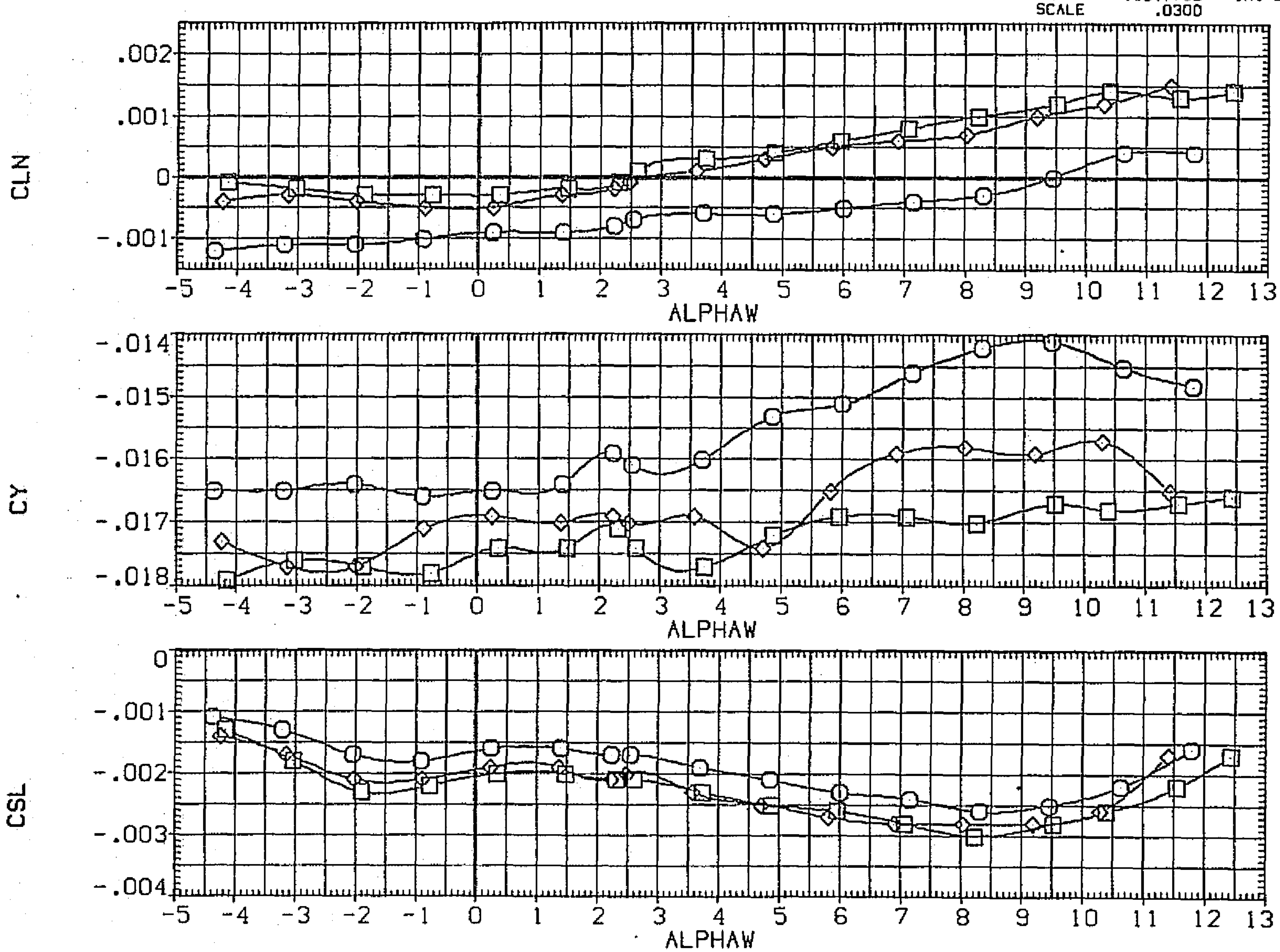



FIG. 74 STABILIZER EFFECTIVENESS, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (RGP197) | □ | CA6 | K2H15.6.1V9.1S1-12 | AT112 | /111.1ORB | TC4 | -4.000 | 3.150 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP192) | ○ | CA6 | K2H15.6.1V9.1S1-12 | AT112 | /111.1ORB | TC4 | .000 | 3.150 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP193) | ◇ | CA6 | K2H15.6.1V9.1S1-12 | AT112 | /111.1ORB | TC4 | 2.000 | 3.150 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP194) | △ | CA6 | K2H15.6.1V9.1S1-12 | AT112 | /111.1ORB | TC4 | 4.000 | 3.150 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP196) | ◁ | CA6 | K2H15.6.1V9.1S1-12 | AT112 | /111.1ORB | TC4 | 6.000 | 3.150 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP195) | D | CA6 | K2H15.6.1V9.1S1-12 | AT112 | /111.1ORB | TC4 | 10.000 | 3.150 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | | | | | SCALE | .0300 | |

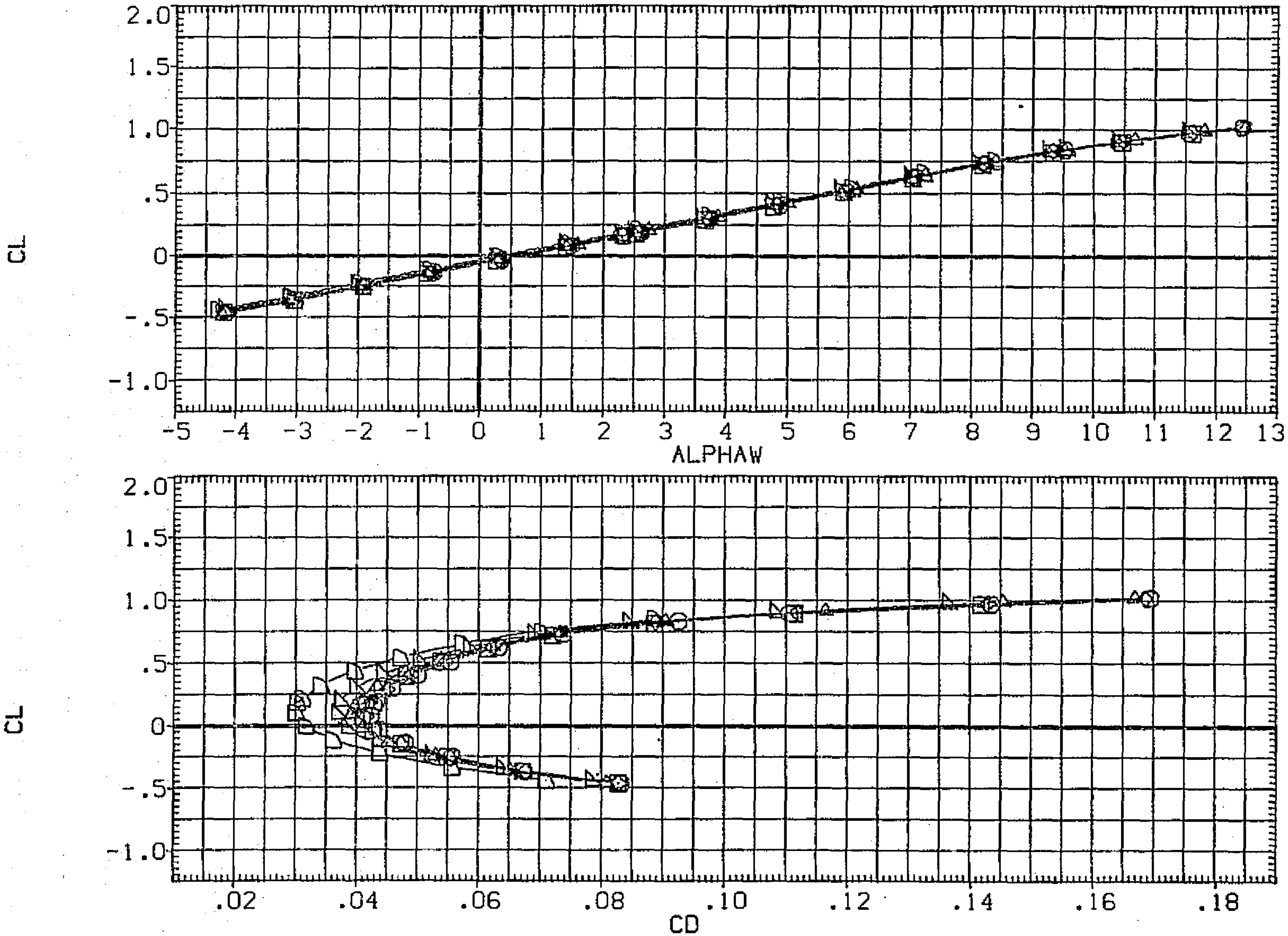



FIG. 75 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (RGP197) | □ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORB | TC4 | -4.000 | 3.150 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP192) | ○ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORB | TC4 | .000 | 3.150 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP193) | ◇ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORB | TC4 | 2.000 | 3.150 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP194) | △ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORB | TC4 | 4.000 | 3.150 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP196) | ◺ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORB | TC4 | 6.000 | 3.150 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP195) | ◻ | CA6 | K2H15.6.1V9.1S1-12 AT112 | /111.1ORB | TC4 | 10.000 | 3.150 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | | | | SCALE | .0300 | |

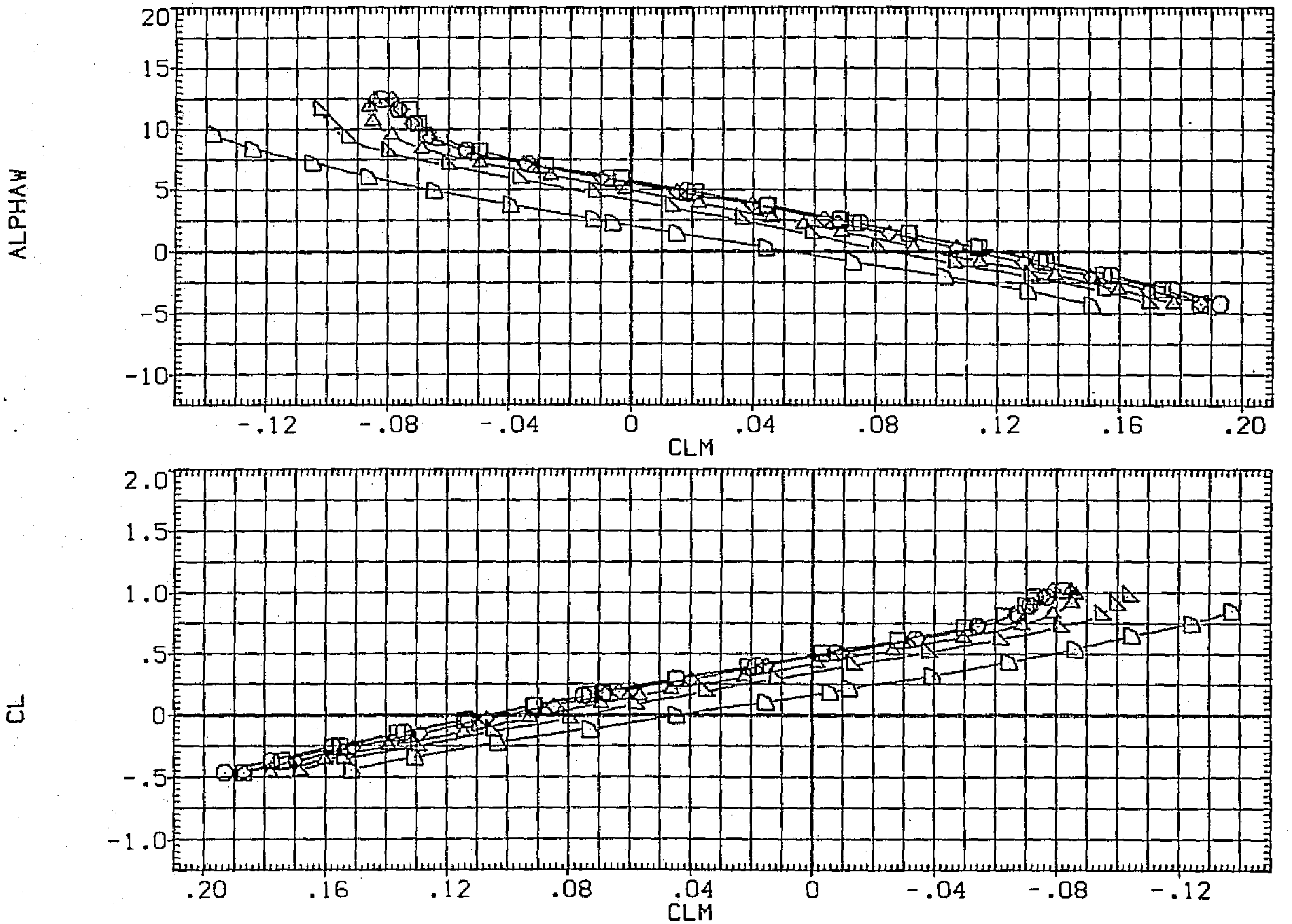



FIG. 75 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP197) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -4.000 | 3.150 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP192) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | .000 | 3.150 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP193) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 2.000 | 3.150 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP194) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 4.000 | 3.150 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP196) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 6.000 | 3.150 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP195) | ◗ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | 10.000 | 3.150 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

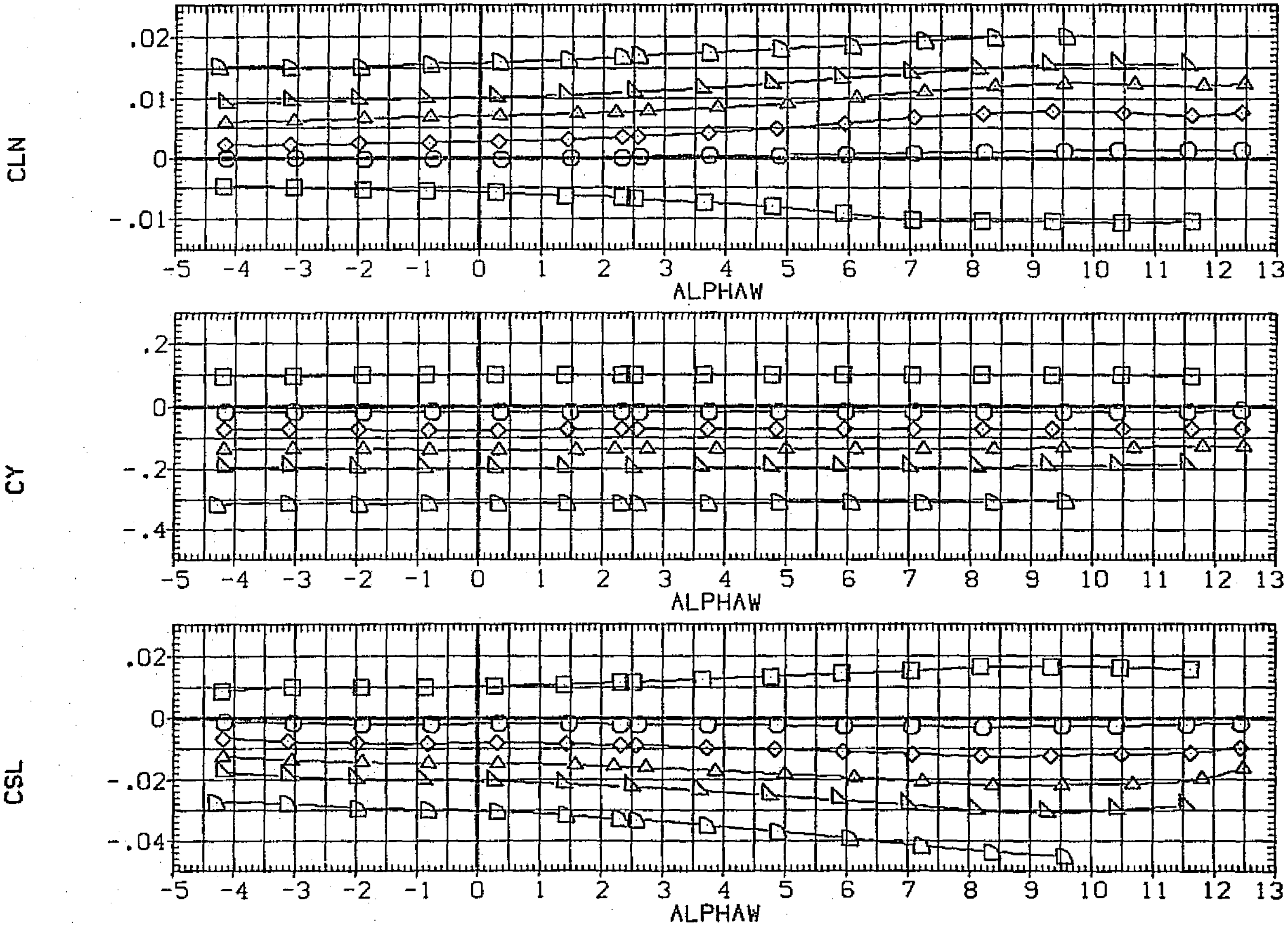


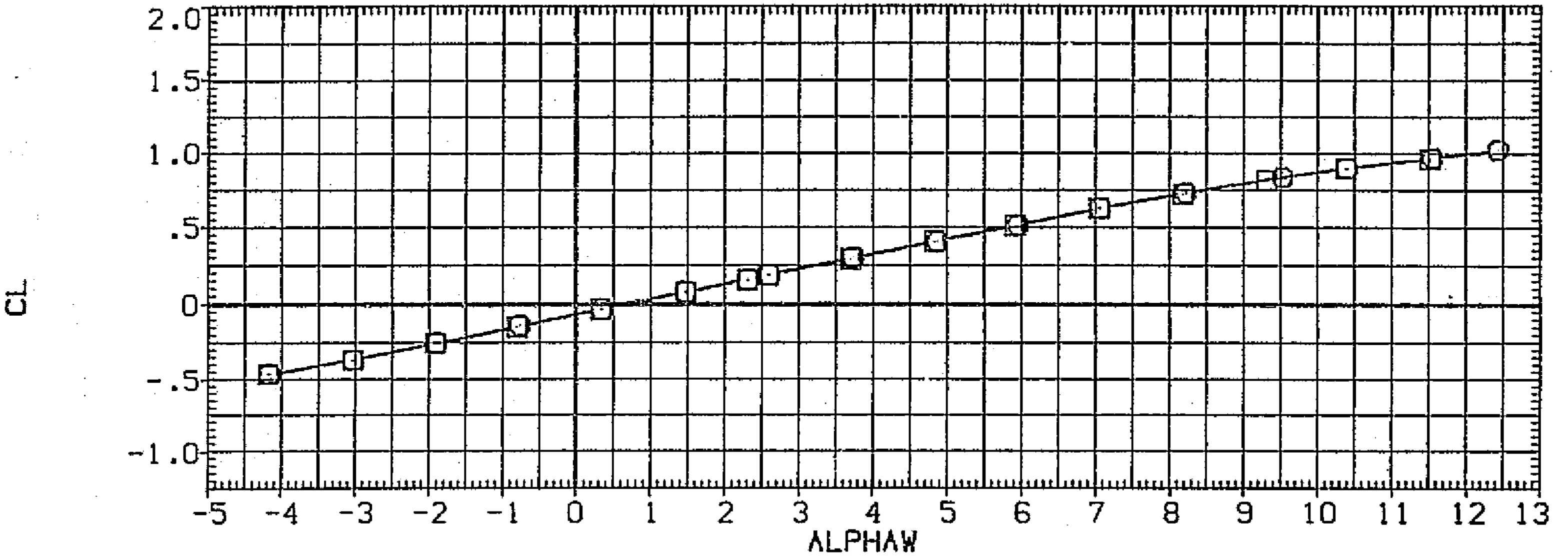

FIG. 75 LATERAL-DIRECTIONAL STABILITY, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP192) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | .000 | .000 | .000 |
| (RGP198) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



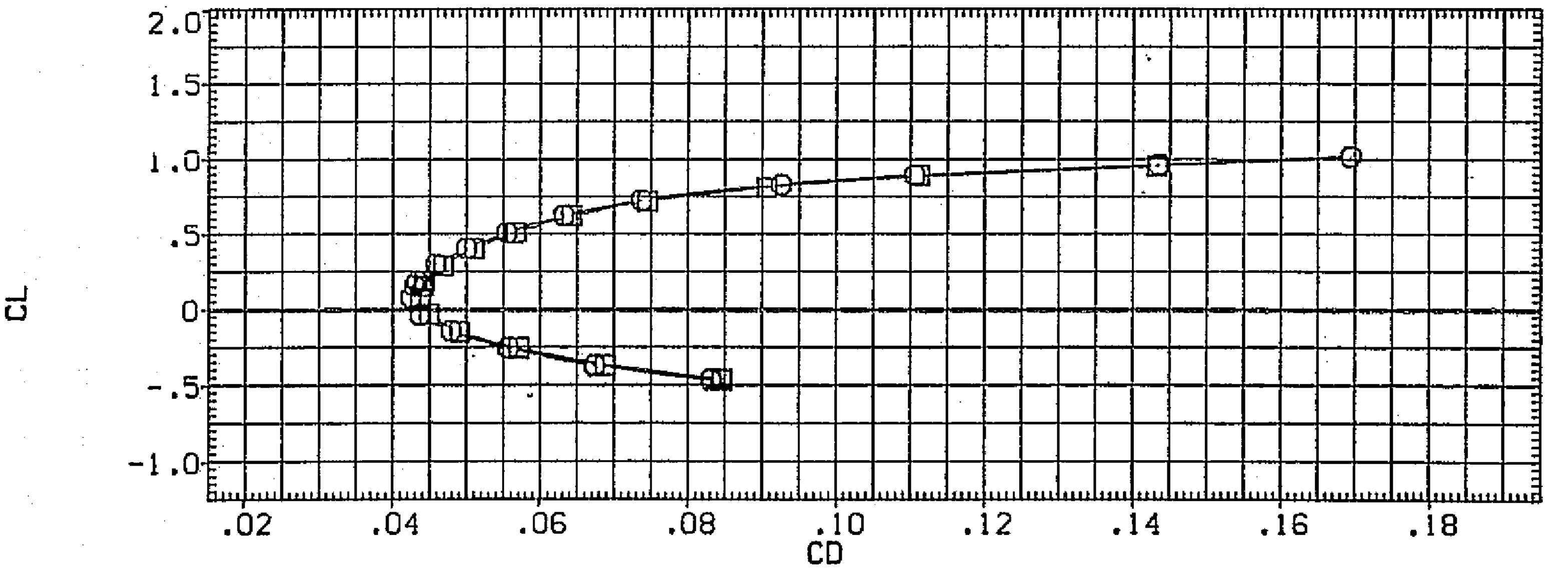




FIG. 76 RUDDER EFFECTIVENESS, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| [RGP192] | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | .000 | .000 | .000 | .000 |
| [RGP198] | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

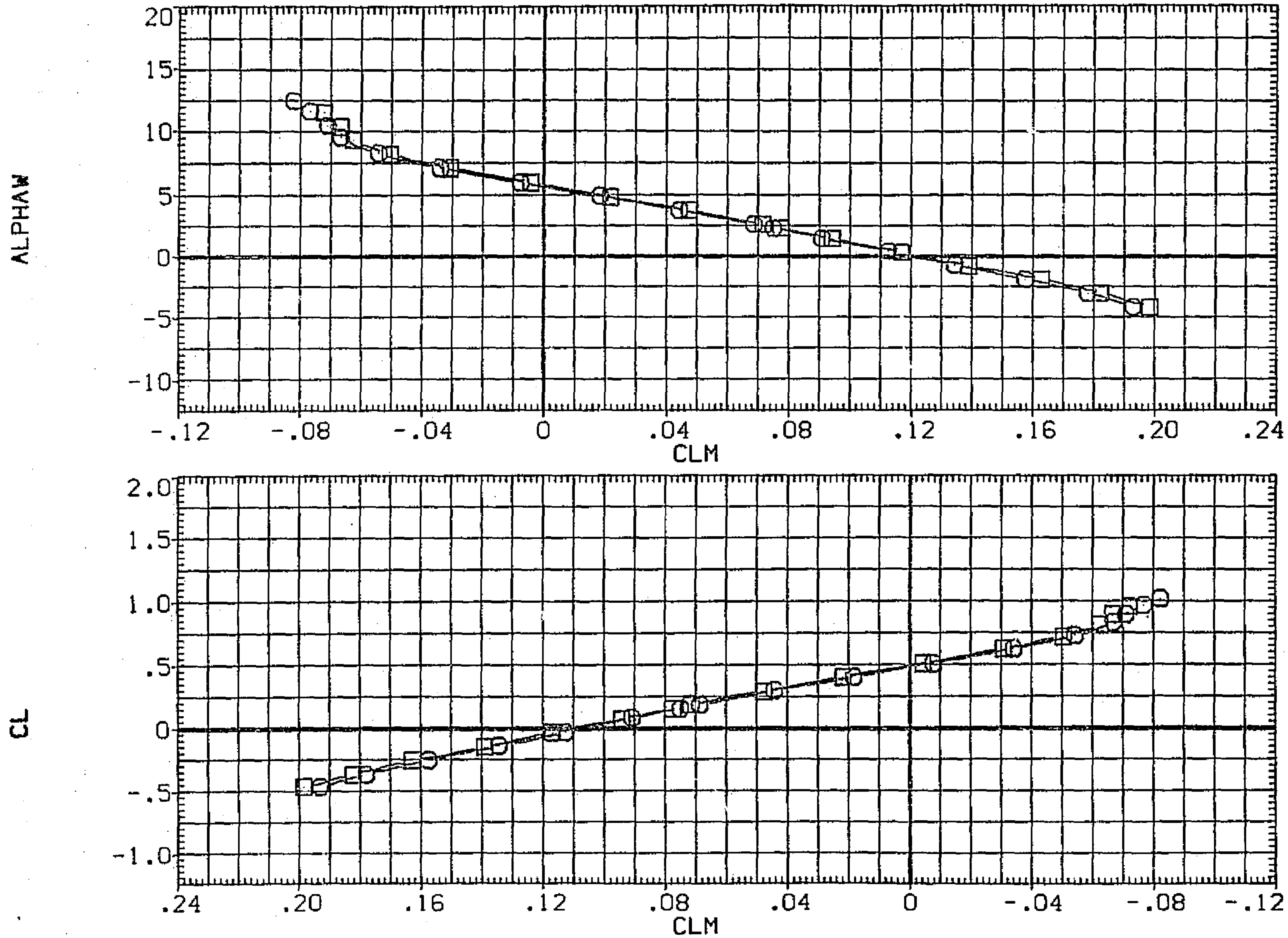



FIG. 76 RUDDER EFFECTIVENESS, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP192) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | .000 | .000 | .000 | .000 |
| (RGP198) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.IORB TC4 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

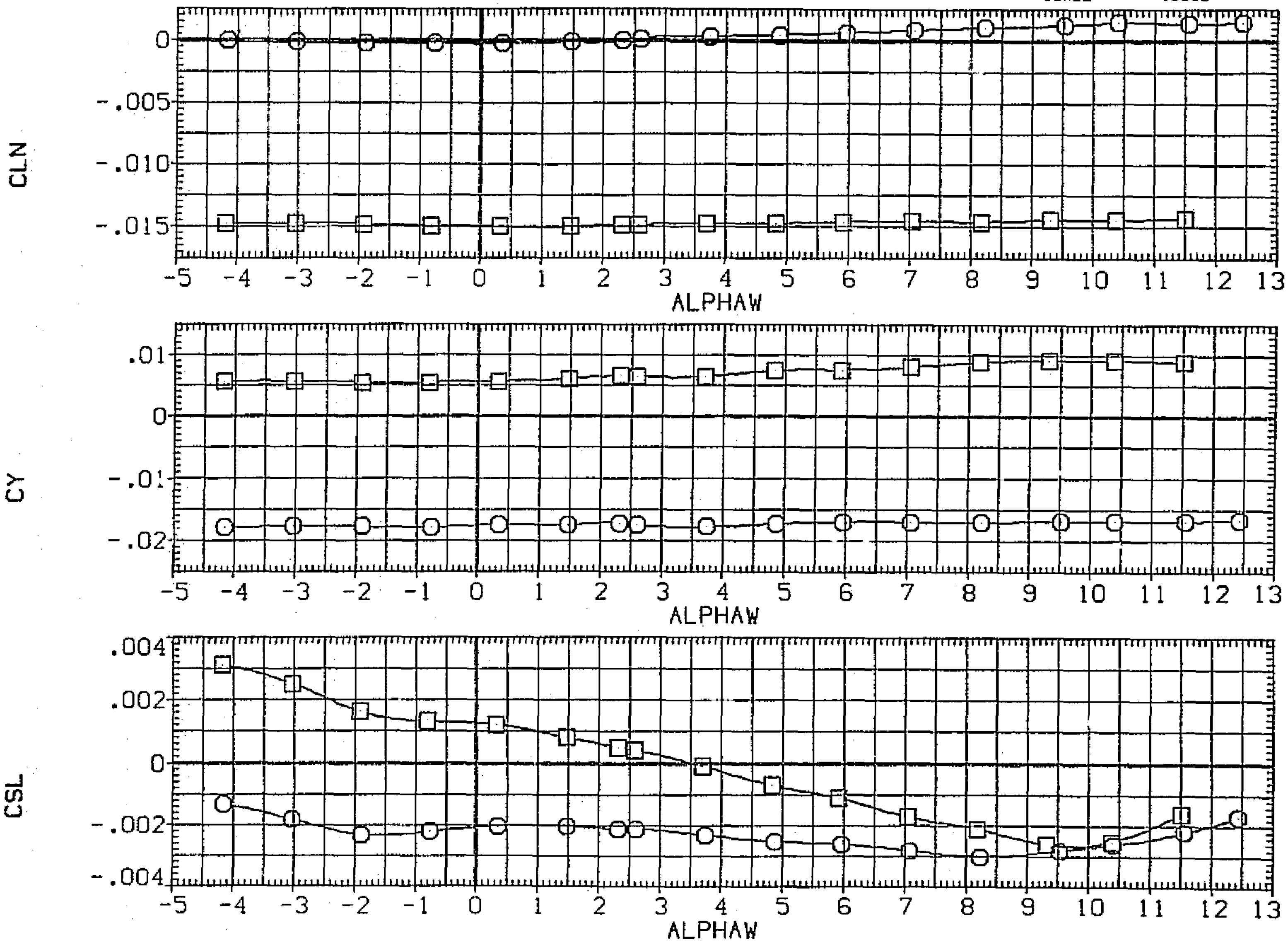



FIG. 76 RUDDER EFFECTIVENESS, FERRY, IORB 3.0

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP200) | △ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | | .000 | 4.250 |
| (RGP202) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -1.010 | .000 | 4.250 |
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -.040 | .000 | 4.250 |
| (RGP201) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 1.960 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

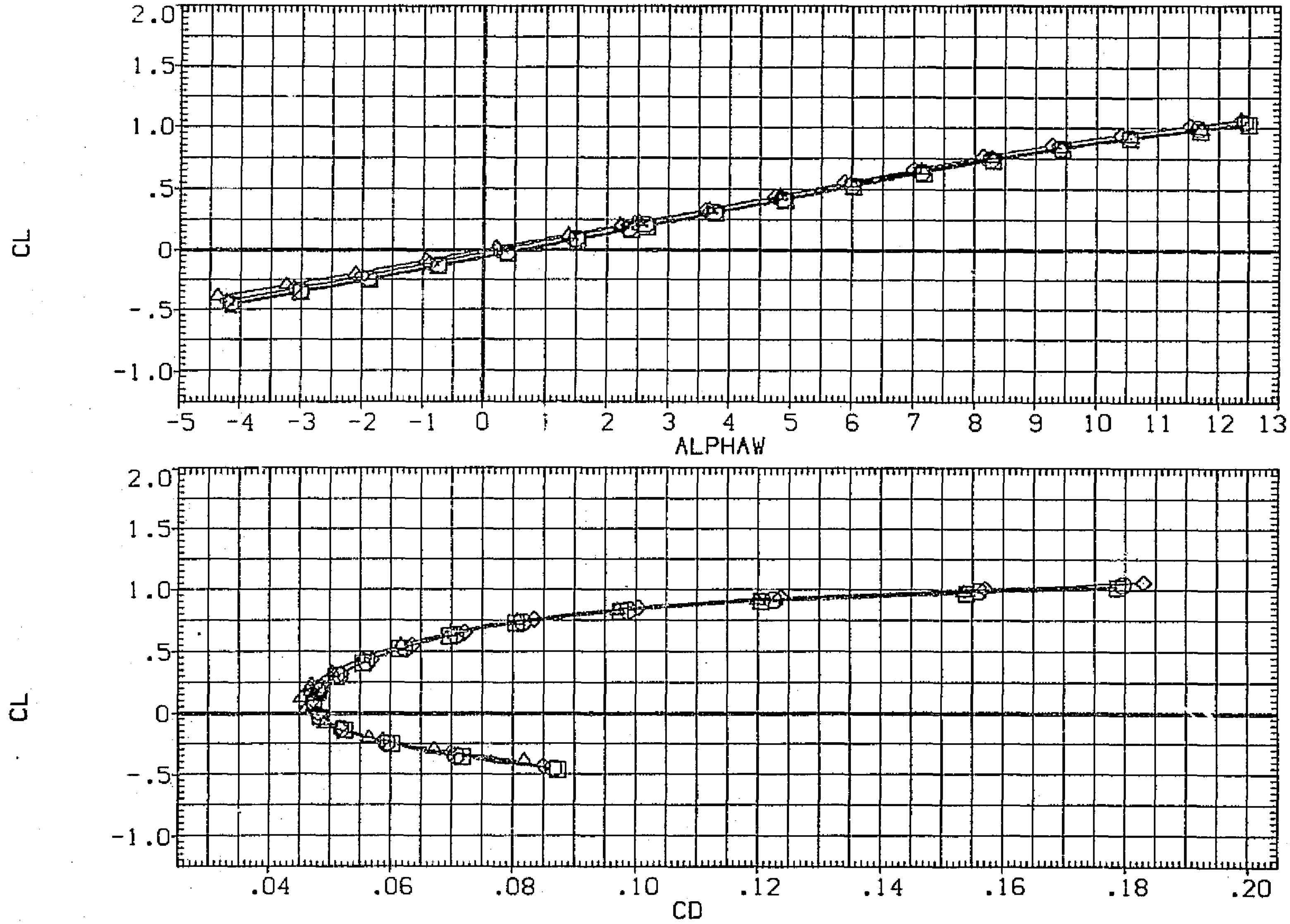



FIG. 77 STABILIZER EFFECTIVENESS, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP200) | △ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | | .000 | 4.250 |
| (RGP202) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -1.010 | .000 | 4.250 |
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -.040 | .000 | 4.250 |
| (RGP201) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 1.960 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

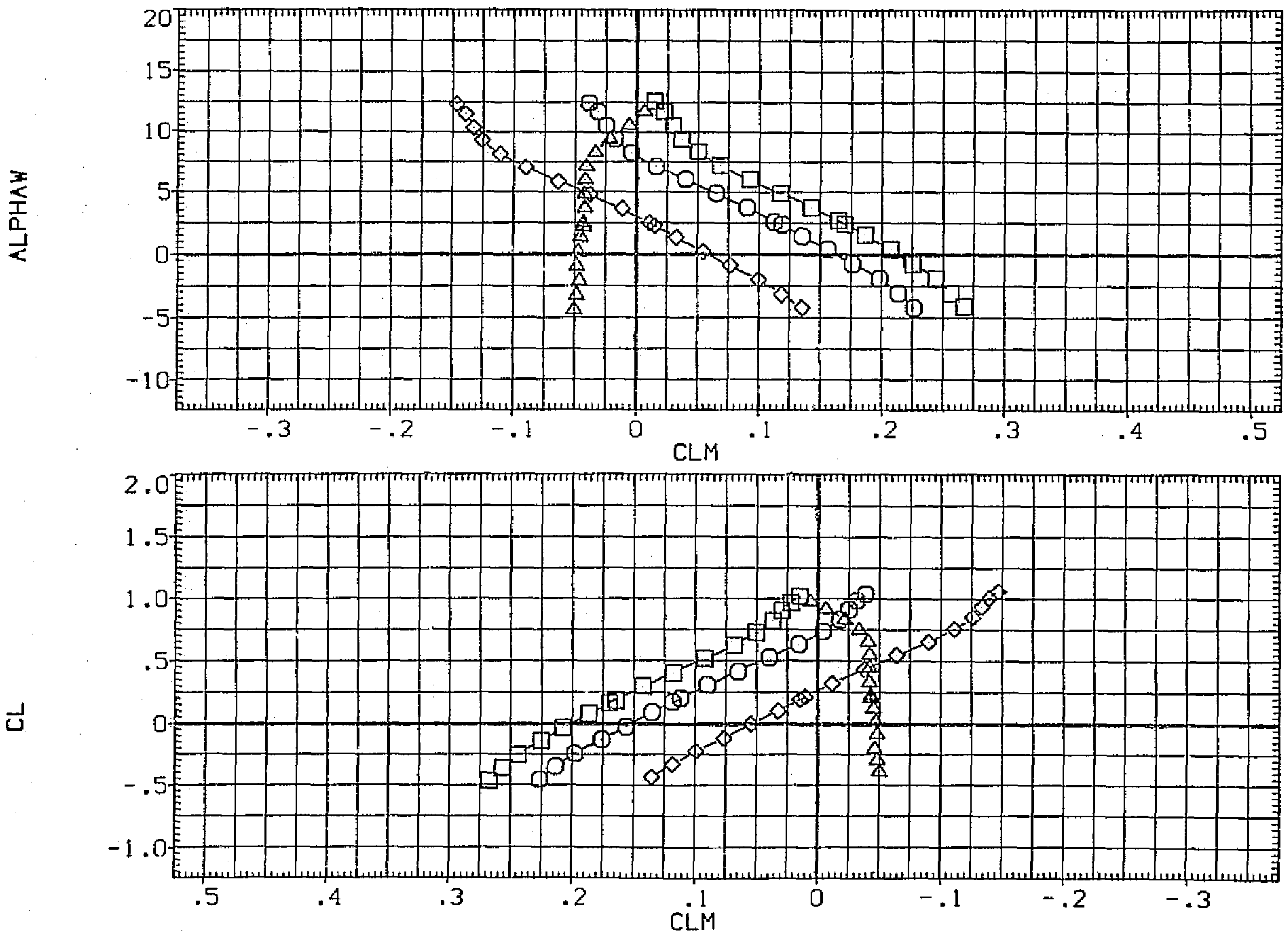



FIG. 77 STABILIZER EFFECTIVENESS, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (RGP200) | △ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | | .000 | 4.250 |
| (RGP202) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -1.010 | .000 | 4.250 |
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -.040 | .000 | 4.250 |
| (RGP201) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 1.960 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

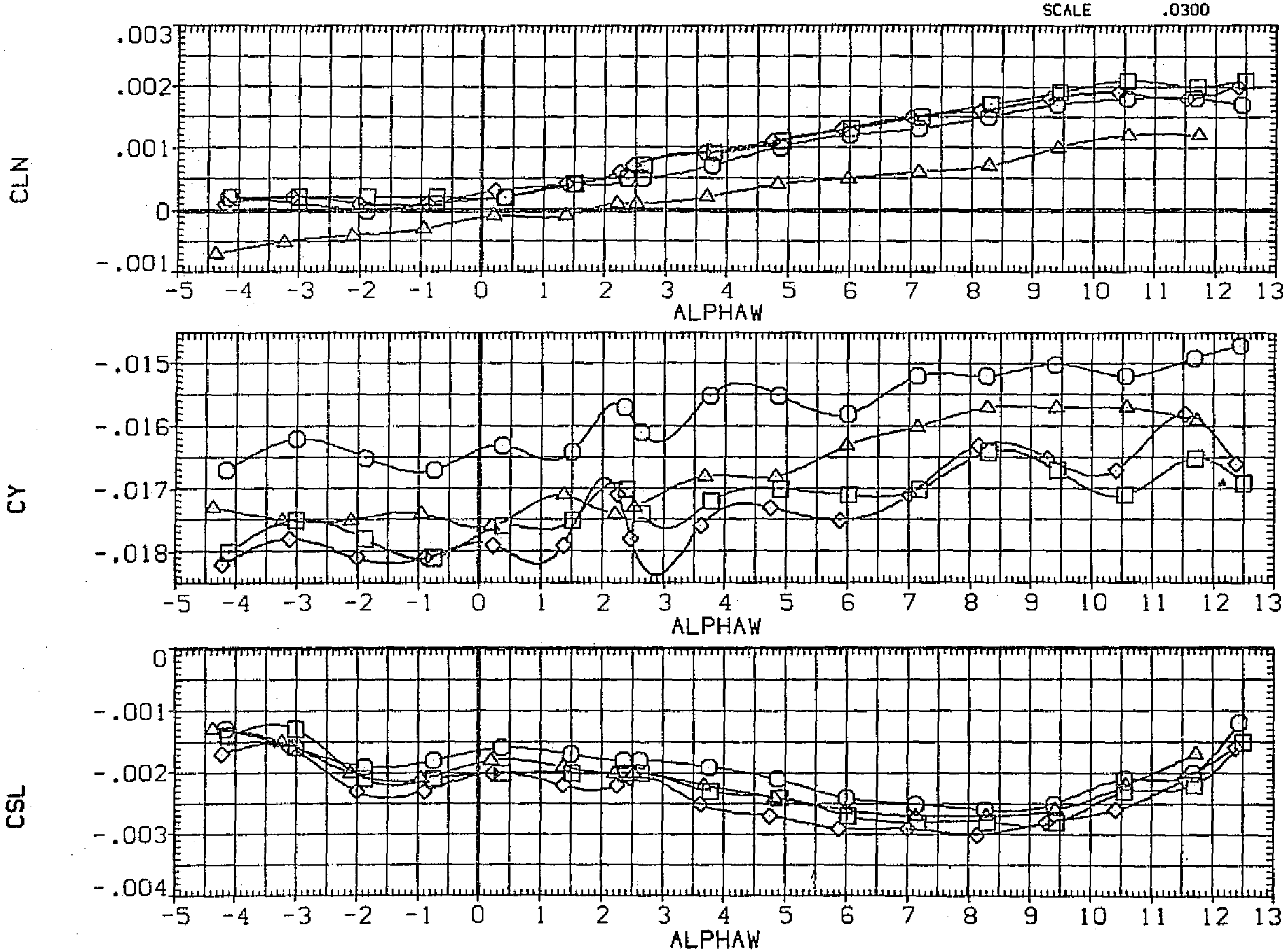
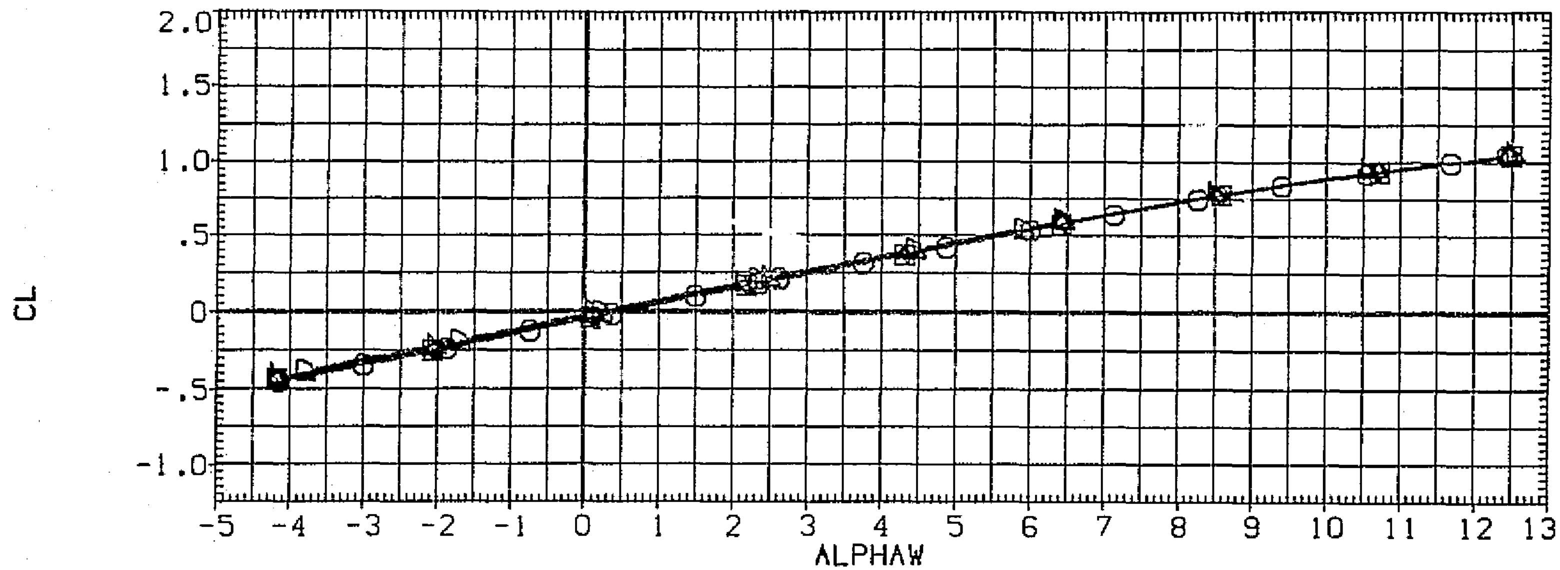



FIG. 77 STABILIZER EFFECTIVENESS, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|---|
| (RGP204) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | .000 | 4.250 | .000 | .000 |
| (RGP207) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 2.000 | 4.250 | .000 | .000 |
| (RGP206) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP209) | ▷ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 6.000 | 4.250 | .000 | .000 |
| (RGP208) | D | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 | ORB | TC4 | 10.000 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



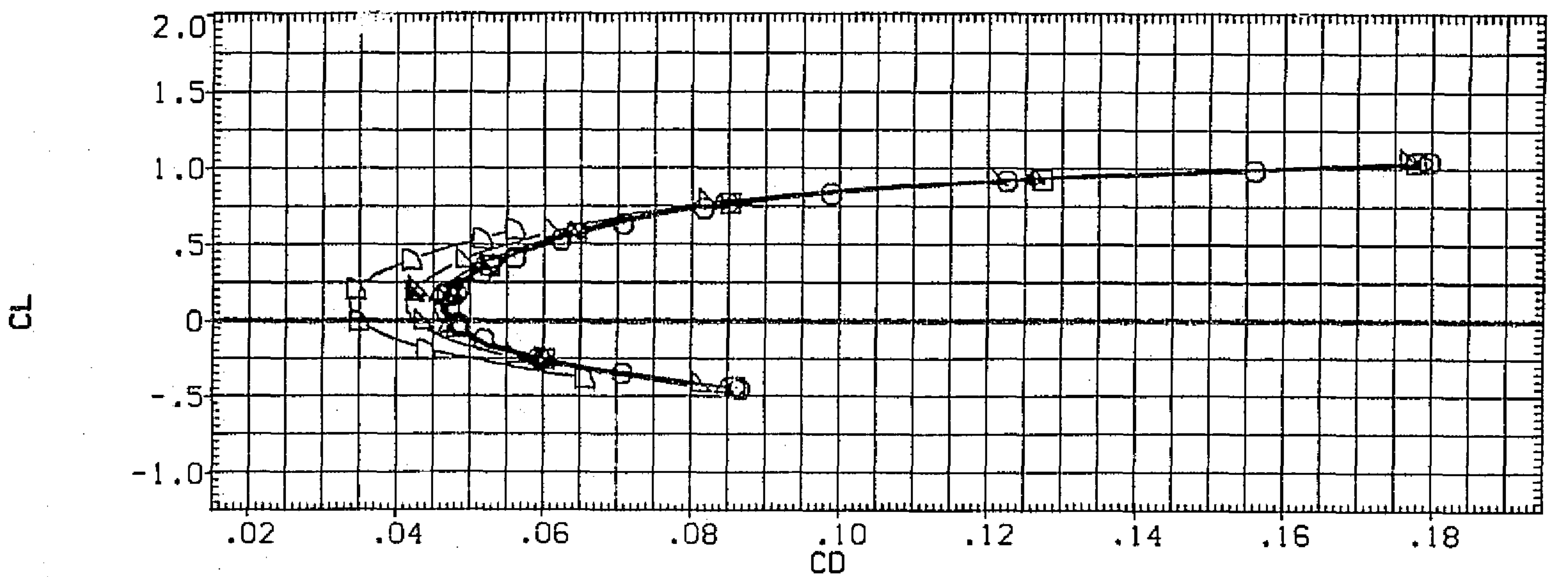




FIG. 78 LATERAL-DIRECTIONAL STABILITY, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (RGP204) | □ | CA6 | K2H15.6.IV9.1S1-12 AT103.1/105 | ORB | TC4 | -4.000 | 4.250 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP203) | ○ | CA6 | K2H15.6.IV9.1S1-12 AT103.1/105 | ORB | TC4 | .000 | 4.250 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP207) | ◇ | CA6 | K2H15.6.IV9.1S1-12 AT103.1/105 | ORB | TC4 | 2.000 | 4.250 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP206) | △ | CA6 | K2H15.6.IV9.1S1-12 AT103.1/105 | ORB | TC4 | 4.000 | 4.250 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP209) | ▷ | CA6 | K2H15.6.IV9.1S1-12 AT103.1/105 | ORB | TC4 | 6.000 | 4.250 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP208) | ◁ | CA6 | K2H15.6.IV9.1S1-12 AT103.1/105 | ORB | TC4 | 10.000 | 4.250 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | | | | SCALE | .0300 | |

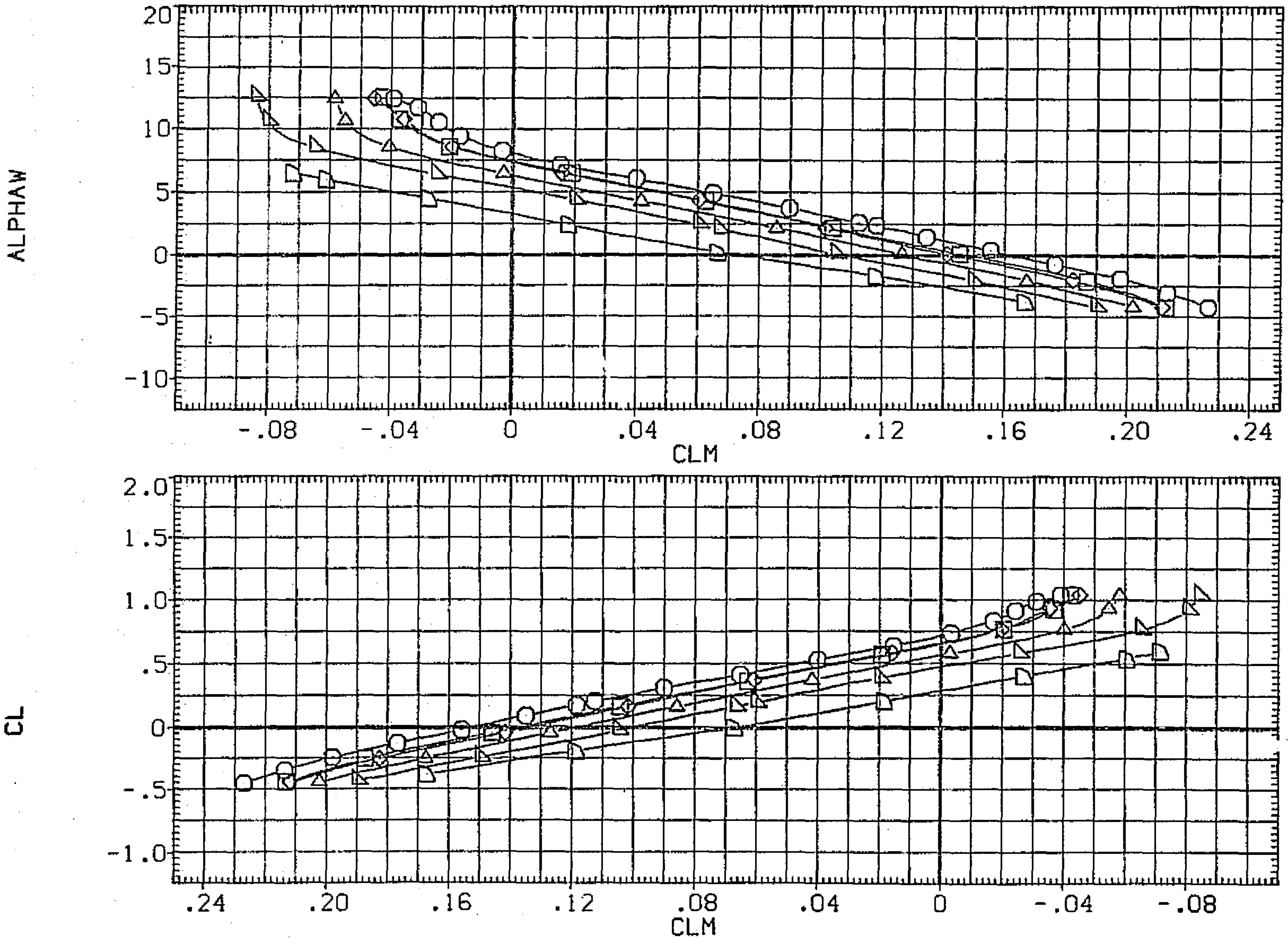



FIG. 78 LATERAL-DIRECTIONAL STABILITY, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB | REFERENCE INFORMATION | | |
|---|---|---|---|---|---|---|---|---|---|
| (RGP204) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -4.000 | 4.250 | .000 | .000 | SREF | 5500.0000 | SQ.FT. |
| (RGP203) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.250 | .000 | .000 | LREF | 327.8000 | IN. |
| (RGP207) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 2.000 | 4.250 | .000 | .000 | BREF | 2348.0000 | IN. |
| (RGP206) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 4.000 | 4.250 | .000 | .000 | XMRP | 1339.9000 | IN. XC |
| (RGP209) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 6.000 | 4.250 | .000 | .000 | YMRP | .0000 | IN. YC |
| (RGP208) | | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | 10.000 | 4.250 | .000 | .000 | ZMRP | 190.7700 | IN. ZC |
| | | | | | | | SCALE | .0300 | |

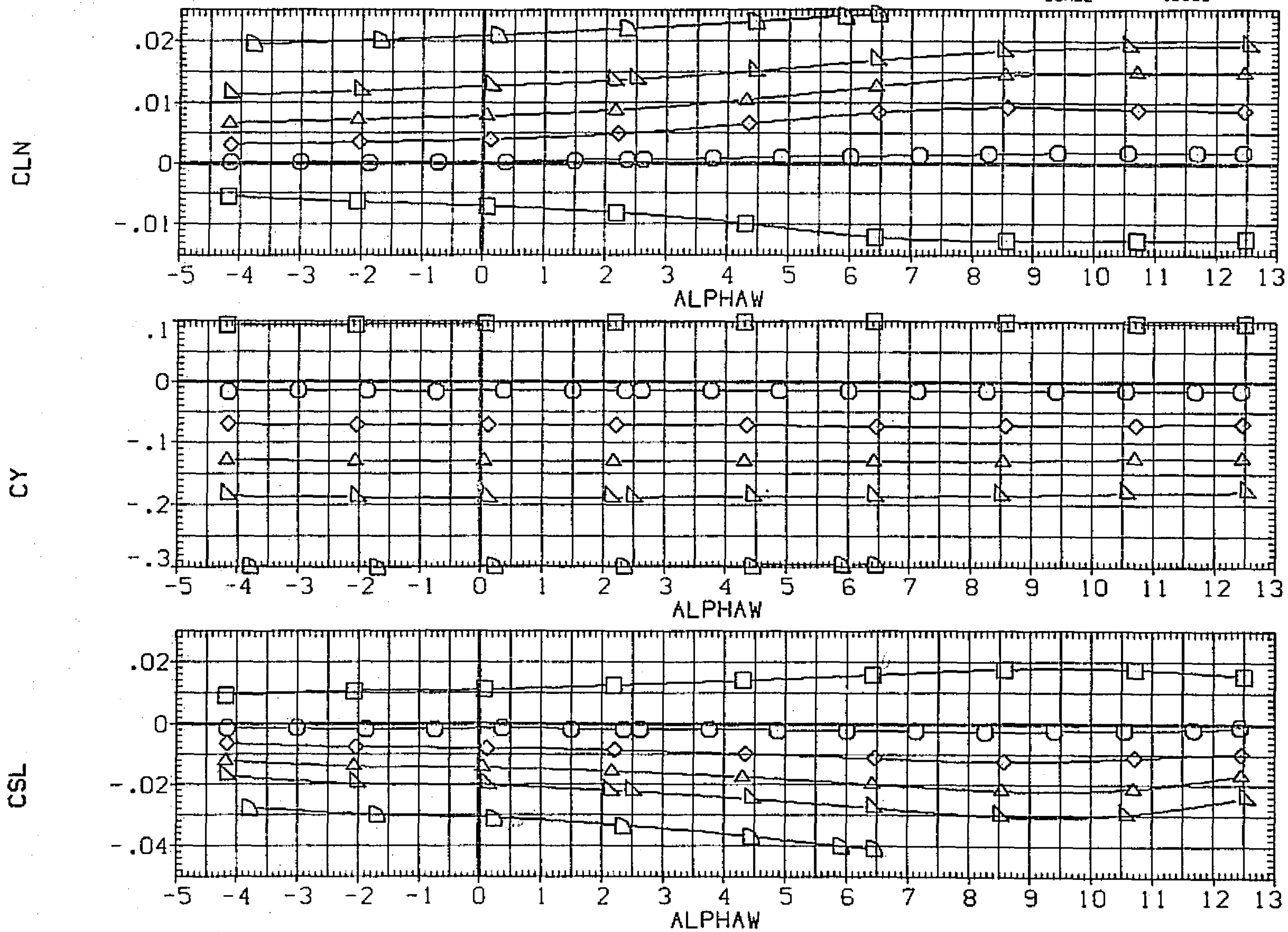



FIG. 78 LATERAL-DIRECTIONAL STABILITY, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | | | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (RGP212) | □ | CA6 | K2H15.1 | S1-12 | AT103.1/105 | ORB | TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP213) | ○ | CA6 | K2H15.1 | S1-12 | AT103.1/105 | ORB | TC4 | .000 | 4.250 | .000 | .000 |
| (RGP211) | ◇ | CA6 | K2H15.1 | S1-12 | AT103.1/105 | ORB | TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP210) | △ | CA6 | K2H15.1 | S1-12 | AT103.1/105 | ORB | TC4 | 10.000 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

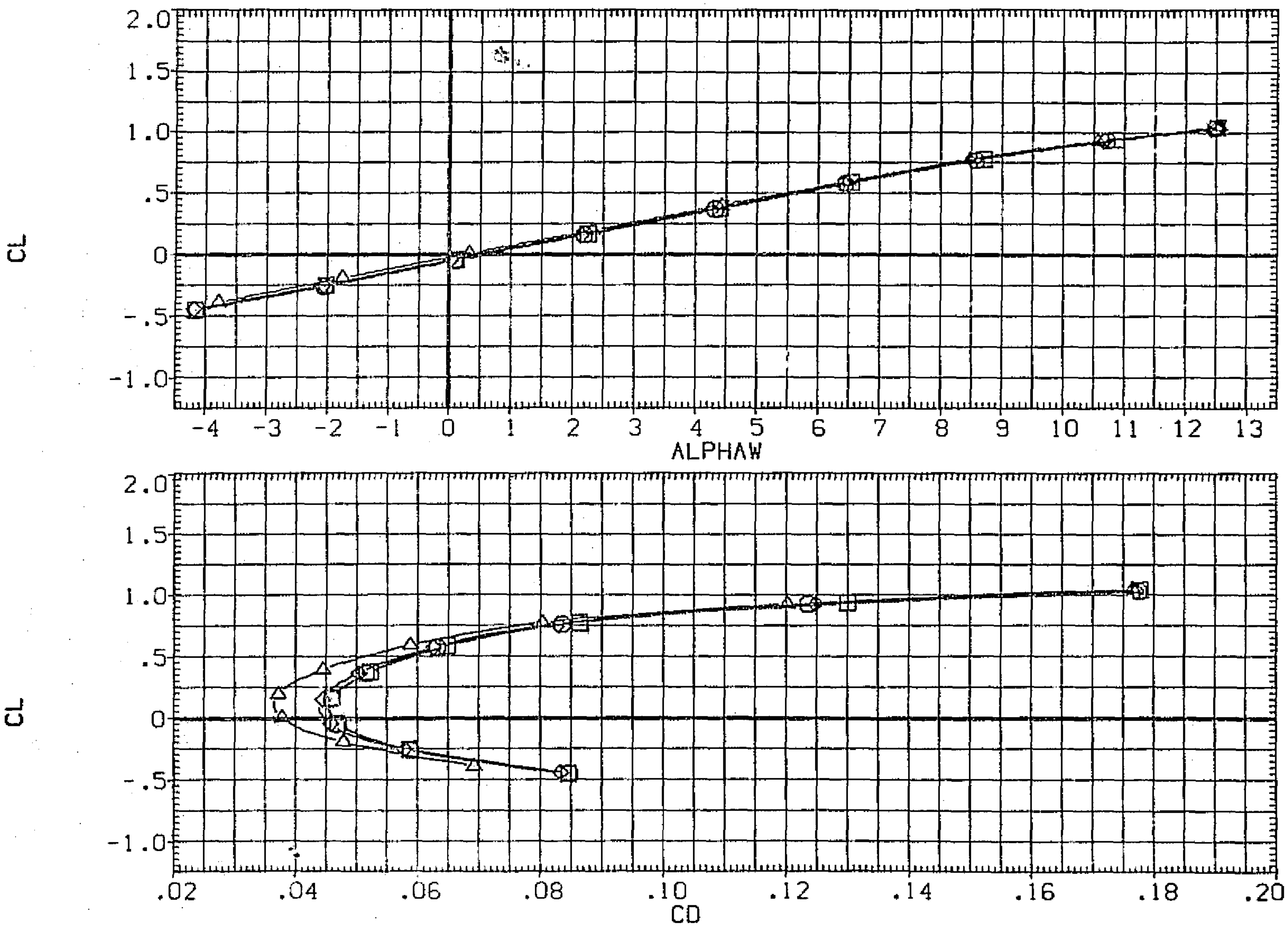



FIG. 79 ALL VERTICAL TAILS OFF, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP212) | □ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP213) | ○ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | .000 | 4.250 | .000 | .000 |
| (RGP211) | ◇ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP210) | △ | CA6 K2H15.1 S1-12 AT103.1/105 ORB TC4 | 10.000 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

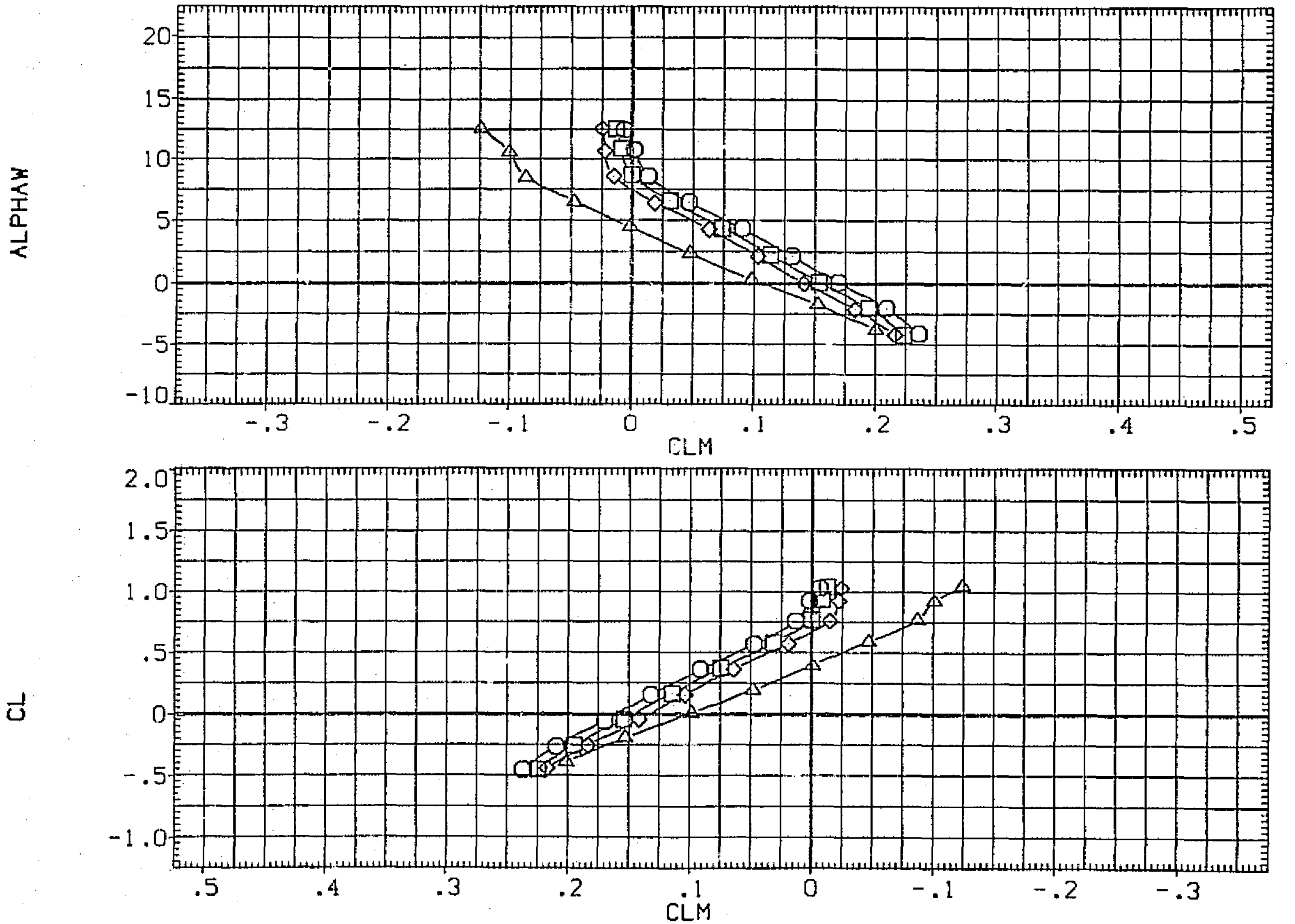



FIG. 79 ALL VERTICAL TAILS OFF, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP212) | □ | CA6 K2H15.1 SI-12 AT103.1/105 ORB TC4 | -4.000 | 4.250 | .000 | .000 |
| (RGP213) | ○ | CA6 K2H15.1 SI-12 AT103.1/105 ORB TC4 | .000 | 4.250 | .000 | .000 |
| (RGP211) | ◇ | CA6 K2H15.1 SI-12 AT103.1/105 ORB TC4 | 4.000 | 4.250 | .000 | .000 |
| (RGP210) | △ | CA6 K2H15.1 SI-12 AT103.1/105 ORB TC4 | 10.000 | 4.250 | .000 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

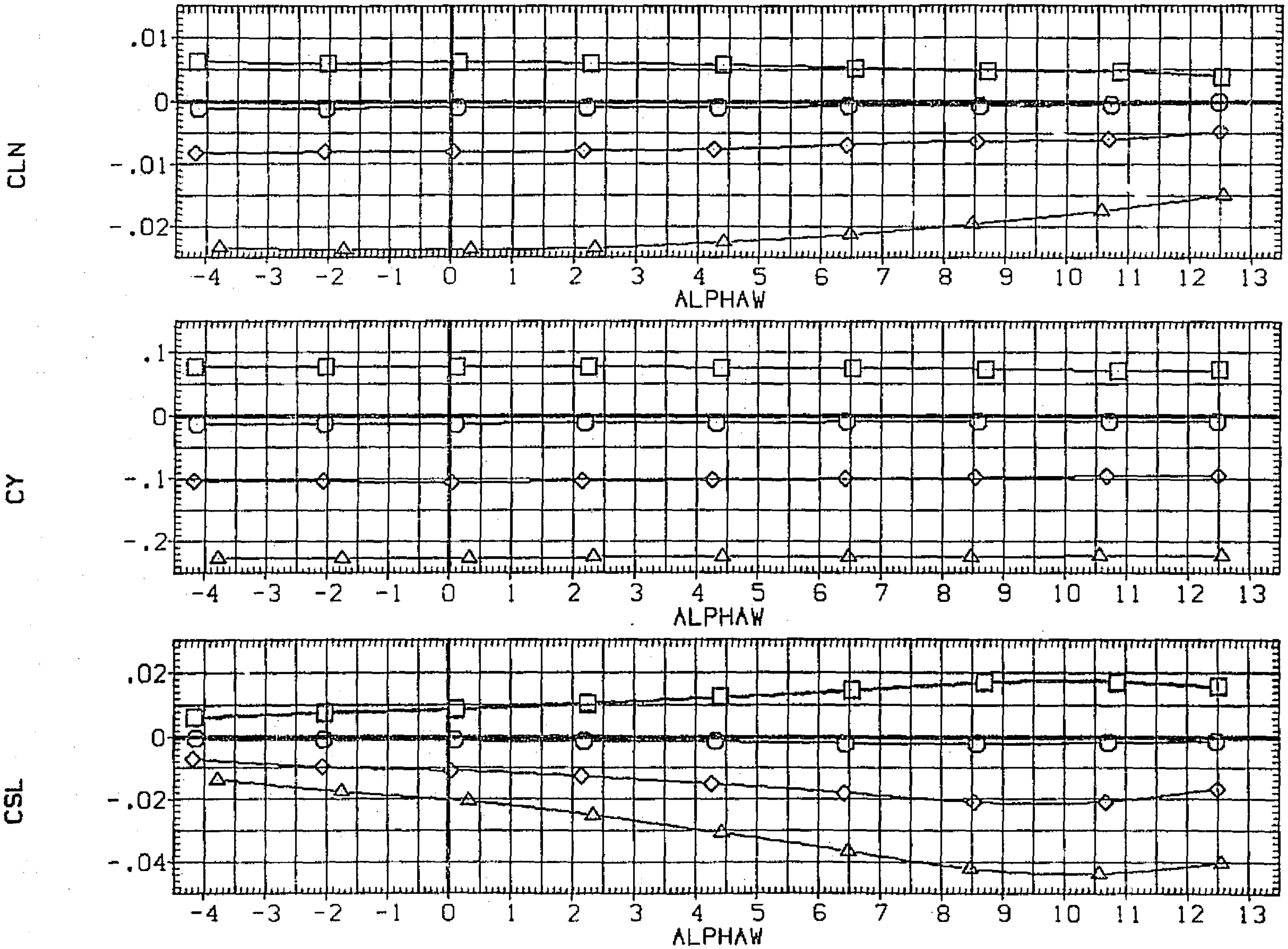



FIG. 79 ALL VERTICAL TAILS OFF, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -.040 | 4.250 | .000 | .000 |
| (RGP214) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | -.020 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

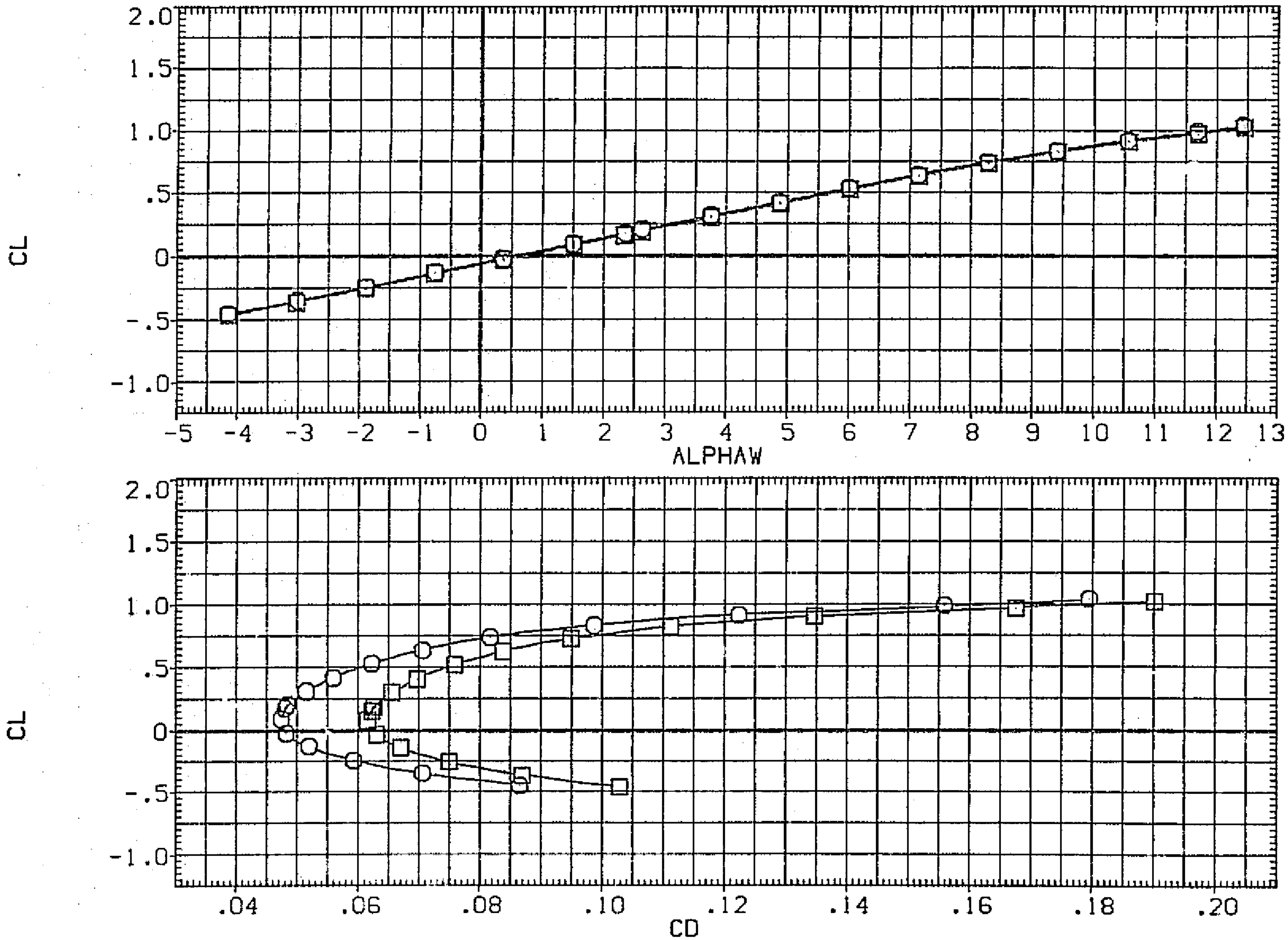



FIG. 80 TAILCONE EFFECTS, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -.040 | 4.250 | .000 | .000 |
| (RGP214) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

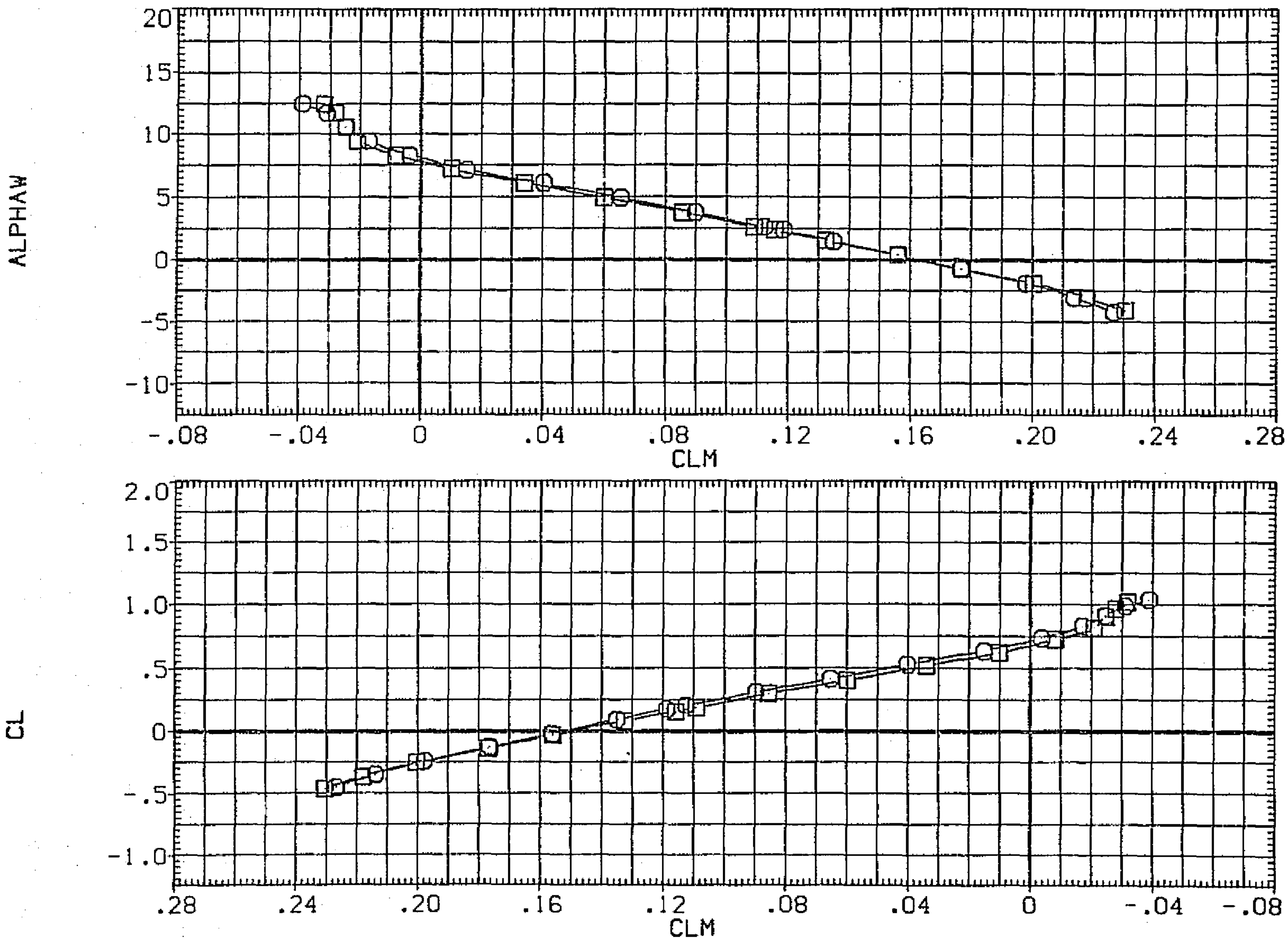



FIG. 80 TAILCONE EFFECTS, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | IORB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP203) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORB TC4 | -.040 | 4.250 | .000 | .000 |
| (RGP214) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | 4.250 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

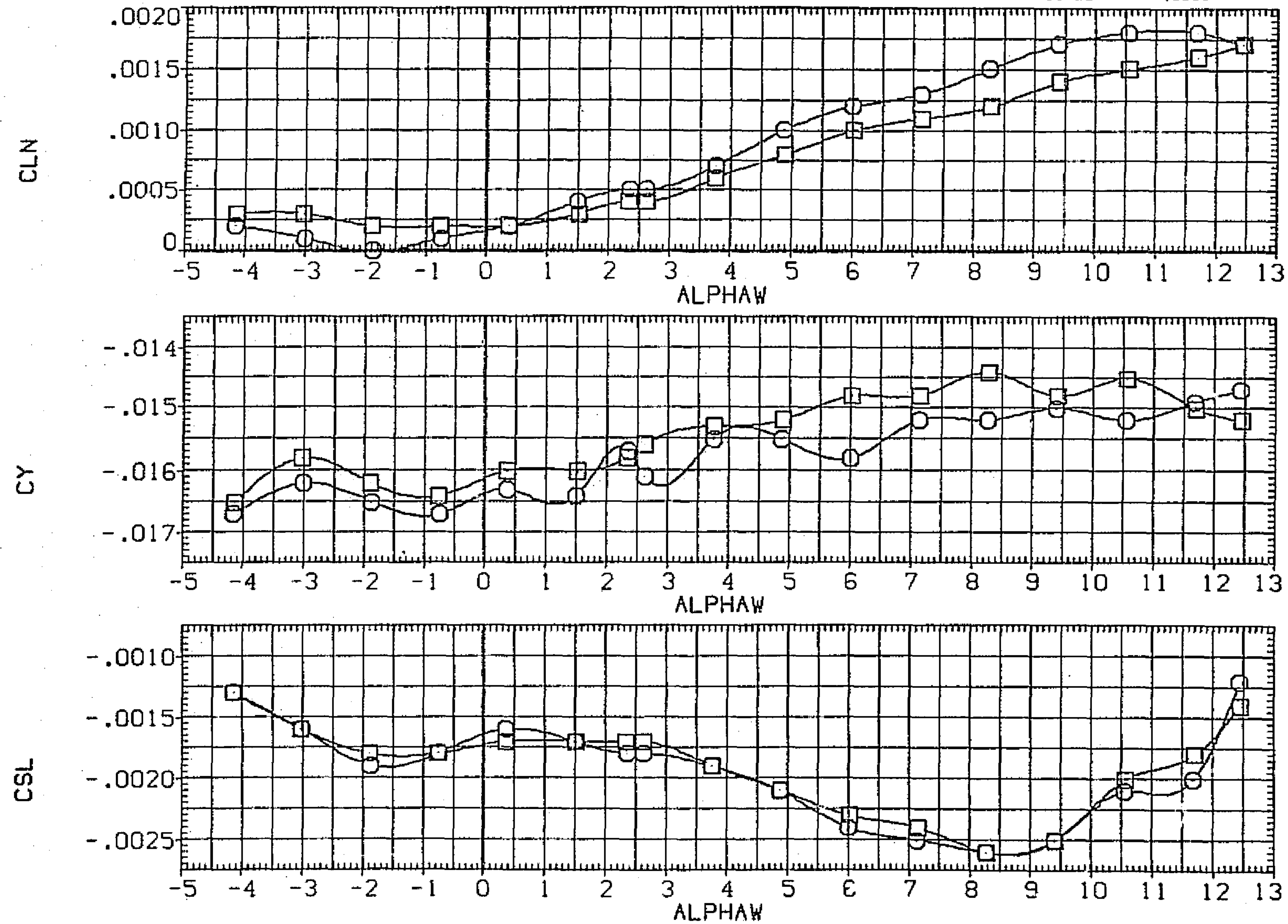



FIG. 80 TAILCONE EFFECTS, FERRY, UNFAIRED STRUTS, IORB 4.25

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP218) | ○ | CA6 K2 | V9.IS1-12 AT103.1/105 | ORBF8N24/28 | .000 | 8.070 |
| (RGP219) | □ | CA6 K2 | V9.IS1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

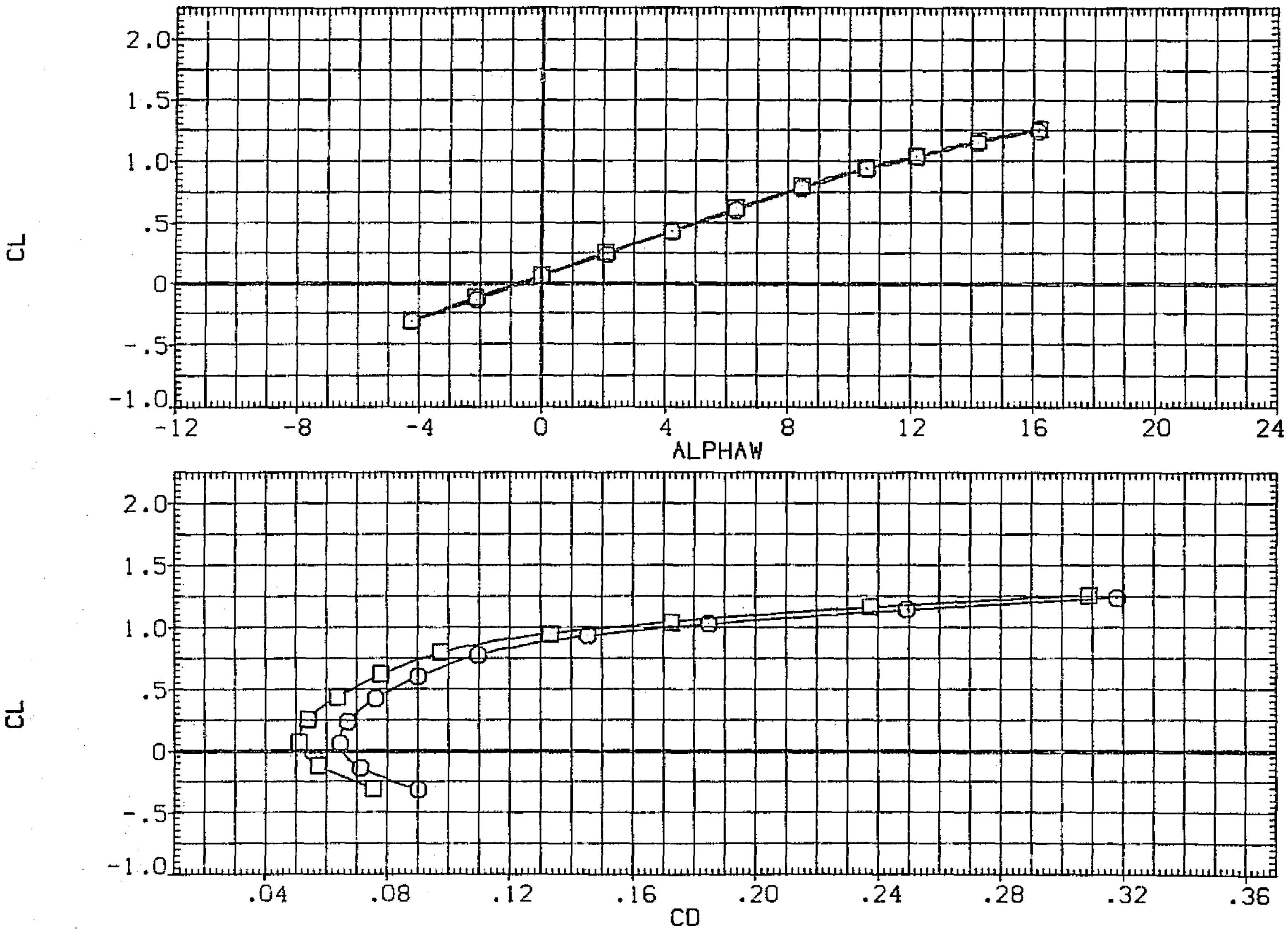



FIG. 81 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, ALT CLIMB, IORB 8

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP218) | O | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBFBN24/28 | .000 | 8.070 |
| (RGP219) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

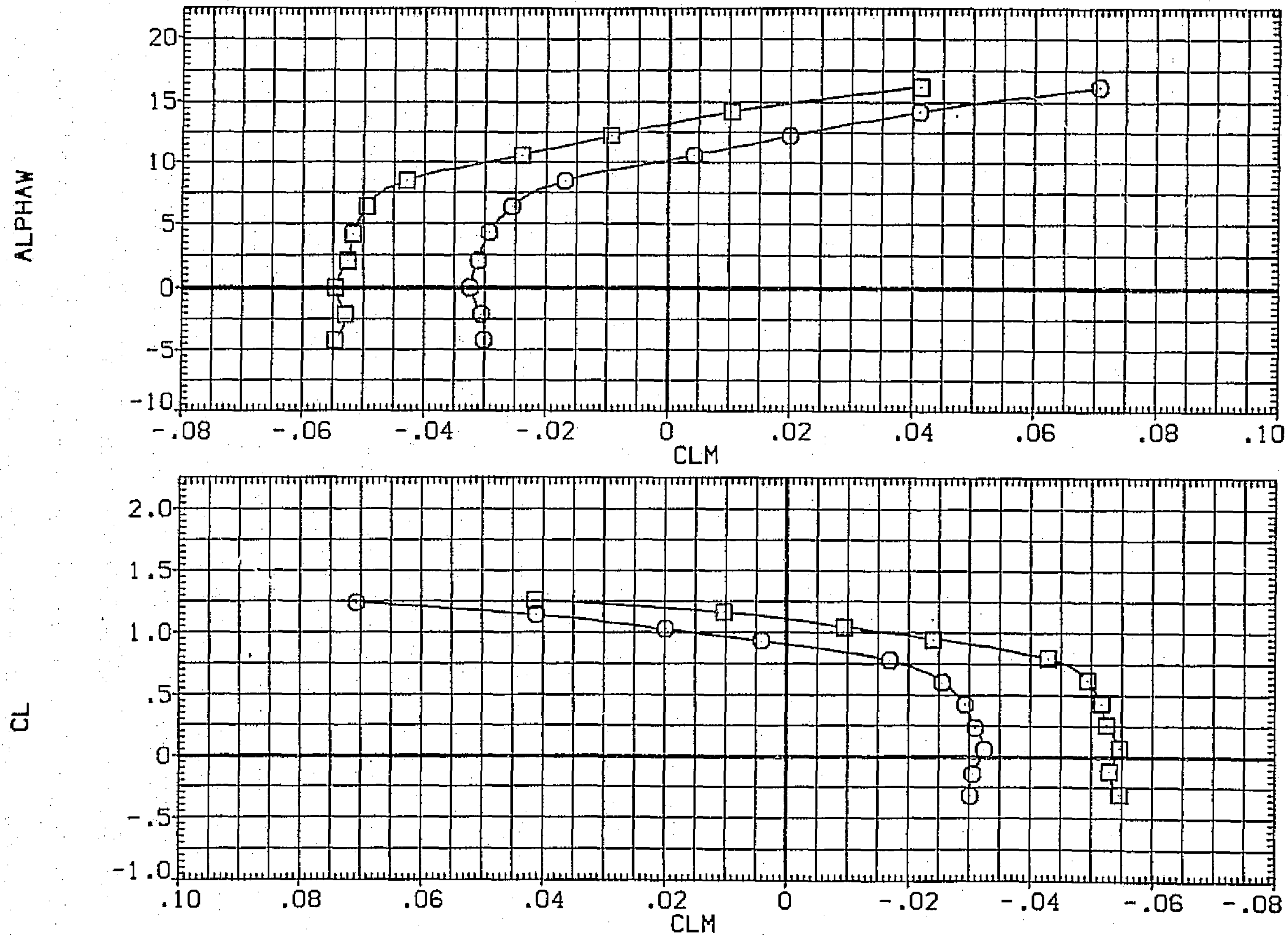



FIG. 81 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, ALT CLIMB, IORB 8

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP218) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBFBN24/28 | .000 | 8.070 |
| (RGP219) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

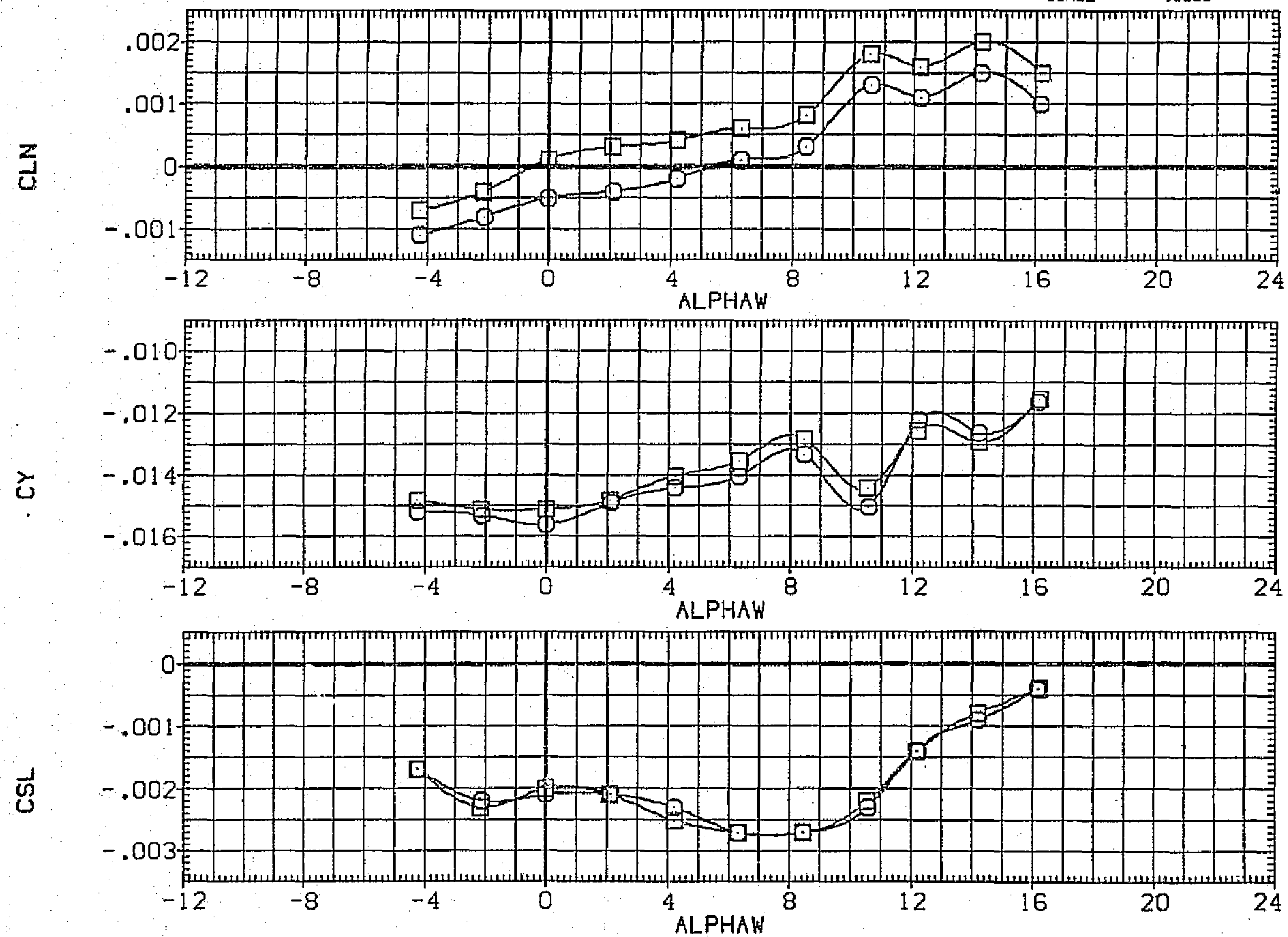



FIG. 81 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, ALT CLIMB, IORB 8

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP218) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBF8N24/28 | .000 | 8.070 |
| (RGP219) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

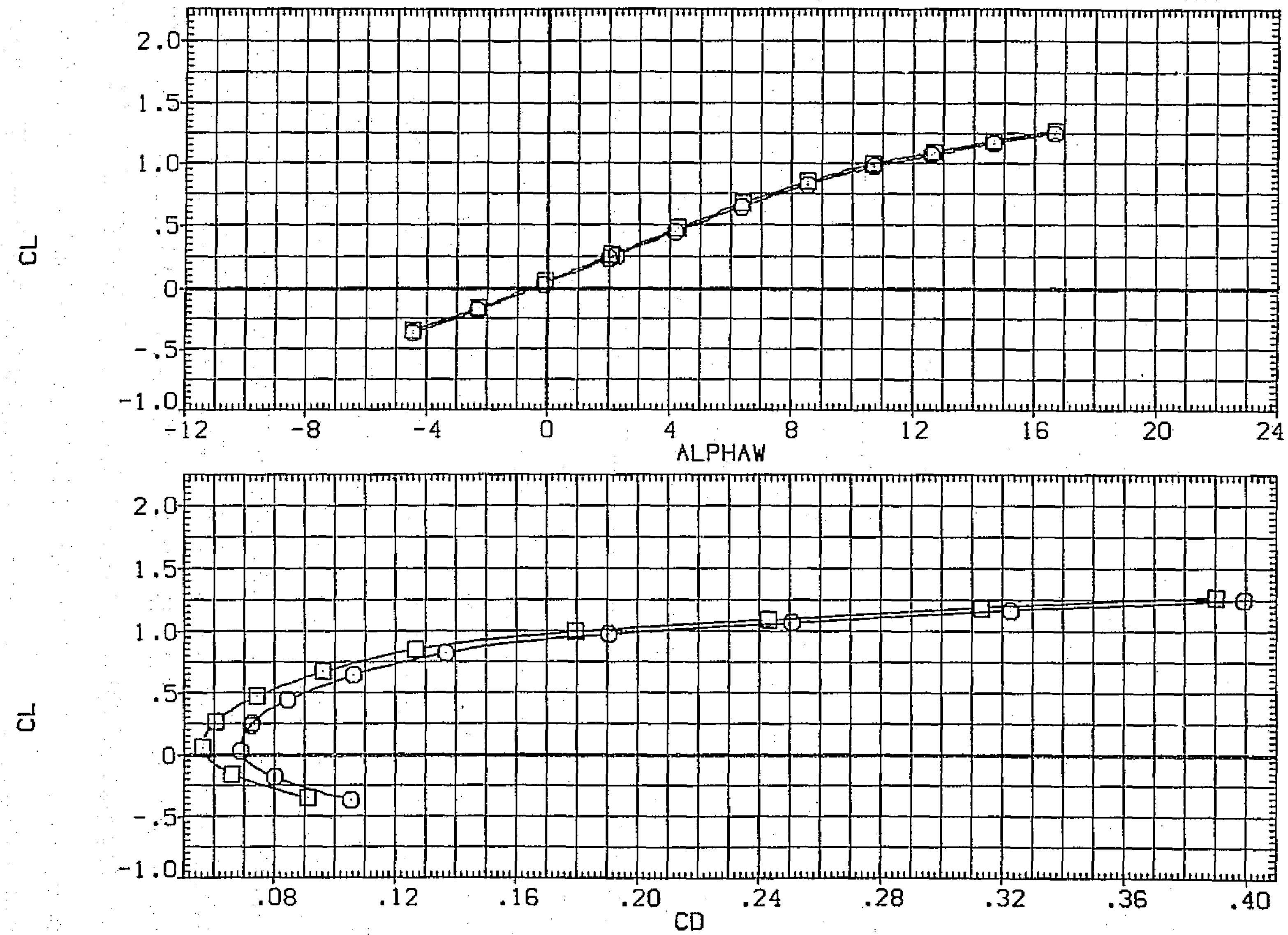



FIG. 81 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, ALT CLIMB, IORB 8

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP218) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBFBN24/28 | .000 | 8.070 |
| (RGP219) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 8.070 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

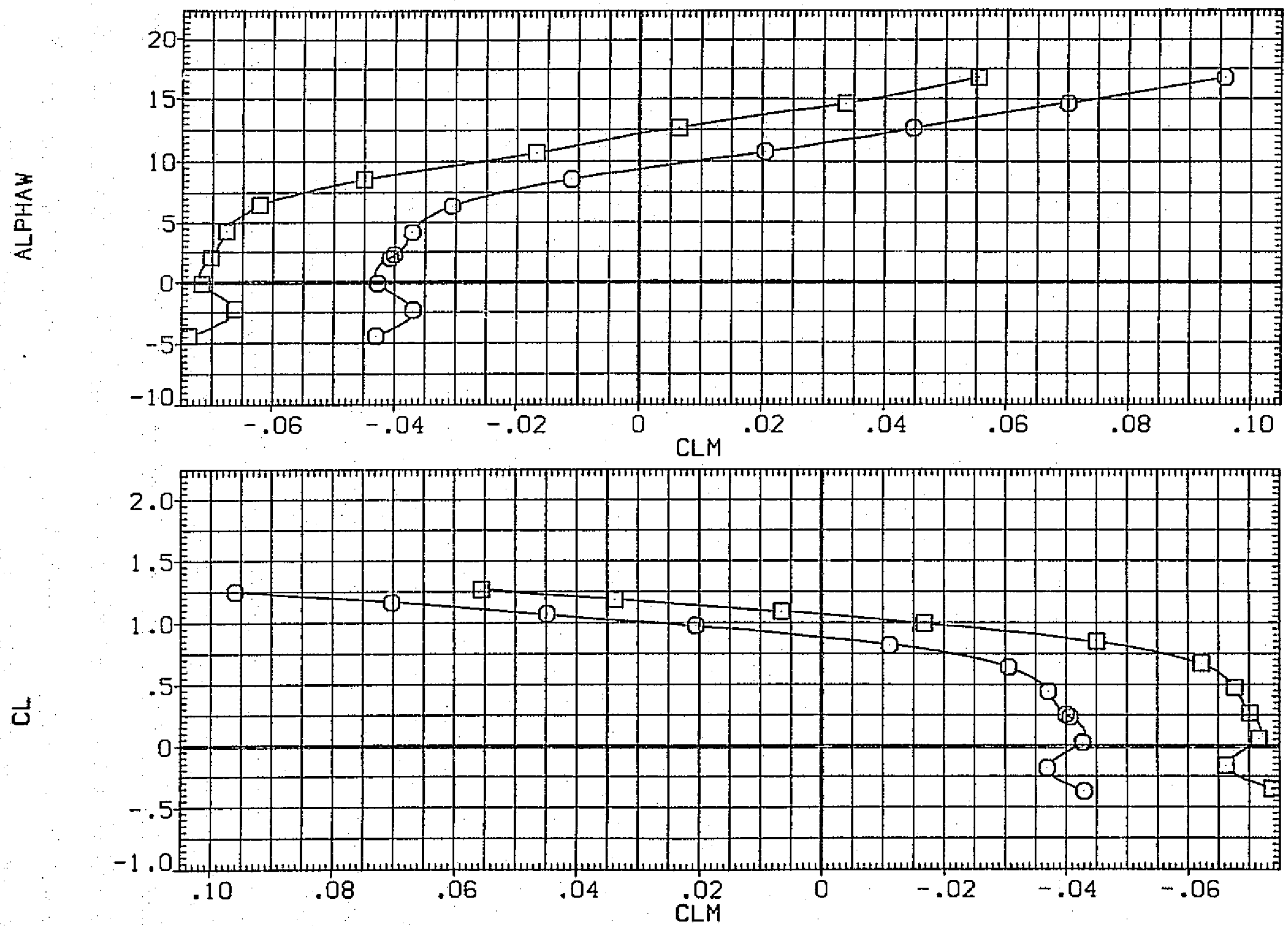



FIG. 81 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, ALT CLIMB, IORB 8

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP218) | ○ | CA6 K2 | V9.1S1-12 | AT103.1/105 | ORBF8N24/28 | .000 | 8.070 |
| (RGP219) | □ | CA6 K2 | V9.1S1-12 | AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

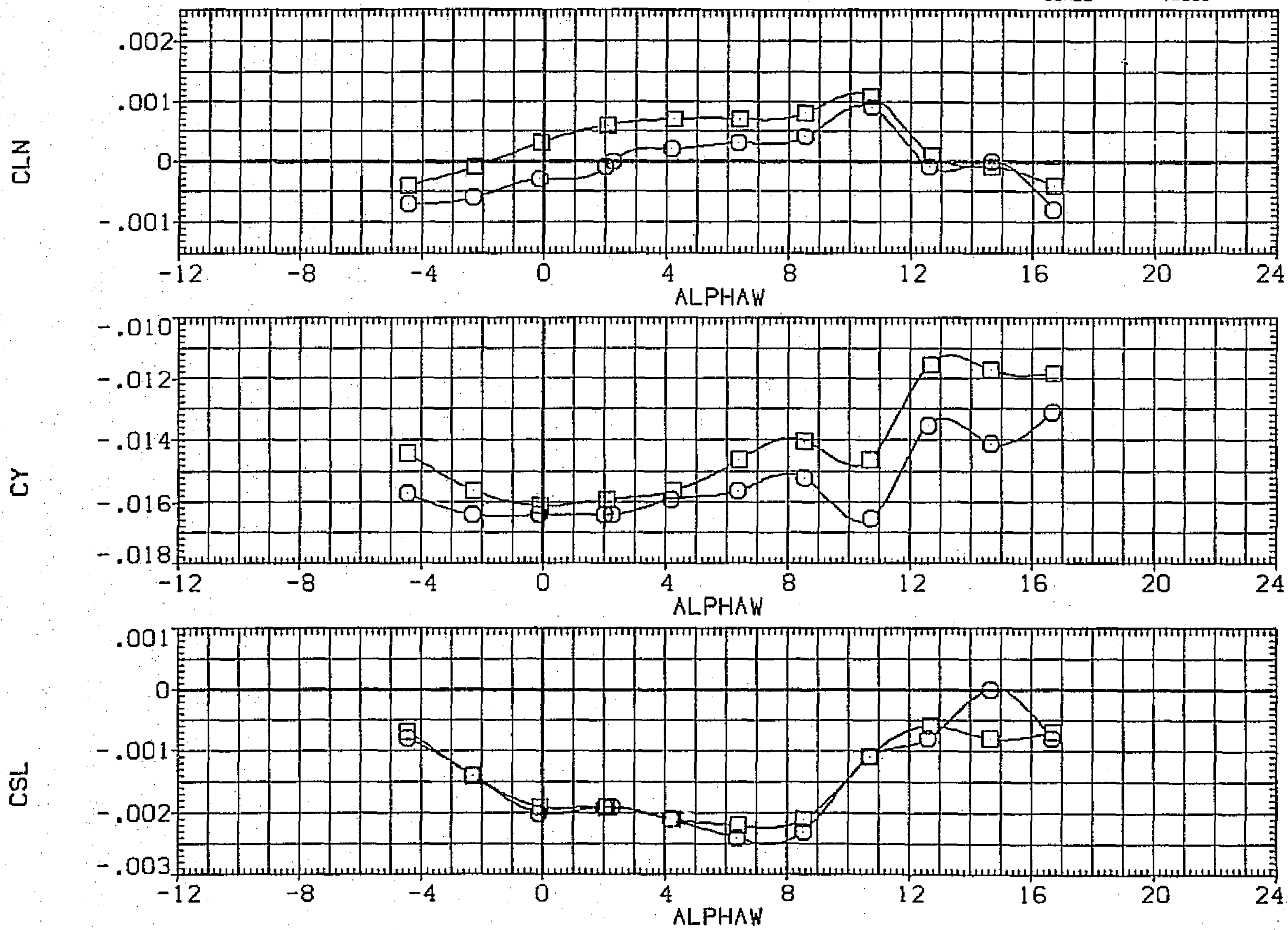



FIG. 81 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, ALT CLIMB, IORB 8

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP217) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBFBN24/28 | .000 | 8.070 |
| (FGP220) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

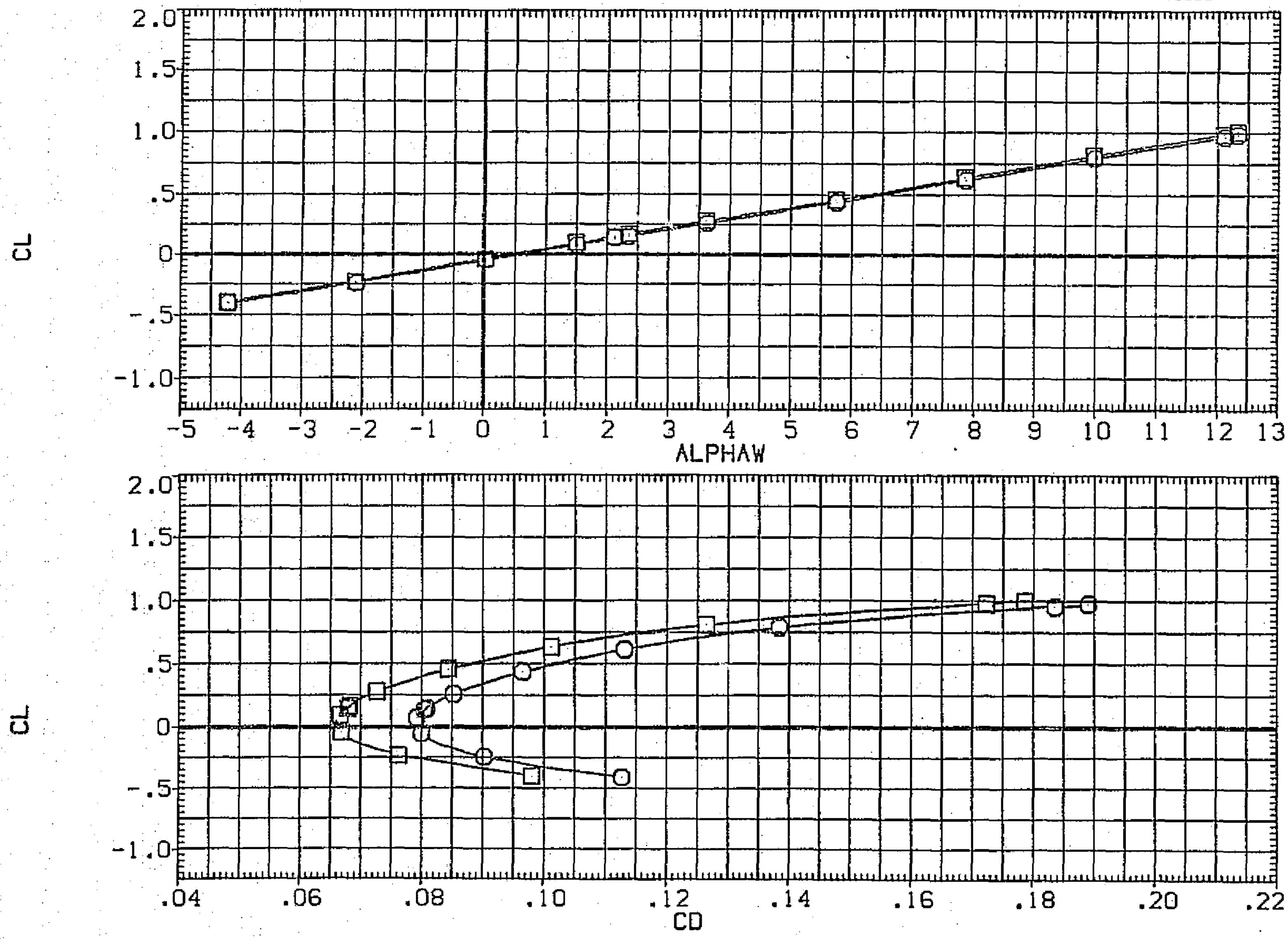



FIG. 82 HORIZONTAL TAIL OFF INFLIGHT SPEED BRKS, ALT LAUNCH, IORB 8

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP217) | ○ | CA6 K2 | V9.1S1-12 | AT103.1/105 | ORBFBN24/28 | .000 | 8.070 |
| (RGP220) | □ | CA6 K2 | V9.1S1-12 | AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

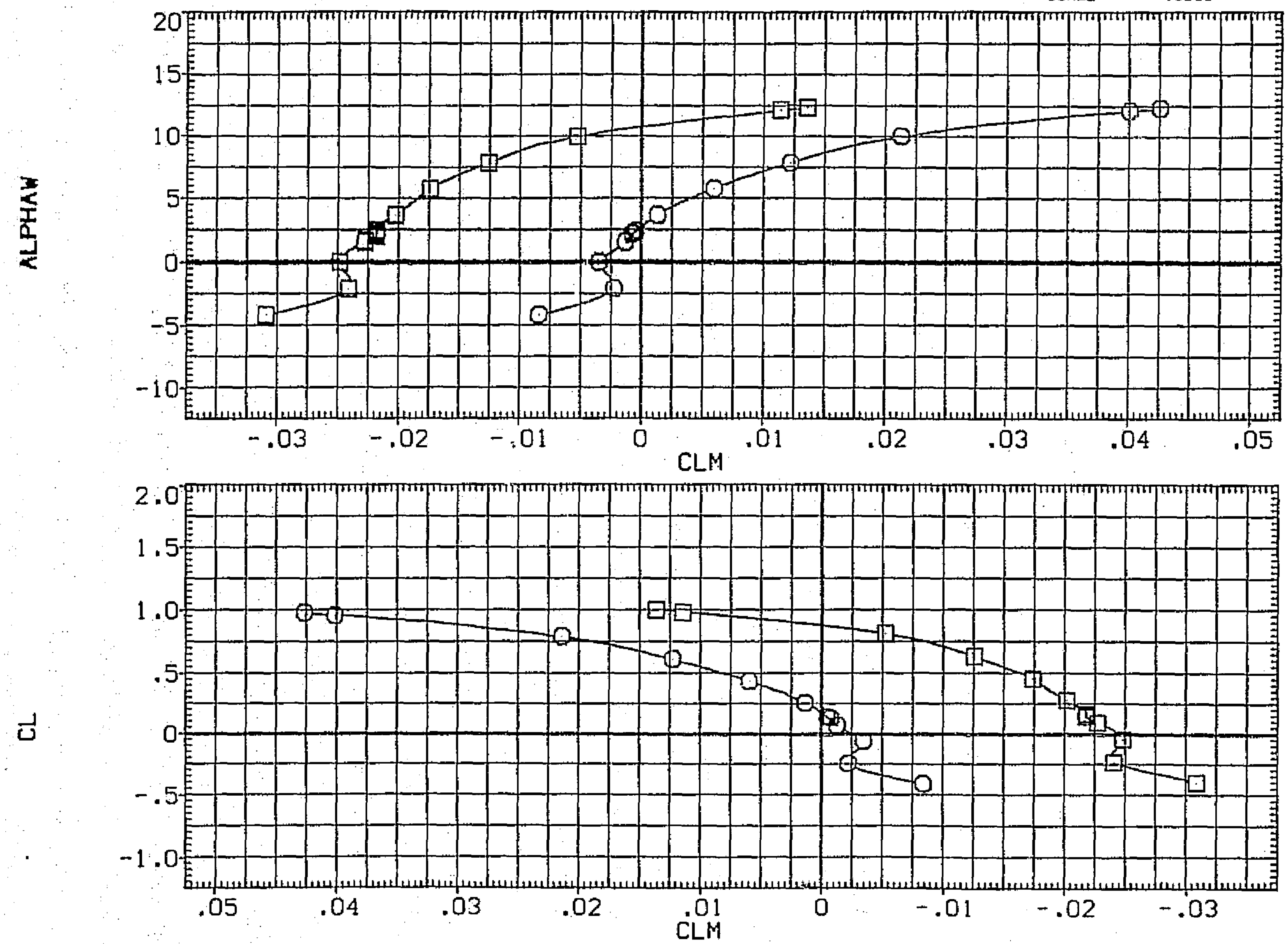



FIG. 82 HORIZONTAL TAIL OFF INFLIGHT SPEED BRKS, ALT LAUNCH, IORB 8

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP217) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBFBN24/28 | .000 | 8.070 |
| (RGP220) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

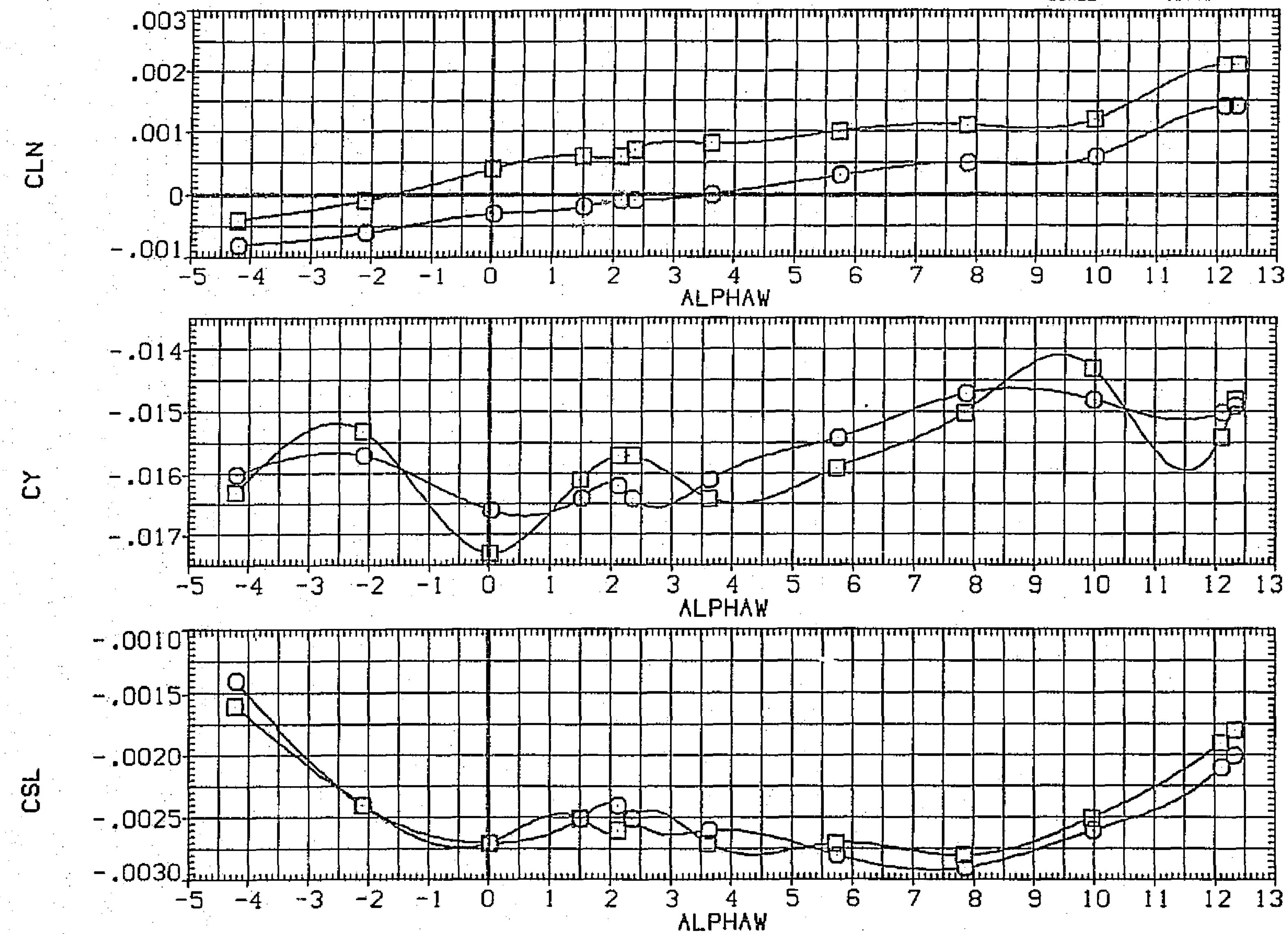



FIG. 82 HORIZONTAL TAIL OFF INFLIGHT SPEED BRKS, ALT LAUNCH, IORB 8

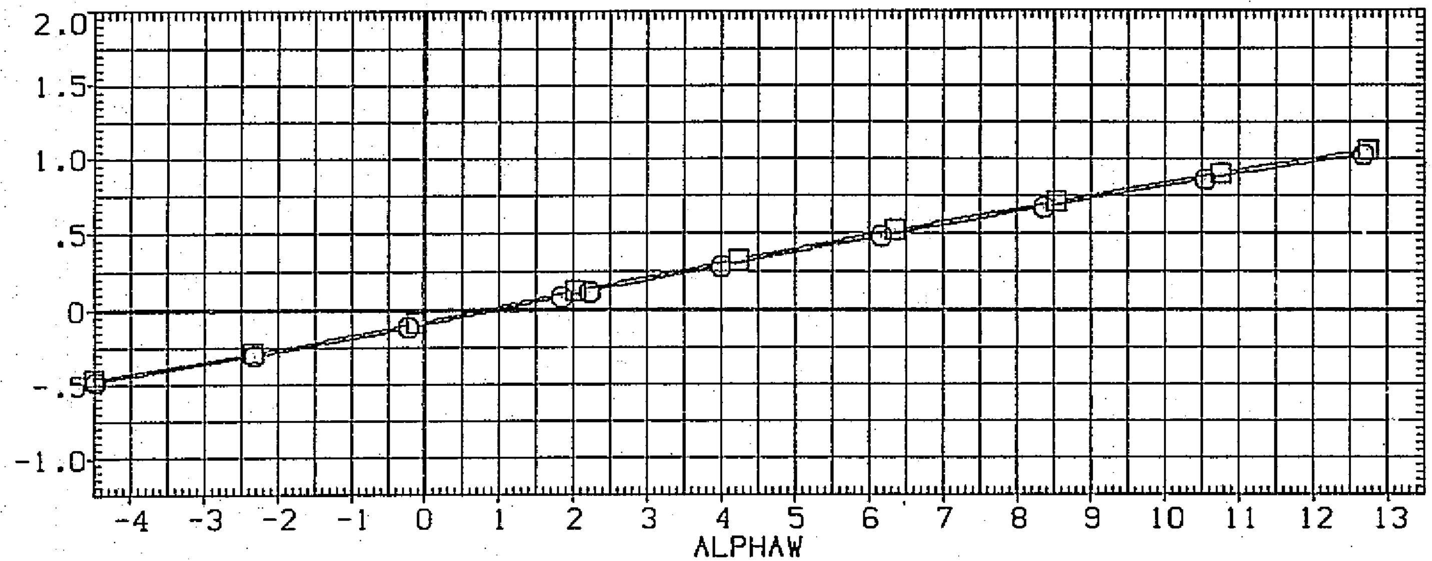
(A)MACH = .40

DATA SET SYMBOL CONFIGURATION DESCRIPTION BETA IORB

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP217) | ○ | CA6 K2 V9.IS1-12 AT103.1/105 ORBF8N24/28 | .000 | 8.070 |
| (RGP220) | □ | CA6 K2 V9.IS1-12 AT103.1/105 ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



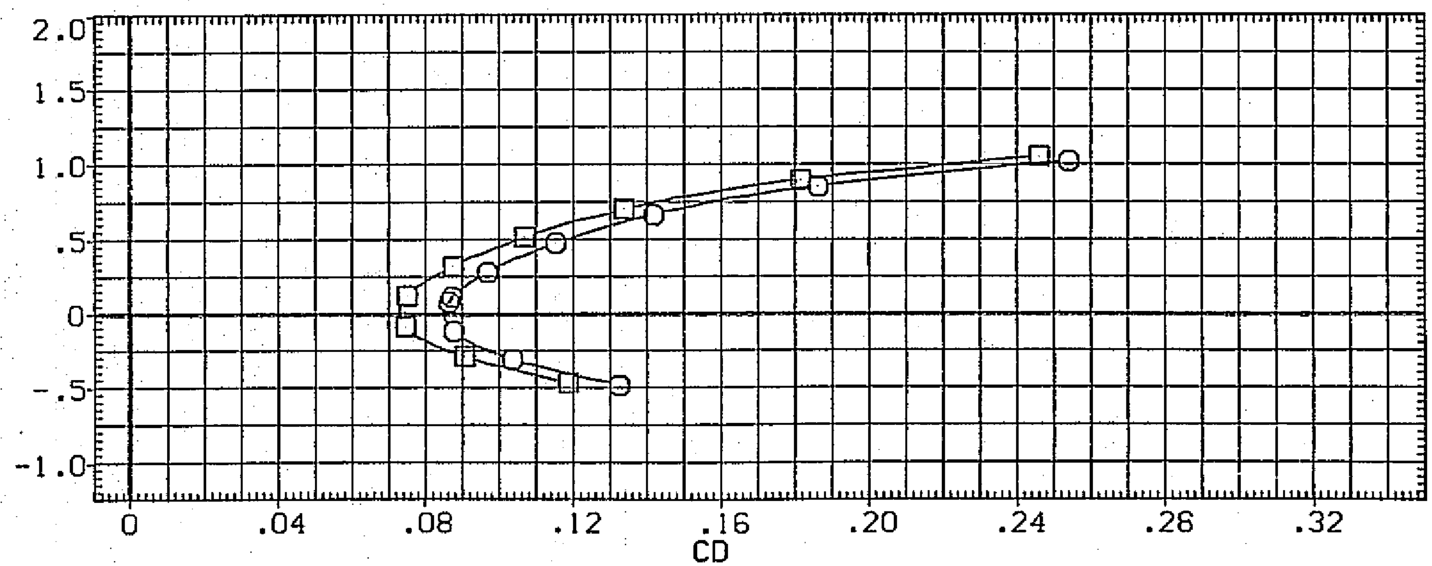




FIG. 82 HORIZONTAL TAIL OFF INFLIGHT SPEED BRKS, ALT LAUNCH, IORB 8

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
| --- | --- | --- | --- | --- | --- | --- |
| [RGP217] | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBF8N24/28 | .000 | 8.070 |
| [RGP220] | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

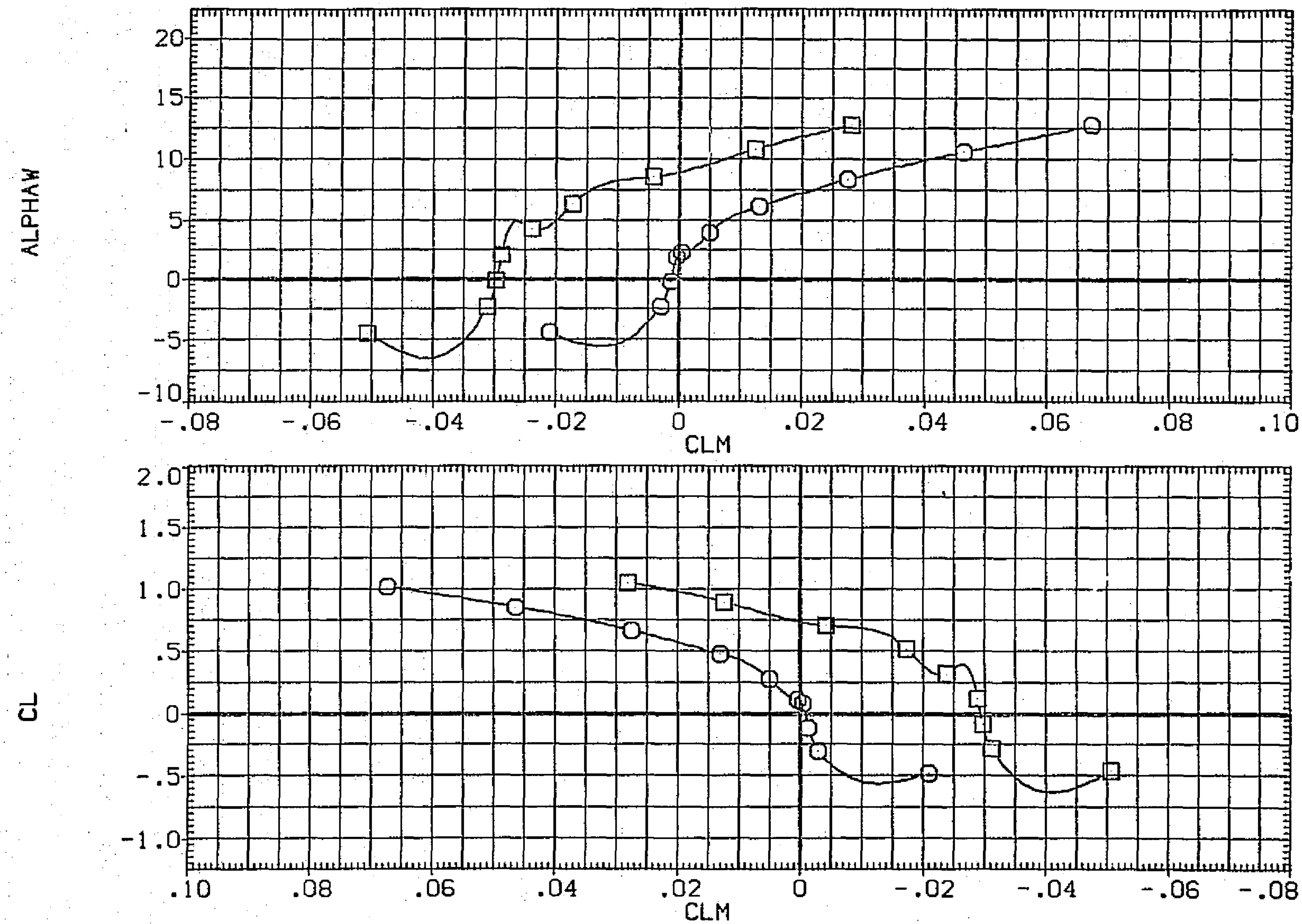



FIG. 82 HORIZONTAL TAIL OFF INFLIGHT SPEED BRKS, ALT LAUNCH, IORB 8

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP217) | ○ | CA6 | K2 | V9.1S1-12 AT103.1/105 | ORBFBN24/28 | .000 | 8.070 |
| (RGP220) | □ | CA6 | K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 8.070 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

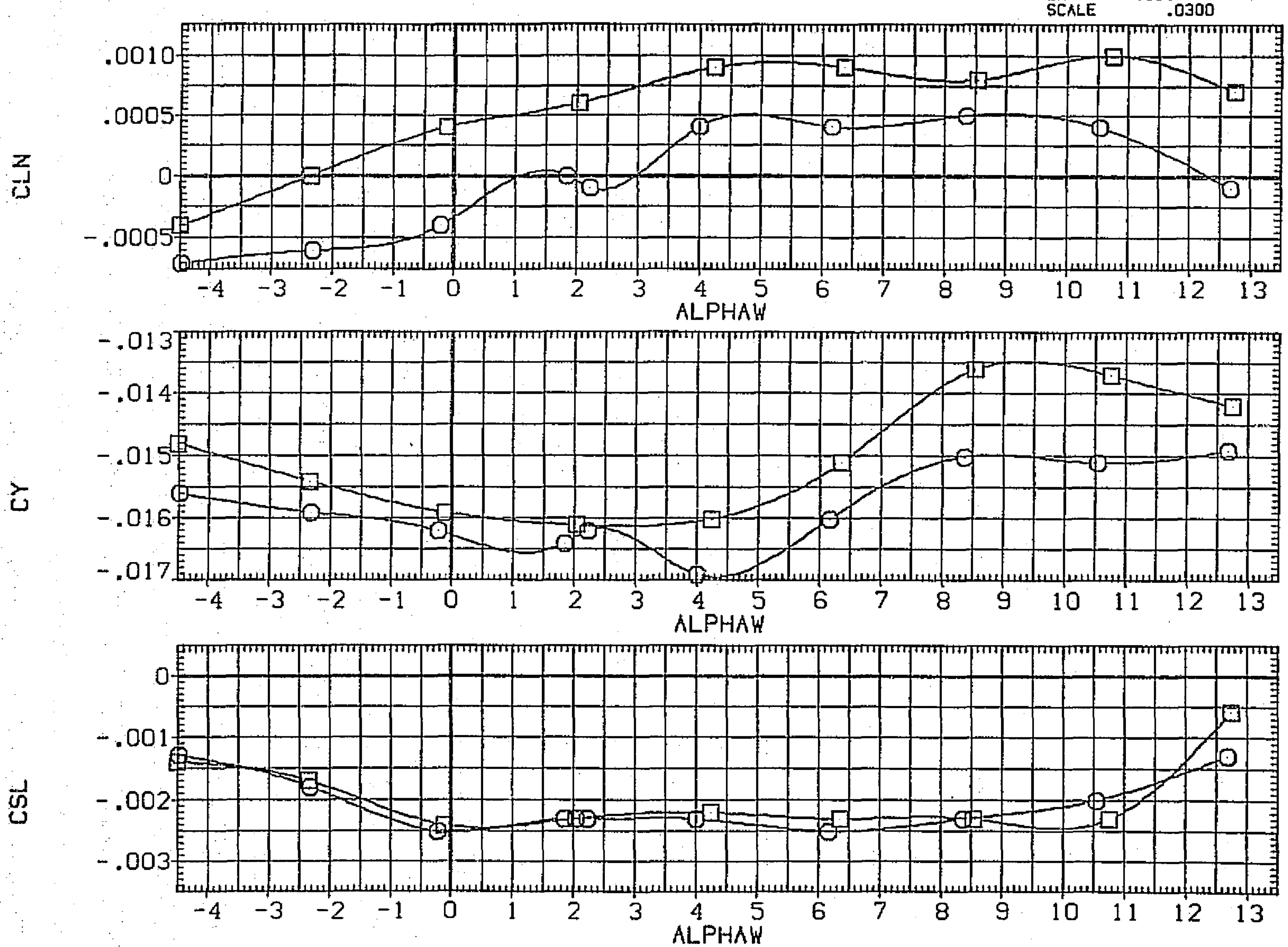



FIG. 82 HORIZONTAL TAIL OFF INFLIGHT SPEED BRKS, ALT LAUNCH, IORB 8

(B)MACH = .70

DATA SET SYMBOL CONFIGURATION DESCRIPTION BETA IORB

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP215) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBFBN24/28 | .000 | 4.250 |
| (RGP222) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

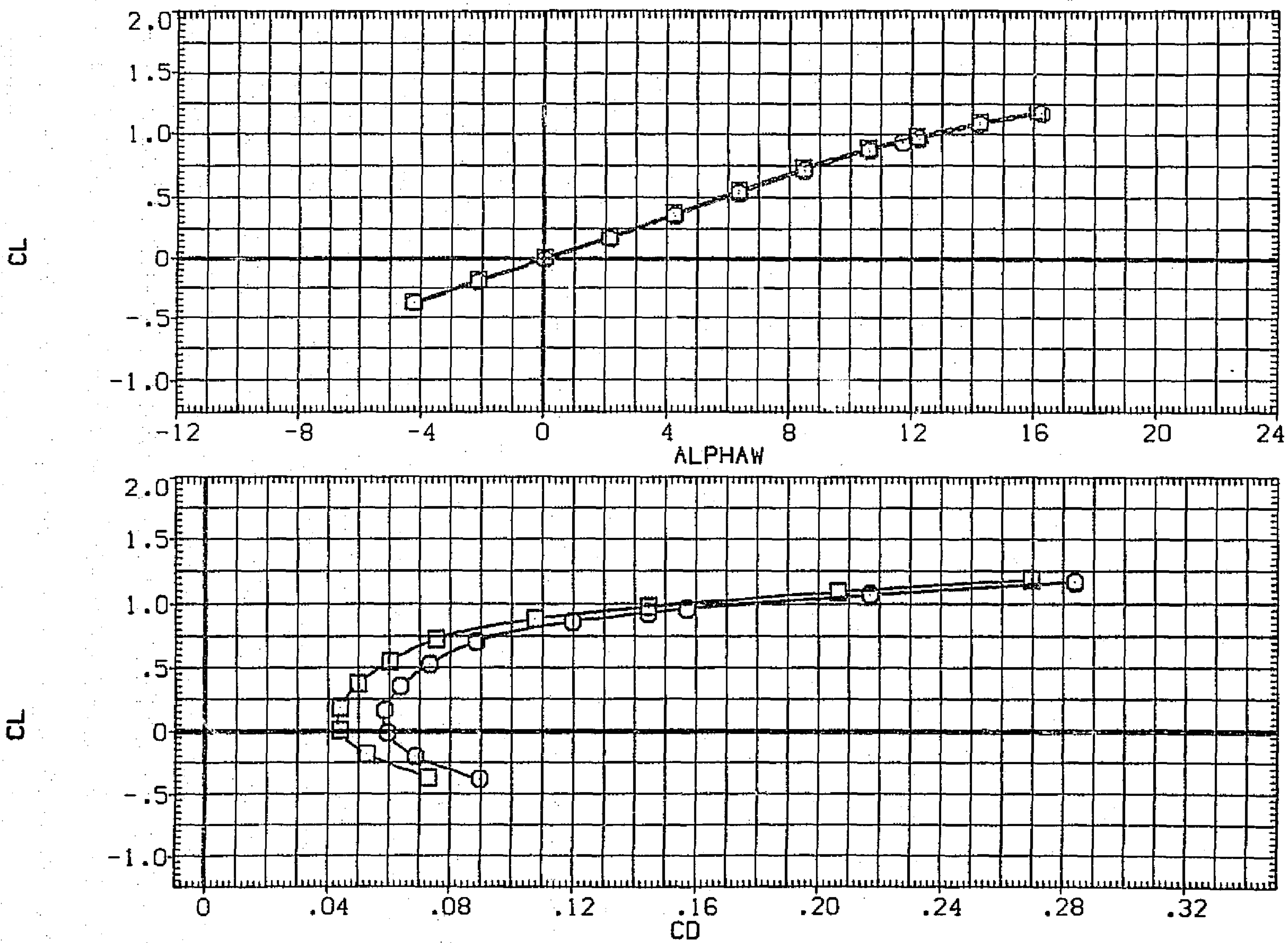


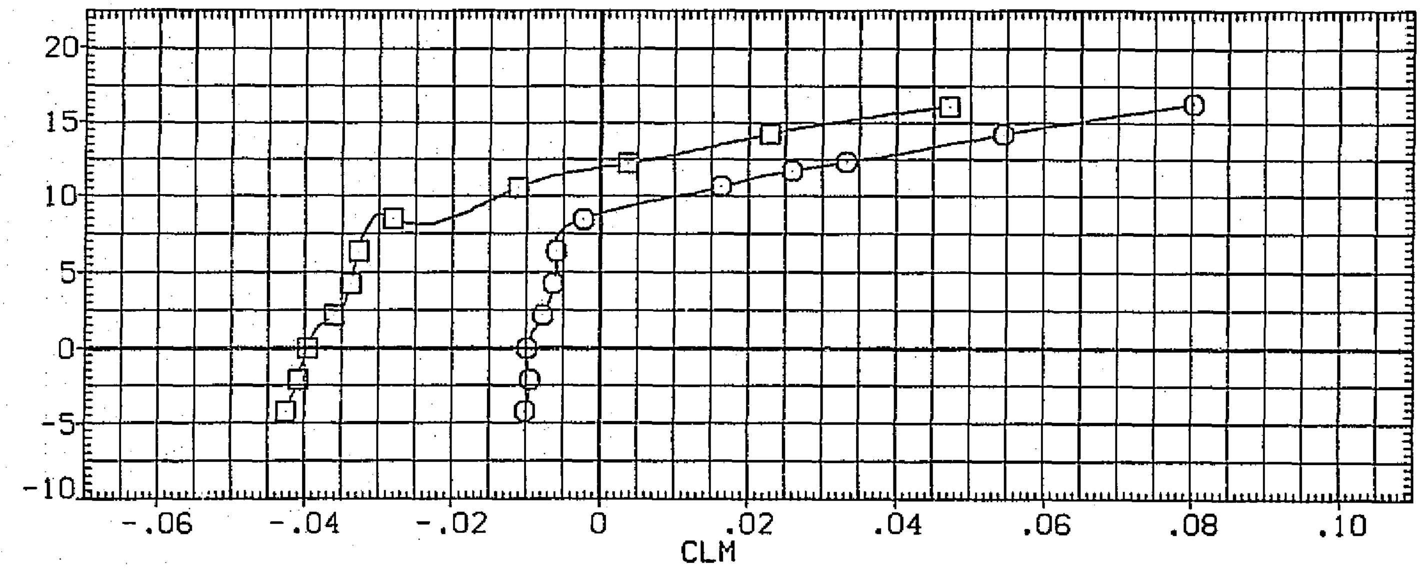

FIG. 83 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, FERRY, IORB 4.25

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP215) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | 4.250 |
| (RGP222) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



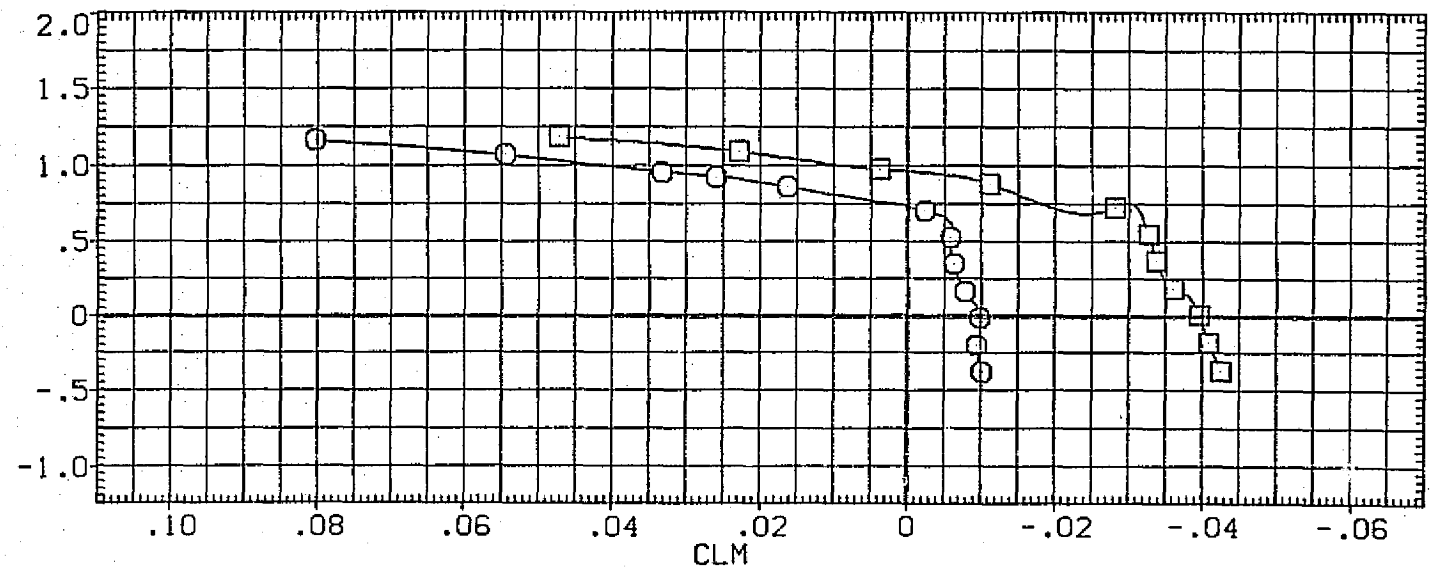




FIG. 83 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, FERRY, IORB 4.25

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP215) | ○ | CA6 K2 | V9.1SI-12 AT103.1/105 | ORBF8N24/28 | .000 | 4.250 |
| (RGP222) | □ | CA6 K2 | V9.1SI-12 AT103.1/105 | ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

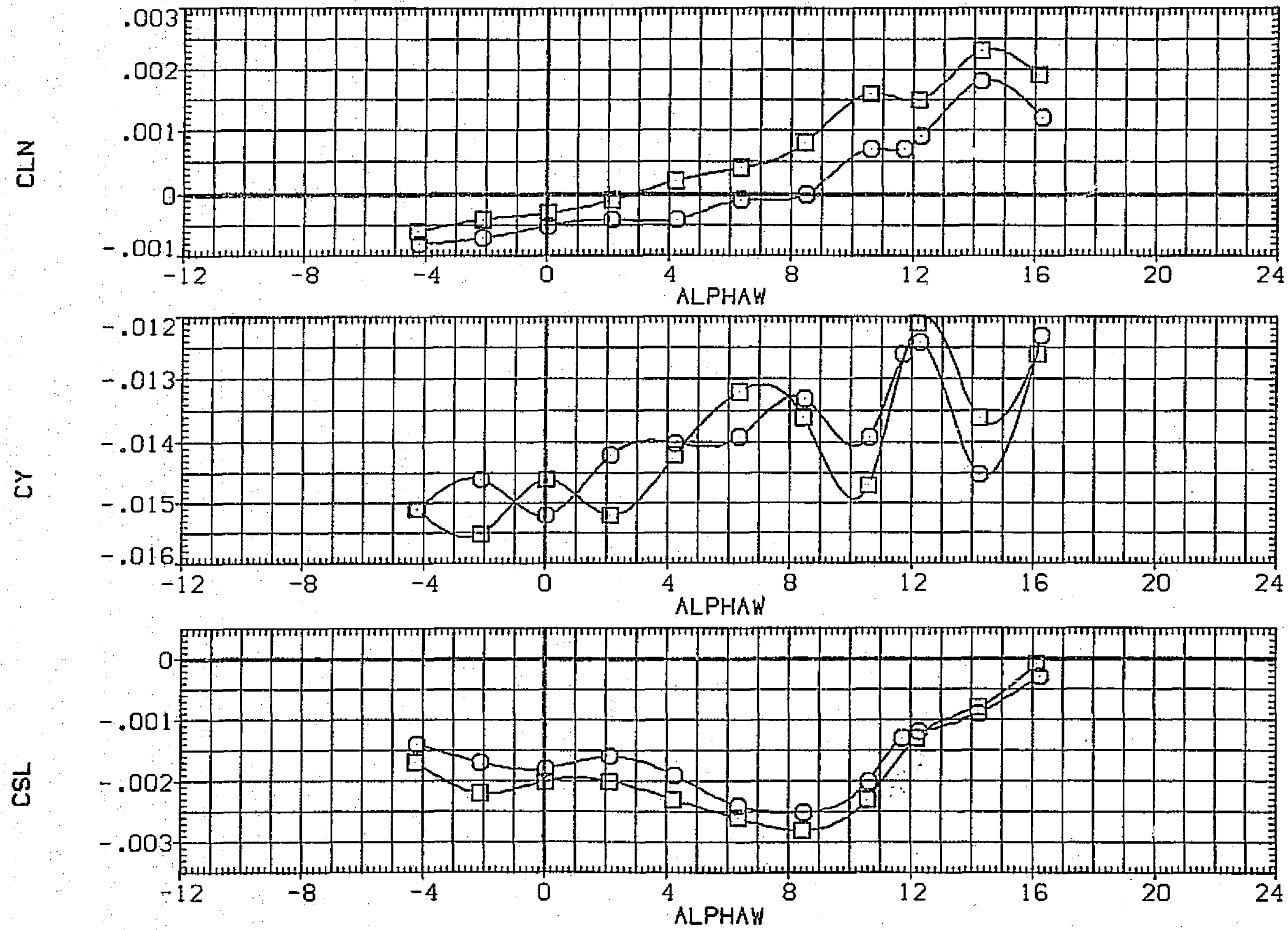


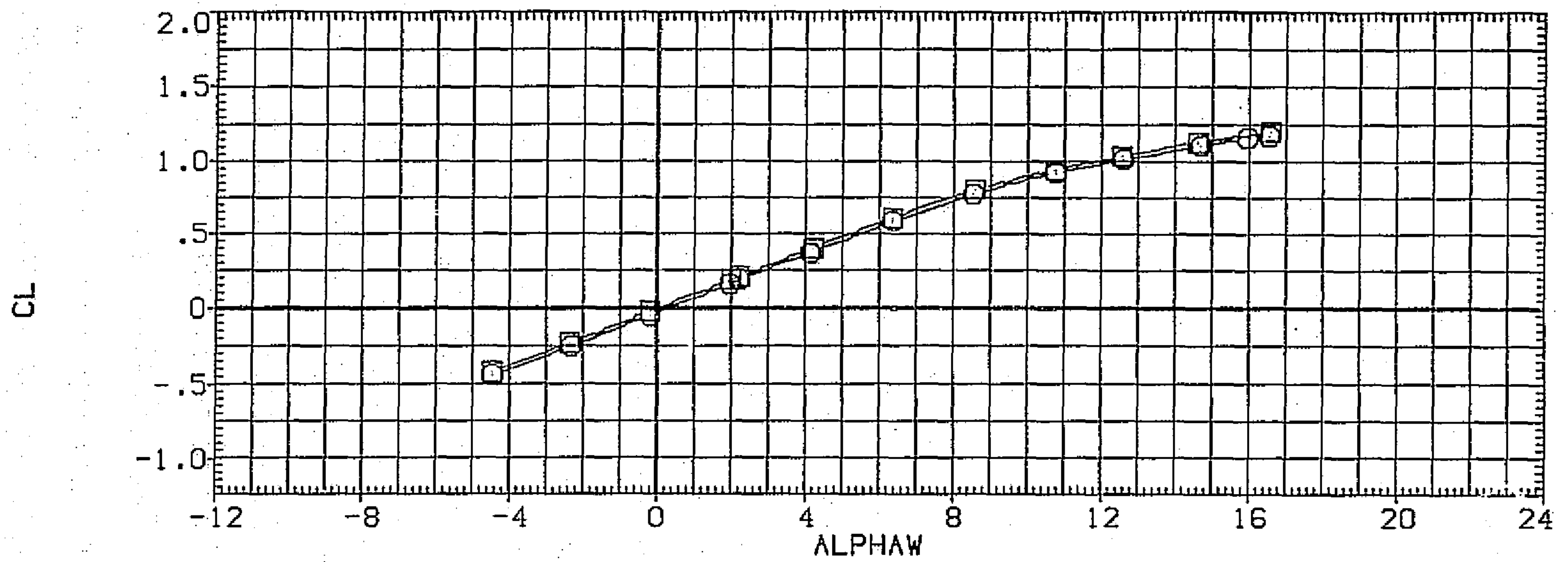

FIG. 83 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, FERRY, IORB 4.25

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP215) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBF8N24/28 | .000 | 4.250 |
| (RGP222) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



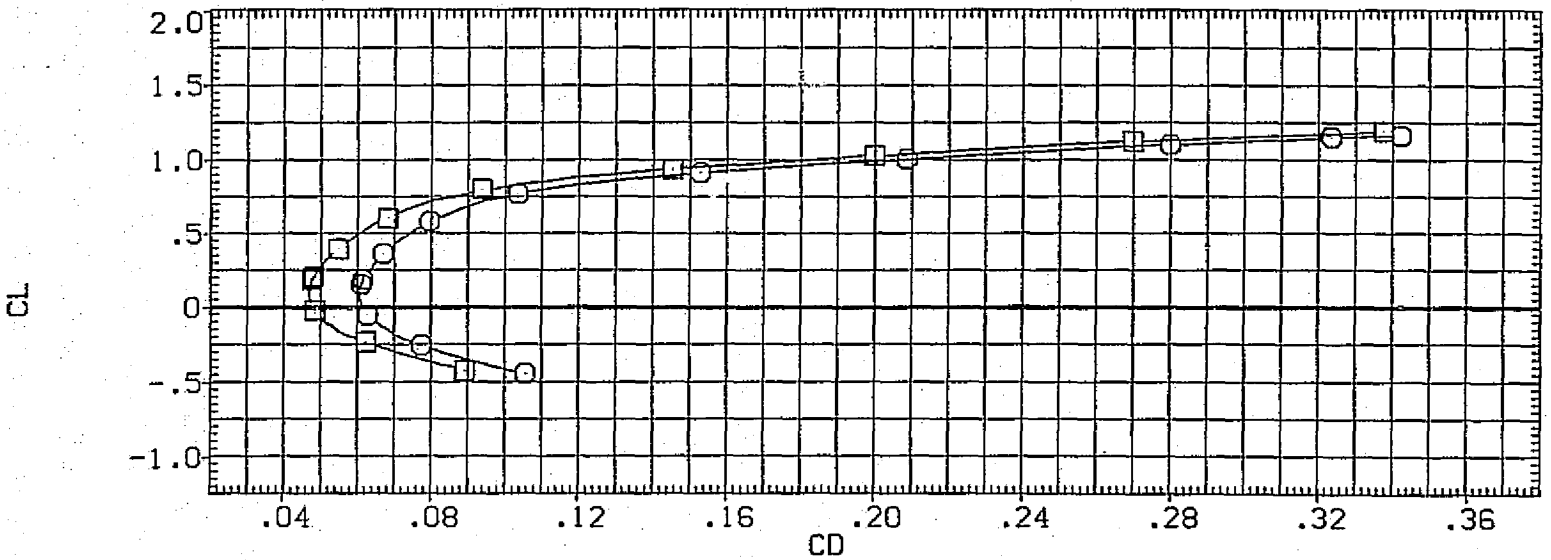




FIG. 83 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, FERRY, IORB 4.25

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP215) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBF8N24/28 | .000 | 4.250 |
| (RGP222) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

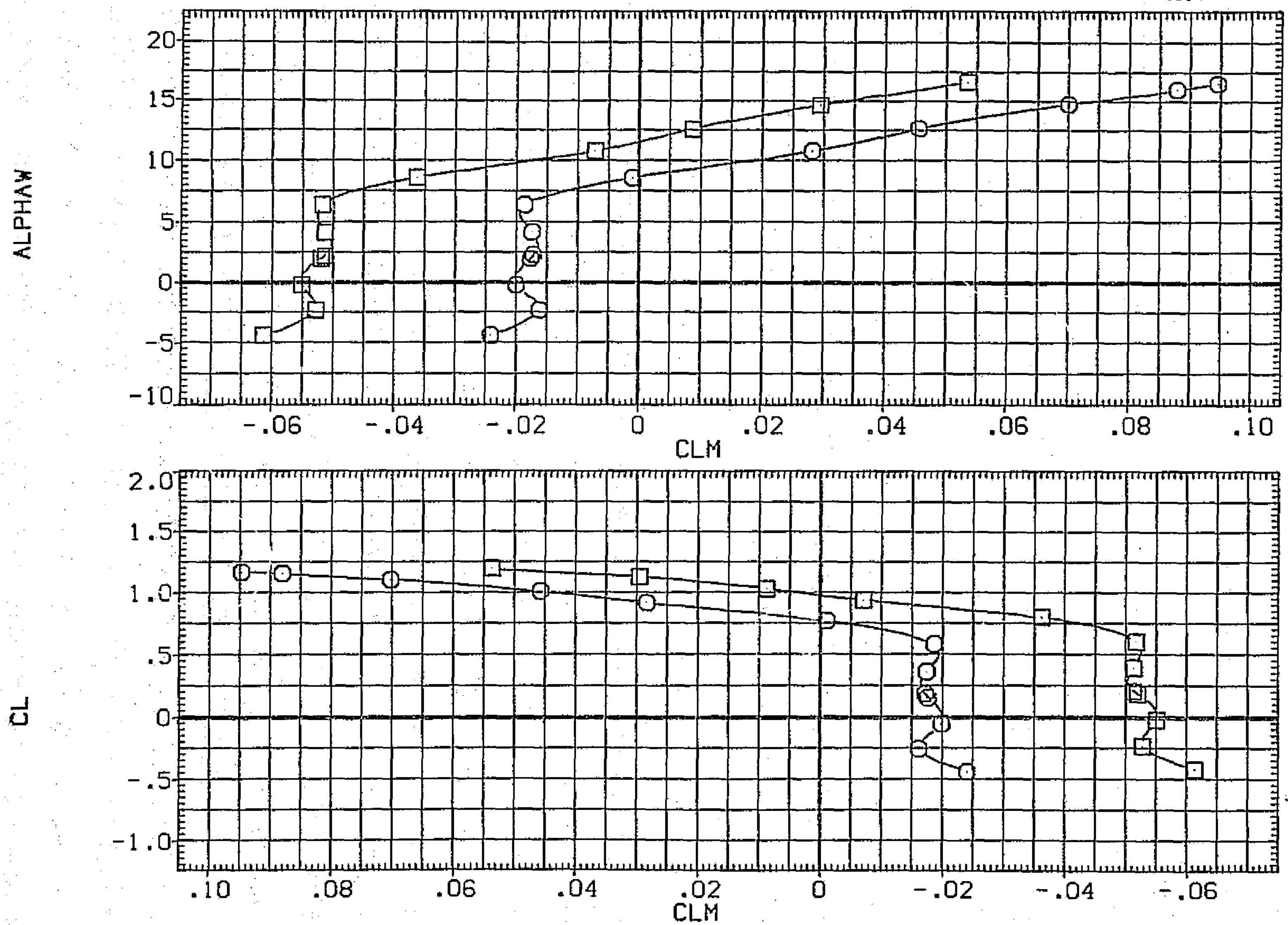



FIG. 83 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, FERRY, IORB 4.25

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP215) | ○ | CA6 K2 V9.151-12 AT103.1/105 ORBF8N24/28 | .000 | 4.250 |
| (RGP222) | □ | CA6 K2 V9.151-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

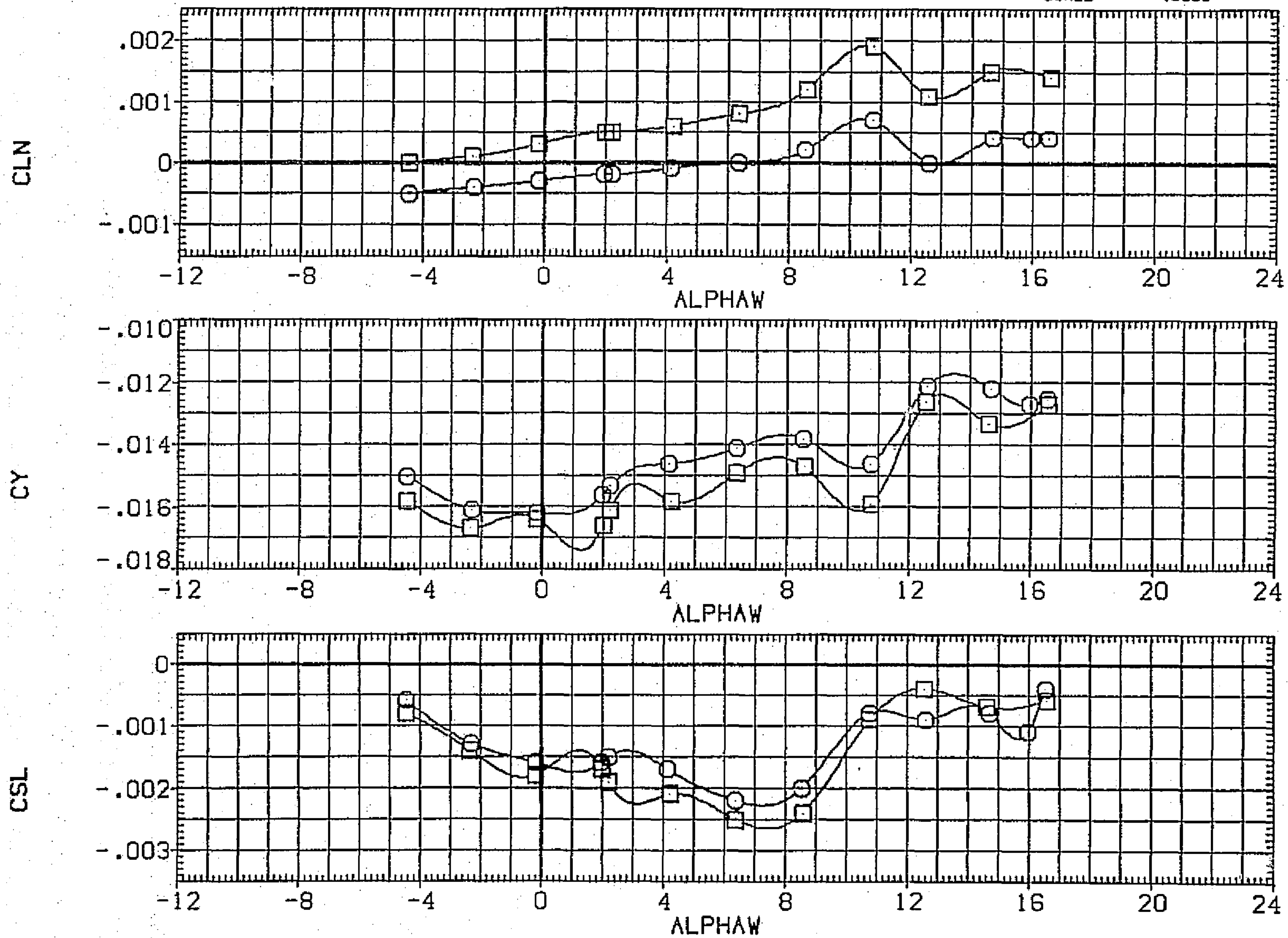



FIG. 83 HORIZONTAL TAIL OFF, SPEED BRKS FAIRED, FERRY, IORB 4.25

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP216) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | 4.250 |
| (RGP221) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

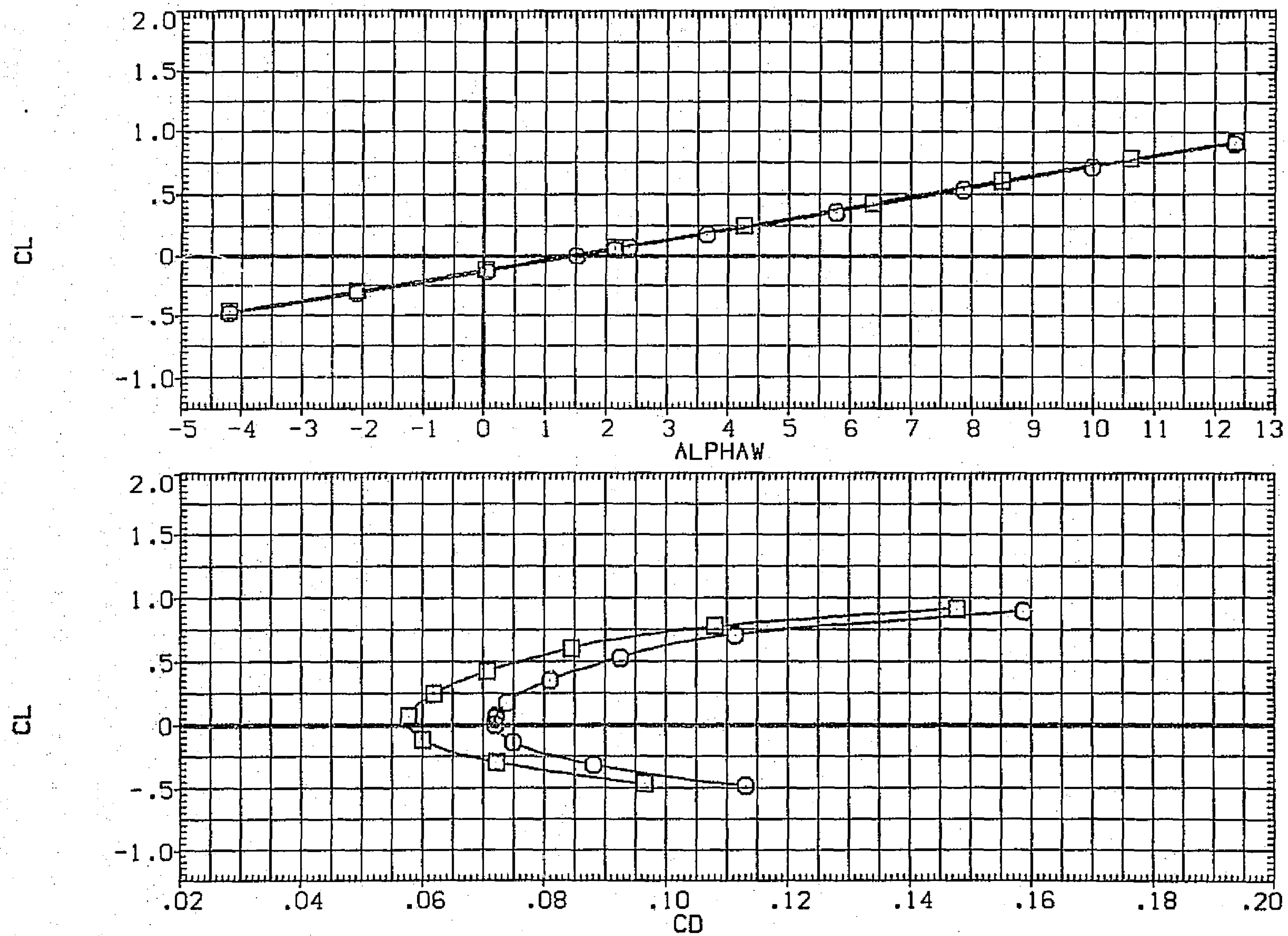



FIG. 84 HORIZONTAL TAIL OFF, INFLIGHT SPEED BRKS, FERRY, IORB 4.25

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA | IORB |
|---|---|---|---|---|---|
| (RGP216) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | 4.250 |
| (RGP221) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

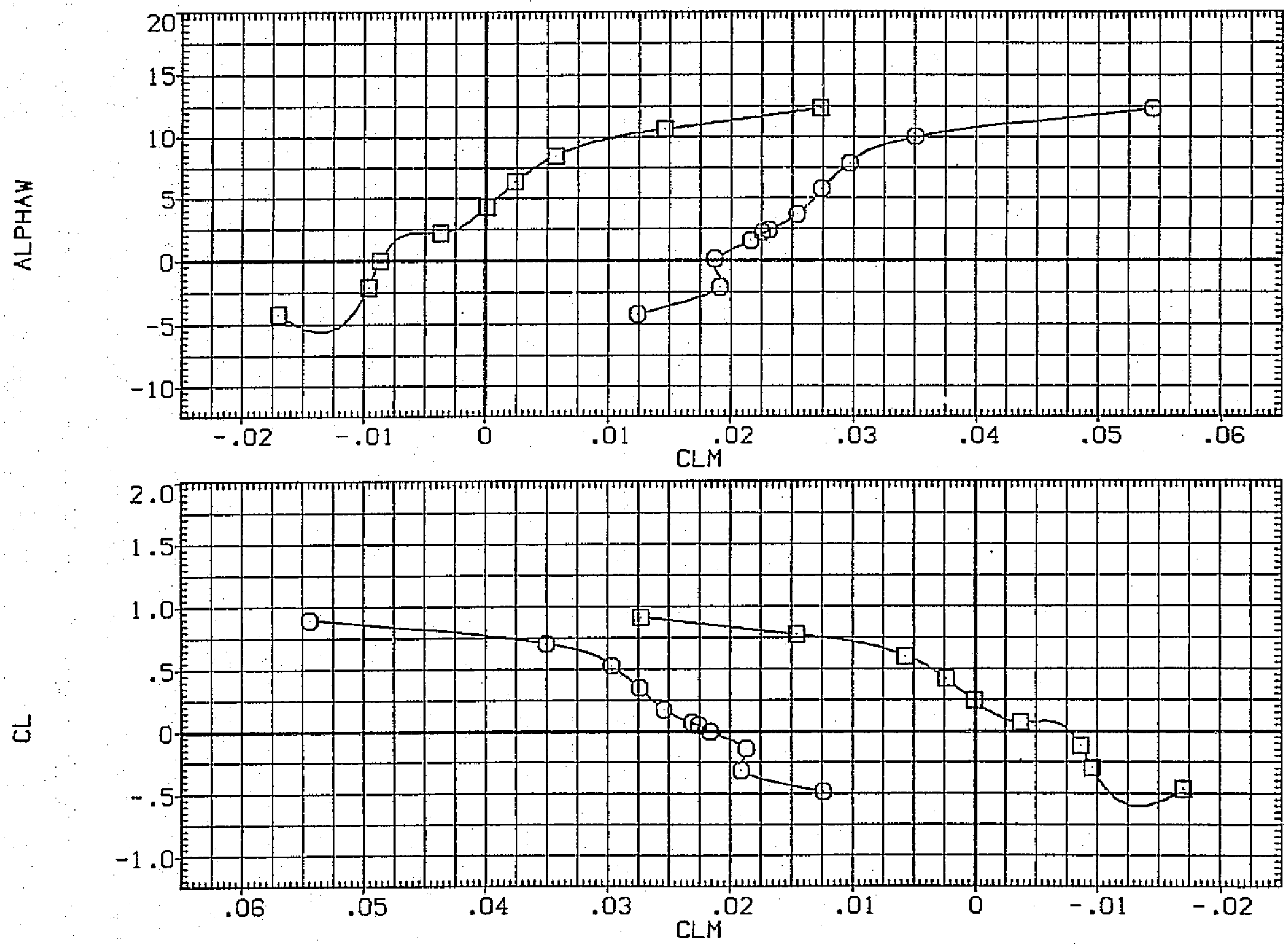



FIG. 84 HORIZONTAL TAIL OFF, INFLIGHT SPEED BRKS, FERRY, IORB 4.25

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
| --- | --- | --- | --- | --- |
| (RGP216) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | 4.250 |
| (RGP221) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

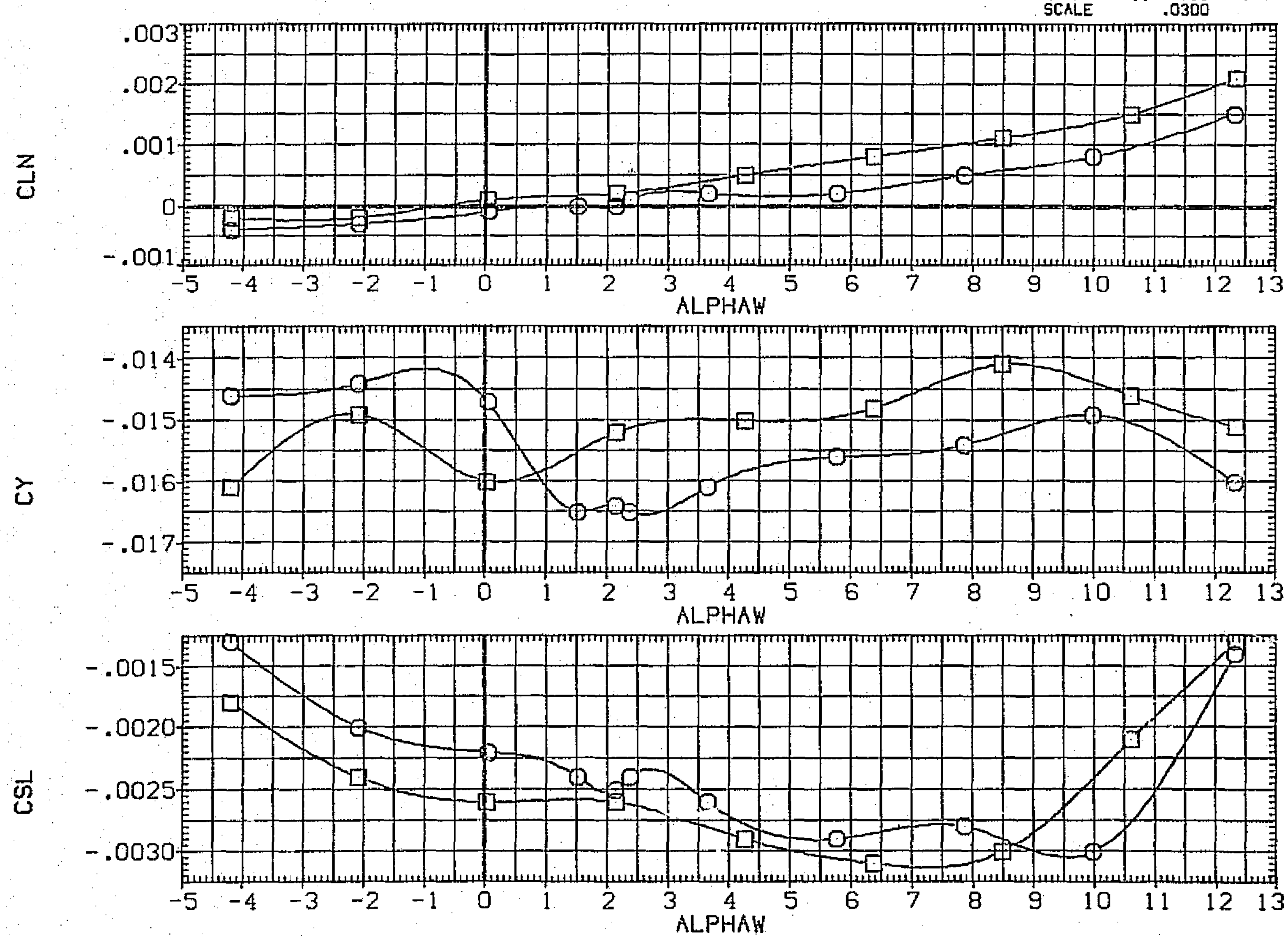



FIG. 84 HORIZONTAL TAIL OFF, INFLIGHT SPEED BRKS, FERRY, IORB 4.25

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | | BETA | IORB |
|---|---|---|---|---|---|---|---|
| (RGP216) | ○ | CA6 | K2 | V9.1S1-12 AT103.1/105 | ORBF8N24/28 | .000 | 4.250 |
| (RGP221) | □ | CA6 | K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

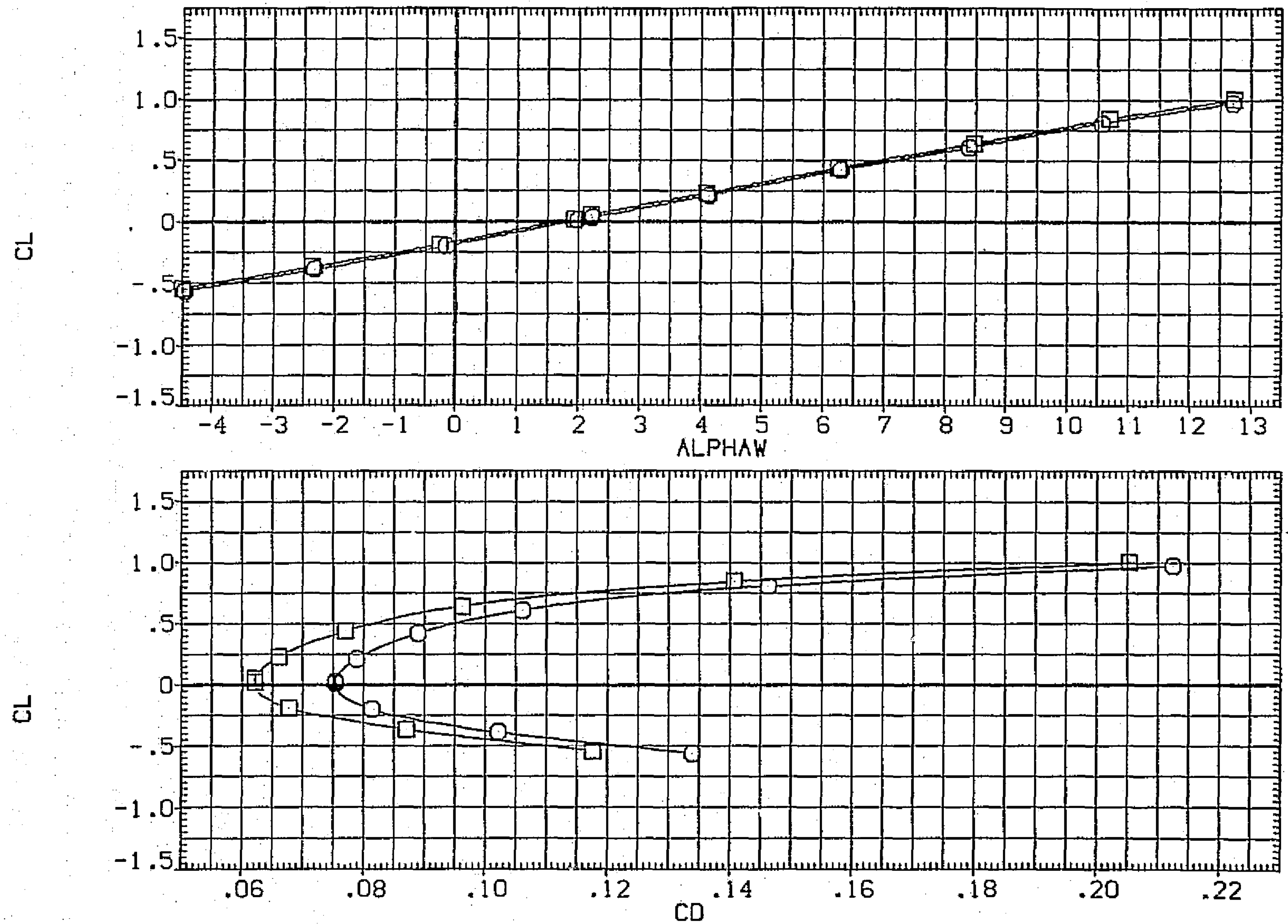



FIG. 84 HORIZONTAL TAIL OFF, INFLIGHT SPEED BRKS, FERRY, IORB 4.25

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | IORB |
|---|---|---|---|---|
| (RGP216) | ○ | CA6 K2 V9.1S1-12 AT103.1/105 ORBF8N24/28 | .000 | 4.250 |
| (RGP221) | □ | CA6 K2 V9.1S1-12 AT103.1/105 ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

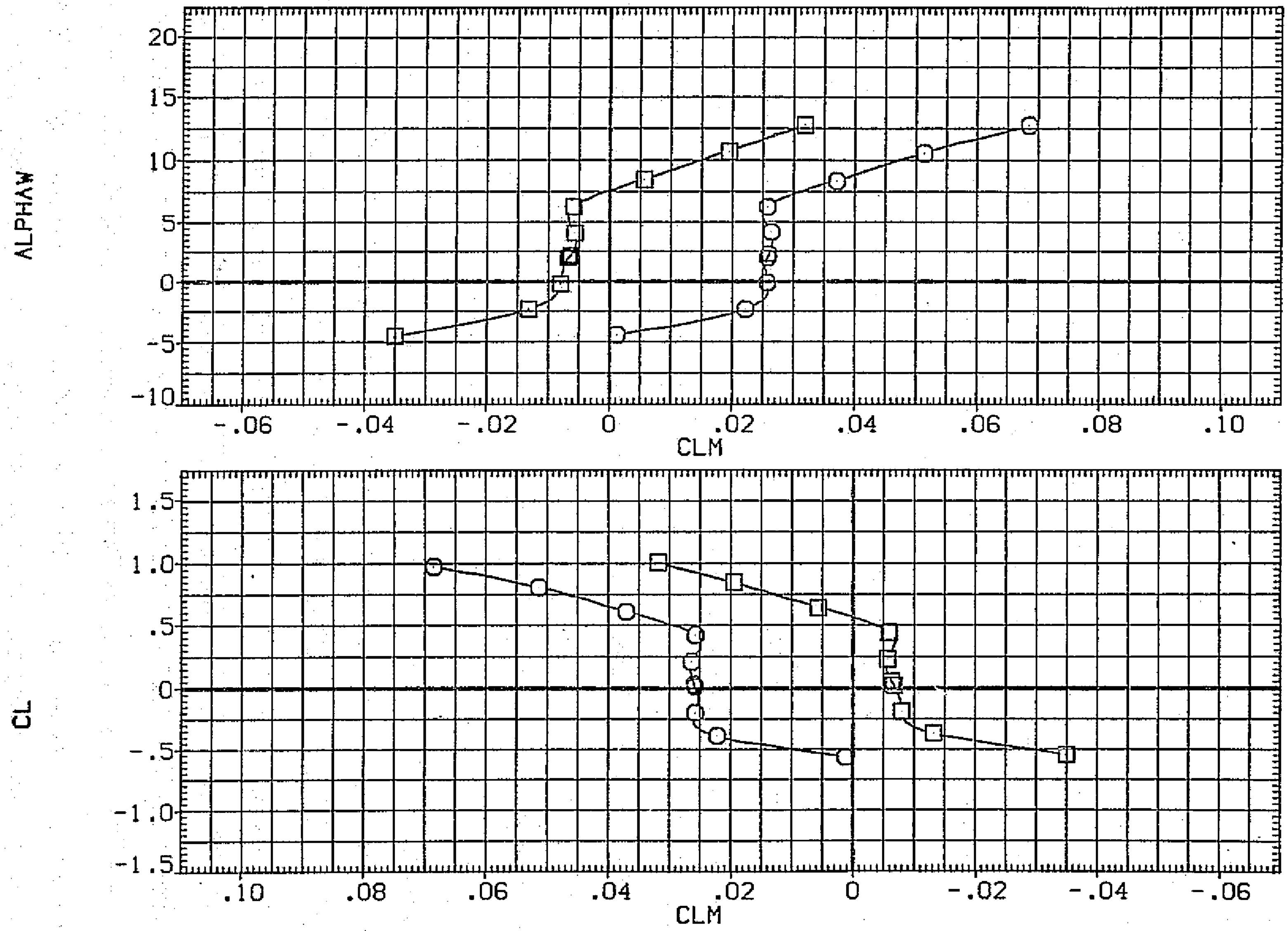



FIG. 84 HORIZONTAL TAIL OFF, INFLIGHT SPEED BRKS, FERRY, IORB 4.25

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA | IORB |
|---|---|---|---|---|---|---|
| (RGP216) | ○ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORBF8N24/28 | .000 | 4.250 |
| (RGP221) | □ | CA6 K2 | V9.1S1-12 AT103.1/105 | ORB TC4 | .000 | 4.230 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

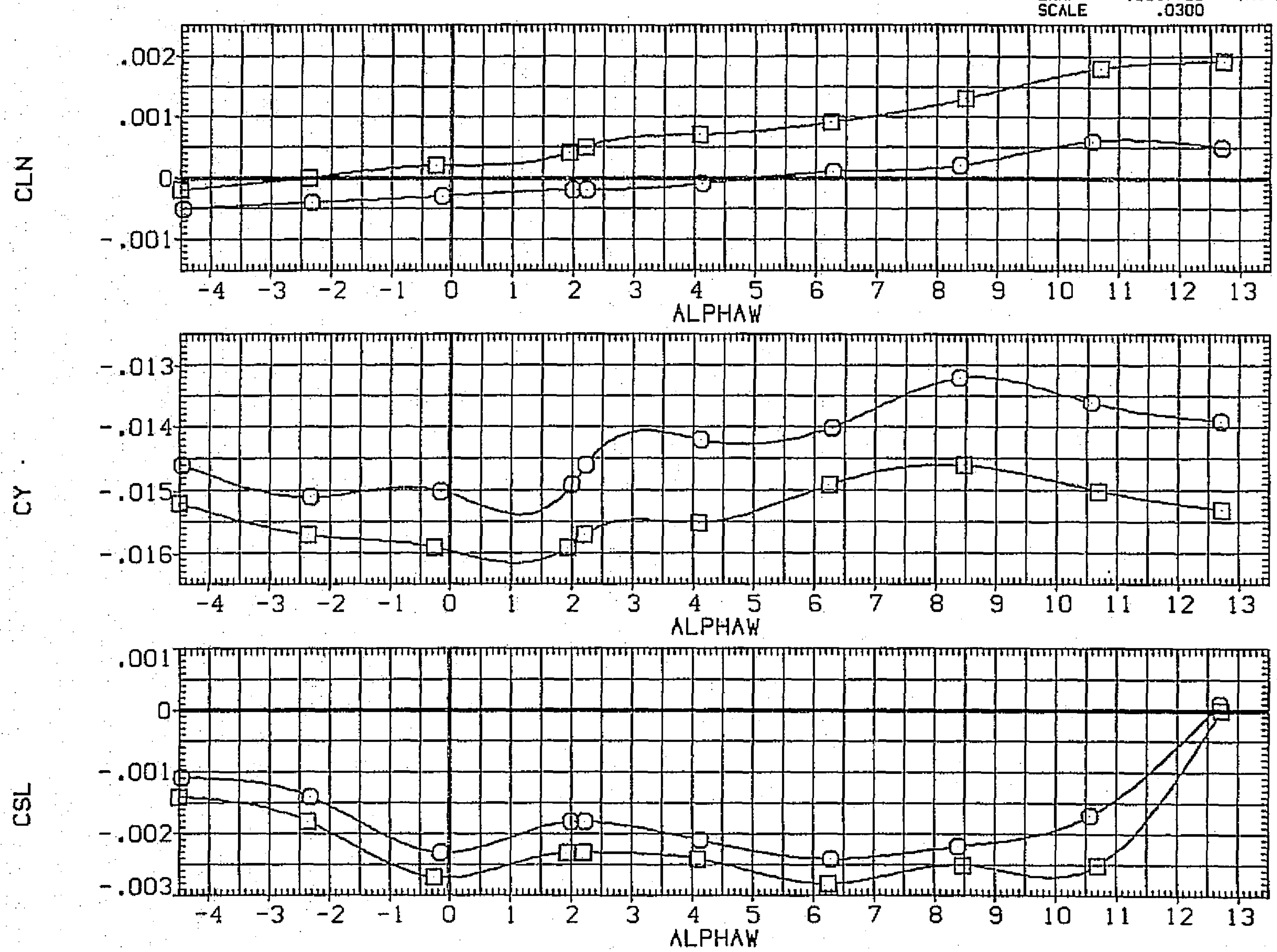



FIG. 84 HORIZONTAL TAIL OFF, INFLIGHT SPEED BRKS, FERRY, IORB 4.25

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA |
|---|---|---|---|---|---|
| (RGP224) | ○ | CA6 | K2 | V9.1S1-12 AT103.3/105 | .000 |
| (RGP223) | □ | CA6 | K2 | V9.1 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

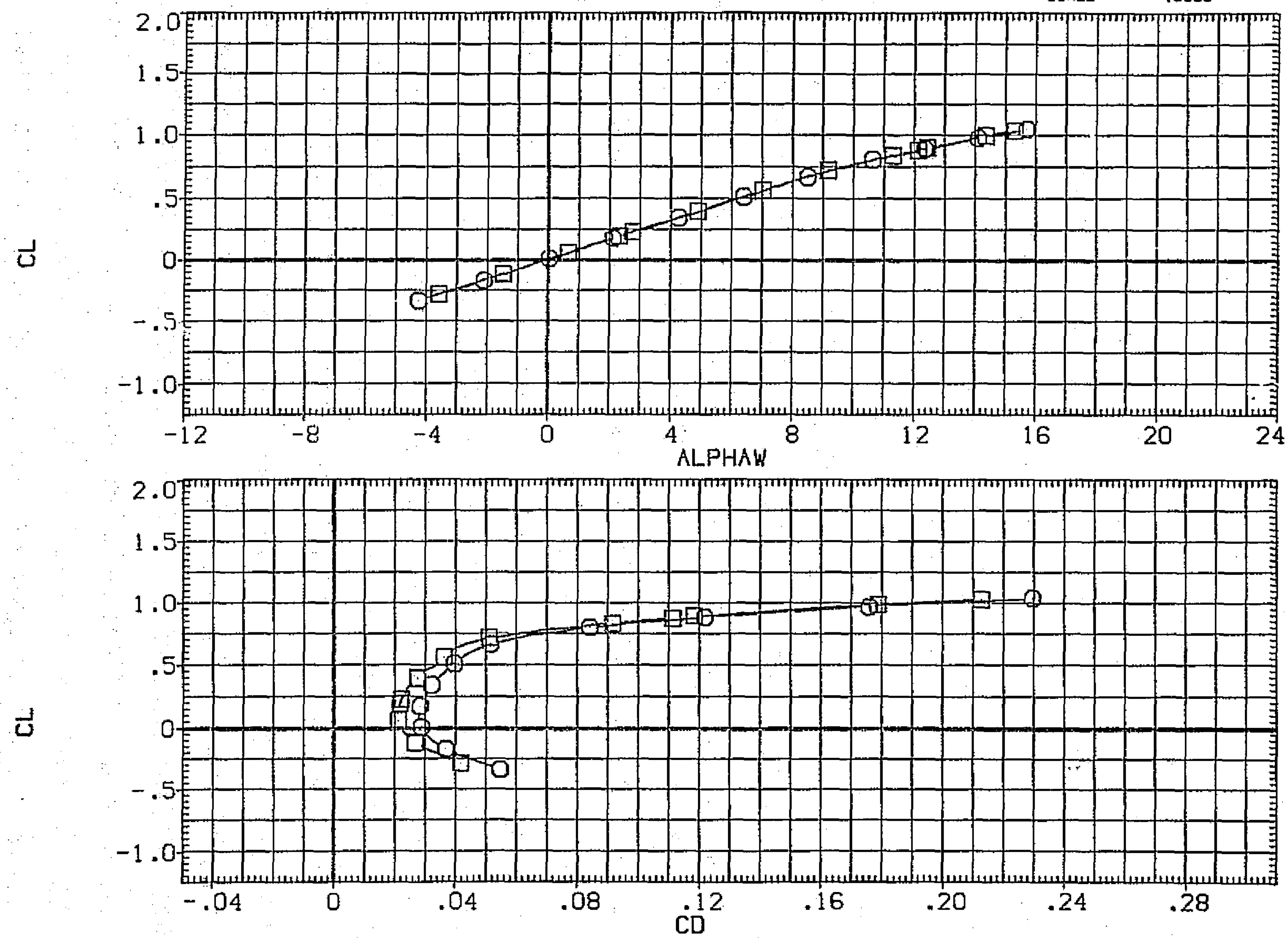



FIG. 85 747 CAM AND BASIC 747, HORIZONTAL TAIL OFF

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA |
|---|---|---|---|---|---|
| (RGP224) | ○ | CA6 | K2 | V9.1S1-12 AT103.3/105 | .000 |
| (RGP223) | □ | CA6 | K2 | V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

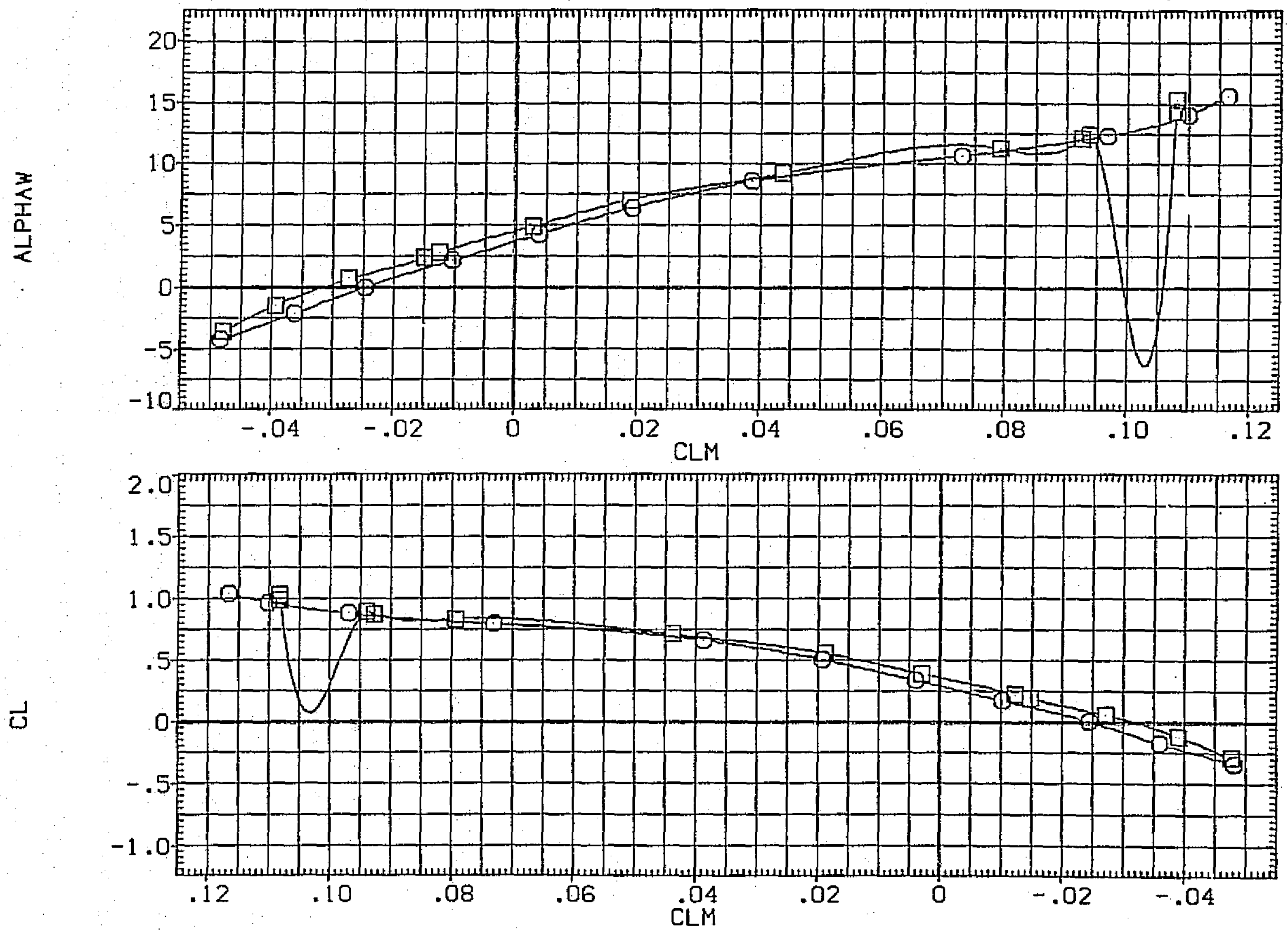



FIG. 85 747 CAM AND BASIC 747, HORIZONTAL TAIL OFF

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA |
|---|---|---|---|---|---|
| (RGP224) | ○ | CA6 | K2 | V9.1S1-12 AT103.3/105 | .000 |
| (RGP223) | □ | CA6 | K2 | V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

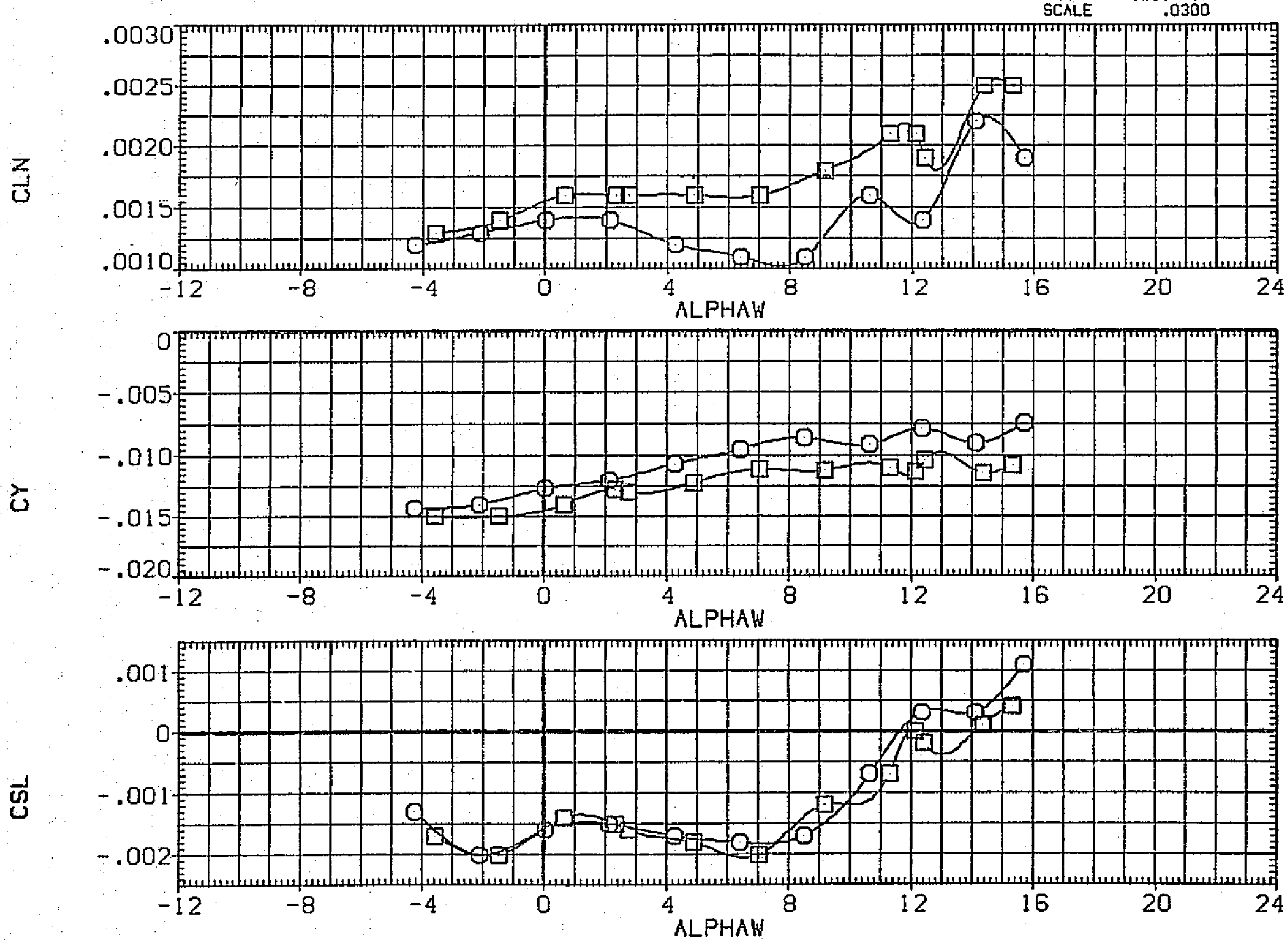



FIG. 85 747 CAM AND BASIC 747, HORIZONTAL TAIL OFF

(A)MACH = .40

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA |
|---|---|---|---|---|---|
| (RGP224) | ○ | CA6 | K2 | V9.1S1-12 AT103.3/105 | .000 |
| (RGP223) | □ | CA6 | K2 | V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

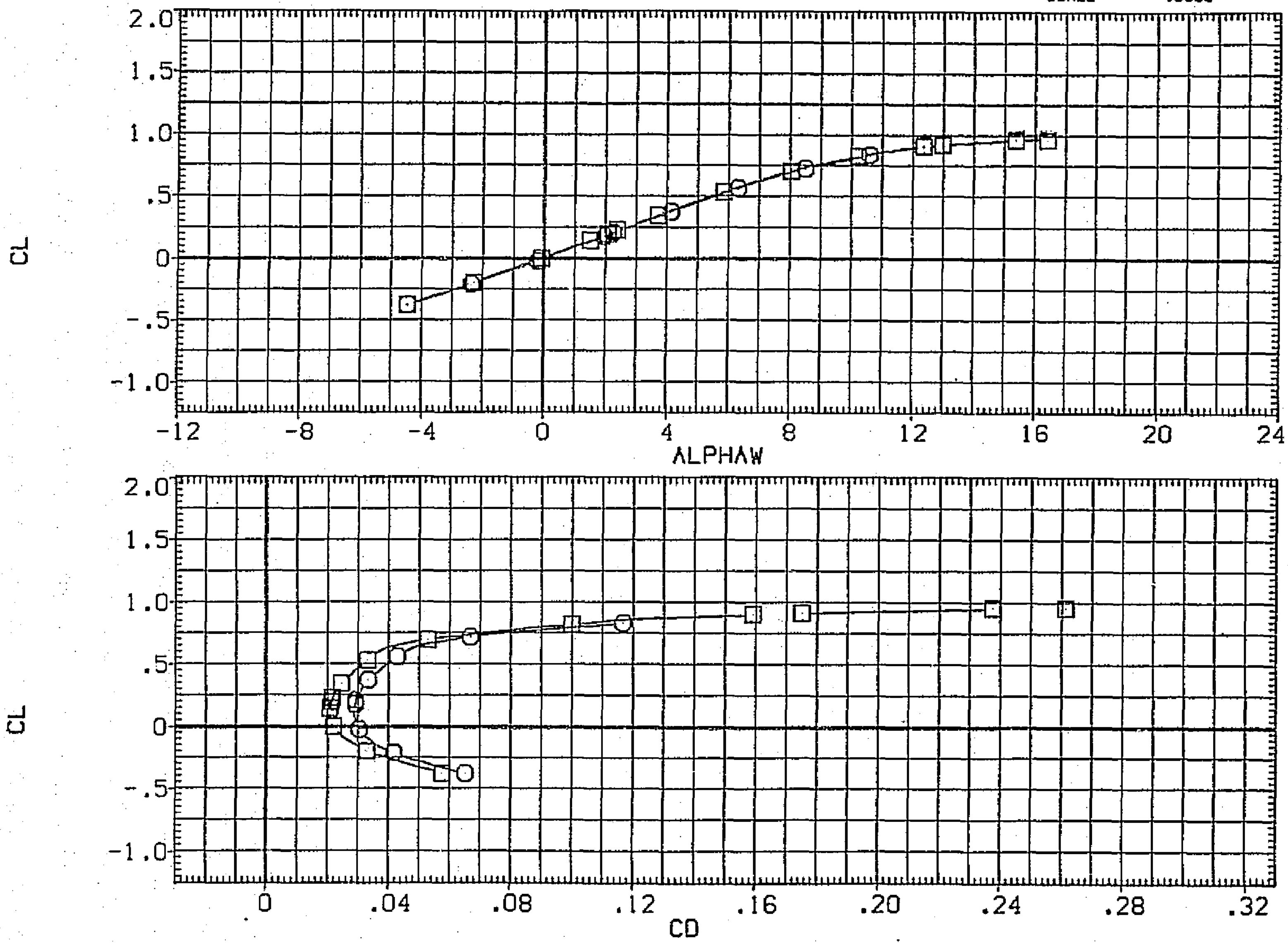



FIG. 85 747 CAM AND BASIC 747, HORIZONTAL TAIL OFF

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | BETA |
|---|---|---|---|---|
| (RGP224) | ○ | CAG K2 | V9.151-12 AT103.3/105 | .000 |
| (RGP223) | □ | CAG K2 | V9.1 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

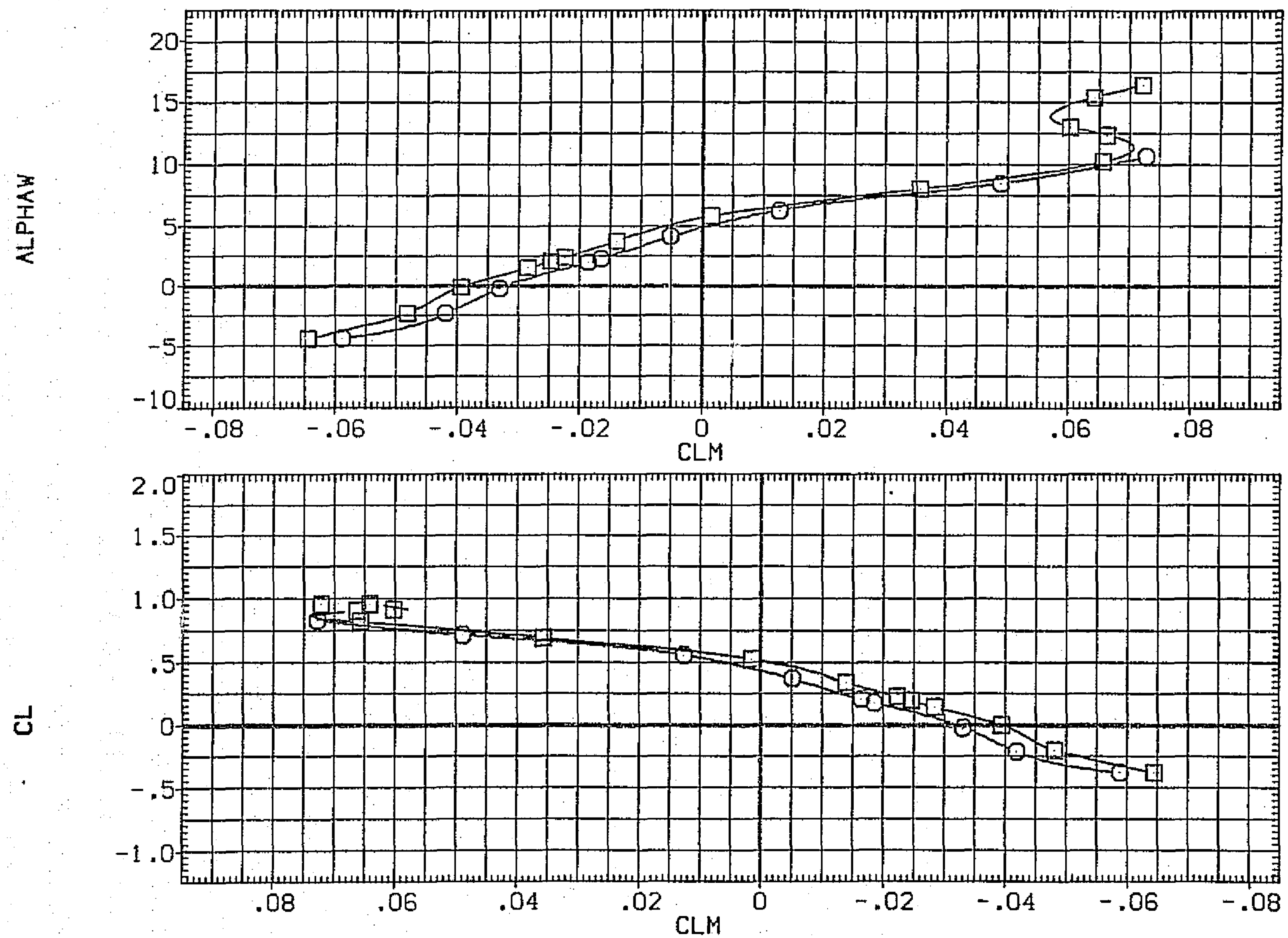



FIG. 85 747 CAM AND BASIC 747, HORIZONTAL TAIL OFF

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | | | BETA |
|---|---|---|---|---|---|
| (RGP224) | ○ | CA6 | K2 | V9.1S1-12 AT103.3/105 | .000 |
| (RGP223) | □ | CA6 | K2 | V9.1 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

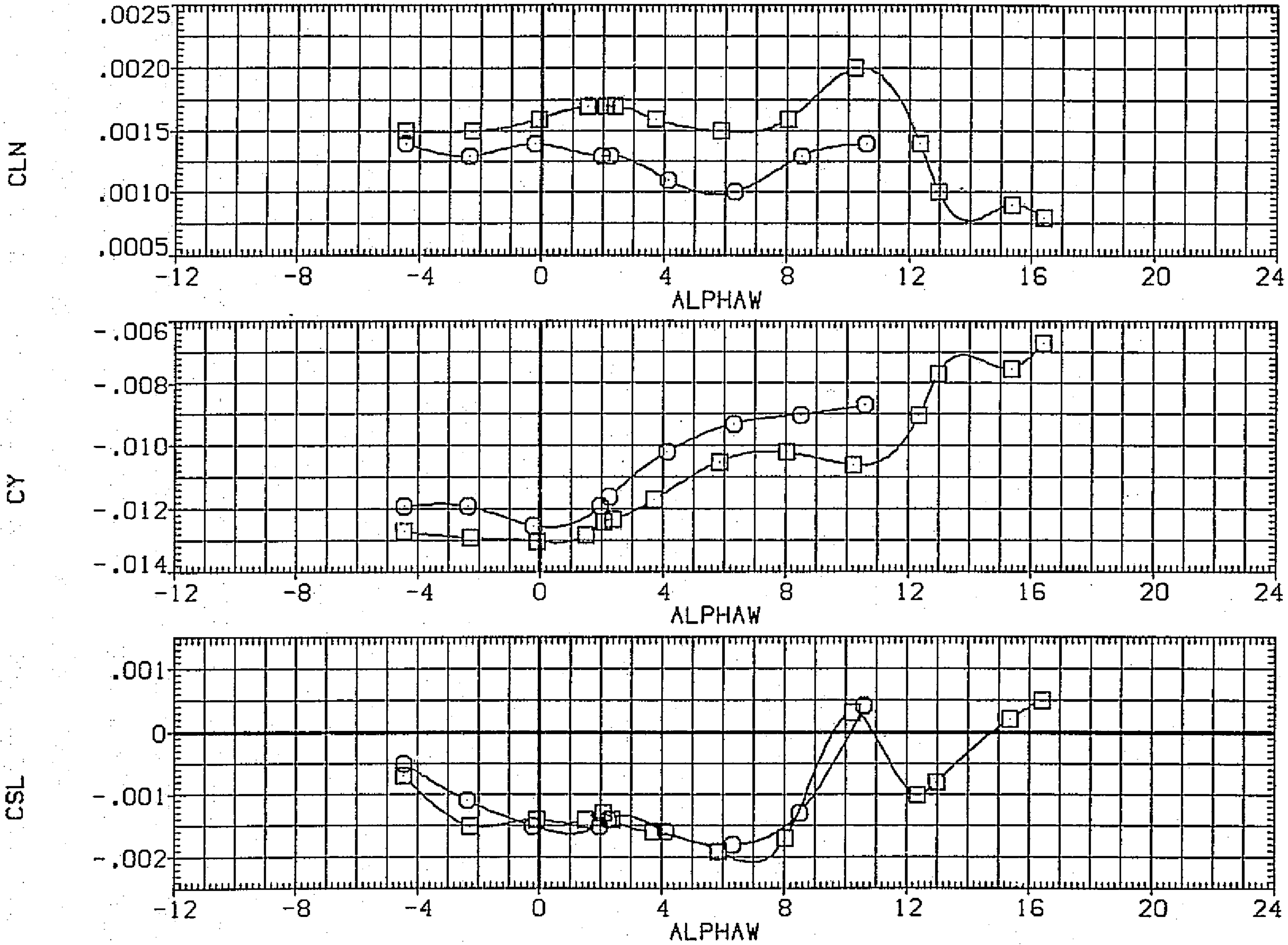



FIG. 85 747 CAM AND BASIC 747, HORIZONTAL TAIL OFF

(B)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | FWD ST | STAB | BETA |
|---|---|---|---|---|---|
| (RGP225) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 4.250 | 5.070 | .000 |
| (RGP226) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | 5.070 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

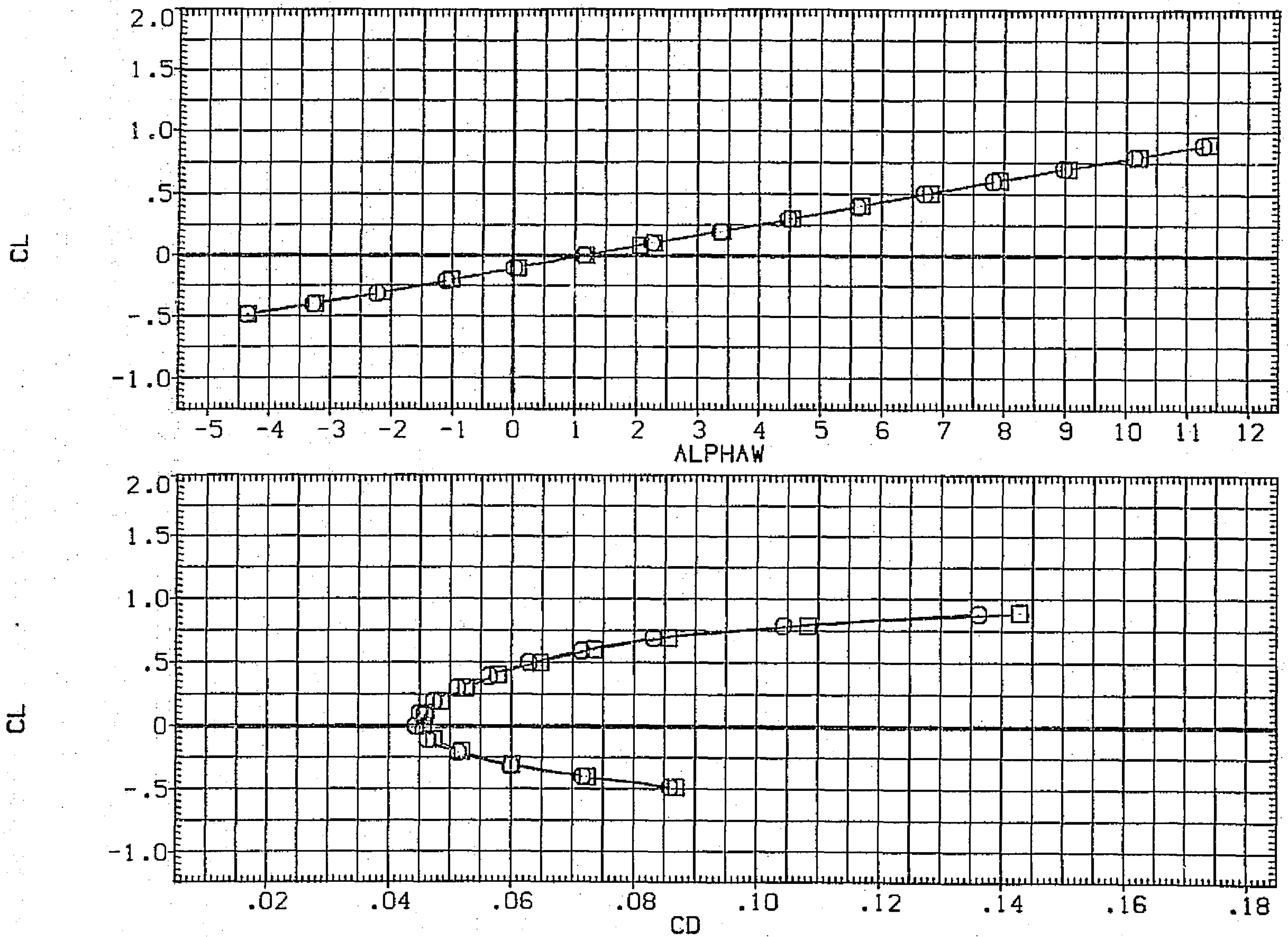



FIG. 86 EFFECT OF FORWARD STRUT HEIGHT, 747 CAM

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | FWD ST | STAB | BETA |
|---|---|---|---|---|---|
| (RGP225) | ○ | CA6 K2H15.6.IV9.1S1-12 AT103.3/95-.3 | 4.250 | 5.070 | .000 |
| (RGP226) | □ | CA6 K2H15.6.IV9.1S1-12 AT103.3/95-.3 | 6.000 | 5.070 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

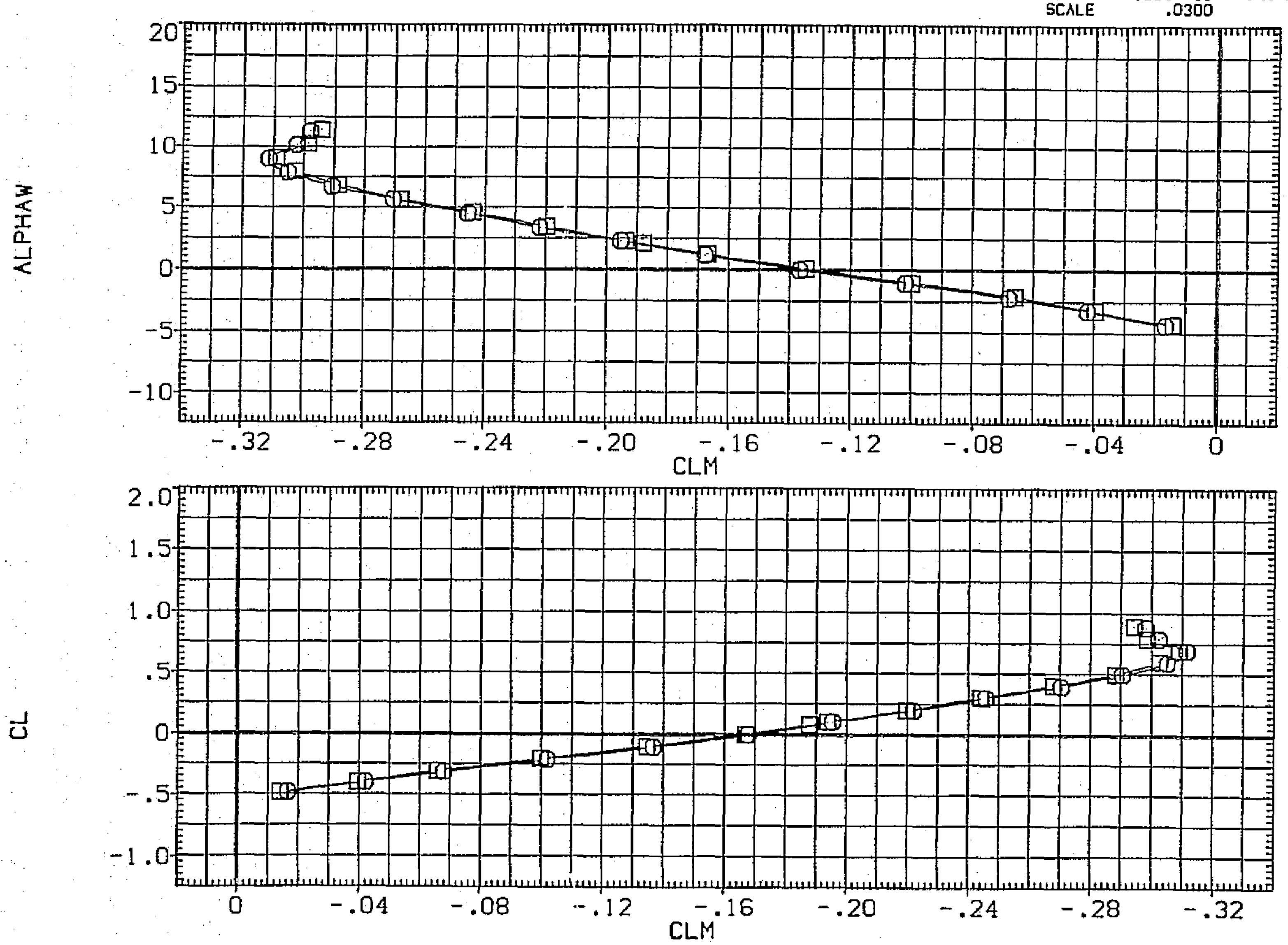



FIG. 86 EFFECT OF FORWARD STRUT HEIGHT, 747 CAM

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | FWD ST | STAB | BETA |
|---|---|---|---|---|---|
| (RGP225) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 4.250 | 5.070 | .000 |
| (RGP226) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | 5.070 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

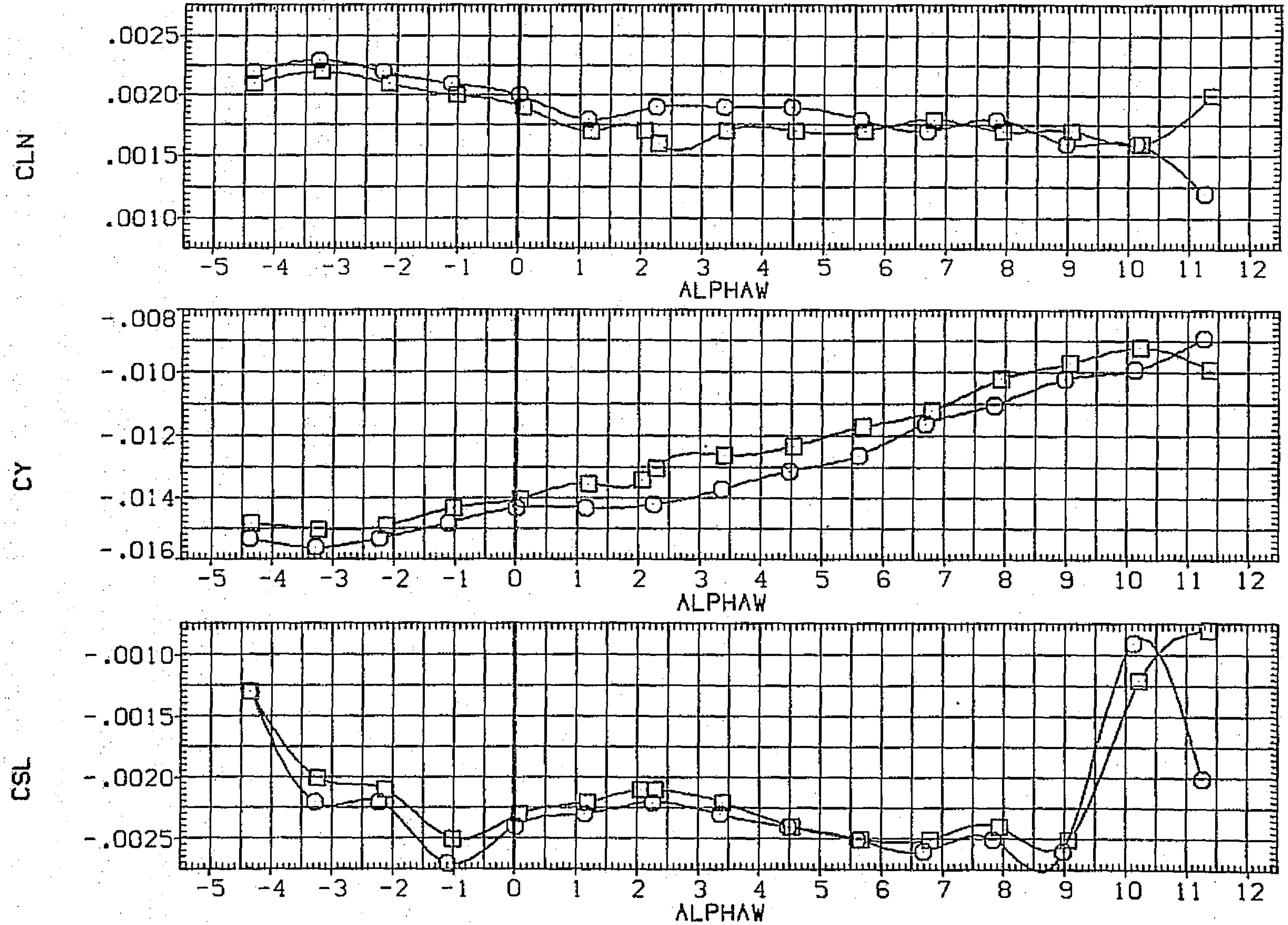
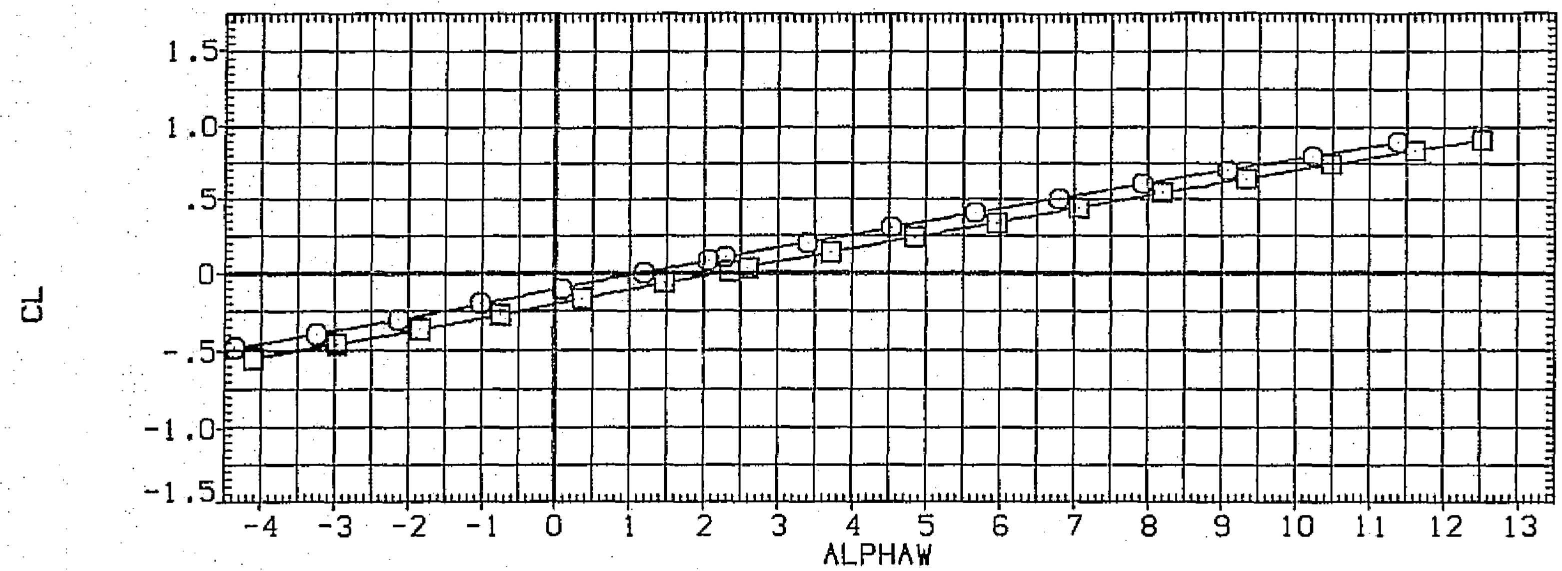



FIG. 86 EFFECT OF FORWARD STRUT HEIGHT, 747 CAM

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | FWD ST | STAB | BETA |
|---|---|---|---|---|---|
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | 5.070 | .000 |
| (RGP236) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | -1.060 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



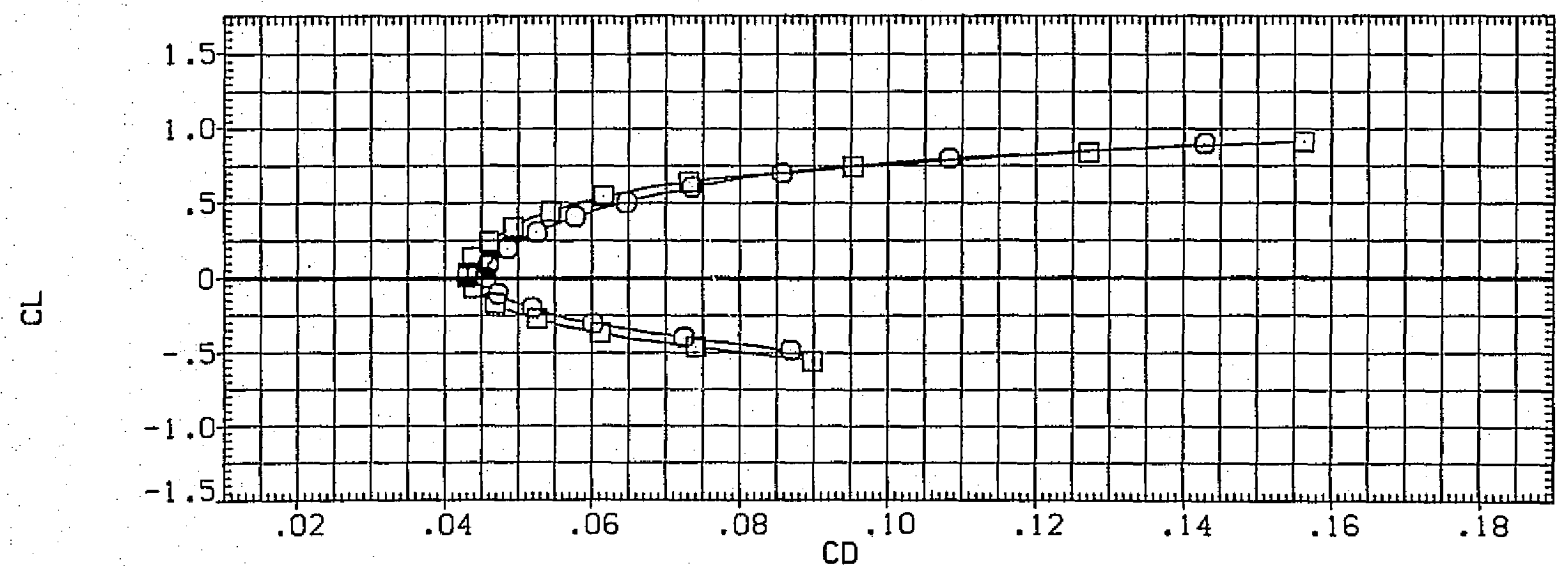




FIG. 87 STABILIZER EFFECTIVENESS, 747 CAM, CA23AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | FWD ST | STAB | BETA |
|---|---|---|---|---|---|
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | 5.070 | .000 |
| (RGP236) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | -1.060 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

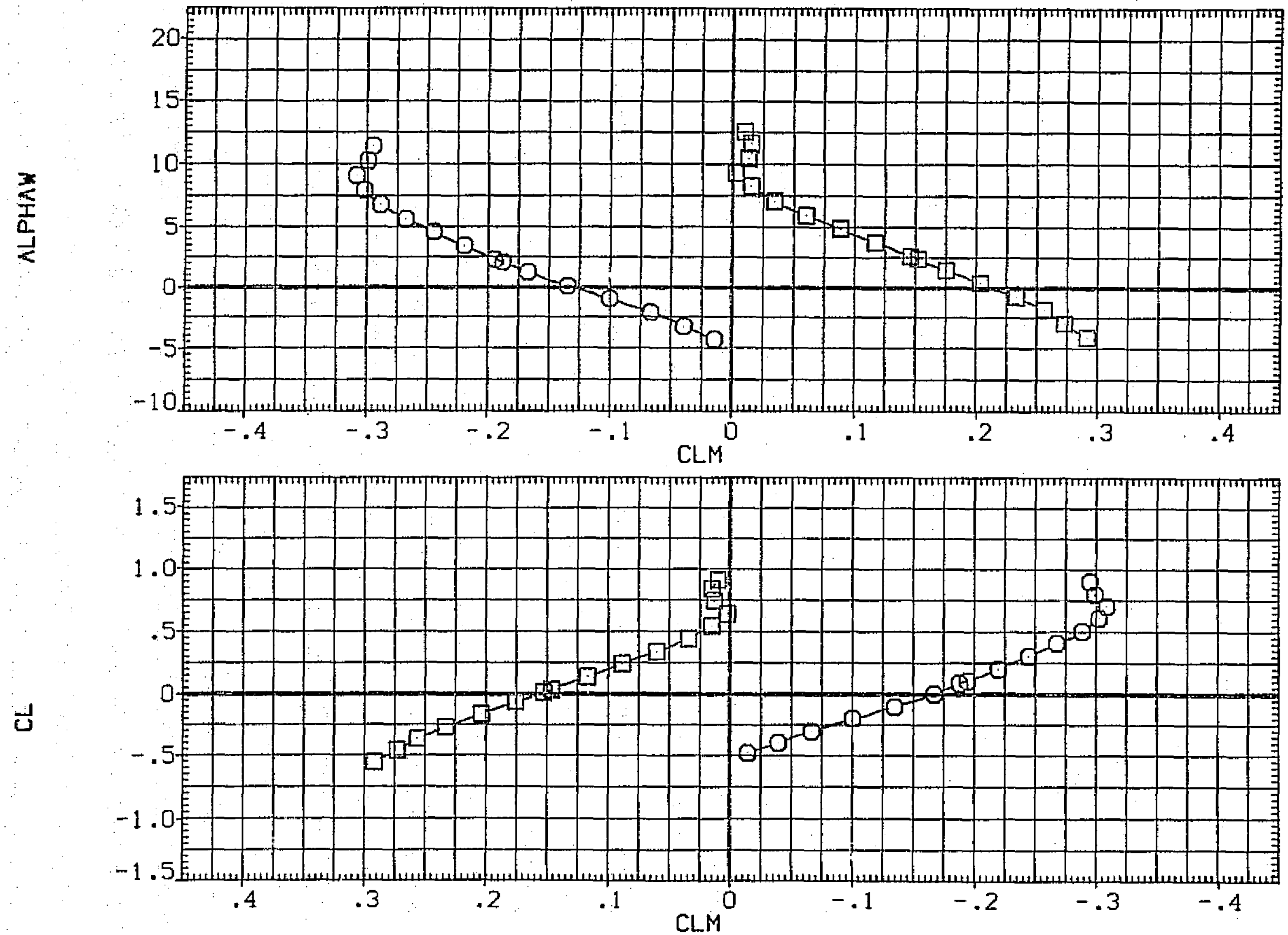



FIG. 87 STABILIZER EFFECTIVENESS, 747 CAM, CA23AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | FWD ST | STAB | BETA |
|---|---|---|---|---|---|
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | 5.070 | .000 |
| (RGP236) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 | -1.060 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

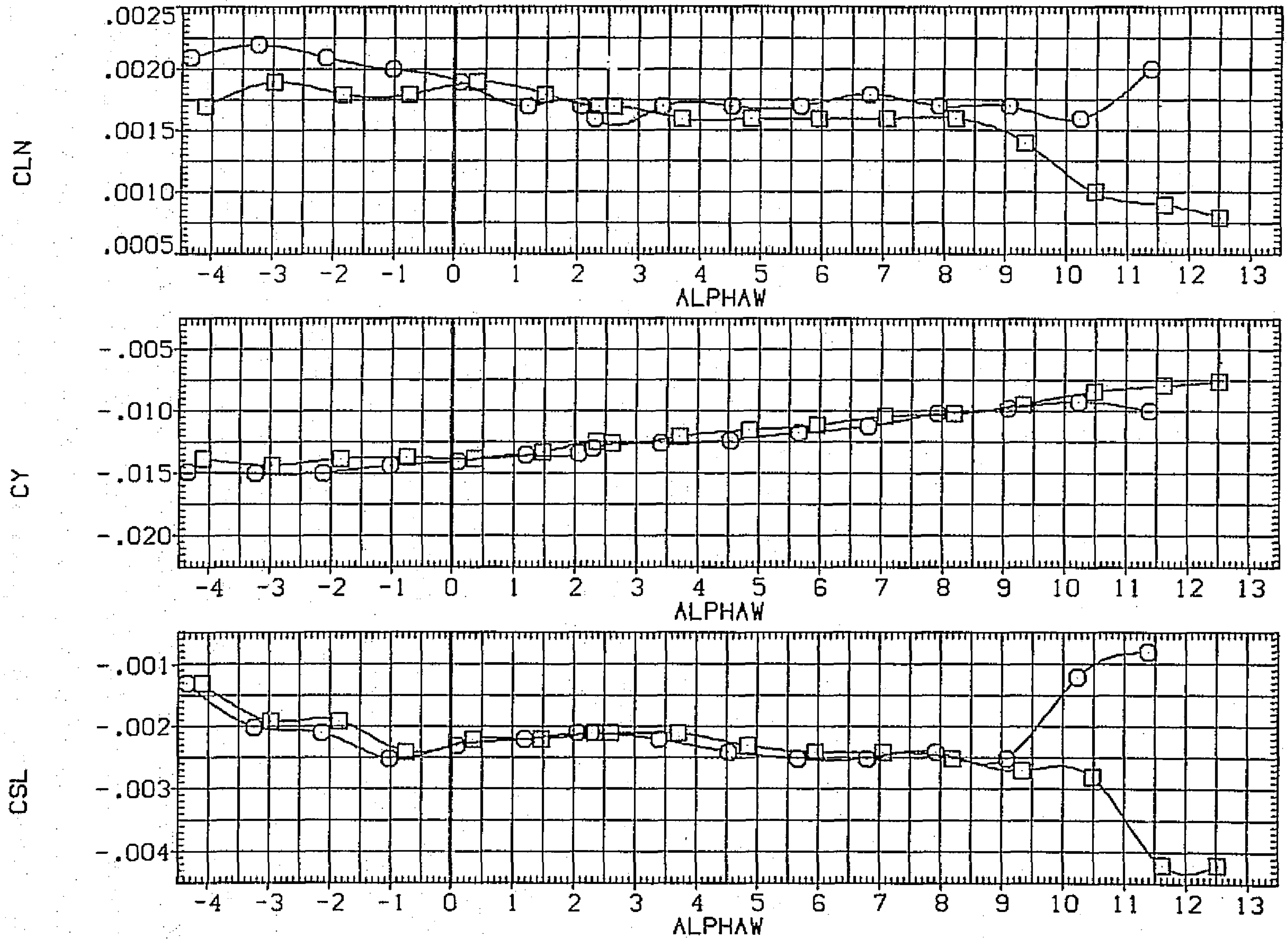



FIG. 87 STABILIZER EFFECTIVENESS, 747 CAM, CA23AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP227) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | -4.000 |
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 |
| (RGP228) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 2.000 |
| (RGP229) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 4.000 |
| (RGP230) | ▷ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 |
| (RGP231) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 10.000 |

REFERENCE INFORMATION

| | | | |
|---|---|---|---|
| SREF | 5500.0000 | SQ.FT. | |
| LREF | 327.8000 | IN. | |
| BREF | 2348.0000 | IN. | |
| XMRP | 1339.9000 | IN. | XC |
| YMRP | .0000 | IN. | YC |
| ZMRP | 190.7700 | IN. | ZC |
| SCALE | .0300 | | |

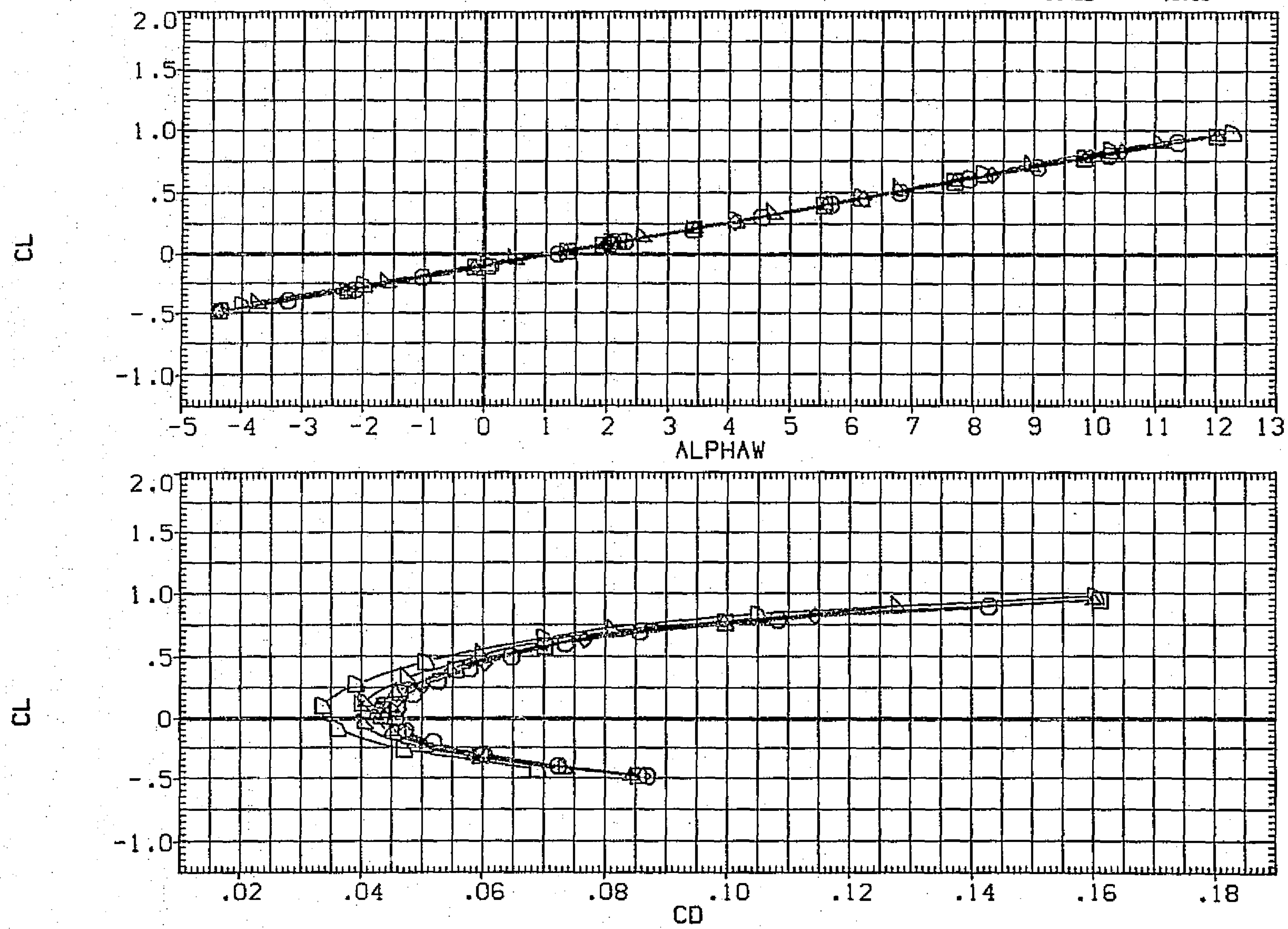



FIG. 88 LATERAL-DIRECTIONAL STABILITY, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP227) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | -4.000 |
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 |
| (RGP228) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 2.000 |
| (RGP229) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 4.000 |
| (RGP230) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 |
| (RGP231) | ◻ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

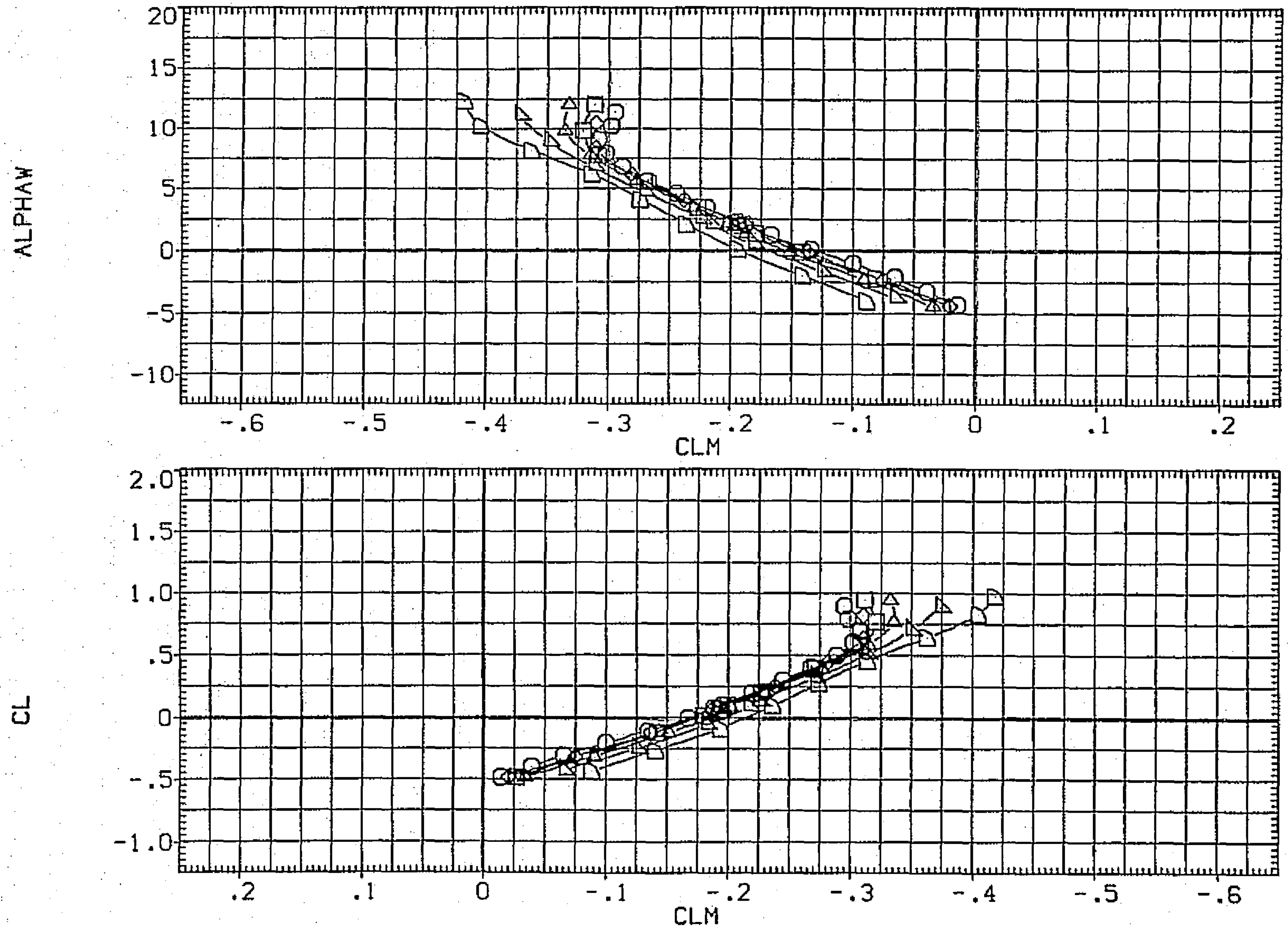



FIG. 88 LATERAL-DIRECTIONAL STABILITY, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP227) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | -4.000 |
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 |
| (RGP228) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 2.000 |
| (RGP229) | △ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 4.000 |
| (RGP230) | ◺ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 6.000 |
| (RGP231) | D | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

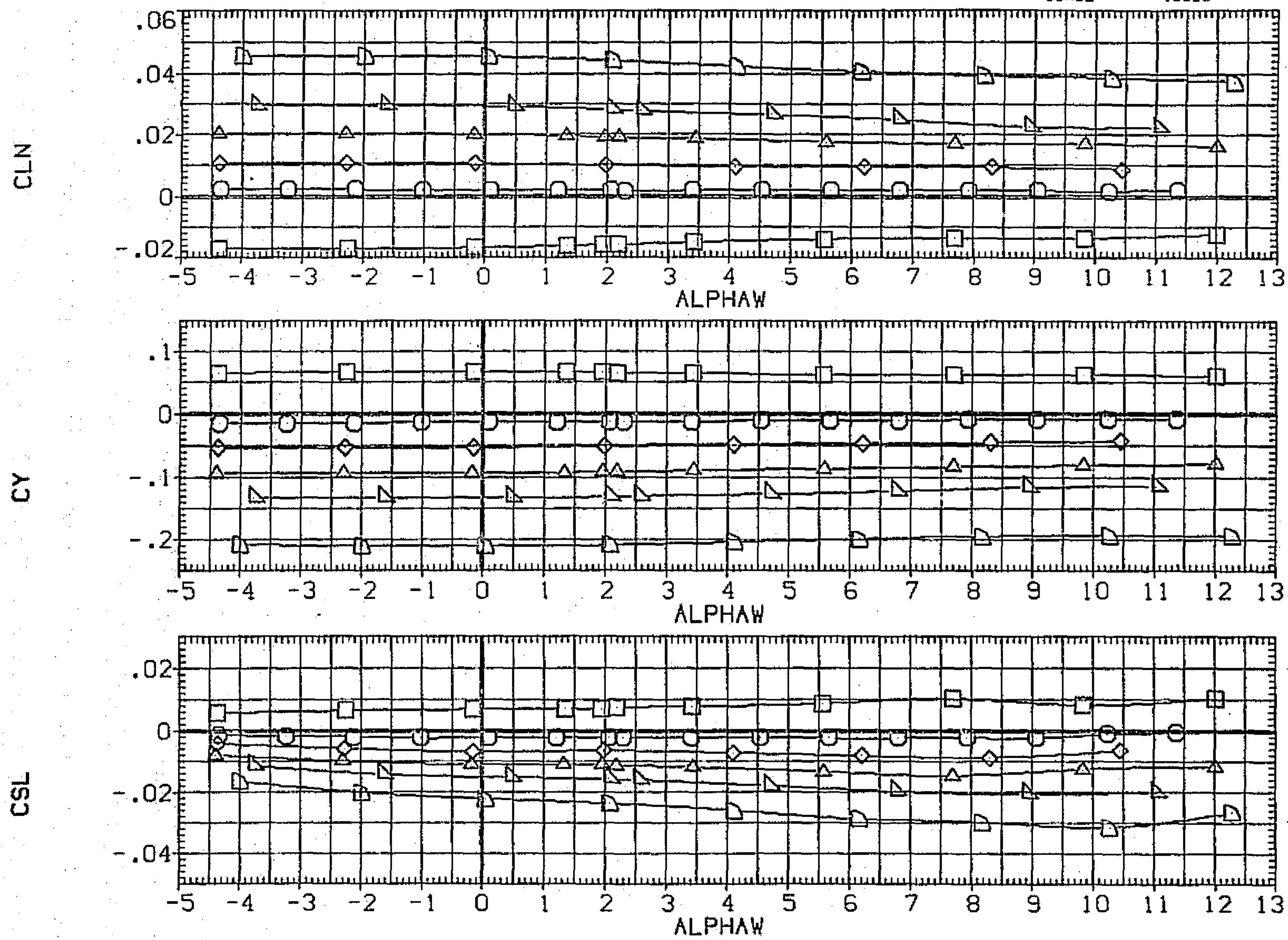



FIG. 88 LATERAL-DIRECTIONAL STABILITY, 747 CAM; CA23 AFT-ROUND FWD

(A)MACH = .60

CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 (RGP232)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .301 | STAB | 5.070 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

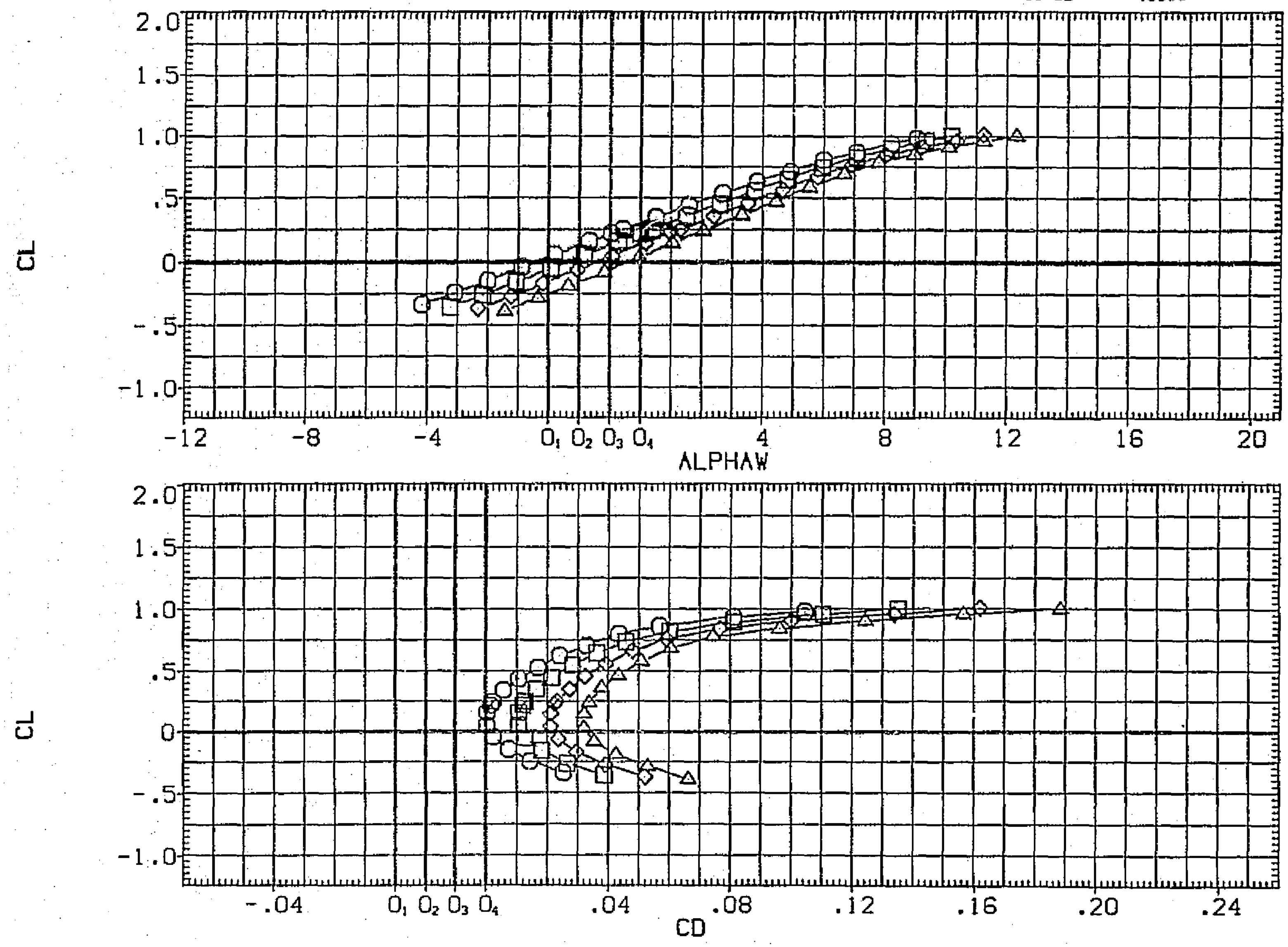



FIG. 89 MACH NUMBER EFFECTS, SPEED BRAKES DOWN, 747 CAM, CA23 AFT-ROUND FWD

CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 (RGP232)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .301 | STAB | 5.070 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

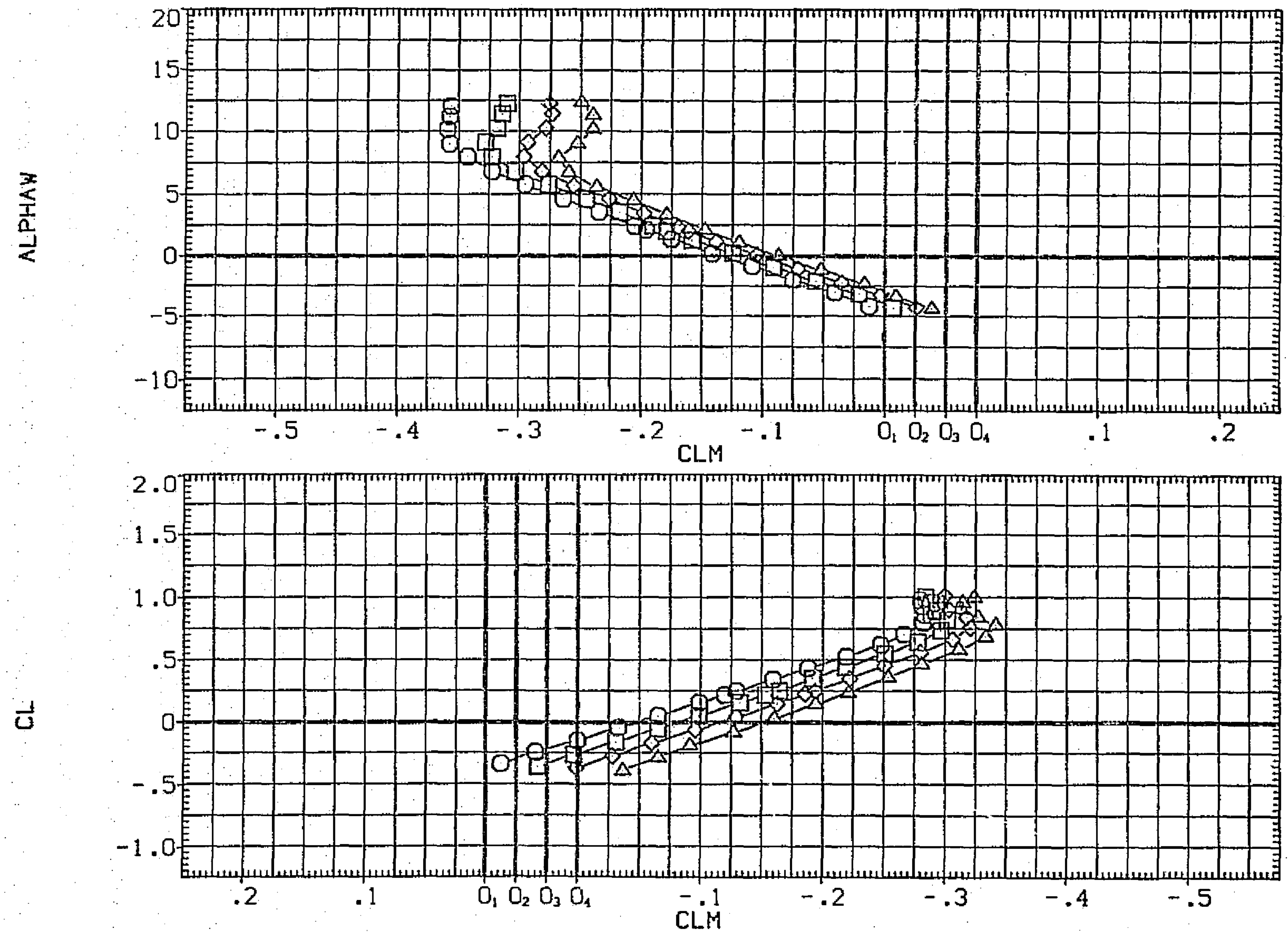



FIG. 89 MACH NUMBER EFFECTS, SPEED BRAKES DOWN, 747 CAM, CA23 AFT-ROUND FWD

CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 (RGP232)

| SYMBOL | MACH | | PARAMETRIC VALUES | | |
|---|---|---|---|---|---|
| ○ | .301 | STAB | 5.070 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

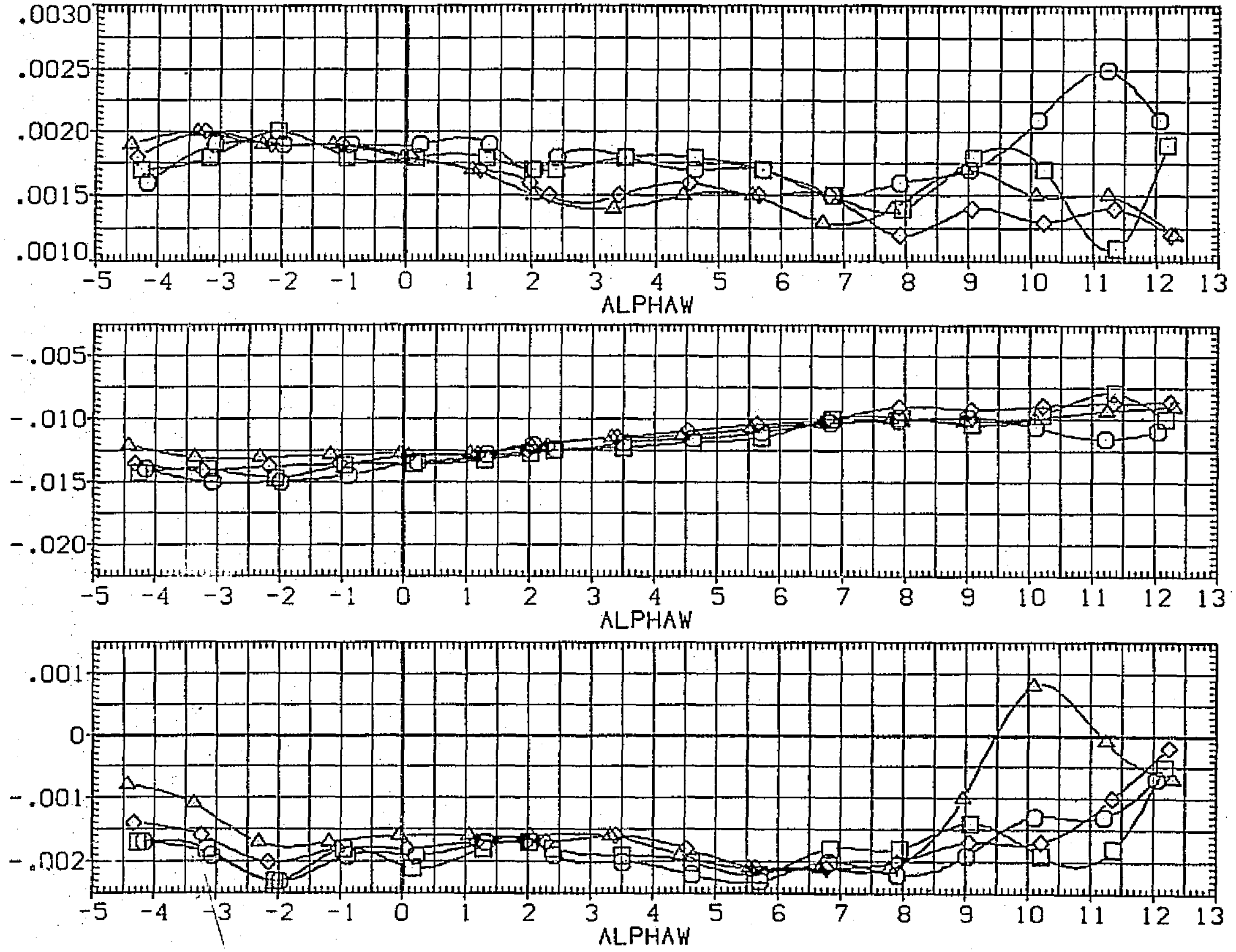



FIG. 89 MACH NUMBER EFFECTS, SPEED BRAKES DOWN, 747 CAM, CA23 AFT-ROUND FWD

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP234) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.010 | -9.584 | -10.133 |
| (RGP226) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 | .000 | .000 |
| (RGP233) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.060 | 9.800 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

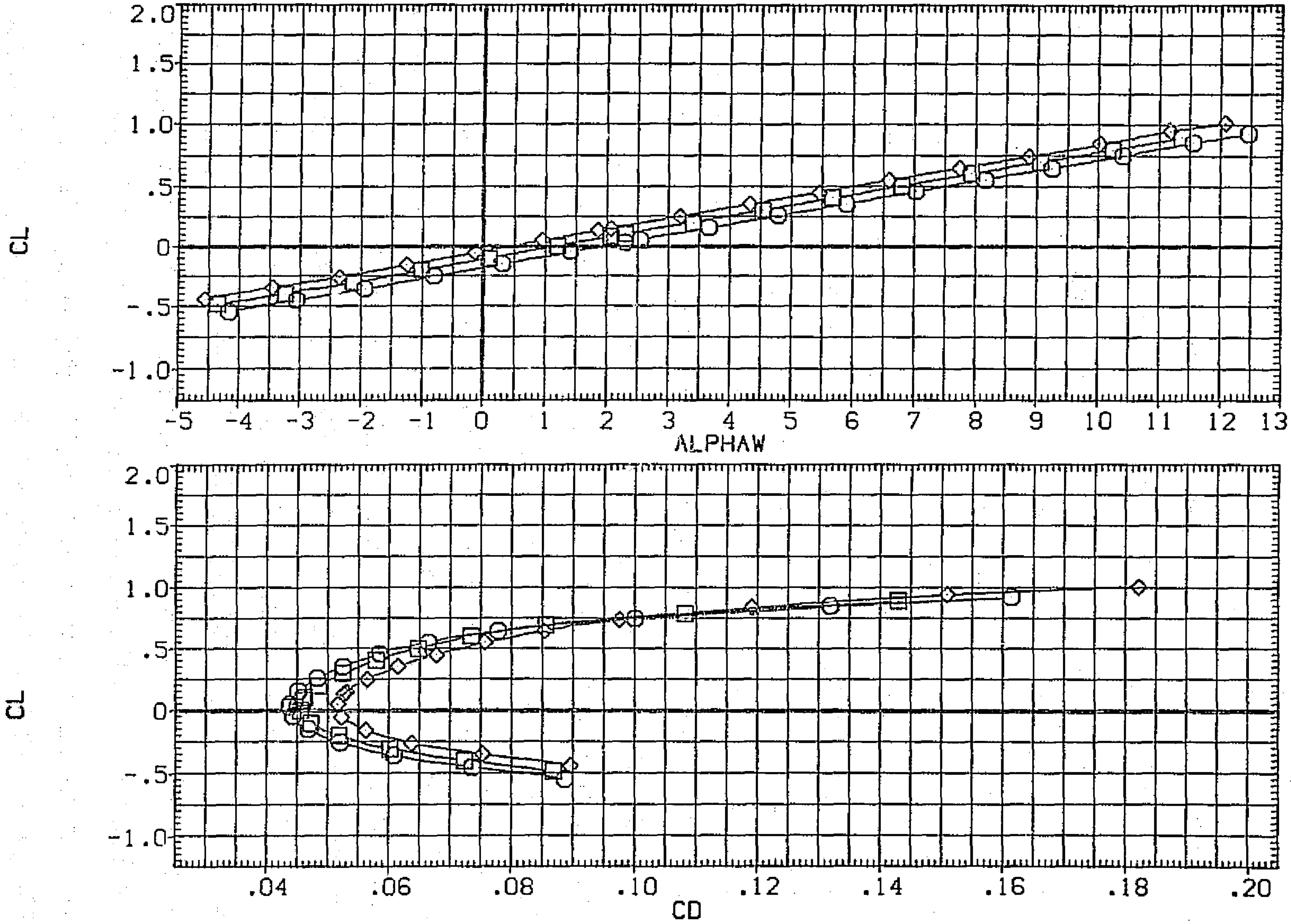



FIG. 90 ELEVATOR EFFECTIVENESS, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP234) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.010 | -9.584 | -10.133 |
| (RGP226) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 | .000 | .000 |
| (RGP233) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.060 | 9.800 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

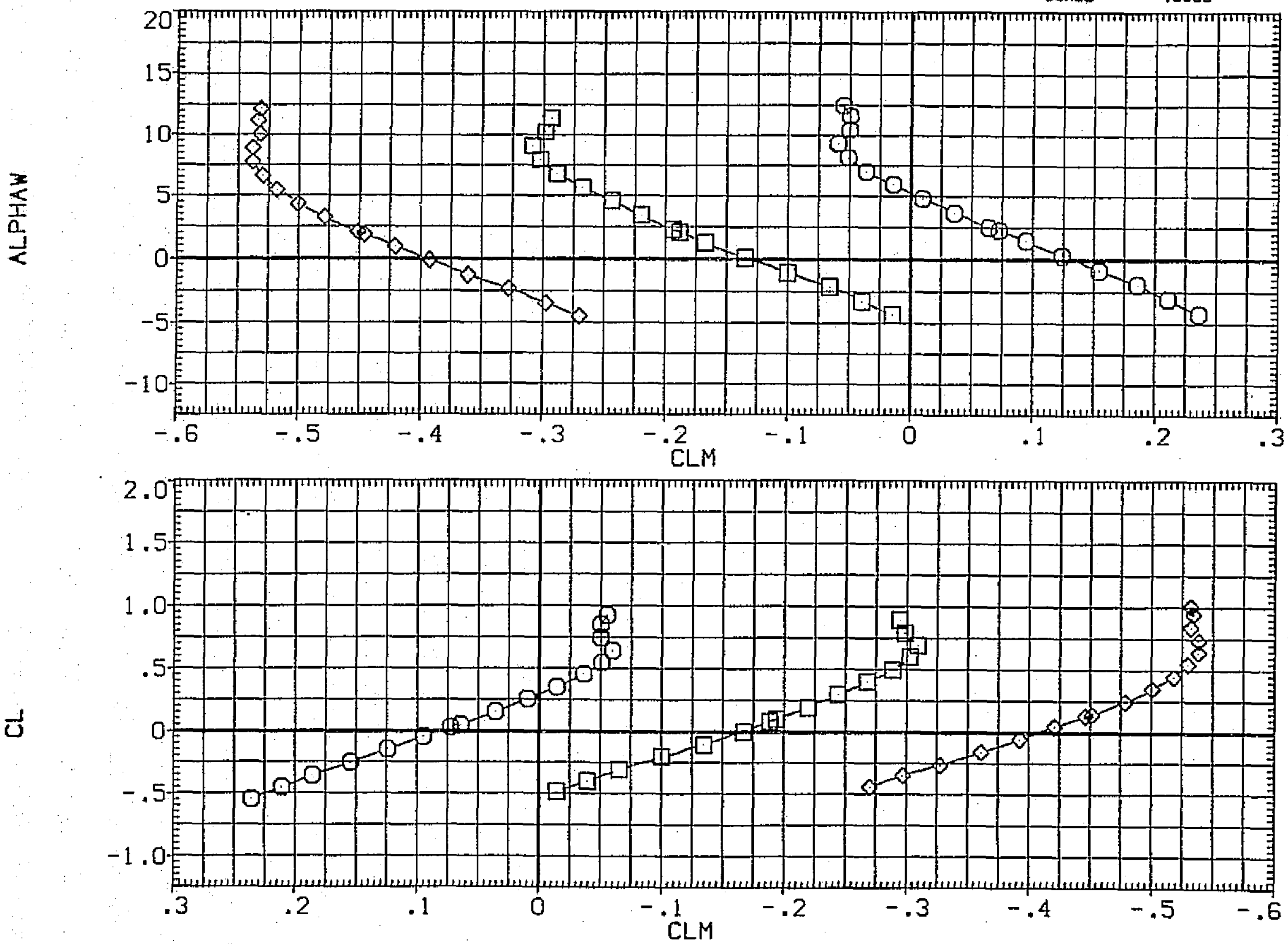



FIG. 90 ELEVATOR EFFECTIVENESS, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP234) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.010 | -9.584 | -10.133 |
| (RGP226) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 | .000 | .000 |
| (RGP233) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.060 | 9.800 | 10.000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

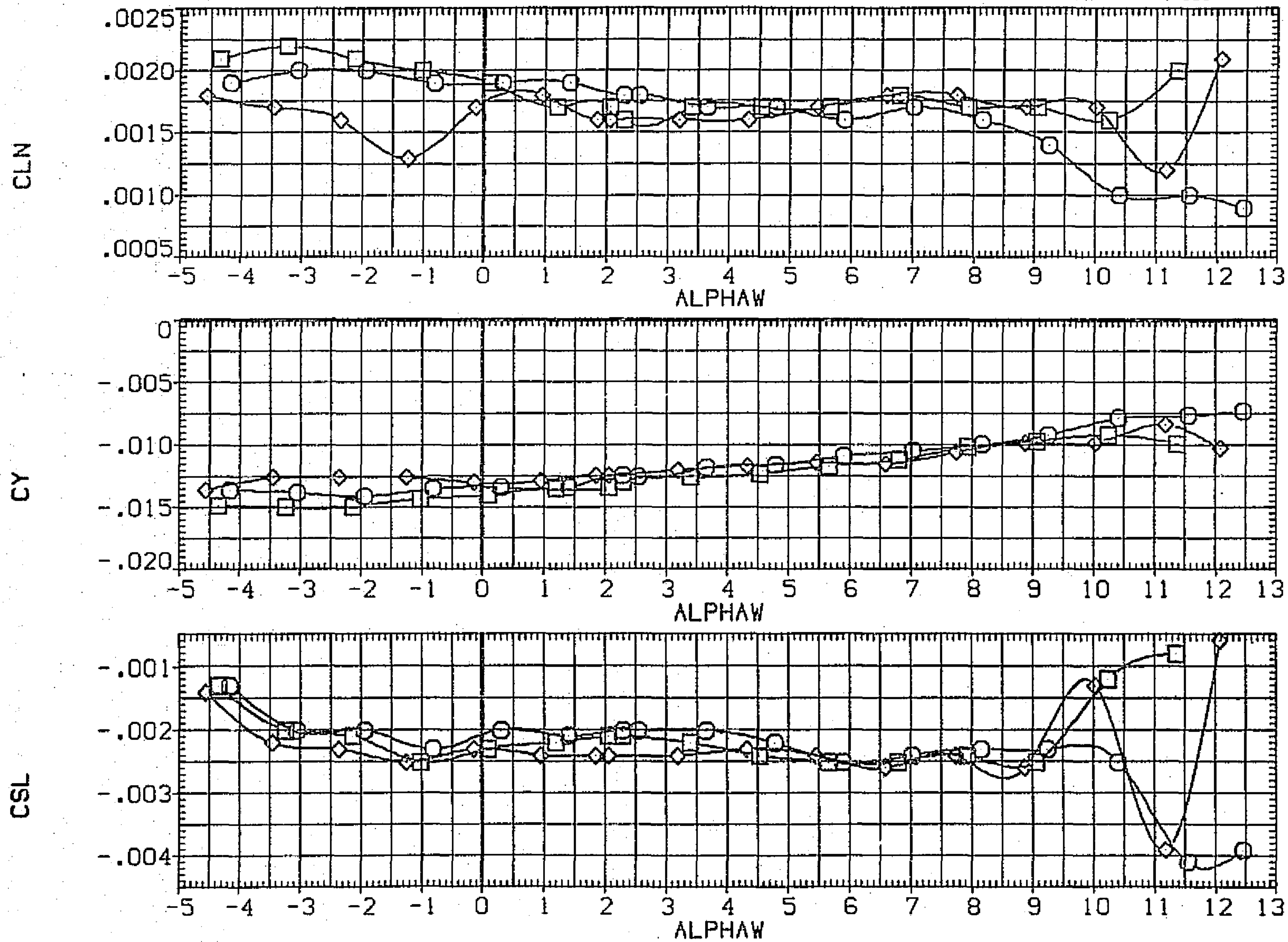



FIG. 90 ELEVATOR EFFECTIVENESS, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | .000 | .000 | .000 |
| (RGP235) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

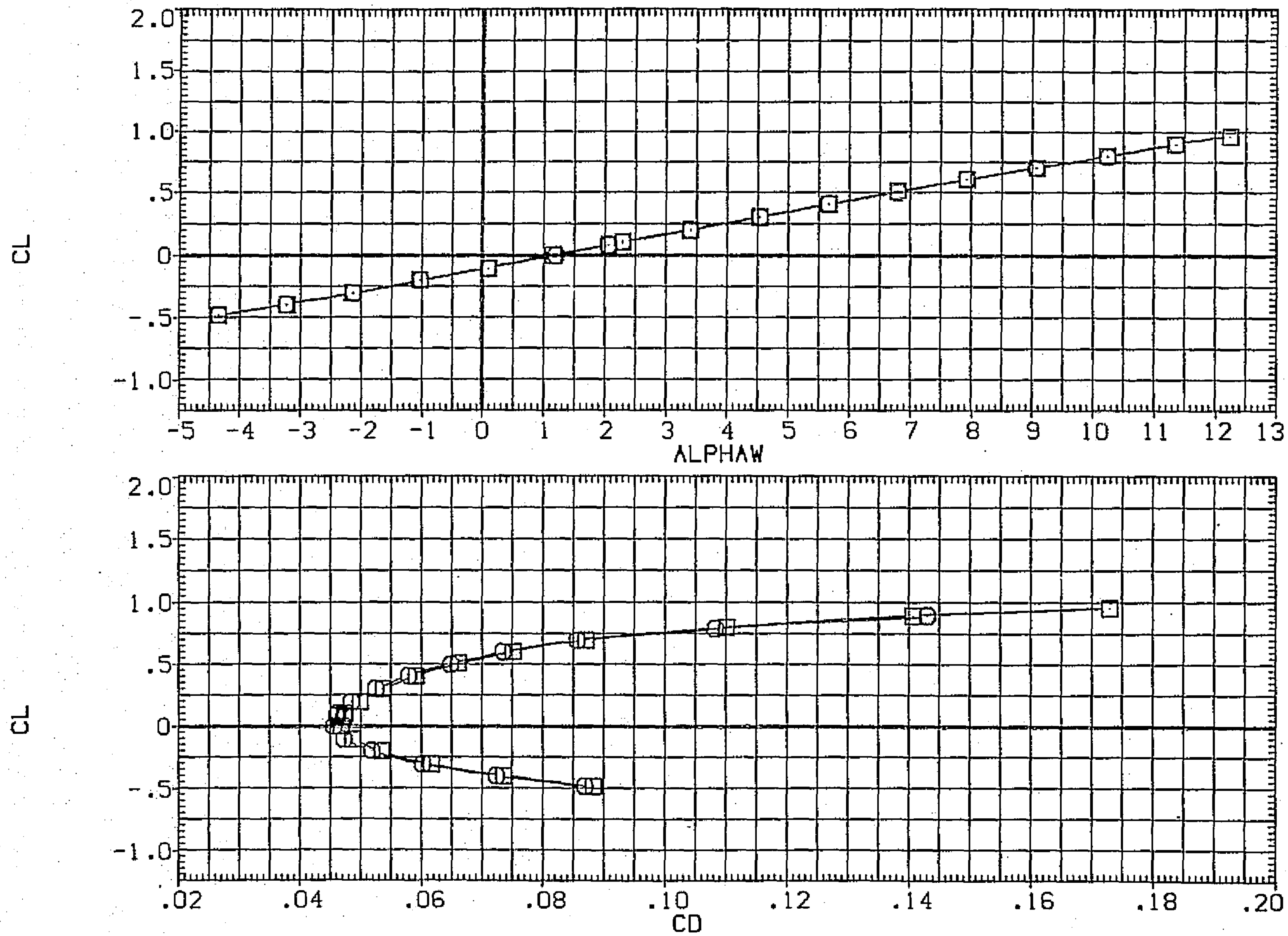



FIG. 91 RUDDER EFFECTIVENESS, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | .000 | .000 | .000 |
| (RGP235) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

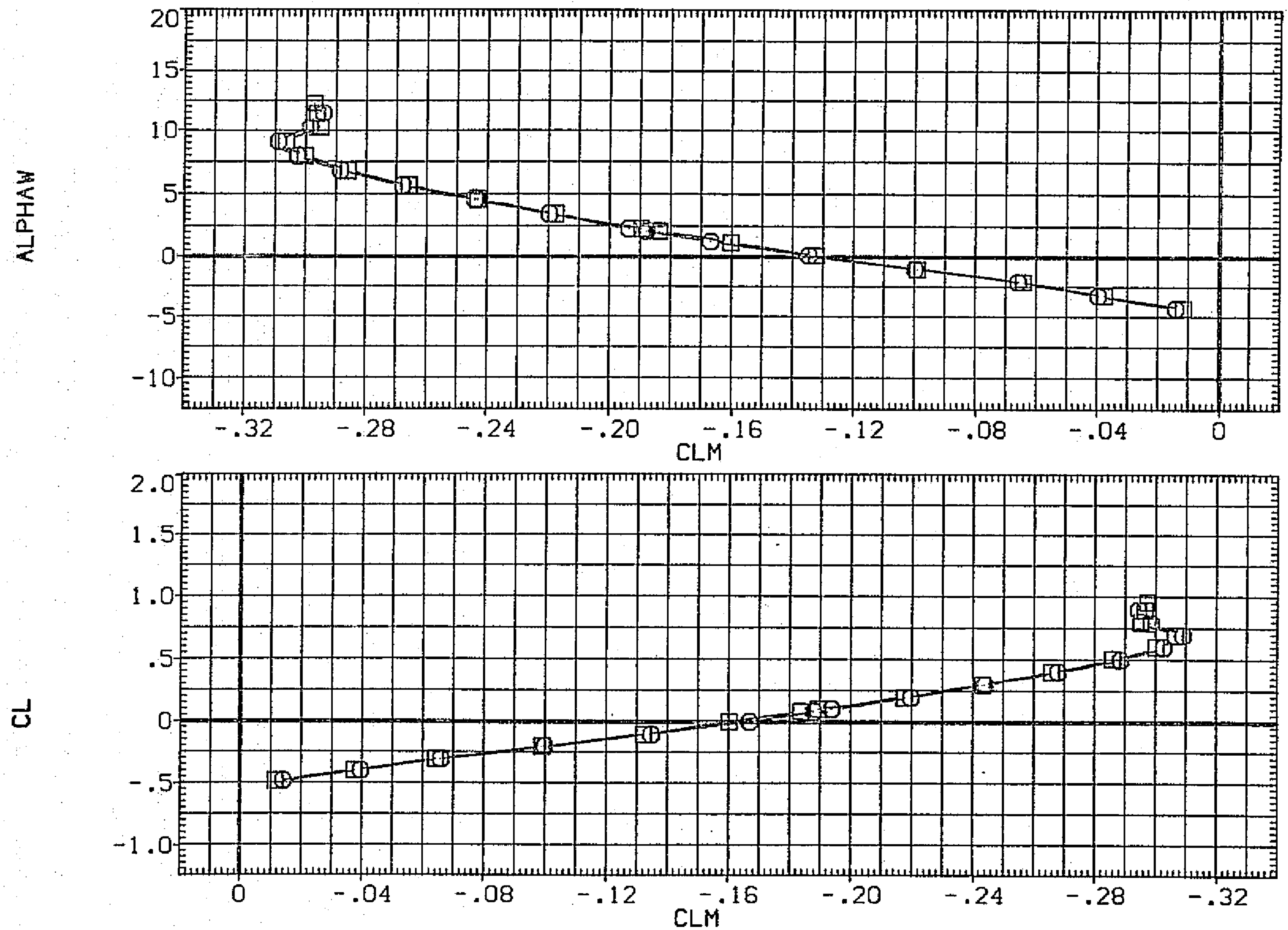



FIG. 91 RUDDER EFFECTIVENESS, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | RUD-U | RUD-L | ELV-IB | ELV-OB |
|---|---|---|---|---|---|---|
| (RGP226) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | .000 | .000 | .000 |
| (RGP235) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | 10.000 | 10.000 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

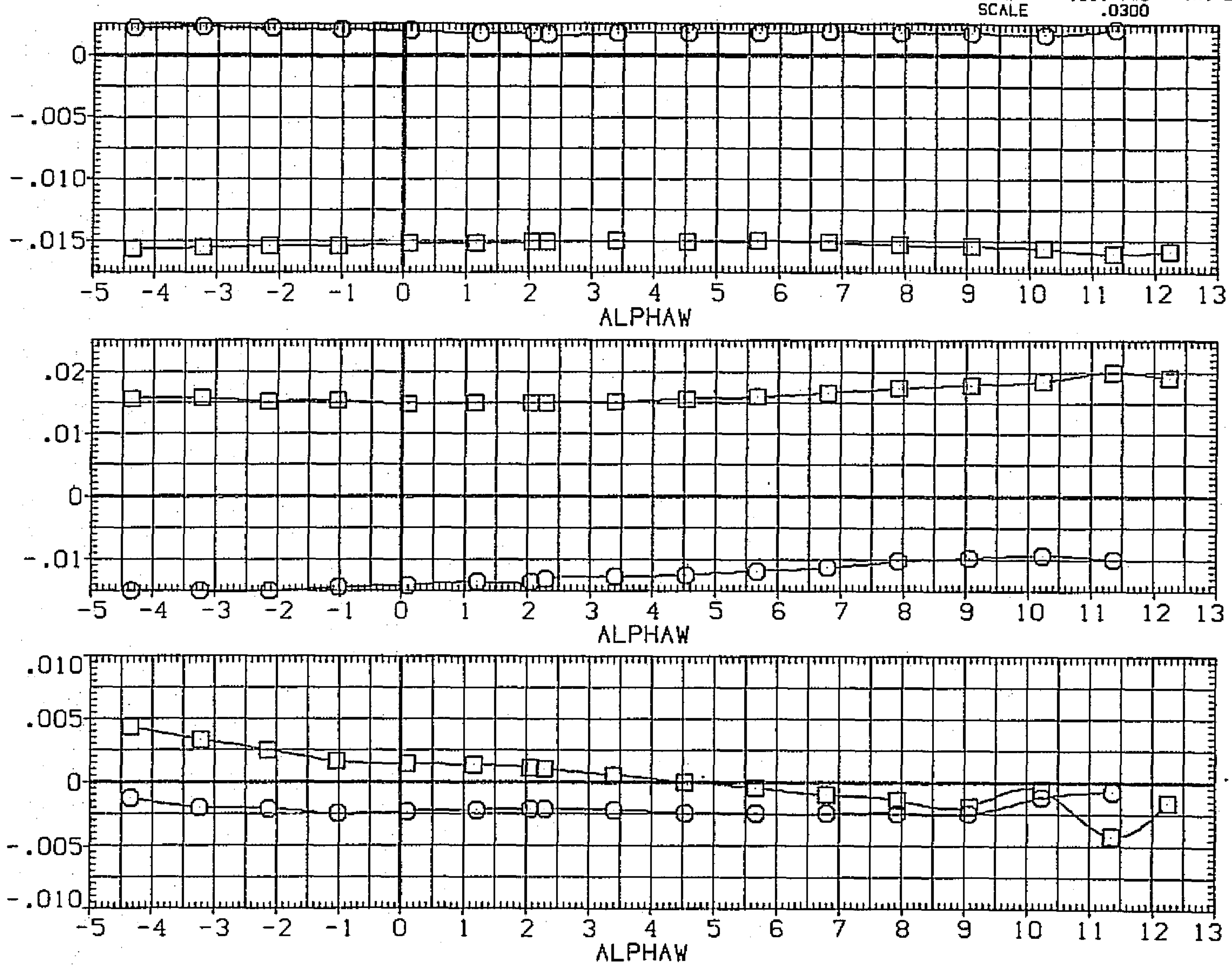



FIG. 91 RUDDER EFFECTIVENESS, 747 CAM, CA23 AFT-ROUND FWD

(A)MACH = .60

CA6 K2H15.6.1V9.1S1-12 AT1C3.3/111.1 (RGP237)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 5.070 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .599 | ELV-OB | .000 | BETA | .000 |
| △ | .699 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

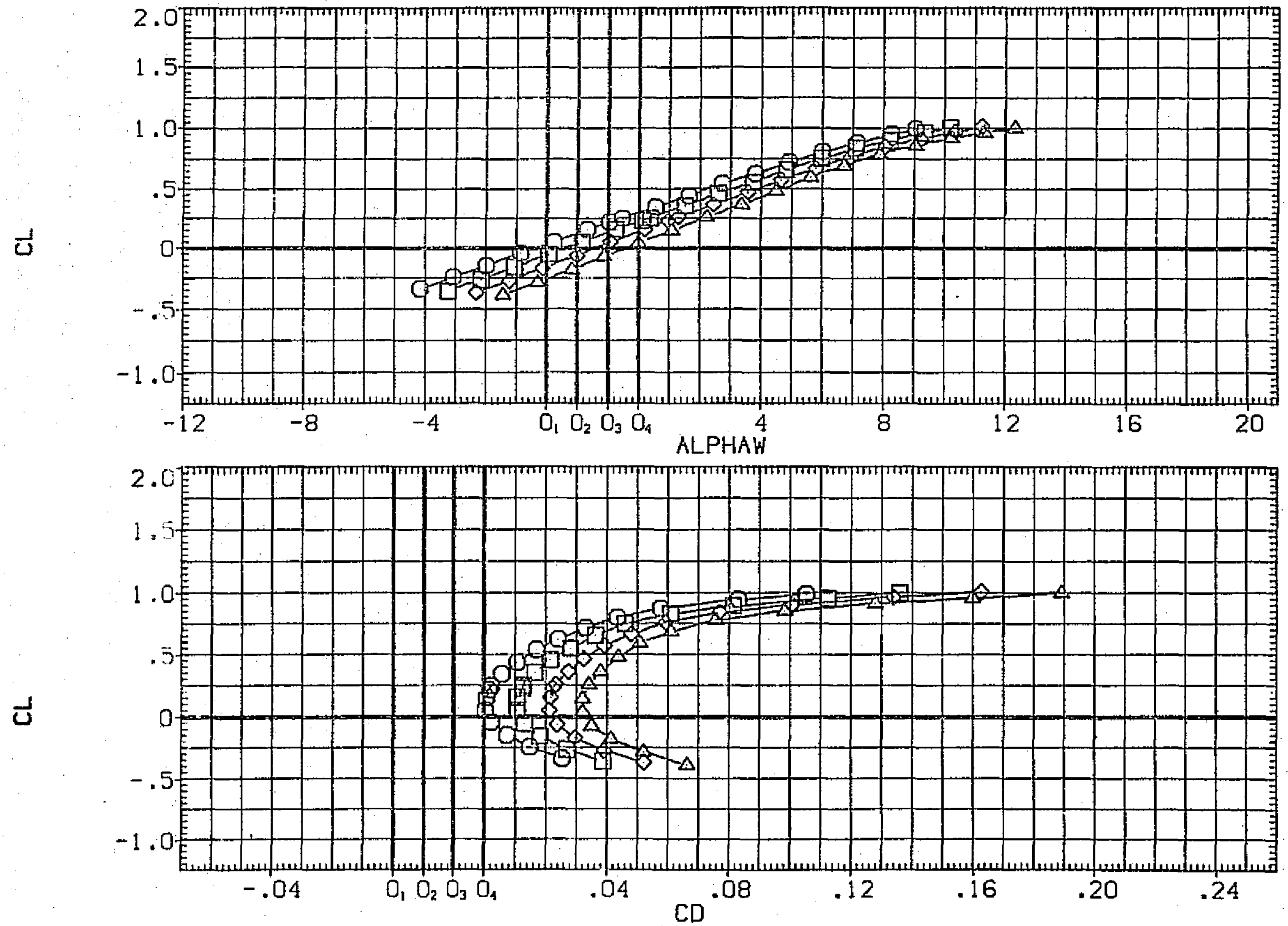



FIG. 92 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT-ROUND FWD

CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 (RGP237)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 5.070 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .599 | ELV-OB | .000 | BETA | .000 |
| △ | .699 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

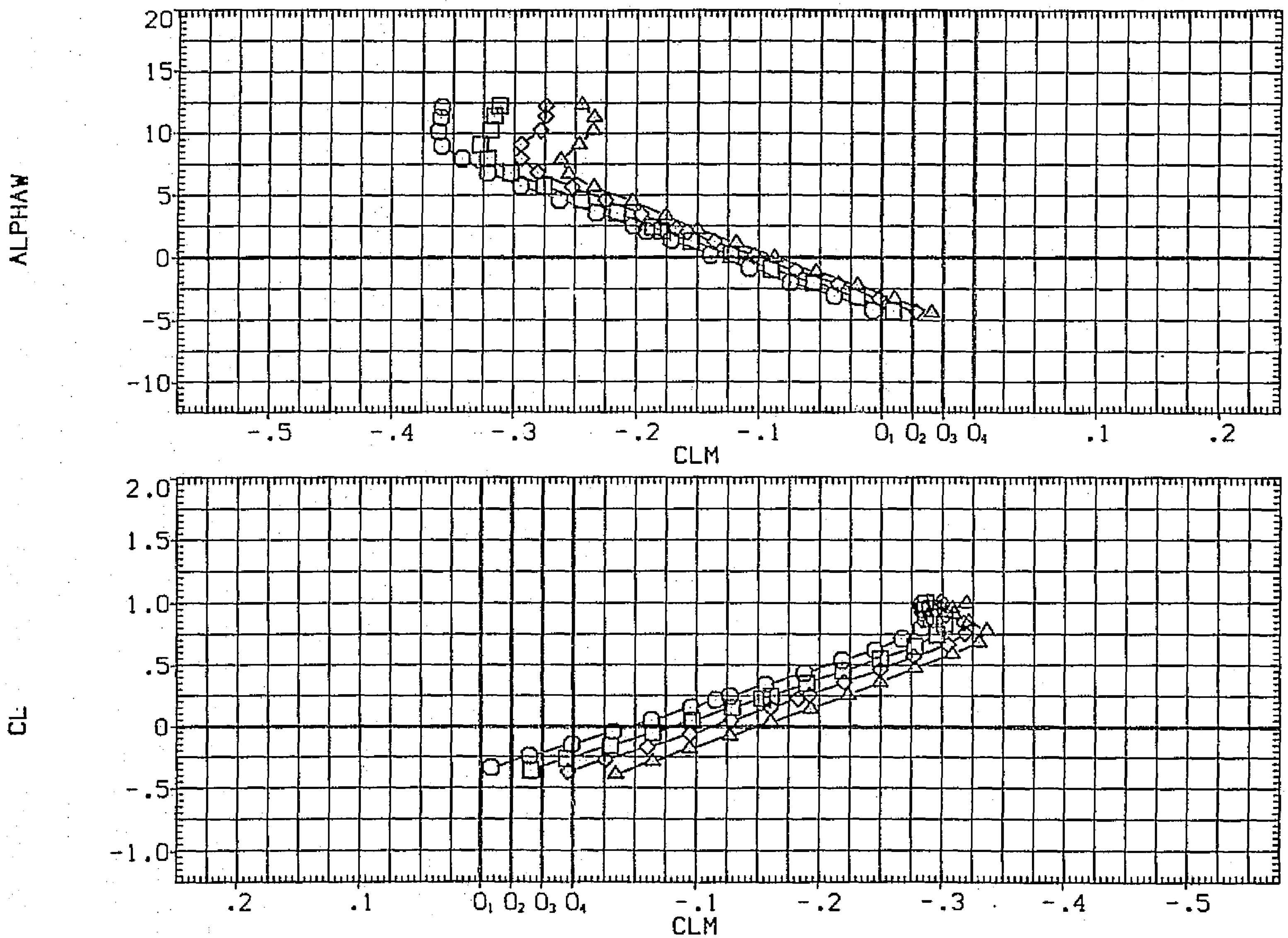



FIG. 92 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT-ROUND FWD

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 5.070 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .599 | ELV-OB | .000 | BETA | .000 |
| △ | .699 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

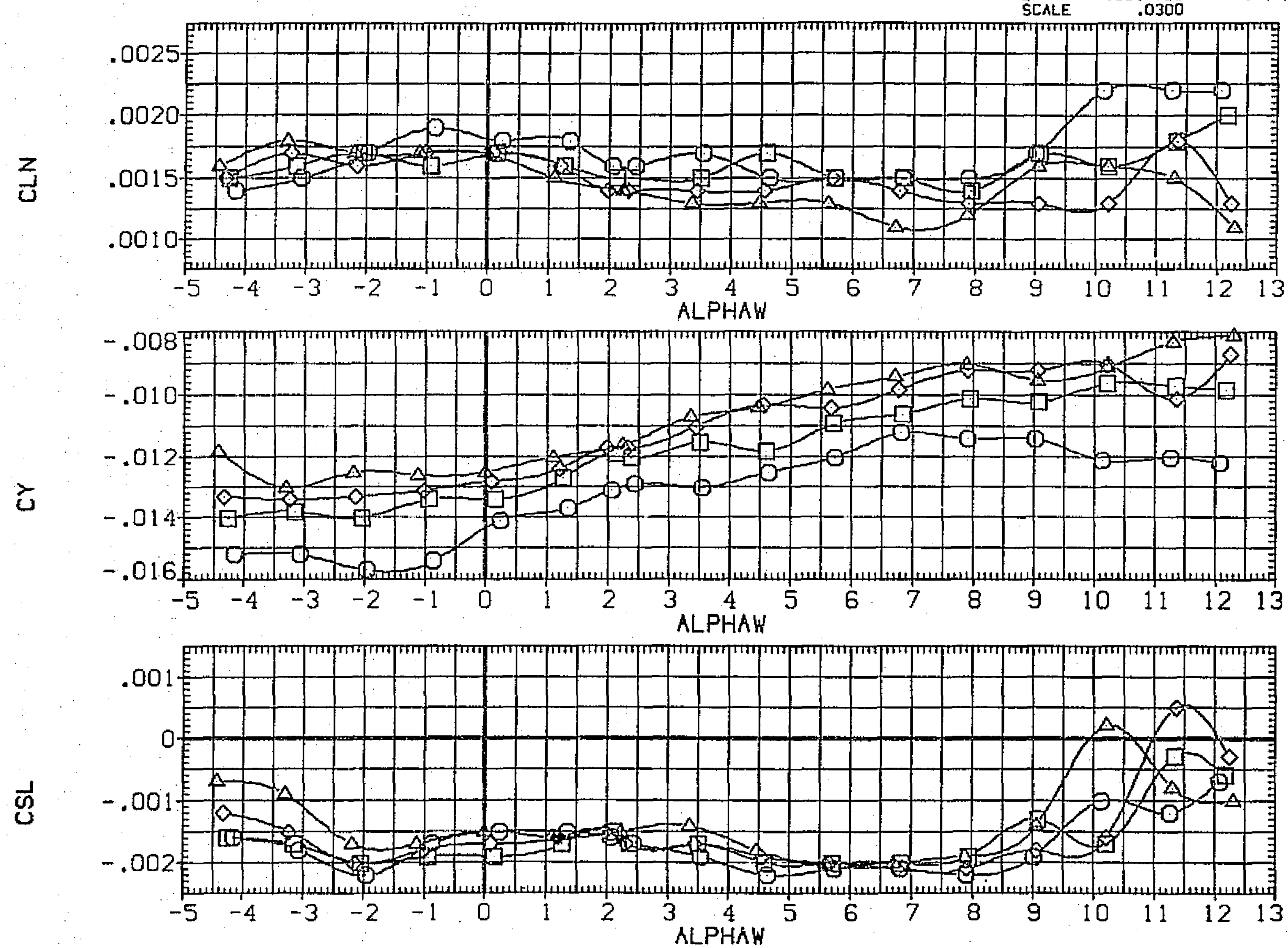



FIG. 92 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT-ROUND FWD

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

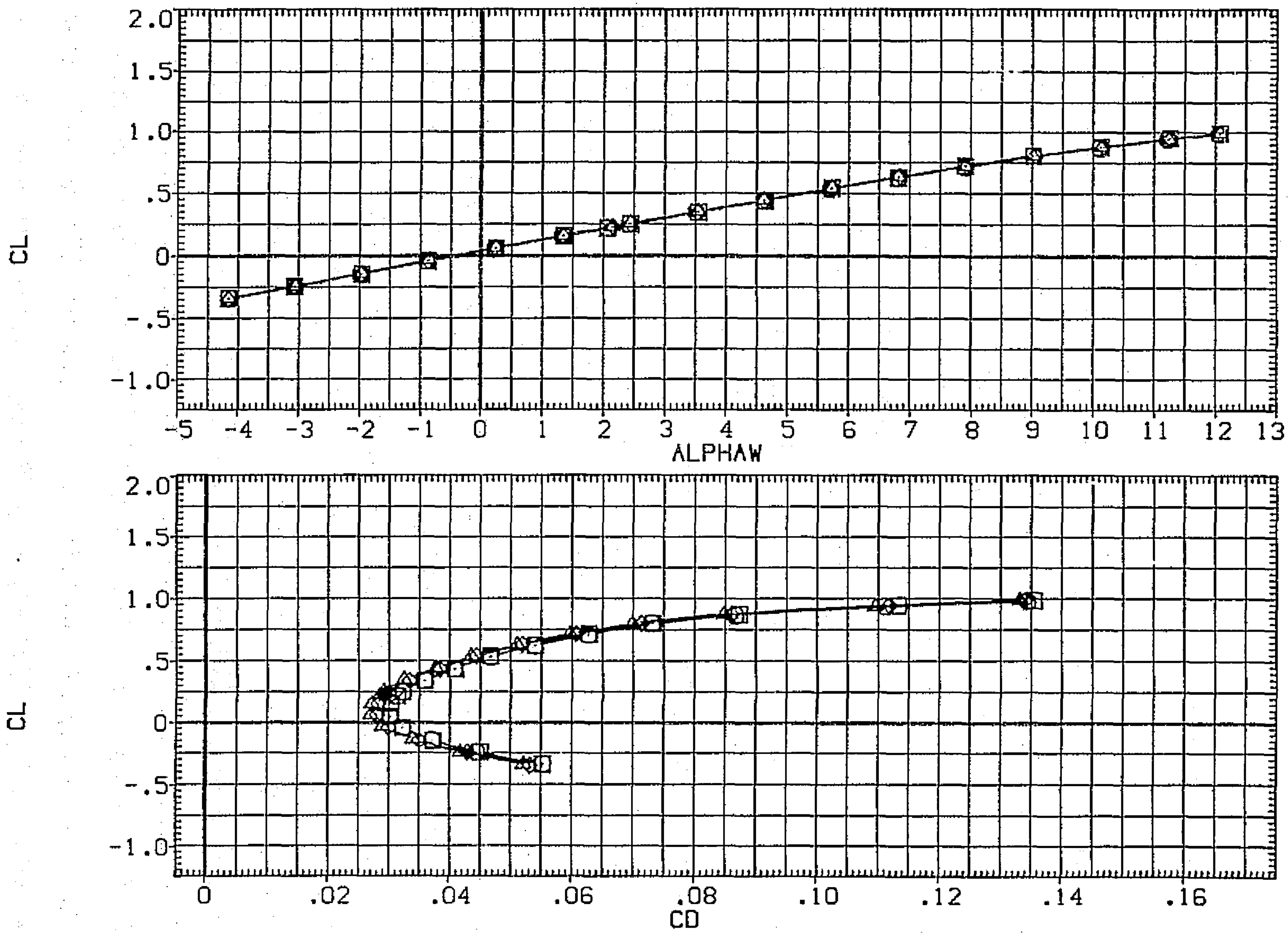



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
| --- | --- | --- | --- | --- |
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

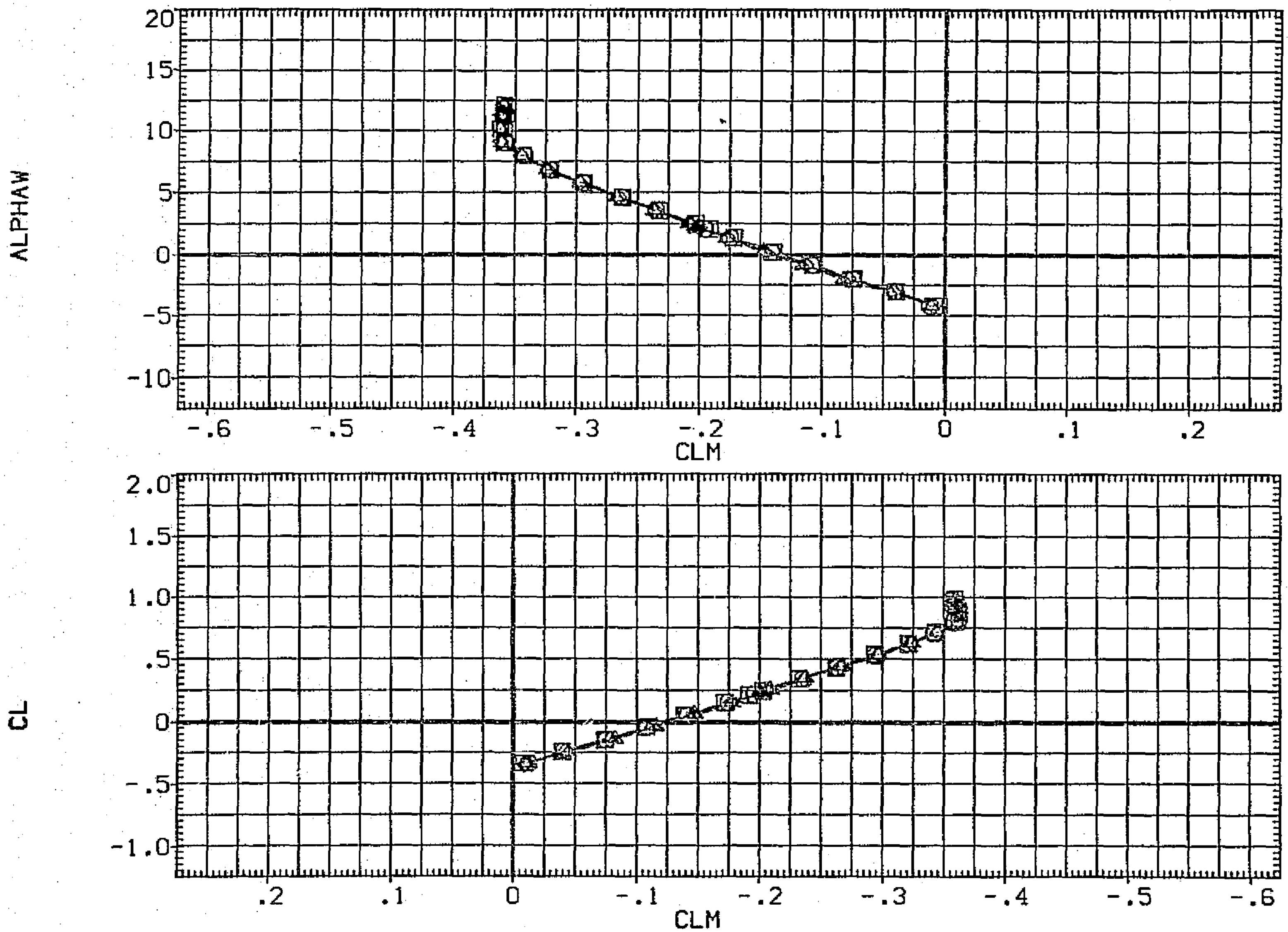



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

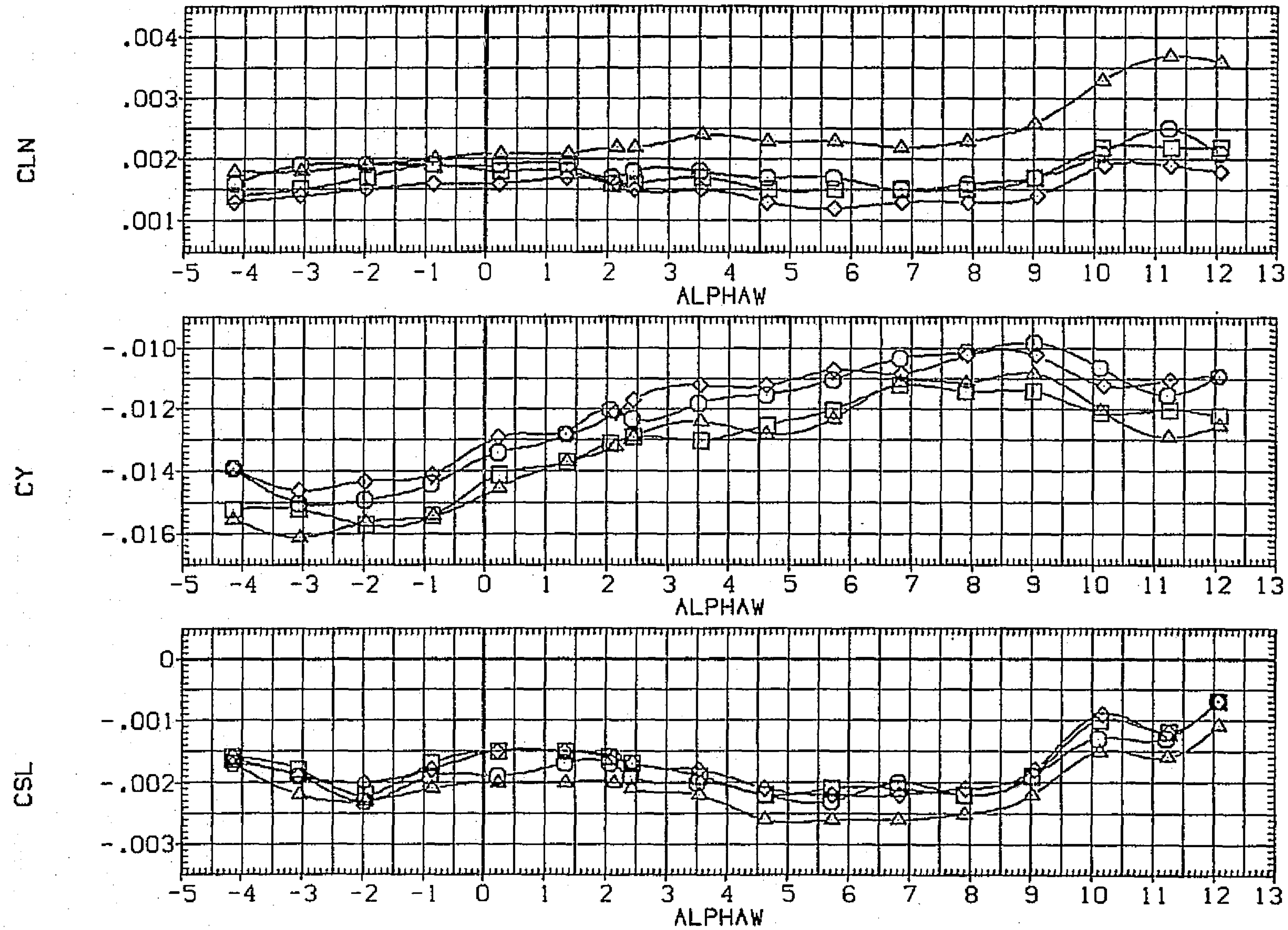



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

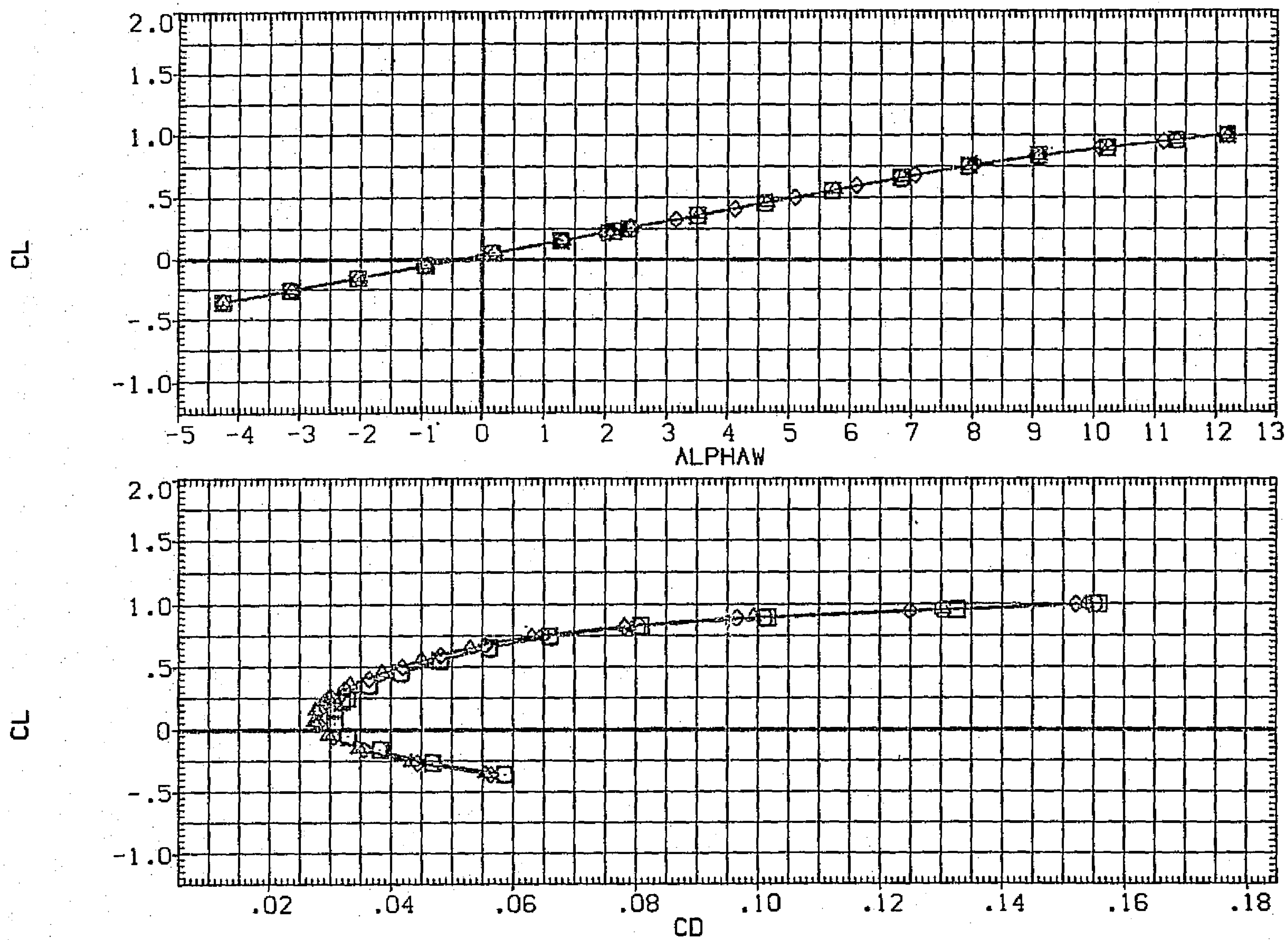



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

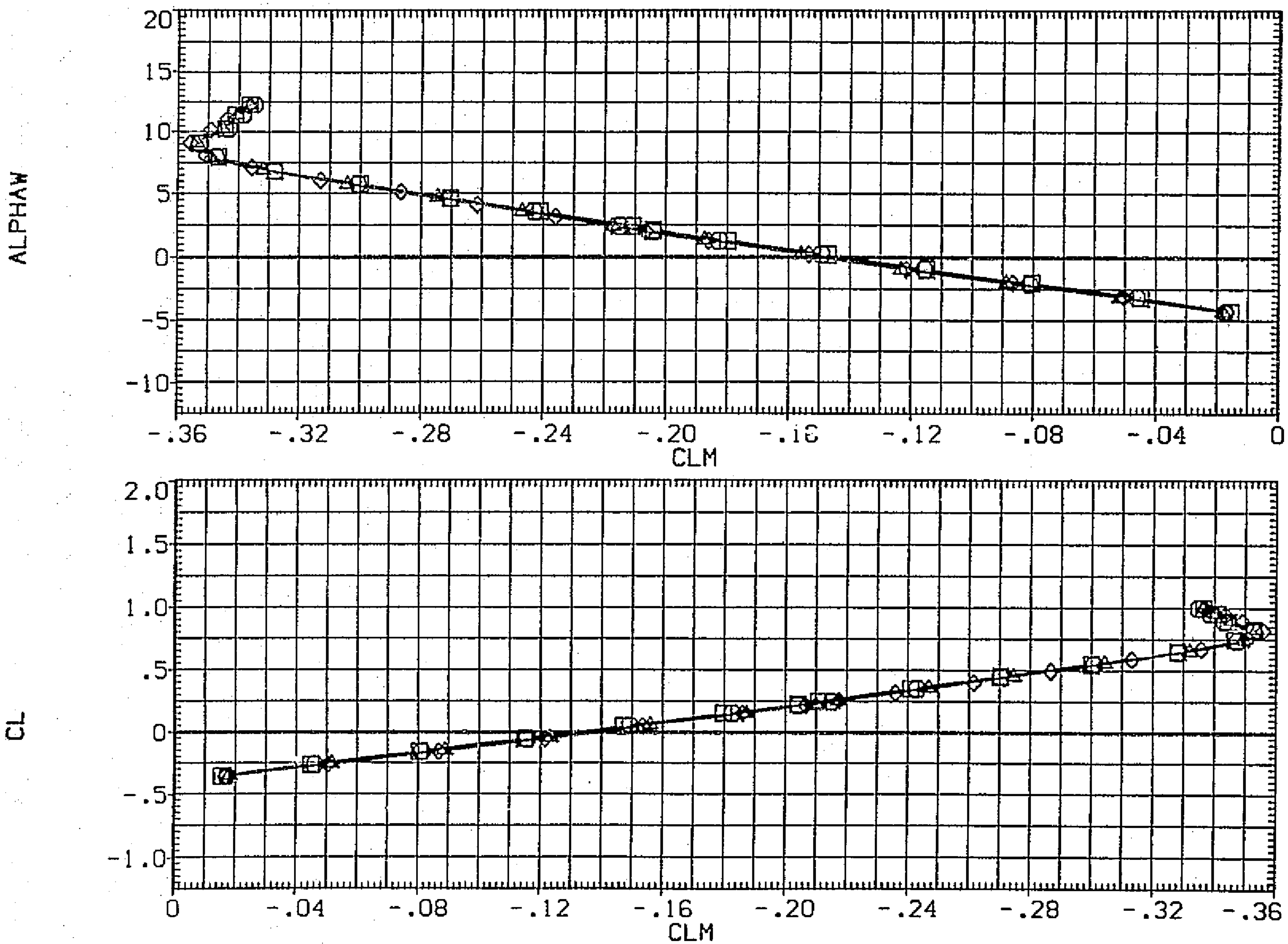



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| [RGP232] | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| [RGP237] | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| [RGP238] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| [RGP245] | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

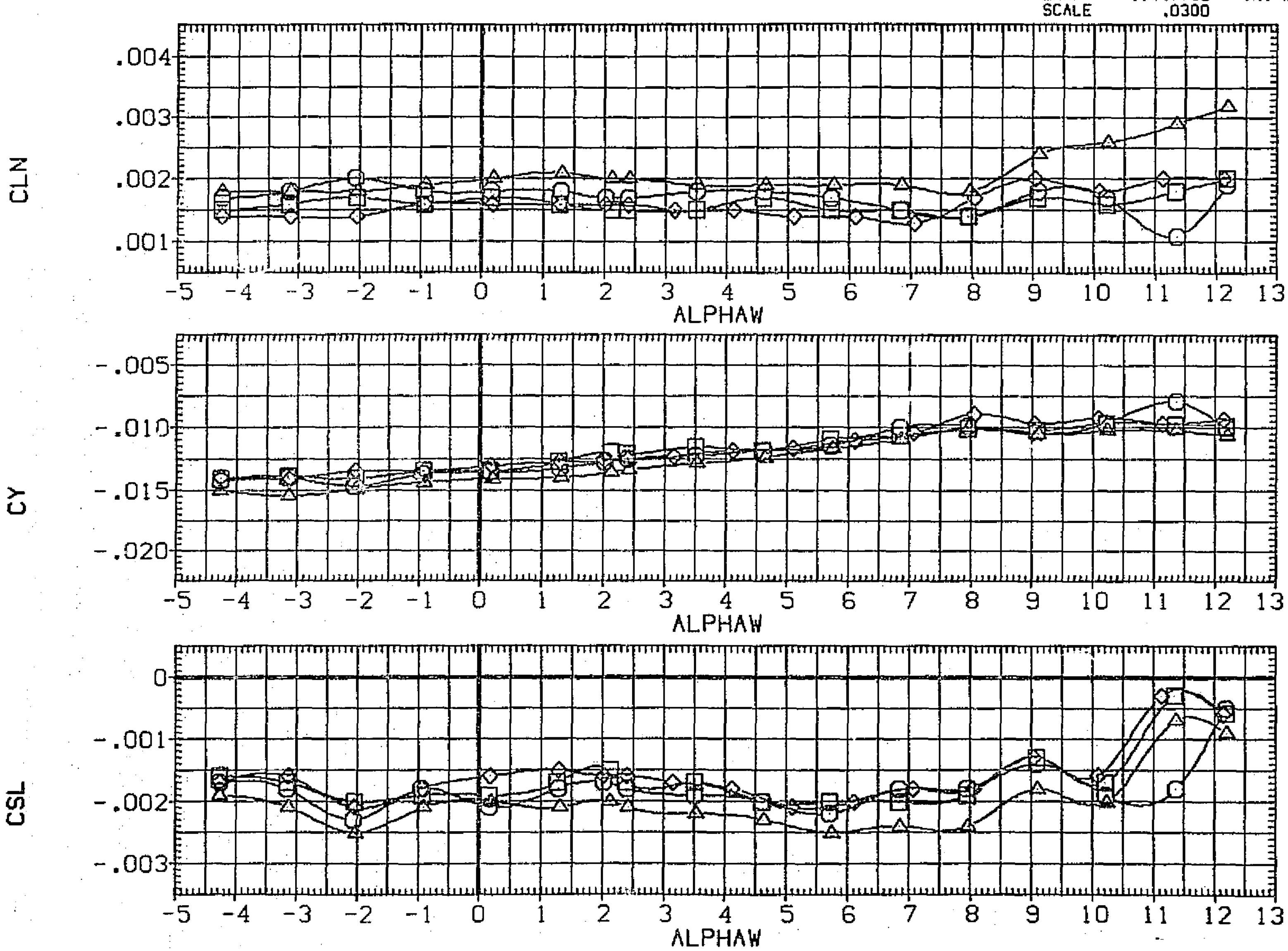


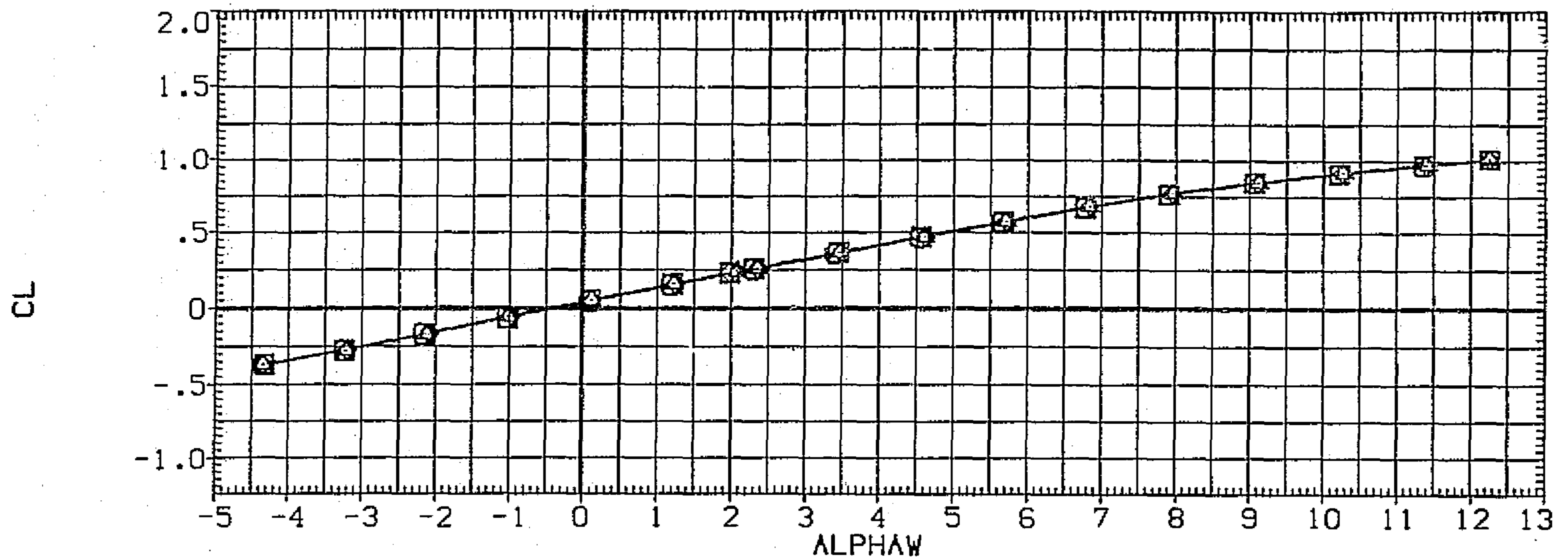

FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.IV9.IS1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.IV9.IS1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.IV9.IS1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.IV9.IS1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



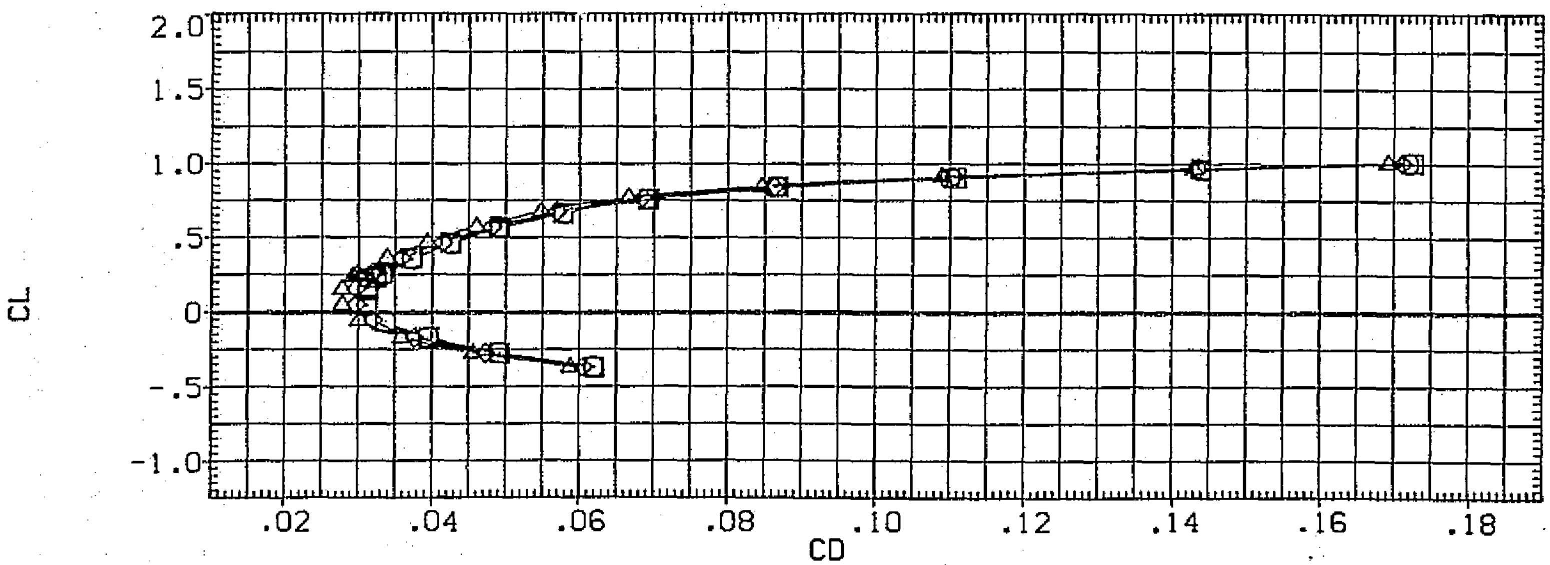




FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

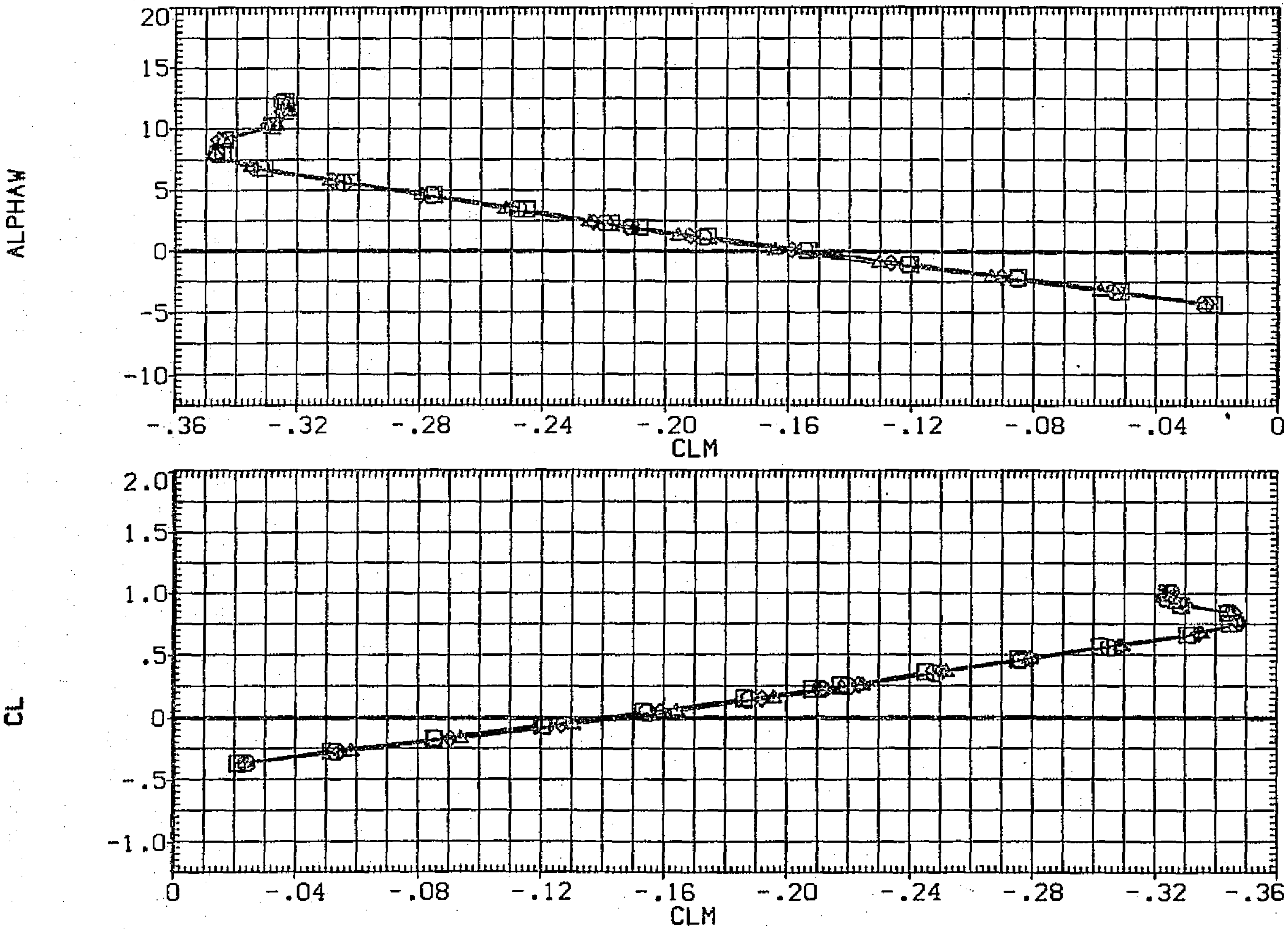



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

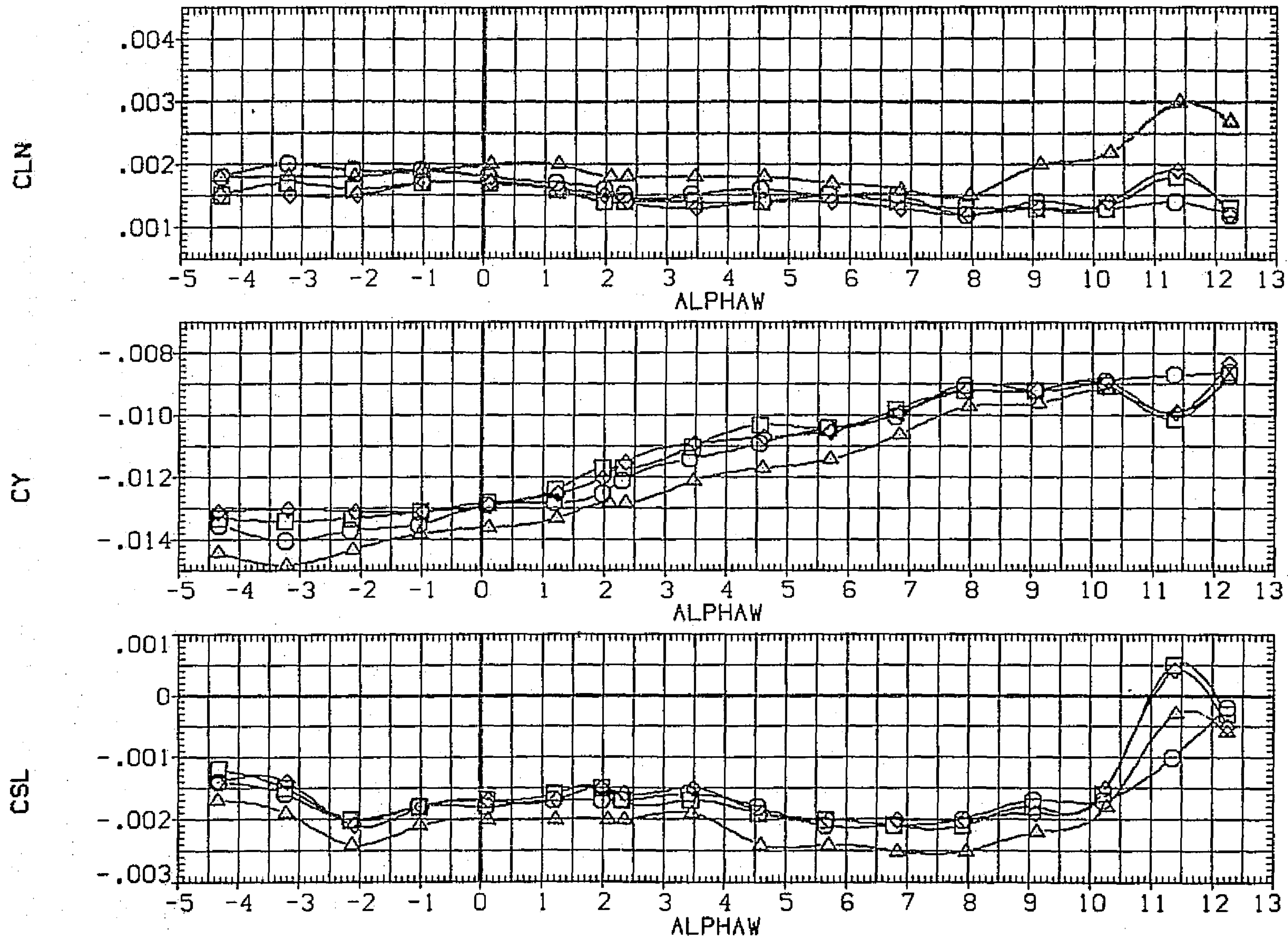



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| [RGP232] | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| [RGP237] | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| [RGP238] | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| [RGP245] | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

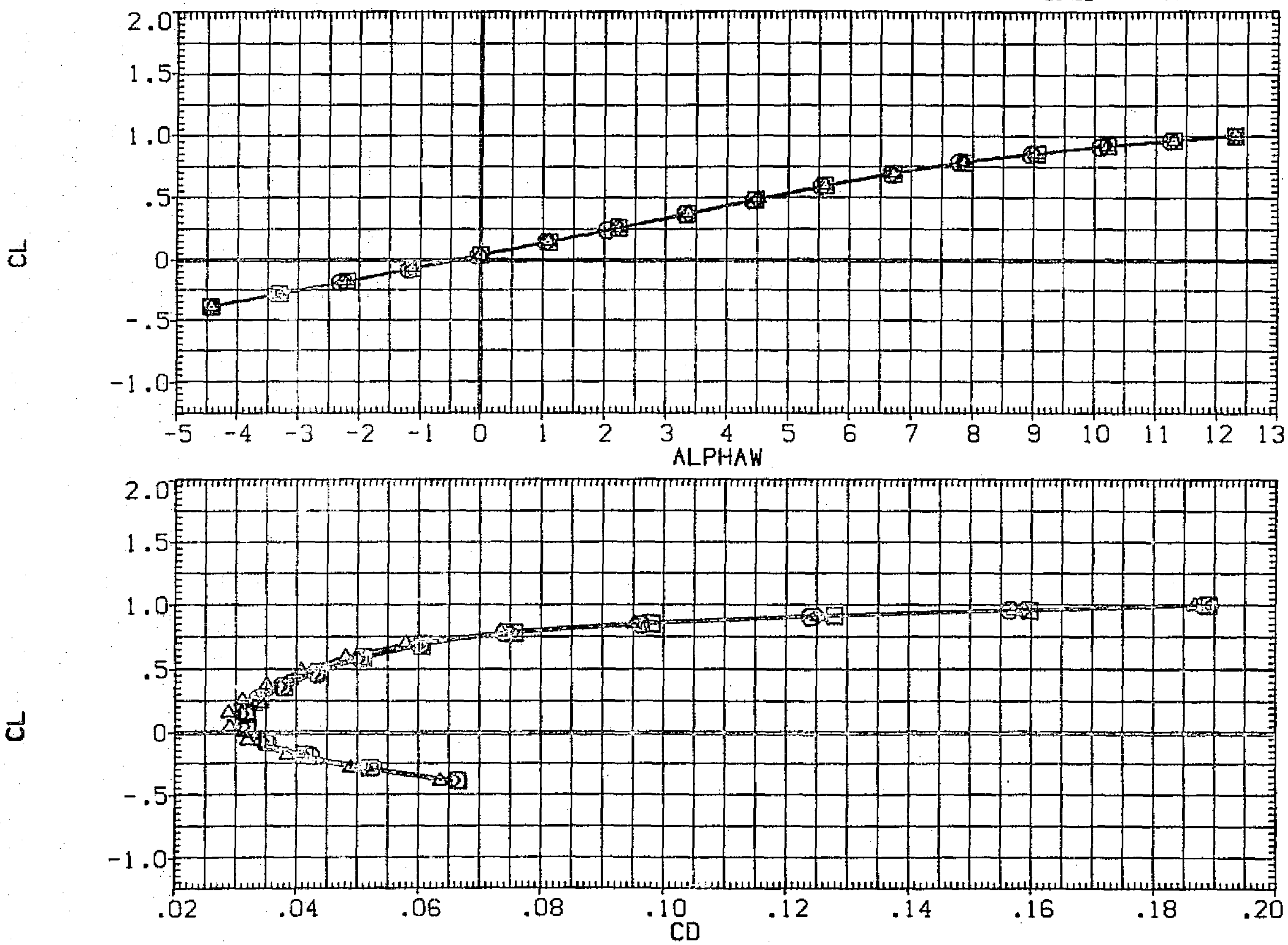



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

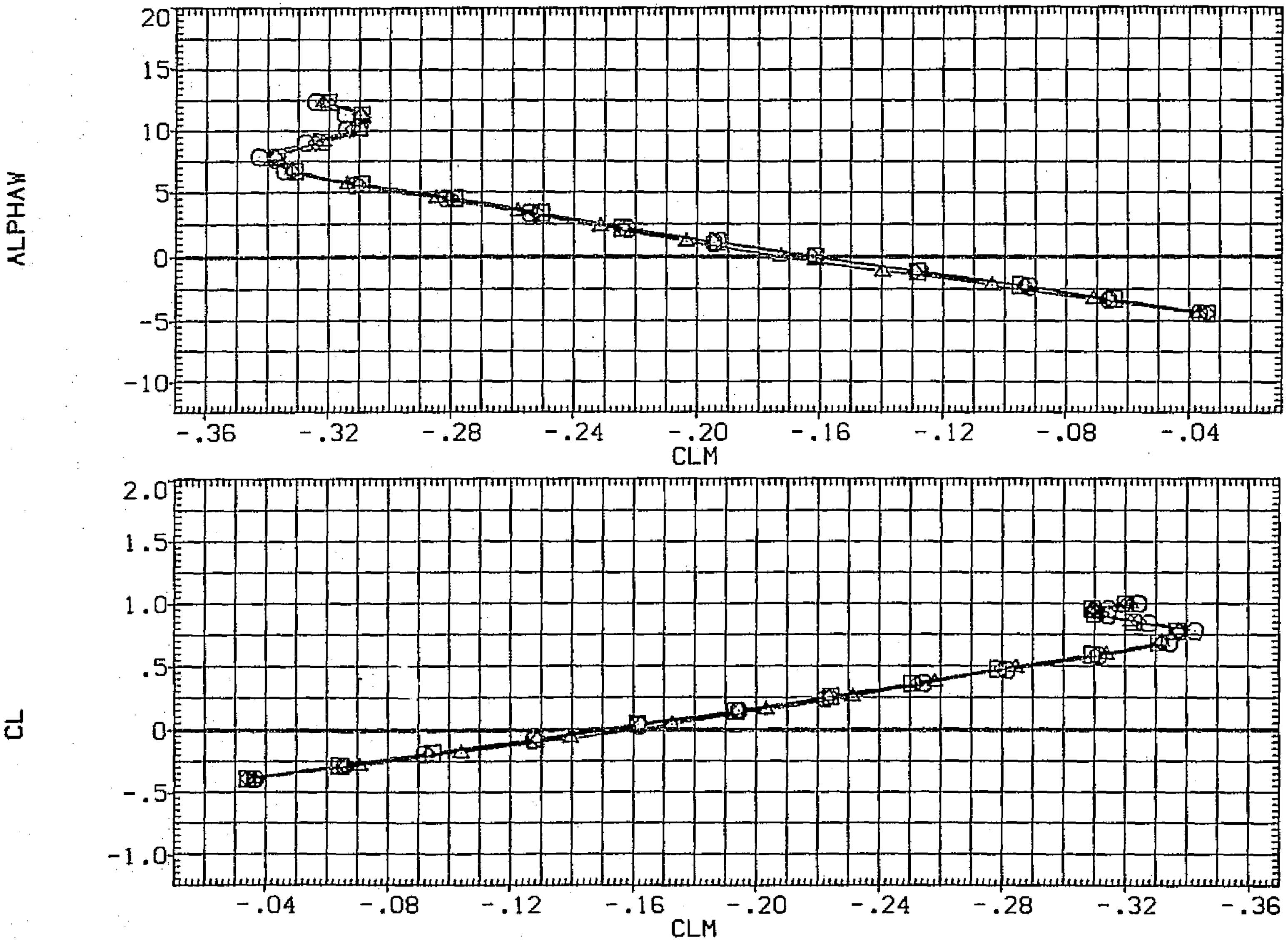



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (RGP232) | ○ | CA6 K2H15.6.1V9.1S1-12 AT103.3/95-.3 | .000 | 5.070 |
| (RGP237) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.3/111.1 | .000 | 5.070 |
| (RGP238) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | 5.070 |
| (RGP245) | △ | CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 | .000 | 5.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

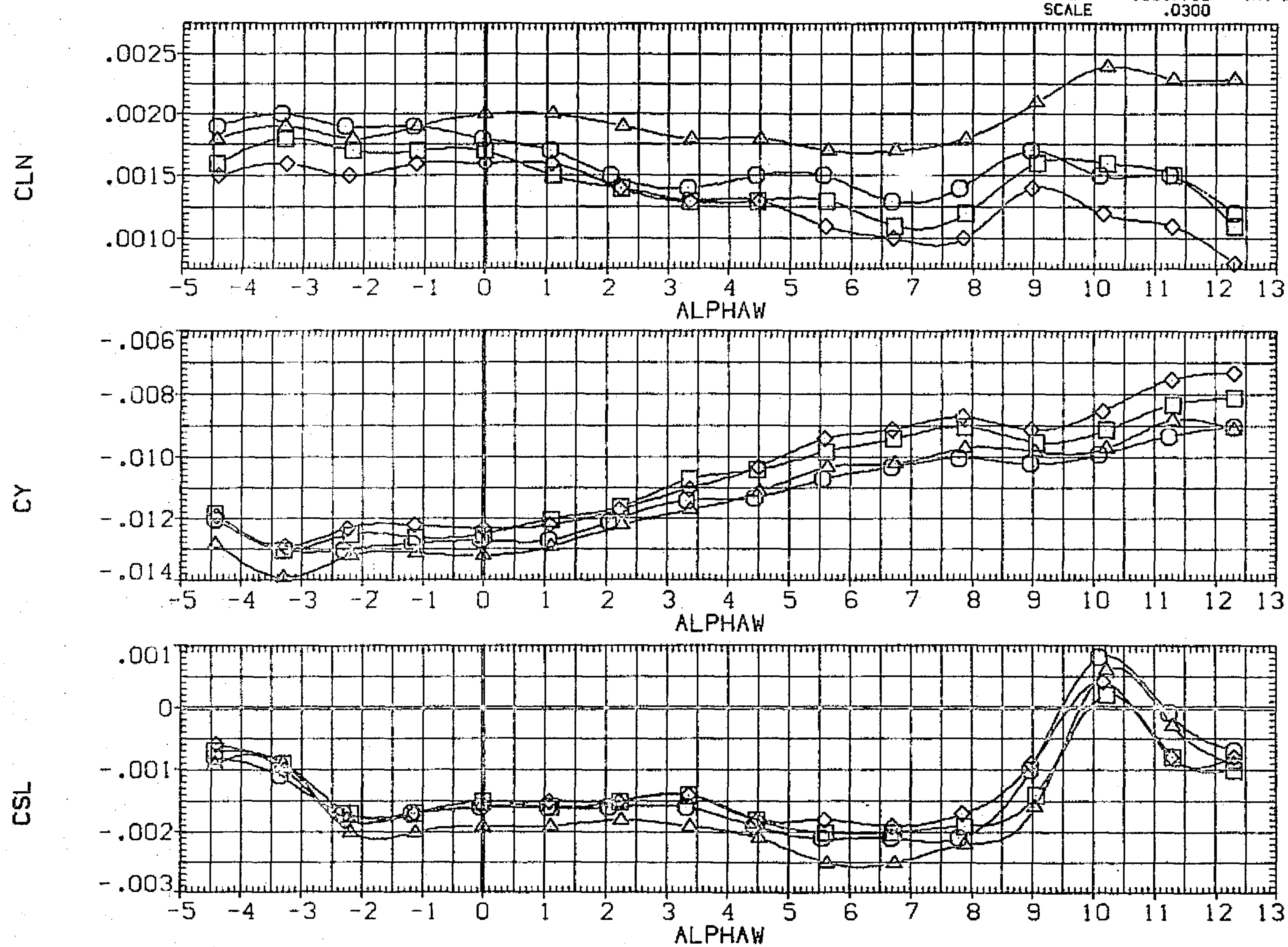



FIG. 93 EFFECT OF SUPPORT FAIRINGS, 747 CAM, SPEED BRAKE DOWN

(D)MACH = .70

CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 (RGP238)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | STAB | 5.070 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .699 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

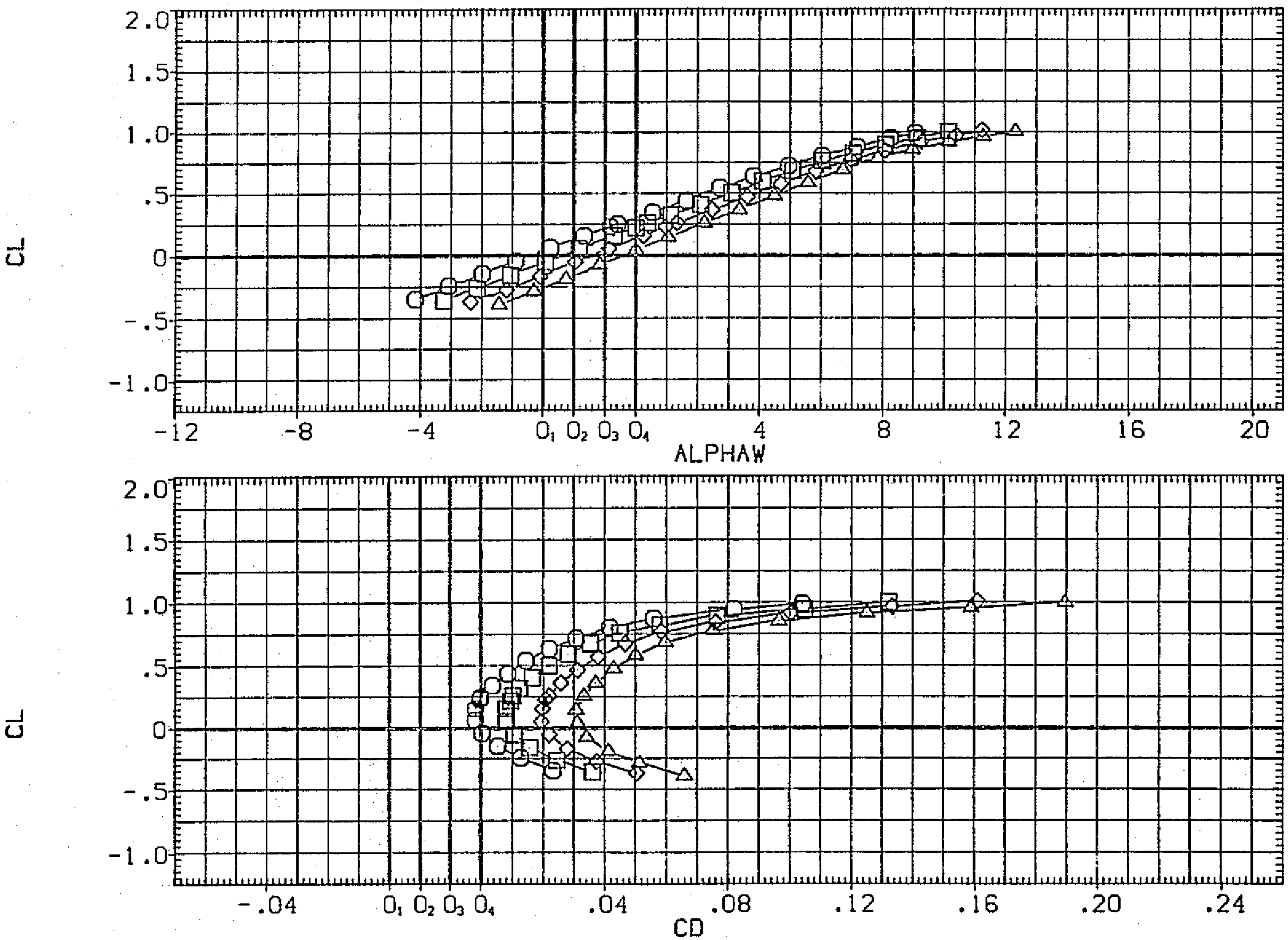



FIG. 94 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT AND GAITER FWD.

CA6 K2H15.6.1V9..1S1-12 AT112 . /111.1 (RGP238)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | STAB | 5.070 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .699 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

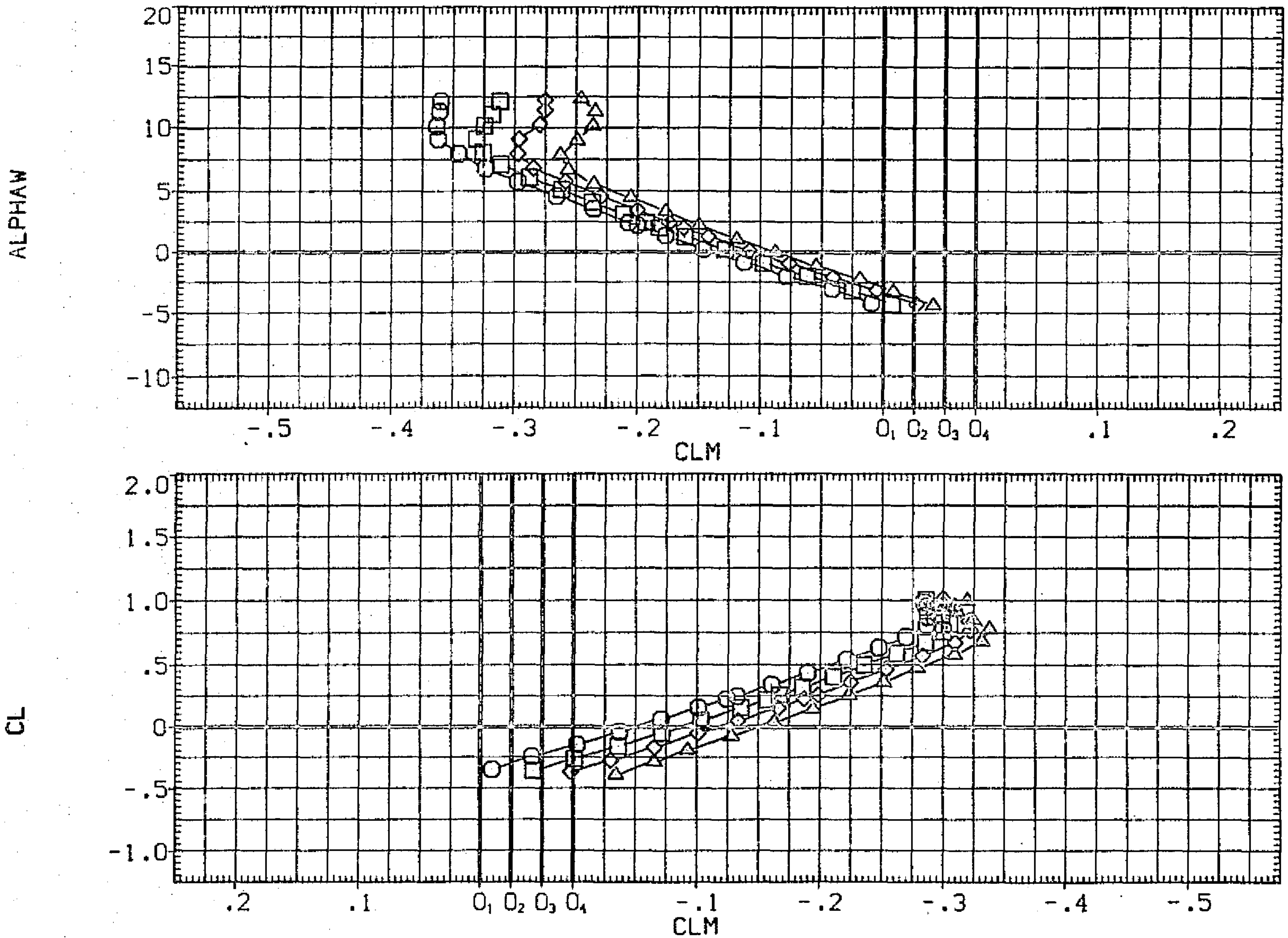



FIG. 94 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT AND GAITER FWD.

CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 (RGP238)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | STAB | 5.070 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .699 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

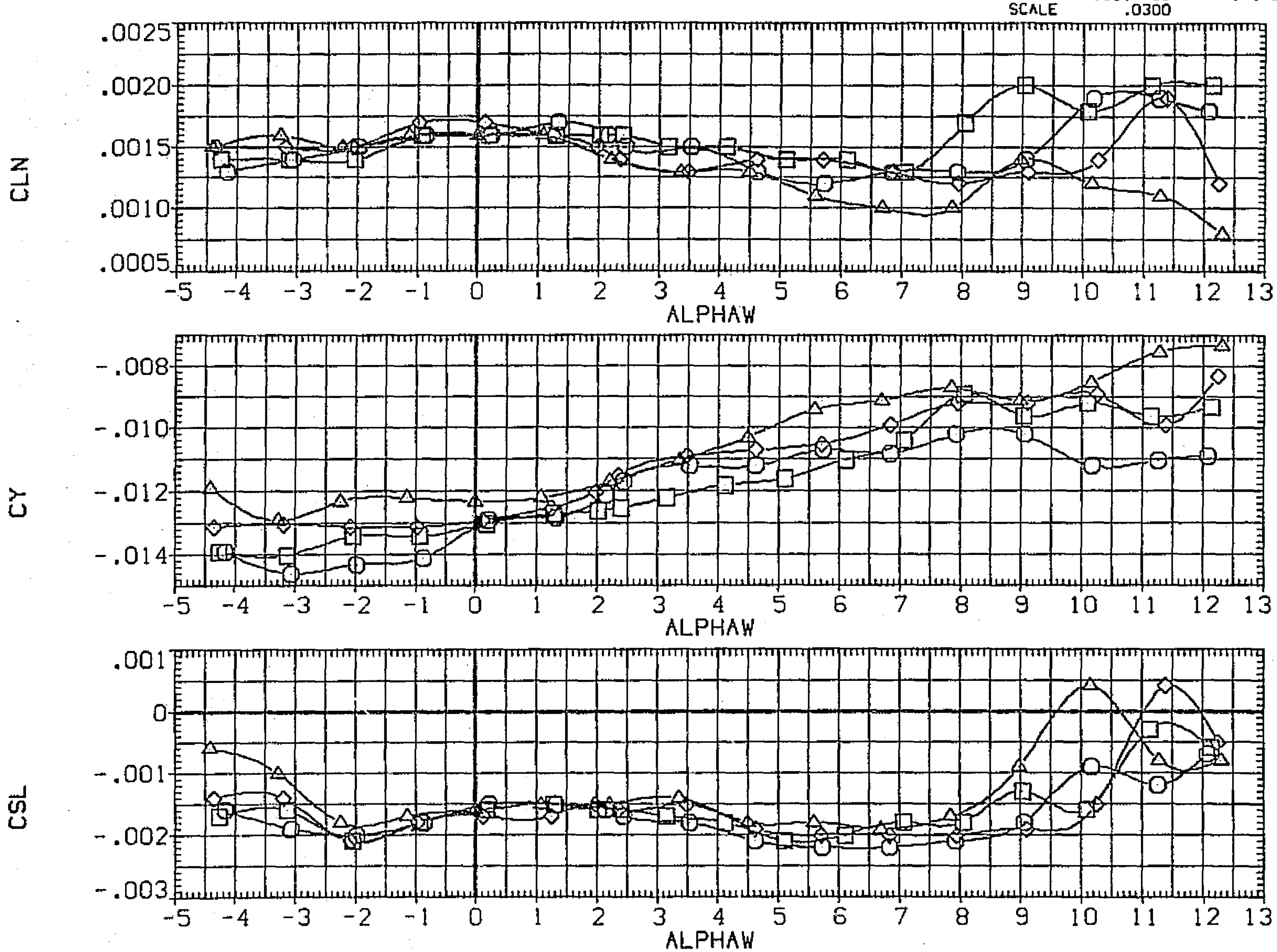
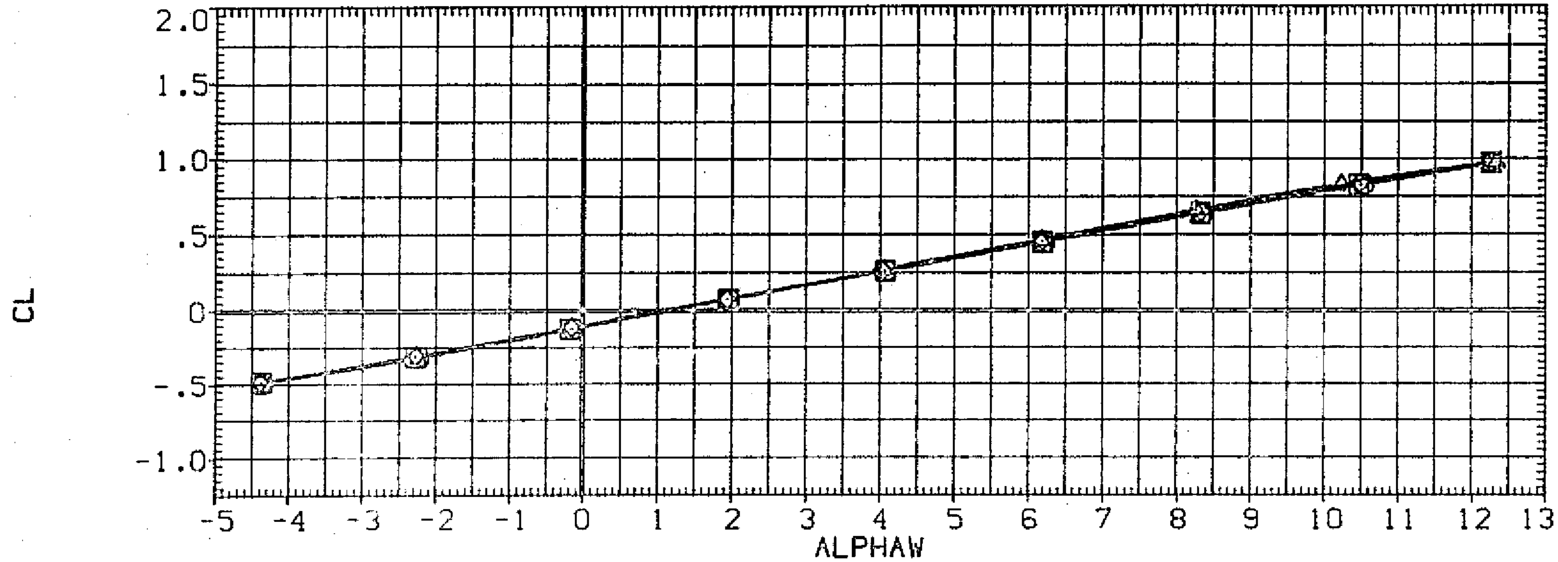



FIG. 94 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT AND GAITER FWD.

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP239) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 |
| (RGP240) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 2.000 |
| (RGP241) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 4.000 |
| (RGP242) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



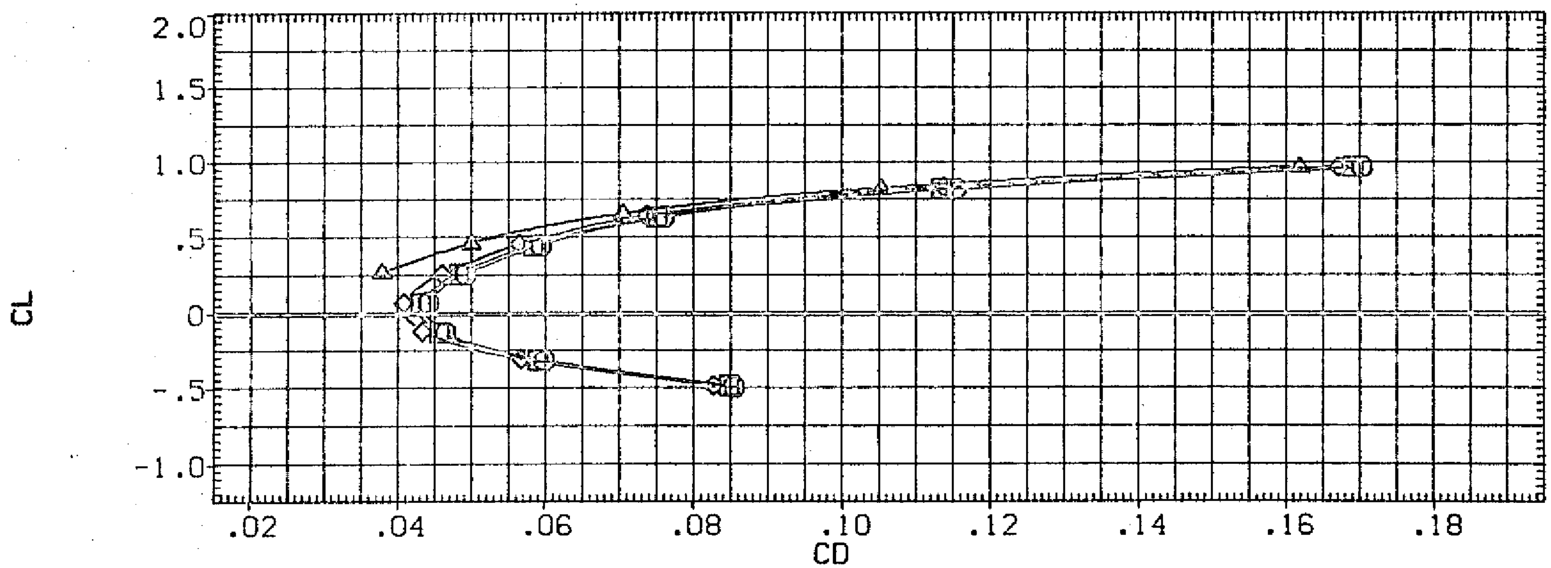




FIG. 95 LATERAL-DIRECTIONAL STABILITY, 747 CAM, MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP239) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 |
| (RGP240) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 2.000 |
| (RGP241) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 4.000 |
| (RGP242) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

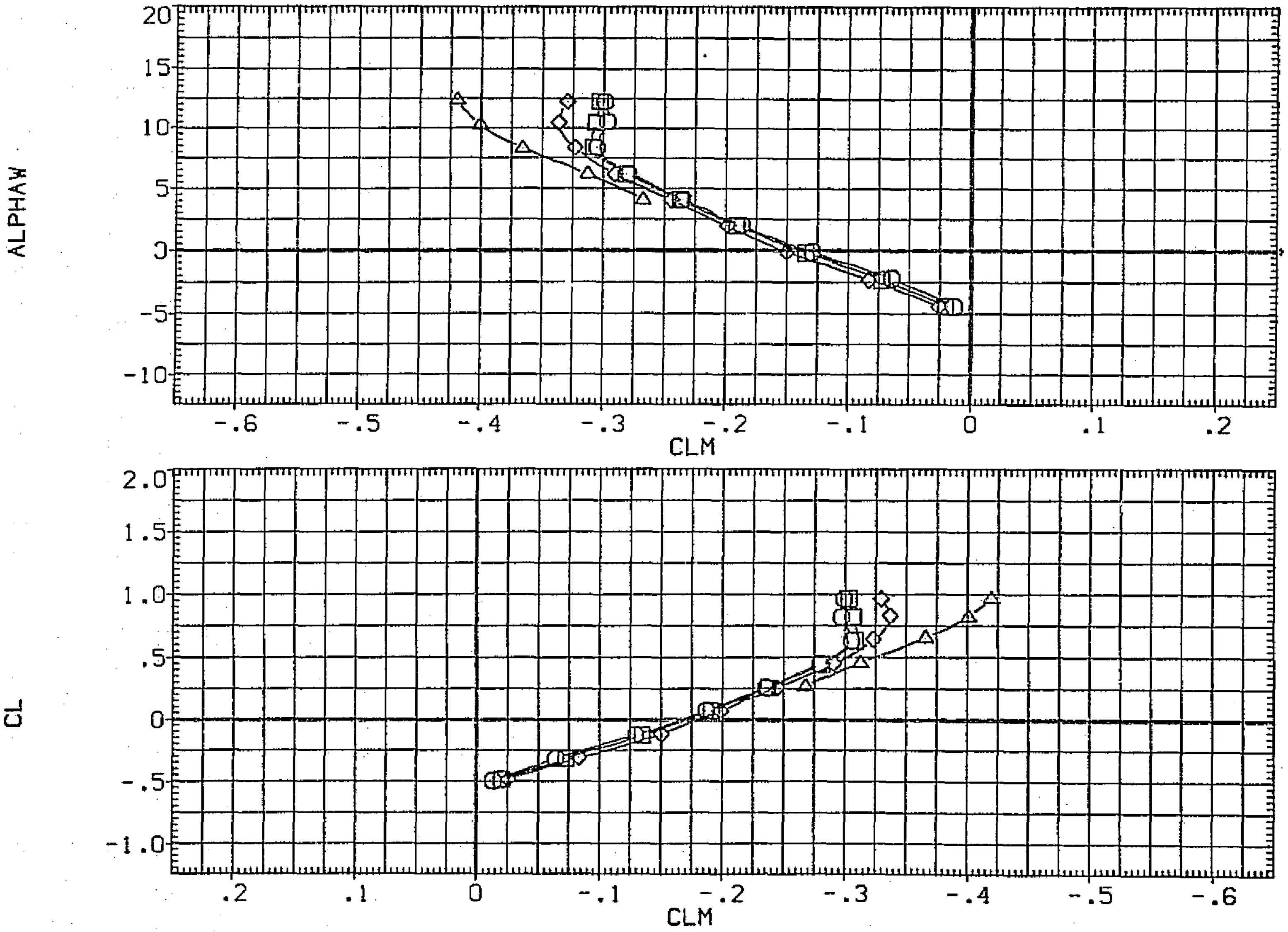



FIG. 95 LATERAL-DIRECTIONAL STABILITY, 747 CAM, MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP239) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 |
| (RGP240) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 2.000 |
| (RGP241) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 4.000 |
| (RGP242) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 10.000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

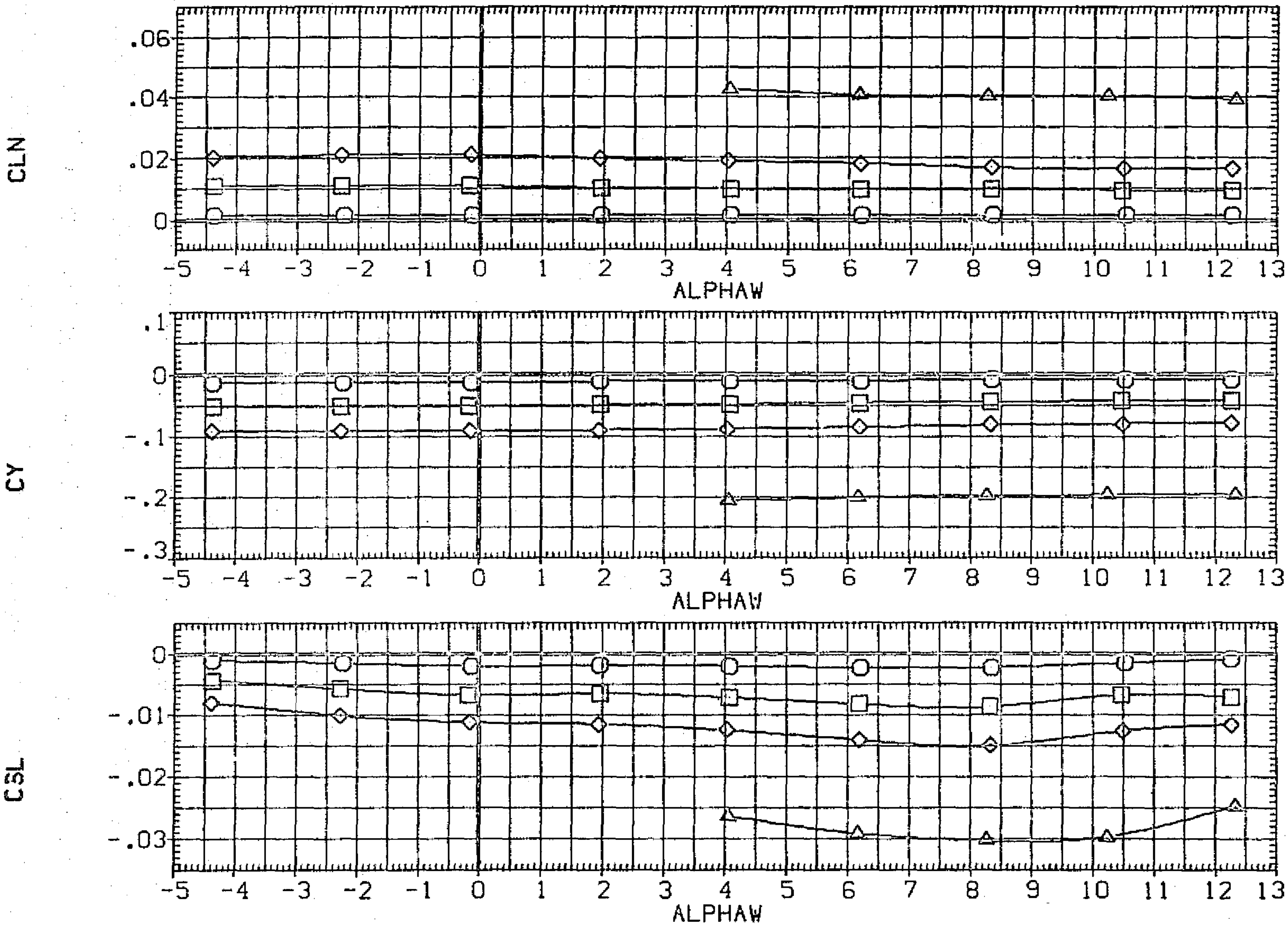



FIG. 95 LATERAL-DIRECTIONAL STABILITY, 747 CAM, MIN AFT AND GAITER FWD.

(A)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION SPOILR BETA

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | SPOILR | BETA |
|---|---|---|---|---|
| (RGP243) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 2.000 | .000 |
| (RGP244) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

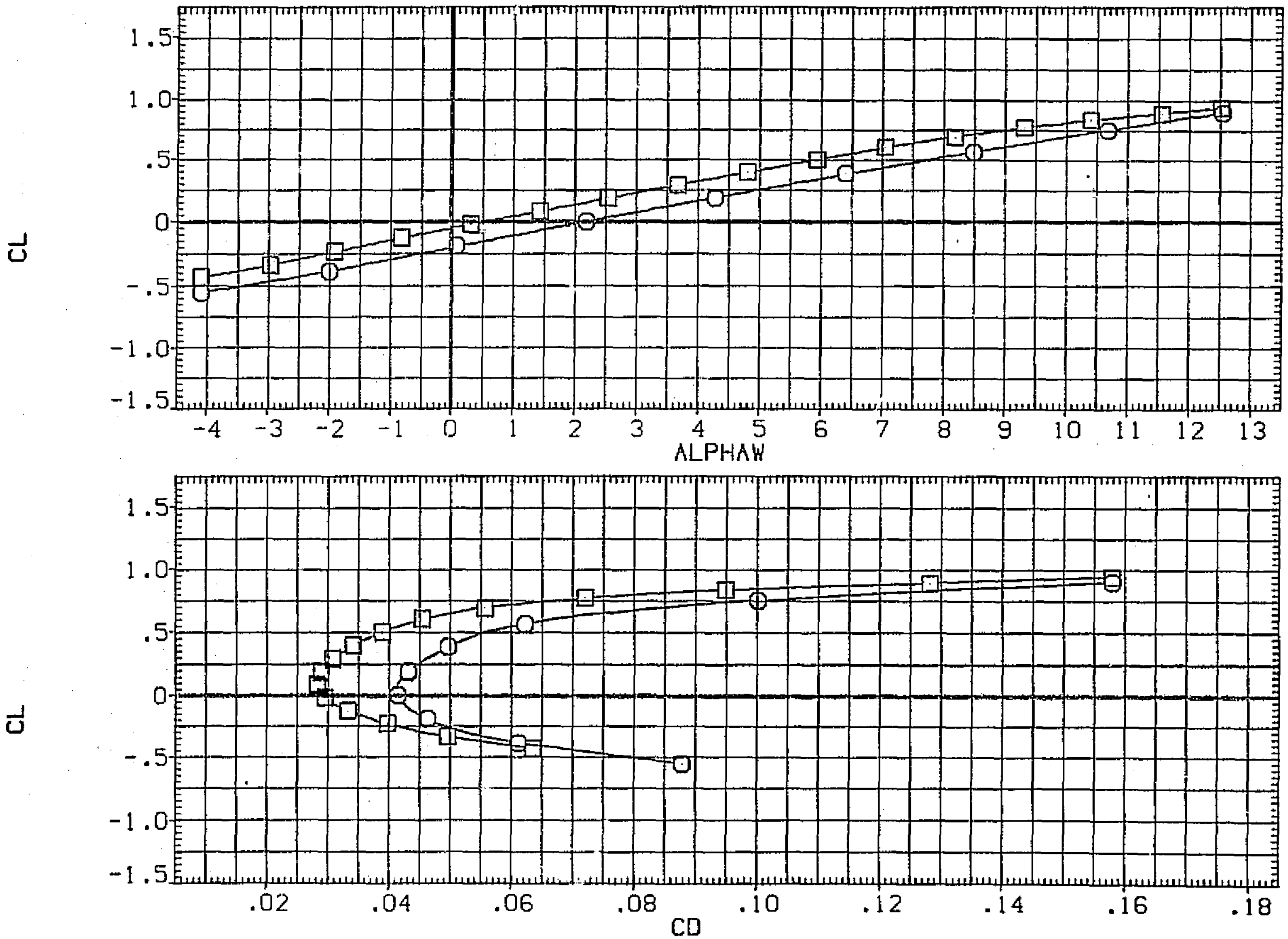



FIG. 96 EFFECT OF SPEED BRAKES, 747 CAM, MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | SPOILR | BETA |
|---|---|---|---|---|
| (RGP243) | ○ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | 2.000 | .000 |
| (RGP244) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

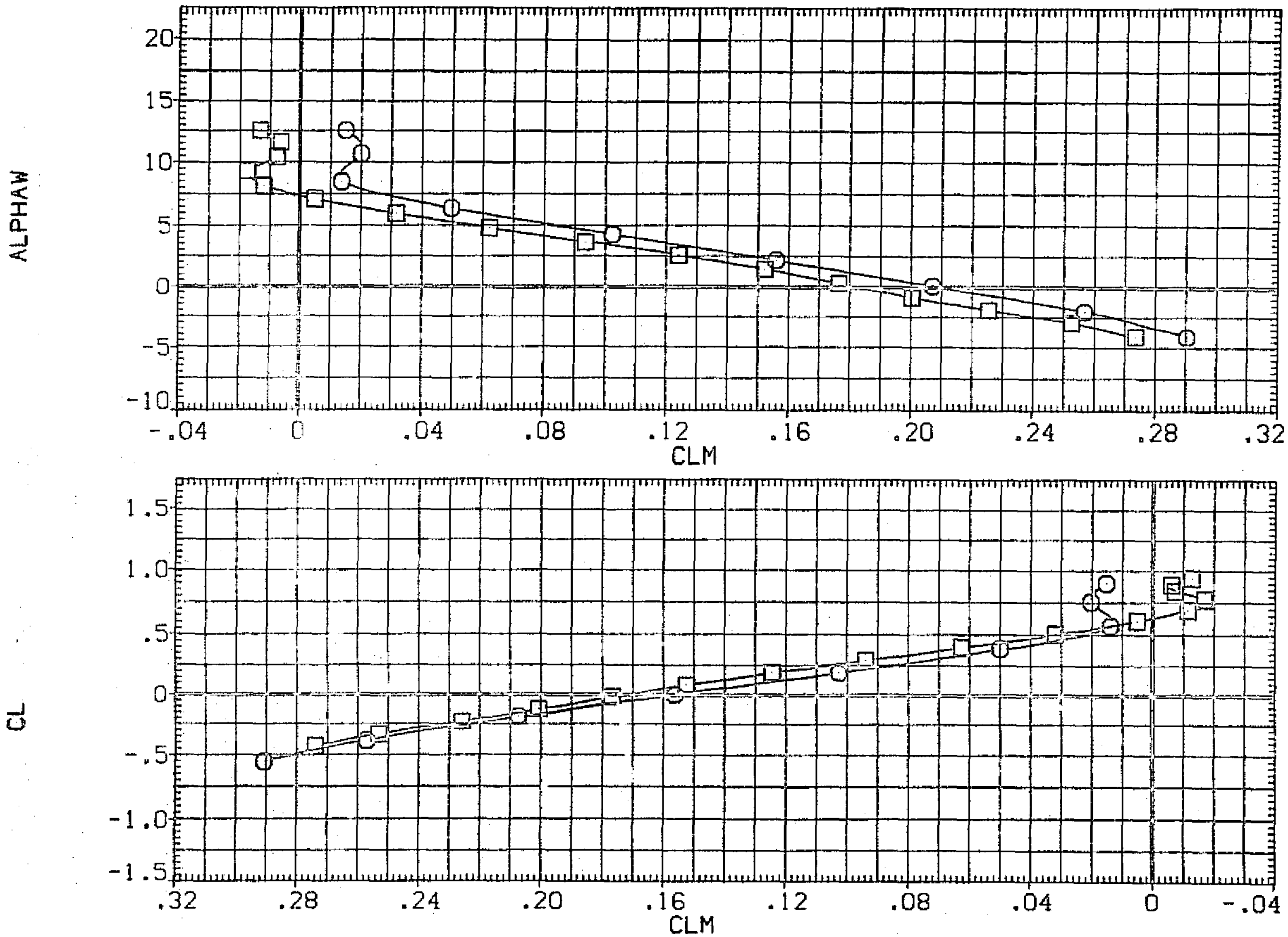



FIG. 96 EFFECT OF SPEED BRAKES, 747 CAM, MIN AFT AND GAITER FWD.

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | SPOILR | BETA |
|---|---|---|---|---|
| (RGP243) | ○ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1 | 2.000 | .000 |
| (RGP244) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1 | .000 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

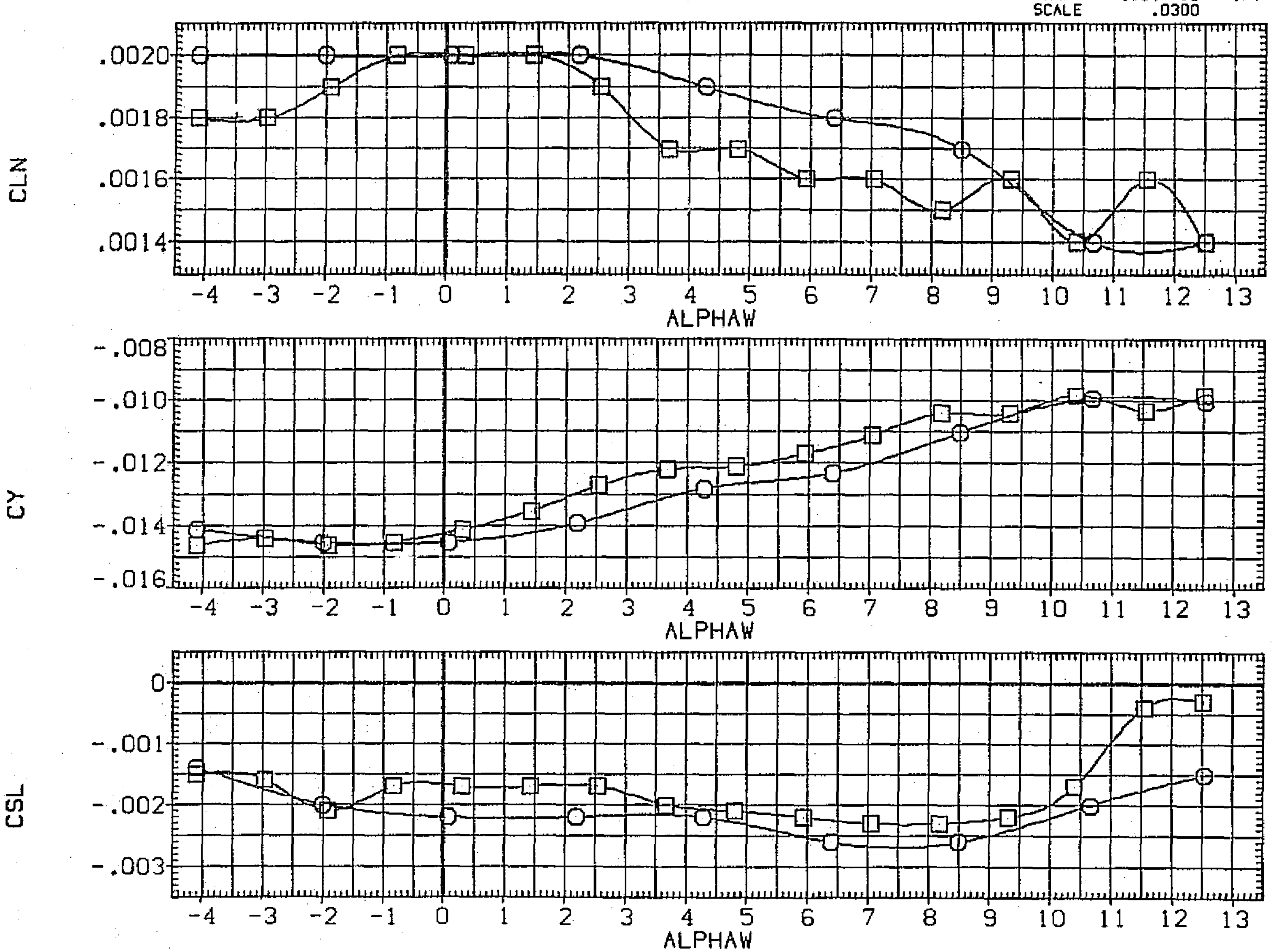



FIG. 96 EFFECT OF SPEED BRAKES, 747 CAM, MIN AFT AND GAITER FWD.

(A)MACH = .60

CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 (RGP244)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | -.990 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

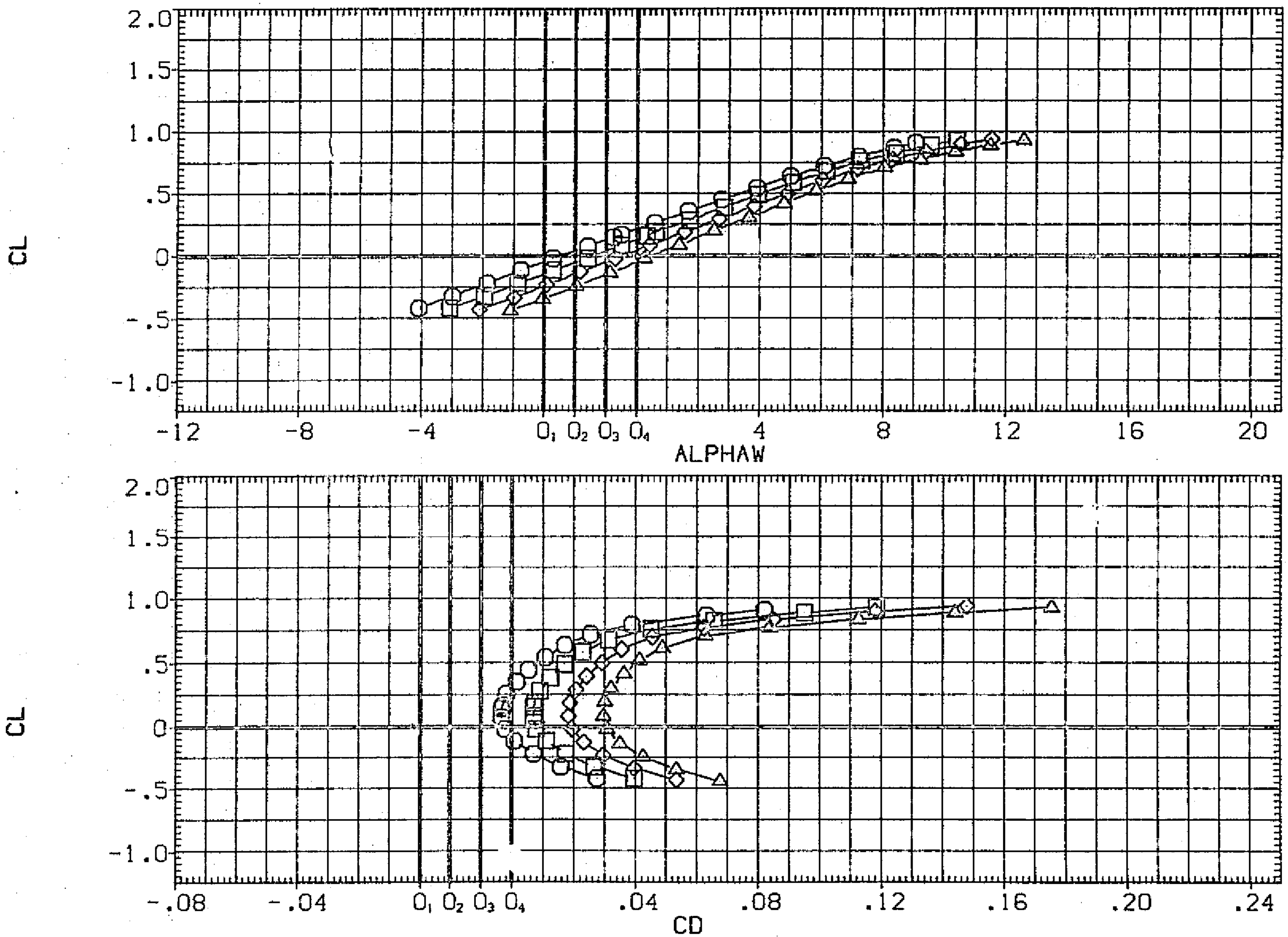



FIG. 97 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT AND GAITER FWD.

CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 (RGP244)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | -.990 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

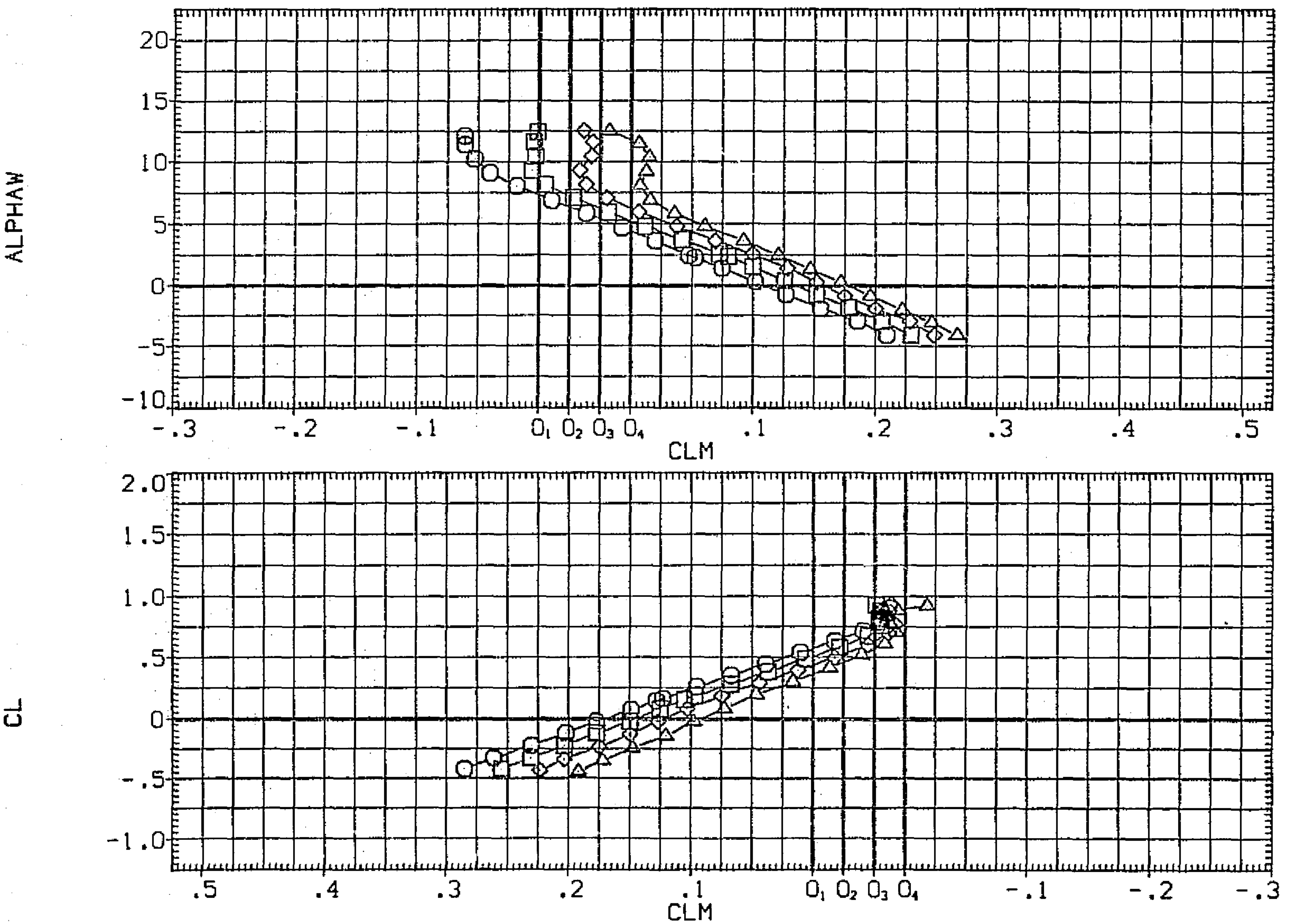



FIG. 97 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT AND GAITER FWD.

CA6 K2H15.6.1V9.1S1-12 AT112 /111.1 (RGP244)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | -.990 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

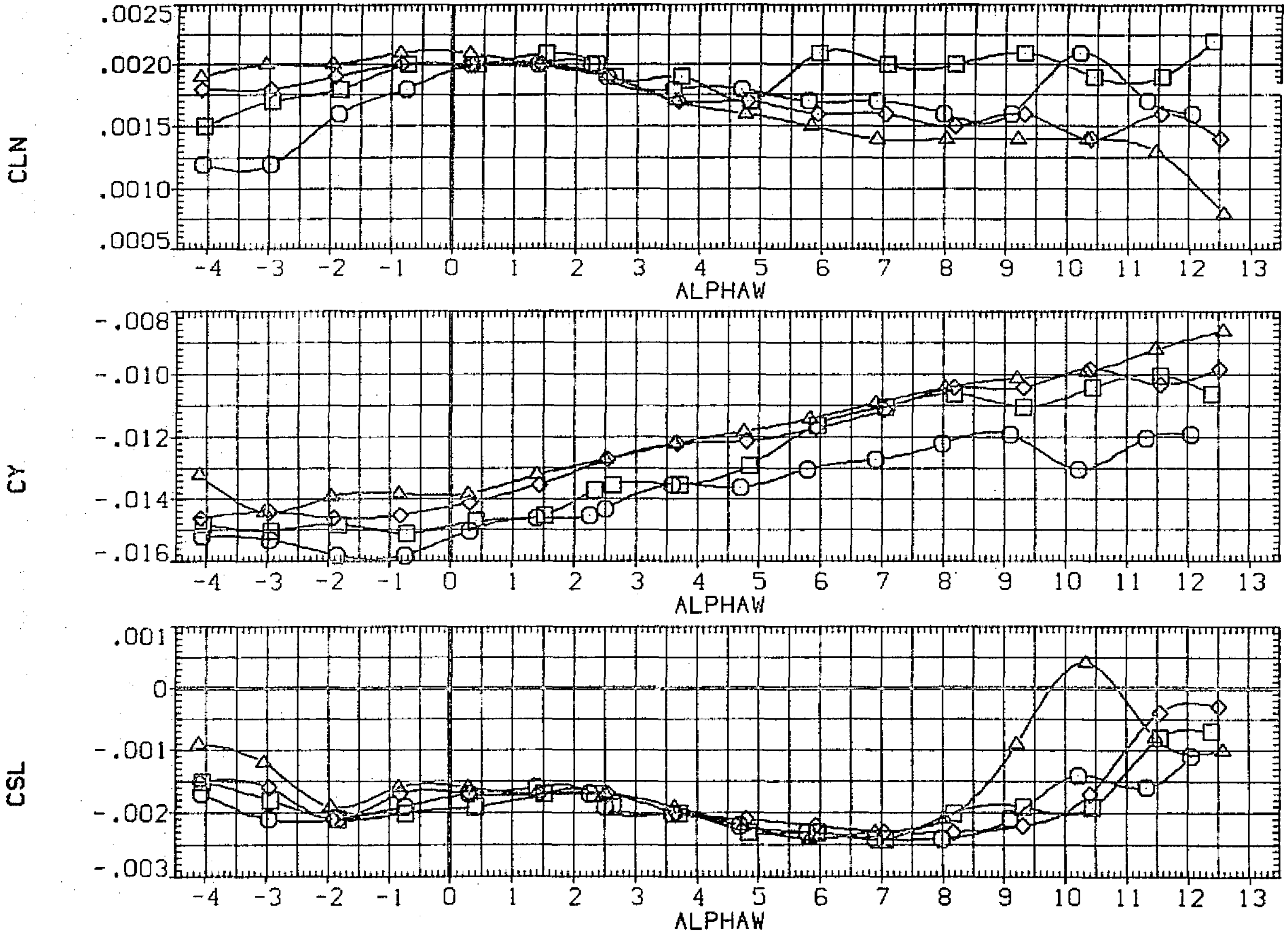



FIG. 97 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT AND GAITER FWD.

CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 (RGP245)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | STAB | 5.030 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

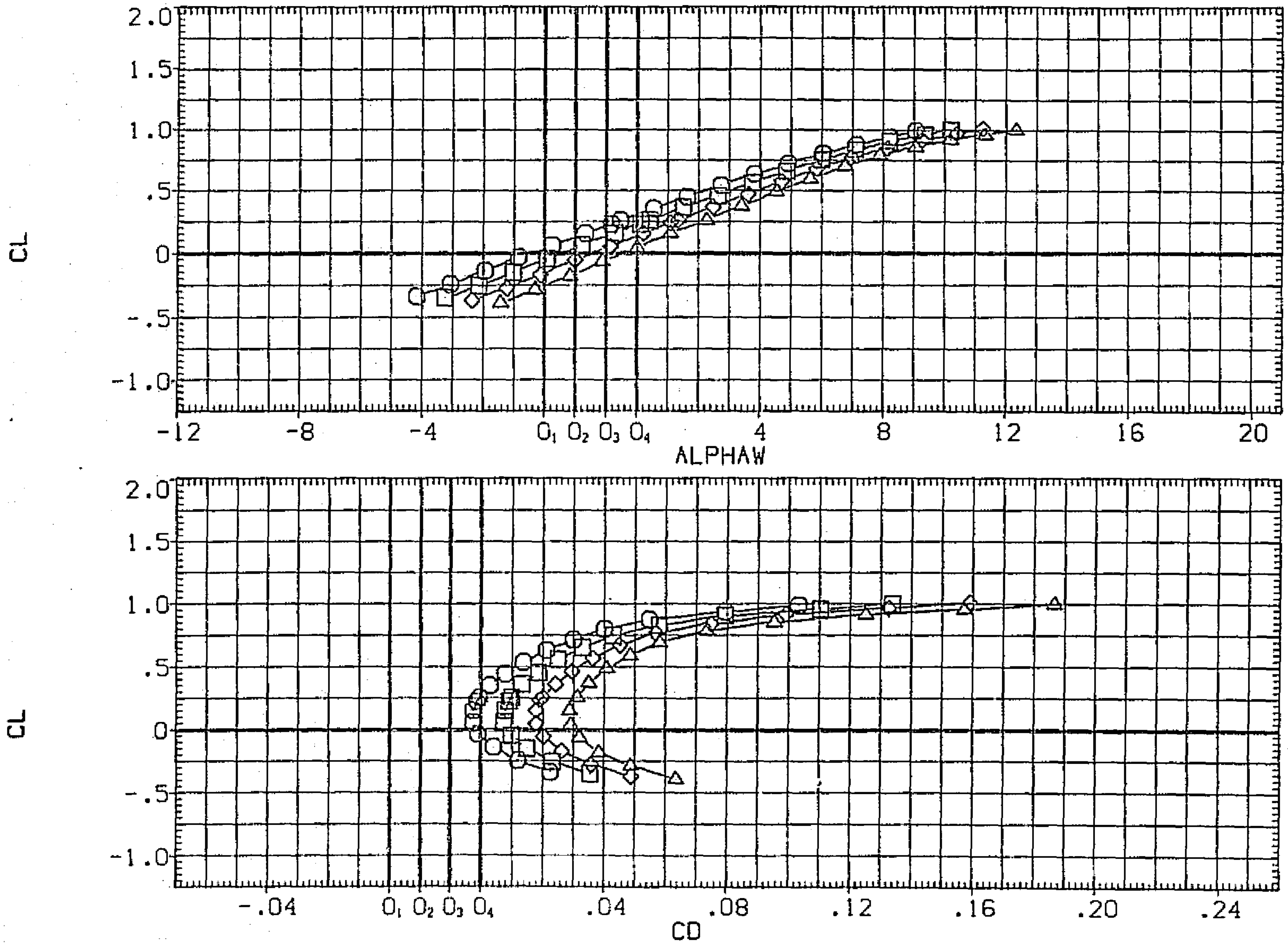



FIG. 98 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT, FAIRED FWD

CA6 K2H15.6.1V9.1S1-12 AT108 /111.1 (RGP245)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | STAB | 5.030 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

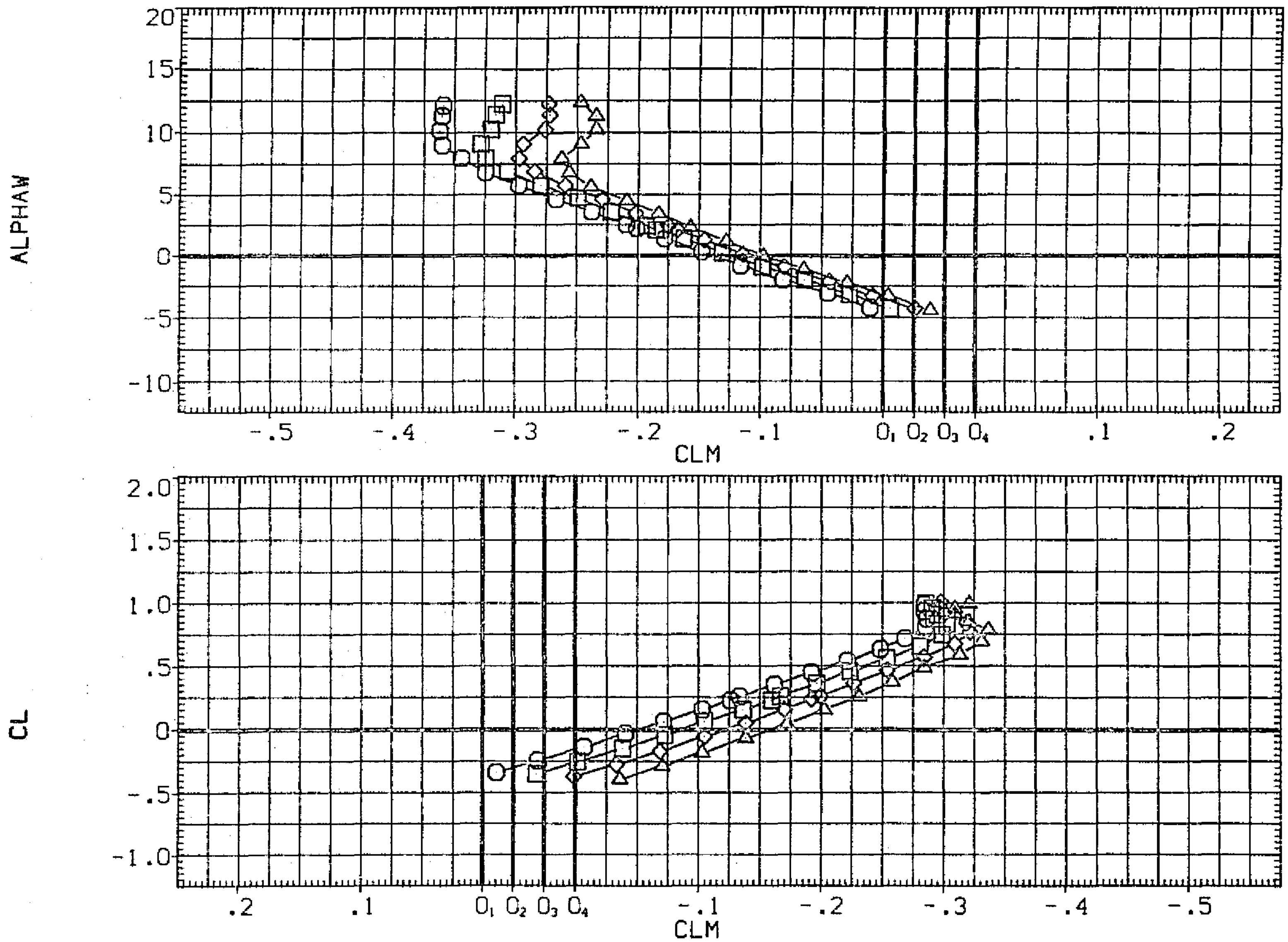



FIG. 98 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT, FAIRED FWD

CA6 K2H15.6.1V9.1S1-12 AT108 , /111.1 (RGP245)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .300 | STAB | 5.030 | RUD-U | .000 |
| □ | .499 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .600 | ELV-OB | .000 | BETA | .000 |
| △ | .700 | FWD ST | 6.000 | SPOILR | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

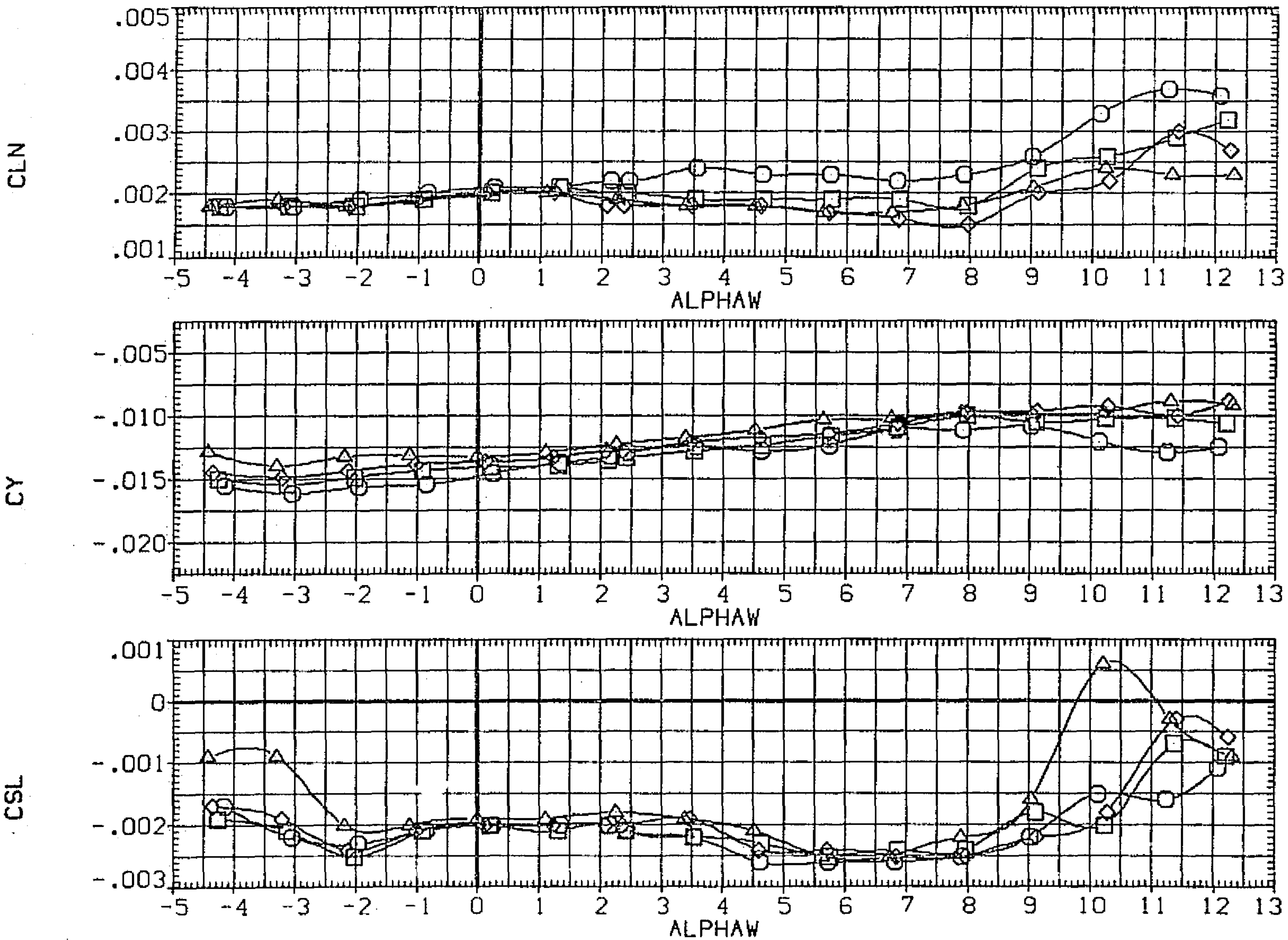



FIG. 98 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, MIN AFT, FAIRED FWD

CA6 K2H15.6.1V9.1 [RGP246]

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 5.030 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .599 | ELV-OB | .000 | BETA | .000 |
| △ | .701 | PHI | .000 | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

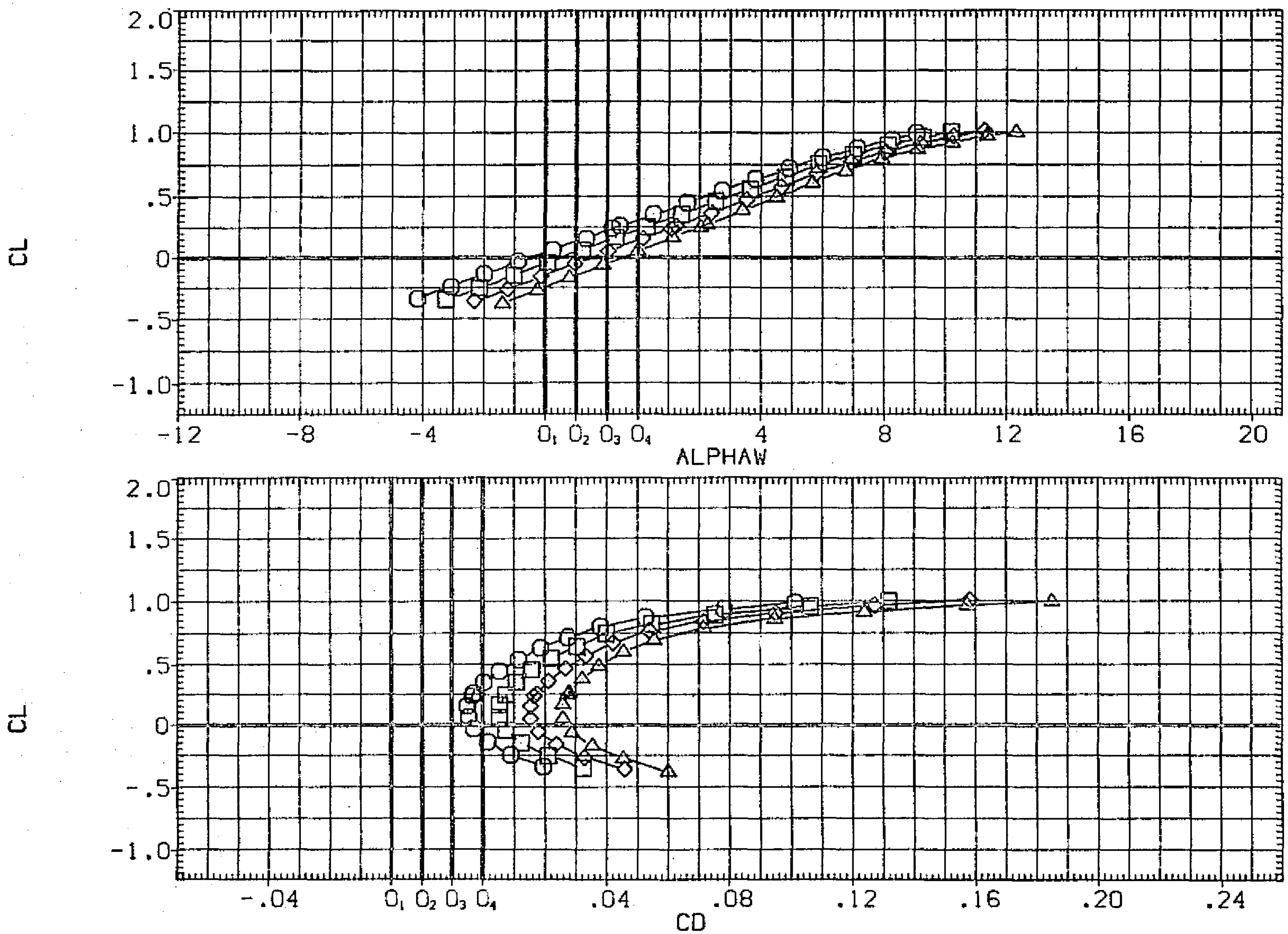



FIG. 99 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, CAM STRUTS OFF

CA6 K2H15.6.1V9.1 (RGP246)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 5.030 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .599 | ELV-OB | .000 | BETA | .000 |
| △ | .701 | PHI | .000 | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

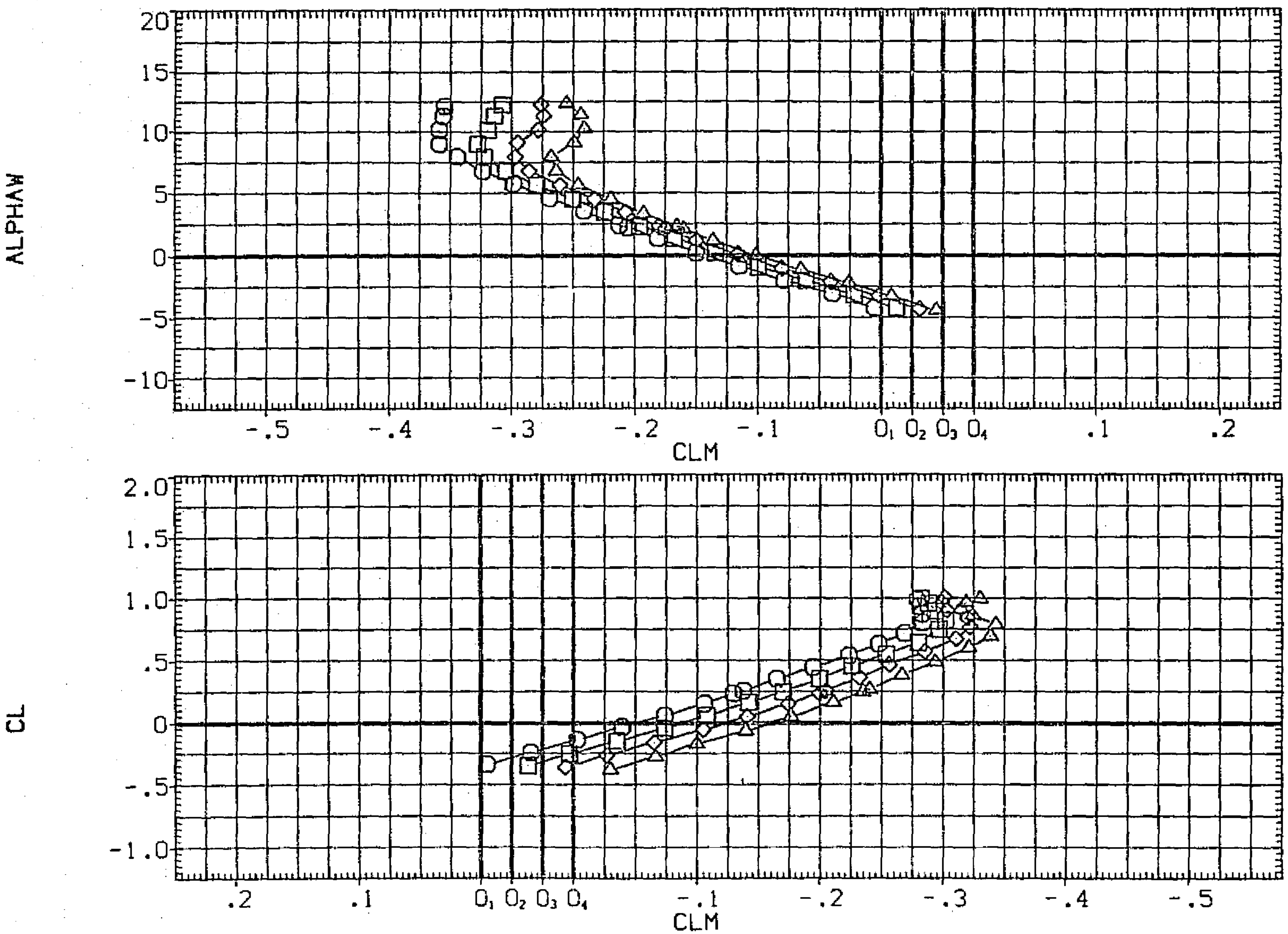



FIG. 99 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, CAM STRUTS OFF

CA6 K2H15.6.1V9.1 (RGP246)

| SYMBOL | MACH | PARAMETRIC VALUES | | | |
|---|---|---|---|---|---|
| ○ | .299 | STAB | 5.030 | RUD-U | .000 |
| □ | .500 | RUD-L | .000 | ELV-IB | .000 |
| ◇ | .599 | ELV-OB | .000 | BETA | .000 |
| △ | .701 | PHI | .000 | | |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

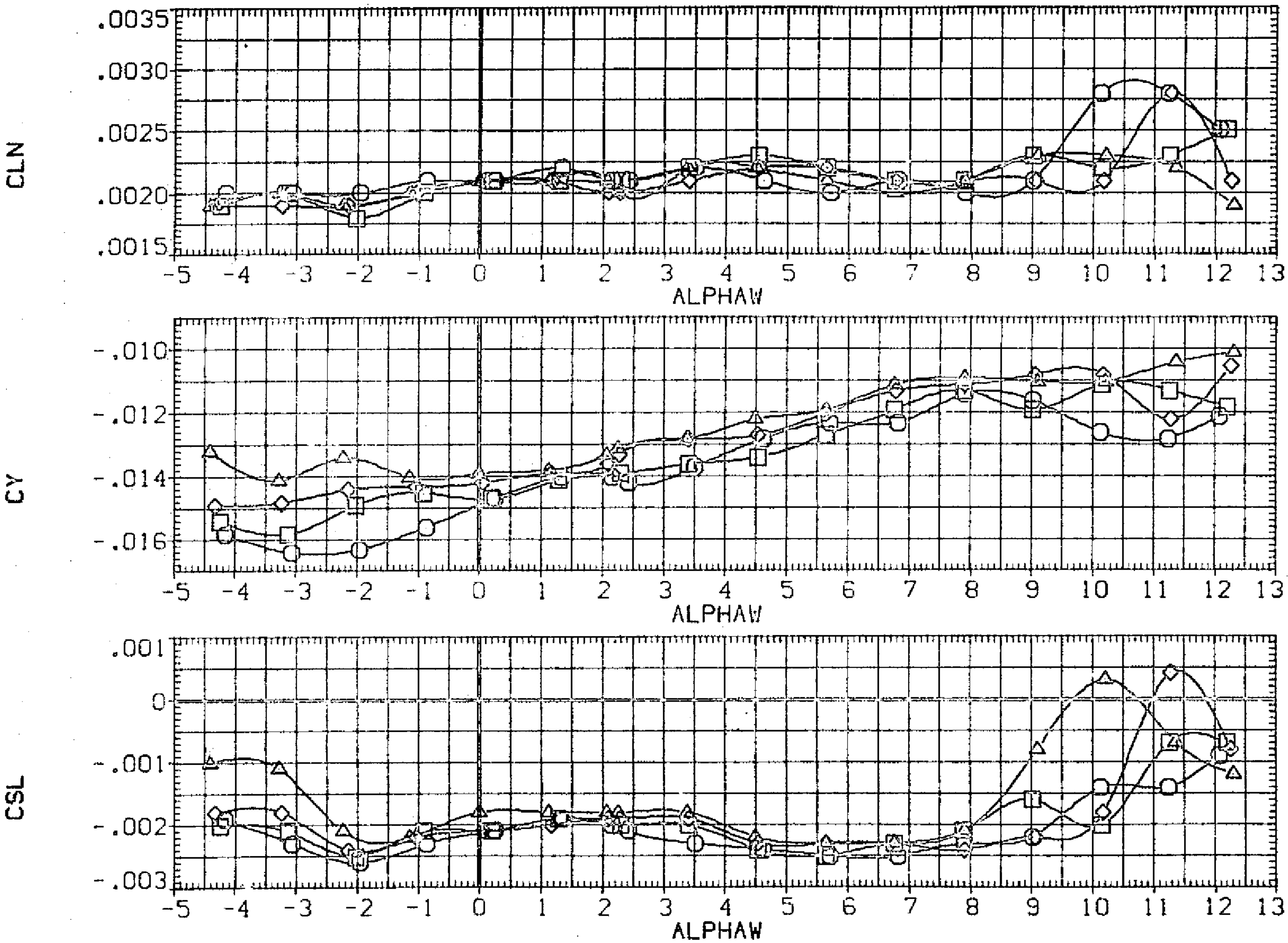



FIG. 99 MACH NUMBER EFFECTS, SPEED BRKS DWN, 747 CAM, CAM STRUTS OFF

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

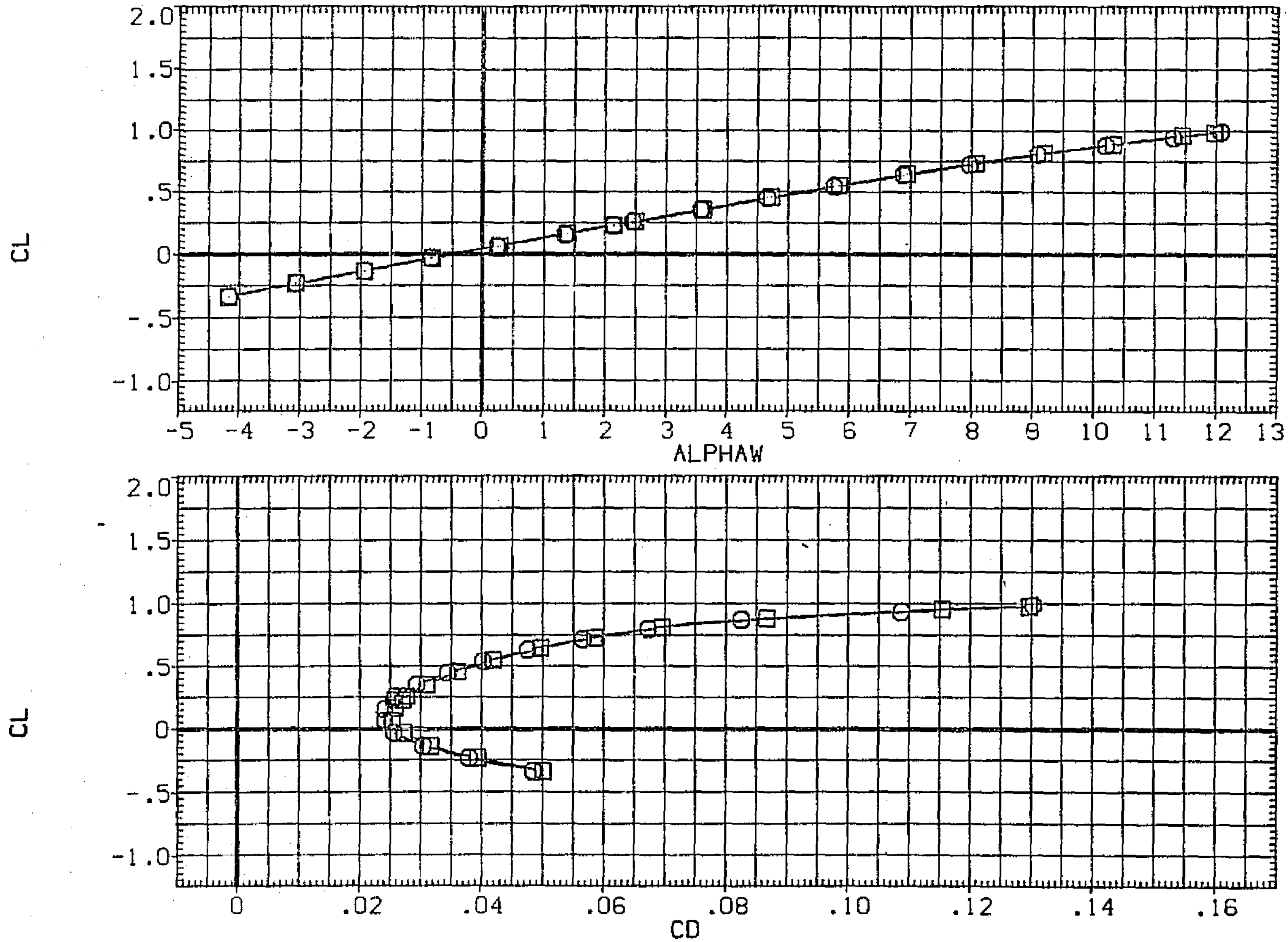



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

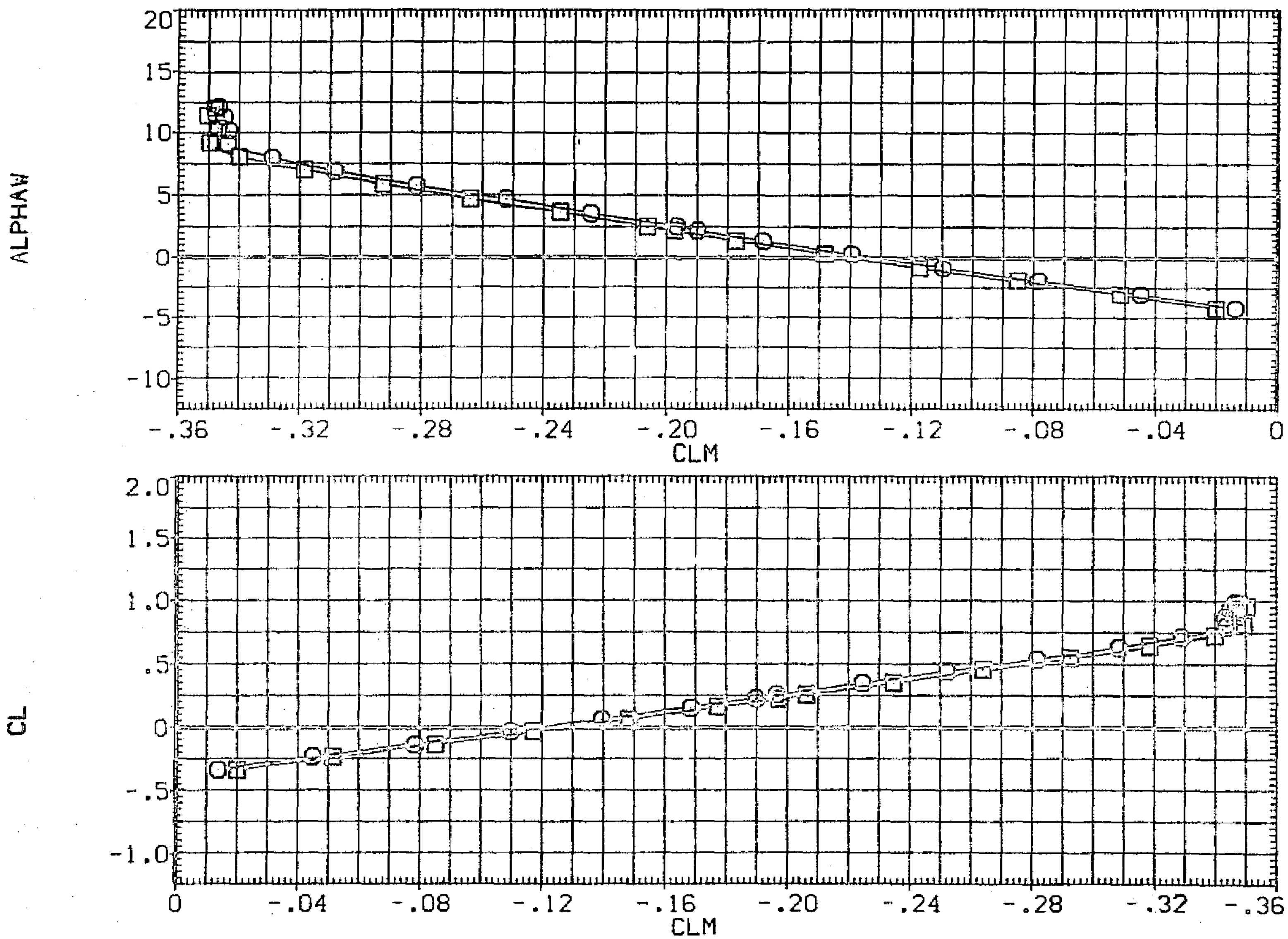



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(A)MACH = .30

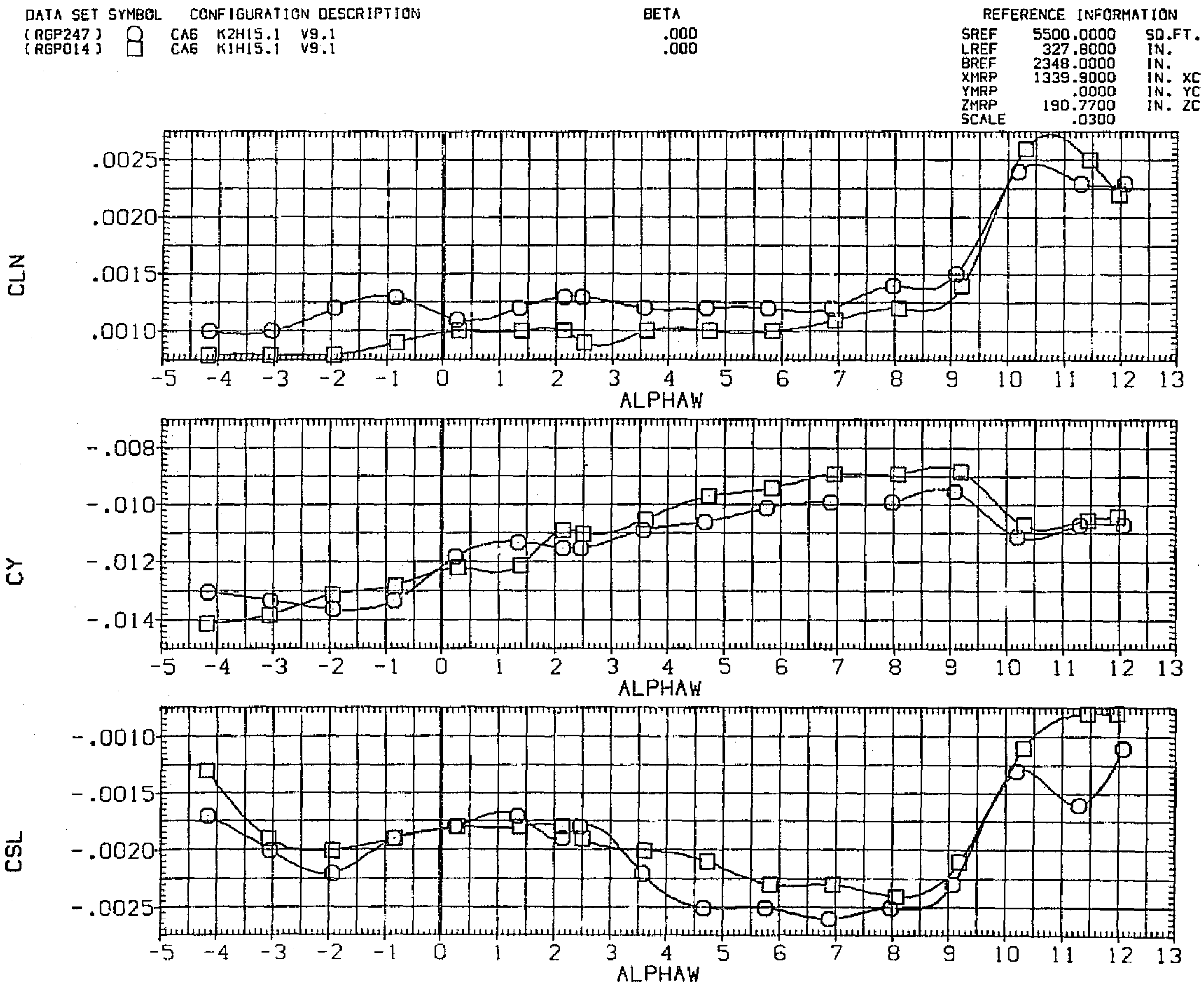



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

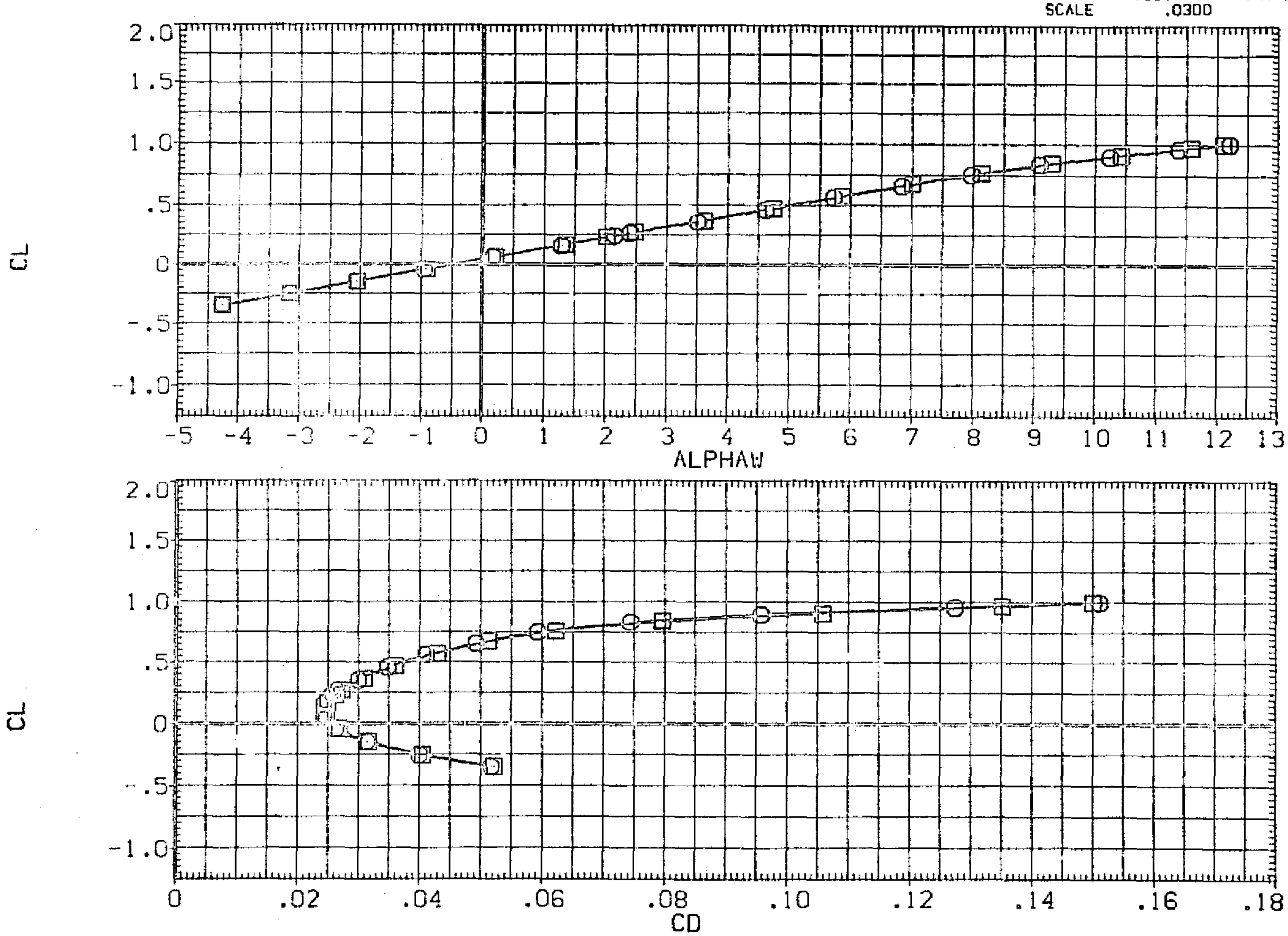



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15. V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

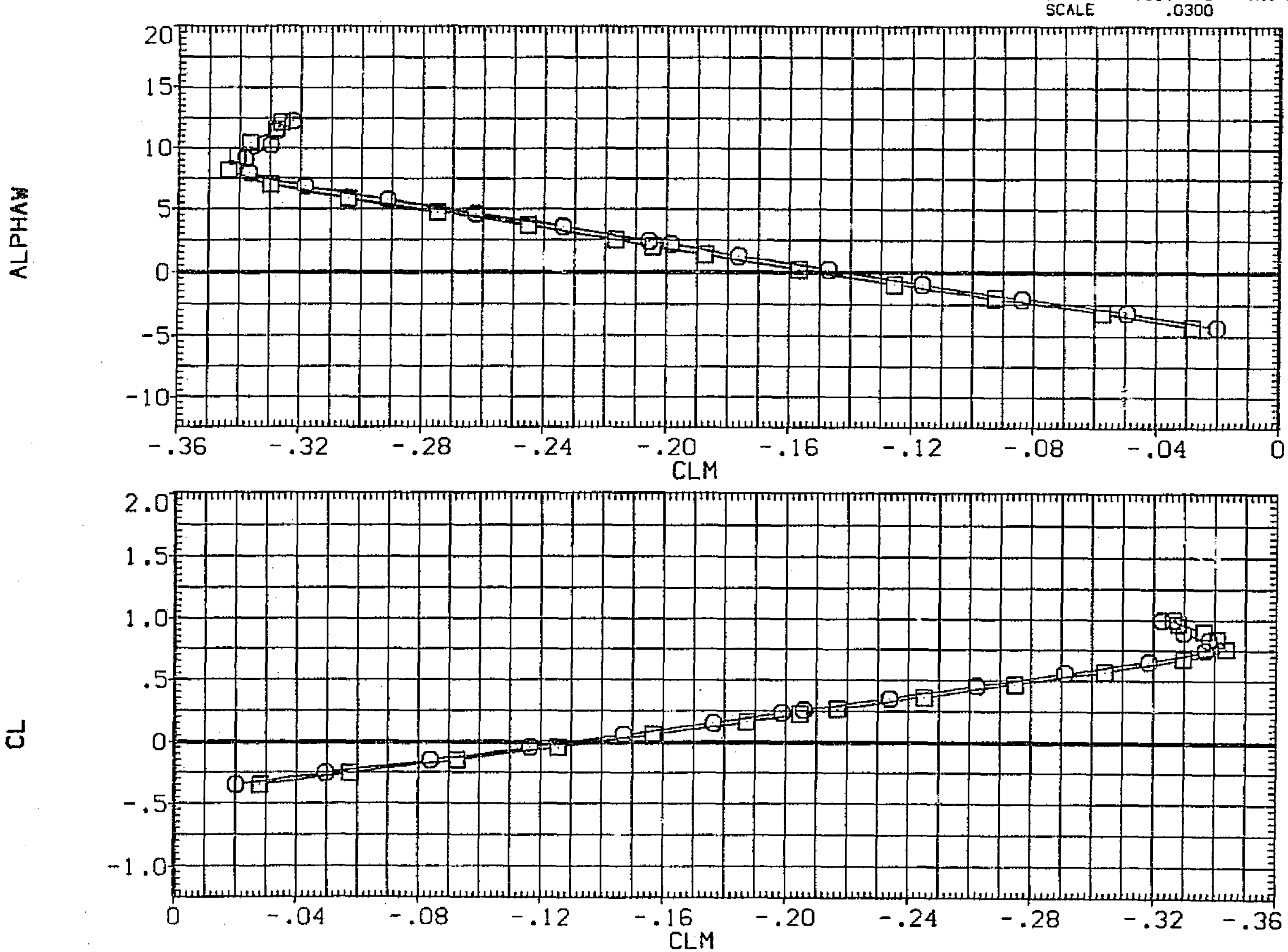



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(B)MACH = .50

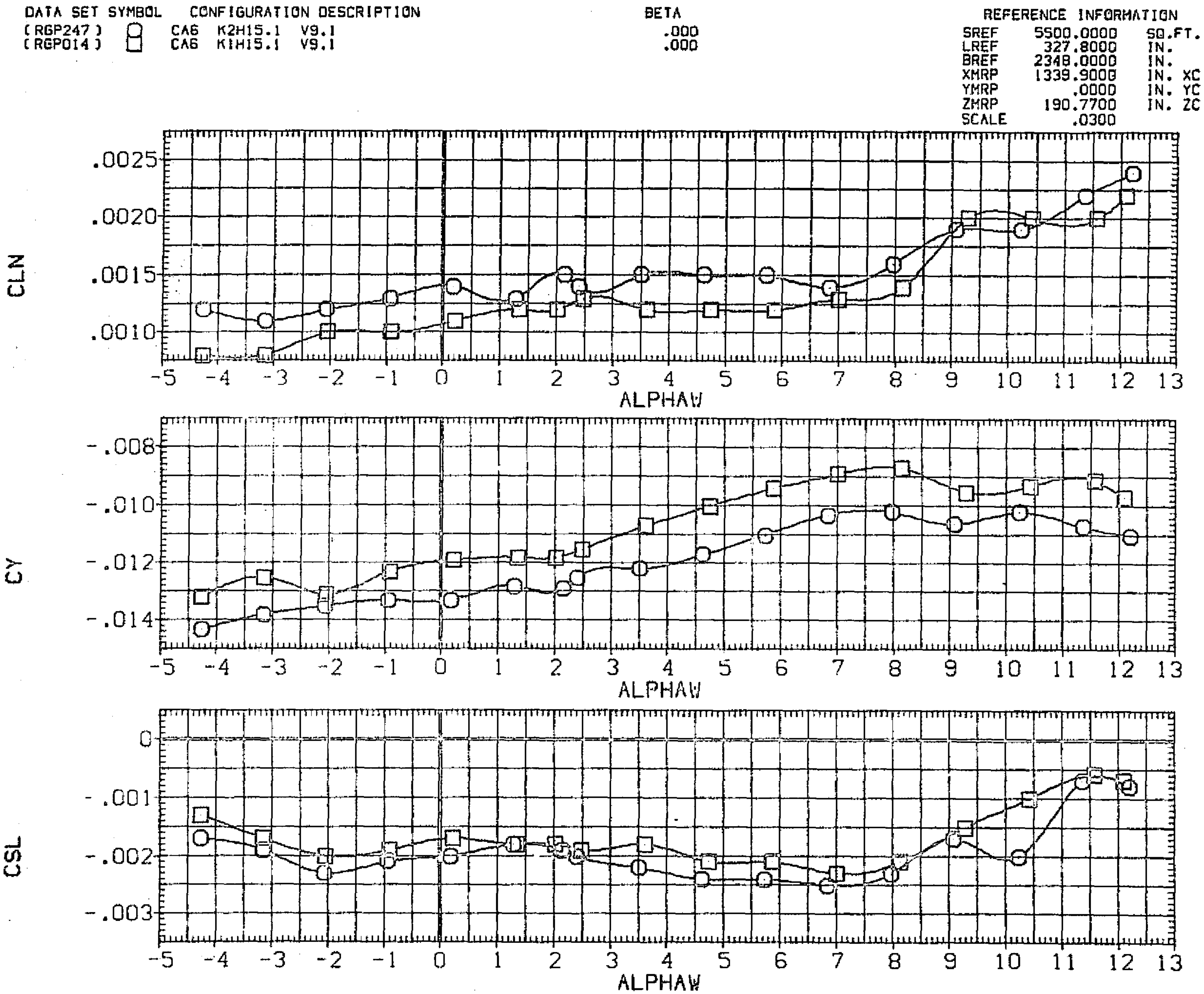



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

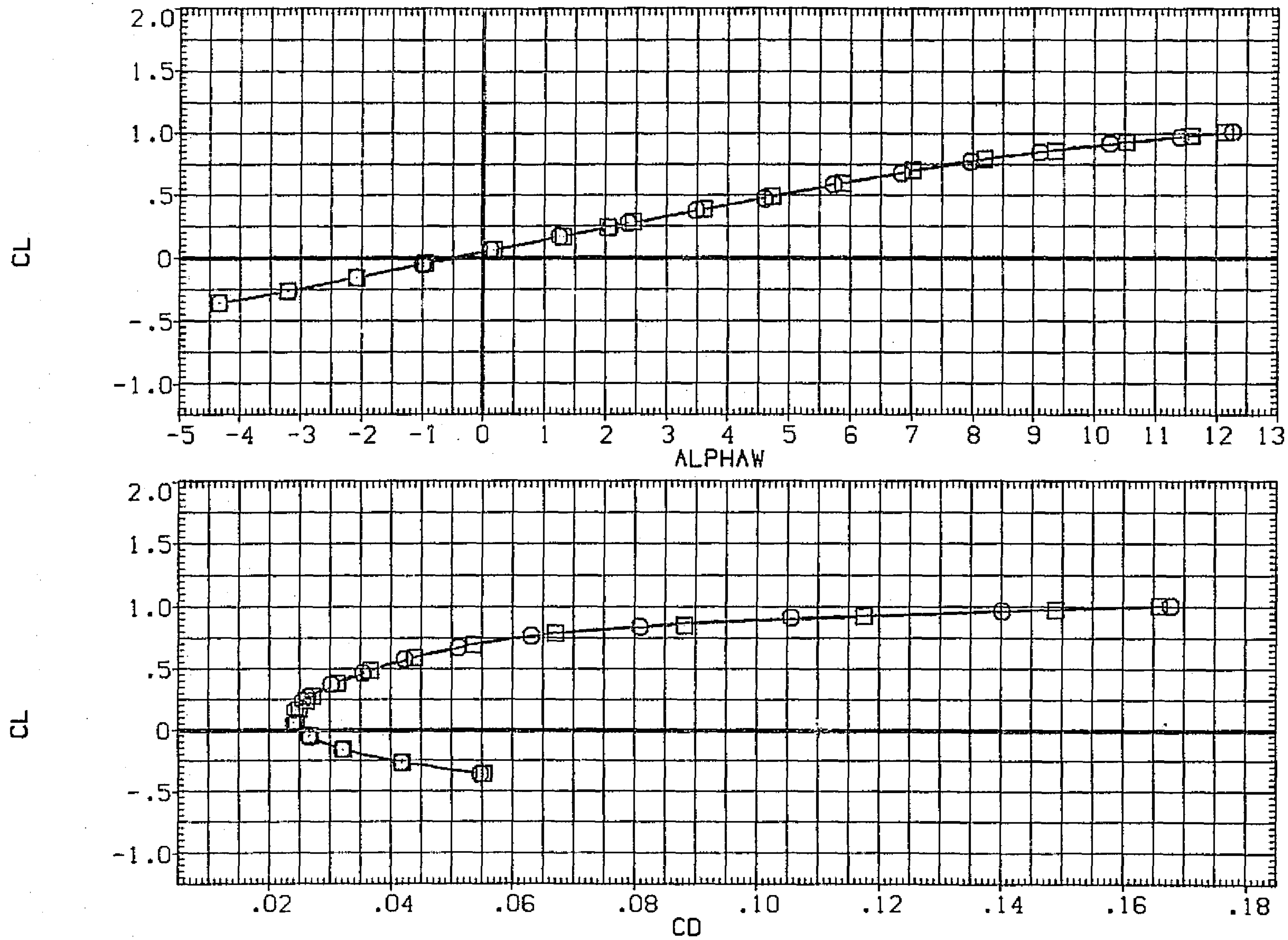



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
| --- | --- | --- | --- |
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

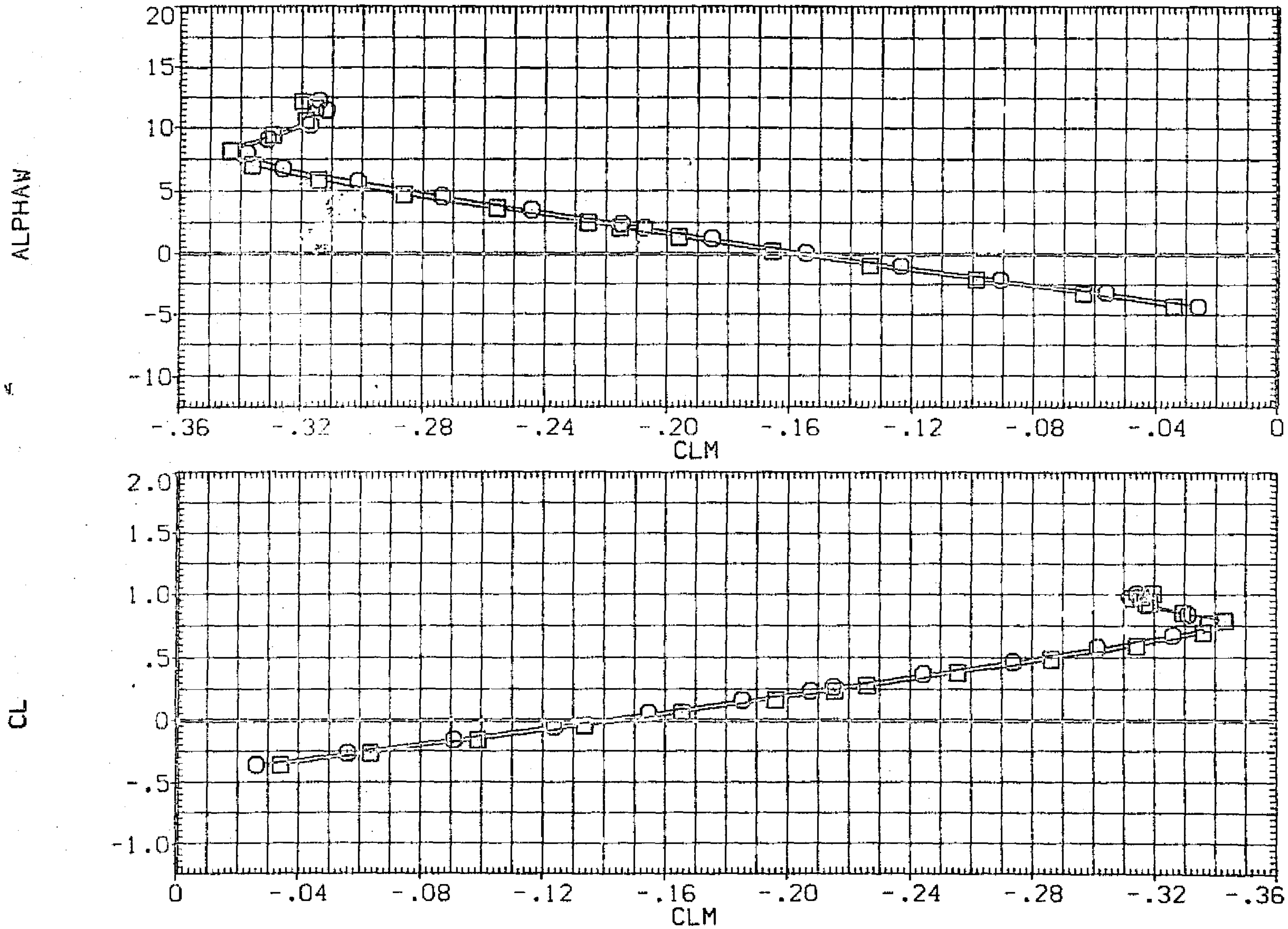



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

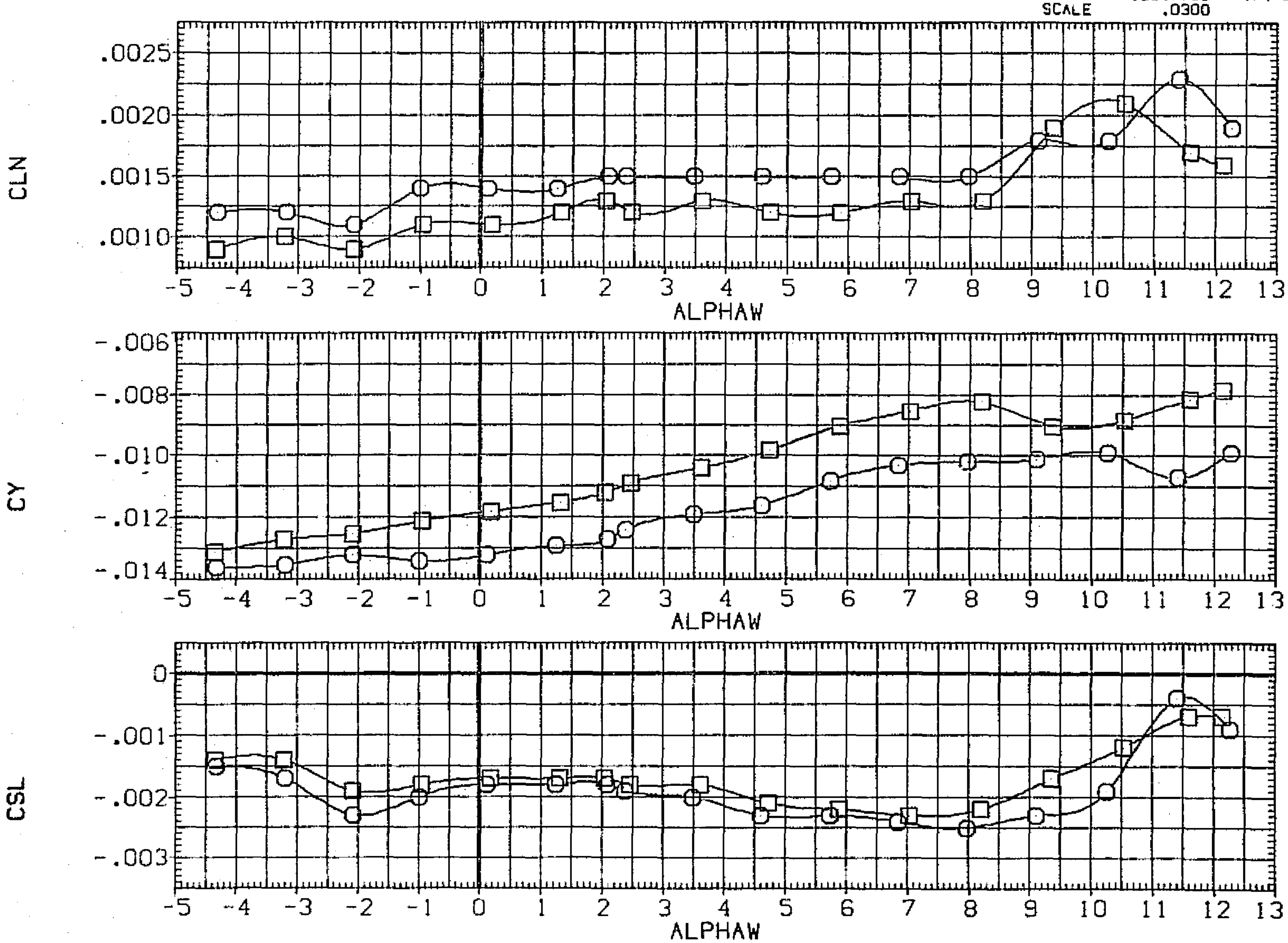



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(C)MACH = .60

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

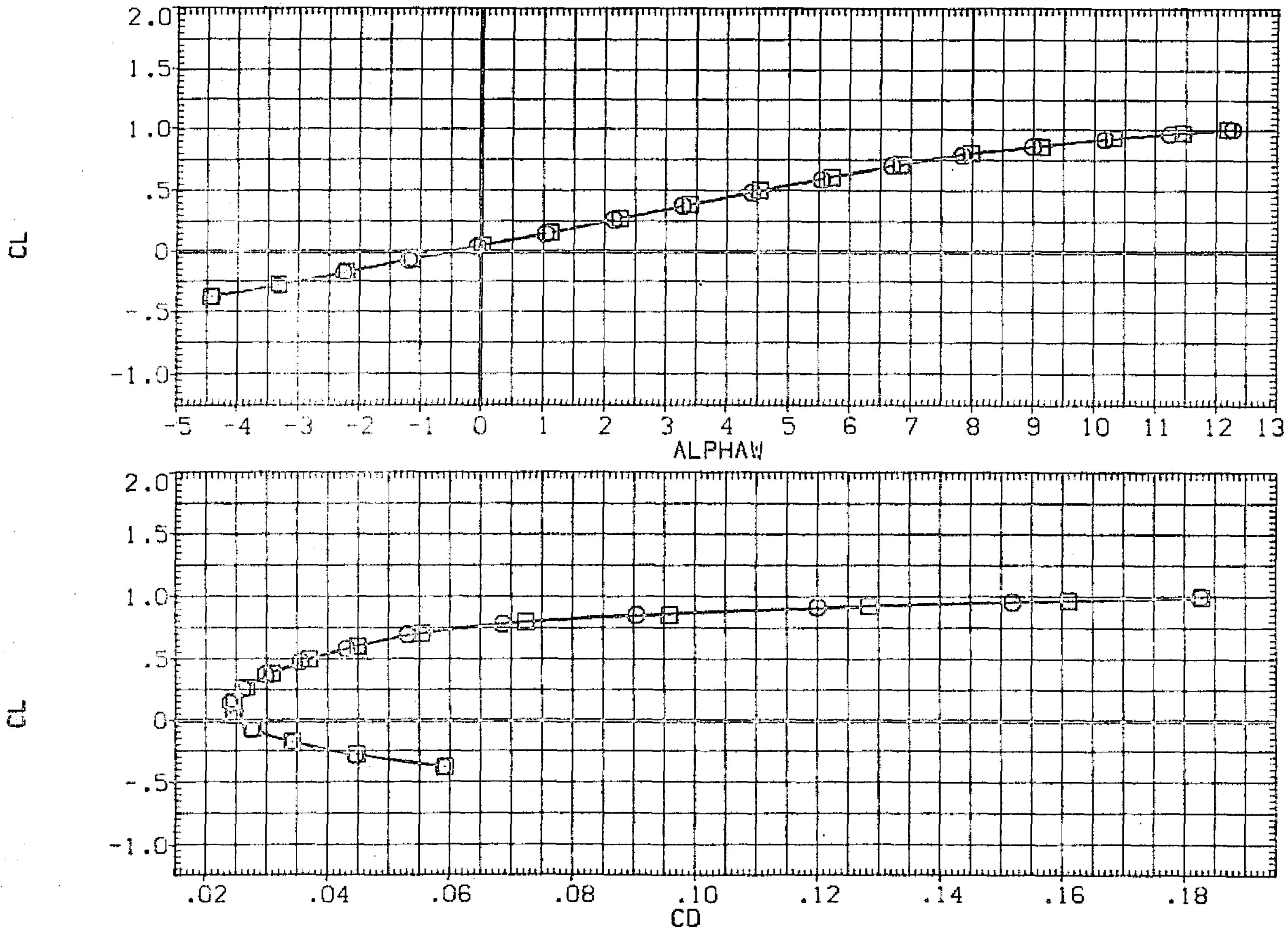



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

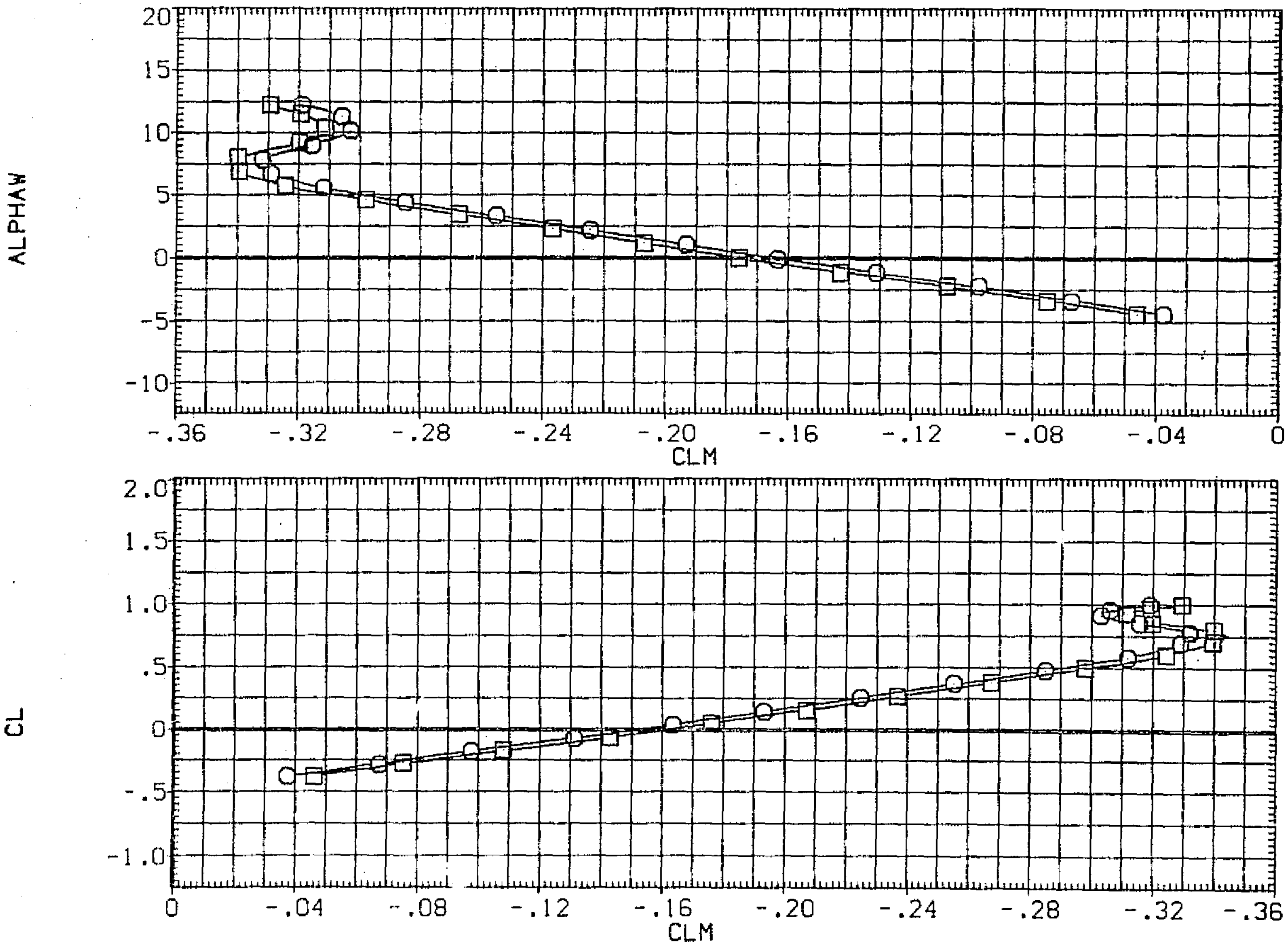



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA |
|---|---|---|---|
| (RGP247) | ○ | CA6 K2H15.1 V9.1 | .000 |
| (RGP014) | □ | CA6 K1H15.1 V9.1 | .000 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

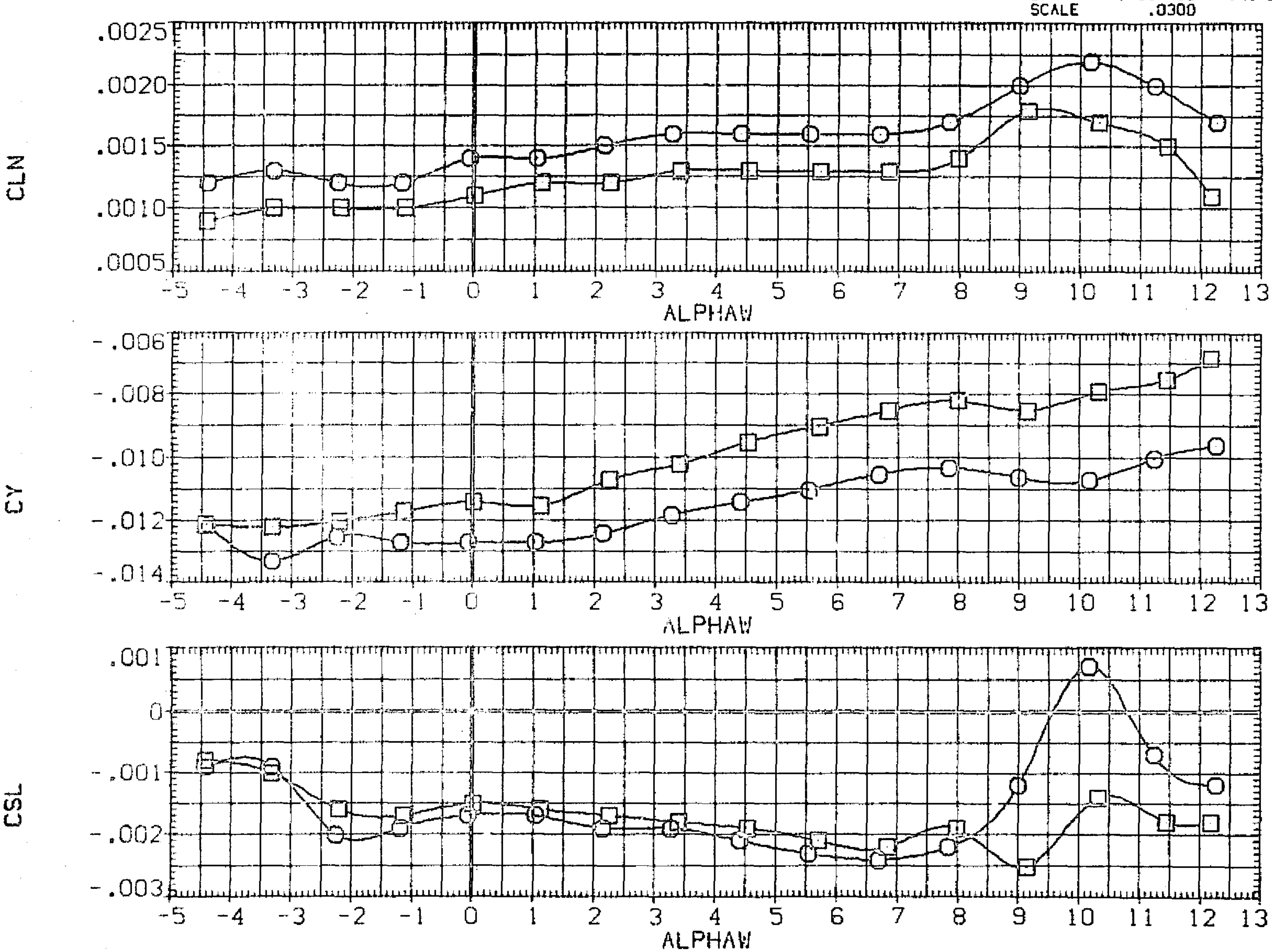



FIG. 100 REPEATABILITY STUDY, SPEED BRAKES DOWN, BASIC 747

(D)MACH = .70

DATA SET SYMBOL CONFIGURATION DESCRIPTION

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-143:CA5 K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

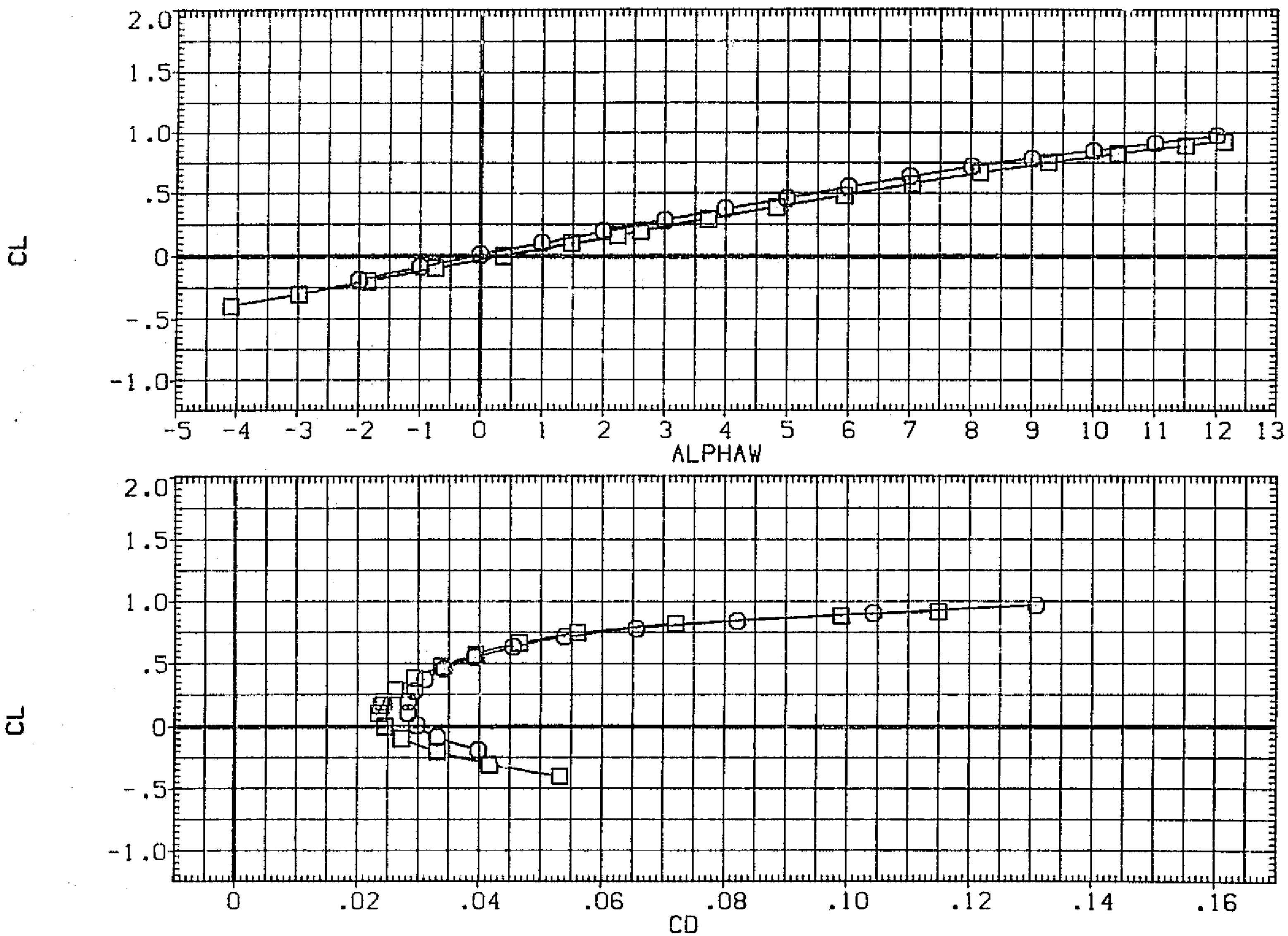



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 FO H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

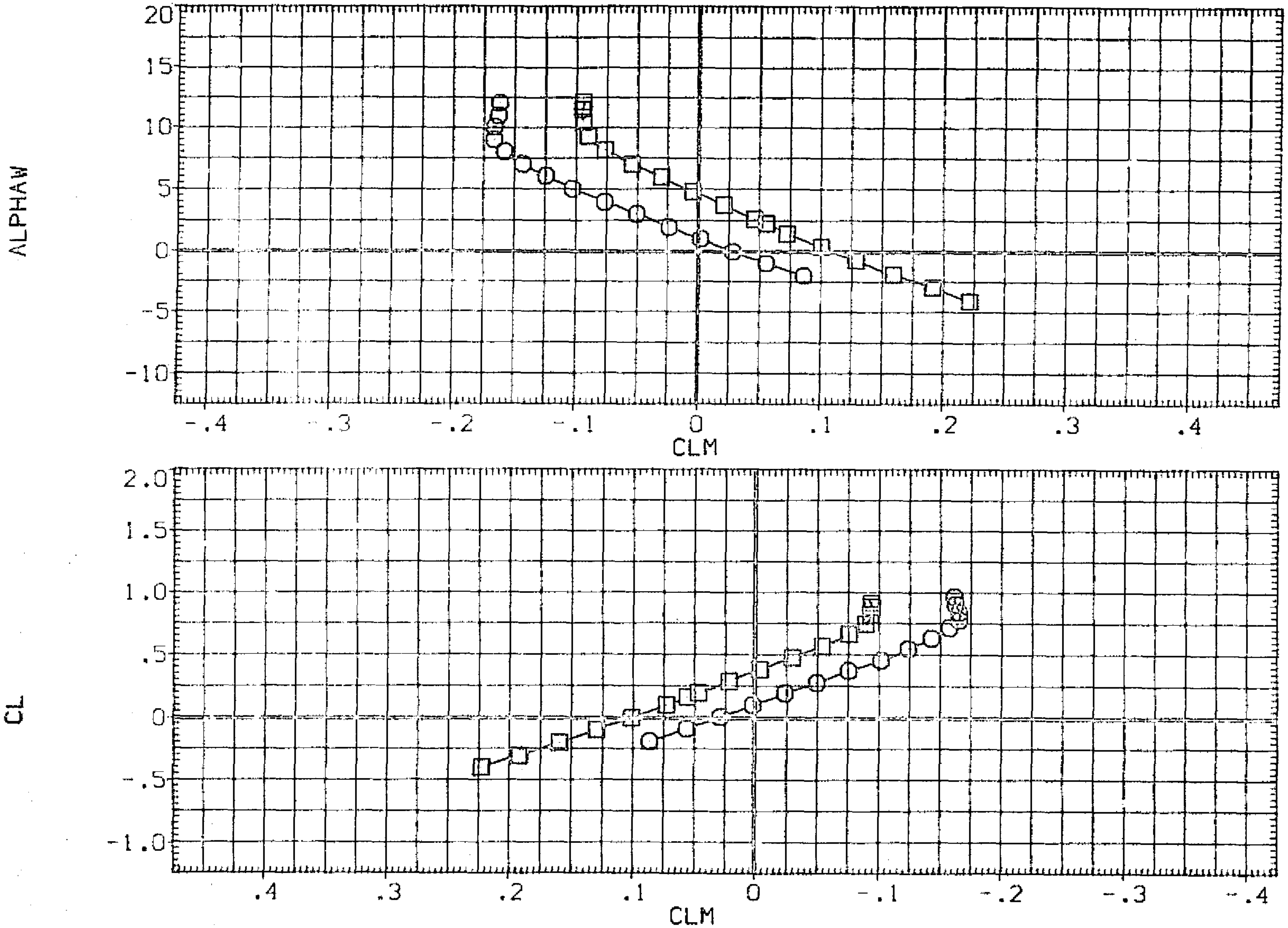



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(A)MACH - .30

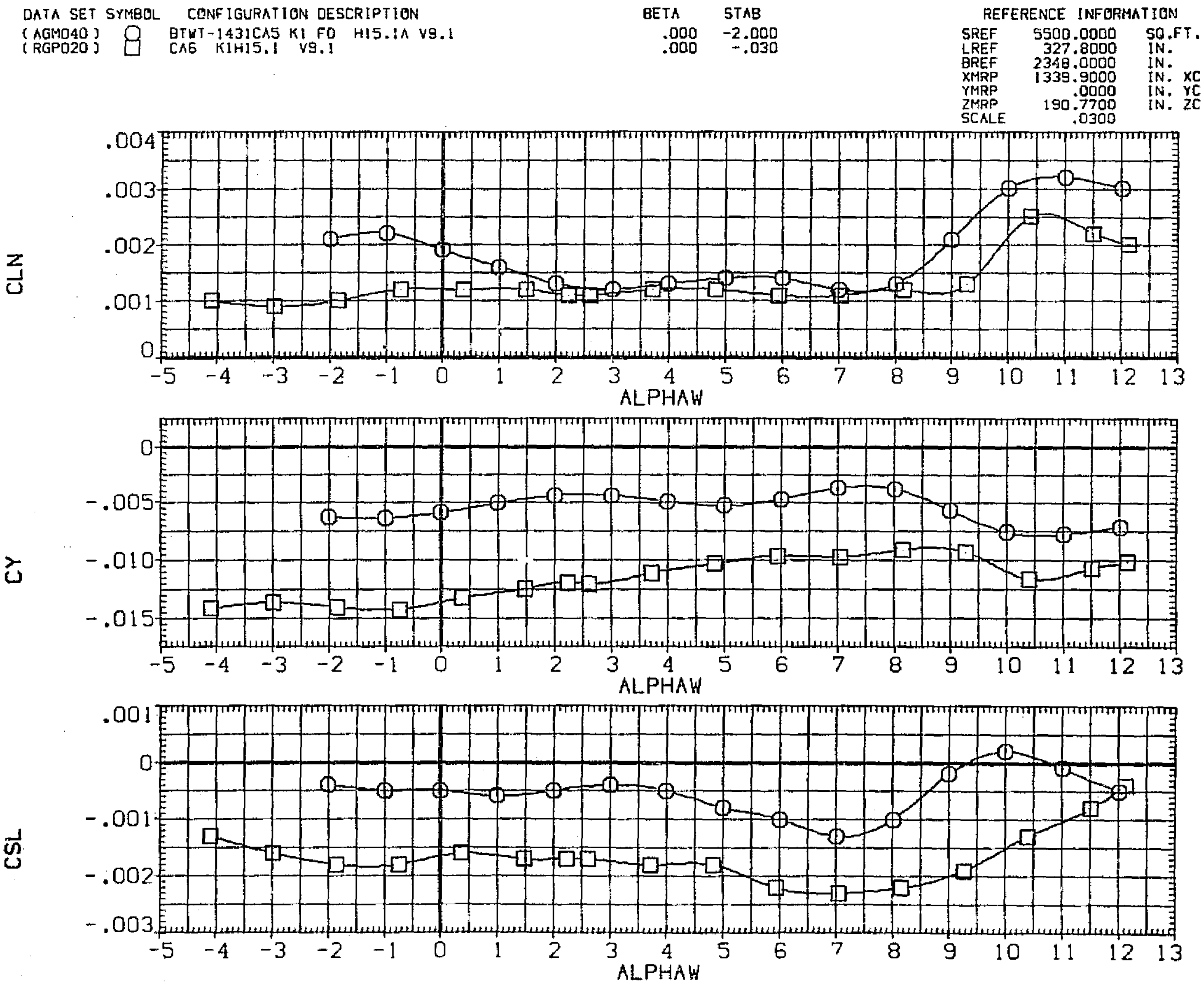



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 KI FO H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

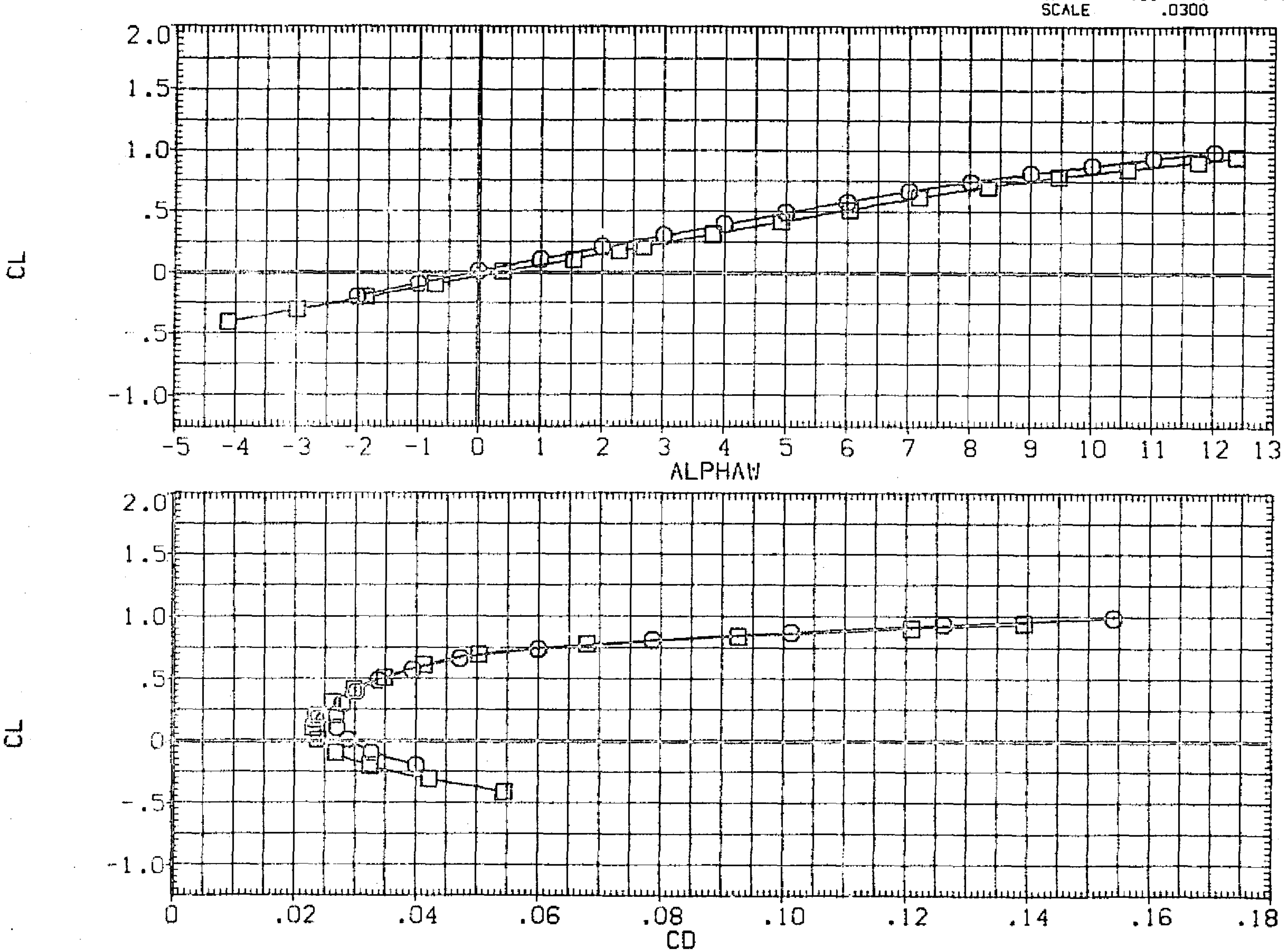



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

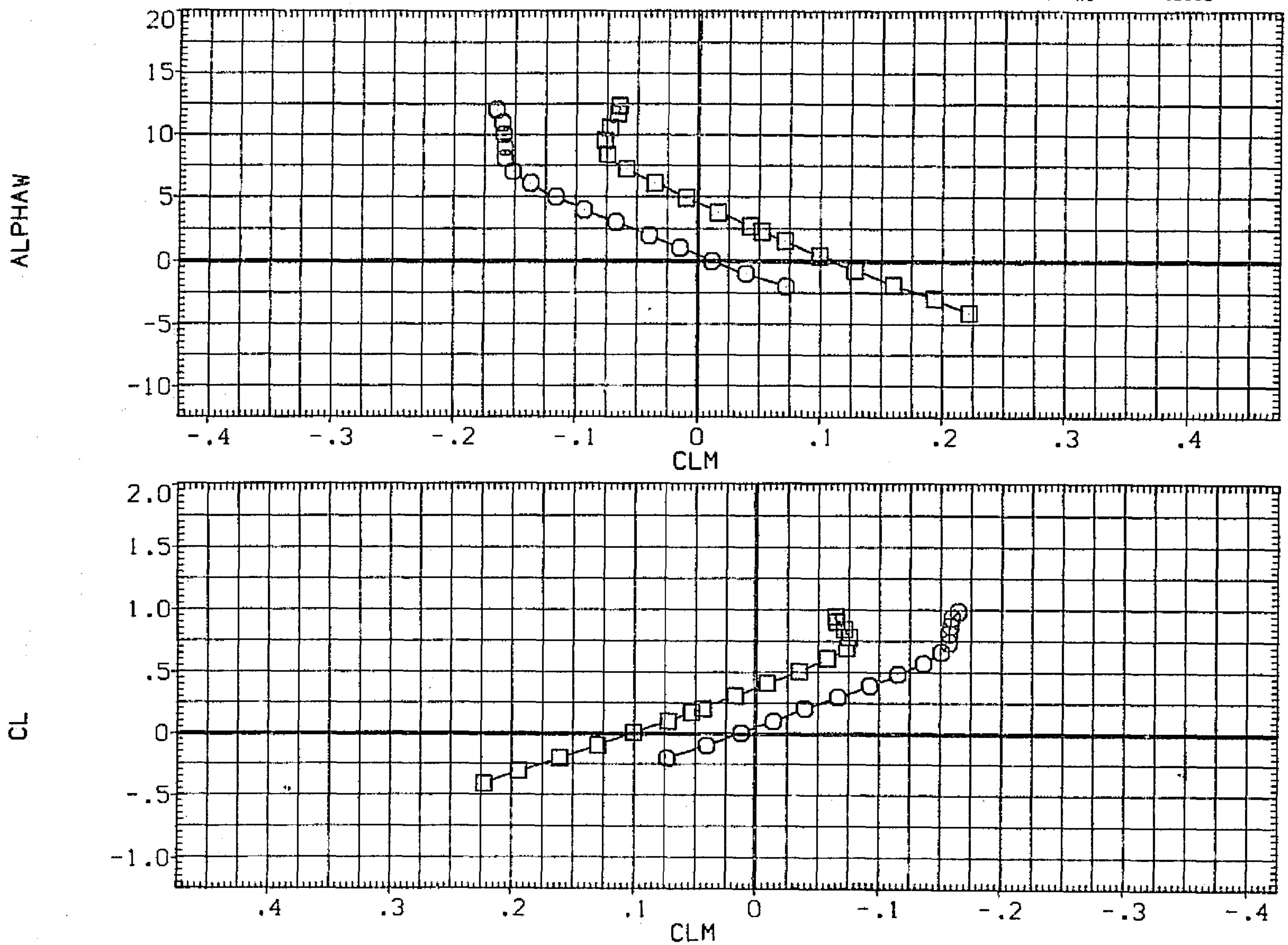



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(B)MACH = .50

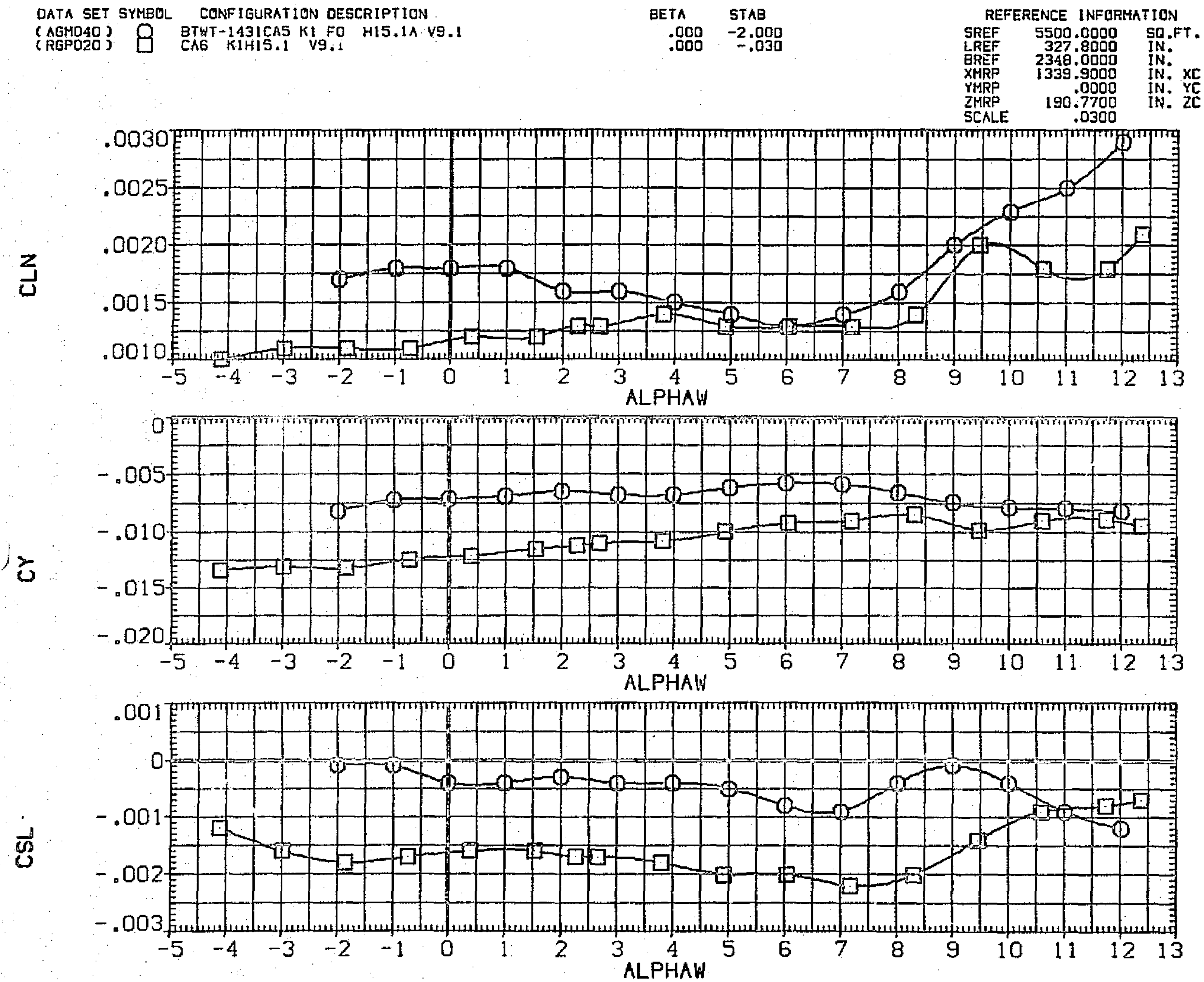



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

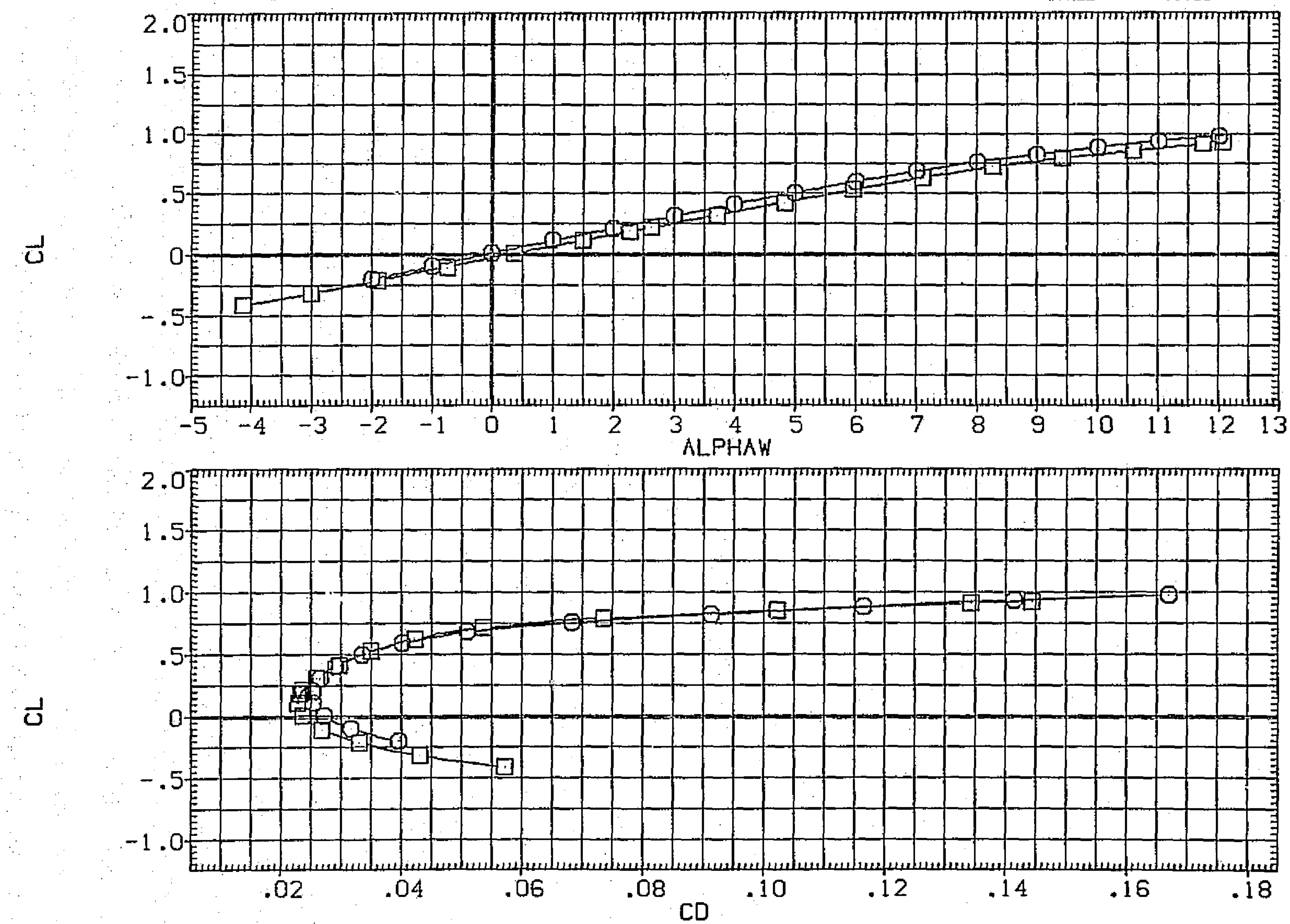



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 FO H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

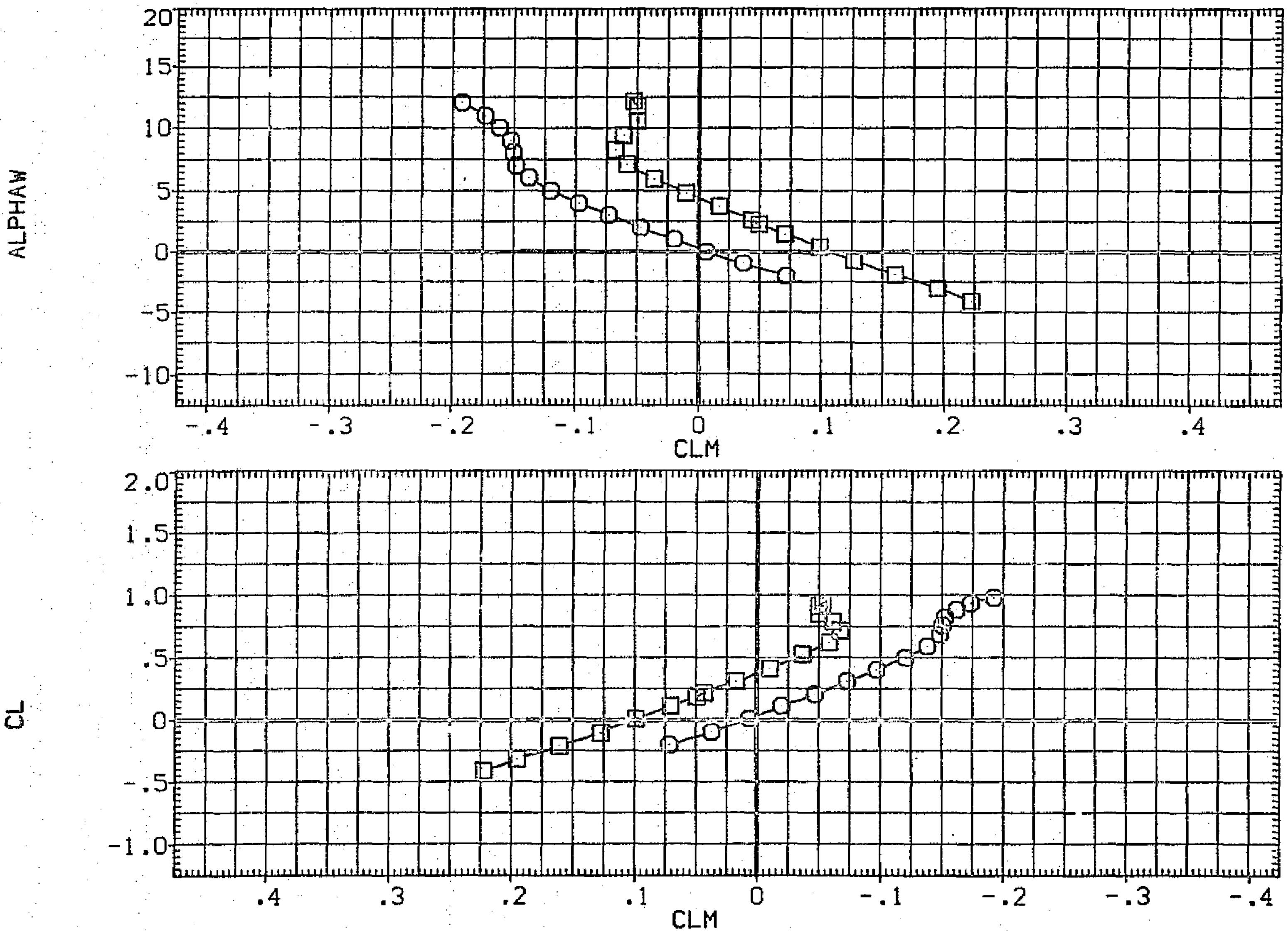



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

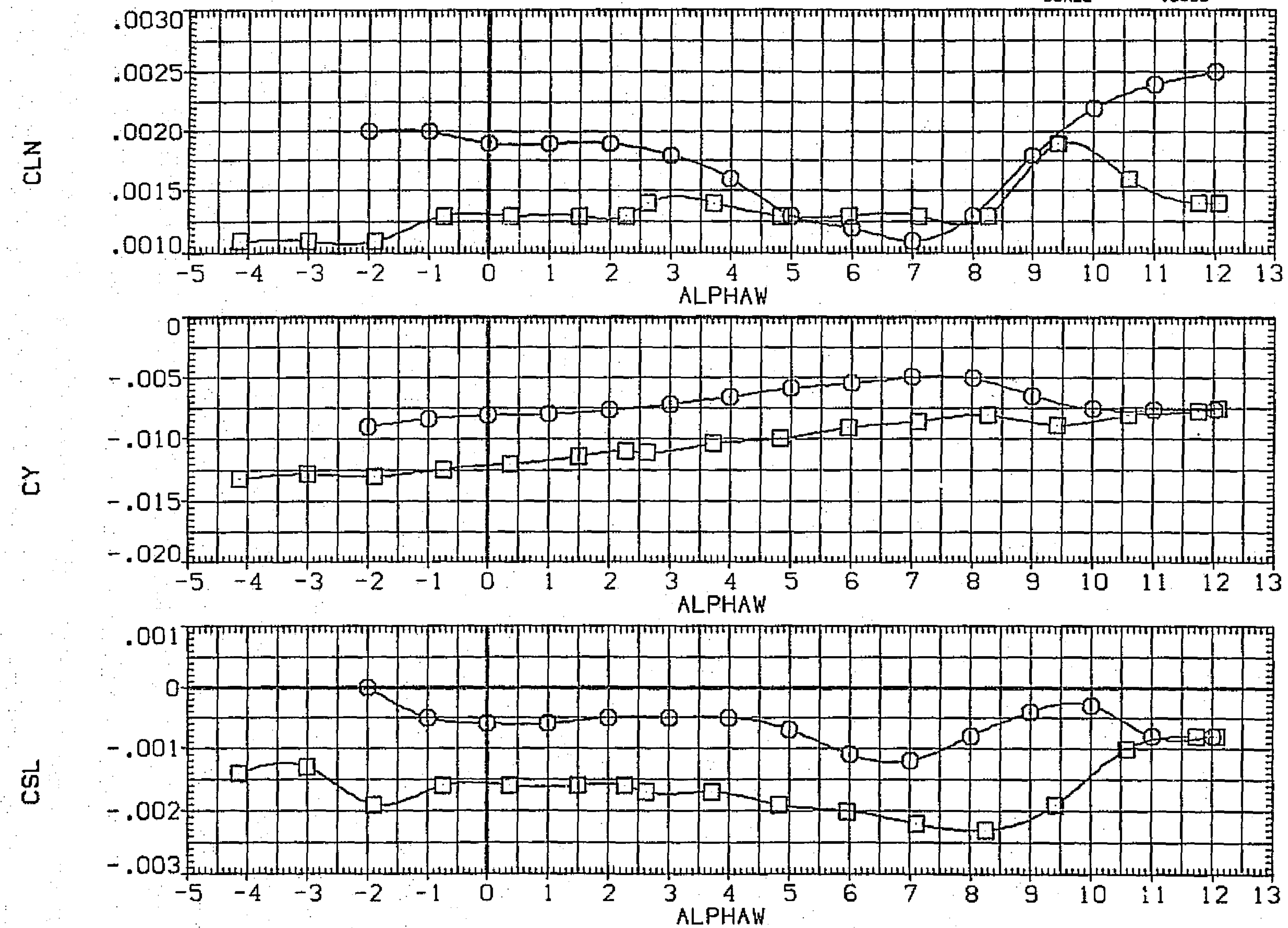



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 FO H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

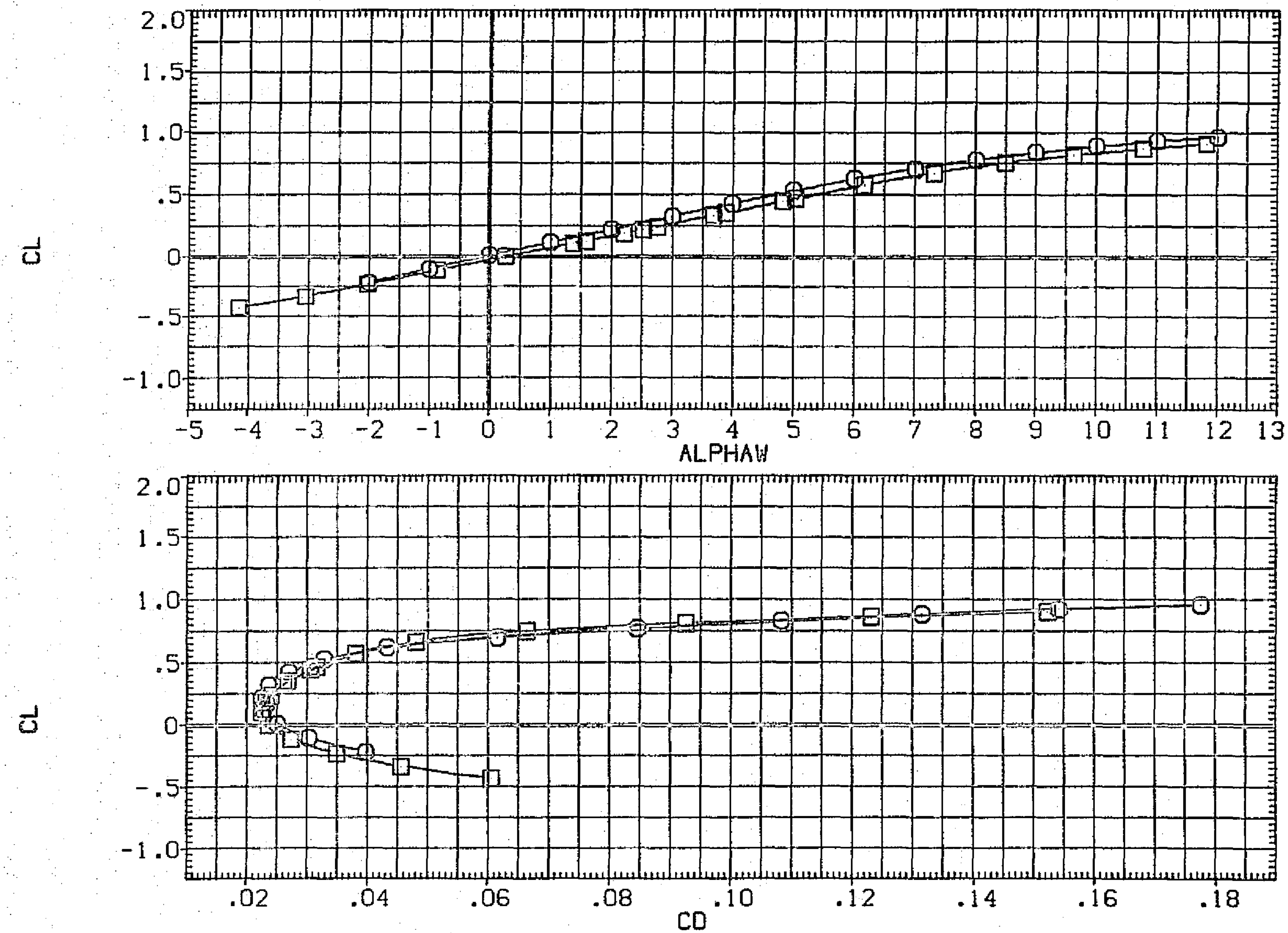



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

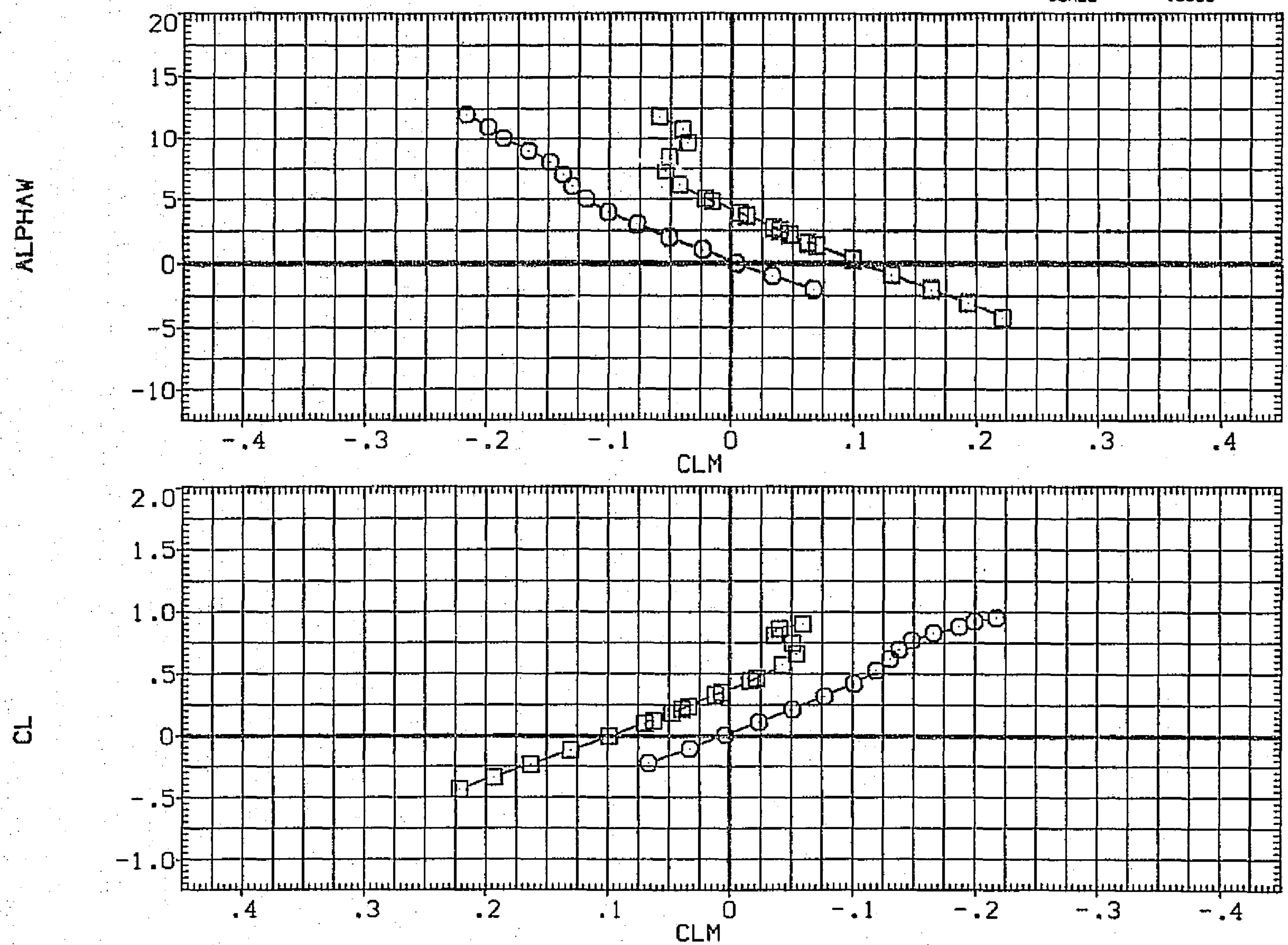



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |

| REFERENCE INFORMATION | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

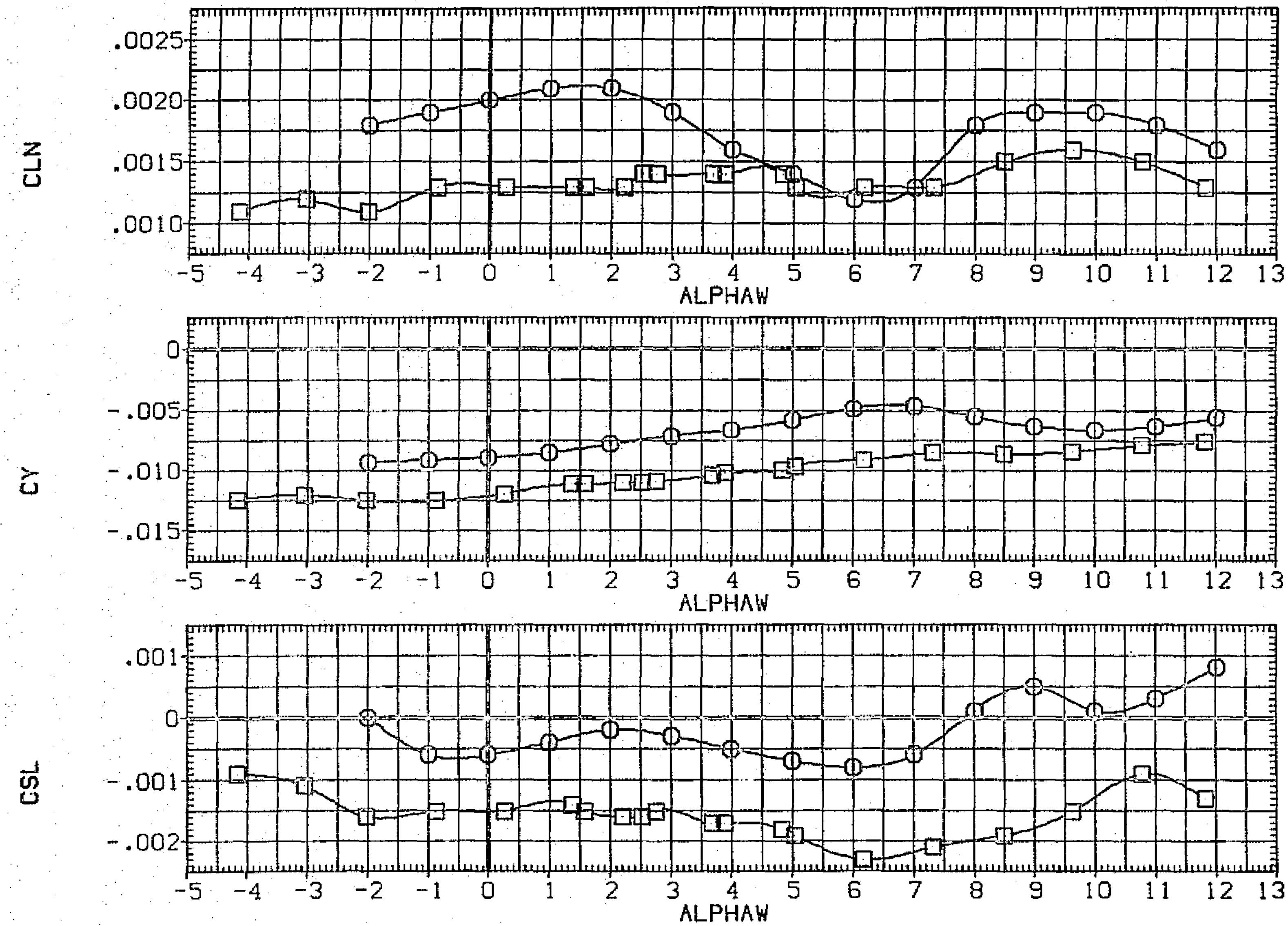



FIG. 101 CA-5 AND CA-6 COMPARISON, BASIC 747 ALONE

(D)MACH = .70

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

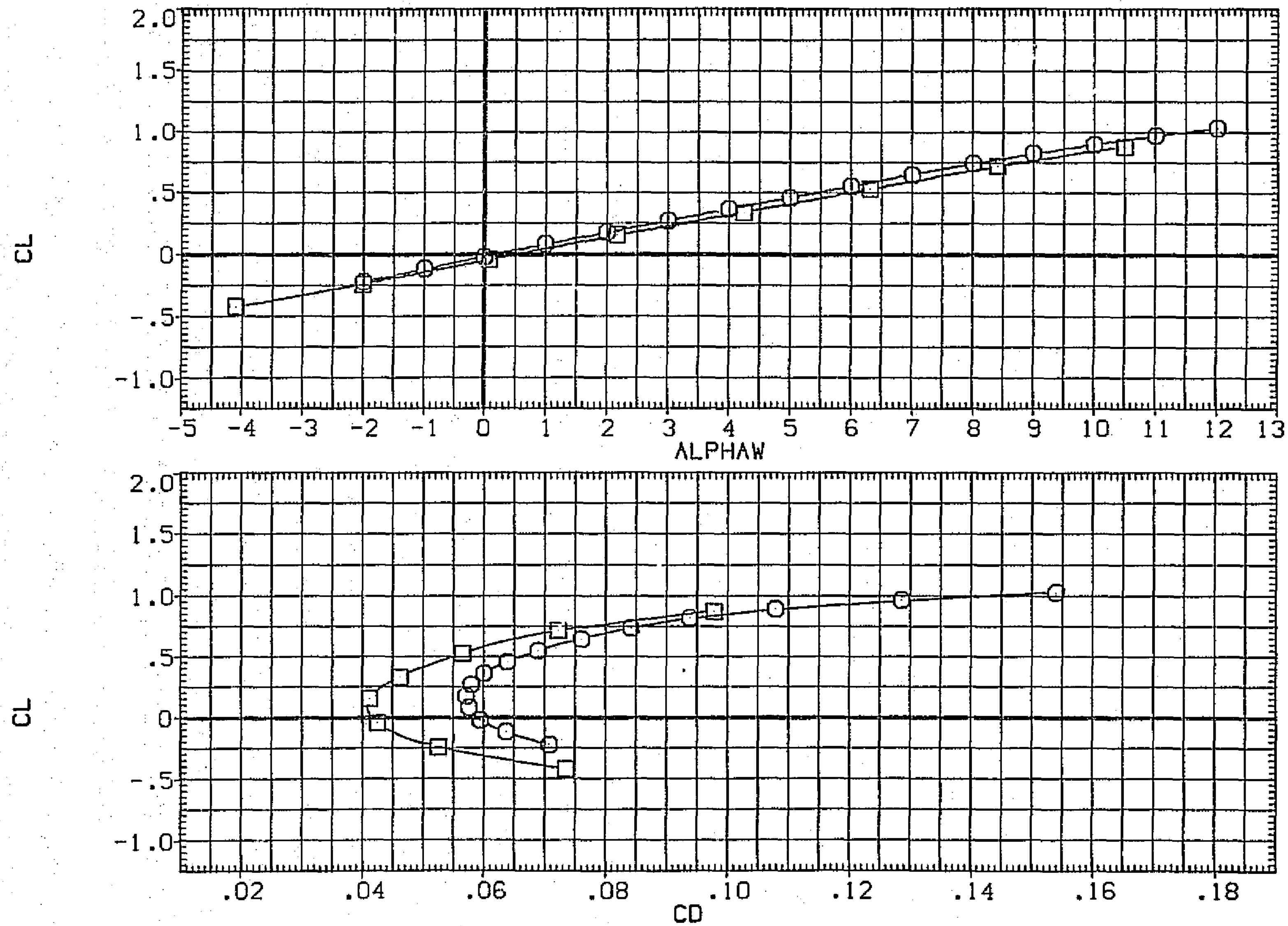



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGH117) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

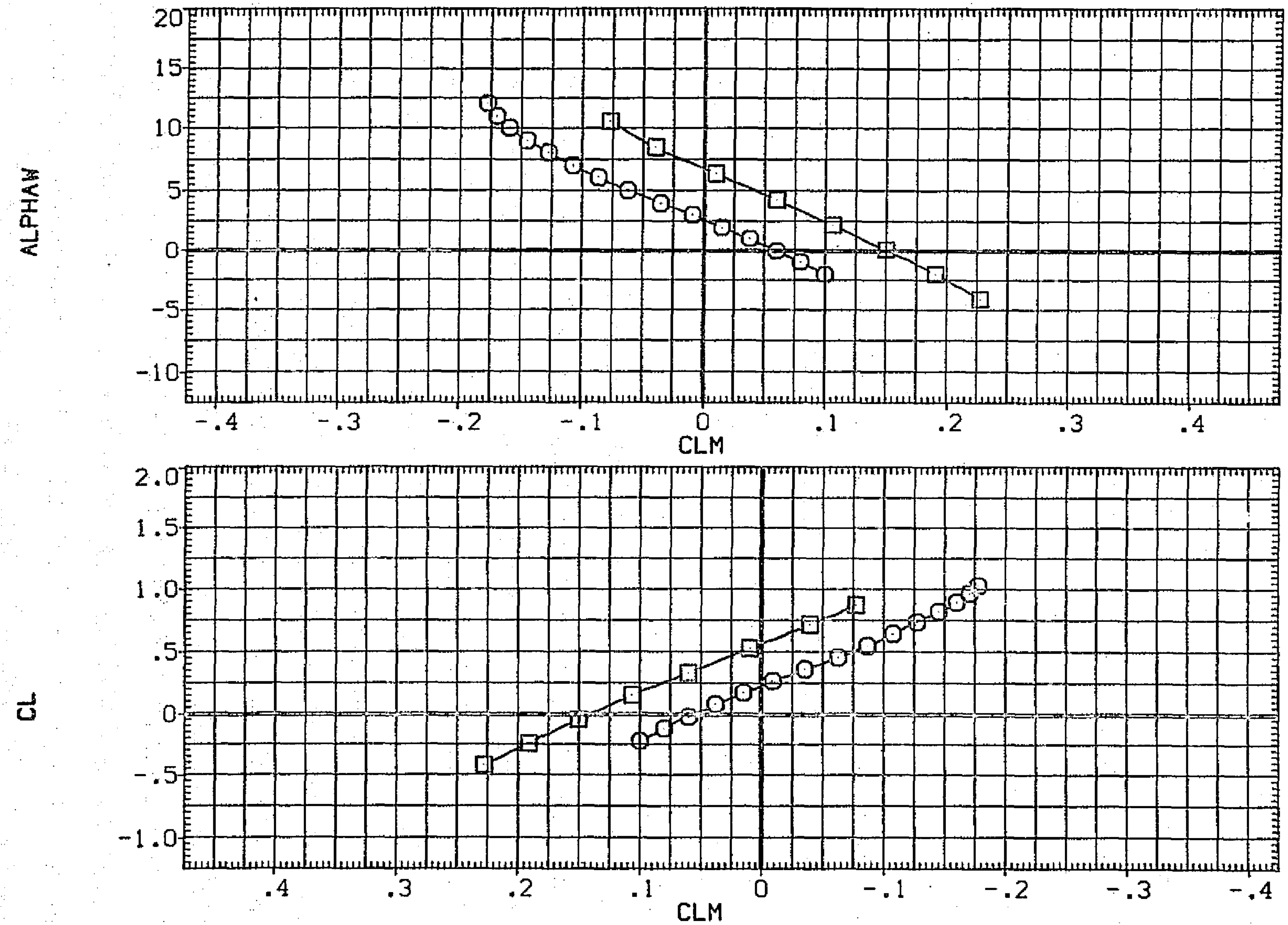



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

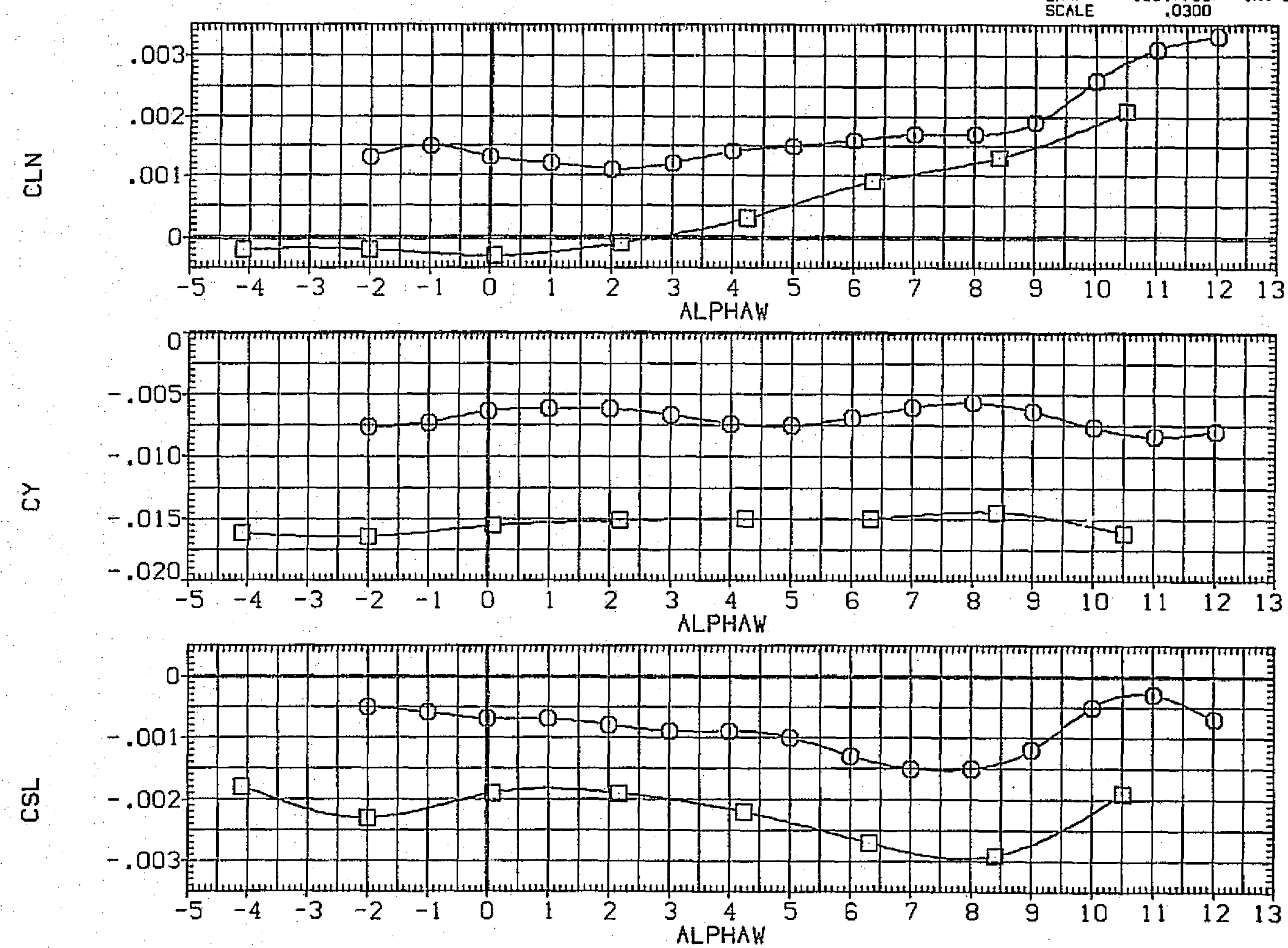



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.10RB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

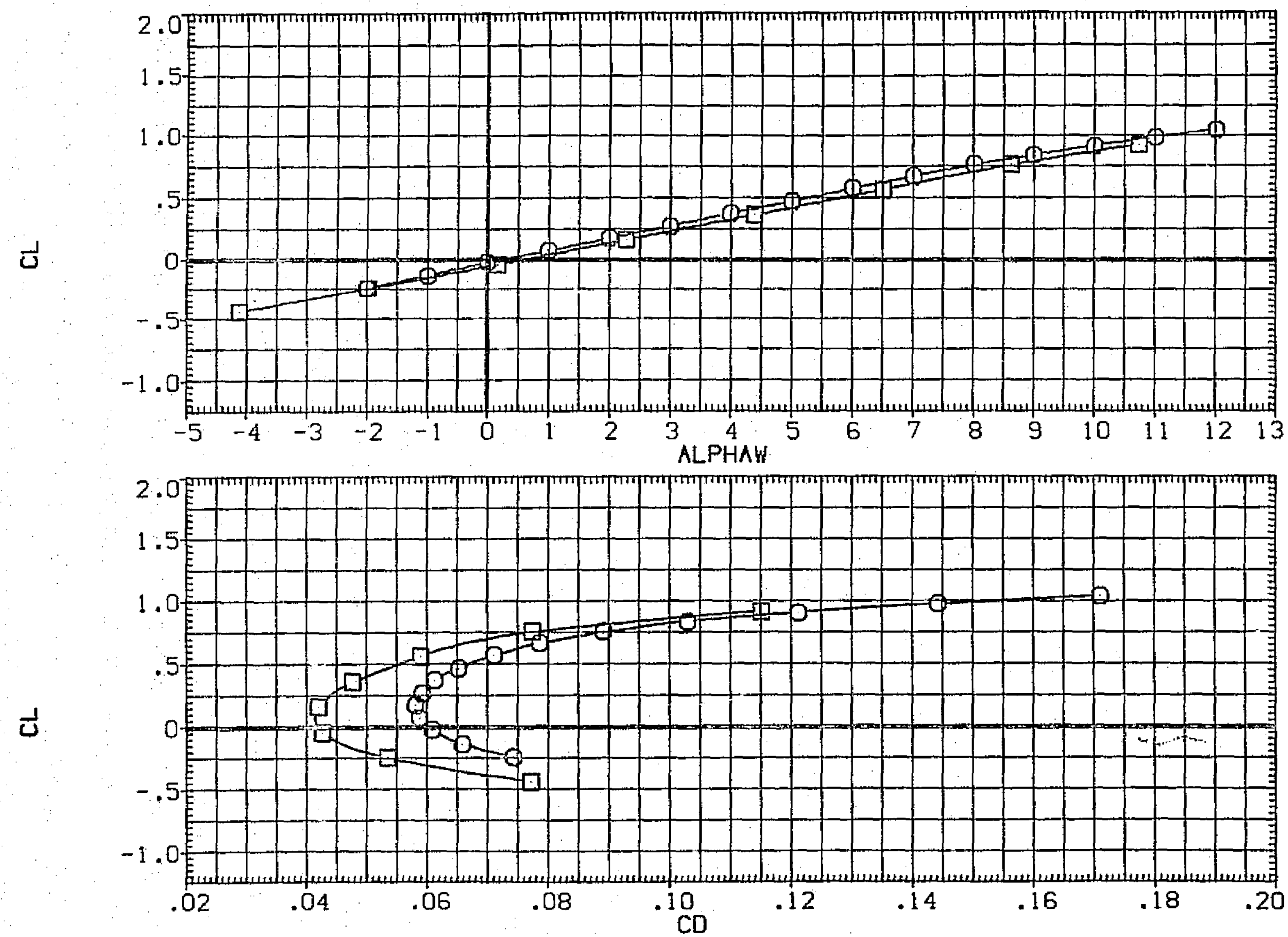



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

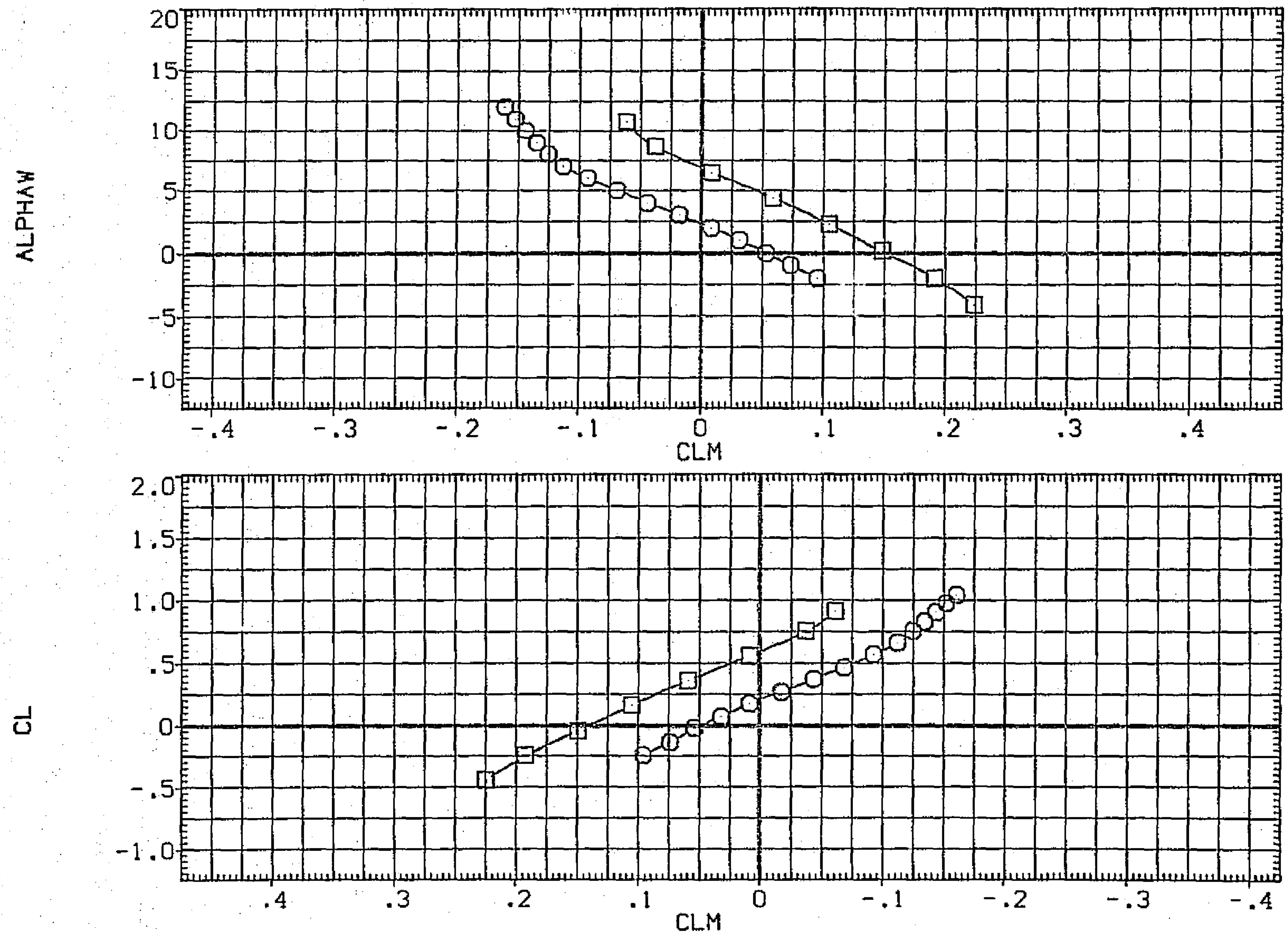



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | 1ORB |
| --- | --- | --- | --- | --- | --- |
| (AGM117) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

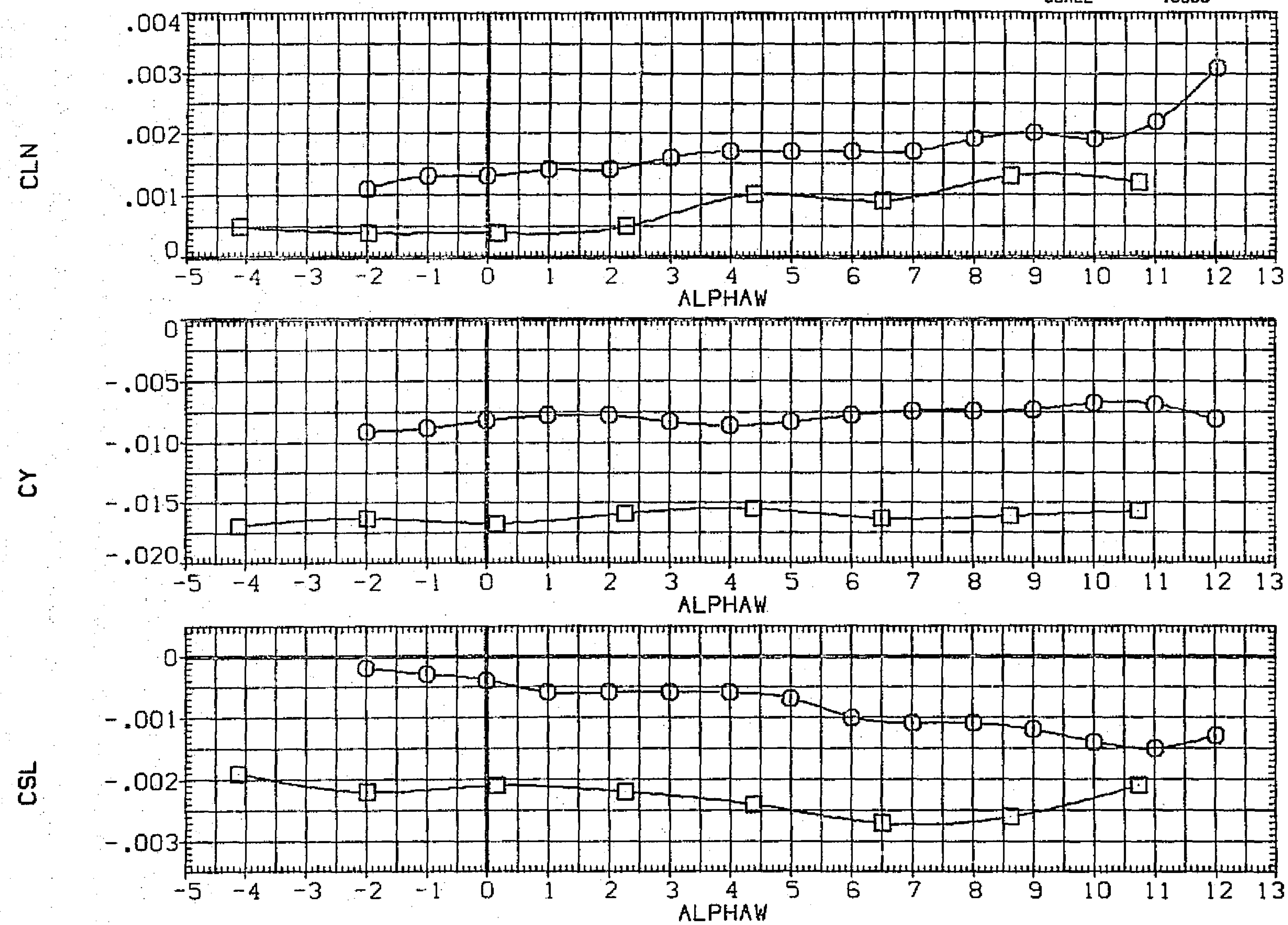



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

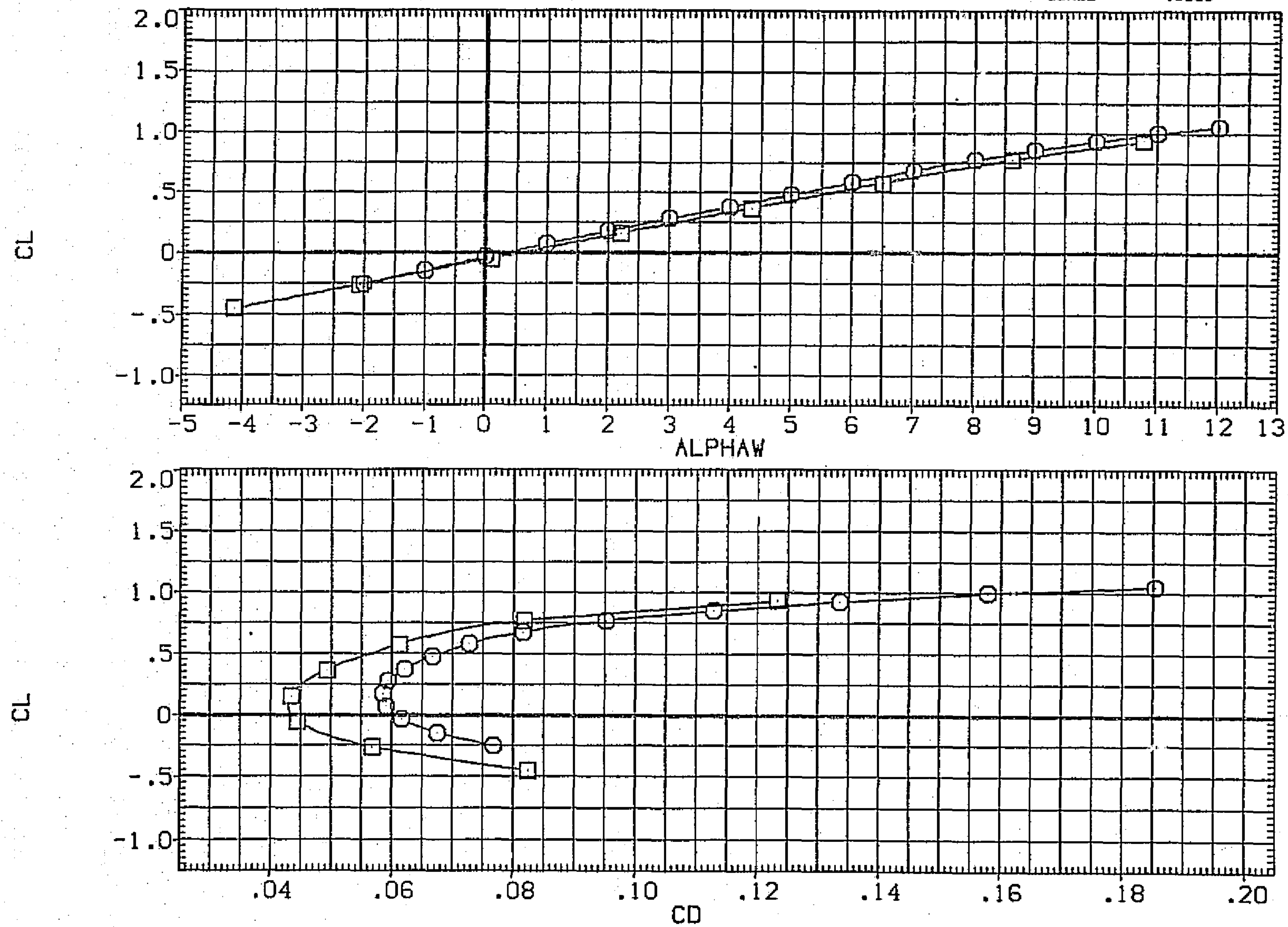



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

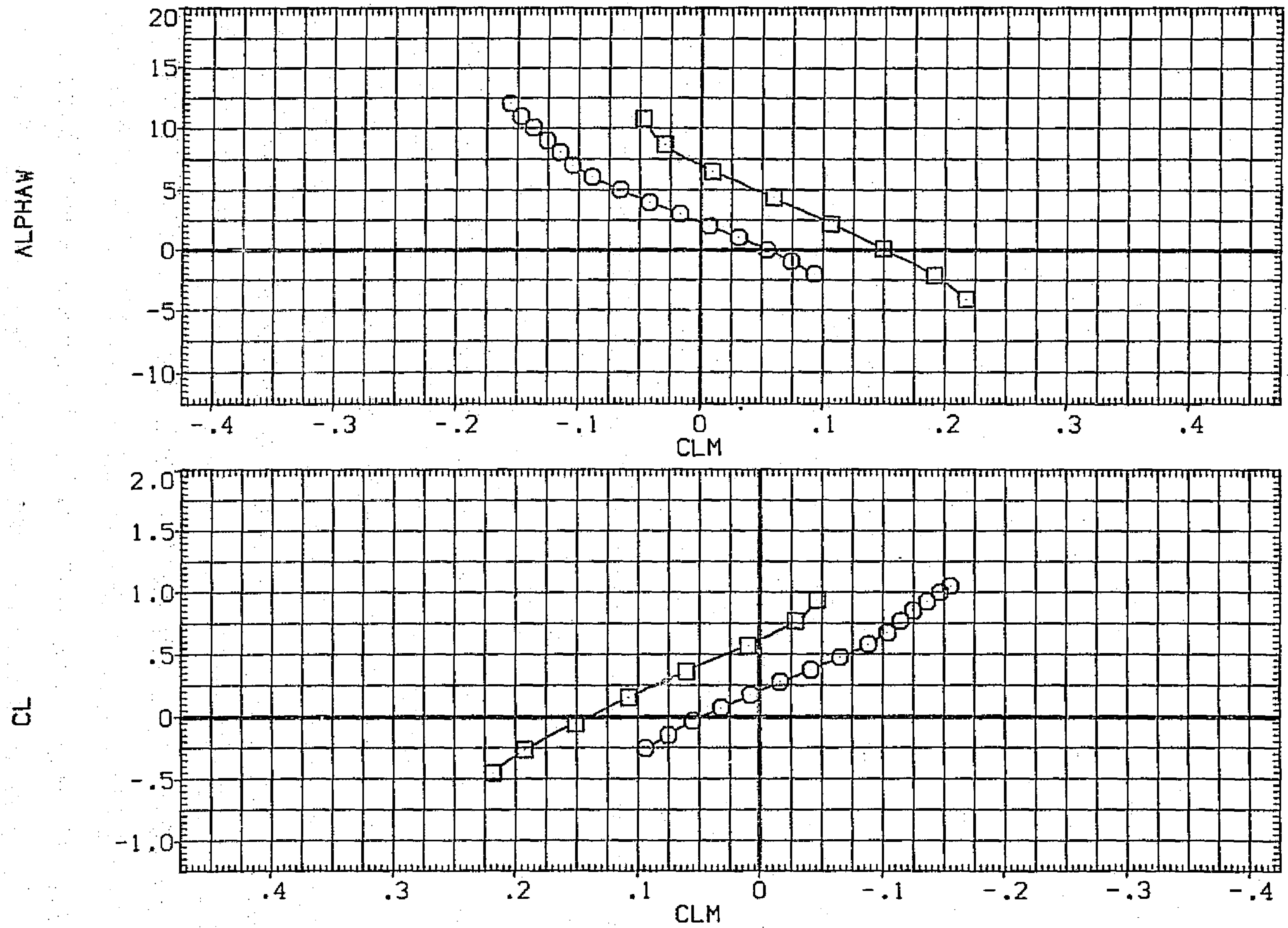



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | 10RB |
|---|---|---|---|---|---|
| (AGM117) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -2.000 | .000 | 4.000 |
| (AGP168) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.10RB TC4 | -.060 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

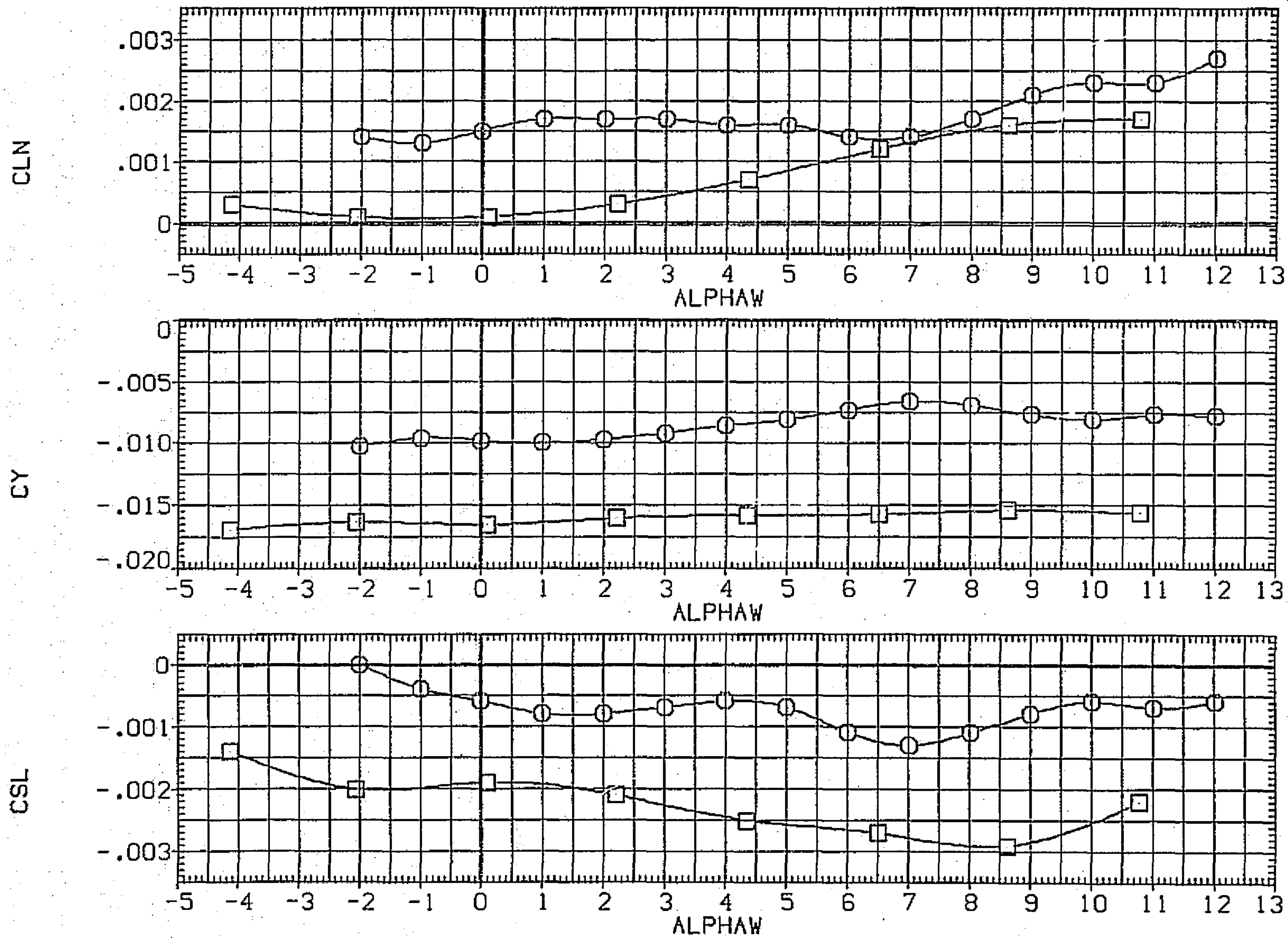



FIG. 102 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= 0

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

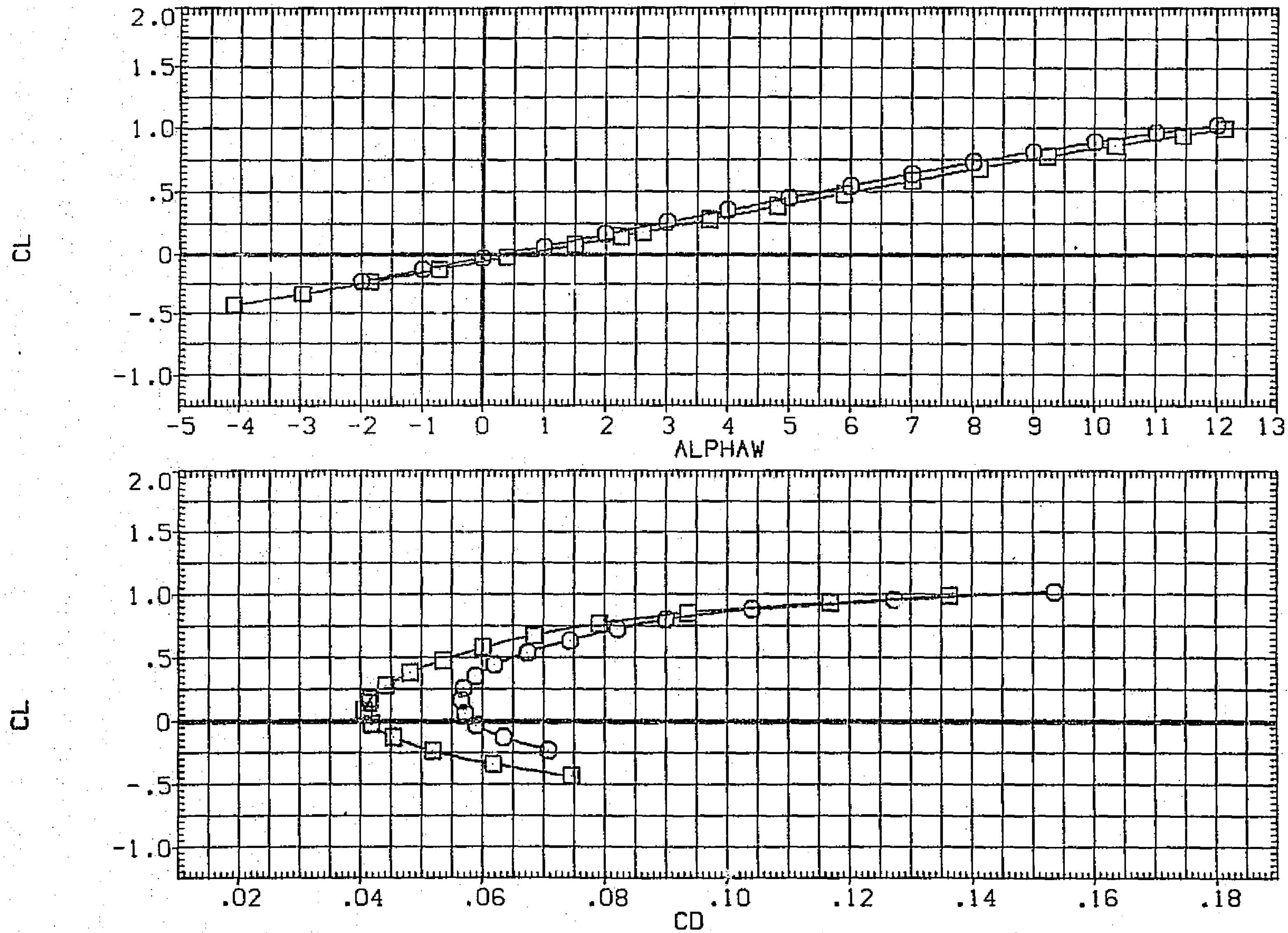



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /1\!.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

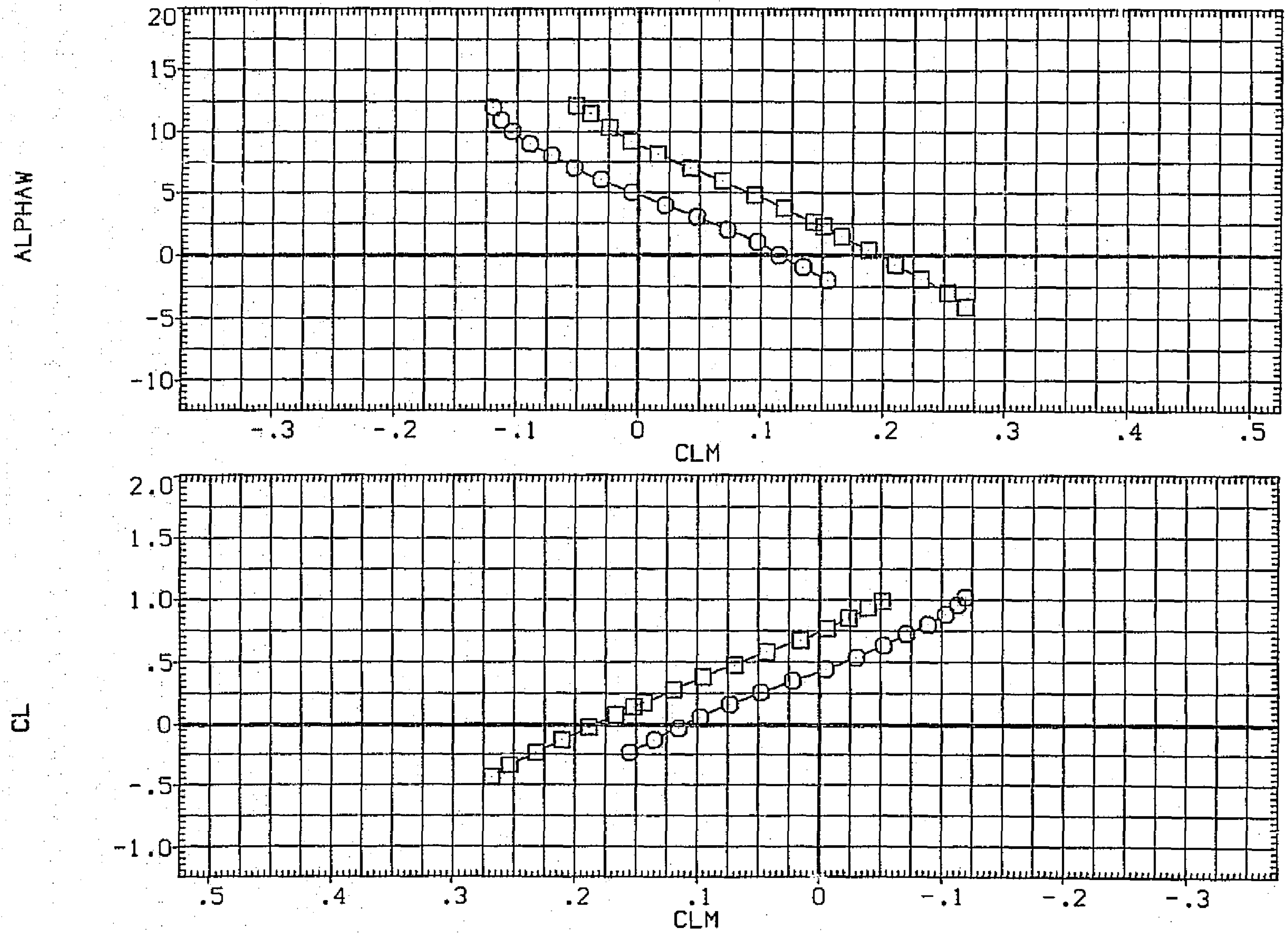



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 FO H15.6 V8.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V8.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

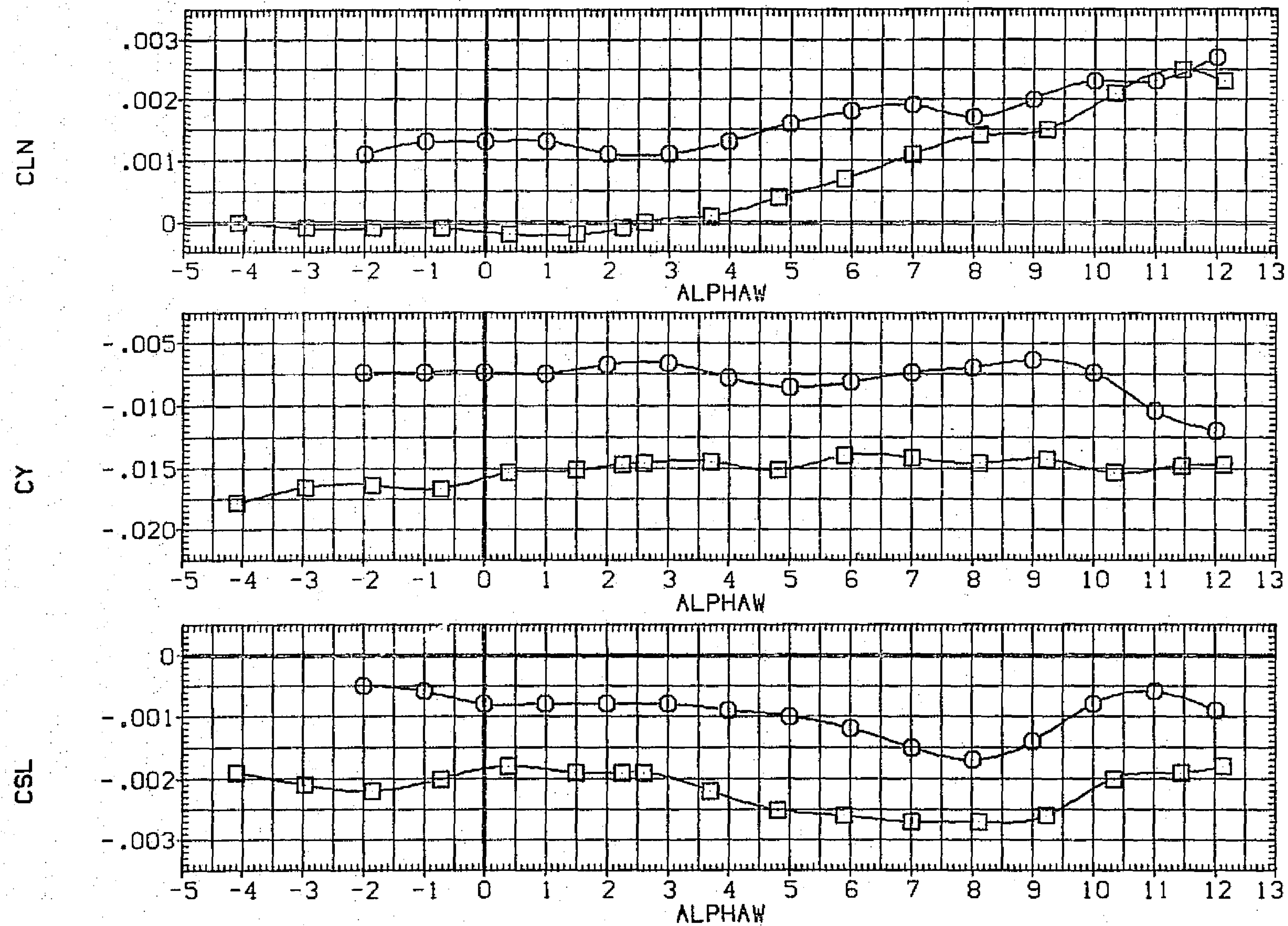



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(A)MACH = .30

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
| --- | --- | --- | --- | --- | --- |
| (AGM112) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
| --- | --- | --- |
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

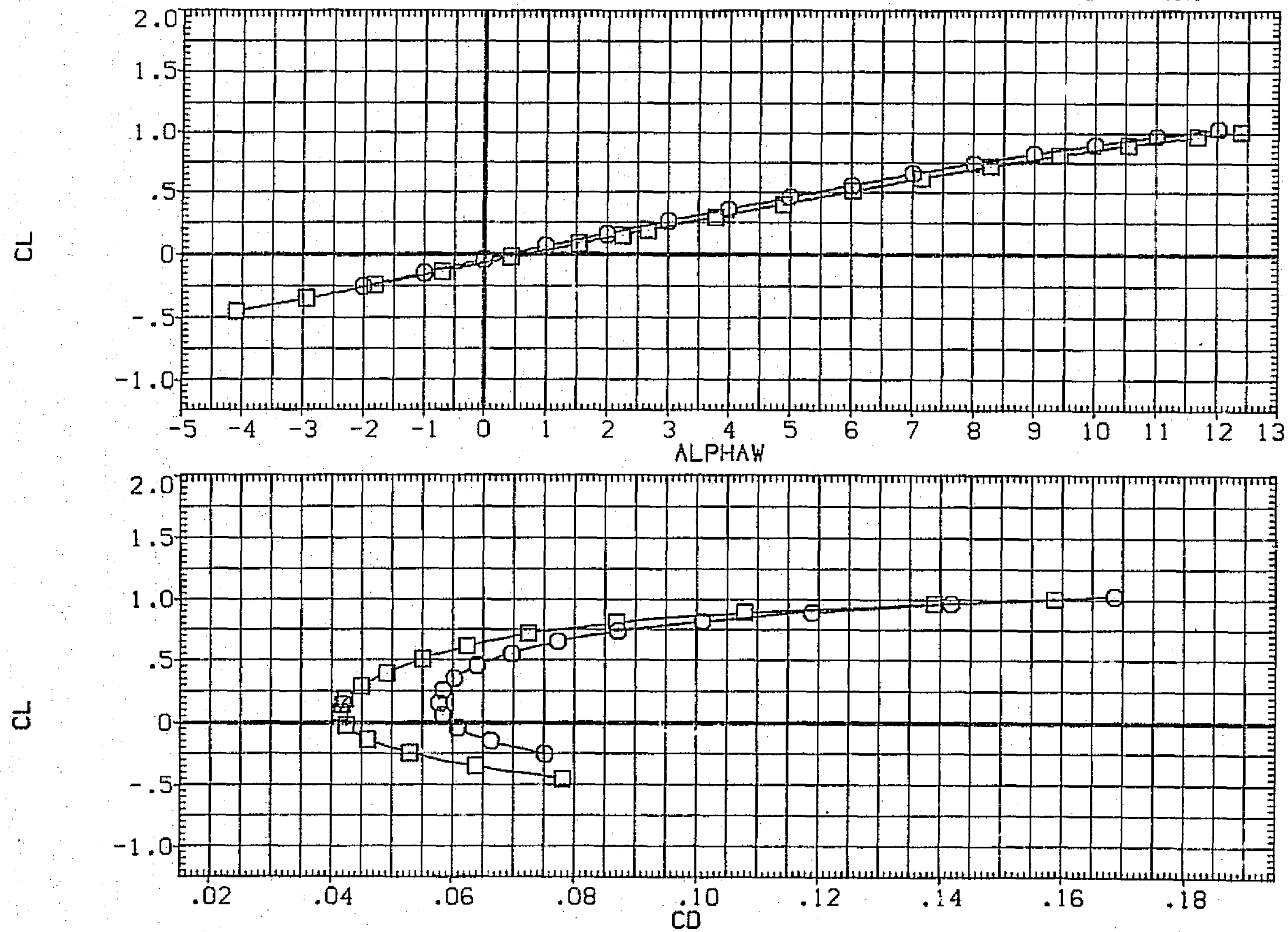



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(B)MACH = .50

DATA SET SYMBOL CONFIGURATION DESCRIPTION STAB BETA IORB

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

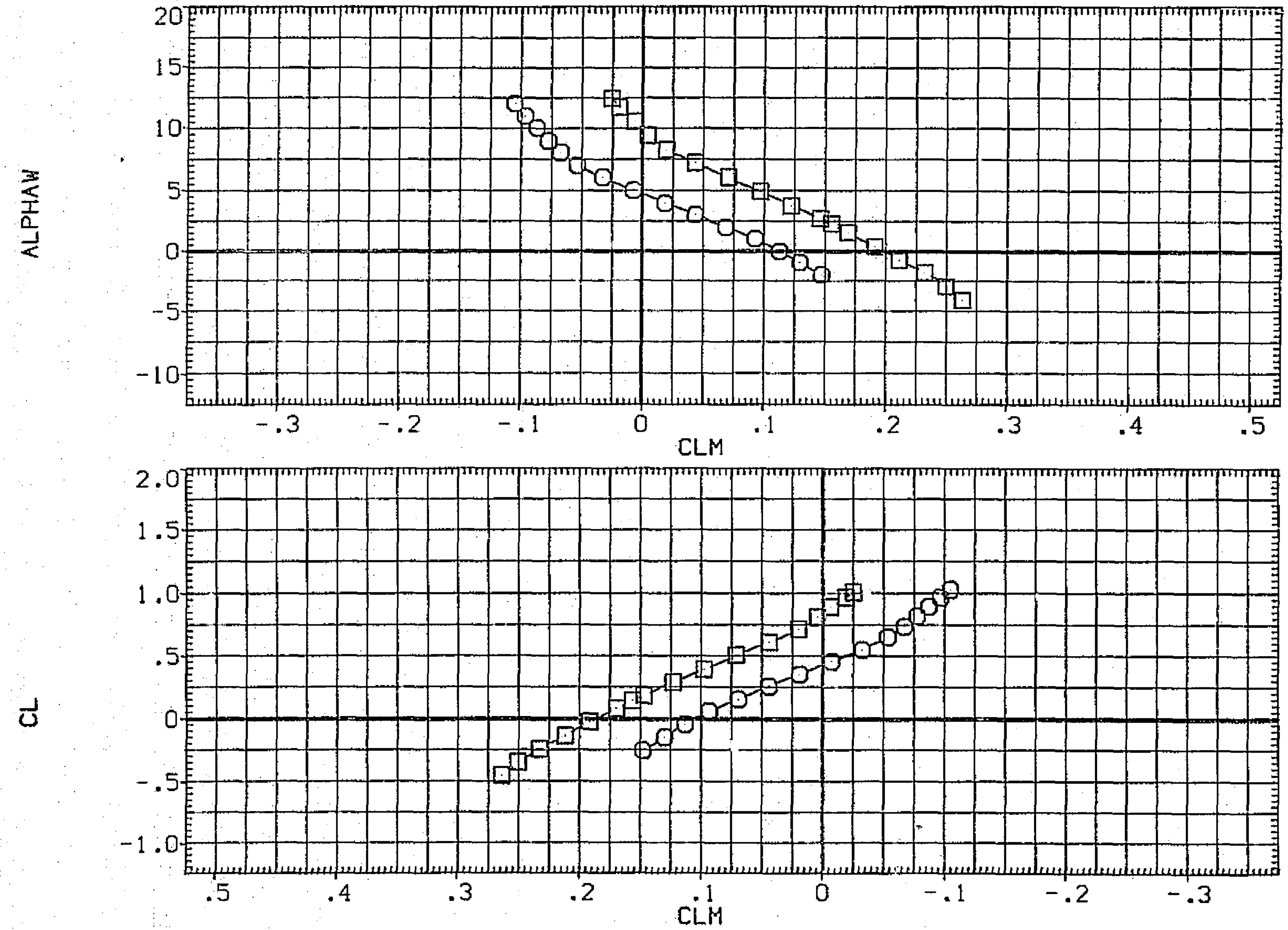



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

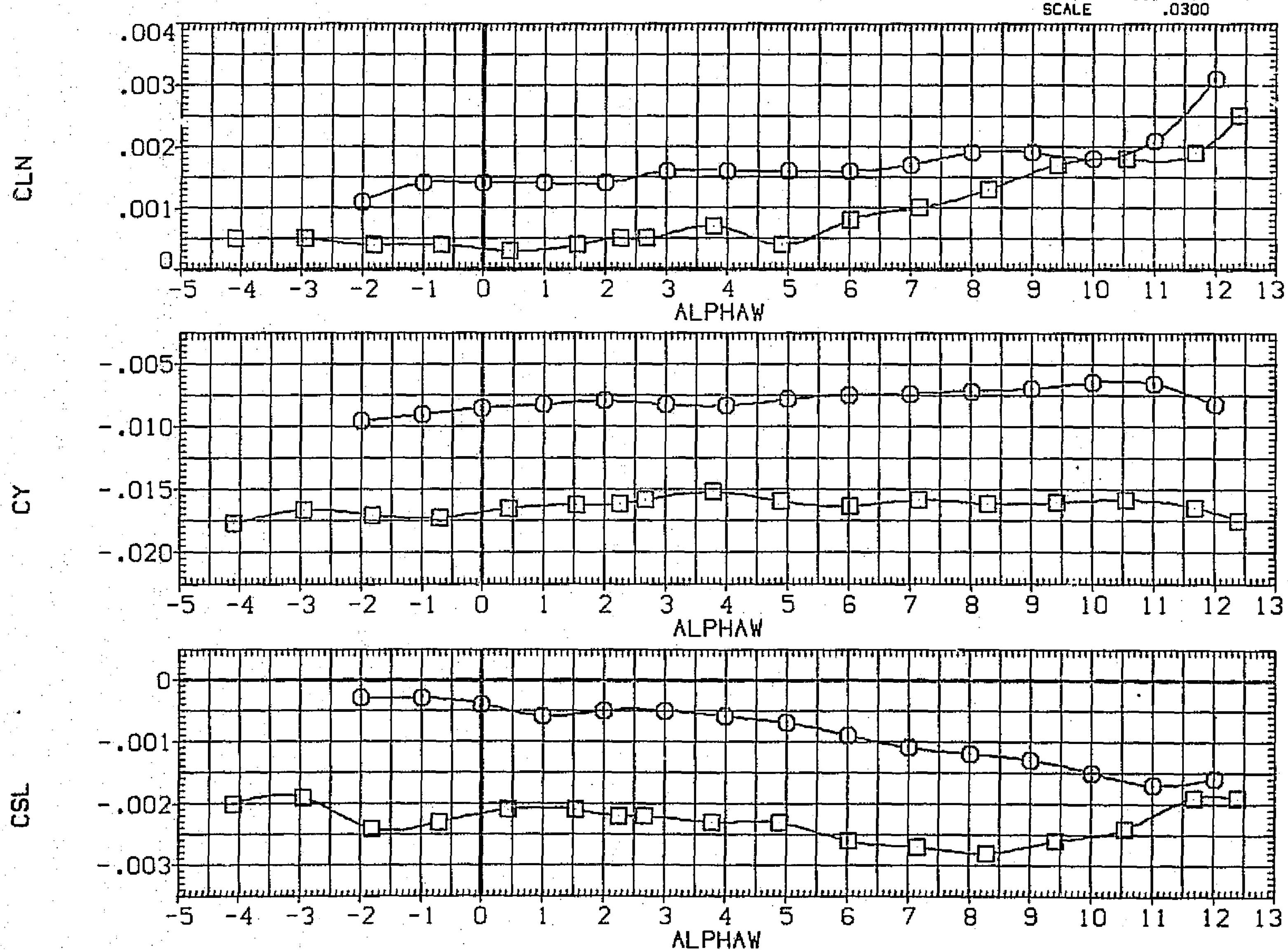


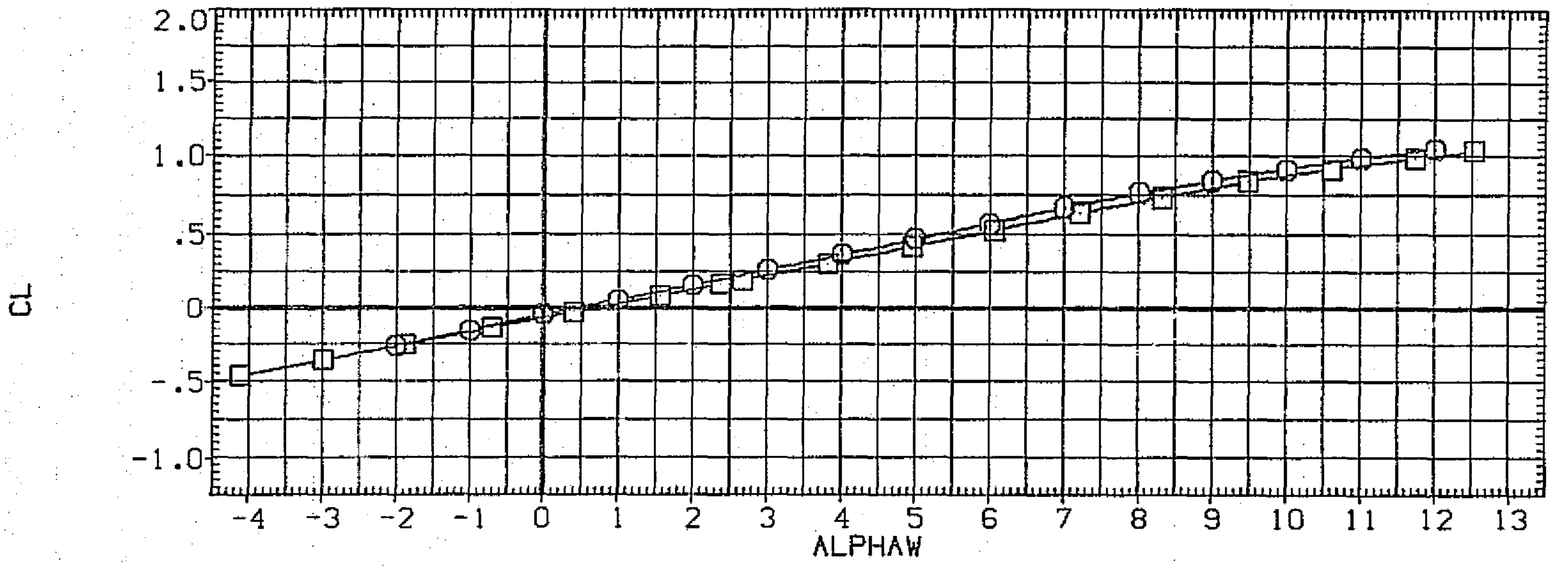

FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(B)MACH = .50

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |



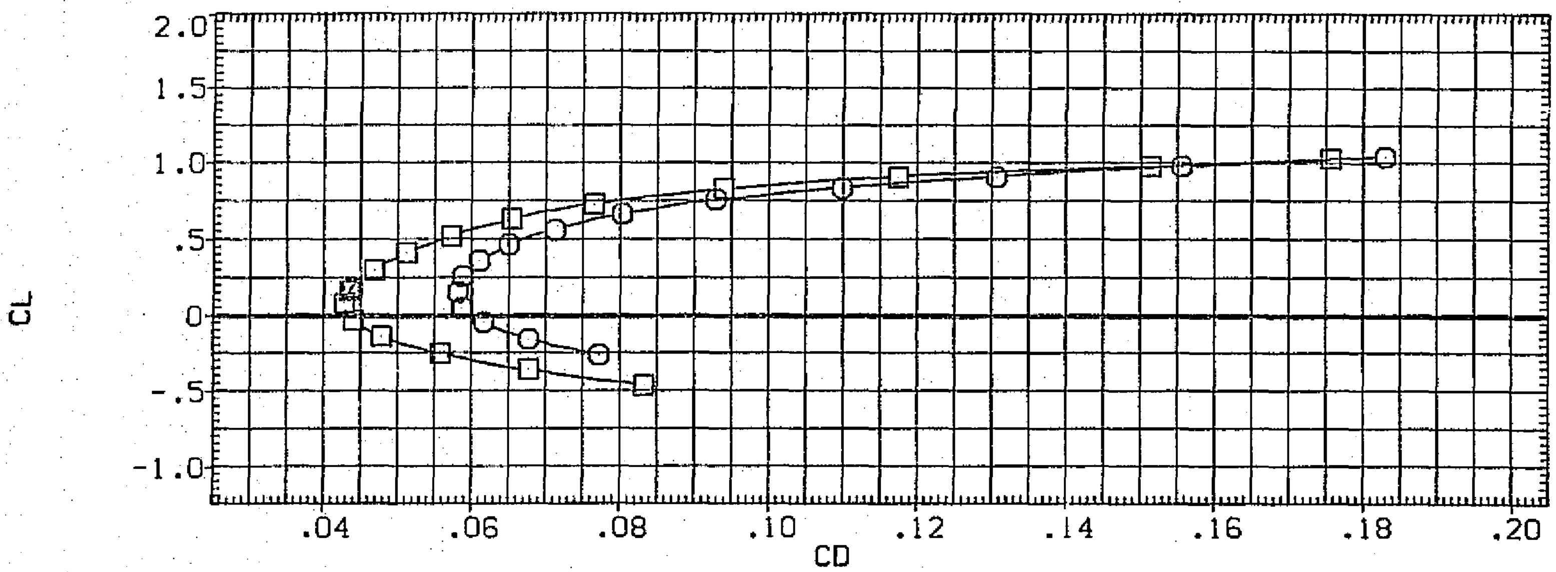




FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

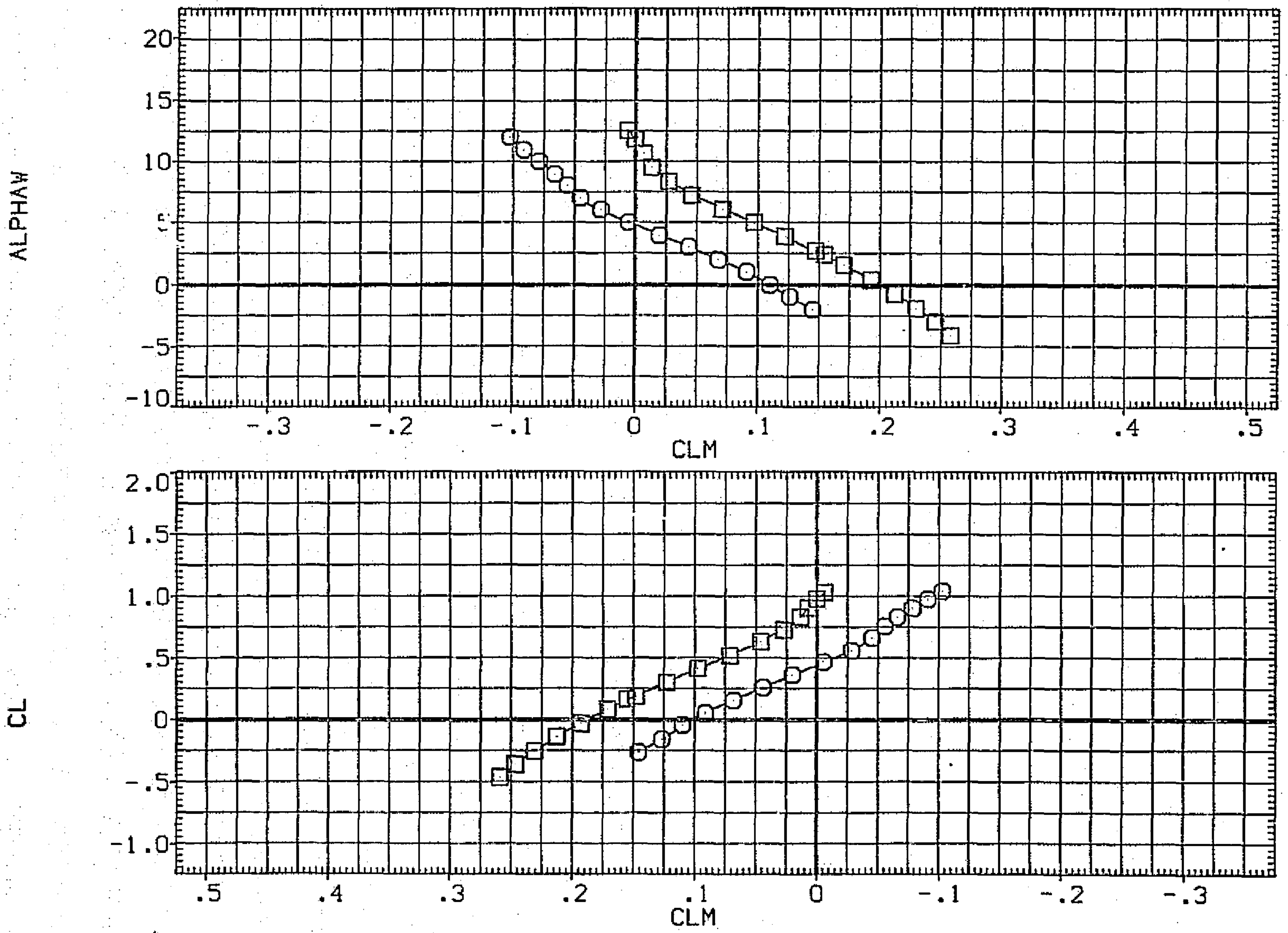



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM112) | O | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TC5 AT38.3) | -3.200 | .000 | 4.000 |
| (RGP184) | □ | CA6 K2H15.6.IV9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

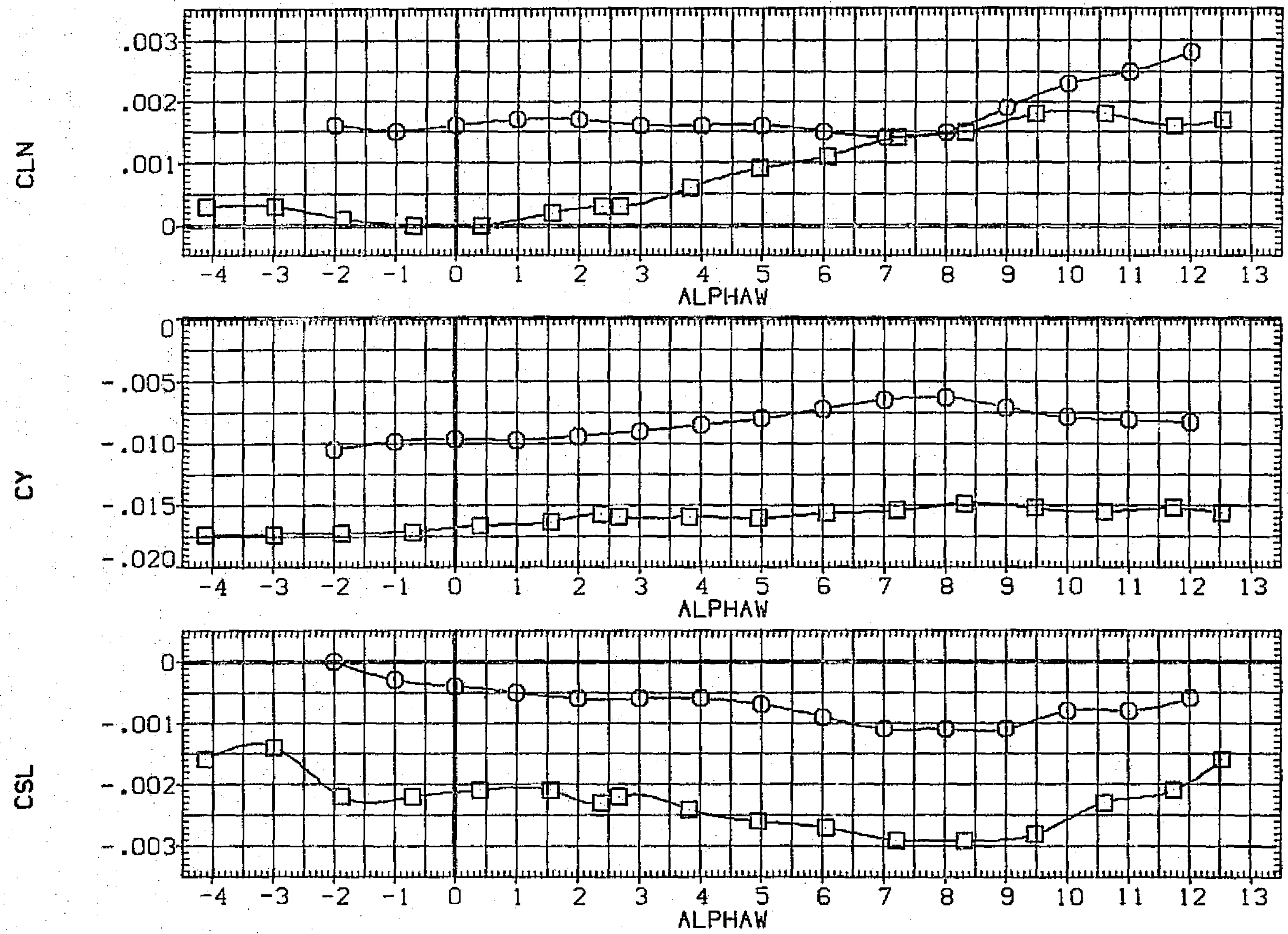



FIG. 103 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER= -1

(C)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM126) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB NOZ AT38.3) | -2.000 | .000 | 4.000 |
| (RGP214) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

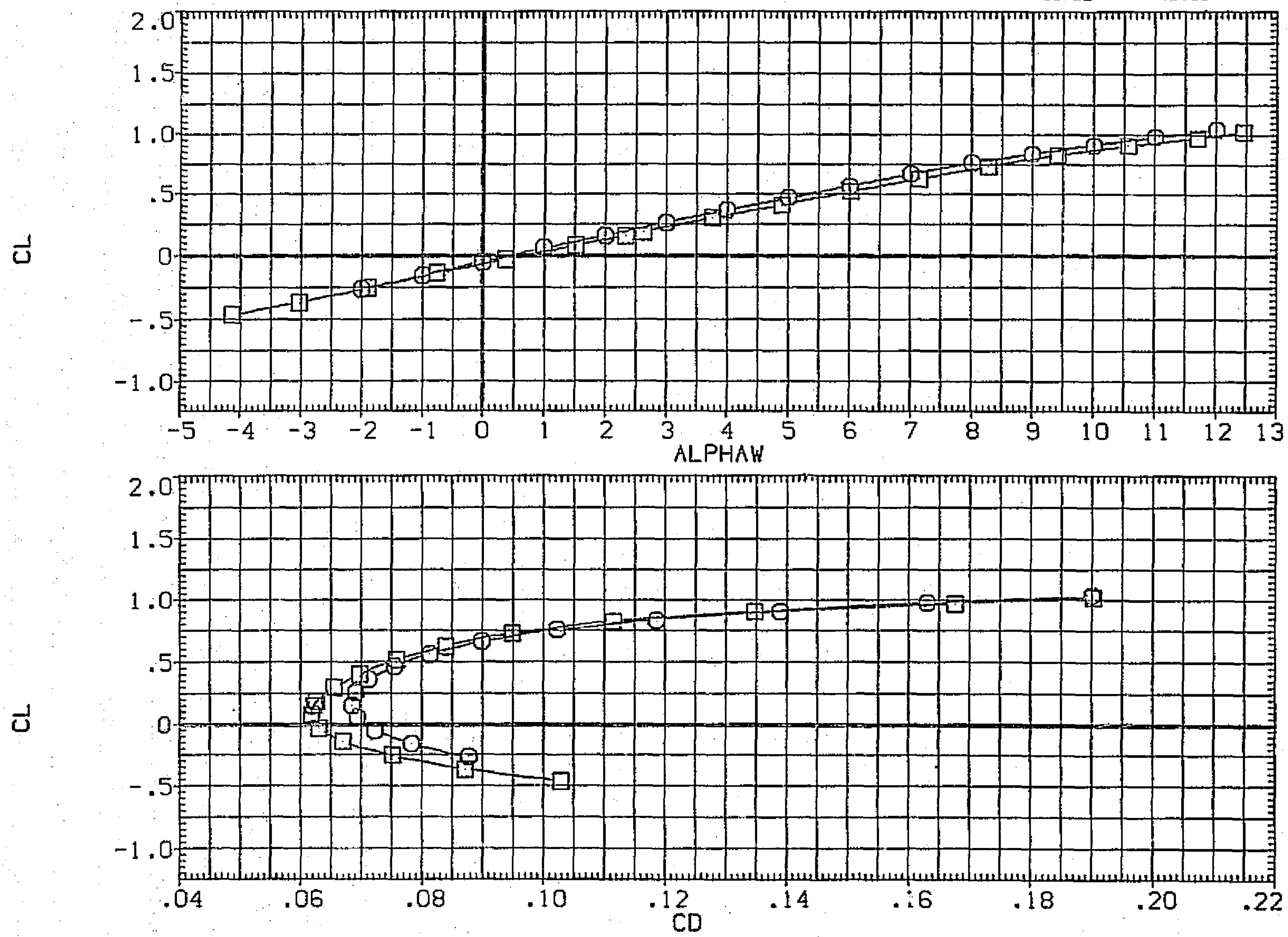



FIG. 104 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, TAILCONE OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM126) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB NOZ AT38.3) | -2.000 | .000 | 4.000 |
| (RGP214) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBFBN24/28 | -.020 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

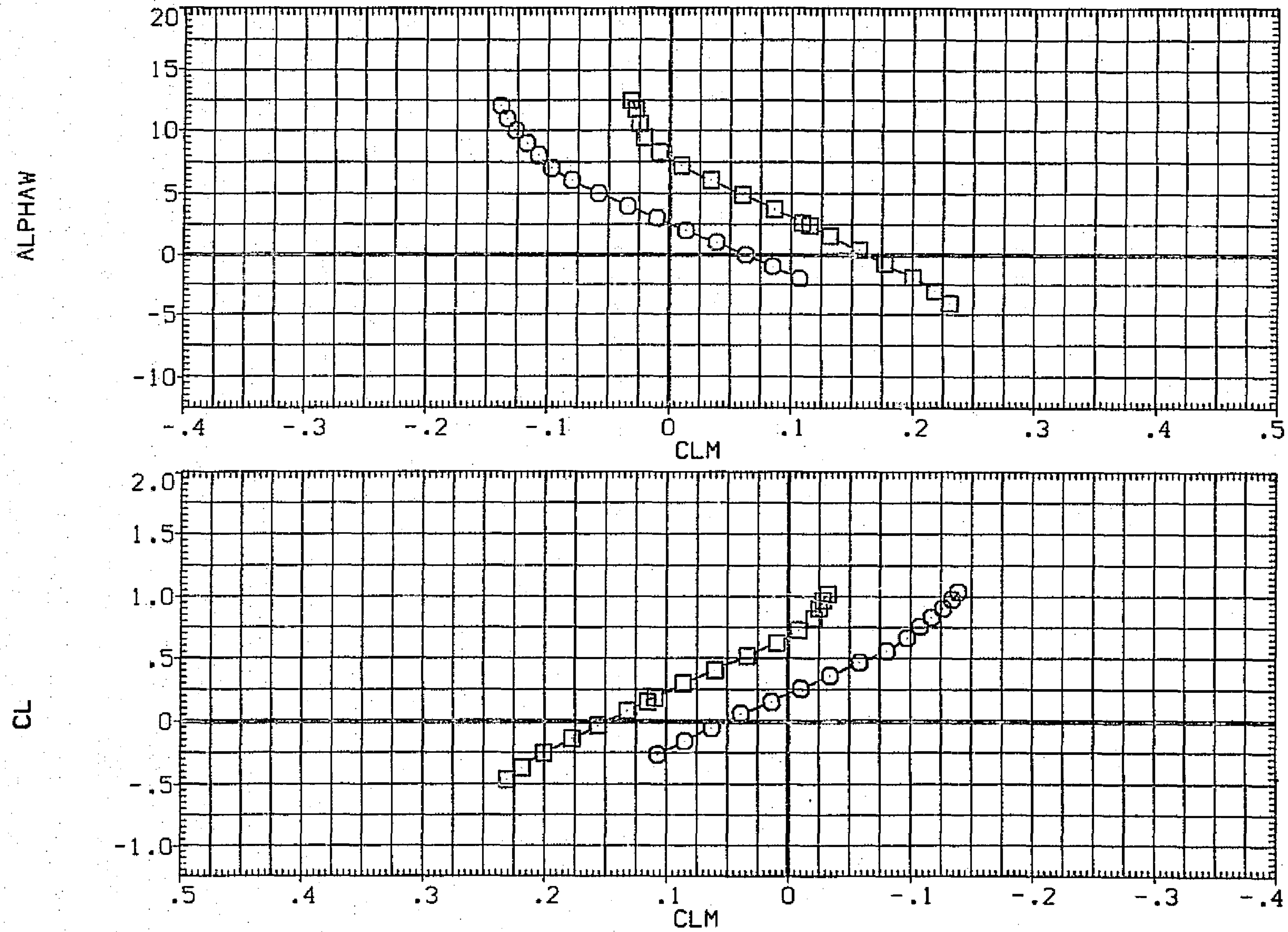



FIG. 104 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, TAILCONE OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM126) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB NOZ AT38.3) | -2.000 | .000 | 4.000 |
| (RGP214) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/105 ORBF8N24/28 | -.020 | .000 | 4.250 |

REFERENCE INFORMATION

| | | |
|---|---|---|
| SREF | 5500.0000 | SQ.FT. |
| LREF | 327.8000 | IN. |
| BREF | 2348.0000 | IN. |
| XMRP | 1339.9000 | IN. XC |
| YMRP | .0000 | IN. YC |
| ZMRP | 190.7700 | IN. ZC |
| SCALE | .0300 | |

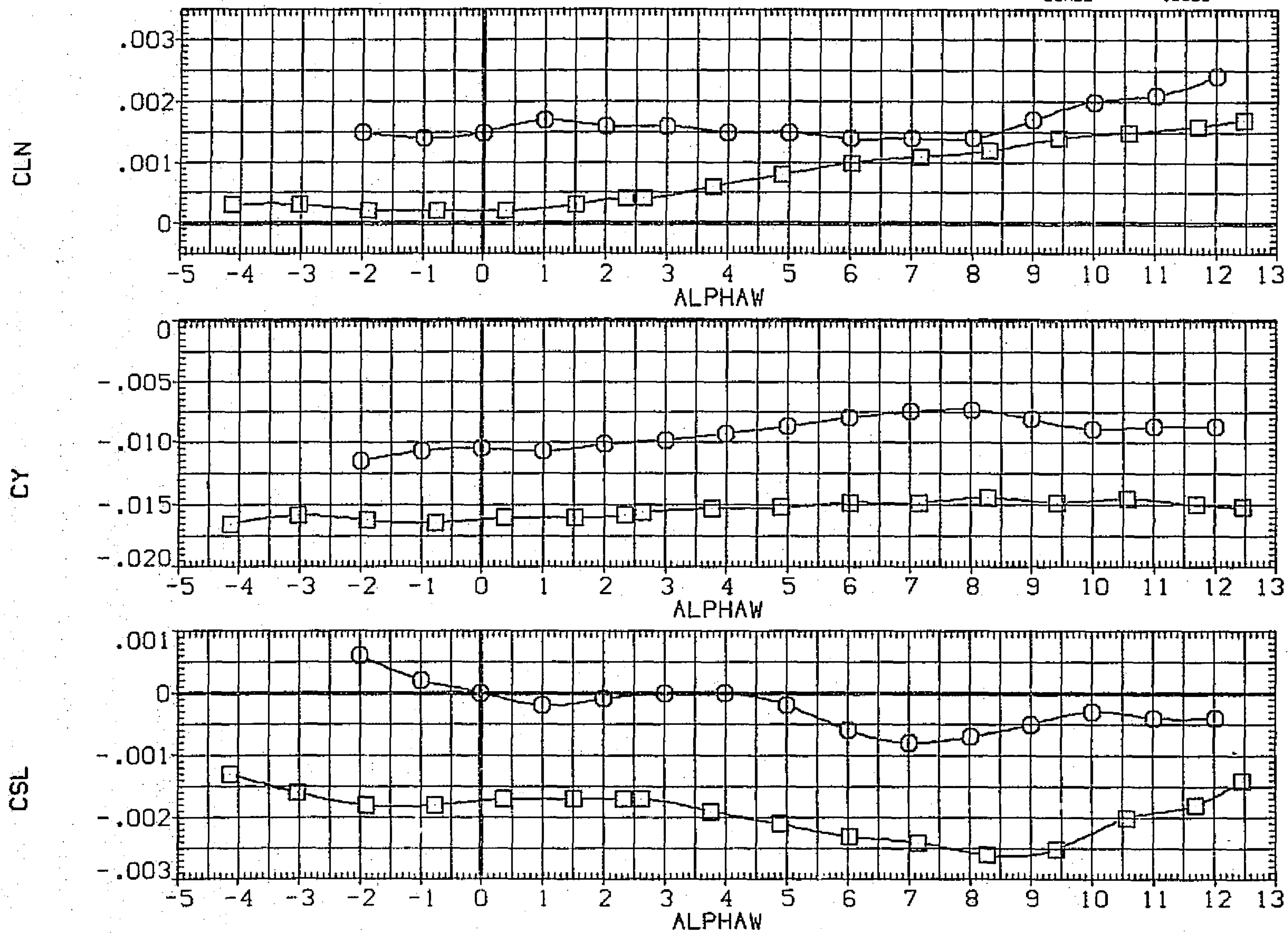



FIG. 104 CA-5 AND CA-6 COMPARISON, FERRY CONFIGURATION, TAILCONE OFF

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (CE9814) | ○ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | -1.000 |
| (RGP013) | □ | CA6 K1H15.1 V9.1 | .000 | -1.000 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

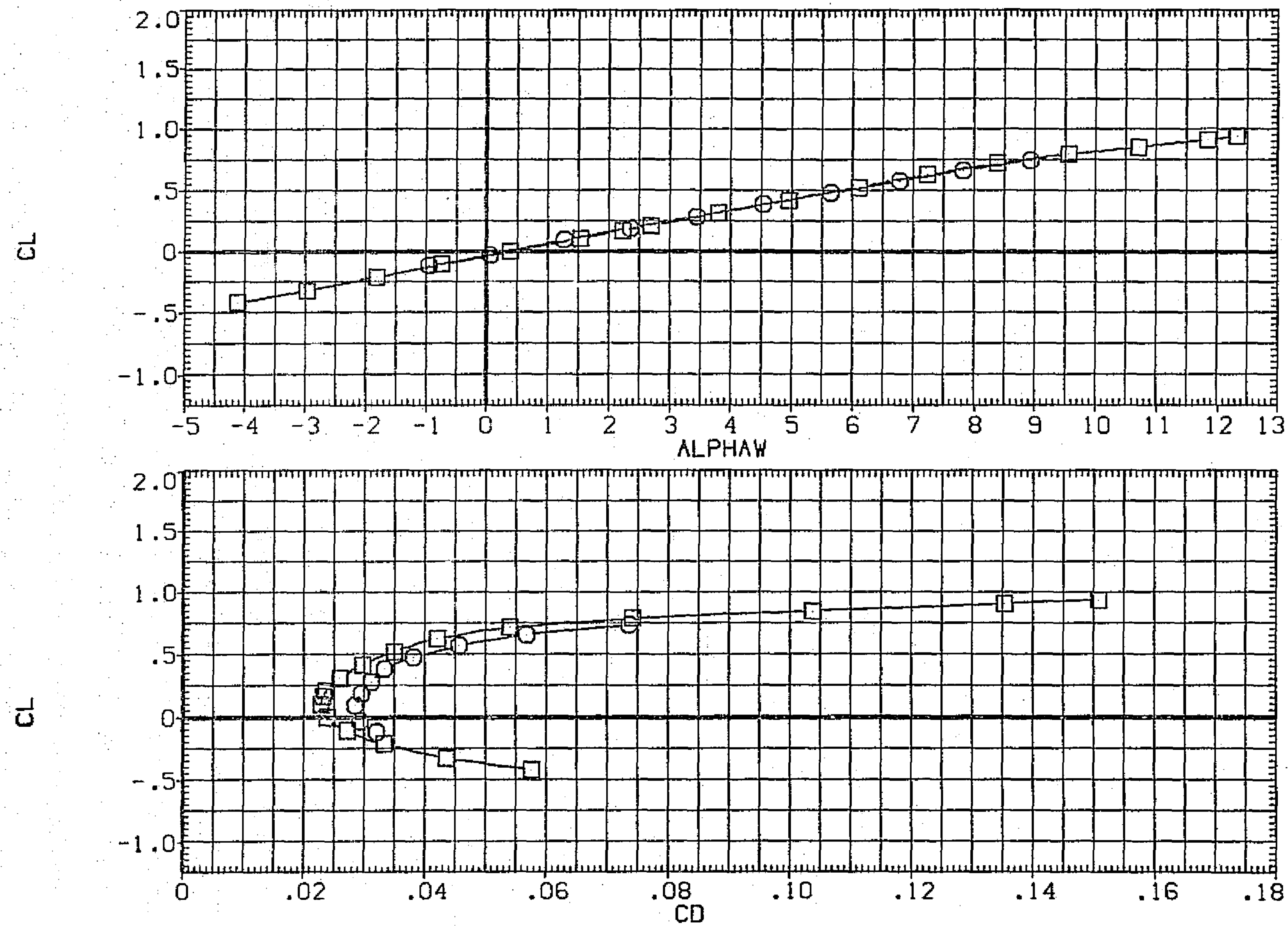



FIG. 105 CA-23 AND CA-6 COMPARISON, BASIC 747 CONFIGURATION, SPOILER = -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (CE9814) | ○ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | -1.000 |
| (RGP013) | □ | CA6 K1H15.1 V9.1 | .000 | -1.000 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

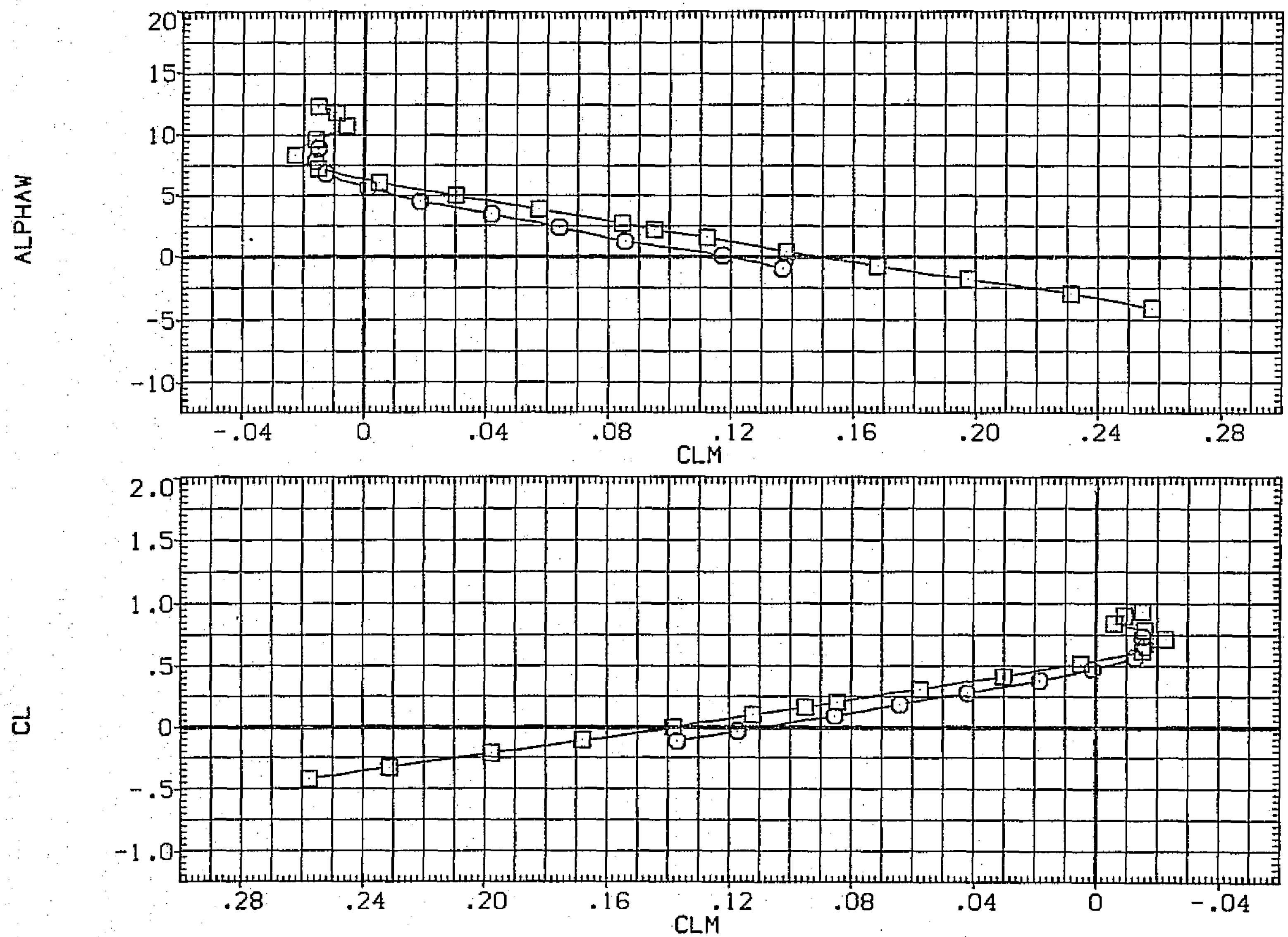



FIG. 105 CA-23 AND CA-6 COMPARISON, BASIC 747 CONFIGURATION, SPOILER = -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (CE9B14) | ○ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | -1.000 |
| (RGP013) | □ | CA6 K1H15.1 V9.1 | .000 | -1.000 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

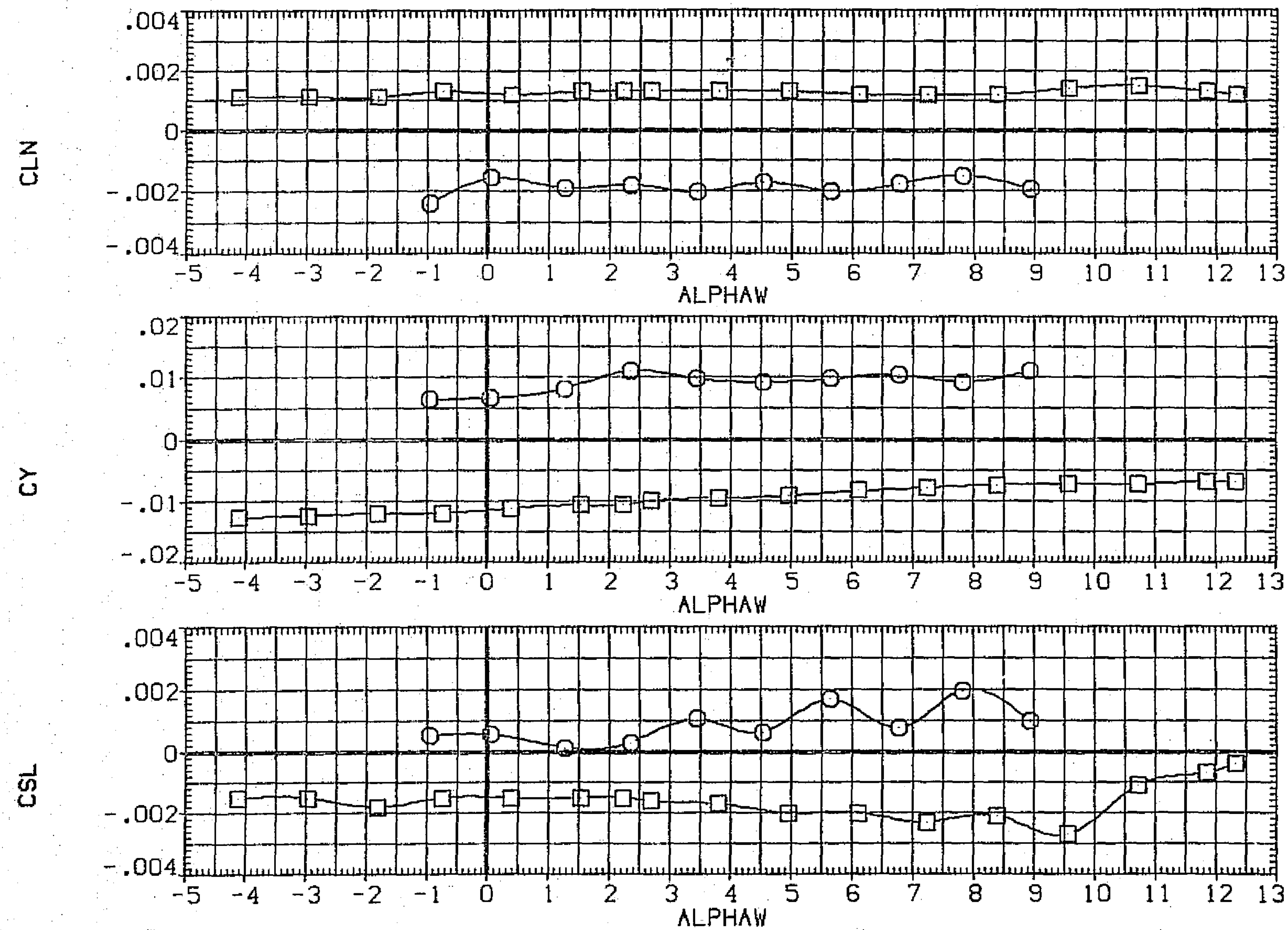



FIG. 105 CA-23 AND CA-6 COMPARISON, BASIC 747 CONFIGURATION, SPOILER = -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (CE9D37) | ○ | ARC14-080-1 CA23 747/1 01 AT1 (MATED) | 5.000 | .000 | 8.000 |
| (RGP117) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

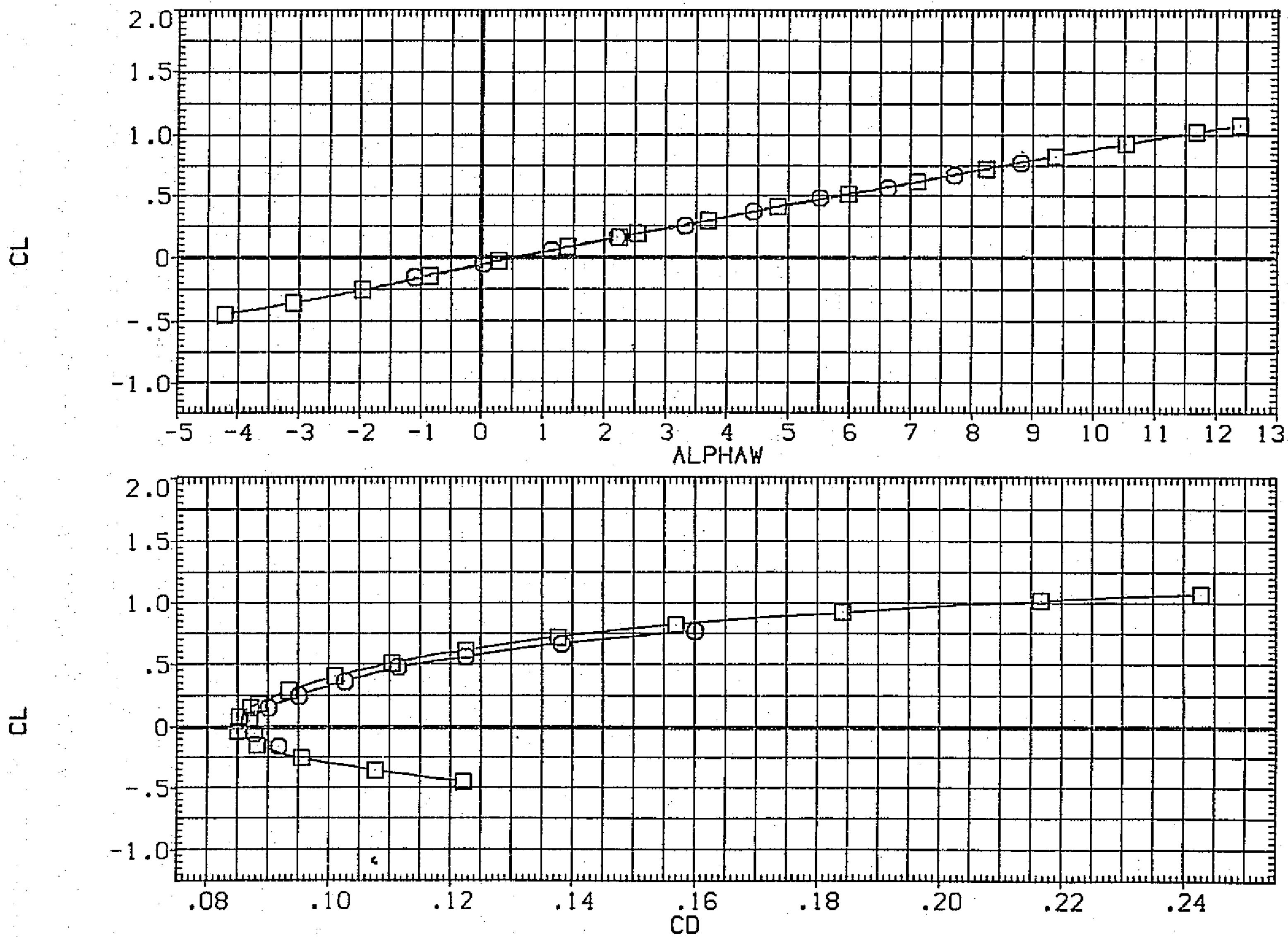



FIG. 106 CA-23 AND CA-6 COMPARISON, LAUNCH CONFIGURATION, SPOILER = 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (CE9D37) | ○ | ARC14-080-1 CA23 747/1 01 AT1 (MATED) | 5.000 | .000 | 8.000 |
| (RGP117) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBF8N24/28 | 4.750 | .000 | 8.110 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

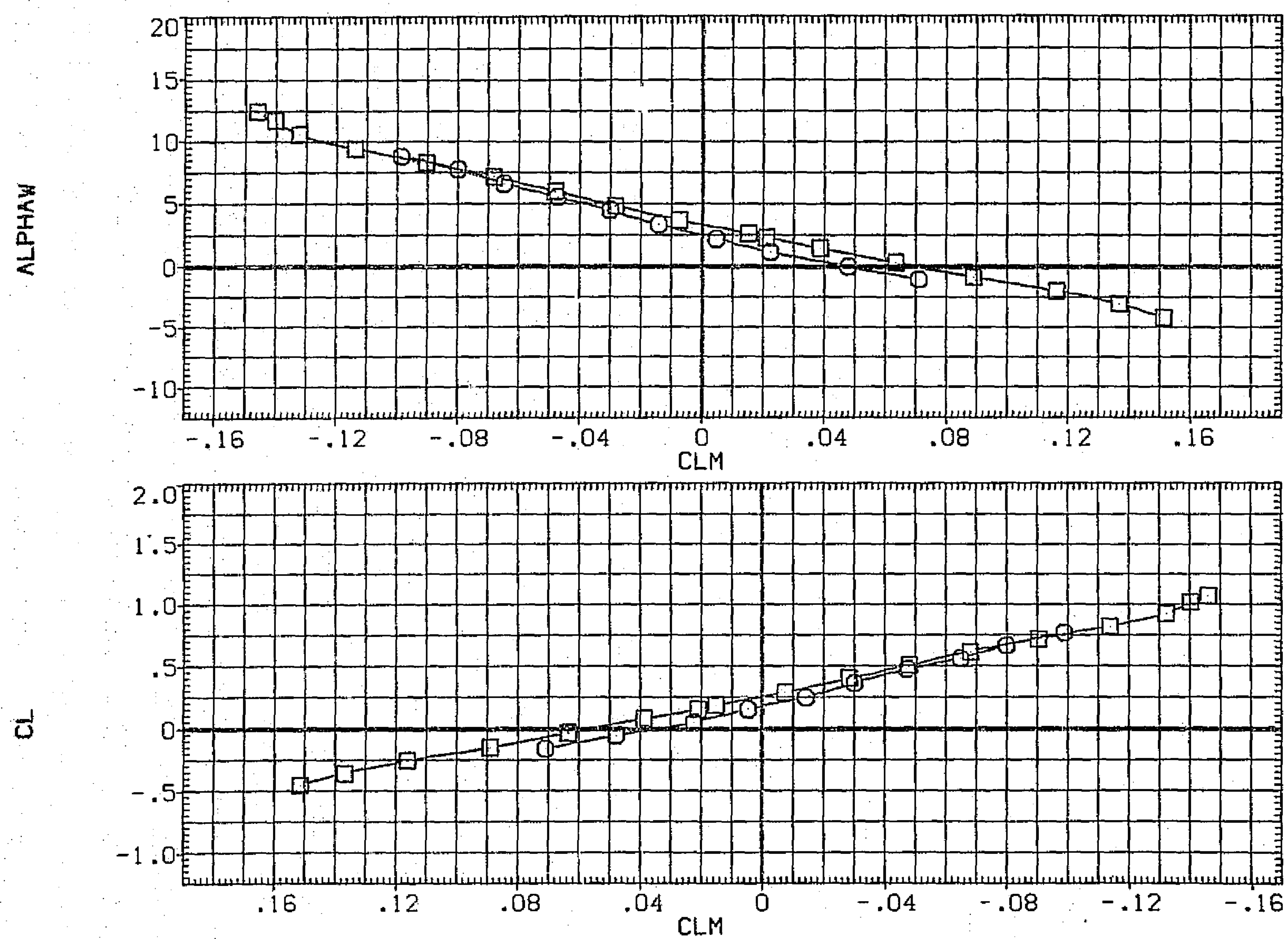



FIG. 106 CA-23 AND CA-6 COMPARISON, LAUNCH CONFIGURATION, SPOILER = 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (CE9D37) | ○ | ARC14-080-1 CA23 747/1 01 AT1 (MATED) | 5.000 | .000 | 8.000 |
| (RGP117) | □ | CA6 K2H15.6.1V9.1S1-12 AT103.1/95.3 ORBFBN24/28 | 4.750 | .000 | 8.110 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

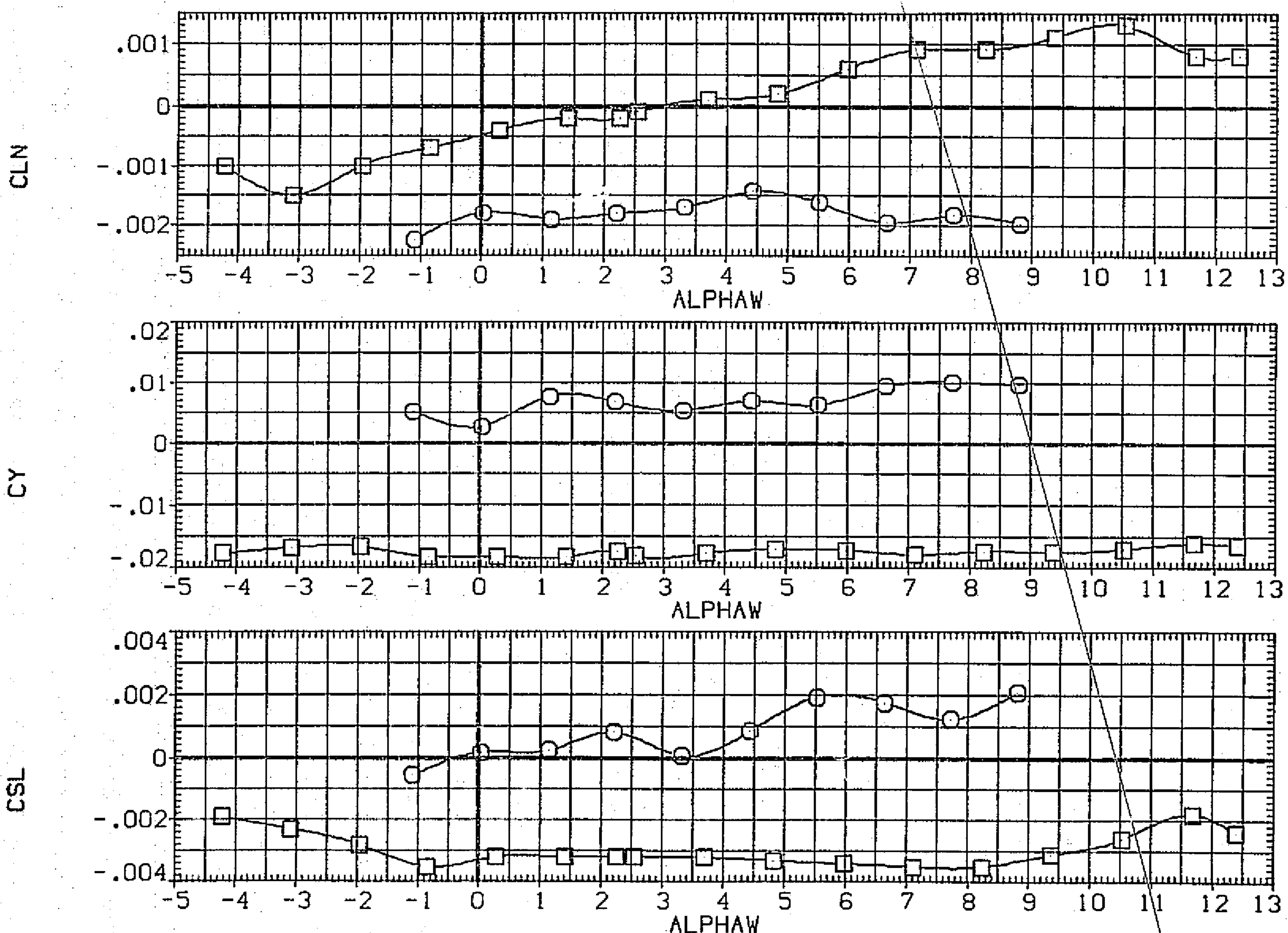



FIG. 106 CA-23 AND CA-6 COMPARISON, LAUNCH CONFIGURATION, SPOILER = 5

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CAS K1 F0 H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |
| (CE9B14) | ◇ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | -1.000 |
| (CE9B13) | △ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | 1.000 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

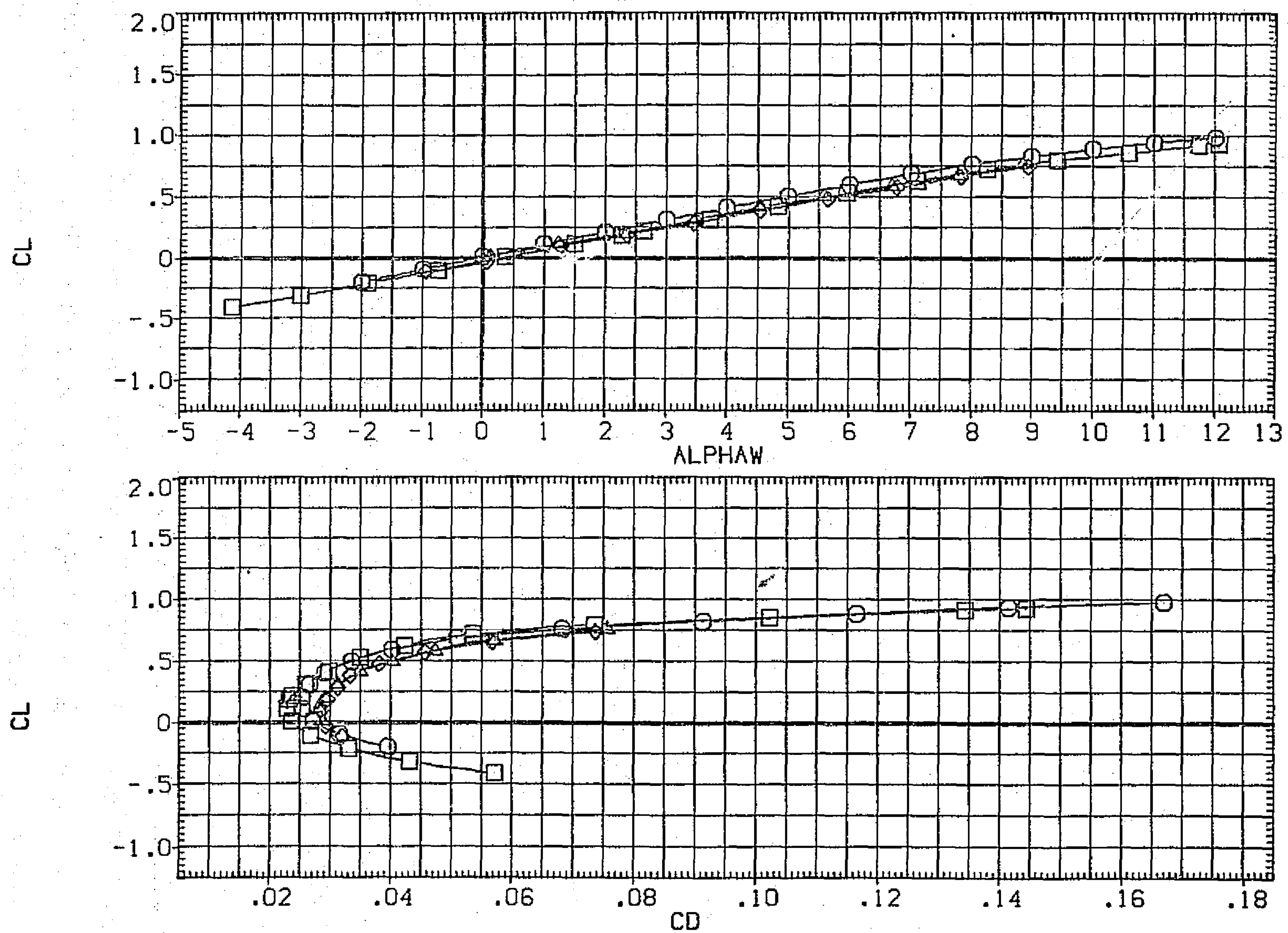



FIG. 107 CA-23,CA-5,CA-6 COMPARISON, BASIC 747 CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 KI FO H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |
| (CE9B14) | ◇ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | -1.000 |
| (CE9B13) | △ | ARC14-080-1 CA23 747/3 (CARRIER ISOLATED) | .000 | 1.000 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

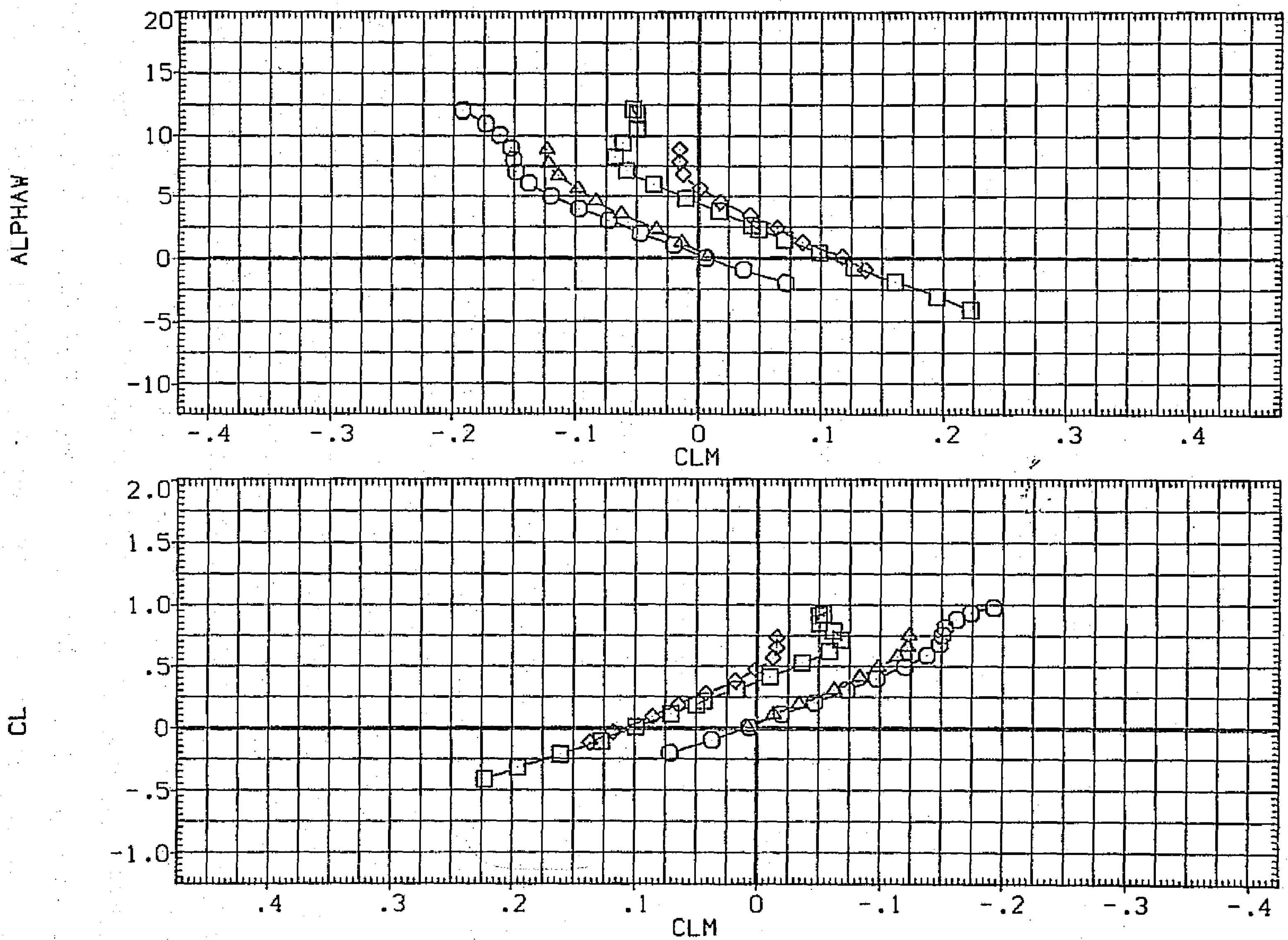



FIG. 107 CA-23,CA-5,CA-6 COMPARISON, BASIC 747 CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | BETA | STAB |
|---|---|---|---|---|
| (AGM040) | ○ | BTWT-1431CA5 KI FO H15.1A V9.1 | .000 | -2.000 |
| (RGP020) | □ | CA6 K1H15.1 V9.1 | .000 | -.030 |
| (CE9B14) | ◇ | ARC14-080-1 CA23 747/3 [CARRIER ISOLATED] | .000 | -1.000 |
| (CE9B13) | △ | ARC14-080-1 CA23 747/3 [CARRIER ISOLATED] | .000 | 1.000 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

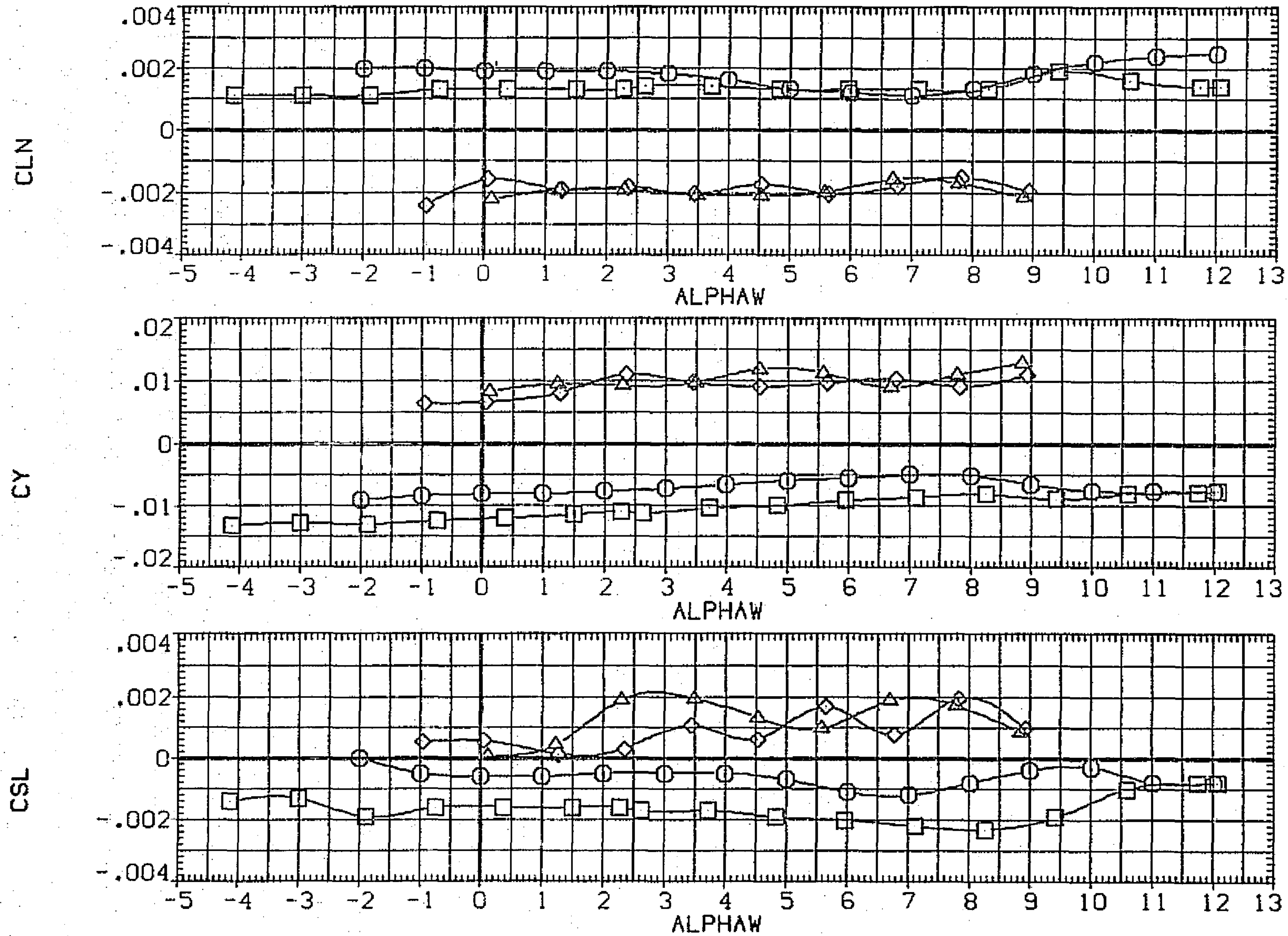



FIG. 107 CA-23, CA-5, CA-6 COMPARISON, BASIC 747 CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (CE9D58) | ○ | ARC14-080-1 CA23 747/1(-S1-S12)03 AT1(MATED) | -1.000 | .000 | 4.000 |
| (AGM112) | □ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

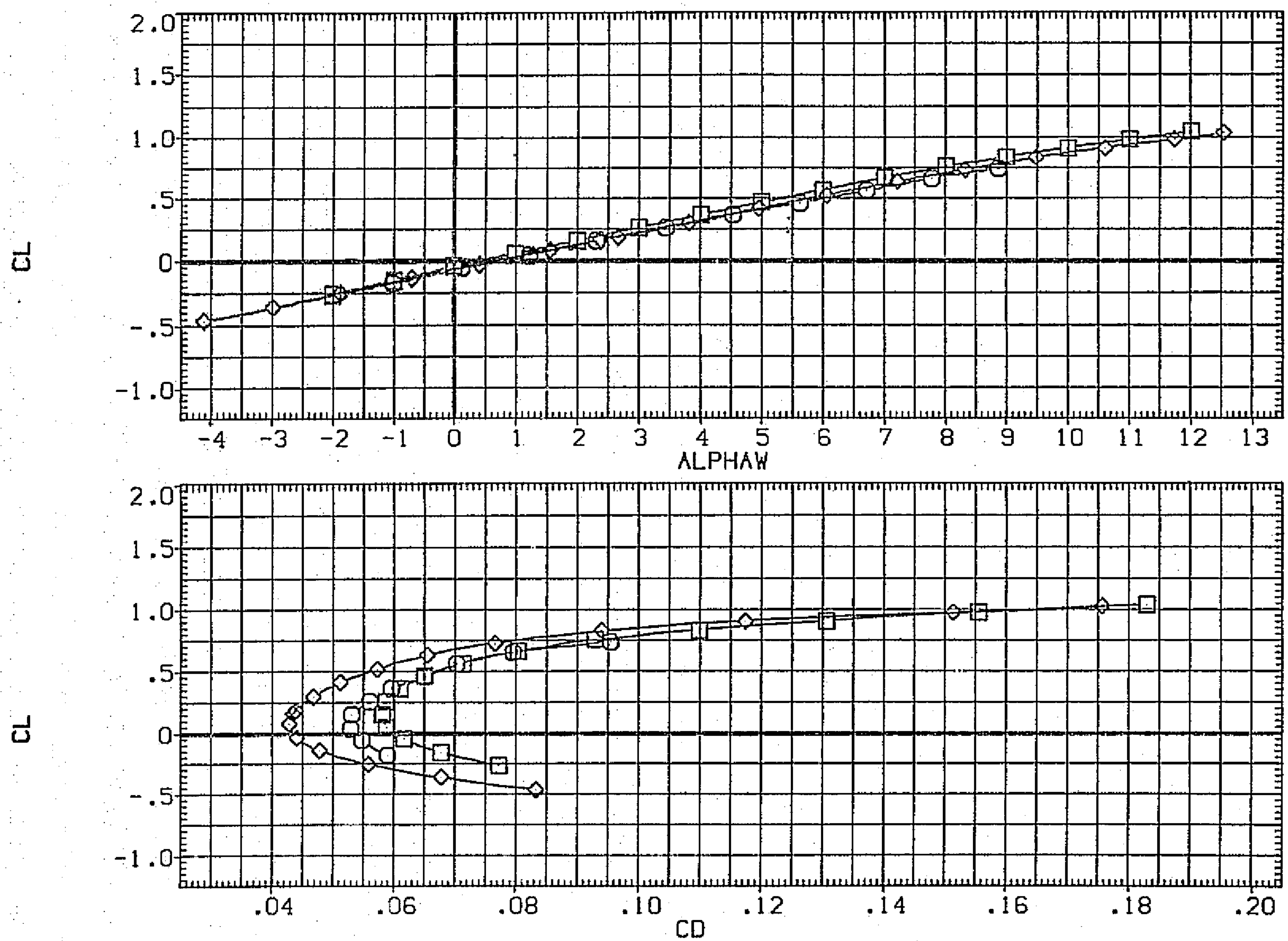



FIG. 108 CA-23,CA-5,CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER = -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (CE9058) | ○ | ARC(4-080-1 CA23 747/1(-S1-S12)03 AT1(MATED) | -1.000 | .000 | 4.000 |
| (AGM112) | □ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB TCS AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | ◇ | CA6 K2H15.6.1V9.1S1-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

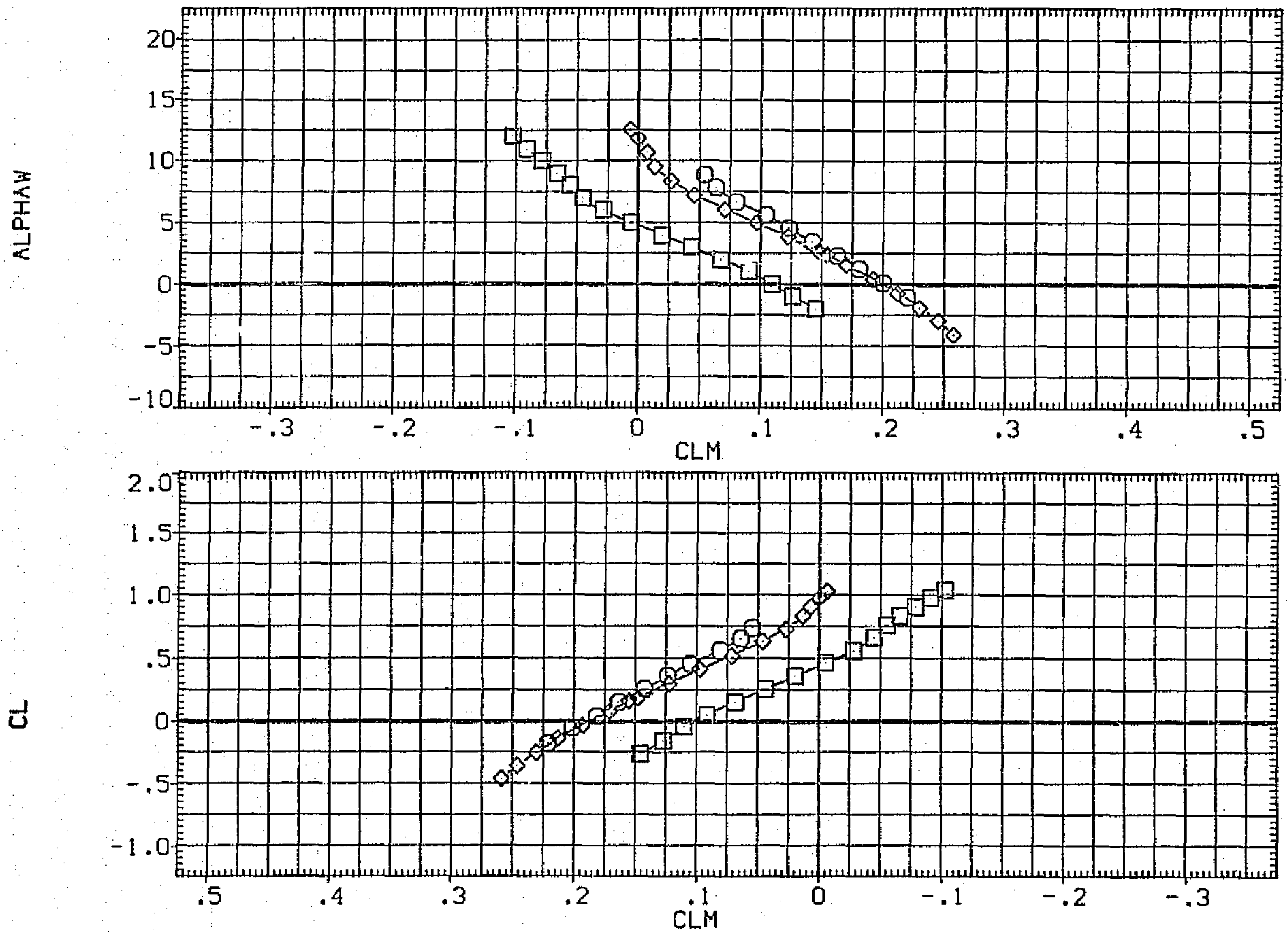



FIG. 108 CA-23,CA-5,CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER = -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (CE9D58) | ○ | ARC14-080-1 CA23 747/1(-S1-S12)03 AT1(MATED) | -1.000 | .000 | 4.000 |
| (AGM112) | □ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB TC5 AT38.3 ) | -3.200 | .000 | 4.000 |
| (RGP184) | ◇ | CA6 K2H15.6.1V9.1SI-12 AT112 /111.1ORB TC4 | -1.010 | .000 | 4.250 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

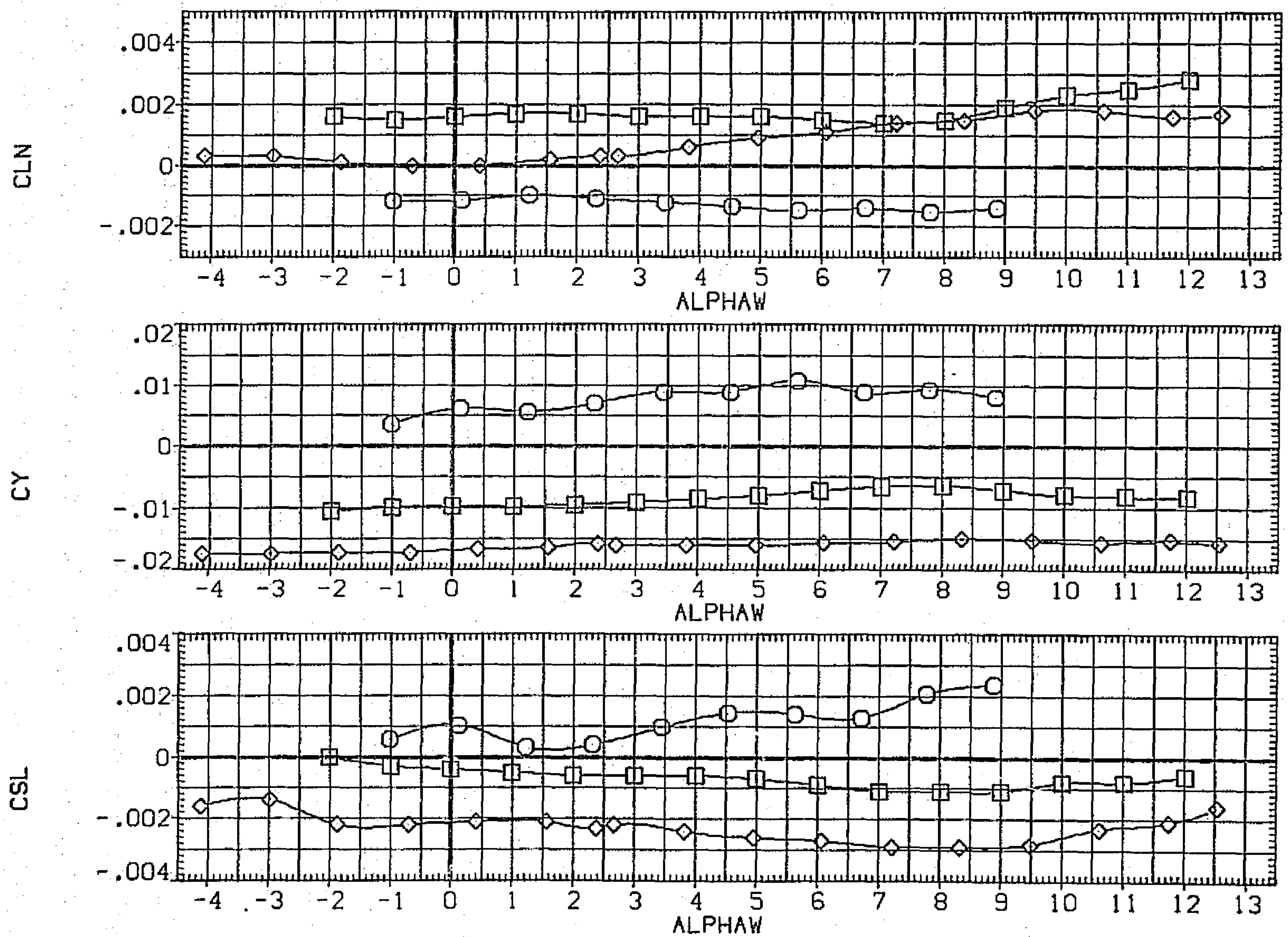
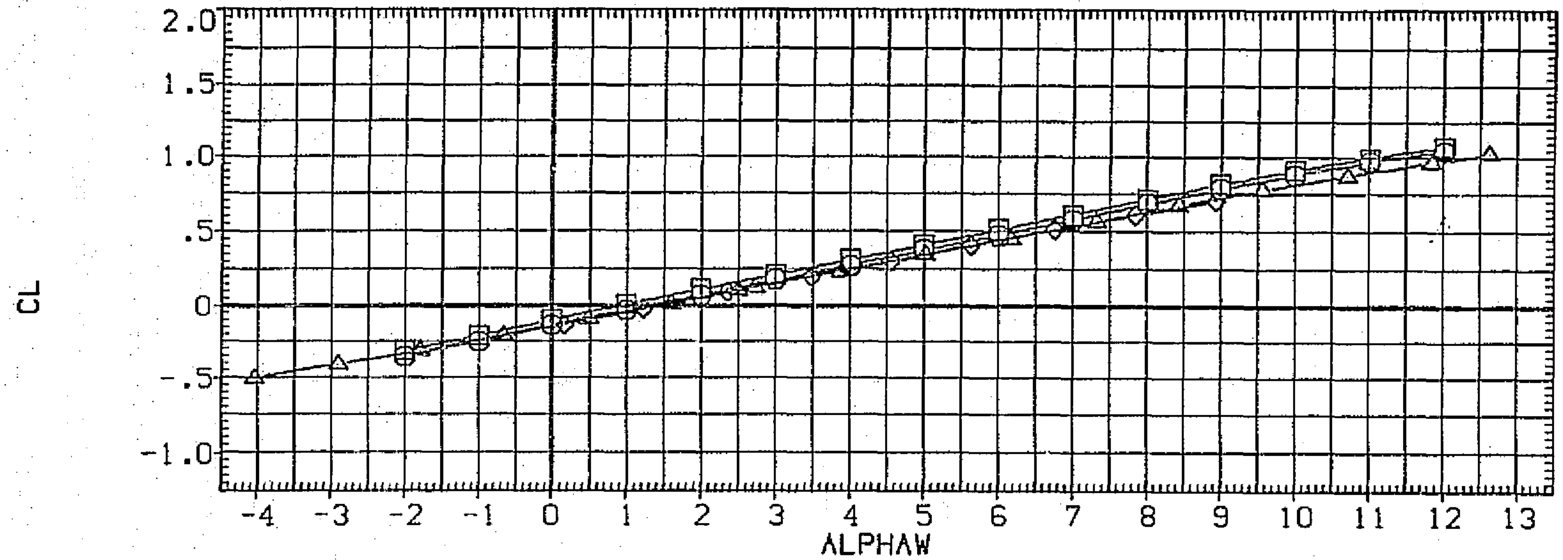



FIG. 108 CA-23,CA-5,CA-6 COMPARISON, FERRY CONFIGURATION, SPOILER = -1

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM091) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB NOZ AT38.2 ) | -2.000 | .000 | 7.850 |
| (AGM092) | □ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB NOZ AT38.2 ) | 1.000 | .000 | 7.850 |
| (CE9D39) | ◇ | ARC14-080-1 CA23 747/1 01 AT1 (MATED) | -1.000 | .000 | 8.000 |
| (RGP121) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBF8N24/28 | -.900 | .000 | 8.110 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS



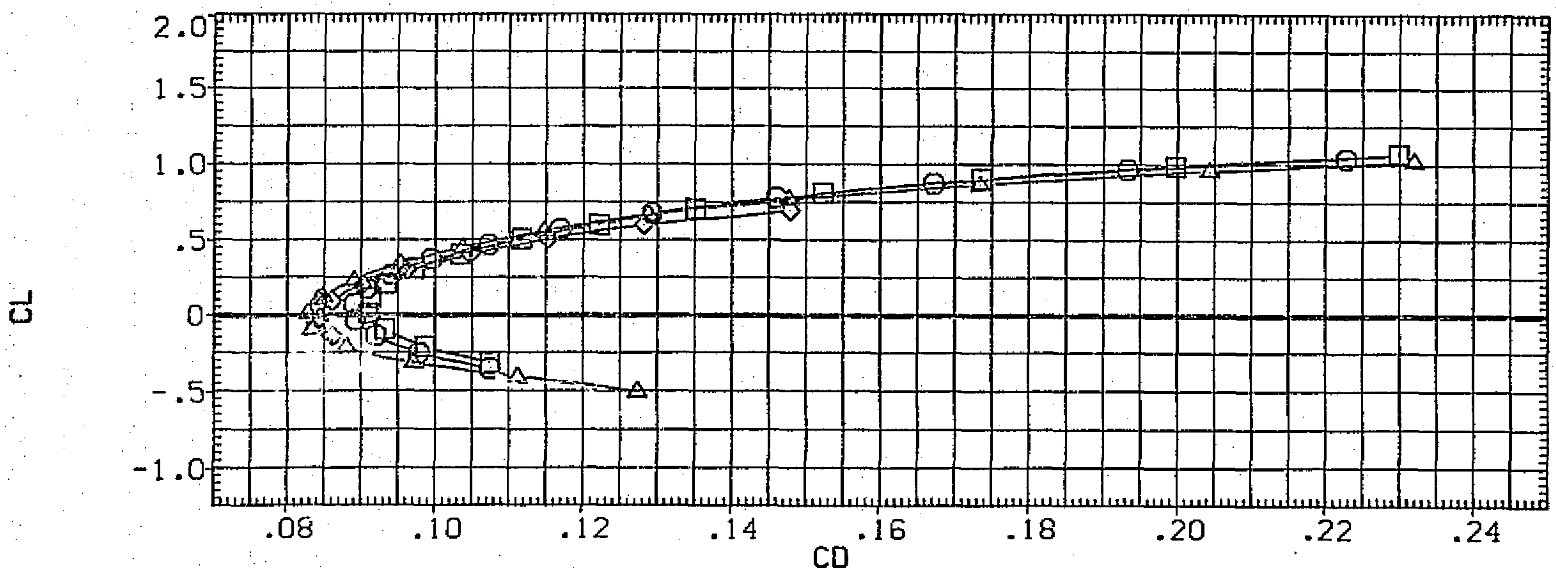




FIG. 109 CA-23,CA-5,CA-6 COMPARISON, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM091) | ○ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB NOZ AT38.2 ) | -2.000 | .000 | 7.850 |
| (AGM092) | □ | CA5 K1 F0 H15.6 V9.1 (PLUS. ORB NOZ AT38.2 ) | 1.000 | .000 | 7.850 |
| (CE9D39) | ◇ | ARC14-080-1 CA23 747/1 01 AT1 (MATED) | -1.000 | .000 | 8.000 |
| (RGP121) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBFBN24/28 | -.900 | .000 | 8.110 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

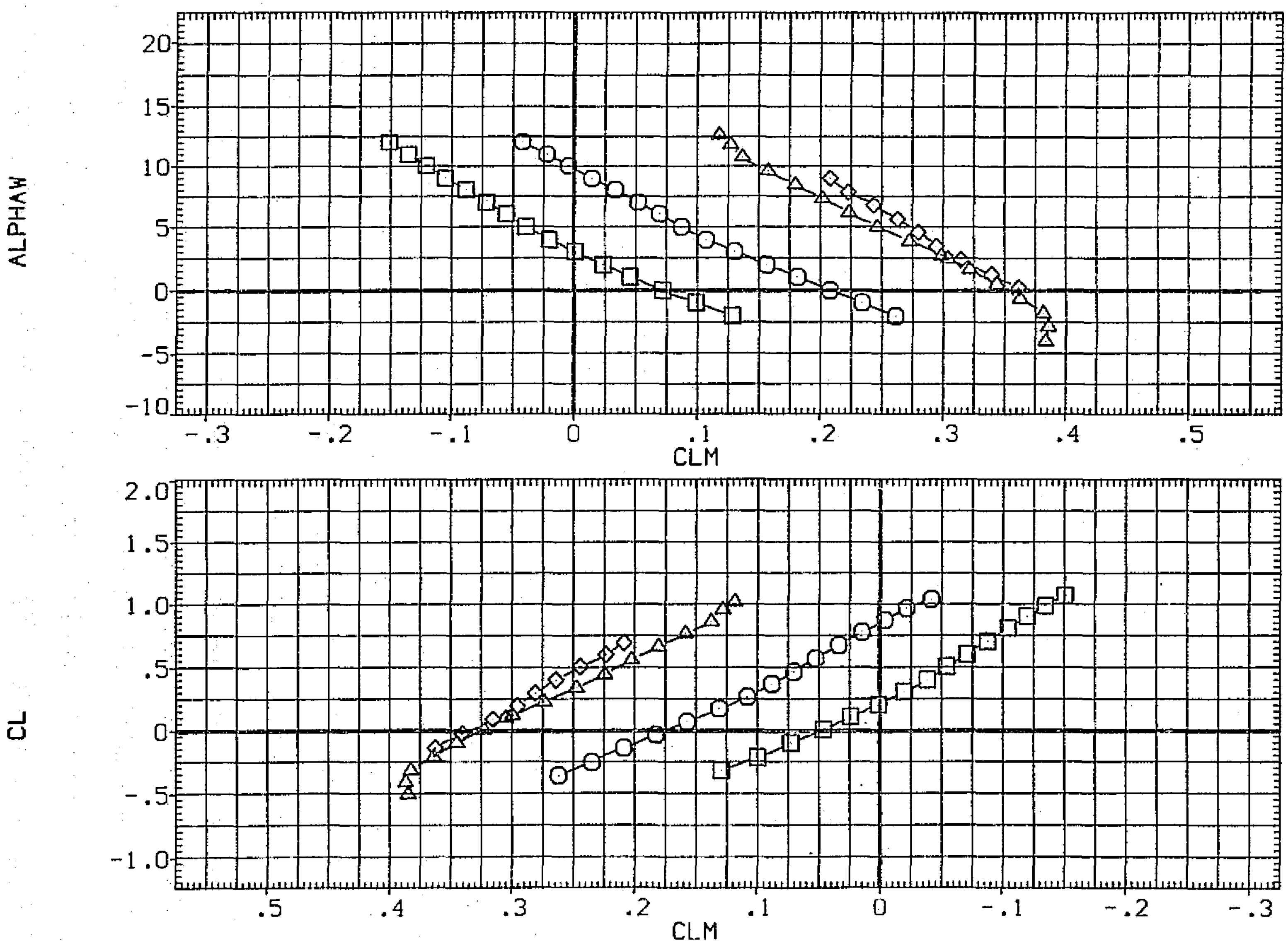



FIG. 109 CA-23,CA-5,CA-6 COMPARISON, LAUNCH CONFIGURATION

(A)MACH = .60

| DATA SET | SYMBOL | CONFIGURATION DESCRIPTION | STAB | BETA | IORB |
|---|---|---|---|---|---|
| (AGM091) | ○ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB NOZ AT38.2 ) | -2.000 | .000 | 7.850 |
| (AGM092) | □ | CA5 K1 FO H15.6 V9.1 (PLUS. ORB NOZ AT38.2 ) | 1.000 | .000 | 7.850 |
| (CE9D39) | ◇ | ARC14-080-1 CA23 747/1 O1 AT1 (MATED) | -1.000 | .000 | 8.000 |
| (RGP121) | △ | CA6 K2H15.6.1V9.1S1-12 AT112 /95 ORBFBN24/28 | -.900 | .000 | 8.110 |

SEE THE ASSOCIATED DATA DOCUMENT FOR REFERENCE CHARACTERISTICS FOR INDIVIDUAL DATASETS

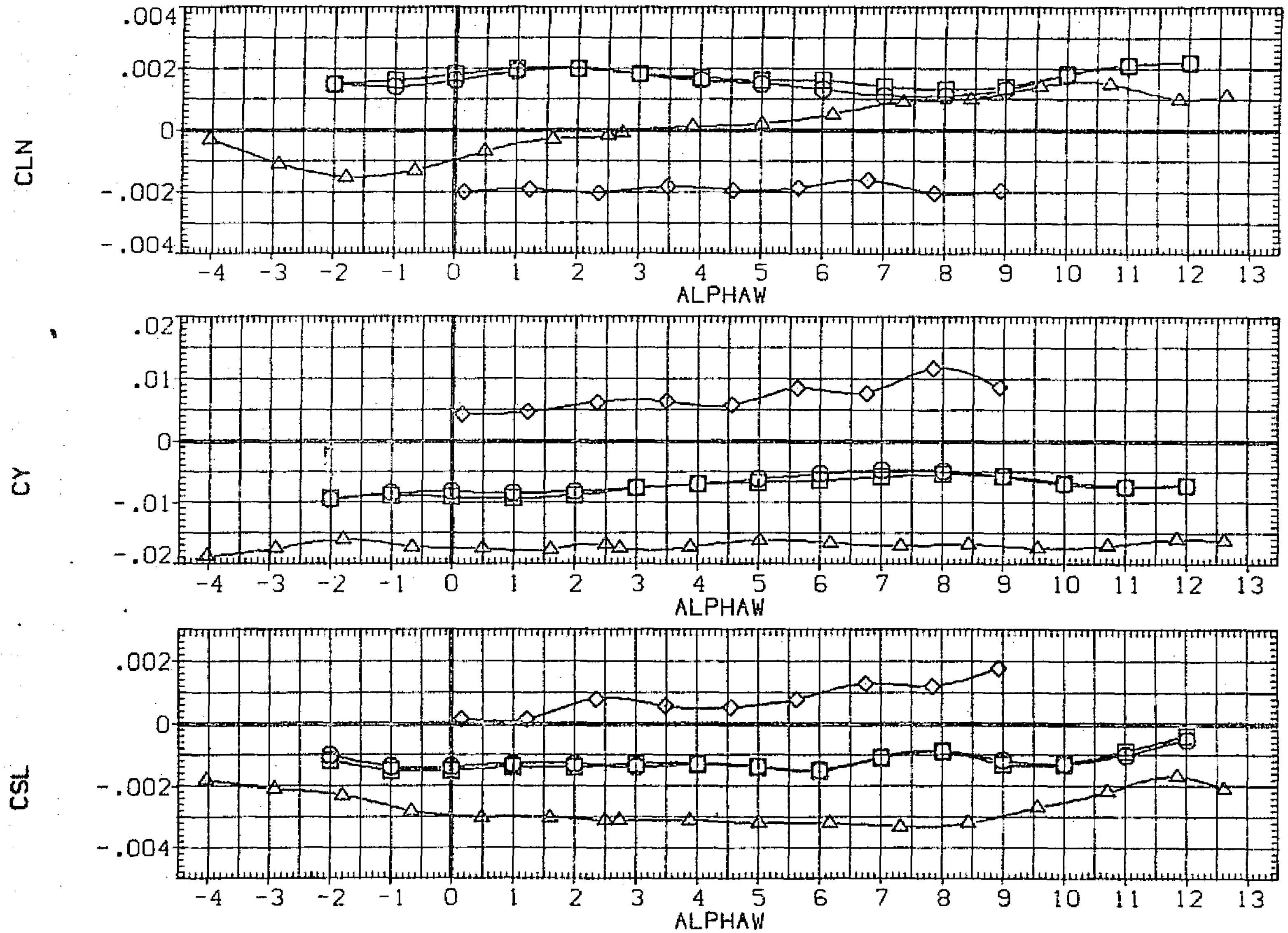



FIG. 109 CA-23,CA-5,CA-6 COMPARISON, LAUNCH CONFIGURATION

(A)MACH = .60