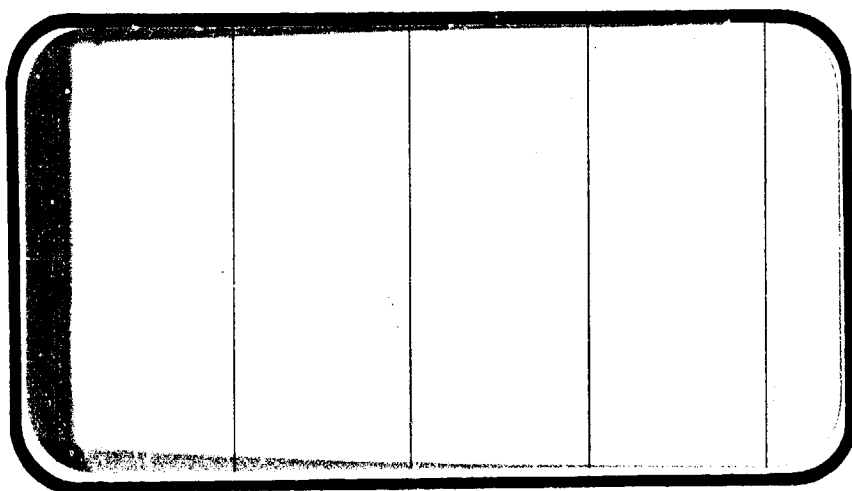




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



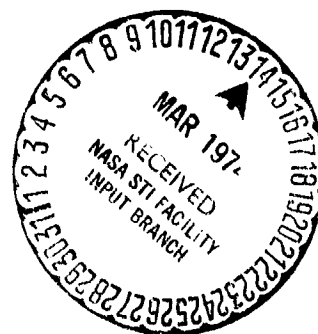
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



CHRYSLER CORPORATION

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EFFECTS OF THE SIX ENGINE
AIR BREATHING PROPULSION SYSTEM
ON SPACE SHUTTLE ORBITER SUBSONIC
STABILITY AND CONTROL CHARACTERISTICS
(0A71C)

By

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Prepared under NASA Contract Number NAS9-13247

by

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New Orleans, La. 70189

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Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: NAAL 712
NASA Series No.: OA71C
Model No.: 43-0
Test Date: 4 Sept. - 14 Sept., 1973

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EFFECTS OF THE SIX ENGINE
AIR BREATHING PROPULSION SYSTEM
ON SPACE SHUTTLE ORBITER SUBSONIC
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ABSTRACT

Experimental aerodynamic investigations were conducted on an 0.0405 scale representation of the -89B Space Shuttle Orbiter in the Rockwell International 7.75 x 11.00 Foot Low Speed Wind Tunnel during the time period September 4 - 14, 1973. The NASA designation for this test was OA71C.

The primary test objective was to optimize the air breathing propulsion system nacelle cowl-inlet design and to determine the aerodynamic effects of this design on the orbiter stability and control characteristics. Nacelle cowl-inlet optimization was determined from total pressure - static pressure measurements obtained from pressure rakes located in the left hand nacelle pod at the engine face station (see figure 3).

After the optimum cowl-inlet design, consisting of a 7° cowl lip angle, short cowl, 7° short diverter, and a nacelle toe-in angle of 5° was selected, the aerodynamic effects of various locations of this design were investigated. The 3 pod - 6 nacelle configuration was tested both underwing and overwing in three different longitudinal locations. Orbiter control effectiveness, both with and without nacelles, was investigated at elevon deflections of 0°, -10°, and +15° and at aileron deflections of 0° and +10° about 0° elevon.

The orbiter model was sting mounted on a 2.5 inch diameter internal strain gage balance entering through the base region. The nominal angle of attack range was $-4^\circ \leq \alpha \leq 30^\circ$. Yaw polars were investigated over the beta range of $-10^\circ \leq \beta \leq 10^\circ$ at fixed angles of attack of 0° and 10°.

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TABLE OF CONTENTS

	<u>PAGE</u>
ABSTRACT	iii
INDEX OF MODEL FIGURES	2
INDEX OF DATA FIGURES	3
NOMENCLATURE	8
CONFIGURATIONS INVESTIGATED	12
DATA REDUCTION	13
TEST FACILITY DESCRIPTION	15
TABLES	
I. TEST CONDITIONS	16
II. DATASET COLLATIONS	17
III. MODEL COMPONENT DIMENSIONAL DATA	22
FIGURES	
MODEL	47
DATA	55
APPENDIX - TABULATED SOURCE DATA	

INDEX OF MODEL FIGURES

<u>FIGURE</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
1.	Axis Systems.	47
2.	Model and Component Details.	
	a. General Arrangement -89B Orbiter.	48
	b. Sign Convention for Control Surfaces.	49
	c. Nacelle Pressure General Arrangement.	50
3.	Model Installation Photographs.	
	a. Front View, Underwing ABPS Configuration.	51
	b. Bottom View, Underwing ABPS Configuration.	51
	c. Front View, Overwing ABPS Configuration.	52
	d. Rear View, Overwing ABPS Configuration.	52
	e. Bottom View, Overwing ABPS Configuration.	53
	f. Front View, Nacelle J32 Configuration and Internal Pressure Rake Installation.	53
	g. Front View, Nacelle J26 Configuration With Long Flow Diverter.	54
	h. Front View, Nacelle J25 Configuration With Short Flow Diverter.	54

INDEX OF DATA FIGURES

FIGURE NUMBER	TITLE	SCHEDULE OF COEFFICIENTS PLOTTED	CONDITIONS VARYING	PAGES
Fig. 4	Elevon Effectiveness - No Nacelles	(A)	ELEVON	1-10
Fig. 5	Incremental Effect of Elevons - No Nacelles	(B)	DELVON ALPHA	11-39
Fig. 6	Elevon Effectiveness - Clustered Nacelles-Underwing X0 = 950	(A)	ELEVON	40-49
Fig. 7	Incremental Effect of Elevons - Clustered Nacelles-Underwing X0 = 950	(B)	DELVON ALPHA	50-78
Fig. 8	Elevon Effectiveness - Clustered Nacelles-Underwing X0 = 1005	(A)	ELEVON	79-88
Fig. 9	Incremental Effect of Elevons - Clustered Nacelles-Underwing X0 = 1005	(B)	DELVON ALPHA	89-117
Fig. 10	Elevon Effectiveness - Clustered Nacelles-Underwing X0 = 1060	(A)	ELEVON	118-127
Fig. 11	Incremental Effect of Elevons - Clustered Nacelles-Underwing X0 = 1060	(B)	DELVON ALPHA	128-156
Fig. 12	Elevon Effectiveness - Clustered Nacelles - 2 Overwing X0 = 1060	(A)	ELEVON	157-166
Fig. 13	Incremental Effect of Elevons - Clustered Nacelles-2 Overwing X0 = 1060	(B)	DELVON ALPHA	167-195
Fig. 14	Elevon Effectiveness - Clustered Nacelles - 2 Overwing X0 = 950	(A)	ELEVON	196-205

INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	SCHEDULE OF COEFFICIENTS PLOTTED	CONDITIONS VARYING	PAGES
Fig. 15	Incremental Effect of Elevons - Clustered Macelles - 2 Overwing XO = 950	(B)	DELVON ALPHA	206-234
Fig. 16	Ailerons Deflected - No Macelles	(C)	AILRON	235-237
Fig. 17	Aileron Effectiveness Derivatives - No Macelles	(D)	DALRON	238-240
Fig. 18	Ailerons Deflected - Clustered Macelles Underwing XO = 950	(C)	AILRON	241-243
Fig. 19	Aileron Effectiveness Derivatives - Clustered Macelles Underwing XO=950	(D)		244-246
Fig. 20	Ailerons Deflected - Clustered Macelles Underwing XO = 1005	(C)	AILRON	247-249
Fig. 21	Aileron Effectiveness Derivatives - Clustered Macelles Underwing XO = 1005	(D)		250-252
Fig. 22	Ailerons Deflected - Clustered Macelles Underwing XO = 1060	(C)	AILRON	253-255
Fig. 23	Aileron Effectiveness Derivatives - Clustered Macelles Underwing XO = 1060	(D)		256-258
Fig. 24	Ailerons Deflected - Clustered Macelles 2 Overwing XO = 1060	(C)	AILRON	259-261

INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	SCHEDULE OF COEFFICIENTS PLOTTED	CONDITIONS VARYING	PAGES
Fig. 25	Aileron Effectiveness Derivatives - Clustered Nacelles 2 Overwing X0 = 1060	(D)		262-264
Fig. 26	Ailerons Deflected - Clustered Nacelles 2 Overwing X0 = 950	(C)	AILRON	265-267
Fig. 27	Aileron Effectiveness Derivatives - Clustered Nacelles 2 Overwing X0 = 950	(D)		268-270
Fig. 28	Lateral/Directional Characteristics - No Nacelles	(E)	ALPHA	271-273
Fig. 29	Lateral/Directional Derivatives - No Nacelles	(F)		274-276
Fig. 30	Lateral/Directional Characteristics - Clustered Nacelles Underwing X0 = 950	(E)	ALPHA	277-279
Fig. 31	Lateral/Directional Derivatives - Clustered Nacelles Underwing X0 = 950	(F)		280-282
Fig. 32	Lateral/Directional Characteristics - Clustered Nacelles Underwing X0 = 1005	(E)	ALPHA	283-285
Fig. 33	Lateral/Directional Derivatives - Clustered Nacelles Underwing X0 = 1005	(F)		286-288

INDEX OF DATA FIGURES (CONTINUED)

FIGURE NUMBER	TITLE	SCHEDULE OF COEFFICIENTS PLOTTED	CONDITIONS VARYING	PAGES
Fig. 34	Lateral/Directional Characteristics - Clustered Nacelles Underwing X0 = 1060	(E)	ALPHA	289-291
Fig. 35	Lateral/Directional Derivatives - Clustered Nacelles Underwing X0 = 1060	(F)		292-294
Fig. 36	Lateral/Directional Characteristics - Clustered Nacelles 2 Overwing X0 = 1060	(E)	ALPHA	295-297
Fig. 37	Lateral/Directional Derivatives - Clustered Nacelles 2 Overwing X0 = 1060	(F)		298-300
Fig. 38	Lateral/Directional Characteristics - Clustered Nacelles 2 Overwing X0 = 950	(E)	ALPHA	301-303
Fig. 39	Lateral/Directional Derivatives - Clustered Nacelles 2 Overwing X0 = 950	(F)		304-306
Fig. 40	Longitudinal Characteristics - Effects of Individual Clusters	(A)	NACELLE MACX/L	307-316
Fig. 41	Longitudinal Characteristics - Effects of Shell of Clusters	(A)	NACELLE MACX/L NACLTP	317-326

INDEX OF DATA FIGURES (CONCLUDED)

FIGURE NUMBER	TITLE	SCHEDULE OF COEFFICIENTS PLOTTED	CONDITIONS VARYING	PAGES
Fig. 42	Longitudinal Characteristics - Effects of Underwing Clusters	(A)	MACELLE MACX/L	327-336
Fig. 43	Longitudinal Characteristics - Effects of Overwing Clusters	(A)	MACELLE MACX/L	337-346

SCHEDULE OF COEFFICIENTS PLOTTED:

- (A) CL, CN, CD, CDF, CA, CAF, CAB, CLMFWD, CLMAFT, XCP/L, L/DF versus ALPHA
CL, CN versus CLMFWD
CL versus CD
- (B) DCL, DCN, DCD, DCOF, DCA, DCAF, DCAB, DCMFWD, DCMAFT versus ALPHA
DCL, DCD, DCN, DCA, DCMFWD, DCMAFT versus DELVON
- (C) CYN, CBL, CY versus ALPHA
- (D) DCYNDA, DCBLDA, DCY/DA versus ALPHA
- (E) CYN, CBL, CY versus BETA
- (F) CYBETA, CYNBET, CBLBET versus ALPHA

NOMENCLATURE
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</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	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ _{REF}	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>SADSAC SYMBOL</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	CLM	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}

NOMENCLATURE (CONTINUED)
 ADDITIONS TO STANDARD LIST

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_{Y\delta_a}$	DCY/DA	side force derivative with aileron deflection, per degree
$C_{l\delta_a}$	DCBLDA	rolling moment derivative with aileron deflection, per degree
$C_{n\delta_a}$	DCYNDA	yawing moment derivative with aileron deflection, per degree
$C_{Y\beta}$	DCY/DB	side force derivative with sideslip angle, per degree
$C_{l\beta}$	DCBLDB	rolling moment derivative with sideslip angle, per degree
$C_{n\beta}$	DCYNDB	yawing moment derivative with sideslip angle, per degree
$C_{m_{aft}}$	CLMAFT	pitching moment coefficient about aft C.G. limit
$C_{m_{fwd}}$	CLMFWD	pitching moment coefficient about forward C.G. limit
XCP/ ℓ	XCP/L	longitudinal center of pressure location, fraction of body length
ΔC_A	DCA	incremental axial force coefficient
ΔC_{Ab}	DCAB	incremental base axial force coefficient
ΔC_{Af}	DCAF	incremental forebody axial force coefficient
ΔC_D	DCD	incremental drag coefficient
ΔC_{Df}	DCDF	incremental forebody drag coefficient
ΔC_L	DCL	incremental lift coefficient

NOMENCLATURE (CONCLUDED)

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$\Delta C_{m_{aft}}$	DCMAFT	incremental pitching moment coefficient about aft C.G. limit
$\Delta C_{m_{fwd}}$	DCMFWD	incremental pitching moment coefficient about fwd C.G. limit
ΔC_N	DCN	incremental normal force coefficient
δ_a	AILRON	aileron, total aileron deflection angle, (left aileron - right aileron)/2; degrees
δ_e	ELEVON	elevon, surface deflection angle, positive deflection, trailing edge down; degrees
δ_f	BDFLAP	flap, surface deflection angle, positive deflection, trailing edge down; degrees
NACX/L	NACX/L	nacelle longitudinal location (% L_B)
LIP	NACLIP	nacelle cowl lip angle; degrees
NAC β	NACBTA	nacelle toe-in angle; degrees

CONFIGURATIONS INVESTIGATED

The model used for this test period was an 0.0405 scale representation of the Rockwell International -89B Space Shuttle Orbiter. The basic model is of the blended wing-body design utilizing a double delta wing ($75^\circ/45^\circ \Lambda_{L.E.}$), full span elevons (with unswept hingeline), a centerline vertical tail with rudder and /or rudder flare capability, a canopy, and a manipulator arm housing. To complete this orbiter ferry configuration air breathing engine nacelles were located in various groupings and locations on the wing and fuselage as per dwg. SS-A00138. All model components were per the -89B configuration except for the fuselage lines from station 1307 aft (which are ATP configuration), the various engine nacelle groupings and locations, and the centerline vertical tail.

The orbiter model was constructed either of wood and/or aluminum and was mounted on the Task Corporation 2.5 inch MK IX internal strain gage balance. The left hand engine pod was instrumented with an 8 tube static pressure and 17 tube total pressure rake in each nacelle. This pressure monitoring rake was located at the engine face station and was used to determine engine pressure recovery efficiency. The pressure rake orientation is per figure 2C.

For this test period the following nomenclature was used to designate the various model components:

<u>Component</u>	<u>Description</u>
B ₁₆	-89B fuselage
C ₅	-89B canopy
D ₇	-89B manipulator arm housing
E ₁₈	Full span elevon used on wing W ₈₇
F ₁	Body flap used on fuselage B ₁₆
J ₂₅ thru 39	Air breathing propulsion systems consisting of various nacelle groupings and locations. See model dimensional data.
R ₃	Rudder used on vertical tail V ₃
V ₃	ATP centerline vertical tail

CONFIGURATIONS INVESTIGATED
(CONCLUDED)

<u>Component</u>	<u>Description</u>
Wg7	-89B double delta wing (75°/45° L.E.)
Xg	Transition grit located on model nose and all swept surfaces.
X10	Transition grit located on model nose, all swept surfaces, and ABPS nacelles.

DATA REDUCTION

The aerodynamic force and moment data were measured by the Task Corporation 2.5 inch MK IX strain gage balance. The data have been corrected for model base and balance chamber pressure effects, nacelle internal drag, model blockage influence on tunnel dynamic pressure, wall interference effects, sting and balance deflections, and model weight tare.

The corrections made to axial force were accomplished in the following manner:

$$C_{A_f} = C_A - C_{ABC} - C_{A_b} - C_{A_N} - C_{A_T}$$

where:

$$C_{ABC} = - \left(\frac{P_{BC} - P_0}{q} \right) \left(\frac{A_{BC}}{S_w} \right)$$

$$\text{and } C_{A_b} = - \left(\frac{P_b - P_0}{q} \right) \left(\frac{A_b}{S_w} \right), \quad P_b = 1/5(P_{b_1} + \dots + P_{b_5})$$

and C_{A_N} = Nacelle internal drag correction

C_{A_T} = Model axial force weight tare

DATA REDUCTION (CONCLUDED)

The pressure data obtained from the nacelle engine face rakes were reduced to $\frac{(P_{s1+8} - P_o)}{q}$ for all static pressures and to PT_{1+17}/PT for all total pressures.

The following reference dimensions were used for reducing all aerodynamic data to coefficient form:

<u>Symbol</u>	<u>Definition</u>	<u>Value</u>
A_b	Area of base, ft ²	0.51939
A_{BC}	Area of balance cavity, ft ²	0.13635
S_w	Area of wing, ft ²	4.4123
$XMRP$	Center of gravity, fus. sta. (fwd)(66% LB)	43.5974
	Center of gravity, fus. sta. (aft)(68% LB)	44.6731
$ZMRP$	Center of gravity, waterplane	16.2000
LB	Length orbiter body, in.	53.7840
$\bar{c}_w(LREF)$	Wing MAC, in.	19.2300
$\bar{b}_w(BREF)$	Wing span, in.	37.9350
C_{AN}	Axial force correction for J _{25+35, 37, 38}	0.00247
	Axial force correction for J ₃₆	0.00165
	Axial force correction for J ₃₉	0.00082
C_{Am}	Pitching moment about fwd C.G. correction for J _{25+34, 37}	0.00081
	Pitching moment about fwd C.G. correction for J _{35, 38}	0.00035
	Pitching moment about fwd C.G. correction for J ₃₆	0.00054
	Pitching moment about fwd C.G. correction for J ₃₉	0.00027

TEST FACILITY DESCRIPTION

The North American Aerodynamics Laboratory (NAAL) 7.75 x 11-Foot Wind Tunnel is a continuous flow, closed circuit, single return type tunnel capable of speeds up to 200 miles per hour. The test section is vented to atmospheric pressure and is 7.75 x 11 feet wide by 12 feet in length. Power is supplied by a 1250 horsepower nacelle mounted synchronous motor driving a 19 foot, seven blade, laminated birch propeller. The airspeed is controlled by varying the degree of coupling between the motor and propeller by means of a magnetic clutch. A damping screen and honeycomb section in the settling chamber upstream from the contraction cone (ratio 7.53 to 1) minimizes turbulence in the test section. The NAAL Wind Tunnel has been in operation since June 1943 and calibrations are available over a wide range of test conditions.

Tests may be conducted using a variety of mounting systems, e.g.; a single strut, double strut, sting strut, reflection plane, cable suspension, and two dimensional wall. Aerodynamic data may be measured by a planar type external balance system or sting mounted internal balances. An Astrodata Automatic Data Acquisition System is used to collect, multiplex, digitize, and record 50 channels of force and/or pressure data on magnetic tape. This data is then rapidly reduced and plotted using automatic data processing equipment and an automatic digital plotter.

TABLE I.

TEST : DATA - NARL 712 DATE : 7/25/73

TEST CONDITIONS

NOMINAL MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
0.21	1.44 x 10 ⁶ / FT	60 lbs / ft ²	50 → 120°F

BALANCE UTILIZED: TASK 2.5 INLN MK IX

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	<u>1500 lbs</u>	<u>± .25%</u>	_____
SF	<u>750 lbs</u>	"	_____
AF	<u>200 lbs</u>	"	_____
PM	_____	_____	_____
RM	_____	_____	_____
YM	<u>4000 in-lbs</u>	<u>± .25%</u>	_____

COMMENTS:

TABLE II (Continued)

DATA RUNS

TEST: CATIC - NAAL 712		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 9/29/73				
DATA SET IDENTIFIER	CONFIGURATION	PARAMETERS/VALUES										NO. OF RUNS	MACH NUMBERS			
		SCMD. CR	B	IF	SA	de	WAX/A	LIP	WAC/B	5°	TEST RUN NUMBERS					
RD11037	5127134157E132X10	A	Y	-13	0	0	0	0	0	0	0	0	0	0	21	37
235		O	F												33	39
237		10	Y												40	41
240		A	O			15									42	43
241						-10									44	45
242						0									46	47
243						10									48	49
244						Y									50	51
245						0									52	53
246						-10									54	55
247						15										
248		O	F													
249		10	Y													
249		A	O													
250		O	F													
251		10	Y													
253		A	O													
254						10										
255						0										

α(A) = -4, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76

β(F) = -10, -5, 0, 5, 10

α(A) = -4, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76

β(F) = -10, -5, 0, 5, 10

TABLE II (Concluded)

JALIT OPTIMIZATION RUNS (PRESSURE DATA)

TEST: CATIC - NAAL 712		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 9/29/73		
DATA SET IDENTIFIER	CONFIGURATION	PARAMETERS/VALUES										NO. OF RUNS	MACH NUMBERS	
		SCND.	SE	SA	SE	WCA	LIP	WCA	A					
RDU 015	RS-SE-TEST-1-WATER-1-RS-X-10	A	0	0	0	0	0	0	0	0	0	0	15	15
016	J26												16	16
018	J27												18	18
019	J28												19	19
020	J27										7°		20	20
021	J28												21	21
022	J25												22	22
023	J26												23	23
024	J29												24	24
025	↓												25	25
026	J29											5°	26	26
027	↓											0	27	27
028	J31												28	28
029	↓												29	29
030	↓												30	30

α ON β
 Δ(A) = -4, -2, -1, 0, 1, 2, 4 → 30, Δα = 2°
 COEFFICIENT

β(F) = -10, -5, 0, 5, 10

PRESSURE DATA NOT AVAILABLE TO DATA MANAGEMENT SYSTEMS.

TABLE III.

MODEL COMPONENT DIMENSIONAL DATA

MODEL COMPONENT: BODY - B16

GENERAL DESCRIPTION: -89B Fuselage

Scale Model = 0.0405

DRAWING NUMBER: VL72-000089

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length ~ in.	<u>1328.30</u>	<u>53.796</u>
Max. Width	<u> </u>	<u> </u>
Max. Depth ~ in.	<u>248.00</u>	<u>10.044</u>
Fineness Ratio	<u> </u>	<u> </u>
Area ~ ft ²		
Max. Cross-Sectional	<u>355.28</u>	<u>0.583</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (Continued)

MODEL COMPONENT: Canopy CS

GENERAL DESCRIPTION: -89B Canopy

Scale Model = 0.0405

DRAWING NUMBER: VL70-000092

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	_____	_____
Max. Width	_____	_____
Max. Depth	_____	_____
Fineness Ratio	_____	_____
Area		
Max. Cross-Sectional	_____	_____
Planform	_____	_____
Wetted	_____	_____
Base	_____	_____
Sta. Fwd. Bulkhead, fus. sta.	391.00	15.836
Sta. T.E. , fus. sta.	560.00	22.680

TABLE III (Continued)

MODEL COMPONENT: BODY - Manipulator Housing D-7

GENERAL DESCRIPTION: ^{89B} Configuration, Light WT. Orbiter Per Lines
VL70-000093

Scale Model: .0405

DRAWING NUMBER: VL70-000093

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length, in.	<u>881.00</u>	<u>35.681</u>
Max. Width in.	<u>51.00</u>	<u>2.066</u>
Max. Depth in.	<u>20.00</u>	<u>0.810</u>
Fineness Ratio	<u> </u>	<u> </u>
Area		
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
CL Fuselage, BP = 0.0		
WP = 500.0 in FS		
X ₀ = 426.0 to 1307.0		

TABLE III (Continued)

MODEL COMPONENT: Elevon E18

GENERAL DESCRIPTION: Unswept Hingeline Elevon used on Wing W87

Scale Model - 0.0405

DRAWING NUMBER: VL70-000093

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area -ft ²	<u>205.52</u>	<u>0.337</u>
Span (equivalent)	<u>353.34</u>	<u>14.310</u>
Inb'd equivalent chord	<u>114.78</u>	<u>4.649</u>
Outb'd equivalent chord	<u>55.00</u>	<u>2.228</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.208</u>	<u>0.208</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.000</u>	<u>0.000</u>
Tailing Edge	<u>-10.020</u>	<u>-10.020</u>
Hingeline	<u>0.000</u>	<u>0.000</u>
Area Moment (Normal to hinge line) ft ³	<u>1548.07</u>	<u>2.539</u>

TABLE III (Continued)

MODEL COMPONENT: Body Flap - F1

GENERAL DESCRIPTION: Body Flap Located on Lower Aft Portion of
Fuselage Trailing Edge

Scale Model = .0405

DRAWING NUMBER: VL70-000003A

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length in.	<u>236.54</u>	<u>9.580</u>
Flap L.E. Fus. Sta. in.	<u>1528.30</u>	<u>61.896</u>
Flap T.E. Fus. Sta. in.	<u>1650.56</u>	<u>66.848</u>
Span in.	<u>236.54</u>	<u>9.580</u>
Area ft ²		
Max. Cross-Sectional		
Planform	<u>199.75</u>	<u>0.328</u>
Wetted		
Base		

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : ATR BREATHING PROPULSION SYSTEM - J₂₅

GENERAL DESCRIPTION : Six underring engines installed in three nacelle pods. Inlet has short cowl, 0° or 7° cowl, lip angle, short flow diverter, 0° diverter lip angle

MODEL SCALE: 0.0405

DRAWING NUMBER : SS-A00139

DIMENSIONS : (EACH NACELLE)	FULL SCALE	MODEL SCALE
Length - In.	<u>209.51</u>	<u>8.485</u>
Max Width - In.	<u>66.00</u>	<u>2.673</u>
Max Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 @</u>	<u>Wing Pods</u>		<u>C Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM, J26

GENERAL DESCRIPTION: Six underving engines installed in three nacelle pods. Nacelle inlet configuration has short cowl, 0° or 7° cowl lip angle, long flow diverter, 0° diverter lip angle.

MODEL SCALE = 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS: (EACH NACELLE)</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - IN.	<u>207.51</u>	<u>8.485</u>
Max. Width - IN.	<u>66.00</u>	<u>2.673</u>
Max. Depth - IN.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 @</u>	<u>Wing Pods</u>		<u>G. Pod</u>	
	<u>Outb'd</u>	<u>Inh'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM - J₂₇

GENERAL DESCRIPTION: Six underwing engines installed in three nacelle pods.

Inlet has long cowl, 0° or 7° cowl lip angle, short flow diverter, 0° diverter lip angle.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS:</u> (EACH NACELLE)	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>224.50</u>	<u>9.092</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. O.O @</u>	<u>Wing Pods</u>		<u>Q. POD</u>	
	<u>Outb'd</u>	<u>Inh'd</u>	<u>Left</u>	<u>Right</u>
Model Sta - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM - J20

GENERAL DESCRIPTION: Six undervins engines installed in three nacelle pods.
Inlet has long cowl, 0° or 7° cowl lip angle, long flow diverter, 0° diverter
lip angle.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS: (EACH NACELLE)</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>224.50</u>	<u>9.092</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 @</u>	<u>Wing Pods</u>		<u>@ Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM - J₂₉

GENERAL DESCRIPTION: Six underwing engines installed in three nacelle pods.

Inlet has short cowl, 7° cowl lip angle, short flow diverter, 7° diverter lip angle.

MODEL SCALE = 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS:</u> (EACH NACELLE)	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>209.51</u>	<u>8.485</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Planform Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 @</u>	<u>Wing Pods</u>		<u>¢ Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM - J30

GENERAL DESCRIPTION: six underwing engines installed in three nacelle pods. Inlet has short cowl, 7° cowl lip angle, long flow diverter, 7° diverter lip angle.

MODEL SCALE = 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS:</u> (EACH NACELLE)	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>209.51</u>	<u>8.485</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. O.O @</u>	<u>Wing Pods</u>		<u>G. Pod</u>	
	<u>Out'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEM - J₃₁

GENERAL DESCRIPTION: Six undervying engines installed in three nacelle pods
Inlet has short cowl, 7° cowl lip angle, no diverter with gap between engines
filled flush to cowl lip.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-400139

<u>DIMENSIONS:</u> (EACH NACELLE)	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>209.51</u>	<u>8.485</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 @</u>	<u>Wing Pods</u>		<u>Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEMS - J₃₂

GENERAL DESCRIPTION: Six underwing engines installed in three nacelle pods.

Inlet has short cowl, 7° cowl lip angle, no diverter, with gap between engines closed (from _____ a station 0.4 inches, model scale, behind cowl lip).

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS (EACH NACELLE)</u>	<u>FULL-SCALE</u>		<u>MODEL SCALE</u>	
Length - In.	<u>209.51</u>		<u>8.485</u>	
Max. Width - In.	<u>66.00</u>		<u>2.673</u>	
Max. Depth - In.	<u>66.00</u>		<u>2.673</u>	
Fineness Ratio	_____		_____	
Area - Ft ²	_____		_____	
Max. Cross-Sectional	<u>2737.30</u>		<u>4.490</u>	
Capture	<u>1900.92</u>		<u>3.118</u>	
	<u>Wing Pods</u>		<u>Q Pod</u>	
<u>Nacelle Sta. 0.0 @</u>	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEMS - J33

GENERAL DESCRIPTION: Six underving engines installed in three nacelle pods.

Inlet has short cowl, 7° cowl lip angle, no diverter, with gap between engines closed (from nacelle L.E. to a station 0.4 inches, model scale, behind cowl lip), cowl lip radius increased on outboard engines.

MODEL SCALE = 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS: (EACH NACELLE)</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>209.51</u>	<u>3.485</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 @</u>	<u>Wing Pods</u>		<u>Q Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEMS - J₃₄

GENERAL DESCRIPTION: Six underwing engines installed in three nacelle pods.
Inlet has short cowl, 7° cowl lip angle, short flow diverter, 7° diverter
lip angle, cowl lip radius increased on outboard engines.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS:</u> (EACH NACELLE)	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	<u>209.51</u>	<u>8.485</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - Ft ²		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. 0.0 ©</u>	<u>Wing Pods</u>		<u>Q. Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Duttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : AIR BREATHING PROPULSION SYSTEM - J35

GENERAL DESCRIPTION : Two underwing G engines and four overwing engines installed in three nacelle pods. Inlet has short cowl, 7° cowl lip angle, short flow diverter, 7° diverter lip angle, cowl lip radius increased on outb'd engine only.

DRAWING NUMBER : SS-A00139

DIMENSIONS : Each Nacelle:	FULL SCALE	MODEL SCALE
Length - in.	<u>209.51</u>	<u>8.485</u>
Max Width - in.	<u>66.00</u>	<u>2.673</u>
Max Depth - in.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio	<u> </u>	<u> </u>
Area - ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

<u>Nacelle Sta. O.O @</u>	<u>Wing Pods</u>		<u>G Pod</u>	
	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - in.	38.475	38.475	38.475	38.475
Waterplane - in.	15.390	15.390	9.434	9.434
Buttock plane - in.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence	0.0	0.0	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEMS - J₃₆

GENERAL DESCRIPTION: Four underwing engines installed in two nacelle pods. Inlet has short cowl, 7° cowl lip angle, short flow diverter, 7° diverter lip angle, cowl lip radius increased on outboard engines.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-A00139

<u>DIMENSIONS (EACH NACELLE)</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length - In.	209.51	8.485
Max. width - In.	66.00	2.673
Max. Depth - In.	66.00	2.673
Fineness Ratio		
Area - Ft ²		
Max. Cross-Sectional	2737.30	4.490
Capture	1900.92	3.118
	<u>Wing Pods</u>	
<u>Nacelle Sta. 0.0 @</u>	<u>Outb'd</u>	<u>Inb'd</u>
Model Sta. - In.	38.475	38.475
Waterplane - In.	10.041	10.041
Buttock Plane - In.	+ 11.583	+ 8.910
Incidence - Deg.	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEMS - J₃₇

GENERAL DESCRIPTION: External lines simulation of six underwing engines installed in three nacelle pods. No internal lines, no cowl or diverter.

Pod is a completely hollow, flow-through tube.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-100139

<u>DIMENSIONS (EACH NACELLE)</u>	<u>FULL-SCALE</u>		<u>MODEL SCALE</u>	
Length - In.	<u>209.51</u>		<u>8.485</u>	
Max. Width - In.	<u>66.00</u>		<u>2.673</u>	
Max. Depth - In.	<u>66.00</u>		<u>2.673</u>	
Fineness Ratio				
Area - Ft ²				
Max Cross-Sectional	<u>2737.30</u>		<u>4.490</u>	
Capture	<u>1900.92</u>		<u>3.118</u>	
	<u>Wing Pods</u>		<u>Pod</u>	
<u>Nacelle Sta. 0.0 @</u>	<u>Outb'd</u>	<u>Inb'd</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	10.041	10.041	9.434	9.434
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: AIR BREATHING PROPULSION SYSTEMS - J38

GENERAL DESCRIPTION: External simulation of two underwing ζ engines and four overwing engines installed in three nacelle pods. No internal lines, no cowl or diverter. Pod is a completely hollow, flow-through tube.

MODEL SCALE: 0.0405

DRAWING NUMBER: SS-A00139

DIMENSIONS (EACH NACELLE):	FULL-SCALE		MODEL SCALE	
Length - In.	209.51		8.485	
Max. Width - In.	66.00		2.673	
Max. Depth - In.	66.00		2.673	
Fineness Ratio				
Area - Ft ²				
Max Cross-Sectional	2737.30		4.490	
Capture	1900.92		3.118	
	Wing Pods		ζ Pods	
<u>Nacell Sta. O.O @</u>	<u>Outboard</u>	<u>Inboard</u>	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475	38.475	38.475
Waterplane - In.	15.390	15.390	0.0	0.0
Buttock Plane - In.	+ 11.583	+ 8.910	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933	3.933	3.933

TABLE III (continued)

MODEL COMPONENT: AIR EXHAUSTING PROPELLSION SYSTEM - J39

GENERAL DESCRIPTION: Two engines installed in one unitary nacelle pod.
Inlet has short cowl, 1° cowl lip angle, short flap diverter, 7° diverter
lip angle.

MODEL SCALE: 0.0405

DRAWING NUMBER:

89-AC0139

DIMENSIONS:

	FULL-SCALE	MODEL SCALE
Length - In.	<u>209.51</u>	<u>8.486</u>
Max. Width - In.	<u>66.00</u>	<u>2.673</u>
Max. Depth - In.	<u>66.00</u>	<u>2.673</u>
Fineness Ratio		
Area - In.		
Max. Cross-Sectional	<u>2737.30</u>	<u>4.490</u>
Capture	<u>1900.92</u>	<u>3.118</u>

<u>Nacelle Sta. O.O @</u>	<u>§ Pod</u>	
	<u>Left</u>	<u>Right</u>
Model Sta. - In.	38.475	38.475
Wingplane - In.	9.434	9.434
Wingplane Plane - In.	- 1.342	+ 1.342
Incidence - Deg.	3.933	3.933

TABLE III (Continued)

MODEL COMPONENT: Rudder - R₃

GENERAL DESCRIPTION: Rudder used with centerline vertical V₃

Model Scale = .0405

DRAWING NUMBER: _____

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area-a ft of hingeline, ft ²	<u>115.63</u>	<u>0.190</u>
Span (equivalent) in	<u>223.34</u>	<u>9.045</u>
Inb'd equivalent chord	<u>97.09</u>	<u>3.932</u>
Outb'd equivalent chord	<u>52.02</u>	<u>2.107</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>34.889</u>	<u>34.889</u>
Tailing Edge	<u>26.361</u>	<u>26.361</u>
Hingeline	<u>34.889</u>	<u>34.889</u>
Area Moment (Normal to hinge line) ft ³	<u>647.77</u>	<u>0.043</u>

(Product of area & mean chord)

TABLE III (Continued)

MODEL COMPONENT: Vertical V3

GENERAL DESCRIPTION: Centerline vertical used on body B 12
double wedge airfoil with rudder/speed brake

Scale Model .0405

DRAWING NUMBER: _____

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area - ft ²	404.95	0.664
Planform		
Blanketed (inc above)	32.05	.052
Span (equivalent)	289.88	11.740
Aspect Ratio	1.565	1.565
Rate of Taper	0.504	0.504
Taper Ratio	.434	.434
Dihedral Angle, degrees	-	-
Incidence Angle, degrees	-	-
Aerodynamic Twist, degrees	-	-
Toe-In Angle - deg.	0.0	0.0
Cant Angle - deg.	0.0	0.0
Sweep Back Angles, degrees		
Leading Edge	45.00	45.00
Trailing Edge	26.561	26.561
0.25 Element Line	41.150	41.150
Chords:		
Root WP 520.00	258.350	10.463
Tip, (equivalent) WP 809.885	112.125	4.541
MAC WP 645.875	194.855	7.892
Fus. Sta. of .25 MAC	1492.779	60.437
W.P. of .25 MAC	645.875	26.157
B.L. of .25 MAC	0.0	0.0
Airfoil Section 5° Half Angle Double wedge with rounded		
Root L.E. = 1.6% local chord.		
Tip		

EXPOSED DATA

Area		
Span, (equivalent)		
Aspect Ratio		
Taper Ratio		
Chords		
Root		
Tip		
MAC		
Fus. Sta. of .25 MAC		
W.P. of .25 MAC		
B.L. of .25 MAC		

TABLE III (Continued)

MODEL COMPONENT: BOUNDARY LAYER TRANSITION STRIP, X₀

GENERAL DESCRIPTION: Grit located on model nose and all swept surfaces to provide forced boundary layer transition.

MODEL SCALE: 0.0405

DIMENSIONS:

MODEL SCALE

Nominal grit height, in.

Fuselage

.0024

All surfaces except fuselage

.0076

Strip thickness, in.

0.10

Location, inches (streamwise) aft of local

leading edge

1.0

TABLE III (Continued)

MODEL COMPONENT: BOUNDARY LAYER TRANSITION STRIP, X_{10}

GENERAL DESCRIPTION: Grit located on model nose and all swept surfaces and ABPS nacelles to provide forced boundary layer transition.

MODEL SCALE: 0.0405

DIMENSIONS:

MODEL SCALE

Nominal grit height, in.

Fuselage

0.0054

All surfaces except fuselage

0.0076

Strip thickness, in.

0.10

Location, inches (streamwise) aft of local leading edge

1.0

TABLE III (Concluded)

MODEL COMPONENT: Wing, WS7
 GENERAL DESCRIPTION: Double Delta Wing (75°/45° ALE)

Scale Model = 0.0405

DRAWING NUMBER: VL70-000093

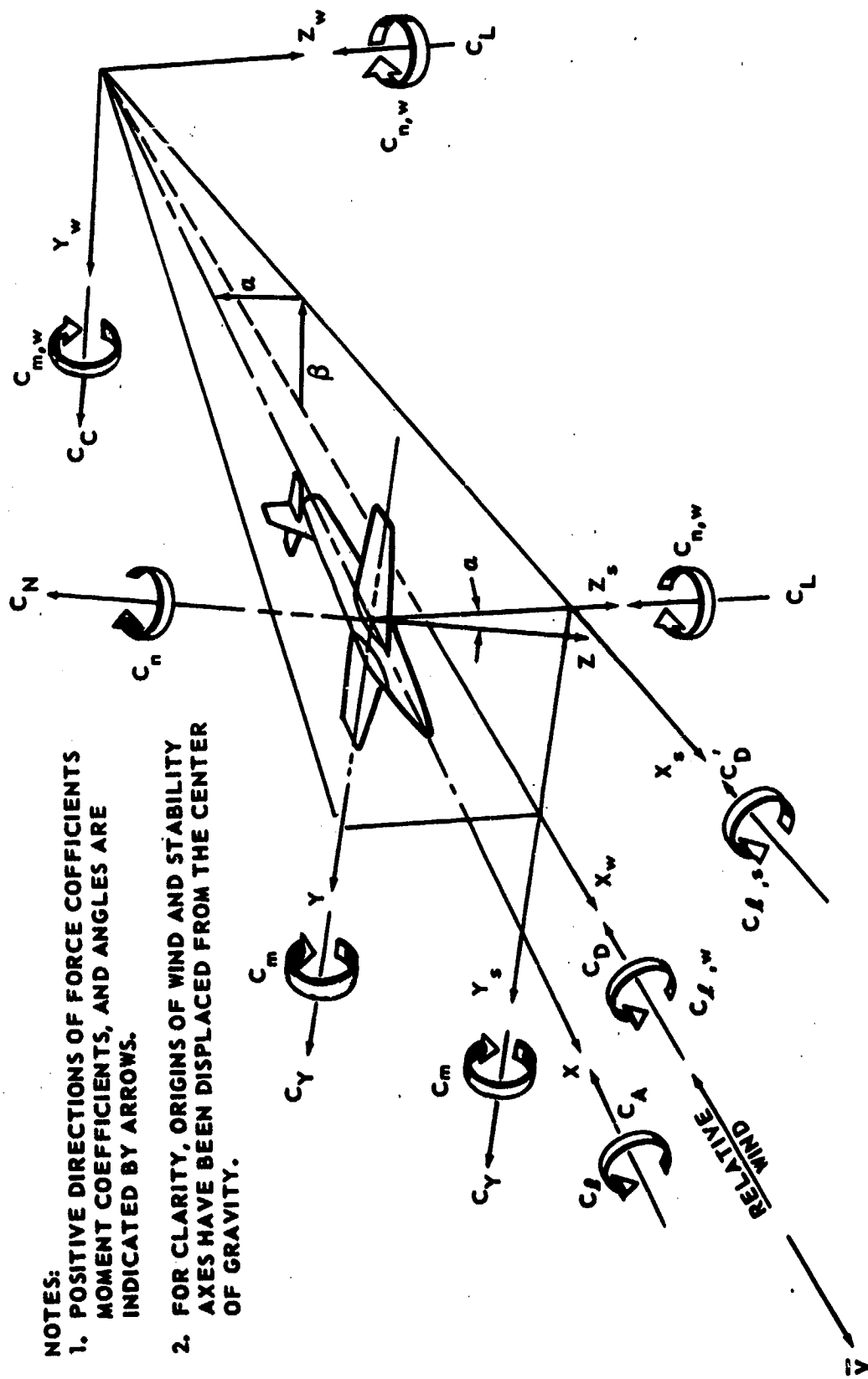
DIMENSIONS: FULL-SCALE MODEL SCALE

TOTAL DATA

Area-ft ²		
Planform	2689.38	4.411
Wetted		
Span (equivalent)	77.17	3.125
Aspect Ratio	2.214	2.214
Rate of Taper	1.176	1.176
Taper Ratio	0.209	0.209
Dihedral Angle, degrees @X/C=75.33%	3.861	3.861
Incidence Angle, degrees	3.000	3.000
Aerodynamic Twist, degrees	-	-
Toe-In Angle	-	-
Cant Angle	-	-
Sweep Back Angles, degrees		
Leading Edge	44.873	44.873
Trailing Edge	-10.242	-10.242
0.25 Element Line	35.050	35.050
Chords:		
Root (Wing Sta. 0.0)	690.19	27.953
Tip, (equivalent)	144.30	5.844
MAC	476.76	19.309
Fus. Sta. of .25 MAC	1136.12	46.013
W.P. of .25 MAC	289.44	11.722
B.L. of .25 MAC	181.03	7.350
Airfoil Section		
Root	-	-
Tip	-	-

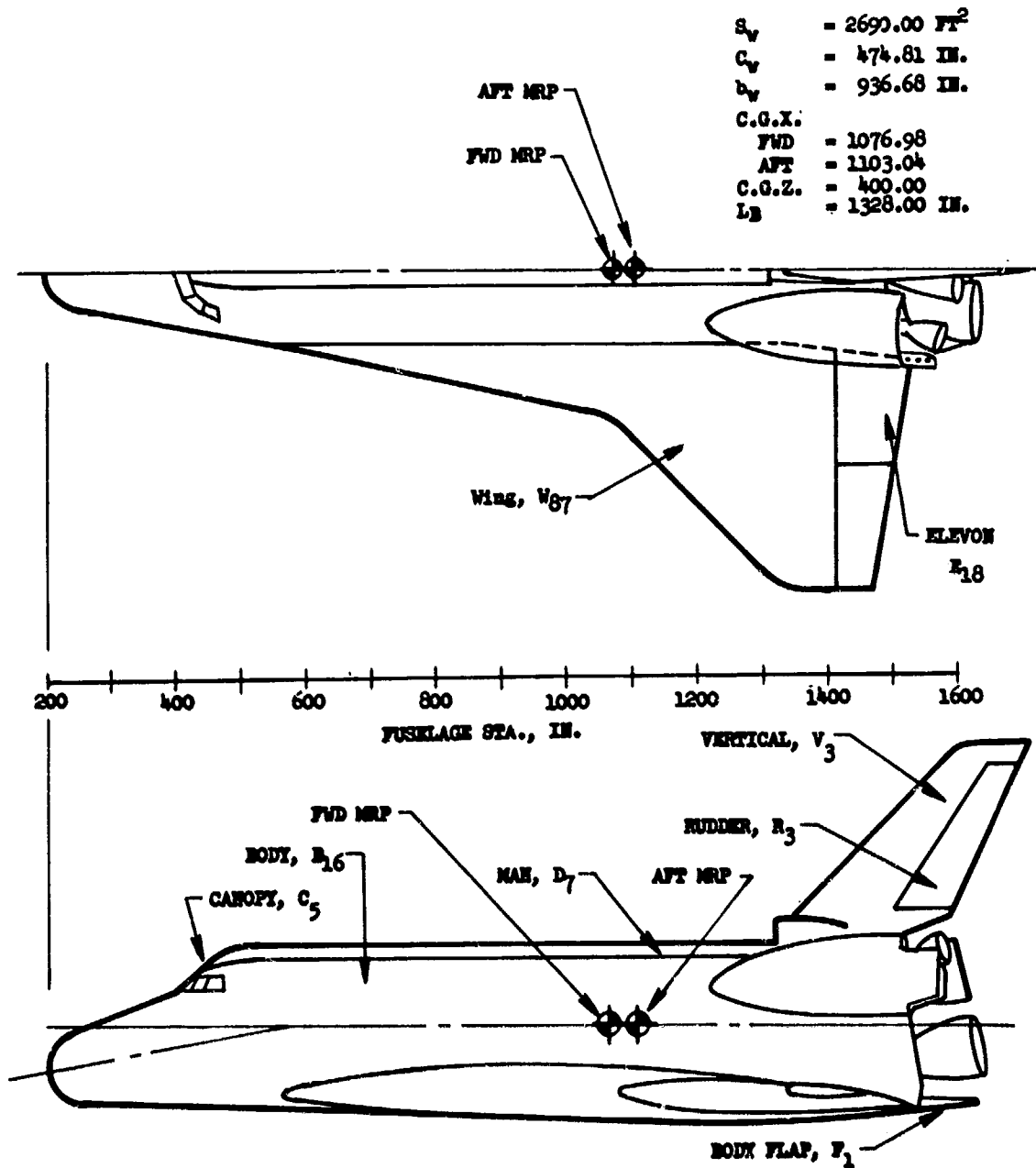
EXPOSED DATA

Area-ft ²	1746.87	2.865
Span, (equivalent) -ft.	59.16	2.396
Aspect Ratio	2.004	2.004
Taper Ratio	0.256	0.256
Chords -in.		
Root	562.77	22.792
Tip	144.30	5.844
MAC	394.81	15.999
Fus. Sta. of .25 MAC	1185.17	47.913
W.P. of .25 MAC	291.56	11.808
B.L. of .25 MAC	250.54	10.147
Leading Edge Cuff		
Planform Area - ft ²	121.42	0.199
L.E. Intersects Fus. @Sta.	560.00	22.860
L.E. Intersects Wing @ Sta.	1035.00	41.918

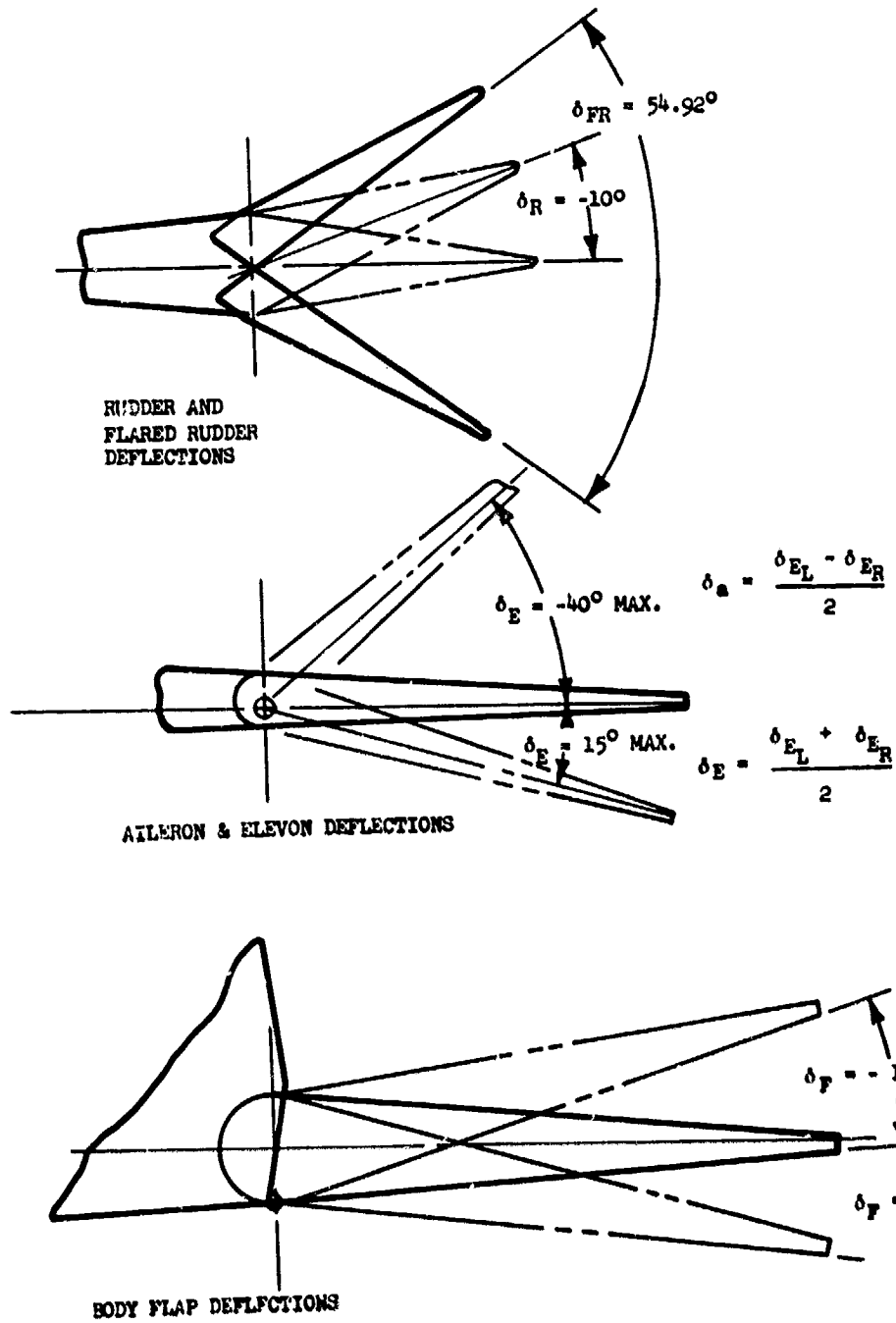


- NOTES:**
1. POSITIVE DIRECTIONS OF FORCE COEFFICIENTS, MOMENT COEFFICIENTS, AND ANGLES ARE INDICATED BY ARROWS.
 2. FOR CLARITY, ORIGINS OF WIND AND STABILITY AXES HAVE BEEN DISPLACED FROM THE CENTER OF GRAVITY.

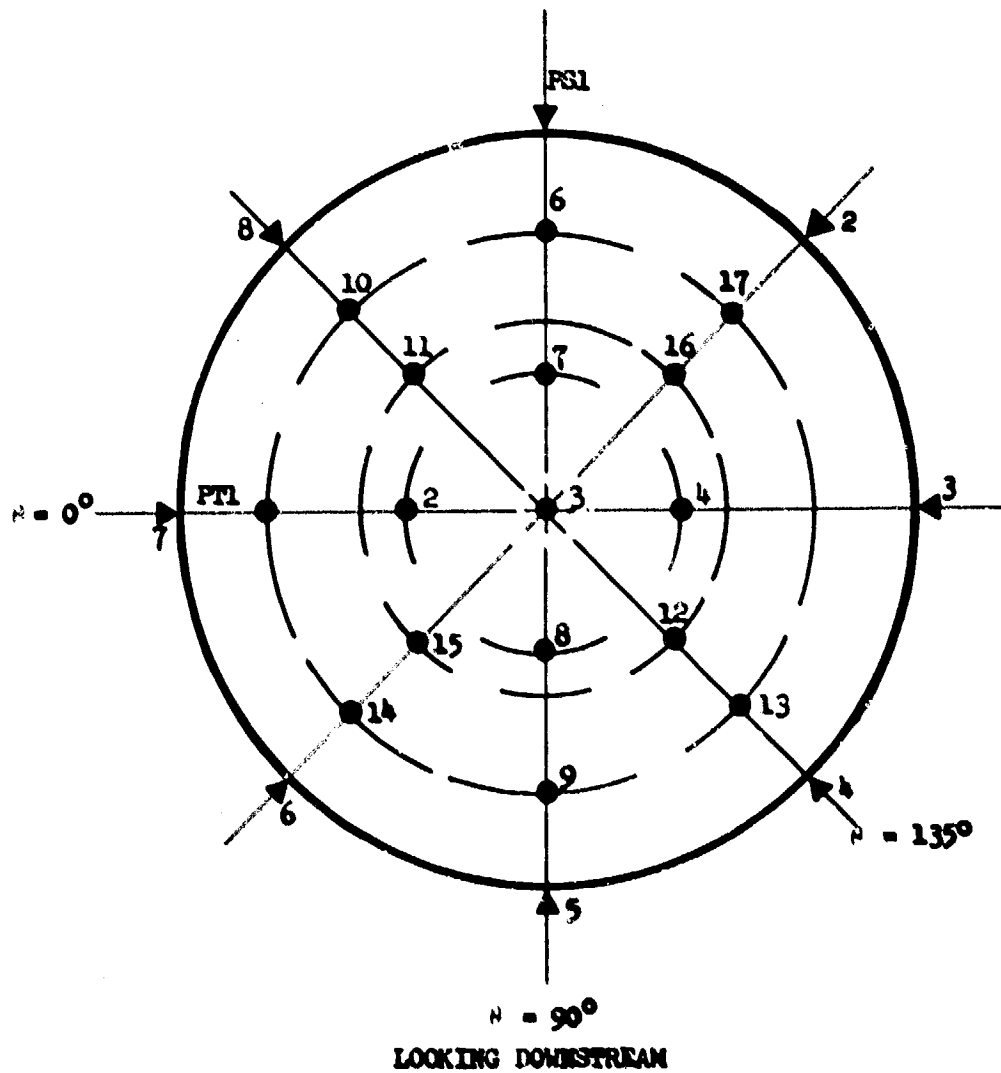
Figure 1 Axis Systems



a. General Arrangement - 89B Orbiter
Figure 2. - Model Sketches.

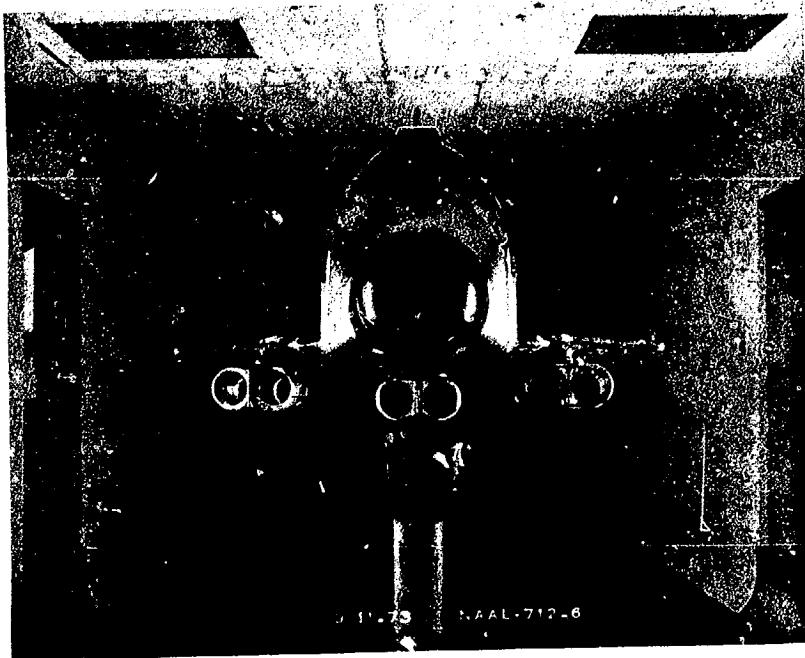


b. Sign Convention for Control Surfaces
 Figure 2. - Continued.

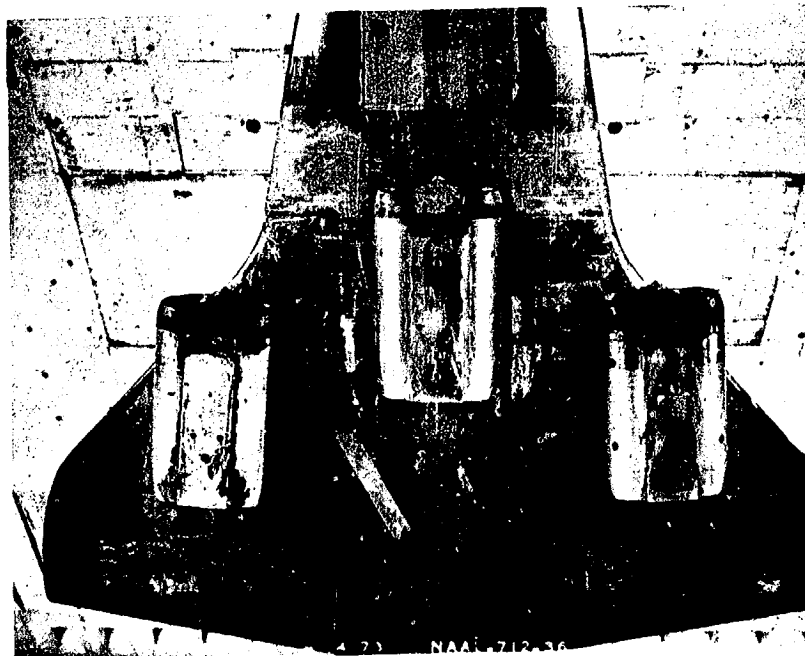


c. Nacelle Pressure General Arrangement

Figure 2. - Concluded.

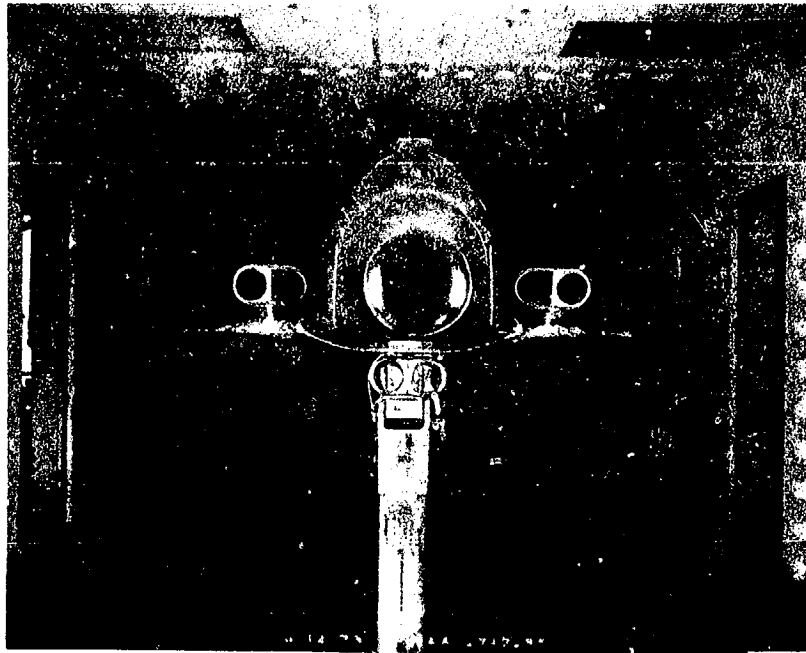


a. Front View, Underwing ABPS Configuration
B16C5D7J34F1W87E18V3R3X10

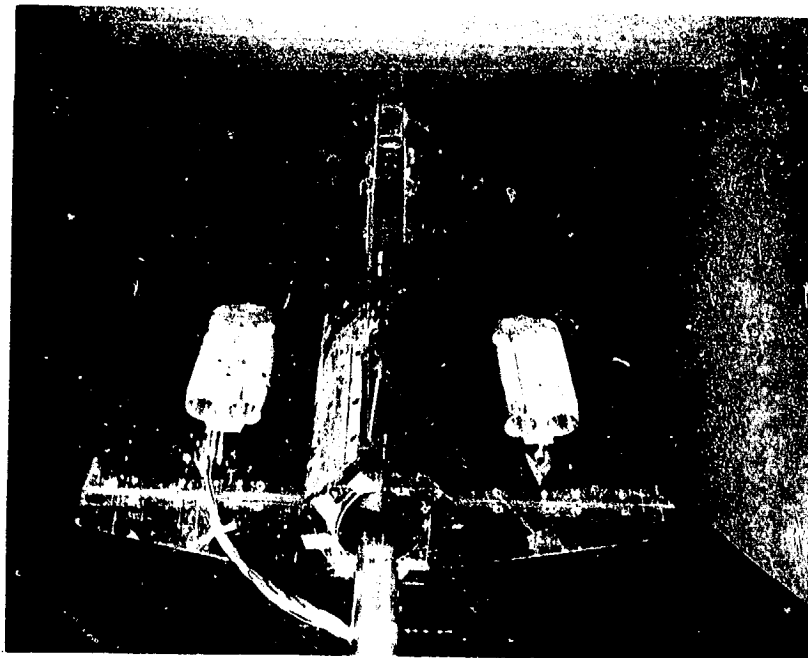


b. Bottom View, Underwing ABPS Configuration
B16C5D7J34F1W87E18V3R3X10

Figure 3. - Model Installation Photographs.

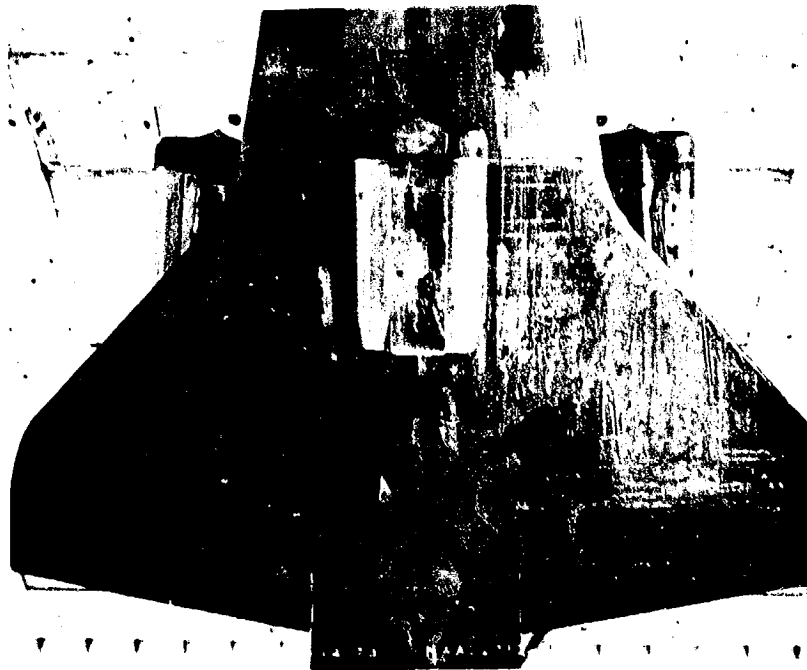


c. Front View, Overwing ABPS Configuration
B16C5D7J35F1W87E18V3R3X10

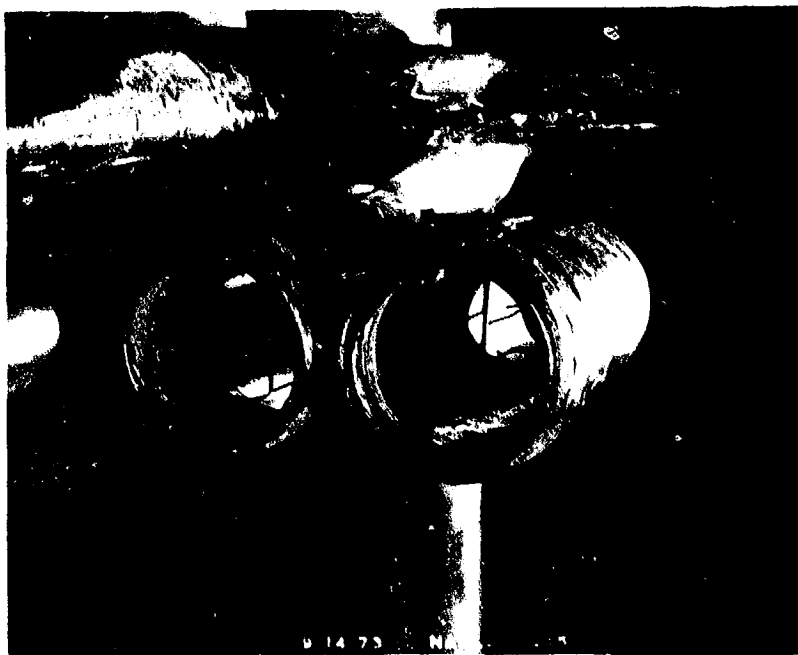


d. Rear View, Overwing ABPS Configuration
B16C5D7J35F1W87E18V3R3X10

Figure 3. - Continued.

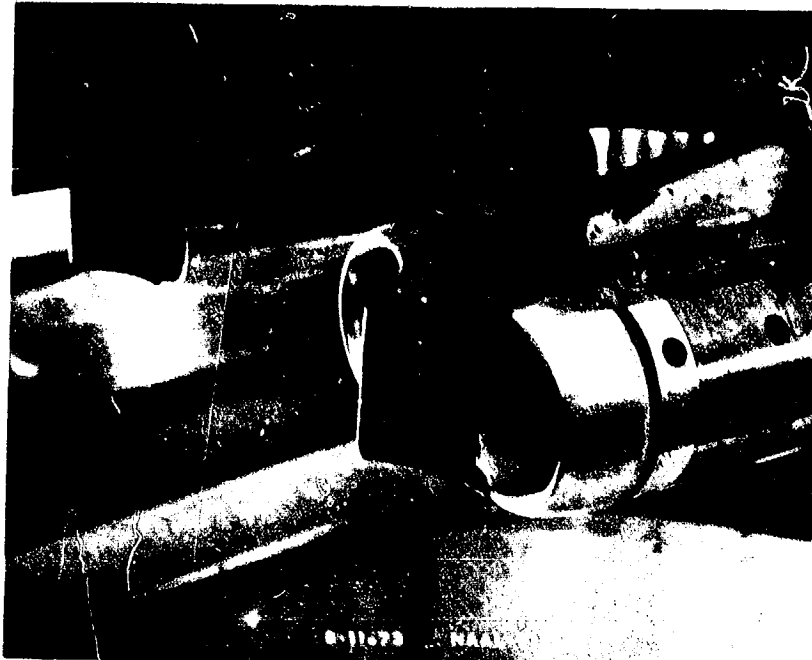


e. Bottom View, Overwing ABPS Configuration
B16C5D7J35F1W87E18V3R3X10

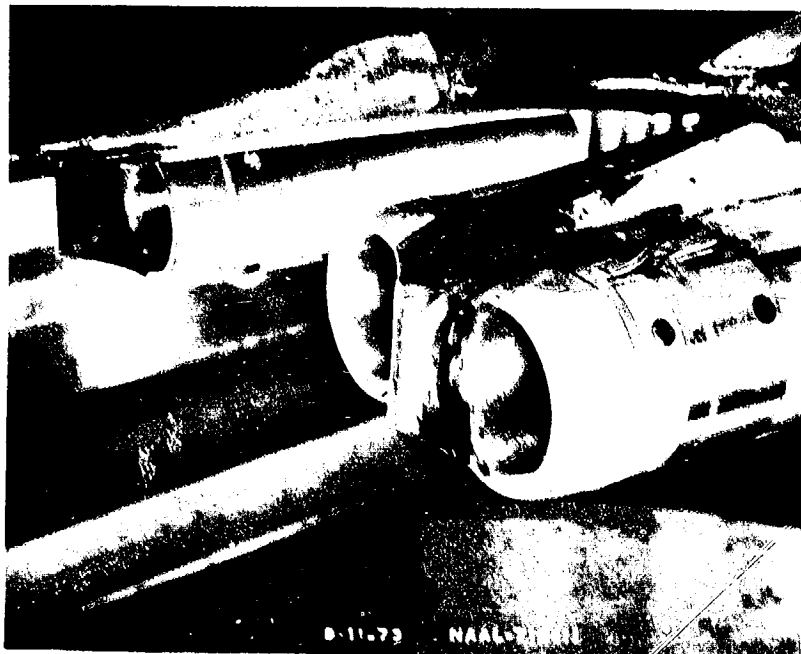


f. Front View, Nacelle J32 Configuration and
Internal Pressure Rake Installation.

Figure 3. - Continued.



g. Front View, Nacelle J26 Configuration
With Long Flow Diverter.



h. Front View, Nacelle J25 Configuration
With Short Flow Diverter.

Figure 3. - Concluded.

DATA FIGURES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	BETA	REFERENCE INFORMATION
(ADJ071)	GA71C B16CS07 F1V87 E18V3R3X9	15.000	.000	-18.000	.000	SREF 4.4122 50.FT.
(ADJ004)	GA71C B16CS07 F1V87 E18V3R3X9	5.000	.000	-18.000	.000	LREF 19.2299 INCHES
(ADJ001)	GA71C B16CS07 F1V87 E18V3R3X9	-10.000	.000	-18.000	.000	BREF 37.5349 INCHES
(ADJ006)	GA71C B16CS07 F1V87 E18V3R3X9	-20.000	.000	-18.000	.000	XREF 43.5574 INCHES
(ADJ009)	GA71C B16CS07 F1V87 E18V3R3X9	-30.000	.000	-18.000	.000	YREF 16.2000 INCHES
(ADJ014)	GA71C B16CS07 F1V87 E18V3R3X9		.000	-18.000	.000	ZREF 16.2000 INCHES
						SCALE .0405 SCALE

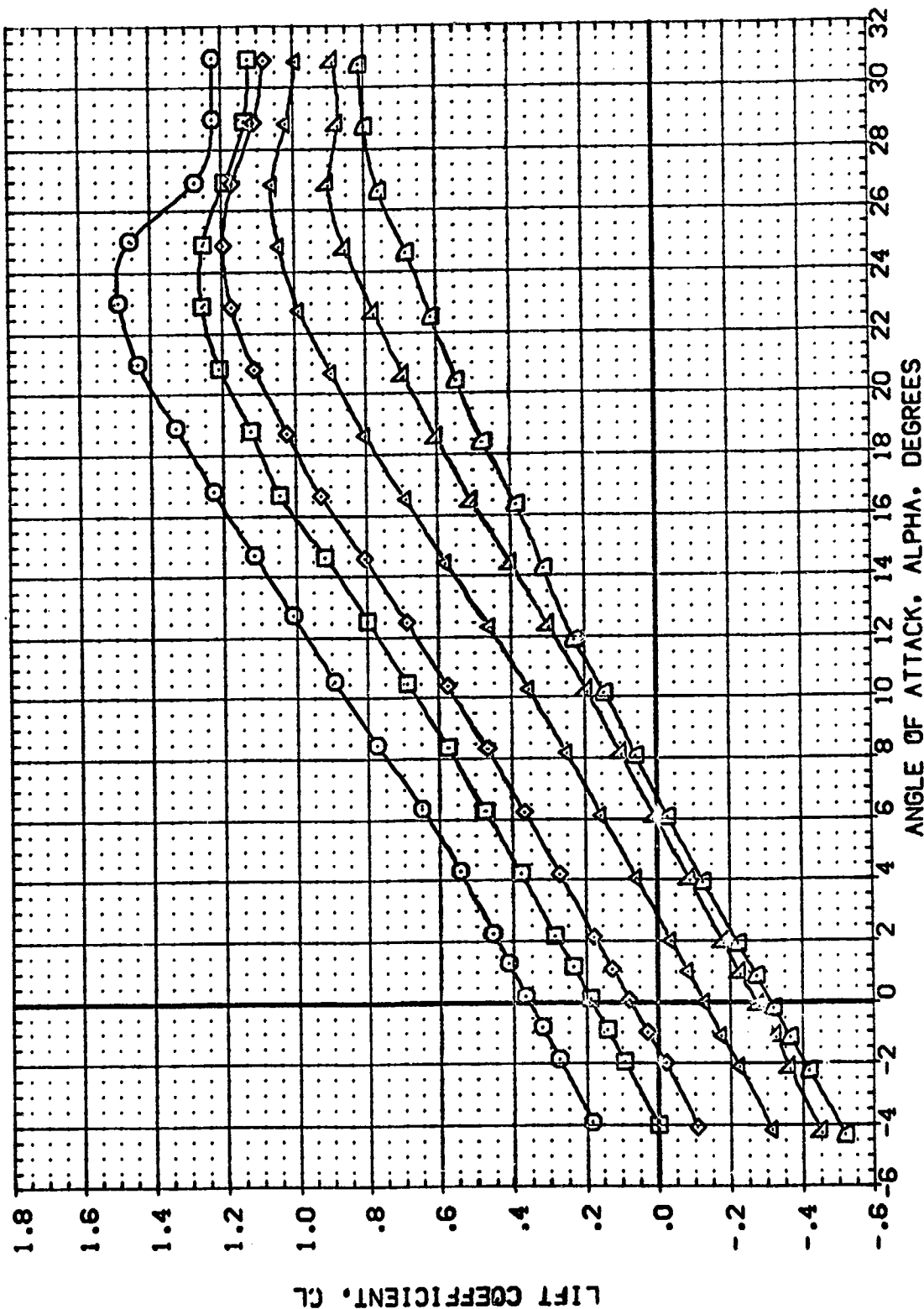


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

CA/MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	BETA	REFERENCE INFORMATION
(ADU071)	GA71C B16CS07 F1V87 E18V3R3X9	15.000	.000	-18.000	.000	SREF 4.4122 SO.FT
(ADU004)	GA71C B16CS07 F1V87 E18V3R3X9	5.000	.000	-18.000	.000	LREF 19.2299 INCHES
(ADU001)	GA71C B16CS07 F1V87 E18V3R3X9	.000	.000	-18.000	.000	BREF 37.9349 INCHES
(ADU005)	GA71C B16CS07 F1V87 E18V3R3X9	-10.000	.000	-18.000	.000	XREF 43.5974 INCHES
(ADU009)	GA71C B16CS07 F1V87 E18V3R3X9	-20.000	.000	-18.000	.000	YREF .0000 INCHES
(ADU014)	GA71C B16CS07 F1V87 E18V3R3X9	-30.000	.000	-18.000	.000	ZREF 16.2000 INCHES
						SCALE .0405 SCALE

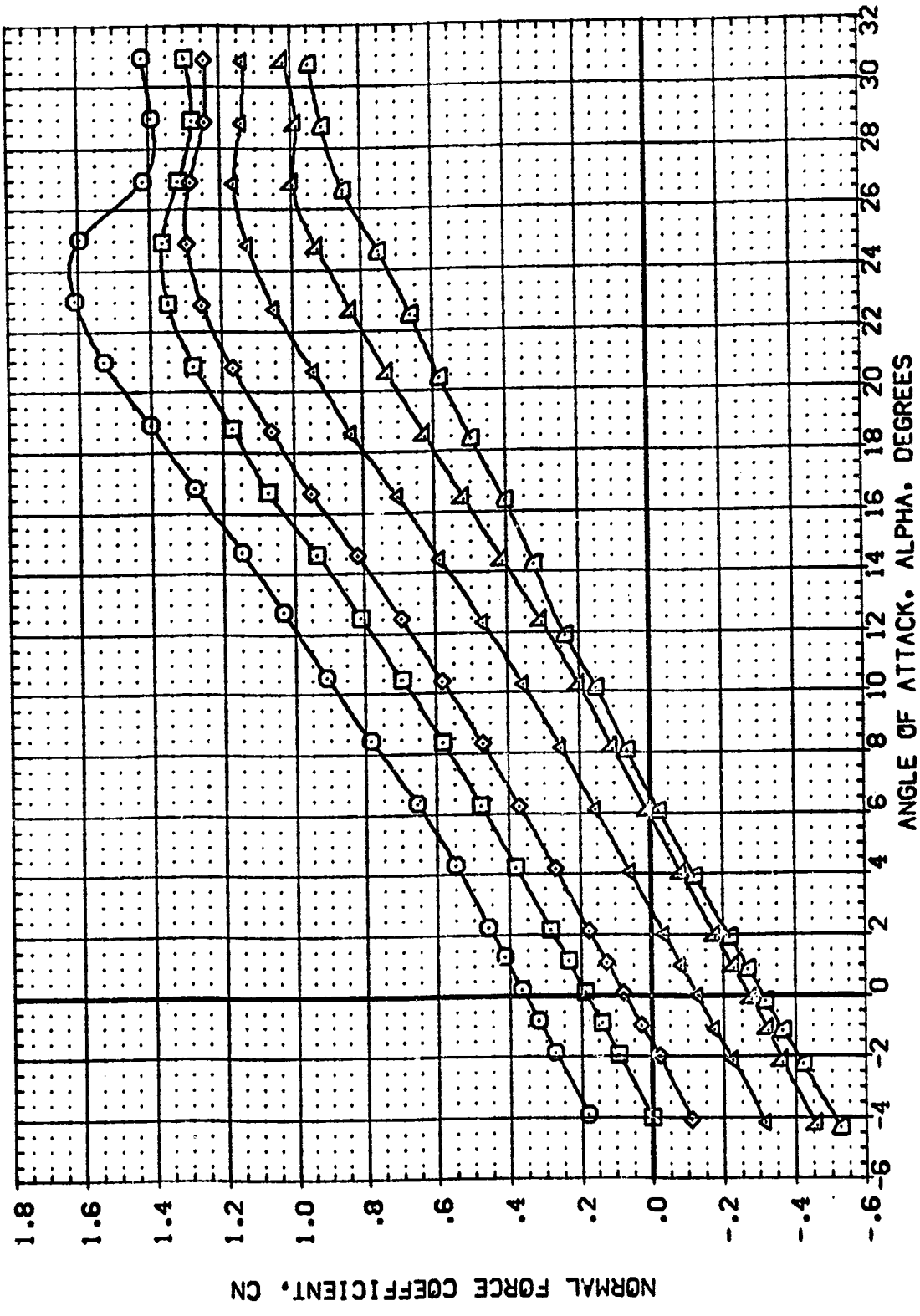
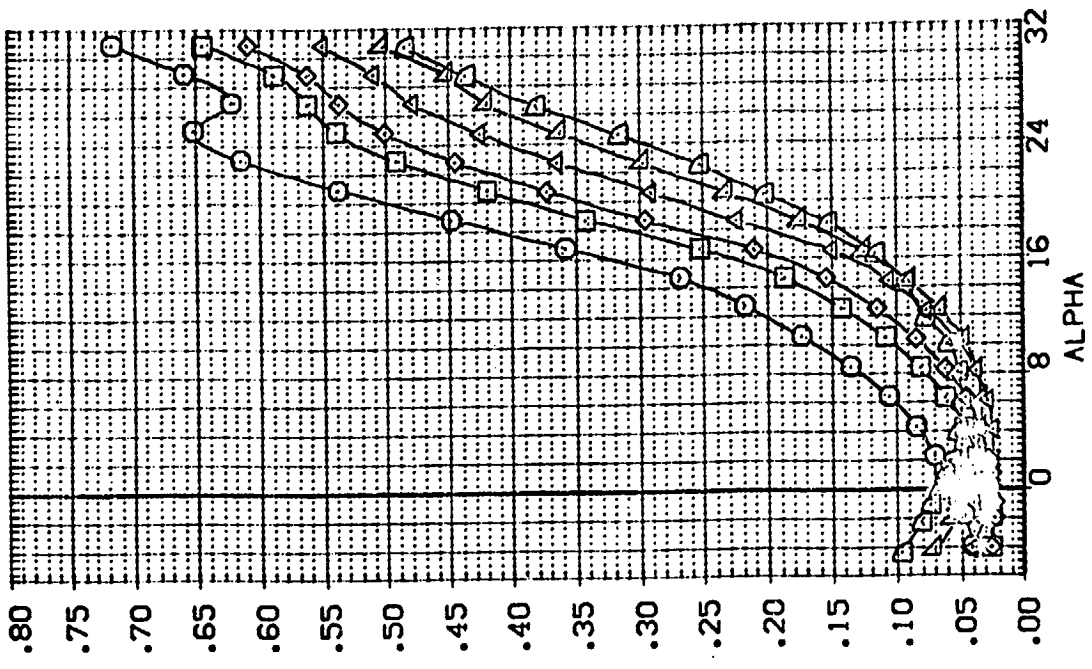


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

(A)MACH = .20



DATA SET SYMBOL: (ADL071), (ADL004), (ADL001), (ADL006), (ADL009), (ADL014)
 CONFIGURATION DESCRIPTION: GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9
 AIRFLOW: .00%, .000, .000, .000, .000, .000, .000, .000, .000, .000
 BOFLAP: -18.000, -18.000, -18.000, -18.000, -18.000, -18.000, -18.000, -18.000, -18.000, -18.000
 BETA: .000, .000, .000, .000, .000, .000, .000, .000, .000, .000
 REFERENCE INFORMATION: SREF 4.4122, LREF 19.2259, BREF 37.5349, XREF 43.5974, YREF .0000, ZREF .2000, SCALE .0405, SO FT INCHES, INCHES, INCHES, INCHES, INCHES, INCHES, INCHES, INCHES, INCHES, INCHES



DATA SET SYMBOL: (ADL071), (ADL004), (ADL001), (ADL006), (ADL009), (ADL014)
 CONFIGURATION DESCRIPTION: GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9, GA71C B16C507, F1V87 E18V3R3X9

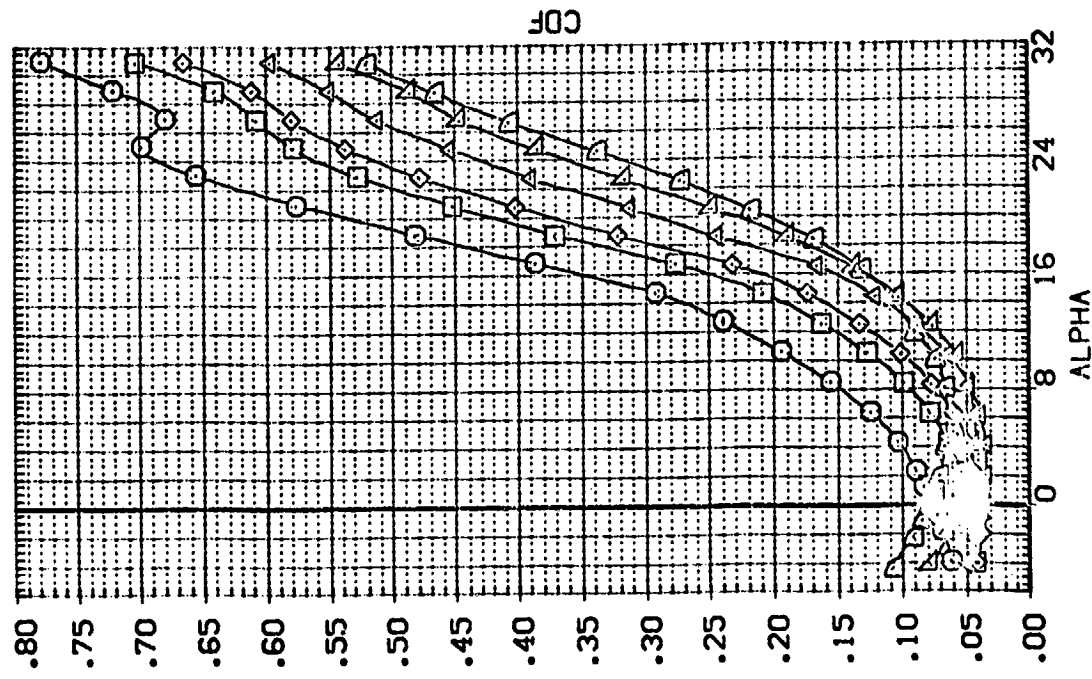


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES
 (AJMACH = .20)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	BETA	REFERENCE INFORMATION
(ADL071)	F1V87 E18V3K3K9	15.000	.000	-18.000	.000	SREF 4.4122 50.FT.
(ADL004)	F1V87 E18V3K3K9	5.000	.000	-18.000	.000	LREF 19.2299 INCHES
(ADL001)	F1V87 E18V3K3K9	-10.000	.000	-18.000	.000	BREF 37.9349 INCHES
(ADL008)	F1V87 E18V3K3K9	-20.000	.000	-18.000	.000	XREF 43.9374 INCHES
(ADL014)	F1V87 E18V3K3K9	-30.000	.000	-18.000	.000	YREF .0000 INCHES
					.000	ZREF 16.2000 INCHES
					.0405	SCALE

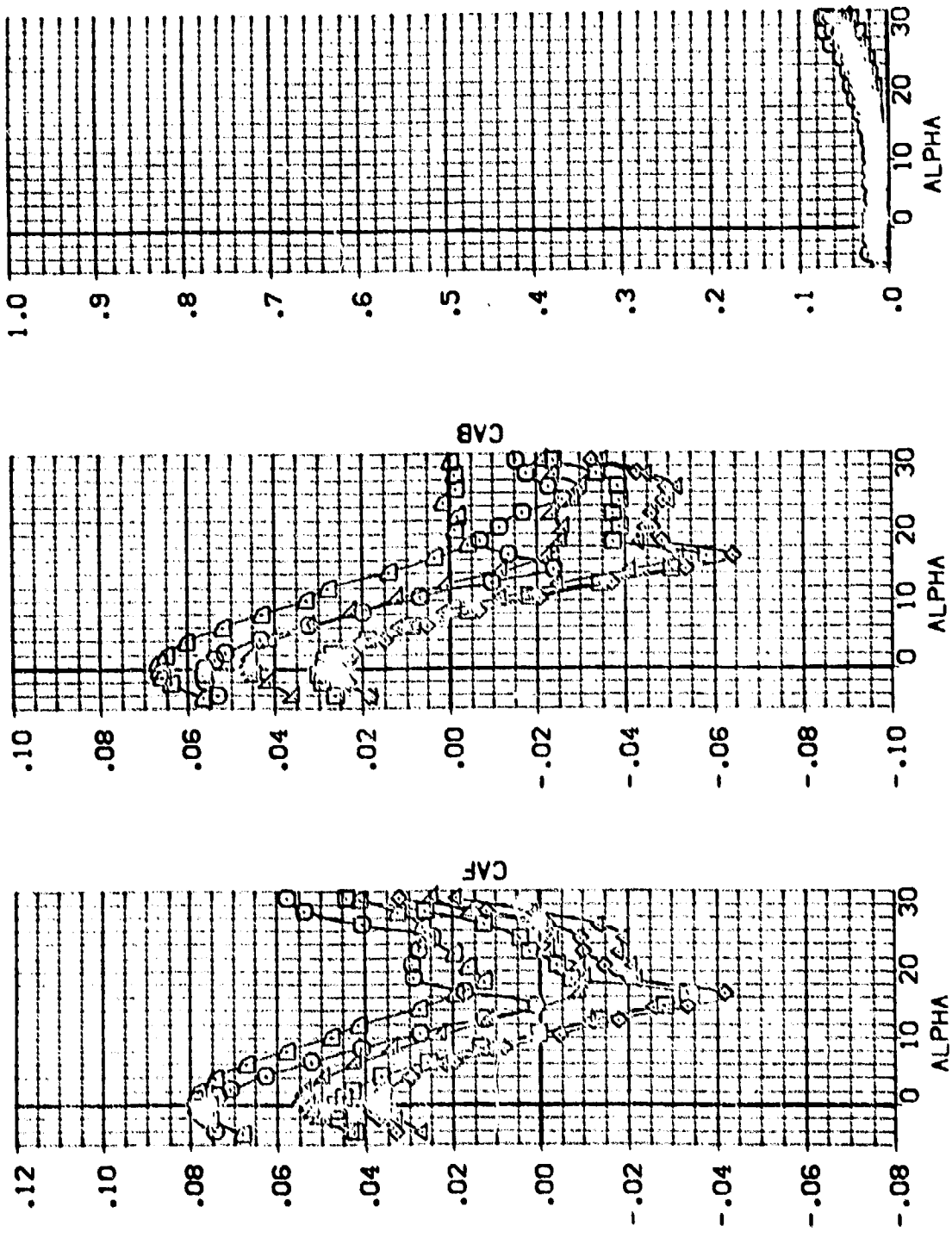


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

(A)MACH = .20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	BETA	REFERENCE INFORMATION
(ADJ071)	0A71C B16C507 F1V87 E18V3R3G9	15.000	.000	-18.000	.000	SREF 4.4122 SQ.FT.
(ADJ004)	0A71C B16C507 F1V87 E18V3R3G9	5.000	.000	-18.000	.000	LREF 19.2258 INCHES
(ADJ001)	0A71C B16C507 F1V87 E18V3R3G9	.000	.000	-18.000	.000	BREF 37.9349 INCHES
(ADJ006)	0A71C B16C507 F1V87 E18V3R3G9	-10.000	.000	-18.000	.000	XMRP 43.5974 INCHES
(ADJ009)	0A71C B16C507 F1V87 E18V3R3G9	-20.000	.000	-18.000	.000	ZMRP 16.2000 INCHES
(ADJ014)	0A71C B16C507 F1V87 E18V3R3G9	-30.000	.000	-18.000	.000	SCALE .0400

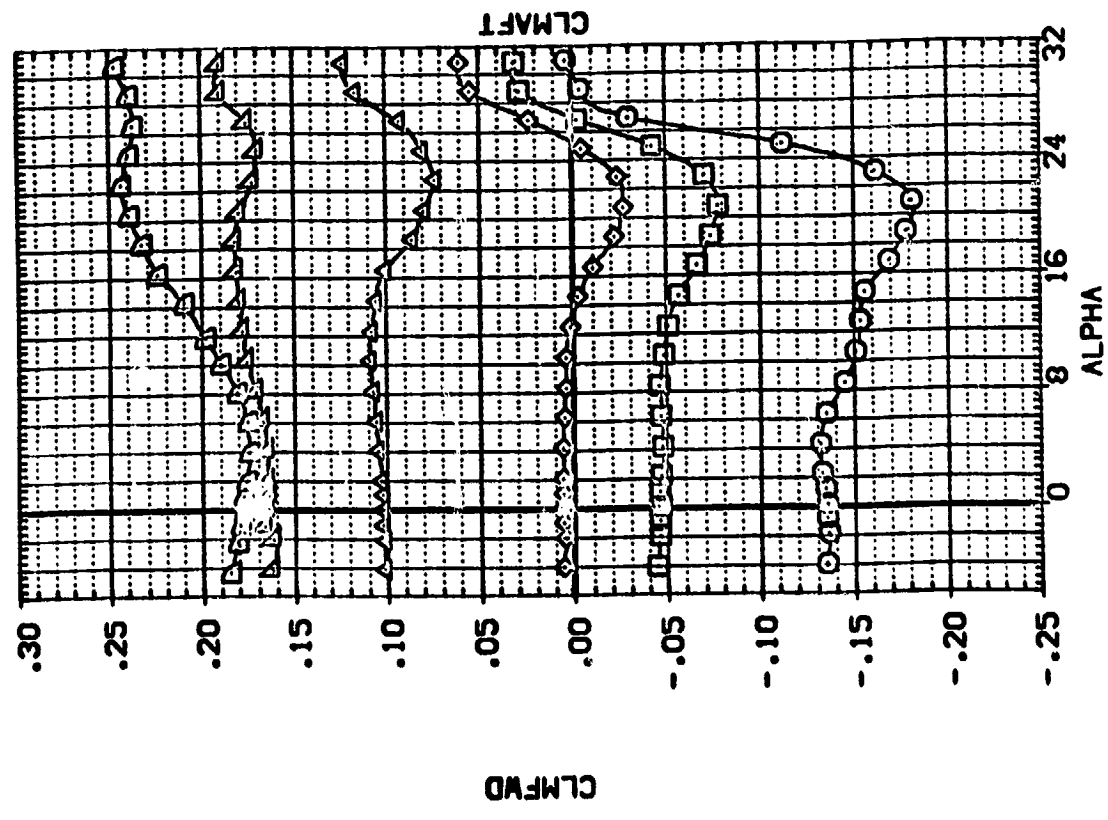
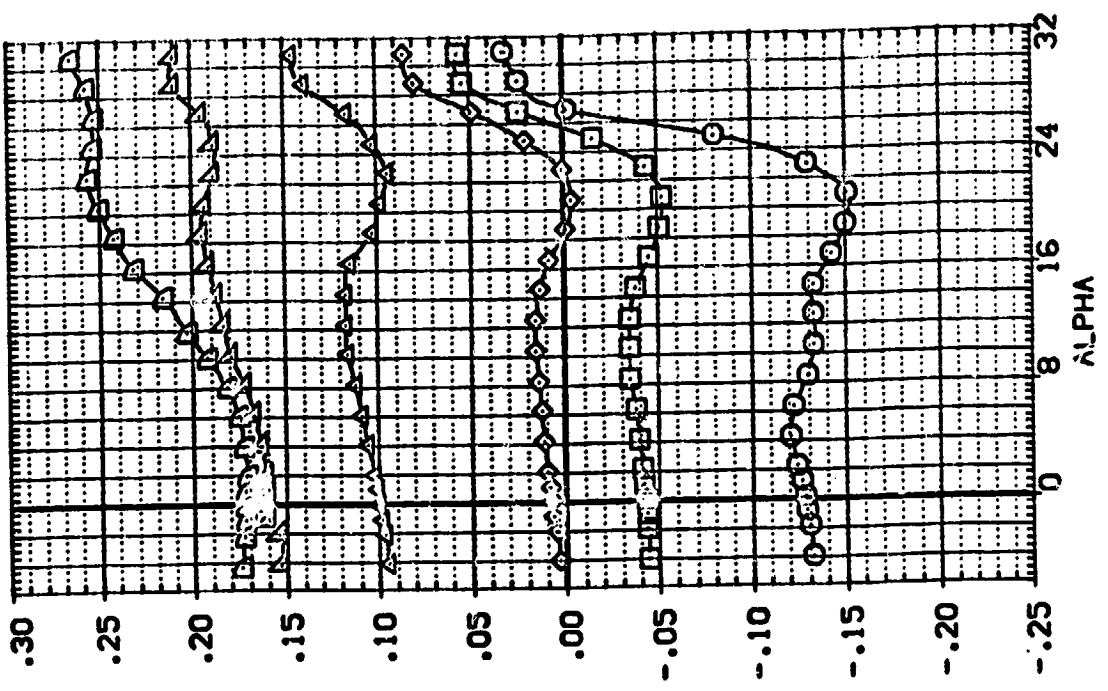


FIG 4 - ELEVON EFFECTIVENESS - NO NACELLES
 (A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILRON	BOFLAP	BETA	REFERENCE INFORMATION
(ADJ071)	0A71C 816C507 F1V67 E18V3K3G	15.000	.000	-18.000	.000	SREF 4.4122 SO.FT.
(ADJ004)	0A71C 816C507 F1V67 E18V3K3G	5.000	.000	-18.000	.000	LREF 19.2259 INCHES
(ADJ001)	0A71C 816C507 F1V67 E18V3K3G	5.000	.000	-18.000	.000	EREF 37.9349 INCHES
(ADJ005)	0A71C 816C507 F1V67 E18V3K3G	-10.000	.000	-18.000	.000	XREF 43.5074 INCHES
(ADJ009)	0A71C 816C507 F1V67 E18V3K3G	-20.000	.000	-18.000	.000	YREF 16.2000 INCHES
(ADJ014)	0A71C 816C507 F1V67 E18V3K3G	-30.000	.000	-18.000	.000	ZREF 16.2000 INCHES
						SCALE .0405

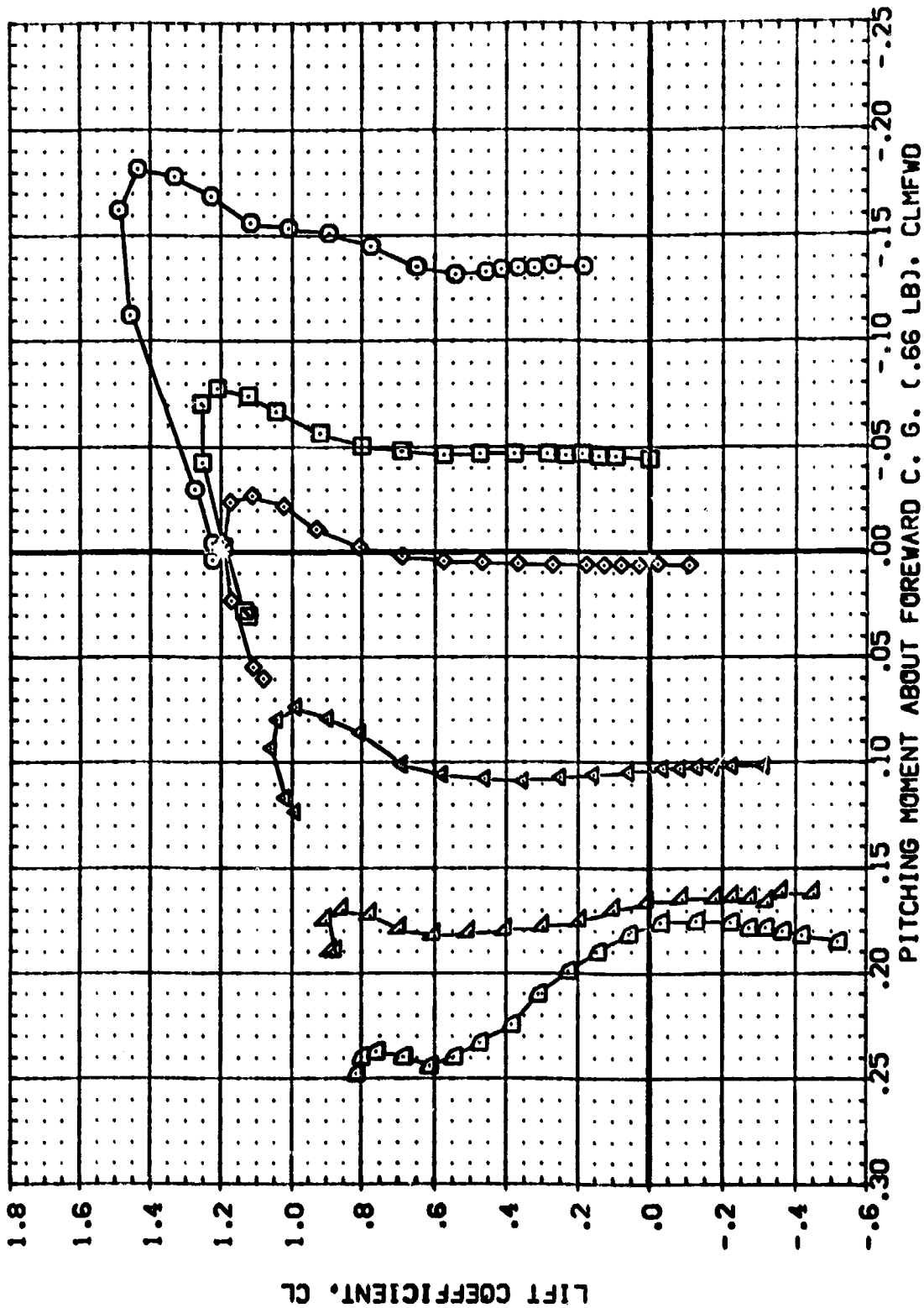


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

(A)MACH = .20

DATA SET SYMBL.	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	BETA	REFERENCE INFORMATION
(ADJ071)	0A71C 816C507 F1V87 E1B73R3G9	15.000	.000	-18.000	.000	4.4122 SO.FT.
(ADJ004)	0A71C 816C507 F1V87 E1B73R3G9	5.000	.000	-18.000	.000	19.2259 INCHES
(ADJ001)	0A71C 816C507 F1V87 E1B73R3G9	-10.000	.000	-18.000	.000	37.9249 INCHES
(ADJ006)	0A71C 816C507 F1V87 E1B73R3G9	-20.000	.000	-18.000	.000	43.5574 INCHES
(ADJ009)	0A71C 816C507 F1V87 E1B73R3G9	-30.000	.000	-18.000	.000	16.2000 INCHES
(ADJ014)	0A71C 816C507 F1V87 E1B73R3G9					.0405 SCALE

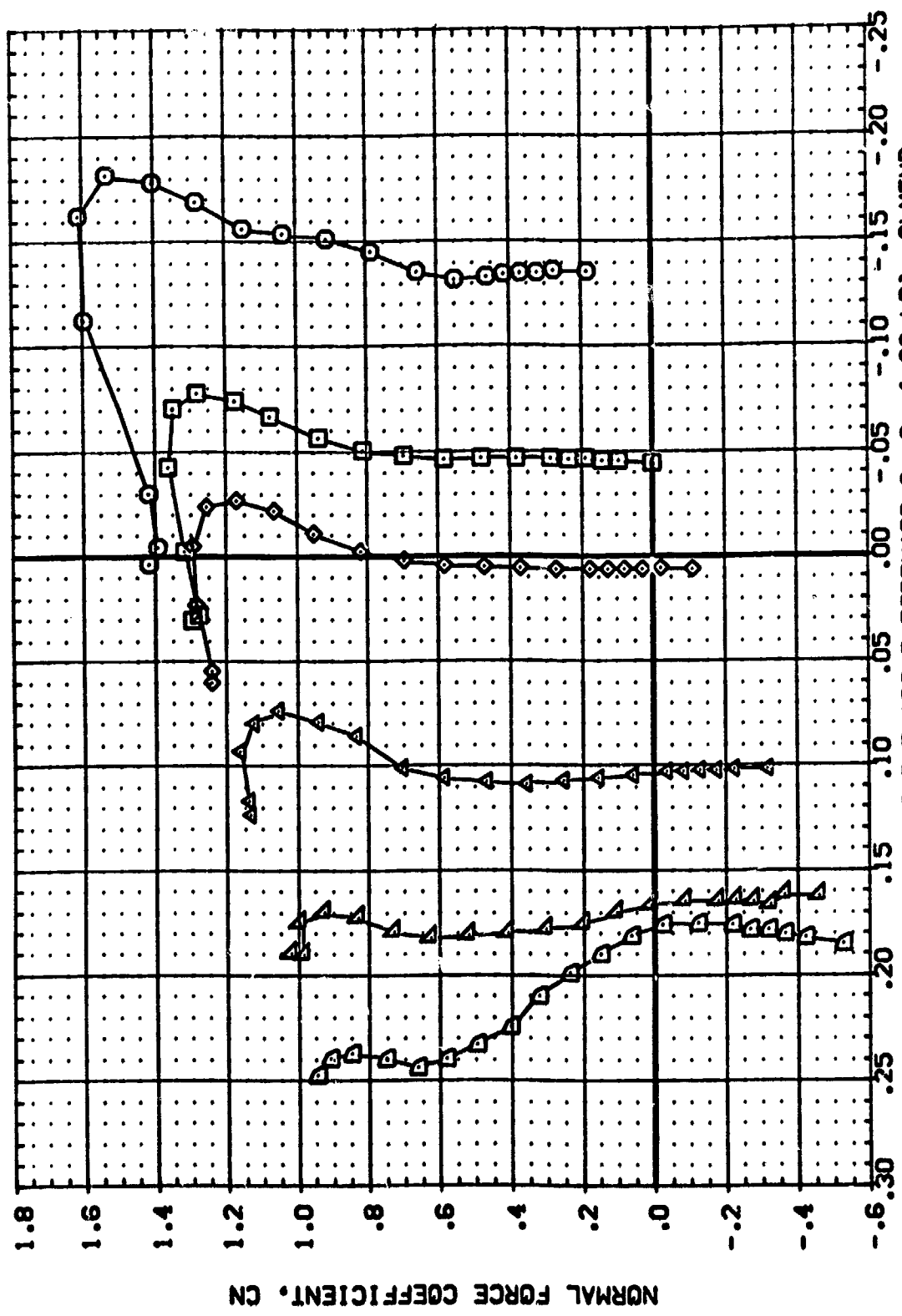


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	AILERON	BOFLAP	BETA	REFERENCE INFORMATION
(ADJ071)	CA71C B16C507 F1687 E18V3009	15.000	.000	-19.000	.000	SREF 4.4122 50.FT.
(ADJ004)	CA71C B16C507 F1687 E18V3009	5.000	.000	-19.000	.000	LREF 19.2299 INCHES
(ADJ001)	CA71C B16C507 F1687 E18V3009	.000	.000	-19.000	.000	BREF 37.9349 INCHES
(ADJ006)	CA71C B16C507 F1687 E18V3009	-10.000	.000	-19.000	.000	XREF 43.5974 INCHES
(ADJ009)	CA71C B16C507 F1687 E18V3009	-20.000	.000	-19.000	.000	YREF 16.2000 INCHES
(ADJ014)	CA71C B16C507 F1687 E18V3009	-30.000	.000	-19.000	.000	ZREF 16.2000 INCHES
						SCALE .5405 SCALE

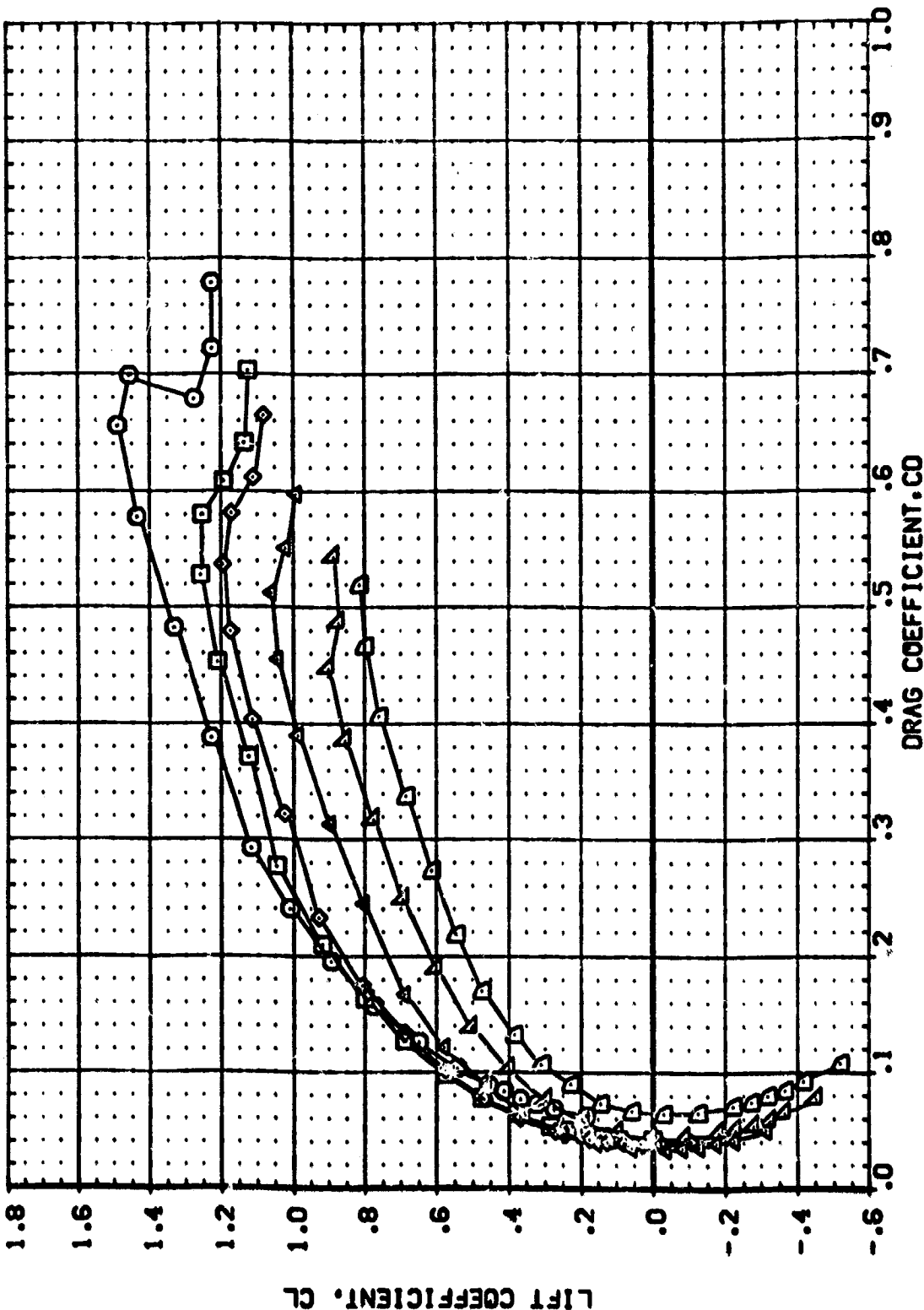


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

(A)MACH = .20



DATA SET SYMBL	CONFIGURATION	DESCRIPTION	ELEVON	AILISON	BOFLAP	BETA	REFERENCE INFORMATION
(80J071)	CA71C	FI167	15.000	.000	-18.000	.000	SREF 4.4122 50.FT.
(80J004)	CA71C	FI167	5.000	.000	-18.000	.000	LREF 19.2258 INCHES
(80J001)	CA71C	FI167	-10.000	.000	-18.000	.000	XREF 37.5949 INCHES
(80J006)	CA71C	FI167	-20.000	.000	-18.000	.000	YREF 43.5974 INCHES
(80J009)	CA71C	FI167	-30.000	.000	-18.000	.000	ZREF 16.2000 INCHES
(80J014)	CA71C	FI167		.000	-18.000	.000	SCALE .0405 SCALE

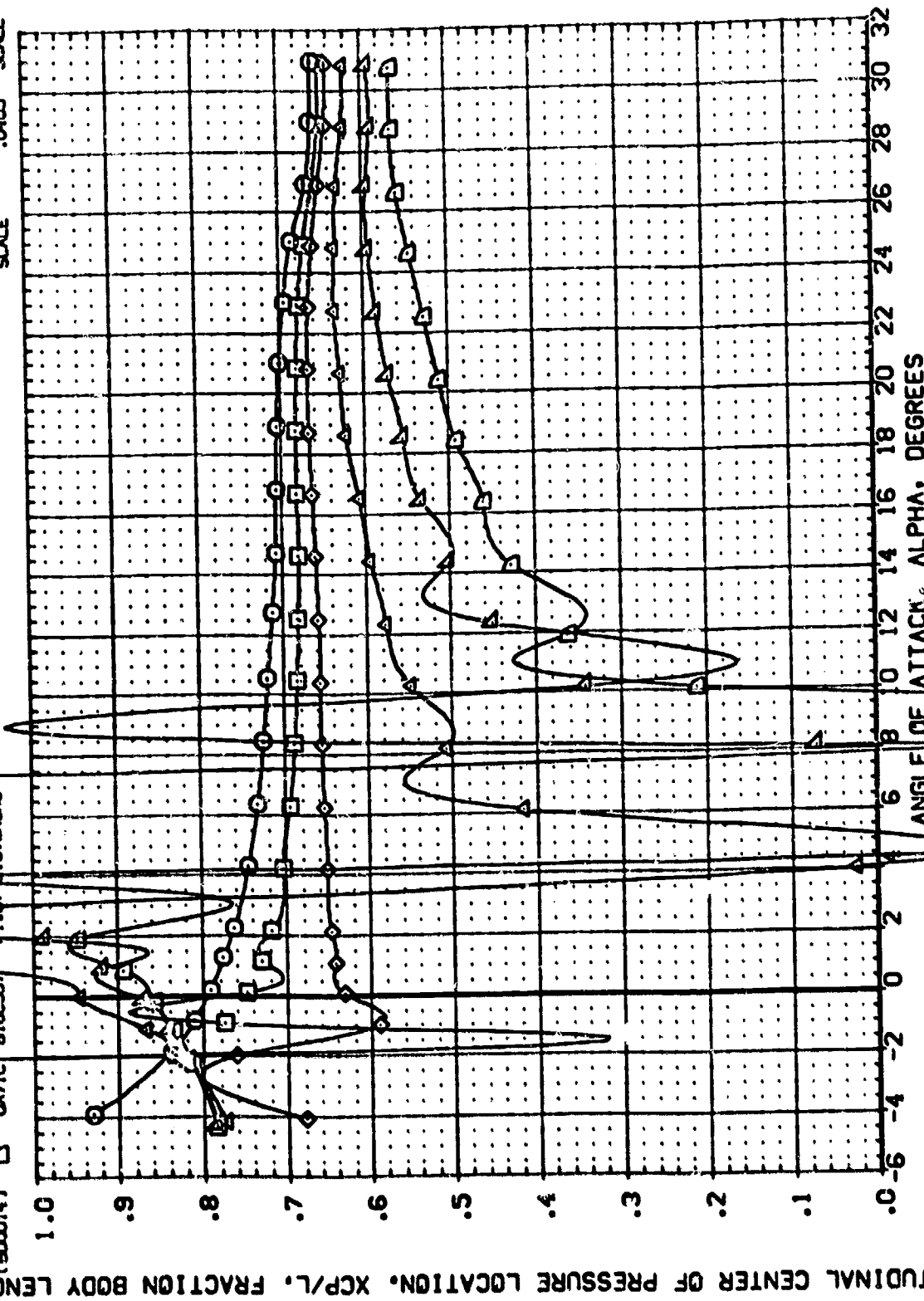


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

(A)MACH = .20

DATA SET SYMBO	CONFIGURATION	DESCRIPTION	ELEVON	AIRLON	BCFLAP	BETA	REFERENCE INFORMATION
(BC-071)	DA71C	B16C507	F1V87 E18V3R3X9	.000	-18.000	.000	SREF 4.4122
(BC-004)	DA71C	B16C507	F1V87 E18V3R3X9	.000	-18.000	.000	LREF 19.2289
(BC-001)	DA71C	B16C507	F1V87 E18V3R3X9	.000	-18.000	.000	BREF 37.9349
(BC-006)	DA71C	B16C507	F1V87 E18V3R3X9	.000	-18.000	.000	XMRP 43.5974
(BC-009)	DA71C	B16C507	F1V87 E18V3R3X9	.000	-18.000	.000	YMRP .0000
(BC-014)	DA71C	B16C507	F1V87 E18V3R3X9	.000	-18.000	.000	ZMRP 16.2000
							SCALE .0405

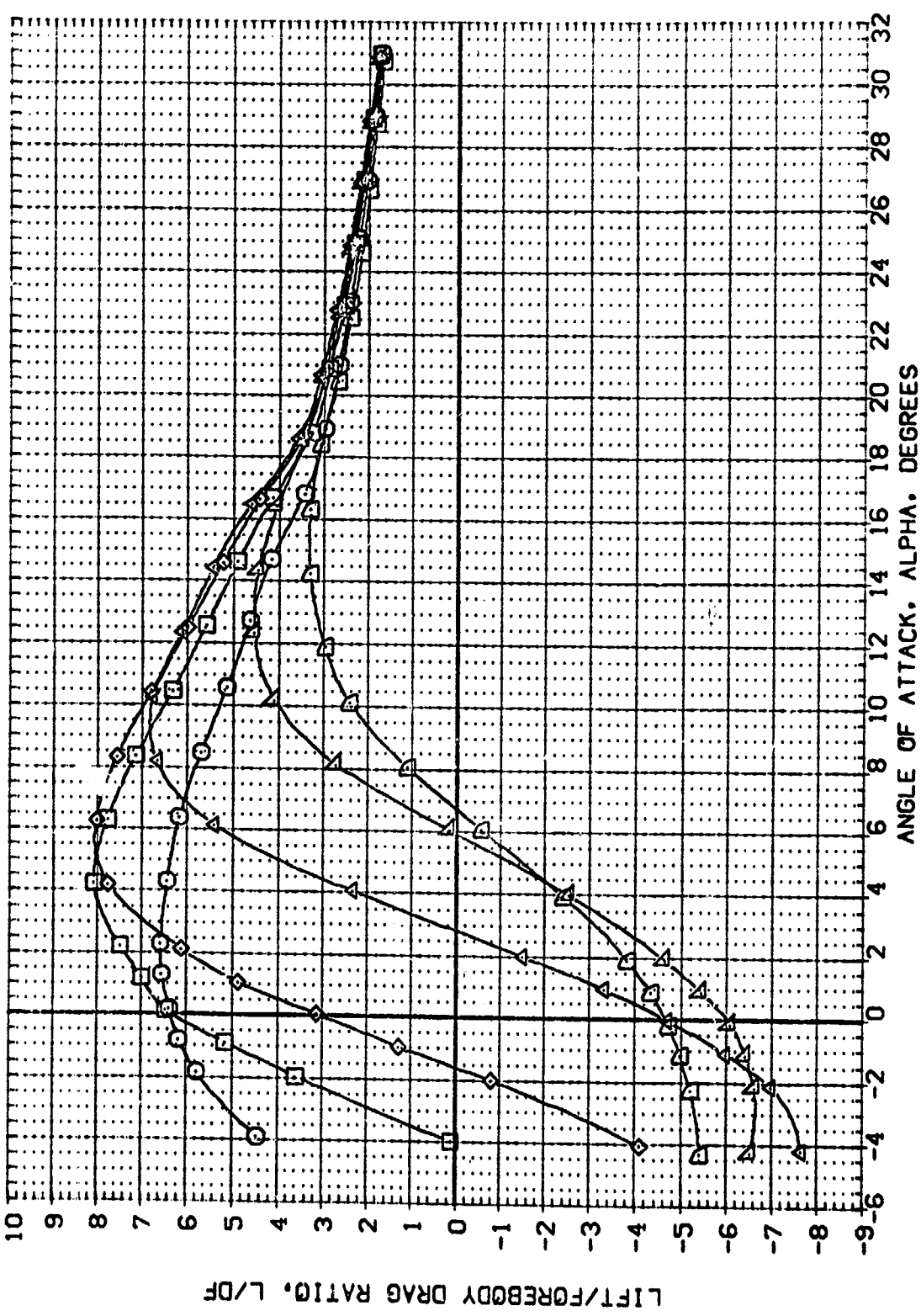


FIG 4 ELEVON EFFECTIVENESS - NO NACELLES

CAJMACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ED0071) 0A71C B16C507 F1V87 E18V3R3A9
 (ED0044) 0A71C B16C507 F1V87 E18V3R3A9
 (ED0066) 0A71C B16C507 F1V87 E18V3R3A9
 (ED0009) 0A71C B16C507 F1V87 E18V3R3A9
 (ED0014) 0A71C B16C507 F1V87 E18V3R3A9
 (ED0012) 0A71C B16C507 F1V87 E18V3R3A9

AIRLON BOFLAP BETA DELVON
 .000 -18.000 .000 15.000
 .000 -18.000 .000 5.000
 .000 -18.000 .000 -10.000
 .000 -18.000 .000 -20.000
 .000 -18.000 .000 -30.000
 .000 -18.000 .000 -40.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XTRP 43.5574 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE

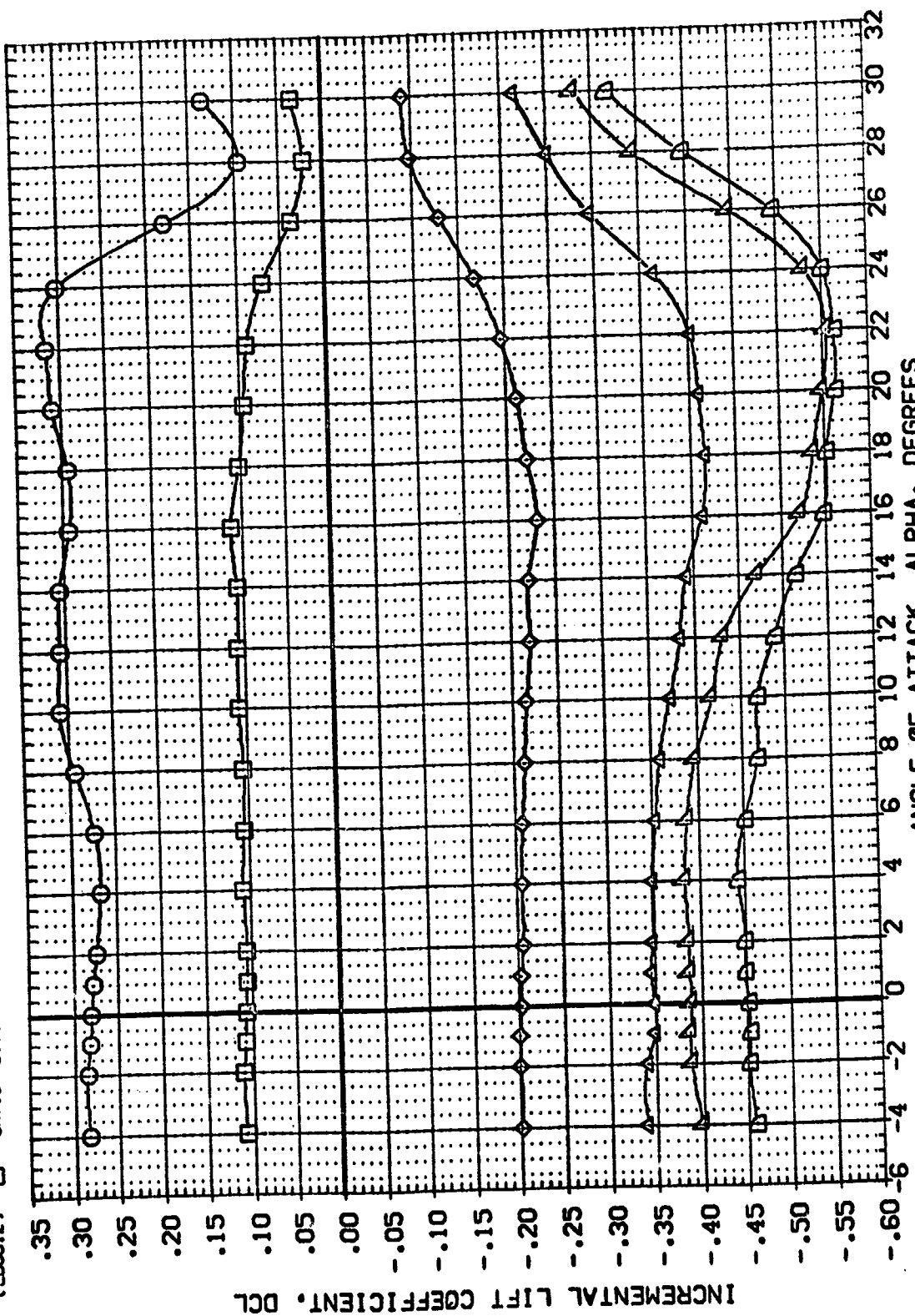


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(A)MACH = .21

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	ALPHA	SETP	SET	ELEON	REFERENCE INFORMATION
1	217.1	217.1	0.00	0.00	0.00	0.00	4.1120 INCHES
2	217.1	217.1	0.00	0.00	0.00	0.00	2.2220 INCHES
3	217.1	217.1	0.00	0.00	0.00	0.00	21.5348 INCHES
4	217.1	217.1	0.00	0.00	0.00	0.00	43.5374 INCHES
5	217.1	217.1	0.00	0.00	0.00	0.00	15.2000 INCHES
6	217.1	217.1	0.00	0.00	0.00	0.00	2.2220 INCHES

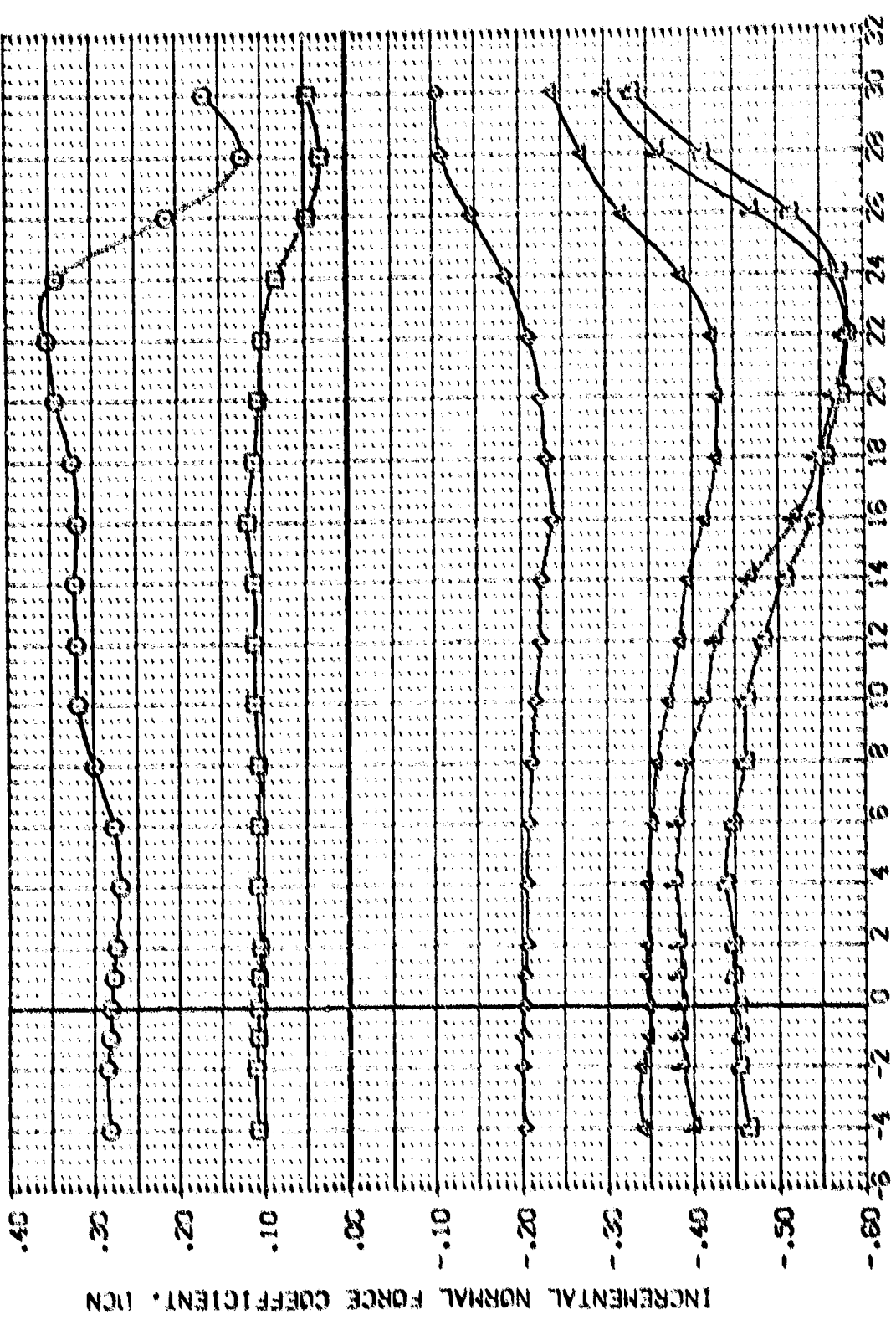


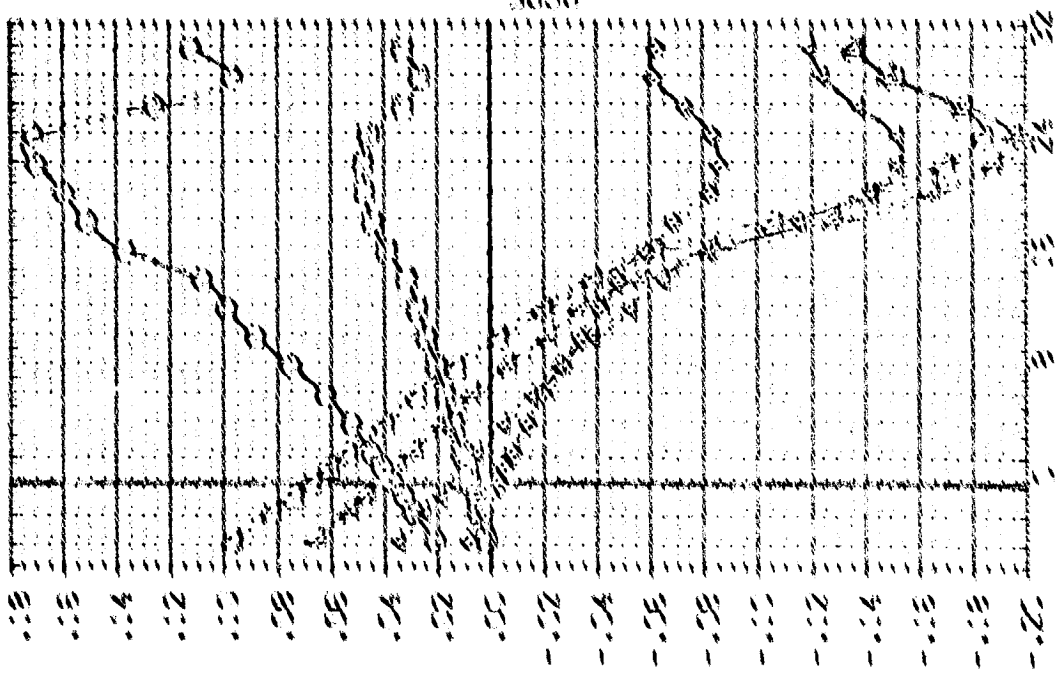
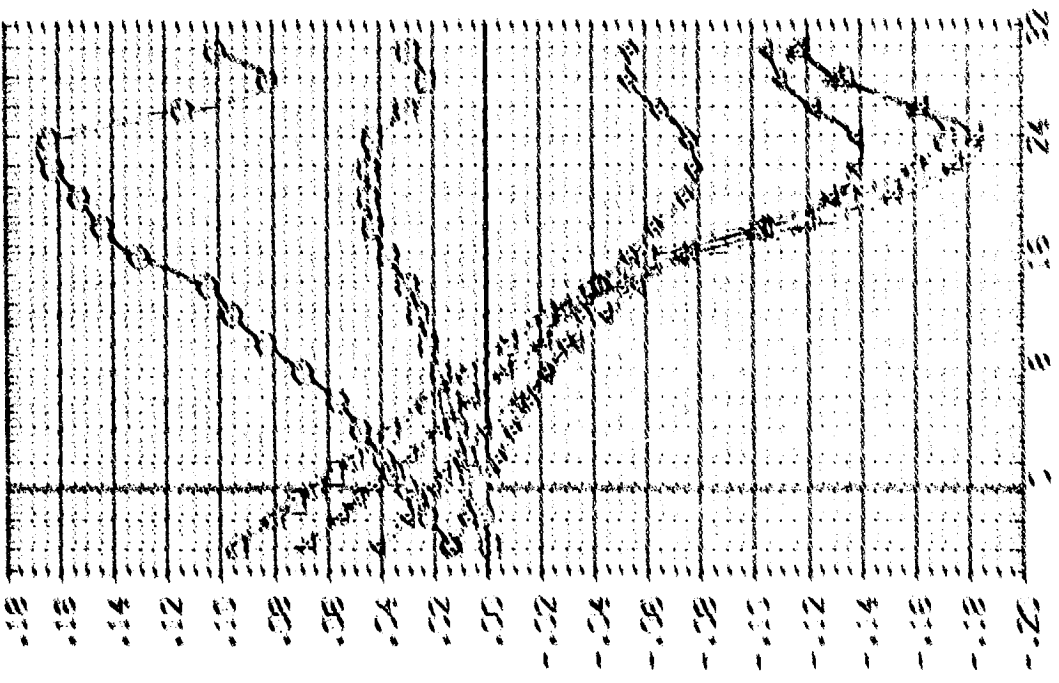
FIG 5 INCREMENTAL EFFECT OF ELEONS - NO NASCELLES

CAMRACH = .21



1000
 900
 800
 700
 600
 500
 400
 300
 200
 100
 0
 -100
 -200
 -300
 -400
 -500
 -600
 -700
 -800
 -900
 -1000

1000
 900
 800
 700
 600
 500
 400
 300
 200
 100
 0
 -100
 -200
 -300
 -400
 -500
 -600
 -700
 -800
 -900
 -1000



1000

1000

SECTION ON - SURVEY OF THE ...

1000

1000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDJ071) Q X X D
 (EDJ004) 071C 816C507 F1V87 E187320G
 (EDJ006) 071C 816C507 F1V87 E187320G
 (EDJ008) 071C 816C507 F1V87 E187320G
 (EDJ014) 071C 816C507 F1V87 E187320G
 (EDJ012) 071C 816C507 F1V87 E187320G

AILSON SOFLP BETA DELVON
 .000 -18.000 .000 15.000
 .000 -18.000 .000 5.000
 .000 -18.000 .000 -10.000
 .000 -18.000 .000 -20.000
 .000 -18.000 .000 -30.000
 .000 -18.000 .000 -40.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 IN-ES
 BREF 37.5349 IN-ES
 XREF 43.5974 IN-ES
 YREF 16.2000 IN-ES
 ZREF .0405 IN-ES
 SCALE

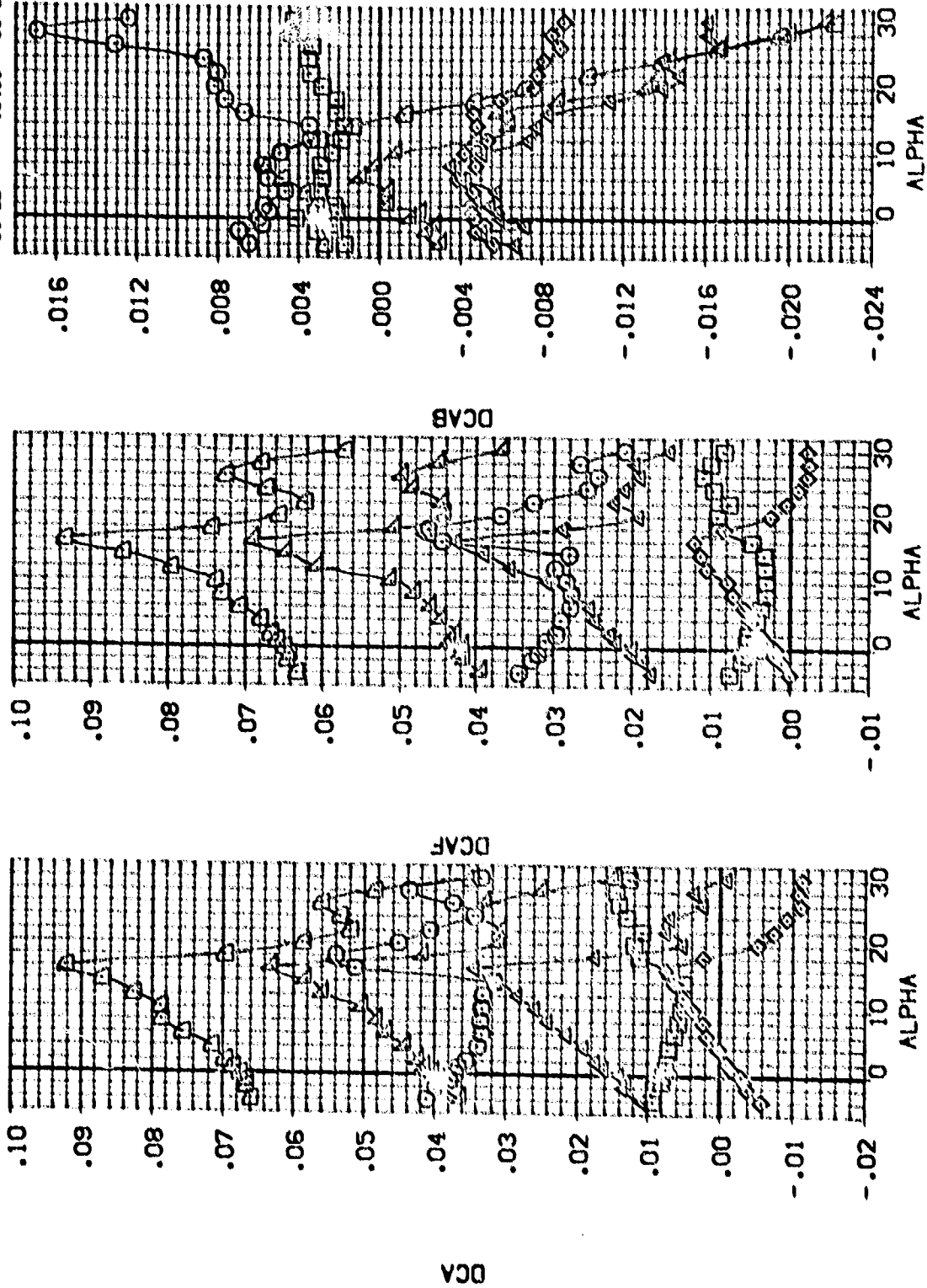


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(M)MACH = .21



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	BETA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA
(EDU071)	CA71C	B18C507	F1V87	E1873209	.000	-18.000	.000	15.000	4.4122
(EDU004)	CA71C	B18C507	F1V87	E1873209	.000	-18.000	.000	5.000	19.2243
(EDU005)	CA71C	B18C507	F1V87	E1873209	.000	-18.000	.000	-10.000	37.5945
(EDU008)	CA71C	B18C507	F1V87	E1873209	.000	-18.000	.000	-20.000	43.5574
(EDU014)	CA71C	B18C507	F1V87	E1873209	.000	-18.000	.000	-30.000	16.2000
(EDU012)	CA71C	B18C507	F1V87	E1873209	.000	-18.000	.000	-40.000	.0405

REFERENCE INFORMATION	SO. FT.	INCHES	INCHES	INCHES	INCHES	INCHES	SCALE
SREF	4.4122	19.2243	37.5945	43.5574	16.2000	.0405	
LREF							
BREF							
XREF							
YREF							
ZREF							
SCALE							

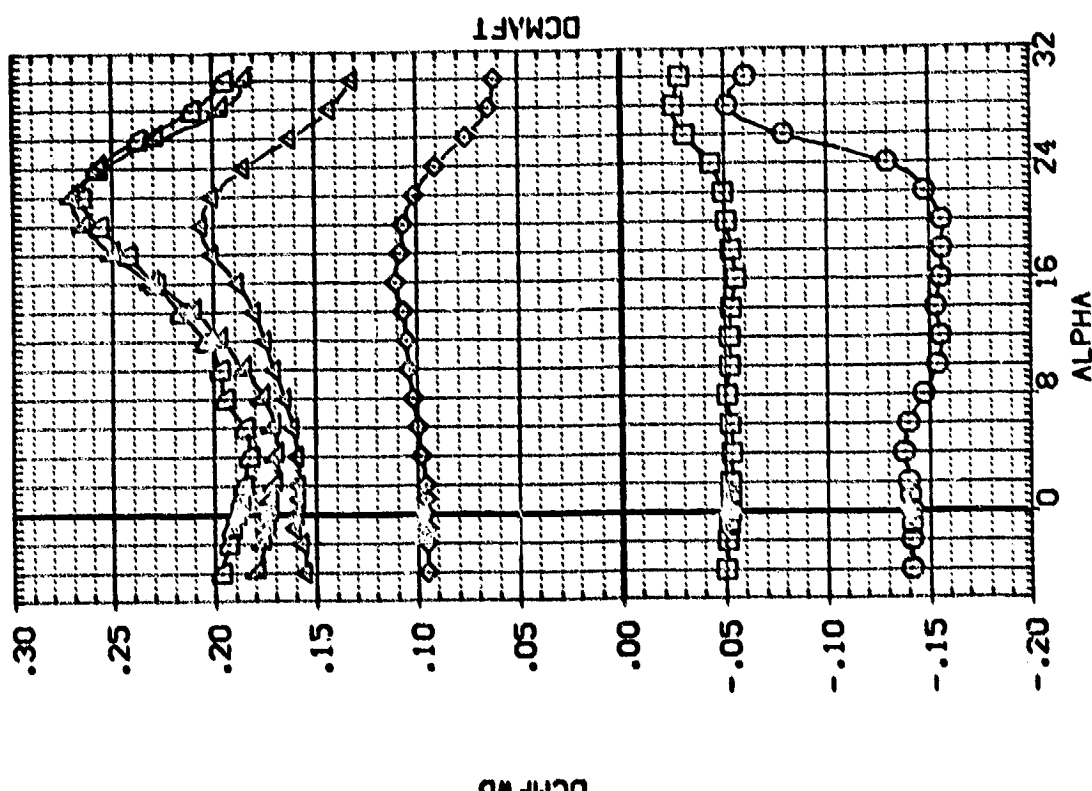
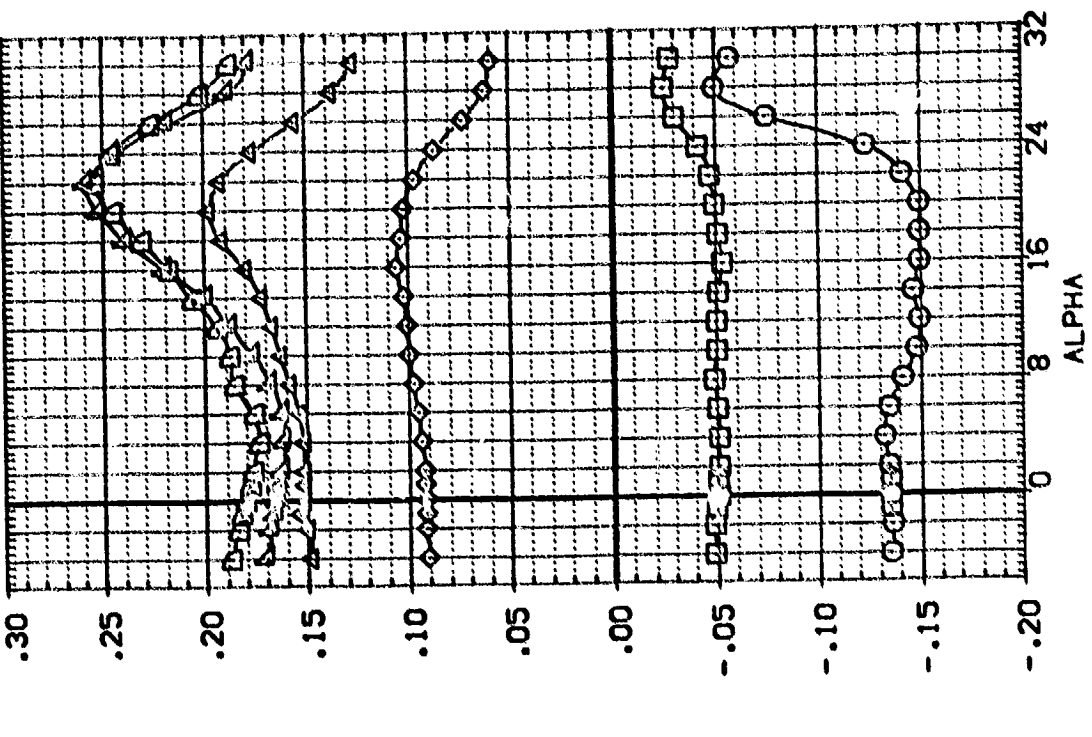


FIG 5 INCREMENTAL EFFECT OF ELECONS - NO NACELLES
 (A)MACH = .21

(EDU071)

CA71C 8165557 51W87 E18V3219

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	WACH	DELTA	DELTA	REF	SCALE
-4.000	2.0	15.000	5.000	4.4122	50. FT
-2.000	-18.000	-20.000	-10.000	19.2288	INCHES
1.000	.000	-40.000	-30.000	37.5948	INCHES
				43.5974	INCHES
				15.2000	INCHES
				15.2000	SCALE

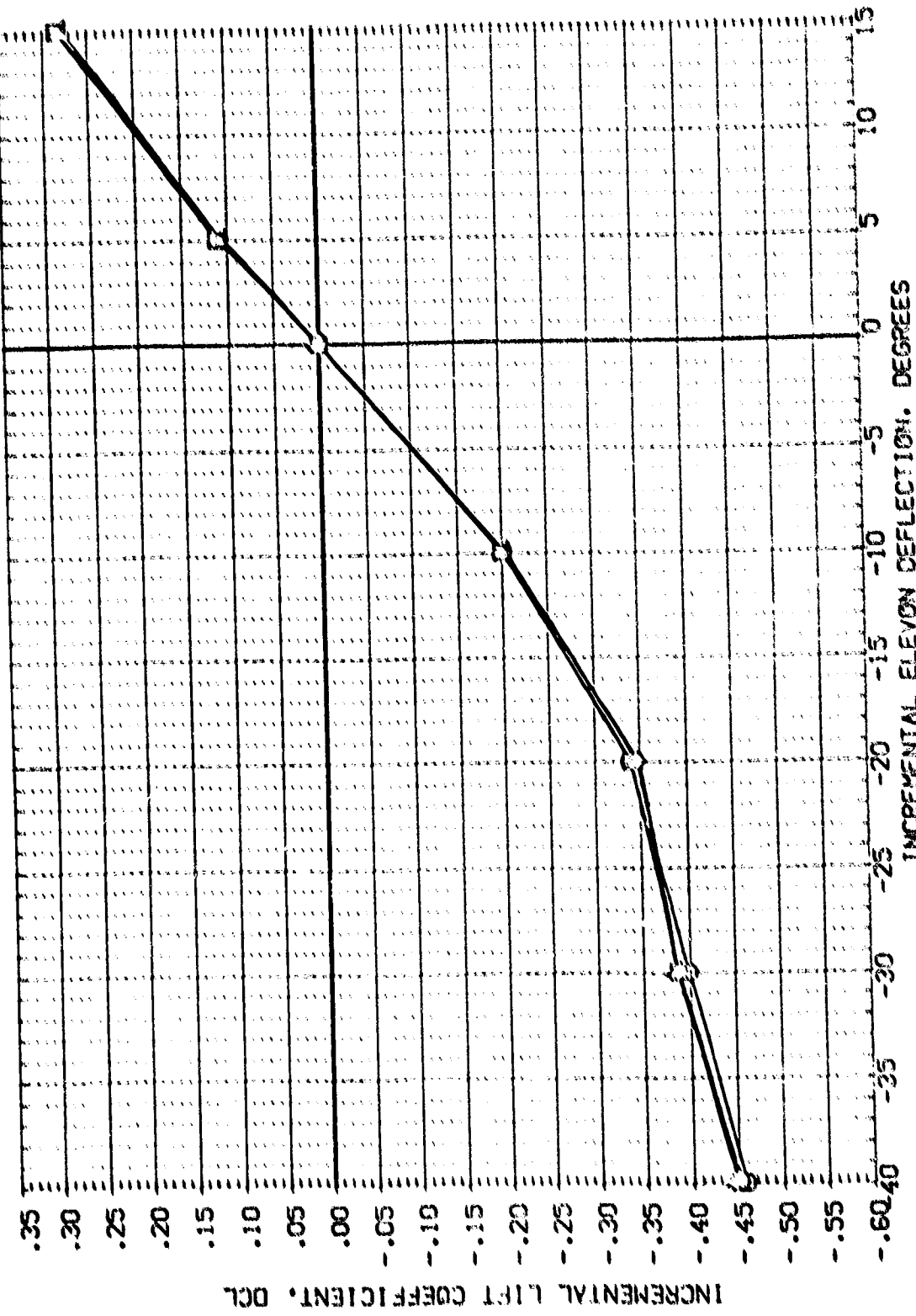
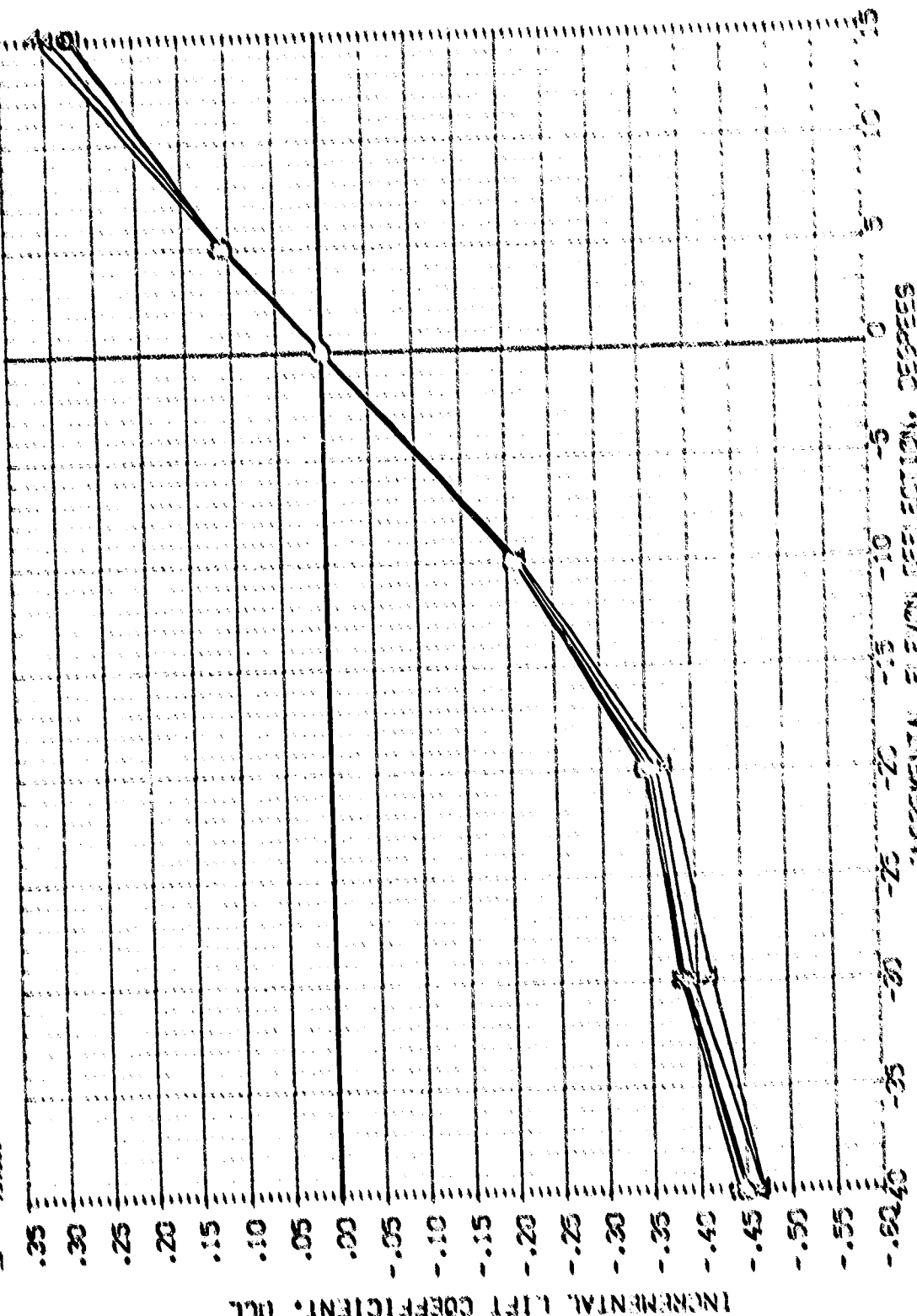


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO MACELLES

ALPHA: 2.000 4.000 8.000 16.000
 BETA: 2.000 4.000 8.000 16.000
 DATA SOURCE: DATA SOURCE: DATA SOURCE: DATA SOURCE:
 DELTA: 13.000 20.000 40.000 80.000
 DELTA: 5.000 10.000 20.000 40.000
 DELTA: 15.000 30.000 60.000 120.000
 DELTA: 15.000 30.000 60.000 120.000
 REFERENCE INFORMATION: REFERENCE INFORMATION: REFERENCE INFORMATION: REFERENCE INFORMATION:
 DELTA: 4.1222 12.3666 24.7333 49.4667
 DELTA: 13.000 20.000 40.000 80.000
 DELTA: 15.000 30.000 60.000 120.000
 DELTA: 15.000 30.000 60.000 120.000



SYSTEM 2 - SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30
 SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30
 SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30
 SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30 SYSTEM 30



(EDU071)

CA7:5 3:6557 F1:87 E10/323/2

SYMBOL	ALPHA	MACH	PIRIMETRIC VALUES	DATA SOURCE	DATA SET	DELTA	DELTA	DELTA	SCALE	REFERENCE INFORMATION
○	22.000	.210	ALP=ON	DELTA	EDU071	15.000	5.000	5.000	1000	4.4:22
○	24.000	-18.000	BETA	DELTA	EDU071	.000	-10.000	10.000	1000	19.2228
○	26.000	.000		DELTA	EDU071	-20.000	-30.000	30.000	1000	37.2243
○	28.000			DELTA	EDU072	-40.000			1000	42.5074
○	30.000			DELTA	EDU072				1000	42.5074

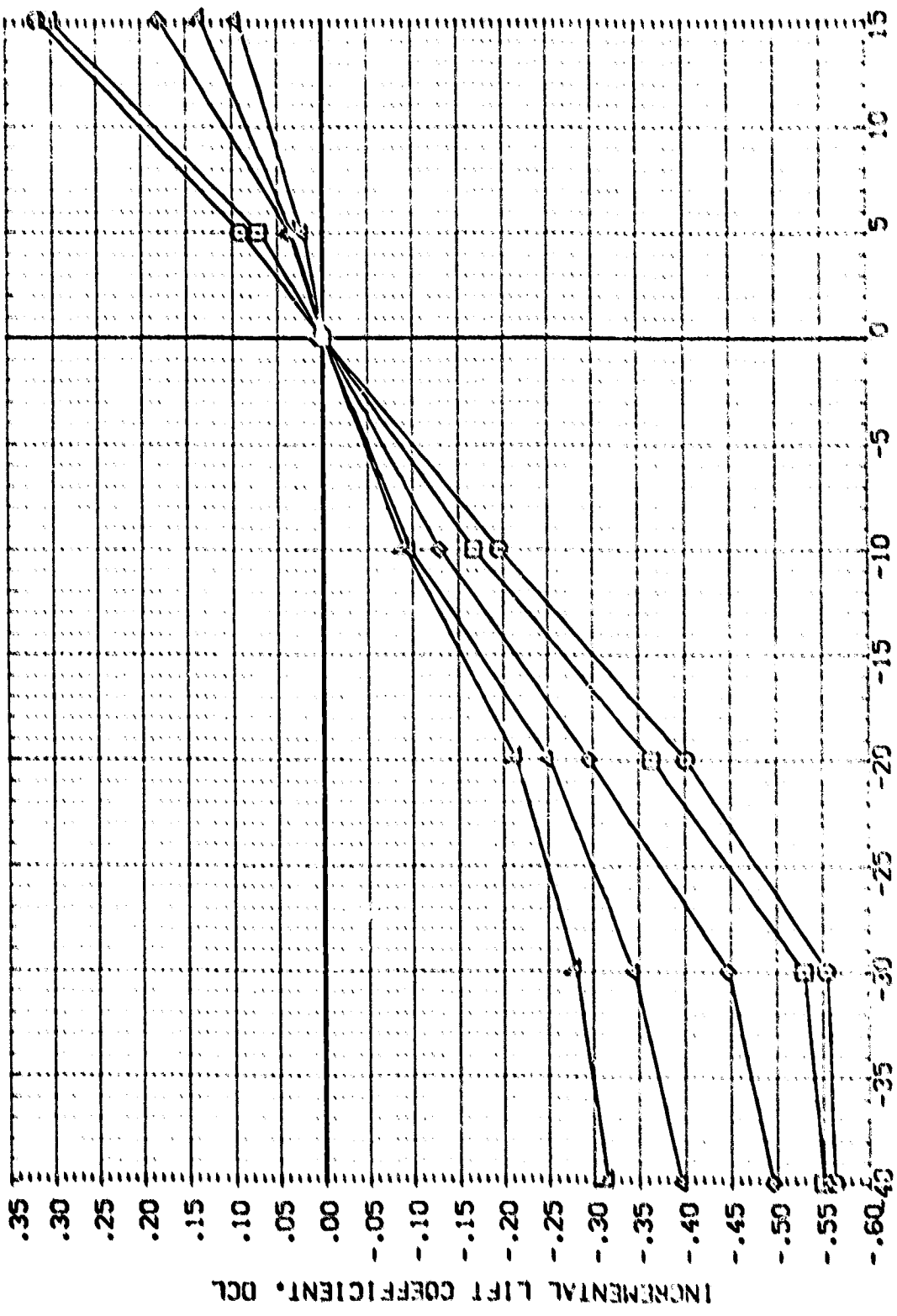


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO HINGELLES

CE000712

CAF7:0 9:50527 F:187 E18V32313

SYMBOL	ALPHA	MICH	BOFUP	PJOOEP	PARAMETRIC VALUES	.000	DATASET	DATA SOURCE	DATASET	DELTVN	SPCF	REFERENCE INFORMATION
1	-4.000				.215	AILSON	.000	EDJ00A	EDJ00A	5.000	18.2226	50 FT
2	-2.000				-18.000	BETA	.000	EDJ006	EDJ006	-15.000	37.8749	100 FT
3	-1.000						.000	EDJ014	EDJ014	-30.000	43.3374	100 FT
4	.000						.000	EDJ012	EDJ012	-40.000	15.2200	100 FT
												SCALE

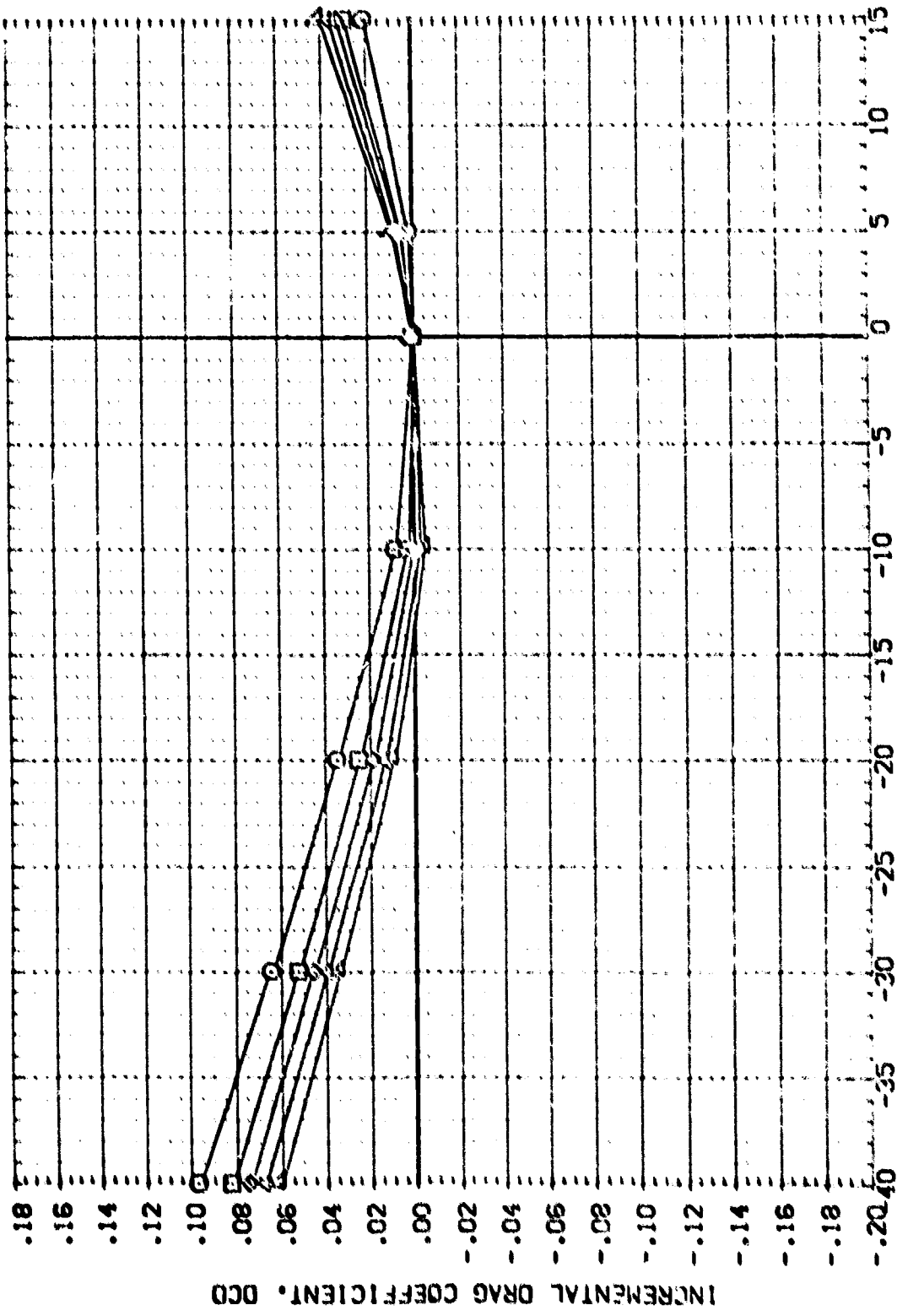


FIG 5 - INCREMENTAL EFFECT OF ELEVLONS - NO NACELLES

(EDU071)

CAF7C 3:5557 F1487 E18V3R3X3

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
SYMBOL	VALUE	DELTA	DELTA	LEVEL	SCALE
ALPHA	.210	EDU071	EDU071	4.4122	50.57
W/O	-18.000	EDU071	EDU071	19.2222	10.00
WFLAP	.000	EDU071	EDU071	37.9349	10.00
WFLAP	.000	EDU071	EDU071	43.5874	10.00
WFLAP	.000	EDU071	EDU071	15.2222	10.00
WFLAP	.000	EDU071	EDU071	15.2222	10.00
WFLAP	.000	EDU071	EDU071	15.2222	10.00
WFLAP	.000	EDU071	EDU071	15.2222	10.00
WFLAP	.000	EDU071	EDU071	15.2222	10.00
WFLAP	.000	EDU071	EDU071	15.2222	10.00

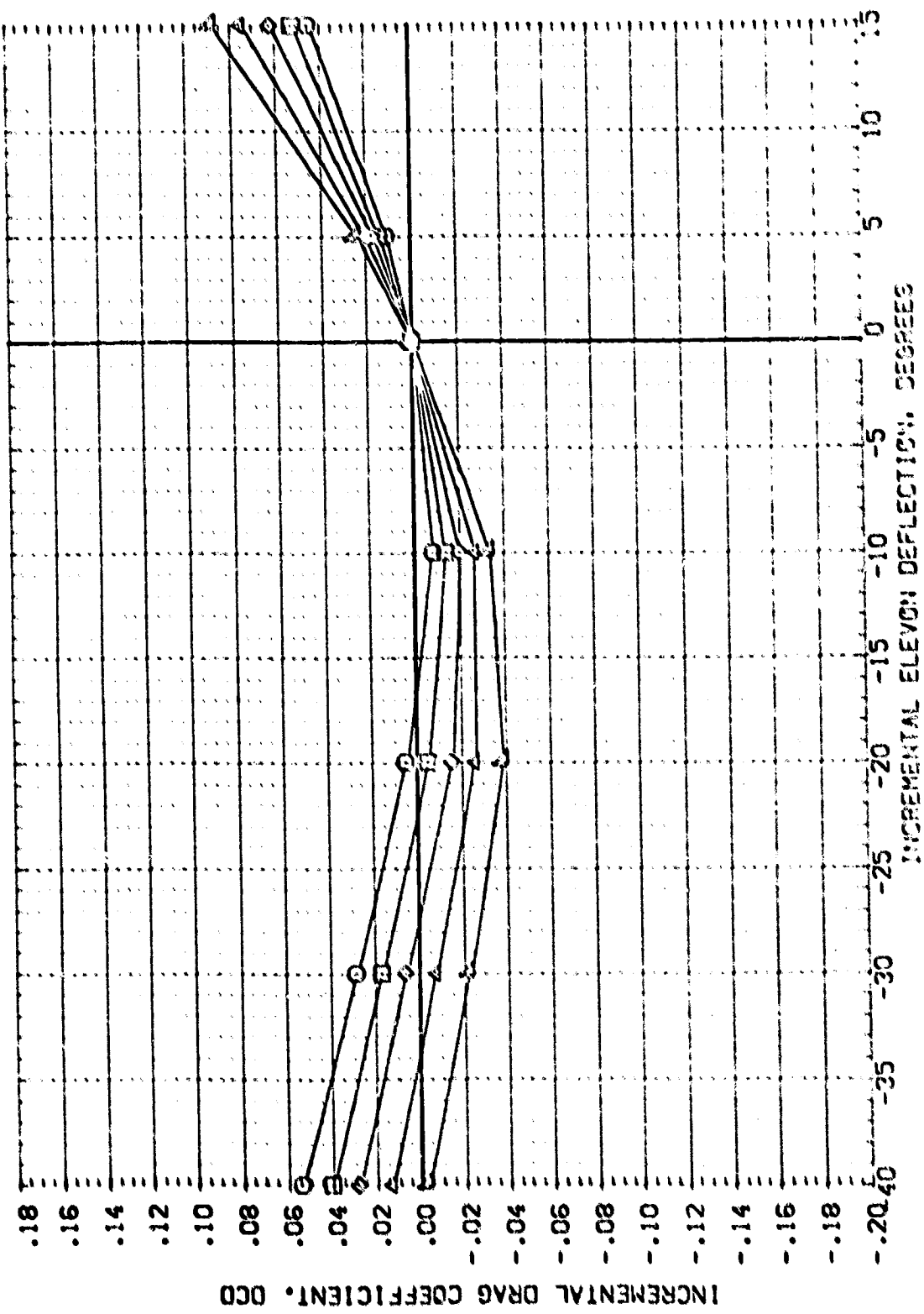


FIG 5 INCREMENTAL EFFECT OF ELEVATION DEFLECTION ON DRAG COEFFICIENT

(EDU071)

CA71C B16C597 F1W87 E18V3R3X9

PARAMETRIC VALUES		DATA SOURCE		DATASET		DELTA		REFERENCE INFORMATION	
ALPHA	MACH	DELTA	DELTA	EDU004	DELTA	LREF	SREF	SO.FT.	INC.FS
.210	.000	EDU071	15.000	EDU006	5.000	37.9349	4.4122	19.2298	INC.FS
-18.000	.000	EDU001	.000	EDU014	-10.000	43.5874	19.2298	37.9349	INC.FS
.000	.000	EDU009	-20.000		-30.000	16.2000	16.2000	43.5874	INC.FS
		EDU012	-43.000					16.2000	INC.FS
								16.2000	SCALE

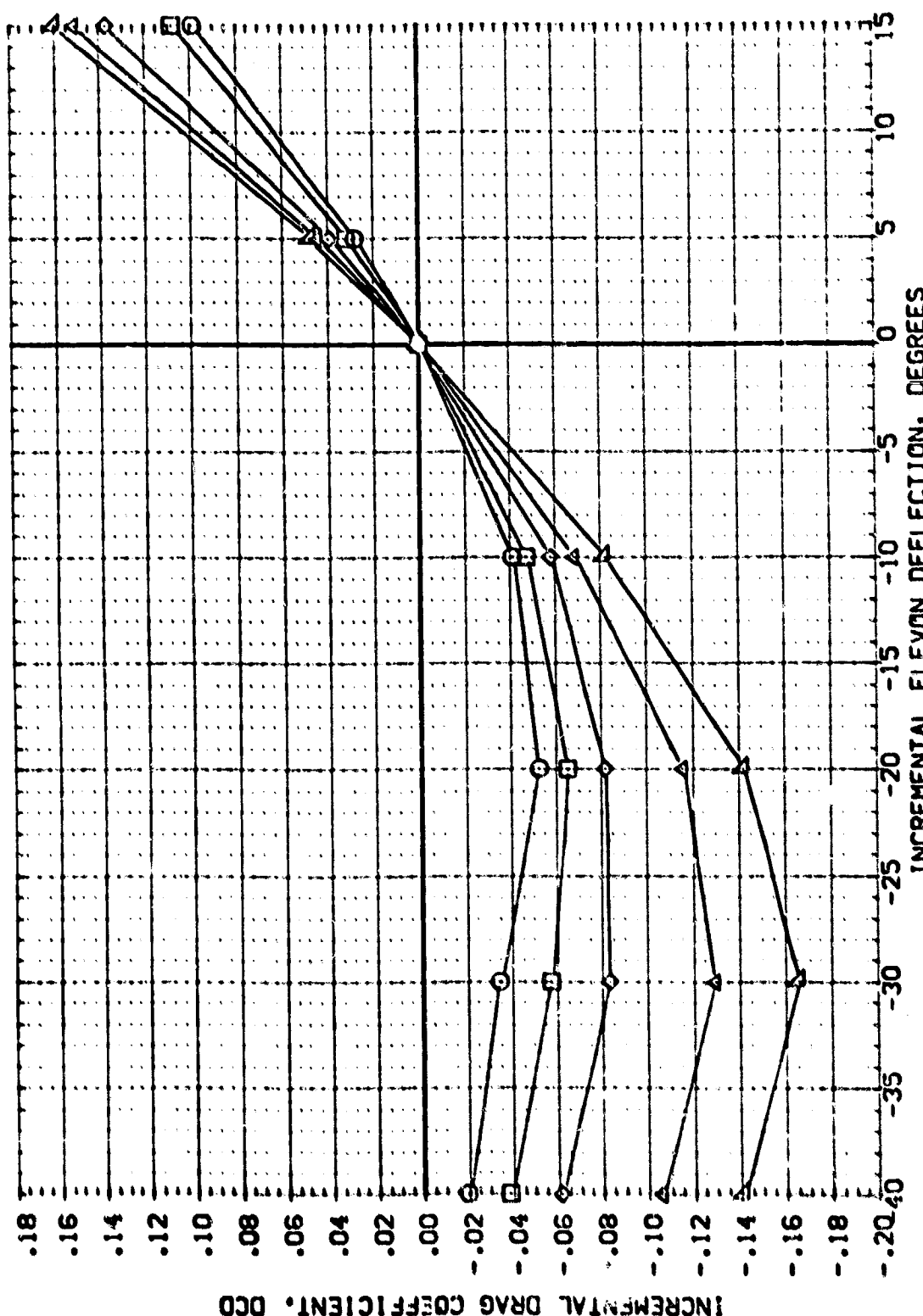


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

CA71C B16C5D7 F1W87 E18V3R3X9

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	.210	DELTON	DELTON	SQ.FT.	4.4173
MACH	-18.000	EDU071	5.000	LREF	19.2269
BOFLAP	.000	EDU071	-10.000	BREF	37.5349
RUDER	.000	EDU071	-20.000	XREF	43.5974
		EDU071	-40.000	WREF	16.2000
		EDU071		WREF	16.2000
				SCALE	.0405

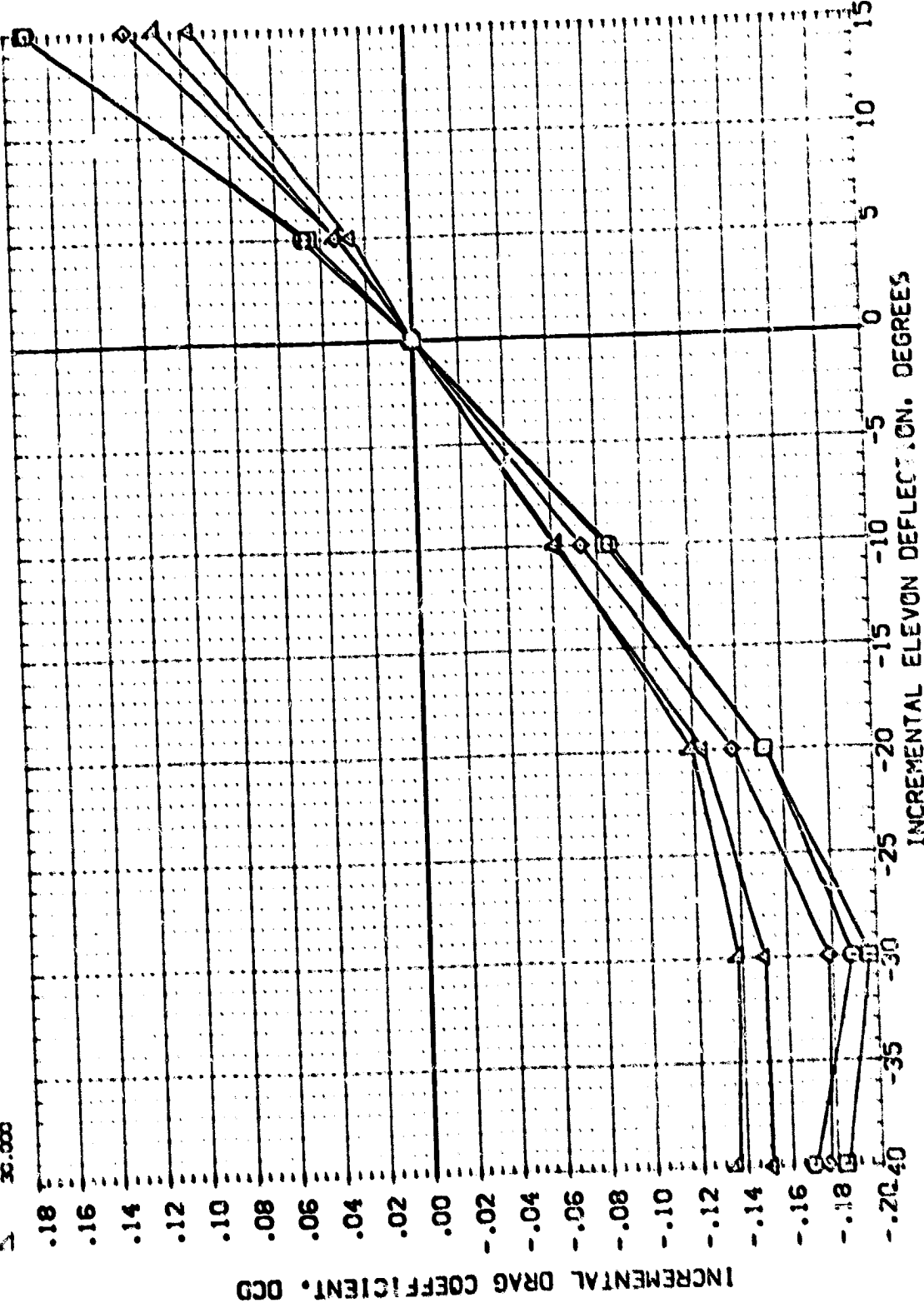


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

GA71C B16CSD7 F1W87 E18V3R3X9

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DEL VON	DEL VON	SREF	SCALE
-4.000	.210	15.000	5.000	LREF	4.4122
-2.000	-18.000	.000	-10.000	BREF	19.2299
-1.000	.000	EDU071	-30.000	XMRP	37.9349
.000	.000	EDU007	-40.000	YMRP	4.5974
1.000		EDU012		ZMRP	.0000
				SCALE	16.2000
					.0405

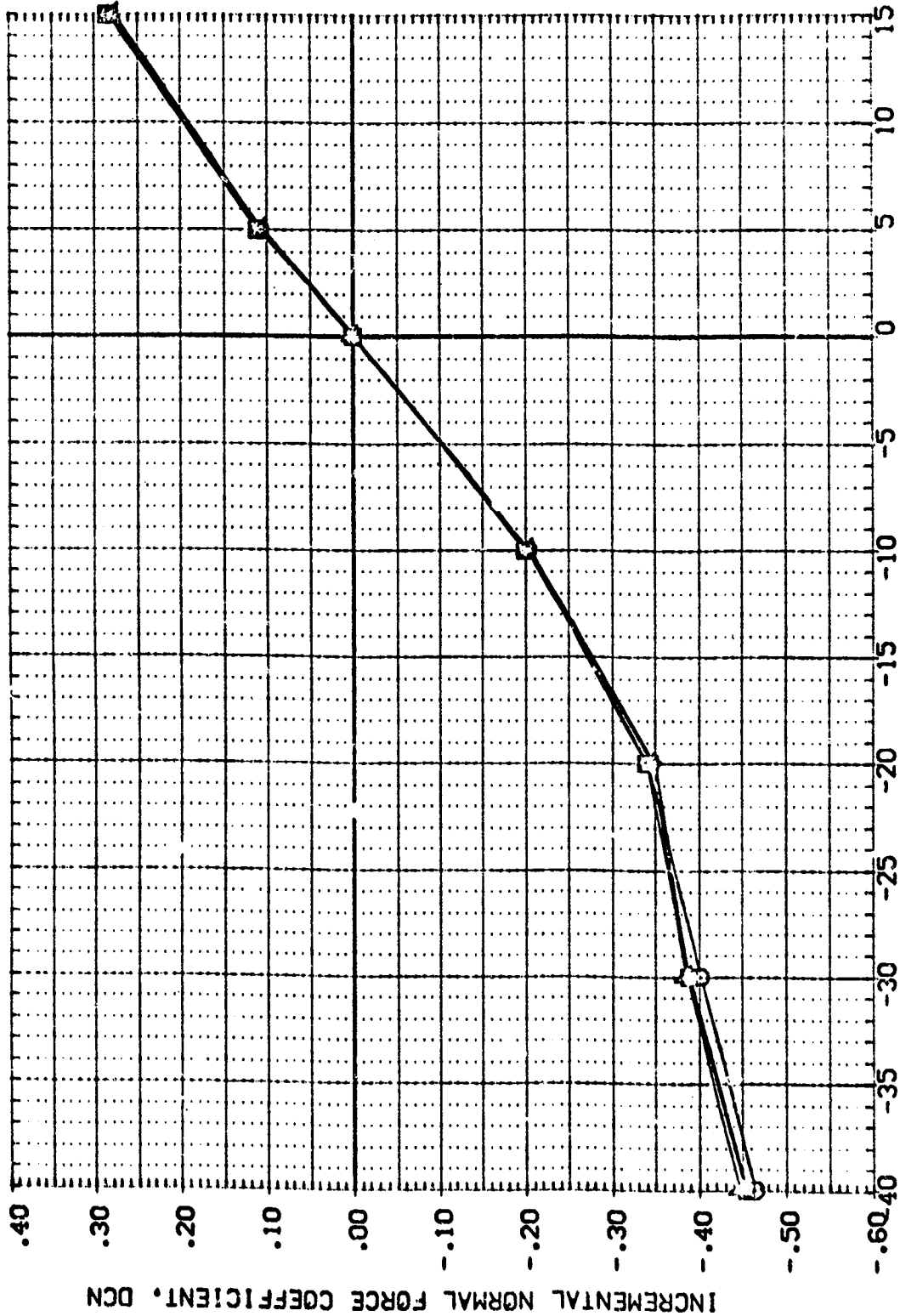


FIG 5 INCREMENTAL EFFECT OF ELEVLONS - NO NACELLES

0A71C B16C5D7 F1W87 E18V3R3X9 (EDJ071)

SYMBOL		ALPHA		MACH		BOFLAP		RUDDER		PARAMETRIC VALUES		DATA SOURCE		DATASET		DELVON		SREF		REFERENCE INFORMATION				
□	◇	△	▽	□	◇	△	▽	□	◇	△	▽	□	◇	△	▽	□	◇	△	▽	□	◇	△	▽	
□	◇	△	▽	2.000	4.000	6.000	8.000	10.000	.210	.210	.210	.210	15.000	15.000	EDJ071	5.000	4.4122	19.2259	37.9349	43.5974	0.0000	0.0000	16.2000	0.0405
□	◇	△	▽						-18.000	-18.000	-18.000	-18.000	-20.000	-20.000	EDJ004	-10.000	19.2259	37.9349	43.5974	0.0000	0.0000	16.2000	0.0405	
□	◇	△	▽						.000	.000	.000	.000	-40.000	-40.000	EDJ014	-30.000	19.2259	37.9349	43.5974	0.0000	0.0000	16.2000	0.0405	
□	◇	△	▽						.000	.000	.000	.000			EDJ012		19.2259	37.9349	43.5974	0.0000	0.0000	16.2000	0.0405	

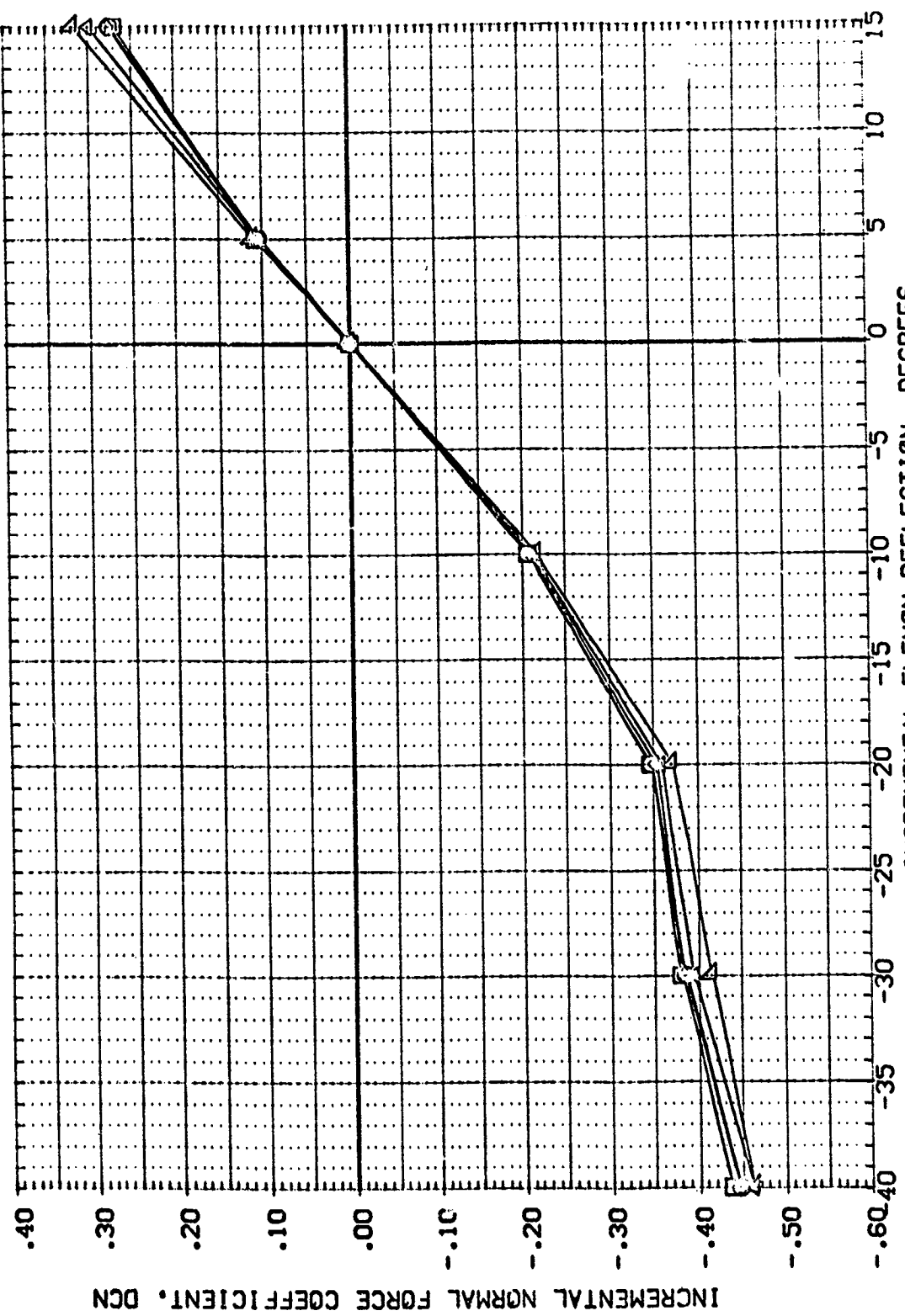


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

CA71C B16C5D7 F1W87 E18V3R3X9

SYMBOL		ALPHA		MACH		BOFLAP		RLOCER		PARAMETRIC VALUES		DATA SOURCE		DATASET		DEL VON		SREF		REFERENCE INFORMATION			
○	□	◇	△	▽	○	□	◇	△	▽	.210	A1LRON	.000	EDU071	5.000	LREF	4.4122	19.2289	37.9348	43.5974	16.2000	.5405		
○	□	◇	△	▽	12.000	14.000	16.000	18.000	20.000	-18.000	B.TA	15.000	EDU004	5.000	19.2289	SO.FT.	19.2289	37.9348	43.5974	16.2000	.5405		
○	□	◇	△	▽	12.000	14.000	16.000	18.000	20.000	.000	B.TA	-20.000	EDU006	-10.000	XMRP	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	
○	□	◇	△	▽	12.000	14.000	16.000	18.000	20.000	.000	B.TA	-40.000	EDU012	-30.000	ZMRP	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000	16.2000

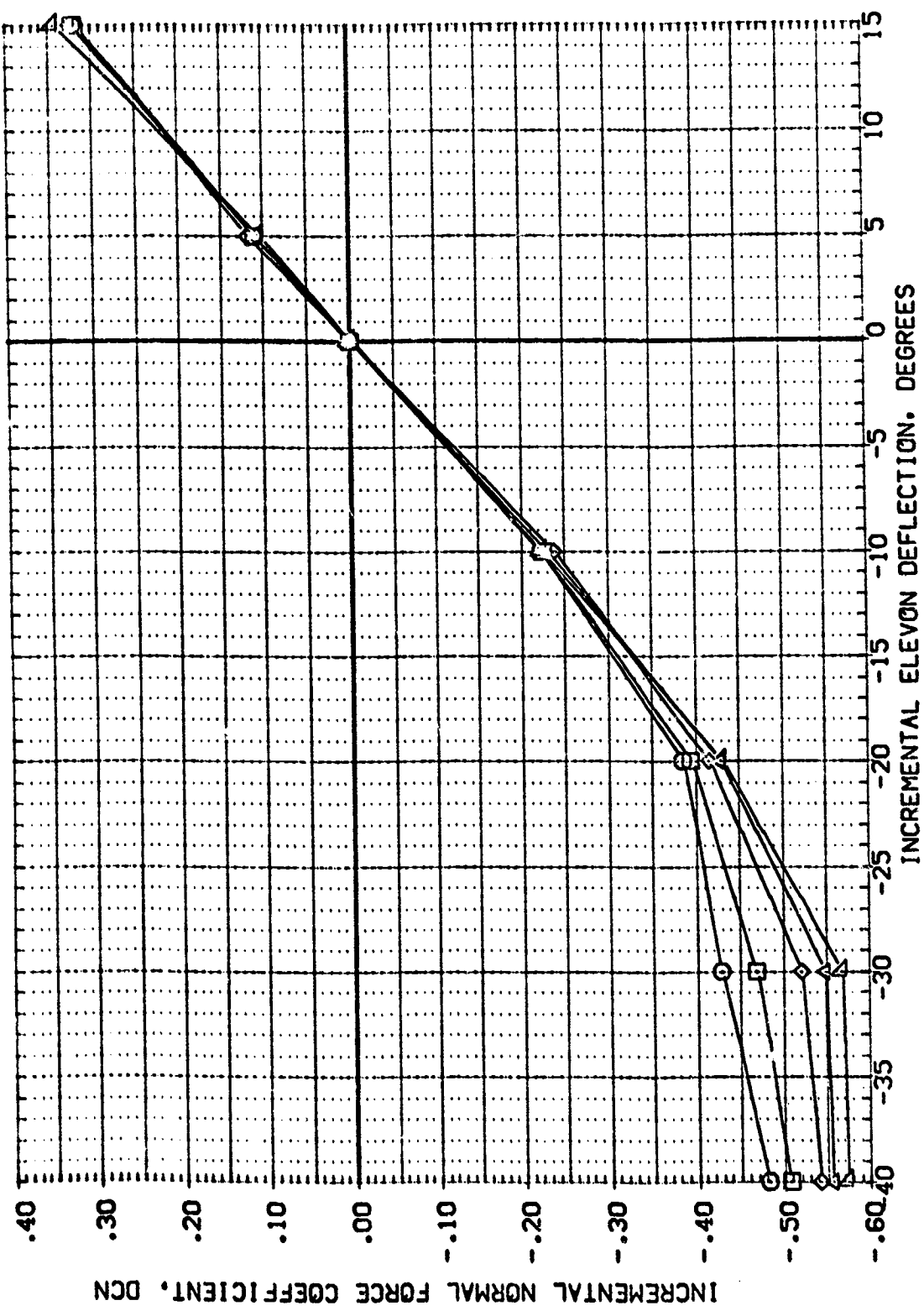


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E18V3R3X9

REFERENCE INFORMATION

SO.FT.	4.4122
INCHES	19.2769
INCHES	37.9319
INCHES	43.5374
INCHES	.0000
INCHES	.0000
SCALE	16.2000
SCALE	.0405

DATA SOURCE

DELTVN	15.000
LREF	.000
XMRP	-20.000
YMRP	-40.000
SCALE	

PARAMETRIC VALUES

AILRON	.210
BETA	-18.000

DATA SET

EDU004	.000
EDU006	.000
EDU014	.000

SYMBOL

△	22.000
◇	24.000
○	26.000
□	28.000
▽	30.000

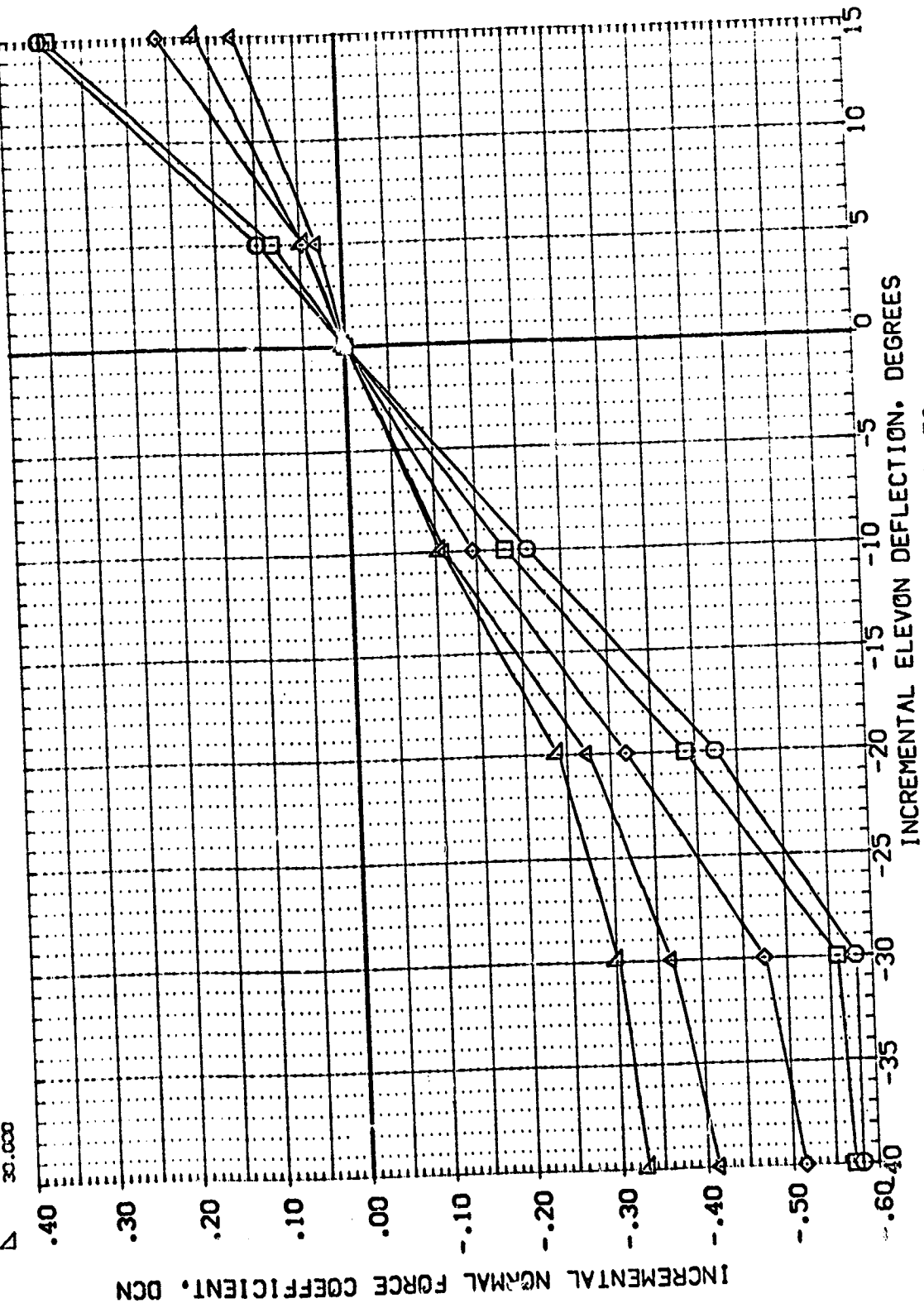


FIG 5 INCREMENTAL EFFECT OF ELEEVONS - NO NACELLES

(EDU071)

0A71C B16C507 F1W87 E18V3R3X9

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		DATASET		DELTA		SREF		REFERENCE INFORMATION	
ALPHA	MACH	.210	AILEGN	.000	EDU071	DELTON	EDU004	5.000	LREF	4.4122	SO.FT.	INCHES	
BDFLAP	RUDDER	BETA	EDU001	15.000	EDU006	REF	EDU014	-10.000	XPRP	19.2289	INCHES	INCHES	
			EDU009	-20.000	EDU012	YPRP		-30.000	ZPRP	37.9319	INCHES	INCHES	
				-40.000		SCALE				43.5974	INCHES	INCHES	
										.0000	INCHES	INCHES	
										16.2000	INCHES	INCHES	
										.0405	SCALE	SCALE	

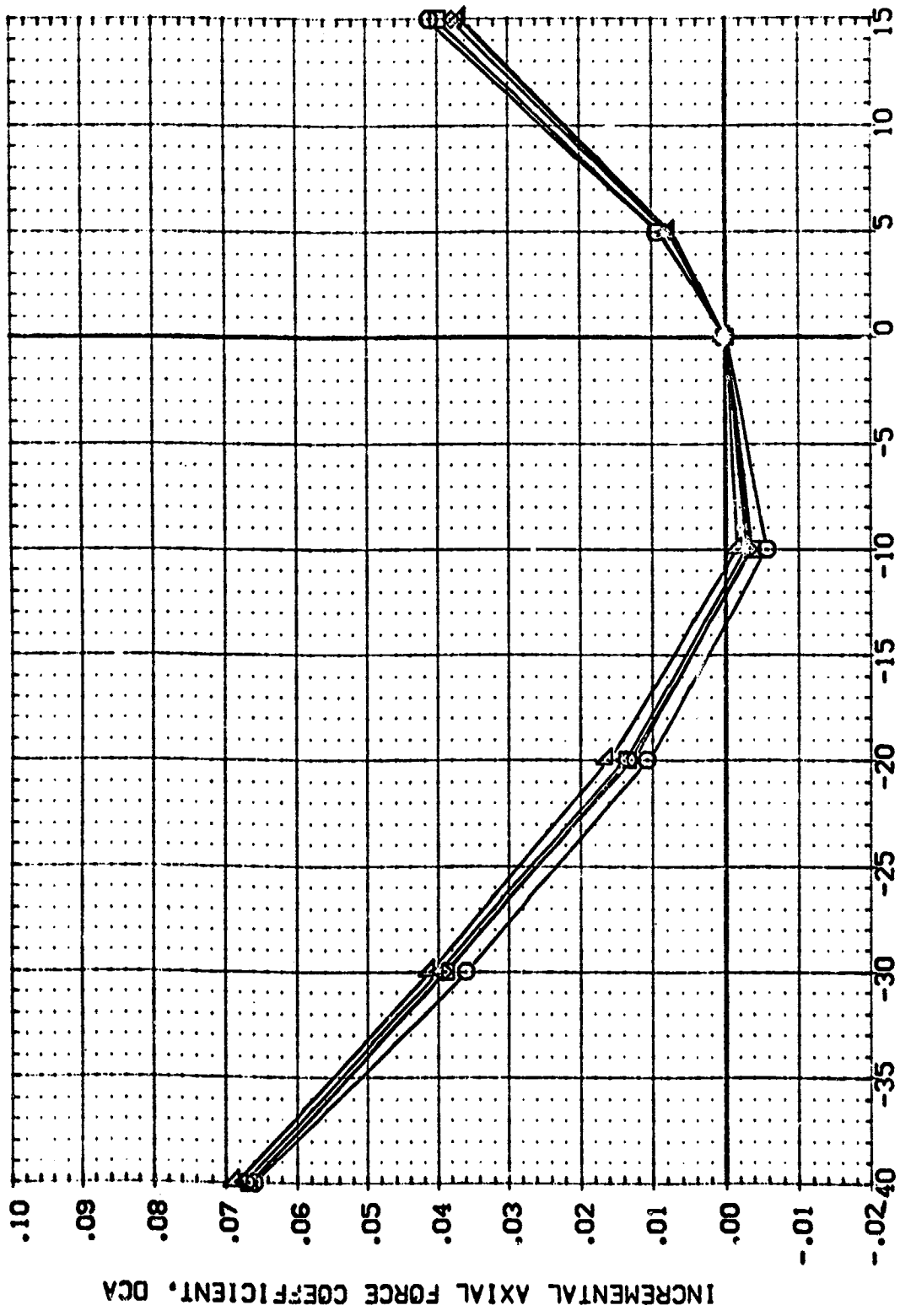


FIG 5 INCREMENTAL EFFECT OF ELEVLONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E18V3R3X9

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	AILRON	BETA	DELTON	DATASET	SREF	SO.LFT.
2.000		.210		15.000	EDU071	LREF	4.4122
4.000		-18.000		.000	EDU004	BREF	19.2259
6.000	BOFLAP			.000	EDU006	XMRP	37.9349
8.000	RUDDER			-20.000	EDU014	YMRP	43.5974
10.000				-40.000	EDU012	ZMRP	16.2000
						SCALE	.0405

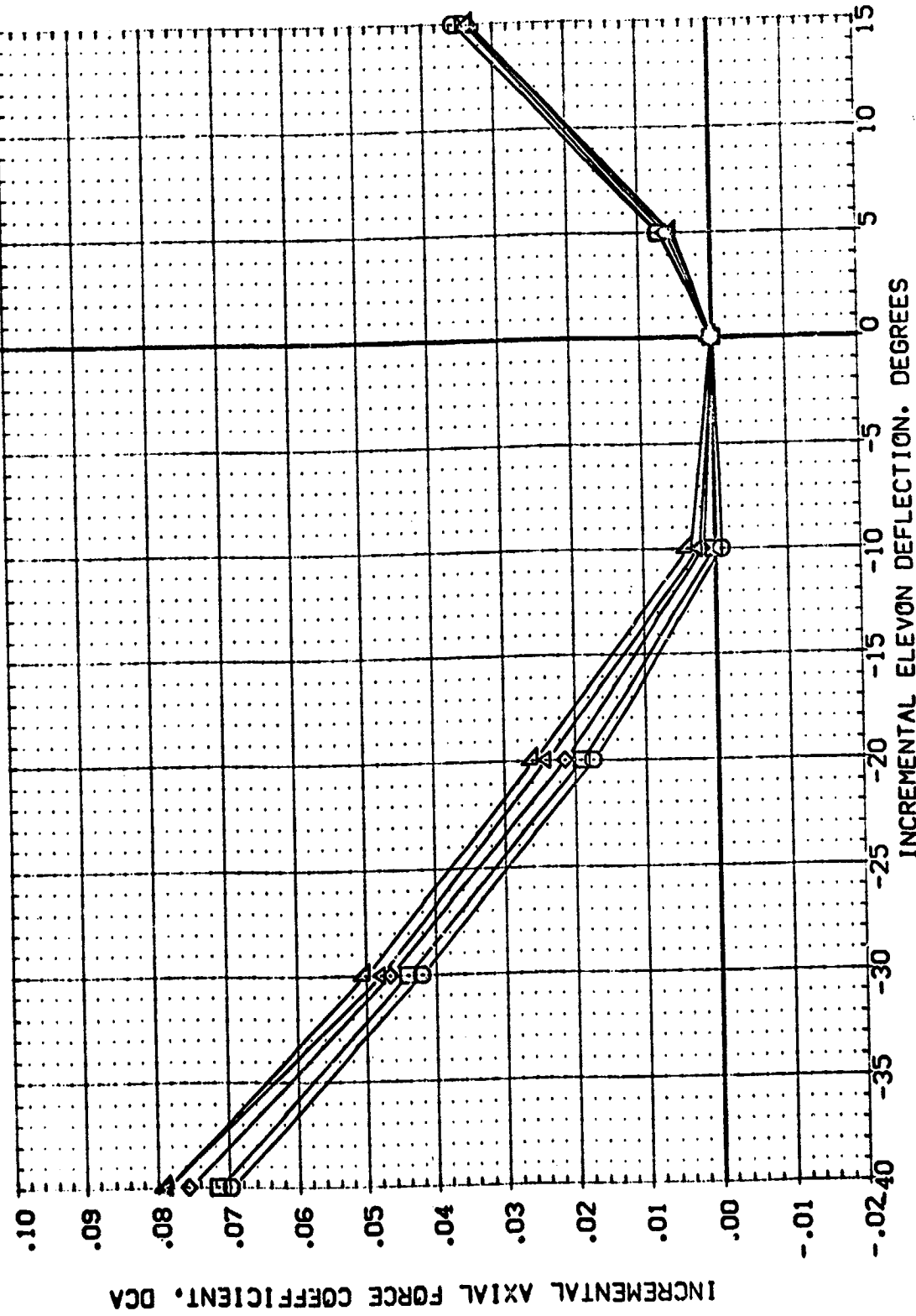


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E18V3R3X9

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	.000 DATASET	DATA SOURCE	DATASET	DEL VON	SREF	REFERENCE INFORMATION
○	12.000	.210			AILRON	.000	EDU071	EDU004	5.000	LREF	4.4122
□	14.000	-19.000			BETA	.000	EDU001	EDU006	-10.000	BREF	19.2259
◇	16.000					.000	EDU009	EDU014	-30.000	XMRP	37.9349
△	18.000					.000	EDU012		-40.000	YMRP	43.5974
▽	20.000									ZMRP	16.2000
										SCALE	.0405

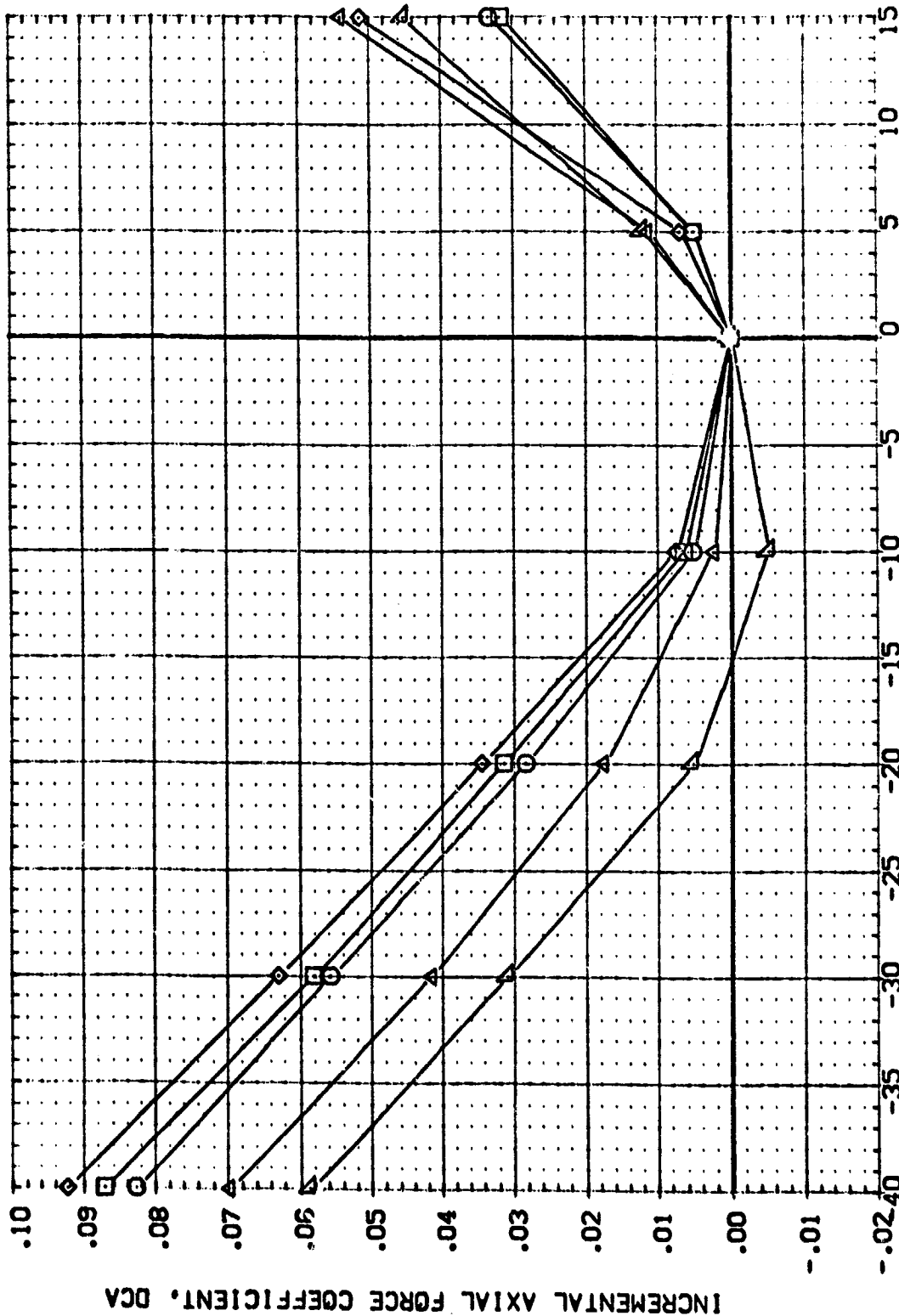


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

0A71C B16C507 F1W87 E18V3R3X9

ALPHA
22.000
24.000
26.000
28.000
30.000

MACH
.210

BOFLAP
-18.000

RJCCER
.000

PARAMETRIC VALUES
AIRLON
BETA

.000 DATASET
EDU071
EDU001
EDU009
EDU012

DATA SOURCE
DELVON
15.000
.000
-20.000
-40.000

DATASET
EDU004
EDU006
EDU011

DELVON
5.000
-10.000
-30.000

SREF
LREF
XREF
YREF
ZREF
SCALE

SO.FT.
4.4122
19.2259
37.9349
43.5974
.0100
16.2000
.0405

INCHES
INCHES
INCHES
INCHES
INCHES
SCALE

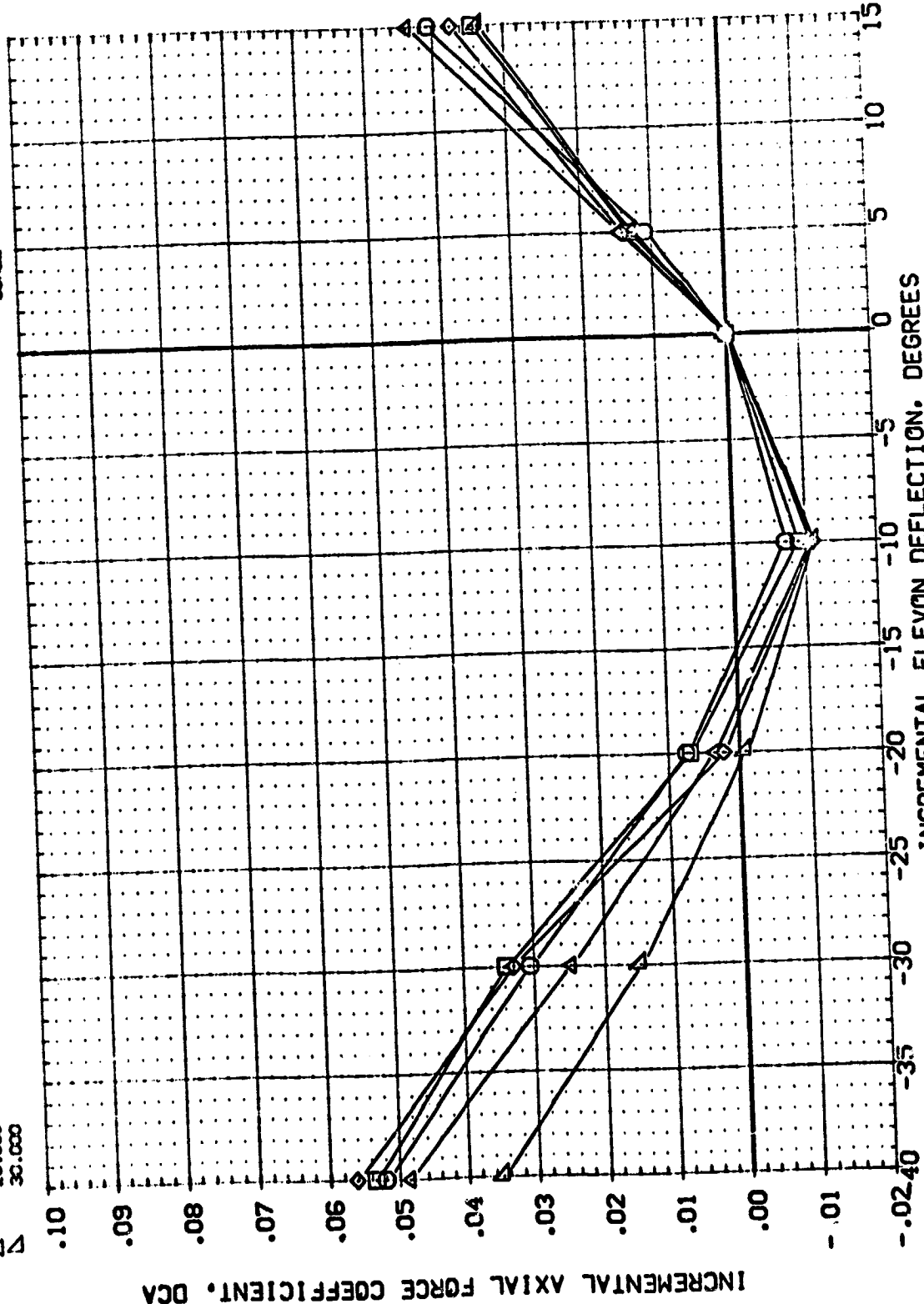


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E18V3R3X9

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
▲	ALPHA	MACH	AIRRBV	DEL VON	SREF	4.4122	SO. FT.
◇	-4.000	-0.210	BETA	EDU004	LREF	19.2299	INCHES
□	-2.000	-18.000	EDU001	EDU006	BREF	27.9349	INCHES
□	-1.000	.000	EDU009	EDU014	XWRP	43.5974	INCHES
□	1.000		EDU012		YWRP	16.2000	INCHES
					ZWRP	16.2000	INCHES
					SCALE	.0405	SCALE

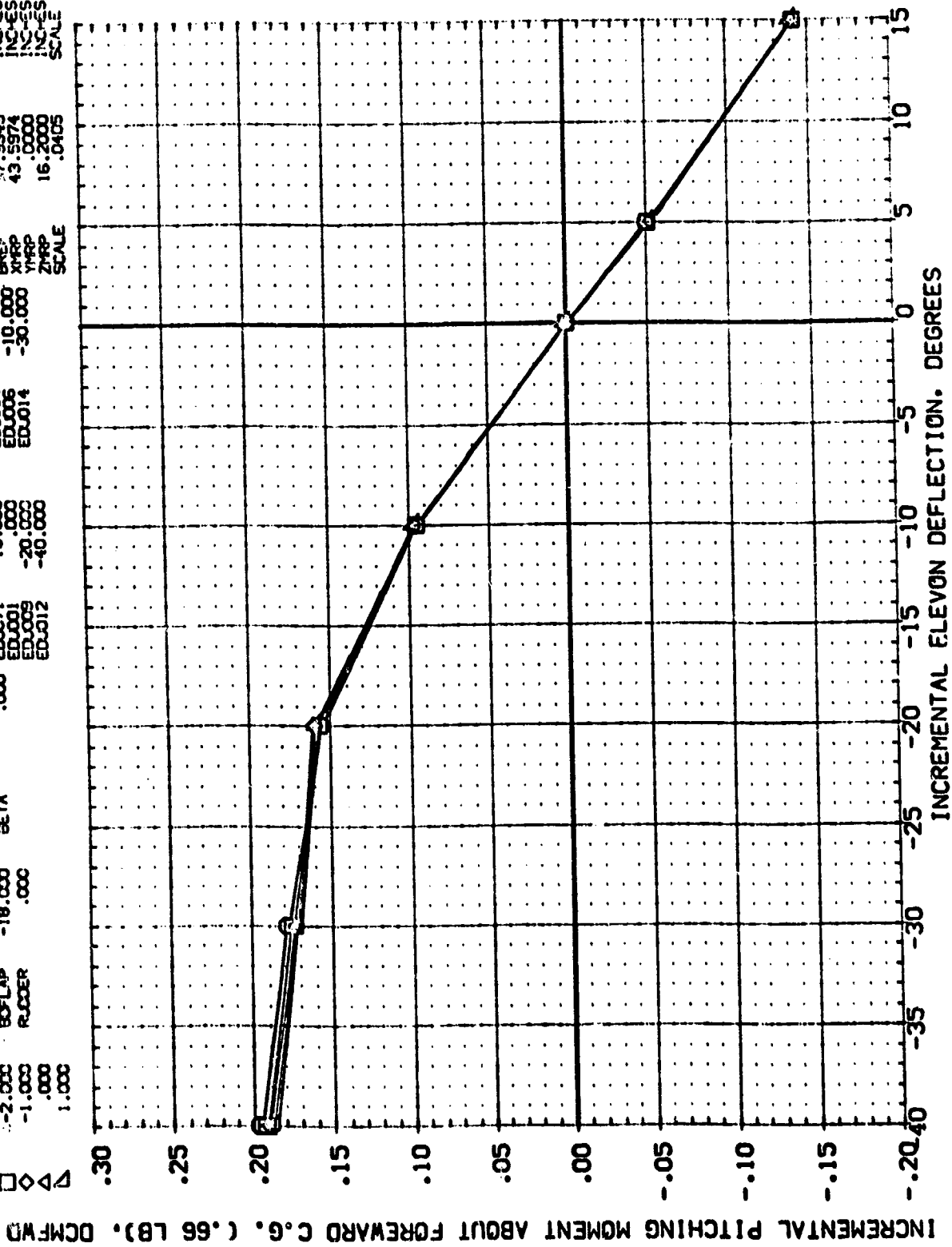


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E18V3R3X9

SYMB	ALPHA	MACH	30° FLAP	RUDDER	PARAMETRIC VALUES	.000 DATASET	DEL VON	DATA SOURCE	DATASET	DEL VON	SREF	REFERENCE INFORMATION
□	2.000				.210 AILRON	.000 EDU071	15.000	DEL VON	EDU004	5.000	LREF	4.4122
◇	4.000				-18.000 BETA	.000 EDU001	.000		EDU006	-10.000	BREF	19.2299
△	6.000				.000	EDU009	-20.000		EDU014	-30.000	XREF	37.9349
▽	8.000					EDU012	-40.000				YREF	43.5974
○	10.000										ZREF	16.2000
											SCALE	.0405
												SO. FT.
												INCHES
												INCHES
												INCHES
												SCALE

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB). DCMFWD

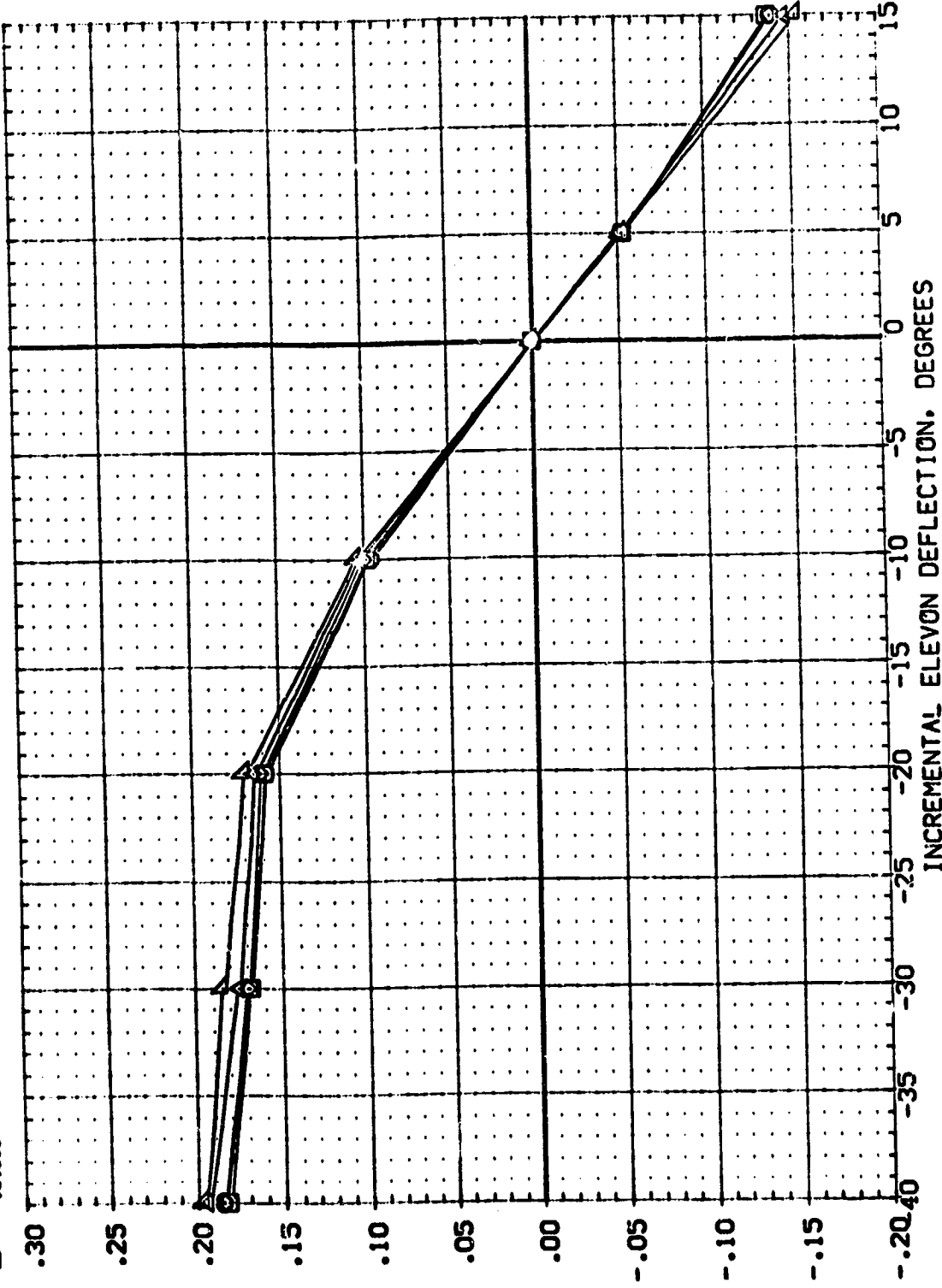


FIG 5 INCREMENTAL EFFECT OF ELEEVONS - NO NACELLES

(EDU071)

GA71C 816C507 F1W87 E18V3R3X9

SYMBOL	ALPHA	MACH	REFLAP	RUDER	PARAMETRIC VALUES	.000	DATASET	DELTVN	DATA SOURCE	DATASET	DELTVN	SREF	LREF	XMRP	YMRP	ZMRP	SCALE	REFERENCE INFORMATION
▽	.12000				.210		EDU071	15.000		EDU004	5.000	4.4122	19.2299					SO.FT
◇	.14000				-18.000		EDU001	-20.000		EDU006	-10.000	37.9319	43.9974					WINGS
◇	.16000				.000		EDU009	-40.000		EDU014	-30.000	16.2000	16.2000					TAIL
◇	.18000						EDU012					16.2000	16.2000					WINGS
◇	.20000											16.2000	16.2000					TAIL
◇	.20000											16.2000	16.2000					TAIL
◇	.20000											16.2000	16.2000					TAIL

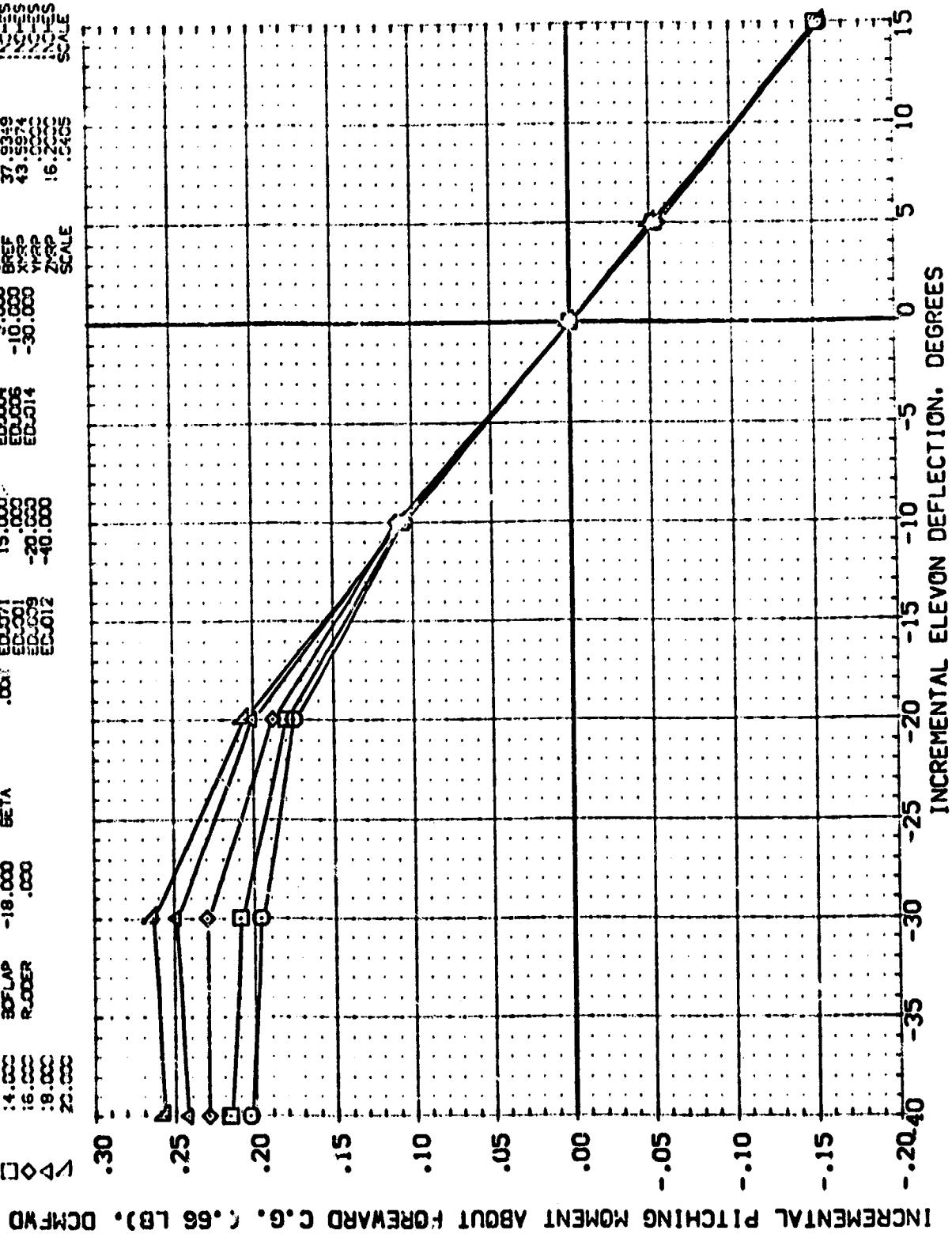


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES



0A71C B16C5D7 F1W87 E18V3R3X9 (EDU071)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000 DATASET	DELTON	SREF	SO.FT.
22.000	.210	EDU071	15.000	5.000	4.4122
24.000	-18.000	EDU001	.000	19.2299	19.2299
26.000	.000	EDU009	-20.000	37.9349	37.9349
28.000	.000	EDU012	-40.000	43.5974	43.5974
30.000				16.000	16.000
				Z-RP	Z-RP
				SCALE	SCALE
					.0405

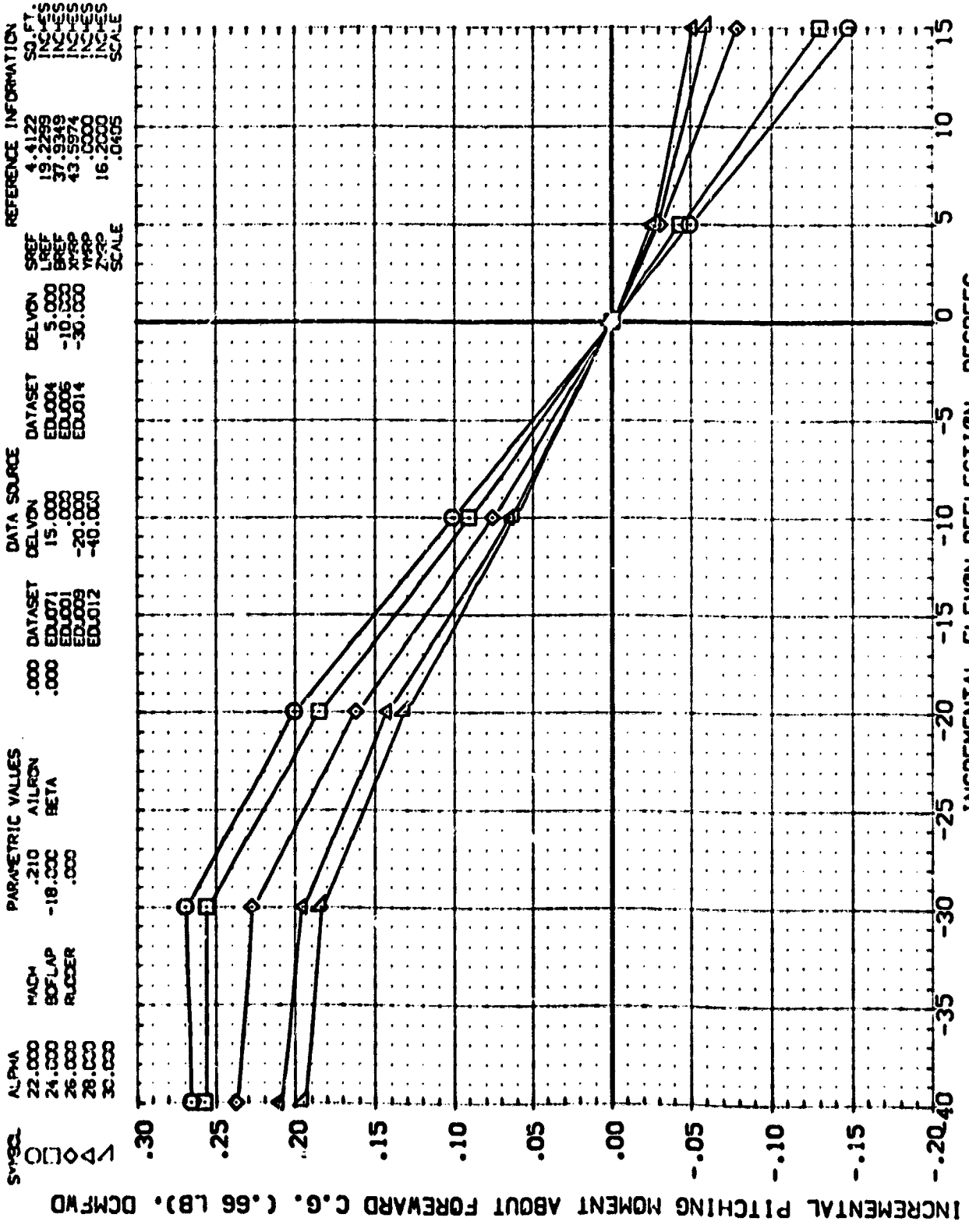


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

[EDU071]

0A71C B16C507 F1W87 E18V3R3X9

SYMB	ALPHA	"ACH	PARAMETRIC VALUES	.000 DATASET	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
0110	-4.000	BCFLAP	.210 AILPCN	.000 EDU071	DELVON	EDU071	15.000	REF	4.4122
0404	-2.000	RUDDER	-18.000 BETA	.000 EDU001	DELVON	EDU071	-15.000	REF	19.2766
	-1.000		.000	.000 EDU008	DELVON	EDU071	-30.000	REF	37.9349
	.000			.000 EDU012	DELVON	EDU071	-40.000	REF	43.5974
	1.000				DELVON	EDU071	-40.000	REF	43.5974
					DELVON	EDU071	-40.000	REF	16.2000
					DELVON	EDU071	-40.000	REF	.0405
					DELVON	EDU071	-40.000	REF	SCALE

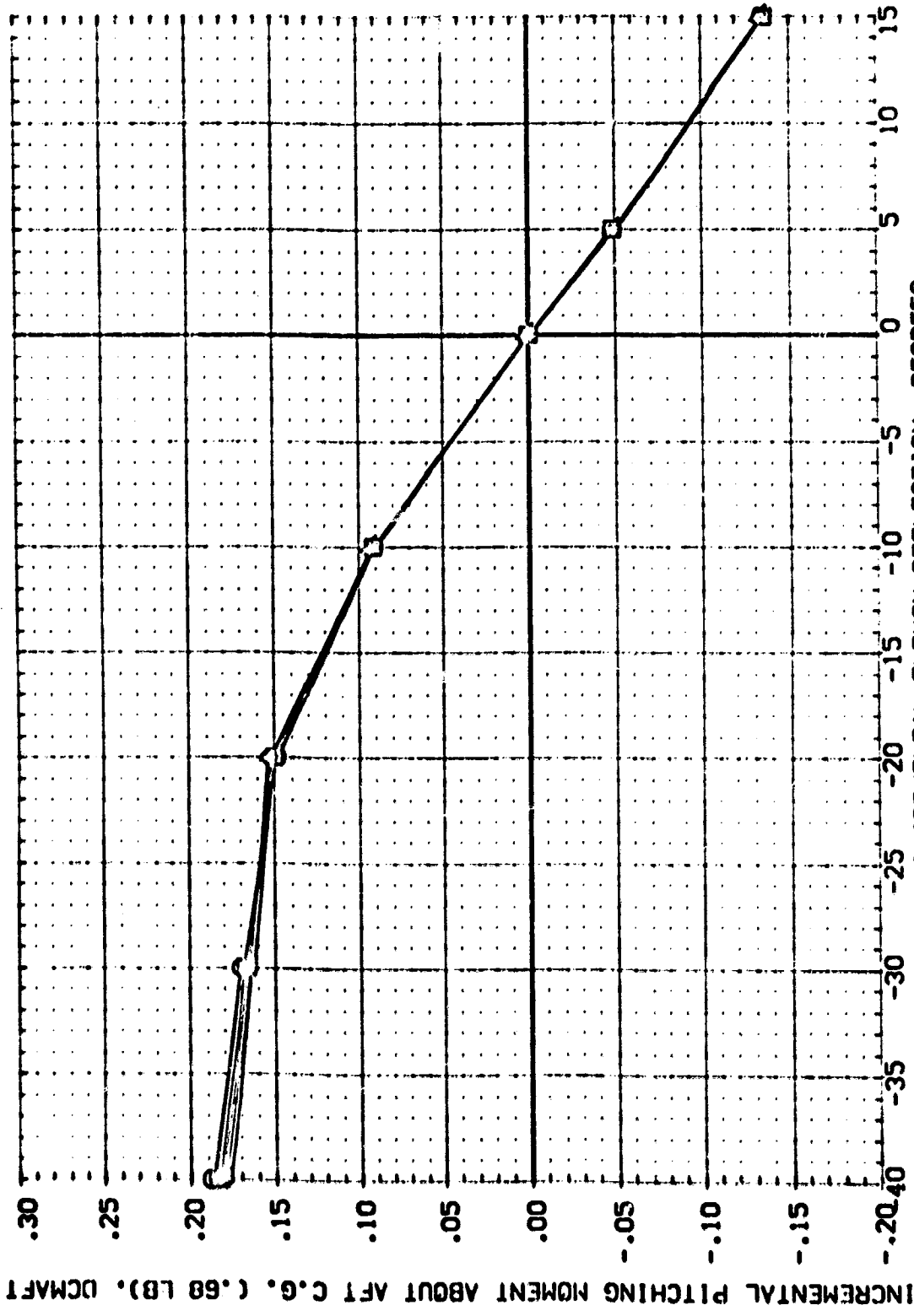


FIG 5 INCREMENTAL EFFECT OF ELEVLONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E18V3R3X9

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	2.000	MACH	.210	DEL VON	SREF	SO. FT.	4.4122
	4.000	BOFLAP	-18.000	EDU004	REF	INCHES	19.2299
	6.000	RODGER	.000	EDU008	REF	INCHES	37.9349
	8.000			EDU012	X-REF	INCHES	43.5974
	10.000				Y-REF	INCHES	16.0000
					Z-REF	INCHES	16.0000
					SCALE	SCALE	.0405

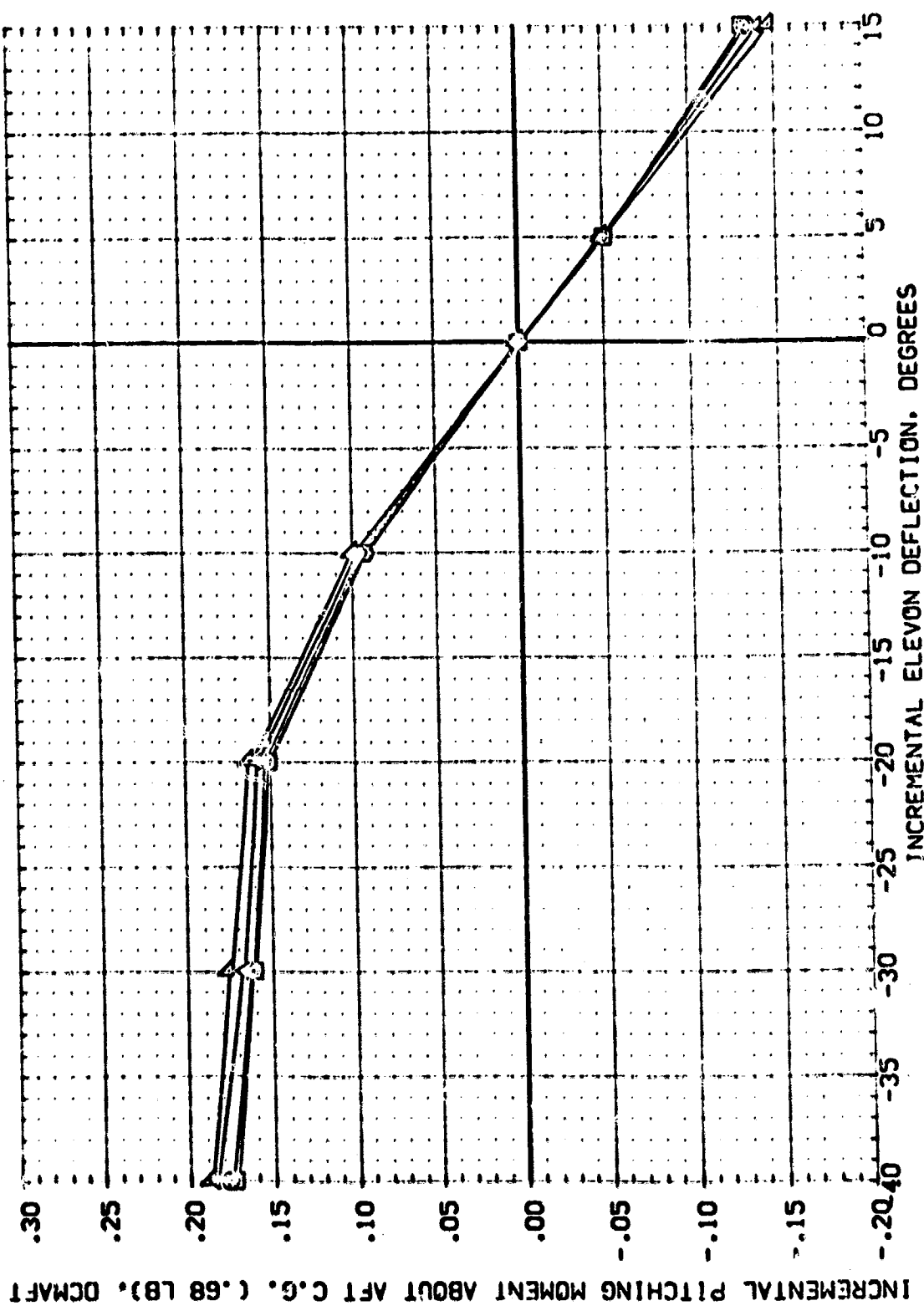


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

0A71C B16C5D7 F1W87 E13V3R3X9

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	.000 DATASET	DATA SOURCE	DATASET	DEL VON	SREF	REFERENCE INFORMATION
△	.12.000	.210	.000	.000	AIRCON	.000	EDU004	EDU004	5.000	LREF	4.4122
▽	.14.000	.18.000	.000	.000	BETA	.000	EDU001	EDU001	15.000	BREF	19.2298
◇	.16.000	.000	.000	.000		.000	EDU008	EDU008	-20.000	XMRP	37.9369
□	.18.000	.000	.000	.000		.000	EDU012	EDU012	-40.000	YMRP	43.5974
○	.20.000	.000	.000	.000		.000			-40.000	ZMRP	16.2000
○	.20.000	.000	.000	.000		.000			-40.000	SCALE	.0405

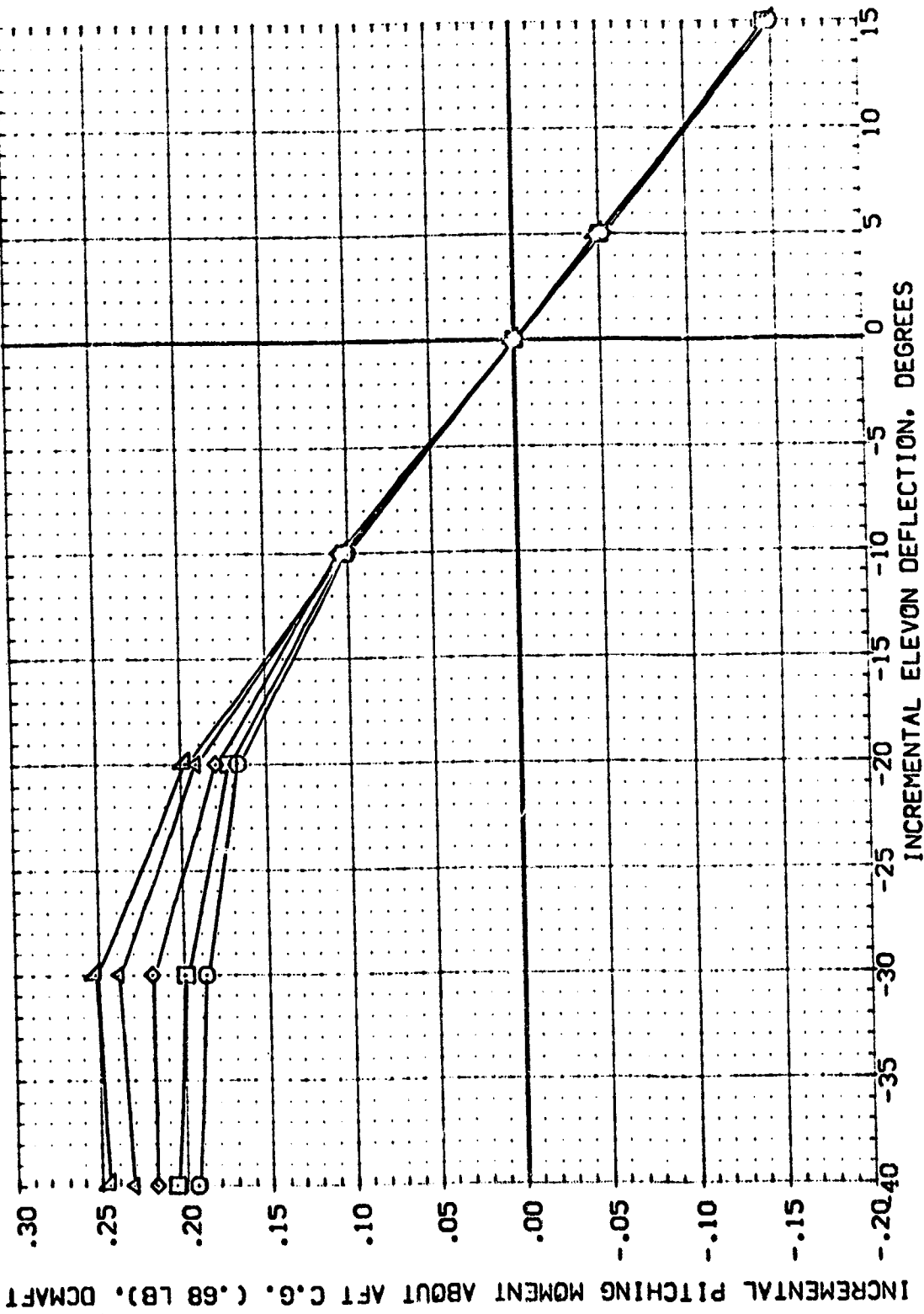


FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

(EDU071)

CA7:C B16C507 F1W87 E18V3R3X9

REFERENCE INFORMATION

SCRIPT	4.4122
INCHES	18.2868
INCHES	37.8148
INCHES	43.3074
INCHES	16.2833
SCALE	.0405

DATA SOURCE

DELVCN	15.000
DELVCN	10.000
DELVCN	-20.000
DELVCN	-40.000

DATASET

ED-071	.000
ED-001	.000
ED-009	.000
ED-012	.000

PARAMETRIC VALUES

ALTRON	.210
BETA	-18.000

MACH

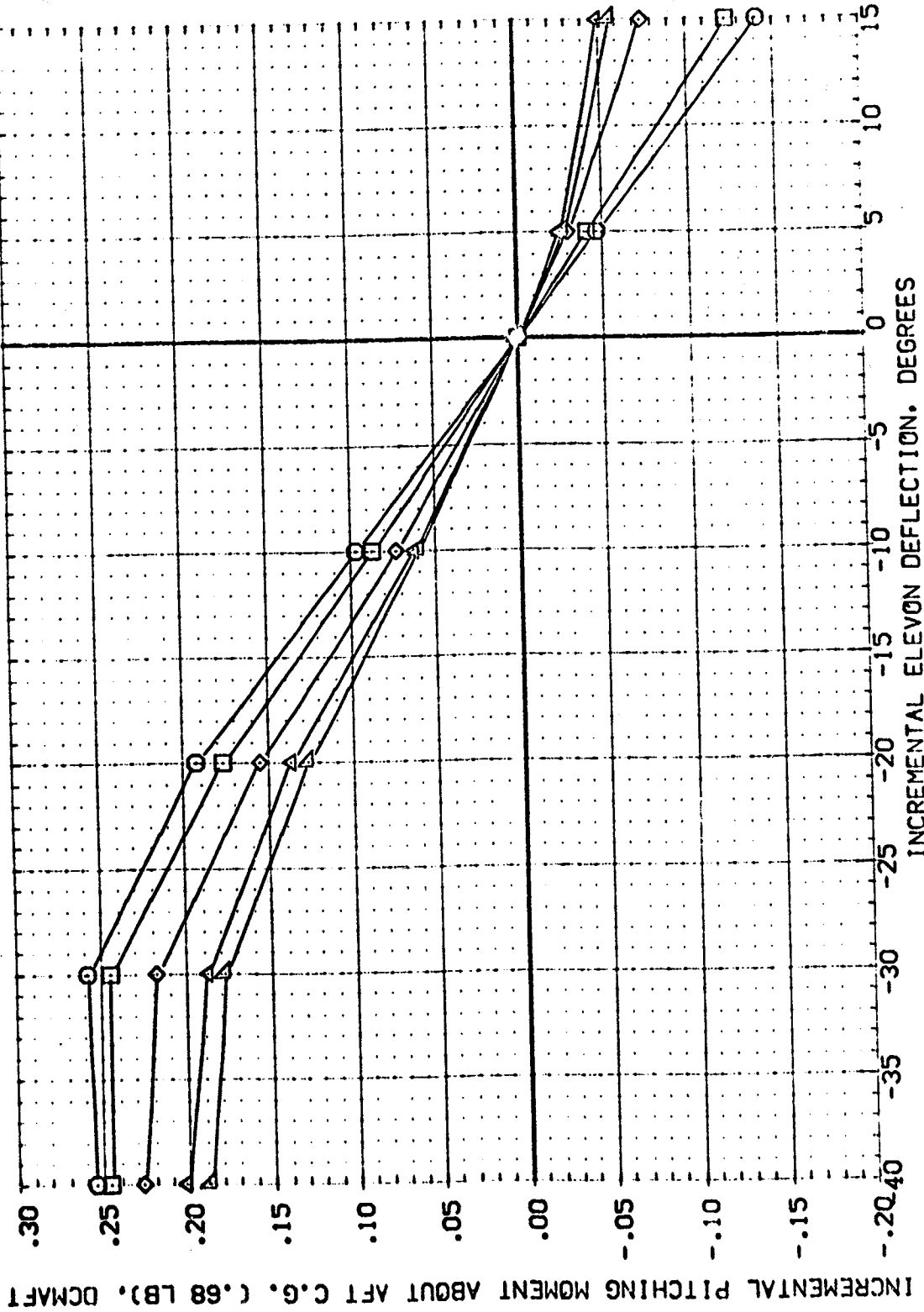
BCFLAP	.000
RUDDER	.000

ALPHA

22.000
24.000
26.000
28.000
30.000

SYMBOL

□
◇
△
▽



INCREMENTAL PITCHING MOMENT ABOUT AFT C.G. (.68 LB.), DCMAFT

INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 5 INCREMENTAL EFFECT OF ELEVONS - NO NACELLES

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (ADJ040) CA71C B16CS07A34F1V87 E18V3R3X10
 (ADJ037) CA71C B16CS07A34F1V87 E18V3R3X10
 (ADJ041) CA71C B16CS07A34F1V87 E18V3R3X10

ELEVON NACX/L NACLIP NACBTA REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE

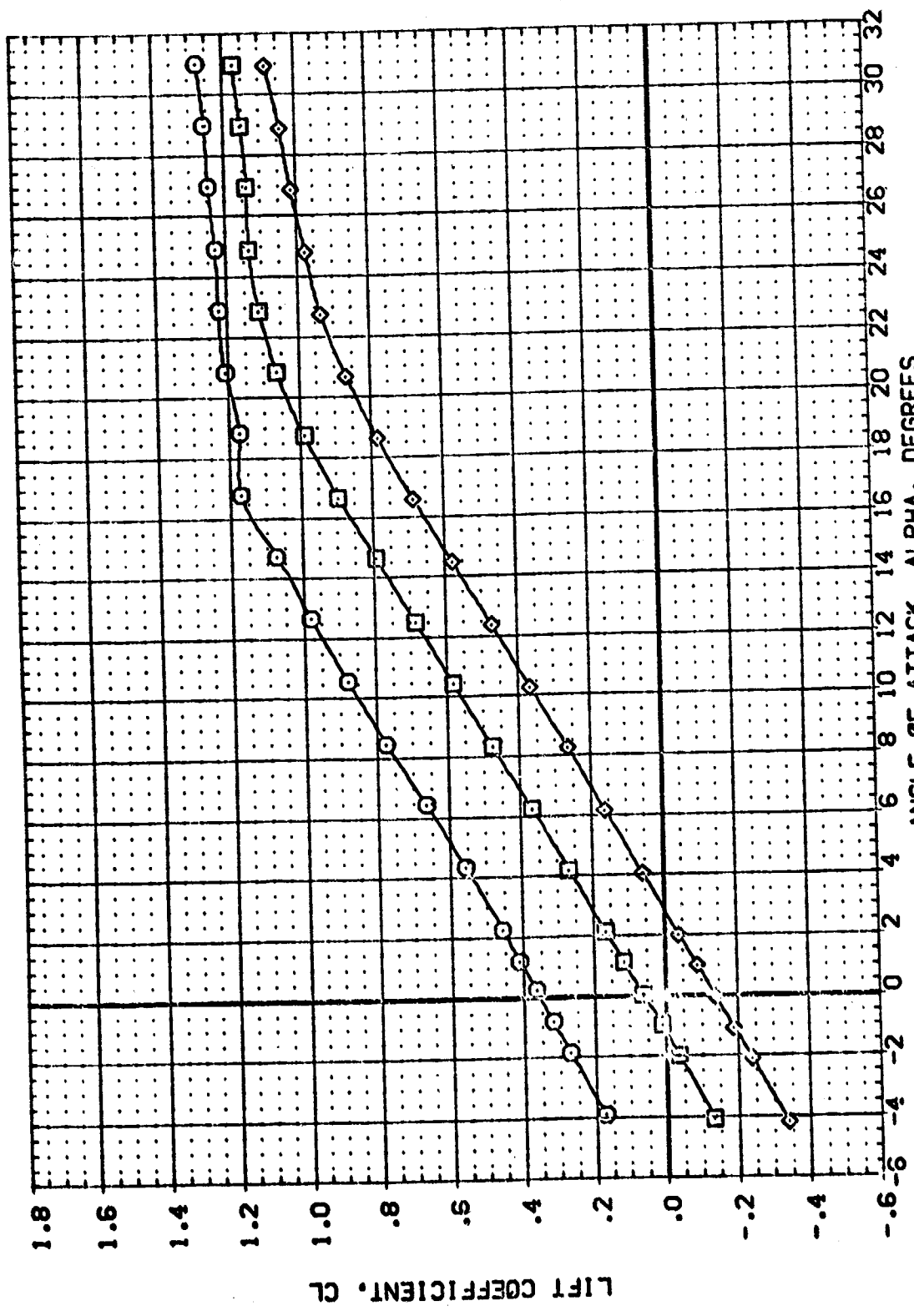


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950
 (A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACVL	MACLP	MACBTA	REFERENCE INFORMATION
(ADJ41)	CA71C 816C507434F11687 E18V3R3X10	15.000	.000	7.000	5.000	SREF 4.4122 SO.FT.
(ADJ37)	CA71C 816C507434F11687 E18V3R3X10	.000	.000	7.000	5.000	LREF 19.2295 INCHES
(ADJ41)	CA71C 816C507434F11687 E18V3R3X10	-10.000	.000	7.000	5.000	BREF 37.9349 INCHES
						XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0400 SCALE

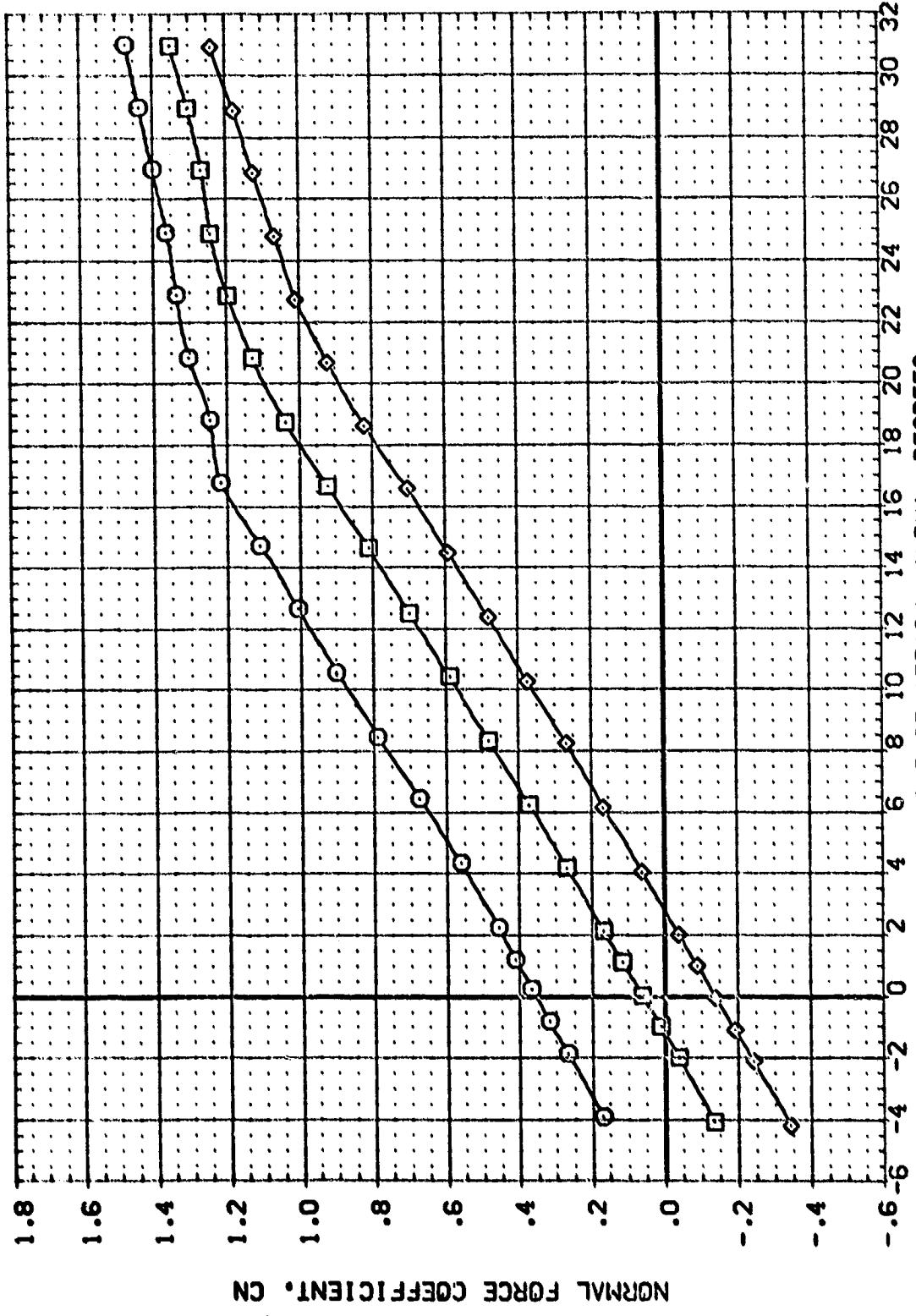


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING XO = 950

(A)MACH = .20

ELEVON MACVL MACLP MACBTA REFERENCE INFORMATION

15.000	.000	7.000	5.000	SREF	4.4122	SO.FT.
-10.000	.000	7.000	5.000	LREF	19.2299	INCHES
	.000	7.000	5.000	EXEF	37.9349	INCHES
				YREF	43.9974	INCHES
				ZREF	.0000	INCHES
				ZRCP	16.2000	INCHES
				SCALE	.0405	SCALE

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ADJ040)	CA71C	B16CSD7J34F1V87	E18V3R3X10
(ADJ037)	CA71C	B16CSD7J34F1V87	E18V3R3X10
(ADJ041)	CA71C	B16CSD7J34F1V87	E18V3R3X10

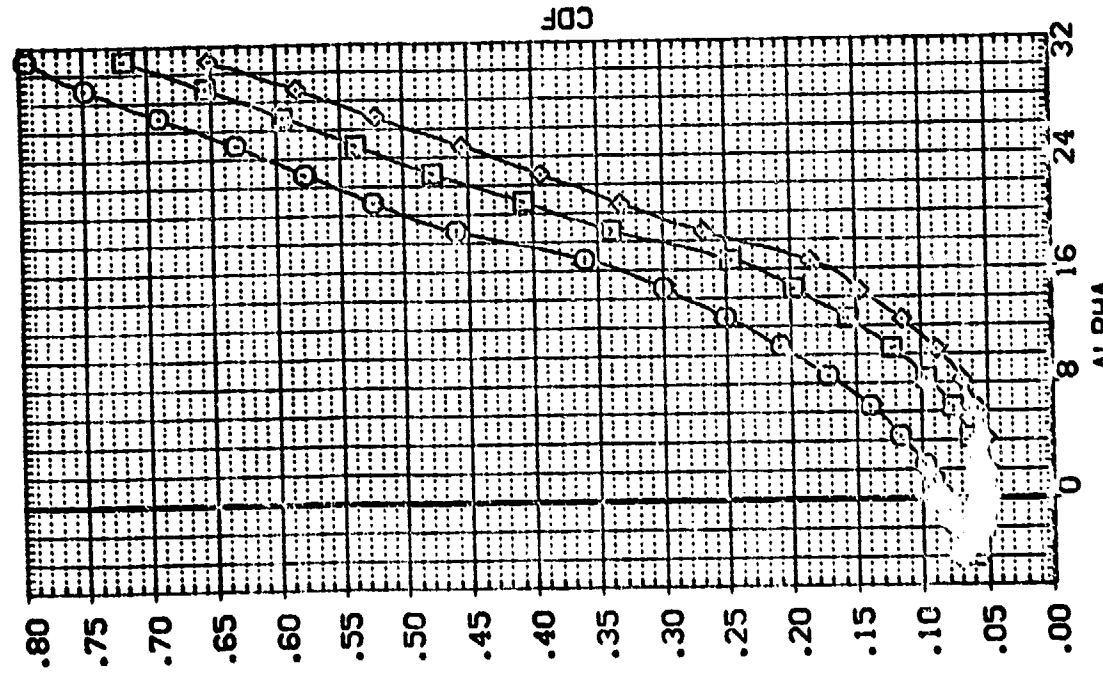
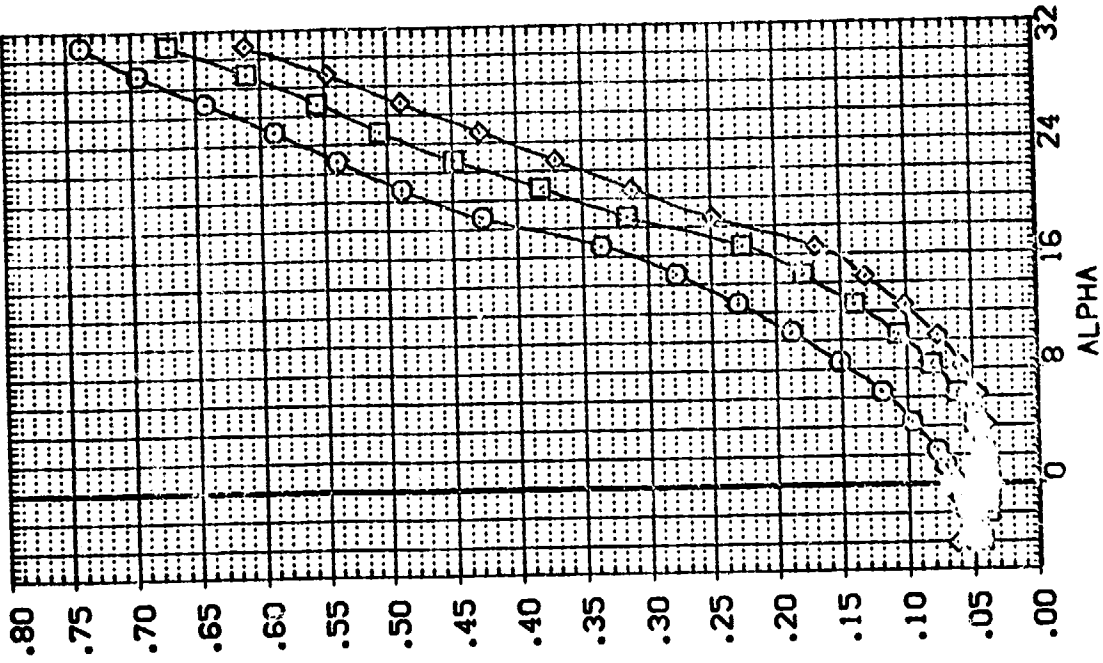


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950

(A)MACH = .20



DATA SET SYMBO. CONFIGURATION DESCRIPTION

(ADJ040) CA71C B16C507J34F1V87 E18V3R3X10

(ADJ037) CA71C B16C507J34F1V87 E18V3R3X10

(ADJ041) CA71C B16C507J34F1V87 E18V3R3X10

ELEVON NACX/L NACLIP NACBTA

15.000 .000 7.000 5.000

-10.000 .000 7.000 5.000

.000 .000 7.000 5.000

-10.000 .000 7.000 5.000

REFERENCE INFORMATION

SREF 4.4122 SQ. FT.

LREF 19.2259 INCHES

BREF 37.9349 INCHES

XREF 43.5374 INCHES

YREF .0000 INCHES

ZREF 16.2000 INCHES

SCALE .0405 INCHES

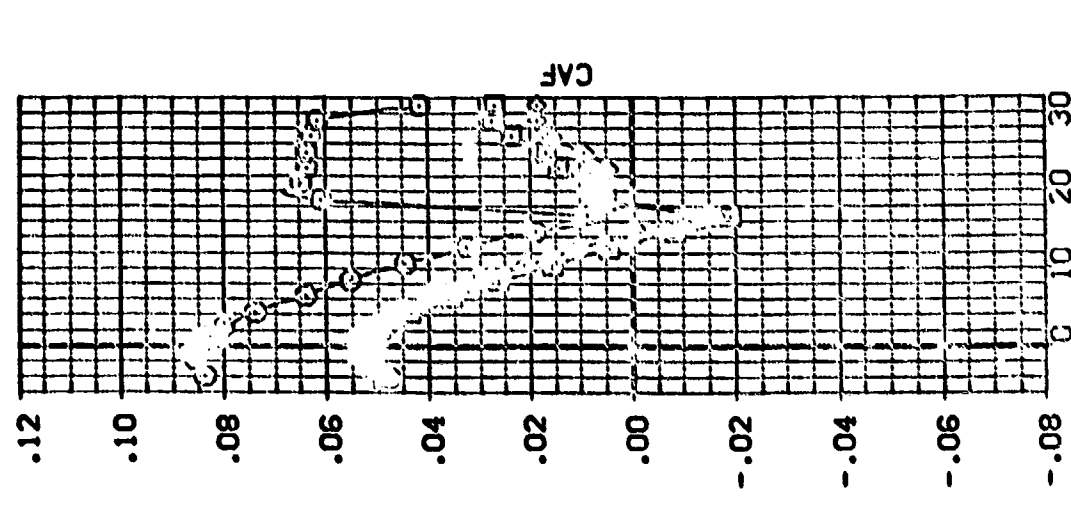
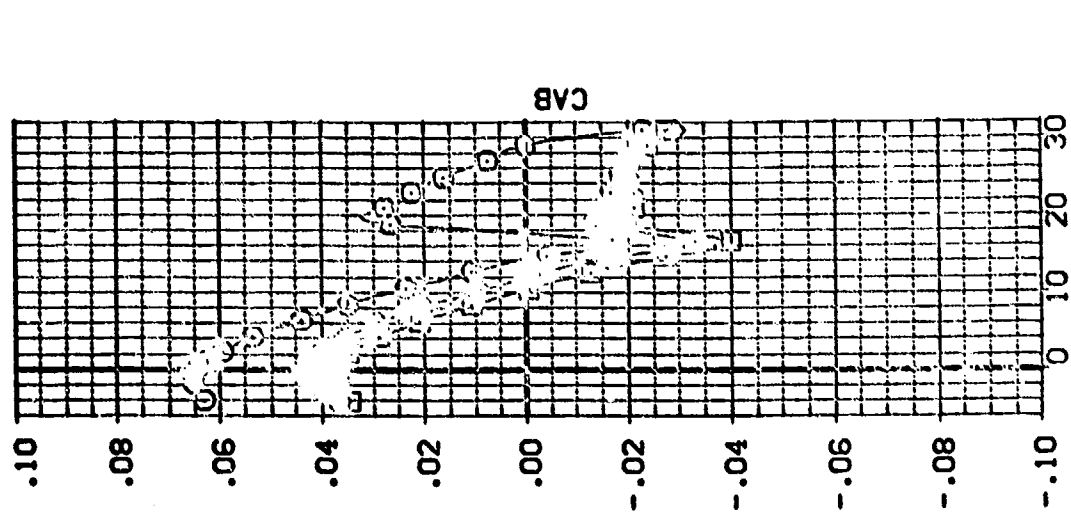
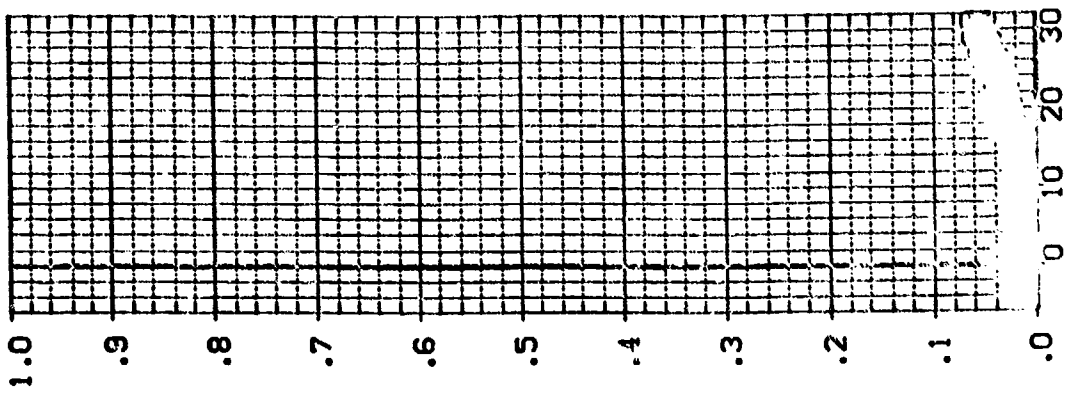


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950

DATA SET SYMBOL: (ADJ040) (ADJ037) (ADJ041)

CONFIGURATION DESCRIPTION:
 CA71C B16CSD734F1V87 E18V3R3X10
 CA71C B16CSD734F1V87 E18V3R3X10
 CA71C B16CSD734F1V87 E18V3R3X10

ELEVON: 15.000, .000, .000, -10.000

NACX/L: .000, .000, .000

NAOLIP: 7.000, 7.000, 7.000

NACBTA: 5.000, 5.000, 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SO.FT. INCHES
 LREF: 19.2258 INCHES
 PREF: 37.9349 INCHES
 YREF: 43.5974 INCHES
 ZREF: .0000 INCHES
 SCALE: 16.2000 INCHES
 .0405 INCHES

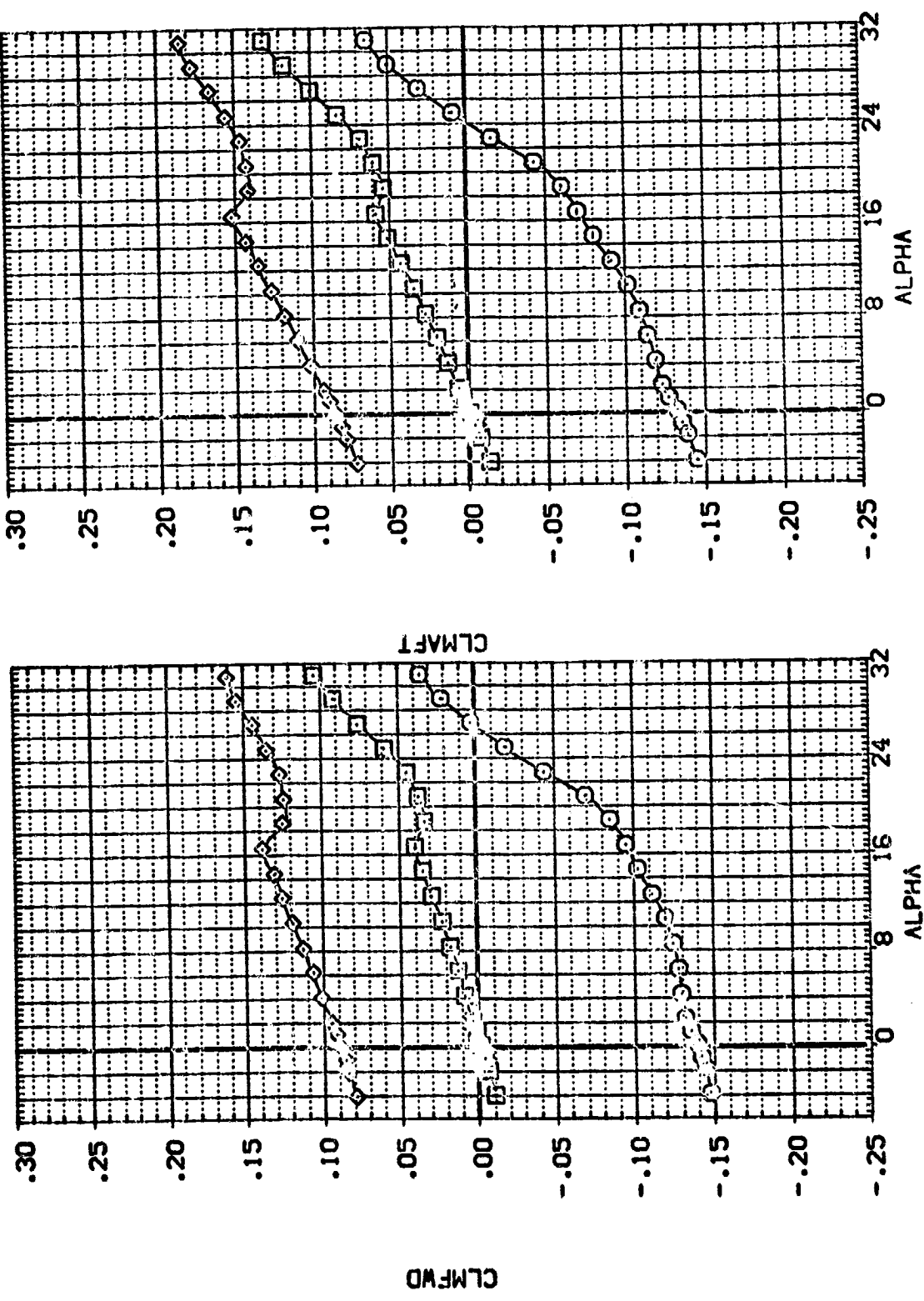


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950

(A)MACH = .20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACX/L-	MAC/LP	MACBTA	REFERENCE INFORMATION
(ADJ040)	0A71C 918530734F1V67 E18V33X10	15.000	.000	7.000	5.000	4.4122 SQ.FT.
(ADJ037)	0A71C B18530734F1V67 E18V33X10	-10.000	.000	7.000	5.000	19.2299 INCHES
(ADJ041)	0A71C B18530734F1V67 E18V33X10		.000	7.000	5.000	37.9349 INCHES
						43.5974 INCHES
						16.2000 INCHES
						SCALE
						16.2000 INCHES
						.0405
						SCALE

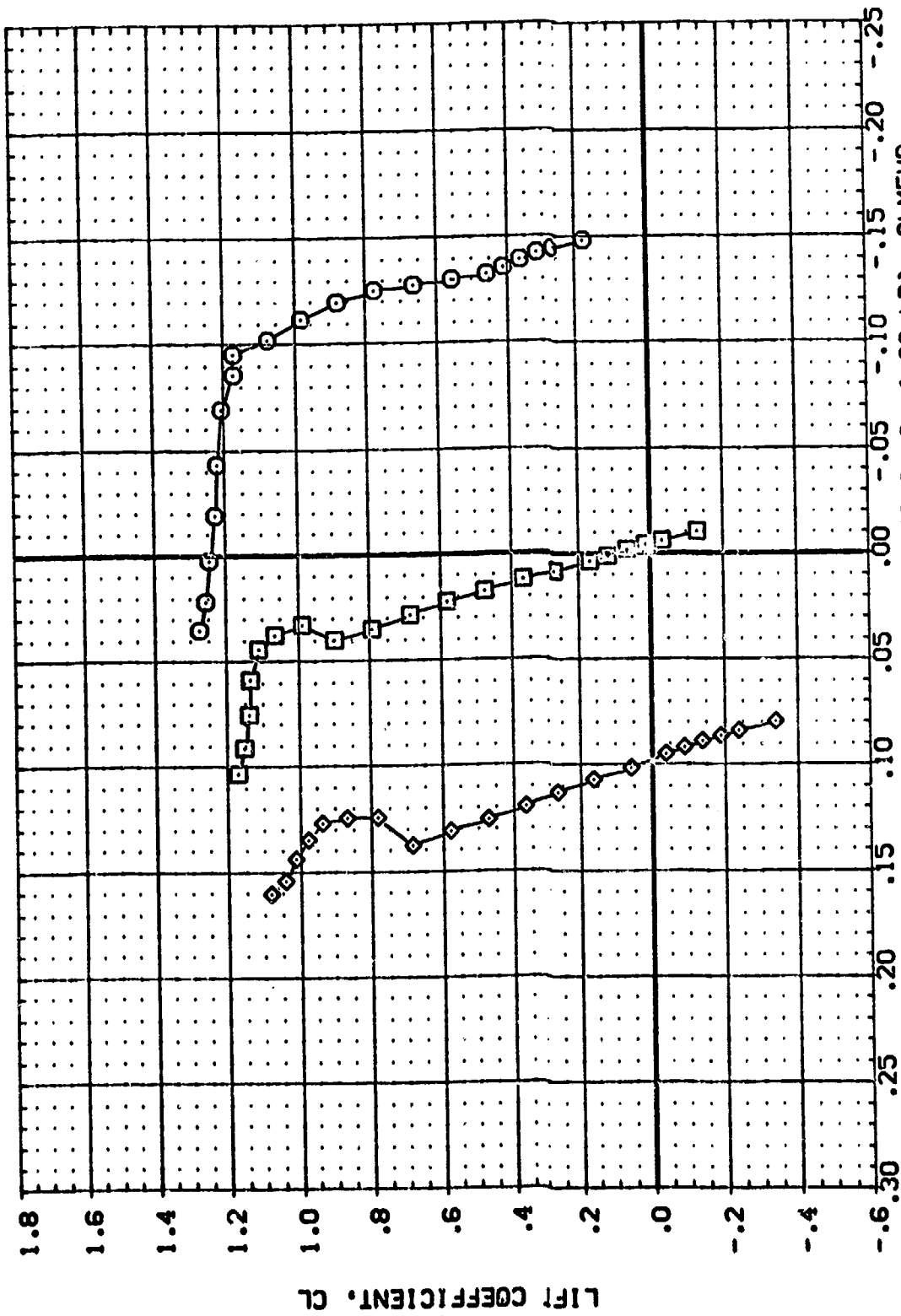


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACVL	MACLP	MACBTA	REFERENCE INFORMATION
(AD040)	CA71C B16CED7A34F1V87 E18V3R3K10	15.000	.000	7.000	5.000	4.4122
(AD037)	CA71C B16CED7A34F1V87 E18V3R3K10	.000	.000	7.000	5.000	19.2299
(AD041)	CA71C B16CED7A34F1V87 E18V3R3K10	-10.000	.000	7.000	5.000	37.9349
						43.5974
						.0000
						.0000
						16.2000
						.0405
						SCALE

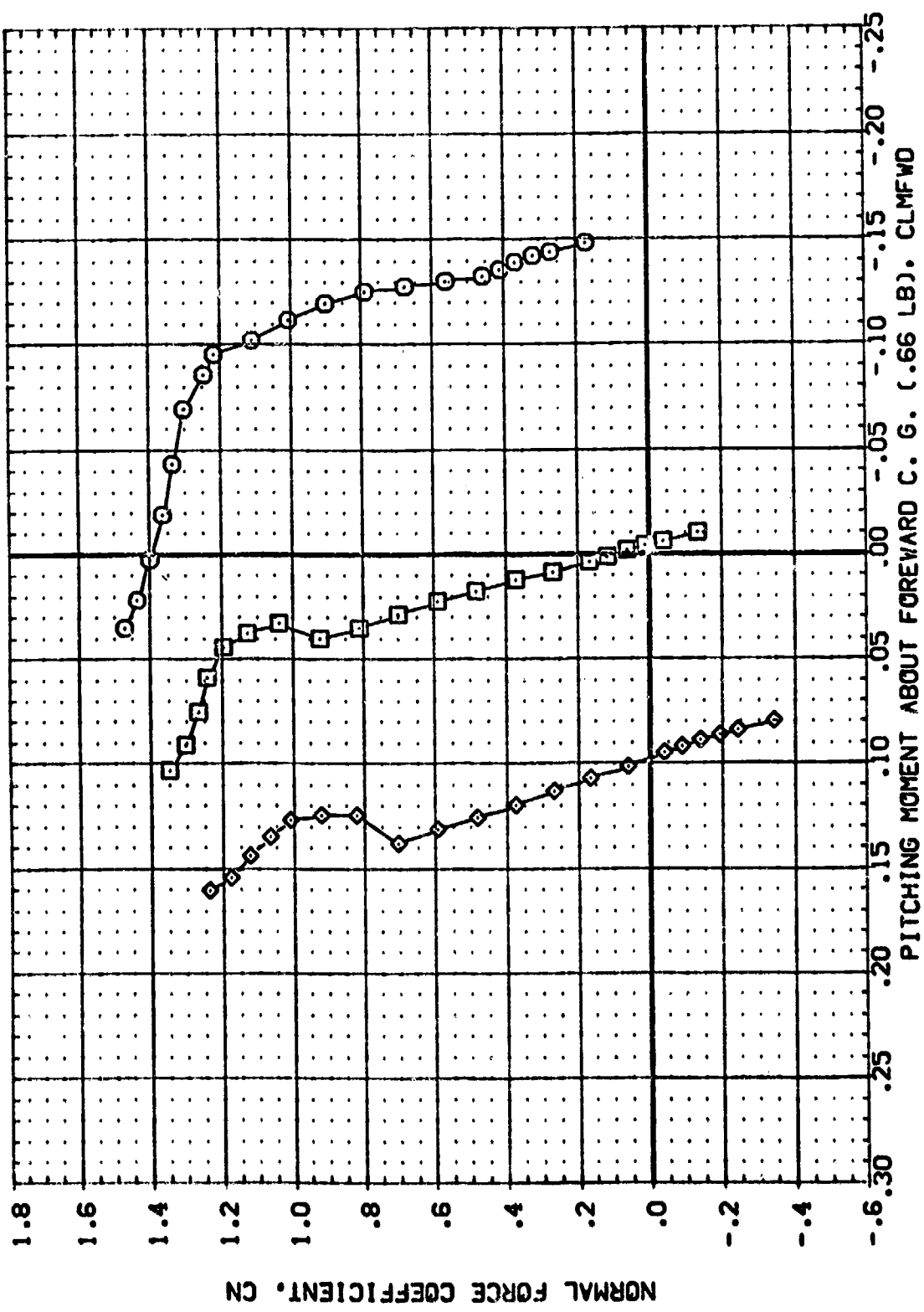


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ADL040) B16C5D7A34F1V67 E18V3K3X10

(ADL037) B16C5D7A34F1V67 E18V3K3X10

(ADL041) B16C5D7A34F1V67 E18V3K3X10

ELEVON NAC/L NAC/LIP NAC/TA

15.000 .000 7.000 5.000

-10.000 .000 7.000 5.000

REFERENCE INFORMATION

SO.FT. 4.4122

INCHES 19.2988

INCHES 37.9549

INCHES 43.9974

INCHES .0000

INCHES 16.2000

SCALE .0405

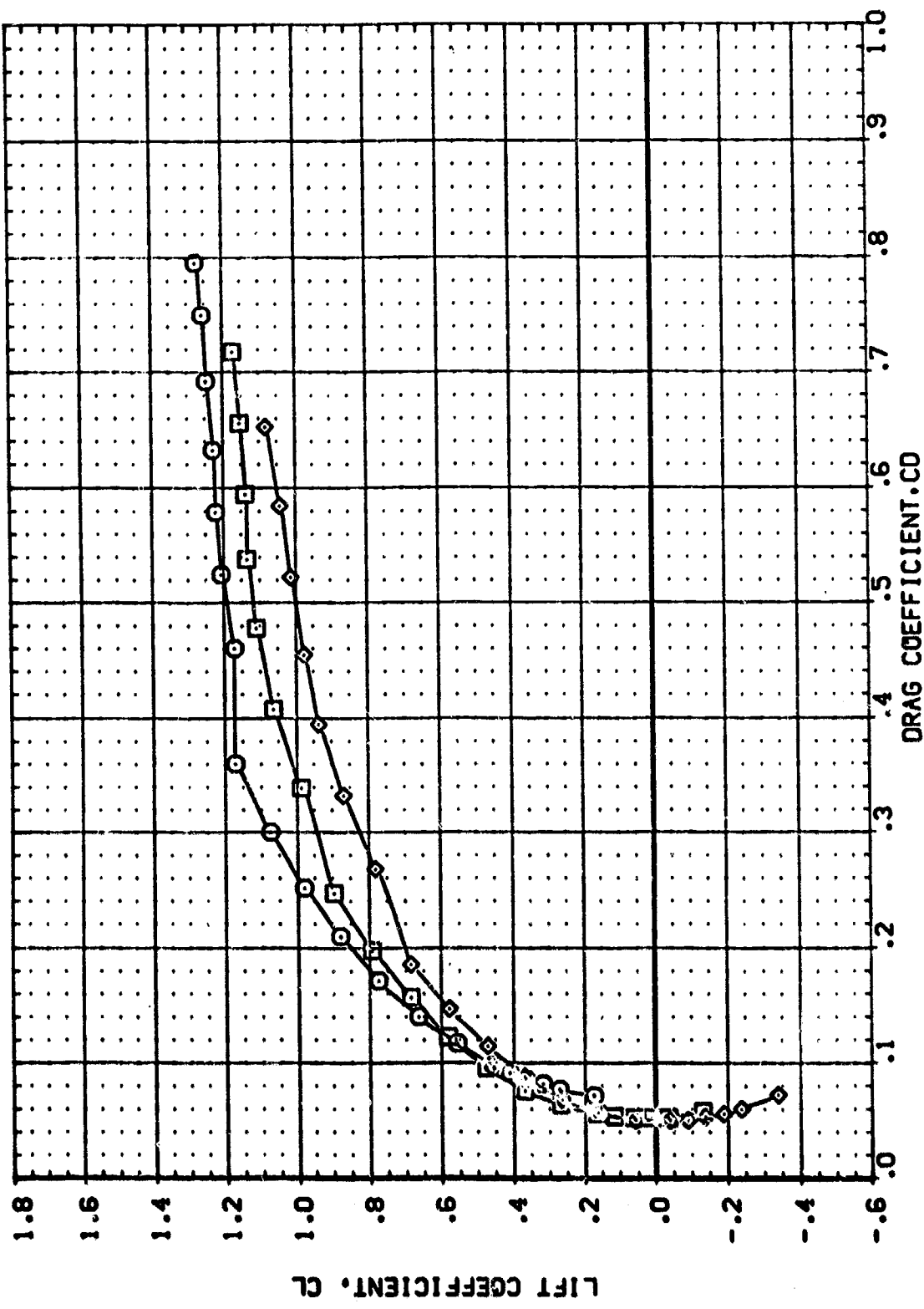


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950

(A)MACH = .20

DATA SET SYMBOLOGY
 (B03040) (B03037) (B03041)

CONFIGURATION DESCRIPTION
 CAT7C B18C507/3F11/27 E18V2R3X10
 CAT7C B18C507/3F11/27 E18V2R3X10
 CAT7C B18C507/3F11/27 E18V2R3X10

ELEVON NACX/L NACLIP NACSTA
 15.000 .000 7.000 5.000
 -10.000 .000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2259 INCHES
 SREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF 16.0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

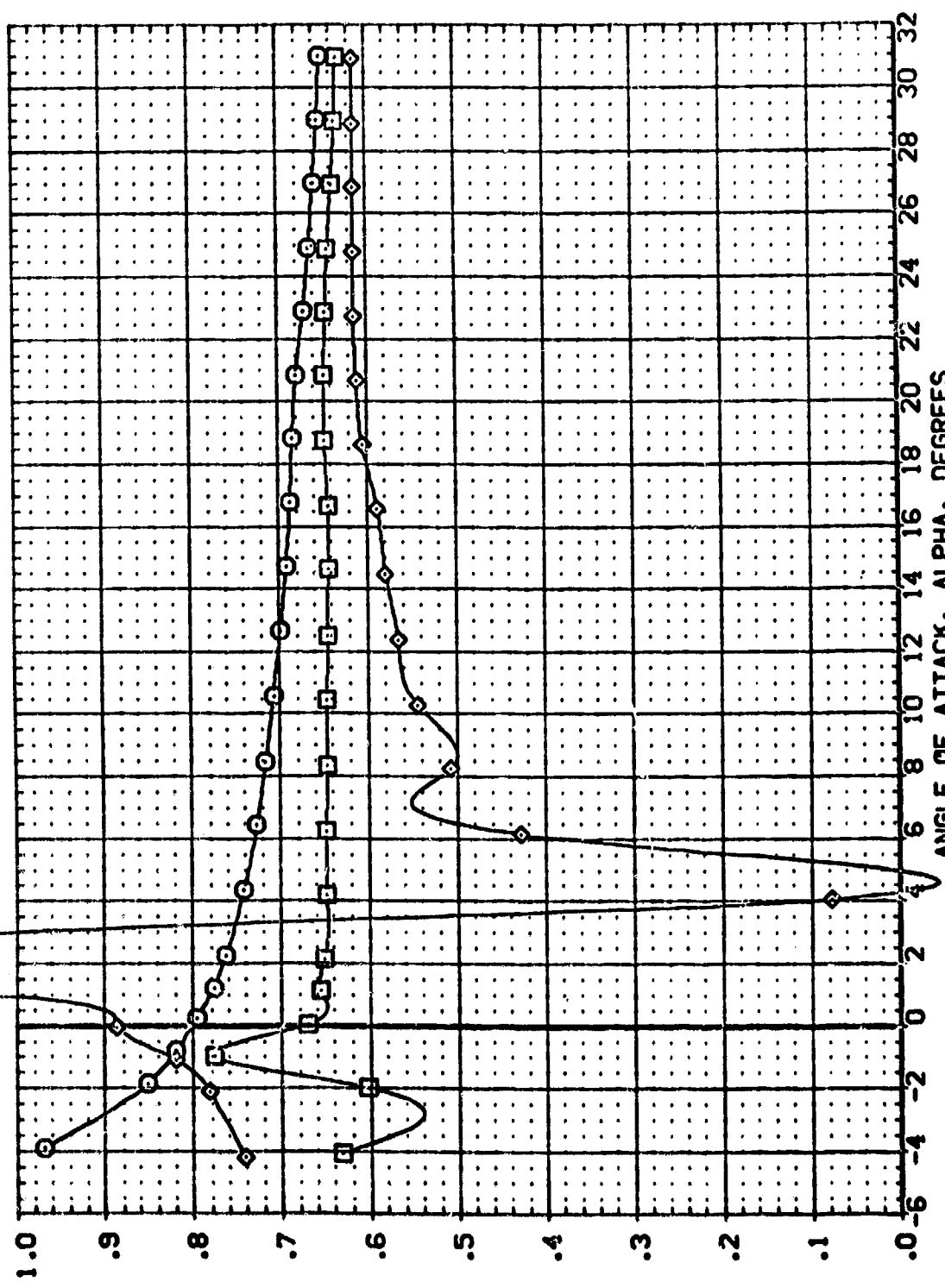


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950
 (A)MACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E03040) CA71C B16C50734F1N87 E16V30X10
 (E03037) CA71C B16C50734F1N87 E16V30X10
 (E03041) CA71C B16C50734F1N87 E16V30X10

ELEVON NACXL NACLIP NACBITA REFERENCE INFORMATION
 15.000 .000 7.000 5.000 SREF 4.4122 SO.FT.
 -10.000 .000 7.000 5.000 LREF 19.2259 INCHES
 .000 .000 .000 .000 XREF 37.9349 INCHES
 .000 .000 .000 .000 YREF 43.5974 INCHES
 .000 .000 .000 .000 ZREF 16.2000 INCHES
 .000 .000 .000 .000 SCALE 16.0405 SCALE

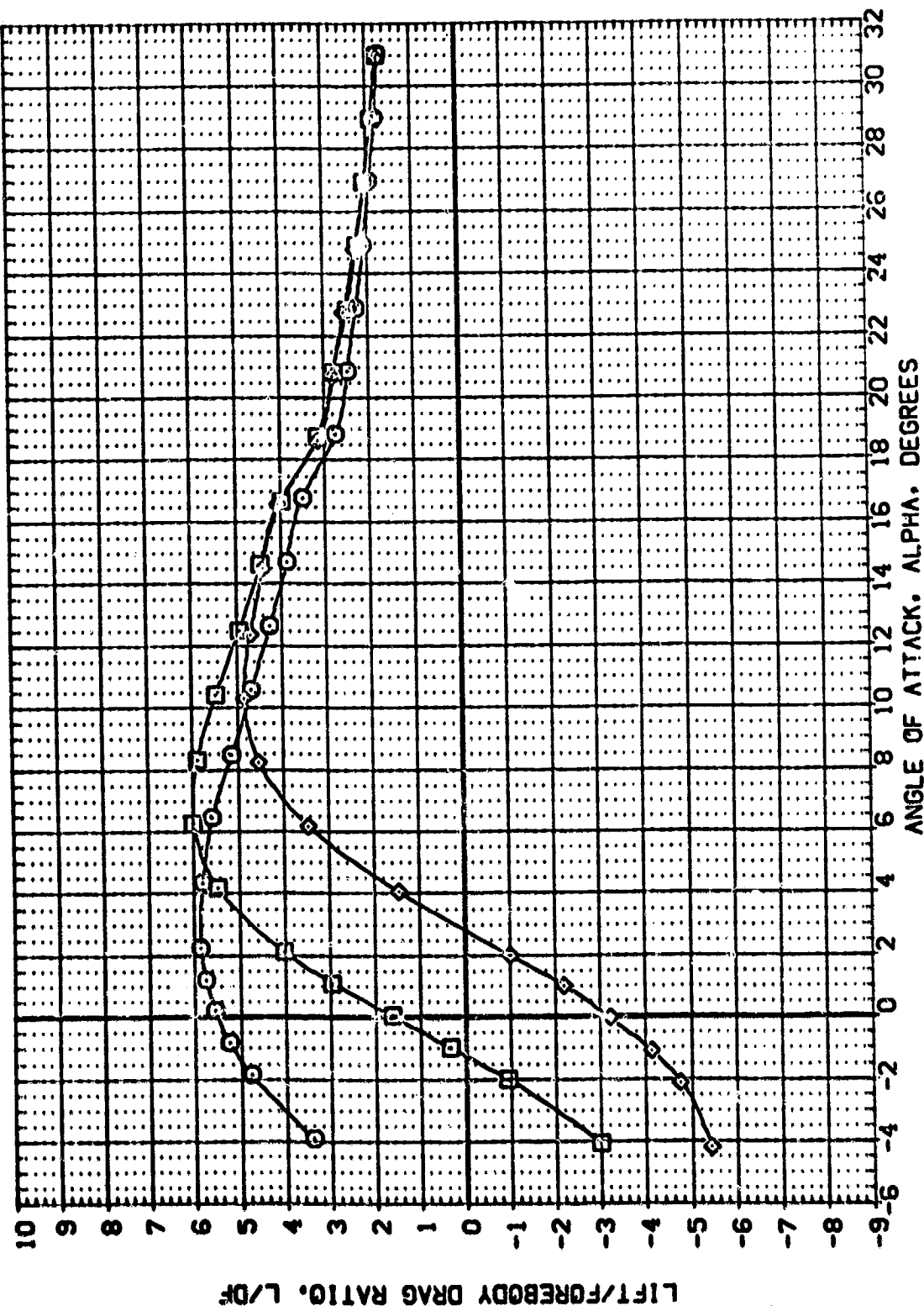


FIG 6 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 950

(A)MACH = .20

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (EDJ040) CA71C B16C50734F1V37 E16V3K3X10
 (EDJ037) CA71C B16C50734F1V37 E16V3K3X10
 (EDJ041) CA71C B16C50734F1V37 E16V3K3X10

DELTON NACX/L NACLIP NACBTA REFERENCE INFORMATION
 15.000 .000 7.000 5.000 SREF 4.4122 SQ.FT.
 .000 .000 7.000 5.000 LREF 19.2258 INCHES
 -10.000 .000 .000 .000 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE

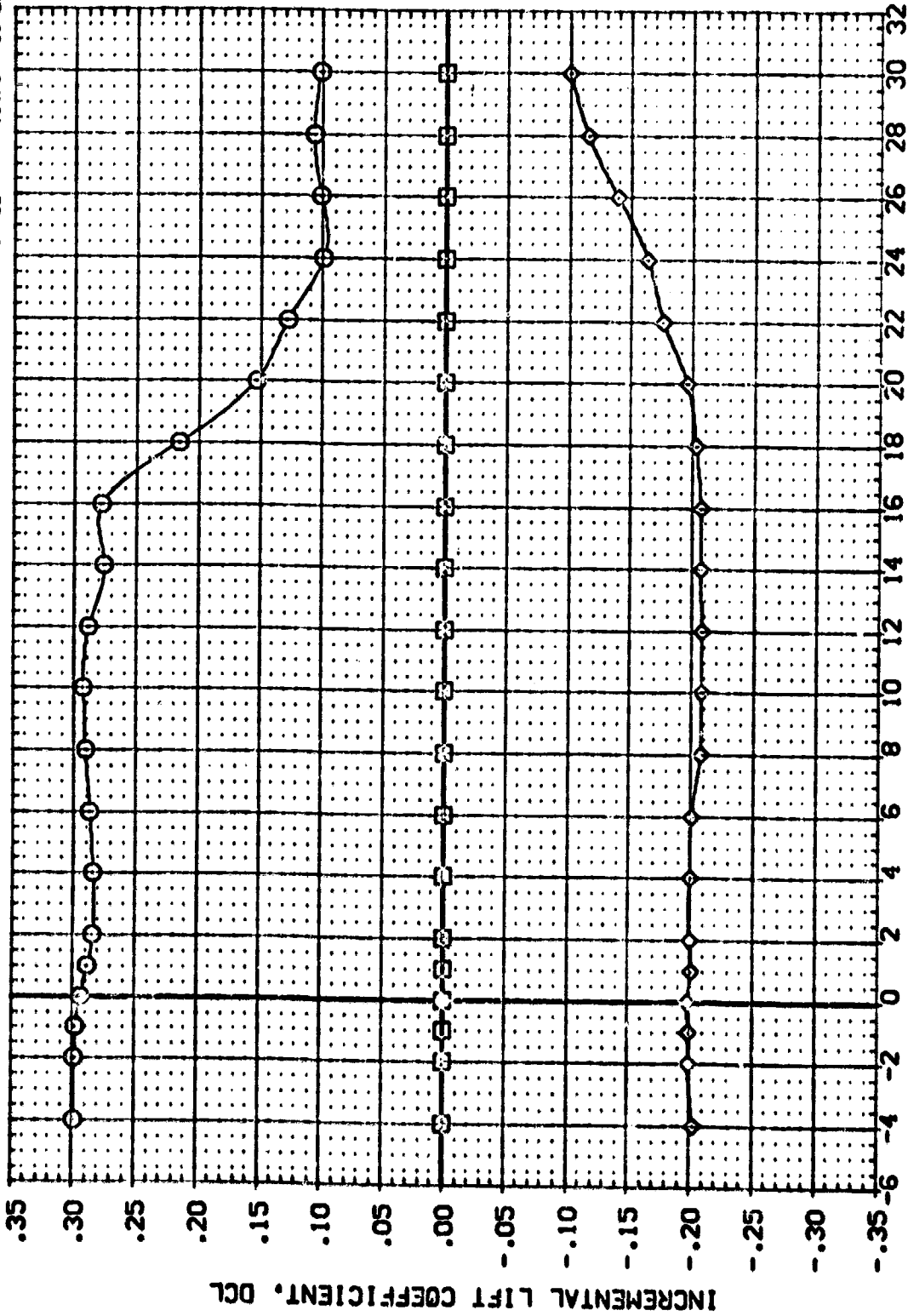


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950
 (A)MACH = .21 PAGE 50



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DEL VON	NACX/L	NACLIP	NACBTA	REFERENCE INFORMATION
(EDJ040)	0A71C B16CSD7134F1V87 E18V3R3X10	15.000	.000	7.000	5.000	SREF 4.4122 50.FT.
(EDJ037)	0A71C B16CSD7134F1V87 E18V3R3X10	.000	.000	7.000	5.000	LRGF 19.2259 INCHES
(EDJ041)	0A71C B16CSD7134F1V87 E18V3R3X10	-10.000	.000	7.000	5.000	EXGF 37.9349 INCHES
						XZGP 43.5974 INCHES
						TYRP .0000 INCHES
						ZWRP 16.2000 INCHES
						SCALE .0405 SCALE

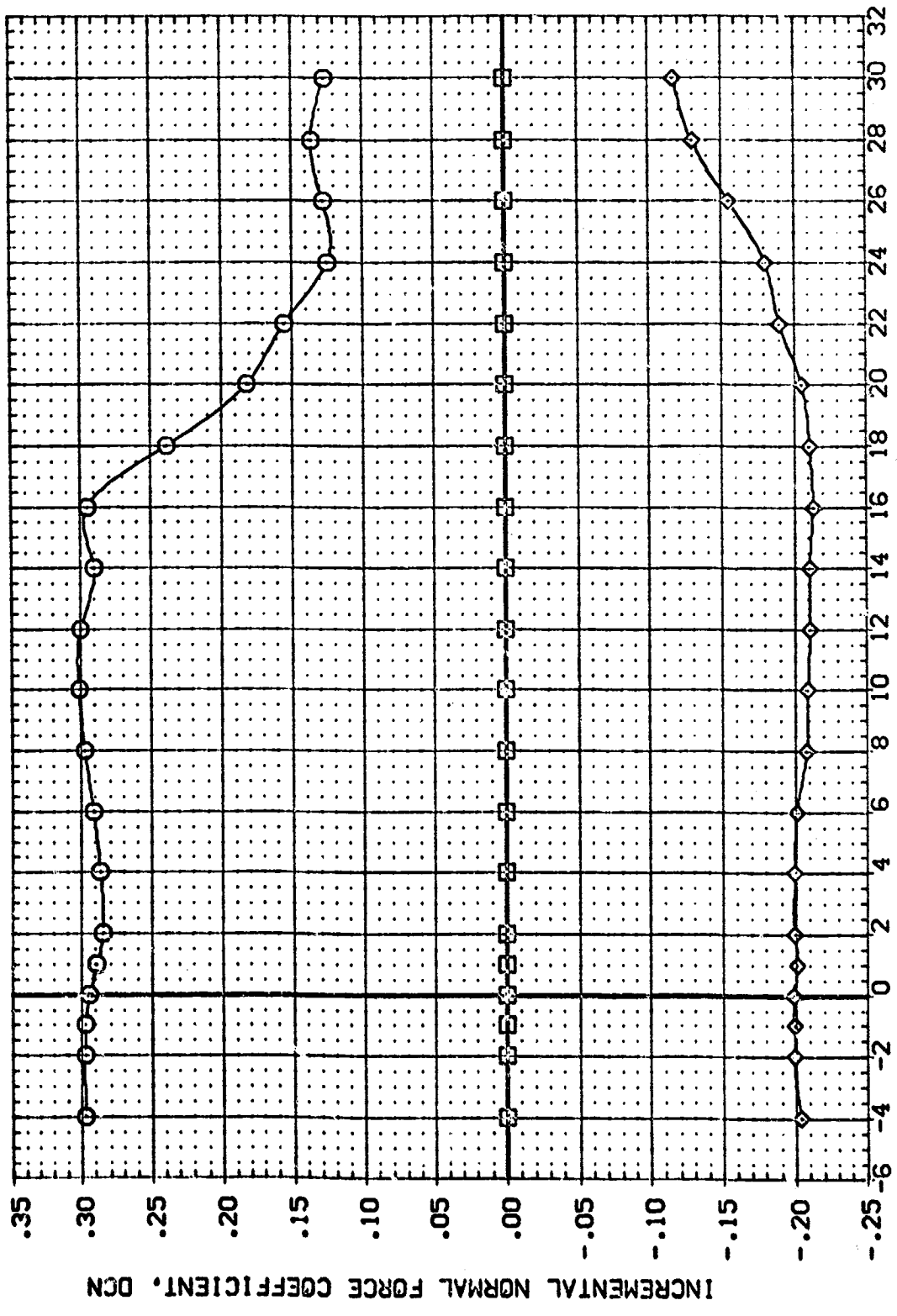


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERLYING XO= 950
 (A)MACH = .21 PAGE 51

DATA SET SYMBOL (ED.040) (ED.037) (ED.041)

CONFIGURATION DESCRIPTION
 0A71C B16CSD7J34F1V87 E18V3R3X10
 0A71C B16CSD7J34F1V87 E18V3R3X10
 0A71C B16CSD7J34F1V87 E18V3R3X10

DELVEN 15.000
 .000
 -10.000

NACX/L .000
 .000
 .000

NACLIP 7.000
 7.000
 7.000

NACBTA 5.000
 5.000
 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2288 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5574 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

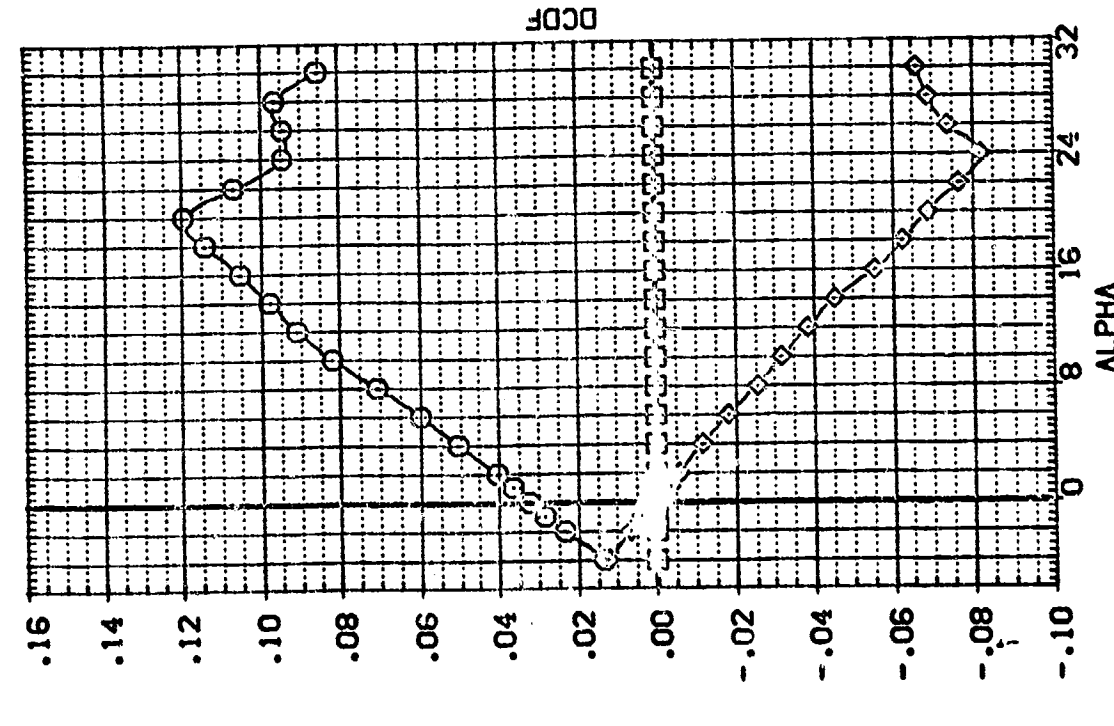
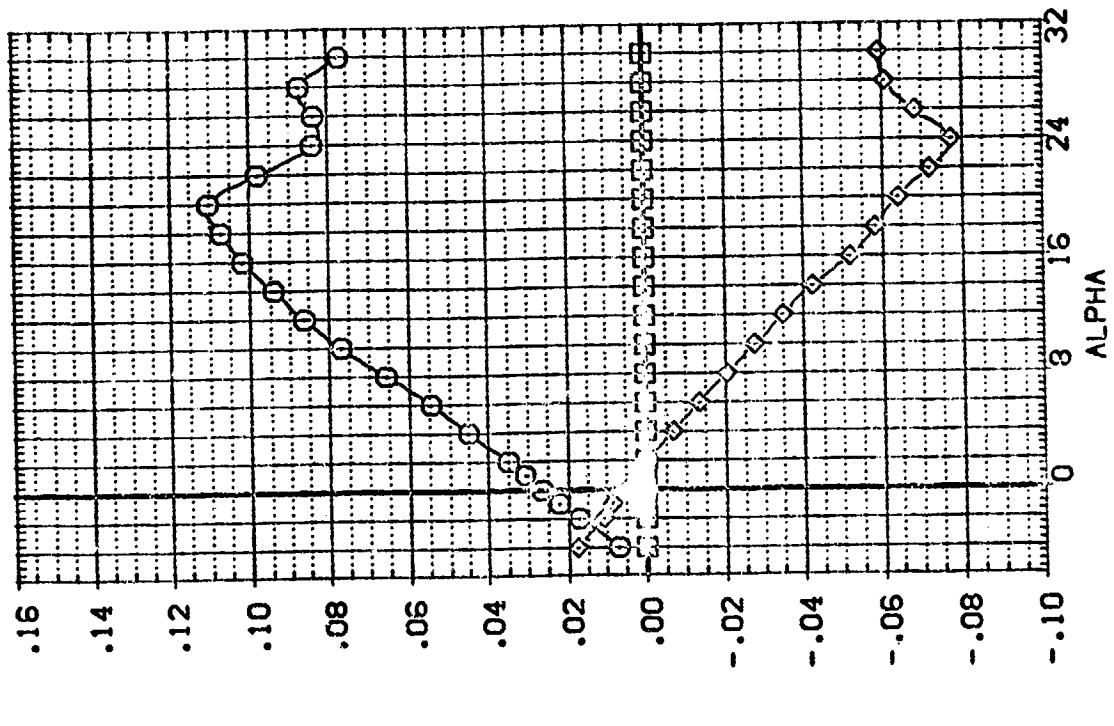


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDL040) B1SCSD7J34F1M87 E18V3R3X10
 (EDL037) B1SCSD7J34F1M87 E18V3R3X10
 (EDL041) B1SCSD7J34F1M87 E18V3R3X10

DELVON NACVL NACLIP NACBTA
 15.000 .000 7.000 5.000
 -10.000 .000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2299 INCHES
 EREF 37.9349 INCHES
 XREF 45.5974 INCHES
 YREF 0.0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 INCHES

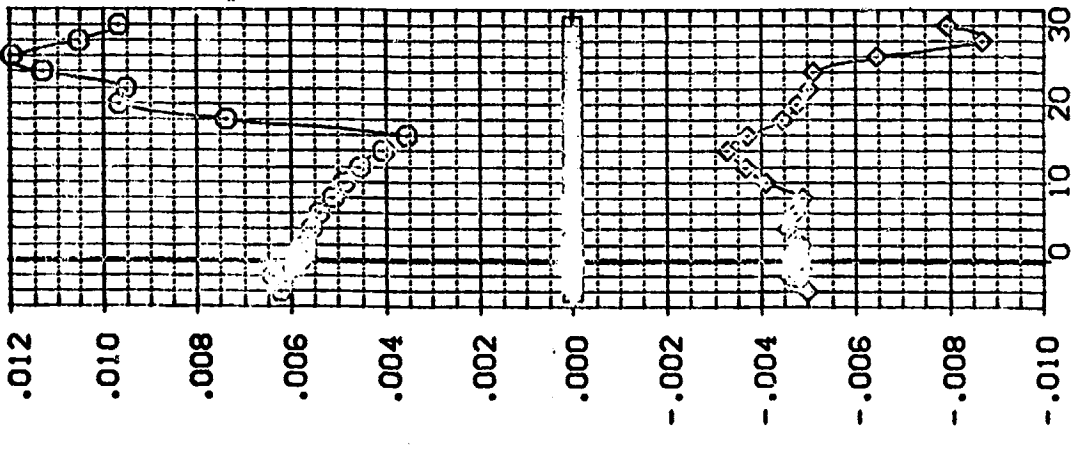
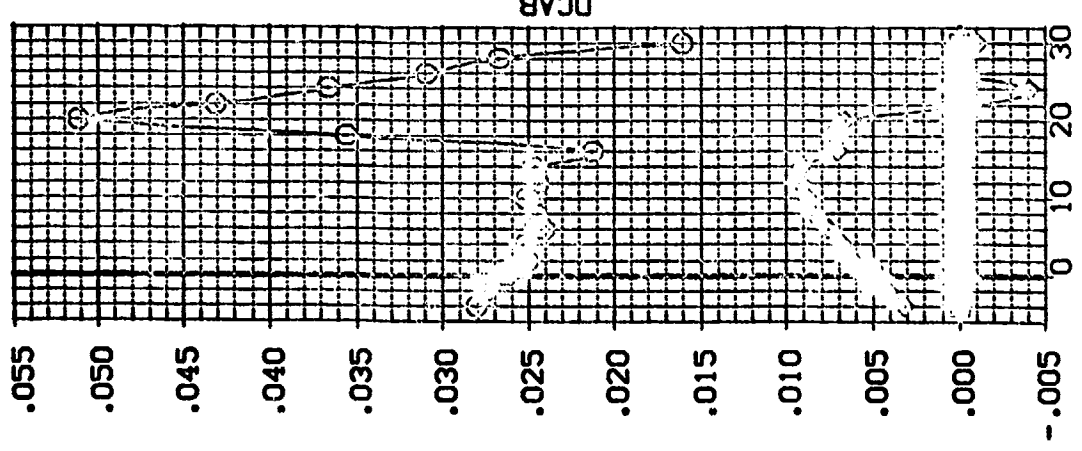
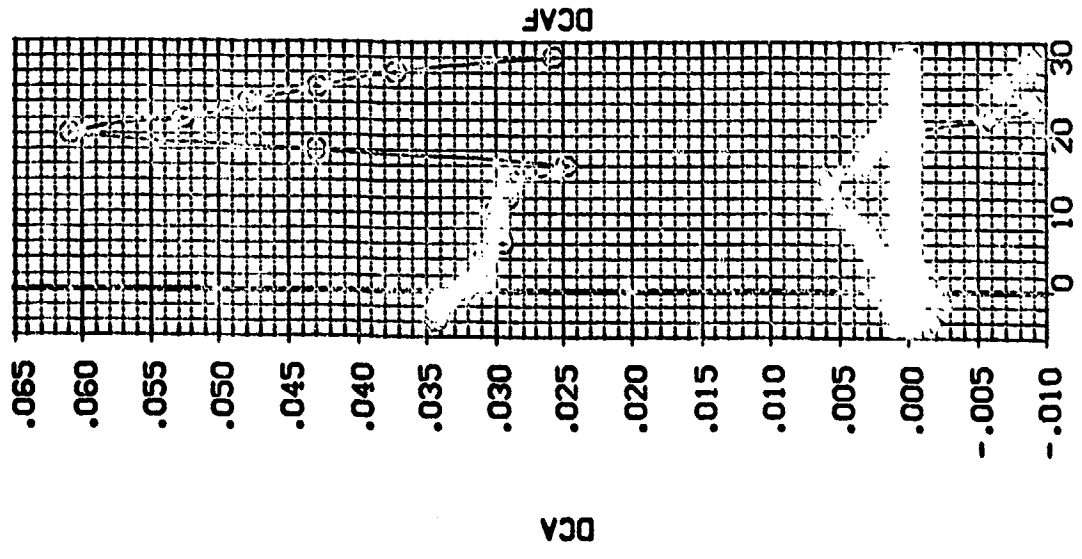


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(A)MACH = .21

DATA SET SY600. CONFIGURATION DESCRIPTION
 (EDJ040) 0A71C 816557434F1V67 E18V3R3K10
 (EDJ037) 0A71C 816557434F1V67 E18V3R3K10
 (EDJ041) 0A71C 816557434F1V67 E18V3R3K10

DELVON MACVL NAQLIP NACBTA REFERENCE INFORMATION
 15.000 .000 7.000 5.000 SREF 4.4122 50 FT
 .000 .000 7.000 5.000 LREF 19.2639 INCHES
 -10.000 .000 7.000 5.000 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0406 SCALE

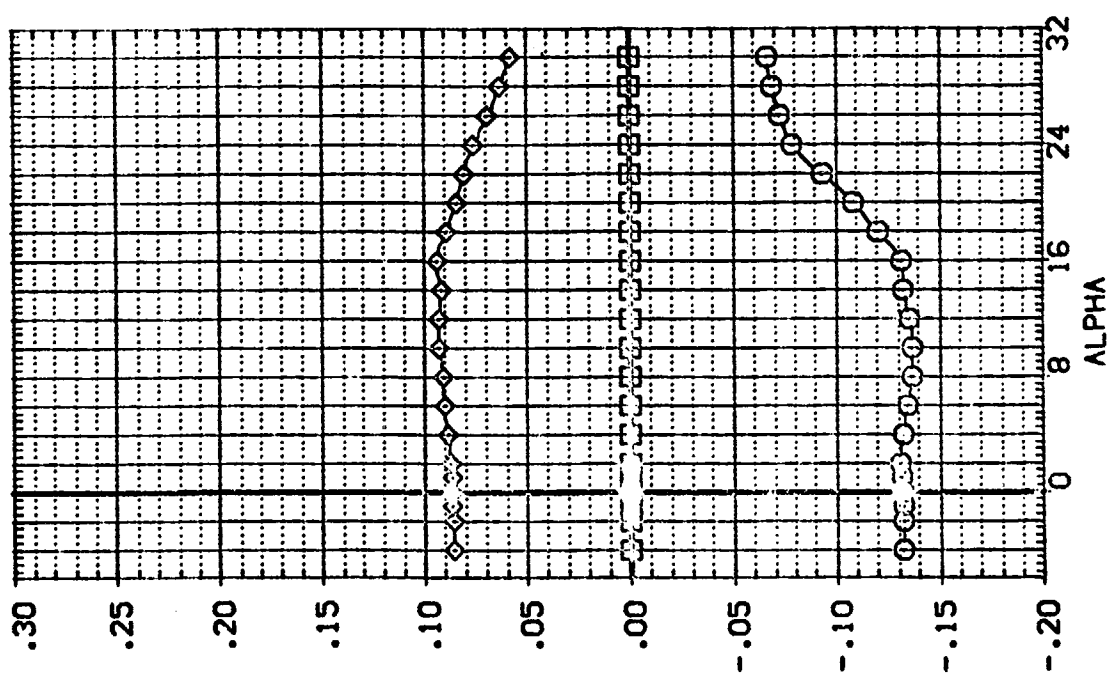
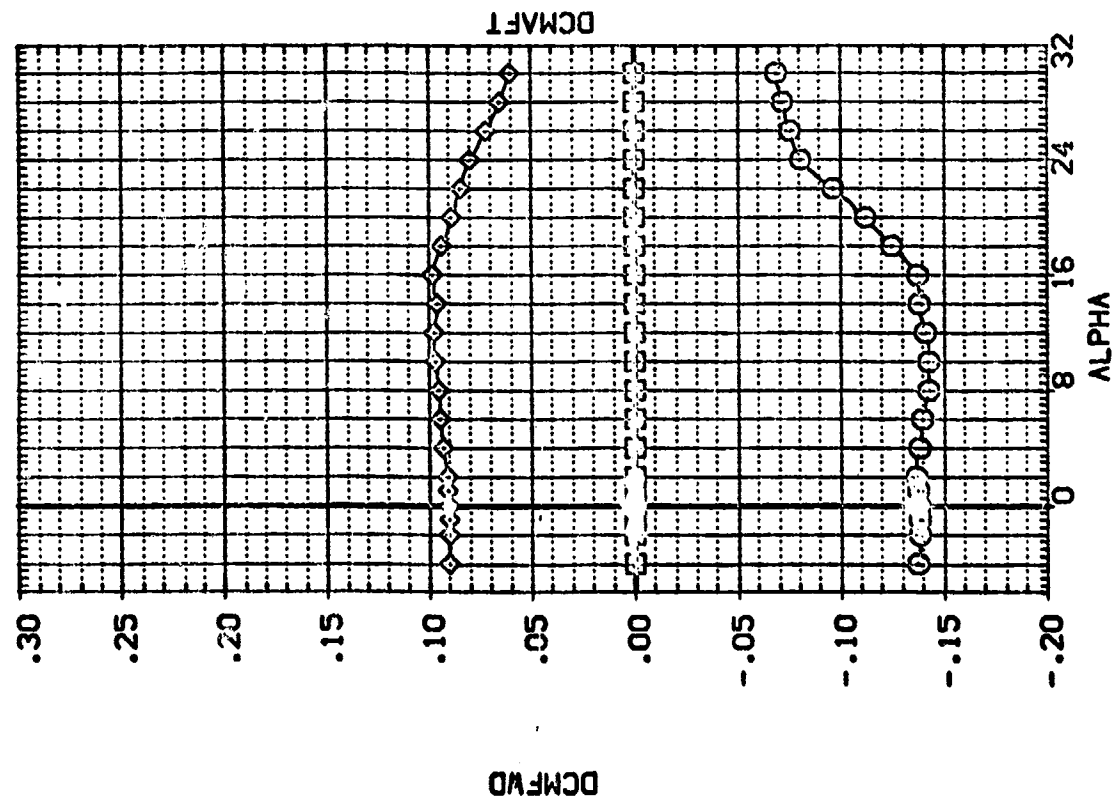
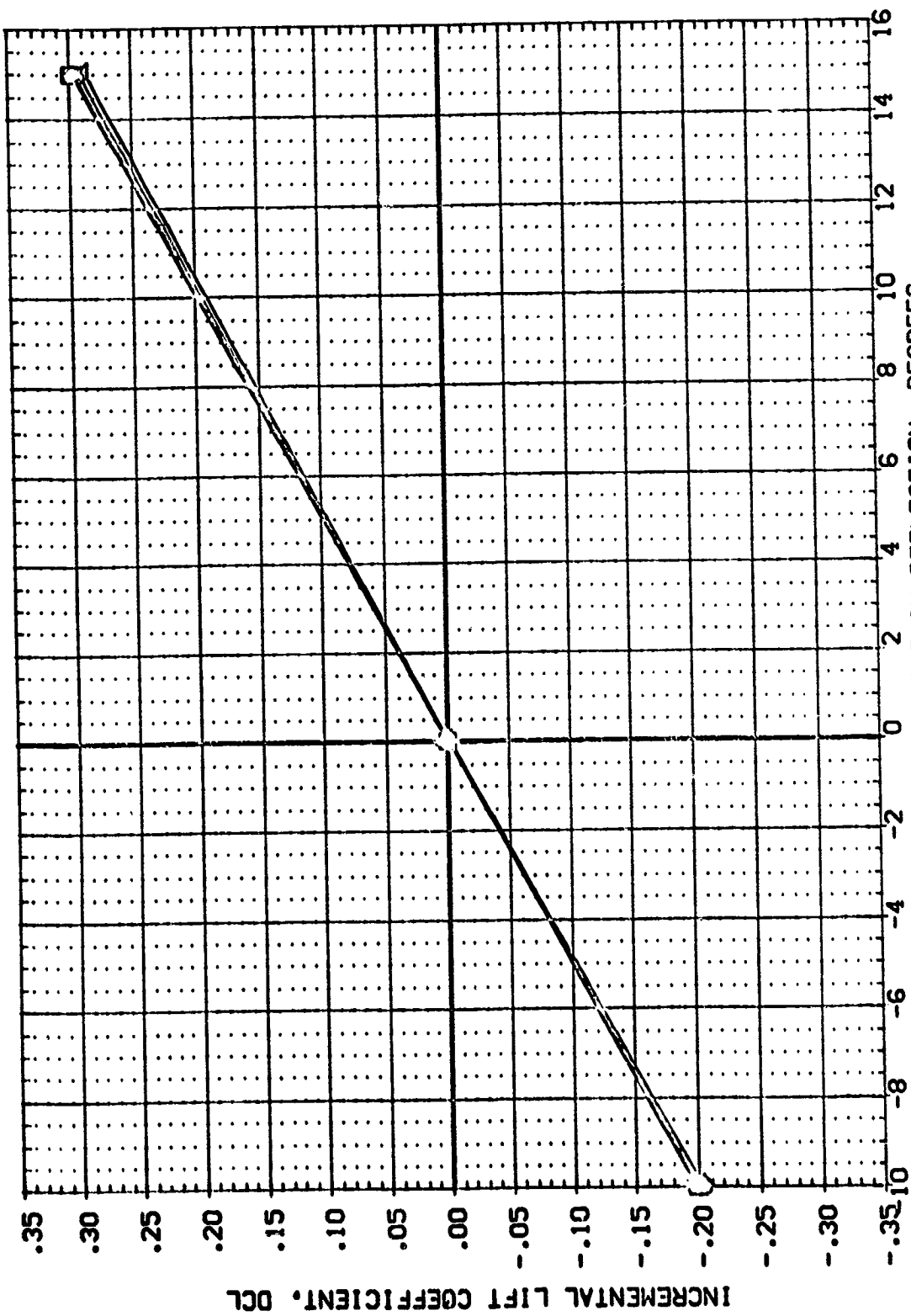


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950
 (A)MACH = .21 PAGE 54

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	EDFLAP	NAUCLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELVON	DATASET	DELVON	SREF	REFERENCE INFORMATION
○	-4.000					AILRON	DELVON	15.000	EDU037	.000	LREF	SO.FT.
□	-2.000					NACK/L		-10.000	EDU040	.000	BREF	INCHES
◇	-1.000					NAUBTA			EDU041	.000	XMRP	INCHES
△	.000					RUDDER				.000	YMRP	INCHES
	1.000									.000	ZMRP	INCHES
										.000	SCALE	SCALE
										.0405		



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
○	□	MACH	A1URON	DELTON	DELTON	SREF	SO.FT.	REF	REF	REF	REF
◇	△	80FLAP	NACX/L	EDU040	15.000	LINEF	19.2268	LINEF	LINEF	LINEF	LINEF
		NACLIP	NACBTA	EDU041	-10.000	XREF	37.9549	XREF	XREF	XREF	XREF
		BETA	RUDDER	5.000		YREF	43.5974	YREF	YREF	YREF	YREF
				.000		ZREF	.0000	ZREF	ZREF	ZREF	ZREF
				.000		SCALE	16.2000	SCALE	SCALE	SCALE	SCALE
				.000			.0405				

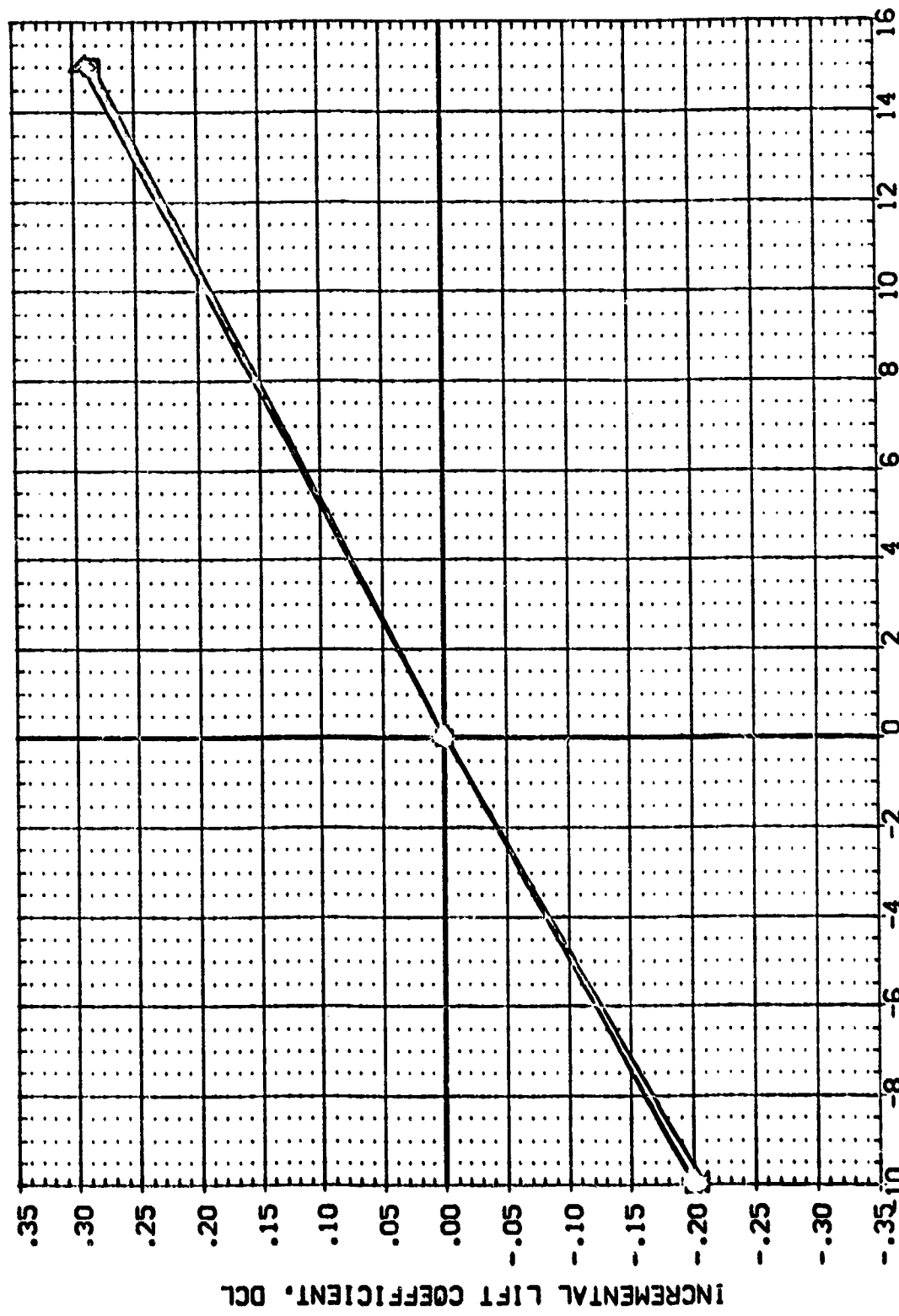


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELVON	DELVON	SREF	SQ.FT.
12.000	80FLAP	15.000	.000	LREF	INCHES
14.000	NACLIP	-10.000	.000	BREF	INCHES
16.000	BETA		5.000	XPRP	INCHES
18.000			.000	YPRP	INCHES
20.000				ZPRP	INCHES
				SCALE	SCALE
					.0405

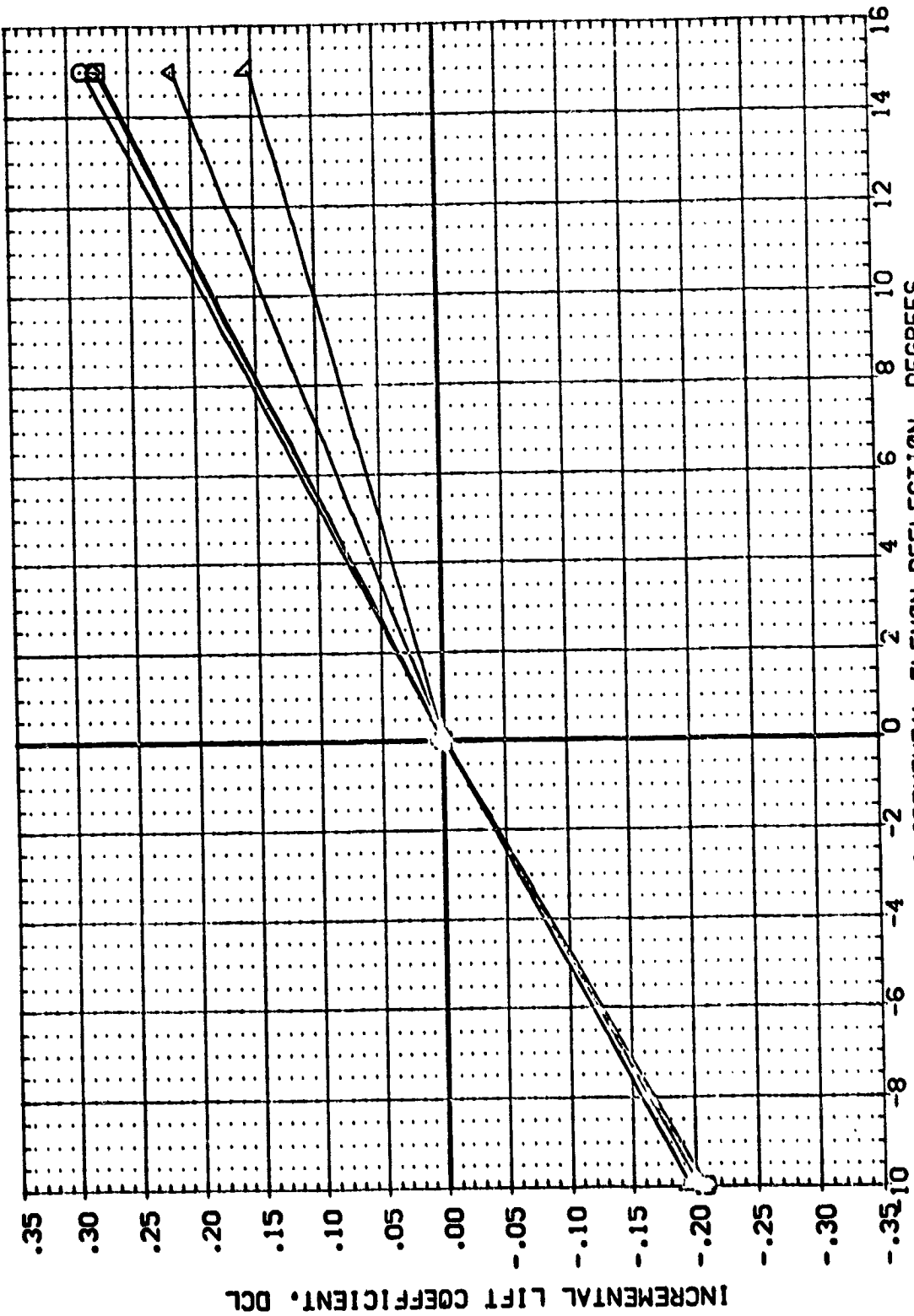


FIG 7 INCREMENTAL EFFECT OF ELEVONS -- CLUSTERED NACELLES UNDERWING X0= 950
 INCREMENTAL ELEVON DEFLECTION, DEGREES

CA71C B16C507J34F1W87 E18V3R3X10 (CEDJ040)

SYMBOL	ALPHA	MACH	BOPLAP	WACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELTA	SCALE	REFERENCE INFORMATION
○	22.000					.210	DELTA	EDUC37	.000	16.000	50 FT
□	74.000					-19.000	DELTA	EDUC40	.000	15.000	19.2225
○	26.000					7.000	DELTA	EDUC41	.000	15.000	37.5348
△	29.000					.000				16.000	43.5374
△	30.000					.000				16.000	16.2000
											SCALE

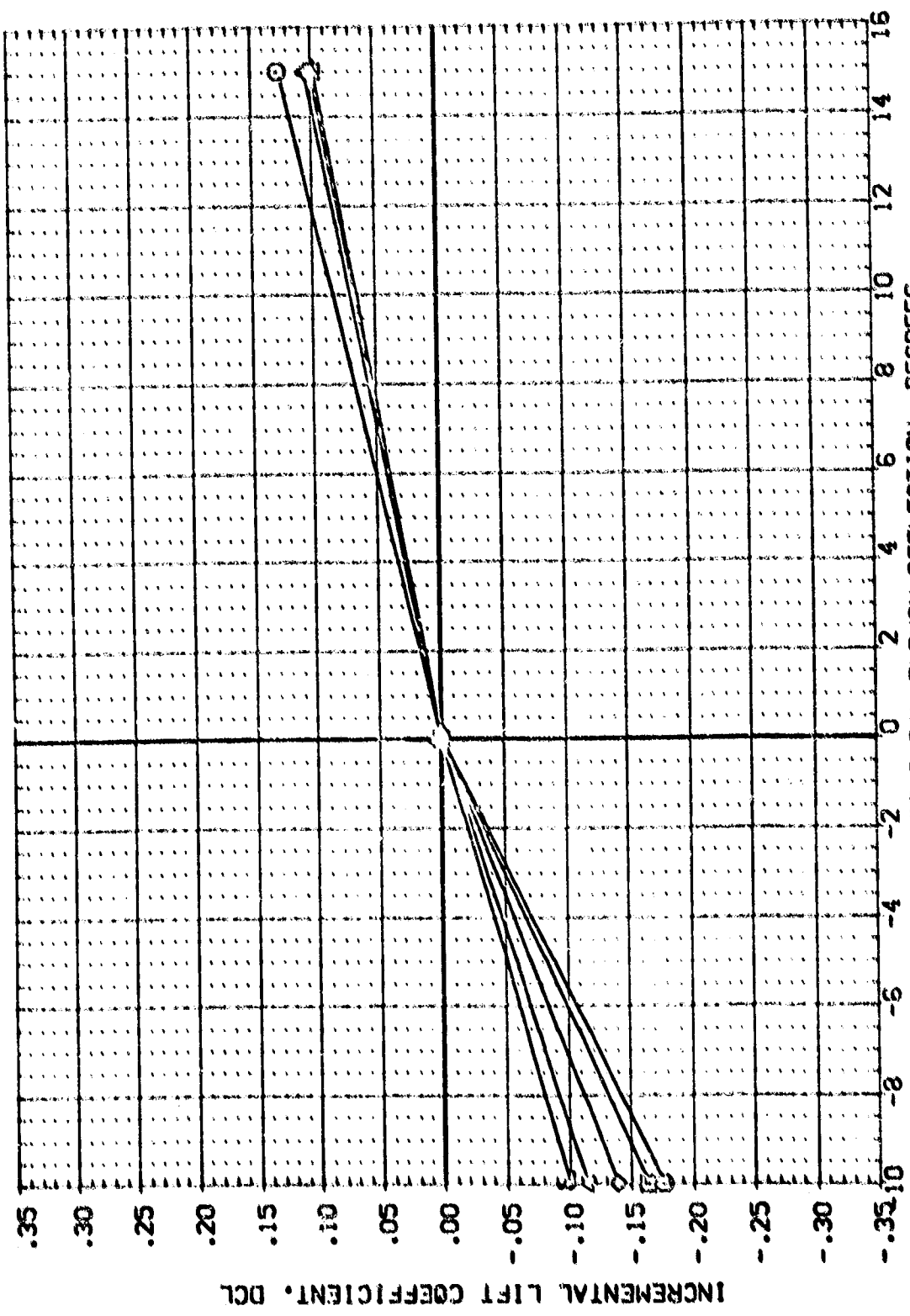
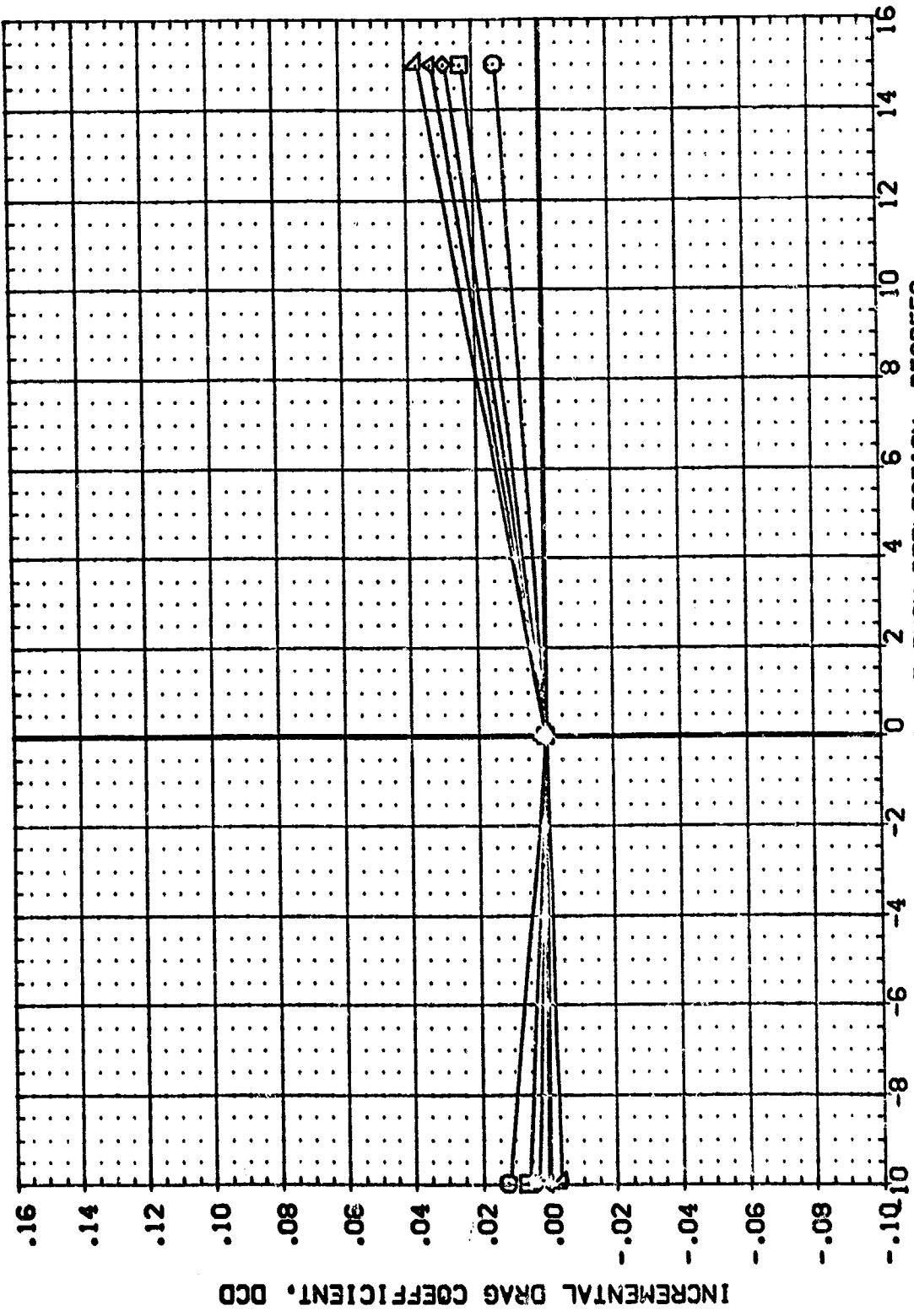


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES UNDERWING X0= 950
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 58

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R5-0

SYMBOL	ALPHA	MACH	BOFLAP	NAFLIP	BETA	PARAMETRIC VALUES	.000	DATASET	CELVON	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
□	-4.000					.210 AILRON	.000	EDU040	15.000	EDU037	EDU037	.000	4.4122	SO.FT.
◇	-2.000					-18.000 NACX/L	.000	EDU041	-10.000				19.2258	INCHES
△	-1.000					7.000 NACBTA	5.000						37.5549	INCHES
	.000					.000 RUDDER	.000						43.5574	INCHES
	1.000												.0000	INCHES
													16.2000	INCHES
													.0405	SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

PAGE 59

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELTVN	DELTVN	SREF	SO.FT.
2.000	.210	15.000	.000	LRGF	19.2299
4.000	-18.000	-10.000	EDU040	BRGF	37.9349
6.000	7.000		EDU041	XZGP	43.5374
8.000	.000			WZGP	.0000
10.000				ZZGP	16.2000
				SCALE	.0405

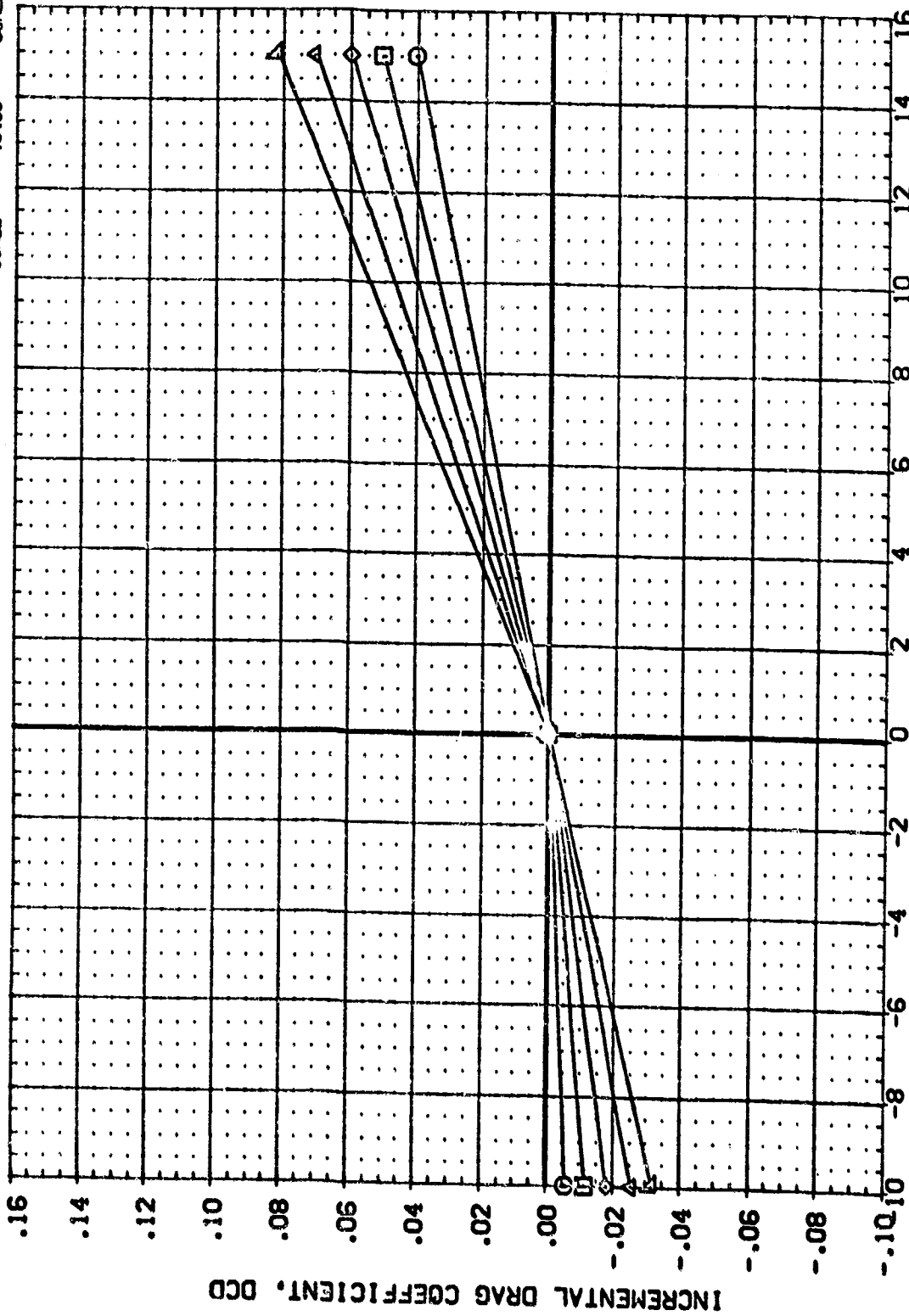


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C507J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELTVN	DATASET	SREF	SO.FT
12.000	.210	.000	EDU040	LREF	INCHES
14.000	-18.000	15.000	EDU041	XREF	INCHES
16.000	7.000	-10.000		YREF	INCHES
18.000	.000			ZREF	INCHES
20.000				SCALE	SCALE

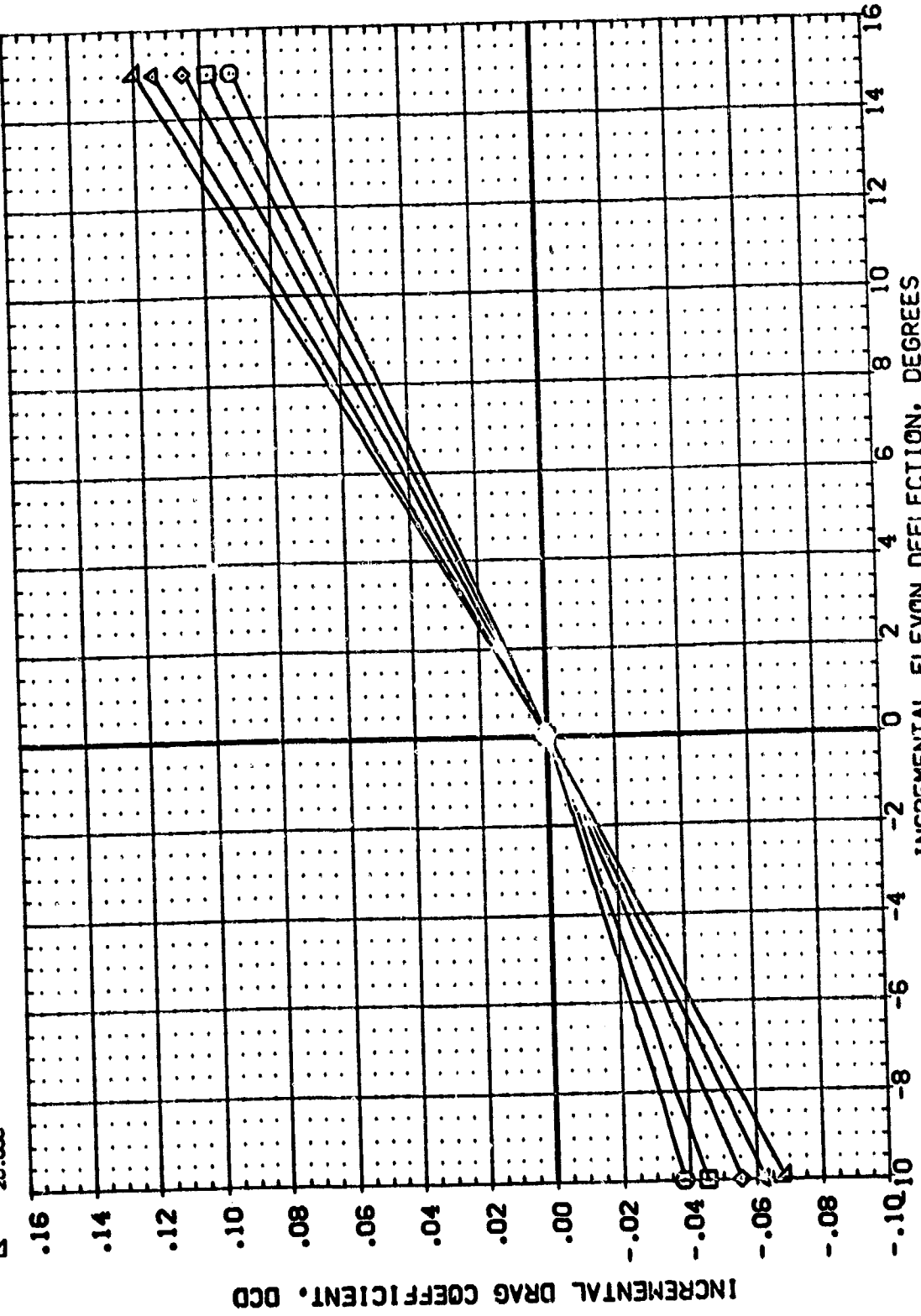


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	ALPHA	.210	AILTRON	.000	DATASET	SREF	SO.FT.
□	MACH	-18.000	NACX/L	15.000	EDU040	LREF	INCHES
◇	BOFLAP	7.000	NACBTA	-10.000	EDU037	EXCF	INCHES
△	NAOLIP	.000	RUDCSR	.000	EDU041	XTRP	INCHES
▽	BETA			5.000		YTRP	INCHES
				.000		ZTRP	INCHES
						SCALE	SCALE

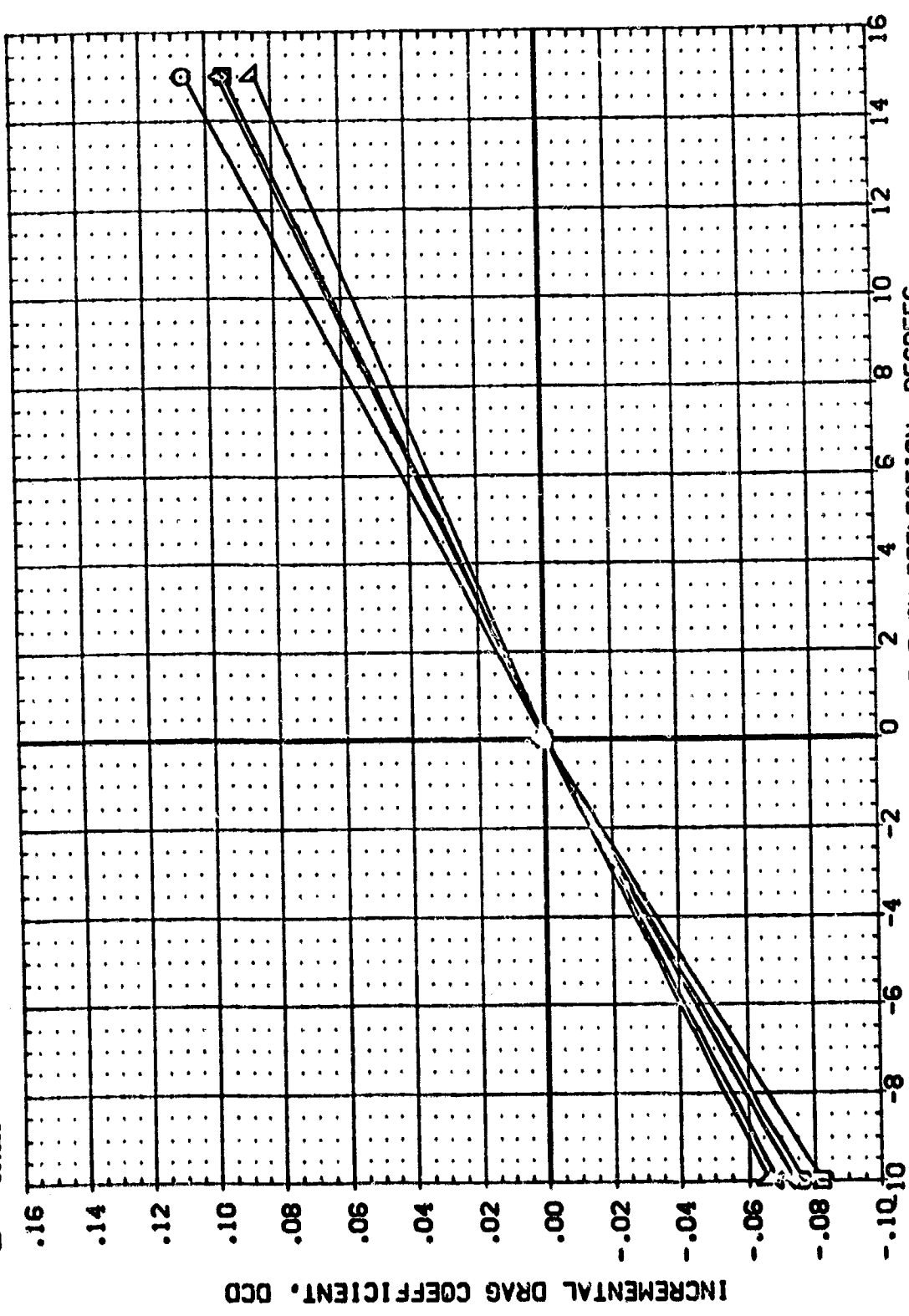


FIG 7 INCREMENTAL EFFECT OF ELEVONS -- CLUSTERED NACELLES UNDERWING XO= 950
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 62

(EDU040)

0A71C B16CSD7J34F1W87 E18V3R3X1U

SYMB	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELTVN	DATASET	DELTVN	SREF	REFERENCE INFORMATION
□	-4.000					.210 AILRON	DELTVN	.000	EDU037	.000	SREF	50.FT.
□	-2.000					-18.000 NACXVL	DELTVN	15.000	EDU040		LSREF	INCHES
□	-1.000					7.000 NACBTA	DELTVN	-10.000	EDU041		XSREF	INCHES
△	.000					.000 RUDDER	DELTVN				YSREF	INCHES
△	1.000						DELTVN				ZSREF	INCHES
							SCALE				SCALE	SCALE

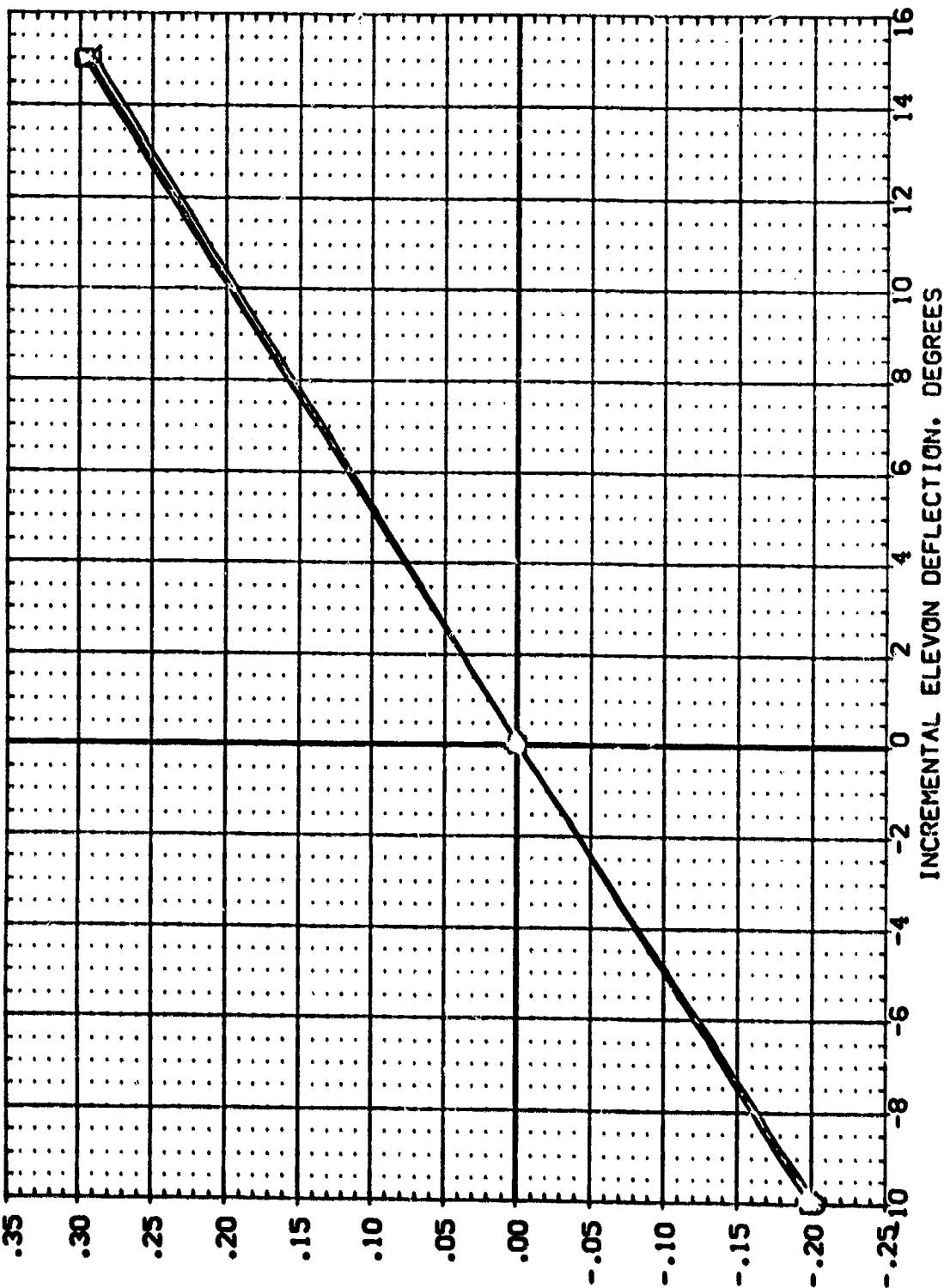
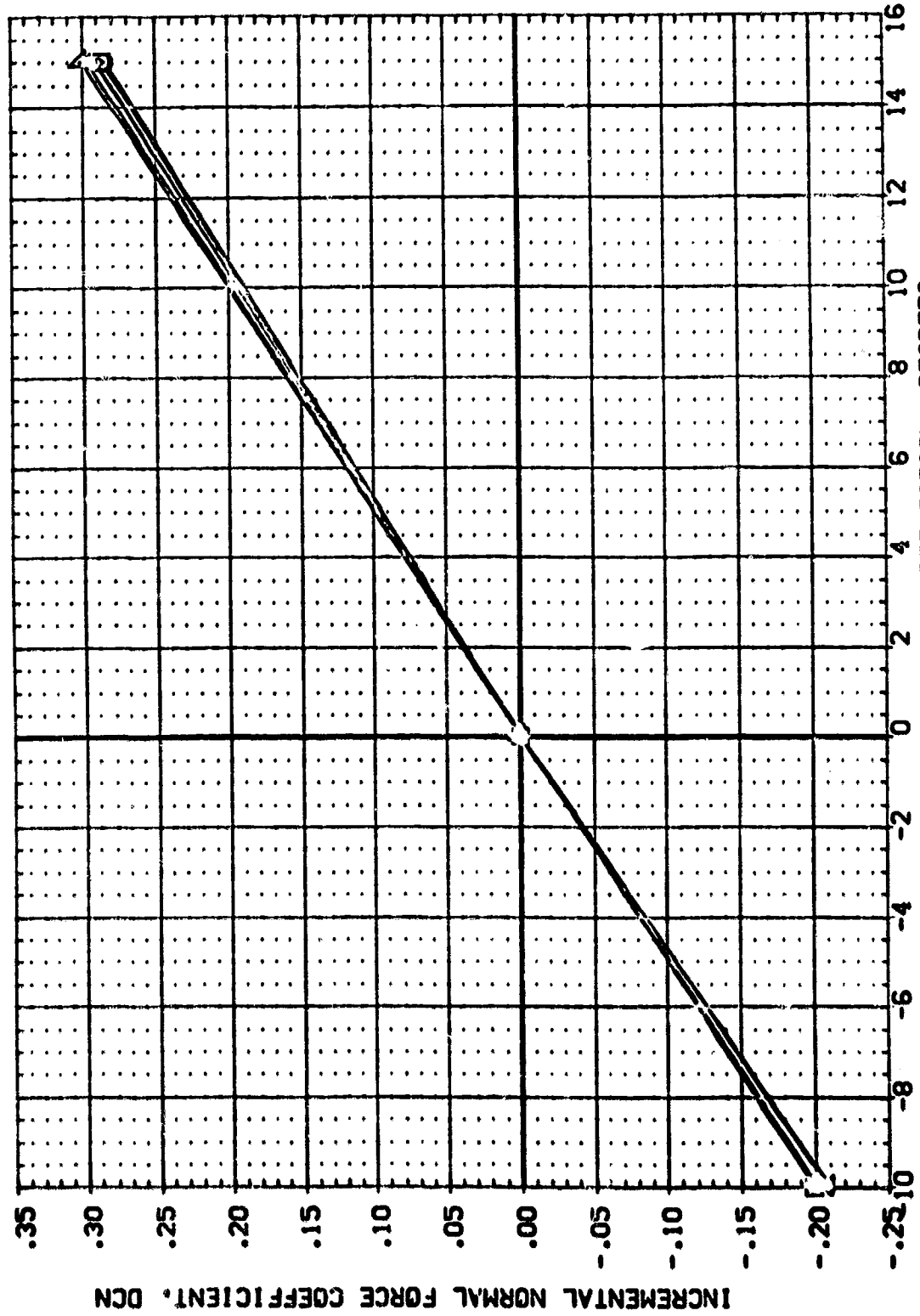


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	2.000	EDFLAP	.210 AILRON	DEL VON	SO.FT.
□	4.000	NACLIP	-18.000 NACL/L	DEL VON	INCHES
◇	6.000	BETA	7.000 NACBTA	DEL VON	INCHES
△	8.000		.000 RUDDER	DEL VON	INCHES
	10.000		.000	DEL VON	INCHES
				SCALE	SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C507J34F1W87 E16V3R3X1U

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DEL VON	DEL VON	SREF	SO. FT.
12.000	.210	15.000	.000	LREF	INCHES
14.000	-18.000	-10.000	EDU037	SRGF	INCHES
16.000	7.000		EDU041	XPRP	INCHES
18.000	.000			YPRP	INCHES
20.000				ZPRP	INCHES
				SCALE	SCALE

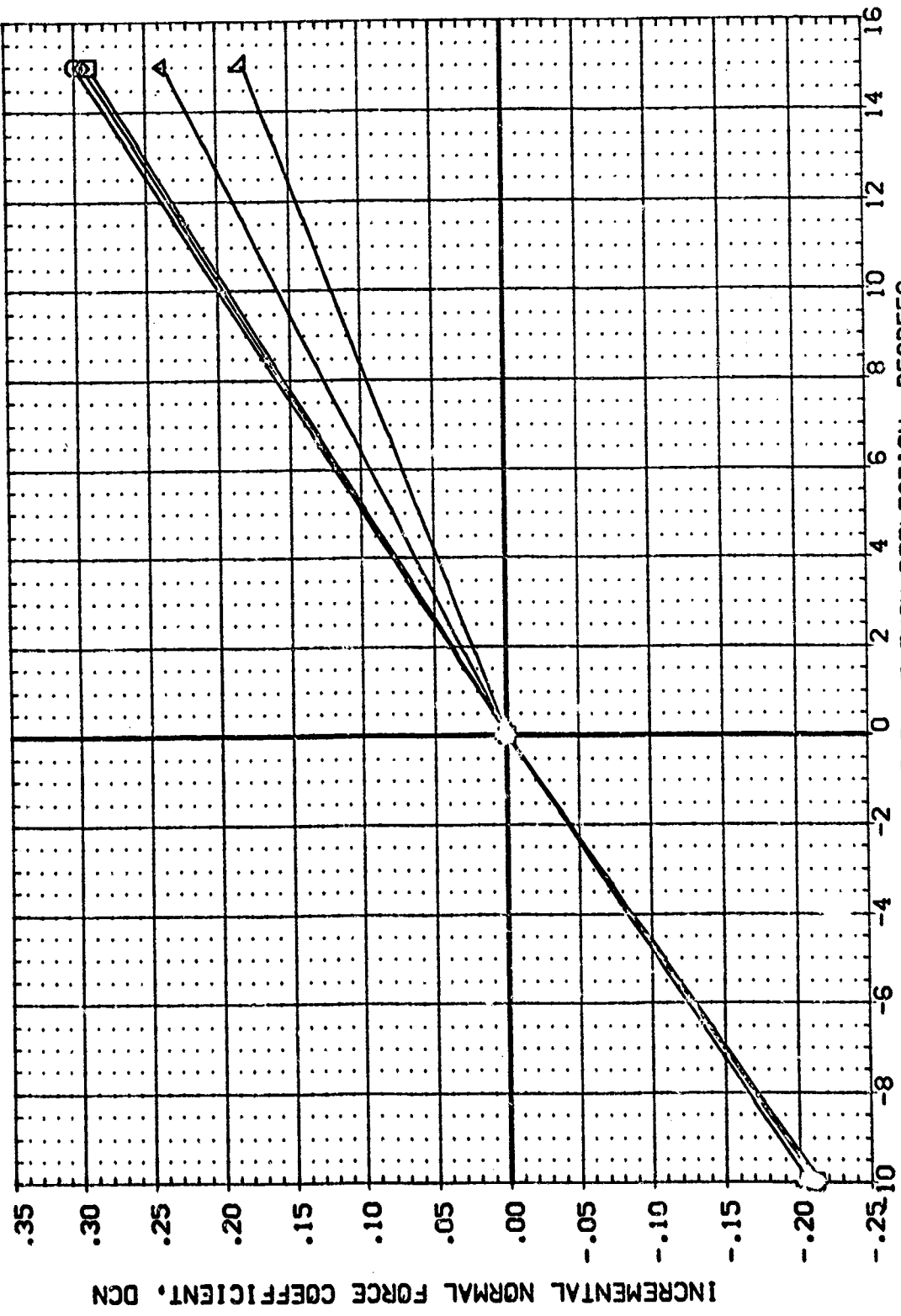


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DEL VON	REF	REFERENCE INFORMATION
○	22.000	.210	AILRON	.000	.000	4.4122	50.FT.
□	24.000	-19.000	NACX/L	.000	.000	19.2296	INCHES
◇	26.000	7.000	NACBTA	5.000	EDU041	37.9349	INCHES
△	28.000	.000	RUDDER	.000	EDU037	43.5974	INCHES
▽	30.000					.0000	INCHES
						16.2000	INCHES
						.0405	SCALE

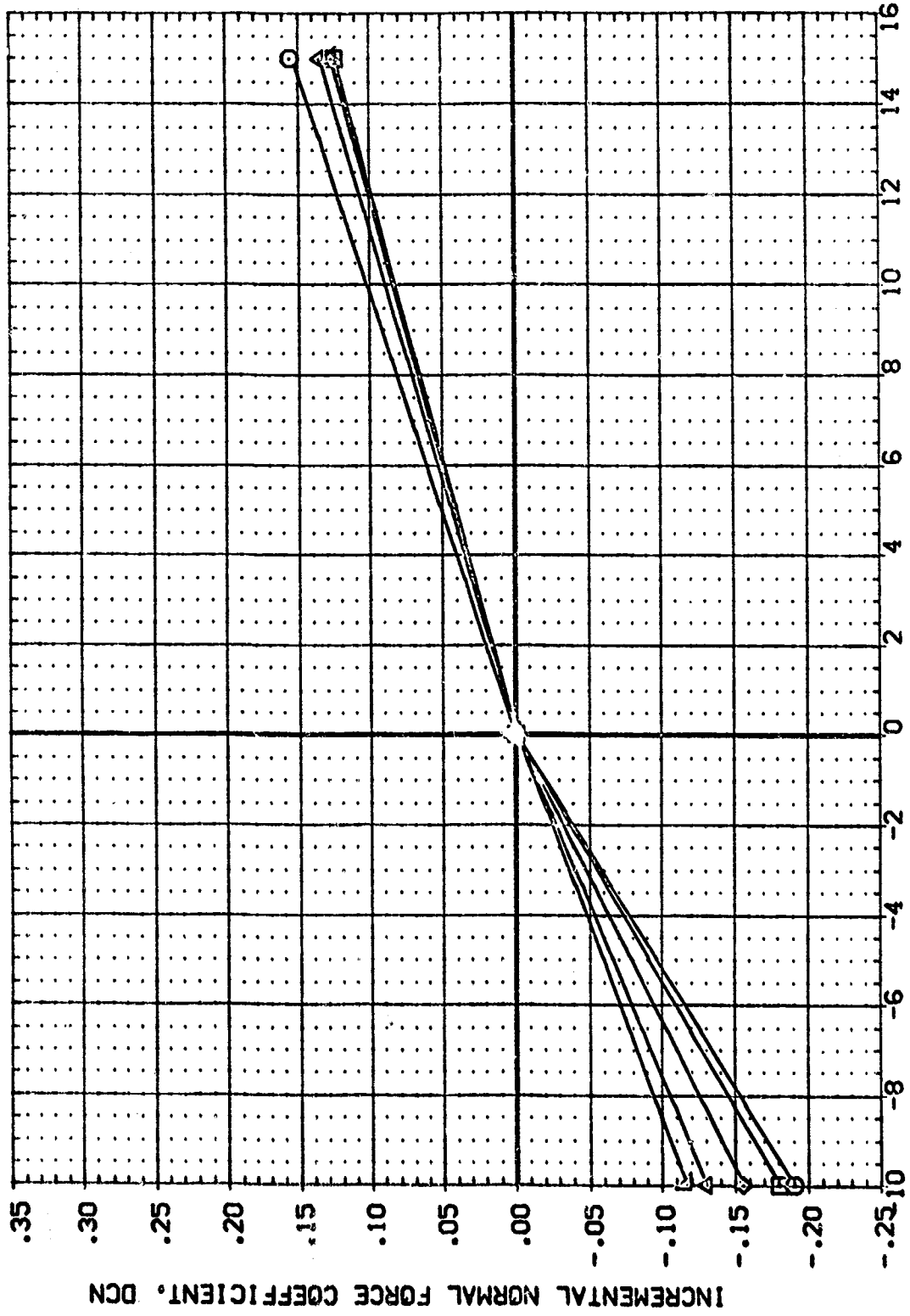


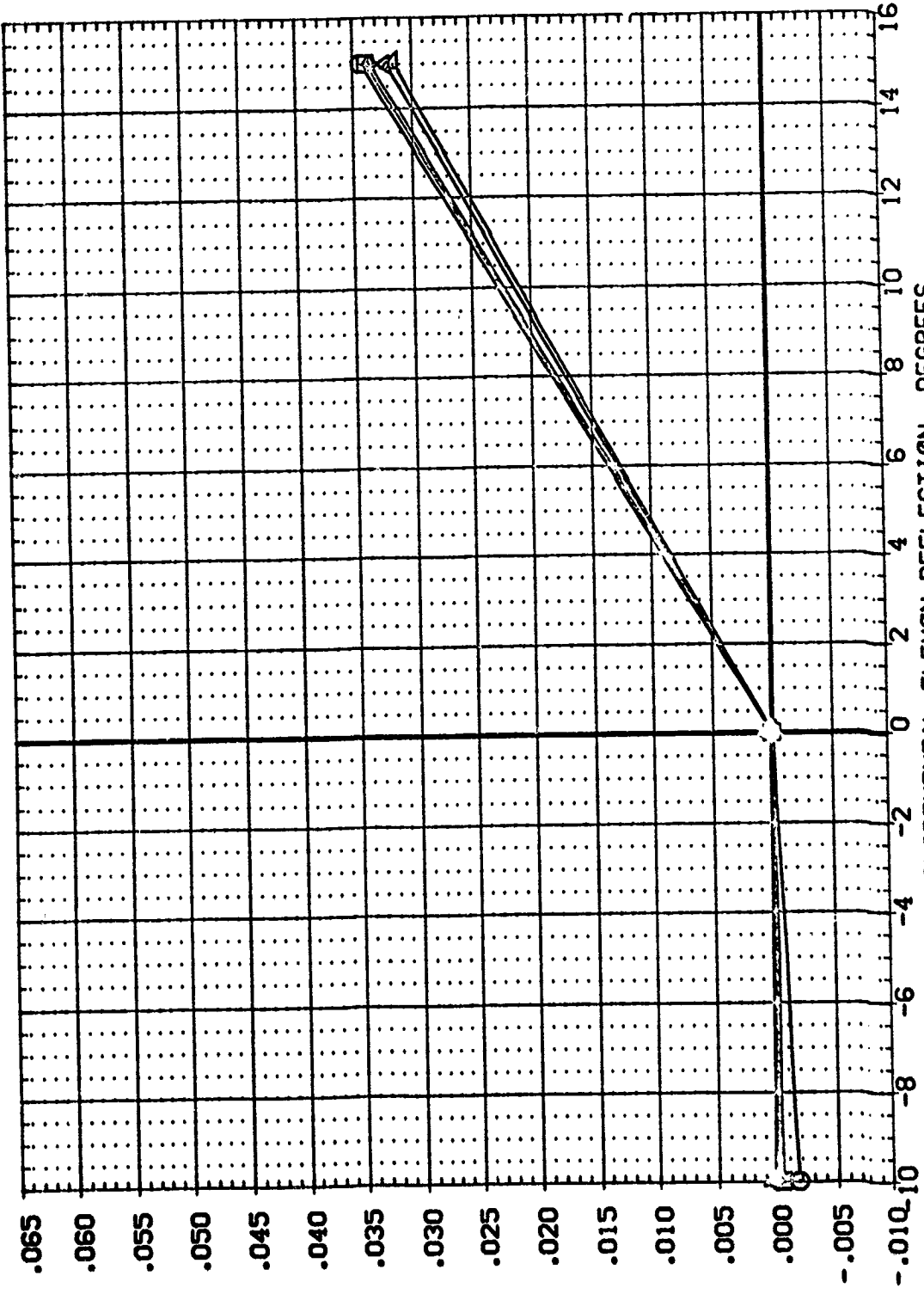
FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X1U

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION				
○	ALPHA	-4.000	MACH	.210	AIRCRN	.000	DATASET	DELVON	.000	SREF	4.4122	SO.FT.
□	BDFLAP	-2.000	NACLIP	-18.000	NACX/L	.000	EDU040	DELVON	15.000	LREF	19.2299	INCHES
◇	NACLIP	-1.000	BETA	7.000	NACBTA	5.000	EDU041	DELVON	-10.000	BRFP	37.5349	INCHES
△	BETA	.000	RUDDER	.000	RUDDER	.000		DELVON		XMRP	43.5574	INCHES
		1.000						DELVON		ZMRP	.0000	INCHES
								DELVON		SCALE	16.2000	INCHES
								DELVON		SCALE	.0405	SCALE

INCREMENTAL AXIAL FORCE COEFFICIENT, CDA



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

GA71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL
 ○
 □
 ◇
 △
 ▽

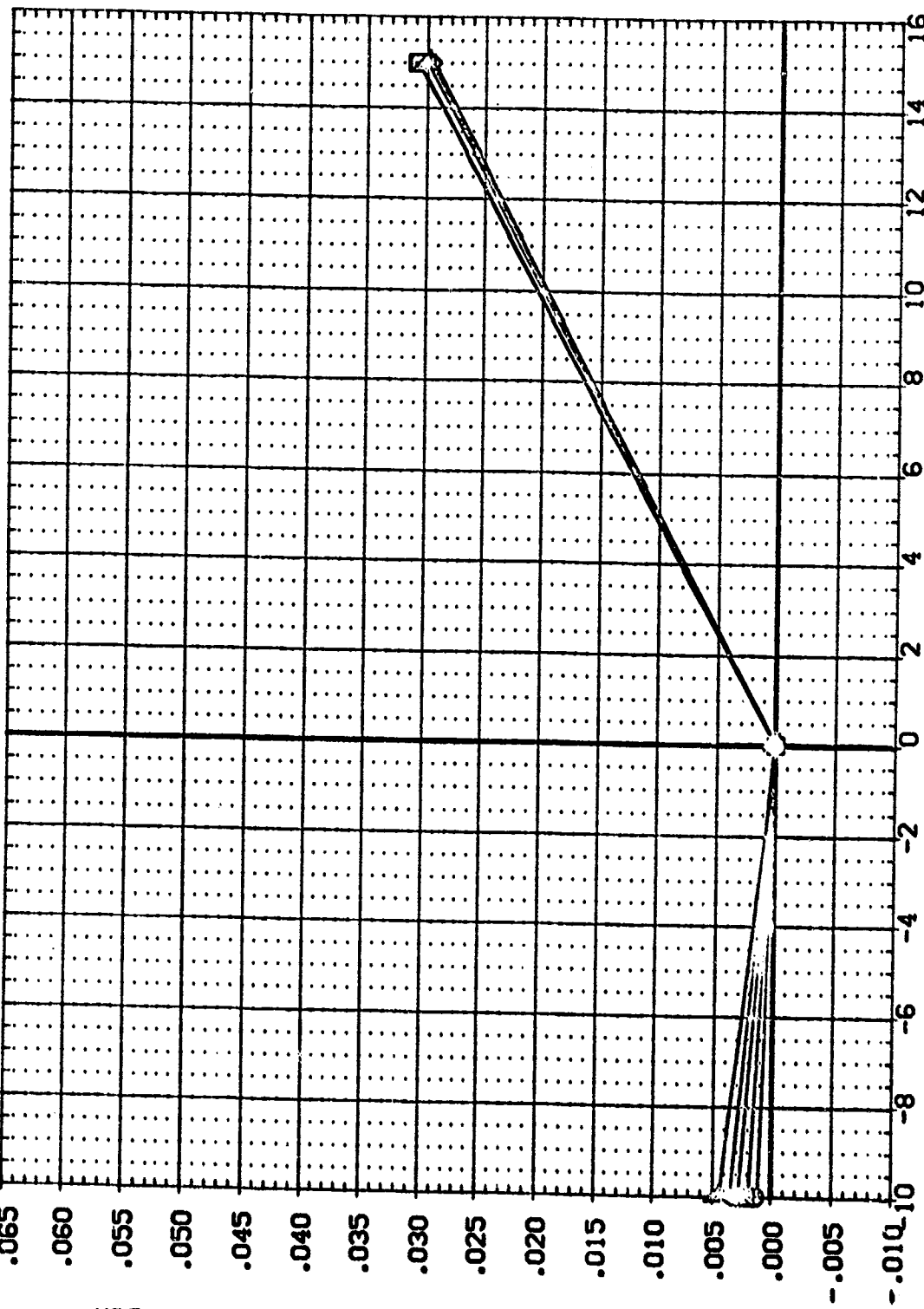
ALPHA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 MACH .210
 SOFLAP -18.000
 NAFLIP 7.000
 BETA .000

DATA SOURCE
 DELVON .000
 EDU037

DATA SOURCE
 DELVON .000
 EDU040
 EDU041
 S.000
 .000

REFERENCE INFORMATION
 SREF 4.4122
 LREF 19.2269
 GREF 37.9349
 XTRP 43.5974
 YTRP .0000
 ZTRP .0000
 SCALE .0405



INCREMENTAL AXIAL FORCE COEFFICIENT, DCA

INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

ALPHA	12.000	MACH	.210	PARAMETRIC VALUES	.000	DATASET	.000	DEL VON	.000	SREF	4.4122	SC.FT.
14.000	EDFLAP	-18.000	AILRON	.000	EDU040	15.000	LREF	.000	19.2299	INCHES		
16.000	NACLIP	7.000	NACK/L	.000	EDJ041	-10.000	BREF	.000	37.9349	INCHES		
18.000	BETA	.000	NACBITA	.500			YREF	.000	43.5974	INCHES		
20.000			RUDDER	.000			ZREF	.000	16.2000	INCHES		
							SCALE	.0405		SCALE		

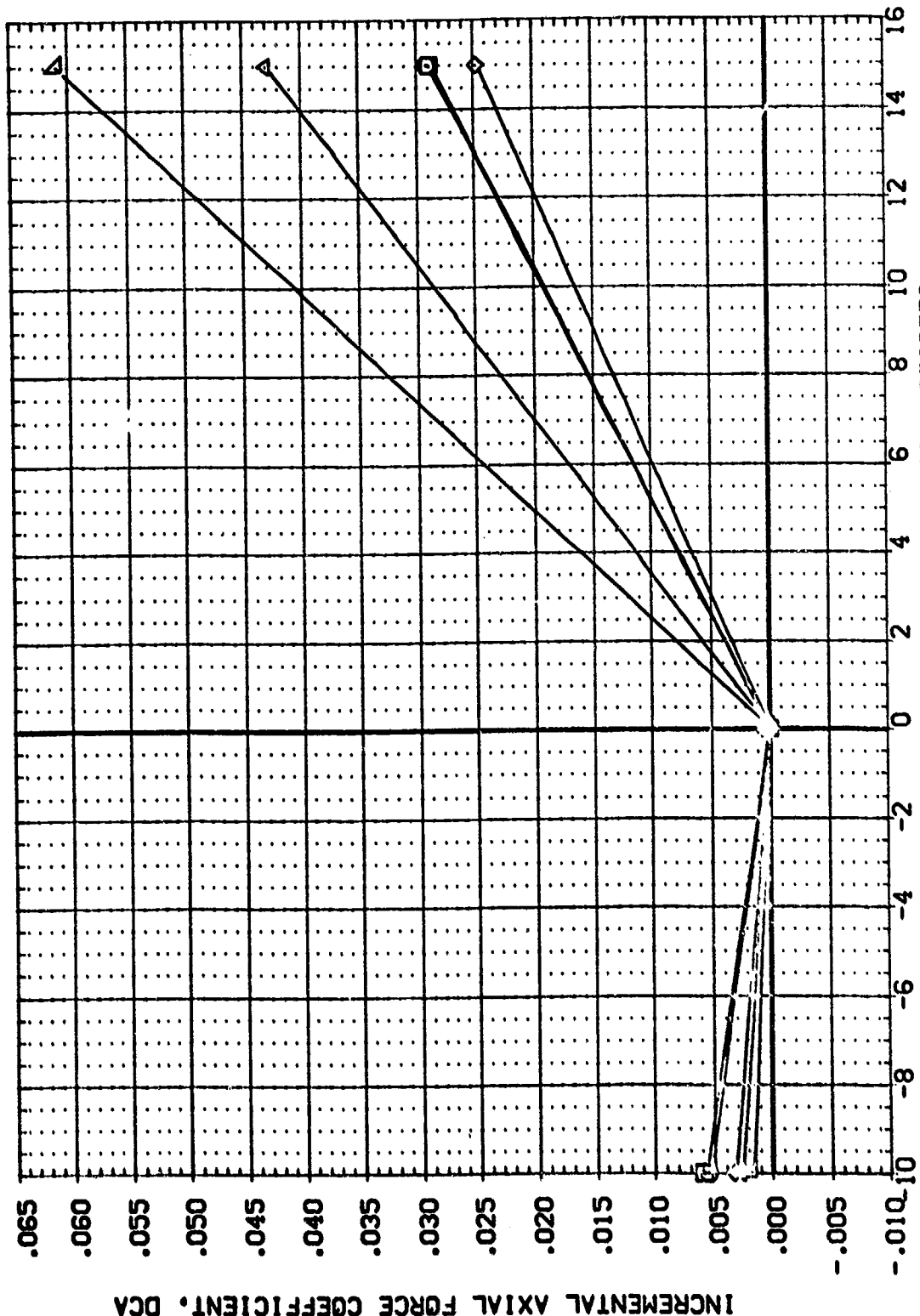


FIG 7 - INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

CA71C B16C5D7J34F1W87 E18V3R3X10

ALPHA	22.000	MACH	.210	AILTRON	.000	DATASET	.000	DELVON	15.000	DATA SOURCE	EDU037	DELVON	.000	SREF	4.4122	SO.FT.
SYMBOL	□	SC2LAP	-18.000	NACX/L	.000	EDU040	.000	DELVON	-10.000		EDU037	LREF	.000	LREF	19.2258	INCHES
	◇	NACLIP	7.000	NACBTA	5.000	EDU041	.000					SREF	.000	SREF	37.9349	INCHES
	△	BETA	.000	RUDGER	.000		.000					YTRP	.000	YTRP	43.5574	INCHES
	▽											ZTRP	.000	ZTRP	16.2000	INCHES
												SCALE	.0405	SCALE		SCALE

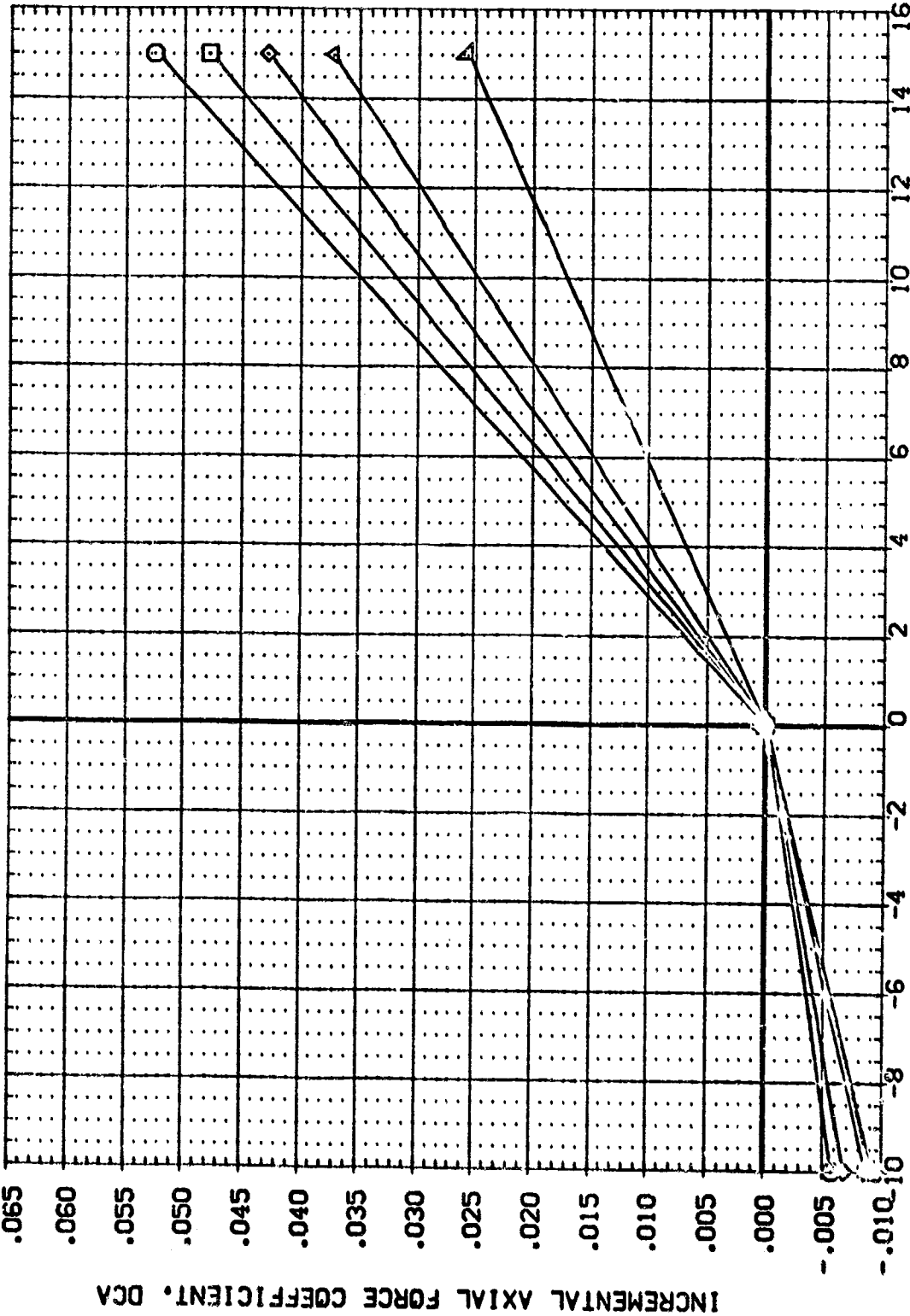


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

REFERENCE INFORMATION
 SO.FT. 4.4122
 INCHES 19.2299
 INCHES 37.9349
 INCHES 43.5974
 INCHES 10.0000
 INCHES 16.2000
 INCHES .0405
 SCALE

DATA SOURCE
 DELVON .000
 EDJ037 .000
 EDJ040 .000
 EDJ041 5.000
 EDJ042 .000

PARAMETRIC VALUES
 AILRON .21C
 MACX/L -18.000
 MACBTA 7.000
 RUDDER .000

MACH 1.000
 BDFLAP -1.000
 NAELIP 1.000
 BETA 1.000

SYMBOL
 ○ □ △ ▽

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB), DCMFWD

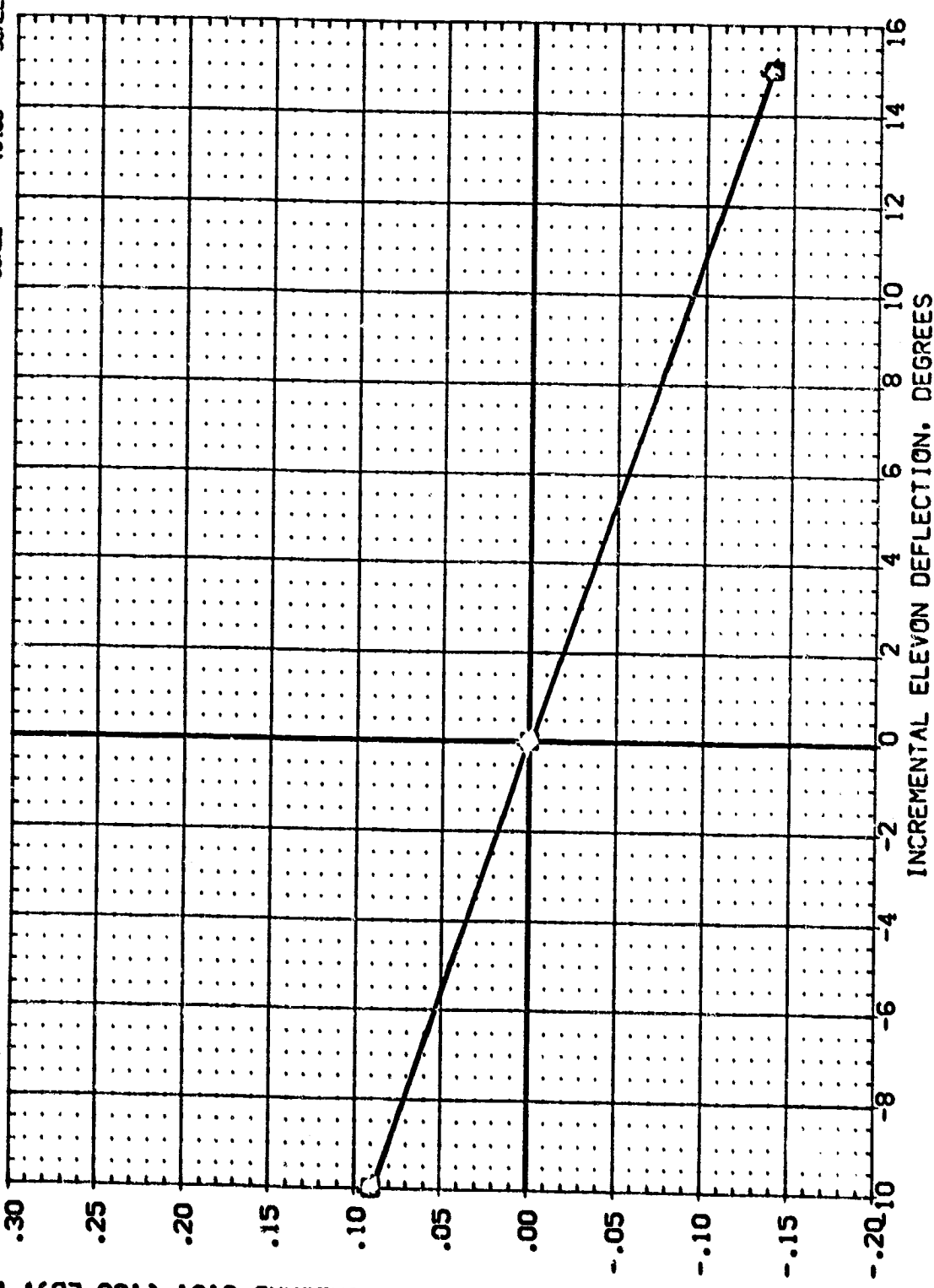


FIG 7 INCREMENTAL EFFECT OF ELEEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	MACH	AILRON	DATA SOURCE	DELTVN	DELTVN	SREF	REFERENCE INFORMATION
○	2.000	.210	-18.000	.000	EDU040	DELTVN	.000	4.4122	SO.FT.	19.2263
□	4.000	7.000	.000	5.000	EDU041	DELTVN	.000	37.5543	INCHES	43.5574
◇	6.000	.000	.000	.000				0.000	INCHES	16.2000
△	8.000							.0405	INCHES	
▽	10.000								SCALE	

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB.), DCMFWD

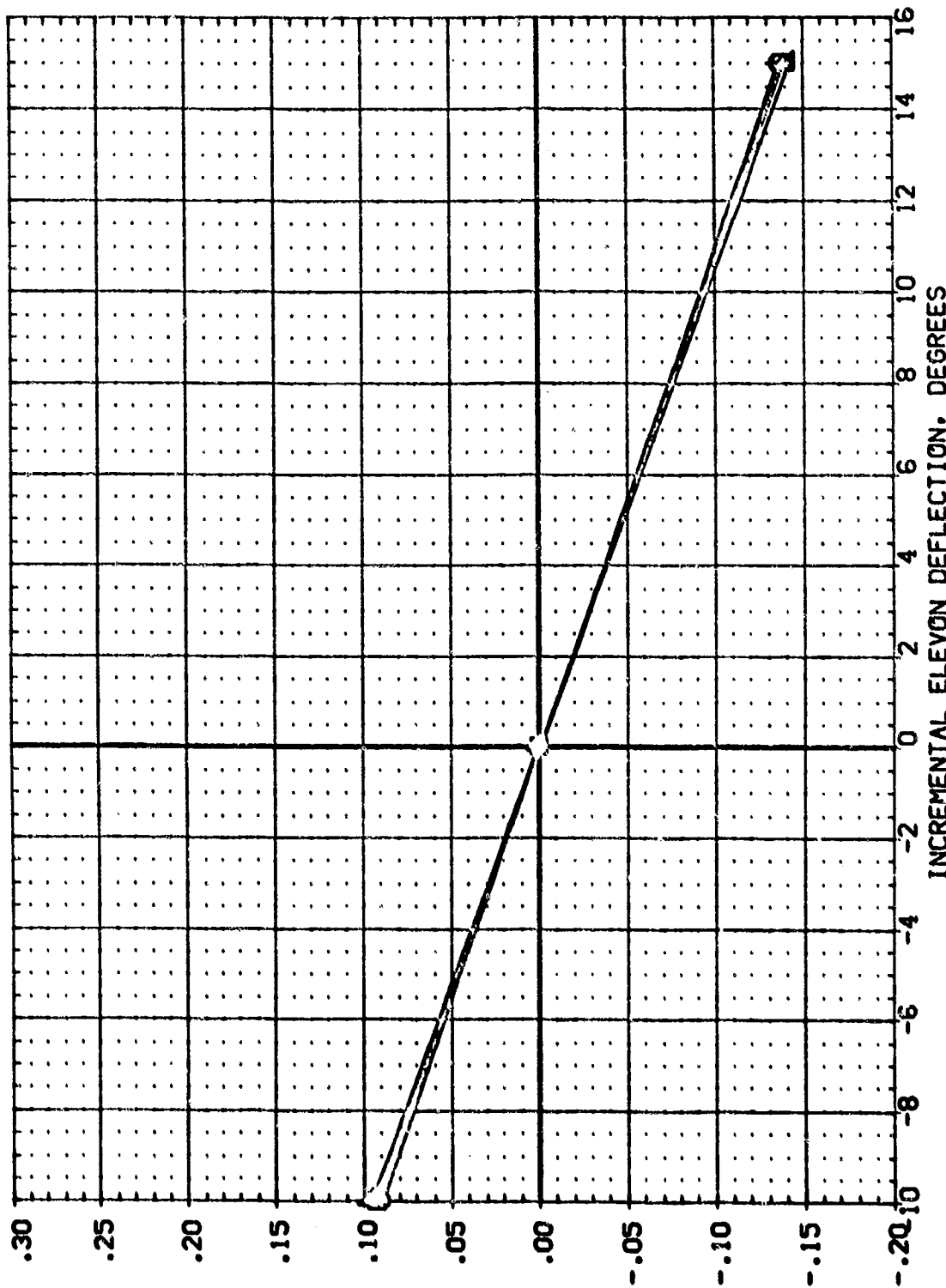


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

0A71C B16C507J34F1W87 E18V3R3X10

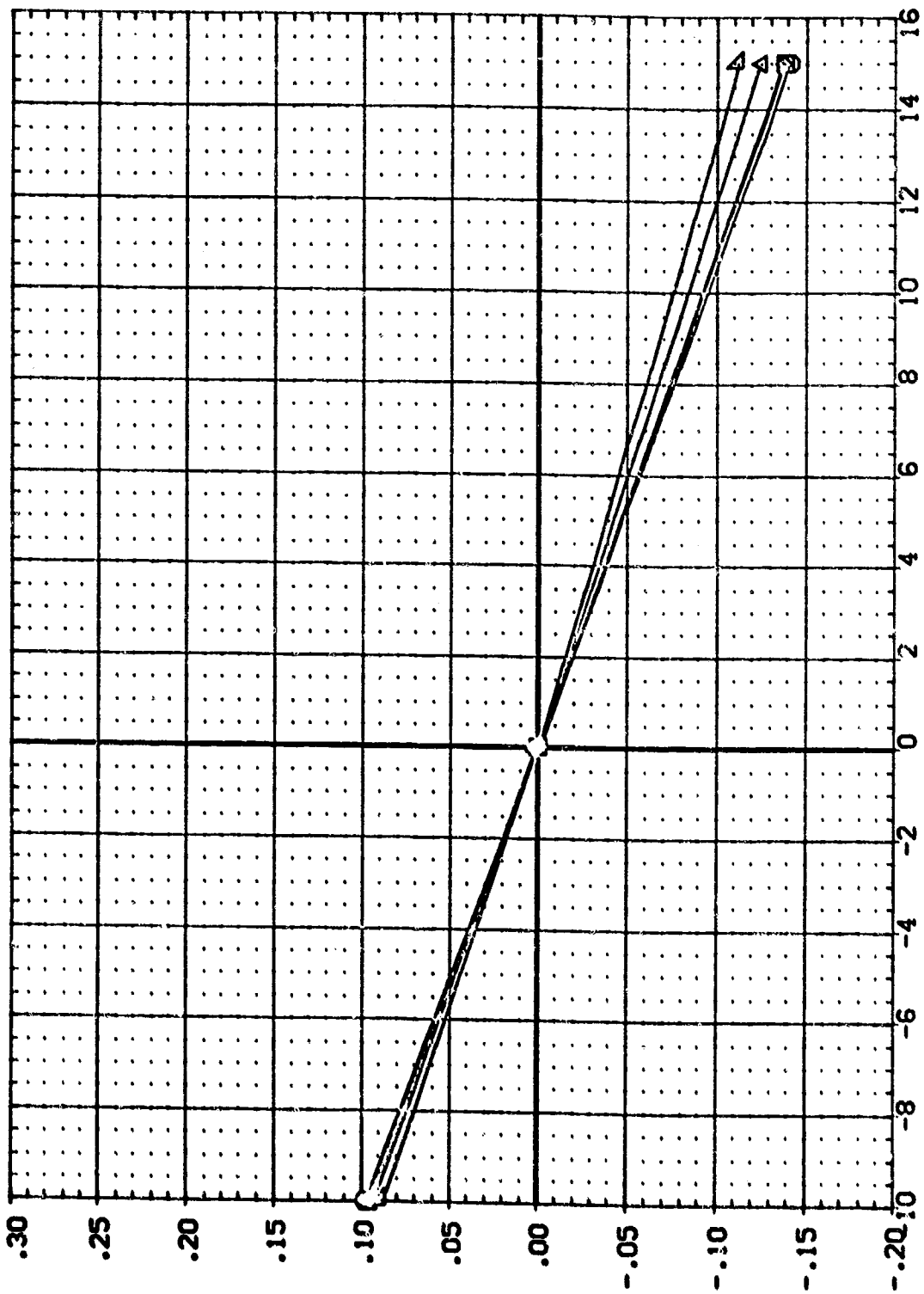
ALPHA	12.000	MACH	.210	ATLRON	.000	DATASET	.000	DEL VON	.000	SREF	4.4122	SO. FT.
	14.000	EDFLAP	-18.000	NACVL	.000	EDU040	15.000	LREF	.000	LREF	19.2299	INCHES
	16.000	NACLIP	7.000	NACBTA	5.000	EDU041	-10.000	XWRP	.000	XWRP	37.9349	INCHES
	18.000	BETA	.000	RUDER	.000			YWRP	.000	YWRP	43.5974	INCHES
	20.000							ZWRP	.000	ZWRP	16.2000	INCHES
								SCALE	.0405	SCALE		SCALE

DATA SOURCE	DEL VON	DATASET	DEL VON	SREF
	15.000	EDU037	.000	4.4122
	-10.000			19.2299
				37.9349
				43.5974
				16.2000
				.0405

PARAMETRIC VALUES	ATLRON	DATASET	DEL VON	SREF
	.210	.000	15.000	4.4122
	-18.000	.000	-10.000	19.2299
	7.000	5.000		37.9349
	.000	.000		43.5974
				16.2000
				.0405

SYMBOL	□	◇	△	▽
	□	◇	△	▽

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB). DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

0A71C B16C5D7J34F1W87 E18V3R3X10

ALPHA 22.000
 24.000
 26.000
 28.000
 30.000

MACH .210
 SDFLAP -18.000
 NAQLIP 7.000
 BETA .000

PARAMETRIC VALUES
 AIRCRN
 NACX/L
 NACSTA
 RUDDER

.000
 .000
 5.000
 .000

DATA SOURCE
 DELVON
 DELVON
 -10.000

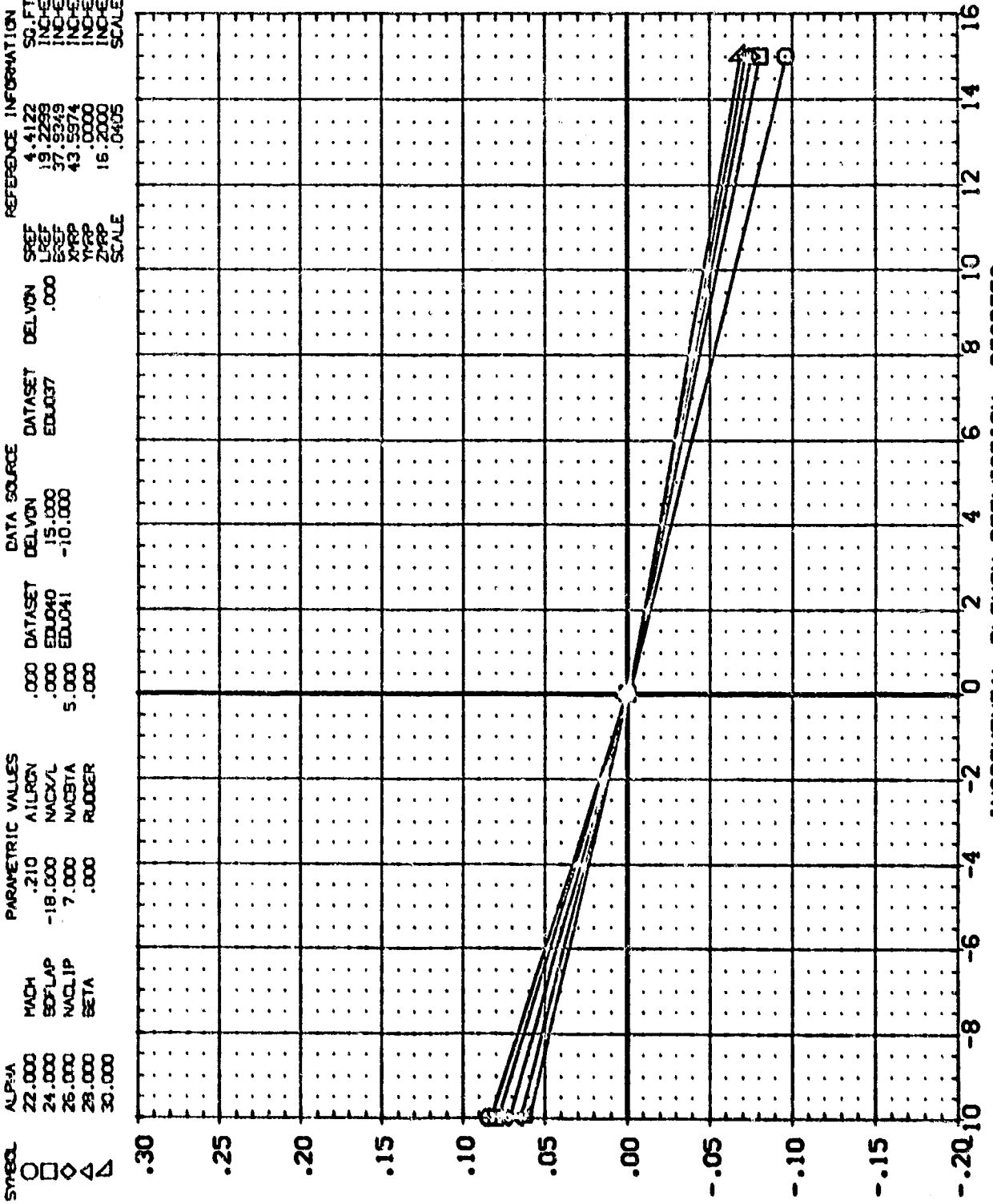
.000
 .000
 .000

DELVON .000
 DELVON .000
 DELVON .000

REF SQ. FT.
 LREF INCHES
 XREF INCHES
 YREF INCHES
 ZREF INCHES
 SCALE

4.4122
 19.2268
 37.6349
 43.5974
 .0000
 .2000
 .0405

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB), DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

(EDU040)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
○	-4.000		.21C	A1LRON	.000	DATASET	DELVON	SREF	4.4122	SQ.FT.	
□	-2.000	80FLAP	-18.000	NAC/L	.000	EDU040	.000	LREF	19.2299	INCHES	
◇	-1.000	NACLIP	7.000	NAC/BTA	5.000	EDU041	EDU037	XREF	37.9349	INCHES	
△	.000	BETA	.000	RUDGER	.000			YMRP	43.9374	INCHES	
	1.000							ZMRP	16.2000	INCHES	
								SCALE	.0405	SCALE	

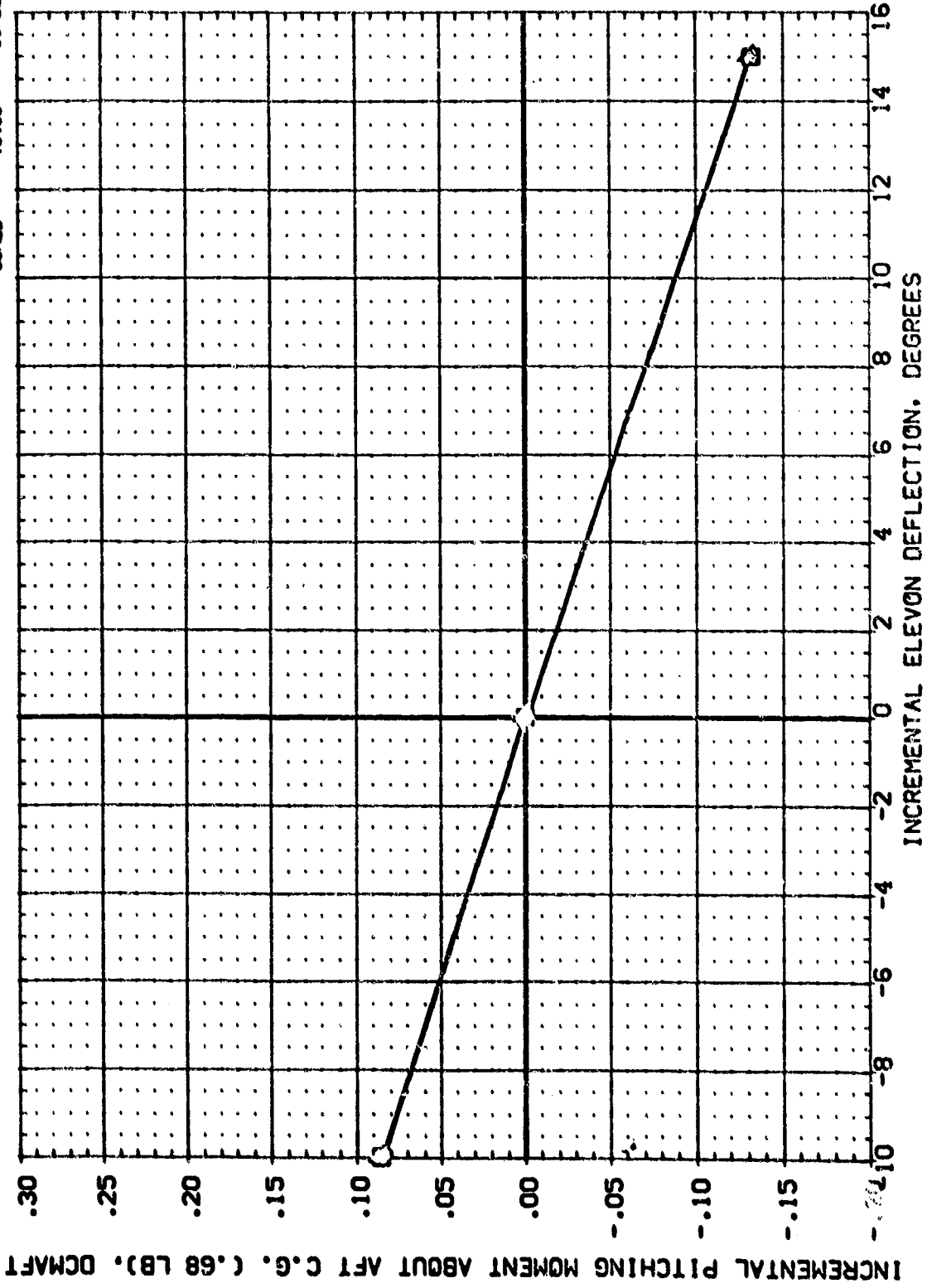


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

0A71C B16C507J34F1W87 E18V2R3X10

(EDU040)

SYMBOL	ALPHA	MACH	BDFLAP	MACH	PARAMETRIC VALUES	DATA SOURCE	DELTVN	DELTVN	SCALE	REFERENCE INFORMATION
○	2.000				AILSON	.000	.000	SRFP	4.4122	SO.FT.
□	4.000				NACVAL	.000	.000	LSFP	19.2299	INCHES
△	6.000				NACBTA	5.000	.000	TRFP	37.9349	INCHES
▽	8.000				RUDDER	.000	.000	ZTRP	43.9974	INCHES
	10.000							SCALE	16.2000	INCHES
									.0405	SCALE

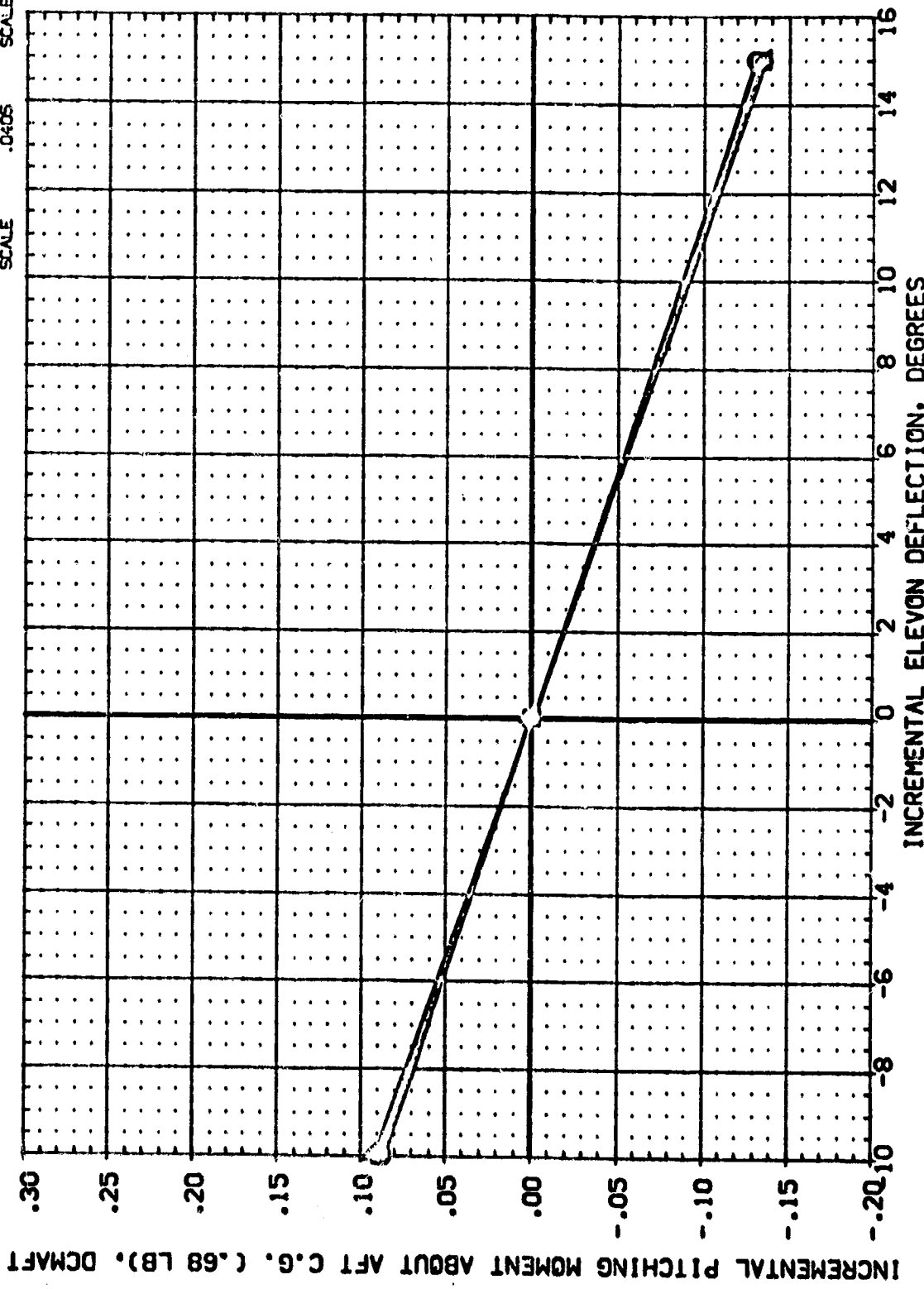


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 950

(EDU040)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBL	ALPHA	MACH	PARAMETRIC VALUES			DATA SOURCE	DELTVN	DATASET	DELTVN	SREF	REFERENCE INFORMATION		
□	12.000	EDFLAP	.210	AILRON	.000	EDU040	.000	EDU037	REF	4.4122	50. FT.		
◇	14.000	NACLIP	.18.000	NACLAL	.000	EDU040	15.000		REF	19.2256	INCHES		
△	16.000	BETA	7.000	NACBTA	5.000	EDU041	-10.000		REF	37.9349	INCHES		
▽	18.000		.000	RUDDER	.000				REF	43.5574	INCHES		
	20.000								REF	16.2000	INCHES		
									SCALE	.0405	SCALE		

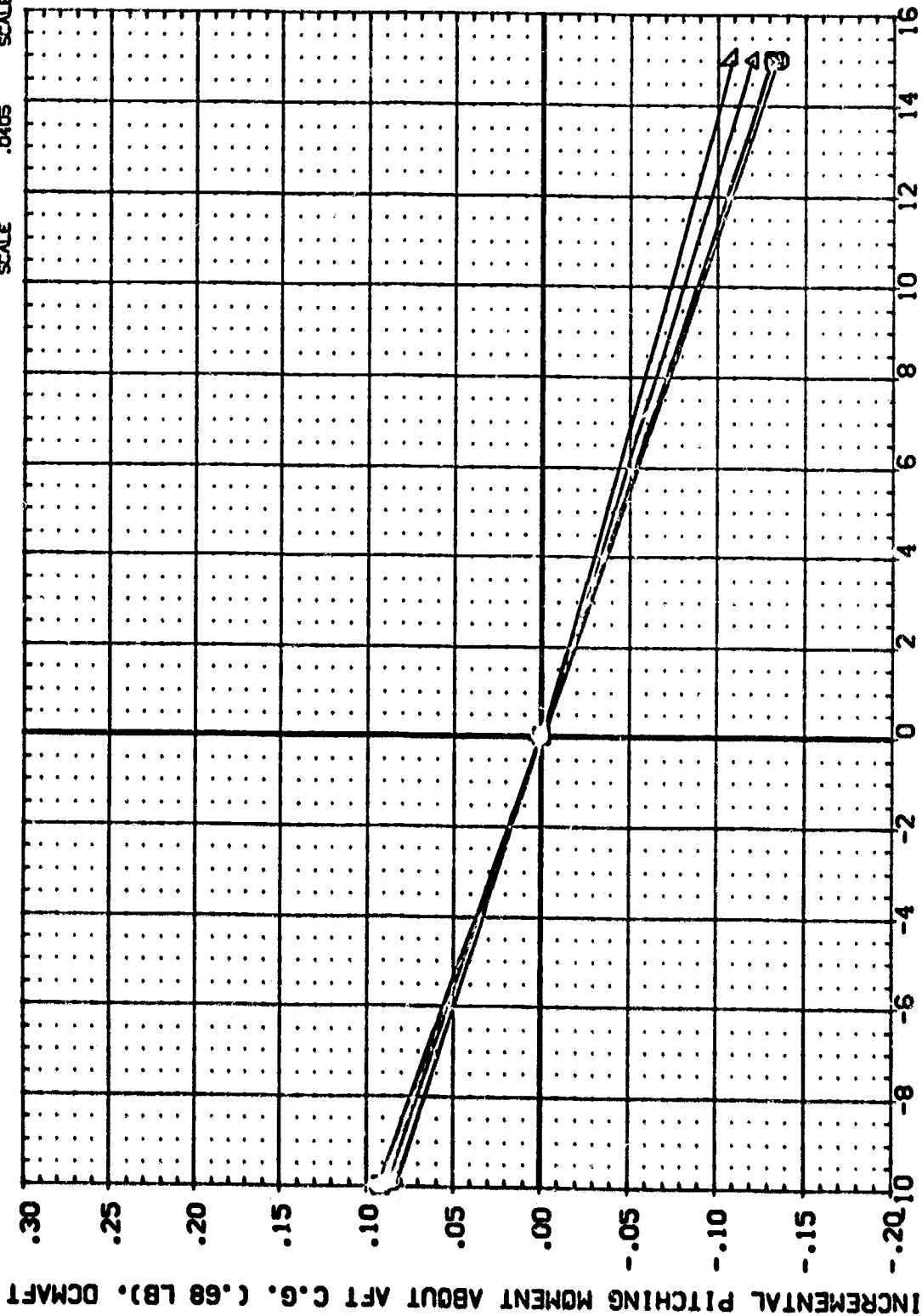


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XC= 950

SYMBOL	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	ALPHA	DELTVN	SREF
□	MACH	DELTVN	LREF
◇	SOFLAP	DELTVN	SPREF
△	NACLIP	DELTVN	XREF
△	BETA	DELTVN	YREF
		DELTVN	ZREF
		DELTVN	SCALE
		DELTVN	SCALE

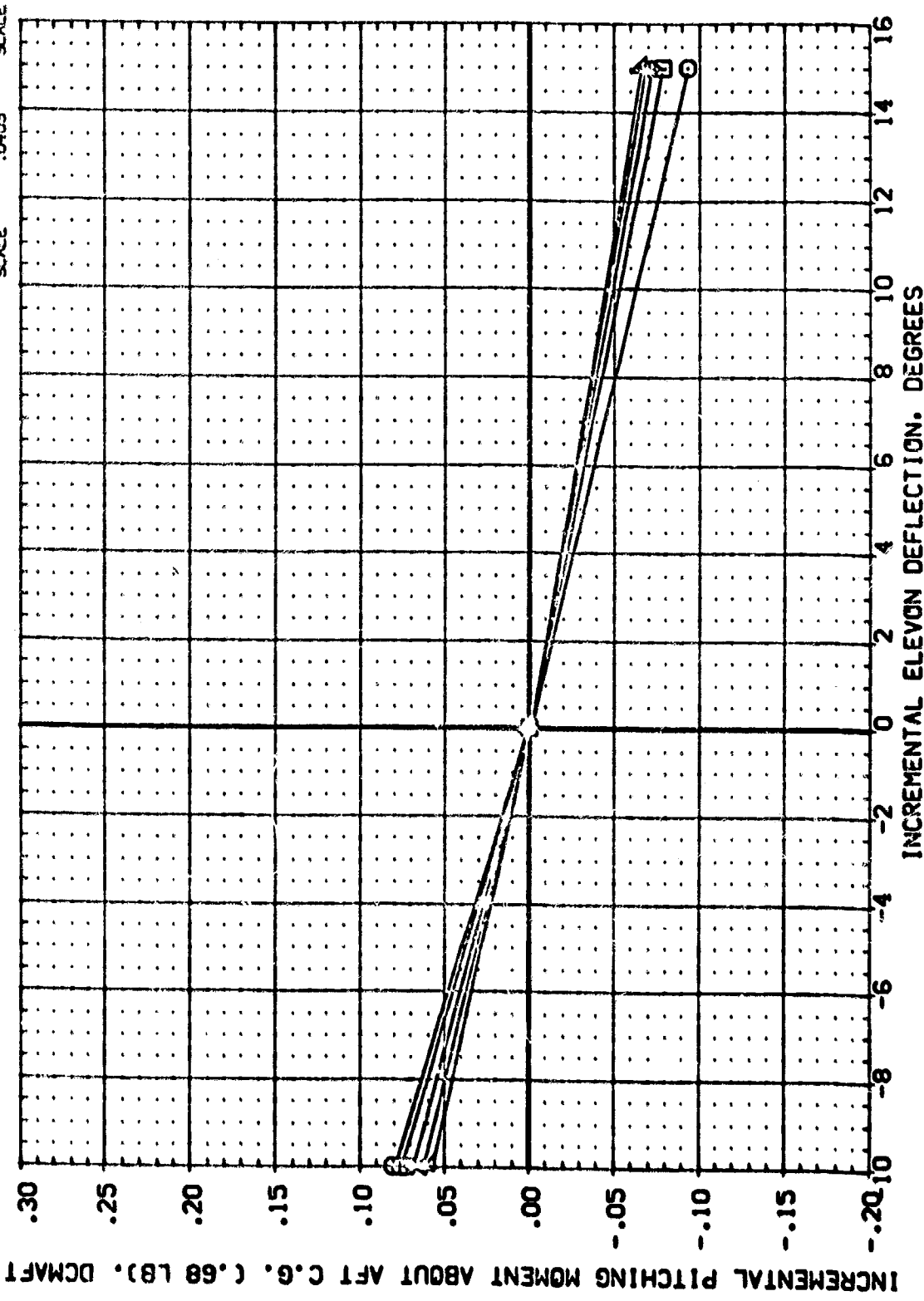


FIG 7 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ045) Q71C B16C5D7J34F1V87 E18V3R3X1D
 (ADJ046) Q71C B16C5D7J34F1V87 E18V3R3X1D
 (ADJ044) Q71C B16C5D7J34F1V87 E18V3R3X1D

ELEVON NACA/L NACA/LP NACA/BTA
 15.000 .270 7.000 5.000
 0.000 .270 7.000 5.000
 -10.000 .270 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XTRP 43.5574 INCHES
 YTRP 0.0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE

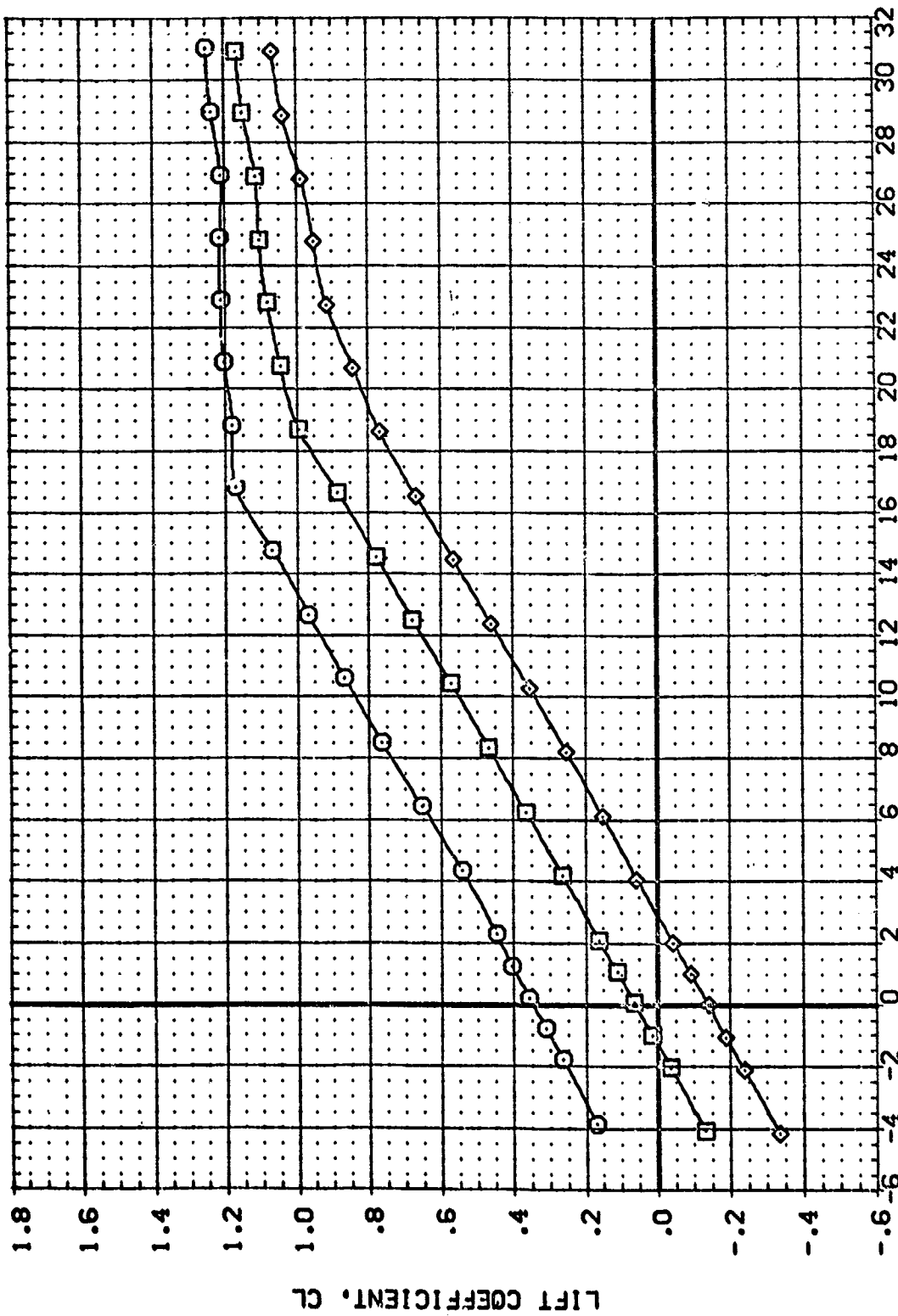


FIG 8 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1005

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACX/L	MACY/L	MACZ/L	MACBETA	REFERENCE INFORMATION
(A3LO4S)	CA71C B16C507J34F1987 E18V3R3X10	15.000	.270	7.000	5.000	SREF 4.4122	SO.FT.
(A3LO4S)	CA71C B16C507J34F1987 E18V3R3X10	.000	.270	7.000	5.000	LREF 19.2299	INCHES
(ADUOH)	CA71C B16C507J34F1987 E18V3R3X10	-10.000	.270	7.000	5.000	BREF 37.9349	INCHES
						XREF 43.5974	INCHES
						YREF 16.2000	INCHES
						ZREF 16.2000	INCHES
						SCALE .0405	SCALE

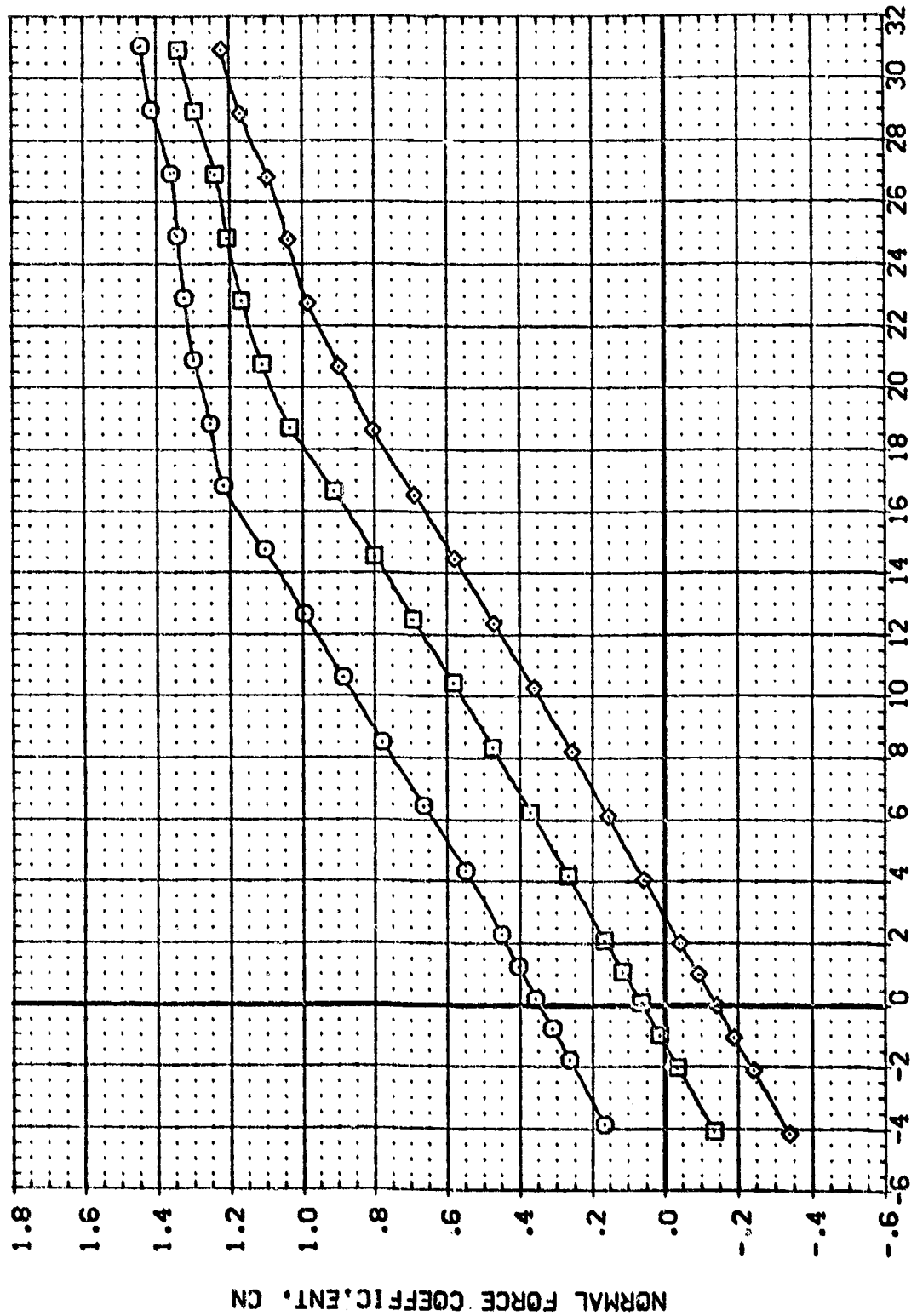


FIG 8 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1005

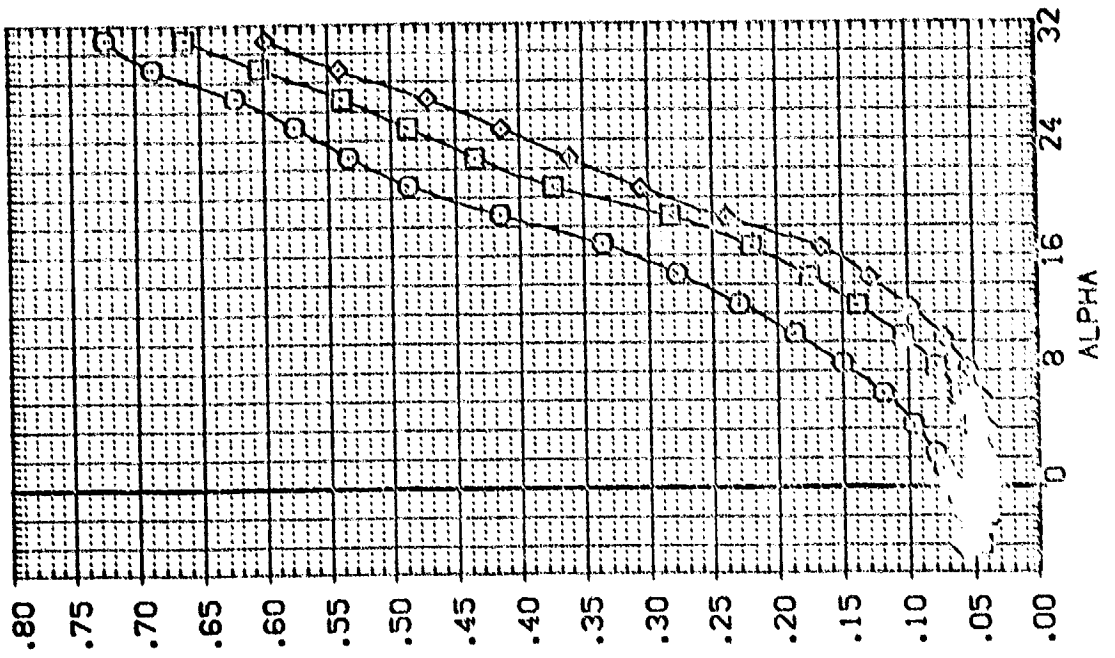
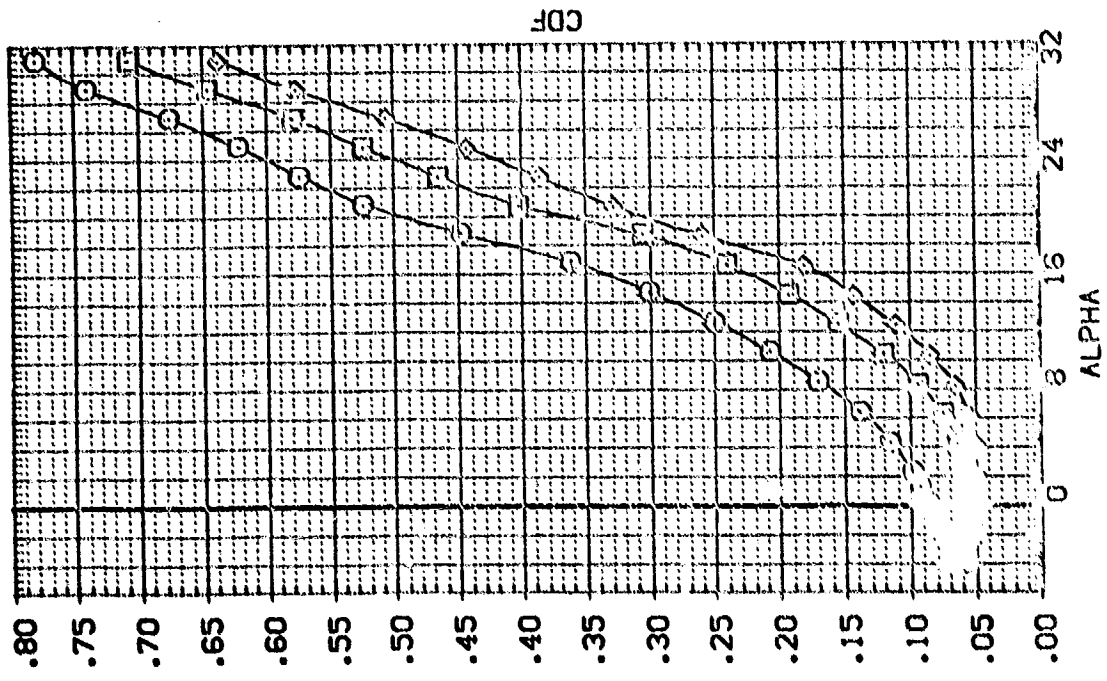
(A)MACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A3045) 01650734F 1V67 E18V26X10
 (A3046) 01650734F 1V67 E18V26X10
 (A3044) 01650734F 1V67 E18V26X10

ELEVON MACVAL MACLIP MACBTA
 15.000 7.000 5.000
 .000 7.000 5.000
 -10.000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9343 INCHES
 XREF 43.5574 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405



8

FIG 8 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1005

DATA SET SPEED DESCRIPTION
 (A0045) 2 2715 2.50000000 1.00 1.00000000
 (A0045) 2 2715 2.50000000 1.00 1.00000000
 (A0045) 2 2715 2.50000000 1.00 1.00000000

ELEON WAVELENGTH
 15.000
 -10.000

WAVELENGTH
 7.500
 7.500
 7.500

WAVELENGTH
 5.000
 5.000
 5.000

REFERENCE INFORMATION
 4.4.22 NO. 1
 13.2228 NO. 2
 37.2043 NO. 3
 43.2374 NO. 4
 19.2177 NO. 5
 1.2425 NO. 6

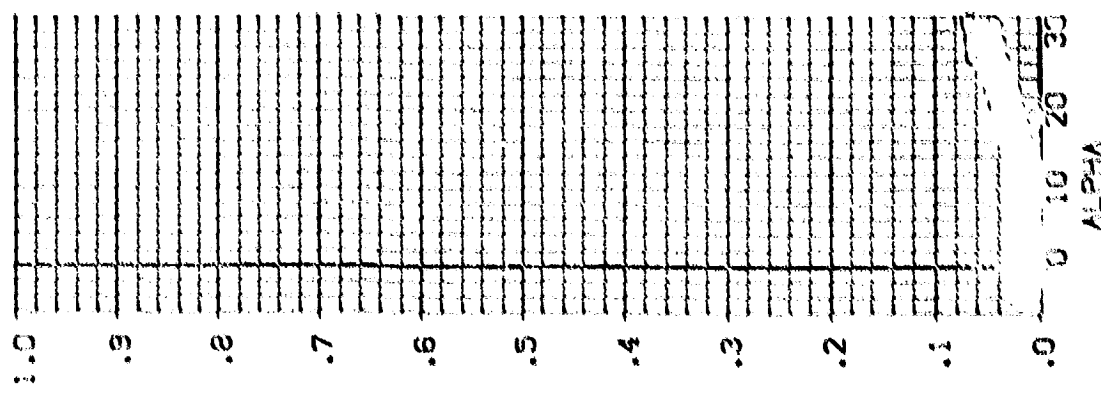
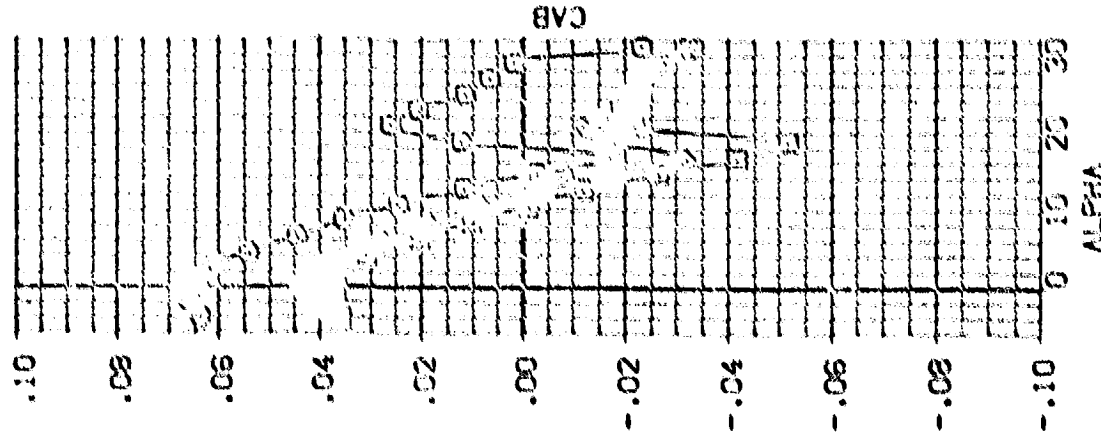
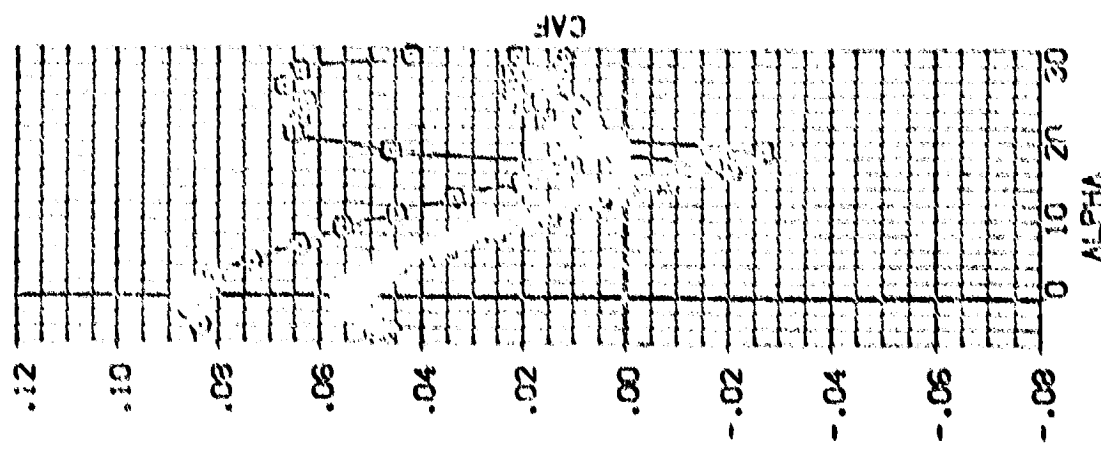


FIG 8 ELEON EFFECTIVENESS - CLUSTERED NUCLEI - IMAGING X0 = 1005

(MACH = .20

ELEVON	MAXVAL	MAXLIP	NO:DATA	REFERENCE INFORMATION
15.000	.270	7.000	5.000	SREF 4.4122 SQ.FT.
.000	.270	7.000	5.000	LREF 19.2299 INCHES
-10.000	.270	7.000	5.000	BREF 37.9349 INCHES
				XREF 43.5974 INCHES
				YREF 0.0000 INCHES
				ZREF 16.2000 INCHES
				SCALE 0.0405 SCALE

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ADJ045)	0A71C B16CSD7J34F1V87 E18V3R3X10
(ADJ046)	0A71C B16CSD7J34F1V87 E18V3R3X10
(ADJ044)	0A71C B16CSD7J34F1V87 E18V3R3X10

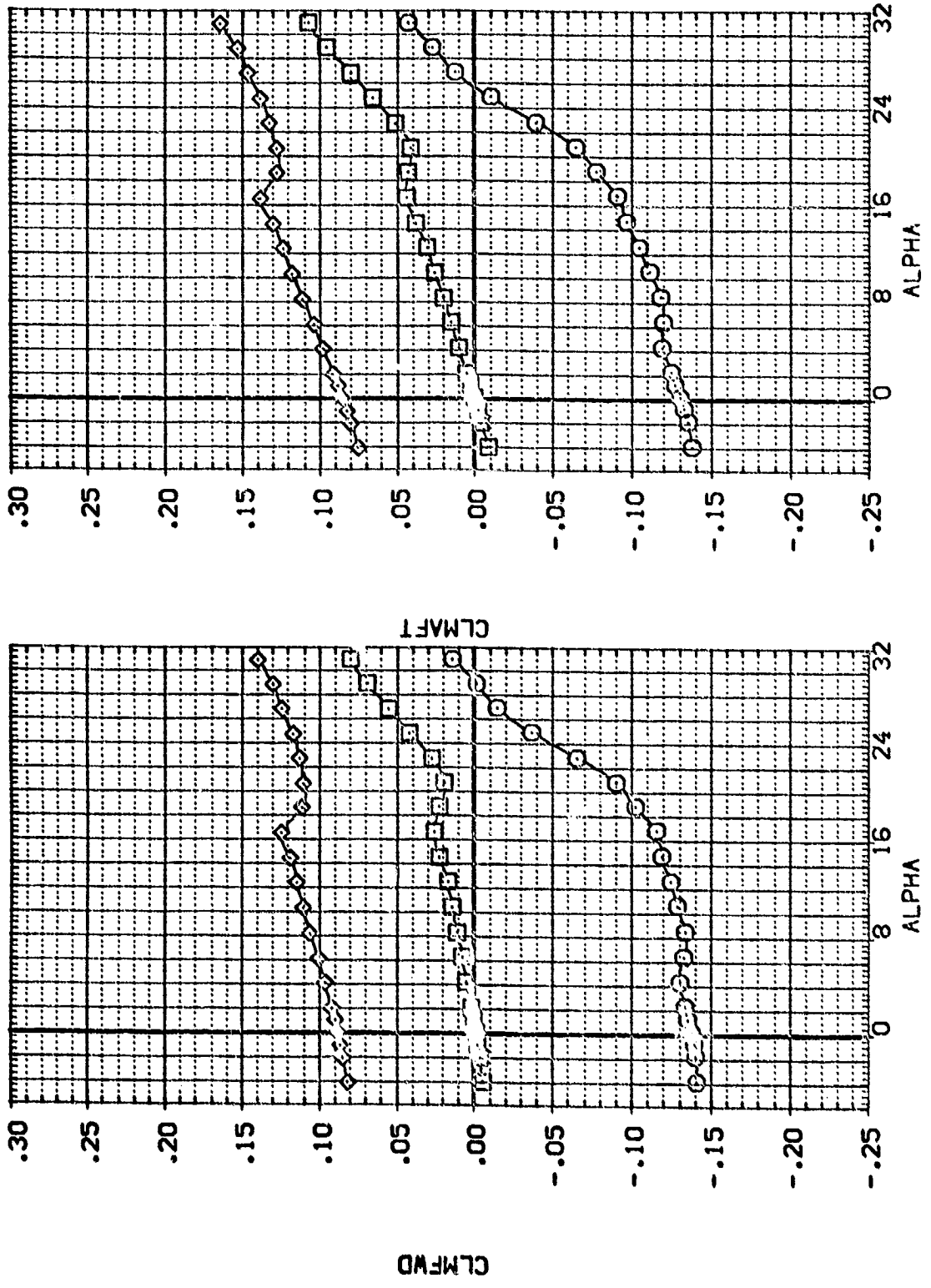


FIG 8 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1005

(AJMACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A3LO45) O CAYIC B: 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
 (A3LO46) O CAYIC B: 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000
 (A3LO44) O CAYIC B: 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000

ELEVON WACAL WACLIP WACETA REFERENCE INFORMATION
 15.000 7.000 5.000 4.4122 50.000
 0.000 7.000 5.000 19.2293 100.000
 -10.000 7.000 5.000 43.5574 100.000
 0.000 0.000 0.000 15.2000 100.000
 0.000 0.000 0.000 0.0000 100.000
 0.000 0.000 0.000 0.0000 100.000

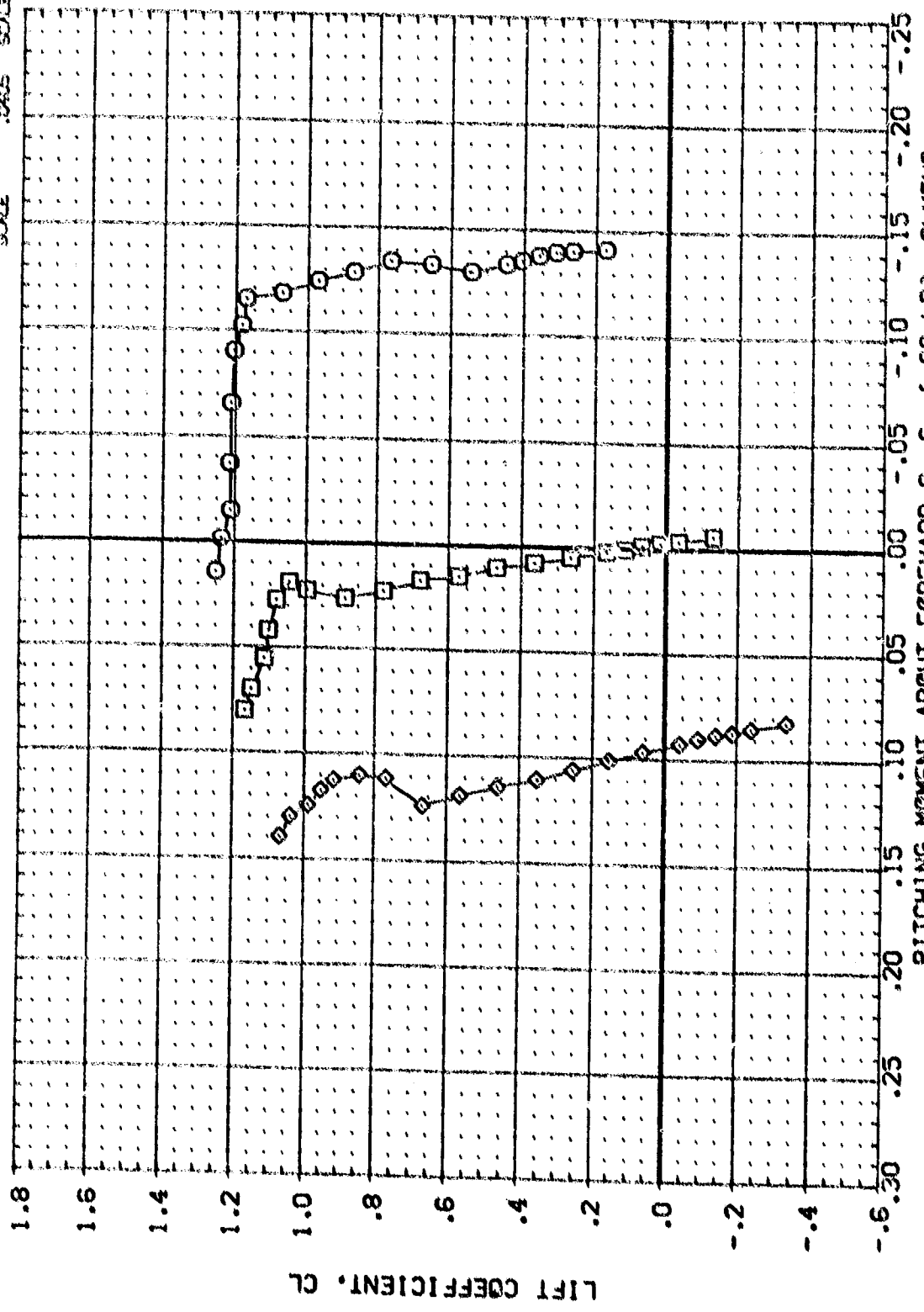


FIG 8 ELEVON EFFECTIVENESS - CLUSTERED MACELLES - UNDERWING X0 = 1005

(A)MACH = .20

4 7
4 7

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACXL	MACYLIP	MACBTA	REFERENCE INFORMATION
(AOL045)	CA71C 2185371.24F 1167 E18V23X10	15.000	.270	7.000	5.000	SREF 4.4122 SQ.FT. INCHES
(AOL046)	CA71C 2185371.24F 1167 E18V23X10	.000	.270	7.000	5.000	LREF 19.2228 INCHES
(AOL044)	CA71C 2185371.24F 1167 E18V23X10	-10.000	.270	7.000	5.000	SREF 43.5974 INCHES
						XREF 16.0000 INCHES
						YREF 16.2000 INCHES
						ZREF 16.0000 INCHES
						SCALE .0005

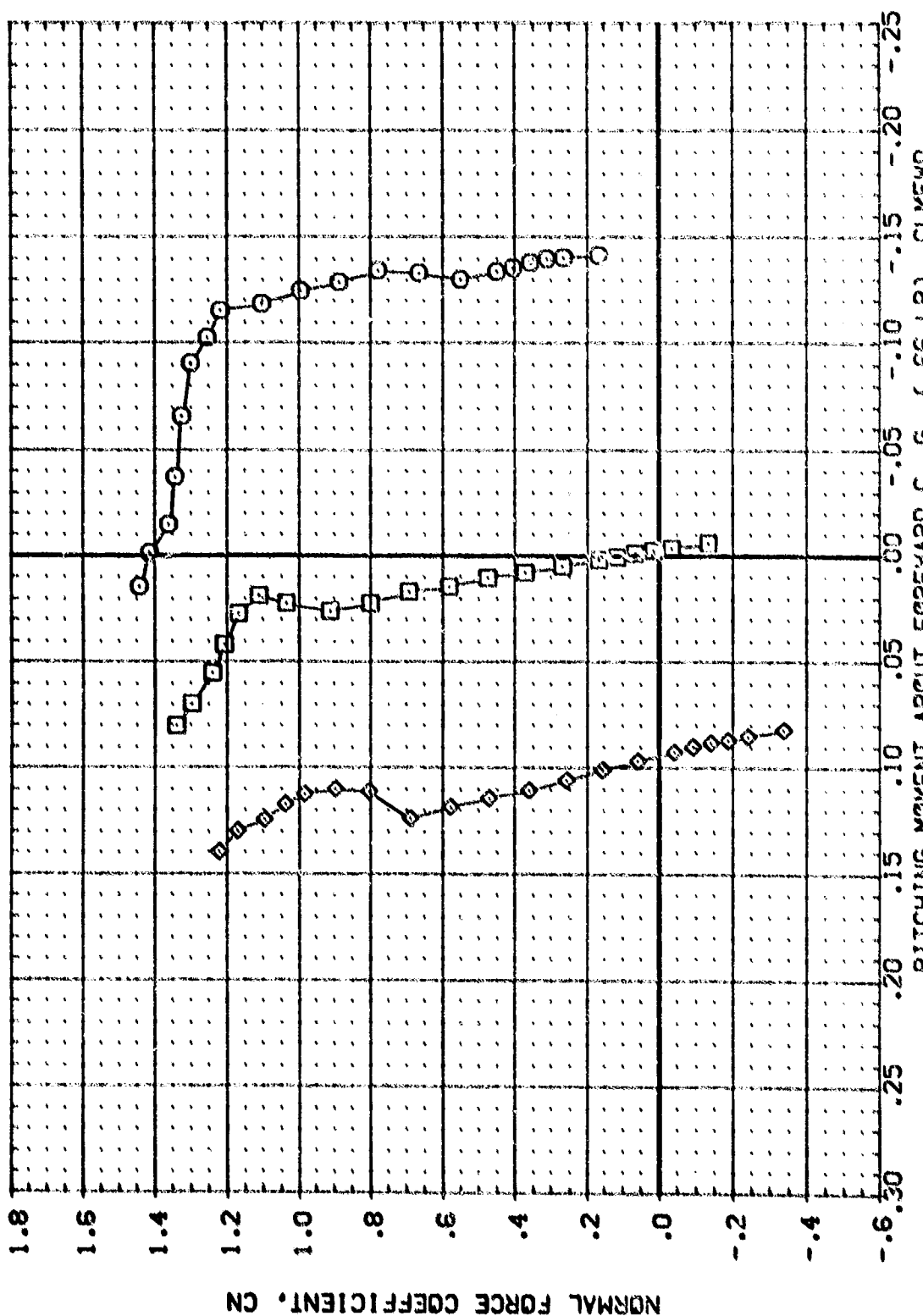


FIG 8 ELEVON EFFECTIVENESS - CLUSTERED WAVELES - UNDERWING XO = 1005

MACH = .20

PAGE

85

DATA SET 5880 - CONFIGURATION DESCRIPTION

MODEL: 5880
 TITLE: 5880
 UNIT: 5880
 SCALE: 5880

ELEVON: 5880
 INCL: 5880
 MACH: 5880
 WIND: 5880
 REF: 5880
 SCALE: 5880

REFERENCE INFORMATION
 REF: 5880
 SCALE: 5880

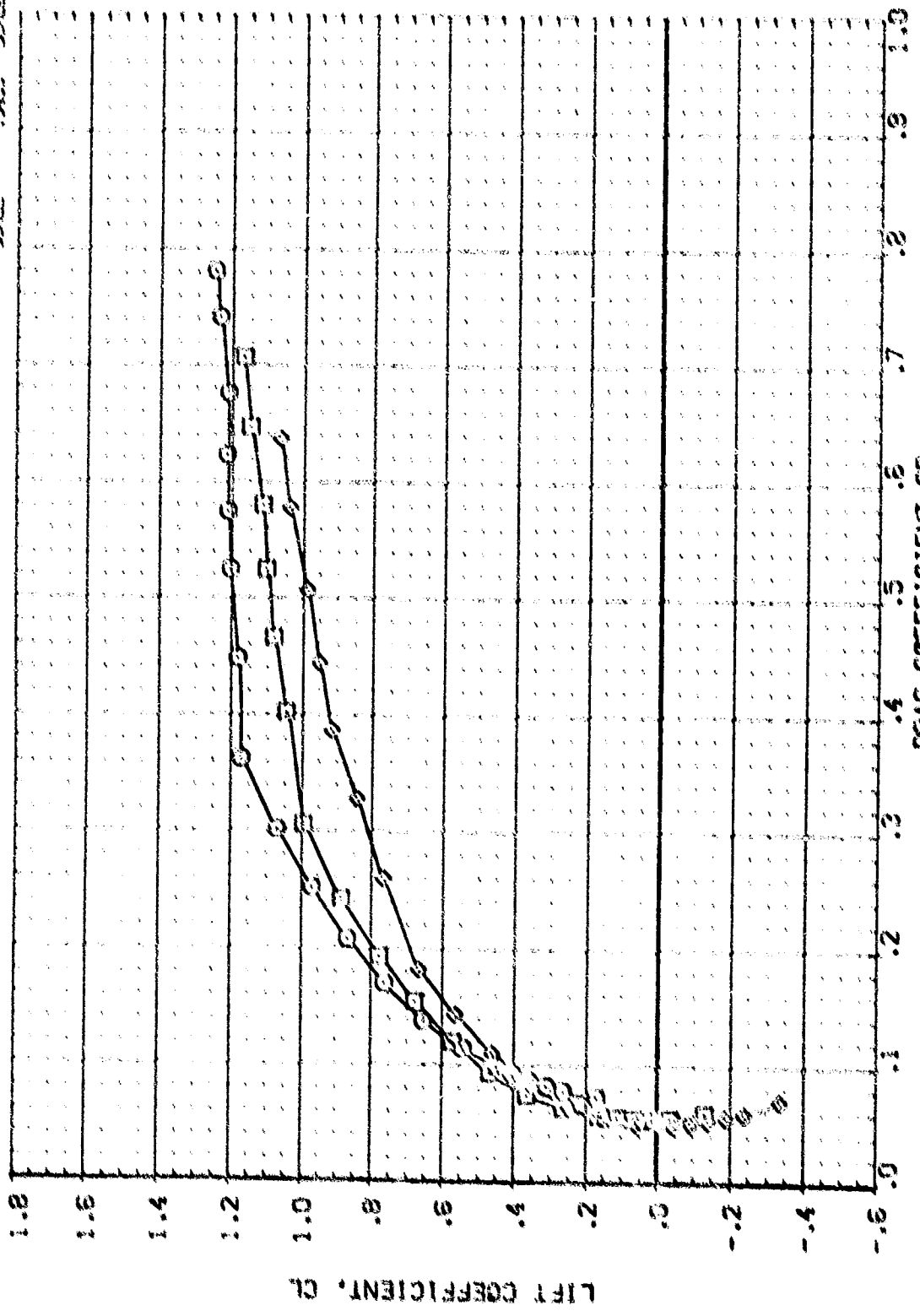


FIG 8 ELEVON EFFECTIVENESS - CLUSTERED MODELS - UNDERWING $M_0 = 1.005$

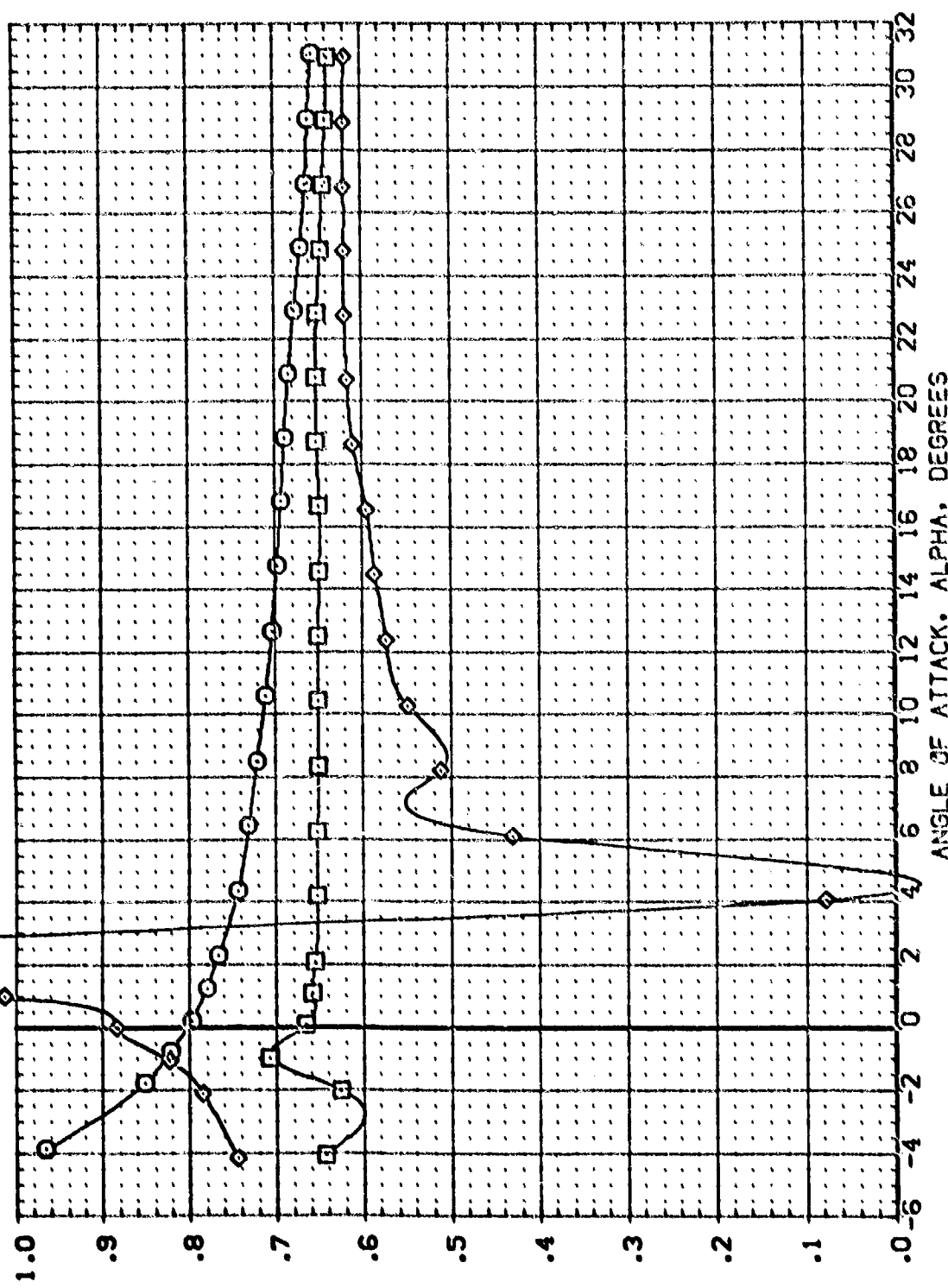
MACH = 1.00

PAGE 26

REFERENCE INFORMATION
 4.4122 50 FT.
 19.2288 INCHES
 37.5349 INCHES
 43.5574 INCHES
 .0000 INCHES
 16.2000 INCHES
 .0405 SCALE

ELEVON MACCLIP MACBTA
 15.000 7.000 5.000
 .000 7.000 5.000
 -10.000 .270 5.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B04045) CA71C B16C507.24F11.37 E18V320X10
 (B04046) CA71C B16C507.24F11.37 E18V320X10
 (B04044) CA71C B16C507.24F11.37 E18V320X10



LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

FIG 8 ELEVON EFFECTIVENESS - CLUSTERED MACCELLES - UNDERWING X0 = 1005

CAJMACH = .20

DATA SET 5 MED. CONF. 10/24/54
 (BOLONS) 21710 81800742451.000 81800742451.000
 (BOLONS) 21710 81800742451.000 81800742451.000
 (BOLONS) 21710 81800742451.000 81800742451.000

ELEVEN INFORMATION
 15.000 5.000 7.000 4.000
 15.000 5.000 7.000 4.000
 -15.000 5.000 7.000 4.000

WAVELENGTH INFORMATION
 4.472 30.000
 13.228 30.000
 27.243 30.000
 43.2574 30.000
 59.271 30.000
 75.285 30.000

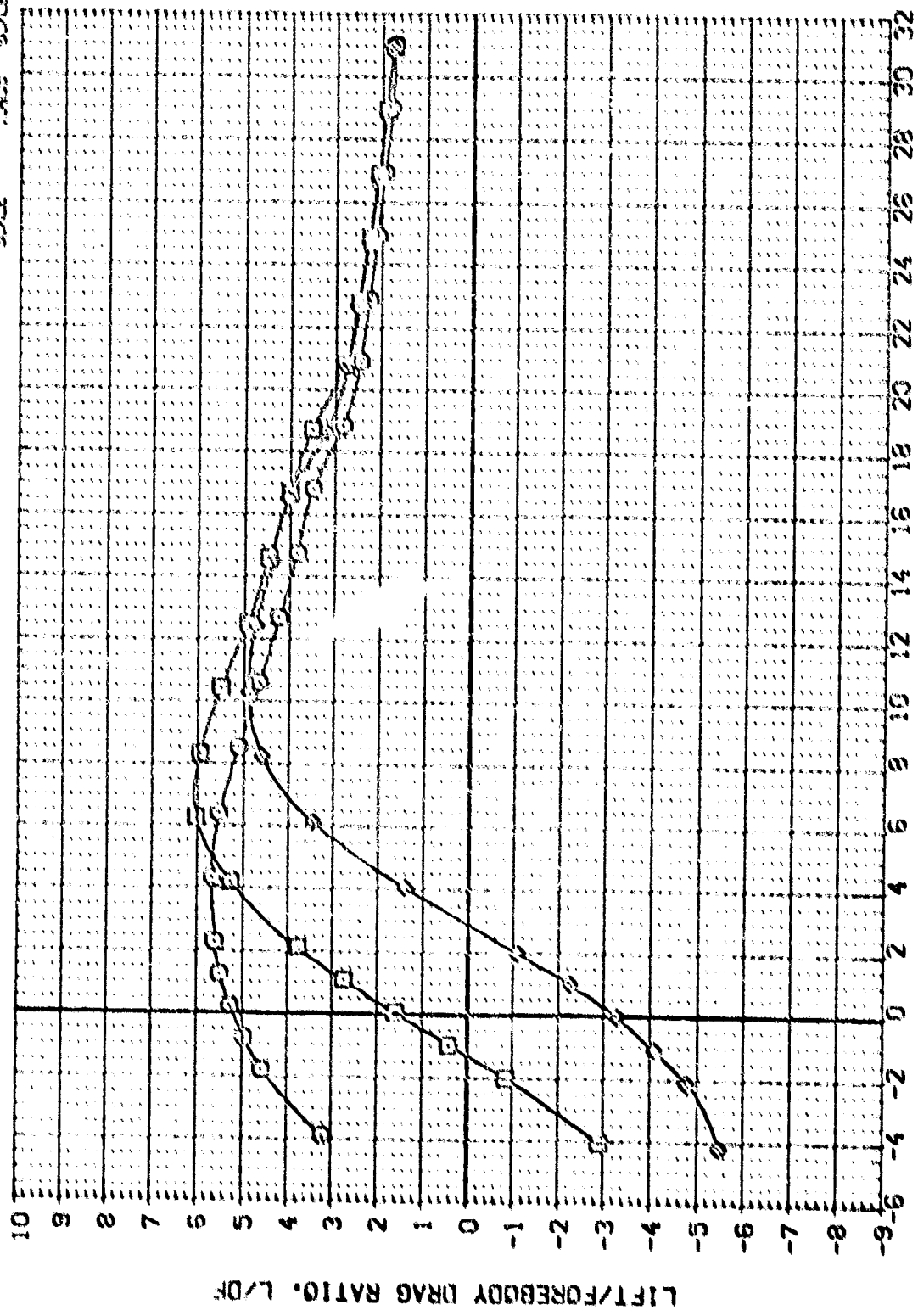


FIG 8 ELEVEN EFFECTIVENESS - CLUSTERED NACELLES - UNDERPING $\alpha_0 = 1000$

(M)MACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ELEVONS) 2471C B:505074:34F:107 E18/30R1C
 (ELEVONS) 2471E B:505074:34F:107 E18/30R1C
 (ELEVONS) 2471E B:505074:34F:107 E18/30R1C

DELTA INCLIP INCLBTA
 15.000 7.000 5.000
 -10.000 -270 7.000
 -10.000 -270 7.000

REFERENCE INFORMATION
 SPET 4.4122 50 FT
 LRET 13.2228 1000
 SPSP 27.5248 1000
 XAPP 43.5274 1000
 YAPP 10.000 1000
 ZAPP 18.2000 1000
 SCALE

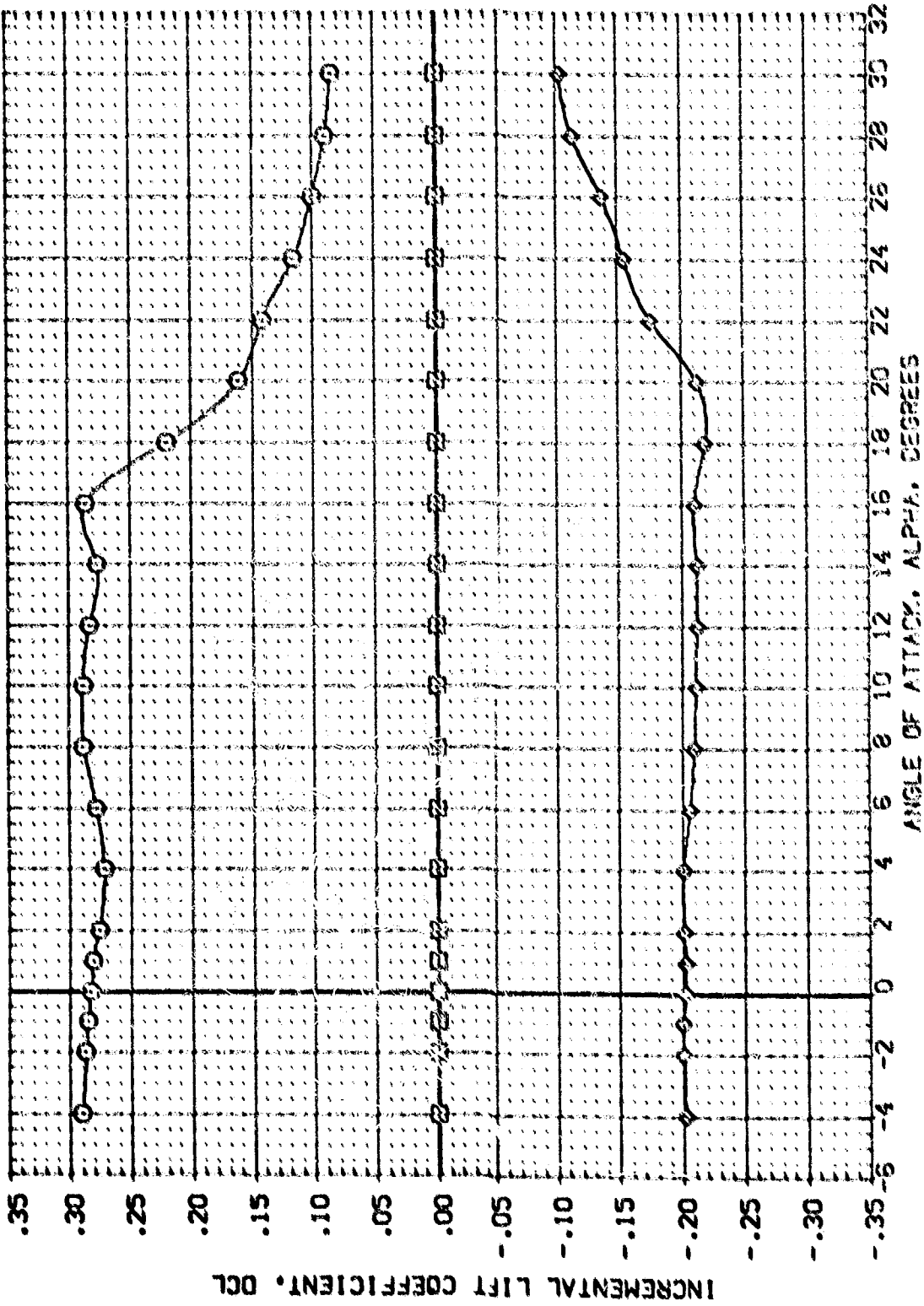


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES UNDERWING XC-1095

CAMRACH = .2:

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDL045) CA71C B16C507J34F1V87 E18V3R3X10
 (EDL046) CA71C B16C507J34F1V87 E18V3R3X10
 (EDL044) CA71C B16C507J34F1V87 E18V3R3X10

DELVON NACX/L NACLIP NACBTA
 15.000 .270 7.000 5.000
 -10.000 .270 7.000 5.000
 -10.000 .270 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50. FT.
 LREF 19.2299 INCHES
 PREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE

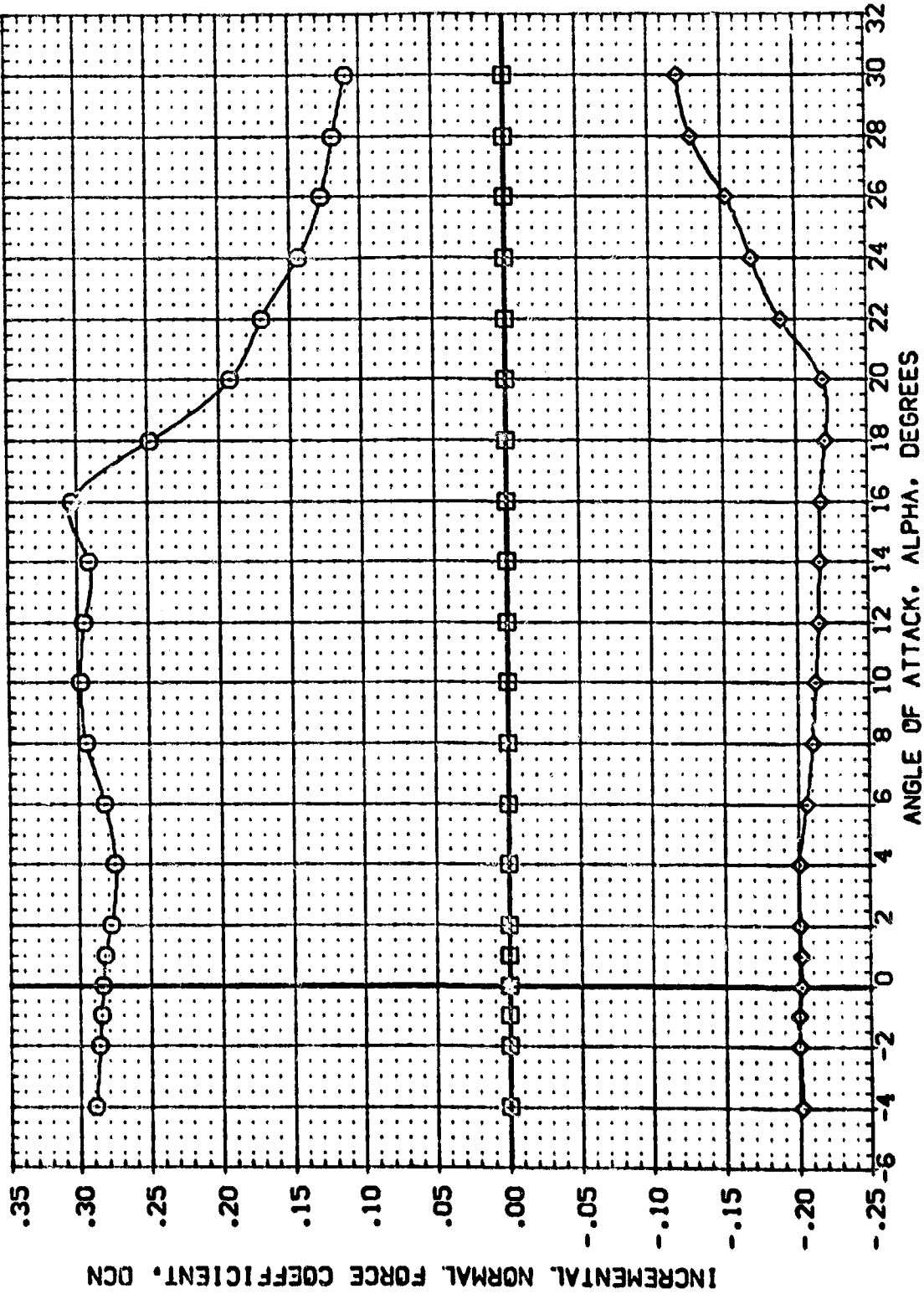


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

(A)MACH = .21



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDU045) CA71C B16C507J34F1V67 E18V3X10
 (EDU046) CA71C B16C507J34F1V67 E18V3X10
 (EDU044) CA71C B16C507J34F1V67 E18V3X10

DELTA V MACH MACH/L MACH/IP MACH/TA REFERENCE INFORMATION
 15.000 .270 7.000 5.000 SRET 4.4122 SQ.FT.
 -10.000 .270 7.000 5.000 USE 19.2269 INCHES
 .000 .270 7.000 5.000 BRP 37.8349 INCHES
 .000 .270 7.000 5.000 XFRP 43.5374 INCHES
 .000 .270 7.000 5.000 YFRP .0000 INCHES
 .000 .270 7.000 5.000 ZFRP 16.2000 INCHES
 .000 .270 7.000 5.000 SCALE .0405 SCALE

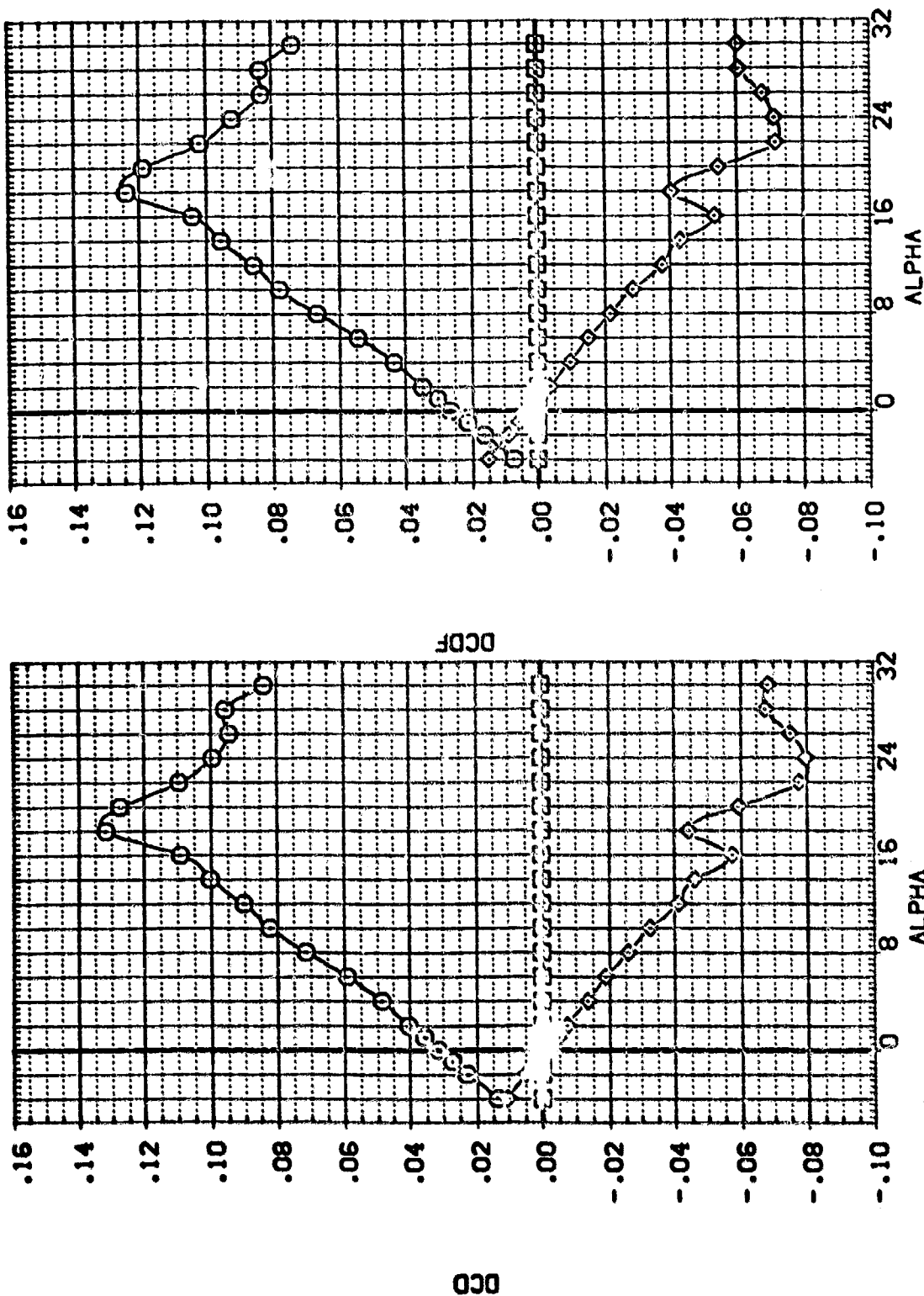


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

DATA SET SYMBOL (EDL0M5)
 (EDL0M4)
 (EDL0M3)
 (EDL0M2)
 (EDL0M1)

CONFIGURATION DESCRIPTION
 DAT1C 81650743AF 1V87 E18V3R0X10
 DAT2C 81650743AF 1V87 E18V3R0X10
 DAT3C 81650743AF 1V87 E18V3R0X10

DEL VON 15.000
 -10.000

MAC/VL .270
 .270
 .270

MAC/LIP 7.000
 7.000
 7.000

MAC/BTA 5.000
 5.000
 5.000

REFERENCE INFORMATION
 SQ. FT. 4.4122
 INCHES 19.2289
 INCHES 37.9349
 INCHES 43.5374
 INCHES .0000
 INCHES 16.2000
 INCHES .0405
 SCALE

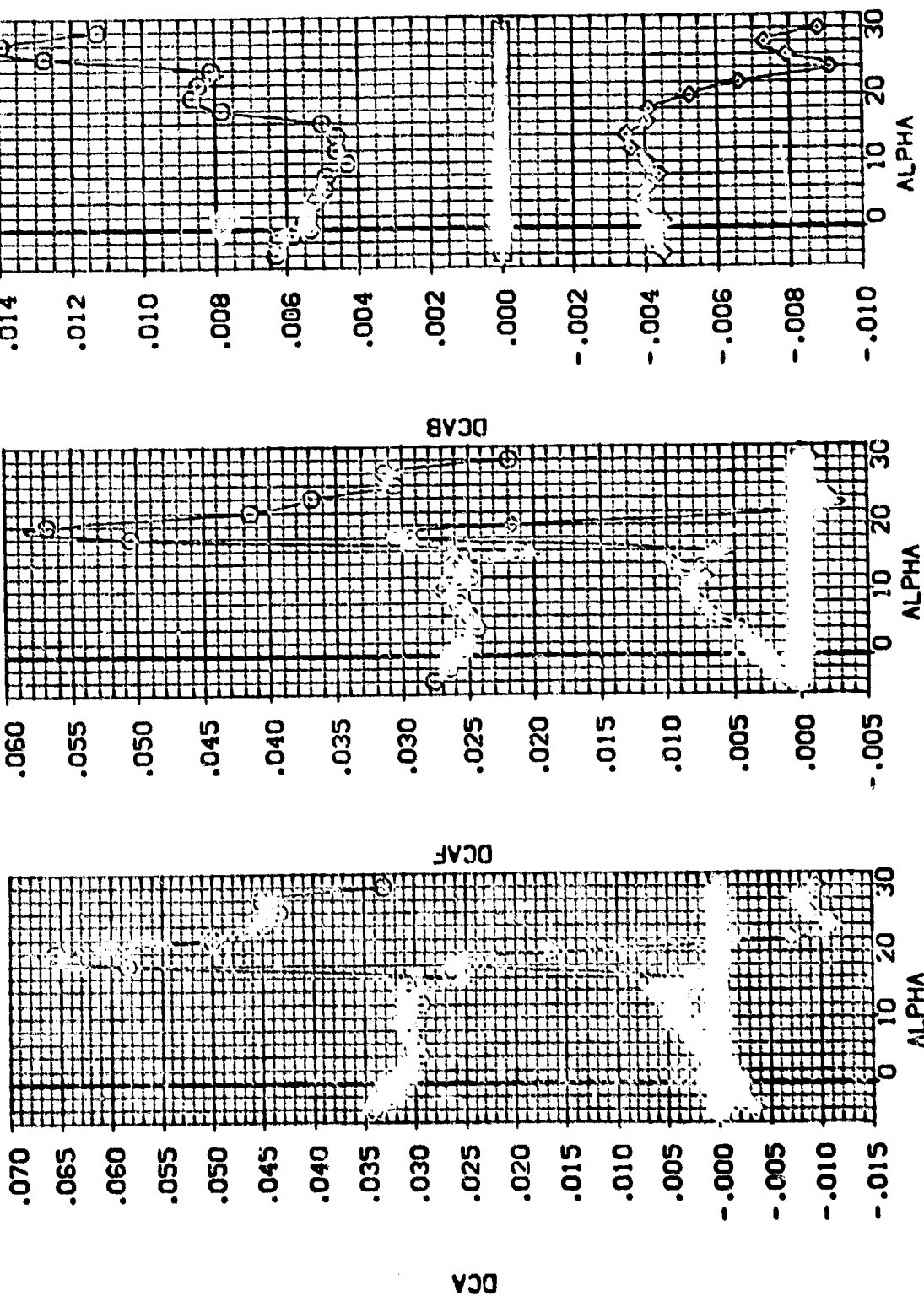


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES UNDERWING X0= 1005

(A)MACH = .21



DATA SET SYMBOL
 (EDJ045)
 (EDJ046)
 (EDJ044)

CONFIGURATION DESCRIPTION
 DAT71C B16CSD7134F1V87 E18V3R3X10
 DAT71C B16CSD7134F1V87 E18V3R3X10
 DAT71C B16CSD7134F1V87 E18V3R3X10

DELVON MACVL MACLIP MACBTA
 15.000 .270 7.000 5.000
 .000 .270 7.000 5.000
 -10.000 .270 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

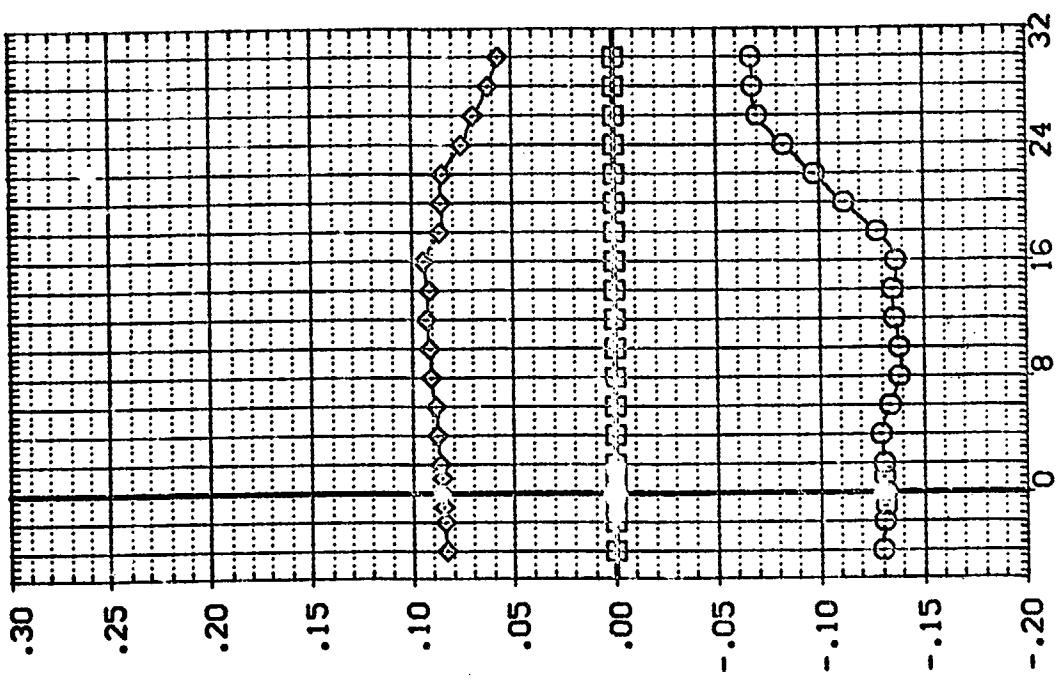
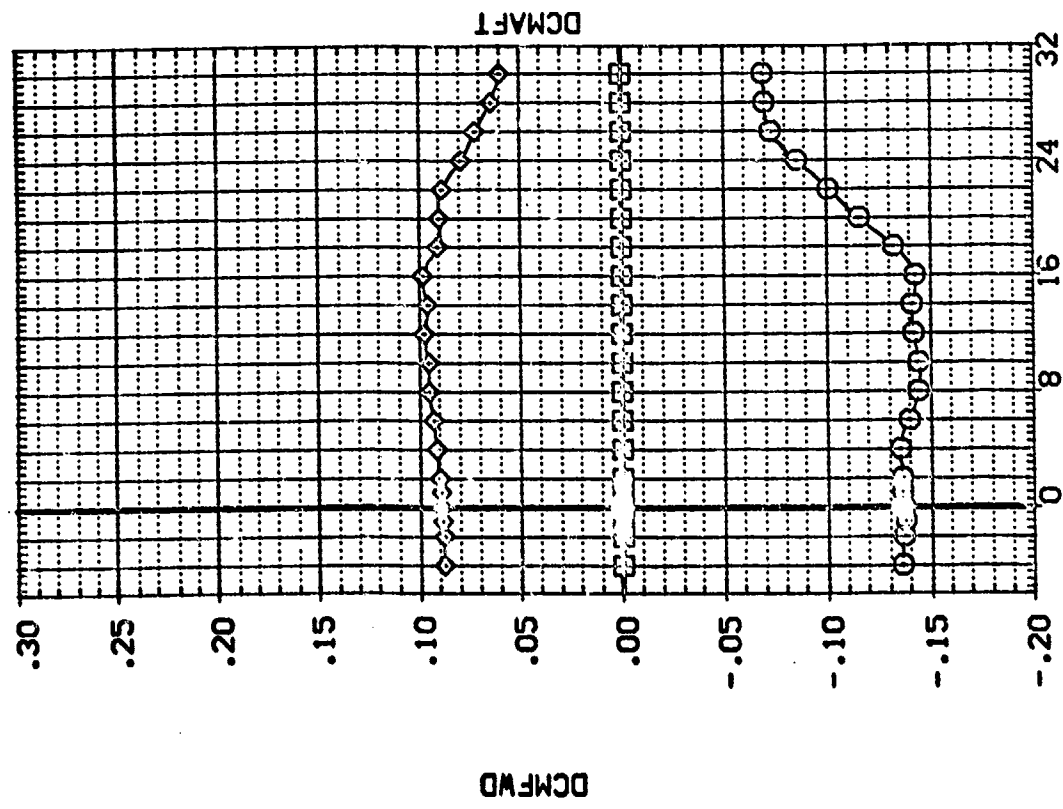


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES UNDERWING X0= 1005
 (A)MACH = .21

(EDU045)

GA71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL ALPHA MACH BOFLAP NAOLIP BETA

PARAMETRIC VALUES

.210 AILRON
-18.000 NACXZL
7.000 NACBTA
.000 RUDDER

.000 DATASET
.270 EDU045
5.000 EDU044
.000

DATA SOURCE

DELVON
15.000
-10.000

DATASET
EDU046

DELVON
.000

SREF
LREF
XREF
YREF
ZREF
SCALE

REFERENCE INFORMATION

4.4122 SQ.FT.
19.2259 INCHES
37.9349 INCHES
43.5974 INCHES
.0000 INCHES
16.2000 INCHES
.0405 SCALE

INCREMENTAL LIFT COEFFICIENT, DCL

INCREMENTAL ELEVON DEFLECTION, DEGREES

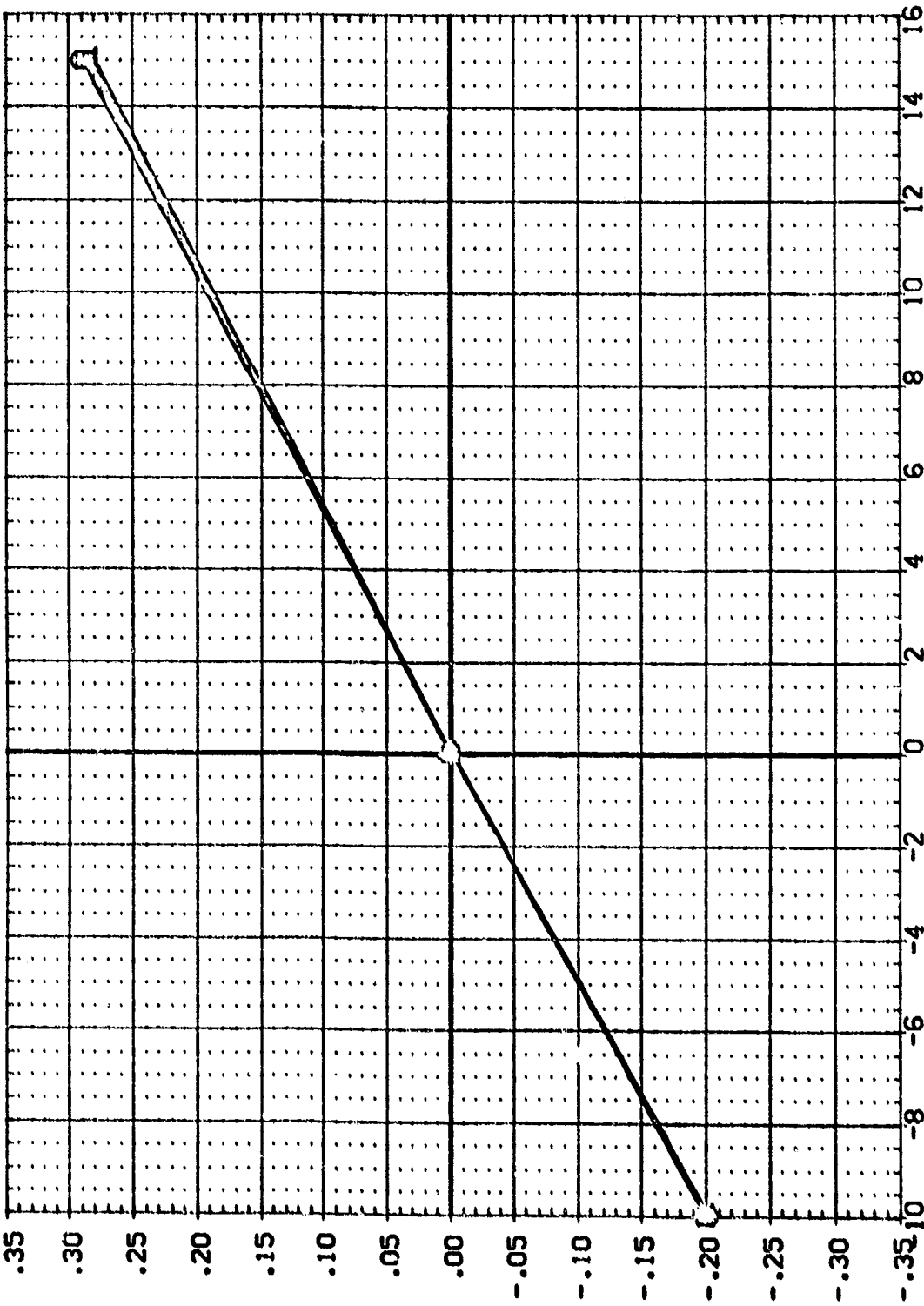


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

0A71C B16C507J34F1W87 E18V3R3X10 (EDU045)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DEL VON	DATASET	DEL VON	SREF	REFERENCE INFORMATION
○	2.000		.210 AILRON	.000	.000	EDU045	.000	LREF	4.4122 SO.FT.
□	4.000		-18.000 NACL/L	.270	15.000	EDU046	.000	EREF	19.2299 INCHES
◇	6.000		7.000 NACBTA	5.000	-10.000			XPRP	37.9349 INCHES
△	8.000		.000 RUDDER					YPRP	43.5974 INCHES
	10.000							ZPRP	16.2000 INCHES
								SCALE	.0405 SCALE

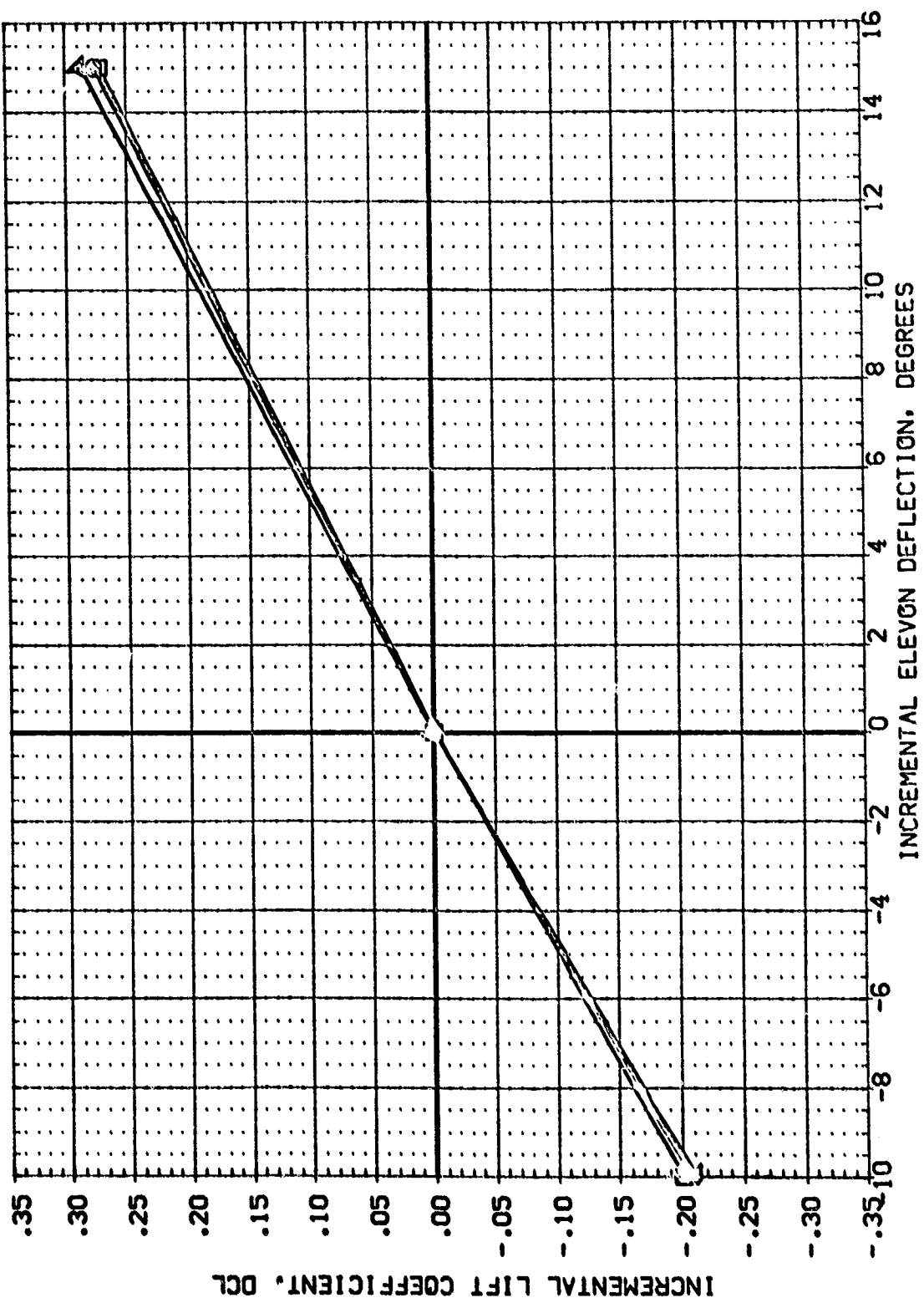


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005 PAGE 95

(EDU045)

0A71C B1EC5D7J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		DATASET		DEL VON		SREF		REFERENCE INFORMATION	
		MACH	BOFLAP	MACLIP	BETA	AILRON	NACX/L	NACBTA	RUDDER	DEL VON	DEL VON	LREF	LREF	SO.FT.	
○	□	12.000	14.000	16.000	18.000	20.000	.210	-18.000	7.000	.000	.270	EDU045	EDU044	4.4122	
◇	△									.000	5.000	EDU046	EDU046	19.2299	
										.000	-10.000			37.9349	
														43.5574	
														16.0000	
														16.2000	
														.0405	
														SCALE	

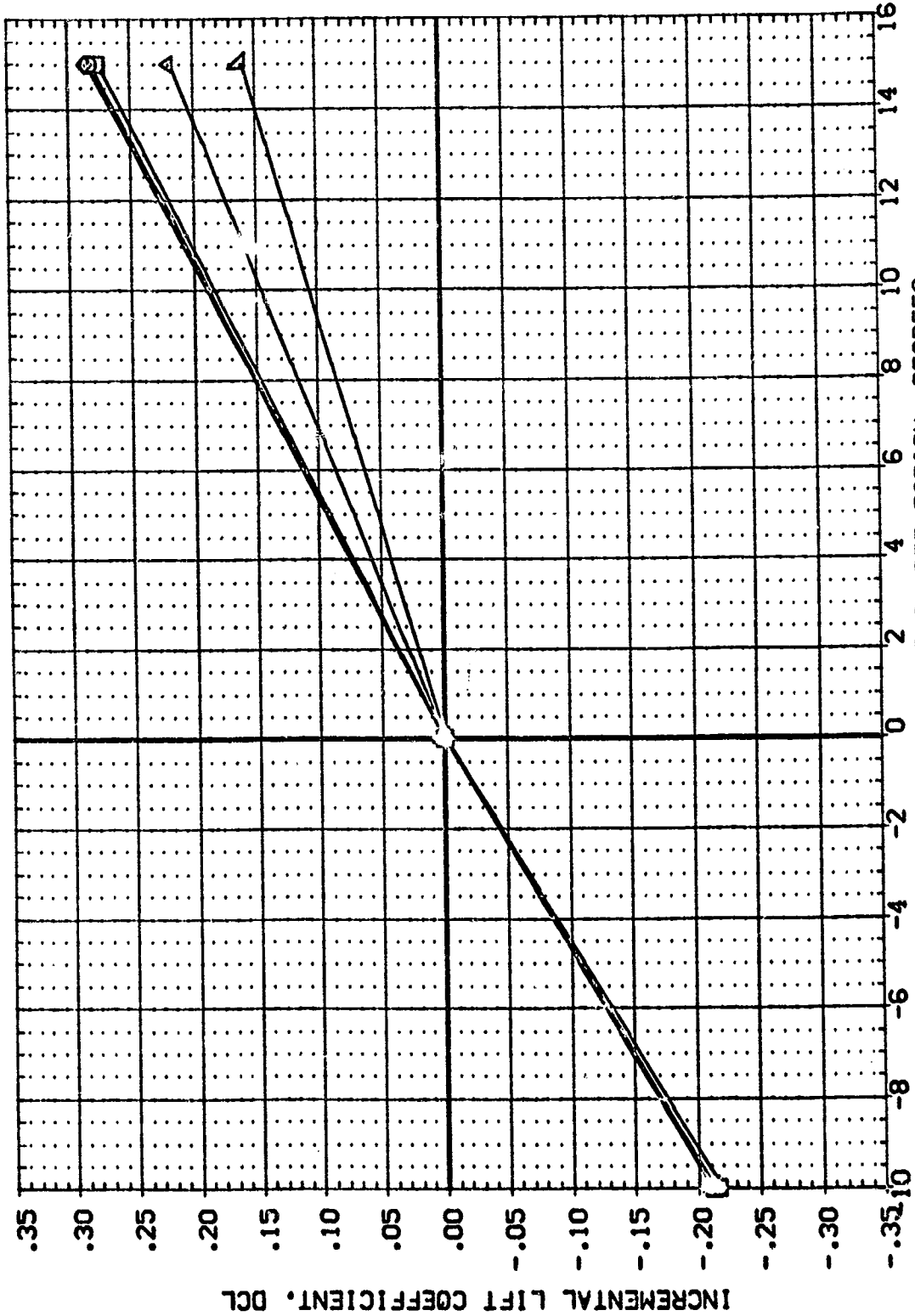
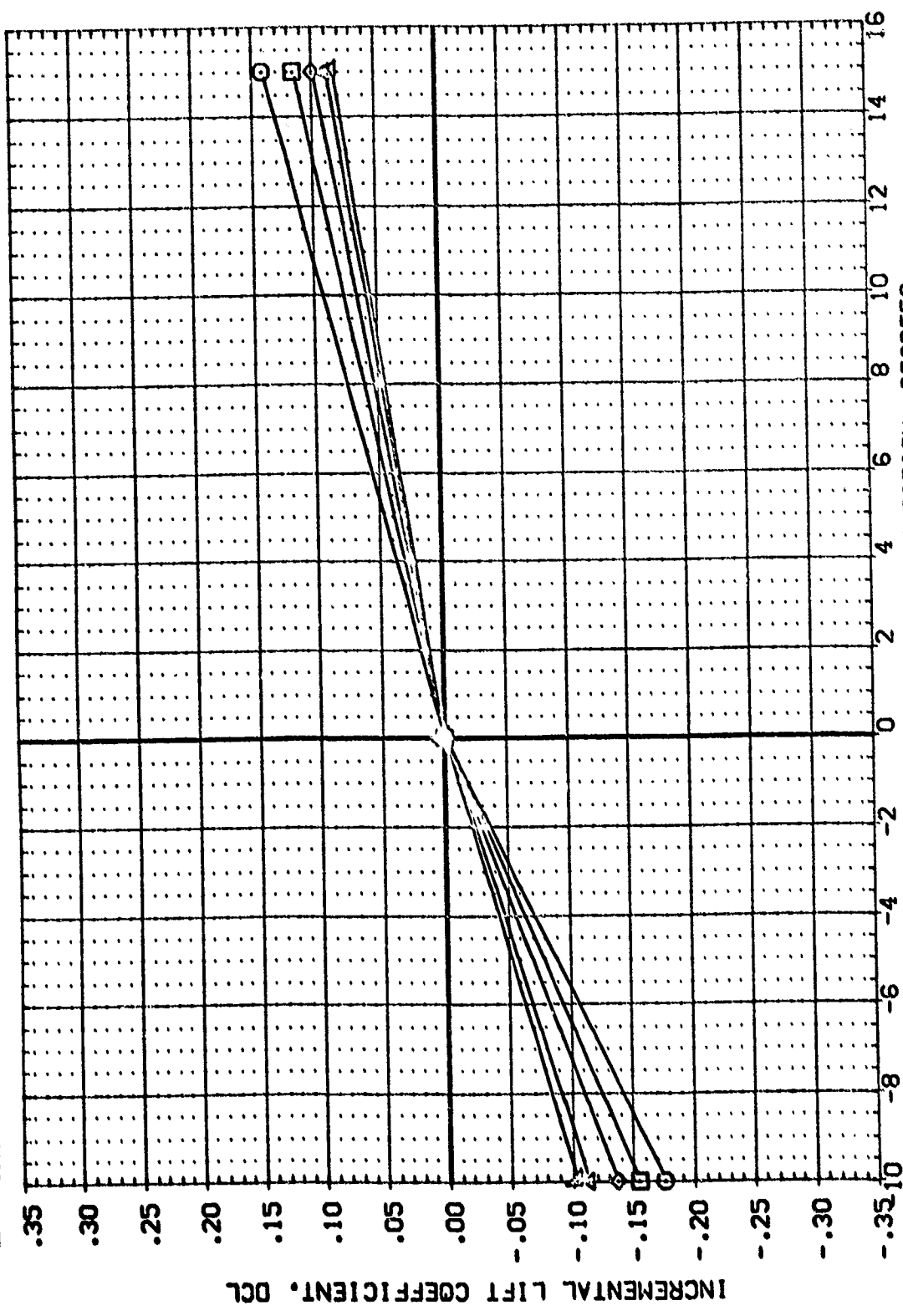


FIG 9 INCREMENTAL EFFECT OF ELEVLONS - CLUSTERED NACELLES UNDERWING XO= 1005

(EDU045)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DEL VON	DEL VON	SCALE	SO. FT.
○	22.000		.210	.000	.000	4.4122	19.2299	INCHES
□	24.000		-18.000	.270	.000	37.9349	43.5974	INCHES
◇	26.000		7.000	5.000	.000	16.2000		INCHES
△	28.000		.000	.000	.000			INCHES
▽	30.000							SCALE



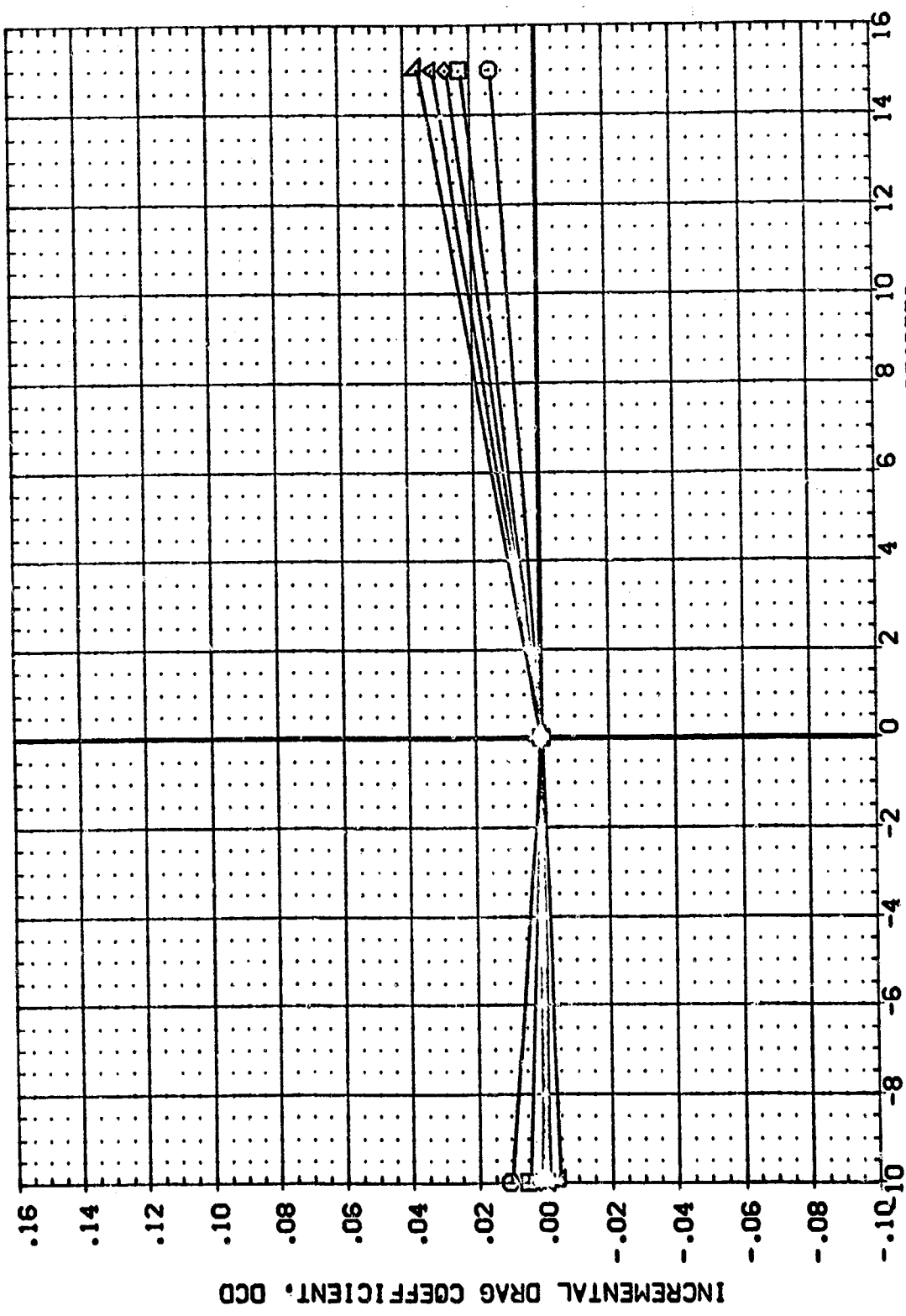
INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDU045)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		DATASET		DELTA		REFERENCE INFORMATION	
○	□	MACH	.210	AILERON	.000	EDU045	SREF	.000	SO.FT.	4.4122	INCHES	19.2259	
◇	△	EDFLAP	-18.000	NACX/L	.270	EDU045	LREF	.000	INCHES	37.9349	INCHES	43.5974	
		NACLIP	7.000	NACBTA	5.000	EDU044	XMRP	.000	INCHES	43.0000	INCHES	16.2000	
		BETA	.000	RUDDER	.000		YMRP	.000	INCHES	16.2000	INCHES	.0405	
							ZMRP	.000	INCHES	16.2000	INCHES	SCALE	
							SCALE						



INCREMENTAL ELEVON DEFLECTION, DEGREES

INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

PAGE 98

(EDU045)

0A71C B16C507J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELTA	DELTA	SRF	SO. FT.
2.000	.210	.000	.000	LREF	INCHES
4.000	-18.000	EDU045	.000	BREF	INCHES
6.000	7.000	EDU044		XPRP	INCHES
8.000	.000			YPRP	INCHES
10.000				ZPRP	INCHES
				SCALE	SCALE

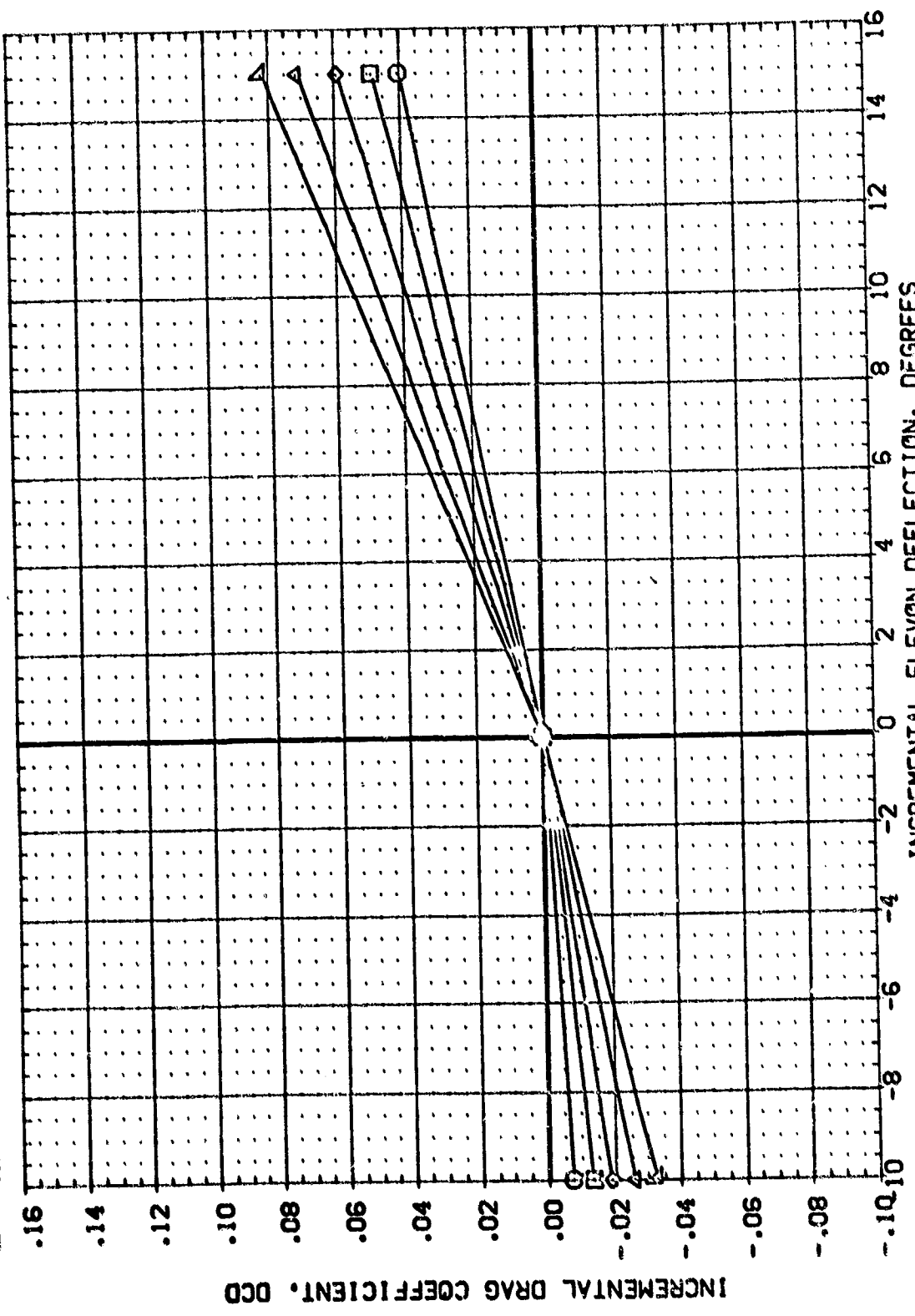


FIG 9 INCREMENTAL EFFECT OF ELEVLONS - CLUSTERED NACELLES UNDERWING XO= 1005

(EDJ045)

0A71C B16C507J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELTA	DELTA	SIZE	SCALE
12.000	20.000	0.000	0.000	4.4122	50. FT.
14.000	20.000	.270	EDJ045	19.2223	INCHES
16.000	20.000	5.000	EDJ044	37.5045	INCHES
18.000	20.000	.000		42.5374	INCHES
19.000	20.000			16.0000	INCHES
22.000	20.000			16.0000	SCALE

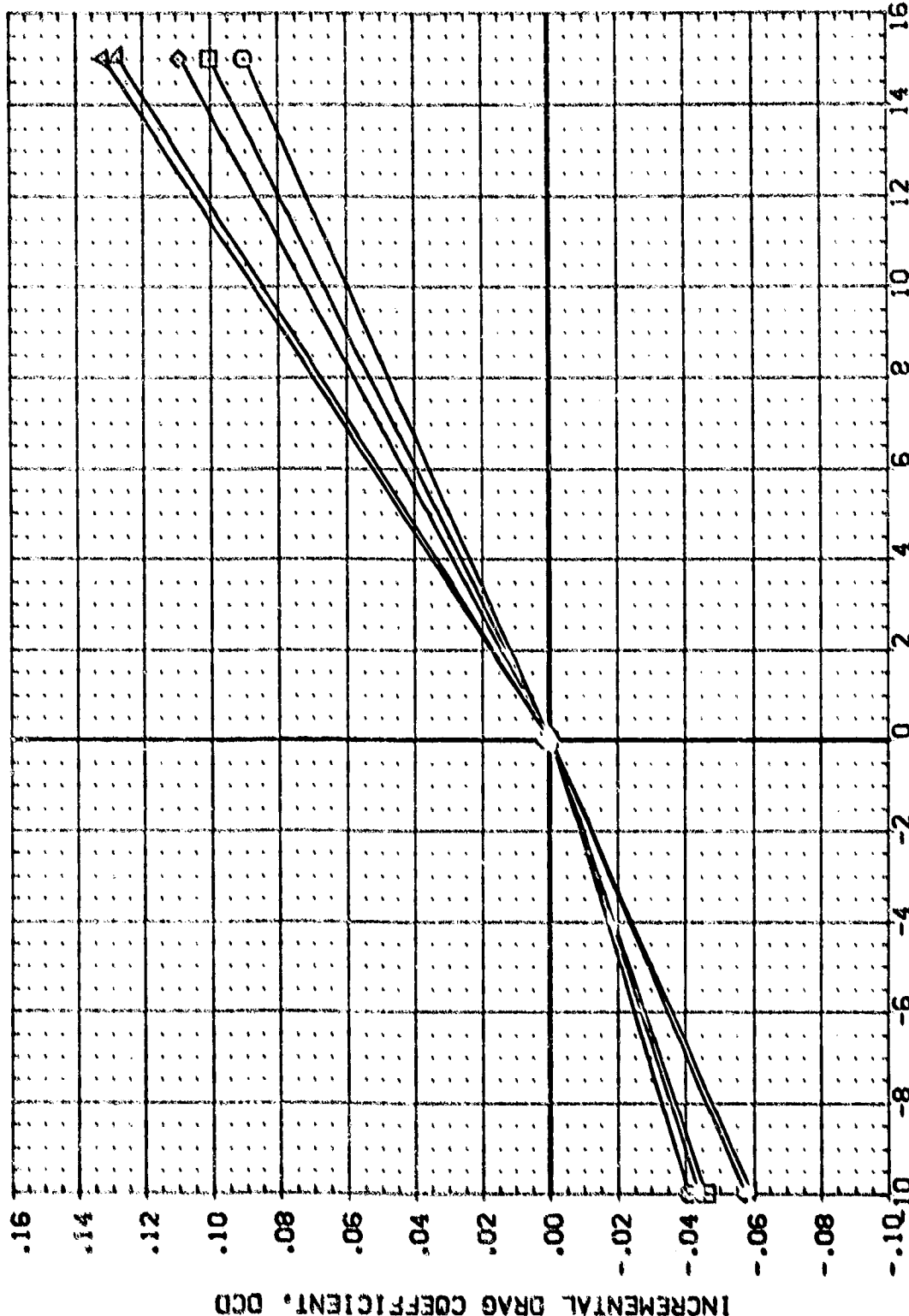


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1005 - PAGE 100

(EDU045)

0A71C B16C507J34FIW87 E18V3R3X10

SYMBOL	ALPHA	KACH	PARA-METRIC VALUES	DATA SOURCE	DELTA	DELTA	DELTA	SCALE	REFERENCE INFORMATION
○	22.000	.210	A1L00A	.000	EDU045	.000	4.4122	50.000	IN-OES
□	24.000	-18.000	M00/L	.270	EDU045	.000	19.2253	10.000	IN-OES
△	25.000	7.000	M00/BTA	5.000	EDU044	.000	37.9349	10.000	IN-OES
▽	28.000	.000	PJ00R	.000		.000	43.5574	10.000	IN-OES
	30.000						16.2000	10.000	IN-OES
							.0405	SCALE	SCALE

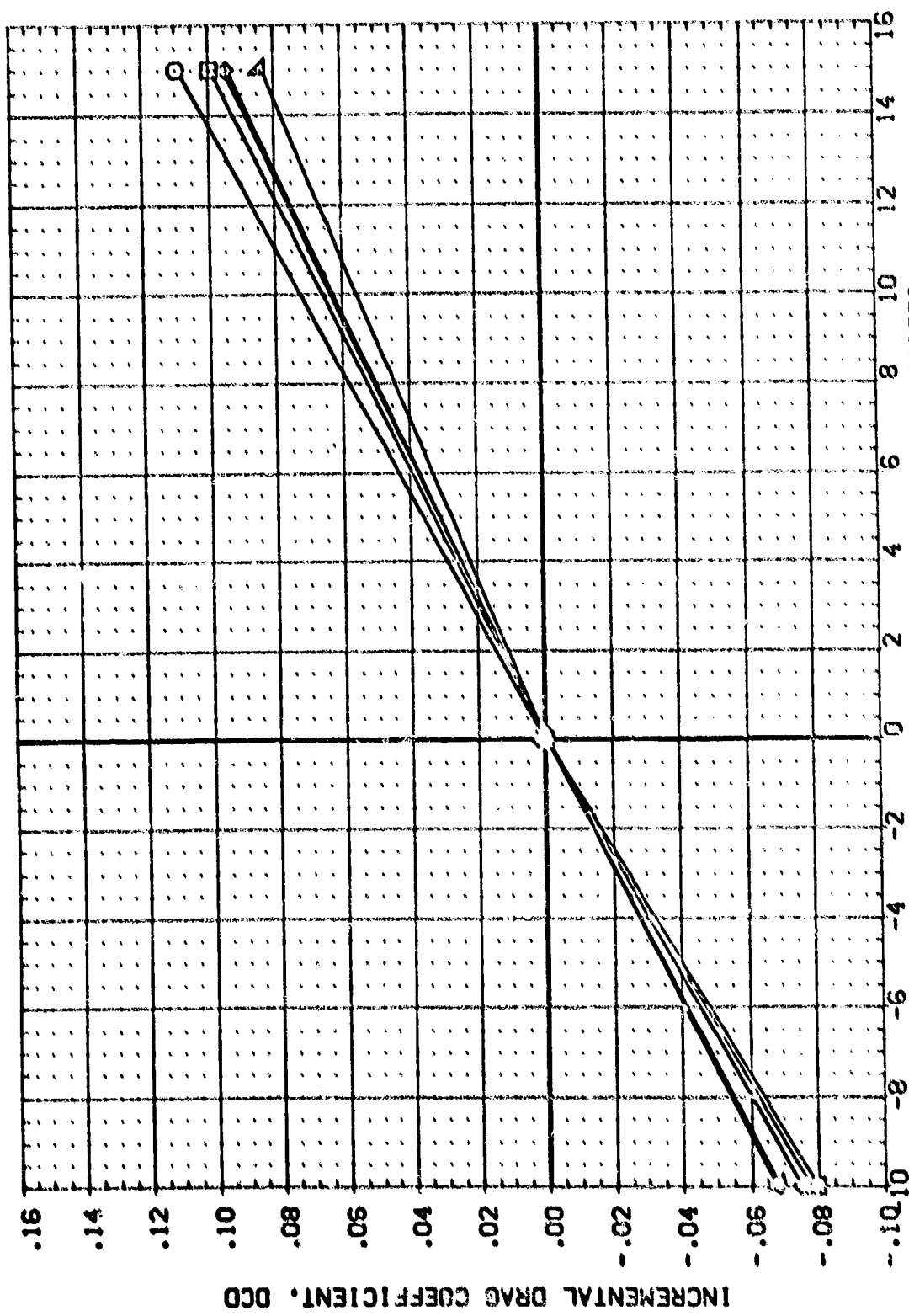


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MICELLES UNDERWINS Y0= 1005

CA71C B16C557J34F1W87 E18/2P3/10 (EDUC45)

SYMBOL	ALPHA	HACK	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DELTA	SCALE	REFERENCE INFORMATION
0	-4.000		.210	DELTA	EDUC45	.000		4.4122
1	-2.000	DELTA	-15.000	DELTA	EDUC45	.000		19.2226
2	-1.000	WCLIP	7.000	DELTA	EDUC45	.000		27.1343
3	.000	BETA	.000	DELTA	EDUC45	.000		43.5574
4	1.000			DELTA	EDUC45	.000		15.2000
				SCALE	EDUC45			SCALE

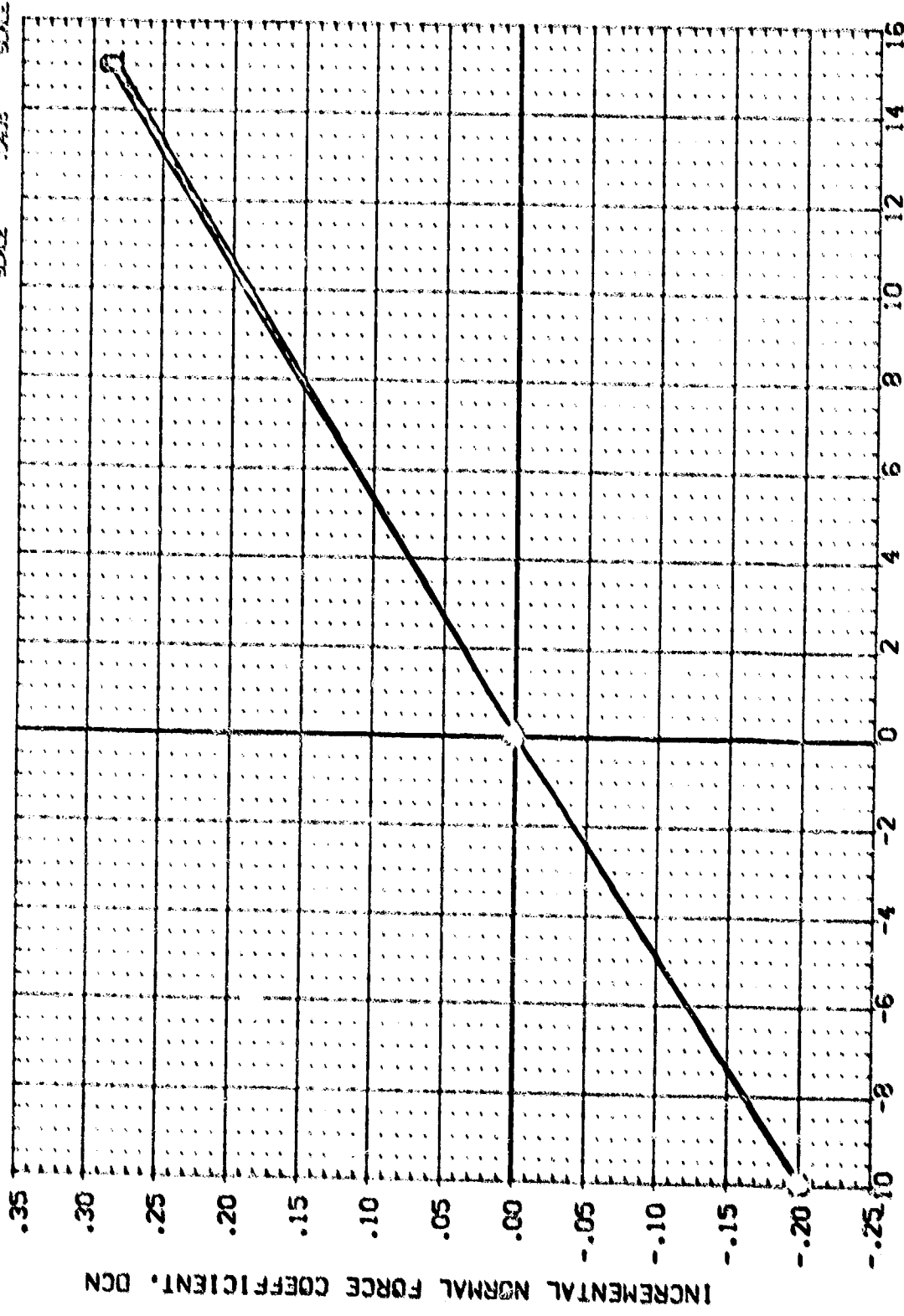
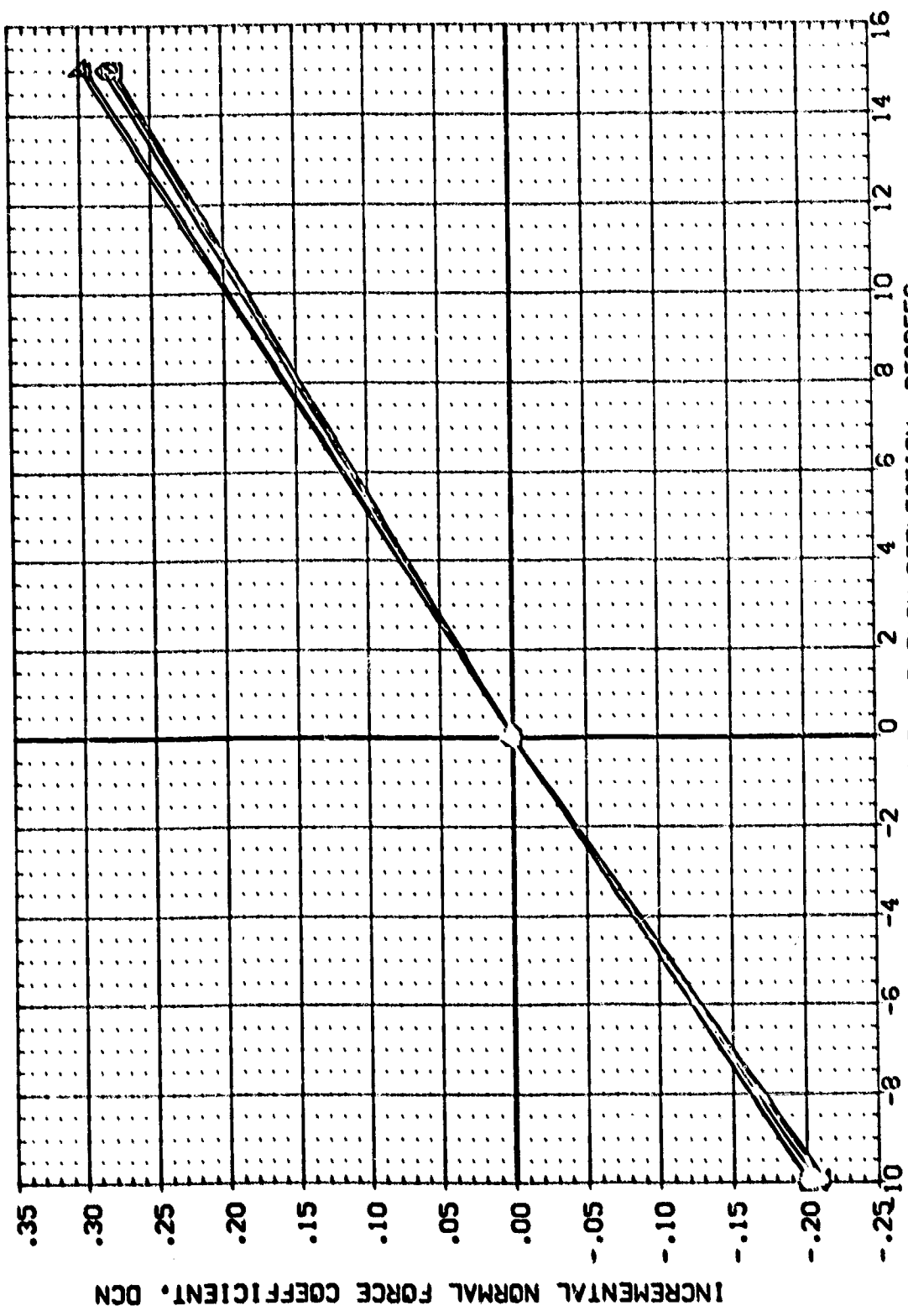


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MANGLES UNDERWINS X0= 1005

(EDU045)

0A71C B16C5D7J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000	DELVON	SREF	50.FT
2.000	2.000	.270	EDU045	LREF	19.2559
4.000	30FLAP	5.000	EDU044	BREF	37.9349
6.000	NACLIP	.000		XREF	43.5574
8.000	BETA			YREF	.0000
10.000				ZREF	15.2000
				SCALE	.0405



INCREMENTAL EVELON DEFLECTION, DEGREES

FIG 9 INCREMENTAL EFFECT OF EVELONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDU045)

GA71C B16C5D7J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELVON	DELVON	SPCF	SO.FT.
12.000	.210	.000	.000	19.2228	IN-OES
14.000	-12.000	.270	EDU045	37.5243	IN-OES
16.000	7.000	5.000	EDU044	43.5274	IN-OES
18.000	.000	.000		16.0000	IN-OES
20.000	P.DDPR	.000		.0405	SCALE

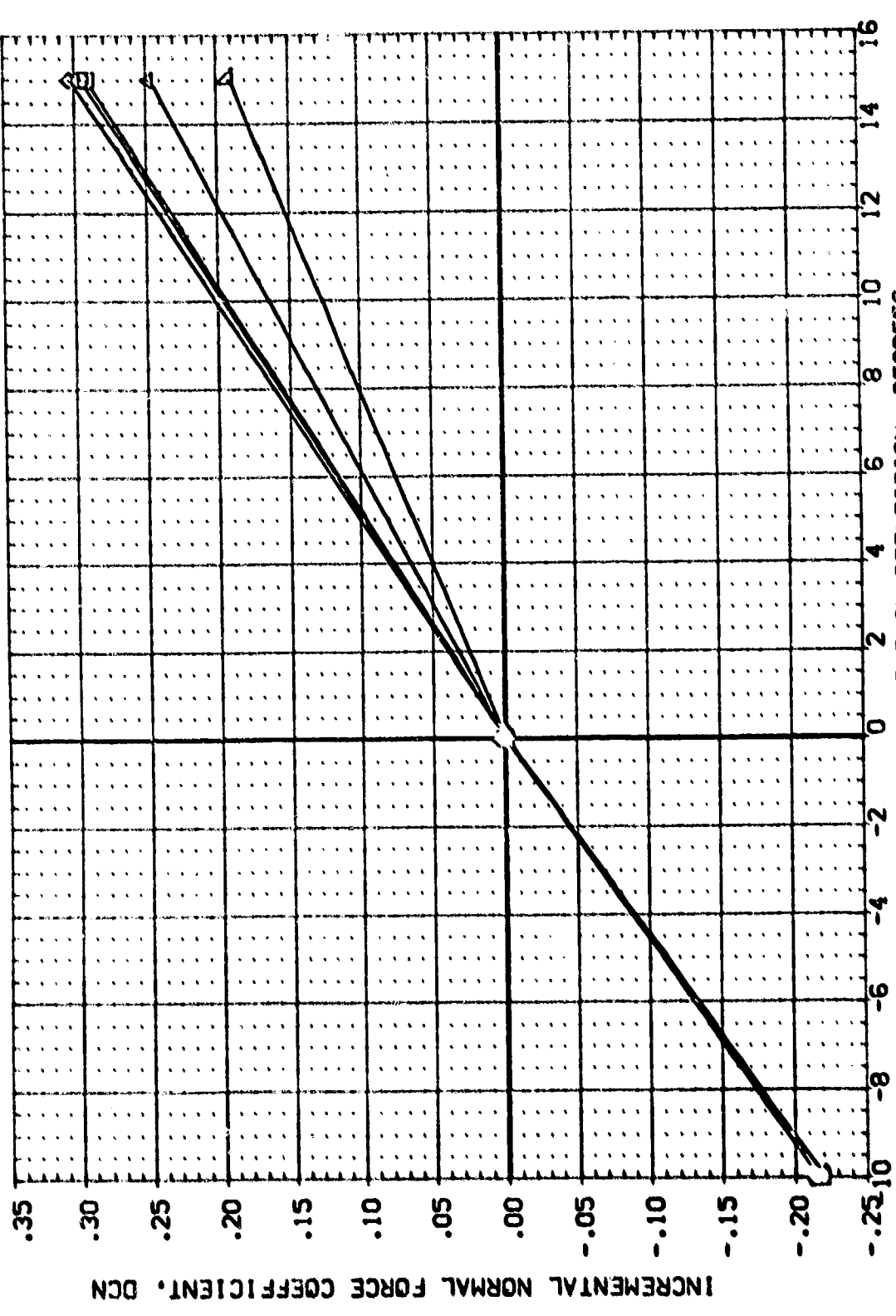
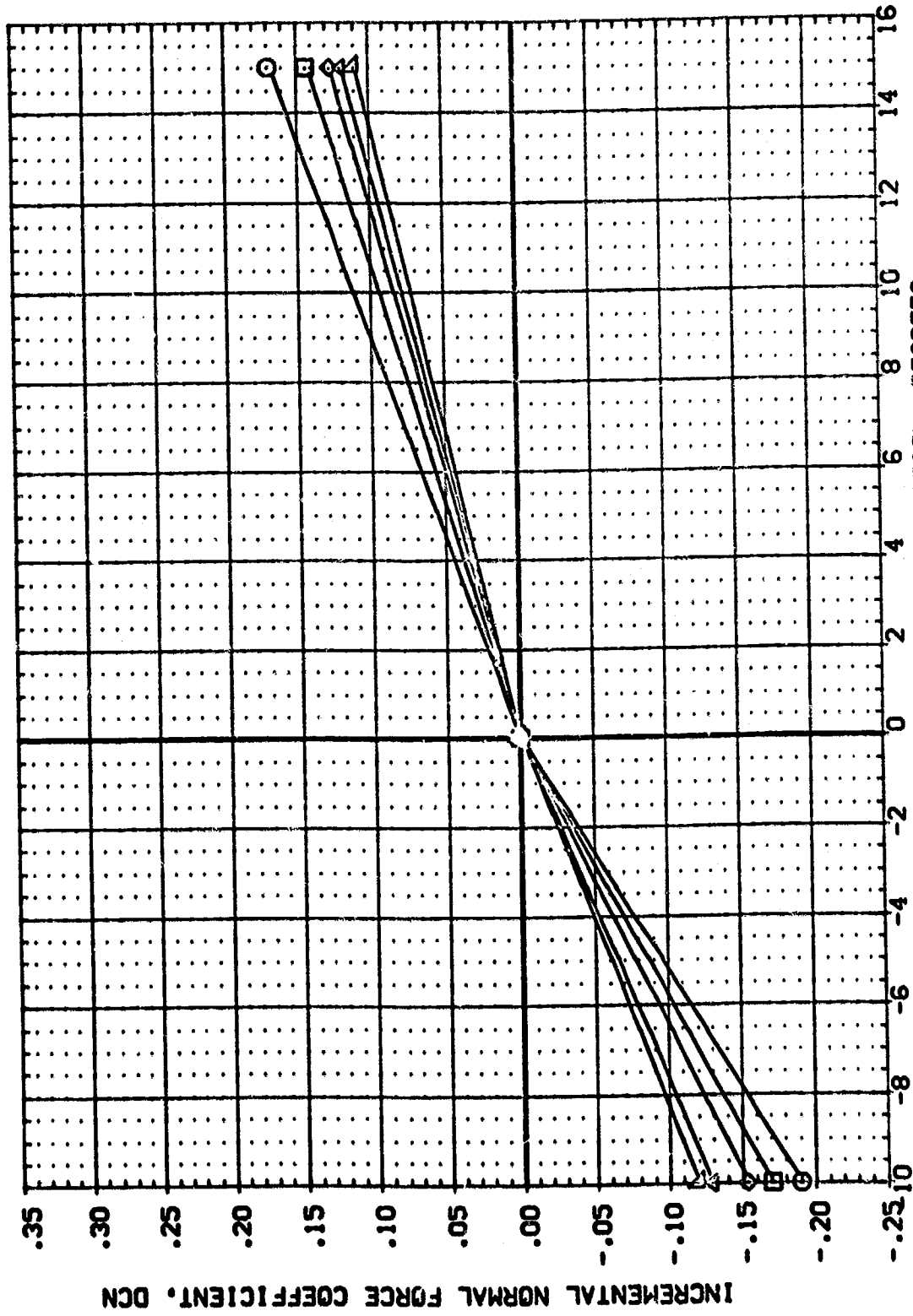


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDU045)

0A71C B16CSD7J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000	DELVON	SREF	SO.FT.
22.000	-18.000	.270	EDU045	LREF	INCHES
24.000	7.000	5.000	EDU045	BREF	INCHES
26.000	.000	.000		XREF	INCHES
28.000	.000			YREF	INCHES
30.000	.000			ZREF	INCHES
				SCALE	SCALE



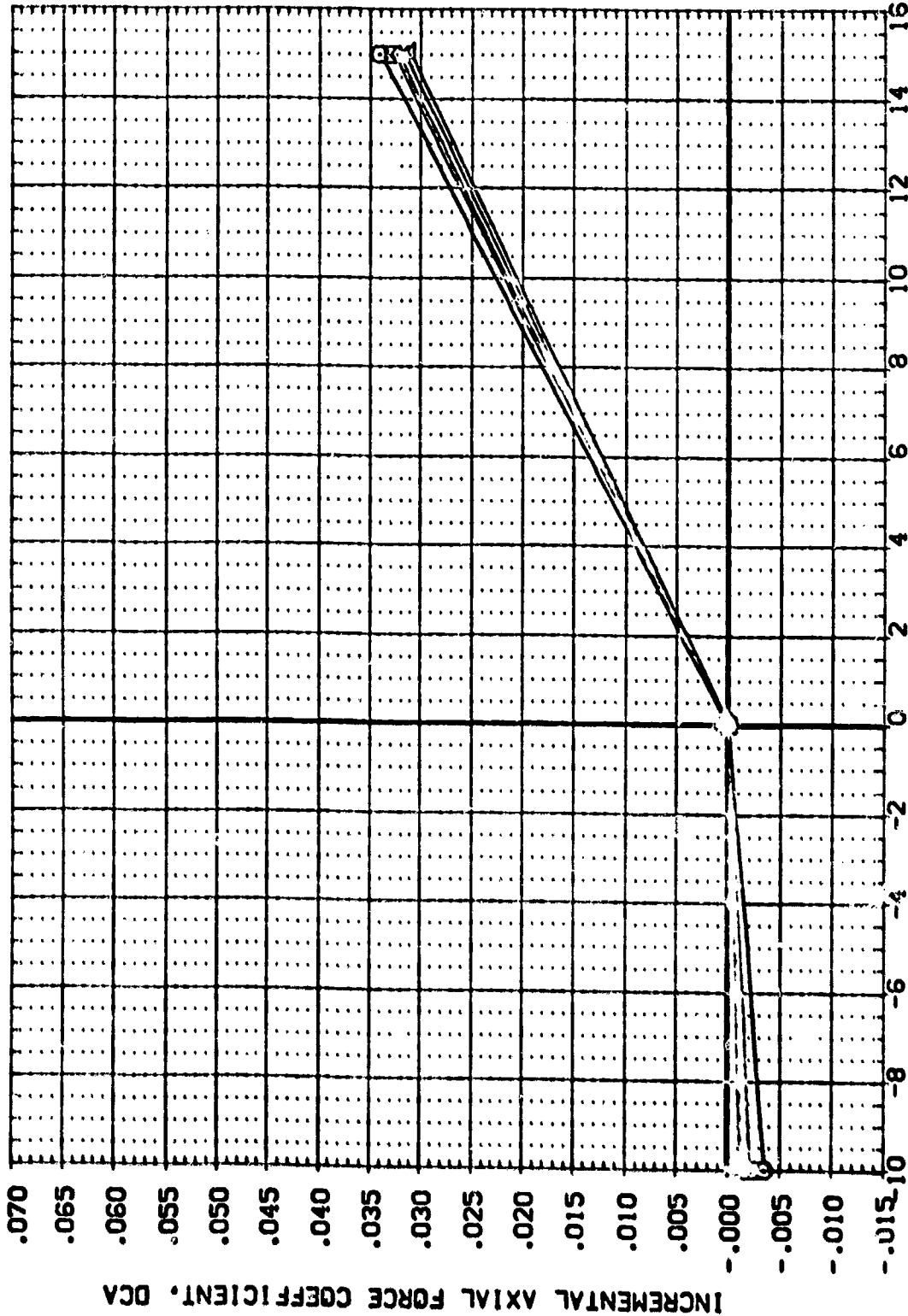
INCREMENTAL ELEVON DEFLECTION, DEGREES

INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1005

ED00433

DA71C 816C507J34F1W87 E12V3R3X1U

SYMBL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	-1.000		.210 AILUCA	.000 DATASET	4.4122 SQ.FT.
□	-2.000	EDFLAP	-18.000 NACXVL	DELVON .000	19.2299 INCHES
◇	-1.000	NACLIP	7.000 NACBTA	EDJ046	37.9349 INCHES
△	.000	BETA	.000 RLODER	EDJ044	43.5974 INCHES
▽	1.000			EDJ045	.0000 INCHES
				ZMRP	16.2000 INCHES
				SCALE	.0405 SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XC=1005

(EDU045)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
○	2.000		.210	AILRON	.000	DATASET	DELVON	SREF	4.4122	SO.FT.				
□	4.000	EDFLAP	-18.000	NAC/L	.270	EDU045	.000	LREF	19.2299	INCHES				
◇	6.000	NACLIF	7.000	NACBTA	5.000	EDU044		XREF	37.9349	INCHES				
△	8.000	BETA	.000	RUDDER	.000			YGRP	43.5974	INCHES				
▽	10.000							ZGRP	16.2000	INCHES				
								SCALE	.0405	SCALE				

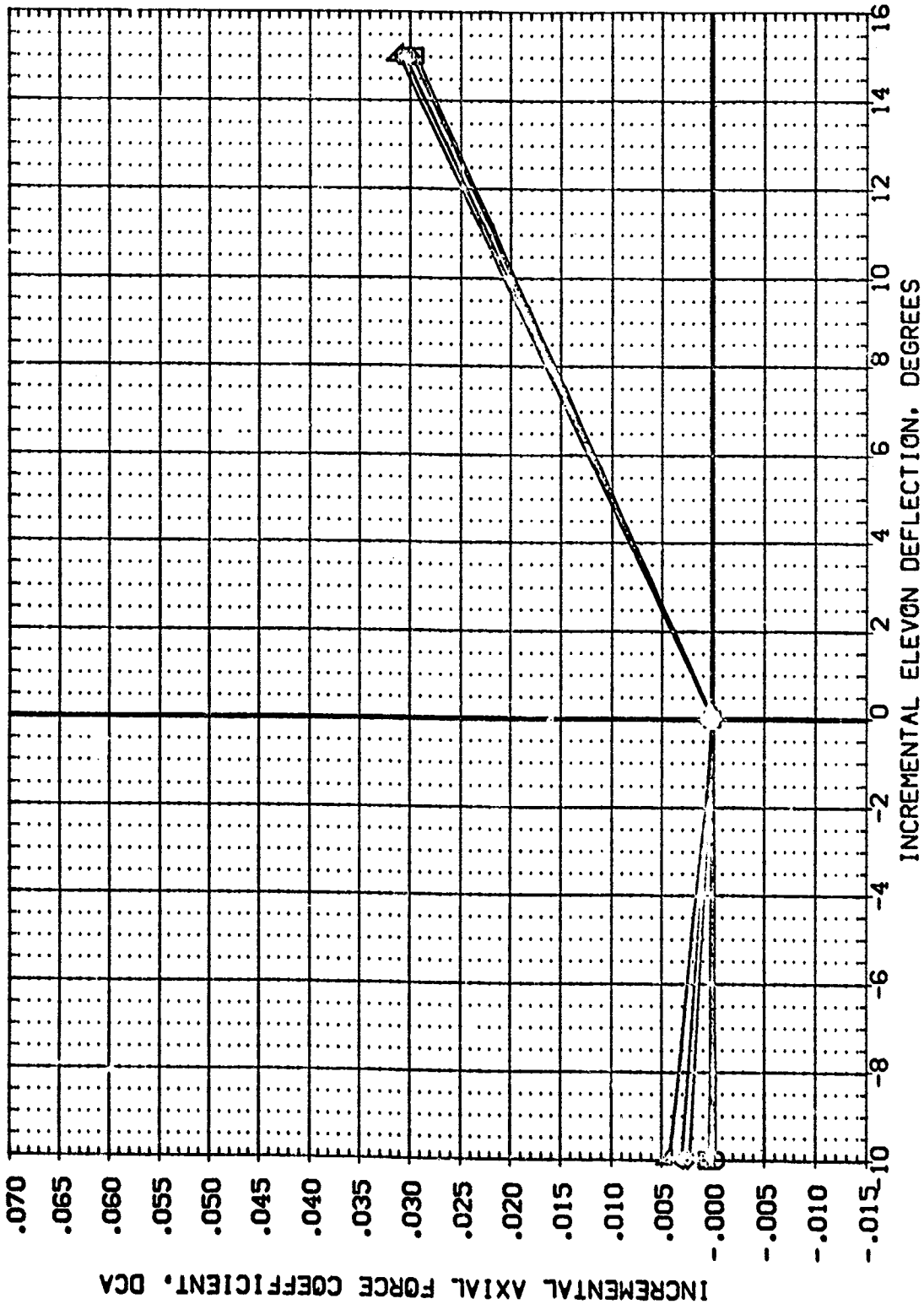


FIG 9 INCREMENTAL EFFECT OF EVELONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDU045)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
○	□	MACH	AILRON	DELVON	SREF	SO.FT.	LREF	INCHES	INCHES	INCHES	
◇	△	BOFLAP	NACK/L	.000 DATASET	.000	4.4122	BRGF	19.2299	37.9349	43.5974	
		NACL/P	NACBTA	.270 EDU045	.000	16.2000	YREF	16.2000	16.2000	16.2000	
		BETA	RUDDER	5.000 EDU044	.000	.0405	ZREF	16.2000	16.2000	16.2000	
				.000	.000		SCALE				

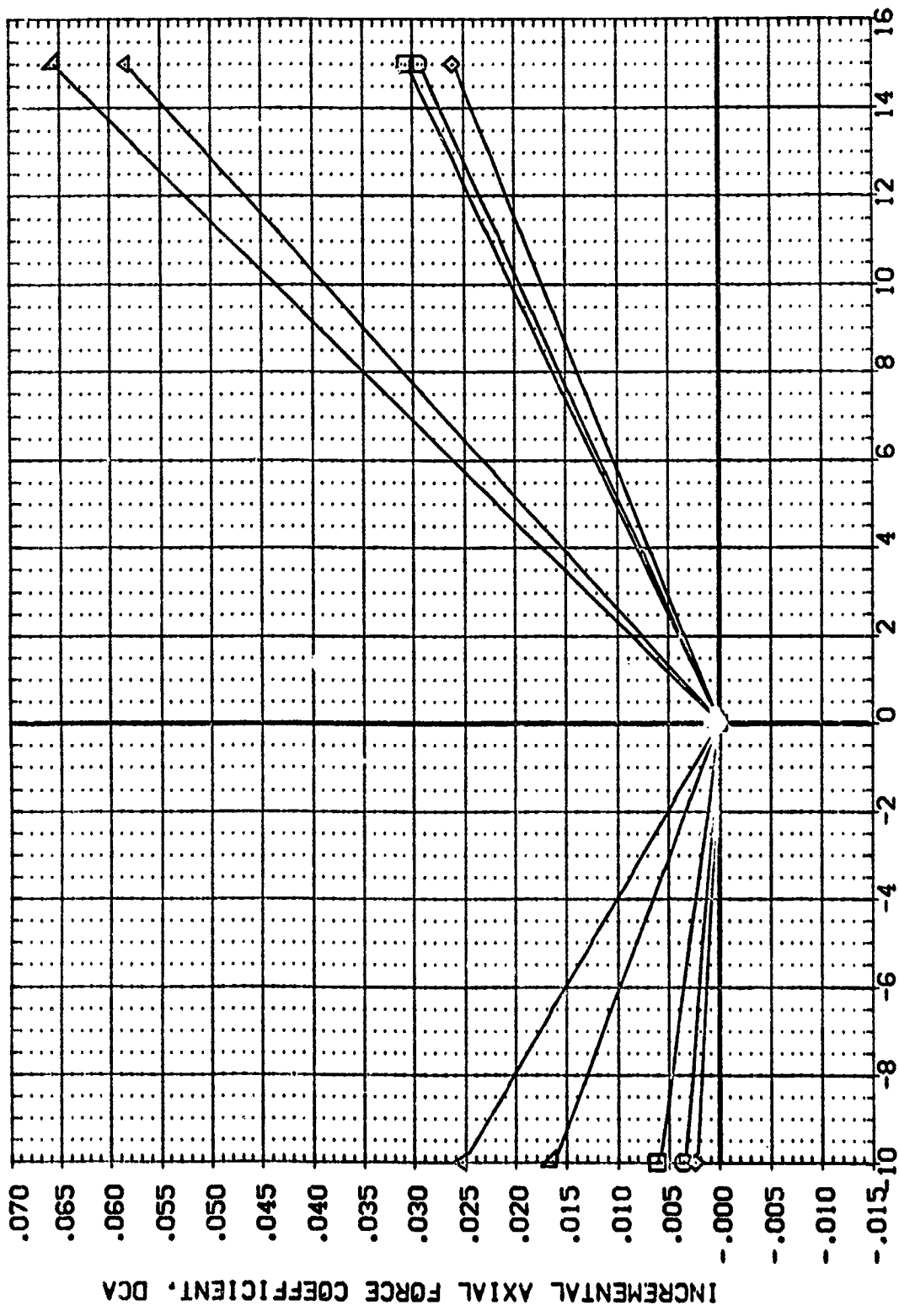


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDU045)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
○	□	ALPHA	MACH	AILRON	.000	DATASET	DELVN	SREF	4.4122	SO.FT.	19.2299
○	□	22.000		-18.000	.270	EDU045	15.000	LREF	37.9349	INCHES	
○	□	24.000	BDFLAP	7.000	5.000	EDU044	-10.000	BREF	43.5974	INCHES	
○	□	26.000	WACLIP					XWRP	.0000	INCHES	
○	□	28.000	BETA	.000				ZWRP	16.2000	INCHES	
○	□	30.000						SCALE	.0405	SCALE	

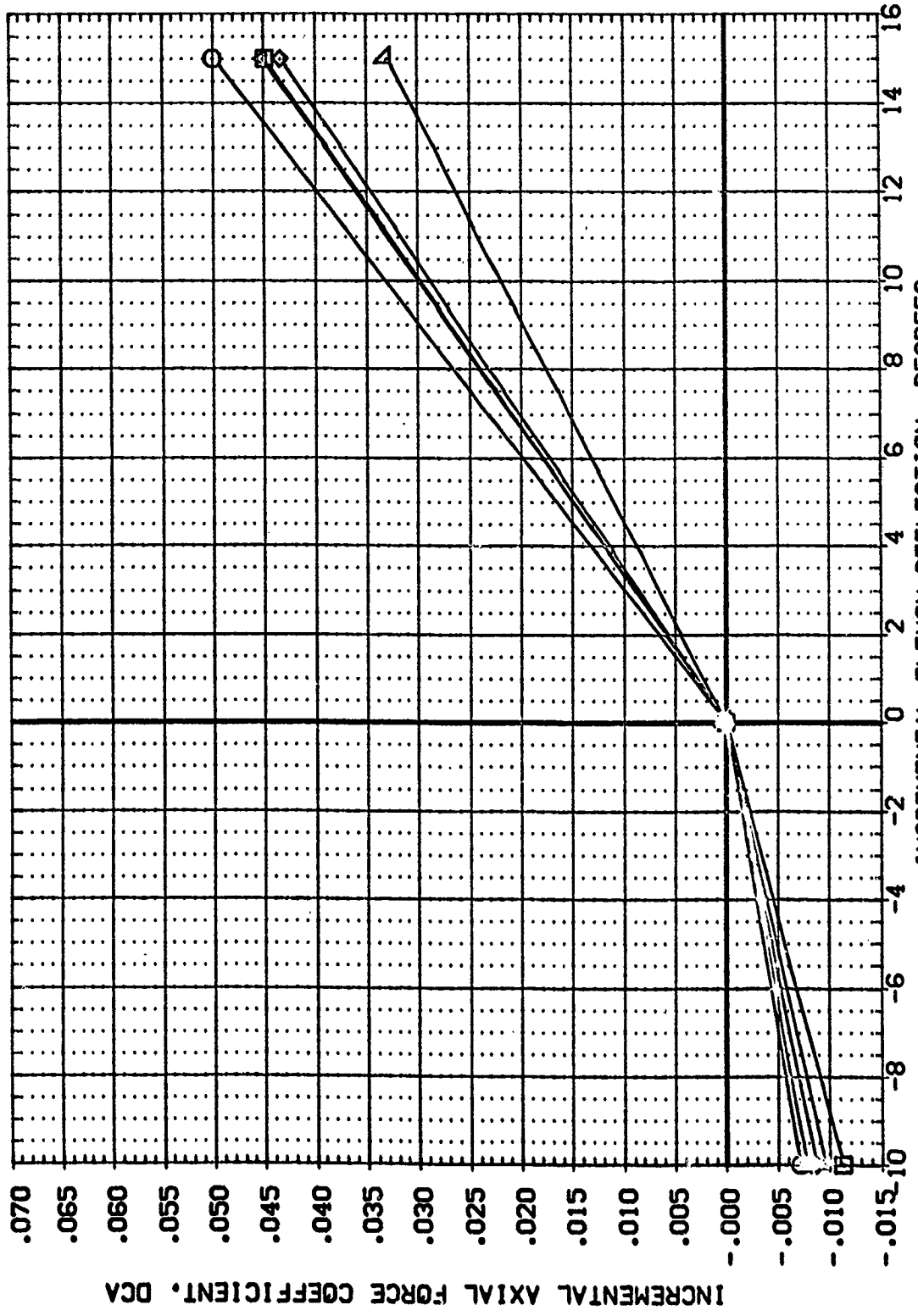


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

0A71C B16C5D7J34F1W87 E18V3R3X10 (EDU045)

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
○	-4.000					AILRON	DELVON	EDU045	.000	LREF	SO.FT.
□	-2.000					NACX/L	DELVON	EDU045	.000	BREF	INCHES
◇	-1.000					NACBTA	DELVON	EDU045	.000	XREF	INCHES
△	.000					RUDDER	DELVON	EDU045	.000	YREF	INCHES
	1.000						DELVON	EDU045	.000	ZREF	INCHES
							SCALE				SCALE

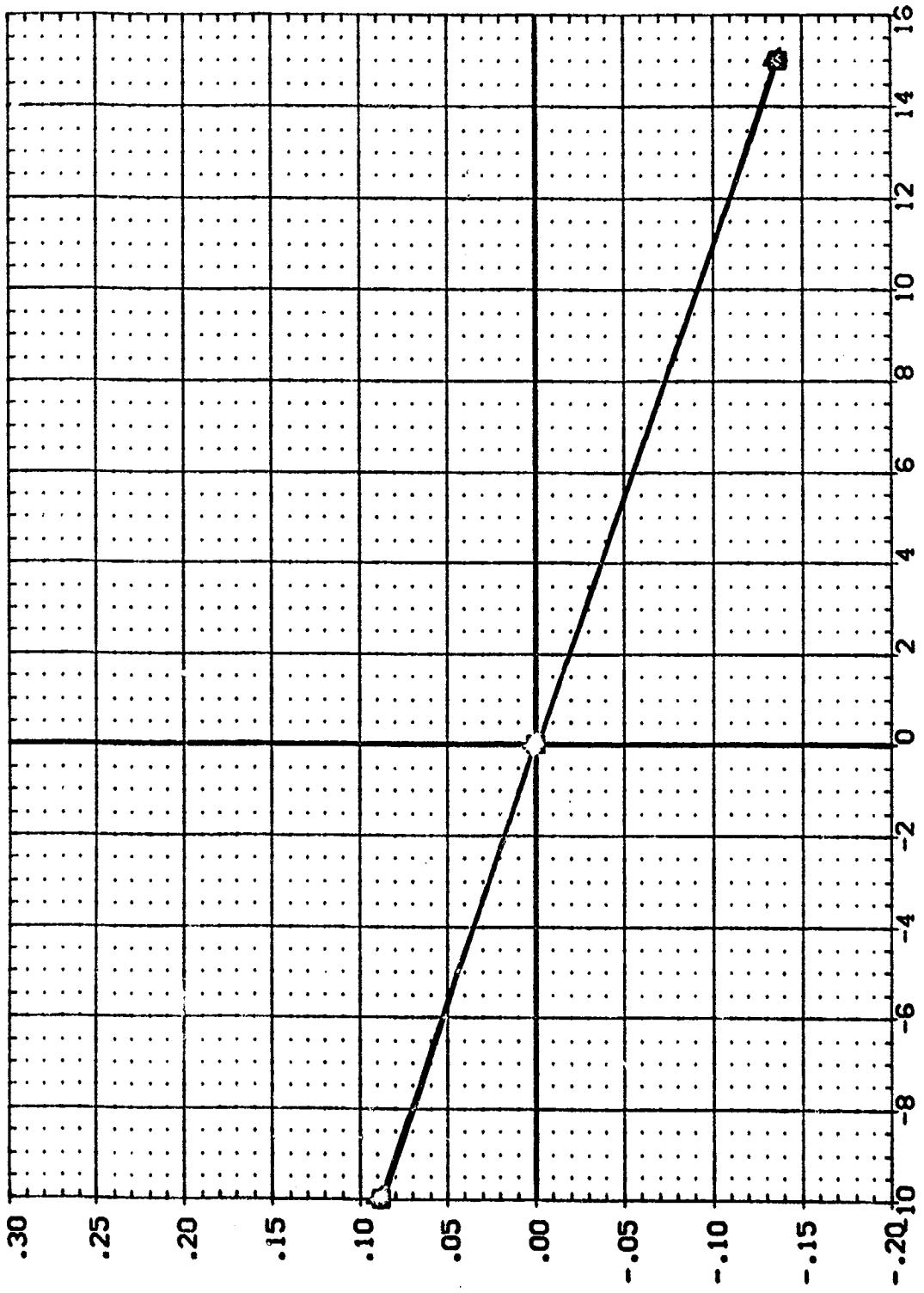


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 110



(EDU045)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
○	2.000					AILRON	DELVON	EDU046	.000	LREF	50. FT.
□	4.000					NACX/L	DELVON	EDU045	.000	BREF	INCHES
◇	6.000					NACBTA	DELVON	EDU045	.000	XTRP	INCHES
△	8.000					RUDDER	DELVON	EDU045	.000	ZTRP	INCHES
	10.000						DELVON	EDU045	.000	SCALE	SCALE

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB.). DCMFWD

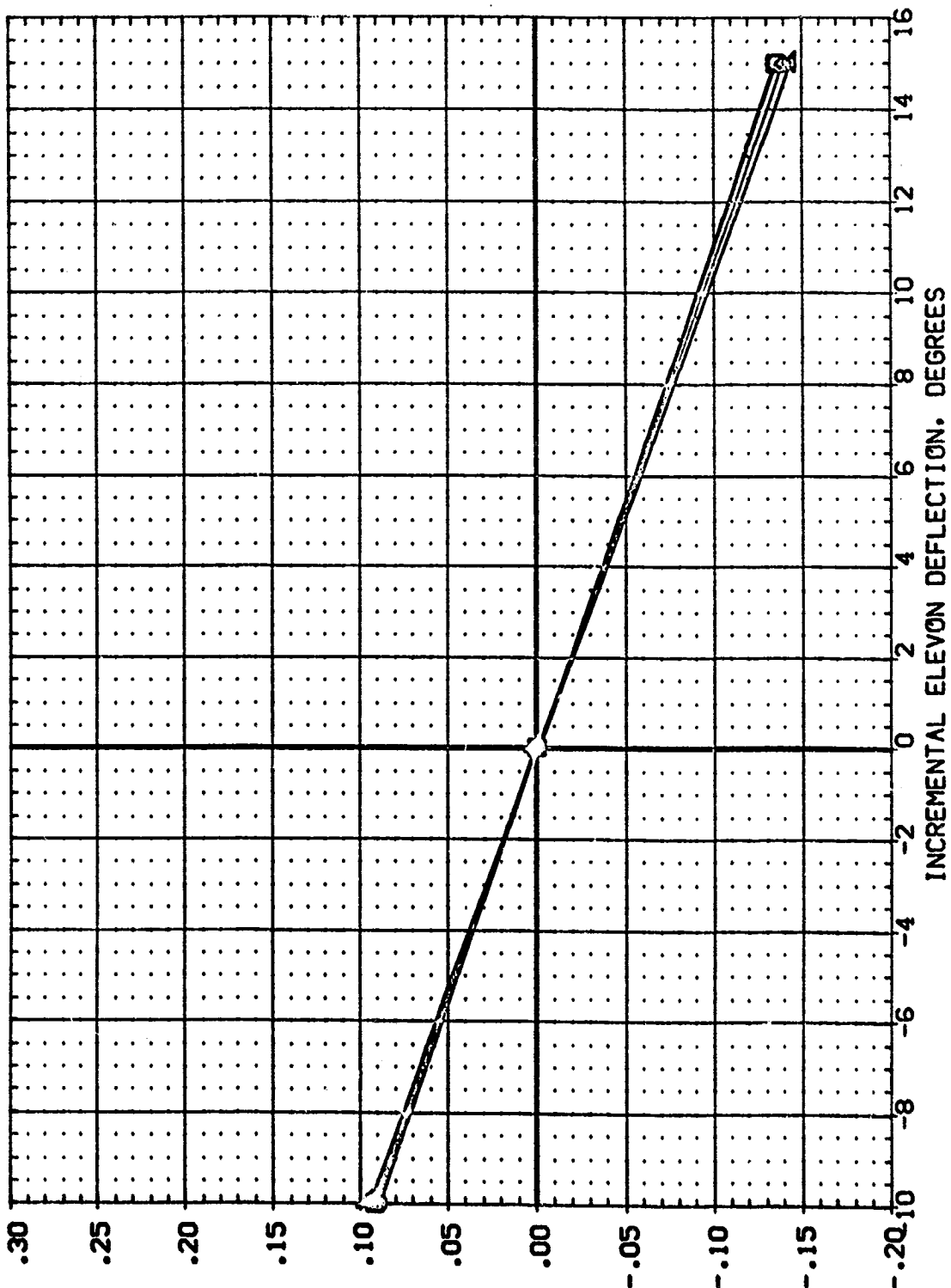


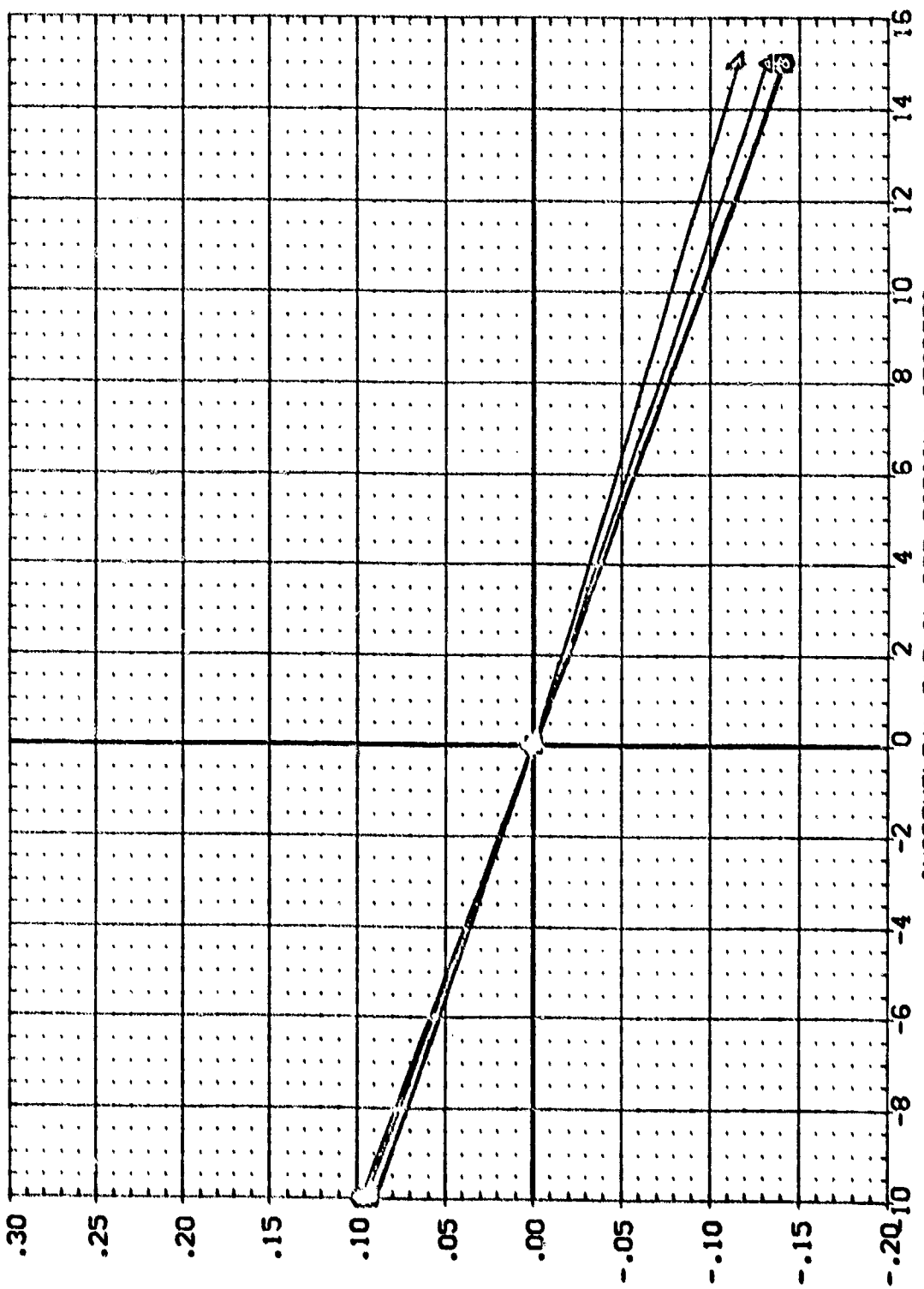
FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDU045)

0A71C 816C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE	DELTA	DELTA	REF	REFERENCE INFORMATION
○	12.000	BOFLAP	.210	A1LRON	DELVON	EDU046	REF	50. FT.	
◇	14.000	MAC %L	-18.000	MAC %L	DELVON	EDU045	REF	19.2228	
△	15.000	BETA	7.000	MACBETA	DELVON	EDU044	REF	37.8249	
▽	19.000		.000	RUDDER	DELVON		REF	43.5874	
	20.000				DELVON		REF	.0000	
					DELVON		REF	16.2000	
					DELVON		REF	.0405	
					DELVON		REF	SCALE	

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB), DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1005

(EDU045)

0A71C 216C507J34F1W87 E18V3R3X10

REFERENCE INFORMATION
 SO.FT. 4.4122
 INCHES 19.2768
 INCHES 37.9349
 INCHES 43.9374
 INCHES .0000
 INCHES 16.2200
 SCALE .0425

DATA SOURCE
 DELVON
 DELVON .000
 EDL045
 EDL045
 EDL044
 EDL044

PARAMETRIC VALUES
 .210 AILPON
 -18.000 MACX/L
 7.000 MACBETA
 .000 PLUDDER

ALPHA 22.000
 24.000
 26.000
 28.000
 30.000

MACH 20FLAP
 MACLIP
 ZETA

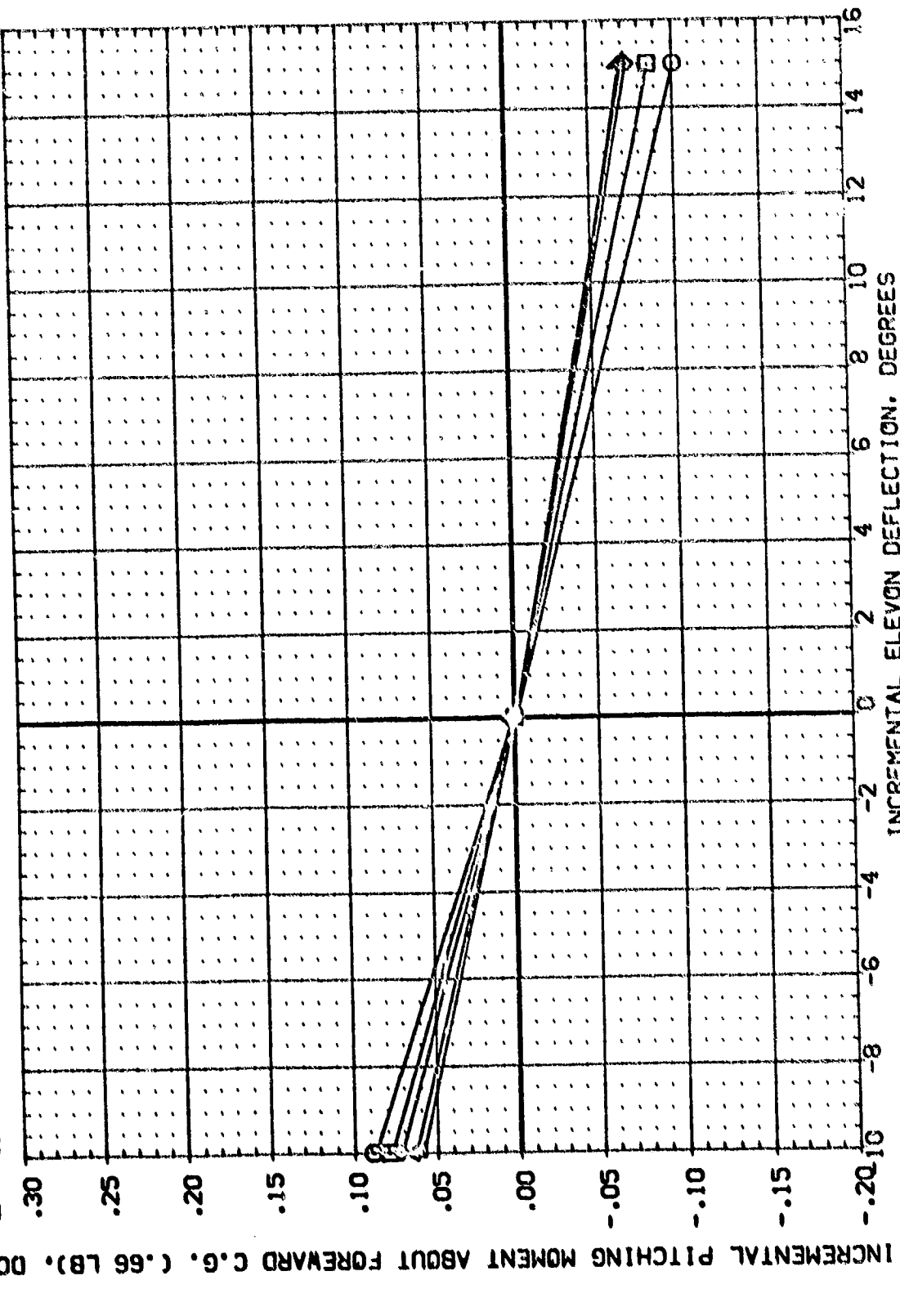


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1005

0A71C B16C5D7J34F1W87 E18V3R3X10 (EDU045)

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELTVN	DATASET	DELTVN	SREF	REFERENCE INFORMATION
○	-4.000					.210 AILRON	.000 DATASET	.000	EDU046	.000	4.4122	SO.FT.
□	-2.000					-18.000 NACX/L	DELTVN	15.000	EDU045		19.2269	INCHES
◇	-1.000					7.000 NACBTA	-10.000		EDU044		37.9349	INCHES
△	.000					.000 RUDDER					43.5974	INCHES
▽	1.000										.0000	INCHES
											16.2000	INCHES
											.0405	SCALE

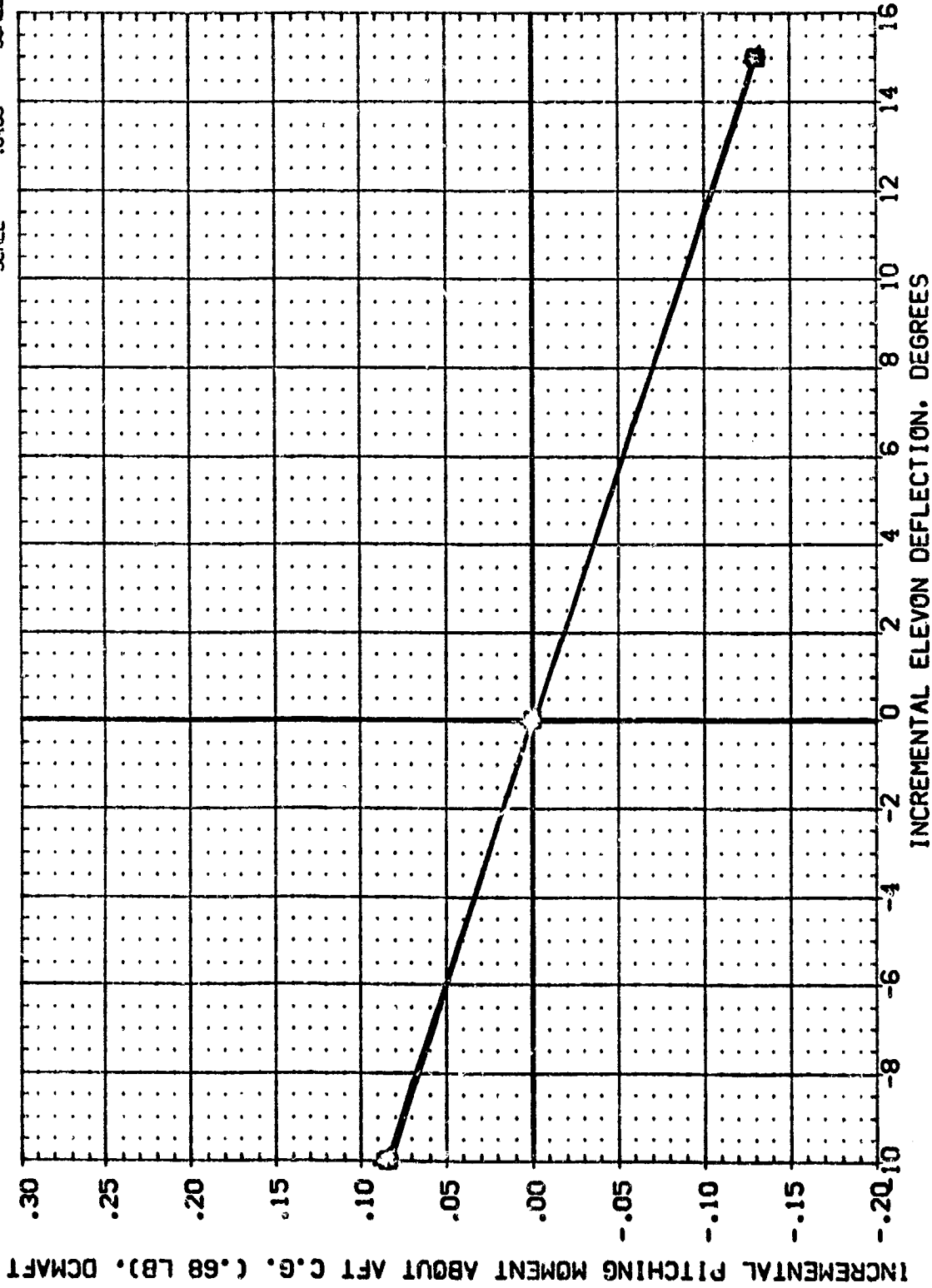


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1005

GA71C 216C557J34F1W87 E18V2R2X10 (E00045)
 PARAMETRIC VALUES DATA SOURCE REFERENCE INFORMATION
 ALPHA WASH .210 AIRLON .000 DATASET DELVON .000 SPRT 4.4120 50 FT
 20FLP -12.000 MCV/L .270 EDU045 EDU046 .000 L20F 19.2285 INCHES
 WCLIP 7.000 MCBTA 5.000 EDU04 -10.000 X10F 37.5343 INCHES
 BETA .000 PUDEP .000 Y10P 43.5374 INCHES
 Z10P 18.2200 INCHES
 SCALE .0425 SCALE

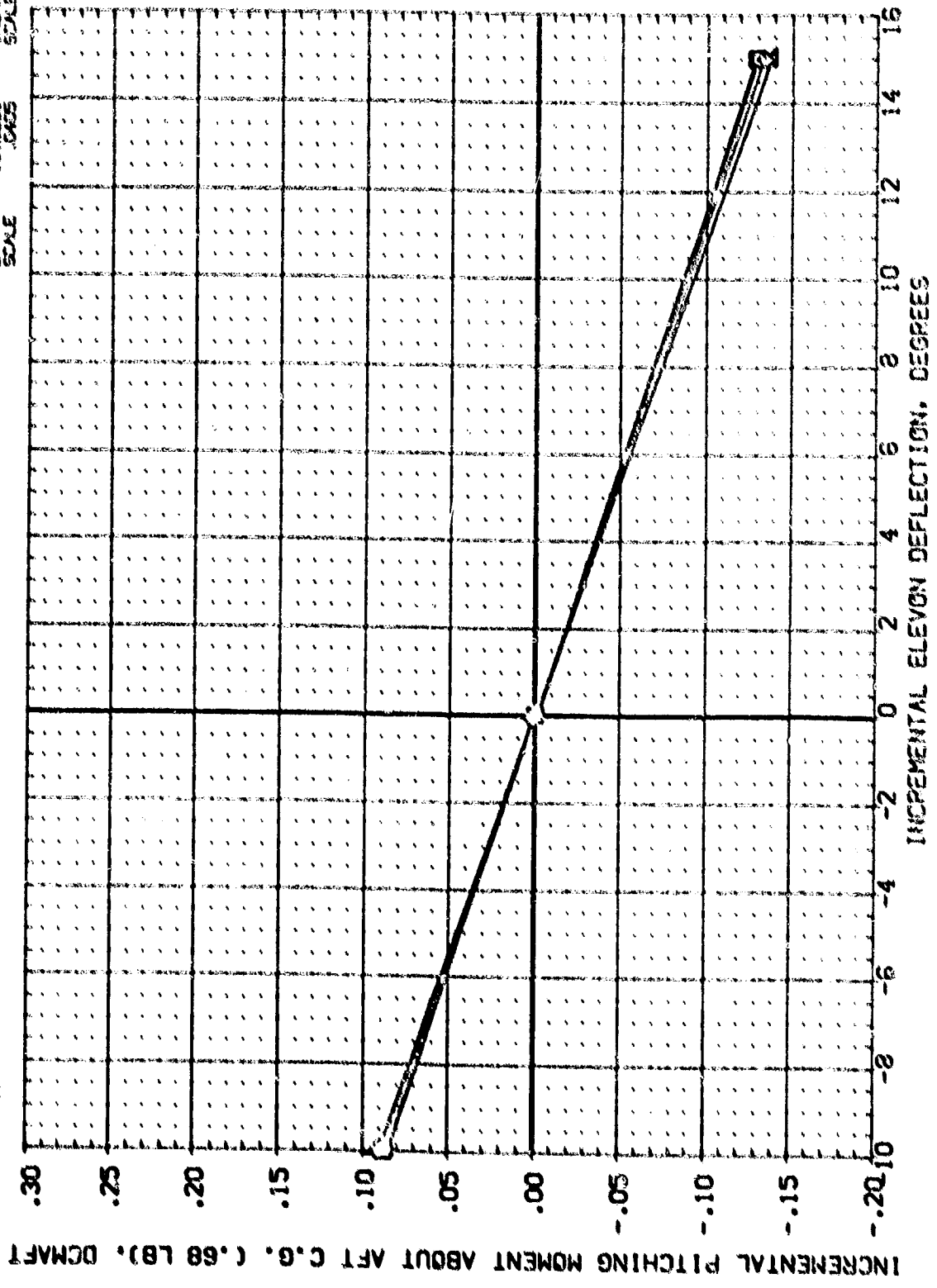


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED INCELLES UNDERMING XO= 1005
 PAGE 115

(EDU045)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL

○	□	◇	△
---	---	---	---

ALPHA	MACH	ECFLAP	MACH/FL	BETA	PARAMETRIC VALUES	.210	A1LRON	.000	DATASET	DEL VON	DATA SOURCE	DEL VON	DATASET	DEL VON	SREF	REFERENCE INFORMATION	SQ.FT.
12.000									.000	.270	EDU045	15.000	EDU046	.000	LREF	4.4122	INCHES
14.000									.500	5.000	-10.000				EREF	19.2299	INCHES
16.000															YMRP	37.9349	INCHES
18.000															ZMRP	43.5974	INCHES
20.000															SCALE	16.2000	INCHES
																	SCALE

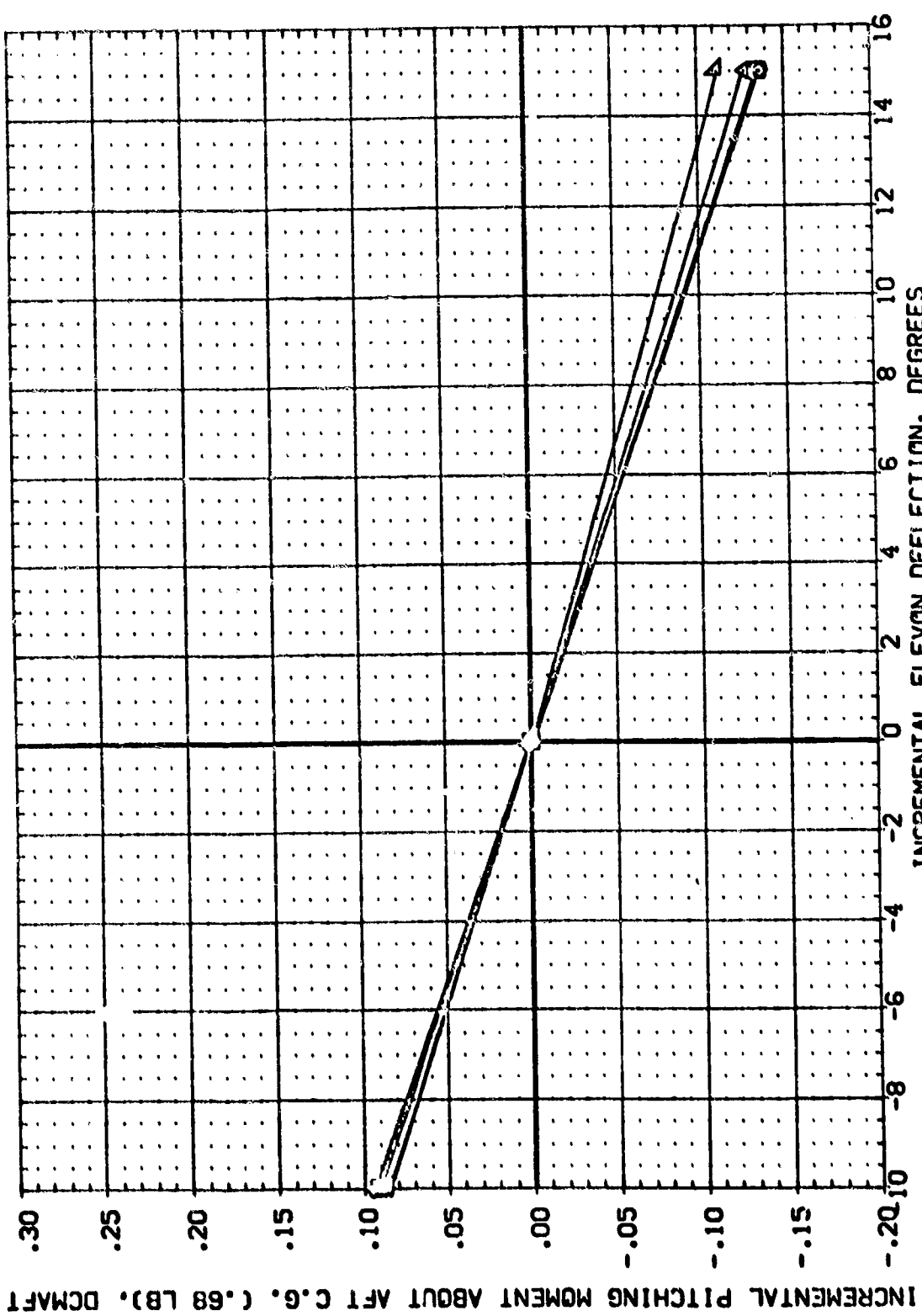
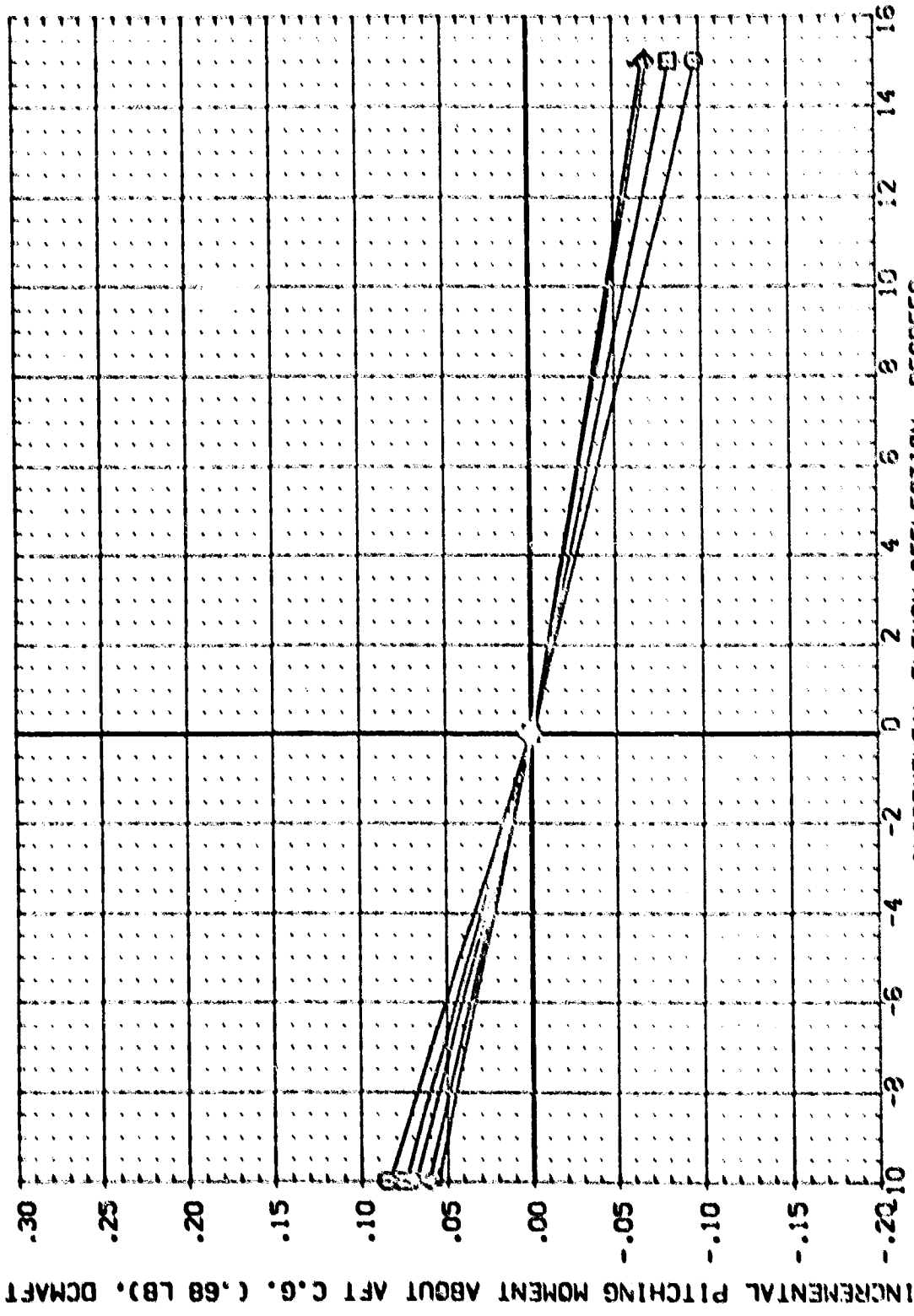


FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1005

(EDJ045)

CA71C B165507J34F1W87 E18V3R3/10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DELTA	DELTA	REF	REFERENCE INFORMATION
74	22.000		.210	DELTA	EDJ045	.000	REF	4.4122	50 FT
75	24.000		-18.000	DELTA	EDJ045	.000	REF	19.2225	INCHES
76	26.000		7.000	DELTA	EDJ044	.000	REF	37.5313	INCHES
77	28.000		.000	DELTA	EDJ044	.000	REF	43.5374	INCHES
78	30.000		.000	DELTA	EDJ044	.000	REF	16.2000	INCHES
				SCALE			SCALE	1.000	SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 9 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES UNDERWING Y0= 1005



DATA SET SYMBO
 (ADJ055)
 (ADJ049)
 (ADJ053)

CONFIGURATION DESCRIPTION
 CA71C 818507A34F1V87 E18V30X10
 CA71C 818507A34F1V67 E18V30X10
 CA71C 818507A34F1V67 E18V30X10

ELEVON
 15.000
 -10.000

MACAL
 .530
 .530

MACLIP
 7.000
 7.000

MACBTA
 5.000
 5.000

REFERENCE INFORMATION
 SREF 4.122 SO.FT.
 LREF 19.2269 IN.-ES
 BRPREF 37.9349 IN.-ES
 XREF 43.5874 IN.-ES
 YREF .0000 IN.-ES
 ZREF 16.2000 IN.-ES
 SCALE .0405 SCALE

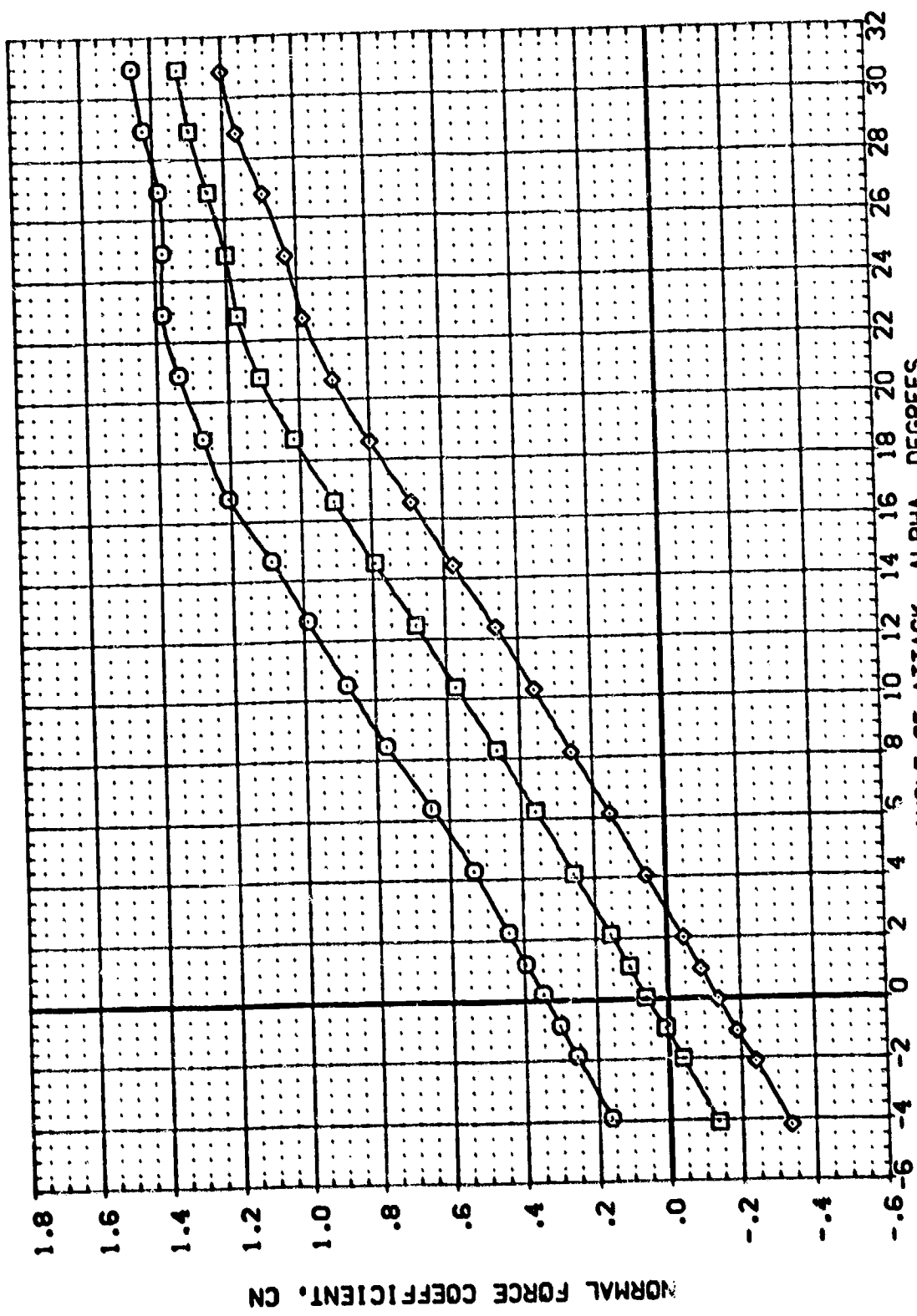





FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ055)  B16507434F1V87 E18V3R3X10
 (ADJ049)  B16507434F1V87 E18V3R3X10
 (ADJ053)  B16507434F1V87 E18V3R3X10

ELEVON MACH/L NAQLIP NACBTA
 15.000 7.000 5.000
 10.000 7.000 5.000
 -10.000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XGRP 43.5974 INCHES
 YGRP .0000 INCHES
 ZGRP 15.2000 INCHES
 SCALE .0405

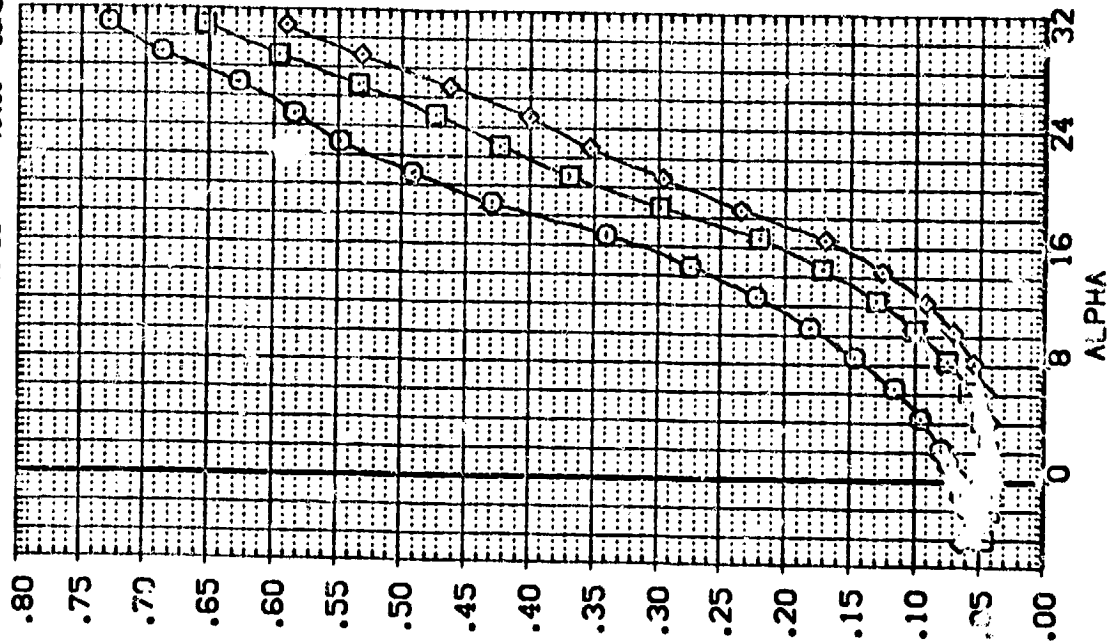
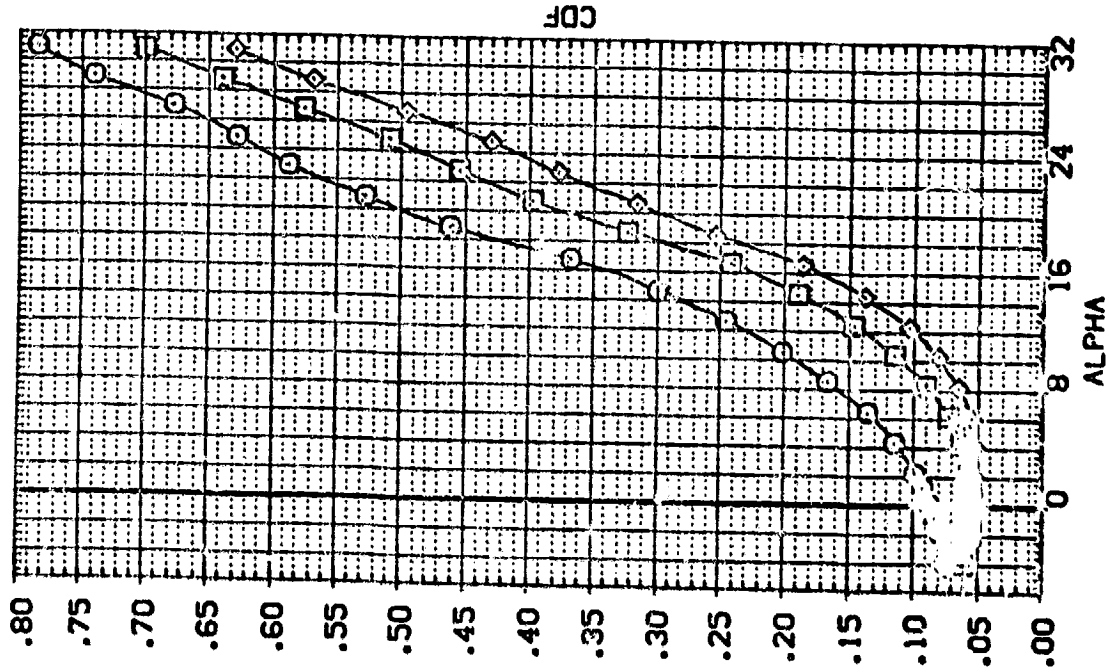


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1060

(A)MACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADL055) 816C5D7134F1V87 E18V3R3X10
 (ADL049) 816C5D7134F1V87 E18V3R3X10
 (ADL053) 816C5D7134F1V87 E18V3R3X10

ELEVON MACVAL MACLIP NALBTA
 15.000 .530 7.000 5.000
 .000 .530 7.000 5.000
 -10.000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.7269 INCHES
 XREF 37.5549 INCHES
 YREF 43.5574 INCHES
 ZREF .0000 INCHES
 SCALE 16.2000 SCALE
 .0405

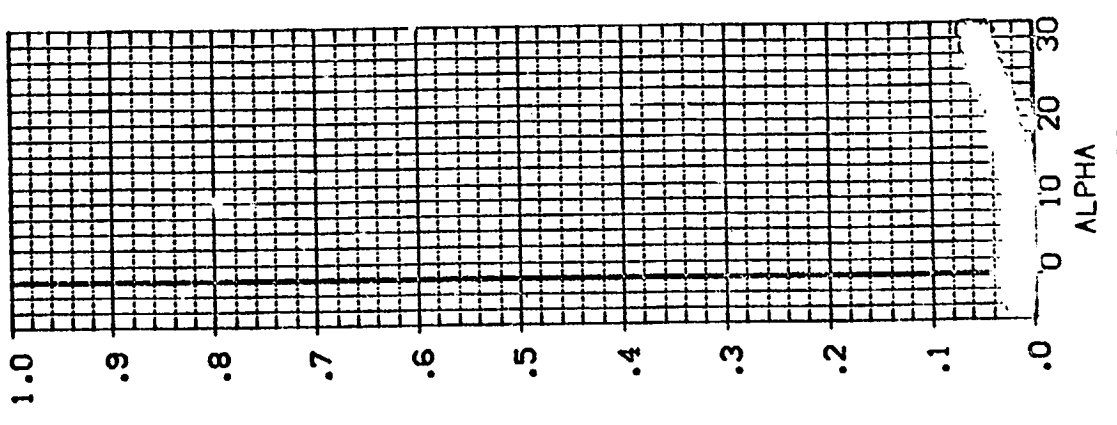
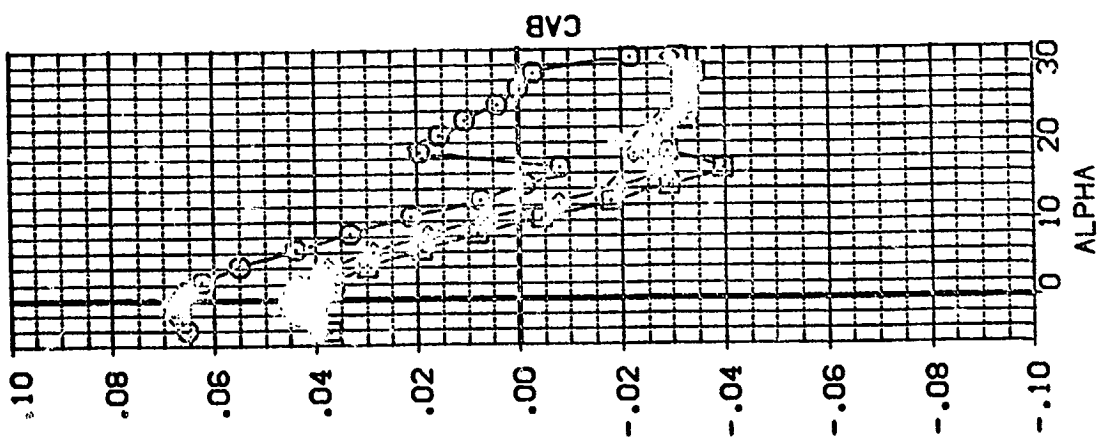
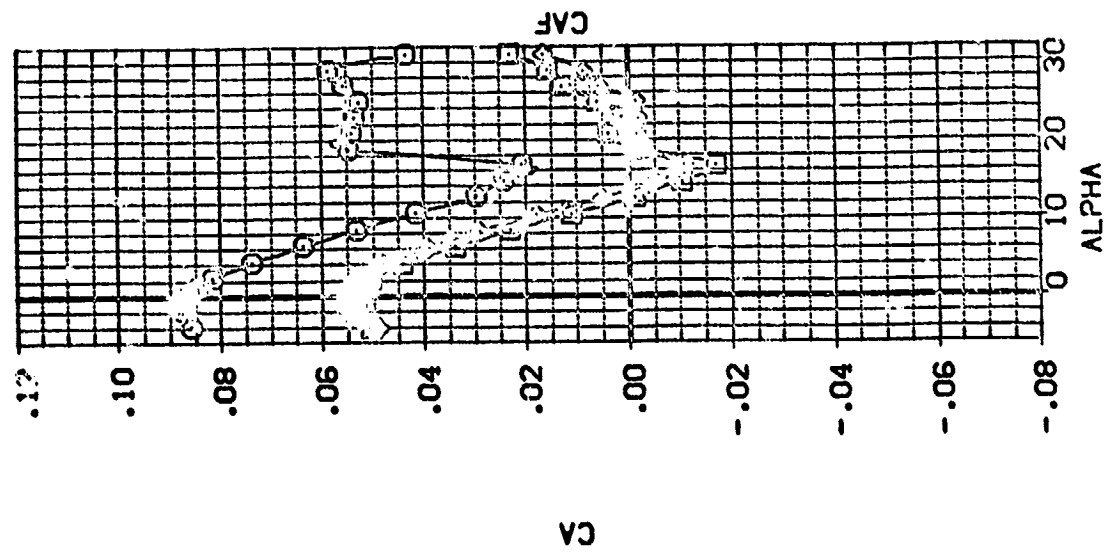


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL
 (ADJ055) \square
 (ADJ049) \diamond
 (ADJ053) \circ

CONFIGURATION DESCRIPTION
 0A71C B16C507J34F1V67 E18V3R3X10
 0A71C B16C507J34F1V67 E18V3R3X10
 0A71C B16C507J34F1V67 E18V3R3X10

ELEVON MACH/L MACH/CLIP MACH/TA REFERENCE INFORMATION
 15.000 7.000 5.000 SREF 4.4122 SQ.FT.
 .000 7.000 5.000 LREF 19.2268 INCHES
 -10.000 7.000 5.000 BREF 37.9349 INCHES
 .530 .530 .530 XPRP 43.9374 INCHES
 .530 .530 .530 YMRP .0000 INCHES
 .530 .530 .530 ZMRP 16.2000 INCHES
 .530 .530 .530 SCALE .0405 SCALE

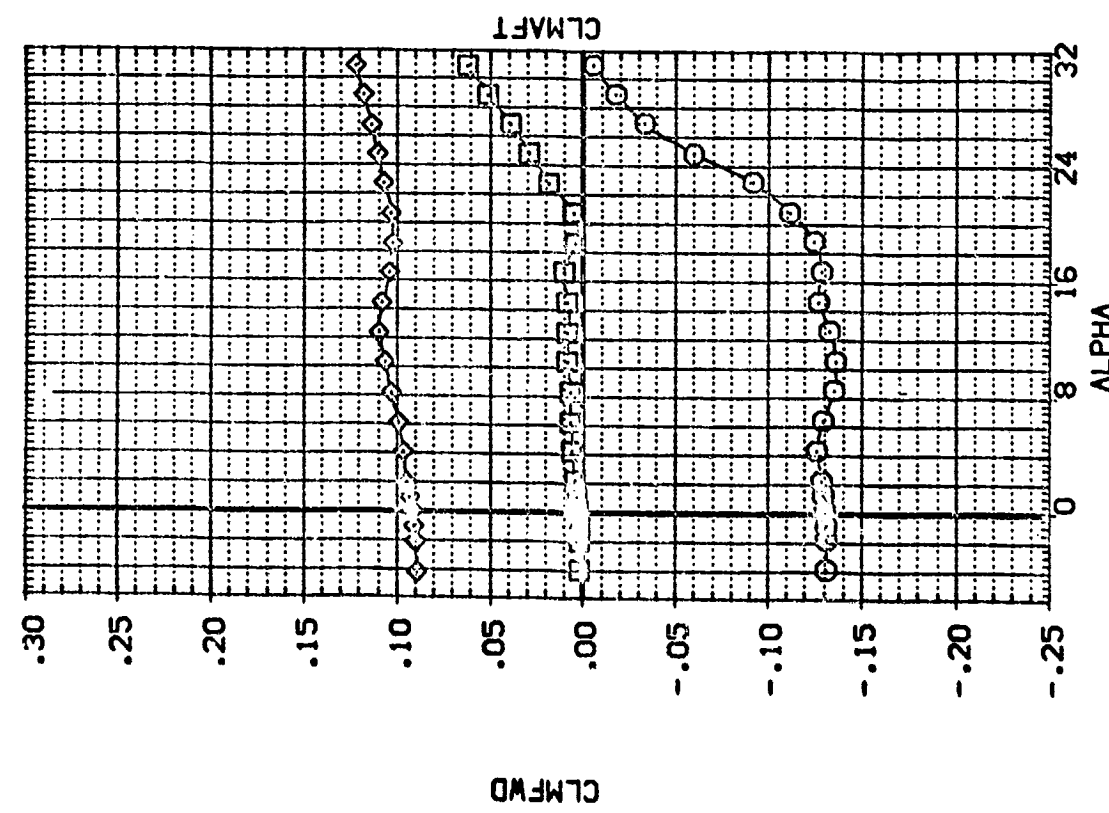
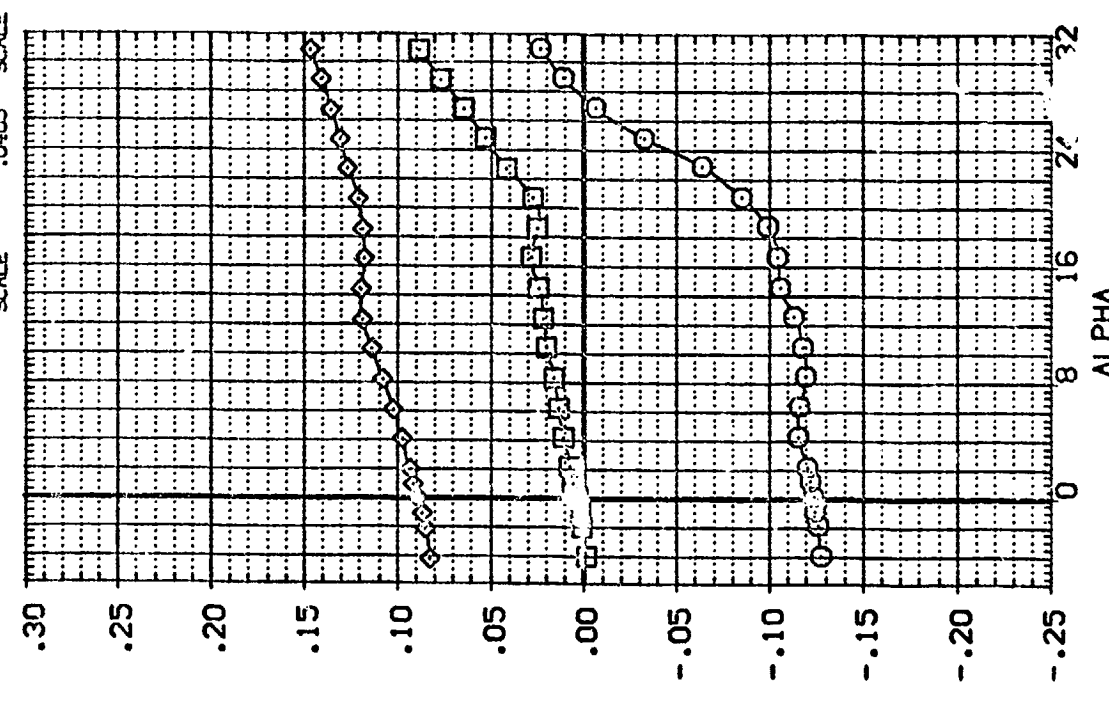


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING XO = 1060
 CAJ MACH = .20



DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (ADJ055) □ 0A71C B16C507J34F1V87 E18V3R3X10
 (ADJ049) □ 0A71C B16C507J34F1V87 E18V3R3X10
 (ADJ053) □ 0A71C B16C507J34F1V87 E18V3R3X10

ELEVON MAC/L MAC/LP MAC/BTA REFERENCE INFORMATION
 15.000 .530 7.000 5.000 SO. FT.
 .000 .530 7.000 5.000 INCHES
 -10.000 .530 7.000 5.000 INCHES
 XMRP 43.5974 INCHES
 YMRP 16.2000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

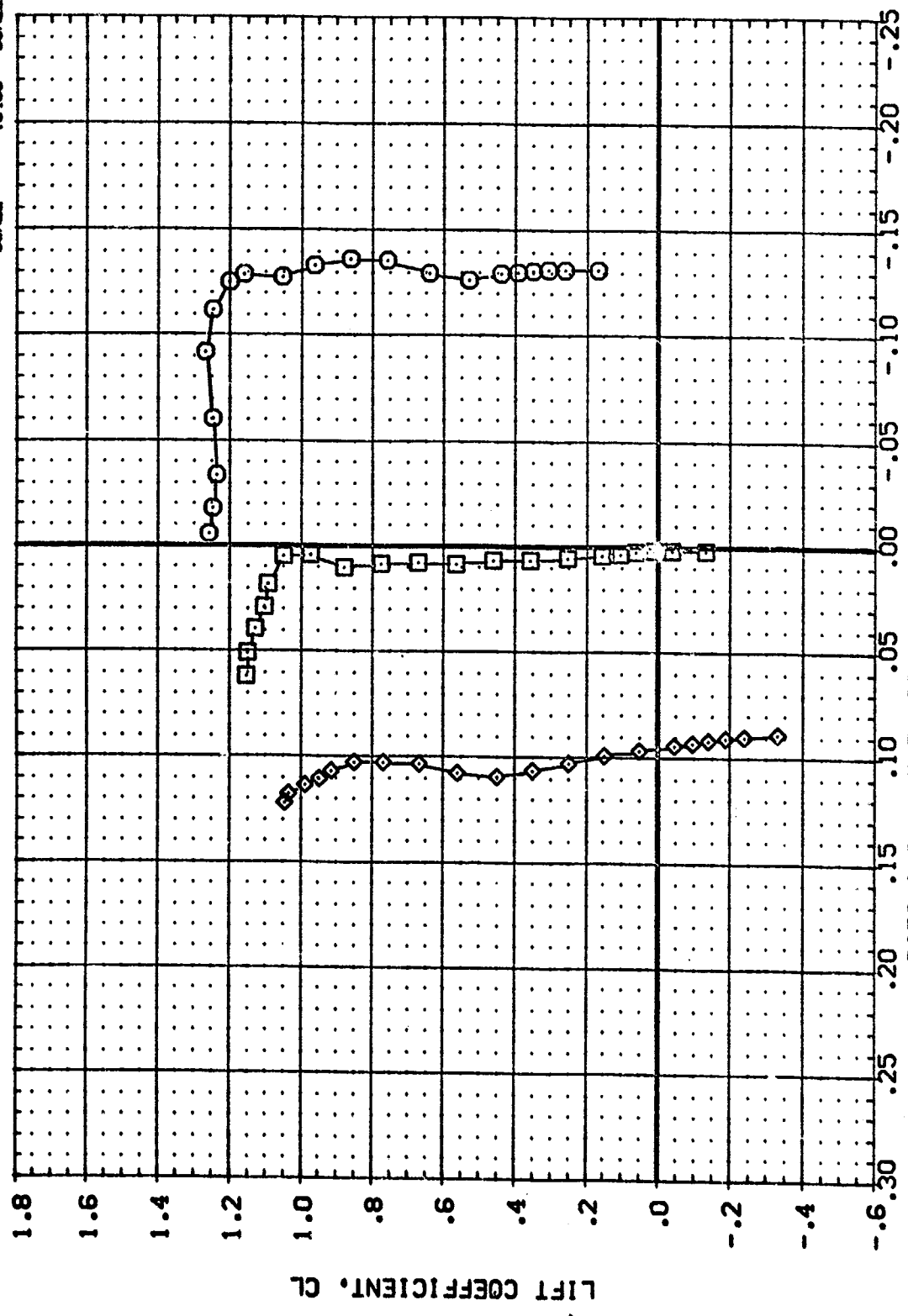


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING XO = 1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADDRESS) 0A71C B16C5D7J34F1V87 E18V3R3X10
 (ADDRESS) 0A71C B16C5D7J34F1V87 E18V3R3X10
 (ADDRESS) 0A71C B16C5D7J34F1V87 E18V3R3X10

ELEVON NACVAL NACLIP NACBTA REFERENCE INFORMATION
 15.000 530 7.000 5.000 4.4122 50.FT
 .000 530 7.000 5.000 19.2258 INCHES
 -10.000 .530 7.000 5.000 37.9349 INCHES
 XREF 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

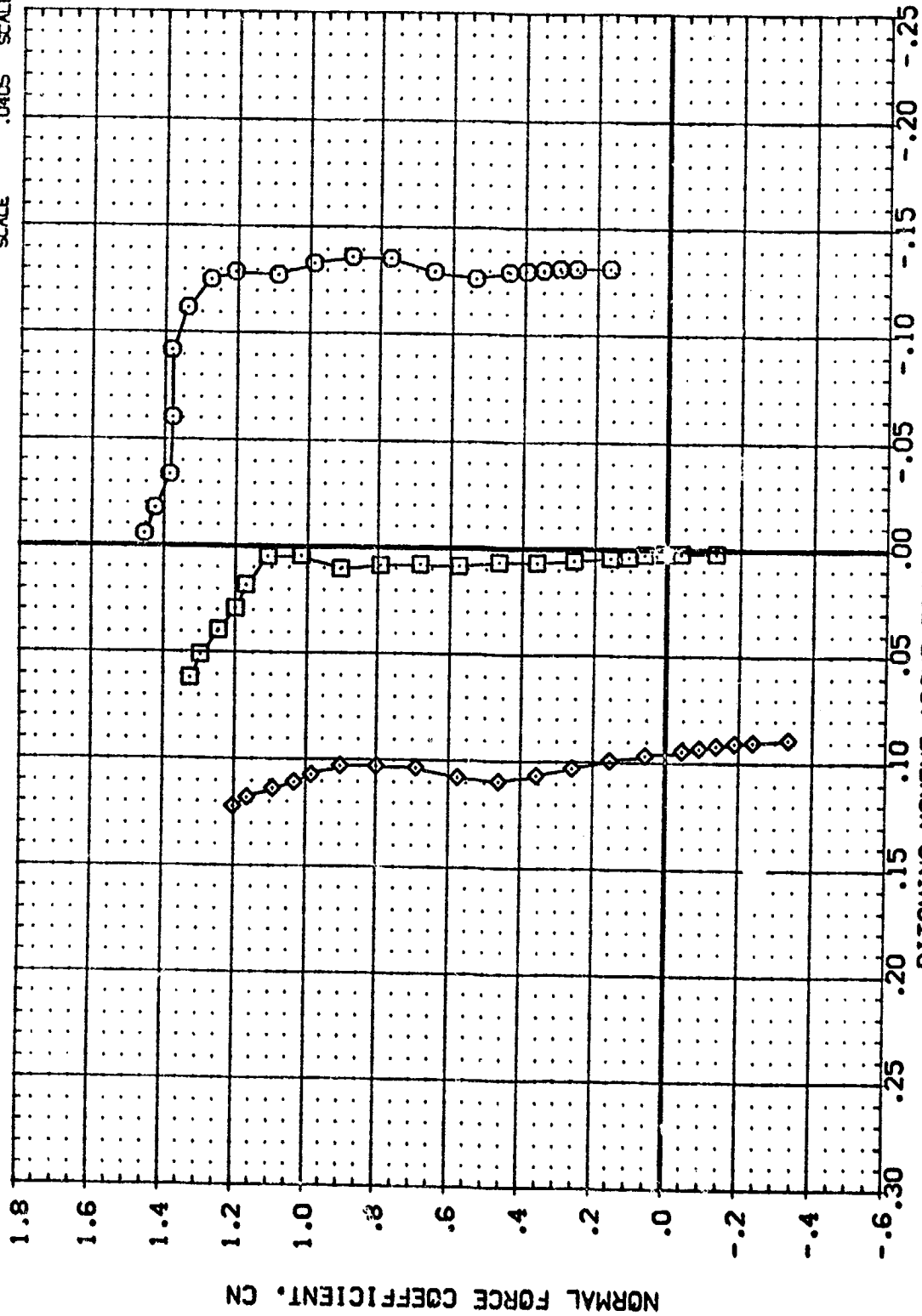


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1060

(A)MACH = .20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACVAL	NACLIP	NACBTA	REFERENCE INFORMATION
(ADLOSS)	DAY7C B16C50734F1V87 E18V3R3X10	15.000	.530	7.000	5.000	SREF 4.4122 SO.FT.
(ADLOSS)	DAY7C B16C50734F1V87 E18V3R3X10	0.000	.530	7.000	5.000	LREF 19.2289 INCHES
(ADLOSS)	DAY7C B16C50734F1V87 E18V3R3X10	-10.000	.530	7.000	5.000	BREF 37.9349 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

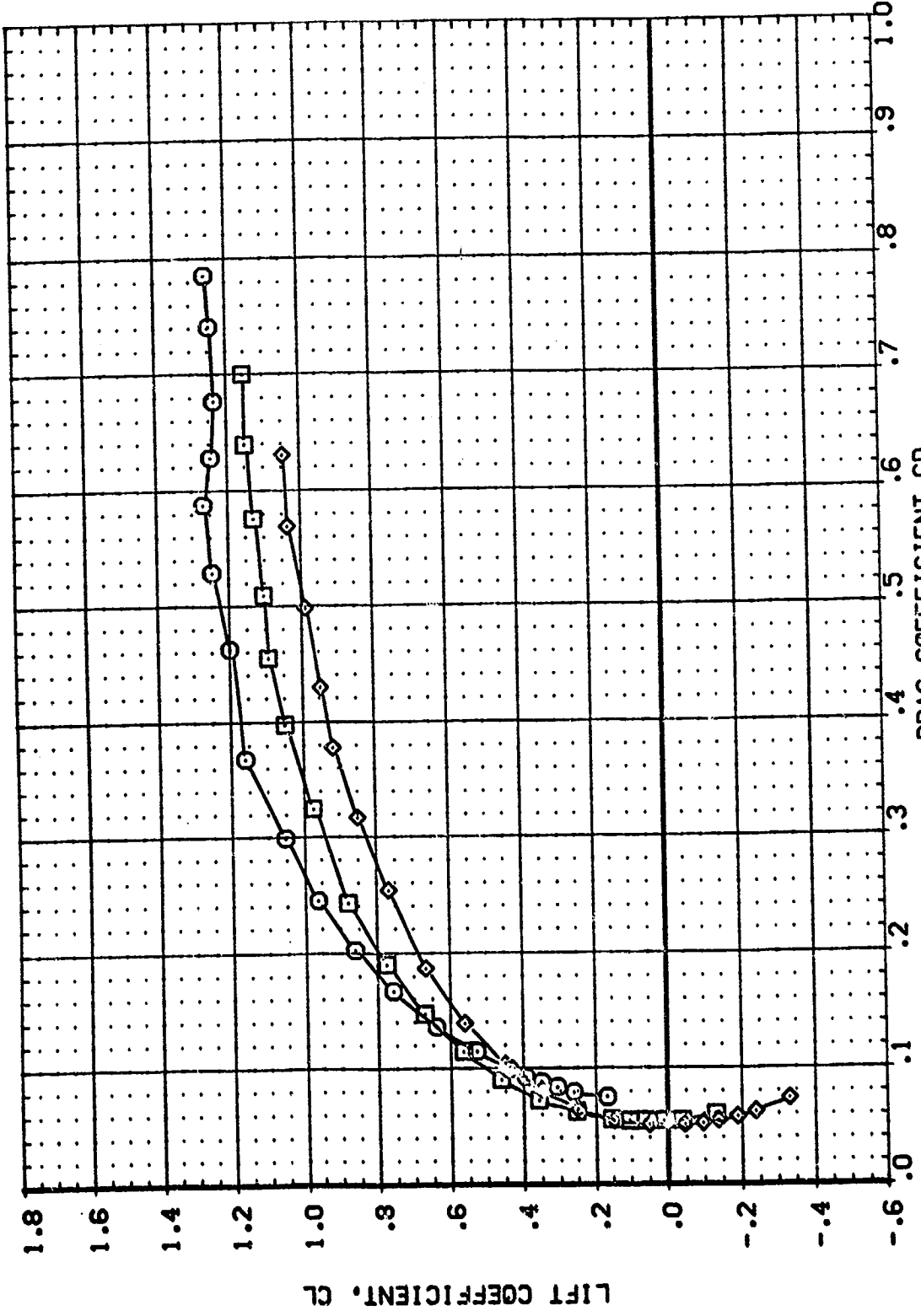


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING XO = 1060
 (M)MACH = .20
 DRAG COEFFICIENT CD
 LIFT COEFFICIENT CL
 PAGE 125

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(80U055)	0A71C	B16C5D7J34F1V87	E18V3R3X10
(80U049)	0A71C	B16C5D7J34F1V87	E18V3R3X10
(80U052)	0A71C	B16C5D7J34F1V87	E18V3R3X10

ELEVON NACVL NACLIP NACBTA

ELEVON	NACVL	NACLIP	NACBTA
15.000	.530	7.000	5.000
-10.000	.530	7.000	5.000

REFERENCE INFORMATION

SREF	4.4122	SO.FT.
LREF	19.2259	INCHES
BREF	37.9349	INCHES
XMRP	43.5574	INCHES
YMRP	.0000	INCHES
ZMRP	16.2000	INCHES
SCALE	.0405	SCALE

LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

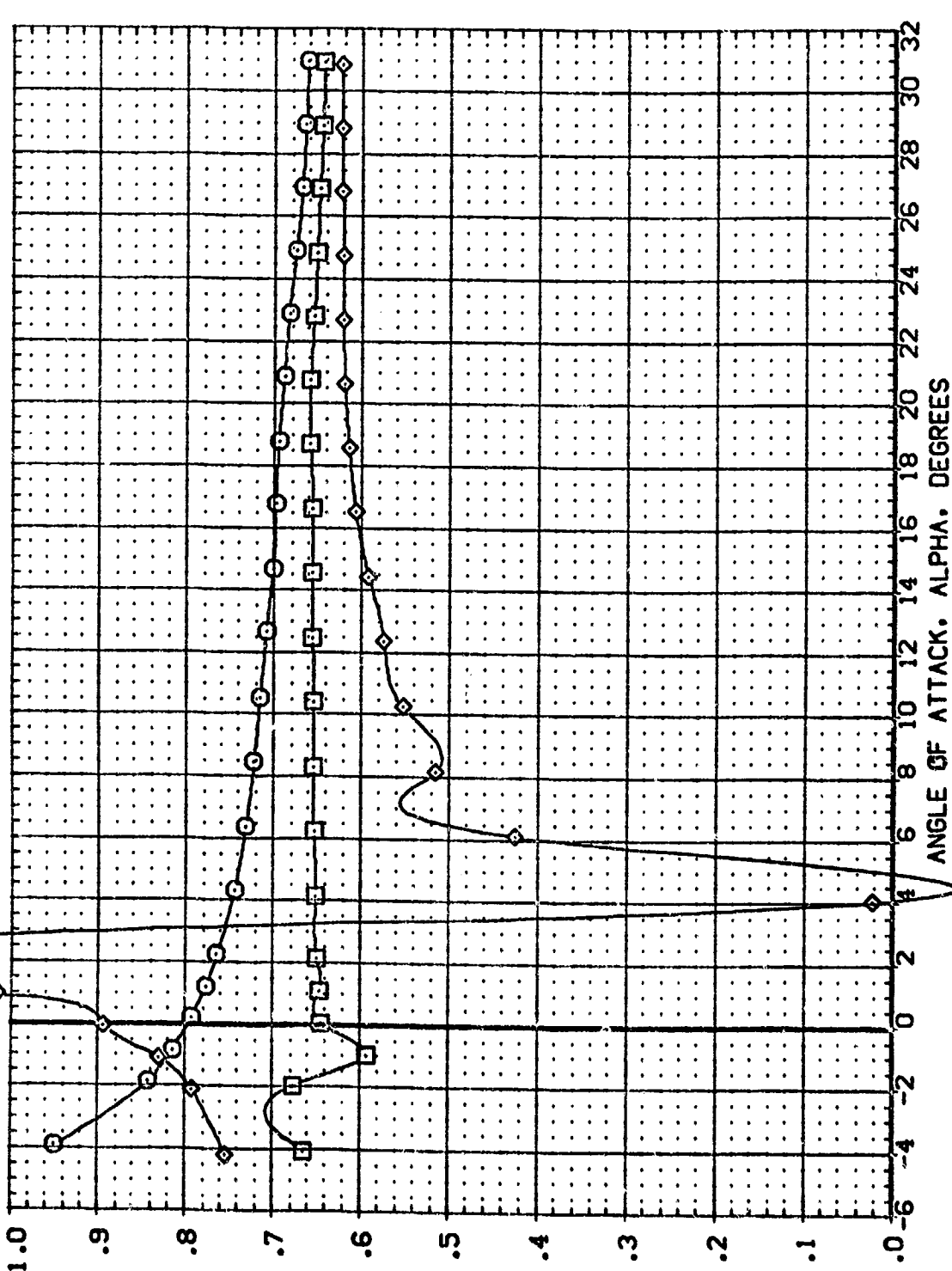


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING XO = 1060
 (M)MACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (8DL055) □ 0A71C B16C50734F1V87 E18V3R3X10
 (8DL049) □ 0A71C B16C50734F1V87 E18V3R3X10
 (8DL053) □ 0A71C B16C50734F1V87 E18V3R3X10

ELEVON MACX/L MACZ/P MACBTA
 15.000 530 7.000 5.000
 -10.000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50. FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XPRP 43.5974 INCHES
 YPRP .0000 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405 SCALE

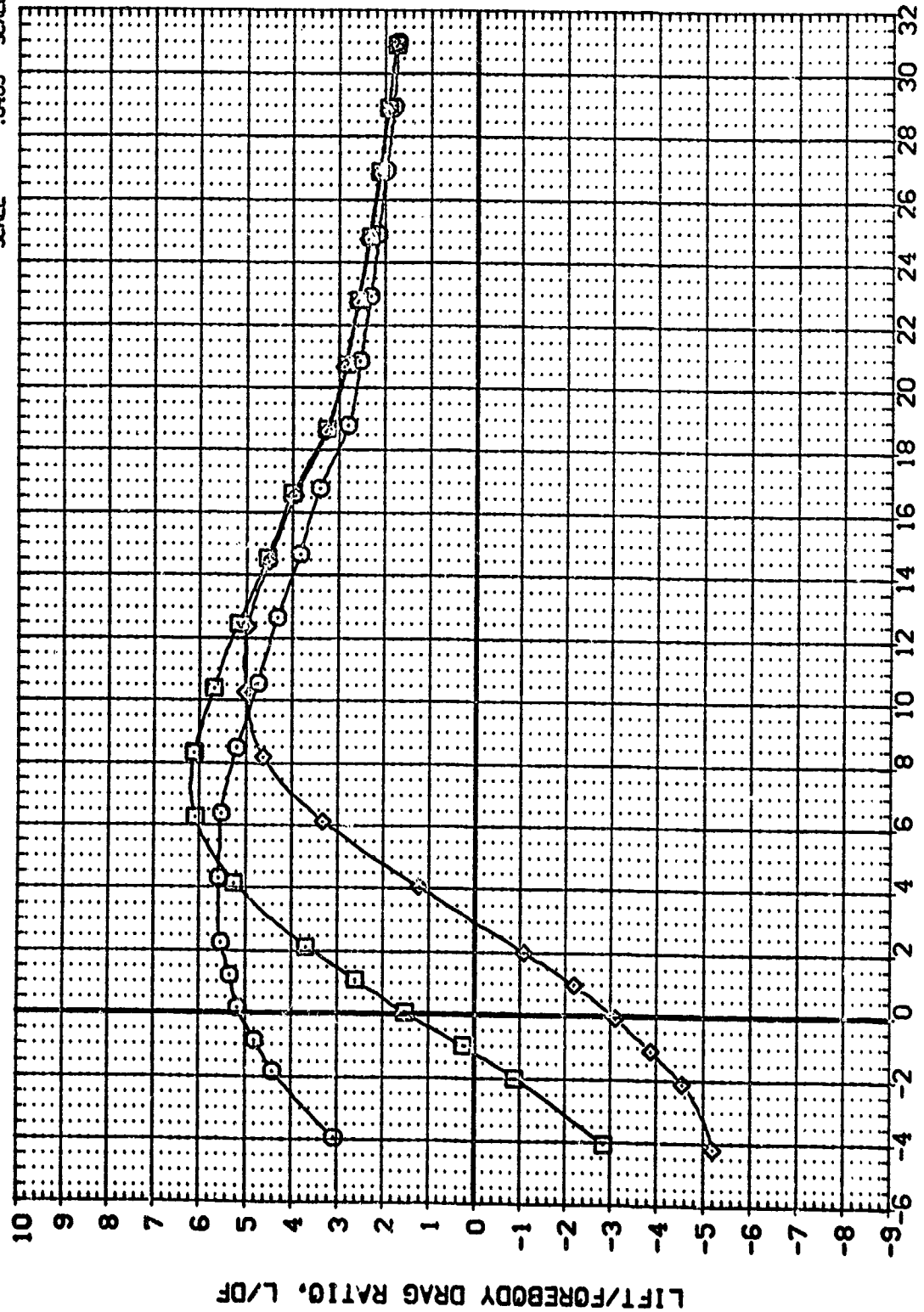


FIG 10 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - UNDERWING X0 = 1060

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DEL VON	NACX/L	NACL/P	NACB/T A	REFERENCE INFORMATION
(EDJ055)	071C B16C5D7J34F1V87 E18V2R3X10	15.000	.530	7.000	5.000	4.4122 SO. FT.
(EDJ049)	071C B16C5D7J34F1V87 E18V2R3X10	.000	.530	7.000	5.000	19.2299 INCHES
(EDJ053)	071C B16C5D7J34F1V87 E18V2R3X10	-10.000	.530	7.000	5.000	37.9349 INCHES
						43.5974 INCHES
						16.2000 INCHES
						16.2000 INCHES
						SCALE
						SCALE
						SCALE

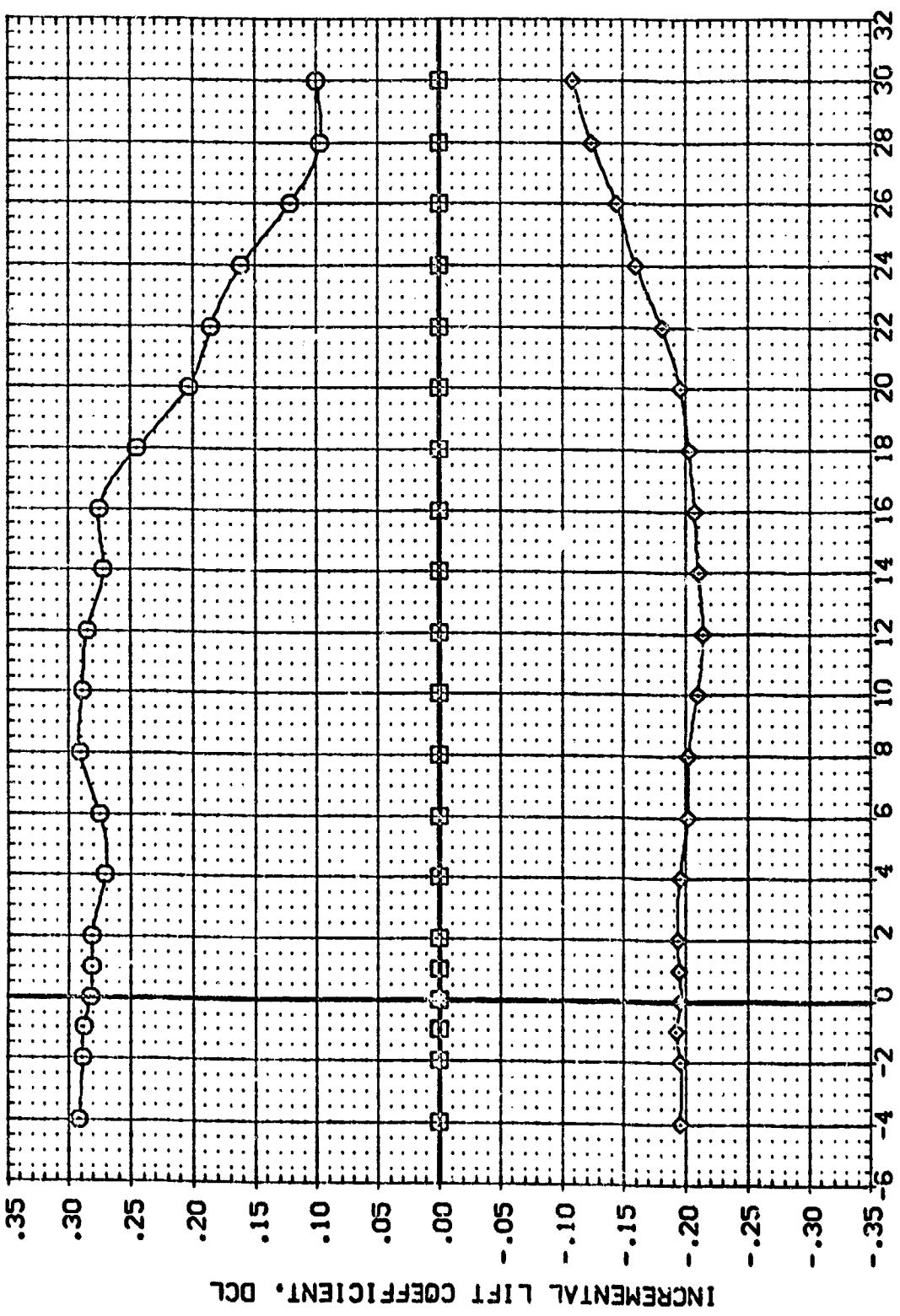


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060
 (A)MACH = .21

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDJ053) QAY7C B16C5D7J34F1V67 E18V3R3X10
 (EDJ049) QAY7C B16C5D7J34F1V67 E18V3R3X10
 (EDJ053) QAY7C B16C5D7J34F1V67 E18V3R3X10

DELVON NACX/L NACLIP NACBTA
 15.000 .530 7.000 5.000
 -10.000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2338 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5574 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

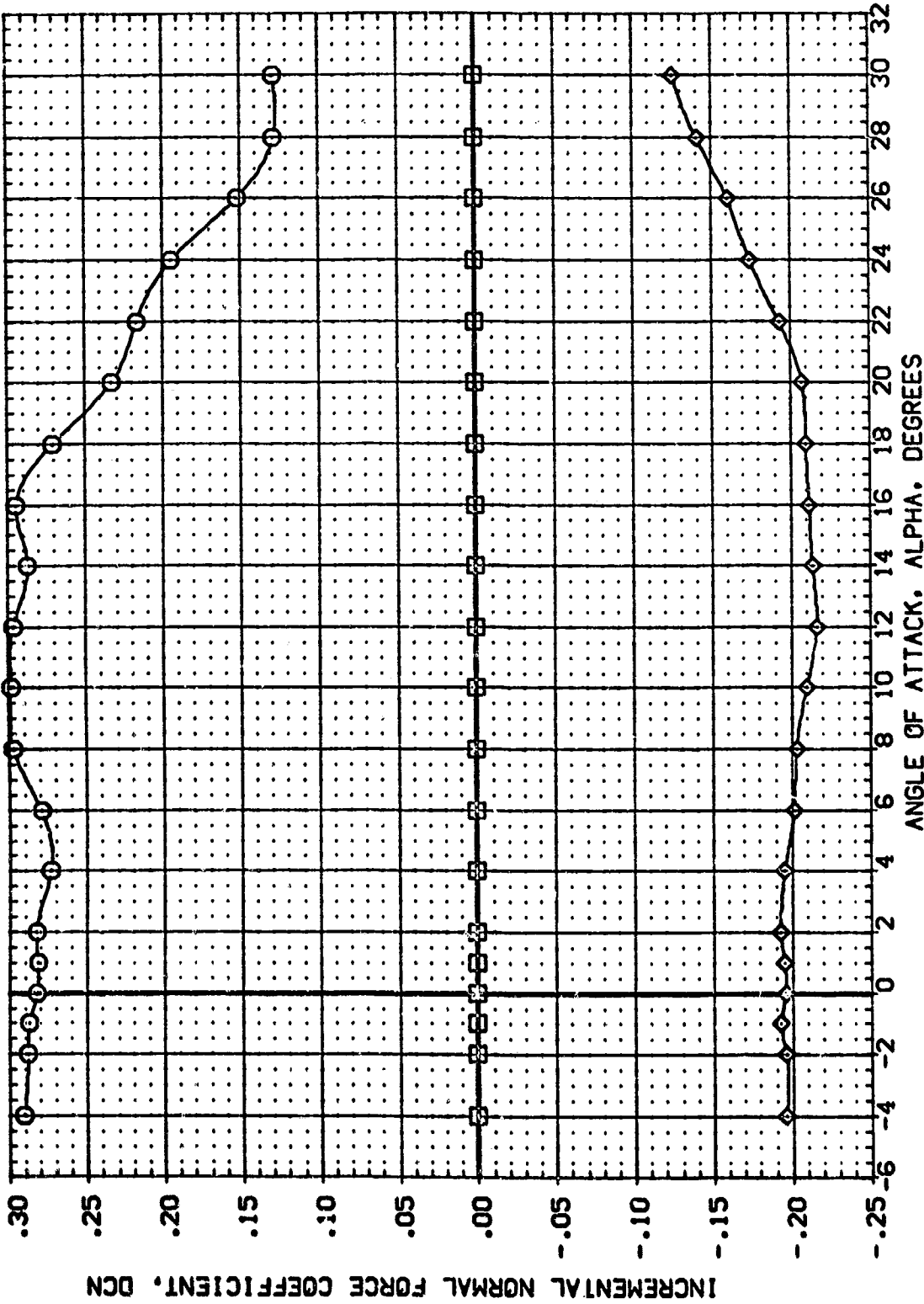


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060
 (A)MACH = .21

DATA SET SYMB. CONFIGURATION DESCRIPTION
 (EDUG53) 01871C 816C5D7J34F1V67 E18V3R3X10
 (EDUG49) 01871C 816C5D7J34F1V67 E18V3R3X10
 (EDUG53) 01871C 816C5D7J34F1V67 E18V3R3X10

DELTON NACAL NACLIP NACBTA
 15.000 .530 7.000 5.000
 -10.000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2299 INCHES
 XREF 37.5349 INCHES
 YMRP 43.5974 INCHES
 ZMRP .0000 INCHES
 SCALE 16.2000 INCHES
 SCALE .0405

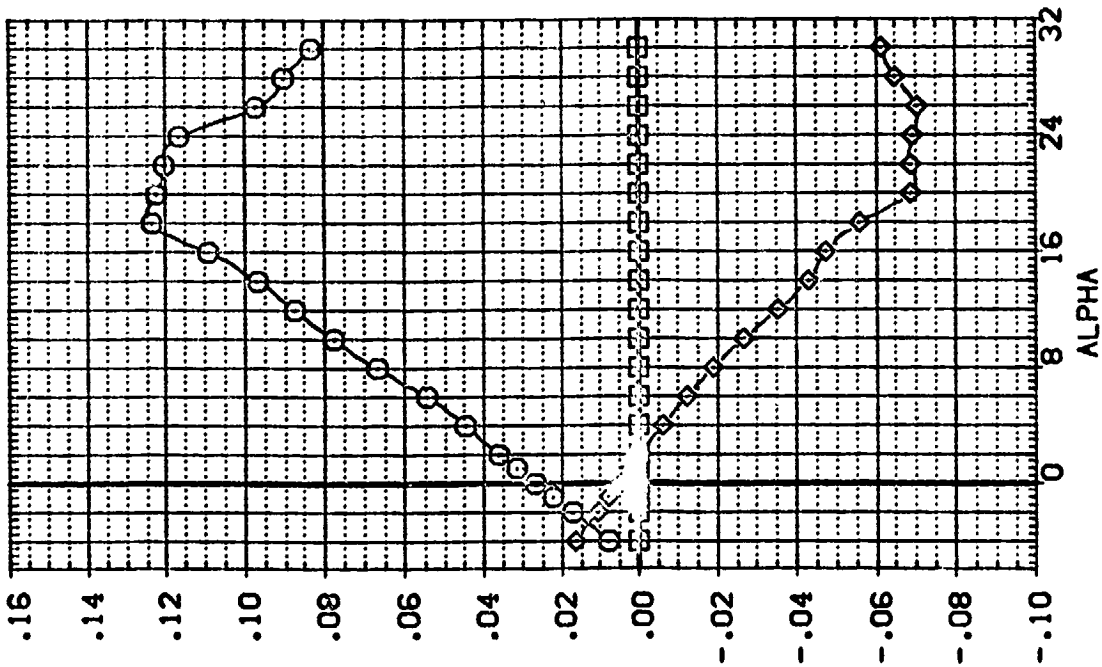
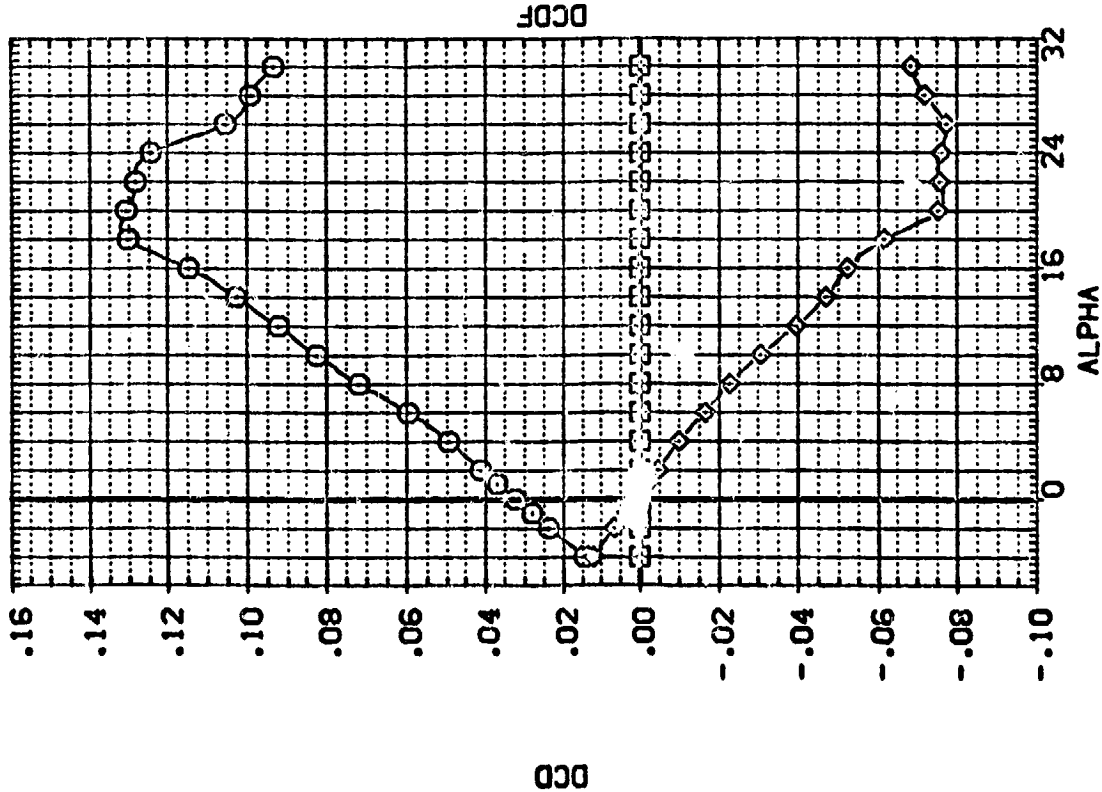


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060
 (A)MACH = .21



DATA SET SYMBOL: (EDJ055) (EDJ049) (EDJ053)

CONFIGURATION DESCRIPTION:
 CAV7C B16C507J34F1V67 E18V3R3X10
 CAV7C B16C507J34F1V67 E18V3R3X10
 CAV7C B16C507J34F1V67 E18V3R3X10

DELTON: 15.000
 MAC/L: .530
 MAC/1P: 7.000
 MAC/BA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SO.FT.
 LREF: 19.2299 IN.-ES
 BREF: 37.9349 IN.-ES
 XTRP: 43.5974 IN.-ES
 YTRP: .0000 IN.-ES
 ZTRP: 16.2000 IN.-ES
 SCALE: .0405 SCALE

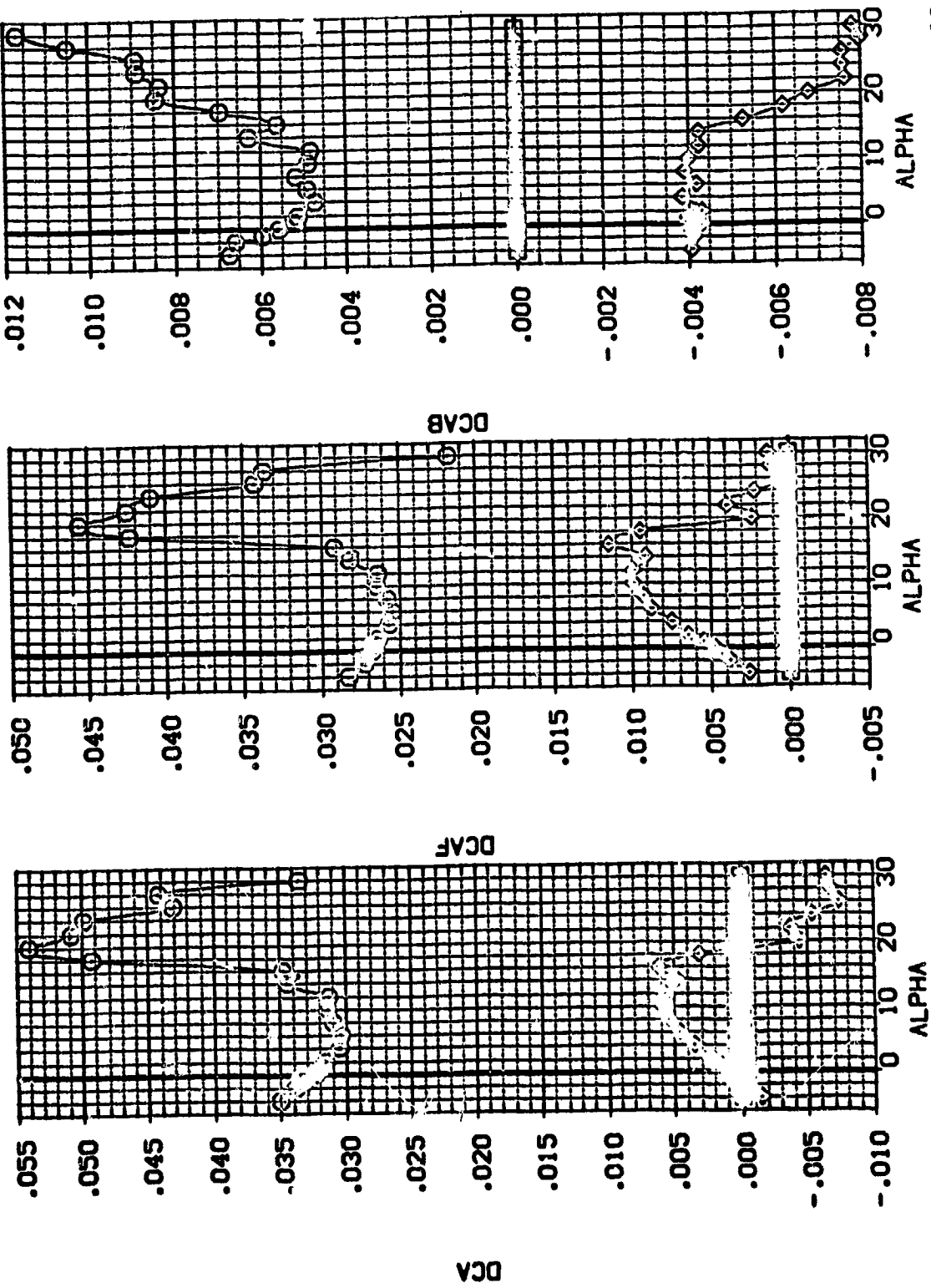


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060
 (A)MACH = .21 PAGE 131

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDL055) B16C5D7J34F1V87 E18V3R3X10
 (EDL049) B16C5D7J34F1V87 E18V3R3X10
 (EDL053) B16C5D7J34F1V87 E18V3R3X10

DELTON MAC/L MAC/LP MAC/BTA
 15.000 530 7.000 5.000
 .000 530 7.000 5.000
 -10.000 530 7.000 5.000

REFERENCE INFORMATION
 SO.FT. 4.4122
 INCHES 19.2268
 INCHES 37.5349
 INCHES 43.5374
 INCHES .0000
 INCHES 16.2000
 SCALE .0405

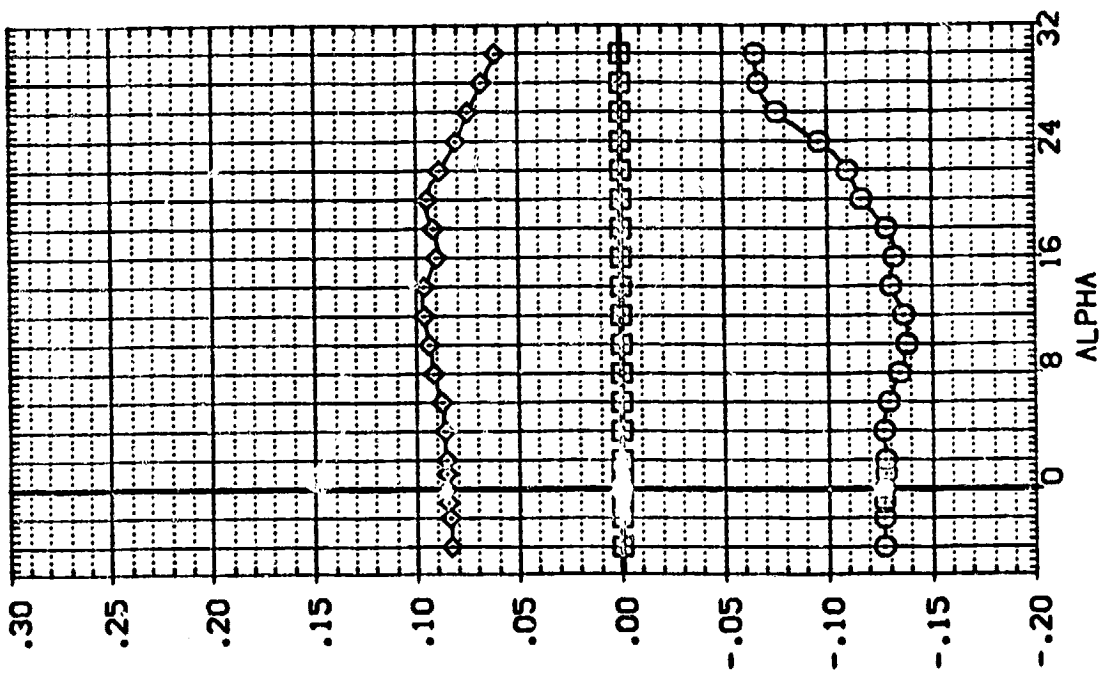
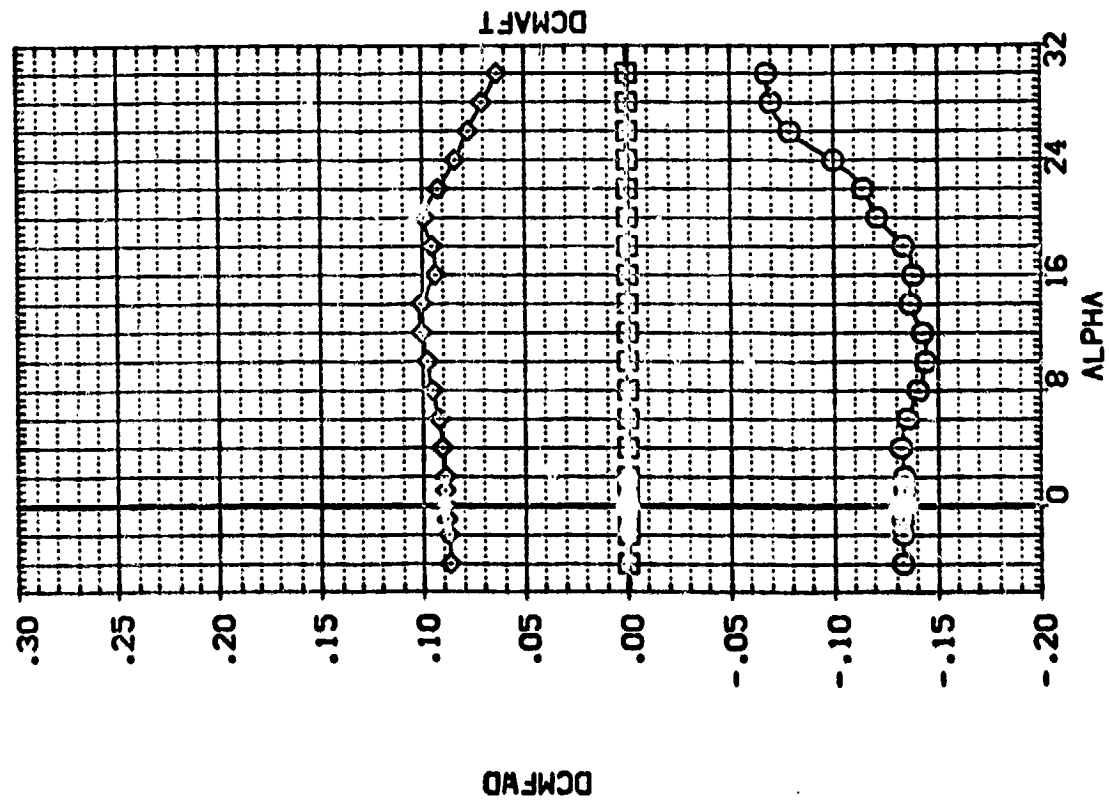


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XQ= 1060
 (A)MACH = .21 PAGE 132



(EDU055)

0A71C B16CSD7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
○	-4.000					.210	DELVON	EDU049	.000	LREF	4.4122 SQ.FT.
□	-2.000					-18.000	EDLOSS		-15.000	EREF	19.2285 INCHES
◇	-1.000					7.000	EDLOSS		-10.000	YREF	37.9349 INCHES
△	.000					.000				ZREF	43.5974 INCHES
▽	1.000					.000				SCALE	16.2000 INCHES

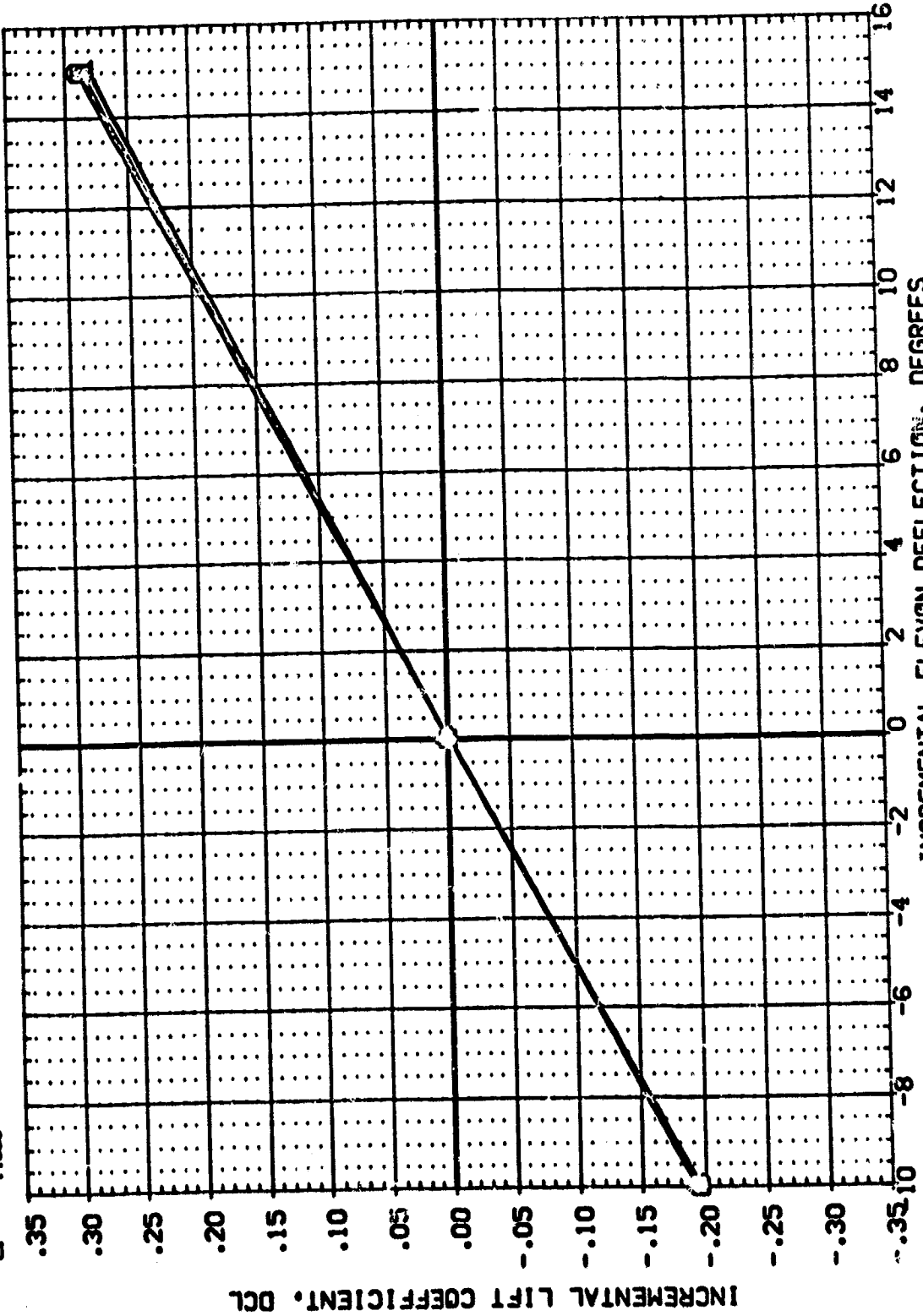
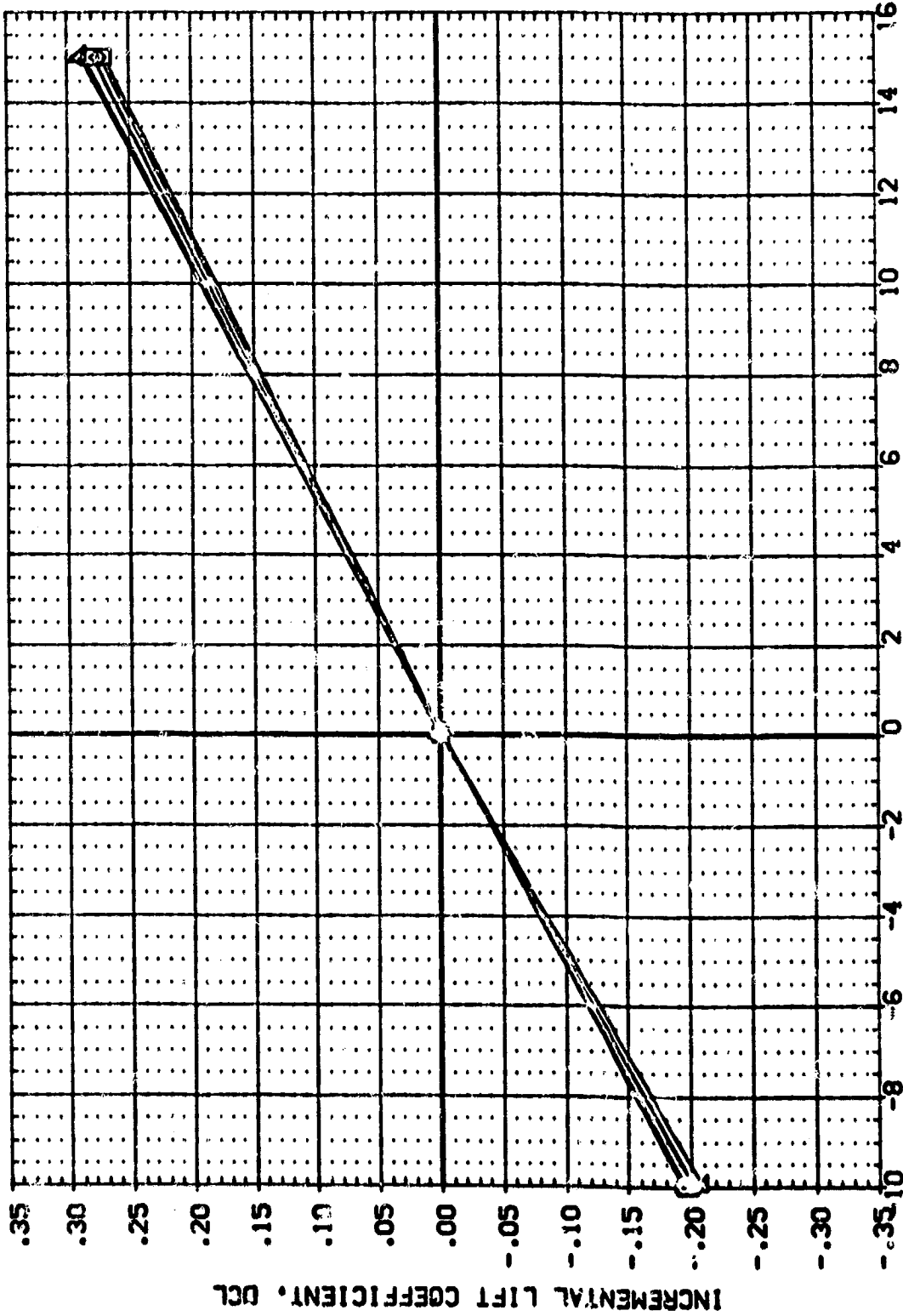


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060 PAGE 133

(EQUJ055)

0A71C B16C5D7J34F1W87 E:8V3R3X10

SYMBL	ALPHA	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
□	2.000	MACH	.210	AILERON	.000	DATASET	DELVON	SREF	4.4122	SG.FT.	4.4122
◇	4.000	EDFLAP	-19.000	NACVAL	.500	EDU049	.000	LREF	19.2289	INCHES	19.2289
△	6.000	NACLIP	7.000	NACBTA	5.000	EDU053		XRCP	37.9349	INCHES	37.9349
	8.000	BETA	.000	RUDDER	.000			YRPP	43.5974	INCHES	43.5974
	10.000							ZRPP	14.0000	INCHES	14.0000
								SCALE	.0405	SCALE	.0405



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION																					
○	□	◇	△	ALPHA	MACH	BOFLAP	NACLIP	BETA	DEL VON	DATASET	DEL VON	SREF	LREF	XREF	YREF	ZREF	SCALE	SO.FT.	INCHES	INCHES	INCHES	INCHES	SCALE						
				12.000	.210	AILRON	.000	DATASET	.000	EDU055	.000	.000	4.4122	19.2299	37.9349	43.5974	.0000	16.2000											
				14.000	-18.000	NACK/L	.530	EDU055	15.000	EDU049	.000																		
				16.000	7.000	NACBTA	5.000	EDU053	-10.000																				
				18.000	.000	RUDDER	.000																						
				20.000																									

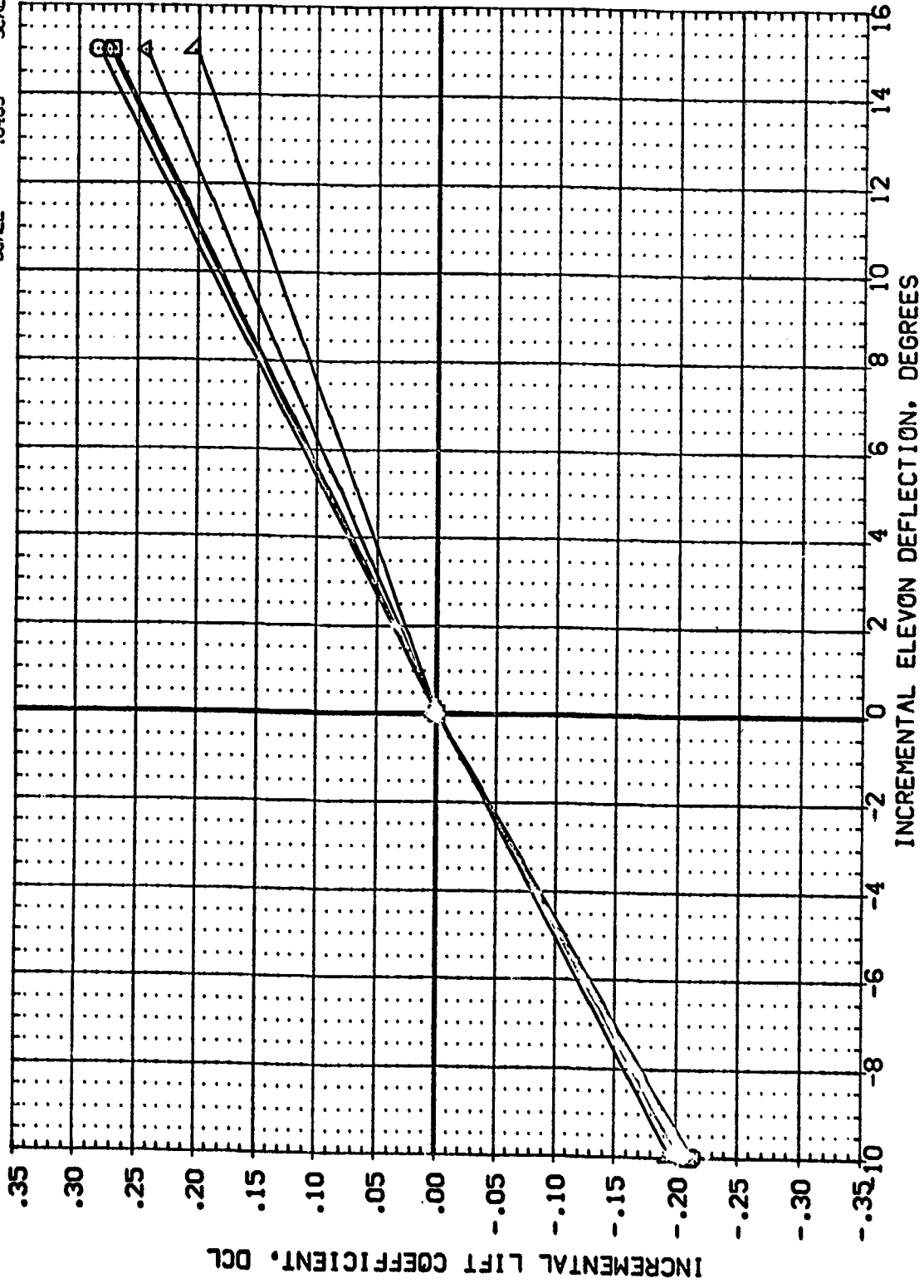


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

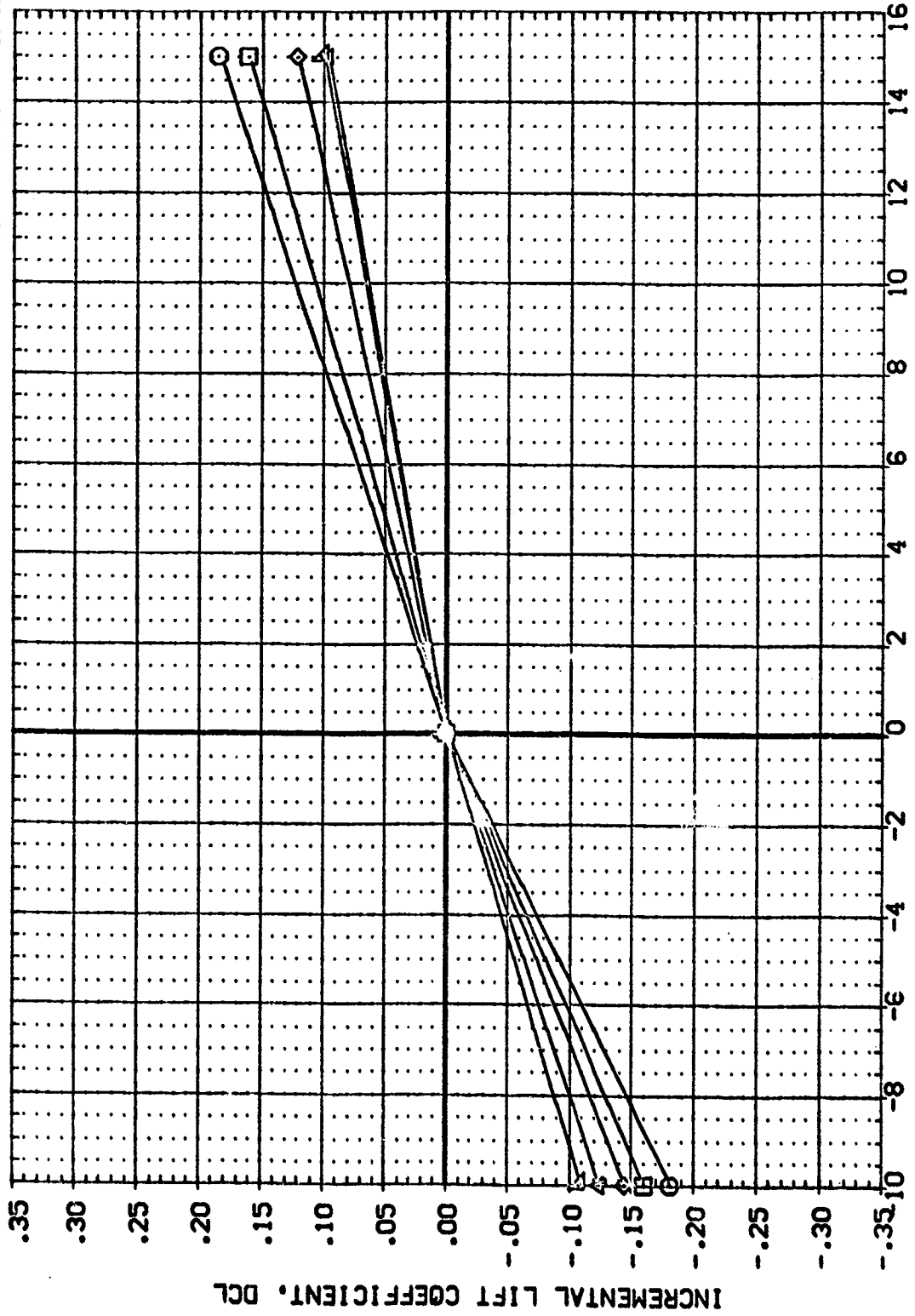
REFERENCE INFORMATION
 SQ.FT. 4.4122
 INCHES 19.2239
 INCHES 37.9349
 INCHES 43.5974
 INCHES .0000
 INCHES 16.2000
 SCALE .0405

DATA SOURCE
 DELVON .000
 DATASET EDU049
 DELVON 15.000
 EDU053 -10.000

PARAMETRIC VALUES
 AILRON .210
 MACH -18.000
 MACK/L 7.000
 NACBTA .000
 RUDGER .000

ALPHA 22.000
 24.000
 26.000
 28.000
 30.000

SYMBOL
 ○
 □
 ◇
 △



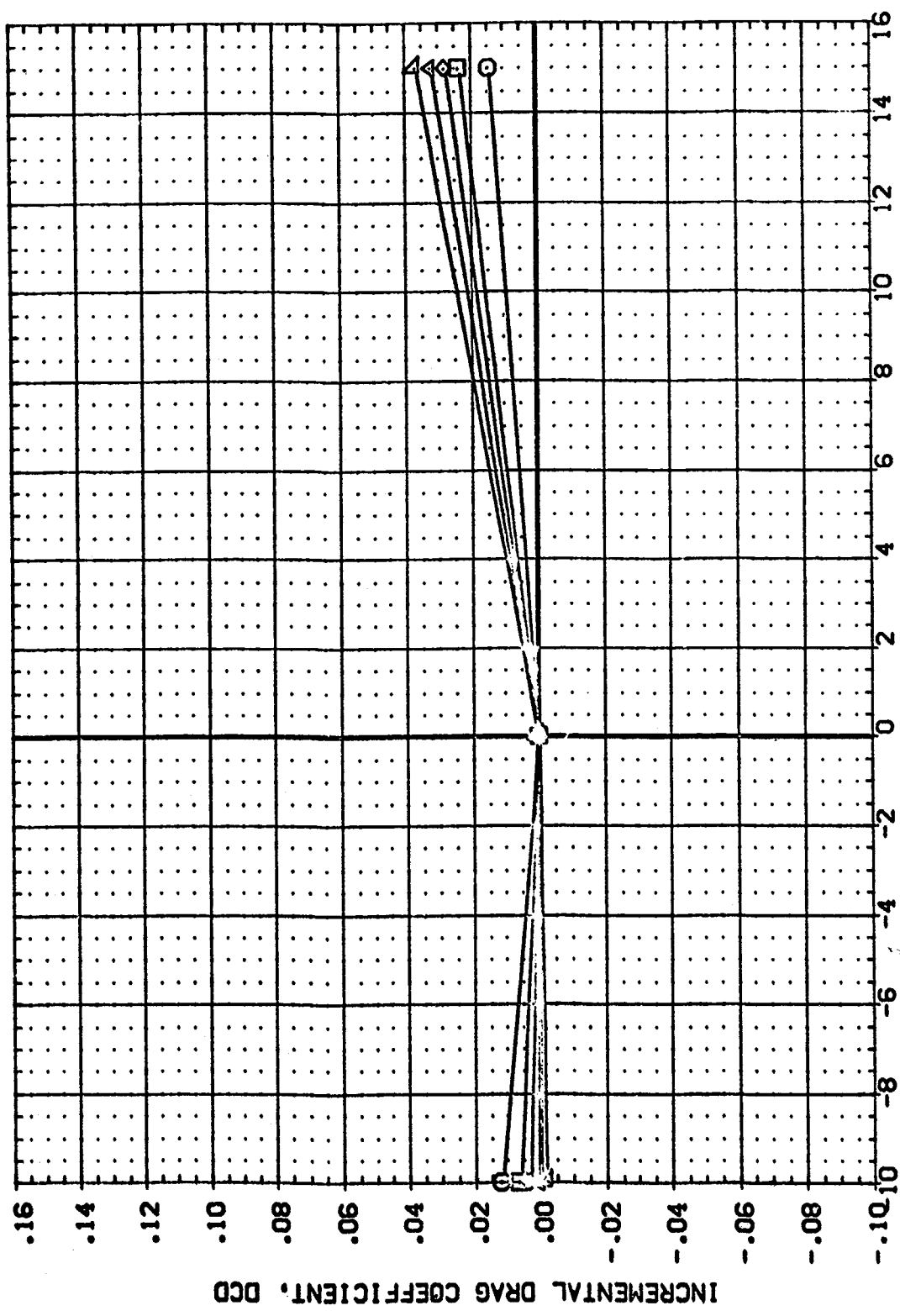
INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DEL VON	DEL VON	SCALE	REFERENCE INFORMATION
□	-4.000		.210 AILRON	.000 DATASET	.000			4.4122 SO.FT.
◇	-2.000		-19.000 NACK/L	.530 EDU055	.000			19.2299 INCHES
△	-1.000		7.000 NACBTA	5.000 EDU053				37.9349 INCHES
▽	.000		.000 RUDDER	.000				43.5974 INCHES
	1.000							.0000 INCHES
								16.2070 INCHES
								.0405 SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

INCREMENTAL DRAG COEFFICIENT, DCD

FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DELTVN	DATASET	DELTVN	DATASET	DELTVN	SCALE	REFERENCE INFORMATION
○	2.000	.210	-18.000	7.000	.000	AILRON	15.000	EDU055	.000	EDU049	SREF	4.4122	50 FT.
□	4.000	.210	-18.000	7.000	.000	NACX/L	-10.000	EDU053	.000	EDU049	LREF	19.2299	INCHES
◇	6.000	.210	-18.000	7.000	.000	NACBTA	-10.000	EDU053	.000	EDU049	XMRP	37.9349	INCHES
△	8.000	.210	-18.000	7.000	.000	RUDDER	-10.000	EDU053	.000	EDU049	YMRP	43.5574	INCHES
▽	10.000	.210	-18.000	7.000	.000		-10.000	EDU053	.000	EDU049	ZMRP	16.2000	INCHES
													SCALE
													.0405

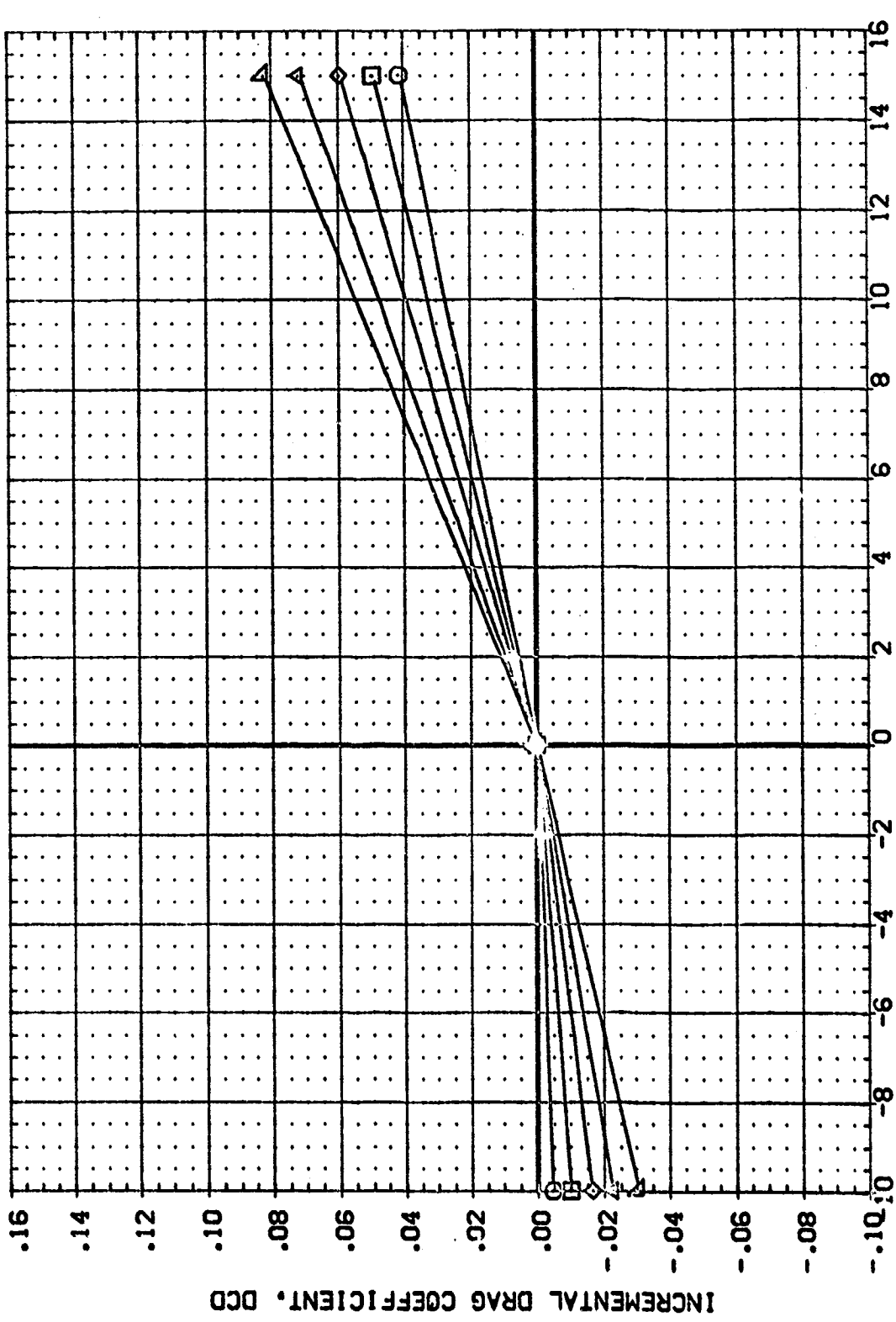


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 138

(EDU055)

0A71C B16C507J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELVON	SRJF	SO.FT.	
12.000	.210	.000	LREF	4.4122	
14.000	-18.000	15.000	BREF	19.2269	
16.000	7.000	-10.000	VMRP	37.9349	
18.000	.000		ZMRP	43.9574	
20.000			SCALE	.0000	
				16.2000	
				.0405	

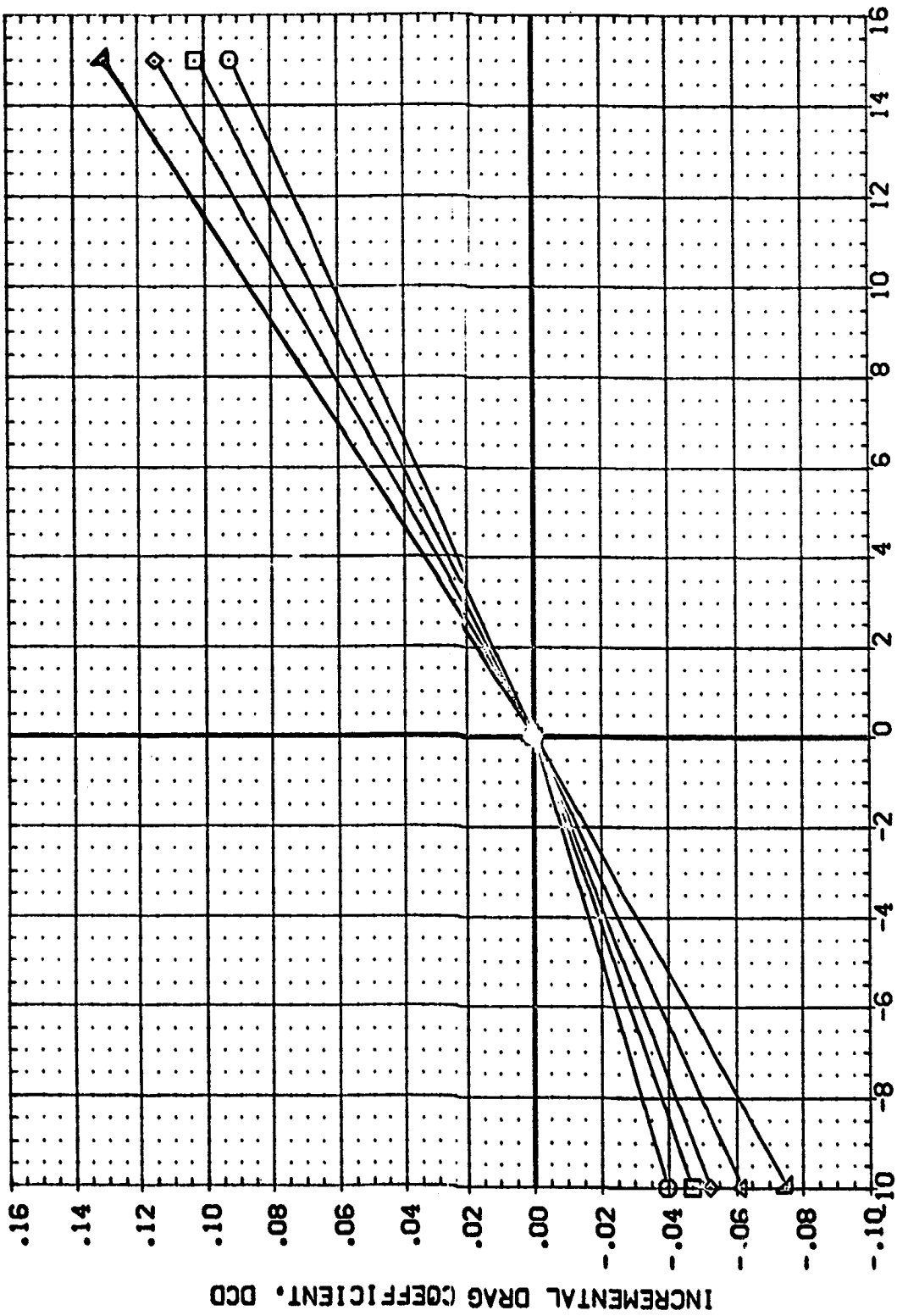


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

0A71C B16C5D7J34F1W87 E18V3R3X10 (EDU055)

SYMBOL	ALPHA	MACH	BDPLAP	BETA	PARAMETRIC VALUES	.000 DATASET	DELVON	DELVON	SREF	REFERENCE INFORMATION
○	22.000				.210 AILTRON	.530 EDU055	15.000	.000	LRG	4.4122 SO.FT.
□	24.000				-18.000 NACX/L	5.000 EDU053	-10.000	.000	FRG	19.2289 INCHES
◇	26.000				7.000 NACBTA				YRSP	37.8949 INCHES
△	28.000				.000 RUDDER				ZRSP	43.5974 INCHES
▽	30.000								ZRSP	16.2000 INCHES
									SCALE	.0405

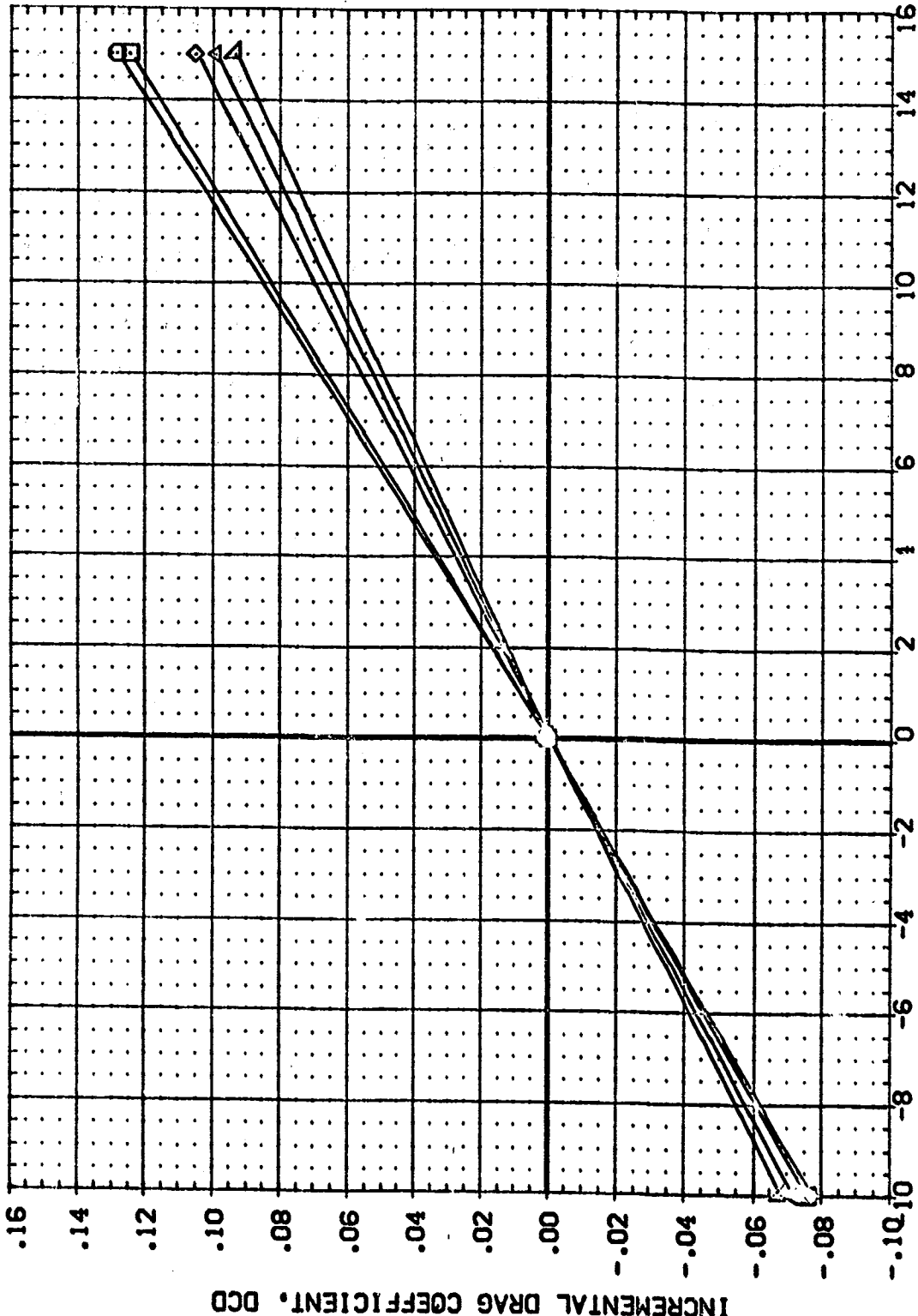


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
○	-4.000	EDFLAP	.210	AILRON	.000	DATASET	DELVON	SREF	SO.FT.	4.4122	SO.FT.	4.4122
□	-2.000	NACLIP	-18.000	NACK/L	.530	EDU055	.000	LREF	INCHES	19.2259	INCHES	19.2259
◇	-1.000	BETA	7.000	NACBTA	5.000	EDU053		YTRP	INCHES	37.9349	INCHES	37.9349
△	.000		.000	RUDDER	.000			ZTRP	INCHES	43.5974	INCHES	43.5974
▽	1.000							SCALE	INCHES	16.2000	INCHES	16.2000
									SCALE	.0405	SCALE	.0405

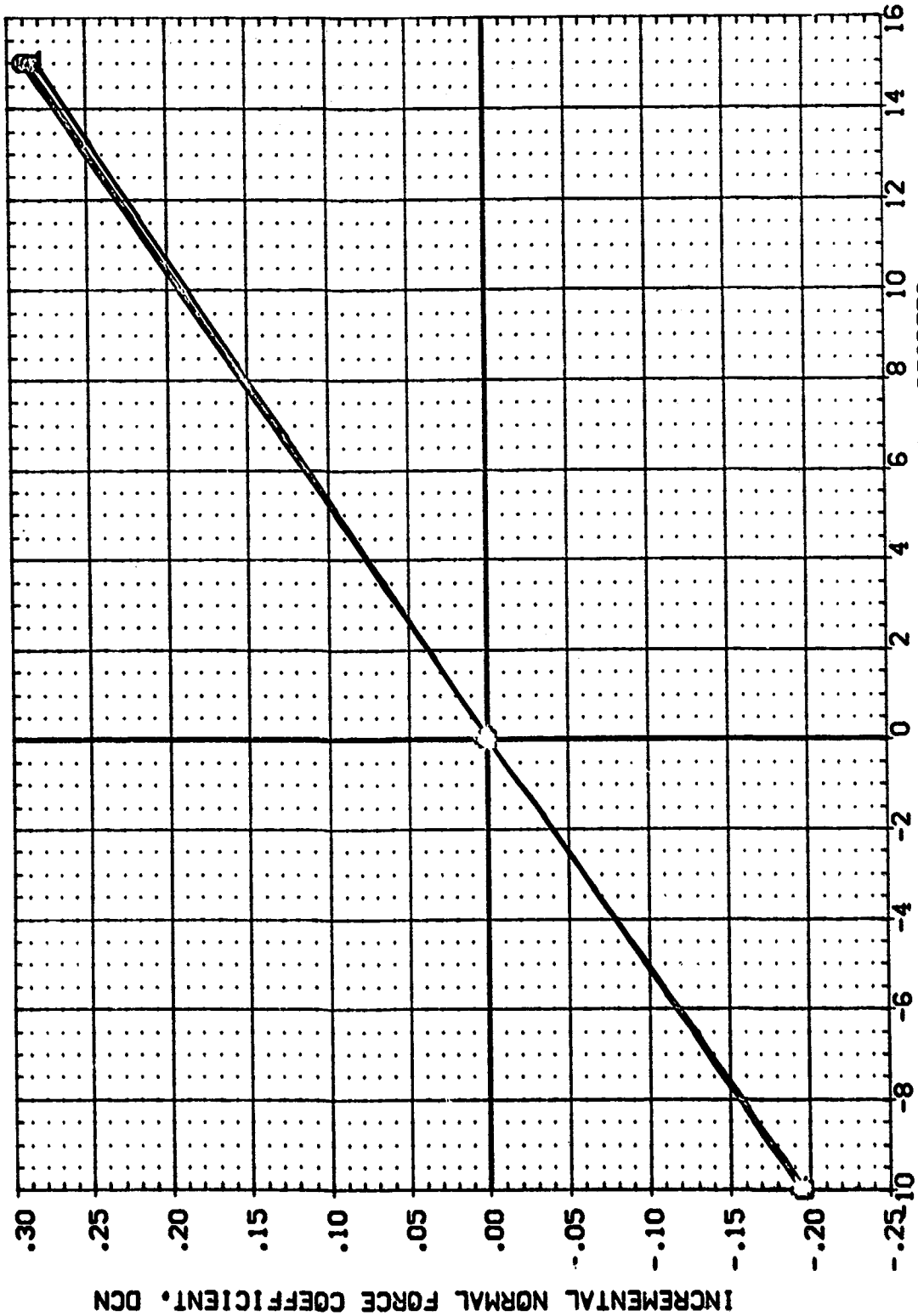


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060.
 INCREMENTAL ELEVON DEFLECTION, DEGREES

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
○	2.000		.210	A1LRON	.000	DATASET	DELVON	SCALE	4.4122	SO.FT.	
□	4.000		-18.000	NACX/L	.530	EDU055	.000	LINEF	19.2289	INCHES	
◇	6.000	80FLAP	7.000	NACBTA	5.000	EDU049		X-REF	37.9349	INCHES	
△	8.000	NACLIP	.000	RUDDER	.000			Y-REF	43.5974	INCHES	
▽	10.000	BETA						Z-REF	16.2000	INCHES	
								SCALE	.0405	SCALE	

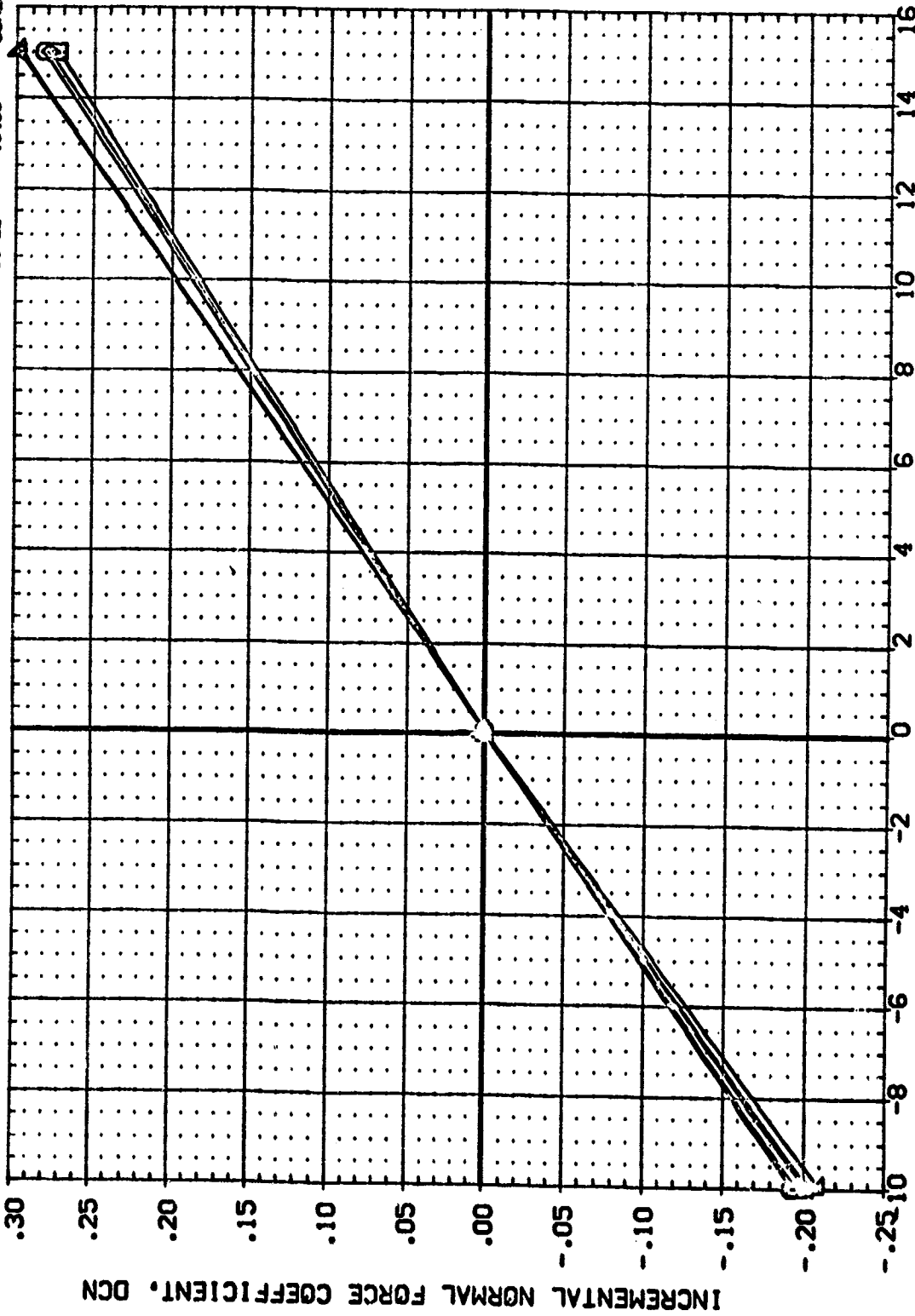


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(ECU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION			
○	ALPHA	12.000	MACH	.000	DATASET	DELTON	SREF	4.4122	SQ. FT.
□	BOFLAP	14.000	BOFLAP	.530	EDUCSS	15.000	LREF	19.2298	INCHES
◇	NACLIP	16.000	NACLIP	5.000	EDUCS3	-19.000	RREF	37.9349	INCHES
△	BETA	18.000	BETA	.000	EDUCS3		ALAP	43.5574	INCHES
▽	RUDDER	20.000	RUDDER	.000			TRRP	16.2000	INCHES
							ZTRP	16.2000	INCHES
							SCALE	.0405	SCALE

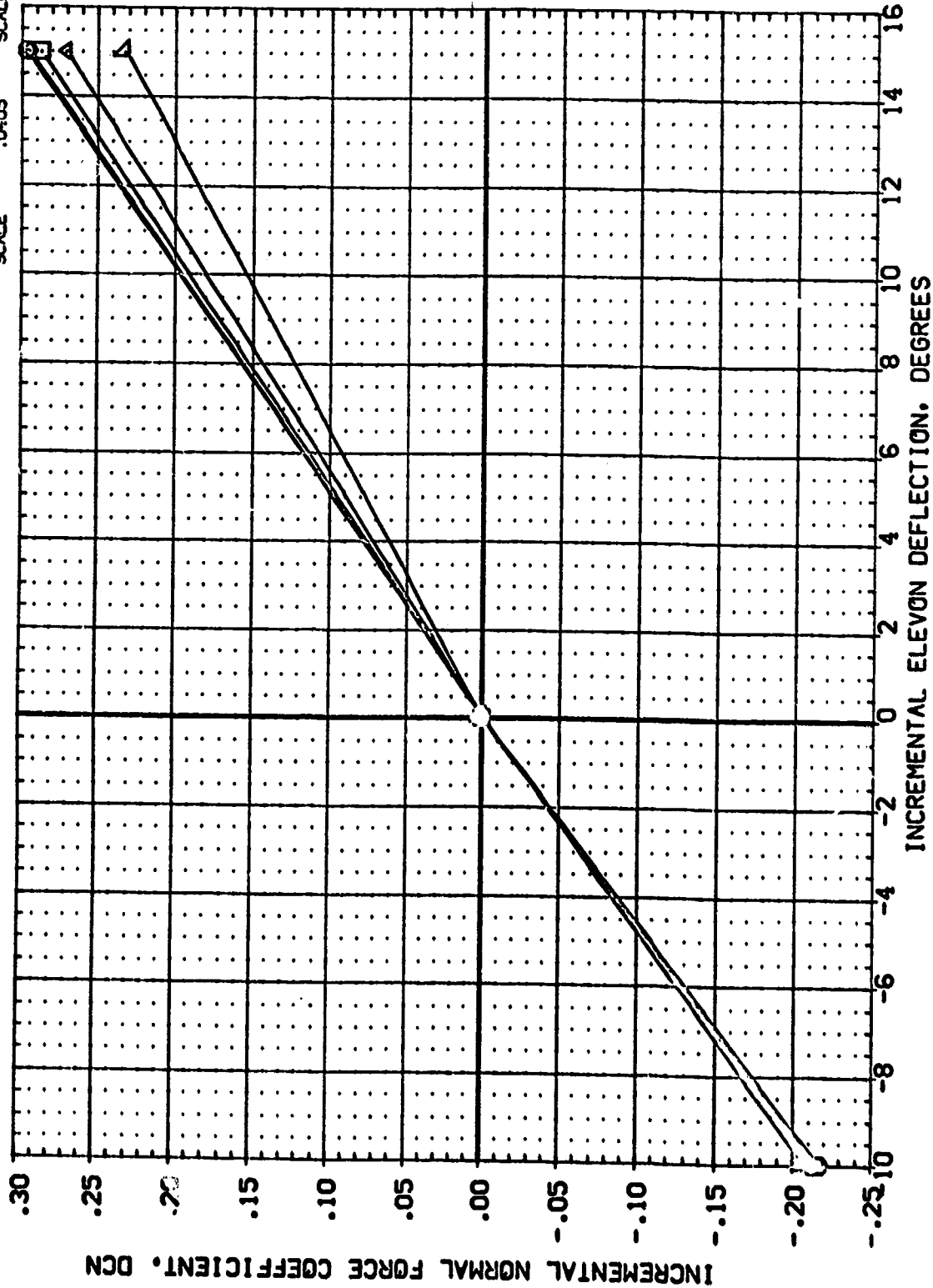


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	EDFLAP	PARAMETRIC VALUES	DATA SOURCE	DATASET	DEL VON	DATASET	DEL VON	SREF	REFERENCE INFORMATION
○	22.000			.210	AILRON	.000	EDUC49	.000	4.4122	SO.FT.	
□	24.000			-18.000	NACXVL	.530	EDU055	15.000	19.2299	INCHES	
◇	26.000			7.000	NACBTA	5.000	EDU053	-10.000	37.9349	INCHES	
△	28.000			.000	RUDDER	.000			43.5974	INCHES	
	30.000								16.2000	INCHES	
									.0405	SCALE	

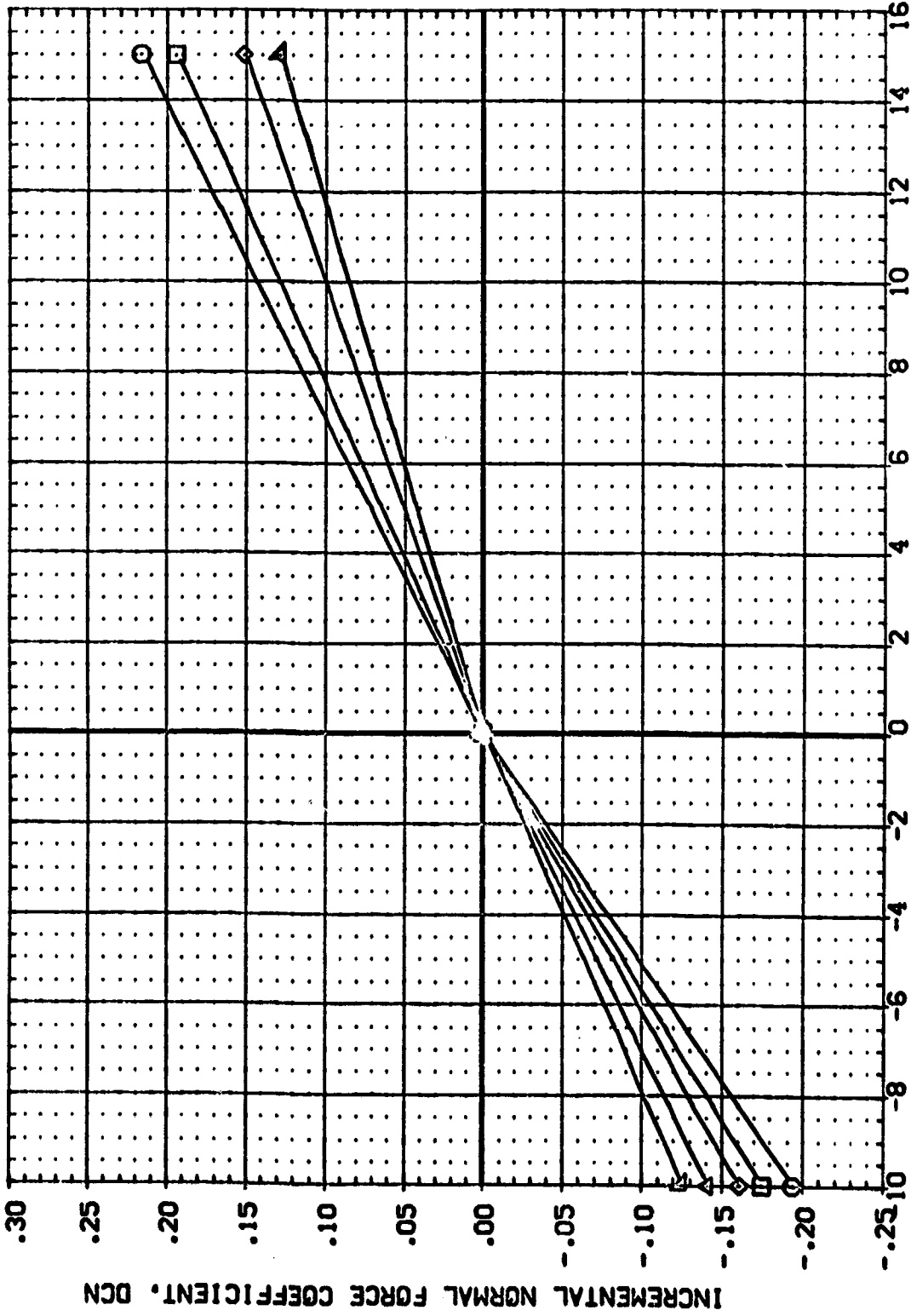


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

GA71C B16C5D7J34F1W87 E18V3R3X10 (EDU055)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
○	-4.000	BDFLAP	.210 AILRON	.000 DATASET	.000 EDLOS	.000	LREF	4.4122 SQ.FT.
◇	-2.000	MACLIP	-18.000 MAC/L	.530 EDLOS	EDU049	.000	BREF	19.2799 INCHES
△	-1.000	BETA	7.000 MACBTA	5.000 EDLOS3			XPRP	37.9349 INCHES
▽	.000		.000 RUDDER	.000			YPRP	43.9974 INCHES
	1.000						ZPRP	.0000 INCHES
							SCALE	16.2000 INCHES
								.0405 SCALE

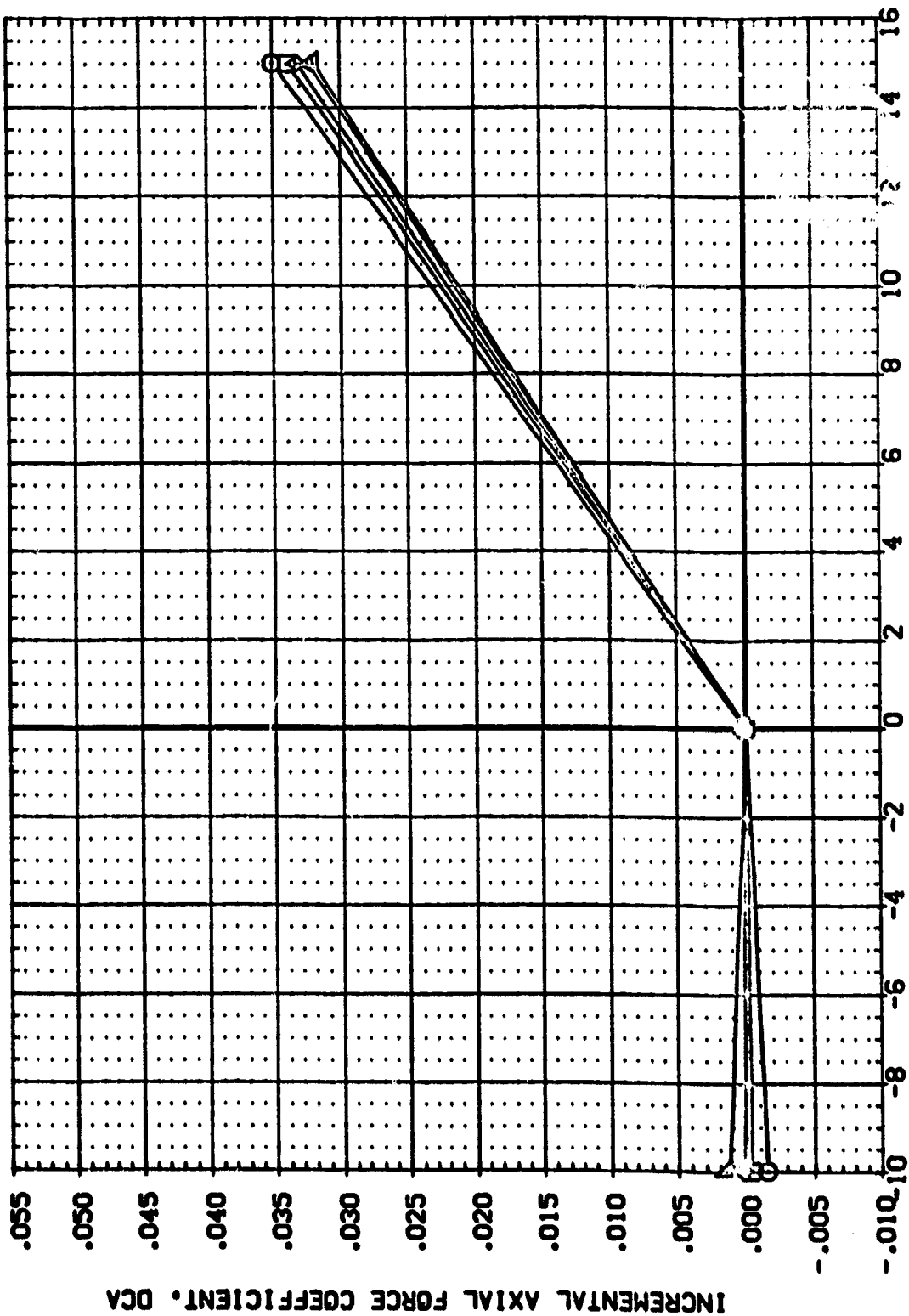


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	MACH/L	MAC/L	MAC/BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELTVN	SREF	REFERENCE INFORMATION
○	2.000							AILRON	DELTVN	EDU04S	.000	SREF	50 FT.
□	4.000							MACH/L	DELTVN	EDU04S	.000	LREF	INCHES
◇	6.000							MAC/L	DELTVN	EDU04S	.000	XREF	INCHES
△	8.000							MAC/BETA	DELTVN	EDU04S	.000	YREF	INCHES
▽	10.000							RUDDER	DELTVN	EDU04S	.000	ZREF	INCHES
									SCALE	EDU04S	.000	SCALE	SCALE

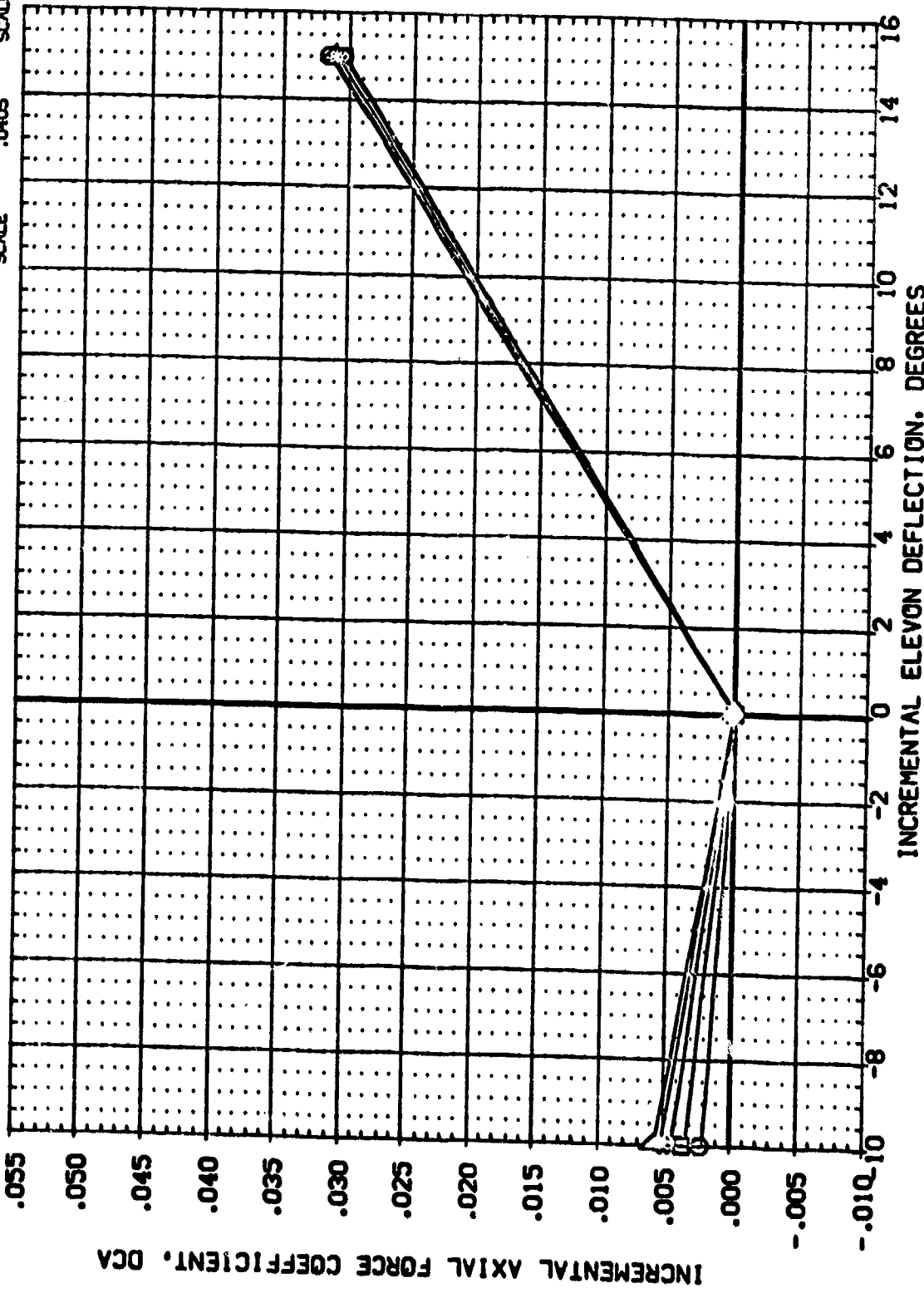


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(EUU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL

□	12.000
◇	14.000
◇	16.000
△	18.000
△	20.000

PARAMETRIC VALUES

MACH	.210
BDFLAP	-18.000
MACLIP	7.000
BETA	.000
AILRON	.000
NACVAL	.530
NACBTA	5.000
RUDDER	.000

DATA SOURCE

DELVN	15.000
EDU049	-10.000

DATASET

EDU055	.000
EDU053	.500
EDU053	5.000

DELTVN

LINEF	.000
YPRP	.000
ZPRP	.000
SCALE	.0405

REFERENCE INFORMATION

SO. FT.	4.4122
INCHES	19.2269
INCHES	37.9349
INCHES	43.5574
INCHES	.0000
INCHES	16.2000
SCALE	.0405

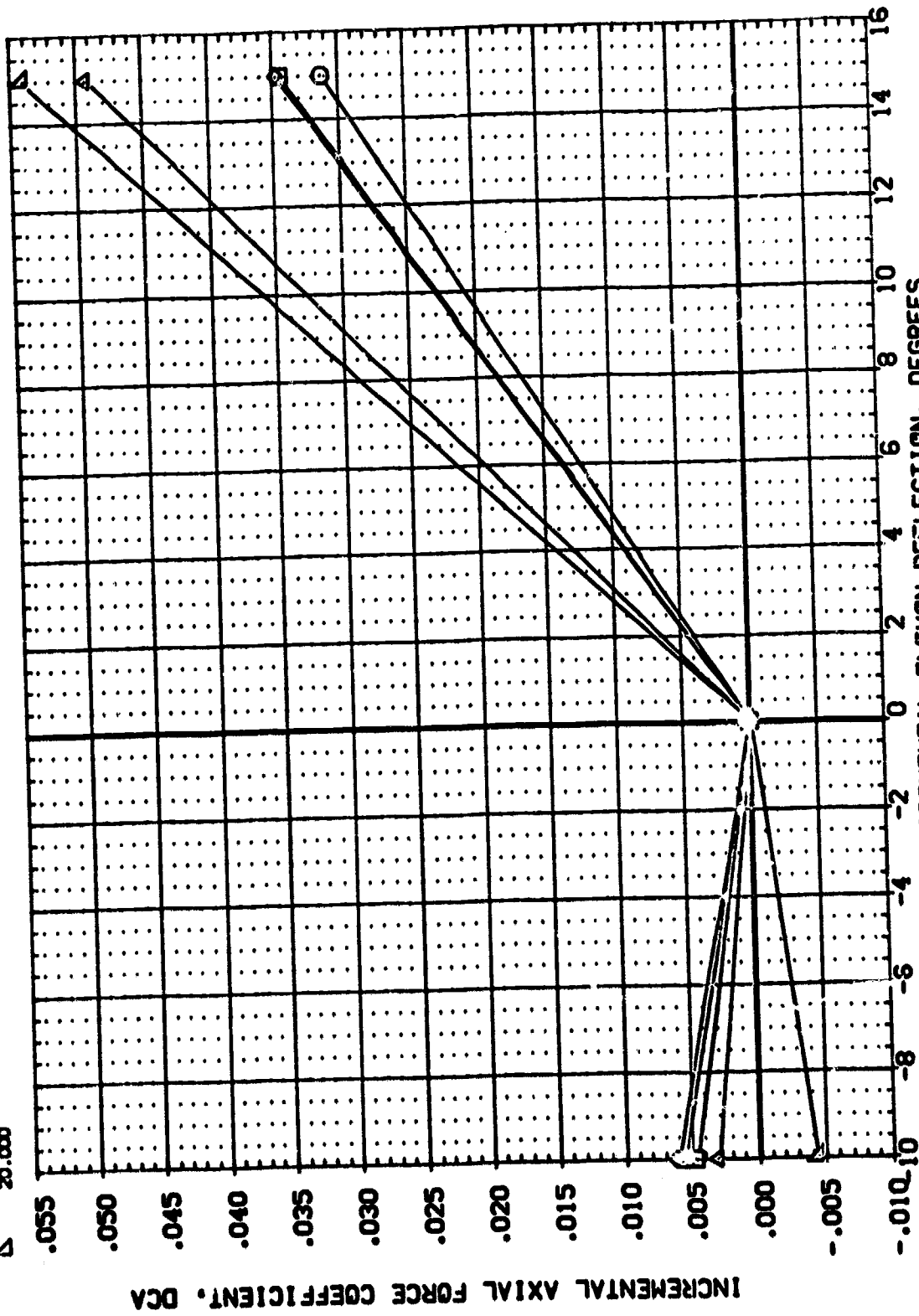


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060 PAGE 147

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	EDFLAP	NACLIP	BETA	PARAMETRIC VALUES	AILRON	NACK/L	NACBTA	RUDDER	DATA SOURCE	DELTVN	DATASET	EDU049	DELTVN	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE	REFERENCE INFORMATION	SO.FT.	INCHES	INCHES	INCHES	INCHES	SCALE										
○	22.000					.210					.000	15.000	EDU053	.000	.000	4.4122	19.2299	37.9349	43.5974	.0000	.0000	.0405	4.4122	19.2299	37.9349	43.5974	.0000	.0000	.0405										
□	24.000					-18.000					.530	-10.000	EDU053	.000	.000	19.2299	37.9349	43.5974	.0000	.0000	.0405	19.2299	37.9349	43.5974	.0000	.0000	.0405	19.2299	37.9349	43.5974	.0000	.0000	.0405						
△	26.000					7.000					5.000		EDU053	.000	.000	43.5974	.0000	.0000	.0000	.0000	.0405	43.5974	.0000	.0000	.0000	.0000	.0405	43.5974	.0000	.0000	.0000	.0405	43.5974	.0000	.0000	.0000	.0405		
▽	28.000					.000					.000		EDU053	.000	.000	16.2000	.0000	.0000	.0000	.0000	.0405	16.2000	.0000	.0000	16.2000	.0000	.0000	.0405	16.2000	.0000	.0000	.0000	.0405	16.2000	.0000	.0000	.0000	.0405	
▽	30.000										.000		EDU053	.000	.000	.0405	.0000	.0000	.0000	.0000	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405	.0405

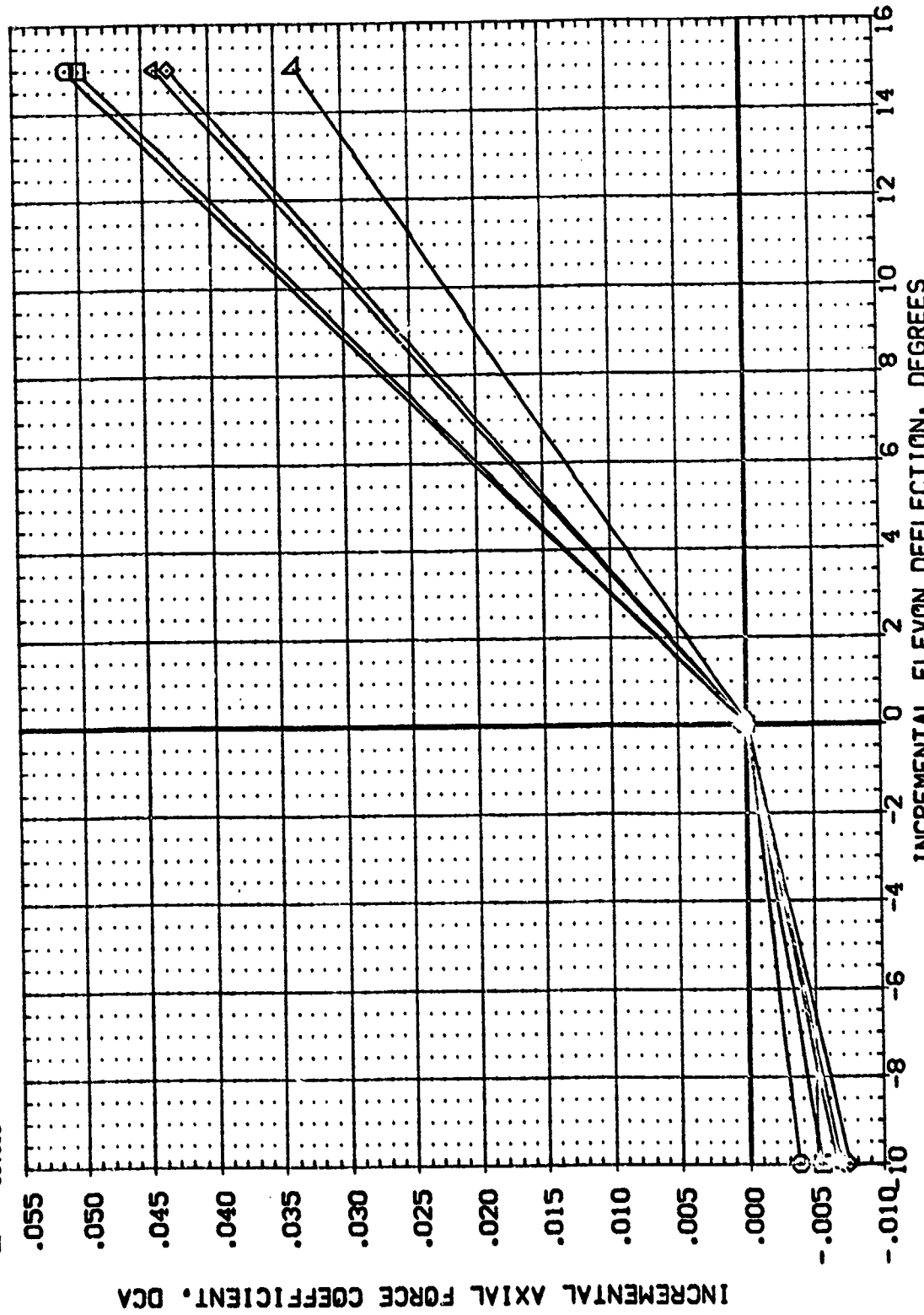


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060
PAGE 148

(EDU055)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
○	-4.000		.210	AILRON	.000	DATASET	DELVON	SREF	4.4122	SO.FT.	
□	-2.000	BDFLAP	-18.000	NACK/L	.530	EDU055	15.000	LREF	19.2299	INCHES	
◇	-1.000	NACLIP	7.000	NACBTA	5.000	EDU053	-10.000	EREF	37.9249	INCHES	
△	1.000	BETA	.000	RUDDER	.000			XMRP	43.9974	INCHES	
								YMRP	.0000	INCHES	
								ZMRP	16.2000	INCHES	
								SCALE	.0405	SCALE	

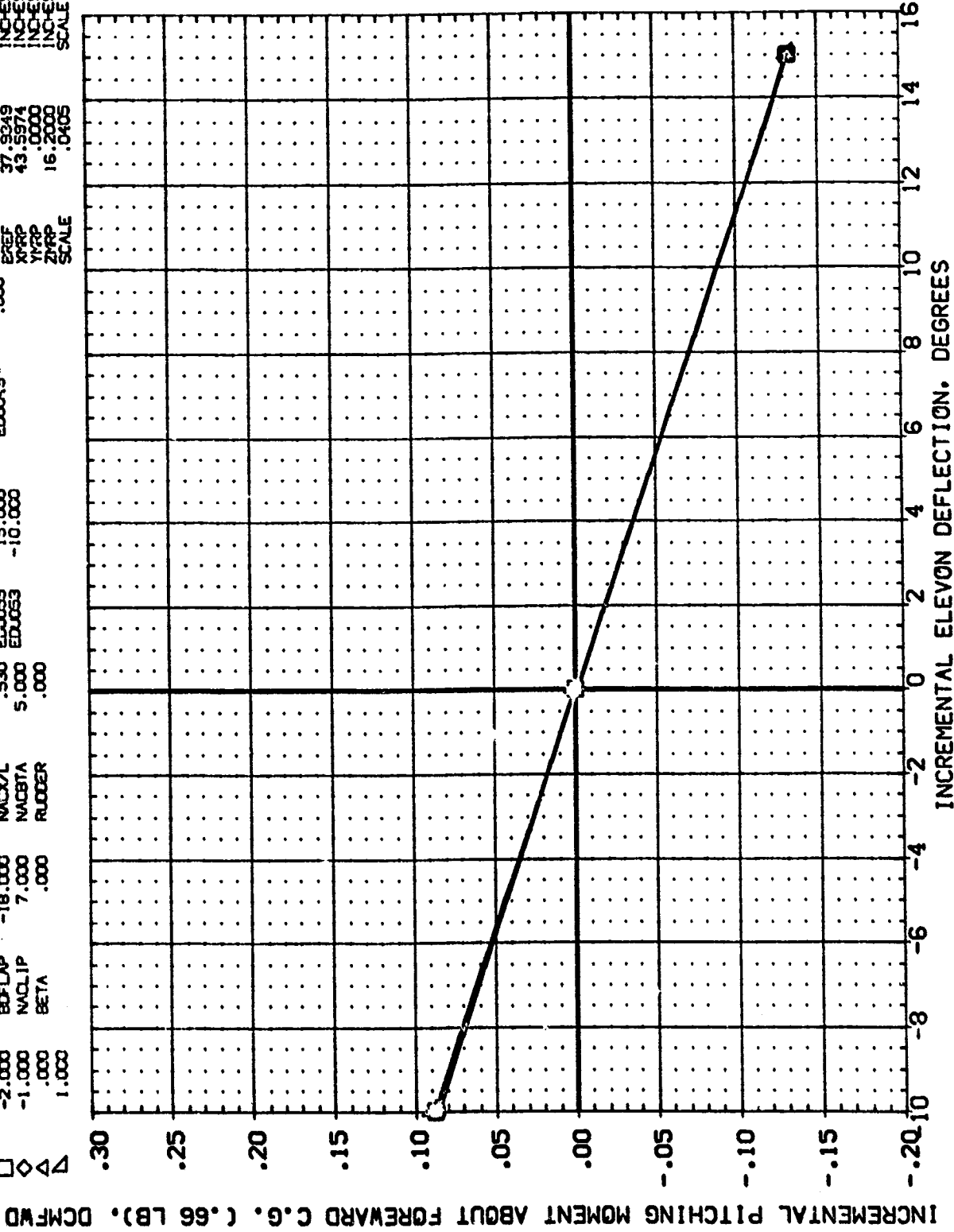


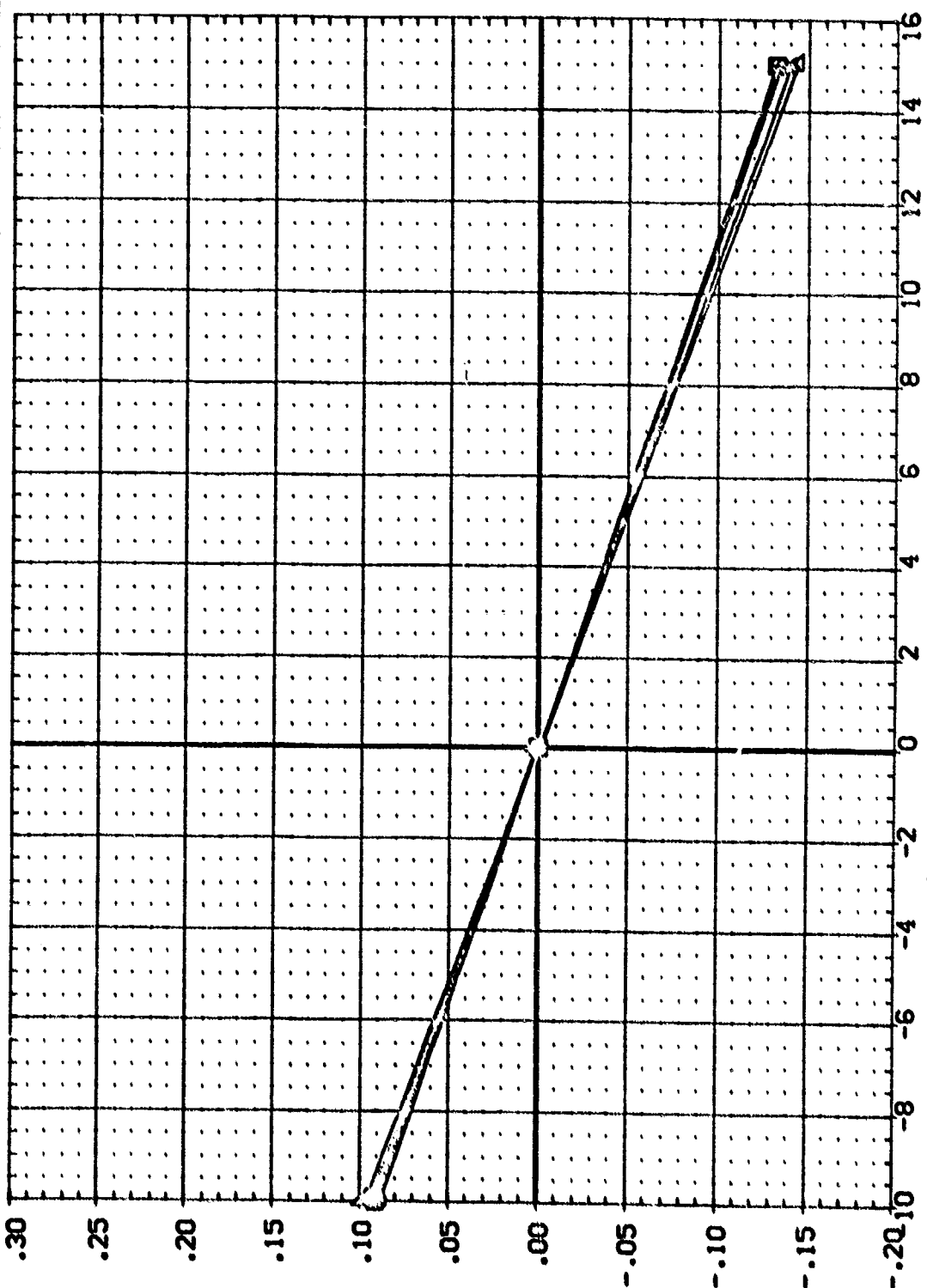
FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

GA71C B16C5D7J34F1W87 E18V3R3X10

ALPHA	2.000	MACH	.210	AILERON	.000	DATASET	.000	DEL VON	.000	SREF	4.4122	SO. FT.
	4.000	BOFLAP	-19.000	NACX1	.530	EDLOS5	15.000	LREF	.000	LRPF	19.2299	INCHES
	6.000	NACLIP	7.000	NACSTA	5.000	EDLOS3	-10.000	BRPF	.000	XRPF	37.9349	INCHES
	8.000	BETA	.000	RUDDER	.000			YRPF	.000	ZRPF	43.9374	INCHES
	10.000							SCALE	16.2000	SCALE	.0405	INCHES

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB.). DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

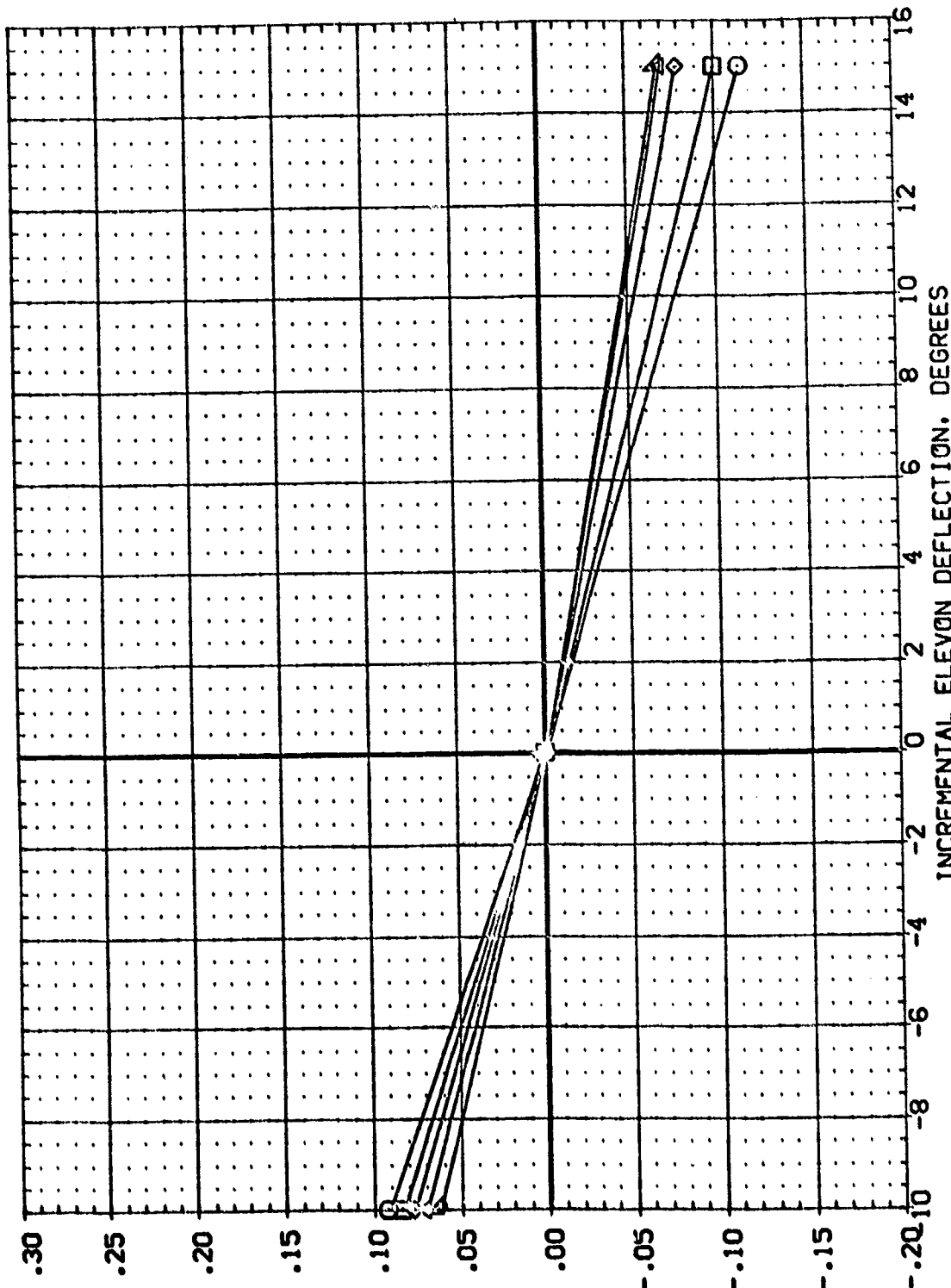
FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(EDU055)

GA71C B16C507J34F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000	DELVON	SREF	SQ.FT.
22.000	BOFLAP	.530	.000	LREF	INCHES
24.000	NACL1P	5.000	EDU049	EXEF	INCHES
26.000	BETA	.000	EDU055	XMRP	INCHES
28.000				YMRP	INCHES
30.000				ZMRP	INCHES
				SCALE	SCALE
					.0405

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB). DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	MACFLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELTVN	DATASET	DELTVN	SREF	REFERENCE INFORMATION
□	-4.000					.210	DELTVN	.000	EDU049	.000	4.4122	90. FT.
◇	-2.000					-18.000	DELTVN	-15.000	EDU049		19.2299	INCHES
△	-1.000					7.000	DELTVN	-10.000	EDU063		37.9249	INCHES
▽	.000					.000	DELTVN		EDU063		43.5974	INCHES
△	1.000					.000	DELTVN		EDU063		16.2000	INCHES
						.000	DELTVN		EDU063		.0405	SCALE

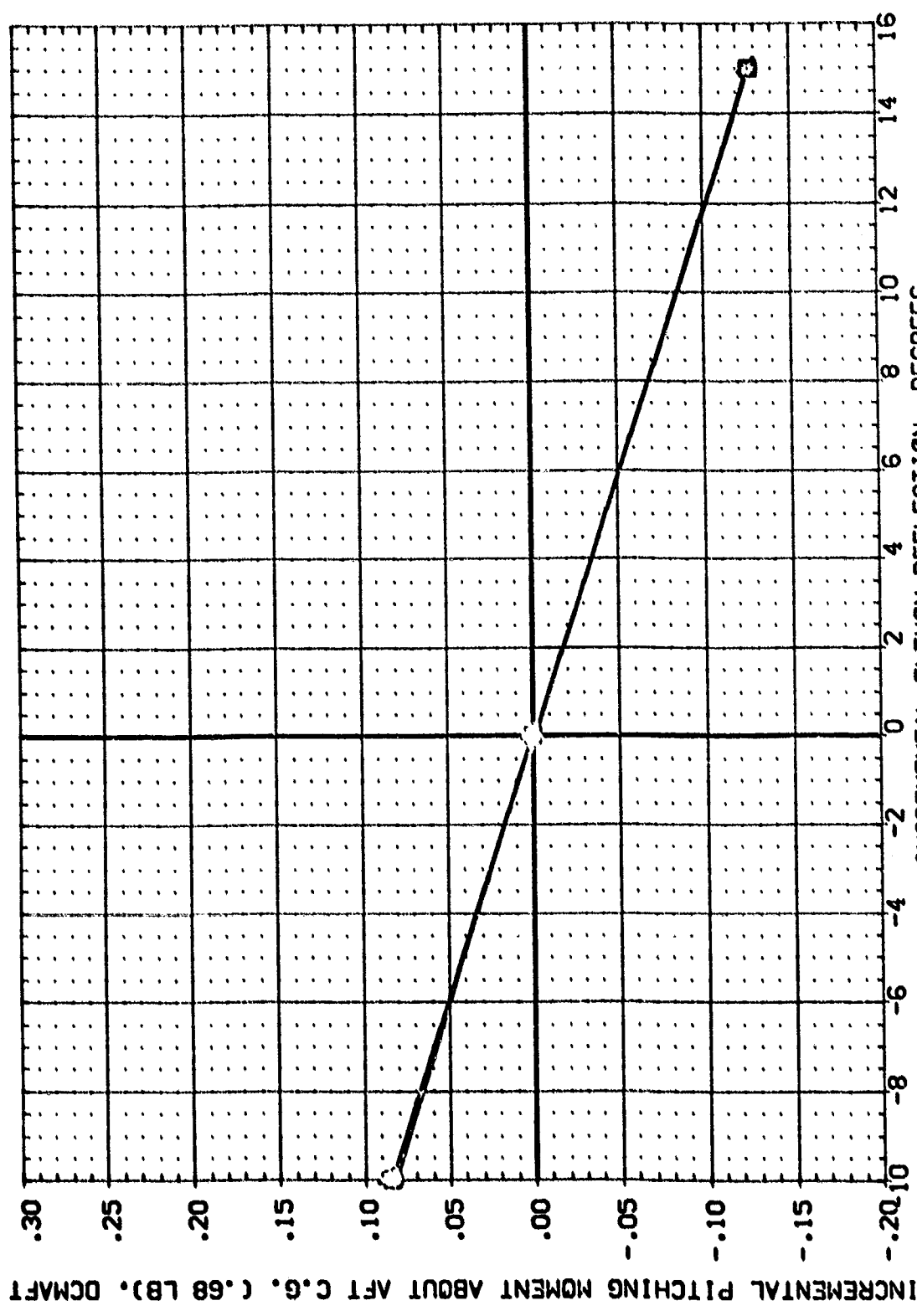


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C507J34F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		DATASET		DELTA		REFERENCE INFORMATION			
○	ALPHA	2.000	MACH	.210	AILRON	.000	DELVON	EDU049	.000	SREF	4.4122	SO.FT.			
□		4.000	BOFLAP	-18.000	NACXL	.530	DELVON	EDU055	.000	LREF	19.2269	INCHES			
◇		6.000	NACLIP	7.000	NACBTA	5.000	DELVON	EDU053	.000	XREF	37.9349	INCHES			
△		8.000	BETA	.000	RUDDER	.000	DELVON	EDU053	.000	YREF	43.5974	INCHES			
▽		10.000					DELVON	EDU053	.000	ZREF	16.2000	INCHES			
										SCALE	.0405	SCALE			

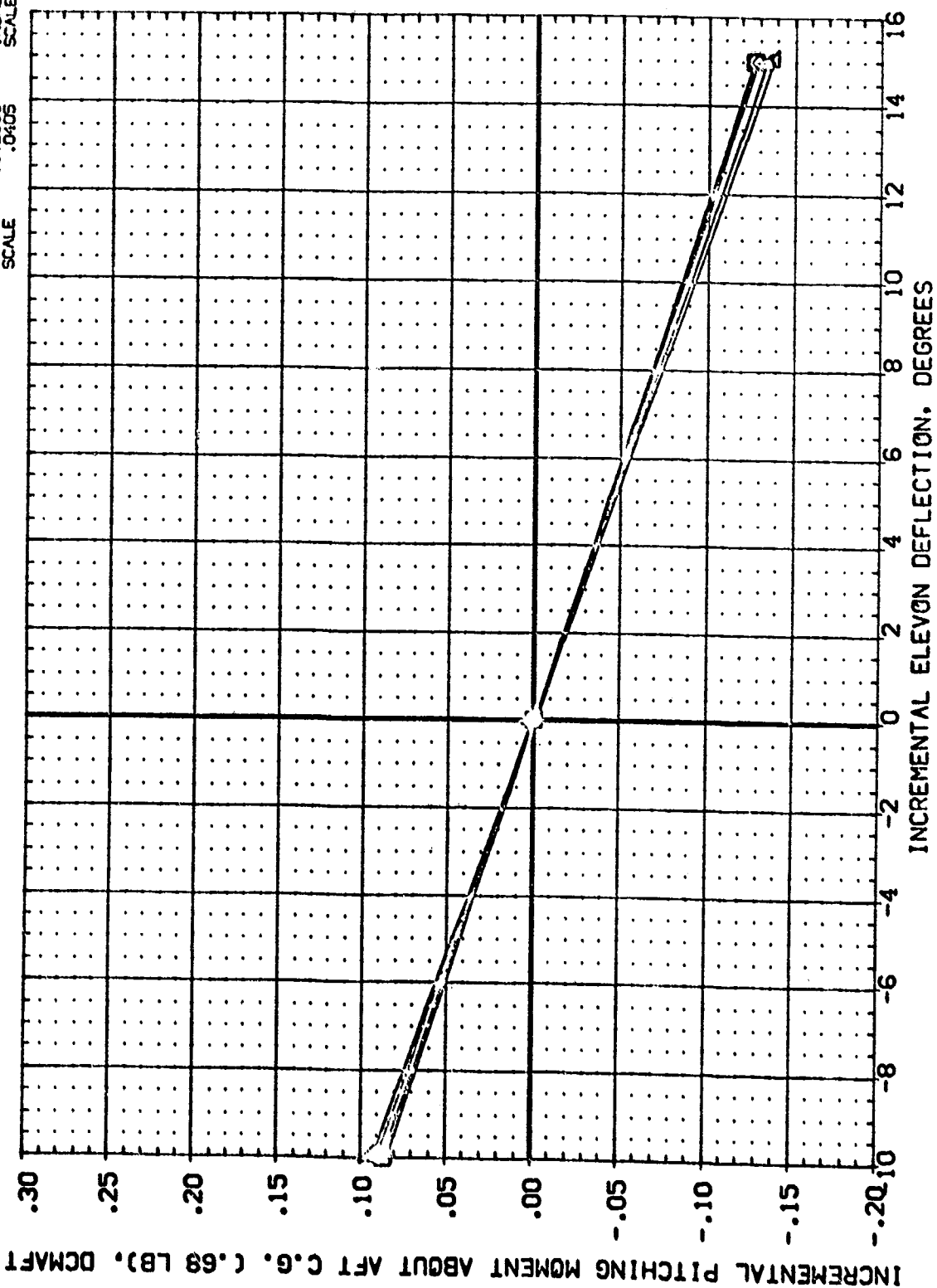


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING X0= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

SYMBL	ALPHA	MACH	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
□	12.000	BOFLAP	.210	AILRON	.000	DATASET	DELVON	SREF	4.4122	50.FT.				
◇	14.000	NACLIP	-18.000	NACXVL	.530	EDJ055	.000	REF	19.2299	INCHES				
△	16.000	BETA	7.000	NACBTA	5.000	EDJ053	-10.000	XTRP	37.9349	INCHES				
▽	18.000		.000	RUDDER	.000			ZTRP	43.5974	INCHES				
	20.000							SCALE	16.2000	INCHES				
									.0405	SCALE				

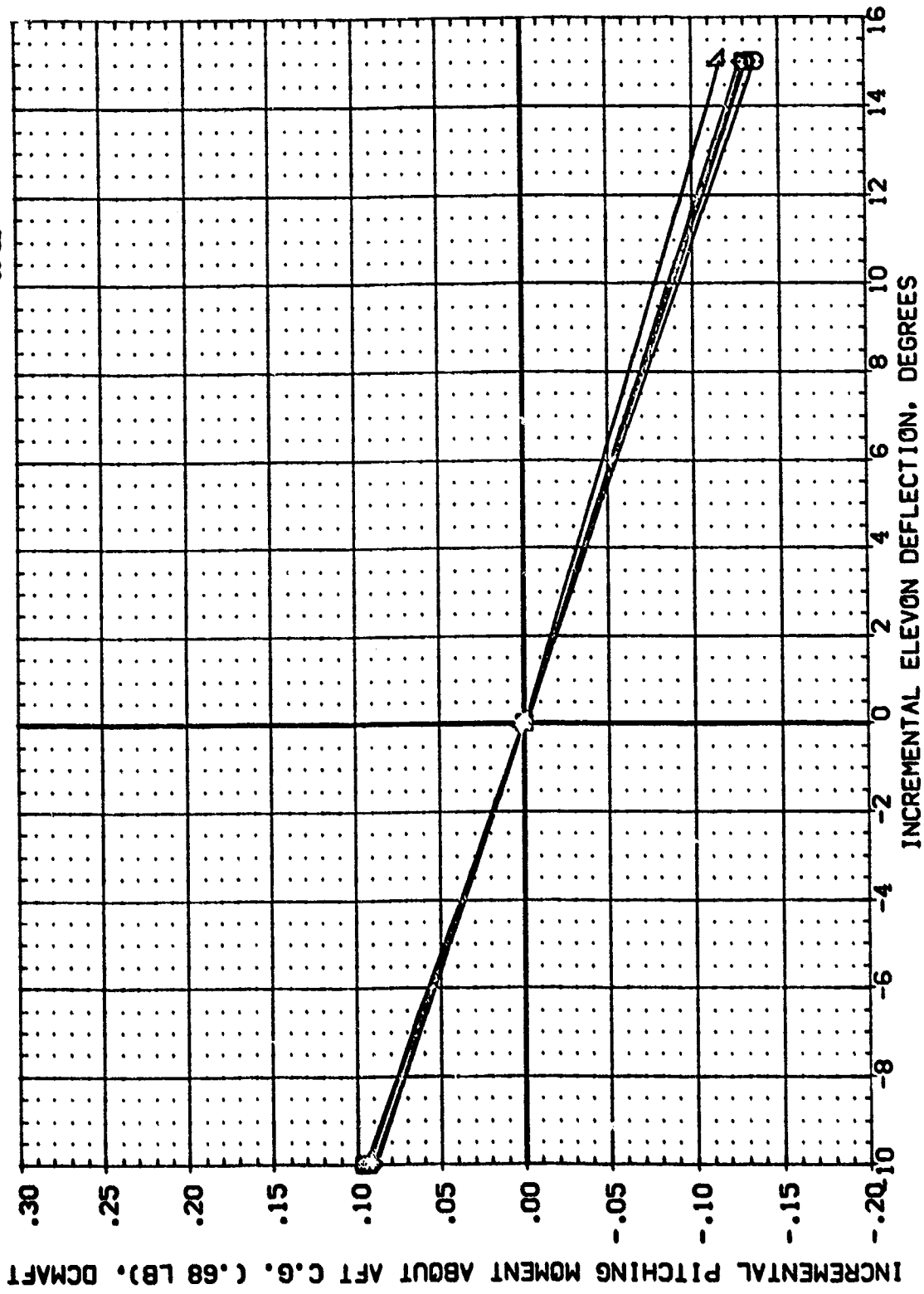


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060

(EDU055)

0A71C B16C5D7J34F1W87 E18V3R3X10

REFERENCE INFORMATION
 SQ.FT. 4.4122
 INCHES 19.2259
 INCHES 37.9349
 INCHES 43.5974
 INCHES 16.2000
 INCHES 16.2000
 SCALE .0405

DATA SOURCE
 DELVON .000
 DATASET EDU049
 DELVON 15.000
 EDU053 -10.000

PARAMETRIC VALUES
 AILRON .210
 NACK/L -18.000
 NACBTA 7.000
 RUDDER .000

ALPHA 22.000
 MACH 24.000
 BDFLAP 26.000
 NACLIP 28.000
 BETA 30.000

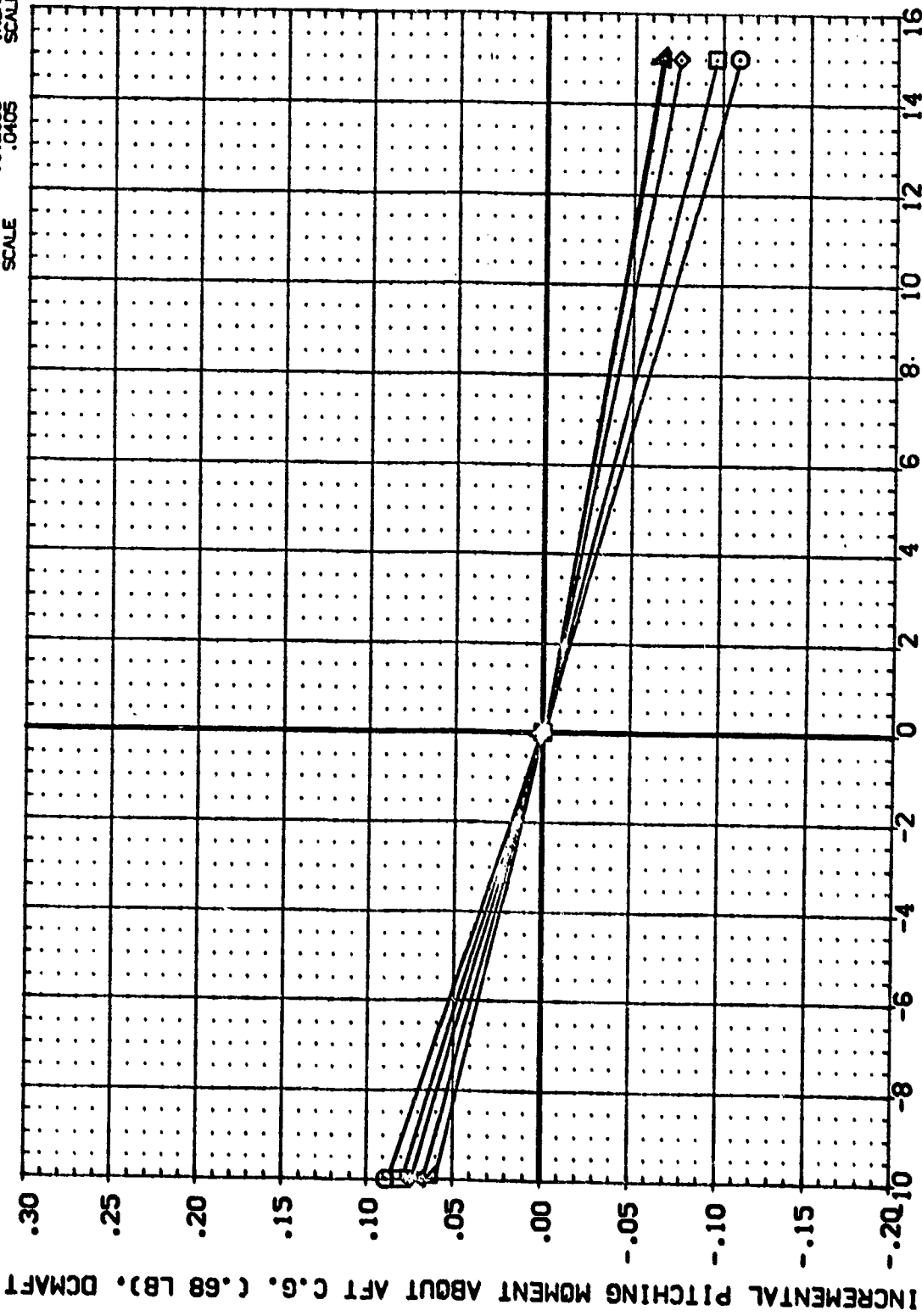


FIG 11 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES UNDERWING XO= 1060



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AD061) CA71C B16C5D7435F 1V87 E18V3R3X10
 (AD068) CA71C B16C5D7435F 1V87 E18V3R3X10
 (AD062) CA71C B16C5D7435F 1V87 E18V3R3X10

ELEVON MACX/L MAC/LIP MACSTA
 15.000 7.000 5.000
 10.000 7.000 5.000
 -10.000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2288 INCHES
 BREF 37.9349 INCHES
 XTRP 43.5974 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405

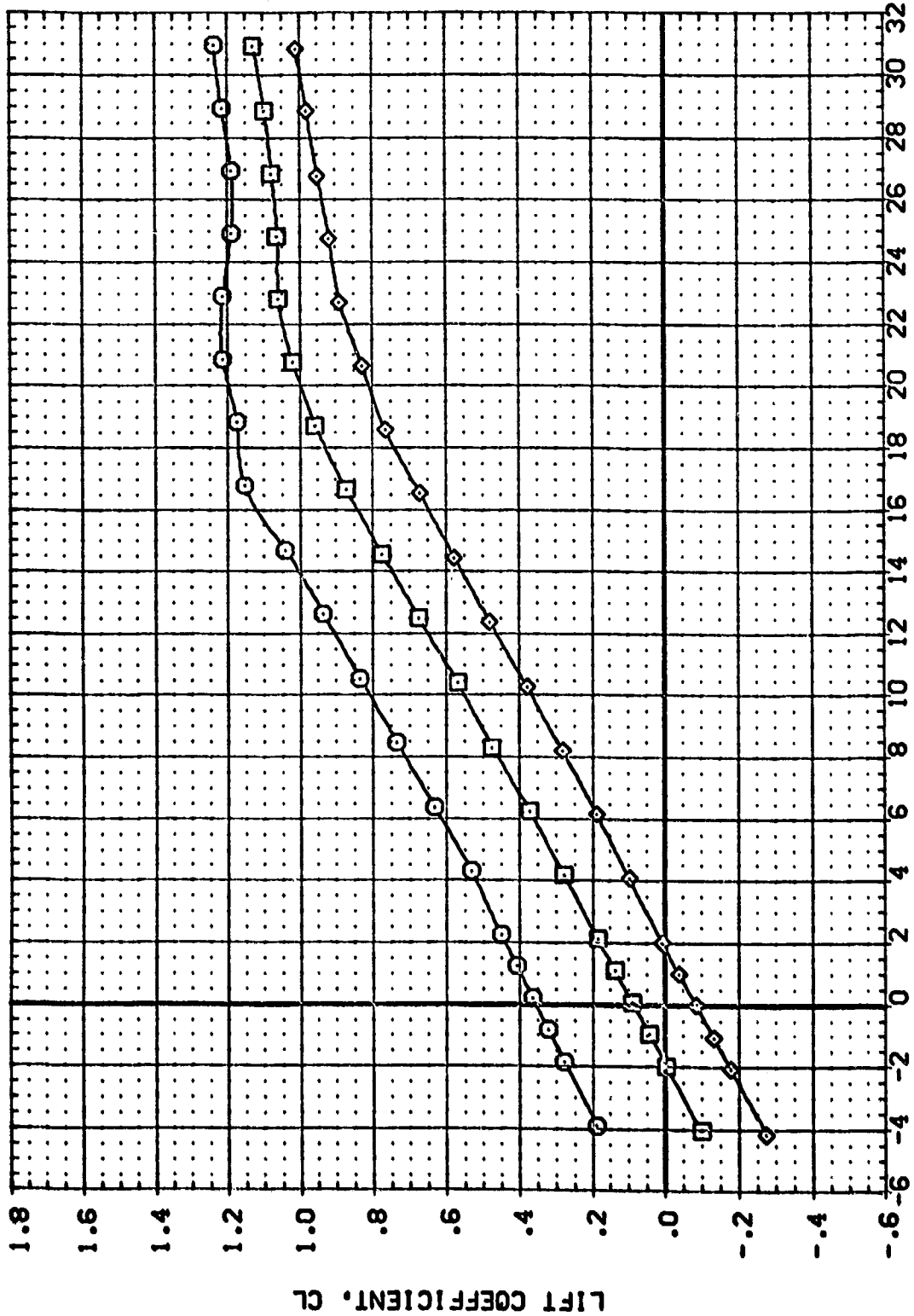


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL: (A0J061)
 (A0J052)
 (A0J062)

CONFIGURATION DESCRIPTION:
 CAT1C B16C507435F 1V87 E18V323X10
 CAT71C B16C507435F 1V87 E18V323X10
 CAT71C B16C507435F 1V87 E18V323X10

ELEVON: 15.000, 0.000, -10.000
 NACA/L: .530, .530
 NACLIP: 7.000, 7.000
 NACBTA: 5.000, 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SO.FT.:
 LREF: 19.2229 INCHES
 XREF: 37.9349 INCHES
 YREF: 43.5974 INCHES
 ZREF: .0000 INCHES
 SCALE: 16.2000 INCHES
 SCALE: .0405

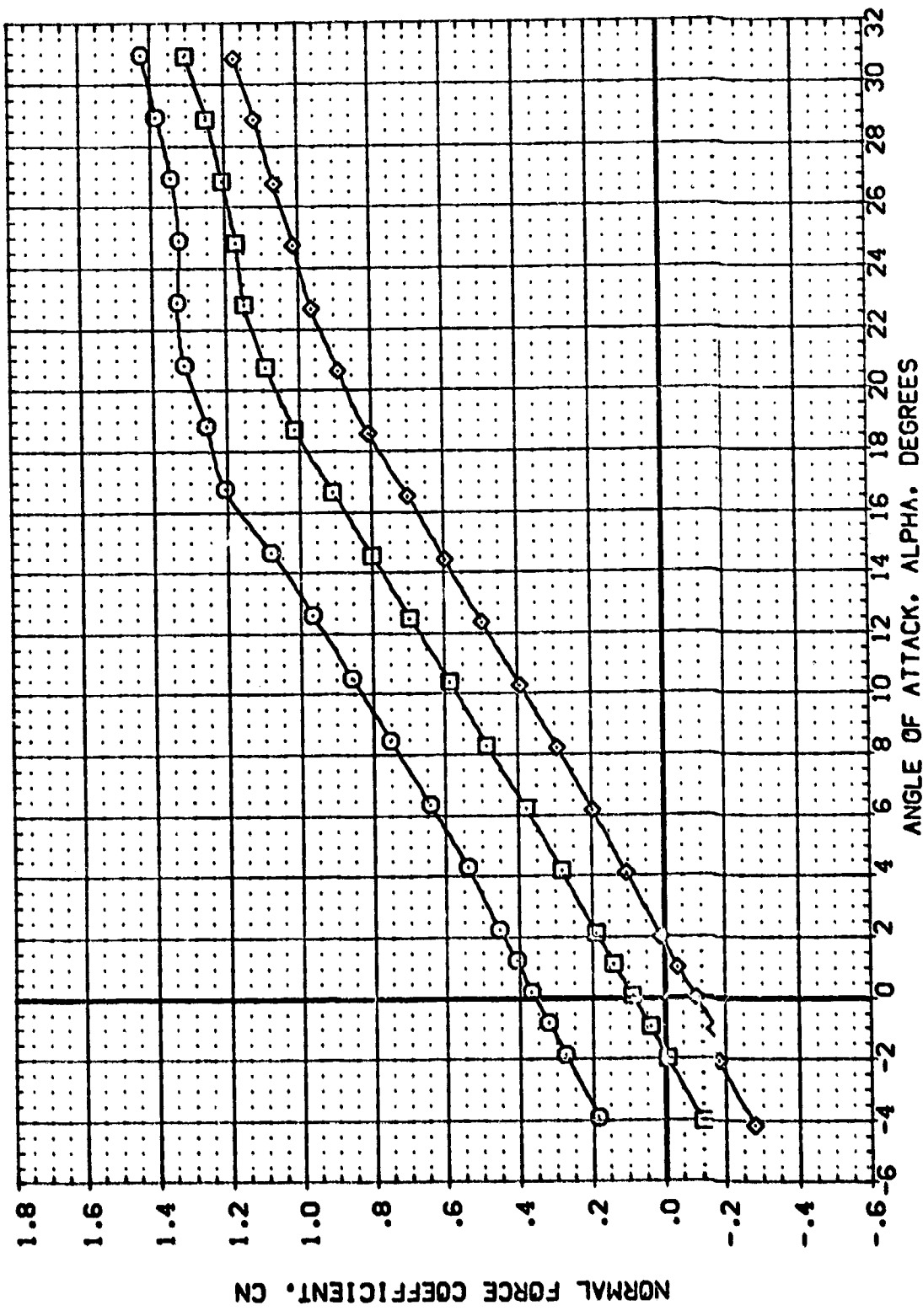


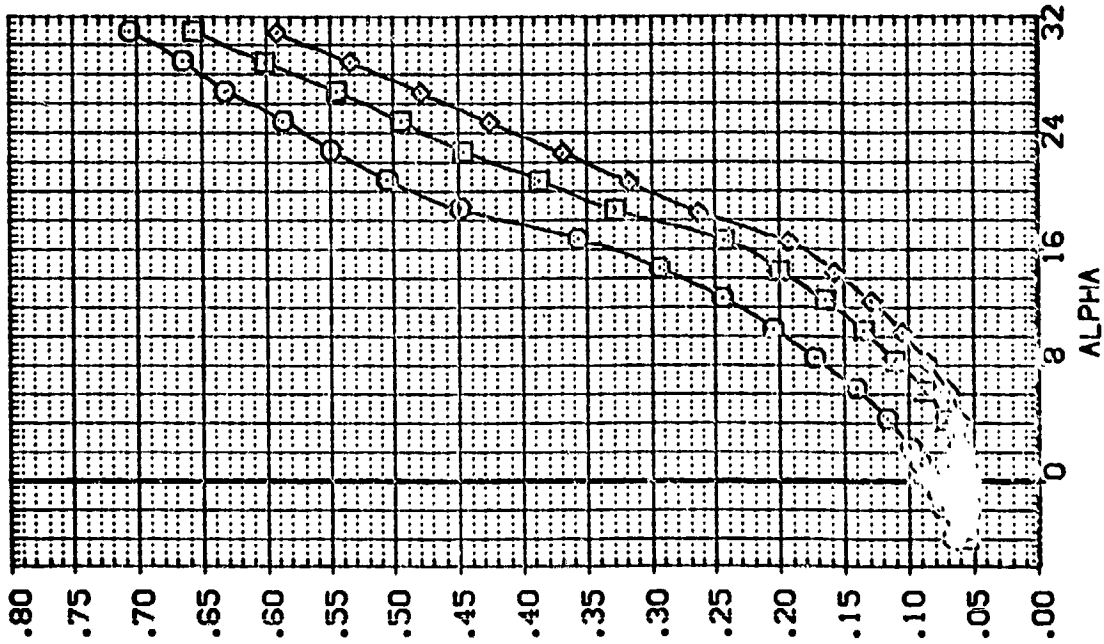
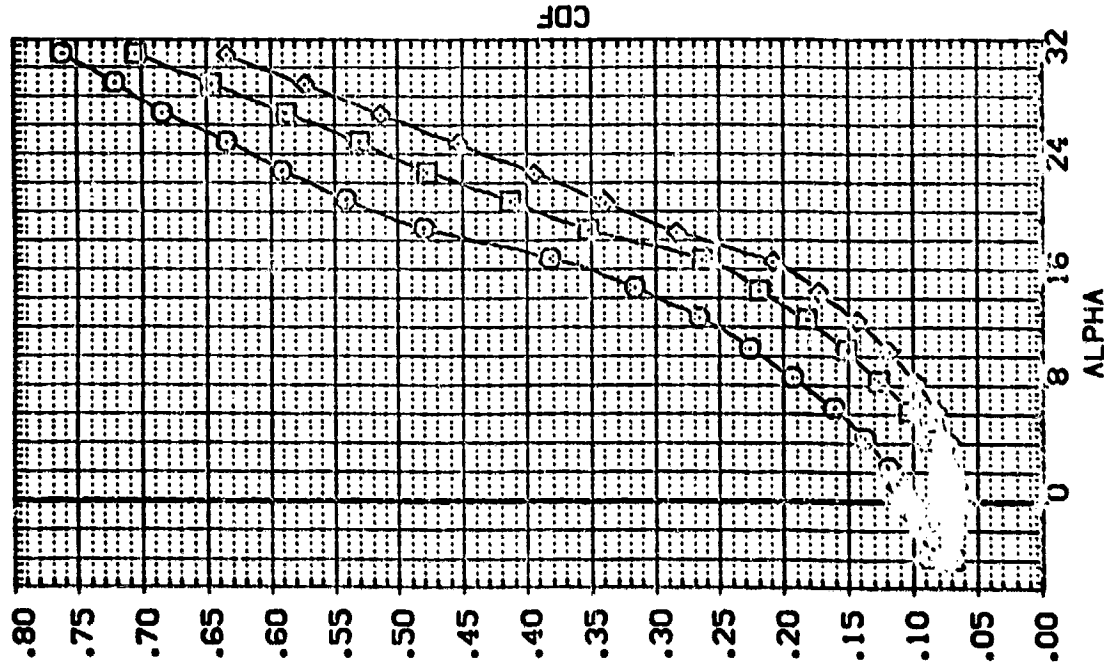
FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ061) 816C5D7A3F 1V87 E18V3R3K10
 (ADJ062) 816C5D7A3F 1V87 E16V3R3K10
 (ADJ063) 816C5D7A3F 1V87 E18V3R3K10

ELEVON NACA/L NACLIP NACBTA
 15.000 530 7.000 5.000
 .000 350 7.000 5.000
 -10.000 .550 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50. FT.
 LREF 19.2299 INCHES
 RREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405



8

FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ061) □ 0A71C 816CS07/35° 1V87 E18V3R3K10
 (ADJ058) □ 0A71C 816CS07/35° 1V87 E18V3R3K10
 (ADJ062) □ 0A71C 816CS07/35° 1V87 E18V3R3K10

ELEVON MACVAL MACLIP MACSTA
 15.000 .530 7.000 5.000
 -10.000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2288 INCHES
 BREF 37.9349 INCHES
 XREF 43.5574 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE

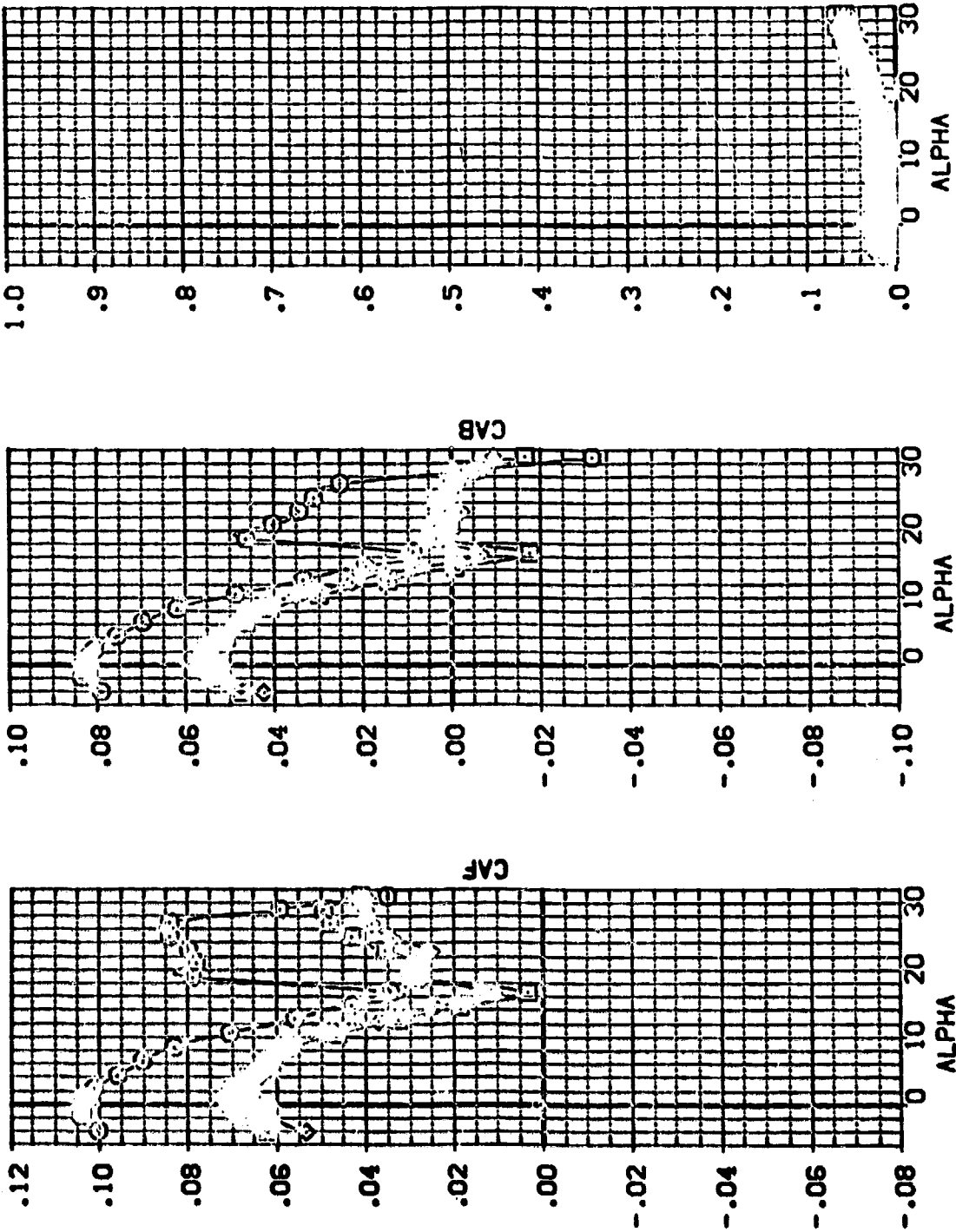


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL: (ADJ051), (ADJ058), (ADJ052)

CONFIGURATION DESCRIPTION: CA71C B16CS07435F1V87 E18V3R3K1D, CA71C B16CS07435F1V87 E18V3R3K1D, SA71C B16CS07435F1V87 E18V3R3K1D

ELEVON: 15.000, .000, -10.000

NACVL: .530, .530, .530

NACLP: 7.000, 7.000, 7.000

NACBTA: 5.000, 5.000, 5.000

REFERENCE INFORMATION: 4.4122 SO.FT. INCHES, 19.2368 INCHES, 37.6349 INCHES, 43.5374 INCHES, .0000 INCHES, 16.2000 INCHES, .0405 SCALE

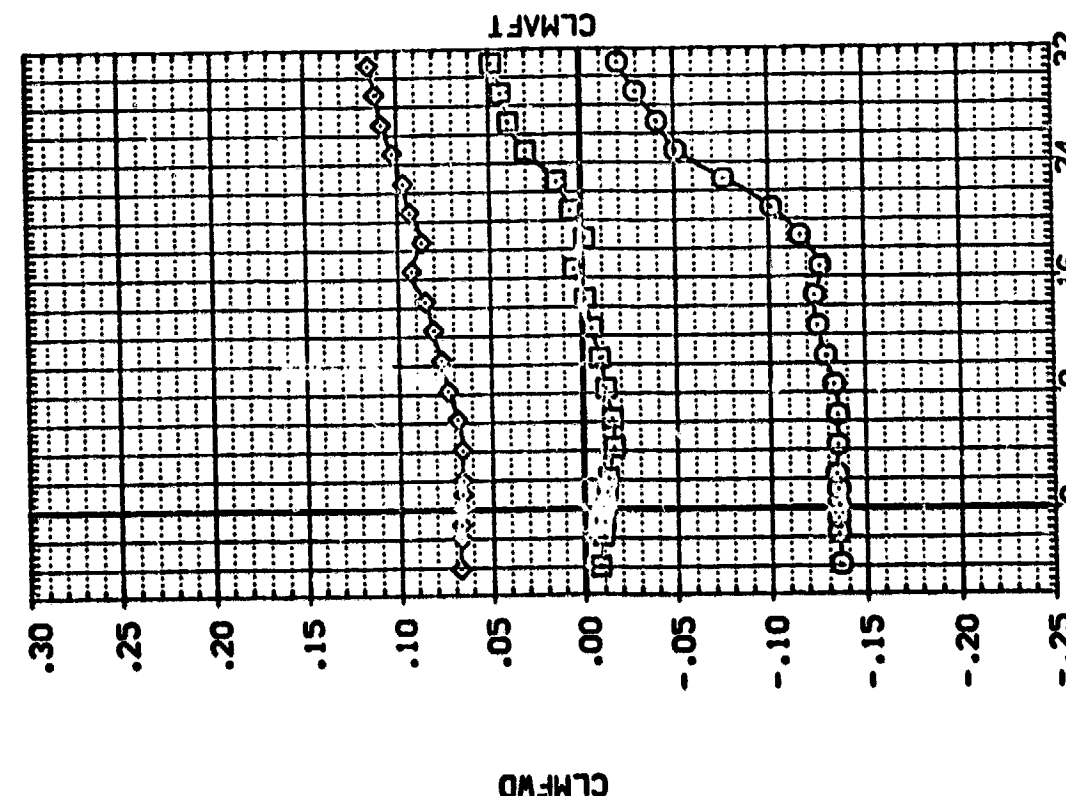
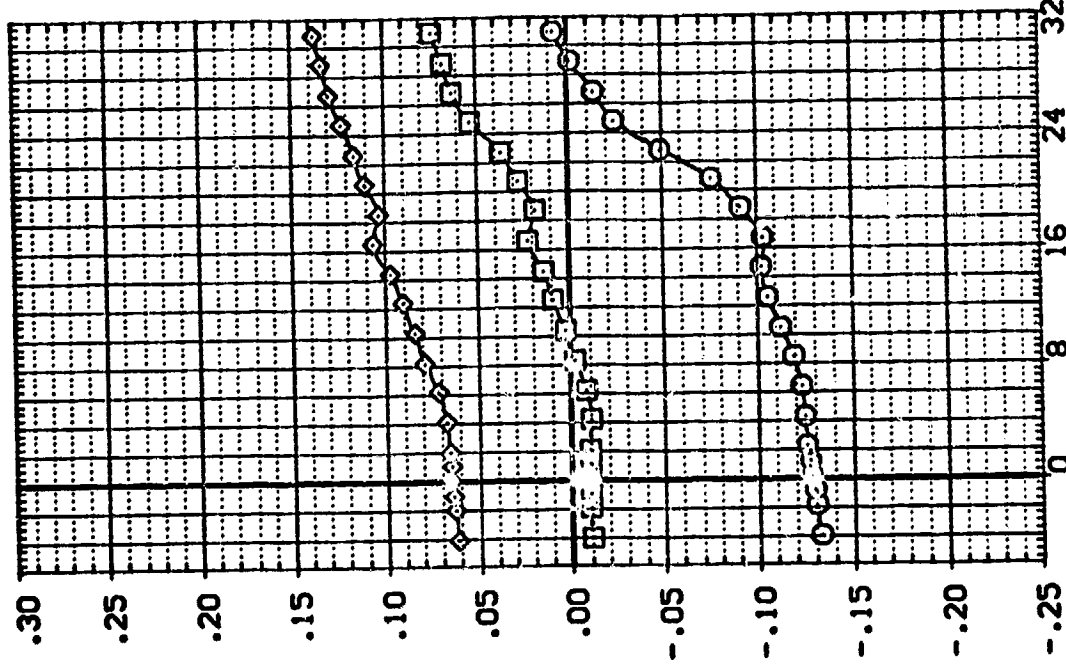


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLE - 2 OVERWING X0 = 1060 (A)MACH = .20 PAGE 161

DATA SET SYMBOL: (ADJ058) (ADJ062)
 CONFIGURATION DESCRIPTION: 0A71C B16C5D7J35F1V67 E18V3R3X10
 0A71C B16C5D7J35F1V67 E18V3R3X10
 0A71C B16C5D7J35F1V67 E18V3R3X10

ELEVON	NACX/L	NACL/P	NACB/T	REFERENCE INFORMATION
15.000	.530	7.000	5.000	SREF 4.4122 50.FT.
.000	.530	7.000	5.000	LREF 19.2298 INCHES
-10.000	.530	7.000	5.000	BREF 37.9349 INCHES
				XREF 43.5974 INCHES
				YREF .0000 INCHES
				ZREF 16.2000 INCHES
				SCALE .0405 SCALE

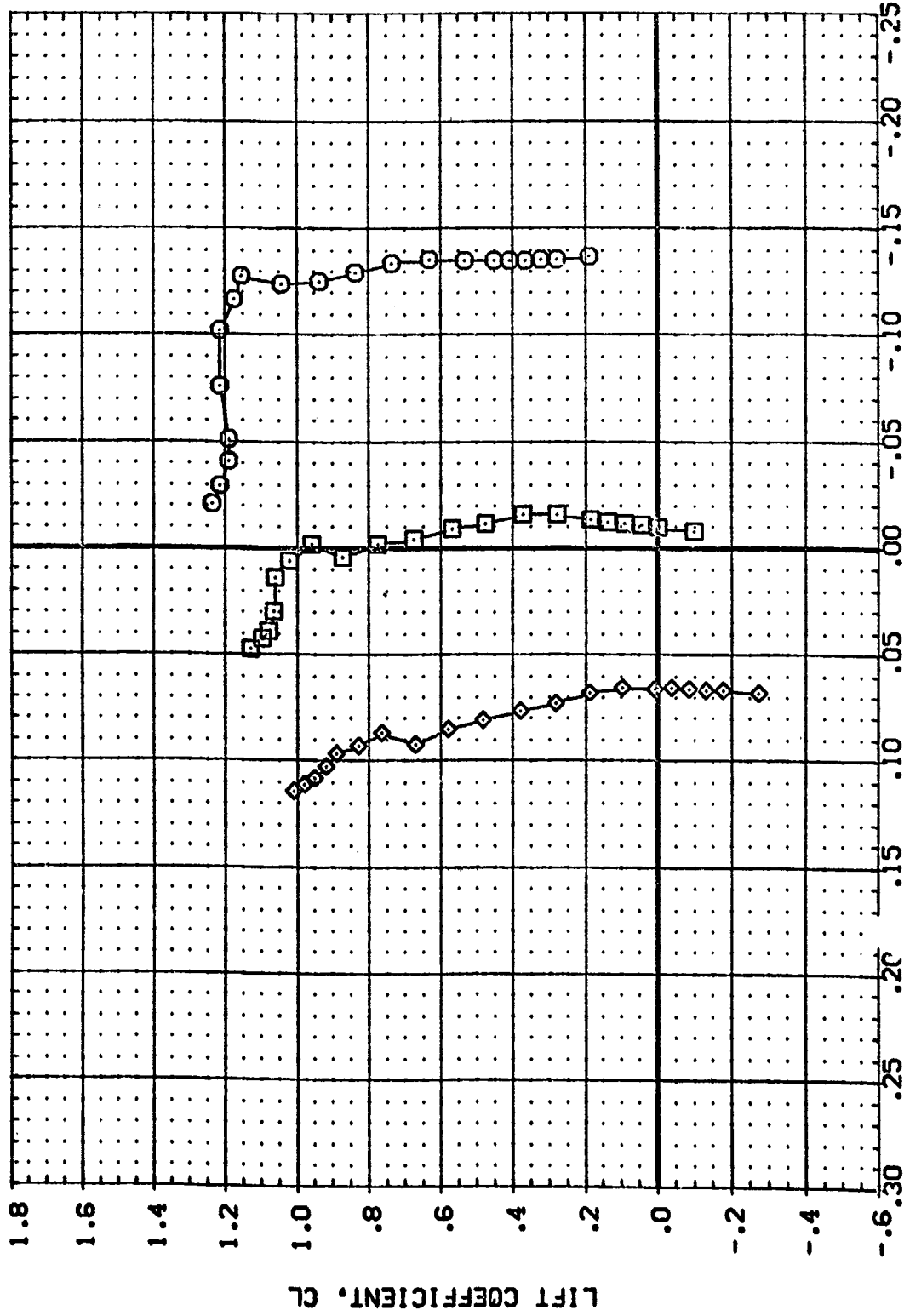


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACX/L	NACQ/LP	NACBTA	REFERENCE INFORMATION
(ADU051)	CA71C B16C507J35F1V87 E18V3R2X10	15.000	.530	7.000	5.000	SREF 4.4122 50. FT.
(ADU059)	CA71C B16C507J35F1V87 E18V3R2X10	.000	.530	7.000	5.000	LREF 19.2298 INCHES
(ADU062)	CA71C B16C507J35F1V87 E18V3R2X10	-10.000	.530	7.000	5.000	PAGE 37.9349 INCHES
						XREF 43.5574 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405 SCALE

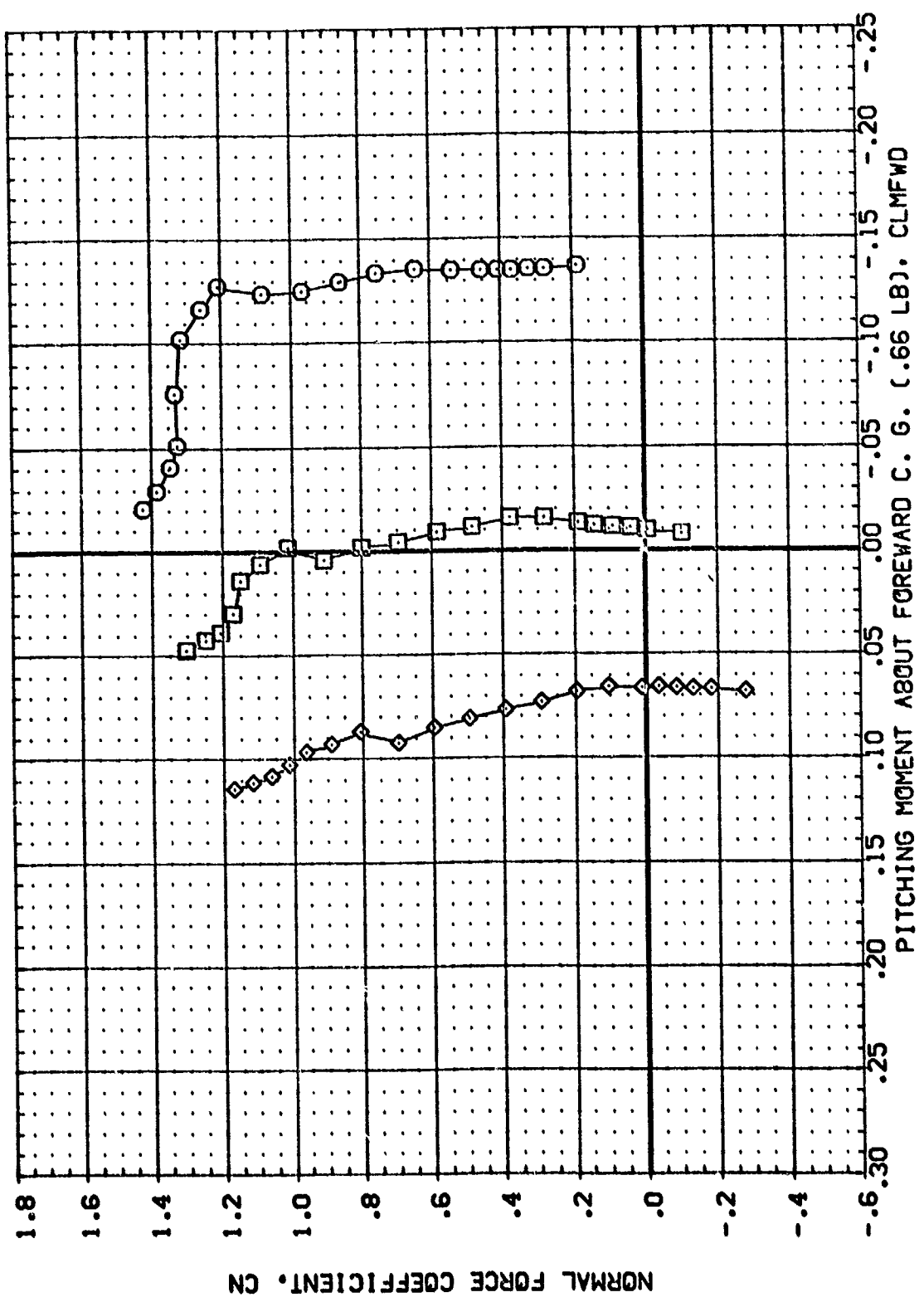


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION
 (ADJ061) CA71C B16CSD7J35F1V87 E18V3R3X10 SREF 4.4122 50.FT.
 (ADJ062) CA71C B16CSD7J35F1V87 E18V3R3X10 LREF 19.2299 INCHES
 (ADJ063) CA71C B16CSD7J35F1V87 E18V3R3X10 XREF 37.9349 INCHES
 (ADJ064) CA71C B16CSD7J35F1V87 E18V3R3X10 YREF 43.5974 INCHES
 (ADJ065) CA71C B16CSD7J35F1V87 E18V3R3X10 ZREF 16.2000 INCHES
 (ADJ066) CA71C B16CSD7J35F1V87 E18V3R3X10 SCALE .0405 SCALE

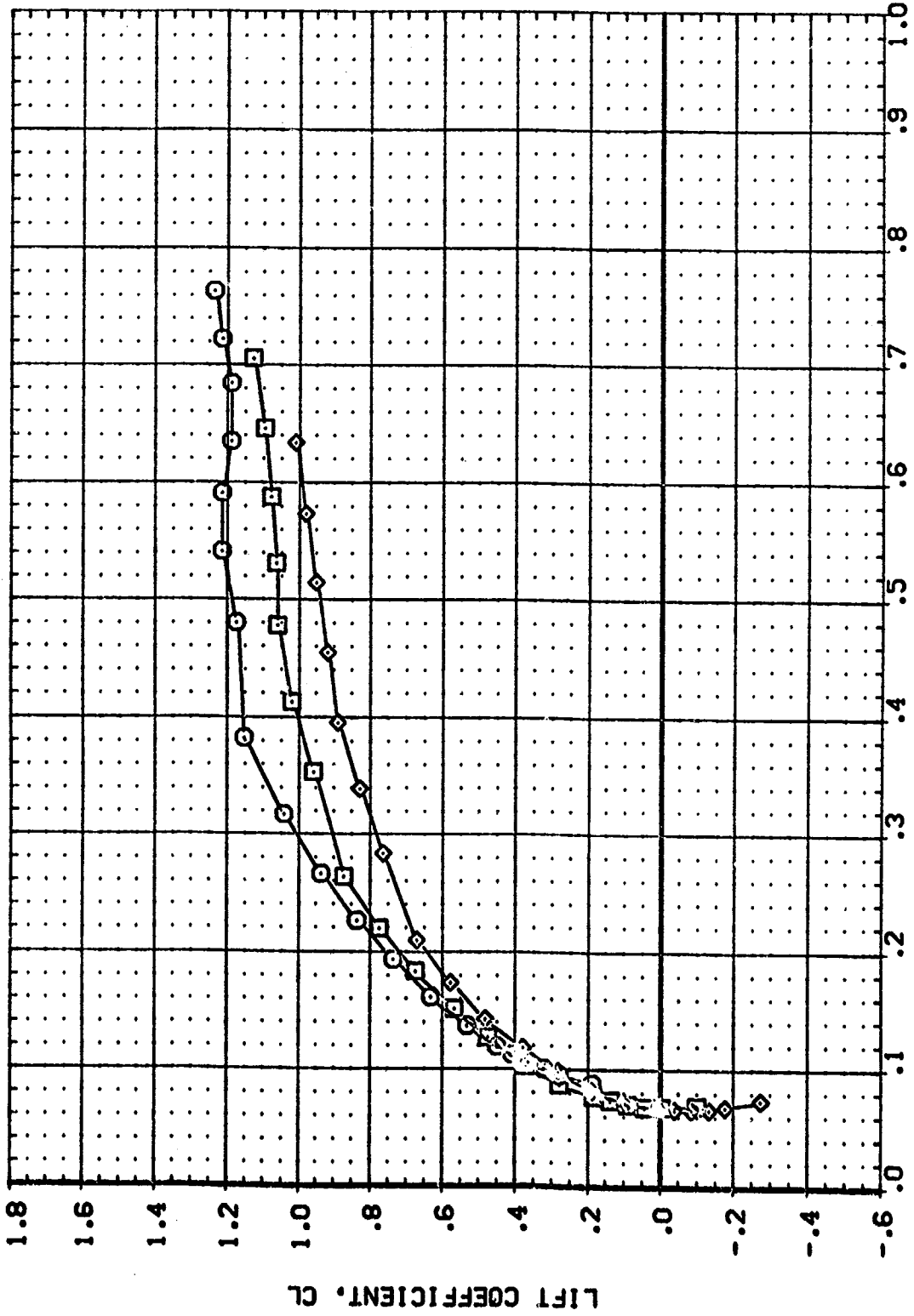


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	ELEVON	MAC/VL	MAC/LIP	MAC/BTA	REFERENCE INFORMATION
(BOL061)	DA71C	B18C57A35F1V87	15.000	.530	7.000	5.000	SREF 4.4122 SO.FT.
(BOL062)	DA71C	B18C57A35F1V87	0.000	.530	7.000	5.000	LREF 19.2239 INCHES
(BOL063)	DA71C	B18C57A35F1V87	-10.000	.530	7.000	5.000	BREF 37.9249 INCHES
							XREF 43.5974 INCHES
							YREF .0000 INCHES
							ZREF 16.2000 INCHES
							SCALE .0405

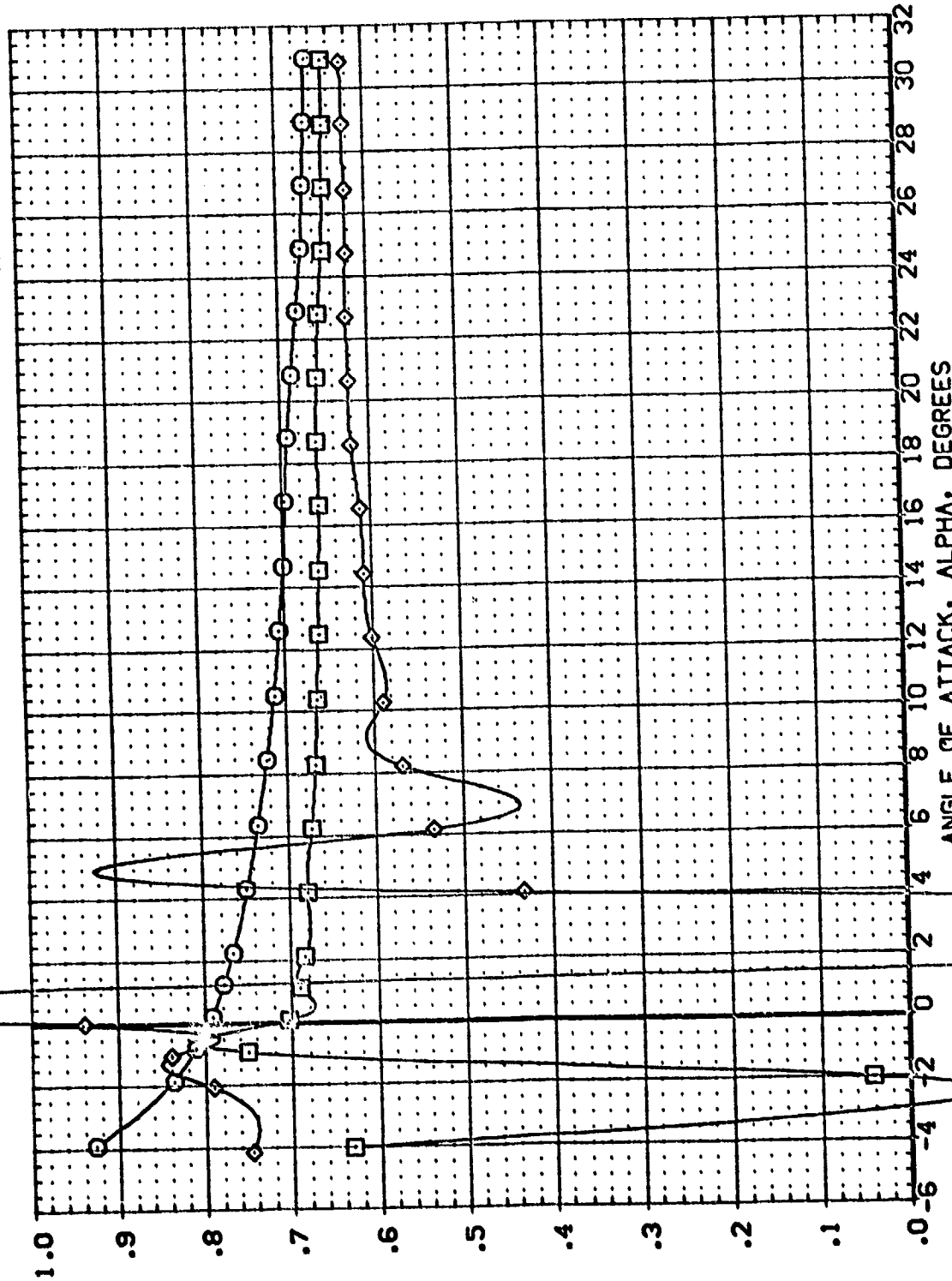


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACX/L	NACL/P	NACB/T	REFERENCE INFORMATION
(80J061)	CA71C B16C507J35F1V87 E18V3K3X10	15.000	.530	7.000	5.000	SREF 4.4122 50.FT.
(80J058)	CA71C B16C507J35F1V87 E18V3K3X10	.000	.530	7.000	5.000	LREF 19.2299 INCHES
(80J062)	CA71C B16C507J35F1V87 E18V3K3X10	-10.000	.530	7.000	5.000	BREF 37.9349 INCHES
						XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405 SCALE

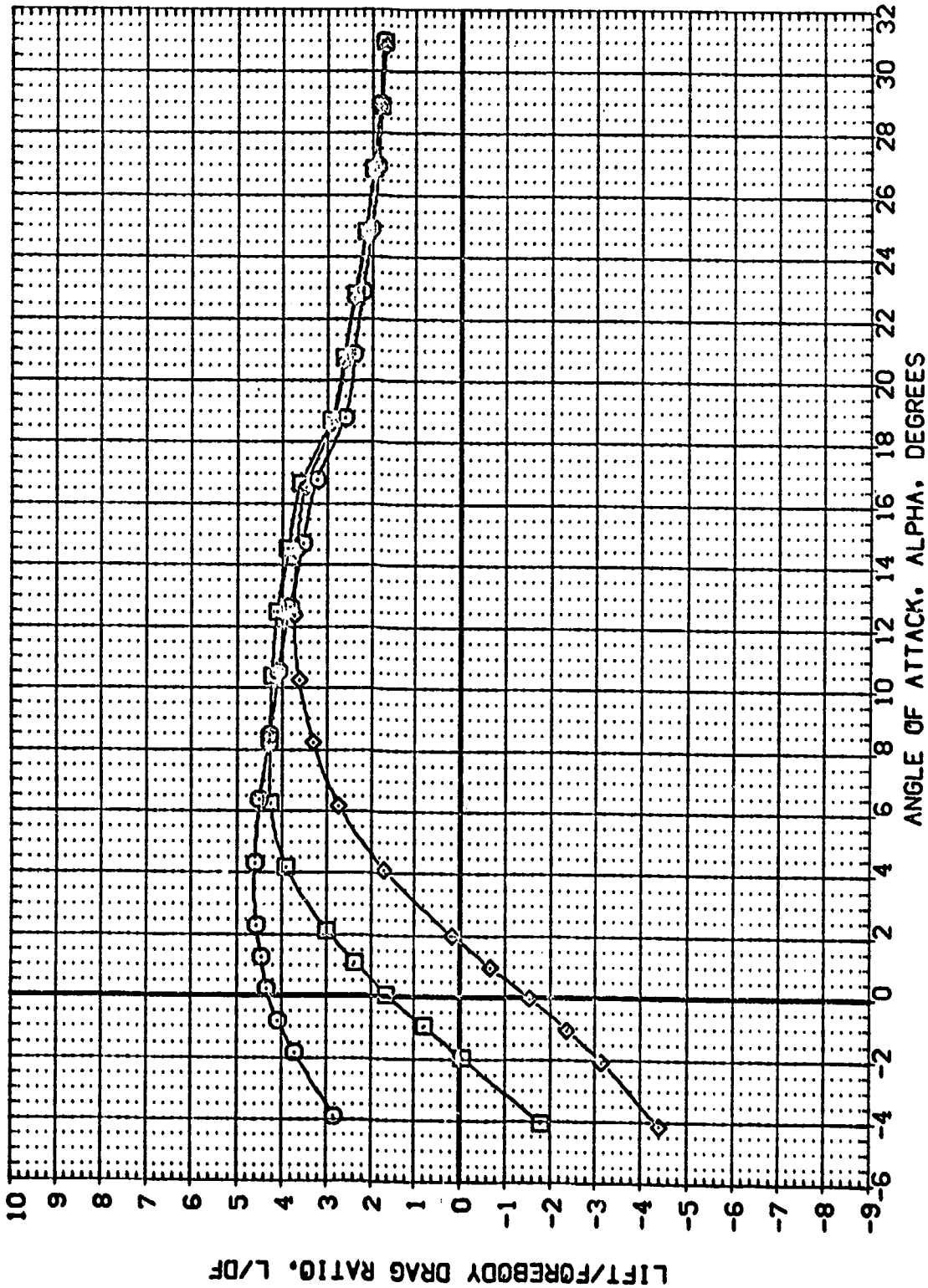


FIG 12 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMOL	CONFIGURATION DESCRIPTION	DELTA	MACUL	MACLP	MACSTA	REFERENCE INFORMATION
(EJ0061)	B18237:35 1V87 E187323K10	15.000	.530	7.000	5.000	4.4122 50.00
(EJ0062)	B18237:35 1V87 E187323K10	.000	.530	7.000	5.000	19.2293 10.00
(EJ0063)	B18237:35 1V87 E187323K10	-10.000	.530	7.000	5.000	37.9243 10.00
						43.0000 10.00
						16.2000 10.00
						16.2000 10.00
						SCALE

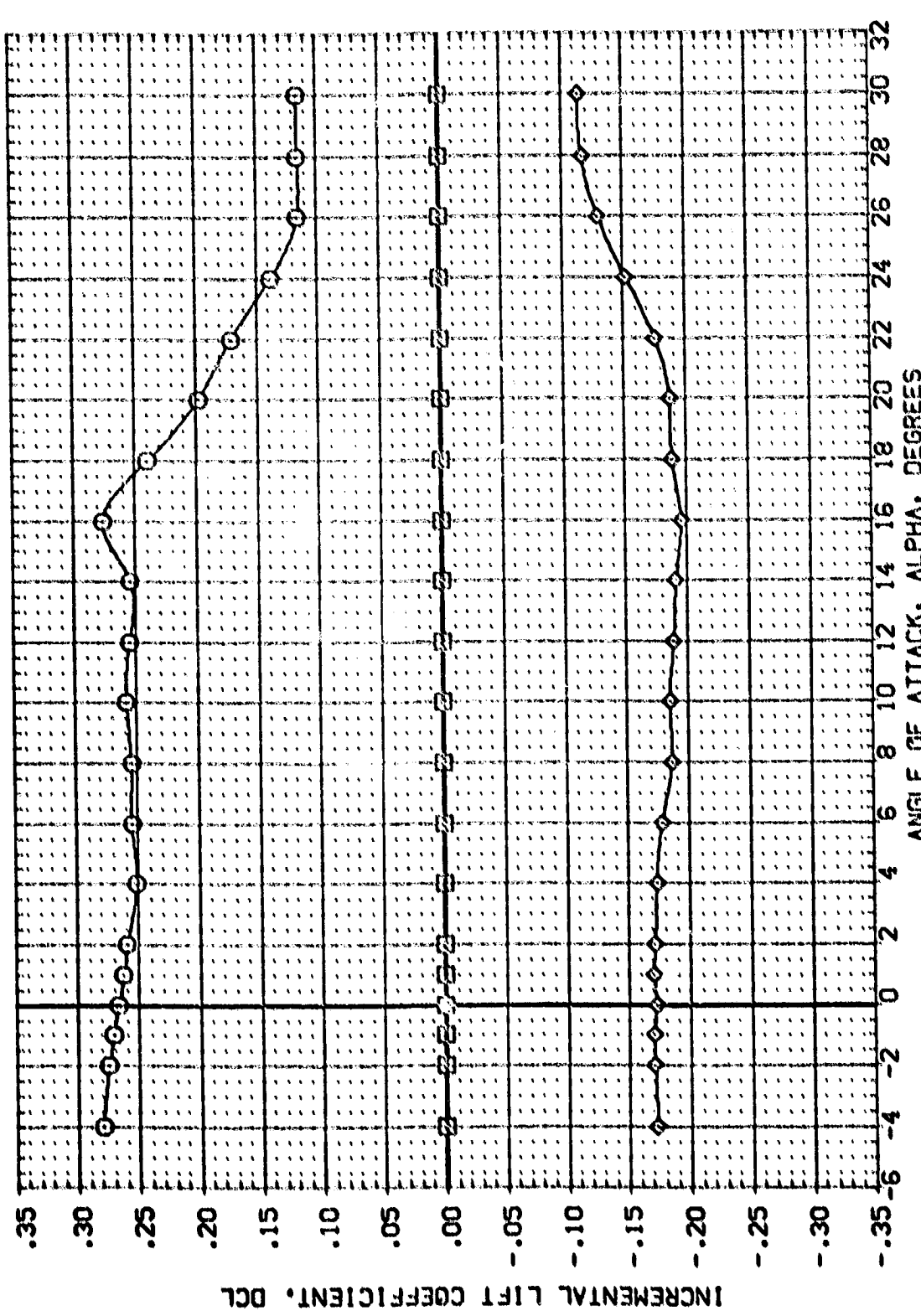


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED MACELLES 2 OVERWING X0 = 1060
 (A)MACH = .21
 PAGE 167

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	MACH	MCLIP	MACHETA	REFERENCE INFORMATION
(EJ0061)	071C 2182574351167 E181232X10	.500	7.500	5.000	SPE	4.4122
(EJ0062)	071C 2182574351167 E181232X10	.550	7.500	5.000	LPE	18.2266
(EJ0063)	071C 2182574351167 E181232X10	-10.000	7.500	5.000	WSP	37.9318
					YPP	43.9374
					ZPP	.0000
					SCALE	16.2000
						.0405

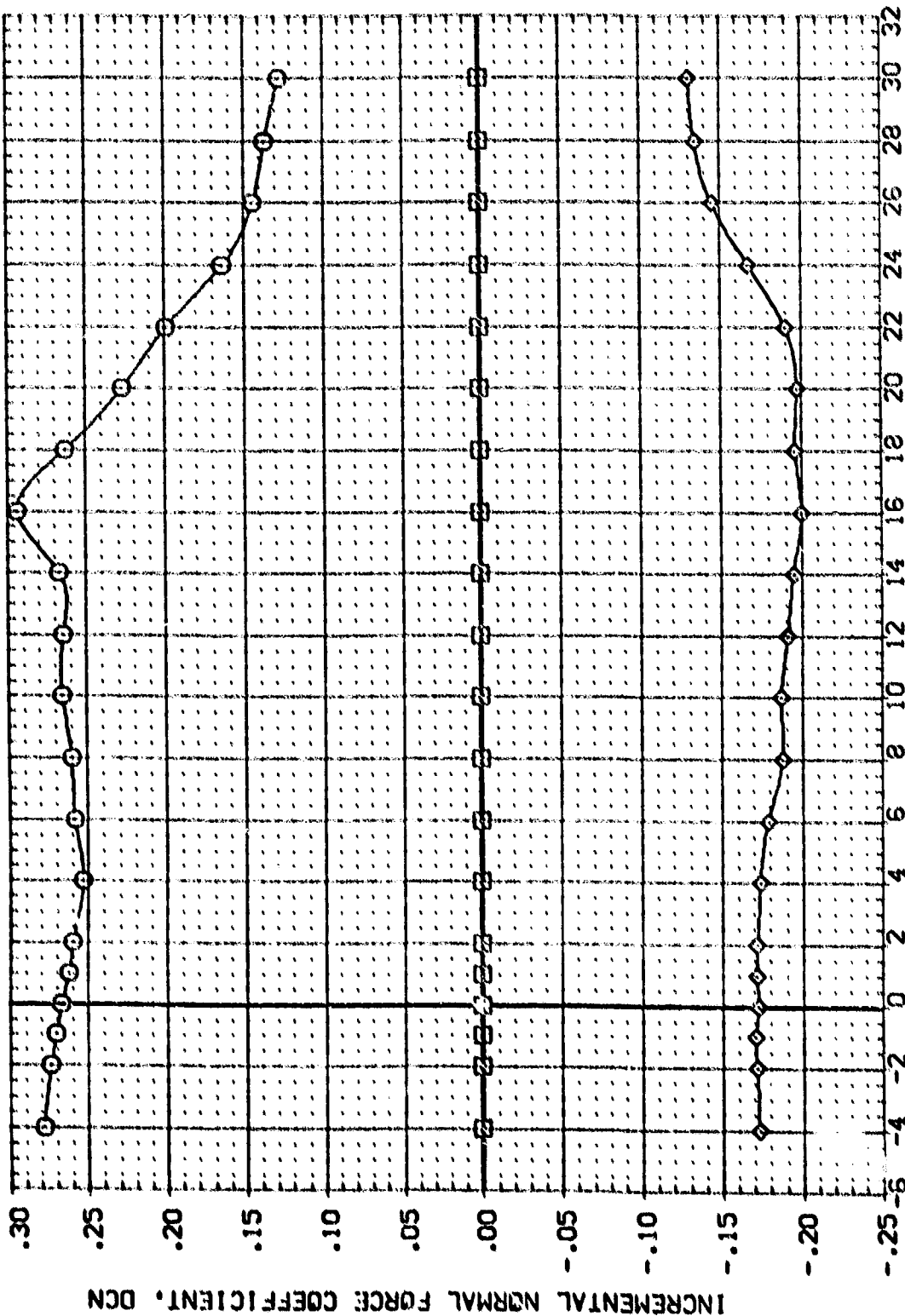


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED MACELLES 2 OVERWING X0 = 1060
 (A)MACH = .21 PAGE 168

DELTA	MACH	MCLIP	MICETA	REFERENCE INFORMATION
15.000	.536	7.000	3.000	4.4122 50 FT
.000	.536	7.000	3.000	13.2222 INCHES
-10.000	.536	7.000	3.000	37.2374 INCHES
				43.2374 INCHES
				2000 INCHES
				2000 INCHES
				16.2425 SCALE

DATA SET SYMBOL	CONFIDENCE	DESCRIPTION
(EDJ061)	0.71E	0.536 7.000 3.000 107 E181900010
(EDJ062)	0.71E	0.536 7.000 3.000 107 E181900010

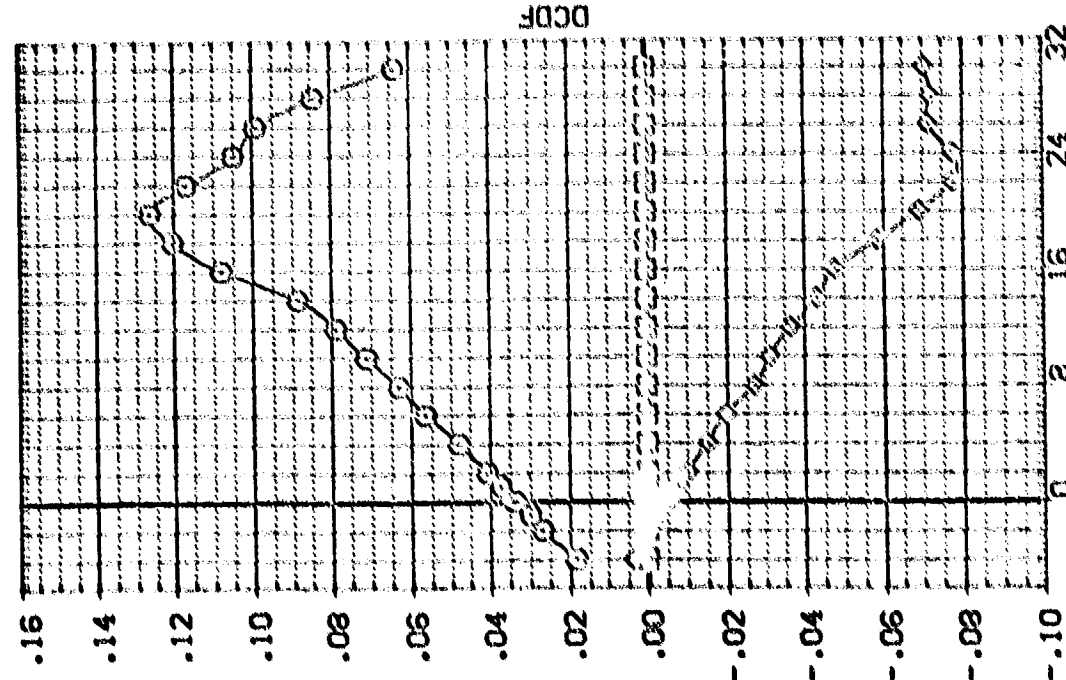
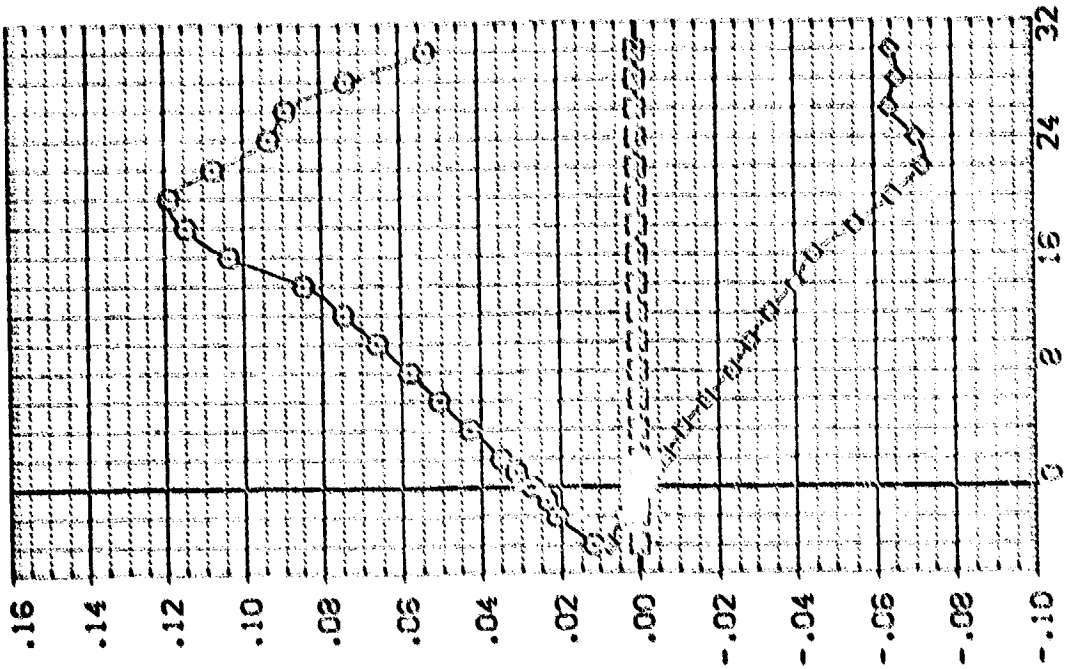


FIG 13 INCREMENTAL EFFECT OF ELEVEN'S -CLUSTERED MACELLES 2 OVERWING $\gamma_0 = 1060$
 MACH = .53

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDUC61) Q 8180507135 1987 E180507135
 (EDUC68) Q 8180507135 1987 E180507135
 (EDUC62) Q 8180507135 1987 E180507135

DELTA X INCH 15.000
 DELTA Y INCH -10.000
 DELTA Z INCH .530
 INCLIP 7.000
 INCLIP 7.000
 INCLIP 7.000
 MACETA 5.000
 MACETA 5.000
 MACETA 5.000
 REFERENCE INFORMATION
 SIZE 4.4122 50 FT
 LIFT 19.2229 INCHES
 DRAG 37.9343 INCHES
 YAW 43.5574 INCHES
 ROLL .0000 INCHES
 PITCH 16.2200 INCHES
 SCALE .0005

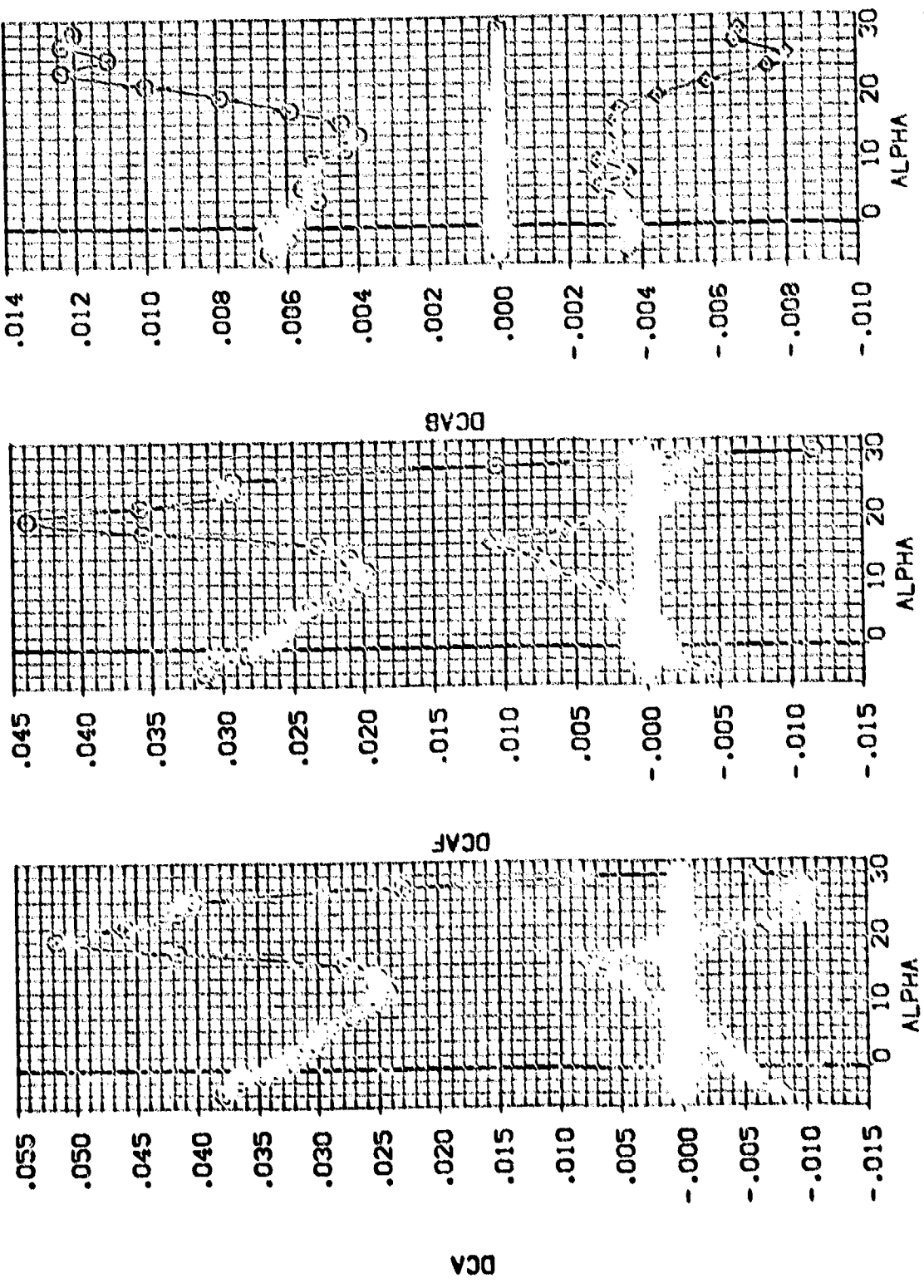


FIG 13 INCREMENTAL EFFECT OF ELEONS -CLUSTERED NACELLES 2 OVERTING X0 = 1050
 (A)MACH = .21 PAGE 179

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ED06)	DATE	8:55:42	100	E: 2:00:00
(ED05)	DATE	8:55:42	100	E: 2:00:00
(ED02)	DATE	8:55:42	100	E: 2:00:00

SELECTION MACHA MCLIP MACHTA REFERENCE INFORMATION

15.000	7.500	5.000	SCALE	4.4122	50.00
-10.000	7.500	5.000	SCALE	13.2223	10.00
			SCALE	27.5974	10.00
			SCALE	43.0000	10.00
			SCALE	15.2223	10.00

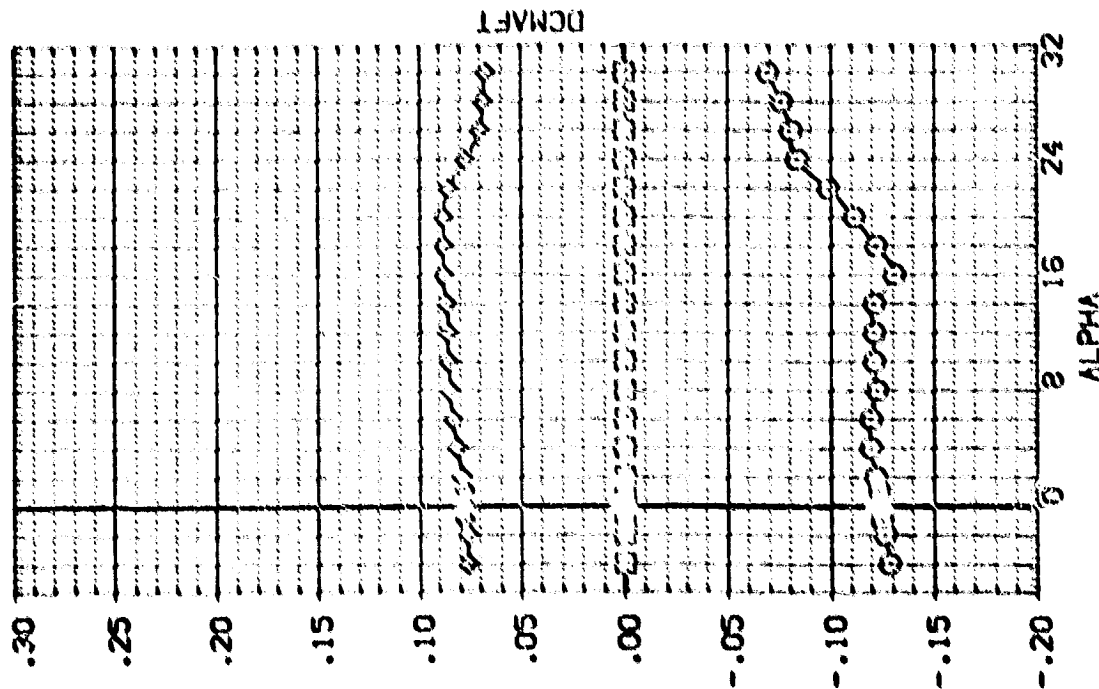
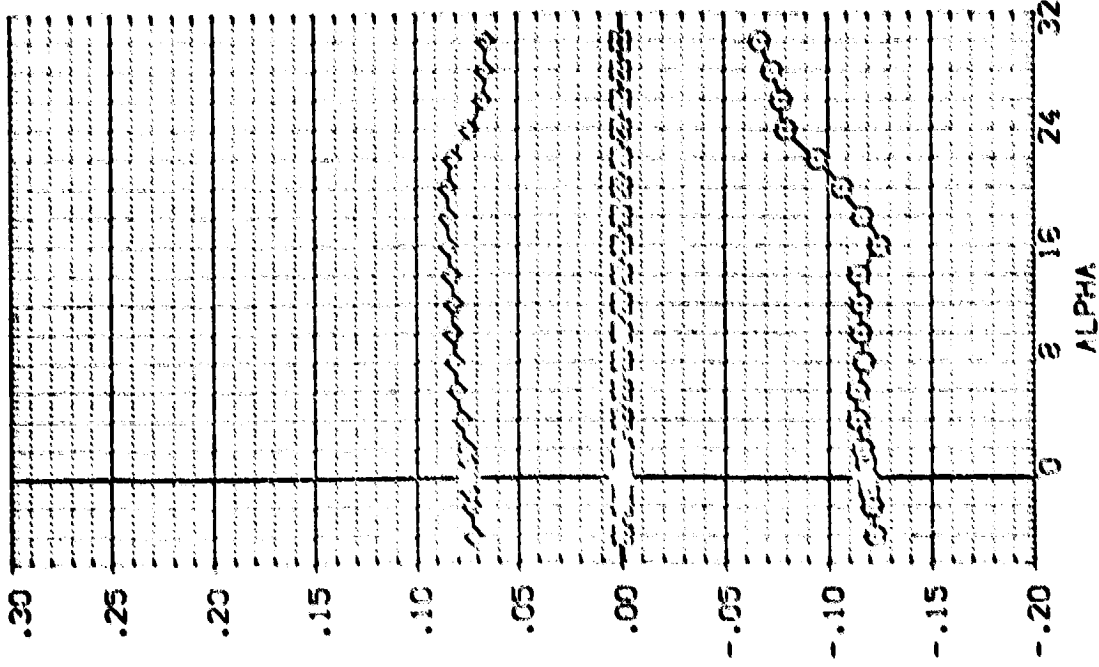
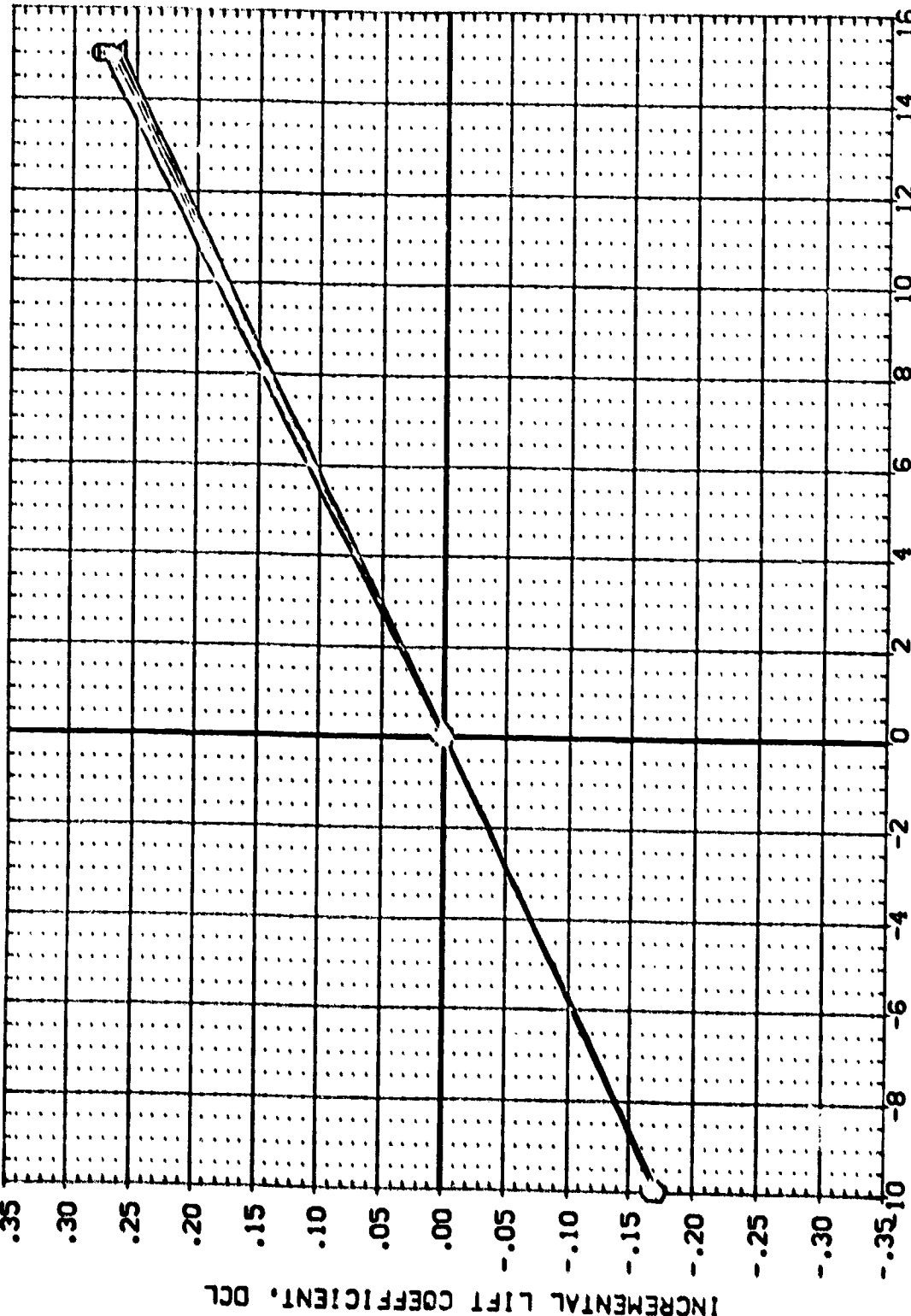


FIG 13 INCREMENTAL EFFECT OF ELETRONS -CLUSTERED VACELLES 2 OVERNING XO = 1980
 (MACHA = .2)

(EDU061)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	MAC/LIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DEL VON	DATASET	DEL VON	SREF	LREF	XREF	YREF	ZREF	SCALE	REFERENCE INFORMATION	SO. FT.
○	-4.000					.210	.000	EDU061	15.000	EDU068	.000	4.4122	19.2293	37.9349	43.5974	0.000	.0405	INC-ES	16.2000
□	-2.000					-18.000	.530	EDU062	-10.000									INC-ES	
◇	-1.000					7.000	5.000											INC-ES	
△	.000					.000	.000											INC-ES	
▽	1.000					RUDDER	.000											INC-ES	



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

0A71C B16C5D7J35F1W87 E18V3R3X10 (EDU061)

ALPHA	MACH	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
2.000		.210	AILRON	.000	DATASET	DELVON	SREF	4.4122	SO.FT.				
4.000	EDFLAP	-18.000	MACH/L	.530	EDU061	.000	LRP	19.2299	INCHES				
6.000	MACLIP	7.000	NACBTA	5.000	EDU052		XPRP	37.9349	INCHES				
8.000	BETA	.000	RUDDER	.000			YPRP	43.0000	INCHES				
10.000							ZPRP	16.2000	INCHES				
							SCALE	.0405	SCALE				

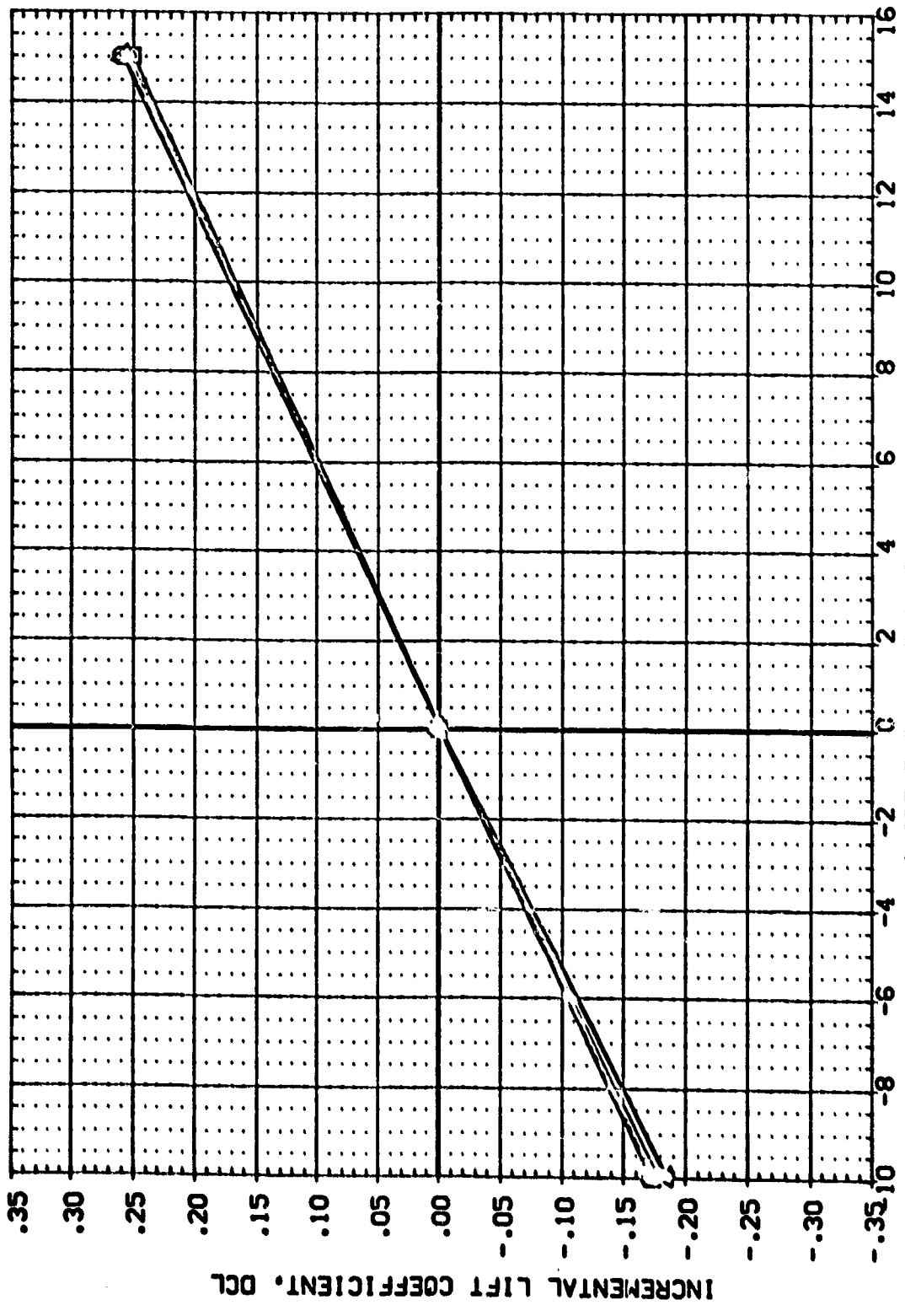


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 1060

(EDU061)

0A71C 816C507J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	NAUCLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	12.000	.210	-18.000	7.000	.000	AILRON	DELVON	4.4122
◇	14.000	-18.000	7.000	.000	.530	NAUCLV	DELVON	19.2239
△	16.000	7.000	.000	5.000	.000	NAUCLV	DELVON	37.9349
△	18.000	.000	.000	.000	.000	RUDDER	DELVON	43.5574
△	20.000	.000	.000	.000	.000	RUDDER	DELVON	16.2000
							SCALE	.0405

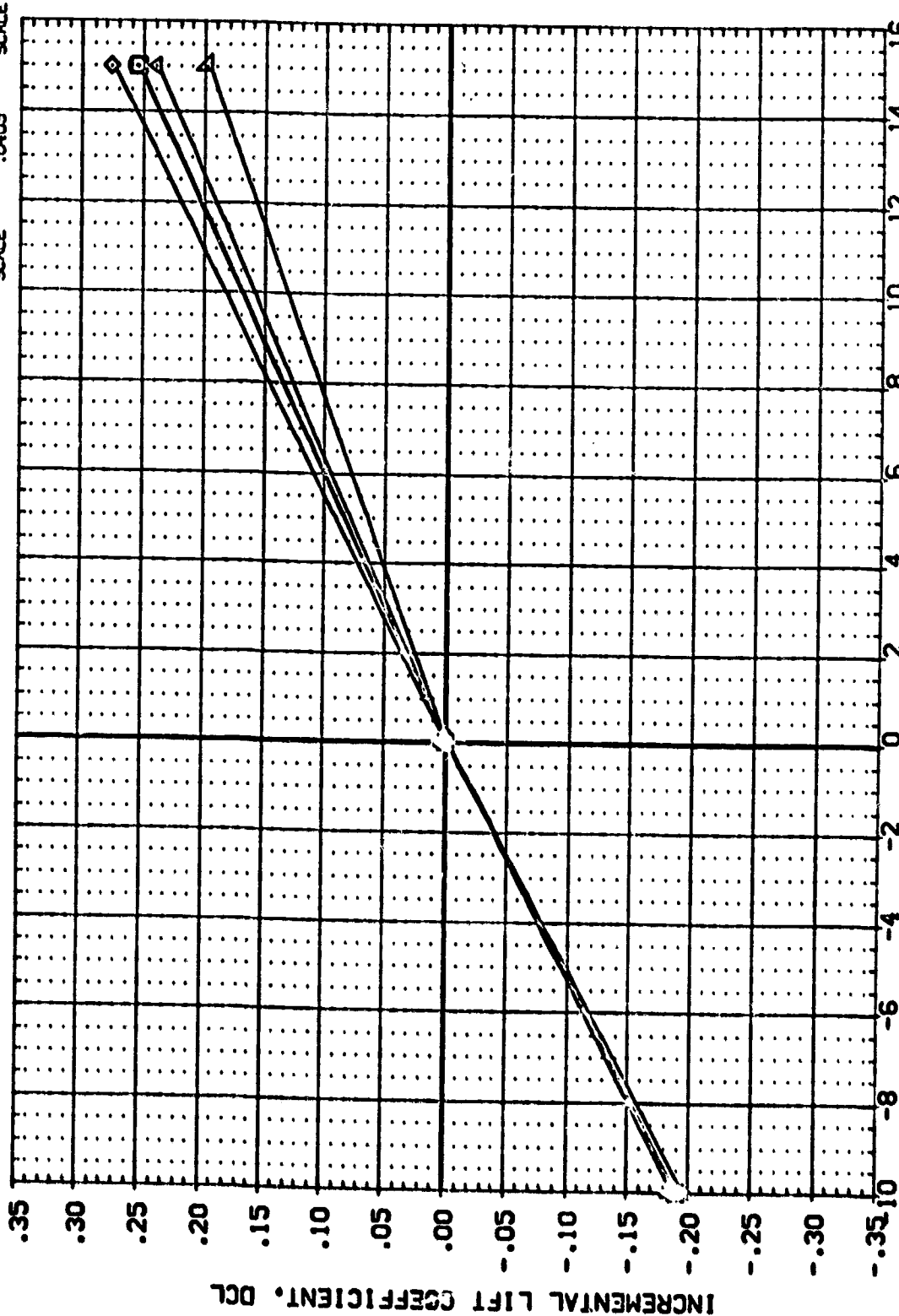


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 174

(EDU061)

0A71C B16C507J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	EDFLAP	WACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	DELVON	SREF	REFERENCE INFORMATION	
□	22.000					.210	ALTRON	.000	EDJ058	.000	LREF	4.4122	
◇	24.000					-18.000	MACVA	.530	EDJ051	15.000	BREF	19.2299	
△	26.000					7.000	MACBTA	5.000	EDJ052	-10.000	XREF	37.9349	
	28.000					.000	RUDR	.000			YREF	43.5974	
	30.000										ZREF	.0000	
											SCALE	16.2000	
											SCALE	.0405	
												SO.FT.	
												INCHES	
												INCHES	
												INCHES	
												INCHES	
												SCALE	

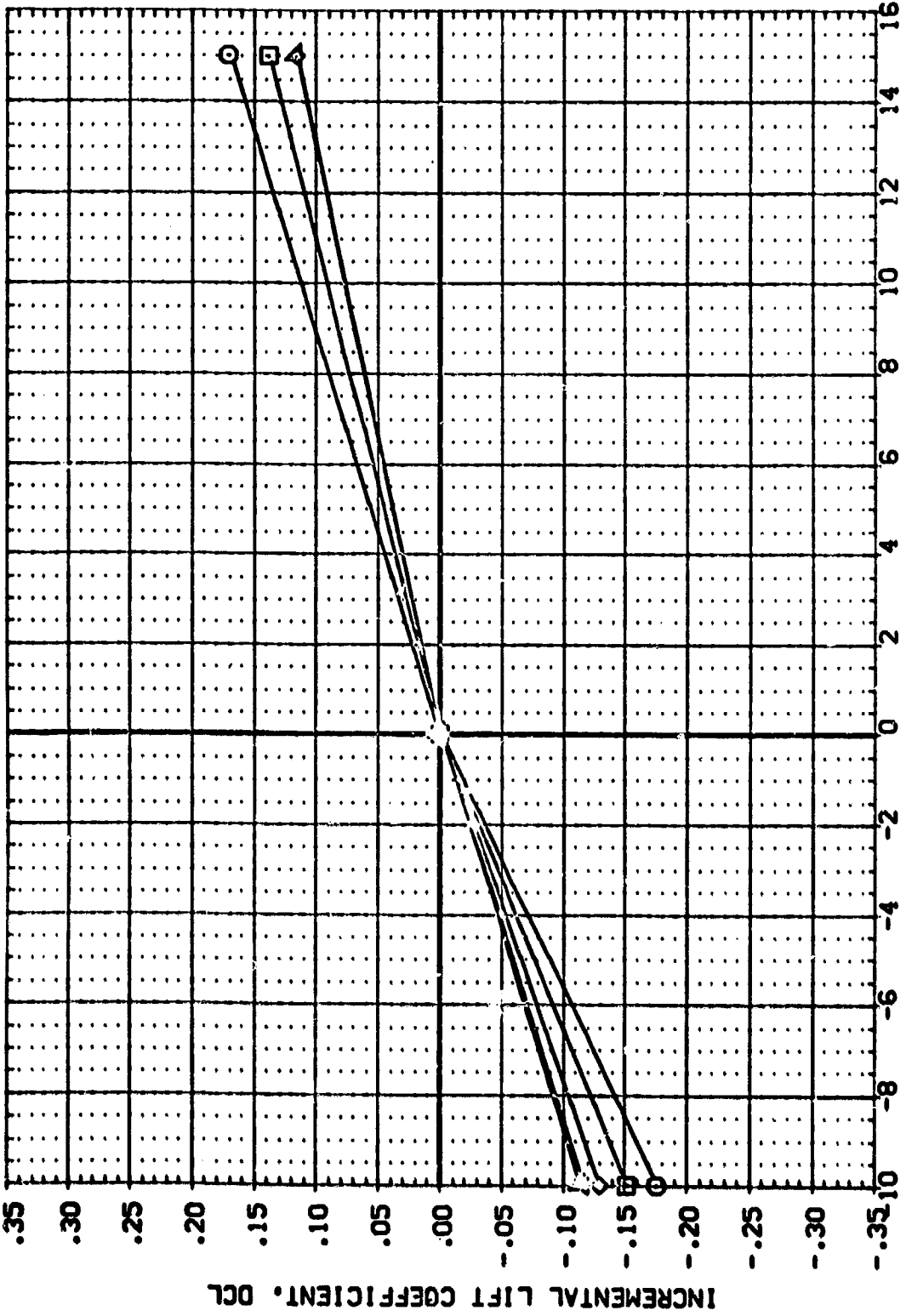
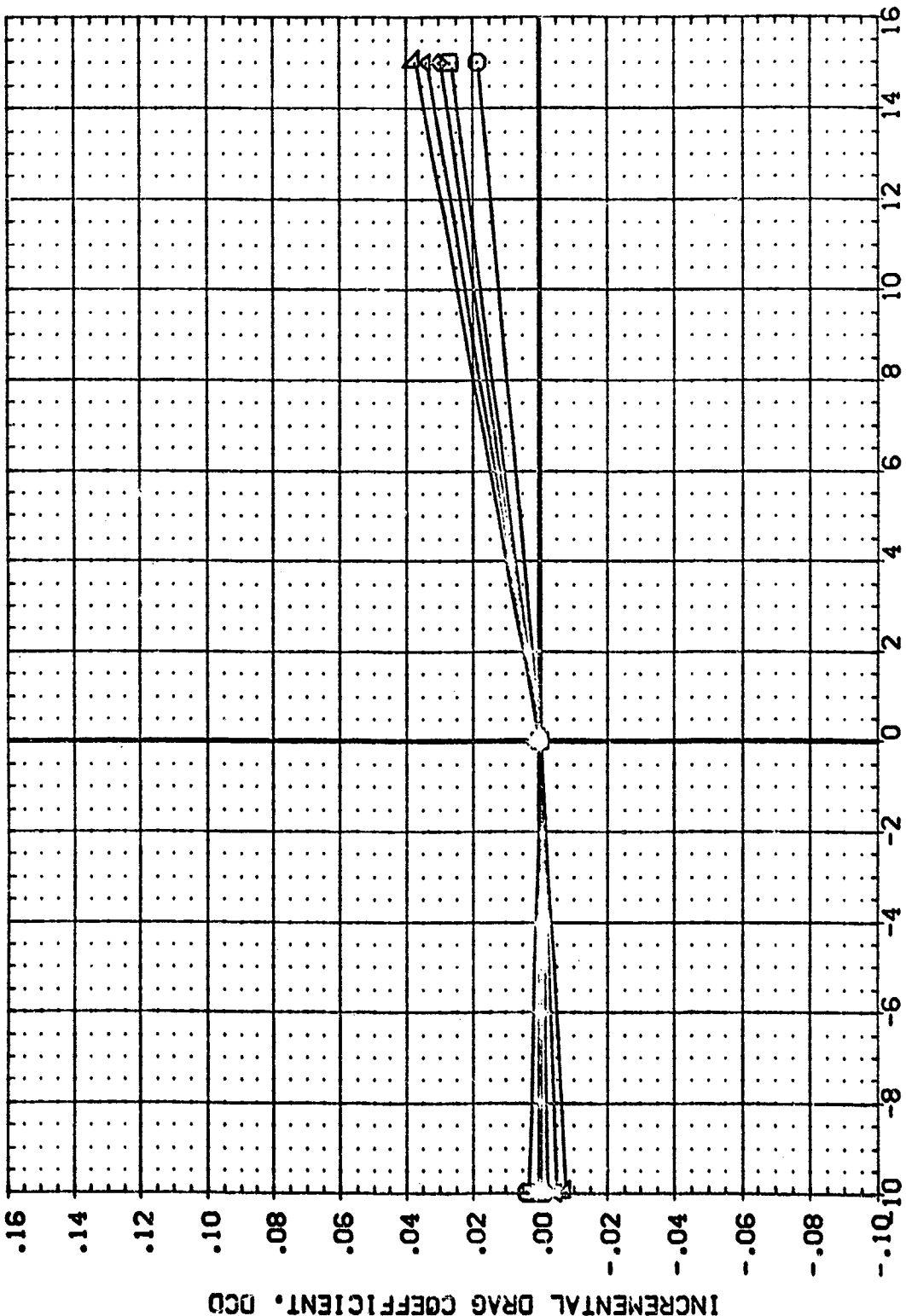


FIG 13 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES 2 OVERWING X0 = 1060

(EDU061)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELTVN	DATASET	DELTVN	SREF	REFERENCE INFORMATION
○	-4.000					.210 AILTRN	.000 DATASET	.000	EDU058	.000	4.4122	SO. FT.
□	-2.000					-18.000 NACX/L	.530 EDU061	15.000	EDU058		19.2299	INCHES
◇	-1.000					7.000 NACBTA	5.000 EDU062	-10.000	EDU058		37.9349	INCHES
△	.000					.000 RUDDER	.000		EDU058		43.5974	INCHES
▽	1.000								EDU058		16.2000	INCHES
									EDU058		.0405	SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

02000813

2A71C 218055712551487 218V327110

SYMBOL	ALPHA	MACH	BOUNDRY	WCLIP	WCLIP	WCLIP	WCLIP	WCLIP	WCLIP	DATA SOURCE	DATA SET	ELON	SCALE	REFERENCE INFORMATION
1	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	DELON	EDUSS	.000	1	50.000
2	4.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	DELON	EDUSS	.000	2	15.000	
3	6.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	DELON	EDUSS	.000	3	27.000	
4	8.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	DELON	EDUSS	.000	4	43.000	
5	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	DELON	EDUSS	.000	5	59.000	

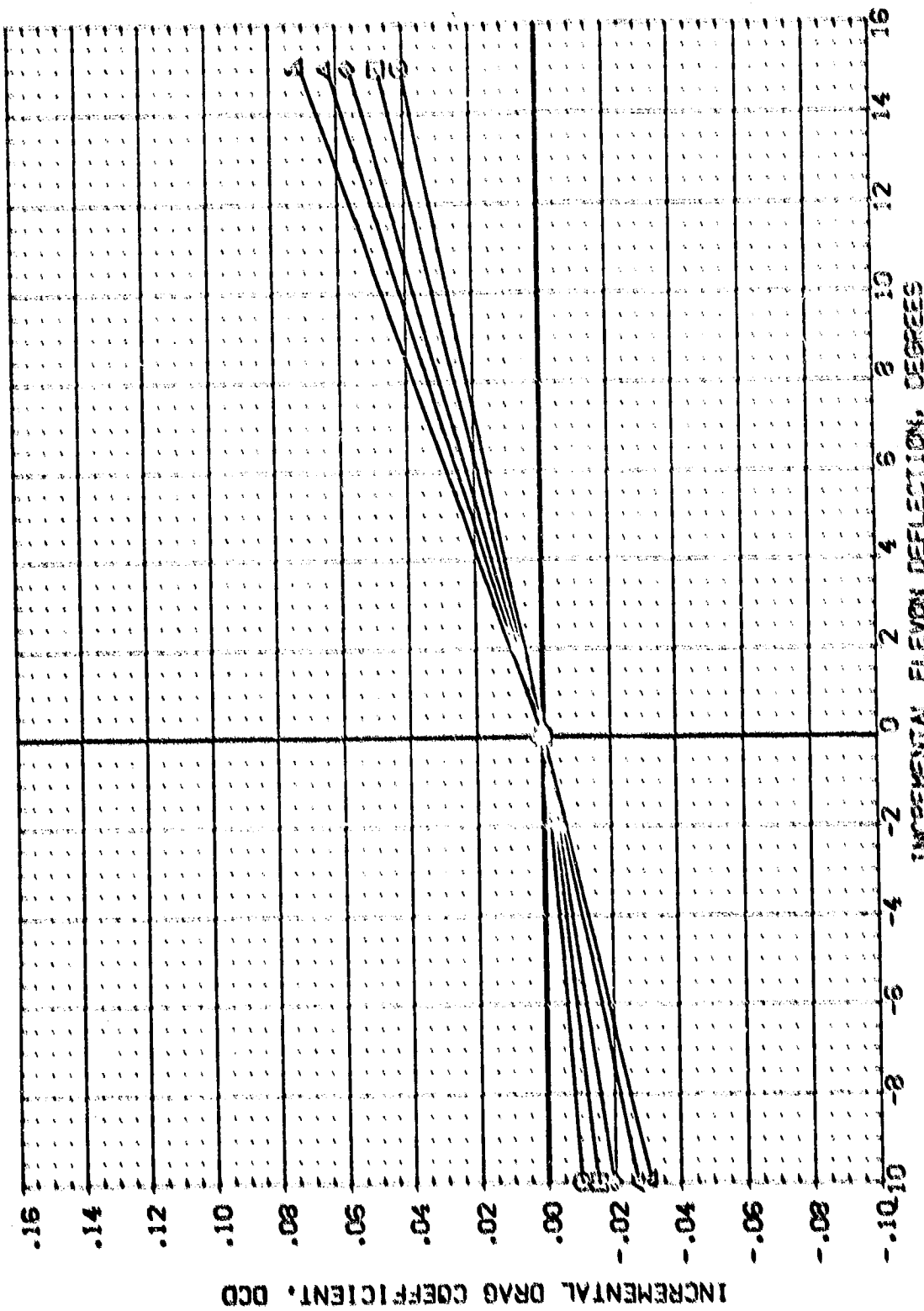


FIG 13 INCREMENTAL EFFECT OF ELVONS - CLUSTERED WAGLES 2 OPENING XO = 1080

(ECU061)

3A71C B16C5D7J35F1W87 E18V3R2X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
SYMBOL	VALUE	DELTA	SCALE	UNIT	SCALE
ALPHA	12.000	.000	.000	4.4122	92. FT.
WICH	14.000	.530	.000	19.2289	INCHES
BOFLAP	16.000	5.000	.000	37.5349	INCHES
WCLIP	18.000	.000	.000	43.5974	INCHES
BETA	20.000	.000	.000	16.2000	INCHES
				.0405	SCALE

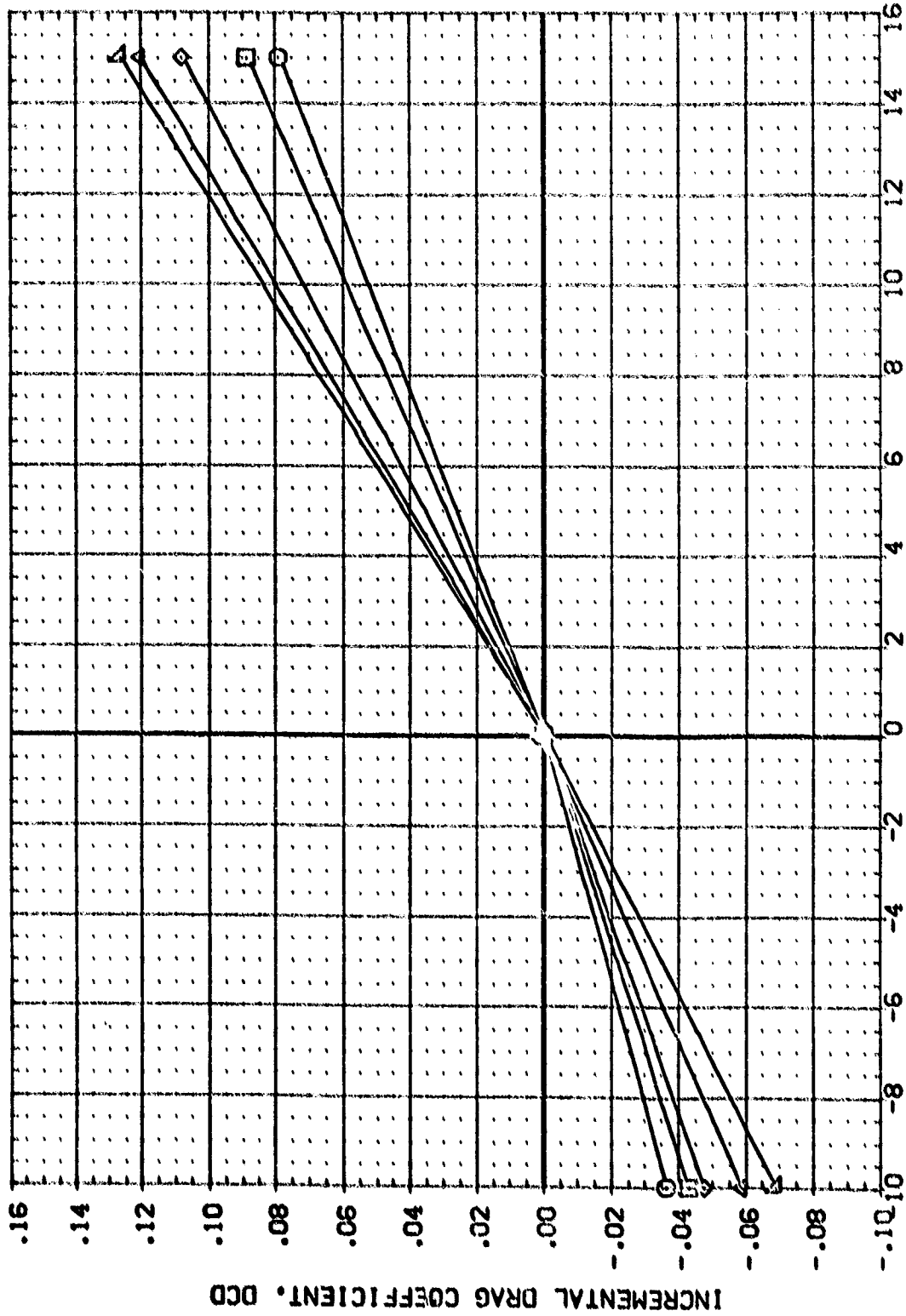


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERVIEW X0 = 1060

(ED0061)

DATA: 3180507.255:187 E1813P2X10

SYMBOL	ALPHA	MACH	PHI	ALPHA	DATA SOURCE	DATA SET	DELTA	DELTA	SPR	REFERENCE INFORMATION
0	22.000		.210	ALPHA	.000	ED0061	.000	.000	SPR	4.4122
1	24.000	30FLP	-12.000	MACH	5.000	ED0061	.000	.000	LRP	13.2228
2	26.000	MCLIP	7.000	MACH	5.000	ED0062	.000	.000	SPR	37.9248
3	28.000	BETA		BETA	.000				MPP	43.2374
4	30.000			RUDER	.000				MPP	100.0000
									DPP	15.2000
									SCALE	1.0000

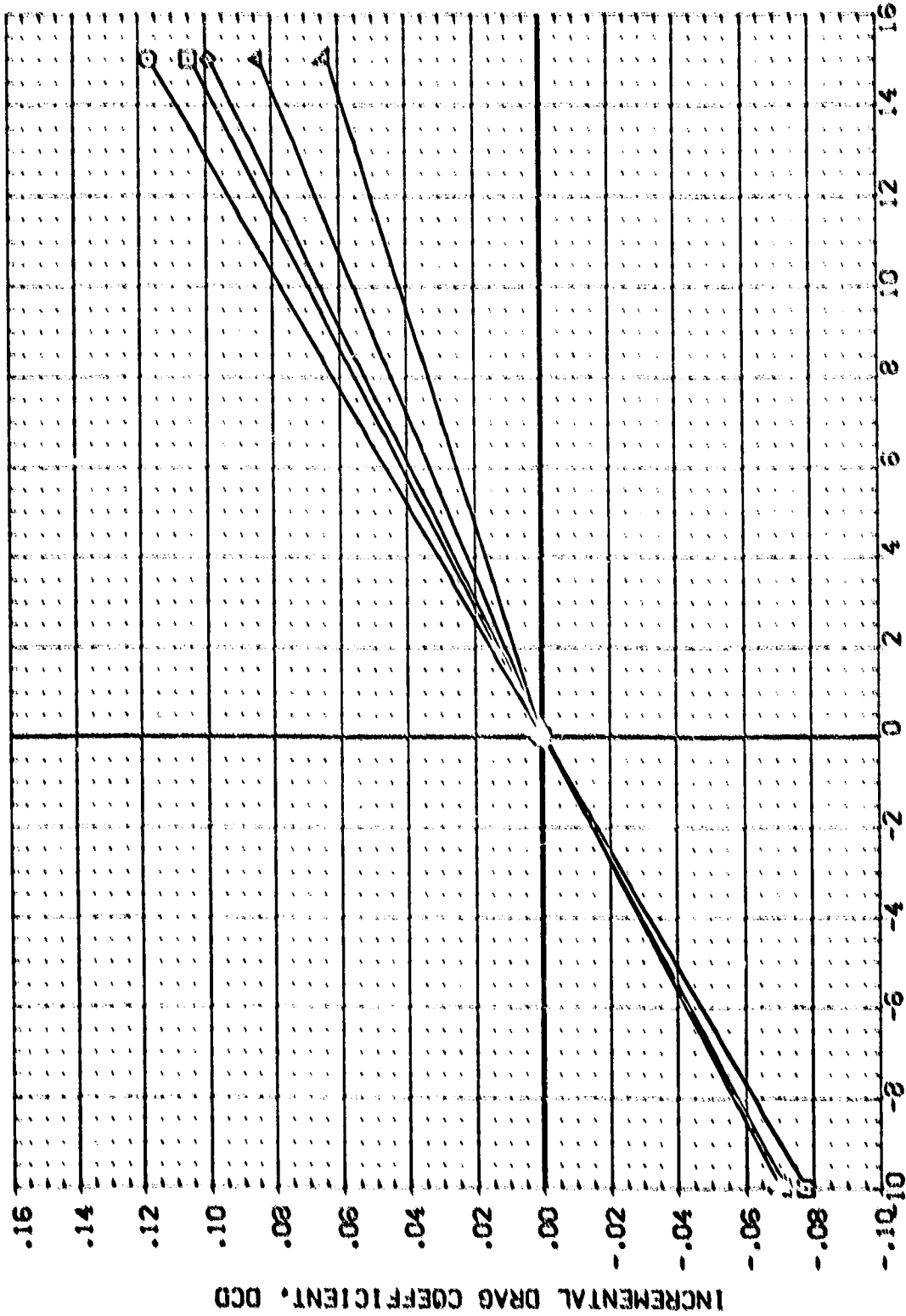


FIG 13 INCREMENTAL EFFECT OF ELEVATION - CLUSTERED MACHES 2 OVERWING X0 = 1080

(EDUC061)

CA71C B160557135F1M87 E18Y2R2Y10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	-4.000	DELTA	.000	SCALE	15.000
BETA	-1.000	EDU051	.000	INCHES	1.000
MACH	0.000	EDU052	.000	INCHES	1.000
WCLIP	7.000	SCALE	15.000	INCHES	1.000
WCLIP	-18.000	SCALE	15.000	INCHES	1.000
WCLIP	-21.000	SCALE	15.000	INCHES	1.000
WCLIP	7.000	SCALE	15.000	INCHES	1.000
WCLIP	7.000	SCALE	15.000	INCHES	1.000
WCLIP	7.000	SCALE	15.000	INCHES	1.000
WCLIP	7.000	SCALE	15.000	INCHES	1.000

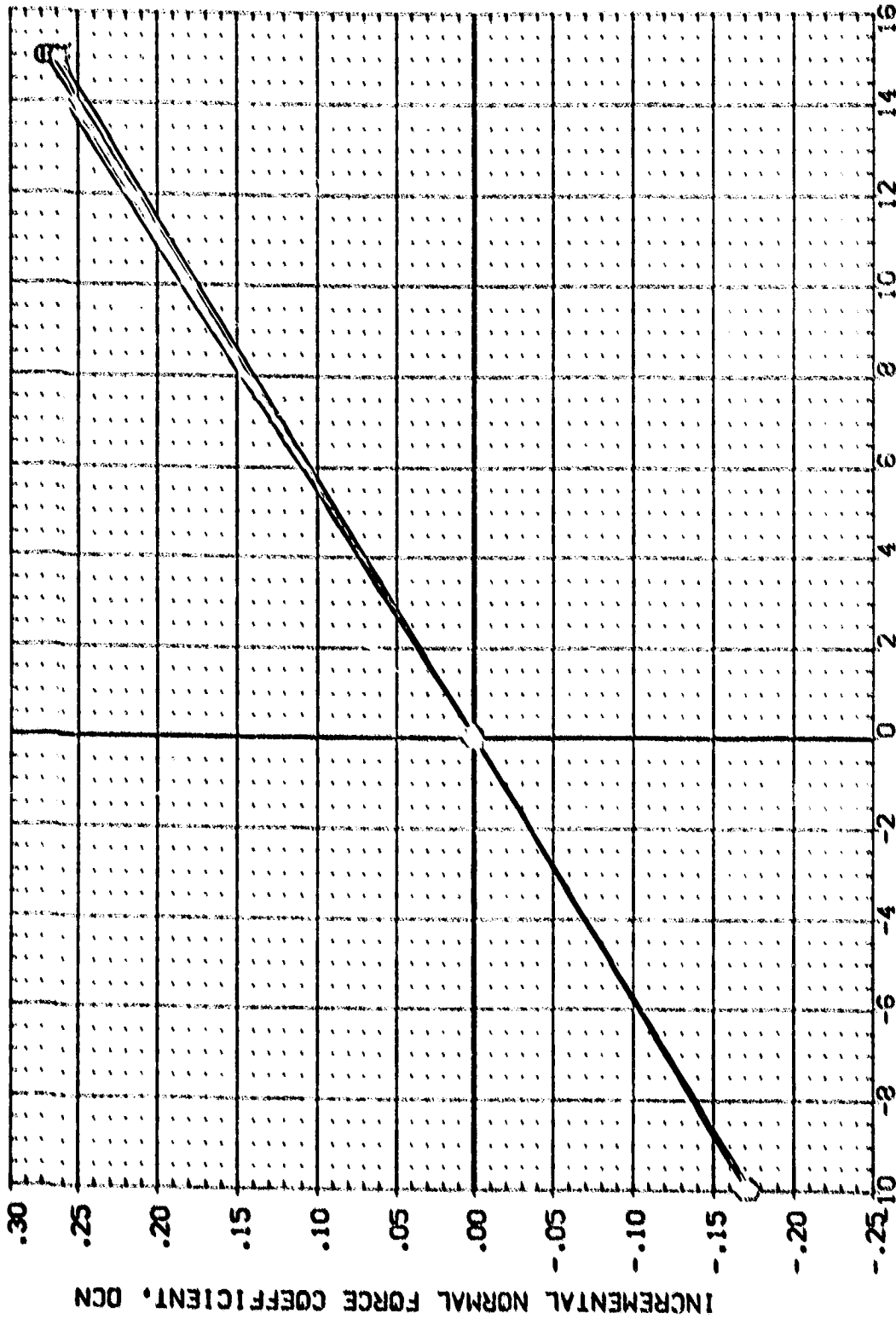


FIG 13 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED WAGELLES 2 OVERWING X0 = 1050
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 180

(EDU061)

0A71C 816C5D7J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
□	ALPHA	2.000	MACH	.000	DATASET	DELVON	SRPT	4.4122	50. FT.		
◇		4.000	SOFLAP	.530	EDU061	DELVON	REF	19.2223	INCHES		
◇		6.000	MACH	5.000	EDU062	DELVON	REF	37.9349	INCHES		
△		8.000	BETA	.000		DELVON	REF	43.5374	INCHES		
△		10.000				DELVON	REF	16.2300	INCHES		
						DELVON	SCALE	.0435	SCALE		

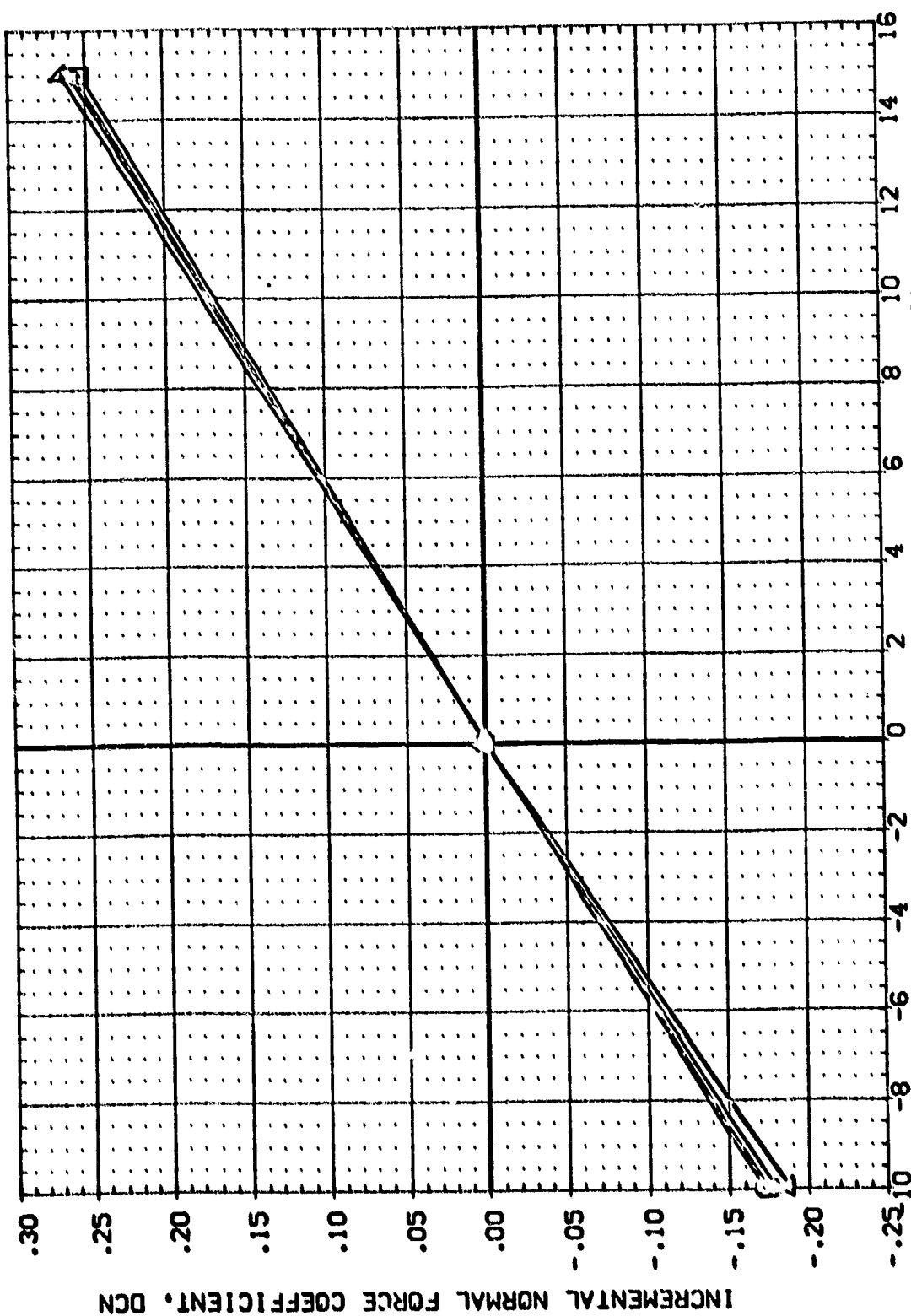


FIG 13 INCREMENTAL EFFECT OF ELEEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 1060

(EDJ061)

CA71C B16C507J35F1W87 E18V2R2X1C

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	12.000	MACH	.000	DELVON	.000
SOFLAP	14.000	SOFLAP	15.000	REF	19.2288
MACH	16.000	MACH	-10.000	REF	37.8749
MACH	18.000	MACH	.000	REF	43.5574
MACH	20.000	MACH	.000	REF	16.2000
				SCALE	.0405

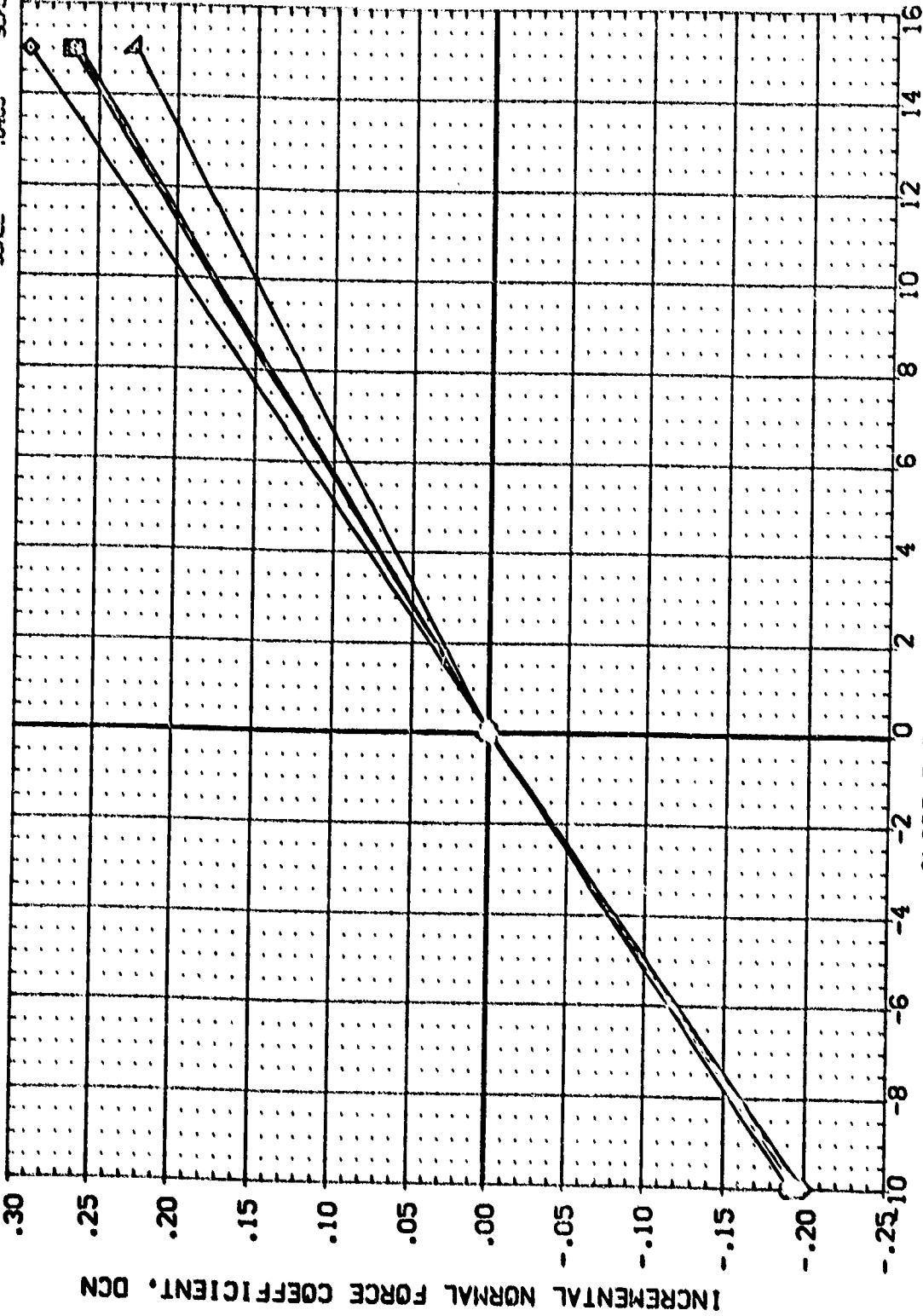


FIG 13 INCREMENTAL EFFECT OF ELEEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

(EDU061)

0A71C B16C5D7J35F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	.210	DELVON	EDU058	SREF	4.4122
MACH	-18.000	DELVON	EDU058	LREF	19.2269
BDFLAP	7.000	DELVON	EDU058	BREF	37.9349
NACLIP	.000	DELVON	EDU058	XGRP	43.5974
BETA	.000	DELVON	EDU058	YGRP	.0000
AILERON	.530	DELVON	EDU058	ZGRP	16.2000
NACX/L	5.000	DELVON	EDU058	SCALE	.0405
NACBTA	.000	DELVON	EDU058		
RUDDER	.000	DELVON	EDU058		

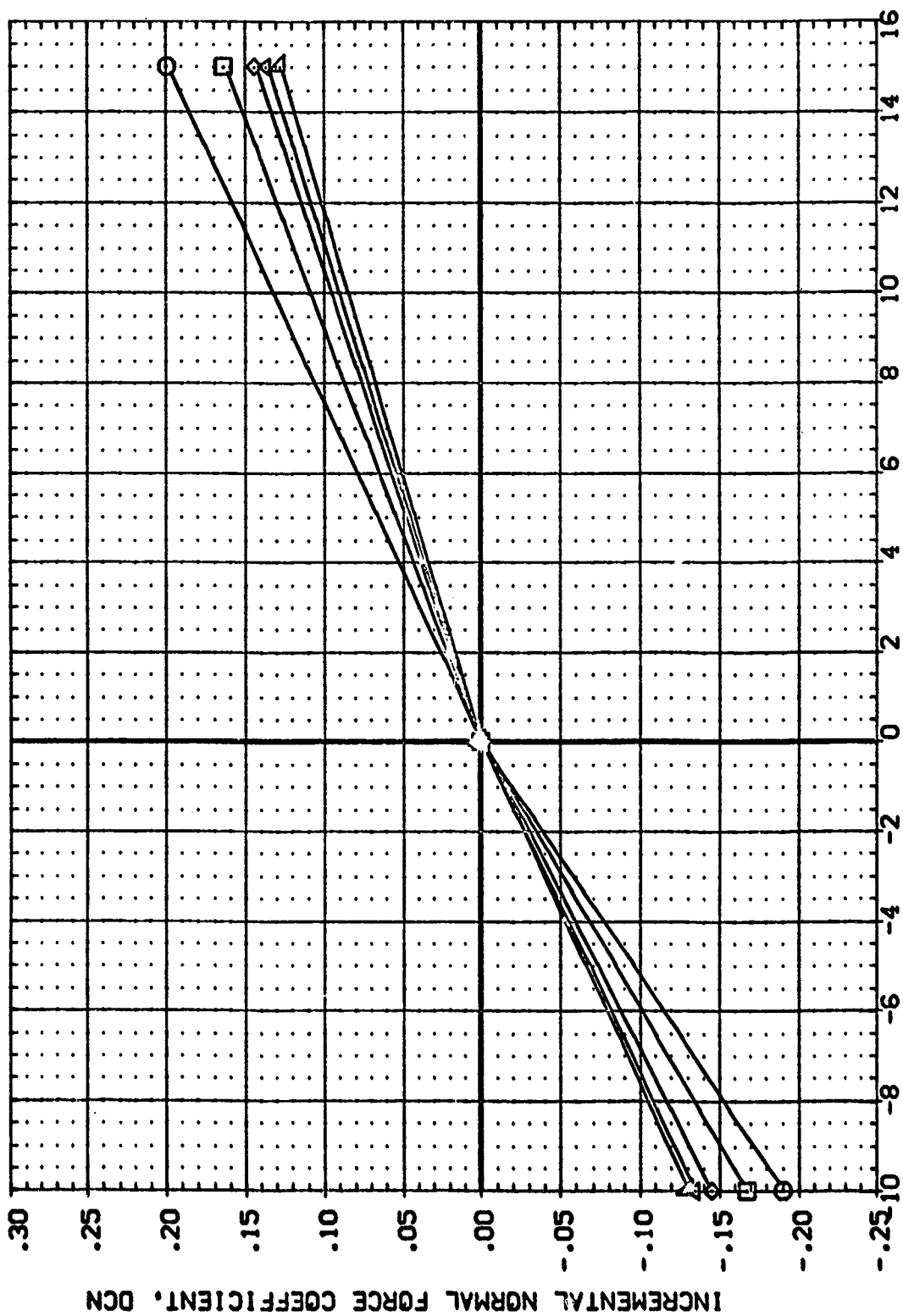


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

2A71C B1695C7J35F1W87 E18VGR3M10 CED00611

SYMBL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
		ALPHA	MACH	DELTA	DELTA	DELTA	DELTA	SCALE	SCALE	SCALE	SCALE
○	○	-4.000	.215	.000	.000	15.000	1.4122	50.000	19.2288	10.000	10.000
□	□	-2.000	-18.000	.500	.500	-10.000	37.5348	20.000	43.5374	10.000	10.000
△	△	-1.000	7.000	5.000	5.000		16.2000	20.000	16.2000	10.000	10.000
▽	▽	1.000									

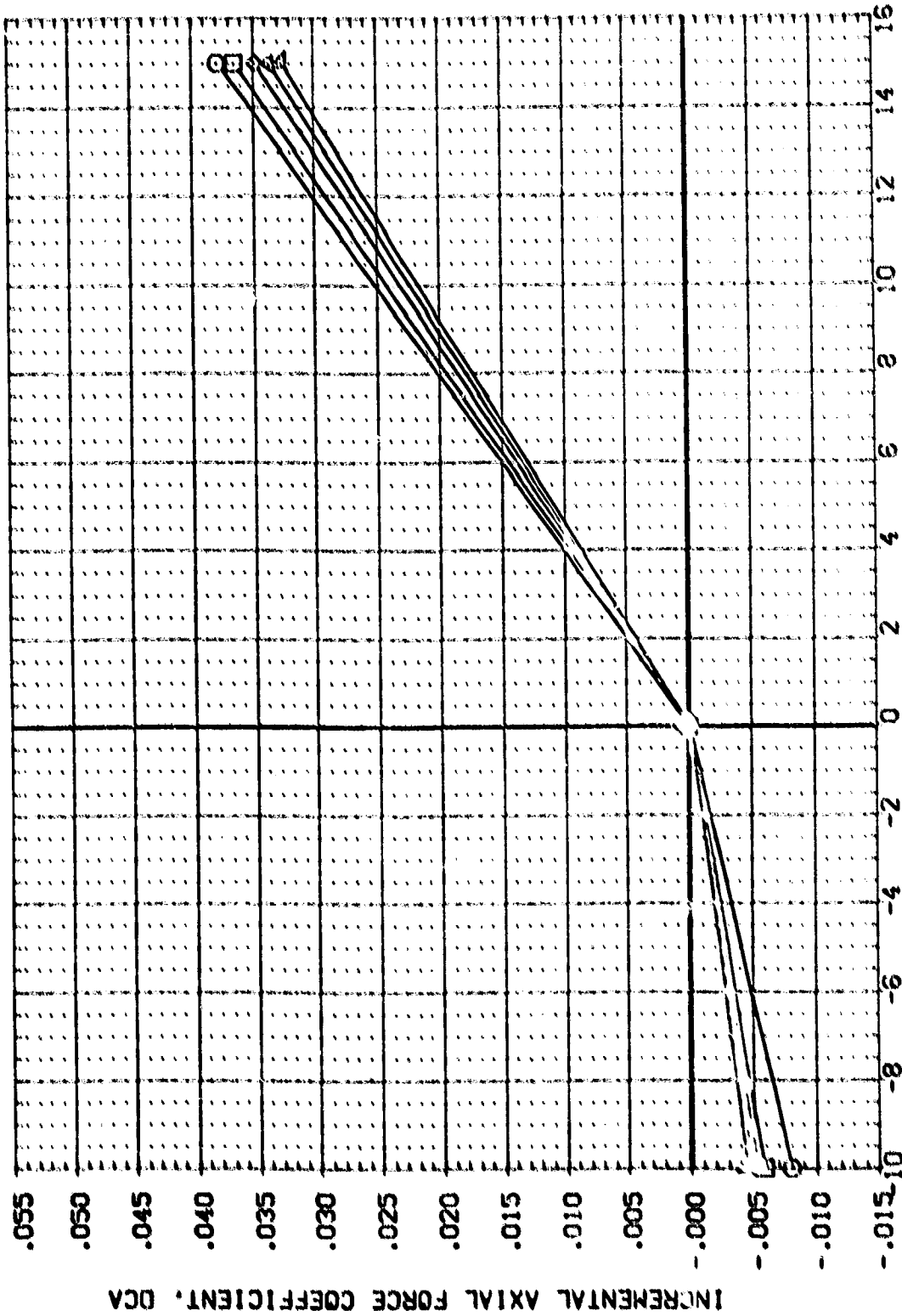


FIG 13 INCREMENTAL EFFECT OF ELEVON'S -CLUSTERED MACELLES 2 OVERWING XO = 1050
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 184

GA71C B16C5D7335F1W87 E18W3R3X10 (EDU061)

SYMBOL		ALPHA		MACH		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
□	○	2.000	.210	A1UBRN	.000	DATASET	DELVON	SPET	50.FT.	4.4122	INCHES
□	○	4.000	-18.000	MACVAL	.530	EDU061	DELVON	LPET	19.2292	INCHES	INCHES
□	○	6.000	7.000	MACETA	5.000	EDU062	DELVON	MPET	37.9243	INCHES	INCHES
△	○	8.000	.000	RUDDER	.000		DELVON	TPET	43.5374	INCHES	INCHES
△	○	10.000					DELVON	ZPET	16.2000	INCHES	INCHES
								SCALE	.0005	SCALE	SCALE

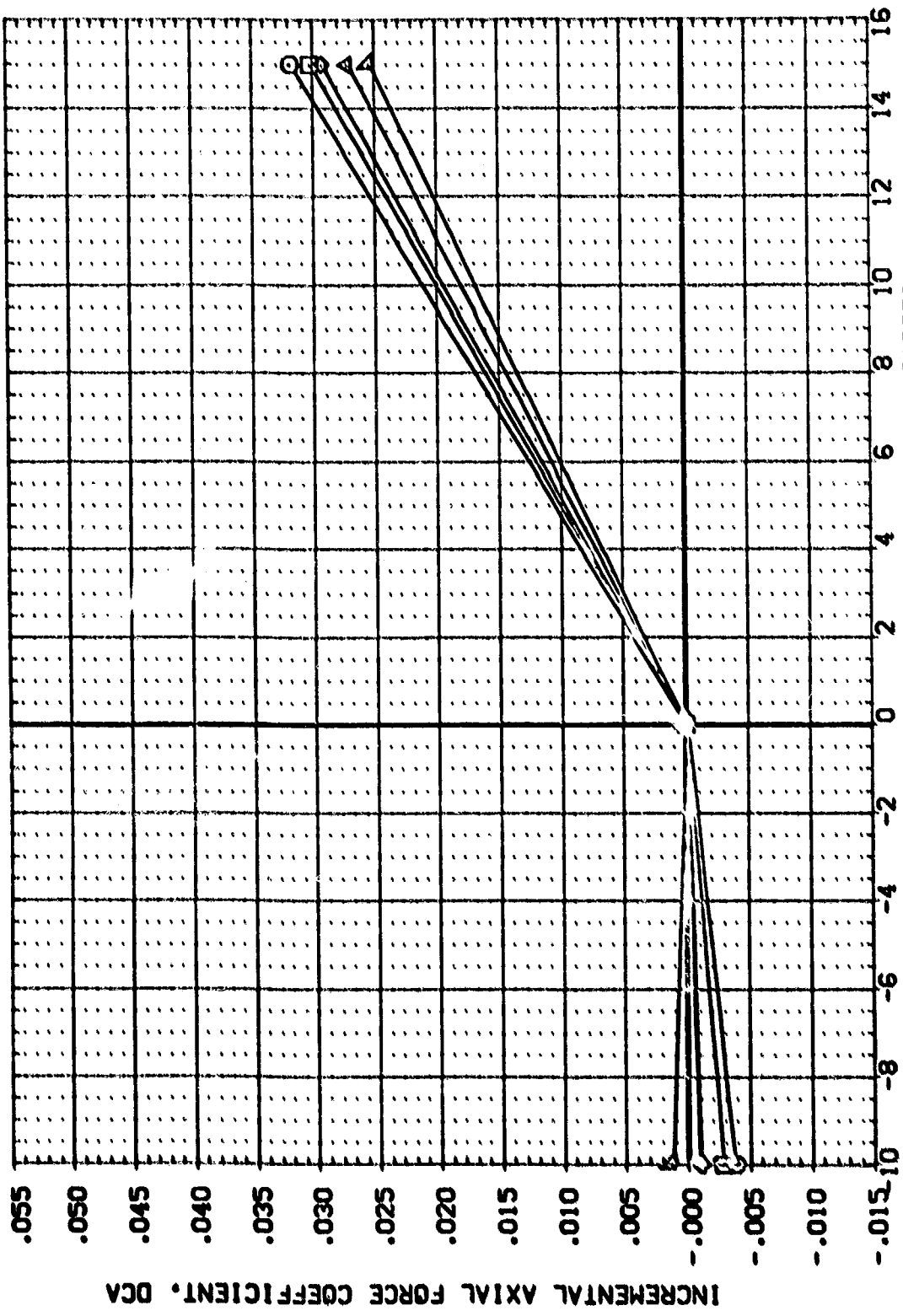


FIG 13 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES 2 OVERWING XO = 1060

UAVIC BIBLUDU/JJDFIWO/ EIOVJNJAIV

SYMBOL		ALPHA		MACH		PARAMETRIC VALUES		DATA SOURCE		DATASET		DELTVN		SREF		REFERENCE INFORMATION	
○	○	12.000	.210	AIRLN	.000	DATASET	DELTVN	DELTVN	.000	EDU058	.000	SREF	4.4122	SO.FT	4.4122	INCHES	
□	□	14.000	-18.000	NACL/L	.530	EDU061	15.000	REF				REF	19.2269	INCHES	19.2269	INCHES	
◇	◇	16.000	7.000	NACBTA	5.000	EDU062	-10.000	EPF				EPF	37.9349	INCHES	37.9349	INCHES	
△	△	18.000	.000	RUDDER	.000			YPRP				YPRP	43.9374	INCHES	43.9374	INCHES	
								ZPRP				ZPRP	.0000	INCHES	.0000	INCHES	
								SCALE				SCALE	16.2000	SCALE	16.2000	SCALE	
													.0405		.0405		

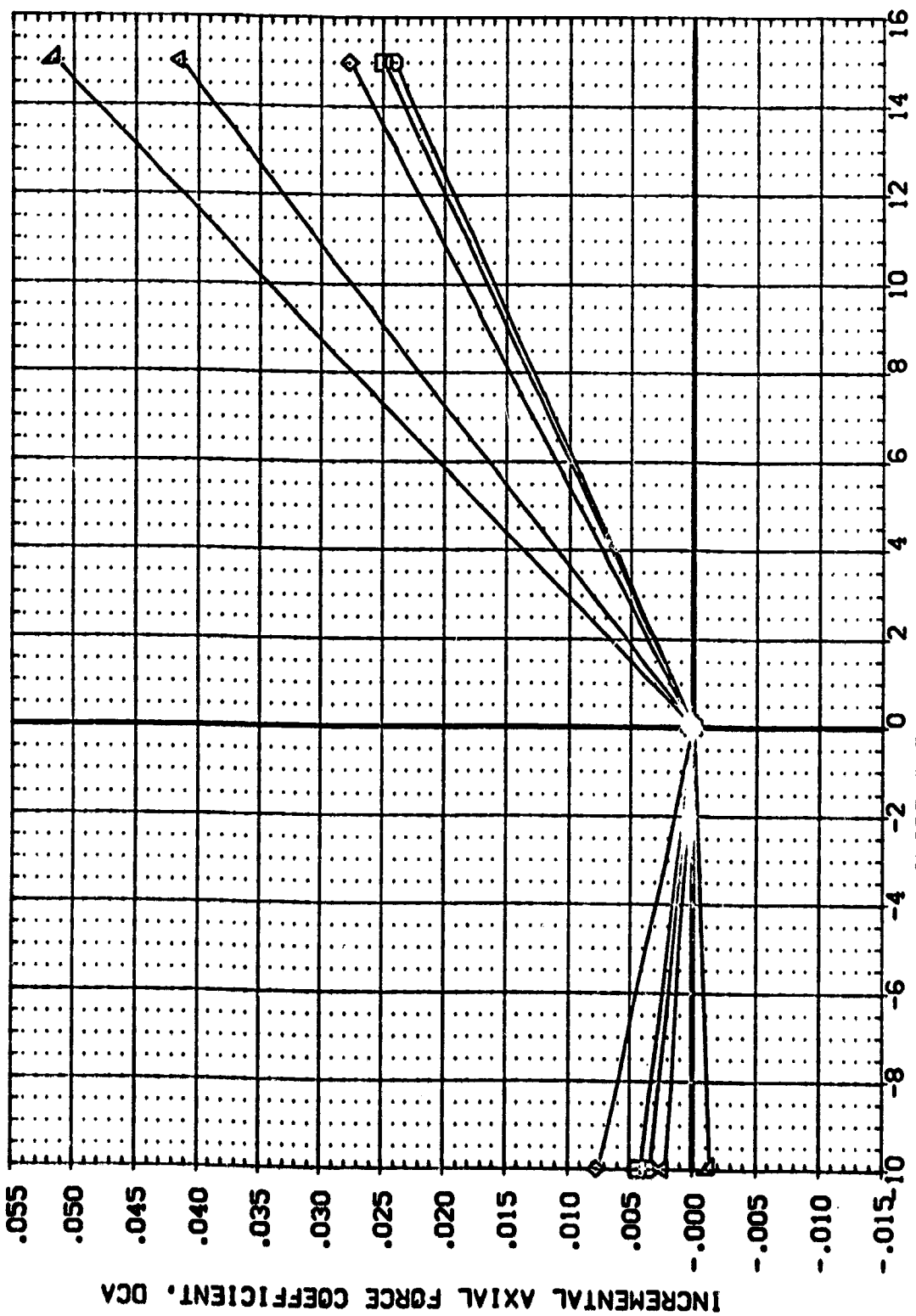


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 1060

0A71C B16C5D7J35F1W87 E18V3R3X10 (EDU061)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELTVN	SREF	SO.FT.	
22.000	.210	DELTVN	UREF	INCHES	4.4122
24.070	-18.000	DELTVN	SCALE	INCHES	19.2298
26.000	7.000	DELTVN	Y-PP	INCHES	37.8349
28.000	.000	DELTVN	Z-PP	INCHES	43.5374
30.000	BETA	DELTVN	Z-PP	INCHES	.0000
		DELTVN	SCALE	SCALE	16.2000
					.0405

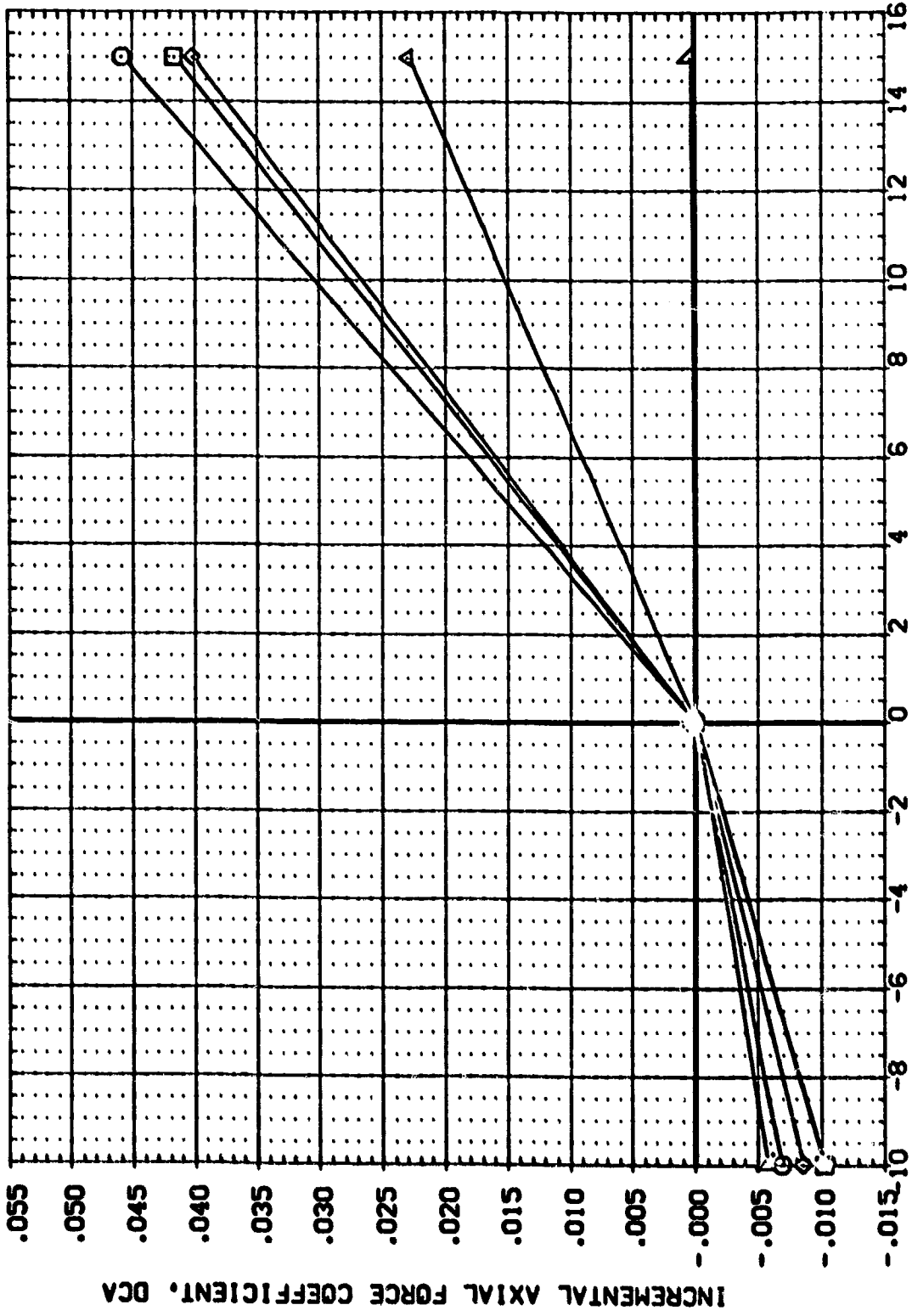


FIG 13 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES 2 OVERWING X0 = 1060

0A71C B16C5D7J35F1W87 E18V3R3X1C (EDU061)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
-4.000	MACH .210	DELVON	SREF 4.4122 SQ.FT.
-2.000	SOFLAP -18.000	DATASET	LRPREF 19.2239 INCHES
-1.000	NACLIP 7.000	EDU061	BRPREF 37.9349 INCHES
.000	NACBTA .000	EDU062	XRPP 43.5974 INCHES
1.000	BETA .000	SCALE	YMRP .0000 INCHES
			ZMRP 16.2000 INCHES
			SCALE .0405

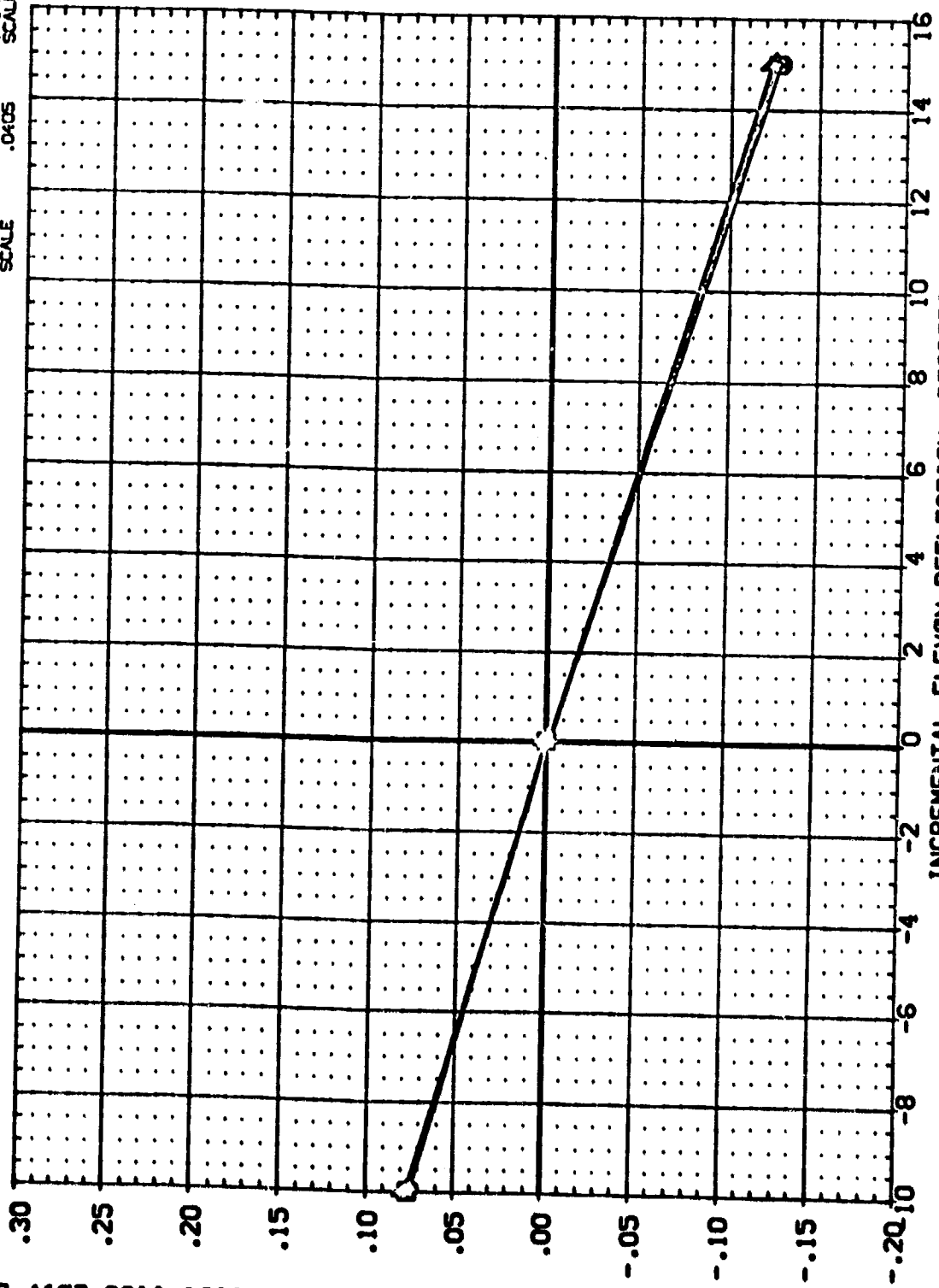


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

(EDU061)

0A71C B16C507J35F1W67 E18V3R3X10

REFERENCE INFORMATION
 SQ.FT. 4.4122
 INCHES 19.2259
 INCHES 37.9349
 INCHES 43.5374
 INCHES .0000
 INCHES 16.2000
 SCALE .0405

DATA SOURCE
 DELVON 15.000
 -10.000

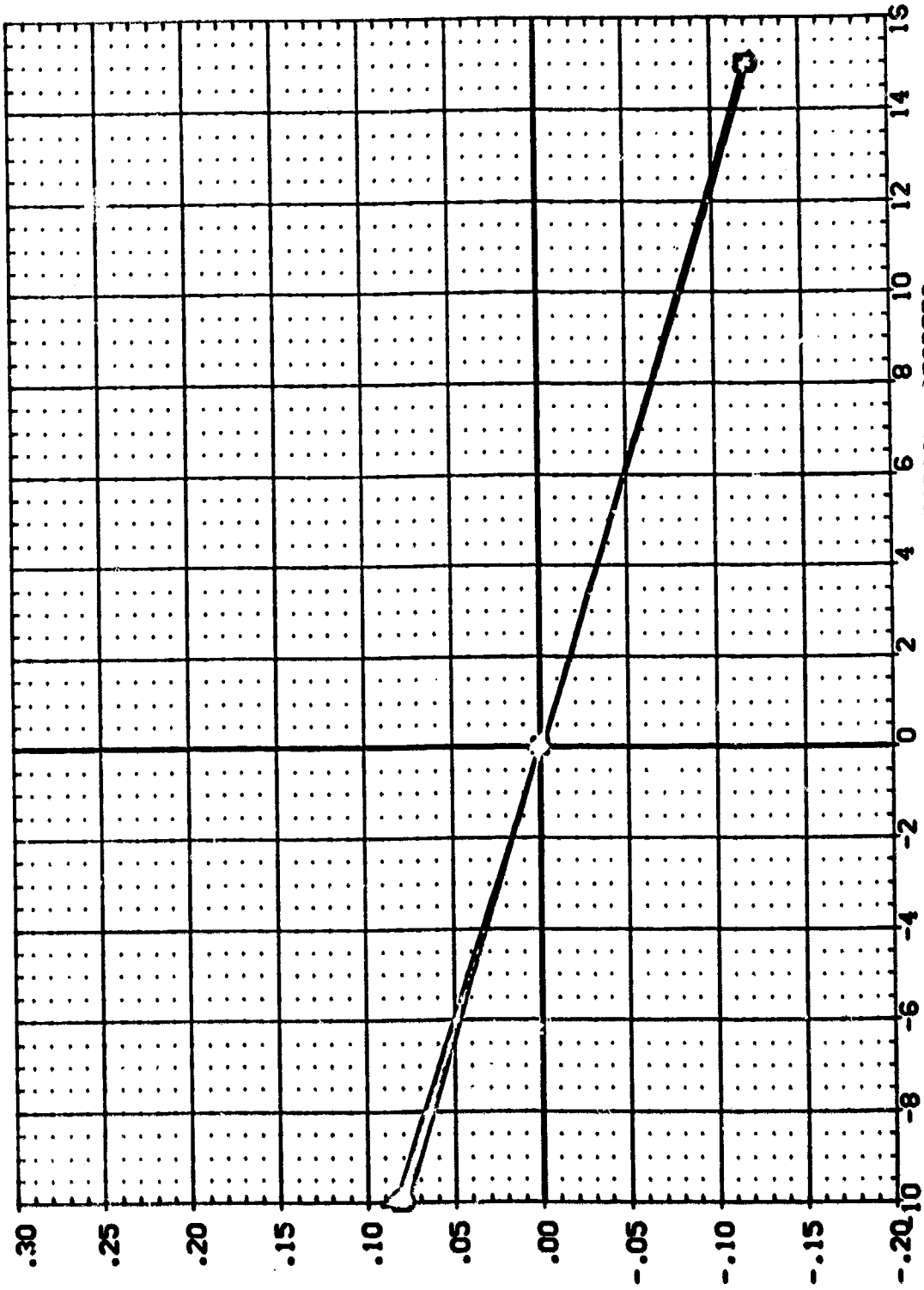
DATASET
 EDU058
 EDU051
 EDU052

PARAMETRIC VALUES
 AILRON .210
 NACVAL -18.000
 NACSTA 7.000
 RUDDER .000

MACH 2.000
 EOFLAP 4.000
 NACLIP 6.000
 BETA 8.000
 10.000

SYMBOL
 □
 ◇
 △
 ▽

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB); DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

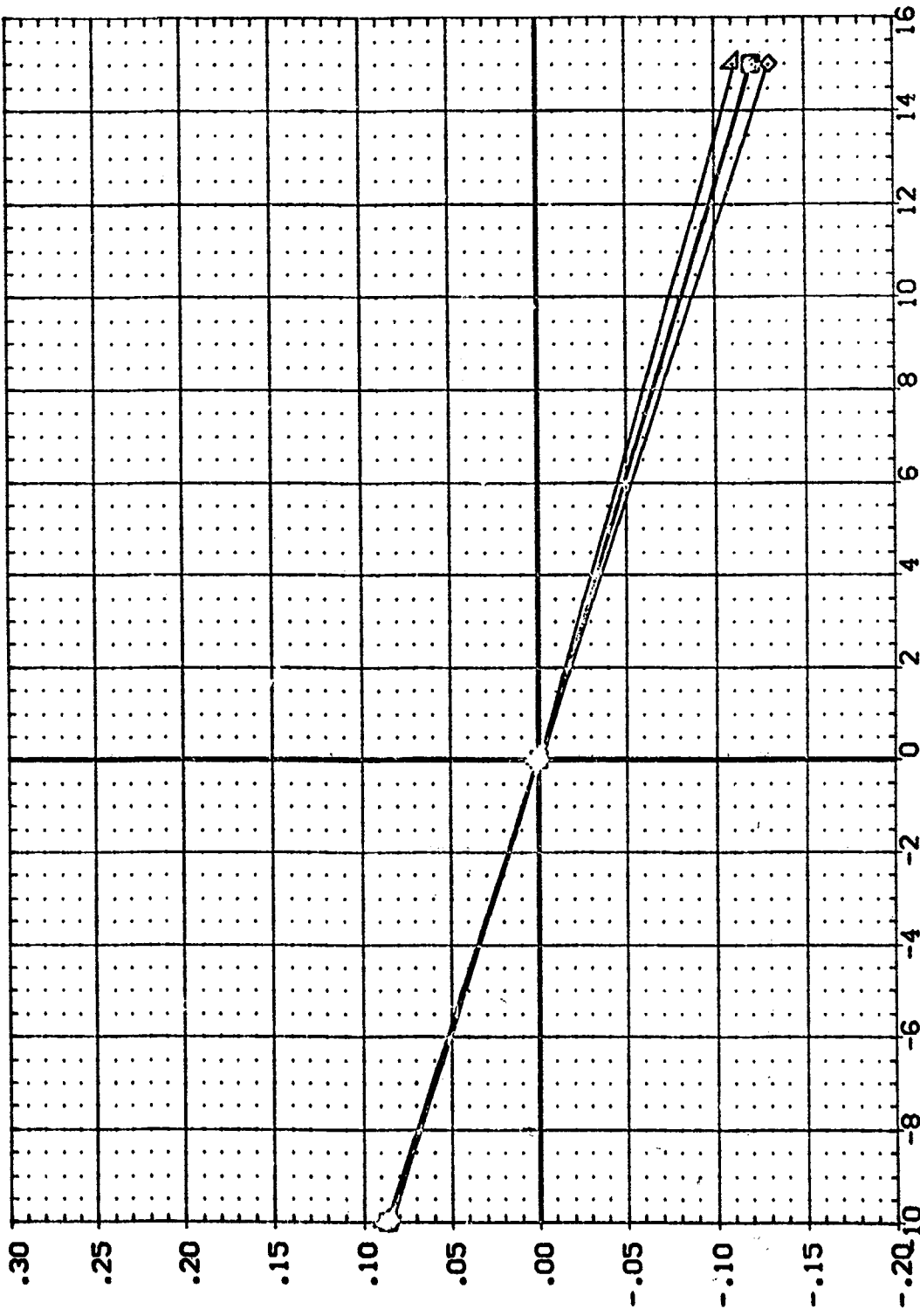
FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

(EDU061)

CA71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		DELTA		REFERENCE INFORMATION	
○	ALPHA	12.000	MACH	.210	AILRON	.000	DATASET	DELTON	SREF	4.4122	SO.FT.
□		14.000	BOFLAP	19.000	NACY/L	.530	EDU061	.000	LRFF	19.2299	INCHES
◇		16.000	NACLIP	7.000	NACSTA	5.000	EDU062		XRFP	37.9349	INCHES
△		18.000	BETA	.000	RUDDER	.000			TRFP	43.5974	INCHES
		20.000							ZRFP	16.2000	INCHES
									SCALE	.0405	SCALE

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB.). DCMFWD



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 1060

(EDU061)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
□	ALPHA	MACH	.210	ATLRGN	DEL VON	DEL VON	SRGF	SO. FT.	4.4122	INCHES	19.2269
◇	22.000	SOFLAP	-18.000	NACX/L	EDU058	EDU058	LRGF	INCHES	37.5349	INCHES	43.5974
△	24.000	NACLIP	7.000	NACBTA	EDU062	EDU062	XFRP	INCHES	16.2000	INCHES	16.2000
	26.000	BETA	.000	RLODBR			ZFRP	SCALE	.0405	SCALE	
	28.000										
	30.000										

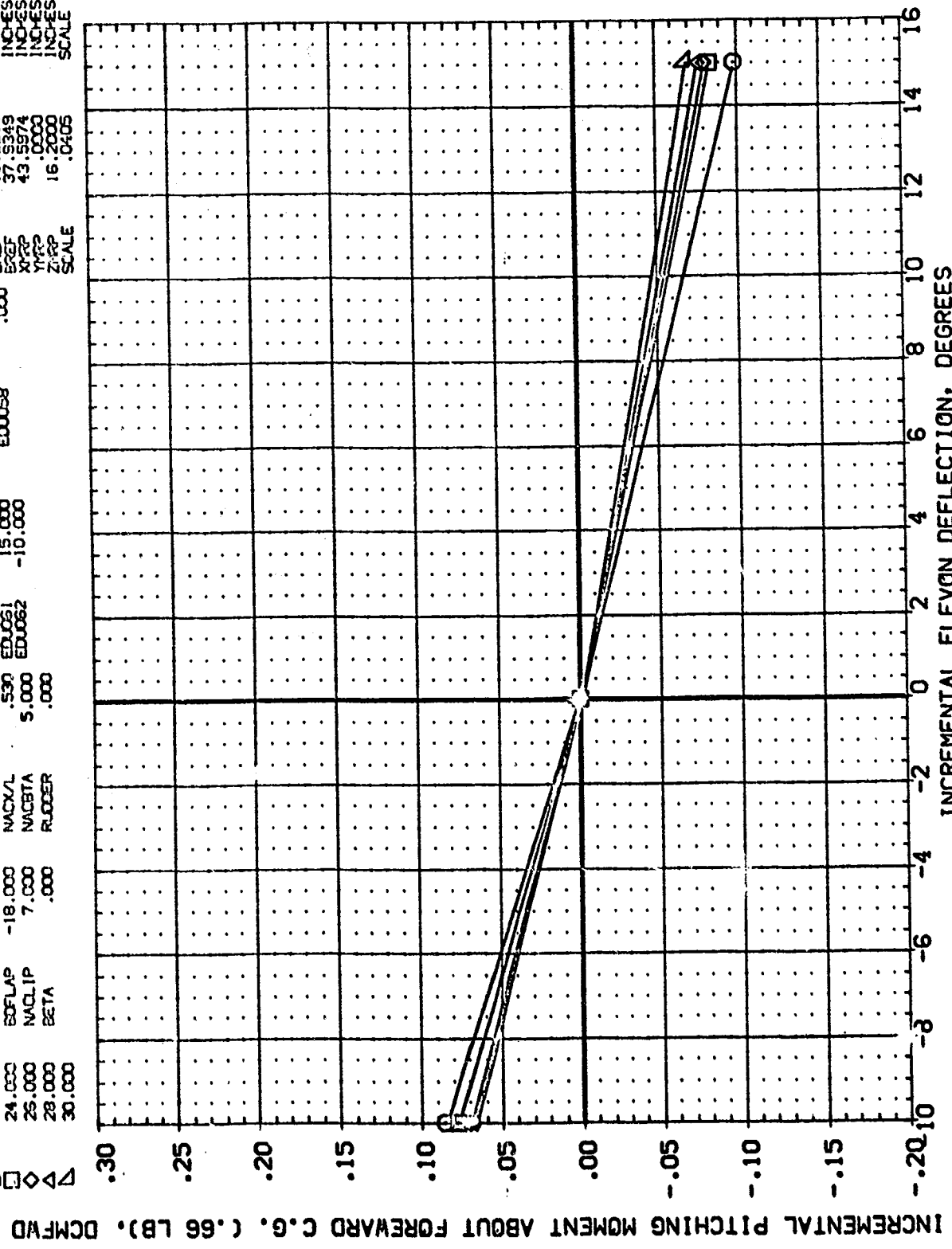


FIG 13 INCREMENTAL EFFECT OF EVELONS -CLUSTERED NACELLES 2 OVERWING XO = 1060
PAGE 191

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	.000	MACH	.215	DELTA	0.00	4.4120	50 FT
	-4.000	REF MACH	-18.000	DELTA	0.00	19.7226	INCHES
	-2.000	REF MACH	7.000	DELTA	0.00	27.5343	INCHES
	-1.000	REF MACH	.000	DELTA	0.00	42.5374	INCHES
	.000	REF MACH	.000	DELTA	0.00	100.0000	INCHES
	1.000	REF MACH	.000	DELTA	0.00	100.0000	SCALE

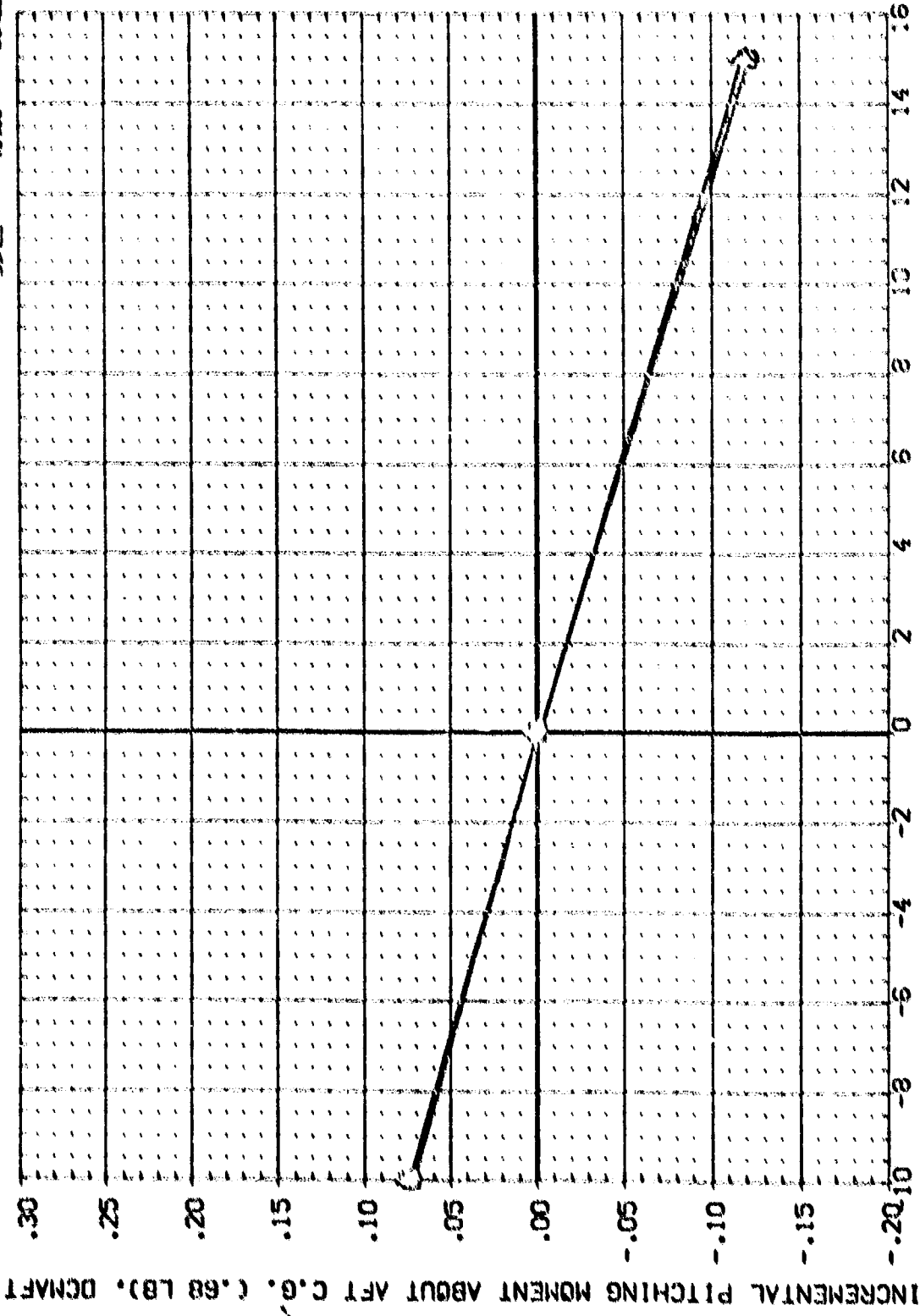


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED MODELS 2 OVERTUNG X0 = 1090
 INCREMENTAL ELEVON DEFLECTION, DEGREES
 PAGE 192

(EDU061)

0A71C B16C5D7J35F1W87 E18V3R3X10

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DELTVN	SREF	SO.FT.	
2.000		15.000	LREF	19.2259	INCHES
4.000	BCFLAP	-10.000	SREF	37.9319	INCHES
6.000	MACLIP		XTRP	43.5574	INCHES
8.000	BETA		YTRP	.0000	INCHES
10.000			ZTRP	16.2000	INCHES
			SCALE	.0405	SCALE

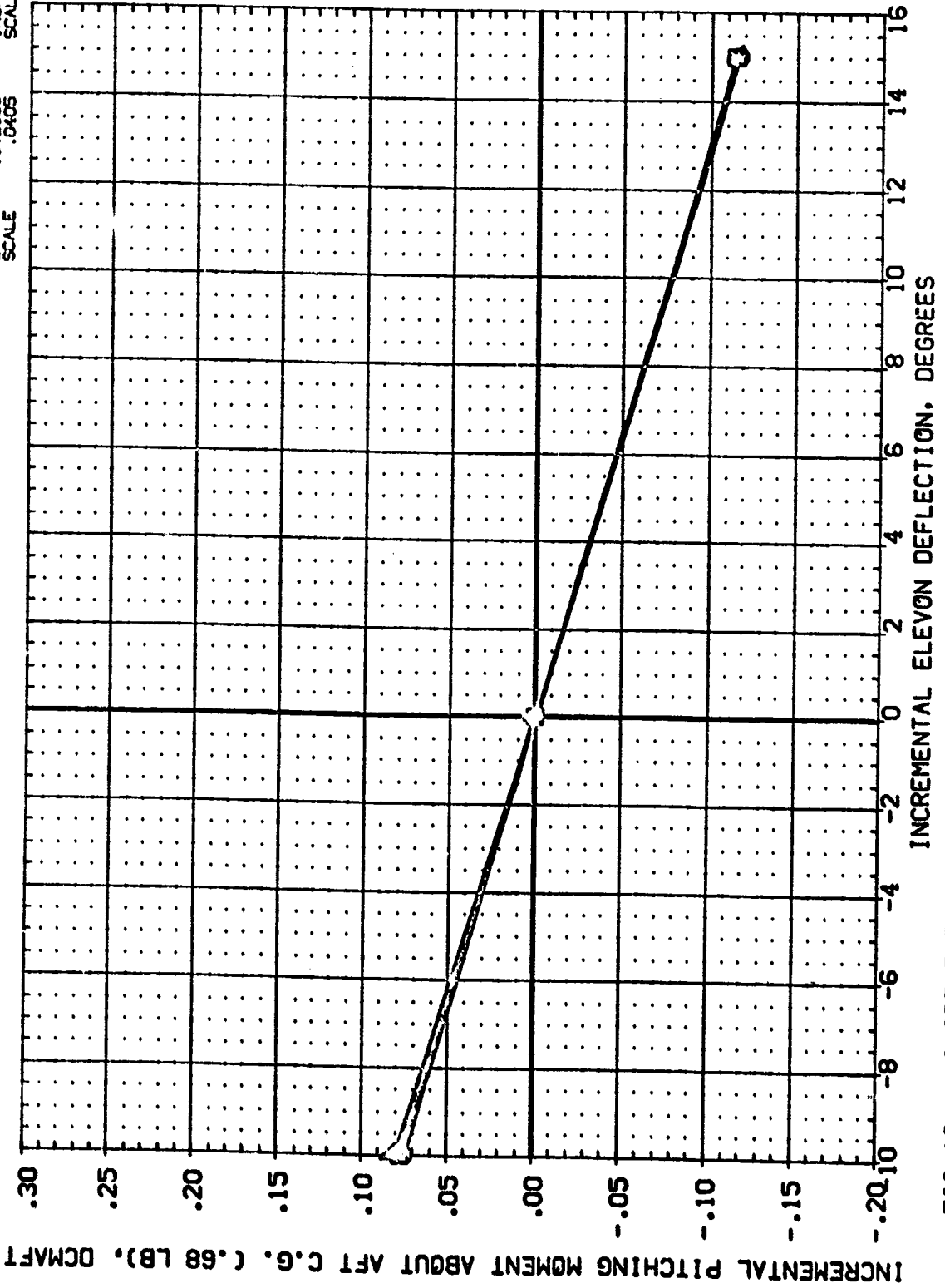


FIG 13 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES 2 OVERWING X0 = 1060

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	BETA	DELTA	SCALE	REF	SCALE
12.000	18.000	.000	.000	4.4122	.0000
14.000	16.000	.000	.000	19.2288	.0000
16.000	14.000	.000	.000	27.5248	.0000
18.000	12.000	.000	.000	42.5274	.0000
20.000	10.000	.000	.000	57.5274	.0000
		.000	.000	72.5274	.0000
		.000	.000	87.5274	.0000
		.000	.000	102.5274	.0000
		.000	.000	117.5274	.0000
		.000	.000	132.5274	.0000
		.000	.000	147.5274	.0000
		.000	.000	162.5274	.0000
		.000	.000	177.5274	.0000
		.000	.000	192.5274	.0000
		.000	.000	207.5274	.0000
		.000	.000	222.5274	.0000
		.000	.000	237.5274	.0000
		.000	.000	252.5274	.0000
		.000	.000	267.5274	.0000
		.000	.000	282.5274	.0000
		.000	.000	297.5274	.0000
		.000	.000	312.5274	.0000
		.000	.000	327.5274	.0000
		.000	.000	342.5274	.0000
		.000	.000	357.5274	.0000
		.000	.000	372.5274	.0000
		.000	.000	387.5274	.0000
		.000	.000	402.5274	.0000
		.000	.000	417.5274	.0000
		.000	.000	432.5274	.0000
		.000	.000	447.5274	.0000
		.000	.000	462.5274	.0000
		.000	.000	477.5274	.0000
		.000	.000	492.5274	.0000
		.000	.000	507.5274	.0000
		.000	.000	522.5274	.0000
		.000	.000	537.5274	.0000
		.000	.000	552.5274	.0000
		.000	.000	567.5274	.0000
		.000	.000	582.5274	.0000
		.000	.000	597.5274	.0000
		.000	.000	612.5274	.0000
		.000	.000	627.5274	.0000
		.000	.000	642.5274	.0000
		.000	.000	657.5274	.0000
		.000	.000	672.5274	.0000
		.000	.000	687.5274	.0000
		.000	.000	702.5274	.0000
		.000	.000	717.5274	.0000
		.000	.000	732.5274	.0000
		.000	.000	747.5274	.0000
		.000	.000	762.5274	.0000
		.000	.000	777.5274	.0000
		.000	.000	792.5274	.0000
		.000	.000	807.5274	.0000
		.000	.000	822.5274	.0000
		.000	.000	837.5274	.0000
		.000	.000	852.5274	.0000
		.000	.000	867.5274	.0000
		.000	.000	882.5274	.0000
		.000	.000	897.5274	.0000
		.000	.000	912.5274	.0000
		.000	.000	927.5274	.0000
		.000	.000	942.5274	.0000
		.000	.000	957.5274	.0000
		.000	.000	972.5274	.0000
		.000	.000	987.5274	.0000
		.000	.000	1002.5274	.0000

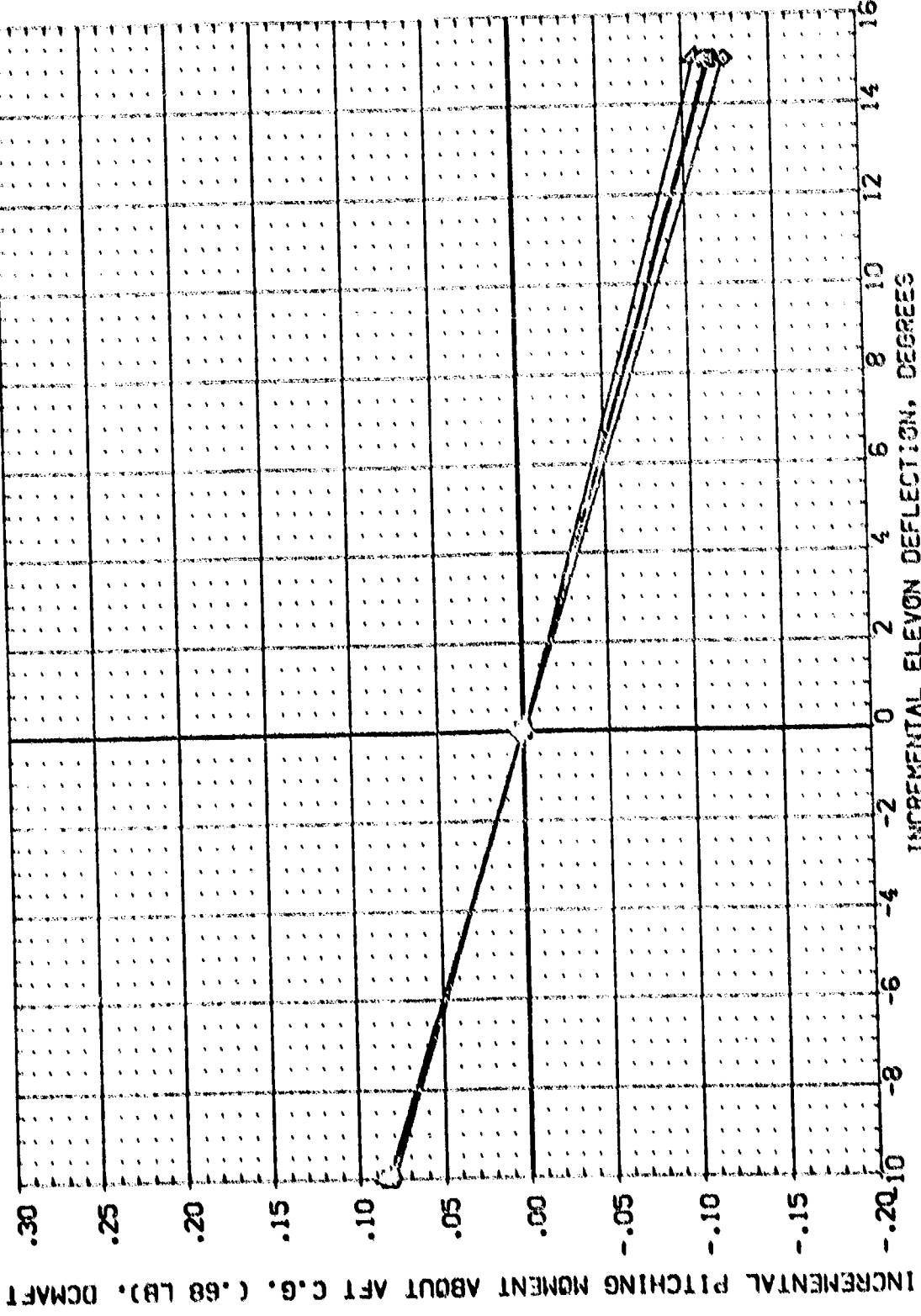


FIG 13 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED MACCELLES 2 OVERWING XO = 1080 PAGE 194

(EDU061)

CA71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
□	ALPHA	MACH	AILPON	DELVON	SREF	SO.FT.	4.4122	REF	19.2299	INCHES	
◇	24.000	EDFLAP	NACX/L	EDU058	REF	INCHES	37.5749	REF	43.5974	INCHES	
△	26.000	NACLIP	NACBTA	EDU062	XREF	INCHES	.0000	REF	16.2000	INCHES	
△	28.000	BETA	RJDER		ZREF	SCALE	.0005				
△	30.000				SCALE						

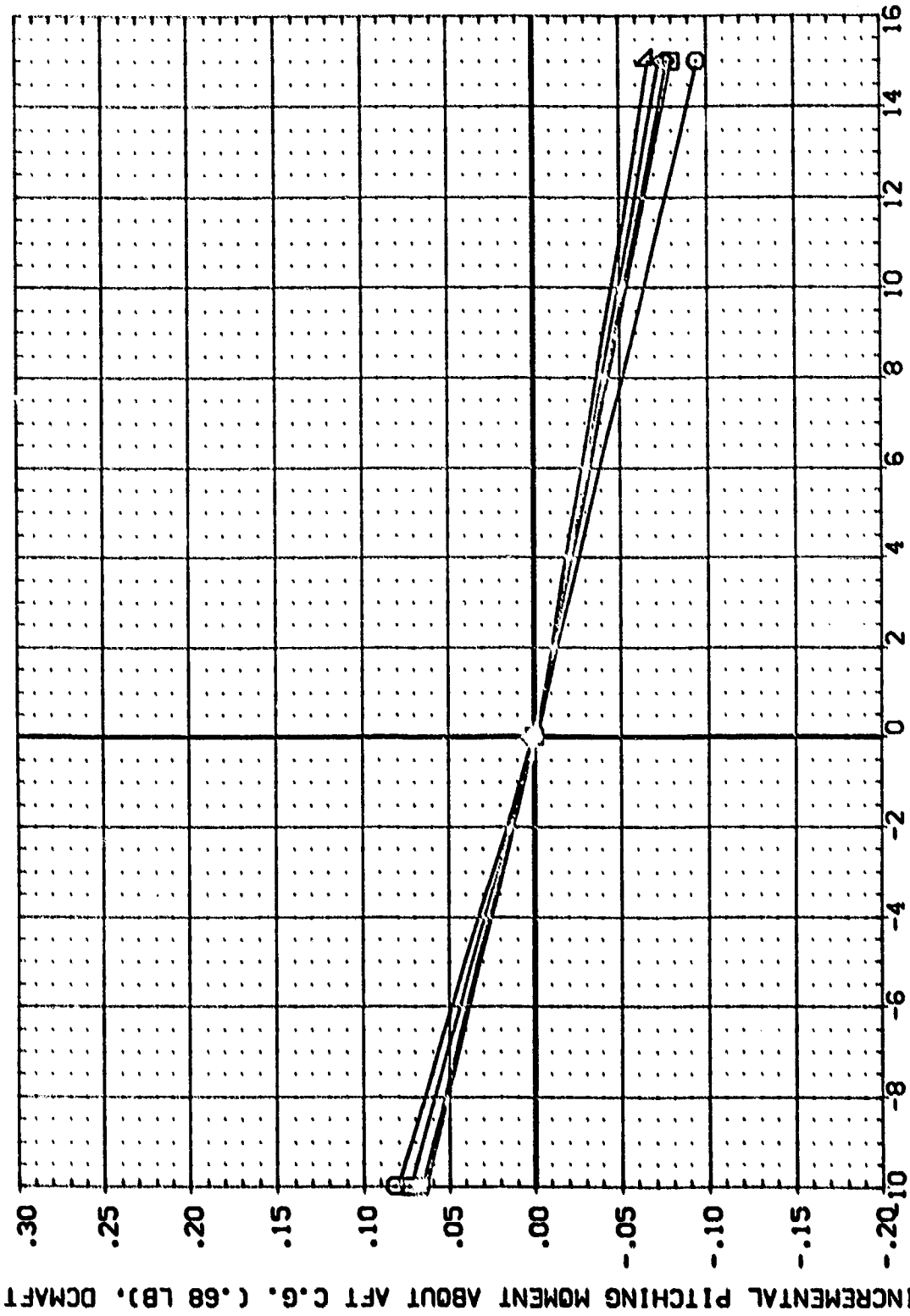


FIG 13 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES 2 OVERWING XO = 1060

DATA SET SYMBOL DESCRIPTION
 (130025) 2:02571857 1:07 5:18702010
 (130026) 2:02571857 1:07 5:18702010
 (130027) 2:02571857 1:07 5:18702010

ELEVON INCLIN. INCLIN. INCLIN. REFERENCE INFORMATION
 15.000 7.000 5.000 4.4122 50.57
 1.000 7.000 5.000 19.2253 10.025
 -19.500 7.000 5.000 43.8574 10.025
 MACH. MACH. MACH. MACH. SCALE
 .20 .20 .20 .20 .20
 ZIPP ZIPP ZIPP ZIPP ZIPP
 SCALE SCALE SCALE SCALE SCALE

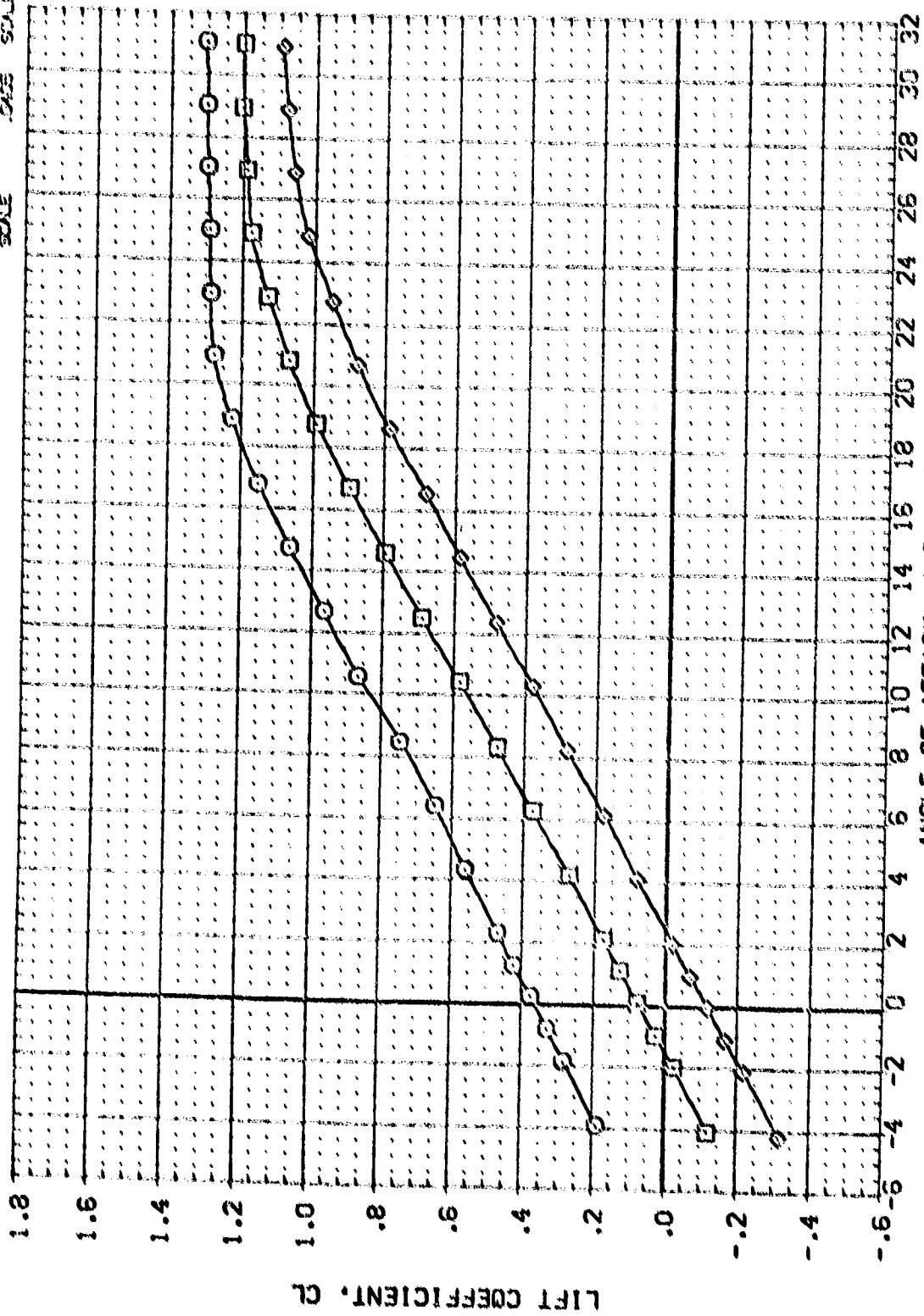


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERMING X0 = 950
 (MACH = .20)

REF. NO.	REF. TITLE	REF. AUTHORITY	REF. DATE	REF. PAGE	REF. SCALE
1	1.1	1.1	1.1	1.1	1.1
2	2.2	2.2	2.2	2.2	2.2
3	3.3	3.3	3.3	3.3	3.3
4	4.4	4.4	4.4	4.4	4.4
5	5.5	5.5	5.5	5.5	5.5
6	6.6	6.6	6.6	6.6	6.6
7	7.7	7.7	7.7	7.7	7.7
8	8.8	8.8	8.8	8.8	8.8
9	9.9	9.9	9.9	9.9	9.9
10	10.10	10.10	10.10	10.10	10.10
11	11.11	11.11	11.11	11.11	11.11
12	12.12	12.12	12.12	12.12	12.12
13	13.13	13.13	13.13	13.13	13.13
14	14.14	14.14	14.14	14.14	14.14
15	15.15	15.15	15.15	15.15	15.15
16	16.16	16.16	16.16	16.16	16.16
17	17.17	17.17	17.17	17.17	17.17
18	18.18	18.18	18.18	18.18	18.18
19	19.19	19.19	19.19	19.19	19.19
20	20.20	20.20	20.20	20.20	20.20
21	21.21	21.21	21.21	21.21	21.21
22	22.22	22.22	22.22	22.22	22.22
23	23.23	23.23	23.23	23.23	23.23
24	24.24	24.24	24.24	24.24	24.24
25	25.25	25.25	25.25	25.25	25.25
26	26.26	26.26	26.26	26.26	26.26
27	27.27	27.27	27.27	27.27	27.27
28	28.28	28.28	28.28	28.28	28.28
29	29.29	29.29	29.29	29.29	29.29
30	30.30	30.30	30.30	30.30	30.30
31	31.31	31.31	31.31	31.31	31.31
32	32.32	32.32	32.32	32.32	32.32

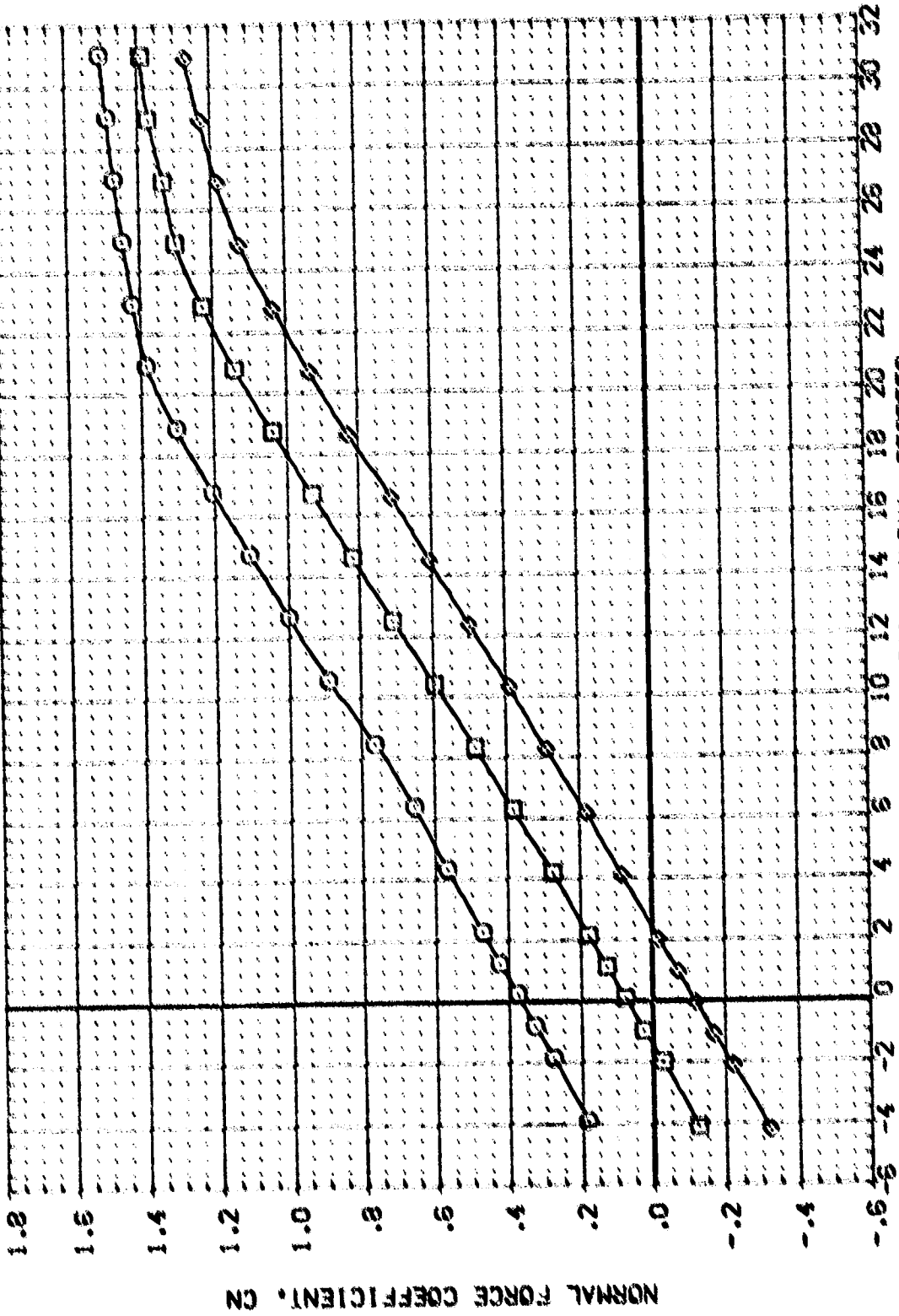


FIG 14 ELEVON EFFECTIVENESS - CLUSTEPED WAGELLES - 2 OVERMING X0 = 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AD066) DA71C B16C5D7135F 1V67 E18V3R3X10
 (AD067) DA71C B16C5D7135F 1V67 E18V3R3X10
 (AD065) DA71C B16C5D7135F 1V67 E18V3R3X10

ELEVON NACVL NACLIP NACBTA
 15.000 .000 7.000 5.000
 .000 .000 7.000 5.000
 -10.000 .000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2299 INO-ES
 XREF 37.9349 INO-ES
 YMRP 43.5974 INO-ES
 ZMRP 00.000 INO-ES
 SCALE 16.2000 INO-ES
 .0405 SCALE

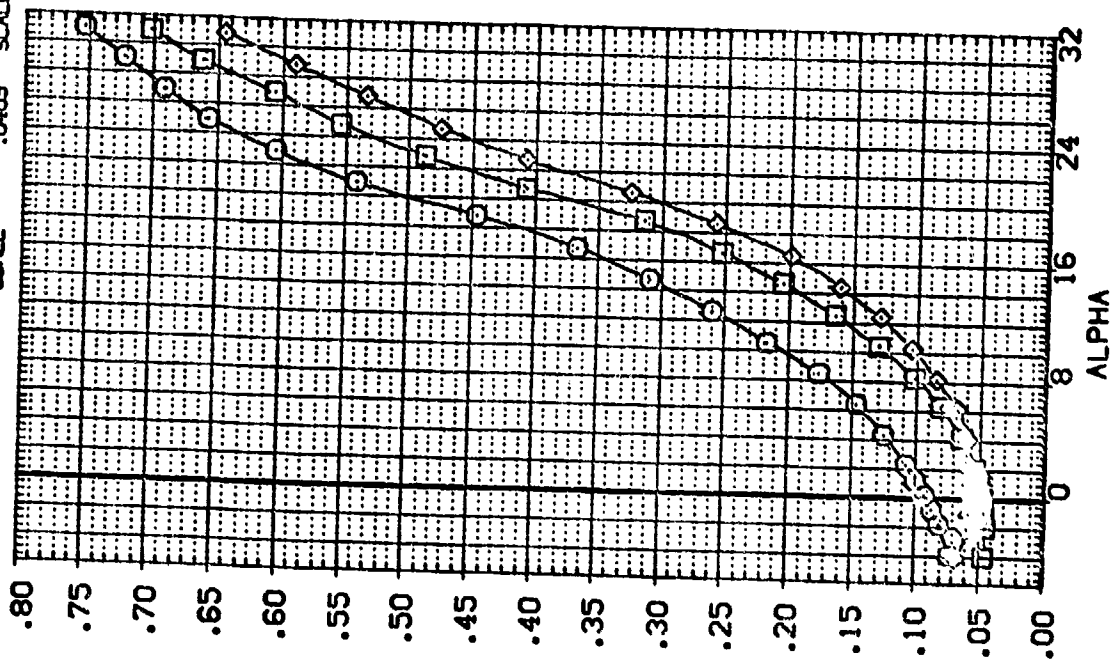
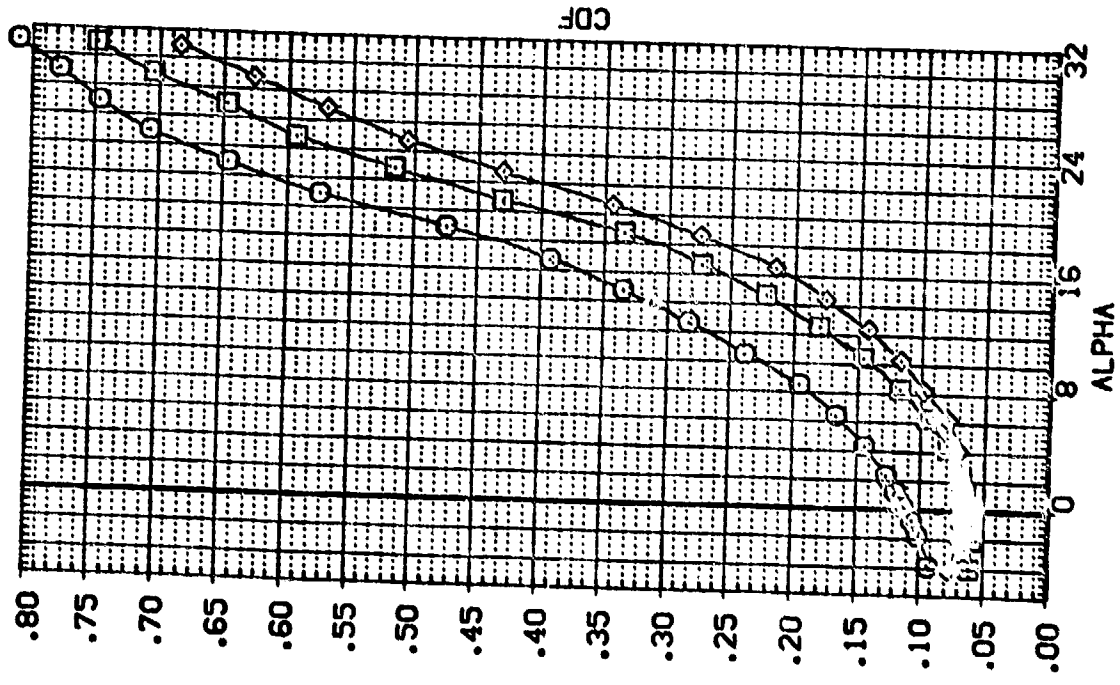


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950
 (A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ADDRESS) (ADDRESS) (ADDRESS) (ADDRESS)

Q71C B18C5D7J3571V87 E18V3R3X10

Q71C B18C5D7J3571V87 E18V3R3X10

Q71C B18C5D7J3571V87 E18V3R3X10

ELEVON NACA/L NACA/LP NACA/TA

15.000 .000 7.000 5.000

.000 .000 7.000 5.000

-10.000 .000 7.000 5.000

REFERENCE INFORMATION

SREF 4.4122 SQ. FT.

LREF 19.2233 INCHES

BREF 37.9349 INCHES

XREF 43.5974 INCHES

YREF .0000 INCHES

ZREF 16.2000 INCHES

SCALE .0405 SCALE

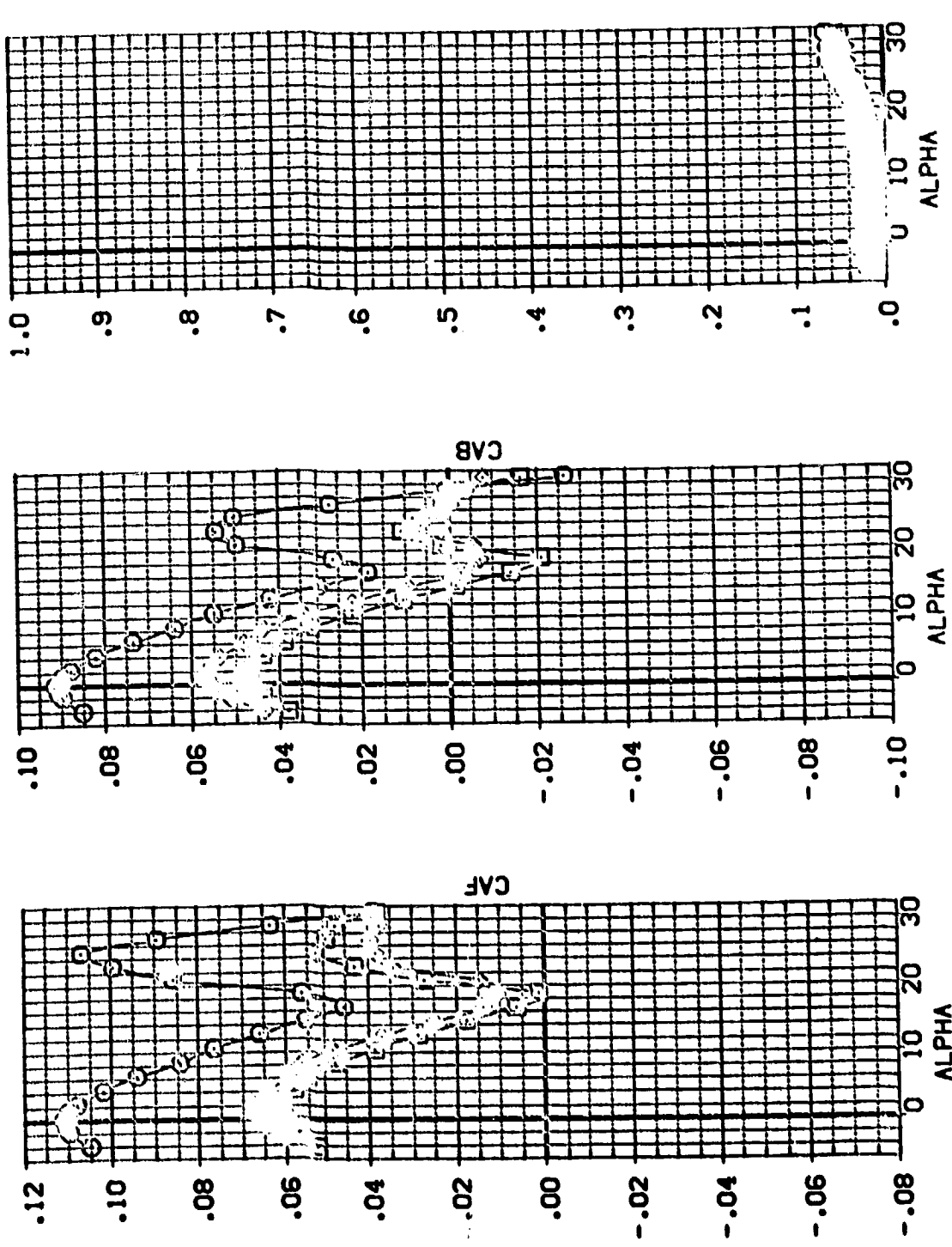


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ065) H B:SC574.25F1V87 E18V3R0X10
 (ADJ067) H B:SC574.25F1V87 E18V3R0X10
 (ADJ068) D B:SC574.25F1V87 E18V3R0X10

ELEVON	NACA	NACIP	NACSTA	SPEF	REFERENCE INFORMATION
15.000	.000	7.000	5.000	4.4122	50. FT.
.000	.000	7.000	5.000	19.2223	INCHES
-10.000	.000	7.000	5.000	37.9343	INCHES
				43.5974	INCHES
				.0000	INCHES
				16.2000	INCHES
				.0405	SCALE

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ065) H B:SC574.25F1V87 E18V3R0X10
 (ADJ067) H B:SC574.25F1V87 E18V3R0X10
 (ADJ068) D B:SC574.25F1V87 E18V3R0X10

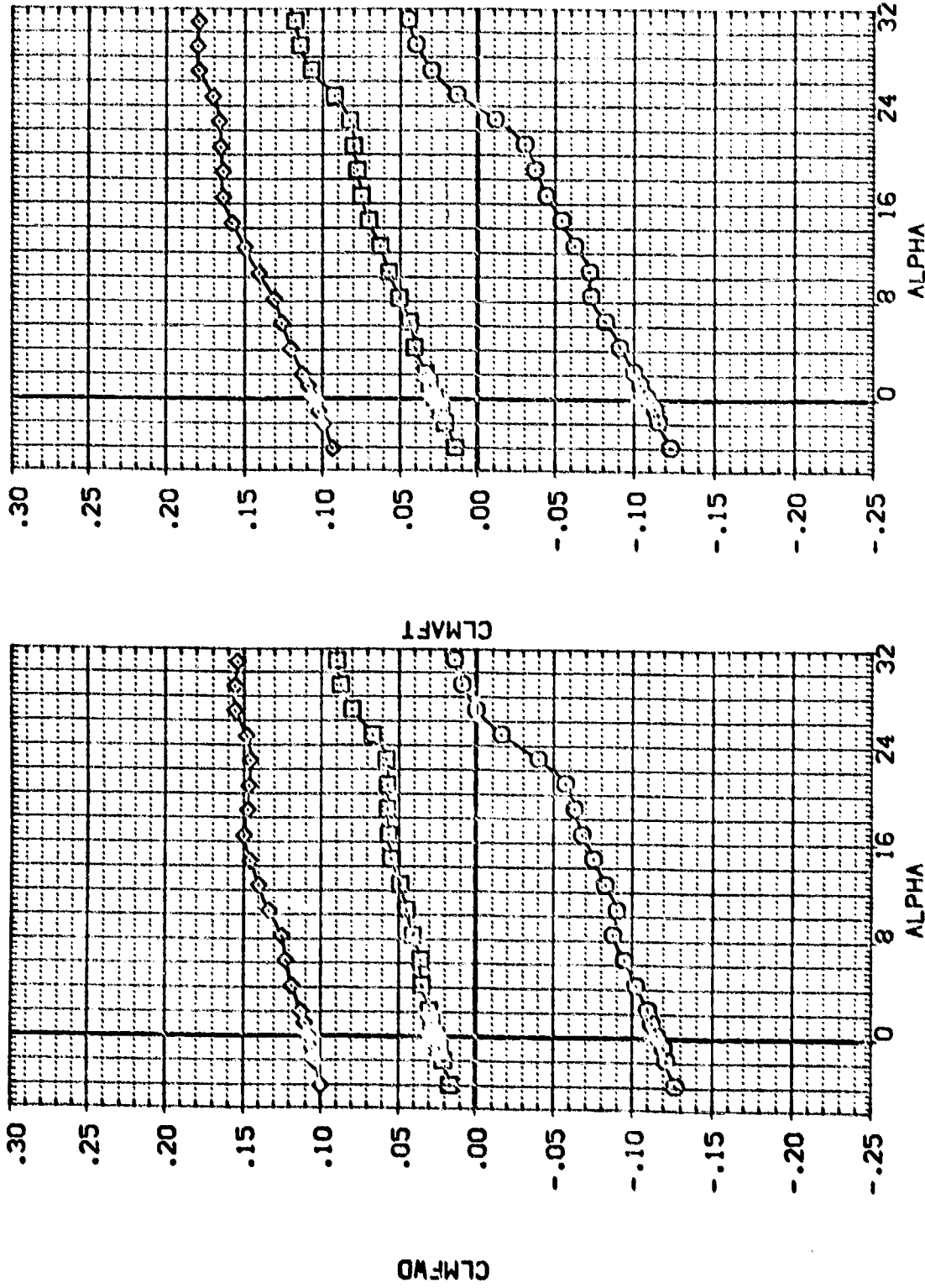


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950
 (A)MACH = .20 PAGE 200

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACX/L	MACY/LP	MACZ/TA	REFERENCE INFORMATION
(ADDRESS)	CAT1C B1E5C37N1E71V67 E18V32X1C	15.000	.000	7.000	5.000	SREF 4.4122 SO.FT
(ADDRESS)	CAT1C B1E5C37N1E71V67 E18V32X1C	.000	.000	7.000	5.000	LREF 19.2293 IN.OES
(ADDRESS)	CAT1C B1E5C37N1E71V67 E18V32X1C	-10.000	.000	7.000	5.000	XREF 37.9343 IN.OES
						YREF 43.9974 IN.OES
						ZREF .0000 IN.OES
						SCALE 16.2000 IN.OES
						SCALE .0425

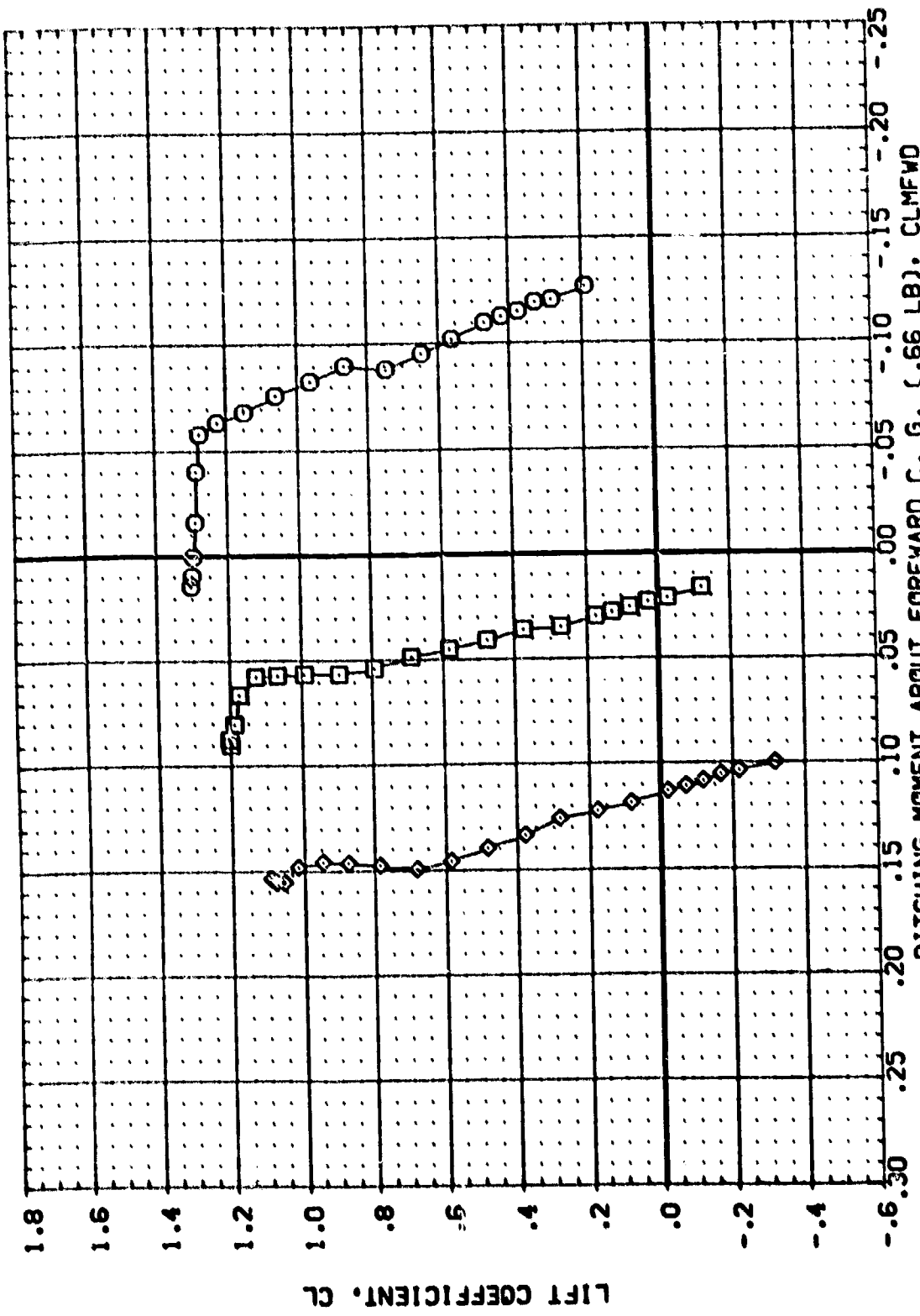


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MAC/L	MAC/LIP	MAC/BTA	REFERENCE INFORMATION
(A0065)	DA71C 818C507435F 1V87 E18V3R3A10	15.000	.000	7.000	5.000	4.4122 50.FT.
(A0067)	DA71C 818C507435F 1V87 E18V3R3A10	.000	.000	7.000	5.000	19.2228 10.FES
(A0065)	DA71C 818C507435F 1V87 E18V3R3A10	-10.000	.000	7.000	5.000	37.9349 10.FES
						43.5574 10.FES
						16.2000 10.FES
						16.2000 10.FES
						SCALE

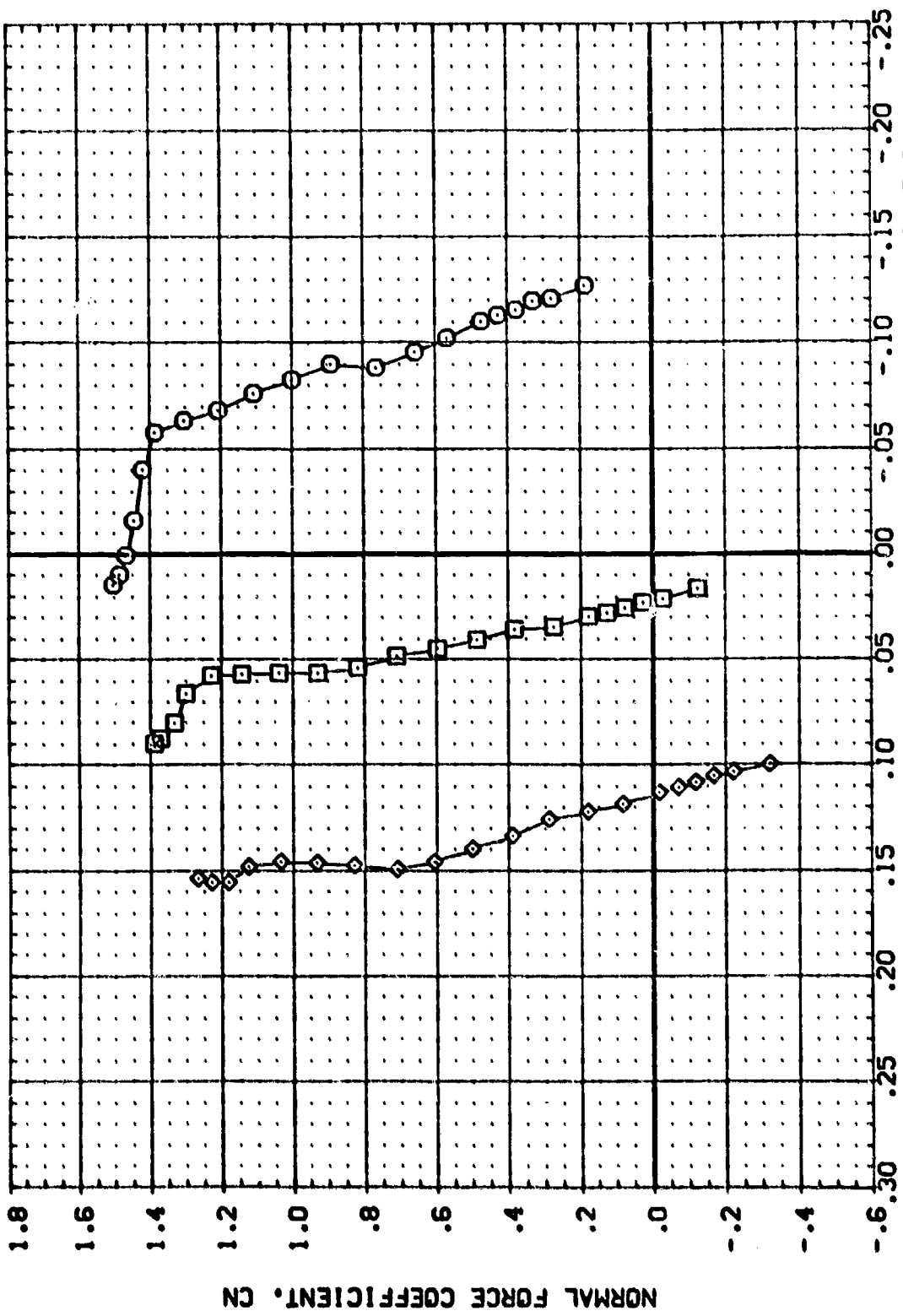


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING XO = 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADL065) (ADL067) (ADL068) (ADL069)

ELEVON MACVL NAOLIP NACBTA
 15.000 .000 7.000 5.000
 .000 .000 7.000 5.000
 -10.000 .000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 XREF 37.5349 INCHES
 YREF 43.5374 INCHES
 ZREF .0000 INCHES
 SCALE 16.2000 INCHES
 .0405 SCALE

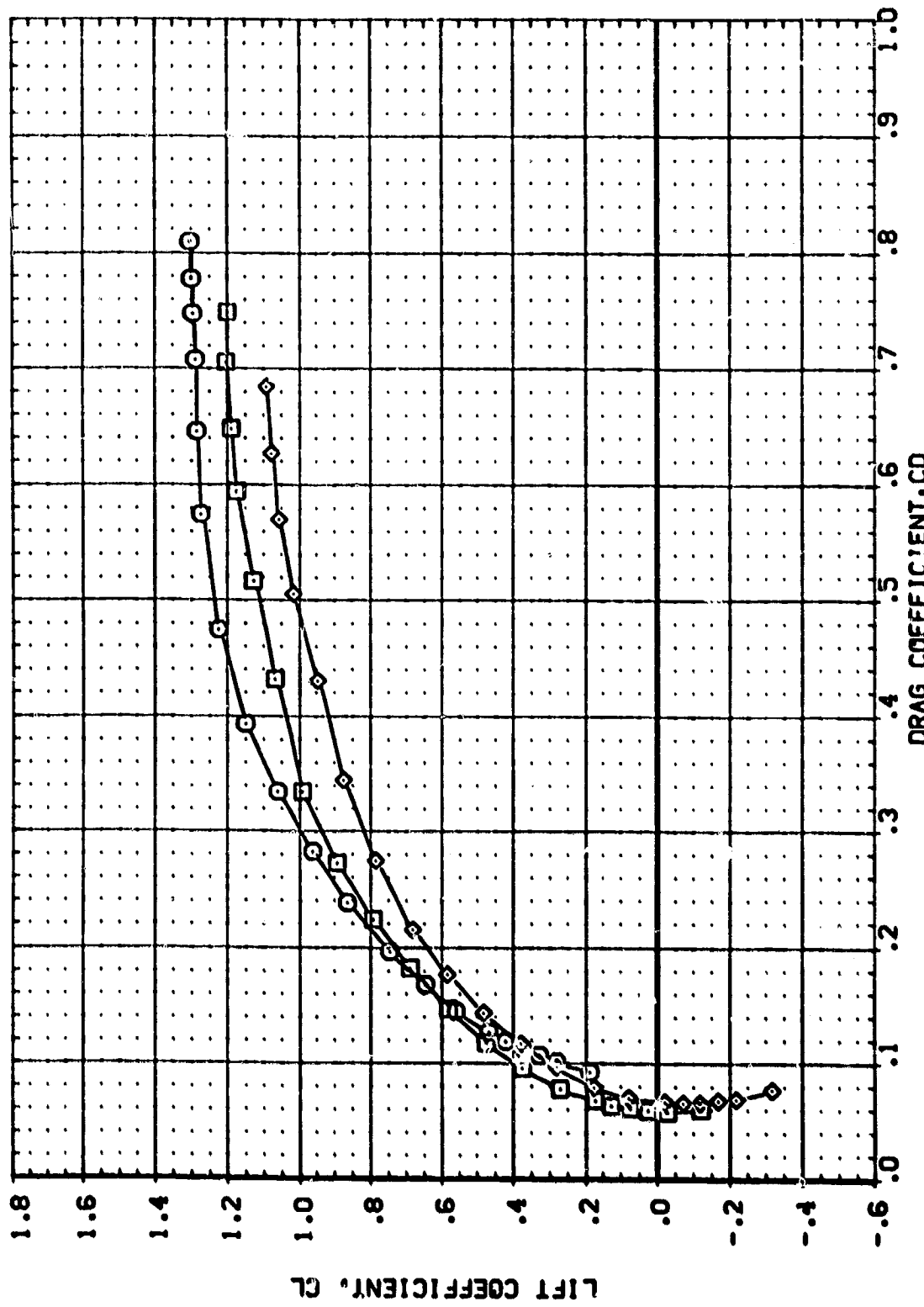


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BOL066)	CA71C	B16CSD7135F1V87	E19V3R3X10
(BOL067)	CA71C	B16CSD7135F1V87	E18V3R3X10
(BOL068)	CA71C	B16CSD7135F1V87	E18V3R3X10

ELEVON

ELEVON	NACX/L	NAQLIP	NACBTA	REFERENCE INFORMATION
15.000	.000	7.000	5.000	SREF 4.4122 SQ. FT.
.000	.000	7.000	5.000	LREF 19.2255 INCHES
-10.000	.000	7.000	5.000	BREF 37.5349 INCHES
				XTRP 43.5974 INCHES
				YTRP .0000 INCHES
				ZTRP 16.2000 INCHES
				SCALE .0405

LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

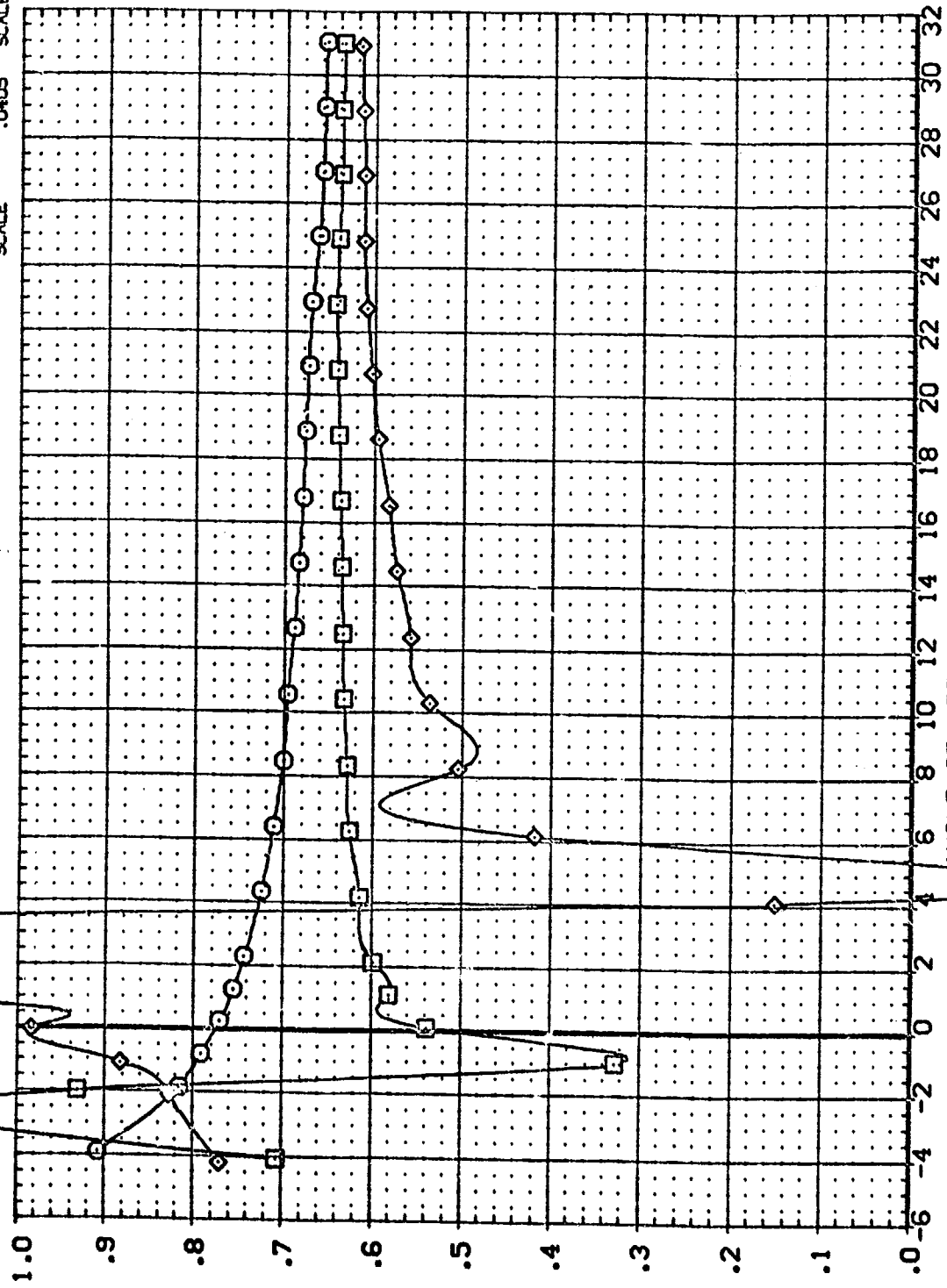


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950
 (A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACX/L	NACL/P	NACSTA	REFERENCE INFORMATION
(820055)	0A71C B16C50743SF1V87 E18V2R0X10	15.000	.000	7.000	5.000	SREF 4.4122 50.FT.
(820057)	0A71C B16C50743SF1V87 E18V3R0X10	0.000	.000	7.000	5.000	LREF 19.2299 INCHES
(820058)	0A71C B16C50743SF1V87 E18V3R0X10	-10.000	.000	7.000	5.000	BREF 37.9249 INCHES
						XREF 43.5574 INCHES
						YREF 0.0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

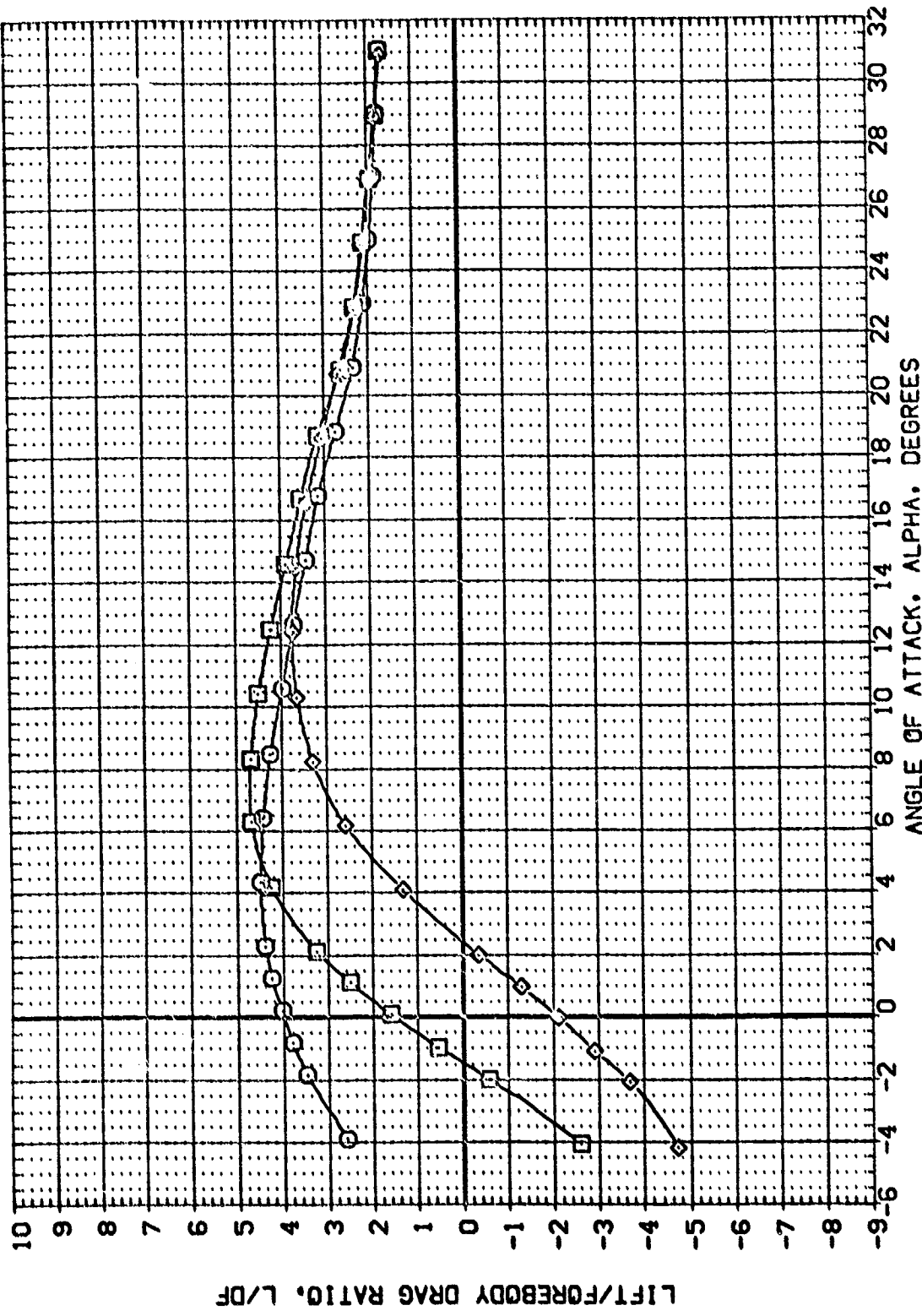


FIG 14 ELEVON EFFECTIVENESS - CLUSTERED NACELLES - 2 OVERWING X0 = 950

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	MACH	MCLIP	MAGN	REFERENCE INFORMATION
(EJL065)	2:1877/187	15.000	7.000	7.000	SPR	4.4122
(EJL067)	3:1877/187	5.000	7.000	7.000	UPR	19.2223
(EJL068)	3:1877/187	-10.000	7.000	7.000	MPR	37.9243
					ZMP	43.5974
					SCALE	16.2000
					SCALE	.0405

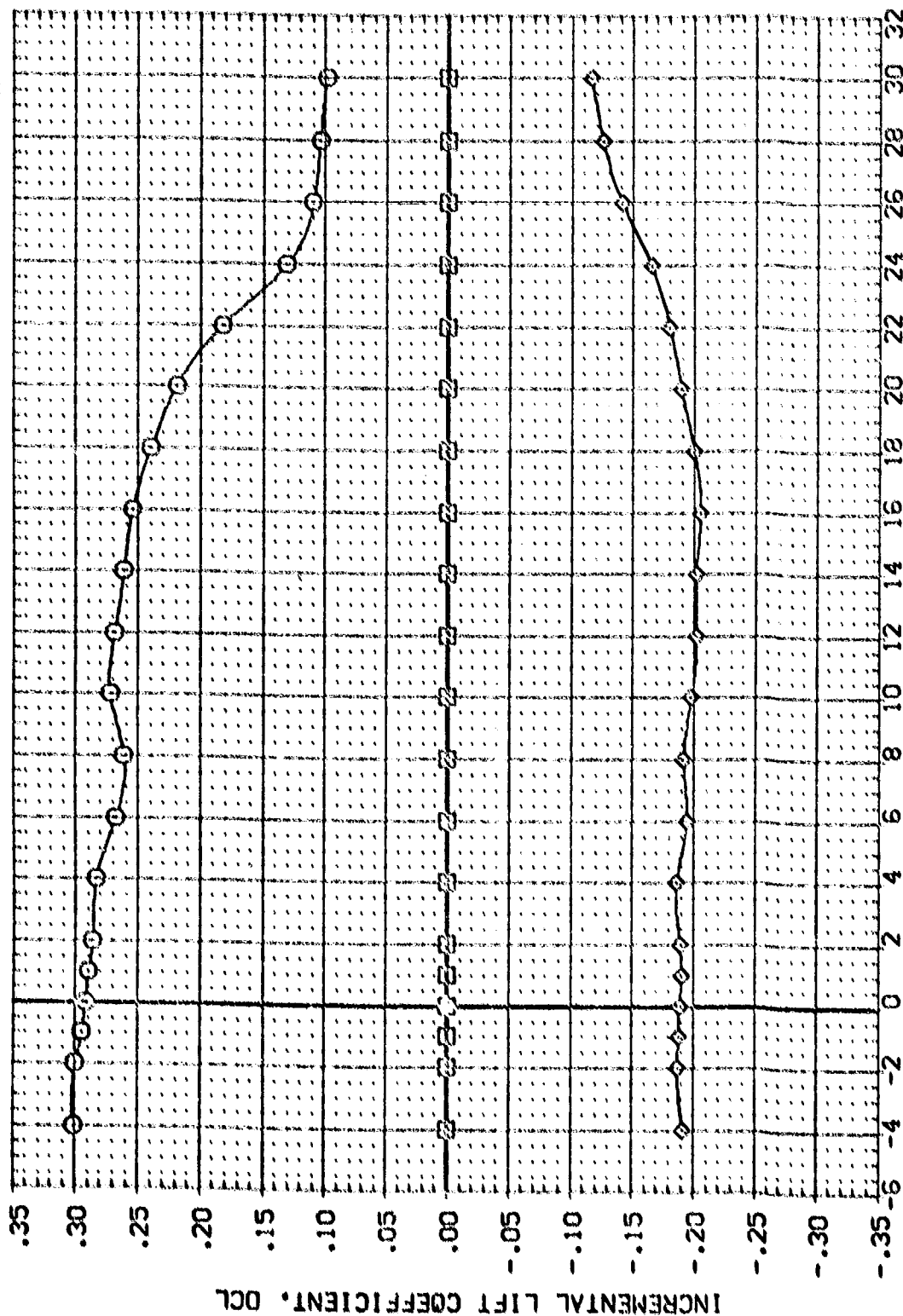


FIG 15 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED MACELLES 2 OVERWING XO = 950

CADMACH = .21

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DELTA	WIND/C	WIND/P	WIND/T	REFERENCE INFORMATION
1	2-1-15	15.000	.300	7.000	5.000	4.4-20
2	2-1-15	15.000	.300	7.000	5.000	4.4-20
3	2-1-15	15.000	.300	7.000	5.000	4.4-20
4	2-1-15	15.000	.300	7.000	5.000	4.4-20
5	2-1-15	15.000	.300	7.000	5.000	4.4-20
6	2-1-15	15.000	.300	7.000	5.000	4.4-20
7	2-1-15	15.000	.300	7.000	5.000	4.4-20
8	2-1-15	15.000	.300	7.000	5.000	4.4-20
9	2-1-15	15.000	.300	7.000	5.000	4.4-20
10	2-1-15	15.000	.300	7.000	5.000	4.4-20
11	2-1-15	15.000	.300	7.000	5.000	4.4-20
12	2-1-15	15.000	.300	7.000	5.000	4.4-20
13	2-1-15	15.000	.300	7.000	5.000	4.4-20
14	2-1-15	15.000	.300	7.000	5.000	4.4-20
15	2-1-15	15.000	.300	7.000	5.000	4.4-20
16	2-1-15	15.000	.300	7.000	5.000	4.4-20
17	2-1-15	15.000	.300	7.000	5.000	4.4-20
18	2-1-15	15.000	.300	7.000	5.000	4.4-20
19	2-1-15	15.000	.300	7.000	5.000	4.4-20
20	2-1-15	15.000	.300	7.000	5.000	4.4-20
21	2-1-15	15.000	.300	7.000	5.000	4.4-20
22	2-1-15	15.000	.300	7.000	5.000	4.4-20
23	2-1-15	15.000	.300	7.000	5.000	4.4-20
24	2-1-15	15.000	.300	7.000	5.000	4.4-20
25	2-1-15	15.000	.300	7.000	5.000	4.4-20
26	2-1-15	15.000	.300	7.000	5.000	4.4-20
27	2-1-15	15.000	.300	7.000	5.000	4.4-20
28	2-1-15	15.000	.300	7.000	5.000	4.4-20
29	2-1-15	15.000	.300	7.000	5.000	4.4-20
30	2-1-15	15.000	.300	7.000	5.000	4.4-20
31	2-1-15	15.000	.300	7.000	5.000	4.4-20
32	2-1-15	15.000	.300	7.000	5.000	4.4-20

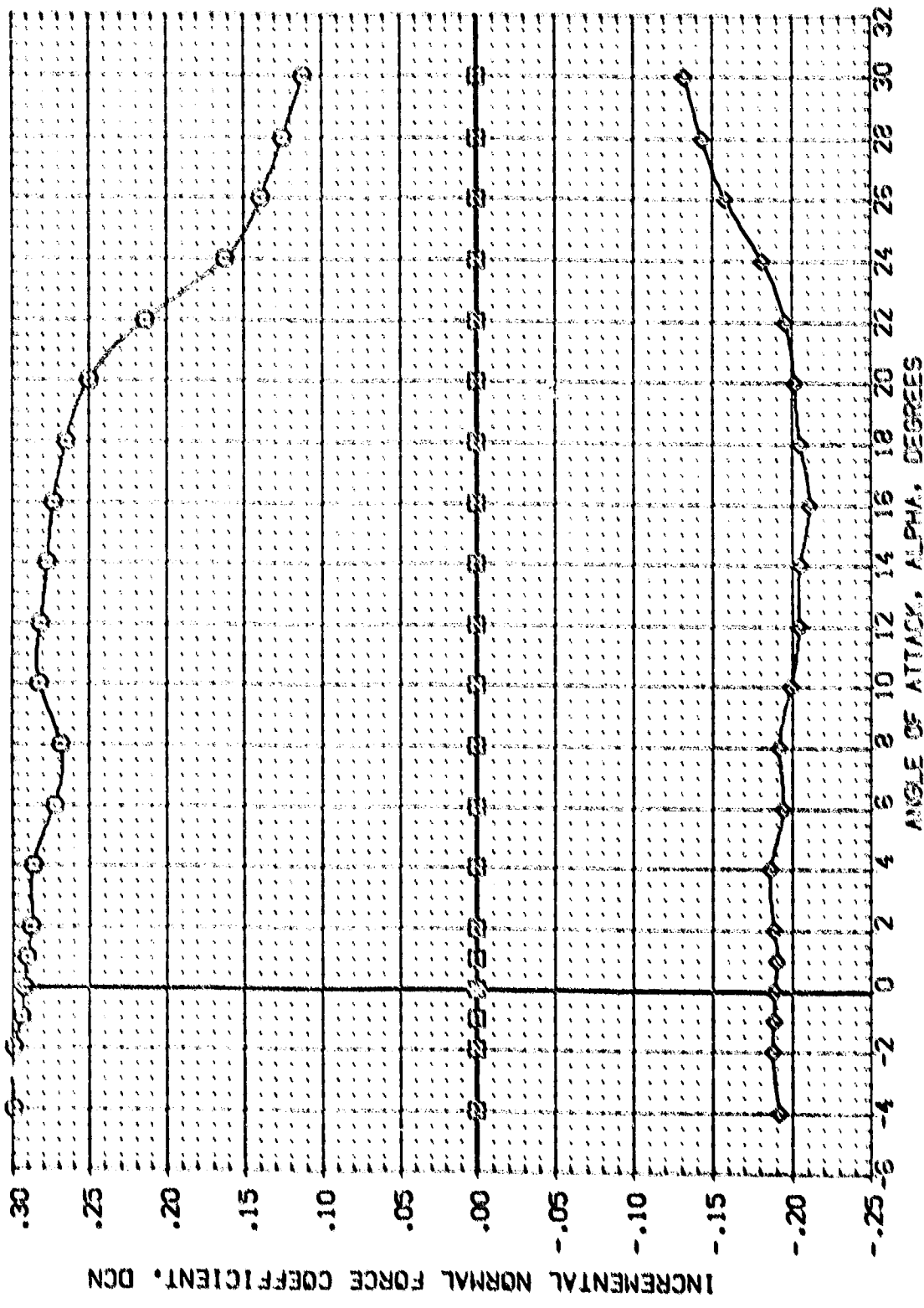


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED WAGELLES 2 OVERWING Y9 = 950
 CASMACH = .21
 PAGE 207

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EDGES) 0 818C507435F 1V87 E18V3R3X10
 (EDGES) 0 818C507435F 1V87 E18V3R3X10
 (EDGES) 0 818C507435F 1V87 E18V3R3X10

DELTA NACA MACLIP NACBETA REFERENCE INFORMATION
 15.000 .006 .000 5.000 SPEC 4.4122 SQ.FT.
 .000 .000 .000 5.000 LREF 19.2228 INCHES
 -10.000 .000 .000 5.000 ZREF 37.9249 INCHES
 .000 .000 .000 .000 XREF 43.5574 INCHES
 .000 .000 .000 .000 YREF 15.2000 INCHES
 .000 .000 .000 .000 ZREF 15.2000 INCHES
 .000 .000 .000 .000 SCALE .0435 SCALE

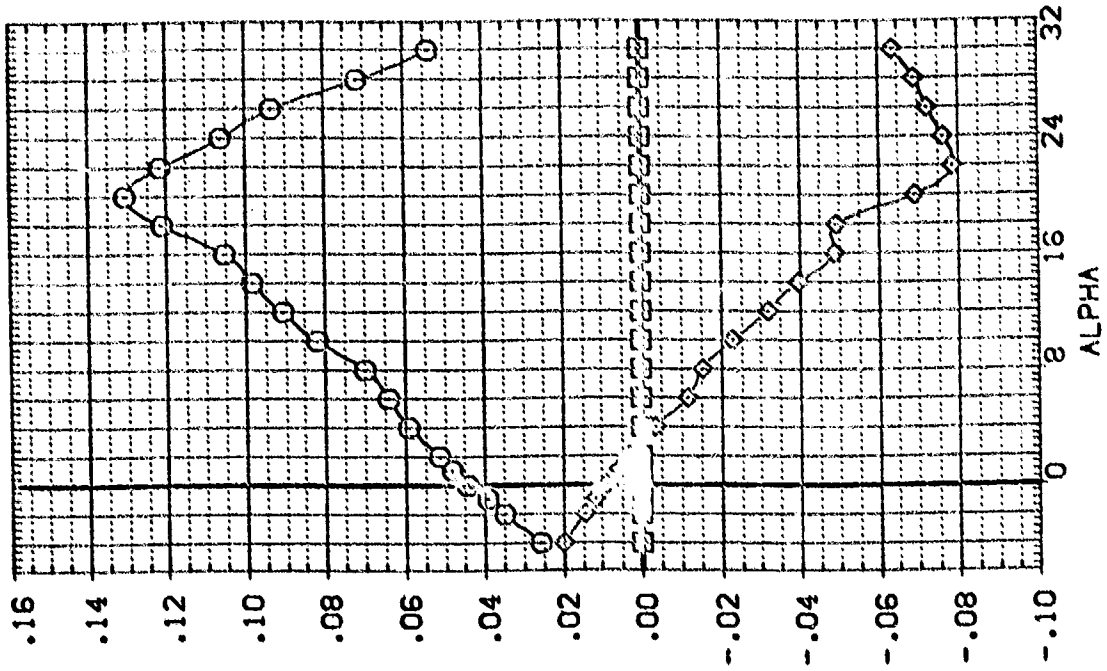
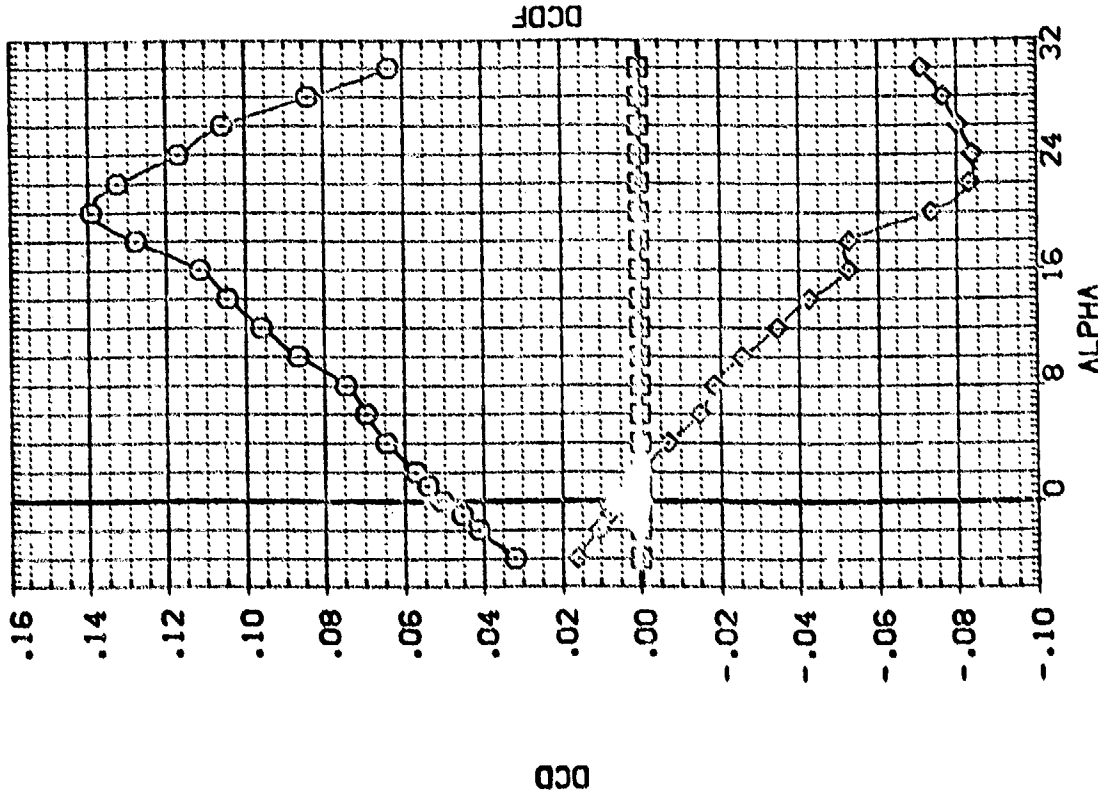


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950
 (A)MACH = .21 PAGE 208

DATA SET SYMBOL
 (EDGES)
 (EDGES)
 (EDGES)

CONFIGURATION DESCRIPTION
 CA71C B16557435E 1V87 E18V3R2X10
 CA71C B16557435E 1V87 E18V3R2X10
 CA71C B16557435E 1V87 E18V3R2X10

DELTA
 15.000
 -10.000

MACVA
 .000
 .000
 .000

MACLIP
 7.000
 7.000
 7.000

MAGSTA
 5.000
 5.000
 5.000

REFERENCE INFORMATION
 SPET 4.4122 SO.FT.
 LREF 19.2258 INCHES
 SREF 27.9249 INCHES
 XREF 43.5274 INCHES
 YREF .0000 INCHES
 ZREF 15.2000 INCHES
 SCALE .0425 SCALE

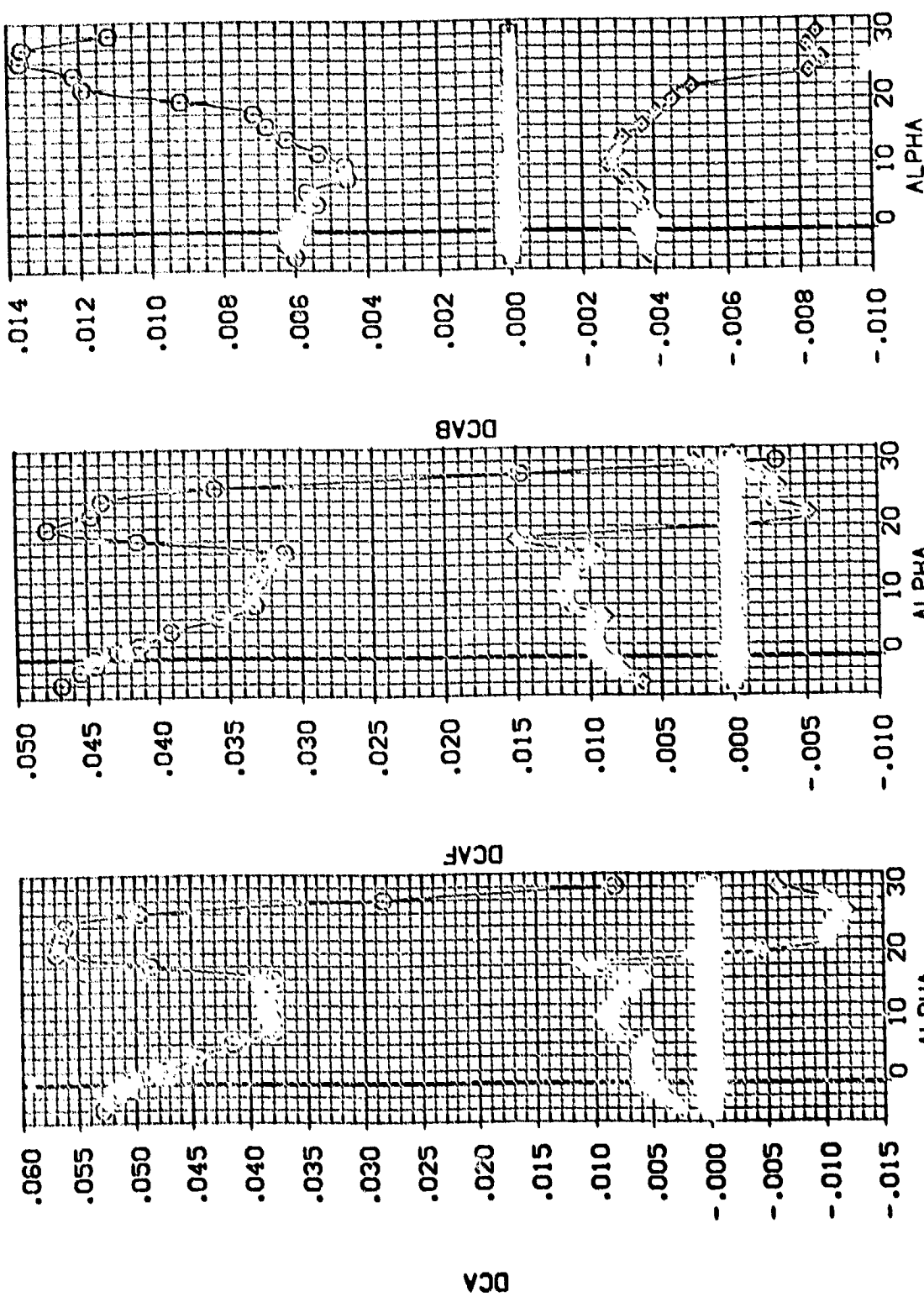
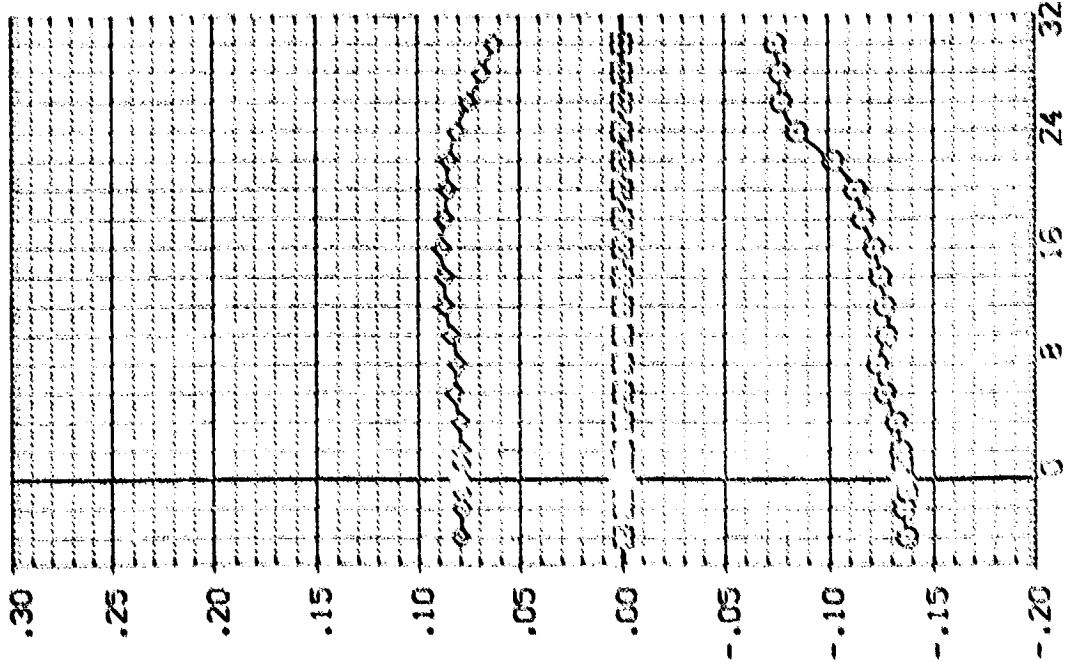


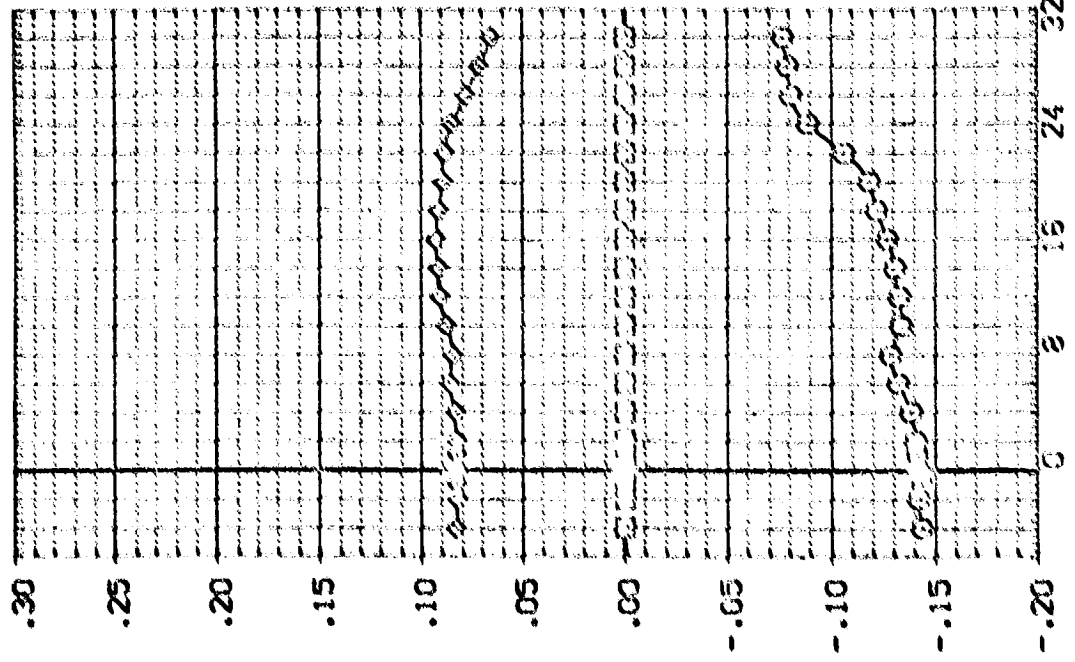
FIG 15 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES 2 OVERWING XO = 950
 (A)MACH = .21
 PAGE 209

DATA SET SYMBOL: 000000
 CONFIGURATION DESCRIPTION: 000 000 000 000 000 000
 DATE: 000000
 TIME: 000000
 USER: 000000

DELTA	INCL	INCL P	MAGNETA	REFERENCE INFORMATION
15.000	.000	7.000	5.000	4.4122
10.000	.000	7.000	5.000	13.2228
-10.000	.000	7.000	5.000	27.5043
				42.5874
				57.0000
				71.0000
				85.0000
				100.0000
				115.0000
				130.0000
				145.0000
				160.0000
				175.0000
				190.0000
				205.0000
				220.0000
				235.0000
				250.0000
				265.0000
				280.0000
				295.0000
				310.0000
				325.0000



DCMFT



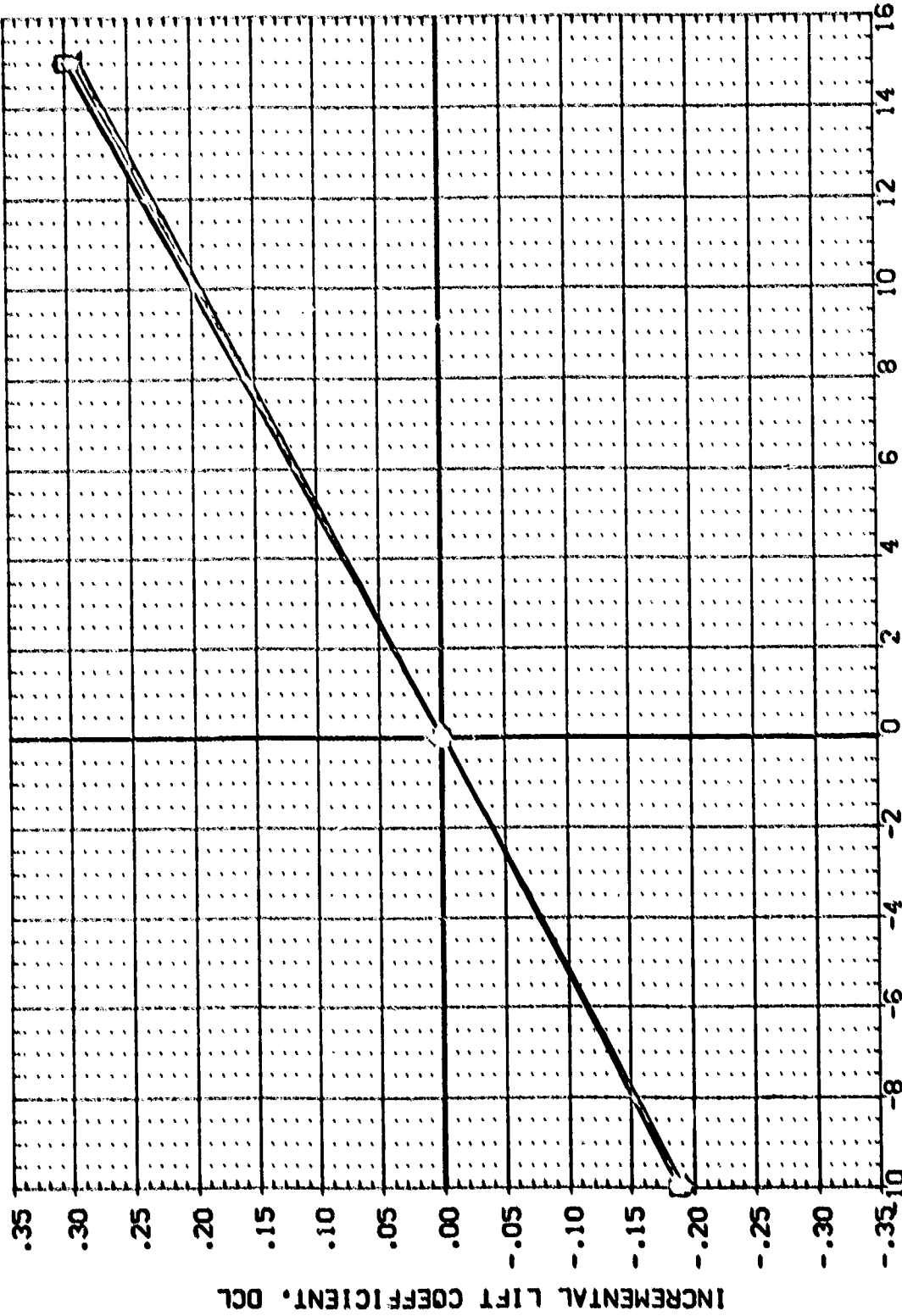
DCMFD

FIG 15 INCREMENTAL EFFECT OF ELEVENTH CLUSTERED MAGNETS 2 OVERWING $\gamma = 950$
 GAMMA = .21 PAGE 210

(EDUC66)

CA71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELTA	REF	REFERENCE INFORMATION
○	-4.000	EDUP	.21C	DELTA	EDU67	.000	LRF	4.4122
◇	-2.000	MACH	-18.000	EDU68			YRF	19.2253
△	-1.000	BETA	7.000	EDU69			ZRF	37.9243
▽	.000		.000				SCALE	43.9274
	1.000							16.2000
								.0000



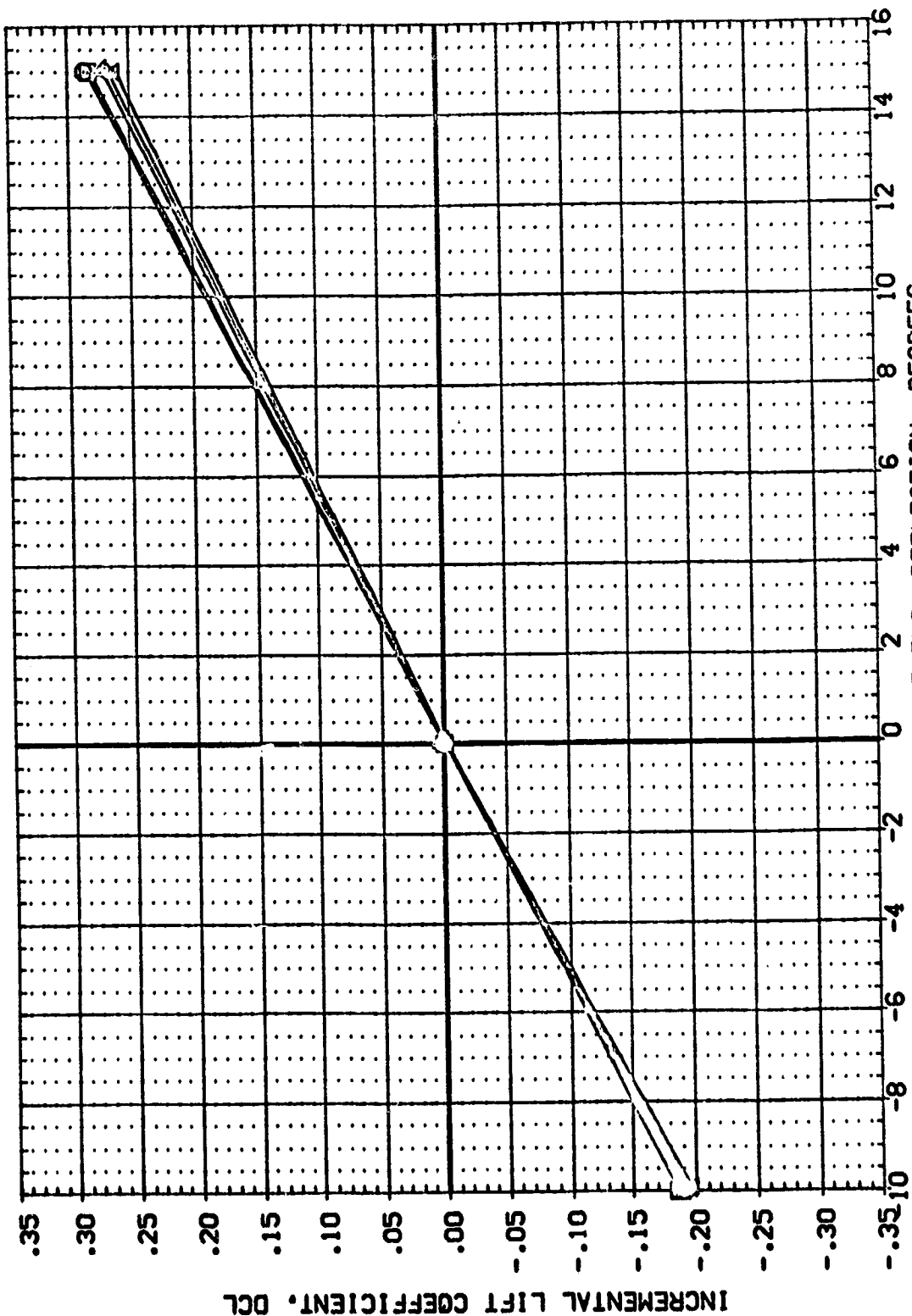
INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED MACELLES 2 OVERWING X0 = 950

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DEL.VON	SREF	REFERENCE INFORMATION
○	2.000	80FLAP	.210 AILRON	DEL.VON	.000	.000	LREF	4.4122 SO.FT.
□	4.000	MACH	-18.000 NACKVL	EDJ055	EDU067	.000	BREF	19.2298 INCHES
◇	6.000	NACLIP	7.000 NACBTA	EDJ056			XREF	37.9349 INCHES
△	8.000	BETA	.000 RUDDER				YREF	43.5974 INCHES
▽	10.000						ZREF	16.2000 INCHES
							SCALE	.0405 SCALE



INCREMENTAL EVELON DEFLECTION, DEGREES

INCREMENTAL EFFECT OF EVELONS -CLUSTERED NACELLES 2 OVERWING X0 = 950

PAGE 212

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	EDFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
○	12.000					.210 AILRON	DELVON	EDU067	.000	SREF	SO.FT.
□	14.000					-18.000 NACL/L	15.000			LREF	INCHES
◇	16.000					7.000 NACBTA	-10.000			XREF	INCHES
△	18.000					.000 RUDDER				YREF	INCHES
	20.000									ZREF	INCHES
										SCALE	SCALE

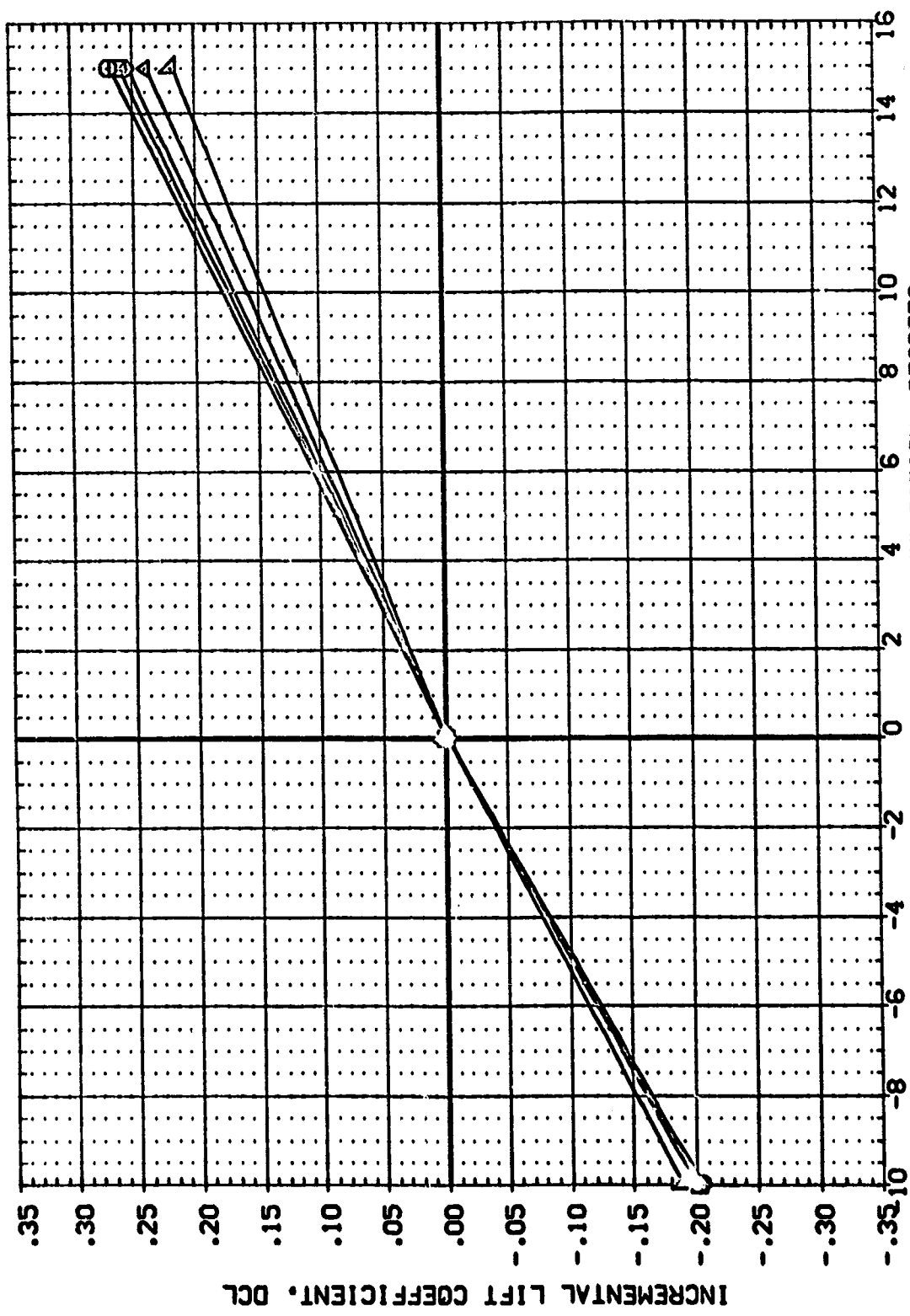


FIG 15 INCREMENTAL EFFECT OF ELEVONS - CLUSTERED NACELLES 2 OVERWING XO = 950

(EDU066)

0A71C B16C5D7J35FIW87 E18V3R3X10

SYMBOL	ALPHA	MACH	80FLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DEL VON	DATASET	EDU067	DEL VON	SCALE	REFERENCE INFORMATION
○	22.000					.210	DEL VON	.000	EDU068				SO.FT.
□	24.000					-18.000	DEL VON	15.000	EDU069				INCHES
◇	26.000					7.000	DEL VON	-10.000	EDU070				INCHES
△	28.000					.000	DEL VON		EDU071				INCHES
▽	30.000					.000	DEL VON		EDU072				INCHES
							SCALE						SCALE

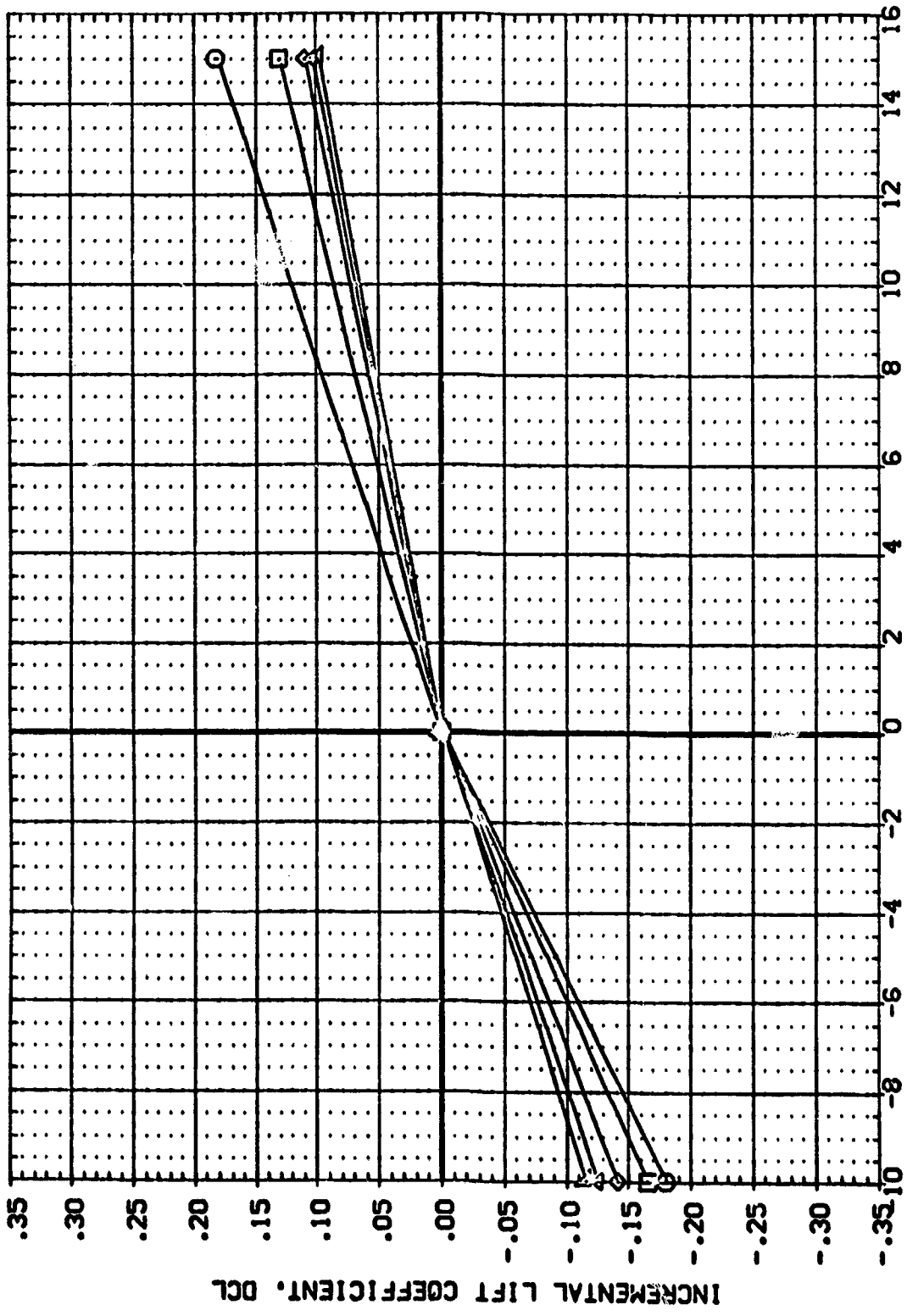
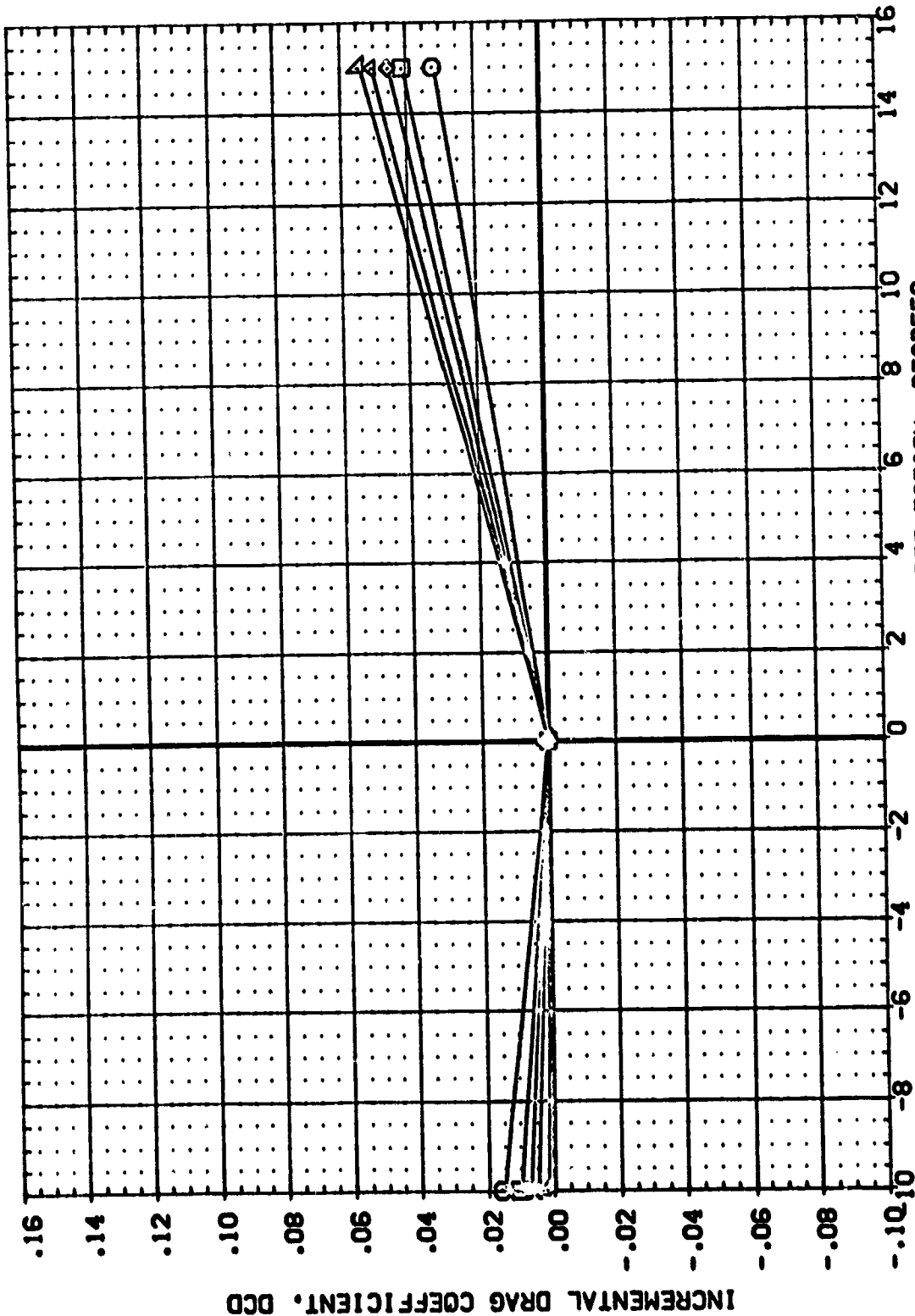


FIG 15 INCREMENTAL EFFECT OF ELEEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950
PAGE 214

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBL	ALPHA	MACH	BOFLAP	BETA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
□	-4.000				AILRON	DEL VON	4.4122 SQ.FT.
□	-2.000				NACX/L	DEL VON	19.2259 INCHES
□	-1.000				NACSTA	EDU067	37.9349 INCHES
△	.000				RUDDER	DEL VON	43.5974 INCHES
△	1.000					Y-PP	.0000 INCHES
						Z-PP	16.2000 INCHES
						SCALE	.0405



INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950
PAGE 215

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DELTA	DELTA	DELTA	SCALE	REFERENCE INFORMATION
○	2.000		.210	.000	.000	.000	.000		4.4122
□	4.000	BDFLAP	-18.000	.000	.000	.000	.000		19.2299
◇	6.000	NACLIP	7.000	.000	.000	.000	.000		37.9349
△	8.000	BETA	.000	.000	.000	.000	.000		43.5974
▽	10.000			5.000	.000	.000	.000		.0000
									16.2000
									.0405
									SCALE

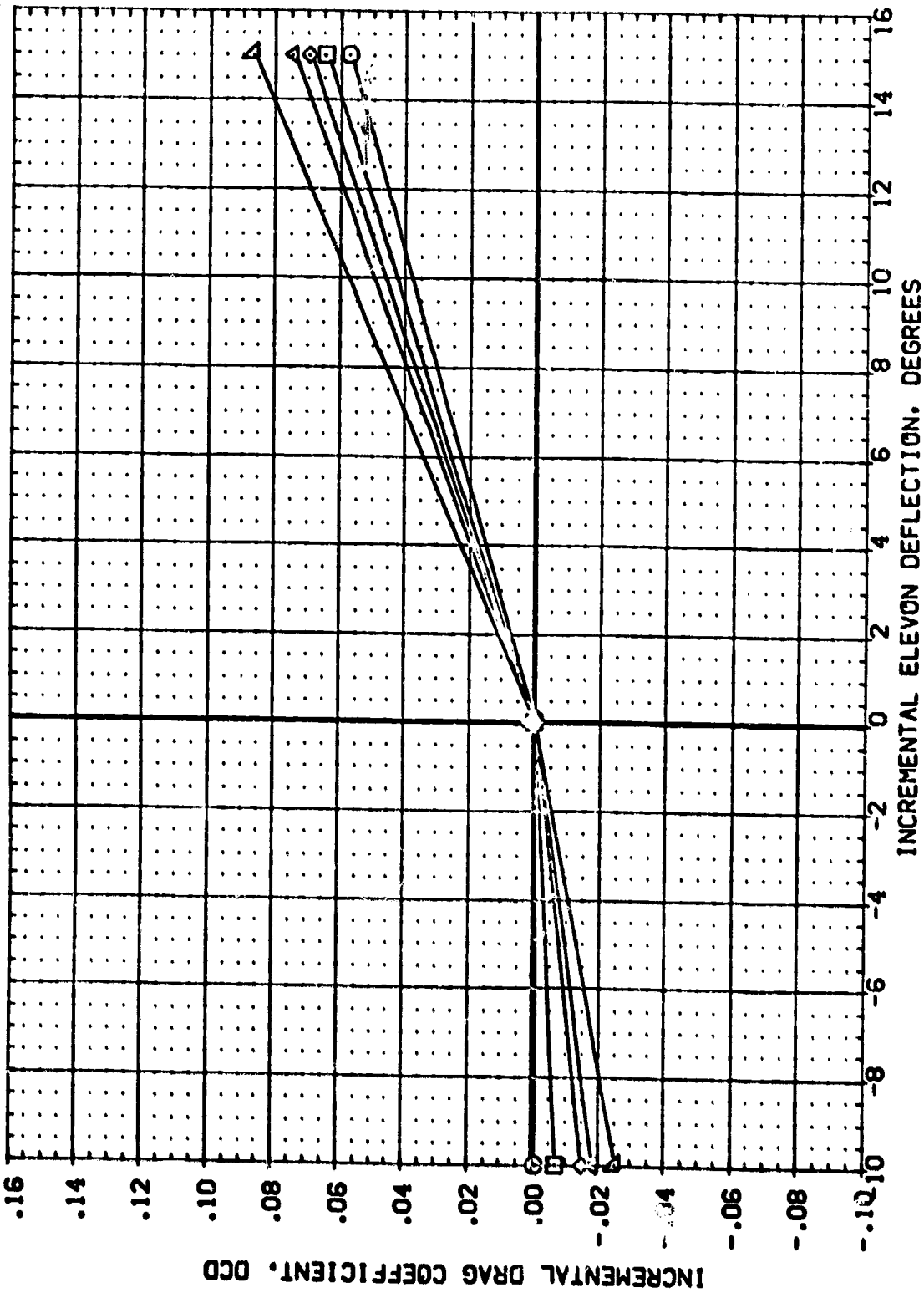


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950

(EDU066)

CA71C B16C507J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		DATASET		DELTVN		SREF		REFERENCE INFORMATION	
□	○	MACH	.210	AIRRON	.000	DATASET	.000	EDU067	.000	LREF	4.4122	SO.FT.	INCHES		
◇	△	EDFLAP	-18.000	MACH/L	.000	EDU068	.000	EDU067	.000	XREF	19.2299	INCHES	INCHES		
		M/CLIP	7.000	MACH/L	5.000	EDU069	-10.000			YREF	43.5974	INCHES	INCHES		
		BETA	.000	RUDER	.000					ZREF	16.2000	INCHES	INCHES		
										SCALE	.0405	INCHES	SCALE		

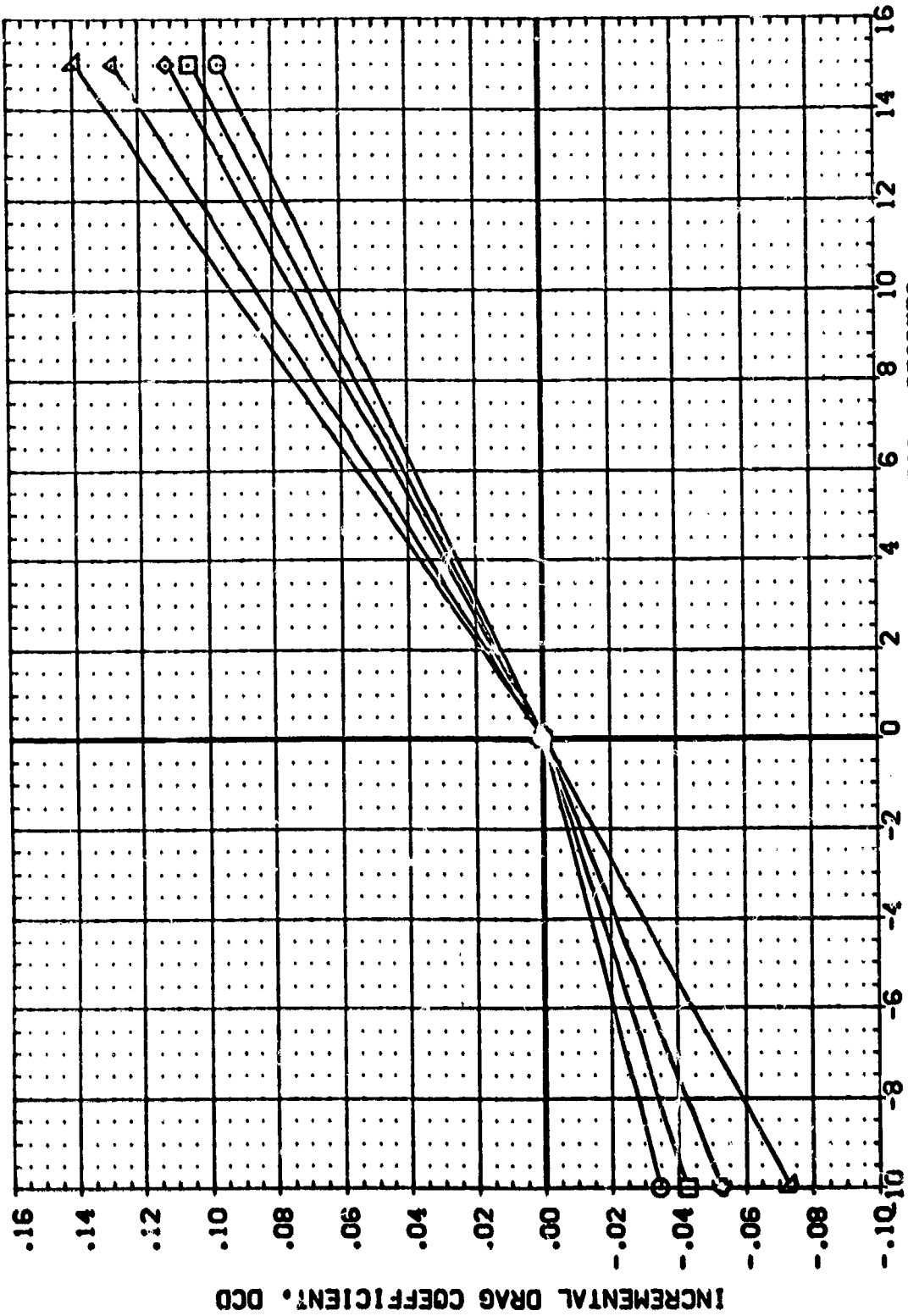


FIG 15 INCREMENTAL EFFECT OF ELEVLONS -CLUSTERED M/CELLES 2 OVERWING XO = 950

(EDU066)

0A71C B16C507J35F1W87 E:8V3R3X1C

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION			
○	22.000	BOF:AF	.210	AILRON	.000	DATASE	DELVON	SREF	4.4122	SO.FT.		
□	24.000	NACLIP	-18.000	NACX/L	.000	EDU066	DELVON	LREF	19.2299	INCHES		
◇	26.000	BETA	7.000	NACBTA	5.000	EDU066	DELVON	XPRP	37.9349	INCHES		
△	28.000		.000	RUDDER	.000		DELVON	YPRP	43.5974	INCHES		
▽	30.000						DELVON	ZPRP	16.2000	INCHES		
								SCALE	.0405	SCALE		

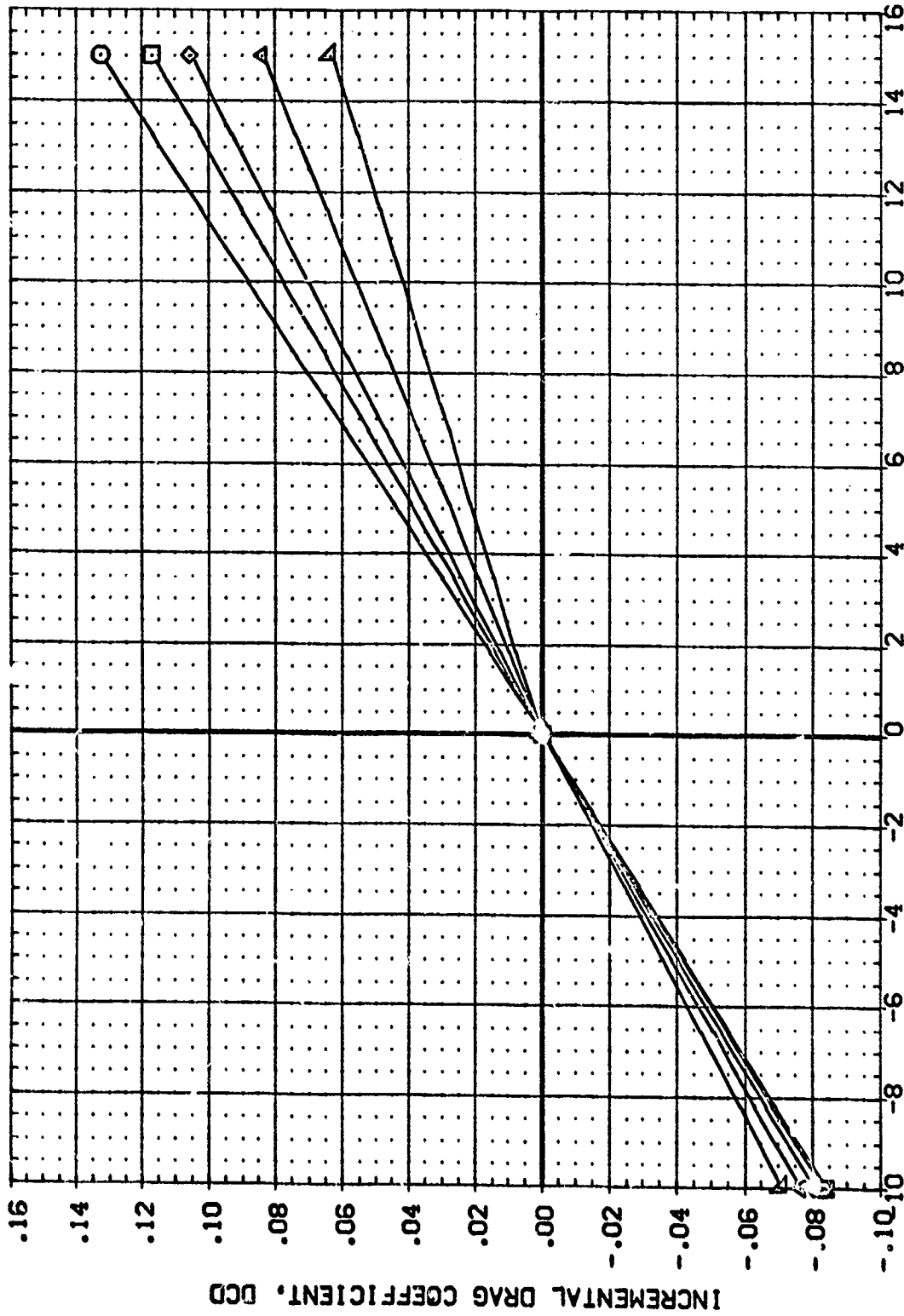
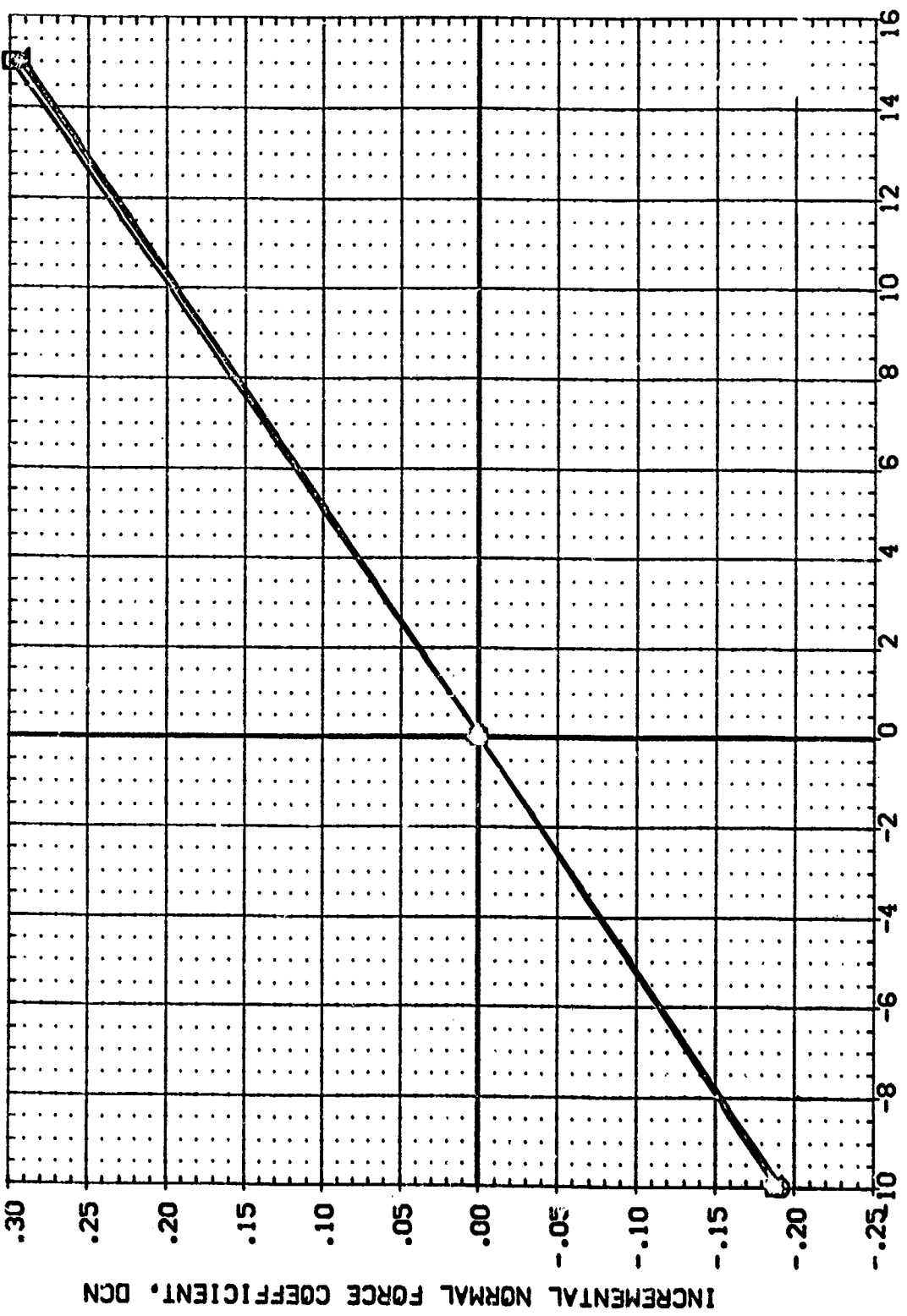


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950
PAGE 218

0A71C B16C5D7J35F1W87 E18V3R3X10 (EDU06G)

SYMBOL	ALPHA	MACH	EDFLAP	EDCLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELTON	EDLOSS	EDUGSS	DELTON	EDUOS7	DELTON	SCALE	REFERENCE INFORMATION
○	-4.000					.210	DELTON	.000	.000	.000	.000	.000	.000		4.4122
□	-2.000					-18.000	DELTON	15.000							19.2299
△	-1.000					7.000	EDLOSS	-10.000							37.9349
▽	.000					.000	EDUGSS		5.000						43.5974
△	1.000								.000						16.2000
															.0405
															SO.FT.
															INCHES
															INCHES
															INCHES
															INCHES
															SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950

0A71C B16C5D7J35F1W87 E18V3R3X10 (EDU066)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE	DELTVN	DATASET	DELTVN	SREF	REFERENCE INFORMATION		
○	2.000	BOFLAP	.210	AILRON	.000	.000	EDU066	.000	4.4122	SO.FT.		
□	4.000	NACLIP	-18.000	NACX/L	.000	15.000	EDU067	.000	19.2259	INCHES		
◇	6.000	BETA	7.000	NACBTA	5.000	-10.000			37.5949	INCHES		
△	8.000		.000	RUDDER	.000				43.9974	INCHES		
▽	10.000								16.2000	INCHES		
									.0405	SCALE		

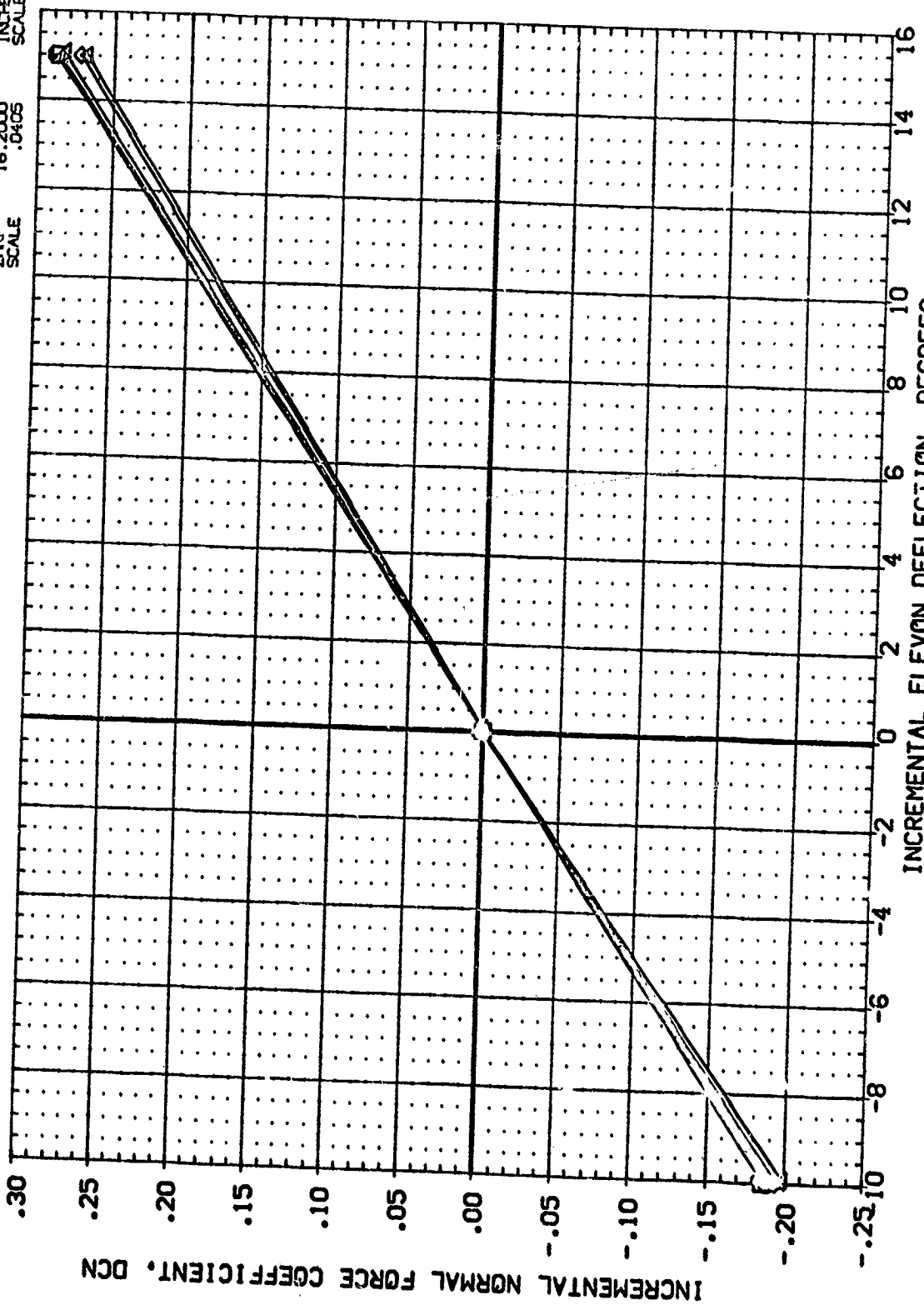


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BDFL/P	NACL/P	BETA	PARAMETRIC VALUES	DATA SOURCE	DEL VCN	SCALE	REFERENCE INFORMATION
○	12.000					AIRCON	.000	.000	4.4122	SO. FT.
□	14.000					MACH/L	.000	.000	19.2259	INCHES
◇	16.000					NAESTA	5.000	.000	37.9349	INCHES
△	18.000					RUDDER	-10.000	.000	43.5974	INCHES
▽	20.000							.000	16.2000	INCHES
									.0405	SCALE

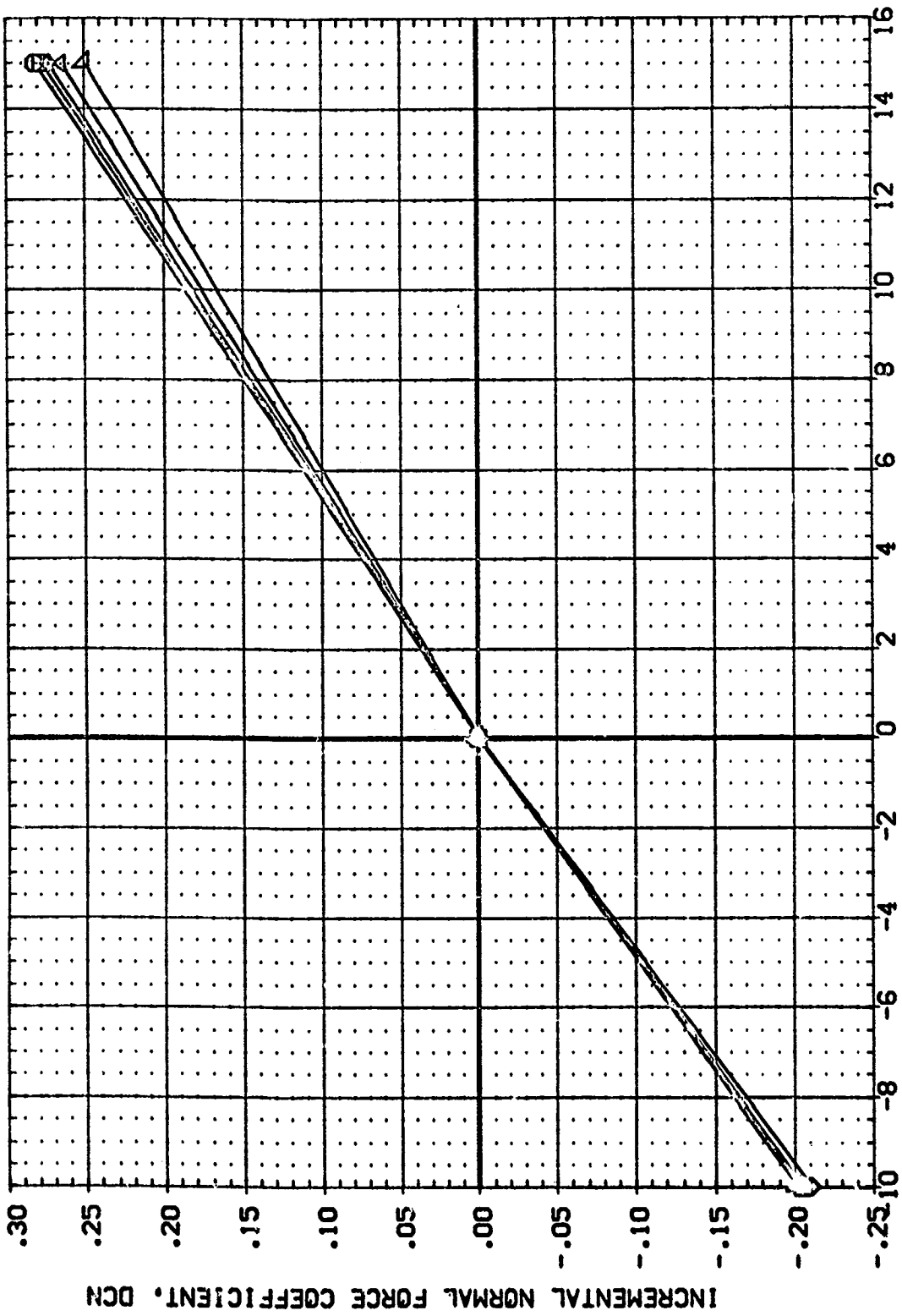


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2.OVERWING XO = 950

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
○	22.000		.210	AILERON	.000	DATASET	DELVON	SREF	4.4122	SO.FT.	
□	24.000	BDFLAP	-18.000	NACX/L	.000	EDLOSS	.000	LREF	19.2299	INCHES	
△	26.000	NACLIP	7.000	NACB/A	5.000	EDUGSS	-10.000	EREF	37.9349	INCHES	
◇	28.000	BETA	.000	RUDDER	.000			XTRP	43.5974	INCHES	
△	30.000							ZTRP	16.2000	INCHES	
								SCALE	.0405	SCALE	

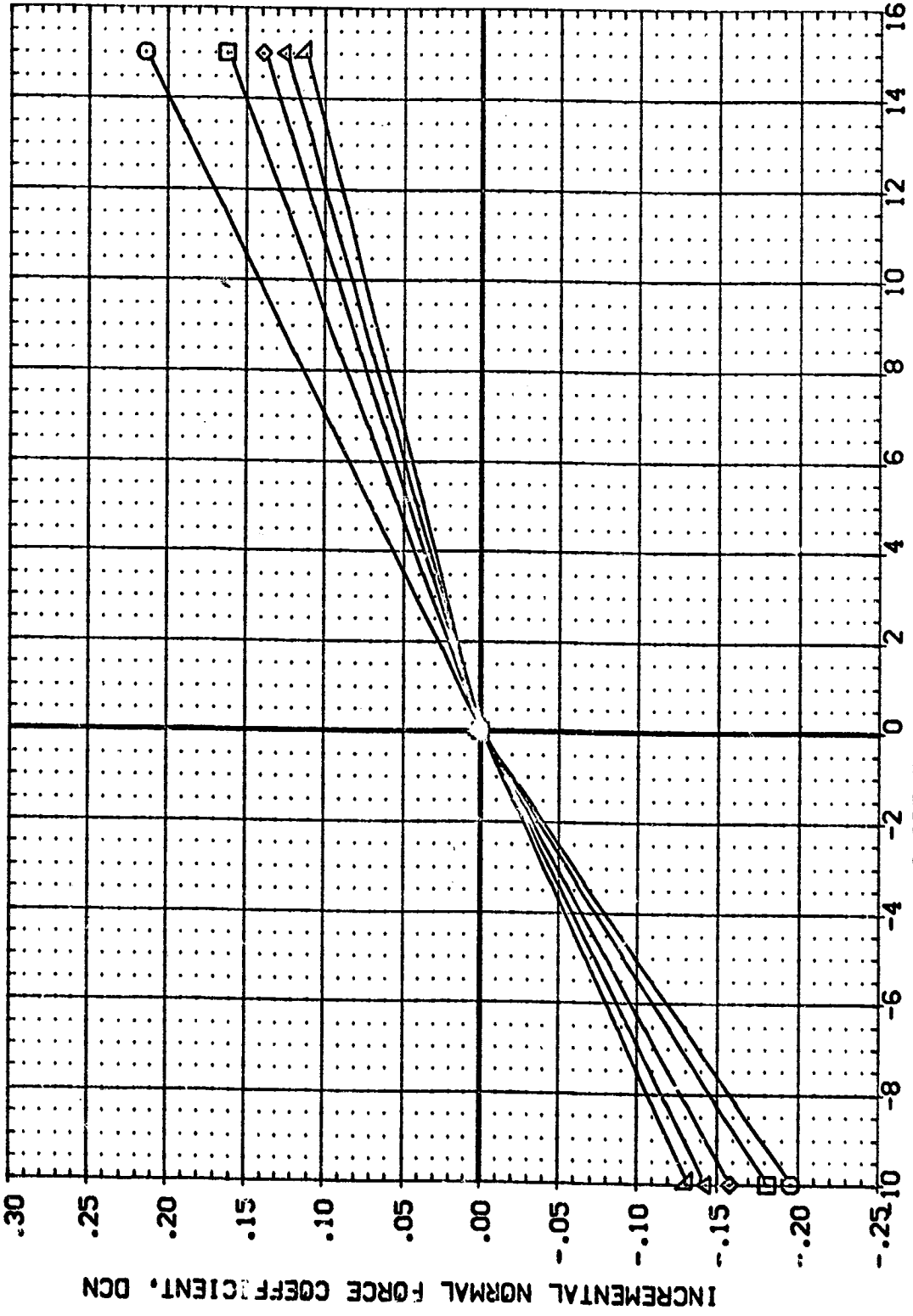


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950
 INCREMENTAL ELEVON DEFLECTION, DEGREES

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBL	ALPHA	MACH	EQFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELTVN	SREF	REFERENCE INFORMATION
○	-4.000					AILRON	DELTVN	EDU067	.000	LREF	SO.FT.
□	-2.000					NACX/L	15.000			BREF	INCHES
◇	-1.000					NACBTA	-10.000			XVGRP	INCHES
△	.000					RUDDER	5.000			YVGRP	INCHES
▽	1.000						.000			ZVGRP	INCHES
										SCALE	SCALE

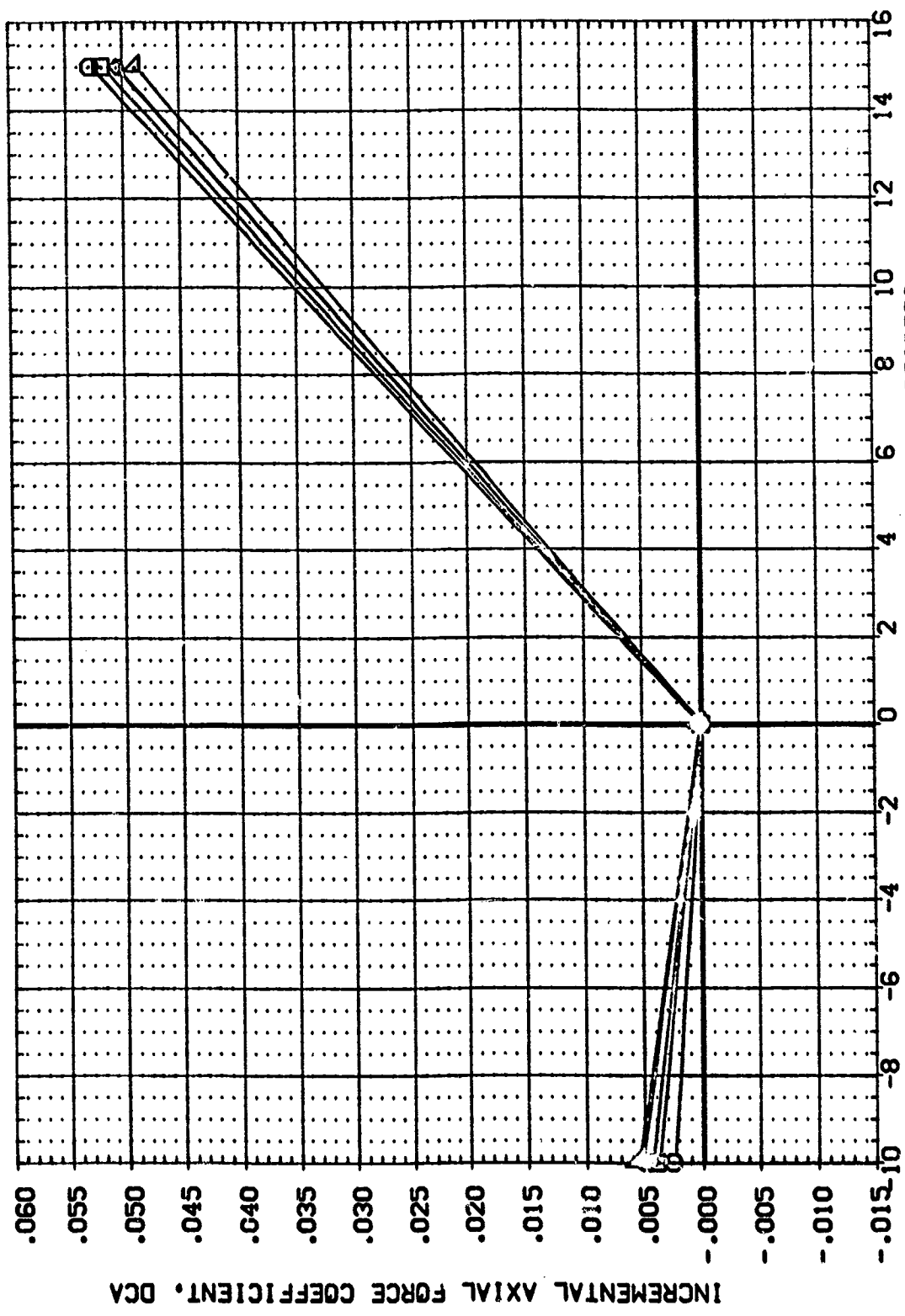


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950
PAGE 223

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		REFERENCE INFORMATION				
ALPHA	MACH	BDFLAP	MAFLAP	BETA	DELVON	DELVON	SREF	LREF	XREF	YREF	ZREF	SCALE
2.000	.210	-18.000	7.000	.000	.000	.000	4.4122	19.2299	37.9349	43.5974	.0000	.0405
4.000					.000	.000						
6.000					5.000	-10.000						
8.000												
10.000												

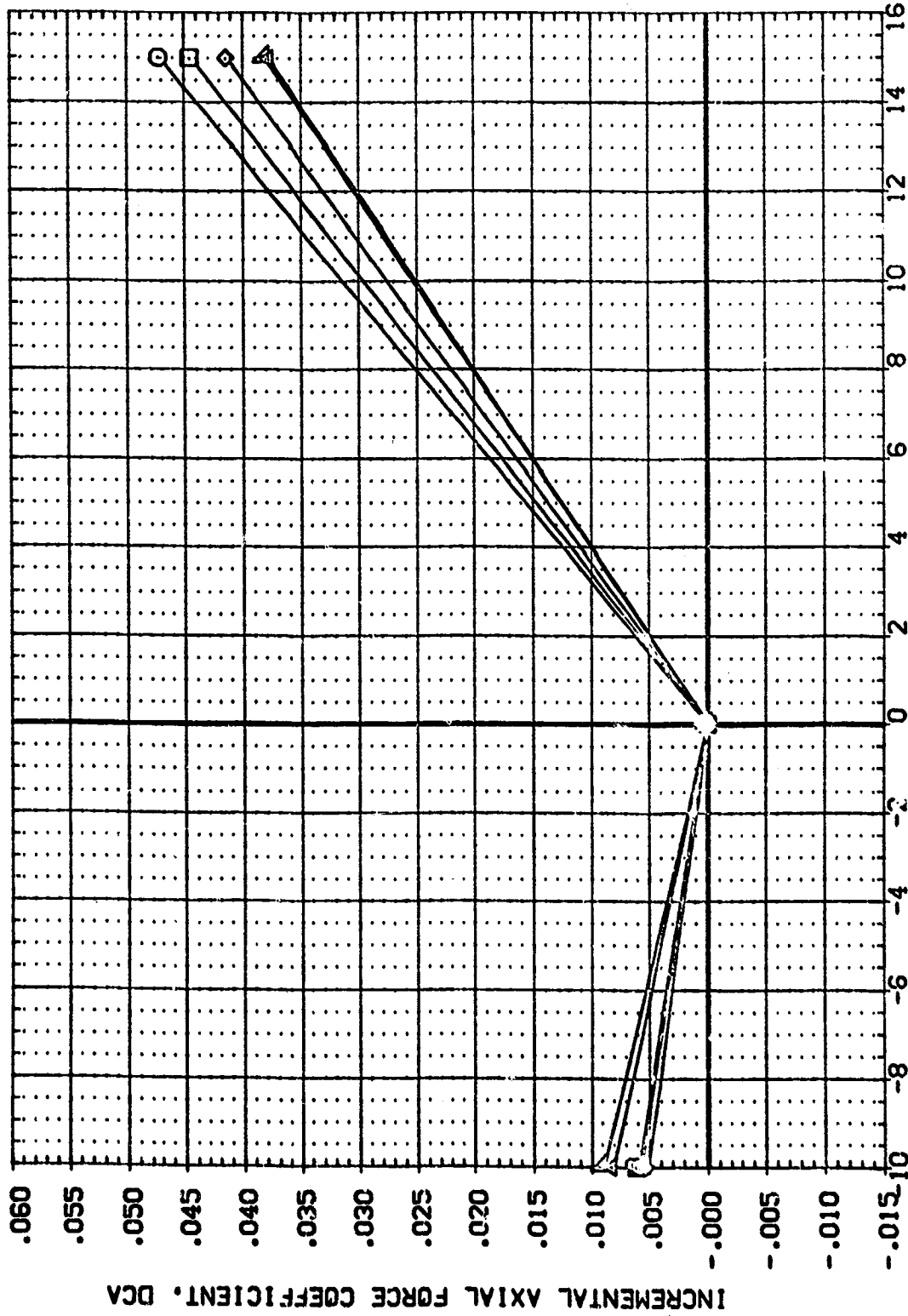


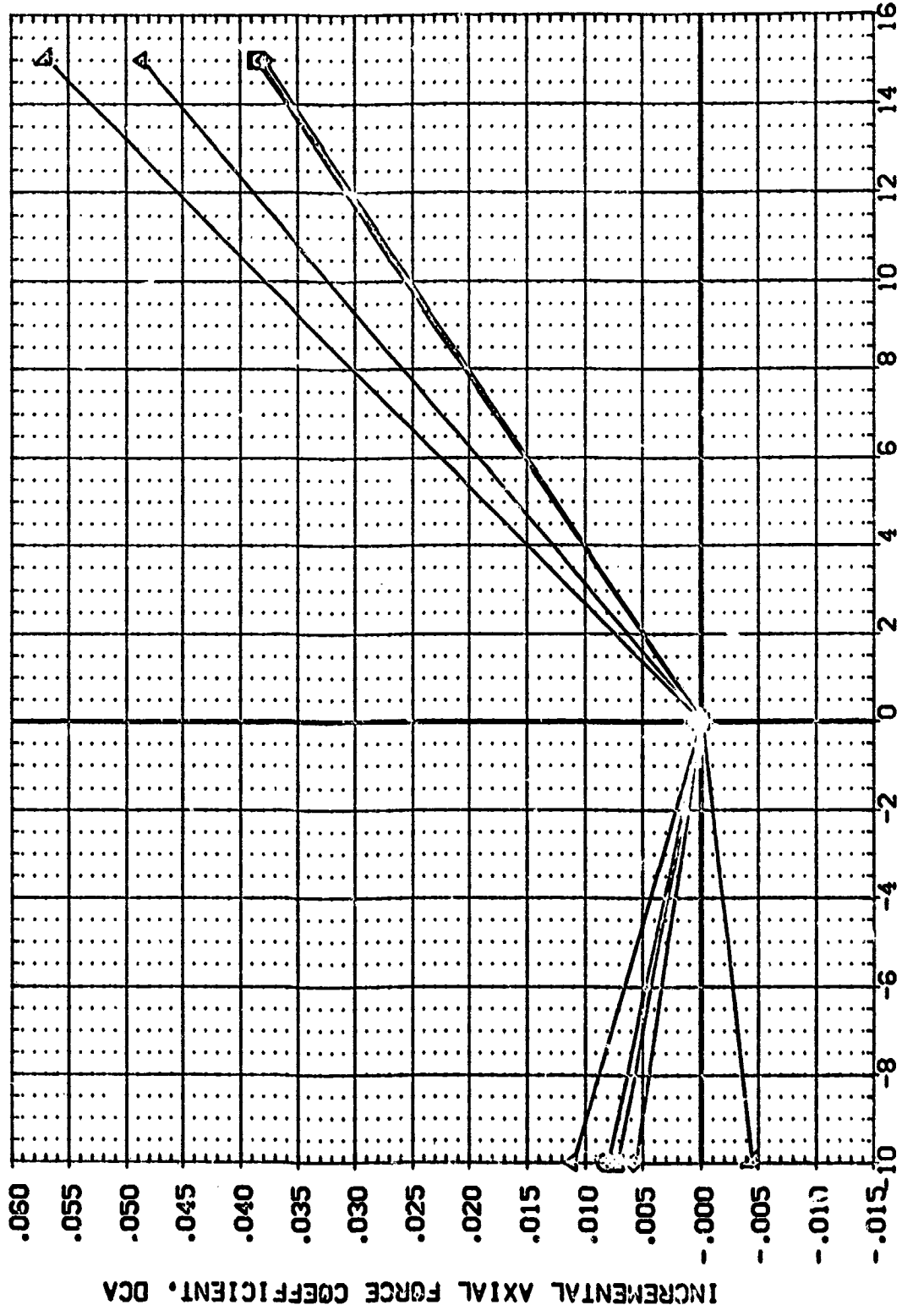
FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950



(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELTVN	SRGF	REFERENCE INFORMATION
○	12.000		.210 AILRN	DELTVN	.000	.000	4.4122	SO.FT.
□	14.000	EDFLAP	-18.000 NACX/L	DELTVN	.000	.000	19.2299	INCHES
◇	16.000	NACLTIP	7.000 NACBTA	EDUGS7	EDUGS	EDUGS	37.5349	INCHES
△	18.000	BETA	.000 RUDDER		EDUGS	EDUGS	43.5574	INCHES
	20.000				EDUGS	EDUGS	16.2000	INCHES
							.0405	SCALE



INCREMENTAL AXIAL FORCE COEFFICIENT, OCA

INCREMENTAL ELEVON DEFLECTION, DEGREES

(EDU066)

GA71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	22.000	.210	A1LRN	DELVON	4.4122 SO.FT.
□	24.000	-18.000	NACVL	DELVON	19.2289 INCHES
◇	26.000	7.000	NACBTA	EDJ067	37.9349 INCHES
△	28.000	.000	RUDER	EDJ068	43.5974 INCHES
▽	30.000	.000		EDJ069	16.2000 INCHES
				SCALE	.0405 SCALE

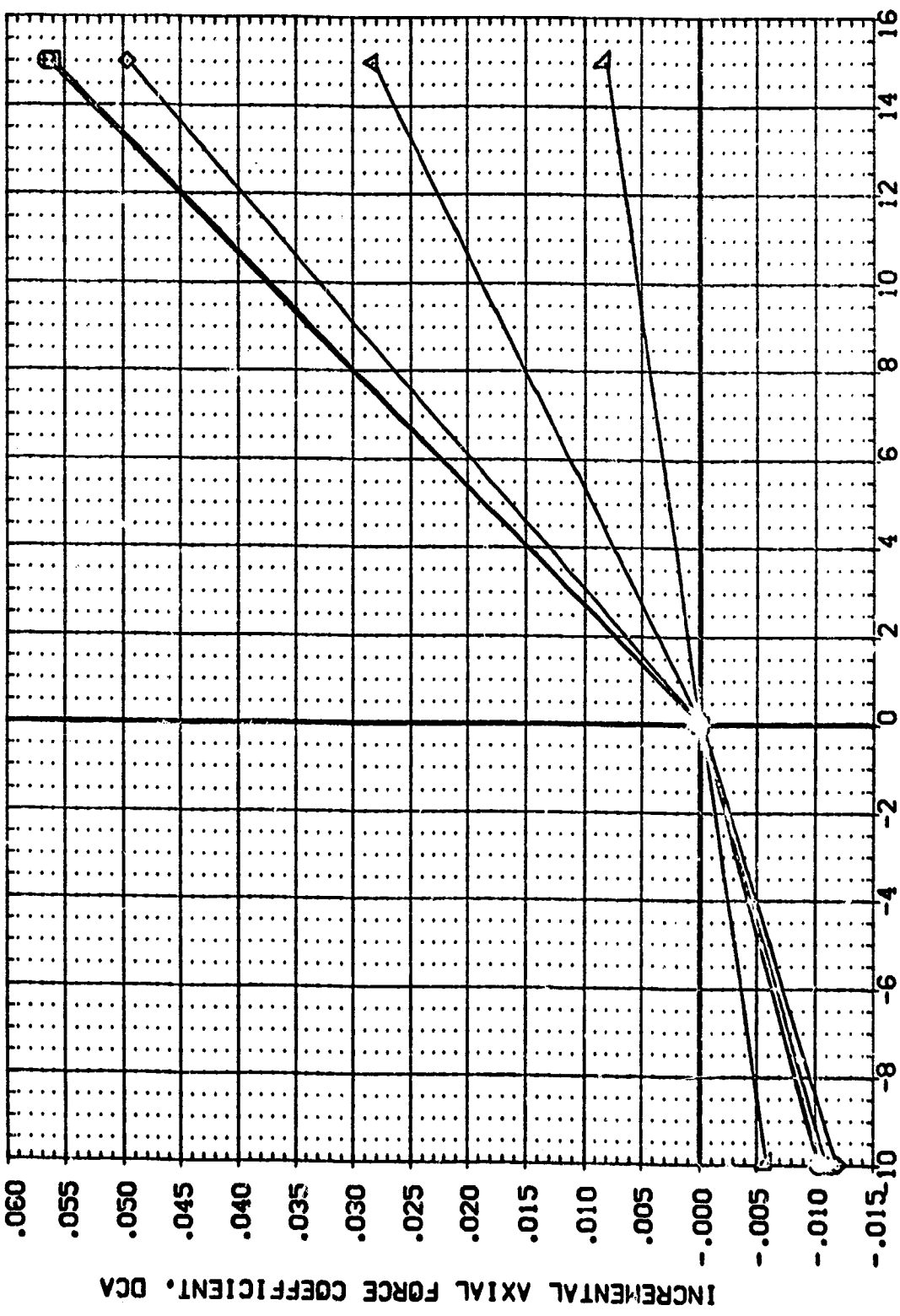


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950



(EDJ066)



0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL		PARAMETRIC VALUES				DATA SOURCE		DATASET		DEL VON		SREF		REFERENCE INFORMATION	
○	□	◇	△			DEL VON	EDJ066	EDJ067	.000	.000	LREF	4.4122	SO.FT.		
		MACH	.210	A1LRN	.000	15.000	EDJ066				REF	19.2258	INCHES		
		SOFLAP	-18.000	NACXL	.000	-10.000	EDJ066	EDJ067	.000		REF	37.9349	INCHES		
		NACLIP	7.000	NACBTA	5.000						REF	43.5974	INCHES		
		BETA	.000	RUDDER	.000						YMRP	.0000	INCHES		
											ZMRP	16.2000	INCHES		
											SCALE	.0405	SCALE		

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB). DCMFWD

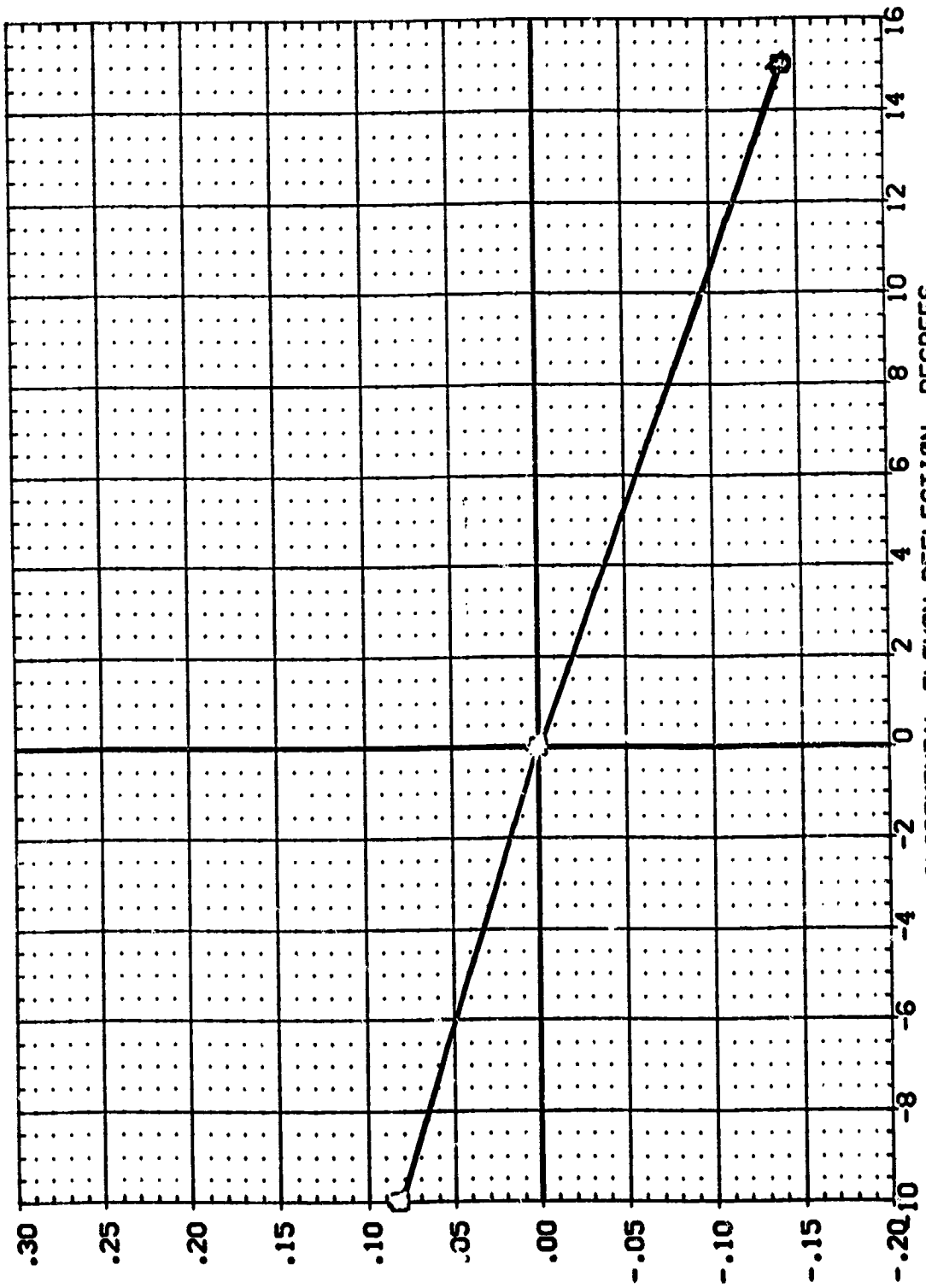


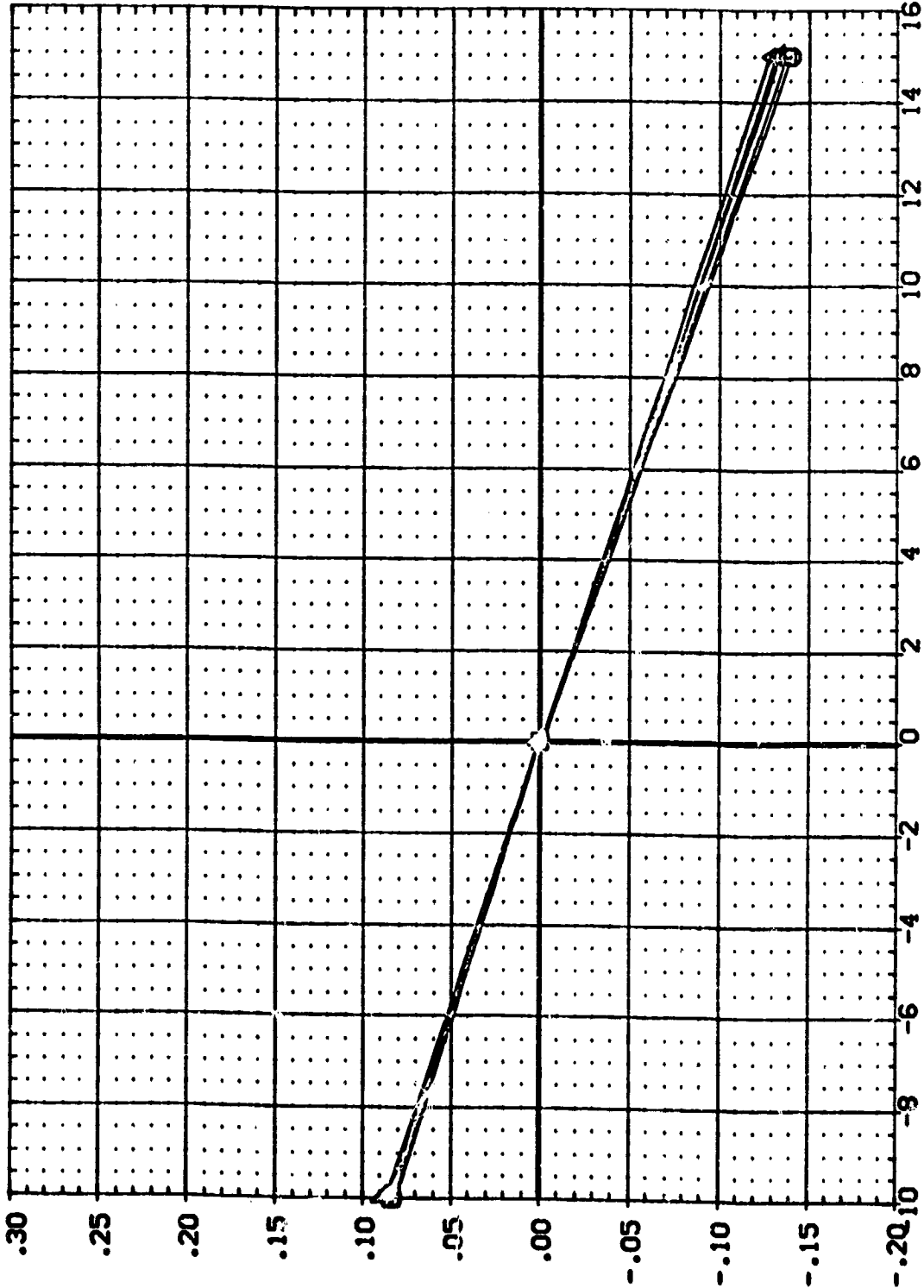
FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2-OVERWING X0=- 950

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL	ALPHA	MACH	BOFLAP	NACLIP	BETA	PARAMETRIC VALUES	DATA SOURCE	DELTVN	DELVON	DATASET	EDU067	DELTVN	SREF	REFERENCE INFORMATION
○	2.000					.210 AILRON	DELTVN	15.000	.000	EDU067			4.4122	SO.FT.
□	4.000					-18.000 NACL/L	DELTVN	-10.000	.000	EDU067			19.2299	INCHES
◇	6.000					7.000 NACBTA	DELTVN			EDU067			37.9349	INCHES
△	8.000					.000 RUDDER	DELTVN			EDU067			43.5974	INCHES
▽	10.000						DELTVN			EDU067			.0000	INCHES
							DELTVN			EDU067			16.2000	INCHES
							DELTVN			EDU067			.0405	SCALE

INCREMENTAL PITCHING MOMENT ABOUT FORWARD C.G. (.66 LB.). DCMFW)



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950

0A71C B16C5D7J35F1W87 E18V3R3X10 (EDU066)

PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
ALPHA 12.000	DELTON	SREF 4.4122 SO.FT.
MACH 14.000	EDU067	LREF 19.2259 INCHES
80FLAP -18.000	EDU066	EREF 37.9349 INCHES
NAQLIP 7.000	EDU065	XPRP 43.5974 INCHES
BETA .000	EDU065	YPRP .0000 INCHES
AILRON	EDU065	ZPRP 16.2000 INCHES
NACVL	EDU065	SCALE .0405
NACBTA	EDU065	
RUDDER	EDU065	

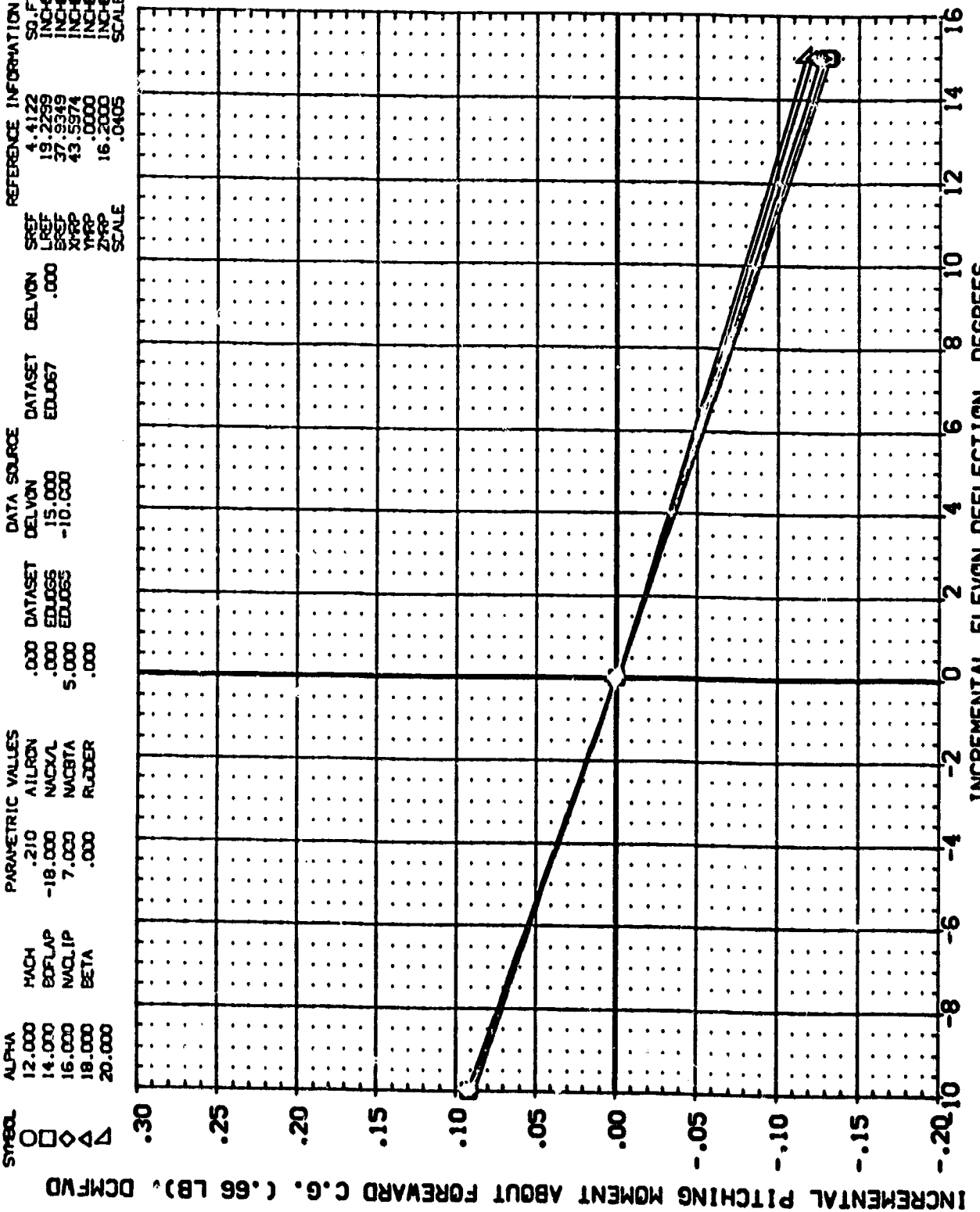
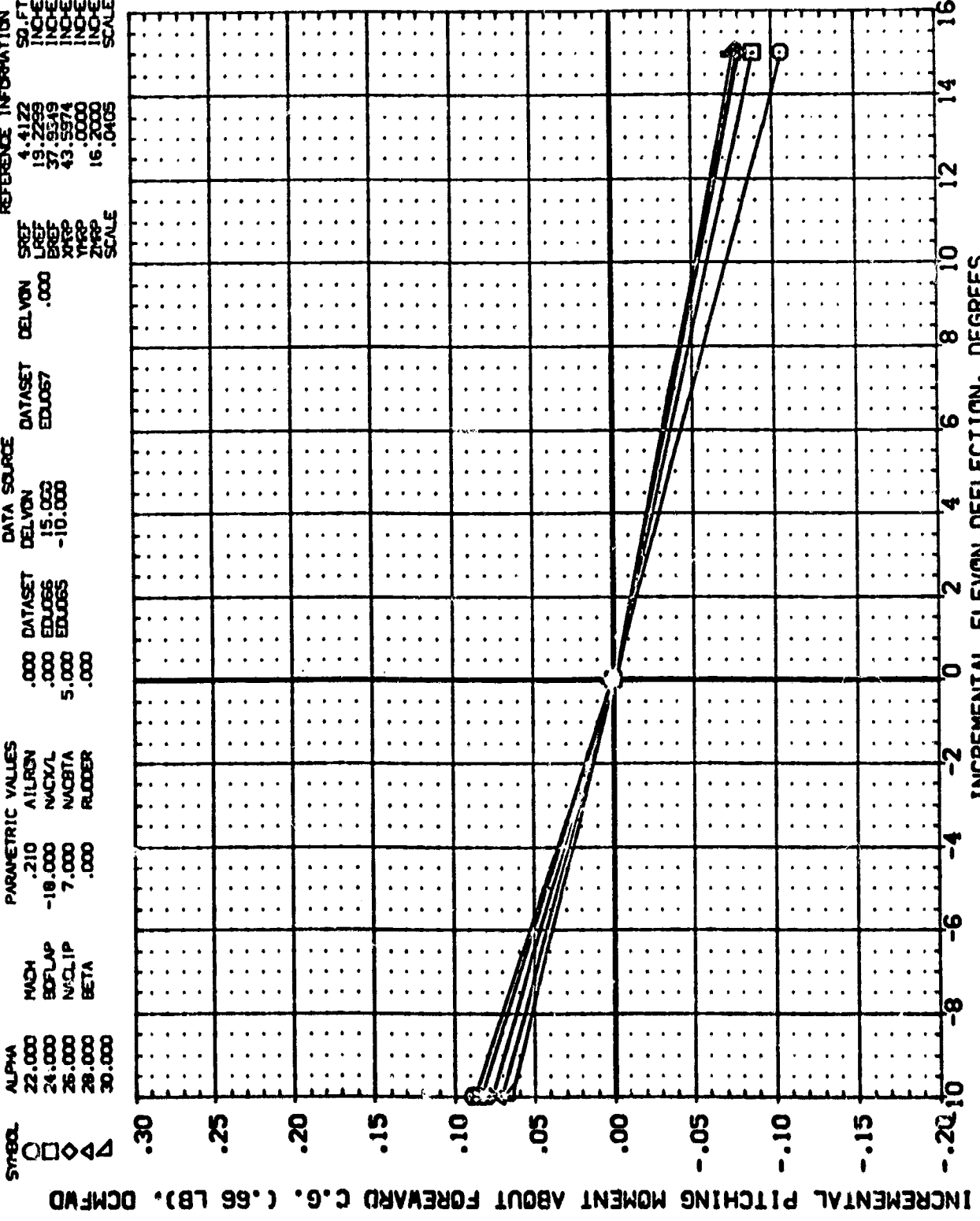


FIG 15 INCREMENTAL EFFECT OF EVELONS -CLUSTERED NACELLES 2 OVERWING X0 = 950 PAGE 229

0A71C B16C5D7J35F1W87 E18V3R3X10 (EDJ066)

ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
22.000	BDCLAP	.210	A1LRN	.000	DELVN	SREF	SO.FT.
24.000	NCLIP	-18.000	NACVL	.000	EDJ067	LRP	INCHES
26.000	BETA	7.000	NACBTA	15.000		RRP	INCHES
28.000		.000	RUDDER	-10.000		YRRP	INCHES
30.000						ZRRP	INCHES
						SCALE	SCALE



INCREMENTAL ELEVON DEFLECTION, DEGREES

FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950

(EDU066)

0A71C B16C5D7J35F1W87 E18V3R3X10

SYMBOL

○	□	◇	△
ALPHA	MACH	CDFLAP	NACLIP
-4.000	-2.000	-1.000	.000
1.000			

PARAMETRIC VALUES

AILRON	MACH/L	NACBTA	RUDDER
.210	-18.000	7.000	.000

DATA SOURCE

DELVON	DATASET	DELVON	DATASET
15.000	.000	EDU066	EDU067
-10.000	.000	EDU066	

REFERENCE INFORMATION

SQ.FT.	4.4122
INCHES	19.2259
INCHES	37.9349
INCHES	43.5974
INCHES	.0000
INCHES	16.2000
SCALE	.0405

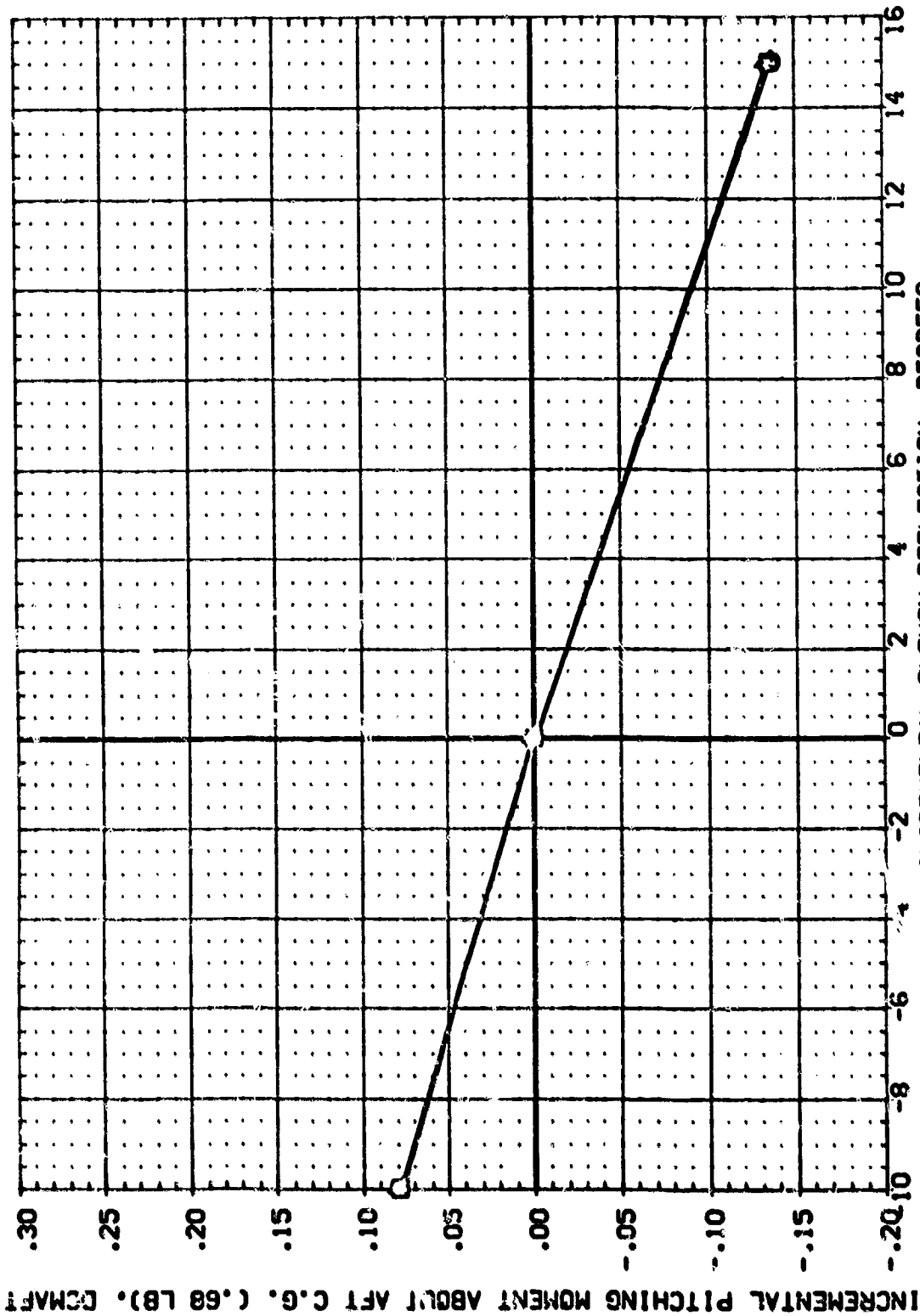


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING XO = 950

01710 DISCUSSU7355FIAB7 LISVEXKX10

ALPHA	2.000	MACH	.210	AILTRON	.000	DATASET	.000	DELTVN	.000	SREF	4.4122	SO.FT.	4.4122
	4.000	EDFLAP	-18.000	NACX/L	.000	EDLSS	15.000	LIREF	.000	LIREF	19.2299	INCHES	19.2299
	6.000	NACLIP	7.000	NACBTA	5.000	EDUGS	-10.000	XREF	.000	XREF	37.9349	INCHES	37.9349
	8.000	BETA	.000	RUDDER	.000			YREF	.000	YREF	43.5974	INCHES	43.5974
	10.000							ZREF	.000	ZREF	16.2000	INCHES	16.2000
								SCALE	.0405	SCALE	.0405	INCHES	.0405

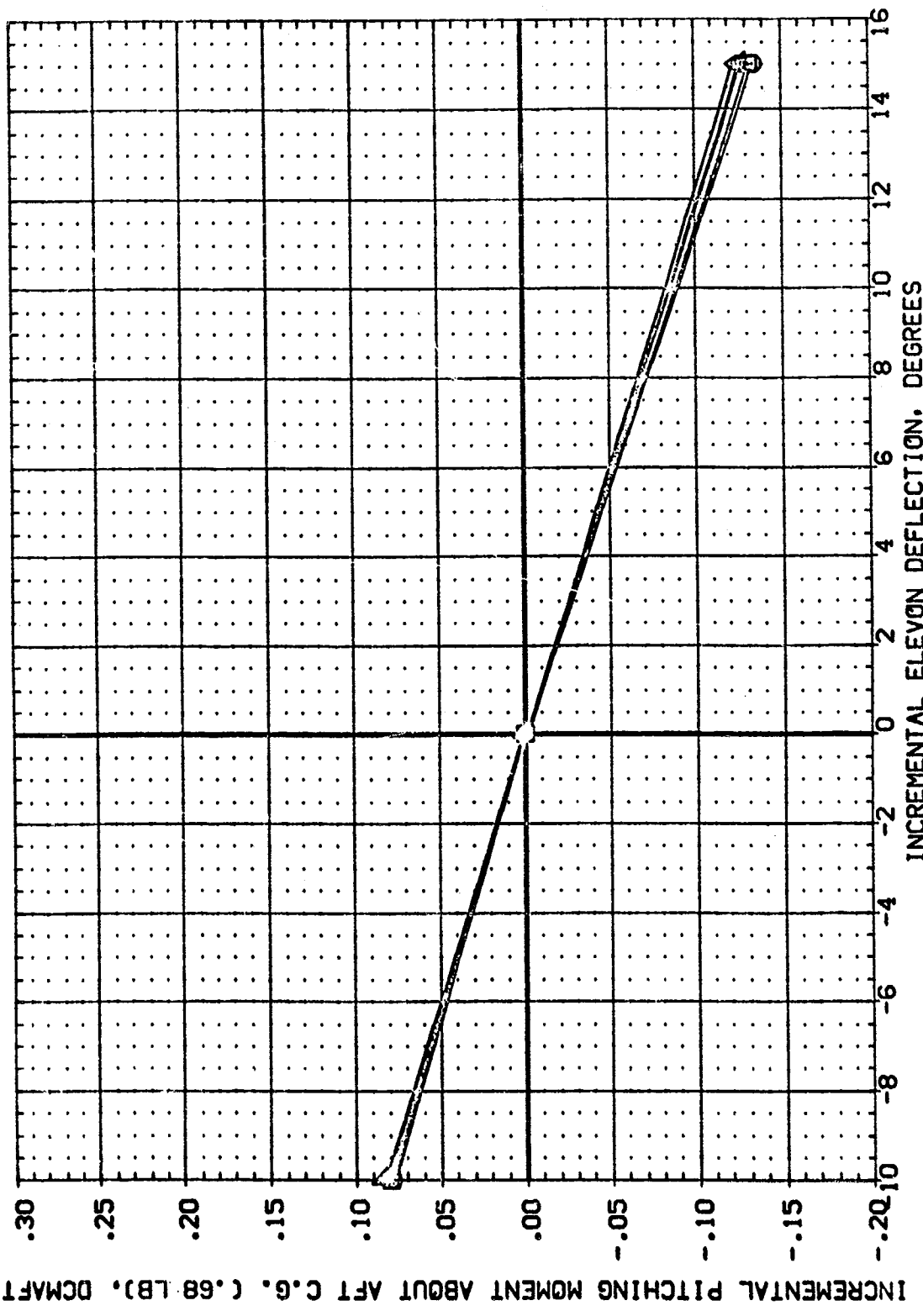


FIG 15 INCREMENTAL EFFECT OF EVELONS -CLUSTERED NACELLES 2 OVERWING X0 = 950

CA71C B16CSD7J35F1W87 E18V3R3X10 (EDU066)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
12.000	MACH	DEL VON	SQ.FT.
14.000	AILERON	DEL VON	INCHES
16.000	-18.000	EDU067	INCHES
18.000	NACLIP	EDU065	INCHES
20.000	7.000	EDU066	INCHES
	NACBTA	EDU065	INCHES
	.000	EDU066	INCHES
	BETA	EDU065	INCHES
	RUDDER	EDU066	INCHES
		EDU065	SCALE
		EDU066	SCALE

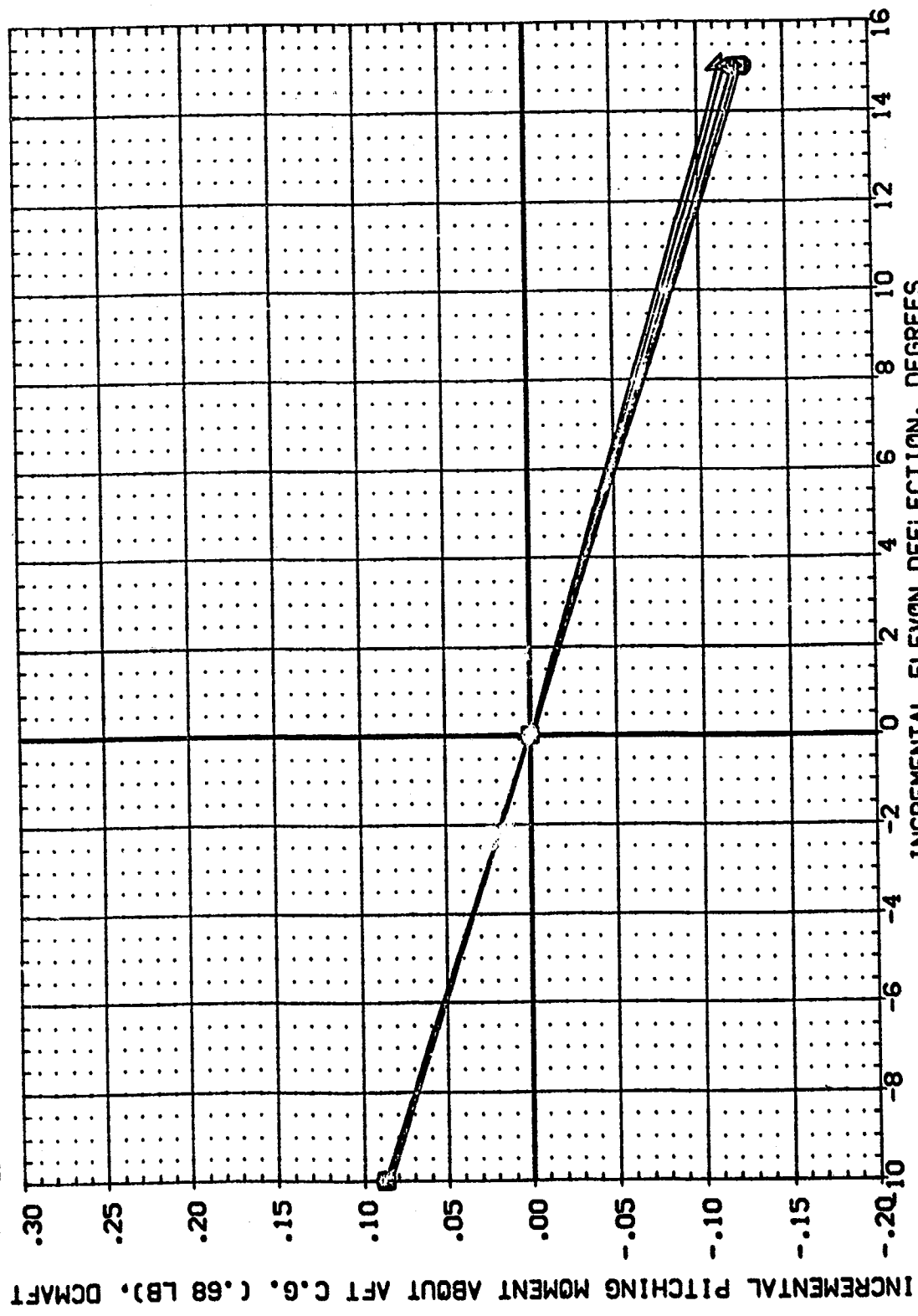


FIG 15 INCREMENTAL EFFECT OF ELEVLONS -CLUSTERED NACELLES 2 OVERWING XO = 950

(EDJ066)

GA71C B16CSD7J35F1W87 E18V3R3X10

ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DELVON	SREF	REFERENCE INFORMATION
22.000	80FLAP	-210 AILRON	DELVON	EDJ067	.000	LREF	4.4122 SQ.FT.
24.000	NACLIP	-18.000 NACX/L	15.000			SREF	19.2259 INCHES
26.000	BETA	7.000 NACB/A	-10.000			XMRP	37.9349 INCHES
28.000		.000 RUDDER				YMRP	43.5974 INCHES
30.000						ZMRP	16.2000 INCHES
						SCALE	.0405 SCALE

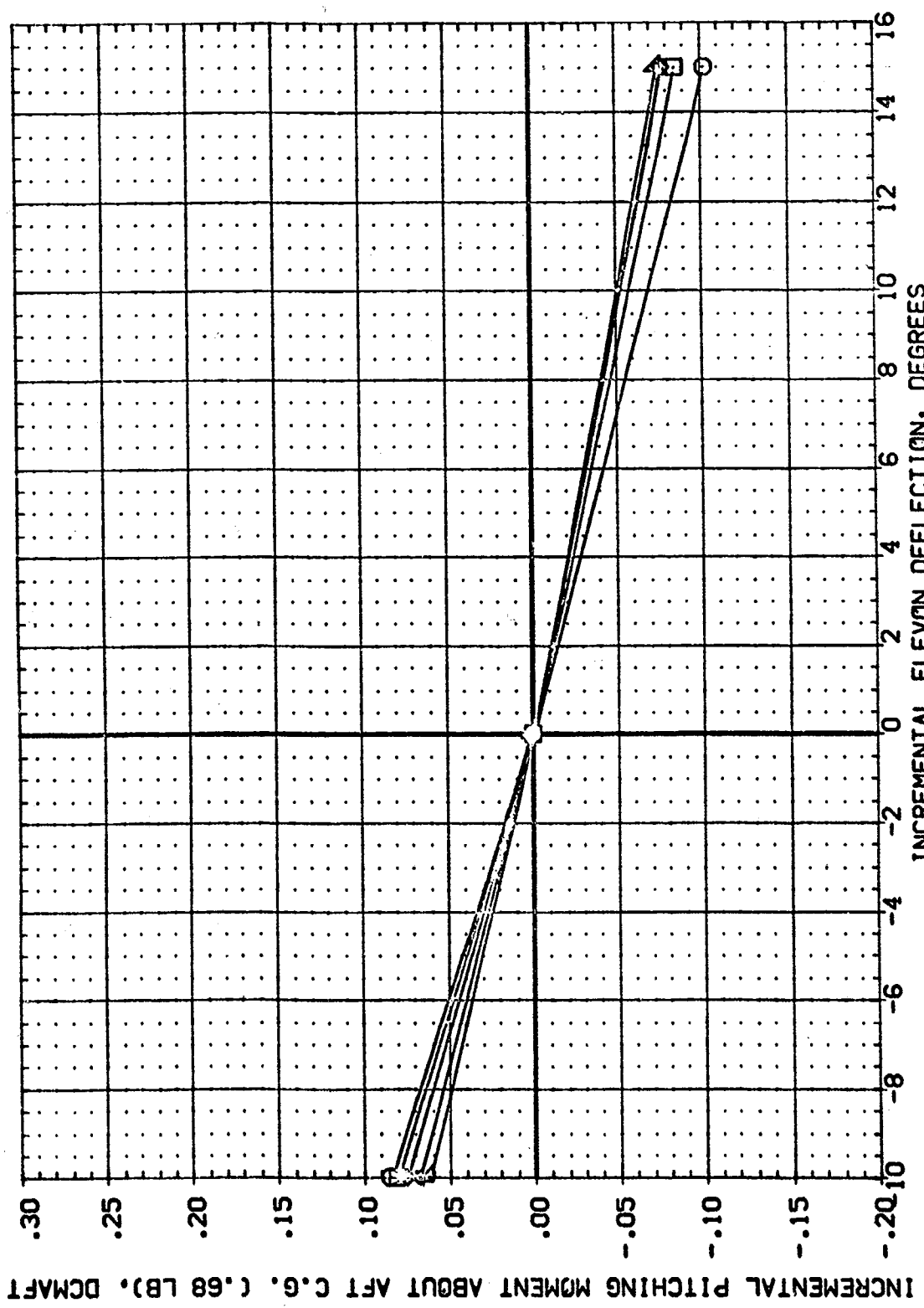


FIG 15 INCREMENTAL EFFECT OF ELEVONS -CLUSTERED NACELLES 2 OVERWING X0 = 950

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	AILERON	ELEVON	BOFLAP	BETA	REFERENCE INFORMATION
(R00005)	CA71C B16C5D7 F1V87 E18V3R3X9	5.000	.000	-18.000	.000	SREF 4.4122 SQ.FT.
(R00007)	CA71C B16C5D7 F1V87 E18V3R3X9	10.000	.000	-18.000	.000	LREF 19.2269 INCHES
(R00010)	CA71C B16C5D7 F1V87 E18V3R3X9	15.000	.000	-18.000	.000	BREF 37.9349 INCHES
(R00001)	CA71C B16C5D7 F1V87 E18V3R3X9		.000	-18.000	.000	XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

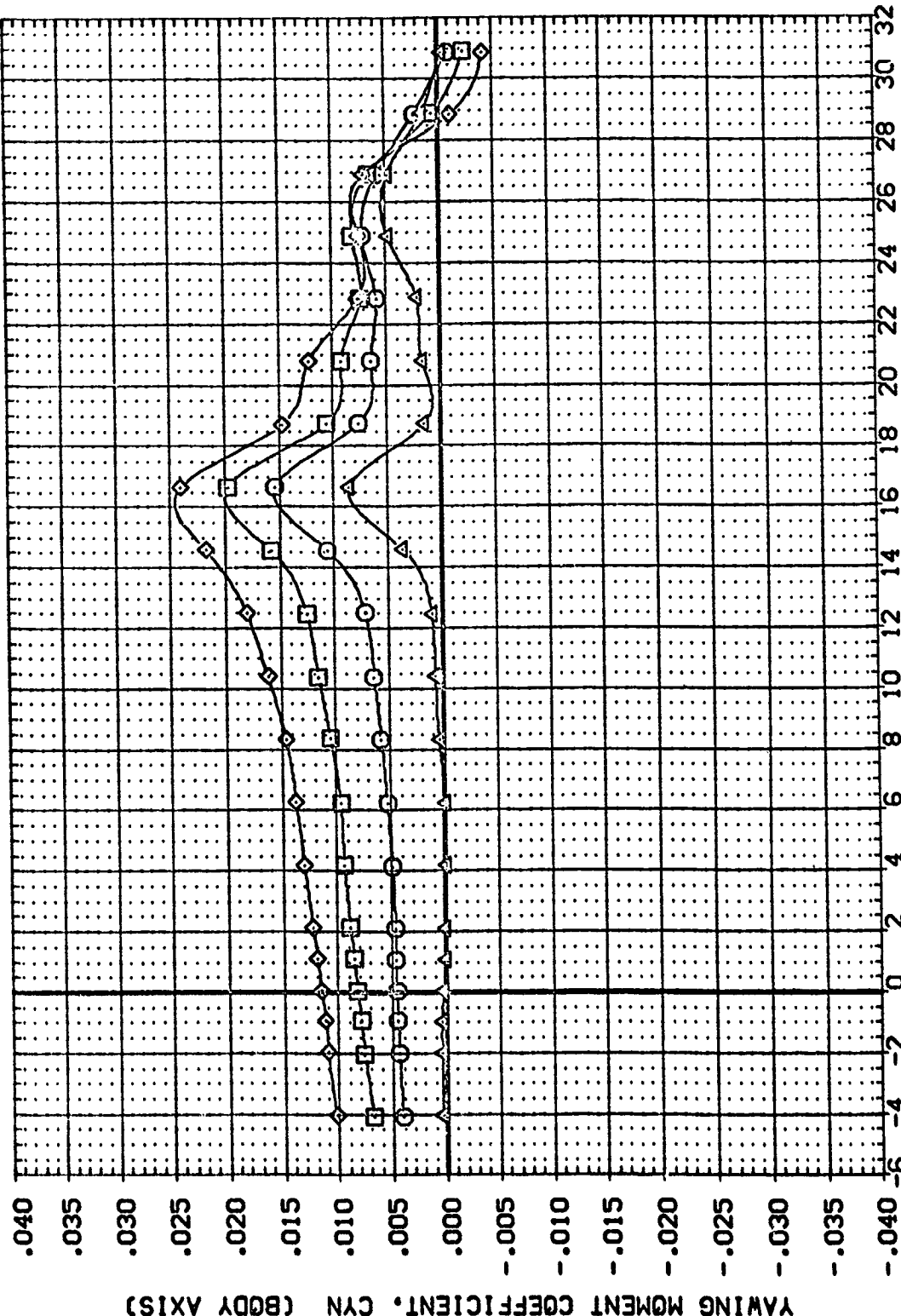


FIG 16 AILERONS DEFLECTED - NO NACELLES

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(R0L005) CA71C B16C507 F1V87 E18V3R3X9

(R0L007) CA71C B16C507 F1V87 E18V3R3X9

(R0L010) CA71C B16C507 F1V87 E18V3R3X9

(R0L001) CA71C B16C507 F1V87 E18V3R3X9

AILERON ELEVON BOFLAP BETA REFERENCE INFORMATION

5.000 .000 -18.000 .000 SREF 4.4122 SO.FT.

10.000 .000 -18.000 .000 LREF 19.2239 INCHES

15.000 .000 -18.000 .000 BRFP 37.9349 INCHES

.000 .000 -18.000 .000 YWRP 43.5574 INCHES

.000 .000 -18.000 .000 ZWRP 16.0000 INCHES

.000 .000 -18.000 .000 SCALE .0405 INCHES

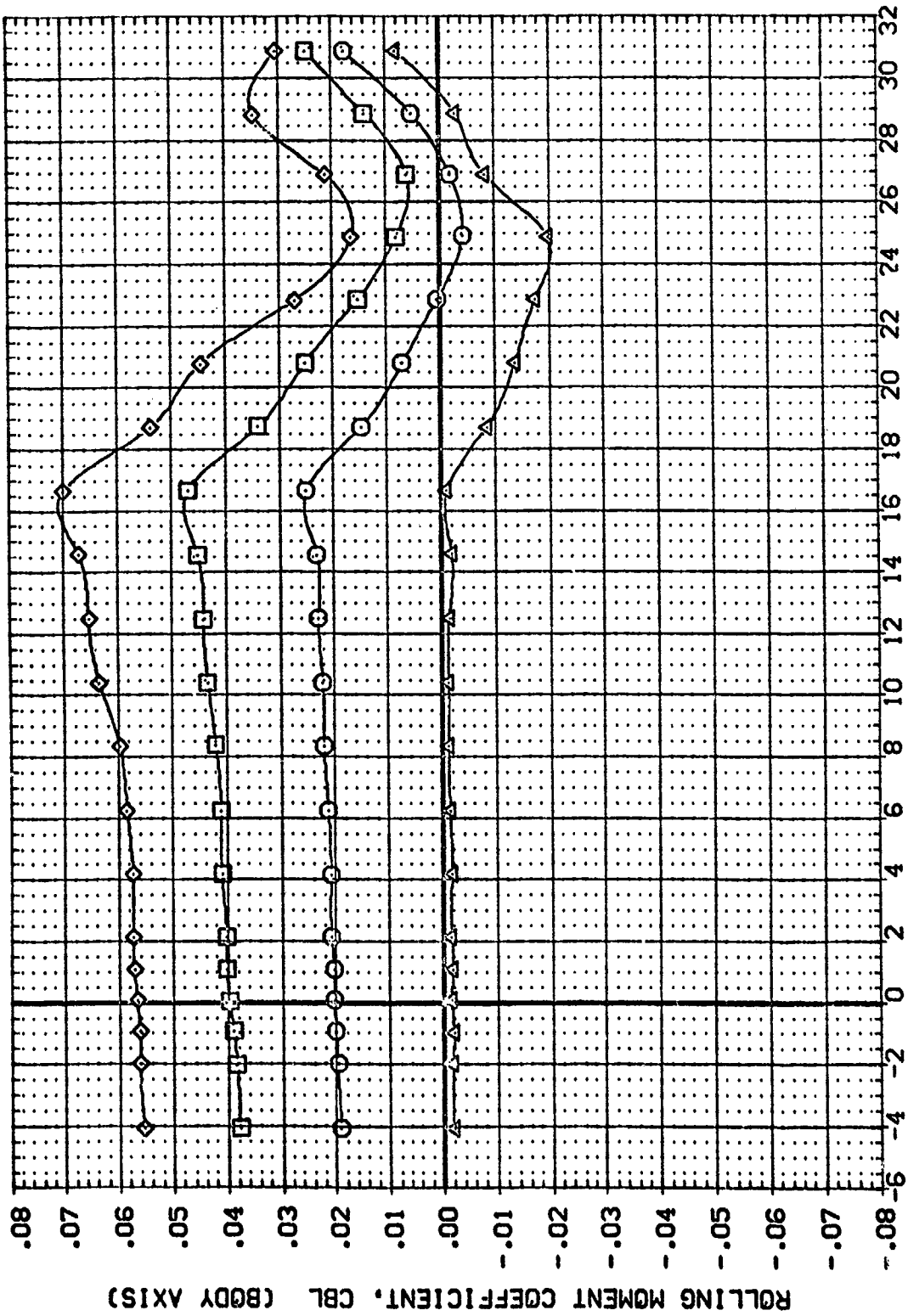


FIG 16 AILERONS DEFLECTED - NO NACELLES

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	AILERON	ELEVON	BD/FLAP	BETA	REFERENCE INFORMATION
(R0005)	CA71C B16CS07 F1V87 E18V3R3X9	5.000	.000	-18.000	.000	SREF 4.4122 SQ.FT.
(R0007)	CA71C B16CS07 F1V87 E18V3R3X9	10.000	.000	-18.000	.000	LREF 19.2259 INCHES
(R0010)	CA71C B16CS07 F1V87 E18V3R3X9	15.000	.000	-18.000	.000	BREF 37.9349 INCHES
(R0001)	CA71C B16CS07 F1V87 E18V3R3X9	.000	.000	-18.000	.000	XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

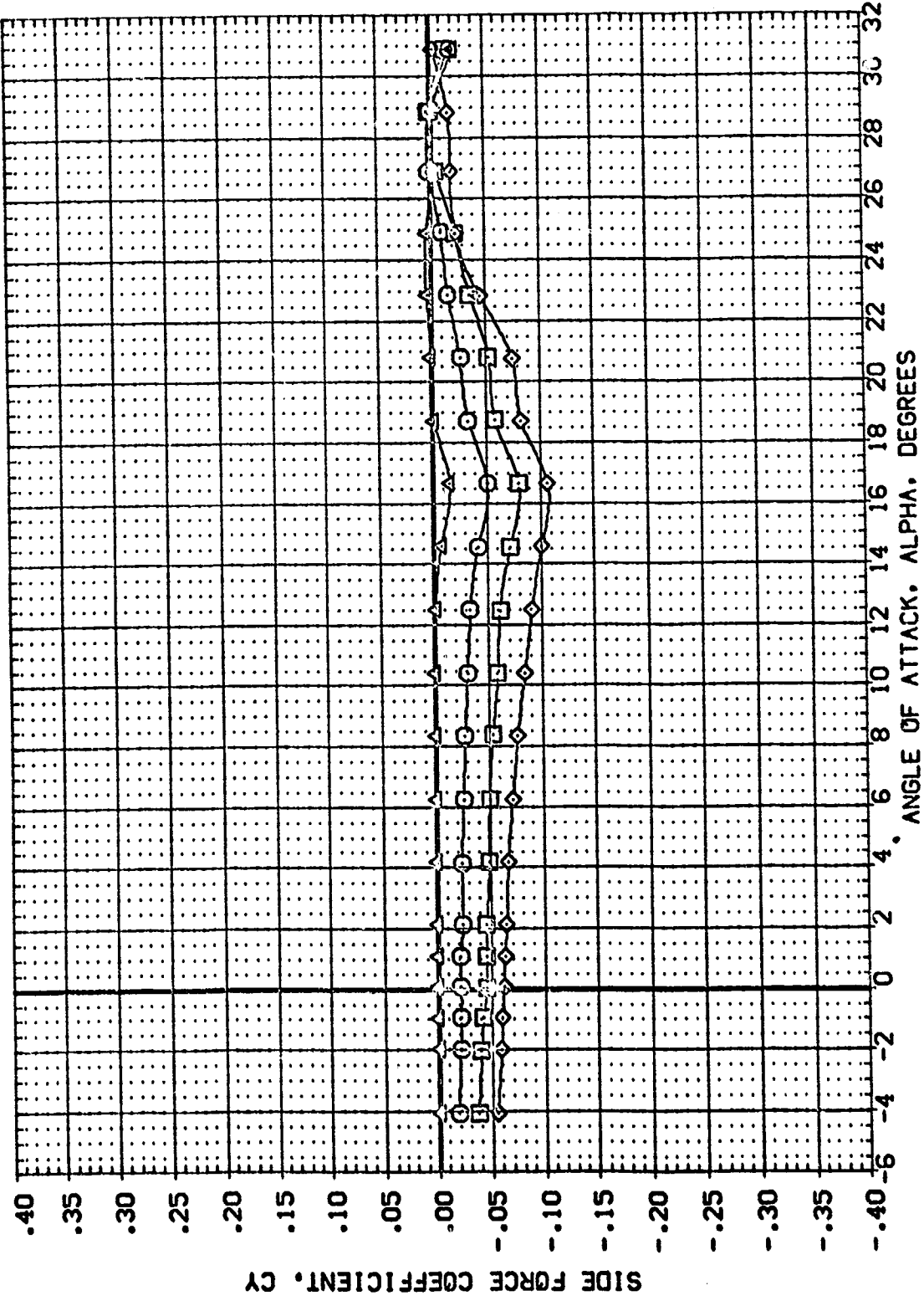


FIG 16 AILERONS DEFLECTED - NO NACELLES

CA/MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION DALSUR ELEVON 20FLAP BETA REFERENCE INFORMATION

(FDU05)	CA71C B16C507 F1V87 E18V3R3X9	5.000	.000	-18.000	.000	SREF	4.4122	SQ.FT.
(FDU07)	CA71C B16C507 F1V87 E18V3R3X9	10.000	.000	-18.000	.000	LREF	19.2289	INCHES
(FDU10)	CA71C B16C507 F1V87 E18V3R3X9	15.000	.000	-18.000	.000	BREF	37.9349	INCHES
						XREF	43.5974	INCHES
						ZREF	16.2000	INCHES
						SCALE	.0405	SCALE

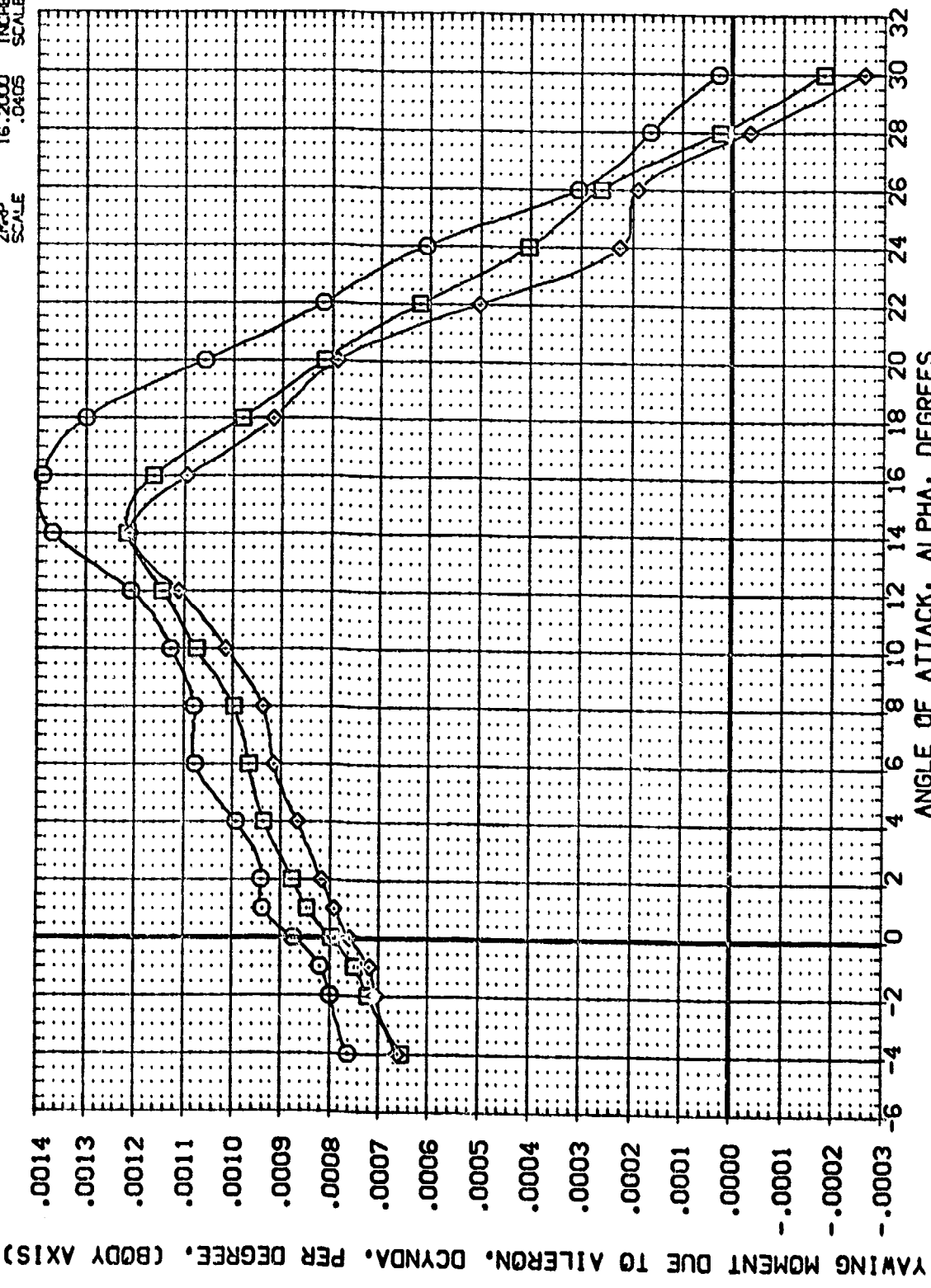


FIG 17 AILERON EFFECTIVENESS DERIVATIVES - NO NACELLES

(A)MACH = .21



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DAURON	ELEVON	BCFLAP	BETA	REFERENCE INFORMATION
(FDU005)	0A71C B18C507	5.000	.000	-18.000	.000	SREF 4.4122 SO.FT.
(FDU007)	0A71C B18C507	10.000	.000	-18.000	.000	LCRF 19.2288 INCHES
(FDU010)	0A71C B18C507	15.000	.000	-18.000	.000	BRFP 37.8349 INCHES
						XMRP 43.5374 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

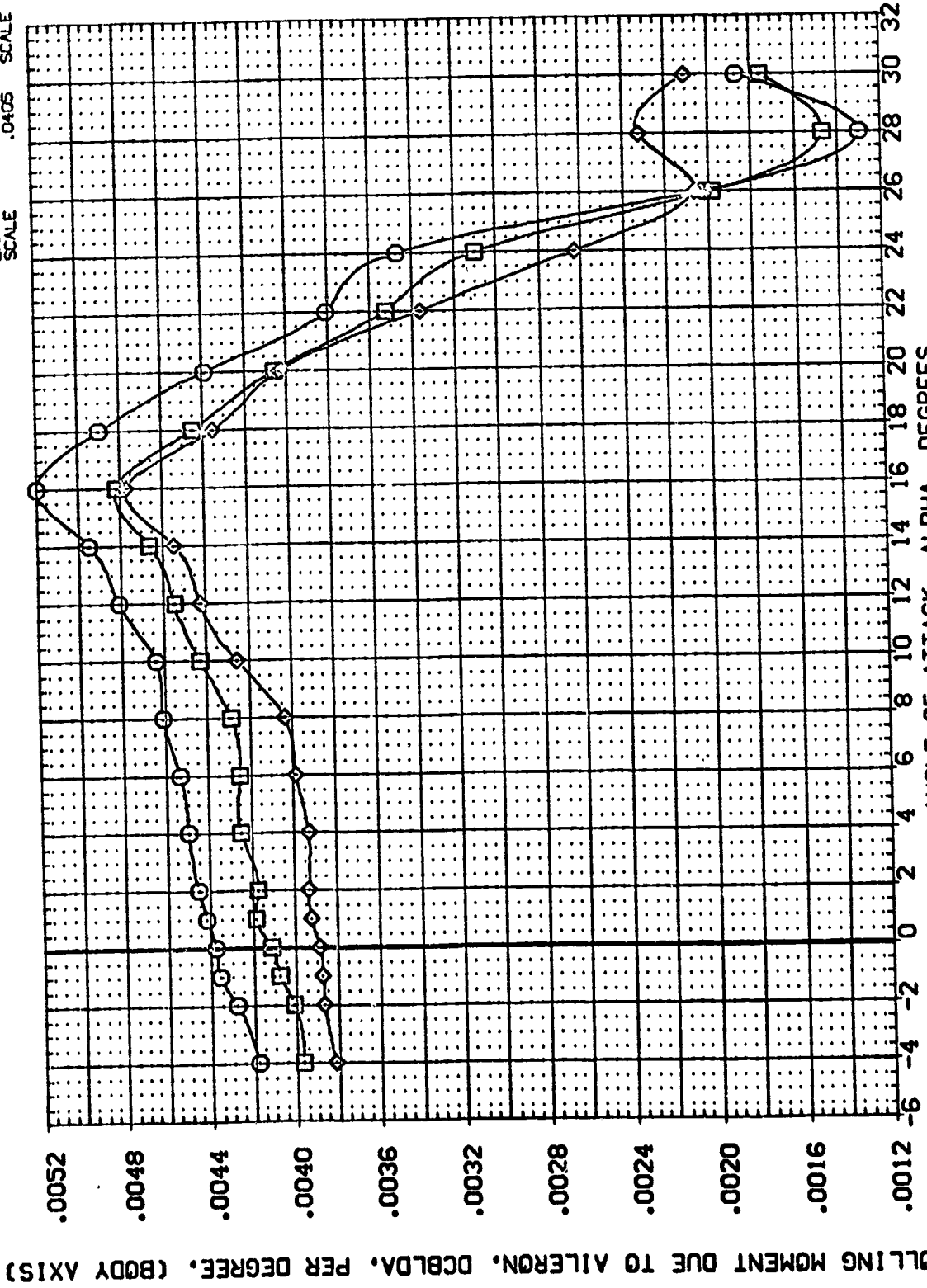


FIG 17 AILERON EFFECTIVENESS DERIVATIVES - NO NACELLES

(A)MACH = .21

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DALRON	ELEVON	BOFLAP	BETA	REFERENCE INFORMATION
(FDJ005)	CA71C B16CS07 F1V87 E18V3R3X9	5.000	.000	-18.000	.000	SREF 4.4122 50. FT.
(FDJ007)	CA71C B16CS07 F1V87 E18V3R3X9	10.000	.000	-18.000	.000	LREF 19.2299 INCHES
(FDJ010)	CA71C B16CS07 F1V87 E18V3R3X9	15.000	.000	-18.000	.000	BREF 37.9349 INCHES
						XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405 SCALE

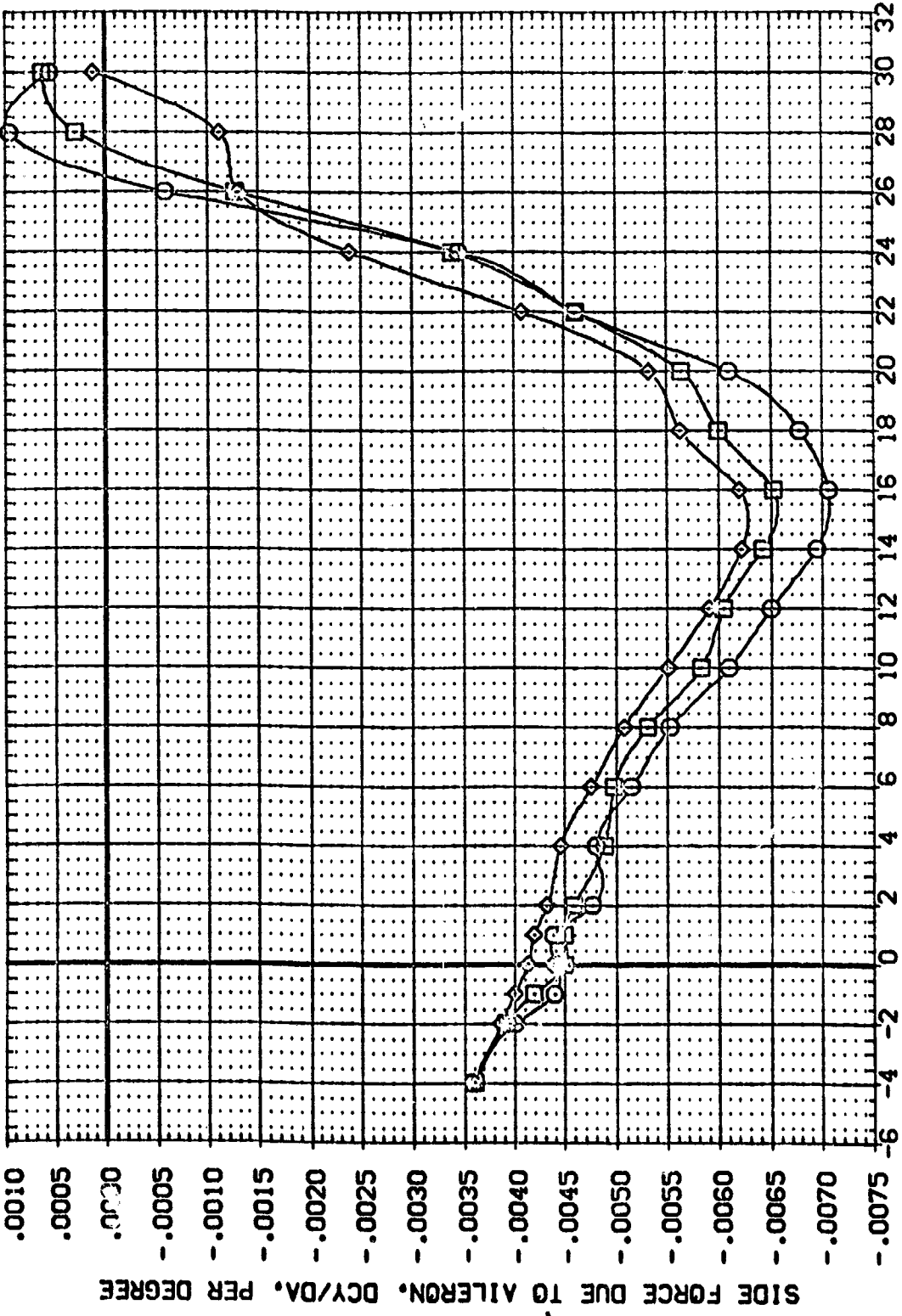


FIG 17 AILERON EFFECTIVENESS DERIVATIVES - NO NACELLES

(A)MACH = .21



DATA SET SYMBOL: (R0J042) (R0J037)
 CONFIGURATION DESCRIPTION: 0A71C B16CSD7J34F1V87 E18V3K3A10
 0A71C B16CSD7J34F1V87 E18V3K3A10

AILERON: 10.000
 MAC/L: .000
 MAC/B: .000
 MAC/TA: 5.000
 MAC/TA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 50. FT.
 LREF: 19.2269 INCHES
 EREF: 37.9349 INCHES
 XPRP: 43.5574 INCHES
 YPRP: .0000 INCHES
 ZPRP: 16.2000 INCHES
 SCALE: .0405 SCALE

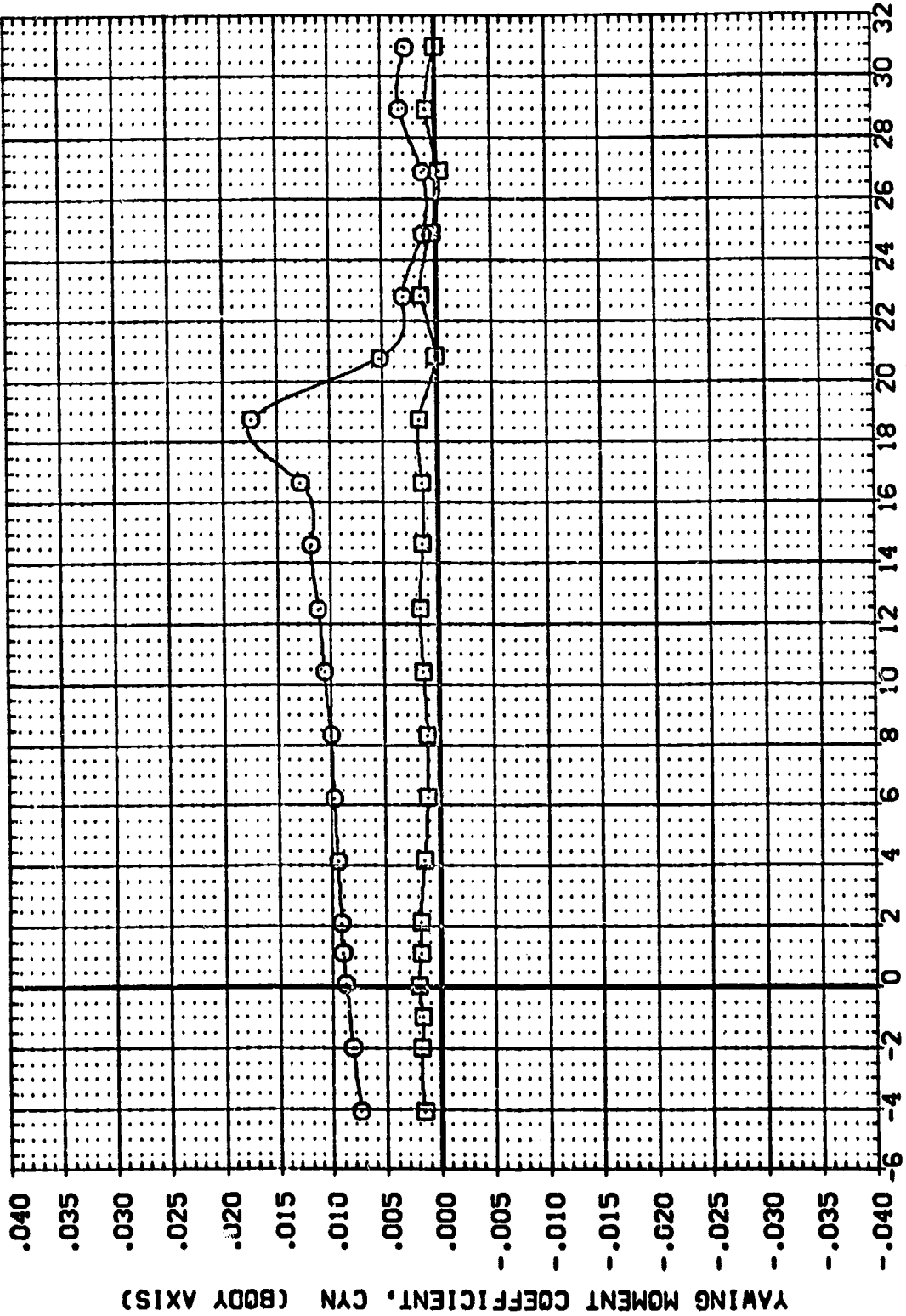


FIG 18 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING X0 = 950

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R01042) □ CA71C B16C507J34F1V87 E18V23X10
 (R01037) □ CA71C B16C507J34F1V87 E18V23X10

AILERON MACXL .000
 10.000
 MACLIP 7.000
 MACBTA 5.000
 SREF 4.4122 SO.FT.
 LREF 19.2269 INCHES
 XREF 47.9349 INCHES
 YGRP 43.5974 INCHES
 ZGRP .0000 INCHES
 SCALE 16.2000 INCHES
 .0405 SCALE

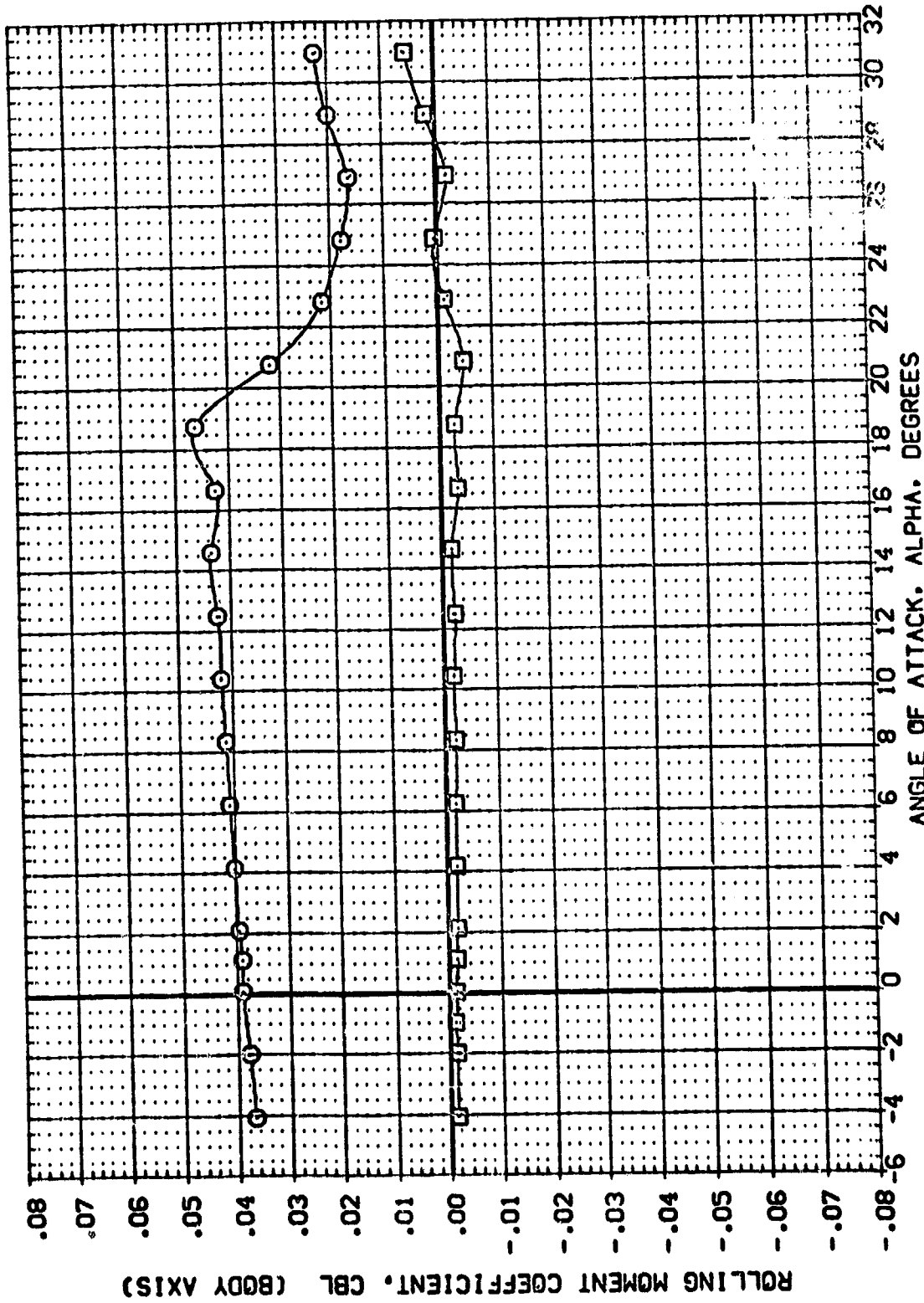


FIG 18 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING X0 = 950

(A)MACH = .20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	REFERENCE INFORMATION
(R042)	B16CSD7J34F1V87 E18V3R3X10	SO. FT.
(R037)	B16CSD7J34F1V87 E18V3R3X10	INCHES
		INCHES
		INCHES
		INCHES
		SCALE
		SCALE

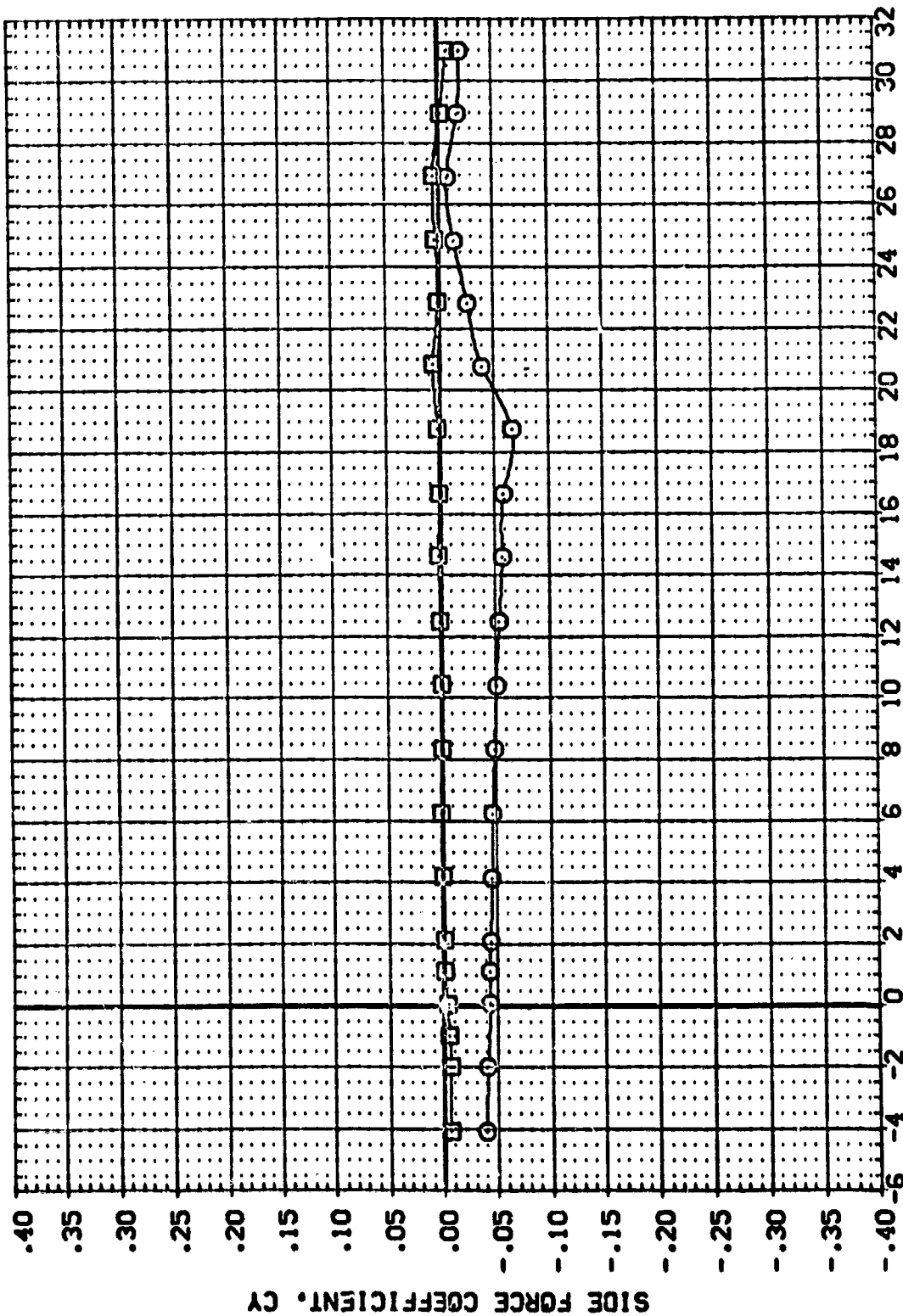


FIG 18 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING X0 = 950

(A)MACH = .20

DATA SET SYMBOL: CA71C 816C507J34F1V87 E18V3R3K10

DALRON: 10.000
 MACX/L: .000
 BOFLAP: -18.000
 NACBTA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SQ.FT.
 LREF: 19.2299 INCHES
 BREF: 37.9349 INCHES
 XGRP: 43.5974 INCHES
 YGRP: .0000 INCHES
 ZGRP: 16.2000 INCHES
 SCALE: .0405

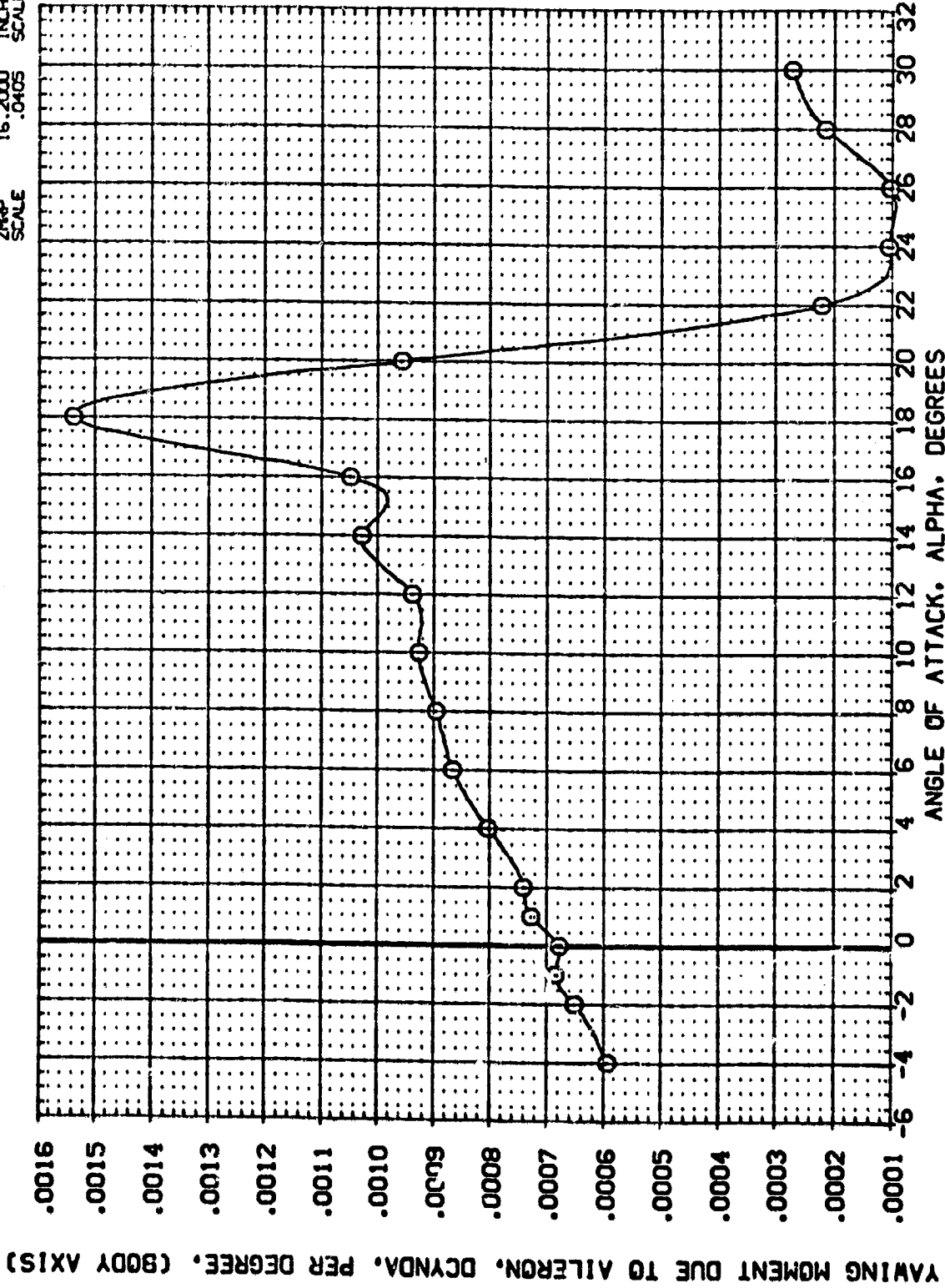


FIG 19 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING XO= 950

(M)MACH = .21

DATA SET SYMBOL: ○ CONFIGURATION DESCRIPTION: (FDU042) ○ GA71C B16C507J34F1V87 E18V3R3X10

DALRON: 10.000
 MACX/L: .000
 BOFLAP: -18.000
 MACBTA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SQ.FT.
 LREF: 19.2269 INCHES
 BREF: 37.9349 INCHES
 XGRP: 43.9974 INCHES
 YGRP: .0000 INCHES
 ZGRP: 16.2000 INCHES
 SCALE: .0405 SCALE

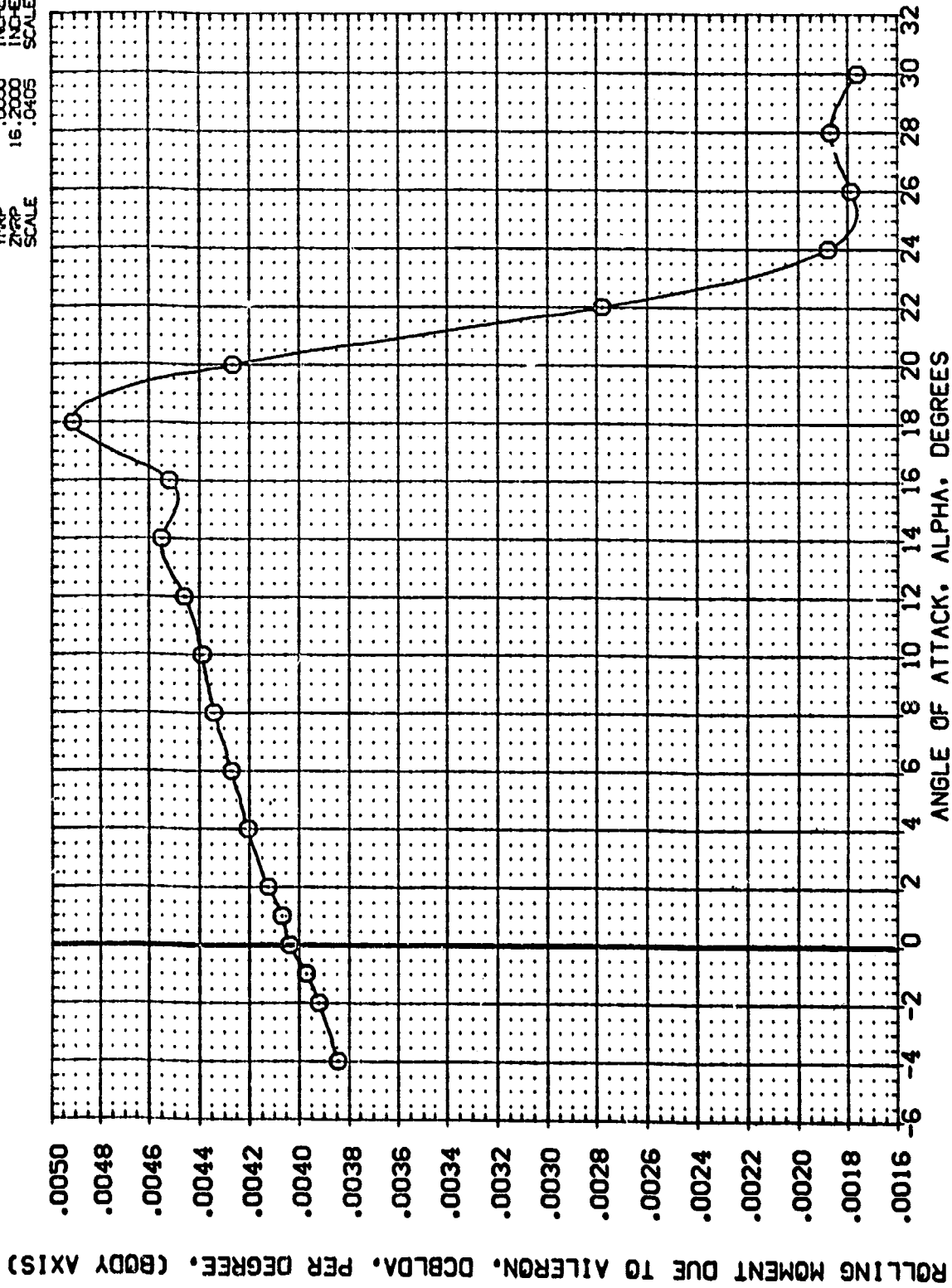


FIG 19 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED MACELLES UNDERWING XO= 950

(A)MACH = .21

DATA SET SYMBOL: (FDL042) \emptyset CONFIGURATION DESCRIPTION: CA71C B16CSD7J34F1V87 E18V3R3X10

DALTON: 10.000
 MACVL: .000
 BOFLAP: -18.000
 MACBTA: 5.000
 SREF: 4.4122 SO.FT.
 LREF: 19.2299 INCHES
 BRFP: 37.9349 INCHES
 XMRP: 43.5974 INCHES
 YMRP: .0000 INCHES
 ZMRP: 16.2000 INCHES
 SCALE: .0405 SCALE

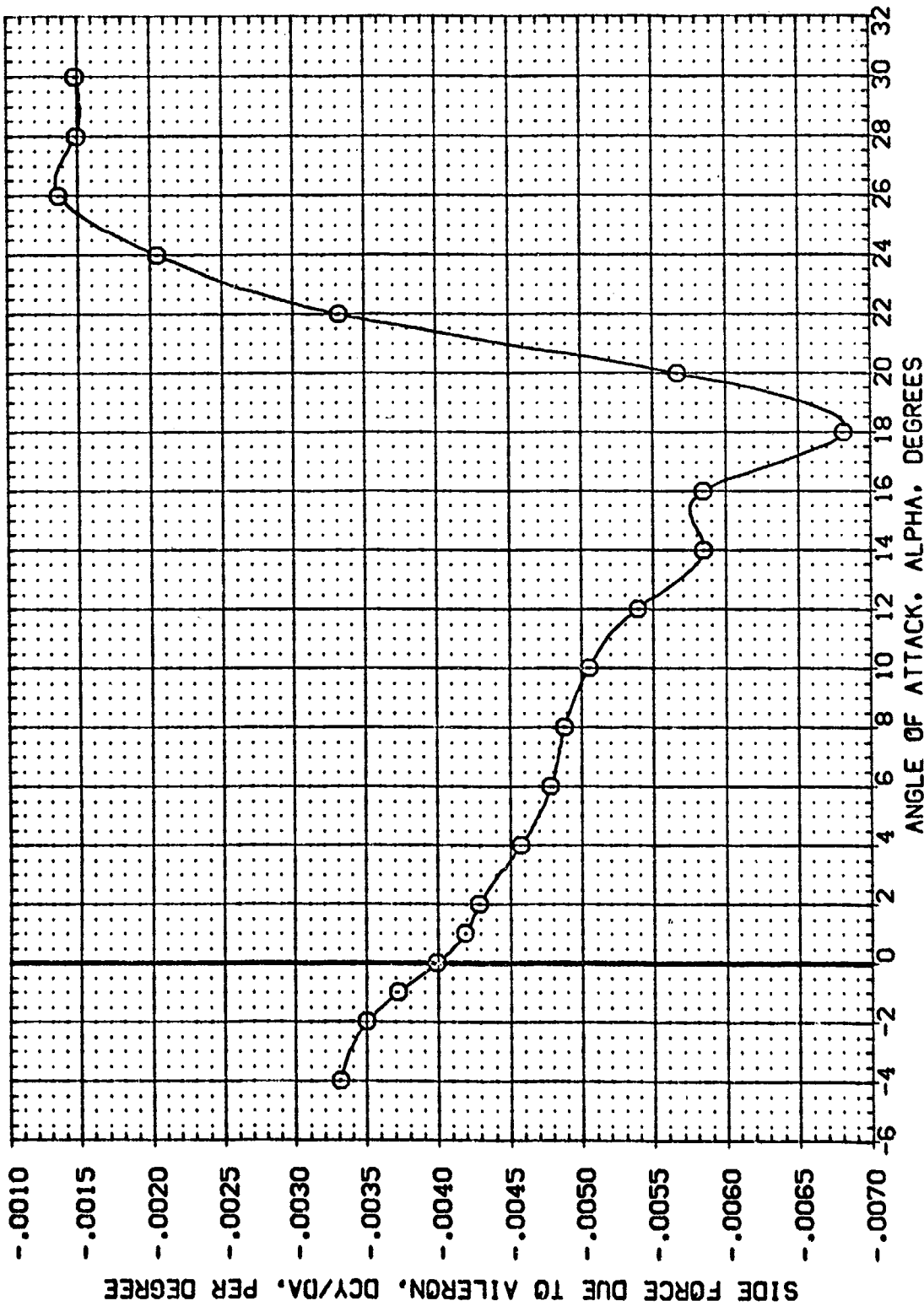


FIG 19 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING X0= 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R0J043) CA71C B16C5D7J34F1V67 E18V3R3X10
 (R0J045) CA71C B16C5D7J34F1V67 E18V3R3X10

AILERON MACX/L .270
 .000
 .000

NACLIP MACBTA
 7.000 5.000
 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2335 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5574 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405

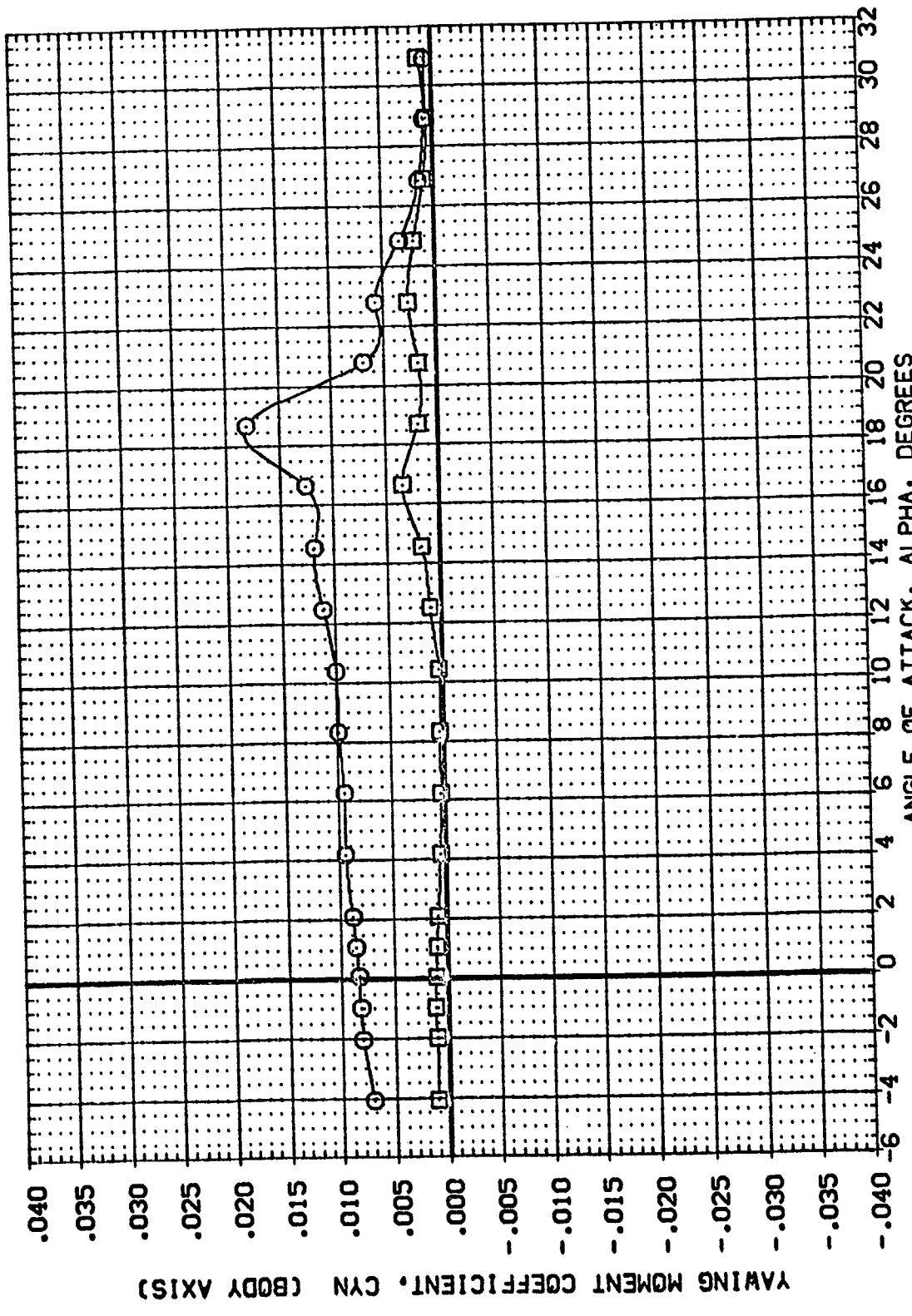


FIG 20 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING X0 = 1005

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	AILERON	NACX/L	NACLIP	NACSTA	REFERENCE INFORMATION
(R0043)	GA71C B16C507J34F1V87 E18V3K3X10	10.000	.270	7.000	5.000	SREF 4.4122 SO.FT. INCHES
(R0046)	GA71C B16C507J34F1V87 E18V3K3X10	.000	.270	7.000	5.000	LREF 19.2259 INCHES
						XREF 37.9949 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

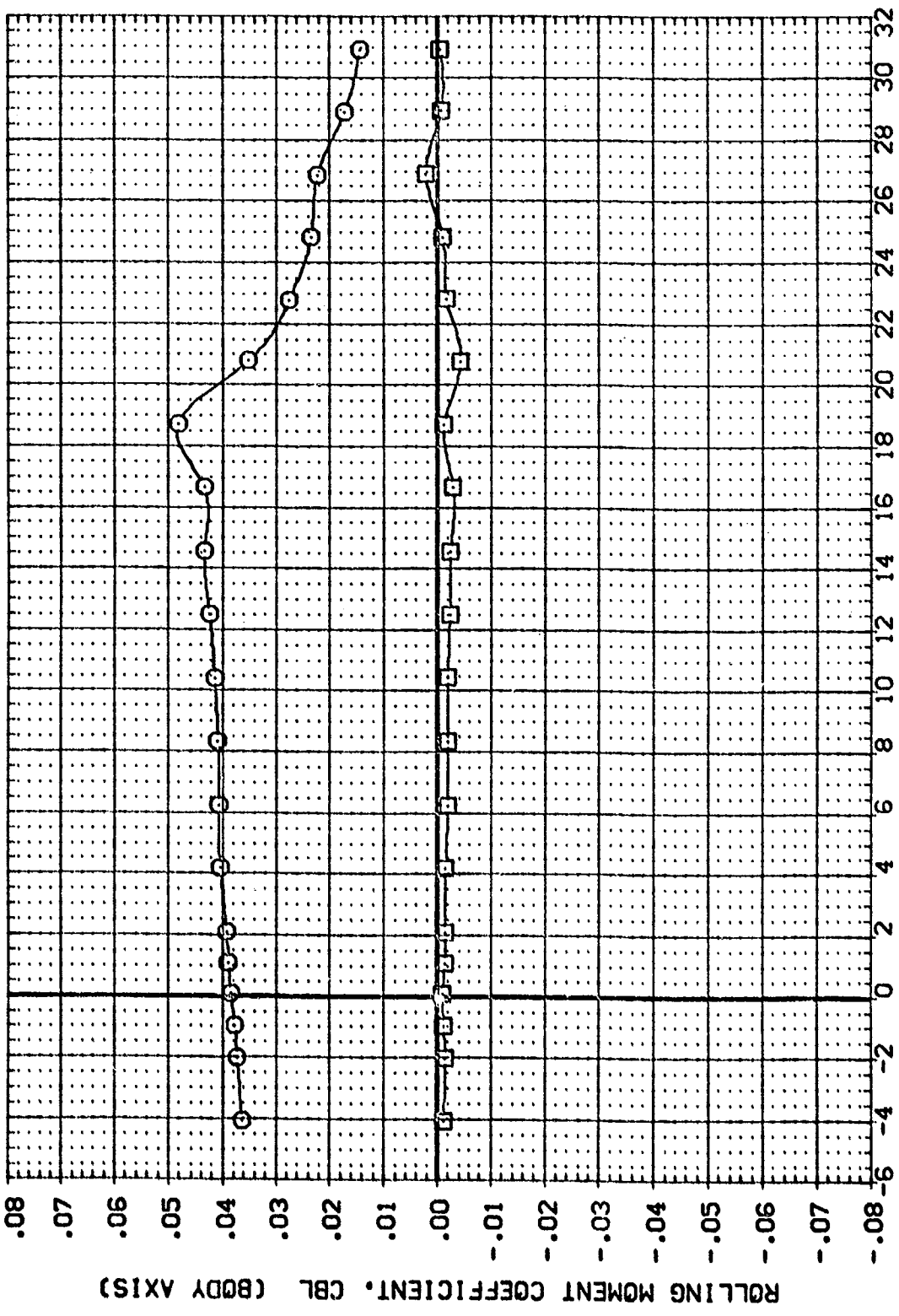


FIG 20 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERLYING X0 = 1005

DATA SET SYMBOOL: **□** CONFIGURATION DESCRIPTION: CA71C B16C507J34F 1V67 E18V3R3X10 (ROU046) CA71C B16C507J34F 1V67 E18V3R3X10 (ROU046)

AILERON MACX/L: 10.000
 NACLIP: 7.000
 NACBTA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SO. FT. INCHES
 LREF: 19.2239 INCHES
 BREF: 37.9349 INCHES
 XMRP: 43.5574 INCHES
 YMRP: .0000 INCHES
 ZMRP: 16.2000 INCHES
 SCALE: .0405 SCALE

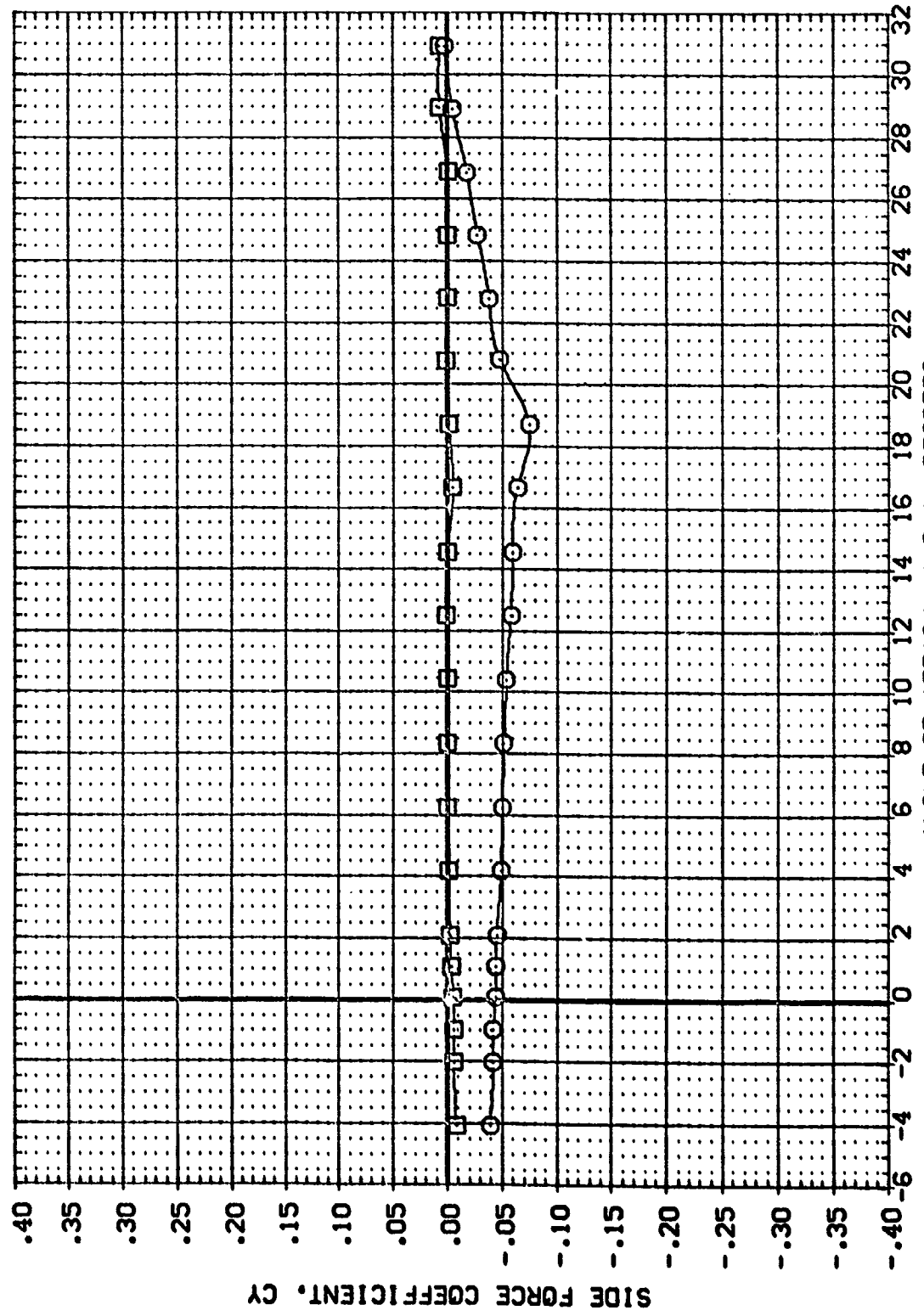


FIG 20 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING X0 = 1005

DATA SET SYMBOL: (FDL043) ○
 CONFIGURATION DESCRIPTION: 0A71C B16C507J34F1V87 E18V3R3X10

DALRON: 10.000
 NACX/L: .270
 SOFLAP: -18.000
 NACBTA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SQ.FT.
 LREF: 19.2299 INCH-ES
 BREF: 37.9349 INCH-ES
 XMRP: 43.5974 INCH-ES
 YMRP: .0000 INCH-ES
 ZMRP: 16.2000 INCH-ES
 SCALE: .0405 SCALE

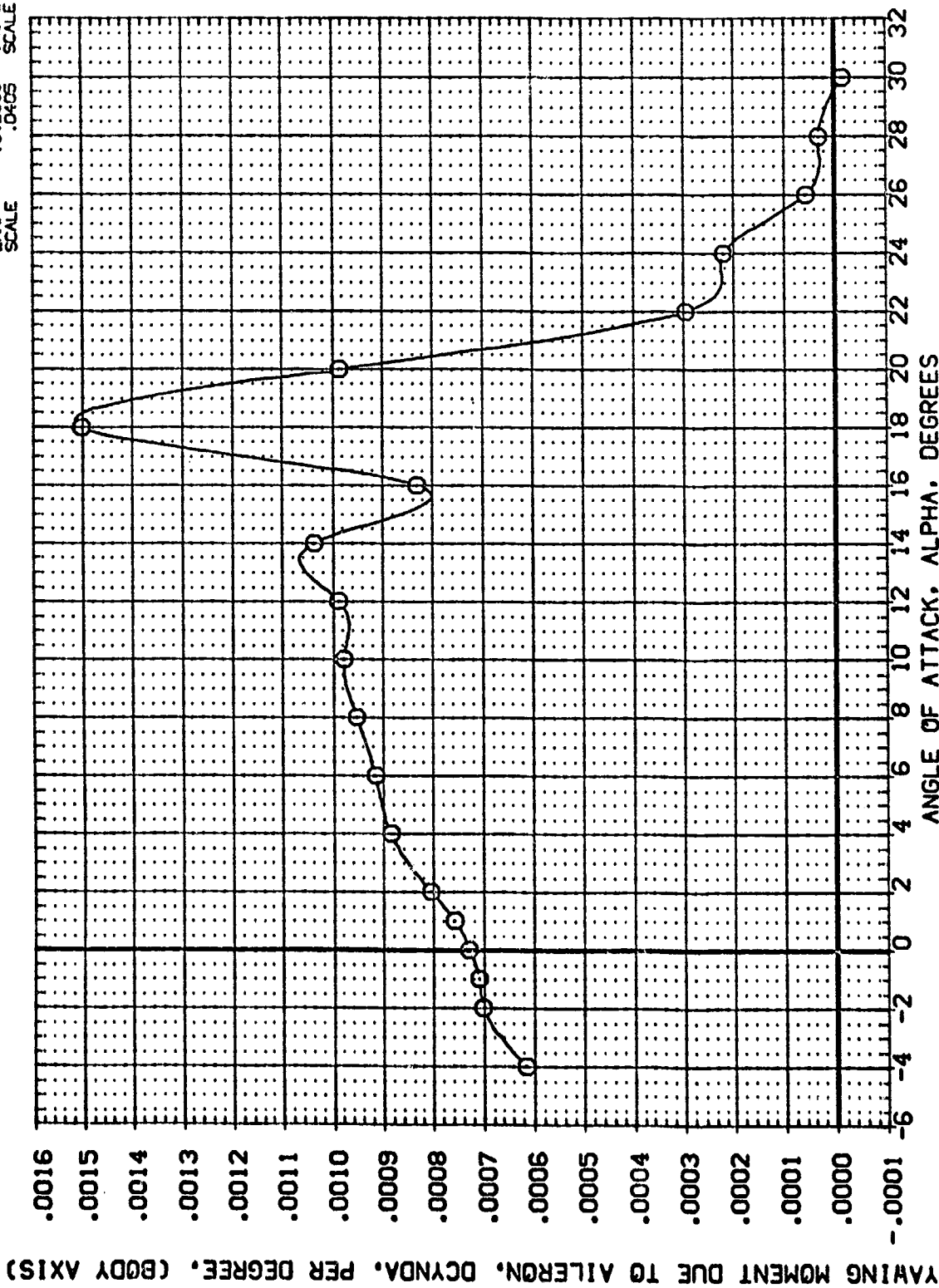


FIG 21 ALERON EFFECTIVENESS DERIVATIVES-CLUSTERED-NACELLES UNDERWING XO=1005

(A)MACH = .21



DATA SET SYMBOL: CA71C B16CSD7J34F1V87 E18V3R3X10

DALRON 10.000 NACX/L .270 BOFLAP -18.000 NACBTA 5.000
 SREF 4.4122 SO.FT. INCHES
 LREF 19.2239 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF 10.000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 INCHES

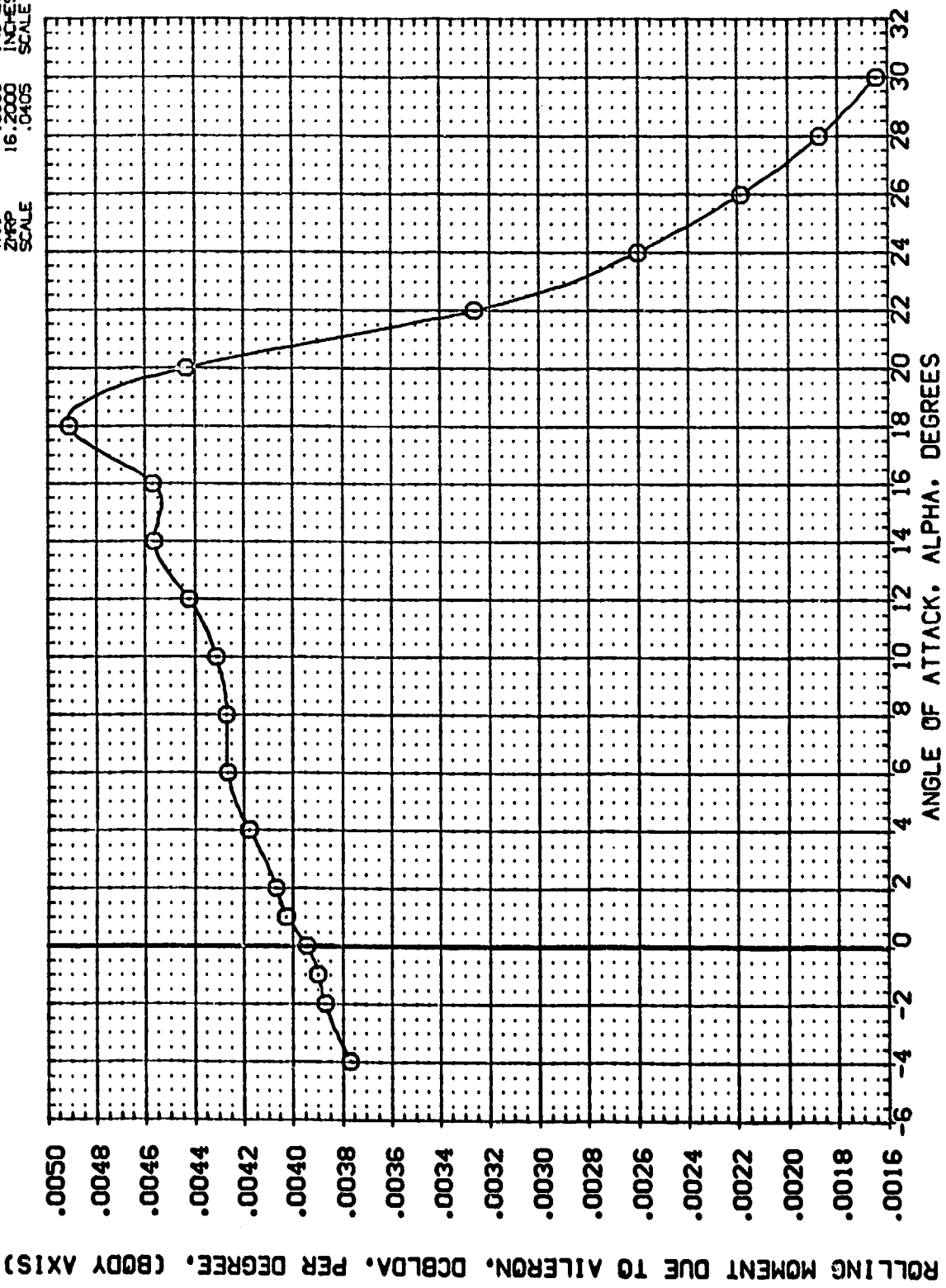


FIG 21 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING X0=1005

(A)MACH = .21

DATA SET SYMBOL: 0A71C B16C507J34F1V67 E18V3K3X10
 CONFIGURATION DESCRIPTION

CALRON: 10.000
 MACXL: .270
 BOFLAP: -18.000
 MACBTA: 5.000

REFERENCE INFORMATION
 SREF: 4.4122 SO.FT
 LREF: 19.2269 INCHES
 XMRP: 37.9349 INCHES
 YMRP: 43.5974 INCHES
 ZMRP: .0000 INCHES
 SCALE: 16.2000 INCHES
 .0405 INCHES

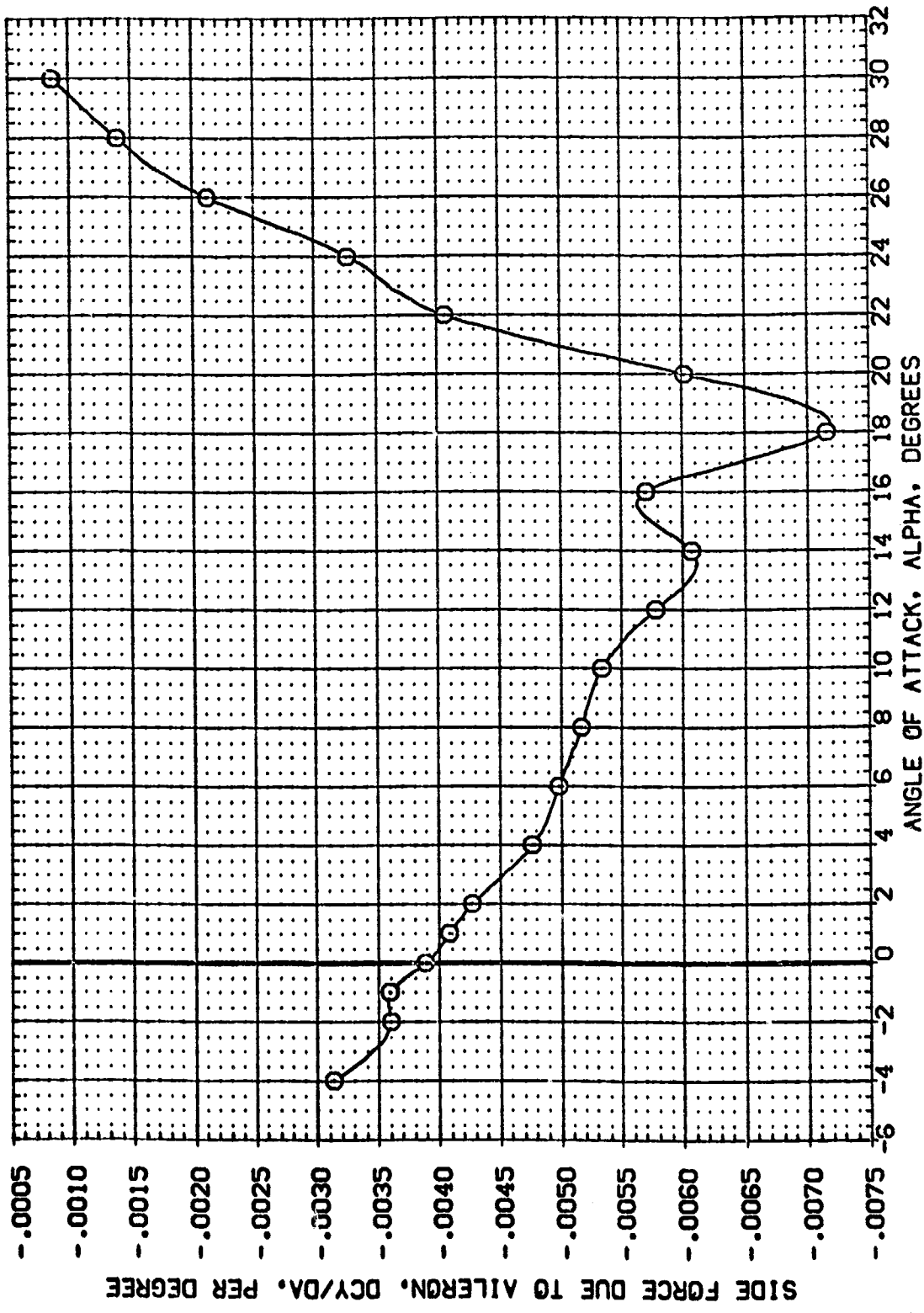


FIG 21 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING X0=1005
 (A)MACH = .21
 PAGE 252

DATA SET SYMBOL: (R0L054) (R0L049)

CONFIGURATION DESCRIPTION: CA71C B16C5D7J34F1V87 E18V3R3X10
 CA71C B16C5D7J34F1V87 E18V3R3X10

AILERON: 10.000
 NACV/L: .530
 NAOL/P: 7.000
 NACBTA: 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 50.FT.
 LREF: 19.2259 INCHES
 BREF: 37.9349 INCHES
 XREF: 43.5974 INCHES
 YREF: .0000 INCHES
 ZREF: 16.2000 INCHES
 SCALE: .0405

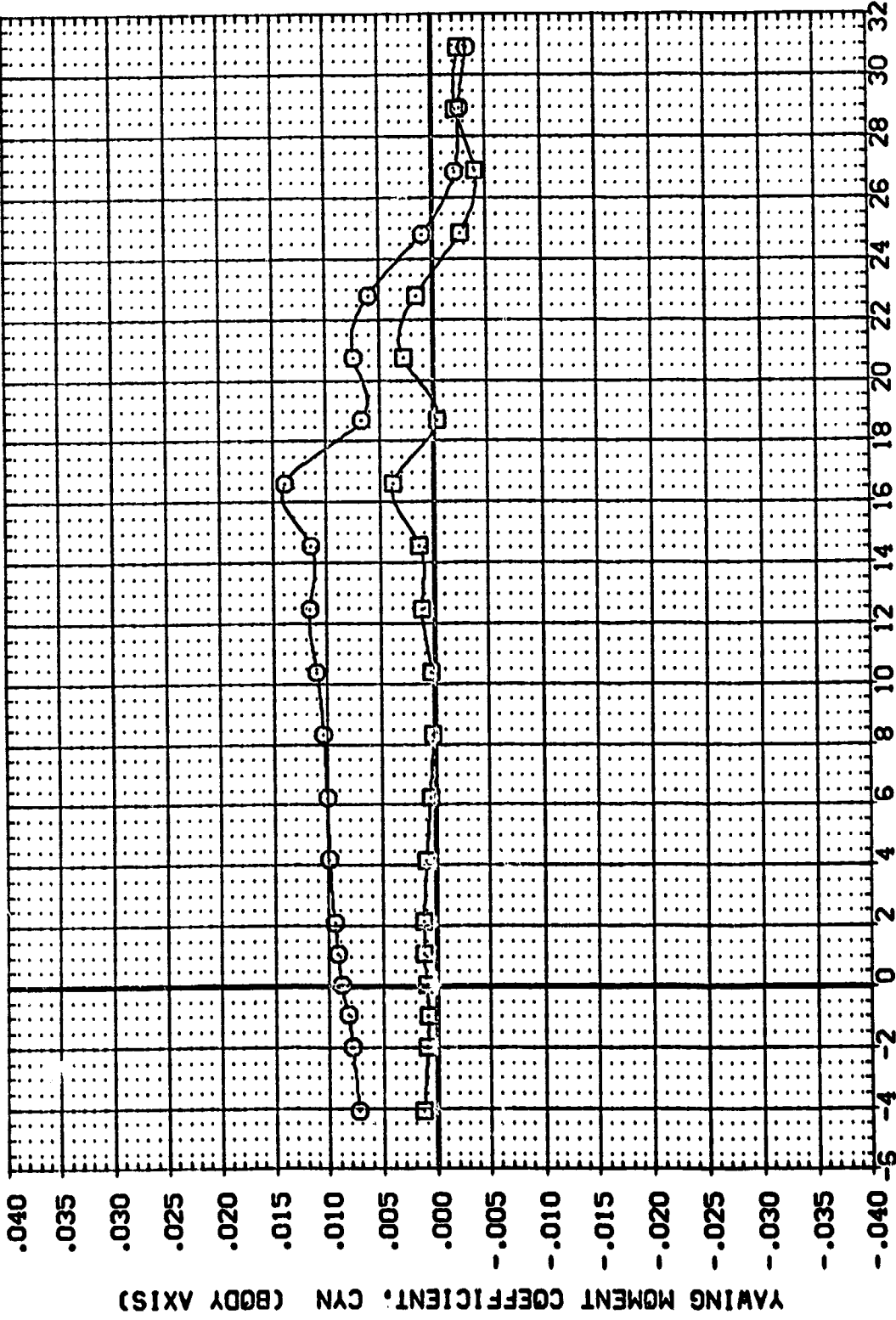


FIG 22 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERLYING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R0L054) 0A71C B16C507J34F1V87 E1SV3R3X10
 (R0L049) 0A71C B16C507J34F1V87 E1SV3R3X10

AILERON NACX/L NACL/P NACB/T A
 10.000 .530 7.000 5.000
 .000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50. FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XCRP 43.5974 INCHES
 YCRP 16.1000 INCHES
 ZCRP 16.2000 INCHES
 SCALE .0405

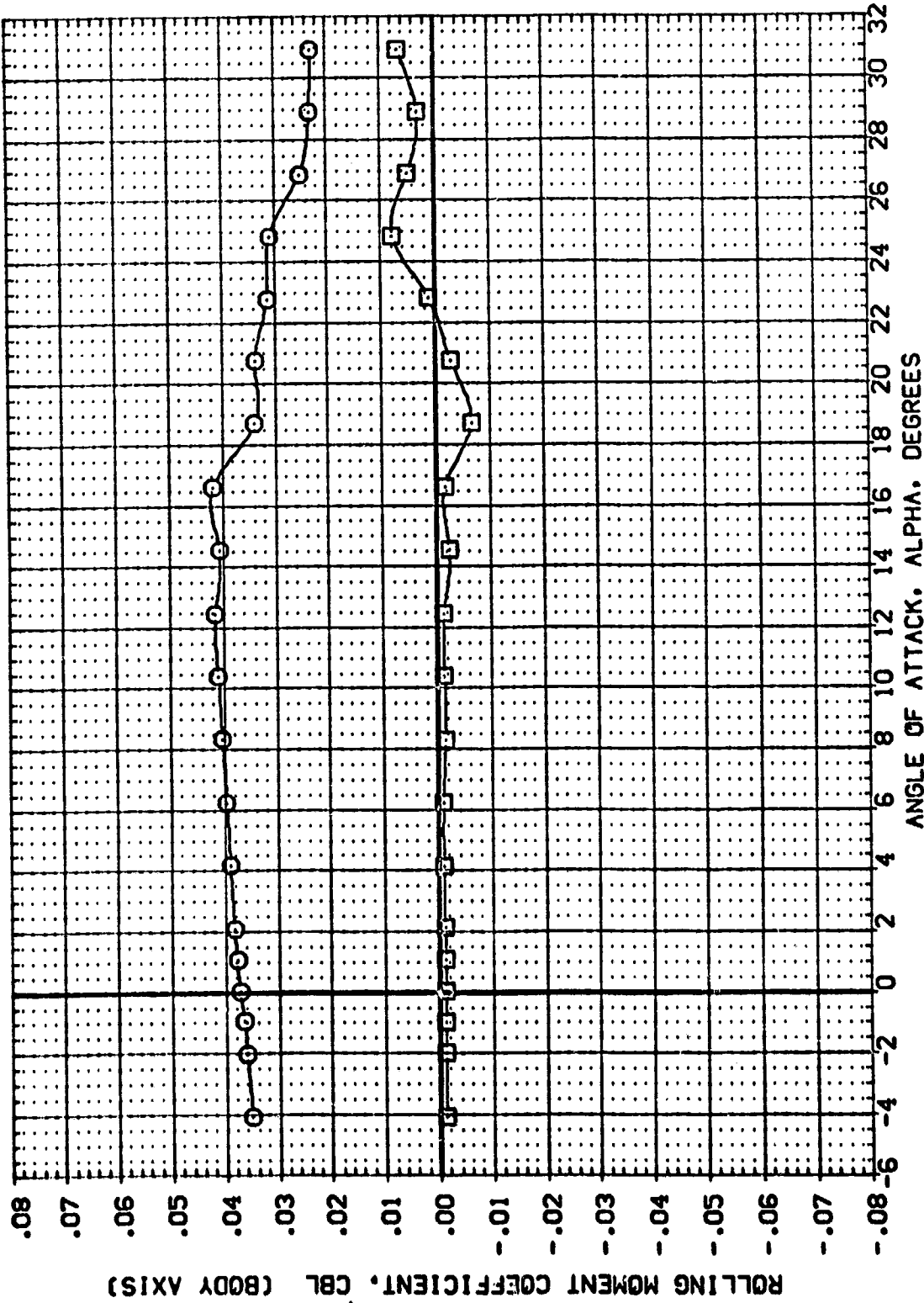


FIG 22 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING X0 = 1060

(A)MACH = .20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	AILERON	MACVL	MACLIP	MACBTA	REFERENCE INFORMATION
(R0L054)	0A71C 816C5D7J34F1V87 E18V3R3X10	10.000	.530	7.000	5.000	SREF 4.4122 SO.FT.
(R0L049)	0A71C 816C5D7J34F1V87 E18V3R3X10	.000	.530	7.000	5.000	LREF 19.2239 INCHES
						BREF 37.9349 INCHES
						XMRP 43.5974 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

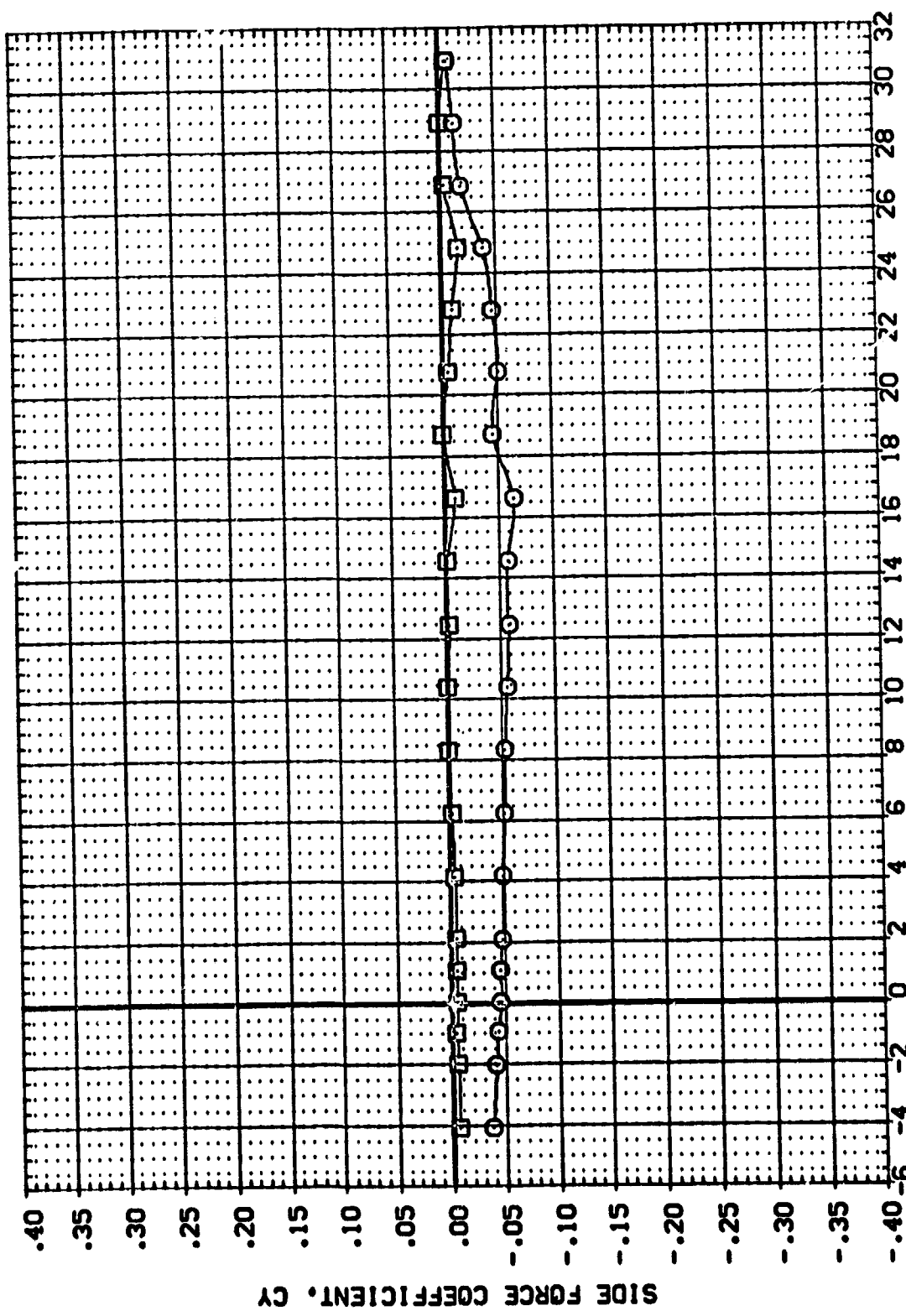


FIG 22 AILERONS DEFLECTED - CLUSTERED NACELLES UNDERWING XU = 1060
 (A)MACH = .20

DATA SET SYMBOL (F0405A) ○ QAT1C B16C507J34F1V67 E18V3R3X10

CONFIGURATION DESCRIPTION

DALRON 10.000
 NACX/L .530 -18.000
 NACBETA 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5574 INCHES
 YMRP 0.000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

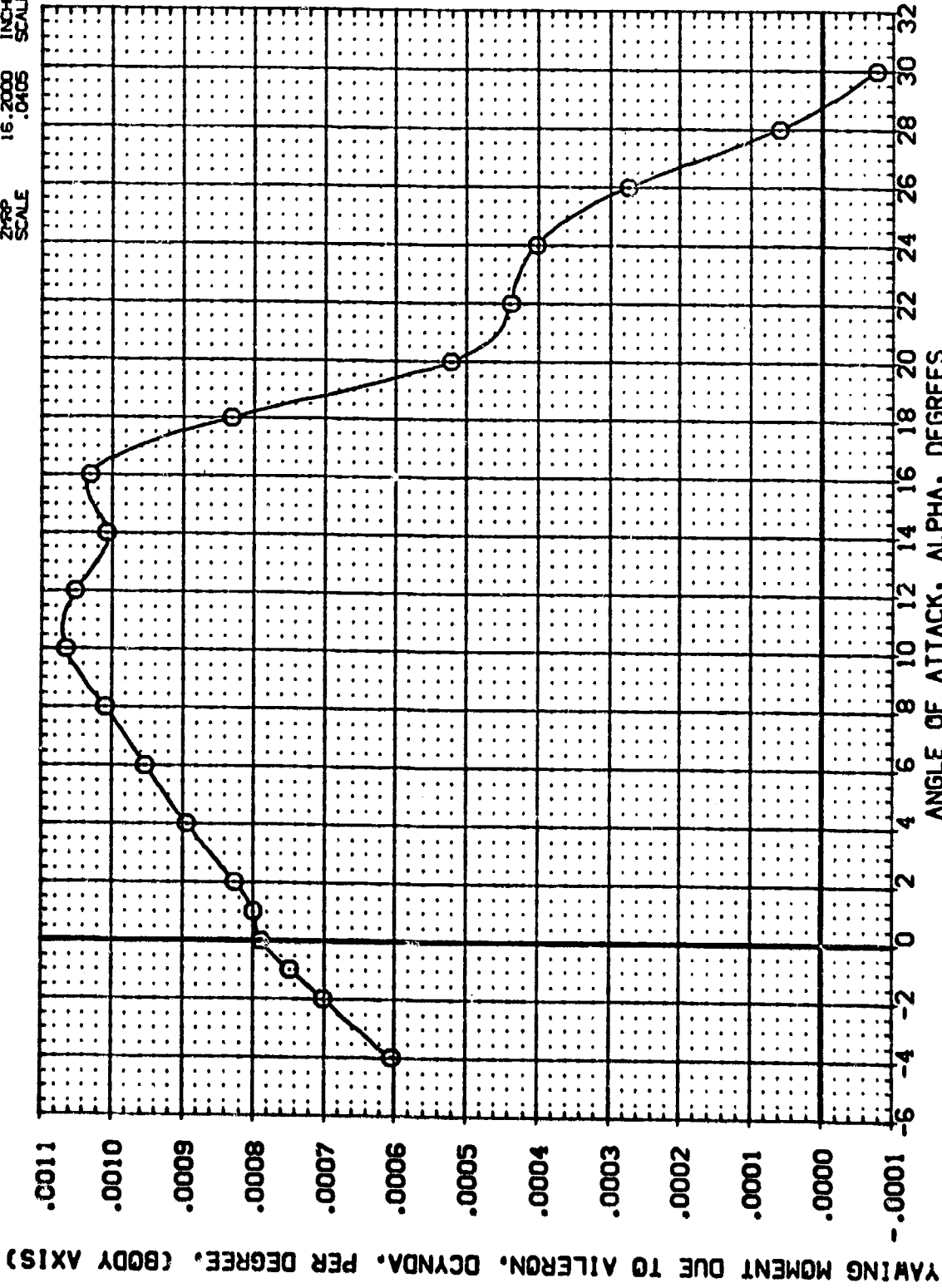


FIG 23 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING XO=1060

(A)MACH = .21



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FDL054) O CAT1C B16C507J34F1V87 E18V3KX10

DAURON 10.000
 MACVA .530
 BOFLAP -18.000
 MACBTA 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XMRP 43.9374 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

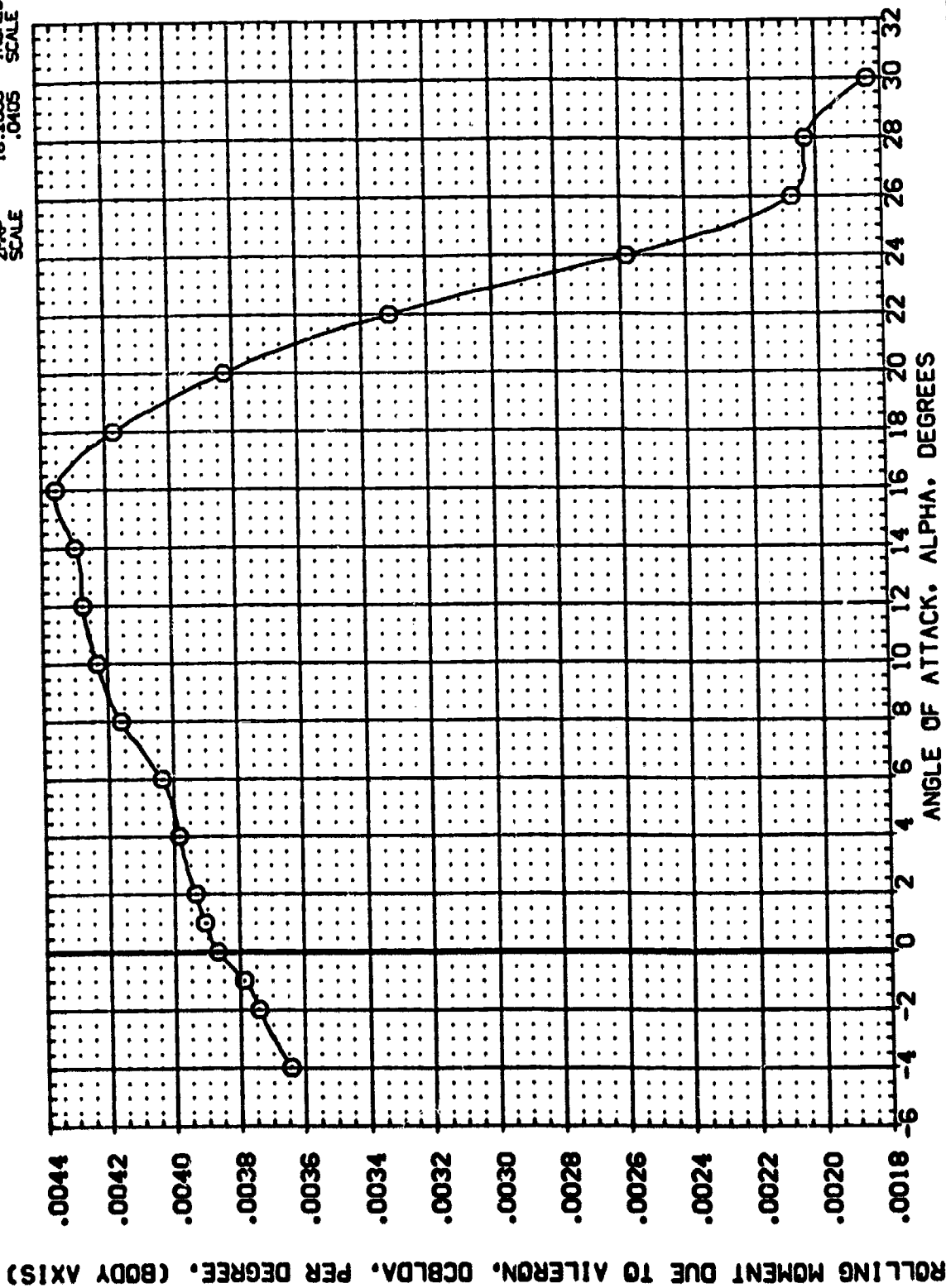


FIG 23 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING X0=1060

(A)MACH = .21

DATA SET SYMBOL: O
 CONFIGURATION DESCRIPTION: CAT1C B16CSD7J34F1V87 E18V3R3X10

DAURON: 10.000
 NACA/L: .530
 80FLAP: -18.000
 NACBTA: 5.000

REFERENCE INFORMATION
 SREF: 4.4122 50.FT.
 LREF: 19.2299 INCHES
 BREF: 37.9349 INCHES
 XREF: 43.5974 INCHES
 YREF: 0.0000 INCHES
 ZREF: 16.2000 INCHES
 SCALE: .0405

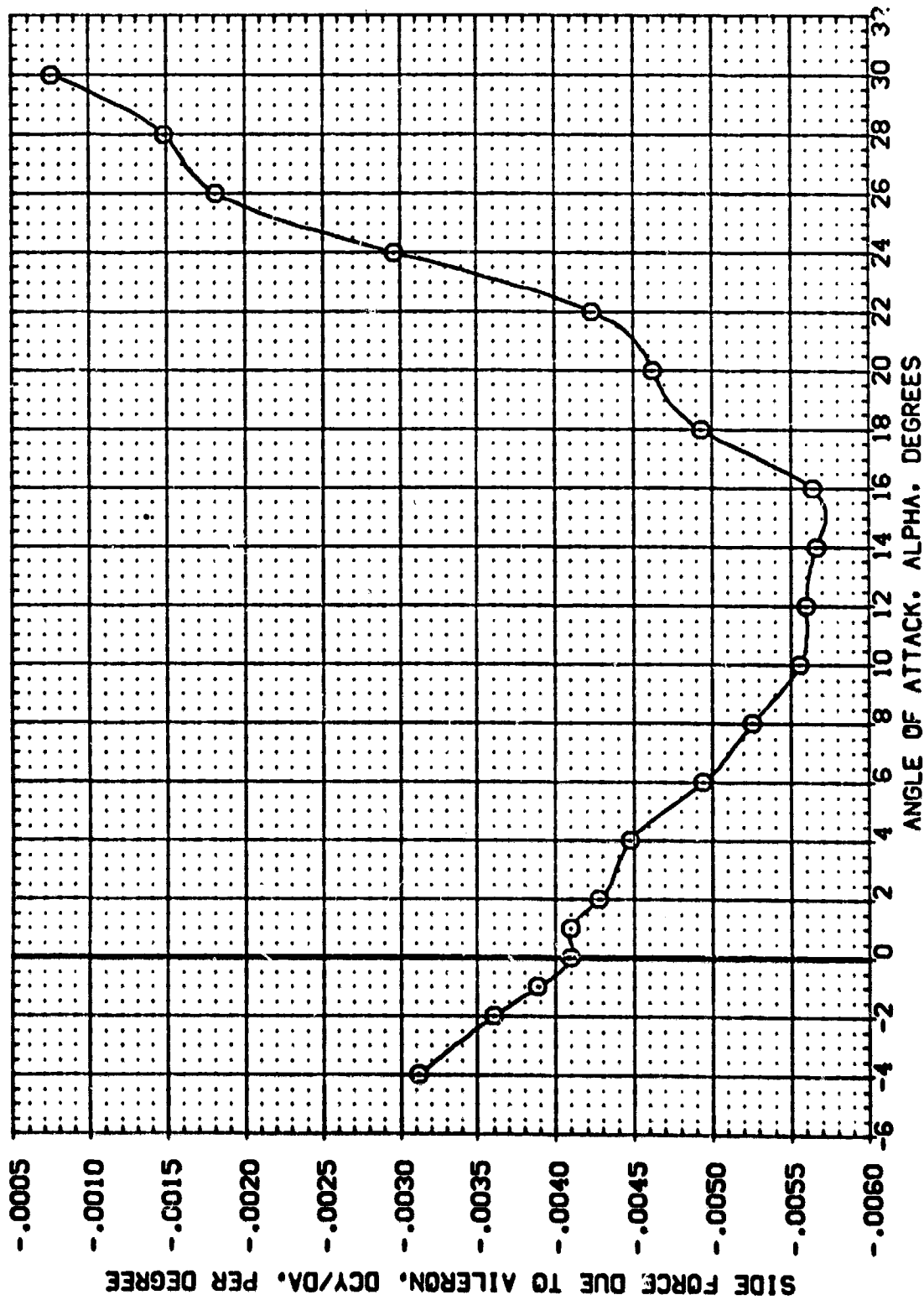


FIG 23 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES UNDERWING X0=1060
 (A)MACH = .21

DATA SET SYMBOL: (R0063) (R0068)

CONFIGURATION DESCRIPTION:
 CA71C B16CSD7J35F1V87 E18V3R3X10
 CA71C B16CSD7J35F1V87 E18V3R3X10

AILERON 10.000
 NACX/L .530
 NACLIP 7.000
 NACBTA 5.000

REFERENCE INFORMATION:
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XGRP 43.5974 INCHES
 YGRP .0000 INCHES
 ZGRP 16.2000 INCHES
 SCALE .0405 SCALE

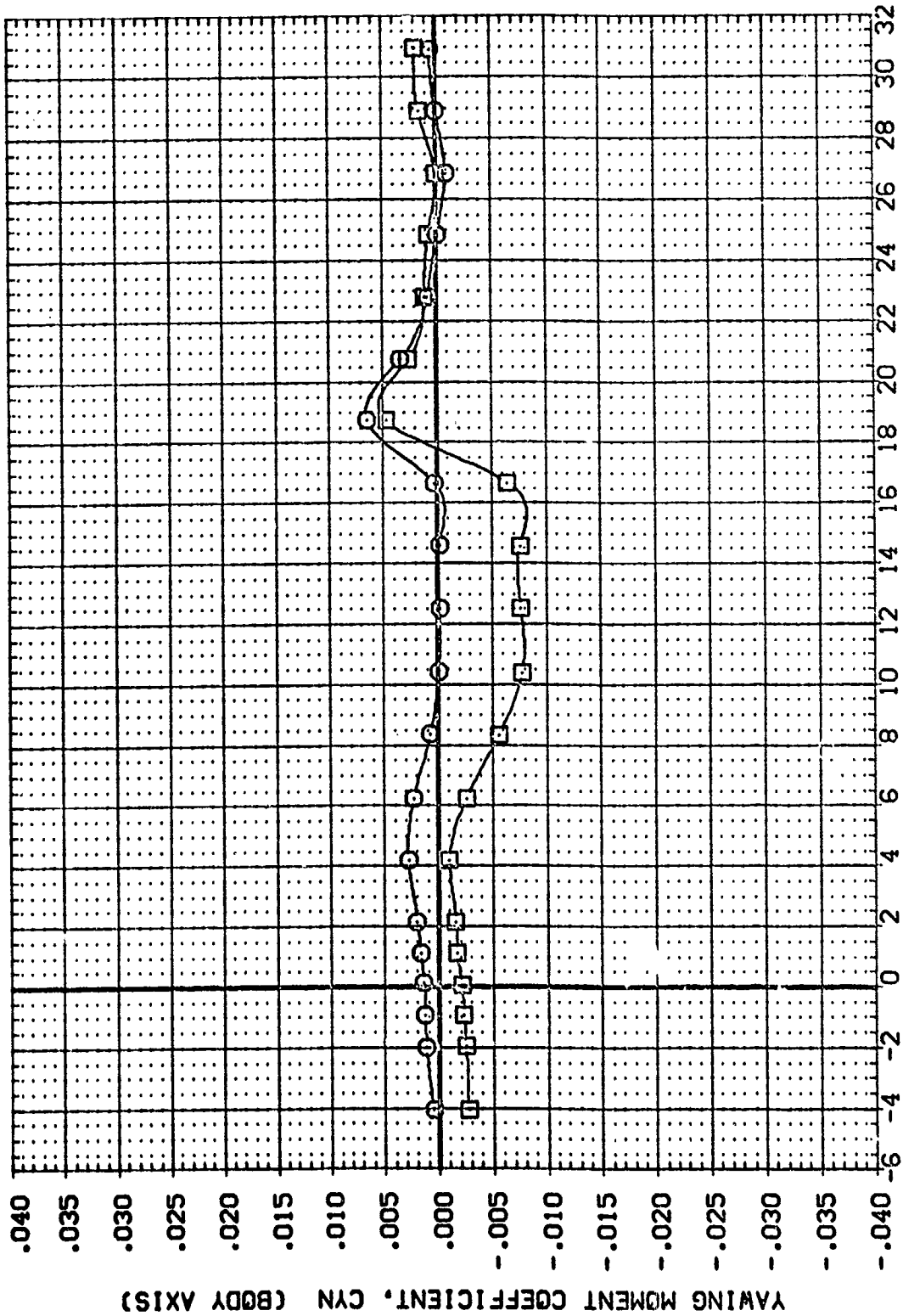


FIG 24 AILERONS DEFLECTED - CLUSTERED NACELLES 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R0L0G3) CA71C B16C5D7J35F1V87 E18V3R3X10
 (R0L0S8) CA71C B16C5D7J35F1V87 E18V3R3X10

AILERON NACX/L NACL/P NACB/TΔ
 10.000 .530 7.000 5.000
 .000 .530 7.000 5.000

REFERENCE INFORMATION:
 SREF 4.4122 50. FT.
 LREF 19.2299 INCHES
 RREF 37.9349 INCHES
 XREF 43.5574 INCHES
 YREF .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES

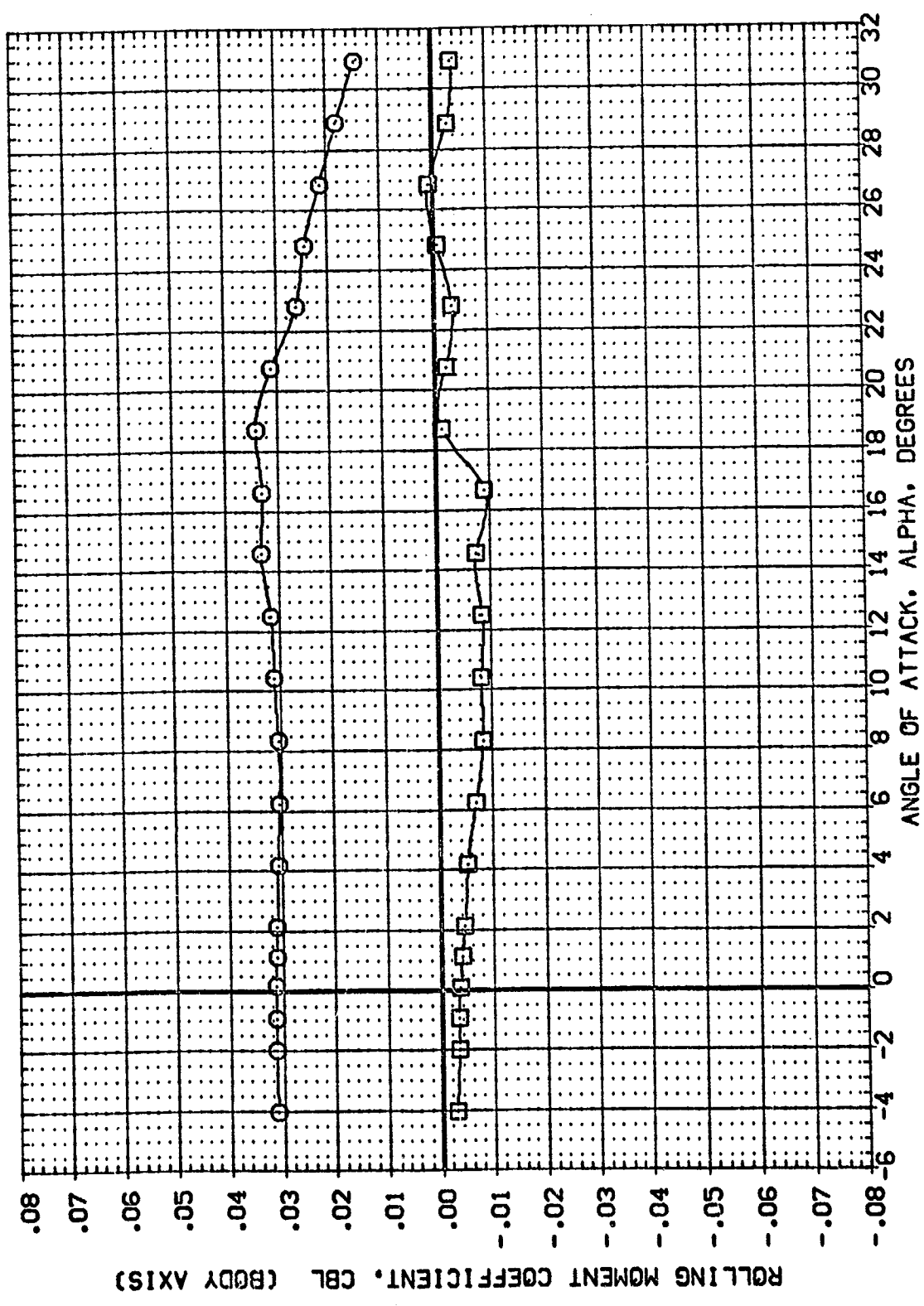


FIG 24 AILERONS DEFLECTED - CLUSTERED NACELLES 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R0J063) □ CA71C B16C507J35F1V67 E18V3R3X10
 (R0J058) □ CA71C B16C507J35F1V67 E18V3R3X10

AILERON NACX/L NACLIP NACBTA
 10.000 .530 7.000 5.000
 .000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2268 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5574 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES

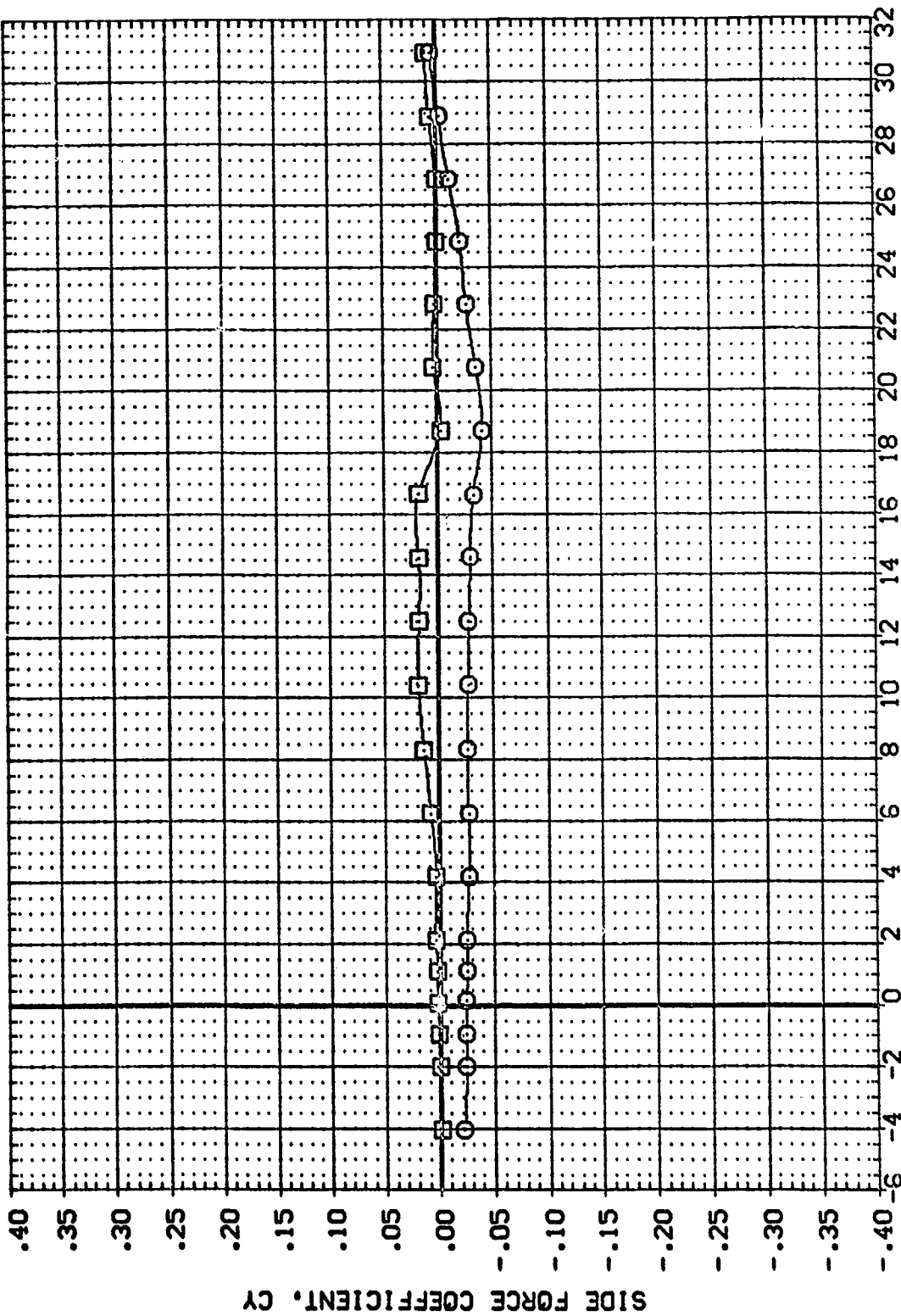


FIG 24 AILERONS DEFLECTED - CLUSTERED NACELLES 2 OVERWING X0 = 1060

(A)MACH = .20

DATA SET SYMBOL: 0171C B16CS07/35F1V87 E18V3R3X10

DALRN NAC/L BOFLAP NACBTA
10.000 .530 -18.000 5.000

REFERENCE INFORMATION
SREF 4.4122 SQ.FT.
LREF 19.2299 INCHES
BREF 37.9349 INCHES
XREF 43.5974 INCHES
YREF .0000 INCHES
ZREF 16.2000 INCHES
SCALE .0405 INCHES

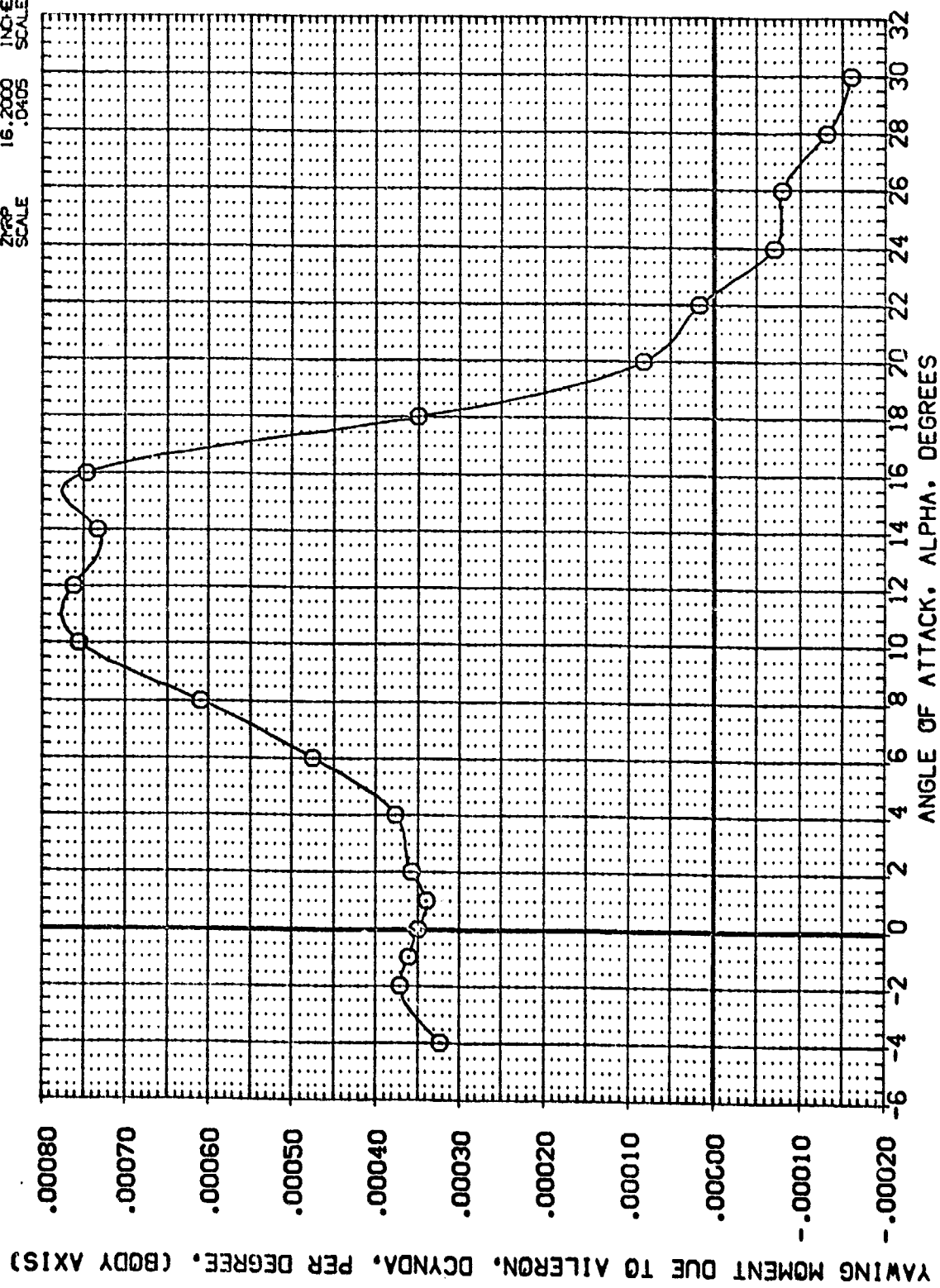


FIG 25 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES 2 OVERWING X=1060
(A)MACH = .21 PAGE 262

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (FDL063) O CA71C B16C507J35F1V87 E16V3R2X10

DALRON 10.000 NACK/L .530 BOFLAP -18.000 NACBTA 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.5349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

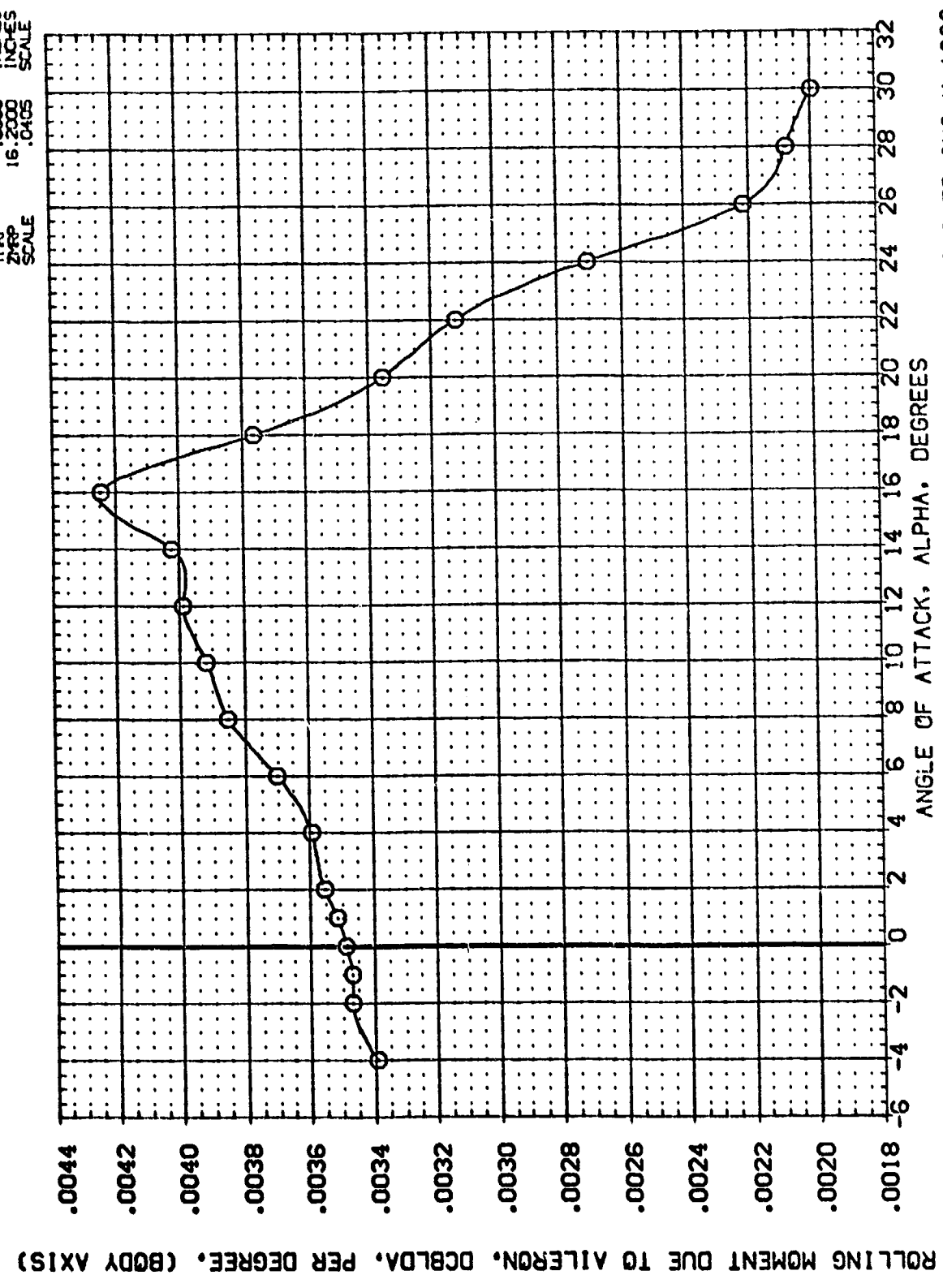


FIG 25 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES 2 OVERWING X=1060
 (A)MACH = .21 PAGE 263

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(FDU063) O CA71C B16C507/35F1V87 E18V3R3X10

DALRON NACX/L BOFLAP NACBTA
10.000 .530 -18.000 5.000

REFERENCE INFORMATION
SREF 4.4122 50.FT.
LREF 19.2299 INCHES
BREF 37.9349 INCHES
XREF 43.5974 INCHES
YREF 10.000 INCHES
ZREF 16.2000 INCHES
SCALE .0405

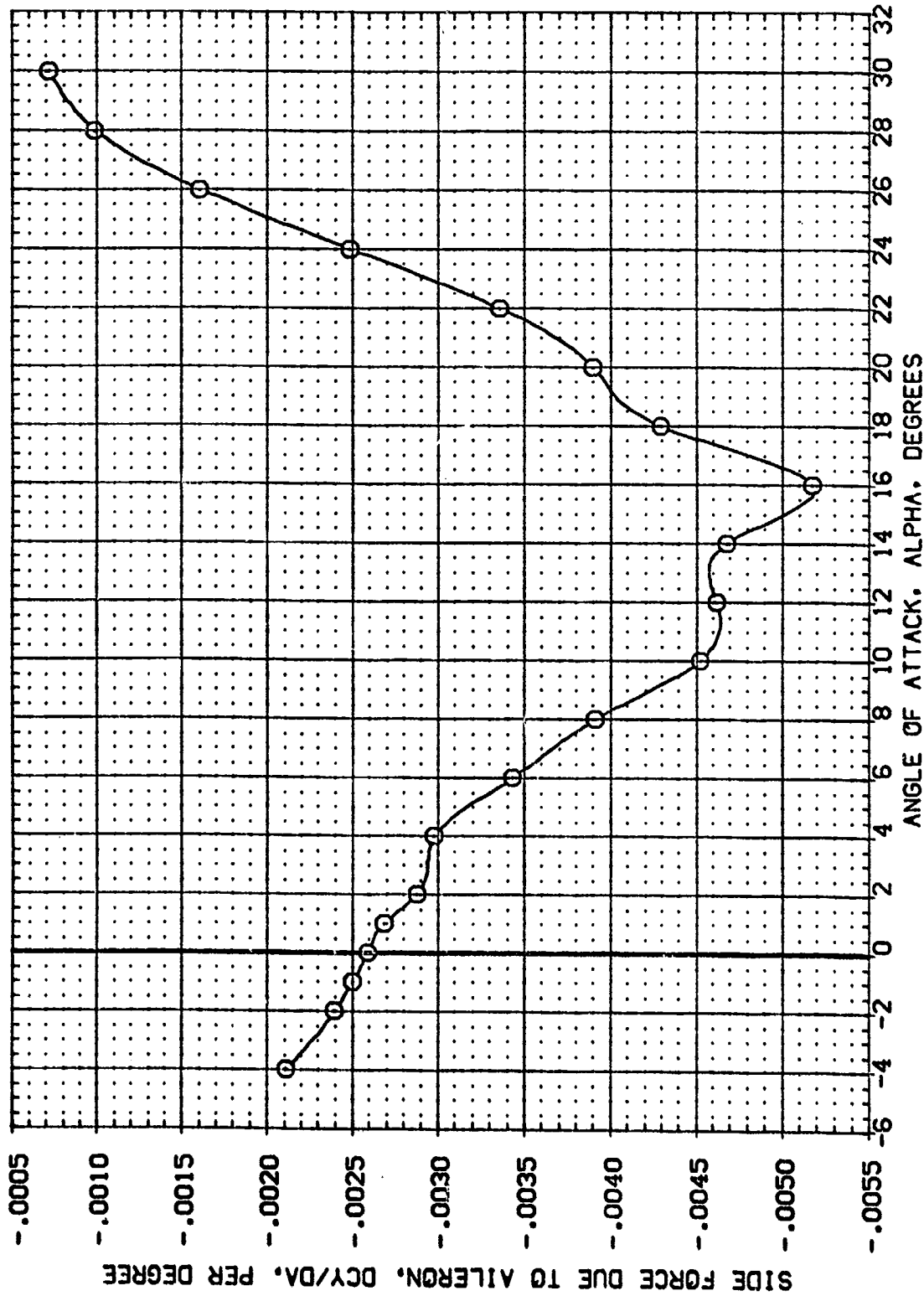


FIG 25 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES 2 OVERWING X=1060

(A)MACH = .21

DATA SET SYMBOL (R01064) (R01067)

CONFIGURATION DESCRIPTION
 QA71C B16C507J35F1V87 E18V3R3X10
 QA71C B16C507J35F1V87 E18V3R3X10

AILERON NACX/L NACL/P NACBTA
 10.000 .000 7.000 5.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XTRP 43.5974 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE

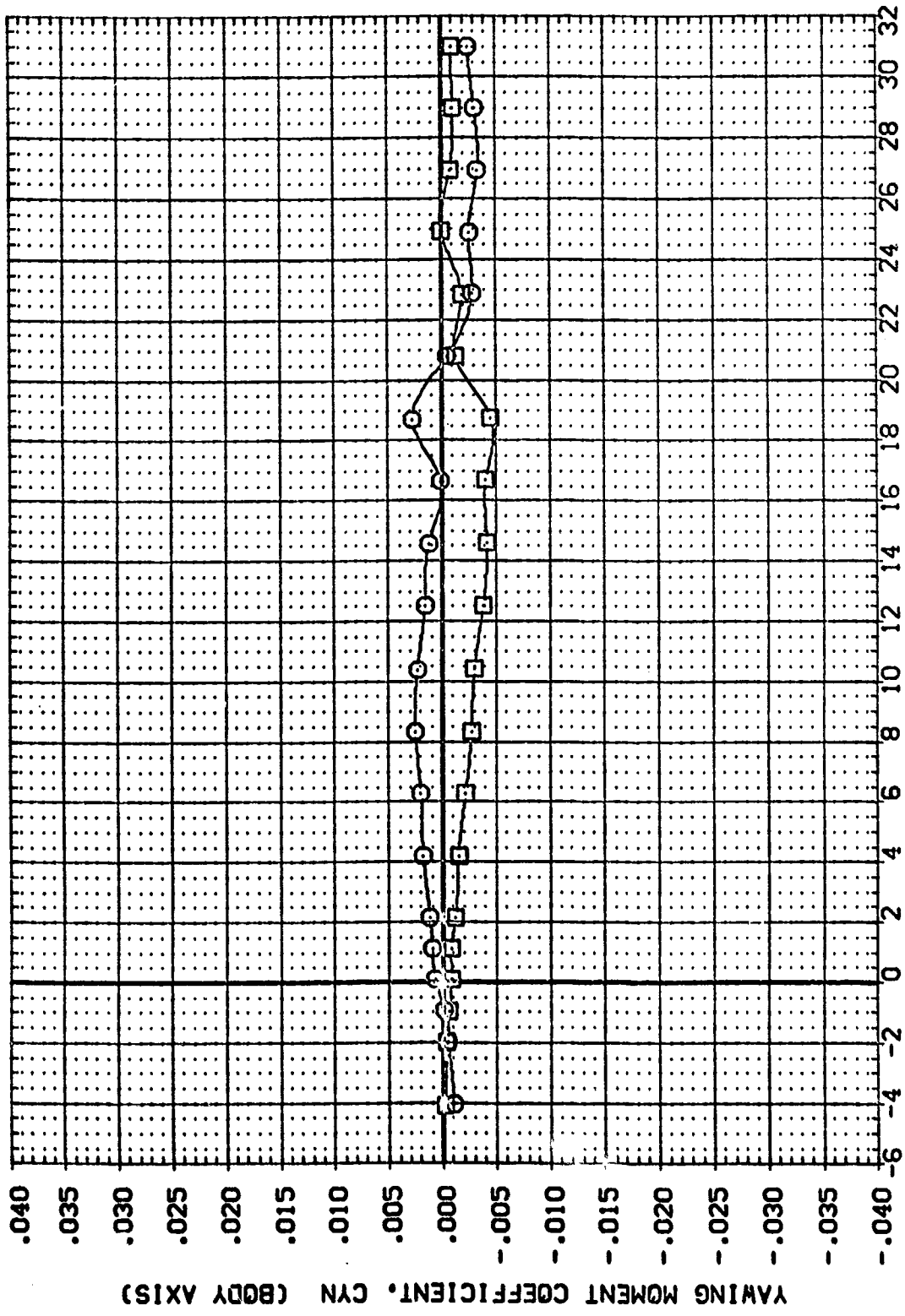


FIG 26 AILERONS DEFLECTED - CLUSTERED NACELLES 2 OVERWING X0 = 950

DATA SET SYMBOL: (R01064) (R01067)

CONFIGURATION DESCRIPTION:
 BA71C B16C507J35F1V87 E18V3R3X10
 BA71C B16C507J35F1V87 E18V3R3X10

AILERON MAC/L 10.000
 NAU/L .000
 NAU/LIP 7.000
 NACBTA 5.000

REFERENCE INFORMATION:
 SREF 4.4122 50. FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 YPRP 43.5974 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405

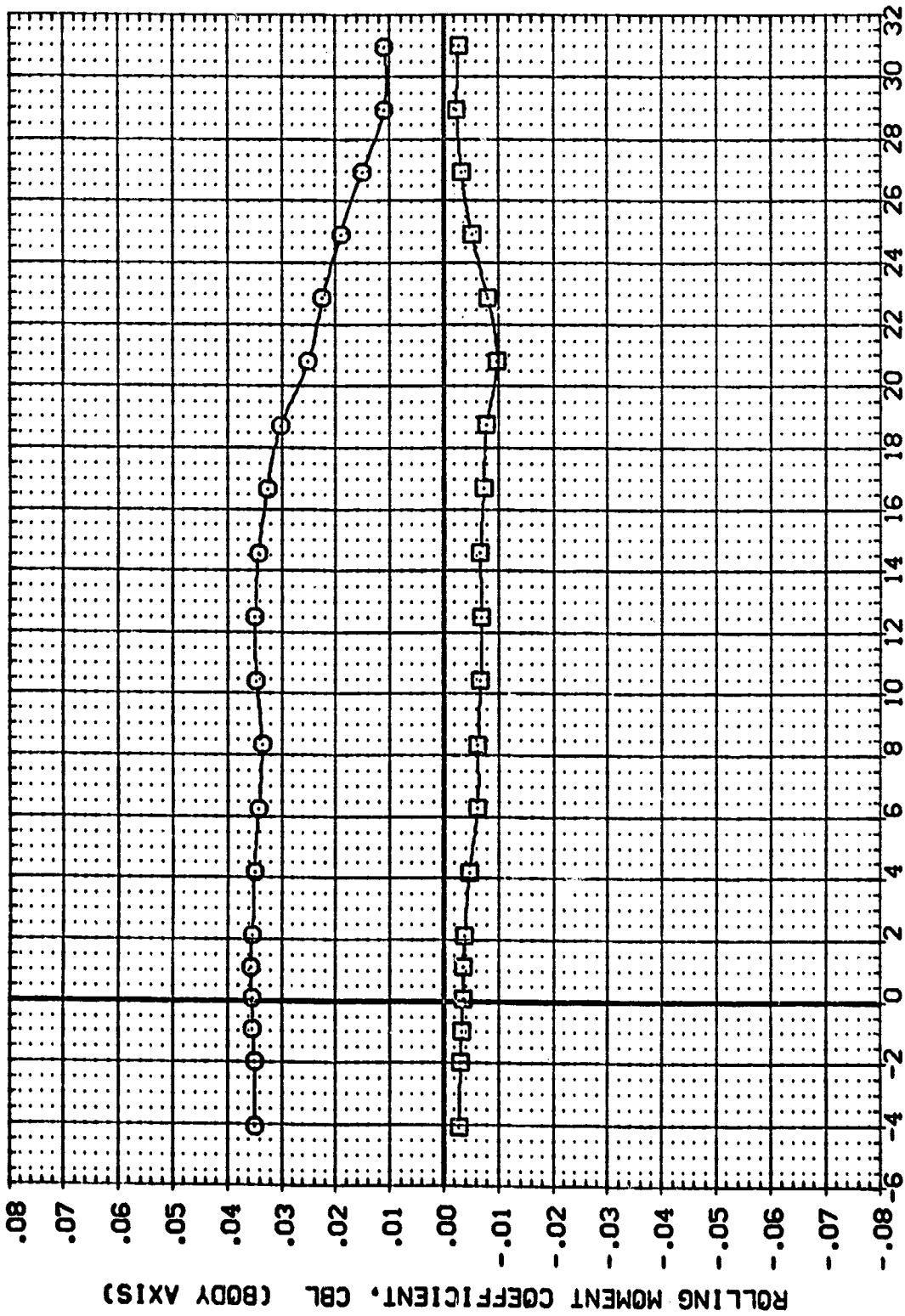


FIG 26 AILERONS DEFLECTED - CLUSTERED NACELLES 2 OVERWING X0 = 950

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RDL064) CA71C B16C507J35F1V67 E16V36X1D
 (RDL067) CA71C B16C507J35F1V67 E16V36X1D

AILERON MACX/L 10.000
 .000
 .000

MACB/T A 7.000

MACB/T A 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XTRP 43.5974 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE

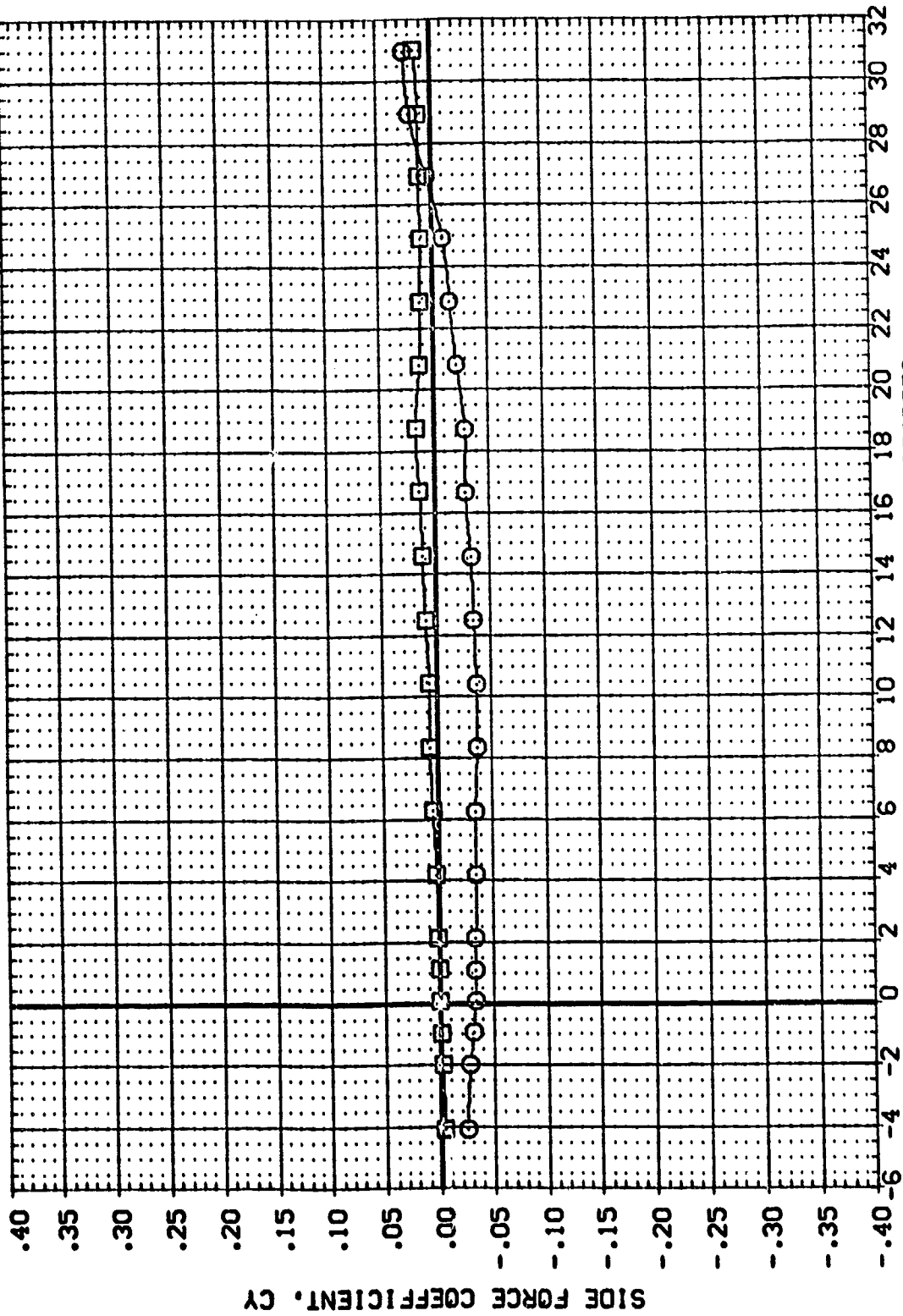


FIG 26 AILERONS DEFLECTED - CLUSTERED NACELLES 2 OVERWING X0 = 950

(A)MACH = .20

DATA SET SYMBOL: (FDL064) O CA71C B16C507J35F1V87 E18V3R3X1D

DATA: DALRG: NACX/L BOFLAP NACE/A
 10.000 .000 -18.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT
 LBREF 19.2259 INCHES
 BRREF 37.9349 INCHES
 XTREF 43.5974 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE

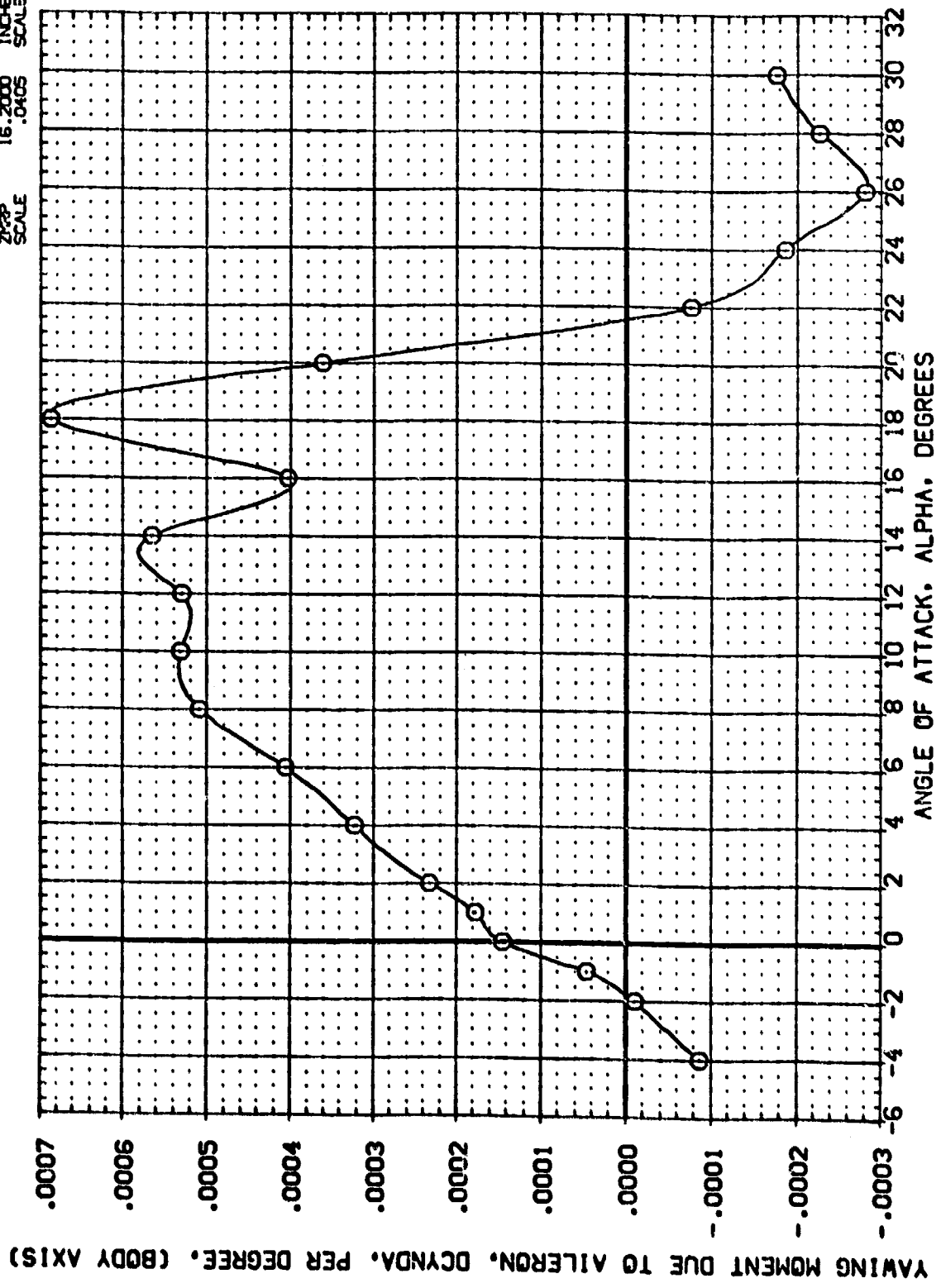


FIG 27 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES 2 OVERWING X= 950
 (A)MACH = .21 PAGE 268



DATA SET SYMBOL: 071C B16C507J35F1V87 E18V3R3K10
 (FDL064)

DAURON 10.000
 NACK/L .000
 BOFLAP -18.000
 NACBTA 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

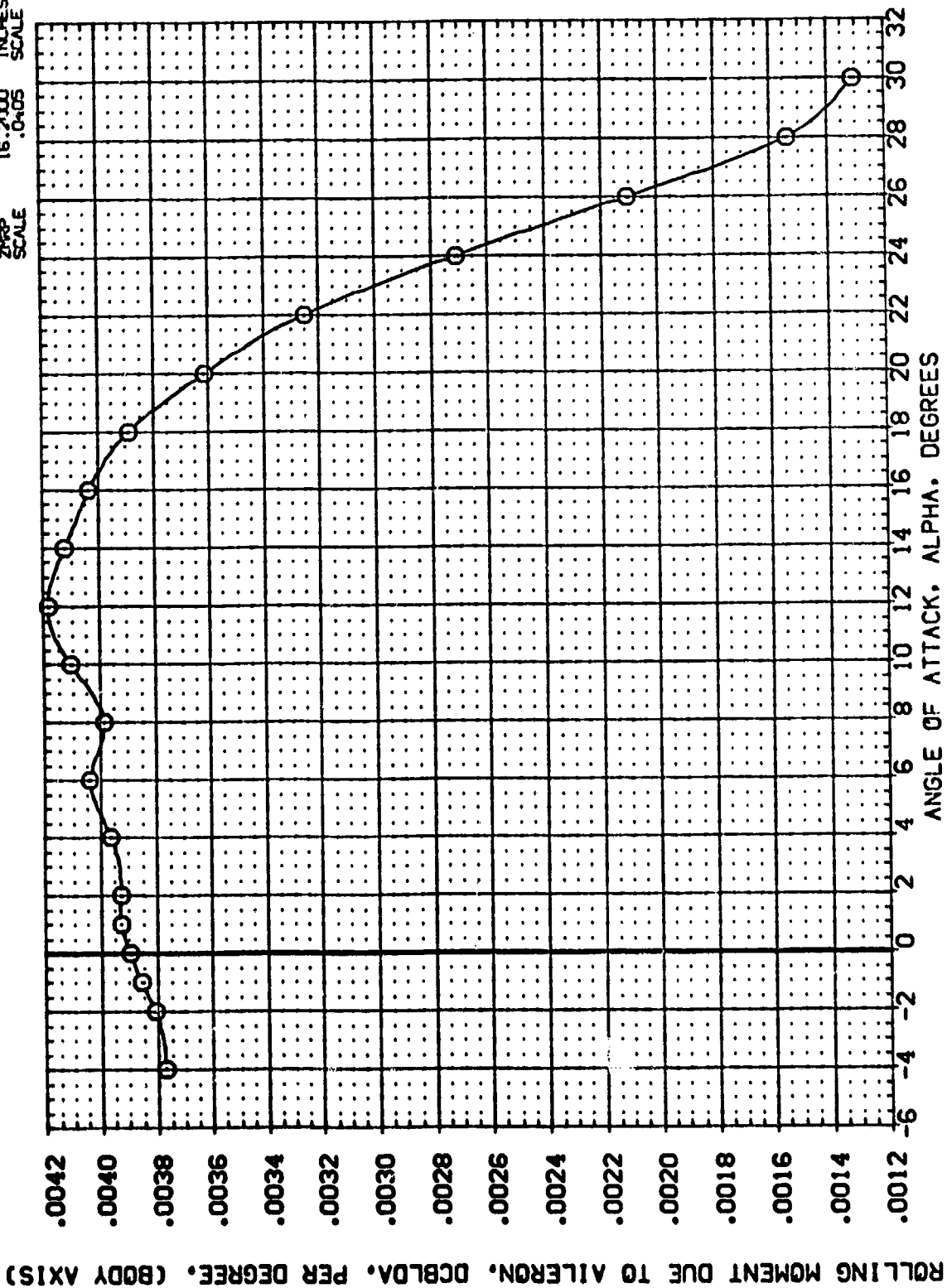


FIG 27 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED MACELLES 2 OVERWING X= 950

(A)MACH = .21

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(FDU064) O 0A71C B16C507J3SF1V67 E18V3RCX10

DALRON 10.000
MAC/L .000
BOFLAP -18.000
NACBTA 5.000

REFERENCE INFORMATION
SREF 4.4122 SO.FT.
LREF 19.2769 INCHES
BREF 37.5349 INCHES
XMRP 43.5574 INCHES
YMRP .0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405 SCALE

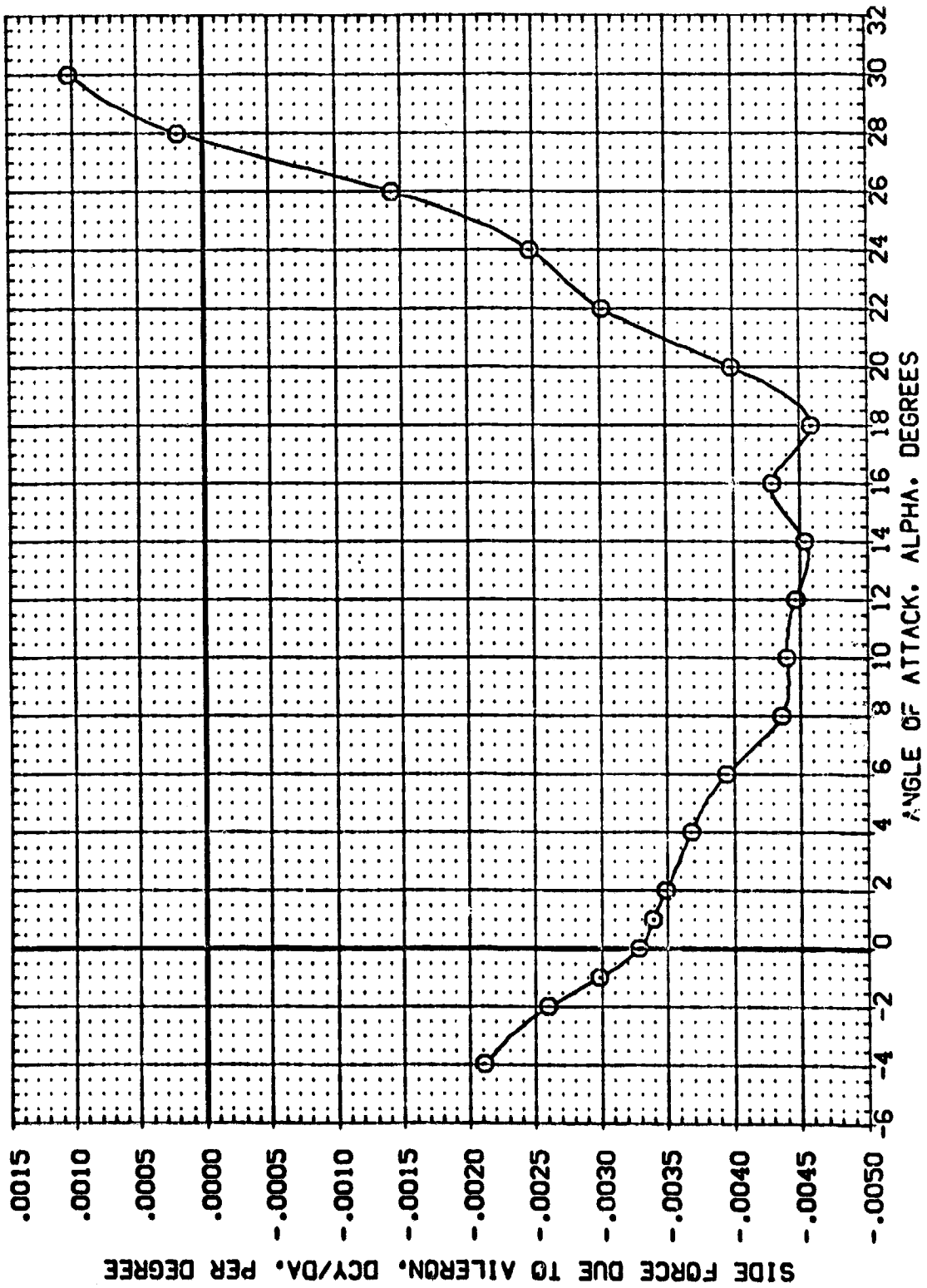


FIG 27 AILERON EFFECTIVENESS DERIVATIVES-CLUSTERED NACELLES 2 OVERWING X= 950
(A)MACH = .21 PAGE 270

DATA SET SYMBOL (R01002) (R01003) □

CONFIGURATION DESCRIPTION
 CA71C B16C507 F1V87 E1B7R3K9
 CA71C B16C507 F1V87 E1B7R3K9

ALPHA .000
 10.000

ELEVON .000
 .000

AILERON .000
 .000

BOFLAP -18.000
 -18.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2298 INCHES
 BREF 37.5349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

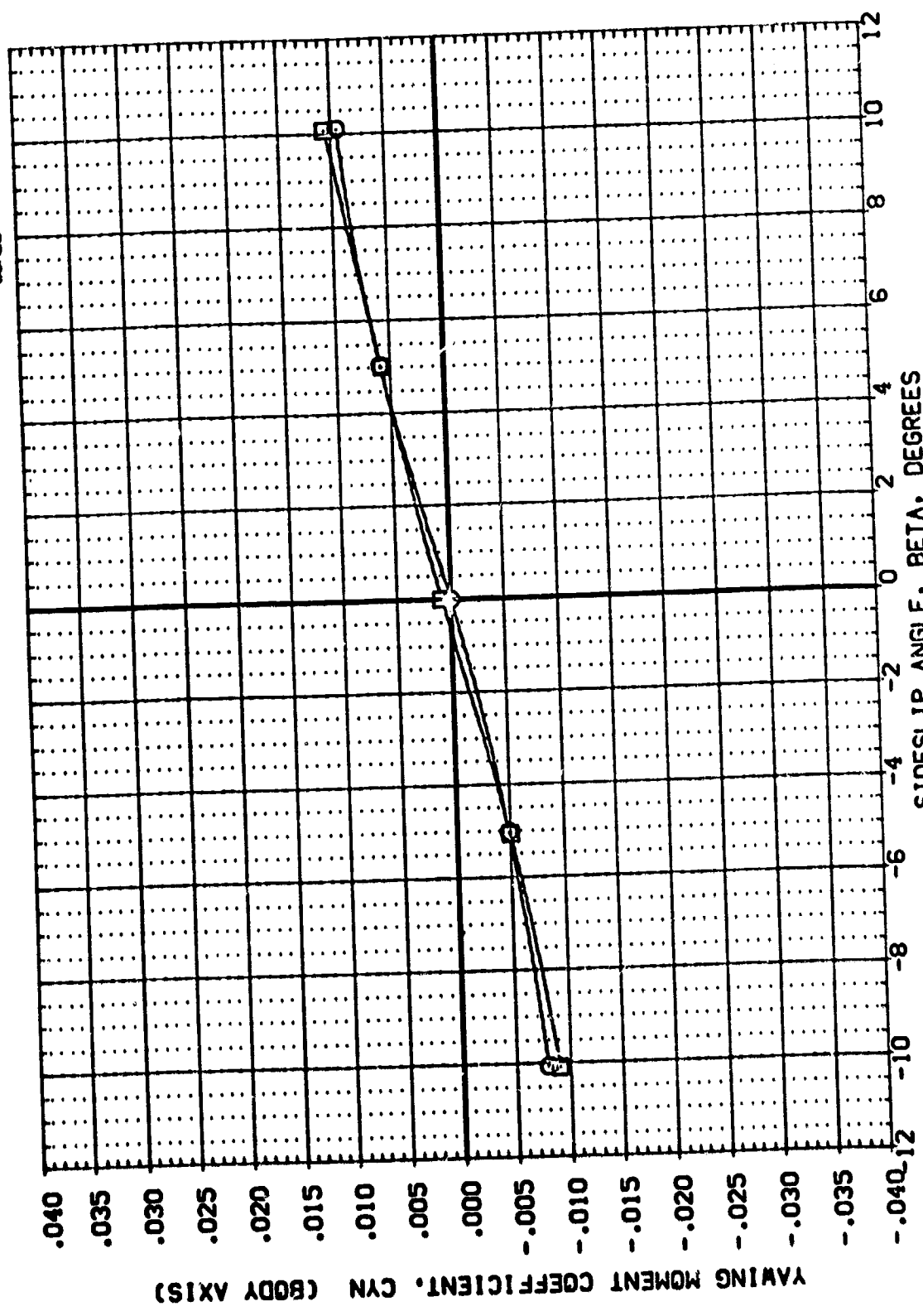


FIG 28 LATERAL/DIRECTIONAL CHARACTERISTICS - NO NACELLES

(A)MACH = .20

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (R0002) CA71C B16C507 F1V87 E18V3R0X9
 (R0003) CA71C B16C507 F1V87 E18V3R0X3

ALPHA ELEVON AILRON BOFLAP
 .000 .000 .000 -18.000
 10.000 .000 .000 -18.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XPRP 43.5974 INCHES
 YPRP .0000 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405 SCALE

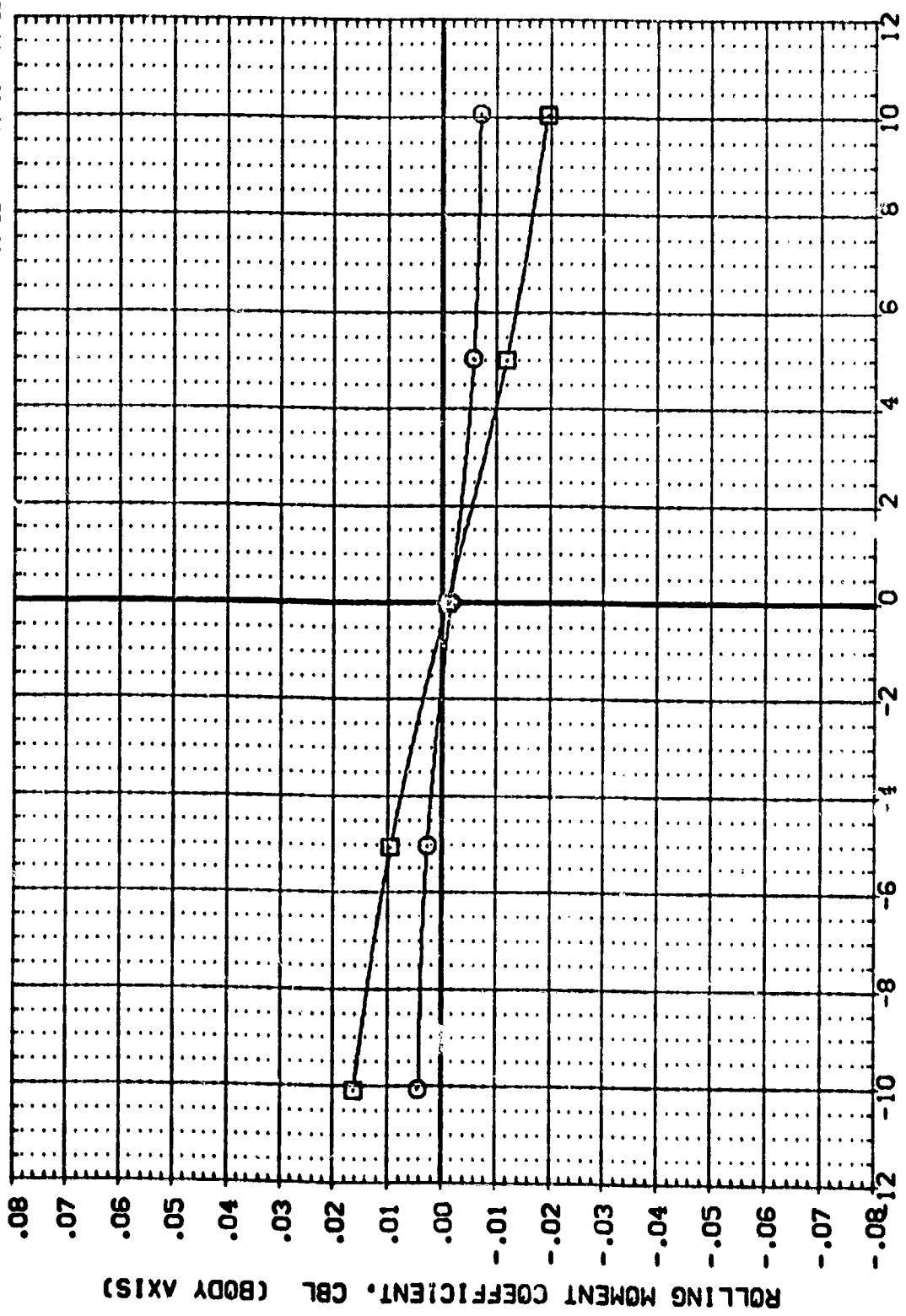


FIG 28 LATERAL/DIRECTIONAL CHARACTERISTICS - NO NACELLES
 (A)MACH = .20



DATA SET SYMBOL (R0.002) (R0.003)

CONFIGURATION DESCRIPTION
 071C 816C507 071C 818V30X9
 071C 816C507 071C 818V30X9

ALPHA .000
 ELEVON .000
 AILRON .000
 BDFLAP -18.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XPRP 43.5974 INCHES
 YPRP .0000 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405

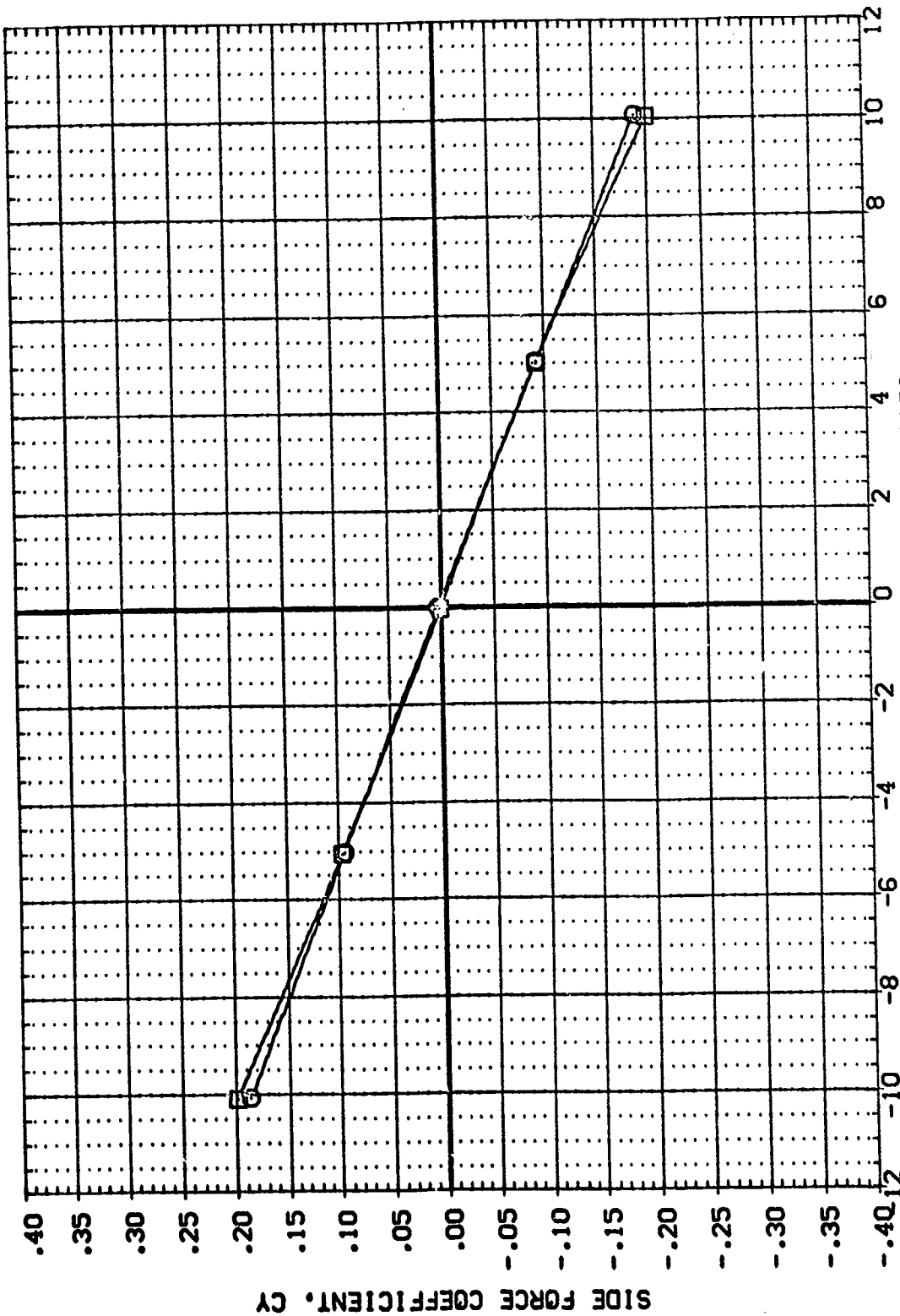


FIG 28 LATERAL/DIRECTIONAL CHARACTERISTICS - NO NACELLES
 (AJMACH = .20)

00DU002

0A71C B16C507 F1W87 E18V3R3XS

SYMBOL MACH .210
 O BOFLAP .000
 AIRLON .000

PARAMETRIC VALUES
 -18.000 ELEVON
 .000 RUDDER

DATA SOURCE
 ALPHA .000
 DATASET DD002

DATA SOURCE
 ALPHA .000
 DATASET DD003

REFERENCE INFORMATION
 SREF 4.4122
 LREF 19.2299
 XREF 37.9349
 YWRP 43.5574
 ZWRP .0000
 SCALE 16.2000
 .0405

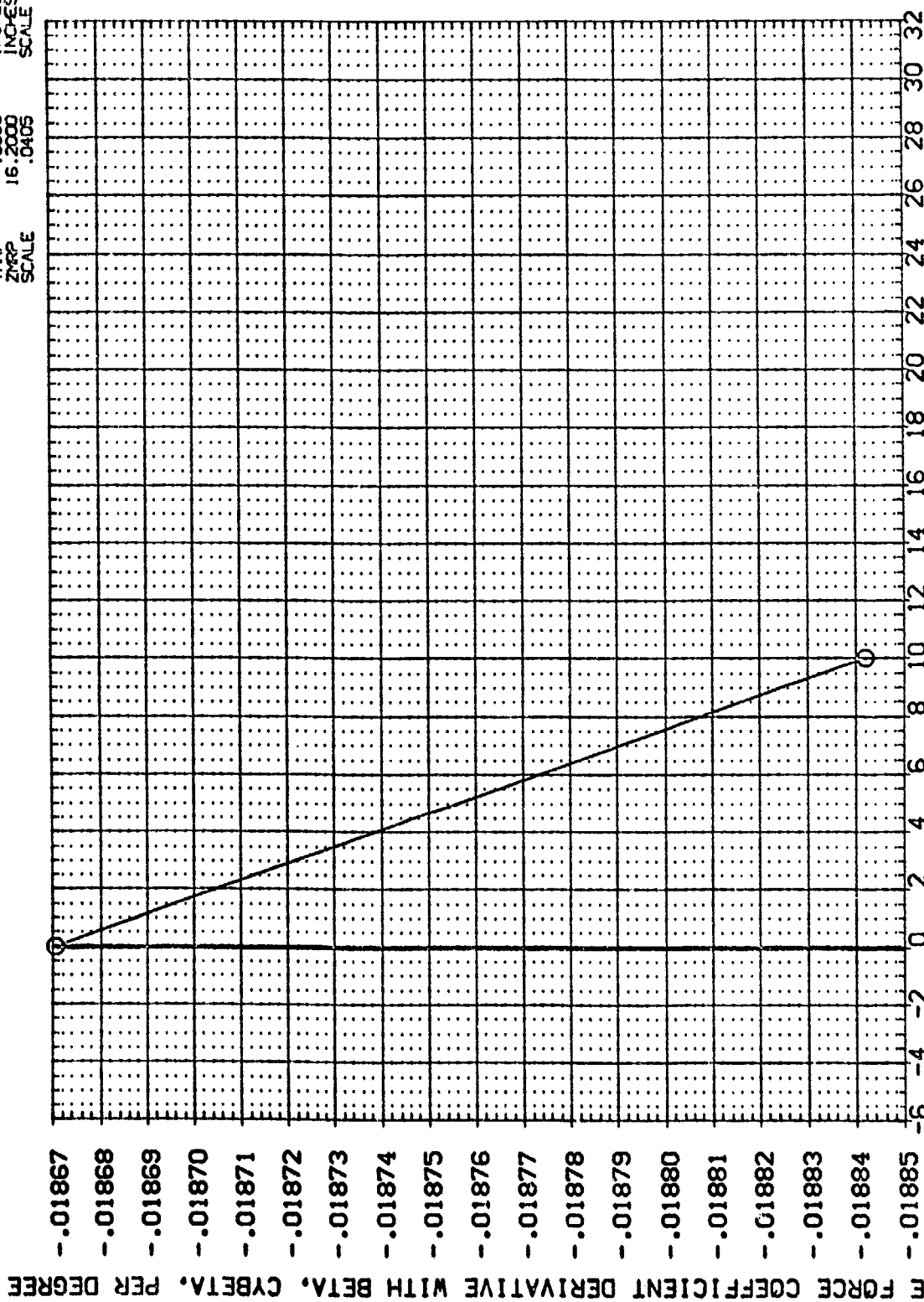


FIG 29 LATERAL/DIRECTIONAL DERIVATIVES - NO NACELLES



0A71C B16C5D7 F1W87 E18V3R3X9 (DDU002)

SYMBOL	MACH	BOFLAP	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.210	ATLRON	-18.000 ELEVON .000 RUDDER	ALPHA .000 DATASET DDU002	SO.FT. 4.4122 INCHES 19.2299 INCHES 37.9349 INCHES 43.5974 INCHES .0000 INCHES 16.2000 SCALE .0405
				ALPHA 10.000 DATASET DDU003	SREF 4.4122 LREF 19.2299 XREF 37.9349 YREF 43.5974 ZREF .0000 SCALE 16.2000

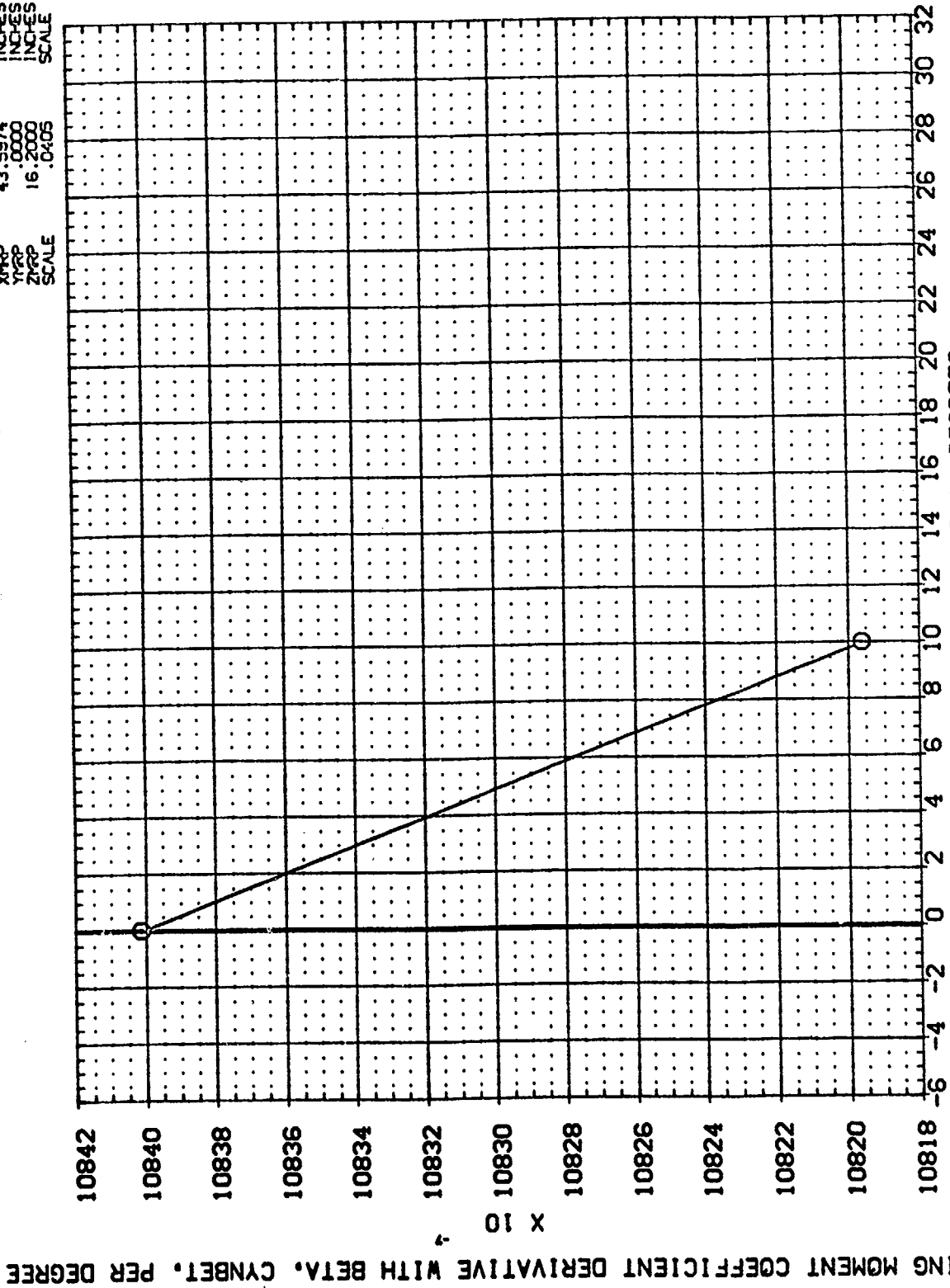


FIG 29 LATERAL/DIRECTIONAL DERIVATIVES - NO NACELLES

(DDU002)

0A71C B16C507 F1W87 E18V3R3X9

SYMBOL MACH .210

PARAMETRIC VALUES
 BOFLAP .000
 AILTRON .000
 ELEVON .000
 RUDDER .000

DATA SOURCE ALPHA .000
 DATASET DDU002

DATA SOURCE ALPHA .000
 DATASET DDU003

REFERENCE INFORMATION
 SO.FT 4.4122
 INCHES 19.2299
 INCHES 37.9349
 INCHES 43.5974
 INCHES .0000
 INCHES 16.2000
 SCALE .0405

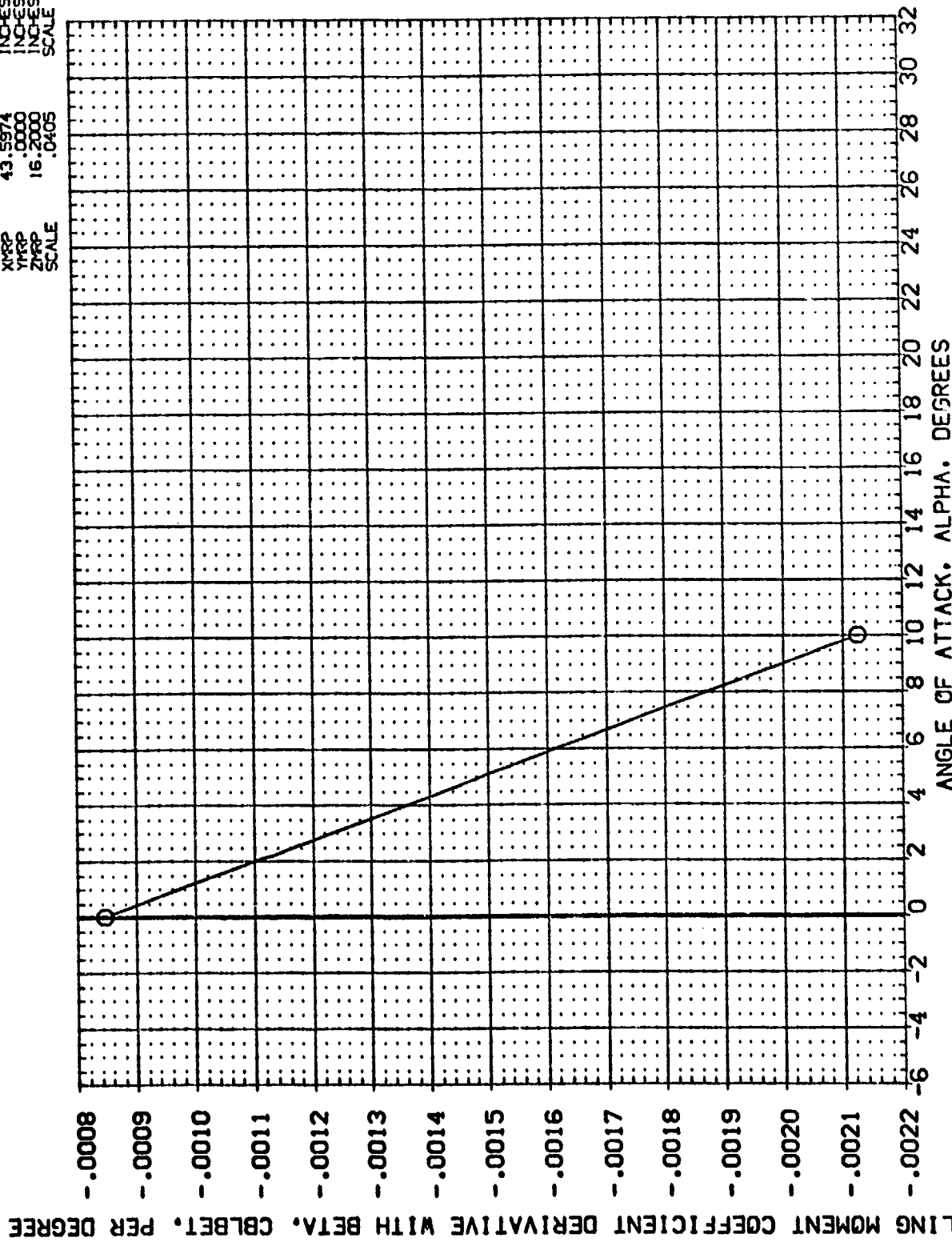


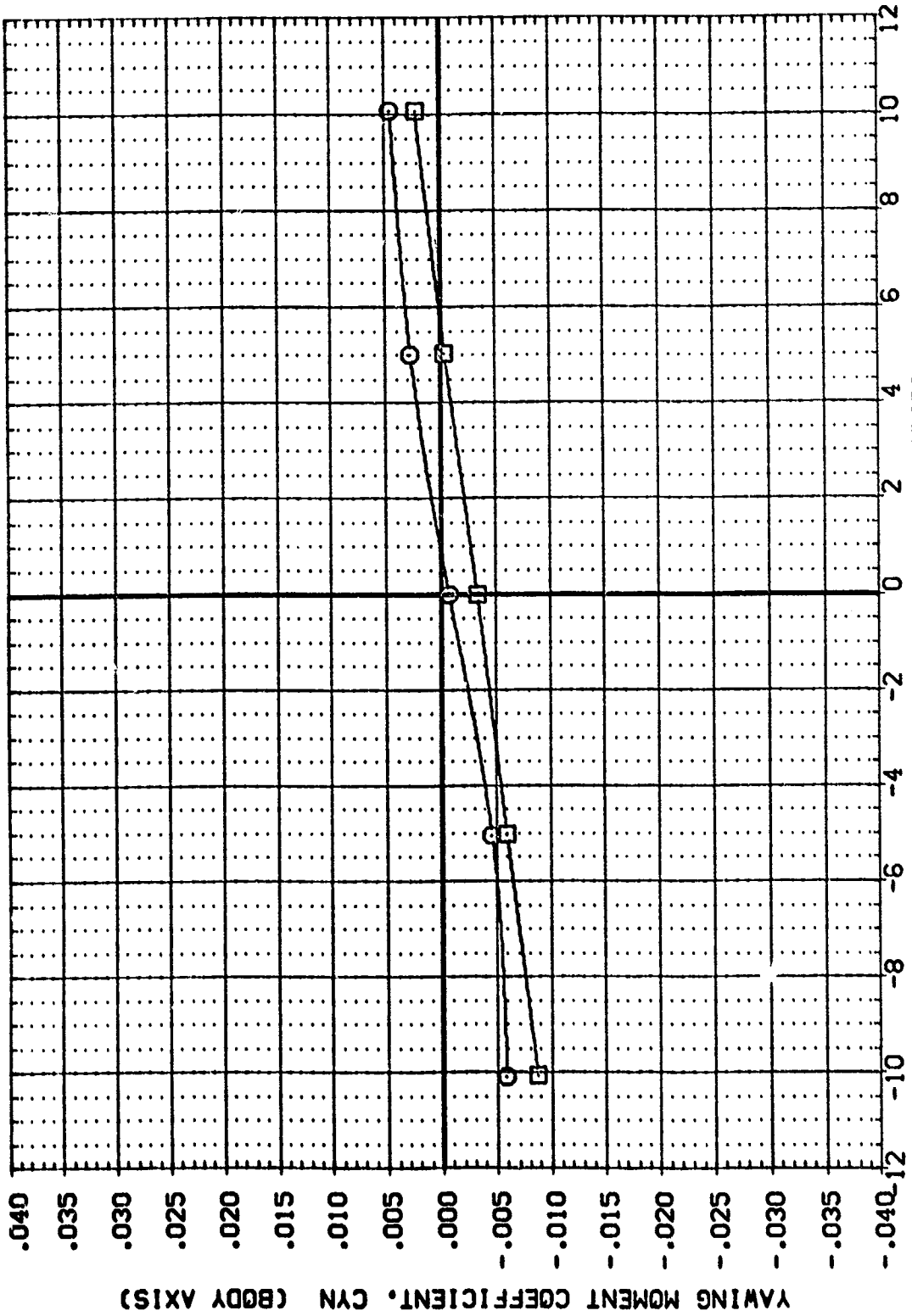
FIG 29 LATERAL/DIRECTIONAL DERIVATIVES - NO NACELLES



DATA SET SYMBOL: (R01068) (R01069)
 CONFIGURATION DESCRIPTION: QAT7C B16C507435F1V87 E18V3R3X10
 QAT7C B16C507435F1V87 E18V3R3X10

ALPHA: .000, 10.000
 MAC/L: .000, .000
 MAC/BETA: 7.000, 7.000
 NAC/BETA: 5.000, 5.000

REFERENCE INFORMATION:
 SREF: 4.4122 SO.FT.
 LREF: 19.2298 INCHES
 BREF: 37.9349 INCHES
 XMRP: 43.5574 INCHES
 YMRP: .0000 INCHES
 ZMRP: 16.2000 INCHES
 SCALE: .0405



SIDESLIP ANGLE, BETA, DEGREES

FIG 30 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING X0= 950

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R01069) □ 0A71C B16C507J35F1V87 E18V3K3X10
 (R01069) □ 0A71C B16C507J35F1V87 E18V3K3X10

ALPHA NACX/L NACLIP NACBTA
 .000 .000 7.000 5.000
 10.000 .000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2299 INCHES
 XREF 37.9349 INCHES
 YREF 43.5974 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE

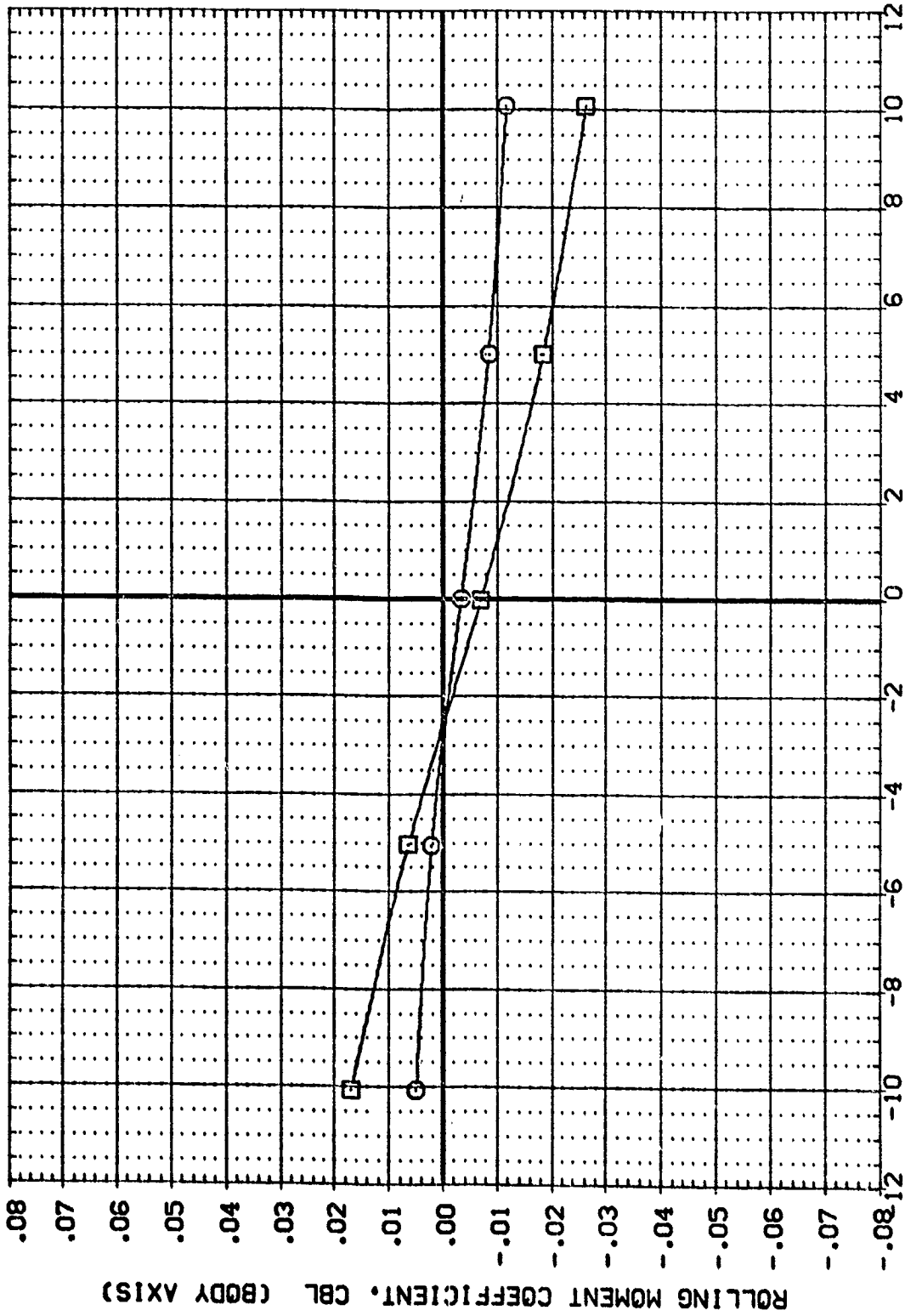


FIG 30 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING X0= 950

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	MACVL	MACVLIP	MACBTA	REFERENCE INFORMATION
(R0088)	071C B16C5D7A35F1V87 E18V3R0X10	.000	.000	7.000	5.000	SREF 4.4122 SO.FT.
(R0089)	071C B16C5D7A35F1V87 E18V3R0X10	10.000	.000	7.000	5.000	LREF 19.2269 INCHES
						BREF 37.9349 INCHES
						XPRP 43.5574 INCHES
						YPRP .0000 INCHES
						ZPRP 16.2000 INCHES
						SCALE .0405 SCALE

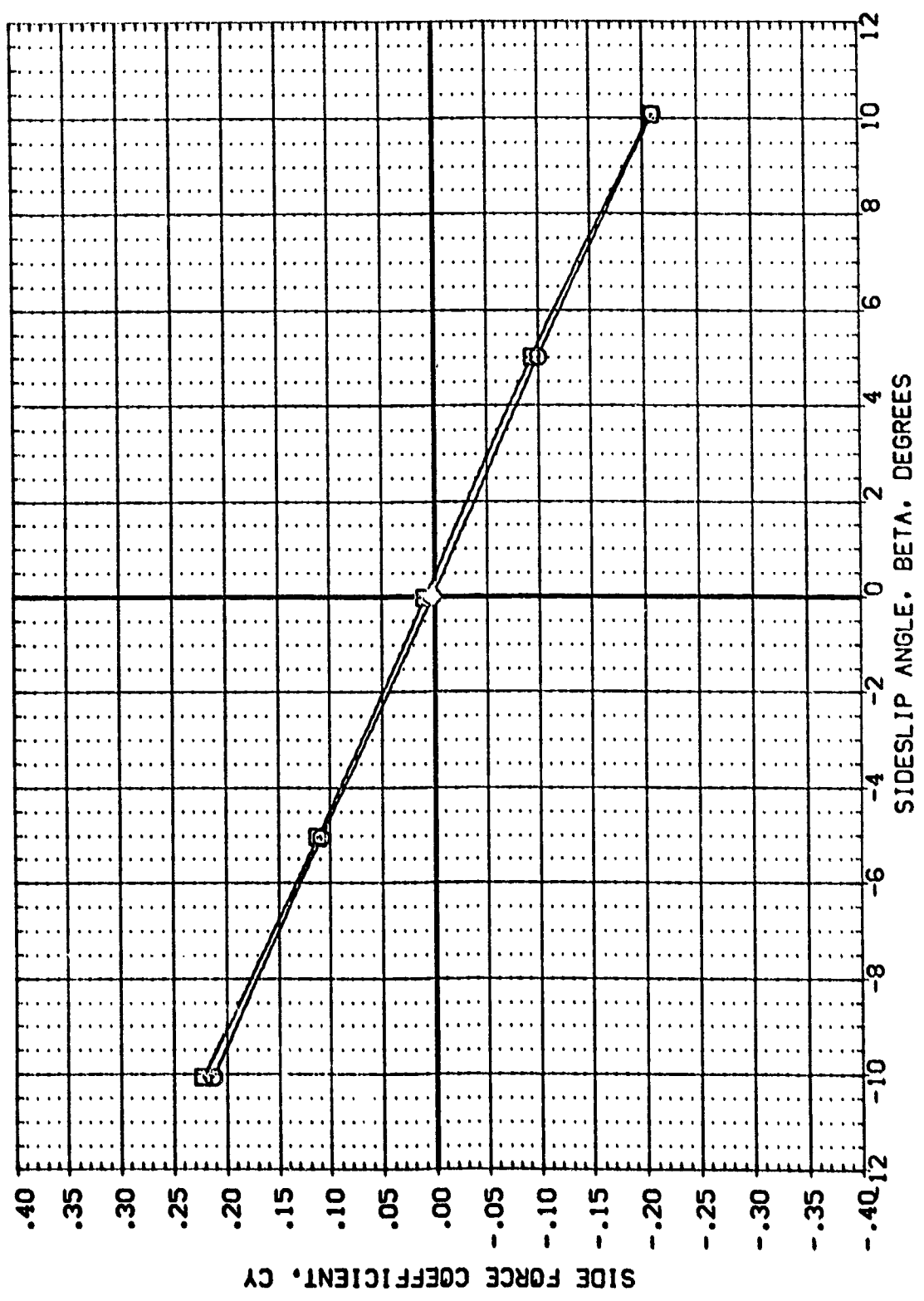


FIG 30 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING XO= 950
 (A)MACH = .20 PAGE 279

0A71C B16C507J35F1W87 E18V3R3X10 (DDU068)

SYMBOL MACH .210
 REFERENCE INFORMATION
 SO.FT. 4.4122
 INCHES 19.2768
 INCHES 37.9349
 INCHES 43.5374
 INCHES .0000
 INCHES 16.2000
 INCHES .0405
 SCALE

DATA SOURCE ALPHA .000 DATASET DDU063 ALPHA 10.000
 PARAMETRIC VALUES
 ELEVON .000 DATASET DDU068
 RUDDER .000
 MACVL 5.000
 MACLIP 7.000

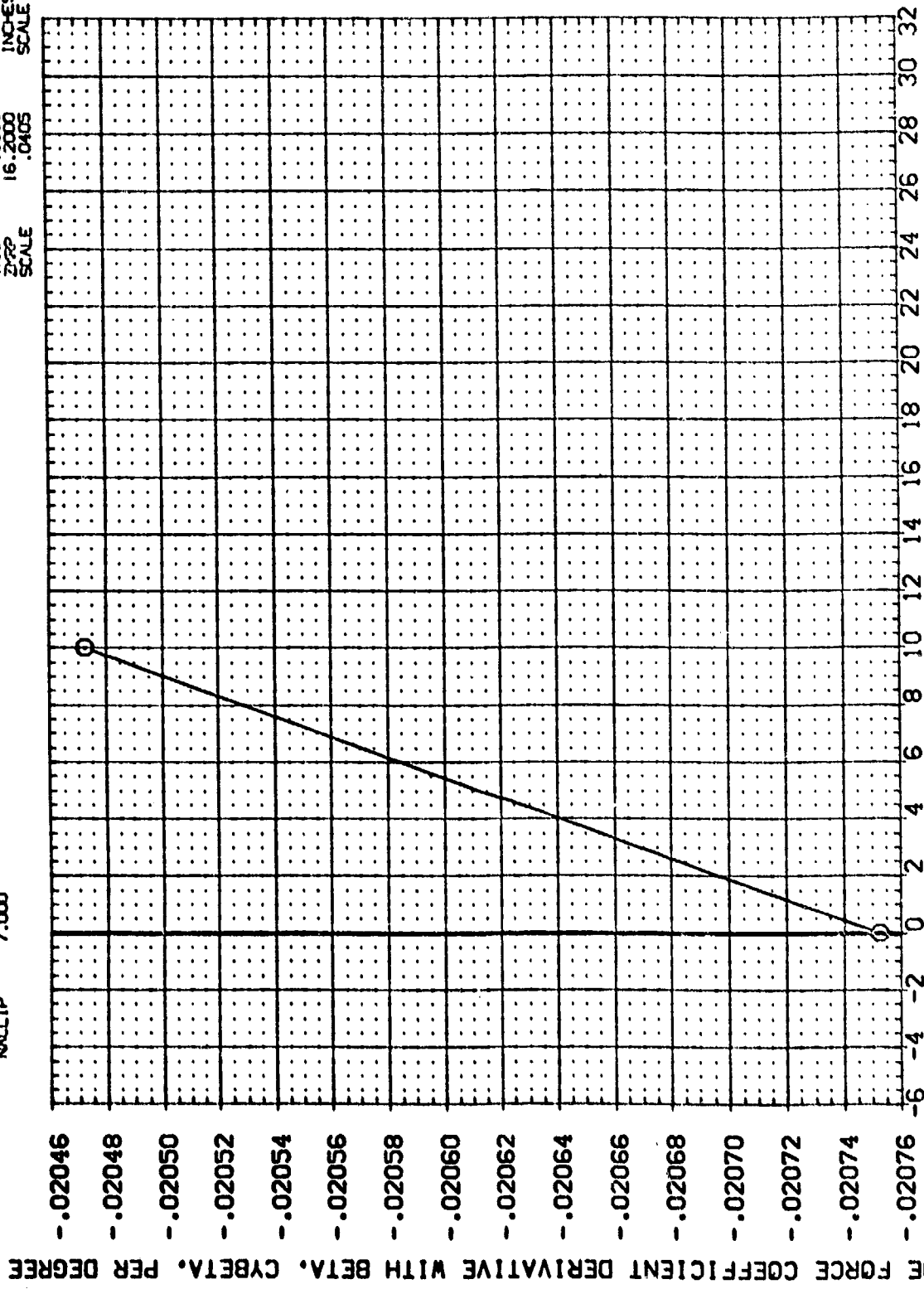
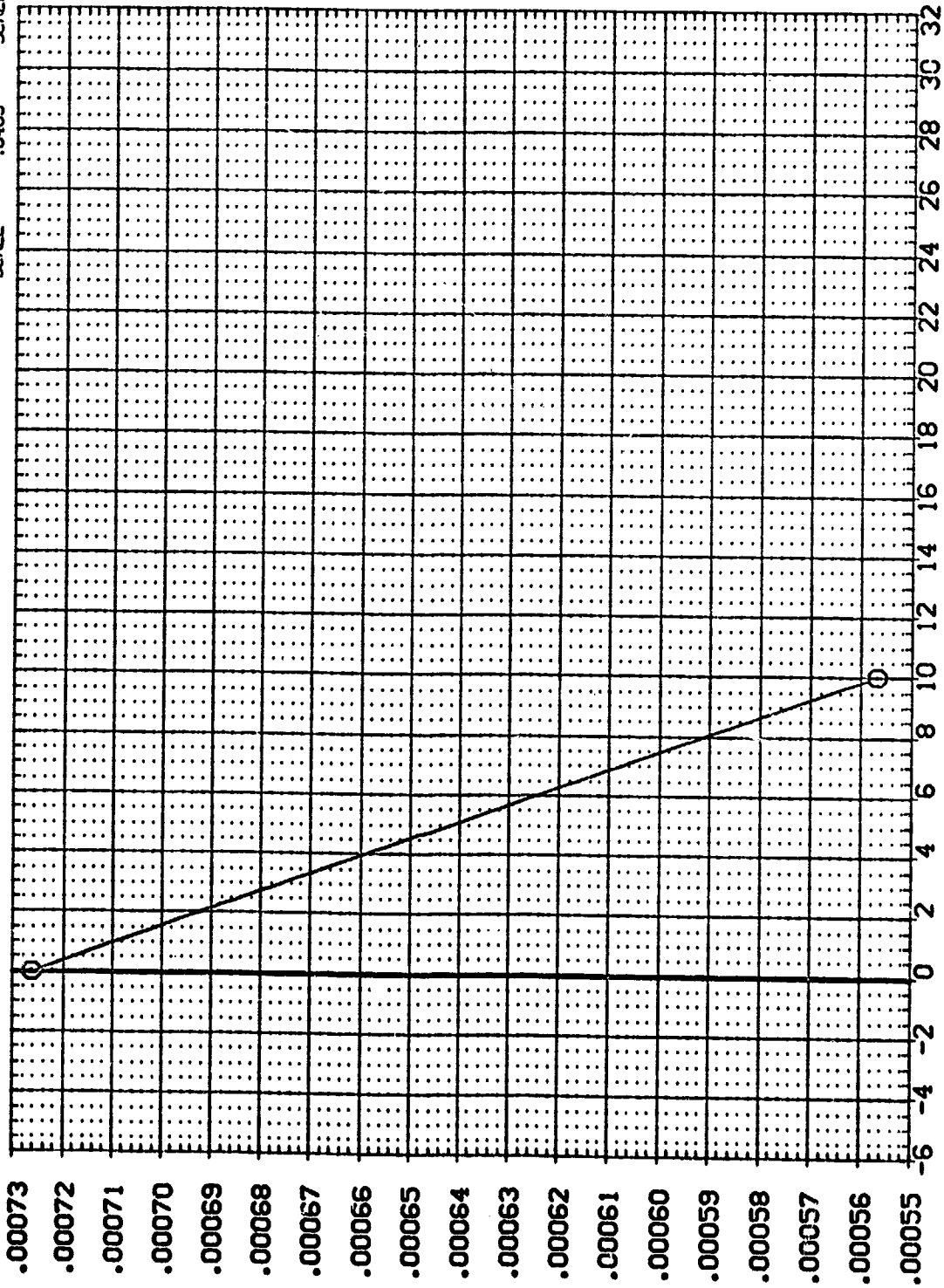


FIG 31 LATERAL/DIRECTIONAL DERIVATIVES - CLUSTERED NACELLES UNDERWING X0= 950
 PAGE 280

0A71C B16C5D7J35F1W87 E18V3R3X10 (DDU068)

SYMBOL	MACH	PARAMETRIC VALUES			DATA SOURCE			REFERENCE INFORMATION		
		ROFLAP	ELEVON	DATASET	ALPHA	SREF	SO.FT.	INCHES	INCHES	INCHES
O	.210	AILRON	RUDER	.000 DDU068	.000	LREF	4.4122	19.2259	37.9349	43.5974
		NACBTA	NACXL	.000		XREF	16.2000	16.2000	16.2000	16.2000
		NACLIP		.000		YREF	SCALE	SCALE	SCALE	SCALE
						ZREF				



YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYNBET, PER DEGREE

FIG 31 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES UNDERWING XO= 950

(000068)

0A71C B16C507J35F1W87 E18V3R3X10

SYMBOL MACH .210

REFLAP .210

AILRON .000

MACBTA 5.000

MACLIP 7.000

PARAMETRIC VALUES

ELEVON -18.000

RUDER .000

MACKA .000

DATA SOURCE

ALPHA .000

DATASET DDJ069

ALPHA 10.000

SREF 4.4122

LREF 19.2299

EREF 37.9349

XMRP 43.5374

YMRP 0.000

ZMRP 16.2000

SCALE .0405

REFERENCE INFORMATION

SO.FT. 4.4122

INCHES 19.2299

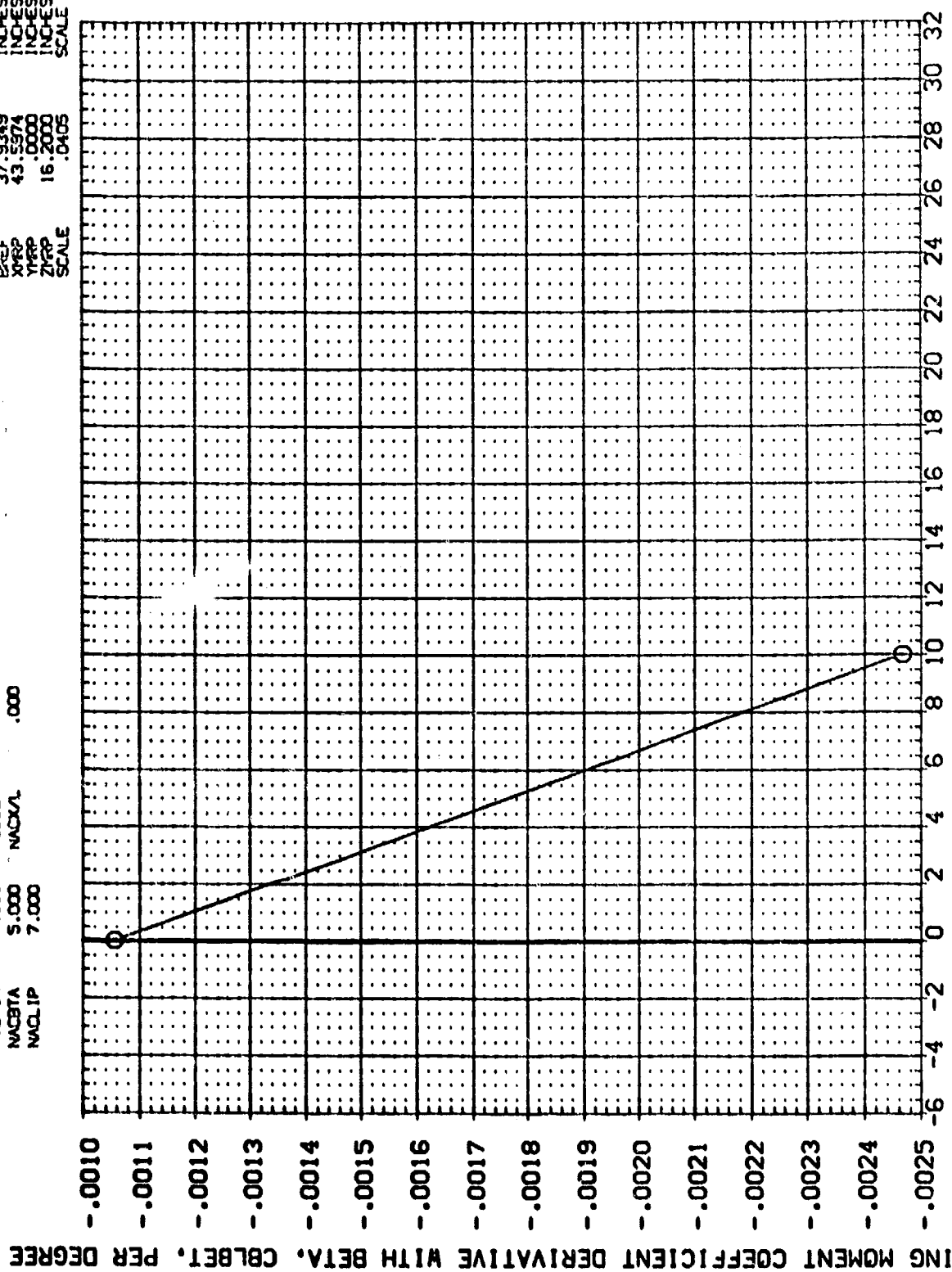
INCHES 37.9349

INCHES 43.5374

INCHES 0.000

INCHES 16.2000

SCALE .0405



ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLBET, PER DEGREE

ANGLE OF ATTACK, ALPHA, DEGREES

FIG 31 LATERAL/DIRECTIONAL DERIVATIVES - CLUSTERED NACELLES UNDERWING XO= 950

PAGE 282

DATA SET SYMBOL: (R0147) (R0148)
 CONFIGURATION DESCRIPTION: BAY1C B16C507J34F1V87 E18V33X10
 BAY1C B16C507J34F1V87 E18V33X10
 ALPHA: .000 10.000
 MACVA: .270 .270
 NACLIP: 7.000 7.000
 NACBTA: 5.000 5.000
 REFERENCE INFORMATION:
 SREF: 4.4122 50. FT.
 LREF: 19.2238 INCHES
 BREF: 37.9319 INCHES
 XMRP: 43.5874 INCHES
 YMRP: .000 INCHES
 ZMRP: 16.2000 INCHES
 SCALE: .0405

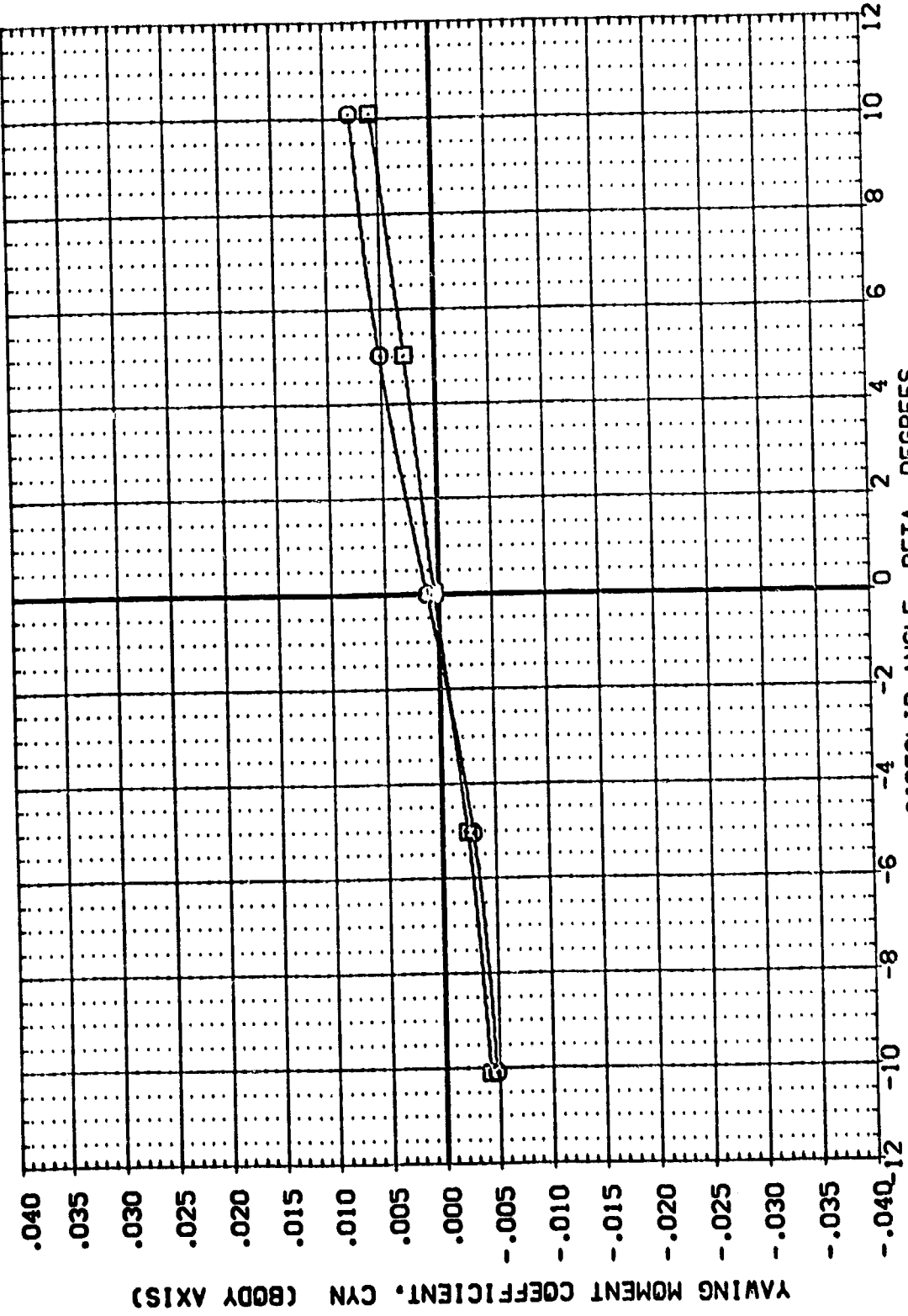


FIG 32 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING X0=1005
 (A)MACH = .20
 PAGE 283

DATA SET SYMBOL: 8
 (R01047) 8A71C B16CS07J34F1V87 E18V3R2X10
 (R01048) 8A71C B16CS07J34F1V87 E18V3R2X10

ALPHA: .000
 10.000
 NACX/L: .270
 NACLIP: 7.000
 NACBTA: 5.000
 5.000
 REFERENCE INFORMATION:
 SREF: 4.4122 50. FT.
 LREF: 19.2298 INCHES
 BREF: 37.9349 INCHES
 XREF: 43.5974 INCHES
 YREF: 0.0000 INCHES
 ZREF: 16.2000 INCHES
 SCALE: .0405 SCALE

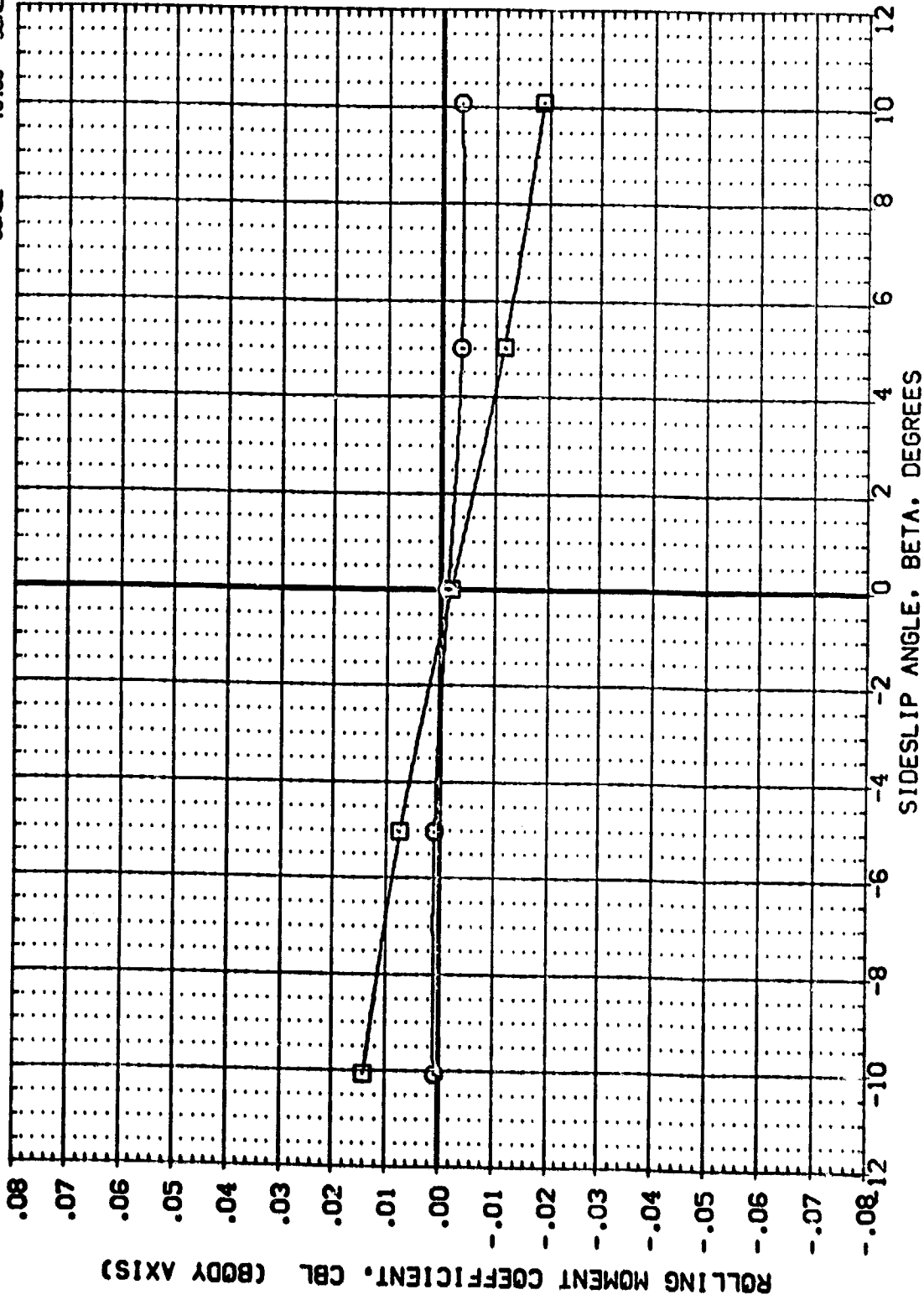


FIG 32 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING XO=1005
 (A)MACH = .20



DATA SET SYMBOL CONFIGURATION DESCRIPTION ALPHA MACVL NACLIP NACBTA REFERENCE INFORMATION

(R02047)	0A71C B16C507J34F1V87 E18V220X10	.000	.270	7.000	5.000	SREF 4.4122 SO.FT.
(R02048)	0A71C B16C507J34F1V87 E18V220X10	10.000	.270	7.000	5.000	LREF 19.2239 INCHES
						BREF 37.9349 INCHES
						XREF 43.5574 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

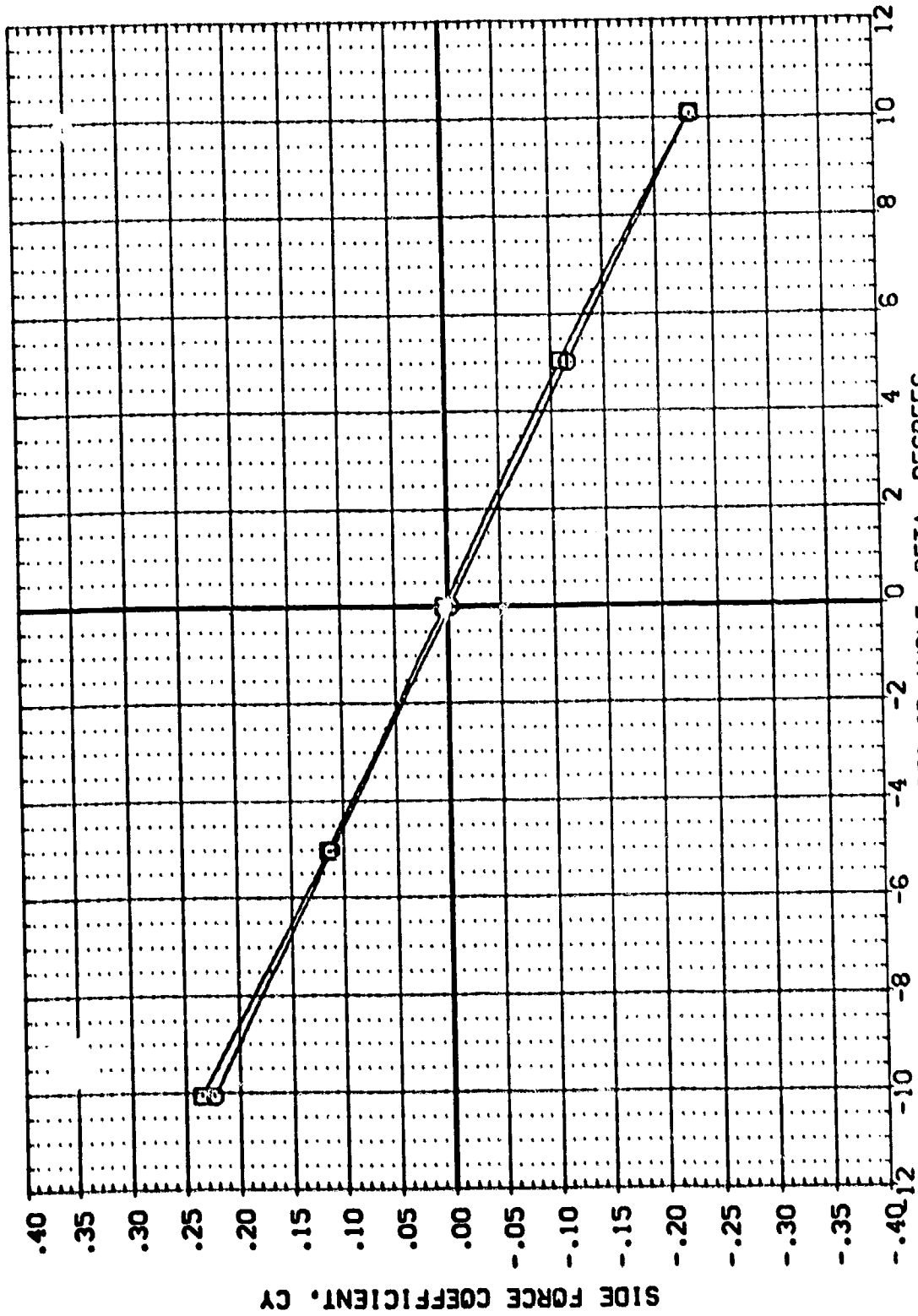


FIG 32 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING XO=1005
(M)MACH = .20

00000177
 00000177
 00000177

SYMBOL \bigcirc MACH .210

PARAMETRIC VALUES
 BOFLAP .000 ELEVON .000 DATASET .000 ALPHA .000
 AILRON .000 RUDDER .000 DDLO48 10.000
 NACBTA 5.000 NACKVL .270
 NACLIP 7.000

DATA SOURCE
 ALPHA .000 DDLO48 10.000
 SREF LREF XTRP YTRP ZTRP SCALE

REFERENCE INFORMATION
 4.4122 SO.FT.
 19.2299 INCHES
 37.9349 INCHES
 43.5974 INCHES
 .0000 INCHES
 16.2000 INCHES
 .0405 SCALE

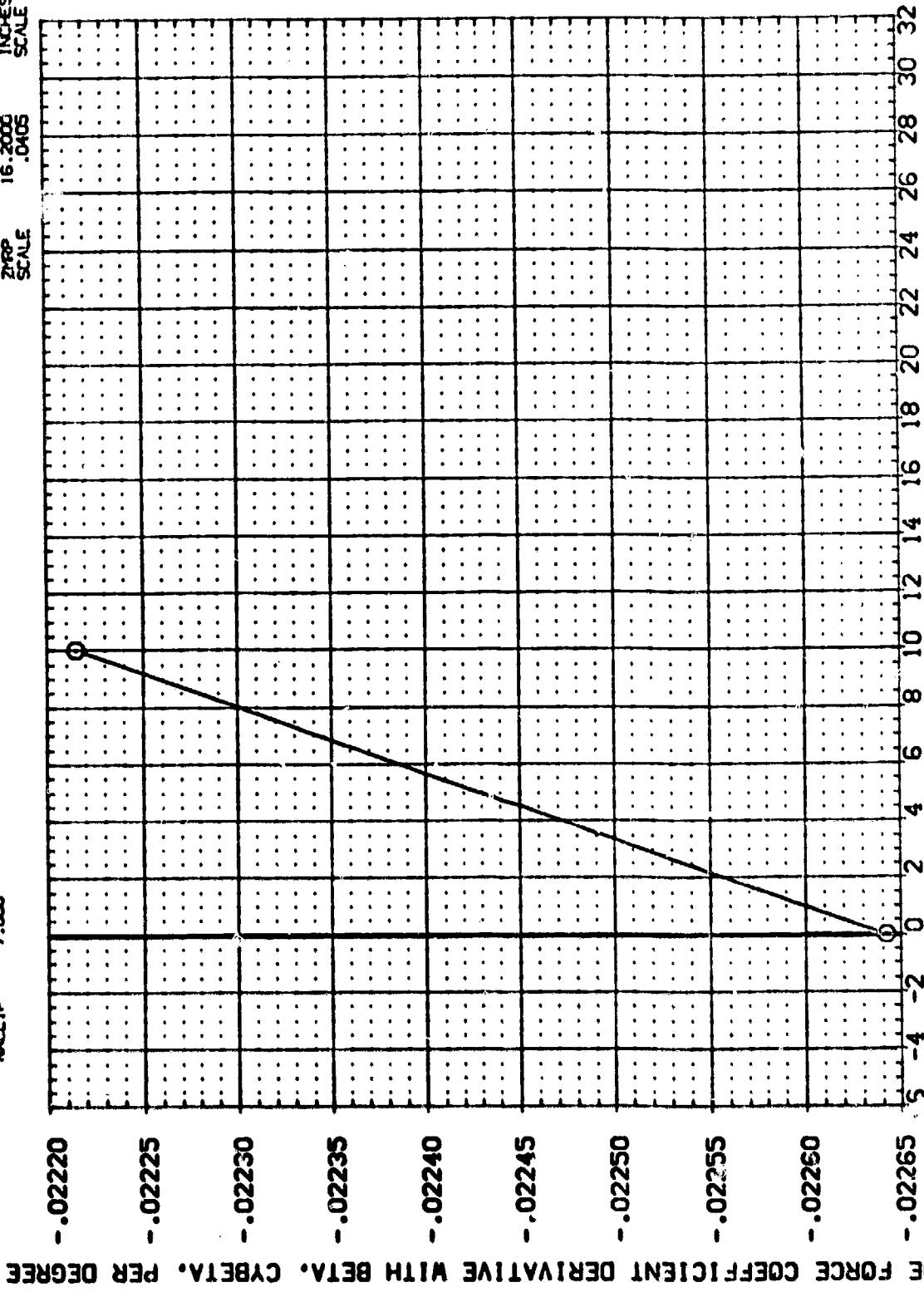


FIG 33 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES UNDERWING XO=1005
 ANGLE OF ATTACK, ALPHA, DEGREES
 PAGE 286

(DDU047)

0A71C B16C5D7J34F1W87 E18V3R3X1U

SYMBOL	MACH	BOFLAP	AILRON	NACBTA	NACLIP	PARAMETRIC VALUES	ELEVON	RUDDER	NACXL	DATA SOURCE	ALPHA	DATASET	ALPHA	SREF	REFERENCE INFORMATION
0	.210	-18.000	.000	5.000	7.000					.000	.000	DDU047	10.000	LREF	4.4122
														BRF	19.2299
														XREF	37.9349
														YREF	43.5974
														ZREF	.0000
														SCALE	16.2000
															SCALE

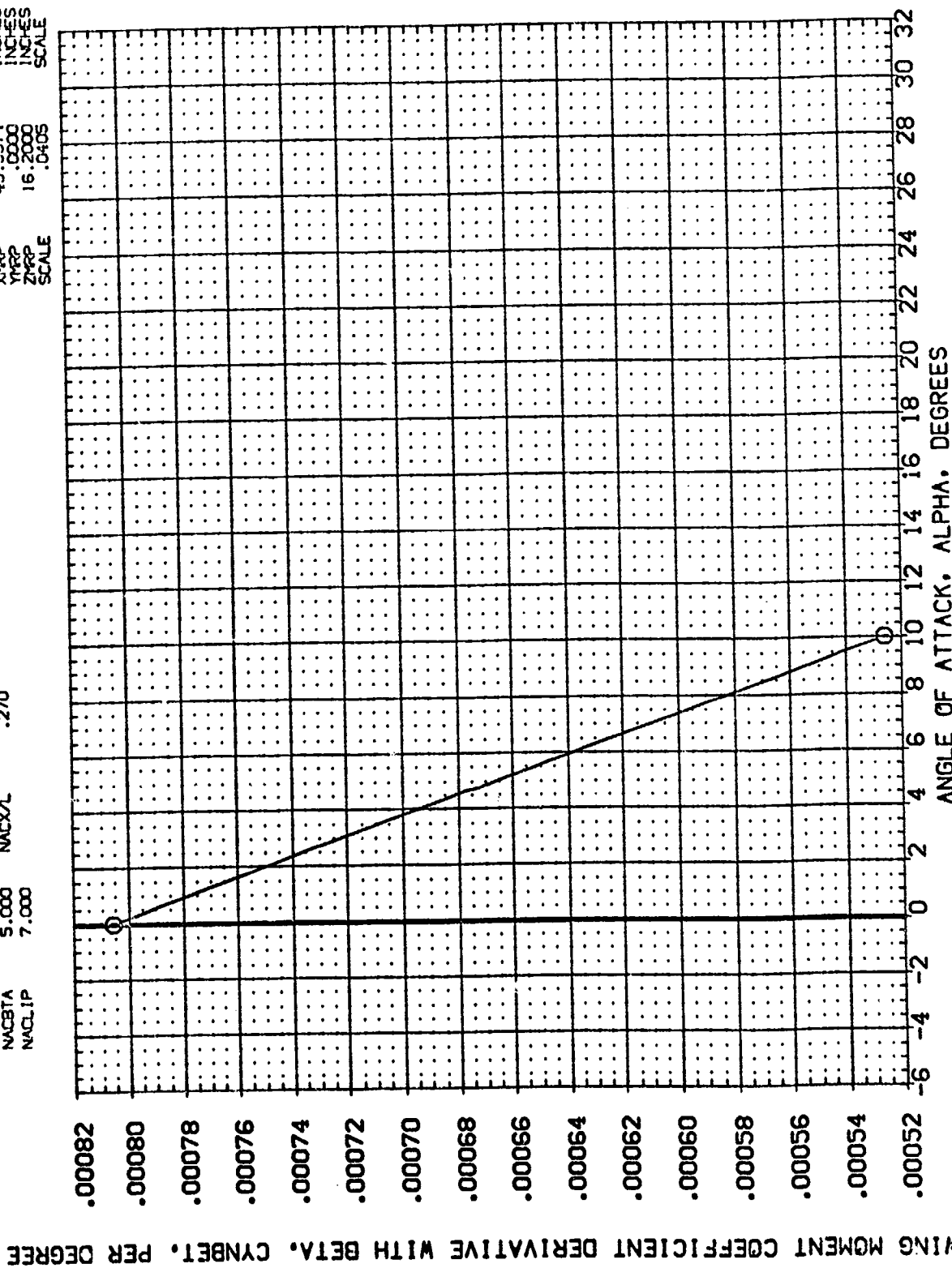


FIG 33 LATERAL/DIRECTIONAL DERIVATIVES - CLUSTERED NACELLES UNDERWING X0=1005

(DDU047)

0A71C B16C5D7J34F1W87 E18V3R3X1U

SYMBOL	MACH	PARAMETRIC VALUES				DATA SOURCE				REFERENCE INFORMATION			
0	.210	EDFLAP	-18.000	ELEVON	.000	DATASET	DDU048	ALPHA	10.000	SREF	4.4122	SO.FT.	
		A1LRON	.000	RUDDER	.000	DDU047				LREF	19.2299	INCHES	
		MACBTA	5.000	MACXL	.270					XRFP	37.9349	INCHES	
		MACLIP	7.000							YREF	43.5974	INCHES	
										ZREF	.0000	INCHES	
										SCALE	16.2000	INCHES	
											.0405	SCALE	

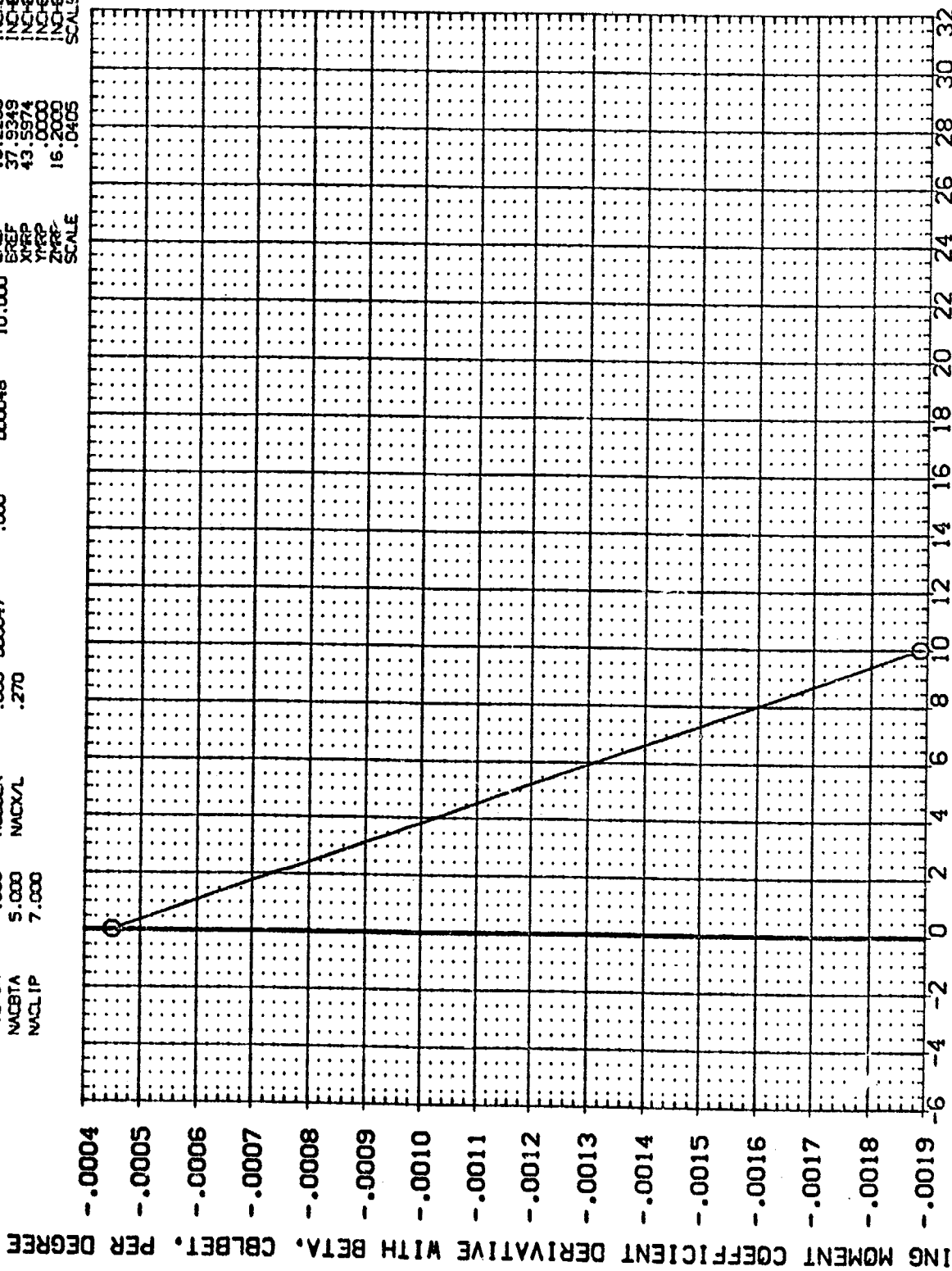


FIG 33 LATERAL/DIRECTIONAL DERIVATIVES - CLUSTERED NACELLES UNDERWING X0=1005

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	NACA/L	NAC/LIP	NAC/BTA	REFERENCE INFORMATION
(R0450)	CA71C B16CSD7J34F1V87 E18V3R3X10	.000	.530	7.000	5.000	SREF 4.4122 SO.FT.
(R0451)	CA71C B16CSD7J34F1V87 E18V3R3X10	10.000	.530	7.000	5.000	LREF 19.2259 INCHES
						BREF 37.9349 INCHES
						MREF 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

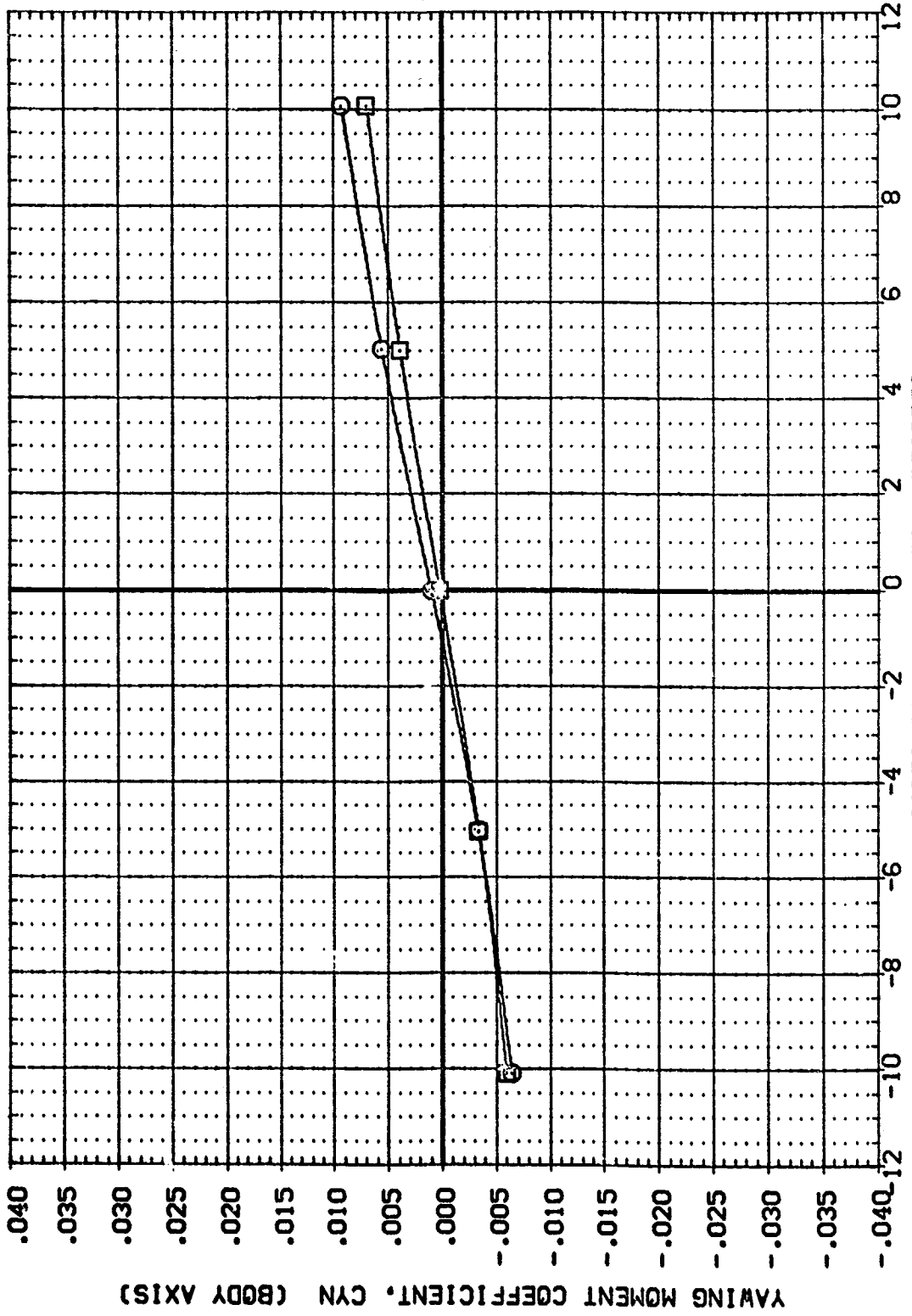


FIG 34 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING XO=1060

(A)MACH = .20

DATA SET SYMBOL (R0L050) (R0L051) □

CONFIGURATION DESCRIPTION
 CA71C B16C507J34F1V87 E18V3K3X10
 CA71C B16C507J34F1V87 E18V3K3X10

ALPHA .000 10.000
 MACXL .530 .530
 NAOLIP 7.000 7.000
 NACBTA 5.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2269 INCHES
 BREF 37.5349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 INCHES

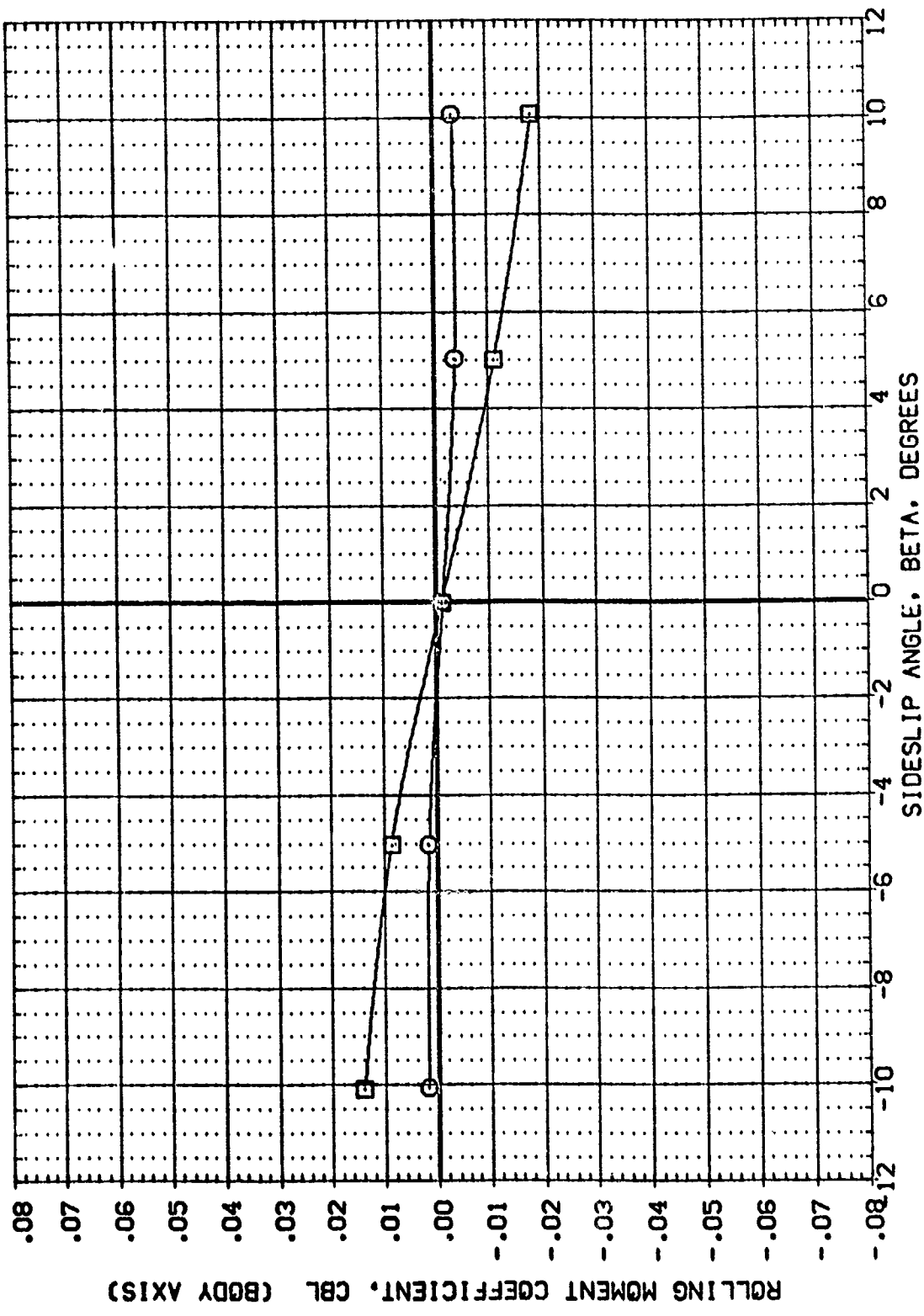


FIG 34 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES UNDERWING X0=1060
 (A)MACH = .20

DATA SET SYMBOL: (R0U050) (R0U051)

CONFIGURATION DESCRIPTION: CA71C B16C507434F1487 E18V3R3X10
CA71C B16C507434F1487 E18V3R3X10

ALPHA: .000
10.000

NACX/L: .530
.530

NACLIP: 7.000
7.000

NACBTA: 5.000
5.000

REFERENCE INFORMATION:

SREF: 4.4122 SQ. FT.

LREF: 19.2268 INCHES

BREF: 37.5349 INCHES

XTRP: 43.5974 INCHES

YTRP: .0000 INCHES

ZTRP: 16.2000 INCHES

SCALE: 16.0405

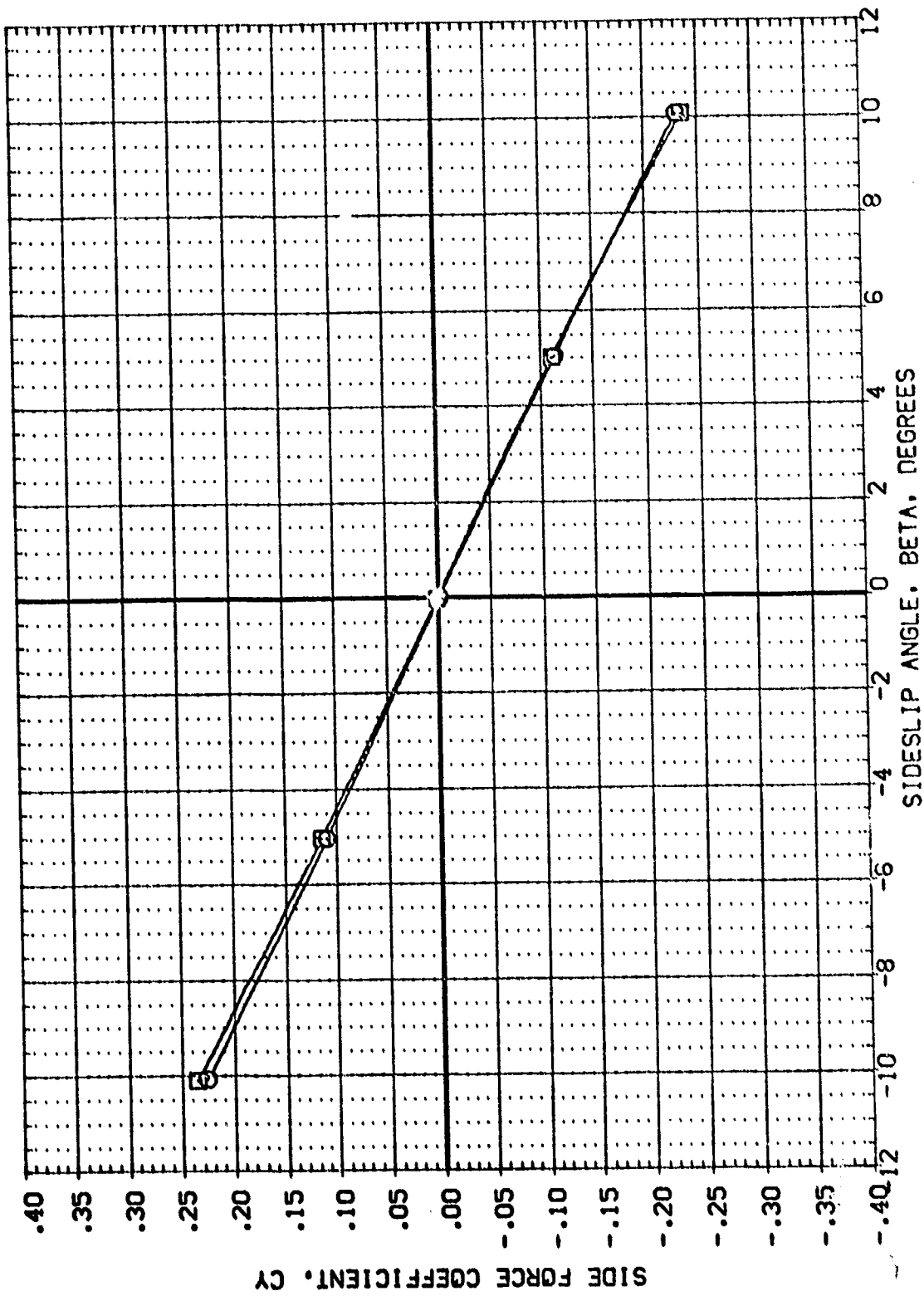


FIG 34 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED MACELLES UNDERWING X0=1060

(A)MACH = .20

(DDU050)

0A71C B16C507J34FIW87 E18V3R3X10

SYMBOL MACH

○ .210

BOFLAP
AILTRON
NACSTA
NACLIP

PARAMETRIC VALUES
-18.000
.000
5.000
7.000

ELEVON
RUDDER
NACVAL

.000 DATASET
.000 DDU050
.530

DATA SOURCE
ALPHA .000

DATASET
DDU051

ALPHA 10.000
SREF
LREF
XREF
YREF
ZREF
SCALE

REFERENCE INFORMATION
4.4122 SO.FT.
19.2299 INCHES
37.9349 INCHES
43.9974 INCHES
.0000 INCHES
16.2000 INCHES
.0405 SCALE

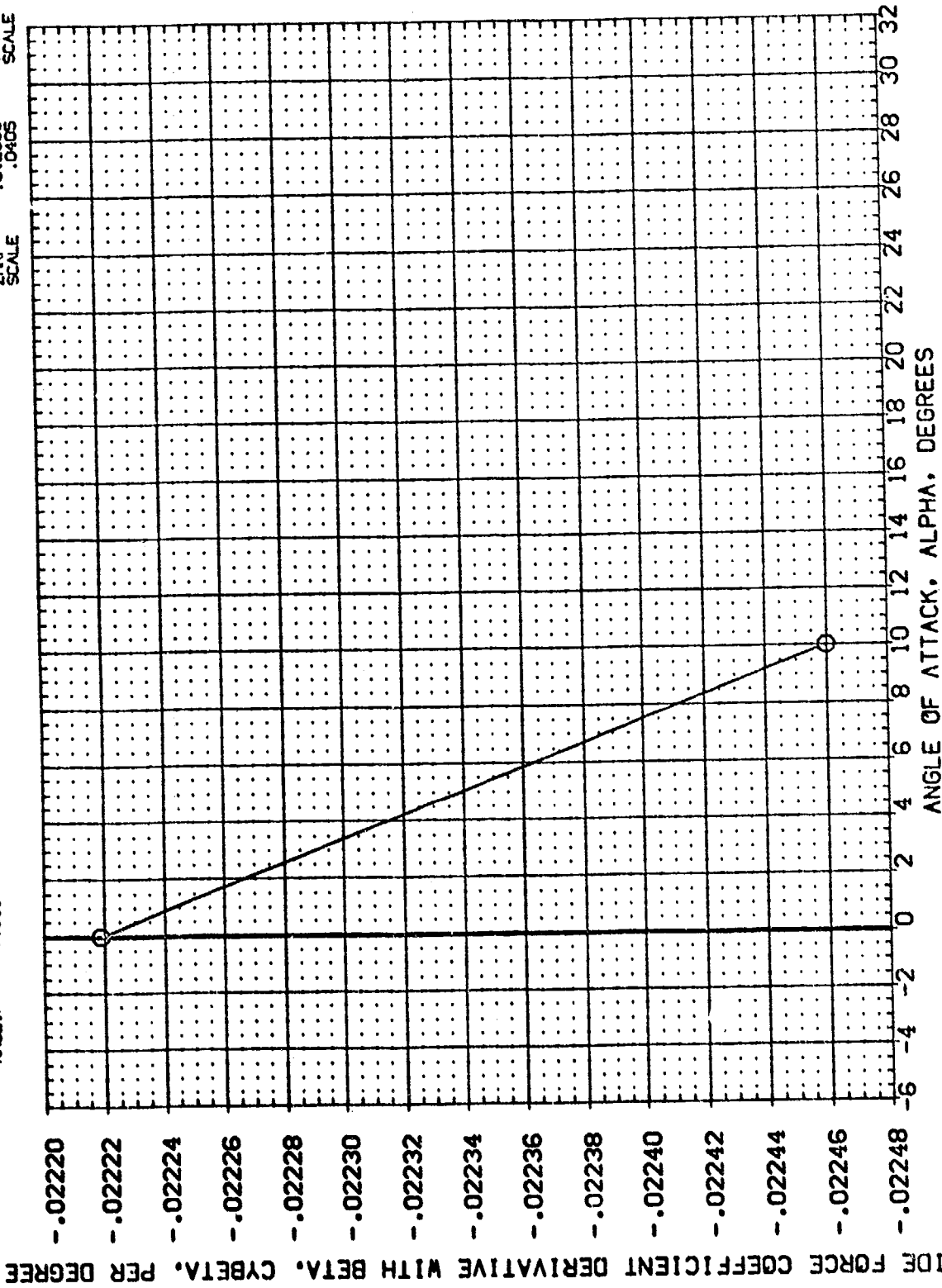


FIG 35 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES UNDERWING XO=1060

0A71C B16C5D7J34F1W87 E18V3R3X10 (DDU050)

SYMBOL	MACH	BOFLAP	AILURON	NACBTA	NACLIP	PARAMETRIC VALUES	.000	DATASET	ALPHA	.000	DATASET	DDU051	ALPHA	10.000	SREF	4.4122	SO.FT.
○	.210	-18.000	.000	5.000	7.000	ELEVON	.000	DDU050	.000	.000	DDU050	.000	10.000	REF	19.2225	INCHES	
		.000	.000	5.000	7.000	RUDER	.530							REF	37.5349	INCHES	
						NACX/L								XREF	43.5574	INCHES	
														YREF	.0000	INCHES	
														ZREF	16.2000	INCHES	
														SCALE	.0405	SCALE	

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYNBET, PER DEGREE

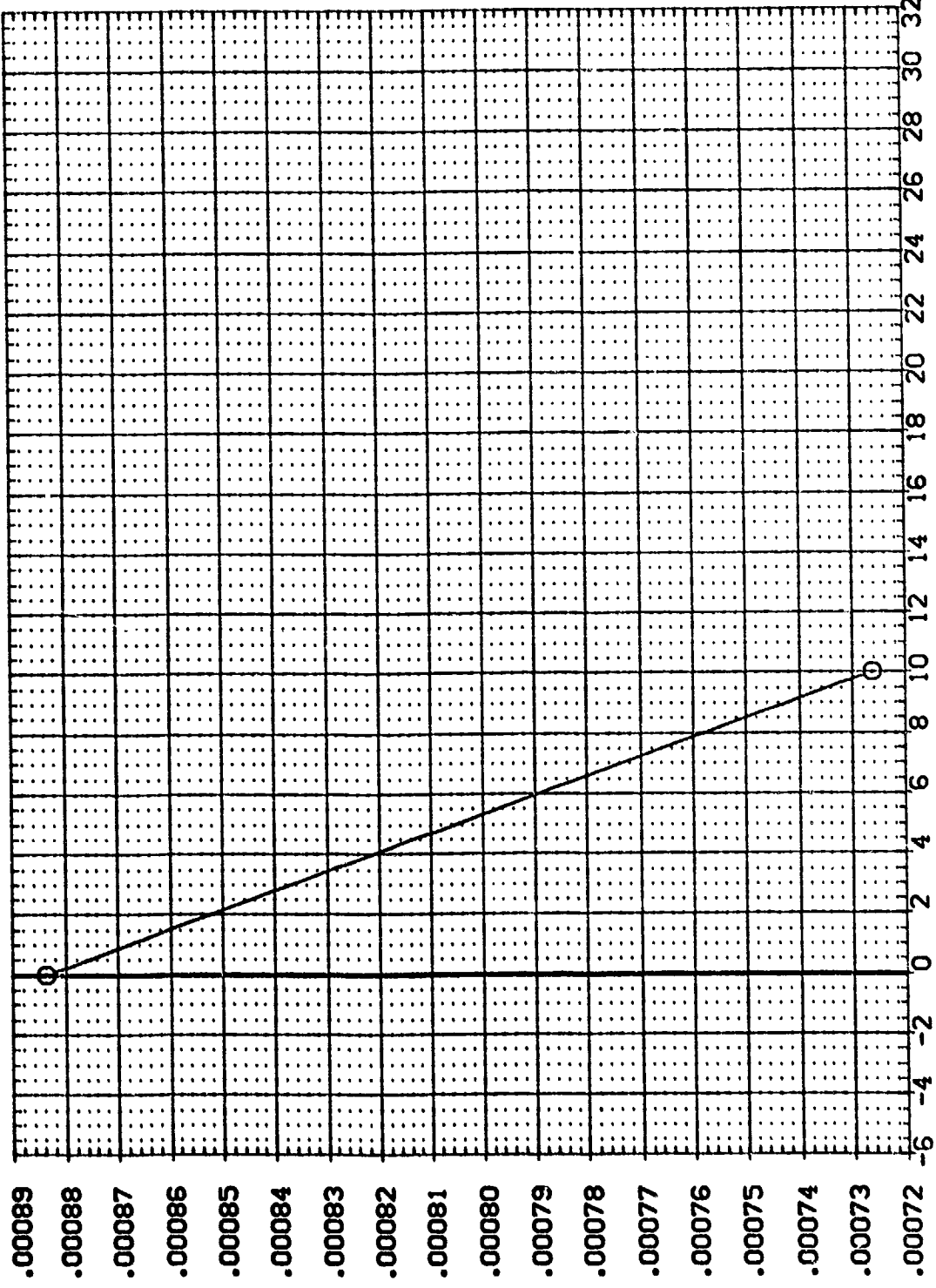
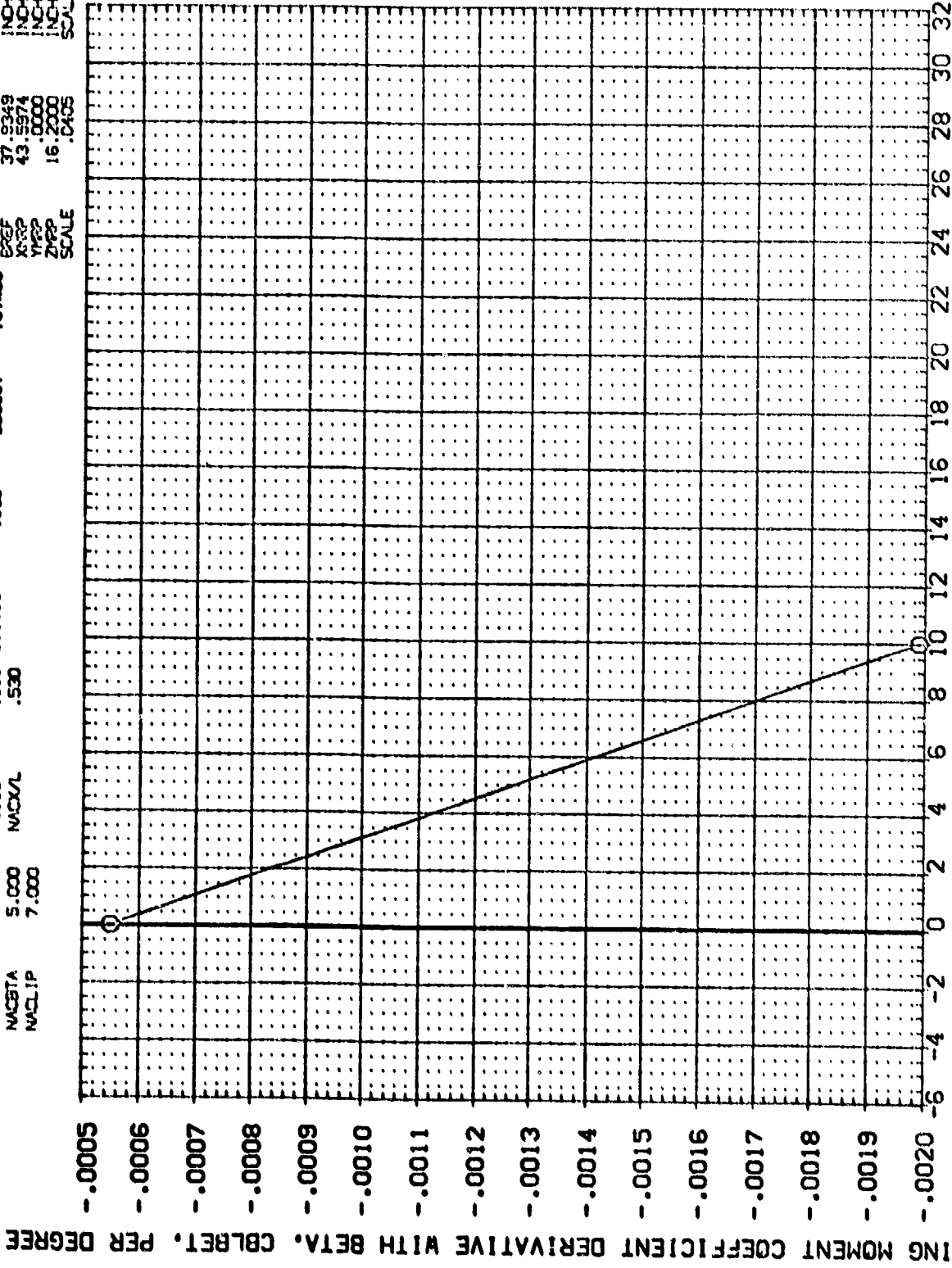


FIG 35 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES UNDERWING XO=1060 PAGE 293

(DDU050)

GA71C B16C507J34F1W87 E18V3R3X10

SYMBOL	MACH	BDFLAP	PARAMETRIC VALUES	DATA SOURCE	ALPHA	ALPHA	SREF	REFERENCE INFORMATION
○	.210	A1LRN	-18.000	ALPHA	.000	DDU051	REF	4.4122
		MACHTA	.000	.000	10.000		REF	19.2299
		MACHLP	5.000	.000			REF	37.5343
			7.000	.530			REF	43.5974
							REF	.0000
							REF	16.2000
							REF	.0405
							REF	SO.FT
							REF	INCHES
							REF	INCHES
							REF	INCHES
							REF	INCHES
							REF	SCALE



ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLRET, PER DEGREE

ANGLE OF ATTACK, ALPHA, DEGREES

FIG 35 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED MACELLES UNDERWING XO=1060

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R01059) CA71C B16C507J35F1V87 E18V3R3X10
 (R01060) CA71C B16C507J35F1V87 E18V3R3X10

ALPHA MACVL NACLIP NACBTA
 .000 .530 7.000 5.000
 10.000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XREF 43.5374 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

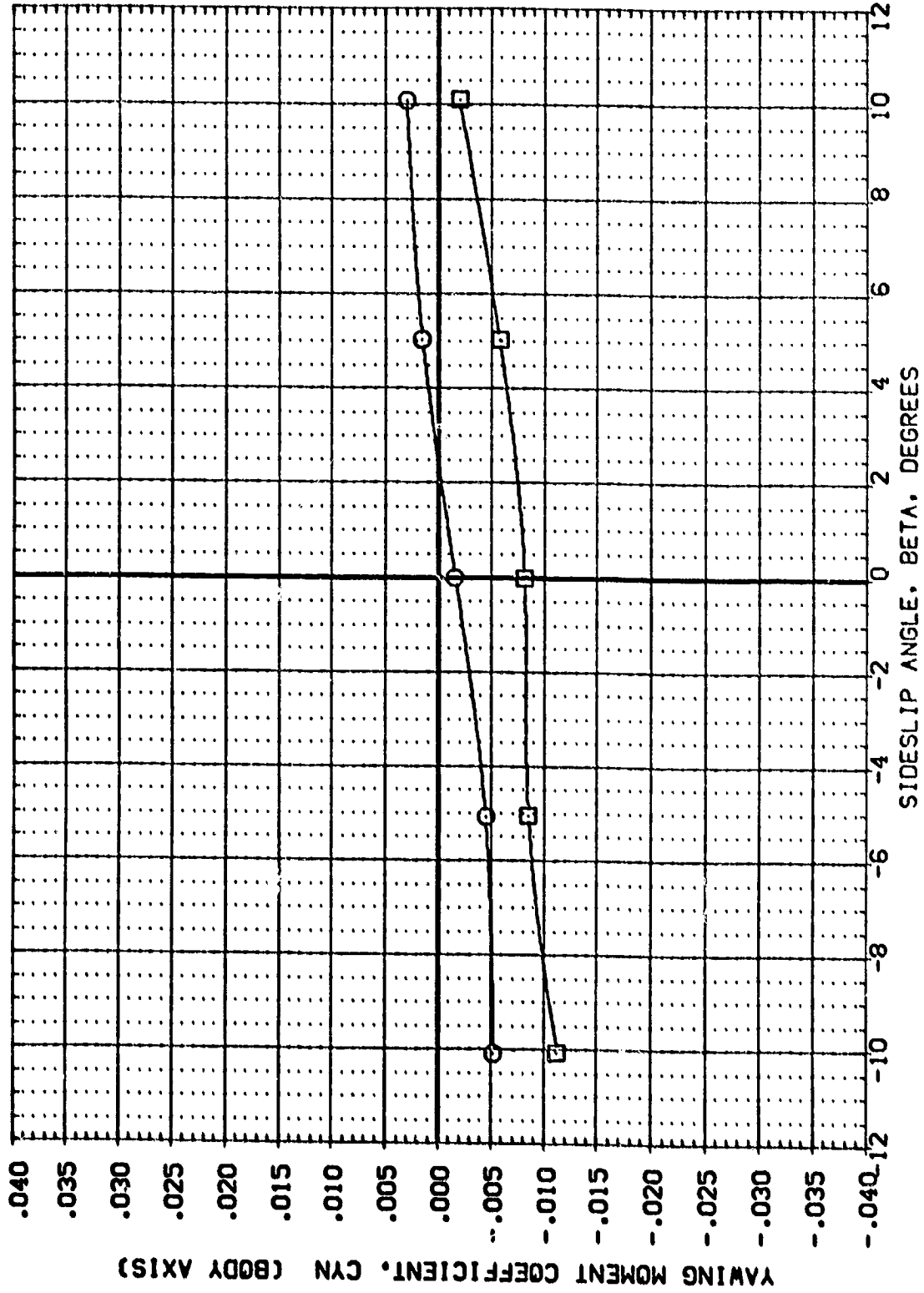


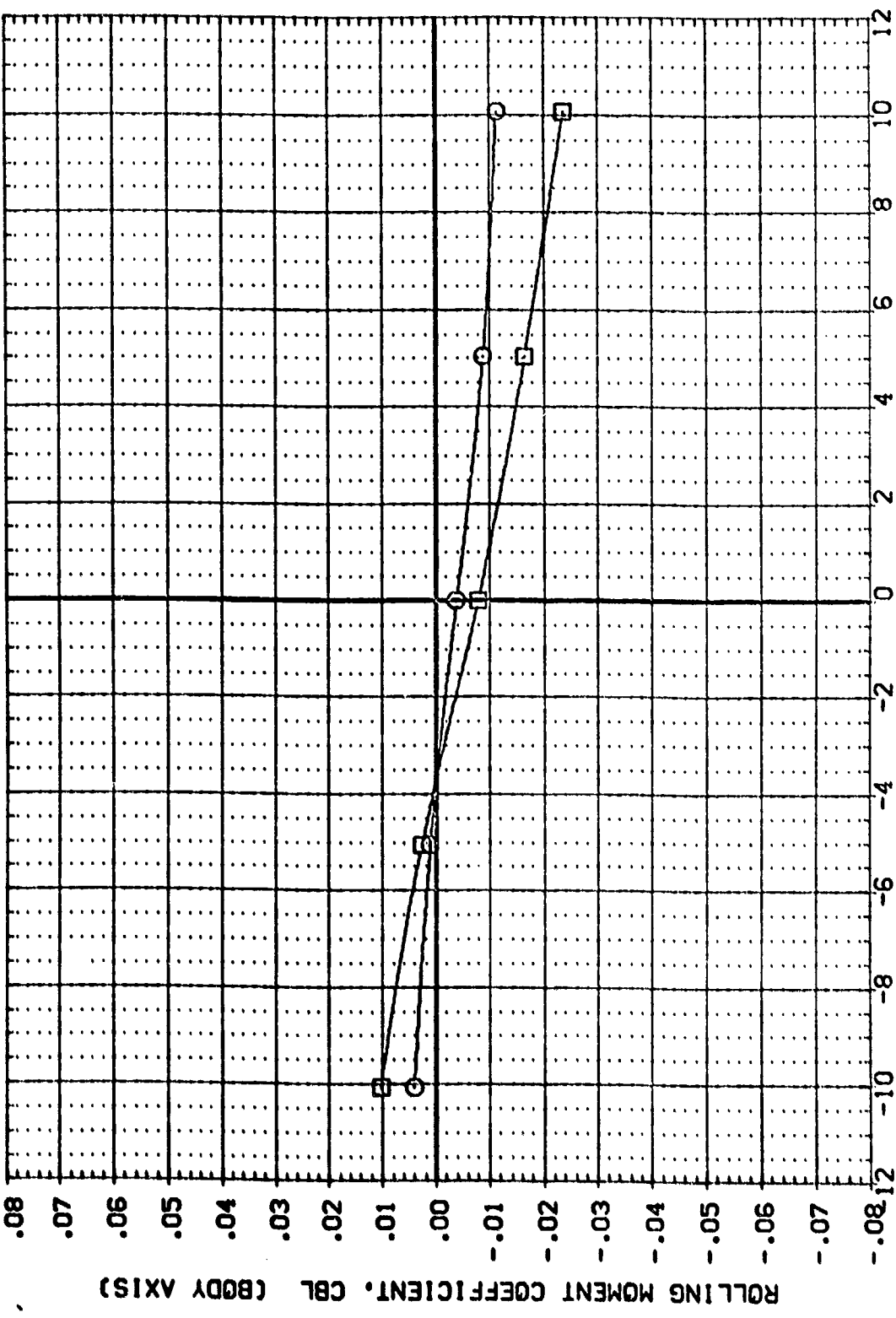
FIG 36 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES 2 OVERWING X=1060

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R0069) □ CAT71C B16C5D7J3SF 1V87 E18V3R3X10
 □ DAT7:C B16C5D7J3SF 1V87 E18V3R3X10

ALPHA MACH/L MACH/L MACH/L MACH/L
 .000 .530 .530 .530 .530
 10.000 7.000 7.000 7.000 7.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2299 INCHES
 BREF 37.5349 INCHES
 XREF 43.5974 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405 SCALE



SIDESLIP ANGLE, BETA, DEGREES

FIG 36 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES 2 OVERWING X=1060

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	NACXL	NACLIP	NACBTA	REFERENCE INFORMATION
(R01059)	0A71C B16C507J35F1V87 E18V3R3X10	.000	.530	7.000	5.000	SREF 4.4122 SO.FT.
(R01060)	0A71C B16C507J35F1V87 E18V3R3X10	10.000	.530	7.000	5.000	LREF 19.2299 INCHES
						BREF 37.9349 INCHES
						XGRP 43.5974 INCHES
						YGRP .0000 INCHES
						ZGRP 16.2000 INCHES
						SCALE .0405 SCALE

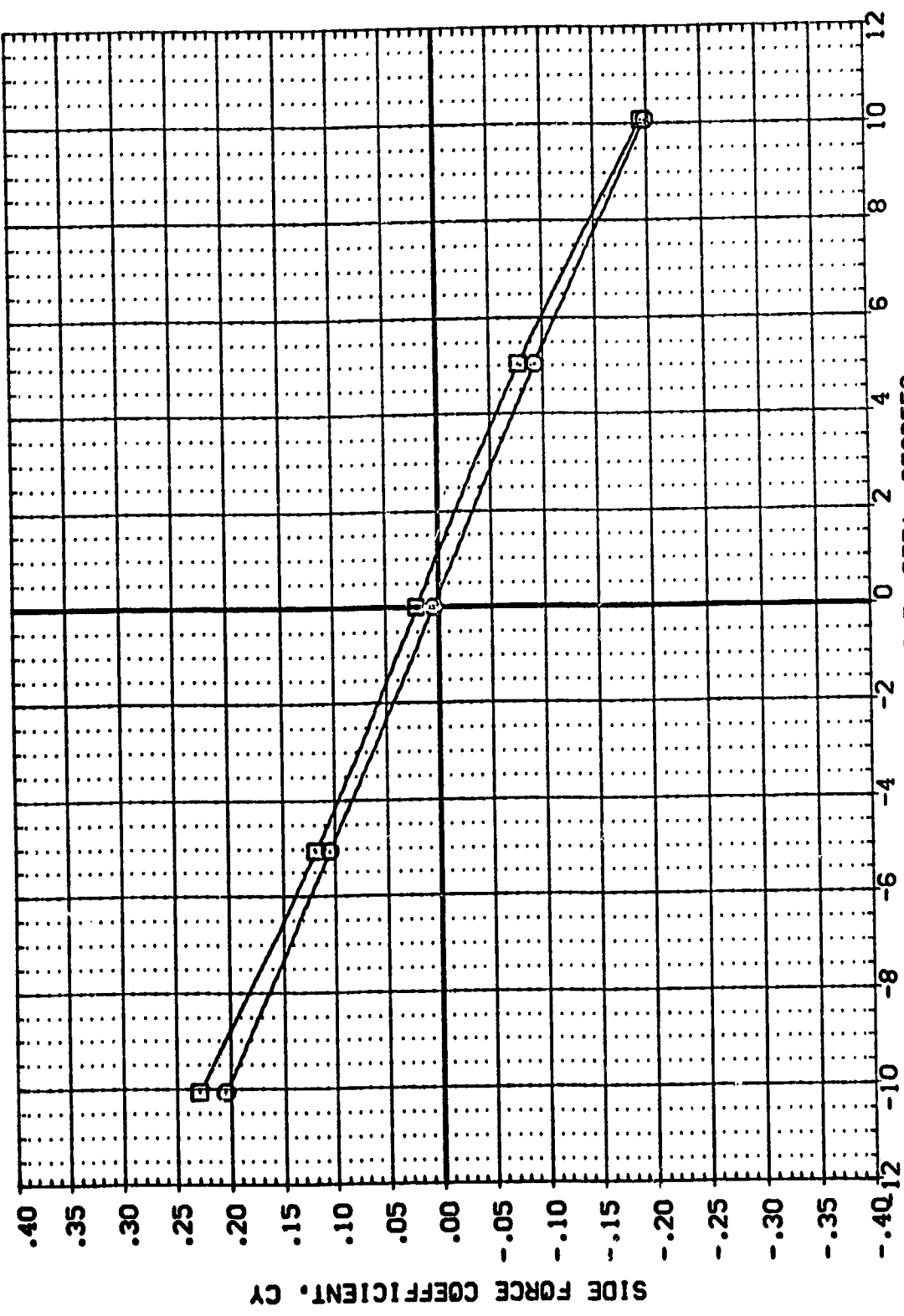


FIG 36 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES 2 OVERWING X=1060
 (A)MACH = .20
 PAGE 297

0A71C 816C5D7J35F1W67 E18V3R3X1U (DDU059)

SYMBOL	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
0	.210	BOFLAP -18.000 AILRON .000 NACBTA 5.000 NACLIP 7.000	ALPHA .000 DATASET DDU060	SO.FT. 4.4122 INCHES 19.2293 INCHES 37.9349 INCHES 43.5974 INCHES .0000 INCHES 16.2000 SCALE .0405

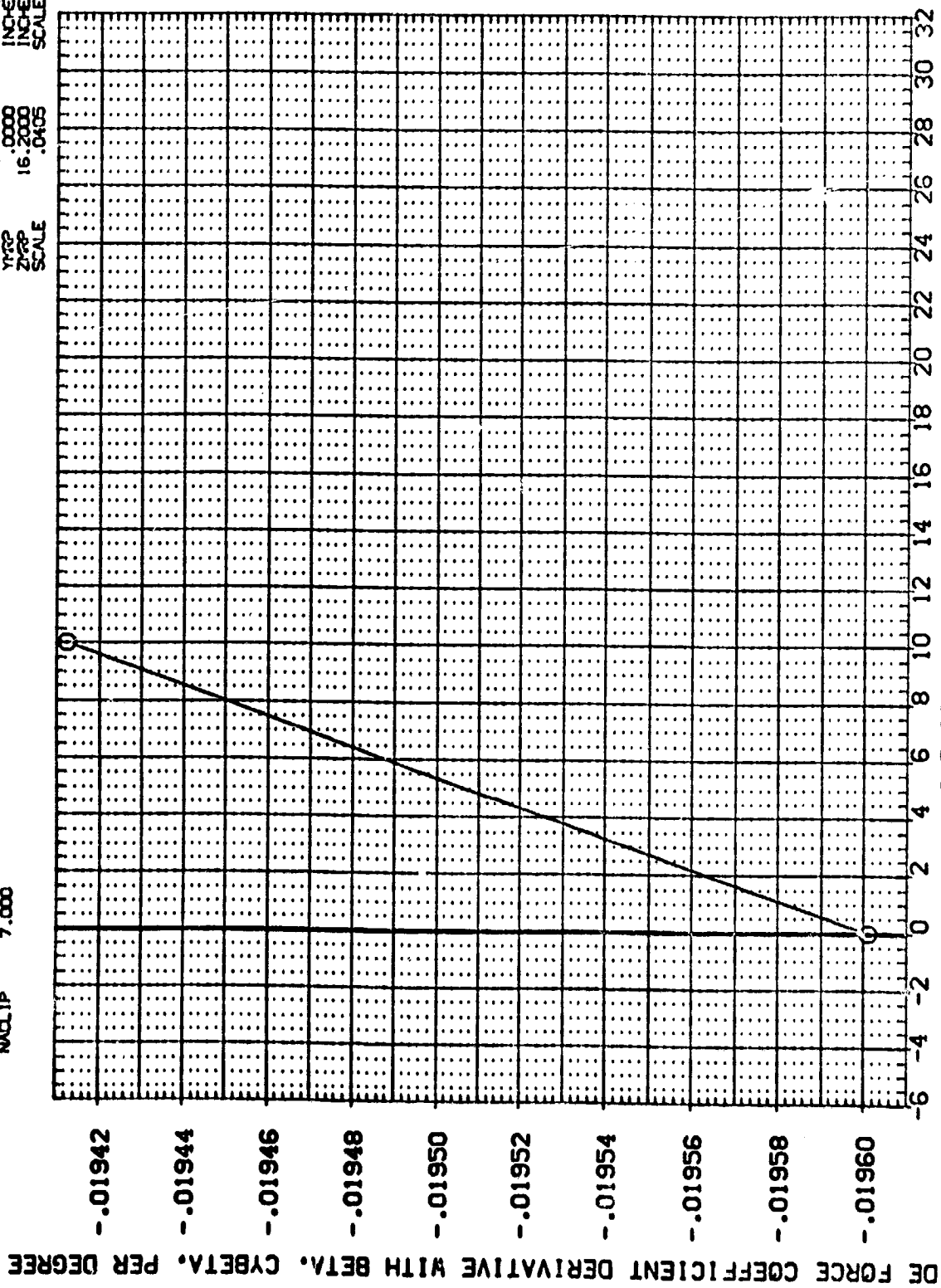


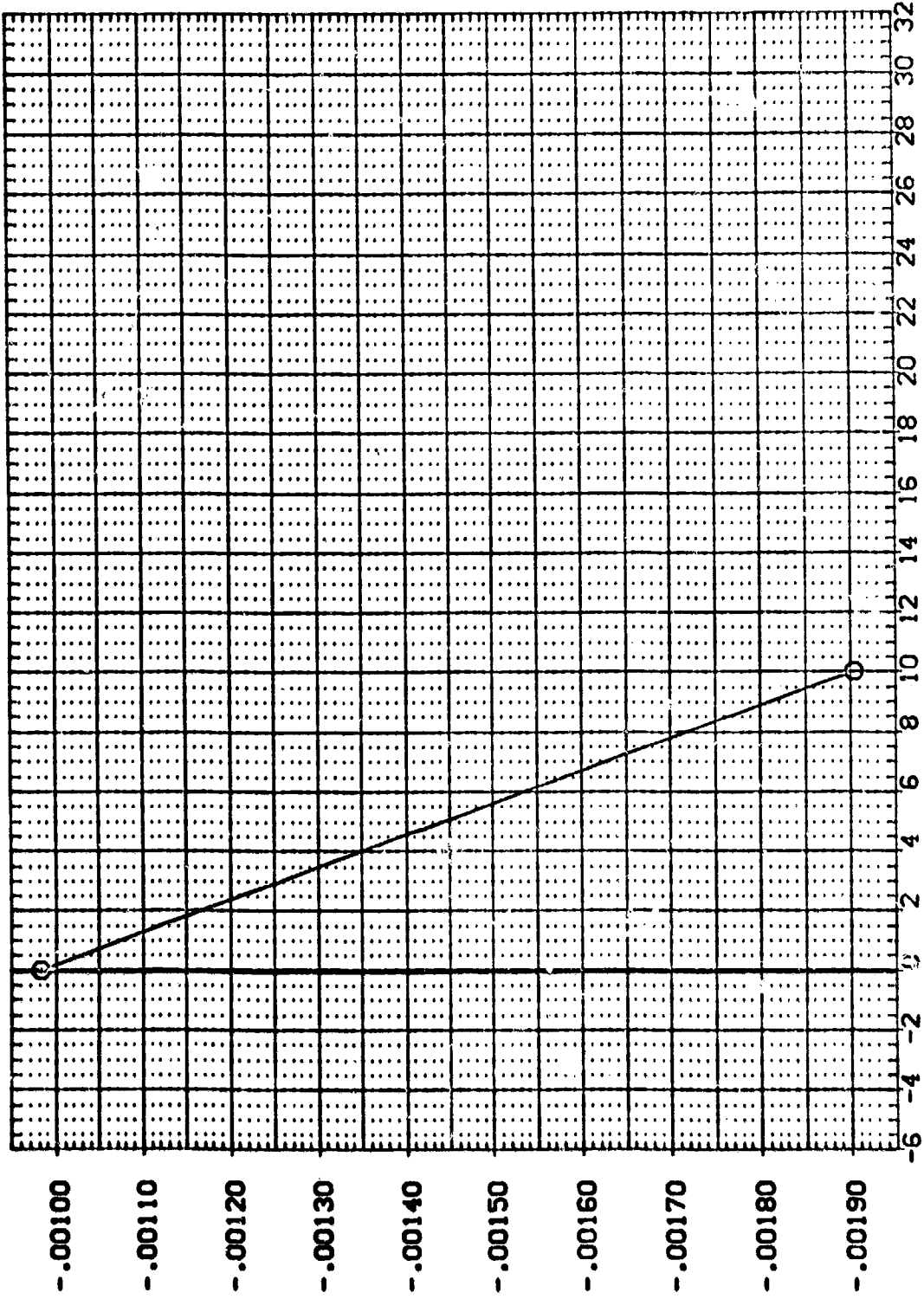
FIG 37 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES 2 OVERWING X=1060
PAGE 298

(DDJ059)

0A71C B16C507J35F1W87 E16V3A3X10

SYMBOL	MACH	REF. AP	AILTRON	NACBTA	NACLIP	PARAMETRIC VALUES	DATA SOURCE	DATA SET	ALPHA	SREF	REFERENCE INFORMATION
O	.210	-18.000	.000	5.000	7.000	ELEVON RUDDER NACV/L	ALPHA .000	DDJ060	10.000	4.4122 19.2269 37.9349 43.5974 16.2000 .0405	SO. FT. INCHES INCHES INCHES INCHES SCALE

ROLLING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CBLBET, PER DEGREE



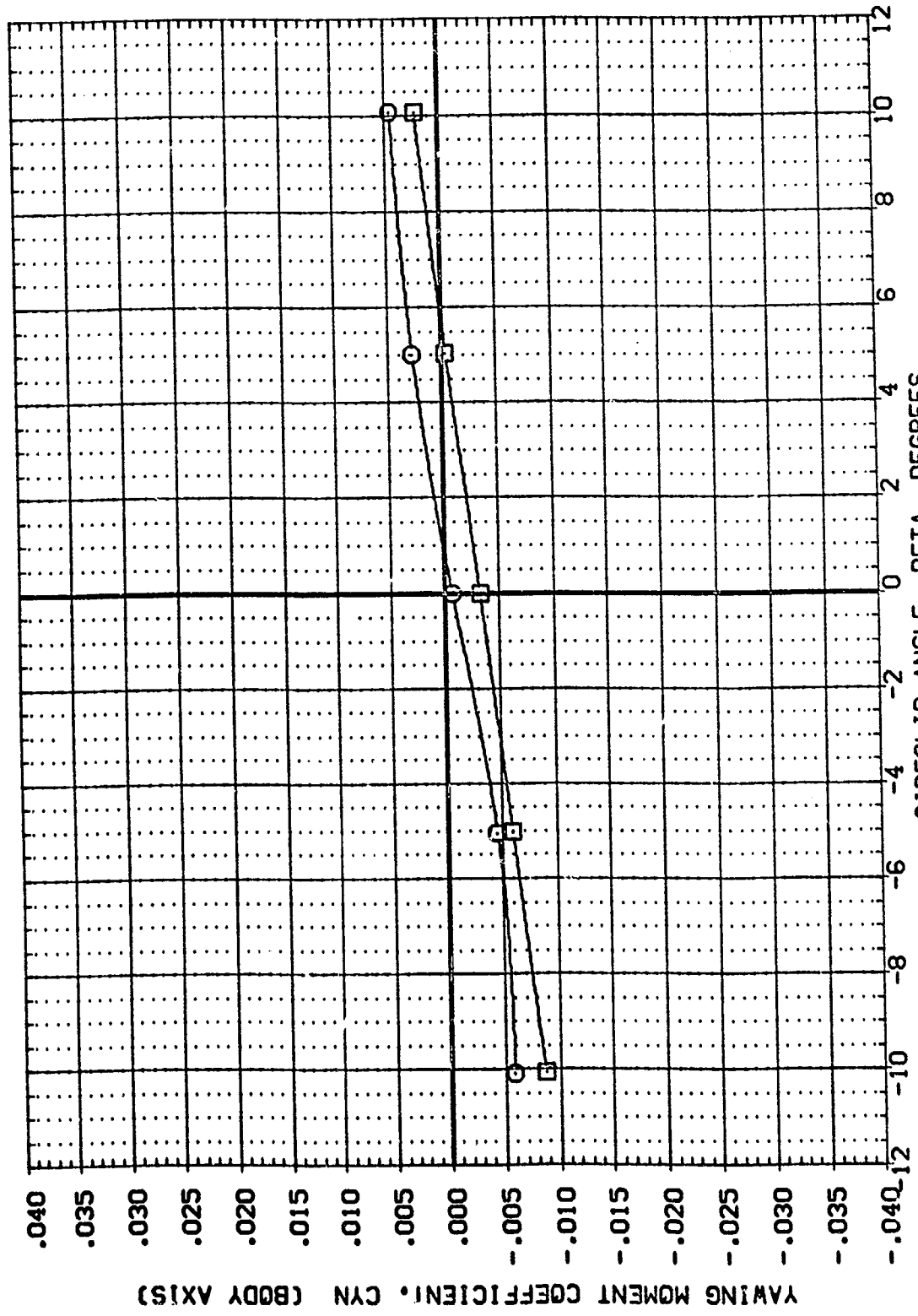
ANGLE OF ATTACK, ALPHA, DEGREES

FIG 37 LATERAL/DIRECTIONAL DERIVATIVES - CLUSTERED NACELLES 2 OVERWING X=1060

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R01068) CA71C B16C507J35F1V87 E18V3R3X10
 (R01069) CA71C B16C507J35F1V87 E18V3R3X10

ALPHA NACX/L NACLIP NACBYA
 .000 .000 7.000 5.000
 10.000 .000 7.000 5.000


REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2258 INCHES
 EREF 37.9349 INCHES
 XGRP 43.5974 INCHES
 YGRP .0000 INCHES
 ZGRP 16.2000 INCHES
 SCALE .0405 SCALE



SIDESLIP ANGLE, BETA, DEGREES

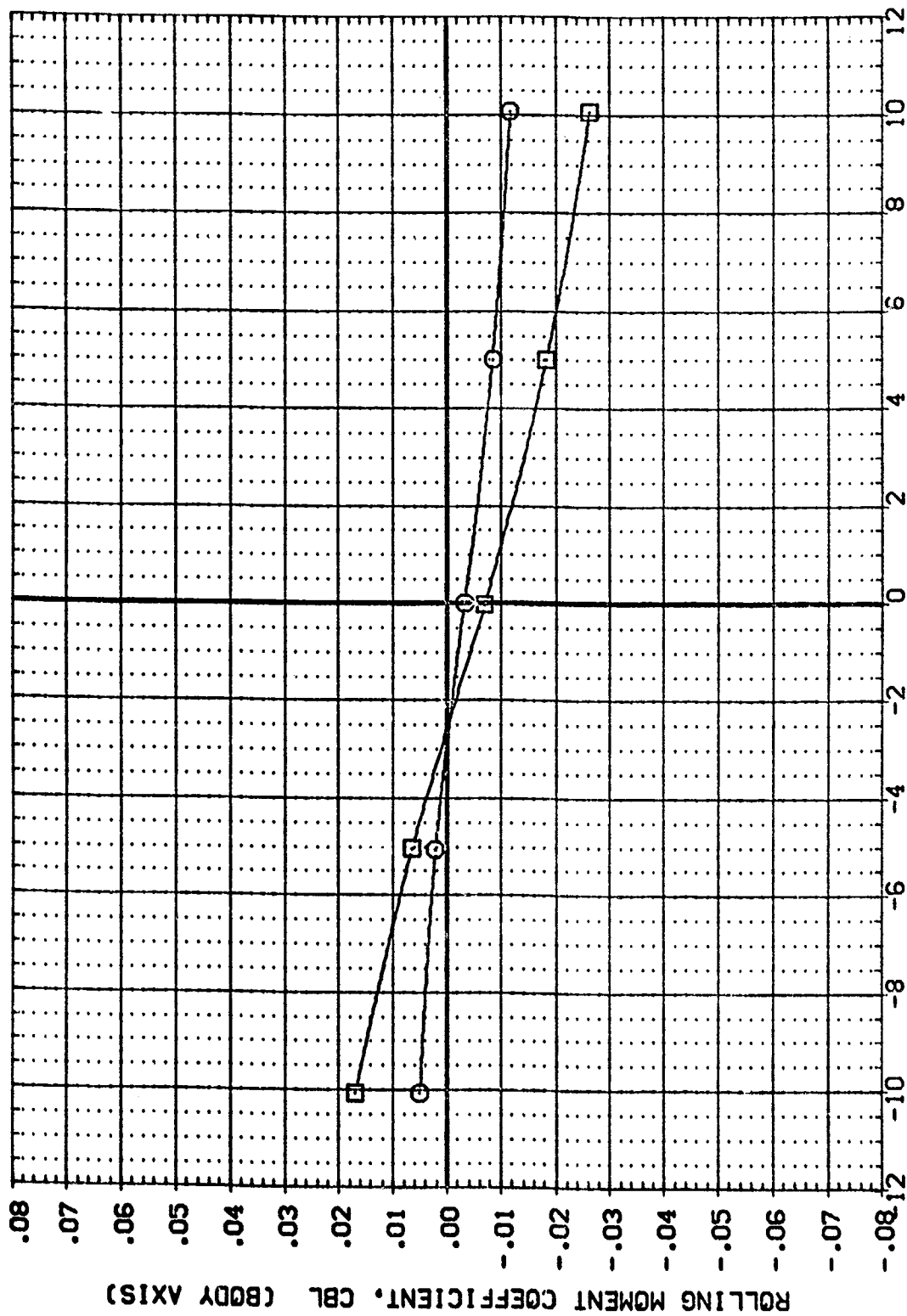
FIG 38 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES 2 OVERWING X= 950

(A)MACH = .20

DATA SET SYMBOL (R01068) (R01068)  CONFIGURATION DESCRIPTION CA71C B16C507135F1487 E18V3R3X10 CA71C B16C507135F1487 E18V3R3X10

ALPHA .000
10.000
MAC/L .000
.000
MAC/LIP 7.000
7.000
MAC/BTA 5.000
5.000

REFERENCE INFORMATION
SREF 4.4122 SQ.FT.
LREF 19.2298 INCHES
BREF 37.9349 INCHES
XMRP 43.9574 INCHES
YMRP .0000 INCHES
ZMRP 16.2000 INCHES
SCALE .0405



SIDESLIP ANGLE, BETA, DEGREES

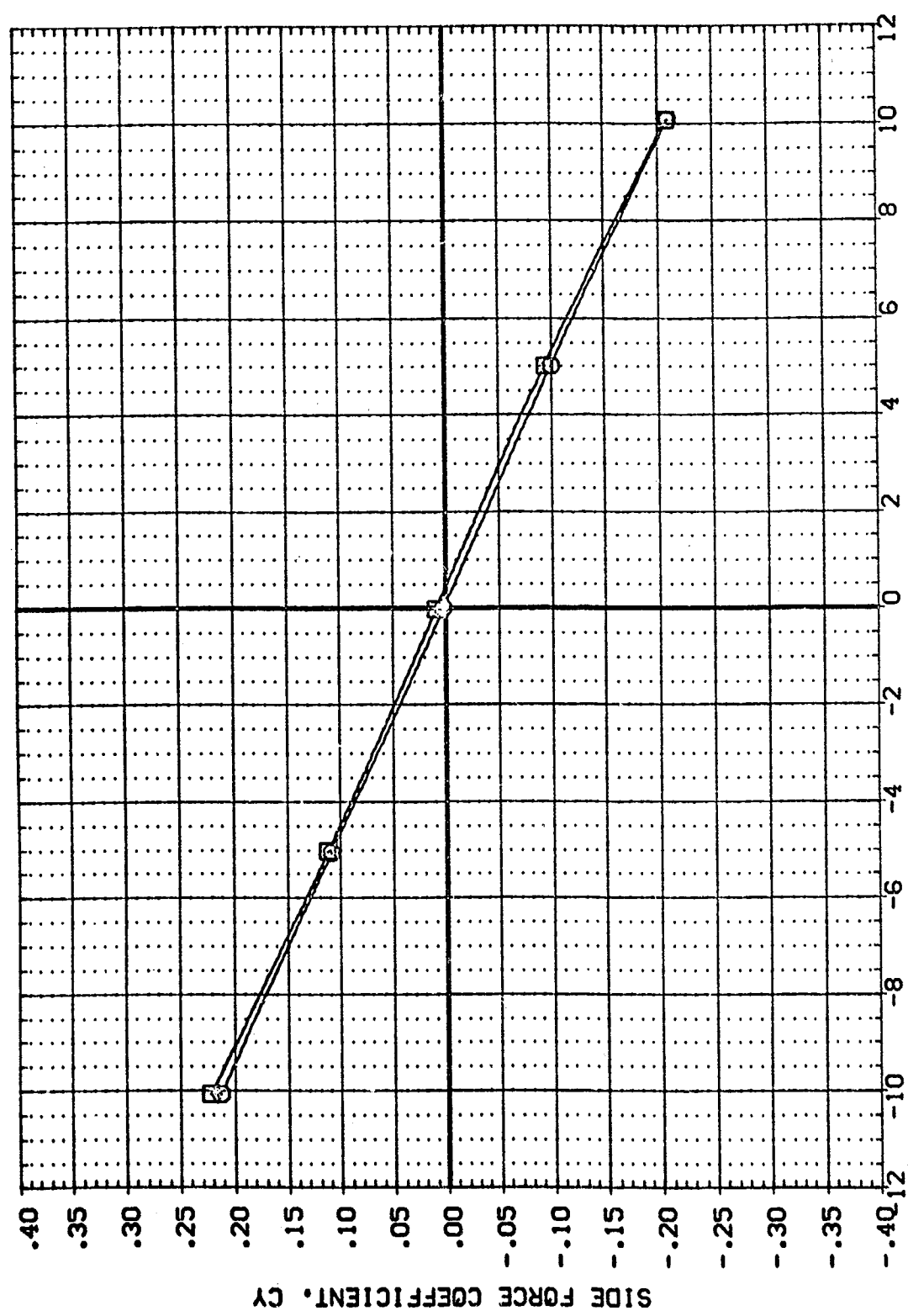
FIG 38 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES 2 OVERWING X= 950

CAJMACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R01089) □ 0A71C B16C507J35F1V87 E18V3R3X10
 (R01089) □ 0A71C B16C507J35F1V87 E18V3R3X10

ALPHA NACX/L NACLIP NACBTA
 .000 .000 7.000 5.000
 10.000 .000 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO. FT.
 LREF 19.2269 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE



SIDESLIP ANGLE, BETA, DEGREES

FIG 38 LATERAL/DIRECTIONAL CHARACTERISTICS-CLUSTERED NACELLES 2 OVERWING X= 950

(A)MACH = .20

(DDJ068)

0A71C B16C5D7J35FIW87 E18VSR3X10

SYMBOL \bigcirc MACH .210

PARAMETRIC VALUES
 BOFLAP -18.000 ELEVON .000 DATASET .000 DATASET ALPHA .000
 AILTRON .000 RUDDER .000 DDJ068 .000 DDJ068
 NACBTA 5.000 NACXL 7.000

DATA SOURCE
 ALPHA .000

REFERENCE INFORMATION
 SQ.FT. 4.4122
 INCHES 19.2239
 INCHES 37.9349
 INCHES 43.5974
 INCHES 43.0000
 INCHES 16.2000
 INCHES .0405
 SCALE

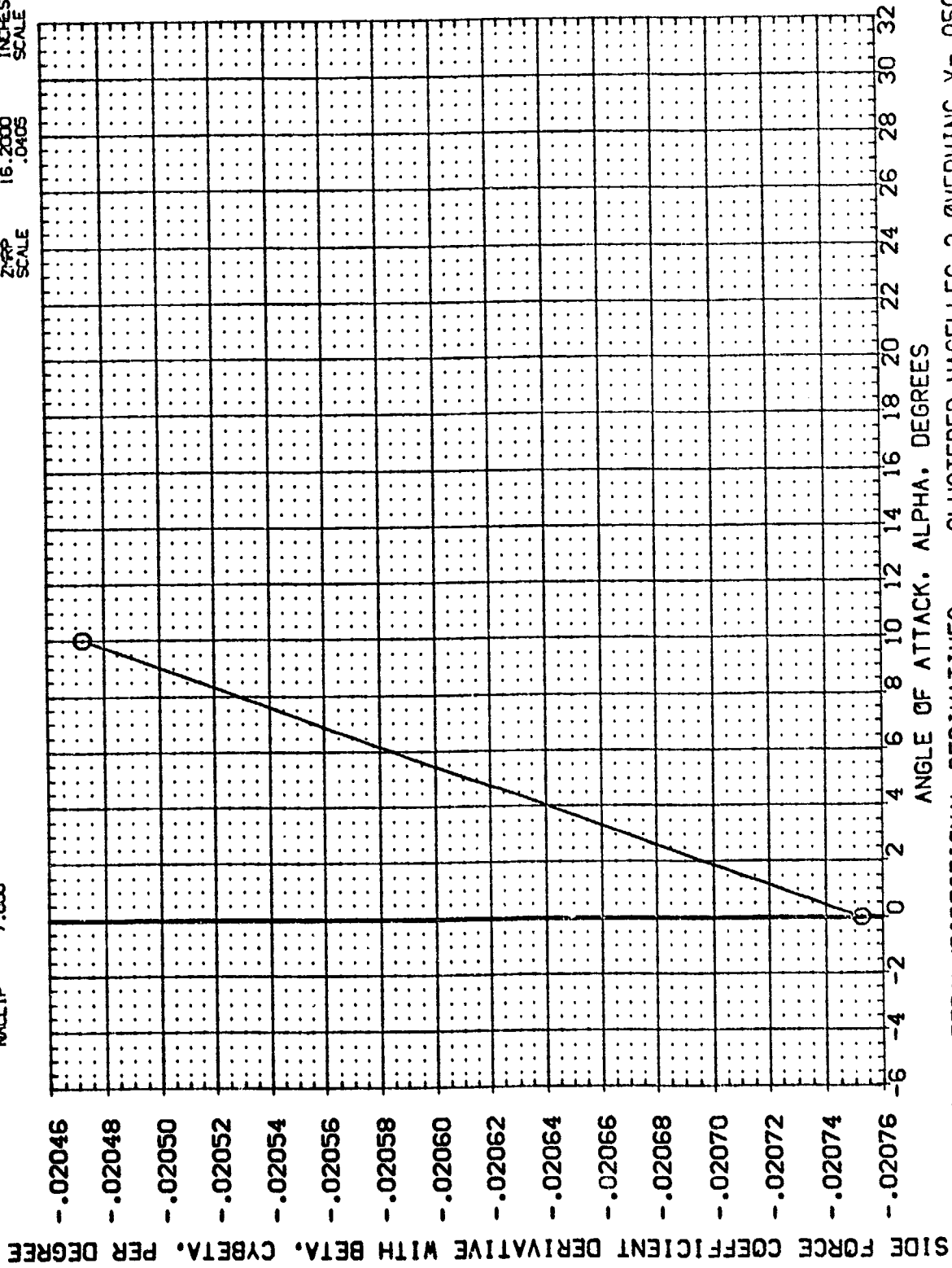


FIG 39 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES 2 OVERWING X= 950



0A71C 816C5D7J35F1W87 E18V3R3X10 (DDU068)

SYMBOL	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.210	BOFLAS -18.000 AILRON .000 NACBTA 5.000 NACLIP 7.000	ALPHA .000 DATASET DDU068 ALPHA 10.000 DATASET DDU069	SQ. FT. 4.4122 INCHES 19.2299 INCHES 37.9349 INCHES 43.5974 INCHES .0000 INCHES 16.2000 SCALE .0405
		ELEVEN RUDDER NACX/L	ALPHA 10.000 DATASET DDU069	SREF LREF BREF XTRP YTRP ZTRP SCALE

YAWING MOMENT COEFFICIENT DERIVATIVE WITH BETA, CYMBET, PER DEGREE

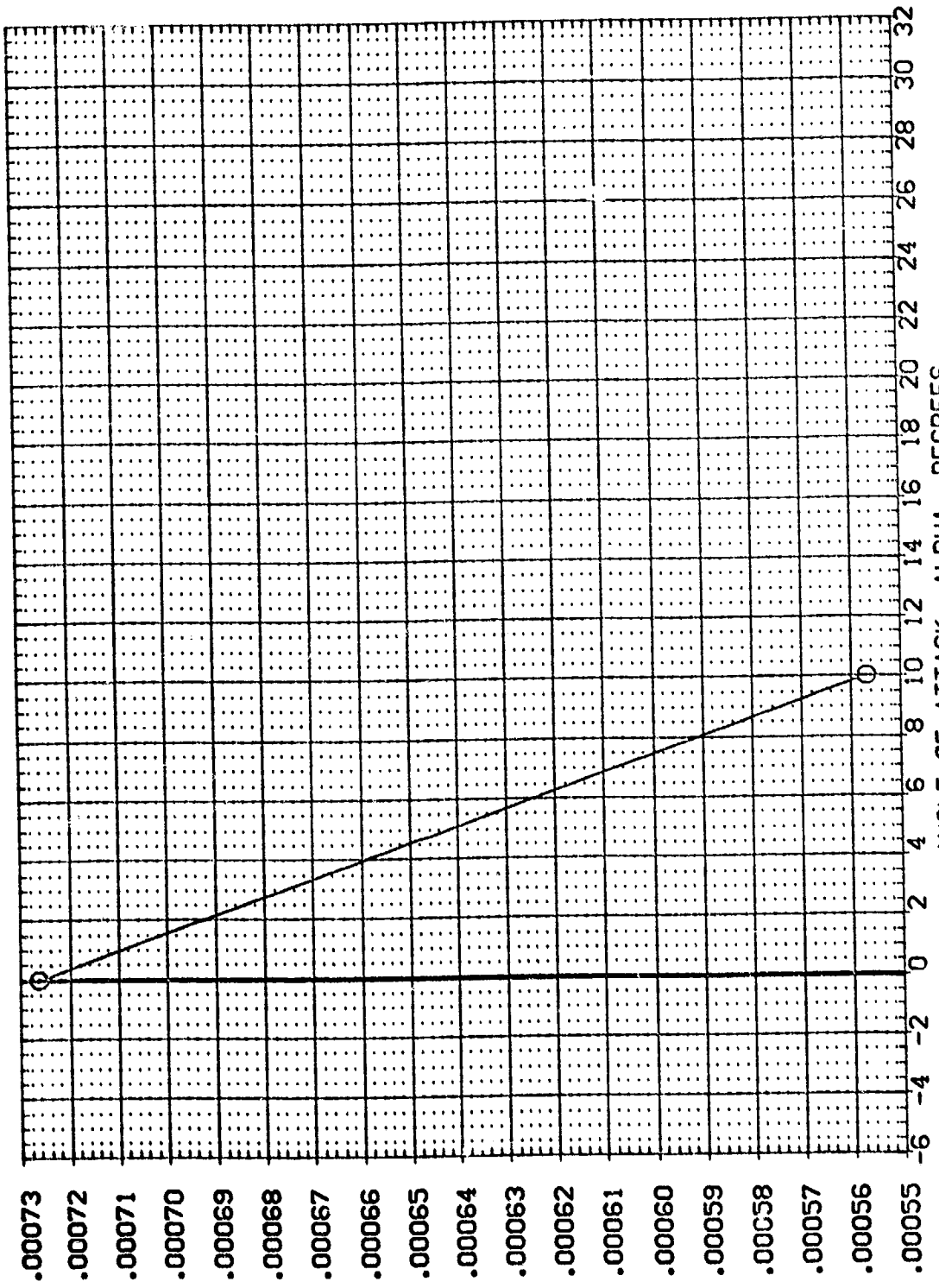


FIG 39 LATERAL/DIRECTIONAL DERIVATIVES -CLUSTERED NACELLES 2 OVERWING X= 950
PAGE 305

CA71C B16C5D7J35F1W87 E18V3R3X10 (000068)

SYMBOL \bigcirc MACH .210

PARAMETRIC VALUES
 BOFLAP -18.000
 AILRON .000
 NACBTA 5.000
 MACLIP 7.000

DATA SOURCE ALPHA DATASET .000
 ALPHA .000 DATASET .000
 DATASET .000

REFERENCE INFORMATION
 SC.FT. 4.4122
 INCHES 19.2298
 INCHES 37.9349
 INCHES 43.5974
 INCHES 16.2000
 SCALE .0405

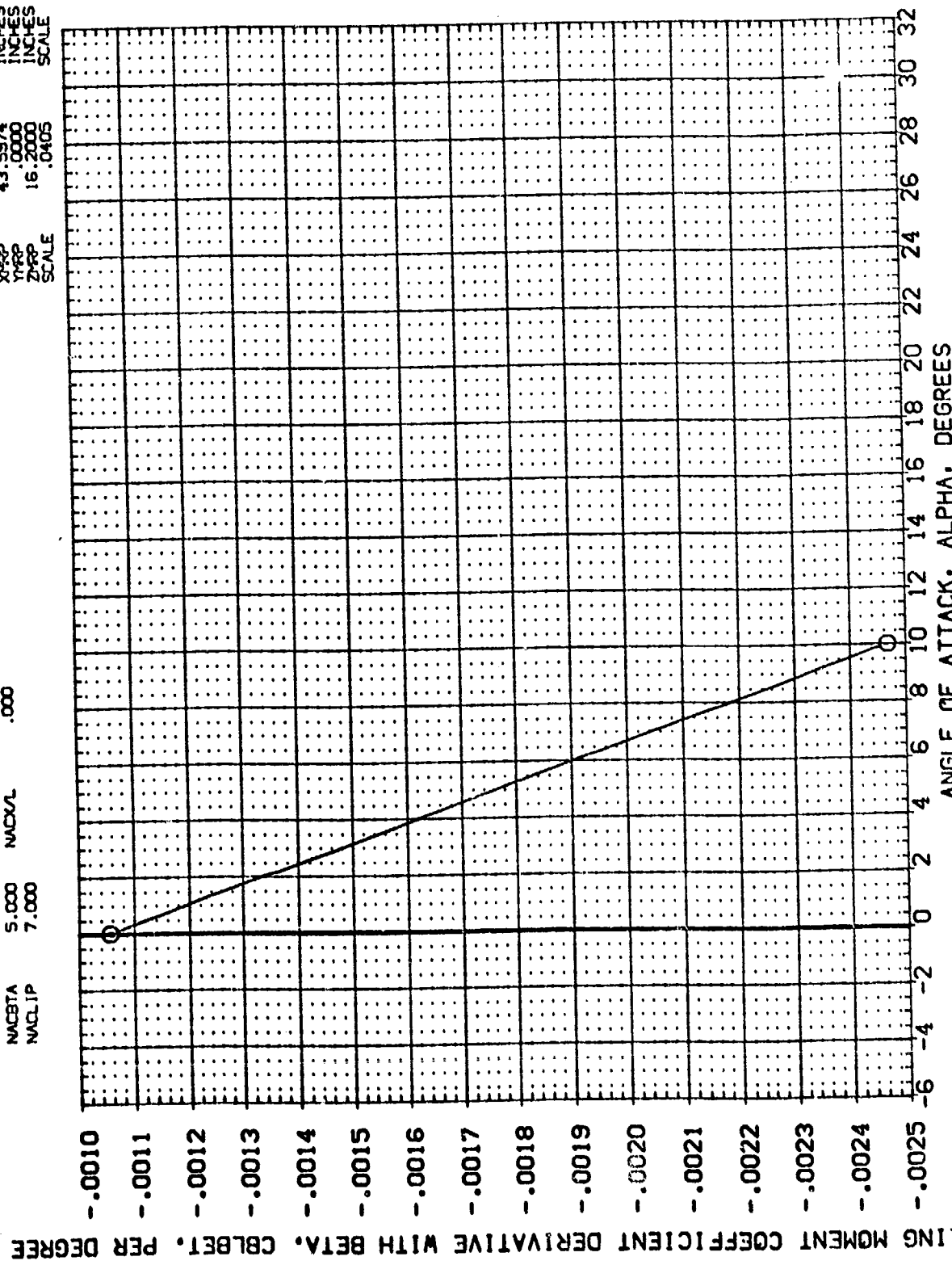


FIG 39 LATERAL/DIRECTIONAL DERIVATIVES - CLUSTERED NACELLE 2 OVERWING X= 950
 PAGE 306



DATA SET SYMBO.	CONFIGURATION DESCRIPTION	ELEVATION	NACA/L	NAOLIP	NACBTA	REFERENCE INFORMATION
(ADJ073)	CAT1C B18CS07J2AF 1V87 E18V3R3X10	.000	.000	7.000	5.000	SREF 4.4122 SQ.FT.
(ADJ072)	CAT1C B18CS07J35F 1V87 E18V3R3X10	.000	.000	7.000	5.000	LREF 19.2799 INCHES
(ADJ077)	CAT1C B18CS07J35F 1V87 E18V3R3X10	.000	.270	7.000	5.000	BREF 37.9349 INCHES
						XREF .0000 INCHES
						YREF 16.2000 INCHES
						ZREF .0406 SCALE

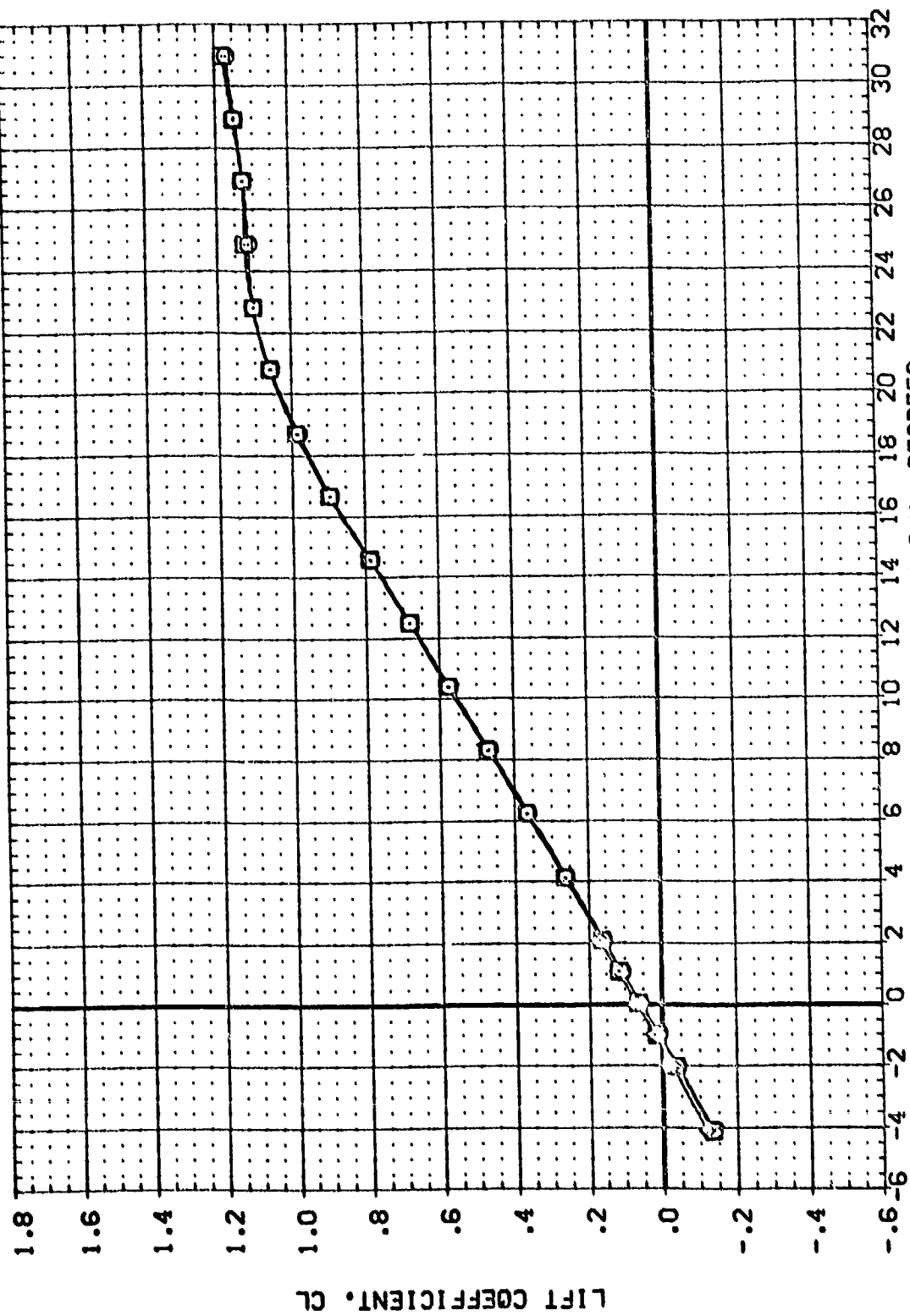





FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADL073)  DA71C B16C507:34F 1V87 E18V3R3X10
 (ADL072)  DA71C B16C507:35F 1V87 E18V3R3X10
 (ADL077)  DA71C B16C507:35F 1V87 E18V3R3X10

ELEVON NACX/L NACL/P NACBTA
 .000 .000 5.000
 .000 .000 5.000
 .000 .000 5.000
 .270 .700 .700

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XPRP 43.5974 INCHES
 YPRP .0000 INCHES
 ZPRP 16.2000 INCHES
 SCALE .0405

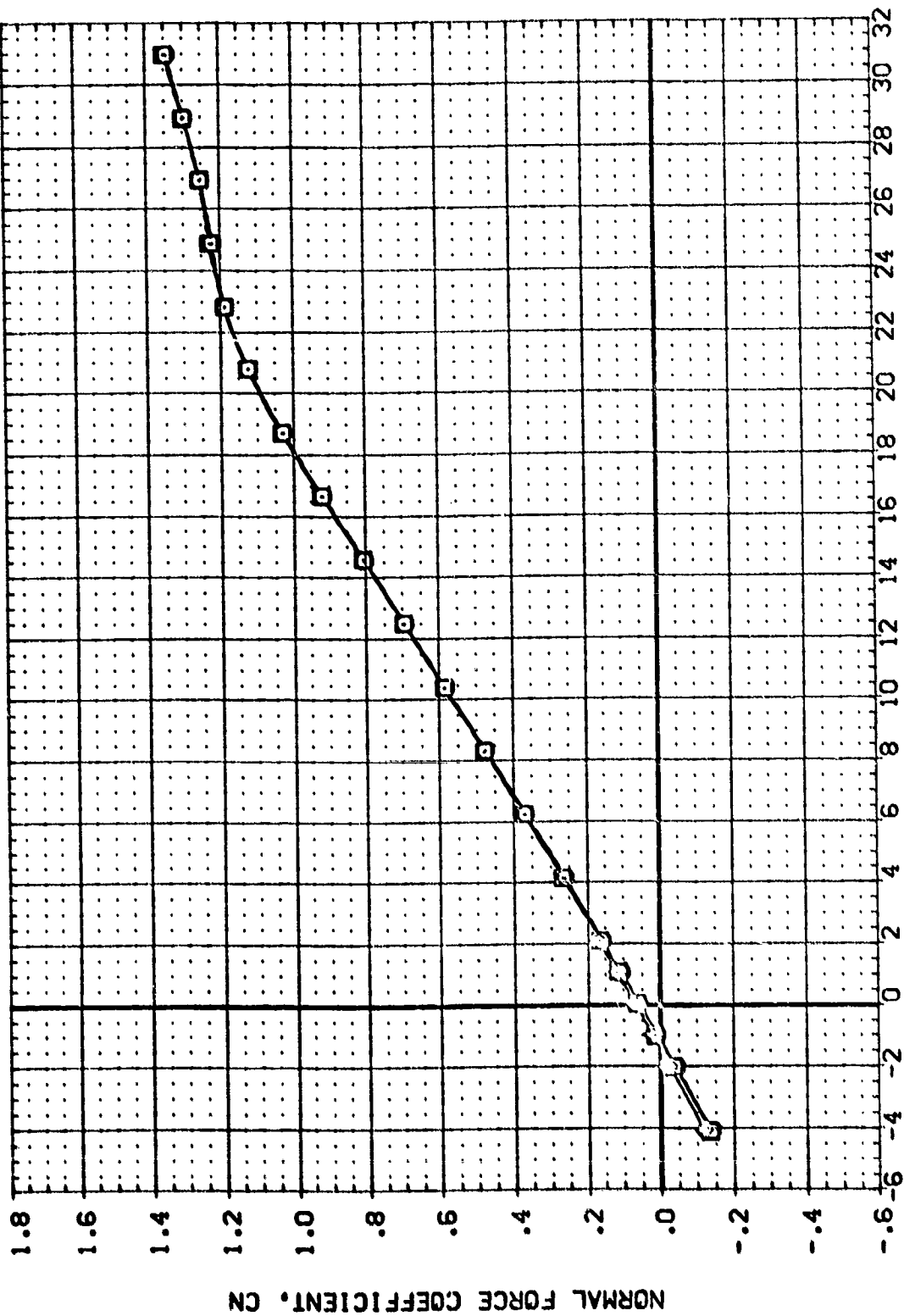


FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS

DATA SET SYMBOL CONFIGURATION DESCRIPTION

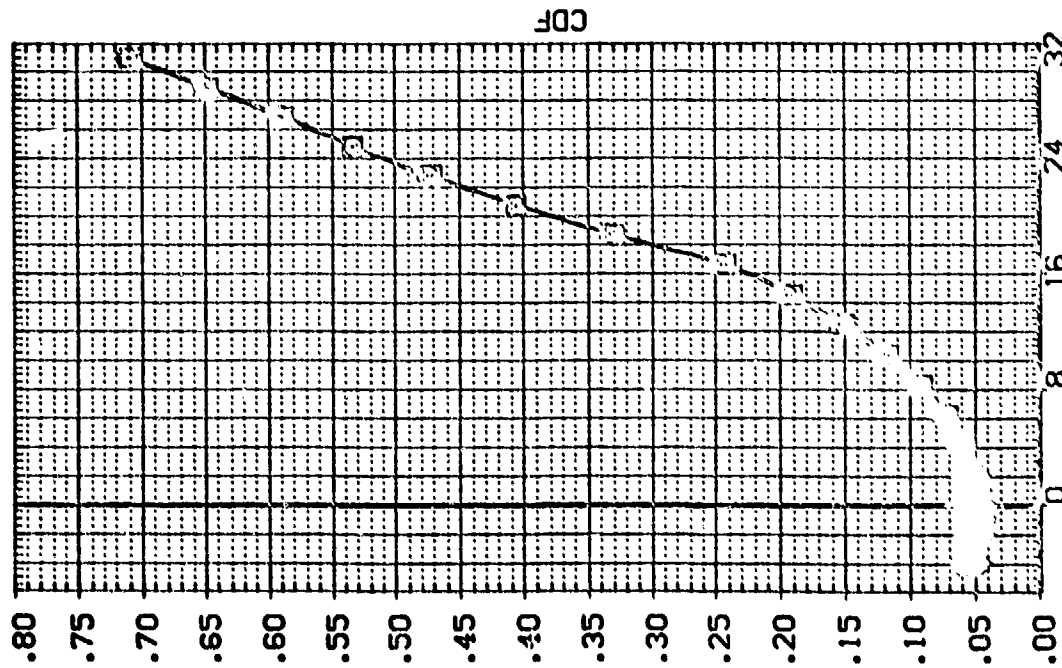
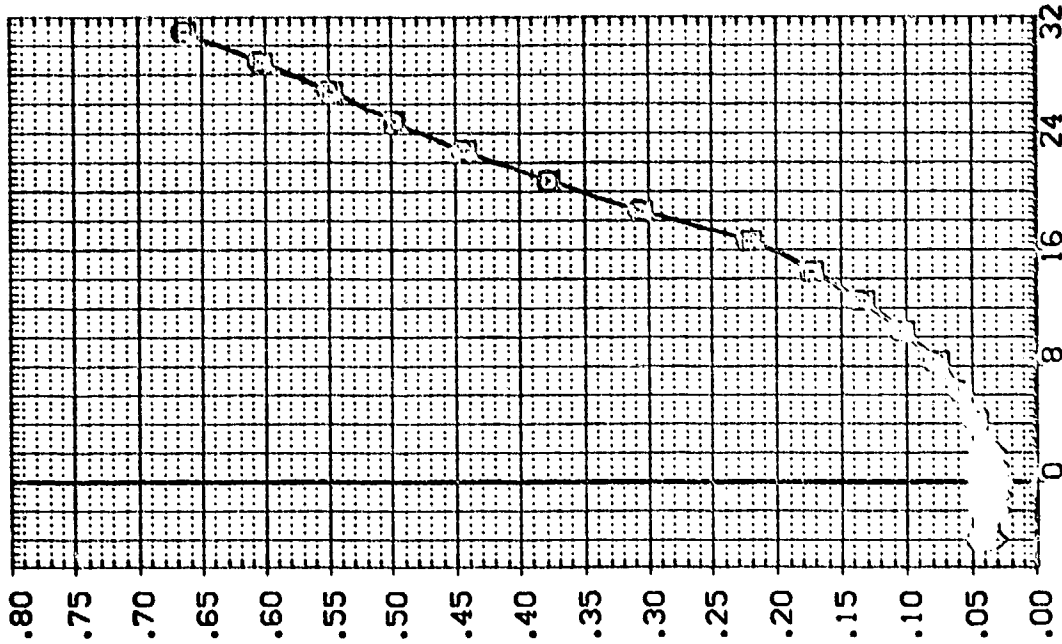
(AD0073)	CA71C	B16CS07134F	1987	E18V320X10
(AD0072)	CA71C	B16CS07135F	1987	E18V320X10
(AD0077)	CA71C	B16CS07135F	1987	E18V320X10

ELEVON NACVL NACLIP NACBTA

.000	.000	7.000	5.000
.000	.000	7.000	5.000
.000	.270	7.000	5.000

REFERENCE INFORMATION

SREF	4.4122	50.FT.
LREF	19.2299	INCHES
EREF	37.9349	INCHES
XTRP	43.5974	INCHES
YTRP	.0000	INCHES
ZTRP	16.2000	INCHES
SCALE	.0405	SCALE



3

FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS

(A)MACH = .20

DATA SET SYMBOL
 (ADJ073)
 (ADJ072)
 (ADJ077)

CONFIGURATION DESCRIPTION
 B16C507A34F1V67 E18V303X10
 B16C507A33F1V67 E18V303X10
 B16C507A33F1V67 E18V303X10

ELEVATION
 .000
 .000
 .000

NACX/L
 .000
 .000
 .270

NACL/P
 7.000
 7.000
 7.000

NACB/T
 5.000
 5.000
 5.000

REFERENCE INFORMATION
 SREF 4.4122 50. FT.
 LREF 19.2236 INCHES
 EREF 37.9349 INCHES
 XTRP 43.5374 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE

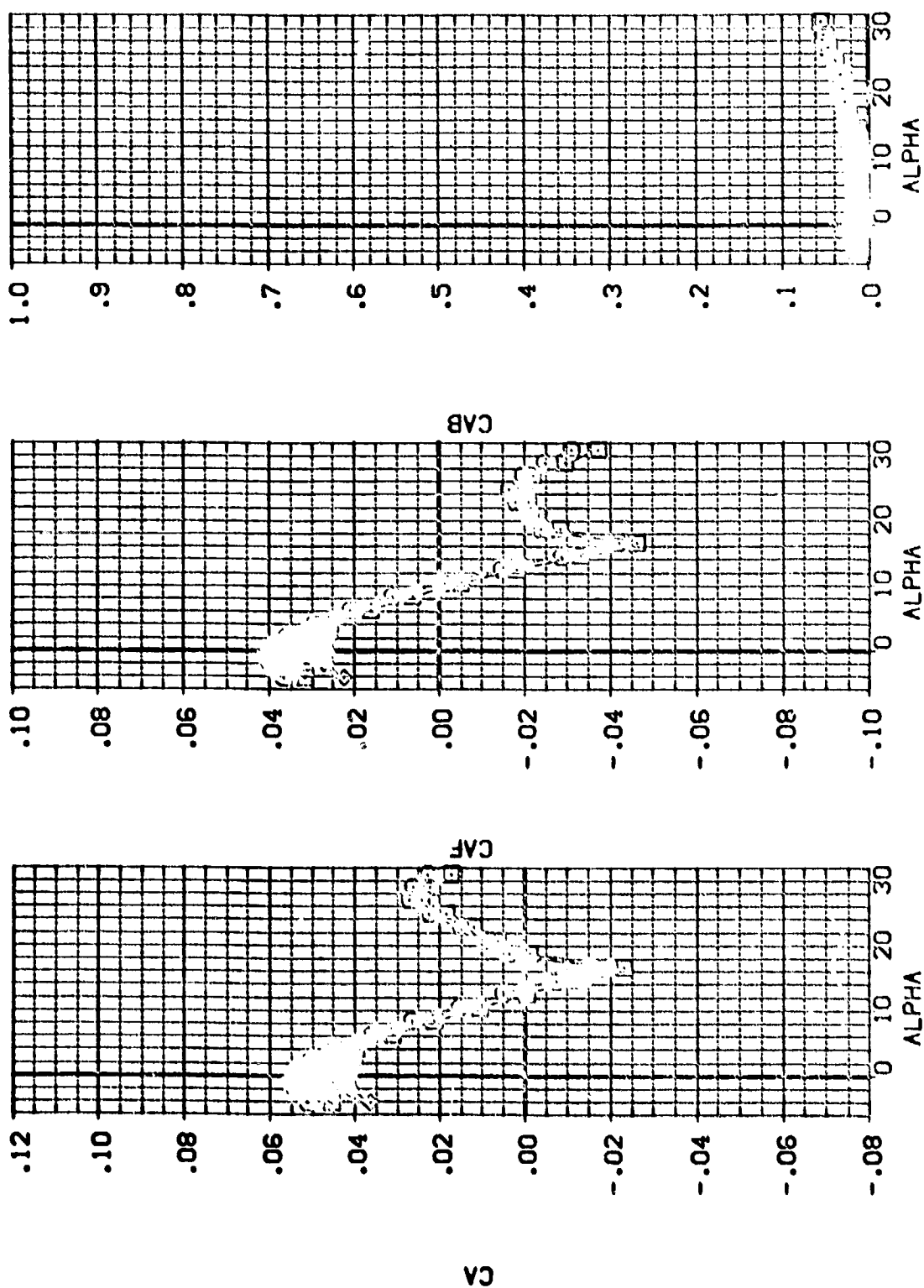


FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACVAL	MACLIP	NACBTA	REFERENCE INFORMATION
(ADL073)	071C 816537438F1V87 E18V38X10	.000	.000	7.000	5.000	SREF 4.4122 50. FT.
(ADL072)	071C 816537438F1V87 E18V38X10	.000	.000	7.000	5.000	LREF 19.2259 100.65
(ADL077)	071C 816537438F1V87 E18V38X10	.000	.270	7.000	5.000	BREF 37.5349 100.65
						XREF 43.5974 100.65
						YREF .0000 100.65
						ZREF 16.2000 100.65
						SCALE .0405

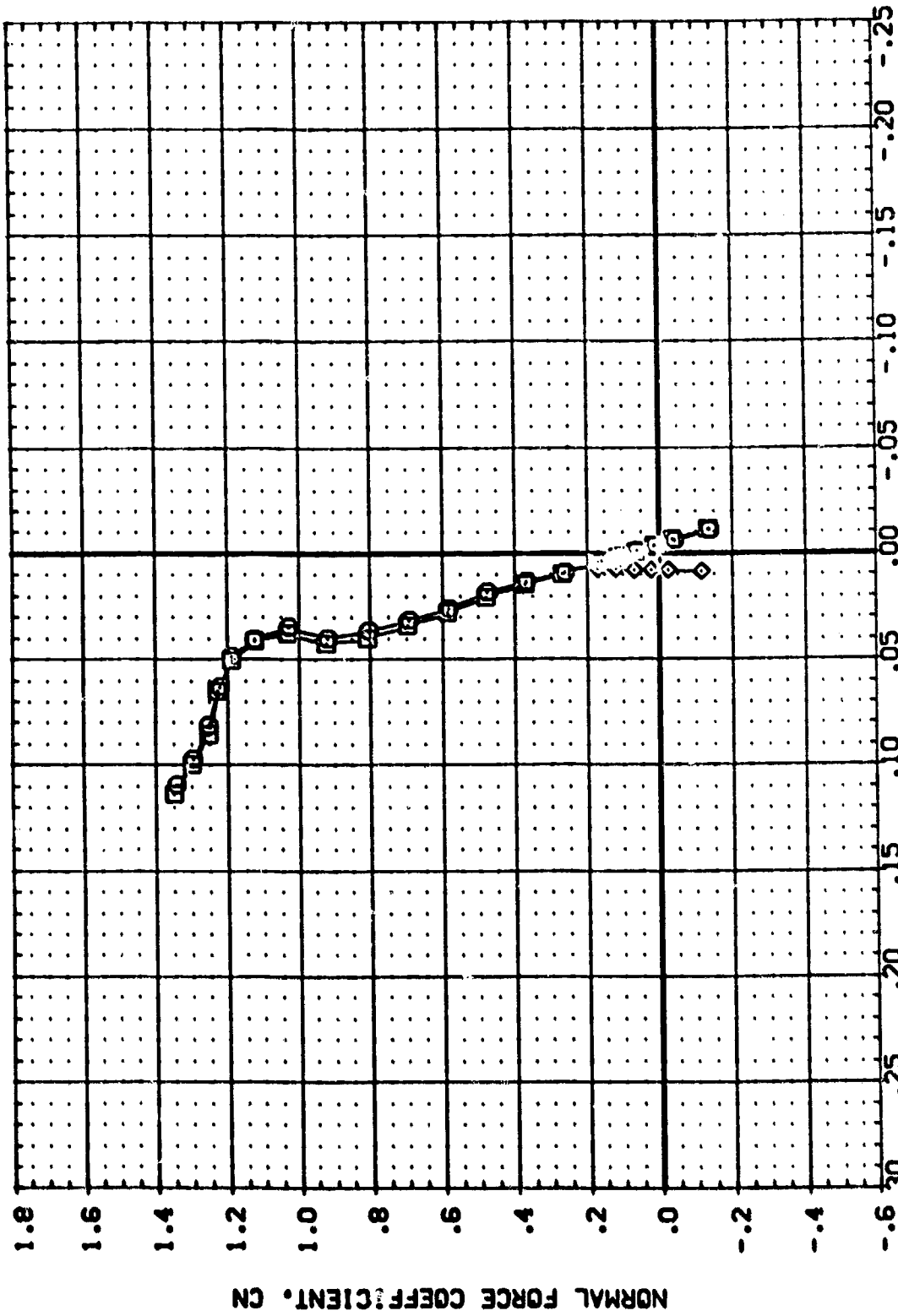


FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS
 PITCHING MOMENT ABOUT FORWARD C. G. (.66 LB). CLMFW

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (ADL073) CA71C 816C5074 34F11687 E18V333X10
 (ADL072) CA71C 816C5074 35F11687 E18V333X10
 (ADL077) CA71C 816C5074 35F11687 E18V333X10

ELEVON NACX/L NACLIP NACBYA
 .000 .000 5.000
 .000 .000 7.000
 .000 .270 7.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XREF 43.5974 INCHES
 YREF 10000 INCHES
 ZREF 5.2000 INCHES
 SCALE .04175 SCALE

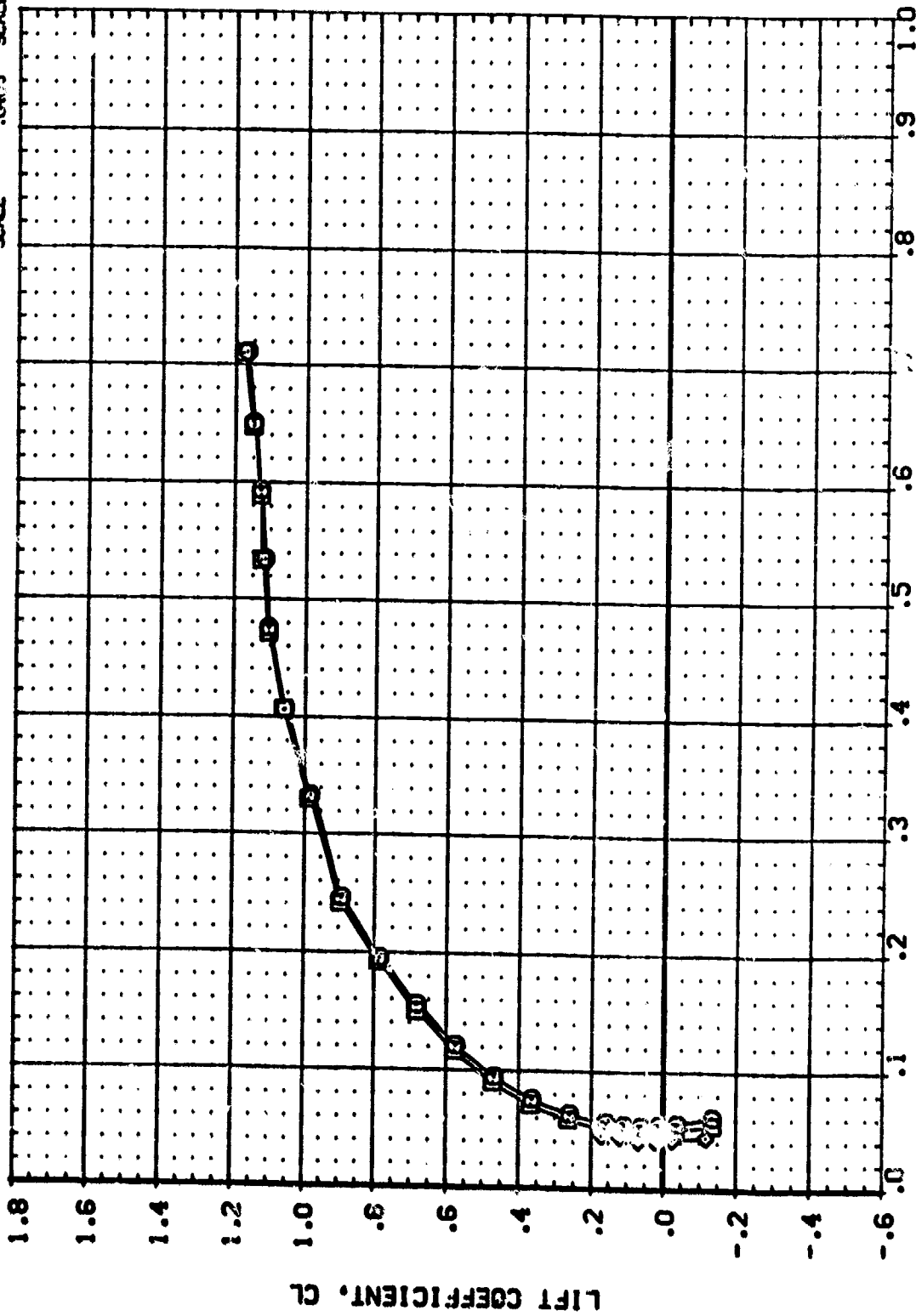
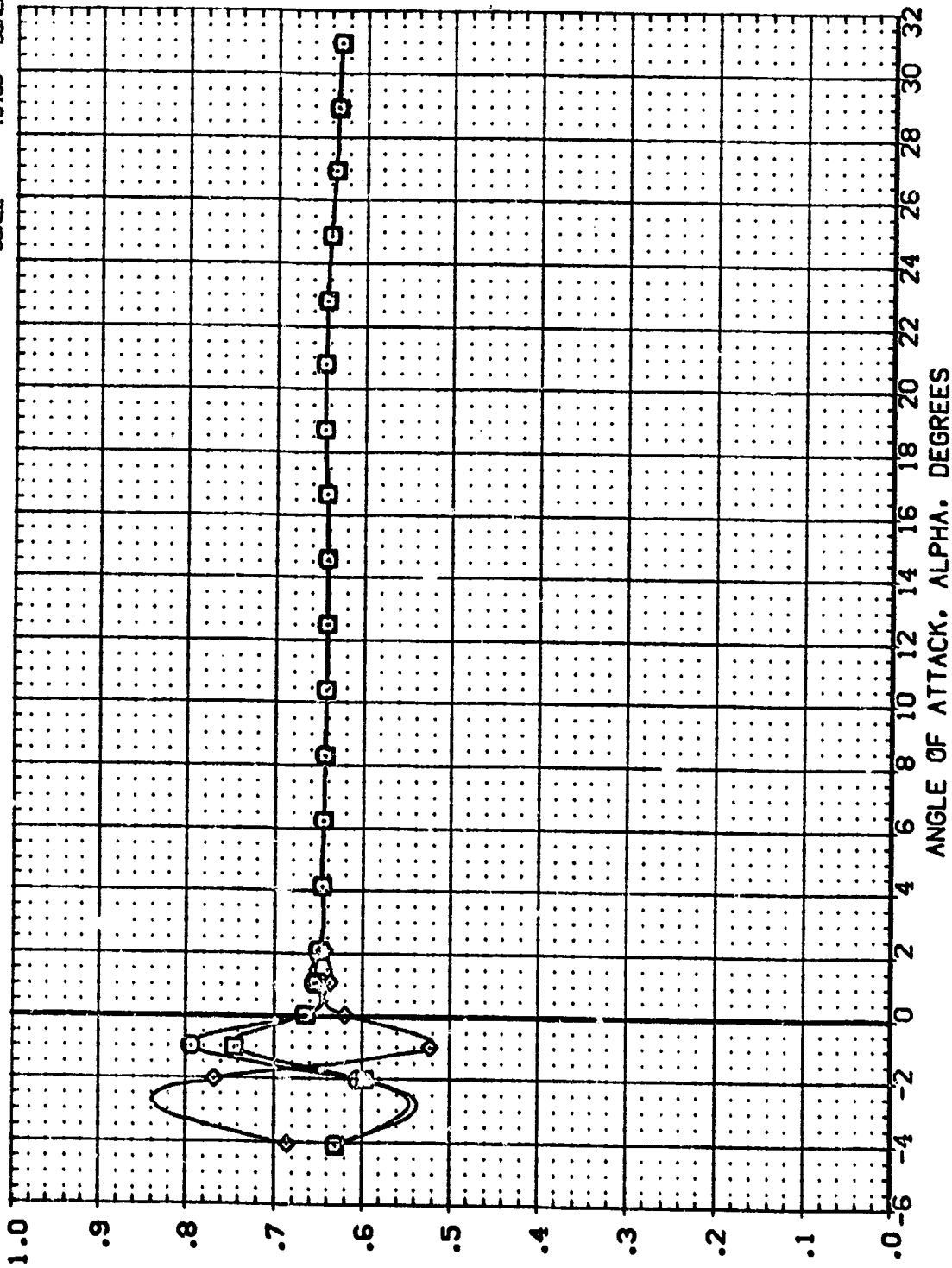


FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (E1073) 0A71C B16C50743AF1N87 E18V3R3X10
 (E1072) 0A71C B16C50743AF1N87 E18V3R3X10
 (E1071) 0A71C B16C50743AF1N87 E18V3R3X10

ELEVON NACA/L NACLIP NACBTA REFERENCE INFORMATION
 .000 .000 7.000 5.000 4.4122 SQ.FT.
 .000 .000 7.000 5.000 19.2298 INCHES
 .000 .270 7.000 5.000 37.9349 INCHES
 XREF YREF ZREF SCALE
 .000 .000 .000 16.2000 INCHES
 .000 .000 .000 .0405 SCALE



LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS
 (M)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MAC/VL	MAC/LP	MAC/BTA	REFERENCE INFORMATION
(80L073)	CA71C B16CS07J34F1V87 E18V3R2X10	.000	.000	7.000	5.000	SREF 4.4122 SO.FT.
(80L072)	CA71C B16CS07J35F1V87 E18V3R2X10	.000	.000	7.000	5.000	LREF 19.2268 INCHES
(80L077)	CA71C B16CS07J35F1V87 E18V3R2X10	.000	.270	7.000	5.000	BREF 37.9349 INCHES
						XMRP 43.5574 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405

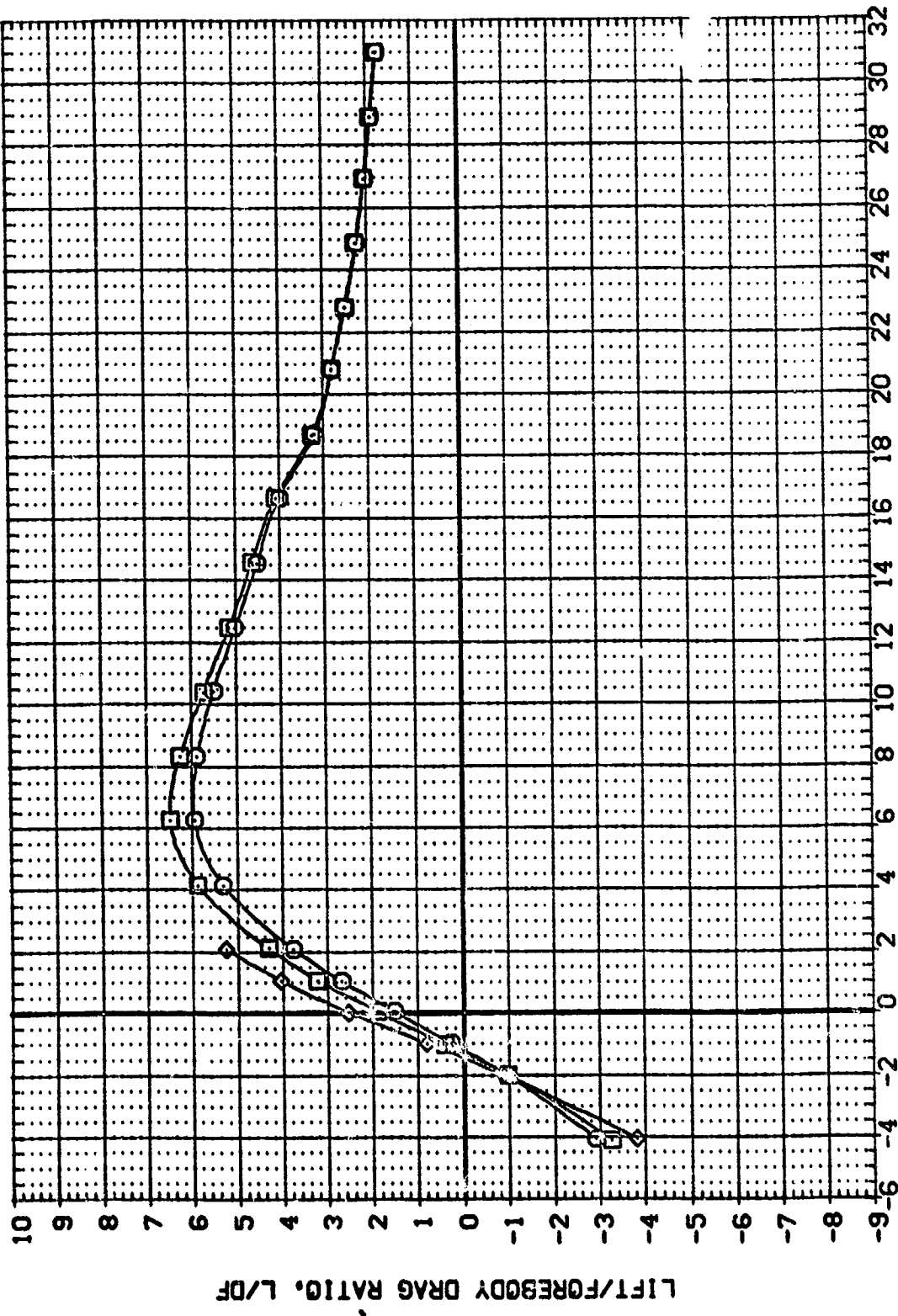


FIG 40 LONGITUDINAL CHARACTERISTICS - EFFECTS OF INDIVIDUAL CLUSTERS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACX/L	NACL/P	NACB/T	REFERENCE INFORMATION
(ADJ074)	0A71C B16C507A33F1V67 E18V3K3X10	.000	.000	.000	5.000	SREF 4.4122 SQ.FT.
(ADJ075)	0A71C B16C507A33F1V67 E18V3K3X10	.000	.530	.000	5.000	LREF 19.2299 INCHES
(ADJ076)	0A71C B16C507A33F1V67 E18V3K3X10	.000	.270	7.000	5.000	BREF 37.9349 INCHES
						XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

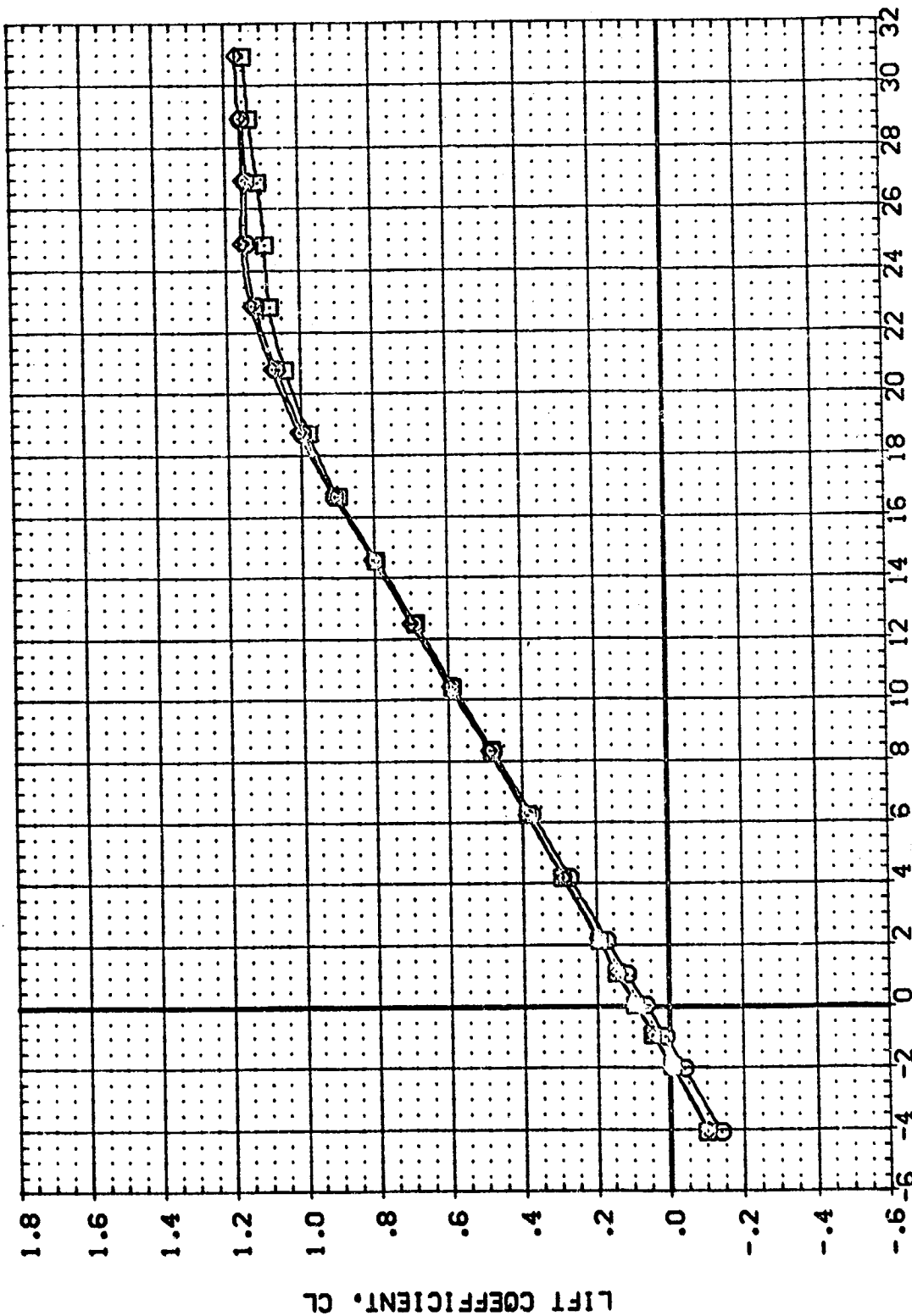


FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACK/L	NAO/LIP	NAO/BTA	REFERENCE INFORMATION
(ADJ074)	CA71C B16C507J37F1V87 E18V3R3X10	.000	.000	.000	5.000	4.4122 50.FT.
(ADJ075)	CA71C B16C507J38F1V87 E18V3R3X10	.000	.530	.000	5.000	19.2289 INCHES
(ADJ076)	CA71C B16C507J39F1V87 E18V3R3X10	.000	.270	7.000	5.000	37.8349 INCHES
						43.9574 INCHES
						.0000 INCHES
						16.2000 INCHES
						.0405 SCALE

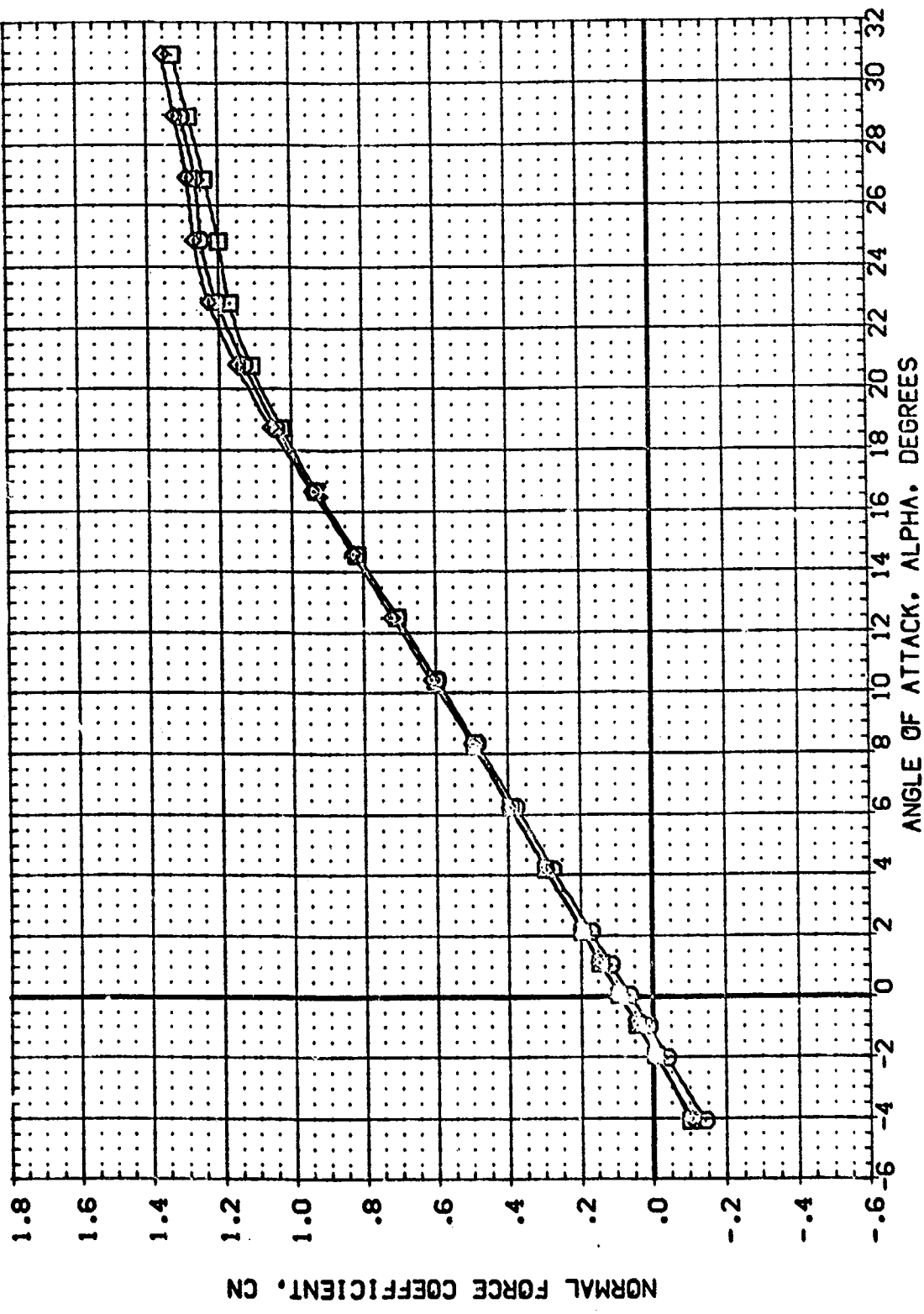


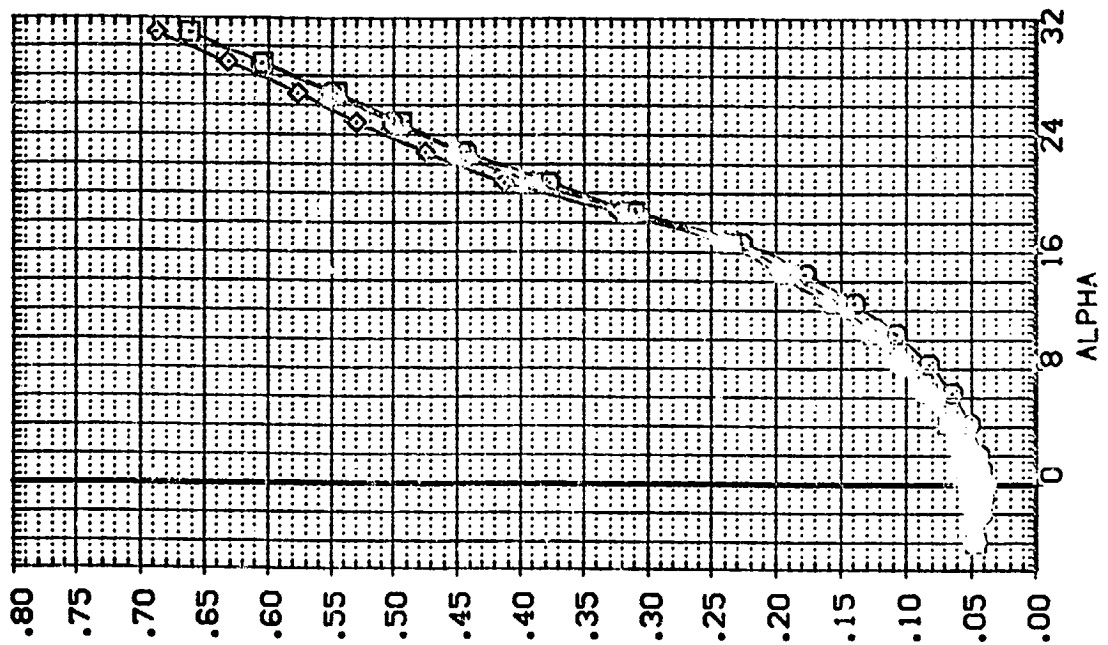
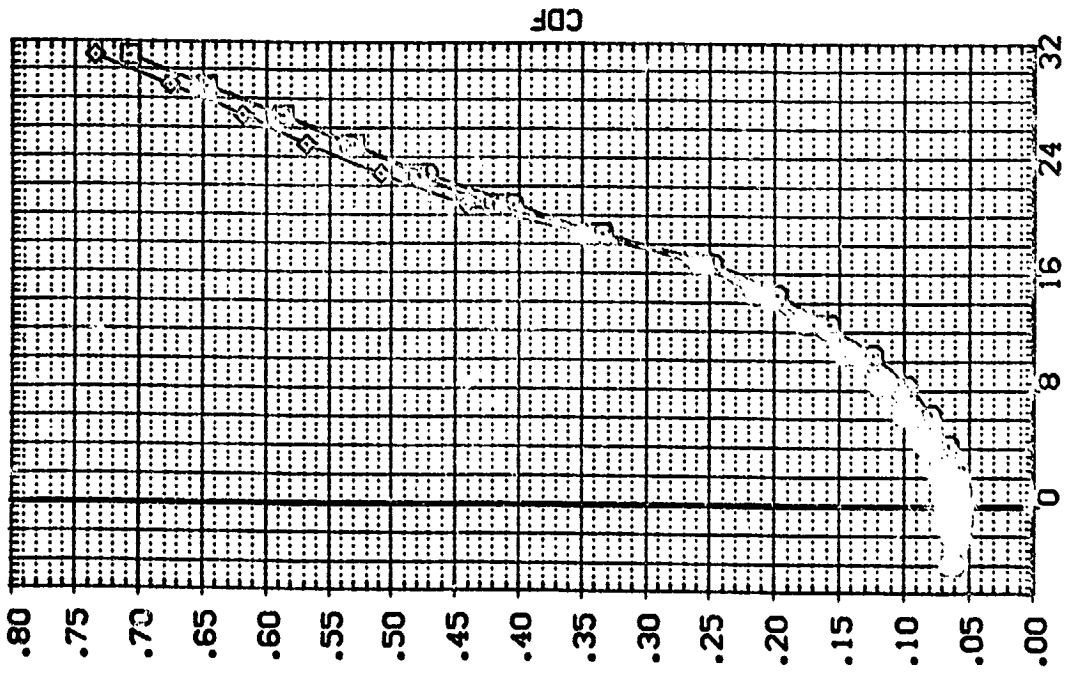
FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

(A)MACH = .20



DATA SET SYMBL. CONFIGURATION DESCRIPTION
 (ADJ074) □ CA71C B16CS07J38F1V87 E18V3R3X10
 (ADJ075) □ CA71C B16CS07J38F1V87 E18V3R3X10
 (ADJ076) ◇ CA71C B16CS07J38F1V87 E18V3R3X10

ELEVEN MACVL MACLIP MACBTA REFERENCE INFORMATION
 .000 .000 .000 SREF 4.4122 SQ.FT.
 .000 .530 .000 LREF 19.2299 INCHES
 .000 .270 7.000 XMRP 37.9349 INCHES
 .000 .000 .000 YMRP 43.5974 INCHES
 .000 .000 .000 ZMRP 16.2000 INCHES
 .000 .000 .000 SCALE .0405 SCALE



8

FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

(AJMACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ074) CA71C B16CSD7J35F1V87 E18V3R3X10
 (ADJ075) CA71C B16CSD7J35F1V87 E18V3R3X10
 (ADJ076) CA71C B16CSD7J35F1V87 E18V3R3X10

ELEVON EACVAL EACVLA NAELIP NACBTA
 .000 .000 .000 5.000
 .000 .000 .000 5.000
 .000 .530 .700 5.000

REFERENCE INFORMATION
 SREF 4.4122 SO.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

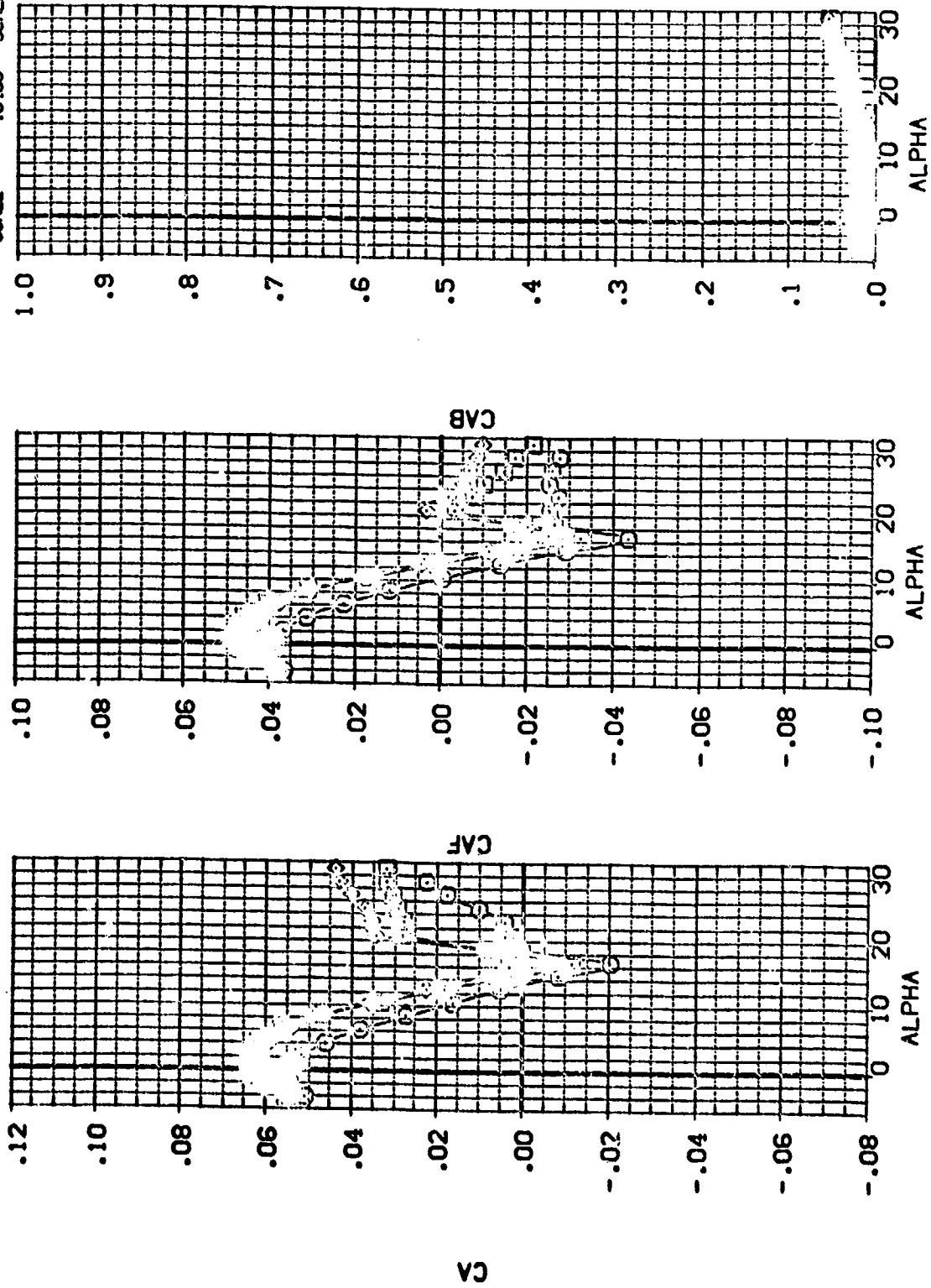


FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

(A)MACH = .20



DATA SET SYMBOL: (ADJ074), (ADJ075), (ADJ076)
 CONFIGURATION DESCRIPTION: 0A71C 816C507437 1V67 E16V3K3X10, 0A71C 816C507432 1V67 E16V3K3X10, 0A71C 816C507433 1V67 E16V3K3X10
 REFERENCE INFORMATION: SO.FT. 4.4122 INCHES, SREF 19.2266 INCHES, LREF 37.9349 INCHES, XREF 43.9374 INCHES, YREF .0000 INCHES, ZREF 16.2000 INCHES, SCALE .0405

ELEVON: .000, .000, .000, .000
 NACVL: .000, .530, .270
 NACLIP: .000, .000, 7.000
 NACBTA: 5.000, 5.000, 5.000

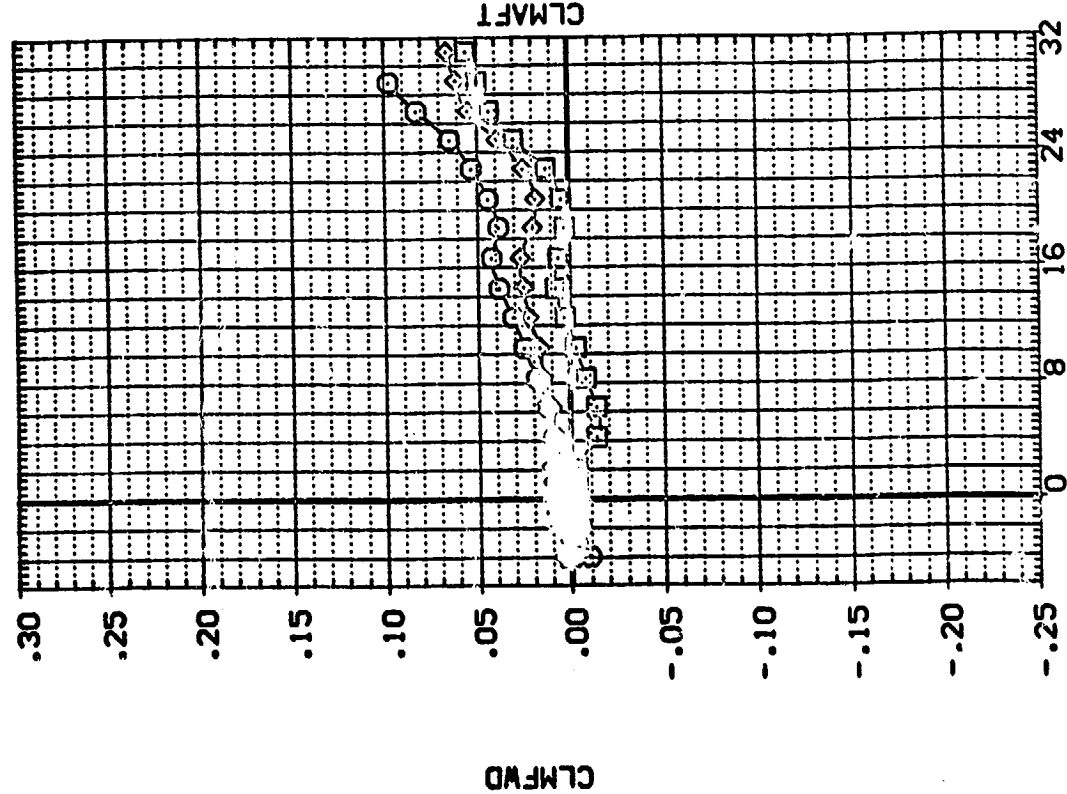
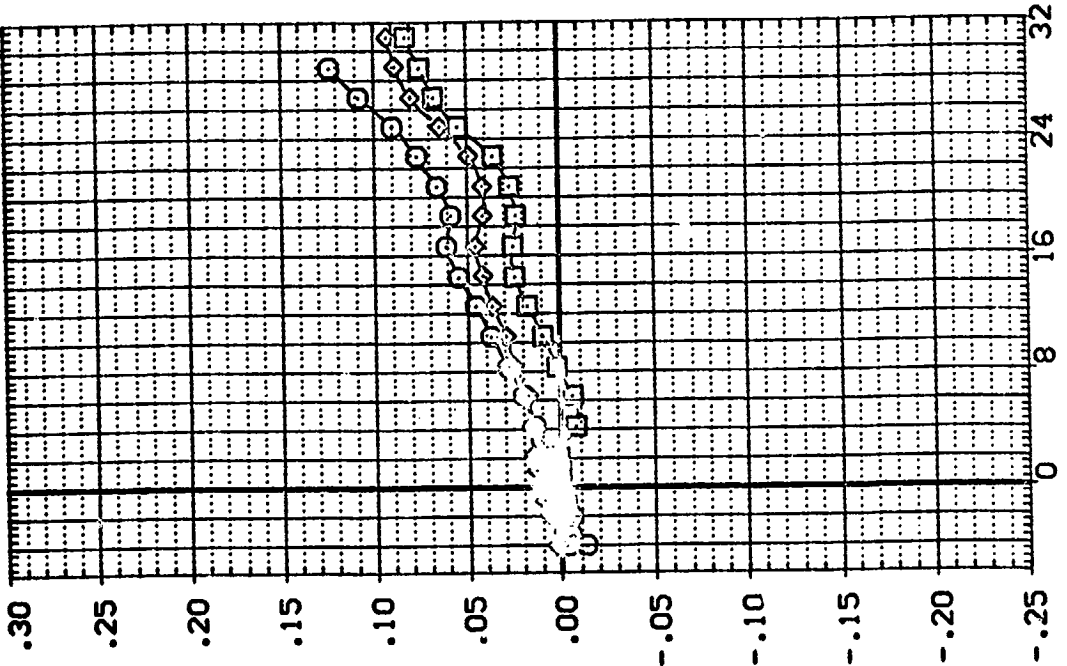


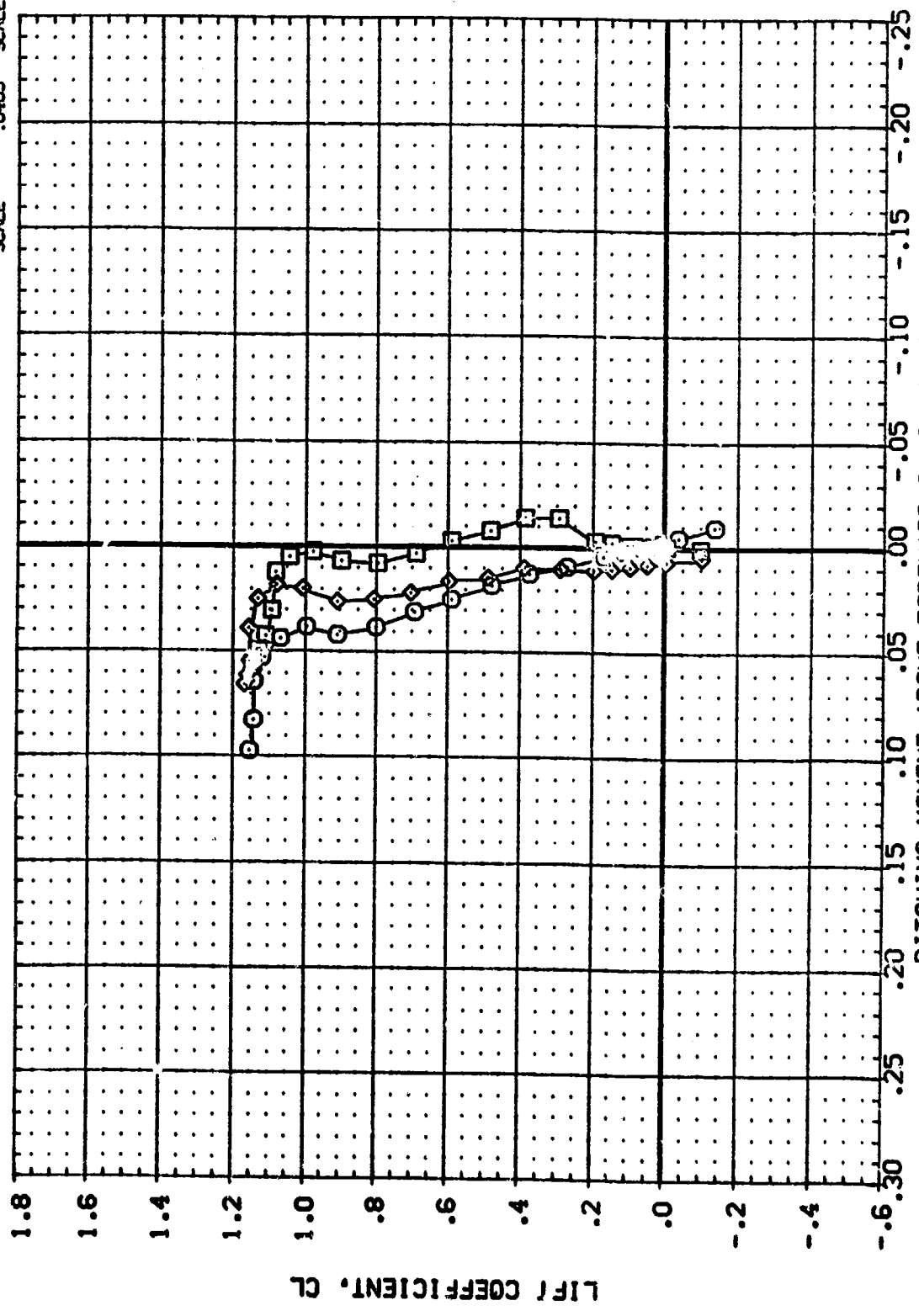
FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

CAJMACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ074) QAY7C B16C507J37F1V67 E18V3K3X10
 (ADJ075) QAY7C B16C507J53F1V67 E18V3K3X10
 (ADJ076) QAY7C B16C507J38F1V67 E18V3K3X10

ELEVON NACXVL NALLIF NACB1A
 .000 .000 .000 5.000
 .000 .530 .000 5.000
 .000 .270 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XTRP 13.5974 INCHES
 YTRP .0000 INCHES
 ZTRP 16.2000 INCHES
 SCALE .0405 SCALE



PITCHING MOMENT ABOUT FORWARD C. G. (.66 LB). CLMFW

FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

CAJMACH = .20



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	N ² /V	MAC/LIP	MAC/BTA	REFERENCE INFORMATION
(ADJ074)	0A71C B16C507J37F1V67 E18V3KX10	.000	.000	.000	5.000	SREF 4.4122 SO.FT.
(ADJ075)	0A71C B16C507J38F1V67 E18V3KX10	.000	.530	.000	5.000	LREF 19.2259 INCHES
(ADJ076)	0A71C B16C507J39F1V67 E18V3KX10	.000	.270	7.000	5.000	BREF 37.9219 INCHES
						XMRP 43.5574 INCHES
						YMRP .0000 INCHES
						ZMRP 16.2000 INCHES
						SCALE .0405 SCALE

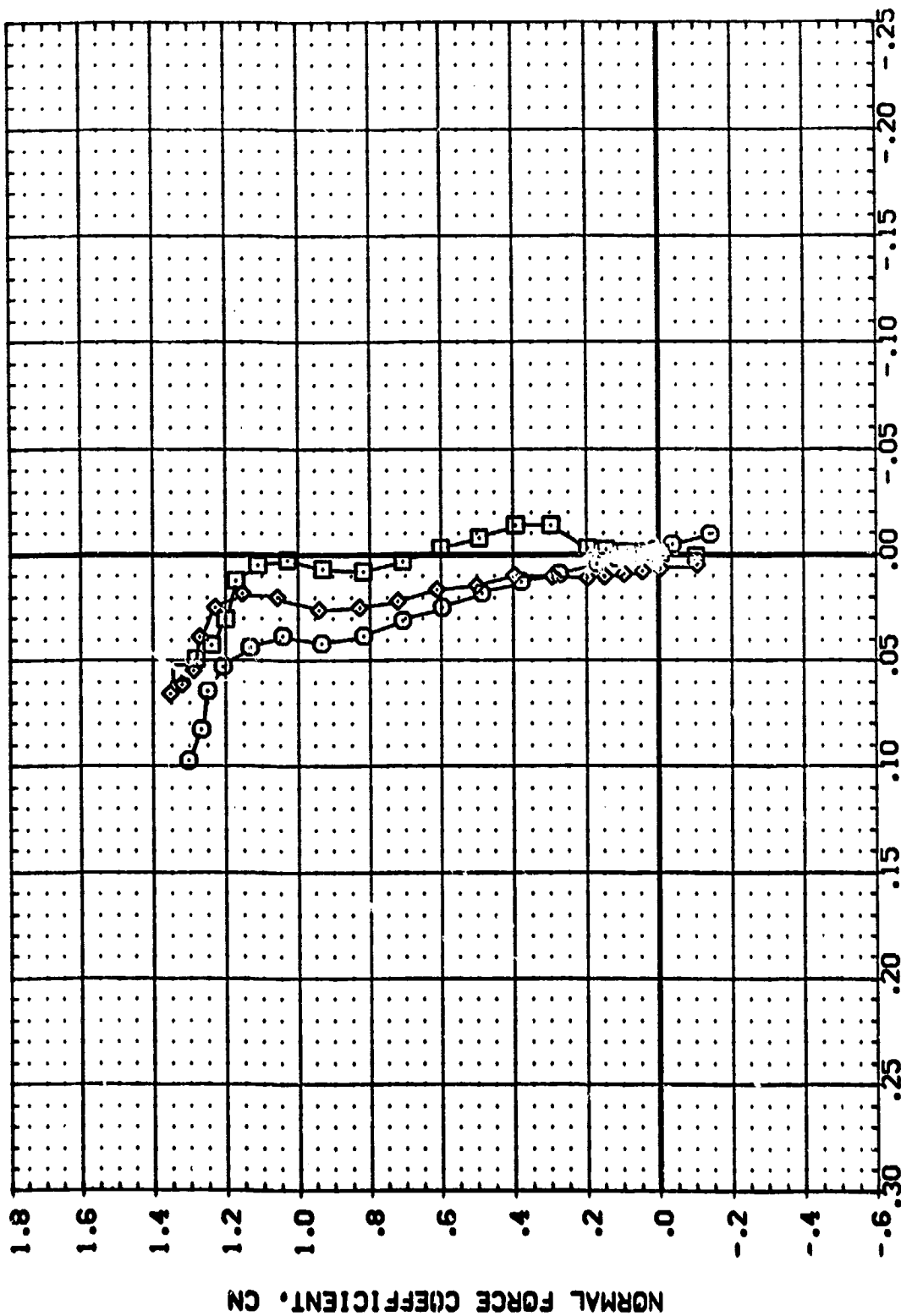


FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL-OF CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ074) Q B16CSD7J37F1V87 E18V3R3X10
 (ADJ075) Q B16CSD7J38F1V87 E18V3R3X10
 (ADJ076) Q B16CSD7J38F1V87 E18V3R3X10

ELEVEN NACA/L NACLIP NACBTA REFERENCE INFORMATION
 .000 .000 5.000 4.4122 50. FT.
 .000 .000 5.000 19.2259 INCHES
 .000 .000 5.000 37.9349 INCHES
 .000 .000 5.000 43.5974 INCHES
 .000 .000 5.000 16.2000 INCHES
 .000 .000 5.000 .0405 SCALE

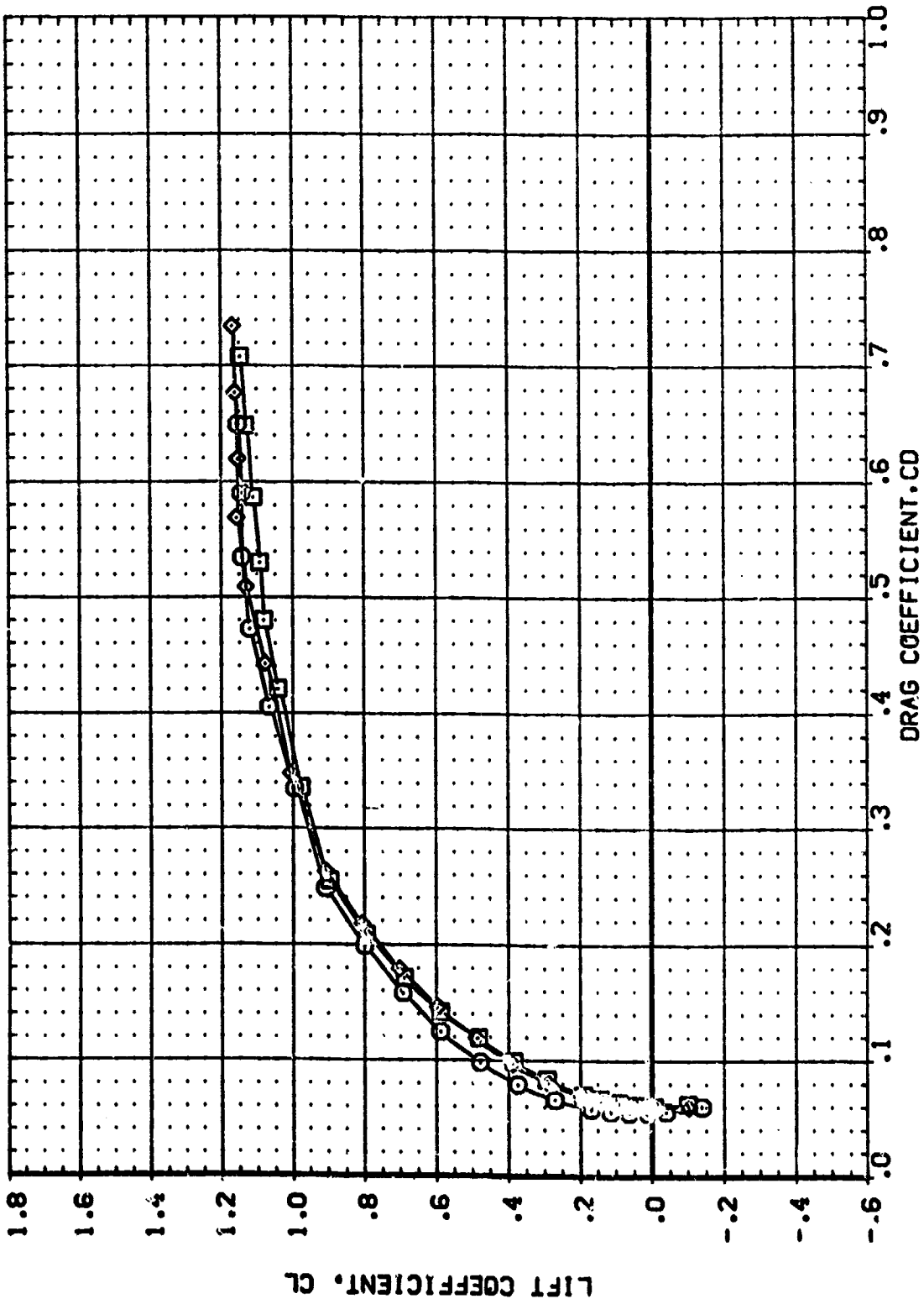


FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACVAL	NACLIP	NACBTA	REFERENCE INFORMATION
(BOL074)	CA71C B16C507437F1V87 E18V3K3X10	.000	.000	.000	5.000	4.4122 SO.FT.
(BOL075)	CA71C B16C507438F1V87 E18V3K3X10	.000	.530	.000	5.000	19.2293 INCHES
(BOL076)	CA71C B16C507438F1V87 E18V3K3X10	.000	.270	7.000	5.000	37.9349 INCHES
						43.5974 INCHES
						.0000 INCHES
						16.2000 INCHES
						.0405 SCALE

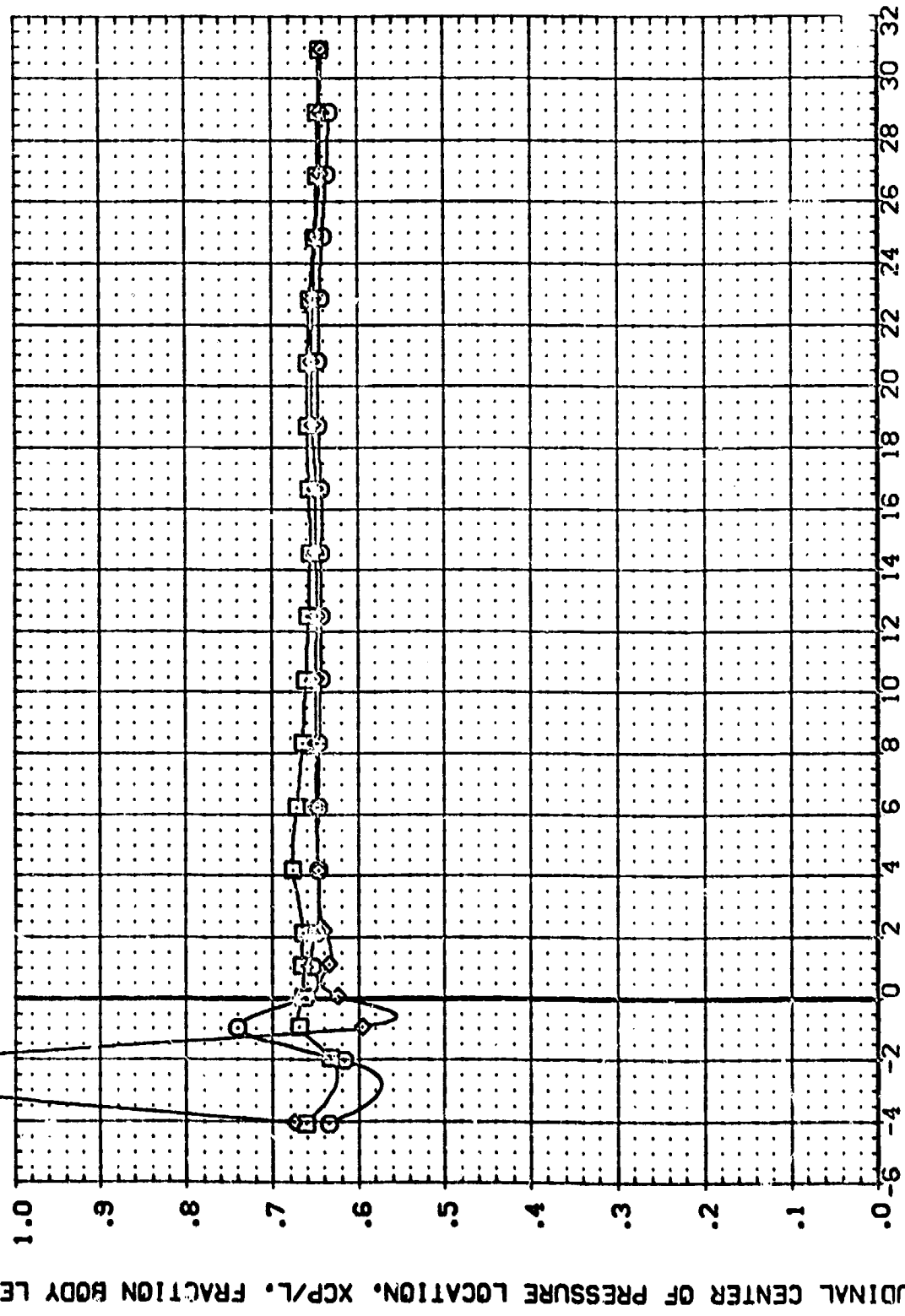


FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACXL	MACLIP	MACBTA	REFERENCE INFORMATION
(B0J074)	B16C507437E 1V87 E18V3K3X10	.000	.000	.000	5.000	SREF 4.4122 50.FT.
(B0J075)	B16C507437E 1V87 E18V3K3X10	.000	.530	.000	5.000	LREF 19.2259 INCHES
(B0J076)	B16C507435E 1V87 E18V3K3X10	.000	.270	7.000	5.000	BREF 27.9349 INCHES
						YARP 43.5974 INCHES
						ZARP 16.2000 INCHES
						SCALE .0405 SCALE

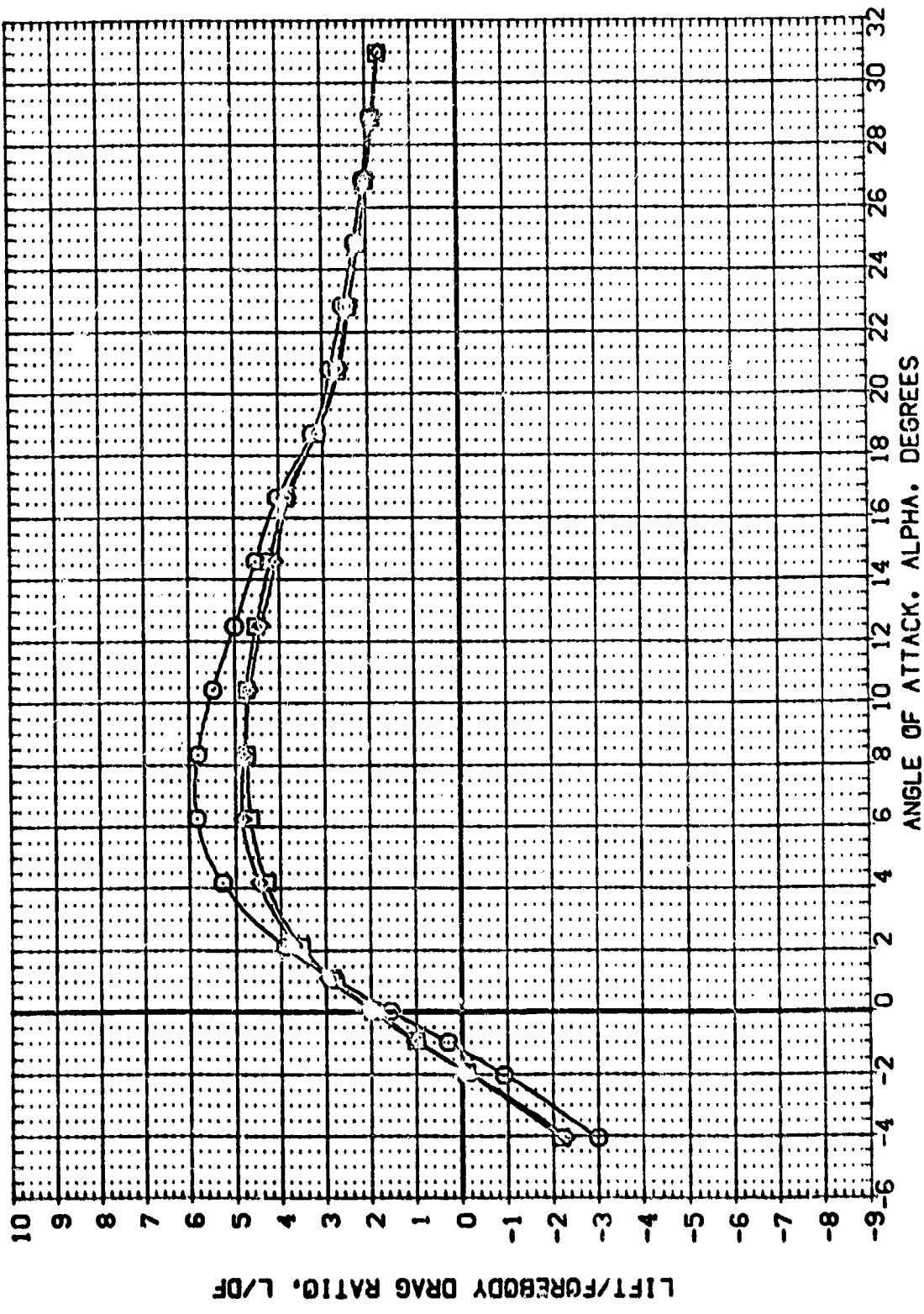


FIG 41 LONGITUDINAL CHARACTERISTICS - EFFECTS OF SHELL OF CLUSTERS
 (A) MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	MACVL	MACSLIP	MACSTA	REFERENCE INFORMATION
(ADL001)	DA71C B16C5D734F1V87 E18V3R3X10	.000	.000	7.000	5.000	SREF 4.4122 SQ.FT. INCHES
(ADL037)	DA71C B16C5D734F1V87 E18V3R3X10	.000	.270	7.000	5.000	LREF 19.2259 INCHES
(ADL045)	DA71C B16C5D734F1V87 E18V3R3X10	.000	.530	7.000	5.000	EREF 37.9349 INCHES
(ADL049)	DA71C B16C5D734F1V87 E18V3R3X10	.000				XREF 43.5374 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

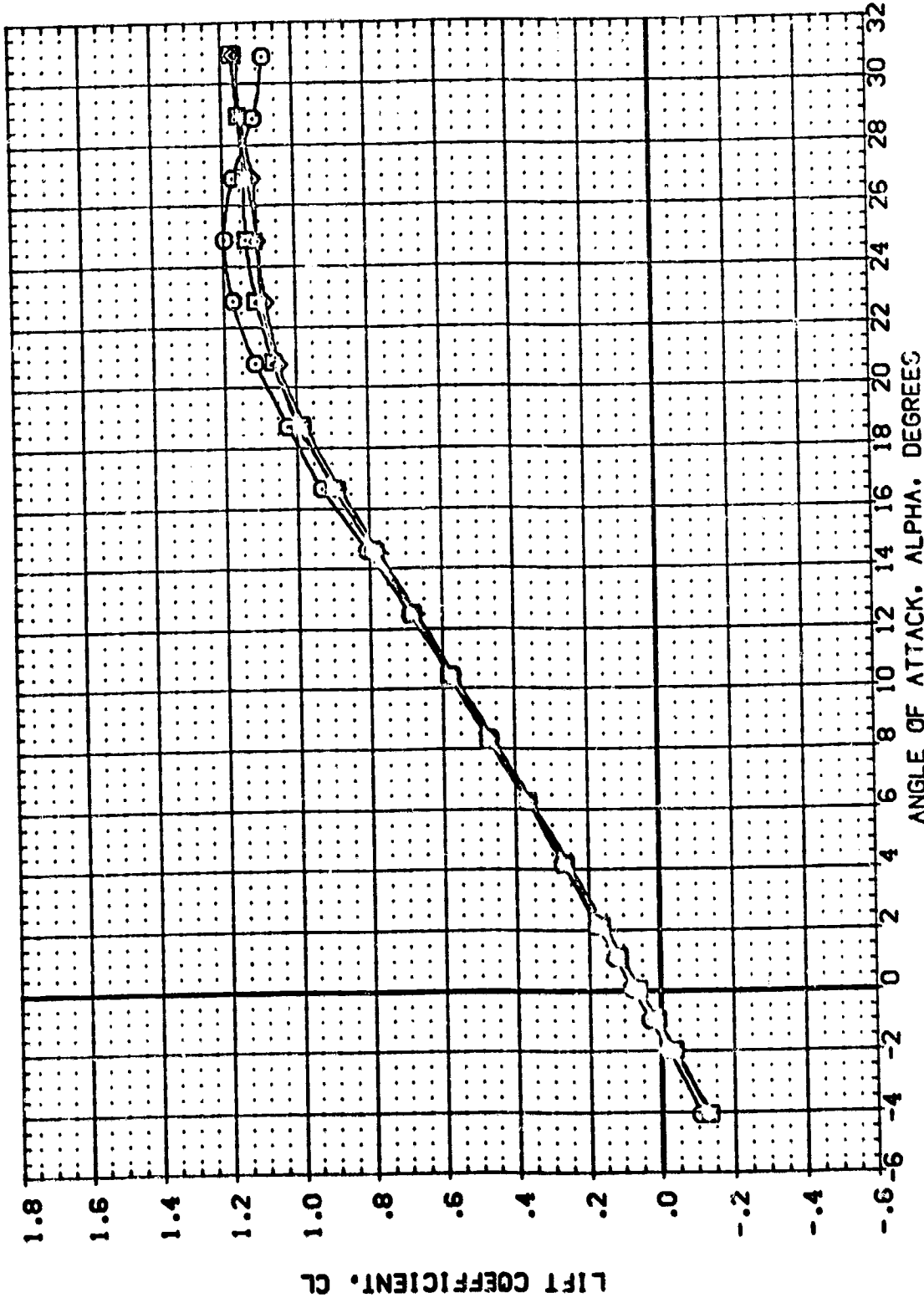


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(ADMACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ001) CA71C B16C507 F1V87 E16V3K3X10
 (ADJ037) CA71C B16C507J34F1V87 E16V3K3X10
 (ADJ046) CA71C B16C507J34F1V87 E16V3K3X10
 (ADJ049) CA71C B16C507J34F1V87 E16V3K3X10

ELEVATION REF. INCHES
 .000
 .000
 .000
 .000

MACLIP REF. INCHES
 7.000
 7.000
 7.000

MAOBTA REF. INCHES
 5.000
 5.000
 5.000

REFERENCE INFORMATION
 SREF 4.4122 SC.FT.
 LREF 19.2299 INCHES
 XREF 37.9349 INCHES
 YREF 43.5974 INCHES
 ZREF 16.0000 INCHES
 SCALE 16.0000 INCHES
 SCALE .0405

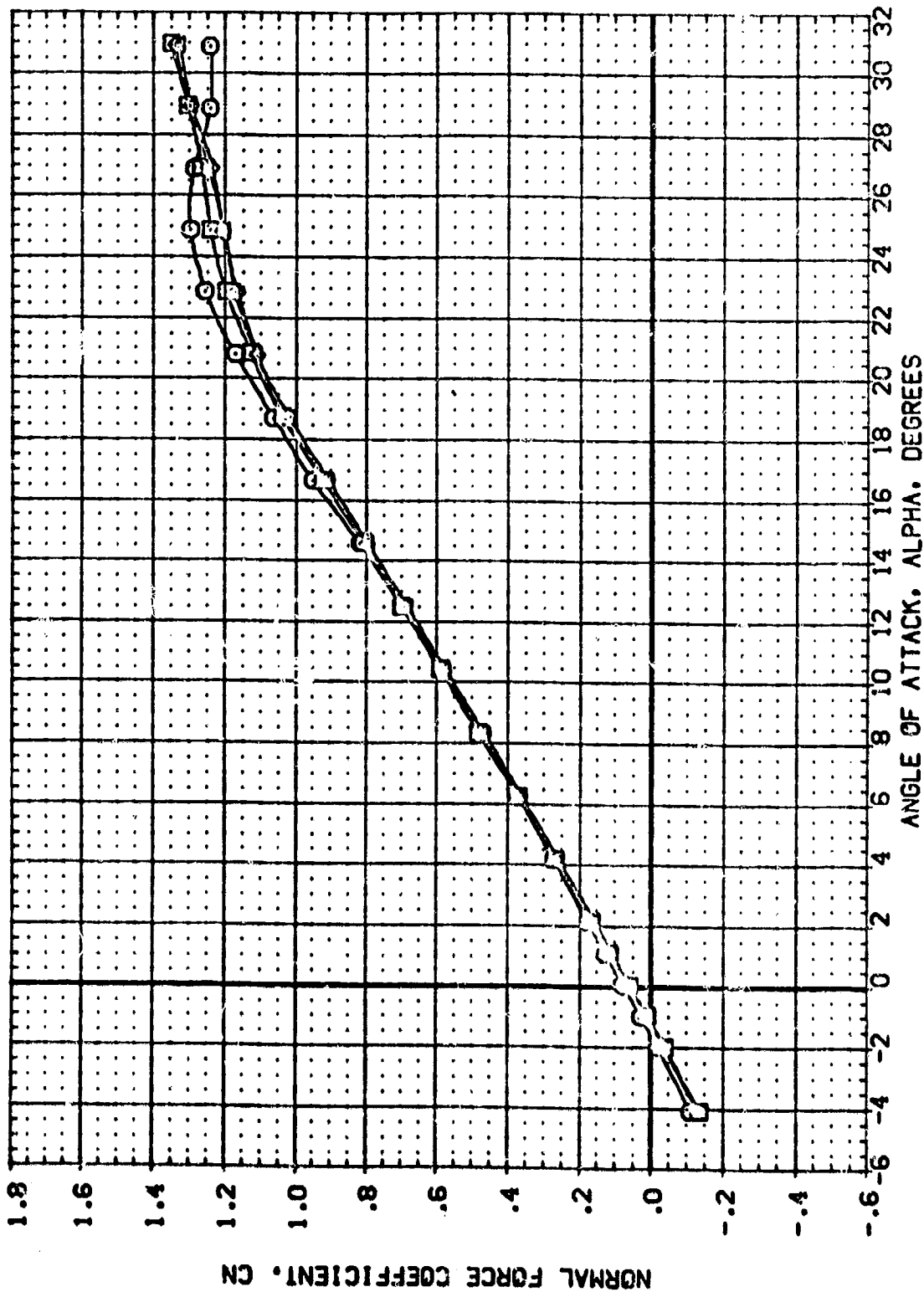


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(A)MACH = .25

ELEVON	NACVL	NACLIP	NACBTA	SREF	LREF	BREF	XTRP	YTRP	ZTRP	SCALE	REFERENCE INFORMATION
.000	.000	7.000	5.000	4.4122	19.2269	37.9349	43.5974	.0000	16.2000	.0405	SO. FT. INCHES INCHES INCHES INCHES SCALE

DATA SET SYMBL	CONFIGURATION DESCRIPTION
(ADL001)	B16CSD7 F1V87 E1BVR3X10
(ADL037)	DA71C B16CSD7J34F1V87 E1BVR3X10
(ADL046)	DA71C B16CSD7J34F1V87 E1BVR3X10
(ADL049)	DA71C B16CSD7J34F1V87 E1BVR3X10

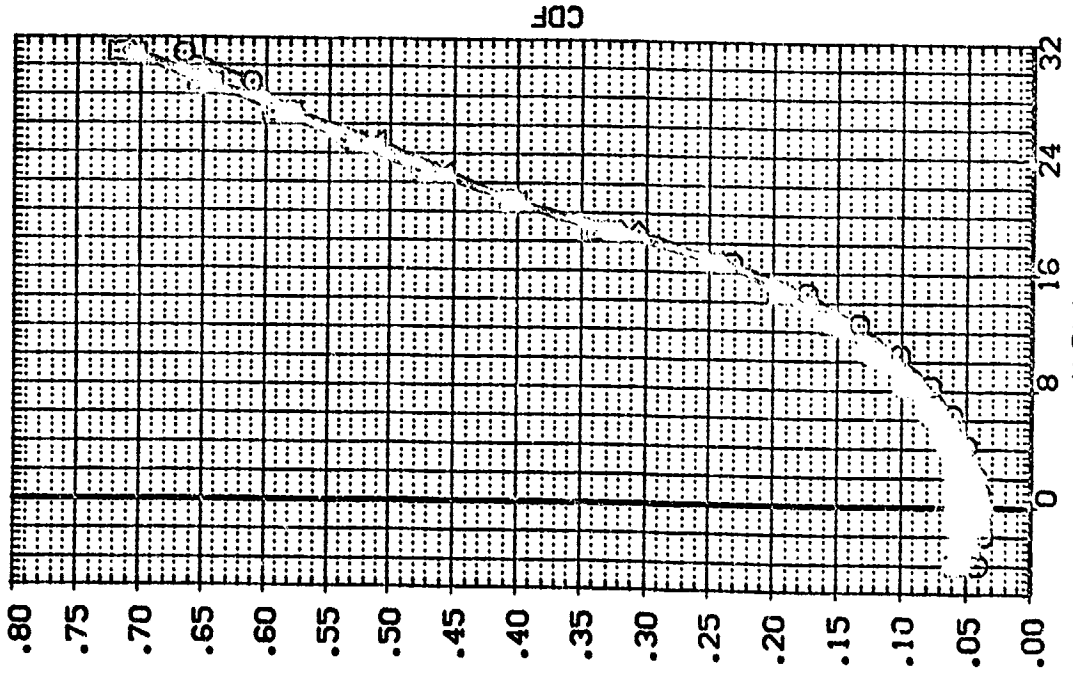
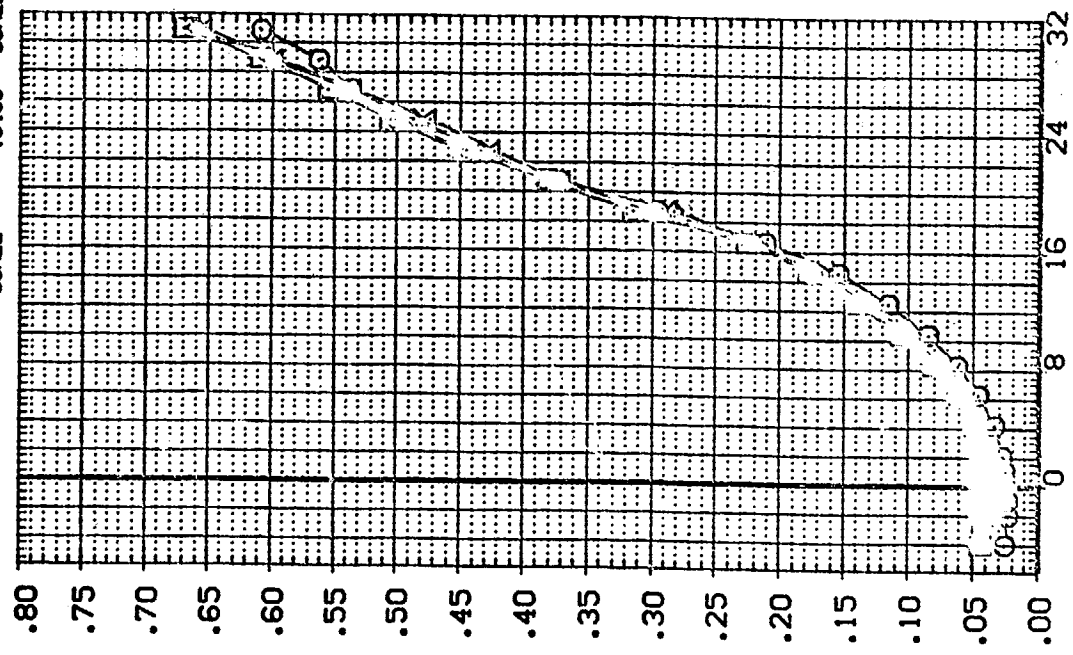


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBO
 (AD001)
 (AD037)
 (AD045)
 (AD048)

CONFIGURATION DESCRIPTION
 CA71C B16C507J34F 1V87 E18V3R3X10
 CA71C B16C507J34F 1V87 E18V3R3X10
 CA71C B16C507J34F 1V87 E18V3R3X10
 CA71C B16C507J34F 1V87 E18V3R3X10

ELEVON NACXL NACLIP NACBTA
 .000 .000 .000
 .000 .270 7.000
 .000 .530 7.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2259 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5974 INCHES
 YMRP 0.000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

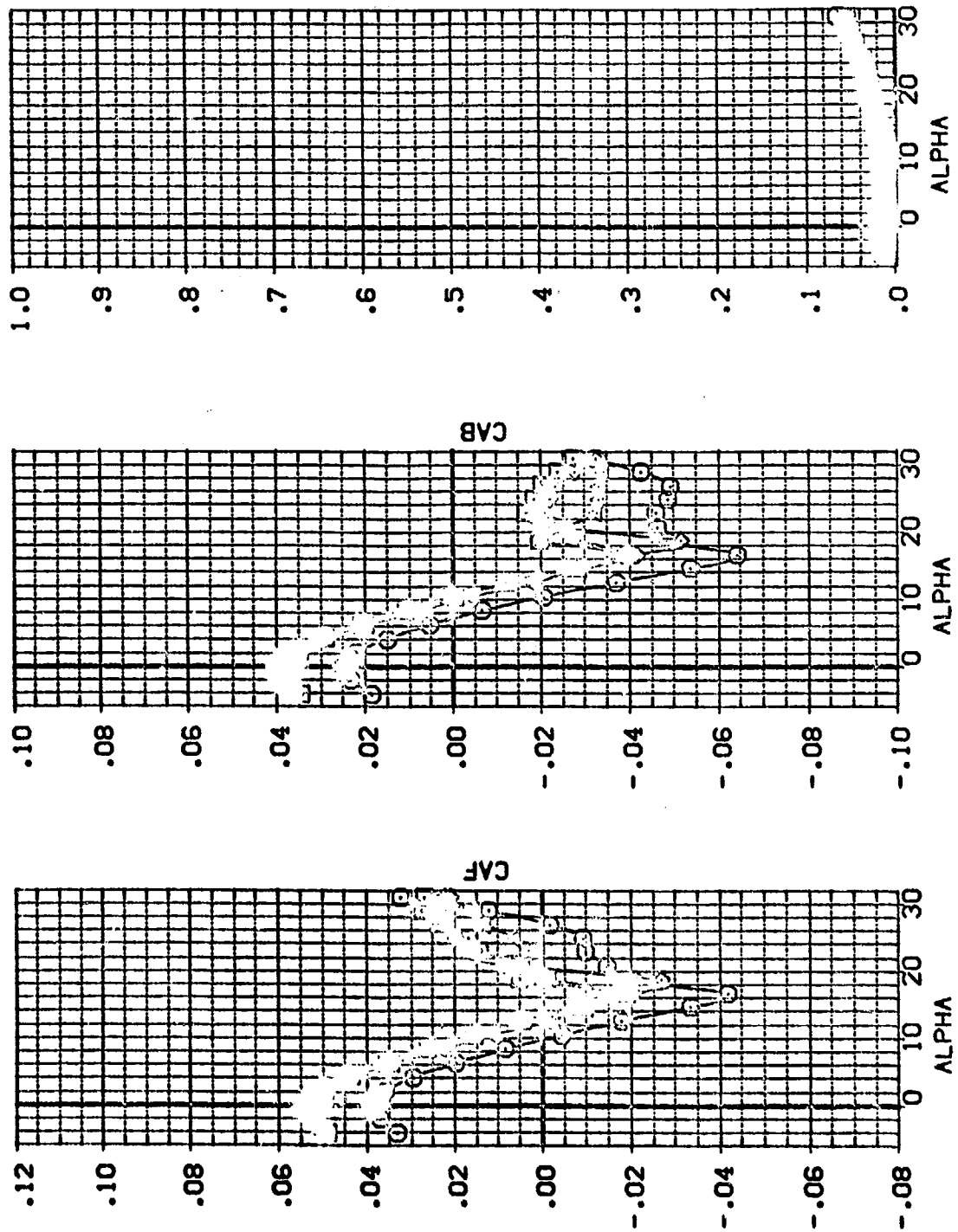


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ001) CA71C B16CS07 F1V87 E18V3R3X10
 (ADJ037) CA71C B16CS07J34F 1V87 E18V3R3X10
 (ADJ046) CA71C B16CS07J34F 1V87 E18V3R3X10
 (ADJ049) CA71C B16CS07J34F 1V87 E18V3R3X10

ELEVON NACVL NACLIP NACBTA REFERENCE INFORMATION
 .000 .000 .000 SREF 4.4122 SQ.FT.
 .000 .000 .000 LREF 19.2268 INCHES
 .000 .270 .000 XREF 37.5349 INCHES
 .000 .530 .000 YREF 43.5374 INCHES
 .000 .000 .000 ZREF 16.2000 INCHES
 .000 .000 .000 SCALE .0405 SCALE

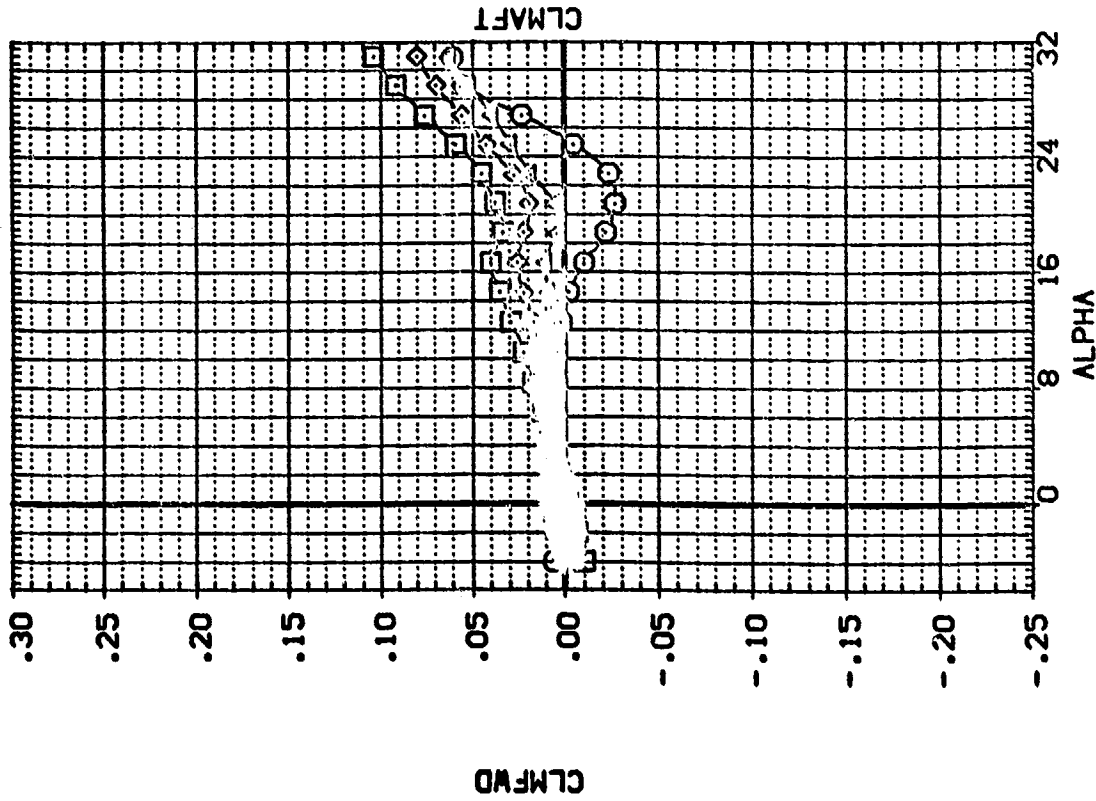


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVATION	MACVA	MACVIP	MACBTA	REFERENCE INFORMATION
(AD001)	CA71C B16C507/34F1V87 E18V3R3X10	.000	.000	7.000	5.000	SREF 1.4122 SO.FT.
(AD002)	CA71C B16C507/34F1V87 E18V3R3X10	.000	.270	7.000	5.000	LREF 19.2259 INCHES
(AD003)	CA71C B16C507/34F1V87 E18V3R3X10	.000	.530	7.000	5.000	BREF 37.9349 INCHES
(AD004)	CA71C B16C507/34F1V87 E18V3R3X10	.000				XREF 43.5574 INCHES
(AD005)	CA71C B16C507/34F1V87 E18V3R3X10	.000				YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405

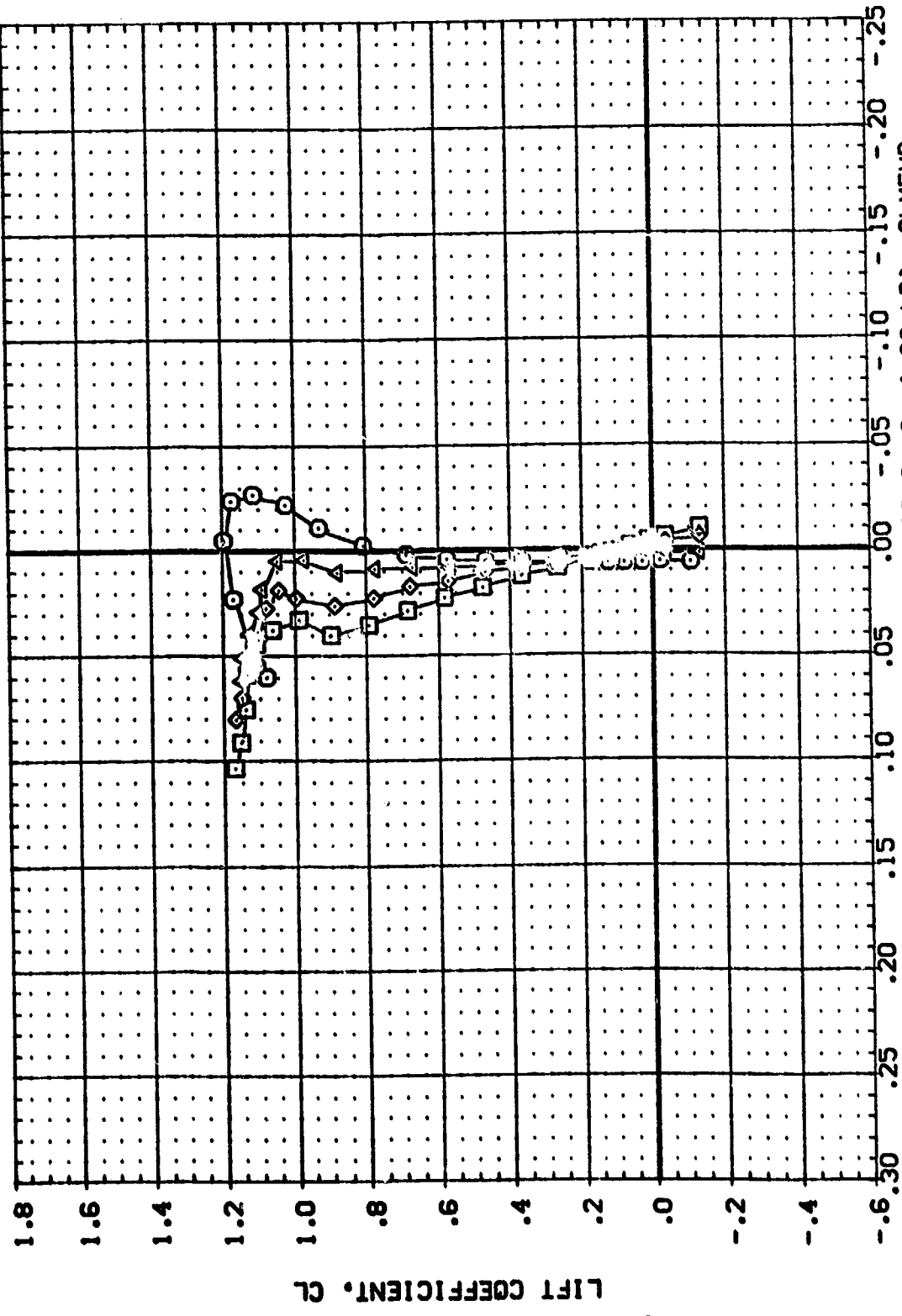


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACVAL	NACLIP	NACBTA	SREF	REFERENCE INFORMATION
(ADJ001)	0A71C B16C507 F1V67 E18V3R3X10	.000	.000	7.000	5.000	4.4122	50. FT.
(ADJ037)	0A71C B16C507J34F1V67 E18V3R3X10	.000	.270	7.000	5.000	19.2299	INCHES
(ADJ045)	0A71C B16C507J34F1V67 E18V3R3X10	.000	.530	7.000	5.000	37.9349	INCHES
(ADJ049)	0A71C B16C507J34F1V67 E18V3R3X10	.000				43.5974	INCHES
						0.000	INCHES
						16.2000	INCHES
						.0405	SCALE

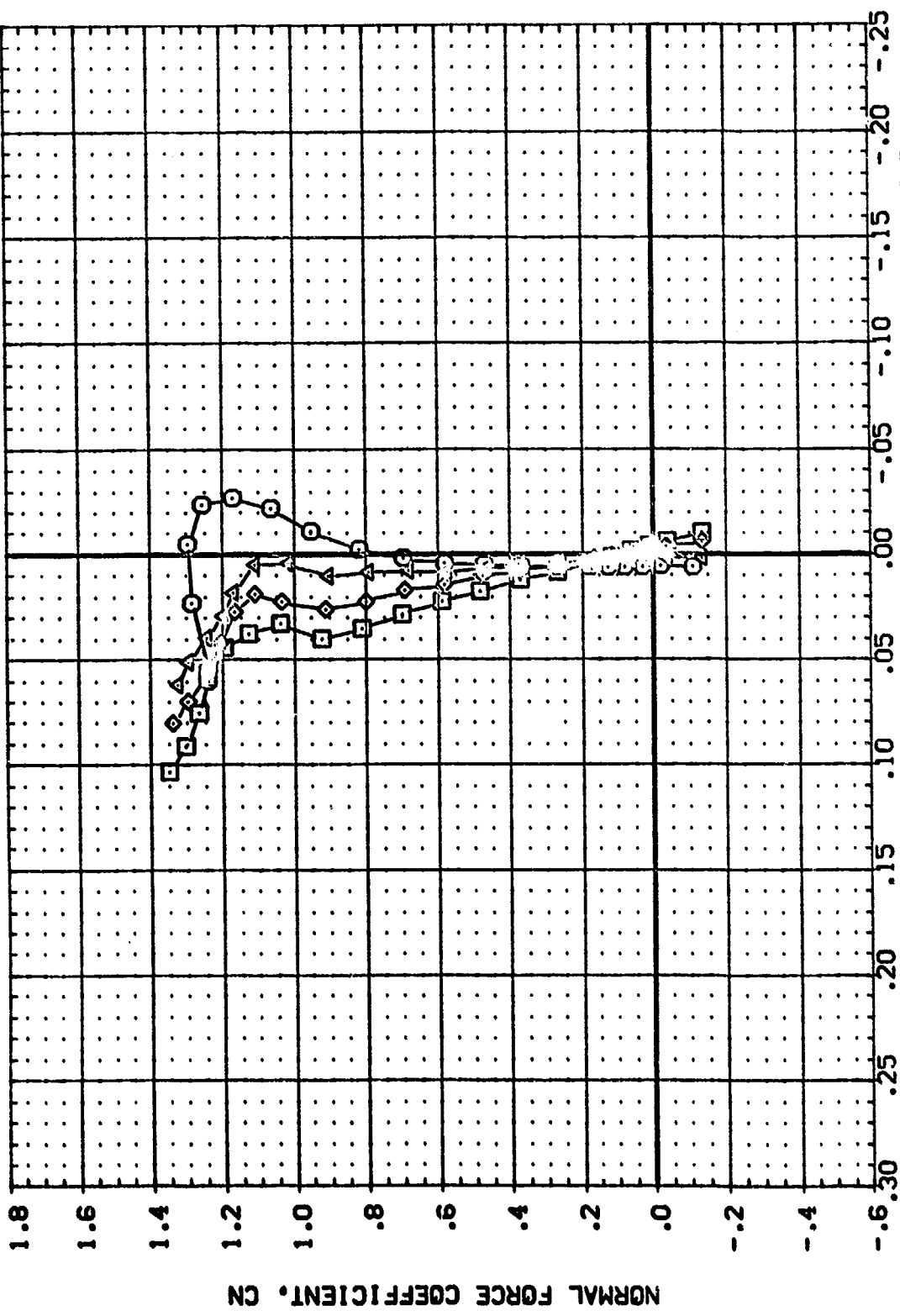


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

DATA SET SYMBL. CONFIGURATION DESCRIPTION
 (ADJ001) GA71C B16C5D7 F1V87 E18V3R3X10
 (ADJ037) GA71C B16C5D7/34F1V87 E18V3R3X10
 (ADJ045) GA71C B16C5D7/34F1V87 E18V3R3X10
 (ADJ049) GA71C B16C5D7/34F1V87 E18V3R3X10

ELEVON NACA/L NACA/LP NACA/BTA REFERENCE INFORMATION
 .000 .000 .000 SREF 4.4122 50.FT.
 .000 .000 .000 LREF 19.2258 INCH-ES
 .000 .270 .530 BRG 37.9349 INCH-ES
 .000 .000 .000 XPRP 43.5574 INCH-ES
 .000 .000 .000 YPRP .0000 INCH-ES
 .000 .000 .000 ZPRP 16.2000 INCH-ES
 .000 .000 .000 SCALE .0405

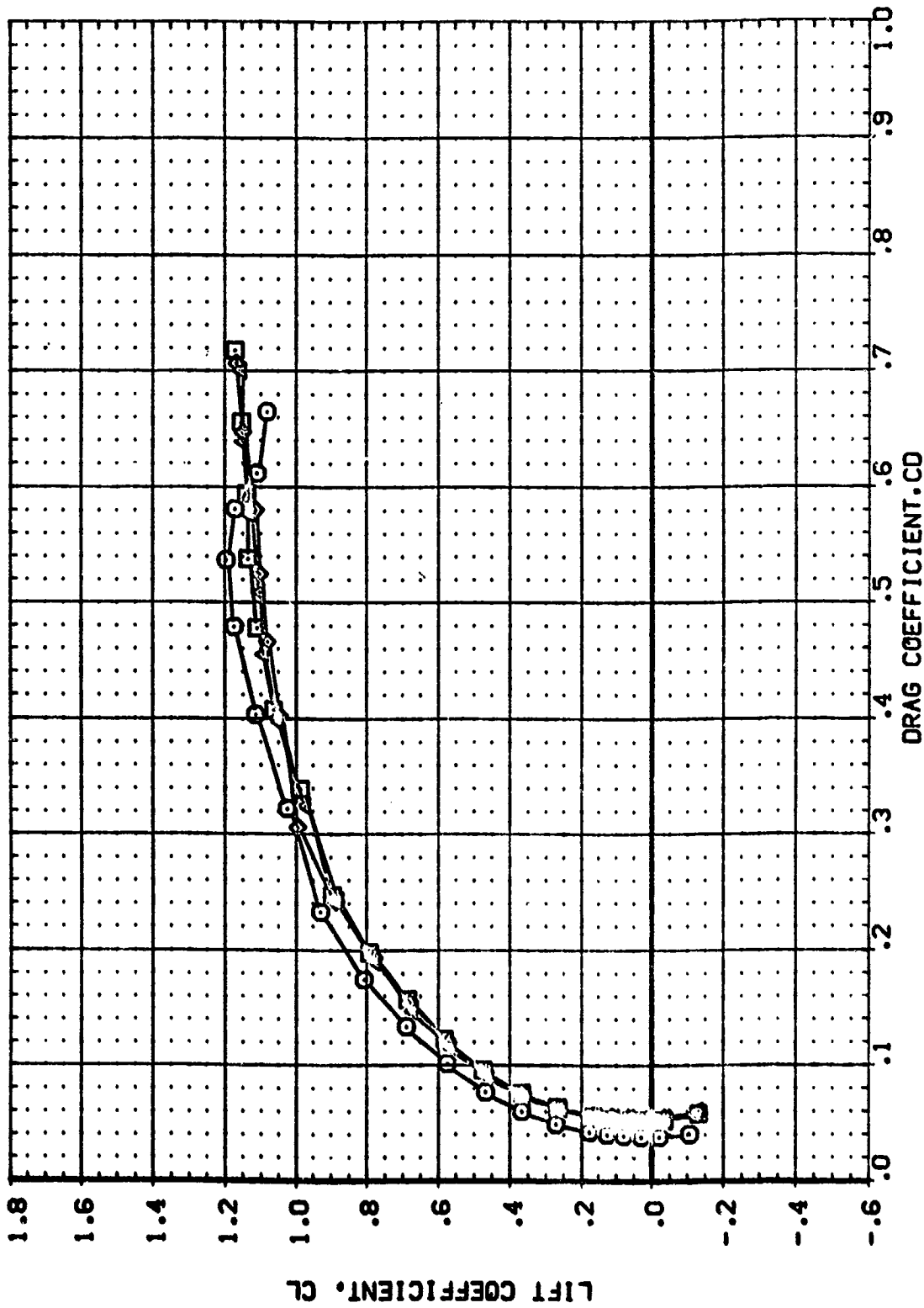
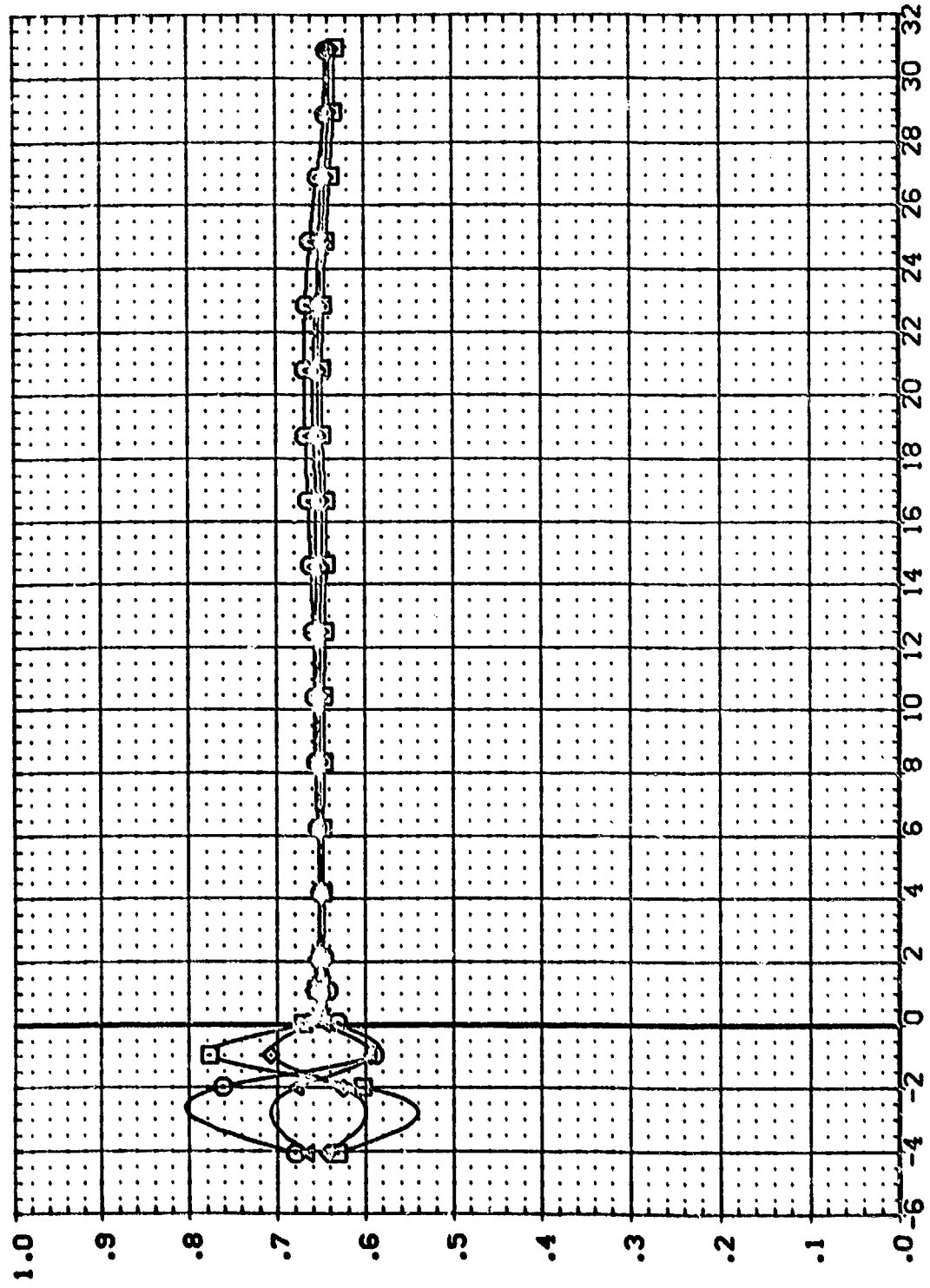


FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELEVON	NACXL	NACLIP	NACBTA	REFERENCE INFORMATION
(BDL001)	CA71C B16C507 F1V67 E18V3K3A9	.000	.000	7.000	5.000	SREF 4.4122 50.FT.
(BDL037)	CA71C B16C507A34F1V67 E18V3K3X10	.000	.000	7.000	5.000	LREF 19.2266 INCHES
(BDL046)	CA71C B16C507A34F1V67 E18V3K3X10	.000	.270	7.000	5.000	BREF 37.5349 INCHES
(BDL049)	CA71C B16C507A34F1V67 E18V3K3X10	.000	.530	7.000	5.000	XREF 43.5974 INCHES
						YREF .0000 INCHES
						ZREF 16.2000 INCHES
						SCALE .0405 SCALE



LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH

ANGLE OF ATTACK, ALPHA, DEGREES

FIG 42 LONGITUDINAL CHARACTERISTICS - EFFECTS OF UNDERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A0001) B16C5D7 F1V87 E18V3R3X9
 (A0057) B16C5D735F1V87 E18V3R3X10
 (A0058) B16C5D7435F1V87 E18V3R3X10

ELEVON NACK/L NACK/R NACL/P NACL/BTA
 .000 .000 .000 7.000 5.000
 .000 .530 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 BREF 37.9349 INCHES
 XMRP 43.5574 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

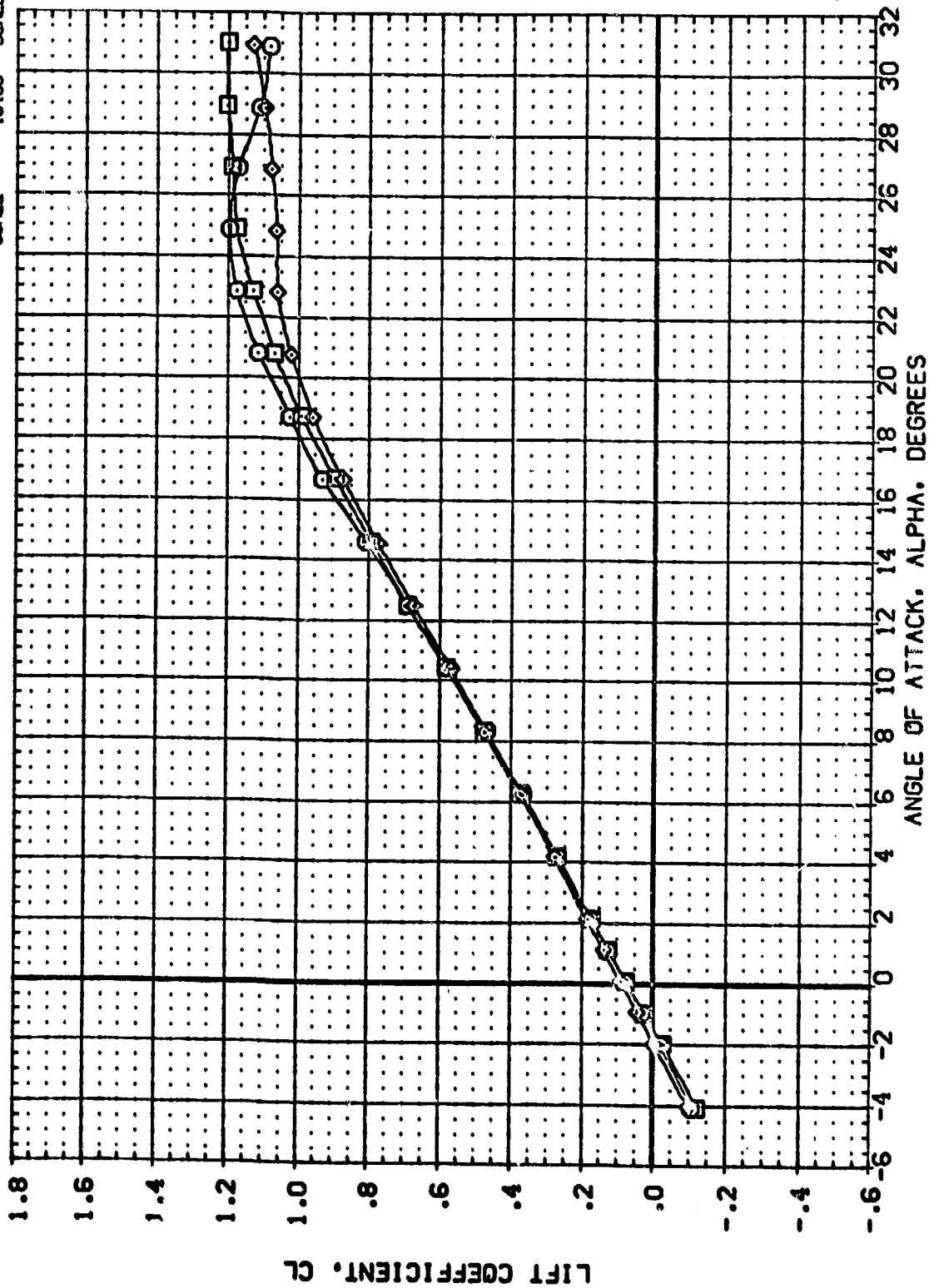


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL
 (ADJ001)
 (ADJ057)
 (ADJ058)

CONFIGURATION DESCRIPTION
 CAY1C 816CS07 F1167 E18V3R208
 CAY1C 816CS07J35F1167 E18V3R20810
 CAY1C 816CS07J35F1167 E18V3R20810

ELEVATION
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 4.4122 SQ.FT.
 LREF 19.2299 INCHES
 XREF 37.9349 INCHES
 YREF 43.5974 INCHES
 ZREF .0000 INCHES
 SCALE 16.2000 INCHES
 .0405 SCALE

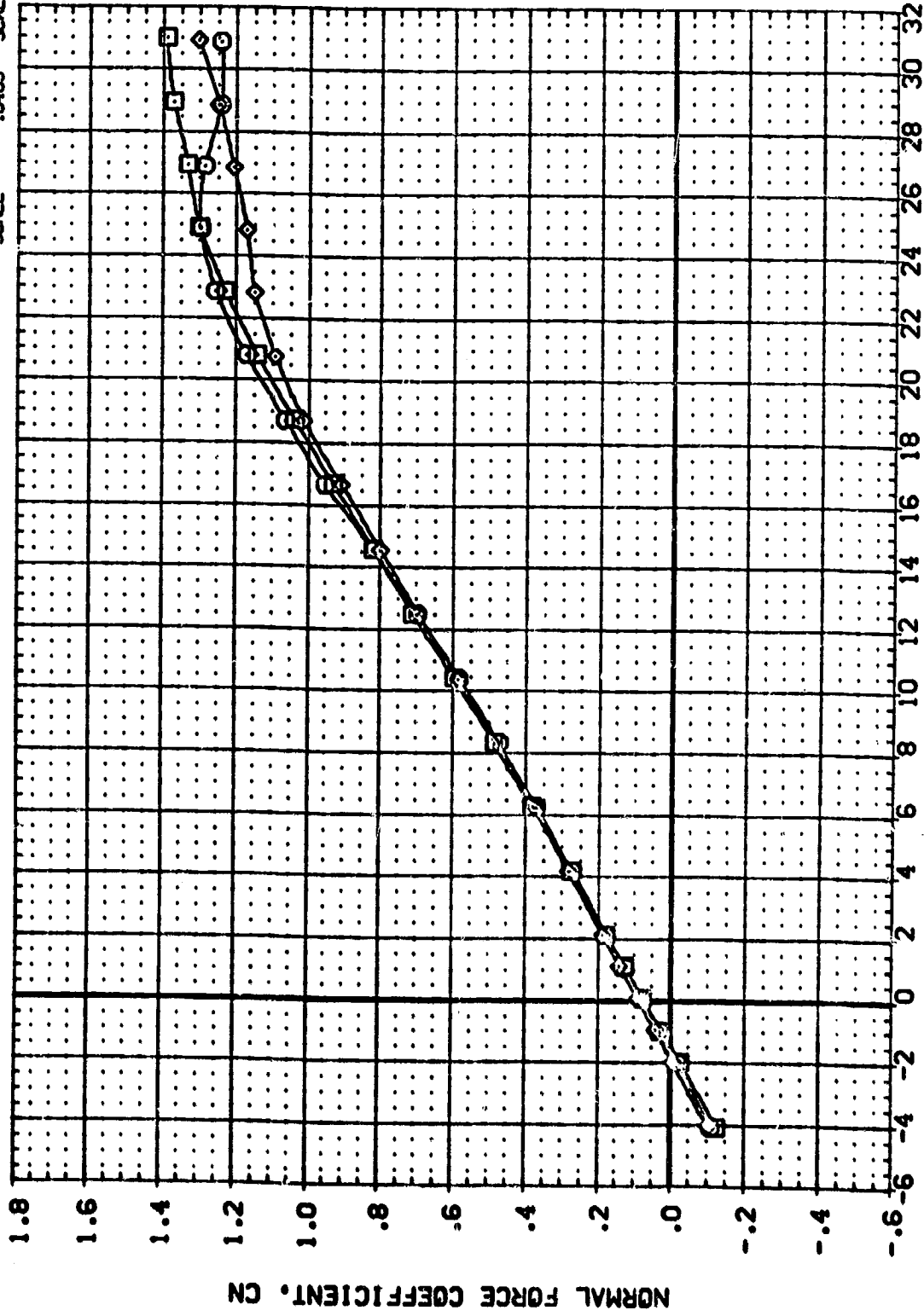


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

CA)MACH = .20

ELEVATION	MAC/L	MAC/IP	MAC/STA	REFERENCE INFORMATION
.000	.000	7.000	5.000	SREF 4.4122 SO.FT.
.000	.000	7.000	5.000	LREF 19.2399 INCHES
.000	.530	7.000	5.000	BREF 37.9319 INCHES
				YMRP 43.5974 INCHES
				ZMRP .0000 INCHES
				SCALE 16.2000 INCHES
				SCALE .0405 INCHES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(AD001)	QAT7C 816CS07 F1V87 E18V3R089
(AD057)	QAT7C 816CS07J35F1V87 E18V3R010
(AD058)	QAT7C 816CS07J35F1V87 E18V3R010

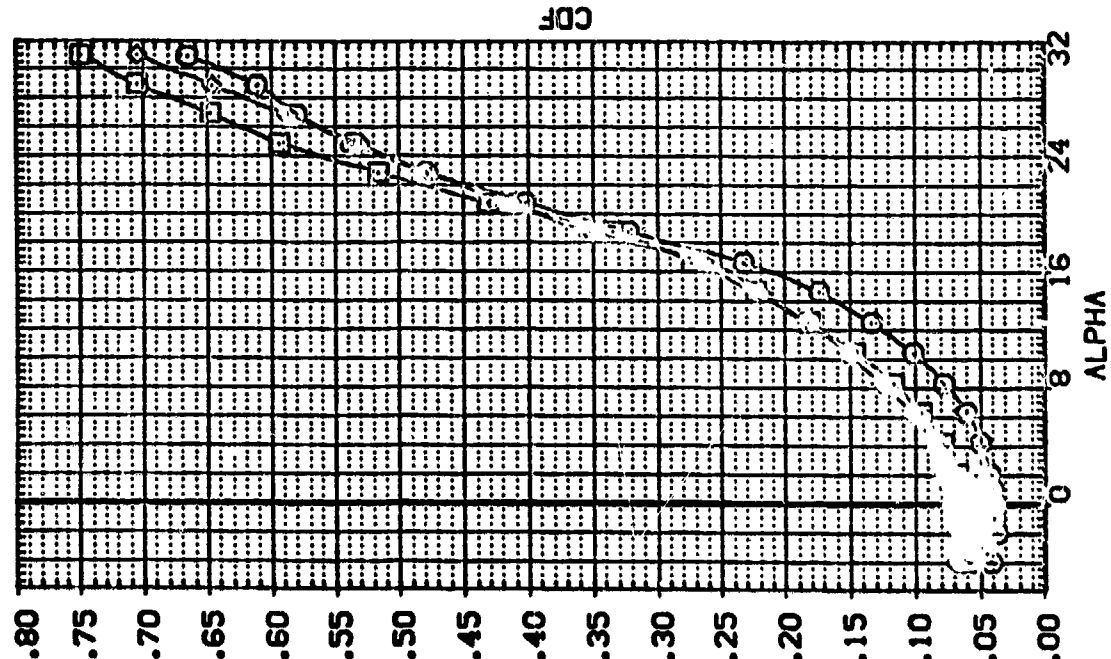
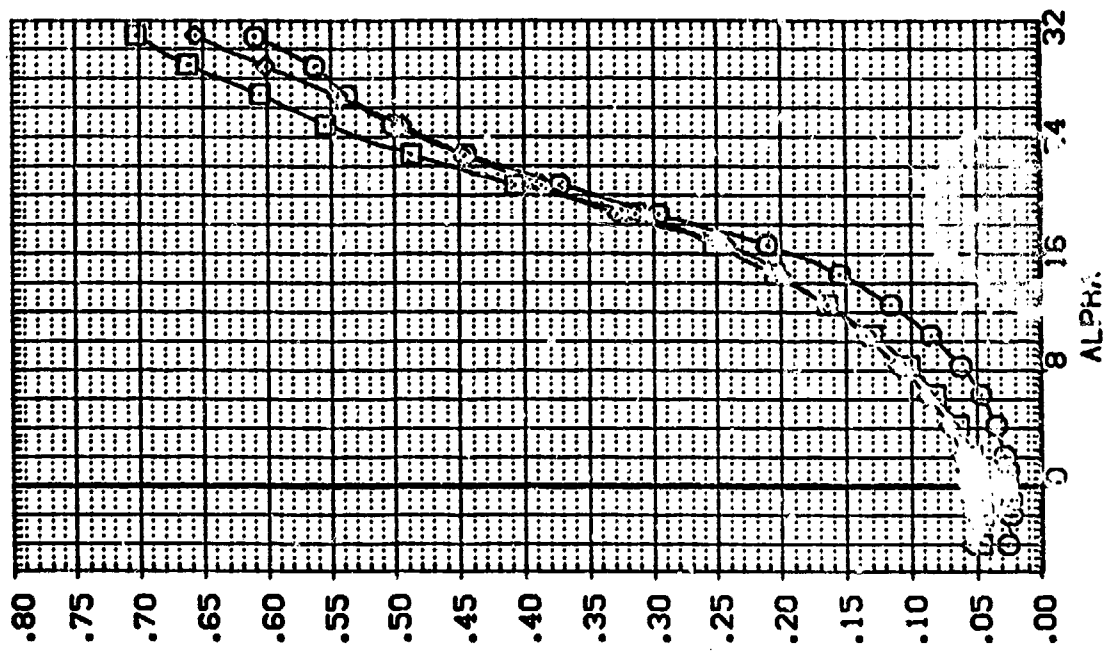


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADJ001) 071C B16S307 F1V87 E18V3K309
 (ADJ057) 071C B16S307J35F 1V87 E18V3K3X10
 (ADJ059) 071C B16S307J35F 1V87 E18V3K3X10

ELEV: N/CAL MAOLIP NACBTA
 .000 .000 .000
 .003 .530 .000
 7.000 7.000 5.000
 5.000

REFERENCE INFORMATION
 SREF 4.4122 50.FT.
 LREF 19.2268 INCHES
 BRGF 37.9349 INCHES
 YREF 43.5974 INCHES
 YRCP 16.0000 INCHES
 ZRCP 16.2000 INCHES
 SCALE .0405 SCALE

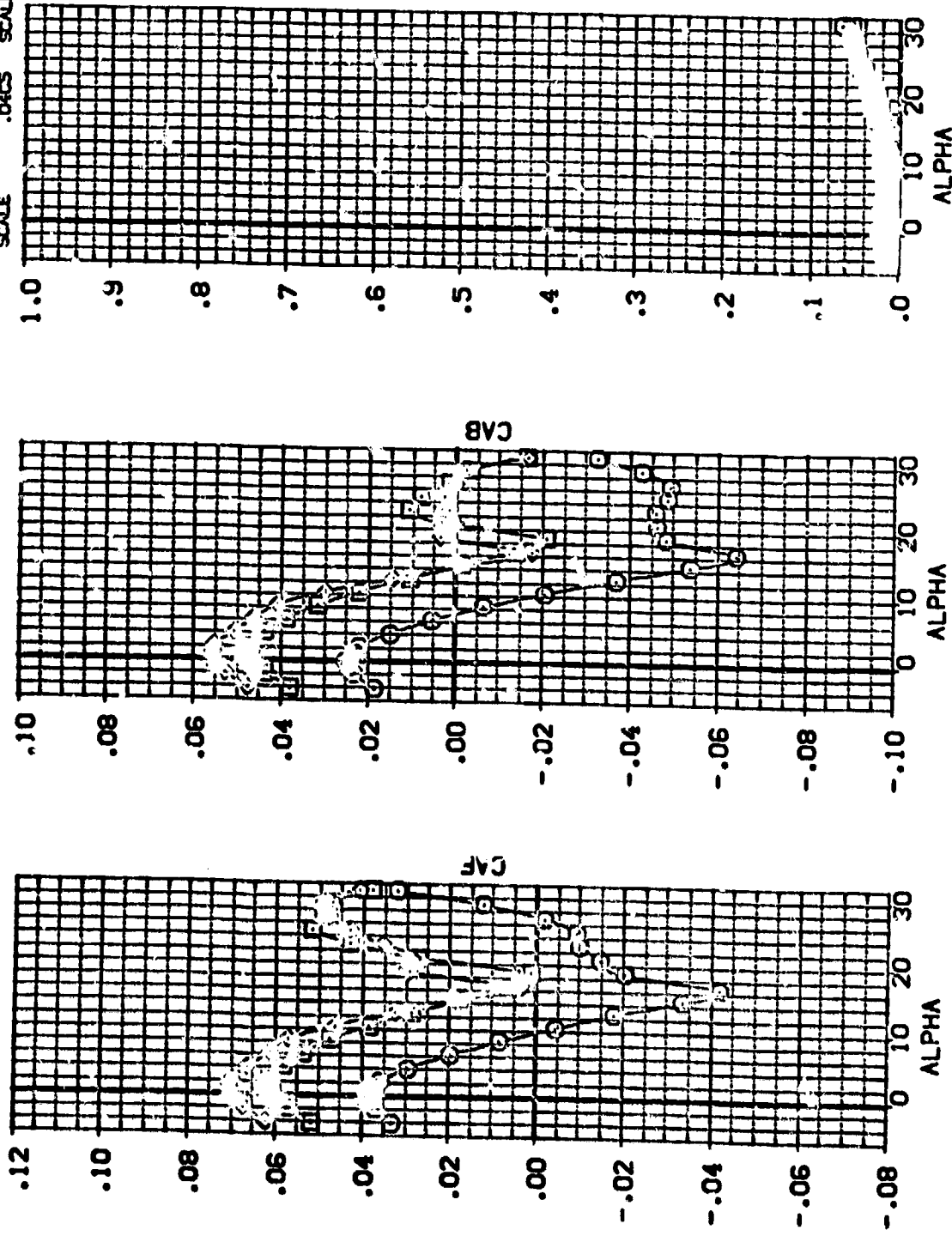
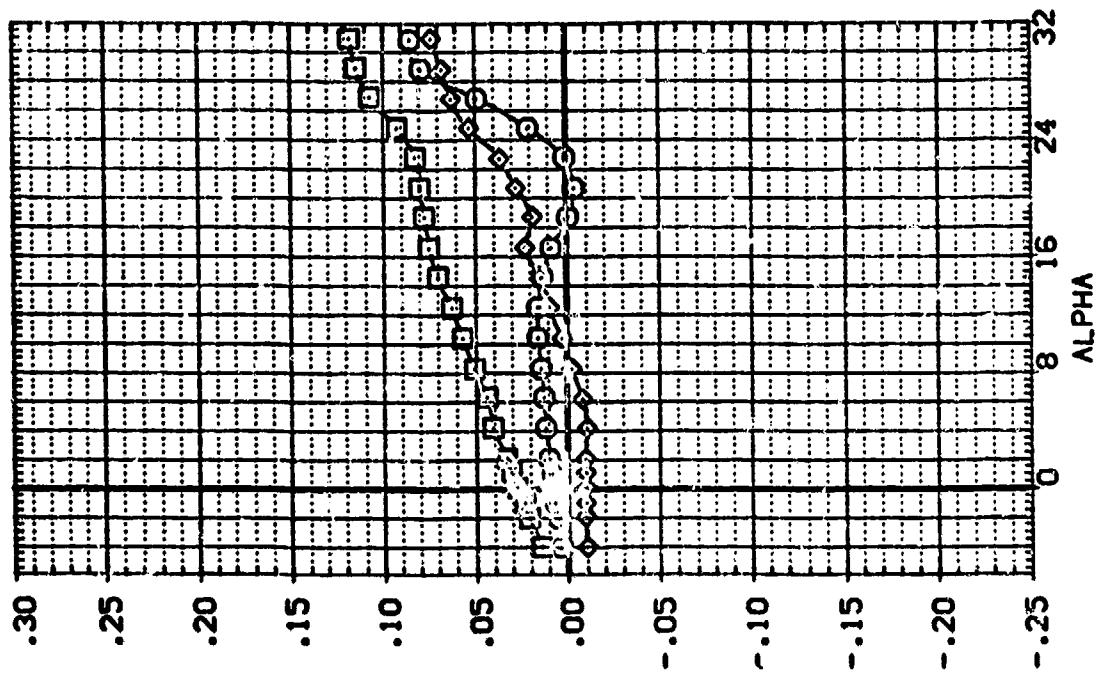


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL: (ADJ001), (ADJ057), (ADJ058)
 CONFIGURATION DESCRIPTION: CA71C B16CSD7 F1V87 E18V3R3X10, CA71C B16CSD7 F1V87 E18V3R3X10, CA71C B16CSD7 F1V87 E18V3R3X10
 ELEVON: .000, .000, .000
 MACYL: .000, .500, .000
 MACLP: 7.000, 7.000, .000
 MACBTA: 5.000, 5.000, .000
 REFERENCE INFORMATION: SREF 4.4122 SO.FT., LREF 19.2259 INCHES, BREF 37.9349 INCHES, XREF 43.5974 INCHES, YREF .0000 INCHES, ZREF 16.2000 INCHES, SCALE .0405



DATA SET SYMBOL: (ADJ001), (ADJ057), (ADJ058)
 CONFIGURATION DESCRIPTION: CA71C B16CSD7 F1V87 E18V3R3X10, CA71C B16CSD7 F1V87 E18V3R3X10, CA71C B16CSD7 F1V87 E18V3R3X10
 ELEVON: .000, .000, .000
 MACYL: .000, .500, .000
 MACLP: 7.000, 7.000, .000
 MACBTA: 5.000, 5.000, .000
 REFERENCE INFORMATION: SREF 4.4122 SO.FT., LREF 19.2259 INCHES, BREF 37.9349 INCHES, XREF 43.5974 INCHES, YREF .0000 INCHES, ZREF 16.2000 INCHES, SCALE .0405

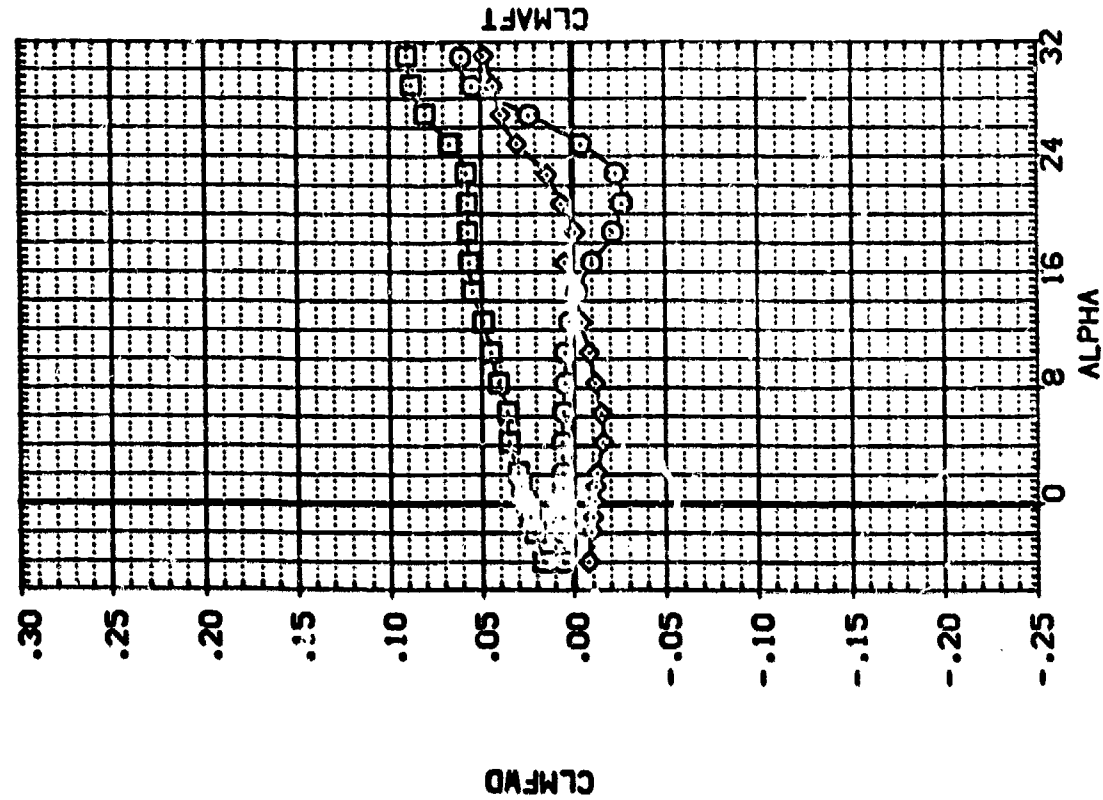


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A) MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADL001) 0A71C B16C507 F1V97 E18V3R3X9
 (ADL057) 0A71C B16C507J35F1V97 E18V3R3X10
 (ADL058) 0A71C B16C507J35F1V87 E18V3R3X10

ELEVATION NACA/L NACA/LP NACA/BTA REFERENCE INFORMATION
 .000 .000 .000 SREF 4.4122 SO.FT.
 .000 .000 .000 LREF 19.2299 INCHES
 .000 .530 7.000 5.000 BREF 37.9249 INCHES
 XMRP 43.5874 INCHES
 YMRP .0000 INCHES
 ZMRP 16.2000 INCHES
 SCALE .0405 SCALE

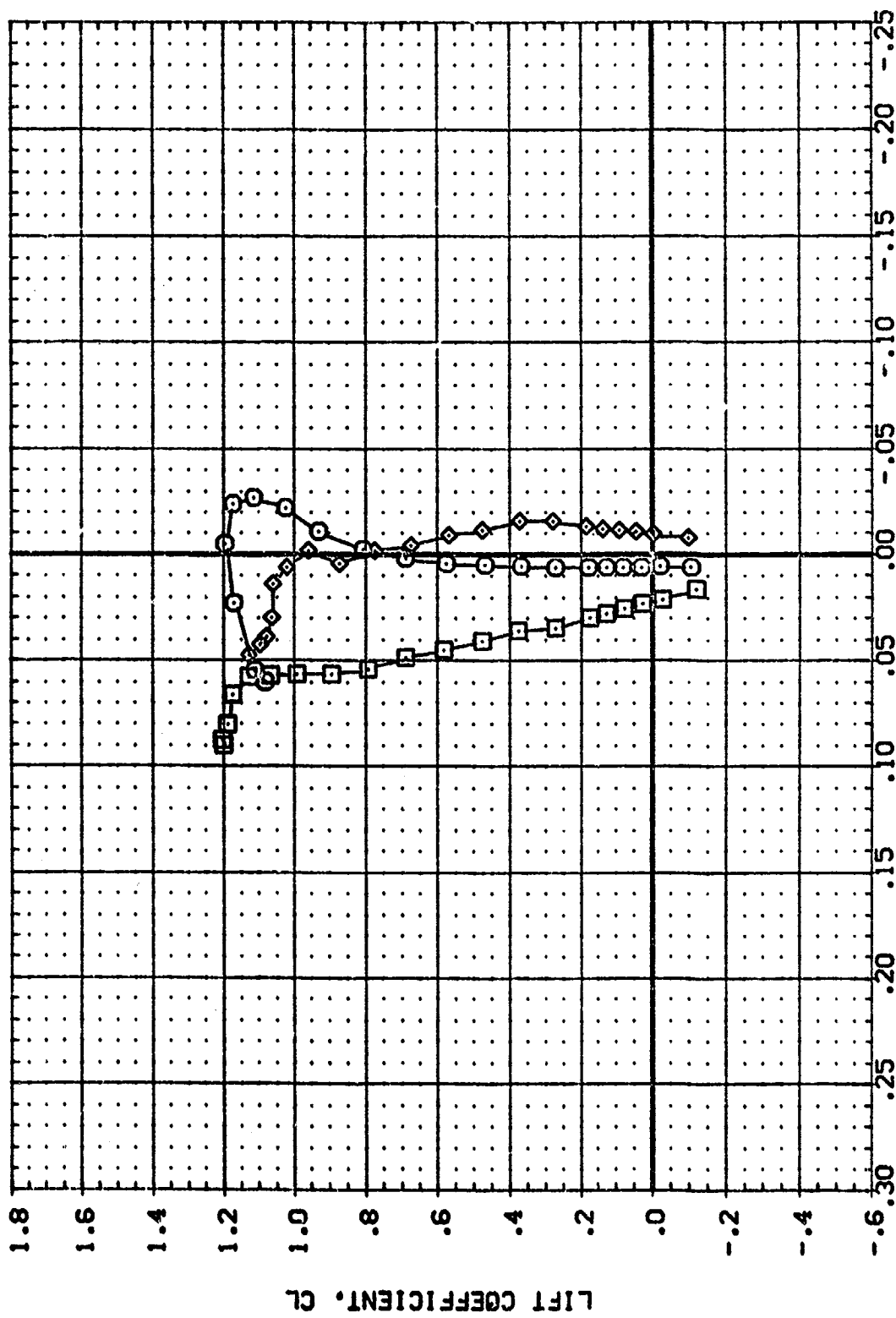
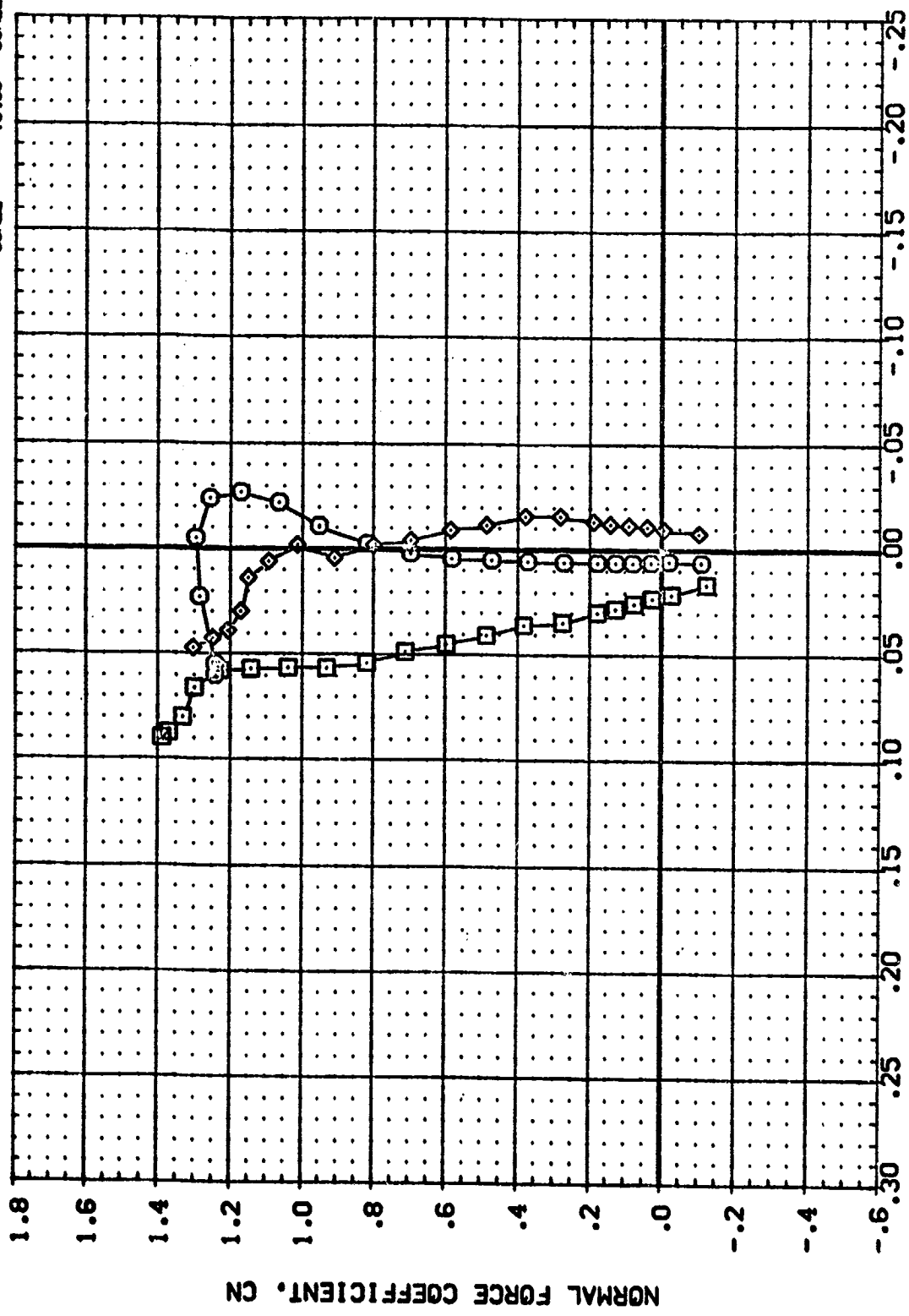


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (ADJ001) CA71C B16C507 F1V87 E18V3K3X9
 (ADJ057) CA71C B16C507J25F1V87 E18V3K3X10
 (ADJ058) CA71C B16C507J35F1V87 E18V3K3X10

ELEVATION .000
 .000
 .000
 MAC/L .000
 .000
 .530
 NA CLIP 7.000
 7.000
 7.000
 INCLIN 5.000
 5.000
 5.000
 REFERENCE INCHES
 SREF 4.4122
 LREF 19.2259
 XMRP 37.9949
 YMRP 43.5974
 ZMRP .0000
 SCALE 16.2000
 .0405
 SO.FY. INCHES
 INCHES
 INCHES
 INCHES
 INCHES
 SCALE



PITCHING MOMENT ABOUT FORWARD C. G. (.66 LB). CLMFWD

FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ADL001) OAT7C B16C507 F1V87 E18V3R249
 (ADL067) OAT7C B16C507/35F1V87 E18V3R2410
 (ADL058) OAT7C B16C507/35F1V87 E18V3R310

ELEVON NACA/L NACL/P NACB/A REFERENCE INFORMATION
 .000 .000 .000 SREF 4.4122 50.FT. INCHES
 .000 .000 .000 LREF 19.2259 INCHES
 .000 .530 7.000 BRP 37.5349 INCHES
 .000 .000 7.000 XPRP 43.5974 INCHES
 .000 .000 16.2000 YPRP INCHES
 .000 .000 .0405 ZPRP INCHES
 .000 .000 .0405 SCALE

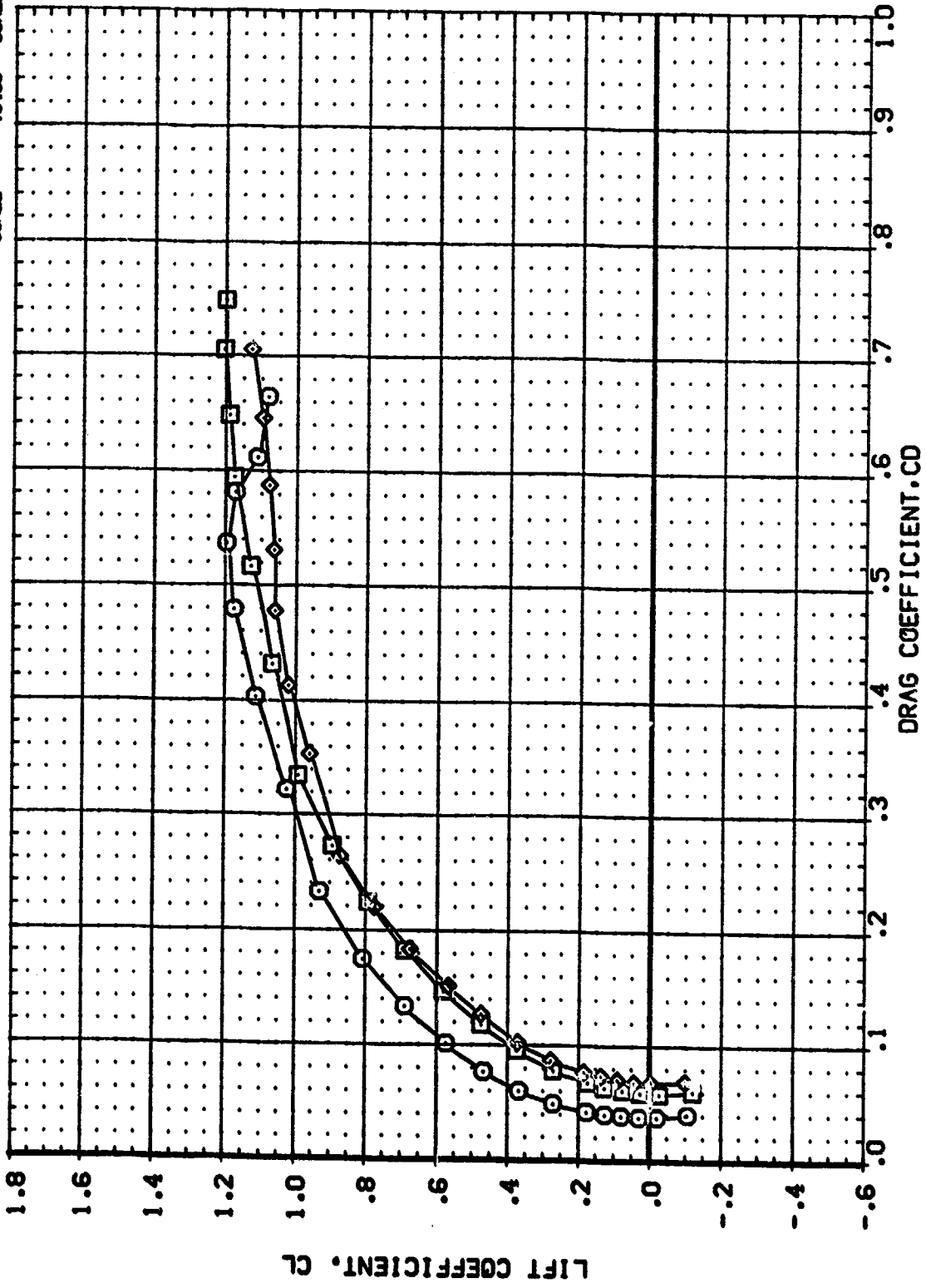


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(80.001)	DAYIC	B16C507	F1V87	E18V3R3A9
(80.067)	DAYIC	B16C507J35F	I1V87	E18V3R3A10
(80.068)	DAYIC	B16C507J35F	I1V87	E18V3R3A10

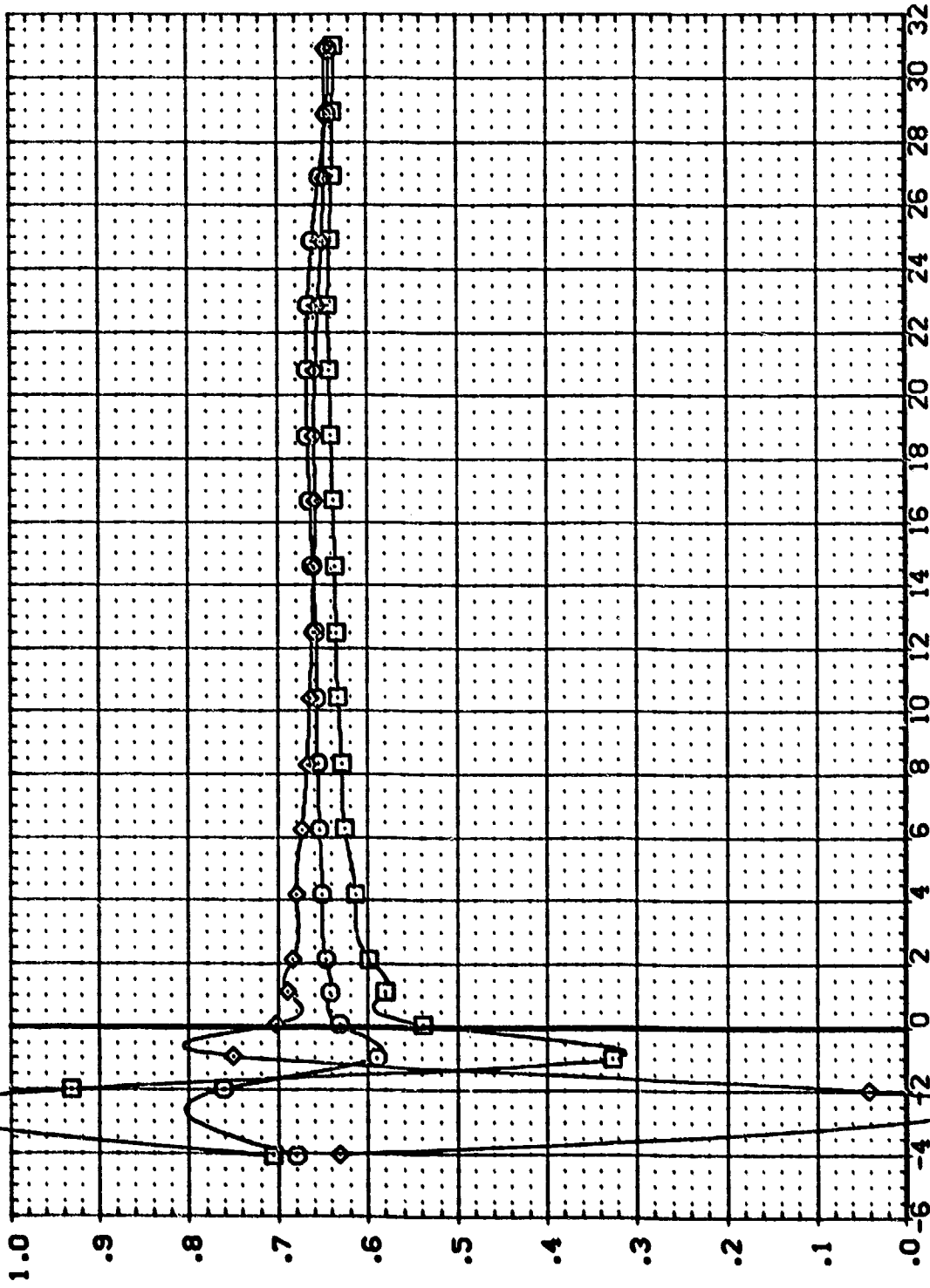
ELEVON NACVL NACLIP NACBTA

.000	.000	7.000	5.000
.000	.530	7.000	5.000

REFERENCE INFORMATION

SREF	4.4122	50. FT.
LREF	19.2299	INCHES
BREF	37.5349	INCHES
XPRP	43.5974	INCHES
YPRP	.0000	INCHES
ZPRP	16.2000	INCHES
SCALE	.0405	SCALE

LONGITUDINAL CENTER OF PRESSURE LOCATION, XCP/L, FRACTION BODY LENGTH



ANGLE OF ATTACK, ALPHA, DEGREES

FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS

(A)MACH = .20

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (80J001)  CA71C B16C507 F1V87 E18V3008
 (80J067)  CA71C B16C507A35 F1V87 E18V3008A10
 (80J058)  CA71C B16C507A35 F1V87 E18V3008A10

ELEVON MDCVL MDCUL MDCBTA MDCBTA
 .000 .000 .000 5.000
 .000 .000 .530 7.000 5.000

REFERENCE INFORMATION
 SREF 4.4122 SQ. FT.
 LREF 19.2288 INCHES
 BREF 37.9348 INCHES
 XREF 43.5574 INCHES
 YREF .0000 INCHES
 ZREF 16.2000 INCHES
 SCALE .0405

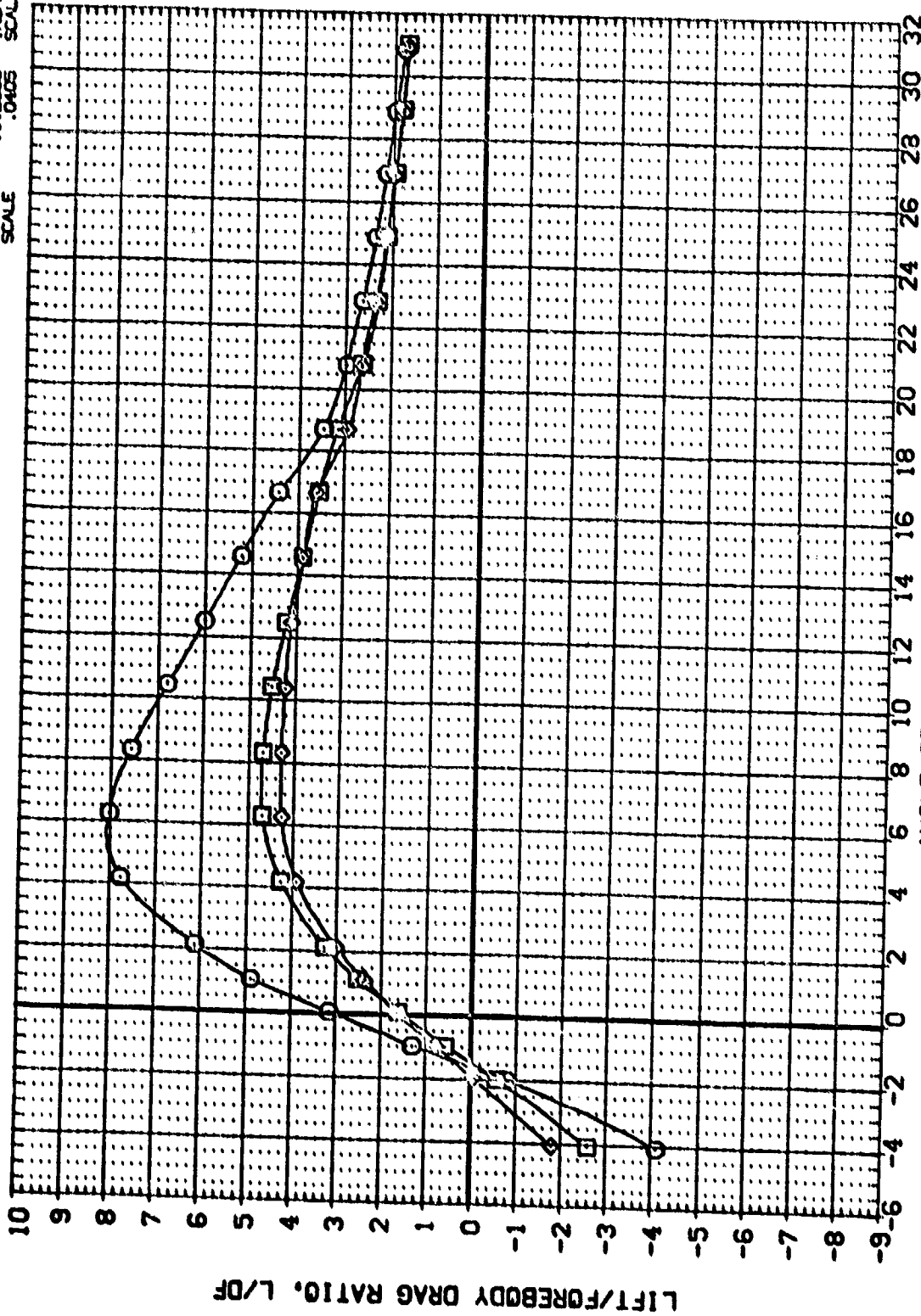


FIG 43 LONGITUDINAL CHARACTERISTICS - EFFECTS OF OVERWING CLUSTERS
 (A)MACH = .20

APPENDIX
TABULATED SOURCE DATA

Plotted data listings are available on request
from Data Management Systems.

OAT1C B16C507 F1487 E18V83X9

(RDU001) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XWRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YWRP = .0000 INCHES
 BREF = 37.9349 INCHES ZWRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOXFLAP = -18.000
 ELEVON = .000 AILFON = .000
 RUDDER = .000

RUN NO. 1 / 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.070	.02820	.00610	-.10940	.01848	.00000	-.00180	-.00100	.68000	.01464
.201	-2.010	.02390	.00560	-.01980	.02327	.00040	-.00170	-.00100	.76200	.01382
.201	-.970	.02380	.00590	.03040	.02438	.00040	-.00180	.00000	.59000	.01451
.201	.060	.02530	.00600	.07940	.02526	.00020	-.00180	.00000	.63000	.01366
.201	1.060	.02560	.00610	.12550	.02336	.00000	-.00170	.00000	.64200	.01439
.201	2.110	.02860	.00630	.17610	.02212	.00000	-.00190	.00000	.64700	.01374
.201	4.170	.03460	.00610	.27050	.01970	-.00010	-.00160	.00000	.63100	.01460
.201	6.250	.04580	.00550	.37100	.00544	-.00010	-.00140	.00000	.65400	.01420
.201	8.320	.06840	.00470	.47240	-.00763	.00040	-.00110	.00000	.65600	.01971
.201	10.400	.07610	.00430	.58200	-.02069	.00070	-.00110	.00000	.65700	.01619
.201	12.480	.09000	.00200	.69850	-.03696	.00100	-.00140	-.00100	.65800	.01886
.201	14.590	.09700	.00250	.81990	-.05379	.00370	-.00190	-.00700	.66100	.02032
.201	16.640	.09700	.00200	.95150	-.06425	.00060	-.00190	-.00100	.66400	.02244
.201	18.730	.09250	.00220	1.06430	-.04834	.00150	-.00280	-.00100	.66700	.02803
.201	20.870	.09180	.00260	1.17180	-.04639	.00170	-.00390	-.00100	.66800	.03165
.201	22.870	.09400	.00290	1.25480	-.04608	.00220	-.00750	.00400	.66800	.03623
.201	24.890	.09600	.00250	1.29580	-.04884	.00480	-.00980	.00400	.66100	.03962
.201	26.900	.09840	.00280	1.28690	-.04947	.00480	-.00845	-.00300	.65300	.04764
.201	28.890	.09800	.00470	1.24300	-.04284	.00160	-.00280	-.00300	.64400	.05576
.201	30.880	.09820	.06000	1.24160	-.02256	-.00000	-.00810	-.02300	.64200	.06480
GRADIENT	.04600	.00104	.00004	.04641	-.00006	-.00006	.00003	.00014	-.00682	-.00001

OAT1C B16C507 F1487 E18V83X9

(RDU002) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XWRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YWRP = .0000 INCHES
 BREF = 37.9349 INCHES ZWRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOXFLAP = -18.000
 ELEVON = .000 AILFON = .000
 RUDDER = .000

RUN NO. 2 / 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.070	.09540	.01440	-.00640	.01433	-.00800	.00420	.18600	.68400	.01876
.201	-5.040	.08430	.02140	.00020	.02135	-.00490	.00270	.09500	.65800	.01573
.201	.000	.07850	.00590	.07850	.02495	.00000	-.00160	.00300	.63200	.01431
.201	5.030	.08070	.00100	.08070	.02068	.00670	-.00580	-.00300	.65500	.01676
.201	10.090	.08820	.00310	.08820	.01296	.00950	-.00710	-.00900	.68000	.01915
GRADIENT	-.00036	-.00007	.00007	-.00037	-.00007	.00108	-.00084	-.00067	-.00000	-.00003

0471C B16C507 F1467 E18V3R3X9

(R04025) (20 OCT 75)

REFERENCE DATA

SRP = 4.4122 SQ.FT. WARP = 45.5974 INCHES
 LRF = 19.2299 INCHES YARP = .0000 INCHES
 BRP = 37.9349 INCHES ZARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000

RUN NO. 3/ 0 RAVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	COF	CLM	ON	CAF	CYN	CEB	CY	XCP/L	CAB
.201	-10.100	.50660	.07850	-.00900	.98140	-.02869	-.07910	.01630	.19900	.66800	.02021
.201	-5.070	.57930	.08190	.00020	.98460	-.02407	-.07950	.00990	.09700	.65900	.01727
.201	-.020	.57960	.08370	.00420	.98180	-.01959	.00000	-.00090	.00100	.65700	.01577
.201	5.010	.57690	.08180	.00090	.98220	-.02366	.00090	-.01190	-.09900	.65900	.01700
.201	10.060	.58120	.07720	-.00610	.98960	-.02898	.01060	-.01990	-.20000	.66300	.02026
GRADIENT	-.00024	-.00001	.00007	-.00024	-.00024	.00004	.00108	-.00212	-.01885	-.00000	-.00003

REFERENCE DATA

SRP = 4.4122 SQ.FT. WARP = 45.5974 INCHES
 LRF = 19.2299 INCHES YARP = .0000 INCHES
 BRP = 37.9349 INCHES ZARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = 5.000 AILRON = .000
 RUDDER = .000

RUN NO. 4/ 0 RAVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	COF	CLM	ON	CAF	CYN	CEB	CY	XCP/L	CAB
.201	-4.010	.00000	.02800	-.04440	.00000	-.02620	.00040	-.00130	.00000	19.27600	.01630
.201	-1.960	.09990	.02610	-.04530	.09000	.02935	.00090	-.00120	.00000	.03400	.01690
.201	-.900	.14250	.02770	-.04570	.14200	.03005	.00020	-.00110	.00100	.77500	.01685
.201	.120	.18910	.02930	-.04690	.18910	.02898	.00010	-.00120	.00100	.74800	.01776
.201	1.190	.23470	.03390	-.04610	.23540	.02881	.00020	-.00100	.00000	.79000	.01625
.201	2.180	.28340	.03780	-.04660	.28460	.02700	.00010	-.00130	.00100	.71800	.01615
.201	4.290	.37890	.04690	-.04700	.38130	.01981	.00020	-.00190	.00000	.70400	.01760
.201	6.290	.47540	.06110	-.04690	.47920	.01964	.00020	-.00140	.00000	.69900	.01701
.201	8.370	.57570	.08060	-.04610	.58130	-.01412	.00090	-.00100	.00100	.68600	.01788
.201	10.470	.68950	.10880	-.04820	.69690	-.01815	.00080	-.00110	.00000	.68400	.01844
.201	12.590	.80750	.14310	-.05060	.81290	-.03438	.00190	-.00090	.00000	.68200	.02080
.201	14.640	.91840	.18770	-.05630	.93600	-.05062	.00490	-.00190	-.00000	.68100	.02218
.201	16.700	1.04490	.25270	-.06660	1.07950	-.05933	.01010	-.00100	-.01000	.68200	.02479
.201	18.790	1.18210	.34220	-.07400	1.17290	-.07371	.00360	-.00000	-.00100	.68200	.03543
.201	20.870	1.21000	.41980	-.07700	1.28020	-.03687	.00290	-.01460	.00000	.68100	.03503
.201	22.930	1.25760	.49180	-.07930	1.34980	-.03737	.00270	-.02060	.00000	.67800	.03979
.201	24.920	1.25400	.54040	-.04270	1.36490	-.03872	.00560	-.02080	.00000	.67100	.04319
.201	26.920	1.19240	.58240	-.05230	1.31780	-.03843	.00590	-.00400	-.00000	.66000	.05129
.201	28.920	1.13520	.58860	-.02790	1.27830	-.03374	.00370	-.00000	-.00000	.65200	.06008
.201	30.930	1.12320	.64520	.03090	1.29510	-.02399	.00010	.00000	-.01900	.65100	.06830
GRADIENT	.04566	.02660	-.02031	-.00618	-.00082	-.00004	-.00004	-.00002	.00002	-1.72363	.00007

0AT7C B16C507 F1467 E18V8R3X9

(RDU025) (25 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. WARP = 43.5974 INCHES
 LREF = 19.2299 INCHES WARP = .0000 INCHES
 BREF = 37.9349 INCHES WARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = 5.000
 RUDDER = .000

RUN NO. 5/ 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.060	-1.0670	.02690	.00670	-.11090	.02109	.00410	.01910	-.01900	.68100	.01438
.201	-2.000	-.01330	.02600	.00660	-.01420	.02554	.00440	.01970	-.02100	.82700	.01489
.201	-.960	.03230	.02610	.00630	.03190	.02669	.00490	.02000	-.02200	.98900	.01455
.201	.060	.08000	.02630	.00630	.08000	.02625	.00460	.02040	-.02200	.63100	.01519
.201	1.070	.12600	.02640	.00650	.12690	.02604	.00470	.02040	-.02200	.64100	.01453
.201	2.110	.17390	.02600	.00650	.17490	.02358	.00470	.02080	-.02400	.64600	.01553
.201	4.150	.26750	.02720	.00690	.26990	.01779	.00490	.02090	-.02400	.65700	.01498
.201	6.240	.36590	.04770	.00700	.36890	.00760	.00530	.02130	-.02600	.65900	.01515
.201	8.390	.46630	.06480	.00710	.47080	-.00340	.00580	.02200	-.02800	.65400	.01534
.201	10.390	.57070	.08690	.00680	.57700	-.01739	.00640	.02220	-.03100	.65500	.01578
.201	12.490	.68510	.11760	.00480	.69430	-.03329	.00720	.02290	-.03400	.65700	.01798
.201	14.590	.80140	.15540	.00120	.81480	-.05096	.01060	.02310	-.04200	.59900	.02039
.201	16.640	.92200	.21400	-.00890	.94470	-.05905	.01540	.02500	-.05100	.66300	.02281
.201	18.730	1.04450	.29720	-.01890	1.06620	-.04430	.00770	.01480	-.03400	.66600	.02802
.201	20.790	1.15290	.37220	-.02290	1.16320	-.04365	.00640	.00710	-.02700	.66600	.03269
.201	22.860	1.16820	.44660	-.02110	1.24990	-.04242	.00590	.00590	-.01600	.66600	.03689
.201	24.910	1.16690	.50080	-.00190	1.28700	-.04561	.00720	-.00430	-.00900	.66600	.04124
.201	26.910	1.16660	.54090	.02310	1.28490	-.04597	.00580	-.00190	-.00100	.65300	.04948
.201	28.860	1.10190	.56510	.05380	1.23700	-.03754	.00230	.00520	.00000	.64400	.05763
.201	30.860	1.07940	.61140	.06130	1.24020	-.02937	-.00080	.01780	-.01900	.64200	.06184
.201	GRADIENT	.04570	.00100	.00000	.04616	-.00141	.00000	.00000	-.00000	-.01000	.00000

CAT1C 016C507 FIL087 518V3R3M9

(RDL006) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 80.FT. YARP = 43.5974 INCHES
 LREF = 19.2299 INCHES YARP = .0000 INCHES
 BREF = 37.8349 INCHES ZARP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = -10.000 AILRON = .000
 RUDDER = .000

RUN NO. 6/ D RVAL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

INCH	ALPHA	CL	CLF	CLM	ON	CAF	CYN	COL	CY	XCP/L	CAS
.201	-4.190	-.3120	.04120	.10140	-.31740	.01807	.00040	-.00130	-.00200	.77400	.00887
.201	-2.130	-.22520	.03230	.10190	-.22820	.02389	.00040	-.00120	-.00200	.82000	.00901
.201	-1.090	-.17530	.02930	.10190	-.17560	.02803	.00030	-.00100	-.00200	.86700	.00935
.201	-.030	-.12790	.02720	.10210	-.12790	.02713	.00000	-.00070	-.00200	.94500	.00896
.201	.900	-.08230	.02500	.10260	-.08190	.02846	.00030	-.00110	-.00200	1.10700	.00978
.201	2.070	-.03630	.02490	.10280	-.03540	.02584	.00020	-.00080	-.00200	1.69600	.00931
.201	4.040	.05720	.02450	.10450	.01880	.02039	.00020	-.00070	-.00200	.02930	.00992
.201	6.120	.15360	.02840	.10570	.15580	.01187	.00070	-.00090	-.00200	.41700	.01038
.201	8.180	.24970	.03740	.10730	.25250	.00151	.00070	-.00070	-.00200	.50800	.01011
.201	10.270	.33330	.05220	.10880	.35730	-.01162	.00090	-.00060	-.00200	.59000	.01186
.201	12.330	.46130	.07540	.10780	.46730	-.02493	.00110	-.00080	-.00100	.57700	.01321
.201	14.440	.57730	.10610	.10560	.58370	-.04125	.00340	-.00070	-.00600	.59500	.01563
.201	16.510	.69070	.15030	.10090	.71490	-.05230	.00340	-.00040	-.01400	.60800	.01737
.201	18.610	.80260	.22470	.08630	.83250	-.04321	.00340	-.00540	-.00300	.62300	.02116
.201	20.680	.89700	.29100	.07910	.94230	-.04465	.00390	-.01030	-.00100	.62900	.02361
.201	22.780	.98700	.36400	.07340	1.05170	-.04629	.00340	-.01590	.00900	.62900	.02822
.201	24.820	1.04130	.42650	.07990	1.12430	-.05025	.00590	-.01730	.00900	.63400	.03104
.201	26.840	1.05960	.47840	.08280	1.16150	-.05203	.00620	-.01420	.00600	.63100	.03843
.201	28.840	1.01900	.50970	.11620	1.13850	-.04525	.00250	-.00370	.00200	.62300	.04665
.201	30.850	.99260	.50900	.12320	1.13310	-.03513	.00030	-.00970	-.02100	.62100	.05430
.201	GRADIENT	.04533	-.00201	.00037	.04579	.00032	-.00003	.00007	.00000	-.02270	.00011

QAT1C 816C507 F1M67 E19V3R3X9

(RD0007) (20 OCT 73)

REFERENCE DATA

SRF = 4.4122 50.FT. WRP = 45.5974 INCHES
 LRF = 19.2299 INCHES WRP = .0000 INCHES
 BRP = 37.9349 INCHES ZWRP = 16.2070 INCHES
 SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
 ELEVON = .000 AIRLON = 10.000
 RUDDER = .000

RUN NO. 7 / 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

PARAMETRIC DATA

MACH	ALPHA	CL	CDP	CLM	CN	CAP	C.L	CBL	CY	KCP/L	CAB
.201	-4.060	-.10190	.03480	.02210	-.10350	.02750	.00680	.03790	-.03700	.66700	.01577
.201	-2.030	-.00980	.03260	.02170	-.01070	.03220	.00760	.03840	-.04000	.71900	.01591
.201	-.990	.03060	.03260	.02190	.03080	.03325	.00790	.03900	-.04200	.64100	.01598
.201	.040	.08450	.03350	.02250	.08450	.03346	.00820	.03970	-.04500	.64900	.01577
.201	1.090	.13200	.03470	.02280	.13280	.03221	.00850	.04020	-.04500	.65200	.01628
.201	2.120	.17830	.03770	.02320	.17960	.03114	.00880	.04020	-.04600	.65300	.01573
.201	4.170	.26980	.04460	.02400	.27200	.02483	.00930	.04100	-.04900	.65400	.01567
.201	6.250	.36370	.05450	.02580	.36750	.01462	.00960	.04110	-.05000	.65400	.01616
.201	8.370	.46380	.07090	.02640	.46910	.00261	.01050	.04200	-.05400	.65500	.01611
.201	10.390	.57280	.09440	.02550	.58040	-.01048	.01160	.04350	-.05900	.65600	.01724
.201	12.470	.68540	.12550	.02220	.69640	-.02554	.01260	.04430	-.06200	.65800	.01844
.201	14.580	.79640	.16420	.02060	.81210	-.04121	.01580	.04520	-.07200	.65900	.01930
.201	16.680	.91630	.22010	-.00620	.94090	-.05190	.01970	.04680	-.08000	.66200	.02266
.201	18.740	1.07070	.30240	-.01310	1.04480	-.03807	.01060	.03390	-.05900	.66400	.02822
.201	20.800	1.08240	.37490	-.01550	1.14500	-.03395	.00790	.02520	-.05300	.66400	.03065
.201	22.860	1.13360	.44440	-.01150	1.21720	-.03089	.00740	.01530	-.03600	.66300	.03443
.201	24.900	1.15910	.49970	.00590	1.26140	-.03548	.00810	.00310	-.02300	.65800	.04039
.201	26.910	1.14880	.54010	.03000	1.26870	-.03819	.00660	.00610	-.00500	.65100	.05131
.201	28.890	1.05180	.56810	.05500	1.23040	-.03020	.00760	.01470	.00100	.64400	.05996
.201	30.890	1.06920	.61590	.06410	1.23380	-.02548	-.00240	.02490	-.01400	.64100	.06233
.201	GRADIENT	.04528	.02119	.00027	.04565	-.00032	.00000	.00000	-.00145	-.00403	-.00001

REFERENCE DATA

BRDF = 4.4122 80 FT. WARP = 43.9874 INCHES
 LWRP = 19.2299 INCHES WARP = .0000 INCHES
 BRDF = 37.9349 INCHES ZWRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
 ELEVON = 10.000 AILRON = .000
 RUDDER = .000

RUN NO. 8/ 0 RWL = 1.44 GRADIENT INTERVAL = -8.00/ 6.00

PARAMETRIC DATA

MACH	ALPHA	CL	CDP	CLM	CM	CAF	CYN	CBL	CV	KCP/L	CAB
.201	-3.970	.10150	.02900	-.09460	.09920	.09605	.00090	-.00170	.00000	1.00100	.02013
.201	-1.920	.19340	.03310	-.09580	.19220	.09558	.00060	-.00160	.00000	.83700	.01992
.201	-.860	.24250	.03640	-.09540	.24190	.04006	.00070	-.00170	.00000	.80000	.01966
.201	1.60	.28680	.04000	-.09570	.28870	.03920	.00060	-.00170	.00000	.77600	.01969
.201	1.160	.33470	.04580	-.09560	.33490	.03996	.00060	-.00170	.00100	.76200	.01861
.201	2.250	.38250	.05030	-.09540	.38400	.03537	.00050	-.00170	.00200	.73000	.01957
.201	4.290	.47460	.06360	-.09360	.47800	.02788	.00060	-.00190	.00200	.71800	.01881
.201	6.360	.57150	.08100	-.09360	.57880	.01722	.00060	-.00190	.00100	.71000	.01883
.201	8.440	.67320	.10320	-.09360	.68130	.00524	.00120	-.00150	.00200	.70900	.01895
.201	10.560	.79210	.13740	-.09680	.69390	-.0097	.00120	-.00150	.00000	.70300	.02016
.201	12.630	.90400	.17820	-.10150	.92060	-.02574	.02860	-.00060	-.00300	.69900	.02255
.201	14.690	1.02420	.22560	-.10750	1.04800	-.04154	.06670	-.00120	-.01100	.69500	.02489
.201	16.790	1.14250	.29620	-.11780	1.17980	-.04668	.01060	-.00180	-.01900	.69500	.02742
.201	18.840	1.20500	.38370	-.11750	1.26430	-.02800	.00390	-.01030	-.00100	.69300	.03433
.201	20.910	1.27710	.46490	-.12770	1.35970	-.02147	.00360	-.01680	.00300	.69100	.03772
.201	22.980	1.30140	.52910	-.10240	1.40470	-.02024	.01290	-.02170	.01100	.69000	.04236
.201	24.980	1.29270	.57330	-.06760	1.41390	-.02582	.01620	-.01790	.00400	.67750	.04726
.201	26.910	1.16570	.56690	-.01050	1.29670	-.02228	.00990	.01480	-.05100	.66200	.05207
.201	28.920	1.13330	.60870	.00670	1.28610	-.01591	.00920	-.01130	-.00300	.65800	.05826
.201	30.930	1.15160	.67570	.02670	1.33510	-.01233	-.00030	.00920	-.01900	.65600	.07075
.201	GRADIENT	.04526	.00420	.00279	.04596	-.00797	-.00005	-.00002	.00021	-.03001	-.02016

REFERENCE DATA

BRP = 4.4122 89. FT. YARP = 45.9974 INCHES
 LBRP = 19.2299 INCHES YARP = .0000 INCHES
 BRP = 37.9549 INCHES ZARP = 16.2050 INCHES
 SCALE = .0405 SCALE

RUN NO. 9/ 0 RVAL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

PARAMETRIC DATA

BETA = .000 BOFLAP = -16.000
 ELEVON = -20.000 ALLIRON = .000
 RUDDER = .000

WACH	ALPHA	CL	COF	CLM	ON	CAF	CYN	COL	CY	SCP/L	CAS
.201	-4.280	-4.8640	.06070	-1.6210	-4.6030	.03547	.00140	-.00890	-.00400	.78900	.00739
.201	-2.200	-3.6470	.05510	1.6180	-3.6650	.04111	.00100	-.00800	-.00300	.81700	.00901
.201	-1.160	-3.2560	.09070	1.6630	-3.2680	.04410	.00130	-.00680	-.00400	.84100	.00745
.201	-1.190	-2.7970	.04580	1.6500	-2.7910	.04513	.00110	-.00670	-.00300	.87100	.00760
.201	.090	-2.2780	.04190	1.6490	-2.2710	.04548	.00090	-.00610	-.00300	.91800	.00848
.201	1.910	-.18120	.03910	1.6490	-1.7980	.04515	.00090	-.00600	-.00200	.98700	.00840
.201	3.960	-.06770	.03480	1.6490	-1.0890	.04066	.00060	-.00540	-.00100	1.35200	.00876
.201	6.090	-.00560	.03280	1.6690	.00800	.03190	.00060	-.00540	-.00200	-5.93900	.01021
.201	8.120	.09990	.03660	1.7040	.10350	.02228	.00080	-.00540	.00000	.07100	.01135
.201	10.190	.19160	.04670	1.7590	.19710	.01208	.00110	-.00940	.00000	.34100	.01073
.201	12.320	.29670	.06330	1.7800	.30310	.00365	.00160	-.00530	-.00100	.49000	.01109
.201	14.390	.39870	.08980	1.7970	.40890	-.01198	.00180	-.00610	.00000	.52000	.01245
.201	16.410	.50290	.12450	1.8130	.51720	-.02255	.00190	-.00480	-.00100	.53400	.01329
.201	18.500	.60970	.17360	1.8240	.62580	-.02567	.00190	-.00330	-.00100	.55900	.01522
.201	20.540	.69290	.23180	1.7920	.73020	-.02631	.00190	-.00330	-.00400	.57200	.01698
.201	22.630	.77440	.29740	1.7240	.82920	-.02358	.00190	-.01010	.00000	.58900	.02158
.201	24.720	.85440	.36190	1.7070	.92740	-.02857	.00190	-.01310	.00000	.59400	.02948
.201	26.800	.90340	.42060	1.7100	.99340	-.03049	.00190	-.01410	.00000	.59800	.03967
.201	28.790	.93700	.45200	1.9060	.98340	-.02427	.00190	-.01410	-.01000	.59300	.04607
.201	30.790	.86800	.50310	1.90700	1.01660	-.02146	.00000	.00770	-.01100	.59300	.05012
.201		.04479	-.02419	.00034	.04537	.00000	-.00000	.00000	.00000	.06197	.00000

ONTIC 818C507 F1M7 E18V3R39

0230010) (20 OCT 73)

REFERENCE DATA

BRDF = 4.4122 90.FT. WARP = 43.9974 INCHES
 LREF = 19.2299 INCHES WARP = .0220 INCHES
 DREF = 37.9349 INCHES ZWRP = 16.2020 INCHES
 SCALE = .5405 SCALE

PARAMETRIC DATA

BETA = .000 BOPLAP = -18.000
 ELEVON = .000 AIRLON = 15.000
 RUDDER = .000

RUN NO. 10/ 0 RWL = 1.44 GRADIENT INTERVAL = -8.00/ 6.00

MACH	ALPHA	CL	CDP	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.070	-0.0810	.04800	-0.02600	-0.0420	.04020	.01020	.05540	-.05900	.62900	.01677
.201	-1.970	.02910	.04480	-.00790	.00790	.04495	.01100	.05630	-.05900	1.03400	.01677
.201	-9.90	.05690	.04530	-.00760	.05610	.04825	.01120	.05630	-.06000	.70800	.01668
.201	.050	.01070	.04640	-.00690	.01000	.04631	.01160	.05720	-.06200	.69400	.01658
.201	1.090	.14700	.04910	-.00570	.14790	.04531	.01190	.05720	-.06300	.67300	.01692
.201	2.120	.19170	.05060	-.00490	.19340	.04374	.01290	.05740	-.06300	.66900	.01654
.201	4.170	.27830	.05780	-.00100	.28180	.03726	.01300	.05750	-.06300	.66100	.01662
.201	6.280	.37510	.06930	.02040	.37840	.02818	.01370	.05850	-.06700	.65900	.01637
.201	8.320	.47220	.08590	.02100	.47770	.01653	.01460	.05920	-.07200	.65900	.01718
.201	10.410	.56290	.11590	-.02160	.59300	.02386	.01620	.06390	-.07400	.66100	.01864
.201	12.510	.64690	.14290	-.02290	.70360	-.02977	.01810	.06540	-.09100	.66100	.01904
.201	14.590	.79810	.18320	-.02290	.81890	-.02378	.02400	.06720	-.10100	.66100	.02042
.201	16.640	.91330	.24210	-.02790	.94390	-.03163	.02470	.07110	-.10700	.66300	.02316
.201	18.710	.98880	.31510	-.02890	1.03960	-.01822	.01470	.05380	-.09300	.66300	.02577
.201	20.780	1.06590	.34650	-.01050	1.13370	-.01682	.01220	.04460	-.07900	.66300	.03135
.201	22.840	1.11190	.45270	-.03320	1.22040	-.01435	.02780	.02770	-.04900	.65500	.03531
.201	24.880	1.13650	.50370	.01480	1.24290	-.02125	.02790	.01640	-.02400	.65500	.04225
.201	26.880	1.15680	.53480	.04410	1.22890	-.02344	.02120	.03460	-.01900	.64700	.05226
.201	28.850	1.14280	.55890	.06670	1.18310	-.01371	-.02110	.03460	-.01700	.63900	.06234
.201	30.870	1.08220	.62270	.06820	1.23120	-.01062	-.02420	.03460	-.01300	.64000	.06300
.201	GRADIENT	.54364	.03142	.02065	.04484	-.02035	.02034	.02026	-.02146	-.01421	-.02002

0230010) (20 OCT 73)

REFERENCE DATA

BRDF = 4.4122 90.FT. WARP = 43.9974 INCHES
 LREF = 19.2299 INCHES WARP = .0220 INCHES
 DREF = 37.9349 INCHES ZWRP = 16.2020 INCHES
 SCALE = .5405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOPLAP = -18.000
 ELEVON = .000 AIRLON = .000
 RUDDER = .000

RUN NO. 11/ 0 RWL = 1.44 GRADIENT INTERVAL = -8.00/ 6.00

MACH	BETA	CL	CDP	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.100	.09370	.01420	-.00530	.09370	.01420	-.02810	.00410	.16670	.67900	.01640
.201	-5.070	.08320	.02080	.03140	.08320	.02079	-.00910	.02260	.09500	.65300	.01817
.201	-.020	.07750	.02490	.02660	.07750	.02491	.02020	-.00150	.02000	.62900	.01393
.201	5.020	.07790	.02020	.00160	.07790	.02024	.00980	-.00570	-.09400	.65200	.01619
.201	10.070	.04560	.01300	-.02480	.04560	.01358	.00940	-.00730	-.16800	.66700	.01640
.201	GRADIENT	-.00053	-.00006	.02032	-.00033	-.02005	.00108	-.02782	-.01877	-.02010	.02000

OAT1C B16C307 F1467 E18V83X9

(RDU012) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BRFP = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = -40.000 AILRON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 12/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-3.300	-.53140	.20190	-.53720	.08440	.00010	-.00210	-.00200	.79400	.01682
.201	-2.260	-.48290	.19960	-.48670	.08758	.00000	-.00230	-.00200	.80600	.01579
.201	-1.250	-.43580	.19820	-.43790	.08815	.00010	-.00220	-.00300	.82100	.01701
.201	-.190	-.38500	.19620	-.38530	.09005	.00020	-.00220	-.00200	.84200	.01641
.201	.850	-.33310	.19400	-.33190	.08940	.00040	-.00210	-.00300	.86900	.01719
.201	1.900	-.28420	.19270	-.28140	.08904	.00030	-.00180	-.00200	.90400	.01696
.201	3.920	-.18480	.18940	-.17940	.08397	.00030	-.00160	-.00100	1.03700	.01805
.201	5.970	-.09610	.19100	-.08850	.07769	.00090	-.00110	-.00300	1.43100	.01907
.201	8.060	-.01210	.20020	-.00250	.06819	.00110	-.00120	-.00200	28.50900	.02042
.201	10.100	.09070	.20190	.10200	.05564	.00070	-.00260	-.00100	-.04700	.02183
.201	12.190	.18260	.20750	.19670	.04569	.00060	-.00340	.00000	.28200	.02132
.201	14.260	.27020	.21640	.28790	.03595	.00150	-.00160	.00000	.39100	.02122
.201	16.340	.36240	.22220	.38590	.02825	.00220	.00090	.00000	.45400	.02022
.201	18.400	.45850	.22560	.48960	.01917	.00310	.00030	-.00100	.49500	.02189
.201	20.440	.53250	.23350	.57570	.01985	.00210	.00090	-.00100	.51400	.02349
.201	22.550	.60770	.24090	.66450	.01551	.00180	-.00280	.00000	.53000	.02440
.201	24.600	.65480	.24400	.75030	.02198	.00360	-.00370	-.00200	.54000	.02440
.201	26.640	.70910	.24900	.80450	.02213	.00520	-.00600	.00000	.54900	.02886
.201	28.790	.75200	.25470	.86940	.02110	.00340	-.00760	.00000	.55500	.03418
.201	30.720	.78770	.25480	.92760	.01903	.00170	-.00750	.00000	.56100	.04054
	GRADIENT	.04740	-.00516	.04885	-.00076	.00008	.00012	-.00000	.06012	.00029

QAT1C B16C507 F1W67 E18V83399

(RDV014) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BDFLAP = -18.000
 ELEVON = -30.000 AILRON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 14/ 0 RVAL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	OB	CY	XCP/L	CAB
.201	-4.330	-.51950	.09600	.18500	-.52530	.05654	-.00020	.00310	.00000	.78500	.01190
.201	-2.280	-.41860	.08090	.18160	-.42140	.06398	.00010	.00350	.00000	.81400	.01149
.201	-1.130	-.36360	.07320	.17980	-.36570	.06608	.00020	.00410	-.00100	.83600	.01182
.201	-.180	-.31940	.06770	.17820	-.31960	.06670	.00030	.00390	.00000	.85900	.01208
.201	.870	-.27060	.06270	.17790	-.26960	.06688	.00060	.00480	-.00300	.89500	.01224
.201	1.930	-.21990	.05770	.17690	-.21780	.06514	.00060	.00450	-.00300	.94800	.01224
.201	3.940	-.12510	.04950	.17500	-.12120	.06049	.00060	.00480	-.00400	1.17500	.01404
.201	6.080	-.02740	.04950	.17580	-.02220	.04298	.00090	.00420	-.00400	3.51300	.01515
.201	8.080	.05850	.05170	.18090	.06520	.04298	.00120	.00310	-.00500	-.33100	.01495
.201	10.130	.14370	.09950	.18990	.15190	.03280	.00180	.00300	-.00300	-.00200	.01489
.201	11.900	.22810	.07660	.19870	.23950	.02791	.00150	.00190	-.00300	.36200	.01348
.201	14.270	.31090	.09340	.20990	.32390	.01395	.00250	.00190	-.00200	.42800	.01376
.201	16.340	.38640	.11690	.22440	.40370	.00346	.00430	-.00050	-.00500	.46100	.01388
.201	18.420	.47330	.15310	.23290	.49740	-.00430	.00410	.00010	-.00500	.49200	.01727
.201	20.450	.54550	.20230	.23980	.58180	-.00107	.00270	-.00240	-.00400	.51200	.01745
.201	22.520	.61510	.25310	.24350	.66520	-.00184	.00210	-.00590	-.00200	.52900	.02168
.201	24.640	.68520	.31600	.23960	.75440	.00163	.00280	-.00820	.00100	.54600	.02432
.201	26.650	.76290	.38120	.23690	.85290	-.00155	.00350	-.01030	.00600	.56000	.02848
.201	28.740	.80090	.43760	.23980	.91230	-.00129	.00180	-.00720	.00800	.56600	.03375
.201	30.790	.81950	.48470	.24720	.94830	-.00031	.00210	-.00680	.00400	.56600	.04146
.201	.04759	-.00535	-.00122	-.00122	.04876	.00145	.00012	.00022	-.00055	.04326	.04053

DATE 05 DEC 73

(R00032) (20 OCT 73)

ONTIC B16C507J32F1487 E18V8R3X10

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
ELEVON = .000 AILRON = .000
RUDDER = .000 NACBTA = 5.000
NACVL = .000 NACLIP = 7.000

RUN NO. 32/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

REFERENCE DATA

SREF = 4.4122 98.FT. XGRP = 43.9974 INCHES
LREF = 19.2299 INCHES YGRP = .0000 INCHES
BREF = 37.9349 INCHES ZGRP = 16.2000 INCHES
SCALE = .0405 SCALE

WACH	ALPHA	CL	CLF	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.050	-1.1310	.04290	-.00960	-.13370	.03360	.00110	-.00200	-.00600	.63400	.51411
.201	-2.040	-.03080	.03630	-.03570	-.03420	.03719	.00160	-.00160	-.00500	.60000	.51430
.201	-.990	.01760	.03750	-.00320	.01690	.03782	.00160	-.00170	-.00400	.72900	.51412
.201	.000	.06740	.03740	-.00110	.06740	.03738	.00190	-.00170	-.00300	.66600	.51434
.201	1.060	.11700	.03020	.00100	.11770	.03695	.00140	-.00170	-.00100	.65600	.51438
.201	2.120	.17010	.04090	.00370	.17150	.03454	.00130	-.00170	-.00100	.65200	.51420
.201	4.170	.26840	.04770	.00780	.27120	.02805	.00120	-.00180	.00000	.64900	.51437
.201	6.240	.37230	.05890	.01180	.37650	.01809	.00110	-.00210	.00000	.64800	.51495
.201	8.320	.47660	.07690	.01690	.48470	.00686	.00100	-.00200	.00000	.64700	.51546
.201	10.410	.58050	.10220	.02210	.59560	-.00554	.00100	-.00210	.00000	.64600	.51686
.201	14.630	.80010	.13530	.03400	.71120	-.01917	.00190	-.00110	.00000	.64500	.51850
.201	18.690	.90540	.17250	.05090	.81720	-.03519	.00320	-.00210	-.00300	.64400	.52075
.201	20.800	1.00400	.21830	.06950	1.04940	-.05200	.00310	-.00200	-.00100	.64300	.52494
.201	22.840	1.10790	.26930	.09200	1.13550	-.02456	.00110	-.00200	.00000	.64200	.52788
.201	24.880	1.16600	.49550	.05410	1.19310	-.02159	.00240	-.00200	.00000	.64100	.53160
.201	26.910	1.13650	.54950	.06950	1.22110	-.02015	.00140	-.00100	-.00100	.64000	.53785
.201	28.940	1.16490	.60920	.06880	1.26210	-.02449	.00090	-.00190	-.00100	.64000	.54539
.201	30.980	1.18290	.66770	.09720	1.31440	-.03044	.00280	-.00360	-.00700	.63700	.55106
.201			.00099	.00214	1.35790	-.03655	.00350	-.00430	-.00900	.63400	.55613
.201			.04862	.00214	.04929	-.00068	-.00001	.00001	.00081	.00211	.00003

(R00033) (20 OCT 73)

ONTIC B16C507J32F1487 E18V8R3X10

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -18.000
ELEVON = .000 AILRON = .000
RUDDER = .000 NACBTA = 5.000
NACVL = .000 NACLIP = 7.000

RUN NO. 33/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

REFERENCE DATA

SREF = 4.4122 98.FT. XGRP = 43.9974 INCHES
LREF = 19.2299 INCHES YGRP = .0000 INCHES
BREF = 37.9349 INCHES ZGRP = 16.2000 INCHES
SCALE = .0405 SCALE

WACH	BETA	CL	CLF	CLM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.100	.08430	.02570	-.01310	.08430	.02568	-.00340	.00090	.22500	.71500	.51843
.201	-5.060	.07630	.03350	-.00620	.07630	.03348	-.00230	.00070	.11100	.68900	.51528
.201	.000	.07040	.03760	-.00180	.07040	.03760	.00170	-.00170	-.00100	.66900	.51448
.201	5.090	.06860	.03310	-.00590	.06860	.03313	.00150	-.00340	-.00340	.69000	.51548
.201	10.100	.07610	.02700	-.01110	.07610	.02698	.00070	-.00370	-.00900	.71200	.51724
.201			-.00004	.00003	-.00064	-.00003	.00077	-.00041	-.00250	.00010	.00002

CAT1C 21:50:57.02F:1467 518:023:115

GROUP34 (20 OCT 73)

REFERENCE DATA

BRP = 4.4122 96.FT. 1469 = 43.5974 INCHES
 LRP = 19.2299 INCHES 1469 = .0000 INCHES
 BRP = 37.9249 INCHES 2469 = 16.2000 INCHES
 SCALE = 1.625 SCALE

RUN NO. 34/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.05/ 6.55

WACH	BETA	C	CF	CM	CN	CAF	CYN	CEL	CY	WOP/L	CAB
.201	-15.135	.59960	.51280	.59715	-.51357	-.51280	-.51280	.51450	.20100	.52300	.52397
.201	-5.050	.58820	.51650	.59575	-.50772	-.50790	-.50790	.51795	.51400	.55000	.51671
.201	-.085	.58750	.52115	.59690	-.50406	.50120	-.50180	-.50180	.50000	.54700	.51597
.201	5.015	.58920	.52815	.59985	-.50224	.50340	-.50370	-.50370	-.51000	.54900	.51613
.201	15.115	.59420	.51290	.59190	-.51393	.50600	-.50600	-.51800	-.20500	.59200	.51948
GRADIENT	-.50000	-.50011	.50016	-.50091	-.50005	.50053	.50053	-.50178	-.50220	-.50010	-.50006

CAT1C 21:50:57.02F:1467 518:023:115

GROUP35 (20 OCT 73)

REFERENCE DATA

BRP = 4.4122 96.FT. 1469 = 43.5974 INCHES
 LRP = 19.2299 INCHES 1469 = .0000 INCHES
 BRP = 37.9249 INCHES 2469 = 16.2000 INCHES
 SCALE = 1.625 SCALE

RUN NO. 35/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.05/ 6.55

WACH	ALPHA	C	CF	CM	CN	CAF	CYN	CEL	CY	WOP/L	CAB
.201	-3.913	.17290	.52590	-.14975	.18975	.52590	.50000	-.50220	.50000	.50000	.52590
.201	-1.830	.27220	.52810	-.14575	.26810	.52810	.50000	-.50240	.50000	.52590	.52591
.201	-.790	.31990	.52230	-.14090	.31770	.52579	.50000	-.50210	.50000	.52100	.52597
.201	.230	.36490	.52740	-.14190	.36490	.52998	.50000	-.50190	.50000	.52900	.52595
.201	1.290	.41200	.50900	-.13790	.41390	.52428	.50000	-.50160	.50400	.52900	.52598
.201	2.280	.45900	.50900	-.13310	.45990	.52999	.50000	-.50220	.50400	.52900	.52598
.201	6.430	.69940	.52510	-.12990	.67990	.52412	-.50010	-.50200	.52400	.52900	.52598
.201	6.540	.79570	.52980	-.13110	.79970	.52428	.50000	-.50200	.52900	.52900	.52598
.201	10.600	.99460	.52980	-.12790	.91400	.52174	.50000	-.50200	.52900	.52900	.52598
.201	12.700	1.20000	.22270	-.12000	1.52760	.50886	.50000	-.50200	.52900	.52900	.52598
.201	14.770	1.59400	.28070	-.11090	1.12990	-.50795	.50000	-.50200	.52900	.52900	.52598
.201	15.800	1.99410	.33740	-.10110	1.23200	-.50200	.50000	-.50200	.52900	.52900	.52598
.201	19.870	1.99410	.42900	-.09290	1.23490	.52599	.50000	-.50180	.52900	.52900	.52598
.201	20.900	1.21890	.69220	-.07890	1.34890	.52222	.50000	-.50390	.52900	.52900	.52598
.201	22.990	1.23000	.54900	-.06200	1.50490	.52478	.50000	-.50040	.52900	.52900	.52598
.201	24.960	1.23000	.59990	-.05490	1.36490	.52222	.50000	-.50390	.52900	.52900	.52598
.201	27.000	1.24100	.63880	-.04700	1.39990	.52435	.50000	-.50490	.52900	.52900	.52598
.201	29.000	1.25490	.69040	-.03900	1.43390	-.50391	.50000	-.50490	.52900	.52900	.52598
.201	31.040	1.27470	.79620	-.03180	1.47190	-.50890	.50000	-.50310	.52900	.52900	.52598
GRADIENT	.54565	.50210	.50210	.50248	.54684	-.50137	-.50004	.50006	.50045	-.50693	-.50015

OAT1C B16C507J33F1M07 S18V5B3D10

(001036) (20 OCT 73)

REFERENCE DATA

REF = 4.4122 98.FT. WRF = 43.9974 INCHES
 LRF = 19.2299 INCHES YRF = .0000 INCHES
 BRF = 37.9343 INCHES ZRF = 16.2000 INCHES
 SCALE = .5425 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILUFON = .000
 RUDDER = .000 MACBETA = 5.000
 MACALP = .000 MACALP = 7.000

RUN NO. 36/ 0 PAVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

WAOH	ALPHA	CL	ODF	CLM	ON	CAF	CYN	CEL	CY	XCFAL	CAB
.201	-4.100	-1.1200	.54460	-1.0100	-1.13490	.03505	.00190	-1.0190	-1.0000	.63000	.01439
.201	-2.540	-1.0900	.03940	-1.0000	-1.03640	.03818	.00210	-1.0190	-1.0000	.59800	.01445
.201	-1.010	-1.0140	.02220	-1.0140	.01390	.03846	.00200	-1.0190	-1.0000	.76900	.01429
.201	.040	.06300	.03990	-1.0000	.06300	.03848	.00200	-1.0140	-1.0000	.67100	.01447
.201	1.060	.11500	.04010	.0000	.11600	.03796	.00190	-1.0190	-1.0000	.65700	.01433
.201	2.120	.16720	.04100	.03310	.16870	.03563	.00190	-1.0160	-1.0000	.65300	.01435
.201	4.190	.26740	.04290	.05700	.27030	.02806	.00190	-1.0190	-1.0000	.64900	.01460
.201	6.290	.36910	.04300	.08100	.37340	.01971	.00190	-1.00210	-1.0000	.64800	.01478
.201	8.310	.47530	.04300	.11600	.48170	.00943	.00190	-1.00240	-1.0000	.64800	.01480
.201	10.390	.58960	.04300	.16200	.59460	-.00379	.00190	-1.00240	-1.0000	.64700	.01616
.201	12.510	.69820	.04300	.22500	.70900	-.01705	.00190	-1.00260	-1.0000	.64600	.01672
.201	14.570	.80080	.04300	.31400	.82110	-.03212	.00190	-1.00180	-1.0000	.64600	.01875
.201	16.650	.90760	.04300	.42800	.93320	-.04790	.00190	-1.00290	-1.0000	.64600	.02079
.201	18.750	1.00000	.04300	.56800	1.04890	-.07297	.00190	-1.00170	-1.0000	.64500	.02509
.201	20.790	1.06880	.04300	.72900	1.13100	-.09170	.00190	-1.00170	-1.0000	.64500	.02802
.201	22.840	1.11940	.04300	.90900	1.18740	-.01822	.00190	-1.00390	-1.0000	.64400	.03142
.201	24.880	1.15940	.04300	1.09900	1.22480	-.01993	.00190	-1.00340	-1.0000	.64300	.03685
.201	26.900	1.19100	.04300	1.29900	1.25760	-.02283	.00190	-1.00340	-1.0000	.64300	.04468
.201	28.970	1.21500	.04300	1.50800	1.27760	-.02026	.00190	-1.00430	-1.0000	.63800	.05122
.201	30.980	1.24110	.04300	1.69800	1.24810	-.03523	.00190	-1.00330	-1.0000	.63300	.05614
.201	GRADIENT	.04028	.00051	.00021	.04098	-.00070	-.00005	-1.00005	-1.00005	.00158	.00002

0A71C B16C507J34F1M87 E18V8R3X10

GR00737 (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. YMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVEN = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACV/L = .000 NACLIF = 7.000

RUN NO. 37/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.590	-1.3250	-0.0400	-1.3530	.03469	.00160	-.00150	-.00600	.63200	.01429
.201	-2.010	-.03670	-.07600	-.03890	.03759	.00190	-.00140	-.00600	.60300	.01406
.201	-.990	.01270	-.00390	.01210	.03772	.00170	-.00130	-.00500	.77700	.01448
.201	.040	.06270	-.00170	.06280	.03817	.00200	-.00150	-.00300	.67000	.01440
.201	1.100	.11650	.00130	.11750	.03704	.00180	-.00160	-.00100	.65900	.01451
.201	2.120	.16560	.00380	.16700	.03900	.00180	-.00180	-.00100	.65100	.01472
.201	4.190	.26470	.00840	.26750	.02889	.00140	-.00190	.00000	.64800	.01468
.201	6.260	.36710	.01240	.37160	.02084	.00110	-.00200	.00100	.64800	.01470
.201	8.330	.47530	.01780	.48190	.01079	.00110	-.00210	.00000	.64600	.01540
.201	10.420	.58090	.02270	.59060	-.00748	.00140	-.00200	.00000	.64600	.01603
.201	12.500	.68640	.02880	.70000	-.01285	.00170	-.00230	.00100	.64500	.01724
.201	14.640	.79370	.03520	.81320	-.02749	.00140	-.00190	.00200	.64400	.01905
.201	16.670	.89660	.03990	.92400	-.04012	.00140	-.00340	.00100	.64400	.02110
.201	18.790	.98920	.03290	1.03800	-.01978	.00170	-.00290	.00200	.64800	.02492
.201	20.840	1.06290	.03770	1.12890	-.02128	.00210	-.00490	.00600	.64800	.02780
.201	22.860	1.10790	.04440	1.19540	-.01663	.00140	-.00110	.00100	.64600	.03092
.201	24.900	1.13400	.05880	1.24160	-.01852	.00240	-.00140	.00300	.64900	.03521
.201	26.930	1.13790	.07570	1.26610	-.02319	-.00000	-.00190	.00500	.63800	.04367
.201	28.960	1.15200	.09190	1.30390	-.02384	.00000	-.00200	.00600	.63400	.05136
.201	30.990	1.17170	.10370	1.35030	-.02743	.00000	-.00350	-.00600	.63200	.05445
.201	GRADIENT	.04825	.00052	.04892	-.00067	-.00002	-.00006	.00087	.00084	.00007

0A71C B16C507J34F1M87 E18V8R3X10

GR00738 (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. YMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = .000 BOFLAP = -18.000
 ELEVEN = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACV/L = .000 NACLIF = 7.000

RUN NO. 38/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.120	.06230	-.01180	.06230	.02849	-.00290	.00060	.22900	.71100	.01828
.201	-9.060	.07230	-.00370	.07230	.03425	-.00160	.00100	.11400	.68800	.01517
.201	.000	.06740	-.00140	.06740	.03919	.00200	-.00130	.00000	.66700	.01465
.201	9.040	.06320	-.00570	.06320	.03902	.00320	-.00320	-.00400	.69100	.01900
.201	10.100	.07060	-.01100	.07060	.02885	.00670	-.00340	-.00300	.71900	.01713
.201	GRADIENT	-.00070	.00000	-.00070	.00008	.00069	-.00043	.00029	.00084	-.00002

(R0U039) (20 OCT 73)

ON71C B16C507J34F1487 E18V0R3X10

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACVAL = .000 NACLIP = 7.000

REF = 4.4122 SQ.FT. YMRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 39/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CYN	CEB	CY	XCF/L	CAB
.201	-10.120	.59640	.09610	.01090	-.01131	-.00200	.01460	.23000	.63300	.02192
.201	-5.080	.58480	.10210	.01740	-.00514	-.00120	-.00740	.11400	.64900	.01764
.201	.000	.58210	.10690	.02240	-.00092	.00190	-.00200	.00100	.64800	.01611
.201	5.040	.58000	.10240	.01920	-.00422	.00330	-.01080	-.11000	.64800	.01689
.201	10.130	.57740	.09590	.01430	-.00515	.00380	-.01780	-.23200	.65100	.01998
GRADIENT	-.00028	.00003	.00018	-.00027	.00009	.00045	-.00180	-.00218	-.00010	-.00007

(R0U040) (20 OCT 73)

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = 15.000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACVAL = .000 NACLIP = 7.000

REF = 4.4122 SQ.FT. YMRP = 43.9974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 40/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CYN	CEB	CY	XCF/L	CAB
.201	-3.910	.17460	.05120	-.14800	.06307	.00130	-.00170	.00000	.97000	.02048
.201	-1.860	.26920	.05640	-.14410	.06521	.00130	-.00140	.00100	.85200	.02045
.201	-.890	.31780	.06090	-.14190	.06517	.00120	-.00160	.00200	.82000	.02045
.201	.220	.36500	.06570	-.13920	.06430	.00120	-.00190	.00200	.79600	.02020
.201	1.220	.40980	.07190	-.13570	.06282	.00100	-.00190	.00400	.77700	.02020
.201	2.250	.45520	.07760	-.13240	.05990	.00100	-.00190	.00400	.76300	.02044
.201	4.370	.59640	.09990	-.12990	.05365	.00090	-.00140	.00400	.74200	.02022
.201	6.480	.66480	.11930	-.12780	.04389	.00070	-.00200	.00500	.72700	.02010
.201	8.460	.77500	.15790	-.12490	.03490	.00120	-.00200	.00400	.70500	.02051
.201	10.580	.88100	.18860	-.11970	.02368	.00150	-.00200	.00400	.70700	.02090
.201	14.790	1.07260	.23770	-.11190	.01065	.00160	-.00170	.00300	.69900	.02178
.201	16.800	1.16990	.33590	-.09510	-.00417	.00210	-.00090	.00100	.69200	.02291
.201	18.890	1.17110	.42760	-.08540	-.01694	.00350	-.00050	.00000	.68700	.02563
.201	20.870	1.20720	.48990	-.06930	.02665	.00280	-.00150	-.00100	.68400	.03434
.201	22.900	1.22170	.54090	-.04320	.02772	.00170	-.00660	.00700	.67900	.03714
.201	24.920	1.22310	.59920	-.01870	.02240	.00090	-.00550	.00800	.67100	.04120
.201	26.900	1.24570	.64270	.02660	.01625	-.00090	-.00640	.01400	.66400	.04727
.201	28.900	1.25540	.69590	.02190	.00756	-.00030	-.00300	-.00400	.65900	.05531
.201	31.020	1.27410	.73950	.03540	.00011	.00120	-.00080	-.00200	.65400	.06132
GRADIENT	.04606	.00537	.00236	-.04721	-.00006	.00110	-.00240	.00400	-.00400	-.00427

CATHC B16C557J34F1487 E18VGR3XD

(80J041) (25 OCT 75)

REFERENCE DATA

SPZ = 4.4122 SQ.FT. YRFP = 43.5974 INCHES
 YRFP = 19.2259 INCHES YMRP = .0000 INCHES
 YRFP = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
 ELEVON = -10.000 AILFON = .000
 RUDDER = .000 NACETA = 5.000
 NACLIP = .000 NACLIP = 7.000

RUN NO. 417 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

WAOH	ALPHA	CL	CF	CLM	ON	CAF	CYN	CEL	CY	YCFAL	CAB
.201	-4.200	-2.4110	.58280	.57840	-3.4480	.53763	.00560	-.00130	-.00400	.74200	.00924
.201	-2.100	-2.4070	.59060	.58390	-2.4240	.54163	.00590	-.00110	-.00300	.78300	.00947
.201	-1.500	-1.9100	.54640	.58820	-.0190	.54277	.00100	-.00090	-.00300	.82000	.00982
.201	-.540	-1.1940	.54240	.59090	-.13940	.54328	.00120	-.00090	-.00200	.89700	.00974
.201	1.510	-.09200	.54560	.59180	-.08890	.54222	.00110	-.00110	.00000	1.03000	.00973
.201	2.990	-.54010	.54010	.59480	-.02870	.54149	.00110	-.00060	-.00300	1.03900	.00985
.201	4.570	.59940	.54040	.59130	.54215	.53807	.00110	-.00100	.00000	.07700	.01015
.201	6.160	.10060	.54690	.59680	.15490	.52998	.00090	-.00130	.00000	.00000	.00994
.201	8.240	.28250	.55800	.59130	.26790	.51984	.00090	-.00080	.00100	.50800	.01084
.201	10.290	.36660	.57890	.59090	.37430	.50956	.00140	-.00090	.00000	.54500	.01199
.201	12.380	.47190	.59070	.52990	.48250	-.02880	.00180	-.00060	.00000	.56600	.01355
.201	14.490	.57760	.59110	.53120	.59200	-.01720	.00240	-.00060	.00000	.58900	.01561
.201	16.560	.68440	.58890	.53690	.74415	-.03327	.00320	-.00020	-.00400	.59900	.01703
.201	18.620	.78320	.24990	.52490	.82180	-.01388	.00390	-.00090	-.00500	.60900	.02004
.201	20.690	.86740	.31110	.52490	.92130	-.01346	.00440	-.00090	.00000	.61100	.02283
.201	22.790	.93790	.37010	.52680	1.00720	-.02112	.00500	-.00090	.00000	.61400	.02599
.201	24.800	.97960	.42840	.53480	1.06590	-.02042	.00500	-.00140	.00000	.61400	.02959
.201	26.890	1.01290	.48000	.54420	1.12490	-.02011	.00500	-.00090	.00200	.61400	.03574
.201	28.860	1.04160	.54740	.55490	1.17640	-.02383	.00470	-.00010	.00100	.61300	.04228
.201	30.910	1.07910	.61190	.56070	1.24020	-.02947	.00460	.00670	-.01100	.61300	.04784
.201	GRADIENT	.54890	-.00289	.50260	.54927	-.00016	.00056	.00000	.00044	-.02182	.00010

CATEIC 519127 23451467 515925215

PROJ(42) (25 OCT 73)

REFERENCE DATA

SPOT = 4.4122 SQ.FT. WAPP = 43.5974 INCHES
 LSPOT = 19.2229 INCHES WAPP = .5000 INCHES
 RSPOT = 27.9249 INCHES WAPP = 19.2200 INCHES
 SCALE = 5.65% SCALE

BETA = .005 BDFLAP = -18.000
 ELEVON = .000 ALLSON = 15.000
 RIDDER = .000 WACBETA = 5.000
 WACUL = .005 WACLIP = 7.000

RUN NO. 42/ 5 PVL = 1.44 GRADIENT INTERVAL = -8.00/ 6.00

PARAMETRIC DATA

WMOH	ALPHA	CL	CLF	CLM	CON	CAF	CYN	CBL	CY	NOVL	CAB
.201	-4.110	-1.2290	.5195	-1.2200	-1.2200	.54283	.00000	.00000	-.00000	.62000	.51544
.202	-2.515	-1.0260	.54725	-1.01785	-1.02000	.54024	.00000	.00000	-.04100	.60000	.51524
.203	.570	.07950	.54685	-1.02200	.57615	.54674	.00000	.00000	-.04000	.67100	.51533
.204	1.100	.12480	.54840	-1.00015	.12900	.54803	.00000	.00000	-.04000	.69000	.51539
.205	2.100	.17140	.55240	.00210	.17310	.54409	.00000	.00000	-.04400	.65000	.51532
.206	4.100	.26860	.55930	.00770	.27000	.53957	.00000	.00000	-.04600	.64000	.51514
.207	6.200	.36970	.57280	.01280	.37400	.53517	.00000	.00000	-.04700	.64700	.51513
.208	8.300	.47270	.58610	.01890	.46950	.53182	.00000	.00000	-.04800	.64500	.51503
.209	10.400	.58210	.60040	.02450	.56360	.52841	.00000	.00000	-.04900	.64300	.51547
.210	12.400	.68260	.61480	.03050	.64870	-.52292	.00000	.00000	-.04900	.64300	.51769
.211	14.300	.78210	.62930	.03640	.73380	-.51751	.00000	.00000	-.04900	.64300	.51977
.212	16.000	.88720	.64280	.04230	.81890	-.51205	.00000	.00000	-.04900	.64200	.51995
.213	18.700	.97990	.65630	.04820	.90400	-.50658	.00000	.00000	-.04900	.64200	.52010
.214	21.700	1.05000	.66890	.05410	1.00000	-.50108	.00000	.00000	-.04900	.64200	.52022
.215	22.800	1.09810	.68150	.06000	1.10000	-.49555	.00000	.00000	-.04900	.64200	.52021
.216	24.000	1.09040	.69410	.06600	1.20000	-.49000	.00000	.00000	-.04900	.64200	.52033
.217	26.800	1.11790	.70670	.07200	1.24710	-.48445	.00000	.00000	-.04900	.64200	.52047
.218	28.940	1.12590	.71930	.07800	1.30000	-.47890	.00000	.00000	-.04900	.64200	.52059
.219	30.970	1.12890	.73190	.08400	1.33960	-.47335	.00000	.00000	-.04900	.64200	.52074
.201	GRADIENT	.54777	.00000	.00000	.54850	-.50043	.00000	.00000	-.00000	.55725	-.50000

CAT1C B16C5D7J34F1M87 E18V8R3X10

(R00043) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 30. FT. 2MRP = 43.5974 INCHES
 LREF = 19.2299 INCHES 1MRP = .0000 INCHES
 BREF = 37.9349 INCHES 2MRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -10.000
 ELEVON = .000 AILRON = 10.000
 RUDDER = .000 NACBTA = 5.000
 NACVAL = .270 NACLIP = 7.000

RUN NO. 43/ 0 RVAL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CD	CLM	CN	CAF	CYN	CBL	CY	XCPV	CAB
.201	-4.090	-1.2370	.08210	-.00700	-.12710	.04315	.00720	.03640	-.03900	.64000	.01482
.201	-2.030	-.02820	.04820	-.00460	-.02990	.04716	.00810	.03720	-.04200	.60400	.01461
.201	-9.70	.02075	.04740	-.00390	.01990	.04781	.00890	.03780	-.04200	.72400	.01551
.201	.070	.06840	.04930	-.00290	.06840	.04821	.00840	.03890	-.04400	.67900	.01496
.201	1.060	.11850	.04975	-.00110	.11940	.04790	.00860	.03890	-.04400	.66300	.01905
.201	2.100	.16650	.05130	.00060	.16830	.04521	.00890	.03930	-.04500	.65800	.01513
.201	4.170	.26570	.05980	.00310	.26930	.03913	.00940	.04040	-.04900	.65900	.01530
.201	6.260	.36540	.07010	.00710	.37090	.02985	.00990	.04070	-.04900	.65900	.01617
.201	8.320	.46510	.08870	.01170	.47310	.02143	.00990	.04070	-.04900	.65900	.01617
.201	10.390	.56530	.11360	.01510	.57660	.00975	.01010	.04140	-.04900	.65900	.01768
.201	12.480	.67280	.14540	.01840	.68890	-.00344	.01110	.04230	-.04900	.65900	.01768
.201	14.560	.77790	.18410	.02260	.79910	-.01738	.01180	.04330	-.04900	.64900	.01935
.201	16.640	.88010	.22830	.02780	.90860	-.03334	.01260	.04340	-.04900	.64900	.01935
.201	18.720	.98060	.30020	.03290	1.02510	-.05036	.01810	.04810	-.07900	.65200	.02121
.201	20.790	1.07910	.38120	.03800	1.09910	-.07065	.02690	.03510	-.07900	.65200	.02316
.201	22.870	1.17590	.43430	.03930	1.14390	-.07976	.03070	.02740	-.03800	.64800	.02803
.201	24.950	1.26990	.48260	.03720	1.17330	-.01123	.03330	.02340	-.02800	.64400	.03329
.201	26.970	1.36190	.53770	.06170	1.21670	-.01369	.03140	.02220	-.01800	.64100	.03926
.201	28.910	1.42490	.60330	.07140	1.27640	-.01572	.02760	.02220	-.01800	.63900	.04616
.201	30.990	1.44000	.65940	.08230	1.31690	-.02053	.02070	.01440	-.02000	.63700	.05200
GRADIENT		-.04717	.00079	.00123	.04801	-.00046	.00025	.00049	-.00111	.00232	.00006

CAT1C 816C507J34F1W67 E18V3R3X1D

(RDL044) (20 OCT 73)

REFERENCE DATA

REF = 4.4122 50. FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -16.000
 ELCON = -10.000 AILRON = .000
 RUDDER = .000 MACBTA = 5.000
 MACVL = 270 MACLIP = 7.000

RUN NO. 447 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CD	CLM	CM	CAF	CM	CB	CY	XCP/L	CAF
.201	-4.190	-33740	.56130	.58190	-.34100	.03649	.00110	-.00060	-.00000	.74900	.00912
.201	-2.120	-23980	.09010	.58490	-.24130	.04122	.00110	-.00090	-.00000	.78900	.00991
.201	-1.080	-18890	.04630	.58670	-.18970	.04276	.00100	-.00090	-.00000	.82300	.00992
.201	-.030	-14100	.04310	.58840	-.14100	.04305	.00100	-.00040	-.00000	.88400	.00973
.201	1.000	-.09200	.04100	.59000	-.09130	.04263	.00110	-.00010	-.00000	1.01300	.00961
.201	2.000	-.04200	.03960	.59250	-.04150	.04109	.00100	-.00000	-.00000	1.45600	.01007
.201	4.000	.05660	.03980	.59670	.03990	.03567	.00080	-.00040	.00000	.07700	.01013
.201	6.130	.15280	.04410	.15100	.15670	.02753	.00090	-.00060	-.00000	.42900	.01038
.201	8.220	.25180	.05490	.15600	.25700	.01833	.00090	-.00070	-.00100	.51200	.01079
.201	10.290	.35370	.07200	.11040	.36100	.00792	.00110	-.00080	-.00100	.55000	.01179
.201	12.390	.46090	.09720	.11440	.47100	-.00098	.00160	-.00060	.00000	.57300	.01326
.201	14.470	.56430	.12840	.11890	.57850	-.01669	.00200	-.00090	.00000	.58600	.01482
.201	16.540	.66930	.16960	.12430	.68860	-.03184	.00290	-.00110	-.00100	.59900	.01681
.201	20.690	.76910	.24020	.11130	.80560	-.01793	.00140	-.00080	.00000	.61000	.02049
.201	20.690	.84290	.30530	.11020	.89600	-.01207	.00240	-.00080	.00000	.61600	.02448
.201	22.740	.91610	.36100	.11270	.98450	-.02127	.00270	-.00090	.00000	.61900	.02727
.201	24.800	.99240	.41430	.11700	1.03940	-.02345	.00260	-.00090	-.00100	.61900	.03202
.201	26.830	.98630	.47290	.12440	1.09930	-.02371	.00100	.00160	.00000	.61900	.03812
.201	28.860	1.03630	.54070	.13020	1.17030	-.02823	.00100	.00200	-.00100	.62000	.04146
.201	30.930	1.06480	.59900	.14010	1.22130	-.03347	.00090	.00190	.00100	.61800	.04470
GRADIENT	.54765	-.00259	-.00259	.00180	.54841	-.00008	-.00003	.00003	.00058	-.00222	.00012

QAT1C 816550734F1467 E18V3R3X10

(R00045) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 50. FT. 196P = 43.5974 INCHES
 LREF = 19.2299 INCHES 196P = .0000 INCHES
 BREF = 37.9349 INCHES 246P = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 45/ 5 RUL = 1.44 GRADIENT INTERVAL = -6.05/ 6.00

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = 15.000 AIRLON = .000
 RUDDER = .000 MACBTA = 5.000
 MACUL = .075 NACLIP = 7.000

MACH	ALPHA	CL	CD	CLM	CI	CAF	CYN	CBL	CV	XCP/L	CAB
.201	-3.970	.16820	.05240	-.14140	.6420	.06375	.00150	-.00210	-.00000	.96700	.02001
.201	-1.672	.26300	.05780	-.14020	.26110	.06605	.00150	-.00210	-.00000	.85200	.01994
.201	-.790	.31090	.06250	-.13940	.30940	.06688	.00120	-.00240	.00000	.82100	.01957
.201	.210	.35560	.06790	-.13770	.35590	.06618	.00120	-.00250	-.00100	.79000	.01943
.201	1.240	.40210	.07900	-.13590	.40360	.06429	.00110	-.00260	.00000	.78000	.01968
.201	2.280	.44690	.07960	-.13390	.44960	.06199	.00090	-.00270	.00000	.76600	.01935
.201	4.340	.54340	.09570	-.13010	.54910	.05426	.00090	-.00280	.00000	.74400	.01930
.201	6.430	.65390	.11060	-.12290	.66300	.04460	.00060	-.00260	.00100	.73100	.01948
.201	8.970	.76540	.13020	-.11400	.77920	.03531	.00050	-.00310	.00000	.72100	.02004
.201	10.990	.86810	.16740	-.10990	.88770	.02462	.00110	-.00290	.00400	.71100	.02009
.201	12.670	.96870	.22970	-.12450	.99550	.01160	.00200	-.00300	.00100	.70400	.02173
.201	14.790	1.06620	.27840	-.11060	1.10790	-.00268	.00270	-.00200	.00000	.69800	.02316
.201	16.810	1.17040	.33570	-.11540	1.21790	-.01715	.00360	-.00130	-.00000	.69300	.02729
.201	18.890	1.28070	.41600	-.10260	1.25180	.01213	-.00490	-.00460	.00000	.68900	.03397
.201	20.970	1.20560	.47970	-.09030	1.29840	.02606	.00390	-.00200	-.00000	.68400	.03916
.201	22.910	1.21140	.53430	-.06590	1.32360	.02053	.00340	-.00090	-.00400	.67700	.04336
.201	26.990	1.25990	.62230	-.01490	1.35960	.01143	.00190	-.00190	.00100	.66900	.05117
.201	29.000	1.23530	.66700	-.00120	1.41390	.00670	.00190	-.00020	.00000	.66000	.06014
.201	31.040	1.24090	.72430	.01490	1.44360	.00169	.00140	-.00020	.00400	.65400	.06191
GRADIENT	.54543	.00328	.00328	.00143	.04660	-.00113	-.00059	-.00004	.00037	-.02563	-.00009

CAT1C B16C507J34F1467 E18V93R310

(R01046) (20 OCT 73)

REFERENCE DATA

WRF = 4.4122 50.FT. WRP = 43.9974 INCHES
 LRF = 19.2299 INCHES WRP = .0000 INCHES
 BRF = 37.9349 INCHES ZRP = 16.2000 INCHES
 SCALE = .0403 SCALE

RUN NO. 46/ 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

W/OH	ALPHA	CL	CDP	CLM	ON	CAF	CYN	COL	CY	XCP/L	CAS
.201	-4.000	-1.3100	.04320	-0.07690	-1.3390	.03376	.00110	-0.0120	-0.0000	.64400	.01367
.201	-2.000	-0.9490	.04050	-0.03340	-0.73990	.03926	.00110	-0.0140	-0.0000	.62800	.01371
.201	-0.970	.01610	.04000	-0.02210	.01590	.04030	.00120	-0.0120	-0.0000	.72000	.01378
.201	.090	.06490	.04010	-0.01110	.06490	.04037	.00110	-0.0100	-0.0000	.66800	.01405
.201	1.000	.11370	.04130	.00050	.11440	.03921	.00100	-0.0140	-0.0000	.65900	.01411
.201	2.100	.16970	.04320	.02220	.16440	.03716	.00080	-0.0140	-0.0200	.65900	.01401
.201	4.100	.26270	.04990	.07870	.26570	.03767	.00050	-0.0190	-0.0100	.65300	.01456
.201	6.250	.36490	.06780	.07780	.36930	.02732	.00030	-0.0190	-0.0000	.65200	.01449
.201	8.330	.46720	.07850	.01070	.47340	.01079	.00030	-0.0190	-0.0000	.65100	.01517
.201	10.420	.57160	.10400	.01450	.58120	-0.0105	.00030	-0.0190	-0.0000	.65100	.01577
.201	12.490	.67820	.13900	.01690	.69270	-0.0198	.00110	-0.0230	-0.0000	.65100	.01686
.201	14.570	.78760	.17540	.02250	.79970	-0.02671	.00180	-0.0290	-0.0000	.64900	.01844
.201	16.640	.89620	.22110	.02870	.91230	-0.04192	.00290	-0.0290	-0.0000	.64900	.02114
.201	18.720	.99440	.28240	.02290	1.02290	-0.05184	.00190	-0.0120	-0.0000	.65200	.02493
.201	20.770	1.04610	.37950	.01910	1.11060	-0.02192	.00180	-0.0040	-0.0000	.65300	.03052
.201	22.810	1.06100	.43420	.02770	1.16530	-0.01917	.00260	-0.0170	-0.0000	.65100	.03479
.201	24.860	1.10390	.48690	.04290	1.20580	-0.02212	.00100	-0.0100	-0.0000	.64700	.04179
.201	26.900	1.11390	.53890	.05510	1.23690	-0.02338	.00100	-0.0210	-0.0000	.64400	.04951
.201	28.950	1.14790	.60290	.06980	1.29580	-0.02784	.00060	-0.0000	-0.0000	.64000	.05001
.201	30.990	1.16610	.66170	.08040	1.34030	-0.03244	.00130	-0.0190	-0.0000	.63800	.05327
.201	GRADIENT	.04767	.00059	.00131	.04837	-0.00059	-0.00007	-0.00003	-0.00000	.00104	.00006

PARAMETRIC DATA

BETA = .000 BSFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACVAL = .270 NACLIP = 7.000

CAT1C B16C507J34F1467 E18V93R310

(R01047) (20 OCT 73)

REFERENCE DATA

WRF = 4.4122 50.FT. WRP = 43.9974 INCHES
 LRF = 19.2299 INCHES WRP = .0000 INCHES
 BRF = 37.9349 INCHES ZRP = 16.2000 INCHES
 SCALE = .0403 SCALE

RUN NO. 47/ 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

W/OH	BETA	CL	CDP	CLM	ON	CAF	CYN	COL	CY	XCP/L	CAS
.201	-10.000	.07830	.02610	-0.01060	.07840	.02617	-0.00480	.00000	.22400	.70800	.01776
.201	-5.000	.06940	.03440	-0.04410	.06940	.03437	-0.00290	.00000	.11200	.68100	.01466
.201	.000	.03460	.03940	-0.00000	.03936	.03936	.00110	-0.00130	-0.00000	.66200	.01384
.201	5.000	.06370	.03500	-0.04470	.06370	.03505	.00050	-0.00360	-0.11600	.68600	.01477
.201	10.000	.02640	.02640	-0.01010	.02638	.02638	.00060	-0.00360	-0.23200	.71100	.01726
.201	GRADIENT	-0.00037	.00006	-0.00006	-0.00037	.00007	.00000	-0.00045	-0.02264	.00049	.00001

PARAMETRIC DATA

ALPHA = .000 BSFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACVAL = .270 NACLIP = 7.000

QAT1C B16C5D7J34F1M87 E18VSR3X10

(R0UJ48) (20 OCT 73)

REFERENCE DATA

SRP = 4.4122 80.FT. WRP = 43.5974 INCHES
 LRP = 19.2259 INCHES YRP = .0000 INCHES
 BRP = 37.9349 INCHES ZRP = 16.2020 INCHES
 SCALE = .0005 SCALE

RUN NO. 48/ 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MAON	BETA	CL	CLM	CLN	CAF	CTN	CTL	CY	XCP/L	CAB
.201	-10.090	.57640	.09450	.58410	-.01081	-.00420	.01410	.23600	.65900	-.02101
.201	-5.040	.57450	.10060	.59320	-.00462	-.00240	.00740	.11900	.65400	.01725
.201	.010	.57310	.10420	.57960	-.00021	.00040	-.00190	.00300	.65100	.01581
.201	5.040	.56900	.09980	.57670	-.00410	.00290	-.01160	-.10900	.65200	.01633
.201	10.100	.56750	.09910	.57510	-.00061	.00511	-.01890	-.23200	.65600	.01924
GRADIENT	-.00064	-.00028	.00028	-.00064	.00005	.00053	-.00108	-.00022	-.00020	-.00009

QAT1C B16C5D7J34F1M87 E18VSR3X10

(R0UJ49) (20 OCT 73)

REFERENCE DATA

SRP = 4.4122 80.FT. WRP = 43.5974 INCHES
 LRP = 19.2259 INCHES YRP = .0000 INCHES
 BRP = 37.9349 INCHES ZRP = 16.2020 INCHES
 SCALE = .0005 SCALE

RUN NO. 49/ 0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MAON	ALPHA	CL	CLM	CLN	CAF	CTN	CTL	CY	XCP/L	CAB
.201	-4.100	-1.1300	.04660	.00170	.03702	.00130	-.00130	-.00600	.66400	.01336
.201	-2.010	-.03720	.04120	-.03660	.03995	.00090	-.00130	-.00500	.67700	.01368
.201	-1.000	.01020	.04050	.00940	.04075	.00060	-.00130	-.00400	.69300	.01305
.201	.040	.06130	.04260	.06140	.04016	.00100	-.00130	-.00500	.64900	.01420
.201	1.070	.09370	.04090	.10640	.03690	.00120	-.00120	-.00500	.64600	.01395
.201	2.130	.15440	.04460	.15590	.04036	.00120	-.00110	-.00500	.64900	.01418
.201	4.160	.25250	.04820	.25510	.01921	.00090	-.00090	-.00200	.63300	.01461
.201	6.240	.35460	.05010	.35900	.01798	.00020	-.00140	.00000	.65400	.01492
.201	8.310	.46050	.07900	.46450	.00798	.00030	-.00130	.00000	.65400	.01556
.201	10.360	.56900	.09900	.57430	-.00440	.00120	-.00130	-.00500	.65500	.01607
.201	12.460	.67000	.12970	.68230	-.01607	.00140	-.00240	-.00100	.65600	.01667
.201	14.540	.77660	.17130	.79470	-.02917	.00060	-.00160	-.00000	.65300	.02285
.201	16.610	.87980	.22060	.90520	-.03987	.00060	-.00160	-.00000	.65800	.02667
.201	18.690	.97250	.29850	1.01690	-.02970	-.00040	-.00290	-.00000	.65800	.03004
.201	20.790	1.04790	.36920	1.11070	-.02613	.00110	-.00290	-.00000	.65900	.03421
.201	22.810	1.09160	.43400	1.17340	-.03293	.00160	-.00160	-.00000	.65100	.03909
.201	24.840	1.10260	.47390	1.19970	-.03324	-.00260	.00000	-.00000	.64900	.04606
.201	26.660	1.12750	.53420	1.24720	-.03331	-.00410	.00000	-.00000	.64300	.04983
.201	28.910	1.15000	.59610	1.29510	-.03429	-.00310	.00000	-.00000	.64300	.04983
.201	30.920	1.15190	.67410	1.32430	-.03396	-.00250	.00000	-.00000	.64300	.04983
GRADIENT	.04655	.00019	.00055	.04726	-.00067	-.00005	.00000	.00016	-.00025	.00009

OAT1C B16C5D7J34F1W67 E18V8R3X10

(RDU050) (20 OCT 75)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 51/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CDF	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.090	.06960	-.00650	.02700	.06960	.02699	-.00650	.00180	.22600	.69300	.01682
.201	-5.040	.06110	.00060	.03450	.06110	.03450	-.00330	.00160	.11000	.65600	.01446
.201	.000	.05910	.00300	.03940	.05910	.03936	.00100	-.00130	-.00100	.64100	.01391
.201	5.040	.05990	-.00060	.03540	.06000	.03536	.00560	-.00390	-.11400	.66300	.01520
.201	10.080	.06400	-.00570	.02760	.06400	.02759	.00990	-.00370	-.23100	.69200	.01747
GRADIENT	-.00012	.00009	-.00012	.00009	-.00011	.00009	.00088	-.00055	-.02222	.00069	.00007

PARAMETRIC DATA

ALPHA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACV/L = .530 NACLIP = 7.000

REFERENCE DATA

SREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

RUN NO. 51/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CDF	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.100	.57620	-.00590	.09200	.58340	-.01352	-.00600	.01400	.23900	.66300	.01993
.201	-5.050	.57010	.00360	.09670	.57820	-.00783	-.00340	.00870	.11900	.65700	.01623
.201	-.020	.56790	.00820	.10040	.57670	-.00374	.00020	-.00110	.00100	.65400	.01578
.201	5.010	.56170	-.00510	.09590	.56980	-.00703	.00390	-.01130	-.11100	.65700	.01620
.201	10.070	.56160	-.00010	.09150	.56890	-.01134	.00700	-.01850	-.23600	.66200	.01919
GRADIENT	-.00083	-.00008	.00015	-.00008	-.00083	.00008	.00073	-.00199	-.02247	-.00010	-.00000

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACV/L = .530 NACLIP = 7.000

OAT1C B16C5D7J34F1W67 E18V8R3X10

(RDU051) (20 OCT 75)

OA71C B16C5D7J34F1467 E18V8R3X10

(R00053) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ. FT. XGRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YGRP = .0000 INCHES
 BREF = 37.9349 INCHES ZGRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 X9FLAP = -18.000
 ELEVEN = -10.000 AILRON = .000
 RUDDER = .000 NACBETA = 5.000
 NACA/L = .530 NACLIP = 7.000

RUN NO. 53/ 0 RVAL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CD	CLM	CM	ON	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.210	-3.3310	.06390	.08890	-3.3690	.03932	.00100	-.00110	-.00700	-.00700	.73400	.00955
.201	-2.130	-.23880	.05240	.08980	-.24060	.04357	.00090	-.00080	-.00700	-.00700	.79300	.00951
.201	-1.100	-.18770	.04860	.09050	-.18860	.04903	.00080	-.00080	-.00600	-.00600	.83100	.00975
.201	-.060	-.13920	.04500	.09180	-.13930	.04492	.00080	-.00080	-.00600	-.00600	.89500	.00968
.201	.990	-.09470	.04290	.09330	-.09390	.04452	.00100	-.00020	-.00700	-.00700	1.01500	.00996
.201	1.990	-.04560	.04160	.09450	-.04410	.04322	.00100	.00000	-.00700	-.00700	1.42500	.00985
.201	4.090	.05120	.04140	.09650	.05390	.03770	.00090	.00020	-.00600	-.00600	.02100	.01042
.201	6.120	.14720	.04460	.09920	.15120	.02870	.00070	-.00010	-.00500	-.00500	.42500	.01040
.201	8.180	.24920	.05400	.10280	.25430	.01804	.00060	-.00030	-.00400	-.00400	.51500	.01099
.201	10.270	.34970	.06990	.10650	.35660	.00639	.00010	-.00100	-.00100	-.00100	.55300	.01146
.201	12.350	.45110	.09090	.10950	.46010	-.00765	.00060	-.00030	-.00300	-.00300	.57400	.01264
.201	14.430	.56210	.12480	.10780	.57550	-.01925	.00100	-.00050	-.00500	-.00500	.59200	.01419
.201	16.540	.66910	.16960	.10570	.68970	-.02792	.00210	-.00120	-.00400	-.00400	.65600	.01708
.201	18.690	.76750	.23460	.10250	.80250	-.02236	.00050	-.00050	-.00340	-.00340	.67600	.02035
.201	20.880	.85260	.29550	.10290	.90210	-.02428	.00150	-.00050	-.00220	-.00220	.61900	.02282
.201	22.720	.91690	.35360	.10690	.98240	-.02794	.00180	-.00050	-.00800	-.00800	.62100	.02625
.201	24.780	.94880	.40120	.11070	1.02960	-.03304	-.00180	-.00050	-.00900	-.00900	.62100	.03145
.201	26.810	.98850	.46340	.11390	1.09130	-.03241	-.00350	-.00050	-.00800	-.00800	.62200	.03897
.201	28.850	1.03390	.53170	.11800	1.16210	-.03319	-.00270	-.00420	-.00300	-.00300	.62300	.04185
.201	30.890	1.04630	.59060	.12250	1.25110	-.02987	-.00260	-.00630	-.00600	-.00600	.62300	.04593
GRADIENT	.04654	-.00271	.00098	.04733	-.00000	.00018	-.00000	.00017	.00007	.00007	-.00349	.00010

ON71C B16C5D7J34F1W87 E18V8R3X10

(RDU054) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ. FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .5405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = 10.000
 RUDDER = .000 NACBTA = 5.000
 NACX/L = .530 NACLIP = 7.000

RUN NO. 54/ 0 RV/L = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.090	-1.1210	.00010	-.12510	.04603	.00730	.03510	-.03700	.66000	.01525
.201	-2.020	-.02710	.00060	-.02880	.04884	.00790	.03610	-.04100	.66790	.01563
.201	-.990	.01940	.00100	.01860	.04899	.00830	.03660	-.04300	.63800	.01555
.201	.030	.06380	.00310	.06380	.04940	.00890	.03740	-.04600	.64200	.01580
.201	1.060	.11040	.00290	.11130	.04836	.00920	.03790	-.04600	.65000	.01557
.201	2.100	.15920	.00410	.16100	.04584	.00990	.03870	-.04800	.65000	.01609
.201	4.180	.25420	.00690	.25780	.03947	.00990	.03960	-.04900	.65000	.01596
.201	6.250	.35210	.00790	.35740	.02913	.01010	.03960	-.05200	.65200	.01614
.201	8.330	.45570	.00870	.46320	.01800	.01040	.04040	-.05300	.65300	.01649
.201	10.390	.56010	.01040	.57090	.00998	.01100	.04110	-.05600	.65300	.01718
.201	12.460	.65970	.01290	.67440	-.00569	.01160	.04180	-.05800	.65300	.01797
.201	14.560	.76590	.01420	.78670	-.01768	.01190	.04180	-.06400	.65400	.01972
.201	16.620	.86630	.01410	.89630	-.02593	.01390	.04180	-.06600	.65400	.02172
.201	18.700	.95090	.01000	1.00040	-.01040	.00670	.03390	-.04600	.65600	.02558
.201	20.760	1.02370	.01300	1.09070	-.01068	.00740	.03380	-.05100	.65900	.02889
.201	22.800	1.07040	.02120	1.15590	-.01397	.00670	.03140	-.04700	.65300	.03392
.201	24.820	1.08290	.03460	1.18540	-.01685	.00100	.03090	-.03900	.64900	.03833
.201	26.860	1.09060	.04970	1.21430	-.01623	-.00220	.02520	-.01900	.64500	.04438
.201	28.930	1.11740	.05920	1.26690	-.01806	-.00260	.02320	-.01300	.64300	.05019
.201	30.930	1.13150	.06790	1.30920	-.01665	-.00340	.02290	-.00700	.64100	.05532
	GRADIENT	.04538	.00083	.04825	-.00076	.00033	.00049	-.00150	-.00144	.00009

CATH 9180507134F1467 ELEVDRENIS

GRUSSS) (25 OCT 75)

REFERENCE DATA

SDF = 4.4122 94.87. YMP = 43.9974 INCHES
 LDF = 19.2256 INCHES YMP = .0000 INCHES
 RDF = 37.9349 INCHES ZMP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = 15.000 AILSON = .000
 RUDDER = .000 MACBETA = 5.000
 WAOVA = .530 WACLIP = 7.000

RUN NO. 55/ 5 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

WACH	ALPHA	CL	CF	CLM	CN	CAF	CYN	CSL	CT	XOFA	CAB
.201	-3.340	1.6260	0.5420	-1.1130	1.16170	0.5653	0.0110	-0.0160	-0.00200	0.95000	0.0033
.201	-1.260	2.9240	0.5900	-1.1110	2.2540	0.6737	0.0100	-0.0170	-0.00100	0.4200	0.0223
.201	-0.840	3.0480	0.5900	-1.1110	3.0380	0.6769	0.0110	-0.0170	-0.00200	0.1400	0.1973
.201	1.300	3.4360	0.6700	-1.1260	3.3210	0.6670	0.0100	-0.0180	-0.00100	0.79000	0.1913
.201	1.200	3.6270	0.7060	-1.1280	3.9410	0.5637	0.0120	-0.0200	-0.00200	0.77000	0.1917
.201	2.200	4.4200	0.7960	-1.1290	4.4300	0.6235	0.0130	-0.0240	-0.00300	0.76000	0.1934
.201	4.310	5.2600	0.8490	-1.1290	5.3470	0.5486	0.0120	-0.0250	-0.00300	0.74000	0.1901
.201	6.300	6.0000	1.1500	-1.1250	6.4390	0.4099	0.0120	-0.0120	-0.00200	0.73100	0.1956
.201	8.470	7.9500	1.4650	-1.1320	7.7200	0.3337	0.0090	-0.0260	-0.00000	0.72000	0.2002
.201	10.500	8.6200	1.8100	-1.1390	8.7600	0.2119	0.0080	-0.0040	-0.00200	0.71500	0.2048
.201	12.500	9.5100	2.2200	-1.1320	9.6700	0.0742	0.0090	-0.0060	-0.00200	0.70000	0.2027
.201	14.500	1.5720	2.7490	-1.1270	1.3990	-0.0123	0.0220	-0.0210	-0.00100	0.70100	0.2032
.201	16.780	1.1510	3.4020	-1.1290	1.2070	-0.0200	0.0660	-0.0190	-0.01100	0.69000	0.2066
.201	18.910	1.2070	4.2960	-1.1260	1.2740	0.0193	0.0250	-0.0120	-0.00200	0.69000	0.2011
.201	20.160	1.2450	4.9240	-1.1190	1.3400	0.0155	0.0310	0.0020	-0.00700	0.68000	0.2058
.201	22.190	1.2590	5.4790	-0.9910	1.3810	0.0109	0.0140	-0.0240	-0.00200	0.67000	0.2037
.201	24.910	1.2470	5.9400	-0.9800	1.3770	0.0426	-0.0090	0.0060	-0.01100	0.67000	0.2028
.201	26.960	1.2390	6.2790	-0.9390	1.3940	-0.0014	-0.0130	0.0070	-0.00100	0.66000	0.2053
.201	28.990	1.2470	6.6690	-0.9170	1.4240	-0.0026	-0.0090	0.0080	-0.00200	0.66000	0.2039
.201	30.990	1.2570	7.2930	-0.9060	1.4540	-0.0219	-0.0050	0.0070	-0.00300	0.66100	0.2026
.201	34.400	0.0490	0.0490	0.0000	0.4920	-0.0126	0.0000	-0.0010	-0.00000	-0.0014	-0.0018

CATHC 21:502712981467 ELEBORDED

PROCESS (20 OCT 75)

REFERENCE DATA

SPR = 4.4122 94.FT. WAP = 43.9974 INCHES
 LSP = 19.2289 INCHES WAP = .0000 INCHES
 SPR = 37.9249 INCHES ZMP = 16.2000 INCHES
 SCALE = .0400 SCALE

PARAMETRIC DATA

BETA = .000 SPRJAF = -18.000
 ELEVON = .000 AILSON = .000
 RUDDER = .000 MACETA = 5.000
 MACFL = .000 MACLIP = 7.000

RUN NO. 59 / 5 RUL = 1.44 GRADIENT INTERVAL = -6.00 / 6.00

WACH	ALPHA	CL	CLF	CLM	CON	CAF	CVM	CEL	CT	WCPA	CH
.01	-4.546	-1.9990	1.0480	-1.0215	-1.0215	1.0475	-1.0215	-1.0215	-1.0215	1.0410	1.0449
.02	-1.995	-1.0080	1.0000	-1.0040	-1.0040	1.0250	-1.0020	-1.0020	-1.0020	1.0410	1.0449
.03	-1.994	-1.0070	1.0415	-1.0150	-1.0150	1.0408	-1.0020	-1.0020	-1.0020	1.0410	1.0449
.04	1.000	1.0070	1.0000	-1.0120	-1.0120	1.0389	-1.0020	-1.0020	-1.0020	1.0410	1.0449
.05	1.100	1.3990	1.0000	-1.0100	-1.0100	1.0374	-1.0015	-1.0015	-1.0015	1.0410	1.0449
.06	2.120	1.9980	1.0000	-1.0100	-1.0100	1.0358	-1.0010	-1.0010	-1.0010	1.0410	1.0449
.07	4.180	2.7740	1.0000	-1.0100	-1.0100	1.0342	-1.0005	-1.0005	-1.0005	1.0410	1.0449
.08	6.260	3.7100	1.0000	-1.0100	-1.0100	1.0326	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.09	8.310	4.7920	1.0000	-1.0100	-1.0100	1.0310	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.10	10.380	5.9900	1.0000	-1.0100	-1.0100	1.0294	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.11	12.500	7.4400	1.0000	-1.0100	-1.0100	1.0278	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.12	14.680	9.1400	1.0000	-1.0100	-1.0100	1.0262	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.13	16.900	11.0900	1.0000	-1.0100	-1.0100	1.0246	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.14	19.150	13.2900	1.0000	-1.0100	-1.0100	1.0230	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.15	21.420	15.7400	1.0000	-1.0100	-1.0100	1.0214	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.16	23.710	18.4400	1.0000	-1.0100	-1.0100	1.0198	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.17	26.020	21.3900	1.0000	-1.0100	-1.0100	1.0182	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.18	28.350	24.5900	1.0000	-1.0100	-1.0100	1.0166	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.19	30.700	28.0400	1.0000	-1.0100	-1.0100	1.0150	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.20	33.060	31.7400	1.0000	-1.0100	-1.0100	1.0134	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.21	35.430	35.6900	1.0000	-1.0100	-1.0100	1.0118	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.22	37.810	39.8900	1.0000	-1.0100	-1.0100	1.0102	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.23	40.200	44.3400	1.0000	-1.0100	-1.0100	1.0086	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.24	42.600	49.0400	1.0000	-1.0100	-1.0100	1.0070	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.25	45.010	53.9900	1.0000	-1.0100	-1.0100	1.0054	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.26	47.430	59.1900	1.0000	-1.0100	-1.0100	1.0038	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.27	49.860	64.6400	1.0000	-1.0100	-1.0100	1.0022	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.28	52.300	70.3400	1.0000	-1.0100	-1.0100	1.0006	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.29	54.750	76.2900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.30	57.210	82.4900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.31	59.680	88.9400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.32	62.160	95.6400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.33	64.650	102.5900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.34	67.150	109.7900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.35	69.660	117.2400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.36	72.180	124.9400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.37	74.710	132.8900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.38	77.250	141.0900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.39	79.800	149.5400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.40	82.360	158.2400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.41	84.930	167.1900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.42	87.510	176.3900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.43	90.100	185.8400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.44	92.700	195.5400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.45	95.310	205.4900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.46	97.930	215.6900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.47	100.560	226.1400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.48	103.200	236.8400	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.49	105.850	247.7900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449
.50	108.510	258.9900	1.0000	-1.0100	-1.0100	1.0000	-1.0000	-1.0000	-1.0000	1.0410	1.0449

PROCESS (20 OCT 75)

PARAMETRIC DATA

ALPHA = .000 SPRJAF = -18.000
 ELEVON = .000 AILSON = .000
 RUDDER = .000 MACETA = 5.000
 MACFL = .000 MACLIP = 7.000

RUN NO. 59 / 5 RUL = 1.44 GRADIENT INTERVAL = -6.00 / 6.00

CATHC 21:502712981467 ELEBORDED

REFERENCE DATA

SPR = 4.4122 94.FT. WAP = 43.9974 INCHES
 LSP = 19.2289 INCHES WAP = .0000 INCHES
 SPR = 37.9249 INCHES ZMP = 16.2000 INCHES
 SCALE = .0400 SCALE

WACH	BETA	CL	CLF	CLM	CON	CAF	CVM	CEL	CT	WCPA	CH
.01	-15.590	-1.0215	1.0420	-1.0195	-1.0195	1.0425	-1.0195	-1.0195	-1.0195	1.0410	1.0419
.02	-1.015	-1.0180	1.0190	-1.0120	-1.0120	1.0142	-1.0120	-1.0120	-1.0120	1.0410	1.0419
.03	1.000	1.0180	1.0190	-1.0100	-1.0100	1.0070	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.04	3.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.05	5.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.06	7.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.07	9.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.08	11.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.09	13.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419
.10	15.000	1.0180	1.0190	-1.0100	-1.0100	1.0000	-1.0100	-1.0100	-1.0100	1.0410	1.0419

ON71C B16C507J35F1W87 E18V8R3X10

(RDU060) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 90.FT. YMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

ALPHA = 10.000 BDFLAP = -18.000
ELEVON = .000 AILRON = .000
RUDDER = .000 NACBTA = 5.000
NACKVL = .530 NACLIP = 7.000

RUN NO. 60/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-10.070	.57610	-1.1120	-.00330	.00534	-.01130	.01040	.22900	.66300	.02020
.201	-5.060	.57310	-1.2350	-.00400	.01798	-.00890	.00270	.11800	.66200	.01766
.201	.000	.57240	-1.3560	-.00760	.00010	-.00810	.00000	.02100	.66400	.01681
.201	5.090	.57360	-1.3480	-.01240	.02906	-.00380	-.01650	-.07800	.66700	.01635
.201	10.090	.57630	-1.2760	-.01500	.02153	-.00200	-.02370	-.19500	.66900	.01963
GRADIENT	.00005	.00112	-.00083	.00025	.00110	.00027	-.00190	-.01942	.00090	-.00013

ON71C B16C507J35F1W87 E18V8R3X10

(RDU061) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 90.FT. YMRP = 43.5974 INCHES
LREF = 19.2299 INCHES YMRP = .0000 INCHES
BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
ELEVON = 15.000 AILRON = .000
RUDDER = .000 NACBTA = 5.000
NACKVL = .530 NACLIP = 7.000

RUN NO. 61/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CLM	CLN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-3.920	.16760	-.13640	.18260	.07928	-.00280	-.00320	.00700	.92700	.02099
.201	-1.650	.27650	-.13570	.27390	.06344	-.00270	-.00560	.00800	.83700	.02044
.201	-.800	.32050	-.13560	.31940	.08294	-.00290	-.00600	.00800	.81100	.02100
.201	.210	.36900	-.13500	.36530	.08290	-.00190	-.00630	.00800	.79200	.02095
.201	1.200	.40390	-.13500	.40770	.08223	-.00160	-.00660	.00800	.77800	.02066
.201	2.270	.45070	-.13490	.45420	.08076	-.00120	-.00700	.00900	.76800	.02062
.201	4.310	.53350	-.13510	.54070	.07590	-.00070	-.00790	.01000	.74900	.02056
.201	6.360	.63220	-.13590	.64390	.06964	-.00040	-.00810	.01200	.73500	.02057
.201	8.470	.73570	-.13390	.76310	.06194	-.00470	-.00960	.01900	.72300	.02127
.201	10.540	.83540	-.12940	.86880	.04962	-.00300	-.00800	.01900	.71300	.02160
.201	12.630	.93980	-.12520	.96490	.03399	-.00370	-.00790	.01800	.70600	.02238
.201	14.700	1.04150	-.12400	1.06160	.01947	-.00300	-.00800	.02000	.70000	.02392
.201	16.780	1.15350	-.12740	1.20790	.00861	-.00400	-.01440	.02500	.69700	.02575
.201	18.860	1.17490	-.11680	1.29680	.00140	-.00400	-.00620	.00700	.69300	.03260
.201	20.860	1.21320	-.10200	1.31370	.04029	.00030	-.00720	.01300	.68700	.03757
.201	22.990	1.21210	-.07800	1.35030	.03424	.00060	-.00710	.01100	.68000	.04542
.201	24.910	1.18890	-.05090	1.32530	.03102	.00170	-.00140	.00100	.67300	.05304
.201	26.930	1.16810	-.04040	1.34540	.02501	.00170	-.00150	.00400	.67000	.05885
.201	28.950	1.21400	-.02910	1.36390	-.00630	.00390	-.00290	.00200	.66700	.06592
.201	30.990	1.23680	-.02060	1.42350	-.03175	-.00150	-.00150	-.00200	.66500	.06658
GRADIENT	.04208	.00017	.00017	.04356	-.00049	.00028	-.00033	.00032	-.00056	-.00004

OAT1C B16C507J55F1W67 E18V3R3X10

(RDL062) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 92.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 1INCHES YMRP = .0000 INCHES
 BREF = 37.9349 1INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.000
 ELEVON = -10.000 AILTRON = .000
 RUDDER = .000 NACBETA = 5.000
 NACKVL = .530 NACLIP = 7.000

RUN NO. 62/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCPAL	CAB
.201	-4.180	-.27680	.06290	.06800	-.28060	.04254	-.00140	-.00070	-.00300	.74600	.01089
.201	-2.090	-.17970	.05710	.06710	-.18170	.05049	-.00140	-.00080	-.00400	.79200	.01067
.201	-1.050	-.13210	.05550	.06690	-.13310	.05313	-.00130	-.00100	-.00300	.83900	.01055
.201	-.030	-.08480	.05440	.06660	-.08490	.05443	-.00120	-.00120	-.00100	.94000	.01089
.201	.980	-.03760	.05410	.06600	-.03670	.05480	-.00100	-.00140	-.00100	1.30300	.01107
.201	2.010	.00890	.05500	.06680	.01080	.05472	-.00090	-.00110	-.00200	-1.51900	.01141
.201	4.080	.09990	.05910	.06580	.03440	.05187	.00000	-.00200	-.00100	.43200	.01191
.201	6.160	.18870	.06910	.06920	.09500	.04847	-.00190	-.00380	.00300	.53400	.01212
.201	8.210	.28180	.08530	.07320	.29100	.04418	-.00450	-.00510	.01000	.56900	.01229
.201	10.260	.37860	.10420	.07660	.39110	.03512	-.00710	-.00550	.01400	.58900	.01383
.201	12.370	.47990	.12810	.08110	.49620	.02238	-.00800	-.00760	.01600	.60100	.01462
.201	14.420	.57670	.15690	.08520	.59760	.00841	-.00790	-.00590	.01600	.60900	.01672
.201	16.520	.67200	.19260	.09270	.69910	-.00647	-.00610	-.00540	.01400	.61200	.01722
.201	18.590	.76570	.26330	.08690	.80970	.00548	.00500	-.00120	-.00200	.62100	.02165
.201	20.640	.83040	.31700	.09300	.88880	.00382	.00300	-.00120	.00000	.62200	.02370
.201	22.700	.88880	.36940	.09690	.96260	-.00226	.00500	-.00080	-.00600	.62400	.02721
.201	24.790	.91810	.42520	.10290	1.01180	.00171	.00240	.00040	-.00900	.62300	.03207
.201	26.790	.95090	.47840	.10800	1.06440	-.00155	.00190	.00360	-.00900	.62300	.04009
.201	28.860	.97980	.53340	.11100	1.11560	-.00587	.00180	.00190	-.00300	.62400	.04565
.201	30.840	1.00960	.59180	.11430	1.17030	-.00961	.00000	-.00300	.00800	.62500	.04950
GRADIENT		.04569	-.00048	-.00027	.04662	.00110	.00019	-.00014	.00032	-.12461	.00014

OAT1C 2160507355F1487 E18V023X19

(000055) (25 OCT 73)

REF = 4.4122 94. FT. YMRP = 43.5974 INCHES
 LREF = 19.2289 INCHES YMRP = .0000 INCHES
 SREF = 37.9249 INCHES ZMRP = 15.2000 INCHES
 SCALE = .500 SCALE

REFERENCE DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .500 AILFRON = 10.000
 RUDDER = .000 MACBETA = 5.000
 MACUL = .500 MACCLIP = 7.000

RUN NO. 63/ 5 RML = 1.44 GRADIENT INTERVAL = -8.00/ 8.00

PARAMETRIC DATA

MACH	ALPHA	CL	COF	CLX	ON	CAF	CYN	CEL	CY	MOP/L	CAB
.201	-4.000	-.0000	.08210	-.00000	-.00490	.05555	.00000	.03110	-.02200	.62300	.01424
.201	-1.900	.00000	.06140	-.01590	-.00190	.06143	.00120	.03140	-.02400	-1.82300	.01448
.201	-.900	.04700	.06200	-.01200	.04670	.06375	.00130	.03140	-.02400	.75100	.01433
.201	.100	.09600	.06400	-.01000	.09890	.06443	.00140	.03130	-.02400	.70900	.01465
.201	1.110	.12040	.06740	-.01100	.13370	.06474	.00140	.03120	-.02300	.62900	.01485
.201	2.140	.13240	.07130	-.01000	.18900	.06444	.00200	.03100	-.02300	.67900	.01466
.201	4.190	.26760	.07970	-.00900	.27270	.05997	.00200	.03070	-.02100	.67200	.01496
.201	6.250	.38290	.09390	-.00900	.37370	.05590	.00200	.03030	-.02100	.66900	.01510
.201	8.300	.48300	.11820	-.00800	.47330	.04958	.00070	.03040	-.02000	.66600	.01547
.201	10.420	.56700	.14300	-.00800	.58390	.03807	-.00010	.03110	-.02100	.66400	.01627
.201	12.490	.63820	.17190	-.00200	.69090	.02202	-.00020	.03180	-.02000	.66100	.01721
.201	14.590	.70540	.20890	.00200	.79330	.00949	-.00020	.03330	-.01900	.65900	.01794
.201	16.690	.80800	.25070	.00900	.89470	-.00963	.00020	.03290	-.01900	.65600	.01953
.201	18.790	.93960	.30600	.00500	.99790	.01646	.00690	.03400	-.01800	.65700	.02305
.201	20.770	.99760	.35950	.01000	1.07900	.01990	.00390	.03100	-.01800	.65900	.02657
.201	22.810	1.03160	.44820	.02200	1.12290	.01192	.00000	.02610	-.02100	.65200	.03336
.201	24.890	1.03990	.48290	.03200	1.14660	.01199	-.00010	.02490	-.02200	.64900	.03886
.201	26.870	1.04990	.54130	.04910	1.18130	.00829	-.00000	.02140	-.01200	.64900	.04625
.201	28.910	1.07060	.59510	.05430	1.22510	.00325	.00000	.01810	-.00900	.64400	.05305
.201	30.910	1.11090	.64510	.05940	1.28460	-.01737	.00000	.01460	.00900	.64300	.05814
.201		.04368	.02218	.00000	.04460	.00058	.00000	-.00000	-.00000	.11962	.00119

GRADIENT



PROLOG: (20 OCT 73)

CATHIC 2:K0C0T035E:087 E:0V080310

PARAMETRIC DATA

BETA = .000
 SLOPE = .000
 INTERCEPT = .000
 SLOPE = .000
 INTERCEPT = .000
 SLOPE = .000
 INTERCEPT = .000

WPT = 4.422 30 FT.
 LWP = 19.2228 INCHES
 SWP = 37.9249 INCHES
 SCALE = .0005 SCALE

GRM NO. 64/5 GUL = 1.44 GRADIENT INTERVAL = 6.50/ 6.50

REFERENCE DATA

WPT	ALPHA	CL	CF	CLM	ON	CAF	CIN	CEL	CV	YCAL	CAB
.01	-4.575	-1.1410	.00000	.01580	-1.1390	.00013	-1.0215	.02480	-1.02950	.00000	.01312
.02	-4.990	-1.0170	.00000	.01650	-1.0150	.00009	-1.0000	.03000	-1.00000	.00000	.01341
.03	-5.900	.00000	.00000	.01900	.01900	.00000	-1.0000	.03500	-1.00000	.00000	.01360
.04	1.000	.00000	.00000	.02100	.02100	.00000	.00000	.04000	-1.00000	.00000	.01337
.05	2.100	.00000	.00000	.02300	.02300	.00000	.00000	.04500	-1.00000	.00000	.01401
.06	3.100	.00000	.00000	.02500	.02500	.00000	.00000	.05000	-1.00000	.00000	.01400
.07	4.200	.00000	.00000	.02700	.02700	.00000	.00000	.05500	-1.00000	.00000	.01385
.08	5.200	.00000	.00000	.02900	.02900	.00000	.00000	.06000	-1.00000	.00000	.01447
.09	6.200	.00000	.00000	.03100	.03100	.00000	.00000	.06500	-1.00000	.00000	.01492
.10	7.200	.00000	.00000	.03300	.03300	.00000	.00000	.07000	-1.00000	.00000	.01579
.11	8.200	.00000	.00000	.03500	.03500	.00000	.00000	.07500	-1.00000	.00000	.01601
.12	9.200	.00000	.00000	.03700	.03700	.00000	.00000	.08000	-1.00000	.00000	.01681
.13	10.200	.00000	.00000	.03900	.03900	.00000	.00000	.08500	-1.00000	.00000	.01708
.14	11.200	.00000	.00000	.04100	.04100	.00000	.00000	.09000	-1.00000	.00000	.01721
.15	12.200	.00000	.00000	.04300	.04300	.00000	.00000	.09500	-1.00000	.00000	.01744
.16	13.200	.00000	.00000	.04500	.04500	.00000	.00000	.10000	-1.00000	.00000	.01748
.17	14.200	.00000	.00000	.04700	.04700	.00000	.00000	.10500	-1.00000	.00000	.01781
.18	15.200	.00000	.00000	.04900	.04900	.00000	.00000	.11000	-1.00000	.00000	.01804
.19	16.200	.00000	.00000	.05100	.05100	.00000	.00000	.11500	-1.00000	.00000	.01848
.20	17.200	.00000	.00000	.05300	.05300	.00000	.00000	.12000	-1.00000	.00000	.01814
.21	18.200	.00000	.00000	.05500	.05500	.00000	.00000	.12500	-1.00000	.00000	.01808
.22	19.200	.00000	.00000	.05700	.05700	.00000	.00000	.13000	-1.00000	.00000	.01805
.23	20.200	.00000	.00000	.05900	.05900	.00000	.00000	.13500	-1.00000	.00000	.01805
.24	21.200	.00000	.00000	.06100	.06100	.00000	.00000	.14000	-1.00000	.00000	.01805
.25	22.200	.00000	.00000	.06300	.06300	.00000	.00000	.14500	-1.00000	.00000	.01805
.26	23.200	.00000	.00000	.06500	.06500	.00000	.00000	.15000	-1.00000	.00000	.01805
.27	24.200	.00000	.00000	.06700	.06700	.00000	.00000	.15500	-1.00000	.00000	.01805
.28	25.200	.00000	.00000	.06900	.06900	.00000	.00000	.16000	-1.00000	.00000	.01805
.29	26.200	.00000	.00000	.07100	.07100	.00000	.00000	.16500	-1.00000	.00000	.01805
.30	27.200	.00000	.00000	.07300	.07300	.00000	.00000	.17000	-1.00000	.00000	.01805
.31	28.200	.00000	.00000	.07500	.07500	.00000	.00000	.17500	-1.00000	.00000	.01805
.32	29.200	.00000	.00000	.07700	.07700	.00000	.00000	.18000	-1.00000	.00000	.01805
.33	30.200	.00000	.00000	.07900	.07900	.00000	.00000	.18500	-1.00000	.00000	.01805
.34	31.200	.00000	.00000	.08100	.08100	.00000	.00000	.19000	-1.00000	.00000	.01805
.35	32.200	.00000	.00000	.08300	.08300	.00000	.00000	.19500	-1.00000	.00000	.01805
.36	33.200	.00000	.00000	.08500	.08500	.00000	.00000	.20000	-1.00000	.00000	.01805
.37	34.200	.00000	.00000	.08700	.08700	.00000	.00000	.20500	-1.00000	.00000	.01805
.38	35.200	.00000	.00000	.08900	.08900	.00000	.00000	.21000	-1.00000	.00000	.01805
.39	36.200	.00000	.00000	.09100	.09100	.00000	.00000	.21500	-1.00000	.00000	.01805
.40	37.200	.00000	.00000	.09300	.09300	.00000	.00000	.22000	-1.00000	.00000	.01805
.41	38.200	.00000	.00000	.09500	.09500	.00000	.00000	.22500	-1.00000	.00000	.01805
.42	39.200	.00000	.00000	.09700	.09700	.00000	.00000	.23000	-1.00000	.00000	.01805
.43	40.200	.00000	.00000	.09900	.09900	.00000	.00000	.23500	-1.00000	.00000	.01805
.44	41.200	.00000	.00000	.10100	.10100	.00000	.00000	.24000	-1.00000	.00000	.01805
.45	42.200	.00000	.00000	.10300	.10300	.00000	.00000	.24500	-1.00000	.00000	.01805
.46	43.200	.00000	.00000	.10500	.10500	.00000	.00000	.25000	-1.00000	.00000	.01805
.47	44.200	.00000	.00000	.10700	.10700	.00000	.00000	.25500	-1.00000	.00000	.01805
.48	45.200	.00000	.00000	.10900	.10900	.00000	.00000	.26000	-1.00000	.00000	.01805
.49	46.200	.00000	.00000	.11100	.11100	.00000	.00000	.26500	-1.00000	.00000	.01805
.50	47.200	.00000	.00000	.11300	.11300	.00000	.00000	.27000	-1.00000	.00000	.01805
.51	48.200	.00000	.00000	.11500	.11500	.00000	.00000	.27500	-1.00000	.00000	.01805
.52	49.200	.00000	.00000	.11700	.11700	.00000	.00000	.28000	-1.00000	.00000	.01805
.53	50.200	.00000	.00000	.11900	.11900	.00000	.00000	.28500	-1.00000	.00000	.01805
.54	51.200	.00000	.00000	.12100	.12100	.00000	.00000	.29000	-1.00000	.00000	.01805
.55	52.200	.00000	.00000	.12300	.12300	.00000	.00000	.29500	-1.00000	.00000	.01805
.56	53.200	.00000	.00000	.12500	.12500	.00000	.00000	.30000	-1.00000	.00000	.01805
.57	54.200	.00000	.00000	.12700	.12700	.00000	.00000	.30500	-1.00000	.00000	.01805
.58	55.200	.00000	.00000	.12900	.12900	.00000	.00000	.31000	-1.00000	.00000	.01805
.59	56.200	.00000	.00000	.13100	.13100	.00000	.00000	.31500	-1.00000	.00000	.01805
.60	57.200	.00000	.00000	.13300	.13300	.00000	.00000	.32000	-1.00000	.00000	.01805
.61	58.200	.00000	.00000	.13500	.13500	.00000	.00000	.32500	-1.00000	.00000	.01805
.62	59.200	.00000	.00000	.13700	.13700	.00000	.00000	.33000	-1.00000	.00000	.01805
.63	60.200	.00000	.00000	.13900	.13900	.00000	.00000	.33500	-1.00000	.00000	.01805
.64	61.200	.00000	.00000	.14100	.14100	.00000	.00000	.34000	-1.00000	.00000	.01805
.65	62.200	.00000	.00000	.14300	.14300	.00000	.00000	.34500	-1.00000	.00000	.01805
.66	63.200	.00000	.00000	.14500	.14500	.00000	.00000	.35000	-1.00000	.00000	.01805
.67	64.200	.00000	.00000	.14700	.14700	.00000	.00000	.35500	-1.00000	.00000	.01805
.68	65.200	.00000	.00000	.14900	.14900	.00000	.00000	.36000	-1.00000	.00000	.01805
.69	66.200	.00000	.00000	.15100	.15100	.00000	.00000	.36500	-1.00000	.00000	.01805
.70	67.200	.00000	.00000	.15300	.15300	.00000	.00000	.37000	-1.00000	.00000	.01805
.71	68.200	.00000	.00000	.15500	.15500	.00000	.00000	.37500	-1.00000	.00000	.01805
.72	69.200	.00000	.00000	.15700	.15700	.00000	.00000	.38000	-1.00000	.00000	.01805
.73	70.200	.00000	.00000	.15900	.15900	.00000	.00000	.38500	-1.00000	.00000	.01805
.74	71.200	.00000	.00000	.16100	.16100	.00000	.00000	.39000	-1.00000	.00000	.01805
.75	72.200	.00000	.00000	.16300	.16300	.00000	.00000	.39500	-1.00000	.00000	.01805
.76	73.200	.00000	.00000	.16500	.16500	.00000	.00000	.40000	-1.00000	.00000	.01805
.77	74.200	.00000	.00000	.16700	.16700	.00000	.00000	.40500	-1.00000	.00000	.01805
.78	75.200	.00000	.00000	.16900	.16900	.00000	.00000	.41000	-1.00000	.00000	.01805
.79	76.200	.00000	.00000	.17100	.17100	.00000	.00000	.41500	-1.00000	.00000	.01805
.80	77.200	.00000	.00000	.17300	.17300	.00000	.00000	.42000	-1.00000	.00000	.01805
.81	78.200	.00000	.00000	.17500	.17500	.00000	.00000	.42500	-1.00000	.00000	.01805
.82	79.200	.00000	.00000	.17700	.17700	.00000	.00000	.43000	-1.00000	.00000	.01805
.83	80.200	.00000	.00000	.17900	.17900	.00000	.00000	.43500	-1.00000	.00000	.01805
.84	81.200	.00000	.00000	.18100	.18100	.00000	.00000	.44000	-1.00000	.00000	.01805
.85	82.200	.00000	.00000	.18300	.18300	.00000	.00000	.44500	-1.00000	.00000	.01805
.86	83.200	.00000	.00000	.18500	.18500	.00000	.00000	.45000	-1.00000	.00000	.01805
.87	84.200	.00000	.00000	.18700	.18700	.00000	.00000	.45500	-1.00000	.00000	.01805
.88	85.200	.00000	.00000	.18900	.18900	.00000	.00000	.46000	-1.00000	.00000	.01805
.89	86.200	.00000	.00000	.19100	.19100	.00000	.00000	.46500	-1.00000	.00000	.01805
.90	87.200	.00000	.00000	.19300	.19300	.00000	.00000	.47000	-1.00000	.00000	.01805
.91	88.200	.00000	.00000	.19500	.19500	.00000	.00000	.47500	-1.00000	.00000	.01805
.92	89.200	.00000	.00000	.19700	.19700	.00000	.00000	.48000	-1.00000	.00000	.01805
.93	90.200	.00000	.00000	.19900	.19900	.00000	.00000	.48500	-1.00000	.00	

CAT1C B15C507J05F1A87 E18V0R3X50

GRUDGE) (20 OCT 73)

REFERENCE DATA

SRF = 4.4122 90 FT. XRRP = 43.5974 INCHES
 LRF = 19.2229 INCHES YRRP = .0000 INCHES
 PRP = 37.9849 INCHES ZRRP = 16.2000 INCHES
 SCALE = .5495 SCALE

PARAMETRIC DATA

BETA = .000 ZDFLAP = -18.000
 ELEVON = -10.000 AILUPON = .000
 RUDDER = .000 MACBETA = 5.000
 MACVL = .000 MACCLIP = 7.000

RUN NO. 65/ 0 RUL = 1.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CL	CF	CLM	CM	CAF	CYN	CBL	CY	XCPA	CAB
.201	-4.200	-3.1855	.56723	.59960	-.32240	.04374	-.00390	-.00470	-.00100	.77000	.00998
.201	-2.110	-2.1900	.55840	.59260	-.22100	.05134	-.00370	-.00390	-.00100	.80700	.00976
.201	-1.590	-1.6240	.55770	.59250	-.16990	.05448	-.00360	-.00390	-.00100	.88200	.00986
.201	-.590	-1.1910	.56000	.59600	-.11920	.05493	-.00390	-.00390	-.00100	.98400	.01016
.201	.970	-.07130	.55590	.59500	-.07090	.05566	-.00390	-.00390	-.00100	1.22100	.01026
.201	2.000	-.02060	.55600	.59500	-.01860	.05700	-.00390	-.00390	-.00100	1.50000	.01068
.201	4.100	.07930	.55980	.59680	.18180	.05700	-.00390	-.00390	-.00100	.41800	.01135
.201	6.170	.17550	.56790	.59790	.18180	.05700	-.00390	-.00390	-.00100	.50400	.01274
.201	8.240	.27920	.58450	.59850	.28890	.05437	-.00390	-.00390	-.00100	.53700	.01489
.201	10.310	.37750	.60980	.59900	.39000	.05433	-.00390	-.00390	-.00100	.55900	.01585
.201	12.380	.48390	.62900	.60000	.49970	.02218	-.00390	-.00390	-.00100	.57400	.01625
.201	14.470	.59610	.66080	.60770	.60770	.05620	-.00390	-.00390	-.00100	.59800	.01767
.201	16.530	.68190	.69970	.69900	.71580	-.00261	-.00390	-.00390	-.00100	.60900	.02032
.201	18.620	.79820	.73760	.69700	.82310	-.00722	-.00390	-.00390	-.00100	.60900	.02573
.201	20.690	.87820	.76290	.69700	.93490	-.00764	-.00390	-.00390	-.00100	.60900	.03362
.201	22.760	.94090	.67790	.69700	1.05230	.00444	-.00390	-.00390	-.00100	.61200	.04017
.201	24.820	1.01700	.67560	.69700	1.12270	-.00162	-.00390	-.00390	-.00100	.61200	.04153
.201	26.880	1.05490	.53420	.69700	1.18290	-.00429	-.00390	-.00390	-.00100	.61200	.04153
.201	28.910	1.07890	.59070	.69700	1.22990	-.00429	-.00390	-.00390	-.00100	.61200	.04153
.201	30.920	1.09190	.64490	.69700	1.26810	-.00407	-.00390	-.00390	-.00100	.61200	.04153
.201	GRADIENT	.04794	-.00190	.00231	.54891	.00124	-.00008	-.00002	.00023	.04171	.00000

CATIC B16C507J55F1M67 E18V0R3K10

09DUG66) (25 OCT 75)

REFERENCE DATA

BRZF = 4.4122 90.FT. 100RP = 43.9974 INCHES
 LRFZ = 19.2259 INCHES 1MRP = .0000 INCHES
 BRZF = 37.9349 INCHES 2MRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BOFLAP = -18.0000
 ELEVON = 15.000 AILUPON = .0000
 RUDDER = .000 MACBTA = 5.0000
 MACULV = .000 MACLIF = 7.0000

RUN NO. 66/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.05/ 6.00

MAOH	ALPHA	CL	COF	CLM	CN	CAP	CYN	CBL	CY	MACVL	CAB
.201	-3.1925	.18780	.37240	-.12675	.19210	.06517	-.07630	-.07220	.00900	.90000	.51984
.201	-1.8190	.20050	.28070	-.12110	.27790	.08975	-.05840	-.05020	.00900	.81900	.51985
.201	-.810	.32770	.29890	-.11990	.32640	.09099	-.05820	-.05020	.00800	.79100	.51972
.201	.220	.37440	.09290	-.11950	.37480	.09147	-.05890	-.05090	.00700	.77000	.51965
.201	1.290	.42180	.09990	-.11270	.42260	.09071	-.05690	-.05090	.00800	.75900	.52001
.201	2.200	.46720	.10670	-.10970	.47100	.08802	-.05670	-.05040	.00900	.74900	.51999
.201	4.340	.59970	.12970	-.10220	.56790	.08228	-.05620	-.05040	.01000	.72400	.51972
.201	6.600	.64890	.14570	-.09920	.62880	.07363	-.05790	-.05090	.01900	.71100	.52070
.201	8.490	.74990	.17990	-.09790	.76390	.06405	-.05990	-.05070	.01400	.70100	.52019
.201	10.970	.86490	.21790	-.09980	.88980	.05497	-.05720	-.05070	.01800	.69800	.52146
.201	12.890	.96990	.25990	-.09290	.99740	.04204	-.05860	-.05190	.02900	.68400	.52366
.201	14.790	1.06040	.30940	-.07990	1.10420	.02948	-.05890	-.05120	.02900	.68400	.52366
.201	16.870	1.14980	.36640	-.06220	1.20690	.01941	-.05970	-.05140	.03100	.68000	.52711
.201	18.840	1.22990	.44970	-.05310	1.30460	.01628	-.05990	-.05170	.03200	.67700	.52982
.201	23.920	1.27920	.54090	-.05740	1.39430	.01962	-.05820	-.05140	.02800	.67400	.53858
.201	22.980	1.28870	.61490	-.05990	1.42990	.01944	-.05690	-.05110	.02800	.67000	.54494
.201	23.070	1.28990	.69660	-.05190	1.44970	.01928	-.05490	-.05090	.01700	.66900	.54647
.201	27.020	1.29640	.89190	-.05080	1.45990	.01969	-.05080	-.05060	.02100	.66900	.56253
.201	29.990	1.29990	.70280	-.05970	1.48790	.01969	-.05400	-.05050	.02400	.66900	.56271
.201	31.990	1.30270	.75370	-.05490	1.51490	-.02645	-.05020	-.05040	.01900	.66900	.56520
	GRADIENT	.54210	.07635	.07095	.04871	-.00037	-.00001	-.00001	.00069	-.02114	.00000

CAT1C B16C507J35F1467 E10V020310

090057) (25 OCT 75)

REFERENCE DATA

HOP = 4.4122 36. FT. WARP = 43.9974 INCHES
 LWP = 19.2299 INCHES WARP = .0000 INCHES
 RWP = 37.9349 INCHES ZARP = 16.2000 INCHES
 SCALE = .5403 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILURON = .000
 RUDDER = .000 MACETA = 5.000
 MACUL = .000 MACLIP = 7.000

RUN NO. 087 0 BUL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

WACH	ALPHA	CL	CFP	CLM	CM	CAF	CMN	CBL	CY	XOP/L	CAB
.001	-4.063	-1.1120	.04990	.01640	-.12420	.03785	-.00020	-.00280	-.00400	.70700	.01382
.002	-2.070	-.02820	.04485	.02110	-.02770	.04290	-.00040	-.00310	-.00200	.92200	.01358
.003	-.979	.02580	.04290	.02220	.02900	.04634	-.00060	-.00320	-.00100	.32700	.01372
.004	.060	.07600	.04710	.02580	.07610	.04732	-.00080	-.00390	.00000	.00000	.01368
.005	1.110	.12820	.05000	.02810	.12710	.04753	-.00100	-.00390	.00000	.00000	.01407
.006	2.120	.17420	.05280	.03010	.17610	.04710	-.00120	-.00390	.00000	.00000	.01416
.007	4.190	.27580	.06370	.03490	.27490	.04395	-.00150	-.00470	.00000	.00000	.01429
.008	6.270	.37900	.08000	.03990	.37200	.03999	-.00220	-.00620	.00000	.00000	.01469
.009	8.320	.47200	.10190	.04490	.46470	.03172	-.00270	-.00620	.00000	.00000	.01491
.010	10.420	.56000	.12970	.04990	.56670	.02217	-.00300	-.00700	.00000	.00000	.01495
.011	12.490	.64000	.16390	.05490	.66200	.01063	-.00410	-.00790	.00000	.00000	.01651
.012	14.590	.70410	.20510	.05920	.75990	-.02294	-.00460	-.00880	.00000	.00000	.01796
.013	16.680	.75470	.25390	.06280	.82020	-.01395	-.00410	-.00940	.00000	.00000	.01916
.014	18.740	.79960	.31000	.06580	.92960	-.02294	-.00460	-.00940	.00000	.00000	.02016
.015	20.810	1.04680	.37400	.06740	1.03820	.01993	-.00460	-.00940	.00000	.00000	.02199
.016	22.860	1.12700	.44700	.06700	1.14190	.01993	-.00460	-.00940	.00000	.00000	.02226
.017	24.920	1.17440	.52480	.06480	1.22770	.01586	-.00490	-.00980	.00000	.00000	.02203
.018	26.970	1.18710	.60200	.06040	1.29080	.01011	-.00490	-.00980	.00000	.00000	.02203
.019	28.970	1.20090	.68390	.05840	1.33290	.00196	-.00490	-.00980	.00000	.00000	.02197
.020	31.010	1.20040	.76290	.05710	1.37100	-.00320	-.00490	-.00980	.00000	.00000	.02192
GRADIENT	.04786	.00000	.00000	.00000	.04049	.00074	-.00016	-.00022	.00000	-.01816	.00000

CAT1C B16C507J35F1467 E10V020310

090058) (25 OCT 75)

REFERENCE DATA

HOP = 4.4122 36. FT. WARP = 43.9974 INCHES
 LWP = 19.2299 INCHES WARP = .0000 INCHES
 RWP = 37.9349 INCHES ZARP = 16.2000 INCHES
 SCALE = .5403 SCALE

PARAMETRIC DATA

ALPHA = .000 BDFLAP = -18.000
 ELEVON = .000 AILURON = .000
 RUDDER = .000 MACETA = 5.000
 MACUL = .000 MACLIP = 7.000

RUN NO. 087 0 BUL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

WACH	BETA	CL	CFP	CLM	CM	CAF	CMN	CBL	CY	XOP/L	CAB
.001	-10.090	.09410	.03610	.01330	.09420	.03601	-.00390	-.00000	-.00300	.00000	.01485
.002	-9.540	.08370	.04440	.02120	.06390	.04435	-.00460	.00210	.00000	.00000	.01414
.003	-.910	.07680	.04820	.02530	.07670	.04817	-.00460	.00210	.00000	.00000	.01374
.004	9.010	.07880	.04990	.02100	.07690	.04384	.00270	-.00690	-.00000	.00000	.01374
.005	10.070	.06200	.03990	.01680	.06200	.03576	.00490	-.01100	-.00000	.00000	.01374
GRADIENT	-.00049	-.00000	-.00000	-.00000	-.00049	-.00000	.00072	-.00103	-.00000	-.00000	.01673

CATIC B16CSD7J5SF167 E18V8R3X10

(R0U069) (20 OCT 75)

REFERENCE DATA

BRD = 4.4122 50.FT. WWP = 43.9974 INCHES
 LRP = 19.2299 INCHES YWP = .0000 INCHES
 BRD = 37.9348 INCHES ZWP = 16.2000 INCHES
 SCALE = .0675 SCALE

RUN NO. 06/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	BETA	CL	CLM	CLN	CAF	CMN	CEL	CY	XCP/L	CAB
.201	-10.000	.99990	.02940	.00720	.00602	-.00670	.01690	.22200	.64200	.02069
.201	-5.040	.99990	.02940	.00720	.01697	-.00400	.00640	.11200	.63600	.01803
.201	-.020	.99990	.04630	.00480	.02246	-.00930	-.00700	-.00900	.63200	.01817
.201	5.020	.99990	.04240	.00480	.01998	-.00040	-.00640	-.00400	.63400	.01796
.201	10.070	.99990	.03690	.00660	.01247	.00220	-.02640	-.00900	.63600	.01922
GRADIENT	-.00007	.00000	.00000	-.00001	.00000	.00000	-.00001	-.00000	-.00000	-.00007

PARAMETRIC DATA

ALPHA = 10.000 BOFLAP = -10.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 WACSTA = 5.000
 WACLIP = .000 WACLIP = 7.000

REFERENCE DATA

BRD = 4.4122 50.FT. WWP = 43.9974 INCHES
 LRP = 19.2299 INCHES YWP = .0000 INCHES
 BRD = 37.9348 INCHES ZWP = 16.2000 INCHES
 SCALE = .0675 SCALE

RUN NO. 70/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CLM	CLN	CAF	CMN	CEL	CY	XCP/L	CAB
.201	-4.070	-.11970	.00990	-.12140	.01970	.00060	-.00160	-.00200	.60700	.01352
.201	-2.030	.02310	.00990	-.02790	.02419	.00090	-.00160	-.00200	.77400	.01401
.201	-.990	.02760	.00990	.02540	.02534	.00090	-.00160	-.00200	.49700	.01401
.201	.060	.06810	.00990	.06810	.02565	.00040	-.00160	.00000	.61100	.01400
.201	1.040	.11690	.00990	.11740	.02513	.00090	-.00190	.00000	.63100	.01394
.201	2.110	.16510	.00990	.16610	.02590	.00040	-.00190	.00000	.63600	.01426
.201	4.170	.26240	.00990	.26230	.01666	.00090	-.00160	.00000	.64600	.01435
.201	6.230	.35960	.00990	.36190	.00649	.00010	-.00190	.00000	.65700	.01466
.201	8.310	.46180	.00990	.46590	-.00373	.00010	-.00160	.00000	.65200	.01467
.201	10.390	.56720	.00990	.57310	-.01990	.00020	-.00170	.00000	.65300	.01544
.201	12.490	.68370	.00990	.69270	-.03416	.00090	-.00170	.00000	.65600	.01738
.201	14.570	.80690	.00990	.82030	-.04984	.00120	-.00290	.00000	.66700	.02080
.201	16.620	.93990	.00990	.96480	-.05444	.00280	-.00140	-.00200	.66500	.02371
.201	18.730	1.05490	.00990	1.09540	-.05473	.00320	-.00120	-.00400	.66700	.02716
.201	20.830	1.16290	.00990	1.22390	-.05529	.00290	-.00010	.00000	.66900	.03003
.201	22.970	1.24290	.00990	1.32480	-.05686	.00080	.00130	.00000	.66800	.03460
.201	24.990	1.30190	.00990	1.40680	-.06282	.00090	.00090	.00100	.66400	.04025
.201	26.960	1.24710	.00990	1.36730	-.06230	-.00020	.00210	.00200	.65300	.04872
.201	28.920	1.14650	.00990	1.28110	-.059213	.00010	-.00310	.00000	.64700	.05625
.201	30.960	1.14280	.00990	1.30320	-.04934	-.00200	.00090	.00000	.63600	.06364
GRADIENT	.04622	.00000	.00000	.04666	-.00001	-.00001	.00000	.00000	-.00000	.00000

PARAMETRIC DATA

BETA = .000 BOFLAP = -10.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000

QAT1C 816C597 F11.97 E18V8R319

(R00071) (20 OCT 75)

REFERENCE DATA

WOPF = 4.4122 30.FT. WOPF = 43.5974 INCHES
 WOPF = 19.2299 INCHES WOPF = .0723 INCHES
 WOPF = 37.9349 INCHES WOPF = 16.2070 INCHES
 SCALE = .0405 SCALE

BETA = .000 BOFLAP = -18.000
 ELEVON = 15.000 AIRON = .000
 RUDDER = .000

RUN NO. 71/0 RWL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

PARAMETRIC DATA

WAOH	ALPHA	Q	QDF	CLM	CM	CAF	CYN	CEL	CV	XCP/L	CAB
.201	-3.930	.18210	.04790	-.13320	.17890	.03332	.00000	-.00370	.00100	.00000	.02107
.201	-1.050	.27410	.04750	-.13380	.27240	.05625	.00020	-.00410	.02200	.03340	.02076
.201	-.620	.32000	.08100	-.13510	.31930	.05642	.00020	-.00410	.02200	.01100	.02019
.201	.190	.36550	.05750	-.13920	.36570	.05609	.00010	-.00440	.02000	.09200	.01958
.201	1.270	.41220	.06300	-.13430	.41350	.05386	.00010	-.00490	.02000	.07600	.01990
.201	2.270	.45630	.06840	-.13320	.45870	.05132	.00010	-.00420	.02000	.06300	.01936
.201	4.320	.54610	.06460	-.13170	.54890	.04338	.00040	-.00490	.02000	.04900	.01930
.201	6.360	.63090	.10540	-.13370	.63880	.03240	.00030	-.00310	.02000	.03300	.01995
.201	8.400	.77500	.13610	-.14590	.78740	.02016	-.00020	-.00280	.02000	.02500	.02075
.201	10.500	.89540	.17420	-.15120	.91220	.01675	-.00040	-.00120	.02000	.01900	.02087
.201	12.750	1.00920	.21020	-.15350	1.03250	-.00946	-.00060	-.00170	.02000	.01300	.02222
.201	14.720	1.11750	.26870	-.15610	1.14920	-.02400	-.00020	-.00320	.02000	.00400	.02472
.201	16.420	1.22950	.35770	-.16070	1.26040	-.01336	.00090	-.00310	-.02400	.00700	.03060
.201	18.910	1.33140	.44900	-.17020	1.40510	-.01143	.00320	-.00190	-.03100	.00900	.03596
.201	21.010	1.43500	.53930	-.18170	1.53370	-.01667	.00160	.00060	-.03200	.00900	.04434
.201	23.090	1.49010	.61510	-.18190	1.51010	-.02595	.00140	.00220	-.03400	.00900	.05087
.201	25.070	1.45620	.68290	-.11290	1.59580	-.02277	.00090	.00060	-.01000	.06700	.06347
.201	26.960	1.27470	.62290	-.02980	1.41080	-.01766	.00020	.00160	-.00100	.06100	.07154
.201	28.000	1.22530	.65900	-.00390	1.39120	-.01524	-.00170	.00160	.00000	.03900	.07293
.201	30.970	1.22340	.71690	.00360	1.41770	-.01120	-.00020	-.00024	.00000	.00000	-.02137
.201	GRADIENT	.04395	.00531	.00046	.04492	-.00120	.00000	-.00004	.00000	-.02137	-.02023

ON71C B16C5D7J36F1M87 E18V8K3X10

(RD0072) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 SQ.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 SREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

BETA = .000 BDFLAP = -18.000
 ELEVEN = .000 ATLON = .000
 RUDDER = .000 NACBTA = 5.000
 NACKVL = .000 NACLIP = 7.000

RUN NO. 72/ 0 RVAL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

PARAMETRIC DATA

MACH	ALPHA	CL	CDP	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.120	-.13430	.04130	-.01130	-.13690	.03154	.00090	-.00220	-.00400	.63000	.01383
.201	-2.020	-.03510	.03580	-.00630	-.03630	.03457	.00100	-.00180	-.00600	.59700	.01409
.201	-1.010	.01480	.03470	-.00330	.01420	.03801	.00110	-.00150	-.00500	.74900	.01405
.201	.040	.06510	.03450	-.00070	.06510	.03451	.00100	-.00170	-.00300	.66400	.01401
.201	1.060	.11410	.03550	.00190	.11480	.03346	.00090	-.00160	-.00200	.65300	.01439
.201	2.100	.16320	.03780	.00460	.16450	.03184	.00070	-.00170	.00000	.64900	.01408
.201	4.140	.23310	.04470	.00980	.26560	.02557	.00050	-.00220	.00100	.64600	.01407
.201	6.240	.36700	.05650	.01470	.37100	.01629	.00030	-.00270	.00200	.64500	.01482
.201	8.310	.47120	.07510	.02050	.47710	.00618	.00020	-.00260	.00100	.64400	.01503
.201	10.390	.57780	.10070	.02780	.58650	-.00512	.00070	-.00250	.00100	.64300	.01566
.201	12.490	.68390	.13270	.03410	.69640	-.01837	.00070	-.00270	.00100	.64200	.01782
.201	14.580	.79040	.17140	.04020	.80810	-.03309	.00110	-.00270	.00000	.64300	.02044
.201	16.640	.89760	.21980	.04250	.92290	-.04635	.00060	-.00380	-.00400	.64300	.02292
.201	18.700	.98600	.30400	.03770	1.03150	-.02831	.00020	-.00050	-.00100	.64600	.02071
.201	20.810	1.05970	.37780	.04160	1.12480	-.02338	.00020	-.00220	.00000	.64300	.02718
.201	22.820	1.10340	.44170	.05080	1.18840	-.02091	.00170	.00220	.00000	.64000	.03273
.201	24.880	1.12230	.49850	.06490	1.22790	-.01994	.00030	.00760	.00200	.64100	.03852
.201	26.920	1.12680	.54740	.08550	1.25250	-.02200	-.00030	-.00160	.00500	.63500	.04638
.201	28.930	1.15060	.60230	.09990	1.29840	-.02960	-.00070	.00230	-.00400	.63200	.05163
.201	30.980	1.17620	.66270	.11400	1.34960	-.03729	.00040	.00760	-.00200	.62900	.05448
GRADIENT		.04811	.00042	.00255	.04872	-.00071	-.00006	.00000	.00076	.00174	.00003

ON71C B16C507J34F1W87 E18V3R3X10

(RDVJ73) (20 OCT 73)

REFERENCE DATA

SREF = 4.4122 98.FT. XMRP = 43.5974 INCHES
 LREF = 19.2299 INCHES YMRP = .0000 INCHES
 BREF = 37.9349 INCHES ZMRP = 16.2000 INCHES
 SCALE = .0405 SCALE

PARAMETRIC DATA

BETA = .000 BDFLAP = -18.000
 ELEVON = .000 AILRON = .000
 RUDDER = .000 NACBTA = 5.000
 NACVL = .000 NACLIP = 7.000

RUN NO. 73/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

MACH	ALPHA	CL	CDf	CLM	CN	CAF	CYN	CBL	CY	XCP/L	CAB
.201	-4.090	-13490	.04640	-.01110	-13790	.03674	.00150	-.00220	-.00400	.63100	.01448
.201	-2.030	-.03920	.04120	-.00620	-.04060	.03981	.00150	-.00180	-.00400	.60500	.01429
.201	-.990	.01100	.04010	-.00380	.01030	.04036	.00140	-.00160	-.00300	.79500	.01429
.201	.040	.06020	.03940	-.00100	.03030	.03941	.00130	-.00170	-.00100	.66600	.01461
.201	1.030	.10890	.04020	.00100	.03920	.03828	.00130	-.00180	.00000	.65600	.01454
.201	2.090	.15860	.04200	.00390	.15010	.03620	.00100	-.00200	.00100	.65100	.01453
.201	4.150	.25750	.04840	.00900	.25030	.02966	.00080	-.00220	.00200	.64700	.01486
.201	6.250	.36210	.06090	.01350	.35660	.02097	.00040	-.00260	.00200	.64600	.01476
.201	8.320	.46650	.07930	.01850	.47310	.01093	.00000	-.00250	.00200	.64500	.01562
.201	10.400	.57440	.10420	.02610	.59380	-.00114	.00000	-.00250	.00300	.64300	.01669
.201	12.490	.68120	.13600	.03190	.69450	-.01451	.00060	-.00300	.00300	.64300	.01944
.201	14.560	.78600	.17450	.03690	.82460	-.02875	.00100	-.00330	.00100	.64300	.02124
.201	16.640	.89260	.22290	.04040	.91900	-.04212	.00330	-.00410	-.00300	.64300	.02358
.201	18.730	.98140	.30760	.03500	1.02830	-.02378	.00240	.00000	.00000	.64700	.02735
.201	20.790	1.05670	.37830	.04080	1.12220	-.02148	-.00080	-.00280	.00600	.64600	.03022
.201	22.830	1.10320	.44590	.04970	1.18960	-.01779	.00060	.00000	.00200	.64500	.03302
.201	24.870	1.11470	.49890	.06320	1.22100	-.01699	-.00010	-.00000	.00300	.64100	.03903
.201	26.940	1.12750	.55070	.08170	1.25420	-.01963	-.00010	-.00280	.00600	.63600	.04684
.201	28.940	1.14720	.60610	.09720	1.29720	-.02477	-.00020	.00120	-.00100	.63300	.05103
.201	30.960	1.16850	.66530	.10970	1.34430	-.03120	.00090	.00000	-.00500	.63000	.05390
.201	.04775	.00022	.00022	.00244	.04843	-.00087	-.00009	-.00001	.00086	.00043	.00005

REFERENCE DATA

REF = 4.4122 90.FT. WRP = 43.5974 INCHES
 LRF = 19.2259 INCHES YRP = .0000 INCHES
 PRF = 37.9349 INCHES ZRP = 16.2000 INCHES
 SCALE = 0.605 SCALE

PARAMETRIC DATA

BETA = .000 BDFLP = -18.000
 ELEV = .000 AILPDM = .000
 RUDDER = .000 NALBETA = 5.000
 NACVL = .000 NACLIP = .000

RUN NO. 74/ 0 RVL = 1.44 GRADIENT INTERVAL = -6.00/ 6.00

WACH	ALPHA	CL	CF	CLM	CM	CAF	CMN	CEL	CY	XCF/L	CAB
.201	-4.100	-1.1290	.04640	-0.0000	-1.1415	.00643	.00120	-0.0020	-0.0010	.53400	.01423
.201	-2.045	-0.03870	.04160	-0.0495	-0.0420	.04024	.00110	-0.0020	.00000	.51800	.01401
.201	.000	.01260	.04050	-0.0280	.01170	.04079	.00110	-0.0020	.00000	.74000	.01421
.201	.000	.06420	.04020	-0.0040	.09420	.04050	.00110	-0.0020	.00000	.68200	.01439
.201	1.000	.11200	.04140	.00100	.11660	.00928	.00110	-0.0020	.00000	.65400	.01454
.201	2.110	.16950	.04310	.03440	.17000	.00690	.00110	-0.0020	.00000	.69000	.01481
.201	4.170	.27640	.05120	.00920	.27340	.00140	.00110	-0.0020	.00000	.64700	.01446
.201	6.250	.37900	.06000	.01200	.37780	.02284	.00110	-0.0020	.00000	.64700	.01496
.201	8.320	.47800	.06800	.01900	.42610	.01206	.00110	-0.0020	.00000	.64600	.01514
.201	10.400	.57700	.07600	.02600	.49000	.00098	.00110	-0.0020	.00000	.64400	.01609
.201	12.500	.67700	.08400	.03400	.55700	-0.0141	.00110	-0.0020	.00000	.64300	.01908
.201	14.570	.77700	.09100	.04200	.62810	-0.0241	.00110	-0.0020	.00000	.64300	.02017
.201	16.660	.87600	.09800	.05000	.69400	-0.0340	.00110	-0.0020	.00000	.64300	.02103
.201	18.720	.97600	.10500	.05800	.75900	-0.0440	.00110	-0.0020	.00000	.64300	.02192
.201	20.800	1.07500	.11200	.06600	.82400	-0.0540	.00110	-0.0020	.00000	.64300	.02282
.201	22.850	1.17400	.11900	.07400	.88900	-0.0640	.00110	-0.0020	.00000	.64300	.02372
.201	24.890	1.27300	.12600	.08200	.95400	-0.0740	.00110	-0.0020	.00000	.64300	.02462
.201	26.910	1.37200	.13300	.09000	1.01900	-0.0840	.00110	-0.0020	.00000	.64300	.02552
.201	28.920	1.47100	.14000	.09800	1.08400	-0.0940	.00110	-0.0020	.00000	.64300	.02642
.201	30.940	1.57000	.14700	.10600	1.14900	-0.1040	.00110	-0.0020	.00000	.64300	.02732
.201	32.960	1.66900	.15400	.11400	1.21400	-0.1140	.00110	-0.0020	.00000	.64300	.02822
.201	34.980	1.76800	.16100	.12200	1.27900	-0.1240	.00110	-0.0020	.00000	.64300	.02912
.201	37.000	1.86700	.16800	.13000	1.34400	-0.1340	.00110	-0.0020	.00000	.64300	.03002
.201	39.020	1.96600	.17500	.13800	1.40900	-0.1440	.00110	-0.0020	.00000	.64300	.03092
.201	41.040	2.06500	.18200	.14600	1.47400	-0.1540	.00110	-0.0020	.00000	.64300	.03182
.201	43.060	2.16400	.18900	.15400	1.53900	-0.1640	.00110	-0.0020	.00000	.64300	.03272
.201	45.080	2.26300	.19600	.16200	1.60400	-0.1740	.00110	-0.0020	.00000	.64300	.03362
.201	47.100	2.36200	.20300	.17000	1.66900	-0.1840	.00110	-0.0020	.00000	.64300	.03452
.201	49.120	2.46100	.21000	.17800	1.73400	-0.1940	.00110	-0.0020	.00000	.64300	.03542
.201	51.140	2.56000	.21700	.18600	1.79900	-0.2040	.00110	-0.0020	.00000	.64300	.03632
.201	53.160	2.65900	.22400	.19400	1.86400	-0.2140	.00110	-0.0020	.00000	.64300	.03722
.201	55.180	2.75800	.23100	.20200	1.92900	-0.2240	.00110	-0.0020	.00000	.64300	.03812
.201	57.200	2.85700	.23800	.21000	2.00000	-0.2340	.00110	-0.0020	.00000	.64300	.03902
.201	59.220	2.95600	.24500	.21800	2.06500	-0.2440	.00110	-0.0020	.00000	.64300	.03992
.201	61.240	3.05500	.25200	.22600	2.13000	-0.2540	.00110	-0.0020	.00000	.64300	.04082
.201	63.260	3.15400	.25900	.23400	2.19500	-0.2640	.00110	-0.0020	.00000	.64300	.04172
.201	65.280	3.25300	.26600	.24200	2.26000	-0.2740	.00110	-0.0020	.00000	.64300	.04262
.201	67.300	3.35200	.27300	.25000	2.32500	-0.2840	.00110	-0.0020	.00000	.64300	.04352
.201	69.320	3.45100	.28000	.25800	2.39000	-0.2940	.00110	-0.0020	.00000	.64300	.04442
.201	71.340	3.55000	.28700	.26600	2.45500	-0.3040	.00110	-0.0020	.00000	.64300	.04532
.201	73.360	3.64900	.29400	.27400	2.52000	-0.3140	.00110	-0.0020	.00000	.64300	.04622
.201	75.380	3.74800	.30100	.28200	2.58500	-0.3240	.00110	-0.0020	.00000	.64300	.04712
.201	77.400	3.84700	.30800	.29000	2.65000	-0.3340	.00110	-0.0020	.00000	.64300	.04802
.201	79.420	3.94600	.31500	.29800	2.71500	-0.3440	.00110	-0.0020	.00000	.64300	.04892
.201	81.440	4.04500	.32200	.30600	2.78000	-0.3540	.00110	-0.0020	.00000	.64300	.04982
.201	83.460	4.14400	.32900	.31400	2.84500	-0.3640	.00110	-0.0020	.00000	.64300	.05072
.201	85.480	4.24300	.33600	.32200	2.91000	-0.3740	.00110	-0.0020	.00000	.64300	.05162
.201	87.500	4.34200	.34300	.33000	2.97500	-0.3840	.00110	-0.0020	.00000	.64300	.05252
.201	89.520	4.44100	.35000	.33800	3.04000	-0.3940	.00110	-0.0020	.00000	.64300	.05342
.201	91.540	4.54000	.35700	.34600	3.10500	-0.4040	.00110	-0.0020	.00000	.64300	.05432
.201	93.560	4.63900	.36400	.35400	3.17000	-0.4140	.00110	-0.0020	.00000	.64300	.05522
.201	95.580	4.73800	.37100	.36200	3.23500	-0.4240	.00110	-0.0020	.00000	.64300	.05612
.201	97.600	4.83700	.37800	.37000	3.30000	-0.4340	.00110	-0.0020	.00000	.64300	.05702
.201	99.620	4.93600	.38500	.37800	3.36500	-0.4440	.00110	-0.0020	.00000	.64300	.05792
.201	101.640	5.03500	.39200	.38600	3.43000	-0.4540	.00110	-0.0020	.00000	.64300	.05882
.201	103.660	5.13400	.39900	.39400	3.49500	-0.4640	.00110	-0.0020	.00000	.64300	.05972
.201	105.680	5.23300	.40600	.40200	3.56000	-0.4740	.00110	-0.0020	.00000	.64300	.06062
.201	107.700	5.33200	.41300	.41000	3.62500	-0.4840	.00110	-0.0020	.00000	.64300	.06152
.201	109.720	5.43100	.42000	.41800	3.69000	-0.4940	.00110	-0.0020	.00000	.64300	.06242
.201	111.740	5.53000	.42700	.42600	3.75500	-0.5040	.00110	-0.0020	.00000	.64300	.06332
.201	113.760	5.62900	.43400	.43400	3.82000	-0.5140	.00110	-0.0020	.00000	.64300	.06422
.201	115.780	5.72800	.44100	.44200	3.88500	-0.5240	.00110	-0.0020	.00000	.64300	.06512
.201	117.800	5.82700	.44800	.45000	3.95000	-0.5340	.00110	-0.0020	.00000	.64300	.06602
.201	119.820	5.92600	.45500	.45800	4.01500	-0.5440	.00110	-0.0020	.00000	.64300	.06692
.201	121.840	6.02500	.46200	.46600	4.08000	-0.5540	.00110	-0.0020	.00000	.64300	.06782
.201	123.860	6.12400	.46900	.47400	4.14500	-0.5640	.00110	-0.0020	.00000	.64300	.06872
.201	125.880	6.22300	.47600	.48200	4.21000	-0.5740	.00110	-0.0020	.00000	.64300	.06962
.201	127.900	6.32200	.48300	.49000	4.27500	-0.5840	.00110	-0.0020	.00000	.64300	.07052
.201	129.920	6.42100	.49000	.49800	4.34000	-0.5940	.00110	-0.0020	.00000	.64300	.07142
.201	131.940	6.52000	.49700	.50600	4.40500	-0.6040	.00110	-0.0020	.00000	.64300	.07232
.201	133.960	6.61900	.50400	.51400	4.47000	-0.6140	.00110	-0.0020	.00000	.64300	.07322
.201	135.980	6.71800	.51100	.52200	4.53500	-0.6240	.00110	-0.0020	.00000	.64300	.07412
.201	138.000	6.81700	.51800	.53000	4.60000	-0.6340	.00110	-0.0020	.00000	.64300	.07502
.201	140.020	6.91600	.52500	.53800	4.66500	-0.6440	.00110	-0.0020	.00000	.64300	.07592
.201	142.040	7.01500	.53200	.54600	4.73000	-0.6540	.00110	-0.0020	.00000	.64300	.07682
.201	144.060	7.11400	.53900	.55400	4.79500	-0.6640	.00110	-0.0020	.00000	.64300	.07772
.201	146.080	7.21300	.54600	.56200	4.86000	-0.6740	.00110	-0.0020	.00000	.64300	.07862
.201	148.100	7.31200	.55300	.57000	4.92500	-0.6840	.00110	-0.0020	.00000	.64300	.07952
.201	150.120	7.41100	.56000	.57800	4.99000	-0.6940	.00110	-0.0020	.00000	.64300	.08042
.201	152.140	7.51000	.56700	.58600	5.05500	-0.7040	.00110	-0.0020	.00000	.64300	.08132
.201	154.160	7.60900	.57400	.59400	5.12000	-0.7140	.00110	-0.0020	.00000	.64300	.08222
.201	156.180	7.70800	.58100	.60200	5.18500	-0.7240	.00110	-0.0020	.00000	.64300	.08312
.201	158.200	7.80700	.58800	.61000	5.25000	-0.7340	.00110	-0.0020	.00000	.64300	.08402
.201	160.220	7.90600	.59500	.61800	5.31500	-0.7440	.00110	-0.0020	.00000	.64300	.08492
.201	162.240	8.00500	.60200	.62600	5.38000	-0.7540	.00110	-0.0020	.00000	.64300	.08582
.201	164.260	8.10400	.60900	.63400	5.44500	-0.7640	.00110	-0.0020	.00000	.64300	.08672
.201	166.280	8.20300	.61600	.64200	5.51000	-0.7740	.00110	-0.0020	.00000	.64300	.08762
.201	168.300	8.30200	.62300	.65000	5.57500	-0.7840	.00110	-0.0020	.00000	.64300	.08852
.201	170.320	8.40100	.63000	.65800	5.64000	-0.7940	.00110	-0.0020	.00000	.64300	.08942
.201	172.340	8.50000	.63700	.66600	5.70500	-0.8040	.00110	-0.0020	.00000		

GRABETS (25 OCT 73)

PARAMETRIC DATA

REF = 4.122 24.37. WAP = 0.5974 INCHES
 1.97 = 15.2229 INCHES WAP = .0005 INCHES
 3.07 = 27.3249 INCHES WAP = 15.2200 INCHES
 SCALE = 1/200 SCALE

RUN NO. 71/5 RVC = 1.44 GRABING INTERVAL = 4.01/ 9.00

WCH	ALPHA	Z	ZF	CLM	CM	CAF	CM	CEL	CY	KCF	CR
21	-4.300	-5.0650	5.4570	5.0380	-5.2200	5.2850	5.0140	-5.0140	-5.0400	.68200	51.998
21	-1.940	-5.0480	5.4000	-5.0740	-5.3010	5.4400	5.0860	-5.0280	-5.0200	.68200	51.992
21	.500	5.4280	5.4000	-5.1110	5.4300	5.4900	5.0770	-5.0320	-5.0170	.68900	51.995
21	1.590	5.0680	5.4720	-5.0740	5.0680	5.4720	5.0760	-5.0330	5.0300	.69400	51.994
21	2.110	5.4200	5.0500	-5.0200	5.4590	5.4710	5.0710	-5.0400	5.0300	.70000	51.992
21	4.120	5.0500	5.4620	-5.1340	5.4900	5.4910	5.0610	-5.0280	-5.0100	.69800	51.989
21	5.200	5.0920	5.4920	-5.1400	5.4950	5.4080	5.0520	-5.0280	-5.0100	.69200	51.994
21	8.320	4.0270	5.5220	-5.1790	5.4910	5.4110	5.0420	-5.0270	-5.0100	.68500	51.981
21	15.440	5.0900	5.2400	-5.0270	5.4910	5.4020	5.0330	-5.0270	-5.0100	.68500	51.973
21	22.480	5.0900	5.2400	-5.0270	5.4910	5.4020	5.0330	-5.0270	-5.0100	.68500	51.971
21	24.570	7.9900	5.2400	-5.0270	5.4910	5.4020	5.0330	-5.0270	-5.0100	.68500	51.969
21	26.840	8.9100	5.2400	-5.0270	5.4910	5.4020	5.0330	-5.0270	-5.0100	.68500	51.968
21	28.710	9.7700	5.2400	-5.0270	5.4910	5.4020	5.0330	-5.0270	-5.0100	.68500	51.963
21	29.870	1.5400	5.4780	-5.1130	5.4900	5.4020	5.0330	-5.0270	-5.0100	.68500	51.964
21	29.870	1.5400	5.4780	-5.1130	5.4900	5.4020	5.0330	-5.0270	-5.0100	.68500	51.963
21	29.870	1.5400	5.4780	-5.1130	5.4900	5.4020	5.0330	-5.0270	-5.0100	.68500	51.962
21	29.870	1.5400	5.4780	-5.1130	5.4900	5.4020	5.0330	-5.0270	-5.0100	.68500	51.960
21	29.870	1.5400	5.4780	-5.1130	5.4900	5.4020	5.0330	-5.0270	-5.0100	.68500	51.958
21	GRABING	5.4740	5.0290	-5.0140	5.4820	5.0180	-5.0020	-5.0110	5.0140	.68200	- 51.952

REFERENCE DATA

BETA = .000
 ELEVATION = .000
 P.DIPER = .000
 WACETA = .000
 WACETA = .000

1952

1953

1954

Year	1952	1953	1954
1952	1000	1000	1000
1953	1000	1000	1000
1954	1000	1000	1000

1955

Year	1955	1956	1957
1955	1000	1000	1000
1956	1000	1000	1000
1957	1000	1000	1000

1958

Year	1958	1959	1960
1958	1000	1000	1000
1959	1000	1000	1000
1960	1000	1000	1000

1961

Year	1961	1962	1963
1961	1000	1000	1000
1962	1000	1000	1000
1963	1000	1000	1000

1964

Year	1964	1965	1966
1964	1000	1000	1000
1965	1000	1000	1000
1966	1000	1000	1000

1967

Year	1967	1968	1969
1967	1000	1000	1000
1968	1000	1000	1000
1969	1000	1000	1000

1970

Year	1970	1971	1972
1970	1000	1000	1000
1971	1000	1000	1000
1972	1000	1000	1000

1973

Year	1973	1974	1975
1973	1000	1000	1000
1974	1000	1000	1000
1975	1000	1000	1000