

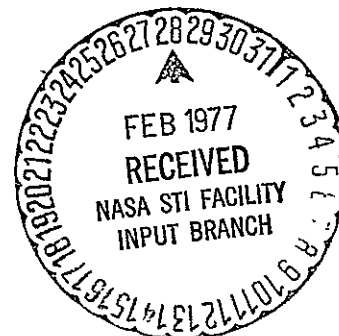


NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

(NASA-CR-151044) SUPERSONIC STABILITY AND CONTRCL CHARACTERISTICS OF A 0.015 SCALE MODEL 69-0 OF THE SPACE SHUTTLE ORBITER WITH FOREBODY RSI MODIFICATIONS IN THE NASA/LARC 4-FOOT UPWT (LEGS 1 AND 2) (Chrysler Corp.)	G3/16	N77-17131 HC A07 MF A01 Unclas 14982
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services



January 1977

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NASA CR-151,044

SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS
OF A 0.015 SCALE MODEL 69-0 OF THE SPACE SHUTTLE
ORBITER WITH FOREBODY RSI MODIFICATIONS IN THE
NASA/LaRC 4-FOOT UPWT (LEGS 1 AND 2)
(LA71A/B)

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
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for

Engineering Analysis Division
Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL SPECIFICS:

Test Number: LaRC UPWT 1147, 1132
NASA Series Number: LA71A/B
Model Number: 69-0
Test Dates: July 29 through 31 and October 17 through 22, 1975
Occupancy Hours: 48/64

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

SUPERSONIC STABILITY AND CONTROL CHARACTERISTICS
OF A 0.015 SCALE MODEL 69-0 OF THE SPACE SHUTTLE
ORBITER WITH FOREBODY RSI MODIFICATIONS IN THE
NASA/LaRC 4-FOOT UPWT (LEGS 1 AND 2)

(LA71A/B)

ABSTRACT

Tests were conducted in the NASA/LaRC Unitary Plan Wind Tunnel (both legs) from July 29 through 31 and October 17 through 22, 1975. This model was a Langley-built 0.015 Scale SSV Orbiter with forebody modifications to simulate slight reduction in the reusable surface insulation (RSI) thickness.

Six-component aerodynamic force and moment data were obtained at Mach numbers from 1.5 to 4.6 over an angle of attack range from about -1° to 28° . Additional tests were made over an angle of sideslip range from -6° to 6° at selected angles of attack.

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3

SCHEDULE OF COEFFICIENTS PLOTTED

- (A) C_A, C_N, C_m vs α , C_L vs $C_D, L/D, C_Y, C_n, C_l$ vs α
- (B) $C_Y, C_l, C_n, C_N, C_m, C_A$ vs β

NOMENCLATURE
General

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C_p	CP	pressure coefficient; $(p_1 - p_\infty)/q$
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
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m^3 , slugs/ft ³

Reference & C.G. Definitions

A_b		base area; m^2 , ft^2
b	EREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$	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
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D _f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

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NOMENCLATURE (Concluded)

Additions to Standard Nomenclature

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
CPC1,2		sting cavity pressure coefficient
CPB1,2,3		base cavity pressure coefficient
δ_e	ELEVON	elevon, surface deflection angle, positive deflection trailing edge down, (left aileron + right aileron)/2
δ_{SB}	SPDBRK	speed brake deflection angle, degrees
δ_{BF}	BDFLAP	bodyflap deflection angle, degrees
δ_r	RUDDER	rudder deflection angle, degrees

INTRODUCTION

The National Aeronautics and Space Administration is conducting studies to determine if any adverse aerodynamic effects would be produced by slight reductions in the thickness of the reusable surface insulation (RSI) located along the sides of the Space Shuttle Orbiter fuselage forebody. The reductions of interest (a maximum of 2 inches, full scale) would allow weight savings in the nose region while still providing sufficient thermal protective margins for anticipated missions. The potential aerodynamic issues which need evaluation are: the forward pitch control boundary at $M \approx 5.0$ and the longitudinal and lateral-directional stability characteristics at $0.2 \leq M \leq 5.0$.

To obtain data over the required speed range, tests have also been conducted in the LaRC Low Turbulence Pressure Tunnel (LA73) to obtain subsonic data and in the LaRC 8-Foot Transonic Pressure Tunnel (LA72) to obtain transonic data. The model used throughout these tests was a Langley-built 0.015 scale SSV Orbiter with forebody modifications to simulate slight reductions in the reusable surface insulation (RSI) thickness.

In order to determine the supersonic aerodynamic effects of the aforementioned forebody, RSI thickness reduction tests were conducted in the NASA/LaRC 4-Foot Unitary Plan Wind Tunnel at Mach numbers from 1.5 to 4.6. Tests were made at angles of attack from about -1° to 28° at 0° sideslip. Sideslip sweeps were also made from about -6° to 6° at selected angles of attack.

The purpose of the present report is to release data obtained during the supersonic phase of the testing.

CONFIGURATIONS INVESTIGATED

The test model was a 0.015 scale model of the Space Shuttle Orbiter constructed at the Langley Research Center from Rockwell-furnished model 49-0 line details. The model designation is 69-0.

For this test the Orbiter Forebody contours were modified (see Figure 2) to simulate a reduction in the thermal protective shield area.

The configuration is summarized as follows:

Baseline = C₉E₂₆F₈M₁₆N₂₈R₅S₀V₈W

<u>Component</u>	<u>Definition</u>
B ₁	Fuselage per Rockwell Lines VL70-000140A and VL70-000140B (Model SS-A00147)
B ₆	B ₁ with reduced RSI thickness
B ₇	B ₁ with reduced RSI thickness and "cheeks" added.
C ₉	Canopy per Rockwell Lines VL70-000140A and VL70-000143B (Model drawing SS-A00147)
E ₂₆	Elevons per Rockwell Lines VL70-000200 (Model drawing SS-A00148)
F ₈	Body flap per Rockwell Lines VL70-000145 (Model drawing SS-A00147)
M ₁₆	OMS/RCS pods per Rockwell Lines VL70-0084010 (Model drawing SS-A00147)
N ₂₈	OMS engine nozzle-per Rockwell Lines VL70-000145 (Model drawing SS-A00147)
R ₅	Rudder per Rockwell Lines VL70-000146A (Model drawing SS-A00148)
S ₀	Wing fillet per Rockwell V70-30-906-01 (Basic control drawing)
V ₈	Vertical tail per Rockwell Lines VL70-000146A (Model drawing SS-A00148)
W	Wing per Rockwell V70-30-906-01 (Basic Control drawing)

A complete description of model dimensional data is given in Table III.

TEST CONDITIONS

The tunnel conditions existing during the test are summarized in Table I and the configurations tested are shown in Table II. The model was sting supported, and the aerodynamic forces and moments were measured by an internally mounted six-component strain gage balance. Model angle of attack was varied from about -1° to 28° for angles of sideslip of 0° . Sideslip angles were varied from -6° to 6° at angles of attack of 10° , 12° , 15° , 18° , and 20° . Angles of attack and sideslip have been corrected for the effects of sting deflection under load.

TEST FACILITY DESCRIPTION

The NASA LaRC 4 Foot Unitary Plan Wind Tunnel (UPWT) is a closed-circuit, continuous flow, variable density facility. The test section is 4 feet by 4 feet by 7 feet long.

Two tunnel legs are available for supersonic testing in the Mach number ranges 1.47 to 2.86 (Leg. No. 1) and 2.29 to 4.63 (Leg. No. 2). Both legs were used for this test. An asymmetric, sliding block nozzle position and total pressure setting provide the test Mach numbers at a specified Reynolds number. Reynolds number can be varied from 0.76 to 7.78 million per foot. Available stagnation pressure variation is 4.0 to 142 psia. Dynamic pressure variation is 95 to 1260 psf with normal operating stagnation temperature about 150° F in Mach modes 2 or 3 and about 175° F in Mach mode 4. The tunnel is equipped with a dry air supply, an evacuating system, and a cooling system. The facility power is approximately 83,000 horsepower.

Model mounting provisions consist of various sting arrangements, including axial (longitudinal), lateral (independent pitch and yaw), and roll movement with side wall support. A Schlieren system and oil flow visualization equipment are available. Data are recorded at the tunnel and reduced off-line at the Langley Computer Center. The tunnel is used for force and moment, pressure, and dynamic stability tests. Hot and cold jet effects and heat transfer have been studied in the UPWT.

DATA REDUCTION

LaRC 2032 six-component strain gage balance was used to measure model forces and moments. All final data were presented along a set of body and stability axes (Figure 1) through the nominal center of gravity located at F.S. 1076.7 and FRL 375.0. Drag data presented represent gross drag in that no corrections to free-stream conditions in the base regions have been made. Model data were converted to standard NASA coefficients using the following constants:

Reference Area = Wing Planform area	=	0.605 ft. ² /
Reference Length = Wing MAC	=	7.122 in.
Reference Span = Wing Span	=	14.05 in.
Total base area excluding sting cavity	A_b	= 0.0615 ft. ²
Sting cavity area	A_{sc}	= 0.03409 ft. ²

TABLE II.

TEST : LaRC UPWT 1147 (LA71)		DATA SET/RUN NUMBER COLLATION SUMMARY						DATE : 08-25-75						
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)						
		α	β	δe	δBF	δSB		2.95	3.95	4.6				
RJC001	Baseline + B1	A	0°	-40°	-11.7°	55°	3	16	18	20	-			
02	B7	↓	↓	↓	↓	↓	3	22	26	28	-			
03	B6	↓	↓	↓	↓	↓	3	10	12	14	-			
04	B1	15	B	↓	↓	↓	1	17	-					
05	↓	18	↓	↓	↓	↓	1		19					
06	↓	20	↓	↓	↓	↓	1			21				
07	B7	15	↓	↓	↓	↓	1	23	-					
08	↓	18	↓	↓	↓	↓	1		27	-				
09	↓	20	↓	↓	↓	↓	1			29				
10	B6	15	↓	↓	↓	↓	1	11	-					
11	↓	18	↓	↓	↓	↓	1		13	-				
12	↓	20	↓	↓	↓	↓	1			15				
BETA ① CN CA CLM CBL CYN CY CL CD L/D MACH ALPHA 10 ALPHA ② CN CA CLM CBL CYN CY CL CD L/D MACH BETA 10 CPB1 ③ CPB2 CPB3 CPC2 MACH 4														
TYPE OF DATA		COEFFICIENT SCHEDULES				① R data α sweep		③ IDVAR (1) A data		IDVAR (2) NDV				
α OR β SCHEDULES		$\alpha(A) = -1^\circ$ to 29° $\beta(B) = -6$ to 6°				② R data β sweep								

TEST RUN NUMBERS

13

TABLE III.
MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY B₁

GENERAL DESCRIPTION : Configuration 140A/B Orbiter Fuselage

NOTE: B₁ is identical to B₂₄ except underside of fuselage has been
repaired to accept W

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

DRAWING NUMBER: VI.70-000143B, -000200, 000205, -006089,
-000145, -000140A, 000140B

DIMENSIONS :	FULL SCALE	MODEL SCALE
* Length (OML: Fwd Sta. X ₀ =235) - In.	<u>1293.3</u>	<u>19.400</u>
* Length (IML: Fwd Sta. X ₀ =238) - In.	<u>1290.3</u>	<u>19.355</u>
* Max Width (@ X = 1528.3) - In.	<u>264.0</u>	<u>3.960</u>
Max Depth (@ X ₀ = 1464) - In.	<u>250.0</u>	<u>3.750</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>340.88</u>	<u>0.077</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III.
MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY B6

GENERAL DESCRIPTION : Configuration 140A/B Orbiter Fuselage

NOTE: Identical to B1 except for reduced RSI thickness on forebody

(See Fig.2)

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

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

DIMENSIONS :	FULL SCALE	MODEL SCALE
* Length (OML: Fwd Sta. $X_0=235$)-In.	<u>1293.3</u>	<u>19.400</u>
* Length (IML: Fwd Sta. $X_0=238$)-In.	<u>1290.3</u>	<u>19.355</u>
* Max Width (@ $X = 1528.3$) - In.	<u>264.0</u>	<u>3.960</u>
Max Depth (@ $X_0 = 1464$) - In.	<u>250.0</u>	<u>3.750</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>340.88</u>	<u>0.077</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III.
MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY B₇

GENERAL DESCRIPTION : Configuration 140A/B Orbiter Fuselage

NOTE: Identical to B₁ except for reduced RSI thickness and the
addition of "cheeks" (See Fig. 2)

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

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

DIMENSIONS :	FULL SCALE	MODEL SCALE
* Length (OML: Fwd Sta. X ₀ =235)-In.	<u>1293.3</u>	<u>19.400</u>
* Length(IML: Fwd Sta. X ₀ =238)-In.	<u>1290.3</u>	<u>19.355</u>
* Max Width (@ X = 1528.3) - In.	<u>264.0</u>	<u>3.960</u>
Max Depth (@ X ₀ = 1464) - In.	<u>250.0</u>	<u>3.750</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>340.88</u>	<u>0.077</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III-Continued
MODEL DIMENSIONAL DATA

MODEL COMPONENT : CANOPY - C₉

GENERAL DESCRIPTION : Configuration 3A, Canopy used with Fuselage
B26.

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147 , RELEASE 12

DRAWING NUMBER ' VL70-000143A/B

DIMENSIONS .	FULL SCALE	MODEL SCALE
Length ($X_o = 434.643$ to 587)	<u>143.357</u>	<u>2.150</u>
Max Width (@ $X_o = 513.127$)	<u>152.412</u>	<u>2.286</u>
Max Depth (@ $X_o = 485.0$)	<u>25.000</u>	<u>0.375</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III - Continued
MODEL DIMENSIONAL DATA

MODEL COMPONENT · ELEVON - E₂₆

GENERAL DESCRIPTION · Configuration 140 A/B Orbiter Elevon

NOTE: VL70-000200 data for (1) of (2) sides. Identical to E₂₅ except
airfoil thickness.

Model Scale: 0.015 Model Drawings No. SS-A00148

DRAWING NUMBER VL70-000140B VL70-000200

DIMENSIONS .	FULL SCALE	MODEL SCALE
Area	<u>210.0</u>	<u>0.0473</u>
Span (equivalent)	<u>349.2</u>	<u>5.238</u>
Inb'd equivalent chord	<u>118.004</u>	<u>1.770</u>
Outb'd equivalent chord	<u>55.1922</u>	<u>0.828</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.2096</u>	<u>0.2096</u>
At Outb'd equiv. chord	<u>0.4004</u>	<u>0.4004</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Trailing Edge	<u>10.056</u>	<u>10.056</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hinge line)	<u>1587.25</u>	<u>0.00536</u>

TABLE III-Continued
MODEL DIMENSIONAL DATA

MODEL COMPONENT . BODY FLAP -F8

GENERAL DESCRIPTION . Configuration 140A/B Orbiter Body Flap.
Hingeline located at $X_0 = 1528.3$, $Z_0 = 284.3$

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147, RELEASE 12

DRAWING NUMBER : VL-000140A, VL70-000145

DIMENSIONS	FULL SCALE	MODEL SCALE
Length ($X_0 = 1520$ To $X_0 = 1613$)	<u>93.000</u>	<u>1.395</u>
Max Width (In.)	<u>262.00</u>	<u>3.930</u>
Max Depth ($X_0 = 1520$) - In.	<u>23.000</u>	<u>0.345</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u>150.525</u>	<u>0.0339</u>
Wetted	<u> </u>	<u> </u>
Base	<u>41.84722</u>	<u>0.00941</u>

TABLE III-Continued
MODEL DIMENSIONAL DATA

MODEL COMPONENT OMS Pod (M16)

GENERAL DESCRIPTION Configuration 140D Orbiter OMS Pod

MODEL SCALE: 0.015 MODEL DRAWING NO: SS-A00147

DRAWING NUMBER VL70-000140D
 VL70-008410

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta $X_o=1310.5$) - In.	<u>258.5</u>	<u>3.878</u>
Max Width (@ $X_o = 1511$) - In.	<u>136.8</u>	<u>2.052</u>
Max Depth (@ $X_o = 1511$) - In.	<u>74.7</u>	<u>1.121</u>
Fineness Ratio	<u>2.484</u>	<u>2.484</u>
Area - Ft. ²		
Max. Cross-Sectional	<u>58.864</u>	<u>0.0132</u>
Planform		
Wetted		
Base		

TABLE III - MODEL DIMENSIONAL DATA-Continued

MODEL COMPONENT: OMS NOZZLES - N28

GENERAL DESCRIPTION: Configuration 140A/B Orbiter OMS Nozzles

MODEL SCALE: 0.015 MODEL DRAWING: SS-A00147
RELEASE 5 (Contour)

DRAWING NUMBER: VL70-000145, (location)

DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NUMBER		
Length- In.		
Gimbal Point to Exit Plane		
Throat to Exit Plane		
Diameter - In.		
Exit		
Throat		
Inlet		
Area - ft ²		
Exit		
Throat		
Gimbal Point (Station) - In.		
Left Nozzle		
X ₀	1518.0	22.770
Y ₀	-88.0	-1.320
Z ₀	490.2	7.380
Right Nozzle		
X	1518.0	22.770
Y	+88.0	+1.320
Z	492.0	7.380
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 III-Continued
MODEL DIMENSIONAL DATA

MODEL COMPONENT	<u>RUDDER - R₅</u>
GENERAL DESCRIPTION	<u>2A, 3, 3A, and 140A/B Configurations</u>
MODEL SCALE:	<u>0.015</u>
MODEL DRAWING:	<u>SS-A00148</u>
DRAWING NUMBER	<u>VL70-000146A, VL70-000095, V170-000139</u>

DIMENSIONS	FULL SCALE	MODEL SCALE
*Area Ft ²	<u>100.15</u>	<u>0.0225</u>
Span (equivalent) - In.	<u>201.0</u>	<u>3.015</u>
Inb'd equivalent chord - In.	<u>91.585</u>	<u>1.3738</u>
Outb'd equivalent chord - In.	<u>50.833</u>	<u>0.7625</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hinge line)	<u>610.92</u>	<u>0.002</u>
Mean Aerodynamic Chord, - In.	<u>73.2</u>	<u>1.098</u>

TABLE III (Continued)
 MODEL DIMENSIONAL DATA - Continued

MODEL COMPONENT VERTICAL - V8
 GENERAL DESCRIPTION Configuration 140A/B Orbiter Vertical Tail

MODEL SCALE: 0.015 DRAWING NUMBER: SS-A00148,
 RELEASE 6
 DRAWING NUMBER VL70-000146A

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
TOTAL DATA		
Area (Theo) - Ft ²	<u>413.253</u>	<u>0.093</u>
Planform		
Span (Theo) - In.	<u>315.720</u>	<u>4.736</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep-Back Angles, Degrees.		
Leading Edge	<u>45.000</u>	<u>45.000</u>
*Trailing Edge	<u>26.2</u>	<u>26.2</u>
0.25 Element Line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.500</u>	<u>4.028</u>
Tip (Theo) WP	<u>108.470</u>	<u>1.627</u>
MAC	<u>199.808</u>	<u>2.997</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>21.953</u>
W.P. of .25 MAC	<u>635.522</u>	<u>9.533</u>
B.L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil Section		
Leading Wedge Angle - Deg.	<u>10.00</u>	<u>10.00</u>
Trailing Wedge Angle - Deg.	<u>14.920</u>	<u>14.920</u>
Leading Edge Radius	<u>2.00</u>	<u>0.030</u>
Void Area	<u>13.17</u>	<u>0.030</u>
Blanketed Area	<u>0.00</u>	<u>0.00</u>

TABLE III (Concluded)

MODEL COMPONENT: WING-W

GENERAL DESCRIPTION: Configuration 4

NOTE: Identical to W114 except airfoil thickness.

Dihedral angle is along trailing edge of wing.

MODEL SCALE: 0.015

MODEL DRAWING: SS-AC0148

DRAWING NUMBER: V70-30-906-01 (Basic Control Drawing)

DIMENSIONS: FULL-SCALE MODEL SCALE

TOTAL DATA

Area (Theo) Ft ²		
Planform	2690.00	0.605
Wetted		
Span (equivalent) (Theo) In.	936.68	14.050
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
Toe-In Angle		
Cant Angle		
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 (Wing Sta. 0.0) (Theo) B.P.0.0.	689.24	10.339
Tip, (equivalent) (Theo) B.P.	137.85	2.068
MAC	474.81	7.122
Fus. Sta. of .25 MAC	1136.83	17.052
W.P. of .25 MAC	290.58	4.359
B.L. of .25 MAC	182.13	2.732
Airfoil Section		
Root		
Tip		

EXPOSED DATA

Area Ft ²	1751.50	0.394
Span, (equivalent) (Theo) In. BP103	720.68	10.810
Aspect Ratio	2.059	2.059
Taper Ratio	0.245	0.245
Chords		
Root BP108	562.09	8.431
Tip 1.00 $\frac{b}{z}$	137.85	2.068
MAC	392.83	5.892
Fus. Sta. of .25 MAC	1185.98	17.790
W.P. of .25 MAC	294.30	4.415
B.L. of .25 MAC	251.77	3.777

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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

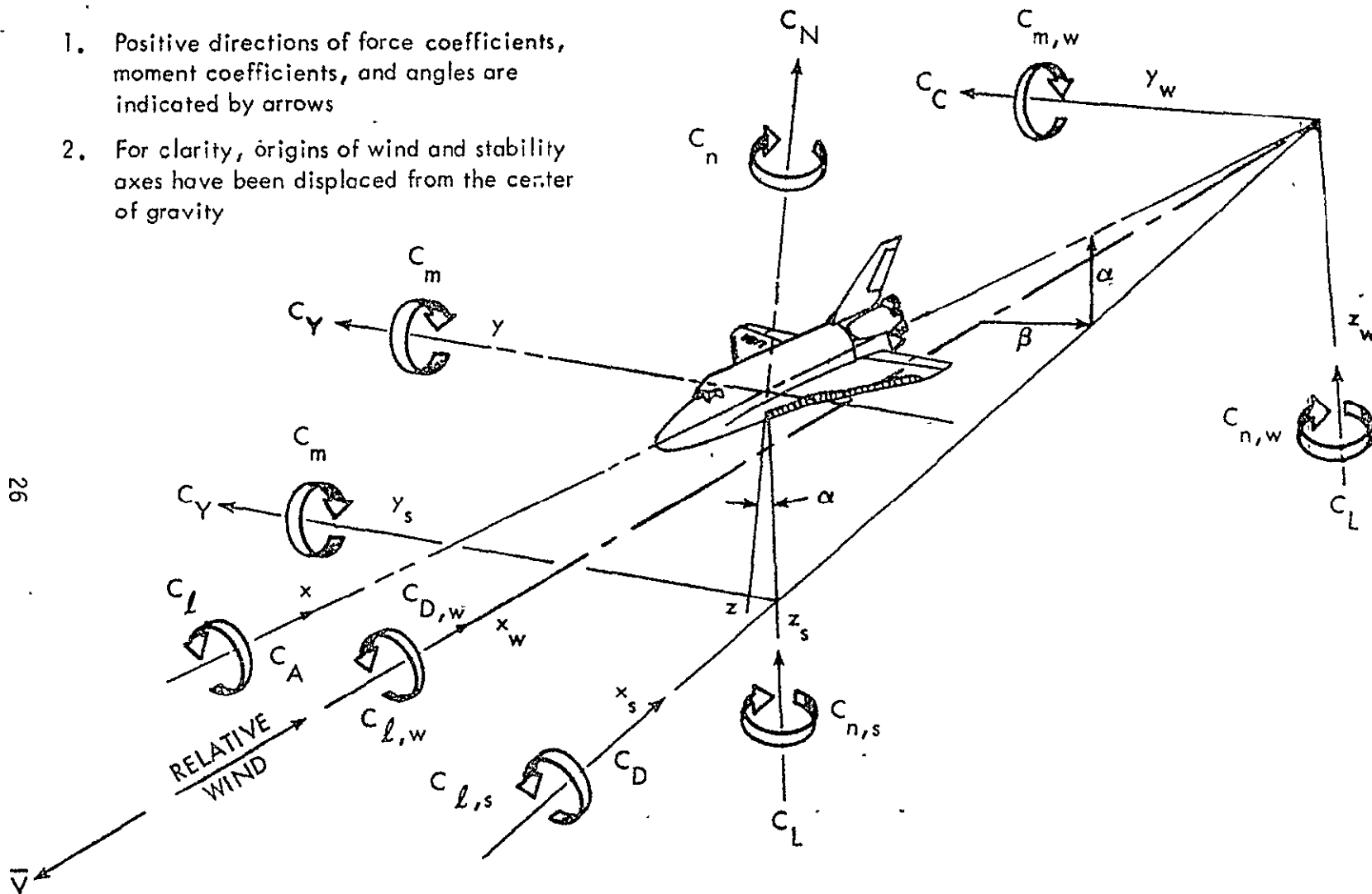
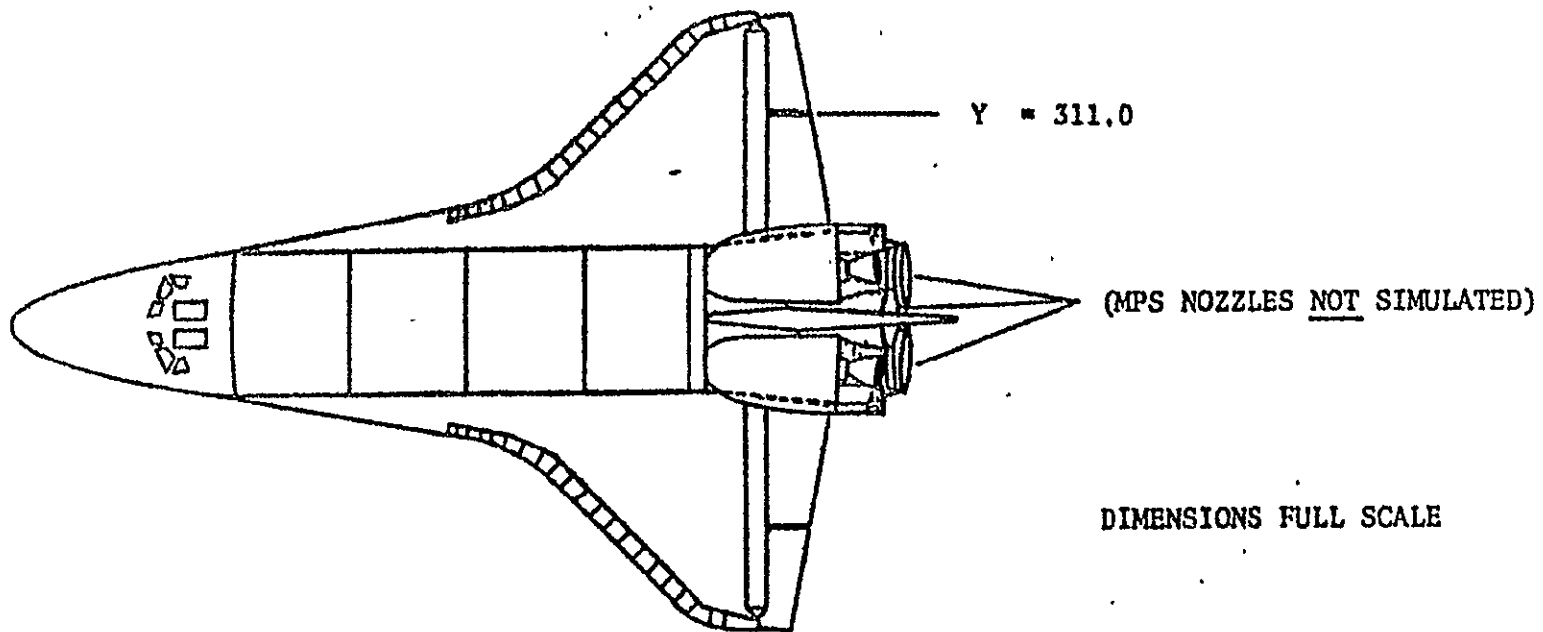
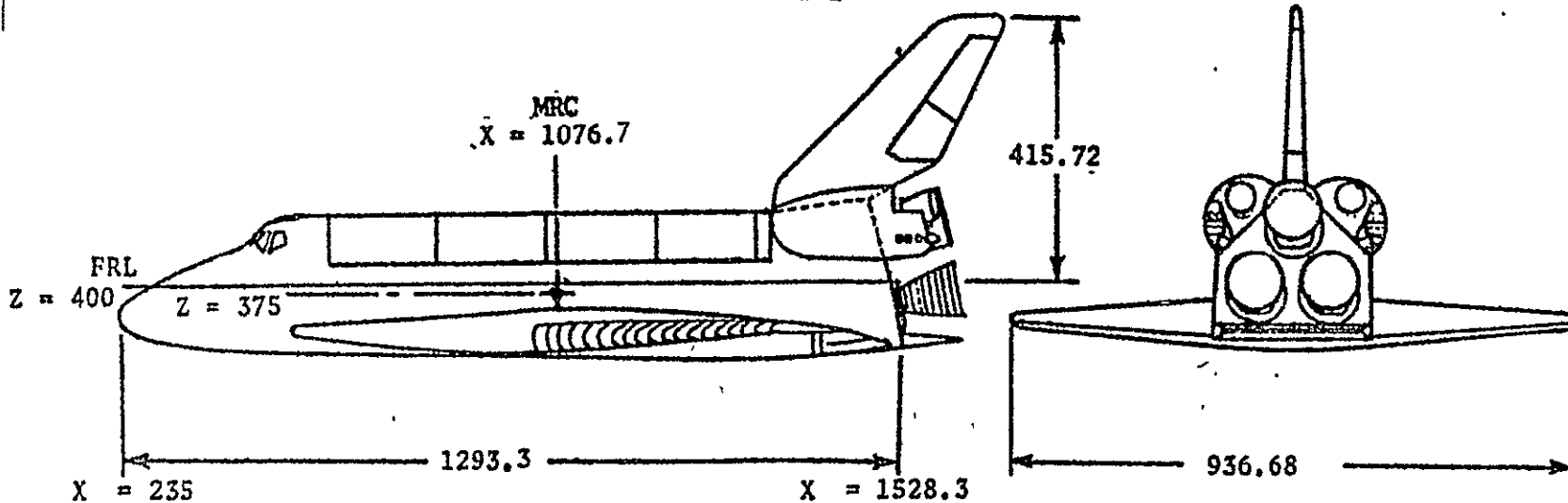


Figure 1. - Axis Systems.

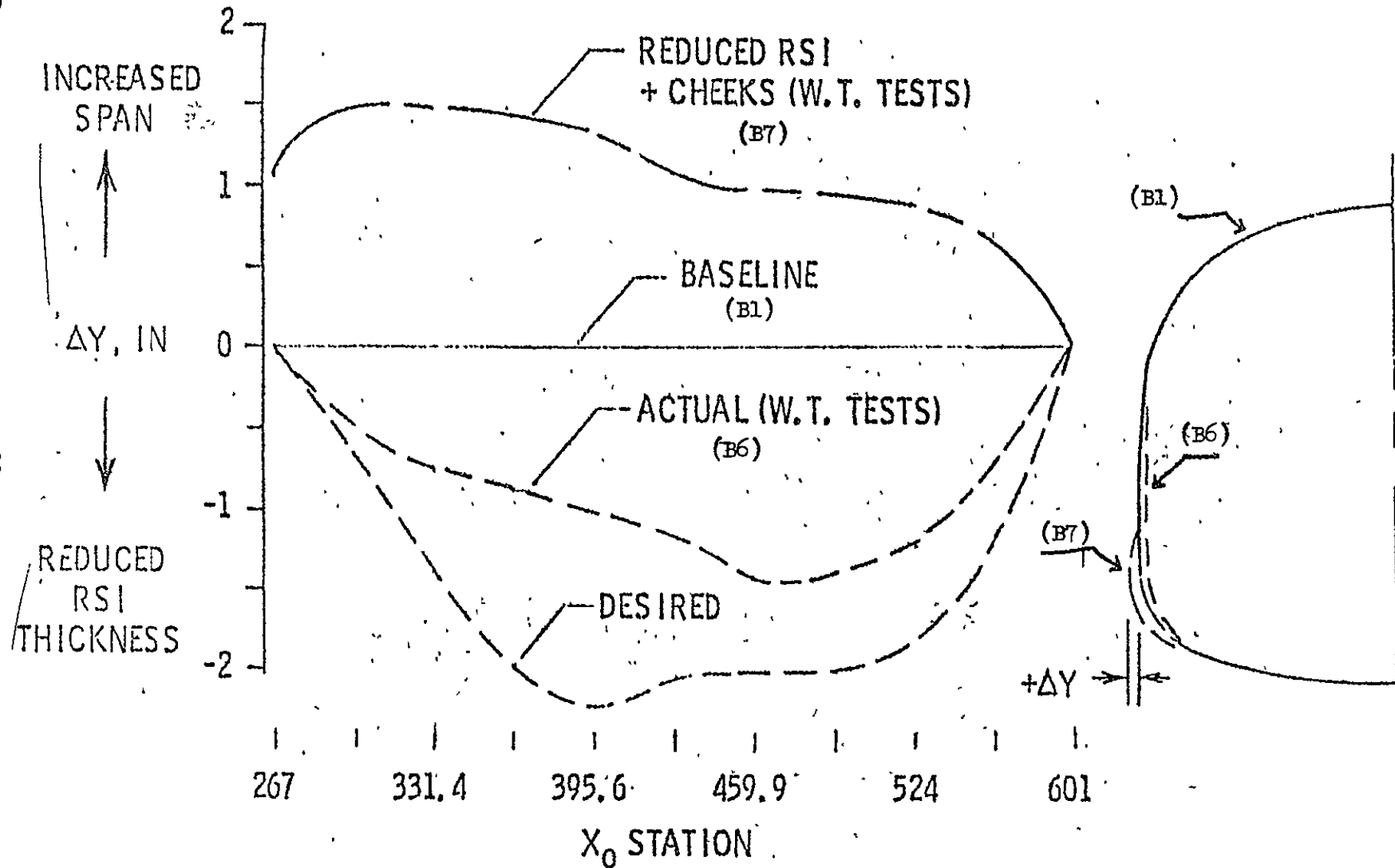


DIMENSIONS FULL SCALE



a. Shuttle Orbiter General Arrangement

Figure 2. - Model Sketches

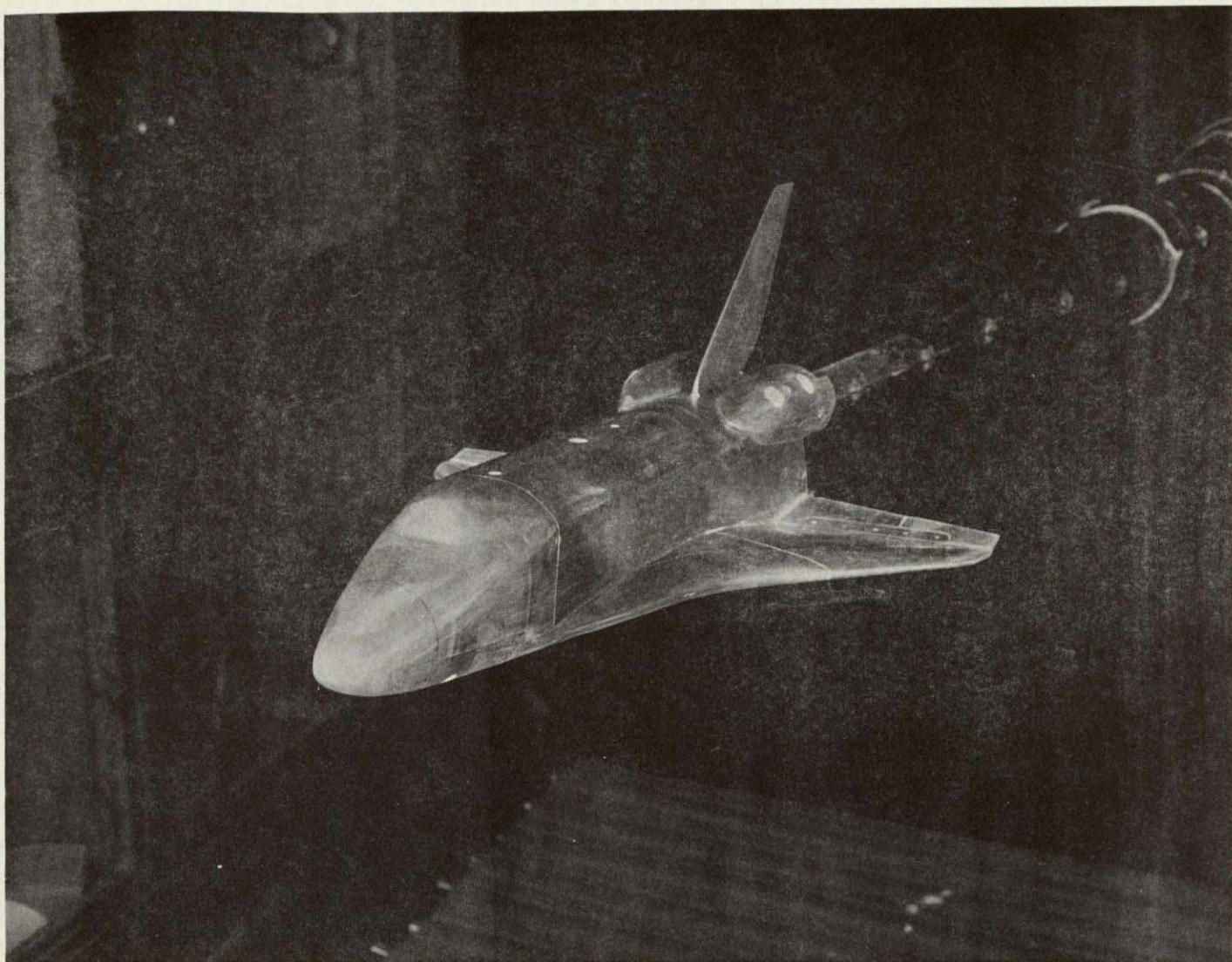


b. Orbiter Forebody RSI Modification

Figure 2. - Model Sketches

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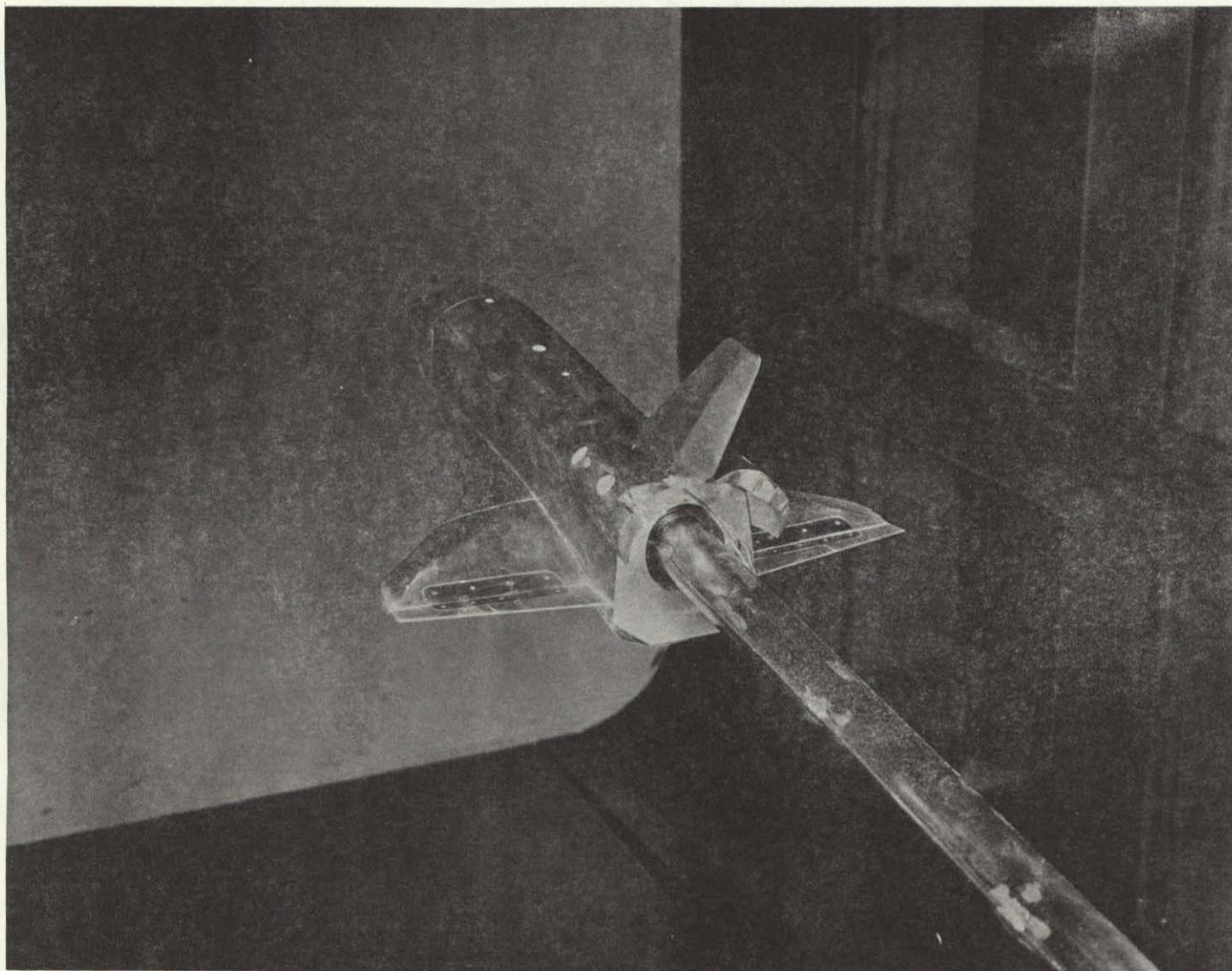


a. Orbiter Configuration, Front, 3/4 View

Figure 3. Model Photographs

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b. Orbiter Configuration, Rear, 3/4 View

Figure 3. Concluded

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BOFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	474.8000 INCHES
BREF	936.6800 INCHES
XMRP	1076.7000 IN. XO
YMRP	.0000 IN. YO
ZMRP	375.0000 IN. ZO
SCALE	.0150

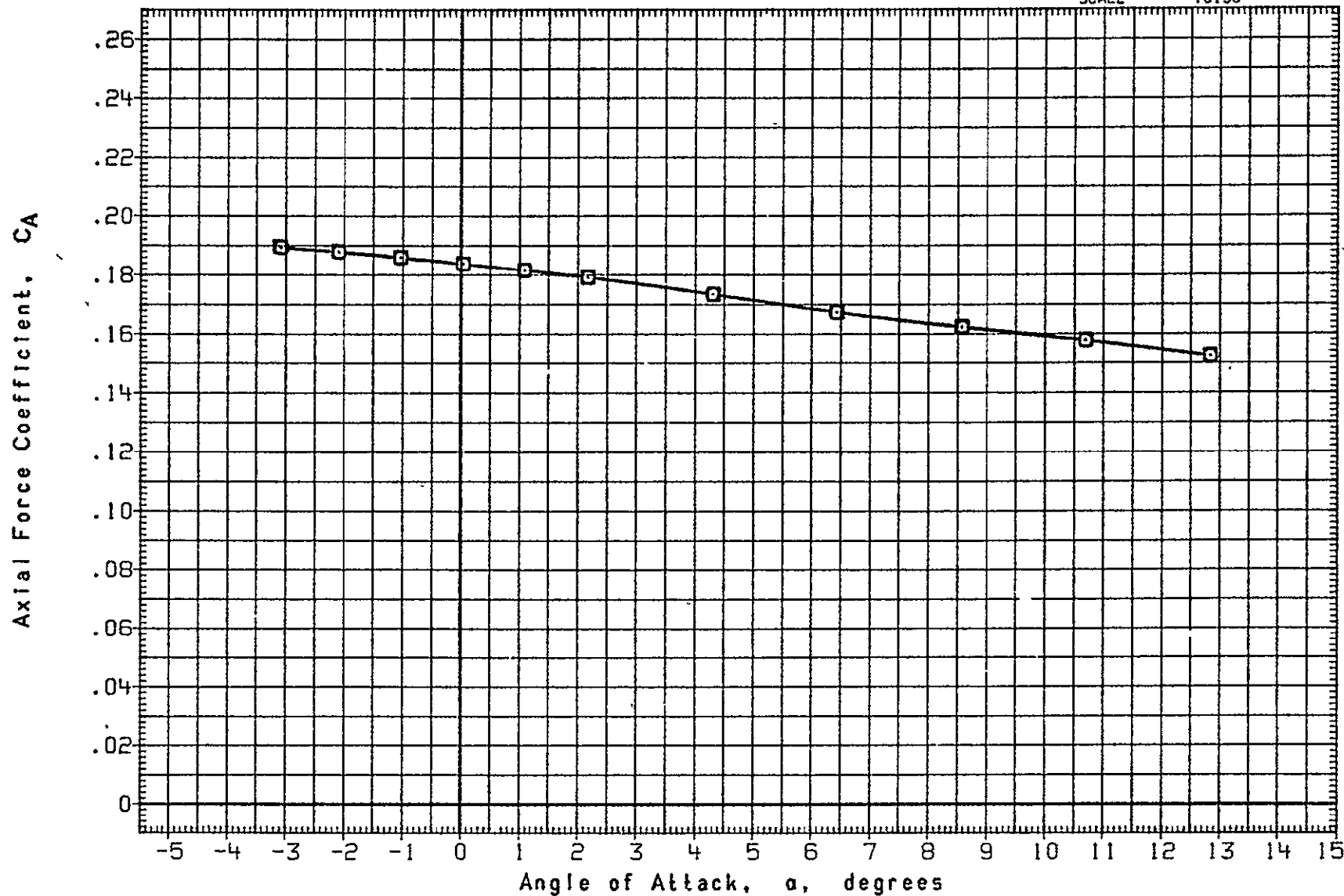


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

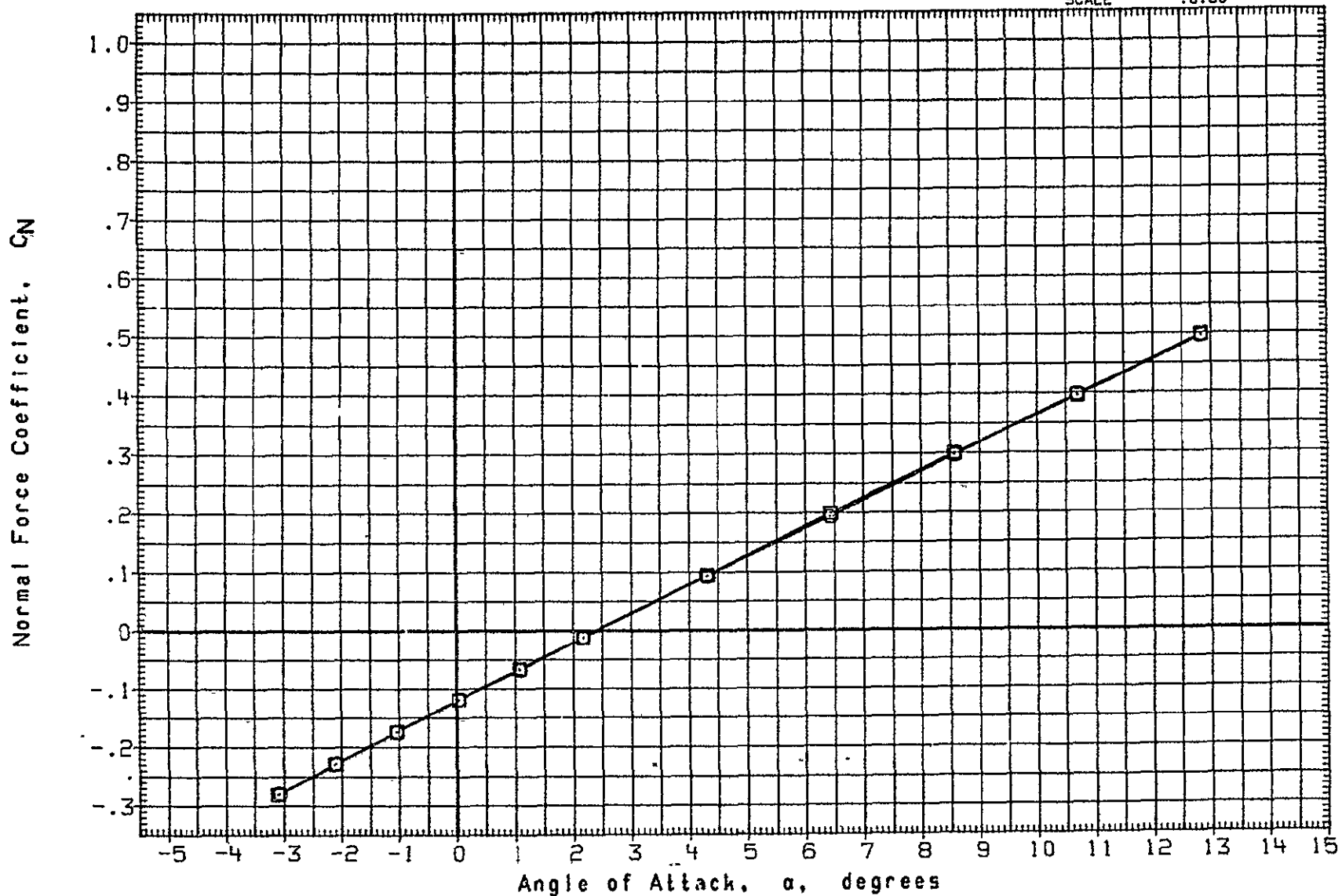


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A)MACH = 1.50

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(RJRO01)	○ LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJRO05)	□ LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	0150	

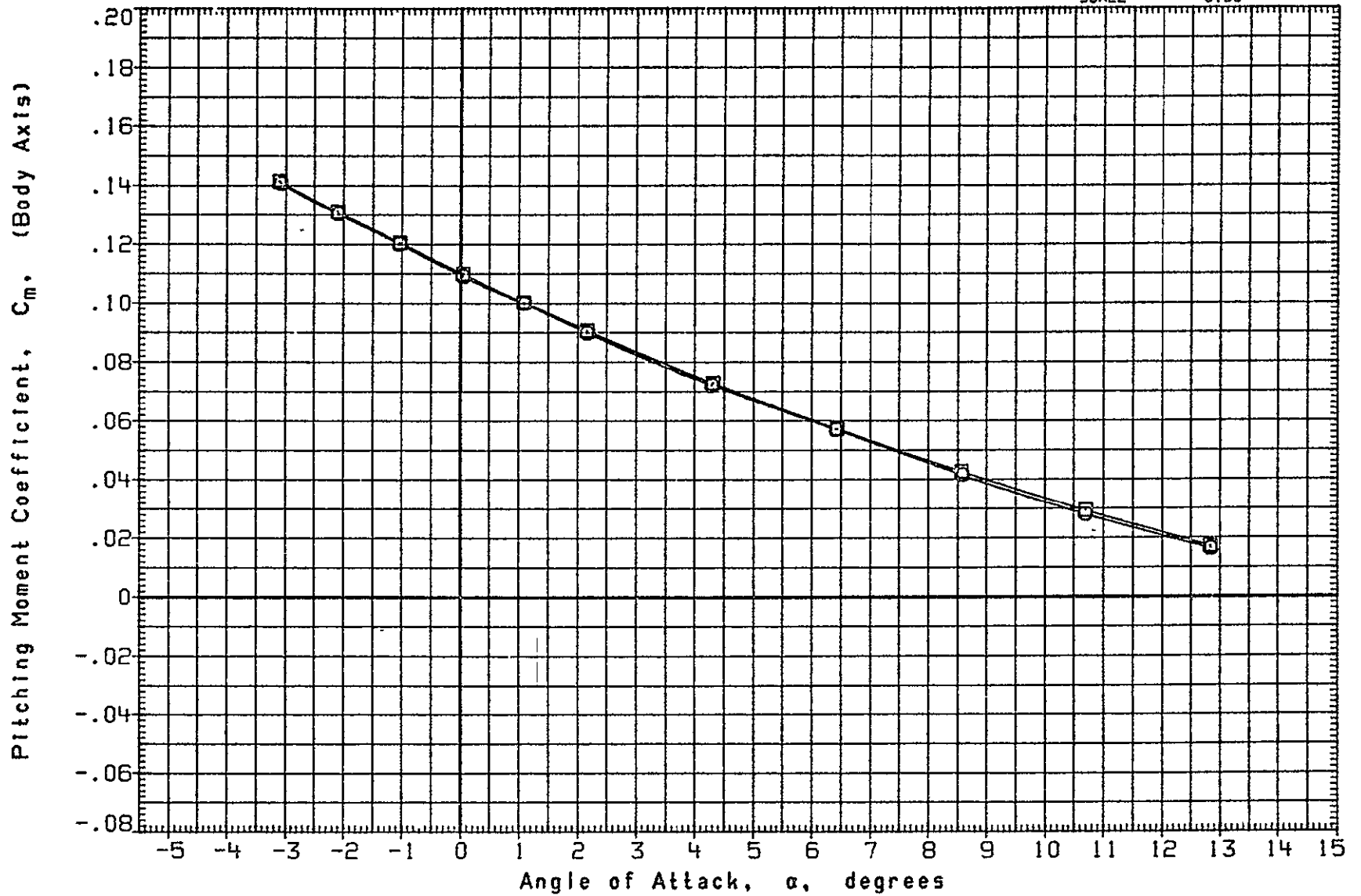


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

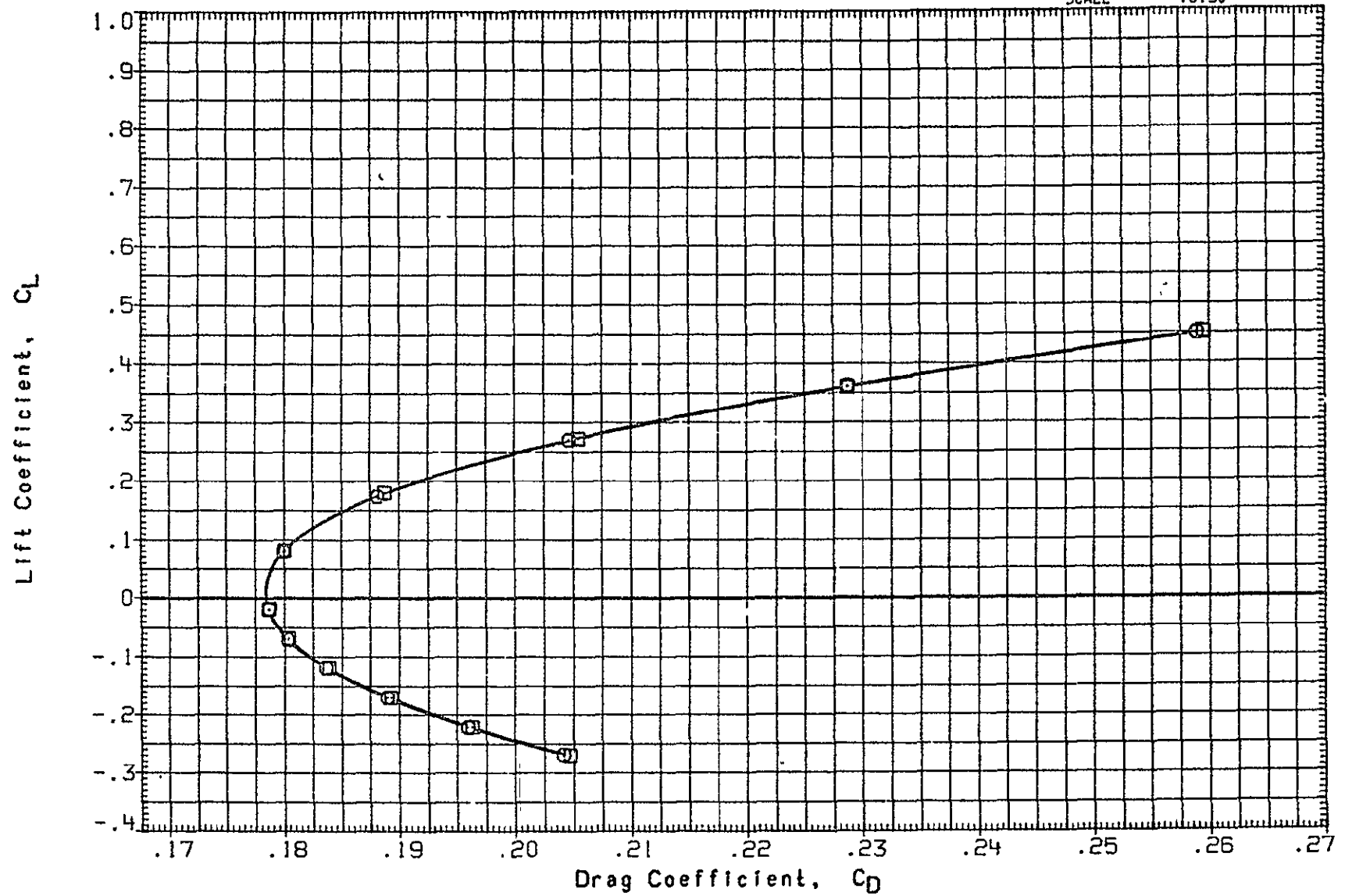


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 1.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	0150	

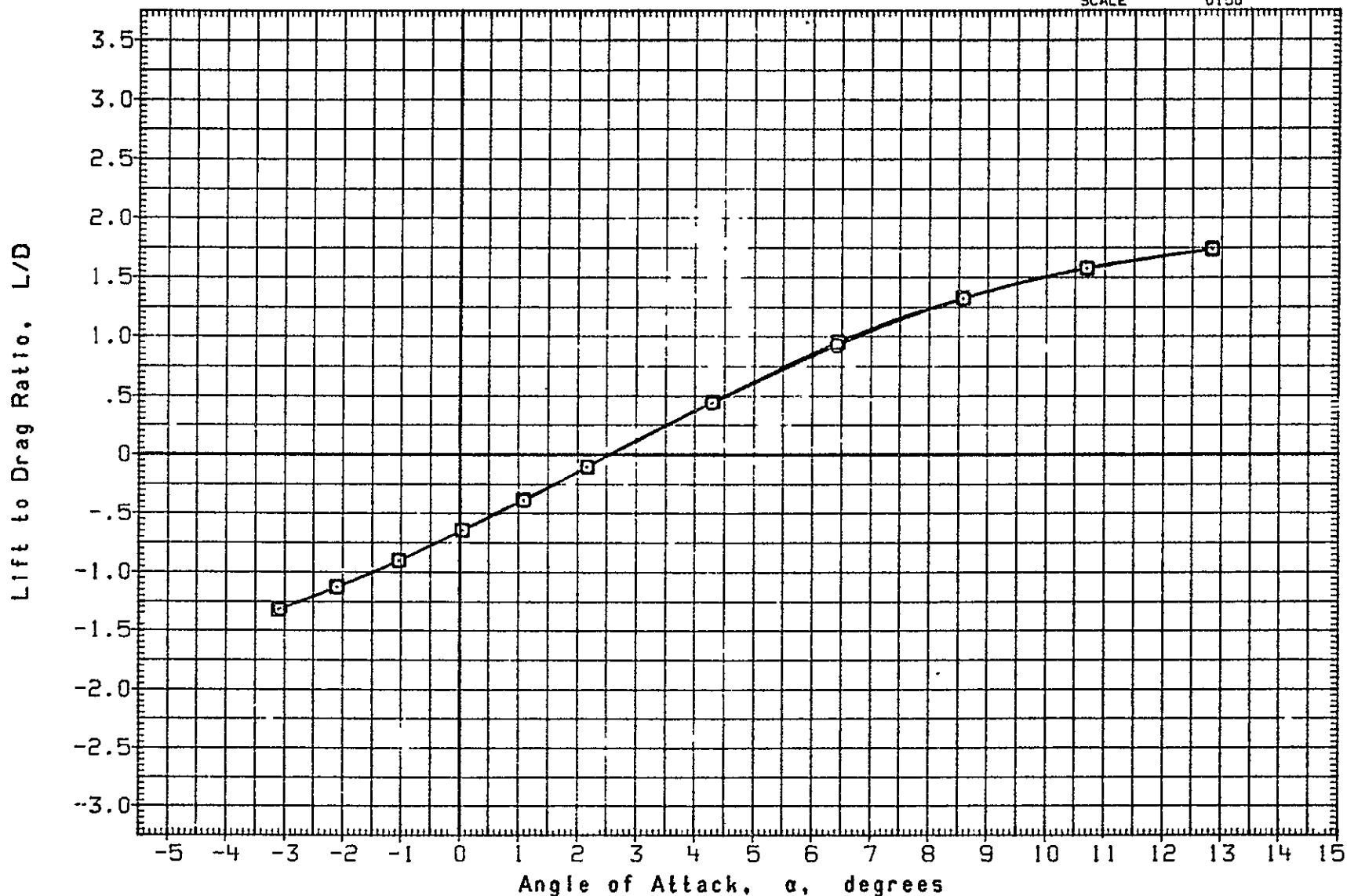


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.900	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	90.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7080	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0150	

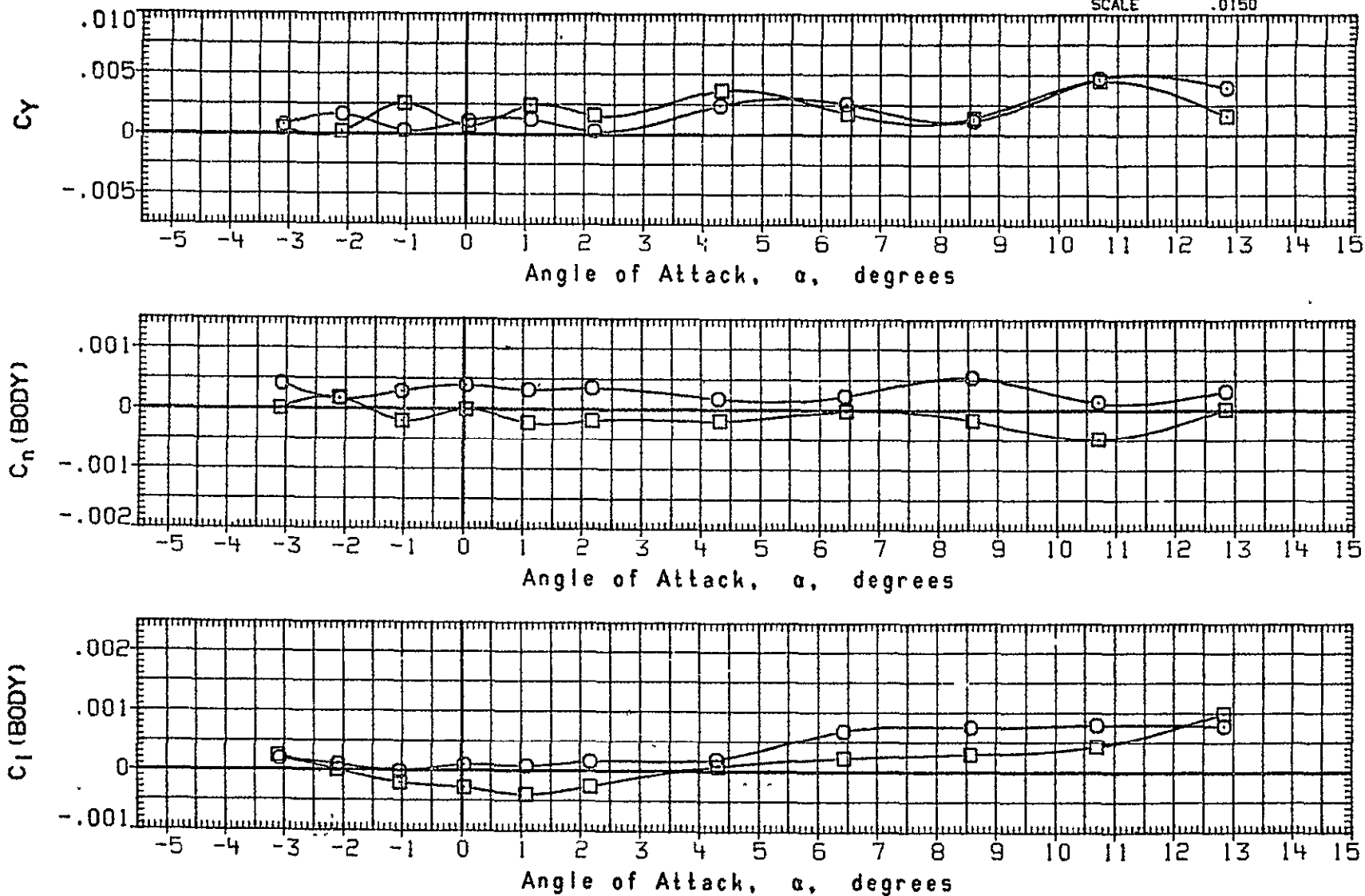


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 1.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1	.000	-15.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7	.000	-15.000	55.000	-11.700	LREF	474.6000	INCHES
							BREF	236.6800	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	0150	

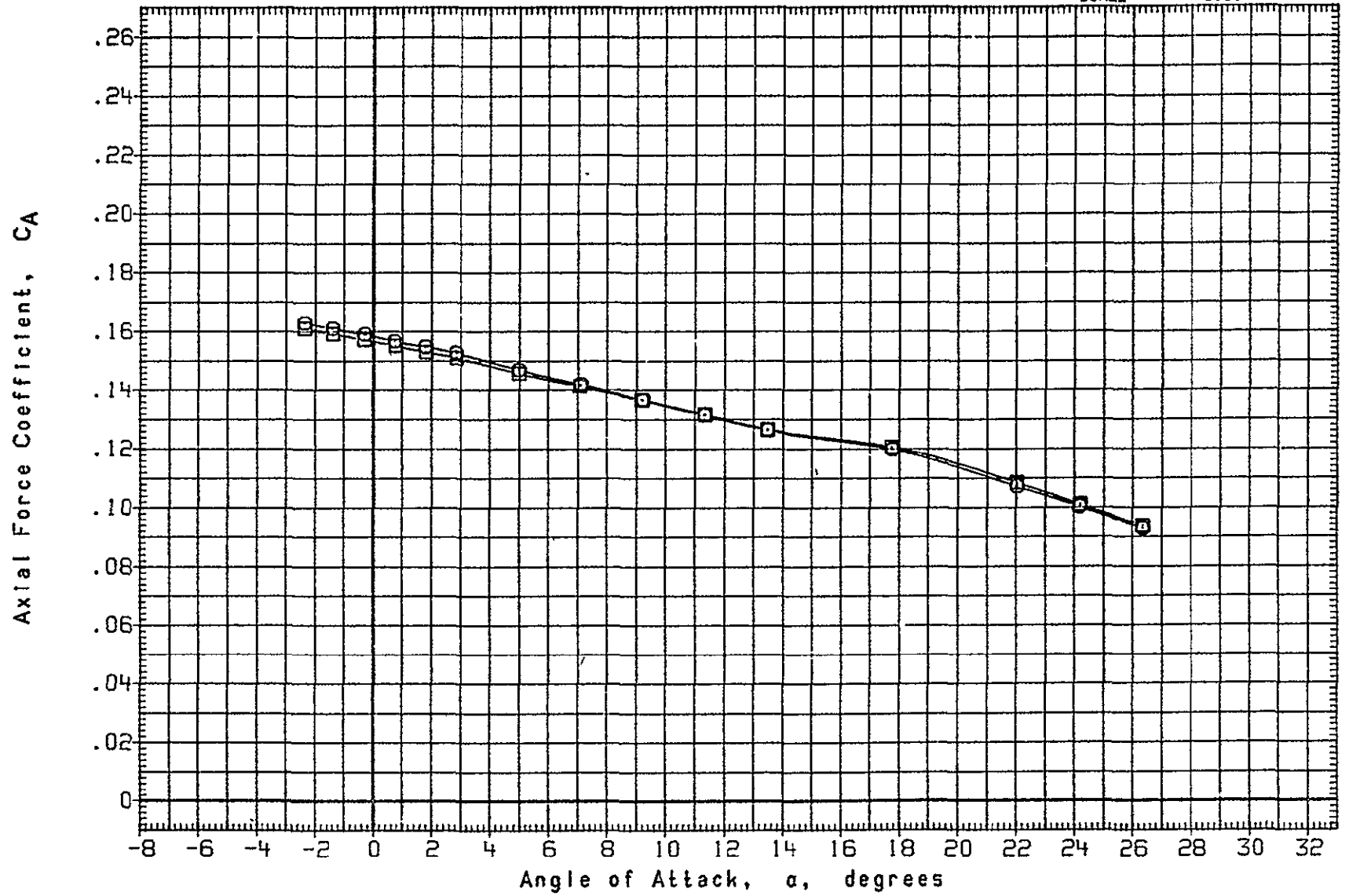


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPOBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

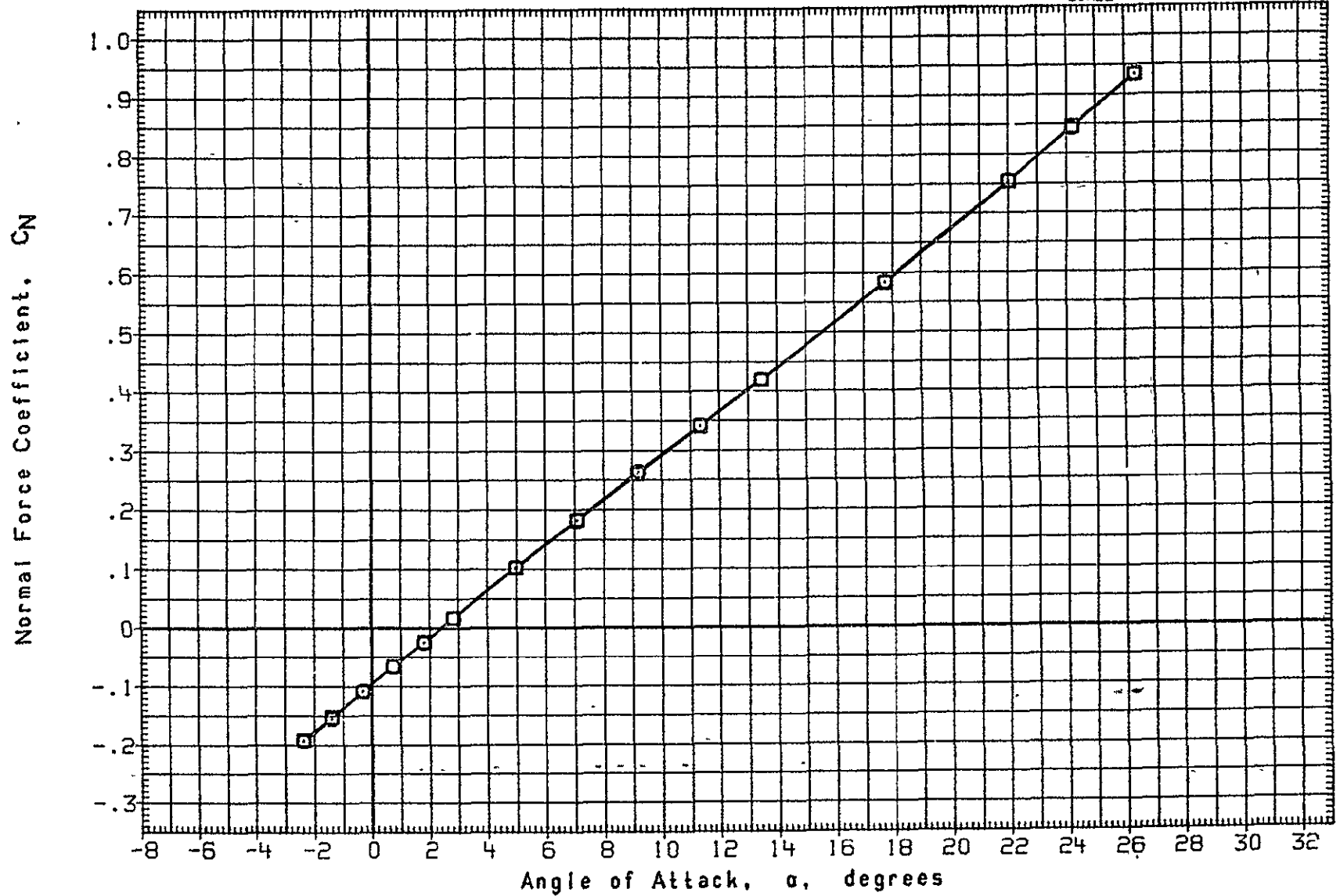


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B) MACH = 2.00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BOFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ. FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	0150	

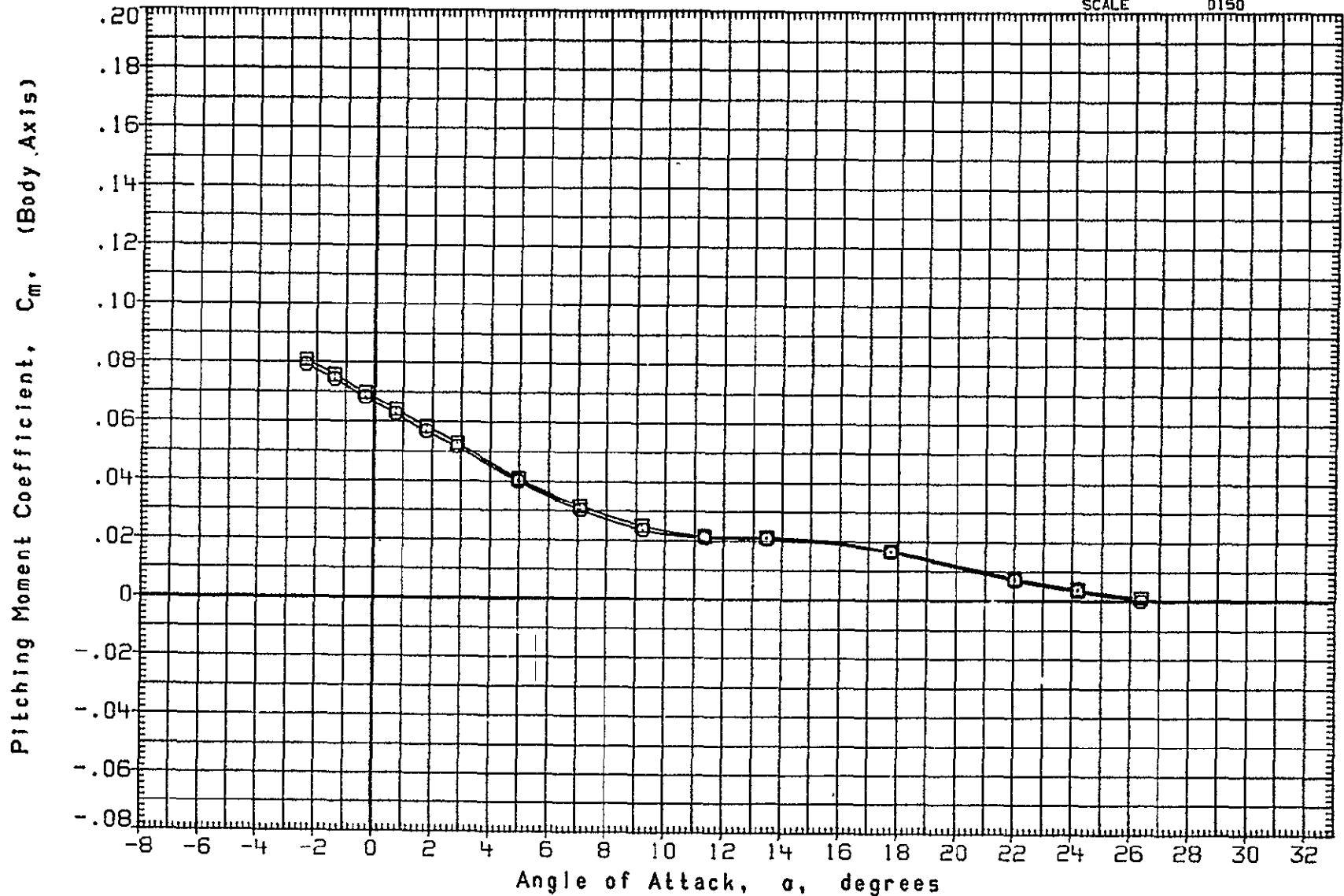


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B) MACH = 2.00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1132 (LA71B) BASELINE B1
(RJR003)	□	LARC UPWT 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	0150	

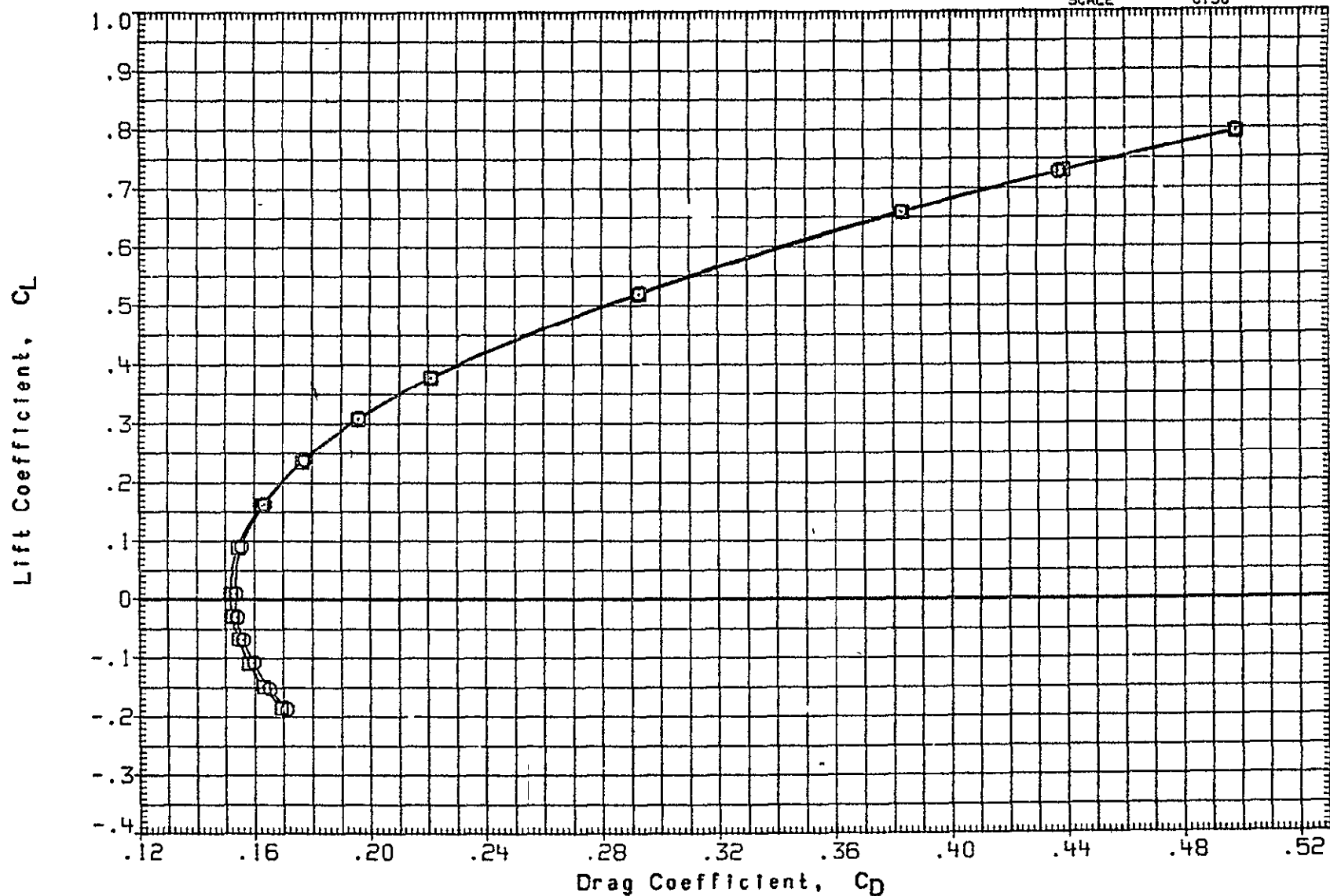


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B) MACH = 2.00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6000	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

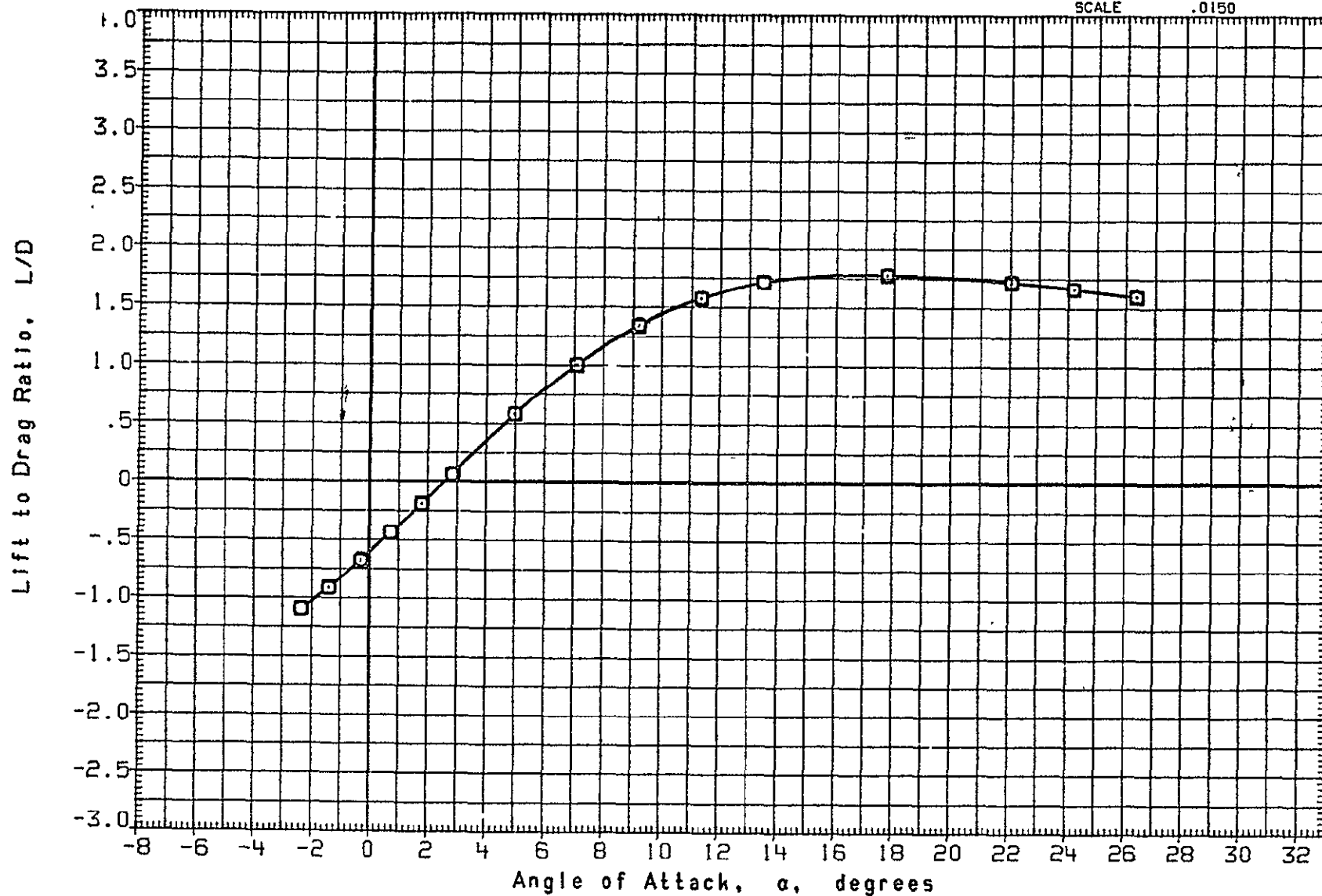


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B) MACH = 2.00

DATA SFT	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

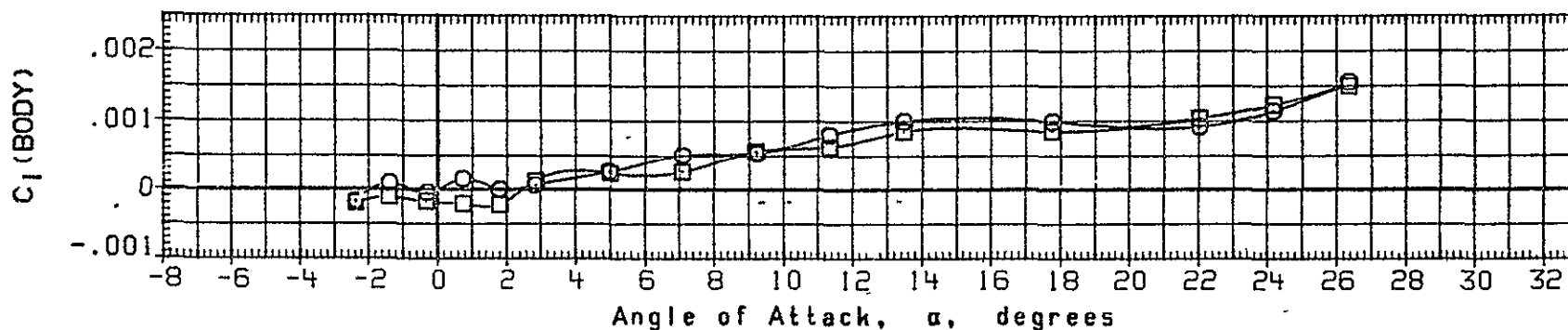
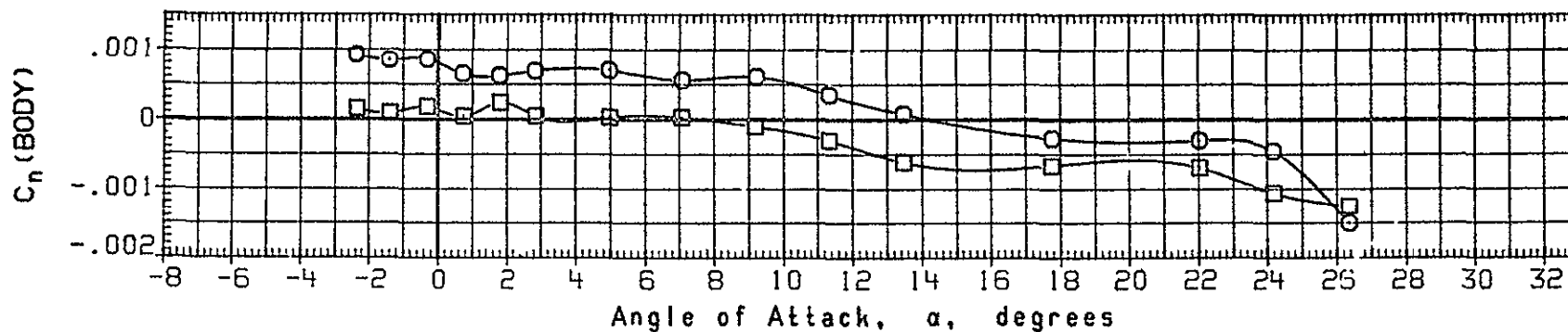
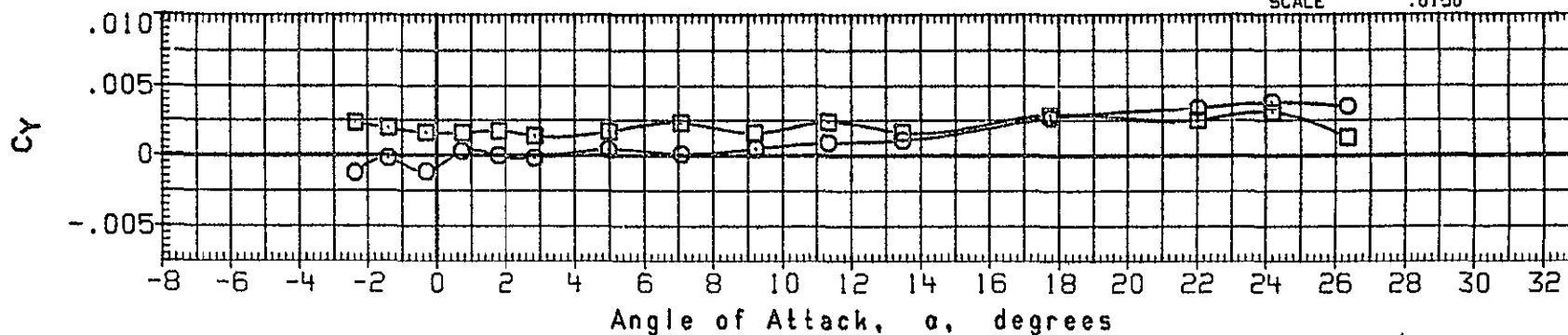


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B)MACH = 2.00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION	
(RJRD01)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1	.000	-15.000	55.000	-11.700	SREF	2690.0000 SQ.FT.
(RJRD05)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7	.000	-15.000	55.000	-11.700	LREF	474.8000 INCHES
							BREF	936.6800 INCHES
							XMRP	1076.7000 IN. XO
							YMRP	.0000 IN YO
							ZMRP	375.0000 IN. ZO
							SCALE	.0150

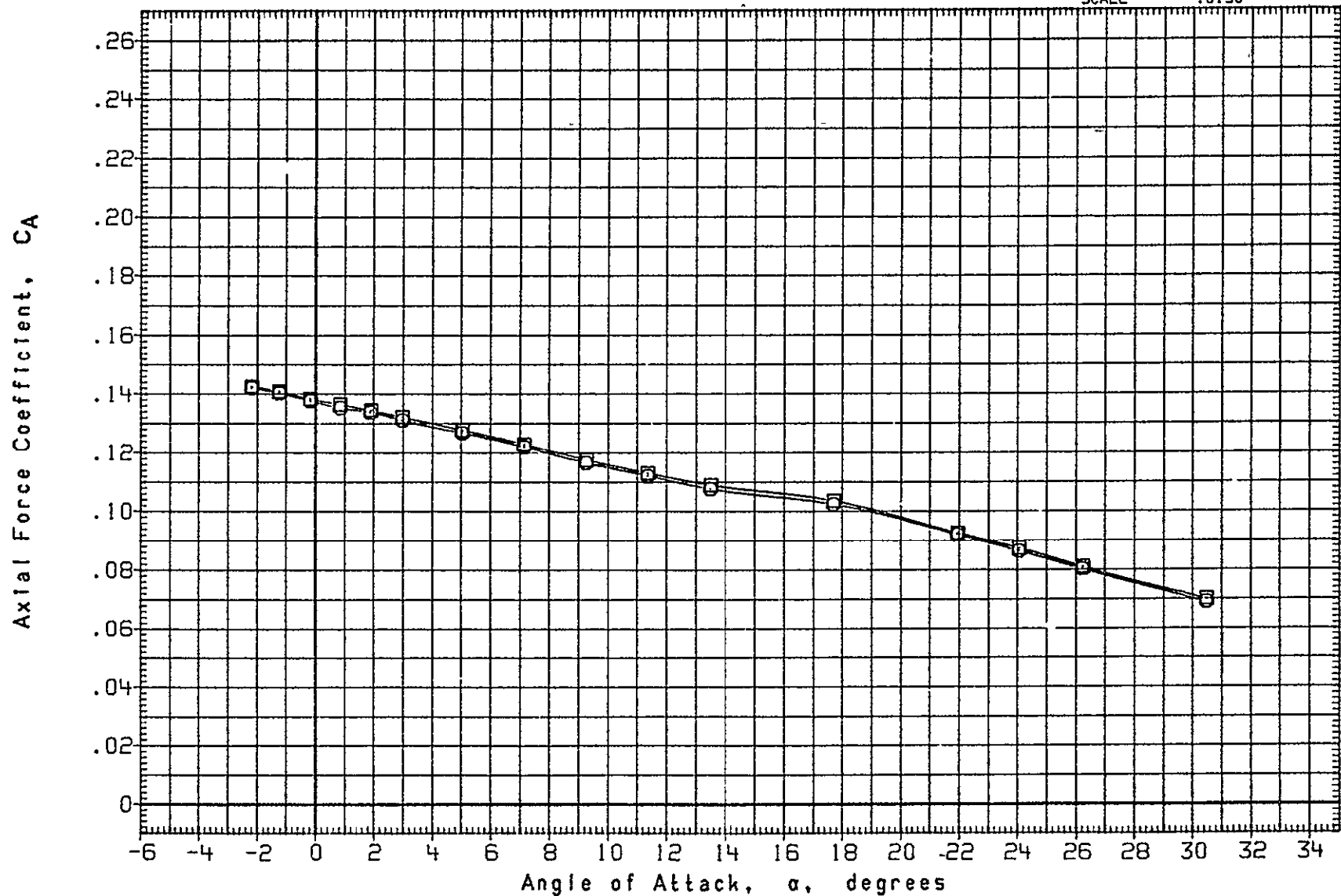


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

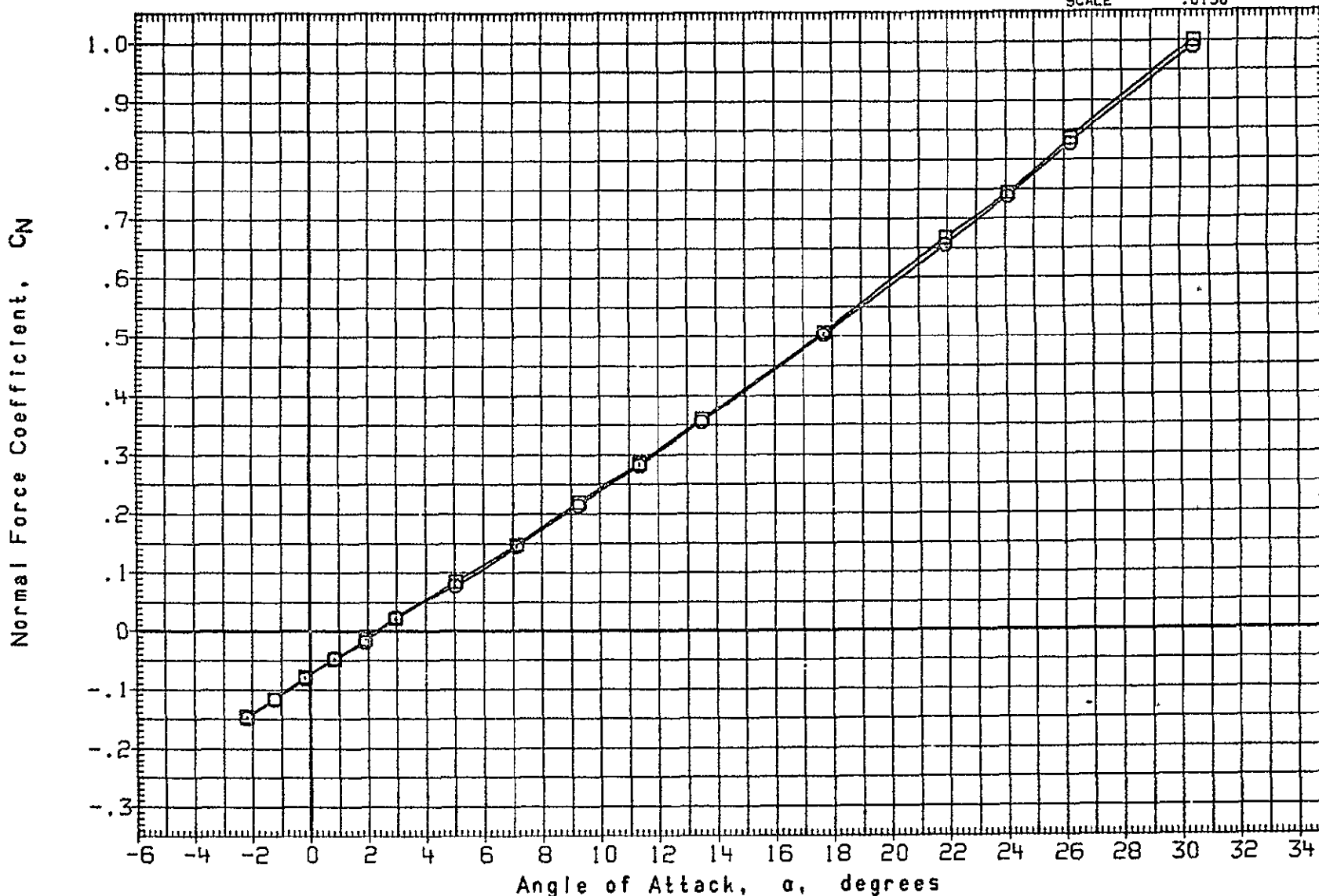


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BOFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

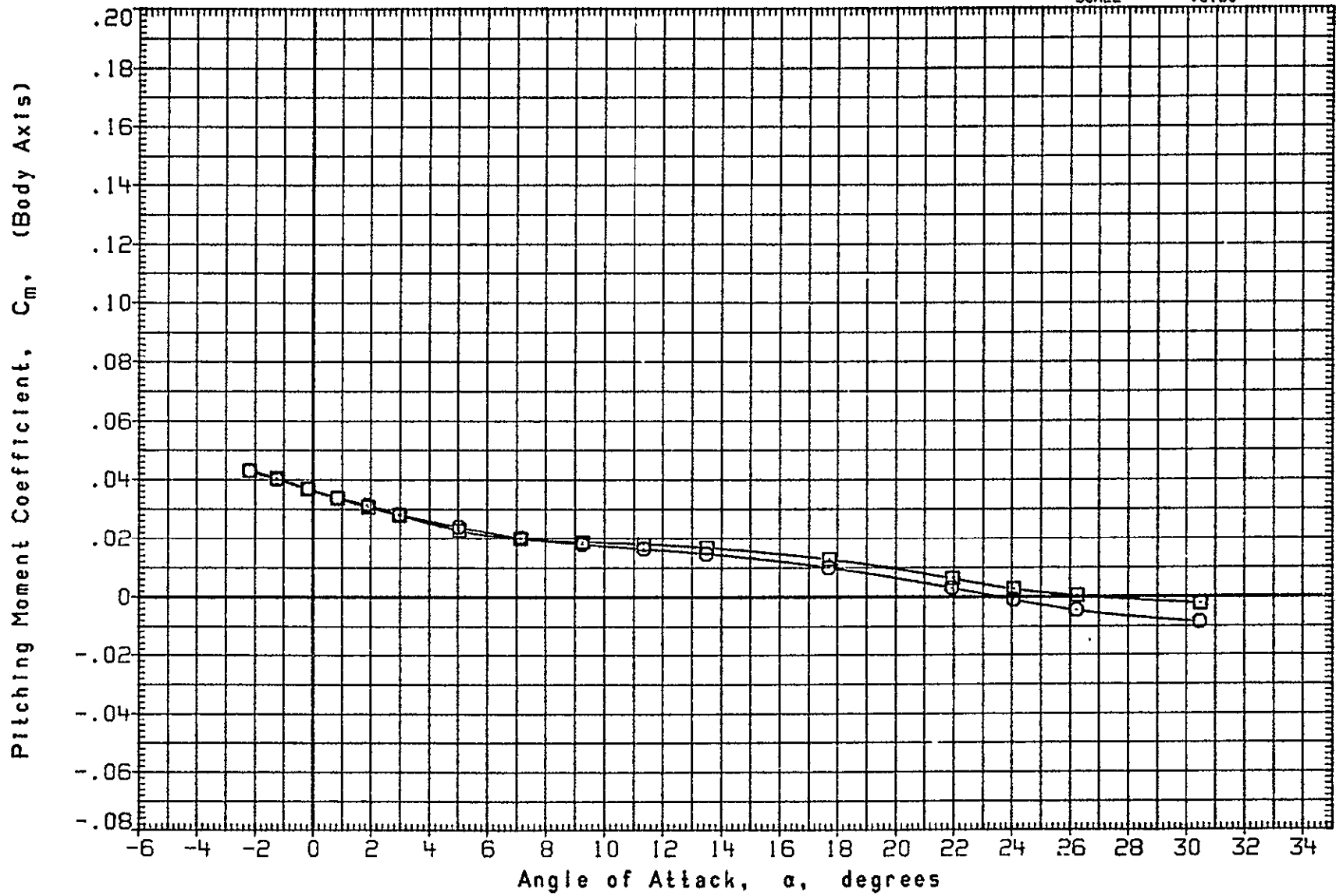


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

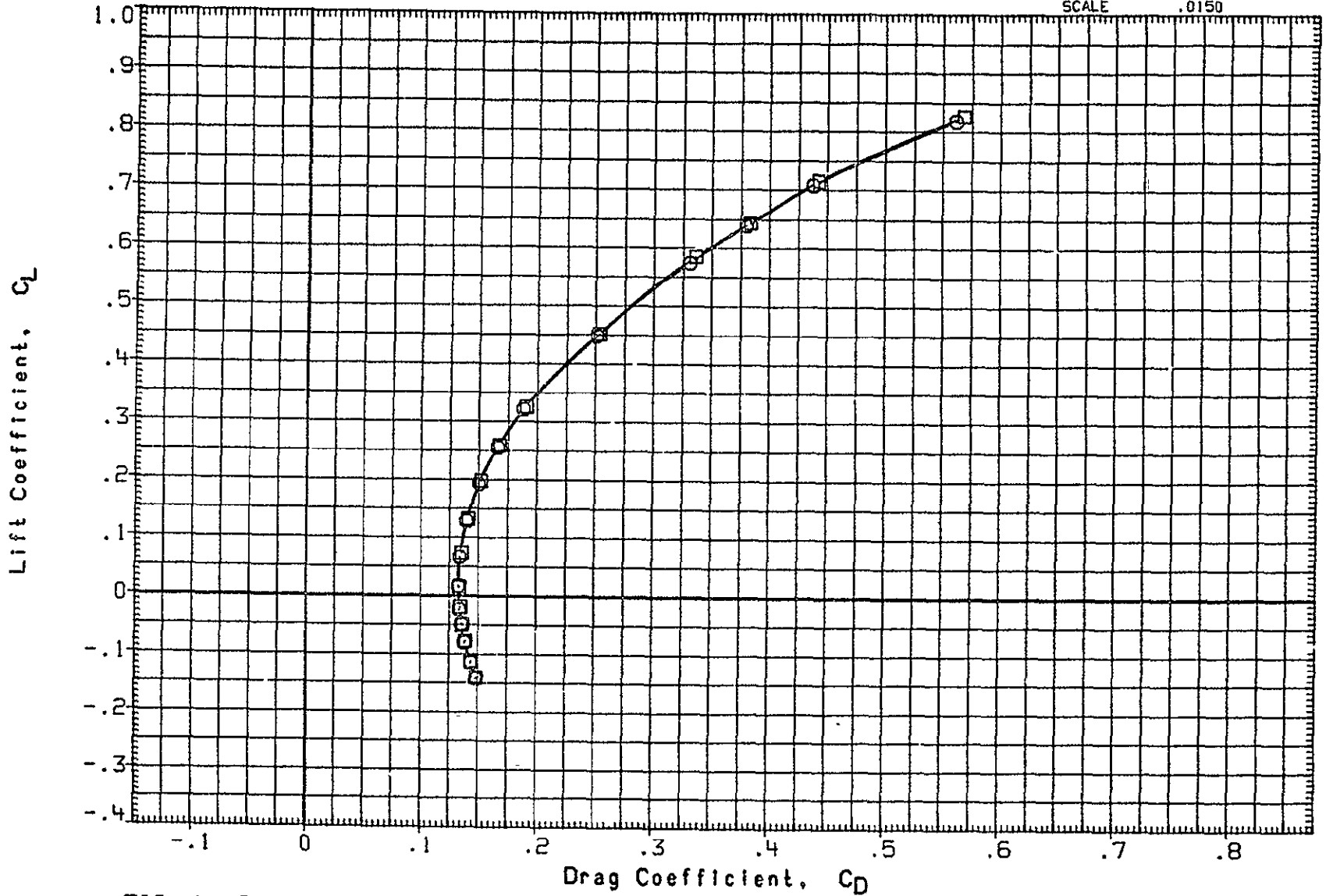


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(C)MACH = 2.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR005)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION	
SREF	2690.0000 SO. FT.
LREF	474.8000 INCHES
BREF	936.6900 INCHES
XMRP	1076.7000 IN. XO
YMRP	.0000 IN. YO
ZMRP	375.0000 IN. ZO
SCALE	.0150

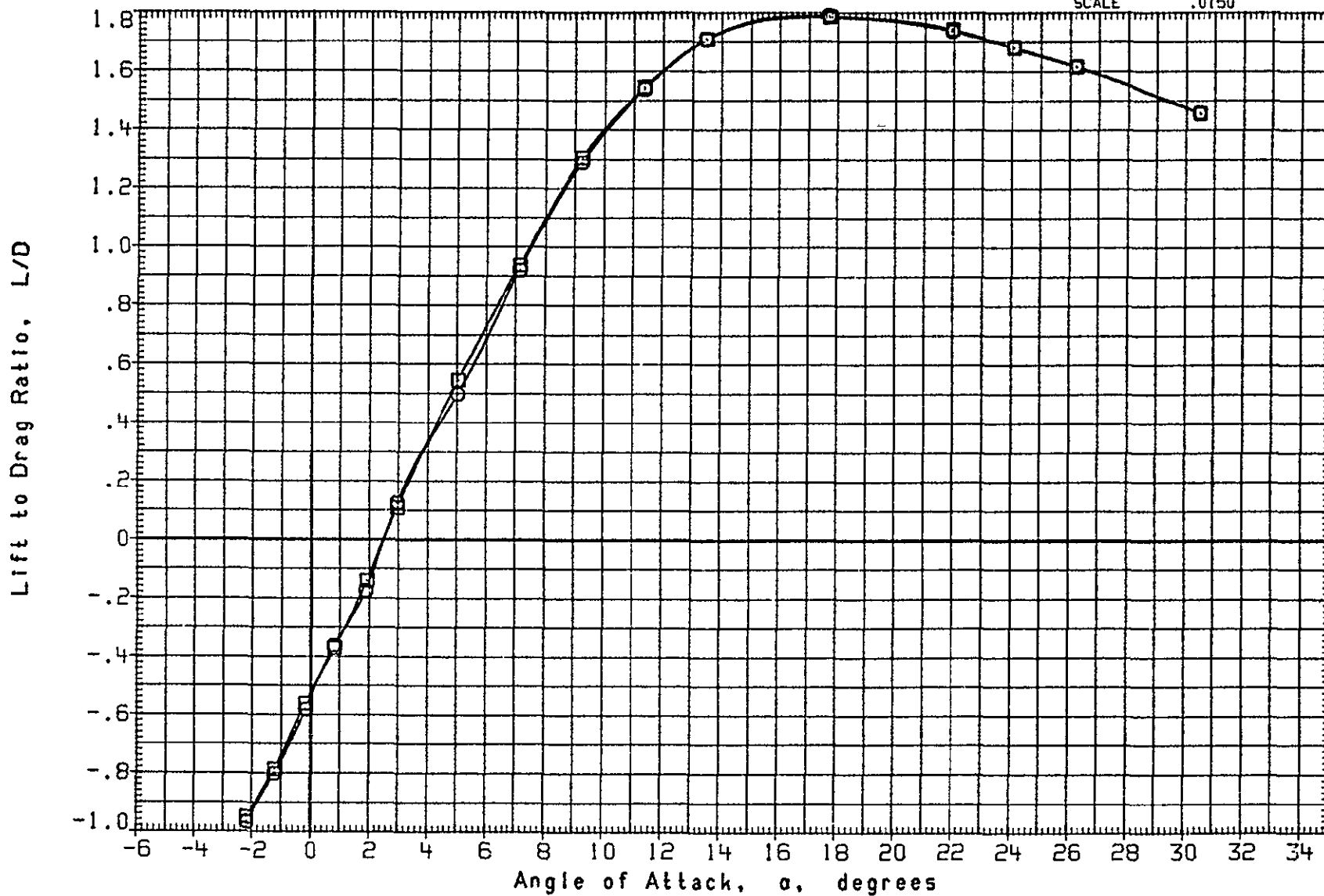


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR001)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR009)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

BETA	ELEVON	SPDBRK	BDFLAP
.000	-15.000	55.000	-11.700
.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

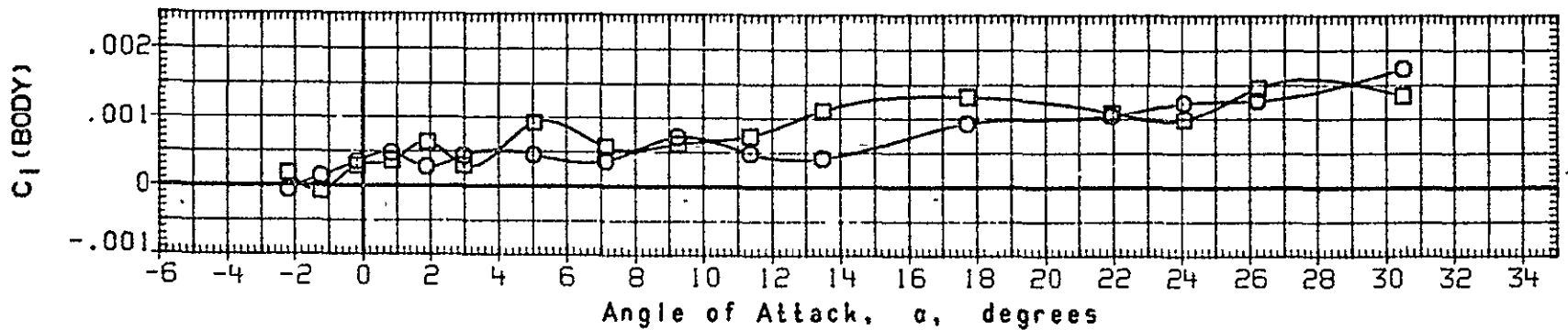
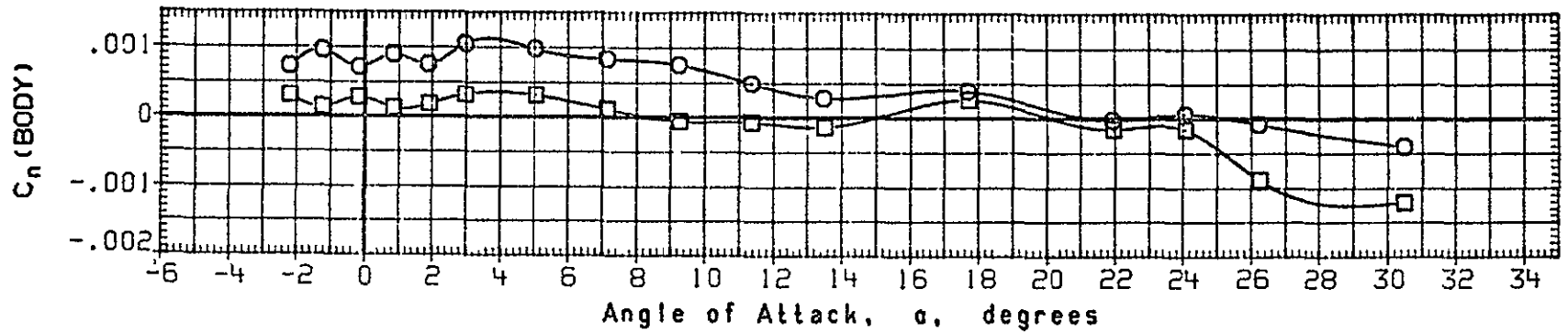
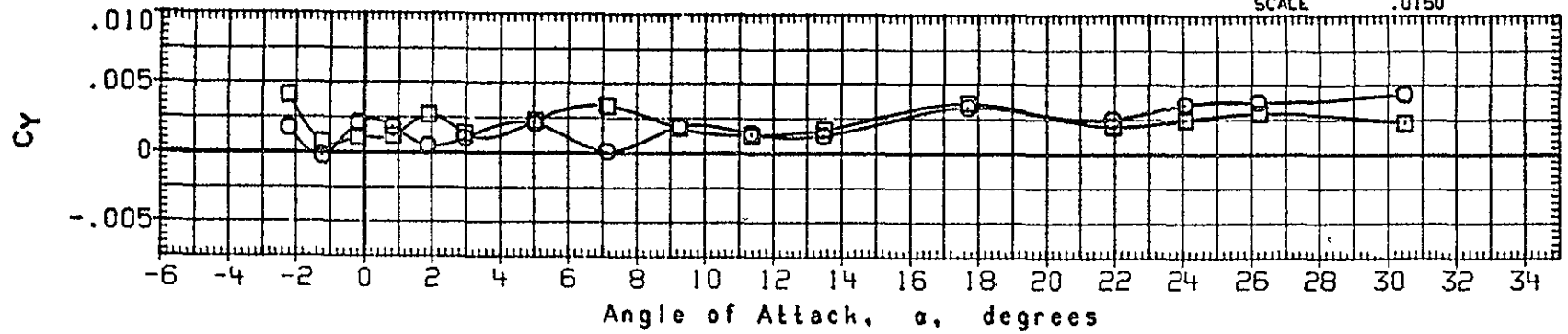


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(C)MACH = 2.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDRK	BDFLAP	REFERENCE INFORMATION
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES
							XMRP 1076.7000 IN. XO
							YMRP .0000 IN. YO
							ZMRP 375.0000 IN. ZO
							SCALE .0150

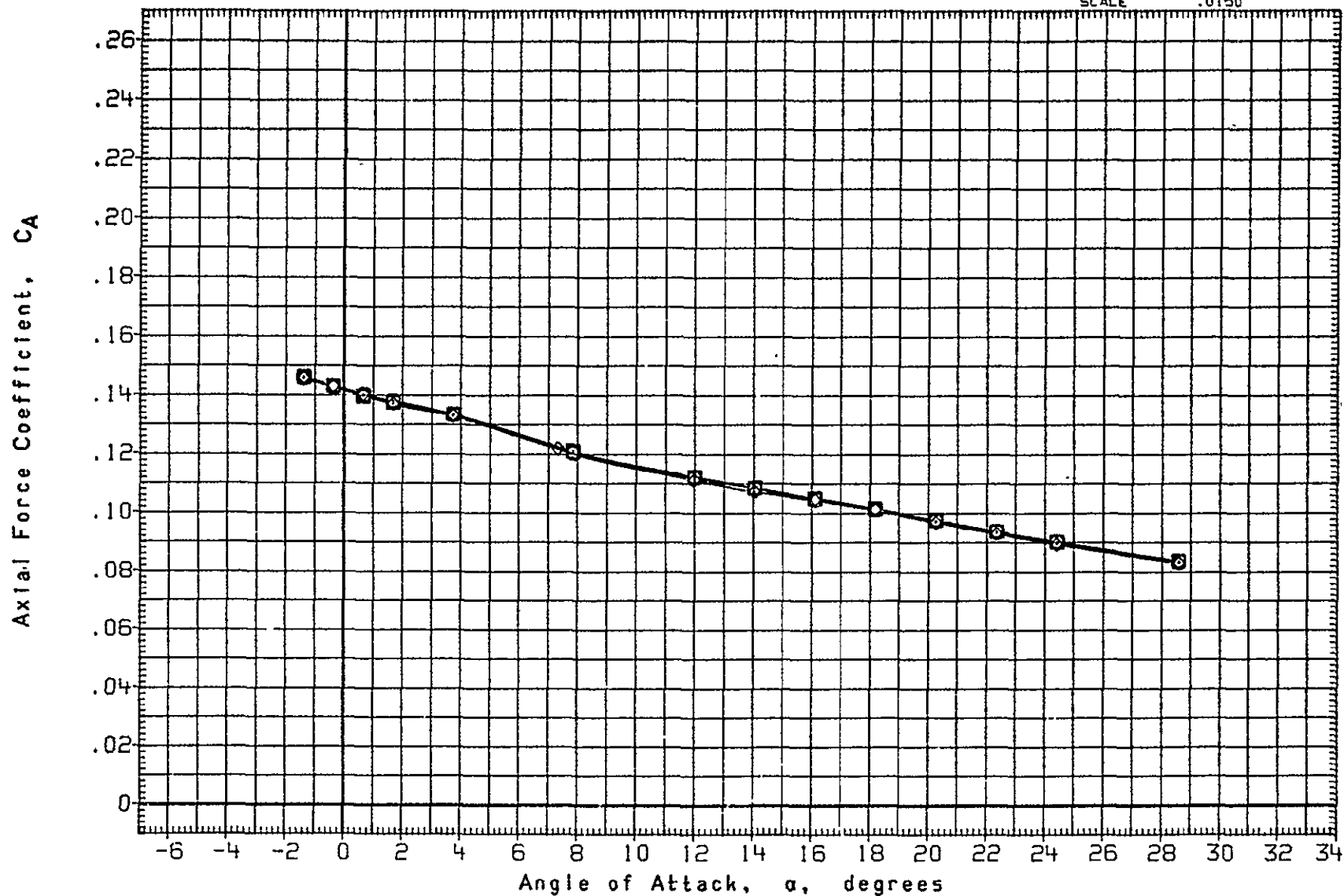


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7700	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

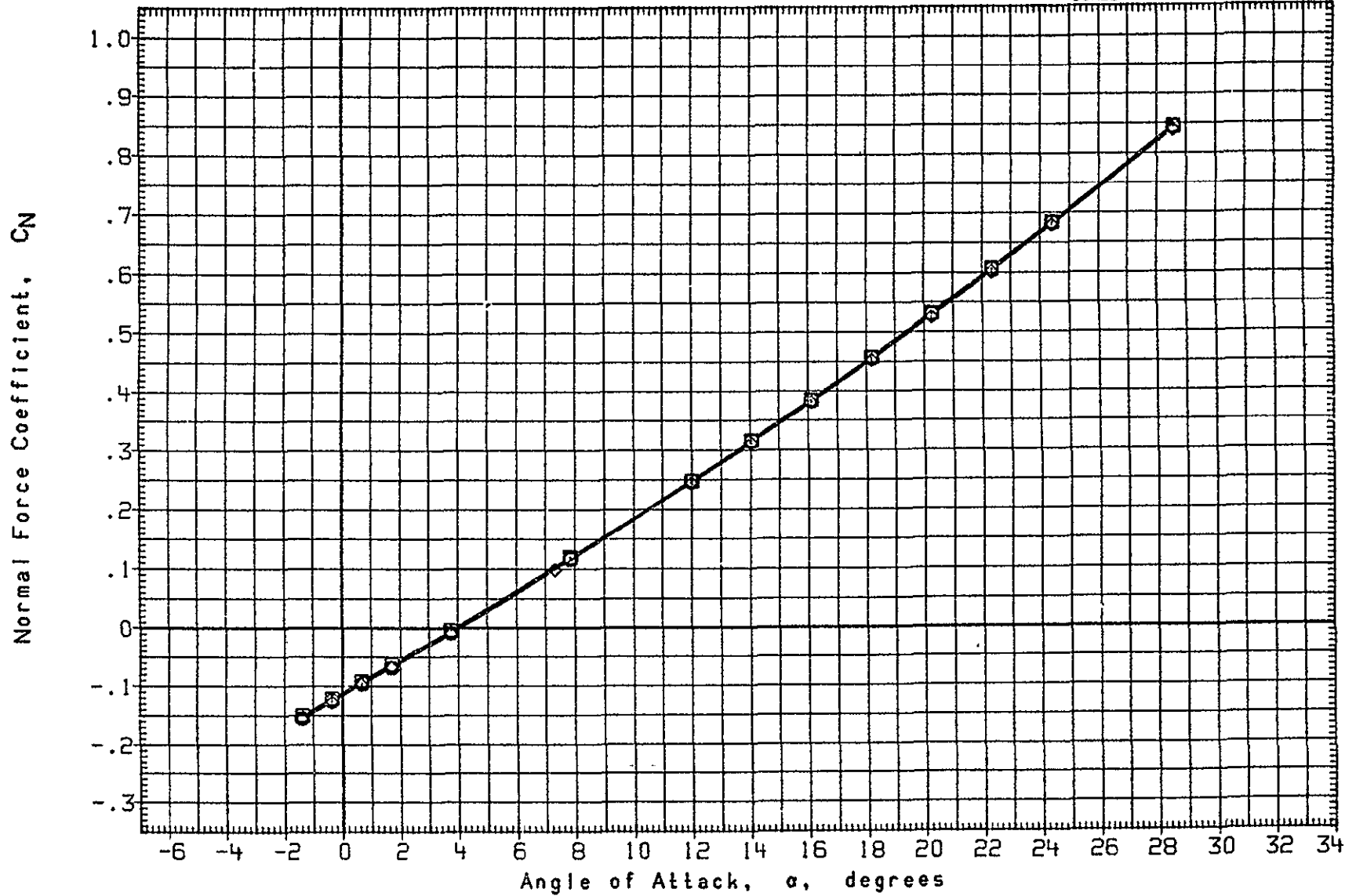


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A)MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

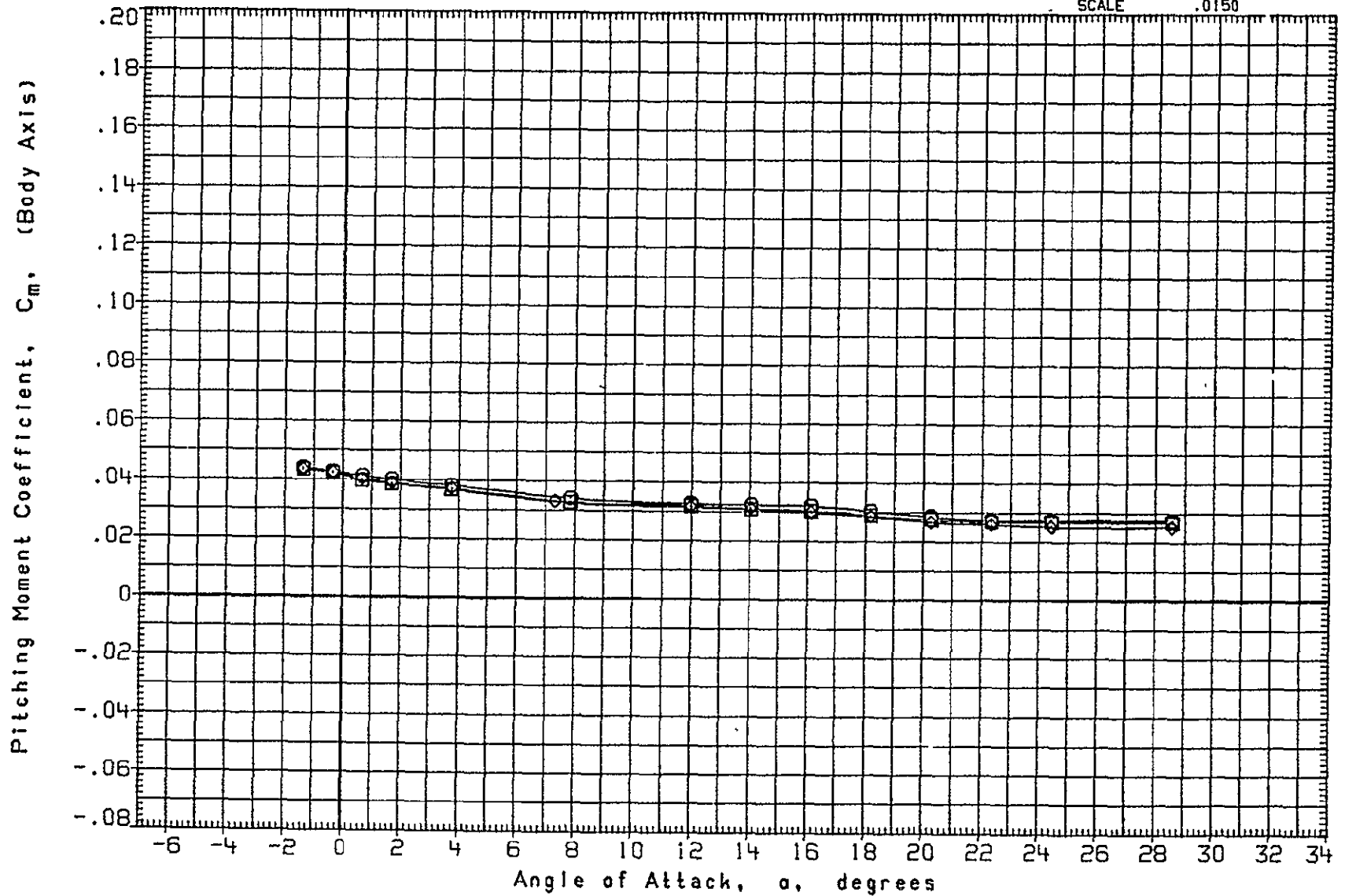


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPOBRK	BDFLAP	REFERENCE INFORMATION		
{RJC001}	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	50.FT.
{RJC002}	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
{RJC003}	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

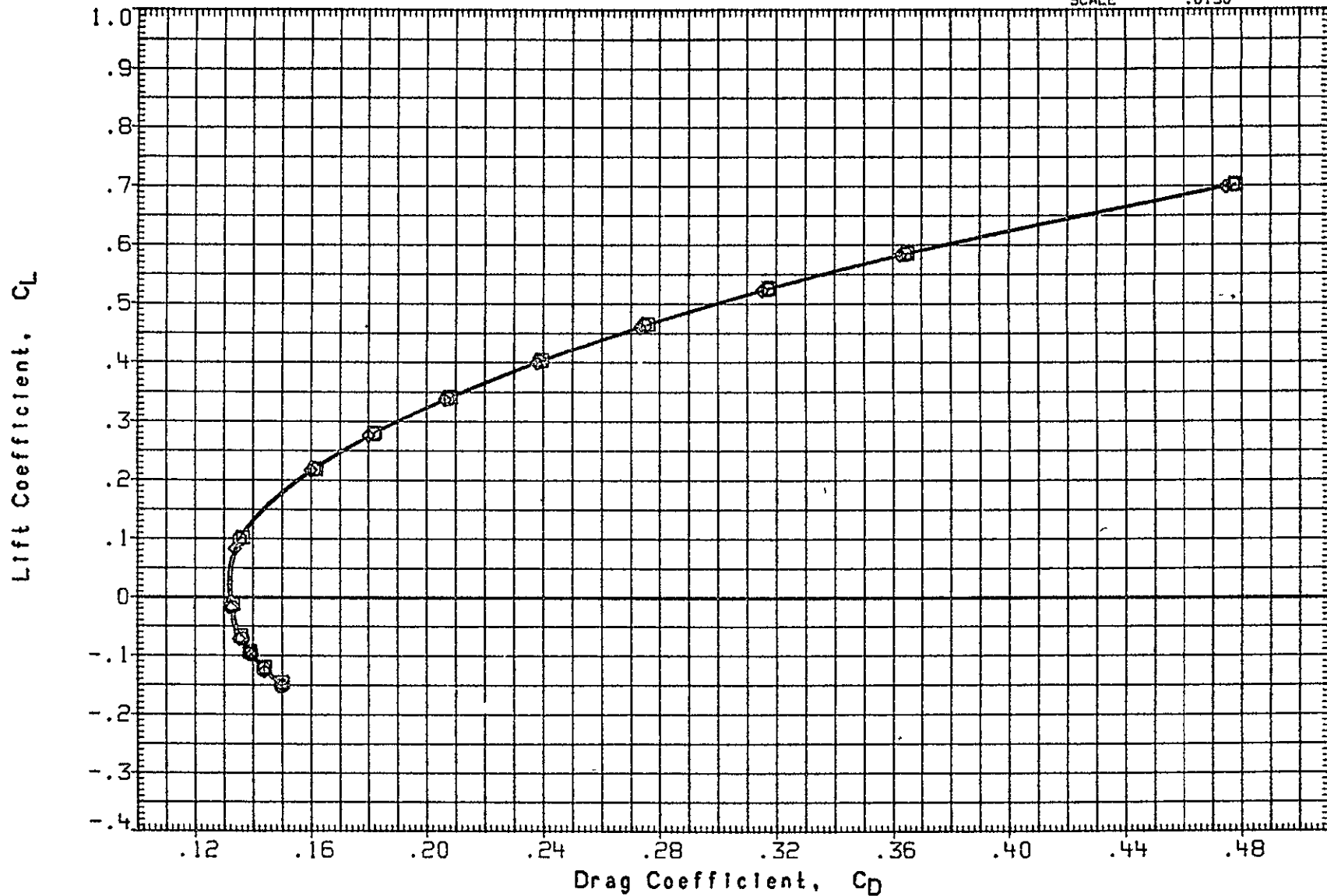


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A)MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	0150	

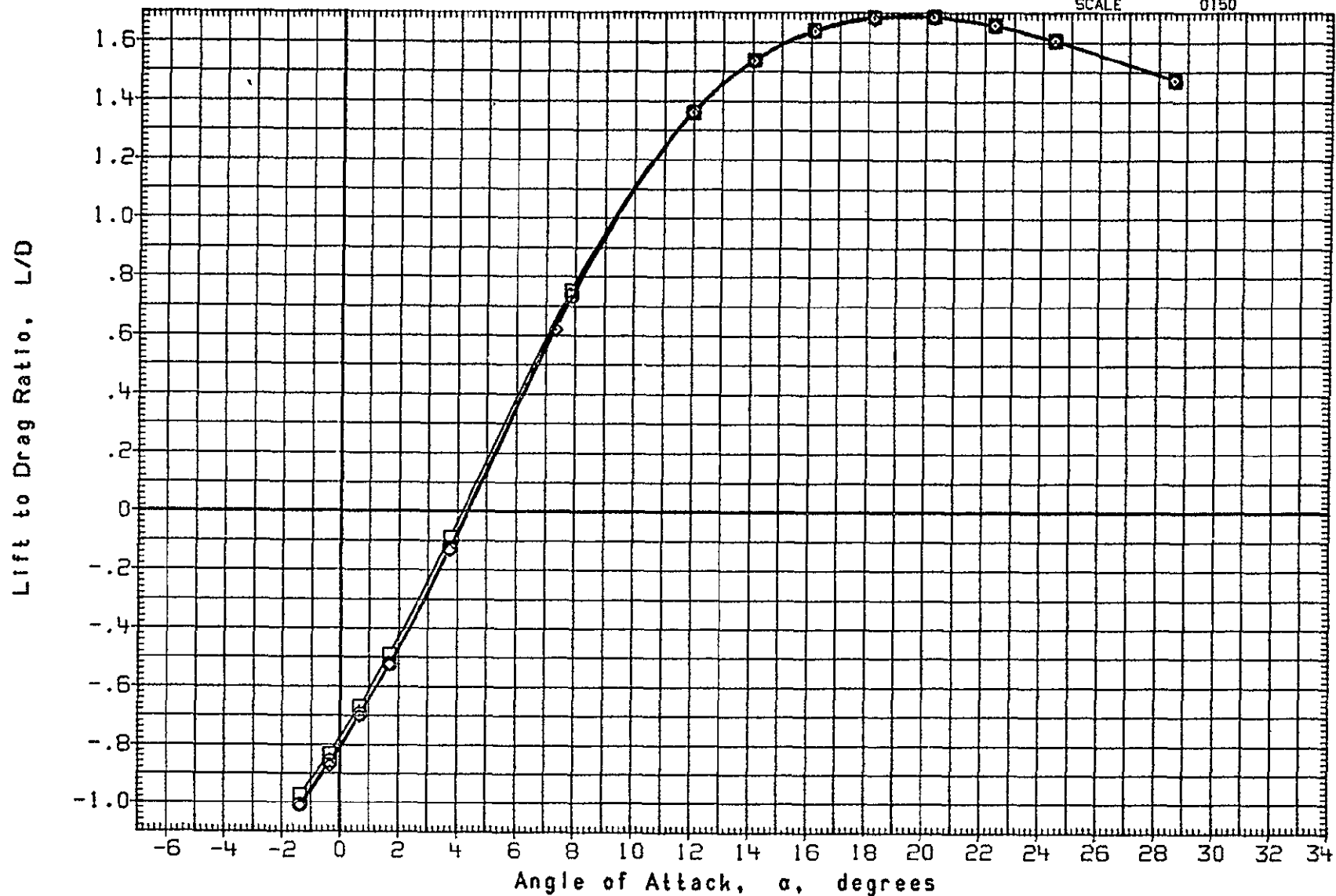


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJ001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)
(RJ002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)
(RJ003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)

BETA	ELEVON	SPOBRK	SDFLAP
.000	-40.000	55.000	-11.700
.000	-40.000	55.000	-11.700
.000	-40.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	50.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0150	

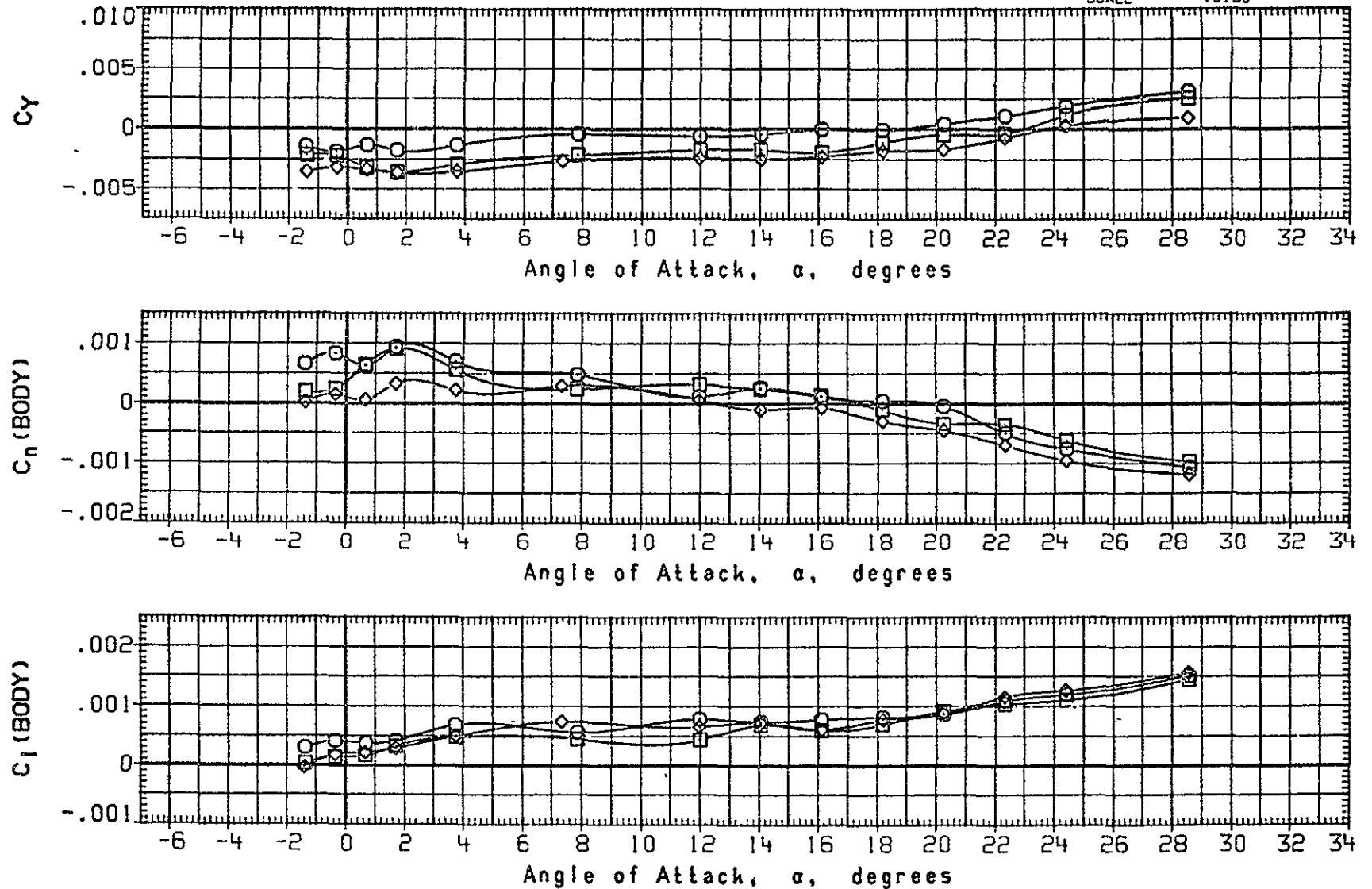


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF 935.6800 INCHES
							XMRP 1076.7000 IN. XO
							YMRP .0000 IN. YO
							ZMRP 375.0000 IN. ZO
							SCALE .0150

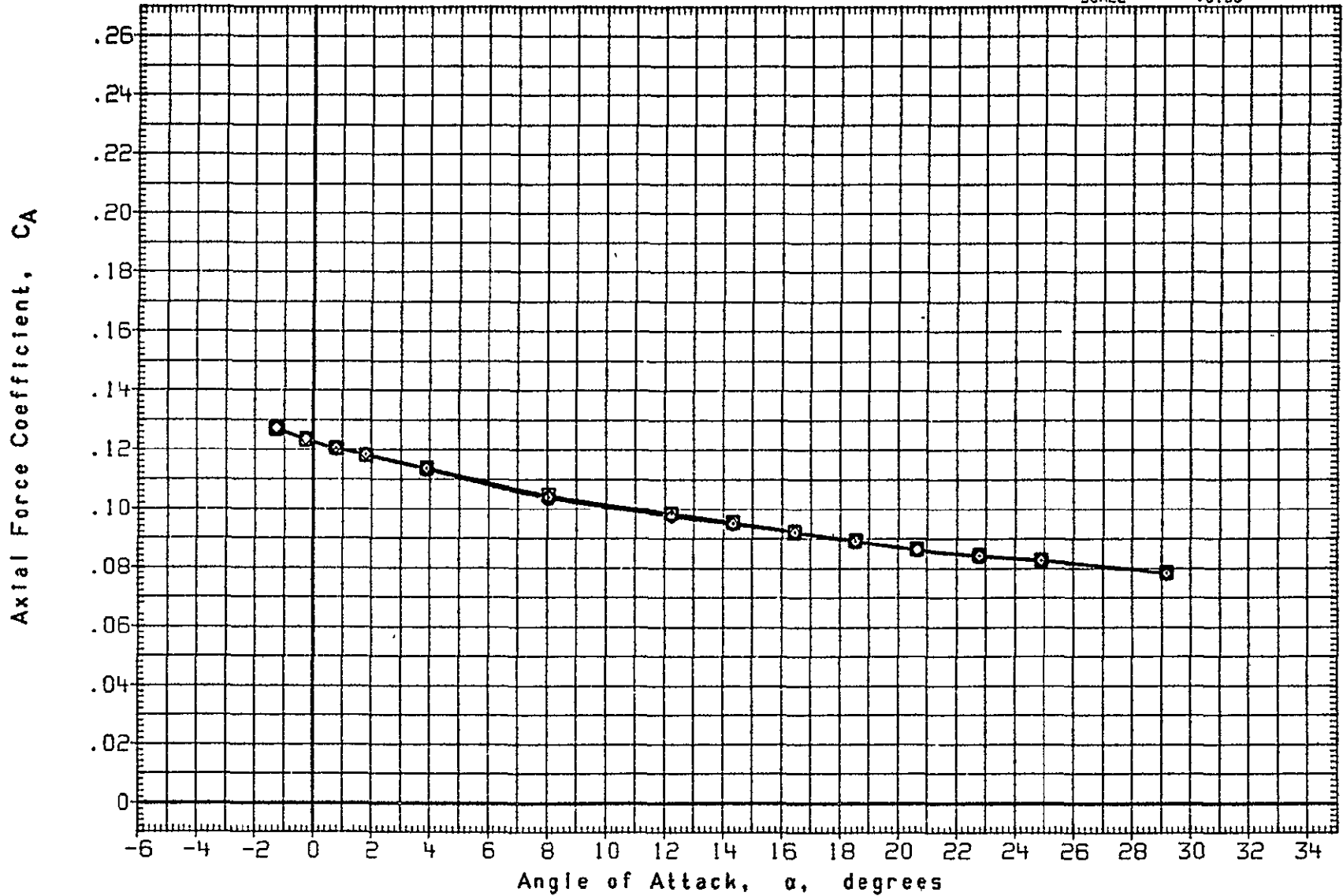


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	SDFLAP	REFERENCE INFORMATION		
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	50.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6900	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

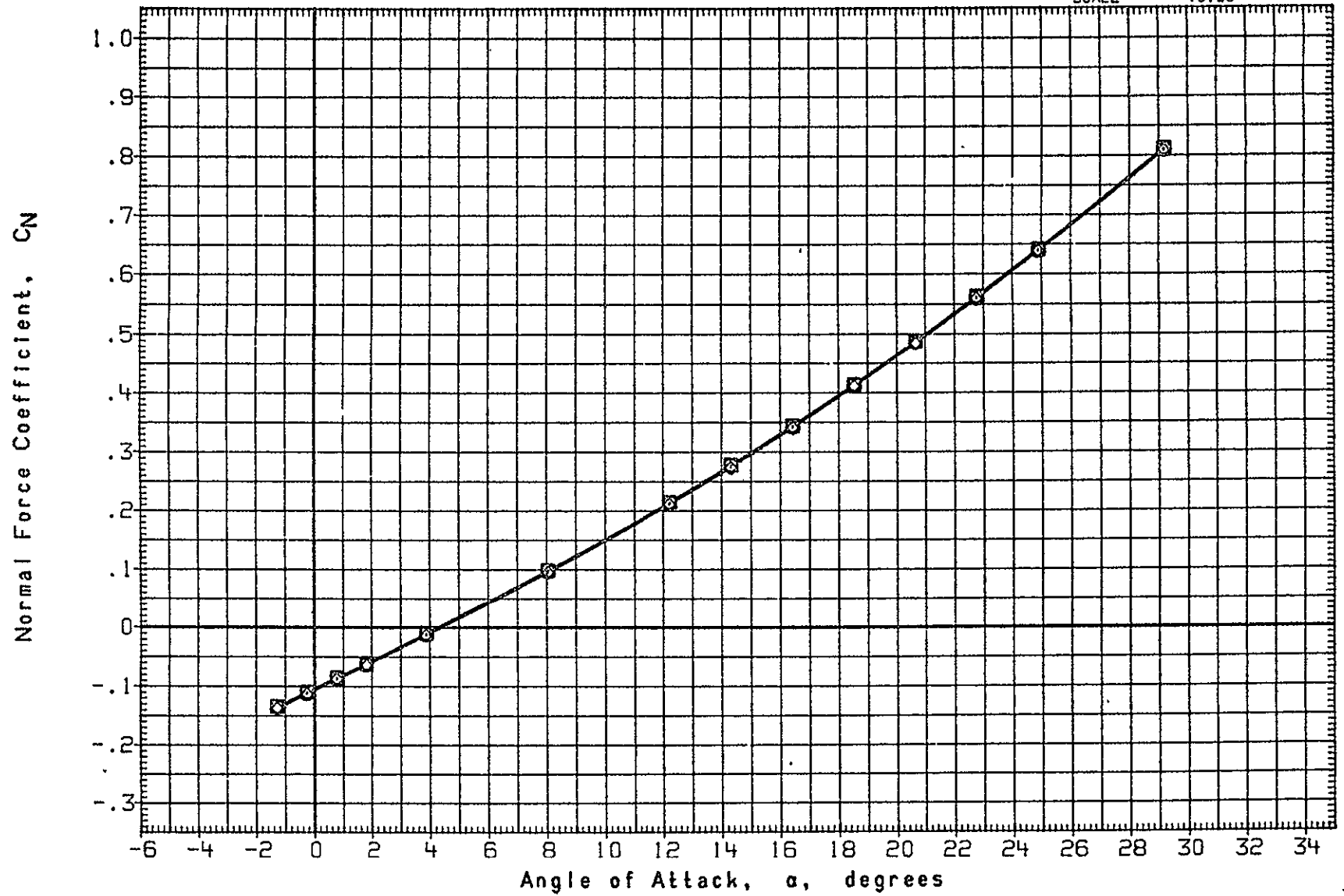


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B) MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. X0
							YMRP	.0000	IN. Y0
							ZMRP	375.0000	IN. Z0
							SCALE	.0150	

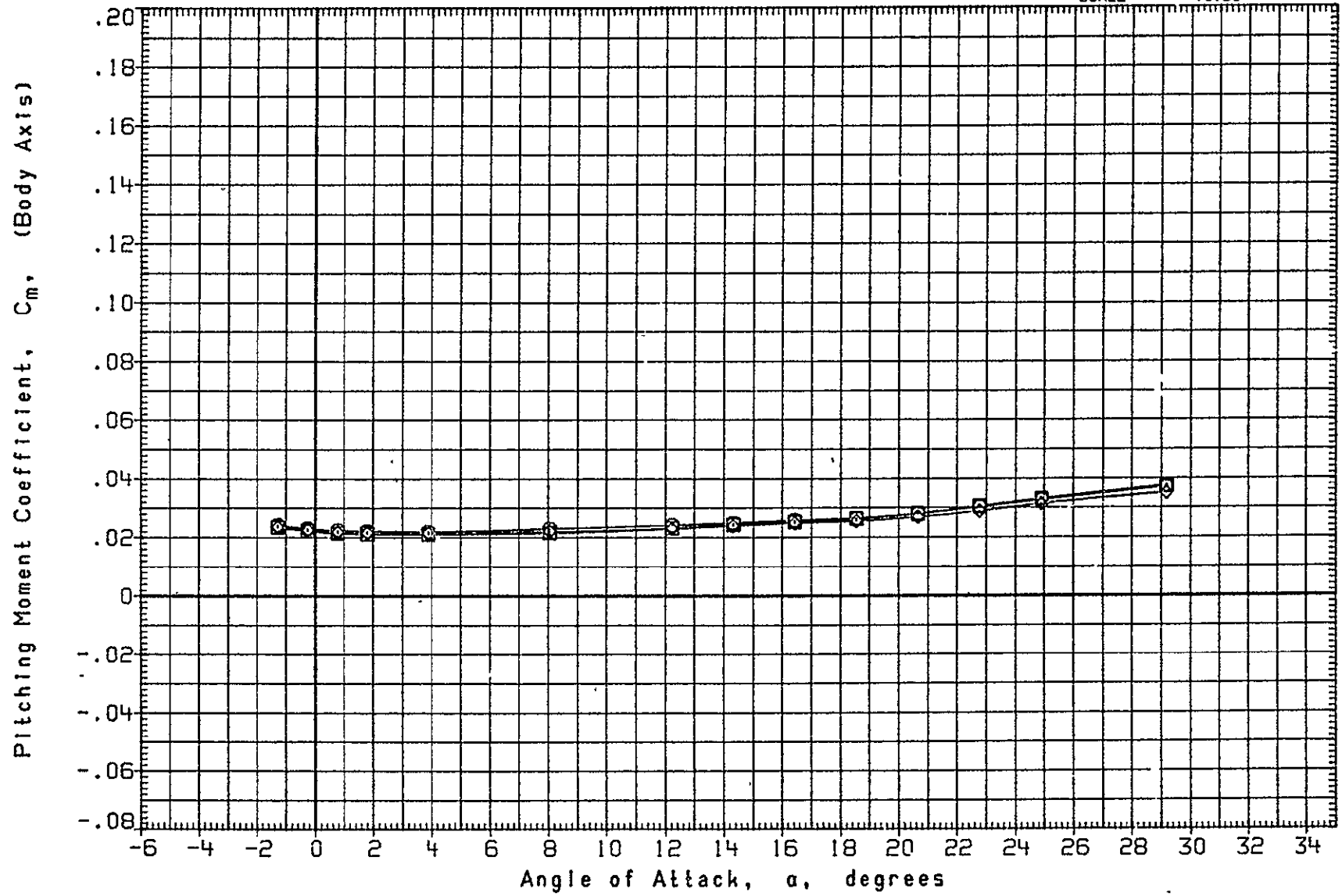


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)

BETA	ELEVON	SPDBRK	BDFLAP
.000	-40.000	55.000	-11.700
.000	-40.000	55.000	-11.700
.000	-40.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0150	

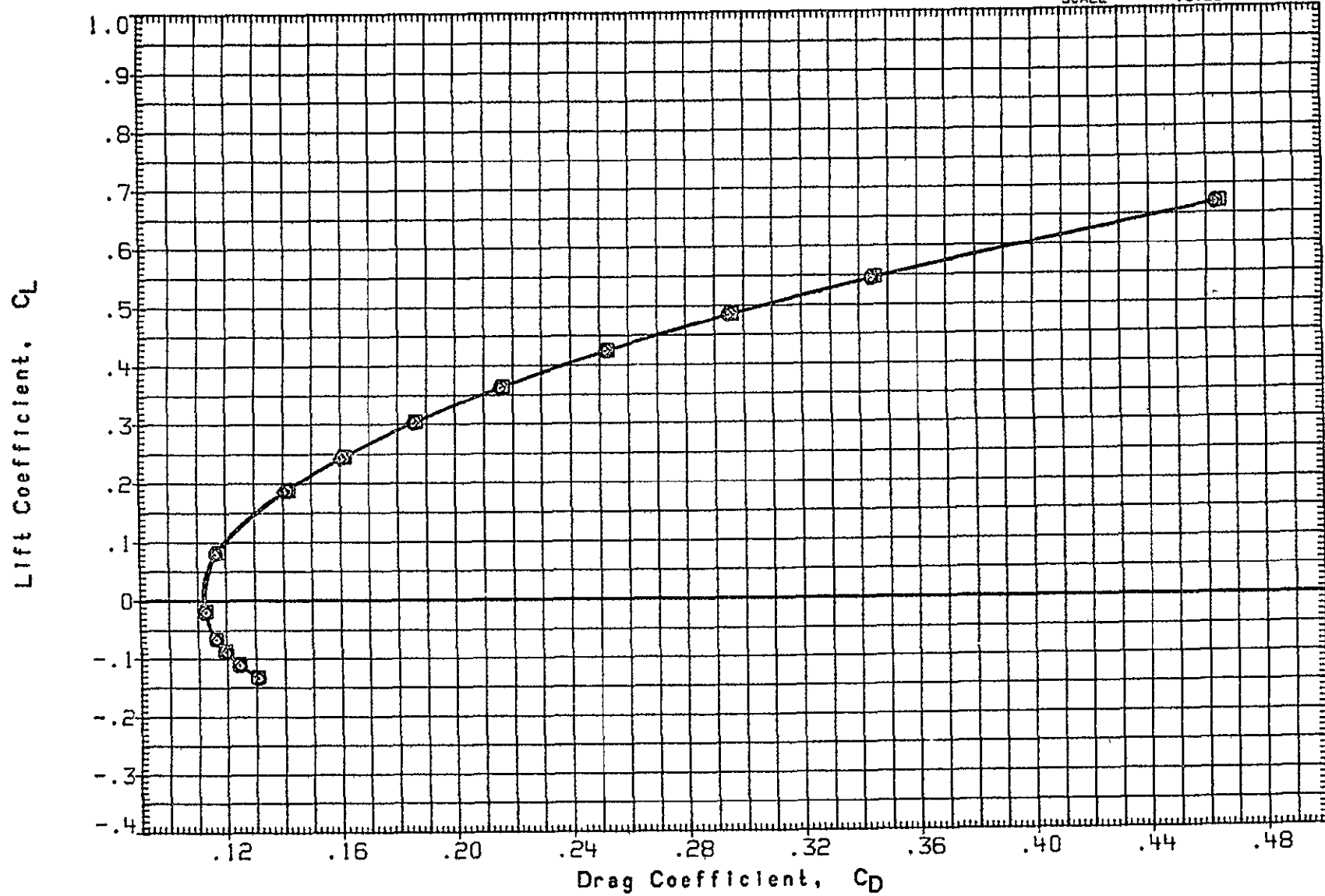


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B)MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC001)	○	BASELINE + 81 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT. LREF 474.8000 INCHES
(RJC002)	□	BASELINE + 87 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES XMRP 1076.7000 IN. XO YMRP .0000 IN. YO
(RJC003)	◇	BASELINE + 86 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	ZMRP 375.0000 IN. ZO SCALE .0150

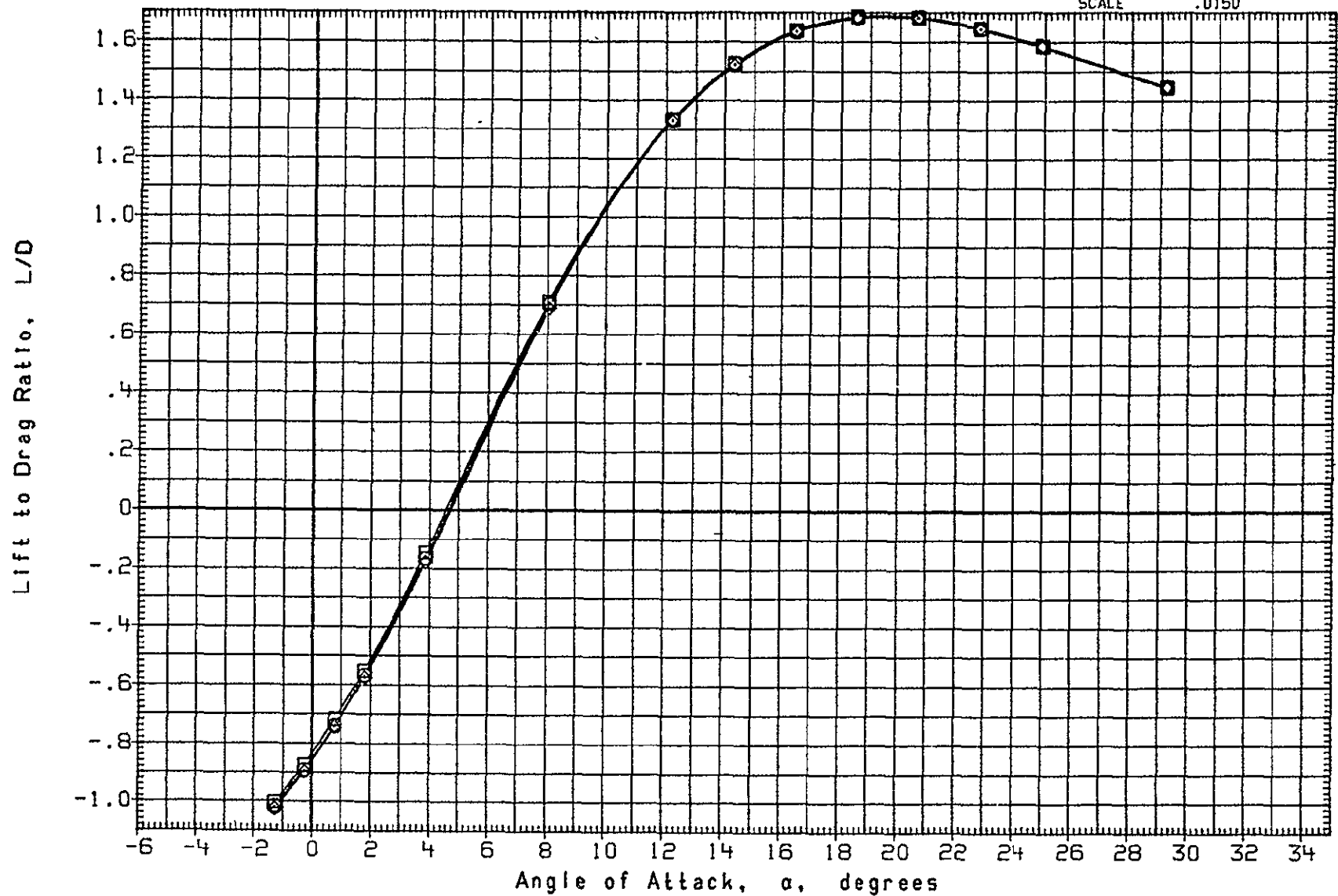


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B)MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION	
(RJC001)	○	BASELINE + B1	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ. FT.
(RJC002)	□	BASELINE + B7	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC003)	◇	BASELINE + B6	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES
								XMRP 1076.7000 IN. XO
								YMRP .0000 IN. YO
								ZMRP 375.0000 IN. ZO
								SCALE .0150

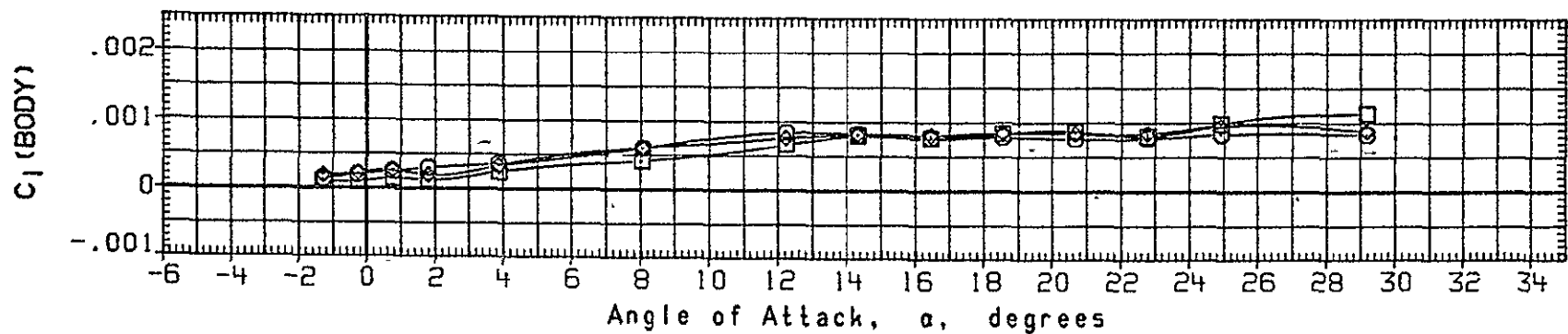
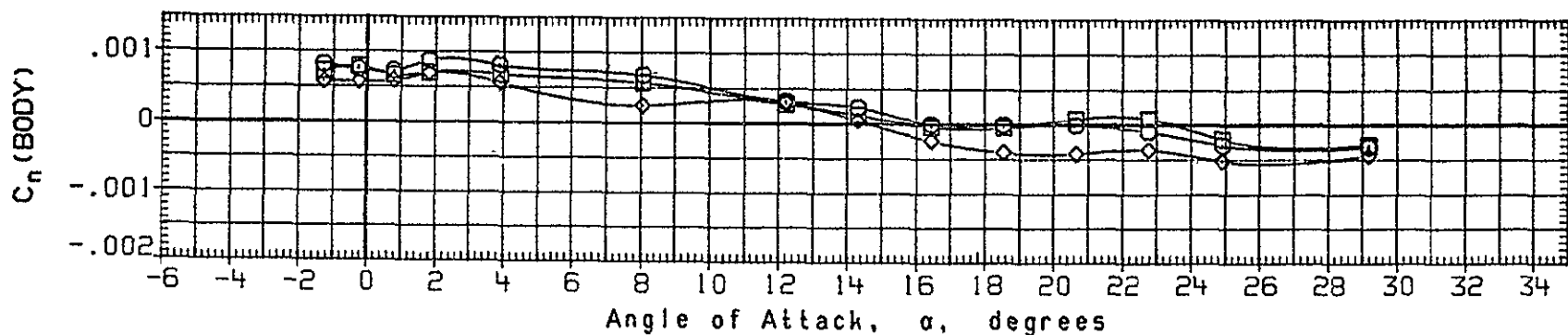
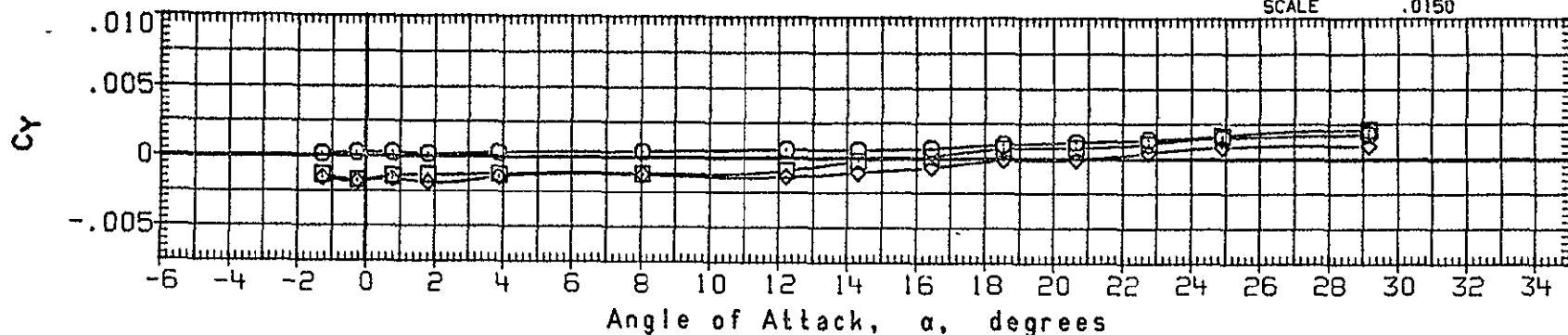


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(B)MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC003)	◇	BASELINE + B5 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES
							XMRP 1076.7000 IN. XO
							YMRP .0000 IN. YO
							ZMRP 375.0000 IN. ZO
							SCALE .0150

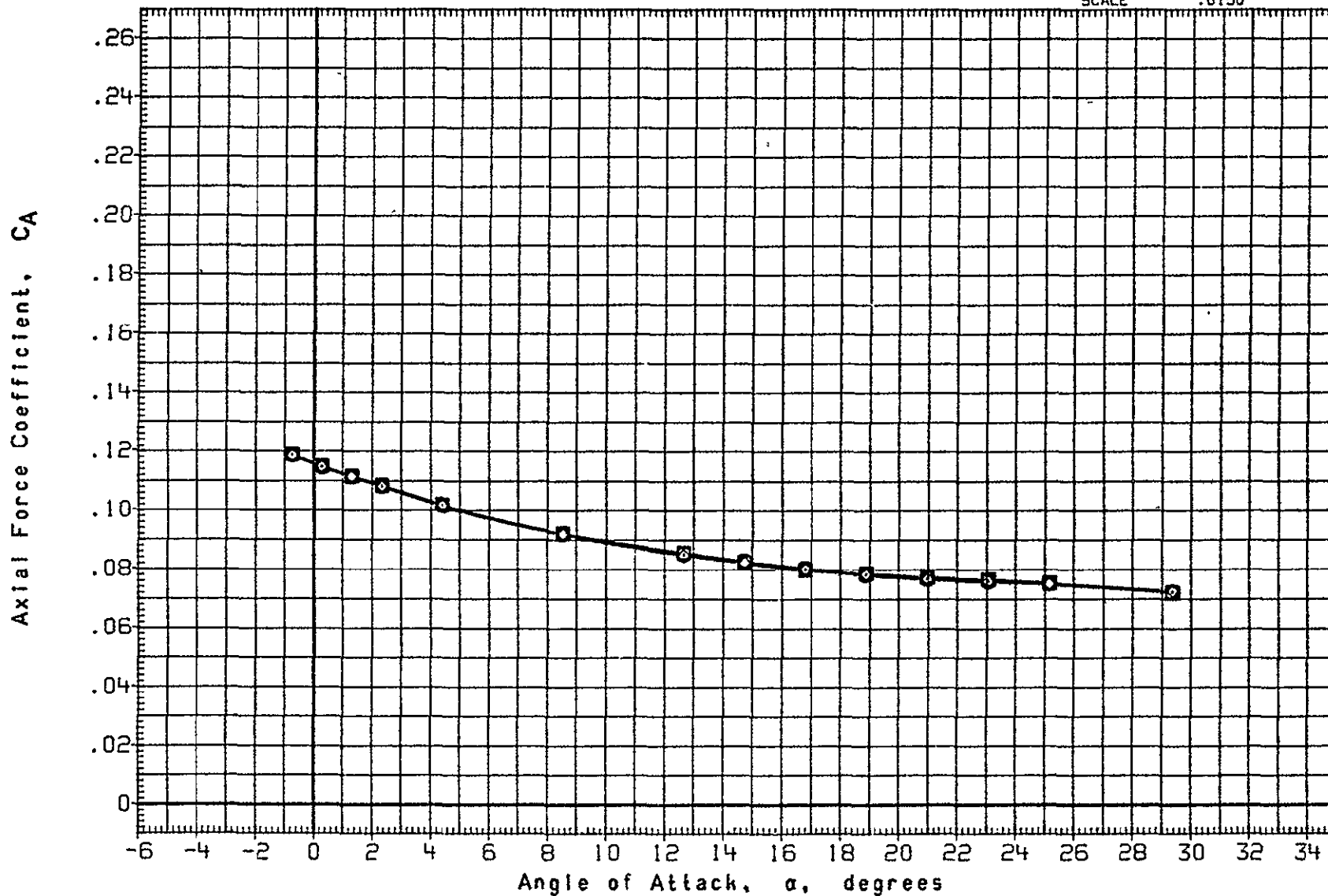


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION			
(RJC001)	○	BASELINE + B1	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC002)	□	BASELINE + B7	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
								XMRP	1076.7000	IN. XO
								YMRP	.0000	IN. YO
								ZMRP	375.0000	IN. ZO
								SCALE	.0150	

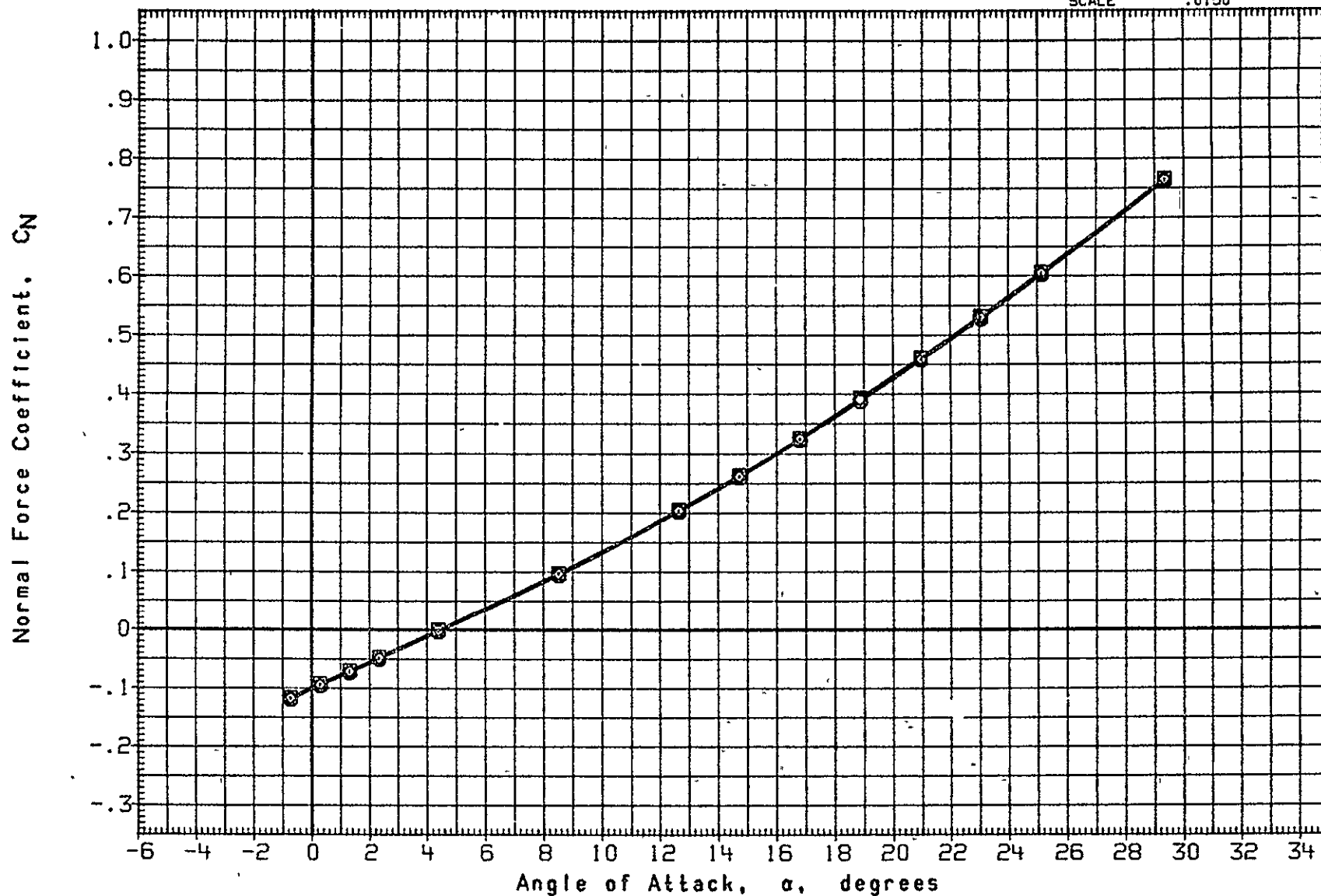


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(C)MACH = 4.60

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION	
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000 SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000 INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800 INCHES
							XMRP	1076.7000 IN. XO
							YMRP	.0000 IN. YO
							ZMRP	375.0000 IN ZO
							SCALE	.0150

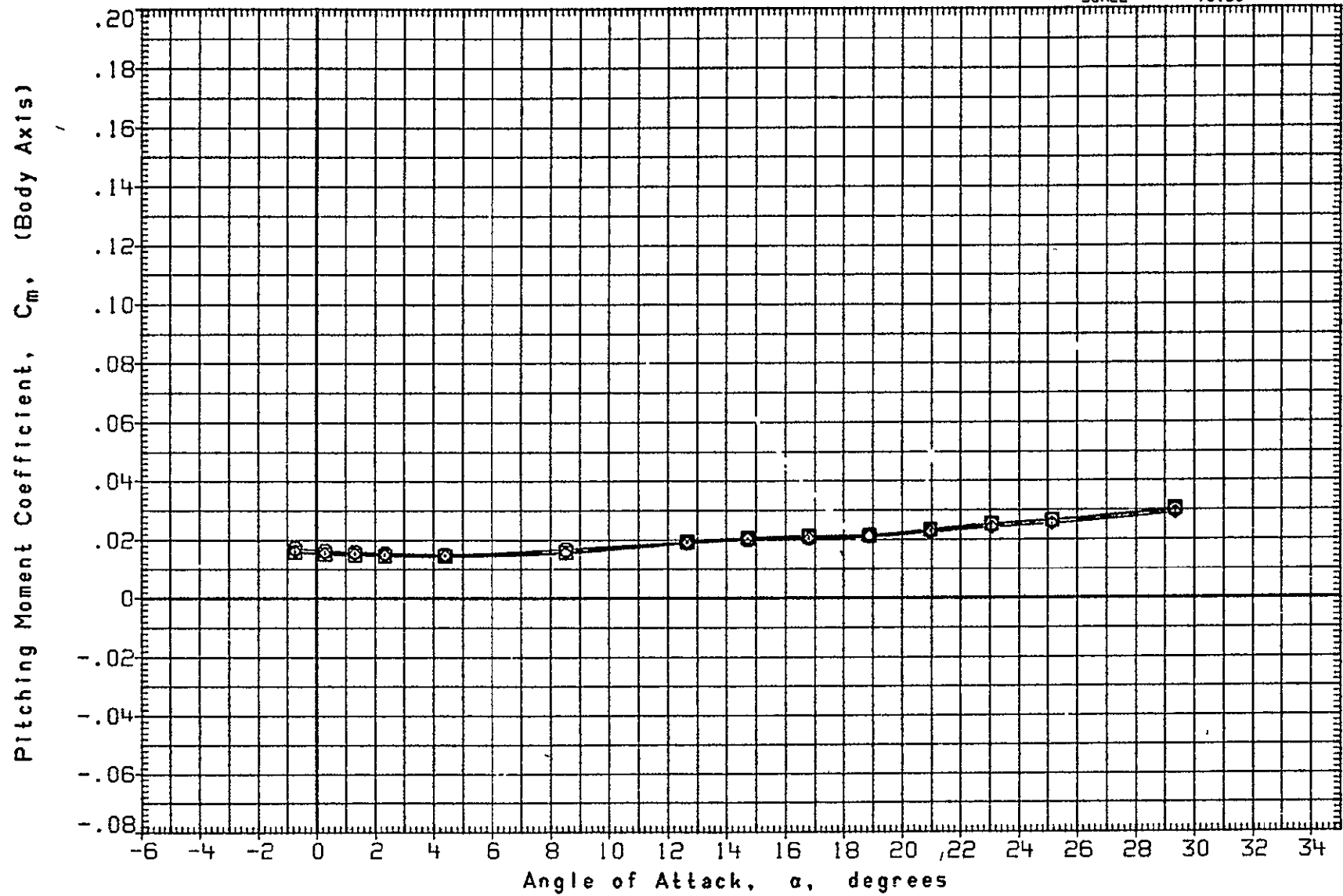


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDRK	BDFLAP	REFERENCE INFORMATION		
(RJCO01)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	50. FT.
(RJCO02)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJCO03)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

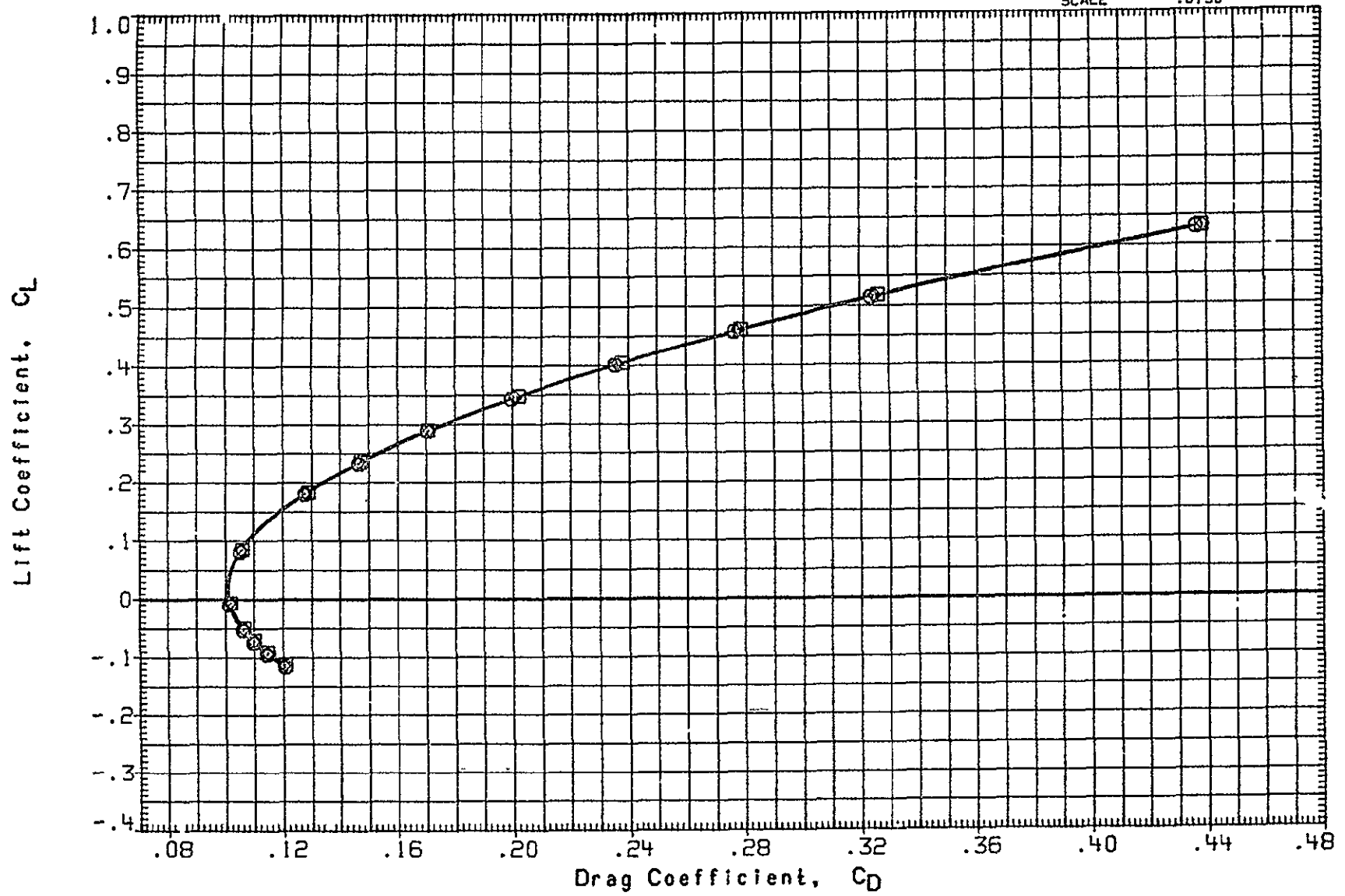


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION	
(RJC001)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000 SQ.FT.
(RJC002)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000 INCHES
(RJC003)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800 INCHES
							XMRP	1076.7000 IN. XO
							YMRP	.0000 IN. YO
							ZMRP	375.0000 IN. ZO
							SCALE	0150

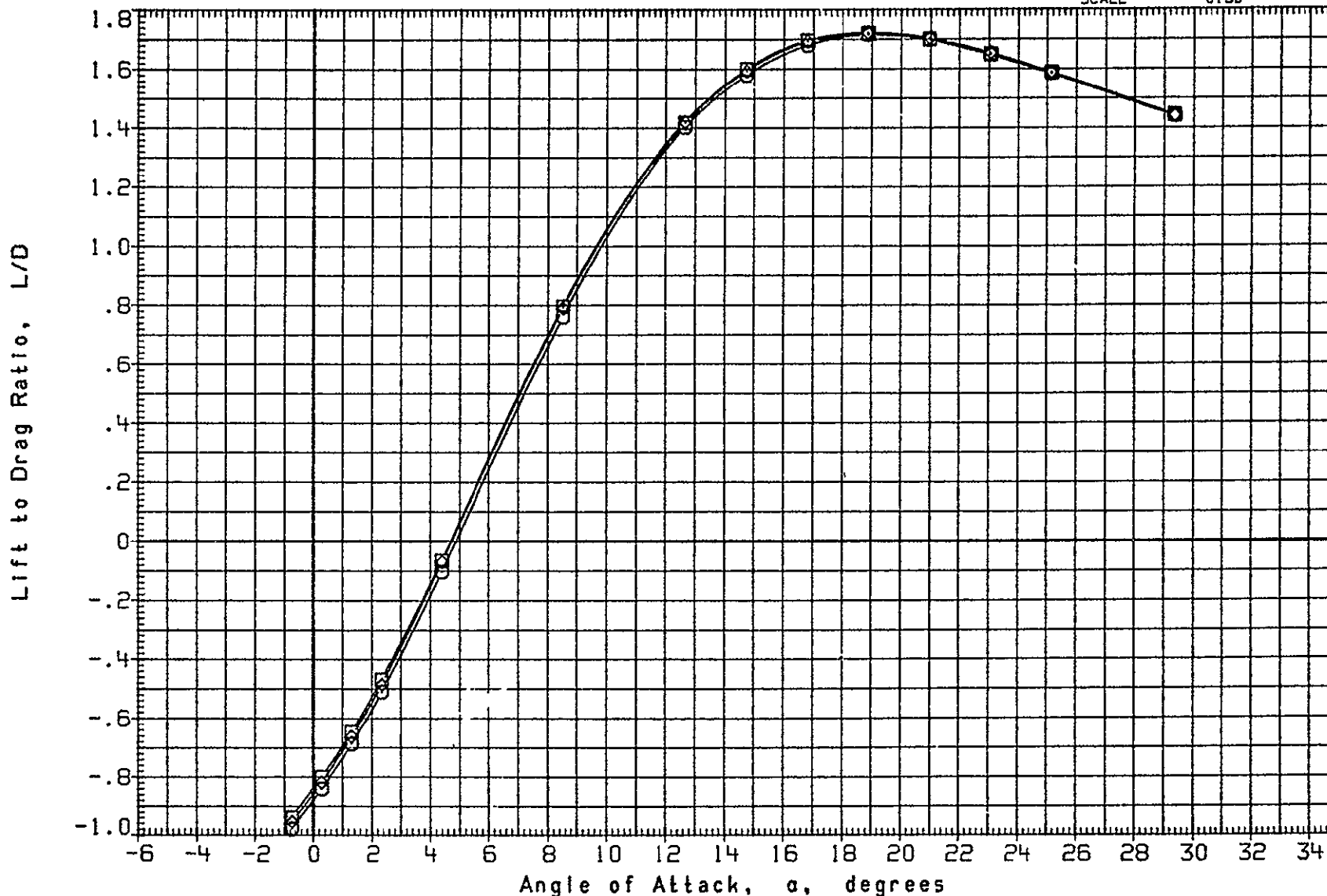


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION			
(RJC001)	○	BASELINE + B1	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC002)	□	BASELINE + B7	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC003)	◇	BASELINE + B6	LARC UPWT 1147(LA-71)	.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
								XMRP	1076.7000	IN. X0
								YMRP	0000	IN. Y0
								ZMRP	375.0000	IN. Z0
								SCALE	.0150	

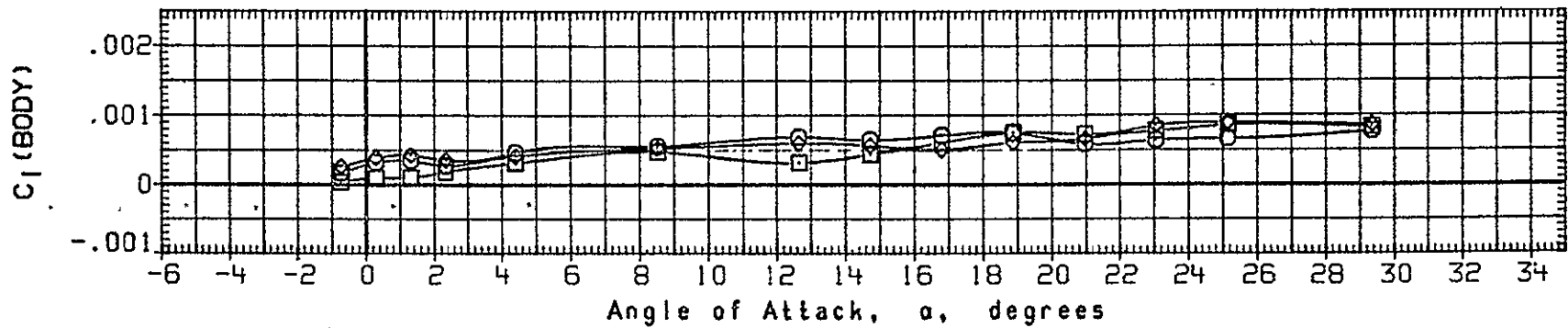
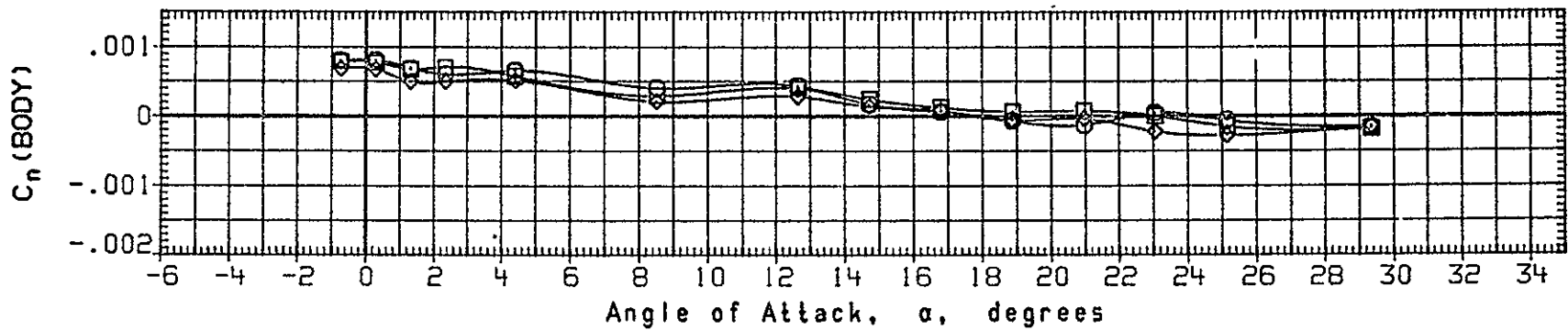
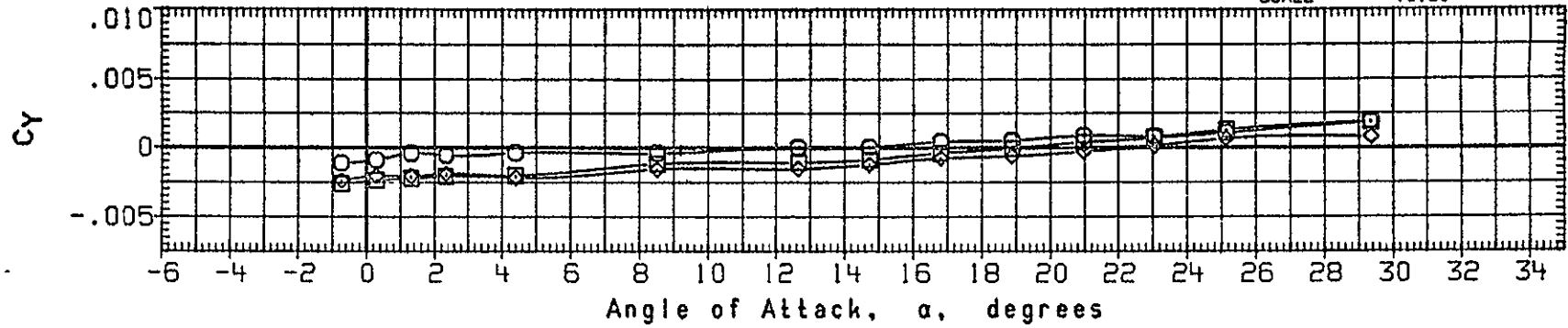


FIG. 4 EFFECT IN PITCH OF MODIFICATION TO BASELINE ORBITER

(C)MACH = 4.60

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR003)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR006)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

ALPHA	ELEVON	SPDBRK	BDFLAP
10.000	-15.000	55.000	-11.700
10.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6000	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

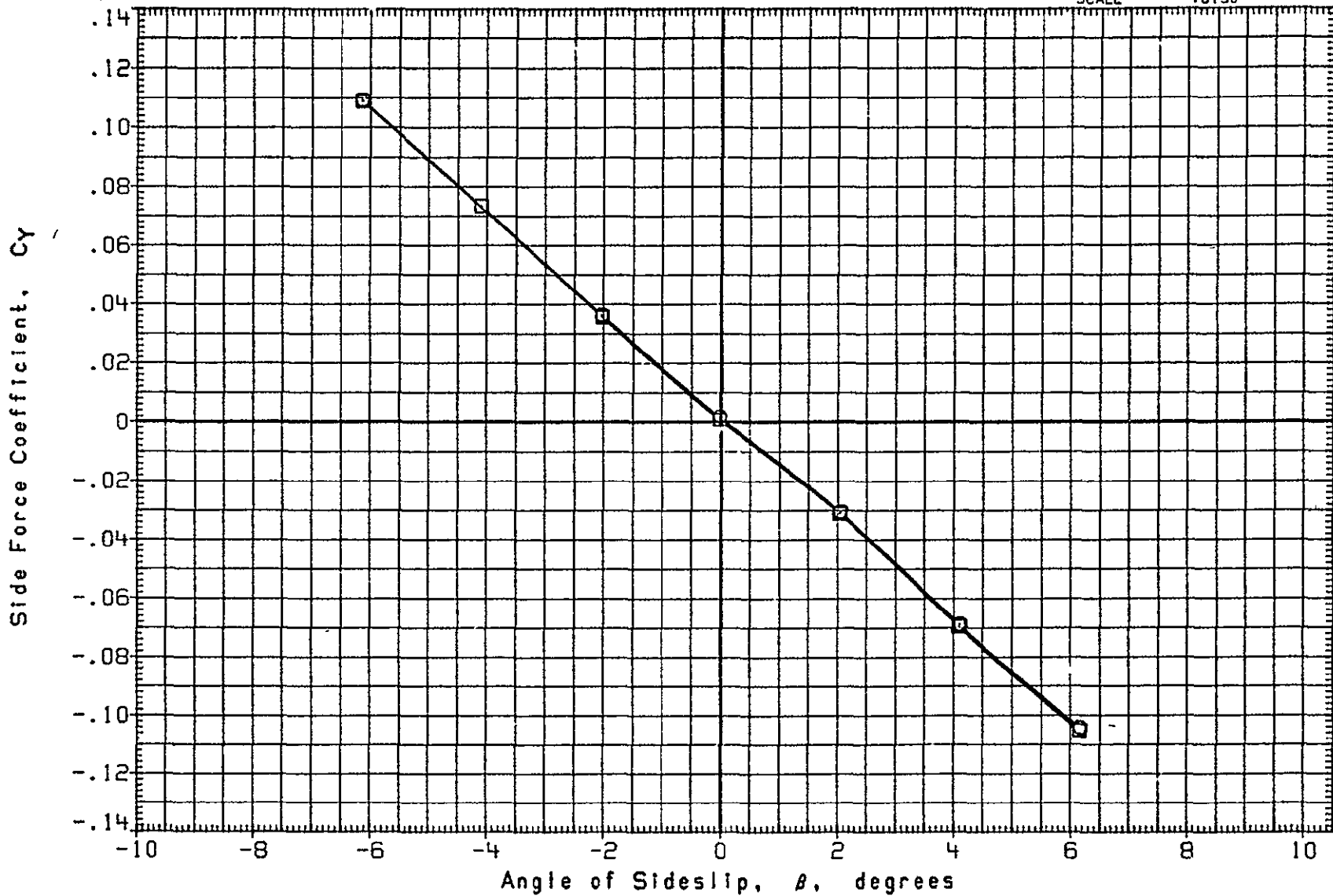


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 1.50 ALPHA = 10

(A) MACH = 1.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR003)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR006)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

ALPHA	ELEVON	SPDBRK	BDFLAP
10.000	-15.000	55.000	-11.700
10.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

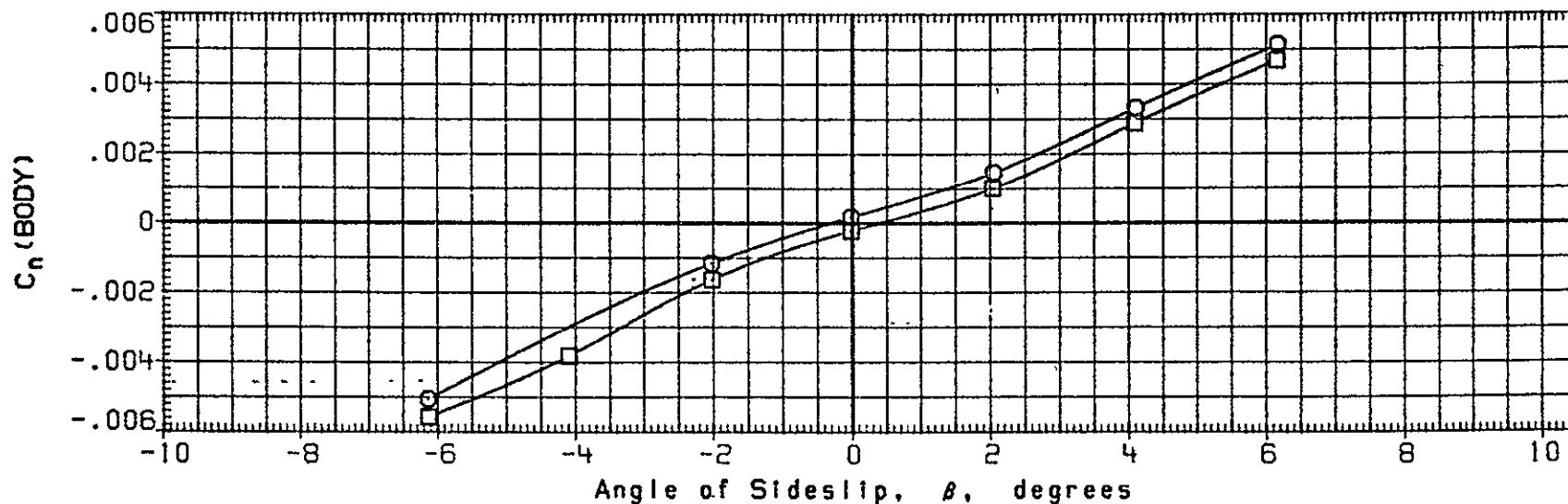
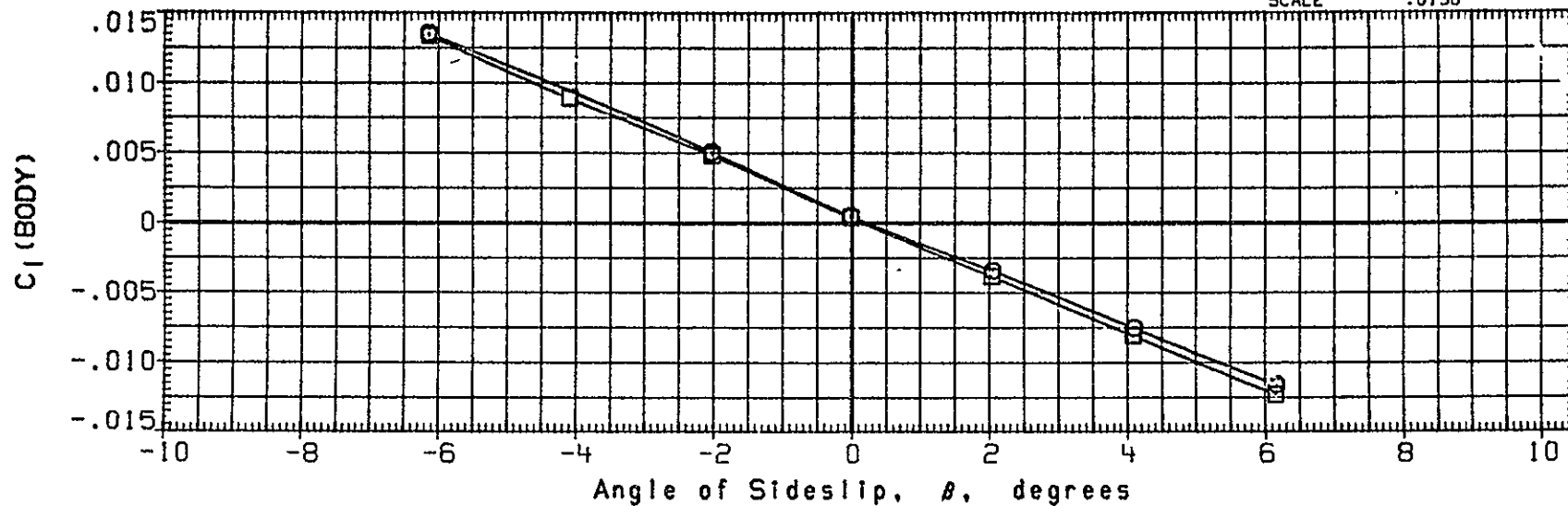


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 1.50 ALPHA = 10

(A) MACH = 1.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJRO03)	○	LARC UPWT 1 1132 (LA718) BASELINE B1
(RJRO08)	□	LARC UPWT 1 1132 (LA718) BASELINE B7

ALPHA	ELEVON	SPOBRK	SDFLAP
10.000	-15.000	55.000	-11.700
10.000	-15.000	55.000	-11.700

REFERENCE INFORMATION	
REF	2690.0000 IN. FT.
LREF	474.8000 INCHES
BREF	936.6800 INCHES
XMRP	1076.7000 IN. XO
YMRP	.0000 IN. YO
ZMRP	375.0000 IN. ZO
SCALE	.0150

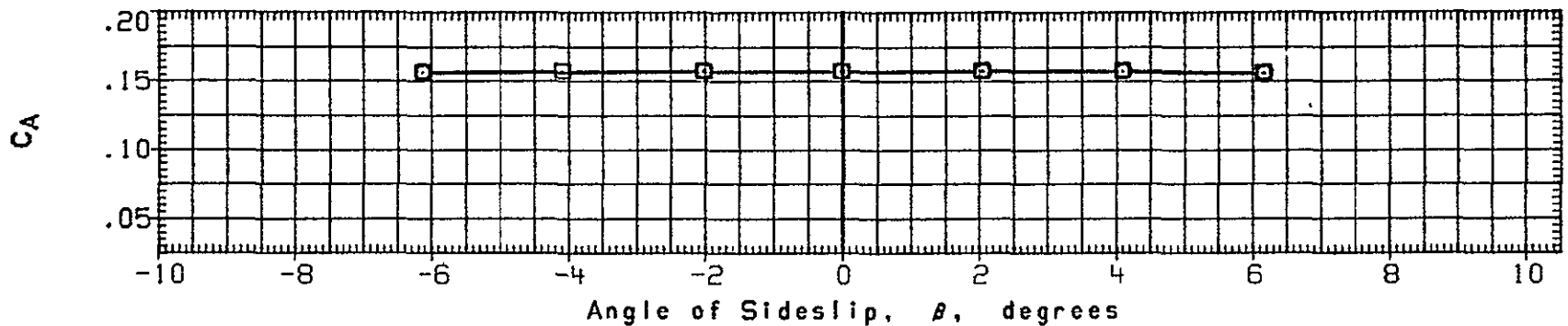
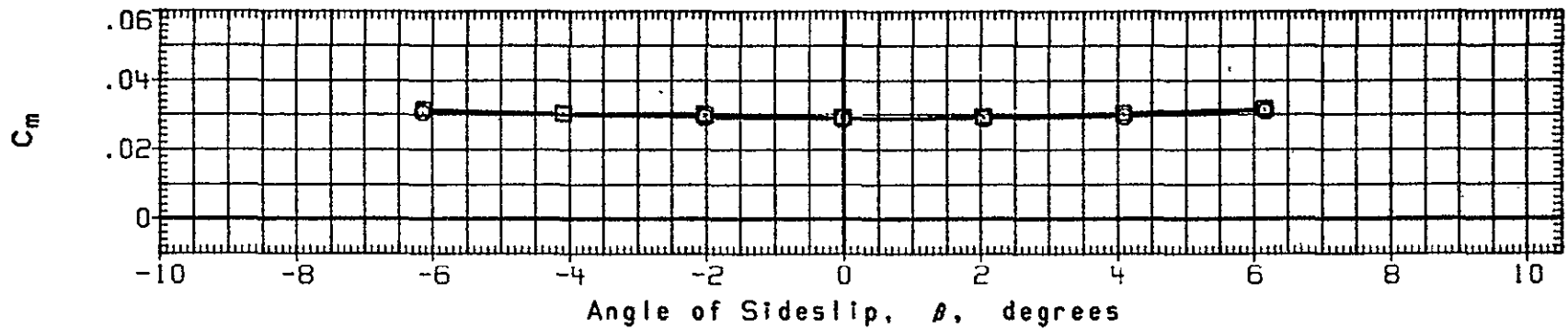
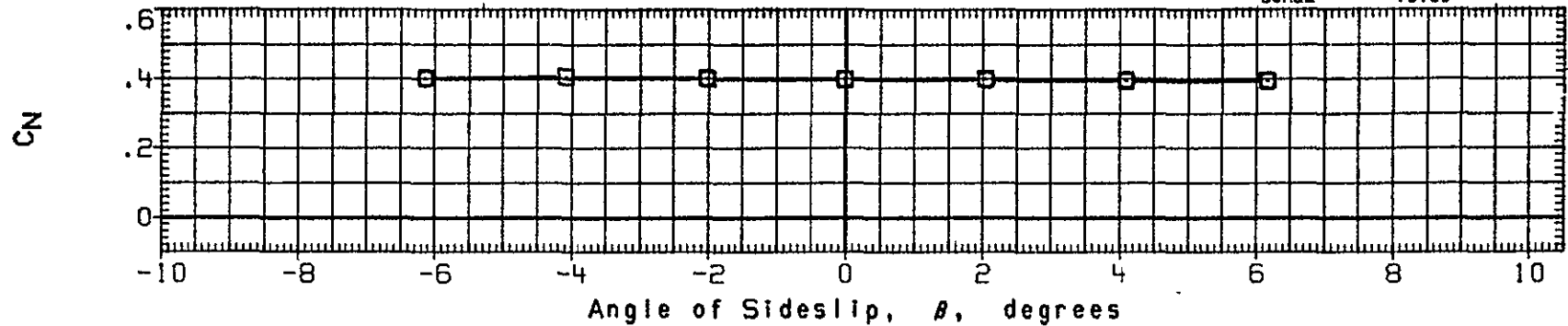


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(A) MACH = 1.50 ALPHA = 10

(A) MACH = 1.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR003)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR006)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

ALPHA	ELEVON	SPDBRK	BDFLAP
10.000	-15.000	55.000	-11.700
10.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

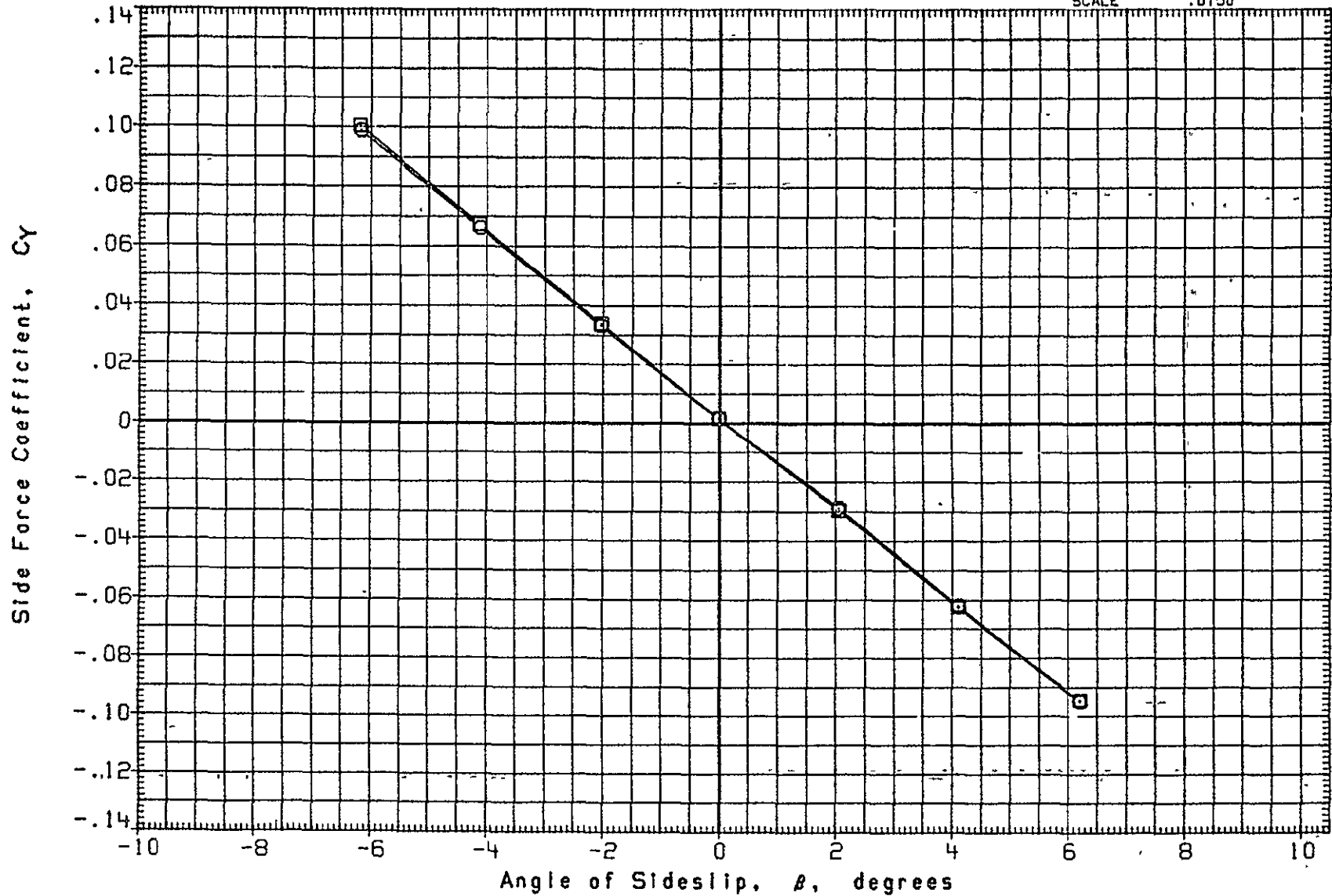


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER
 (B) MACH = 2.00 ALPHA = 10

(A) MACH = 2.00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR003)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR006)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

ALPHA	ELEVON	SPDBRK	BDFLAP
10.000	-15.000	55.000	-11.700
10.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. YO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

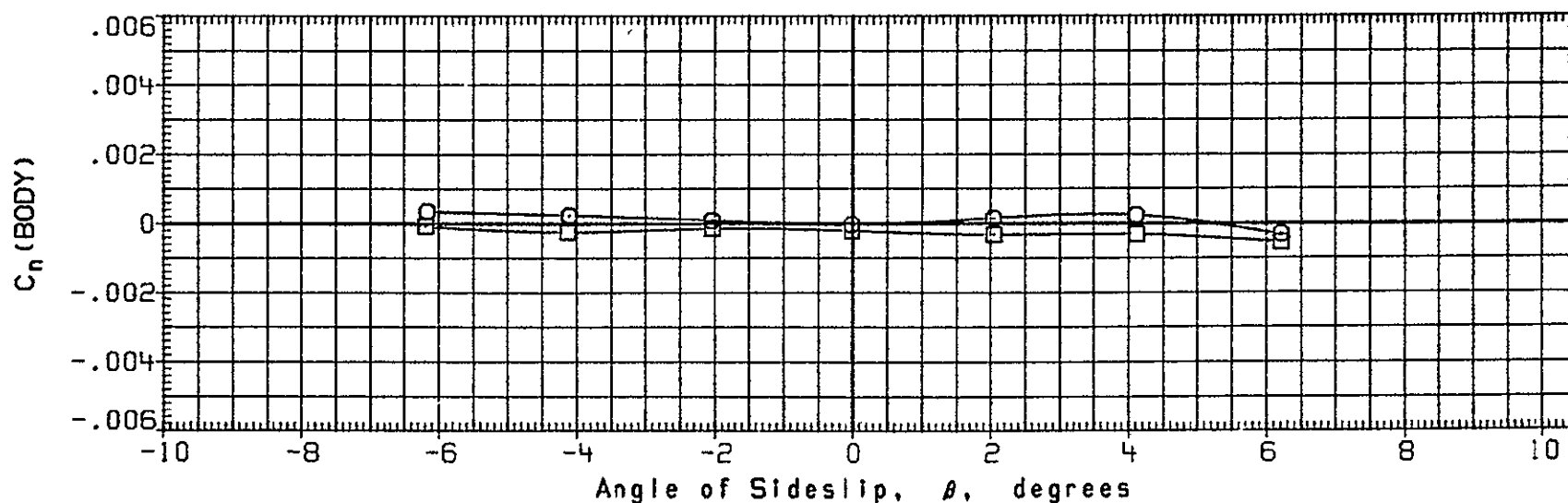
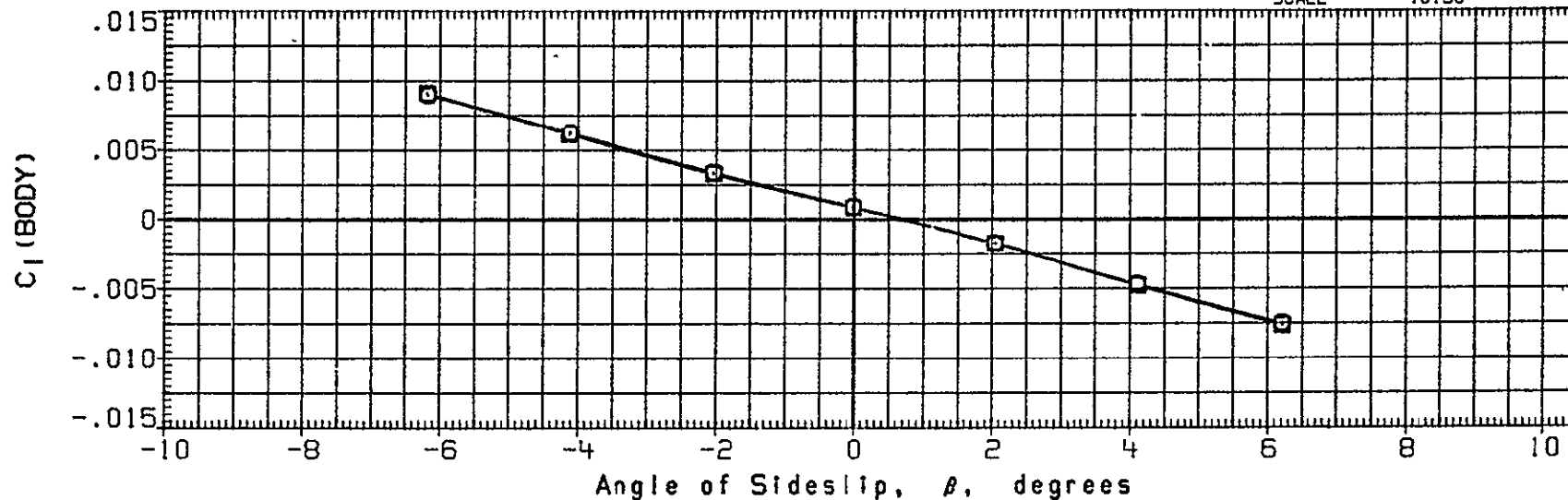


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER
 (B) MACH = 2.00 ALPHA = 10

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BOFLAP	REFERENCE INFORMATION		
(RJR003)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1	10.000	-15.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJR006)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7	10.000	-15.000	55.000	-11.700	LREF	474.8000	INCHES
							BREF	936.6800	INCHES
							XMRP	1076.7000	IN. XO
							YMRP	.0000	IN. YO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

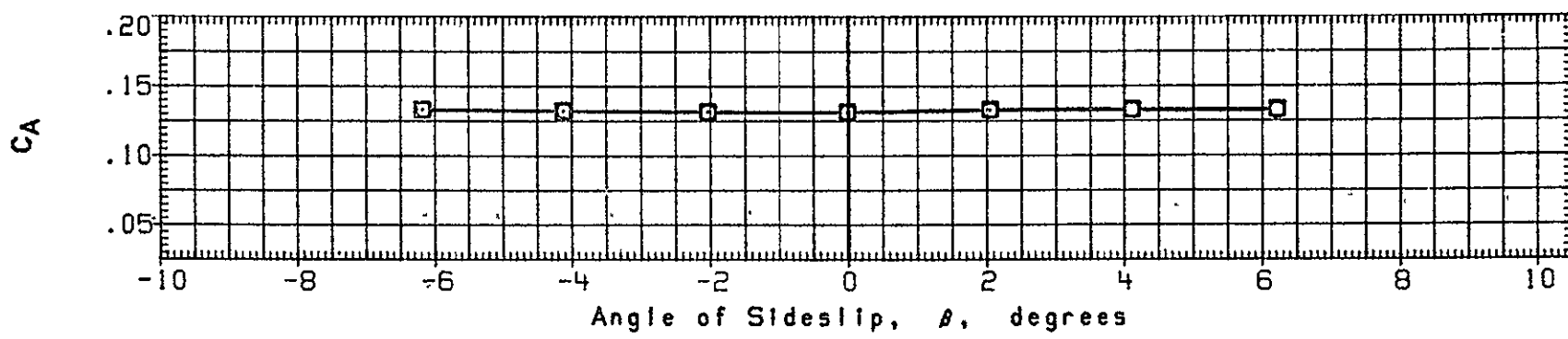
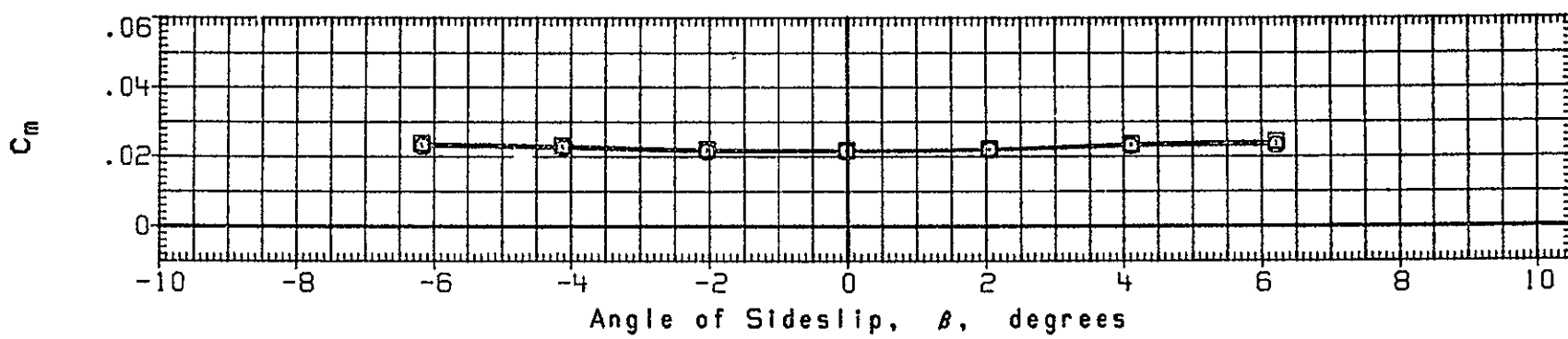
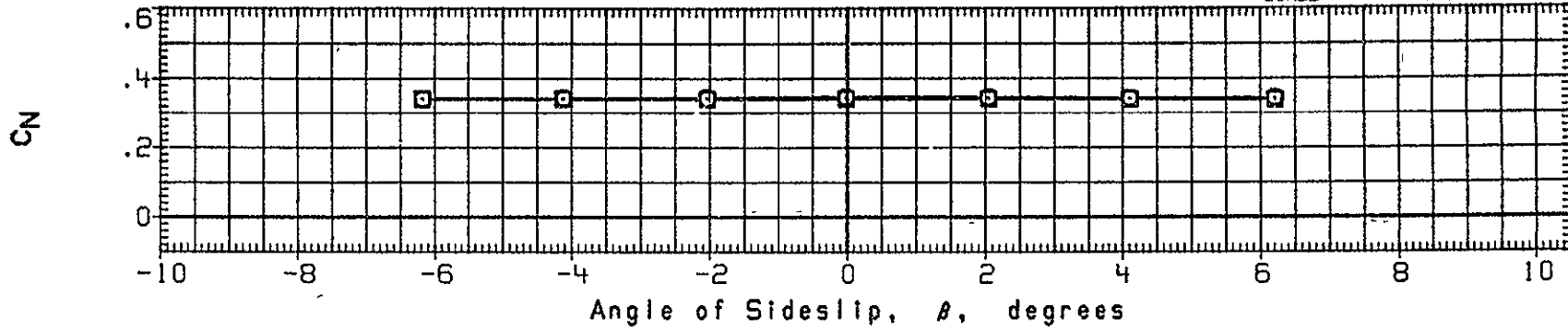


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(B) MACH = 2.00 ALPHA = 10

(A) MACH = 2.00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR004)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR007)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

ALPHA	ELEVON	SPQBRK	BDFLAP
12.000	-15.000	55.000	-11.700
12.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6000	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	0150	

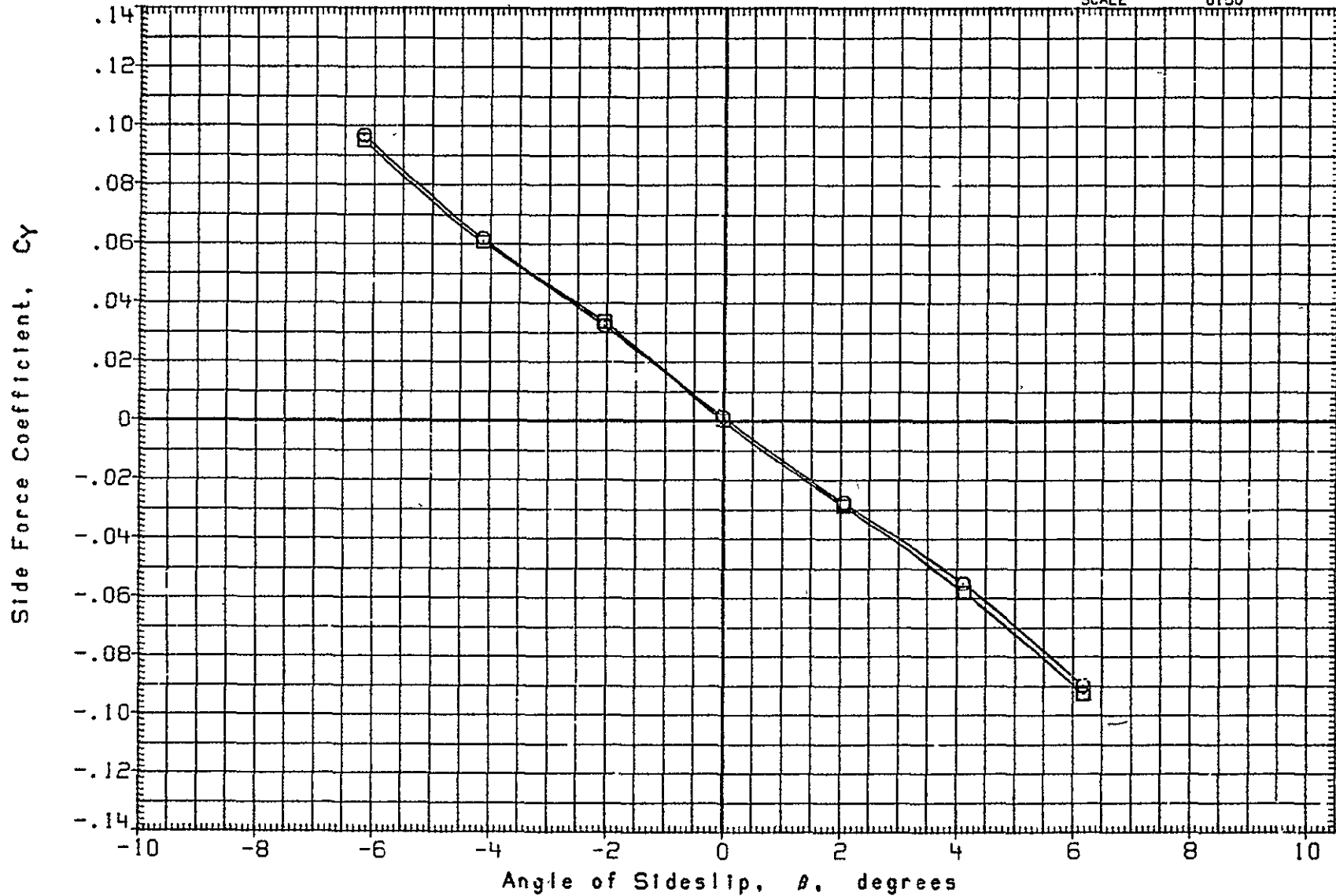


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(C) MACH = 2.50 ALPHA = 12

(A) MACH = 2.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR004)	○	LARC UPWT 1 1132 (LA71B) BASELINE B1
(RJR007)	□	LARC UPWT 1 1132 (LA71B) BASELINE B7

ALPHA	ELEVON	SPDBRK	BDFLAP
12.000	-15.000	55.000	-11.700
12.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

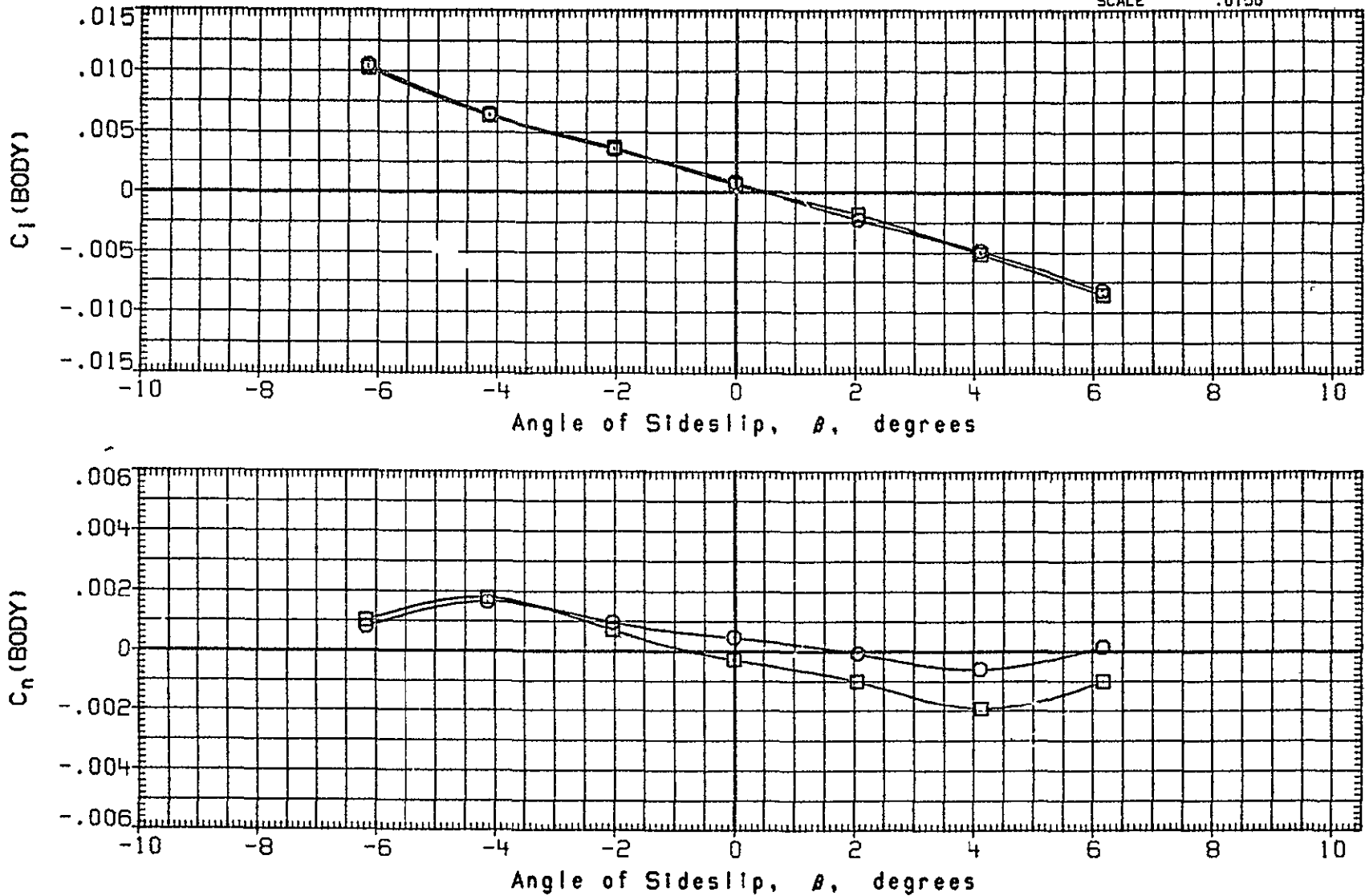


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(C) MACH = 2.50 ALPHA = 12

(A) MACH = 2.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJR004)	○	LARC UPWT 1 1132 (LA71B) BASELINE 81
(RJR007)	□	LARC UPWT 1 1132 (LA71B) BASELINE 87

ALPHA	ELEVON	SPDBRK	BOFLAP
12.000	-15.000	55.000	-11.700
12.000	-15.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

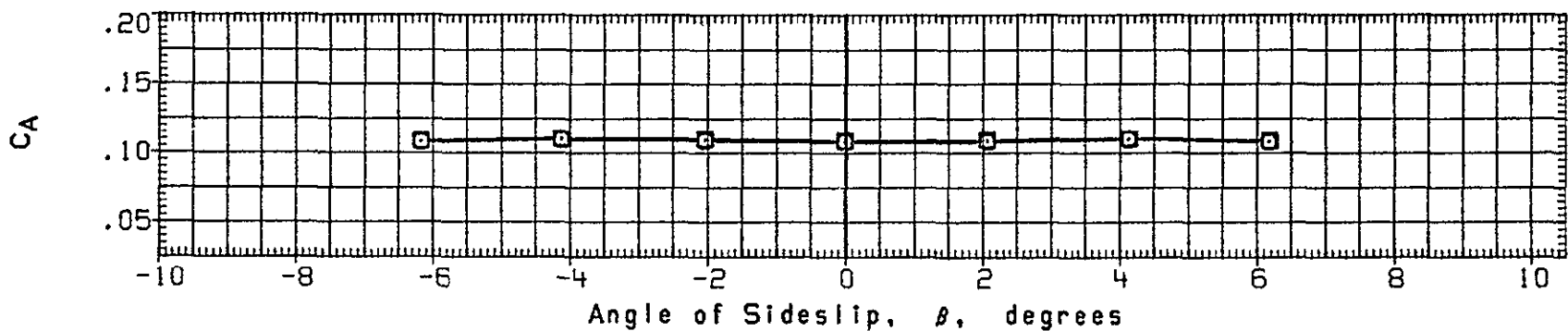
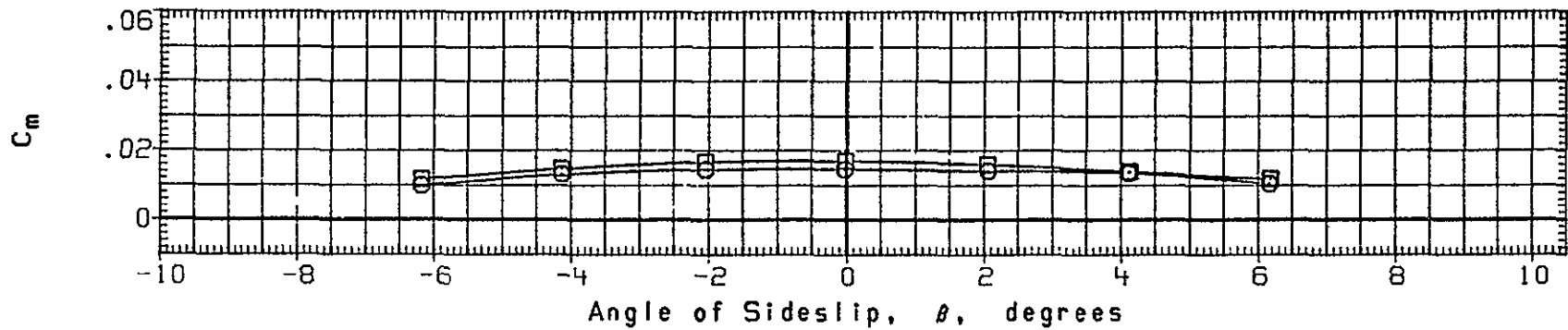
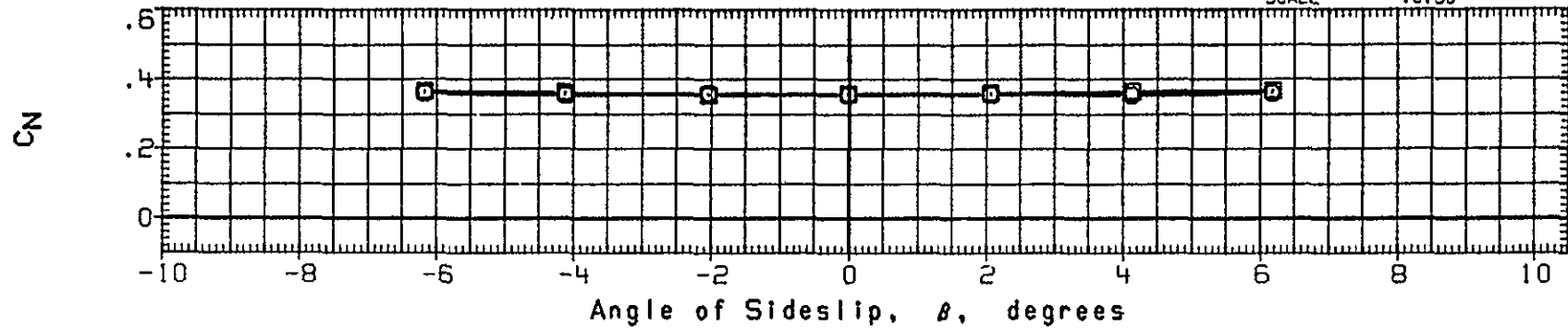


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(C) MACH = 2.50 ALPHA = 12

(A) MACH = 2.50

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJC004)	○	BASELINE + B1	15.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC007)	□	BASELINE + B7	15.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC010)	◇	BASELINE + B6	15.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. X0
							YMRP	.0000	IN. Z0
							ZMRP	375.0000	IN. Z0
							SCALE	0150	

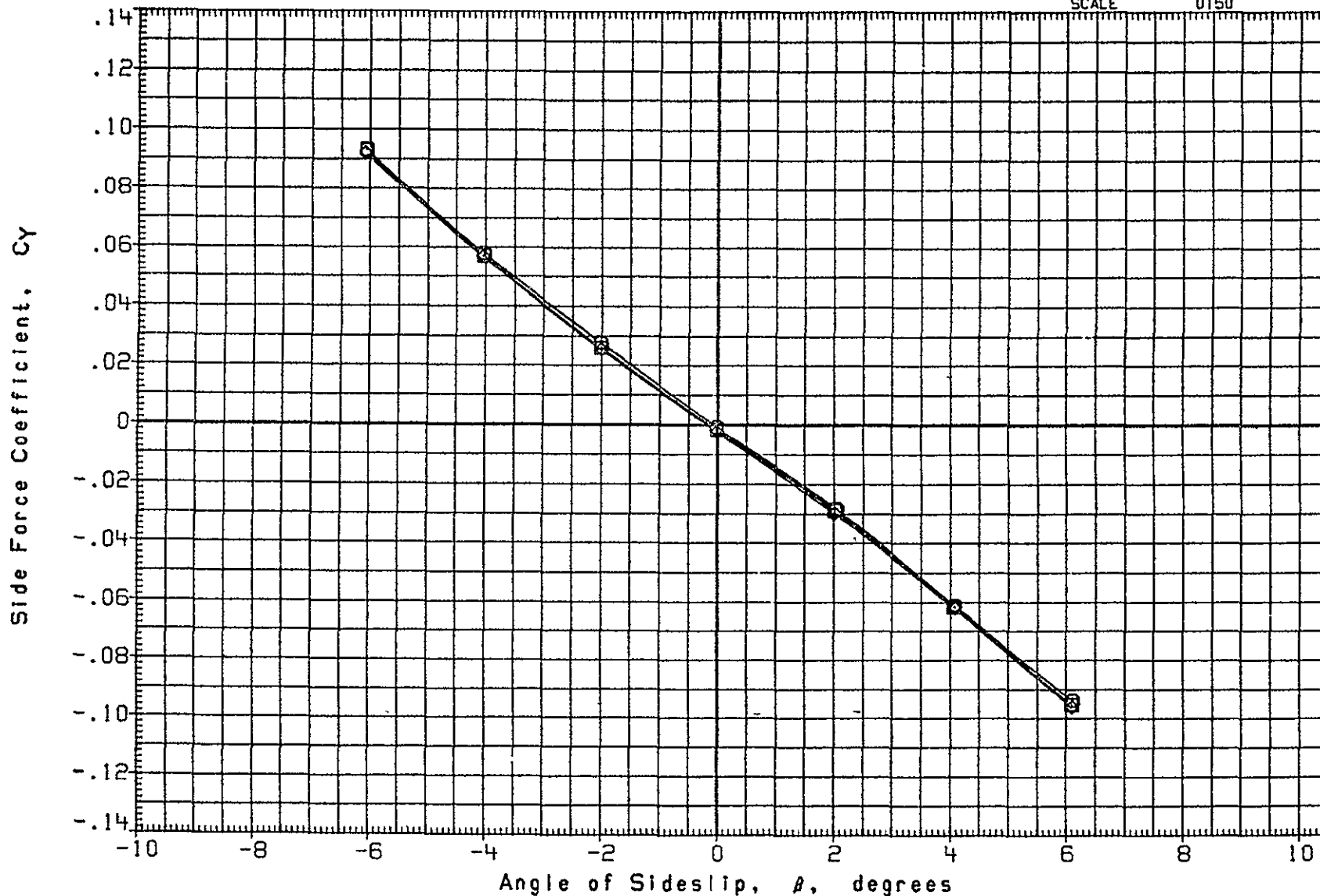


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(D) MACH = 2.95 ALPHA = 15

(A) MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION		
(RJC004)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	15.000	-40.000	55.000	-11.700	SREF	2690.0000	50.FT.
(RJC007)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	15.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC010)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	15.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
							XMRP	1076.7000	IN. ZO
							YMRP	.0000	IN. ZO
							ZMRP	375.0000	IN. ZO
							SCALE	.0150	

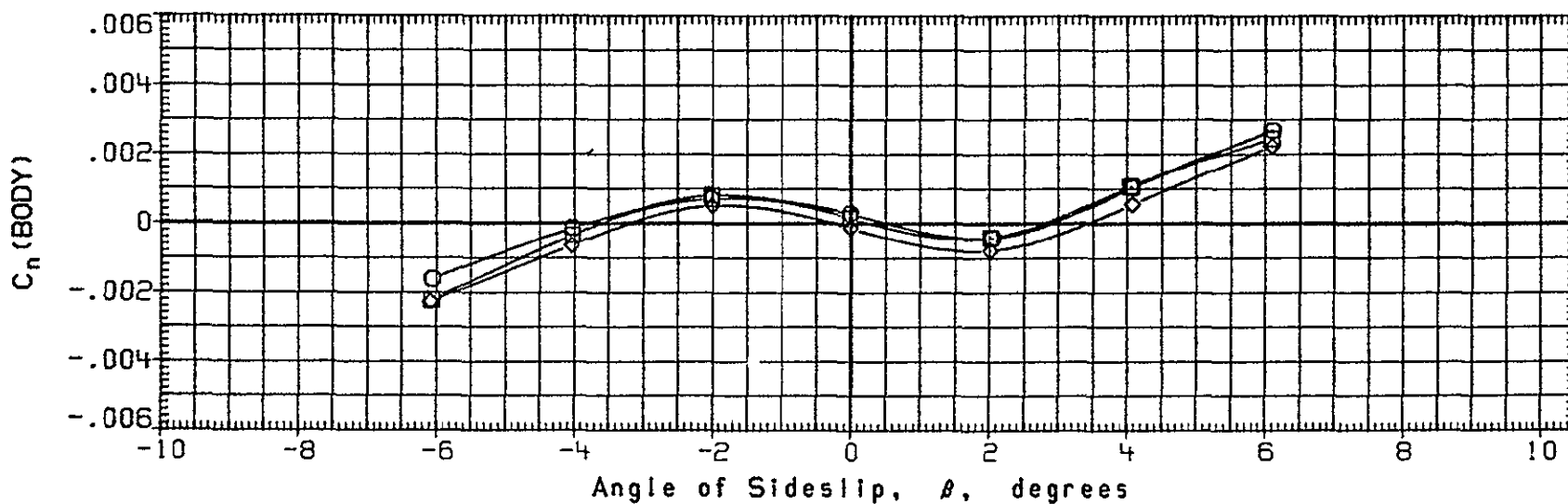
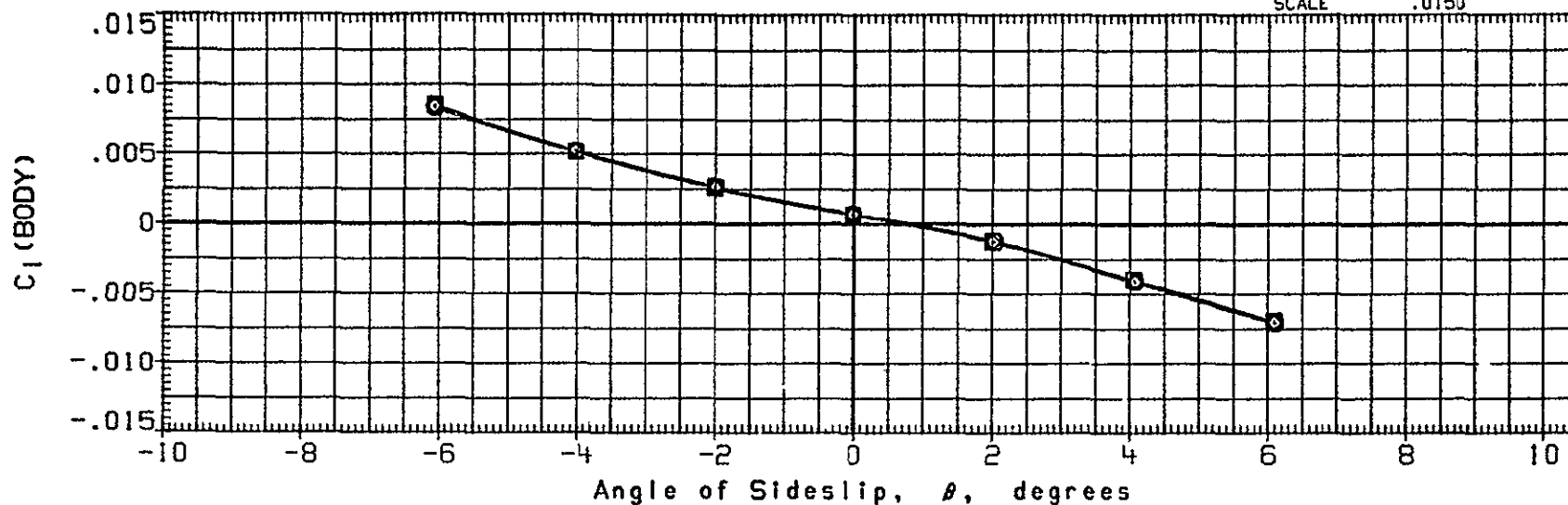


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(D) MACH = 2.95 ALPHA = 15

(A) MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC004)	○	BASELINE + B1	15.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ. FT.
(RJC007)	□	BASELINE + B7	15.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC010)	◇	BASELINE + B6	15.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES
							XMRP 1076.7000 IN. X0
							YMRP .0000 IN. Z0
							ZMRP 375.0000 IN. Z0
							SCALE .0150

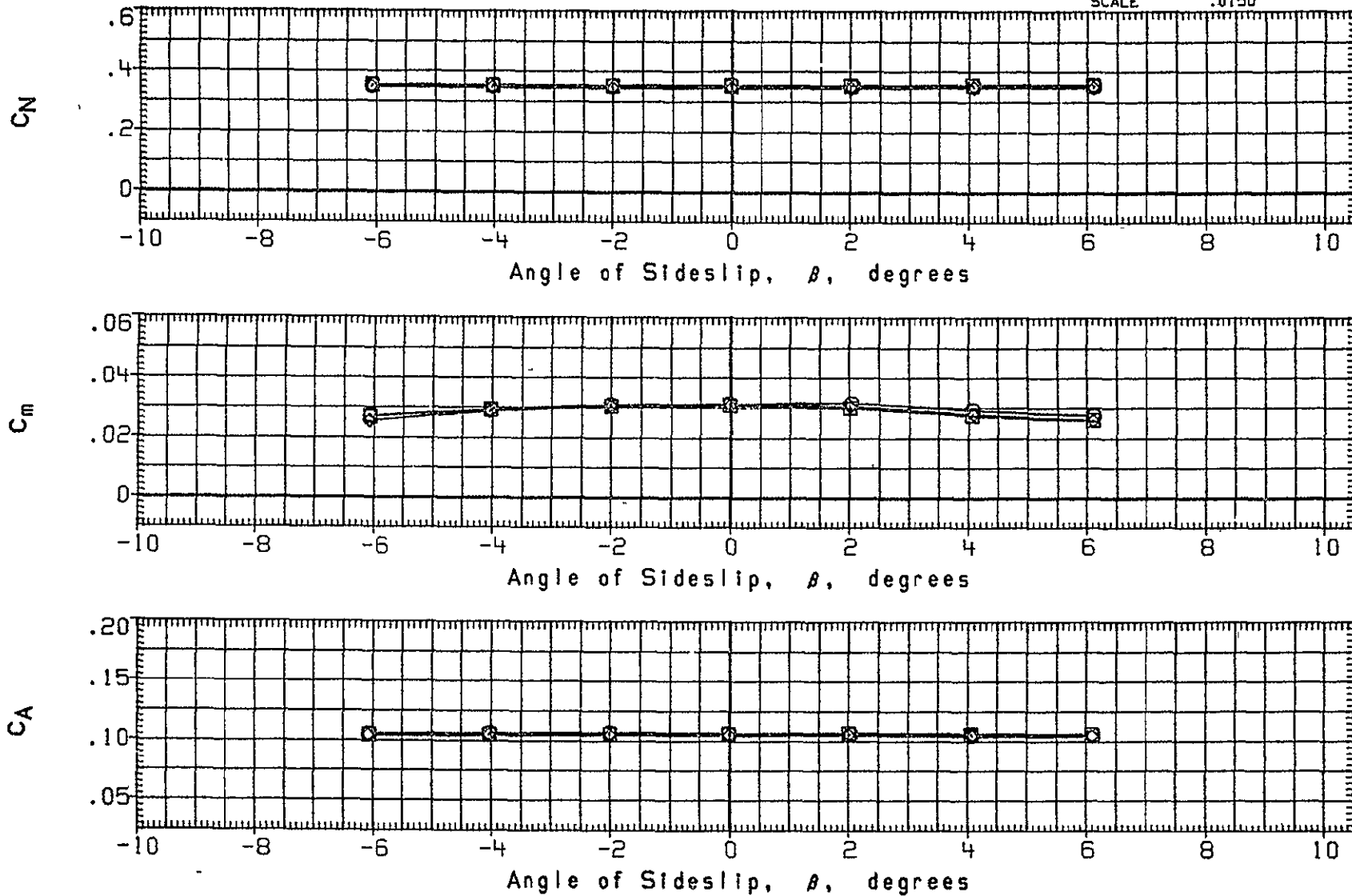


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(D) MACH = 2.95 ALPHA = 15

(A) MACH = 2.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC005)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	18.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT.
(RJC008)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	18.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC011)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	18.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES
							XMRP 1076.7000 IN. XO
							YMRP .0000 IN. ZO
							ZMRP 375.0000 IN. ZO
							SCALE .0150

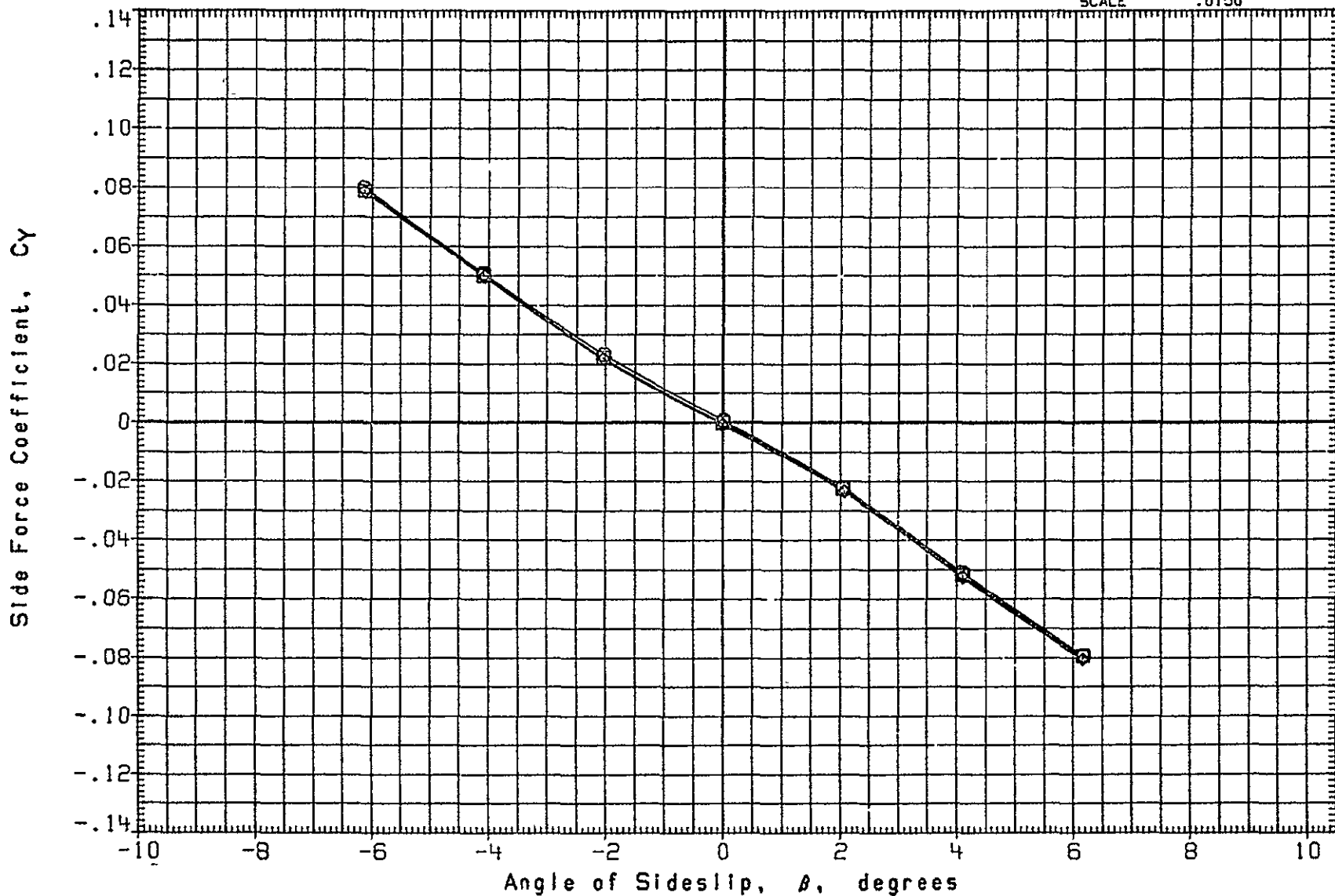


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(E) MACH = 3.95 ALPHA = 18

(A) MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(RJC005)	○	BASELINE + B1 LARC UPWT 1147(LA-71)
(RJC008)	□	BASELINE + B7 LARC UPWT 1147(LA-71)
(RJC011)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)

ALPHA	ELEVON	SPDBRK	BOFLAP
18.000	-40.000	55.000	-11.700
18.000	-40.000	55.000	-11.700
18.000	-40.000	55.000	-11.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	474.8000	INCHES
BREF	936.8800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. ZO
ZMRP	375.0000	IN. ZO
SCALE	.0150	

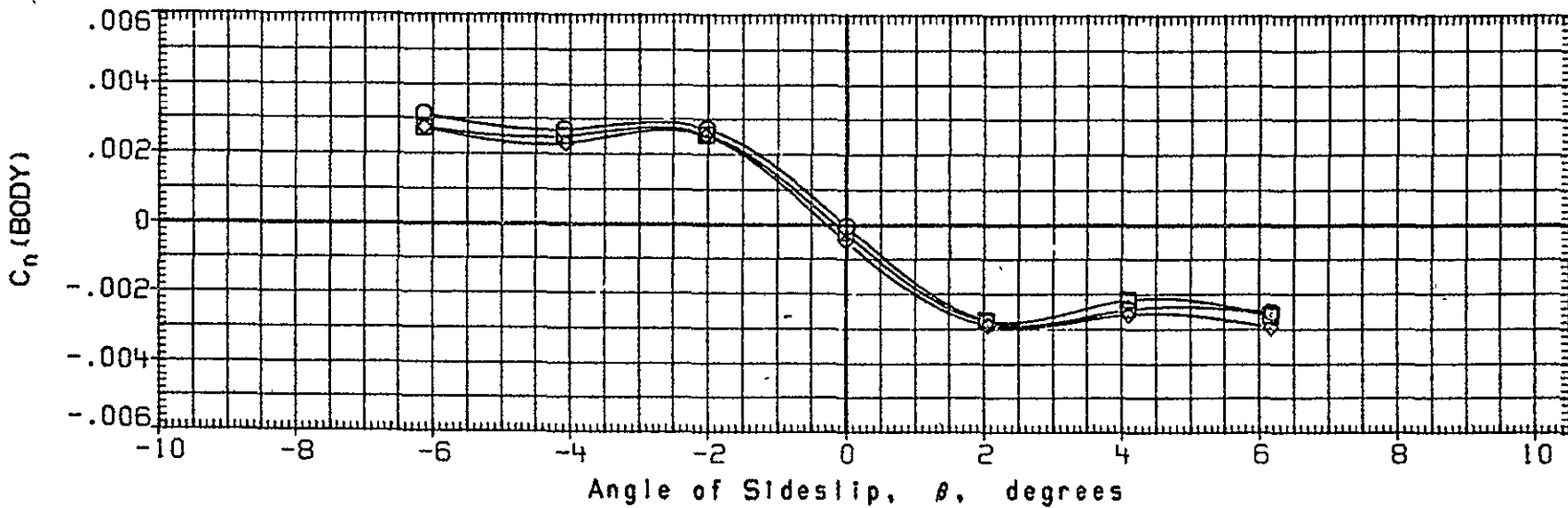
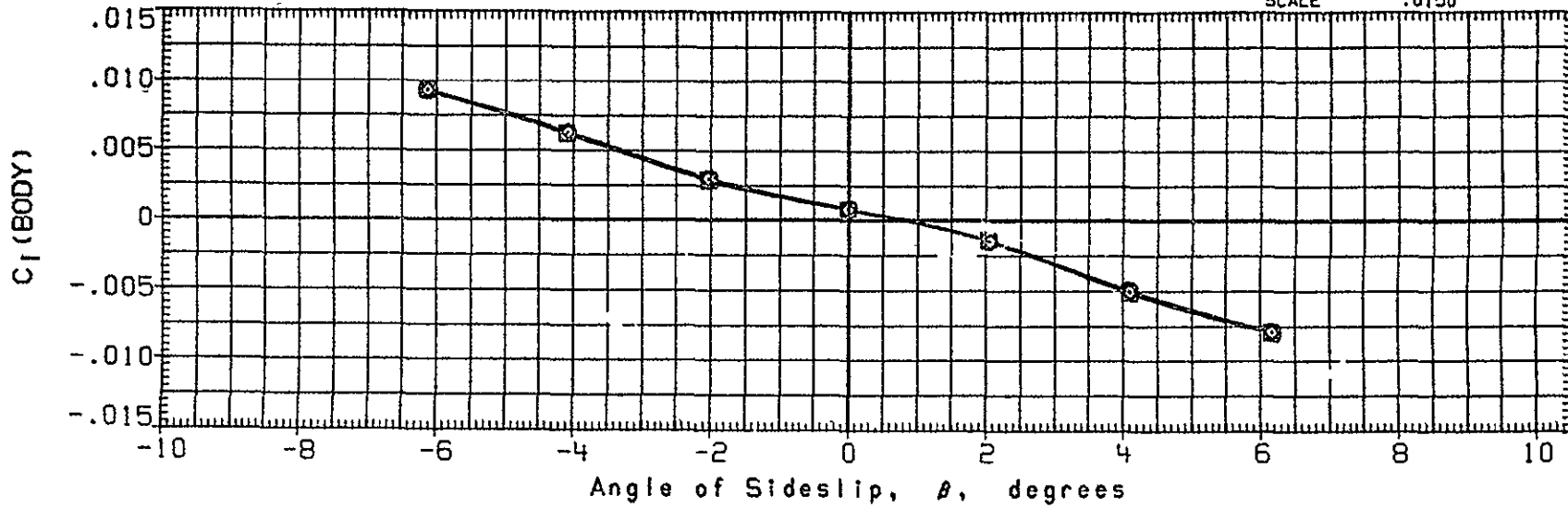


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(E) MACH = 3.95 ALPHA = 18

(A) MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC005)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	18.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT.
(RJC008)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	18.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC011)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	18.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES
							XMRP 1076.7000 IN. XO
							YMRP .0000 IN. ZO
							ZMRP 375.0000 IN. ZO
							SCALE .0150

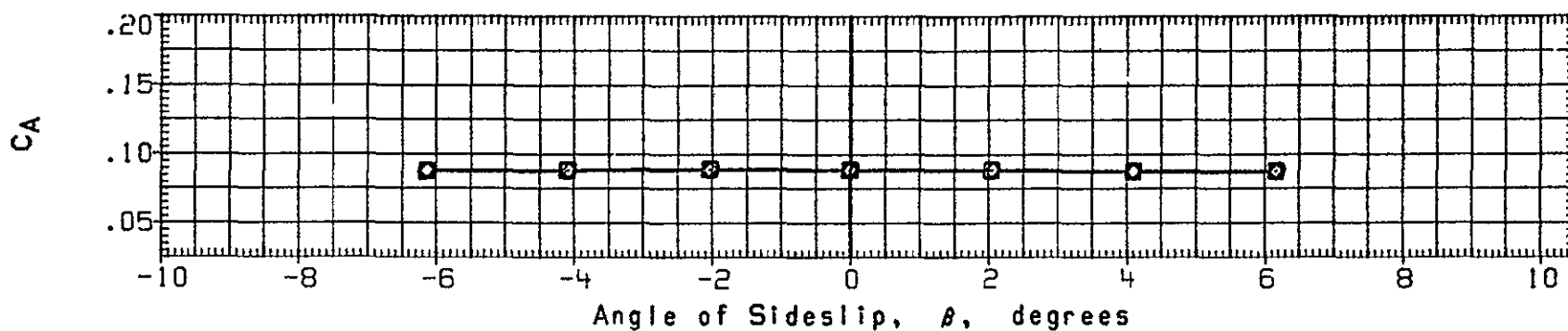
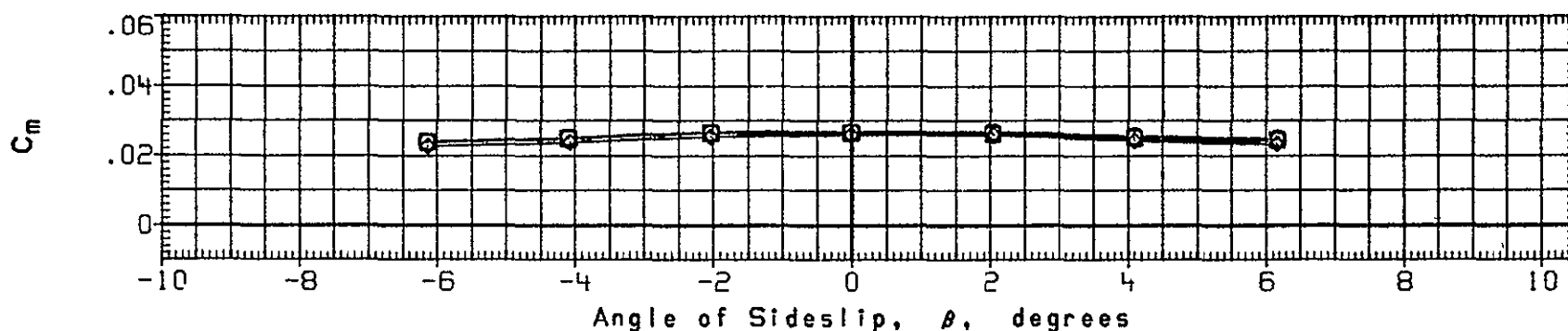
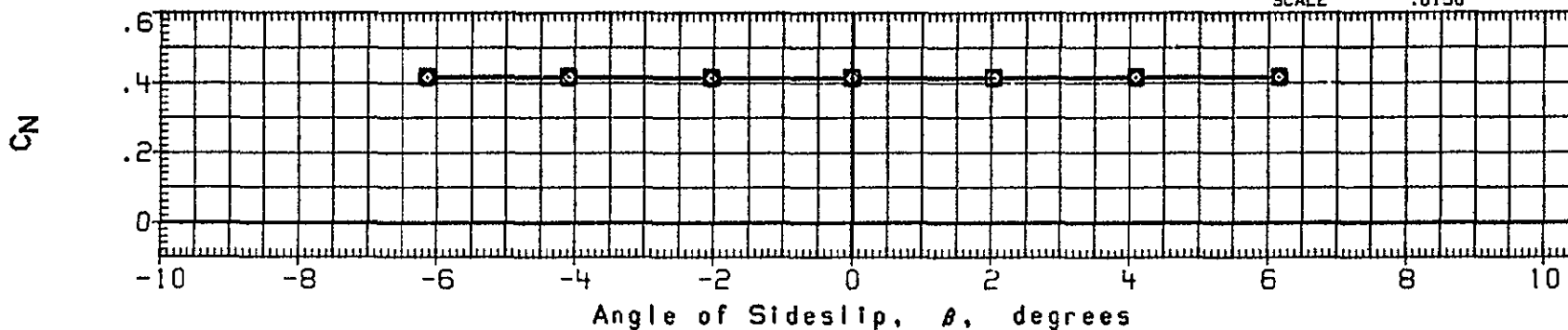


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(E) MACH = 3.95 ALPHA = 18

(A) MACH = 3.95

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPOBRK	BDFLAP	REFERENCE INFORMATION			
(RJC008)	○	BASELINE + 81	LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	SREF	2690.0000	SQ.FT.
(RJC009)	□	BASELINE + 87	LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	LREF	474.8000	INCHES
(RJC012)	◇	BASELINE + 86	LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	BREF	936.6800	INCHES
								XMRP	1076.7000	IN. X0
								YMRP	.0000	IN. Z0
								ZMRP	375.0000	IN. Z0
								SCALE	.0150	

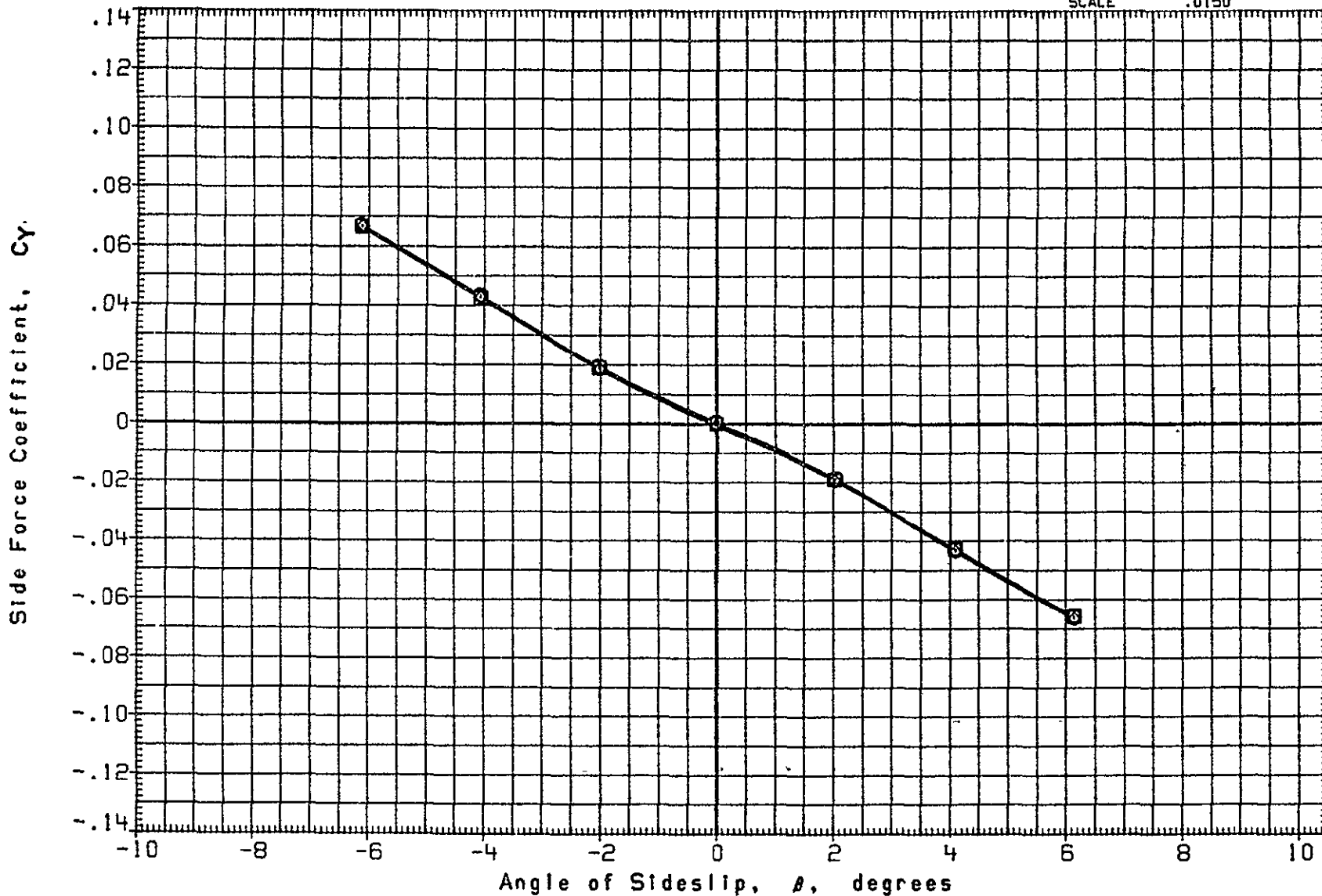


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(F) MACH = 4.60 ALPHA = 20

(A) MACH = 4.60

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BDFLAP	REFERENCE INFORMATION
(RJC006)	○	BASELINE + B1 LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT. LREF 474.8000 INCHES
(RJC009)	□	BASELINE + B7 LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	BREF 936.6800 INCHES XMRP 1076.7000 IN. X0
(RJC012)	◇	BASELINE + B6 LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	YMRP .0000 IN. Z0 ZMRP 375.0000 IN. Z0 SCALE .0150

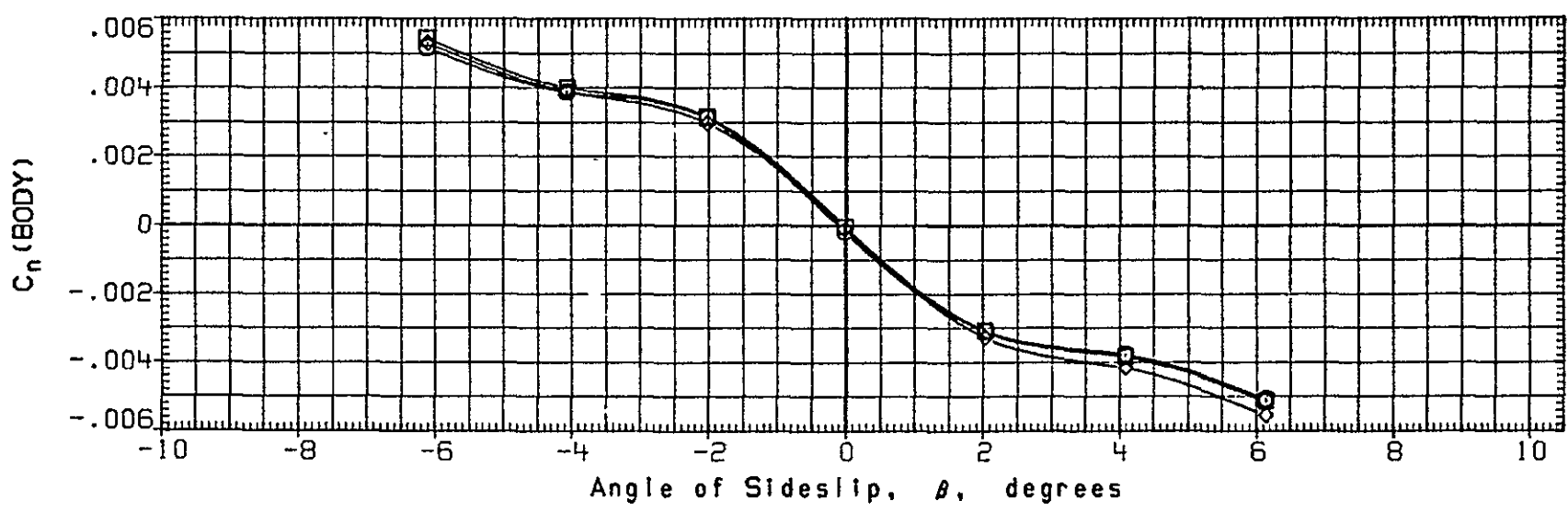
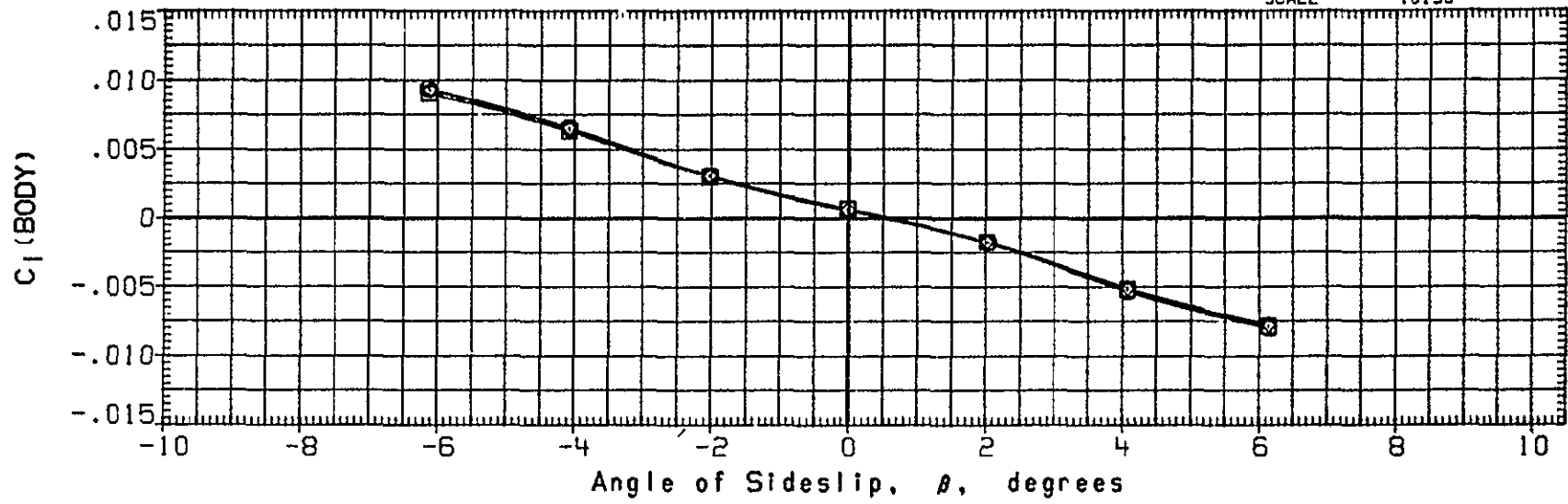


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(F) MACH = 4.60 ALPHA = 20

(A) MACH = 4.60

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	ELEVON	SPDBRK	BOFLAP	REFERENCE INFORMATION	
(RJC006)	○	BASELINE + B1	LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	SREF 2690.0000 SQ.FT.
(RJC009)	□	BASELINE + B7	LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	LREF 474.8000 INCHES
(RJC012)	◇	BASELINE + B6	LARC UPWT 1147(LA-71)	20.000	-40.000	55.000	-11.700	BREF 936.6900 INCHES
								XMRP 1076.7000 IN. XO
								YMRP .0000 IN. ZO
								ZMRP 375.0000 IN. ZO
								SCALE .0150

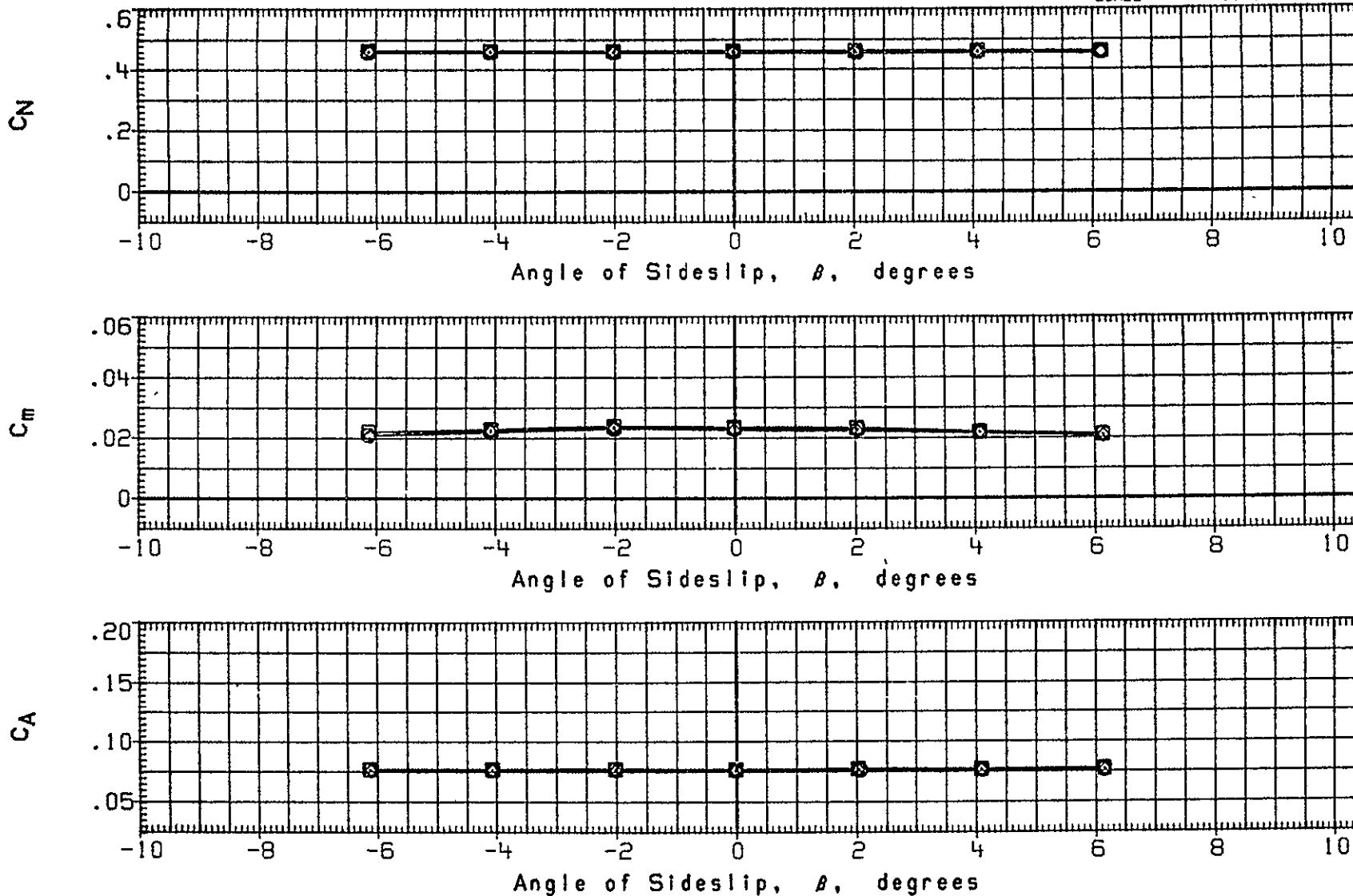


FIG. 5 EFFECT IN SIDESLIP OF MODIFICATION TO BASELINE ORBITER

(F) MACH = 4.60 ALPHA = 20

(A) MACH = 4.60

APPENDIX
TABULATED SOURCE DATA

Tabulations of plotted data are available
from DMS upon request.

DATE 07 DEC 76

TABULATED SOURCE DATA, LA71A/B (LARC UPWT 1147/1132)

PAGE 1

BASELINE + B1

LARC UPWT 1147(LA-71)

(RJCO01)

(18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 16/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
2.950	-1.403	-.02197	-.15411	.14569	.04388	.00030	.00066	-.00144	-.15050	.14942	-1.00721
2.950	-.366	-.02266	-.12423	.14270	.04249	.00042	.00083	-.00188	-.12332	.14349	-.85941
2.950	.662	-.02187	-.09505	.14023	.04130	.00038	.00063	-.00132	-.09667	.13912	-.69483
2.950	1.678	-.02339	-.06729	.13820	.03996	.00042	.00093	-.00176	-.07131	.13617	-.52368
2.950	3.726	-.02223	-.00792	.13322	.03806	.00069	.00070	-.00137	-.01656	.13242	-.12508
2.950	7.846	-.02164	.11692	.12035	.03405	.00057	.00048	-.00041	.09939	.13519	.73520
2.950	11.971	-.01897	.24805	.11198	.03253	.00079	.00011	-.00060	.21943	.16100	1.36294
2.950	14.039	-.02002	.31533	.10854	.03231	.00074	.00026	-.00044	.27958	.18180	1.53787
2.950	16.101	-.01936	.38391	.10470	.03203	.00078	.00011	-.00003	.33982	.20706	1.64113
2.950	18.172	-.01892	.45643	.10131	.03033	.00082	.00005	-.00006	.40207	.23860	1.68509
2.950	20.239	-.01881	.52989	.09749	.02856	.00086	-.00004	.00042	.46345	.27478	1.68662
2.950	22.321	-.01639	.60613	.09382	.02730	.00109	-.00050	.00108	.52508	.31699	1.65644
2.950	24.392	-.01535	.68270	.09029	.02721	.00120	-.00077	.00191	.58447	.36417	1.60492
2.950	28.558	-.01430	.84469	.08345	.02739	.00151	-.00107	.00307	.70203	.47711	1.47142
	GRADIENT	-.00007	.02842	-.00239	-.00114	.00007	.00001	.00003	.02604	-.00323	.17250

RUN NO. 18/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.950	-1.301	-.00843	-.13559	.12713	.02428	.00013	.00081	.00015	-.13267	.13018	-1.01916
3.950	-.279	-.00785	-.11130	.12347	.02316	.00020	.00074	.00023	-.11069	.12401	-.89258
3.950	.769	-.00773	-.08670	.12037	.02255	.00025	.00072	.00026	-.08831	.11920	-.74085
3.950	1.789	-.00907	-.06218	.11810	.02227	.00030	.00087	.00017	-.06584	.11610	-.56710
3.950	3.866	-.00859	-.01118	.11334	.02199	.00036	.00081	.00028	-.01880	.11233	-.16738
3.950	8.037	-.00746	.09705	.10378	.02302	.00061	.00068	.00041	.08158	.11633	.70132
3.950	12.218	-.00401	.21388	.09829	.02422	.00085	.00032	.00059	.18823	.14133	1.33188
3.950	14.313	-.00309	.27709	.09531	.02509	.00083	.00024	.00058	.24492	.16085	1.52269
3.950	16.417	-.00080	.34336	.09243	.02585	.00078	.00000	.00071	.30324	.18571	1.63288
3.950	18.520	-.00117	.41272	.08923	.02674	.00080	-.00001	.00100	.36300	.21570	1.68288
3.950	20.639	-.00131	.48735	.08638	.02803	.00077	-.00001	.00116	.42431	.25212	1.68296
3.950	22.757	-.00074	.56144	.08426	.03040	.00078	-.00010	.00137	.48515	.29488	1.64525
3.950	24.889	.00104	.63962	.08269	.03279	.00084	-.00029	.00153	.54542	.34420	1.58469
3.950	29.155	.00118	.81007	.07829	.03733	.00084	-.00032	.00178	.66930	.46302	1.44551
	GRADIENT	-.00012	.02406	-.00262	-.00041	.00004	.00001	.00002	.02203	-.00337	.16598

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 07 DEC 76

TABULATED SOURCE DATA, LA71A/B (LARC UPWT 1147/1132)

PAGE 2

BASELINE + B1

LARC UPWT 1147(LA-71)

(RJC001) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPOBRK = 55.000

		RUN NO.	20/ 0	RN/L = 2.00	GRADIENT INTERVAL = -5.00/ 5.00						
MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.600	-.754	-.00525	-.11912	.11874	.01735	.00017	.00080	-.00110	-.11755	.12030	-.97715
4.600	.274	-.00555	-.09533	.11463	.01646	.00032	.00081	-.00088	-.09588	.11417	-.83979
4.600	1.297	-.00508	-.07296	.11147	.01601	.00035	.00069	-.00042	-.07546	.10979	-.68731
4.600	2.329	-.00427	-.04982	.10824	.01564	.00028	.00060	-.00054	-.05418	.10612	-.51051
4.600	4.379	-.00477	-.00263	.10152	.01518	.00047	.00065	-.00039	-.01037	.10102	-.10265
4.600	8.507	-.00278	.09449	.09192	.01695	.00056	.00040	-.00039	.07985	.10489	.76130
4.600	12.633	-.00335	.20244	.08530	.01916	.00069	.00043	.00005	.17889	.12751	1.40290
4.600	14.700	-.00121	.26072	.08293	.02018	.00065	.00017	.00005	.23114	.14638	1.57908
4.600	16.781	-.00078	.32352	.08049	.02071	.00071	.00006	.00044	.28650	.17047	1.68064
4.600	18.860	.00017	.38608	.07810	.02160	.00075	-.00007	.00053	.34200	.19936	1.71549
4.600	20.950	.00027	.45767	.07678	.02294	.00059	-.00013	.00087	.39996	.23535	1.69943
4.600	23.036	-.00093	.52747	.07608	.02508	.00064	.00004	.00079	.45564	.27642	1.64835
4.600	25.128	-.00039	.60175	.07527	.02648	.00066	-.00006	.00107	.51264	.32368	1.58441
4.600	29.326	-.00040	.76200	.07231	.02991	.00077	-.00016	.00192	.62893	.43626	1.44164
	GRADIENT	.00016	.02263	-.00331	-.00040	.00005	-.00004	.00013	.02082	-.00368	.17105

BASELINE + B1

LARC UPWT 1147(LA-71)

(SJC001) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 16/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
2.950	-1.403	192.60804	-.10243	-.11295	-.11140	-.13059
2.950	-.366	192.60804	-.10319	-.11295	-.11140	-.13058
2.950	.662	192.69743	-.10475	-.11449	-.11219	-.13212
2.950	1.678	192.69743	-.10551	-.11449	-.11295	-.13289
2.950	3.726	192.64380	-.10701	-.11599	-.11370	-.13364
2.950	7.846	192.59016	-.10471	-.11522	-.11216	-.13134
2.950	11.971	192.59016	-.10624	-.11522	-.11216	-.13287
2.950	14.039	192.51865	-.10774	-.11748	-.11366	-.13362
2.950	16.101	192.60804	-.10853	-.11750	-.11445	-.13440
2.950	18.172	192.57228	-.10928	-.11900	-.11520	-.13515
2.950	20.239	192.51865	-.11079	-.11975	-.11595	-.13591
2.950	22.321	192.60804	-.11310	-.12129	-.11750	-.13745
2.950	24.392	192.57228	-.11385	-.12203	-.11825	-.13820
2.950	28.558	192.59016	-.11690	-.12583	-.12207	-.14202
	GRADIENT	01017	-.00092	-.00062	-.00050	-.00067

RUN NO. 18/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
3.950	-1.301	297.20054	-.06143	-.06819	-.06478	-.07821
3.950	-.279	297.12363	-.06093	-.06819	-.06428	-.07820
3.950	.769	297.20823	-.06094	-.06819	-.06478	-.07821
3.950	1.789	297.17746	-.06143	-.06868	-.06528	-.07870
3.950	3.866	297.12363	-.06192	-.06917	-.06576	-.07870
3.950	8.037	297.01596	-.06191	-.06916	-.06625	-.07869
3.950	12.218	297.05441	-.06240	-.06867	-.06625	-.07919
3.950	14.313	297.00827	-.06289	-.06916	-.06625	-.07919
3.950	16.417	296.84676	-.06288	-.06964	-.06624	-.07918
3.950	18.520	297.00058	-.06388	-.07014	-.06724	-.08017
3.950	20.639	296.88522	-.06436	-.07112	-.06772	-.08017
3.950	22.757	296.93136	-.06486	-.07063	-.06773	-.08116
3.950	24.889	297.01596	-.06536	-.07162	-.06872	-.08166
3.950	29.155	296.86984	-.06583	-.07308	-.06970	-.08314
	GRADIENT	-.00931	-.00014	-.00020	-.00024	-.00012

ORIGINAL PAGE IS
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DATE 07 DEC 76

TABULATED SOURCE DATA, LA71A/B (LARC UPWT 1147/1132)

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BASELINE + B1

LARC UPWT 1147(LA-71)

(SJC001) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 20/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
4.600	-.754	235.15820	-.04004	-.04977	-.04366	-.06000
4.600	.274	235.15820	-.03942	-.05039	-.04366	-.06000
4.600	1.297	234.95696	-.04002	-.04975	-.04364	-.06000
4.600	2.329	235.02404	-.04065	-.05038	-.04428	-.06063
4.600	4.379	235.02404	-.04065	-.05038	-.04428	-.06063
4.600	8.507	234.95696	-.04064	-.05099	-.04489	-.06125
4.600	12.633	234.95696	-.04127	-.05162	-.04552	-.06187
4.600	14.700	234.82281	-.04188	-.05161	-.04613	-.06250
4.600	16.781	234.88989	-.04188	-.05223	-.04614	-.06250
4.600	18.860	235.02404	-.04252	-.05224	-.04615	-.06313
4.600	20.950	235.02404	-.04315	-.05286	-.04615	-.06313
4.600	23.036	234.95696	-.04314	-.05286	-.04614	-.06312
4.600	25.128	235.09112	-.04315	-.05287	-.04678	-.06375
4.600	29.326	234.95696	-.04376	-.05348	-.04677	-.06375
	GRADIENT	-.02912	-.00019	-.00010	-.00015	-.00015

BASELINE + B7

LARC UPWT 1147(LA-71)

(RJCD02) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPOBRK = 55.000

RUN NO. 22/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
2.950	-1.396	.00080	-.14938	.14616	.04331	.00004	.00020	-.00215	-.14578	.14975	-.97346
2.950	-.370	.00056	-.12041	.14307	.04208	.00015	.00024	-.00220	-.11948	.14384	-.83063
2.950	.548	-.00114	-.09088	.13978	.03969	.00017	.00064	-.00316	-.09246	.13874	-.66637
2.950	1.574	-.00252	-.06227	.13757	.03855	.00033	.00091	-.00356	-.06626	.13569	-.48830
2.950	3.737	-.00091	-.00321	.13353	.03678	.00049	.00056	-.00293	-.01190	.13303	-.08949
2.950	7.841	.00051	.11997	.12111	.03267	.00046	.00024	-.00214	.10233	.13635	.75048
2.950	11.975	-.00025	.24822	.11248	.03164	.00044	.00032	-.00173	.21948	.16153	1.35871
2.950	14.027	.00029	.31579	.10864	.03081	.00069	.00024	-.00171	.28004	.18195	1.53914
2.950	16.102	.00127	.38574	.10522	.03026	.00060	.00013	-.00194	.34142	.20808	1.64081
2.950	18.166	.00197	.45818	.10159	.02872	.00070	-.00010	-.00112	.40367	.23938	1.68836
2.950	20.240	.00297	.53237	.09783	.02753	.00092	-.00034	-.00046	.46565	.27596	1.68738
2.950	22.318	.00296	.60778	.09376	.02683	.00104	-.00035	-.00035	.52665	.31753	1.65856
2.950	24.394	.00333	.68471	.09025	.02685	.00111	-.00062	.00113	.58631	.36498	1.60642
2.950	28.549	.00447	.84585	.08371	.02672	.00145	-.00098	.00250	.70299	.47777	1.47139
	GRADIENT	-.00044	.02848	-.00245	-.00131	.00009	.00009	-.00020	.02609	-.00321	.17321

RUN NO. 26/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CEL	CYN	CY	CL	CD	L/D
3.950	-1.307	-.00522	-.13377	.12728	.02354	.00011	.00072	-.00133	-.13083	.13030	-1.00412
3.950	-.270	-.00526	-.10918	.12363	.02246	.00010	.00078	-.00173	-.10860	.12415	-.87474
3.950	.764	-.00446	-.08429	.12062	.02162	.00015	.00066	-.00143	-.08589	.11949	-.71878
3.950	1.795	-.00508	-.06053	.11829	.02131	.00013	.00070	-.00132	-.06421	.11633	-.55193
3.950	3.870	-.00501	-.00897	.11395	.02121	.00025	.00068	-.00124	-.01663	.11299	-.14721
3.950	8.042	-.00398	.09906	.10482	.02172	.00042	.00057	-.00116	.08342	.11765	.70911
3.950	12.218	-.00136	.21536	.09865	.02337	.00067	.00028	-.00090	.18960	.14199	1.33529
3.950	14.312	-.00081	.27862	.09562	.02452	.00081	.00013	-.00020	.24633	.16153	1.52504
3.950	16.416	.00046	.34491	.09235	.02537	.00077	-.00004	.00015	.30475	.18606	1.63790
3.950	18.520	-.00027	.41450	.08936	.02646	.00085	-.00005	.00072	.36465	.21640	1.68509
3.950	20.635	-.00163	.48725	.08659	.02812	.00088	.00008	.00078	.42547	.25275	1.68337
3.950	22.762	-.00219	.56305	.08453	.03058	.00081	.00009	.00109	.48649	.29580	1.64469
3.950	24.888	.00012	.64194	.08293	.03306	.00099	-.00021	.00165	.54742	.34539	1.58494
3.950	29.165	.00031	.81249	.07858	.03756	.00114	-.00029	.00210	.67119	.46456	1.44478
	GRADIENT	.00004	.02406	-.00255	-.00043	.00003	-.00001	.00005	.02203	-.00327	.16639

BASELINE + B7

LARC UPWT 1147(LA-71)

(RJ0002) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 28/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.600	4.759	-.02209	-.11448	.11899	.01607	.00004	.00079	-.00261	-.11289	.12049	-.93588
4.600	.280	-.02225	-.09104	.11500	.01541	.00010	.00077	-.00235	-.09160	.11455	-.79967
4.600	1.299	-.02159	-.06865	.11164	.01506	.00011	.00067	-.00221	-.07116	.11005	-.64662
4.600	2.324	-.02203	-.04561	.10850	.01484	.00019	.00070	-.00207	-.04998	.10656	-.46899
4.600	4.385	-.02110	.00118	.10203	.01473	.00032	.00057	-.00202	-.00662	.10182	-.06505
4.600	8.512	-.01977	.09891	.09218	.01595	.00048	.00029	-.00116	.08418	.10580	.79562
4.600	12.639	-.02068	.20631	.08572	.01939	.00032	.00040	-.00105	.18255	.12878	1.41754
4.600	14.710	-.01960	.26465	.08248	.02063	.00044	.00024	-.00085	.23503	.14698	1.59906
4.600	16.790	-.01916	.32634	.07980	.02133	.00061	.00012	-.00037	.28938	.17067	1.69560
4.600	18.866	-.01902	.39417	.07881	.02147	.00075	.00006	-.00006	.34751	.20203	1.72006
4.600	20.953	-.01960	.46271	.07750	.02346	.00073	.00007	.00039	.40439	.23784	1.70026
4.600	23.040	-.01943	.53240	.07668	.02538	.00077	.00000	.00071	.45992	.27893	1.64888
4.600	25.133	-.01884	.60707	.07548	.02665	.00086	-.00015	.00127	.51754	.32617	1.58673
4.600	29.326	-.01910	.76610	.07216	.03062	.00083	-.00018	.00184	.63258	.43813	1.44391
	GRADIENT	.00019	.02246	-.00326	-.00025	.00005	-.00004	.00011	.02064	-.00356	.17045

BASELINE + B7

LARC UPWT 1147(LA-71)

(SJC002) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

ORIGINAL PAGE IS
OF POOR QUALITY

RUN NO. 22/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
2.950	-1.396	192.57228	-.10259	-.11089	-.11155	-.13303
2.950	-.370	192.42925	-.10255	-.11160	-.11228	-.13377
2.950	.648	192.42925	-.10331	-.11236	-.11304	-.13377
2.950	1.674	192.42925	-.10483	-.11312	-.11380	-.13453
2.950	3.737	192.42925	-.10636	-.11464	-.11457	-.13453
2.950	7.841	192.55440	-.10411	-.11315	-.11307	-.13150
2.950	11.975	192.50077	-.10486	-.11390	-.11230	-.13225
2.950	14.027	192.53652	-.10563	-.11391	-.11307	-.13302
2.950	16.102	192.57228	-.10640	-.11467	-.11384	-.13455
2.950	18.166	192.59016	-.10945	-.11771	-.11613	-.13608
2.950	20.240	192.71531	-.11025	-.11850	-.11769	-.13686
2.950	22.318	192.62592	-.11099	-.11847	-.11767	-.13761
2.950	24.394	192.76895	-.11255	-.12002	-.11923	-.13915
2.950	28.549	192.73319	-.11635	-.12380	-.12227	-.14296
	GRADIENT	-.02069	-.00081	-.00073	-.00060	-.00029

RUN NO. 26/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
3.950	-1.307	296.96982	-.06004	-.06733	-.06536	-.07830
3.950	-.270	296.94674	-.06003	-.06733	-.06487	-.07830
3.950	.764	296.93905	-.06053	-.06733	-.06486	-.07830
3.950	1.795	296.92367	-.06102	-.06782	-.06536	-.07879
3.950	3.870	296.90829	-.06102	-.06782	-.06585	-.07879
3.950	8.042	296.94674	-.06102	-.06782	-.06635	-.07830
3.950	12.218	296.95443	-.06152	-.06782	-.06586	-.07830
3.950	14.312	296.86215	-.06200	-.06782	-.06585	-.07879
3.950	16.416	296.93905	-.06277	-.06831	-.06635	-.07929
3.950	18.520	296.90060	-.06299	-.06880	-.06684	-.08028
3.950	20.635	296.90060	-.06398	-.06978	-.06733	-.08028
3.950	22.762	296.94674	-.06399	-.06979	-.06734	-.08077
3.950	24.888	296.87753	-.06497	-.07076	-.06832	-.08176
3.950	29.165	296.89291	-.06546	-.07126	-.06931	-.08225
	GRADIENT	-.01144	-.00022	-.00012	-.00013	-.00012

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DATE 07 DEC 76

TABLULATED SOURCE DATA, LA71A/B (LARC UPWT 1147/1132)

PAGE 8

BASELINE + B7

LARC UPWT 1147(LA-71)

(SJC002) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 28/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
4.600	-.759	235 35870	-.03896	-.04810	-.04319	-.06014
4.600	.280	235 35870	-.03896	-.04810	-.04319	-.06014
4.600	1.299	235 35870	-.03896	-.04810	-.04319	-.06014
4.600	2.324	235 29162	-.03895	-.04809	-.04319	-.06014
4.600	4.385	235 35870	-.03958	-.04810	-.04382	-.05077
4.600	8.512	235.29162	-.04020	-.04871	-.04443	-.06076
4.600	12.639	235 29162	-.04082	-.04871	-.04506	-.06201
4.600	14.710	235.29162	-.04144	-.04933	-.04506	-.06264
4.600	16.790	235.29162	-.04207	-.04933	-.04568	-.06264
4.600	18.866	235 29162	-.04144	-.04995	-.04568	-.06264
4.600	20.953	235 22454	-.04144	-.04995	-.04568	-.06326
4.600	23.040	235 22454	-.04206	-.05057	-.04568	-.06326
4.600	25.133	235.22454	-.04206	-.05119	-.04630	-.06389
4.600	29.326	235.29162	-.04144	-.05057	-.04568	-.06326
	GRADIENT	-.00351	-.00011	.00000	-.00012	-.00012

BASELINE + 06

LARC UPWT 1147(LA-71)

(RJCO03) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 10/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00											
MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
2.950	-1.401	.00307	-.15481	.14577	.04354	-.00002	.00002	-.00350	-.15120	.14951	-1.01132
2.950	-.374	.00186	-.12662	.14300	.04229	.00019	.00015	-.00317	-.12569	.14383	-.87398
2.950	.647	.00262	-.09612	.14036	.04028	.00022	.00006	-.00332	-.09770	.13926	-.70157
2.950	1.681	.00119	-.06699	.13717	.03879	.00030	.00033	-.00362	-.07098	.13515	-.52522
2.950	3.733	.00180	-.00911	.13307	.03704	.00050	.00022	-.00351	-.01776	.13220	-.13434
2.950	7.324	.00061	.09912	.12191	.03307	.00075	.00029	-.00263	.08276	.13355	.61971
2.950	11.962	.00189	.24522	.11133	.03152	.00066	.00006	-.00242	.21682	.15974	1.35733
2.950	14.029	.00297	.31145	.10746	.03106	.00073	-.00010	-.00248	.27611	.17976	1.53600
2.950	16.099	.00260	.38117	.10460	.02981	.00061	-.00007	-.00229	.33722	.20620	1.63545
2.950	18.164	.00373	.45334	.10135	.02858	.00078	-.00030	-.00181	.39915	.23763	1.67975
2.950	20.232	.00468	.52610	.09712	.02667	.00088	-.00046	-.00168	.46005	.27307	1.68475
2.950	22.314	.00541	.60264	.09314	.02595	.00116	-.00070	-.00072	.52215	.31498	1.65771
2.950	24.385	.00626	.67988	.08955	.02513	.00127	-.00096	.00028	.58226	.36226	1.60730
2.950	28.539	.00732	.84020	.08314	.02519	.00156	-.00119	.00092	.69840	.47444	1.47204
	GRADIENT	-.00023	.02847	-.00250	-.00131	.00009	.00004	-.00004	.02609	-.00336	.17222
RUN NO. 12/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00											
MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.950	-1.311	-.00351	-.13685	.12750	.02371	.00019	.00057	-.00157	-.13390	.13060	-1.02526
3.950	-.271	-.00320	-.11223	.12383	.02273	.00022	.00057	-.00181	-.11164	.12436	-.89771
3.950	.757	-.00358	-.08731	.12085	.02200	.00027	.00058	-.00164	-.08890	.11968	-.74276
3.950	1.790	-.00428	-.06322	.11856	.02174	.00020	.00069	-.00187	-.06689	.11652	-.57403
3.950	3.866	-.00358	-.01257	.11379	.02163	.00034	.00056	-.00143	-.02021	.11269	-.17937
3.950	8.038	-.00075	.09566	.10415	.02222	.00061	.00025	-.00122	.08016	.11650	.68808
3.950	12.209	-.00125	.21177	.09749	.02315	.00077	.00032	-.00134	.19637	.14007	1.33052
3.950	14.297	.00100	.27451	.09490	.02417	.00083	.00005	-.00102	.24257	.15975	1.51843
3.950	16.410	.00329	.34209	.09211	.02502	.00082	-.00024	-.00064	.30213	.18501	1.63310
3.950	18.515	.00417	.41158	.08928	.02571	.00086	-.00040	-.00011	.36192	.21536	1.68058
3.950	20.634	.00445	.48492	.08642	.02704	.00085	-.00042	-.00007	.42336	.25176	1.68160
3.950	22.747	.00317	.55984	.08438	.02903	.00085	-.00036	.00044	.48367	.29428	1.64355
3.950	24.875	.00427	.63924	.08291	.03142	.00096	-.00052	.00084	.54506	.34410	1.58401
3.950	29.158	.00348	.80922	.07810	.03511	.00089	-.00044	.00094	.66863	.46247	1.44577
	GRADIENT	-.00008	.02399	-.00260	-.00038	.00002	.00000	.00003	.02195	-.00338	.16455

BASELINE + 86

LARC UPWT 1147(LA-71)

(RJC003) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6000 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPOBRK = 55.000

RUN NO. 14/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.600	-.751	-.02168	-.11609	.11849	.01637	.00026	.00068	-.00238	-.11452	.12000	-.95433
4.600	.272	-.02198	-.09297	.11474	.01567	.00039	.00067	-.00205	-.09351	.11430	-.81815
4.600	1.300	-.02049	-.07018	.11153	.01549	.00043	.00049	-.00206	-.07269	.10991	-.66140
4.600	2.332	-.02070	-.04709	.10822	.01512	.00036	.00049	-.00189	-.05145	.10621	-.48444
4.600	4.386	-.02059	.00081	.10175	.01484	.00042	.00051	-.00215	-.00697	.10151	-.06867
4.600	8.504	-.01875	.09787	.09189	.01583	.00053	.00021	-.00155	.06321	.10535	.78984
4.600	12.634	.01936	.20456	.08484	.01917	.00060	.00028	-.00151	.18105	.12753	1.41966
4.600	14.703	-.01861	.26249	.08233	.02050	.00057	.00014	-.00120	.23300	.14626	1.59308
4.600	16.784	-.01870	.32652	.08013	.02039	.00051	.00008	-.00076	.28947	.17100	1.69276
4.600	18.856	-.01770	.39177	.07834	.02108	.00061	-.00006	-.00061	.34543	.20075	1.72065
4.600	20.947	-.01817	.45974	.07672	.02264	.00066	-.00004	-.00027	.40193	.23600	1.70306
4.600	23.041	-.01711	.53156	.07589	.02430	.00085	-.00022	.00012	.45945	.27789	1.65337
4.600	25.129	-.01712	.60530	.07506	.02551	.00089	-.00028	.00065	.51614	.32500	1.58815
4.600	29.340	-.01814	.76568	.07271	.02916	.00086	-.00015	.00080	.63183	.43856	1.44069
	GRADIENT	.00026	.02272	-.00323	-.00028	.00002	-.00004	.00004	.02091	-.00355	.17314

BASELINE + B6

LARC UPWT 1147(LA-71)

(SJC003) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 10/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
2.950	-1.401	192.67955	-.10633	-.06082	-.11072	-.13500
2.950	-.374	192.53652	-.10705	-.06074	-.11221	-.13598
2.950	.647	192.53652	-.10781	-.06302	-.11373	-.13750
2.950	1.681	192.51865	-.10933	-.06376	-.11525	-.13826
2.950	3.733	192.51865	-.11009	-.06452	-.11449	-.13750
2.950	7.324	192.51865	-.10933	-.06376	-.11297	-.13674
2.950	11.962	192.51865	-.10933	-.06376	-.11220	-.13368
2.950	14.029	192.60804	-.10936	-.06381	-.11299	-.13370
2.950	16.099	192.57228	-.11087	-.06531	-.11451	-.13522
2.950	18.164	192.57228	-.11392	-.06758	-.11679	-.13674
2.950	20.232	192.51865	-.11543	-.06831	-.11754	-.13750
2.950	22.314	192.53652	-.11619	-.06908	-.11831	-.13826
2.950	24.385	192.73319	-.11624	-.06917	-.11836	-.13829
2.950	28.539	192.59016	-.12002	-.07289	-.12137	-.14209
	GRADIENT	-.02493	-.00077	-.00081	-.00078	-.00038

RUN NO. 12/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
3.950	-1.311	296.84676	-.06243	-.03382	-.06479	-.08170
3.950	-.271	296.73909	-.06291	-.03331	-.06429	-.08120
3.950	.757	296.66988	-.06291	-.03379	-.06478	-.08169
3.950	1.790	296.66450	-.06340	-.03428	-.06478	-.08169
3.950	3.866	296.64680	-.06482	-.03526	-.06577	-.08119
3.950	8.038	296.64680	-.06439	-.03526	-.06676	-.08169
3.950	12.209	296.58528	-.06438	-.03476	-.06626	-.08119
3.950	14.297	296.58528	-.06537	-.03525	-.06626	-.08070
3.950	16.410	296.57759	-.06537	-.03525	-.06625	-.08070
3.950	18.515	296.57759	-.06586	-.03574	-.06675	-.08119
3.950	20.634	296.51606	-.06586	-.03522	-.06724	-.08168
3.950	22.747	296.54683	-.06636	-.03622	-.06724	-.08169
3.950	24.875	296.53913	-.06685	-.03721	-.06774	-.08168
3.950	29.158	296.54683	-.06784	-.03819	-.06922	-.08317
	GRADIENT	-.03584	-.00045	-.00033	-.00022	-.00005

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 OF POOR QUALITY

BASELINE + B6

LARC UPWT 1147(LA-71)

(SJC003) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -40.000
 BDFLAP = -11.700 SPOBRK = 55.000

RUN NO. 14/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
4.600	.751	235.66771	-.04140	-.00469	-.04252	-.06194
4.600	.272	235.66771	-.04202	-.00531	-.04252	-.06257
4.600	1.300	235.73479	-.04141	-.00533	-.04253	-.06257
4.600	2.332	235.60063	-.04139	-.00529	-.04252	-.06257
4.600	4.386	235.60063	-.04264	-.00591	-.04376	-.06319
4.600	8.504	235.53355	-.04326	-.00651	-.04376	-.06381
4.600	12.634	235.66771	-.04451	-.00717	-.04502	-.06444
4.600	14.703	235.66771	-.04389	-.00717	-.04502	-.06381
4.600	16.784	235.73479	-.04452	-.00718	-.04502	-.06381
4.600	18.856	235.60063	-.04389	-.00777	-.04501	-.06381
4.600	20.947	235.66771	-.04576	-.00779	-.04564	-.06444
4.600	23.041	235.46647	-.04449	-.00835	-.04500	-.06381
4.600	25.129	235.53355	-.04575	-.00837	-.04625	-.06506
4.600	29.340	235.53355	-.04575	-.00837	-.04625	-.06506
	GRADIENT	-.01677	-.00018	-.00020	-.00023	-.00021

BASELINE + B1

LARC UPWT 1147(LA-71)

(RJC004) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 15.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 17/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
2.950	-6.079	15.06388	.35220	.10615	.02723	.00832	-.00160	.09322	.31251	.19404	1.61055
2.950	-4.035	15.06716	.35209	.10583	.02911	.00522	-.00013	.05798	.31222	.19469	1.60367
2.950	-2.016	15.06777	.35180	.10742	.03084	.00266	.00072	.02791	.31178	.19518	1.59742
2.950	-.020	15.07004	.35228	.10699	.03120	.00073	.00030	-.00066	.31235	.19490	1.60262
2.950	2.035	15.07104	.35192	.10646	.03155	-.00123	-.00040	.02822	.31213	.19430	1.60645
2.950	4.062	15.07028	.35326	.10577	.02937	-.00414	.00105	-.06100	.31361	.19398	1.61672
2.950	6.104	15.06748	.35331	.10573	.02772	-.00708	.00270	-.09379	.31368	.19394	1.61739
	GRADIENT	.00047	.00012	-.00015	.00006	-.00112	.00006	-.01453	.00015	-.00011	.00174

BASELINE + B1

LARC UPWT 1147(LA-71)

(SJC004) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 15.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 17/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
2.950	-6.079	192.59016	-.11385	-.12204	-.11902	-.13897
2.950	-4.035	192.67955	-.11388	-.12282	-.11904	-.13898
2.950	-2.016	192.76895	-.11238	-.12132	-.11754	-.13747
2.950	-.020	192.78683	-.10858	-.11830	-.11526	-.13442
2.950	2.035	192.85834	-.11164	-.12058	-.11680	-.13672
2.950	4.062	192.85834	-.11316	-.12210	-.11832	-.13901
2.950	6.104	192.85834	-.11392	-.12285	-.11908	-.13901
	GRADIENT	.02208	.00010	.00011	.00011	00003

BASELINE + B1

LARC UPWT 1147(LA-71)

(RJC005) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 18.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 19/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.950	-6.149	18.51852	.41588	.08794	.02393	.00926	.00315	.08000	.36641	.21548	1.70047
3.950	-4.102	18.51773	.41556	.08858	.02506	.00622	.00271	.05087	.36591	.21598	1.69421
3.950	-2.027	18.52085	.41356	.08944	.02663	.00299	.00274	.02339	.36373	.21617	1.68258
3.950	-.001	18.51735	.41276	.08908	.02674	.00083	-.00001	.00081	.36310	.21556	1.68447
3.950	2.028	18.51809	.41270	.08905	.02673	-.00146	-.00274	-.02203	.36305	.21552	1.68455
3.950	4.091	18.51805	.41467	.08826	.02559	-.00492	-.00242	-.05083	.36517	.21539	1.69541
3.950	6.174	18.51760	.41517	.08807	.02481	-.00791	-.00250	-.07918	.36571	.21537	1.69807
	GRADIENT	-.00010	-.00013	-.00005	.00006	-.00131	-.00077	-.01217	-.00011	-.00009	.00021

ORIGINAL PAGE IS OF POOR QUALITY

BASELINE + 91

LARC UPWT 1147(LA-71)

(SJC005) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 18.000 ELEVON = -40.000
 BCFLAP = -11.700 SPDBRK = 55.000

RUN NO. 19/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
3.950	-6.149	296.94674	-.06584	-.07407	-.07020	-.08364
3.950	-4.102	297.00058	-.06585	-.07407	-.07020	-.08364
3.950	-2.027	297.11594	-.06587	-.07261	-.06873	-.08216
3.950	-.001	296.95443	-.06437	-.07161	-.06822	-.08116
3.950	2.028	297.07749	-.06488	-.07211	-.06823	-.08166
3.950	4.091	297.07749	-.06586	-.07260	-.06922	-.08265
3.950	6.174	296.96982	-.06734	-.07505	-.07020	-.08413
	GRADIENT	.00568	00015	.00017	.00012	.00012

BASELINE + B1

LARC UPWT 1147(LA-71)

(RJCO06) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 20.000 ELEVON = -40.000
 BCFLAP = -11.700 SPDBRK = 55.000

RUN NO. 21/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.600	-6.138	20.94817	.45814	.07720	.02107	.00938	.00519	.06707	.40026	.23589	1.69679
4.600	-4.081	20.94671	.45819	.07714	.02204	.00653	.00390	.04352	.40033	.23584	1.69743
4.600	-2.032	20.94660	.45800	.07763	.02310	.00307	.00315	.01950	.39999	.23623	1.69318
4.600	-.018	20.94389	.45766	.07679	.02299	.00063	-.00016	.00075	.39997	.23531	1.69975
4.600	2.033	20.94034	.45619	.07715	.02282	-.00181	-.00309	-.01865	.39849	.23509	1.69503
4.600	4.072	20.93827	.45704	.07726	.02198	-.00531	-.00376	-.04297	.39924	.23550	1.69533
4.600	6.130	20.93616	.45619	.07765	.02114	-.00799	-.00507	-.06582	.39832	.23553	1.69117
	GRADIENT	-.00107	-.00020	-.00001	-.00002	-.00140	-.00106	-.01036	-.00018	-.00009	-.00012

DATE 07 DEC 76

TABULATED SOURCE DATA, LA71A/B (LARC UPWT 1147/1132)

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BASELINE + B1 LARC UPWT 1147(LA-71)

(SJC006) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 20.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 21/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
4.600	-6.138	235.15820	-.04441	-.05411	-.04804	-.06500
4.600	-4.081	235.09112	-.04503	-.05473	-.04866	-.06563
4.600	-2.032	235.15820	-.04503	-.05473	-.04866	-.06563
4.600	-.018	235.02404	-.04440	-.05410	-.04802	-.06438
4.600	2.033	235.09112	-.04440	-.05411	-.04741	-.06438
4.600	4.072	235.09112	-.04503	-.05473	-.04803	-.06500
4.600	6.130	235.09112	-.04565	-.05535	-.04866	-.06563
	GRADIENT	-.00326	.00003	.00003	.00012	.00012

BASELINE + B7 LARC UPWT 1147(LA-71)

(RJC007) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 15.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 23/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
2.950	-6.075	15.07042	.35333	.10558	.02689	.00854	-.00220	.09315	.31372	.19382	1.61867
2.950	-4.033	15.06747	.35104	.10566	.02928	.00517	-.00033	.05709	.31150	.19328	1.61166
2.950	-2.015	15.06799	.35123	.10670	.03044	.00261	.00082	.02610	.31141	.19434	1.60243
2.950	-.018	15.06810	.35151	.10685	.03081	.00066	.00018	-.00157	.31165	.19456	1.60180
2.950	1.998	15.06703	.35190	.10745	.03008	-.00125	-.00039	-.02859	.31188	.19523	1.59749
2.950	4.044	15.06638	.35454	.10696	.02761	-.00397	.00108	-.06149	.31455	.19544	1.60943
2.950	6.088	15.06631	.35572	.10663	.02617	+.00696	.00246	-.09518	.31578	.19543	1.61580
	GRADIENT	-.00016	.00038	.00017	-.00018	-.00110	.00008	-.01447	.00033	.00026	-.00046

BASELINE + B7 LARC UPWT 1147(LA-71) (SJC007) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 15.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 23/ 0 RN/L = 1.00 GRADIENT-INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
2.950	-6.075	192.92986	-.11183	-.12006	-.11774	-.13841
2.950	-4.033	193.01925	-.11338	-.12083	-.11852	-.13919
2.950	-2.015	193.05501	-.11262	-.11933	-.11777	-.13843
2.950	-.018	193.21592	-.10887	.11786	-.11629	-.13617
2.950	1.998	193.14440	-.10961	-.11784	-.11627	-.13616
2.950	4.044	193.10864	-.11188	-.11934	-.11778	-.13844
2.950	6.088	193.18016	-.11342	-.12163	-.12008	-.13997
	GRADIENT	.01323	.00030	.00022	.00015	.00019

BASELINE + B7 LARC UPWT 1147(LA-71) (RJC008) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 18.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 27/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.950	-6.144	18.52358	.41781	.08810	.02391	.00934	.00276	.07889	.36818	.21627	1.70239
3.950	-4.099	18.52022	.41656	.08888	.02490	.00621	.00253	.05017	.36676	.21659	1.69333
3.950	-2.043	18.51932	.41489	.08965	.02647	.00287	.00258	.02230	.36493	.21679	1.68335
3.950	-.017	18.51715	.41501	.08930	.02654	.00080	-.00021	.00007	.36516	.21648	1.68680
3.950	2.028	18.51549	.41495	.08924	.02627	-.00146	-.00274	-.02234	.36513	.21639	1.68737
3.950	4.089	18.51236	.41580	.08834	.02501	-.00511	-.00214	-.05163	.36624	.21579	1.69723
3.950	6.156	18.51184	.41627	.08829	.02439	-.00793	-.00259	-.07932	.36670	.21588	1.69859
	GRADIENT	-.00096	-.00007	-.00007	.00000	-.00132	-.00072	-.01214	-.00004	-.00010	.00058

BASELINE + B7

LARC UPWT 1147(LA-71)

(SJC008) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 18.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 27/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
3.950	-6.144	296.93136	-.06695	-.07273	-.07031	-.08374
3.950	-4.099	296.87753	-.06695	-.07273	-.07030	-.08374
3.950	-2.043	296.76217	-.03595	-.07223	-.06881	-.08274
3.950	-.017	297.12363	-.06450	-.07127	-.06785	-.08127
3.950	2.028	297.24668	-.06451	-.07079	-.06786	-.08128
3.950	4.089	297.25437	-.06500	-.07128	-.06835	-.08227
3.950	6.156	297.19285	-.06598	-.07226	-.06934	-.08325
	GRADIENT	.06048	.00026	.00021	.00024	.00021

BASELINE + B7

LARC UPWT 1147(LA-71)

(RJC009) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 20.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 29/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.600	-6.140	20.95469	.46381	.07773	.02208	.00904	.00546	.06659	.40534	.23846	1.69980
4.600	-4.081	20.95363	.46311	.07768	.02289	.00633	.00403	.04260	.40471	.23815	1.69936
4.600	-2.032	20.95237	.46169	.07778	.02389	.00301	.00319	.01907	.40335	.23774	1.69864
4.600	-.019	20.94962	.46142	.07759	.02354	.0067	-.00001	.00016	.40317	.23743	1.69804
4.600	2.014	20.94670	.46106	.07781	.02333	-.00176	-.00306	-.01893	.40277	.23750	1.69589
4.600	4.072	20.94345	.46114	.07773	.02194	-.00519	-.00382	-.04258	.40289	.23743	1.69686
4.600	6.131	20.94141	.46063	.07819	.02101	-.00787	-.00512	-.06569	.40226	.23766	1.69257
	GRADIENT	-.00128	-.00022	.0000.	-.00012	-.00137	-.00108	-.01024	-.00021	-.00008	-.00028

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BASELINE + B7

LARC UPWT 1147(LA-71)

(SJC009) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 20.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 29/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
4.600	-6.140	235.22454	-.04331	-.05181	-.04755	-.06513
4.600	-4.081	235.35870	-.04394	-.05244	-.04756	-.06576
4.600	-2.032	235.35870	-.04394	-.05306	-.04819	-.06576
4.600	-.019	235.35870	-.04332	-.05244	-.04694	-.06451
4.600	2.014	235.22454	-.04331	-.05181	-.04693	-.06451
4.600	4.072	235.29162	-.04394	-.05243	-.04756	-.06514
4.600	6.131	235.29162	-.04456	-.05305	-.04818	-.06576
	GRADIENT	-.01316	.00003	.00006	.00006	.00012

BASELINE + B6

LARC UPWT 1147(LA-71)

(RJC010) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 15.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 11/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CSL	CYN	CY	CL	CD	L/D
2.950	-6.093	15.06636	.34819	.10517	.02552	.00843	-.00224	.09232	.30889	.19206	1.60829
2.950	-4.050	15.06493	.34594	.10539	.02882	.00529	-.00062	.05700	.30666	.19168	1.59984
2.950	-2.013	15.06318	.34454	.10595	.03059	.00264	.00053	.02570	.30516	.19185	1.59068
2.950	-.016	15.06294	.34560	.10581	.03087	.00069	-.00011	-.00214	.30623	.19199	1.59505
2.950	2.001	15.06163	.34516	.10610	.03053	-.0027	-.00076	-.02962	.30573	.19214	1.59117
2.950	4.066	15.05894	.34758	.10533	.02805	-.00410	.00057	-.06179	.30828	.19202	1.60548
2.950	6.090	15.05522	.34804	.10523	.02597	-.00707	.00225	-.09593	.30876	.19203	1.60791
	GRADIENT	-.00067	.00019	.00000	-.00008	-.00112	.00005	-.01447	.00019	.00005	.00059

BASELINE + B6

LARC UPWT 1147(LA-71)

(SJC010) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 15.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 11/ 0 RN/L = 1.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
2.950	-6.093	192.78683	-.11702	-.07147	-.11989	-.14287
2.950	-4.050	192.84046	-.11627	-.07150	-.11914	-.14211
2.950	-2.013	192.80471	-.11474	-.06921	-.11761	-.13906
2.950	-.016	192.76895	-.11245	-.06768	-.11608	-.13677
2.950	2.001	192.91198	-.11401	-.06775	-.11612	-.13831
2.950	4.066	192.80471	-.11550	-.06997	-.11761	-.13982
2.950	6.090	192.80471	-.11702	-.07148	-.11914	-.14135
	GRADIENT	.00172	.00011	.00022	.00022	.00025

BASELINE + B6

LARC UPWT 1147(LA-71)

(RJC011) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XU
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 18.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 13/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.950	-6.144	18.51258	.41587	.08850	.02278	.00930	.00277	.07872	.36625	.21596	1.69588
3.950	-4.077	18.51160	.41499	.08865	.02391	.00635	.00233	.04995	.36537	.21582	1.69291
3.950	-2.043	18.50959	.41290	.08940	.02544	.00302	.00255	.02196	.36316	.21586	1.68240
3.950	-.014	18.50870	.41324	.08919	.02595	.00083	-.00045	-.00048	.36355	.21576	1.68500
3.950	2.049	18.50841	.41389	.08915	.02591	-.00149	-.00286	-.02321	.36418	.21593	1.68657
3.950	4.094	18.50599	.41531	.08805	.02437	-.00504	-.00255	-.05231	.36589	.21531	1.69930
3.950	6.160	18.50453	.41569	.08805	.02339	-.00787	-.00292	-.08032	.36626	.21543	1.70011
	GRADIENT	-.00061	.00008	-.00007	.00007	-.00134	-.00074	-.01222	.00010	-.00005	.00083

BASELINE + B6 LARC UPWT 1147(LA-71)

(SJC011) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 18.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 13/ 0 RN/L = 2.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	CPC2	CPB1	CPB2	CPB3
3.950	-6.144	296.50837	-.06833	-.03818	-.06922	-.08416
3.950	-4.077	296.56990	-.06883	-.03918	-.06972	-.08466
3.950	-2.043	296.53913	-.06784	-.03868	-.06873	-.08367
3.950	-.014	296.55452	-.06735	-.03770	-.06823	-.08268
3.950	2.049	296.53913	-.06735	-.03770	-.06823	-.08268
3.950	4.094	296.56990	-.06834	-.03820	-.06873	-.08367
3.950	6.160	296.56990	-.06933	-.03918	-.06972	-.08466
	GRADIENT	.00000	.00007	.00014	.00012	.00014

BASELINE + B6 LARC UPWT 1147(LA-71)

(RJC012) (18 MAR 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 20.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 15/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.600	-6.121	20.95370	.46168	.07712	.02089	.00928	.00533	.06680	.40357	.23712	1.70197
4.600	-4.081	20.95279	.46003	.07671	.02235	.00654	.00392	.04279	.40218	.23615	1.70311
4.600	-2.031	20.95183	.45966	.07688	.02346	.00303	.00302	.01867	.40177	.23617	1.70123
4.600	-.018	20.94821	.45940	.07671	.02269	.00056	-.00008	-.00055	.40161	.23589	1.70256
4.600	2.016	20.94695	.45949	.07737	.02234	-.00174	-.00325	-.01926	.40146	.23652	1.69733
4.600	4.076	20.94458	.45847	.07691	.02169	-.00508	-.00415	-.04347	.40068	.23571	1.69987
4.600	6.135	20.94179	.45791	.07708	.02061	-.00780	-.00552	-.06646	.40011	.23565	1.69790
	GRADIENT	-.0105	-.00016	.00004	-.00012	-.00138	-.00110	-.01034	-.00016	-.00003	-.00051

BASELINE + B6 LARC UPWT 1147(LA-71)

(SJC012) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. ZO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 20.000 ELEVON = -40.000
 BDFLAP = -11.700 SPDBRK = 55.000

RUN NO. 15/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(P5F)	CPC2	CPB1	CPB2	CPB3
4.600	-6.121	235.60063	-.04700	-.01024	-.04750	-.06631
4.600	-4.081	235.66771	-.04700	-.01026	-.04751	-.06693
4.600	-2.031	235.66771	-.04763	-.01088	-.04751	-.06693
4.600	-.018	235.66771	-.04700	-.01026	-.04688	-.06568
4.600	2.016	235.66771	-.04700	-.00964	-.04688	-.06568
4.600	4.076	235.73479	-.04763	-.01028	-.04689	-.06693
4.600	6.135	235.60063	-.04762	-.01086	-.04750	-.06693
	GRADIENT	.00661	-.00003	.00006	.00009	.00006

LARC UPWT 1 1132 (LA71B) BASELINE B1

(RJR001) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = 0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 2/ 0 RN/L = 1.51 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
1.500	-3.092	-.27941	.18922	.14076	-.26880	.20402	-1.31752	.00019	.00041	.00073	-.02563
1.500	-2.098	-.22786	.18769	.13032	-.22083	.19591	-1.12724	.00010	.00016	.00164	-.02419
1.500	-1.047	-.17395	.18578	.12014	-.17053	.18892	-.90263	-.00001	.00029	.00033	-.02336
1.500	.034	-.11816	.18364	.10910	-.11826	.18357	-.64424	.00010	.00039	.00111	-.02583
1.500	1.083	-.06743	.18155	.09989	-.07085	.18074	-.39310	.00008	.00032	.00127	-.02519
1.500	2.163	-.01117	.17919	.08993	-.01792	.17604	-.10033	.00016	.00035	.00030	-.02393
1.500	4.282	.09259	.17350	.07222	.07937	.17993	.44114	.00020	.00018	.00240	-.02556
1.500	6.412	.19368	.16748	.05718	.17376	.18806	.92396	.00069	.00023	.00257	-.02641
1.500	8.559	.29747	.16215	.04174	.27003	20462	1.31968	.00076	.00054	.00119	-.02766
1.500	10.686	.39762	.15770	.02811	.36148	22870	1.58060	.00080	.00013	.00469	-.02885
1.500	12.835	.49599	.15251	.01641	.44972	25888	1.73716	.00079	.00032	.00396	-.02989
	GRADIENT	.05047	-.00211	-.00931	04725	-.00332	.24037	.00001	-.00001	.00012	-.00005

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LARC UPWT 1 1132 (LA71B) BASELINE B1

(RJR001) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 4/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
2.000	-2.393	-.19432	.16294	.07909	-.18734	.17091	-1.09612	-.00016	.00092	-.00126	-.00940
2.000	-1.409	-.15539	.16113	.07431	-.15132	.16490	-.91802	.00010	.00085	-.00021	-.01030
2.000	-.310	-.10744	.15906	.06828	-.10657	.15964	-.66761	-.00004	.00086	-.00118	-.00864
2.000	.714	-.06622	.15672	.06269	-.06817	.15588	-.43732	.00016	.00065	.00028	-.00859
2.000	1.768	-.02505	.15483	.05701	-.02982	.15398	-.19363	.00001	.00062	-.00002	-.00765
2.000	2.826	.01753	.15277	.05167	.00997	.15345	.06499	.00007	.00069	-.00018	-.00822
2.000	4.963	.10374	.14705	.04010	.09063	.15547	.58291	.00027	.00070	.00042	-.00931
2.000	7.079	.19367	.14196	.03050	.16478	.16351	1.00774	.00051	.00056	.00011	-.00708
2.000	9.209	.26494	.13669	.02382	.23965	.17733	1.35141	.00054	.00061	.00049	-.00825
2.000	11.322	.34217	.13159	.02123	.30968	.19621	1.57829	.00081	.00035	.00090	-.00584
2.000	13.457	.41995	.12662	.02091	.37895	.22087	1.71571	.00101	.00008	.00107	-.00287
2.000	17.745	.58546	.11992	.01647	.52106	.29264	1.78052	.00100	-.00027	.00265	-.00141
2.000	22.015	.75543	.10737	.00709	.66010	.38272	1.72478	.00093	-.00030	.00343	-.00222
2.000	24.163	.84361	.10046	.00361	.72858	.43698	1.66728	.00115	-.00045	.00383	-.00110
2.000	26.333	.93544	.09291	.00030	.79716	.49821	1.60004	.00156	-.00150	.00352	-.00691
	GRADIENT	.04052	-.00212	-.00532	.03780	-.00213	.23006	.00004	-.00003	.00019	.00014

RUN NO. 7/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
2.500	-2.216	-.14851	.14213	.04289	-.14290	.14777	-.96707	-.00006	.00073	.00176	-.03028
2.500	-1.252	-.11775	.14037	.04006	-.11465	.14290	-.80230	.00014	.00096	-.00024	-.02951
2.500	-.181	-.08073	.13773	.03682	-.08029	.13798	-.58192	.00035	.00072	.00213	-.03053
2.500	.825	-.04674	.13537	.03383	-.04869	.13468	-.36149	.00048	.00090	.00185	-.03203
2.500	1.871	-.01885	.13390	.03137	-.02321	.13321	-.17423	.00028	.00076	.00050	-.02828
2.500	2.960	.02328	.13122	.02825	.01647	.13224	.12455	.00044	.00105	.00104	-.03231
2.500	5.014	.07759	.12693	.02396	.06620	.13323	.49689	.00046	.00098	.00212	-.03323
2.500	7.117	.14418	.12215	.02028	.12794	.13907	.91992	.00037	.00084	.00013	-.02848
2.500	9.235	.21422	.11670	.01793	.19272	.14956	1.28855	.00072	.00076	.00189	-.03038
2.500	11.347	.28237	.11217	.01634	.25478	.16553	1.53916	.00049	.00049	.00142	-.02666
2.500	13.460	.35522	.10778	.01473	.32037	.18750	1.70865	.00042	.00028	.00128	-.02413
2.500	17.689	.50274	.10250	.01000	.44783	.25041	1.78839	.00093	.00039	.00334	-.02854
2.500	21.915	.65553	.09224	.00314	.57373	.33024	1.73733	.00105	-.00003	.00250	-.02246
2.500	24.042	.73719	.08652	-.00090	.63799	.37935	1.68178	.00124	.00006	.00356	-.02514
2.500	26.191	.82702	.08043	-.00445	.70661	.43719	1.61627	.00128	-.00008	.00373	-.02376
2.500	30.449	.98889	.06920	-.00851	.81743	.56080	1.45761	.00174	-.00040	.00439	-.02121
	GRADIENT	.03282	-.00211	-.00282	.03042	-.00302	.20878	.00008	.00003	-.00004	-.00022

LARC UPWT 1 1132 (LA71B) BASELINE B1

(AJR001) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 2/ 0 RN/L = 1.51 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q (PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
1.500	-3.092	358.88764	1.50624	-.25880	-.25761	-.28235	-.27948	-.26741
1.500	-2.098	358.88764	1.50624	-.26002	-.25884	-.28481	-.28030	-.26741
1.500	-1.047	358.88764	1.50624	-.26043	-.25966	-.28727	-.28522	-.26884
1.500	.034	358.97344	1.50660	-.26175	.26057	-.28899	-.29063	-.27037
1.500	1.083	359.23086	1.50768	-.26202	-.26084	-.29006	-.29129	-.27105
1.500	2.163	359.31667	1.50804	-.26129	-.26011	-.28850	-.29014	-.27154
1.500	4.282	359.31667	1.50804	-.26088	-.26052	-.28154	-.28400	-.26908
1.500	6.412	359.27377	1.50786	-.26288	-.26253	-.27454	-.27208	-.26001
1.500	8.559	359.44538	1.50858	-.26837	-.26763	-.27921	-.27594	-.25691
1.500	10.686	359.74570	1.50985	-.28010	-.27858	-.29178	-.28728	-.26829
1.500	12.835	359.96022	1.51075	-.29377	-.29271	-.31119	-.30220	-.28325
	GRADIENT	.07427	.00031	-.00028	-.00036	-.00008	-.00101	-.00042

RUN NO. 4/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q (PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.000	-2.393	357.13697	1.50360	-.15963	-.15870	-.17173	-.17338	-.16532
2.000	-1.409	357.28011	1.50420	-.16218	-.16084	-.17181	-.17222	-.16581
2.000	-.310	357.02961	1.50314	-.16780	-.16689	-.17003	-.17868	-.16857
2.000	.714	356.92225	1.50269	-.16692	-.16601	-.17121	-.18193	-.16851
2.000	1.768	356.49283	1.50088	-.16751	-.16619	-.17429	-.18213	-.16911
2.000	2.826	356.02762	1.49893	-.16891	-.16801	-.17859	-.18686	-.17259
2.000	4.963	356.02762	1.49893	-.16850	-.16760	-.17405	-.18025	-.16804
2.000	7.079	355.84870	1.49817	-.17088	-.16999	-.17478	-.17478	-.16380
2.000	9.209	355.81291	1.49802	-.17375	-.17328	-.17725	-.17725	-.16419
2.000	11.322	355.70556	1.49757	-.17617	-.17488	-.17926	-.18009	-.16704
2.000	13.457	355.63398	1.49727	-.17696	-.17609	-.18212	-.18460	-.17322
2.000	17.745	355.56241	1.49697	-.20294	-.20340	-.21312	-.21022	-.20096
2.000	22.015	355.56241	1.49697	-.21656	-.21625	-.22429	-.21932	-.21215
2.000	24.163	355.59820	1.49712	-.21946	-.21958	-.22678	-.22347	-.21341
2.000	26.333	355.13498	1.49938	-.21926	-.21813	-.22491	-.22243	-.20907
	GRADIENT	-.19215	-.00081	-.00115	-.00117	-.00070	-.00147	-.00060

LARC UPWT 1 1132 (LA71B) BASELINE B1

(AJR001) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 7/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.500	-2.216	326.16735	1.50012	-.11223	-.10977	-.11757	-.11802	-.11571
2.500	-1.252	326.70508	1.50259	-.11601	-.11357	-.11910	-.12000	-.11860
2.500	-.181	325.75766	1.49823	-.11749	-.11505	-.11969	-.12104	-.11828
2.500	.825	326.03932	1.49953	-.11803	-.11605	-.12023	-.12114	-.11792
2.500	1.871	325.52721	1.49717	-.11921	-.11723	-.12187	-.12232	-.11866
2.500	2.960	326.14175	1.50000	-.12122	-.11879	-.12207	-.12703	-.12067
2.500	5.014	326.24417	1.50047	-.12305	-.12109	-.12436	-.12977	-.12206
2.500	7.117	326.21856	1.50035	-.12485	-.12243	-.12570	-.13066	-.12205
2.500	9.235	326.03932	1.49953	-.12479	-.12237	-.12610	-.12790	-.12064
2.500	11.347	326.11614	1.49988	-.12526	-.12240	-.12612	-.12657	-.12066
2.500	13.460	326.16735	1.50012	-.12438	-.12242	-.12524	-.12569	-.12113
2.500	17.689	326.09053	1.49976	-.13516	-.13188	-.14145	-.14326	-.13693
2.500	21.915	326.06493	1.49984	-.13965	-.13730	-.14686	-.14731	-.14099
2.500	24.042	326.16735	1.50012	-.14148	-.13913	-.14779	-.14779	-.14102
2.500	26.191	326.09053	1.49976	-.14146	-.13911	-.14461	-.14687	-.13602
2.500	30.449	326.19296	1.50023	-.13339	-.13191	-.13968	-.13968	-.13018
	GRADIENT	-.09346	-.00043	-.00152	-.00157	-.00086	-.00144	-.00068

LARC UPWT 1 1132 (LA71B) BASELINE B7 (INVERTED)

(RJR002) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPOBRK = 55.000
 RUDDER = .000

RUN NO. 1/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
1.500	-6.086	-.43460	.19223	.17025	-.41177	.23722	-1.73581	-.00057	.00080	-.00332	.01493
1.500	-3.973	-.32849	.19047	.15029	-.31451	.21277	-1.47813	-.00068	.00077	-.00311	.01493
1.500	-1.839	-.21661	.18745	.12840	-.21048	.19431	-1.08323	-.00032	.00071	-.00232	.01434
1.500	-.787	-.16175	.18538	.11713	-.15919	.18759	-.84861	-.00038	.00055	-.00297	.01739
1.500	.265	-.10702	.18383	.10666	-.10787	.18334	-.58835	.00003	.00071	-.00103	.01195
1.500	1.368	-.05060	.18195	.09652	-.05493	.18069	-.30400	-.00026	.00070	-.00173	.01336
1.500	2.427	.00083	.17992	.08784	-.00673	.17979	-.03778	-.00014	.00048	-.00049	.01382
1.500	3.421	.05124	.17736	.07913	.04056	.18010	.22522	.00000	.00051	-.00078	.01401
	GRADIENT	.05133	-.00174	-.00963	.04802	-.00429	.23356	.00008	-.00003	.00036	-.00023

RUN NO. 6/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
2.000	-6.989	-.36995	.16952	.09528	-.34658	.21328	-1.62501	.00000	.00093	.00103	.00586
2.000	-4.830	-.28461	.16614	.08808	-.26961	.18951	-1.42265	.00007	.00081	-.00060	.01012
2.000	-2.731	-.20197	.16294	.07957	-.19397	.17238	-1.12526	.00006	.00064	-.00013	.01140
2.000	-1.640	-.15828	.16103	.07455	-.15360	.16549	-.92815	.00021	.00065	.00020	.01067
2.000	-.607	-.11627	.15926	.06941	-.11459	.16048	-.71396	.00013	.00059	.00029	.01118
2.000	.464	-.07330	.15677	.06347	-.07457	.15617	-.47750	.00003	.00055	.00060	.01108
2.000	1.503	-.03034	.15468	.05793	-.03439	.15383	-.22353	.00018	.00046	.00104	.01141
2.000	2.533	.01081	.15245	.05214	.00406	.15277	.02658	.00025	.00045	.00141	.01084
	GRADIENT	.04021	-.00188	-.00493	.03728	-.00495	.19946	.00002	-.00005	.00027	.00009

RUN NO. 9/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
2.500	-7.127	-.30392	.15047	.05298	-.28291	.18711	-1.51278	-.00021	.00148	-.00248	-.01233
2.500	-5.028	-.23352	.14613	.04858	-.21982	.16603	-1.32393	-.00007	.00152	-.00299	-.01196
2.500	-2.956	-.17091	.14274	.04425	-.16332	.15136	-1.07902	-.00007	.00129	-.00379	-.00813
2.500	-1.893	-.13621	.14116	.04178	-.13147	.14558	-.90307	.00016	.00127	-.00360	-.00827
2.500	-.849	-.10149	.13917	.03851	-.09941	.14066	-.70675	.00001	.00120	-.00275	-.00887
2.500	.191	-.06969	.13682	.03584	-.07013	.13658	-.51349	.00014	.00122	-.00428	-.00659
2.500	1.213	-.04161	.13538	.03325	-.04447	.13447	-.33069	.00045	.00112	-.00302	-.00758
2.500	2.199	-.00762	.13362	.03064	-.01274	.13323	-.09566	.00063	.00110	-.00397	-.00581
	GRADIENT	.03133	-.00181	-.00267	.02887	-.00355	.18883	.00012	-.00004	-.00002	.00044

ORIGINAL PAGE IS
OF POOR QUALITY

LARC UPWT : 1132 (LA71B) BASELINE B7 (INVERTED)

(AJR002) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BOFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 1/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
1.500	-6.086	357.81505	1.50174	-.24894	-.24771	-.26802	-.26432	-.25260
1.500	-3.973	357.34311	1.49976	-.25459	-.25380	-.27783	-.27495	-.26323
1.500	-1.839	358.28699	1.50372	-.25969	-.25892	-.28575	-.28493	-.26915
1.500	-.787	362.14830	1.51993	-.26167	-.26130	-.28704	-.29313	-.27223
1.500	.265	365.10864	1.53235	-.26550	-.26433	-.29066	-.29751	-.27517
1.500	1.368	361.16152	1.51579	-.26593	-.26517	-.29097	-.29708	-.27655
1.500	2.427	359.27377	1.50786	-.26604	-.26569	-.29080	-.29817	-.27836
1.500	3.421	358.02957	1.50264	-.26721	-.26606	-.28837	-.29659	-.27876
	GRADIENT	.16027	.00067	-.00171	-.00169	-.00150	-.00304	-.00215

RUN NO. 6/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.000	-6.989	356.34969	1.50028	-.15455	-.15194	-.16502	-.16378	-.15526
2.000	-4.830	356.38548	1.50043	-.15863	-.15403	-.17329	-.16999	-.16190
2.000	-2.731	356.38548	1.50043	-.16116	-.15857	-.17370	-.17535	-.16769
2.000	-1.640	356.31390	1.50013	-.16483	-.16226	-.17325	-.17532	-.16890
2.000	-.607	356.45705	1.50073	-.17067	-.16853	-.16796	-.18158	-.17145
2.000	.464	356.31390	1.50013	-.17060	-.16887	-.16871	-.18564	-.17221
2.000	1.503	356.34969	1.50028	-.17185	-.16972	-.17369	-.18607	-.17347
2.000	2.533	356.42126	1.50058	-.17313	-.17100	-.17867	-.19064	-.17598
	GRADIENT	.00060	.00000	-.00237	-.00247	-.00030	-.00284	-.00178

RUN NO. 9/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.500	-7.127	325.68084	1.49788	-.10877	-.10584	-.11502	-.11457	-.10681
2.500	-5.028	325.88569	1.49882	-.10840	-.10592	-.11690	-.11599	-.10960
2.500	-2.956	325.86008	1.49870	-.11064	-.10772	-.11643	-.11869	-.11638
2.500	-1.893	325.93690	1.49906	-.11472	-.11136	-.11872	-.12007	-.11957
2.500	-.849	325.65524	1.49776	-.11823	-.11488	-.11907	-.12133	-.12083
2.500	.191	325.93690	1.49906	-.11968	-.11634	-.12007	-.12097	-.12047
2.500	1.213	325.88569	1.49882	-.12056	-.11677	-.12096	-.12141	-.12046
2.500	2.199	325.86008	1.49870	-.12236	-.11857	-.12230	-.12456	-.12135
	GRADIENT	.00350	.00002	-.00215	-.00200	-.00103	-.00091	-.00076

LARC UPWT 1 1132 (LA71B) BASELINE B1

(RJR003) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 3/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	ALPHA
1.500	-6.152	.40102	.15657	.03063	.36500	.22828	1.59895	.01350	-.00507	.10914	10.69502
1.500	-2.035	.39990	.15768	.02929	.36367	.22919	1.58677	.00505	-.00116	.03636	10.70065
1.500	-.024	.39778	.15779	.02882	.36155	.22893	1.57932	.00050	.00018	.00179	10.70389
1.500	2.042	.39587	.15813	.02899	.35961	.22890	1.57107	-.00343	.00147	-.03058	10.70304
1.500	4.093	.39477	.15774	.02955	.35857	.22837	1.57017	-.00754	.00332	-.06877	10.71142
1.500	6.155	.39364	.15647	.03113	.35766	.22697	1.57585	-.01159	.00513	-.10423	10.72134
	GRADIENT	-.00085	.00003	.00005	-.00084	-.00012	-.00284	-.00204	.00072	-.01701	.00154

RUN NO. 5/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	ALPHA
2.000	-6.178	.34172	.13318	.02289	.30899	.19756	1.56403	.00894	.00034	.09888	11.30081
2.000	-4.119	.34291	.13238	.02242	.31029	.19706	1.57457	.00624	.00023	.06625	11.30962
2.000	-2.045	.34452	.13146	.02145	.31204	.19648	1.58816	.00338	.00008	.03340	11.31133
2.000	-.022	.34650	.13111	.02146	.31402	.19658	1.59740	.00090	-.00004	.00184	11.32178
2.000	2.035	.34604	.13249	.02184	.31327	.19787	1.58320	-.00177	.00014	-.02861	11.32770
2.000	4.098	.34316	.13264	.02294	.31040	.19750	1.57160	-.00471	.00023	-.06190	11.33604
2.000	6.203	.34401	.13239	.02320	.31125	.19746	1.57626	-.00752	-.00032	-.09481	11.34193
	GRADIENT	.00010	.00008	.00007	.00007	.00011	-.00053	-.00132	.00000	-.01552	.00337

LARC UPWT 1 1132 (LA71B) BASELINE B1

(AJR003) (26 FEB 76)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 1076.7000 IN. X0
 LREF = 474.8000 INCHES YMRP = .0000 IN. Y0
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. Z0
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = -15.000
 BDFLAP = -11.700 SPOBRK = 55.000
 RUDDER = .000

RUN NO. 3/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
1.500	-6.152	358.54441	1.50480	.00000	-.27809	-.27615	-.29391	-.28530
1.500	-2.035	358.63021	1.50516	.00000	-.28186	-.27994	-.28907	-.28620
1.500	-.024	358.67312	1.50534	.00000	-.27986	-.27834	-.29362	-.28870
1.500	2.042	358.58731	1.50498	.00000	-.27895	-.27743	-.29888	-.29149
1.500	4.093	358.58731	1.50496	.00000	-.27813	-.27620	-.29559	-.28985
1.500	6.155	358.54441	1.50480	.00000	-.27236	-.27081	-.28571	-.27955
	GRADIENT	- .01055	-.00004	.00000	.00059	.00059	-.00121	-.00067

RUN NO. 5/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.000	-6.178	355.56241	1.49697	.00000	-.18559	-.18434	-.18829	-.19326
2.000	-4.119	355.66977	1.49742	.00000	-.18234	-.18066	-.18627	-.18503
2.000	-2.045	355.45506	1.49652	.00000	-.17604	-.17475	-.18369	-.18286
2.000	-.022	355.77713	1.49787	.00000	-.17662	-.17492	-.17929	-.18095
2.000	2.035	356.09919	1.49923	.00000	-.18544	-.18377	-.19020	-.18937
2.000	4.098	356.27812	1.49998	.00000	-.18429	-.18262	-.18863	-.18904
2.000	6.203	356.34969	1.50028	.00000	-.18886	-.18720	-.19155	-.19238
	GRADIENT	09062	.00038	.00000	-.00065	-.00063	-.00055	-.00071

LARC UPWT 1 1132 (LA71B) BASELINE B1

(RJR004) (26 FEB 76)

ORIGINAL PAGE IS OF POOR QUALITY

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 12.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 8/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	ALPHA
2.500	-6.184	.36109	.10799	.00993	.32606	.18902	1.72501	.01048	.00081	.09677	13.45062
2.500	-4.137	.35436	.10975	.01314	.31911	.18918	1.68684	.00647	.00166	.06196	13.45173
2.500	-2.048	.35805	.10897	.01453	.32282	.18936	1.70476	.00360	.00098	.03245	13.46866
2.500	-.027	.35467	.10786	.01470	.31978	.18752	1.70532	.00082	.00047	.00166	13.47236
2.500	2.051	.35720	.10798	.01419	.32220	.18824	1.71164	-.00227	-.00006	-.02758	13.47498
2.500	4.106	.35474	.11002	.01367	.31932	.18969	1.68340	-.00487	-.00059	-.05487	13.48106
2.500	6.156	.36057	.10807	.01047	.32544	.18914	1.72063	-.00823	.00016	-.08962	13.47991
	GRADIENT	-.00000	-.00002	.00004	-.00001	-.00000	.00000	-.00139	-.00027	-.01427	.00316

LARC UPWT 1 1132 (LA71B) BASELINE B1

(AJR004) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 12.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 8/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	RN/L	CPC1	C.C2	CPB1	CPB2	CPB3
2.500	-6.184	326 24417	1.50047	.00000	-.14105	-.13689	-.14195	-.14240
2.500	-4.137	326 24417	1.50047	.00000	-.13925	-.13644	-.14014	-.13969
2.500	-2.048	326 24417	1.50047	.00000	-.13295	-.13102	-.13428	-.13518
2.500	-.027	326 60265	1.50212	.00000	-.12587	-.12346	-.12718	-.12763
2.500	2.051	326 29538	1.50070	.00000	-.12667	-.12281	-.12753	-.12753
2.500	4.106	326 26978	1.50059	.00000	-.13836	-.13464	-.13925	-.13970
2.500	6.156	326 09053	1.49976	.00000	-.14101	-.13775	-.14055	-.14055
	GRADIENT	00484	.00002	.00000	.00039	.00052	.00041	.00037

LARC UPWT 1 1132 (LA71B) BASELINE B7

(RJR005) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 10/ 0 RN/L = 1.49 GRADIENT-INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
1.500	-3.120	-.28098	.18960	.14134	-.27024	.20461	-1.32075	.00024	.00000	.00046	-.00115
1.500	-2.110	-.22787	.18800	.13105	-.22079	.19627	-1.12498	.00001	.00018	.00020	-.00282
1.500	-1.041	-.17378	.18614	.12056	-.17037	.18926	-.90018	-.00020	-.00020	.00256	-.00238
1.500	.031	-.11848	.18389	.10991	-.11858	.18383	-.64502	-.00028	-.00001	.00072	-.00144
1.500	1.076	-.06497	.18159	.10022	-.06837	.18034	-.37913	-.00039	-.00023	.00243	-.00174
1.500	2.160	-.01177	.17922	.09059	-.01851	.17865	-.10363	-.00025	-.00019	.00161	-.00071
1.500	4.307	.09455	.17340	.07284	.08126	.18001	.45142	.00008	-.00019	.00363	-.00419
1.500	6.428	.19965	.16743	.05723	.17965	.18873	.95191	.00023	-.00002	.00178	-.00292
1.500	8.561	.29990	.16262	.04269	.27236	.20545	1.32567	.00030	-.00017	.00142	-.00048
1.500	10.692	.39609	.15793	.02933	.35991	.22868	1.57390	.00044	-.00048	.00448	-.00215
1.500	12.825	.49804	.15270	.01721	.45172	.25944	1.74112	.00100	.00002	.00164	-.00316
	GRADIENT	.05057	-.00217	-.00926	.04734	-.00338	24041	-.00003	-.00004	.00038	-.00017

RUN NO. 12/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
2.000	-2.377	-.19119	.16109	.08083	-.18434	.16888	-1.09158	-.00019	.00015	.00231	-.00618
2.000	-1.399	-.15161	.15928	.07574	-.14767	.16294	-.90629	-.00010	.00009	.00195	-.00484
2.000	-.325	-.10906	.15725	.06984	-.10817	.15787	-.68519	-.00017	.00018	.00162	-.00527
2.000	.740	-.06512	.15523	.06416	-.06712	.15437	-.43476	-.00020	.00004	.00158	-.00350
2.000	1.797	-.02295	.15306	.05851	-.02774	.15227	-.18218	-.00021	.00024	.00174	-.00614
2.000	2.836	.01690	.15113	.05297	.00940	.15178	.06191	.00013	.00005	.00140	-.00321
2.000	4.969	.10248	.14596	.04100	.08945	.15429	.57978	.00025	.00003	.00170	-.00347
2.000	7.060	.18125	.14140	.03178	.16250	.16261	.99932	.00027	.00003	.00232	-.00447
2.000	9.184	.26078	.13655	.02519	.23562	.17652	1.33483	.00057	-.00010	.00161	-.00169
2.000	11.318	.34034	.13177	.02165	.30786	.19600	1.57070	.00064	-.00030	.00239	-.00061
2.000	13.462	.41949	.12670	.02135	.37846	.22088	1.71346	.00086	-.00061	.00164	.00447
2.000	17.733	.58329	.12068	.01691	.51882	.29260	1.77311	.00086	-.00066	.00287	.00299
2.000	22.016	.75404	.10853	.00786	.65837	.38327	1.71776	.00105	-.00069	.00253	.00397
2.000	24.176	.84571	.10121	.00421	.73008	.43869	1.66425	.00124	-.00106	.00308	.00744
2.000	26.335	.93377	.09381	.0.128	.79525	.49831	1.59591	.00151	-.00125	.00128	.01297
	GRADIENT	.03996	-.00203	-.00541	.03726	-.00203	22925	.00006	-.00001	-.00008	.00032

LARC UPWT 1 1132 (LA71B) BASELINE B7

(RJR005) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPOBRK = 55.000
 RUDDER = .000

RUN NO. 14/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	BETA
2.500	-2.214	-.14636	.14258	.04299	-.14074	.14812	-.95018	.00018	.00030	.00410	-.01016
2.500	-1.246	-.11601	.14089	.04047	-.11292	.14338	-.78757	-.00007	.00013	.00074	-.00294
2.500	-.191	-.07837	.13836	.03686	-.07791	.13862	-.56201	.00029	.00028	.00109	-.00508
2.500	.836	-.04838	.13643	.03367	-.05036	.13571	-.37109	.00036	.00012	.00116	-.00342
2.500	1.902	-.01436	.13445	.03070	-.01882	.13390	-.14052	.00064	.00018	.00271	-.00652
2.500	2.959	.02135	.13217	.02802	.01450	.13309	.10894	.00030	.00032	.00138	-.00594
2.500	5.031	.08501	.12782	.02284	.07347	.13479	.54508	.00093	.00031	.00230	-.00719
2.500	7.122	.14782	.12296	.01989	.13144	.14034	.93657	.00058	.00011	.00337	-.00671
2.500	9.251	.21930	.11760	.01871	.19755	.15133	1.30544	.00062	-.00006	.00183	-.00232
2.500	11.351	.28622	.11308	.0.800	.25836	.16721	1.54519	.00074	-.00007	.00129	-.00126
2.500	13.482	.35990	.10900	.01680	.32457	.18990	1.70914	.00112	-.00014	.00169	-.00114
2.500	17.703	.50666	.10358	.01277	.45118	.25274	1.78513	.00133	.00026	.00360	-.00855
2.500	21.942	.66736	.09259	.00635	.58442	.33526	1.74318	.00110	-.00016	.00201	-.00132
2.500	24.056	.74296	.08739	.00272	.64280	.38266	1.67984	.00099	-.00016	.00247	-.00199
2.500	26.221	.83610	.08106	.00051	.71426	.44213	1.61548	.00146	-.00088	.00293	.00510
2.500	30.478	1.00054	.07012	-.00222	.82672	.56791	1.45573	.00135	-.00120	.00229	.00972
	GRADIENT	.03230	-.00202	-.00295	.02989	-.00292	.20454	.00008	.00000	-.00020	.00031

LARC UPWT 1 1132 (LA71B) BASELINE B7

(AJR005) (26 FEB 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -15.000
 BOFLAP = -11.700 SPOBRK = 55.000
 RUDDER = .000

RUN NO. 10/ 0 RN/L = 1.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
1.500	-3.120	356.22762	1.49508	-.26353	-.26066	-.28312	-.27981	-.27632
1.500	-2.110	356.65665	1.49688	-.26521	-.26194	-.28560	-.28106	-.27717
1.500	-1.041	357.12859	1.49886	-.26529	-.26202	-.28771	-.28442	-.27764
1.500	.031	356.95698	1.49814	-.26511	-.26225	-.28919	-.28960	-.28036
1.500	1.076	357.34311	1.49976	-.26551	-.26224	-.28915	-.28998	-.28239
1.500	2.160	357.55763	1.50066	-.26491	-.26164	-.28772	-.29142	-.28384
1.500	4.307	356.99988	1.49832	-.26392	-.26106	-.28058	-.28553	-.27916
1.500	6.428	357.30021	1.49958	-.26546	-.26302	-.27470	-.27305	-.26832
1.500	8.561	357.94376	1.50228	-.27269	-.26945	-.28028	-.27740	-.26939
1.500	10.692	356.69956	1.49706	-.28336	-.27974	-.29389	-.29018	-.27928
1.500	12.825	356.18472	1.49490	-.29810	-.29495	-.31199	-.30538	-.29408
	GRADIENT	.11665	.00049	.00000	-.00000	.00021	-.00115	-.00070

RUN NO. 12/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.000	-2.377	357.20854	1.50390	-.16596	-.16294	-.17722	-.17887	-.17822
2.000	-1.399	356.02762	1.49893	-.16903	-.16560	-.17538	-.17786	-.17887
2.000	-.325	355.24035	1.49561	-.17233	-.16891	-.17581	-.17954	-.17806
2.000	.740	354.77514	1.49365	-.17333	-.17033	-.18013	-.18428	-.17990
2.000	1.797	354.63200	1.49305	-.17285	-.16984	-.18048	-.18587	-.18025
2.000	2.836	355.06142	1.49486	-.17390	-.17048	-.17945	-.18939	-.18295
2.000	4.969	356.31390	1.50013	-.17248	-.15948	-.17388	-.18213	-.17984
2.000	7.060	356.42126	1.50058	-.17501	-.17202	-.17723	-.17723	-.17535
2.000	9.184	356.45705	1.50073	-.17914	-.17658	-.18097	-.18179	-.17702
2.000	11.318	356.34969	1.50028	-.18115	-.17818	-.18133	-.18380	-.17779
2.000	13.462	356.20655	1.49968	-.18190	-.17894	-.18456	-.18704	-.18310
2.000	17.733	356.09919	1.49923	-.20906	-.20785	-.21736	-.21591	-.21327
2.000	22.016	356.09919	1.49923	-.22390	-.22150	-.22830	-.22499	-.22362
2.000	24.176	356.09919	1.49923	-.22637	-.22357	-.23037	-.22747	-.22444
2.000	26.335	356.06341	1.49908	-.22471	-.22190	-.23035	-.22705	-.22195
	GRADIENT	-.12125	-.00051	-.00084	-.00086	00002	-.00105	-.00042

LARC UPWT 1 1132 (LA71B) BASELINE B7

(AJR005) (26 FEB 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

BETA = .000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 14/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.500	-2.214	326.26978	1.50059	-.11869	-.11621	-.12312	-.12447	-.12892
2.500	-1.246	326.65386	1.50235	-.12377	-.12130	-.12549	-.12594	-.13130
2.500	-.191	326.44902	1.50141	-.12460	-.12214	-.12678	-.12633	-.13123
2.500	.836	325.98811	1.49929	-.12580	-.12334	-.12799	-.12709	-.13245
2.500	1.902	325.73205	1.49811	-.12753	-.12507	-.12746	-.13198	-.13374
2.500	2.959	326.44902	1.50141	-.12865	-.12575	-.12723	-.13489	-.13440
2.500	5.031	326.24417	1.50047	-.12993	-.12749	-.13303	-.13664	-.13479
2.500	7.122	326.39781	1.50118	-.13223	-.12980	-.13262	-.13623	-.13483
2.500	9.251	326.19296	1.50023	-.13172	-.12973	-.13347	-.13392	-.13342
2.500	11.351	325.88569	1.49882	-.13253	-.12964	-.13293	-.13338	-.13423
2.500	13.482	325.91129	1.49894	-.13254	-.13010	-.13248	-.13293	-.13514
2.500	17.703	326.32099	1.50082	-.15065	-.14648	-.15064	-.15289	-.15198
2.500	21.942	326.26978	1.50059	-.15514	-.15098	-.15513	-.15648	-.15648
2.500	24.056	326.09053	1.49976	-.15510	-.15185	-.15464	-.15690	-.15509
2.500	26.221	326.19296	1.50023	-.15242	-.15006	-.15106	-.15557	-.14833
2.500	30.478	325.96251	1.49917	-.14021	-.13916	-.14559	-.14559	-.14375
GRADIENT		-.06437	-.00030	-.00171	-.00165	-.00075	-.00196	-.00099

LARC UPWT 1 1132 (LA71B) BASELINE B7

(RJR006) (26 FEB 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 10.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 11/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	ALPHA
1.500	-6.145	.40025	.15722	.03148	.36409	.22880	1.59130	.01337	-.00557	.10898	10.70017
1.500	-4.103	.40509	.15784	.03137	.36868	.23041	1.60015	.00891	-.00382	.07338	10.71479
1.500	-2.028	.40034	.15796	.03019	.36400	.22963	1.58517	.00481	-.00163	.03567	10.71359
1.500	-.018	.39736	.15792	.02924	.36116	.22889	1.57786	.00038	-.00022	.00087	10.69106
1.500	2.029	.39931	.15834	.02946	.36298	.22971	1.58015	-.00384	.00101	-.03104	10.69785
1.500	4.080	.39362	.15833	.03046	.35740	.22863	1.56323	-.00809	.00288	-.06944	10.69553
1.500	6.143	.39457	.15662	.03192	.35859	.22723	1.57808	-.01229	.00468	-.10520	10.71218
GRADIENT		-.00117	.00007	-.00003	-.00116	-.00017	-.00386	-.00209	.00079	-.01725	-.00265

ORIGINAL PAGE IS OF POOR QUALITY

LARC UPWT 1 1132 (LA71B) BASELINE B7

(RJR006) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076 7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 13/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	ALPHA
2.000	-6.195	.34110	.13298	.02373	30835	.19736	1.56234	.00909	-.00008	-.10053	11.32287
2.000	-4.135	.34124	.13231	.02311	30863	.19672	1.56890	.00616	-.00025	.06742	11.31959
2.000	-2.043	.34146	.13187	.02206	.30892	.19635	1.57334	.00326	-.00015	.03411	11.32347
2.000	-.019	.34148	.13174	.02179	.30896	.19624	1.57435	.00083	-.00022	.00180	11.32656
2.000	2.042	.34108	.13329	.02210	.30829	.19763	1.55993	-.00176	-.00033	-.02939	11.31652
2.000	4.105	.34089	.13342	.02359	30805	.19778	1.55757	-.00479	-.00032	-.06243	11.32720
2.000	6.205	.33937	.13335	.02418	30658	.19740	1.55311	-.00766	-.00055	-.09443	11.32551
	GRADIENT	-.00005	.00018	.00005	-.00009	.00017	-.00175	-.00131	-.00002	-.01572	.00040

LARC UPWT 1 1132 (LA71B) BASELINE B7

(AJR006) (26 FEB 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

PARAMETRIC DATA

ALPHA = 10.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 11/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q (PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
1.500	-6.145	356.82827	1.49760	.00000	-.28349	-.27987	-.29814	-.29030
1.500	-4.103	357.08569	1.49868	.00000	-.28703	-.28343	-.29838	-.29179
1.500	-2.028	357.04279	1.49850	.00000	-.28493	-.28174	-.29134	-.28886
1.500	-.018	357.04279	1.49850	.00000	-.28370	-.28050	-.29546	-.29175
1.500	2.029	357.21440	1.49922	.00000	-.28387	-.28026	-.30015	-.29438
1.500	4.080	357.25730	1.49940	.00000	-.28186	-.27824	-.29731	-.29154
1.500	6.143	357.21440	1.49922	.00000	-.27524	-.27159	-.28573	-.28038
	GRADIENT	.02519	.00011	.00000	.00056	.00058	-.00032	-.00024

LARC UPWT 1 1132 ('A71B) BASELINE B7

(AJR006) (26 FEB 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 10.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 13/ 0 RN/L = 1 50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.000	-6.195	356.02762	1.49993	.00000	-.19130	-.18795	-.19150	-.19604
2.000	-4.135	356.06341	1.49908	.00000	-.18637	-.18300	-.18821	-.18738
2.000	-2.043	356.06341	1.49908	.00000	-.18101	-.17762	-.18573	-.18573
2.000	-.019	356.02762	1.49993	.00000	-.18182	-.17802	-.18117	-.18406
2.000	2.042	356.06341	1.49908	.00000	-.18967	-.18631	-.19151	-.19234
2.000	4.105	356.06341	1.49908	.00000	-.18967	-.18631	-.19069	-.19193
2.000	6.205	356.20655	1.49968	.00000	-.19386	-.19011	-.19323	-.19489
	GRADIENT	.00001	00000	.00000	-.00074	-.00074	-.00052	-.00076

LARC UPWT 1 1132 (LA71B) BASELINE B7

(RJR007) (26 FEB 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 12.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 15/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	CN	CA	CLM	CL	CD	L/D	CBL	CYN	CY	ALPHA
2.500	-6.184	.36554	.10896	.01174	.33012	.19107	1.72773	.01025	.00103	.09512	13.46360
2.500	-4.137	.36127	.11078	.01477	.32553	.19188	1.69647	.00640	.00179	.06084	13.47053
2.500	-2.047	.35472	.11033	.01673	.31925	.18994	1.68085	.00371	.00073	.03367	13.47322
2.500	-.017	.35835	.10912	.01701	.32305	.18964	1.70346	.00062	-.00027	.00039	13.47812
2.500	2.044	.35988	.10934	.01604	.32453	.19012	1.70695	-.00183	-.00099	-.02849	13.46327
2.500	4.125	.36449	.11065	.01392	.32868	.19251	1.70733	-.00512	-.00191	-.05787	13.47133
2.500	6.173	.36655	.10881	.01178	.33109	.19126	1.73114	-.00856	-.00099	-.09238	13.48035
	GRADIENT	00056	-.00006	-.00012	.00056	00007	.00231	-.00139	-.00044	-.01453	-.00040

LARC UPWT 1 1132 (LA71B) BASELINE B7

(AJR007) (26 FEB 76)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
 LREF = 474.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0150

ALPHA = 12.000 ELEVON = -15.000
 BDFLAP = -11.700 SPDBRK = 55.000
 RUDDER = .000

RUN NO. 15/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q (PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
2.500	-6.184	326.19296	1.50023	.00000	-.15017	-.14735	-.14880	-.14970
2.500	-4.137	326.24417	1.50047	.00000	-.14658	-.14420	-.14611	-.14611
2.500	-2.047	326.34659	1.50094	.00000	-.14031	-.13791	-.14027	-.14163
2.500	-.017	326.21856	1.50035	.00000	-.13303	-.13019	-.13302	-.13347
2.500	2.044	326.34659	1.50094	.00000	-.13401	-.13114	-.13441	-.13486
2.500	4.125	326.39781	1.50118	.00000	-.14752	-.14424	-.14660	-.14750
2.500	6.113	326.62826	1.50224	.00000	-.15028	-.14701	-.14711	-.14801
	GRADIENT	.01497	.00007	.00000	.00021	.00032	.00023	.00019