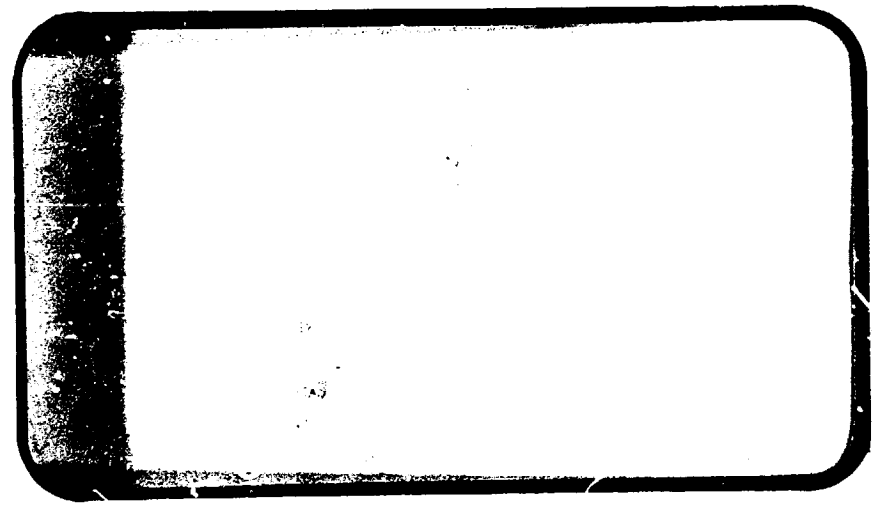




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

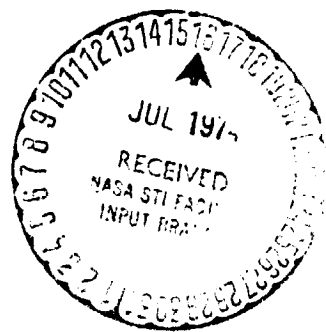
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER
HOUSTON, TEXAS

DATA MANAGEMENT services
SPACE DIVISION  CHRYSLER CORPORATION

April, 1974

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RESULTS OF AN AERODYNAMIC FORCE AND MOMENT
INVESTIGATION OF AN 0.015-SCALE CONFIGURATION 3
SPACE SHUTTLE ORBITER IN THE NASA/ARC
3.5-FOOT HYPERSONIC WIND TUNNEL (0A58)

By

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J. W. Cleary, NASA/Ames Research Center

Prepared under NASA Contract Number NAS9-13247

By

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for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number ARC 3.5-163
NASA Series Number: OA58
Test Dates: 6/4/73 - 6/8/73

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

RESULTS OF AN AERODYNAMIC FORCE AND MOMENT
INVESTIGATION OF AN 0.015-SCALE CONFIGURATION 3
SPACE SHUTTLE ORBITER IN THE NASA/ARC
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ABSTRACT

Tests were conducted on a 0.015-scale model of the Space Shuttle Vehicle Configuration 3 Orbiter in the Ames Research Center 3.5-Foot Hypersonic Wind Tunnel. The primary objective of the test was to obtain stability and control data for the basic configuration and an alternate configuration. Pitch runs were made with 0° of sideslip at Mach numbers of 5.3, 7.3 and 10.3. Six-component force data and fuselage base pressures were recorded for each run. Shadowgraph pictures were taken at selected points. Model 420 was used for these tests.

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INDEX OF DATA FIGURES (Concluded)

COEFFICIENT SCHEDULE:

- A: CL, CN, CD, CDF, L/D, CA, CAF, CAB VS ALPHA
 CLMFWD, CLMAFT, XCP/L VS ALPHA
 CL VS CD, CL VS CLMFWD, CN VS CLMFWD
- B: DCL, DCN, DCD, DCDF, DCA, DCAF, DCAB VS ALPHA
 DCLMFD, DCLMAT VS ALPHA
- C: DCL, DCN, DCD, DCA, DCLMFD, DCLMAT VS DE
- D: DCL, DCN, DCD, DCA, DCLMFD, DCLMAT VS DBF

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
<u>Reference & C.G. Definitions</u>		
Ab		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	CIM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS L_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D _f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

In addition to the standard notation, the following are special to this test.

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
C_{PB_i}		fuselage base pressure coefficient.
C_{PB_M}		OMS pod base pressure coefficient.
P_{B_i}		fuselage base pressure.
P_{B_M}		OMS pod base pressure.
X_{cp}/λ_B	XCP/L	nondimensional center of pressure.
$C_{m_{fwd}}$	CLMFWD	pitching moment coefficient about forward center of gravity location.
$C_{m_{aft}}$	CLMAFT	pitching moment coefficient about aft center of gravity location.
ΔC_A	DCA	incremental axial-force coefficient, algebraic difference of two runs.
ΔC_D	DCD	incremental drag coefficient, algebraic difference of two runs.
ΔC_L	DCL	incremental lift coefficient, algebraic difference of two runs.
ΔC_N	DCN	incremental normal-force coefficient, algebraic difference of two runs.
ΔC_{D_f}	DCDF	incremental forebody drag coefficient, algebraic difference of two runs.
ΔC_{A_f}	DCAF	incremental forebody axial force coefficient, algebraic difference of two runs.
ΔC_{A_b}	DCAB	incremental base axial force coefficient, algebraic difference of two runs.
$\Delta C_{m_{fwd}}$	DCLMFD	incremental pitching moment about forward C.G., algebraic difference of two runs.

NOMENCLATURE (Concluded)

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_{m_{aft}}$	DCLMAT	incremental pitching moment about aft C.G., algebraic difference two runs.
δ_{BF}	BDFLAP	body flap, surface deflection angle, positive deflection, trailing edge down; degrees.
δ_e	ELEVON	elevon, surface deflection angle, positive deflection, trailing edge down; degrees.
δ_R	RUDDER	rudder, surface deflection angle, positive deflection, trailing edge left; degrees.
δ_{SB}	SPDBRK	speed brake, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{SB} = (\delta_{RL} + \delta_{RR})/2$, positive deflection; degrees.
$\Delta\delta_e$	DE	incremental elevon deflection angle, algebraic difference of two runs.
$\Delta\delta_{BF}$	DBF	incremental body flap deflection angle, algebraic difference of two runs.

CONFIGURATIONS INVESTIGATED

The test specimen for this investigation was an 0.015-scale representation of the Configuration 3 Space Shuttle Orbiter. It was constructed of Armco 17-4 stainless steel with individual components and variable control surface deflections as follows:

Component	Definition
B ₁₇	Basic vehicle configuration 3 (139) fuselage of the Rockwell International Space Shuttle vehicle (SSV) orbiter configuration (VL70-000139)
B ₁₉	Alternate vehicle configuration 3 (139B) fuselage of the Rockwell International SSV orbiter configuration (VL70-000139B)
C ₇	Basic vehicle configuration 3 (139) canopy (VL70-000139)
E ₂₂	Elevon on basic vehicle configuration 3 (139) wing (VL70-000139); deflections tested were $\delta_e = 0^\circ$, 11° and -44°
E ₂₃	Elevon on alternate vehicle configuration 3 (139B) wing (VL70-000139B), deflections tested were $\delta_e = 0^\circ$, 11° and -44°
F ₅	Basic vehicle configuration 3 (139) body flap (VL70-000139), deflections tested were $\delta_e = 0^\circ$, 13.75° and -14.25°
M ₄	Basic OMS-RCS pod for the Rockwell International SSV configuration 3 (VL70-000139B)
R ₅	Basic vehicle configuration 3 (139) rudder for vertical tail (VL70-000139); deflections tested were $\delta_R = 0^\circ$ and $\delta_{SB} = 54.92^\circ$
V ₇	Basic vehicle configuration 3 vertical tail (VL70-000139)
W ₁₀₃	Basic vehicle configuration 3 (139) wing (VL70-000139)

W₁₀₇

Alternate vehicle configuration 3 (139B) wing
(VL7C-000139B)

Two different orbiter configurations were investigated which were
constructed of model components as follows:

O₁₃₉

Complete orbiter configuration B₁₇ C₇ F₅ M₄ V₇ R₅
W₁₀₃ E₂₂

O_{139B}

Complete orbiter configuration B₁₉ C₇ F₅ M₄ V₇ R₅
W₁₀₇ E₂₃

Figure 2 shows the general orbiter configuration. Detailed model
component descriptions and dimensional data are given in table 3.

TEST FACILITY

The NASA-Ames 3.5-Foot Hypersonic Wind Tunnel is a closed-circuit, blowdown-type tunnel capable of operating at nominal Mach numbers of 5, 7, and 10 at pressures to 1800 psia and temperatures to 3400°R for run times to four minutes. The major components of the facility include a gas storage system where the test gas is stored at 3000 psi, a storage heater filled with aluminum-oxide pebbles capable of heating the test gas to 3400°R, axisymmetric contoured nozzles with exit diameters of 42 inches for generating the desired Mach number, and a 900,000 ft³ vacuum storage system which operates to pressures of 0.3 psia. The test section itself is an open-jet type enclosed within a chamber approximately 12-feet in diameter and 40-feet in length, arranged transversally to the flow direction.

A model support system is provided that can pitch models through an angle-of-attack range of -20 to +18 degrees, in a vertical plane, about a fixed point of rotation on the tunnel centerline. This rotation point is adjustable from 1 to 5 feet from the nozzle exit plane. The model normally is out of the test stream (strut centerline 37-inches from tunnel centerline) until the tunnel test conditions are established after which it is inserted. Insertion time is adjustable to as little as 1/2 second and models may be inserted at any strut angle.

A high-speed, analog-to-digital data acquisition system is used to record test data on magnetic tape. The present system is equipped to measure and record the outputs from 80 transducers in addition to 20 channels of tunnel parameters.

TESTING AND PROCEDURE

The 0.015-scale model of the configuration 3 orbiter (model 420) was sting-mounted from the smaller of the two available model support struts in the Ames Research Center (ARC) 3.5-Foot Hypersonic Wind Tunnel. A Task Corporation MK IID 1.5-inch diameter internal strain gauge balance was supplied by ARC to measure six-component model loads. The capacities of the balance are presented in table 1. A 0.25-inch thick glass/silicon sleeve thermally insulated the balance from the fuselage.

Rockwell sting W-1101-S supported the balance from the strut. All runs were made with the sting at 3.5 inches below tunnel centerline. This sting is provided with interchangeable bent adapters just behind the balance socket which enable high angles of attack to be achieved. Adapters with 10° , 40° and 50° pitch angles with 0° sideslip were employed in this test.

An in-tunnel check of the balance sensitivities and sting deflections was performed prior to the start of the test. The results indicated that these quantities were essentially unchanged from those determined in a previous orbiter test, (A11B).

Four, one-sixteenth-inch ID, stainless steel tubes were routed along the sting to sense pressures at the base of the model. These pressures were measured by individual Stathem 0-5 psia transducers located in the model support strut.

To achieve a pitch range of -3 to 52° , two separate runs were required using the 10° and 40° bent sting adapters. Runs made with the 10°

adapter were swept in order of ascending angle of attack, whereas runs with the 40° adapter were started at the maximum angle of attack and then swept downward. The latter approach was deemed necessary in order to have a minimum back pressure in the tunnel vacuum spheres during the period of maximum blockage, thus reducing the possibility of unstarting the tunnel. This procedure was followed for runs 1 to 23. However, a significant amount of scatter in the high angle of attack results, particularly in the axial force data, prompted an investigation of the effect of pitching in the direction of ascending angles. Runs 24 to 28 were made in that manner and indicated a reduced degree of data scatter. Mach 10 data did not exhibit the scatter phenomena and so runs 29 to 38 were made in order of descending angles to alleviate the unstart problem.

Shadowgraph photos were taken at selected test conditions.

DATA REDUCTION

Standard ARC methods were used to compute aerodynamic coefficient data in body and stability axes. Figure 1 describes these axis systems.

Base pressures for the fuselage and OMS pods were computed as follows:

$$C_{PB} = \left(\sum_{i=3}^4 C_{PB_i} + C_{PB_M} \right) / 3$$

$$C_{PB_i} = \text{fuselage base pressure coefficient} = \frac{P_{B_i} - P_o}{q}$$

$$C_{PB_M} = \text{OMS pod base pressure coefficient} = \frac{P_{B_M} - P_o}{q}$$

where

F_B = measured average pressure at fuselage base, psia

P_{B_i} = measured pressure at various points on fuselage base, psia (see figure 2(b))

P_{B_M} = measured pressure at OMS pod base, psia

P_o = free-stream static pressure, psia

q = free-stream dynamic pressure, psi

Base axial-force coefficient was computed as follows:

$$C_{A_b} = - \frac{J_{PB}}{S_w} (A_B + A_{B_M} + A_{SC})$$

Forebody axial force coefficient was computed as follows:

$$C_{A_f} = C_A - C_{A_b}$$

Center-of-pressure location in percent of body length was computed as follows:

$$X_{cp}/l_B = (X_{C.G.} - \frac{C_m \bar{c}_w}{C_N})/l_B$$

where

$X_{C.G.}$ = location of reference center of gravity aft of model nose, inches

l_B = body length, inches

Two lift-to-drag ratios, based on stability axes data, were computed as follows:

$$\text{Using } C_A, L/D = C_L/C_D$$

$$\text{Using } C_{A_f}, L/D_f = C_{L_f}/C_{D_f}$$

Reference Dimensions and Constants

Symbol	Definition	Value
A_B	Fuselage base area, OMS pods on	0.045 ft ²
A_{B_M}	OMS pod area (two pods)	0.019 ft ²
A_{SC}	Sting cavity base area	0.034 ft ²
b_w	Span, wing	14.050 in
CG X	Reference C.G.	12.577 in
CG Z	Reference C.G.	FRL (Z=6.00)
\bar{c}_w	MAC, wing	7.122 in
l_B	Reference body length	19.35 in
S_w	Area, wing (ref.)	0.605 ft ²

TABLE 2.

TEST: OA58 (ARC 3.5 163)		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 6/4 thru 6/8/73		
DATA SET IDENTIFIER	CONFIGURATION	SCND.		PARAMETERS/VALUES						NO. OF RUNS	MACH NUMBERS			TEST RUN NUMBERS
		a	b	Sc	Sr	Sr	Sr	SR	SR		SR	5:3	7:3	
RBY001	B ₁ C ₁ M ₁₅ W ₆₇ V ₁ F ₂₃ R ₅	A	O	O	-125	54.92	O				2	17	24	
		C		↓							↓	20	12	
		A			-44						↓	18	23	32
		B									↓			
		C									↓	19	22	
		A			11	13.75					↓		21	
		B									↓			28
		C									↓		14	
		A			O	O					↓		25	
		B									↓			31
		C									↓		11	
		A				13.75					↓		26	
		B									↓			33
		C									↓		13	
		B				14.25					↓			30
		A				54.92					↓	2	15	3
	B ₁₁ C ₁ M ₁₅ W ₆₃ V ₁ F ₂₂ R ₅	B									↓			35
		C									↓			
											↓		8	

I.C.N. 7CA 13 GUM 19 CH 25 CD 31 L/D 37 XCP/L143CPI 49 CP3 55CP4 61 75.76
 C.Y. CYN. ICBU COEFFICIENTS C= -3 THRU 30, Δα= 3
 α: A= 27 THRU 52, Δα= 3
 B= 0 THRU 40, Δα= 5
 SCHEDULES

XBY---
YBY---

TABLE 2. - Concluded.

TEST: OA 58 (ARC 3.5 163)		DATE: 6/4 THRU 6/8/73																
DATA SET IDENTIFIER	CONFIGURATION	PARAMETERS/VALUES										NO. OF RUNS	MACH NUMBERS			TEST RUN NUMBERS		
		SCHD. α	β	δc	δB	δSB	δK	5.3	7.3	10.3								
REY019	B1C ₁ M ₁ F ₁ W ₁₀₃ V ₁ E ₂₂ R ₅	A	O	-44	-AZS	5A92	O					2	16	4	34			
20		B										1						
21		C												10				
22		A		11	1375									5		38		
23		B																
24		C													6			
25		A		O	O										1		36	
26		B																
27		C														9		
28		A			1375											2		37
29		B																
30		C														7		

α: A= 27 THRU 52, Δα = 3
 β: B= 0 THRU 40, Δβ = 5

COEFFICIENTS

C = -3 THRU 30, ΔC = 3

TABLE 3. - MODEL DIMENSIONAL DATA

Model Component: Body (B₁₇)

General Description: Fuselage, Configuration 3, lightweight orbiter per
Lines Drawing VL70-000139

Scale model = 0.015

Drawing Number: VL70-000139

Dimensions:	<u>Full Scale</u>	<u>Model Scale</u>
Length ~ in.	<u>1290.3</u>	<u>19.35450</u>
Max width ~ in.	<u>267.6</u>	<u>4.0140</u>
Max depth ~ in.	<u>244.5</u>	<u>3.66750</u>
Fineness ratio	<u>4.82175</u>	<u>4.82175</u>
Area ~ ft ²		
Max cross-sectional	<u>386.67</u>	<u>0.08700</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Body (B19)

General Description: Fuselage, Configuration 3, lightweight orbiter
per Lines Drawing VL70-000139B

Note: Identical to B17 except forebody Model scale = 0.015

Drawing Number: VL70-000139B

Dimensions:	<u>Full-Scale</u>	<u>Model Scale</u>
Length ~ in.	<u>1290.3</u>	<u>19.35450</u>
Max width ~ in.	<u>267.6</u>	<u>4.0140</u>
Max depth ~ in.	<u>244.5</u>	<u>3.66750</u>
Fineness ratio	<u>4.82175</u>	<u>4.82175</u>
Area ~ ft ²		
Max cross-sectional	<u>386.67</u>	<u>0.08700</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Canopy (C7)

General Description: Configuration 3 per Lines Drawing VL70-000139.

Insufficient information to complete dimensional data at this time.

Model scale = 0.015

Drawing Number: VL70-000139

Dimensions:	<u>Full-Scale</u>	<u>Model Scale</u>
Length (sta fwd bulkhead) ~ in.	<u>432.70</u>	<u>6.4905</u>
Max width (TE bulkhead) ~ in.	<u>571.40</u>	<u>8.5710</u>
Max depth (WPZ ₀ = to Z ₀ = 501) ~ in.	<u> </u>	<u> </u>
Fineness ratio	<u> </u>	<u> </u>
Area ~ ft ²	<u> </u>	<u> </u>
Max cross-sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Elevon (E22)

General Description: Configuration 3 per W103 Lines Drawing VL70-000139
data for 1 of 2 sides.

Model scale = 0.015

Drawing Number: VL70-000139

Dimensions:	Full-Scale	Model Scale
Area - ft ²	205.52	0.04624
Span (equivalent) - in.	353.34	5.30010
Inbd equivalent chord - in.	114.78	1.72170
Outbd equivalent chord - in.	55.00	0.8250
Ratio movable surface chord/ total surface chord		
At inbd equiv chord	0.208	0.208
At outbd equiv chord	0.400	0.400
Sweepback angles - deg		
Leading edge	0.00	0.00
Trailing edge	-10.24	-10.24
Hinge line	0.00	0.00
Area moment (normal to hinge line) - ft ³	1548.07	0.00522

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Elevator (E₂₃)

General Description: Configuration 3 per W107 Rockwell Lines
Drawing VL70-000139B data for 1 of 2 sides.

Model scale = 0.015

Drawing Number: VL70-000139B

Dimensions:	Full-Scale	Model Scale
Area - ft ²	205.52	0.04624
Span (equivalent) - in.	353.34	5.30010
Inbd equivalent chord - in.	114.78	1.72170
Outbd equivalent chord - in.	55.00	0.8250
Ratio movable surface chord/ total surface chord		
At inbd equiv chord	0.208	0.208
At outbd equiv chord	0.400	0.400
Sweepback angles - deg		
Leading edge	0.00	0.00
Trailing edge	-10.24	-10.24
Hinge line	0.00	0.00
Area moment (normal to hinge line) - ft ³	1548.07	0.00522

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Body flap (F5)General Description: Configuration 3 per Lines Drawing VL70-000139

Scale model = 0.015

Drawing Number: VL70-000139

Dimensions:	Full-Scale	Model Scale
Length - in.	84.70	1.2705
Max width - in.	267.6	4.0140
Max depth - in.		
Fineness ratio		
Area - ft ²		
Max cross-sectional		
Planform	142.5195	0.03207
Wetted	38.0958	0.00857
Base		

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: OMS pod (M₄)

General Description: Lightweight Configuration 3 per Lines Drawing VL70-000139. Note: M₄ identical to M₃ of Configuration 2A except inter-section to body. Scale model = 0.015

Drawing Number: VL70-000139

Dimensions:	Full-Scale	Model Scale
Length - in.	346.0	5.1900
Max width - in.	108.0	1.620
Max depth - in.	113.0	1.695
Fineness ratio		
Area - ft ²		
Max cross-sectional		
Planform		
Wetted		
Base		

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Rudder (R5)

General Description: Configurations 2A and 3 per Rockwell Lines

Drawings VL70-000095 and VL70-000139

Model scale = 0.015

Drawing Number: VL70-000095, VL70-000139

Dimensions:

	<u>Full-Scale</u>	<u>Model Scale</u>
Area - ft ²	<u>98.67</u>	<u>0.022</u>
Span (equivalent) - in.	<u>201.0</u>	<u>3.0150</u>
Inbd equivalent chord - in.	<u>91.585</u>	<u>1.37378</u>
Outbd equivalent chord - in.	<u>50.833</u>	<u>0.76249</u>
Ratio movable surface chord/ total surface chord		
At inbd equiv chord	<u>0.400</u>	<u>0.400</u>
At outbd equiv chord	<u>0.400</u>	<u>0.400</u>
Sweepback angles - deg		
Leading edge	<u>34.83</u>	<u>34.83</u>
Trailing edge	<u>26.25</u>	<u>26.25</u>
Hinge line	<u>34.83</u>	<u>34.83</u>
Area moment (normal to hinge line) - ft ³	<u>526.13</u>	<u>0.00178</u>

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Vertical (V7), lightweight orbiter configuration

General Description: Centerline vertical tail, double wedge airfoil with rounded leading edge

Model scale = 0.015

Drawing Number: VL70-000139, VL70-000095

Dimensions:	<u>Full-Scale</u>	<u>Model Scale</u>
Total Data		
Planform area (theo) ~ ft ²	425.92	0.09583
Span (theo) ~ in.	315.72	4.73580
Aspect ratio	1.675	1.675
Rate of taper	0.507	0.507
Taper ratio	0.404	0.404
Sweepback angles - deg		
Leading edge	45.000	45.000
Trailing edge	26.249	26.249
0.25 element line	41.130	41.130
Chords - in.		
Root (theo) WP	268.50	4.02750
Tip (theo) WP	108.47	1.62705
MAC	199.81	2.99715
Fus sta of 0.25 MAC	1463.50	21.9525
WP of 0.25 MAC	635.522	9.53283
BL of 0.25 MAC	0.0	0.00
Airfoil section		
Leading wedge angle ~ deg	10.000	10.000
Trailing wedge angle ~ deg	14.920	14.920
Leading edge radius ~ in.	2.00	0.0300
Void area ~ ft ²	13.17	0.00296
Blanketed area ~ ft ²		

TABLE 3. - MODEL DIMENSIONAL DATA - Continued.

Model Component: Wing (W103), new lightweight orbiter

General Description: Orbiter configuration per Lines Drawing VL70-000139

Note: Dihedral angle is defined at the lower surface of the wing at the 75.33-percent element line projected into a plane perpendicular to the FRP. Scale model = 0.015

Test No. _____ Drawing No. VL70-000139

Dimensions:	Full-Scale	Model Scale
Total Data		
Planform area (theo) - ft ²	2690.00	0.60525
Span (theo) - in.	936.68	14.05020
Aspect ratio	2.265	2.265
Rate of taper	1.177	1.177
Taper ratio	0.200	0.200
Dihedral angle, - deg	3.500	3.500
Incidence angle, - deg	3.000	3.000
Aerodynamic twist, - deg	+3.000	+3.000
Sweepback angles, - deg		
Leading edge	45.000	45.000
Trailing edge	-10.24	-10.24
0.25 element line	35.209	35.209
Chords - in.		
Root (theo) at BP 0.0	689.24	10.33860
Tip (theo) at BP	137.85	2.06775
MAC	474.81	7.12215
Fus sta of 0.25 MAC	1136.89	17.05335
WP of 0.25 MAC	299.20	4.4880
BL of 0.25 MAC	182.13	2.73195
Exposed Data		
Area (theo) - ft ²	1752.29	0.39426
Span (theo) - in. (BP 108.0 to 468.341)	720.68	10.81020
Aspect ratio	2.058	2.058
Taper ratio	0.2451	0.2451
Chords - in.		
Root at BP 108.0	562.40	8.4360
Tip at $1.30 \frac{b}{2}$	137.85	2.06775
MAC	393.03	5.89545
Fus sta of 0.25 MAC	1185.31	17.77965
WP of 0.25 MAC	300.20	4.5030
BL of 0.25 MAC	251.76	3.7764
Airfoil section (Rockwell mod NASA XXXX-64)		
Percent thickness at $0.425 \frac{b}{2}$	0.10	0.10
Percent thickness at $1.00 \frac{b}{2}$	0.12	0.12
Data for 1 of 2 sides		
Leading edge cuff		
Planform area - ft ²	120.33	0.02707
Leading edge intersects fus ML at sta - in.	560.0	8.40
Leading edge intersects wing at sta - in.	1035.0	15.5250

TABLE 3. - MODEL DIMENSIONAL DATA - Concluded.

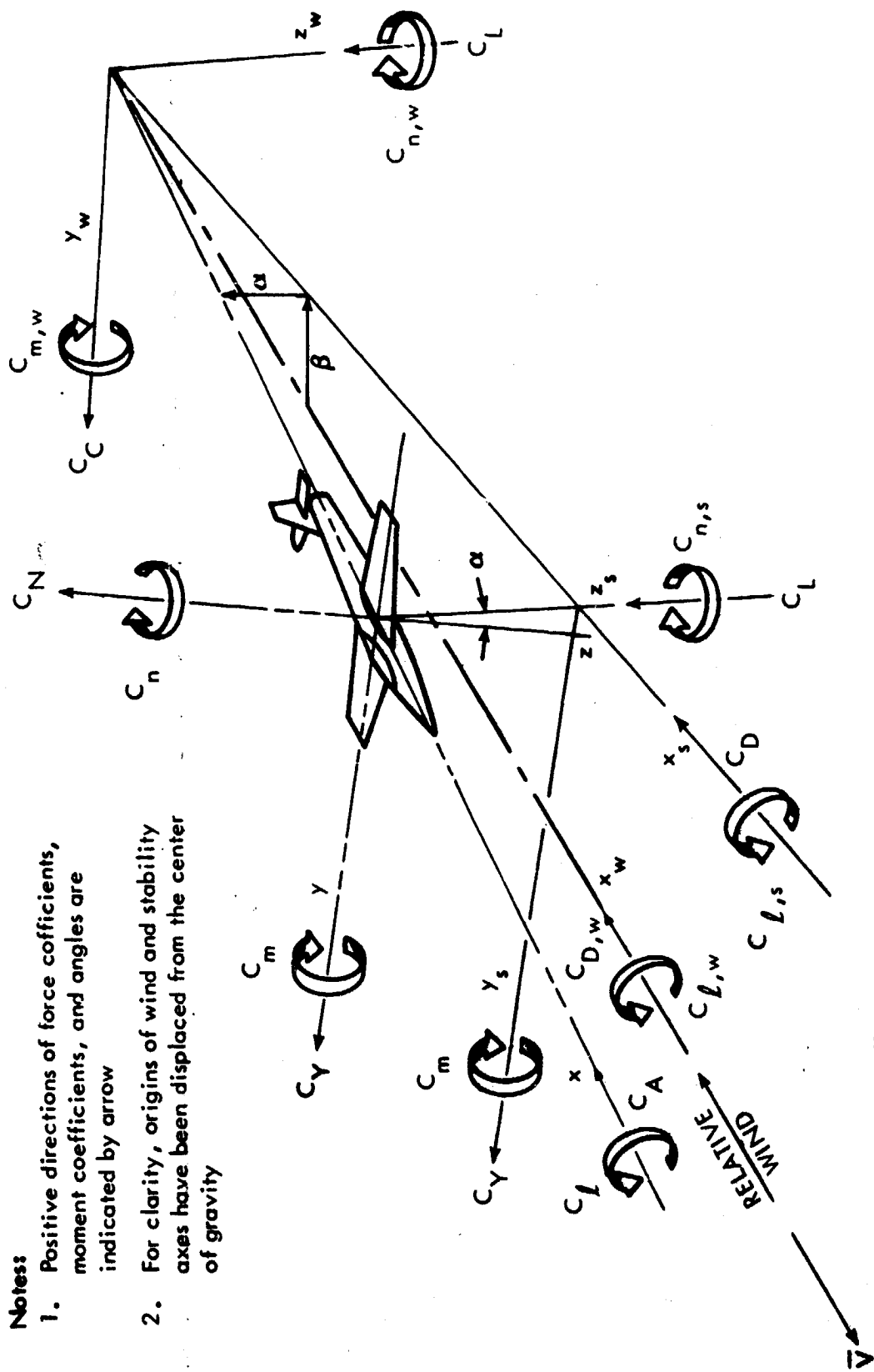
Model Component: Wing (W107), new lightweight orbiter

General Description: Orbiter Configuration 3 per Lines Drawing VL70-000139B

Note: Same as W103 except cuff, airfoil, and angle of incidence. Scale model = 0.015

Test No. _____ Drawing No. VL70-000139B

Dimensions:	Full-Scale	Model Scale
Total Data		
Planform area (theo) - ft ²	2690.0	0.60525
Span (theo) - in.	936.68	14.05020
Aspect ratio	2.265	2.265
Rate of taper	1.177	1.177
Taper ratio	0.200	0.200
Dihedral angle, - deg	3.500	3.500
Incidence angle, - deg	0.500	0.500
Aerodynamic twist, - deg	+3.000	+3.000
Sweepback angles, - deg		
Leading edge	45.000	45.000
Trailing edge	-10.24	-10.24
0.25 element line	35.209	35.209
Chords - in.		
Root (theo) at BP 0.0	689.24	10.33860
Tip (theo) at BP 468.341	137.85	2.06775
MAC	474.81	7.12215
Fus sta of 0.25 MAC	1136.89	17.05335
WP of 0.25 MAC	299.20	4.4880
BL of 0.25 MAC	182.13	2.73195
Exposed Data		
Area (theo) - ft ²	1752.29	0.39426
Span (theo) - in. (BP 108.0 to 468.341)	720.68	10.81020
Aspect ratio	2.058	2.058
Taper ratio	0.2451	0.2451
Chords - in.		
Root at BP 108.0	562.40	8.4360
Tip at $1.00 \frac{b}{2}$	137.85	2.06775
MAC	393.03	5.89545
Fus sta of 0.25 MAC	1185.31	17.77965
WP of 0.25 MAC	300.20	4.5030
BL of 0.25 MAC	251.76	3.7764
Airfoil section (Rockwell mod NASA XXXX-64)		
Percent thickness at $\frac{b}{2}$	0.10	0.10
Percent thickness at $1.0 \frac{b}{2}$	0.12	0.12
Data for 1 of 2 sides		
Leading edge cuff		
Planform area - ft ²	118.333	0.02662
Leading edge intersects fus ML at sta - in.	500	7.5000
Leading edge intersects wing at sta - in.	1083.4	16.2510

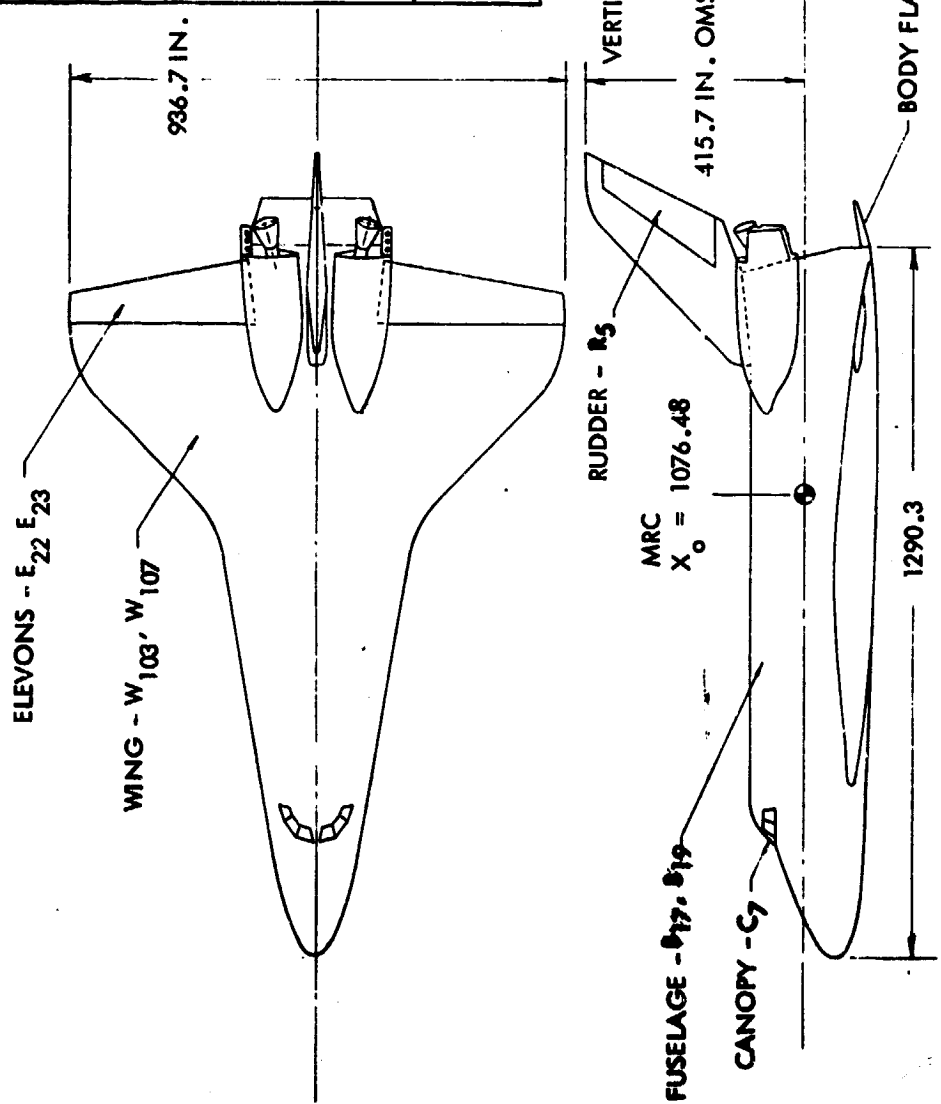


Notes:

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

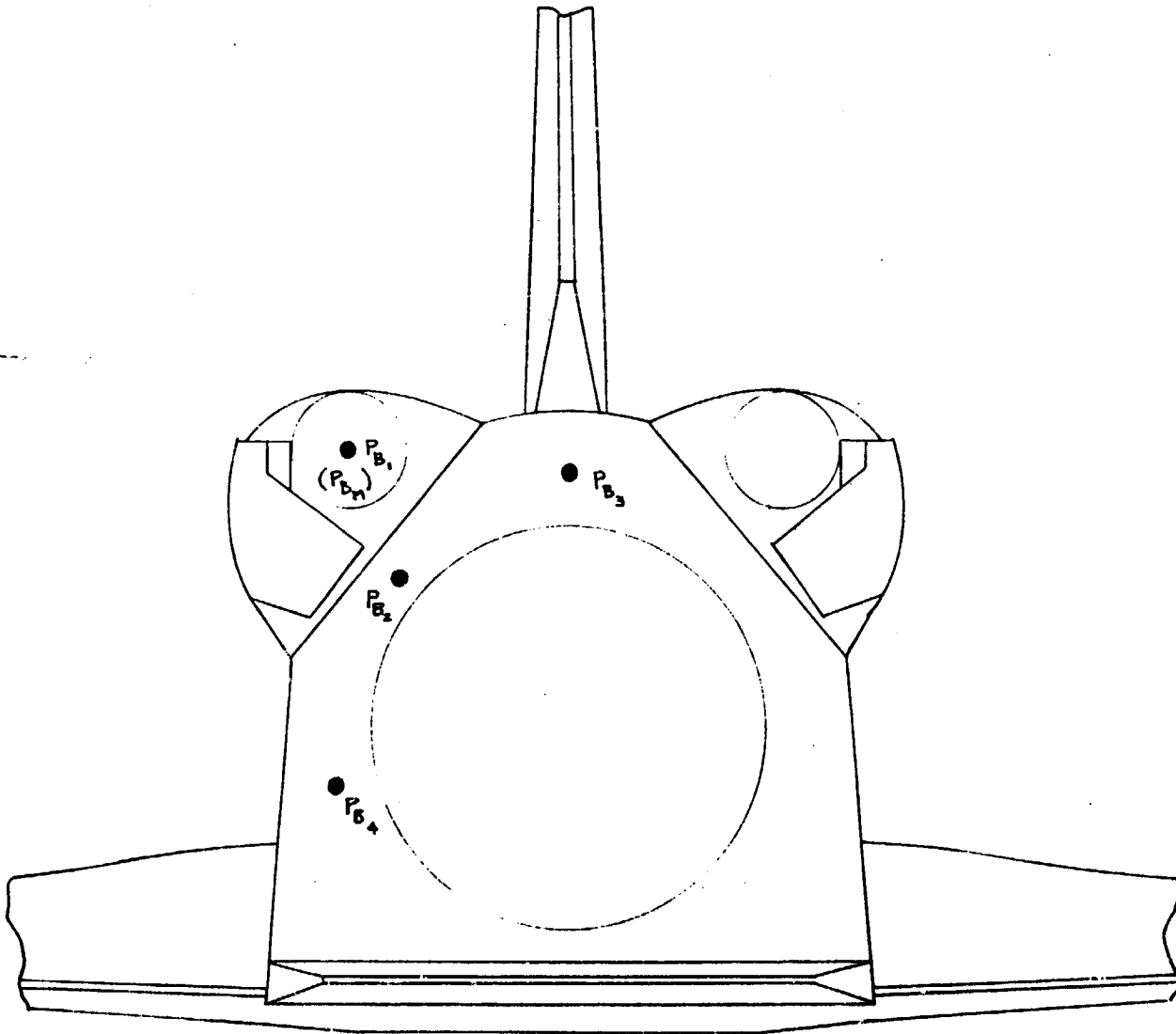
Figure 1. - Axis Systems.

REFERENCE	DIMENSIONS
AREA	$S_w = 2690 \text{ FT}^2$
MAC	$\bar{C} = 474.8 \text{ IN.}$
C.G.	$X = 838.48 \text{ in.}$
SPAN	$Z = 400 \text{ IN.}$
LENGTH	$b_w = 936.68 \text{ IN.}$
	$L = 1290.3$
$O_{139} = B_{17} \quad C_7 \quad F_5 \quad M_4 \quad V_7 \quad R_5 \quad W_{103} \quad E_{22}$	
$O_{1398} = B_{19} \quad C_7 \quad F_5 \quad M_4 \quad V_7 \quad R_5 \quad W_{107} \quad E_{23}$	



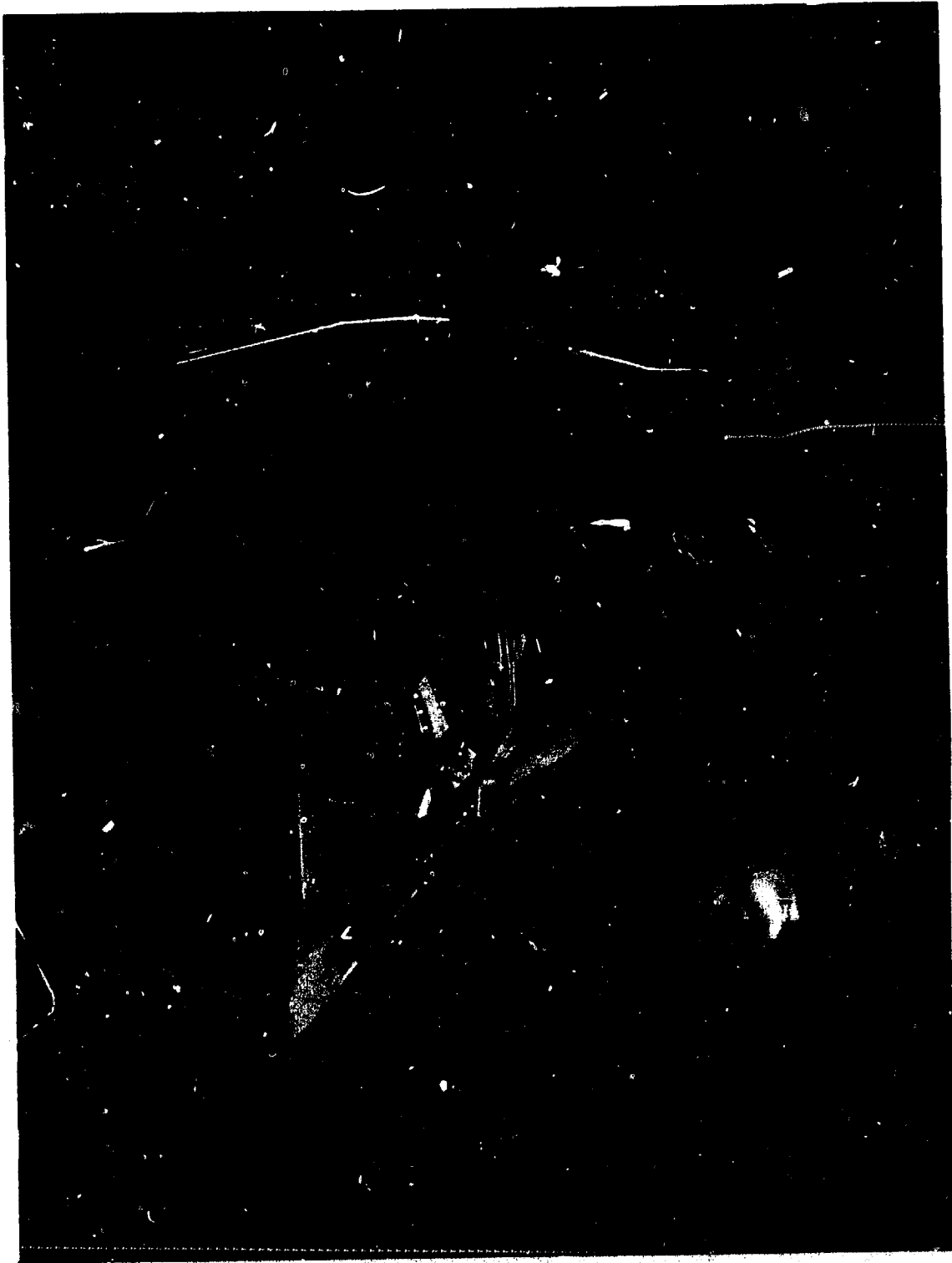
(a) Configuration Diagram

Figure 2.



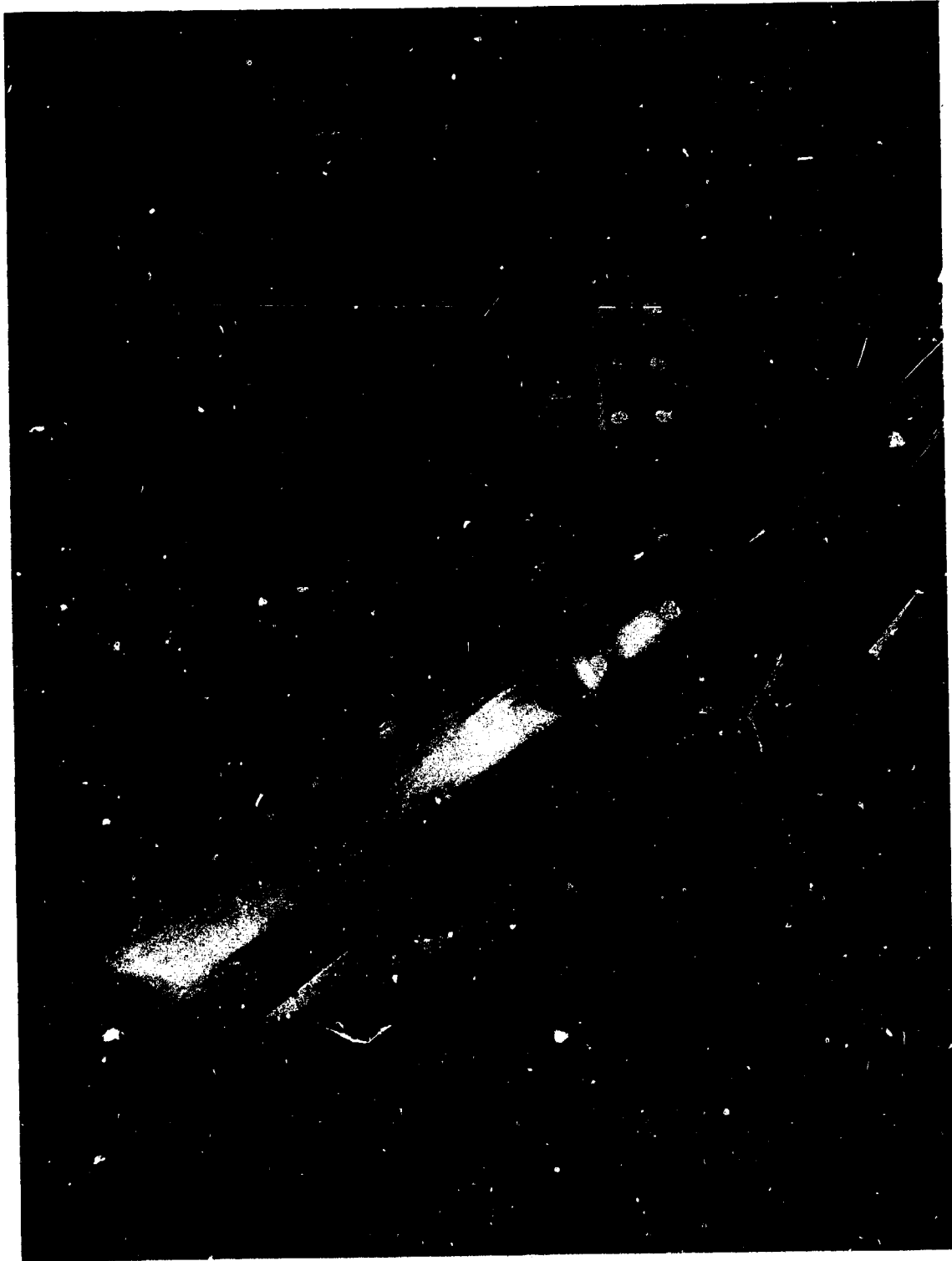
(b) Location of Base Pressure Taps

Figure 2. - Concluded.

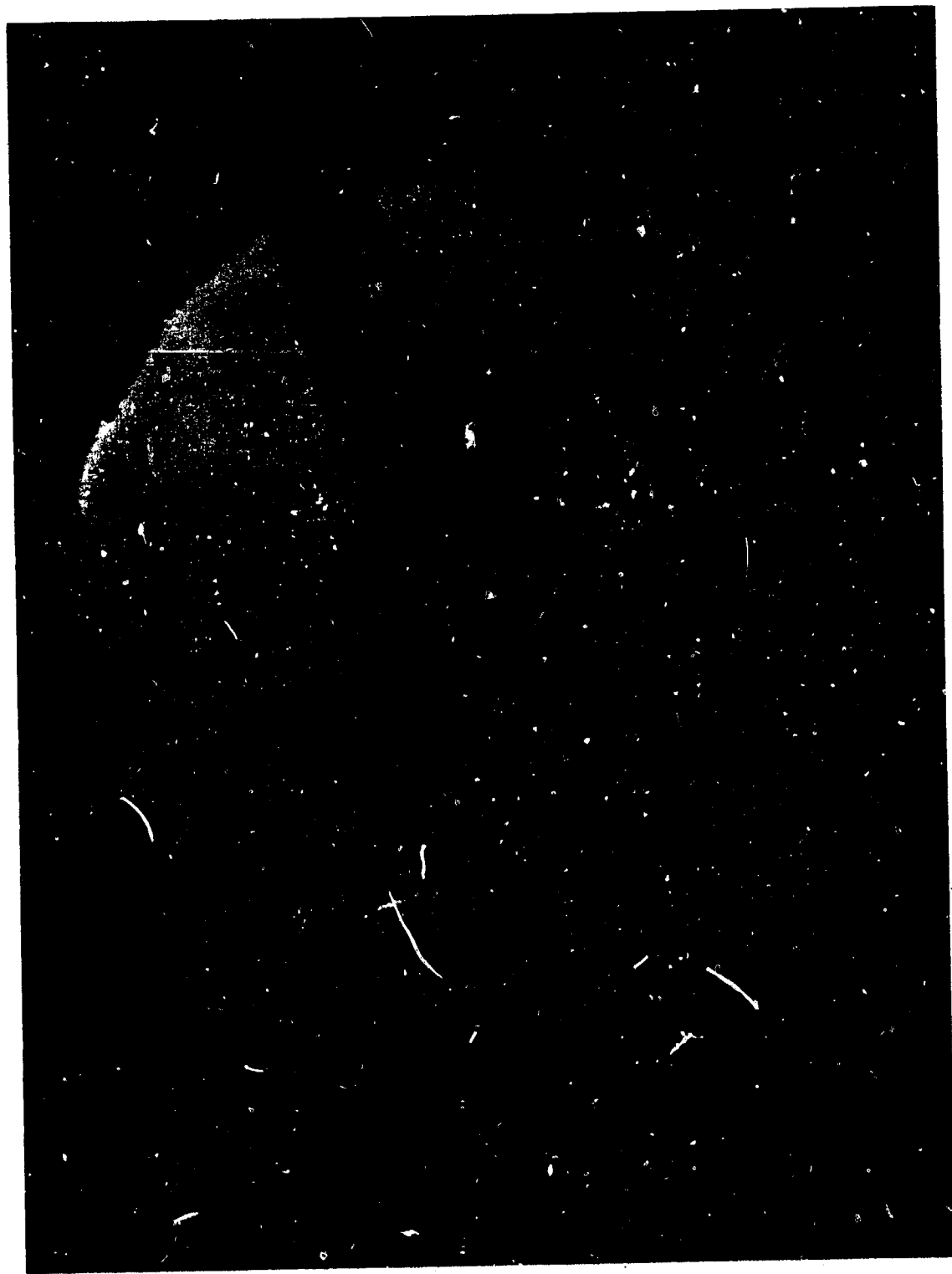


(a) General installation side view

Figure 3. - Model photographs.



(b) Top view of model
Figure 3. - Continued.



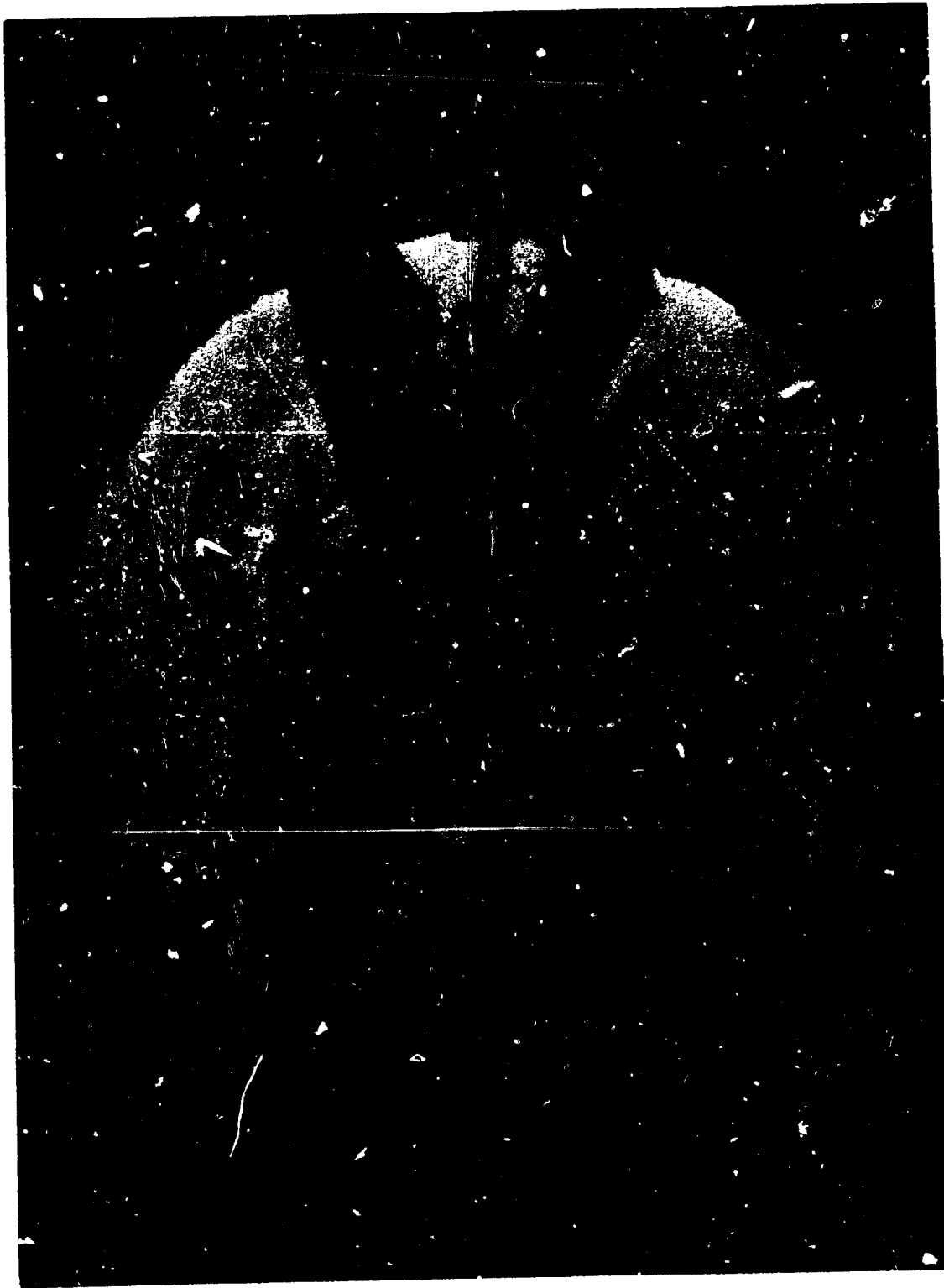
(c) Shadowgraph of Configuration 139 at Mach 7.32 $\alpha = 25^\circ$ $\delta_e = 0^\circ$ $\delta_{BF} = 0^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



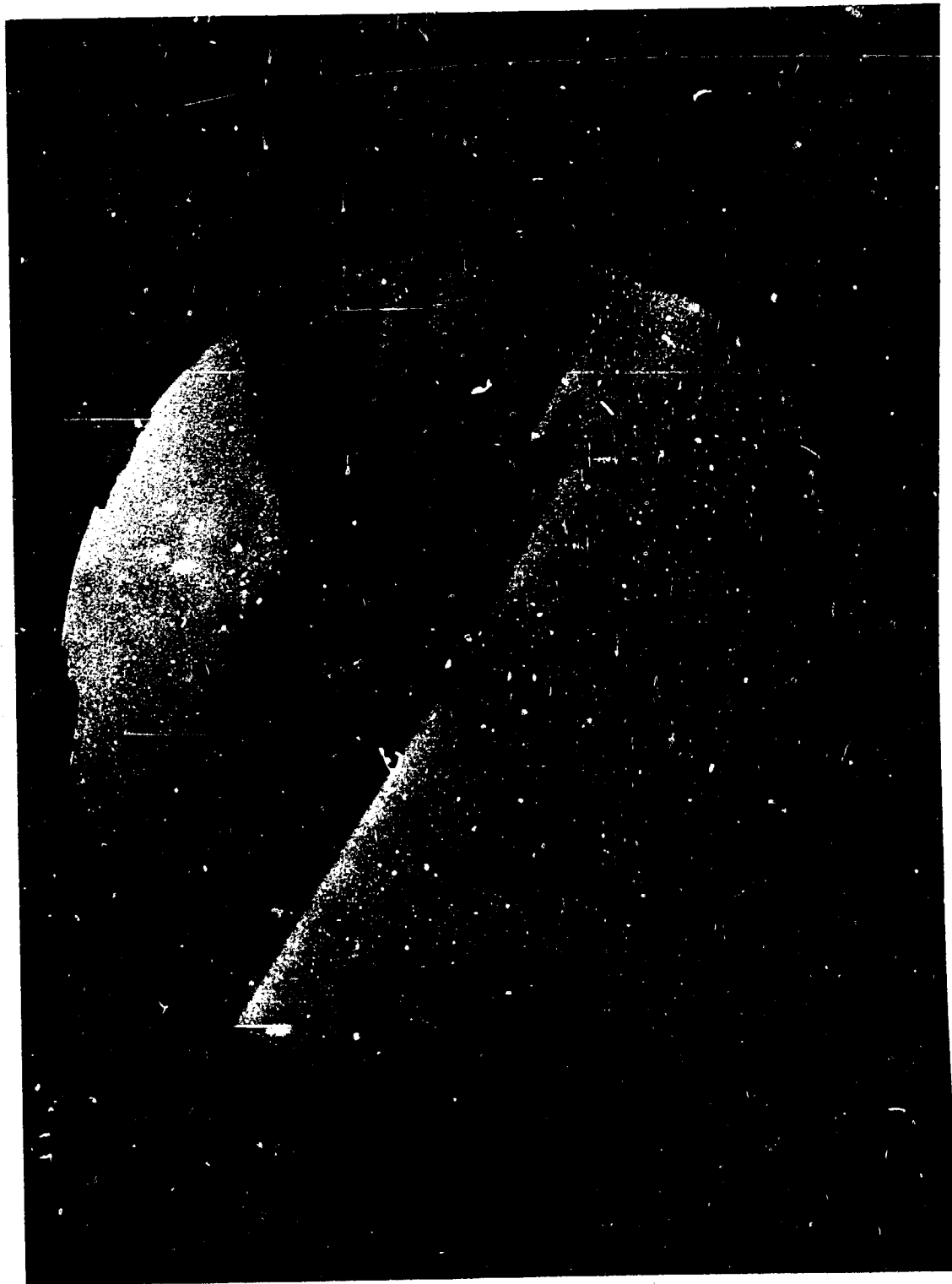
(d) Shadowgraph of Configuration 139 at Mach 7.32 $\alpha = 28^\circ$ $\delta_e = 0^\circ$ $\delta_{BF} = 0^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



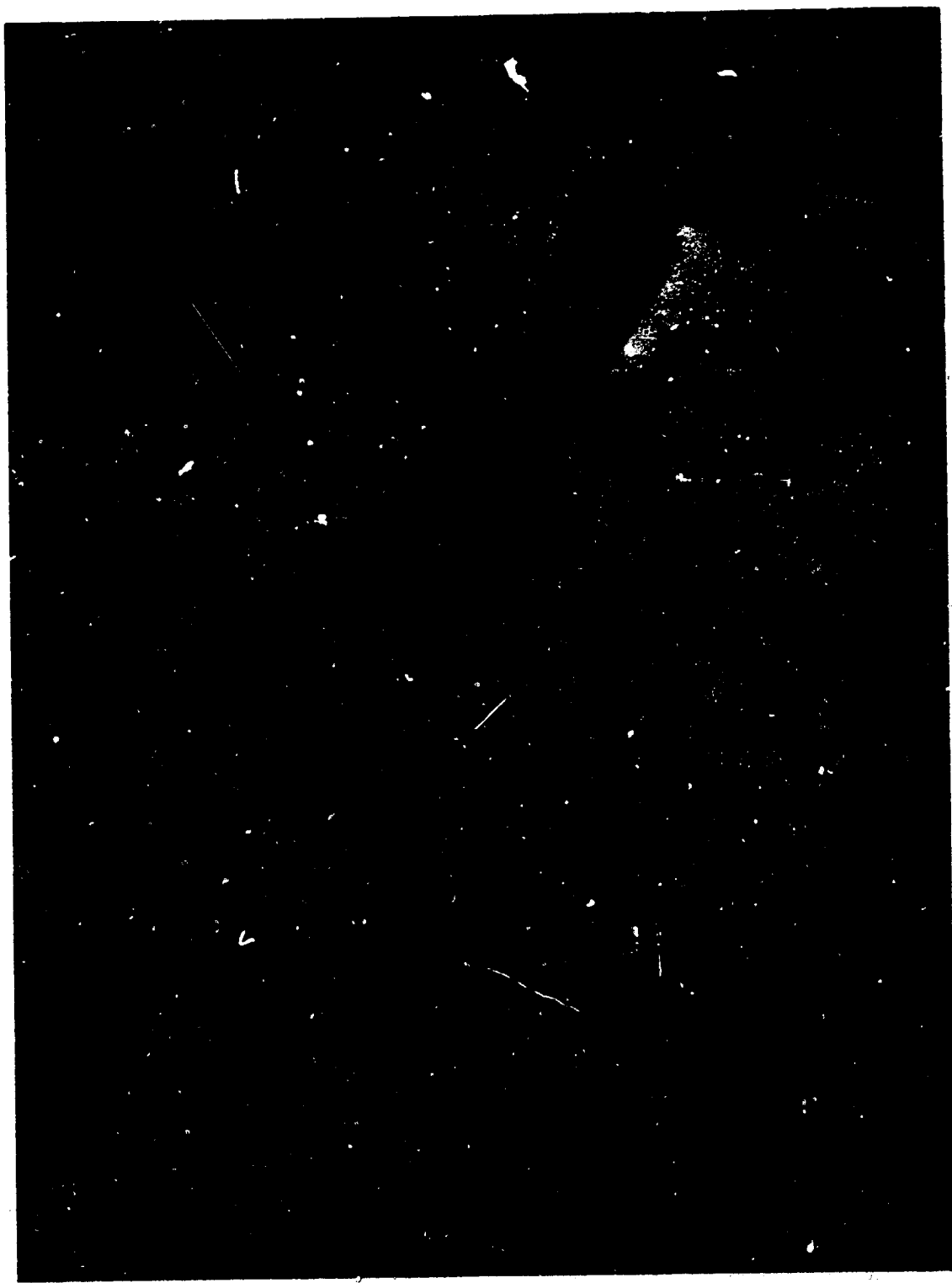
(e) Shadowgraph of Configuration 139B at Mach 5.26 $\alpha = 28^\circ$ $\delta_e = -41^\circ$ $\delta_{BF} = -14.25^\circ$ $\delta_{SB} = 55^\circ$ $\delta_F = 0^\circ$

Figure 3. - Continued.



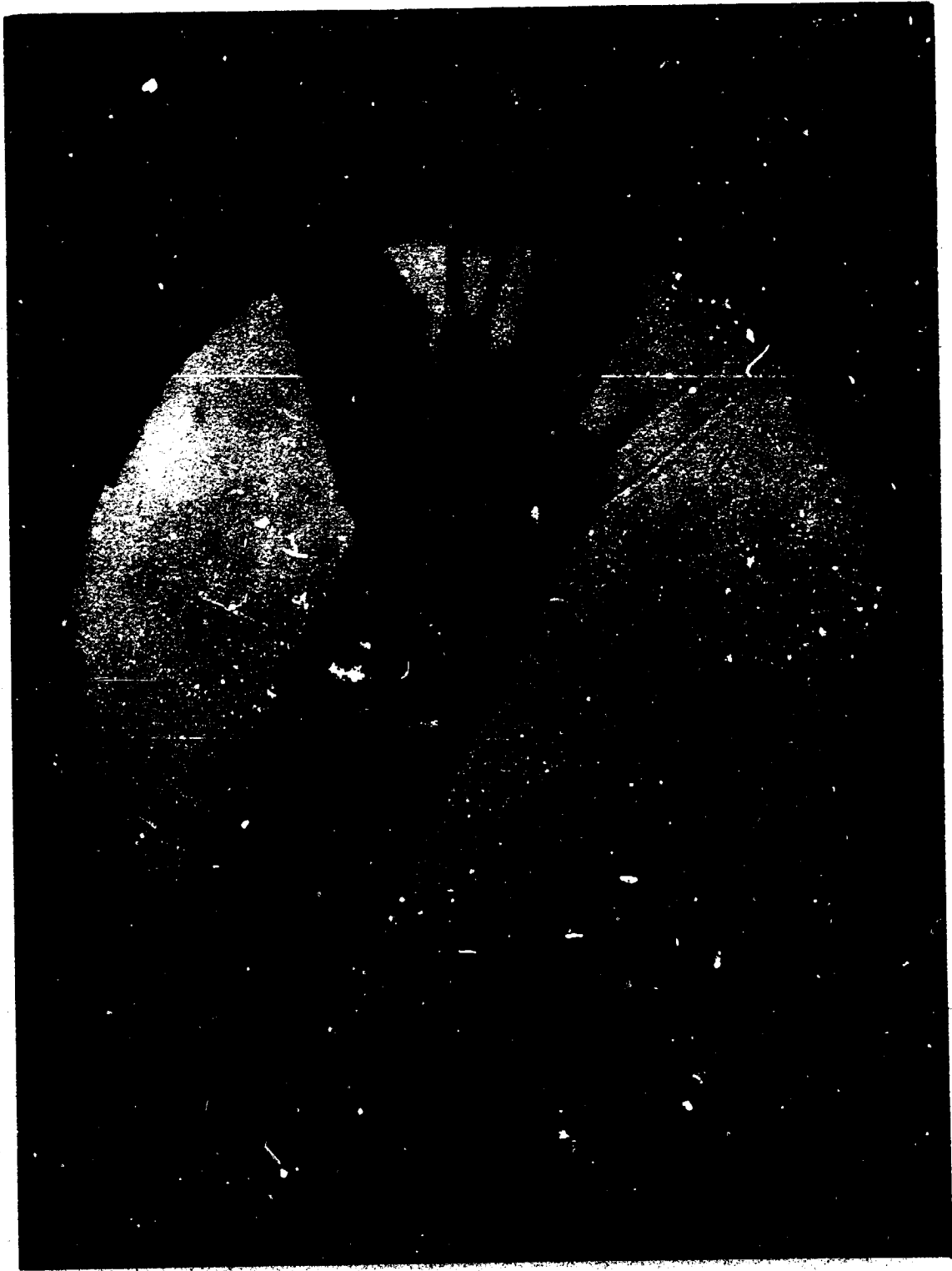
(f) Shadowgraph of Configuration 139B at Mach 7.32 $\alpha = 28^\circ$ $\delta_e = -44^\circ$ $\delta_{BF} = -14.25^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



(g) Shadowgraph of Configuration 139B at Mach 7.32 $\alpha = 28^\circ$ $\delta_e = 0^\circ$ $\delta_{BF} = 0^\circ$ $\delta_{GB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



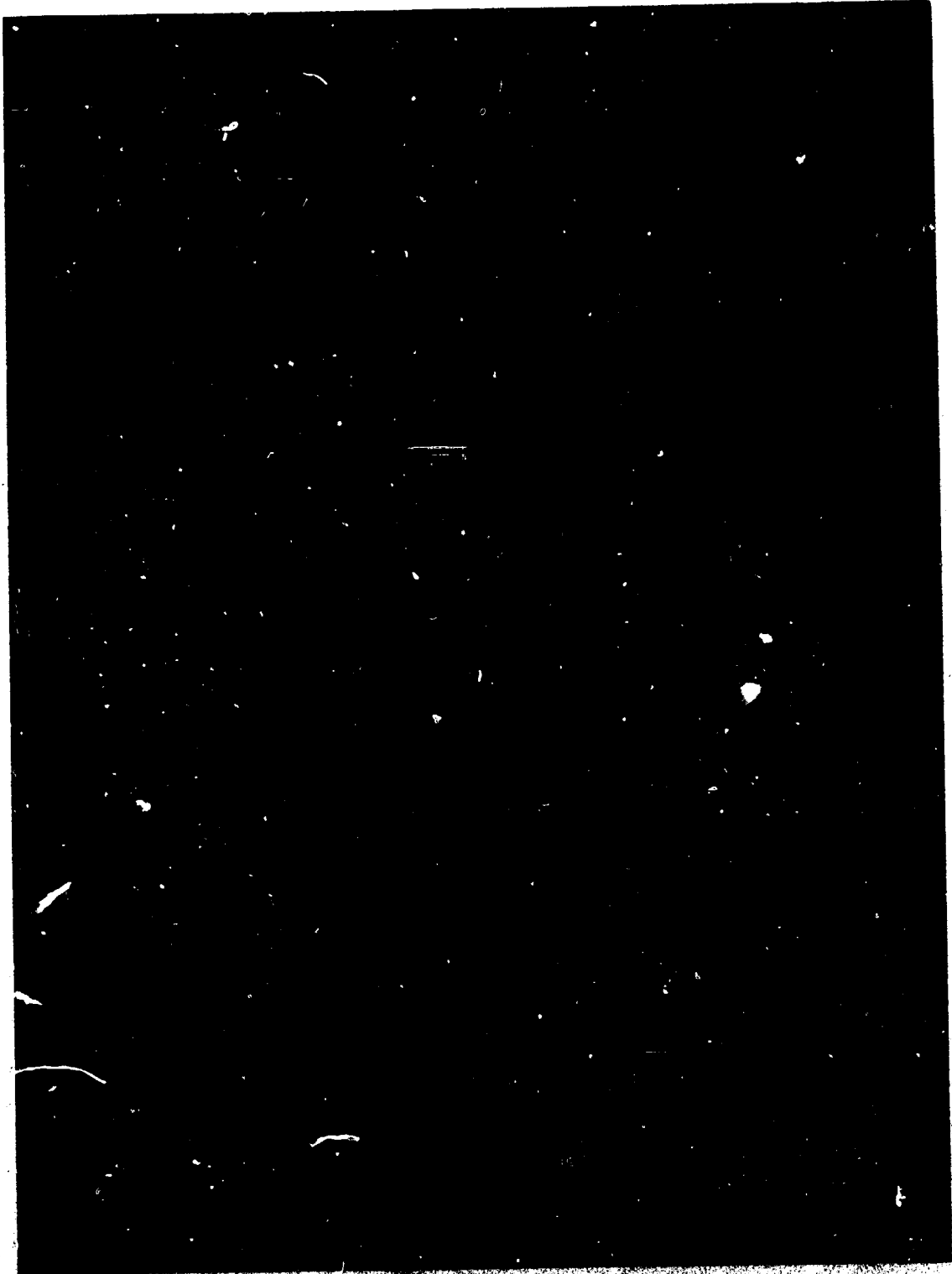
(h) Shadowgraph of Configuration 139B at Mach 7.32 $\alpha = 28^\circ$ $\delta_e = 11^\circ$ $\delta_{BF} = 13.75^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



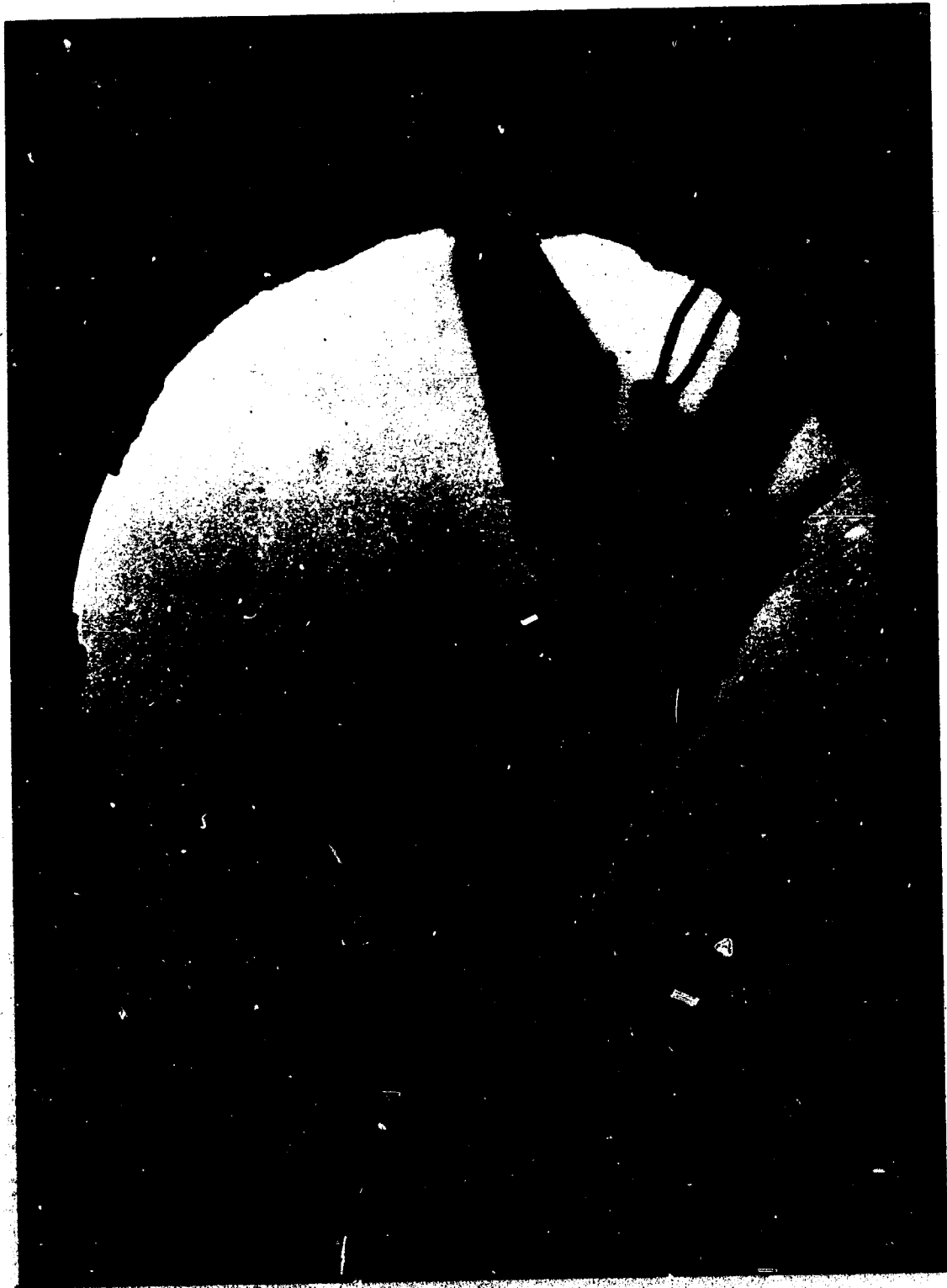
(1) Shadowgraph of Configuration 139B at Mach 10.29 $\alpha = 30^\circ$ $\delta_e = -44^\circ$ $\delta_{BF} = -14.25^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



(J) Shadowgraph of Configuration 139B at Mach 10.29 $\alpha = 30^\circ$ $\delta_e = 0^\circ$ $\delta_{BF} = 0^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Continued.



(k) Shadowgraph of Configuration 139B at Mach 10.29 $\alpha = 30^\circ$ $\delta_e = 11^\circ$ $\delta_{BF} = 13.75^\circ$ $\delta_{SB} = 55^\circ$ $\delta_R = 0^\circ$

Figure 3. - Concluded.

D

DATA FIGURES

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (JBY005) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 (JBY003) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 (JBY002) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 (JBY001) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

BETA ELEVON BDFLUP SPOBRK REFERENCE INFORMATION SO.FT.
 .000 -44.000 -14.250 54.920 SREF 6050 IN.
 .000 -44.000 -14.250 54.920 LREF 7.1220 IN.
 .000 .000 -14.250 54.920 BREF 14.0500 IN.
 .000 .000 -14.250 54.920 XMRP 12.5770 IN.
 .000 .000 .000 6.0000 YMRP 0.0000 IN.
 .000 .000 .000 6.0000 ZMRP 0.0000 V.L.
 SCALE .0150

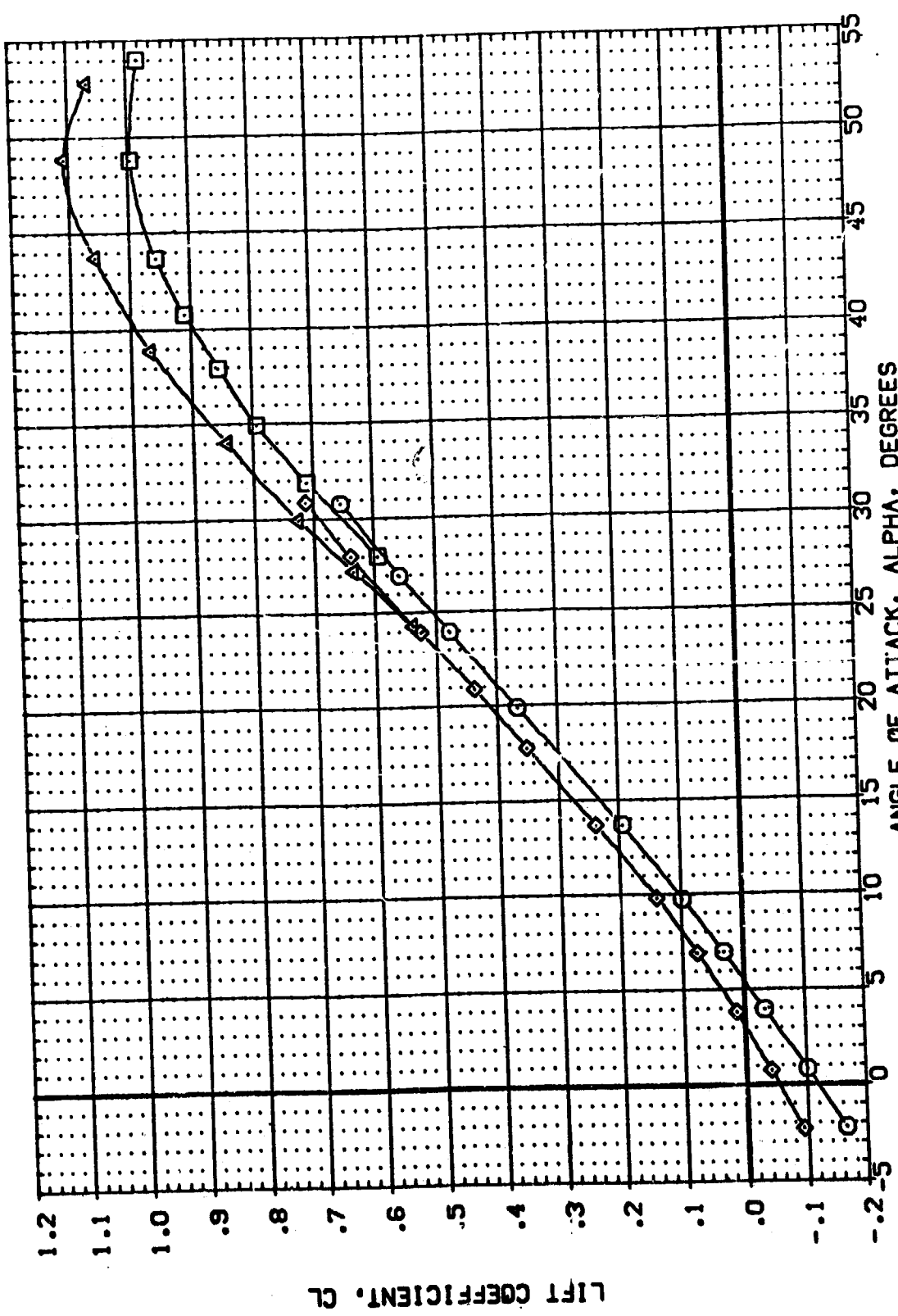


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3
 (▲)MACH = 5.26

DATA SET SYMBOL: (JBV005), (JBV002), (JBV001)

CONFIGURATION DESCRIPTION: AVES 3.5-163 0A58 (B19C7M4F5)(V107E23)(V7R5), AVES 3.5-163 0A58 (B19C7M4F5)(V107E23)(V7R5), AVES 3.5-163 0A58 (B19C7M4F5)(V107E23)(V7R5)

BETA: .000, .000, .000

ELEVON: -44.000, -44.000, .000

BOFLAP: -14.250, -14.250, -14.250

SPODBK: 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF 7.1220, LREF 14.0500, BREF 12.5770, XPRP .0000, YPRP 6.0000, ZPRP .0150, SQ.FT. IN., IN., IN., IN., V.L.

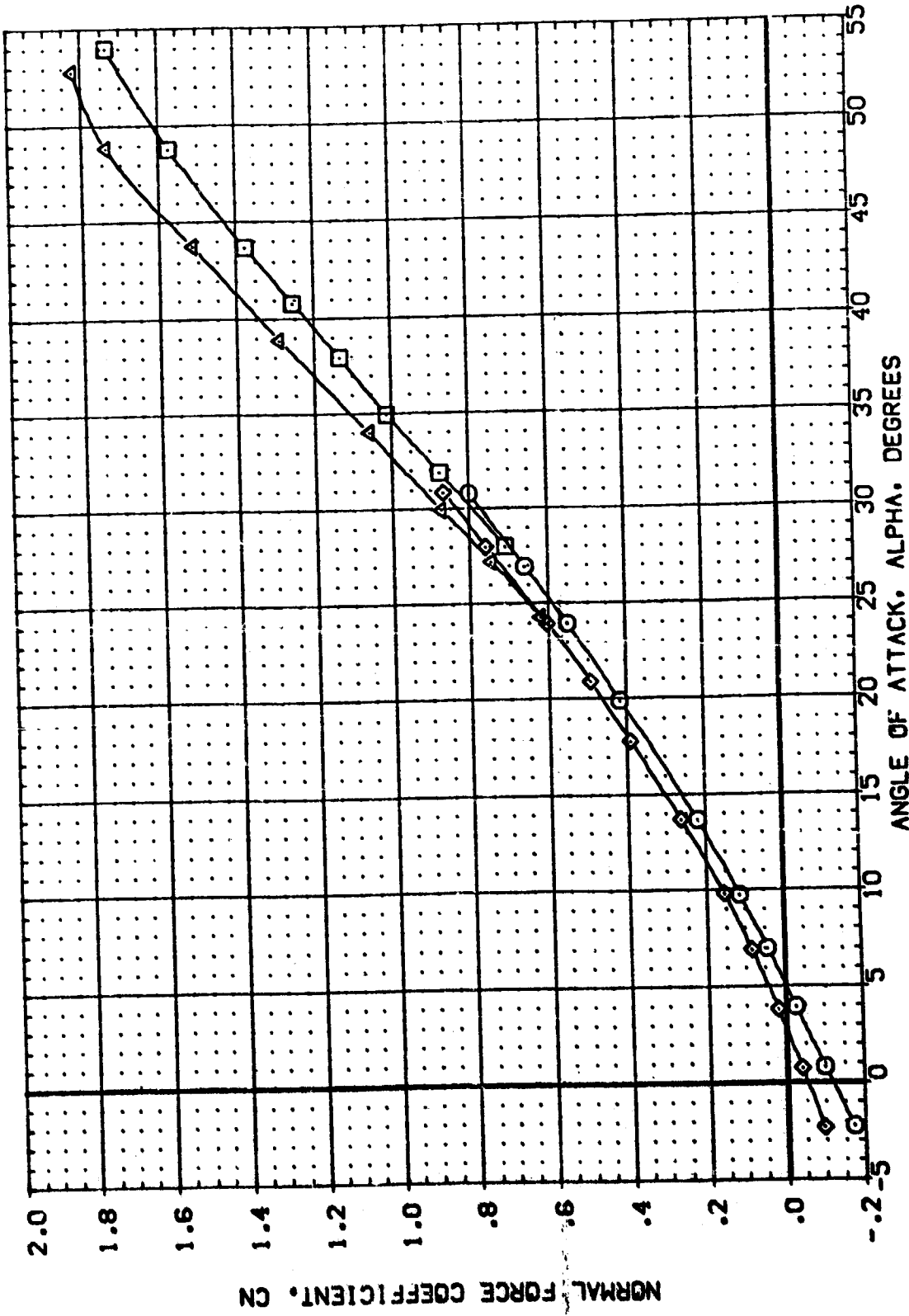


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA .000
 ELEVON -44.000
 BOFLAP -14.250
 SPOBRK 54.920

DATA SET SYMBO
 (JBY005)
 (JBY003)
 (JBY002)
 (JBY001)

CONFIGURATION DESCRIPTION
 ARES 3.5-163 0A58 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 0A58 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 0A58 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 0A58 (B19C7M4FS)(V107E23)(V7RS)

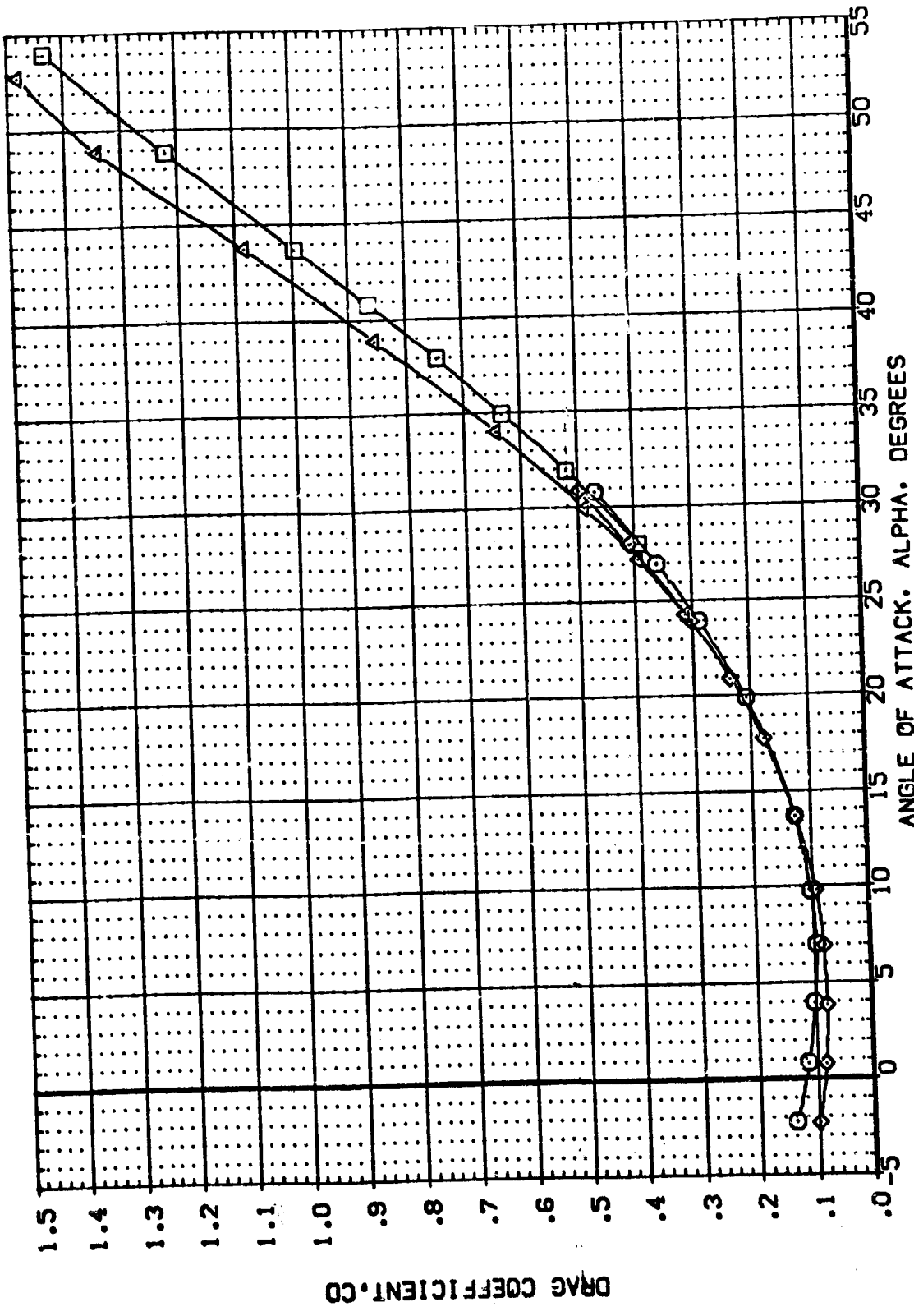


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(JBY005) AVES 3-5-163 QAS8 (B19C7MAF5)(V107E23)(V7RS)

(JBY003) AVES 3-5-163 QAS8 (B19C7MAF5)(V107E23)(V7RS)

(JBY002) AVES 3-5-163 QAS8 (B19C7MAF5)(V107E23)(V7RS)

(JBY001) AVES 3-5-163 QAS8 (B19C7MAF5)(V107E23)(V7RS)

BETA ELEVON BOFLAP SPOBRK

.000 -14.000 -14.250 54.920

.000 -44.000 -14.250 54.920

.000 .000 -14.250 54.920

.000 .000 -14.250 54.920

REFERENCE INFORMATION SQ.FT.

SREF 6050 IN.

LREF 7.1220 IN.

BREF 14.0500 IN.

XMRP 12.5770 IN.

YMRP 6.0000 IN.

ZMRP 6.0000 V.L.

SCALE .0150

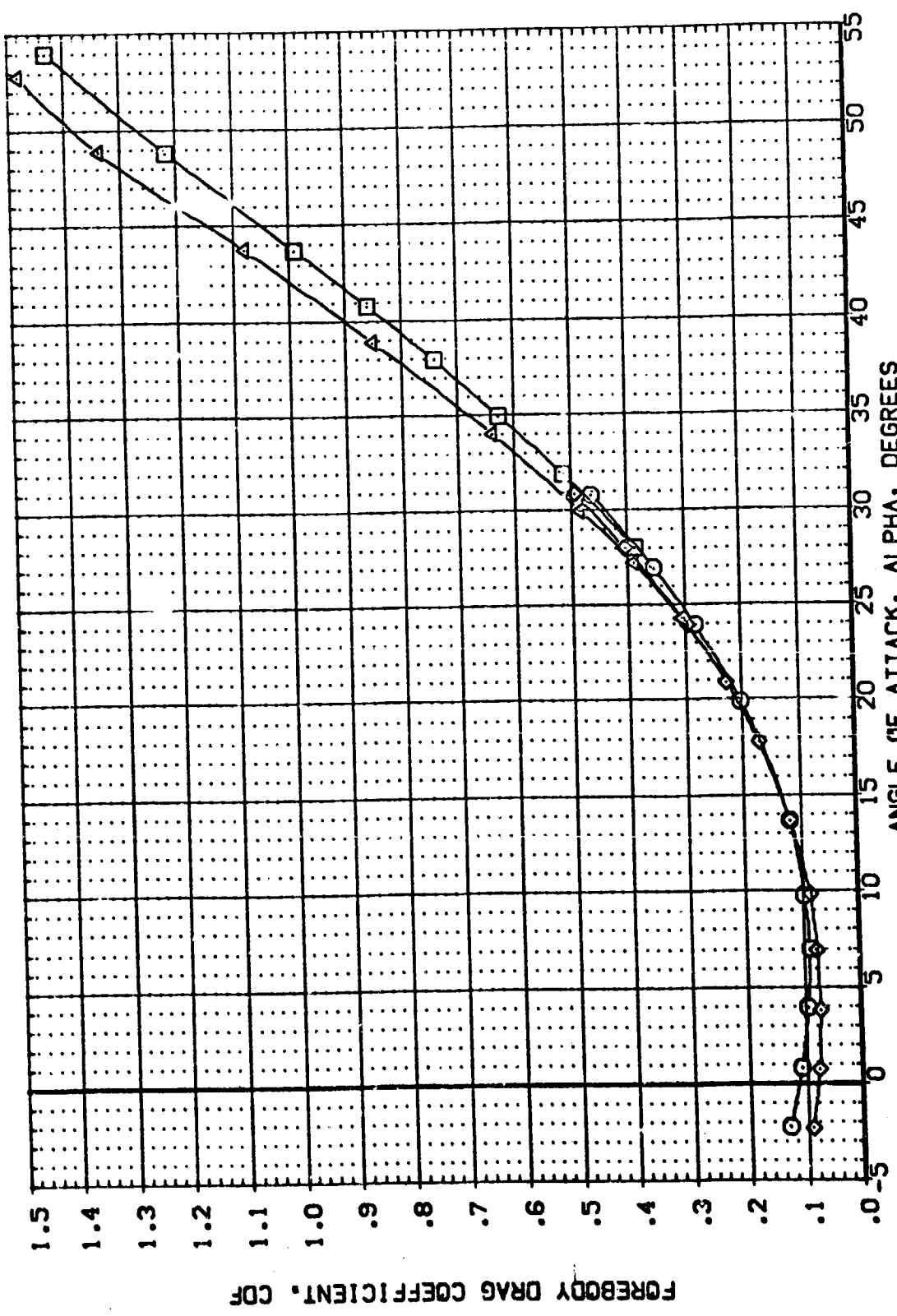


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A) MACH = 5.26

REFERENCE INFORMATION

SREF	6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	IN.
SCALE	.0150	

BETA

ELEVON	-44.000
BOFLAP	-14.250
SPOBRK	54.920

CONFIGURATION DESCRIPTION

(JBY005)	APES 3.5-163 (A58 (B1SC7M4FS)(V107E23)(V7RS)
(JBY003)	APES 3.5-163 (A58 (B1SC7M4FS)(V107E23)(V7RS)
(JBY002)	APES 3.5-163 (A58 (B1SC7M4FS)(V107E23)(V7RS)
(JBY001)	APES 3.5-163 (A58 (B1SC7M4FS)(V107E23)(V7RS)

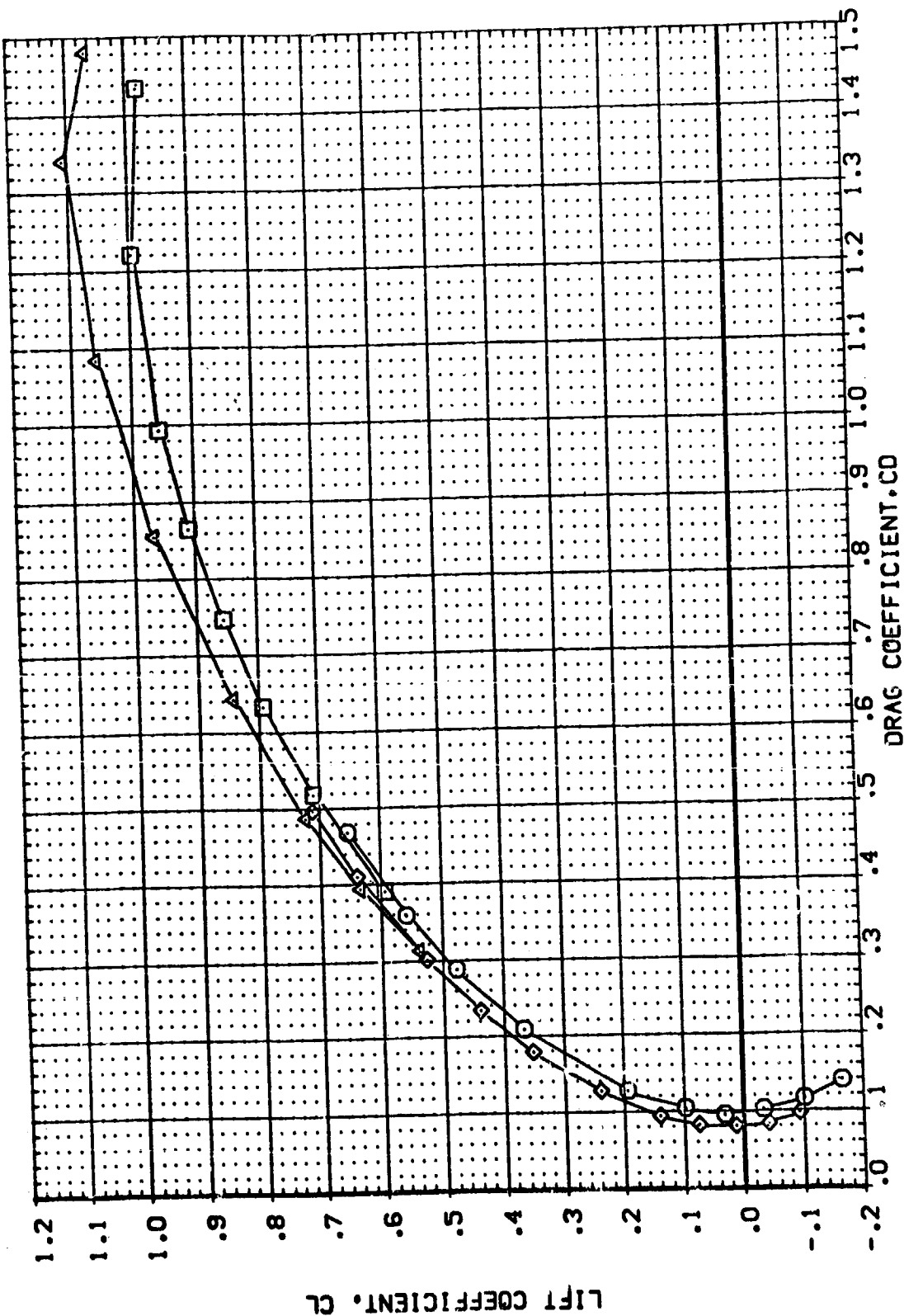


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BDFLAP	SPOBRK	REFERENCE INFORMATION
(JBY005)	AVES 3.5-163 QAS8 (B1SC7M4FS)(W107E23)(V7RS)	.000	-44.000	-14.250	54.970	SREF 6050 SQ.FT.
(JBY003)	AVES 3.5-163 QAS8 (B1SC7M4FS)(W107E23)(V7RS)	.000	-44.000	-14.250	54.970	LREF 7.1220 IN.
(JBY002)	AVES 3.5-163 QAS8 (B1SC7M4FS)(W107E23)(V7RS)	.000	.000	-14.250	54.970	BREF 14.0500 IN.
(JBY001)	AVES 3.5-163 QAS8 (B1SC7M4FS)(W107E23)(V7RS)	.000	.000	-14.250	54.970	XPRP 2.5770 IN.
						YPRP .0000 IN.
						ZPRP 6.0000 V.L.
						SCALE .0150

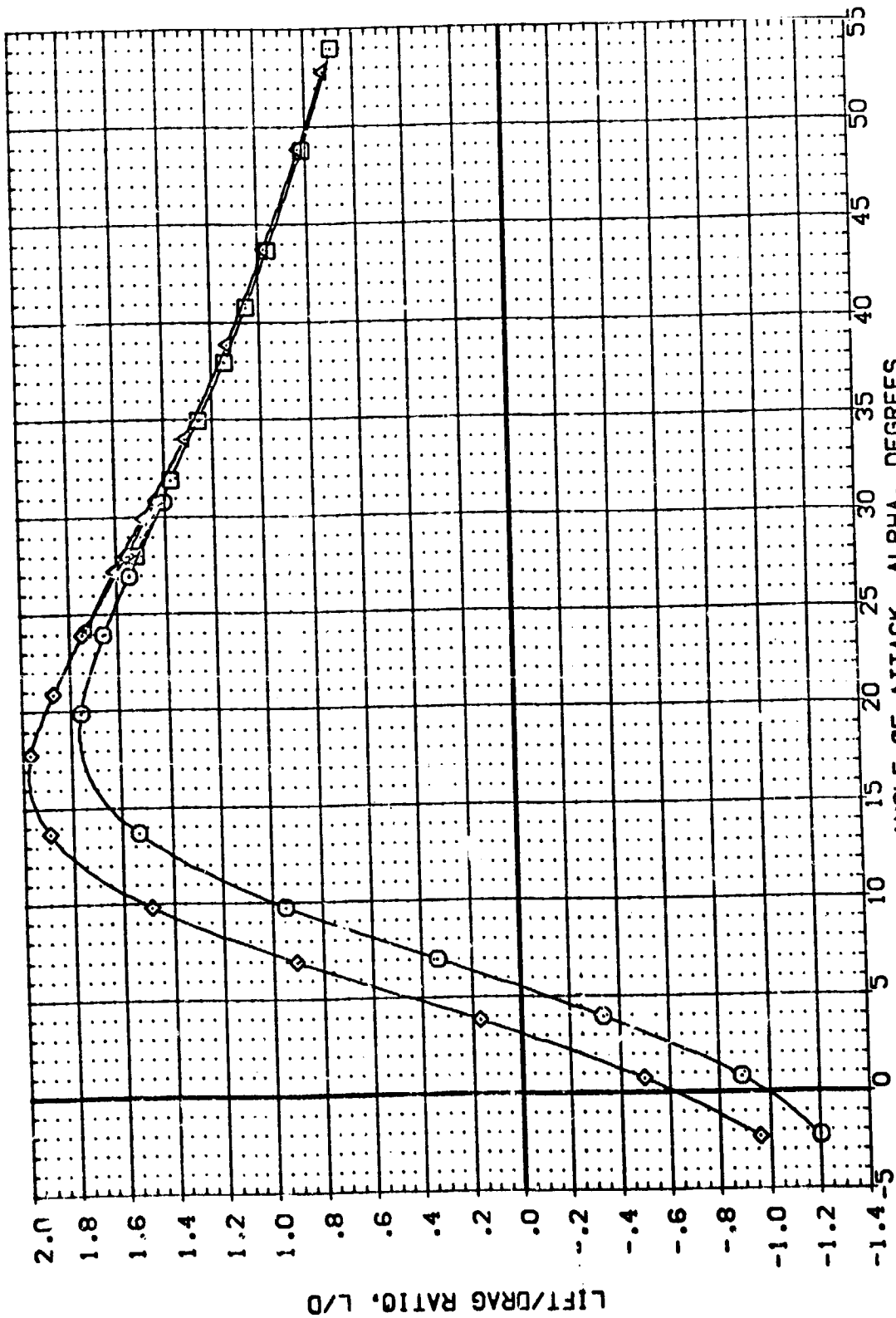


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.25

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(JBY005)	AVES 3.5-163 OA58 (819C7M4FS)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6050
(JBY003)	AVES 3.5-163 OA58 (819C7M4FS)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	LREF 7.1220
(JBY002)	AVES 3.5-163 OA58 (819C7M4FS)(V107E23)(V7RE)	.000	.000	-14.250	54.920	BREF 14.0500
(JBY001)	AVES 3.5-163 OA58 (819C7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	XMRP 12.5770
						YMRP .0000
						ZMRP .0000
						SCALE .0150

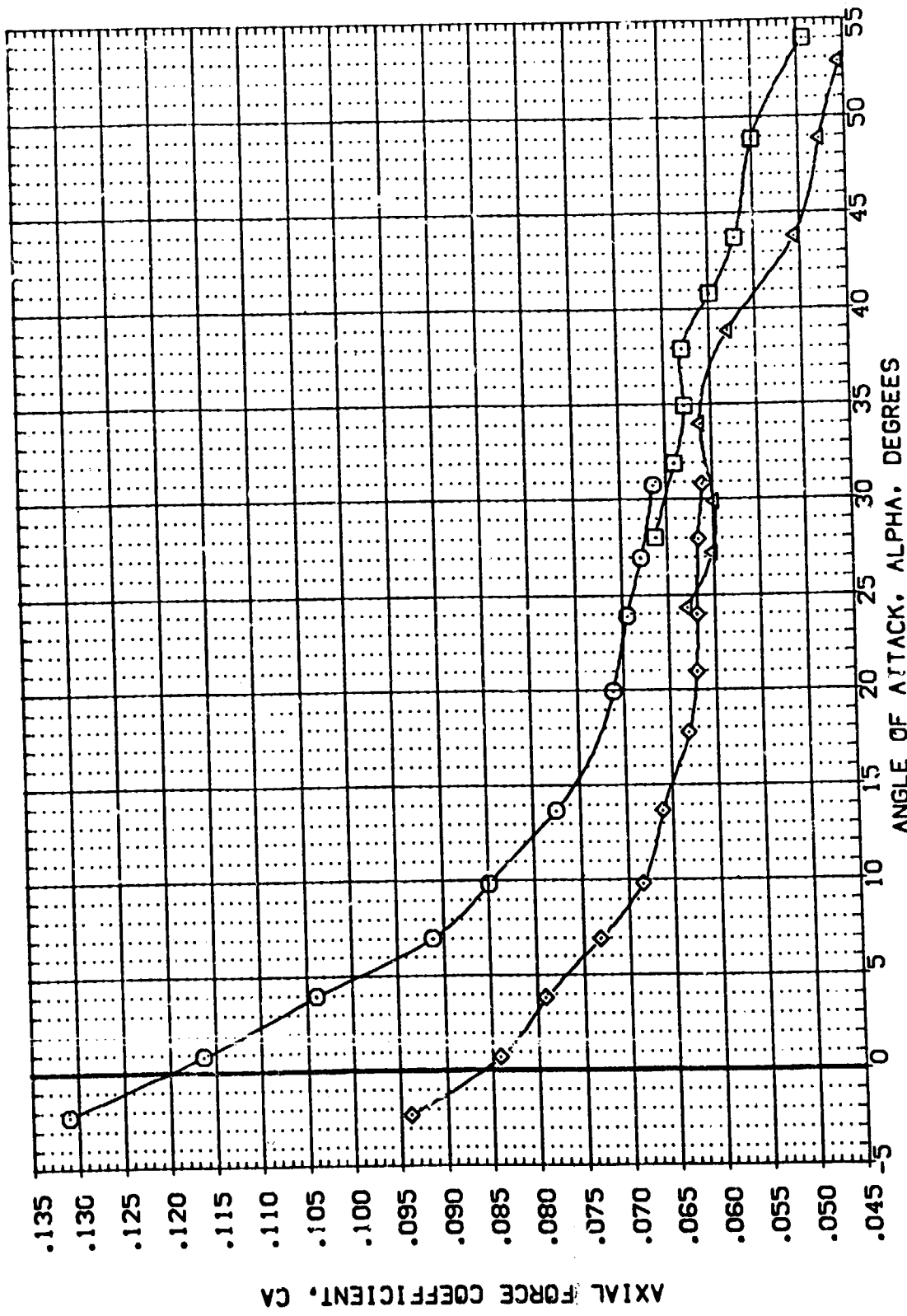


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3
(A)MACH = 5.26

DATA SET SYMBOL
 (JBV005)
 (JBV003)
 (JBV002)
 (JBV001)

CONFIGURATION DESCRIPTION
 ARES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

BETA
 DJC
 .000
 .000
 .000

ELEVON
 -44.000
 -44.000
 .000
 .000
 .000

SPOBRK
 54.920
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF
 7.120
 14.0500
 12.5770
 6.0000
 .0150

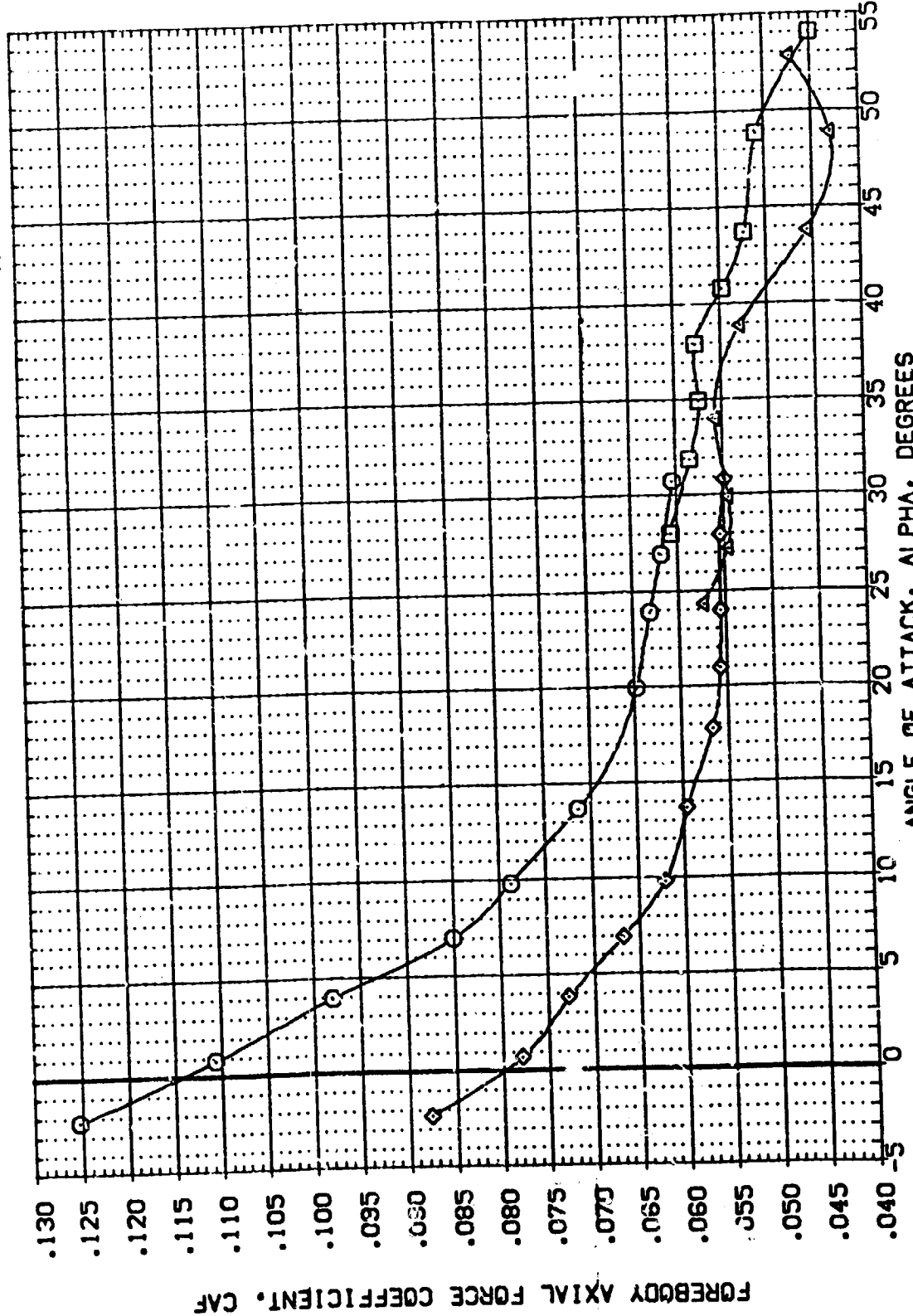


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBO
 (JB7005)
 (JB7003)
 (JB7002)
 (JB7001)

CONFIGURATION DESCRIPTION
 ARES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 ARES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 ARES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 ARES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

BETA
 .000
 .000
 .000
 .000

ELEVON
 -44.000
 -44.000
 .000
 .000

BOFLAP
 -14.250
 -14.250
 -14.250
 -14.250

SPOBRK
 54.920
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SQ.FT.
 6.050
 7.120
 14.050
 12.570
 6.000
 6.0150

SCALE
 V.L.
 .0150

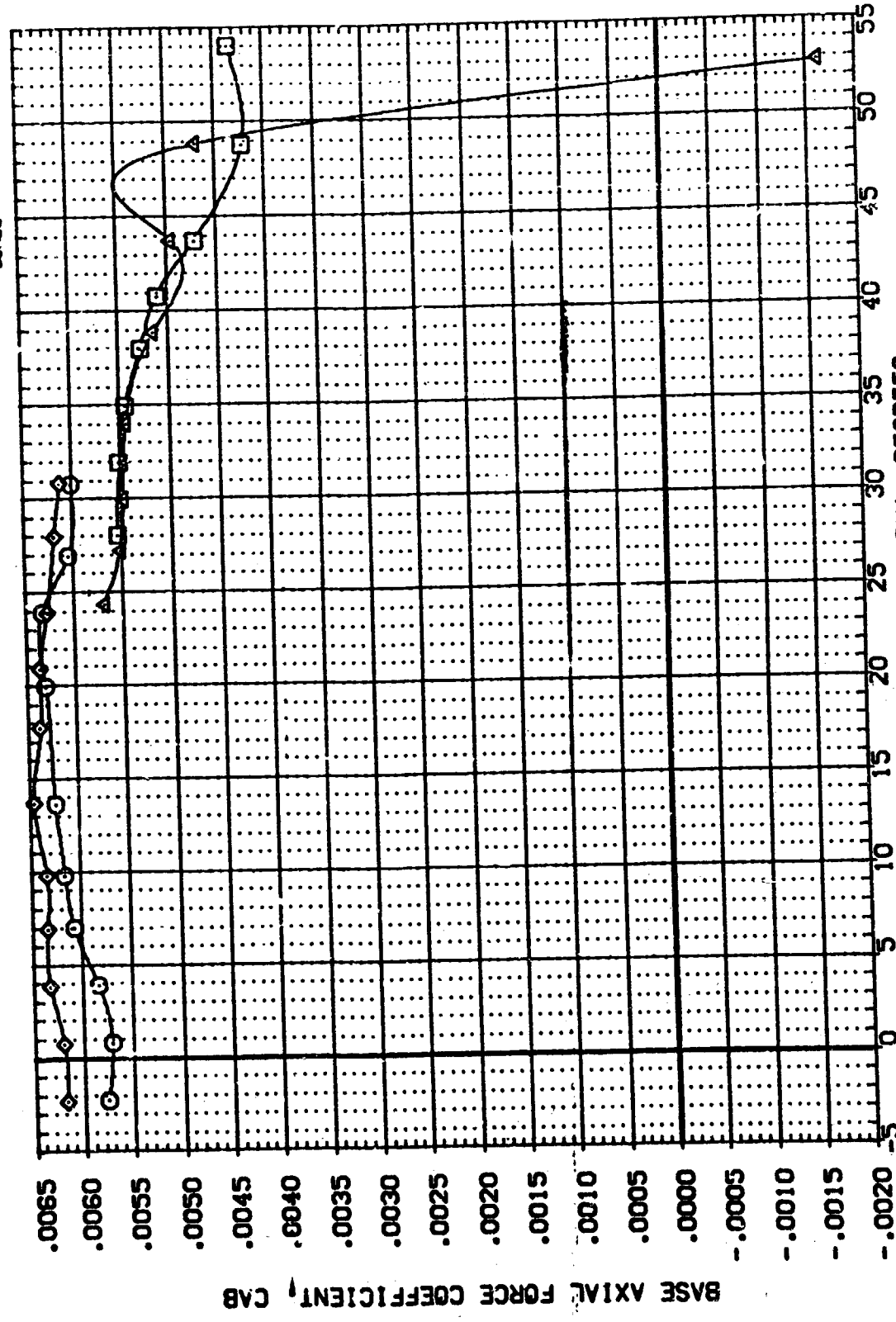


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3
 (A)MACH = 5.26

DATA SET SYMBOL: (JBV023), (JBV033), (JBV032), (JBV031)
 CONFIGURATION DESCRIPTION: AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7R5), AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7R5), AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7R5), AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7R5)
 REFERENCE INFORMATION: SREF 54.920, LREF 54.920, BREF 54.920, XMRP 54.920, YMRP 54.920, ZMRP 54.920, SCALE .0150
 ELEVON: .000, -44.000, -44.000, .000, .000
 BOFLAP: -14.250, -14.250, -14.250, -14.250
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 BETA: .000, .000, .000, .000
 SO.FT.: 6050, 7.1220, 14.0500, 12.5770, 6.0000, .0150

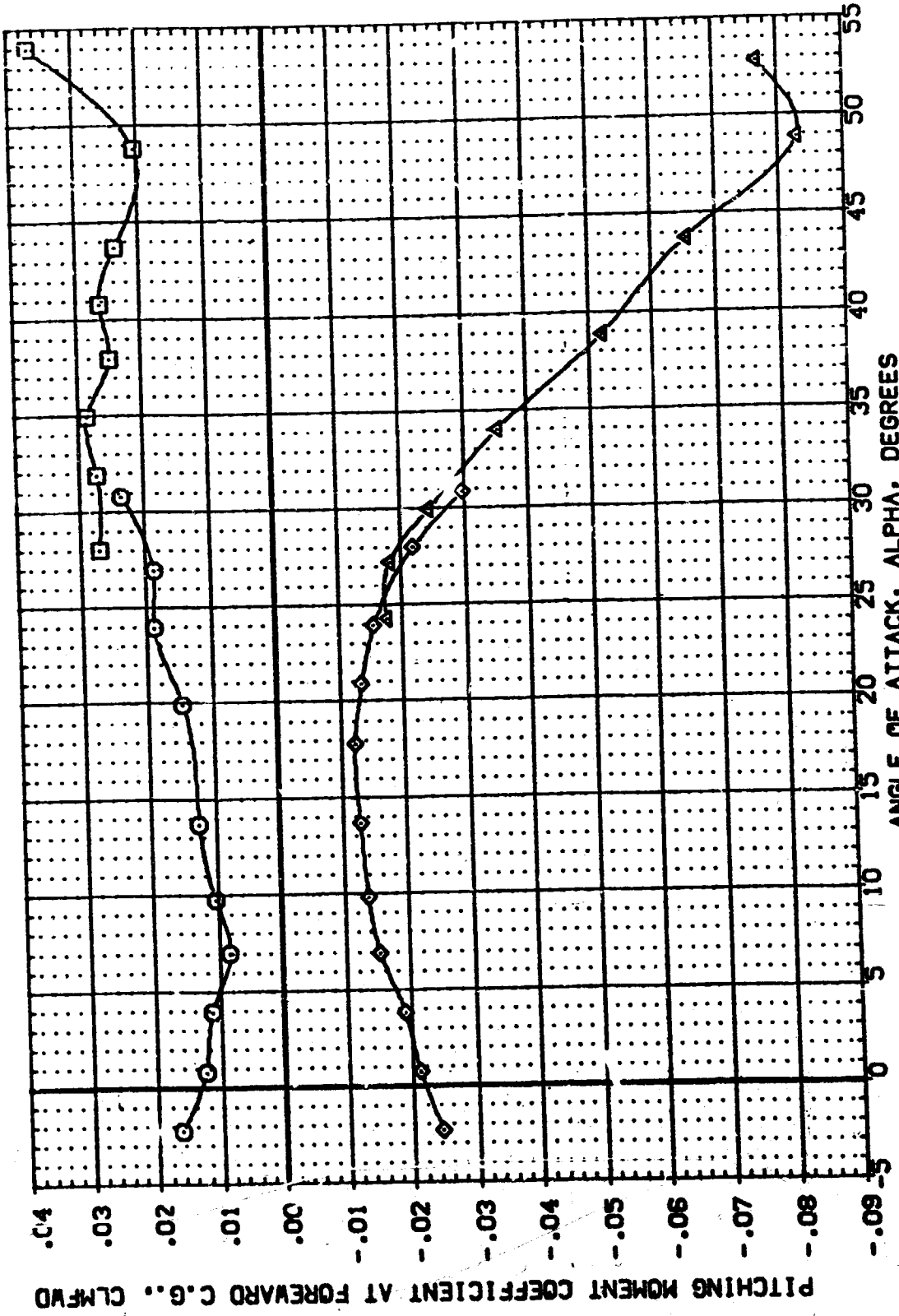


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL: (JBY005), (JBY003), (JBY002), (JBY001)

CONFIGURATION DESCRIPTION: AVES 3.5-163 DASH (BISC7M4FS)(V107E23)(V7R5), AVES 3.5-163 DASH (BISC7M4FS)(V107E23)(V7R5), AVES 3.5-163 DASH (BISC7M4FS)(V107E23)(V7R5), AVES 3.5-163 DASH (BISC7M4FS)(V107E23)(V7R5)

BETA: .000, .000, .000, .000

ELEVON: -14.000, -14.000, .000, .000

BOFLAP: -14.250, -14.250, -14.250, -14.250

SPDRBK: 54.920, 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF 6050, LREF 7.120, BREF 14.050, XPRP 12.570, YPRP .0000, ZPRP 6.0000, SCALE .0150

SO. FT.: IN., IN., IN., V.L.

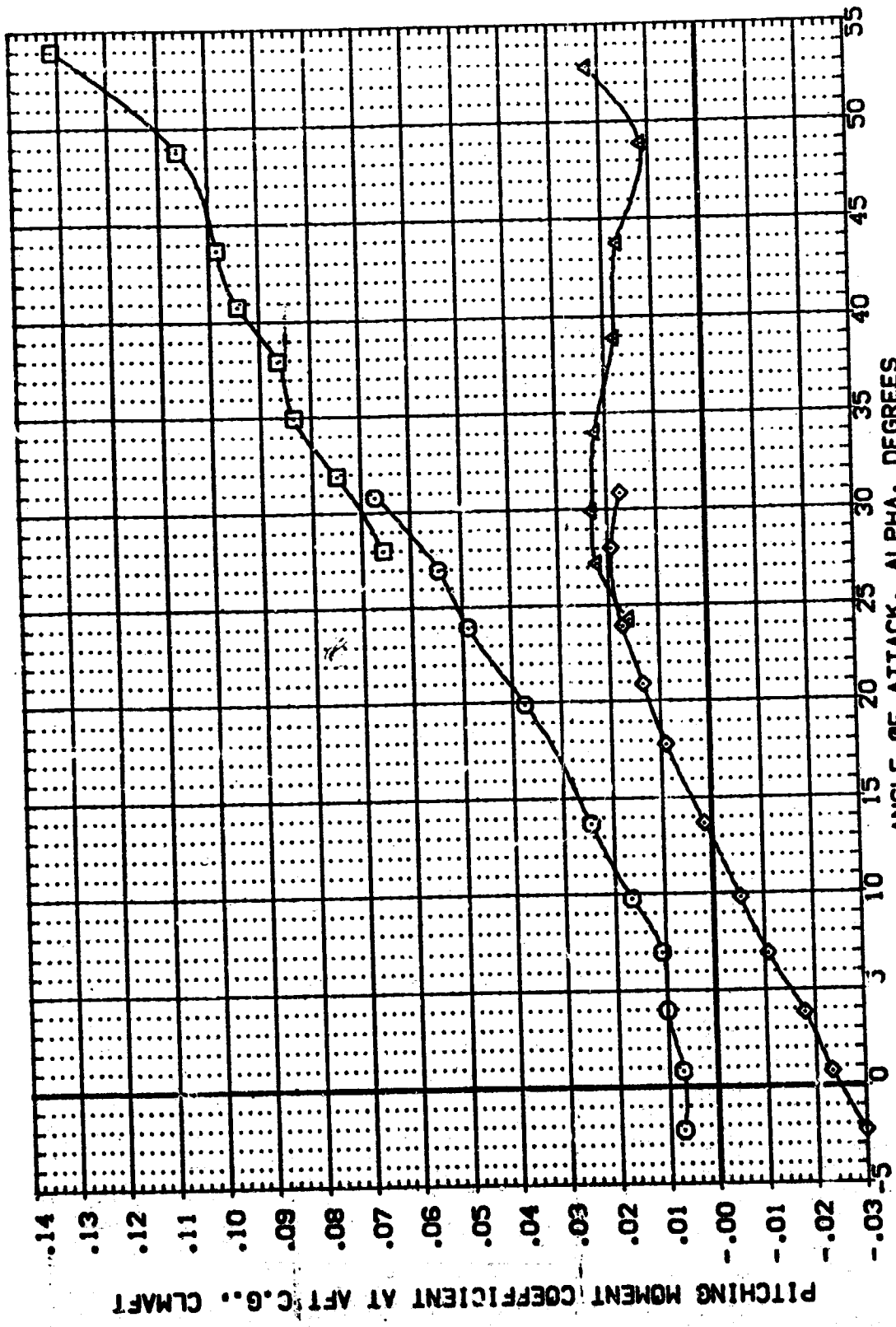


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL: (JBY005), (JBY003), (JBY002), (JBY001)
 CONFIGURATION DESCRIPTION: ARES 3.5-163 OASB (B19C7M4FS)(V107E23)(V7RS), ARES 3.5-163 OASB (B19C7M4FS)(V107E23)(V7RS), ARES 3.5-163 OASB (B19C7M4FS)(V107E23)(V7RS), ARES 3.5-163 OASB (B19C7M4FS)(V107E23)(V7RS)
 REFERENCE INFORMATION: SREF, LREF, BREF, XMRP, ZMRP, SCALE
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 BOFLAP: -14.250, -14.250, -14.250, -14.250
 ELEVON: -44.000, -44.000, .000, .000
 BETA: .000, .000, .000, .000
 SO.FT.: 6050, 7.1220, 14.0500, 12.5770, 6.0000, .0150
 IN.: IN., IN., IN., IN., Y.L.

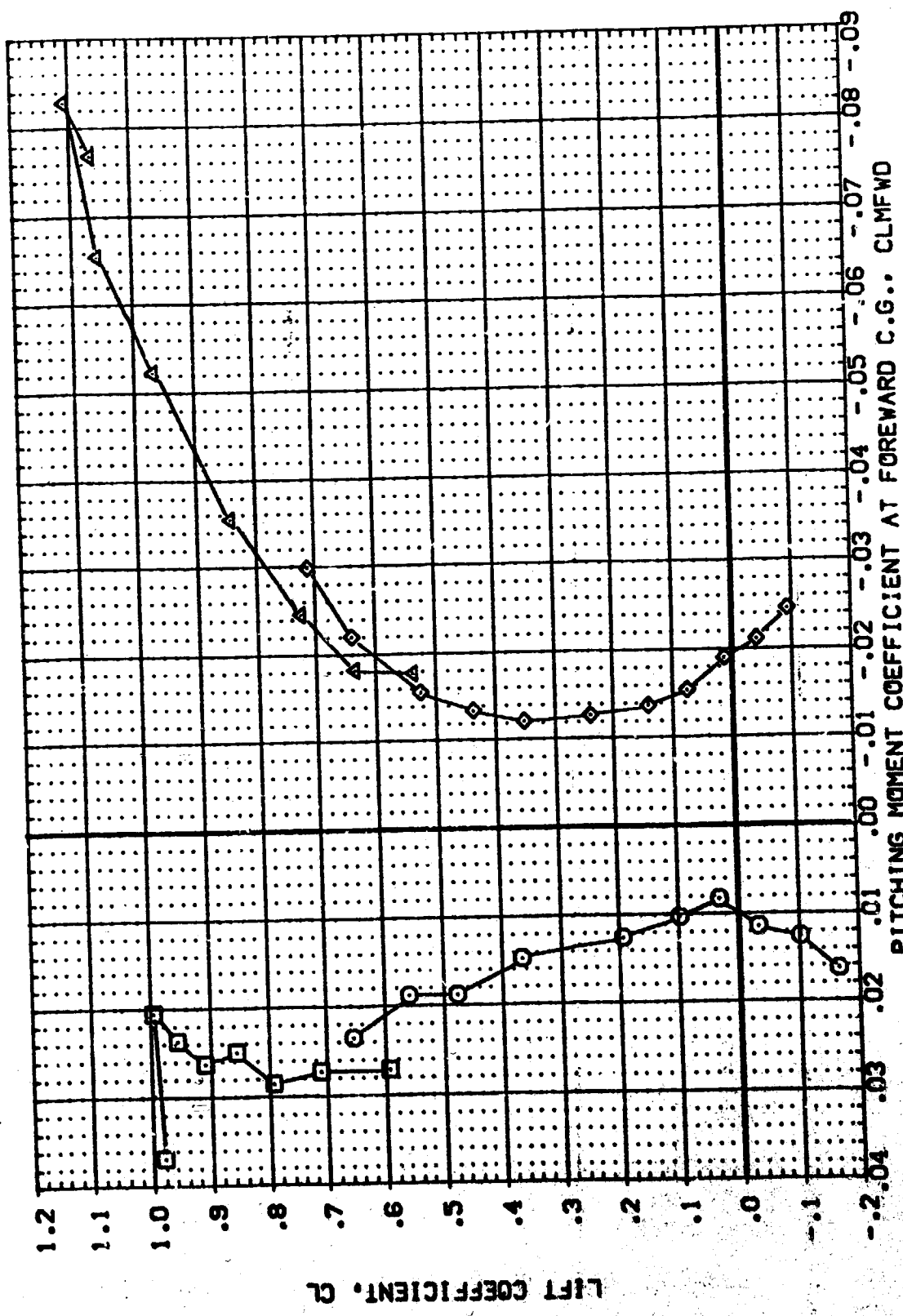


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

(M)MACH = 5.26

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (JB7003) AMES 3-5-163 OASB (815C7HAFS)(V107E23)(V7RS)
 (JB7002) AMES 3-5-163 OASB (815C7HAFS)(V107E23)(V7RS)
 (JB7001) AMES 3-5-163 OASB (815C7HAFS)(V107E23)(V7RS)

BETA ELEVON BORLAP SPOBRK REFERENCE INFORMATION SO.FT.
 .007 -44.000 -14.250 54.920 7.1220 IN.
 .000 -44.000 -14.250 54.920 14.0500 IN.
 .000 .000 -14.250 54.920 12.5770 IN.
 .000 .000 .000 6.0000 V.L.
 ZMRP SCALE .0150

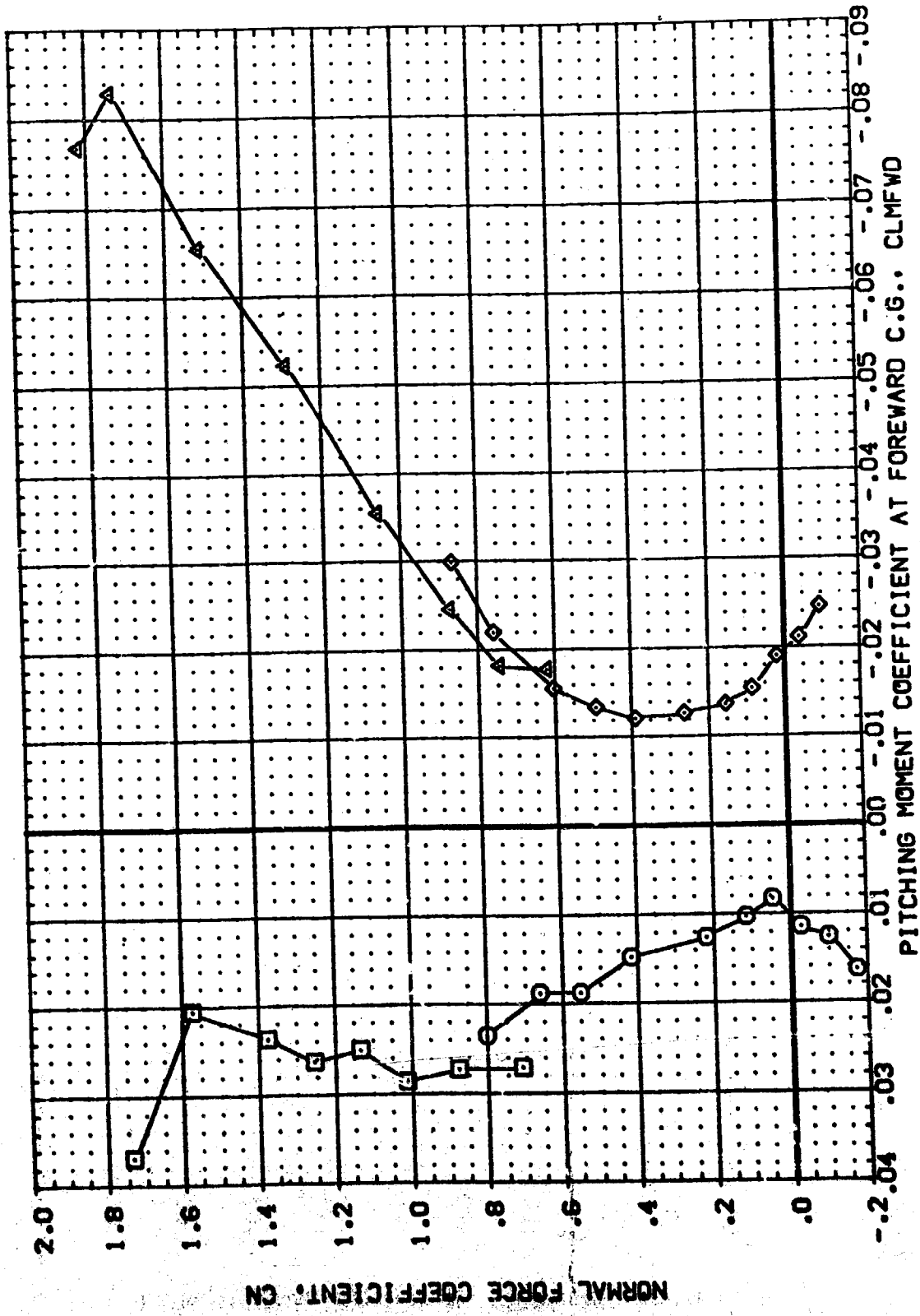


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3
 (A)MACH = 5.26

REFERENCE INFORMATION

SREF	6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	V.L.
SCALE	.0150	

BETA

ELEVON	-44.000
BOFLAP	-14.250
SPDBRK	54.920
	54.920
	54.920
	54.920

CONFIGURATION DESCRIPTION

AVES 3.5-163 QAS8 (B19C7M4F5) (V107E23) (V7R5)
(JBYJ03)
AVES 3.5-163 QAS8 (B19C7M4F5) (V107E23) (V7R5)
(JBYJ02)
AVES 3.5-163 QAS8 (B19C7M4F5) (V107E23) (V7R5)
(JBYJ01)

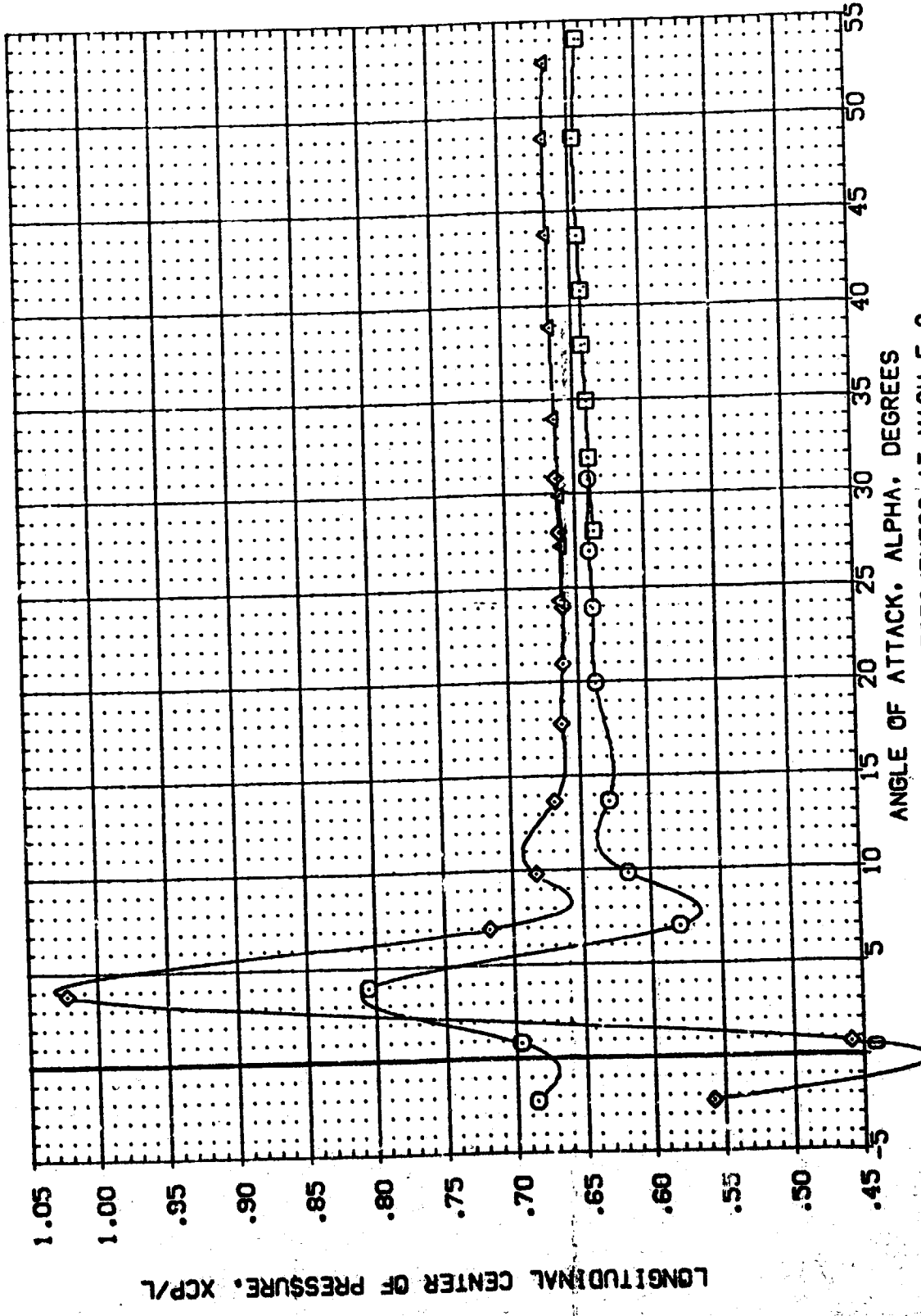


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBO (GBY005) (GBY003) □

CONFIGURATION DESCRIPTION
 AMES 3.5-163 OASB (B18C7M4F5)(V107E23)(V7M5)
 AMES 3.5-163 OASB (B18C7M4F5)(V107E23)(V7M5)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -44.000 -14.250 54.920

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YTRP 12.5770 IN.
 ZTRP .0000 IN.
 SCALE 6.0000 V.L.
 .0150

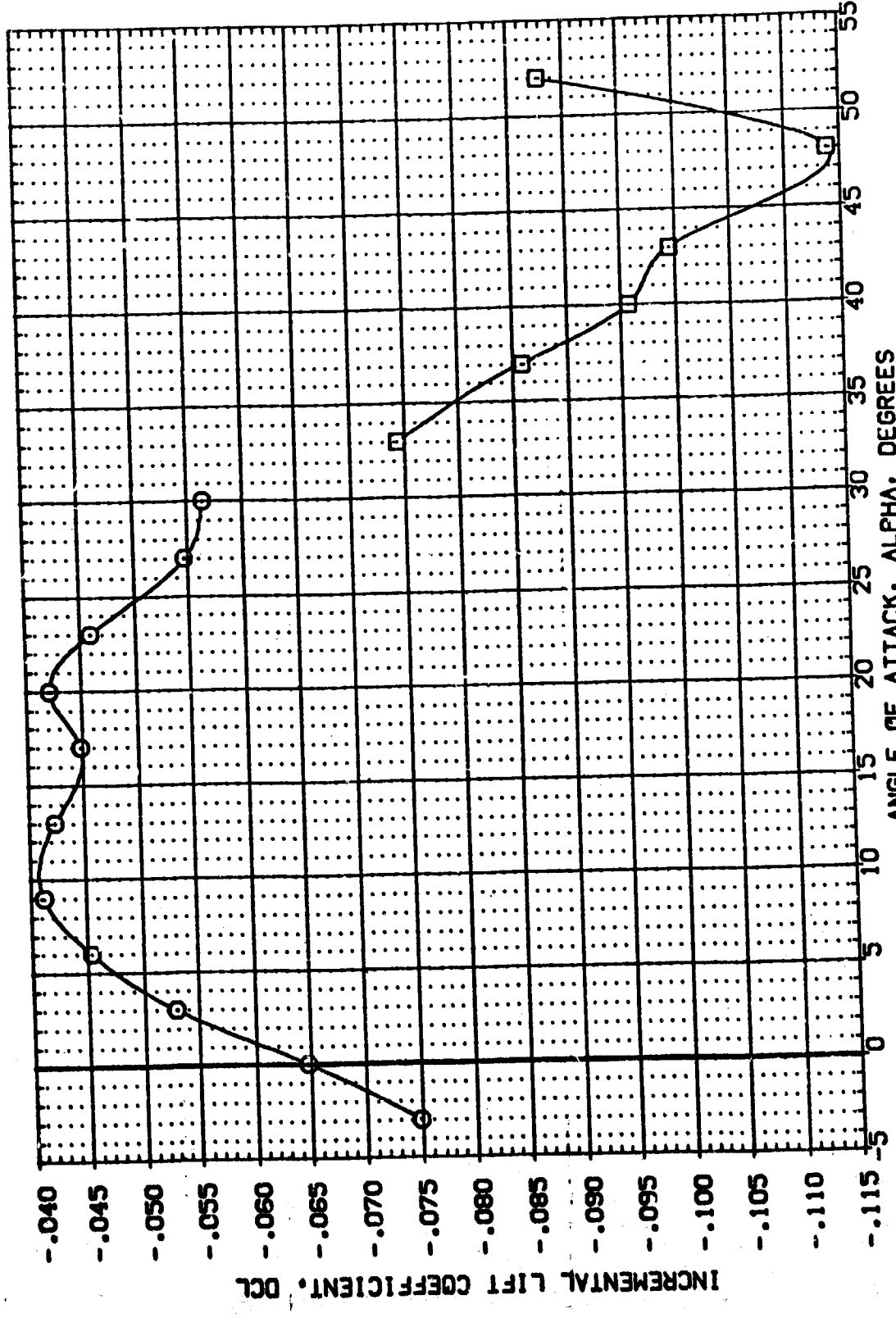


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBL. (GBY005) (GBY003)

CONFIGURATION DESCRIPTION
 AVES 3.5-153 OAS8 (B1SC7M4F5)(V107E23)(V7R5)
 AVES 3.5-153 OAS8 (B1SC7M4F5)(V107E23)(V7R5)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -44.000 -14.250 54.920

REFERENCE INFORMATION
 SREF 7.1220 SQ.FT.
 LREF 14.0500 IN.
 BREF 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

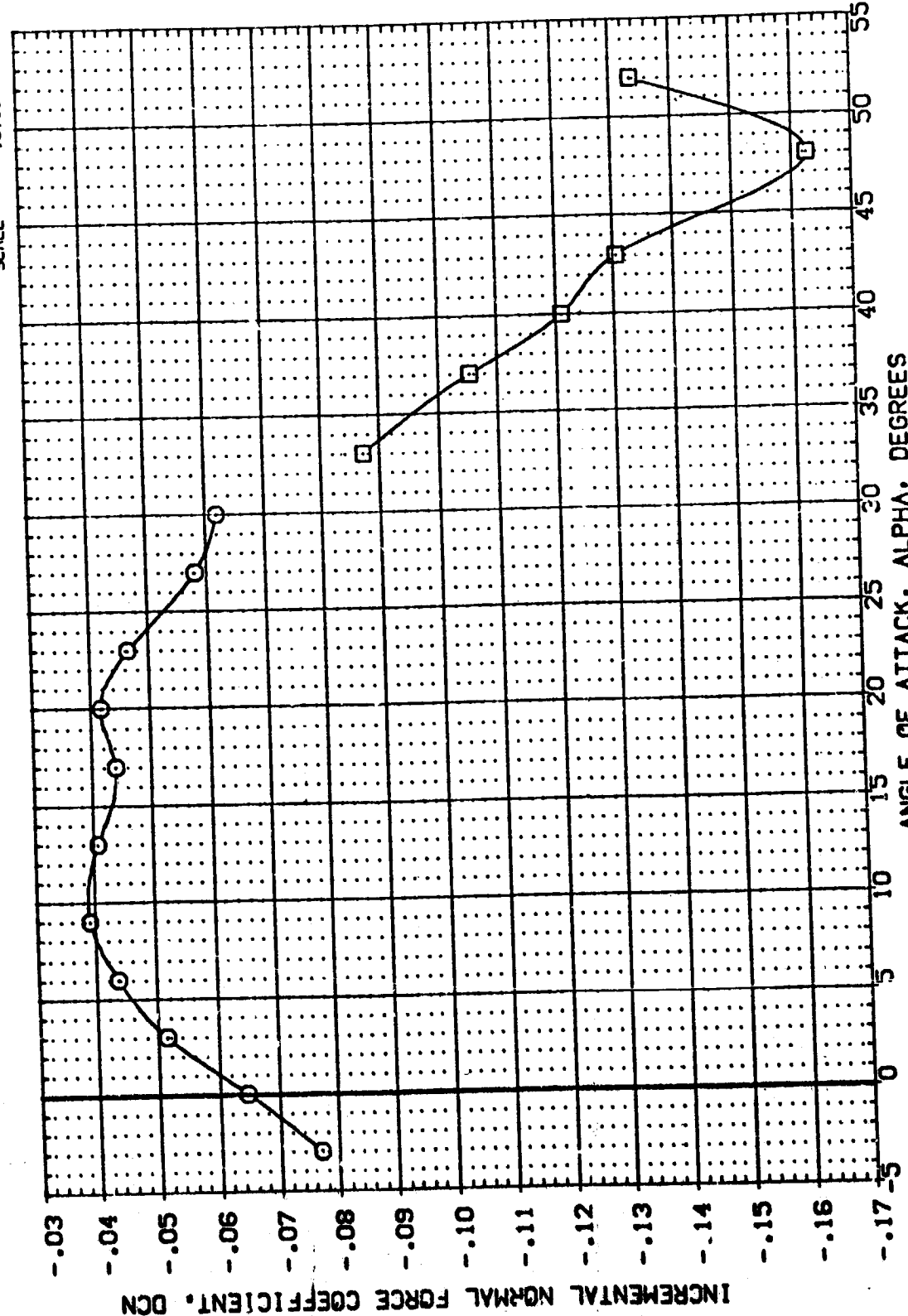


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL (GB7005) (GB7003)

CONFIGURATION DESCRIPTION
 ARES 3.5-163 QAS8 (819C7MAF5)(V107E23)(V7R5)
 ARES 3.5-163 QAS8 (819C7MAF5)(V107E23)(V7R5)

BETA DE BOFLAP SPOBRK
 .000 -44.000 .000
 .000 -44.000 -14.250
 .000 -44.000 -14.250

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 FREF 14.0500 IN.
 XTRP 12.5770 IN.
 YTRP 6.0000 IN.
 ZTRP 6.0000 IN.
 V.L. .0150

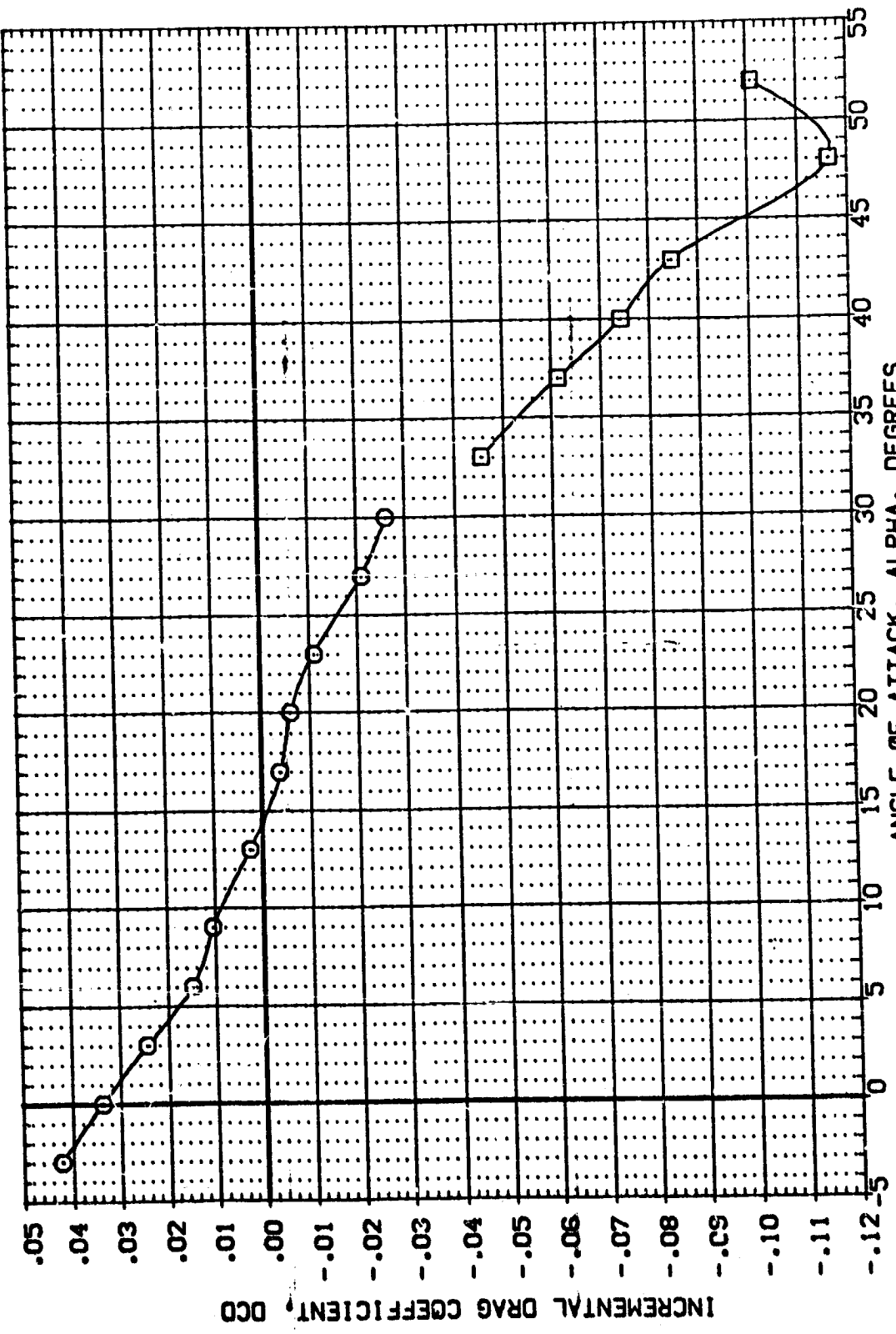


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL (GBY005) **CONFIGURATION DESCRIPTION** AVES 3.5-163 OASB (B19C7MFS)(V107E23)(V7RS)
 (GBY003) AVES 3.5-163 OASB (B19C7MFS)(V107E23)(V7RS)

BETA DE .000 -44.000 SPOBRK SREF .6050 SO.FT. 50.000
 .000 -44.000 -14.250 54.920 7.1220 IN. 14.0500 IN.
 .000 -44.000 -14.250 54.920 12.5770 IN. .0000 IN. 6.0000 Y.L. .0150

REFERENCE INFORMATION
 SREF .6050 SO.FT. 50.000
 LREF 7.1220 IN. 14.0500 IN.
 BREF 14.0500 IN. 12.5770 IN.
 XMRP .0000 IN. 6.0000 Y.L.
 ZMRP .0150
 SCALE

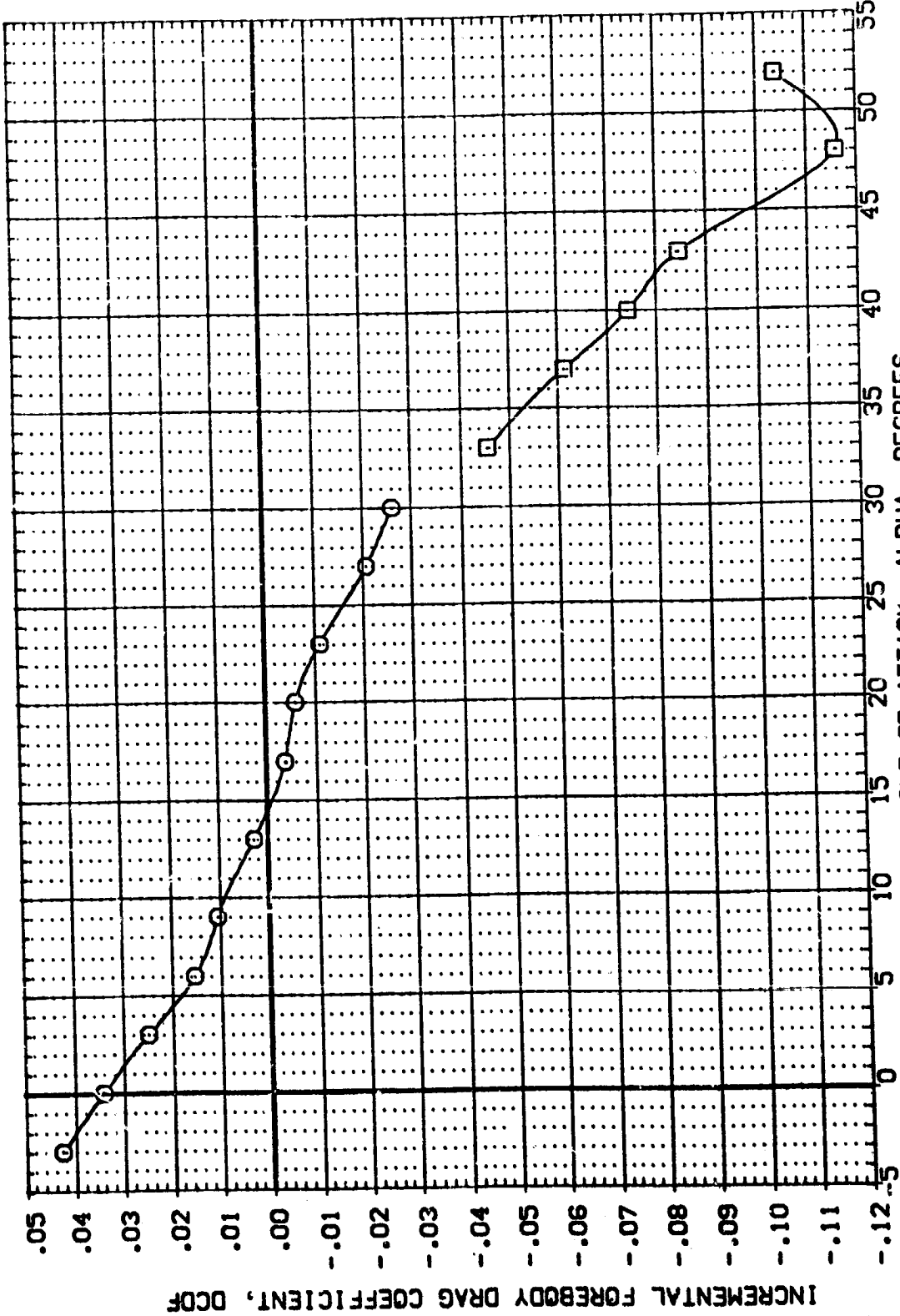


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3
 (A)MACH = 5.30

REFERENCE INFORMATION

SREF	.6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	IN.
SCALE	.0150	V.L.

BETA DE BOFLAP SPOBRK

.000	-44.000	-14.250	54.920
.000	-41.000	-14.250	54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(89Y005)	□	AVES 3.5-163 OAS6 (B19C7M4F5)(V107E23)(V7RS)
(89Y003)	□	AVES 3.5-163 OAS6 (B19C7M4F5)(V107E23)(V7RS)

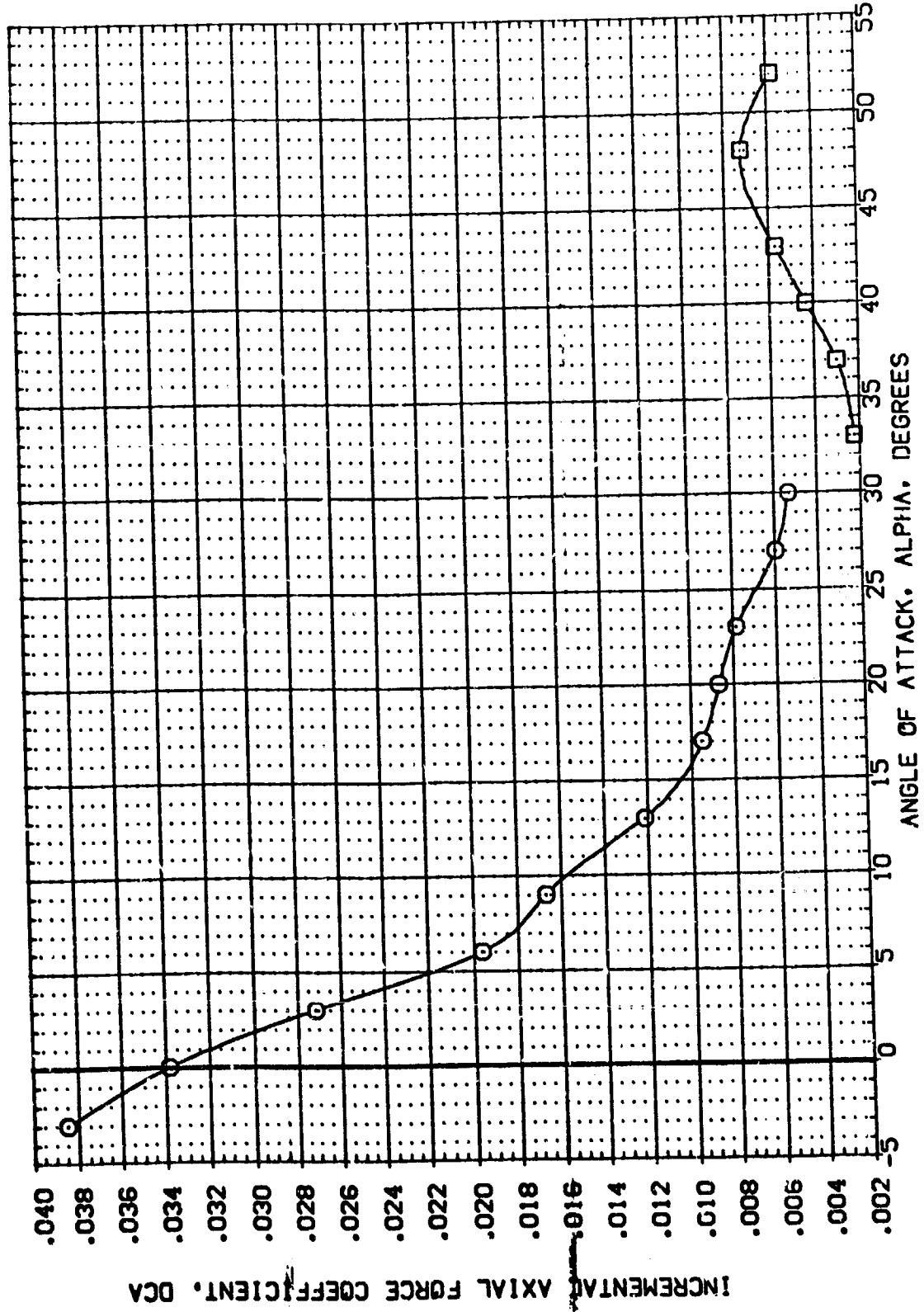


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

DATA SET SYMBOL (GBV003)
 CONFIGURATION DESCRIPTION AMES 3.5-163 C-58 (B19C7M4F5)(V107E23)(V7R5)
 AMES 3.5-163 C-58 (B19C7M4F5)(V107E23)(V7R5)
 REFERENCE INFORMATION
 SREF 3050 SO.FT.
 LBREF 7.1220 IN.
 DBREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

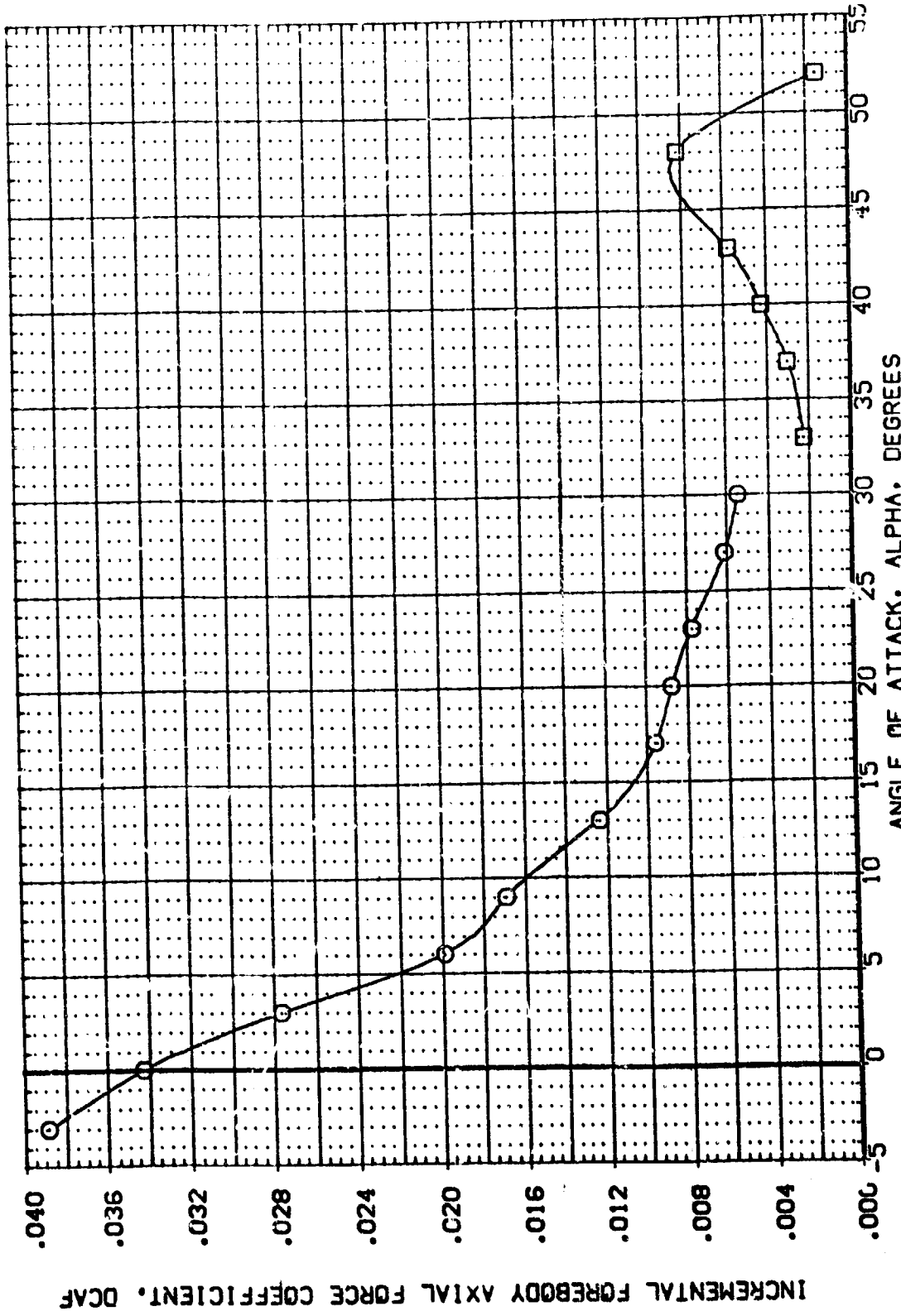


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL: (GBY005) □
 CONFIGURATION DESCRIPTION: AVES 3.5-163 OASB (B)SC7M4F5(V107E231(V7RS))
 AVES 3.5-163 OASB (B)SC7M4F5(V107E231(V7RS))

BETA: .000
 DE: -44.000
 BOFLAP: -14.250
 SPOBRK: 54.920
 SREF: 6050
 LREF: 7.1270
 BRFP: 14.0500
 YMRP: 12.5770
 ZMRP: .0000
 SCALE: 6.0000
 V.L.: .0150

REFERENCE INFORMATION: SO.FT. IN.
 SREF: 6050
 LREF: 7.1270
 BRFP: 14.0500
 YMRP: 12.5770
 ZMRP: .0000
 SCALE: 6.0000
 V.L.: .0150

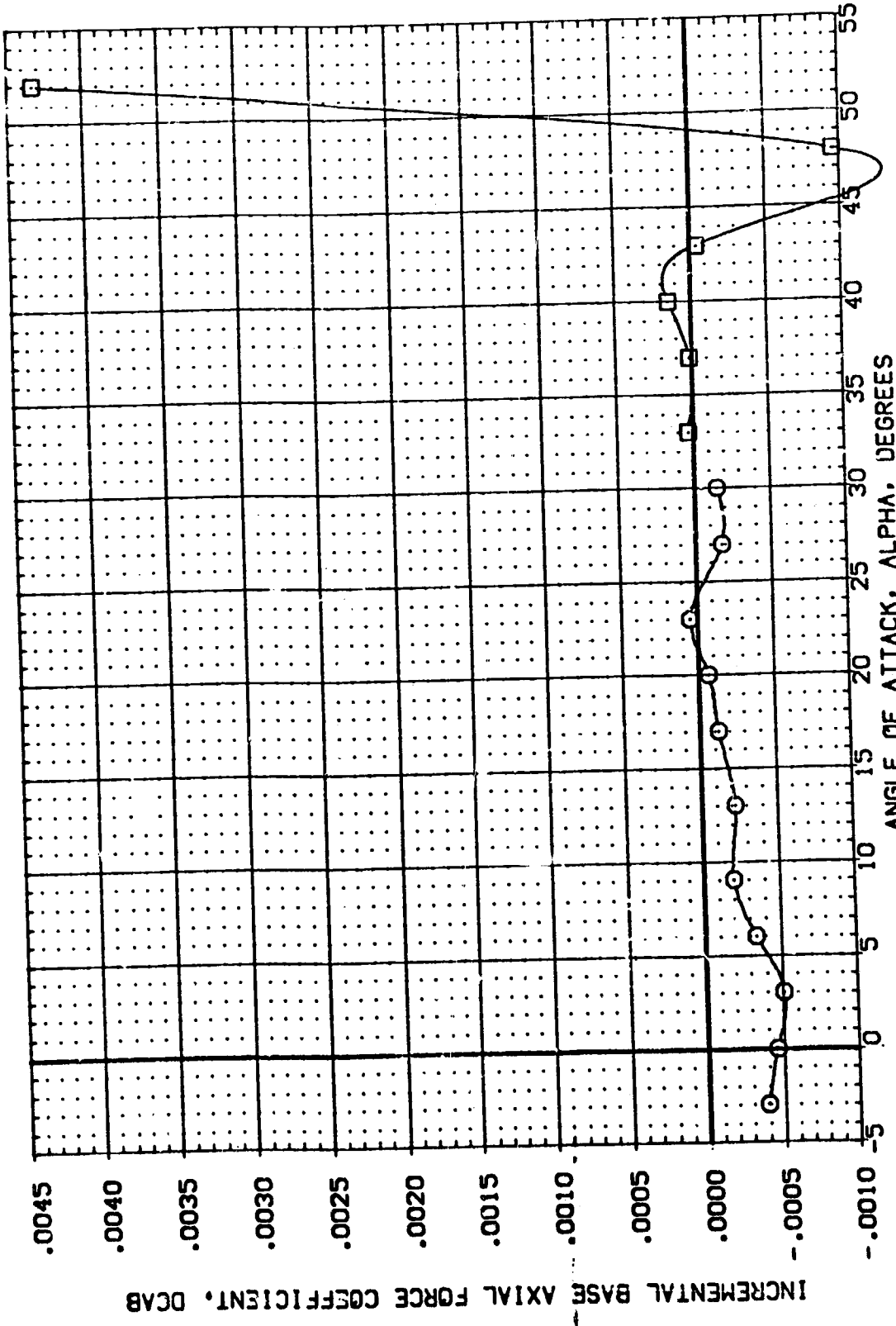


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL: (GB7005) (GB7003)
 CONFIGURATION DESCRIPTION: AMES 3.5-163 OASB (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OASB (B19C7M4F5)(V107E23)(V7RS)
 BETA: .000 DE: -44.000 SPOBRK: 54.970
 .000 -44.000 -14.250 54.920
 REFERENCE INFORMATION: .6050 SO.FT.
 SREF: 7.1220 IN.
 LREF: 14.0500 IN.
 BREF: 12.5770 IN.
 XMRP: .0000 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 V.L.
 SCALE: .0150

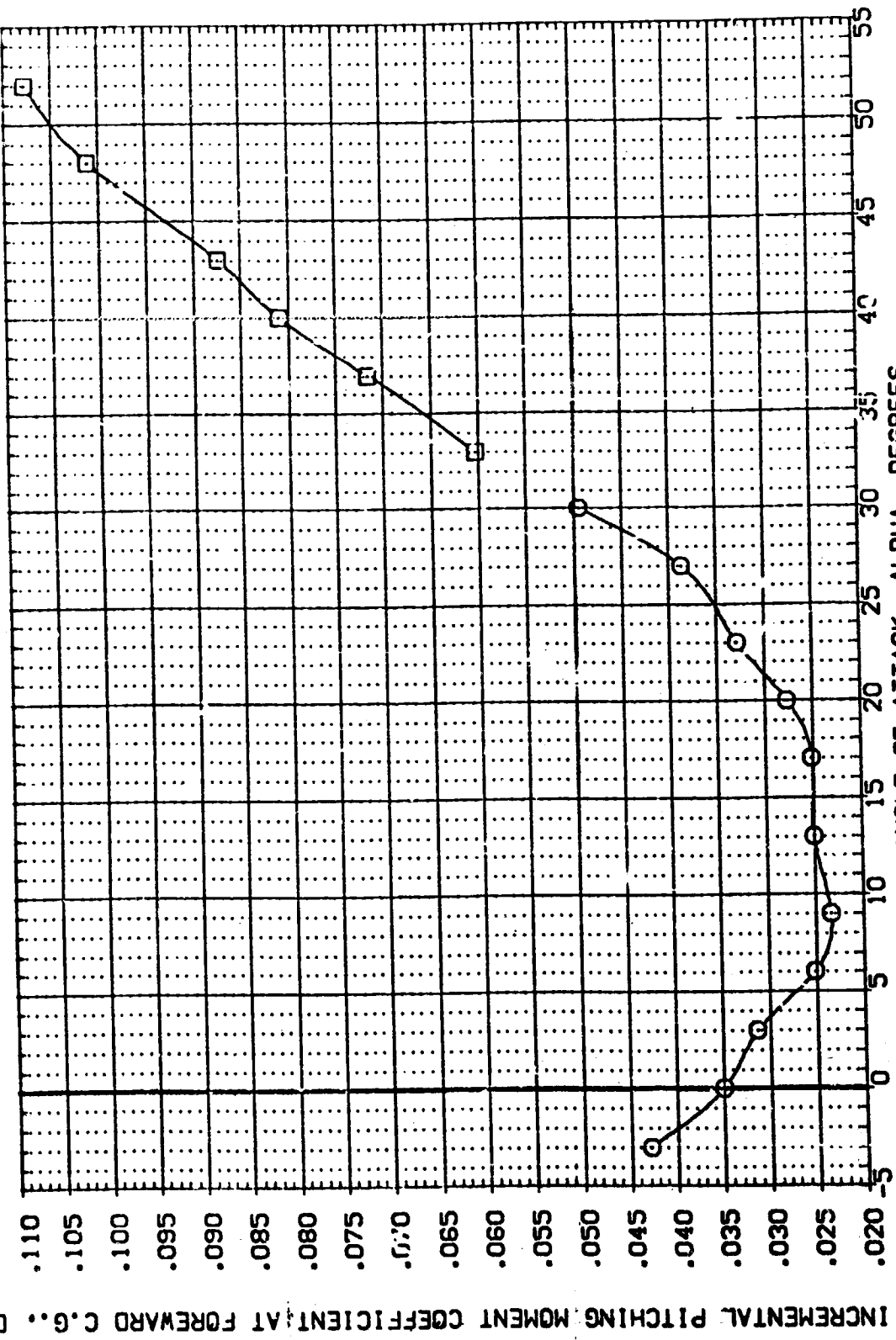


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBO. (CBY005) (CBY003)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 DASH (B1SC7M4FS)(V107:23)(V7RS)
 AVES 3.5-163 DASH (B1SC7M4FS)(V107:23)(V7RS)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -4.000 -14.250 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XPRP 12.5770 IN.
 YPRP .0000 IN.
 ZPRP 6.0000 V.L.
 SCALE .0150

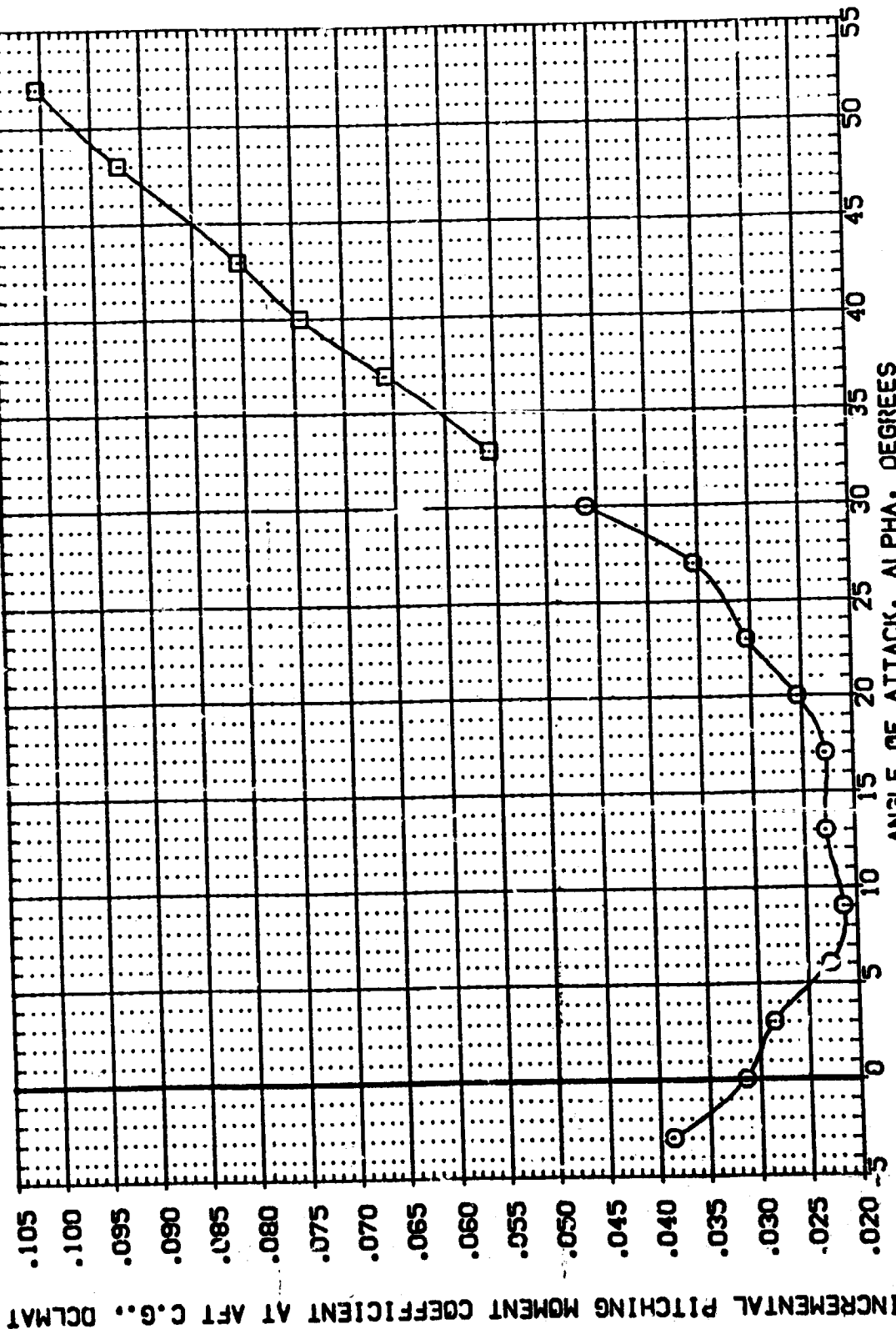


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY005)

SYMBOL	ALPHA	MACH	BOFLAP	RLOOR	PARAMETRIC VALUES	DATA SOURCE	DE	DATASET	DE	SREF	REFERENCE INFORMATION
○	.000	5.300	BETA		.000	LB000		LB002		7.1220	SO.FT.
□	10.000	-14.250	SPOBRK		54.920	LB005	-44.000			14.0500	N.
◇	20.000	.000								12.5770	N.
△	30.000									.0000	N.
										6.0000	V.L.
										.0150	SCALE

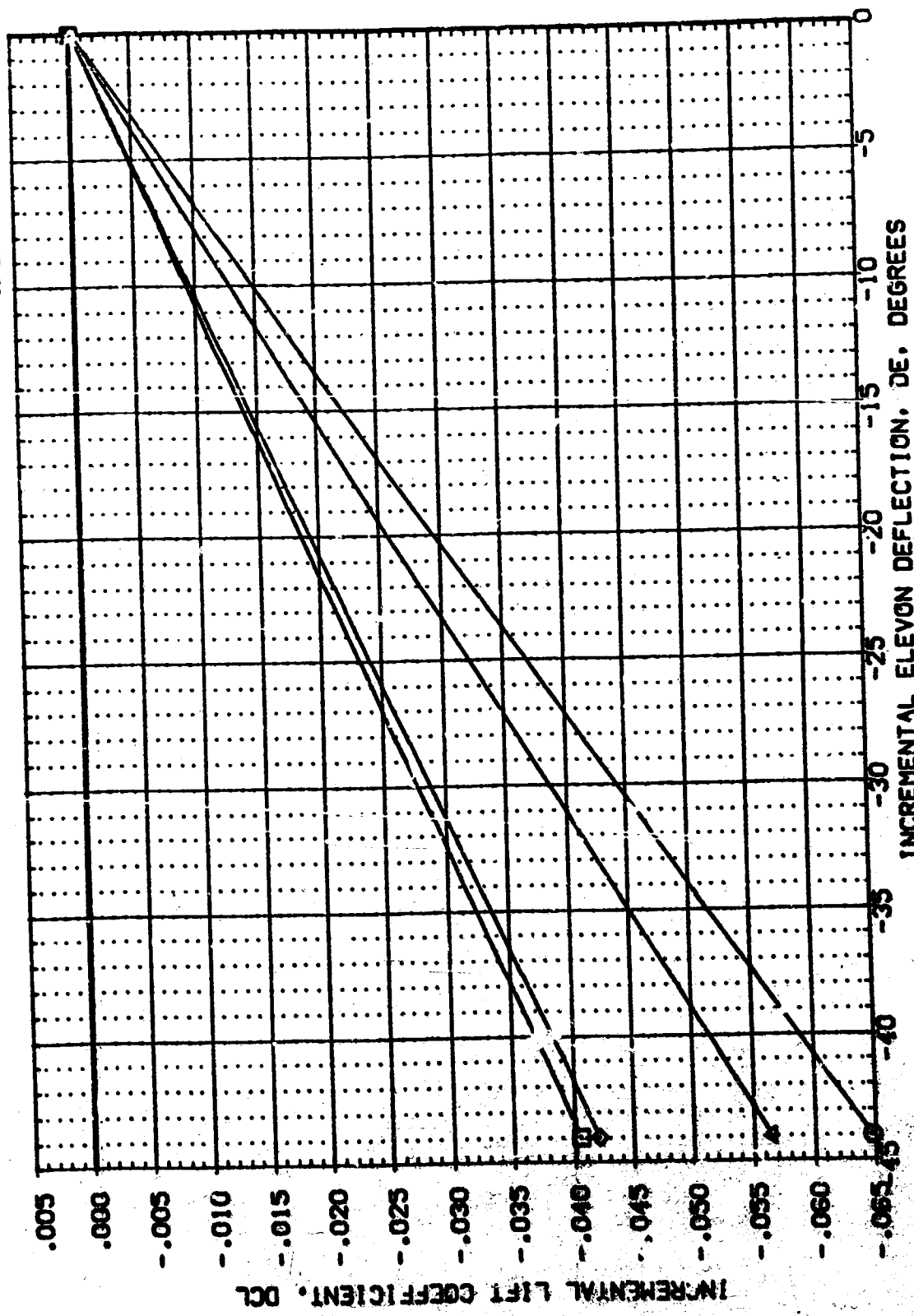


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY005)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	REFERENCE INFORMATION
○	.000	5.300	BETA		SPDRK	54.820	LBY005	-44.000	6050 SQ.FT.
□	10.000	-14.250	SPOBRK	.000					7.1220 IN.
◇	20.000								14.0500 IN.
△	30.000								12.5770 IN.
									6.0000 IN.
									6.0000 V.L.
									.0150 SCALE

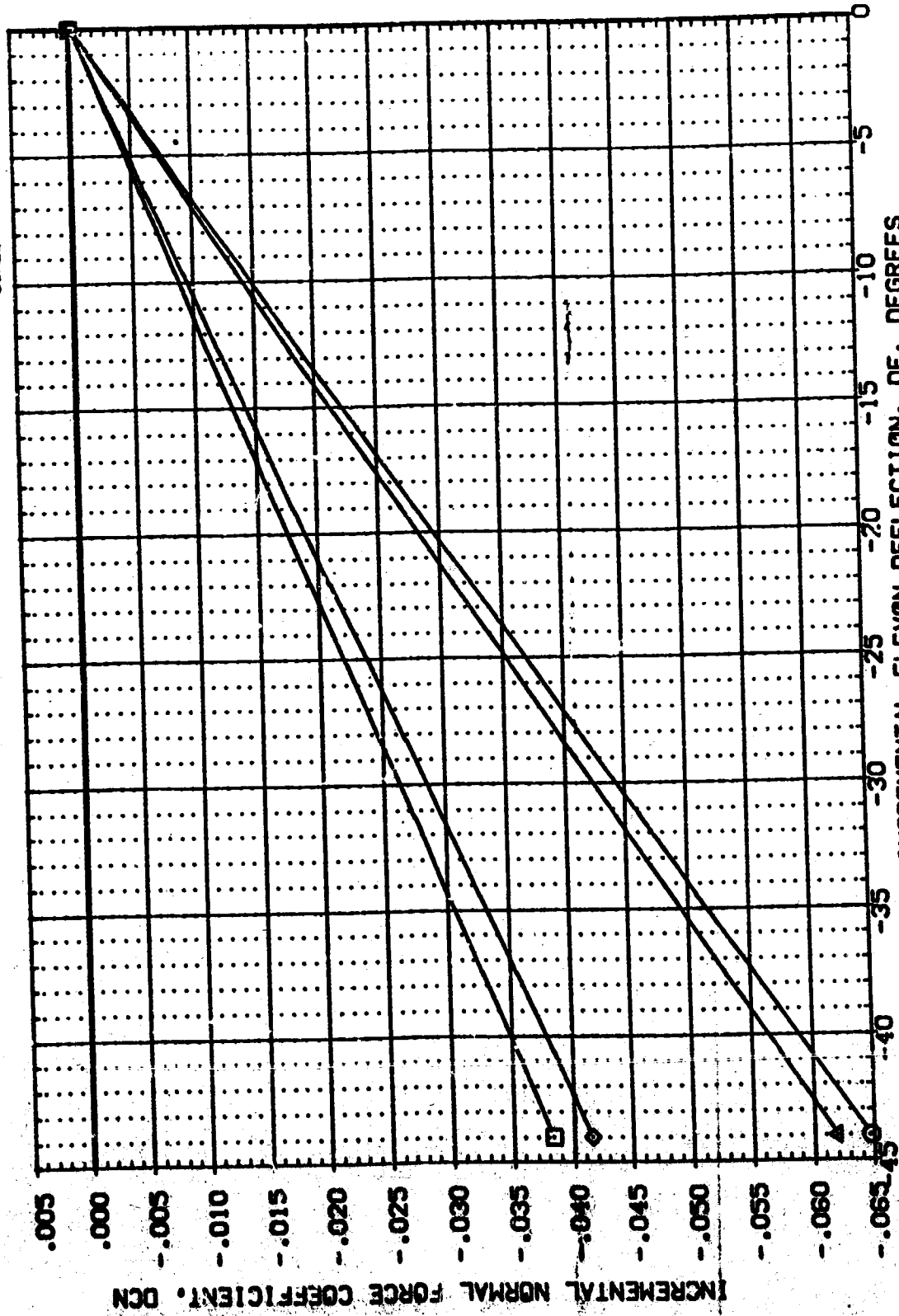
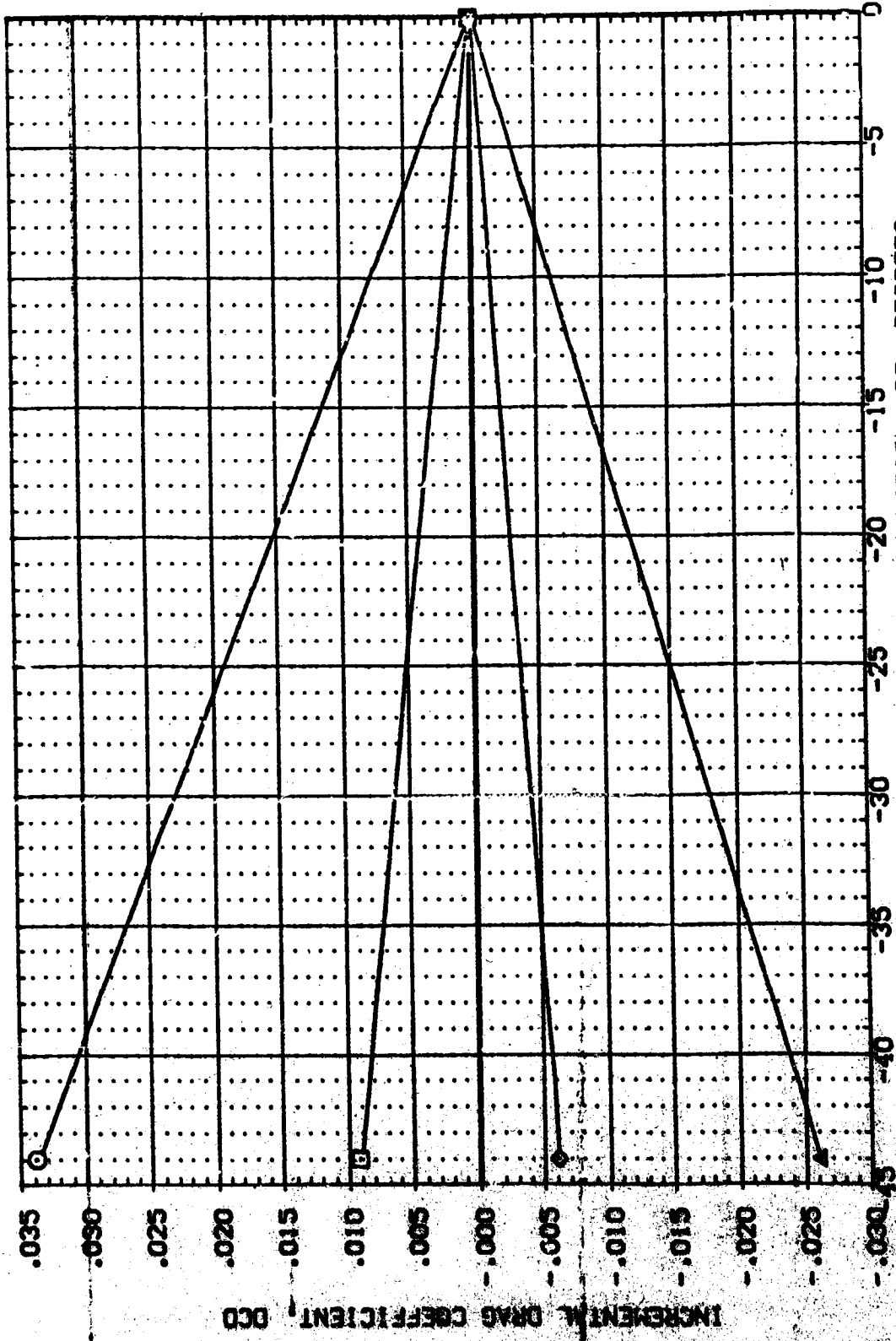


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY005)

SYMBOL	ALPHA	MACH	BDFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DE	DE	DE	REFERENCE INFORMATION
○	.000	5.300	BETA		SREF	6050	50.FT.			
□	10.000	-14.250	SPOBRK		LREF	7.1220	IN.			
◇	20.000	.000			BREF	14.0500	IN.			
▽	30.000				XMRP	12.5770	IN.			
					YMRP	.0000	IN.			
					ZMRP	6.0000	V.L.			
					SCALE	.0150				



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES
 FIG. 4 CONFIGURATION - 139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(V107E23)(V7R5) (LBY005)

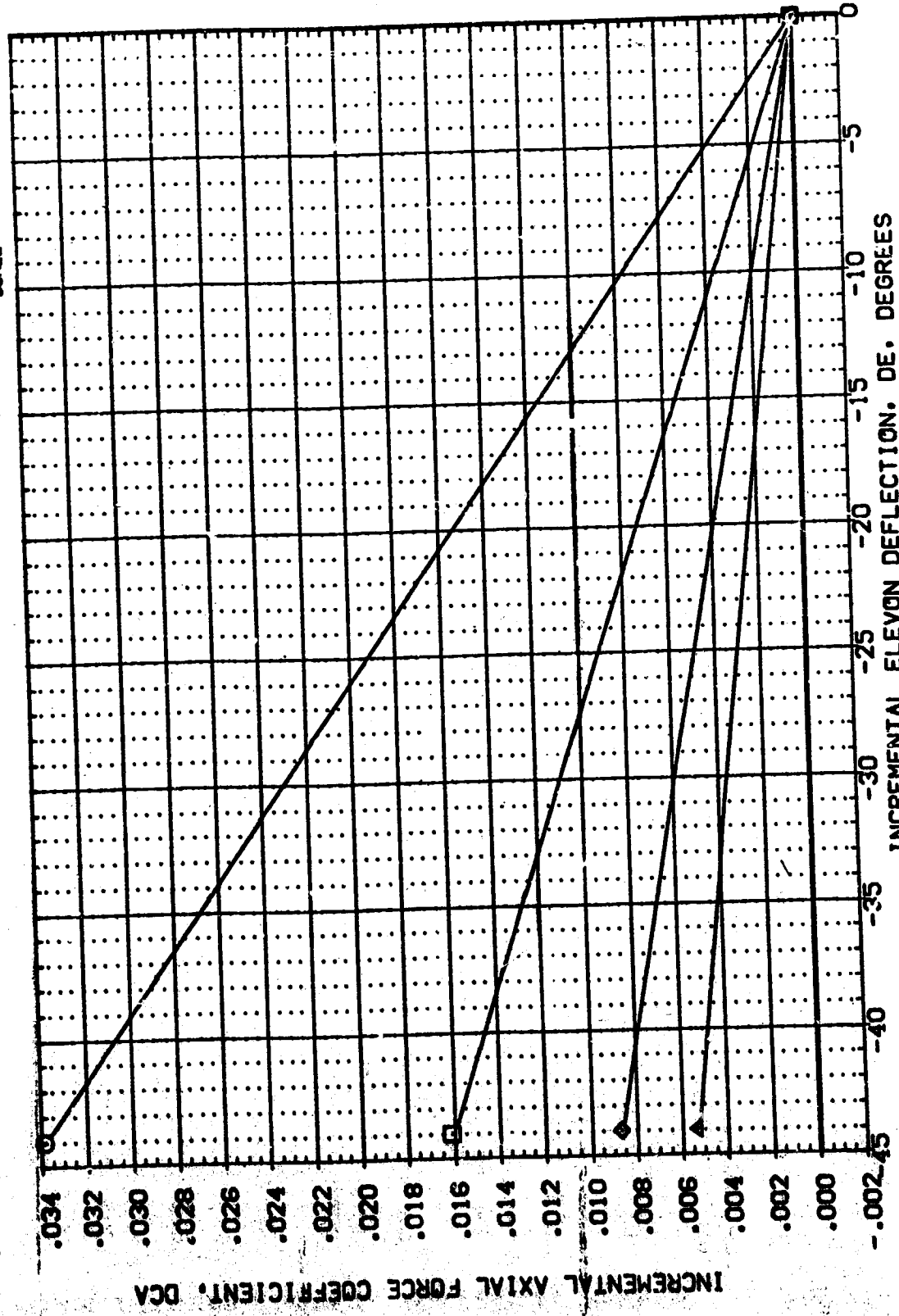
REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1270 IN.
 BREF 14.0500 IN.
 XPRP 12.5770 IN.
 YPRP 6.0000 IN.
 ZPRP 6.0000 V.L.
 SCALE .0150

PARAMETRIC VALUES
 MACH 5.300 BETA
 BOFLAP -14.250 SPOBRK
 RUDDER .000

DATA SOURCE DATASET DE
 DE -44.000 LBY002

DATA SOURCE DATASET DE
 DE -44.000 LBY002

SYMBOL ALPHA MACH BOFLAP RUDDER
 □ 10.000 5.300 -14.250 .000
 ◇ 20.000 5.300 -14.250 .000
 △ 30.000 5.300 -14.250 .000



INCREMENTAL ELEVON DEFLECTION, DE. DEGREES
 INCREMENTAL AXIAL FORCE COEFFICIENT, DCA
 FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A53 (B19C7M4F5)(W107E23)(V7R5) (LBY005)

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.8770
 IN. .0000
 V.L. 6.0000
 .0150

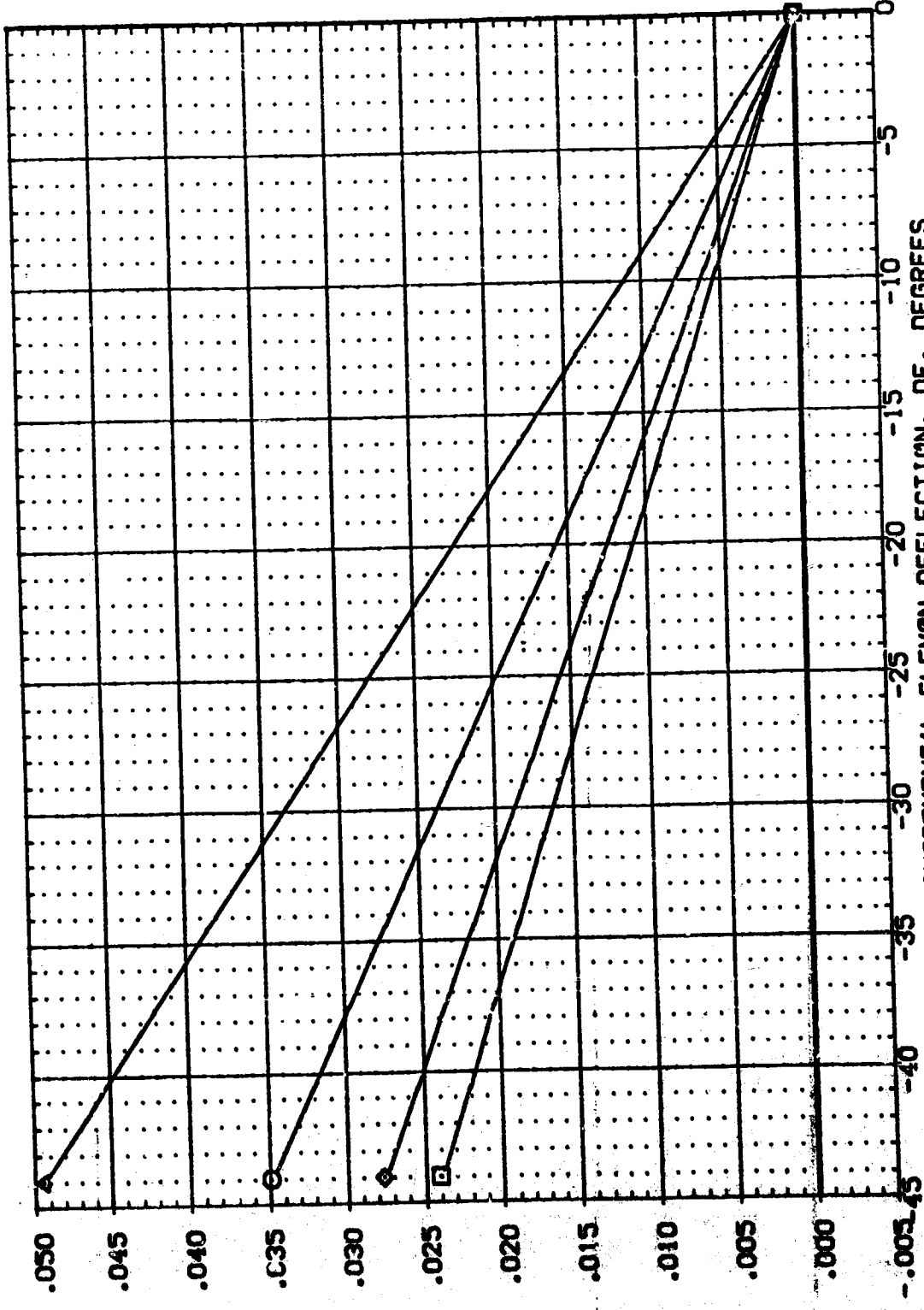
PARAMETRIC VALUES
 MACH 5.300
 BETA -14.250
 SPOBRK .000

DATA SOURCE
 DATASET DE LBY002
 DATASET DE -44.000
 DATASET DE LBY005
 54.920 LBY005

SYMBOL
 ALPHA .000
 10.000
 20.000
 30.000

BOFLAP
 RUDDER

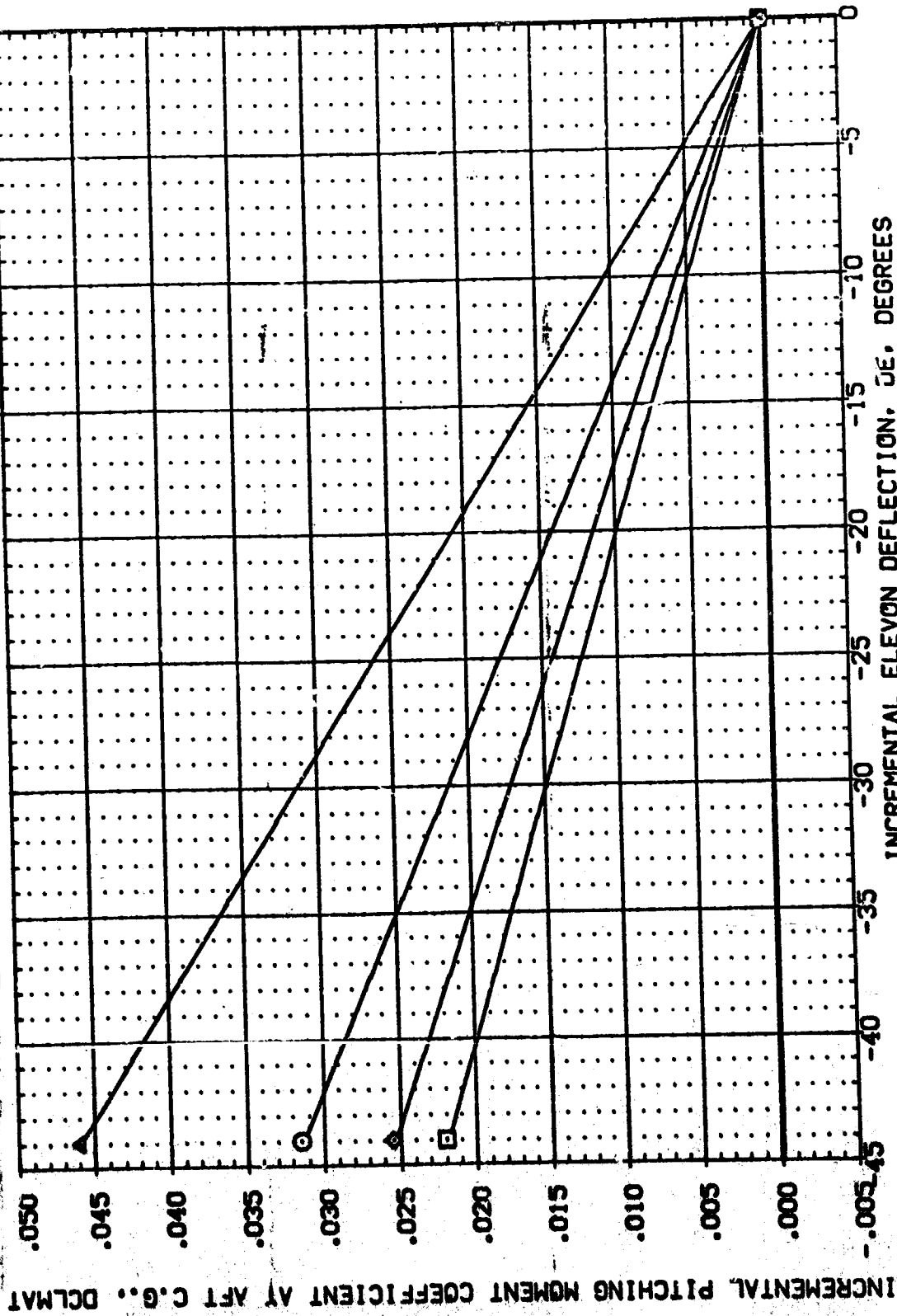
INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL ELEVON DEFLECTION, DE. DEGREES
 FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY005)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
○	.000	MACH	5.300 BETA	DE	SREF SQ.FT.
□	10.000	BOFJAP	-14.250 SPOBRK	DE	LREF IN.
◇	20.000	FLDZER	.000	DE	BREF IN.
△	30.000			DE	YREF IN.
				DE	ZYREF IN.
				DE	V.L.
				DE	SCALE



INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT

INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY003)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DE	REFERENCE INFORMATION
○	30.000	5.300	BETA	.000	LBY001	SREF
□	40.000	-14.250	SPOBRK	54.920	LBY003	LREF
◇	50.000	.000				XMRP
						YMRP
						ZMRP
						SCALE
						SO.FT.
						IN.
						IN.
						IN.
						V.L.

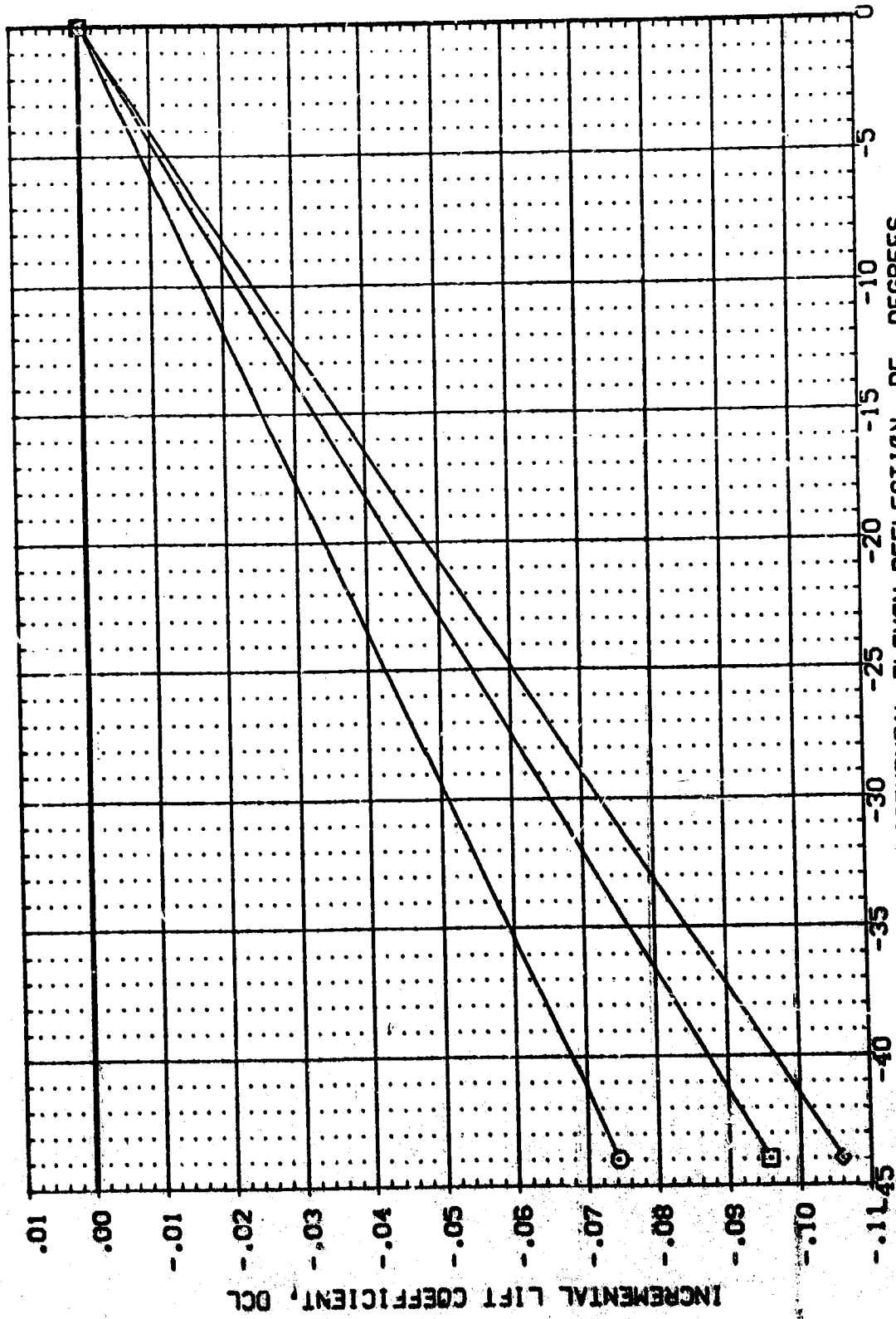


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY003)

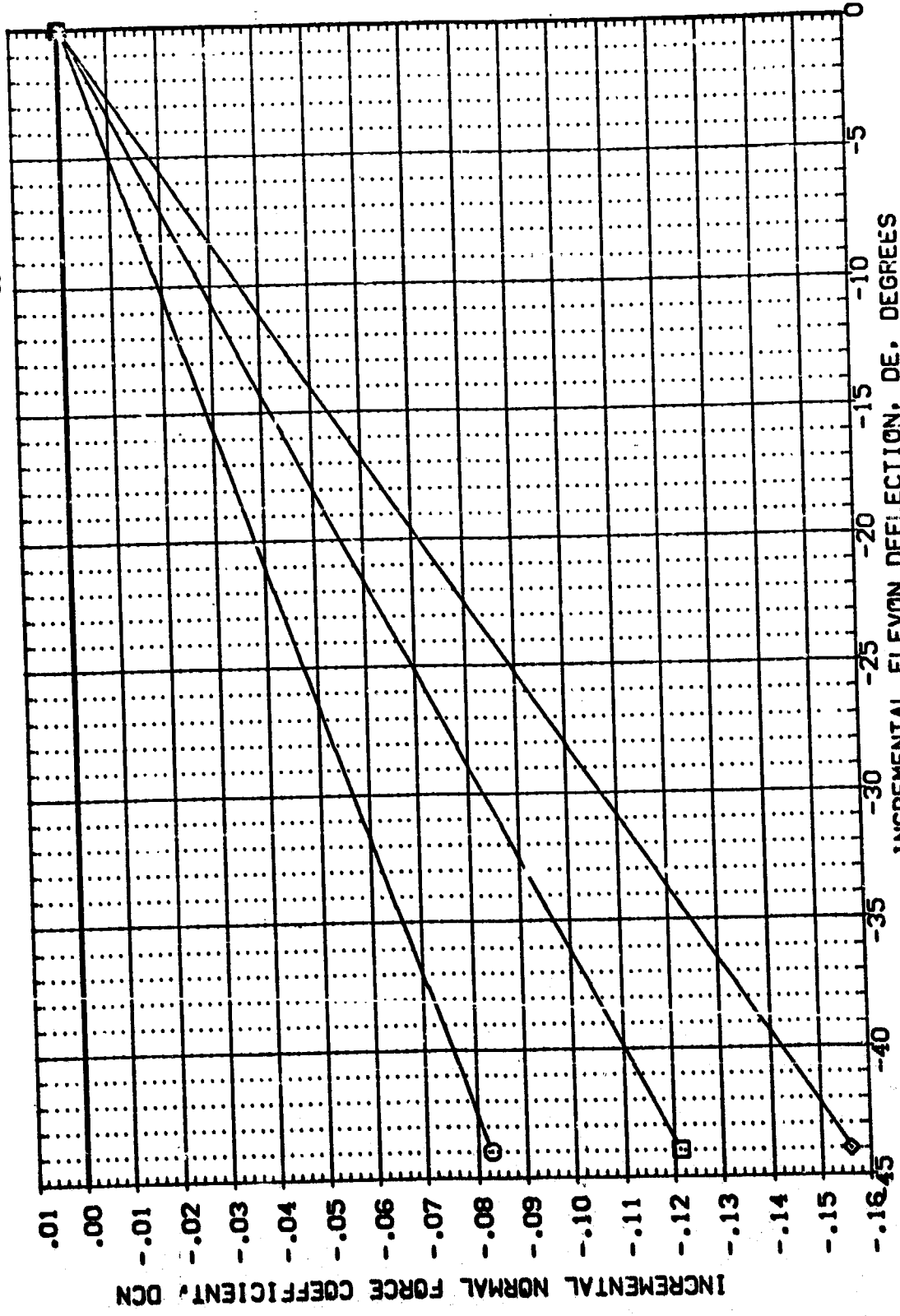
REFERENCE INFORMATION
 SO.FT.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

DATA SOURCE
 DE LB001

PARAMETRIC VALUES
 BETA .000
 SPBRK 54.920
 LB1003

MACH 30.000
 BDFLAP 40.000
 RUDDER 50.000

SYMBOL
 ○
 □
 ◇



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES
 INCREMENTAL NORMAL FORCE COEFFICIENT, DCN
 FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBY003)

SYMBOL	ALPHA	MACH	80FLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	SREF	SO.FT.
○	30.000	5.300	BETA		.000	DE	LBY001	.000	LREF	6.050
□	40.000	-14.250	SPOBRK		54.920	LBY003			BREF	7.1220
◇	50.000	.000							XMRP	14.0500
									YMRP	12.5770
									ZMRP	.0000
									SCALE	6.0000
										V.L.
										.0150

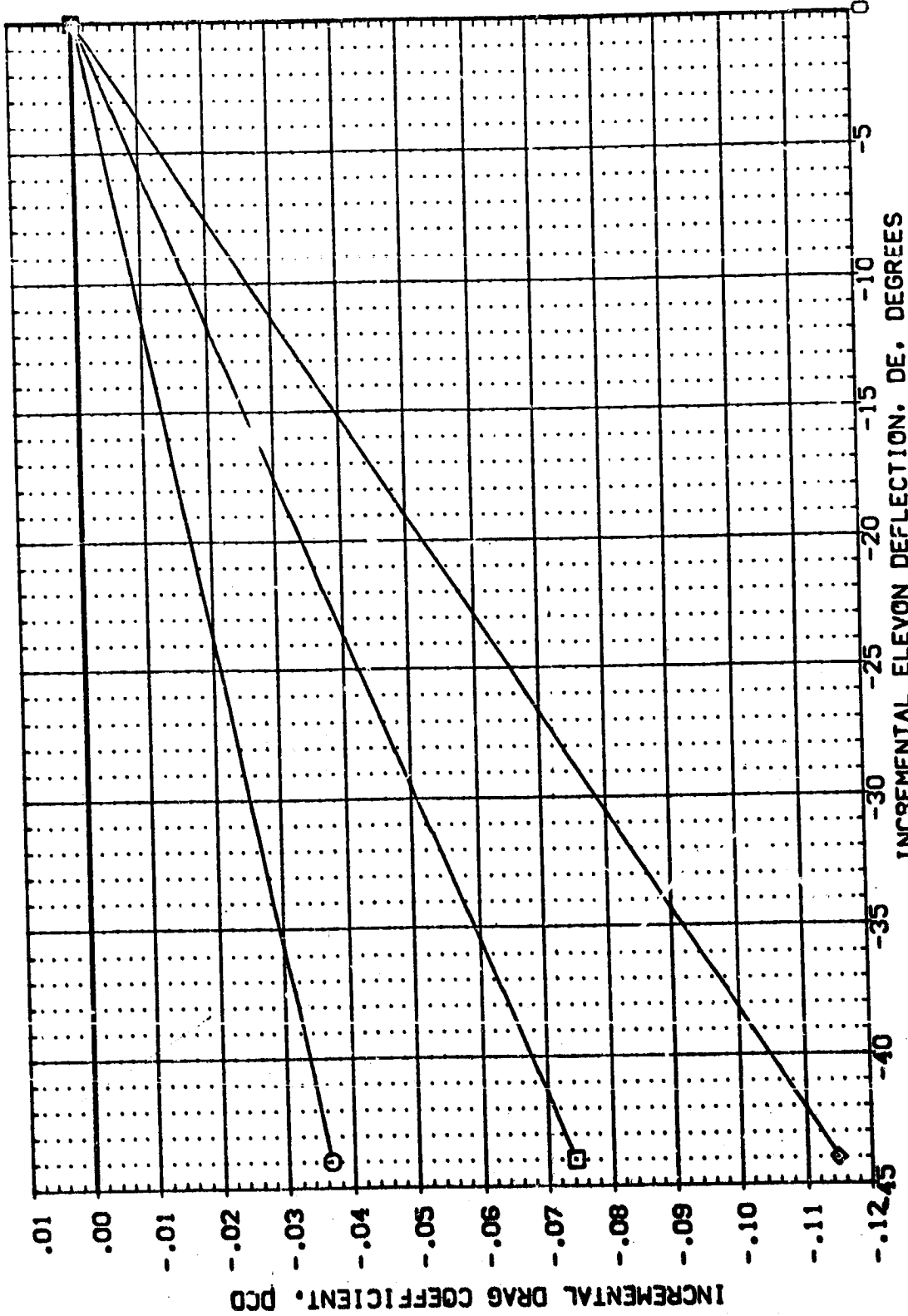


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (LBV003)

SYMBOL ALPHA MACH EDFLAP SPOBRK BETA DATASET DE DATA SOURCE DATASET DE SREF LREF BREF YREF ZREF SCALE

30.000 5.300 .000 LBV003 -44.000 LBV001 .000 .6050
 40.000 -14.250 54.920 LBV003 .000 .7.1220
 50.000 .000 .000 .000 14.0500
 .000 .000 6.0000
 .000 .0150

REFERENCE INFORMATION SQ.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.

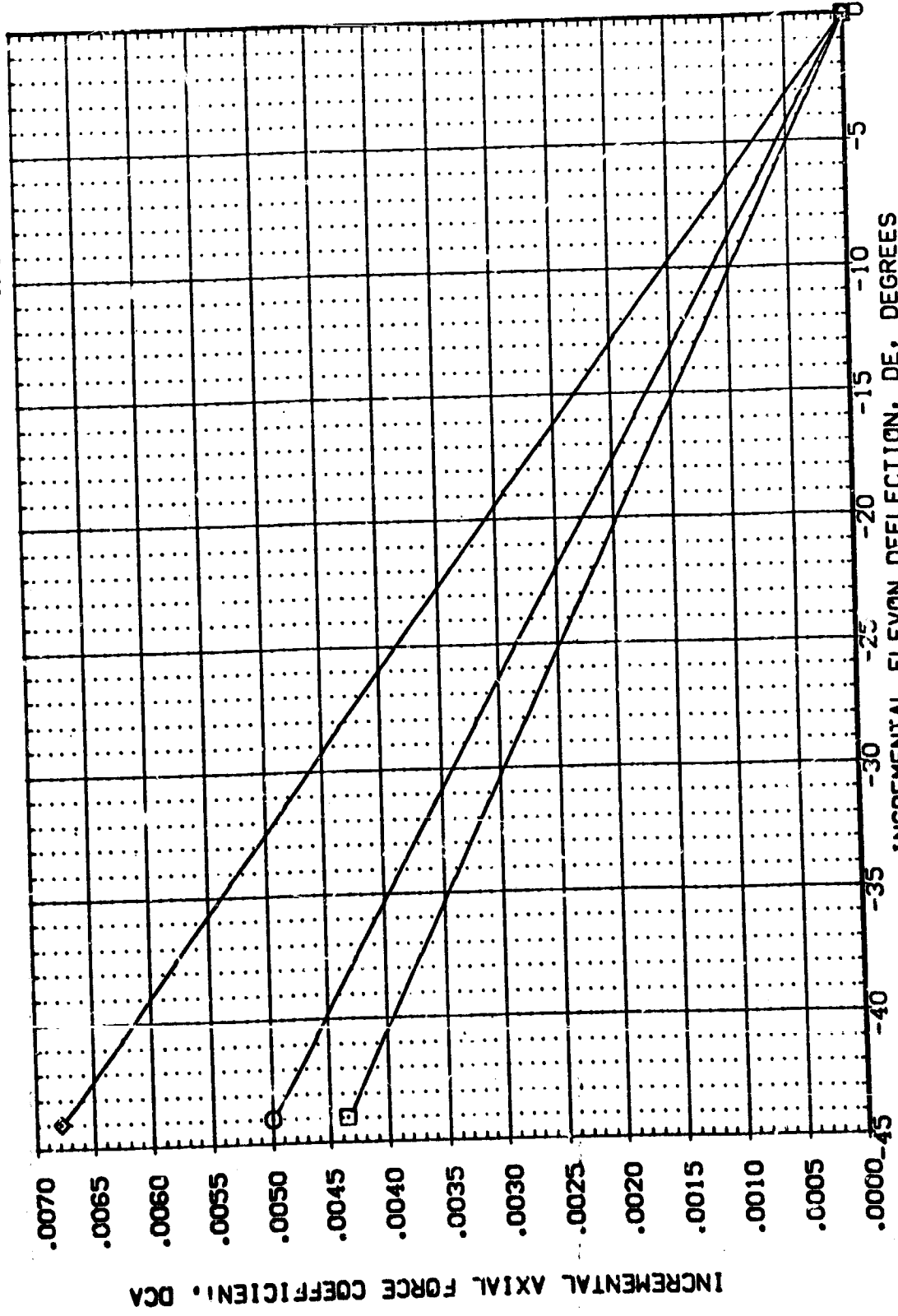


FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (819C7M4F5)(W107E23)(V7R5) (LBY003)

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

DATA SOURCE DE LBV001
 DATASET DE LBV003
 DATASET DE LBV001

PARAMETRIC VALUES
 ALPHA 30.000 MACH 5.300 BETA -14.250 SPOBRK .000
 40.000 BOFLAP -14.250 SPOBRK .000
 50.000 RUDDER .000

SYMBOL
 □
 ◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

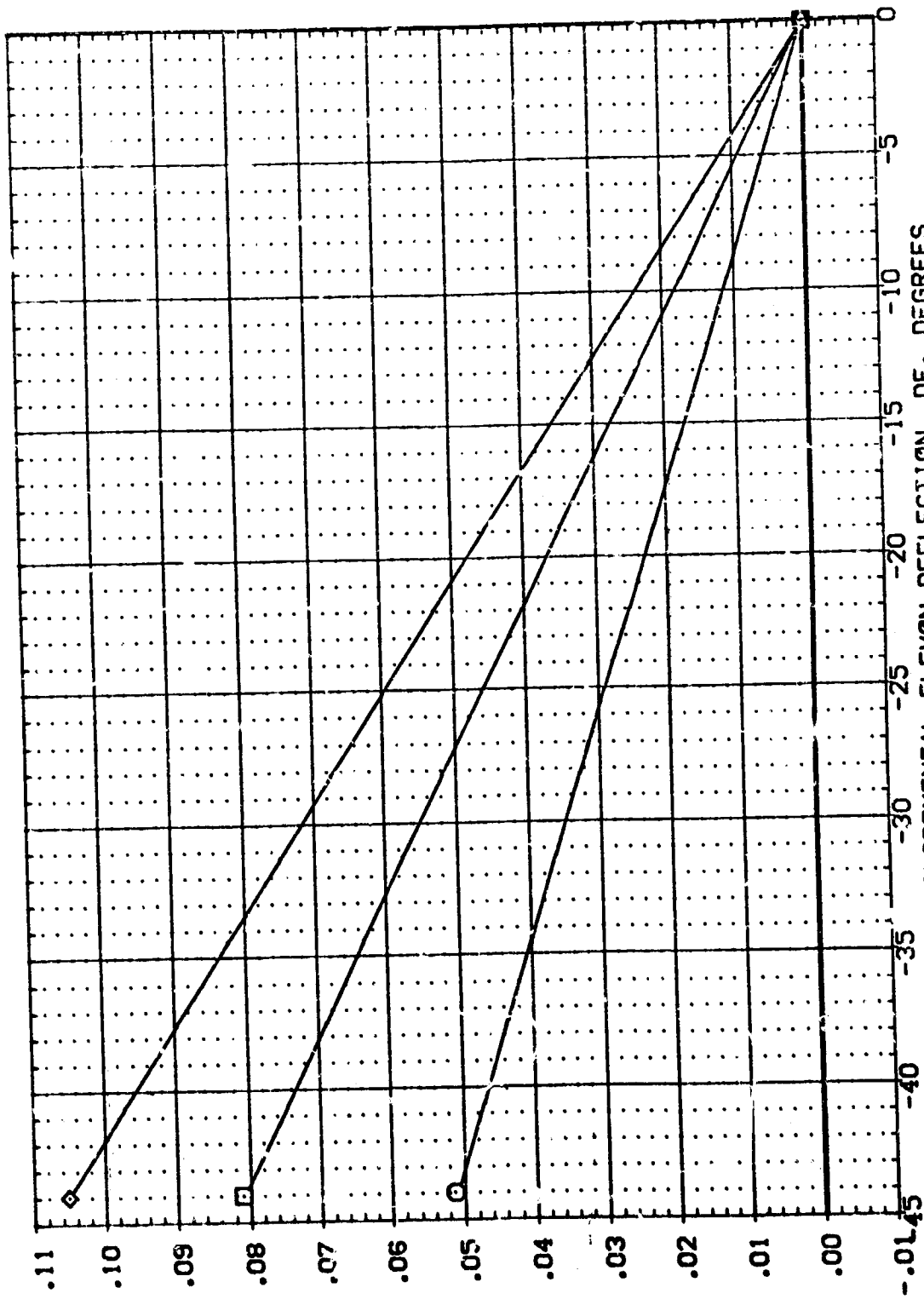


FIG. 4 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B19C7M1F5)(W107E23)(V7R5) (LBY003)

REFERENCE INFORMATION
 SREF 6.6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YMRP 12.5770 IN.
 ZMRP .0000 IN.
 V.L. 6.0000 V.L.
 SCALE .0150

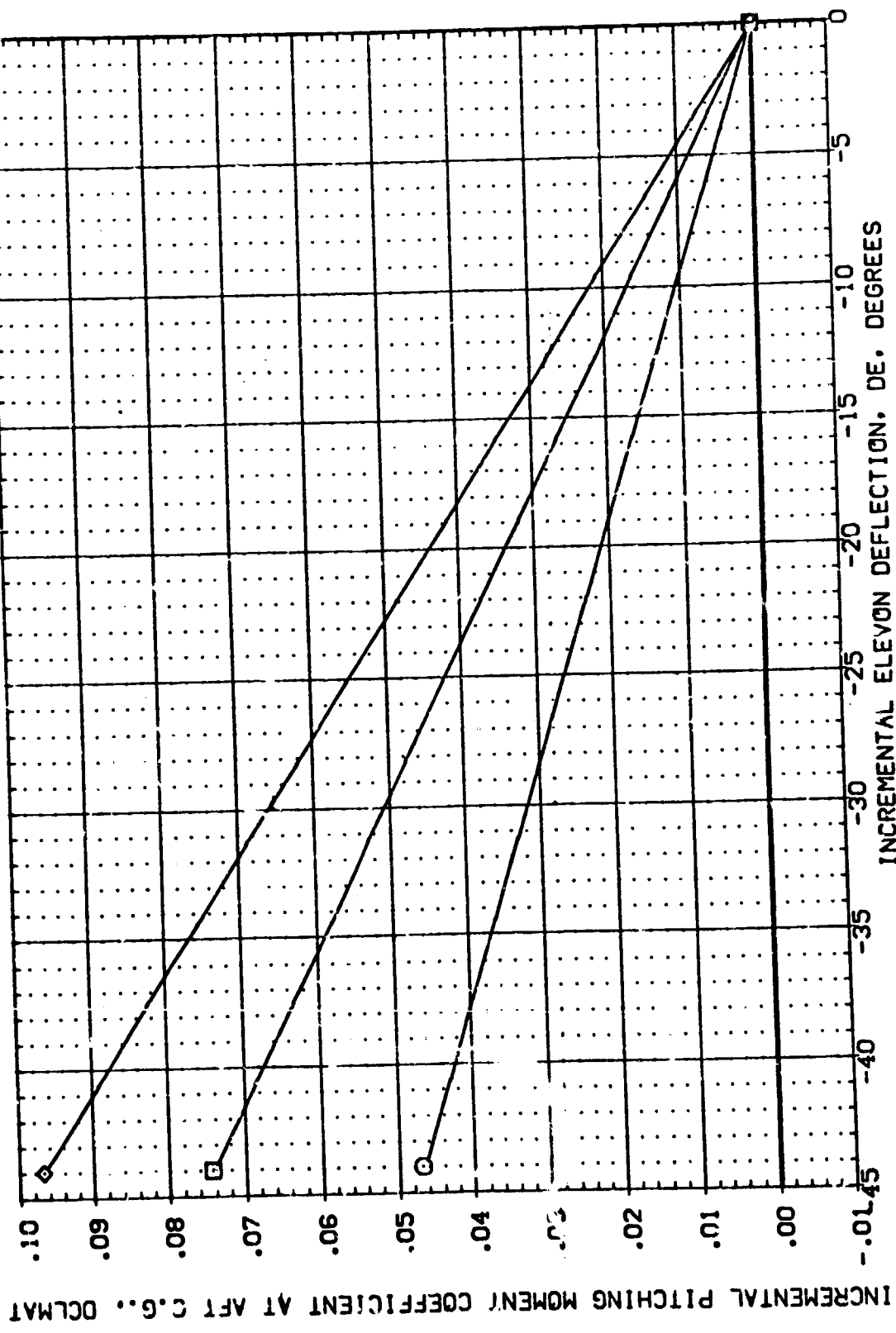
DATA SOURCE
 DATASET DE
 LBY001

PARAMETRIC VALUES
 BETA .000
 SPDRK 54.92C LBY003
 DE -44.000

MACH 5.300
 BOFLAP -14.250
 RUDDER .000

ALPHA 30.070
 40.000
 50.000

SYMBOL
 ○ □ ◇



INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT

INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 4 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 5.3

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(KBY005)	AVES 3.5-163 OA58 (B19C7M4FS)(W107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6050 SQ.FT.
(KBY002)	AVES 3.5-163 OA58 (B19C7M4FS)(W107E23)(V7RS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(KBY003)	AVES 3.5-163 OA58 (B19C7M4FS)(W107E23)(V7RS)	.000	.000	-14.250	54.920	BREF 14.0500 IN.
(KBY001)	AVES 3.5-163 OA58 (B19C7M4FS)(W107E23)(V7RS)	.000	.000	-14.250	54.920	XMRP 12.5770 IN.
(BBY008)	AVES 3.5-163 OA58 (B19C7M4FS)(W107E23)(V7RS)	.000	11.000	3.750	54.920	ZMRP 6.0000 IN.
(BBY006)	AVES 3.5-163 OA58 (B19C7M4FS)(W107E23)(V7RS)	.000	11.000	13.750	54.920	SCALE 6.0150

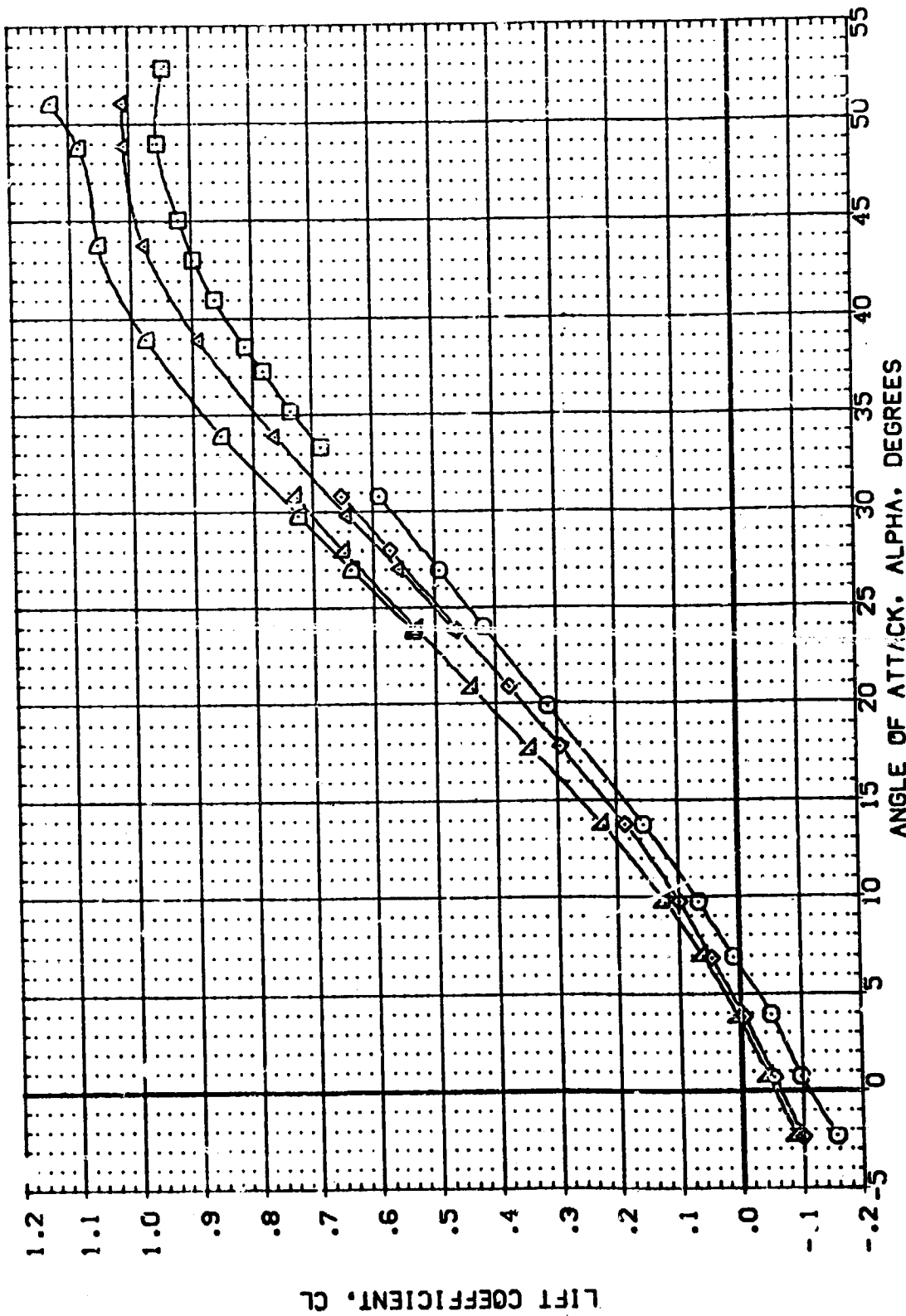


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION SO.FT.
 (KBY003) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) SREF 6050
 (KBY002) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) LREF 7.1220
 (KBY001) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) BREF 14.0500
 (KBY003) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) XGRP 12.5770
 (KBY002) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) YGRP 6.0000
 (KBY001) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) ZGRP 6.0000
 (BBY006) AVES 3.5-163 OASB (B1SC7M4F5)(V107E23)(V7RS) SCALE V.L.

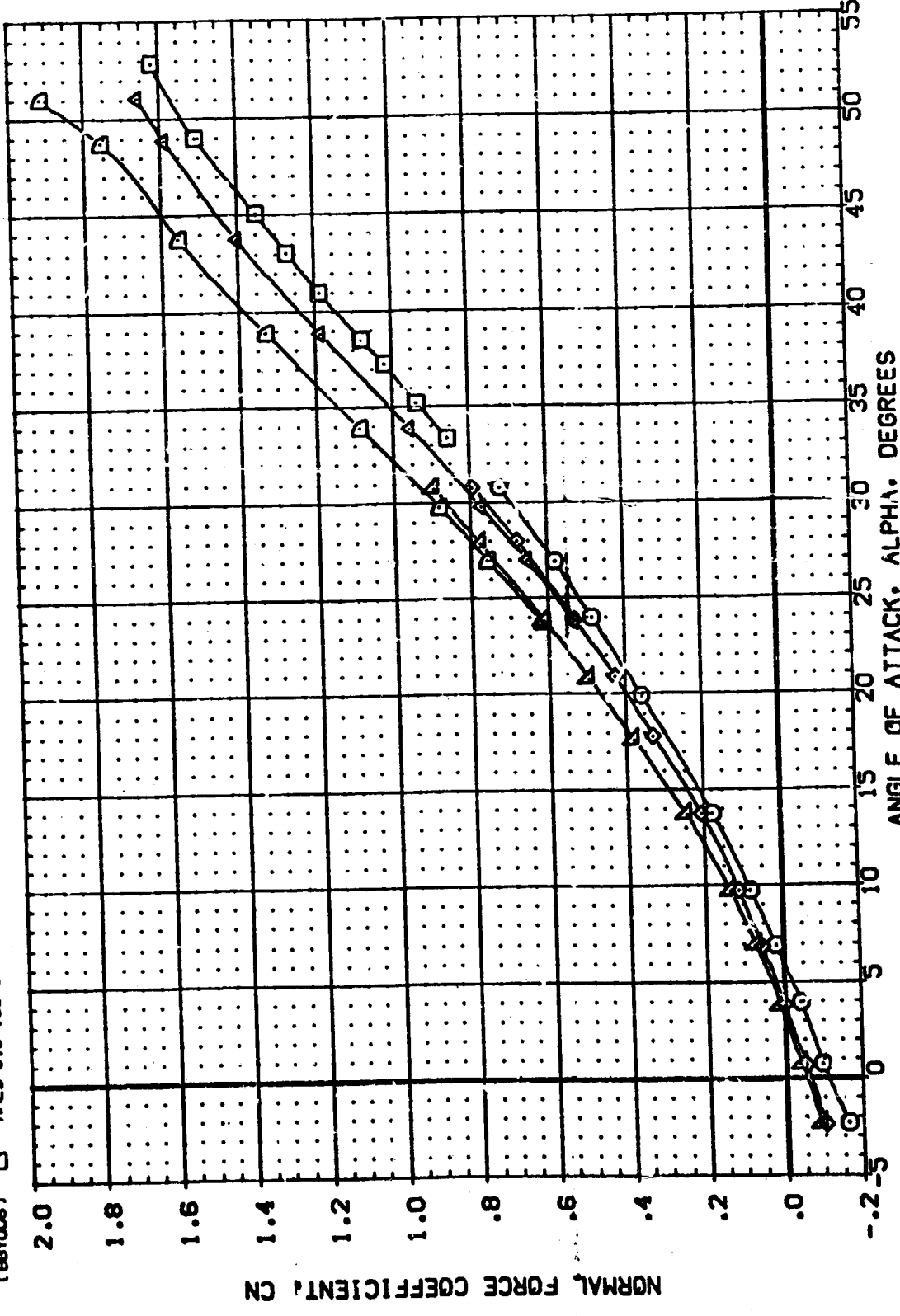


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBL. CONFIGURATION DESCRIPTION

(KBY005) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY003) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY002) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY001) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY008) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY009) AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

REFERENCE INFORMATION

SREF 6050 SQ.FT.

LREF 7.1220 IN.

BREF 14.0500 IN.

XPRP 12.5770 IN.

YPRP 6.0000 IN.

ZPRP 6.0000 V.L.

SCALE 6.0150

BETA .000

ELEVON -44.000

DOFLAP -14.250

SPDRNK 54.920

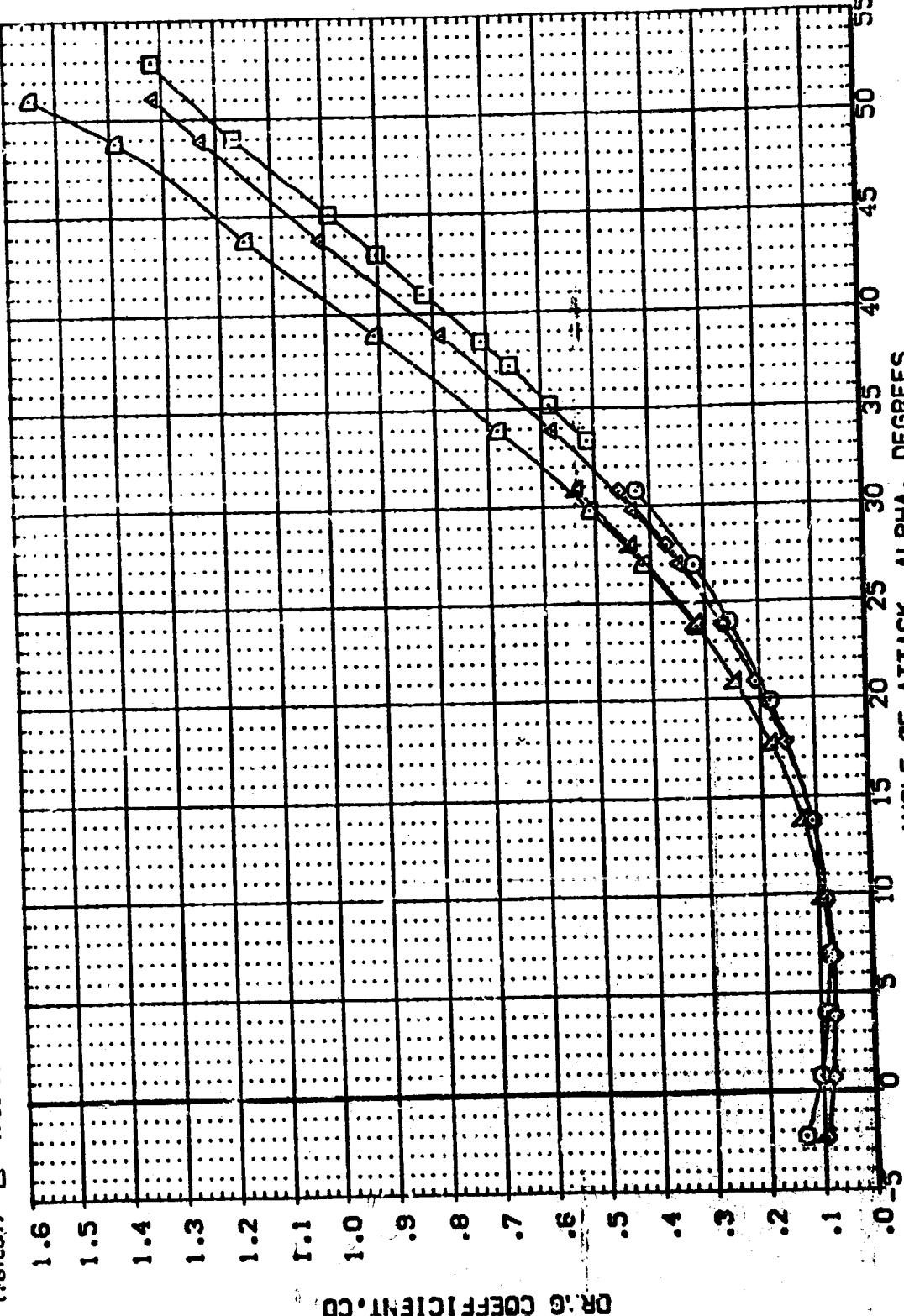


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.32
(MACH = 7.32)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(R87005)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87006)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87007)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87008)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87009)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87010)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87011)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87012)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87013)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87014)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87015)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87016)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87017)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87018)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87019)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87020)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87021)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87022)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87023)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87024)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87025)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)
(R87026)	AVES 3-5-163 0A58 (815C7M4F5)(V107E23)(V7RS)

BETA .000
ELEVON -14.000
BD/LAP -14.250
SPOBRK 54.920

REFERENCE INFORMATION

SREF	.6050	SO.FT.
LREF	7.120	IN.
BREF	14.050	IN.
XPRP	12.570	IN.
YMRP	6.000	V.L.
ZMRP	6.000	V.L.
SCALE	.0150	

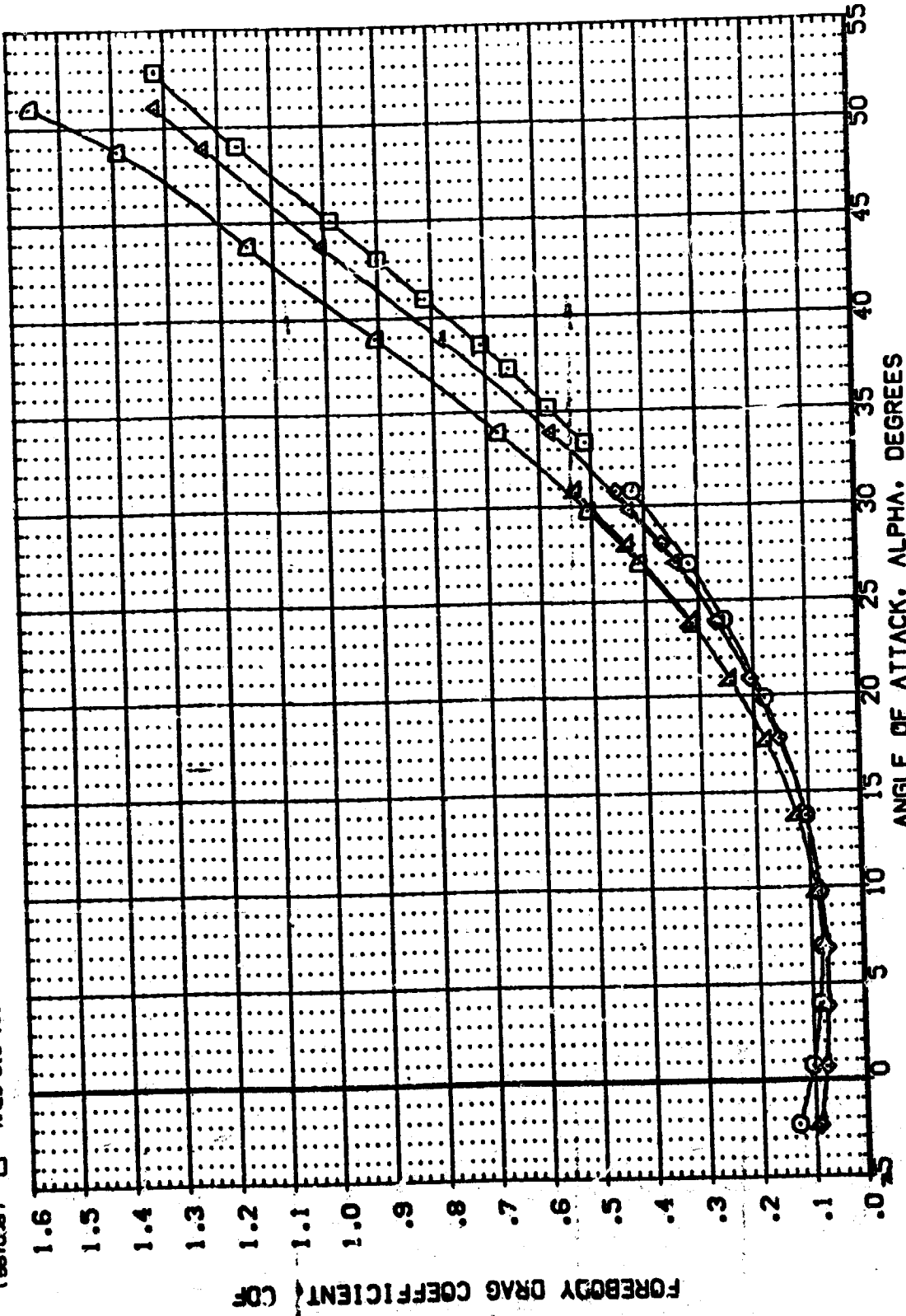


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.32
(MACH = 7.32)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPD8Y	REFERENCE INFORMATION
(MBY005)	AVES 3.5-163 0A58 (B19C7H4F5)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	6050 SO.FT.
(MBY003)	AVES 3.5-163 0A58 (B19C7H4F5)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	7.1220 IN.
(MBY002)	AVES 3.5-163 0A58 (B19C7H4F5)(V107E23)(V7RS)	.000	.000	-4.250	54.920	14.0500 IN.
(MBY001)	AVES 3.5-163 0A58 (B19C7H4F5)(V107E23)(V7RS)	.000	.000	-4.250	54.920	12.5770 IN.
(BBY008)	AVES 3.5-163 0A58 (B19C7H4F5)(V107E23)(V7RS)	.000	11.000	13.750	54.920	.0000 IN.
		.000	11.000	13.750	54.920	6.0000 V.L.
						SCALE

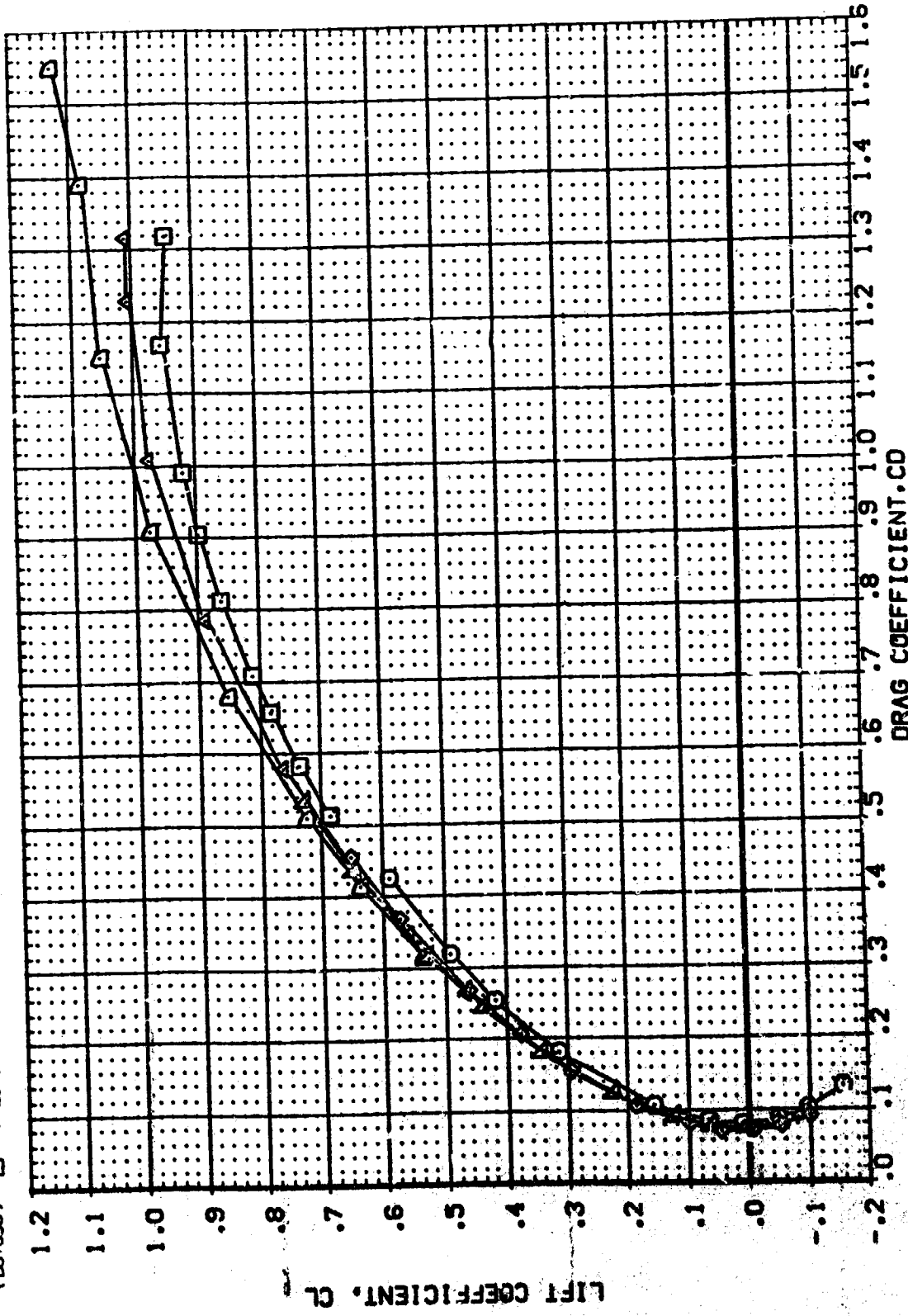


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.32

DATA SET SYMBL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(MB005)	AVES 3.5-163 OAS8 (B1SC7M1F5)(V107E23)(VMS)	.000	-44.000	-14.250	54.920	SREF 6050 SO.FT.
(MB003)	AVES 3.5-163 OAS8 (B1SC7M1F5)(V107E23)(VMS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(MB002)	AVES 3.5-163 OAS8 (B1SC7M1F5)(V107E23)(VMS)	.000	.000	-14.250	54.920	BREF 14.0500 IN.
(MB001)	AVES 3.5-163 OAS8 (B1SC7M1F5)(V107E23)(VMS)	.000	.000	-14.250	54.920	YMRP 12.5770 IN.
(B0Y001)	AVES 3.5-163 OAS8 (B1SC7M1F5)(V107E23)(VMS)	.000	11.000	13.750	54.920	ZMRP 6.0000 V.L.
(B0Y006)	AVES 3.5-163 OAS8 (B1SC7M1F5)(V107E23)(VMS)	.000	11.000	13.750	54.920	SCALE .0150

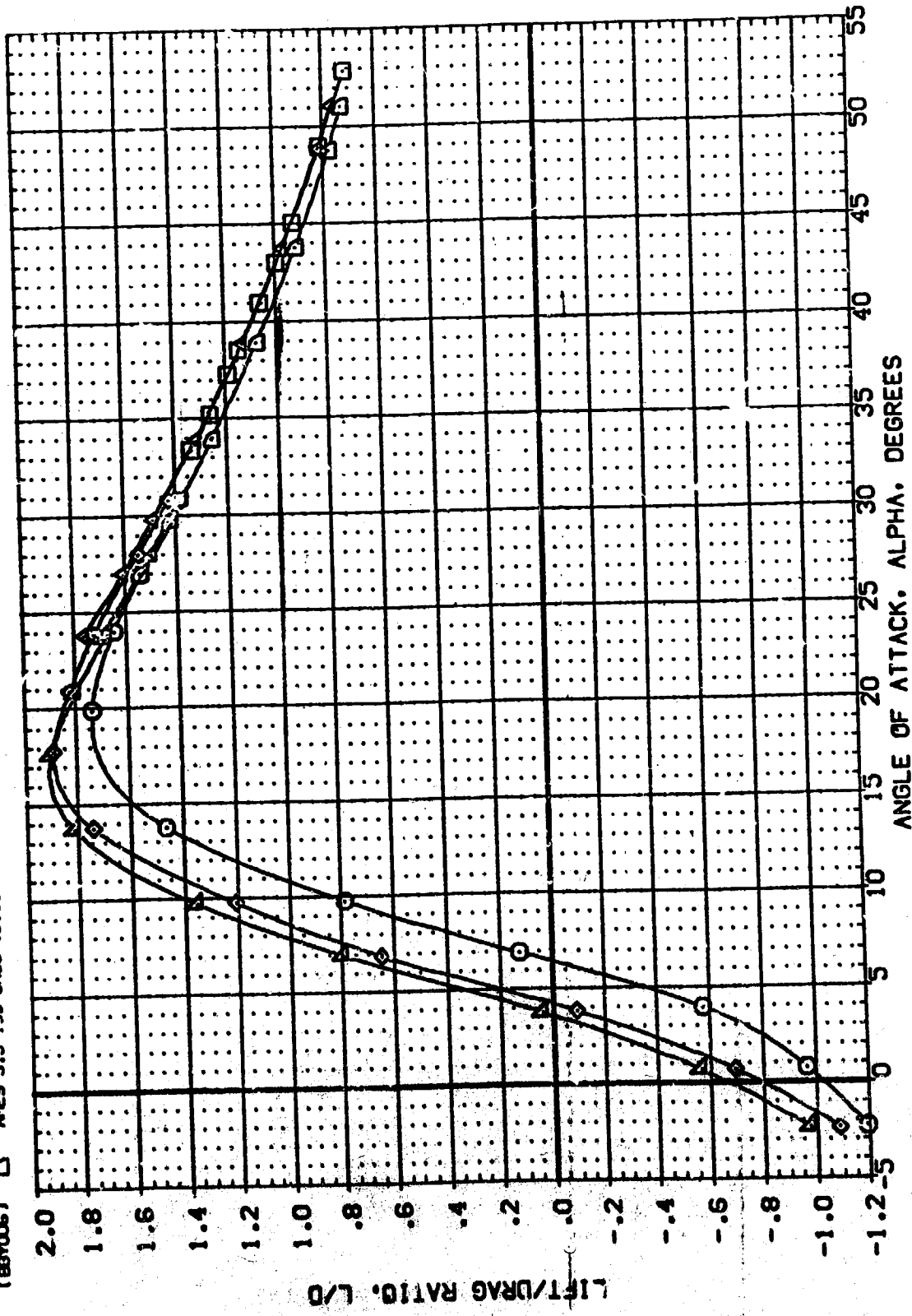


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	BETA	ELEVON	FLAP	SPOBRK	REFERENCE INFORMATION
(MBY006)	AVES 3.5-163 DAS8 (B1SC7M4F5)(V107E23)(V7R5)	.000	-44.000	-14.250	54.920	SREF 6.050 50.FT.
(MBY003)	AVES 3.5-163 DAS8 (B1SC7M4F5)(V107E23)(V7R5)	.000	-44.000	-14.250	54.920	LREF 7.120 IN.
(MBY002)	AVES 3.5-163 DAS8 (B1SC7M4F5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	BREF 14.050 IN.
(MBY001)	AVES 3.5-163 DAS8 (B1SC7M4F5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	XTRP 12.570 IN.
(BBY008)	AVES 3.5-163 DAS8 (B1SC7M4F5)(V107E23)(V7R5)	.000	11.000	13.750	54.920	YTRP 6.000 IN.
(BBY006)	AVES 3.5-163 DAS8 (B1SC7M4F5)(V107E23)(V7R5)	.000	11.000	13.750	54.920	ZTRP 6.000 V.L.
						SCALE .0150

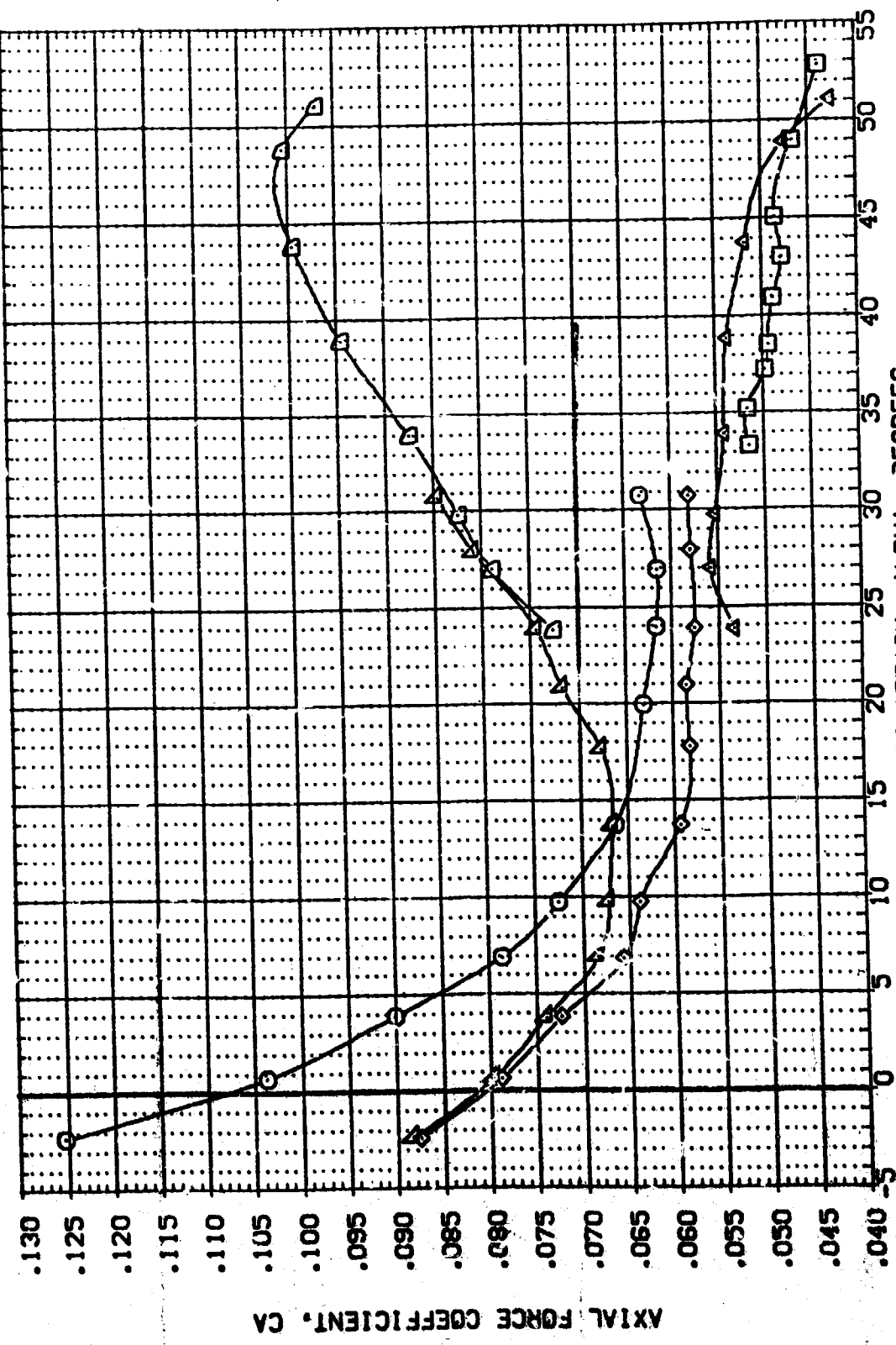


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION	SO.FT.
(KBY002)	AVES 3-5-163 D458 (B19C7M4F5) (V107E23) (V7RS)	.000	-44.000	-14.250	54.920	SREF	6050
(KBY003)	AVES 3-5-163 D458 (B19C7M4F5) (V107E23) (V7RS)	.000	-44.000	-14.250	54.920	LREF	7.120
(KBY004)	AVES 3-5-163 D458 (B19C7M4F5) (V107E23) (V7RS)	.000	.000	-14.250	54.920	BREF	14.050
(KBY005)	AVES 3-5-163 D458 (B19C7M4F5) (V107E23) (V7RS)	.000	.000	-14.250	54.920	XMRP	12.570
(KBY006)	AVES 3-5-163 D458 (B19C7M4F5) (V107E23) (V7RS)	.000	11.000	13.750	54.920	ZMRP	6.000
(KBY008)	AVES 3-5-163 D458 (B19C7M4F5) (V107E23) (V7RS)	.000	11.000	13.750	54.920	SCALE	.0150

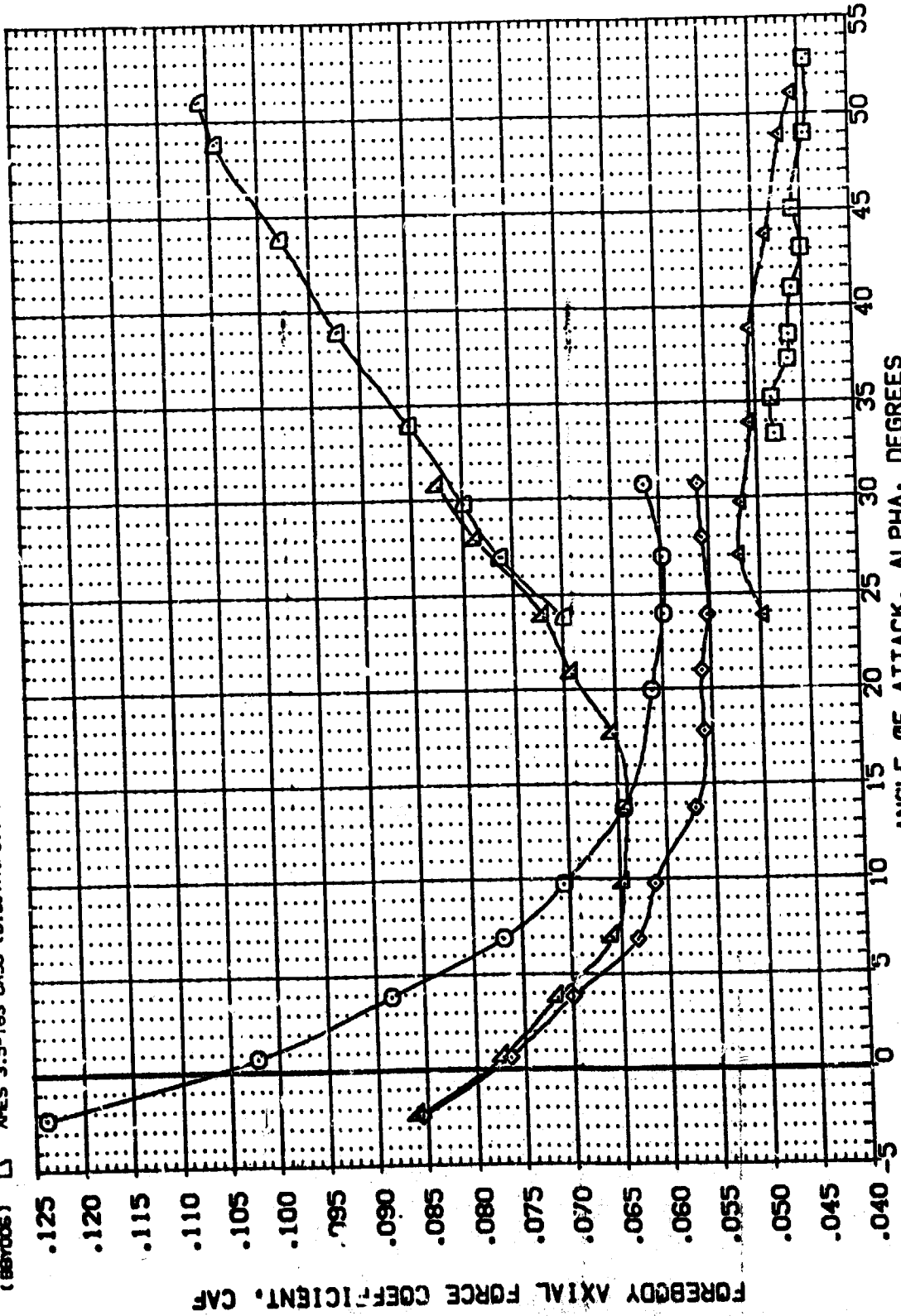


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

REFERENCE INFORMATION
 SQ.FT.
 6050 IN.
 7.1220 IN.
 14.0500 IN.
 12.5770 IN.
 .0000 IN.
 6.0000 V.L.
 .0150 SCALE

SPOBRK
 54.920
 54.920
 54.920
 54.920
 54.920
 54.920

BOFLAP
 14.250
 14.250
 14.250
 13.750
 13.750

ELEVON
 -44.000
 -44.000
 .000
 .000
 11.000
 11.000

BETA
 .000
 .000
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 ARES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 ARES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)

DATA SET SYMBO
 (NBY003)
 (NBY003)
 (NBY002)
 (NBY001)
 (BY003)
 (BY005)

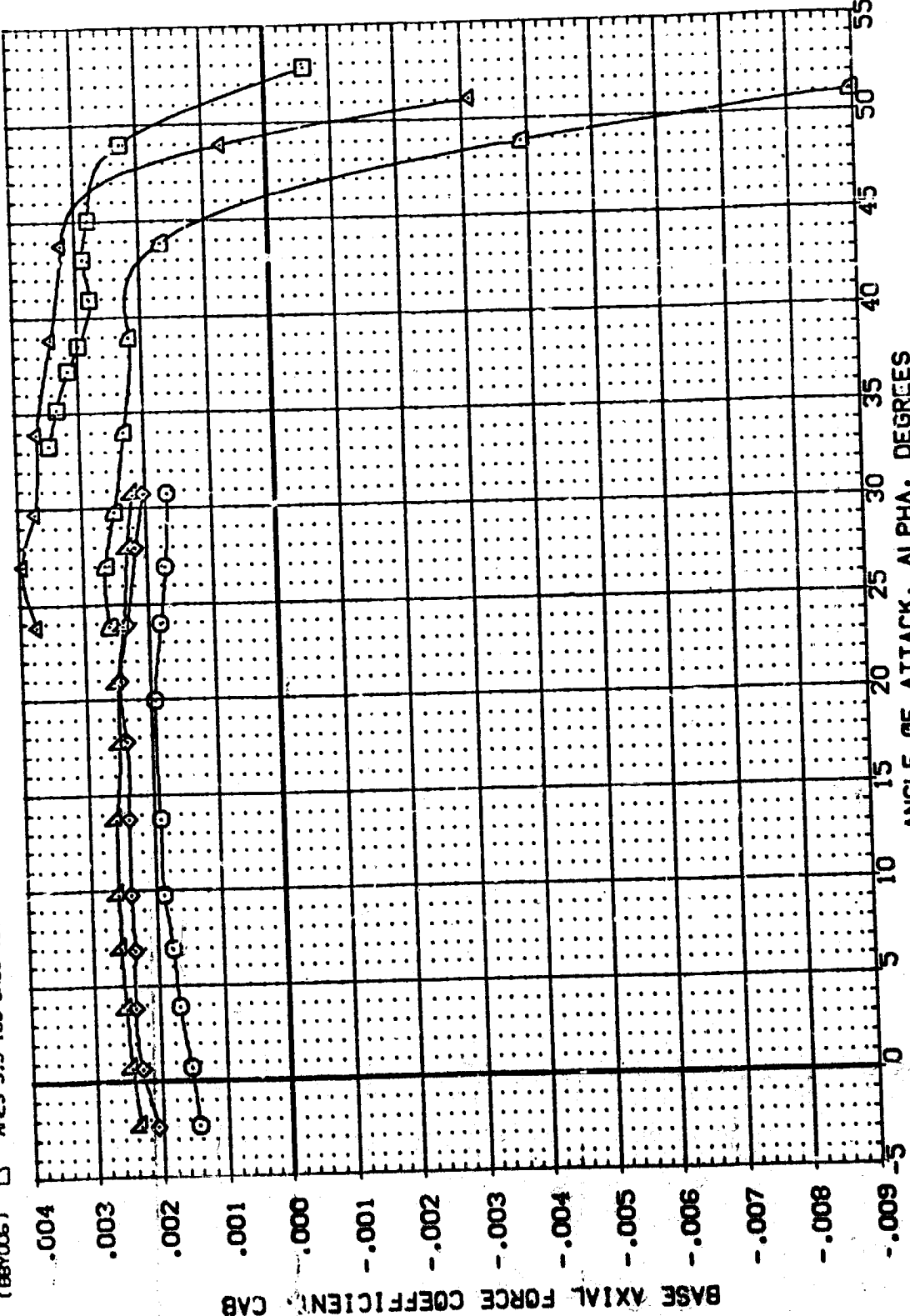


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BD/LAP	SPOBRK	REFERENCE INFORMATION
(MBY003)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	-44.000	-14.250	54.920	SREF
(MBY002)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	-44.000	-14.250	54.920	LREF
(MBY001)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	BREF
(BBY003)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	YMRP
(BBY002)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	ZMRP
(BBY001)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	YMRP
(BBY000)	AVES 3.5-163 DA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	ZMRP
						SCALE
						6050 SQ.FT.
						7.1220 IN.
						14.0500 IN.
						12.5770 IN.
						.0000 IN.
						6.0000 V.L.
						.0150

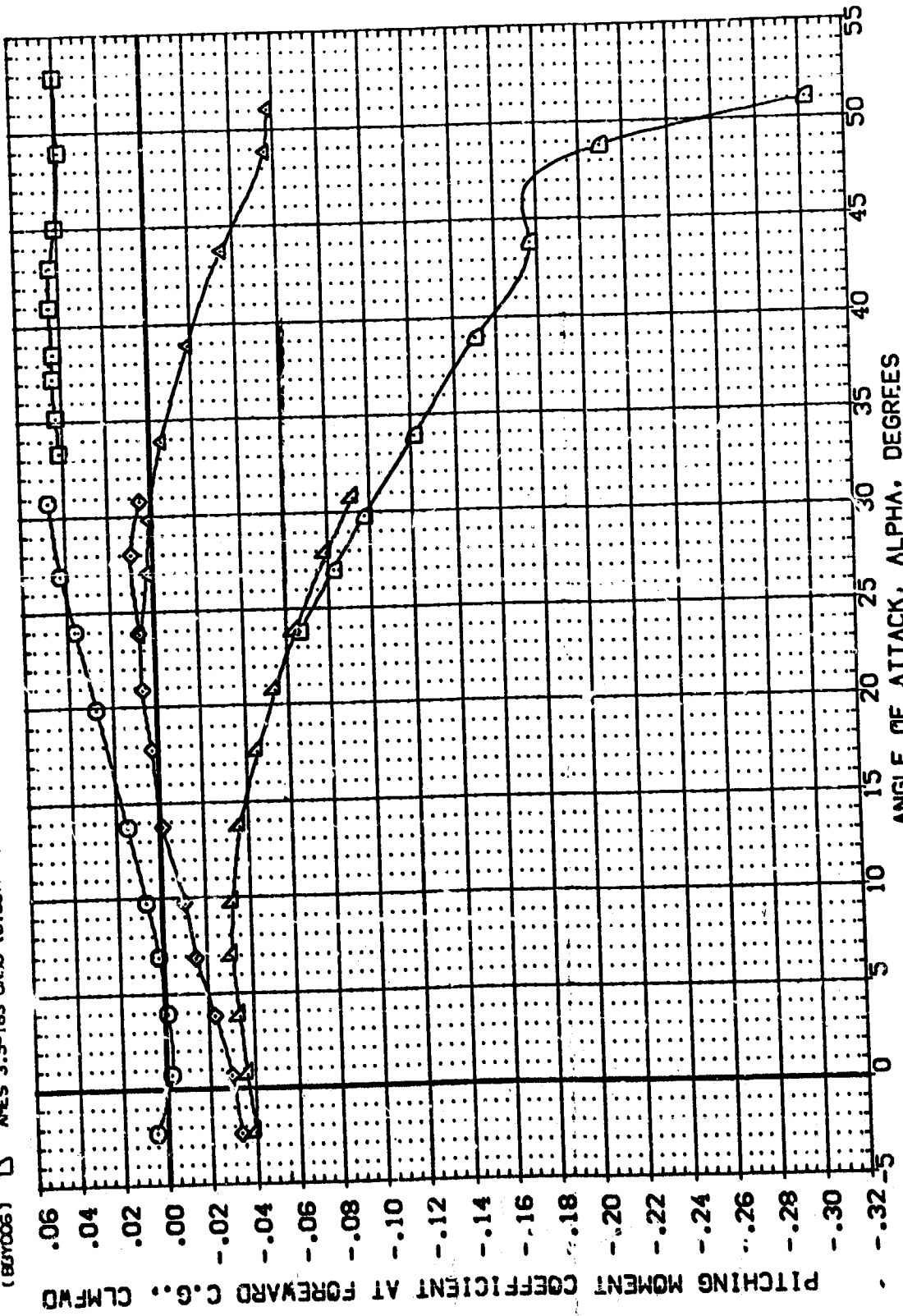


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION BETA ELEVON BOFLAP SINCORR REFERENCE INFORMATION

(KBY005)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6050
(KBY003)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	LREF 7.1220
(KBY002)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	BREF 14.0500
(KBY001)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	XTRP 12.5770
(BBY008)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	11.000	13.750	54.920	YTRP 6.0000
(BBY006)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	11.000	13.750	54.920	ZTRP 6.0000
						SCALE .3150

50.FT.
IN.
N.
N.
N.
W.L.

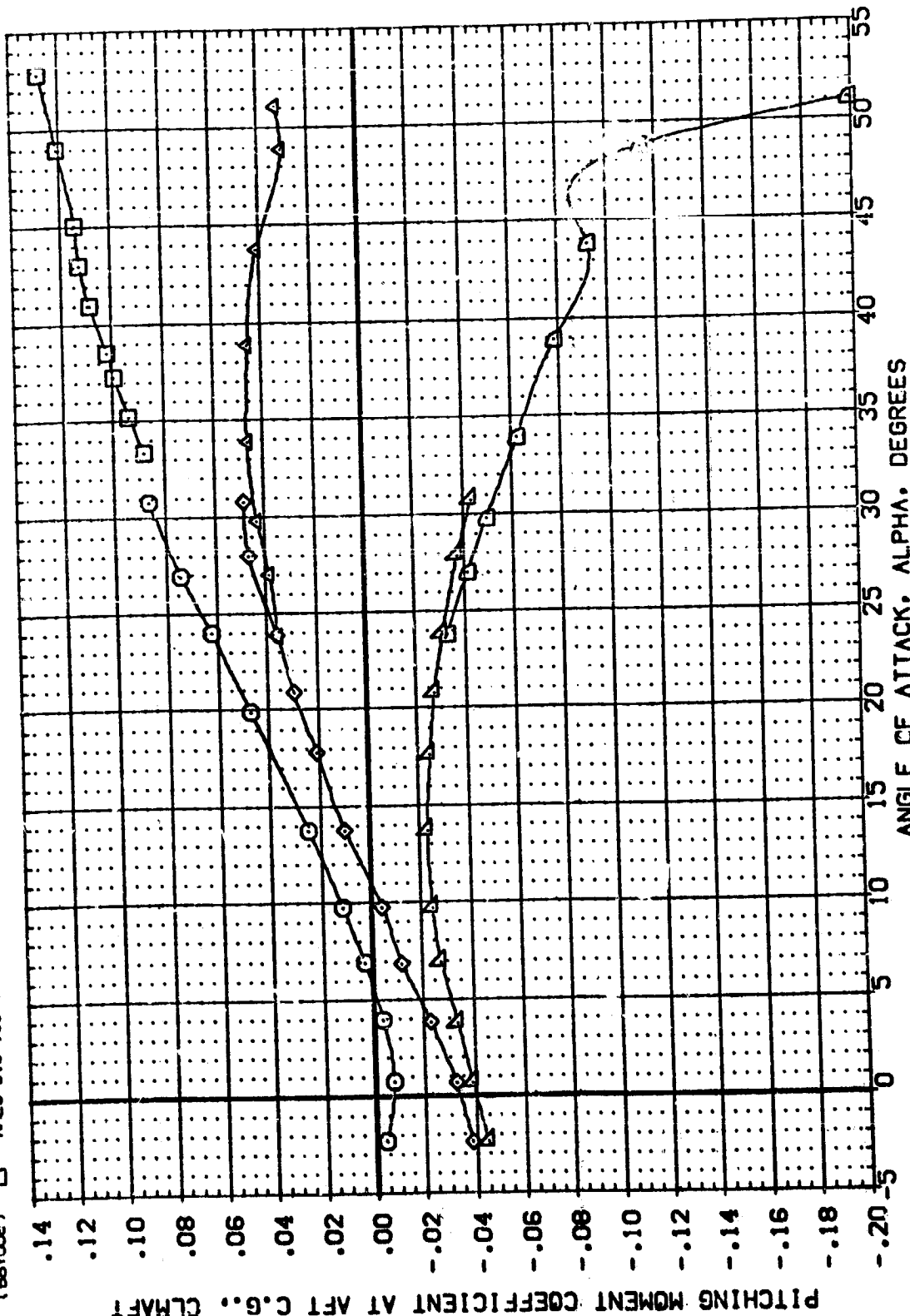


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3
(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPDBRK	REFERENCE INFORMATION
(KBV005)	AMES 3.5-163 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6.050 SO.FT.
(KBV003)	AMES 3.5-163 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(KBV002)	AMES 3.5-163 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	BREF 14.0500 IN.
(KBV001)	AMES 3.5-163 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	XMRP 12.5770 IN.
(BBV008)	AMES 3.5-163 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	11.000	13.750	54.920	ZMRP 6.0000 IN.
(BBV006)	AMES 3.5-163 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	11.000	13.750	54.920	SCALE 6.0150 V.L.

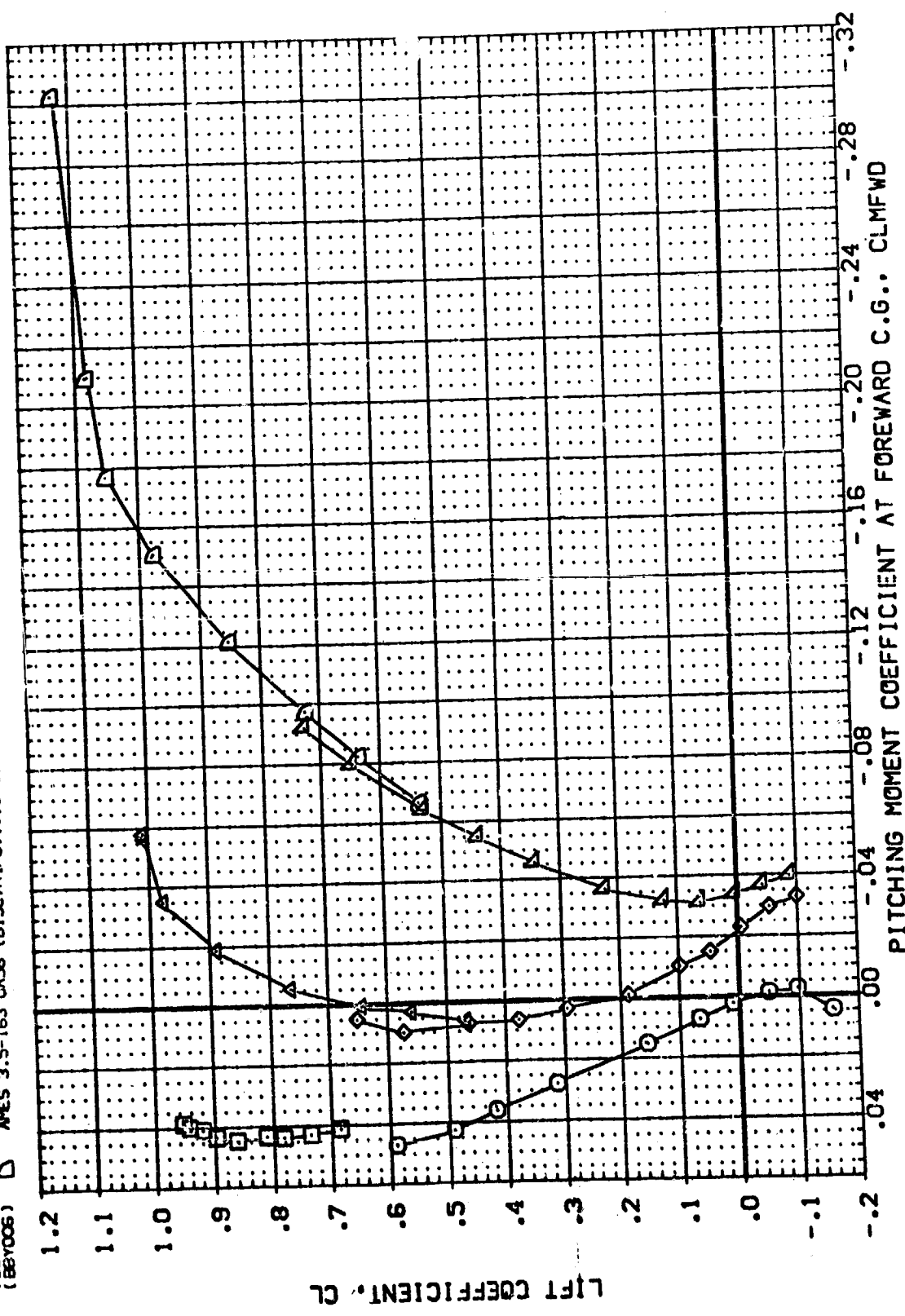


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(M)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(KBY005) APES 3.5-163 DAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY003) APES 3.5-163 DAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY002) APES 3.5-163 DAS8 (B1SC7M4FS)(V107E23)(V7RS)

(KBY001) APES 3.5-163 DAS8 (B1SC7M4FS)(V107E23)(V7RS)

(BBY008) APES 3.5-163 DAS8 (B1SC7M4FS)(V107E23)(V7RS)

(BBY006) APES 3.5-163 DAS8 (B1SC7M4FS)(V107E23)(V7RS)

BETA ELEVON BOT LAP SPOBRK REFERENCE INFORMATION

.000 -44.000 -14.250 54.920 SREF 6050 SO.FT.

.000 -44.000 -14.250 54.920 LREF 7.1220 IN.

.000 .000 -14.250 54.920 BRFP 14.0500 IN.

.000 .000 -14.250 54.920 YMRP 12.5770 IN.

.000 11.000 13.750 54.920 ZMRP 6.0000 IN.

.000 .000 13.750 54.920 SCALE .0:50

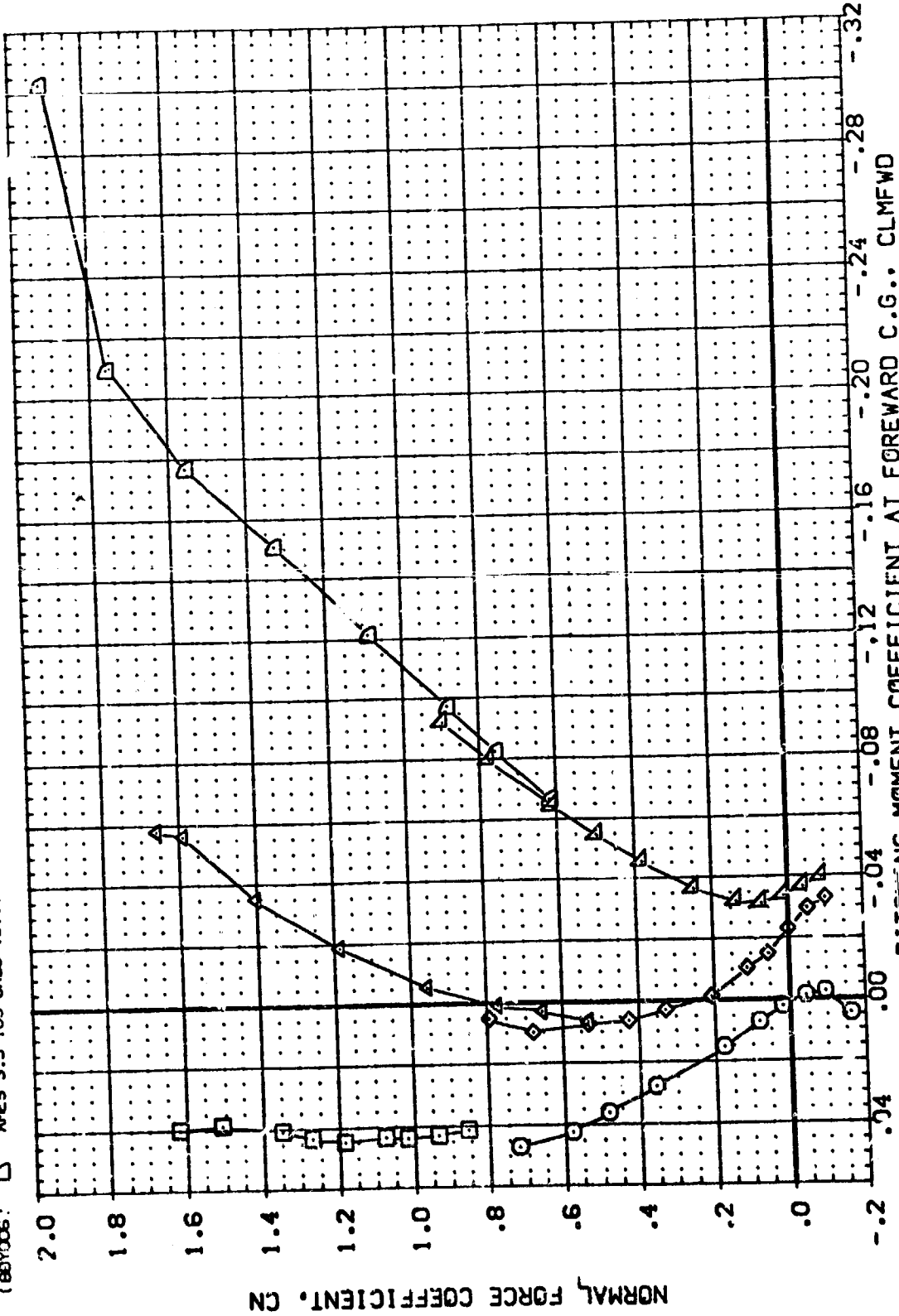


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.32

22

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(RBYK05)	AVES 3.5-153 CA58 (B19C7M4F5) (V107E23) (VTRS)	.000	-44.000	-14.250	54.920	SREF .6050 50.FT.
(RBYK03)	AVES 3.5-153 CA58 (B19C7M4F5) (V107E23) (VTRS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(RBYK02)	AVES 3.5-153 CA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	BREF 14.0500 IN.
(RBYK01)	AVES 3.5-153 CA58 (B19C7M4F5) (V107E23) (VTRS)	.000	.000	-14.250	54.920	XMRP 12.5770 IN.
(RBY008)	AVES 3.5-153 CA58 (B19C7M4F5) (V107E23) (VTRS)	.000	11.000	13.750	54.920	ZMRP .0000 V.L.
(RBY006)	AVES 3.5-153 CA58 (B19C7M4F5) (V107E23) (VTRS)	.000	11.000	13.750	54.920	SCALE .0150

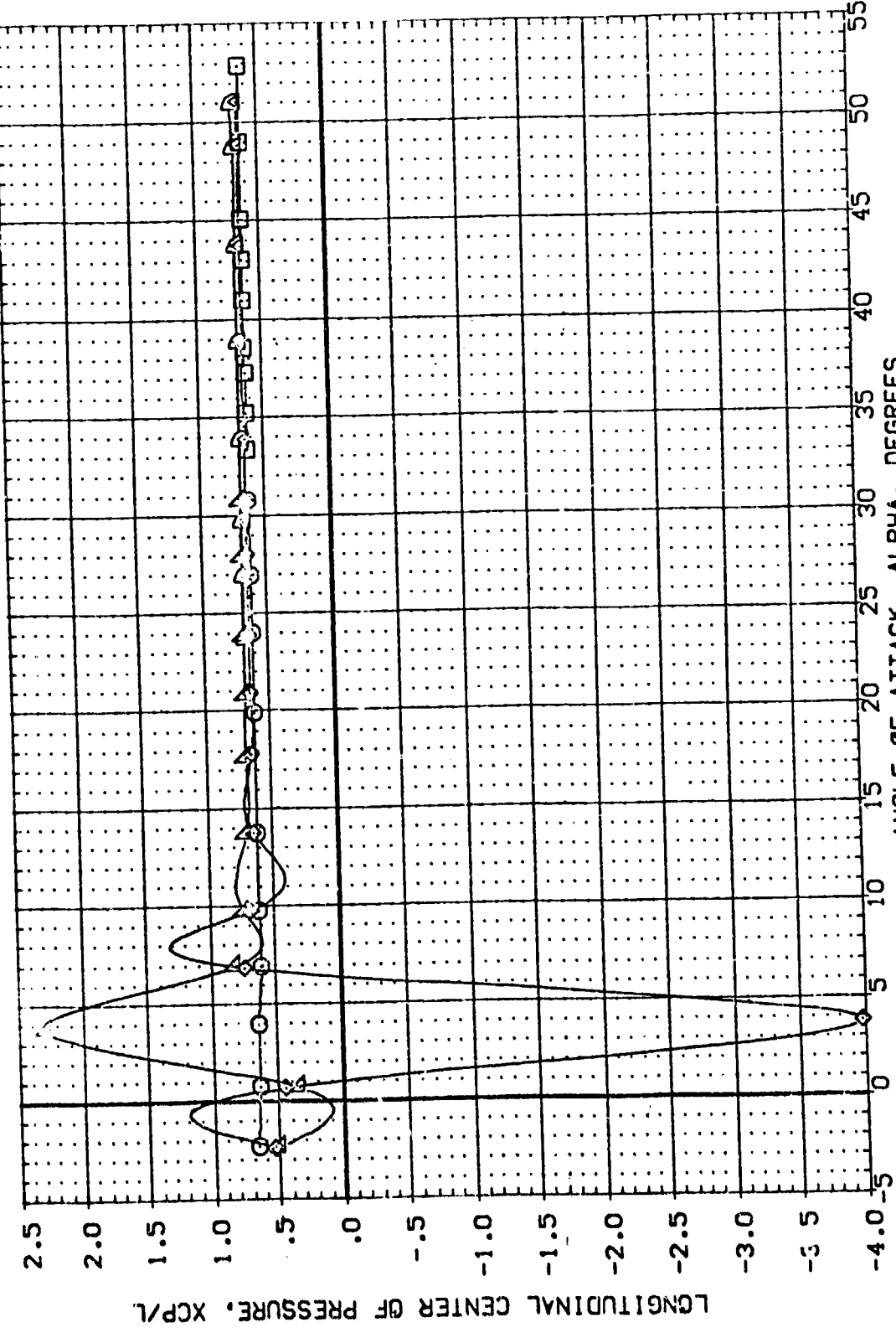


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.32

(A)MACH = 7.32

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YREF .0000 IN.
 ZREF 6.0000 V.L.
 SCALE .0150

BETA DE SPDBRK
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 11.000 54.920
 .000 11.000 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (HBY005) AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS)
 (HBY003) AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS)
 (EBY008) AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS)
 (EBY006) AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS)

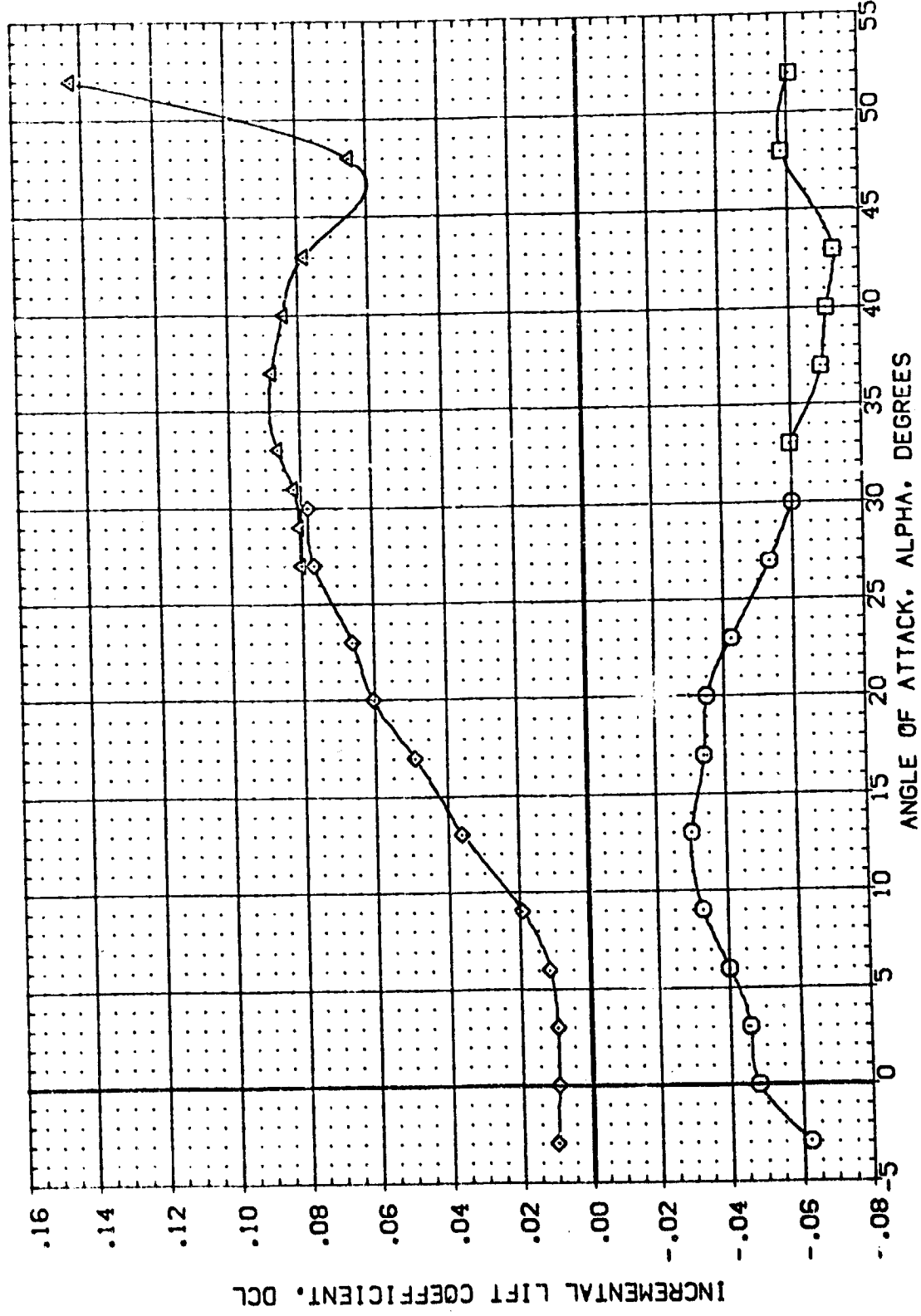


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

BETA DE SPOBRK
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 11.000 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (HBY005) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 (HBY003) AVES 3.5-163 CAJ8 (B19C7M4F5)(V107E23)(V7RS)
 (EBY008) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 (EBY006) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

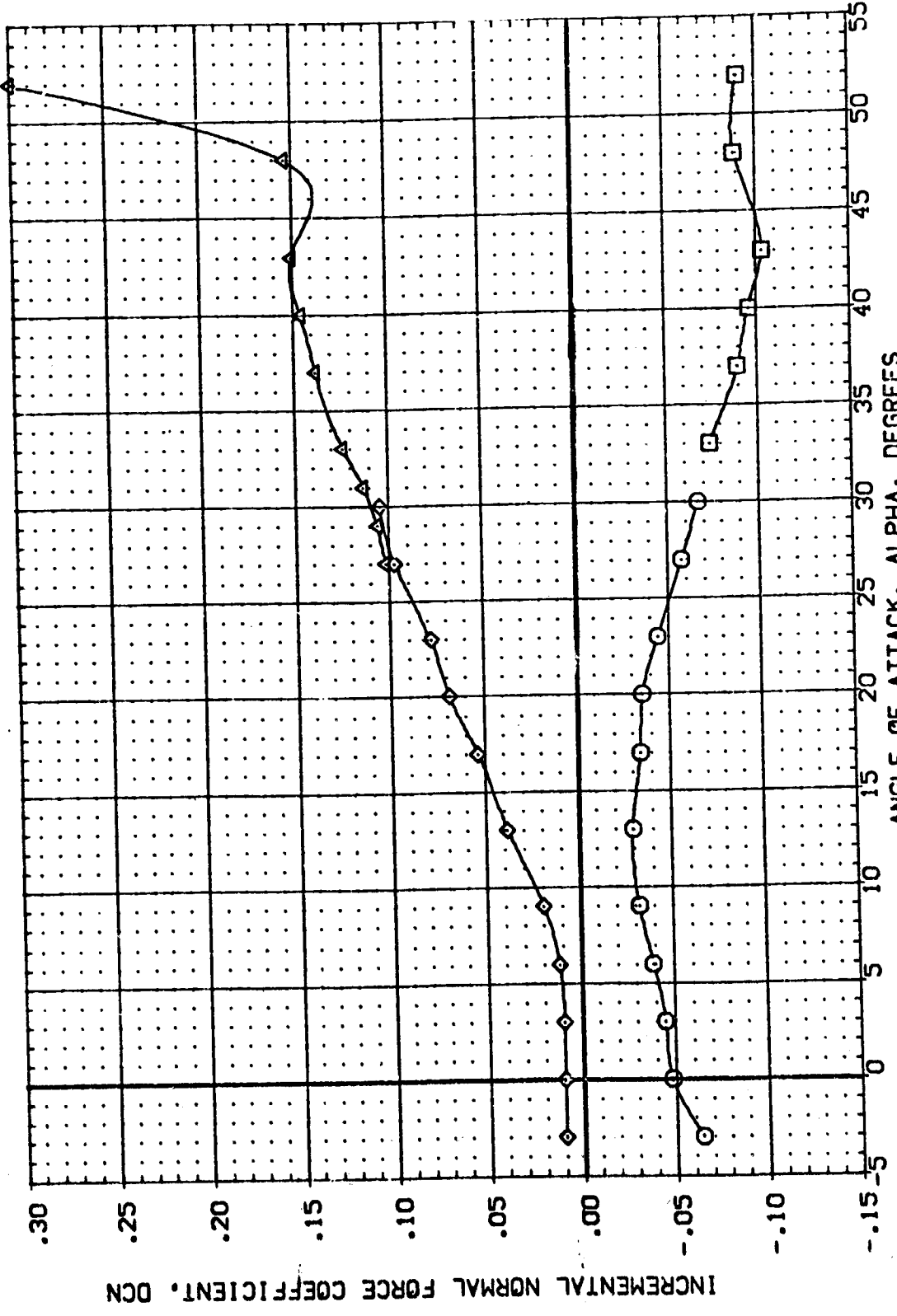


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A) MACH = 7.30

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA DE SPOBRK
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 11.000 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (HBY005) AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 (HBY003) AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 (EBY008) AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)
 (EBY005) AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7RS)

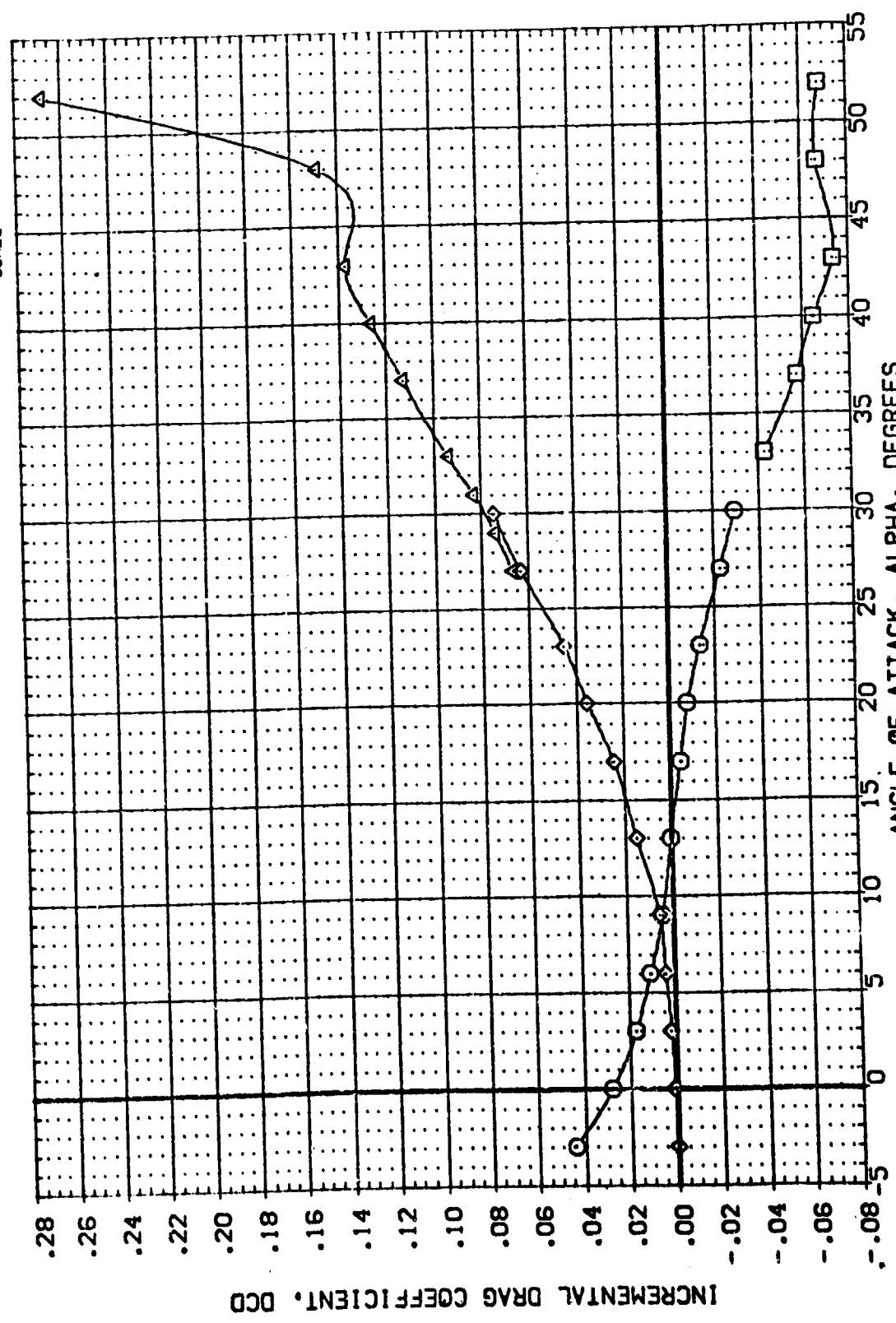


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

REFERENCE INFORMATION

SREF	.6050	SQ.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	6.0000	IN.
ZMRP	6.0000	V.L.
SCALE	.0150	

BETA

DE	54.920
DE	54.920
DE	54.920
DE	54.920

CONFIGURATION DESCRIPTION

AMES 3.5-163 CAS8	(B1SC7M4F5)(V1D7E23)(V7R5)
AMES 3.5-163 CAS8	(B1SC7M4F5)(V1D7E23)(V7R5)
AMES 3.5-163 CAS8	(B1SC7M4F5)(V1D7E23)(V7R5)
AMES 3.5-163 CAS8	(B1SC7M4F5)(V1D7E23)(V7R5)

DATA SET SYMBOL

(M8Y005)	□
(M8Y003)	◇
(E8Y008)	○
(E8Y006)	△

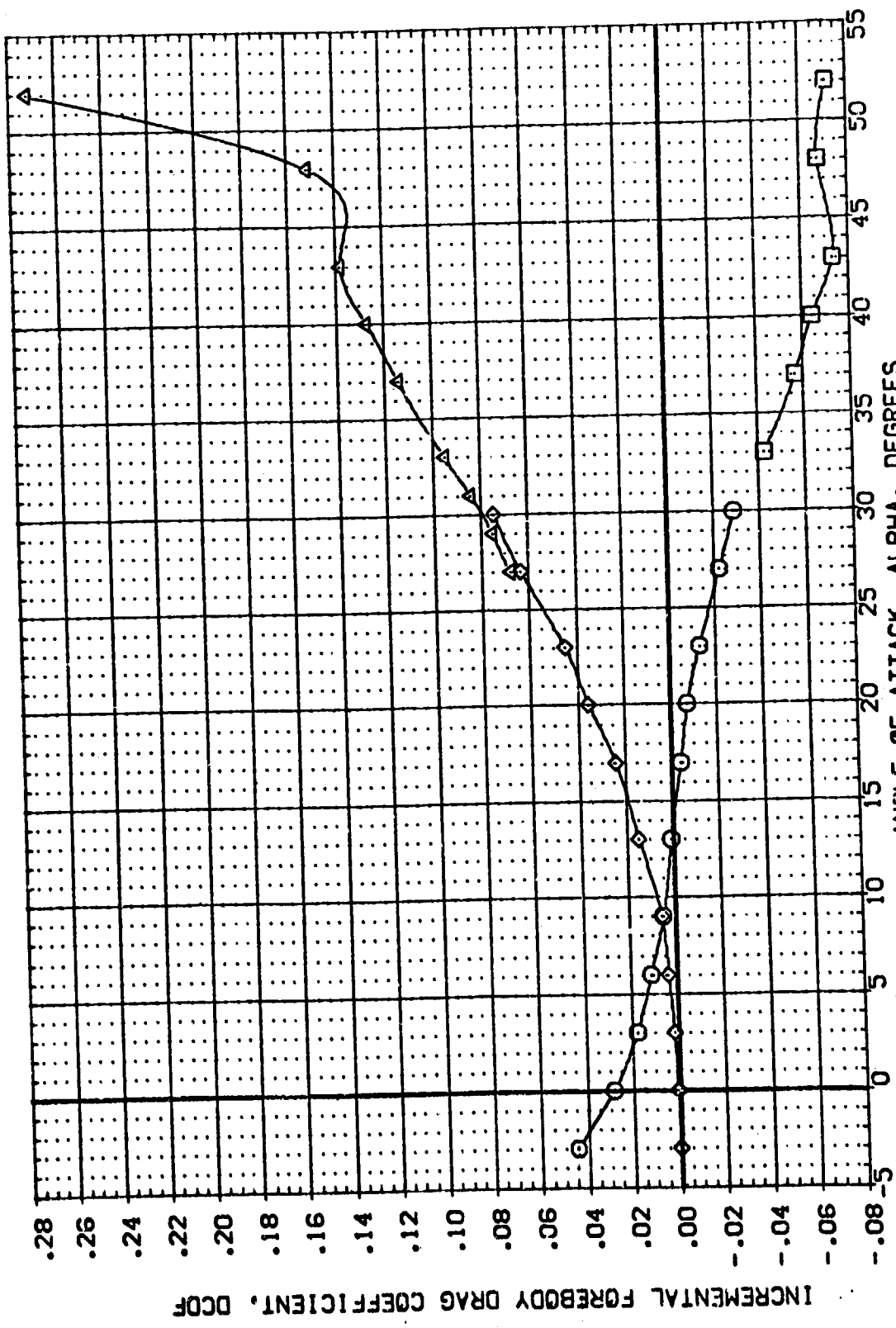


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMPD 12.5770 IN.
 YMPD 6.0000 IN.
 ZMPD 6.0000 V.L.
 SCALE .0150

BETA DE SPOBRK
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 11.000 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (HBY005) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 (HBY003) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 (EBY008) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 (EBY006) AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

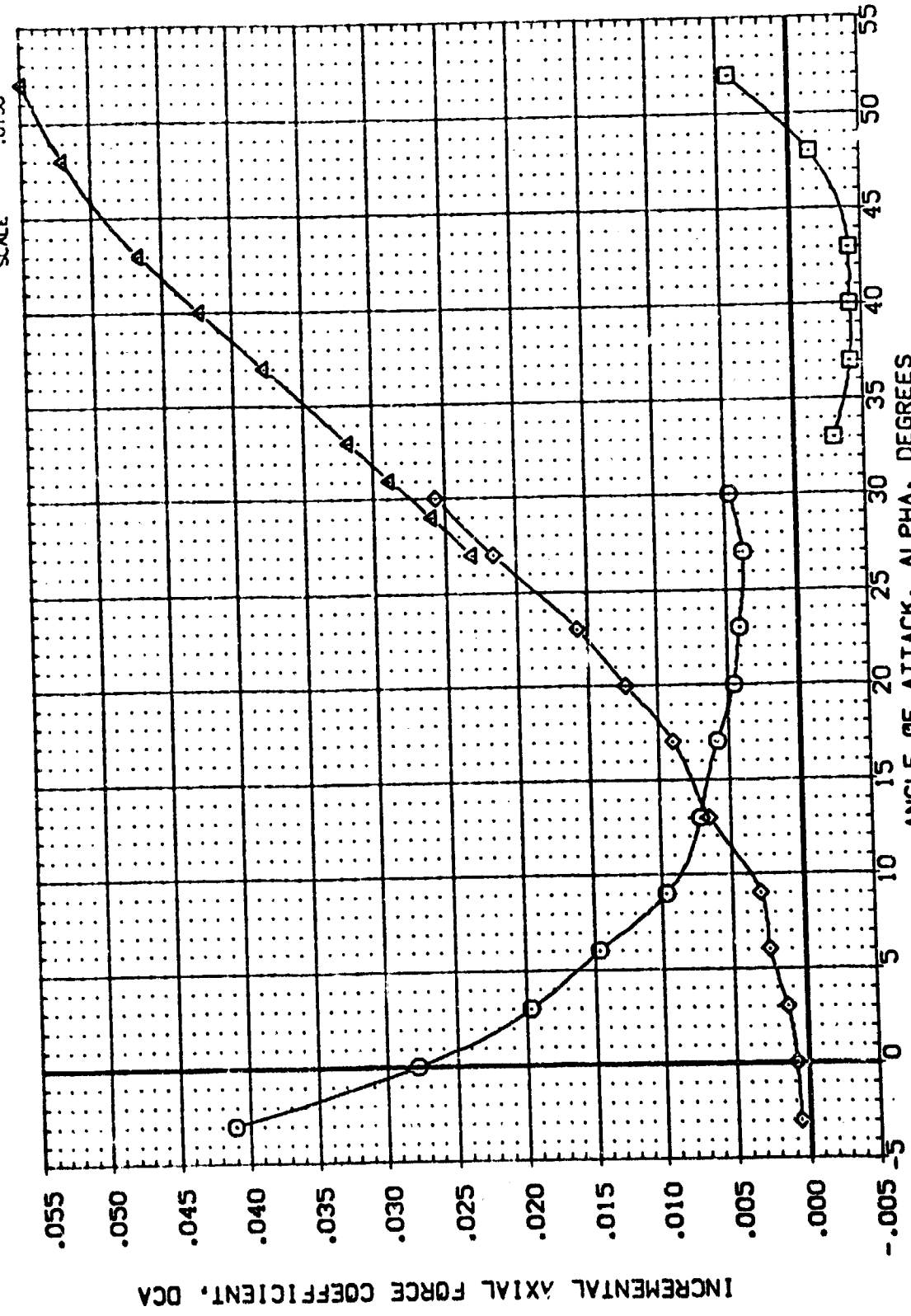


FIG. 5 CONFIGURAT JN -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL: (HBY003), (HBY002), (HBY028), (HBY006)
 CONFIGURATION DESCRIPTION: AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS), AVES 3.5-163 CA.1 (B19C7M4F5)(V107E23)(V7RS), AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS), AVES 3.5-163 QASB (B19C7M4F5)(V107E23)(V7RS)
 BETA: .000, .000, .000, .000
 DE: -44.000, -44.000, 11.000, 11.000
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 REFERENCE INFORMATION: SREF .6050 SO.FT., LREF 7.1220 IN., BREF 14.0500 IN., XMRP 12.5770 IN., YMRP .0000 IN., ZMRP 6.0000 V.L., SCALE .0150

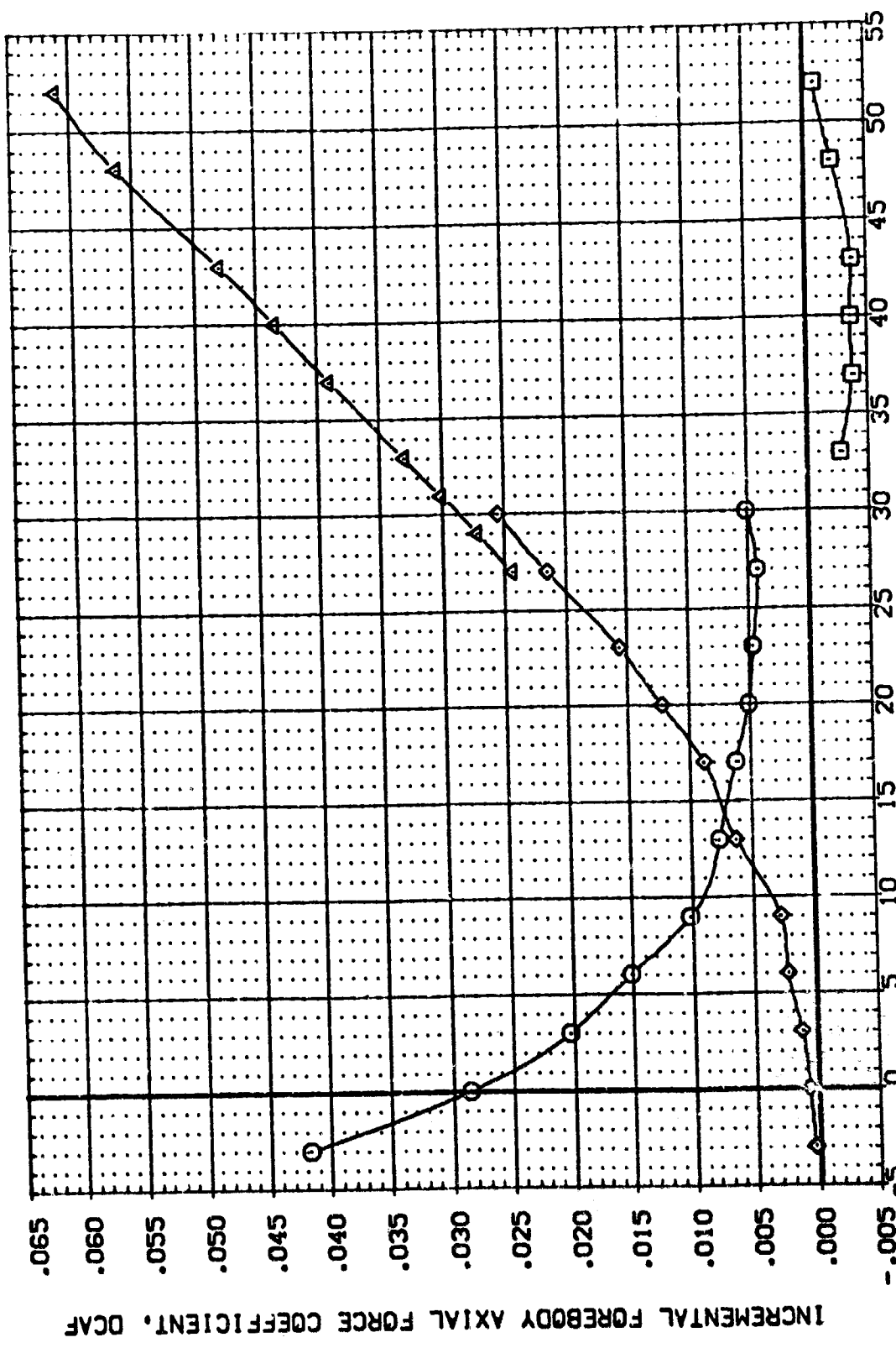


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.30

DATA SET SYMBO. CONFIGURATION DESCRIPTION

(H87005) AVES 3.5-163 QAS8 (B19C7HAFS)(V107E23)(V7RS)

(H87003) AVES 3.5-163 QAS8 (B19C7HAFS)(V107E23)(V7RS)

(E87008) AVES 3.5-163 QAS8 (B19C7HAFS)(V107E23)(V7RS)

(E87006) AVES 3.5-163 QAS8 (B19C7HAFS)(V107E23)(V7RS)

BETA DE SPOBRK

.000 -44.000 54.970

.000 -44.000 54.920

.000 11.000 54.920

.000 11.000 54.970

REFERENCE INFORMATION

SREF 6050 SQ.FT.

LREF 7.1220 IN.

BREF 14.0500 IN.

XPROP 12.5770 IN.

YPROP .0000 IN.

ZPROP 6.0000 V.L.

SCALE .0150

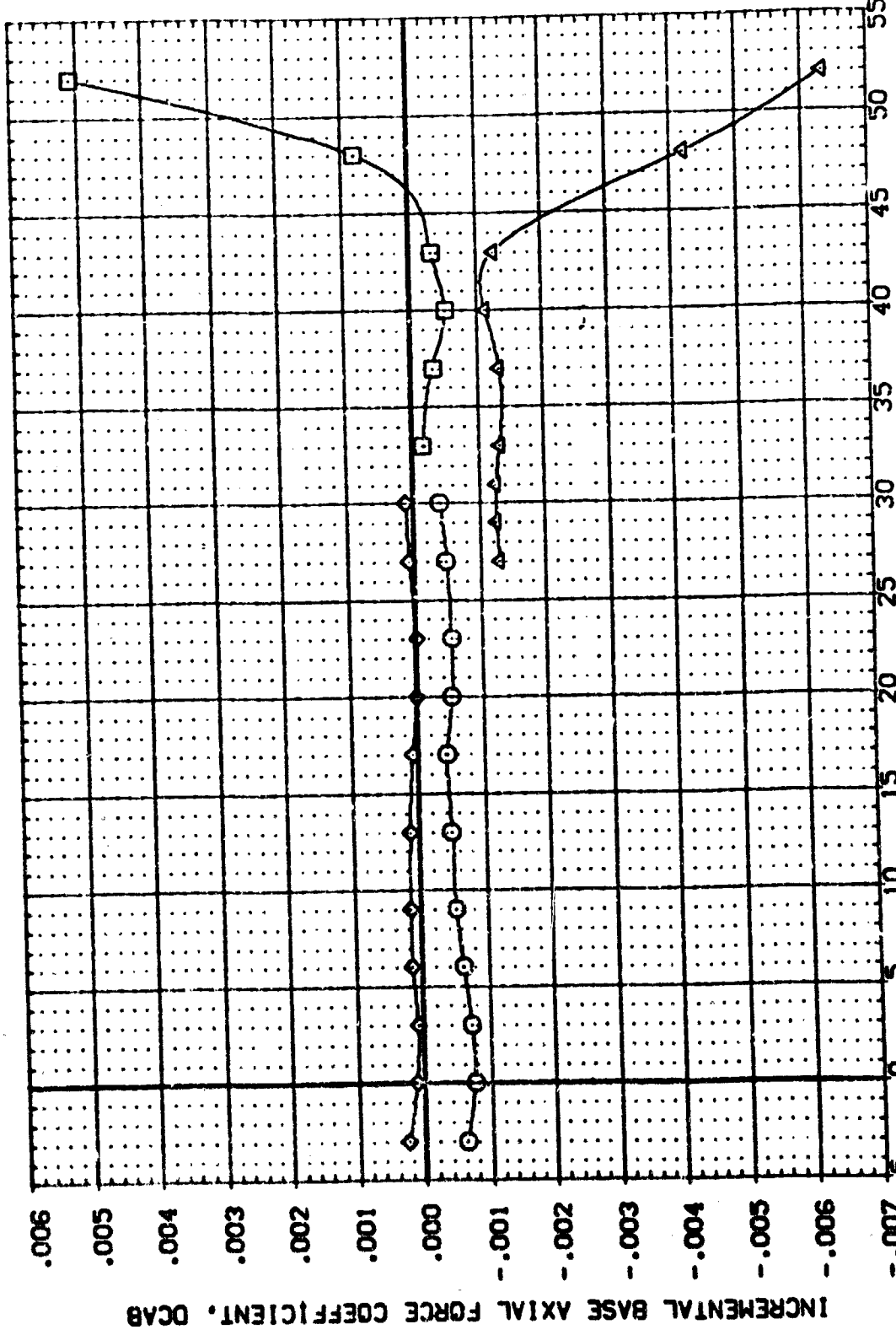


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3
(A)MACH = 7.30

REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LINEF 7.1220 IN.
 BRU 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA DE SPOBRK
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 11.000 54.920
 .000 11.000 54.920

CONFIGURATION DESCRIPTION
 AVES 3.5-163 CAS8 (B1SC7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CAS9 (B1SC7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CAS0 (B1SC7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CAS8 (B1SC7M4F5)(V107E23)(V7RS)

DATA SET SYMB.
 (HBY005) □
 (HBY008) ○
 (EBY006) △

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., C_{LPTFD}

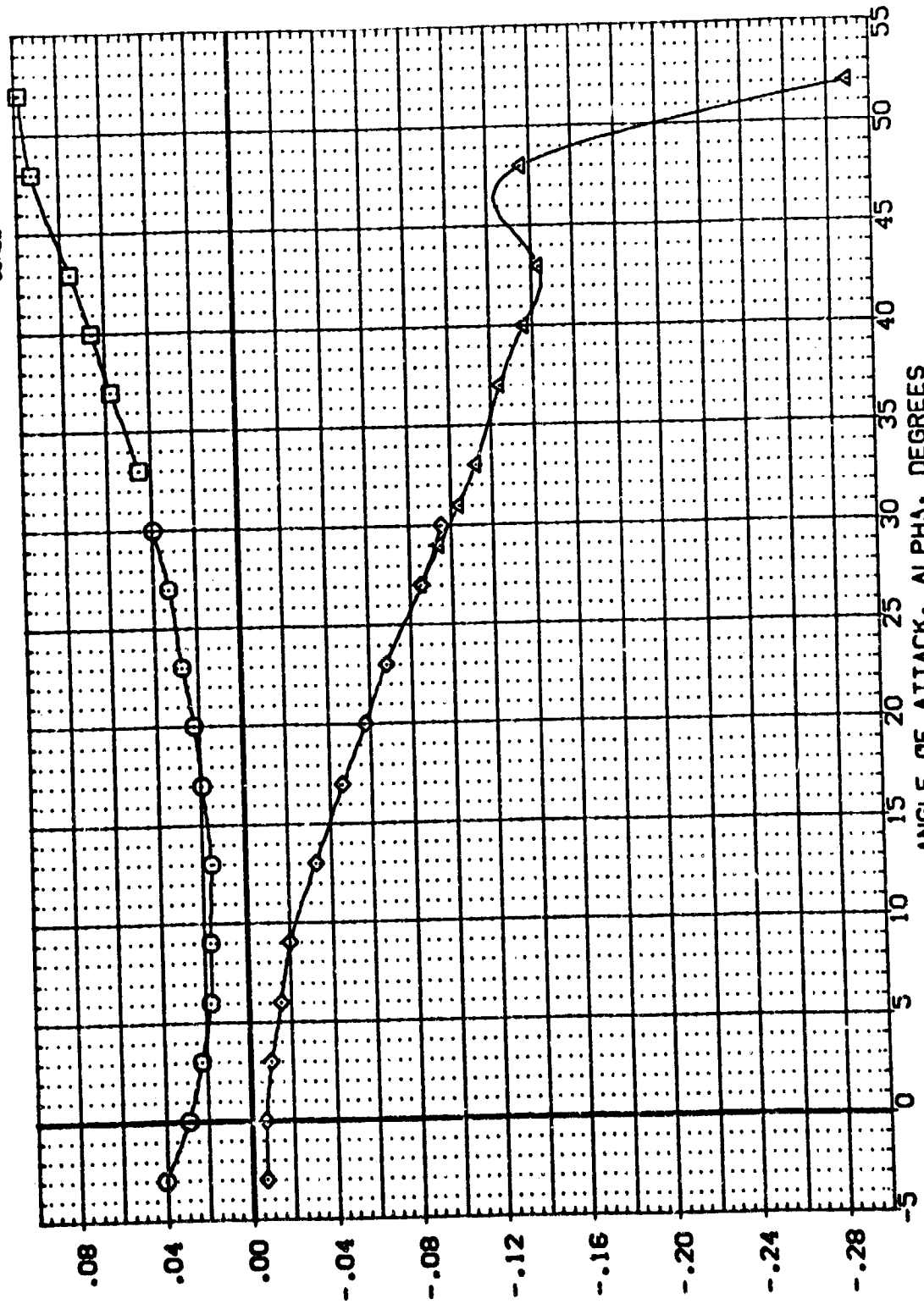


FIG. 5 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 N.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

BETA DE SPOBRK
 .000 -44.000 54.920
 .000 -44.000 54.920
 .000 11.000 54.920
 .000 11.000 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (M8Y005) ARES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(VTRS)
 (M8Y003) ARES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(VTRS)
 (EBY008) ARES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(VTRS)
 (EBY006) ARES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(VTRS)

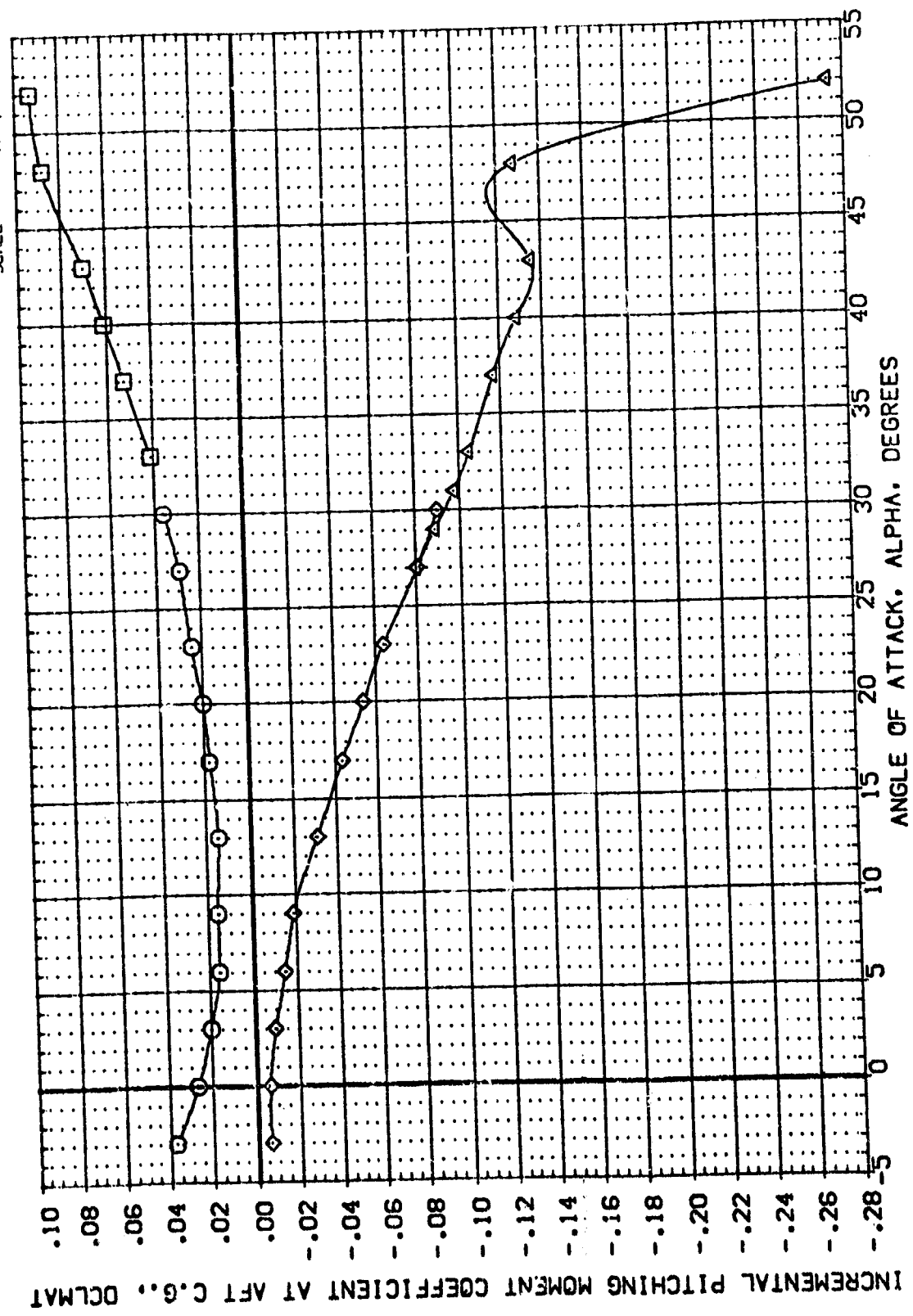


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY005)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	BETA	SPDRK	DE	DATASET	DATA SOURCE	DE	DATASET	DE	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE	REFERENCE INFORMATION	SQ.FT.
○	.000	7.300	-14.250	.000	7.300	54.920	MBY005	-44.000	.000	MBY002	.000	MBY002	.000	.6050	7.1220	14.0500	12.5770	.0000	.0000	6.0000	.0150	IN.
□	10.000						FBY008	11.000														IN.
◇	20.000																					IN.
△	30.000																					V.L.

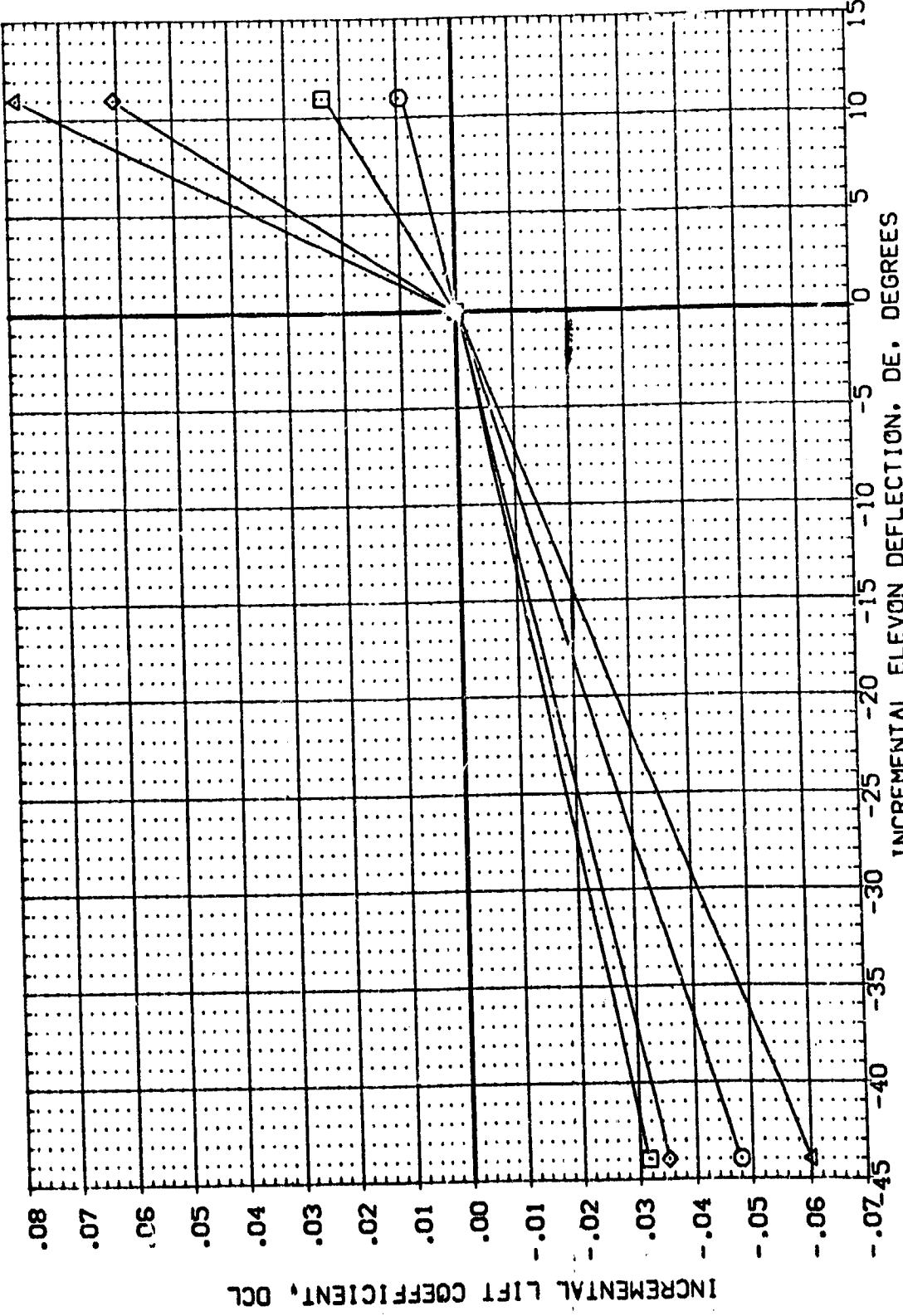
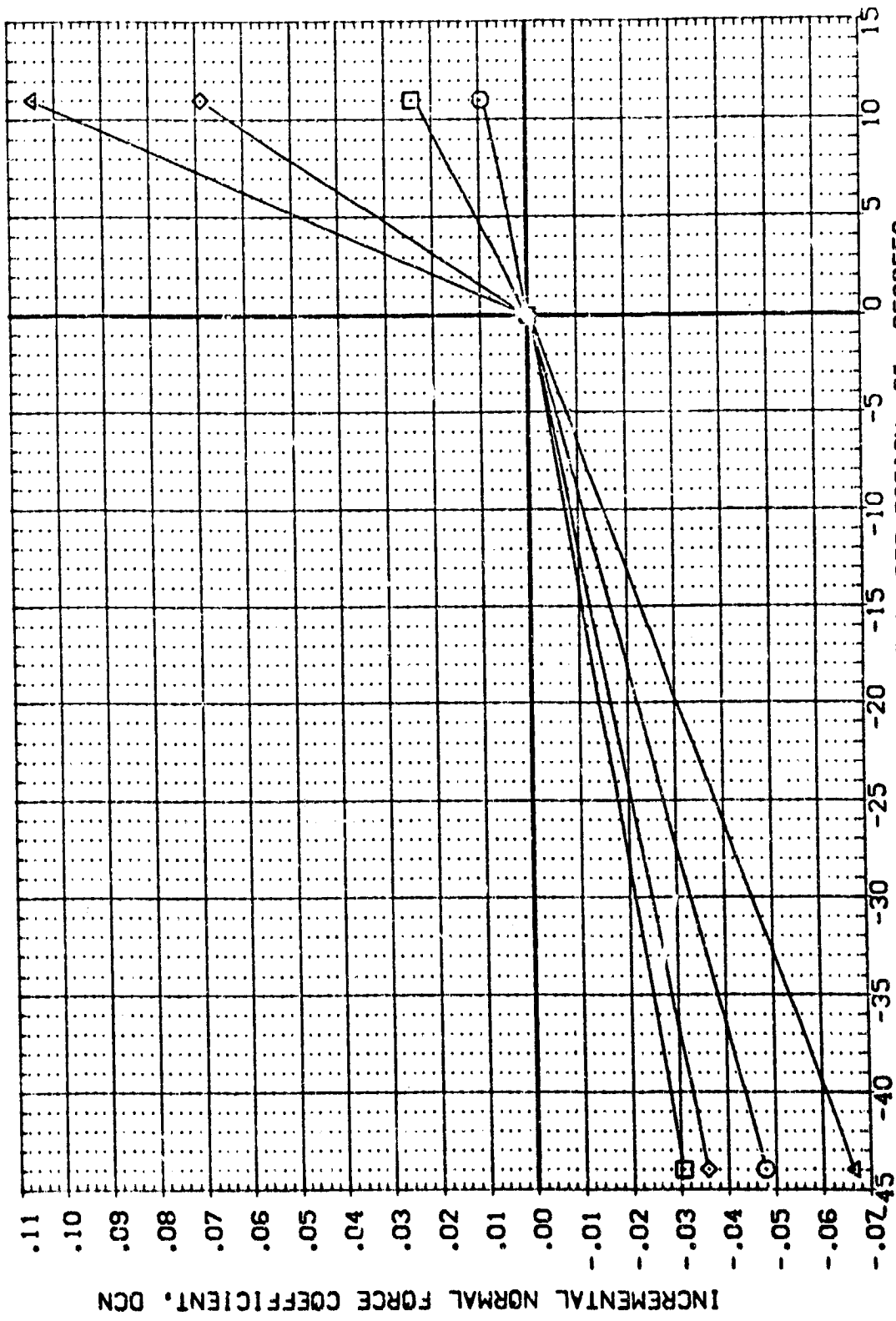


FIG. 3 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 JA58 (B19C7M4F5)(W107E23)(V7R5) (MBY005)

SYMBOL		ALPHA		MACH		PARAMETRIC VALUES		DATA SOURCE		DATASET DE		SREF		REFERENCE INFORMATION			
						BETA	SPOBRK	DE	DE	LREF	BREF	XMSP	YMSP	ZMSP	SCALE	SO.FT.	
□	○	.000	10.000	7.300	-14.250	.000	54.920	.000	MBY005	.000	MBY002	7.1220	14.9500	12.5770	.0000	6.0000	IN.
◇	△	20.000	30.000	.000	.000			11.000	FBY008								IN.
																	V.L.



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 GA58 (B19C7M4F5)(W107E23)(V7R5) (M8Y005)

SYMBOL		ALPHA		MACH		PARAMETRIC VALUES		DATA SOURCE		DATASET		DC		REFERENCE INFORMATION	
○	.000	7.300	BETA	.000	DATASET	DE	MBY002	.000	SREF	.6050	59.FT.				
□	10.000	-14.250	SPOGRY	54.920	MBY005	-44.000	LREF	7.1220	LREF	7.1220	IN.				
◇	20.000	.000	RUDDER	11.000	FBY008	11.000	BREF	14.0500	BREF	14.0500	IN.				
△	30.000						XMRP	12.5770	XMRP	12.5770	IN.				
							YMRP	.0000	YMRP	.0000	IN.				
							ZMRP	6.0000	ZMRP	6.0000	V.L.				
							SCALE	.0150	SCALE	.0150					

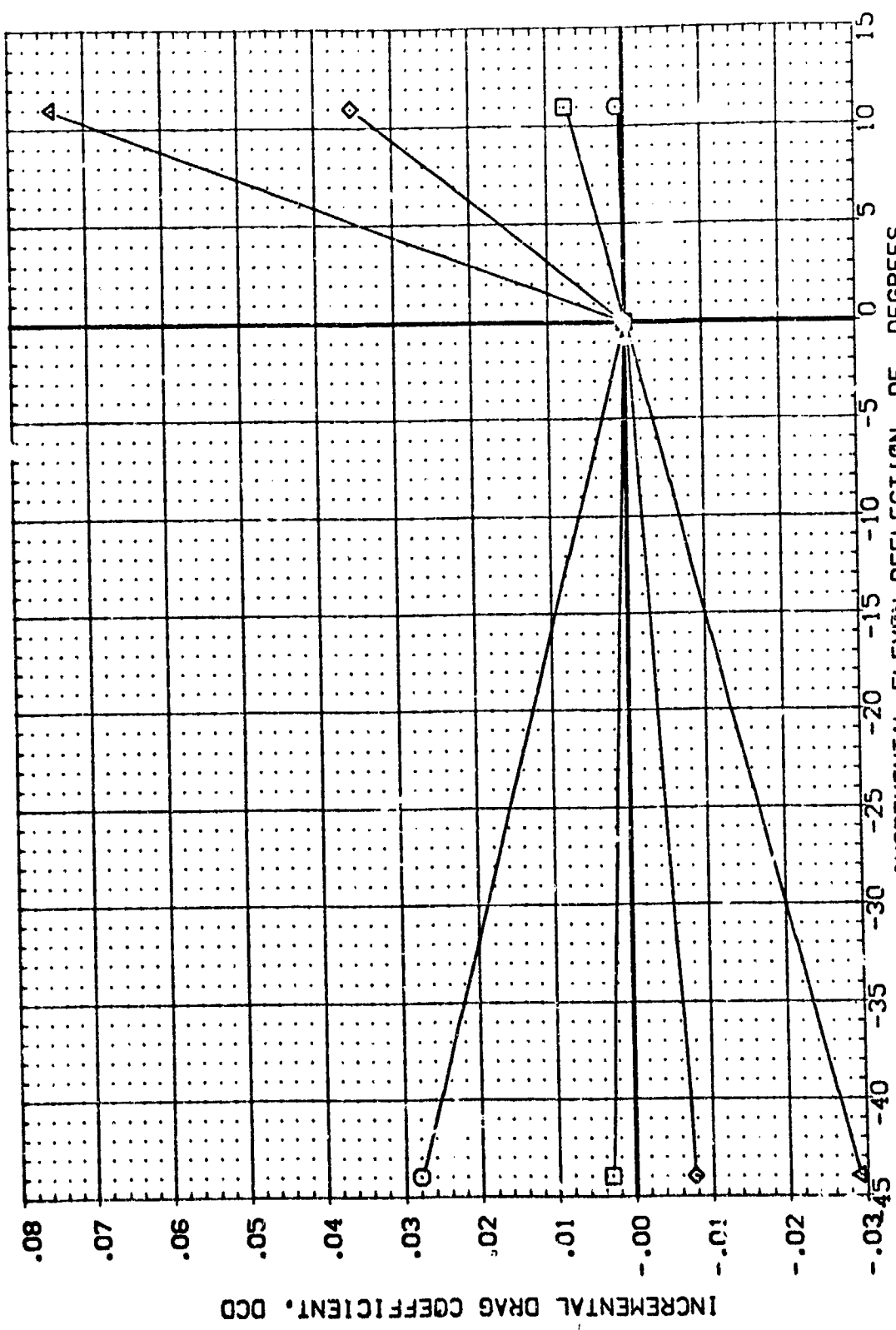


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY005)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		DATASET DE		REFERENCE INFORMATION	
○	ALPHA	.000	MACH	.000	DE	.000	SREF	.6050	SO.FT.
□	10.000	7.300	BETA	.000	DE	.000	LREF	7.1270	IN.
◇	20.000	-14.250	SPOBRK	54.920	MBY005	-44.000	BREF	14.0000	IN.
△	30.000	.000	RLOOER	11.000	FBY008		XREF	12.5710	IN.
							YREF	0.0000	IN.
							ZREF	0.0000	V.L.
							SCALE	0.0150	

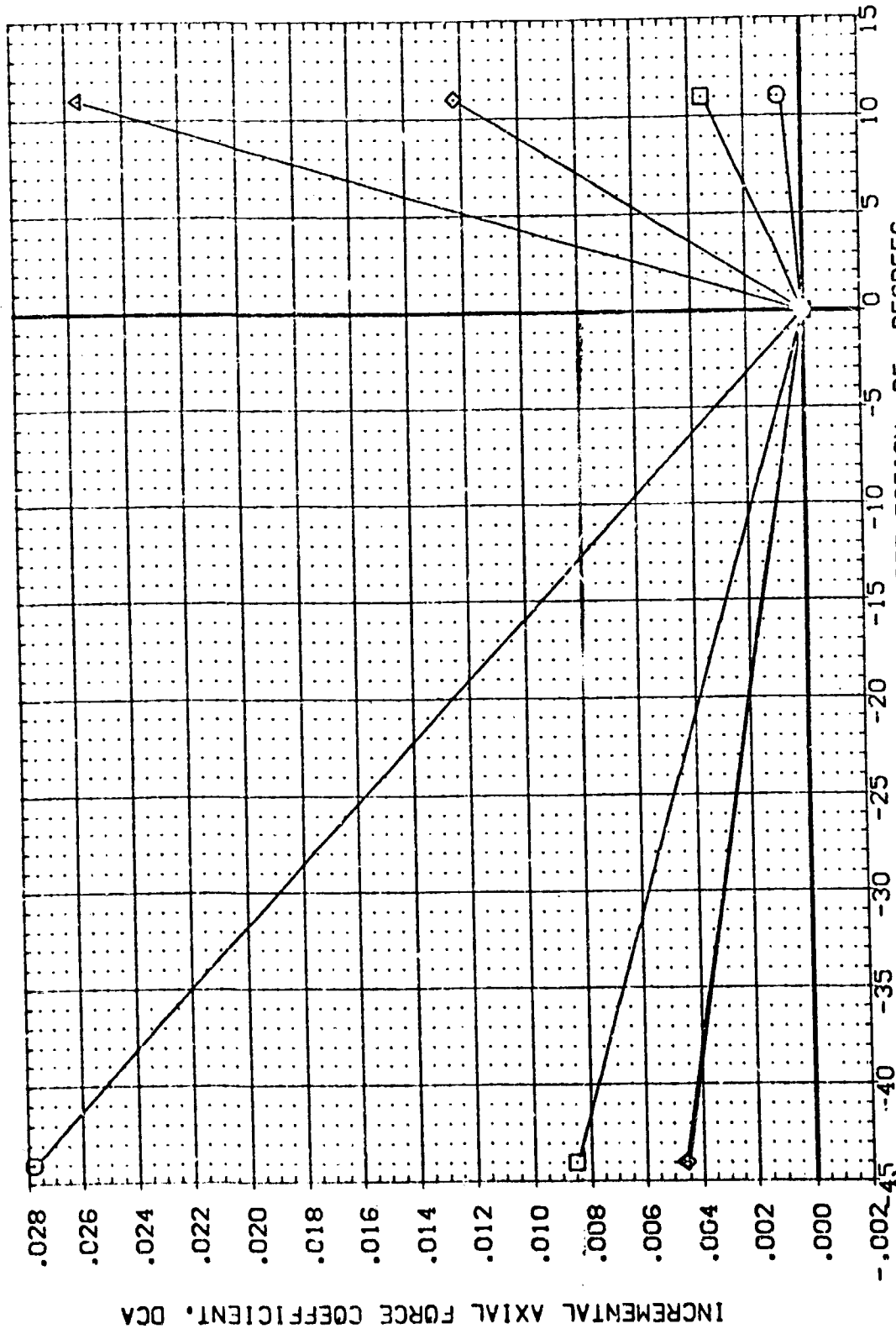


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 UA58 (B19C7M4F5)(W107E23)(V7R5) (MBY005)

PARAMETRIC VALUES

ALPHA	.000
MACH	7.300
BOFLAP	-14.250
RUDDER	.000
BETA	.000
SPOBRK	54.920
DATA SOURCE	DE
DATASET	MBY005
DE	-44.000
DE	11.000

REFERENCE INFORMATION

SREF	6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	IN.
SCALE	.0150	V.L.

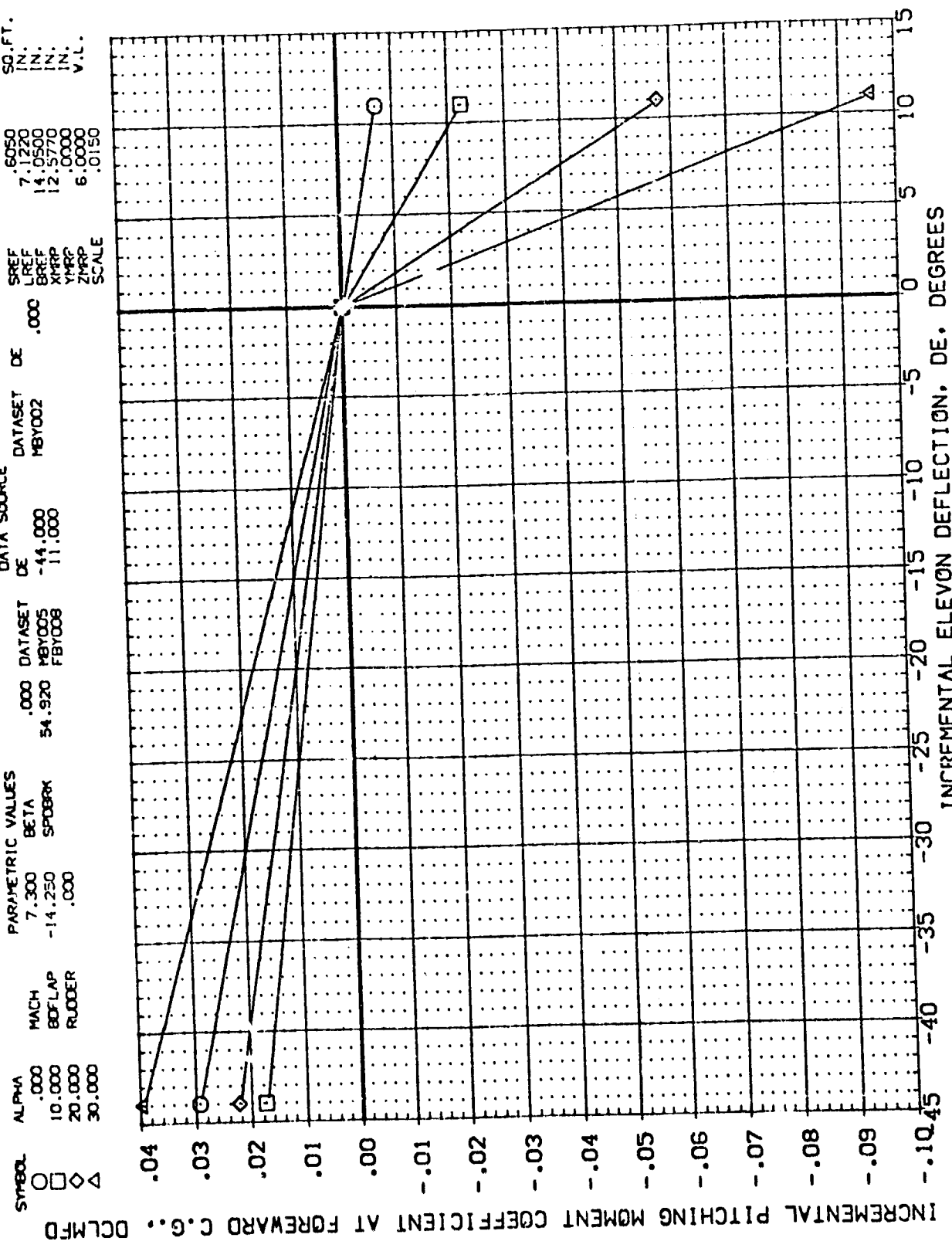


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY005)

SYMBOL		ALPHA		MACH		BOFLAP		RUDDER		PARAMETRIC VALUES		DATA SOURCE		DATASET DE		REFERENCE INFORMATION	
○	□	.000	10.000	.000	7.300	.000	-14.250	.000	7.300	BETA	.000	MBY005	MBY002	.000	SREF	6050	SO.FT.
◇	△	20.000	20.000	.000	14.250	.000	SPDBRK	54.920	SPDBRK	SPDBRK	54.920	FBY008	FBY008	11.000	LREF	7.1220	IN.
		30.000													BREF	14.0550	IN.
															XMRP	12.5770	IN.
															YMRP	.0000	IN.
															ZMRP	6.0000	V.L.
															SCALE	.0150	

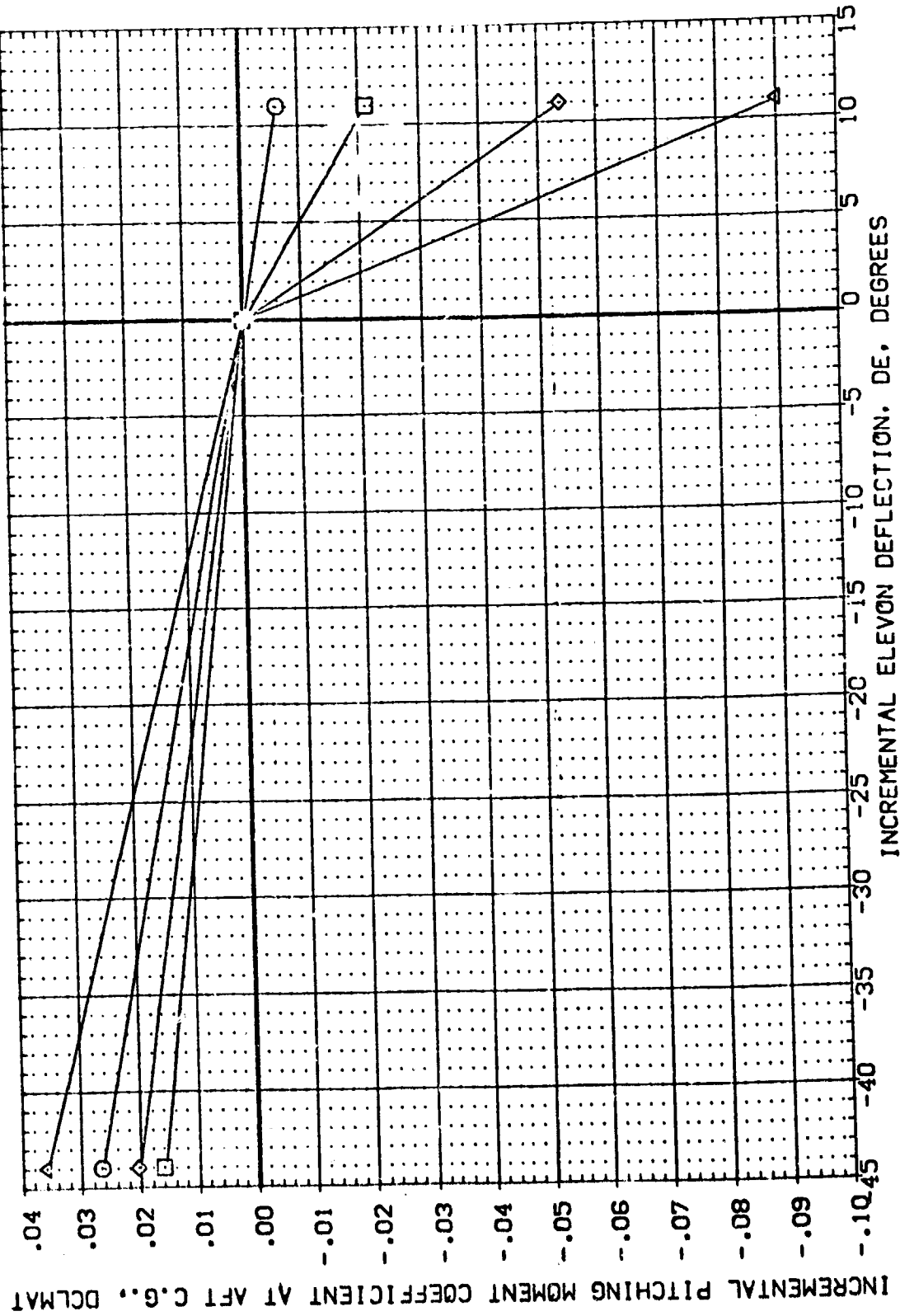


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY003)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	BETA	DE	SREF	SO.FT.
30.000	7.300	7.1220	.000	LREF	IN.
40.000	-14.250	14.0500	MBY001	BREF	IN.
50.000	.000	12.5770	MBY003	XMRP	IN.
			FBY006	YMRP	IN.
				ZMRP	V.L.
				SCALE	.0150

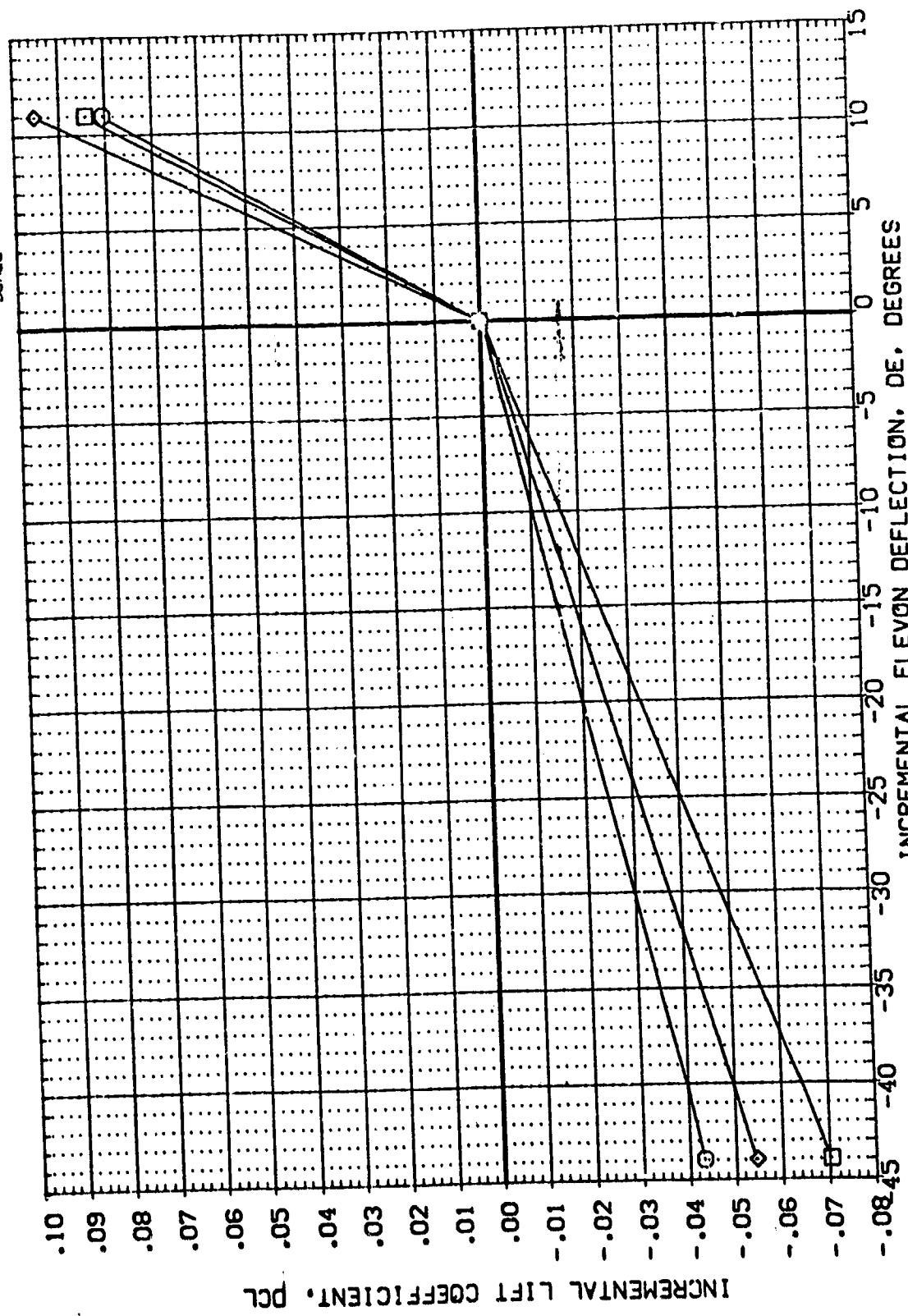
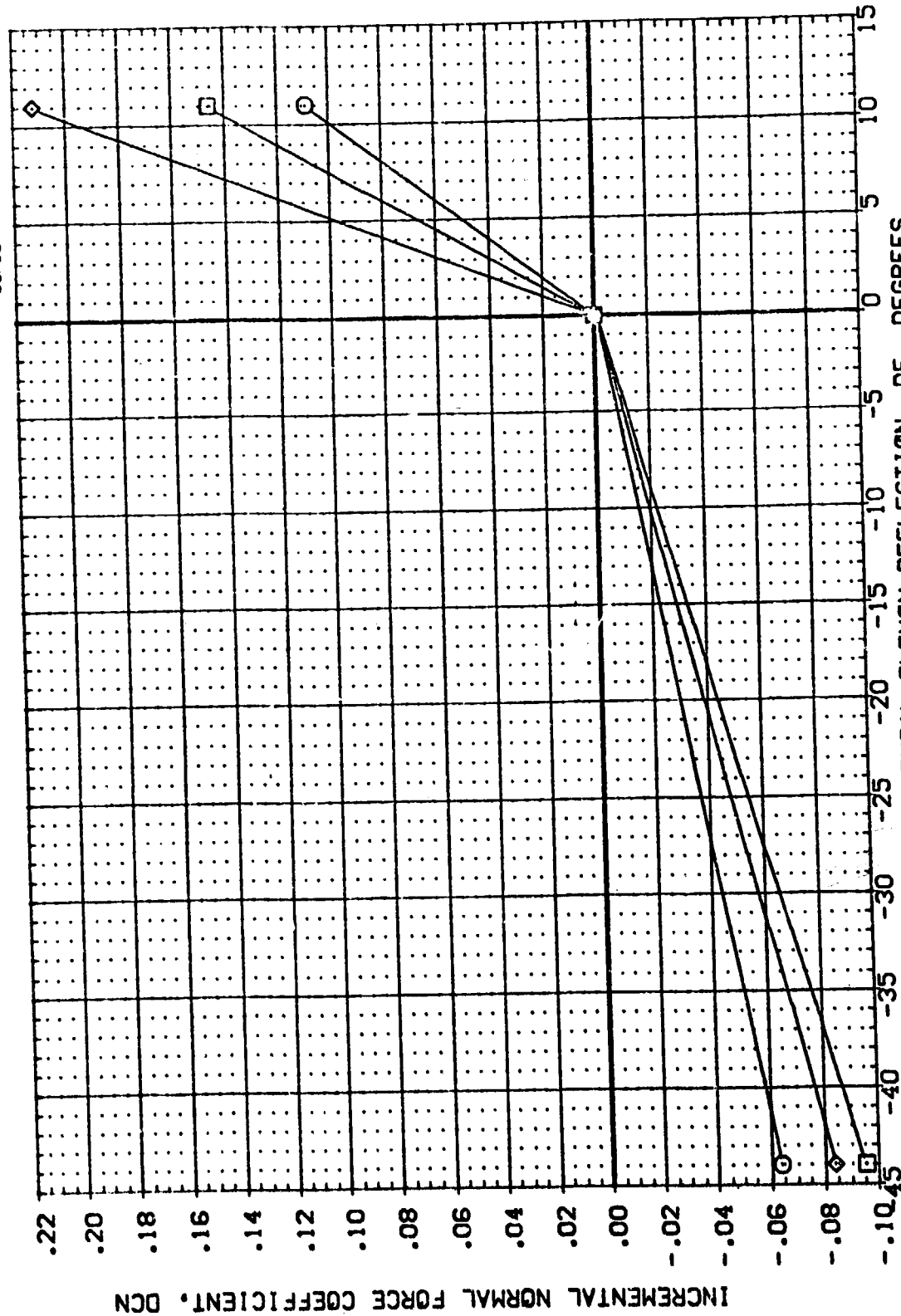


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY003)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	DE	SREF	REFERENCE INFORMATION
○	30.000				BETA	.000	MBY003	.000	MBY001	LREF	SC.FT.
□	40.000				SPOBRK	54.920	F8Y006	-44.000		BREF	IN.
◇	50.000					11.000			YMPP	XMRP	IN.
									ZMRP		IN.
									SCALE		V.L.
											.0000
											6.0000
											.0150



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 JAS8 (B19C7M4F5)(W107E23)(V7R5) (MBY003)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	SREF	SO.FT.
□	30.000	BOFLAP	BETA	DE	MBY001	.000	LREF	IN.
○	40.000	RUDDER	SPOBRK	DE	MBY003	.000	RREF	IN.
◇	50.000				FBY006	.000	XTRP	IN.
						.000	YTRP	IN.
						.000	ZTRP	V.L.
						.0150	SCALE	

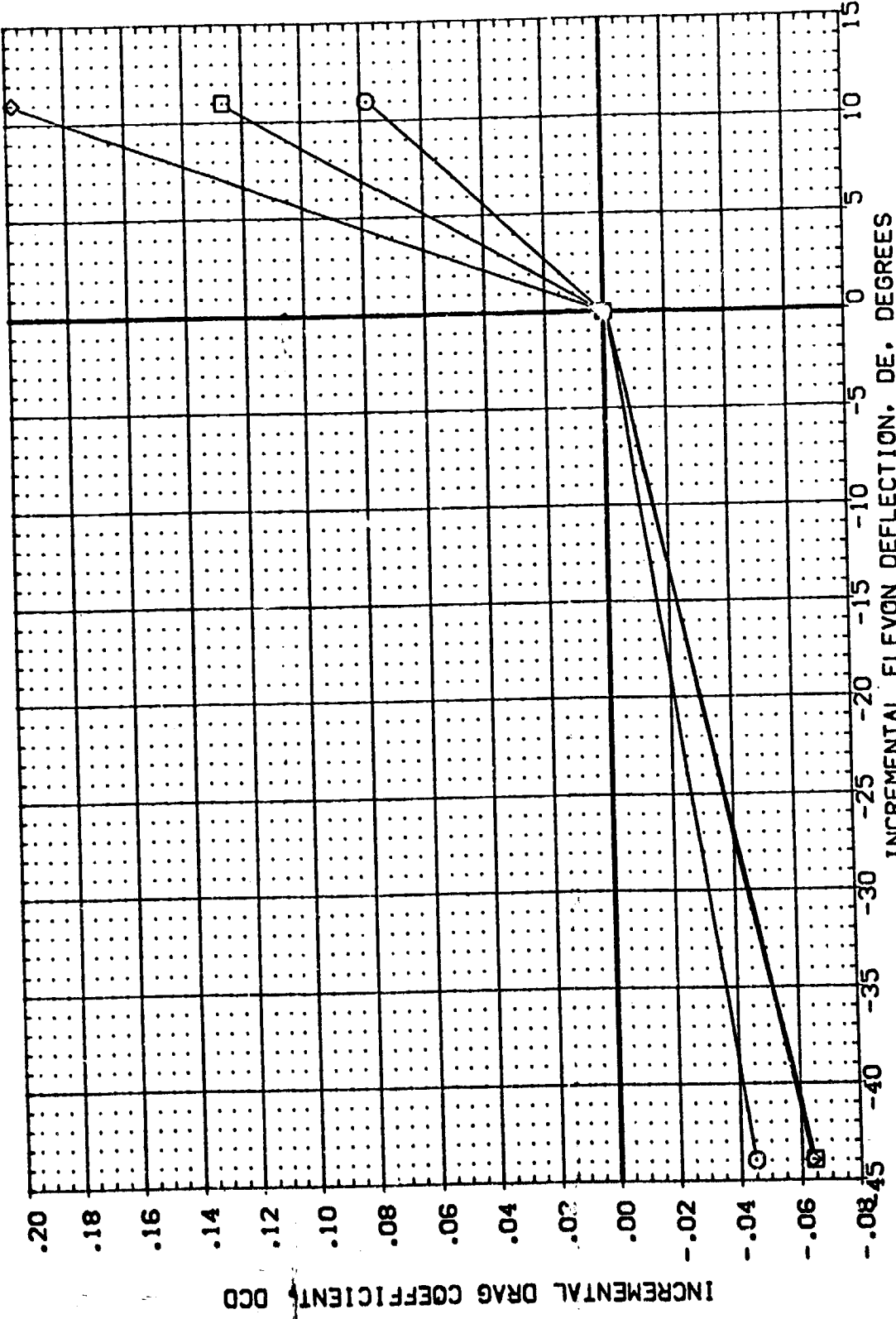


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY003)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	REFERENCE INFORMATION
○	30.000	7.300	BETA	.000	DATASET	DE	SREF	SO.FT.	
□	40.000	-14.250	SPDBRK	54.920	MBY003	-44.000	LREF	7.1220	IN.
◇	50.000	.000		11.000	FBY006		BREF	14.0500	IN.
							XMRP	12.5770	IN.
							YMRP	.0000	IN.
							ZMRP	6.0000	V.L.
							SCALE	.0150	

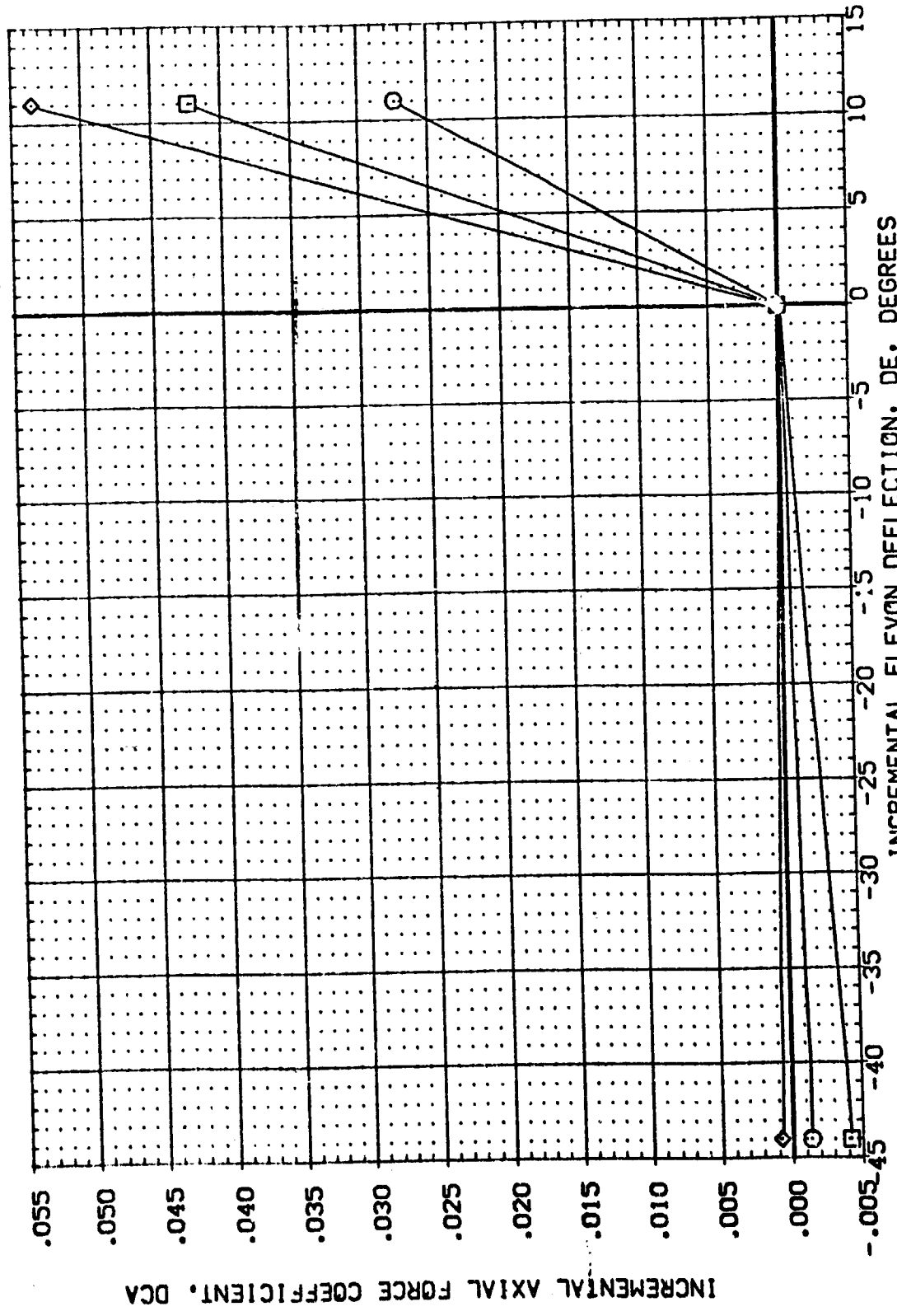


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

(MBY003)

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5)

REFERENCE INFORMATION
 SO.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

DATA SOURCE DATASET DE
 MBY001 .000

PARAMETRIC VALUES
 MACH 7.300
 BETA -14.250
 SPOBRK .000

DATA SOURCE DATASET DE
 -44.000
 MBY003
 FBY006 11.000

ALPHA 30.000
 MACH 40.000
 BDFLAP 50.000
 RUDDER

SYMBOL
 ○
 □
 ◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

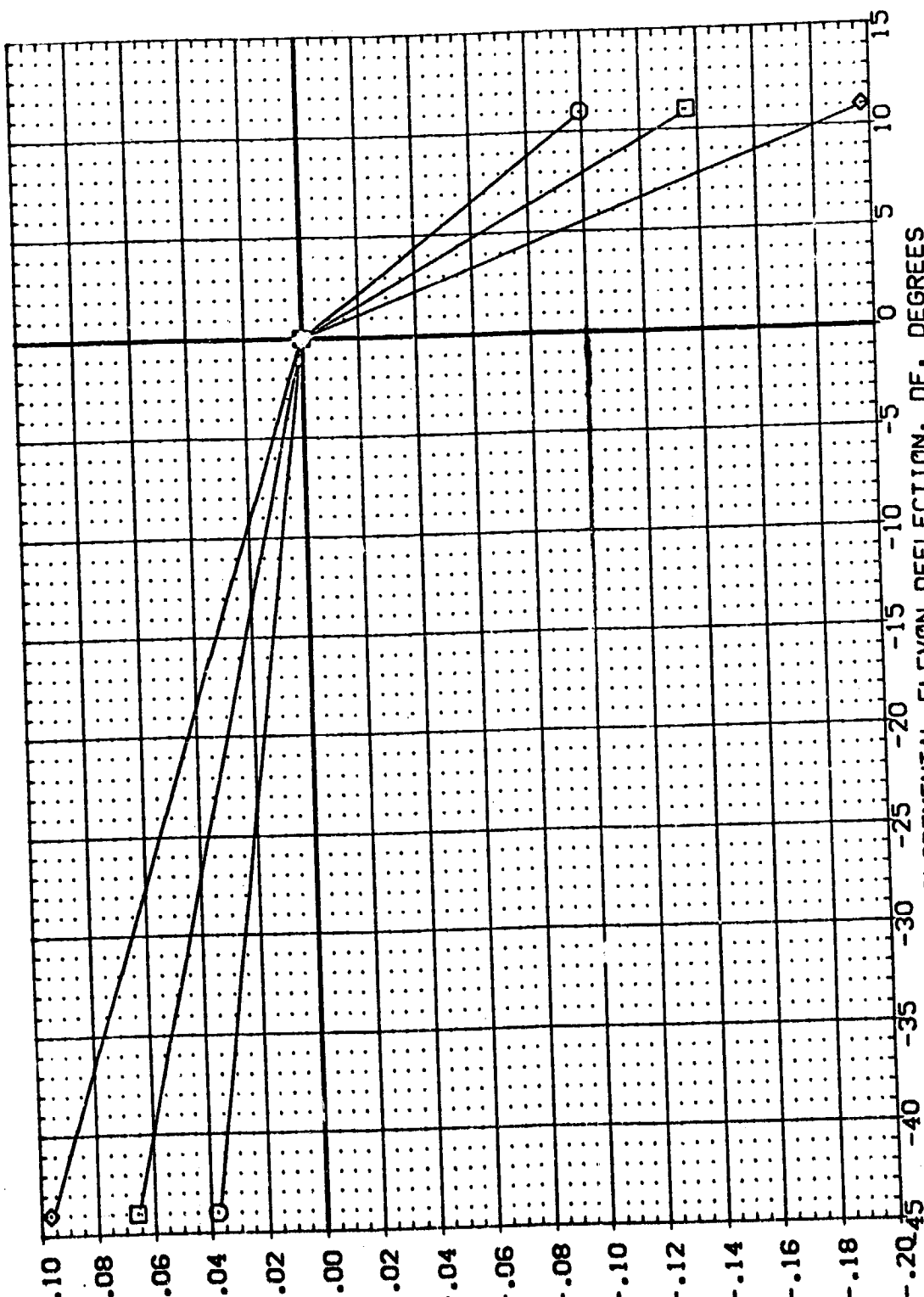


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (MBY003)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET DE	SREF	REFERENCE INFORMATION
○	30.000	7.300	BETA	.000	.000	LREF	SO.1
□	40.000	-14.250	SPOBRK	54.920	MBY003	BREF	IN.
◇	50.000	.000	RUDDER	11.000	F8Y006	YMRP	IN.
						ZMRP	IN.
						SCALE	V.L.
							.6050
							7.1270
							14.0500
							12.5770
							.0000
							6.0000
							.0150

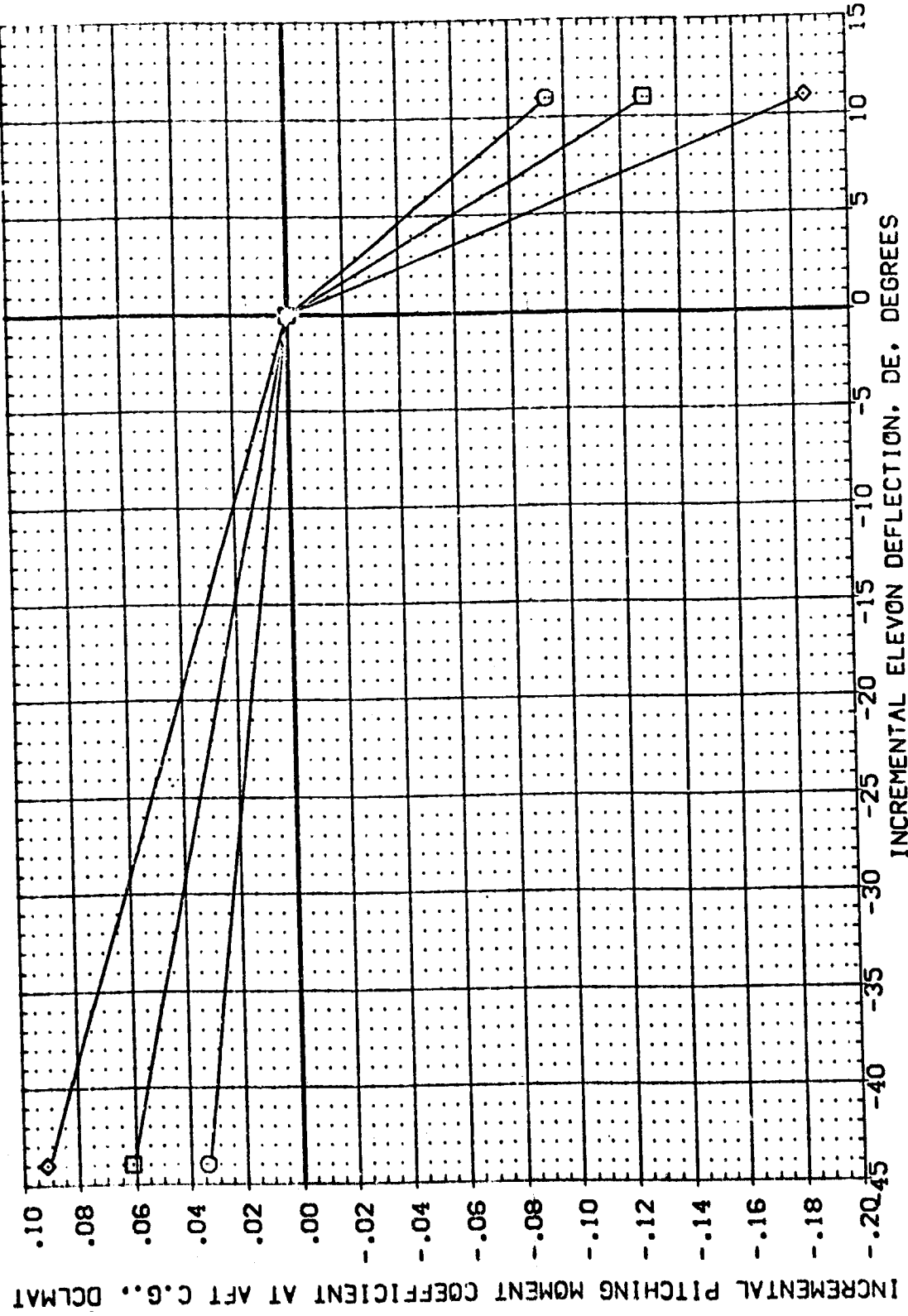


FIG. 5 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 7.3

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BD/LAP	SPOBRK	REFERENCE INFORMATION
(BBY004)	AMES 3.5-163 CAS8 (B15C7M4F5)(W107E23)(V7RS)	.000	-41.000	-14.250	54.920	SREF 6050 SO.FT.
(BBY015)	AMES 3.5-163 CAS8 (B15C7M4F5)(W107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBY007)	AMES 3.5-163 CAS8 (B15C7M4F5)(W107E23)(V7RS)	.000	11.000	13.750	54.920	SREF 14.0500 IN.
						XREF 12.5770 IN.
						YMRP 6.0000 IN.
						ZMRP 6.0000 V.L.
						SCALE .0150

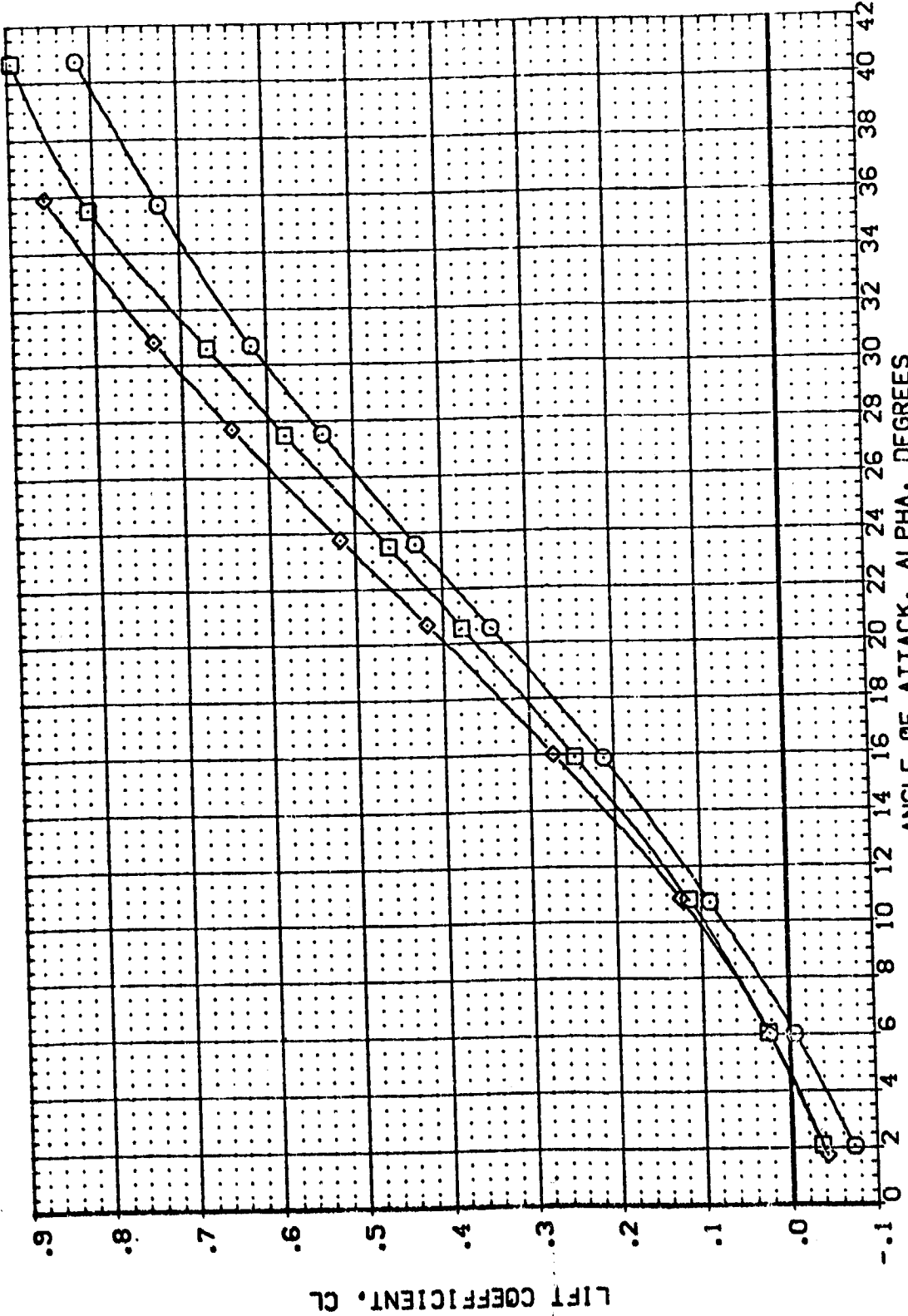


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3
(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION	
(88Y004)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)	.000	-44.000	-14.250	54.920	SREF	6050
(88Y015)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	LREF	7.1220
(88Y007)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)	.000	11.000	13.750	54.920	BREF	14.0500
						XMPP	12.5770
						YMPP	.0000
						ZMPP	6.0000
						SCALE	.0150
							SO.FT.
							IN.
							IN.
							IN.
							V.L.

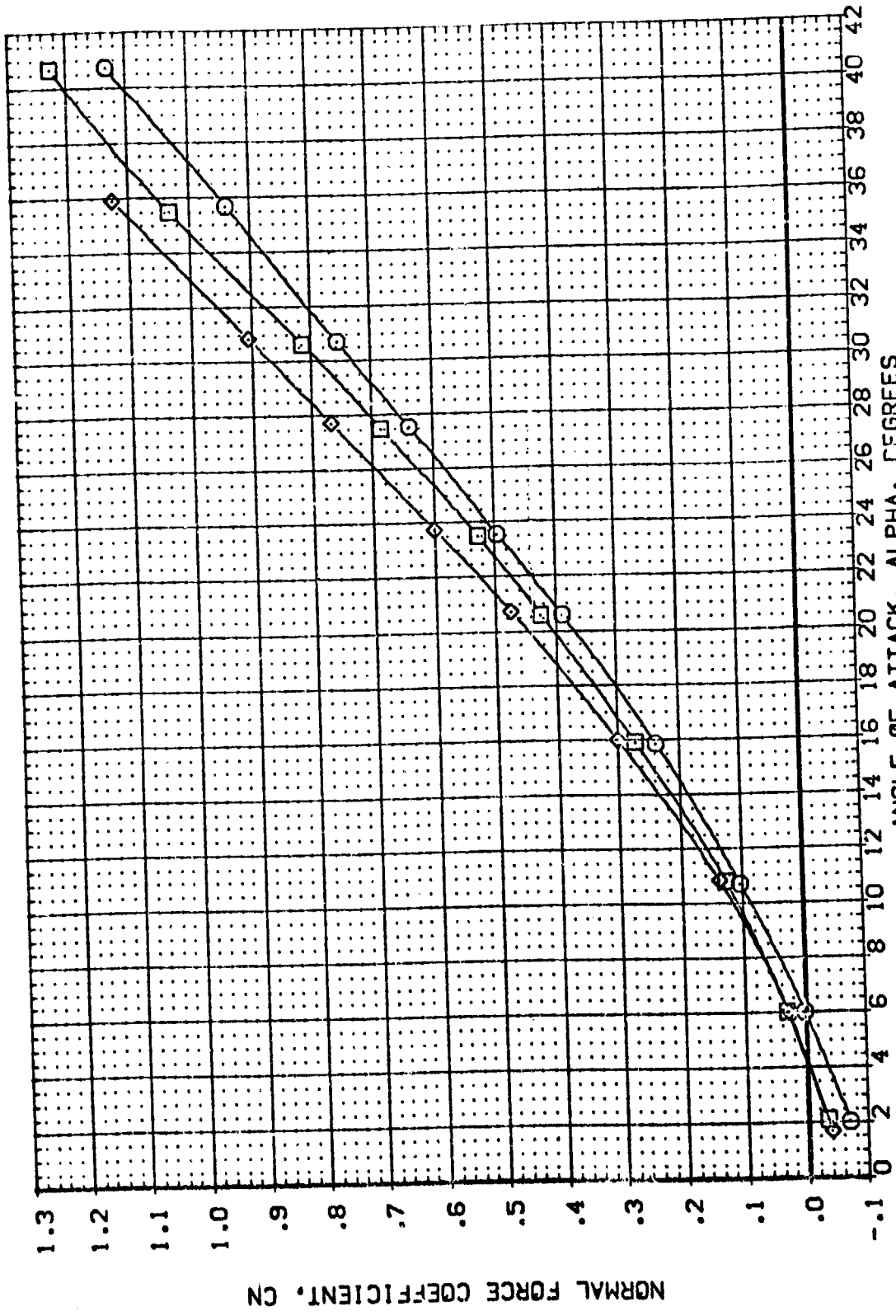


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3
(A)MACH = 10.29

DATA SET SYMBOL: (BBY004) (BBY015) (BBY007)

CONFIGURATION DESCRIPTION: AVES 3.5-163 QAS8 (B19C7M4F5) (V107E23) (V7RS) AVES 3.5-163 QAS9 (B19C7M4F5) (V107E23) (V7RS) AVES 3.5-163 QAS8 (B19C7M4F5) (V107E23) (V7RS)

BETA: .000 .000 .000

ELEVON: -44.000 .000 11.000

BOFLAP: -14.250 -14.250 13.750

SPOBTK: 54.920 54.920 54.920

REFERENCE INFORMATION: SREF 6050 SO.FT. LREF 7.1220 IN. BREF 14.0500 IN. XMRP 12.5770 IN. YMRP .0000 IN. ZMRP 6.0000 V.L. SCALE .0150

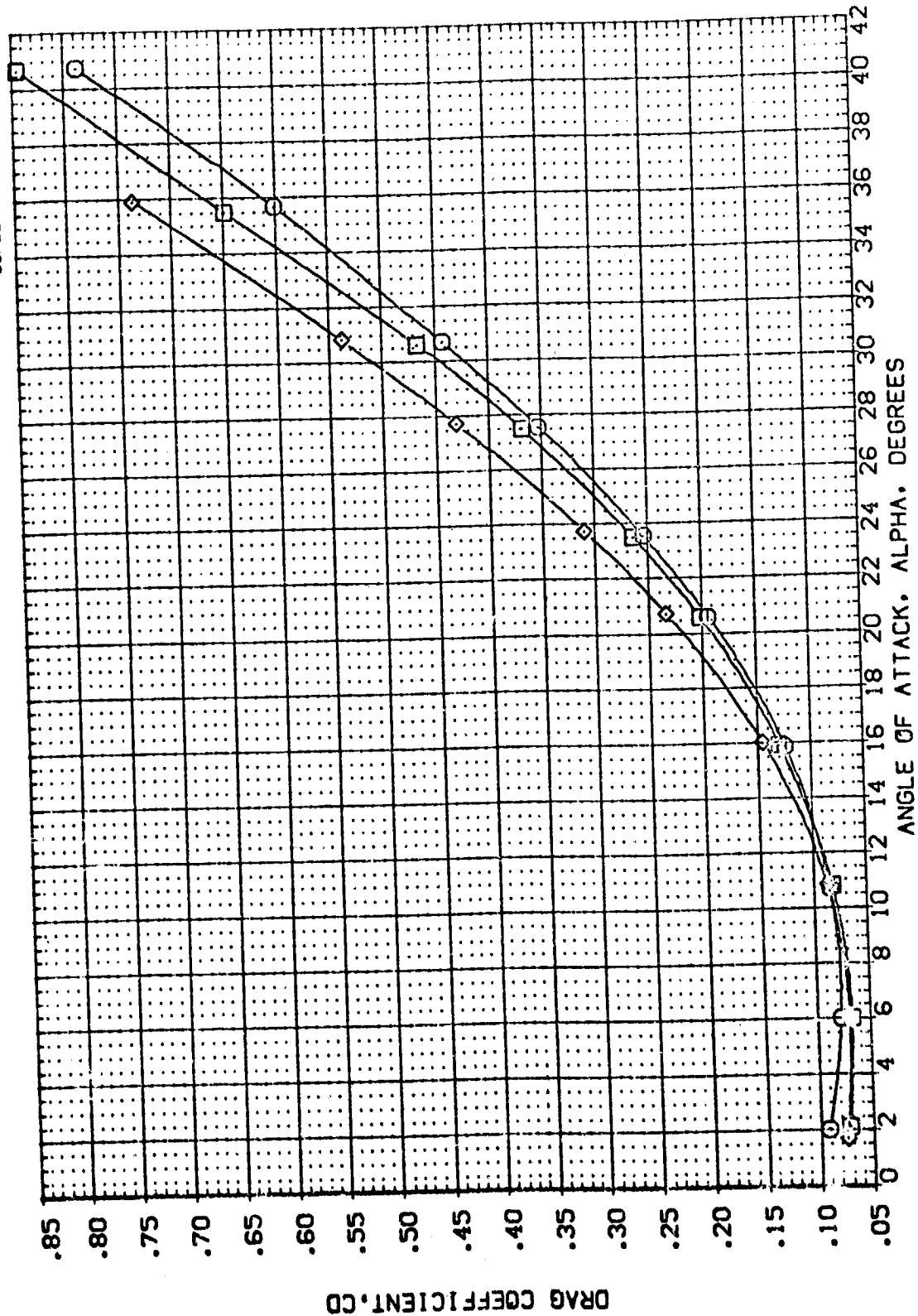


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BT/LAP	SPOBRK	REFERENCE INFORMATION
(BBY004)	AMES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF .6050 SO.FT.
(BBY015)	AMES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBY007)	AMES 3.5-163 CAS3 (B19C7M4F5)(W107E23)(V7RS)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
						YREF 12.5770 IN.
						ZREF .0000 IN.
						ZREF 6.0000 V.L.
						SCALE .0150

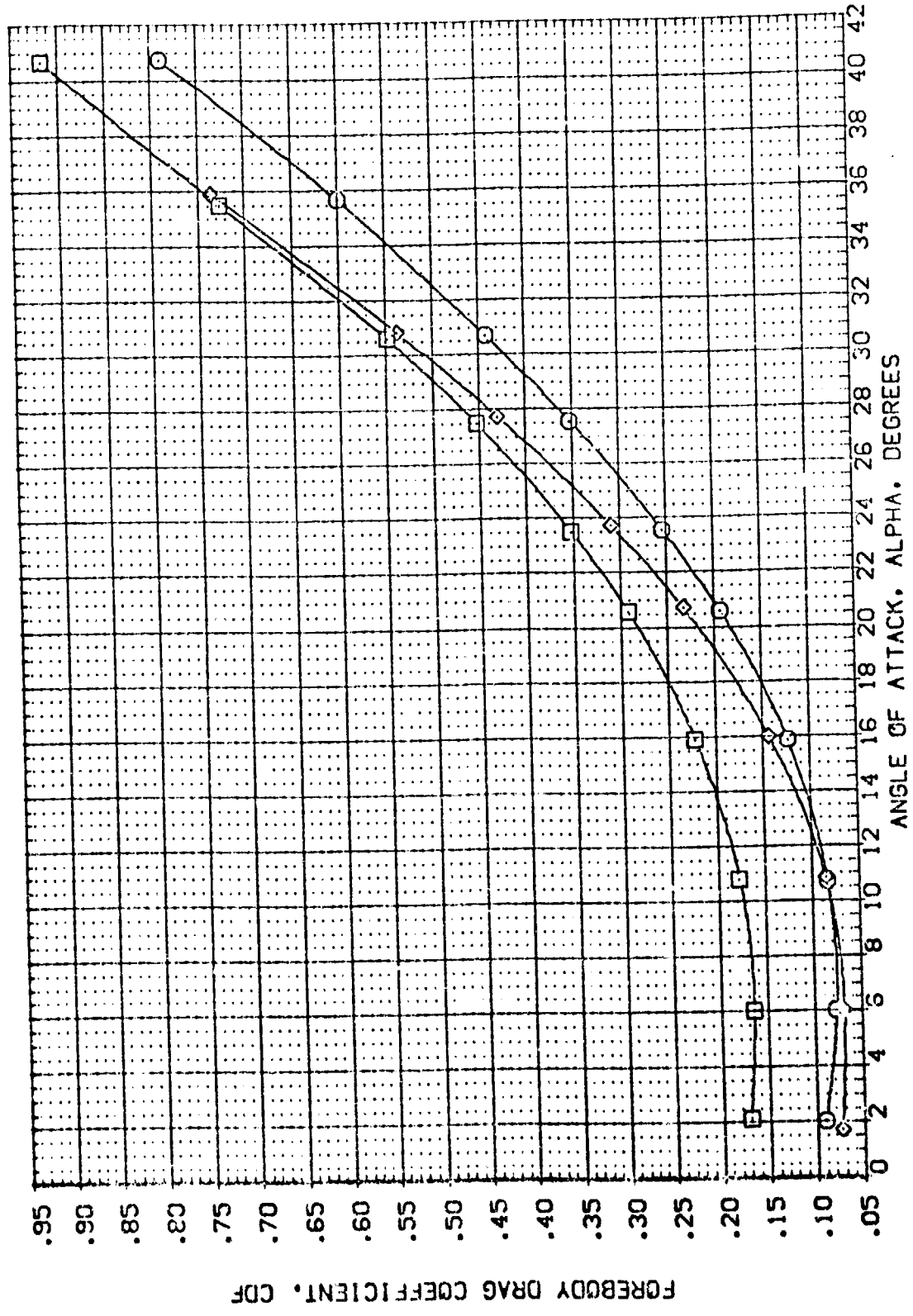


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3
(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BO-LAP	SPOBRK	REFERENCE INFORMATION
(887004)	AVES 3.5-163 CA58 (B19C7M4E5)(V107E23)(V7R5)	.000	-44.000	-14.250	54.920	SREF 6050 SQ.FT.
(887015)	AVES 3.5-163 CA58 (B19C7M4E5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(887007)	AVES 3.5-163 CA58 (B19C7M4E5)(V107E23)(V7R5)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
						XMRP 12.5770 IN.
						YMRP .0000 IN.
						ZMRP 6.0000 IN.
						SCALE .0150

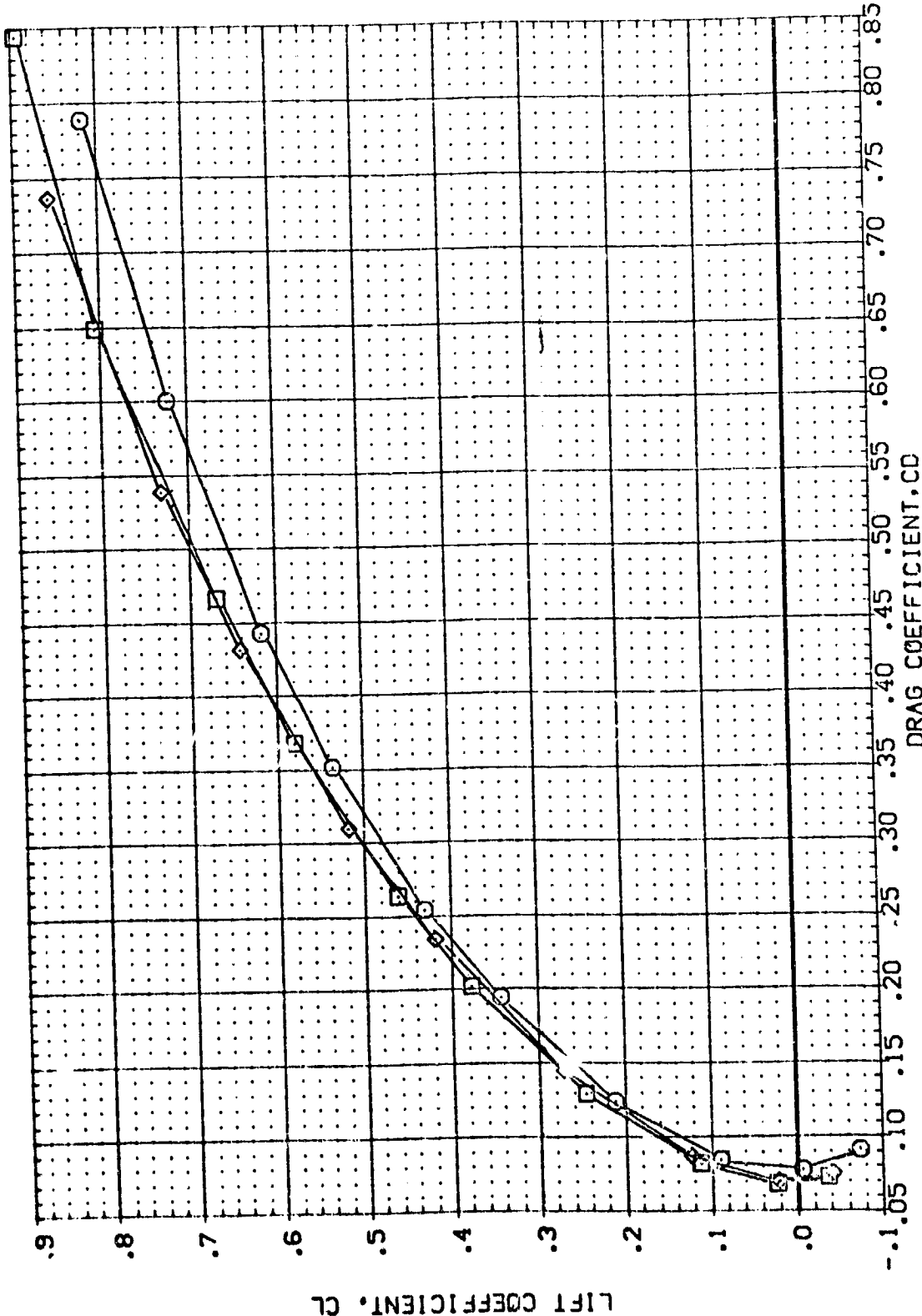


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	DOFLAP	SPOBRK	REFERENCE INFORMATION
(88Y004)	AES 3.5-163 DAS8 (B19C7M4FS)(V1D7E23)(V7R3)	.000	-14.000	-14.250	54.920	SC.F.T.
(83Y015)	AES 3.5-163 DAS3 (B19C7M4FS)(V1D7E23)(V7R3)	.000	.000	-14.250	54.920	7.0720
(88Y007)	AES 3.5-163 DAS8 (B19C7M4FS)(V1D7E23)(V7R3)	.000	11.000	13.750	54.920	14.0750
						12.5710
						.0030
						6.0770
						.0150

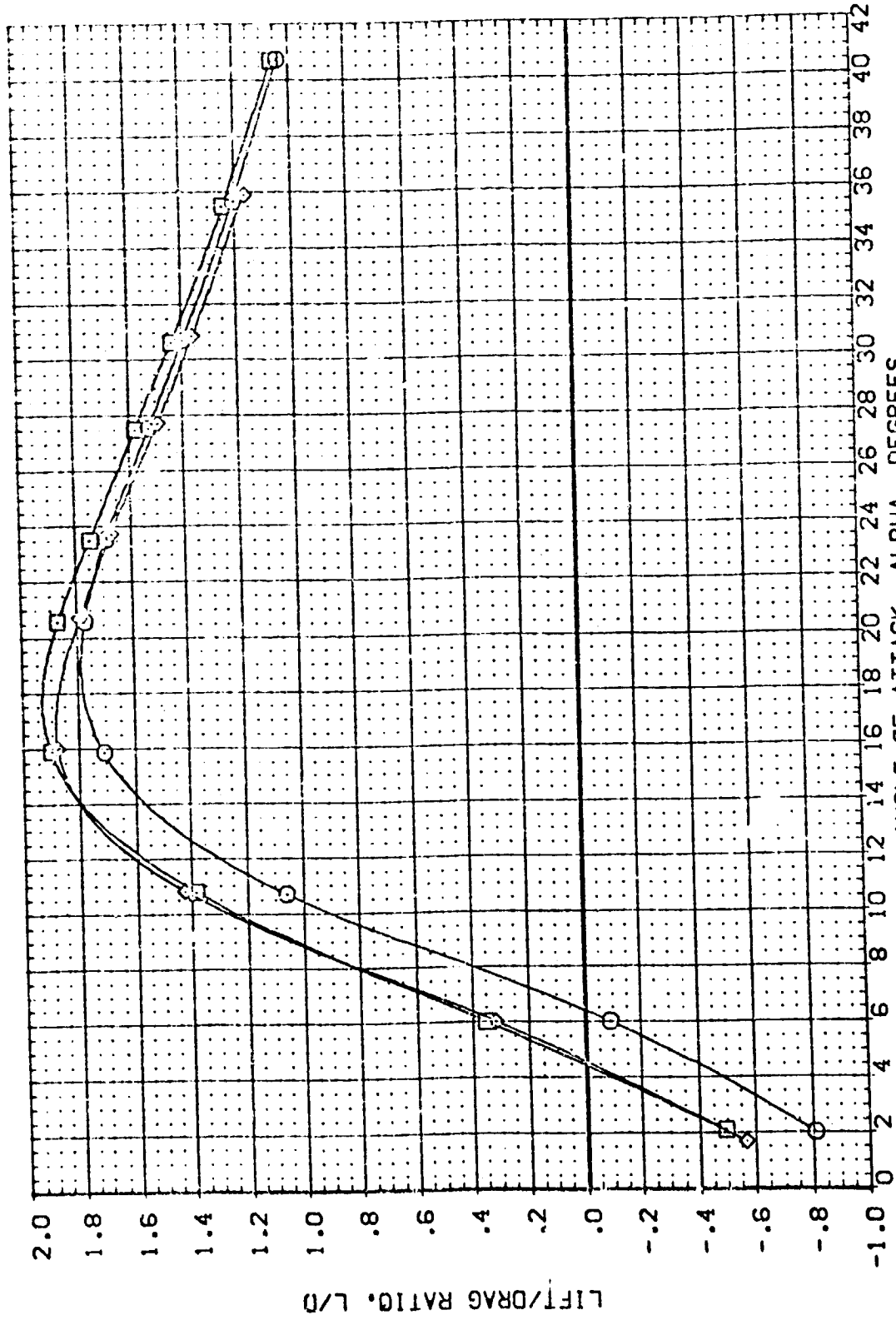


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL	CONF IGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY004)	AVES 3.5-153 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF .6050 SQ.FT.
(BBY015)	AVES 3.5-153 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1200 IN.
(BBY007)	AVES 3.5-153 CAS8 (B1SC7M4FS)(V107E23)(V7RS)	.000	11.000	13.750	54.920	XREF 14.0500 IN.
						YMRP 12.5770 IN.
						ZMRP .0000 IN.
						SCALE 6.0150 V.L.

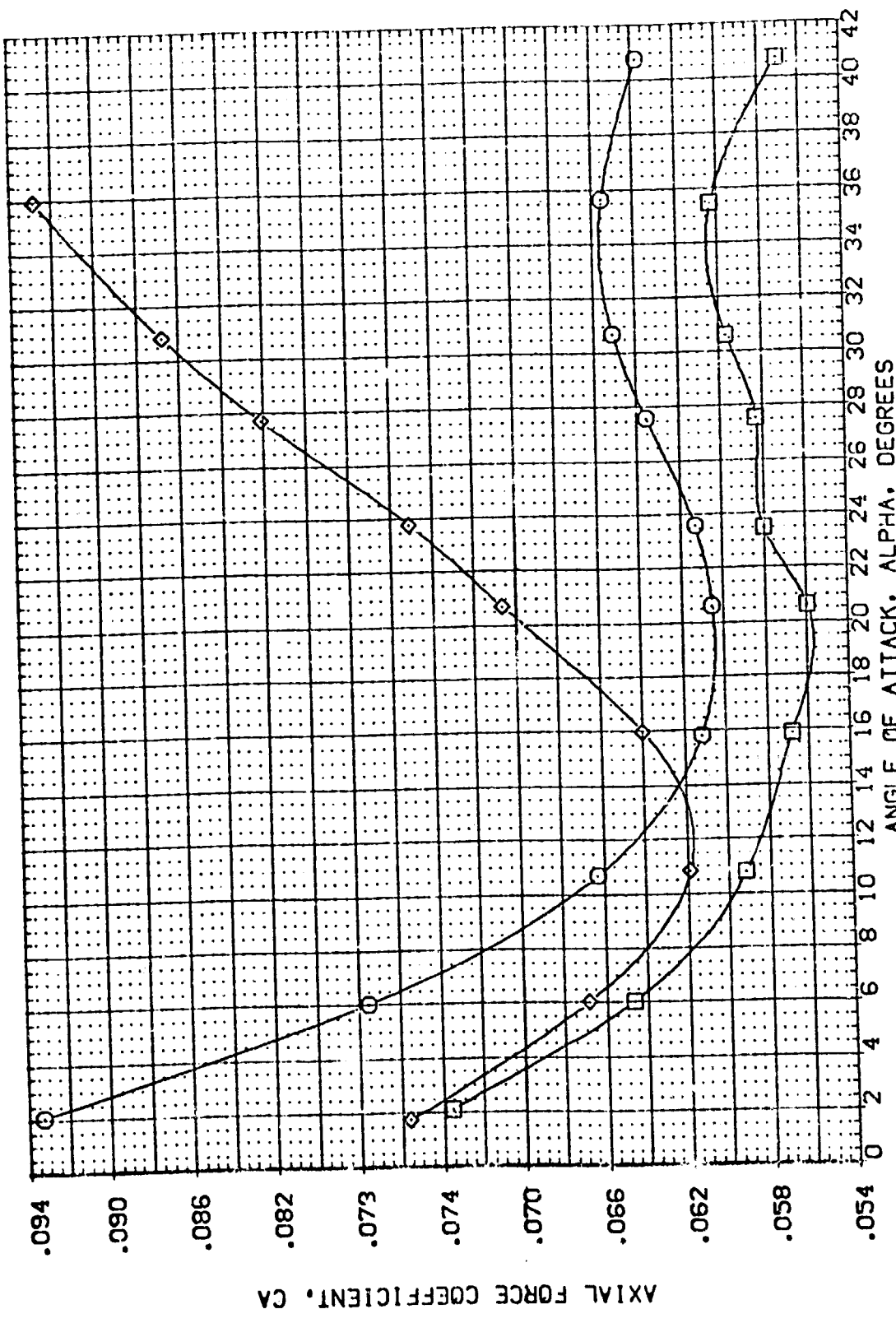


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY004)	AMES 3.5-163 OASB (B19C7M4F5)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF
(BBY015)	AMES 3.5-163 OASB (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF
(BBY007)	AMES 3.5-163 OASB (B19C7M4F5)(V107E23)(V7RS)	.000	11.000	13.750	54.920	RREF
						XMXP
						YMXP
						ZMXP
						SCALE
						SQ.FT.
						6050
						7.1270
						14.0500
						12.5770
						.0000
						6.0000
						.0150

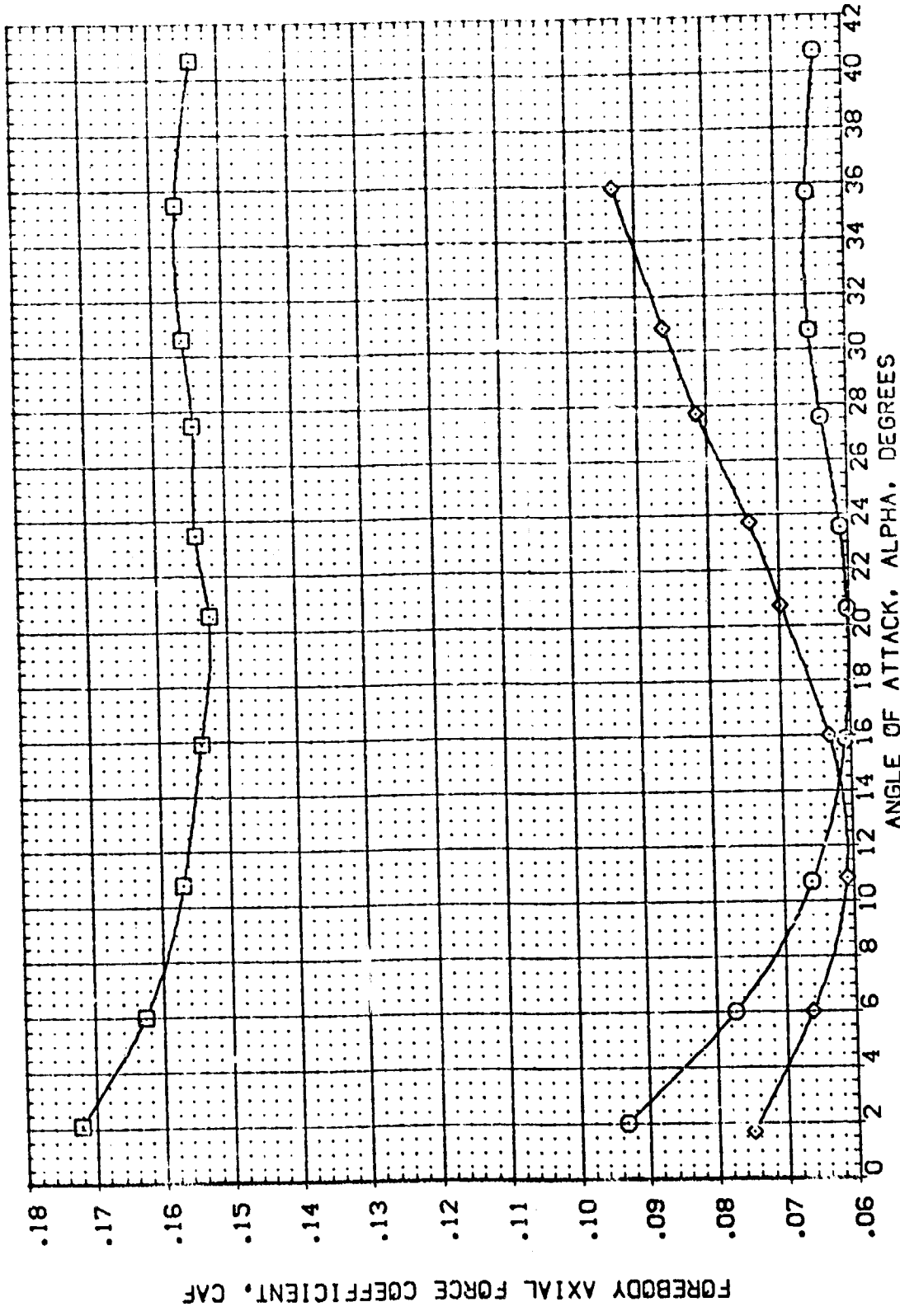


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY004)	APES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	-44.000	-14.250	54.920	SREF 7.6050 SO.FT.
(BBY015)	APES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBY007)	APES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
						XTRP 12.5770 IN.
						YMRP .0000 IN.
						ZMCP 6.0000 V.L.
						SCALE .0150

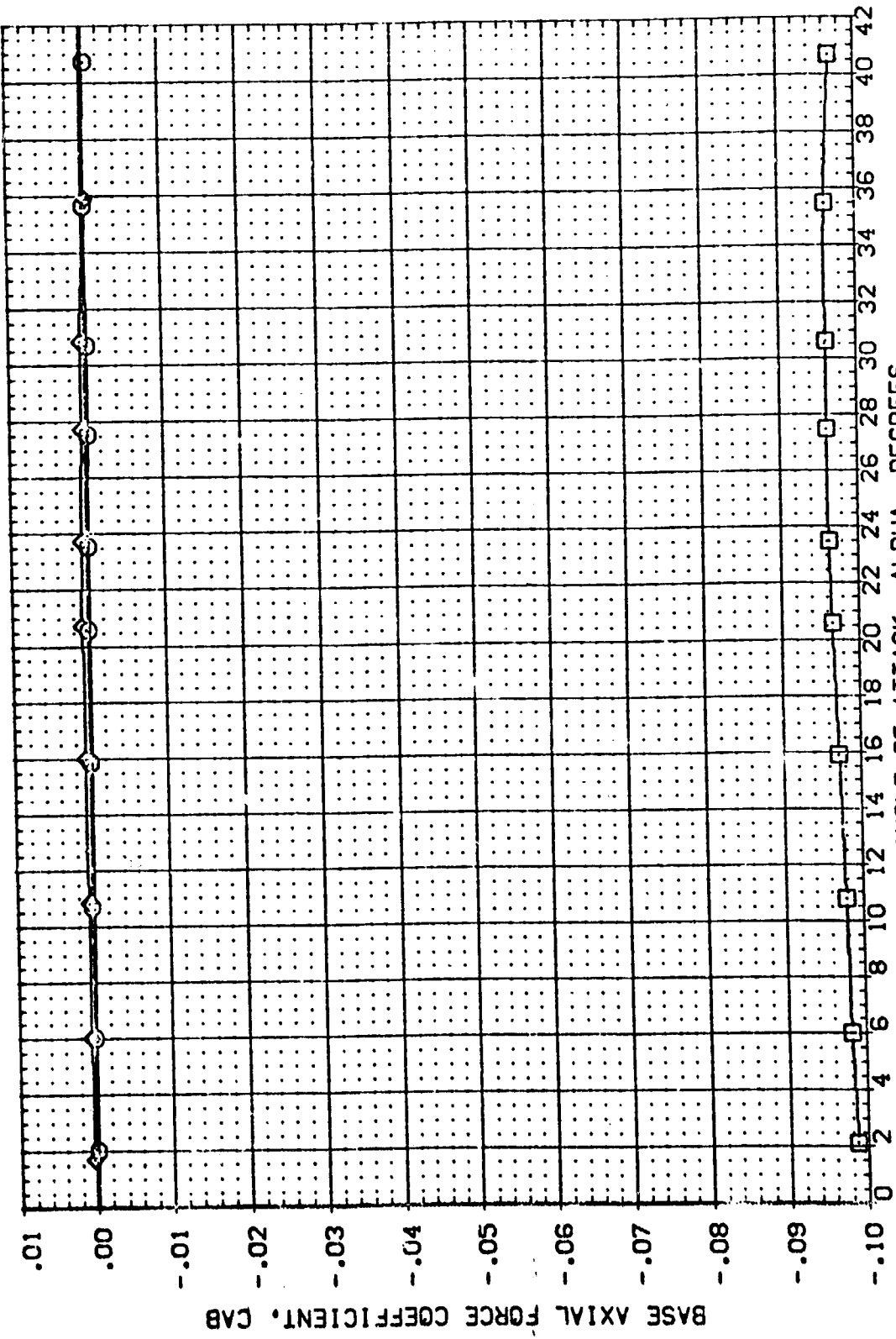


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL
 (BBY004)
 (BBY015)
 (BBY007)

CONFIGURATION DESCRIPTION
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

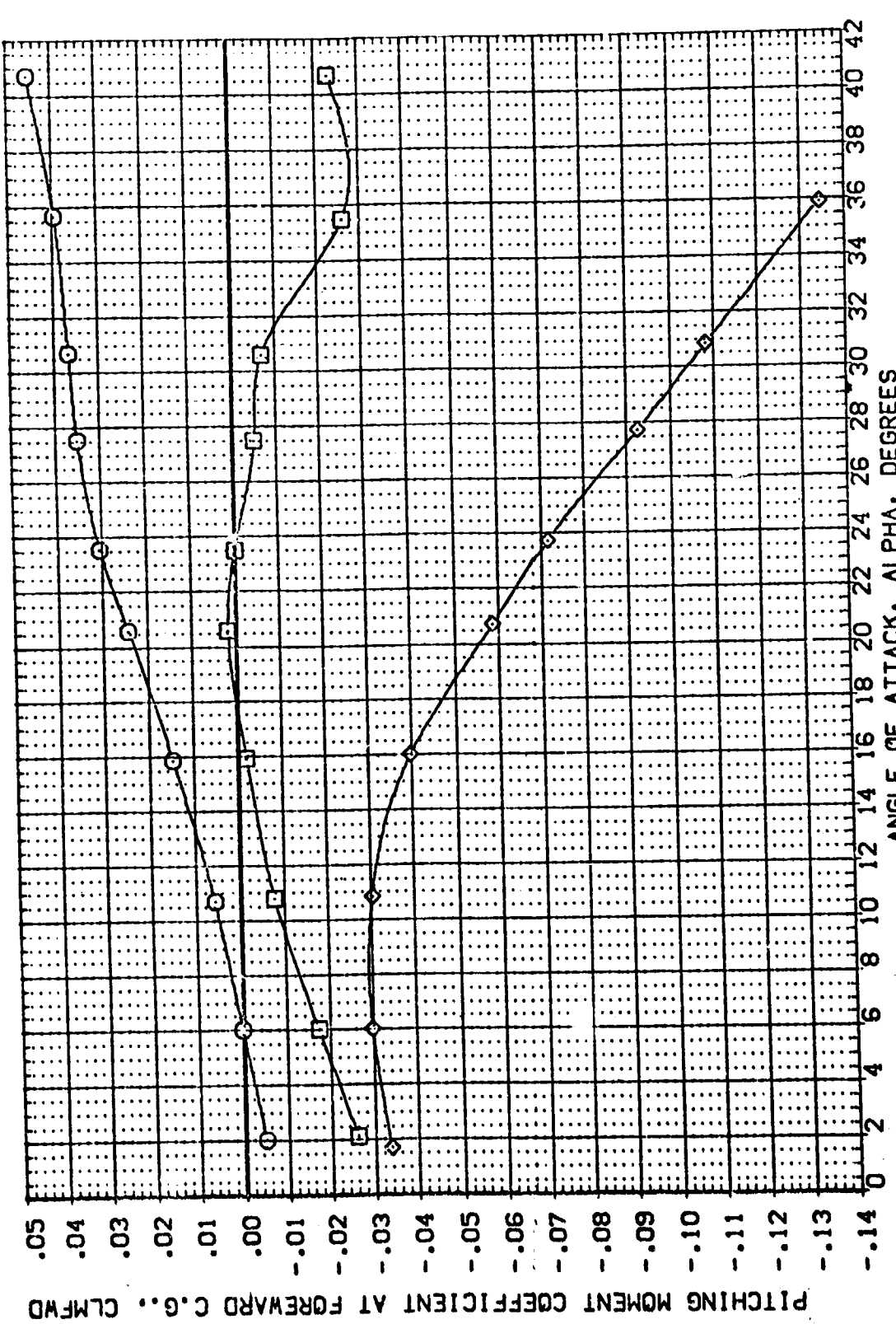
BETA
 .000
 .000
 .000

ELEVON
 -44.000
 .000
 11.000

BOFLAP
 -14.250
 -14.250
 13.750

SPOBRK
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1720 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.



ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL: (BBY004) (BBY015) (BBY007)

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

BETA: .000, .000, .000

ELEVON: -44.000, .000, 11.000

BDFLAP: -14.250, -14.250, 13.750

SPOBRK: 54.920, 54.920, 54.920

REFERENCE INFORMATION:
 SREF: .6050 SQ.FT.
 LREF: 7.1270 IN.
 BREF: 14.0530 IN.
 XMRP: 12.5770 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: 5.0150 V.L.

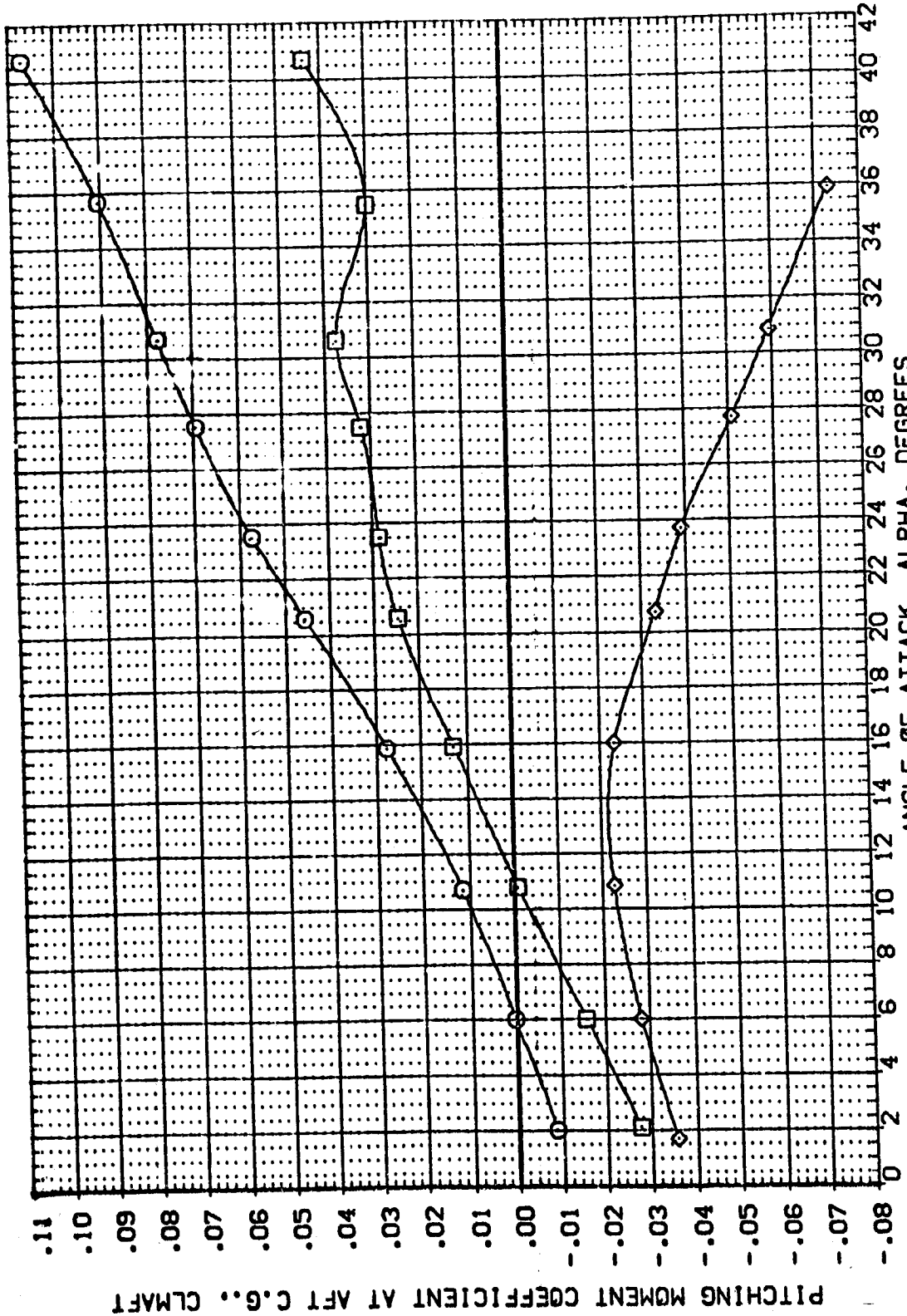


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL: (BBY004) (BBY015) (BBY007)

CONFIGURATION DESCRIPTION:
 AMES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)

BETA: .000 .000 .000
 ELEVON: -14.000 .000 11.000
 BOFLAP: -14.250 -14.250 13.750
 SPOBRK: 54.920 54.920 54.920

REFERENCE INFORMATION:
 SREF: 6050
 LREF: 7.1270
 BREF: 14.0500
 XMRP: 12.5770
 YMRP: 6.0000
 ZMRP: 6.0000
 SCALE: .0150
 SQ.FT.: IN. IN. IN. IN. V.L.

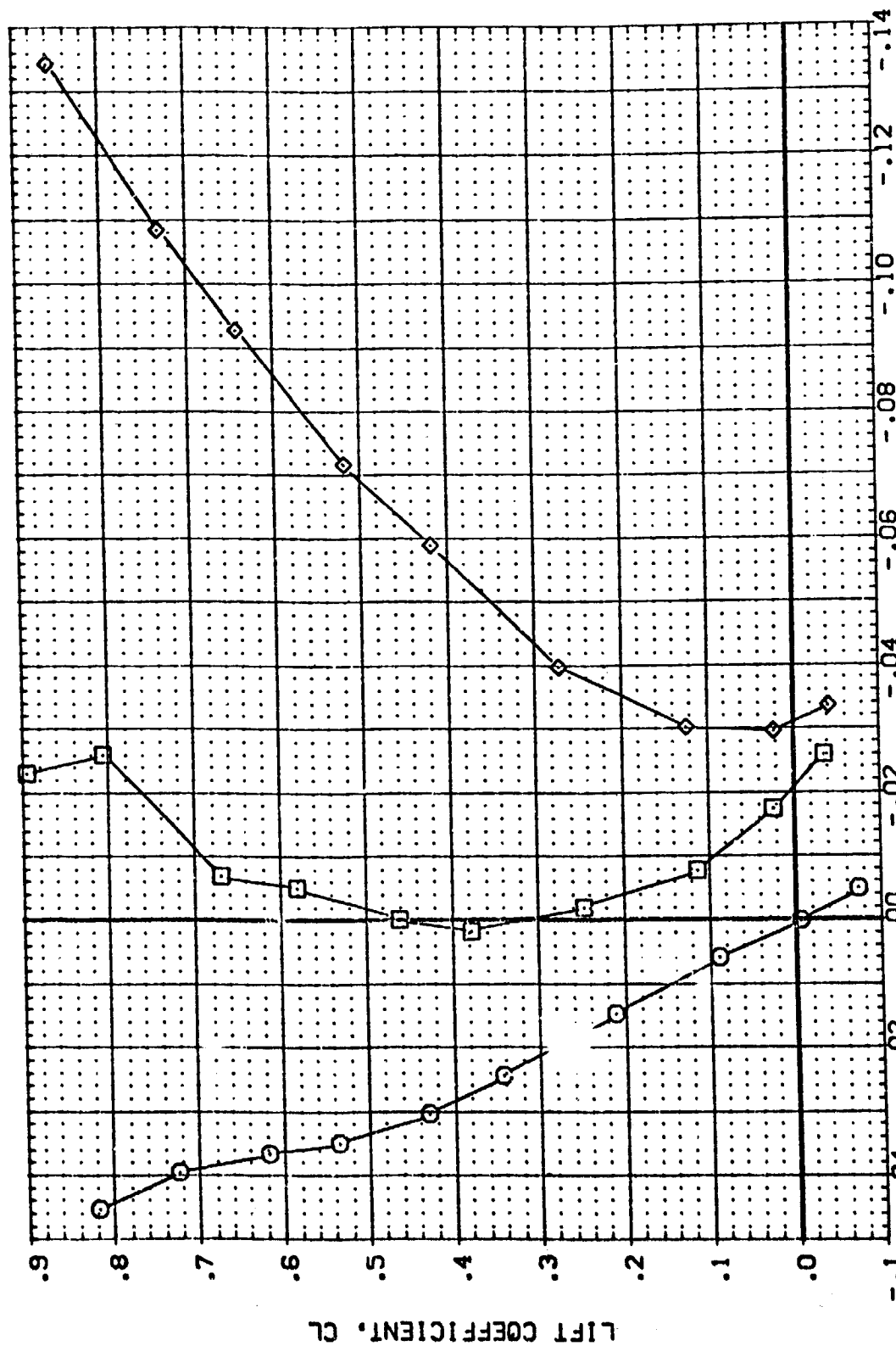


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY004)	AMES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7R5)	.000	-44.000	-14.250	54.920	SREF .6050 SO.FT.
(BBY015)	AMES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	LREF 7.1200 IN.
(BBY007)	AMES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7R5)	.000	11.000	13.750	54.920	XMRP 14.0500 IN.
						YMRP 12.5770 IN.
						ZMRP .0000 IN.
						SCALE 6.0000 V.L.

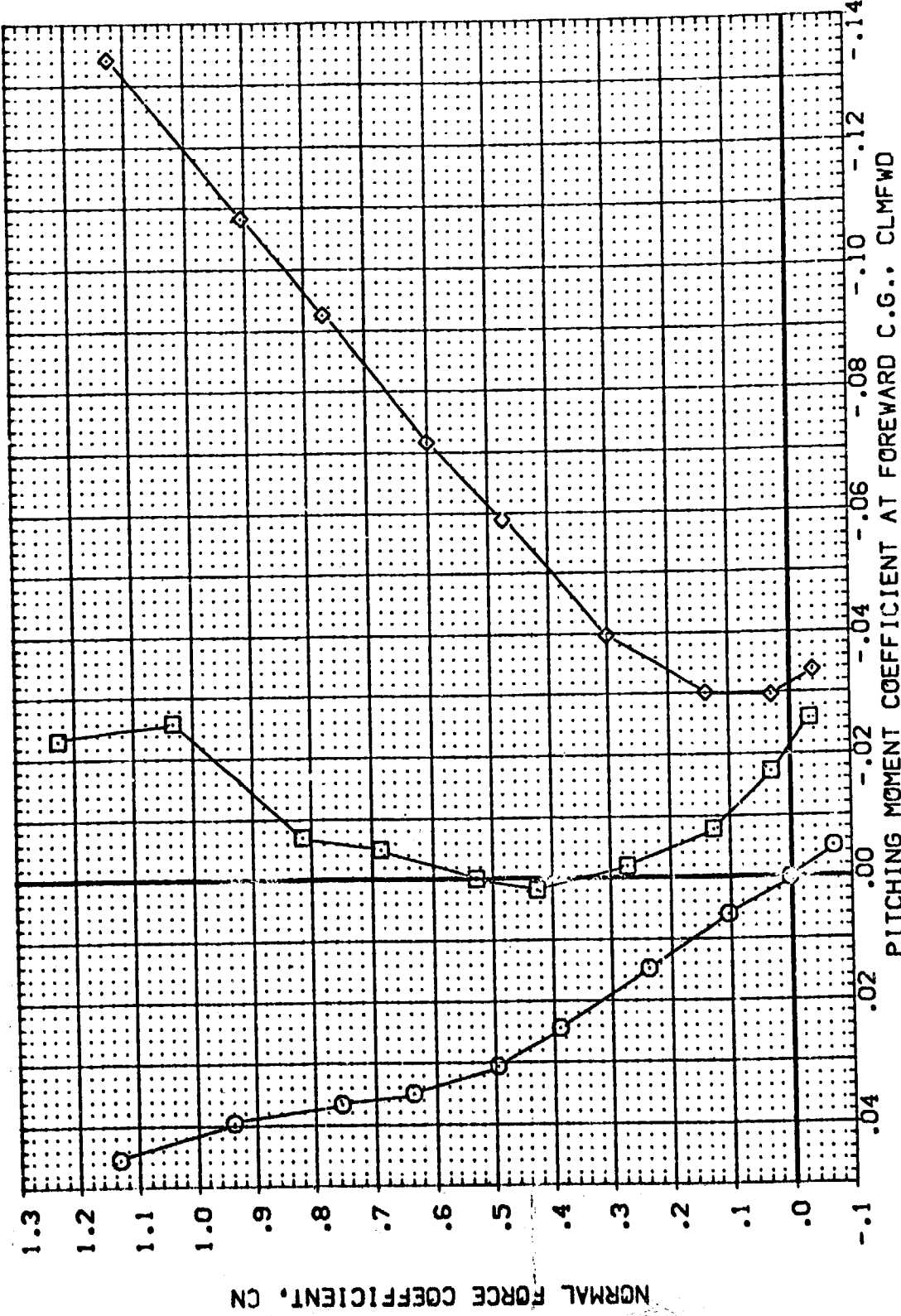


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

REFERENCE INFORMATION
 SREF .6050 SQ. FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP .0150 V.L.
 SCALE

BETA ELEVON BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 .000 -14.250 54.920
 .000 11.000 13.750 54.920

CONFIGURATION DESCRIPTION
 AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)

DATA SET SYMBOL
 (RBV004)
 (RBV015)
 (RBV007)

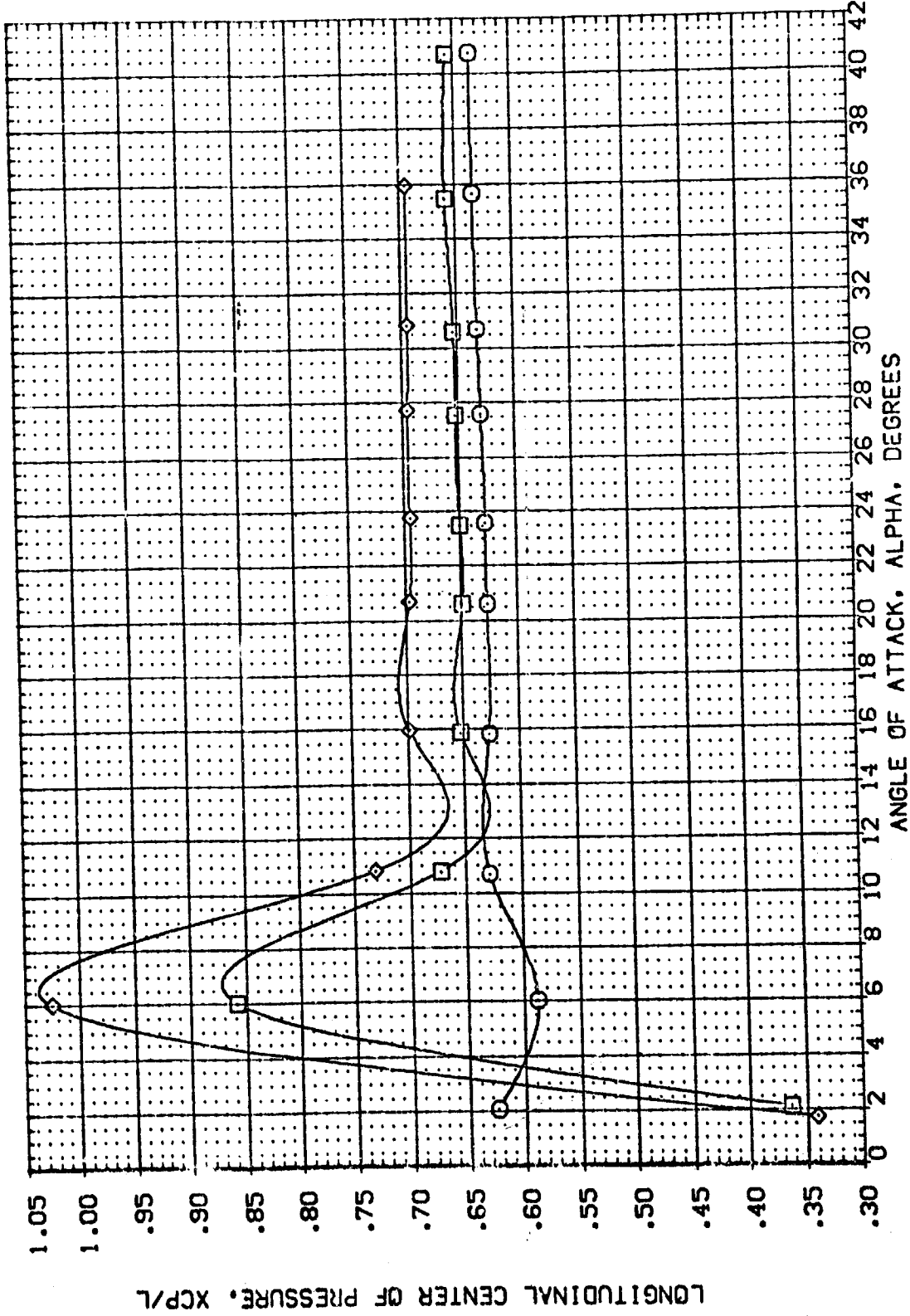


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

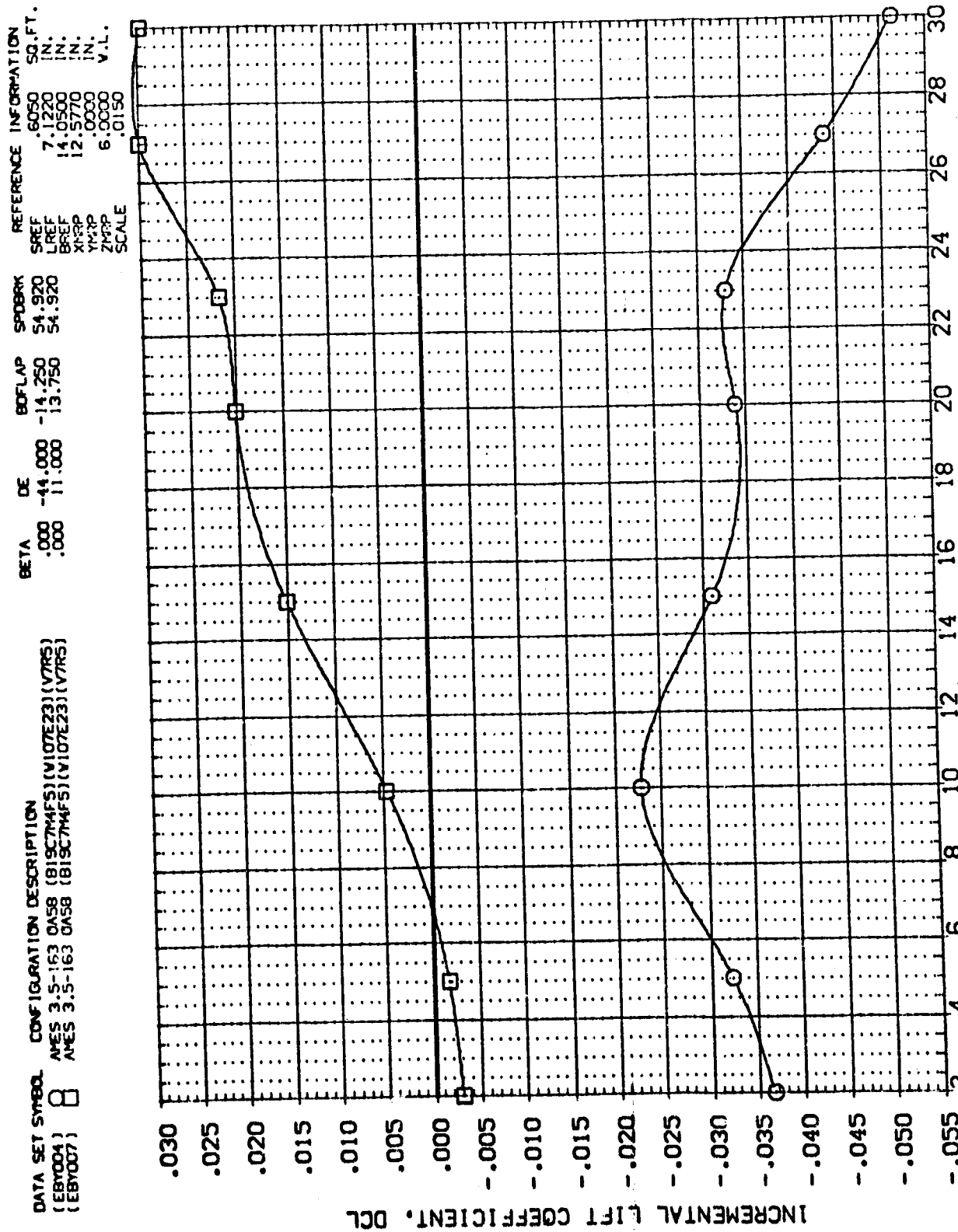


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (EBV004) 8 APES 3.5-163 CAS8 (819C7MFS)(W107E23)(VRS)
 (EBV007) APES 3.5-163 CAS8 (819C7MFS)(W107E23)(VRS)

BETA DE BOFLAP SPOBRK REFERENCE INFORMATION SO.FT.
 .000 -44.000 54.920 SREF .6050
 .000 11.000 54.920 LREF 7.122C IN.
 XMRP 14.0500 IN.
 YMRP 12.5770 IN.
 ZMRP .0000 IN.
 SCALE 6.0000 V.L.
 .0150

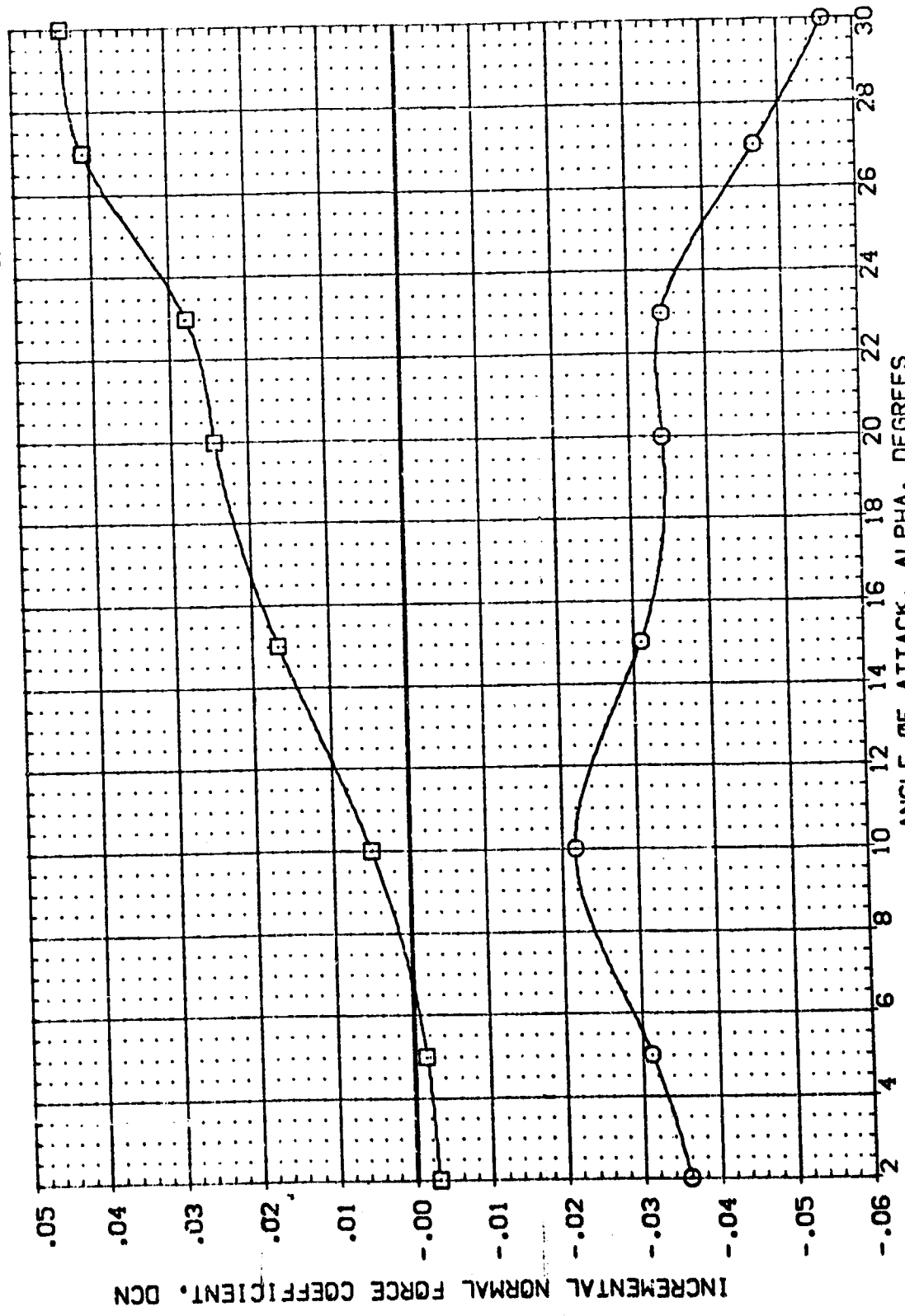


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.30

DATA SET SYMBOL: (EBY004) (EBY007) □

CONFIGURATION DESCRIPTION:
 AMES 3.5-163 OASB (B1SCTHAF3)(V107E23)(V7RS)
 AMES 3.5-163 OASB (B1SCTHAF3)(V107E23)(V7RS)

BETA DE BOFLAP SPOBRK SREF LREF BREF XMRP YMRP ZMRP SCALE

REFERENCE INFORMATION:
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

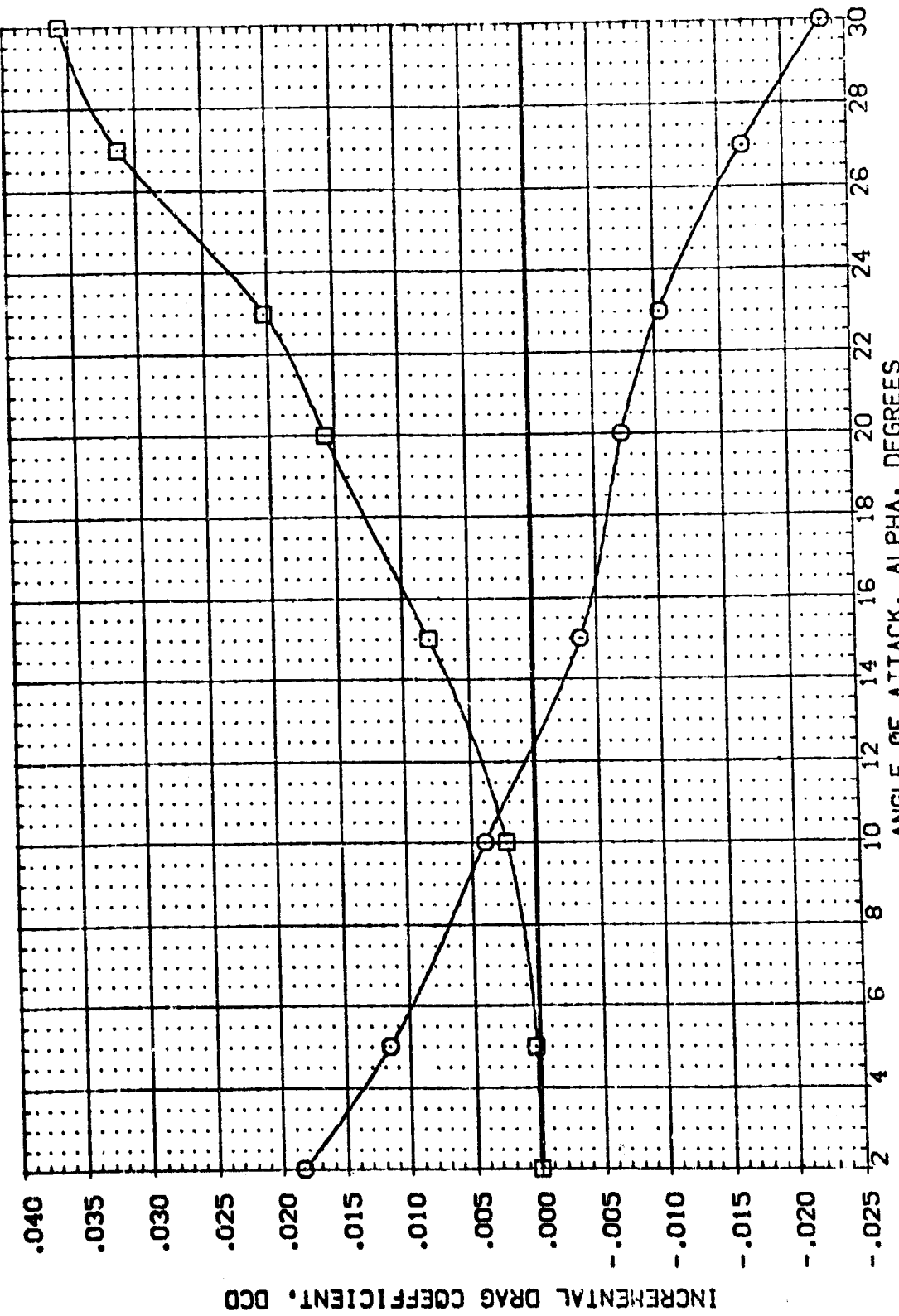


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (EBY004) (EBY007)
 CONFIGURATION DESCRIPTION AMES 3.5-163 GAS8 (B19C7M4F5)(V107E23)(V7R5)
 AMES 3.5-163 GAS8 (B19C7M4F5)(V107E23)(V7R5)
 BETA DE -41.000 -14.250 54.920 54.920
 BOFLAP -14.250 13.750
 SPOBRK 54.920 54.920
 REFERENCE INFORMATION SQ.FT.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150
 V.L.

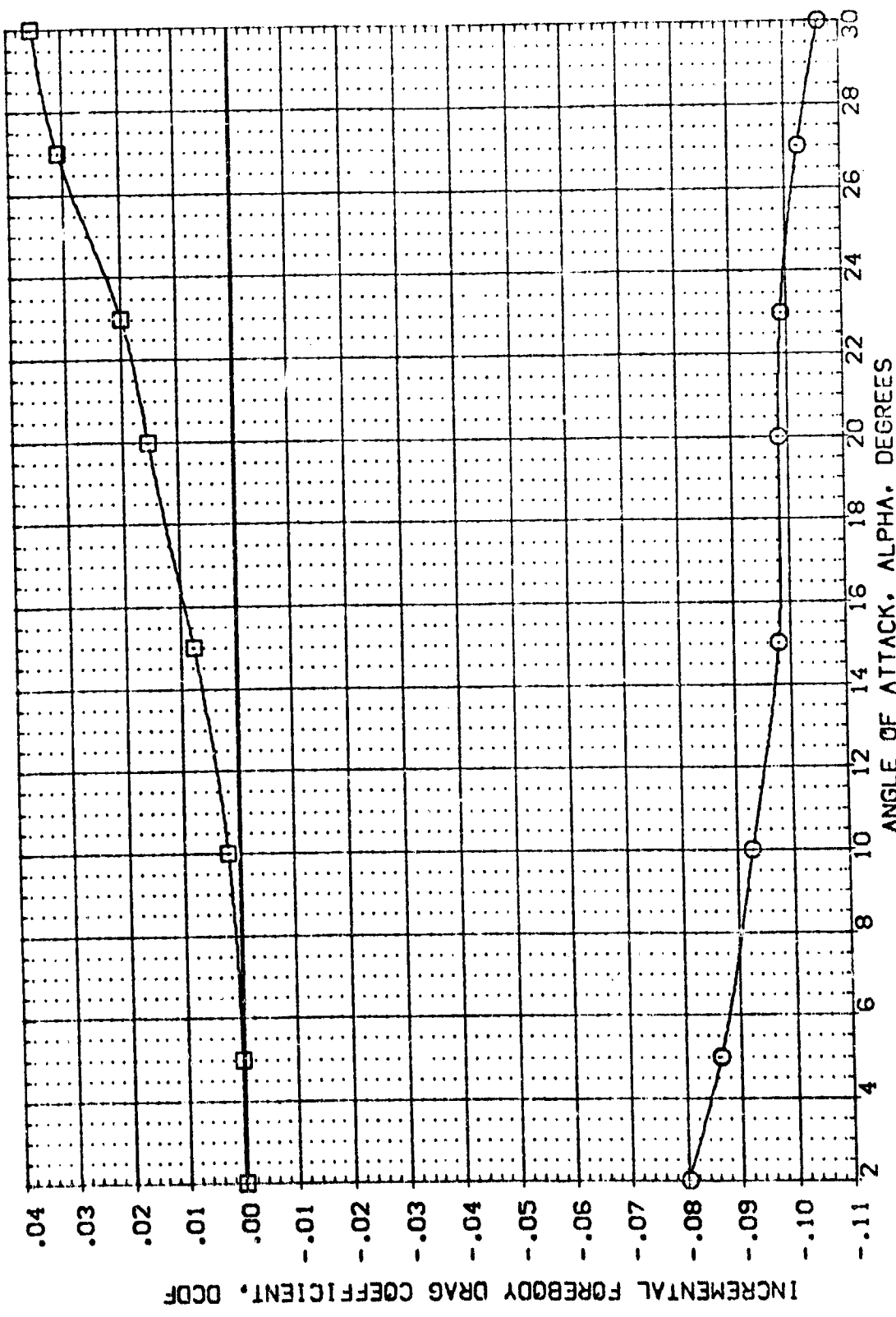


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A) MACH = 10.30

DA A SET SYMBOL (EEY004) (EEY007) □

CONFIGURATION DESCRIPTION
 ANES 3.5-163 OAS8 (B1SC7M4F5)(V107E2.3)(V7RS)
 ANES 3.5-163 OAS8 (B1SC7M4F5)(V107E.3)(V7RS)

BETA .000
 DE -41.000
 SPOBRK 54.920
 SREF 7.1220
 LREF 14.0560
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

REFERENCE INFORMATION SO.FT.
 .6050
 7.1220
 14.0560
 12.5770
 .0000
 6.0000
 .0150

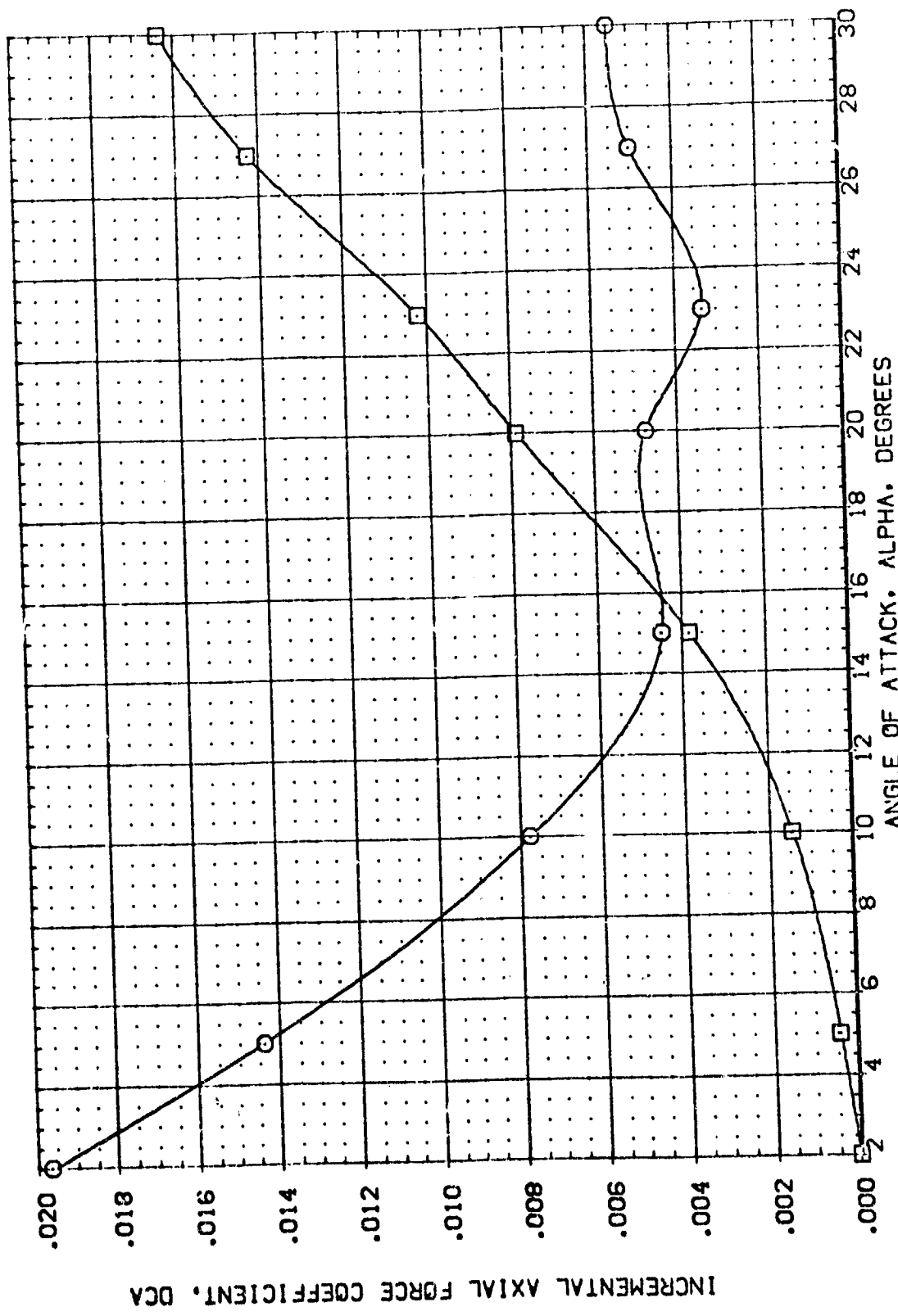


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3

DATA SET SYMBOL (EBY004) (EBY007)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

BETA .000
 DE -44.000
 BOFLAP 13.750

REFERENCE INFORMATION
 SREF 6.050 SQ.FT.
 LREF 7.122 IN.
 XREF 14.030 IN.
 YREF 12.577 IN.
 ZREF 6.030 IN.
 SCALE .0150

SPDRK 54.920
 54.920

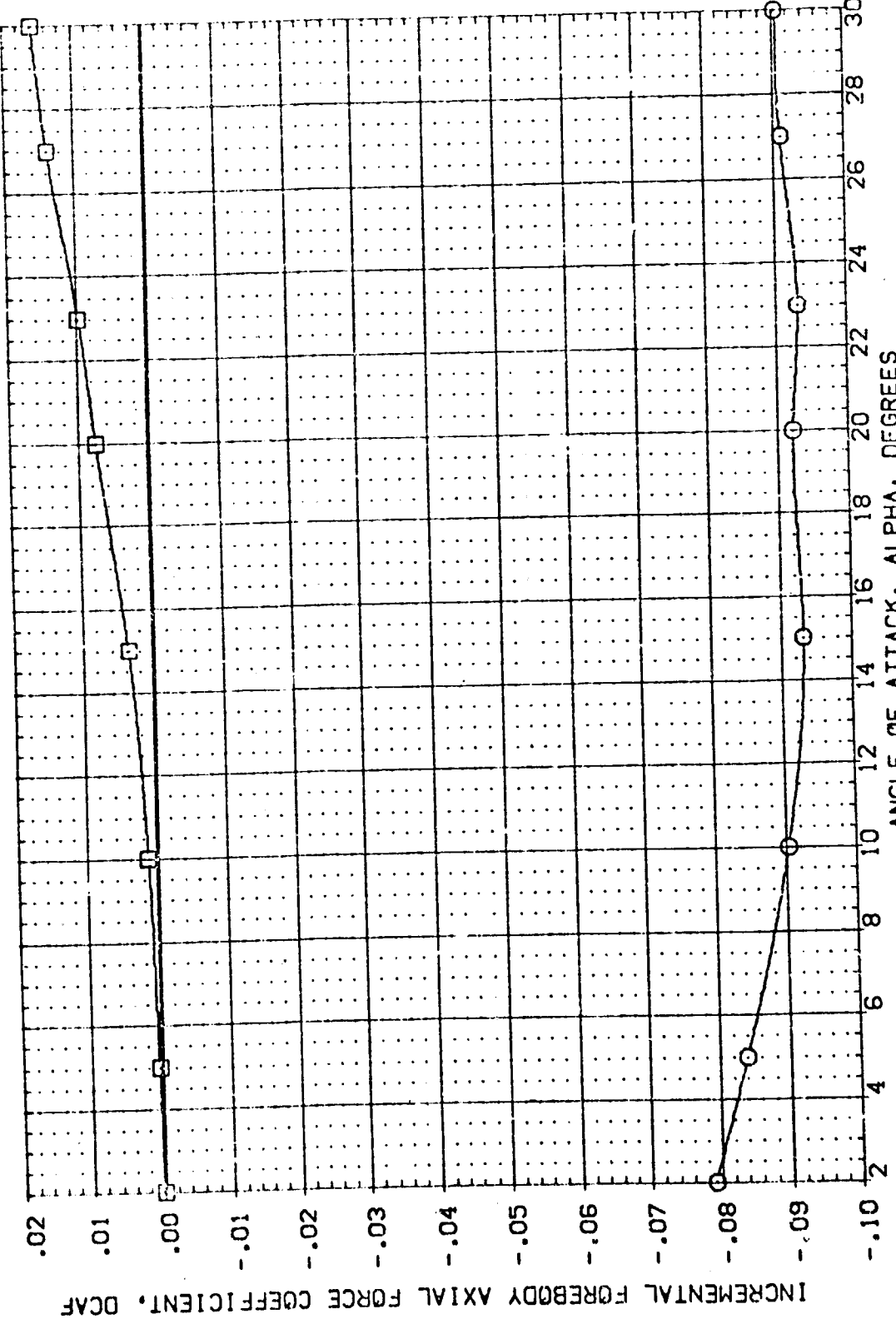


FIG. 6 CONFIGURATION -1398 ELEVON EFFECTIVENESS AT MACH 10.3

CA/MACH = 10.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	BOFLAP	SPOBRK	REFERENCE INFORMATION
(EBY004)	AMES 3.5-163 OA58 (B19C7M4F5)(V107E23)(V7R5)	.000	-44.000	-14.250	54.920	SREF .6050 SQ.FT.
(EBY007)	AMES 3.5-163 OA58 (B19C7M4F5)(V107E23)(V7R5)	.000	11.000	13.750	54.920	LREF 7.1720 IN.
						BREF 14.0500 IN.
						XMRP 12.5770 IN.
						YMRP .0000 IN.
						ZMRP 6.0000 IN.
						SCALE .0150 V.L.

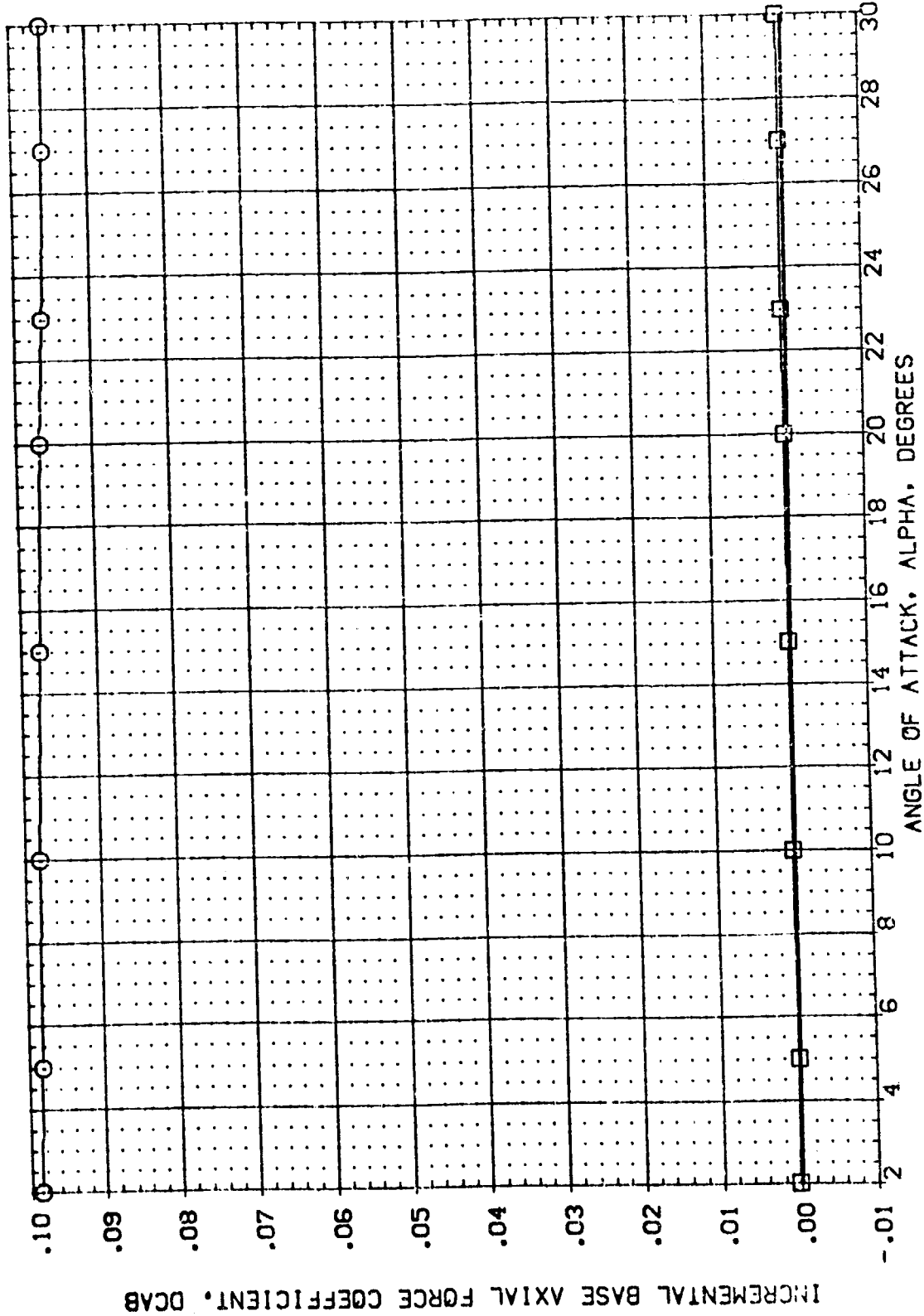


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A) MACH = 10.30

DATA SET SYMBOL (EBY004) (EBY007)

CONFIGURATION DESCRIPTION
 AYES 3.5-163 OASB (819C7M4FS)(W107E23)(V7RS)
 AYES 3.5-163 OASB (819C7M4FS)(W107E23)(V7RS)

BETA .000
 DE -14.000
 SPOBRK 54.920
 BOFLAP -14.250
 SPOBRK 54.920

REFERENCE INFORMATION
 SREF 7.1220 IN.
 LREF 14.0000 IN.
 BREF 12.5770 IN.
 XREF .0000 IN.
 YREF .0000 IN.
 ZREF .0000 IN.
 V.L. .0150

SCALE

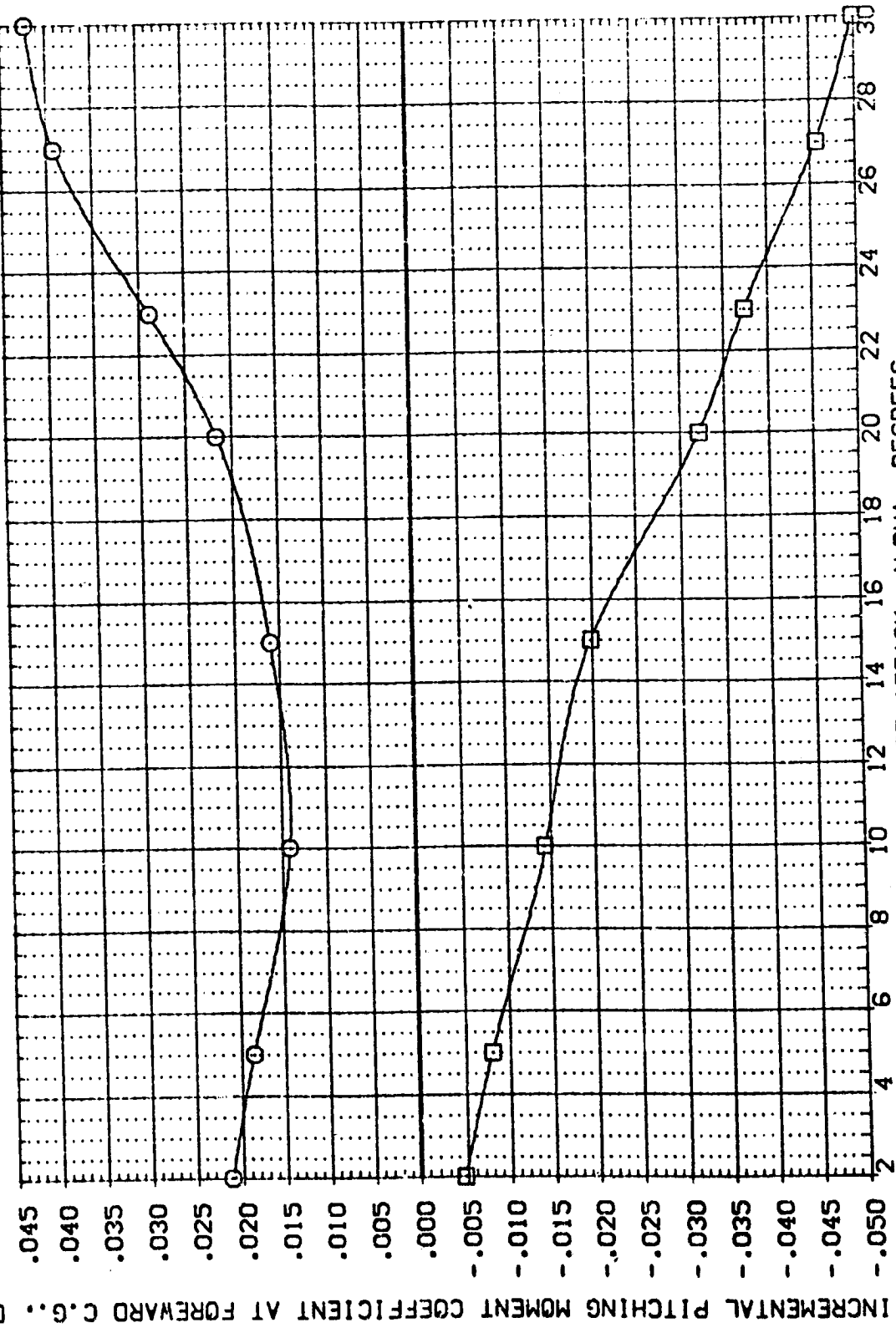


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

10

DATA SET SYMBOL: (EBYOC4) (EBYOC7)
 CONFIGURATION DESCRIPTION: AVES 3.5-163 CAS8 (B1SC7M4F5)(V107E23)(V7R5)
 AVES 3.5-163 CAS8 (B1SC7M4F5)(V107E23)(V7R5)
 BETA: .000 DE: -14.000 BOFLAP: 54.920 SPOBRK: 54.920
 .000 11.000 -13.750 54.920
 REFERENCE INFORMATION: SREF: .6050 SQ.FT.
 LREF: 7.120 IN.
 BRREF: 14.050 IN.
 XMRP: 12.570 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 V.L.
 SCALE: .0150

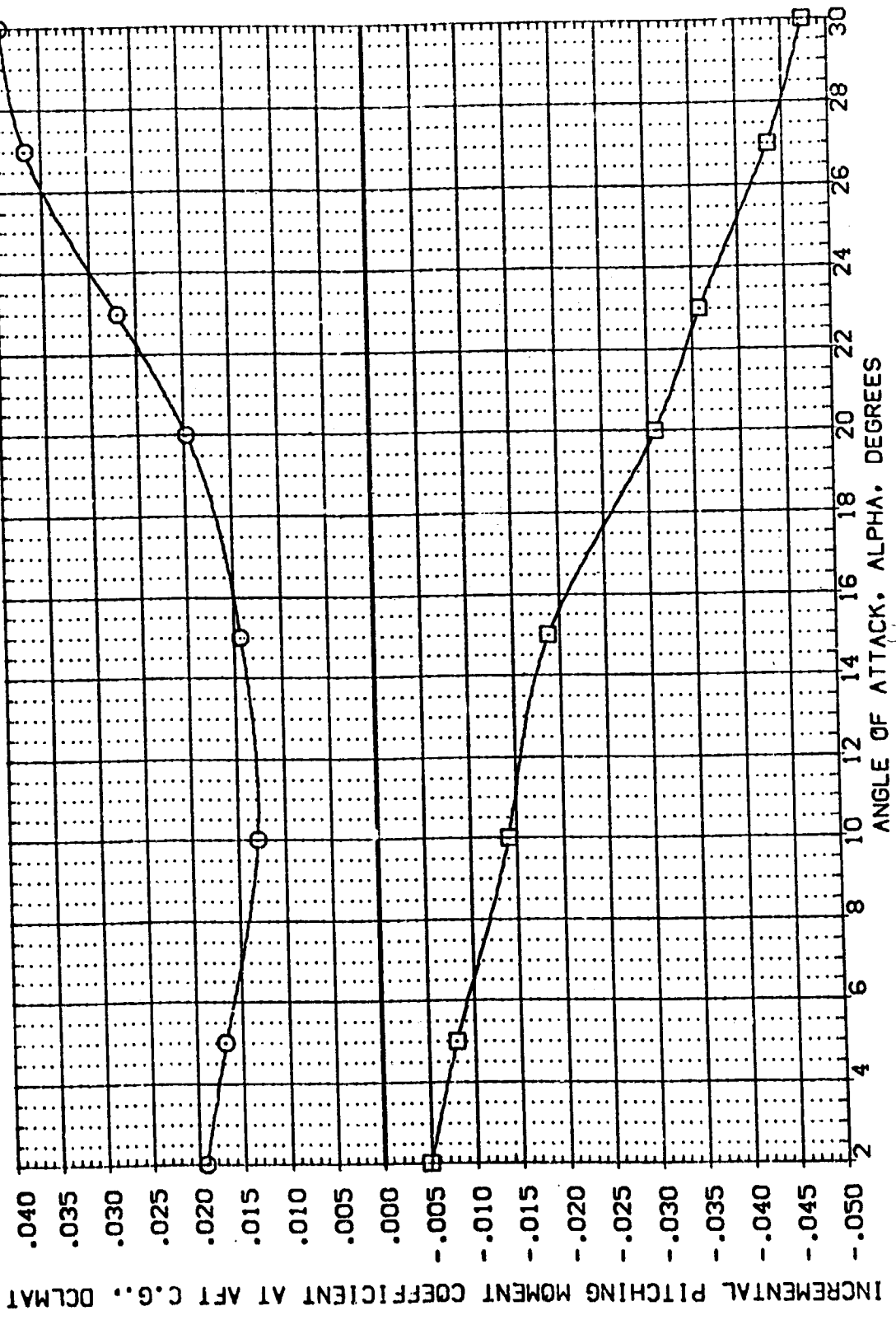


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (FBY004)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DE	DATASET	DE	REFERENCE INFORMATION
○	10.000				BETA	DE	FBY015	.000		SQ.FT.
□	20.000	10.300			SPDRK	FBY004	FBY015	.000		IN.
◇	30.000	-14.250				FBY007				IN.
		.000								IN.
										V.L.
										SCALE

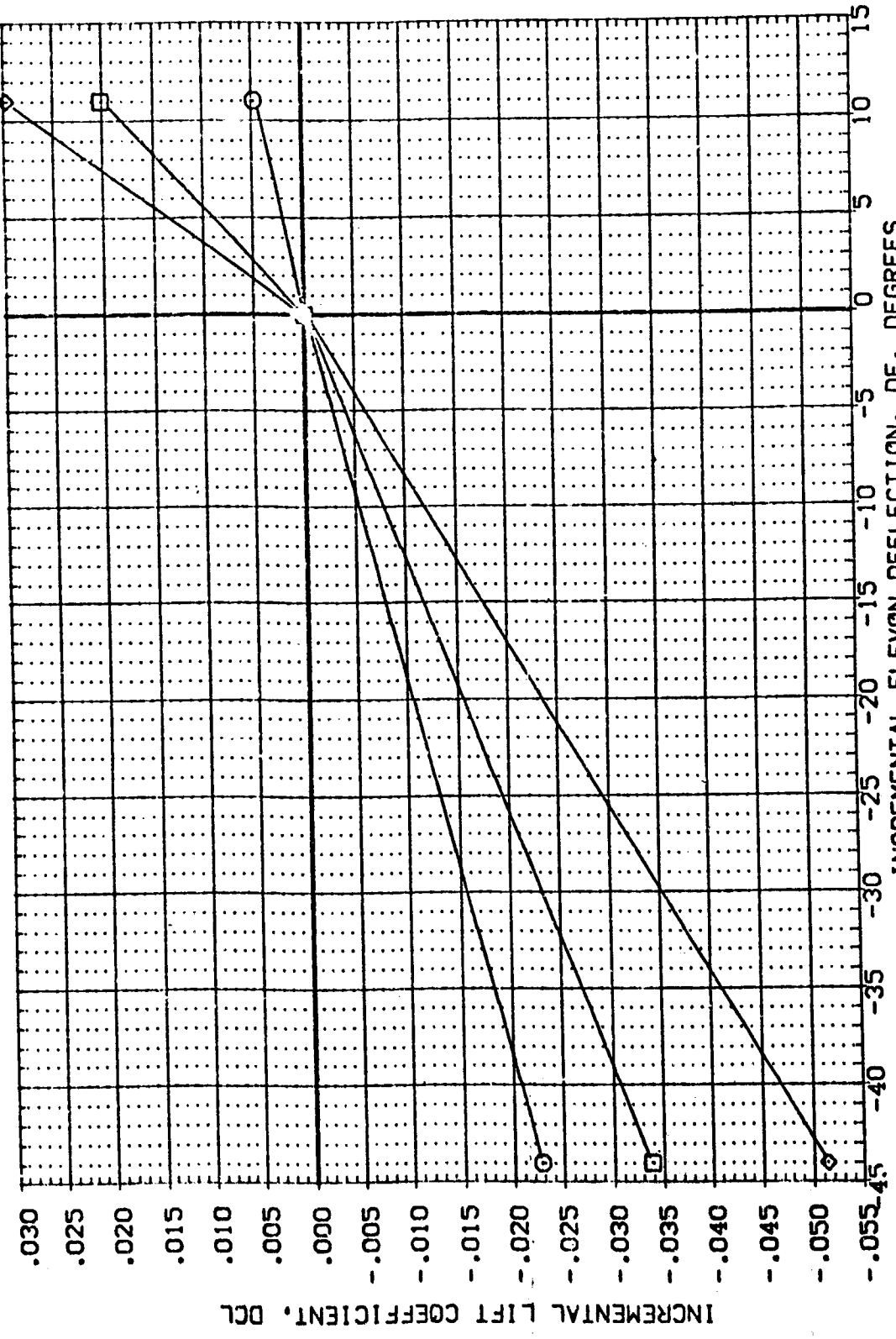


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (FBY004)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	□	ALPHA	BETA	DE	DE	SREF	SG.FT.
○	□	10.000	10.300	.000	.000	LREF	IN.
○	□	20.000	-14.250	54.920	-44.000	BREF	IN.
○	□	30.000	.000	FBY004	FBY007	XMRP	IN.
○	□					ZMRP	IN.
○	□					SCALE	V.L.
○	□						.6050
○	□						7.1220
○	□						14.0500
○	□						12.5770
○	□						.0000
○	□						6.0000
○	□						.0150

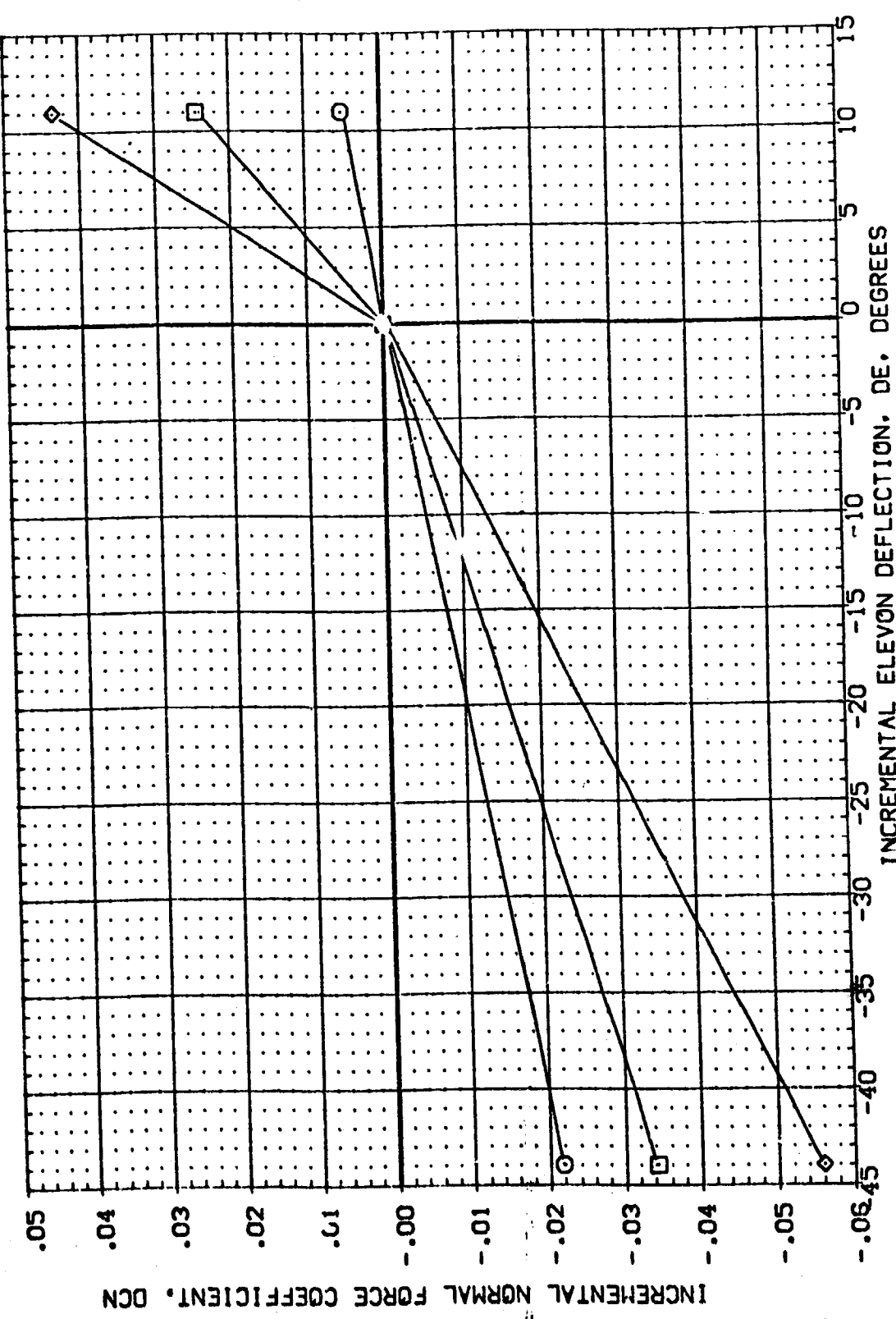


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (FBY004)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
○	ALPHA	10.000	MACH	.000	FBY015	SREF	.6050
□	SOFLAP	-14.250	BETA	-44.000	FBY015	LREF	7.1220
◇	RUDDER	.000	SPOBRK	11.000	FBY007	BREF	14.0500
						XMRP	12.5770
						YMRP	6.0000
						ZMRP	6.0000
						SCALE	.0150
							SO, FT.
							IN.
							IN.
							IN.
							V.L.

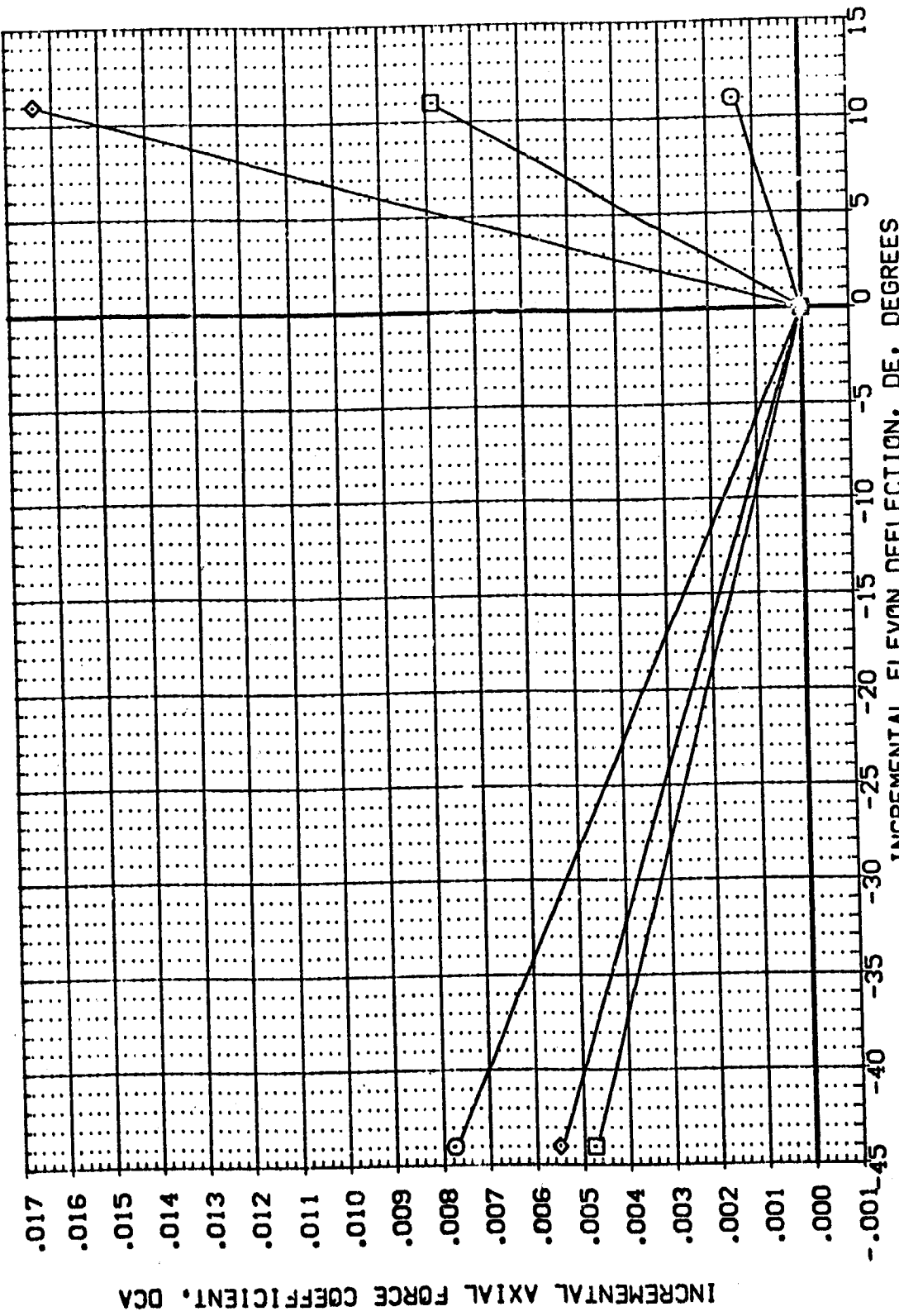


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (FBY004)

REFERENCE INFORMATION

SQ.FT.	6050
IN.	7.1220
IN.	14.0500
IN.	12.5770
IN.	.0000
V.L.	6.0000
SCALE	.0150

DATA SOURCE

DE	.000
FBY015	
DE	-44.000
FBY007	11.000

PARAMETRIC VALUES

BETA	10.300
SPOBRK	-14.250
DE	.000
FBY004	54.920
FBY007	

MACH

10.000	
20.000	
30.000	

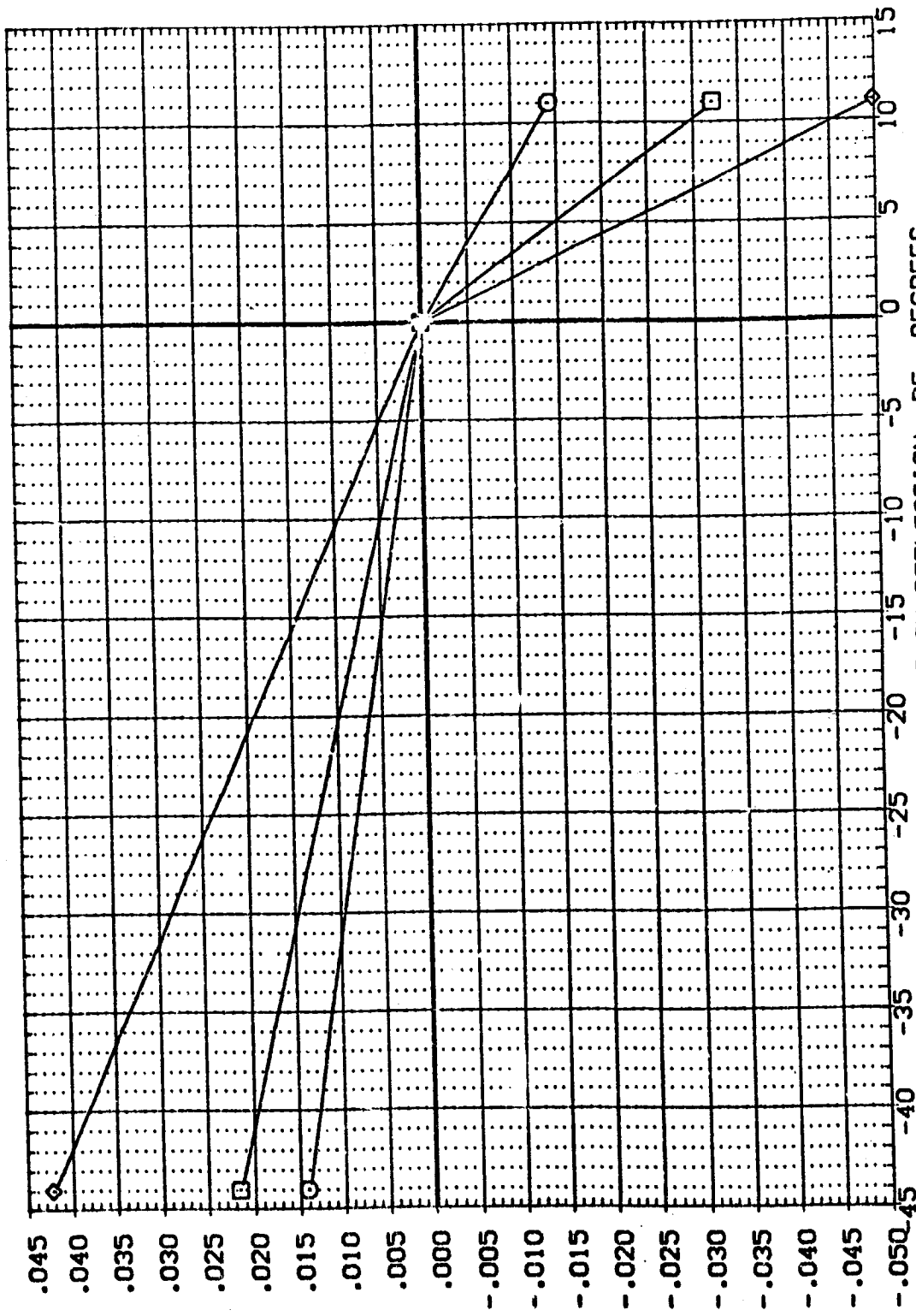
BOFLAP

RUDDER

SYMBOL

-
-
- ◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (FBY004)

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.120
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

DATA SOURCE DATASET DE
 FBY015 .000

DATASET DE
 FBY004 -44.000
 FBY007 -11.000

PARAMETRIC VALUES
 BETA 10.300
 SPOBRK -14.250
 .000

MACH 30.000
 BDFLAP 20.000
 RUDDER 30.000

SYMBOL
 ○ □ ◇

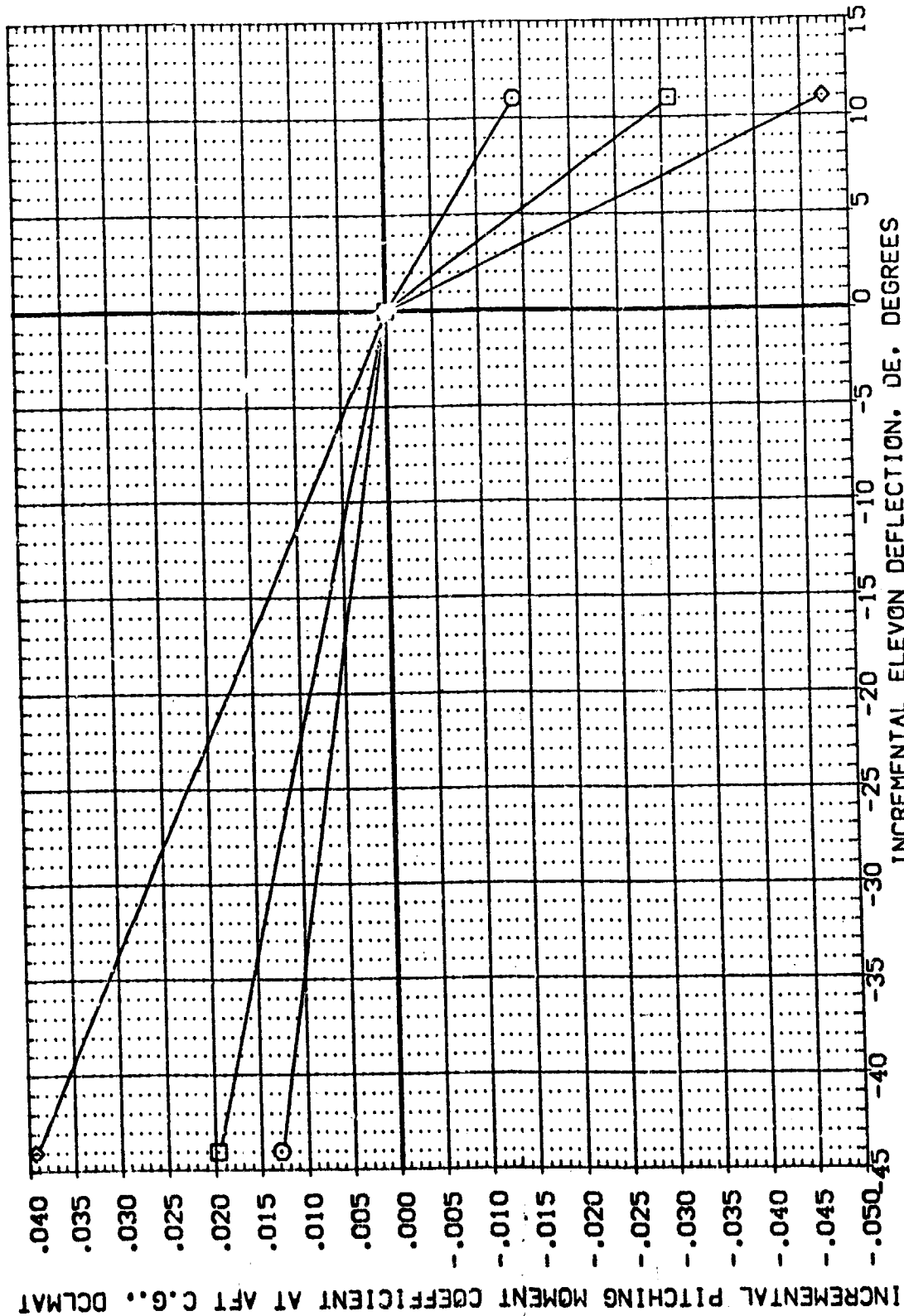


FIG. 6 CONFIGURATION -139B ELEVON EFFECTIVENESS AT MACH 10.3

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SFOBRK	REFERENCE INFORMATION	SQ.FT.
(BY002)	AVES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	14.250	54.920	SREF	.6050
(BY001)	AVES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF	7.1200
(BY011)	AVES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	.000	54.920	BREF	14.0500
(BY009)	AVES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	.000	54.920	XMRP	12.5770
(BY014)	AVES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	13.750	54.920	YMRP	.0000
(BY012)	AVES 3.5-163 CAS8 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	13.750	54.920	ZMRP	.0000
						SCALE	.0150

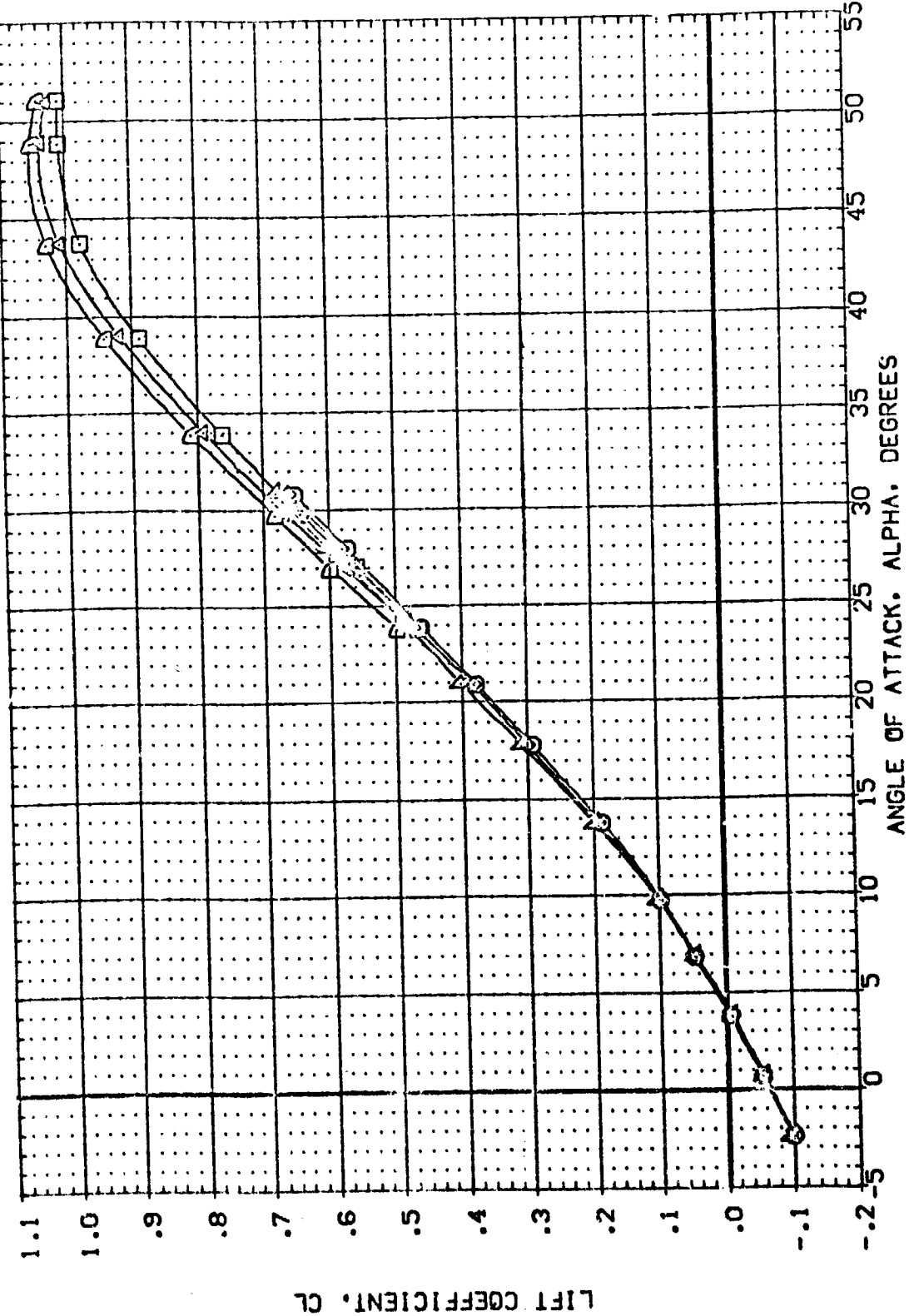


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A) MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(KBY002)	AVES 3-5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	SREF .6050 SO.FT.
(KBY001)	AVES 3-5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBY011)	AVES 3-5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	.000	54.920	BRFREF 14.0500 IN.
(BBY009)	AVES 3-5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	.000	54.920	XMRP 12.5770 IN.
(BBY014)	AVES 3-5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	13.750	54.920	YMRP 6.0000 IN.
(BBY012)	AVES 3-5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)	.000	.000	13.750	54.920	ZMRP 6.0000 V.
						SCALE .0150

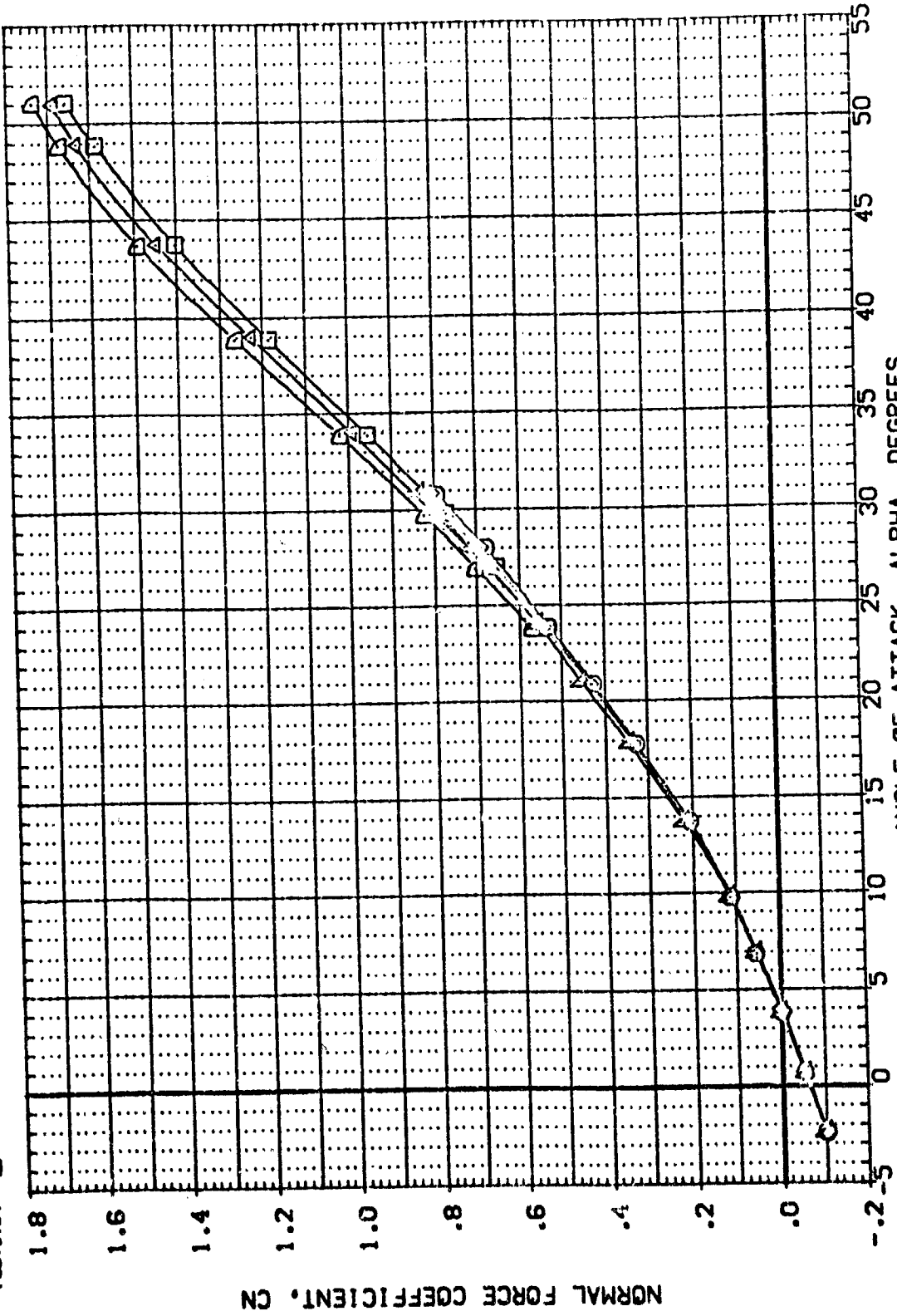


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION	SC.FT.
(K9V002)	AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	SREF	6050
(K9V001)	AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF	7.1220
(B3V011)	AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	RREF	14.0590
(B3V009)	AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	XMRP	12.5770
(B3V014)	AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	YMRP	.0000
(B3V012)	AVES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	ZMRP	6.0020
						SCALE	.0153

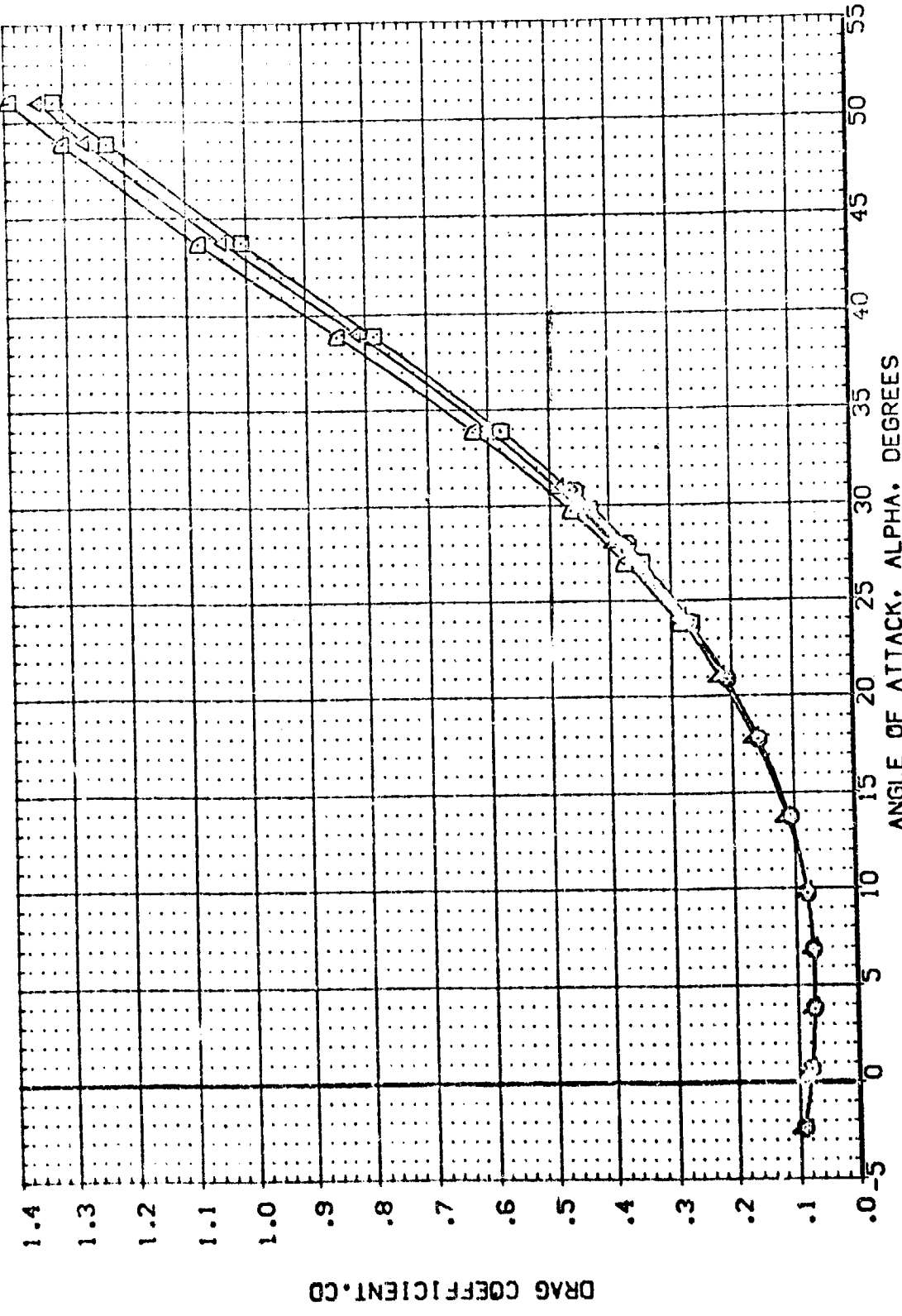


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3
 (MACH = 7.32)

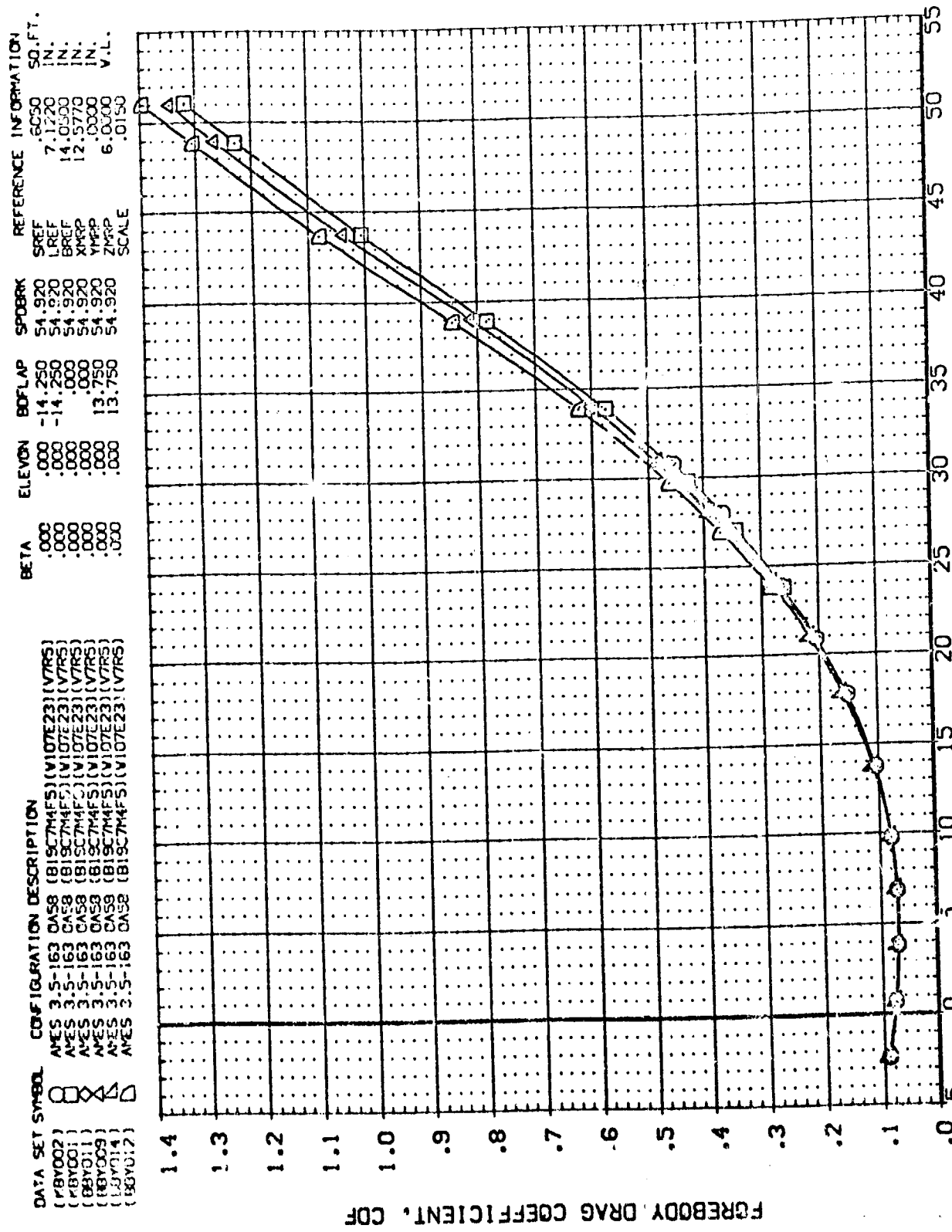


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	EDFLAP	SPOGSK	REFERENCE INFORMATION
(MBY002)	AMES 3.5-163 CAS9 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	SCIT
(MBY001)	AMES 3.5-163 CAS9 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	-14.250	54.920	LMAP
(BAY011)	AMES 3.5-163 CAS9 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	.000	54.920	XMAP
(BAY009)	AMES 3.5-163 CAS9 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	13.750	54.920	YMAP
(BAY014)	AMES 3.5-163 CAS9 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	13.750	54.920	ZMAP
(BAY012)	AMES 3.5-163 CAS9 (B19C7M4F5)(V107E23)(V7R5)	.000	.000	.000	54.920	SUM

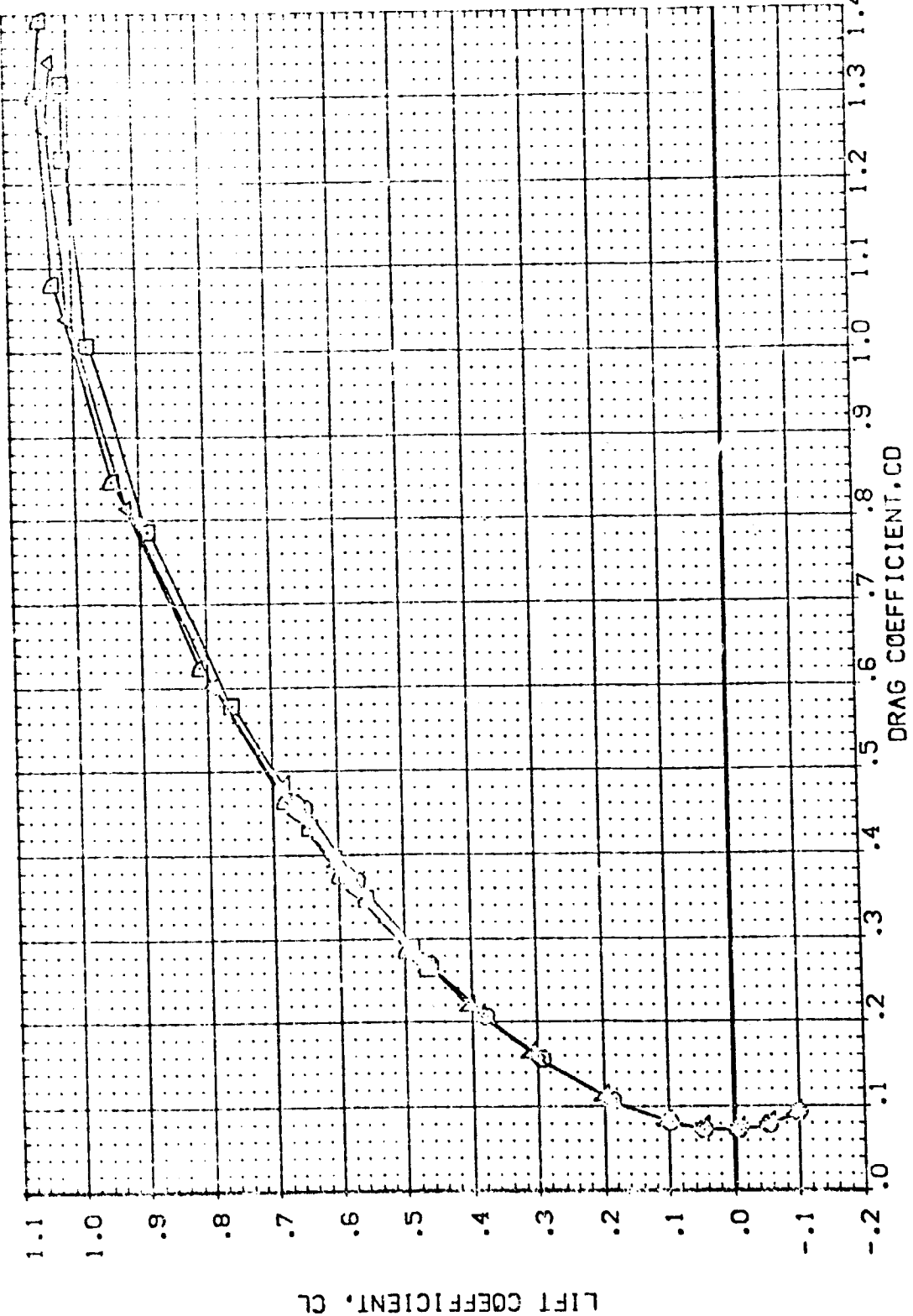


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOILER	REFERENCE INFORMATION
(KBY002)	AVES 3-5-163 CAS8 (B19C7M4FS)(W107E23)(VTRS)	.000	.000	-14.250	S1.920	6053 SQ.FT.
(KBY001)	AVES 3-5-163 CAS3 (B19C7M4FS)(W107E23)(VTRS)	.000	.000	-14.000	S4.920	7.1723 IN.
(B3Y011)	AVES 3-5-163 CAS3 (B19C7M4FS)(W107E23)(VTRS)	.000	.000	.000	S4.920	14.0000 IN.
(B3Y009)	AVES 3-5-163 CAS8 (B19C7M4FS)(W107E23)(VTRS)	.000	.000	.000	S4.920	12.5773 IN.
(B3Y014)	AVES 3-5-163 CAS8 (B19C7M4FS)(W107E23)(VTRS)	.000	.000	13.750	S4.920	.0000 IN.
(B3Y012)	AVES 3-5-163 CAS8 (B19C7M4FS)(W107E23)(VTRS)	.000	.000	13.750	S4.920	6.0000 V.L.
						SCALE

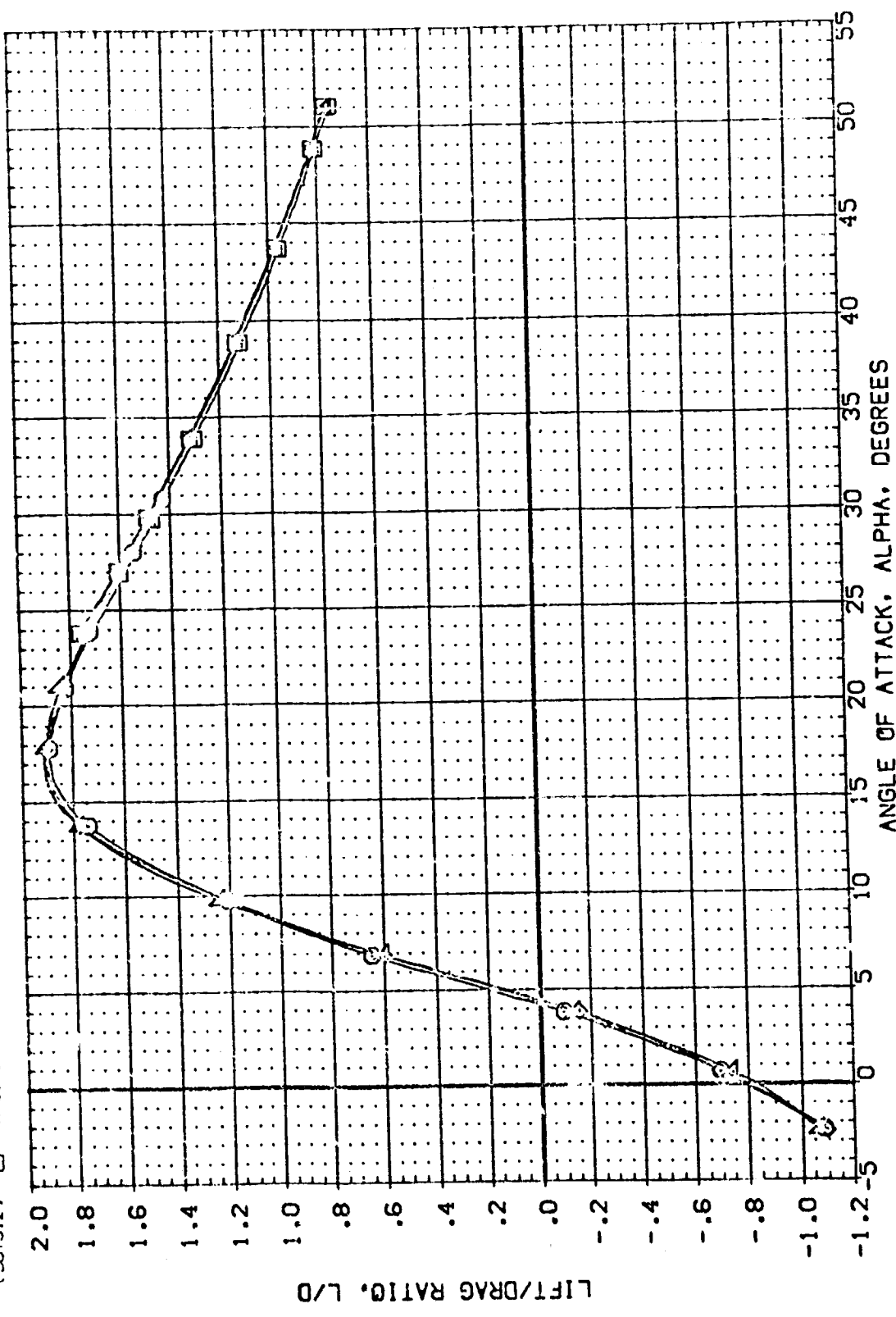


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(KBYOC2) AXES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7R5)

(KBYOC1) AXES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7R5)

(B3YU11) AXES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7R5)

(B3YOC9) AXES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7R5)

(B3YOC14) AXES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7R5)

(B3YOC12) AXES 3.5-163 CAS8 (B19C7M4F5)(W107E23)(V7R5)

BETA ELEVON SOFLAP SPOUSRK REFERENCE INFORMATION

.000 .000 -14.250 54.920 SREF IS050

.000 .000 -14.250 54.920 LREF 7.1725

.000 .000 .000 54.920 BREF 14.0000

.000 .000 .000 54.920 XMRP 12.0770

.000 .000 13.750 54.920 YMRP .0000

.000 .000 13.750 54.920 ZMRP 0.0000

.500 .000 .000 54.920 SCALE 0.0100

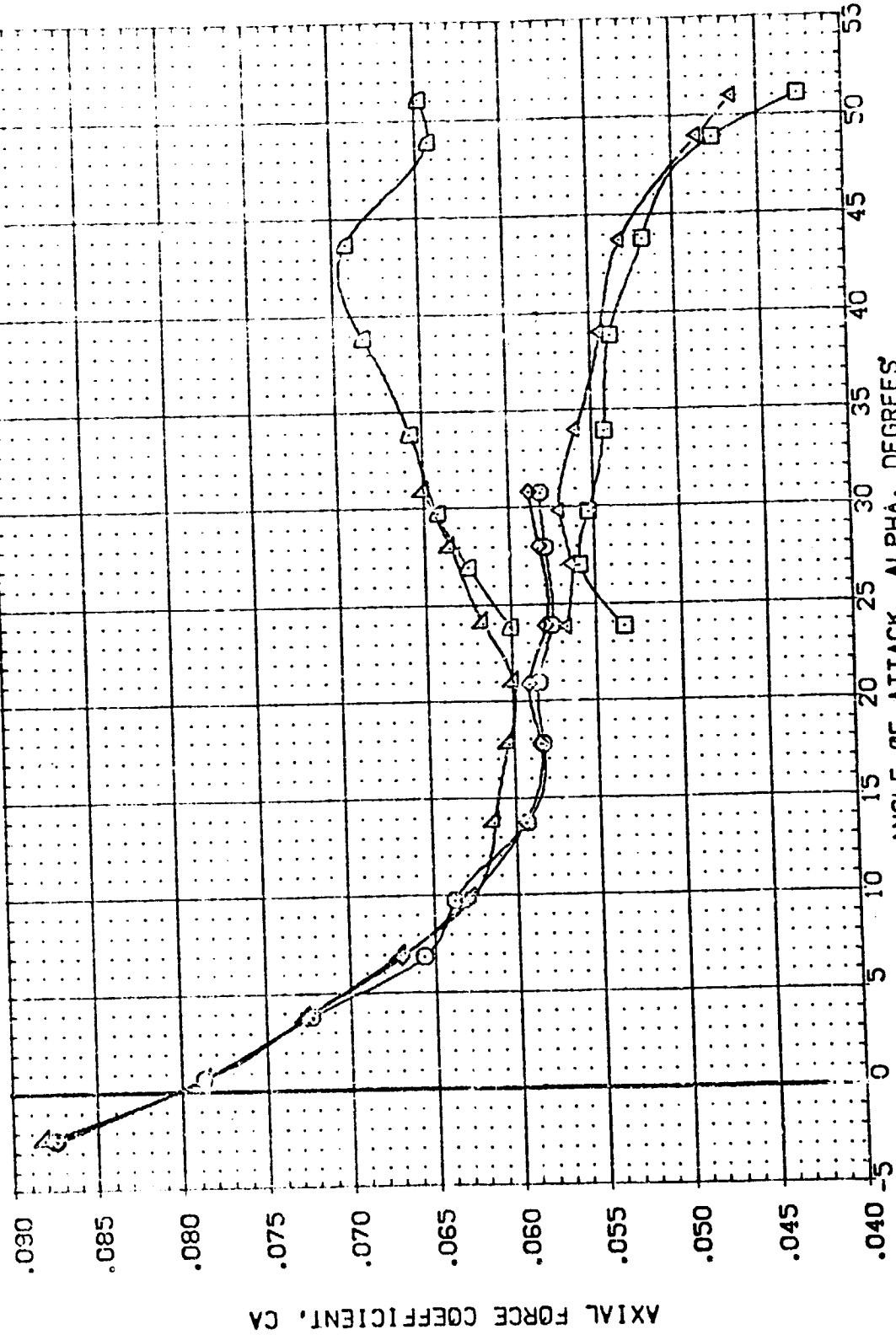


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.32

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(KBV002)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	SREF .6050 SQ.FT.
(KBV001)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBV011)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	BREF 14.0500 IN.
(BBV009)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	XTRP 12.5770 IN.
(BBV014)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	YTRP 6.0000 IN.
(BBV012)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	ZTRP 6.0000 V.L.
						SCALE .0150

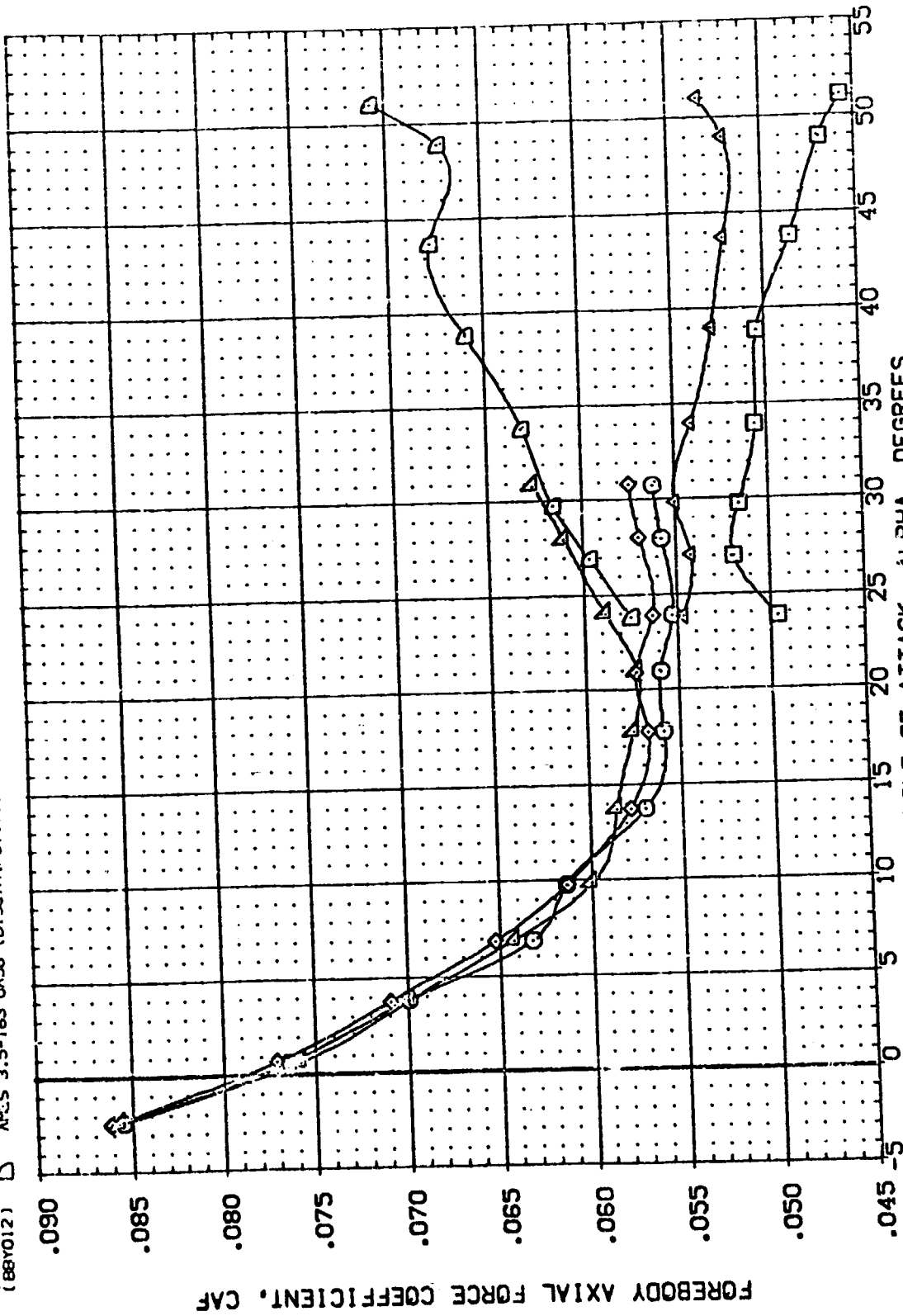


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

DATA SET SYMBOL CONFIGURATION DESCRIPTION BETA ELEVON BOFLAP SPOBRK REFERENCE INFORMATION

(28Y002) AMES 3.5-163 CAS8 (819C7M4F5)(V107E23)(V7RS) .000 .000 -14.250 54.920 00000 7.1250 50.000

(28Y001) AMES 3.5-163 CAS8 (819C7M4F5)(V107E23)(V7RS) .000 .000 -14.250 54.920 00000 7.1250 50.000

(28Y011) AMES 3.5-163 CAS8 (819C7M4F5)(V107E23)(V7RS) .000 .000 -14.250 54.920 00000 7.1250 50.000

(28Y009) AMES 3.5-163 CAS8 (819C7M4F5)(V107E23)(V7RS) .000 .000 -14.250 54.920 00000 7.1250 50.000

(28Y014) AMES 3.5-163 CAS8 (819C7M4F5)(V107E23)(V7RS) .000 .000 -14.250 54.920 00000 7.1250 50.000

(28Y012) AMES 3.5-163 CAS8 (819C7M4F5)(V107E23)(V7RS) .000 .000 -14.250 54.920 00000 7.1250 50.000

REFERENCE INFORMATION

SREF 54.920 SQ.FT.

LREF 7.1250 IN.

BREF 4.0500 IN.

XMAP 12.5770 IN.

YMAP 6.0000 IN.

ZMAP 6.0000 IN.

SCALE 1.5150

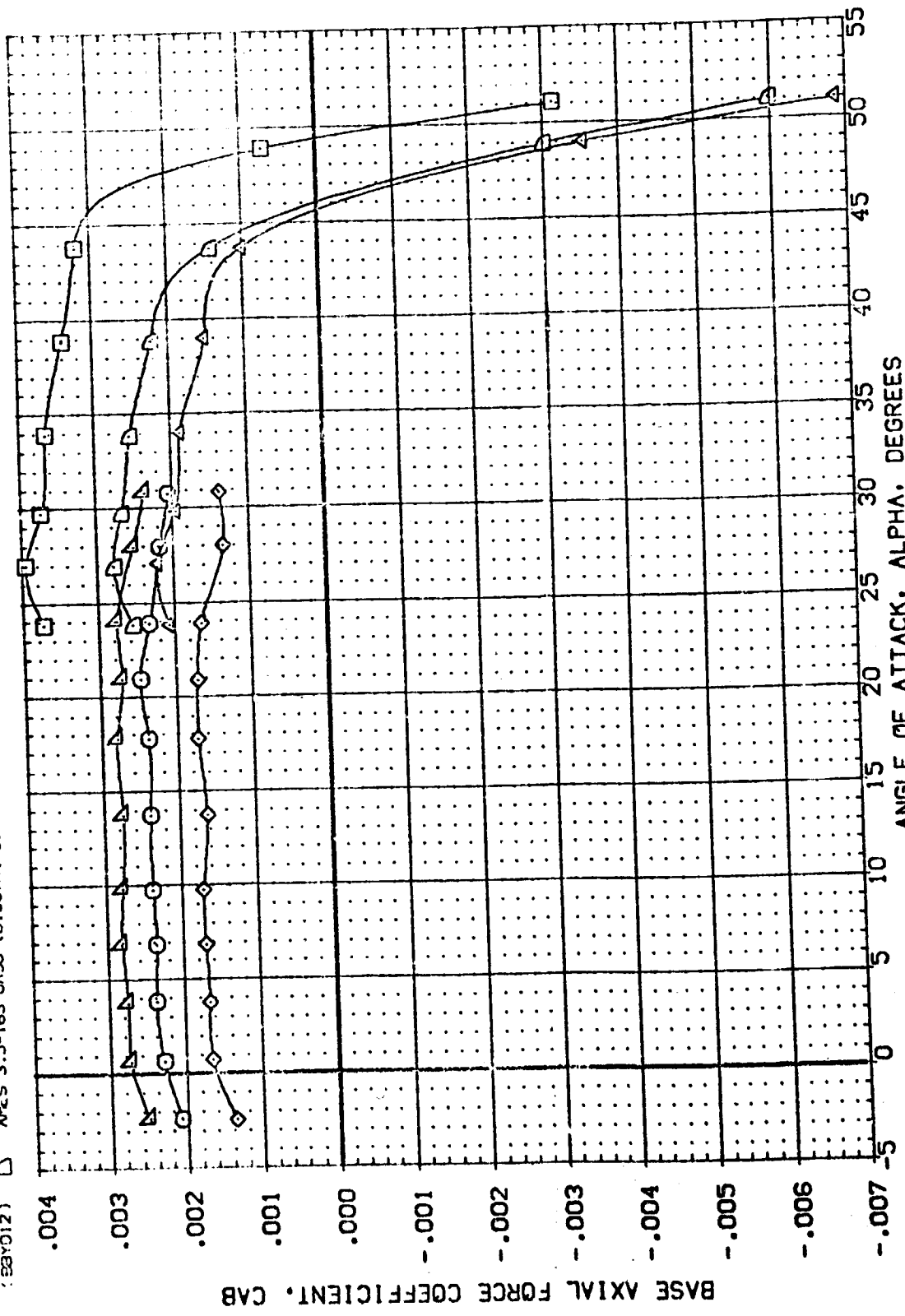


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPDRK	REFERENCE INFORMATION
(KBV002)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	SREF 7.6050 SO.FT.
(KBV001)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LALF 7.1220 IN.
(BBV011)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	BREF 14.0500 IN.
(BBV009)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	YMRP 12.5770 IN.
(BBV014)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	ZMRP 6.0000 V.L.
(BBV012)	AVES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	SCALE 6.0150

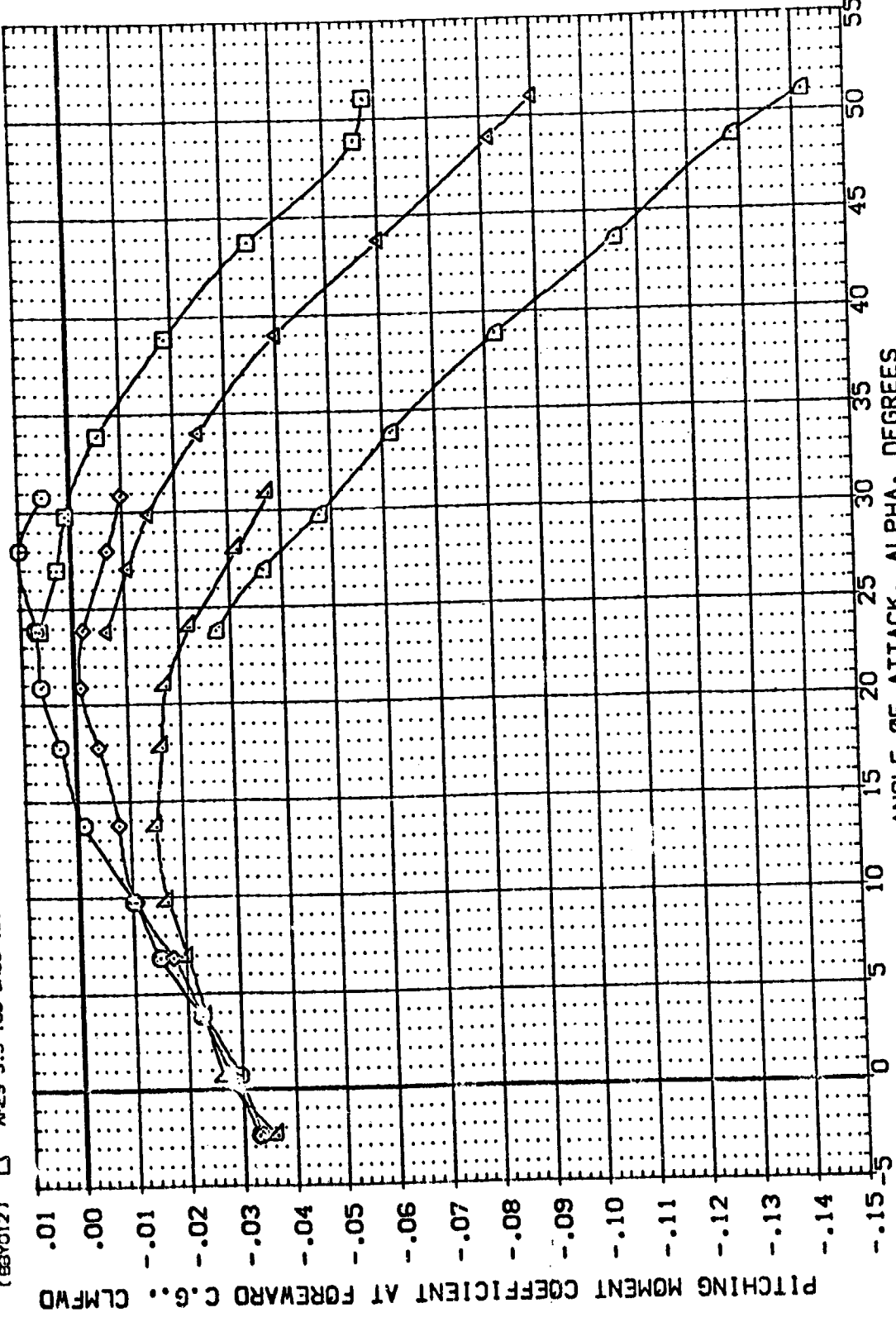


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.32

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(KBY002)	AVES 3.5-163 0A58 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	.6050
(KBY001)	AVES 3.5-163 0A58 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	-14.250	54.920	7.1220
(E3Y011)	AVES 3.5-163 0A58 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	.000	54.920	14.0700
(E3Y009)	AVES 3.5-163 0A58 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	.000	54.920	12.5770
(E3Y014)	AVES 3.5-163 0A58 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	13.750	54.920	6.0000
(E3Y012)	AVES 3.5-163 0A58 (B1SC7M4FS)(V107E23)(V7RS)	.000	.000	13.750	54.920	6.0000
						SCALE

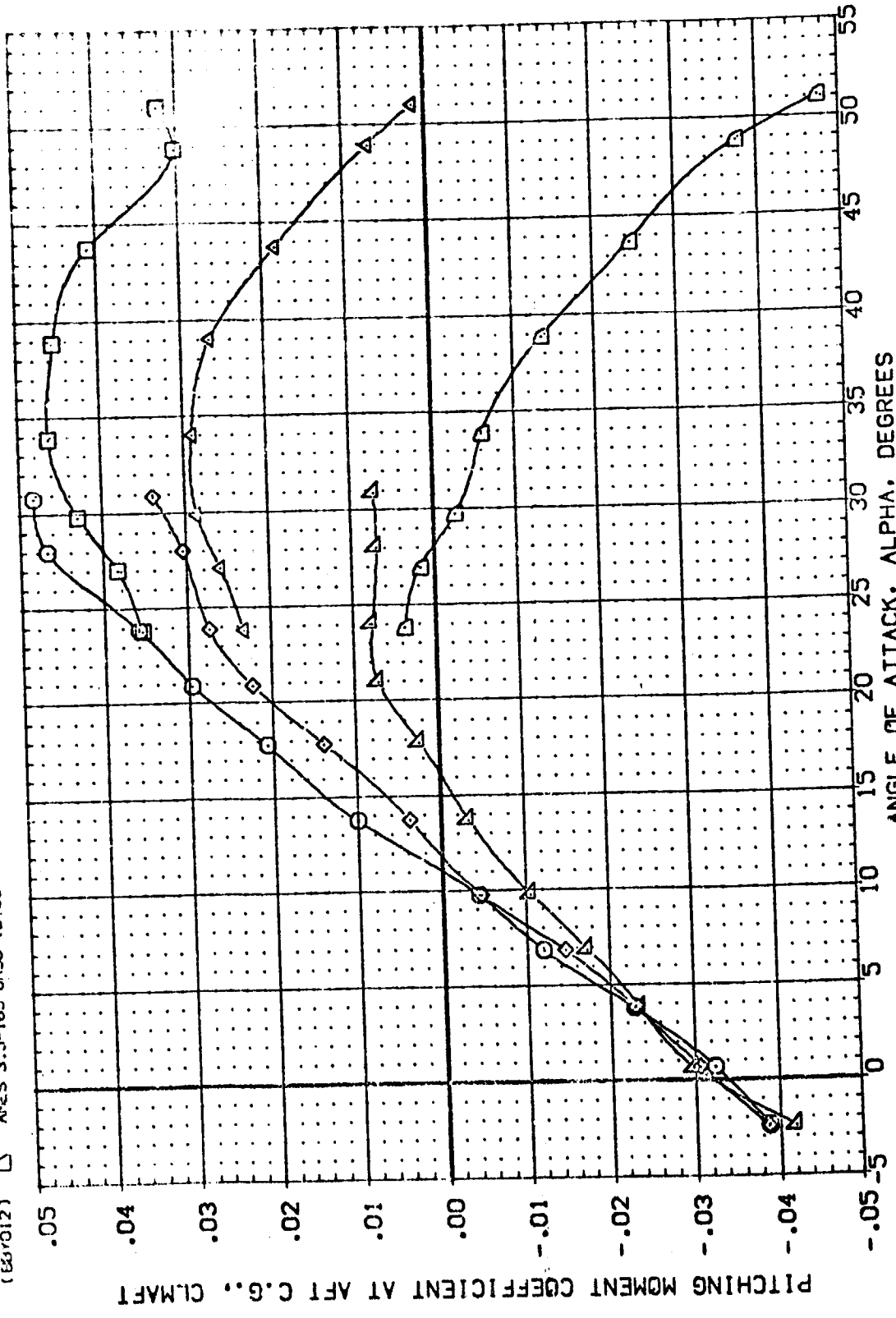


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

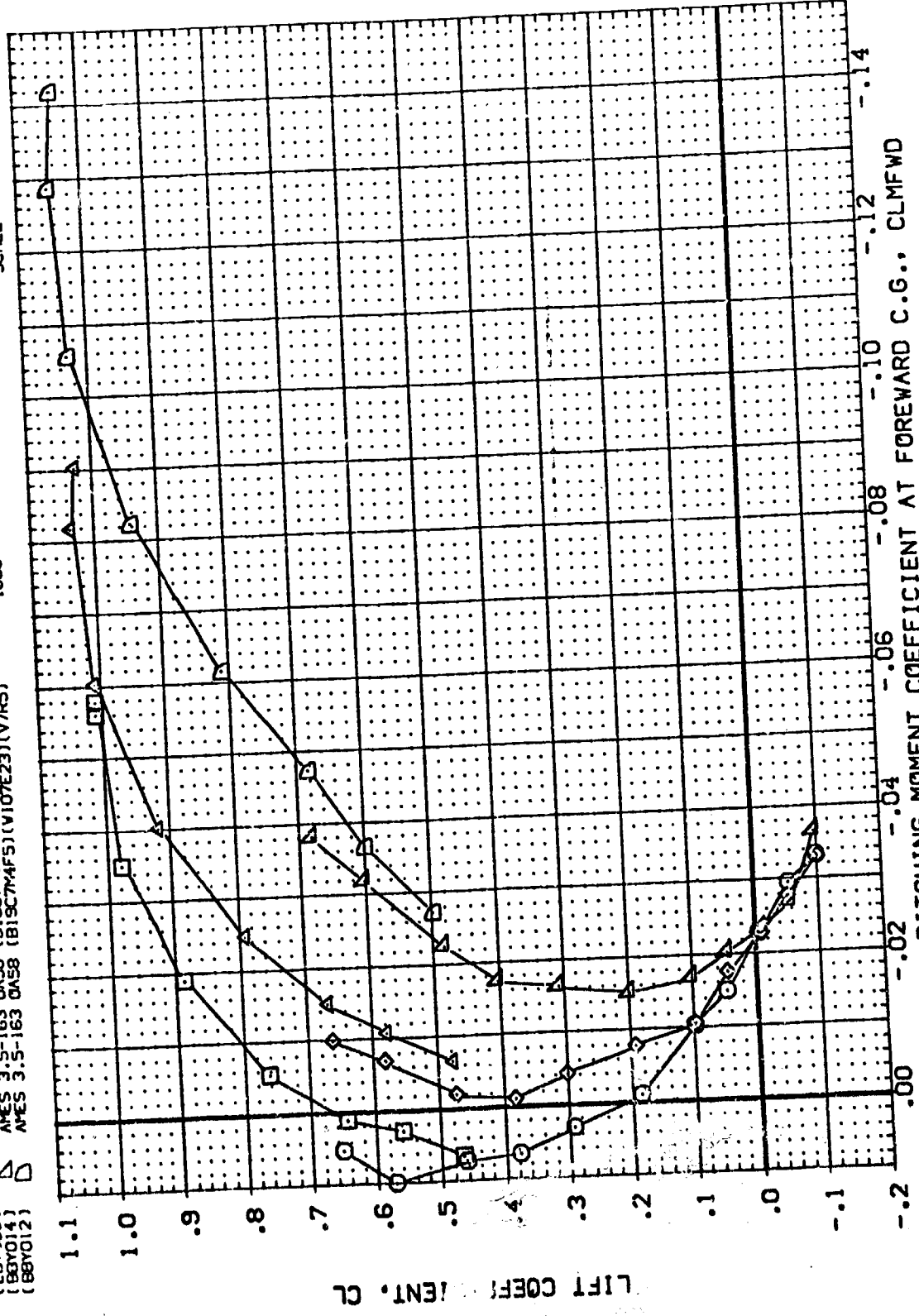
(MACH = 7.32)

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. 6.0150
 SCALE

DATA SET SYMBOL
 (KBY002) □
 (KBY001) ○
 (BBY011) ◇
 (BBY009) △
 (BBY014) ▲
 (BBY012) ▽

CONFIGURATION DESCRIPTION
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)
 AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)

BETA .000
 ELEVON .000
 BOFLAP -14.250
 SPOBRK 54.920



PITCHING MOMENT COEFFICIENT AT FORWARD C.G., CLMFW

FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBO.	CONFIGURATION DESCRIPTION	BETA	ELEVATION	BOFLAP	SPOBRK	REFERENCE INFORMATION
(KBY022)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	SREF .6050 SQ.FT.
(P3V001)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(B3V011)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	BREF 14.0530 IN.
(B3V009)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	.000	54.920	XMPD 12.5770 IN.
(B3V014)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	YMPD 6.0700 IN.
(B3V012)	AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7RS)	.000	.000	13.750	54.920	ZMPD 6.0700 IN.
						SCALE .0113

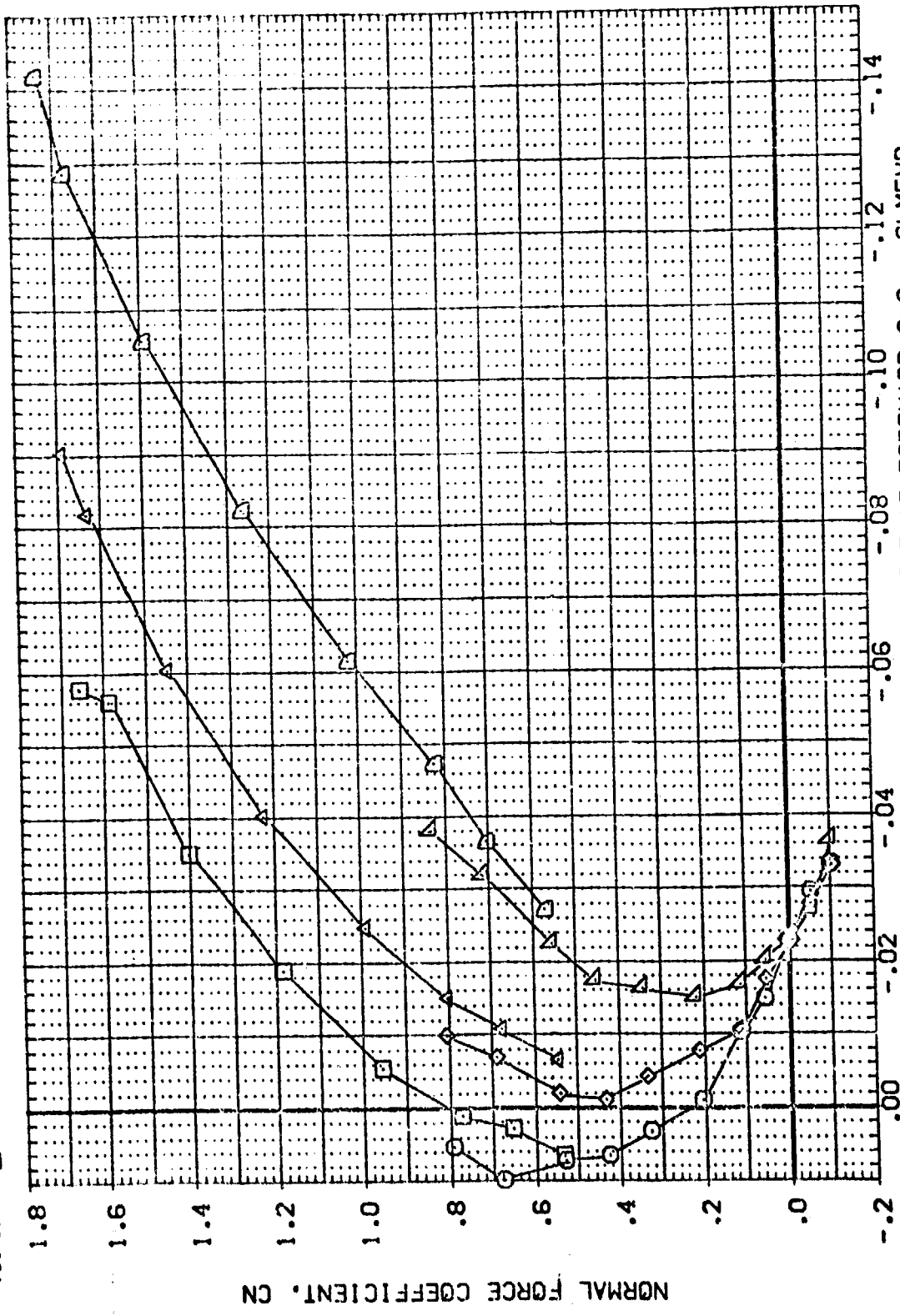


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL: (RBY02), (RBY01), (RBY011), (RBY009), (RBY014), (RBY012)

CONFIGURATION DESCRIPTION: AMES 3.5-163 OASB (B19C7M4F5) (W107E23) (V7RS), AMES 3.5-163 OASB (B19C7M4F5) (W107E23) (V7RS), AMES 3.5-163 OASB (B19C7M4F5) (W107E23) (V7RS), AMES 3.5-163 OASB (B19C7M4F5) (W107E23) (V7RS), AMES 3.5-163 OASB (B19C7M4F5) (W107E23) (V7RS)

BETA: .000, .000, .000, .000, .000

ELEVON: .000, .000, .000, .000, .000

BD/LAP: -14.250, -14.250, .000, .000, 13.750

SPOBRK: 54.920, 54.920, 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF, LREF, BREF, XMRP, YMRP, ZMRP, SCALE

SO, FT.: .6050, 7.1220, 14.0500, 12.5770, 6.0000, .0150

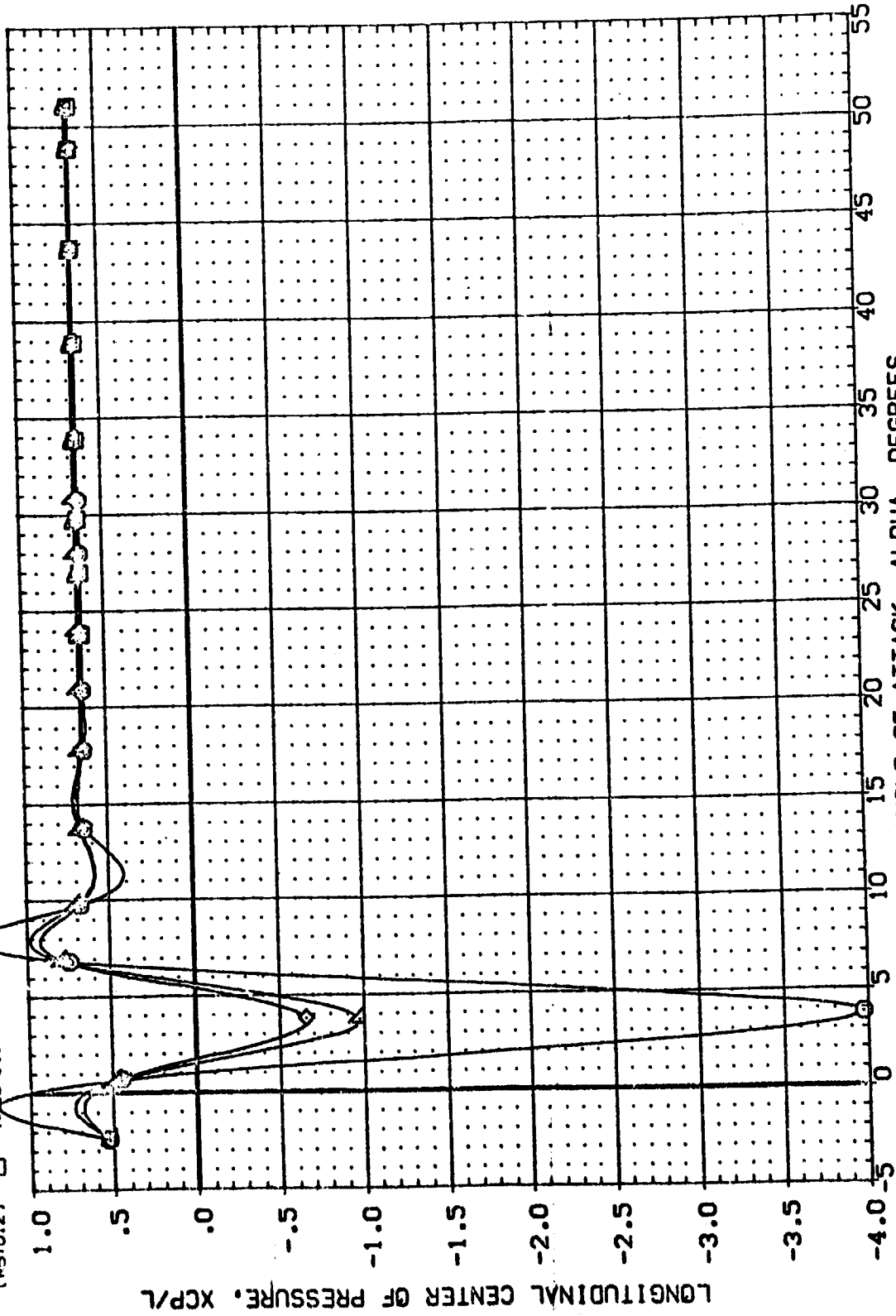


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYM-20L
 (HBY002)
 (HBY001)
 (EBY014)
 (EBY012)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)
 AVES 3.5-163 OAS8 (B1SC7M4FS)(V107E23)(V7RS)

BETA .000
 ELEVON .000
 DBF -14.250
 SPOBRK 54.920
 SREF 7.1220
 LREF 7.1220
 EREF 14.0500
 YMRP 12.5770
 ZMRP 6.0000
 V.L. .0150

REFERENCE INFORMATION
 SO.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

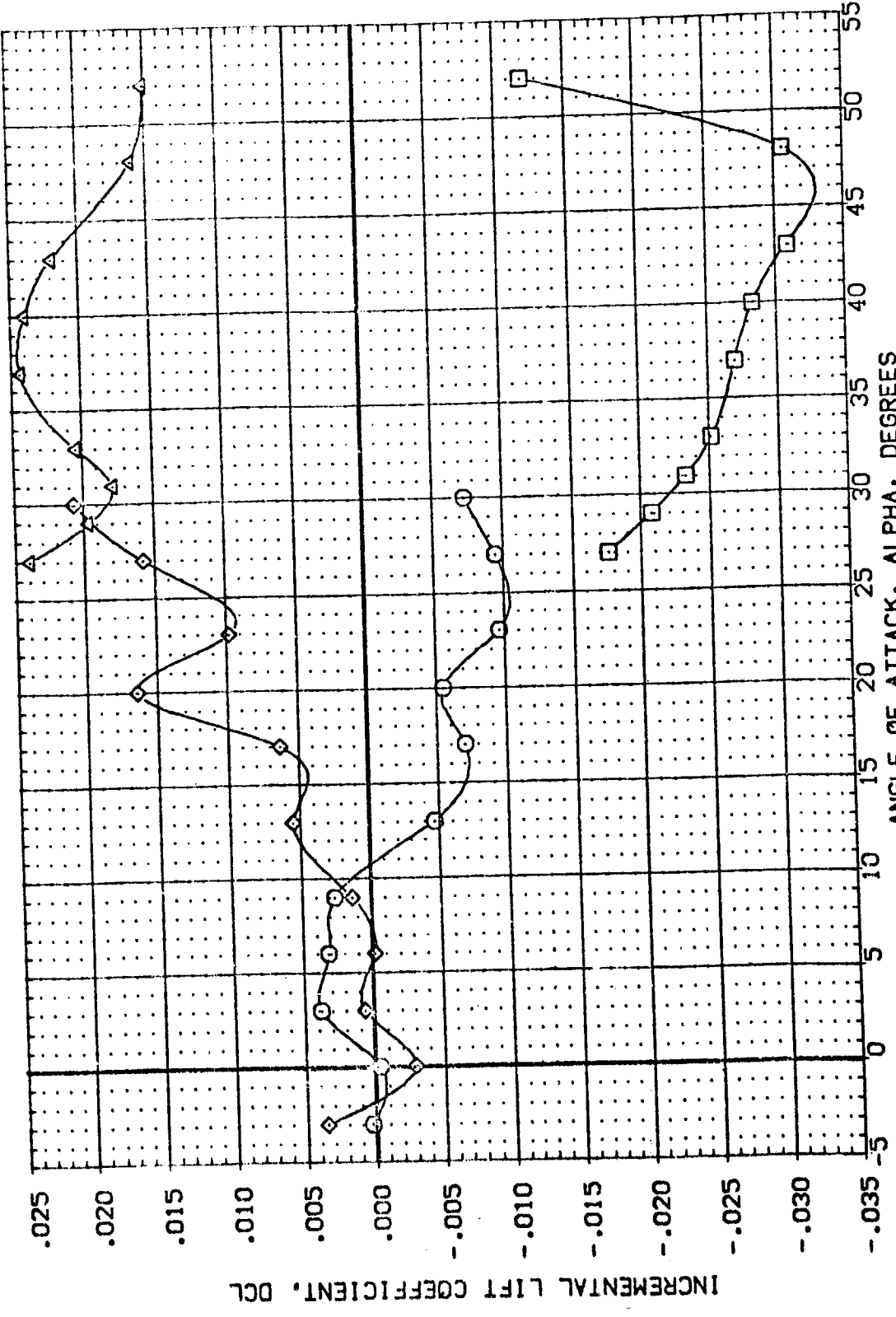


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	DBF	SPOBRK	REFERENCE INFORMATION
(HBY002)	AVES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5)	.000	.000	-14.250	54.920	SREF 6050 50.FT.
(HBY001)	AVES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(EBY014)	AVES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5)	.000	.000	13.750	54.920	BREF 14.0500 IN.
(EBY012)	AVES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5)	.000	.000	13.750	54.920	XMRP 12.5770 IN.
						ZMRP 6.0000 IN.
						SCALE .0150 V.L.

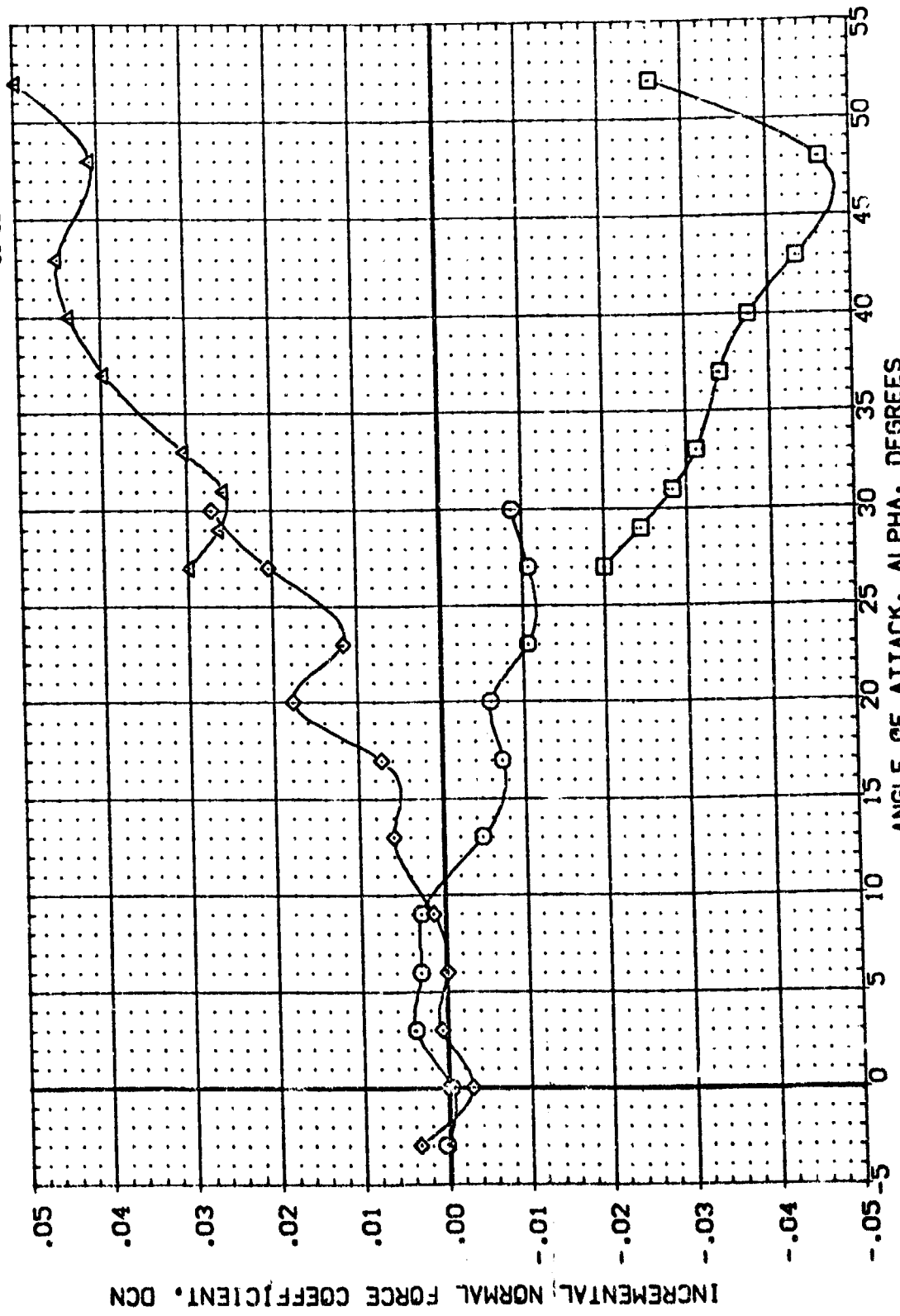


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL: (1-BY002), (1-BY001), (1-BY014), (1-BY012)
 CONFIGURATION DESCRIPTION: AYES 3.5-163 CAS8 (B19C7HAF5)(W107E23)(VFRS), AYES 3.5-163 CAS8 (B19C7HAF5)(W107E23)(VFRS), AYES 3.5-163 CAS8 (B19C7HAF5)(W107E23)(VFRS), AYES 3.5-163 CAS8 (B19C7HAF5)(W107E23)(VFRS)
 BETA: .000, .000, .000, .000
 ELEVON: .000, .000, .000, .000
 DOF: -14.250, -14.250, -14.250, -14.250
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 REFERENCE INFORMATION: SRCE: .6050, DRIFT: .0000, LBYF: 7.1250, LBYL: .0000, LBYR: .0000, XMAX: 12.5750, YMAX: 6.0000, ZMAX: 6.0000, WLL: .0150, SCALE: .0150

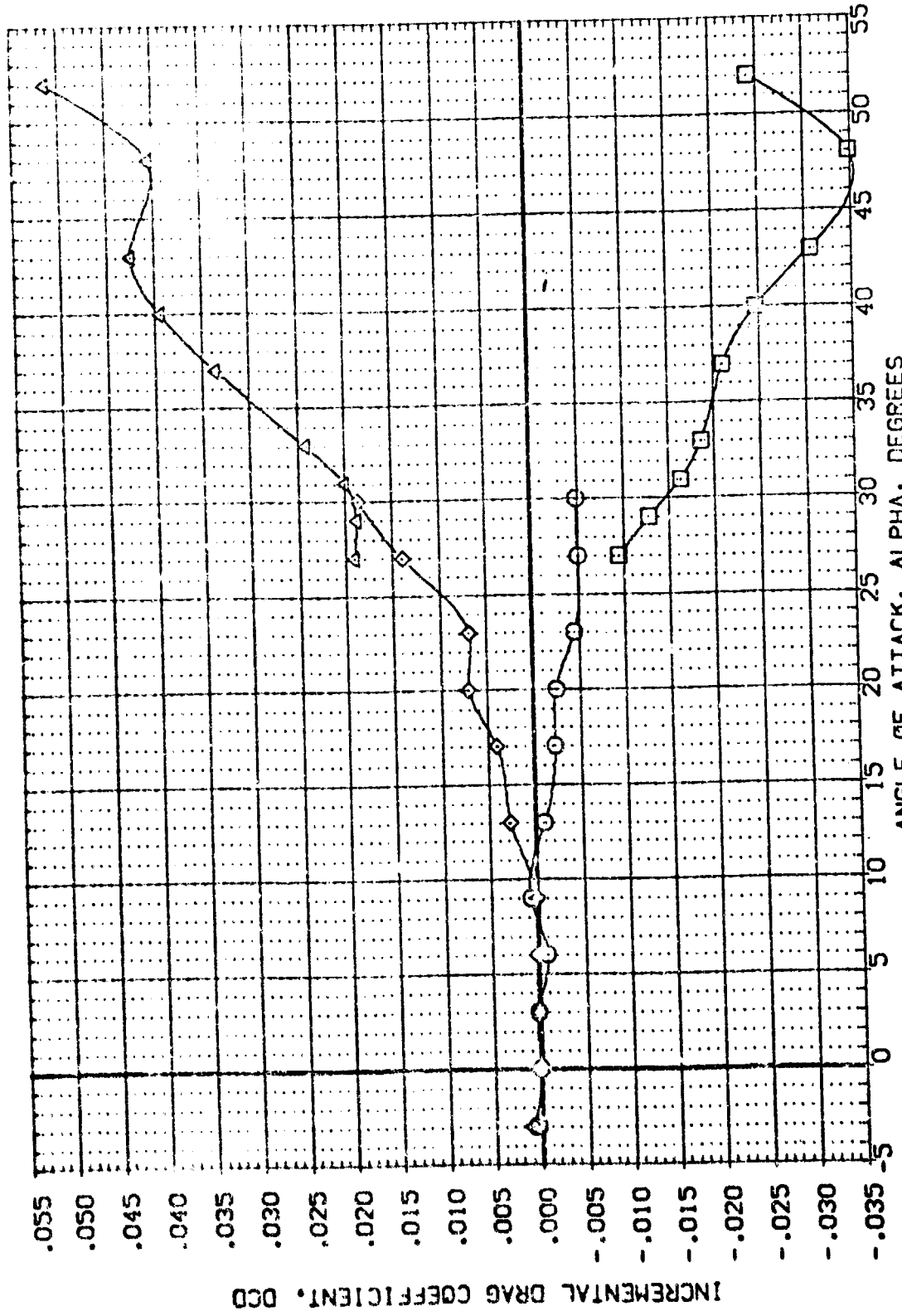


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON DEF	SPOBRK	REFERENCE INFORMATION
(M87002)	AMES 3-5-163 OAS8 (819C7MAFS)(V107E23)(V7RS)	.000	-14.250	54.920	SREF 6050 SQ.FT.
(M87001)	AMES 3-5-163 OAS8 (819C7MAFS)(V107E23)(V7RS)	.000	-14.250	54.920	LREF 7.1220 IN.
(E87014)	AMES 3-5-163 OAS8 (819C7MAFS)(V107E23)(V7RS)	.000	13.750	54.920	BREF 14.0500 IN.
(E87012)	AMES 3-5-163 OAS8 (819C7MAFS)(V107E23)(V7RS)	.000	13.750	54.920	XMRP 12.5770 IN.
					ZMRP 6.0000 IN.
					SCALE .0150 V.L.

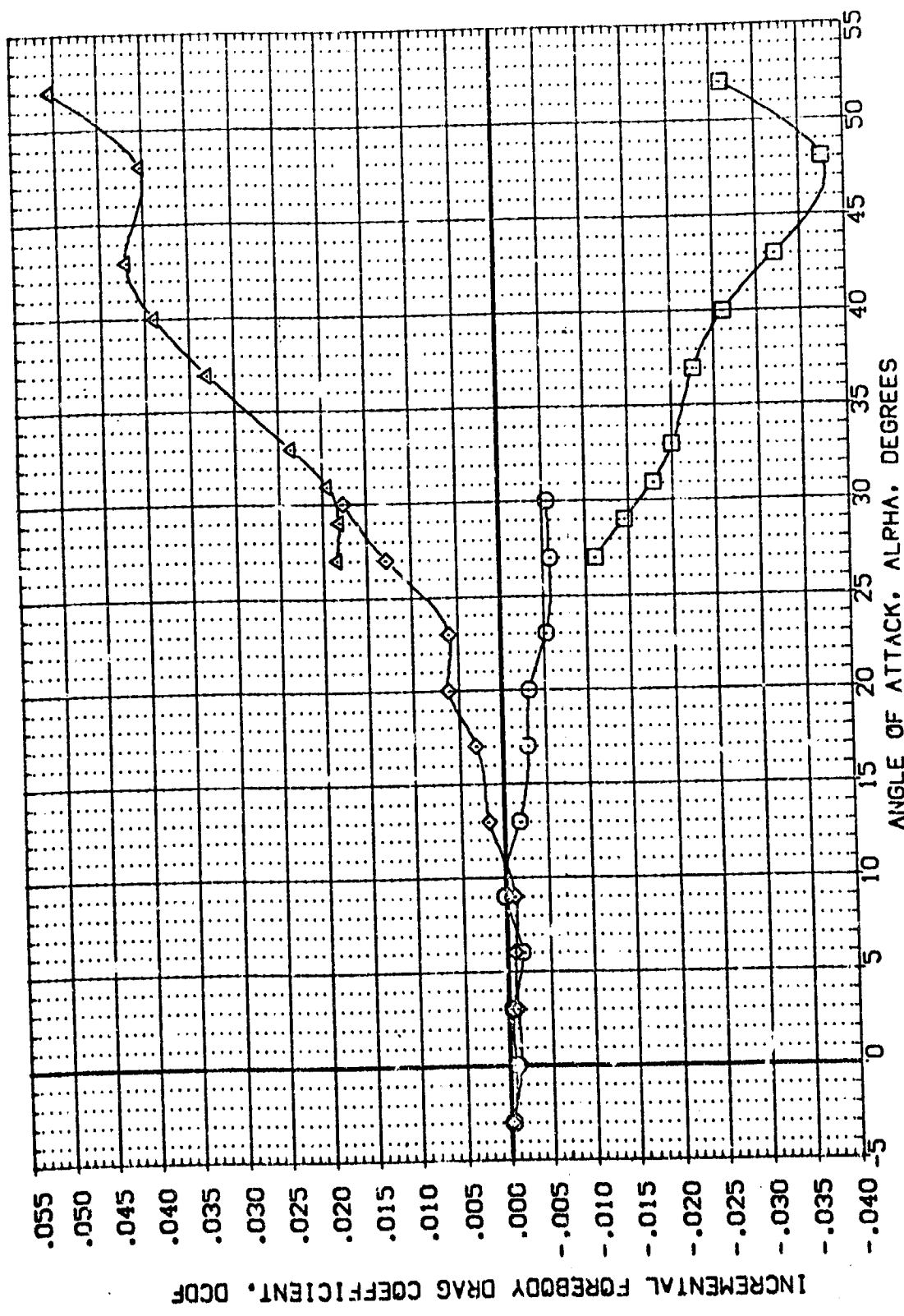


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL
 (HBY002)
 (HBY001)
 (EBY014)
 (EBY012)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 CA58 (B19C7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CA58 (B19C7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CA58 (B19C7M4F5)(V107E23)(V7RS)
 AVES 3.5-163 CA58 (B19C7M4F5)(V107E23)(V7RS)

BETA
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000

DBF
 -14.750
 -14.750
 13.750
 13.750

SPOBRK
 54.920
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF 16050
 LREF 7.1220
 BREF 14.0050
 XMRP 12.1670
 YMRP 1.0000
 ZMRP 6.0000
 SCALE .0100

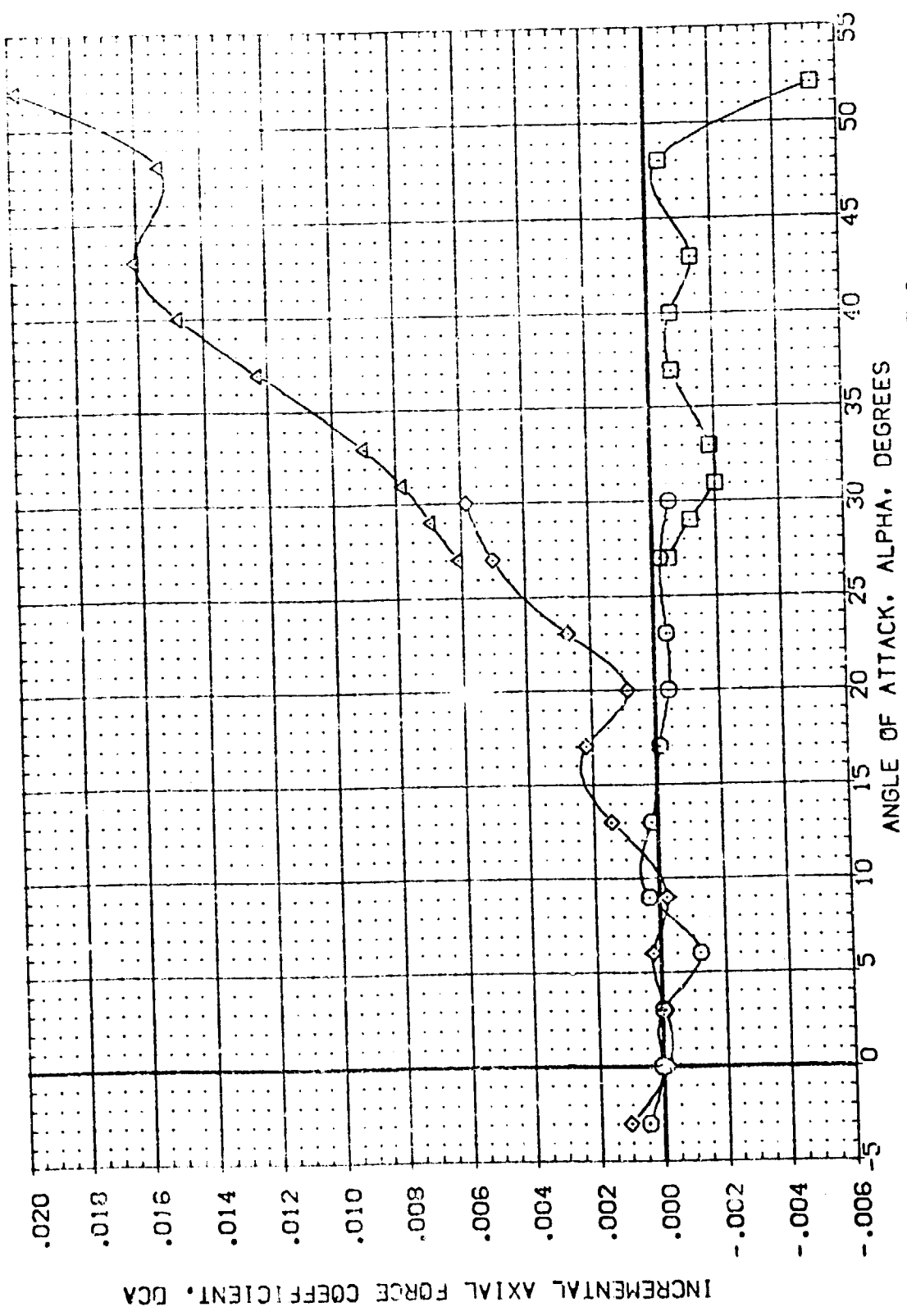


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.30

(A) MACH = 7.30

DATA SET SYMBOL: (HBV002), (HBV001), (EBV014), (EBV012)
 CONFIGURATION DESCRIPTION: AMES 3-5-163 CA58 (B19C7M4F5)(V107E23)(V7R5), AMES 3-5-163 CA58 (B19C7M4F5)(V107E23)(V7R5), AMES 3-5-163 CA58 (B19C7M4F5)(V107E23)(V7R5), AMES 3-5-163 CA58 (B19C7M4F5)(V107E23)(V7R5)
 BETA: .000, .000, .000, .000
 ELEVON: .000, .000, .000, .000
 DEF: -14.250, -14.250, -13.750, -13.750
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 REFERENCE INFORMATION: SREF: 7.1270, 14.0500, 12.5770, 6.0000; SC.F.T.: 6050, 7.1270, 14.0500, 12.5770, 6.0000; ZTRAP: .0100; SCALE: .0100

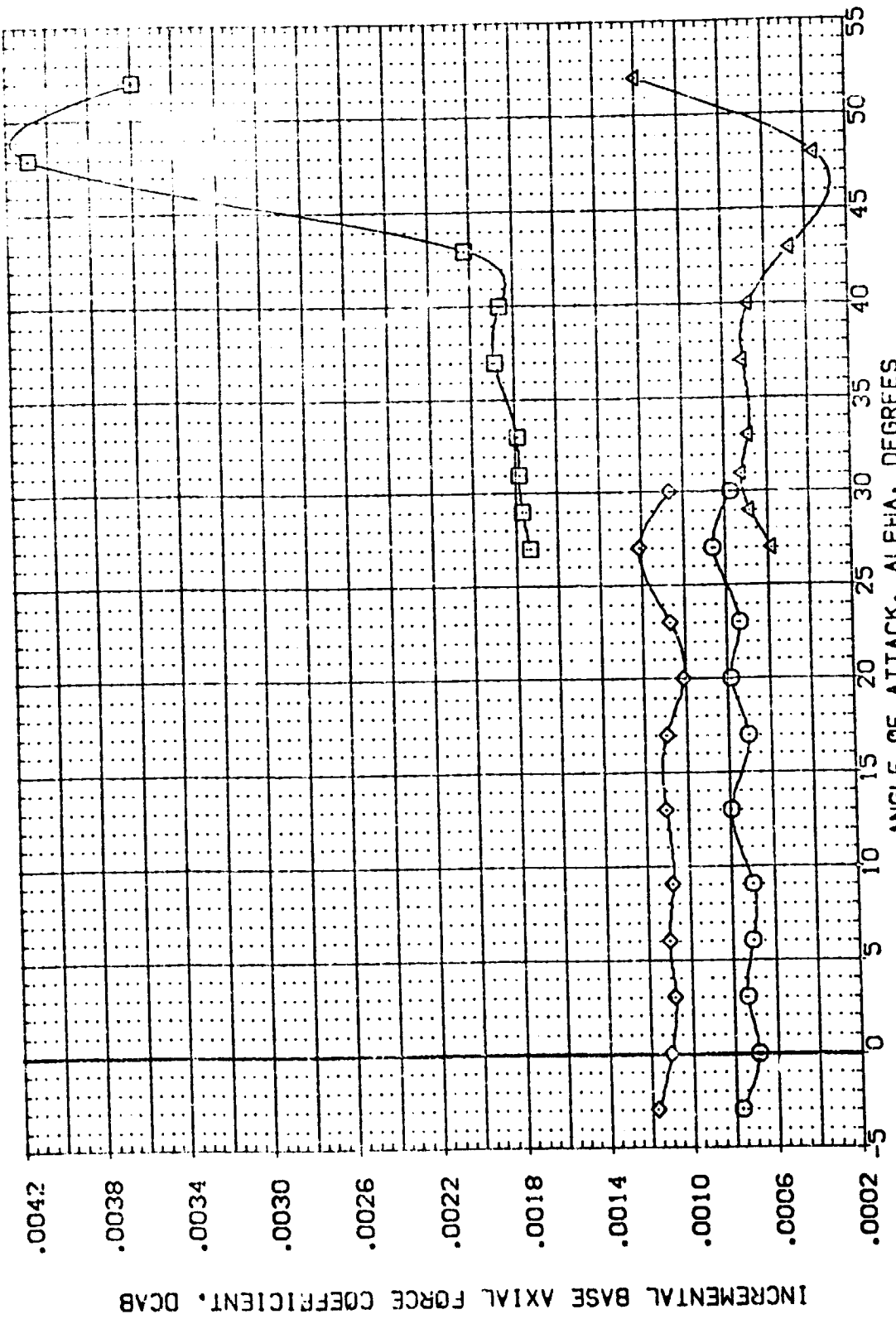


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.30
 (A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	DBF	SPOBRK	REFERENCE INFORMATION
(M8Y002)	APES 3-5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5)	.000	.000	-14.250	54.970	SREF .6050 SQ.FT.
(M8Y011)	APES 3-5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5)	.000	.000	-14.250	54.970	LREF 7.1220 IN.
(L8BY014)	APES 3-5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5)	.000	.000	13.750	54.970	BREF 14.0500 IN.
(L8BY012)	APES 3-5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5)	.000	.000	13.750	54.970	YMRP 12.5770 IN.
						ZMRP 6.0000 IN.
						SCALE .0150

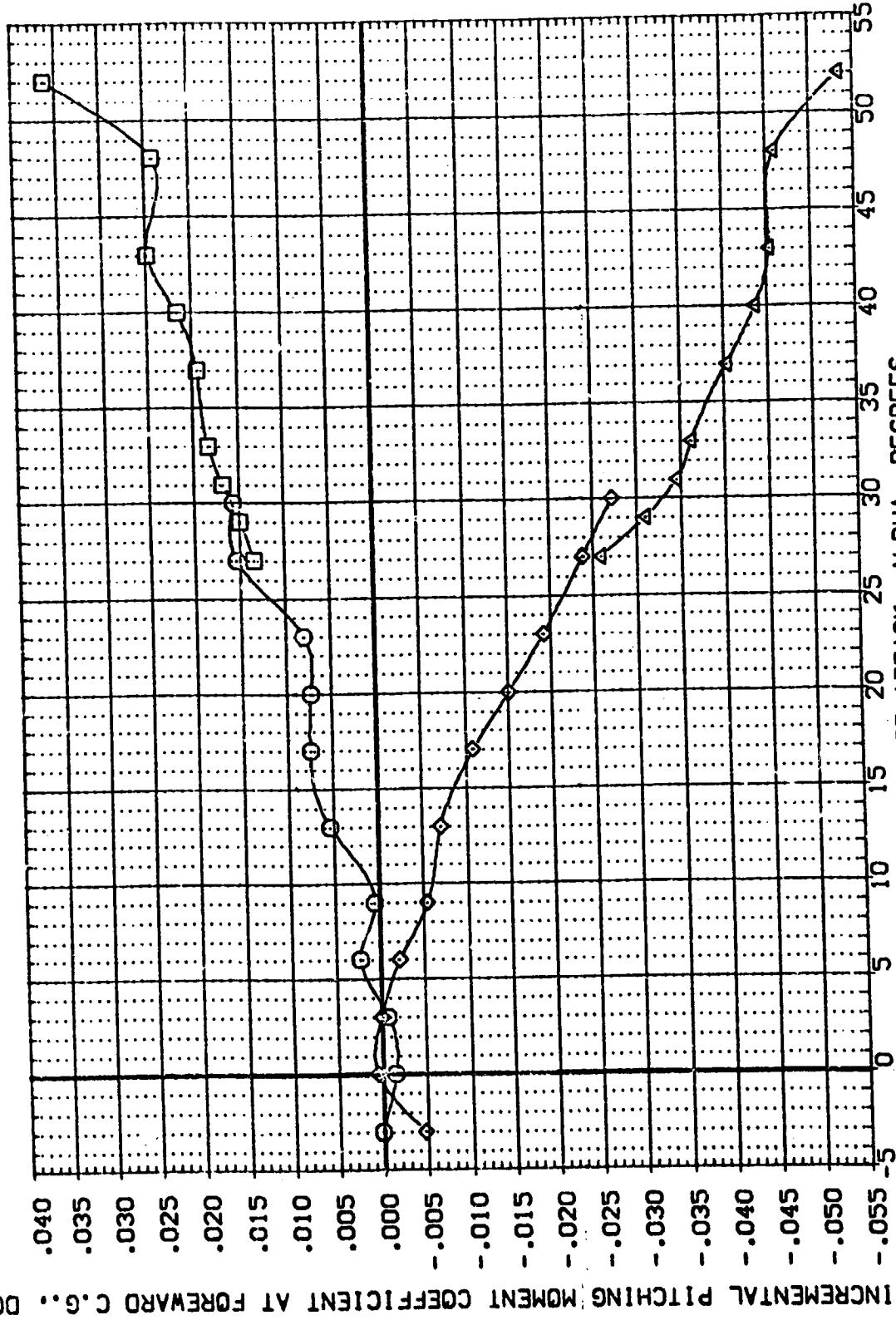


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

(A) MACH = 7.30

DATA SET SYMBOL: (HBY002), (HBY001), (EBY014), (EBY012)
 CONFIGURATION DESCRIPTION: AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5), AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5), AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5), AVES 3.5-163 OAS8 (B19C7M4FS)(V107E23)(V7R5)
 BETA: .000, .000, .000, .000
 ELEVON DBF: .000, .000, .000, .000
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 REFERENCE INFORMATION: SREF: .6050 SQ.FT., LREF: 7.1220 IN., BREF: 14.0500 IN., XPRP: 12.5770 IN., YPRP: 6.0000 IN., ZPRP: 6.0000 IN., SCALE: .015C

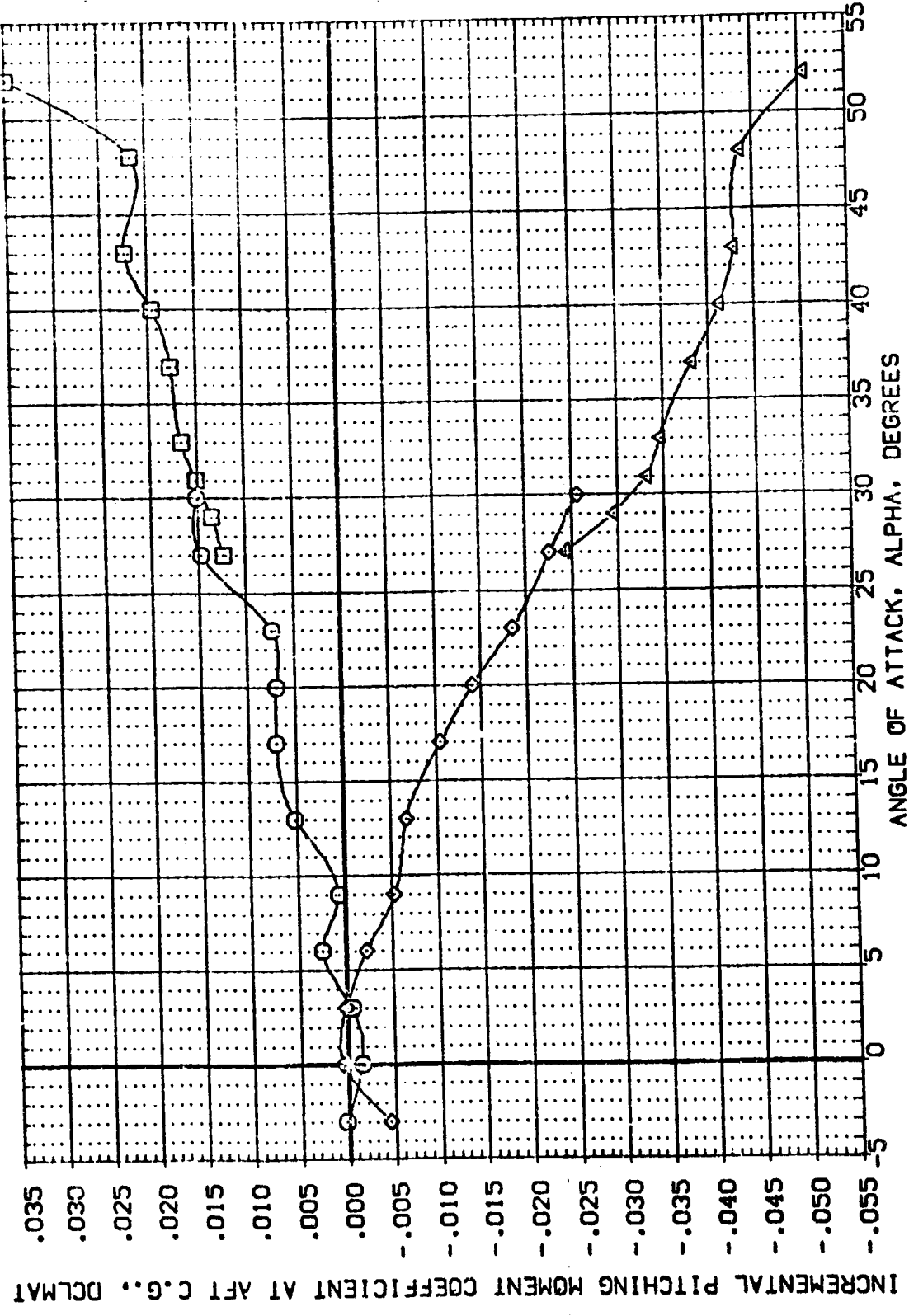
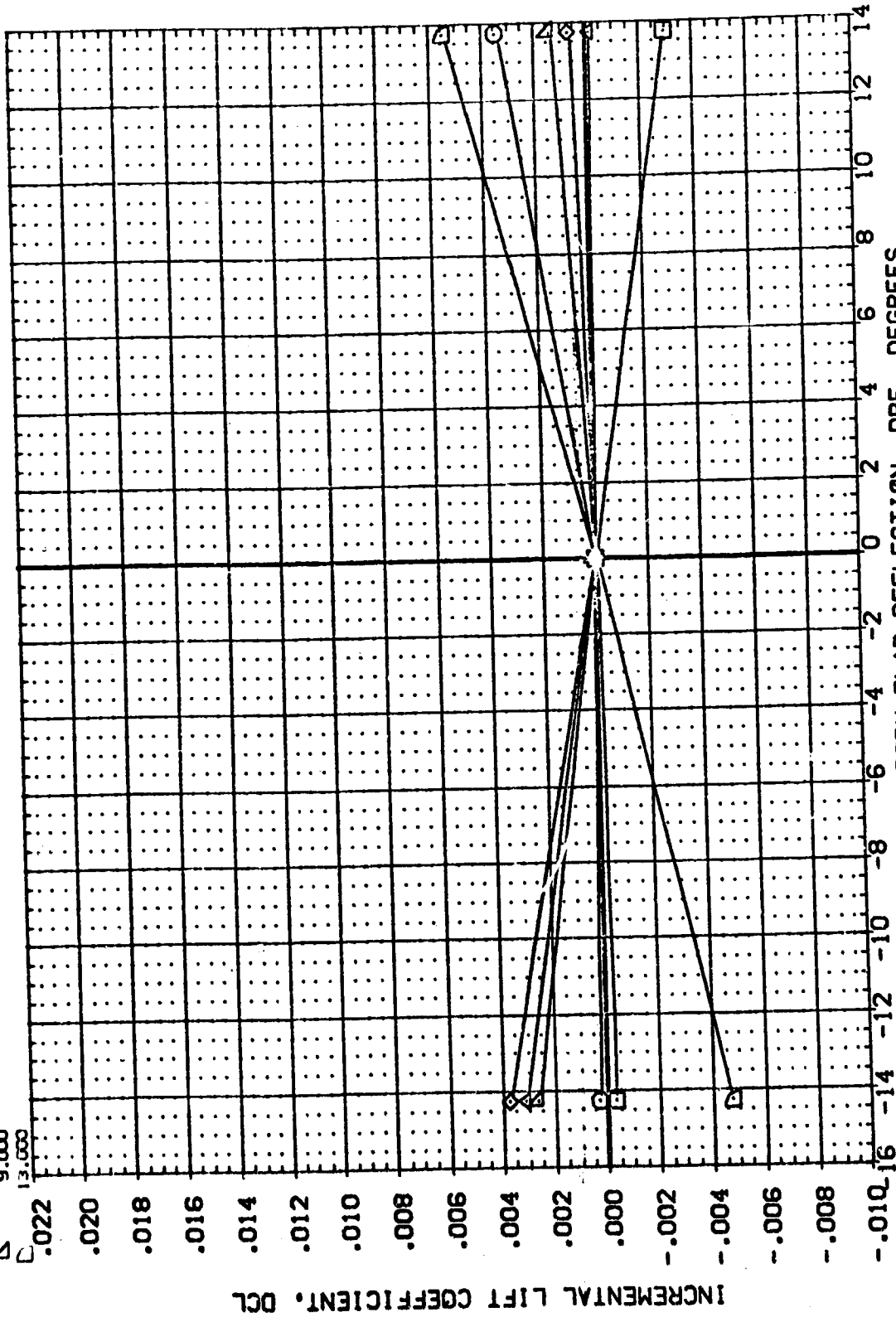


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
□	-3.000		7.300	BETA	.000	EBY011	SREF	6050
□	.000	ELEVON	.000	SPOBRK	54.920	EBY002	LREF	7.1220
◇	3.000	RUDDER	.000		EBY014	EBY011	BRF	14.0500
△	6.000						XMRP	12.5770
▽	9.000						ZMRP	.0000
□	13.000						ZMRP	6.0000
							SCALE	.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	17.000	MACH	7.300	BETA	7.300
ELEVON	20.000	SPDRK	.000	SREF	.6050
RUDDER	23.000	DBF	54.920	LREF	7.1220
	27.000	DBYCO2	-14.250	BREF	14.0500
	30.000	EBY011	13.750	XMRP	12.5770
				YMRP	.0000
				ZMRP	6.0000
				SCALE	.0150

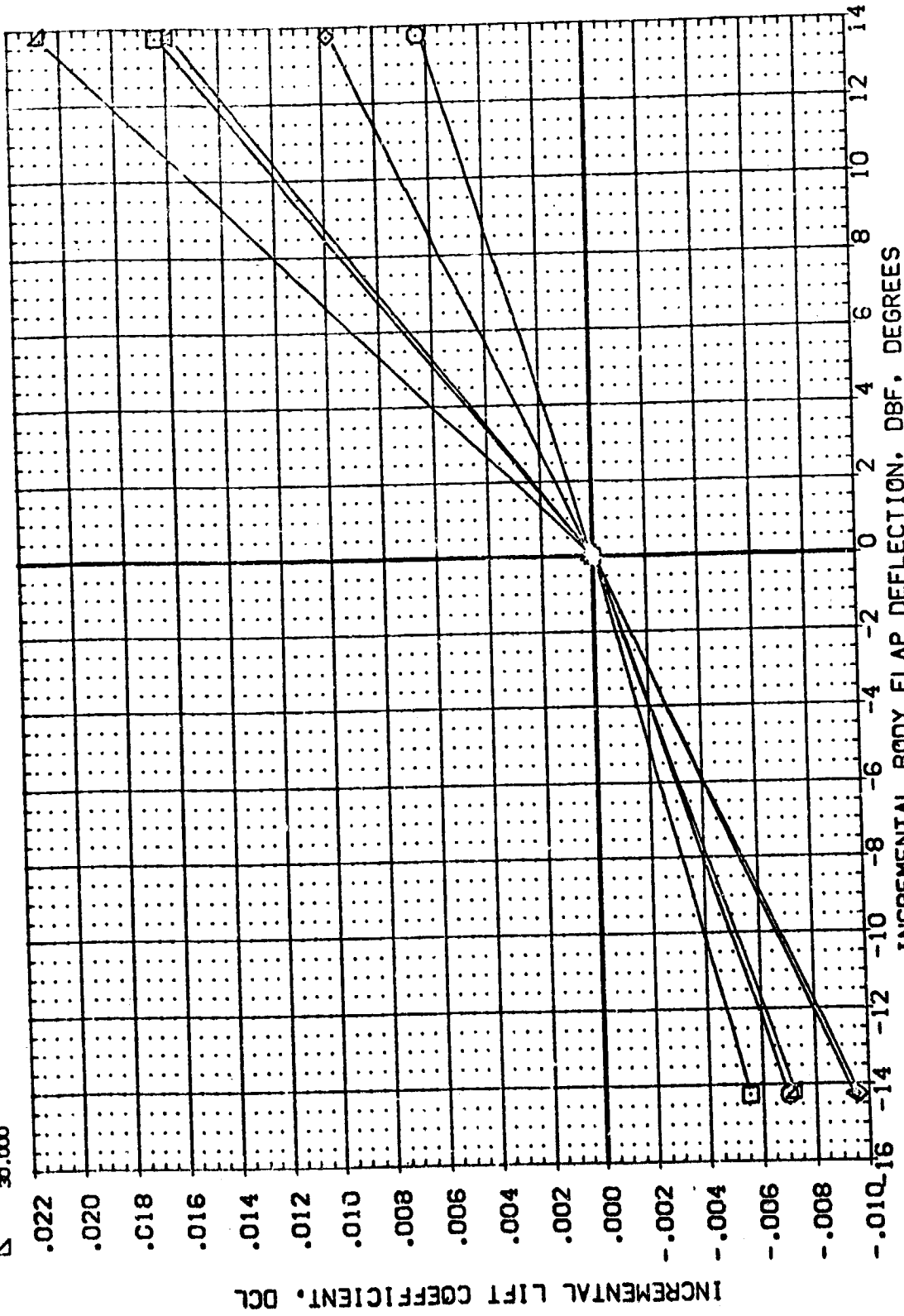


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

SYMBOL	ALPHA	MACH	ELEVON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DBF	DATASET	DBF	REF	SCALE	REFERENCE INFORMATION	SQ.FT.
□	-3.000	7.300	.000	SPOBRK	.000	EBY011	.000	SREF	6050	7.1220	7.1220	IN.	14.0500
□	.000	.000	.000		-14.250	HBY002		LREF	12.5770	.0000	.0000	IN.	6.0000
□	3.000	.000	.000		13.750	EBY014		XMRP	.0000	.0000	.0150	IN.	
△	6.000							YMRP				V.L.	
△	9.000							ZMRP					
△	13.000							SCALE					

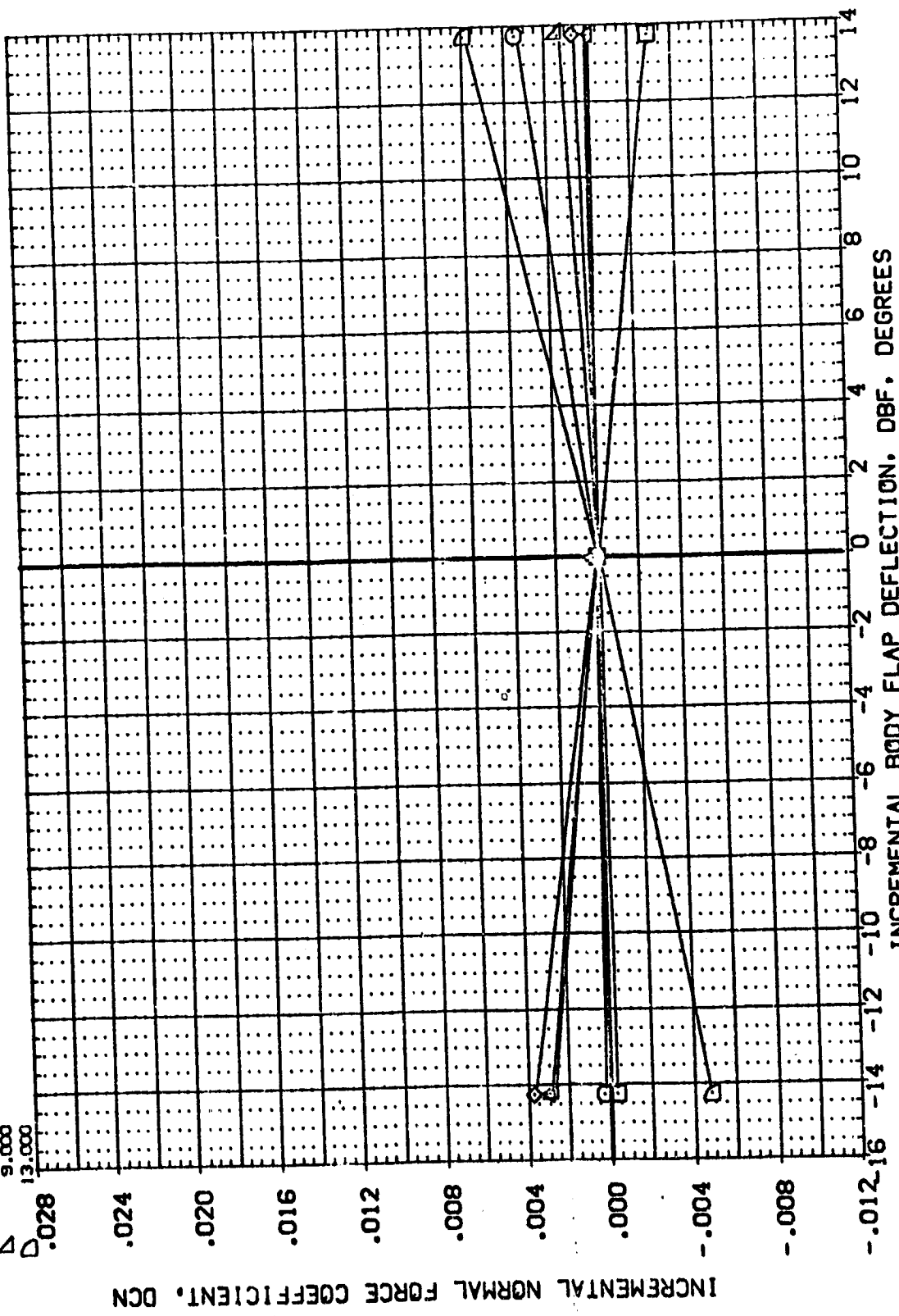


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

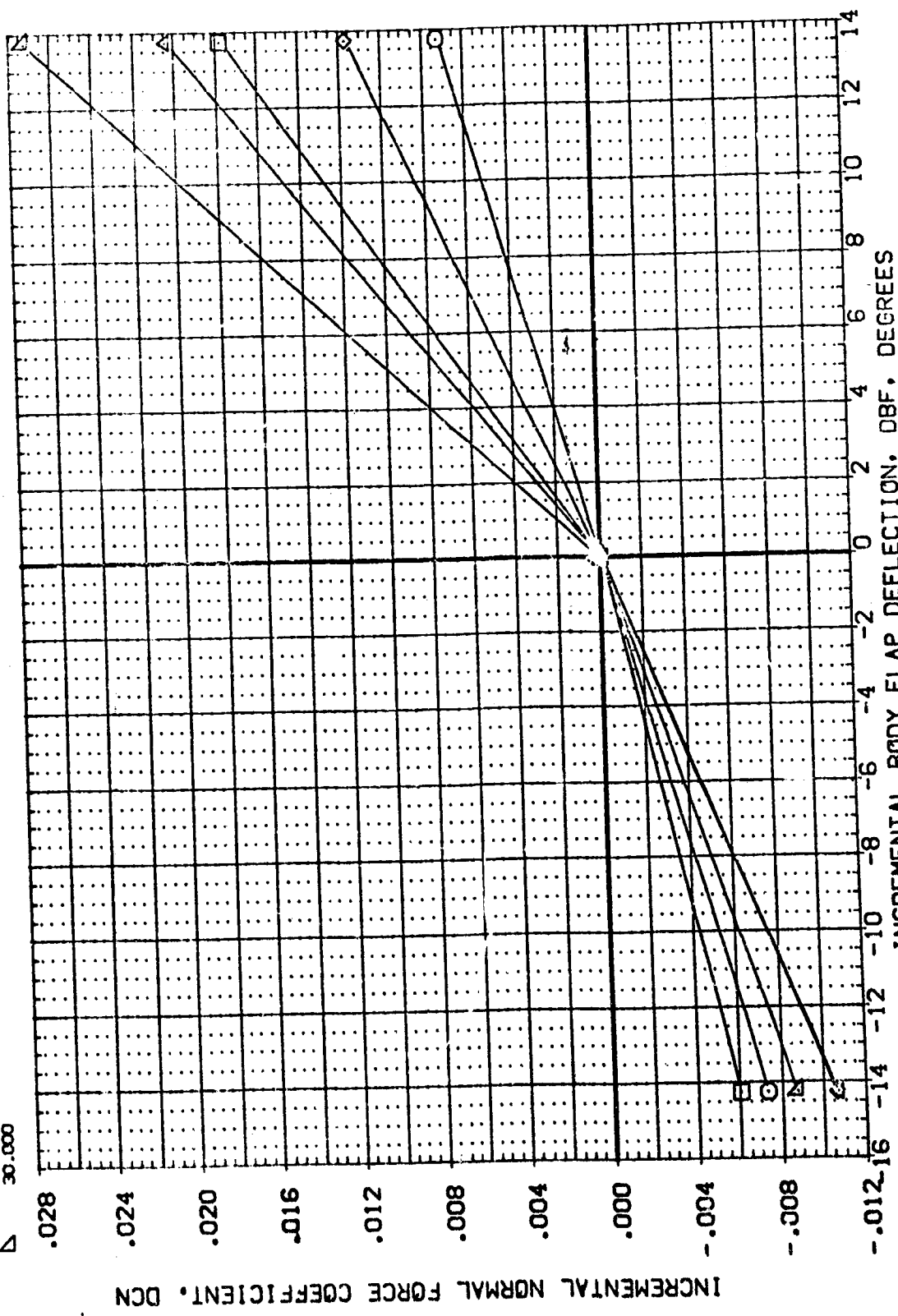
PARAMETRIC VALUES
 ALPHA 17.000
 MACH 7.300
 BETA .000
 SPOBRK .000
 ELEVON .000
 RUDDER .000

DATA SOURCE DBF DATASET DBF
 EBY011 .000
 HBY002
 EBY014
 -14.750
 -13.750

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

SREF LREF BREF XMRP YMRP ZMRP SCALE
 .000 .000 .000 .000 .000 .000 .0150

SYMBOL
 ○ □ ◇ △



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL NORMAL FORCE COEFFICIENT, DCN
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

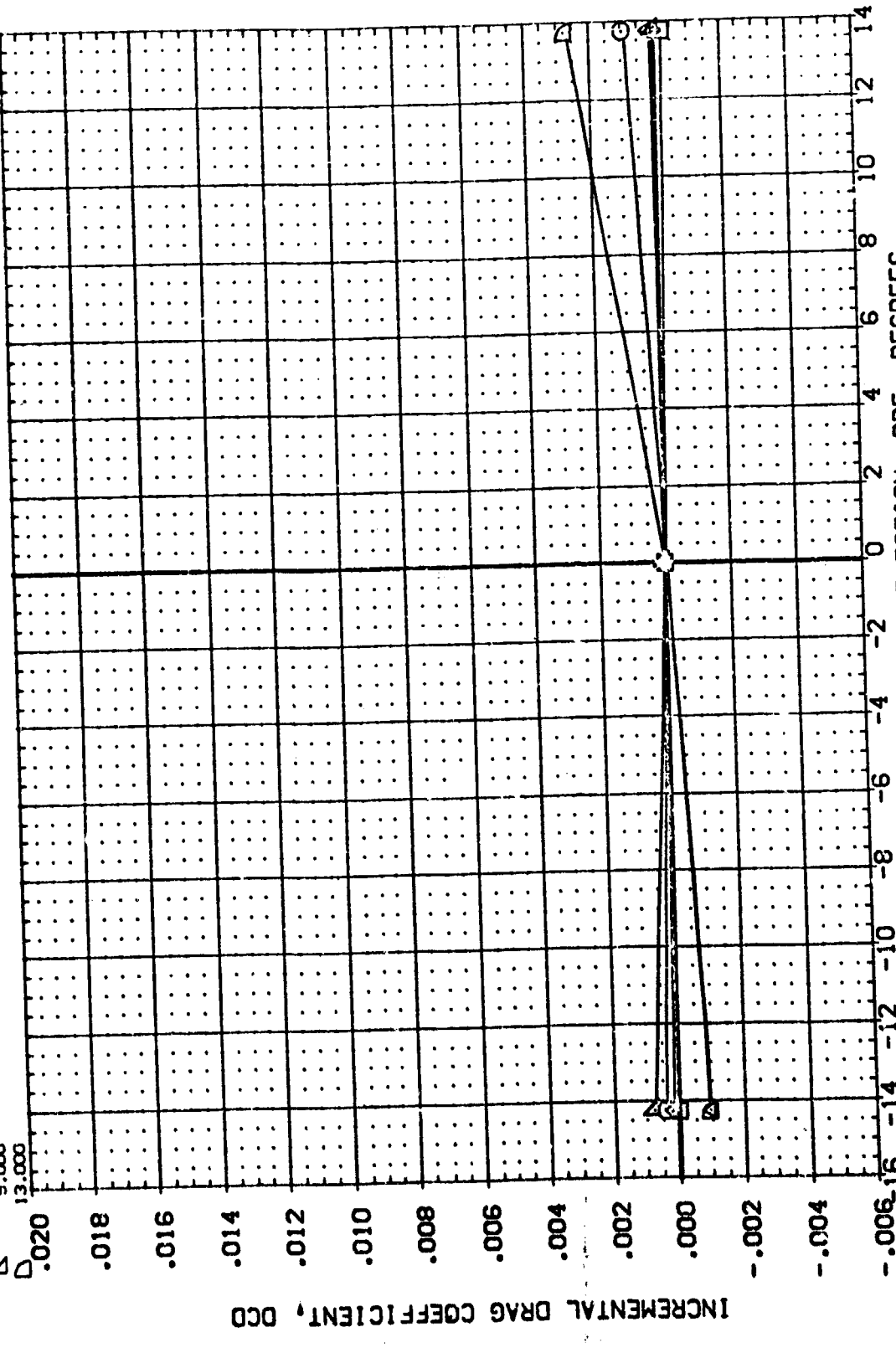
REFERENCE INFORMATION
 SQ.FT.
 IN: 6050
 IN: 7.1270
 IN: 14.0500
 IN: 12.5770
 IN: .0000
 V.L. 6.0000
 .0150

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000
 RUDDER .000

DATA SOURCE
 DBF -14.250
 EB7014 13.750

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000
 RUDDER .000

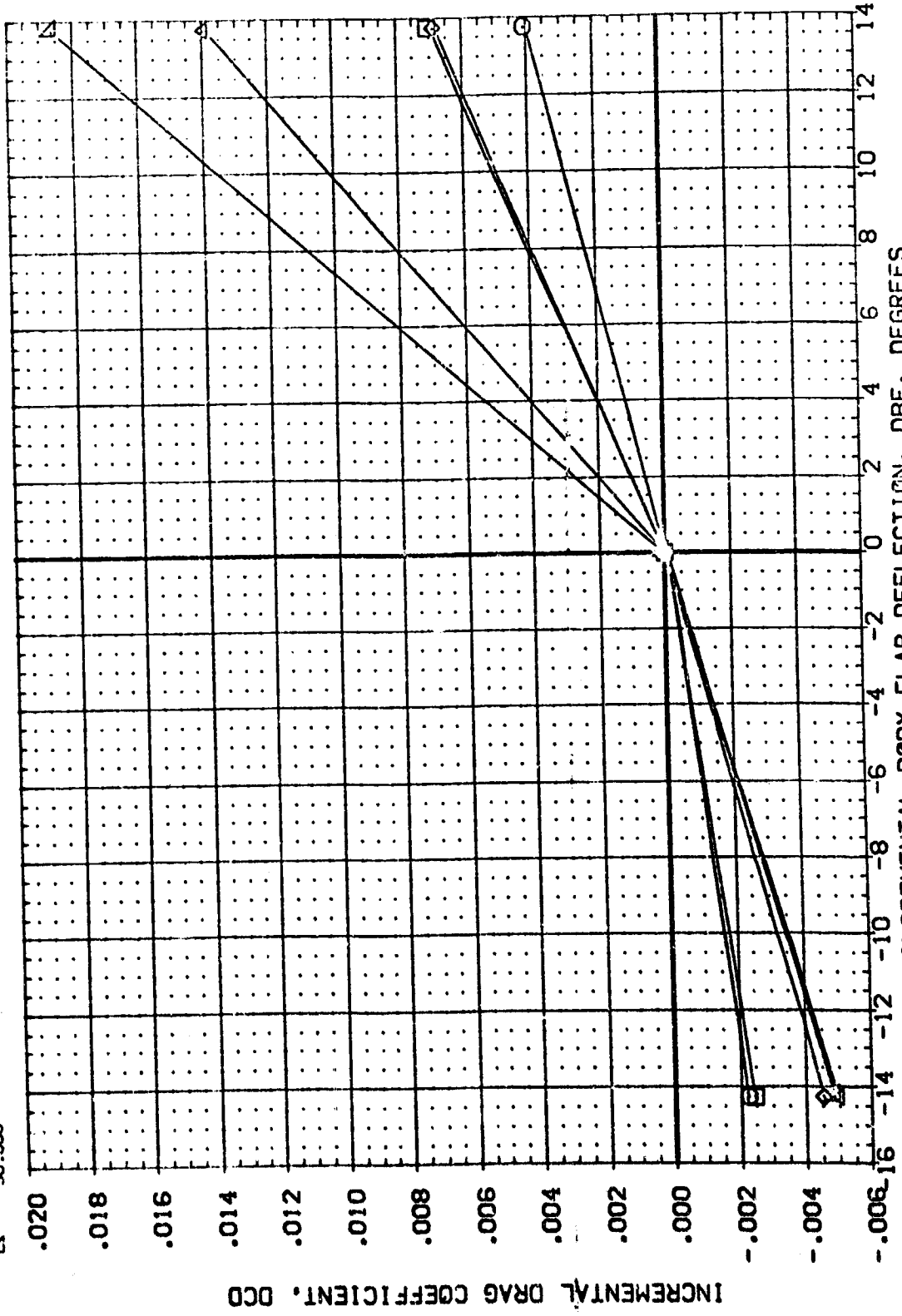
DATA SOURCE
 DBF -14.250
 EB7014 13.750



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL DRAG COEFFICIENT, CCD
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	REFERENCE INFORMATION
○	17.000		7.300 BETA	.000 DATASET	EBY011	.000	LREF	SO.FT.
□	20.000	ELEVON	.000 SPOBRK	54.920 HBY002			BRF	IN.
◇	23.000	RUDDER	.000	13.750 EBY014			XMRP	IN.
△	27.000						YMRP	IN.
	30.000						ZMRP	V.L.
							SCALE	.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23J)(V7R5) (HBY002)

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

DATA SOURCE
 DBF EBY011
 DBF .000

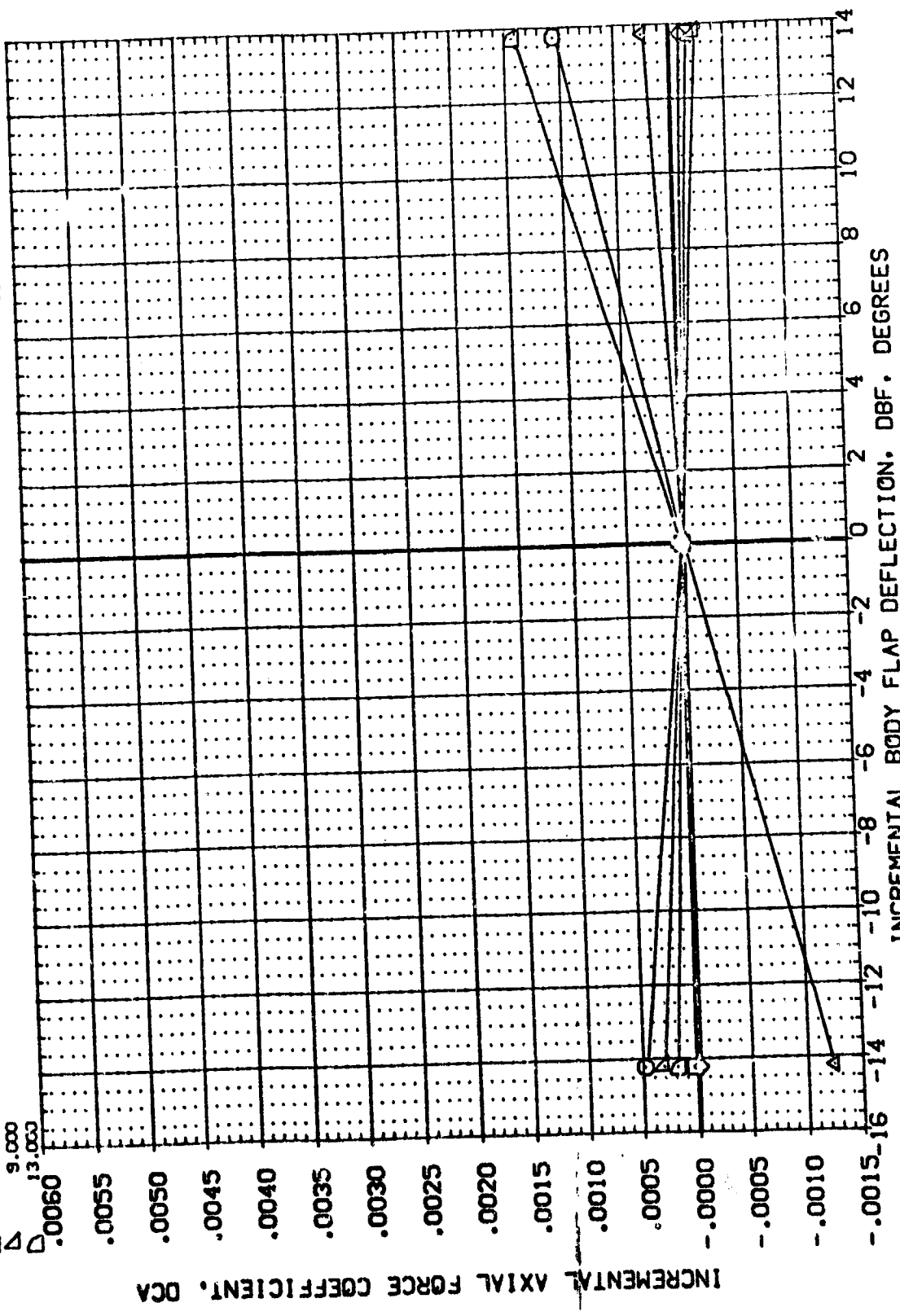
PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000
 RUDDER .000

DATA SOURCE
 DBF EBY014
 DBF 54.920
 HBY002
 EBY014

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000
 RUDDER .000

DATA SOURCE
 DBF EBY014
 DBF 54.920
 HBY002
 EBY014

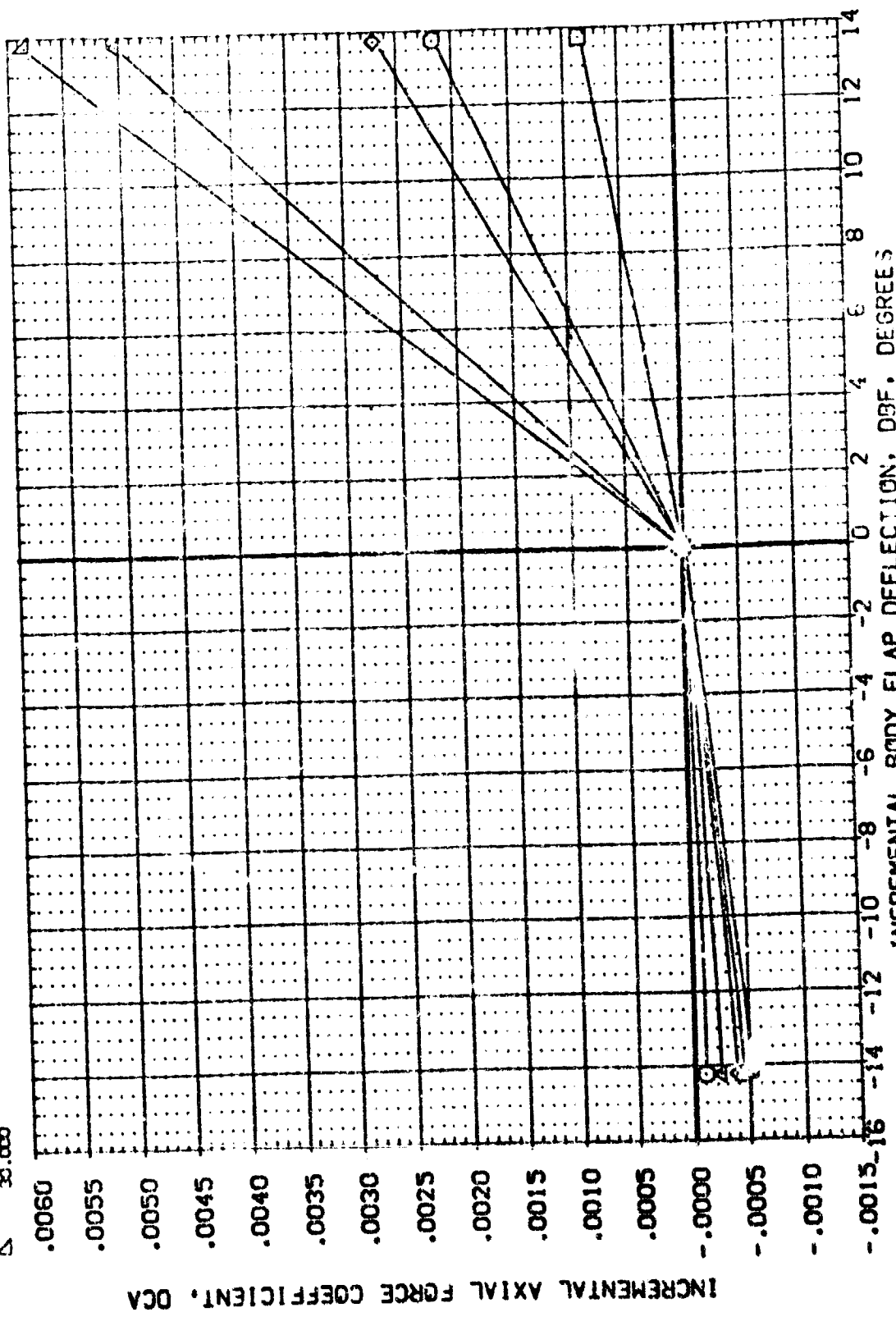
PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000
 RUDDER .000



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL AXIAL FORCE COEFFICIENT, OCA
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	17.000	MACH	7.300	SREF	.6050
ELEVON	20.000	BETA	.000	LREF	7.1220
RUDDER	23.000	SPDRK	.000	GREF	14.0500
	27.000		.000	XMRP	12.5770
	30.000		.000	YMRP	.0000
				ZMRP	6.0000
				SCALE	.0150
					50.FT.

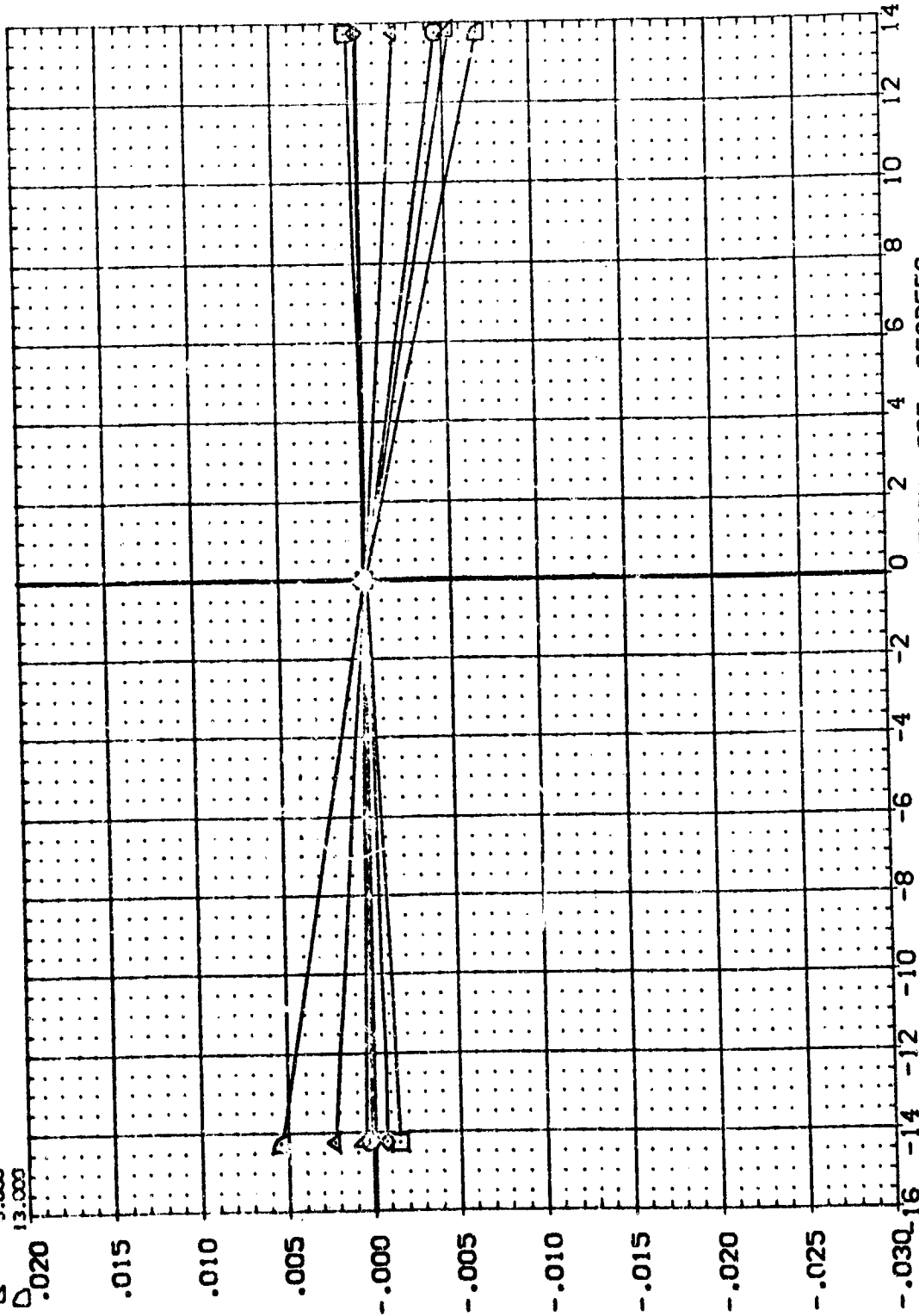


INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL AXIAL FORCE COEFFICIENT, OCA
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
-3.000	MACH 7.300	DBF	SREF 6050
.000	BETA .000	DBF	LREF 7.1220
3.000	SPOBRK 54.920	EBY002 -14.250	BREF 14.0500
0.000	RUDDER .000	EBY014	YMRP 12.5770
9.000			ZMRP .0000
13.000			V.L. 6.0000
			SCALE .0150

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 7 CONFIGURATION 139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 OAS8 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

SYMBOL ALPHA MACH ELEVON RUDDER

PARAMETRIC VALUES
 7.300 BETA
 .000 SPOBRK
 .000

DATA SOURCE
 .000 DATASET HBY002
 -14.250
 -13.750

REF. INFO.
 SREF 60750
 LREF 7.1720
 XREF 14.0500
 YREF 17.5770
 ZREF 6.0000
 SCALE 0.0150

INCHES
 IN.
 IN.
 IN.
 IN.
 V.L.

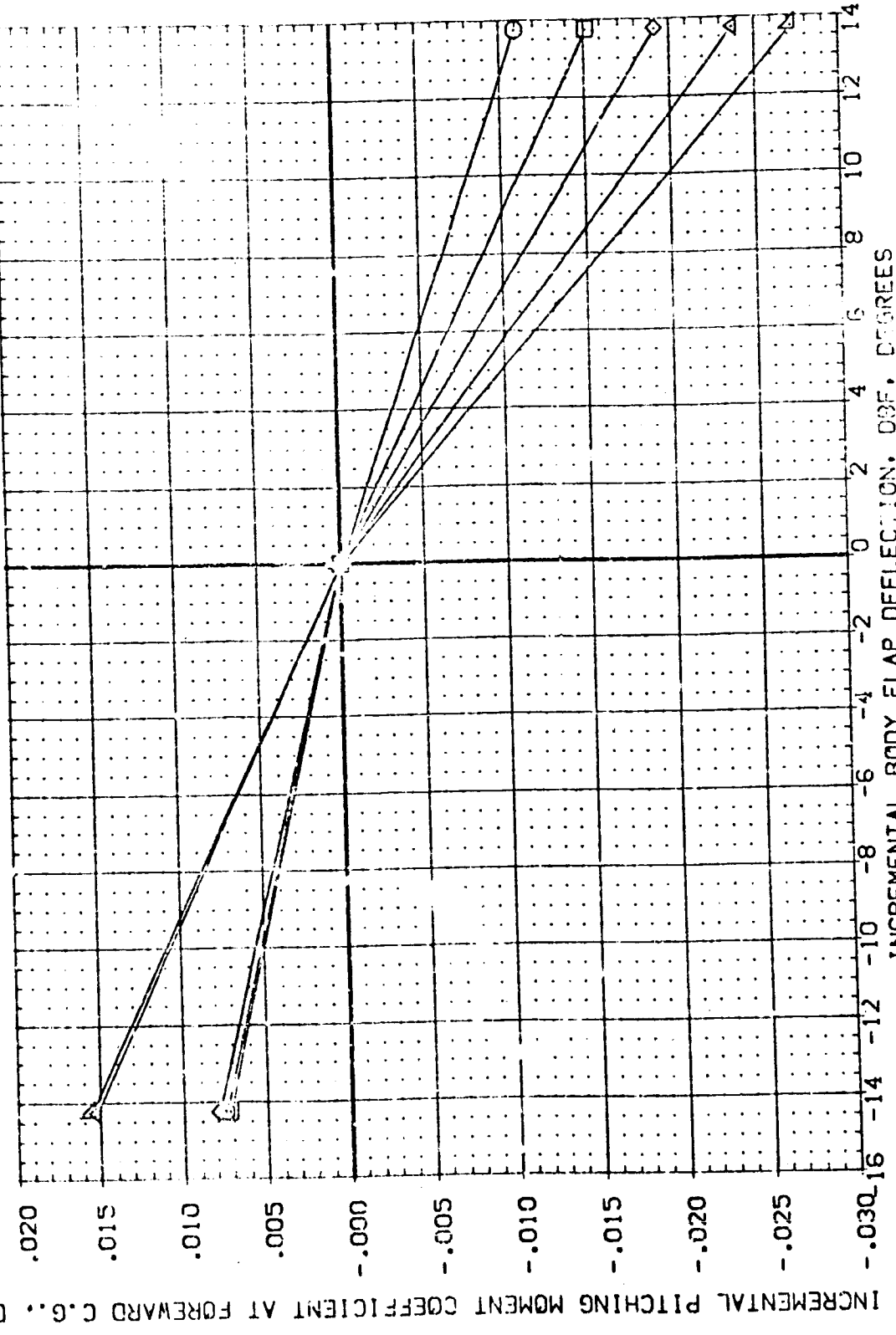


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBY002)

PARAMETRIC VALUES
 ALPHA -3.000
 MACH 7.300
 ELEVON .000
 RUDDER .000
 BETA .000
 SPOBRK .000

DATA SOURCE
 DBF .000
 DATASET EBY011
 DBF -14.250
 EBY014 13.750

REFERENCE INFORMATION
 SREF 6050
 LREF 7.1220
 BREF 14.0500
 XMPRP 12.5770
 YMPRP .0000
 ZMPRP 6.0000
 SCALE .0150

SO.FT.
 IN: 7.1220
 IN: 14.0500
 IN: 12.5770
 IN: .0000
 V.L.: 6.0000

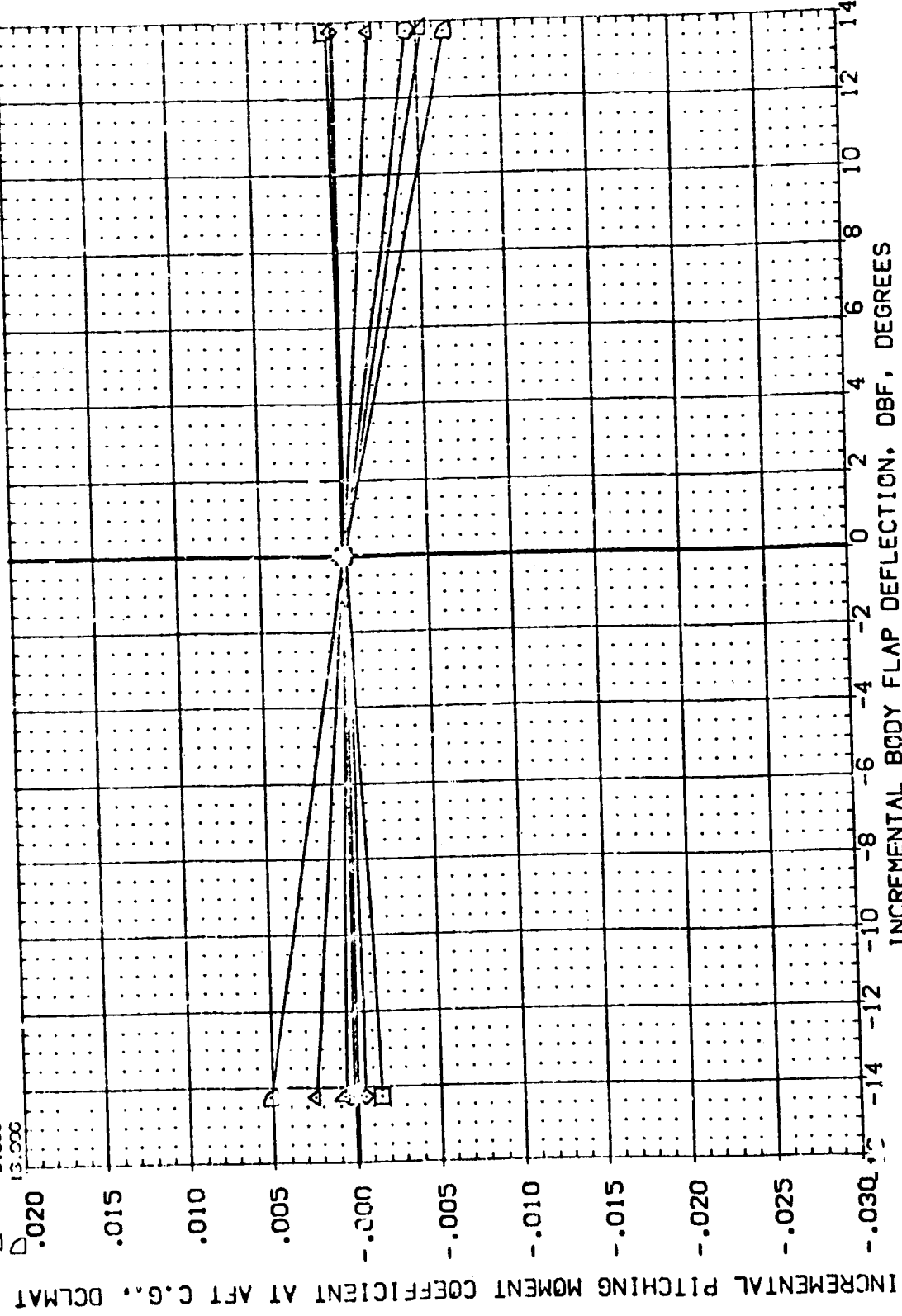
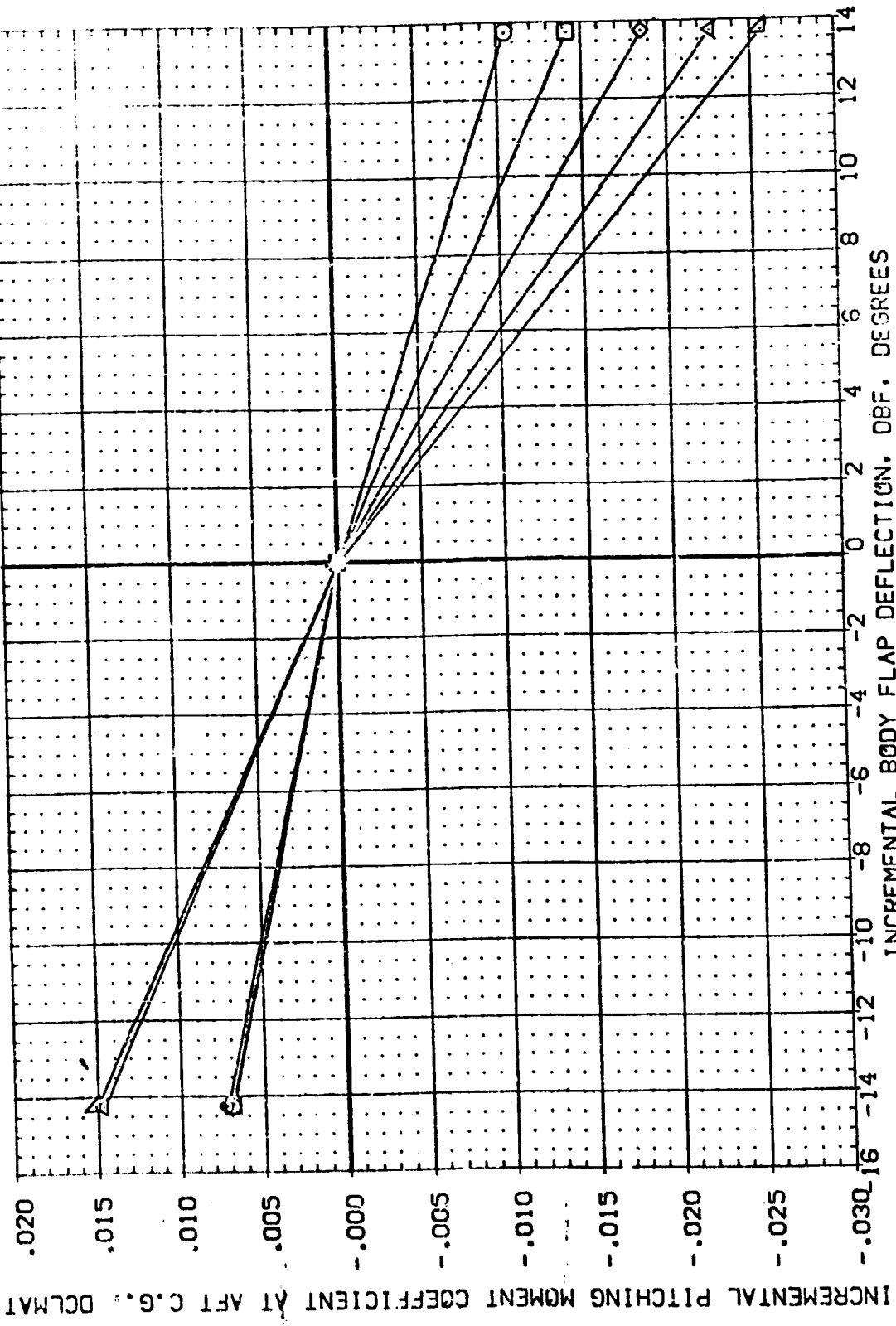


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (HBV002)

SYMBOL	ALPHA	MACH	ELEVON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	REFERENCE INFORMATION
○	17.000	7.300	BETA	.000	7.300	EBV011	.000	LREF	6.500	IN.
□	20.000	.000	SPOBRK	.000	54.920	HBV002	-14.250	BREF	7.1720	IN.
◇	23.000	.000			13.750	EBV014		VMAP	14.0500	IN.
△	27.000							VMAP	12.5770	IN.
▽	30.000							VMAP	6.0000	IN.
								ZMAP	6.0000	VLL.
								SCALE	.0150	



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	DATASET	DBF	SREF	SO.FT.
27.000	7.300	.000	EBY005	7.1220	IN.
29.000	.000	54.920	-14.750	14.0500	IN.
31.000	.000	EBY001	-13.750	12.5770	IN.
33.000		EBYC:2		.0000	IN.
37.000				6.0000	V.L.
40.000				.0150	
					SCALE

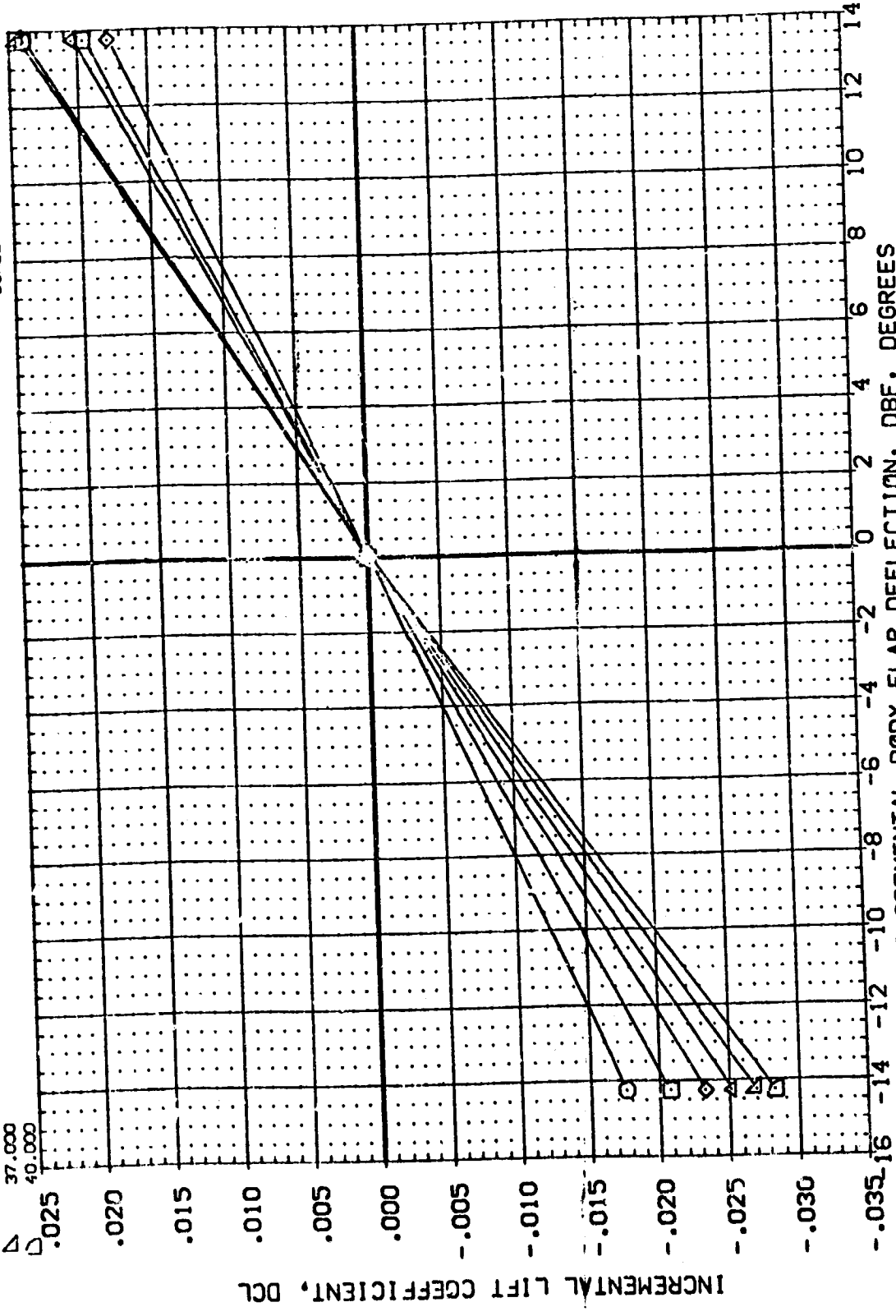
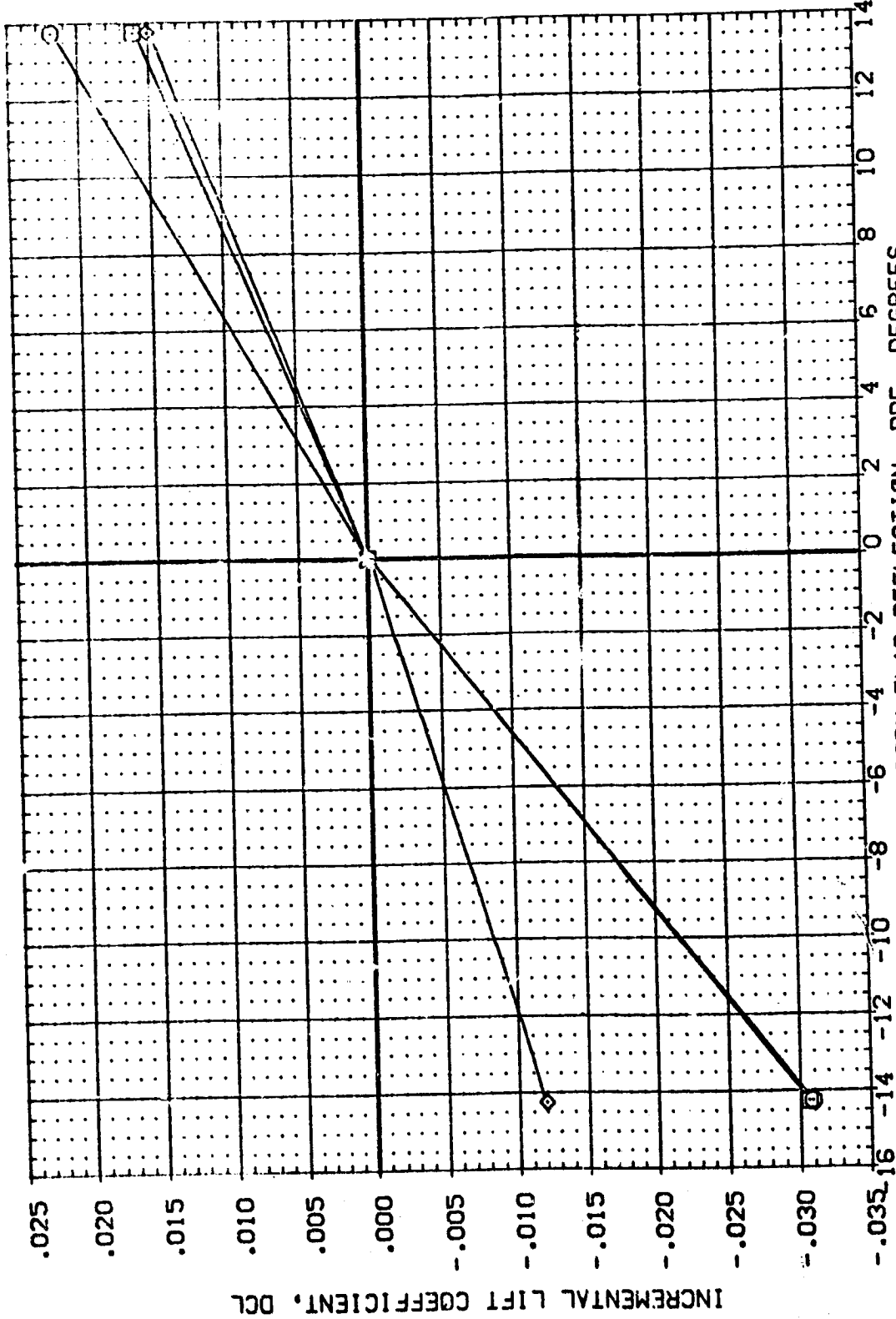


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

SYMBOL	ALPHA	MACH	ELEVON	FLUDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DBF	EBY001	EBY012	EBY009	DBF	EBY009	DBF	EBY009	SCALE	REFERENCE INFORMATION	SO.FT.	
○	43.000	7.300	BETA	7.300	SPDRK	54.920	EBY001	-14.250	EBY001	EBY012	EBY009	DBF	EBY009	DBF	EBY009	SCALE	SREF	IN.	
□	48.000	.000	SPDRK	.000	SPDRK	54.920	EBY001	-14.250	EBY001	EBY012	EBY009	DBF	EBY009	DBF	EBY009	SCALE	LREF	IN.	
◇	52.000	.000	FLUDER	.000	FLUDER	54.920	EBY012	13.750	EBY012	EBY012	EBY009	DBF	EBY009	DBF	EBY009	SCALE	XRIP	IN.	
																		YPRP	IN.
																		ZPRP	IN.
																		SCALE	V.L.



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	27.000	BETA	.000	SREF	.6050
MACH	7.300	SPDRBK	54.920	LREF	7.1220
ELEVON	.000	EBY001	EBY009	BREF	14.0500
RUDDER	.000	EBY012	.000	YREF	12.5770
				ZREF	.0000
				SCALE	6.0000
					.0150
					V.L.

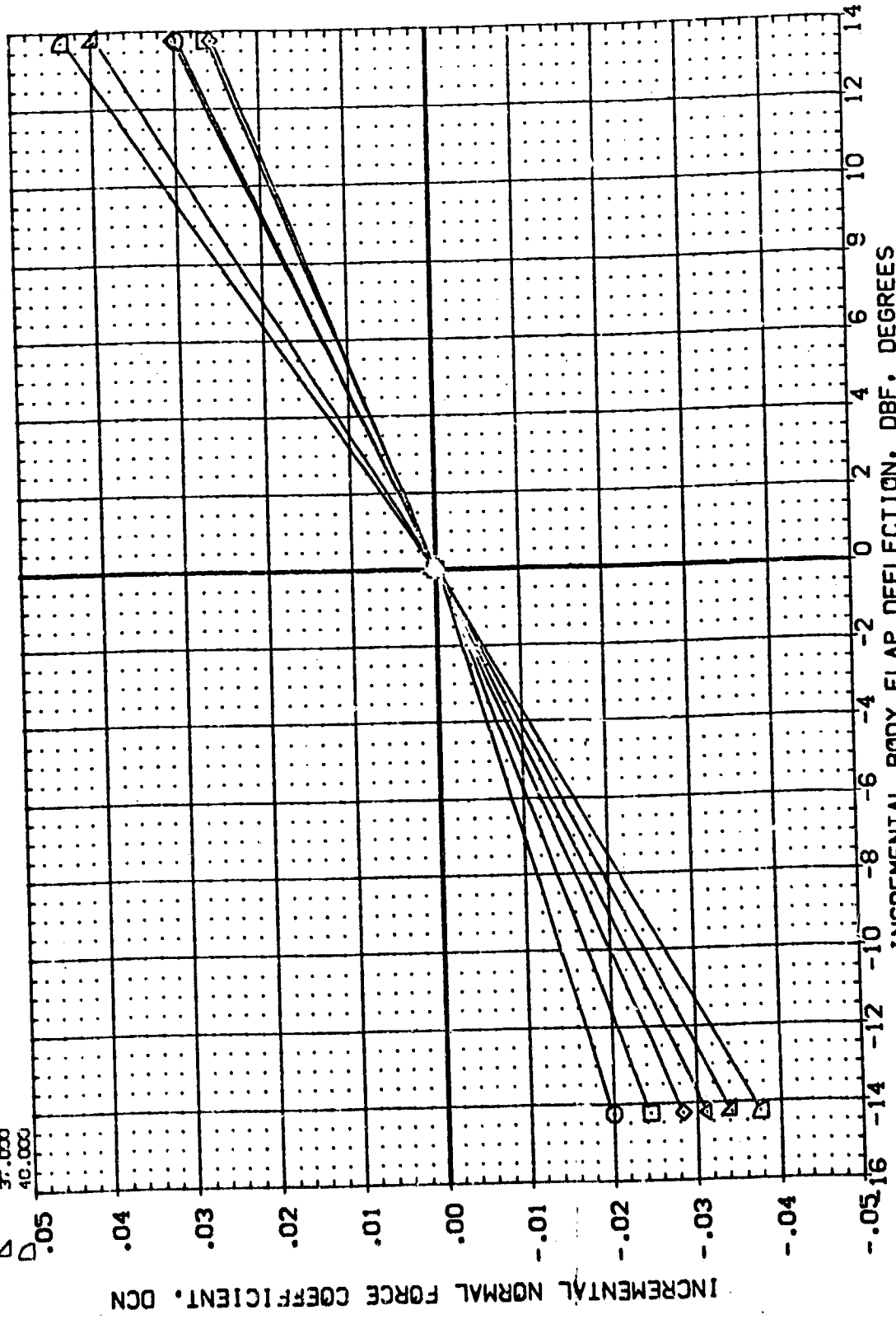


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

ALPHA	43.000	MACH	7.300	BETA	.000	DATA SOURCE	DATA SET	DBF	SREF	6050	53. FT.
ELEVON	48.000	ELEVON	.000	S*OBK	54.920	DBF	EBY008	.000	LREF	7.120	
RUDDER	52.000	RUDDER	.000	E5 CC	-14.250	EBY012			BRF	14.050	
									XMRP	2.5770	
									YMRP	.0000	
									ZMRP	6.0000	
									SCALE	6.015C	

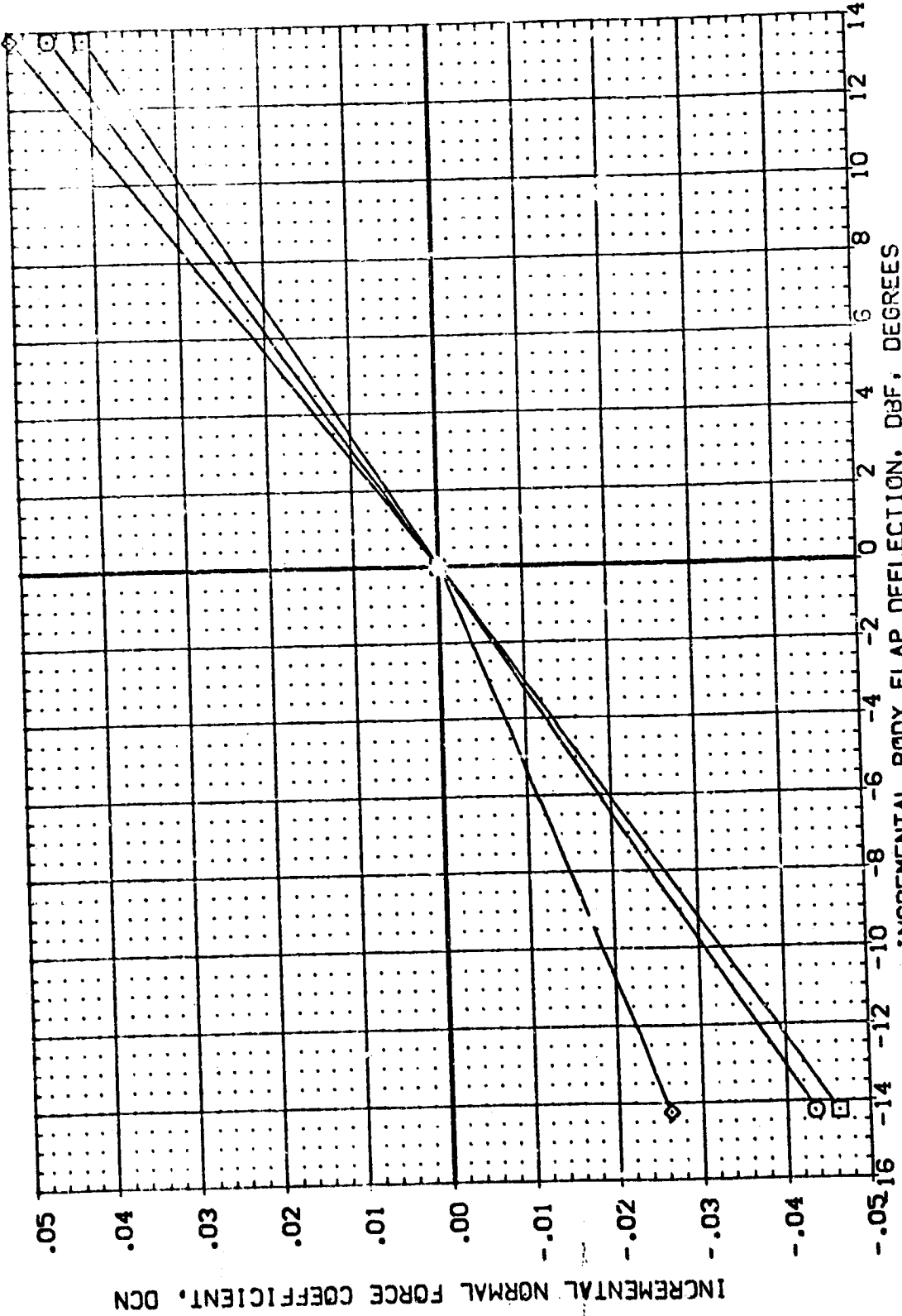


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(M107E23)(V7R5) (EBY001)

REFERENCE INFORMATION
 SO.FT.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

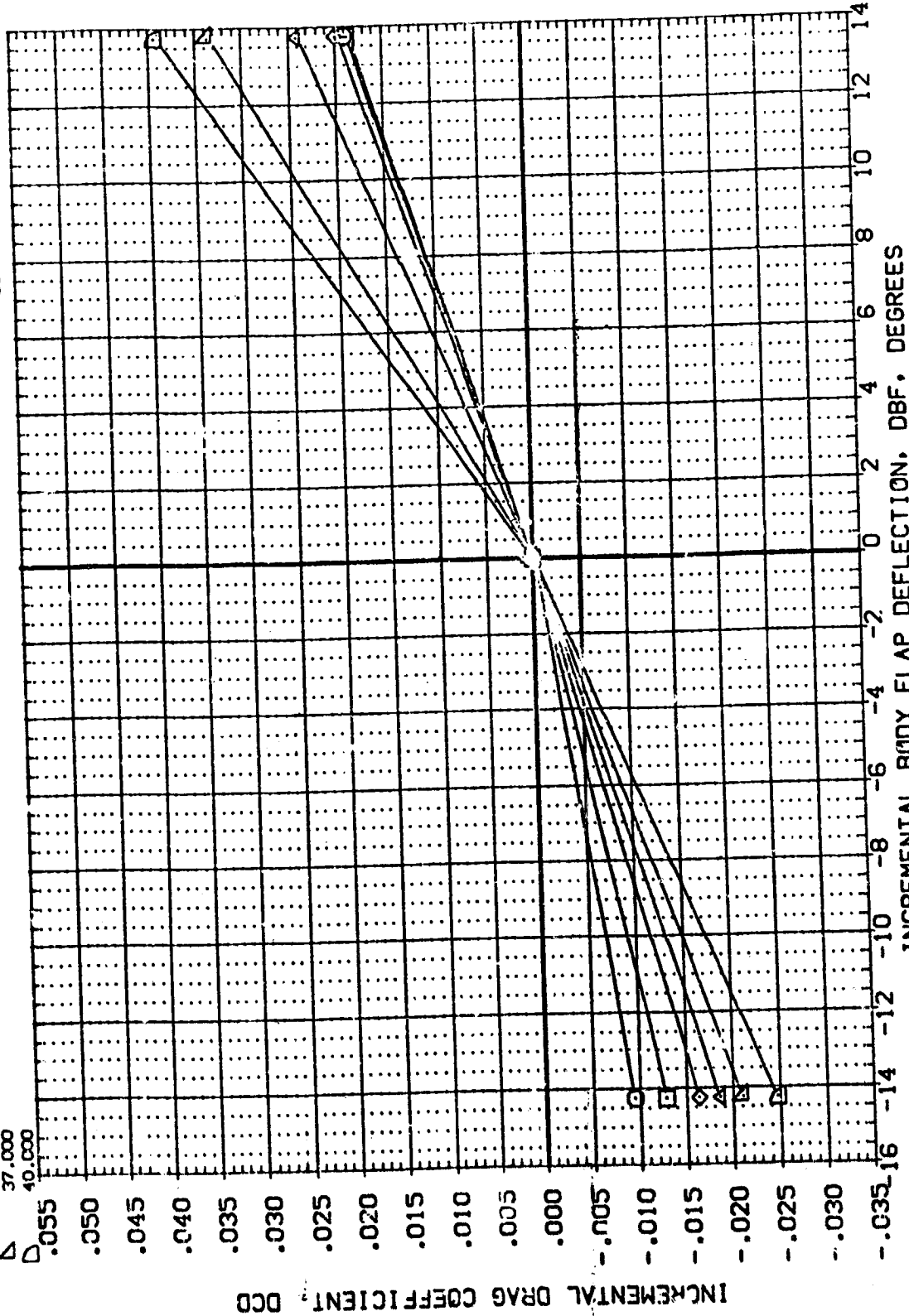
DATA SOURCE
 DBF EB009

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000

DATA SOURCE
 DBF EB001
 DBF EB012

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000

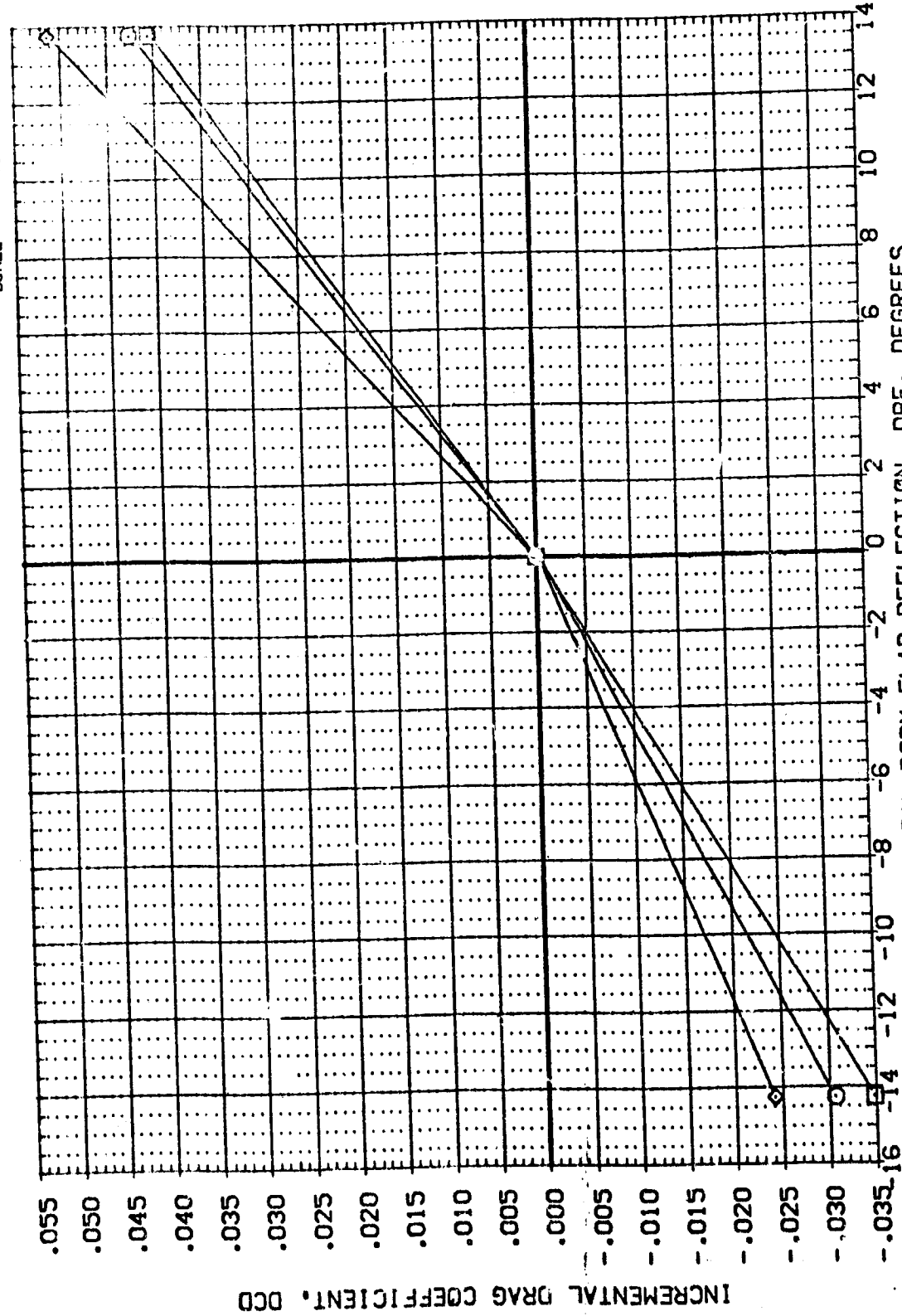
PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOBRK .000



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL DRAG COEFFICIENT, DCD
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DBF	REFERENCE INFORMATION
○	43.000		BETA	.000	EBY009	.000	SREF
□	40.000	ELEVON	SPOBRK	54.920	EBY001		LREF
◇	52.000	RUDDER		-14.250	EBY012		BREF
				13.750			XREF
							YREF
							ZREF
							SCALE
							COL. FT.
							N
							IN
							VAL.



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL DRAG COEFFICIENT, DCD
 FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(M107E23)(V7R5) (EBY001)

SYMBOL	ALPHA	MACH	ELEVON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	REFERENCE INFORMATION
○	27.000	7.300	BETA	.000	SPDRK	54.920	EBY001	-14.250	SREF
□	29.000	.000	SPOBRK	.000	EBY012	13.750	EBY009	.000	LREF
◇	31.000	.000							BREF
△	33.000								XMRP
▽	37.000								YMRP
◇	40.000								ZMRP
									SCALE
									6.0150
									V.L.
									6.0000
									IN.
									12.5770
									IN.
									14.0500
									IN.
									7.1220
									IN.
									6050
									SQ.FT.

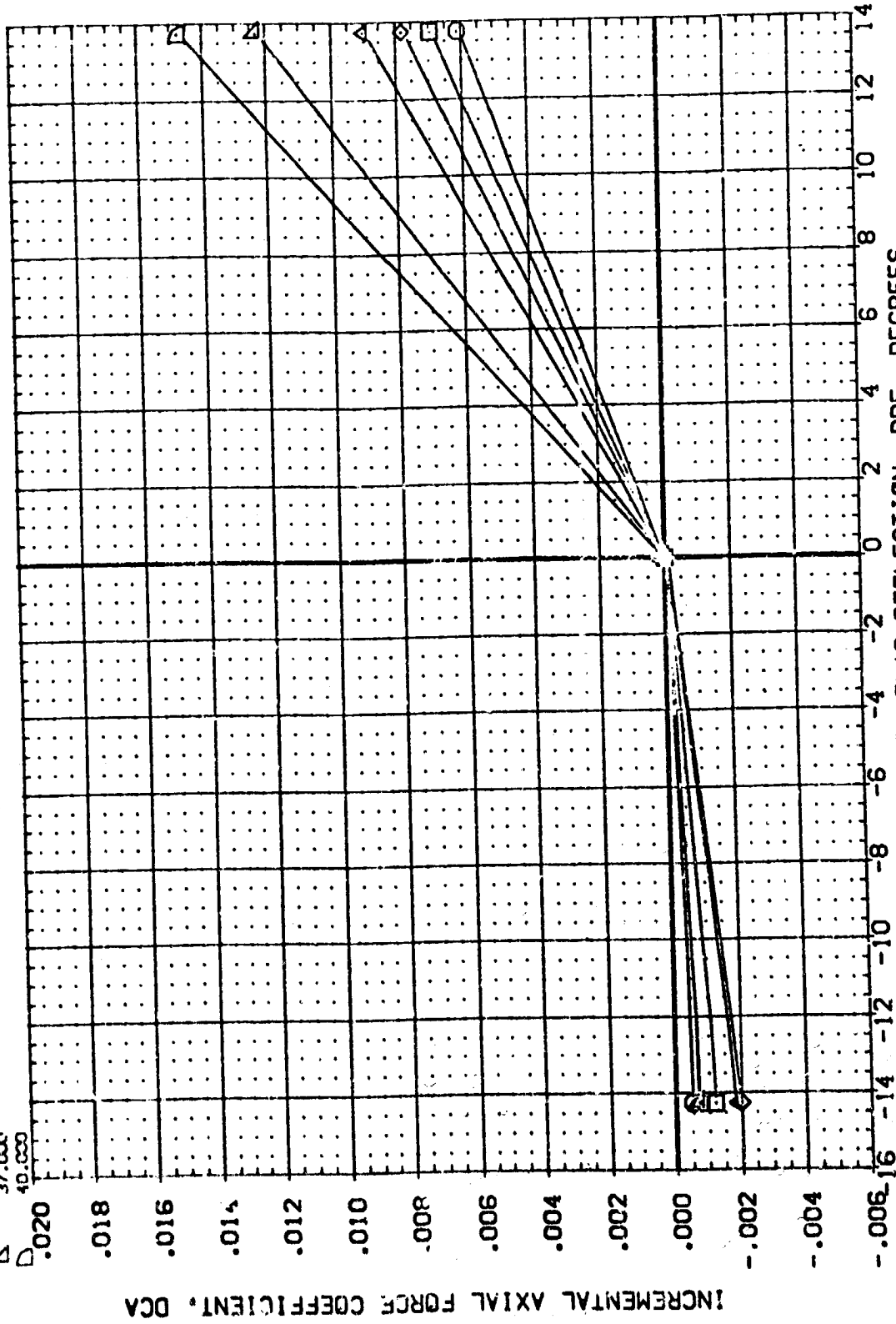


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W1 723)(V7R5) (EBY001)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SCALE	REFERENCE INFORMATION
○	43.000	7.300	BETA	.000	EBY001	-14.750	REF	.6050 SQ.FT.
□	48.000	.000	SPOBRK	54.920	EBY001	13.750	DEF	7.1220 IN.
◇	52.000	.000	RUDDER		EBY012		DEF	14.0500 IN.
							XPRP	12.5770 IN.
							YPRP	.0000 IN.
							ZMPR	6.0000 IN.
							SCALE	.0150

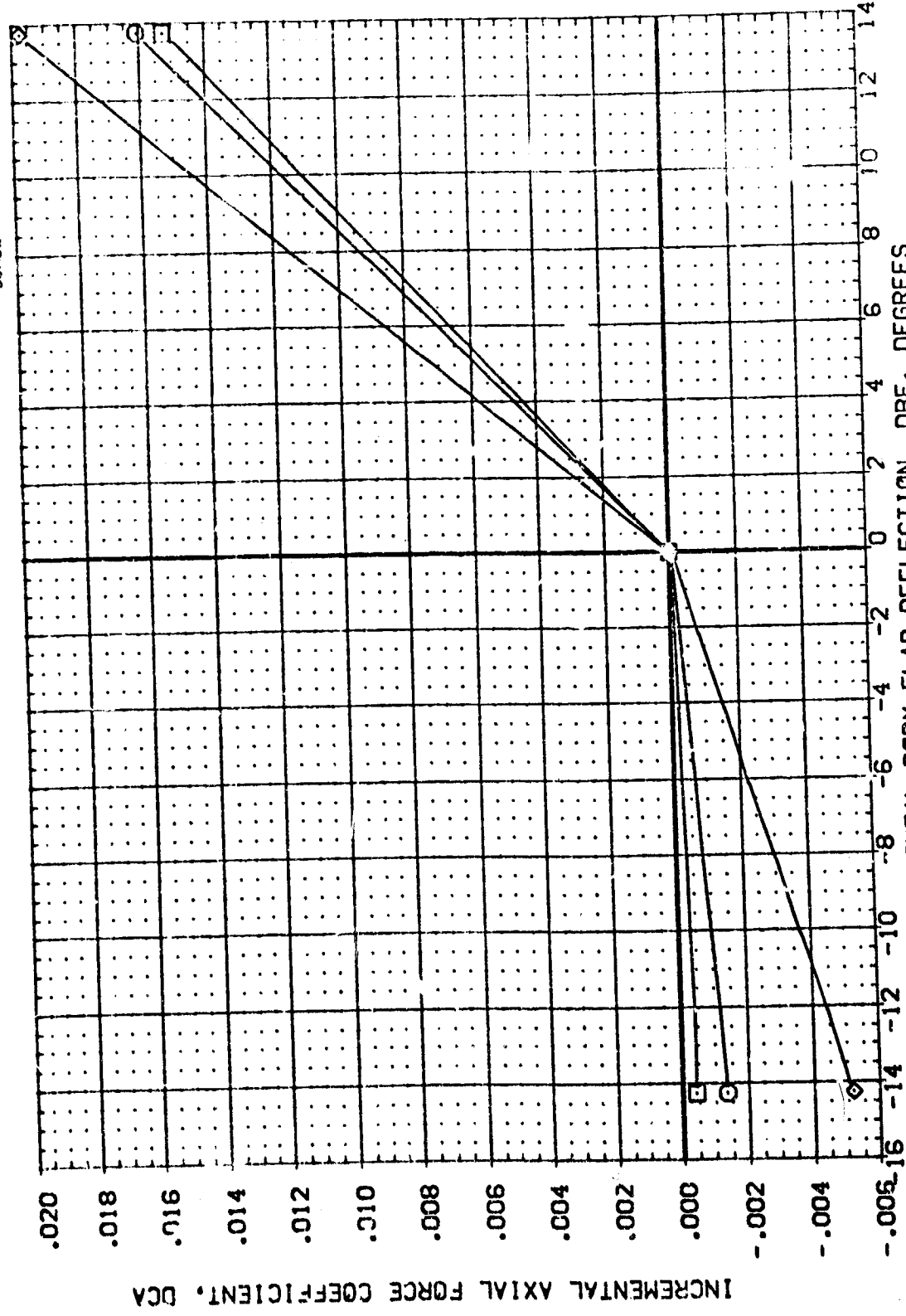


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

REFERENCE INFORMATION

SREF	6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0550	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	V.L.
SCALE	.0150	

DATA SOURCE

DBF	.000
EBY009	
EBY001	
EBY012	

PARAMETRIC VALUES

BETA	.030
SPOBRK	54.920
DBF	-14.250
DBF	-13.750

MACH 7.300

ELEVON .000

RUDDER .000

ALPHA 27.000

29.000

31.000

33.000

37.000

40.000

SYMBOL

○

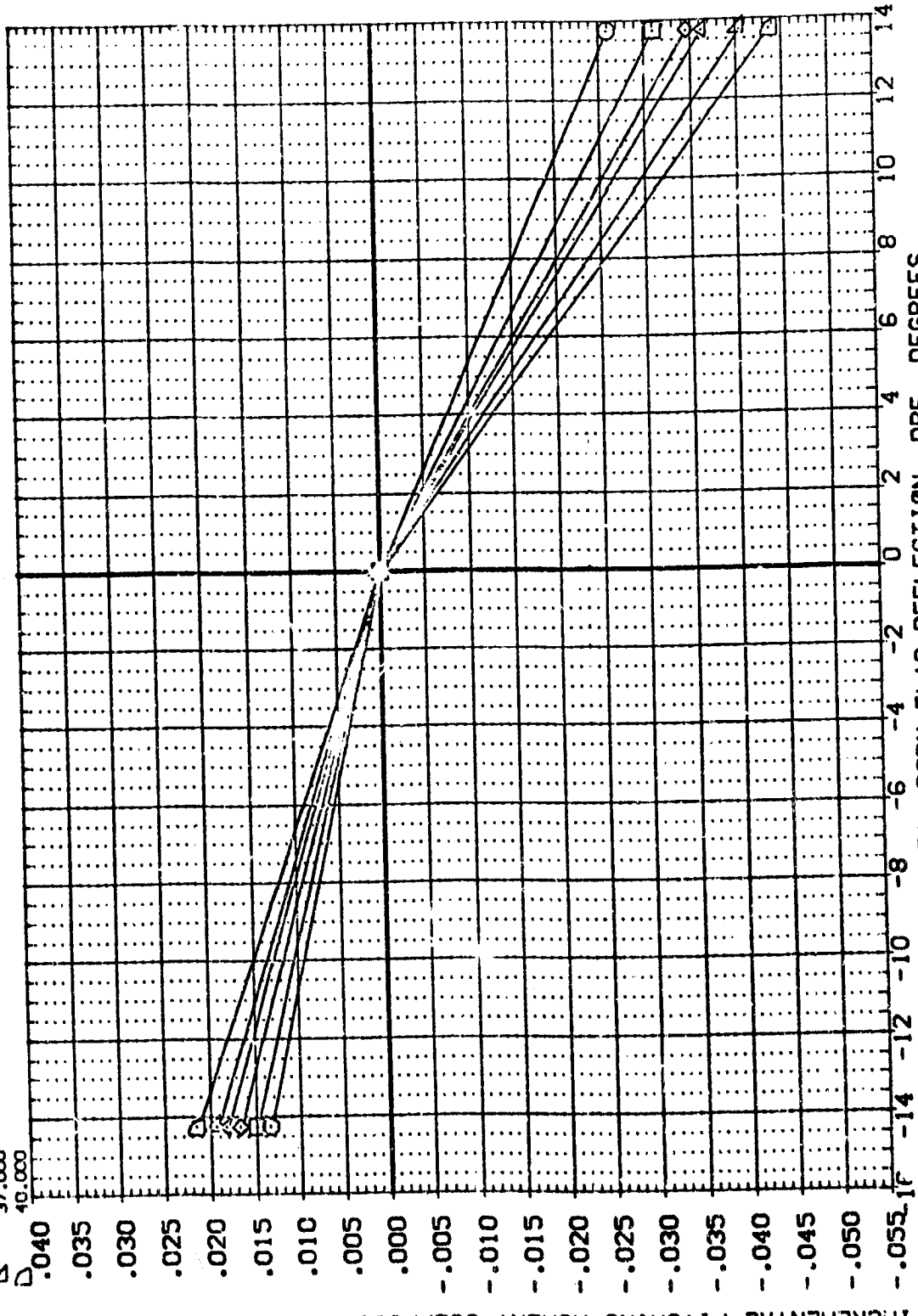
□

△

▽

◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (819C7M4F5)(M107E23)(V7R5) (EBY001)

REFERENCE INFORMATION
 SO. FT. IN. IN. IN. V.L.
 .6050 7.1220 14.0500 12.5770 6.0000
 .0150

DATA SOURCE
 DATASET DBF
 EBY009 .000

PARAMETRIC VALUES
 BETA SPDRK
 7.300 .000
 54.920 13.750

DATA SOURCE
 DATASET DBF
 EBY001 -14.250
 EBY012 13.750

ALPHA MACH ELEVON RUDDER
 43.000 48.000 52.000

SYMBOL
 ○ □ ◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

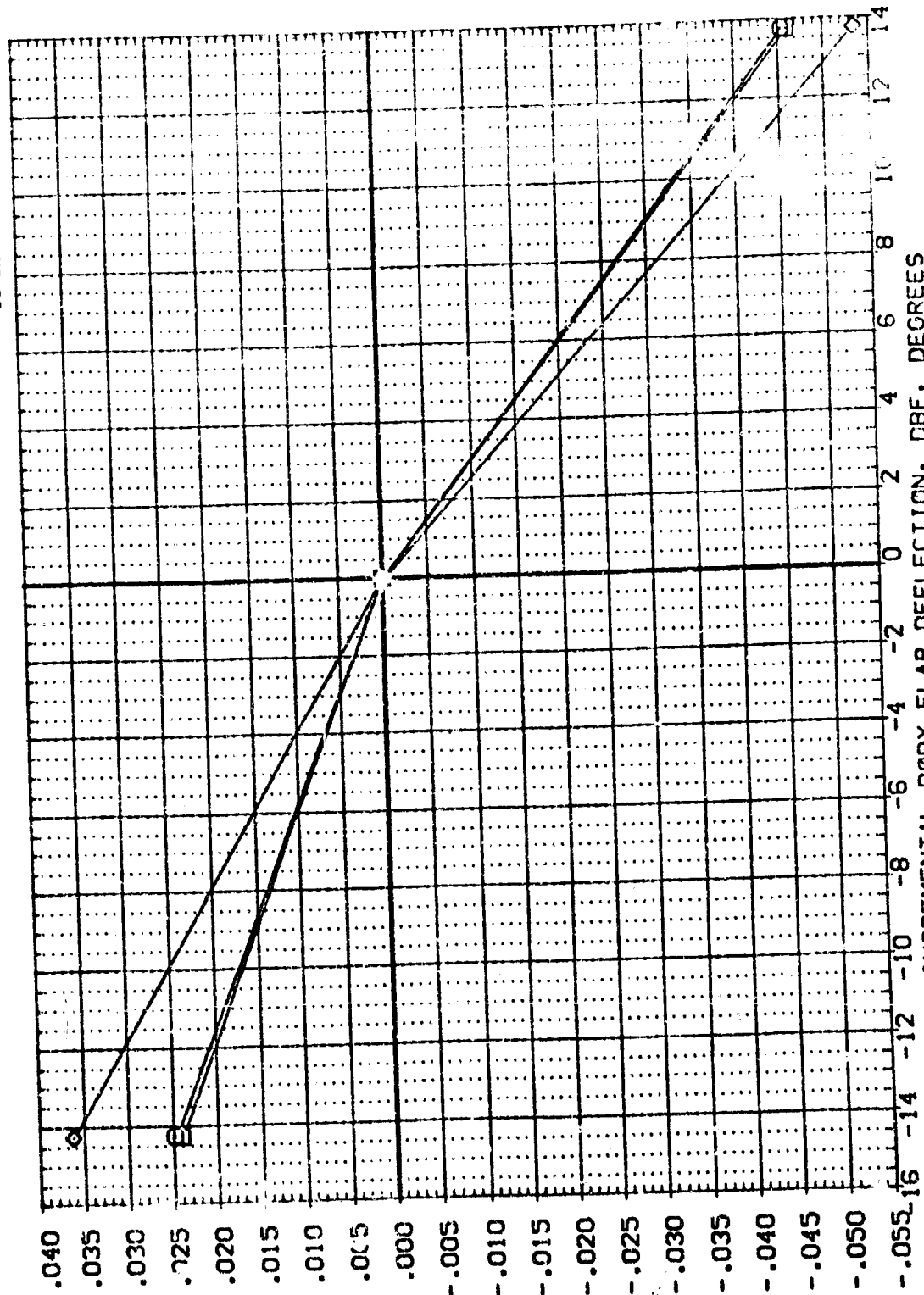


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOPRK .000

DATA SOURCE
 DATASET EBY009
 DBF .000

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOPRK .000

DATA SOURCE
 DATASET EBY001
 DBF -14.250

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOPRK .000

DATA SOURCE
 DATASET EBY012
 DBF 13.750

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 SPOPRK .000

DATA SOURCE
 DATASET EBY009
 DBF .000

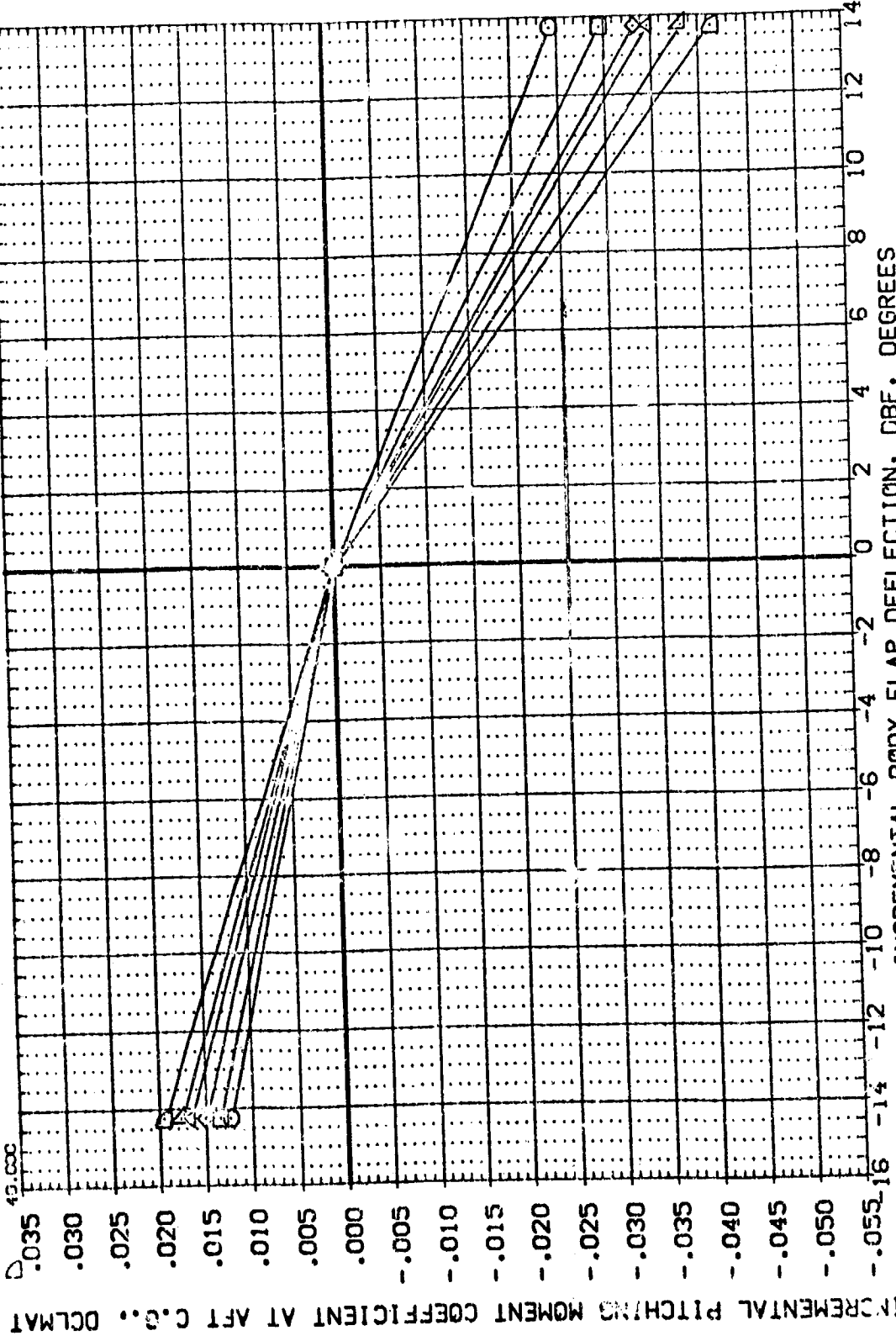


FIG. 7 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY001)

SYMBOL
 ○ □ ◇

ALPHA 43.000
 MACH 48.000
 ELEVON RUDDER 52.000

PARAMETRIC VALUES
 BETA 7.300
 SPDRK .000
 .000

DATA SOURCE
 DBF DATASET EBY001
 DBF DATASET EBY012

DBF DATASET EBY009
 DBF DATASET EBY008

REFERENCE INFORMATION
 SREF 6.050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

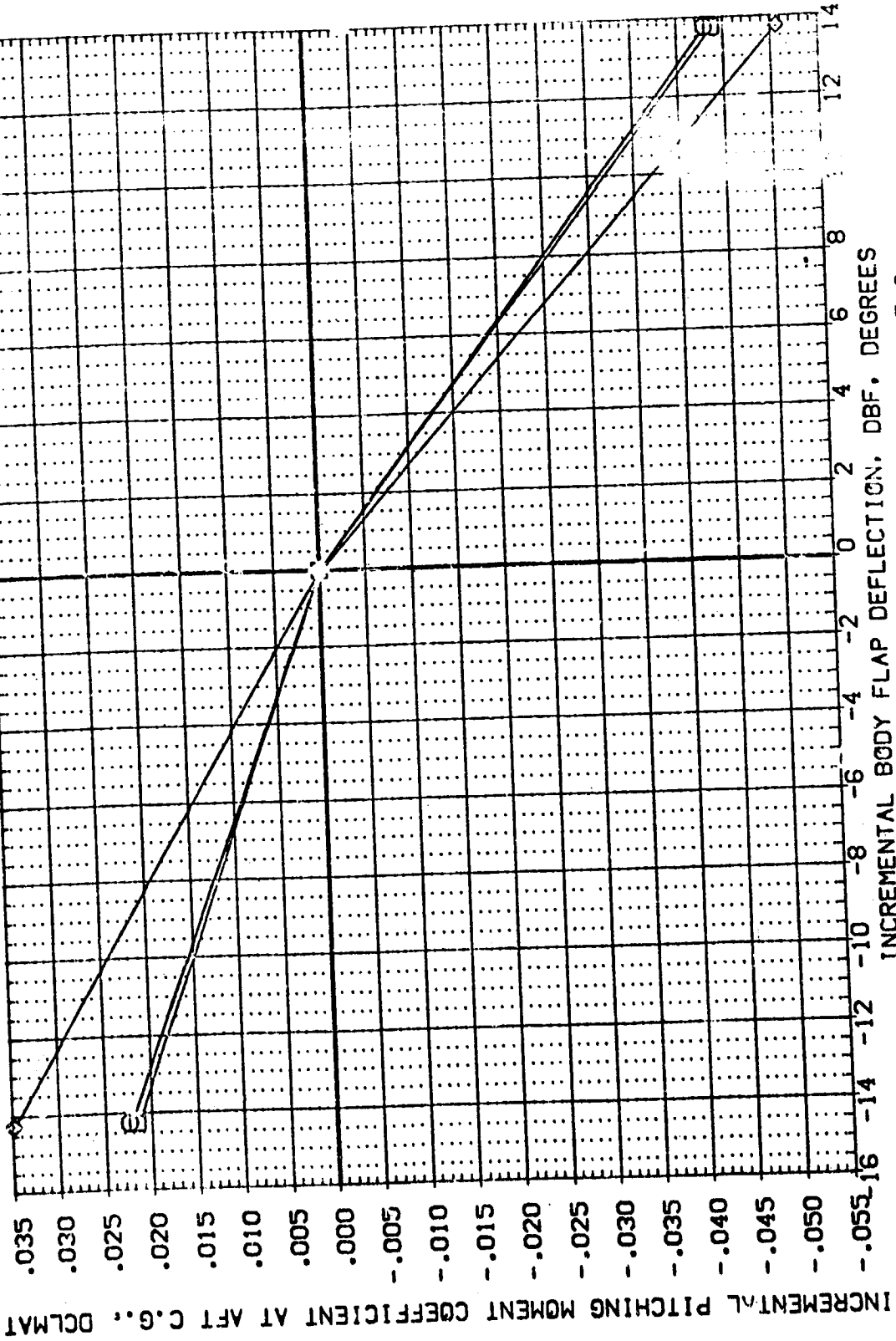


FIG. 7 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 7.3

C-3

REFERENCE INFORMATION
 SQ.FT. IN. IN. IN. IN. V.L.
 SREF 6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

SPOBRK 54.920
 BOFLAP -14.250
 ELEVON .000
 BETA .000

CONFIGURATION DESCRIPTION
 AMES 3.5-163 QASB (B1SC7M4FS)(V107E23)(V7RS)
 AMES 3.5-163 QASB (B1SC7M4FS)(V107E23)(V7RS)
 AMES 3.5-163 QASB (B1SC7M4FS)(V107E23)(V7RS)

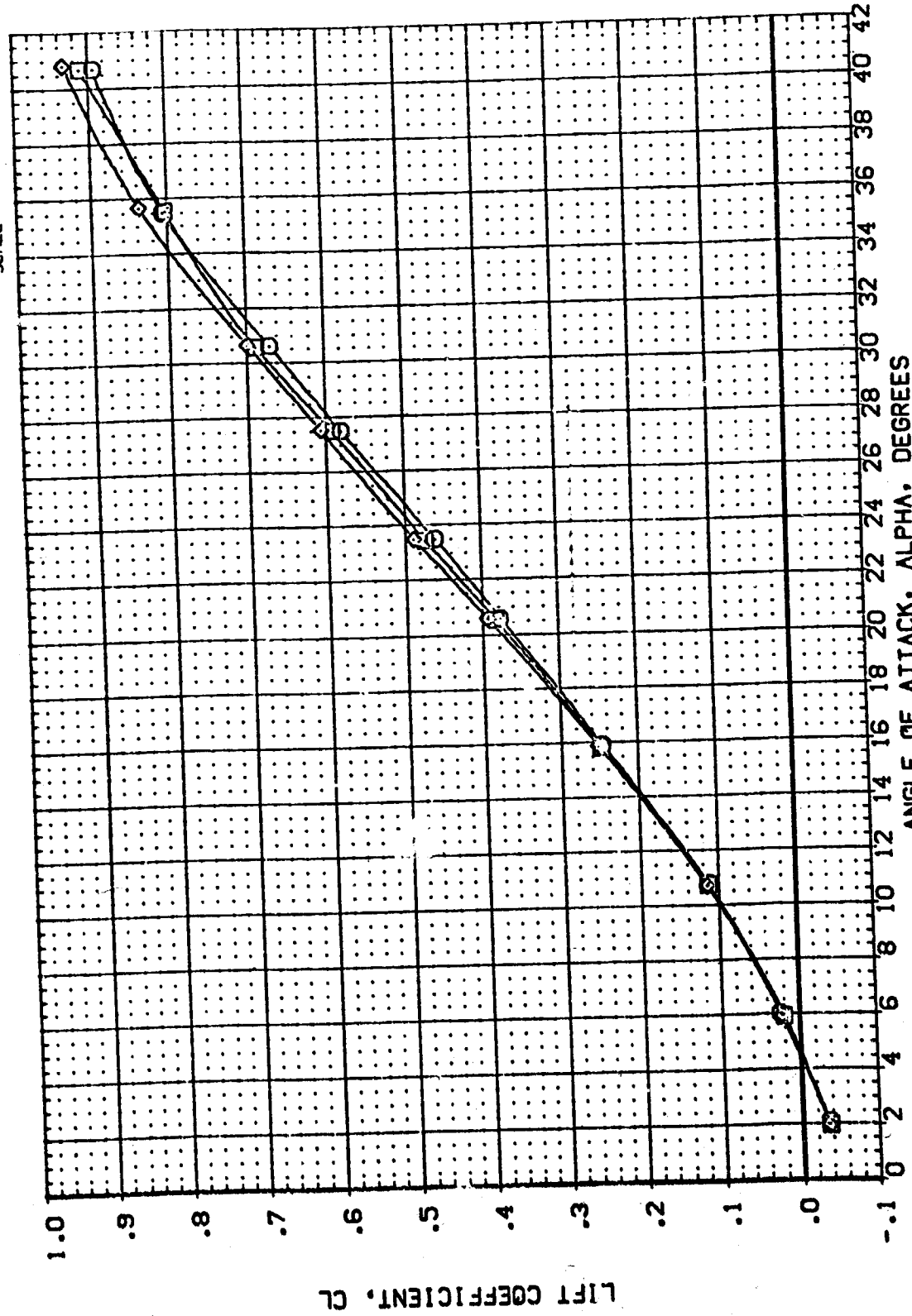


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YPRP 12.5770 IN.
 ZPRP 6.0000 IN.
 SCALE 6.0150 V.L.

SPOBRK 54.920
 BOFLAP -14.250 54.920
 ELEVON .000 .000 54.920
 BETA .000 .000 .000 13.750

DATA SET SYMBOL (BBY015)
 CONFIGURATION DESCRIPTION AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)
 (BBY010) AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)
 (BBY013) AMES 3.5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)

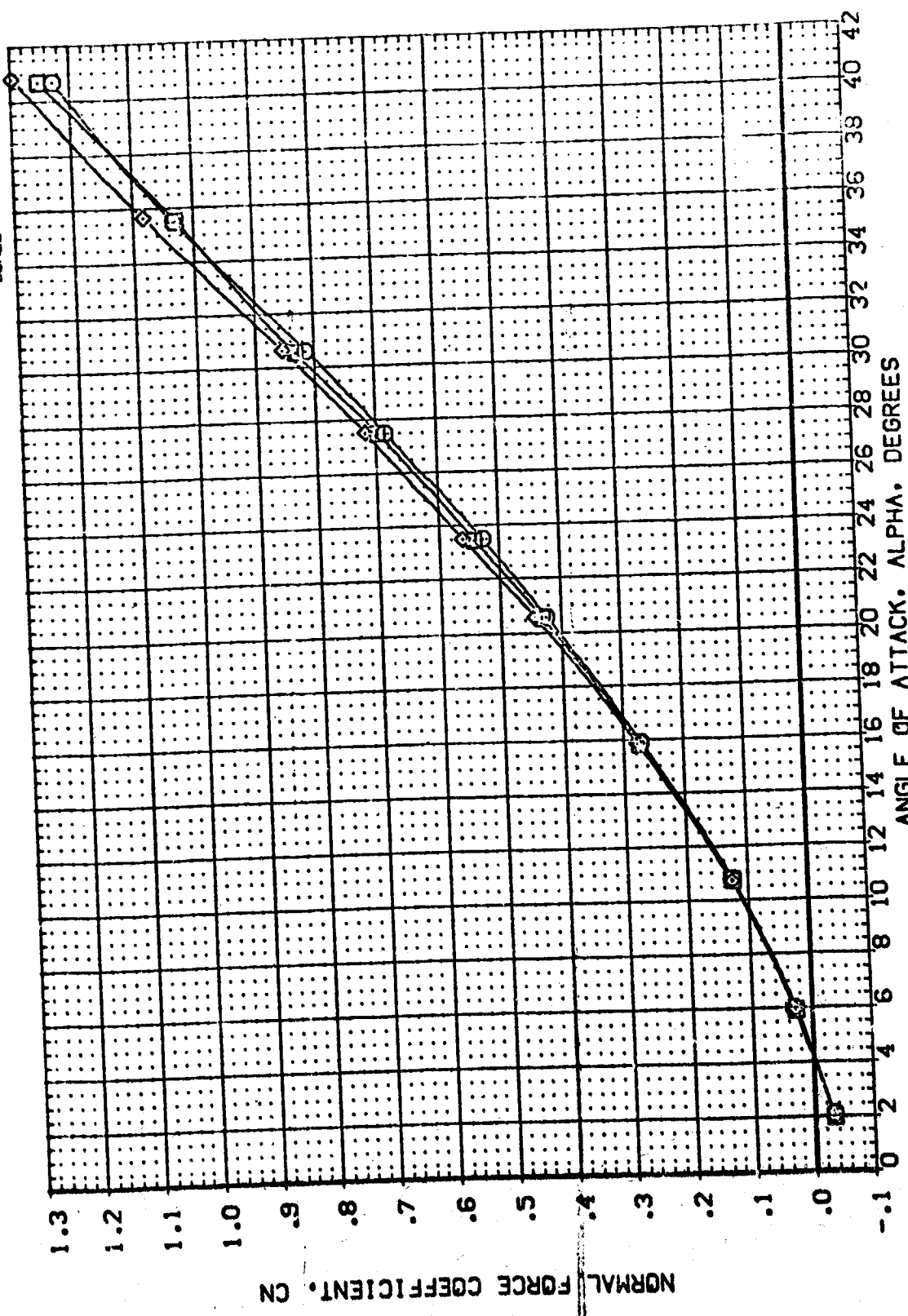


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL: (BBY015) (BBY010) (BBY013)

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 OASB (B19C7M4F5) (V107E23) (V7R5)
 AVES 3.5-163 OASB (B19C7M4F5) (V107E23) (V7R5)
 AVES 3.5-163 OASB (B19C7M4F5) (V107E23) (V7R5)

BETA: .000, .000, .000

ELEVON: .000, .000, .000

BOFLAP: -14.250, .000, 13.750

SPOBRK: 54.920, 54.920, 54.920

REFERENCE INFORMATION:
 SREF: .6050
 LREF: 7.1220
 BRFP: 14.0500
 YMRP: 12.5770
 ZMRP: .0000
 SCALE: 6.0000 V.L.: .0150

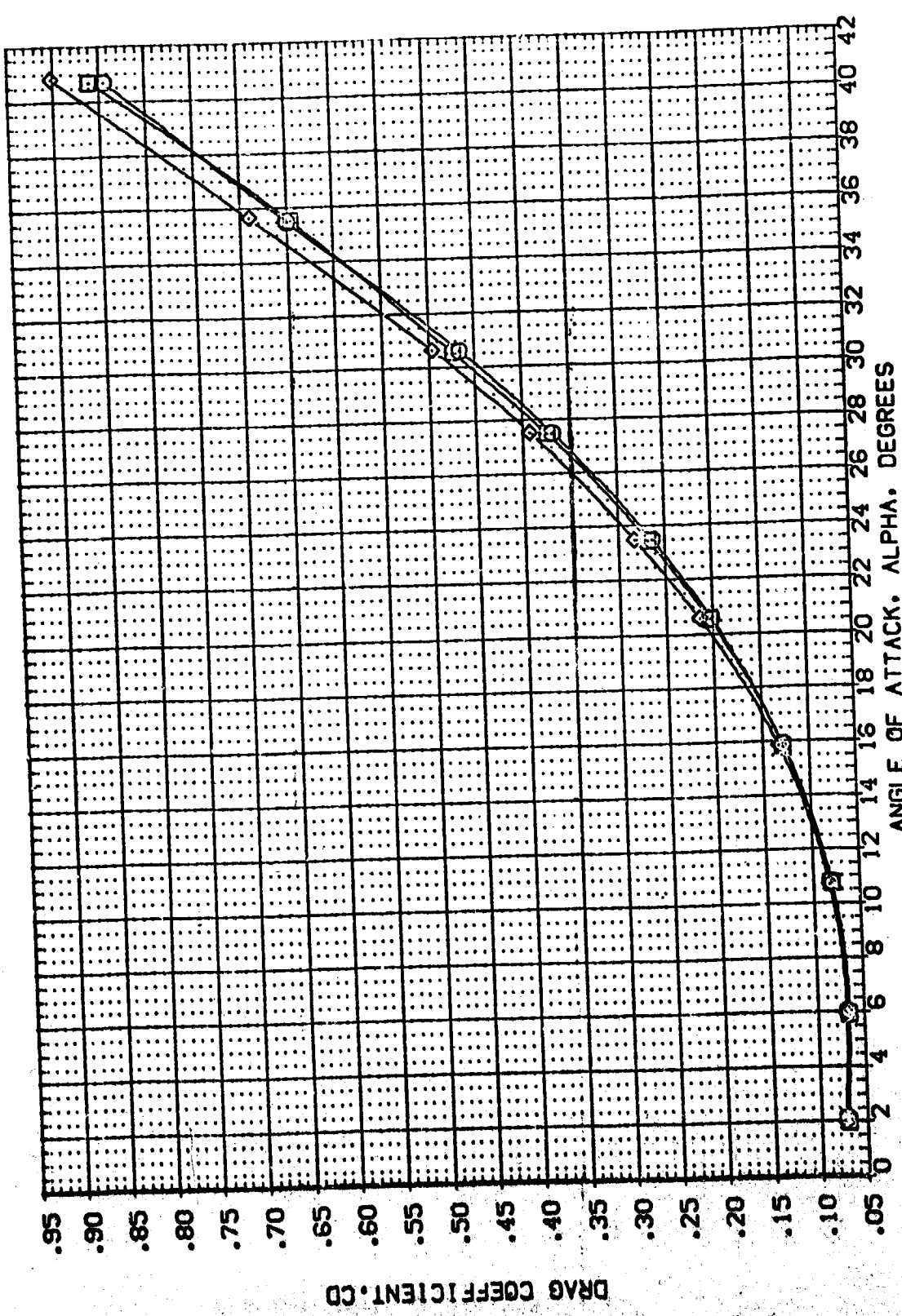



FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A) MACH = 10.29

DATA SET SYMB.  CONFIGURATION DESCRIPTION
 (887015) AMES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)
 (887010) AMES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)
 (887013) AMES 3-5-163 OAS8 (B19C7M4F5)(V107E23)(V7R5)

BETA .000
 .000
 .000
 .000

ELEVON .000
 .000
 .000
 .000

BOFLAP -14.250
 .000
 .000
 13.750

SPDSBK 54.920
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

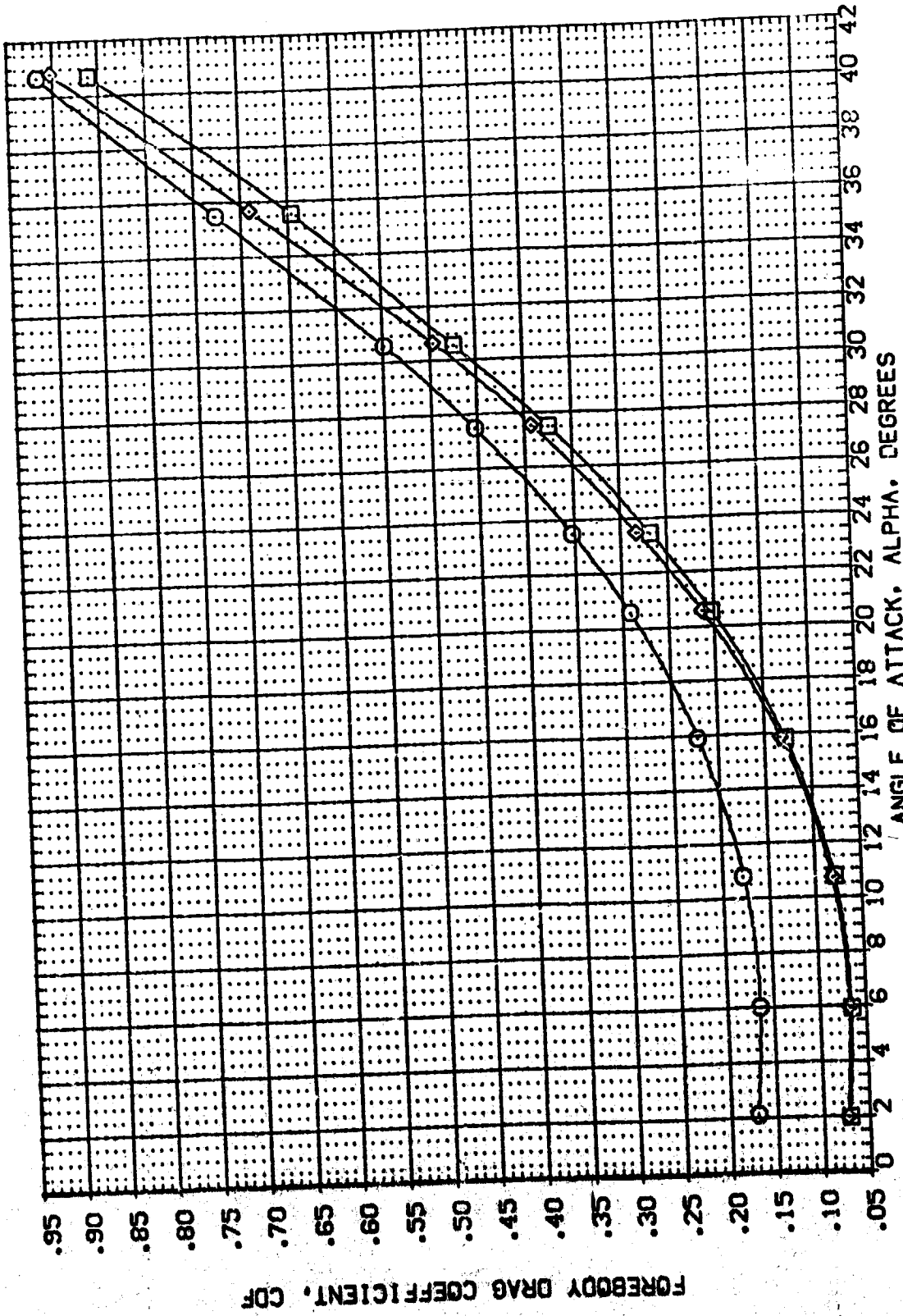


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(A) MACH = 10.29

DATA SET SYMBOL
 (BB7015)
 (BB7010)
 (BB7013)

CONFIGURATION DESCRIPTION
 AMES 3-S-163 GASB (B18C7MAF5)(V107E23)(V7RS)
 AMES 3-S-163 GASB (B18C7MAF5)(V107E23)(V7RS)
 AMES 3-S-163 GASB (B18C7MAF5)(V107E23)(V7RS)

BETA
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000

BODY LAP
 -14.250
 .000
 13.750

SPORBK
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BRFP 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

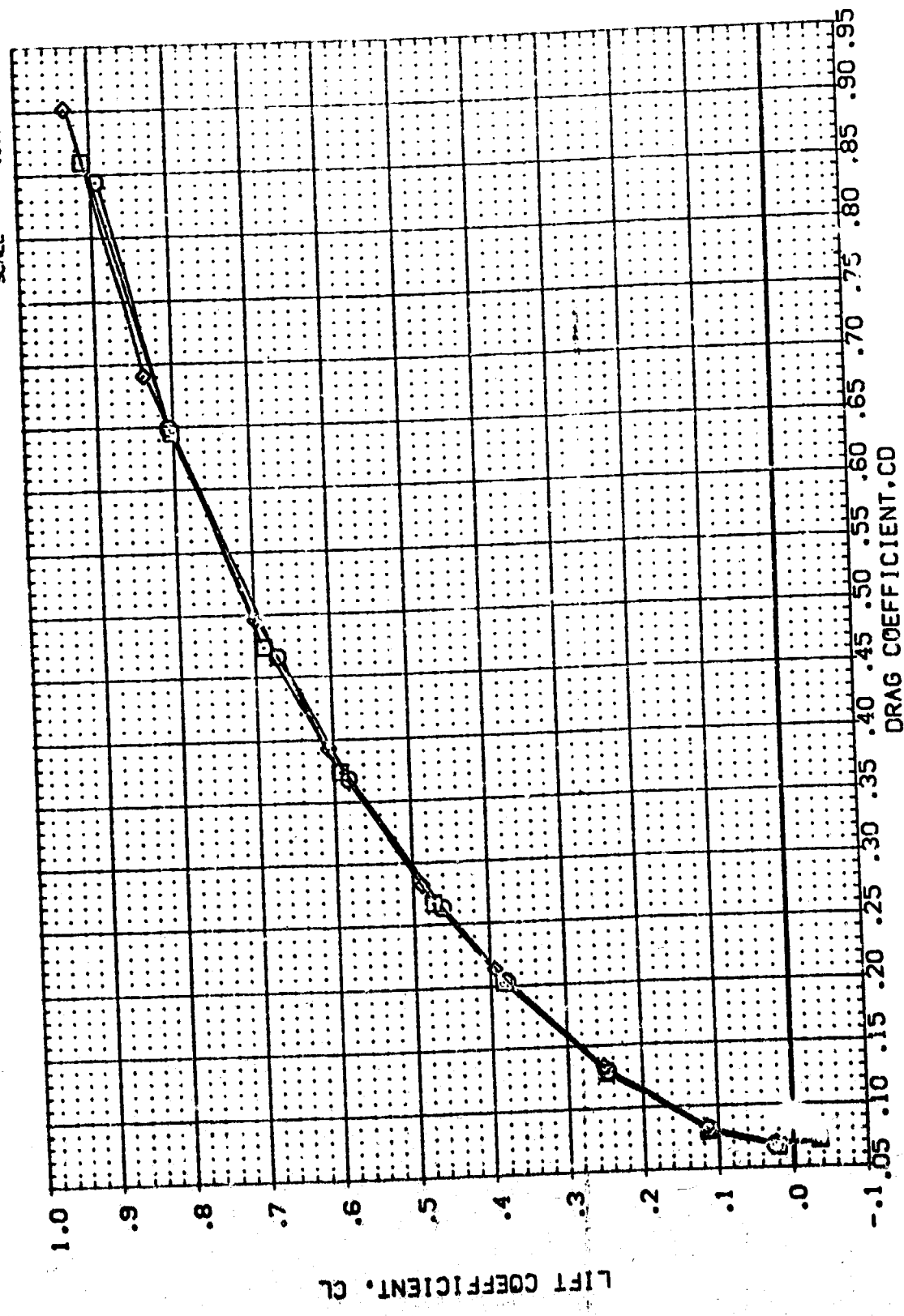


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL: (BBY015) (BBY010) (BBY013)
 CONFIGURATION DESCRIPTION: AMES 3-5-163 CAS8 (B15C7MAF5)(V107E23)(V7R5) AMES 3-5-163 CAS8 (B15C7MAF5)(V107E23)(V7R5) AMES 3-5-163 CAS8 (B15C7MAF5)(V107E23)(V7R5)
 BETA: .000 .000 .000
 ELEVON: .000 .000 .000
 80° FLAP: -14.250 .000 13.750
 SPOBRK: 54.920 54.920 54.920
 REFERENCE INFORMATION: SREF 6050 SQ.FT. LREF 7.1220 IN. BREF 14.0500 IN. XMRP 12.5770 IN. YMRP .0000 IN. ZMRP 6.0000 V.L. SCALE .0150

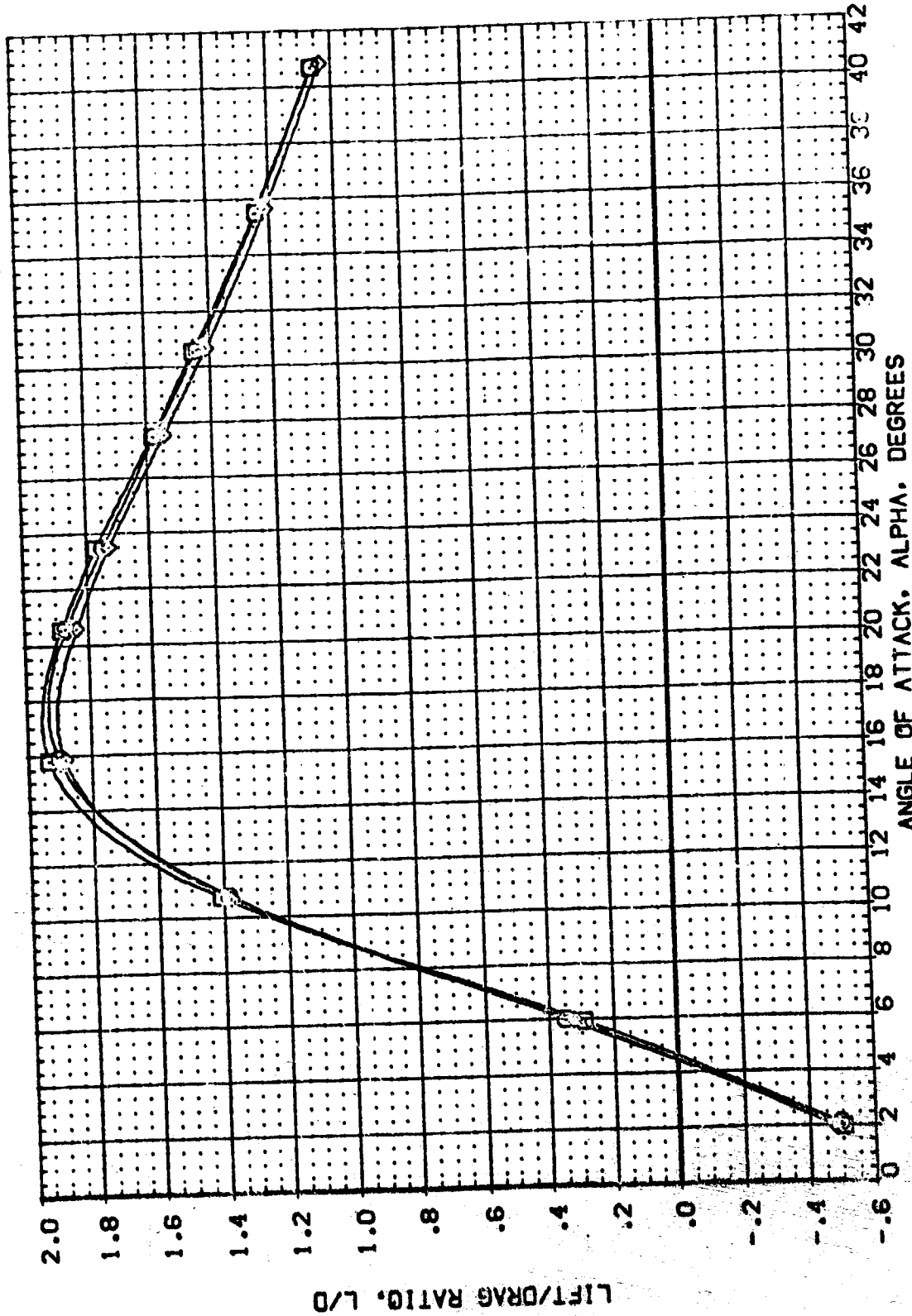


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XPRP 12.5770 IN.
 YPRP 6.0000 IN.
 ZPRP 6.0000 V.L.
 SCALE .0150

BETA .000
 ELEVON .000
 SPOBRK 54.920
 BOFLAP -14.250
 54.920
 54.920

CONFIGURATION DESCRIPTION
 MES 3-163 OASB (BISC7MF5)(V107E23)(V7R5)
 MES 3-5-163 OASB (BISC7MF5)(V107E23)(V7R5)
 MES 3-5-163 OASB (BISC7MF5)(V107E23)(V7R5)

DATA SET SYMBO.
 (88Y015)
 (88Y010)
 (88Y013)

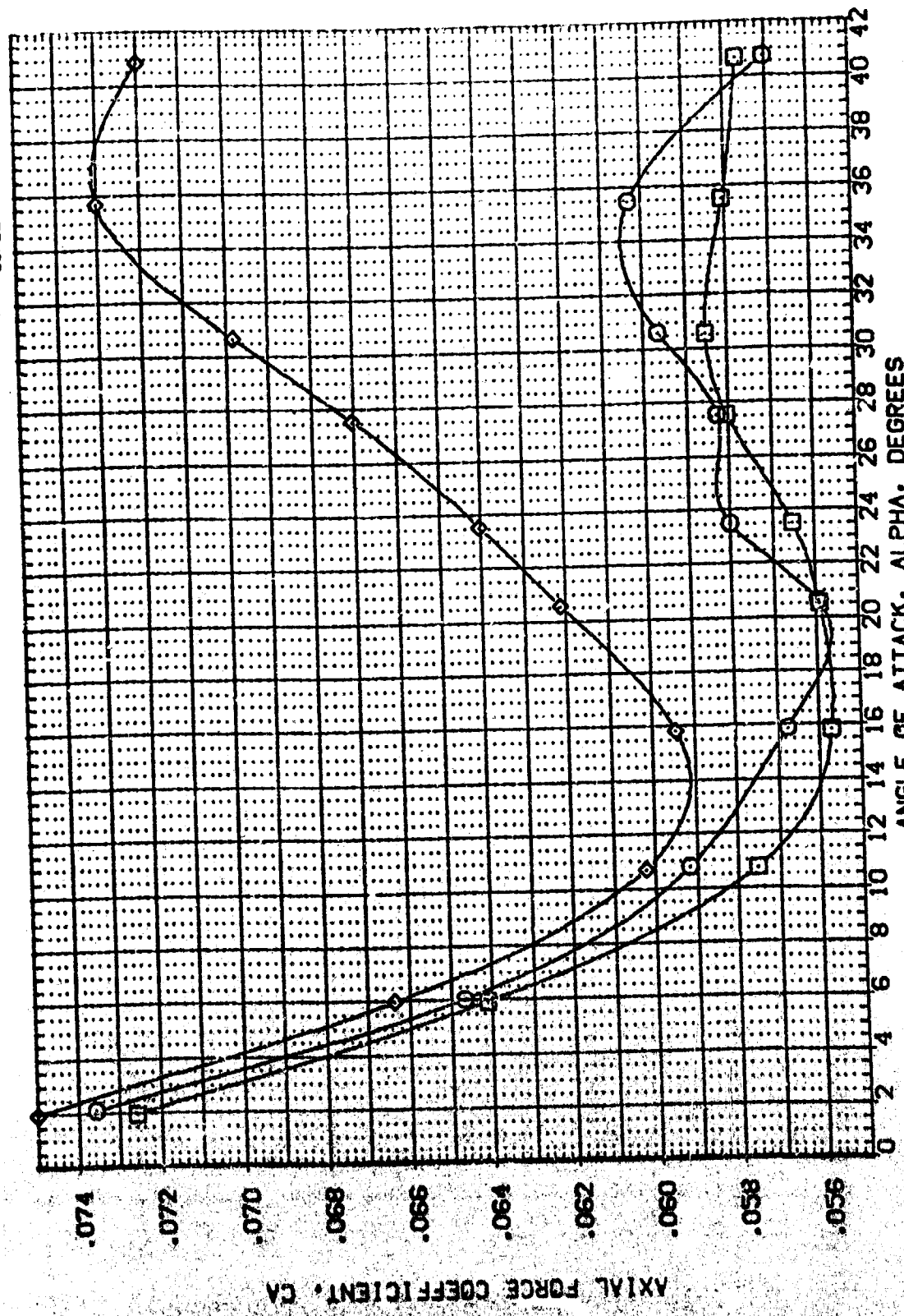


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(CA)MACH = 10.29

DATA SET SYMBOL: (SB01015), (SB01016), (BB01013)

CONFIGURATION DESCRIPTION:
 ARES 3.5-163 OAS8 (B1SC7MFS)(V107E23)(VRS)
 ARES 3.5-163 OAS8 (B1SC7MFS)(V107E23)(VRS)
 ARES 3.5-163 OAS8 (B1SC7MFS)(V107E23)(VRS)

BETA: .000, .000, .000

ELEVON: .000, .000, .000

BOFLAP: -14.250, .000, 13.750

SPOBRK: 54.520, 54.520, 54.520

REFERENCE INFORMATION:
 SREF: 6050 SO.FT.
 LREF: 7.1220 IN.
 BREF: 14.0500 IN.
 XTRP: 12.5770 IN.
 YTRP: 6.0000 IN.
 ZTRP: 6.0000 IN.
 SCALE: .0150 V.L.

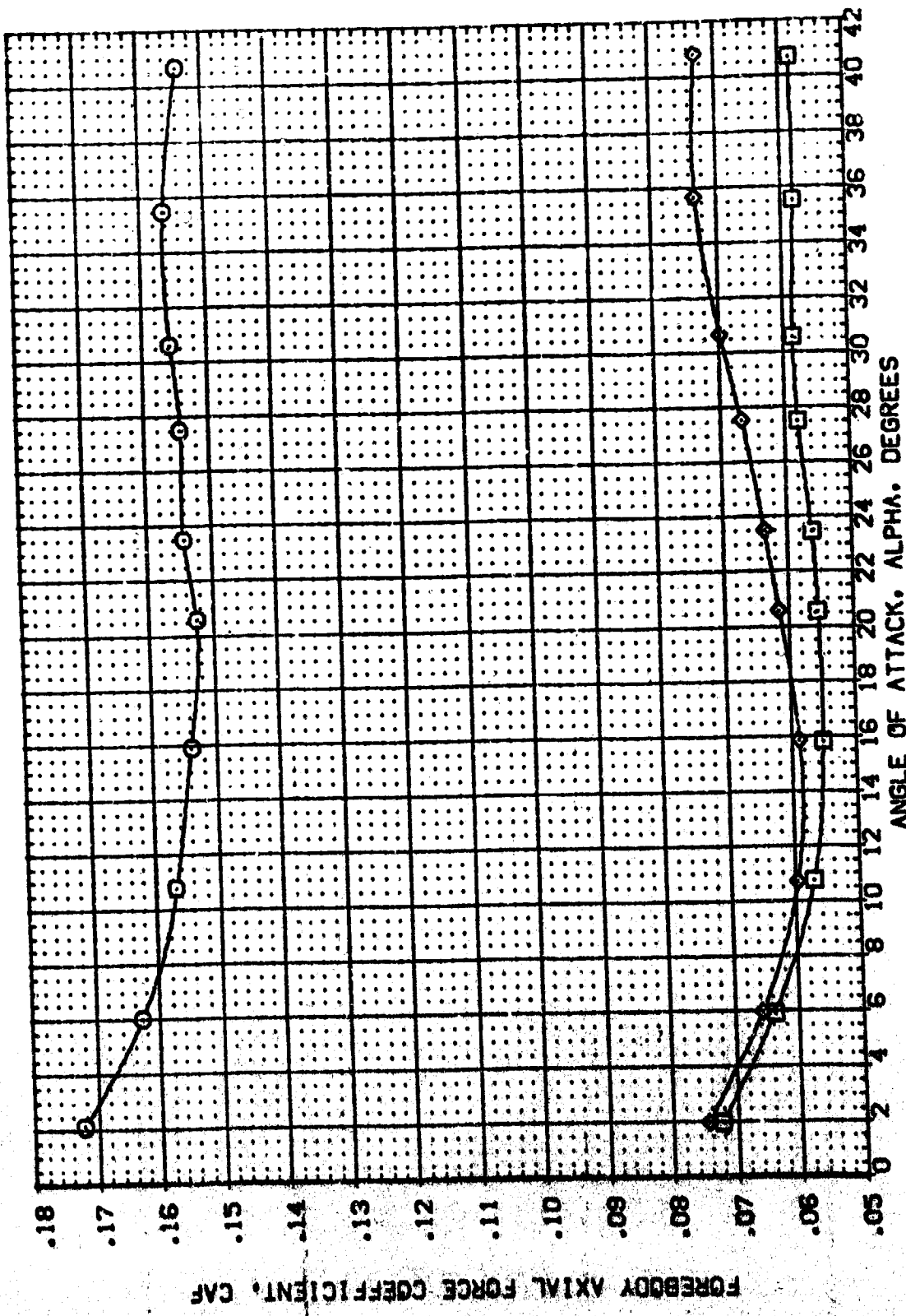


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A) MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(887015)	AVES 3.5-163 OAS8 (819C7MFS)(V107E23)(VRS)	.000	.000	-14.250	54.520	SREF 6050 SQ.FT.
(887010)	AVES 3.5-163 OAS8 (819C7MFS)(V107E23)(VRS)	.000	.000	.000	54.520	LREF 7.1220 IN.
(887013)	AVES 3.5-163 OAS8 (819C7MFS)(V107E23)(VRS)	.000	.000	13.750	54.520	BREF 14.6500 IN.
						XTRP 12.5770 IN.
						ZTRP .0000 IN.
						SCALE 6.0000 V.L.

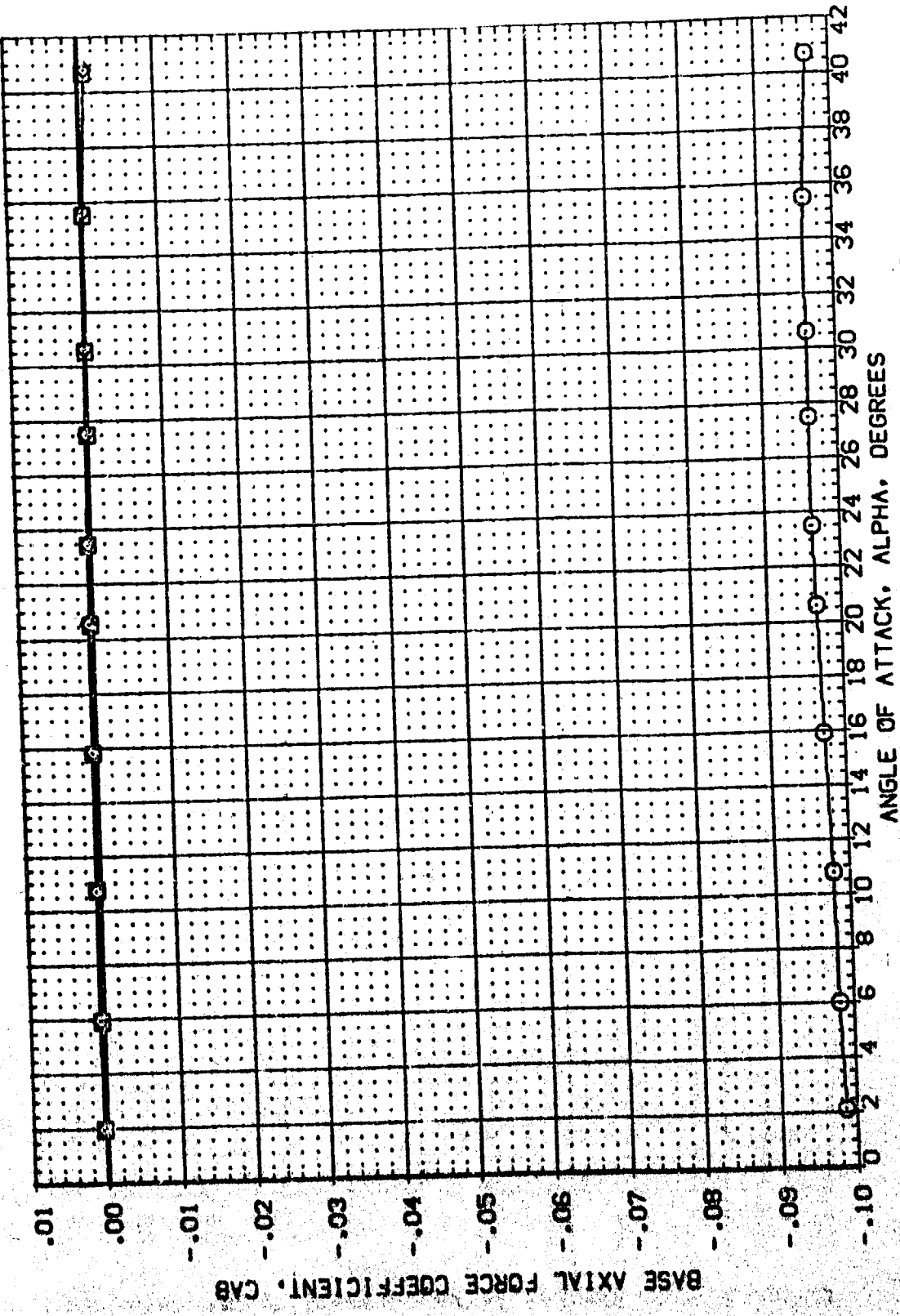


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL: (B97015), (B97016), (B97013)

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 OASB (B19C7M4F3)(V107E23)(VRS)
 AVES 3.5-163 OASB (B19C7M4F3)(V107E23)(VRS)
 AVES 3.5-163 OASB (B19C7M4F3)(V107E23)(VRS)

BETA: .000, .000, .000

ELEVON: .000, .000, .000

BC/LAP: -14.250, .000, 13.750

SFOBRK: 54.920, 54.920, 54.920

REFERENCE INFORMATION:
 SREF: .6050 SQ.FT.
 LREF: 7.1220 IN.
 BREF: 14.0500 IN.
 XMRP: 12.5770 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150 V.L.

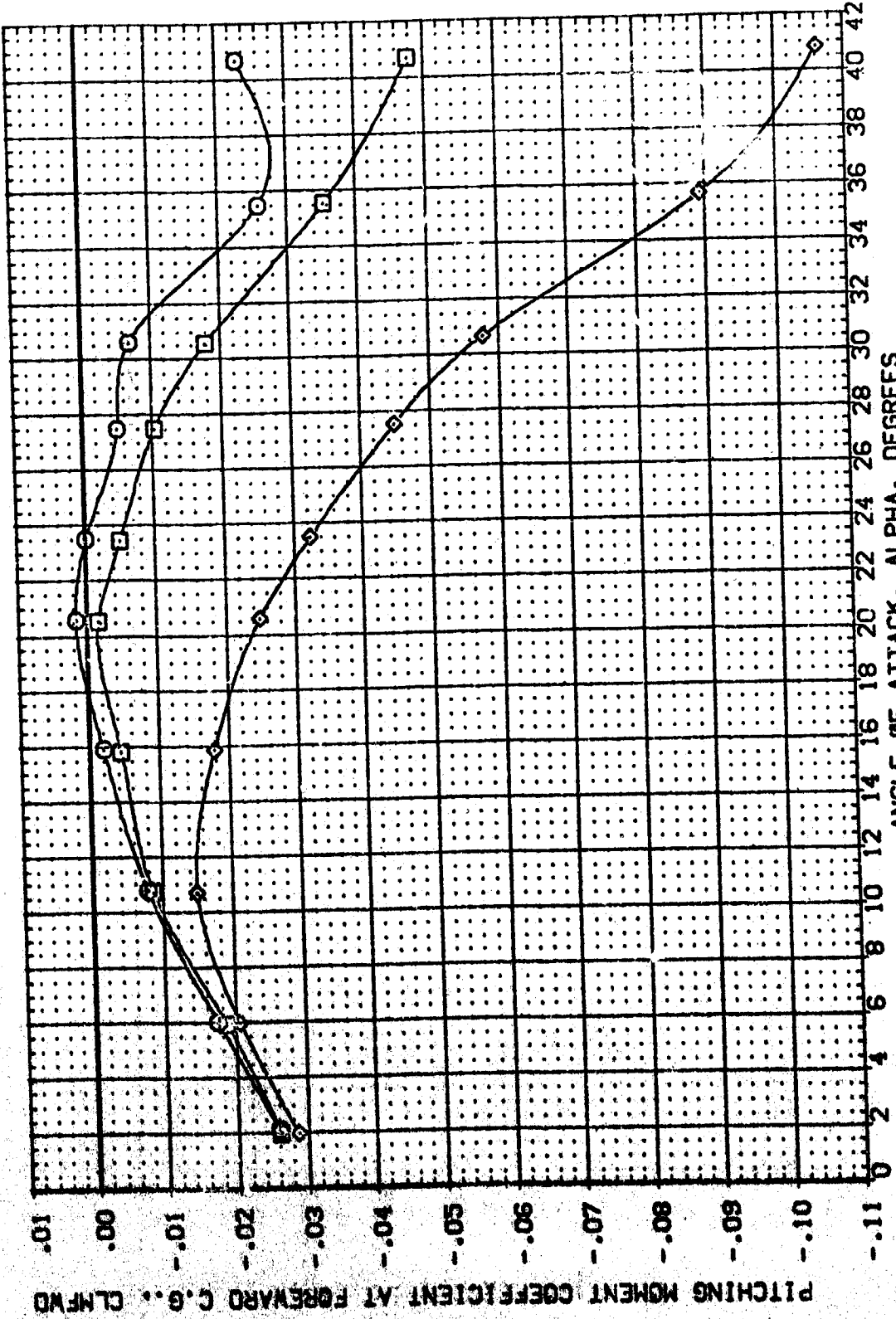


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION

SREF	6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	V.L.
SCALE	.0150	

SPDZBK

SPDZBK	54.920
BOFLAP	-14.250
ELEVON	.000
BETA	.000

CONFIGURATION DESCRIPTION

(BBY015)	AVES 3-5-163 OAS8 (BISC7MFS)(VIDTEZ3)(V7RS)
(BBY010)	AVES 3-5-163 OAS8 (BISC7MFS)(VIDTEZ3)(V7RS)
(BBY013)	AVES 3-5-163 OAS8 (BISC7MFS)(VIDTEZ3)(V7RS)

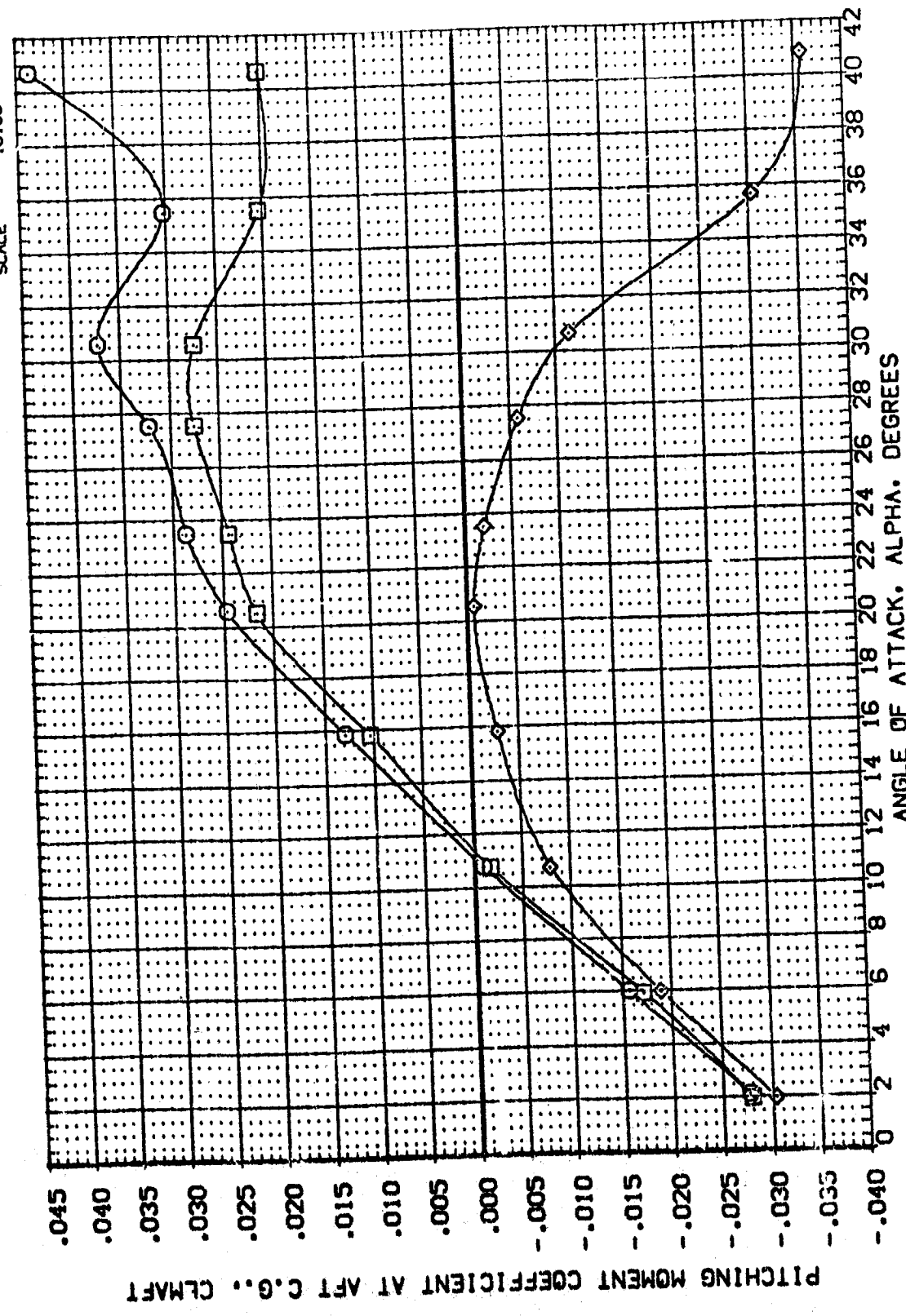


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL: (BBY015), (BBY010), (BBY013)
 CONFIGURATION DESCRIPTION: AMES 3.5-163 QAS8 (B19C7M4F5)(V107E23)(V7RS), AMES 3.5-163 QAS8 (B19C7M4F5)(V107E23)(V7RS), AMES 3.5-163 QAS8 (B19C7M4F5)(V107E23)(V7RS)
 REFERENCE INFORMATION: SREF .6050 SQ.FT. IN., LREF 7.1220 IN., BREF 14.0500 IN., XMRP 12.5770 IN., YMRP .0000 IN., ZMRP 6.0000 IN., SCALE .0150 V.L.

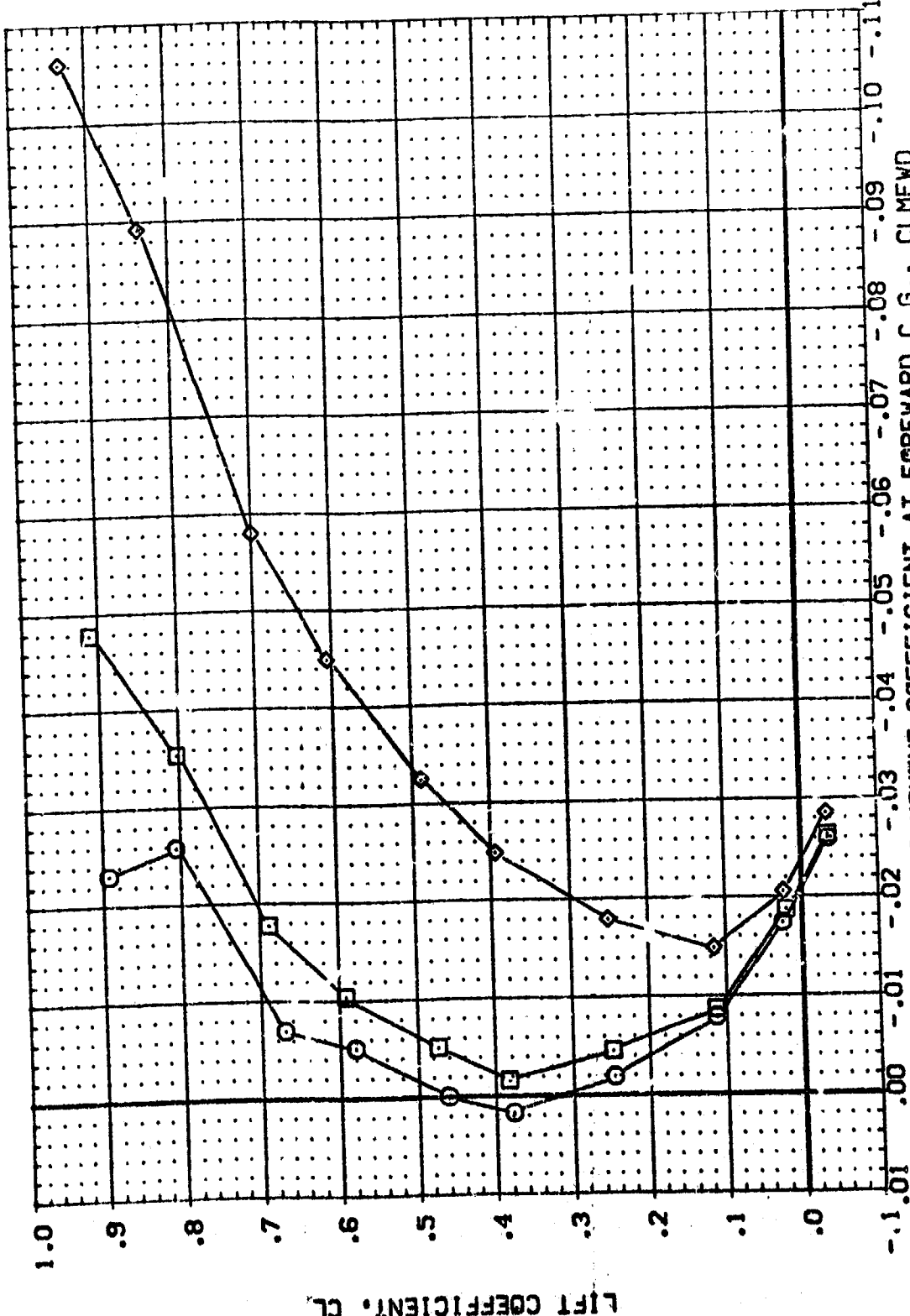


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BBY015) APES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 (BBY010) APES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)
 (BBY013) APES 3.5-163 CAS8 (B19C7M4F5)(V107E23)(V7RS)

BETA ELEVON BDF LAP SPOBRK
 .000 .000 -14.250 54.920
 .000 .000 .000 54.920
 .000 .000 13.750 54.920

REFERENCE INFORMATION SO. FT.
 SREF .6050 IN.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE 6.0150 V.L.

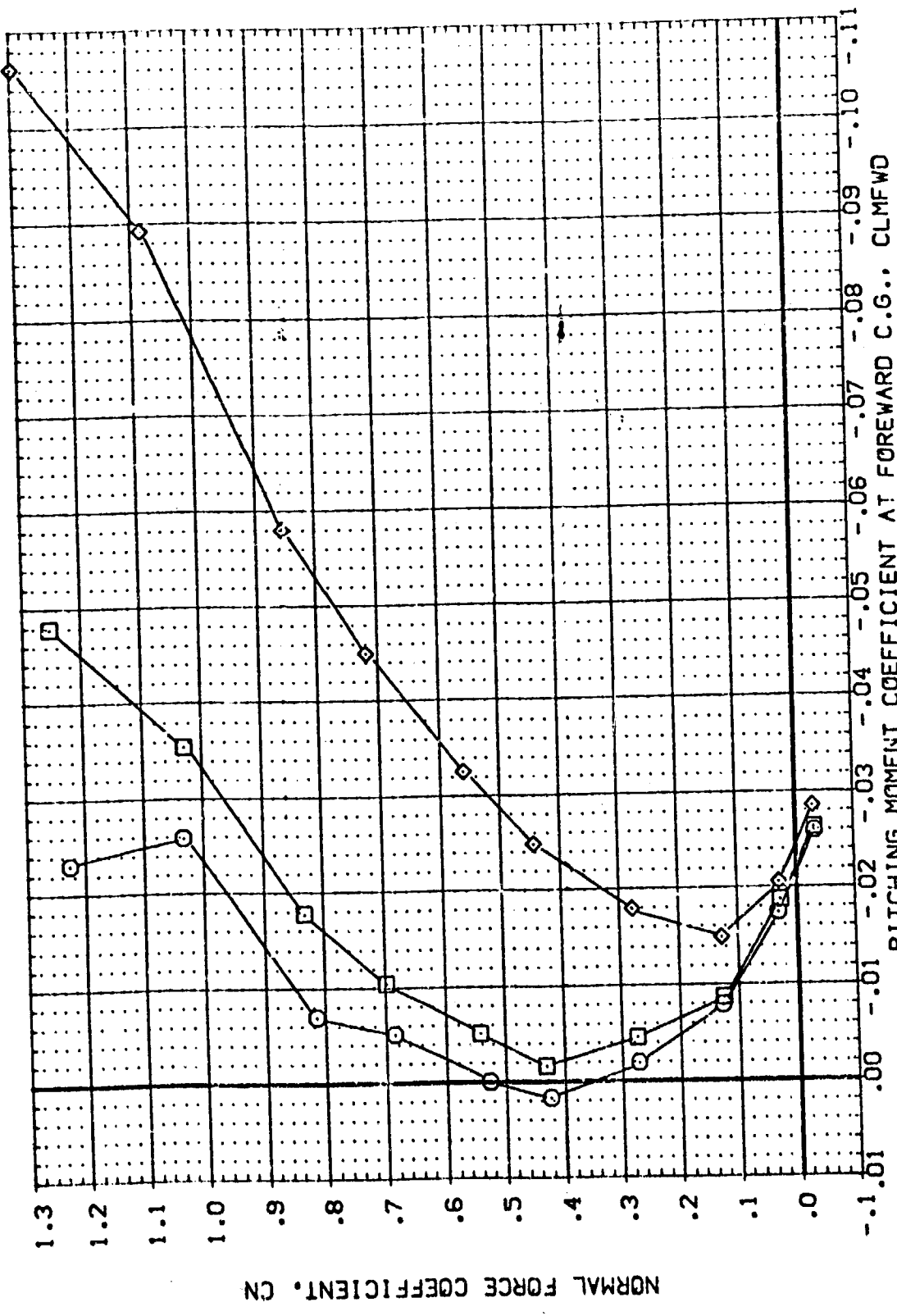


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL: (R9Y015), (R9Y010), (R9Y013)

CONFIGURATION DESCRIPTION:
 APES 3.5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)
 APES 3.5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)
 APES 3.5-163 DA58 (B19C7M4FS)(V107E23)(V7RS)

BETA: .000, .000, .000

ELEVON: .000, .000, .000

BOFLAP: -14.250, .000, 13.750

SPODBK: 54.920, 54.920, 54.920

REFERENCE INFORMATION:
 SQ.FT.: 6050
 IN.: 7.1270
 IN.: 14.0500
 IN.: 12.5770
 IN.: .0000
 V.L.: 6.0000
 SCALE: .0150

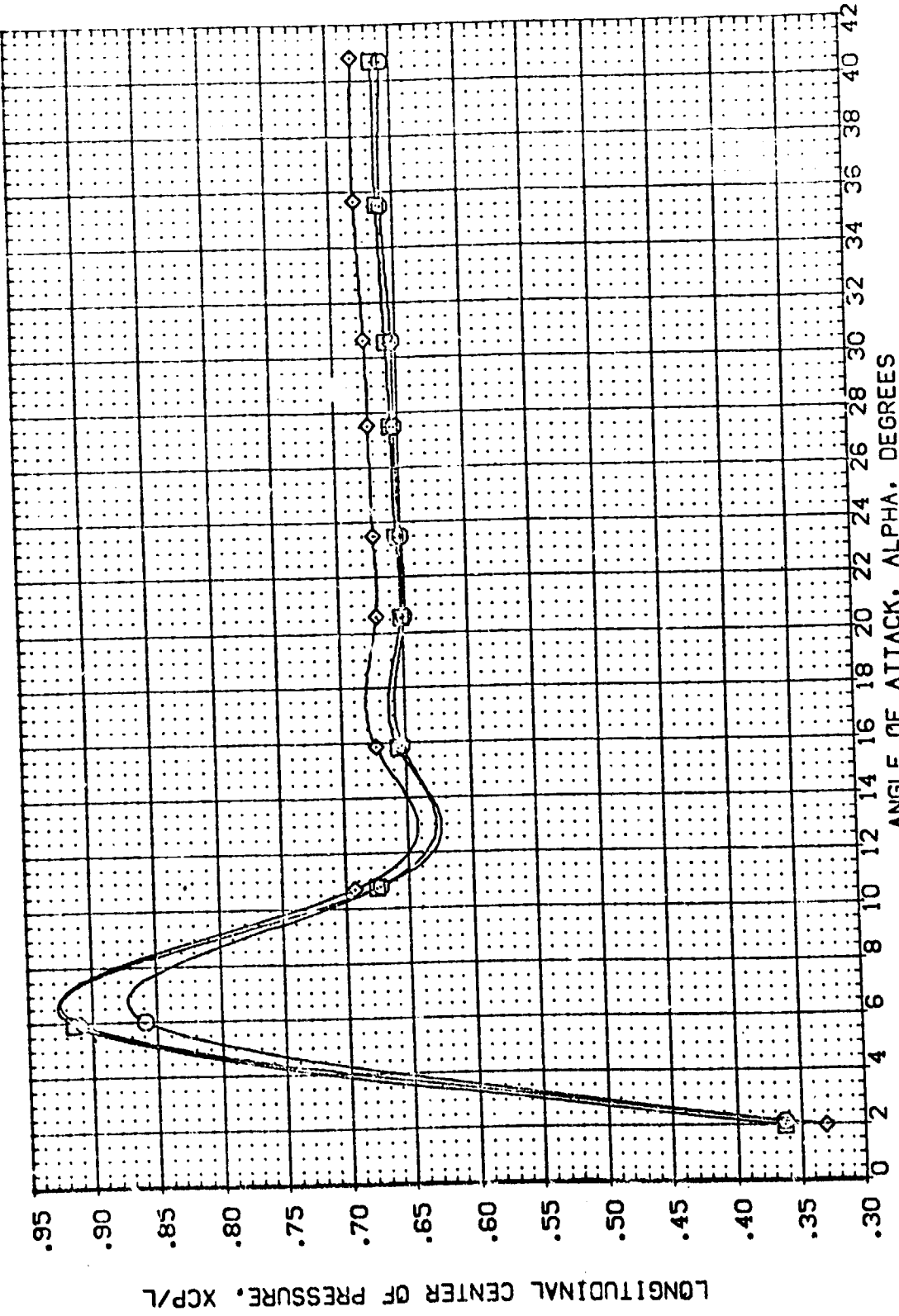


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL (EBY015) (EBY013) □

CONFIGURATION DESCRIPTION
 AVES 3-5-163 0A58 (B1SCTM4F5)(V107E23)(V7R5)
 AVES 3-5-163 0A58 (B1SCTM4F5)(V107E23)(V7R5)

BETA .000 .000

ELEVON DBF .000 -14.250

SPOBRK 54.920 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YMRP 12.5770 IN.
 ZMRP 6.0000 IN.
 V.L. 6.0000 V.L.
 SCALE .0150

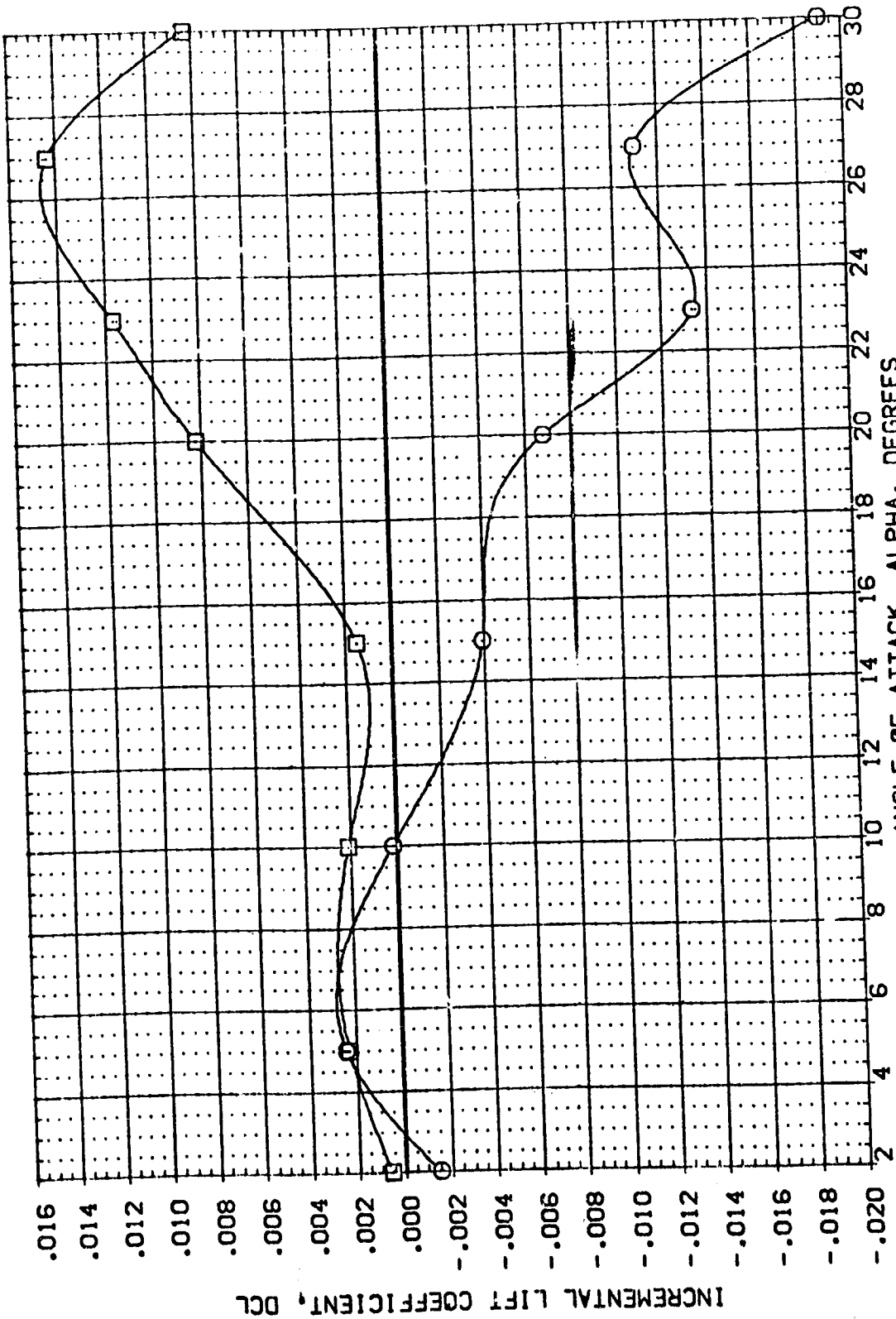


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL: (EBY015) (EBY013)

CONFIGURATION DESCRIPTION:
 APES 3.5-163 0A58 (B1SC7M4F5)(V107E23)(V7R5)
 APES 3.5-163 0A58 (B1SC7M4F5)(V107E23)(V7R5)

BETA: .000 .000

ELEVON DBF: .000 -14.250 .000 13.750

SPOBRK: 54.920 54.920

REFERENCE INFORMATION:
 SQ.FT.: .6050
 IN.: 7.1220
 IN.: 14.0500
 IN.: 12.5770
 IN.: 6.0000
 V.L.: .0150

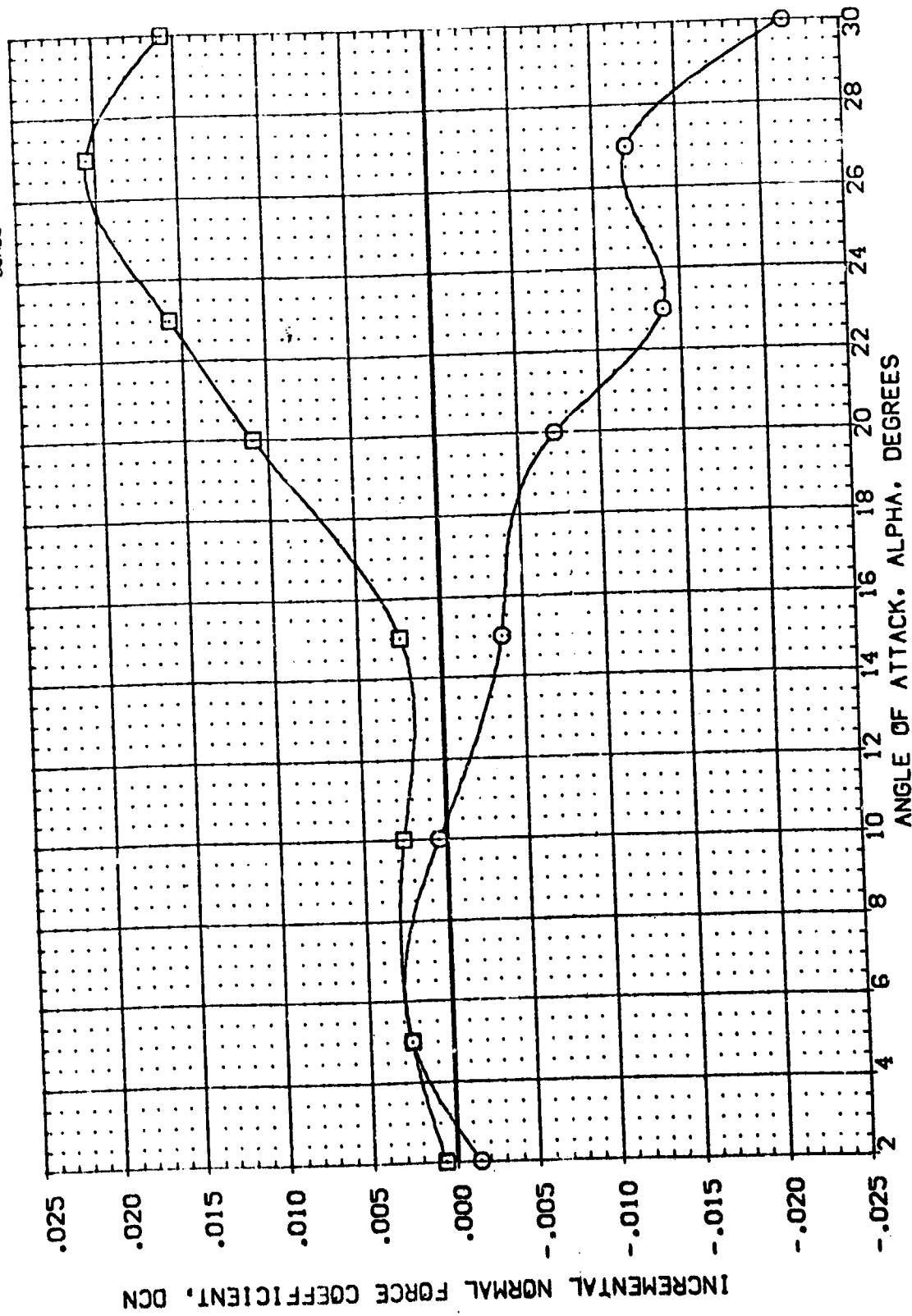


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBO (EB7015) □
 CONFIGURATION DESCRIPTION
 AMES 3.5-163 0A58 (B19C7M4FS)(W107E23)(V7R5)
 AMES 3.5-163 0A58 (B19C7M4FS)(W107E23)(V7R5)

BETA .000
 ELEVON .000
 DBF -14.250
 SPOBRK 54.920
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 IN.
 V.L. .0150 SCALE

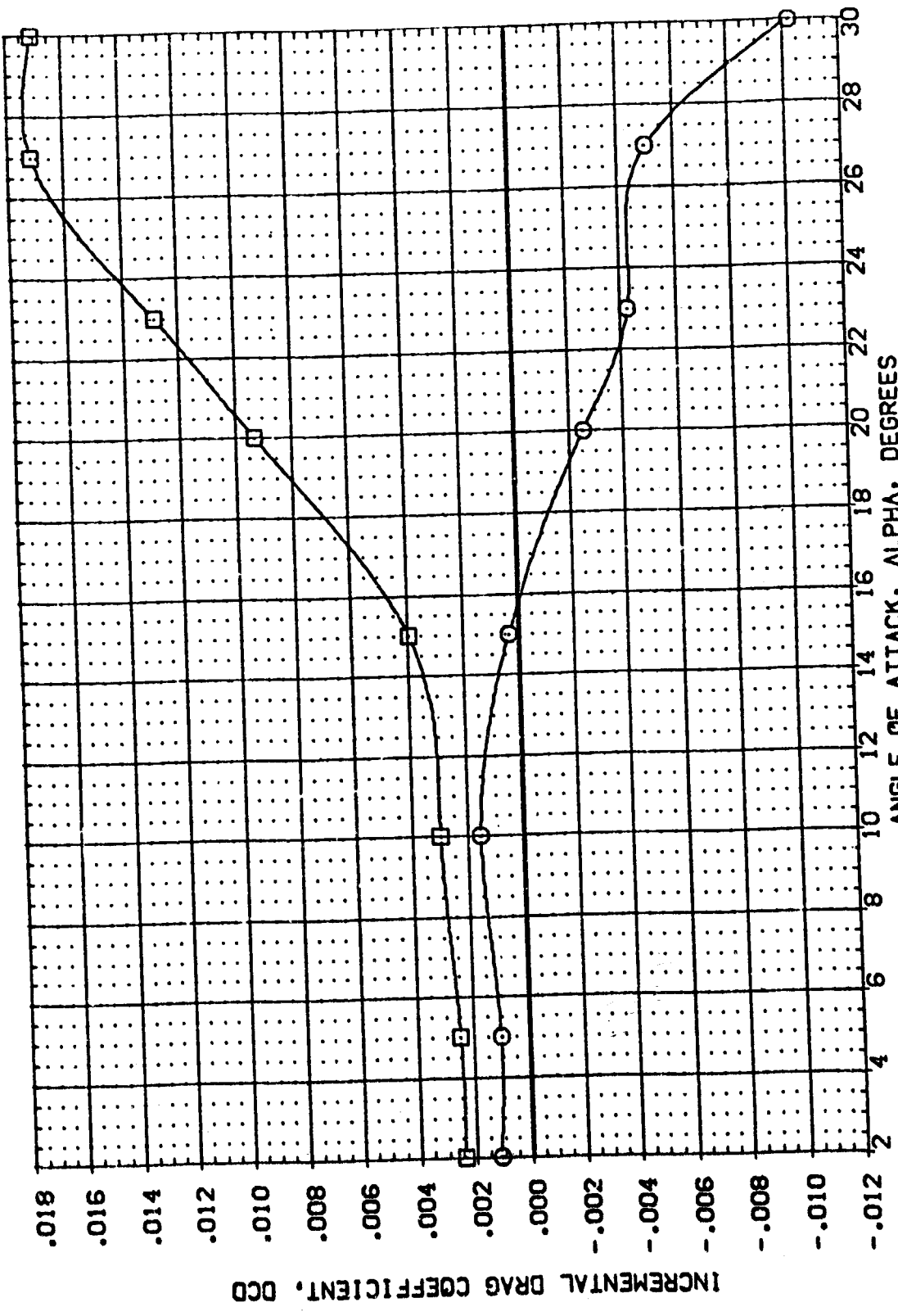


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.30

DATA SET SYMBOL (EBY015) □
 CONFIGURATION DESCRIPTION AMES 3.5-163 OASB (B1SCTHAFS)(V107E23)(V7R5)
 REFERENCE INFORMATION SO.FT. IN.
 SREF 6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

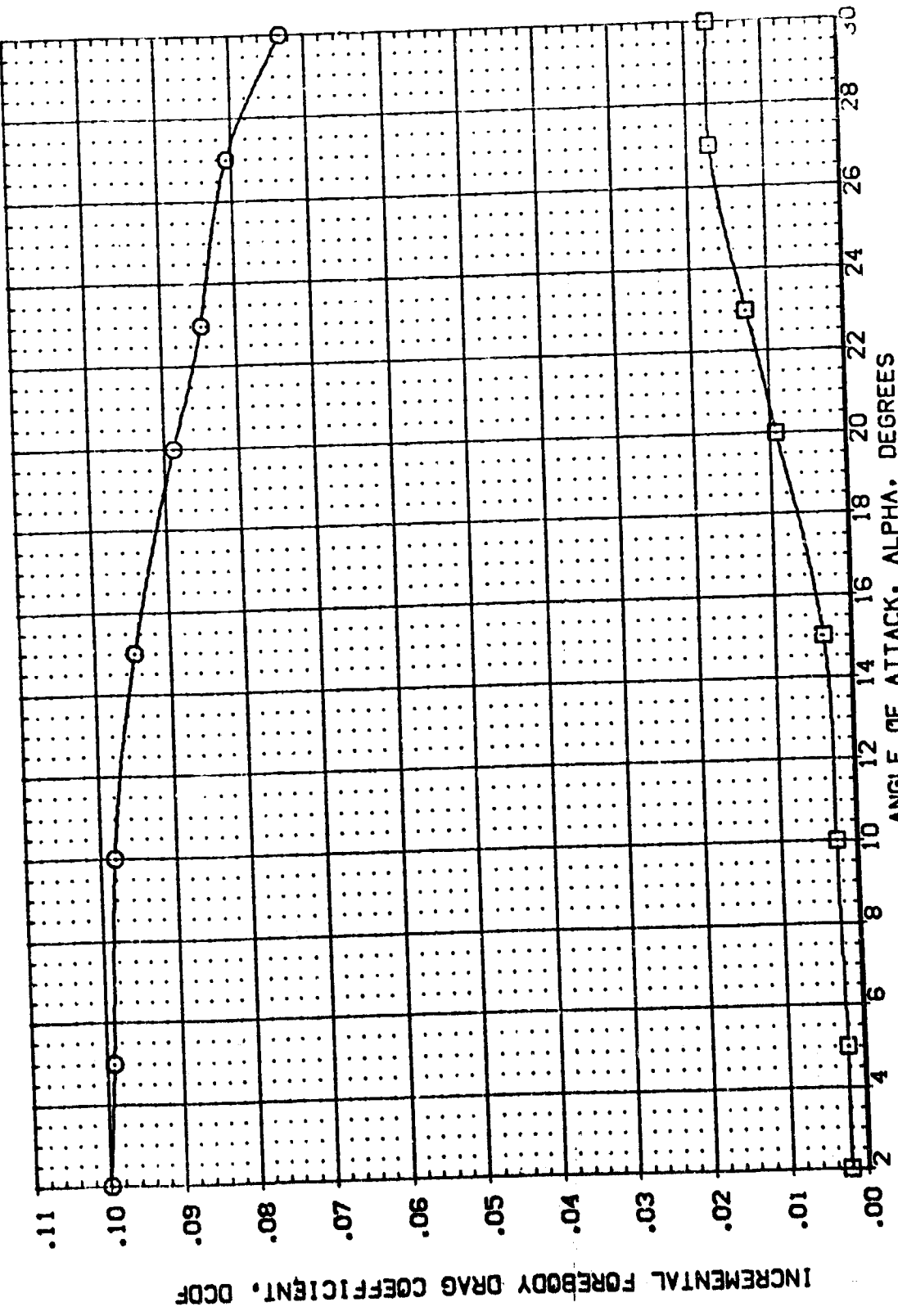


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (EBY015) □
 CONFIGURATION DESCRIPTION AVES 3.5-163 0A58 (B1SCTM4F5)(V107E23)(V7R5)
 AVES 3.5-163 0A58 (B1SCTM4F5)(V107E23)(V7R5)

BETA .000
 ELEVON DEF .000
 SPOBRK 54.920
 54.920

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YRSP 12.5770 IN.
 YPRP .0000 IN.
 ZPRP 6.0000 IN.
 SCALE .0150 V.L.

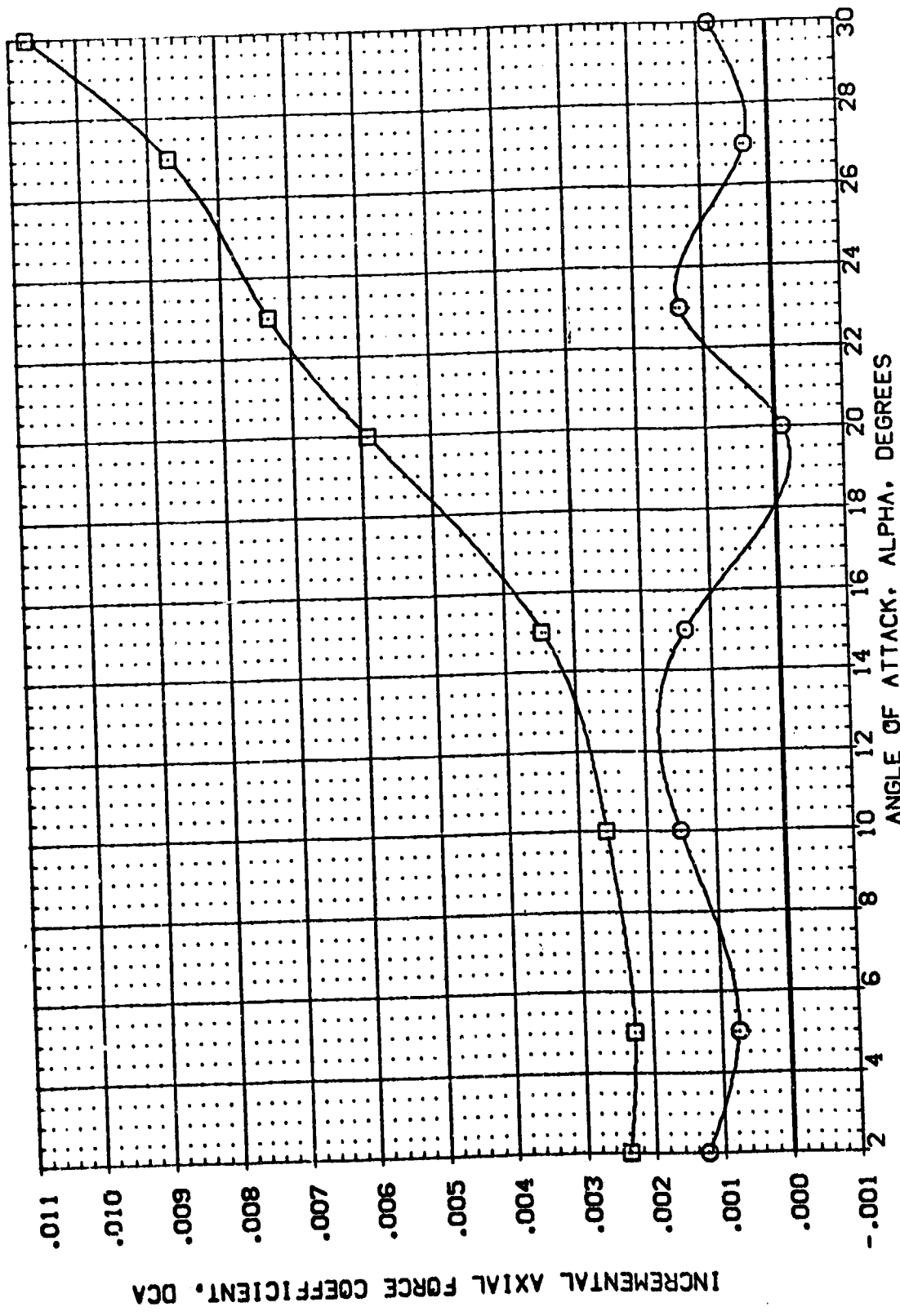



FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (AJMACH = 10.30)

DATA SET SYMBOL (EBY015)  CONFIGURATION DESCRIPTION
 AVES 3.5-163 QAS8 (B1SC7MFS)(V107E23)(V7RS)
 AVES 3.5-163 QAS8 (B1SC7MFS)(V107E23)(V7RS)

BETA .000
 ELEVON .000
 DBF -14.250
 SPOBRK 54.920
 REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

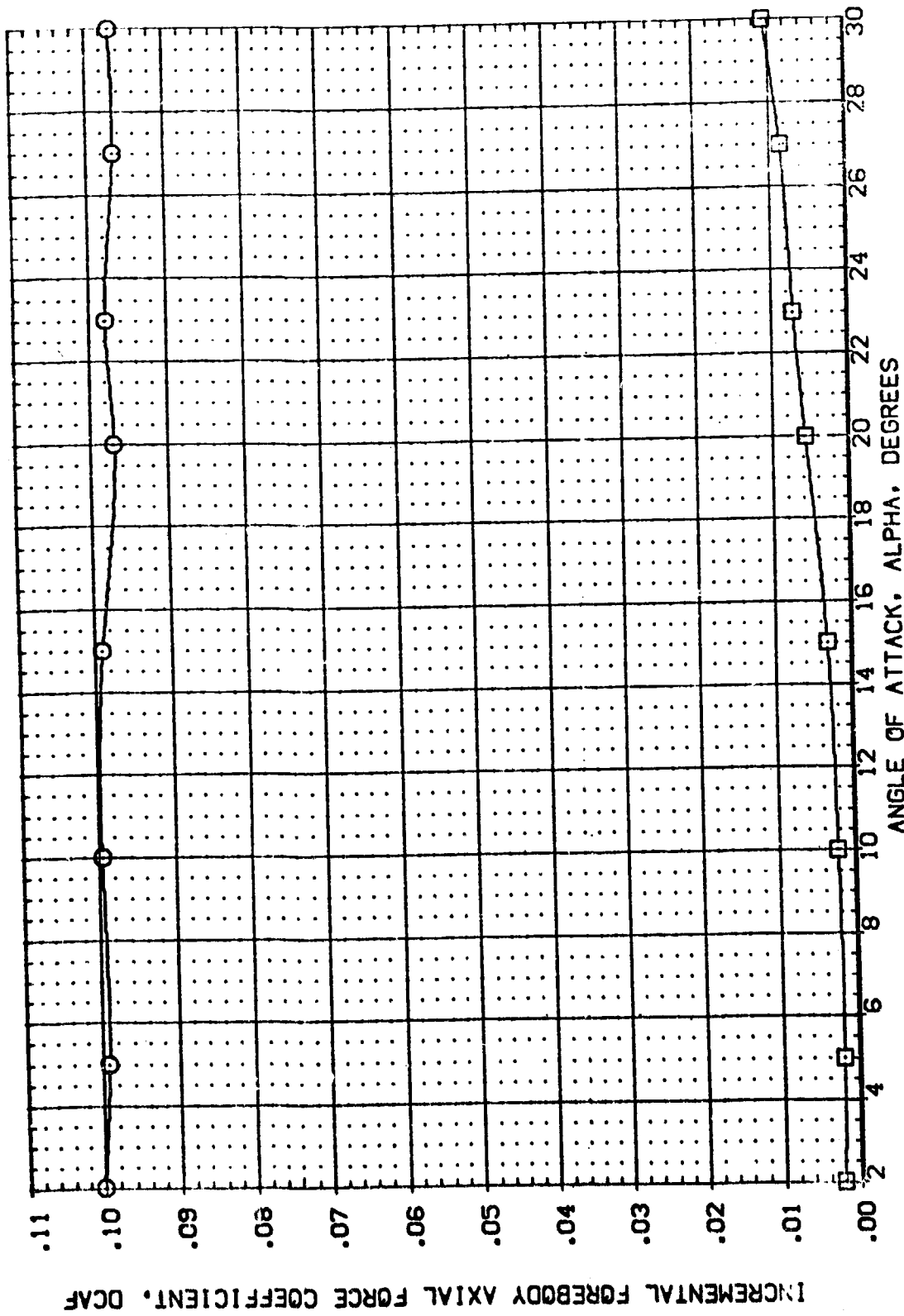


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

REFERENCE INFORMATION

SREF	.6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XTRP	12.5770	IN.
YTRP	0.000	IN.
ZTRP	6.0000	V.L.
SCALE	.0150	

BETA

ELEVON	DBF
.000	-14.250
.000	13.750

SPDRK

54.920
54.920

DATA SET SYMBO

(EB015)	□	AMES 3.5-163 DAS8 (B1SC7MFS)(V107E23)(VTRS)
(EB013)	□	AMES 3.5-163 DAS8 (B1SC7MFS)(V107E23)(VTRS)

CONFIGURATION DESCRIPTION

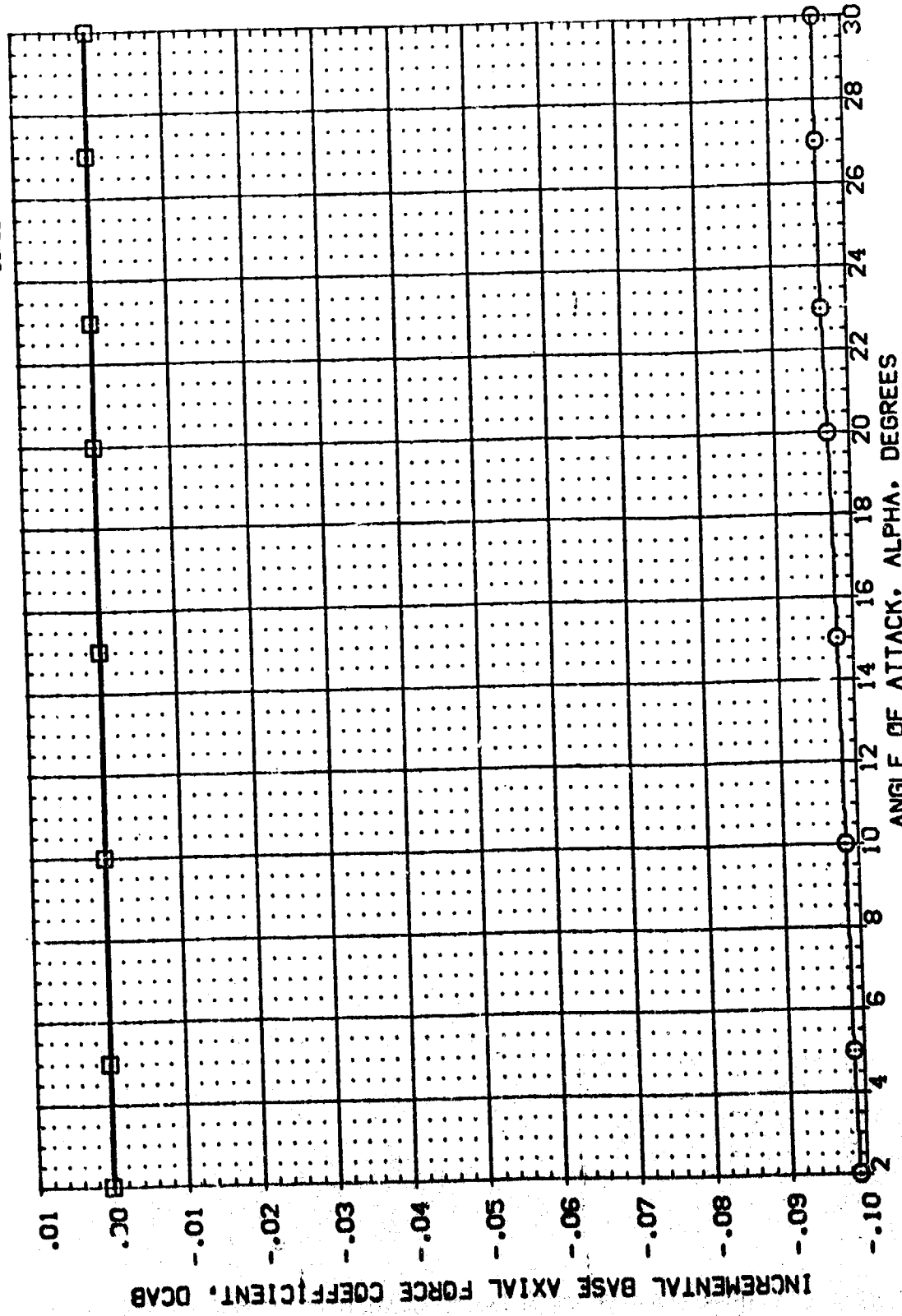


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. 6.0000
 SCALE .0150

SPOBRK SREF LREF EREF XREF YMRP ZMRP
 54.920 54.920 54.920
 -14.250 13.750
 .000 .000
 .000 .000

CONFIGURATION DESCRIPTION
 ASES 3.5-163 OAS8 (B19C7MFS)(V107E23)(V7RS)
 ASES 3.5-163 OAS8 (B19C7MFS)(V107E23)(V7RS)

DATA SET SYMB. (EBY015) (EBY013)

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

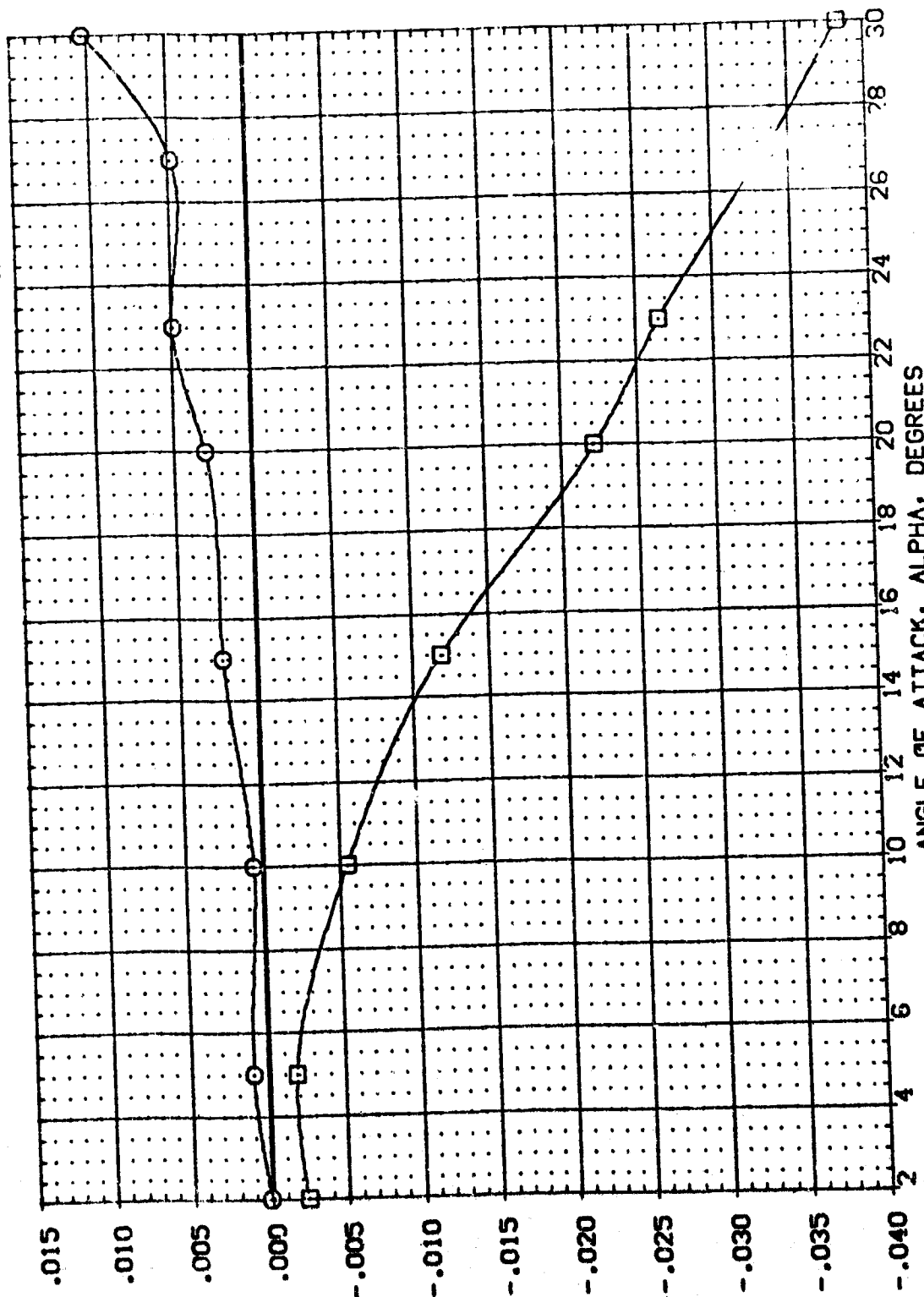


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

REFERENCE INFORMATION
 SREF 6.750 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YREF .0000 IN.
 ZREF 6.0000 IN.
 SCALE .0150

BETA .000
 ELEVON .000
 DBF -14.250
 SPORR 54.920
 54.920

DATA SET SYMOL CONFIGURATION DESCRIPTION
 (EBV015) (EBV013) (B15C7M4FS) (B15C7M4FS) (V107E23) (V17R5)
 (B15C7M4FS) (B15C7M4FS) (V107E23) (V17R5)

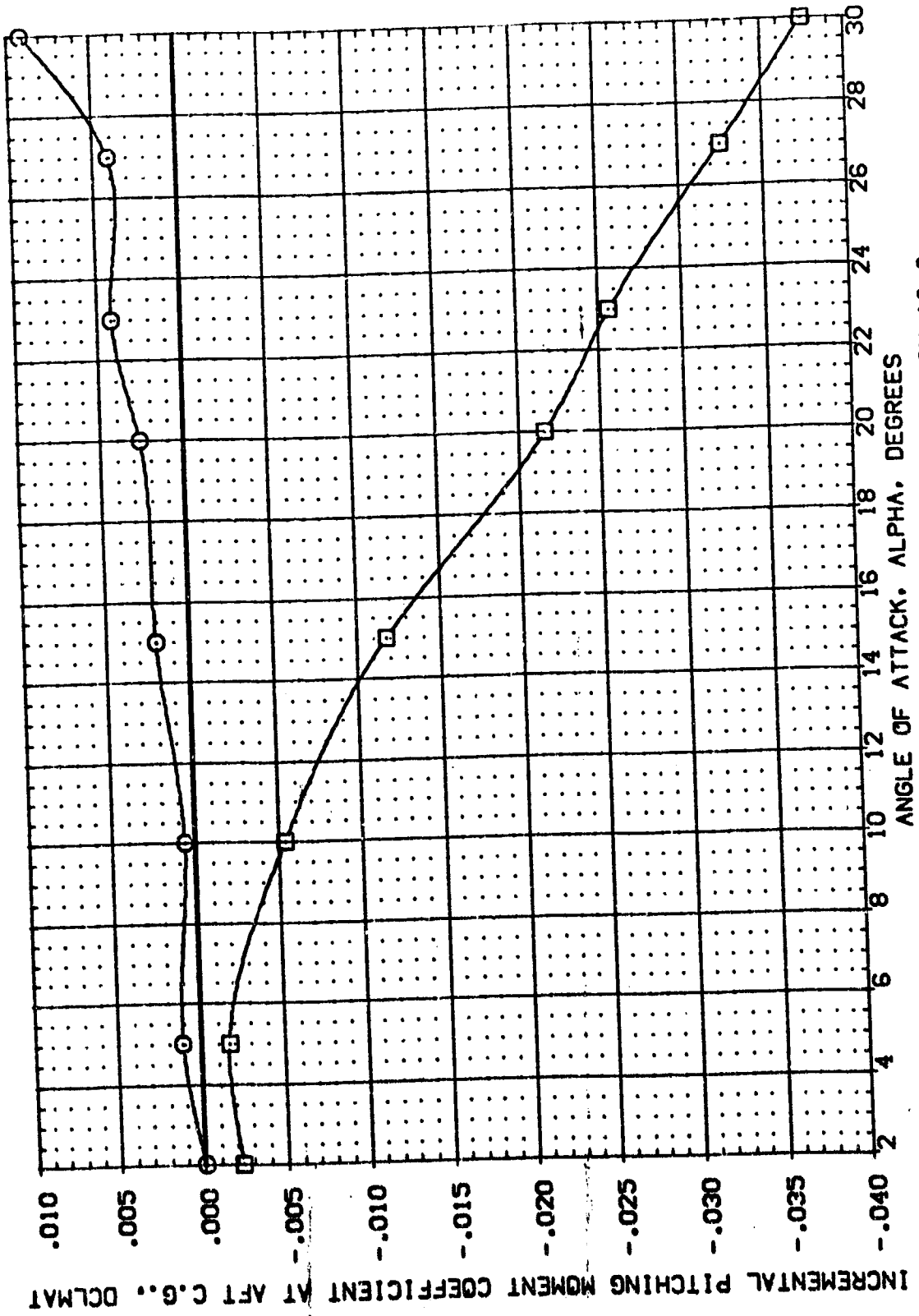


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.30

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

REFERENCE INFORMATION
 SQ.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.

SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.3770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

DATA SOURCE
 DBF
 EBY010

.000 DATASET
 EBY015

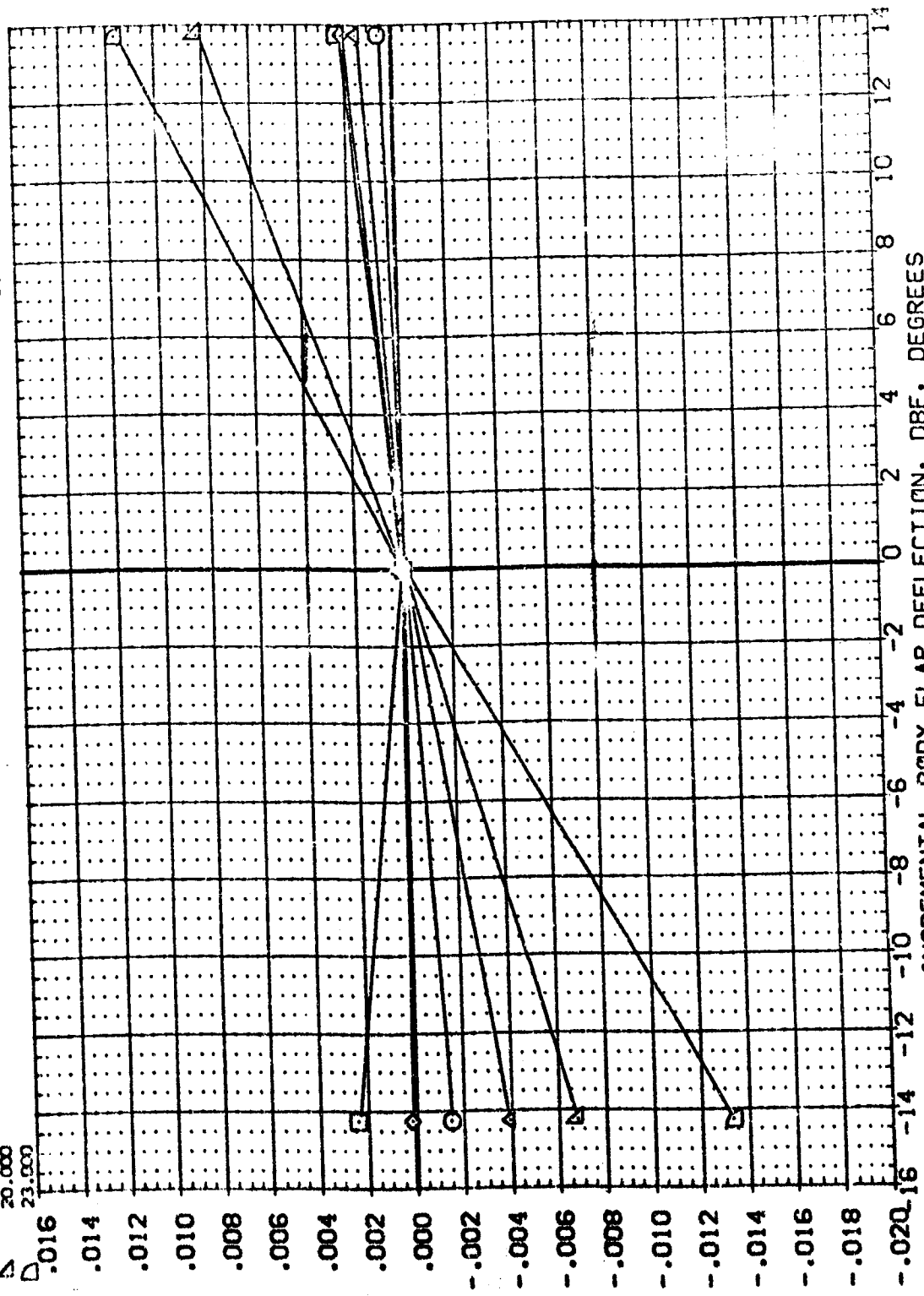
54.920 SPOBRK
 EBY013

.000 BETA
 SPOBRK

MACH
 ELEVON
 RUDDER

ALPHA
 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

SYMBOL
 ○
 □
 ◇
 ▲
 △



INCREMENTAL LIFT COEFFICIENT, DCL

INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

SYMBOL	ALPHA	MACH	ELEVON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DBF	DATA SET	DBF	SREF	SO. FT.
□	27.000				BETA	DBF		EBY010	.000	LREF	7.1220
□	30.000				SPOBRK	-14.250		EBY015		BREF	14.0500
						13.750		EBY013		XMRP	12.5770
										VMRP	.0000
										ZMRP	6.0000
										SCALE	.0150

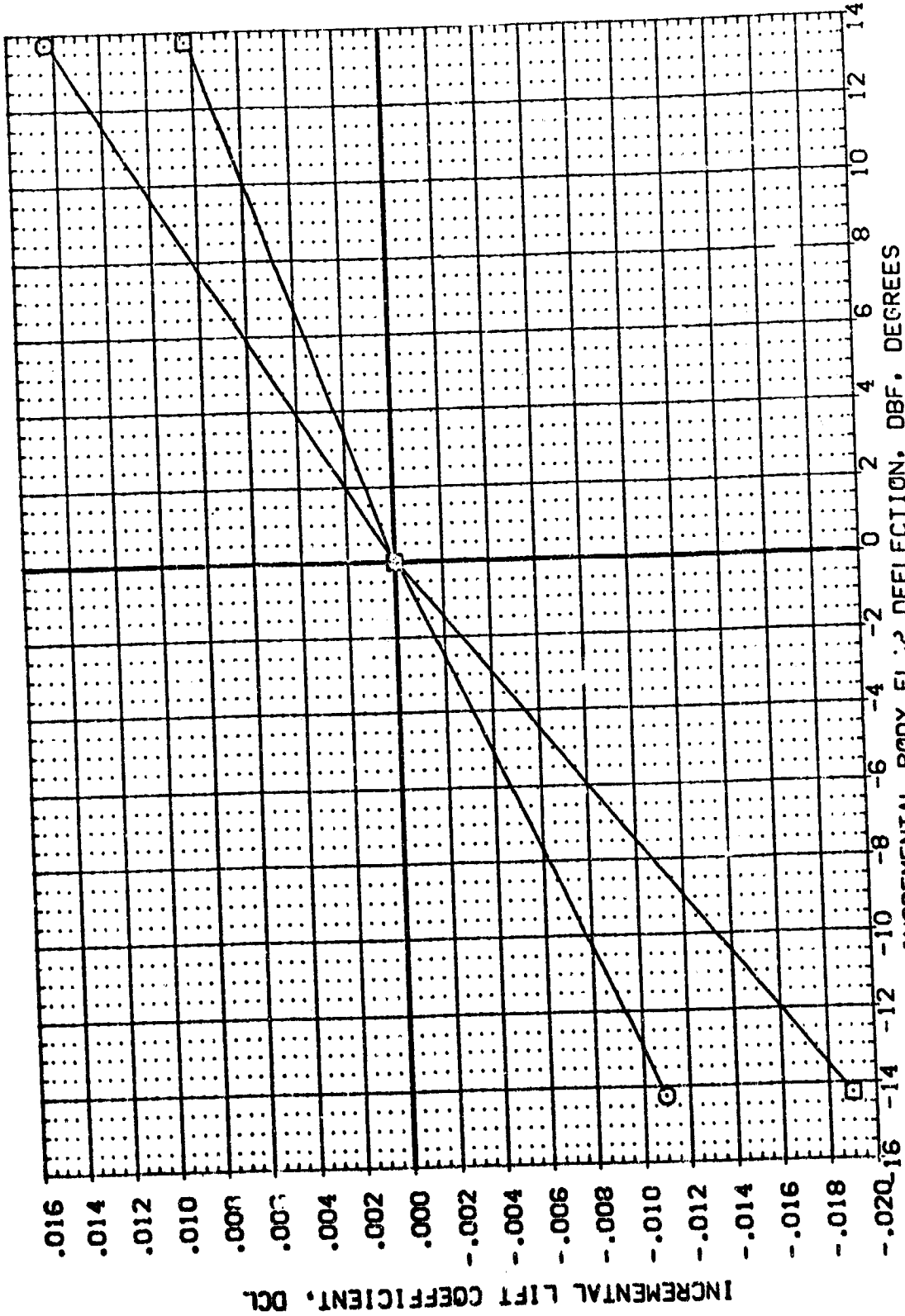


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

PARAMETRIC VALUES
 MACH 10.300 BETA .000
 ELEVON .000 SPDRK 54.920
 RUDDER .000 EBY015
 EBY013

DATA SOURCE
 DATASET DBF
 EBY010

REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LREF 7.1220 IN.
 BRFF 14.7500 IN.
 XMRP 12.7700 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

ALPHA
 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

SYMBOL
 ○
 □
 ◇
 △
 ▽

INCREMENTAL NORMAL FORCE COEFFICIENT, DCN

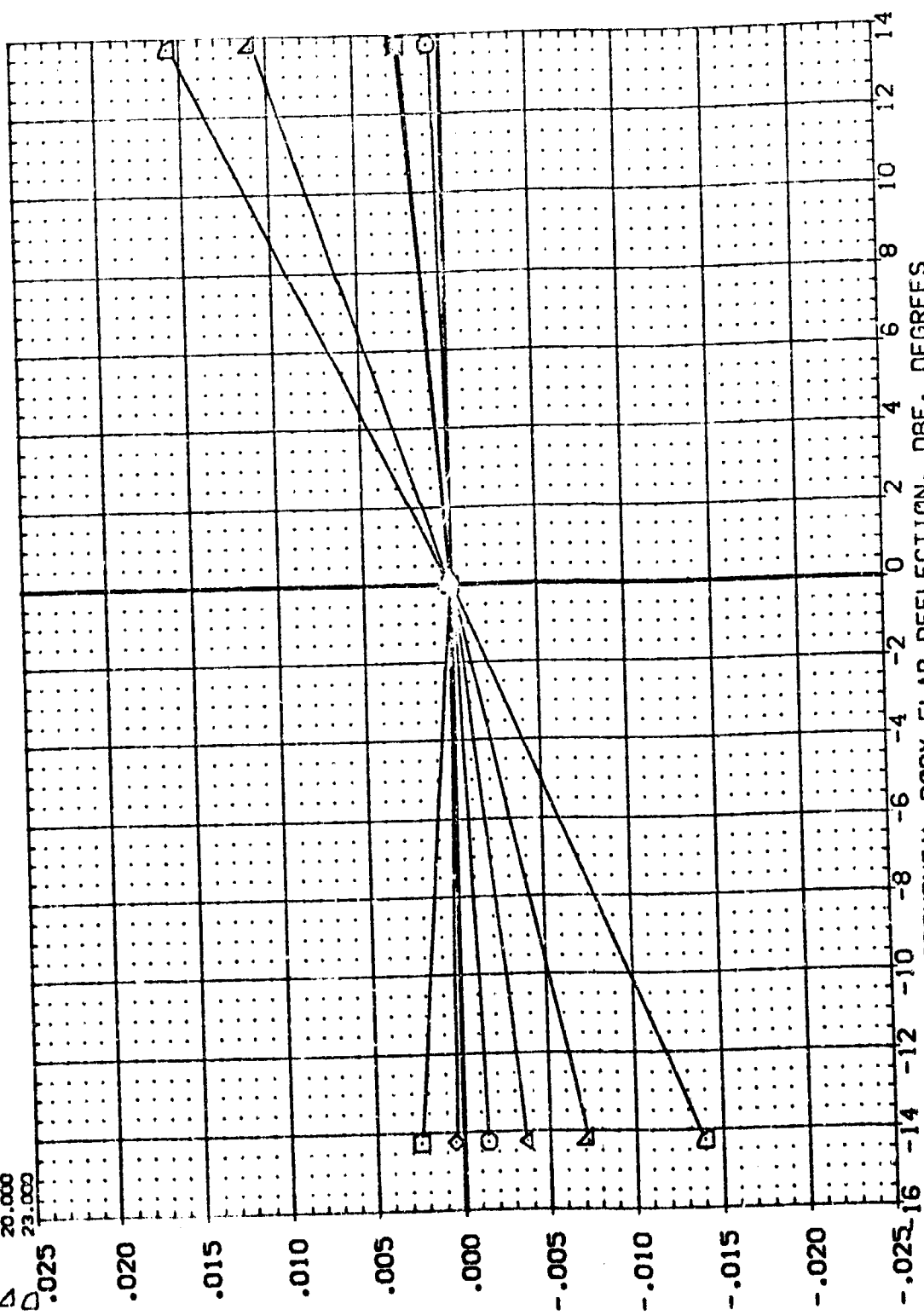


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DEF	SREF	SO.FT.
○	27.000	ELEVON	10.300 BETA	18F	EBY010	.000	LREF	7.1220
□	30.000	RUDDER	.000 SPOBRK	54.920 EBY015			BREF	14.0500
			.000	13.750 EBY013			XPRP	12.5770
			.000				YMRP	.0000
							ZMRP	6.0000
							SCALE	.0150

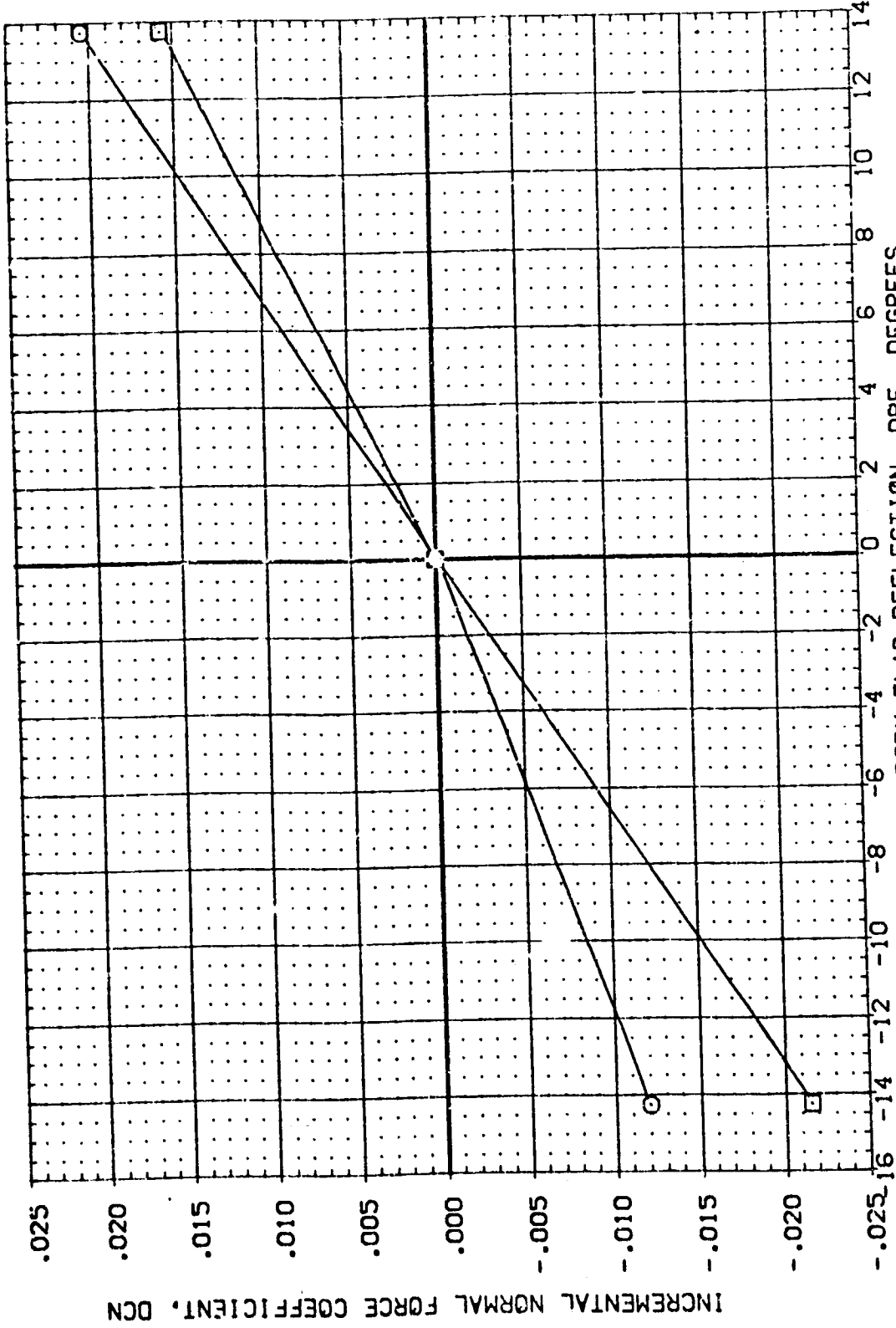
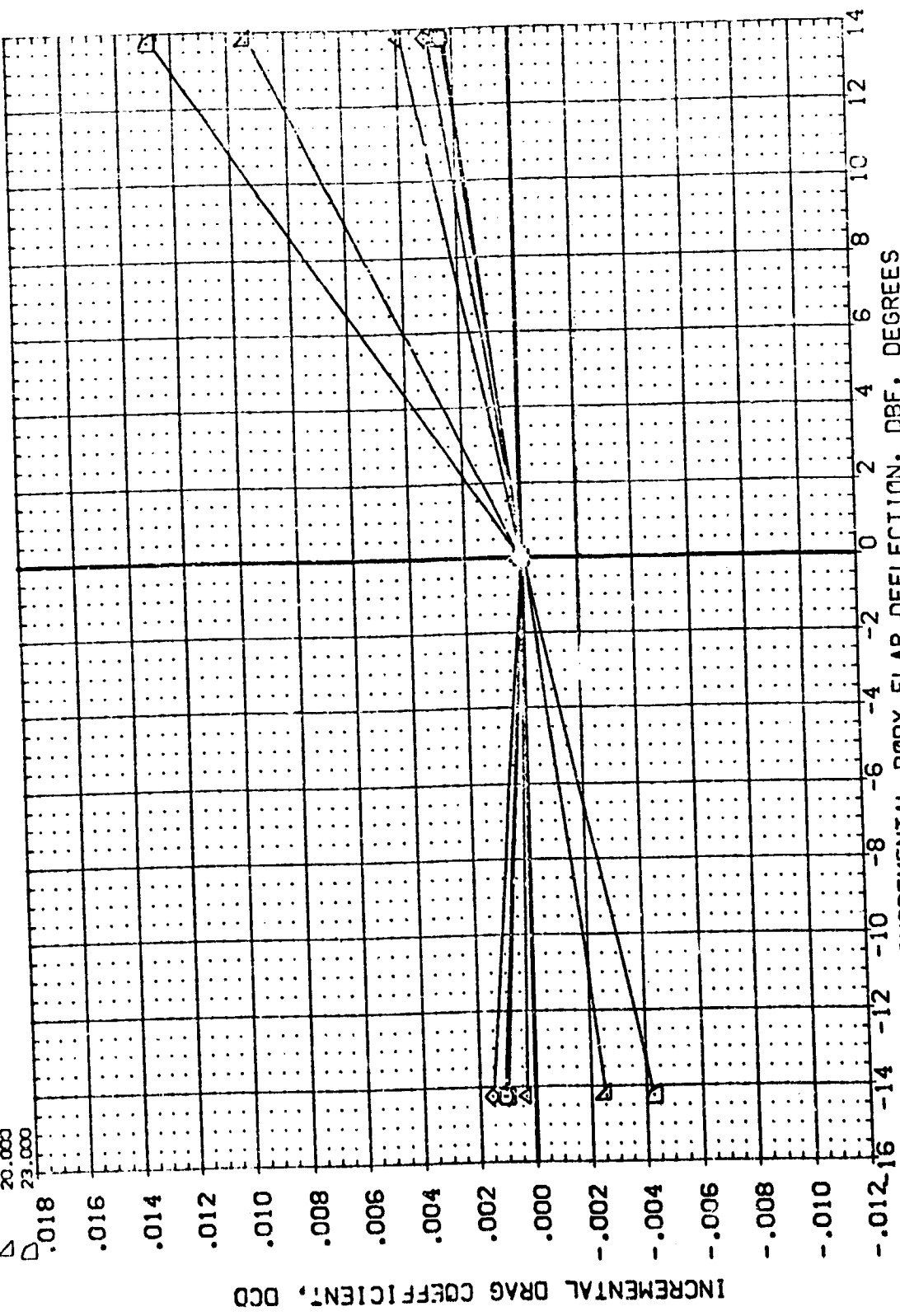


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	10.300	BETA	.000	SREF	6050
MACH	.000	SPOBRK	54.920	LREF	7.1220
ELEVON	.000	EBY015	-14.250	BREF	14.0500
RUDDER	.700	EBY013	13.750	XMAP	12.5770
				YMAP	1.0000
				ZMAP	6.0000
				SCALE	.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
INCREMENTAL DRAG COEFFICIENT, DCD
FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

REFERENCE INFORMATION

SREF	6050	SQ. FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
ZMRP	6.0000	IN.
SCALE	6.0150	V.L.

DATA SOURCE

DATASET	DBF
EBY010	.000

PARAMETRIC VALUES

ALPHA	27.000	MACH	10.300	BETA	.000	DATASET	DBF
ELEVON	30.000	SPOBRK	54.920	EBY015	-14.250	EBY010	.000
RUDDER	.000			EBY013	13.750		

PARAMETRIC VALUES

ALPHA	27.000	MACH	10.300	BETA	.000	DATASET	DBF
ELEVON	30.000	SPOBRK	54.920	EBY015	-14.250	EBY010	.000
RUDDER	.000			EBY013	13.750		

PARAMETRIC VALUES

ALPHA	27.000	MACH	10.300	BETA	.000	DATASET	DBF
ELEVON	30.000	SPOBRK	54.920	EBY015	-14.250	EBY010	.000
RUDDER	.000			EBY013	13.750		

PARAMETRIC VALUES

ALPHA	27.000	MACH	10.300	BETA	.000	DATASET	DBF
ELEVON	30.000	SPOBRK	54.920	EBY015	-14.250	EBY010	.000
RUDDER	.000			EBY013	13.750		

PARAMETRIC VALUES

ALPHA	27.000	MACH	10.300	BETA	.000	DATASET	DBF
ELEVON	30.000	SPOBRK	54.920	EBY015	-14.250	EBY010	.000
RUDDER	.000			EBY013	13.750		

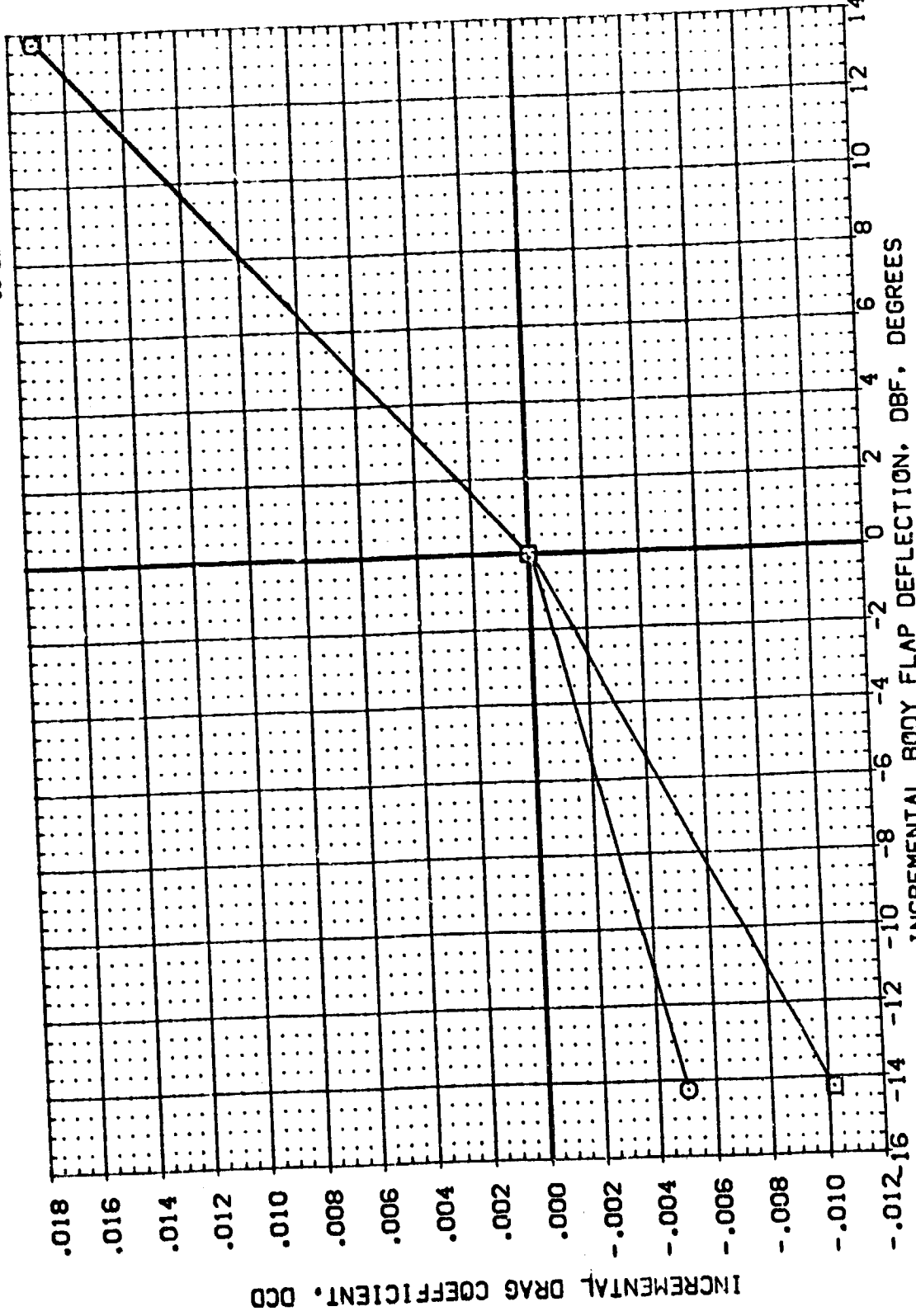


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	10.300	BETA	SREF	SO. FT.
2.000	10.000	.000	EBY015	LREF	IN.
5.000	15.000	54.920	EBY013	BREF	IN.
10.000	20.000	-14.250	EBY010	XMRP	IN.
15.000	23.000	13.750		ZMRP	IN.
23.000				SCALE	V.L.

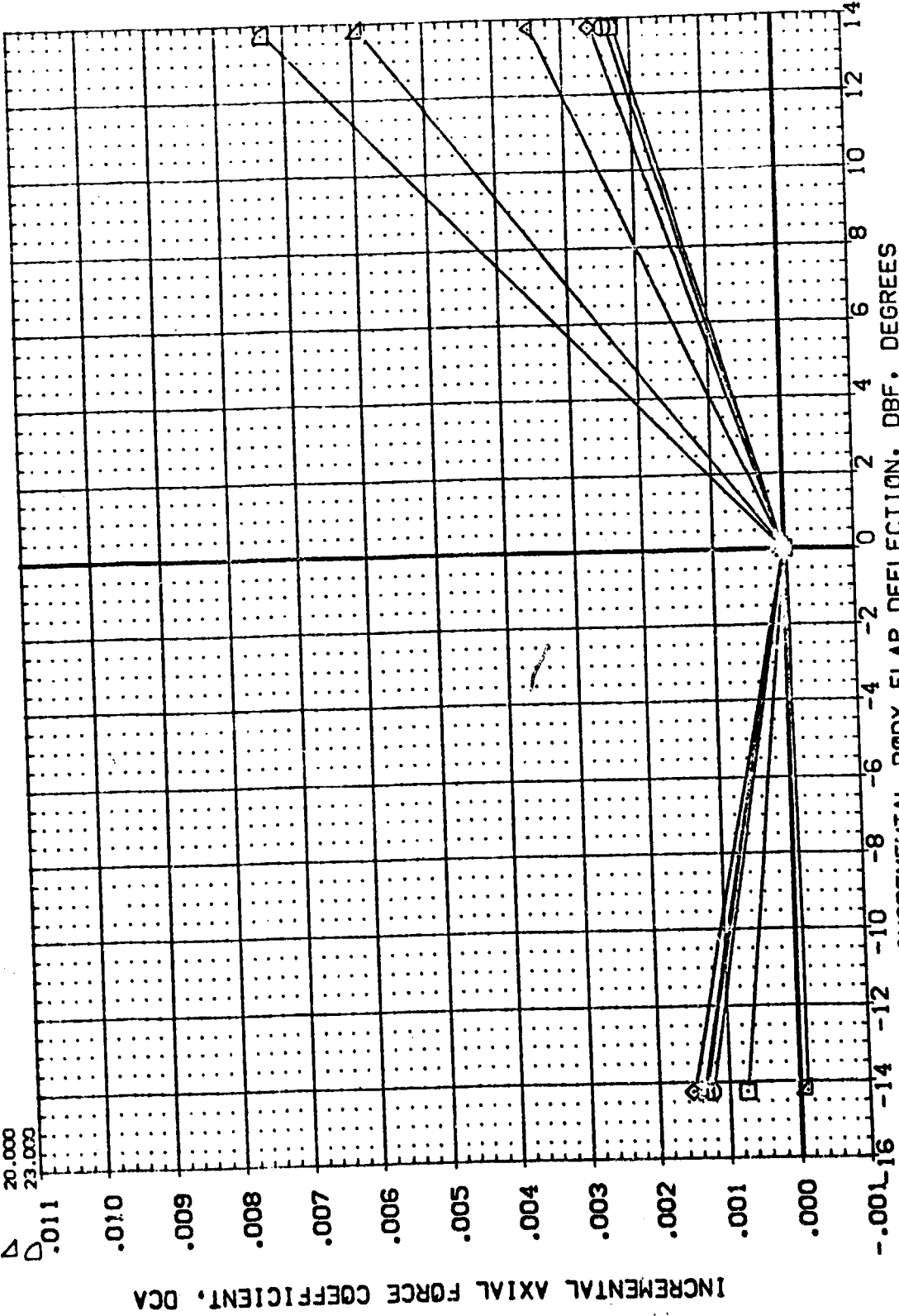
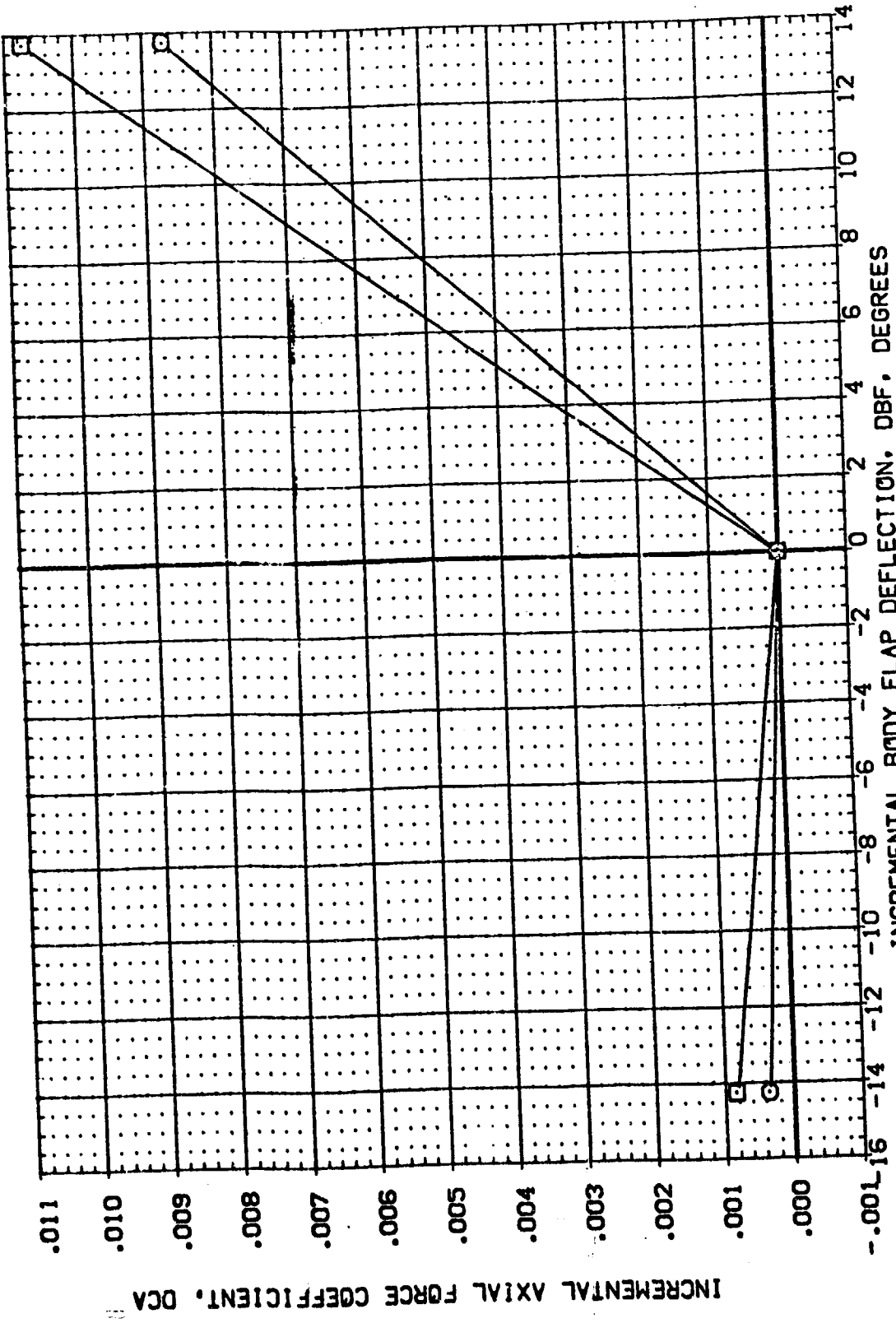


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

SYMBOL	ALPHA	MACH	ELEVON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DBF	REFERENCE INFORMATION
○	27.000				BETA	EBY015	EBY010	.000	SQ. FT.
□	30.000				SPOBRK	-14.250			IN.
						13.750			IN.
									IN.
									V.L.
									SCALE



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL AXIAL FORCE COEFFICIENT, OCA
 FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

REFERENCE INFORMATION
 SO.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

DATA SOURCE
 DATASET DBF
 EBY010 .000

DATASET DBF
 EBY015 -14.250
 EBY013 13.750

PARAMETRIC VALUES
 BETA .000
 POBRK 54.920

MACH 10.300
 ELEVON .000
 RUDDER .000

ALPHA 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

SYMBOL
 □
 ○
 ◇
 △
 ▽
 ▽

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

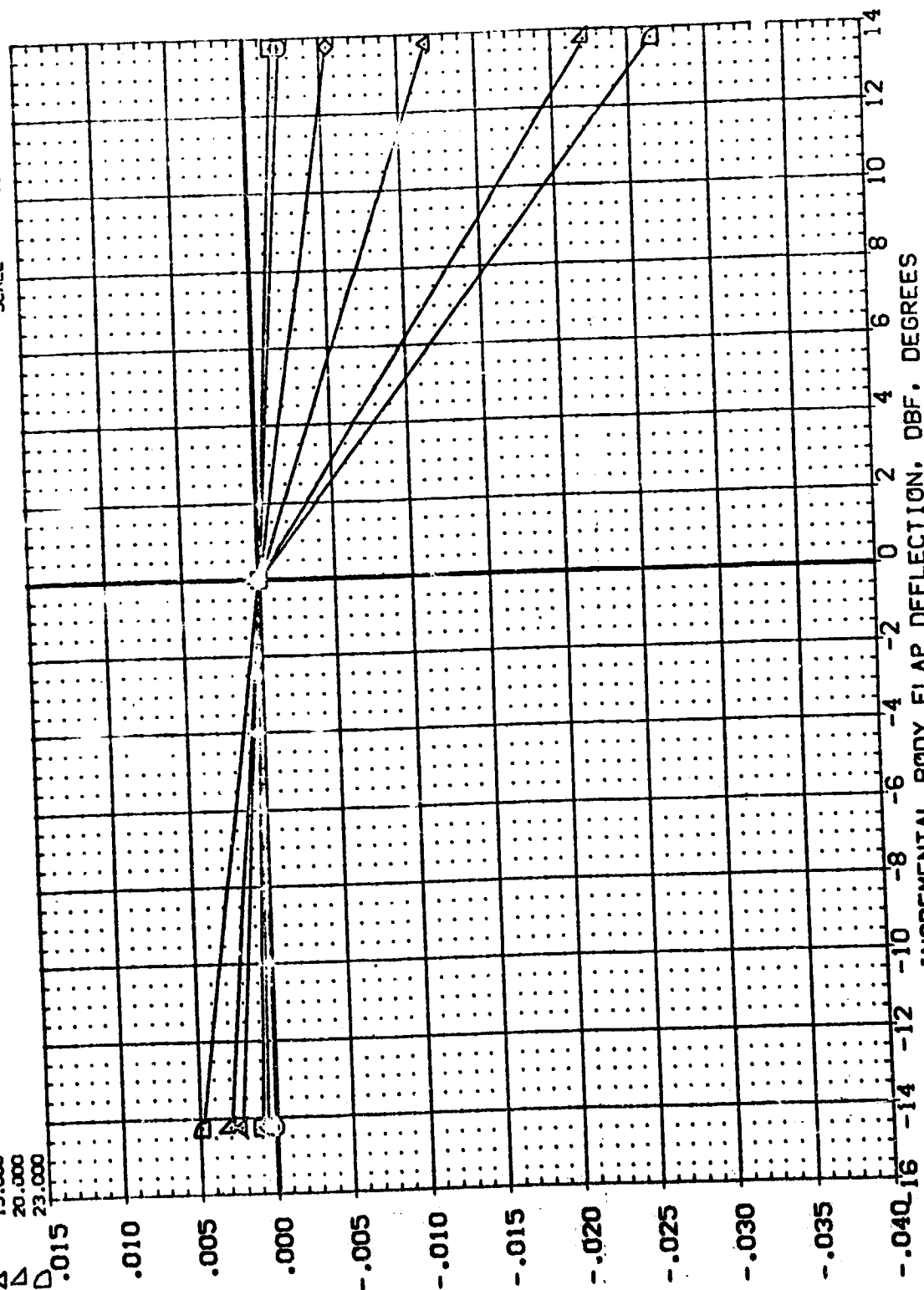


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

REFERENCE INFORMATION
 SO, FT. 6.050
 IN. 7.1220
 L, REF 14.0500
 B, REF 12.5770
 Y, REF .0000
 Z, REF 6.0000
 SCALE .0150

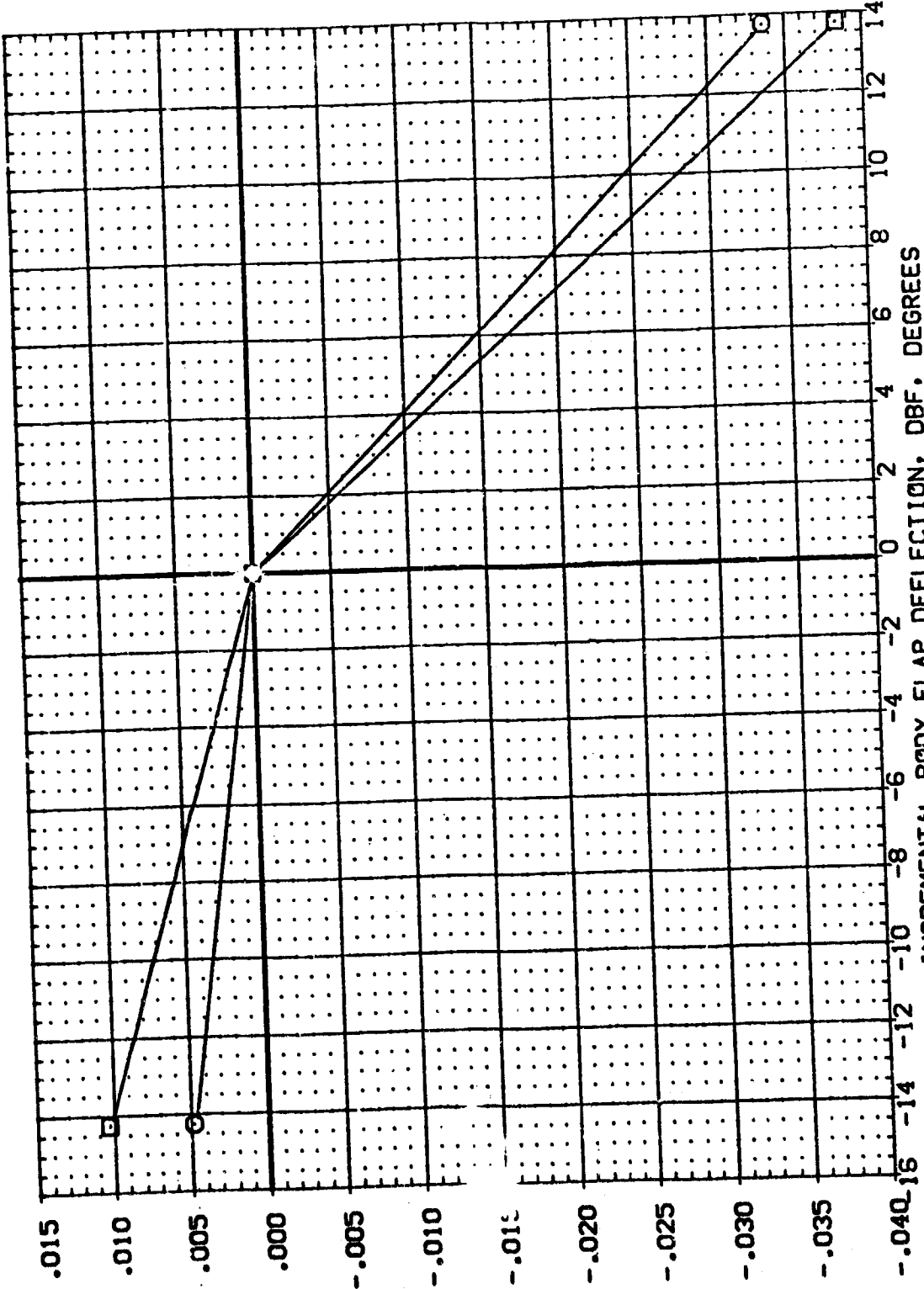
PARAMETRIC VALUES
 MACH 10.300
 BETA .000
 SPOBRK .000

DATA SOURCE
 DATASET DBF
 EBY010 -14.250
 EBY013 13.750

DATA SOURCE
 DATASET DBF
 EBY010 .000
 EBY013 .000

SYMBOL
 □ 27.000
 ○ 30.000

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMPD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

SYMBL	ALPHA	MACH	ELEVON	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	SO.FT.
□	2.000				10.300	BETA	.000	EBY010	LREF	7.1220
◇	5.000				.000	SPOBRK	54.920	EBY015	BREF	14.0500
▽	10.000				.000		EBY013	XMRP	YMRP	12.5770
▽	15.000							ZMRP	V.L.	6.0000
▽	20.000							SCALE		.0150
▽	23.000									

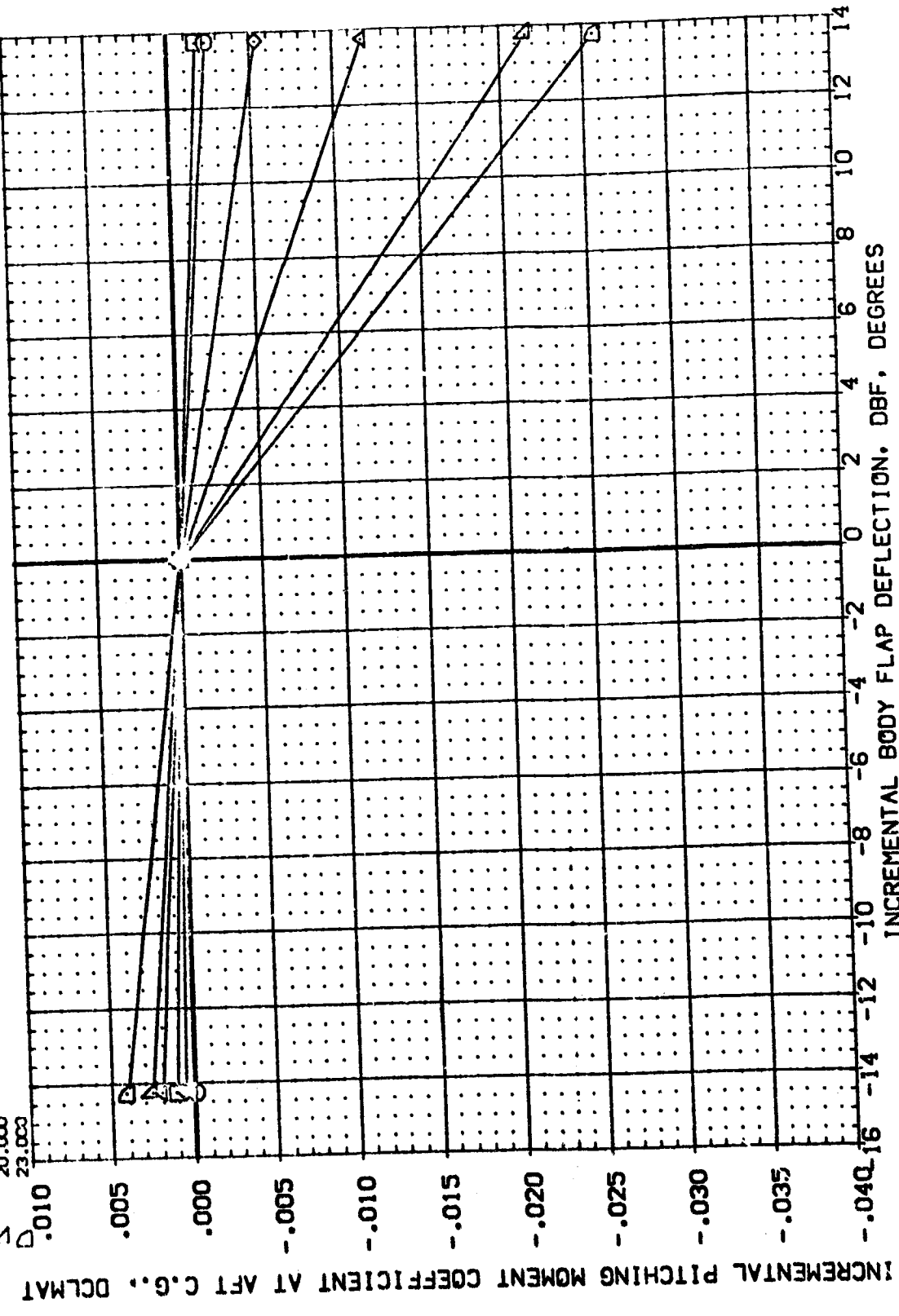


FIG. 8 CONFIGURATION -139B BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B19C7M4F5)(W107E23)(V7R5) (EBY015)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	.000	DATA SET	SREF	6050
27.000	30.000	10.300	BETA	LREF	7.120
ELEVON	RUDDER	.000	SPDRK	BREF	14.650
		.000	EBY015	XMRP	12.570
			EBY013	YMRP	.0000
			13.750	ZMRP	6.0000
				SCALE	.0150
					V.L.

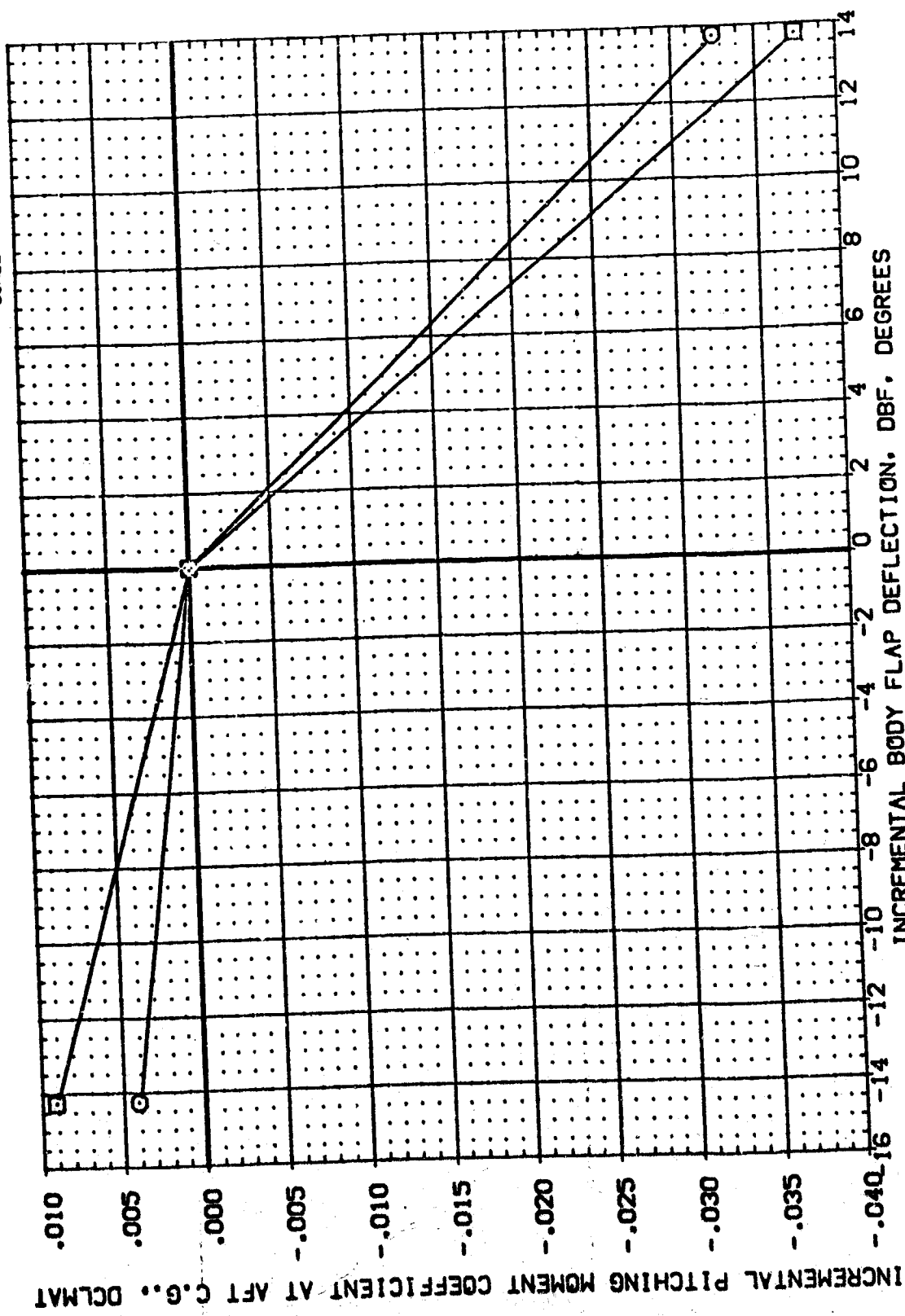


FIG. 8 CONFIGURATION -1398 BODY FLAP EFFECTIVENESS AT MACH 10.3

DATA SET SYMBOL: (JBY019) (JBY016)

CONFIGURATION DESCRIPTION:
 APES 3.5-163 0A58 (817C7M4FS1)(V103E22)(V7RS)
 APES 3.5-163 0A58 (817C7M4FS1)(V103E22)(V7RS)

BETA: .000
 .000

ELEVON: -44.000
 .000

BOFLAP: -14.250
 -14.250

SPOBRK: 54.920
 54.920

REFERENCE INFORMATION:
 SREF: 6050 SO.FT.
 LREF: 7.1220 IN.
 BREF: 14.0500 IN.
 XMRP: 12.5770 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150 V.L.

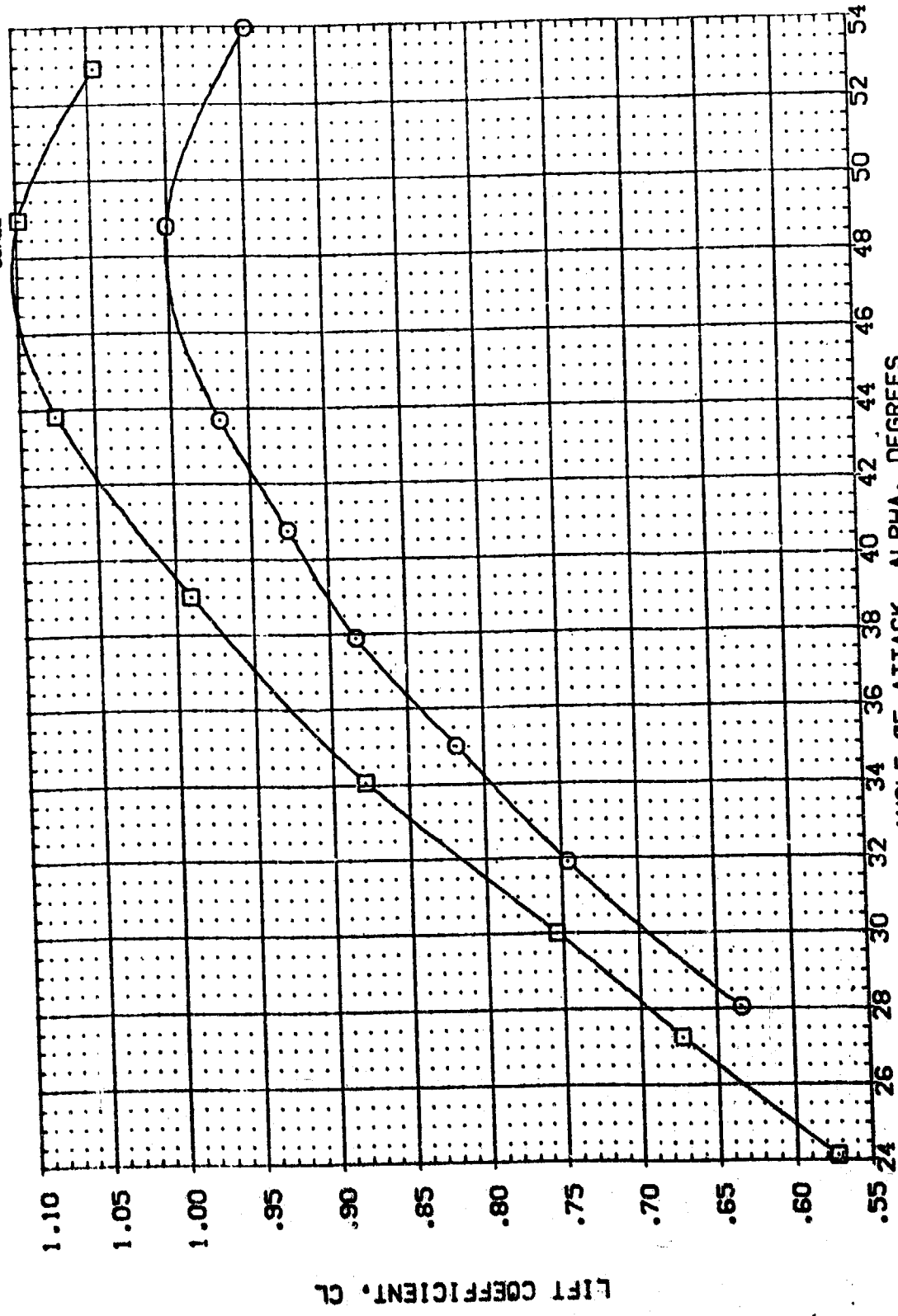


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBL. (JBY018) (JBY016)

CONFIGURATION DESCRIPTION
 AVES 3.5-1F3 CAS8 (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 CAS8 (B17C7M4F5)(V103E22)(V7RS)

BETA .000
 .000

ELEVON .000
 -44.000
 .000

BDFLAP -14.250
 -14.250

SPOBRK 54.520
 54.520

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

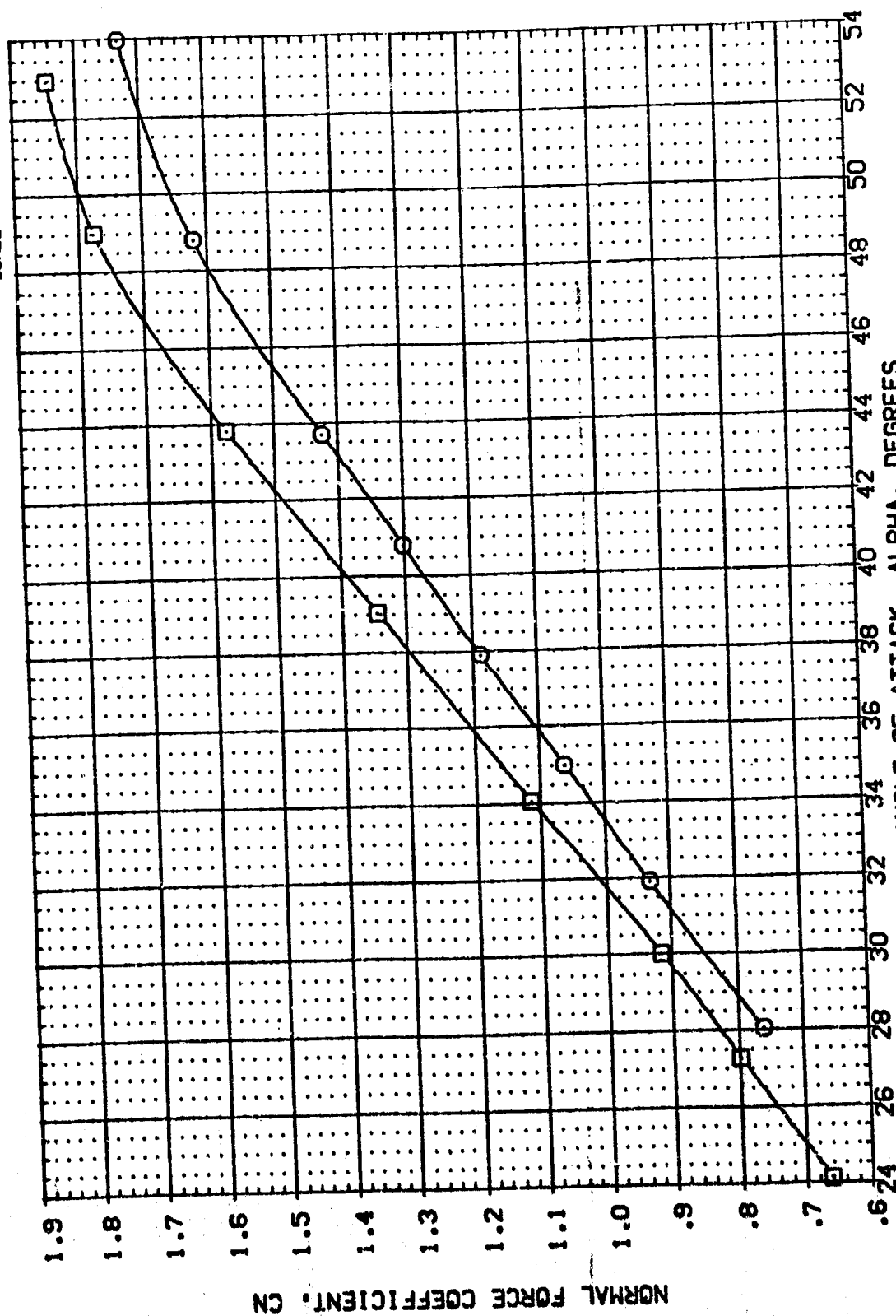


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL: (JBY019) (JBY016)

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 DAS8 (817C7MFS)(V103E22)(V7R5)
 AVES 3.5-163 DAS8 (817C7MFS)(V103E22)(V7R5)

BETA: .000
 ELEVON: -14.000
 BOFLAP: -14.250
 SPOBRK: 54.920
 SPOBRK: 54.920

REFERENCE INFORMATION:
 SREF: 6050 SQ.FT.
 LREF: 7.1220 IN.
 BRFP: 14.0500 IN.
 XMRP: 12.5770 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150 V.L.

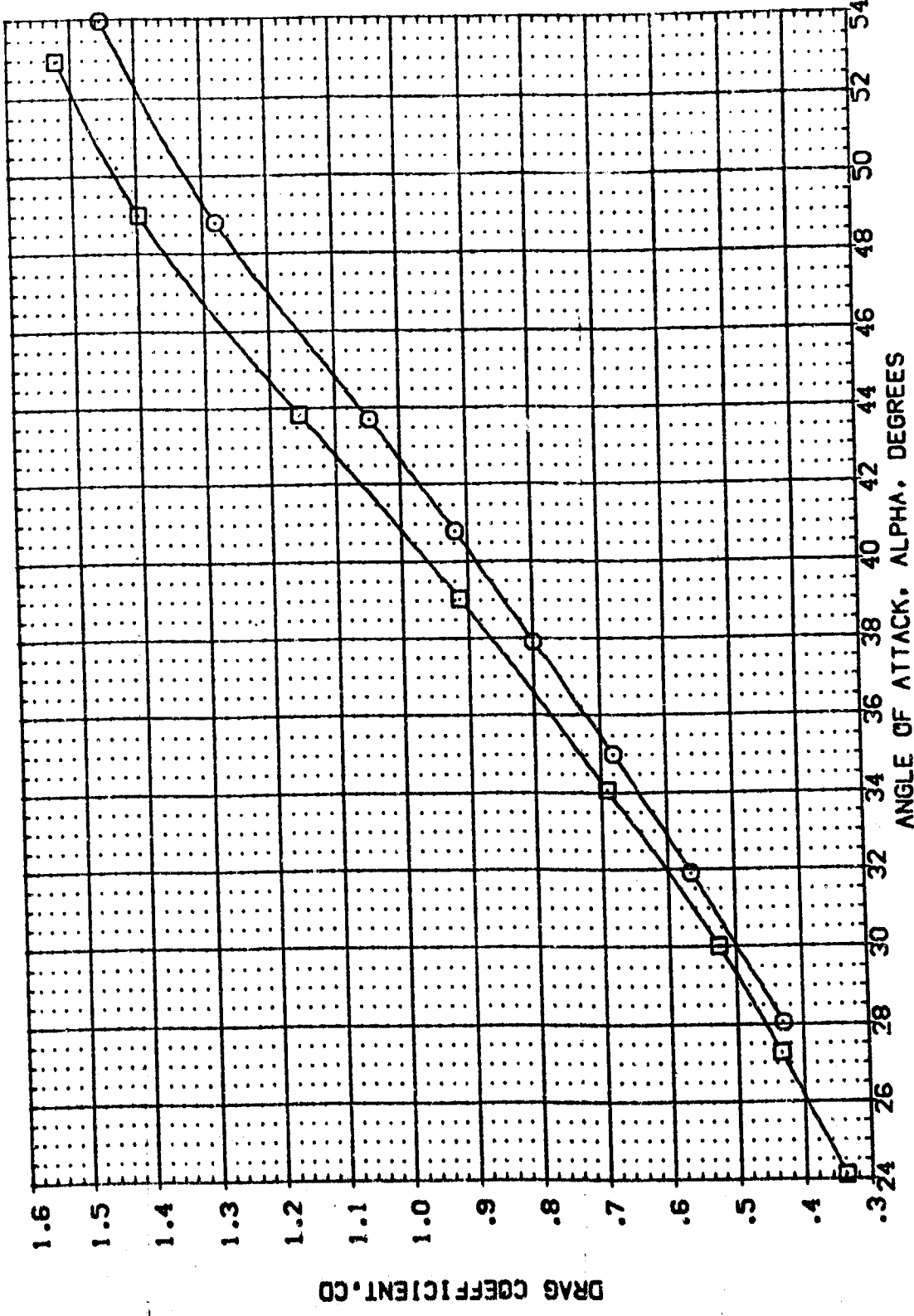


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3
 (A)MACH = 5.26

DATA SET SYMBOL: (JBY019) (JBY016) □

CONFIGURATION DESCRIPTION:
 AVES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
 AVES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)

BETA: .000
 ELEVON: -44.000
 BOFLAP: -14.250
 SPOBRK: 54.920

REFERENCE INFORMATION:
 SREF: 7.1220
 LREF: 14.0500
 XMRP: 12.5770
 YMRP: 6.0000
 ZMRP: .0150
 SO.FT. IN. IN. IN. IN. V.L.

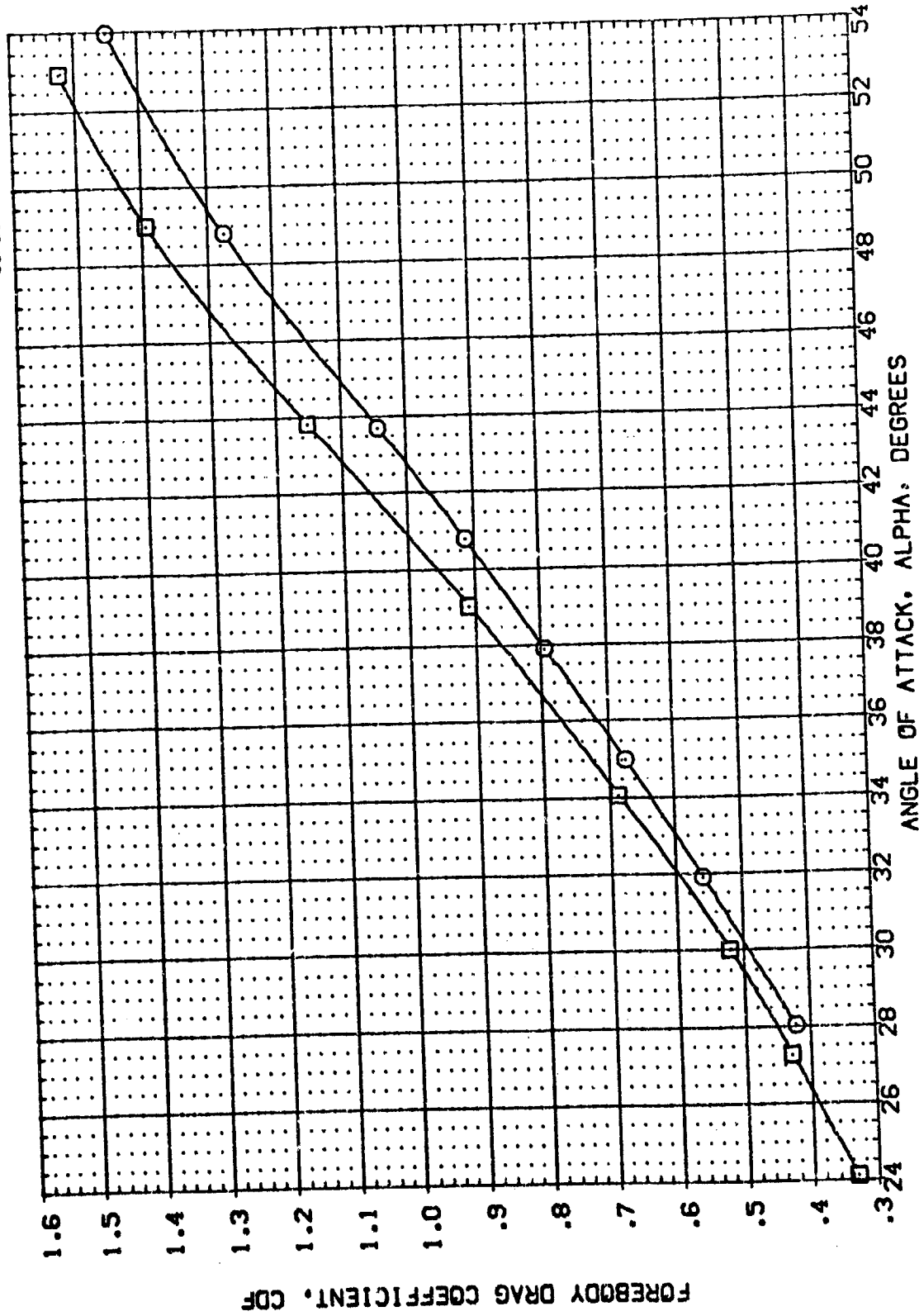


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL: (JBY019) (JBY016)

CONFIGURATION DESCRIPTION:
 AMES 3.5-163 QAS8 (817C7MF5)(V10E22)(V7RS)
 AMES 3.5-163 QAS8 (817C7MF5)(V10E22)(V7RS)

BETA: .000
 ELEVON: -44.000
 BOFLAP: -14.250
 SPOBRK: 54.920

REFERENCE INFORMATION:
 SREF: 7.650 SQ.FT.
 LREF: 14.220 IN.
 BRREF: 14.050 IN.
 XMRP: 12.570 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150

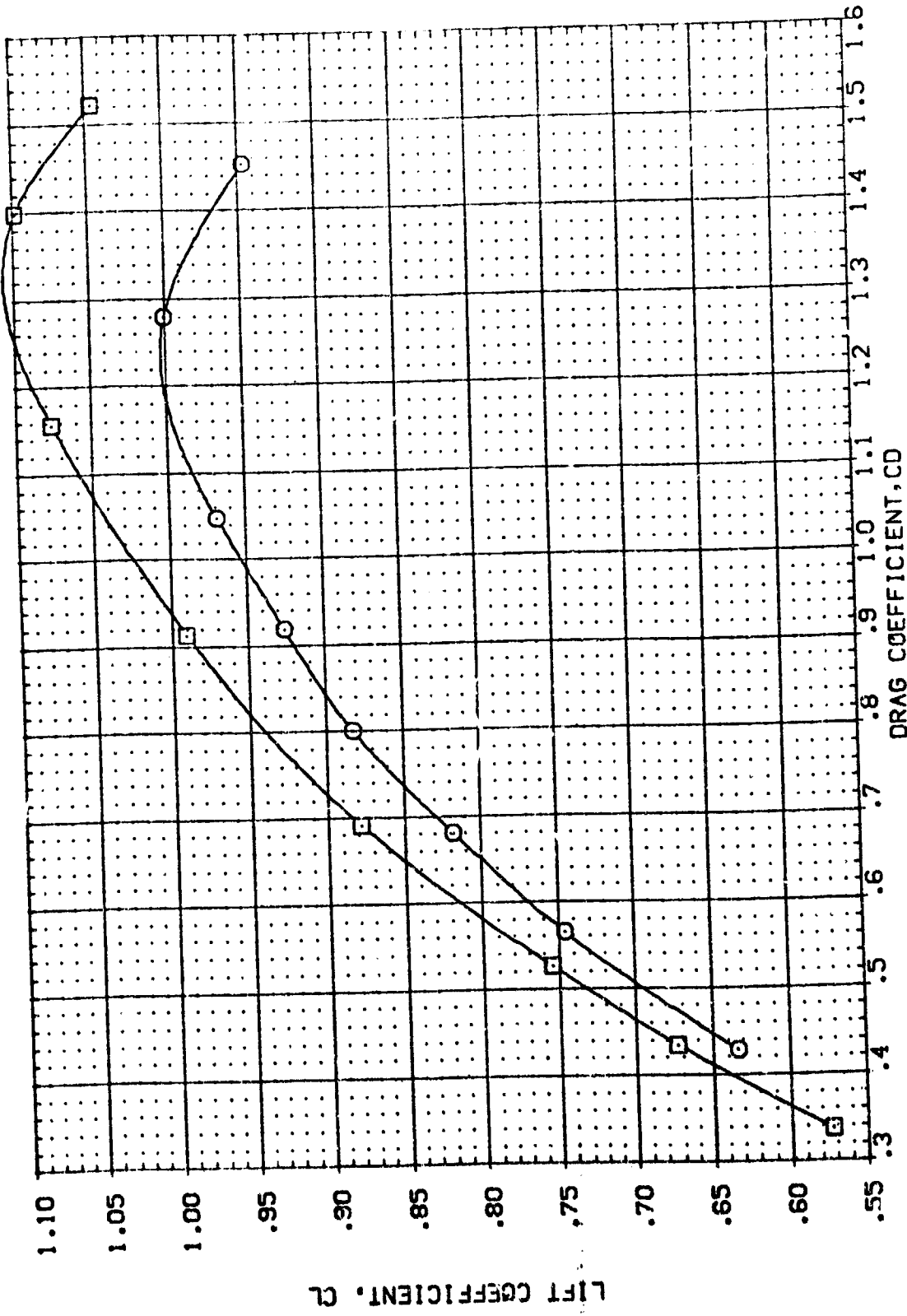


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3
 (AJMACH = 5.26)



DATA SET SYMBOL: (JBV019) (JBV016) CONFIGURATION DESCRIPTION: AVES 3.5-163 QAS8 (817C7M4F5)(V103E22)(V7RS) AVES 3.5-163 QAS8 (817C7M4F5)(V103E22)(V7RS)
 REFERENCE INFORMATION: SQ.FT. 6050 IN. 7.1270 IN. 14.0770 IN. 12.5770 IN. SREF 54.920 LREF 54.920 BREF 54.920 XMRP .0000 YMRP .0000 ZMRP .0000 V.L. .0150 SCALE

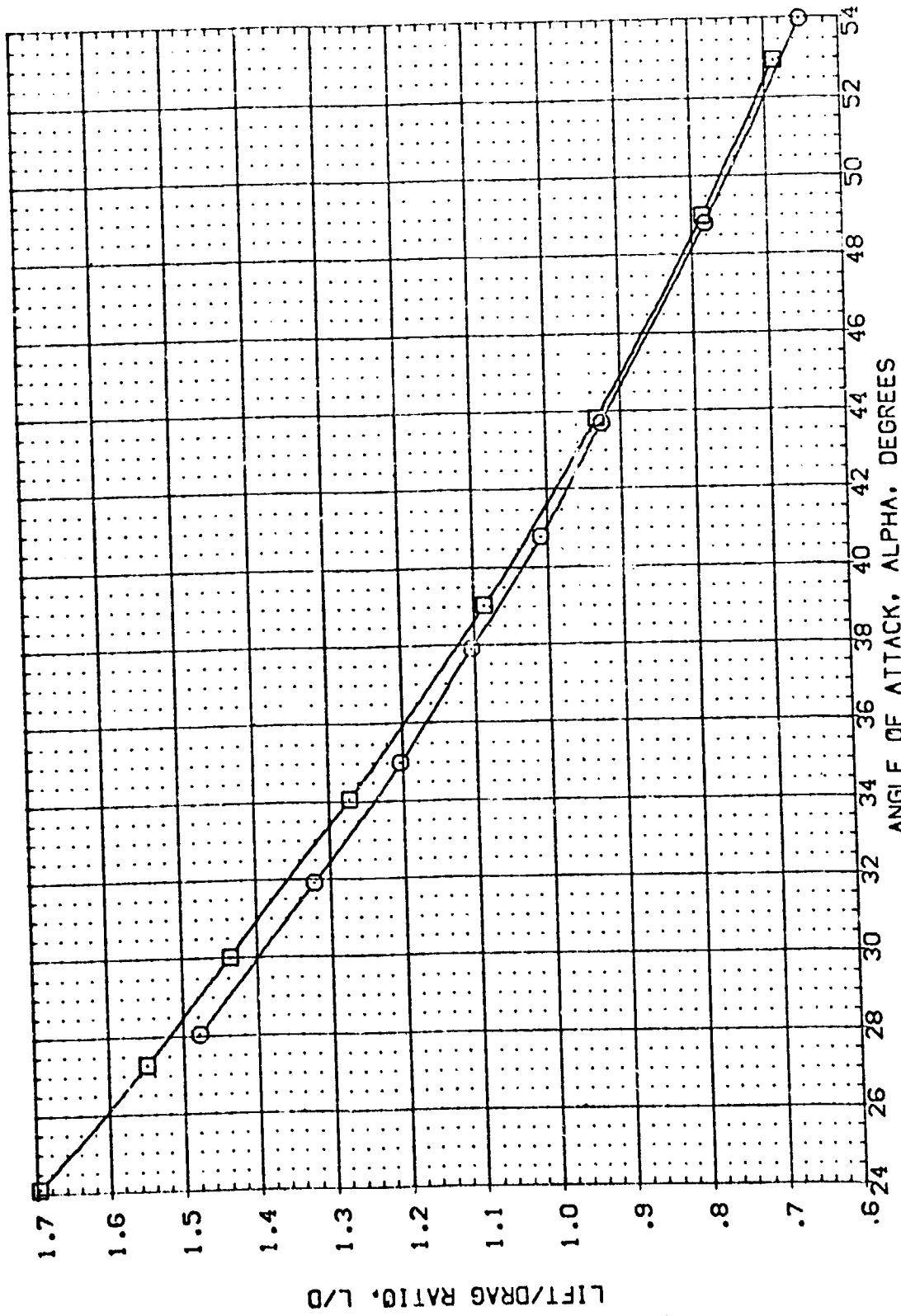


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL (JBY019)
 (JBY016)
 CONFIGURATION DESCRIPTION
 ARES 3.5-163 CAS8 (817C7M4F5)(V103E22)(V7RS)
 ARES 3.5-163 CAS8 (817C7M4F5)(V103E22)(V7RS)

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BRLE 14.0500 IN.
 XREF 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

BETA .000
 ELEVON .000
 BOFLAP -14.250
 SPOBRK 54.920

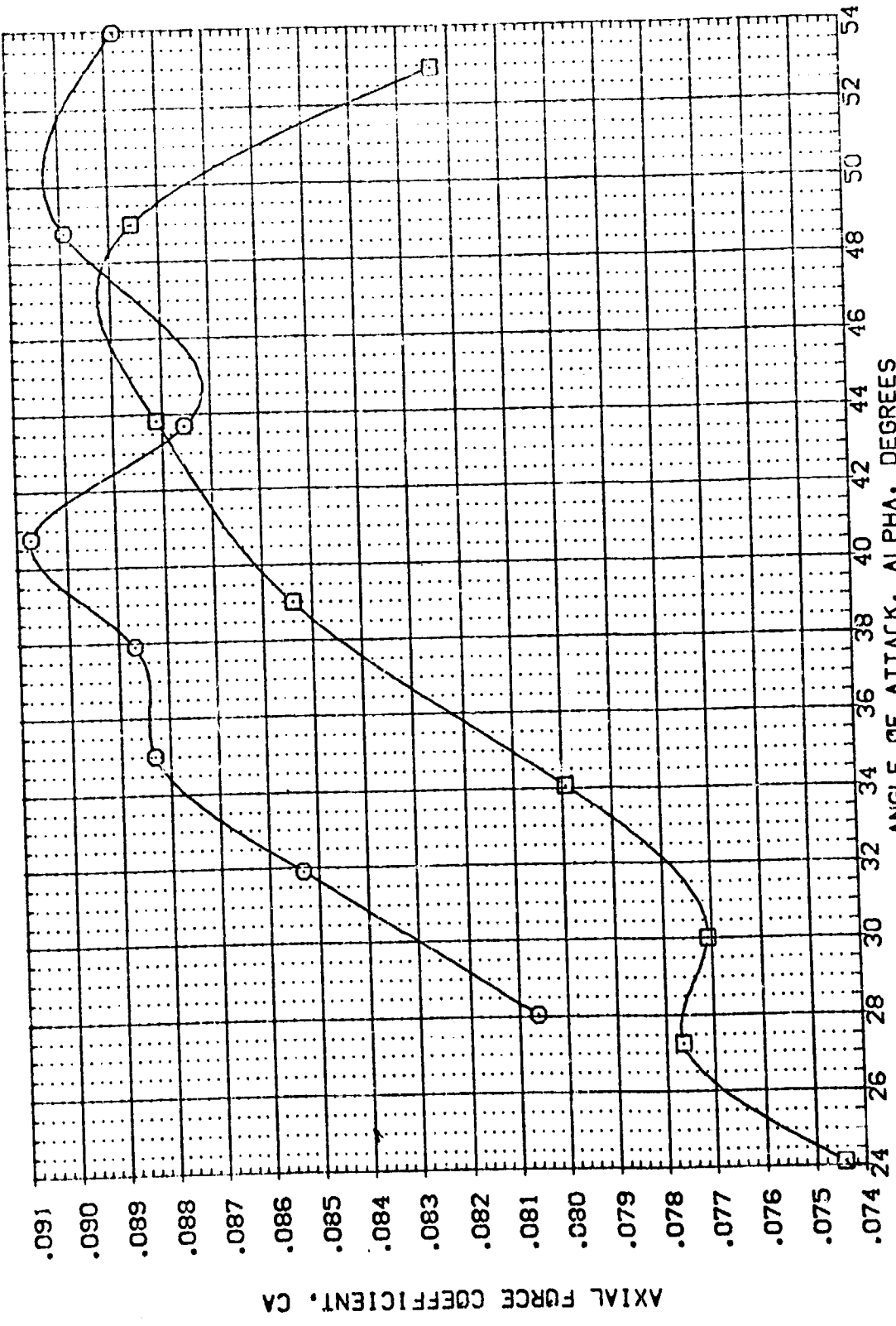


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3
 (A)MACH = 5.26

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XTRP 12.5770 IN.
 YTRP .0000 IN.
 ZTRP 6.0000 V.L.
 SCALE .0150

BETA .000
 ELEVON -44.000
 BOFLAP -14.250
 SPDBRK 54.920

DATA SET SYMBOL (JBVO19) □
 CONFIGURATION DESCRIPTION
 AVES 3.5-163 CAS8 (B17C7M4FS)(W103E22)(V7RS)
 AVES 3.5-163 CAS8 (B17C7M4FS)(W103E22)(V7RS)

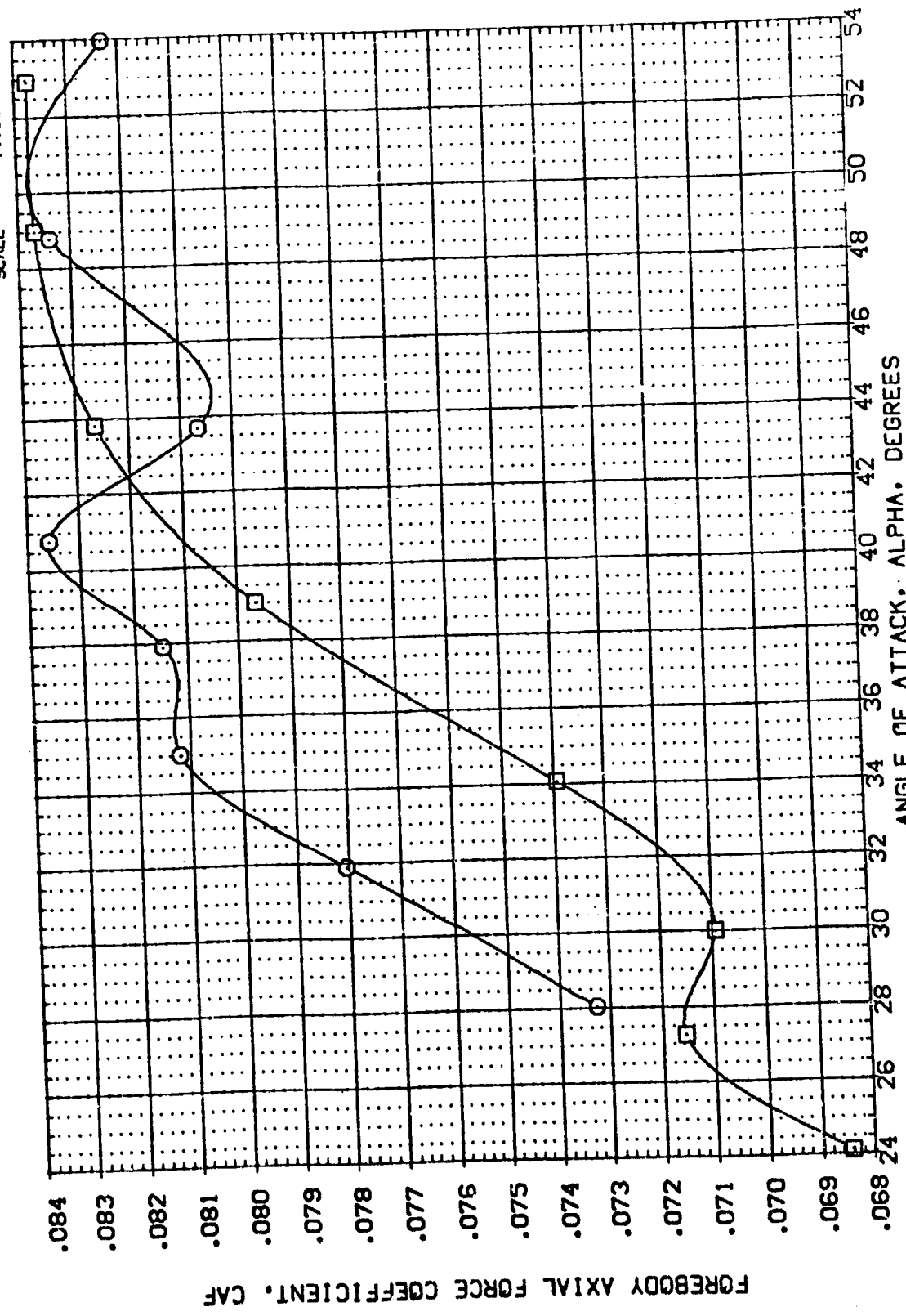


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

REFERENCE INFORMATION

SREF	.6050	SR.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	V.L.
SCALE	.0150	

BETA

ELEVON	.000
BOFLAP	-14.250
SPDRK	54.920
SPDRK	54.920

DATA SET SYMBOL (JBY019) (JBY016)

CONFIGURATION DESCRIPTION

AMES 3.5-163 OASB (817C7MFS)(V103E22)(V7RS)

AMES 3.5-163 OASB (817C7MFS)(V103E22)(V7RS)

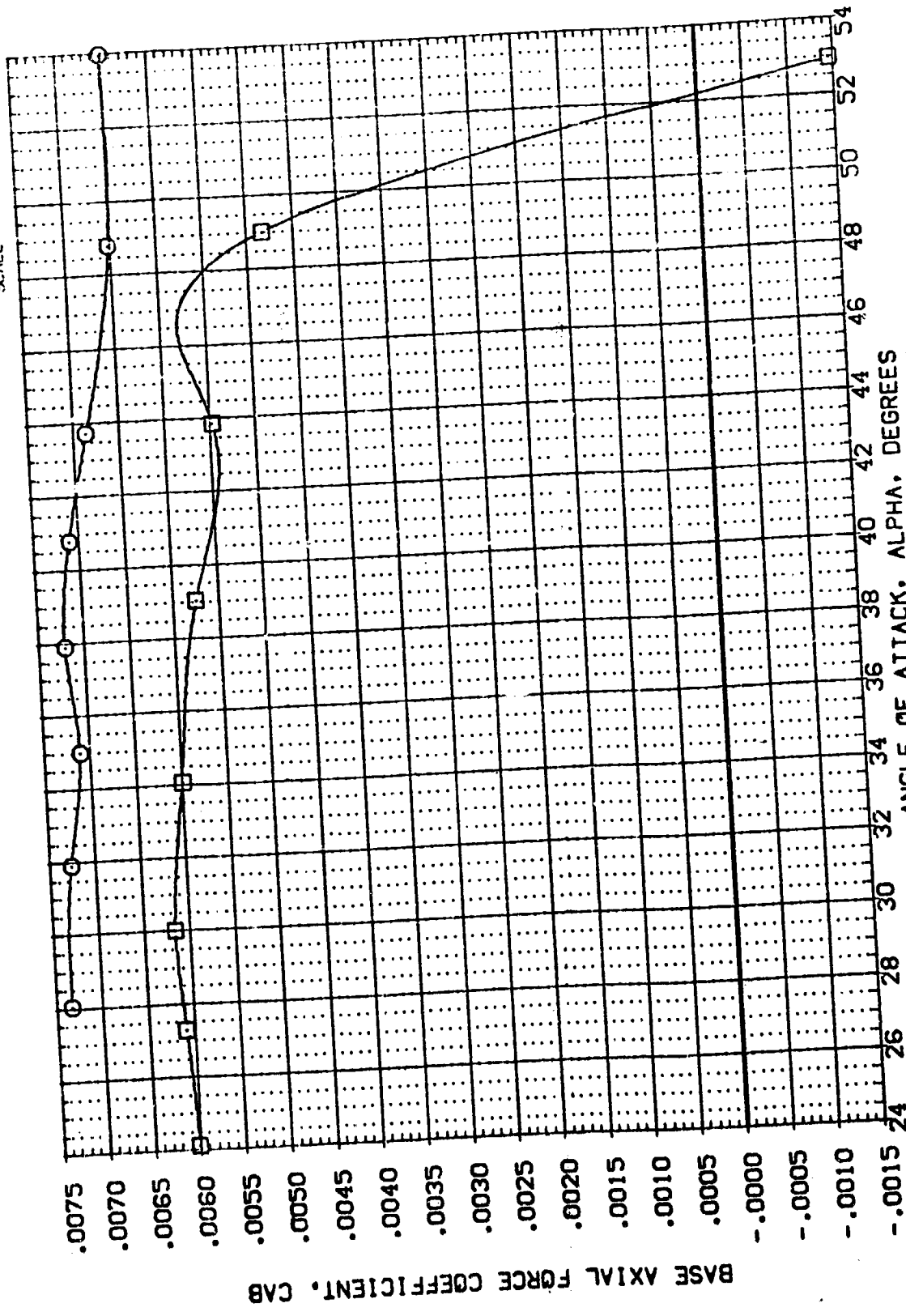


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

REFERENCE INFORMATION
 SQ.FT. SO.FT.
 SREF 7.1220 IN.
 LREF 14.0500 IN.
 BREF 12.5770 IN.
 XMRP .0000 IN.
 YMRP 6.0000 V.L.
 ZMRP .3150

BETA ELEVON BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -14.250 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (JB7019) AMES 3.5-162 DAS8 (817C7M4FS)(V103E22)(V7RS)
 (JB7016) AMES 3.5-163 DAS8 (817C7M4FS)(V103E22)(V7RS)

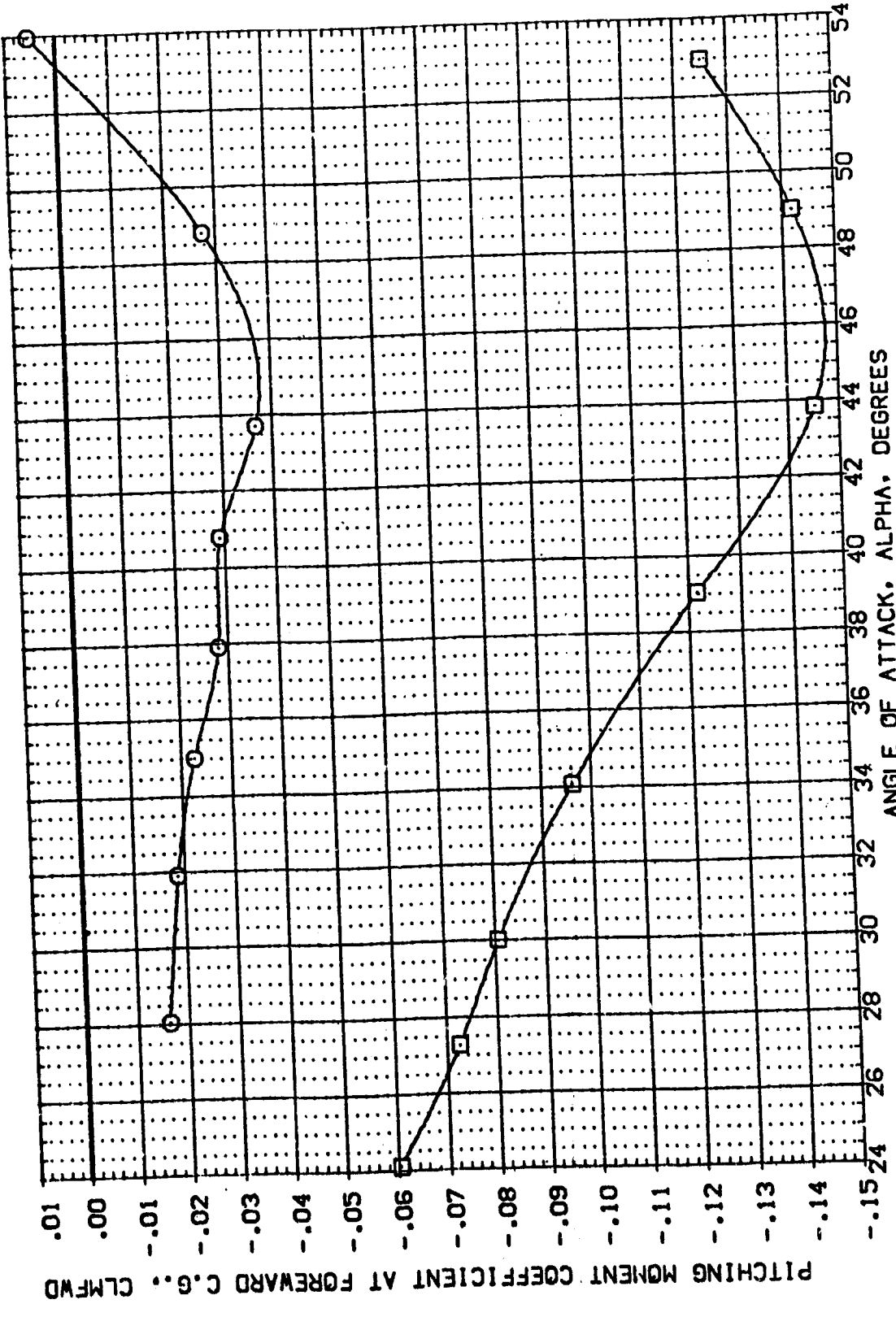


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL: (JBV019) (JBV016)

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)

BETA: .000
 .000

ELEVON: -44.000
 .000

BOFLAP: -14.250
 -14.250

SPOBRK: 54.920
 54.920

SREF: 7.6050
 LREF: 7.1220
 BREF: 14.0500
 XMRP: 12.5770
 YMRP: .0000
 ZMRP: 6.0000
 SCALE: .0150

REFERENCE INFORMATION:
 SO.FT.: 6050
 IN.: 7.1220
 IN.: 14.0500
 IN.: 12.5770
 IN.: .0000
 V.L.: 6.0000

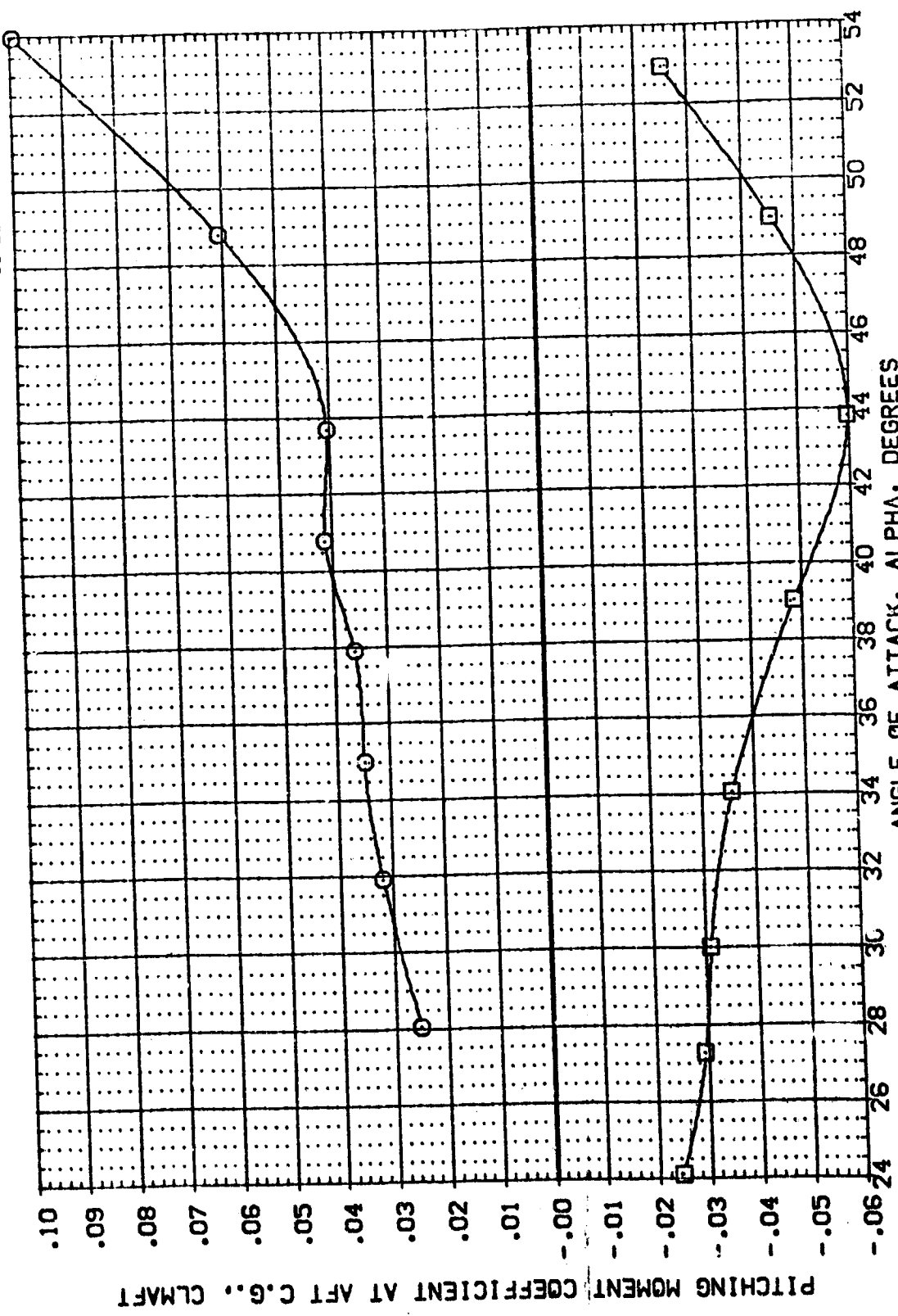


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

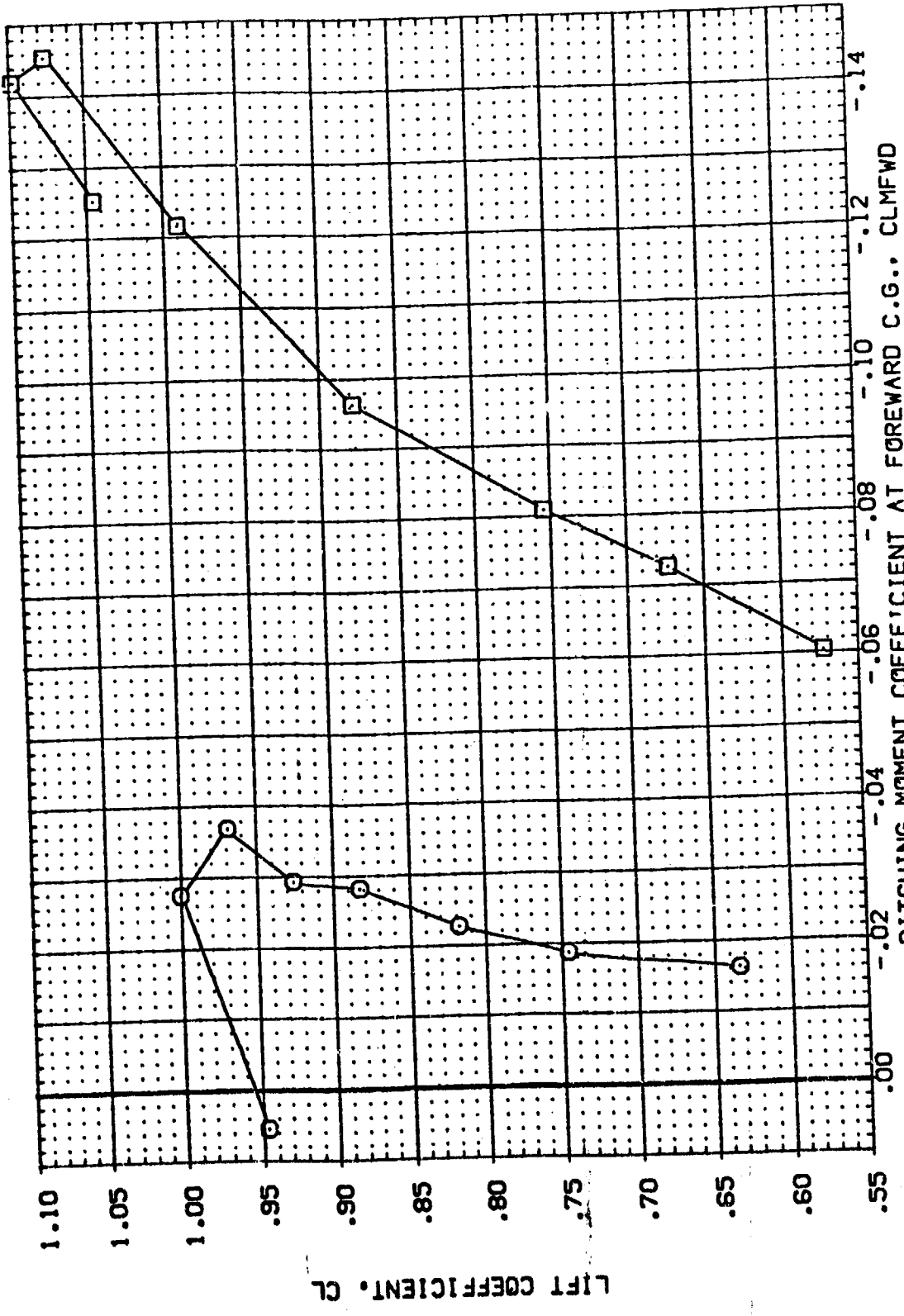
(A) MACH = 5.26

DATA SET SYMBOL (J8Y019) (J8Y016) □

CONFIGURATION DESCRIPTION
 AVES 3.5-163 QAS8 (817C7M4FS) (V103E22) (V7RS)
 AVES 3.5-163 QAS8 (817C7M4FS) (V103E22) (V7RS)

BETA .000 .000
 ELEVON -44.000 .000
 BOFLAP -14.250 -14.250
 SPOBRK S4.920 S4.920

REFERENCE INFORMATION
 SREF 6050
 LREF 7.1220
 XMRP 14.0500
 YMRP 12.5770
 ZMRP .0000
 SCALE 6.0000
 V.L. .0150



LIFT COEFFICIENT, CL

PITCHING MOMENT COEFFICIENT AT FORWARD C.G. CLMFW

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL (JBY019) (JBY016)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 CAS8 (B17C7M4F5)(V103E22)(V7R5)
 AVES 3.5-163 CAS8 (B17C7M4F5)(V103E22)(V7R5)

BETA .000
 ELEVON -44.000
 BOFLAP -14.250
 SPOBRK 54.920

REFERENCE INFORMATION
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP 6.0000
 ZMRP .0150
 V.L.

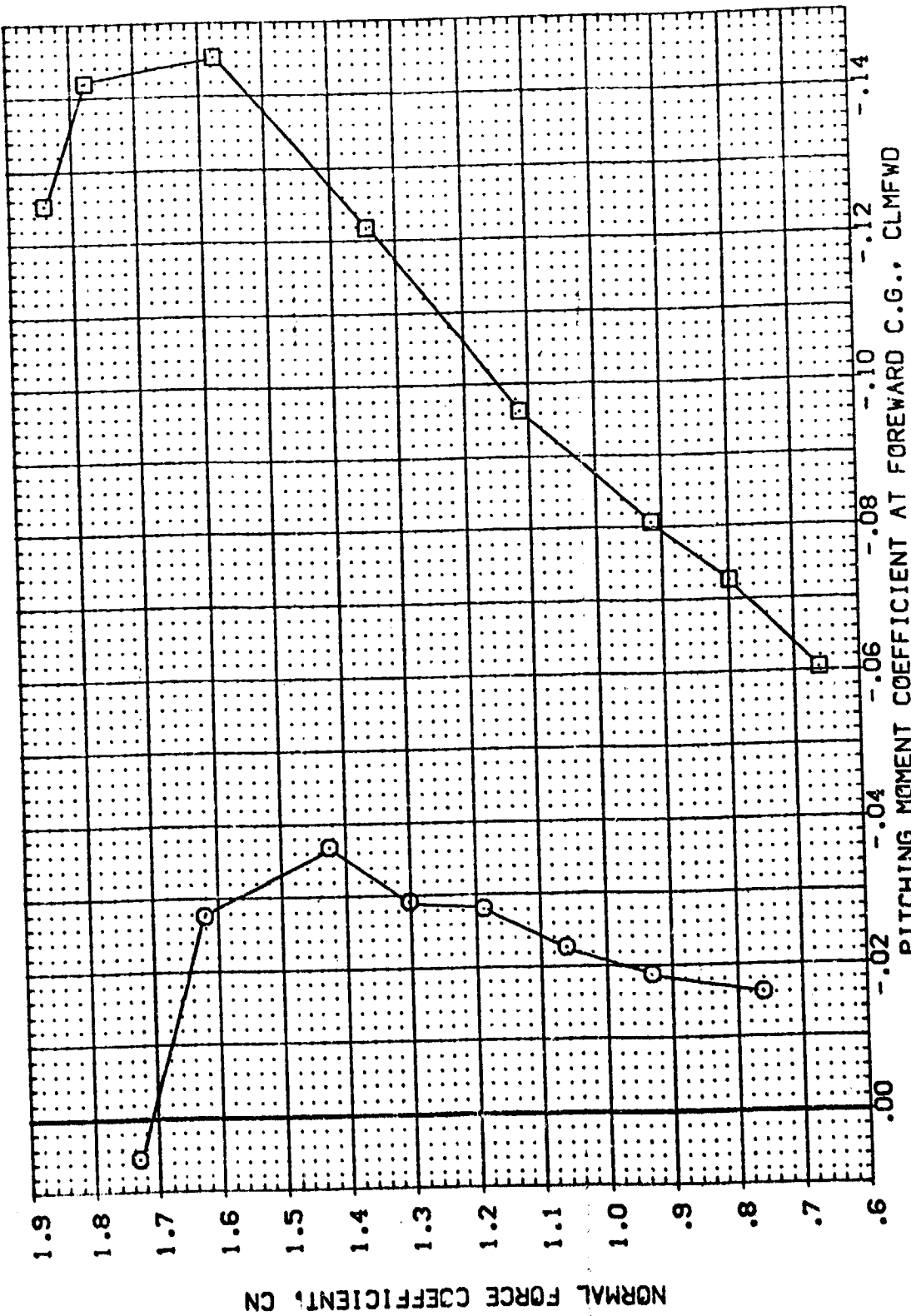


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMBOL: (JBYJ19) \square (JBYJ16) \square
 CONFIGURATION DESCRIPTION: AVES 3-5-163 OASB (B17C7M4F5)(V103E22)(V7R5) AVES 3-5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 REFERENCE INFORMATION:
 SREF: .6050 SQ.FT.
 LREF: 7.1220 IN.
 BREF: 14.0500 IN.
 XMRP: 12.5770 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150 V.L.

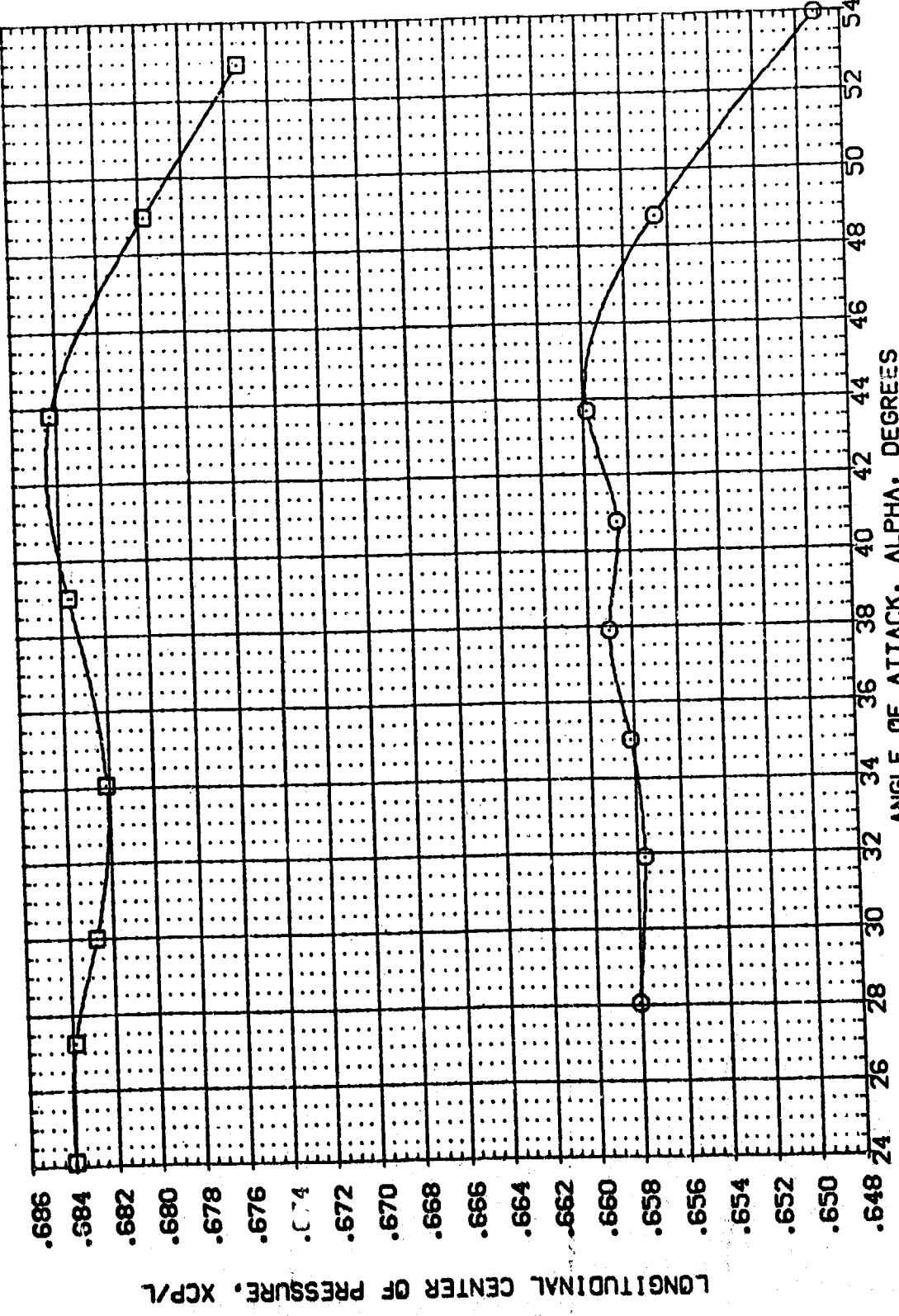


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.26

DATA SET SYMB. (GBY019) ○
 CONFIGURATION DESCRIPTION
 ARES 3.5-163 QAS8 (B17C7M4F5)(V103E22)(V7R5)

BETA DE BDFLAP SPOBRK
 .000 -44.000 -14.250 54.920

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.L.

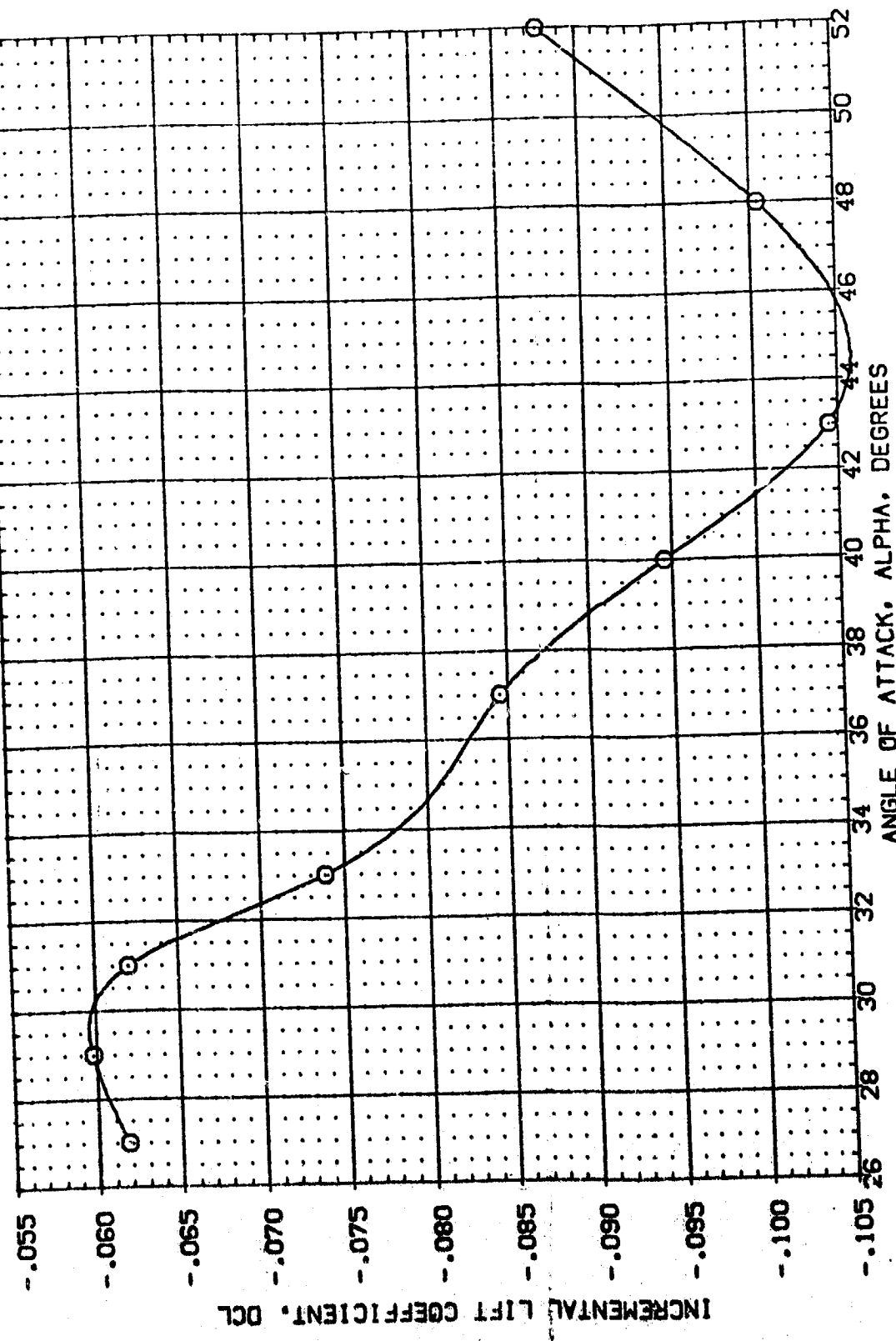


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3
 (A)MACH = 5.30

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920

DATA SET SYMB. CONFIGURATION DESCRIPTION
 (G8Y019) ○ ARES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)

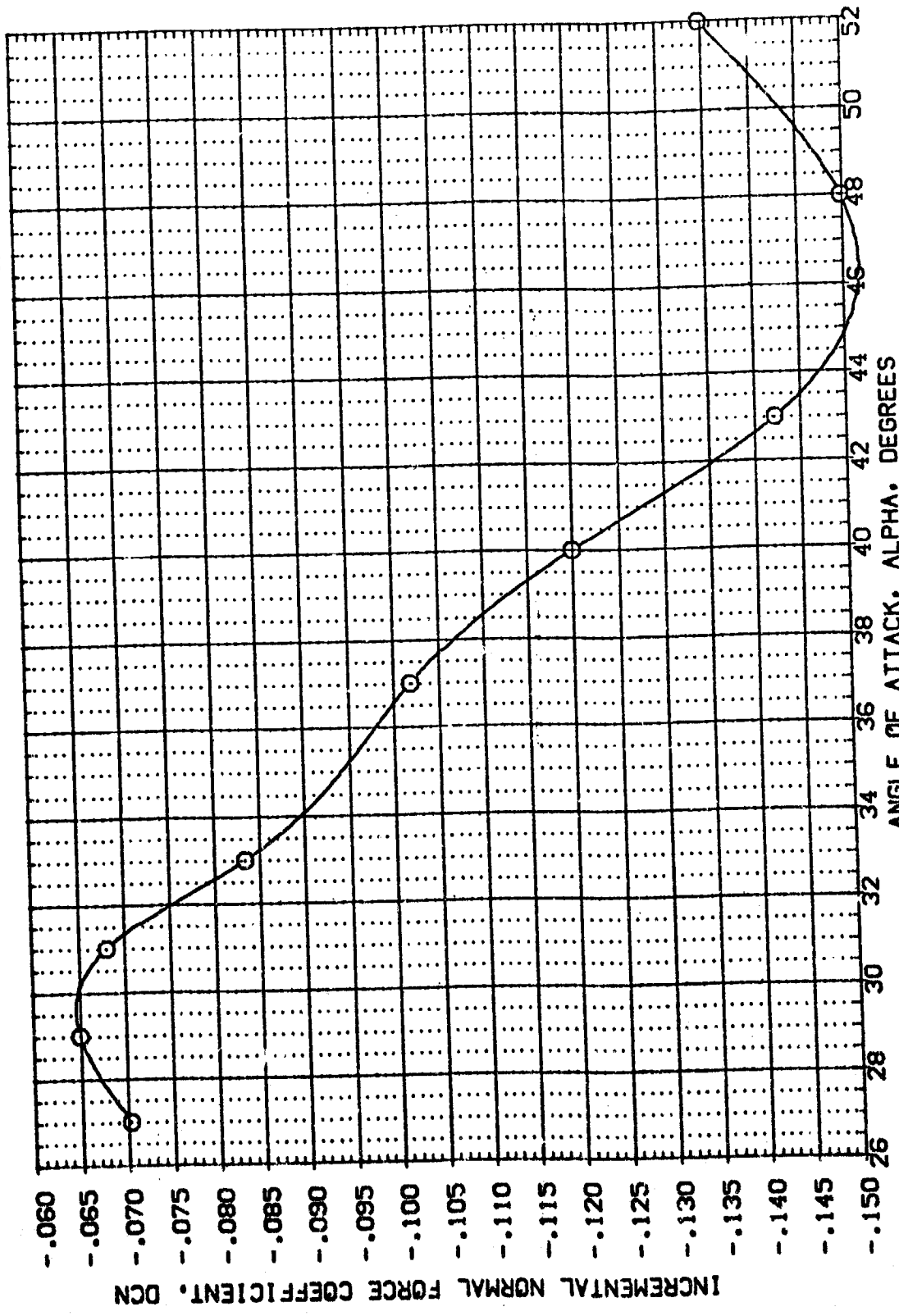


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBL. (GBV019) ○
 CONFIGURATION DESCRIPTION
 AVES 3.5-163 0A58 (817C7M4F5)(V103E22)(V7R5)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920

REFERENCE INFORMATION
 SREF 7.050 SQ.FT.
 LREF 14.500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

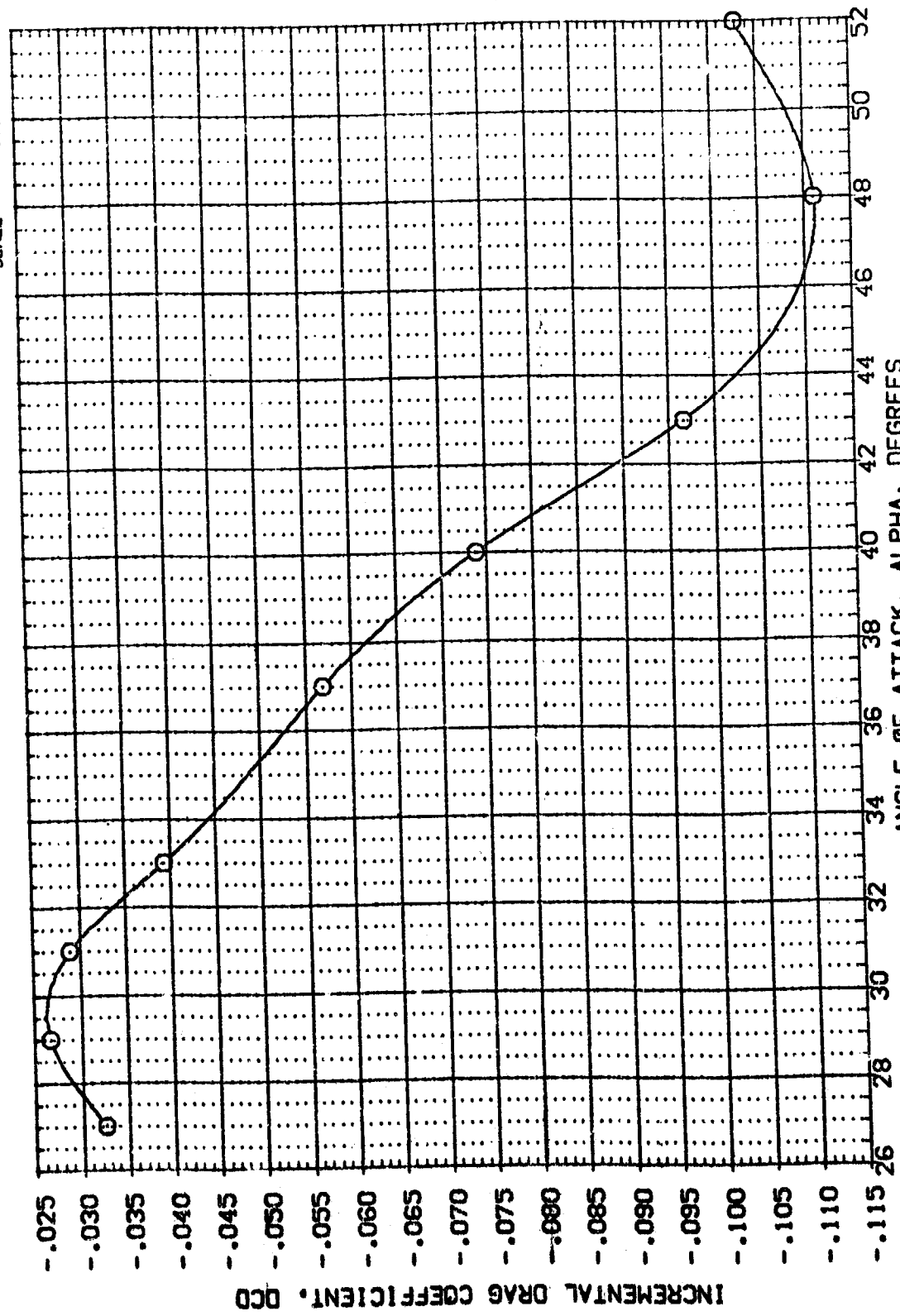


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA DE BDFLAP SPOBRK
 .000 -44.000 -14.250 54.920

DATA SFT SYMBO. CONFIGURATION DESCRIPTION
 (G8019) O ARES 3.5-163 QASB (817C7MF5)(V103E22)(VRS)

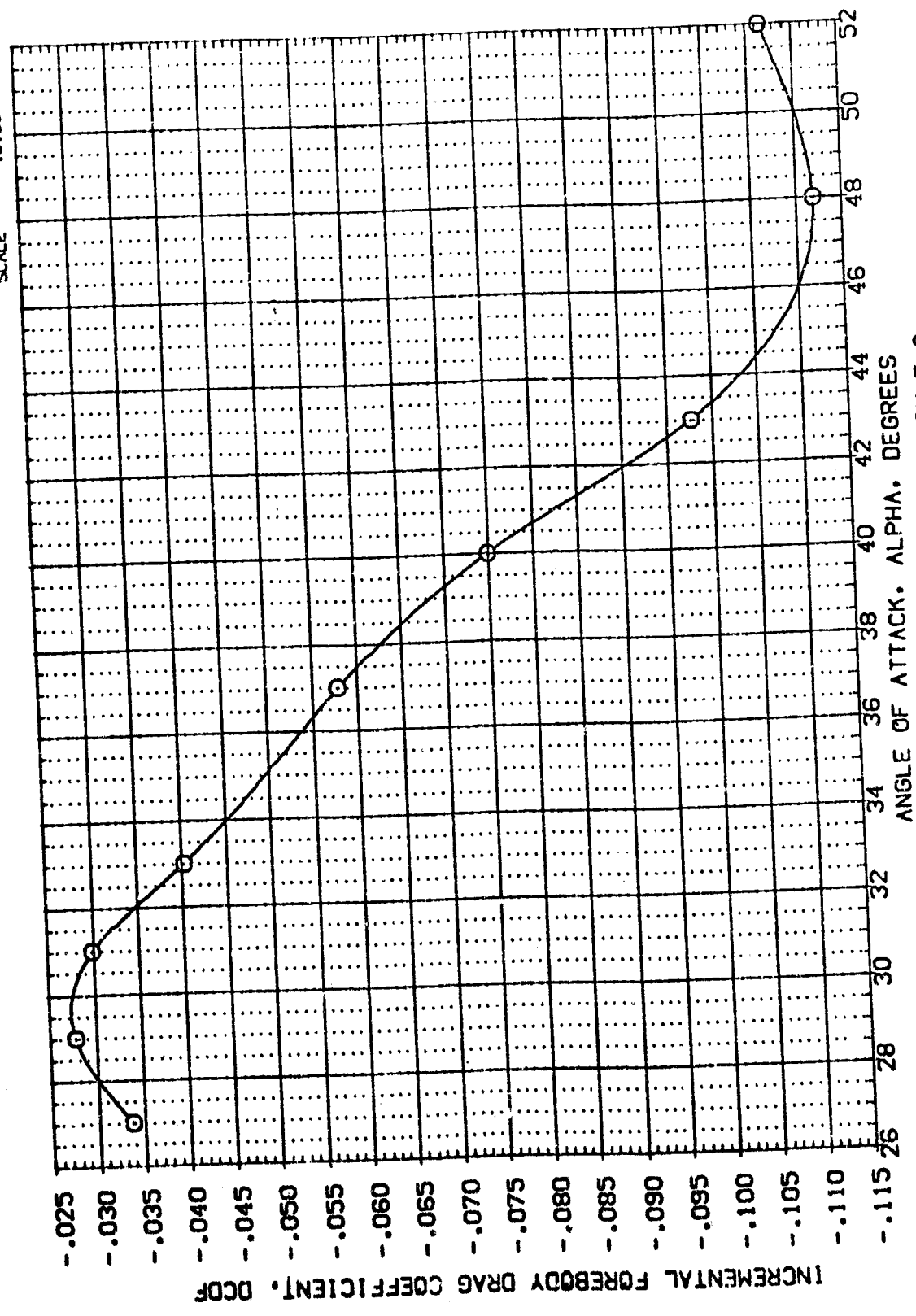


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.6530 IN.
 XREF 12.5770 IN.
 YREF 6.0000 IN.
 ZREF 6.0000 V.L.
 SCALE .0150

BETA DE BDFLAP SPOBRK
 .000 -44.000 -14.250 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (GB7019) O ARES 3.5-163 OASB (817C7M4F5)(W103E22)(V7K5)

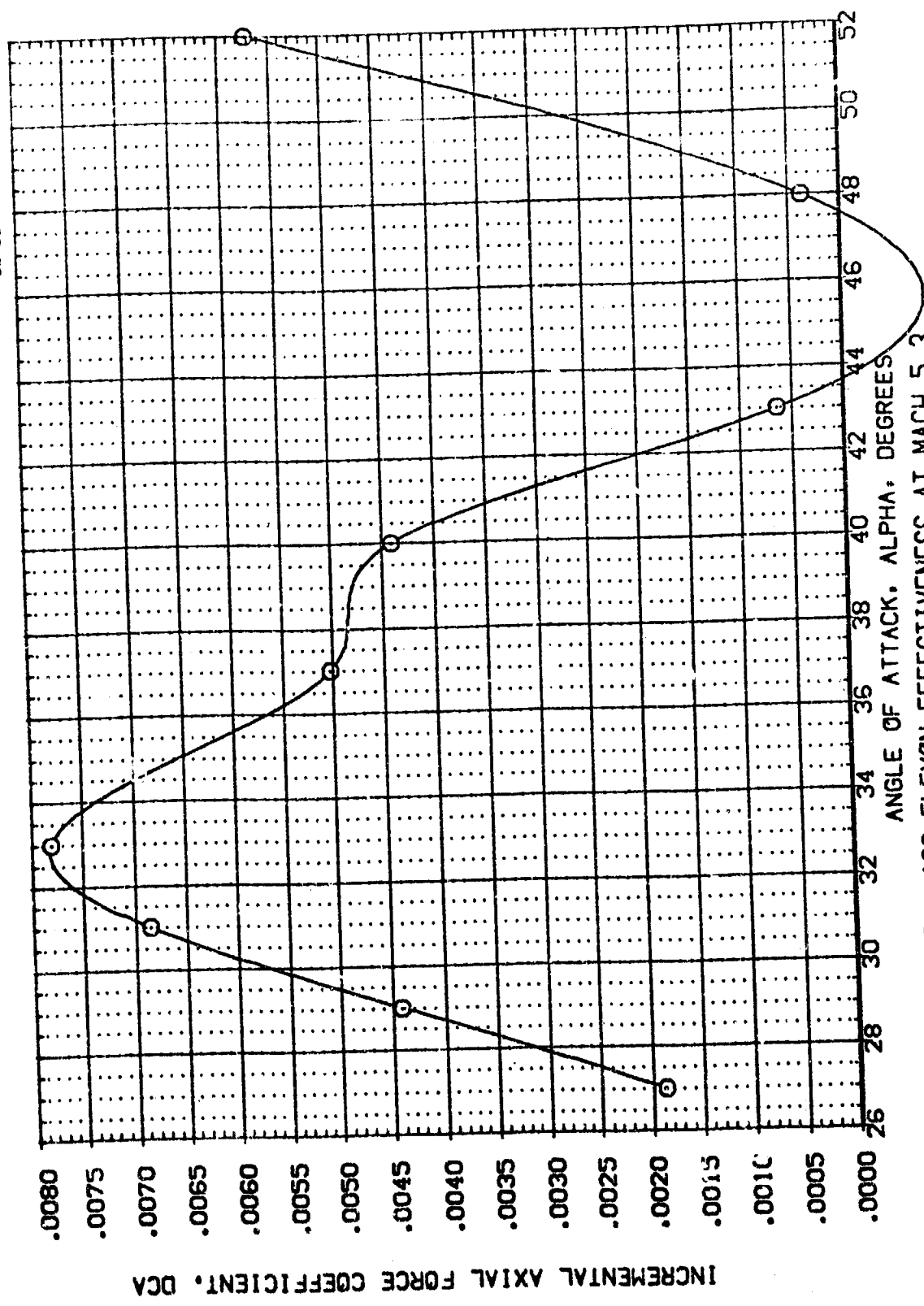


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

CA/MACH = 5.30

DATA SET SYMBOL (CBY0:9) ○
 CONFIGURATION DESCRIPTION AVES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 BETA .000 DE -41.000 SPOBRK 54.920
 BOFLAP -14.250
 REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BRREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

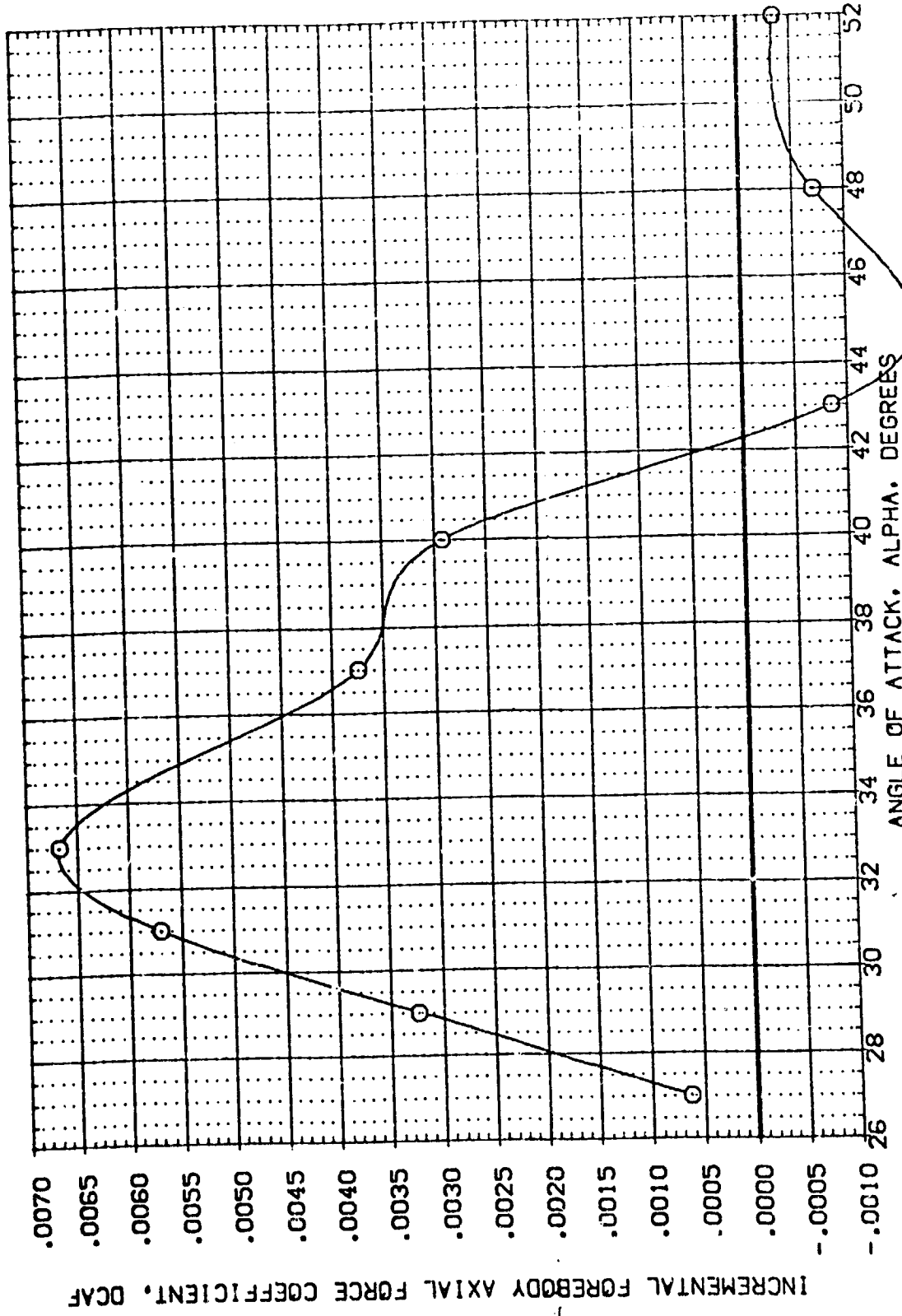
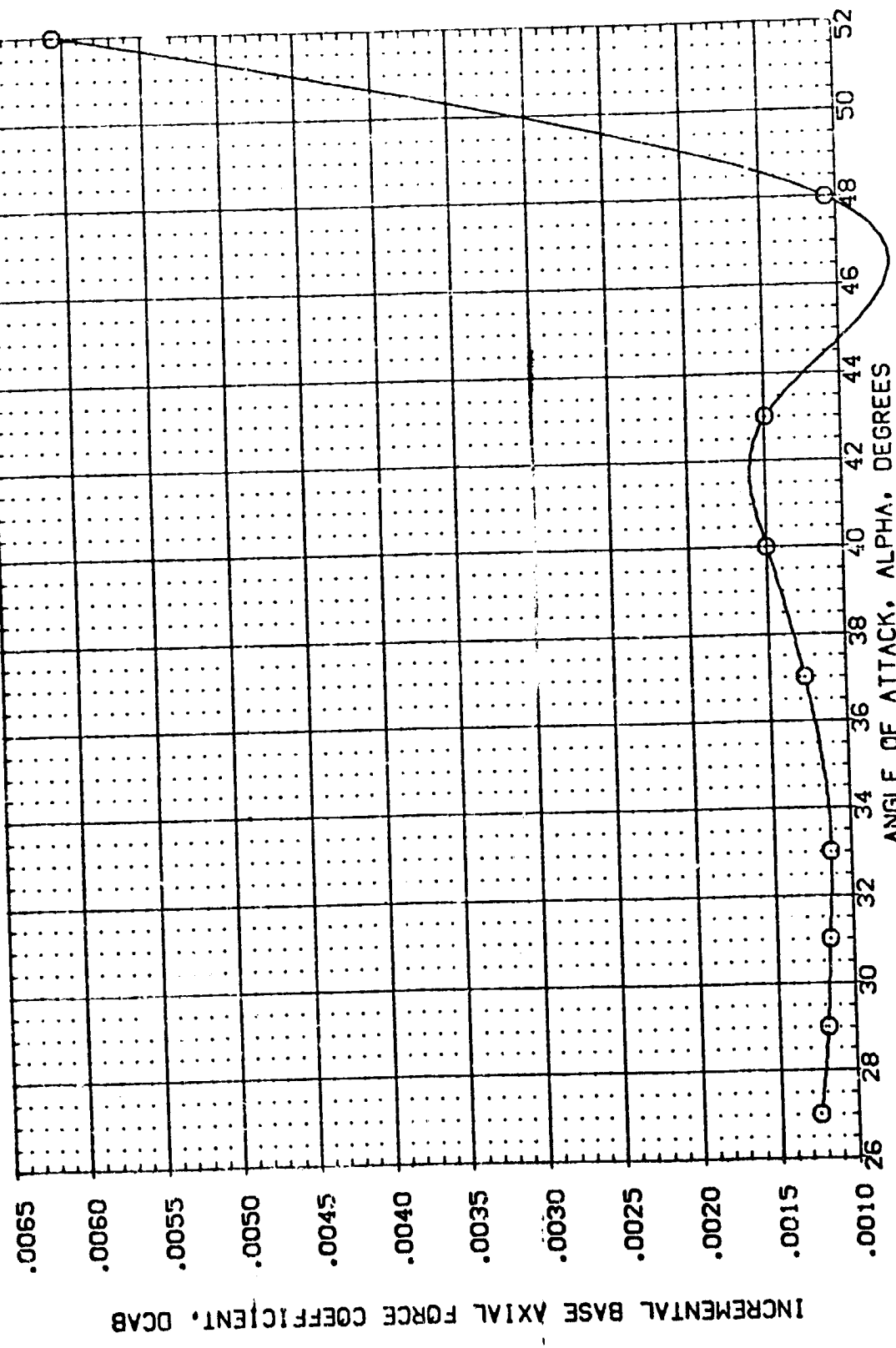


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL (GBY019) ○
 CONFIGURATION DESCRIPTION AMES 3.5-163 CAS8 (B17C7MF5)(W103E22)(V7R5)
 REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.7500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

BETA .000
 DE -44.000
 BDFLAP -14.250
 SPOBRK 54.920



INCREMENTAL BASE AXIAL FORCE COEFFICIENT, DCAB

ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL: (G8Y019) ○
 CONFIGURATION DESCRIPTION: ARES 3.5-163 CAS9 (B17C7MFC)(V103E22)(V7R5)
 BETA: .000
 DE: -44.000
 BDFLAP: -14.250
 SPOBRK: 54.920

REFERENCE INFORMATION:
 SREF: .6050 SO. FT.
 LREF: 7.1220 IN.
 BREF: 14.0500 IN.
 XMRP: 13.5770 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150 V.L.

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

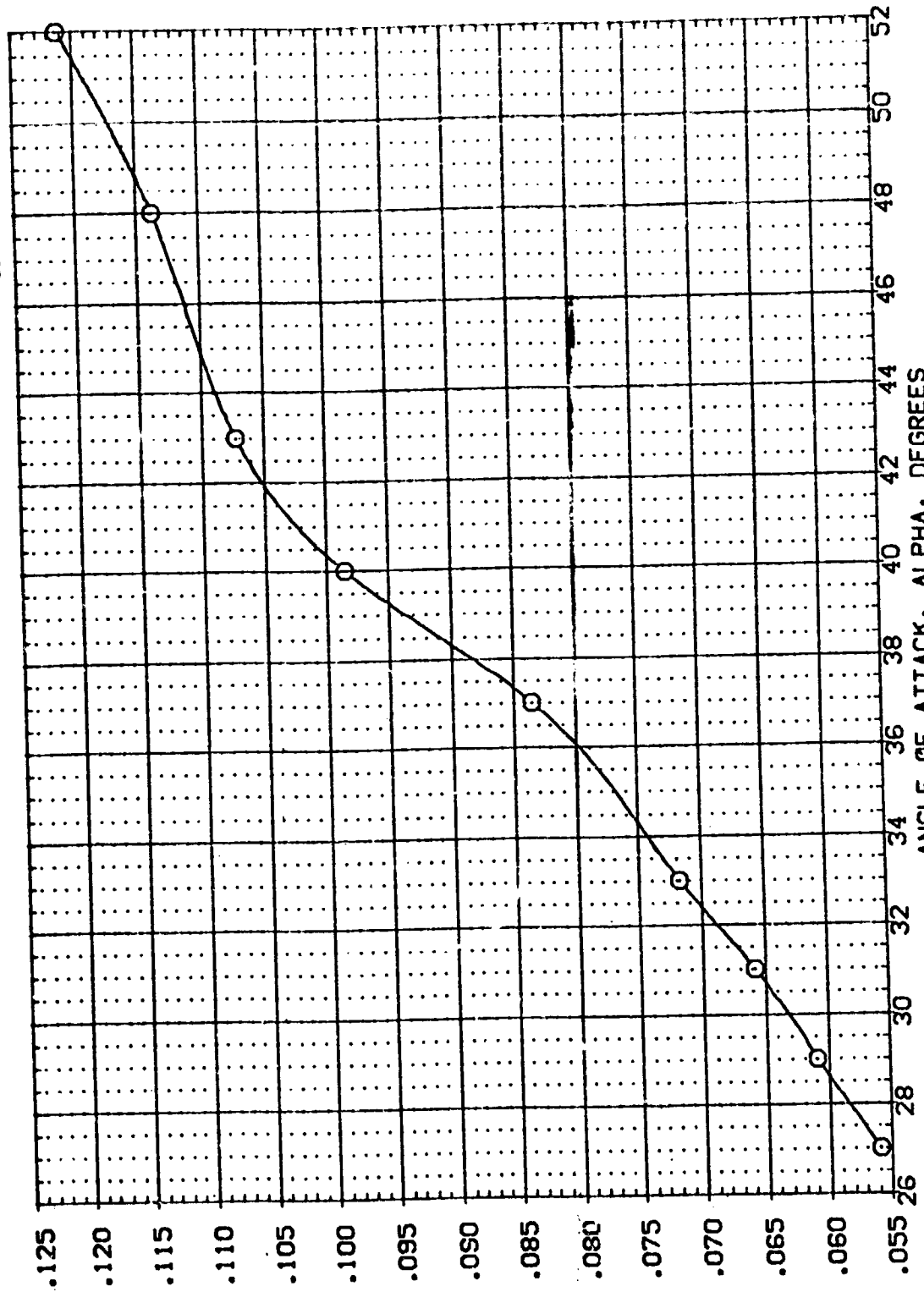


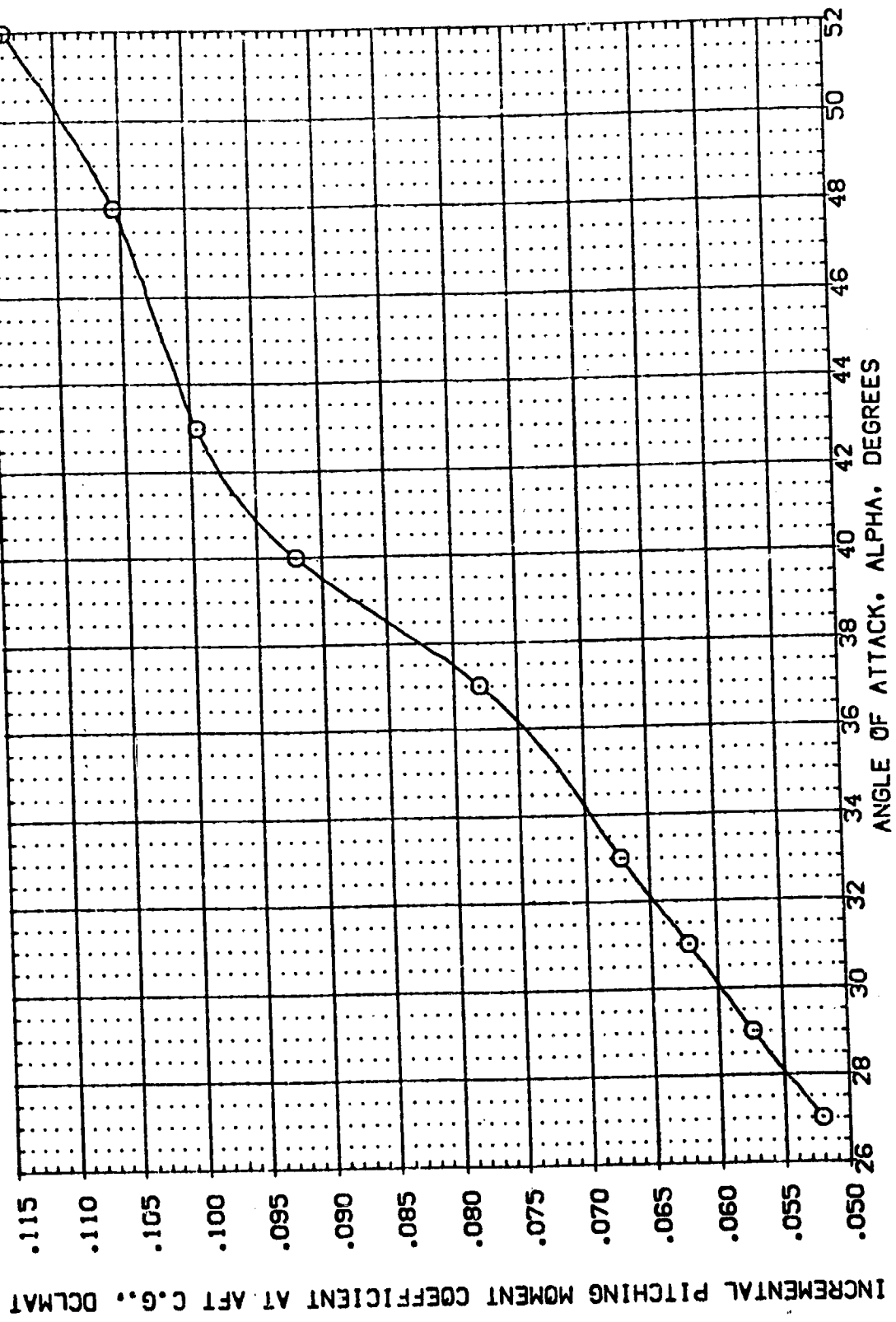
FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

DATA SET SYMBOL ○ ARES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)

BETA DE BOFLAP SPOBRK
.000 -44.000 -14.250 54.920

REFERENCE INFORMATION
SREF 6050 SQ.FT.
LREF 7.1230 IN.
BREF 14.0600 IN.
XMRP 12.5770 IN.
YMRP .0000 IN.
ZMRP 6.0000 IN.
SCALE .0150 V.L.



INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLM1

ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(A)MACH = 5.30

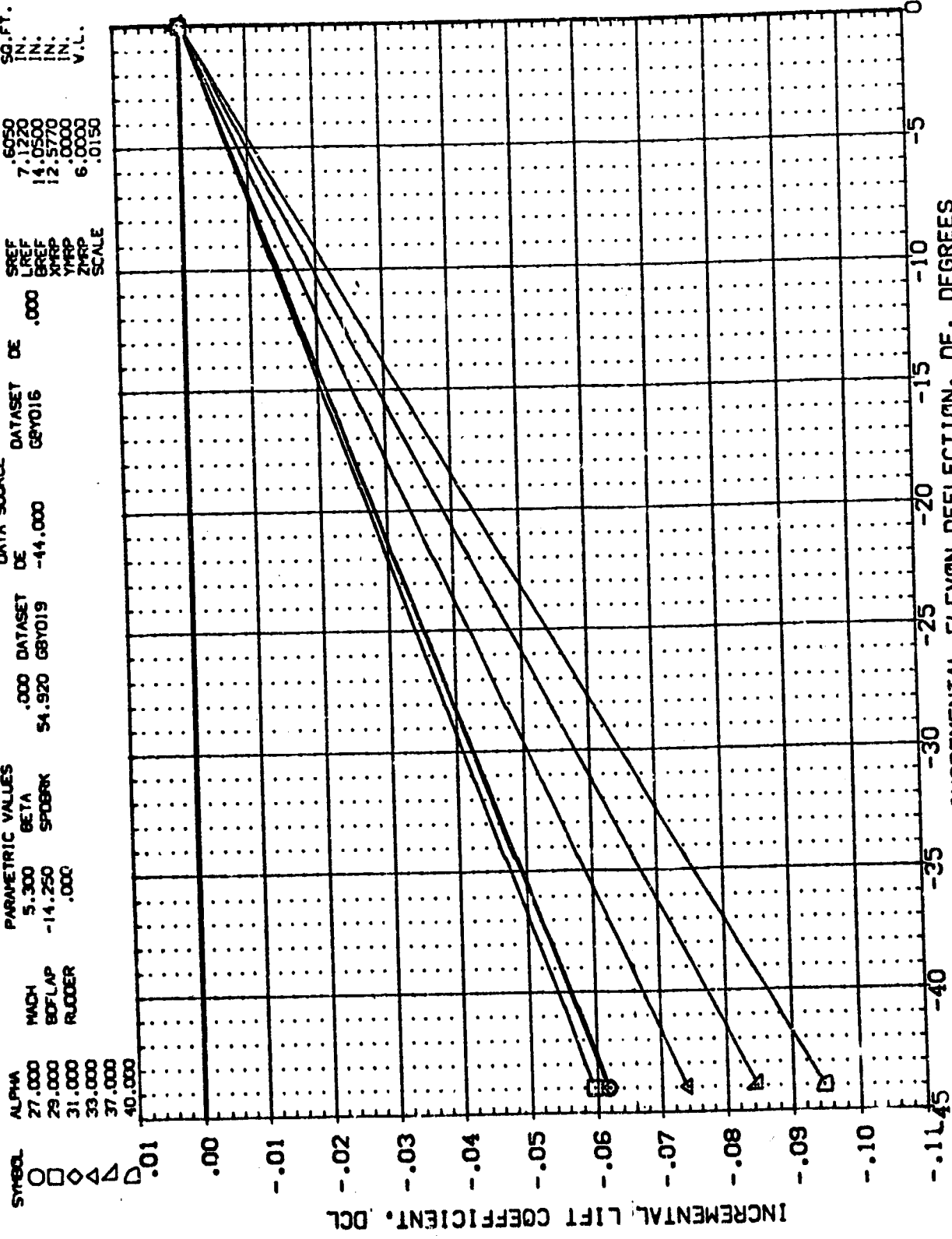
AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

PARAMETRIC VALUES
 ALPHA 27.000
 MACH 5.300
 BOFLAP -14.250
 RUDDER .000
 31.000
 33.000
 37.000
 40.000

DATA SOURCE
 DATASET DE
 GBY019 -44.000

REFERENCE INFORMATION
 SREF 6050
 LREF 7.1220
 BRREF 14.0500
 XMRP 12.5770
 YMRP 6.0000
 ZMRP 6.0000
 SCALE .0150

SO.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.



INCREMENTAL ELEVON DEFLECTION, DE. DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	.000	DATASET	DE	DATA SOURCE	DE	DATASET	DE	REFERENCE INFORMATION	SO. FT.
○	43.000	5.300	BETA		5.300	.000	GBY016	.000	SREF		GBY019		.6050	IN.
□	48.000	-14.250	SPOBRK		-14.250	54.920	GBY016		LREF		GBY016		7.1220	IN.
◇	52.000				.000				BREF				12.5770	IN.
									YTRP				.0000	IN.
									ZTRP				6.0000	V.L.
									SCALE				.0150	

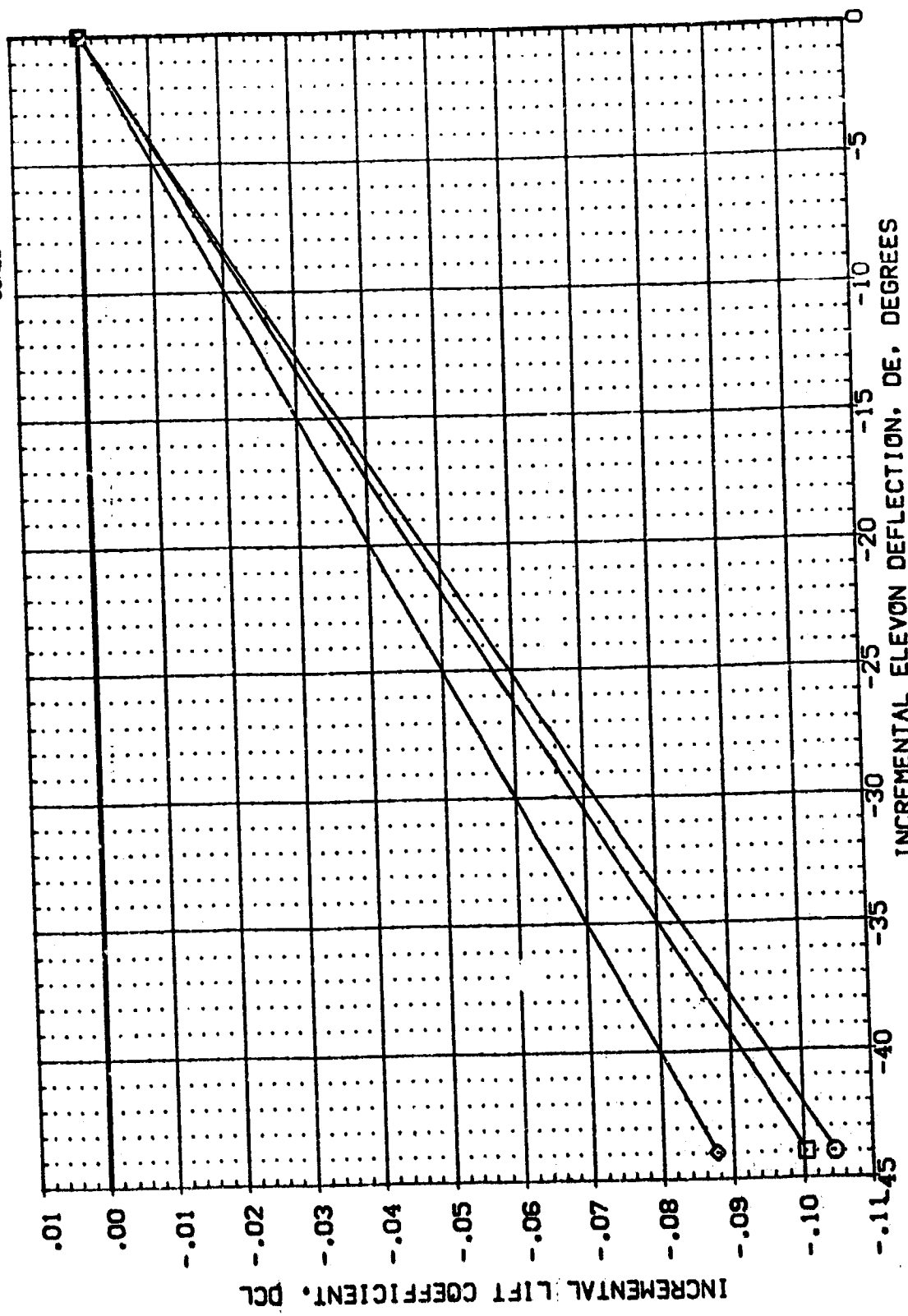


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

ALPHA	27.000	MACH	5.300	BETA	5.300	DATA SOURCE	DE	GBY016	REF	6050	SO. FT.
BOFLAP	29.000	BOFLAP	-14.250	SPOBRK	.000	DATASET	DE	GBY016	LINEF	7.1220	IN.
RUDDER	31.000	RUDDER	.000			DATASET	DE	GBY016	XPRP	14.0500	IN.
	33.000					DATASET	DE	GBY016	YPRP	12.5770	IN.
	37.000					DATASET	DE	GBY016	ZPRP	6.0000	IN.
	40.000					DATASET	DE	GBY016	SCALE	.0150	V.L.

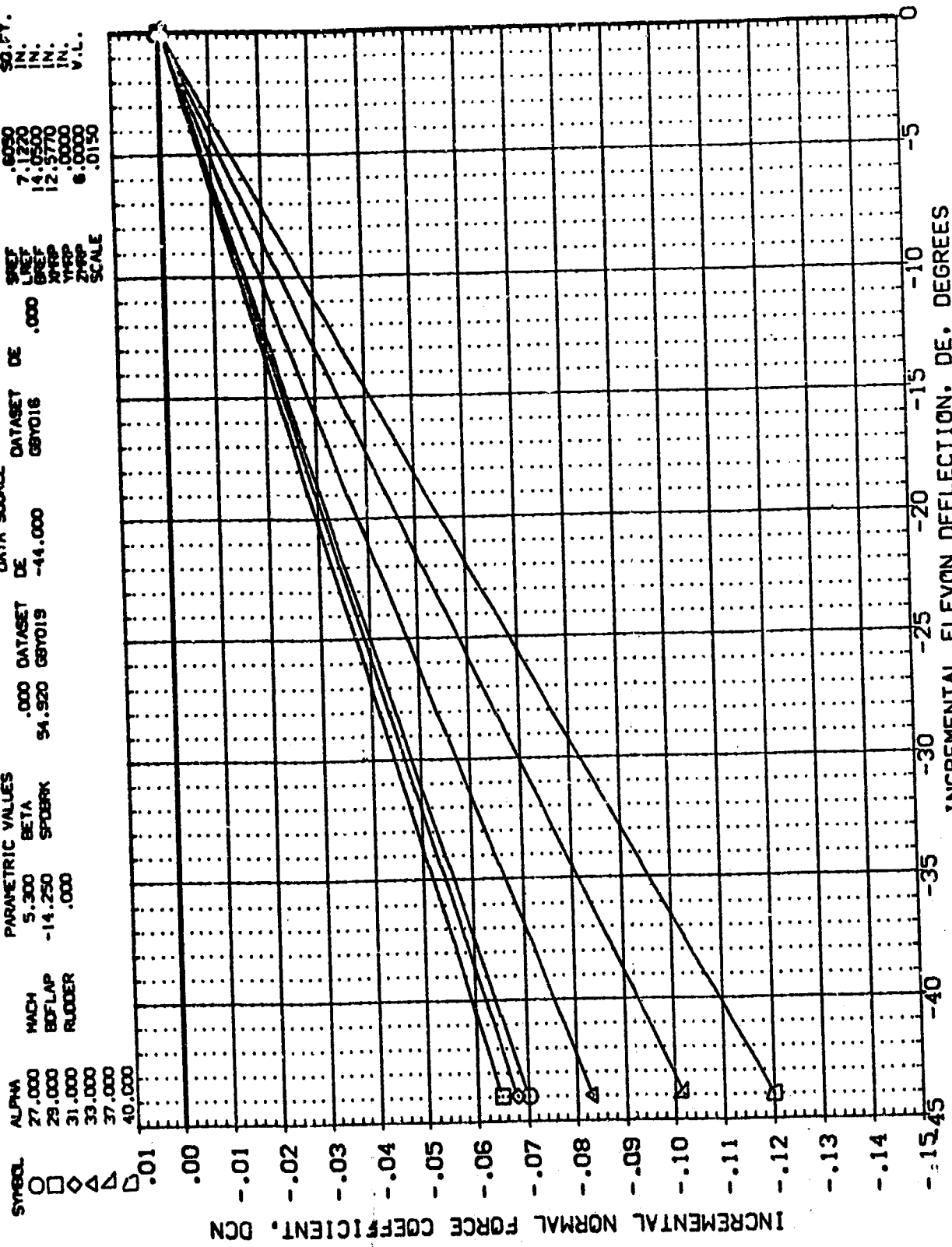


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

(GBY019)

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5)

SYMBOL
○ □ ◇

ALPHA
43.000
48.000
52.000

MACH
BDFLAP
FLUDDER

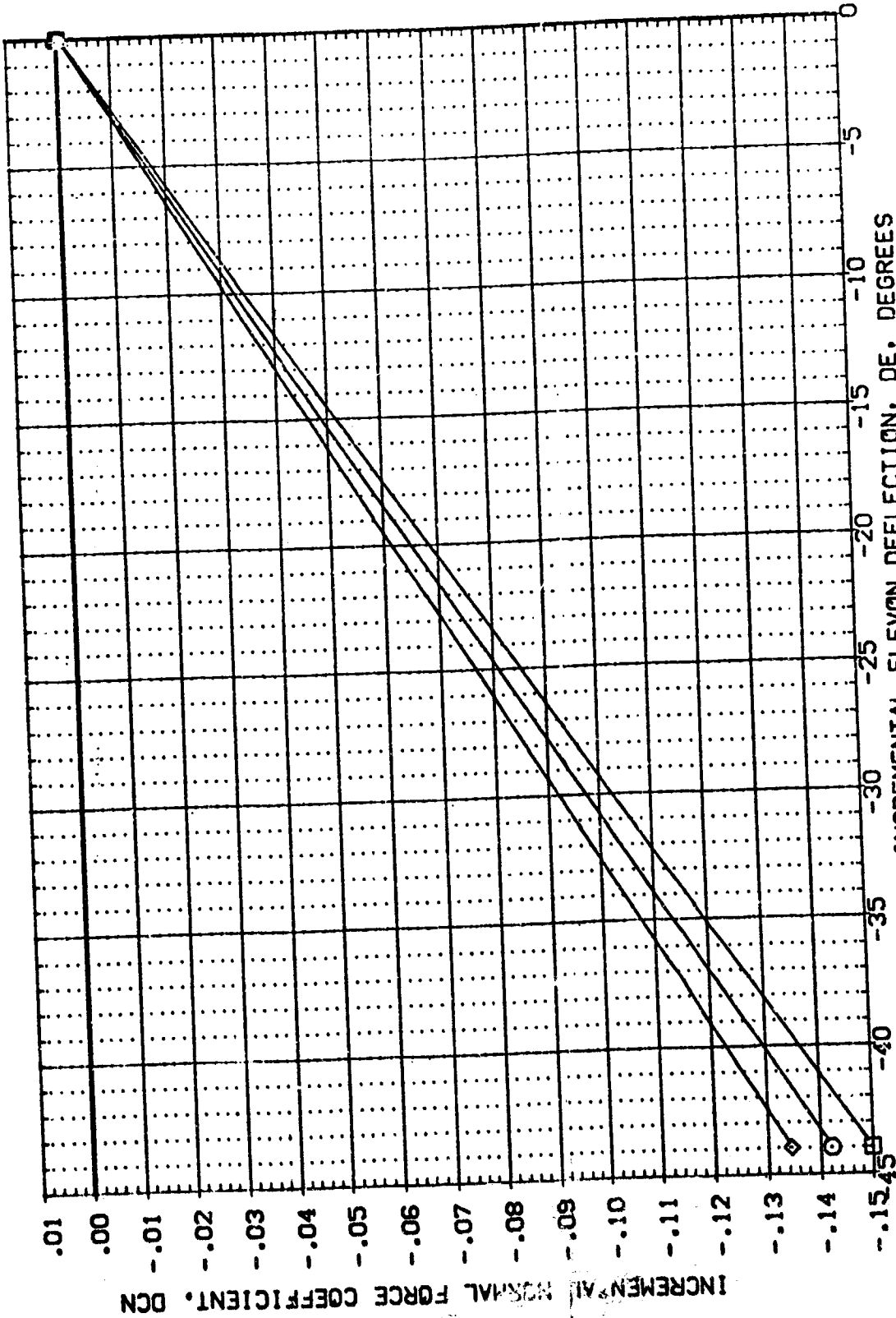
PARAMETRIC VALUES
5.300 BETA
-14.250 SPOBRK
.000

DATA SOURCE
.000 DATASET DE
54.920 GBY019 -44.000

DATASET DE
GBY016 .000

SREF
LREF
BREF
XMRP
YMRP
ZMRP
SCALE

REFERENCE INFORMATION
.6050 SQ.FT.
7.1220 IN.
14.0500 IN.
12.5770 IN.
.0000 IN.
6.0000 V.L.
.0150



INCREMENTAL NORMAL FORCE COEFFICIENT, DCN

INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
27.000	BETA	.000 DATASET DE	.6050 SO.FT.
29.000	5.300	54.920 GBY019	7.1220 IN.
31.000	-14.250	GBY016	14.0500 IN.
33.000	.000		12.5770 IN.
37.000			6.0000 IN.
40.000			.0150 V.L.

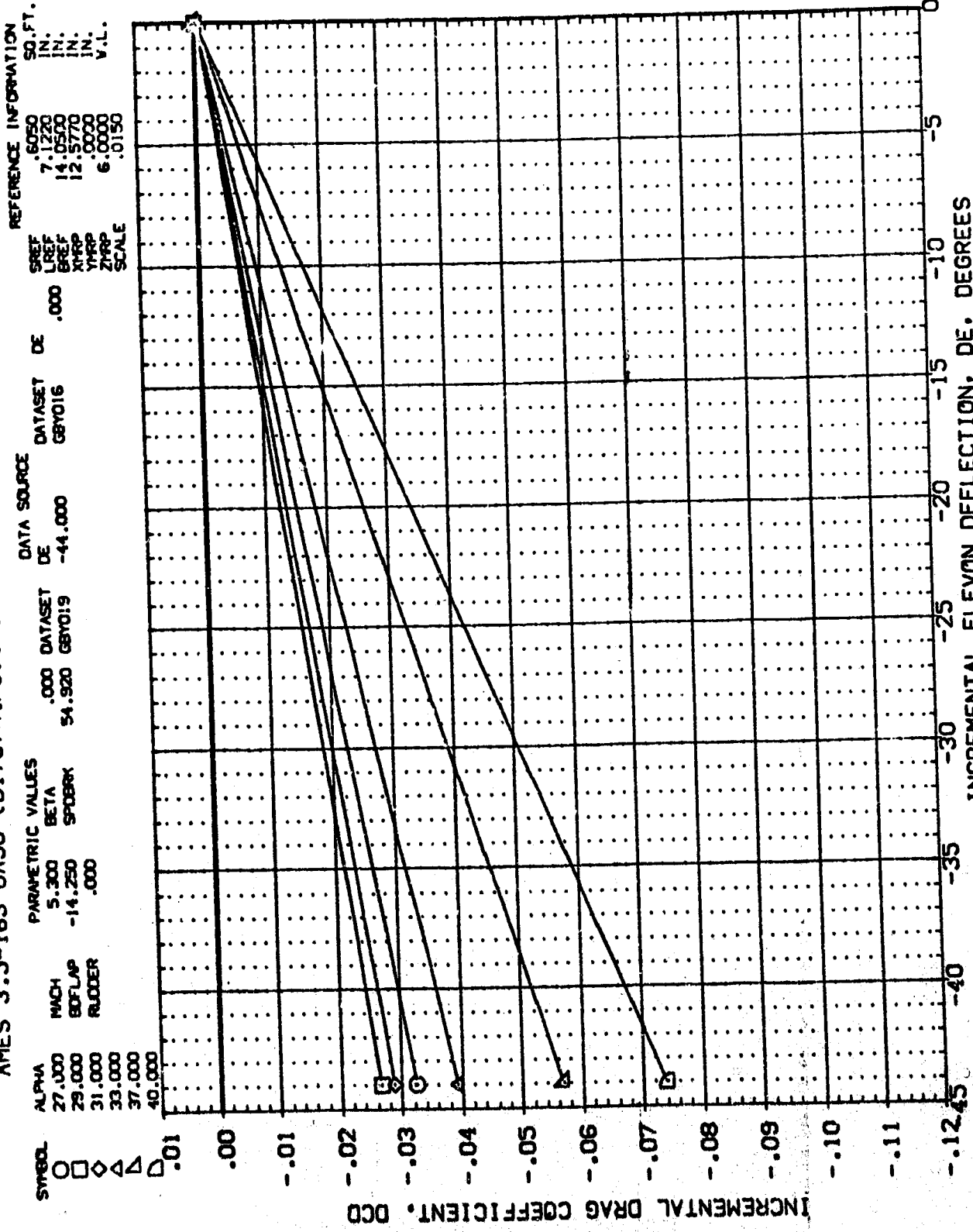


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

PARAMETRIC VALUES

ALPHA	43.000
MACH	5.300
BDFLAP	-14.250
RUDDER	.000

DATA SOURCE

DE	GBY019
DE	-44.000

DATA SET

DE	GBY016
DE	.000

REFERENCE INFORMATION

SREF	.6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
YMRP	.0000	IN.
ZMRP	6.0000	IN.
SCALE	.0150	V.L.

SYMBOL

○	□	◇
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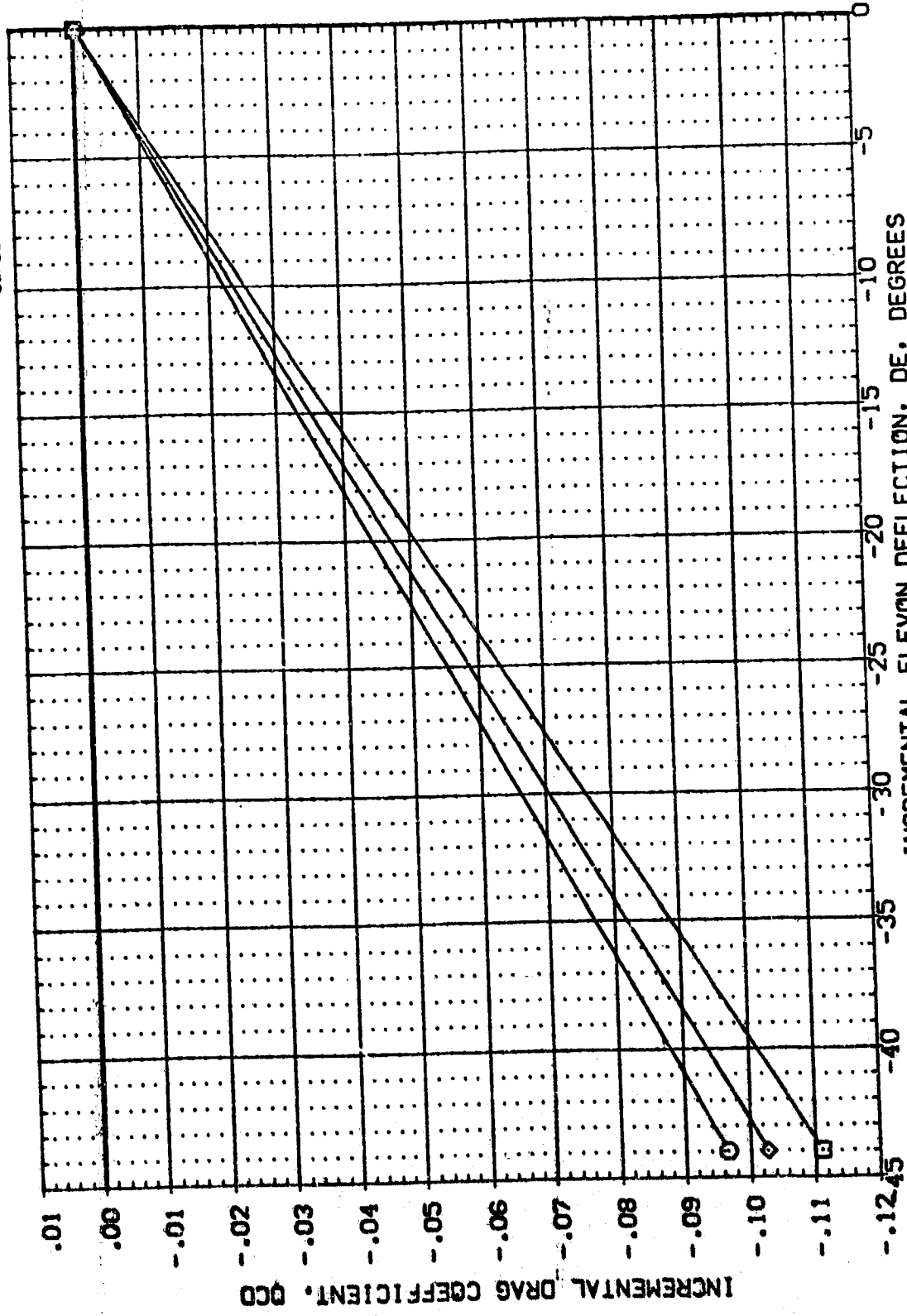


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

SYMBOL	ALPHA	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	SREF	REFERENCE INFORMATION
○	27.000	MACH 5.300	.000 DATASET	GBY016	.000	LREF 7.1220	SO.FT.
◇	29.000	BETA -14.250	54.920 GBY019	-44.000	.000	BREF 14.0500	IN.
△	31.000	SPOBRK .000				XMRP 12.5770	IN.
▽	33.000	RUDDER				YMRP .0000	IN.
◇	37.000					ZMRP 6.0000	V.L.
△	40.000					SCALE .0150	



INCREMENTAL AXIAL FORCE COEFFICIENT, OCA

INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

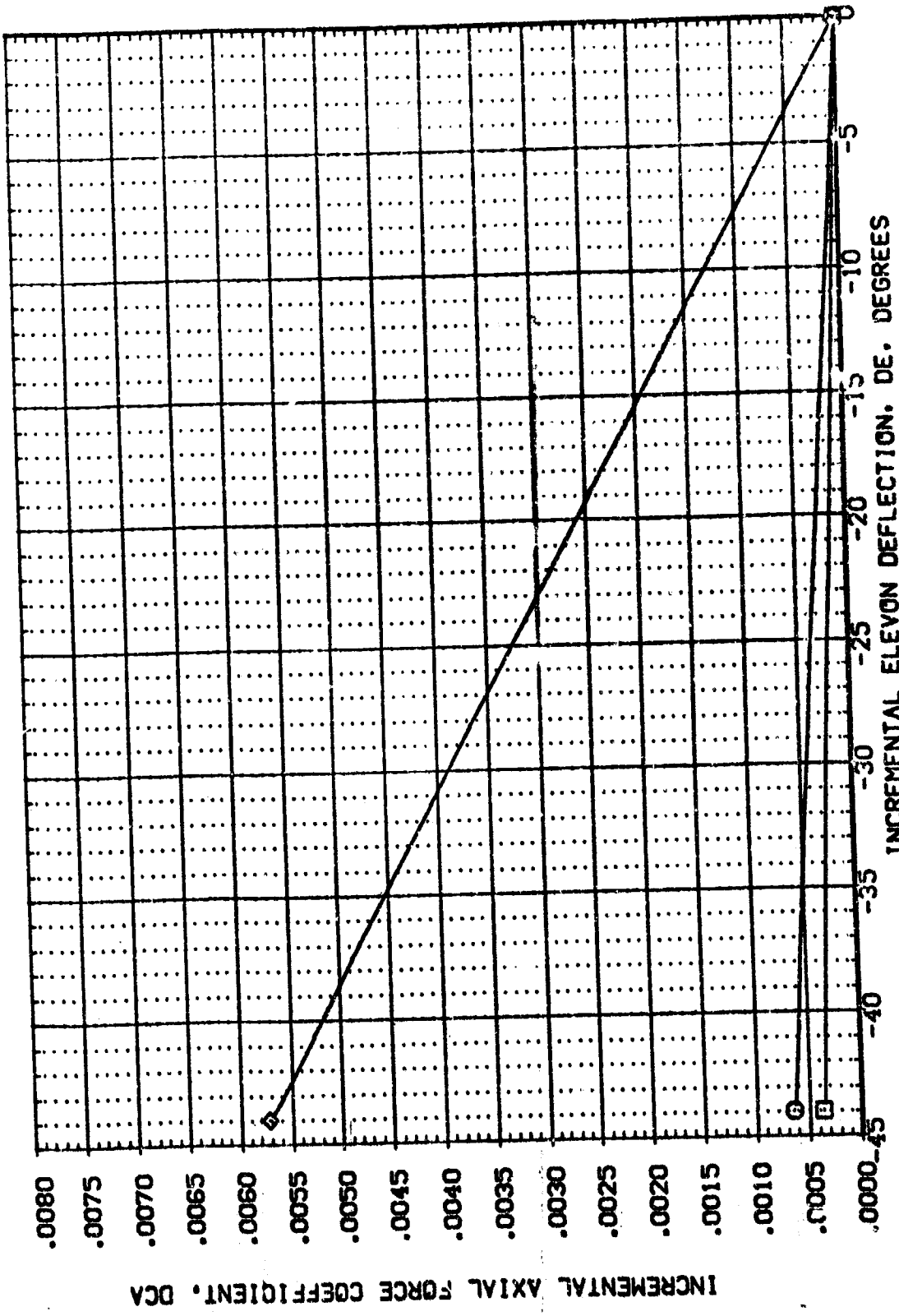
AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

SYMBOL:
 □
 ○
 ◇

PARAMETRIC VALUES:
 ALPHA 43.000 MACH 5.300
 48.000 80FLAP -14.250
 52.000 RUDDER .000

DATA SOURCE:
 DATASET DE -44.000
 DATASET DE GBY016

REFERENCE INFORMATION:
 SREF 6050 SOL.FT.
 LREF 7.1220 IN.
 BREF 14.6500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150



INCREMENTAL AXIAL FORCE COEFFICIENT, DCA

INCREMENTAL ELEVON DEFLECTION, DE. DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

REFERENCE INFORMATION

6050	SO.FT.
7.1220	IN.
14.0500	IN.
12.5770	IN.
6.0000	IN.
6.0150	V.L.

SREF	SCALE
LREF	ZMRP
BREF	YMRP
XMRP	XMRP
YMRP	YMRP
ZMRP	ZMRP

DATA SOURCE	DE
GBY019	GBY019

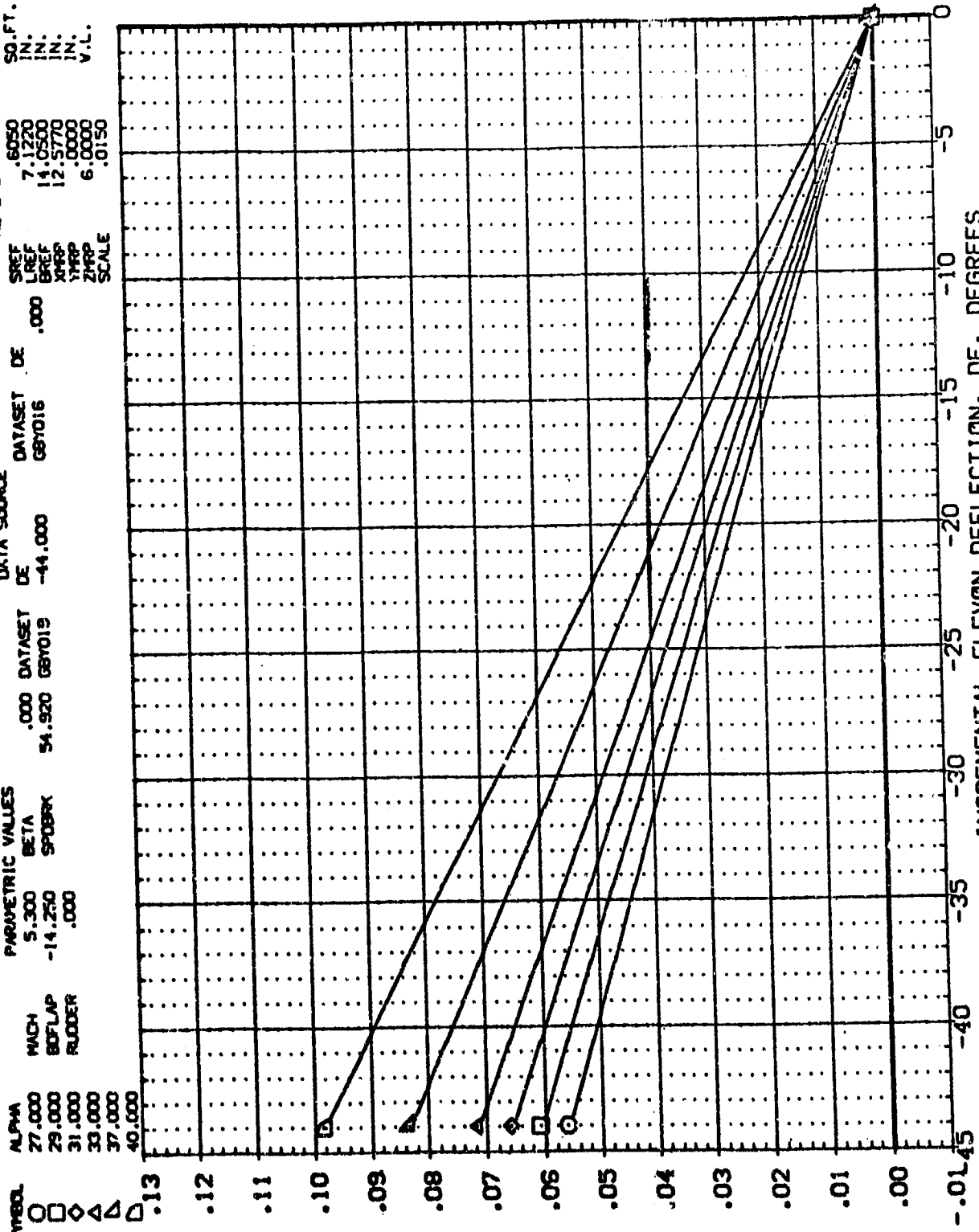
PARAMETRIC VALUES	DE
5.300	BETA
-14.250	SPOBRK

DATA SOURCE	DE
GBY019	GBY019

PARAMETRIC VALUES	DE
5.300	BETA
-14.250	SPOBRK

ALPHA	DE
27.000	27.000
29.000	29.000
31.000	31.000
33.000	33.000
37.000	37.000
40.000	40.000

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

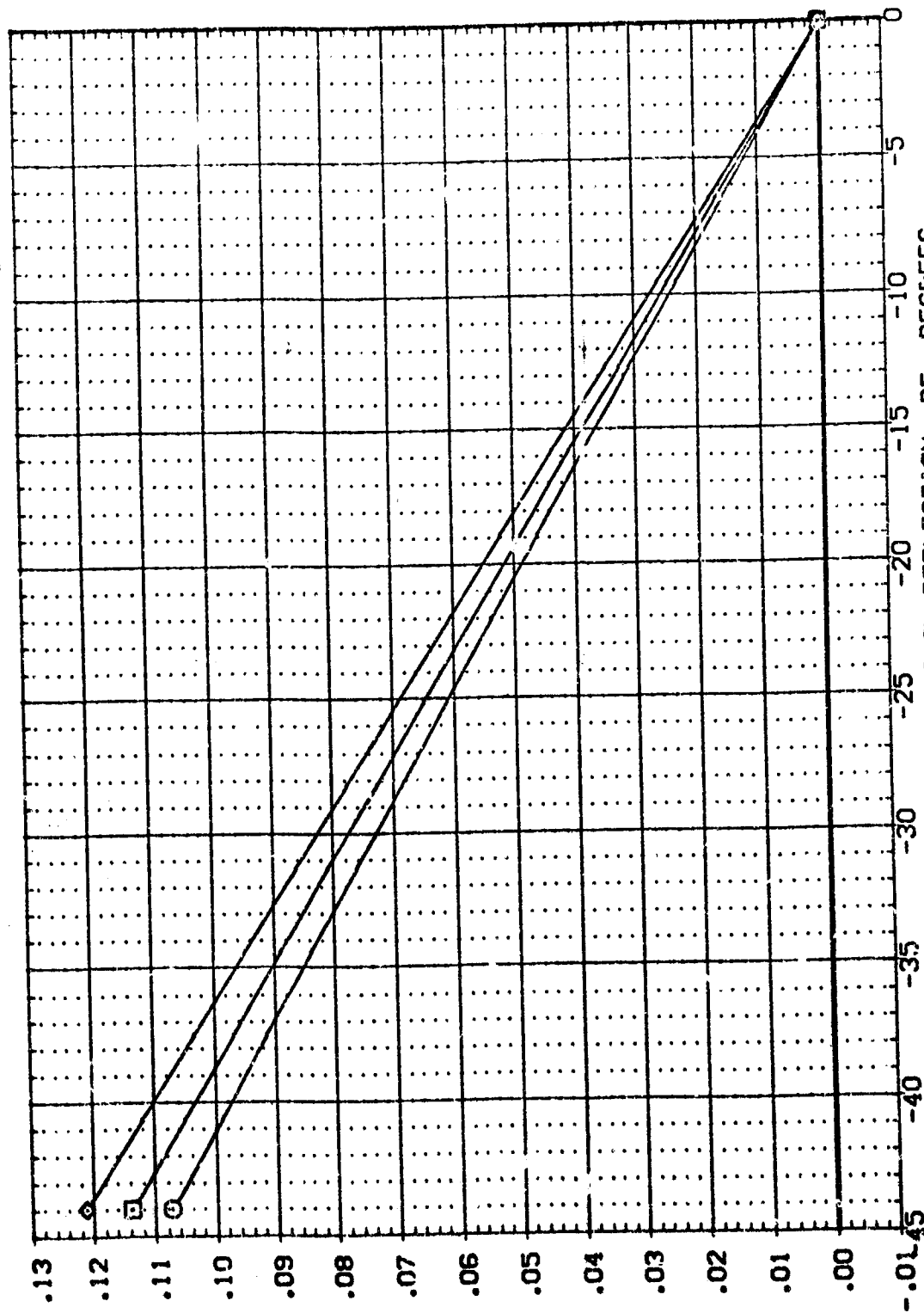
DATA SOURCE DATASET DE .000
 GBY016
 DATASET DE -44.000
 GBY019

PARAMETRIC VALUES
 MACH 5.300
 BETA -14.250
 SPOBRK .000

ALPHA 43.000
 48.000
 52.000
 BOFLAP
 RUDDER

SYMBOL
 ○
 □
 ◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES
 FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

REFERENCE INFORMATION
 SQ.FT.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 V.L. .0150

PARAMETRIC VALUES
 MACH 5.300
 BETA SPOBRK -14.250
 RUDDER .000

DATA SOURCE
 DE -44.000
 DATASET GBY019

DATA SOURCE
 DE -44.000
 DATASET GBY016

SYMBOL
 □
 ◇
 △
 ▽
 ○
 ○

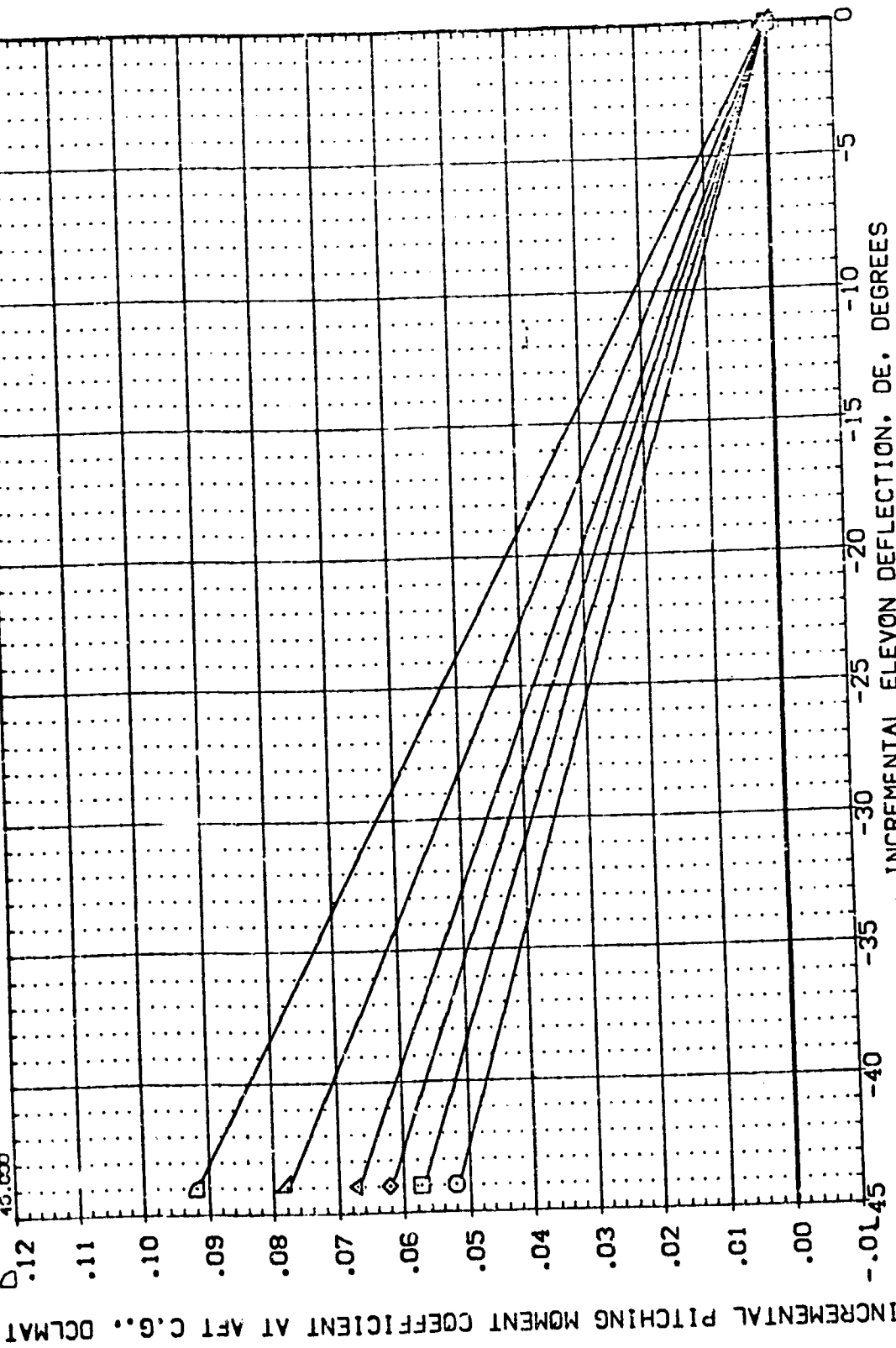


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

AMES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7R5) (GBY019)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	REFERENCE INFORMATION
○	43.000		BETA	.000	GBY016	.000	SO.FT.
□	48.000	5.300	SPOBRK	54.920	GBY019	-44.000	IN.
◇	52.000	-14.250					IN.
		.000					IN.
							IN.
							V.L.
							SCALE
							.0150

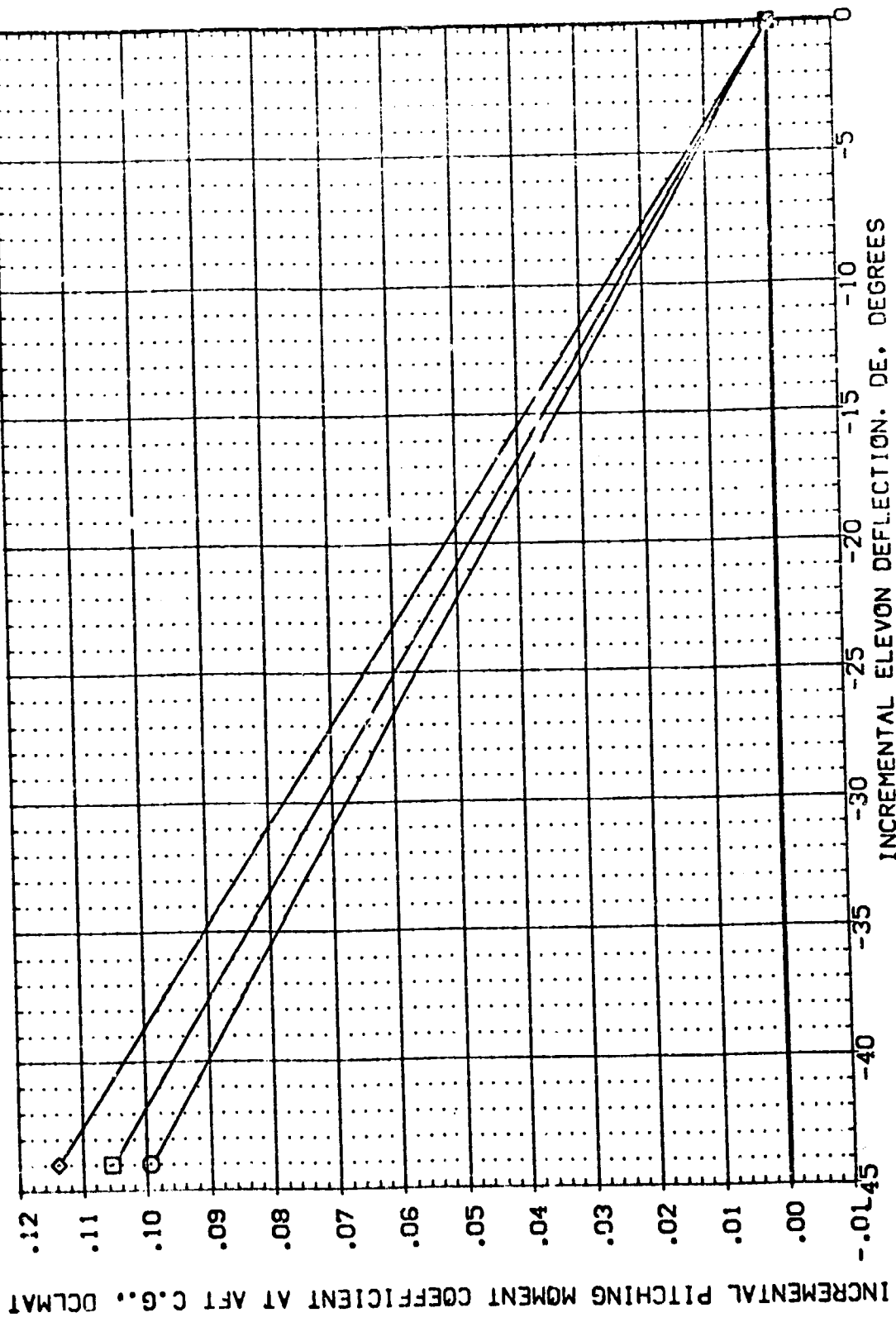


FIG. 9 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 5.3

DATA SET SYMBL.	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY021)	AVES 3-5-163 OASB (B17C7M4F5) (V10J3E22) (V7RS)	.000	-44.000	-14.250	54.920	SREF 6050 SO.FT.
(KBY019)	AVES 3-5-163 OASB (B17C7M4F5) (V10J3E22) (V7RS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(KBY018)	AVES 3-5-163 OASB (B17C7M4F5) (V10J3E22) (V7RS)	.000	.000	-14.250	54.920	BREF 14.0500 IN.
(KBY016)	AVES 3-5-163 OASB (B17C7M4F5) (V10J3E22) (V7RS)	.000	.000	-14.250	54.920	YMRP 12.5770 IN.
(BBY024)	AVES 3-5-163 OASB (B17C7M4F5) (V10J3E22) (V7RS)	.000	11.000	13.750	54.920	ZMRP 6.0000 V.L.
(BBY022)	AVES 3-5-163 OASB (B17C7M4F5) (V10J3E22) (V7RS)	.000	11.000	13.750	54.920	SCALE .0150

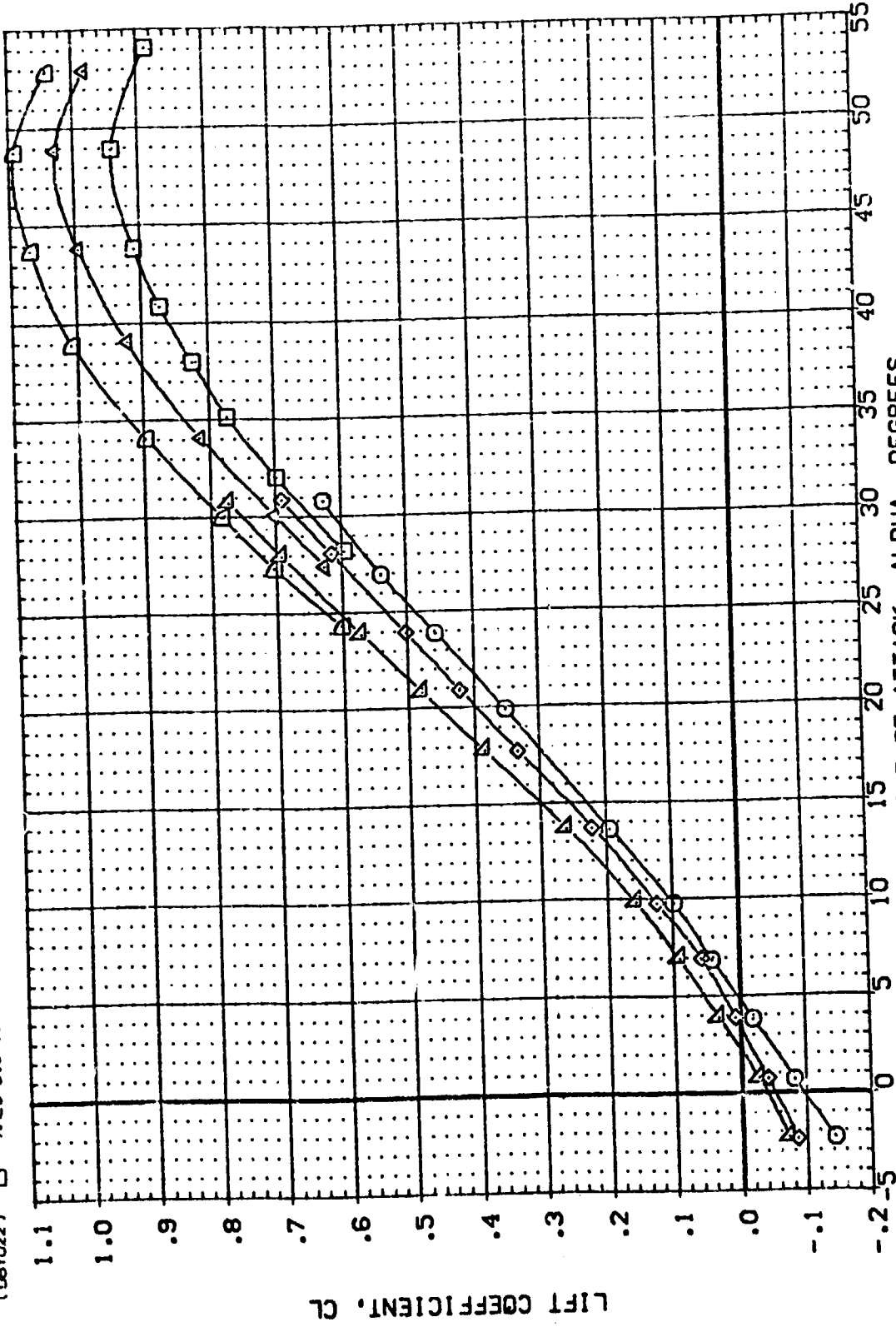


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.32

(M)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BBY021)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
(KBY019)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
(BKY018)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
(KBY016)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
(BBY024)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
(BBY022)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)

BETA .000
 ELEVON -44.000
 BOFLAP -14.250
 SPOBRK 54.920

REFERENCE INFORMATION

SREF	7.1220	SO.FT.
LREF	14.0500	IN.
BREF	12.5770	IN.
XMRP	6.0000	IN.
YMRP	6.0000	IN.
ZMRP	.0150	V.L.
SCALE		

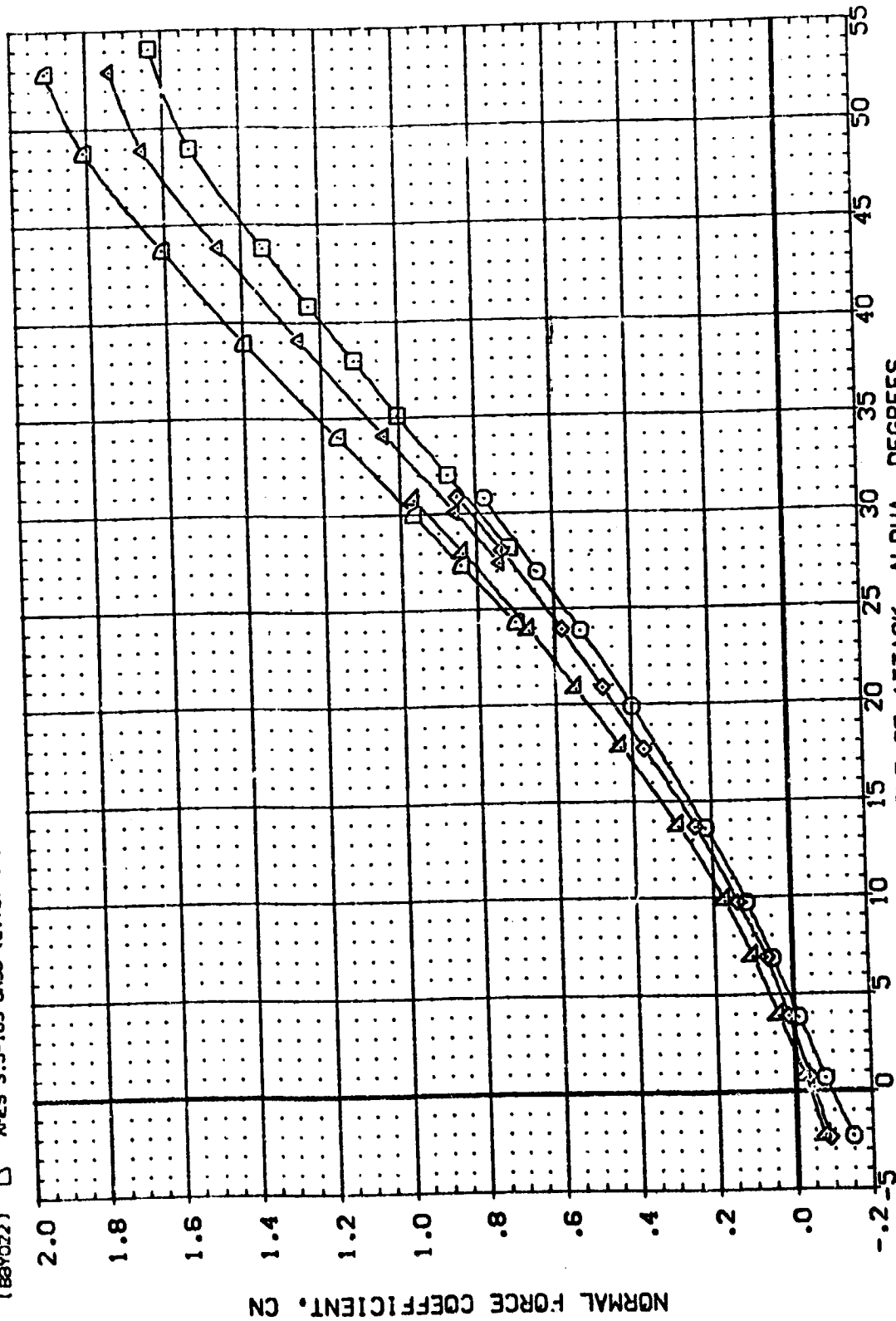


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3
 CAJMACH = 7.32

BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
.000	-14.000	-14.250	54.920	SREF 6050 SO.FT.
.000	-14.000	-14.250	54.920	LREF 7.120 IN.
.000	.000	-14.250	54.920	BREF 14.0500 IN.
.000	.000	-14.250	54.920	XMRP 12.5770 IN.
.000	11.000	13.750	54.920	ZMRP 6.0000 IN.
.000	11.000	13.750	54.920	V.L. .0150
				SCALE

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(BBV021)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
(KBV019)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
(BBV018)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
(KBV016)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
(BBV024)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
(BBV022)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)

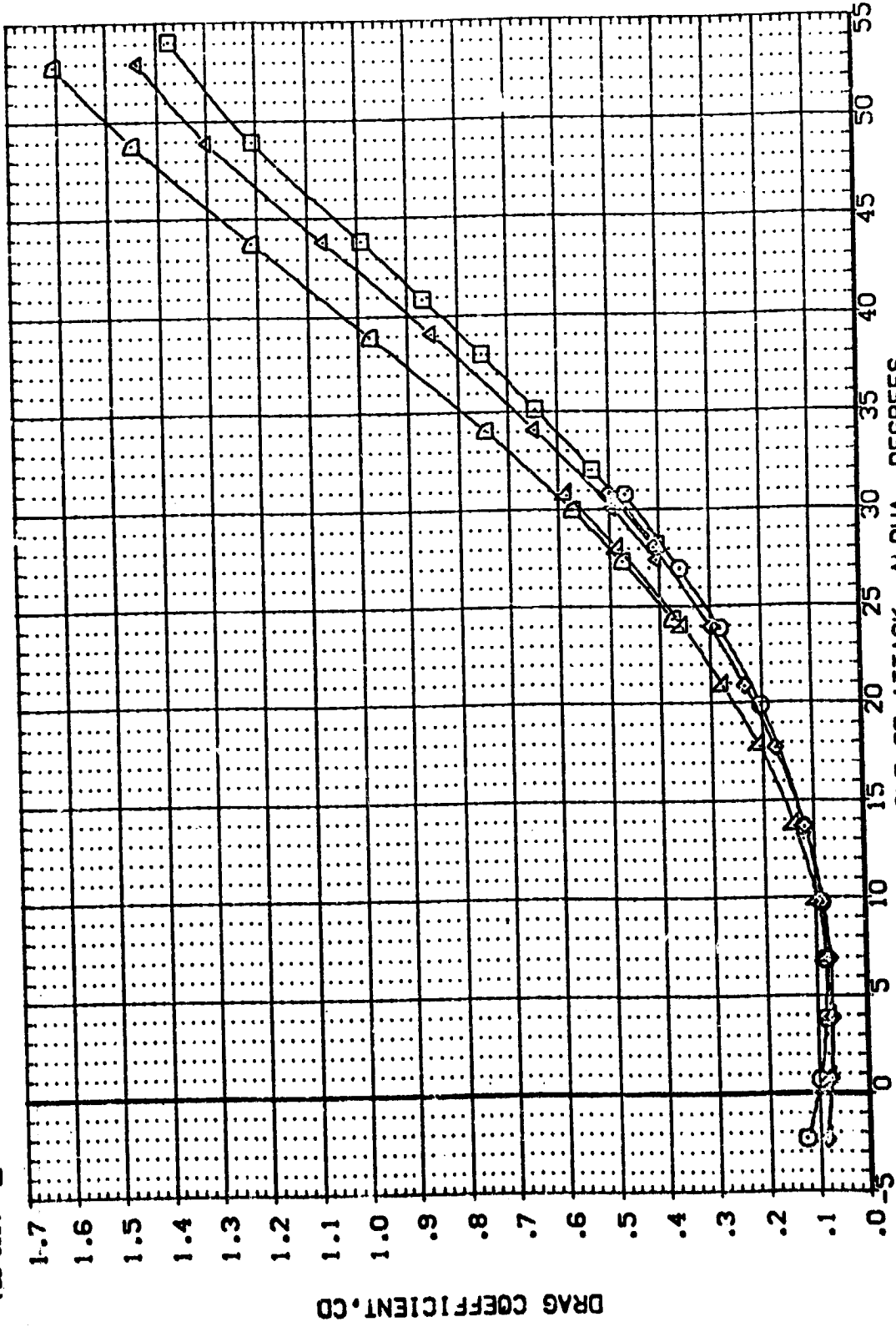


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BBY021) AVES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7RS)

(BBY019) AVES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7RS)

(BBY018) AVES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7RS)

(BBY016) AVES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7RS)

(BBY024) AVES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7RS)

(BBY022) AVES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7RS)

BETA .000

ELEVON -44.000

BDFLAP -14.250

SPOBRK 54.920

REF. INFO. SO. FT.

SREF 7.1220

LREF 14.0500

BREF 12.5770

XMRP .0000

YMRP 6.0000

ZMRP .0150

SCALE

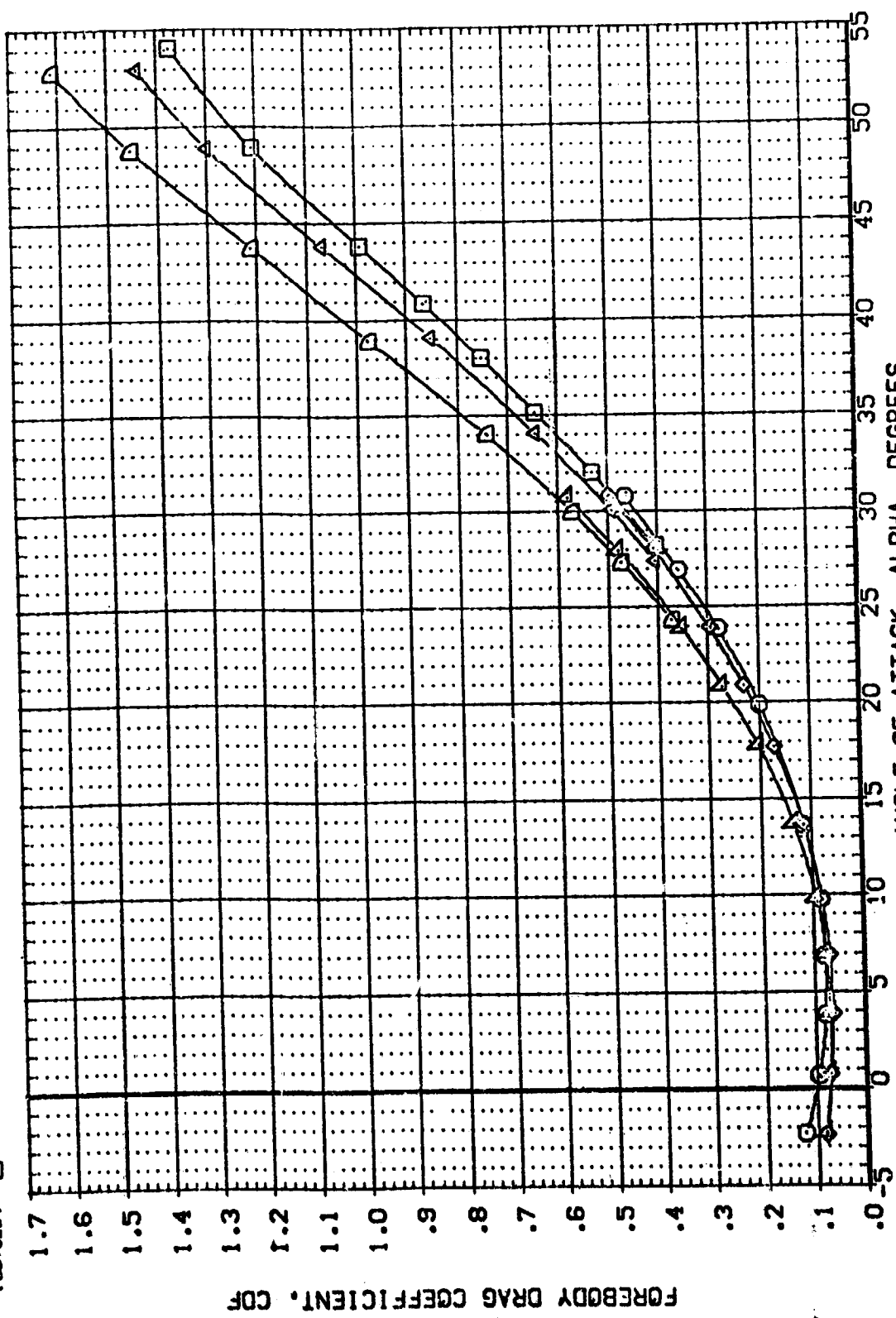


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.32

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY021)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(VTRS)	.000	-44.000	-14.250	54.920	SREF 605C 50.FT.
(KBY019)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(VTRS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(BBY018)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(VTRS)	.000	-44.000	-14.250	54.920	BREF 14.0500 IN.
(PBY016)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(VTRS)	.000	.000	13.750	54.920	XMRP 12.5770 IN.
(BBY024)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(VTRS)	.000	11.000	13.750	54.920	ZMRP 6.0000 V.L.
(BBY022)	AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(VTRS)	.000	11.000	13.750	54.920	SCALE 6.0150

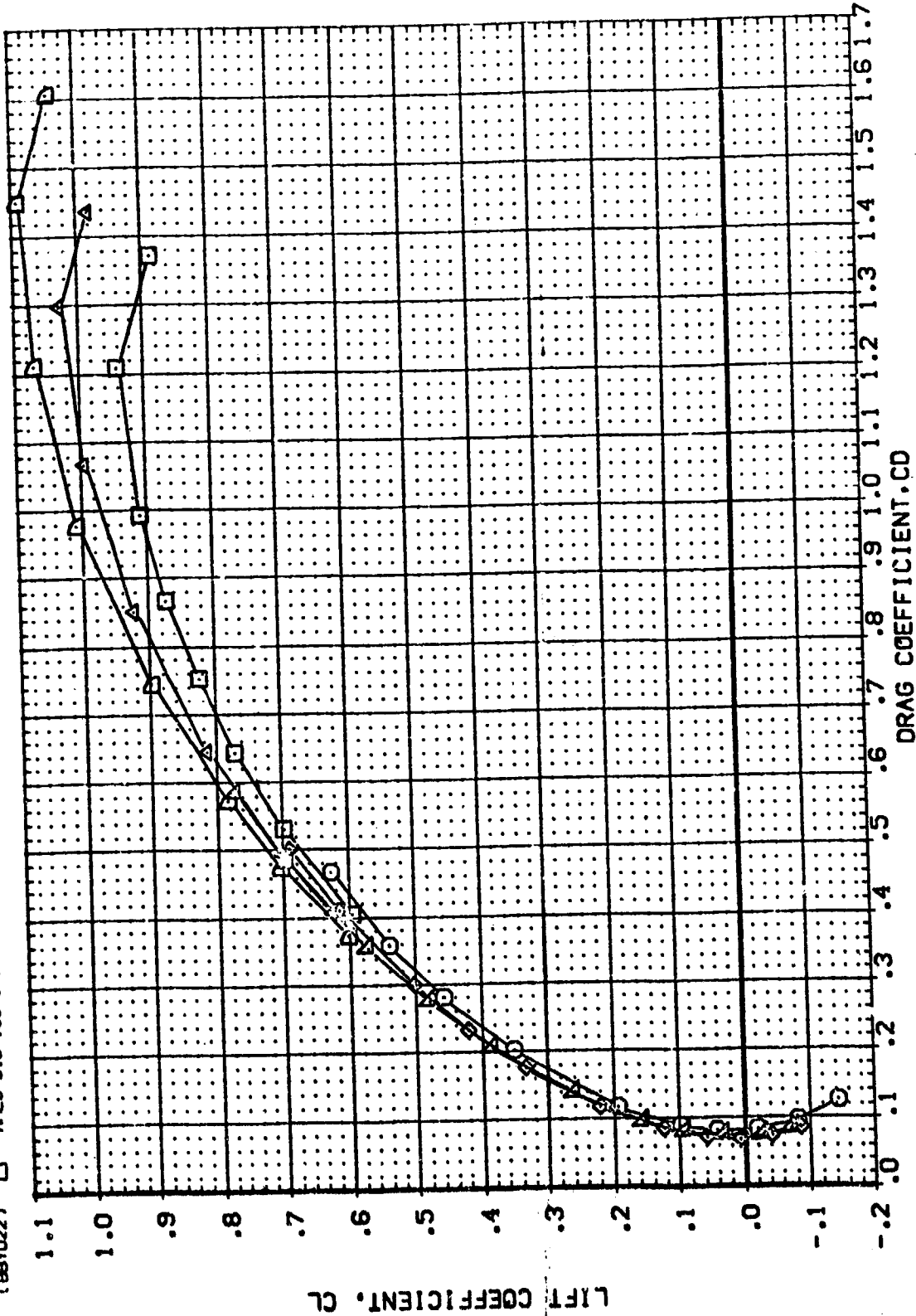


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMB. (BBY021) (KBY019) (BBY018) (KBY016) (BBY024) (BBY022)
CONFIGURATION DESCRIPTION
 AYES 3.5-163 OASB (817C7M4F5) (V103E22) (V7RS)
 AYES 3.5-163 OASB (817C7M4F5) (V103E22) (V7RS)
 AYES 3.5-163 OASB (817C7M4F5) (V103E22) (V7RS)
 AYES 3.5-163 OASB (817C7M4F5) (V103E22) (V7RS)
 AYES 3.5-163 OASB (817C7M4F5) (V103E22) (V7RS)

BETA .000
ELEVON -44.000
BOFLAP -14.250
SPOBRK 54.920
REFERENCE INFORMATION
SREF 7.1220
LREF 14.0500
BREF 12.5770
XMRP .0300
ZMRP 6.0000
SCALE .0150

SO.F.T.
 IN.
 IN.
 IN.
 IN.
 V.L.

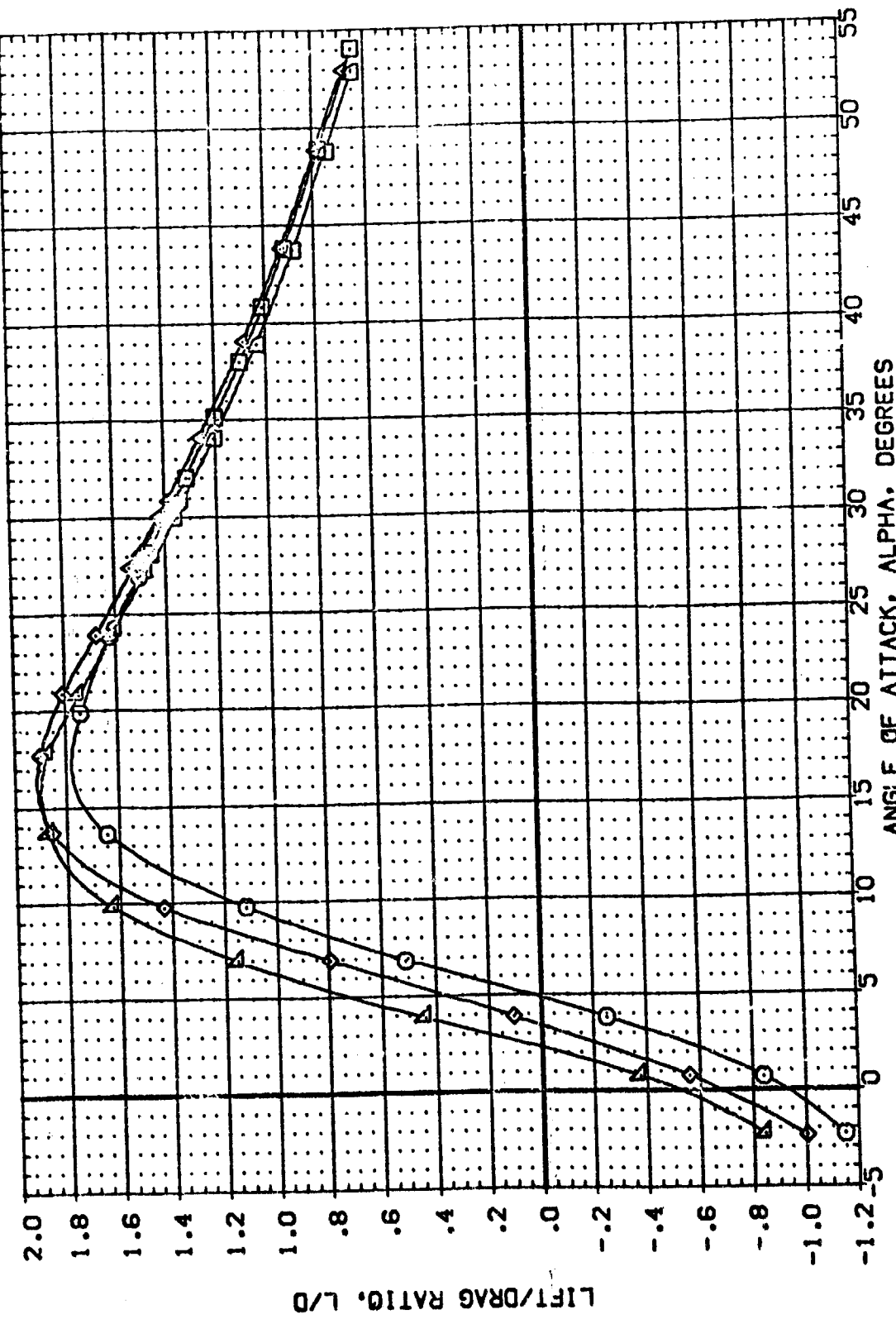


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.32

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BBY021) AVES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY019) AVES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY018) AVES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY016) AVES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY024) AVES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY022) AVES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)

BETA ELEVON BD/LAP SPUBRK REFERENCE INFORMATION SO.FT.
 .000 -44.000 -14.250 54.920 SREF 6050
 .000 -44.000 -14.250 54.920 LREF 7.1220
 .000 .000 -14.250 54.920 BRP 14.0E30
 .000 .000 -14.250 54.920 XMRP 12.5770
 .000 11.000 13.750 54.920 YMRP .0000
 .000 .000 .000 54.920 ZMRP 6.0000
 .000 .000 .000 .0150 SCALE V.L.

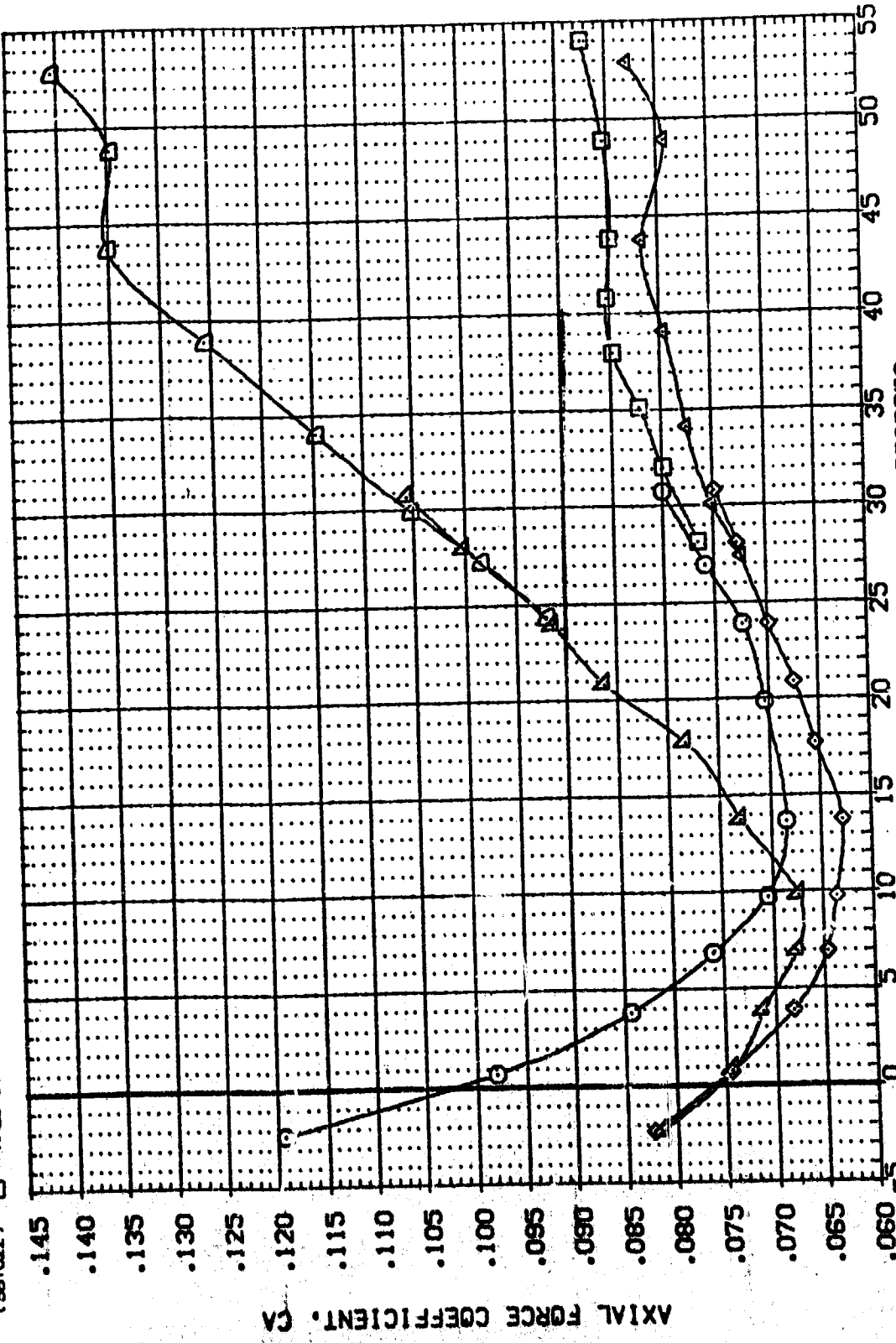


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.32

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION	SO.FT.
(BBYC21)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	SREF	6050
(BBY019)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	LREF	7.1220
(BBY018)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	BREF	14.0500
(BBY016)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	XREF	12.5770
(BBY024)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	11.000	13.750	54.920	YREF	.0000
(BBY022)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	ZREF	6.0000
						SCALE	.0150

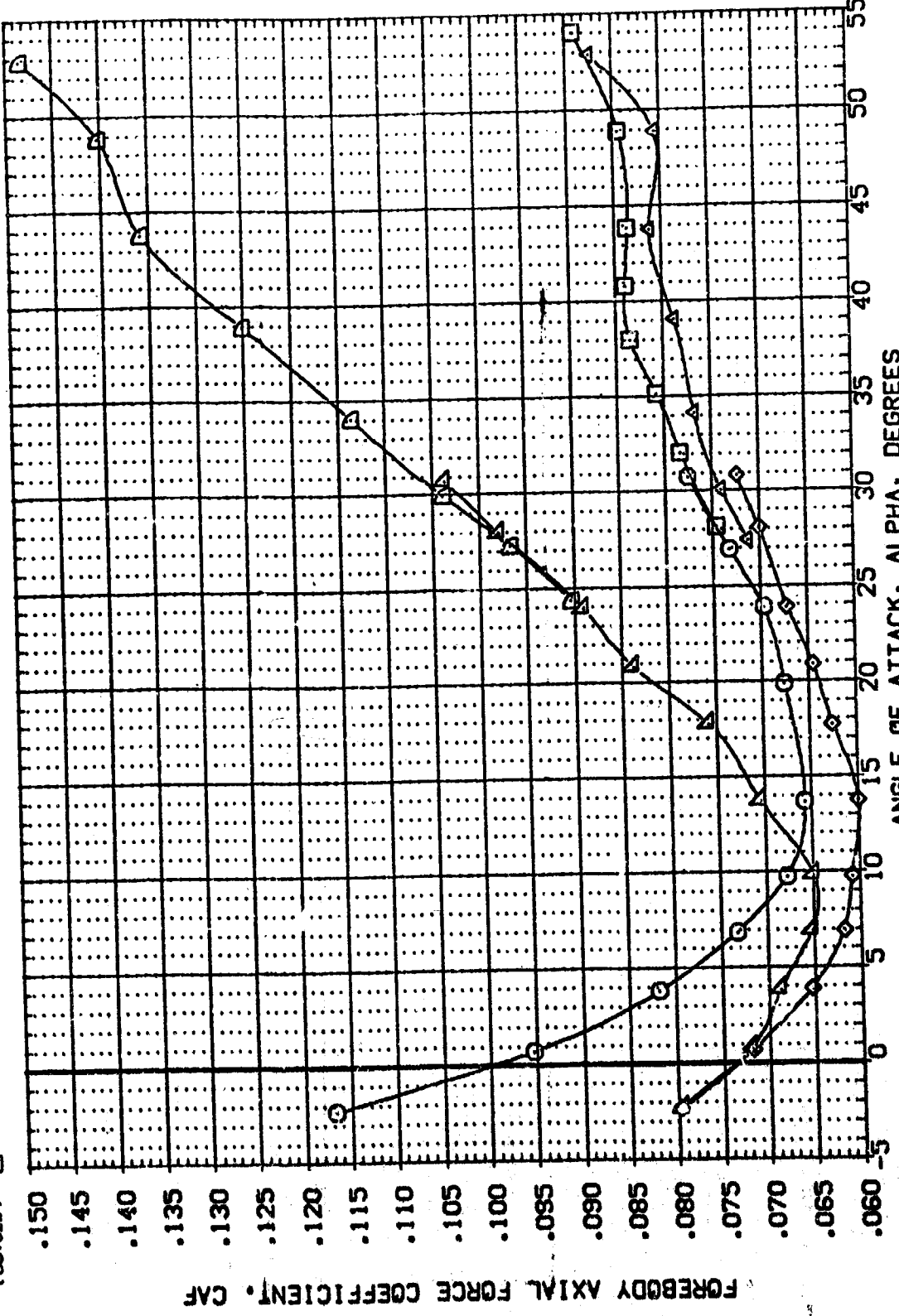


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	80FLAP	SPBRK	REFERENCE INFORMATION
(BBY021)	AMES 3-5-163 0A58 (817C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	6050 SO.FT.
(KB7019)	AMES 3-5-163 0A58 (817C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	7.1220 IN.
(BBY018)	AMES 3-5-163 0A58 (817C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	14.0500 IN.
(KB7016)	AMES 3-5-163 0A58 (817C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	12.5770 IN.
(BBY024)	AMES 3-5-163 0A58 (817C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	.0000 IN.
(BBY022)	AMES 3-5-163 0A58 (817C7M4F5)(V103E22)(V7RS)	.000	.000	13.750	54.920	6.0000 V.L.
						SCALE .0150

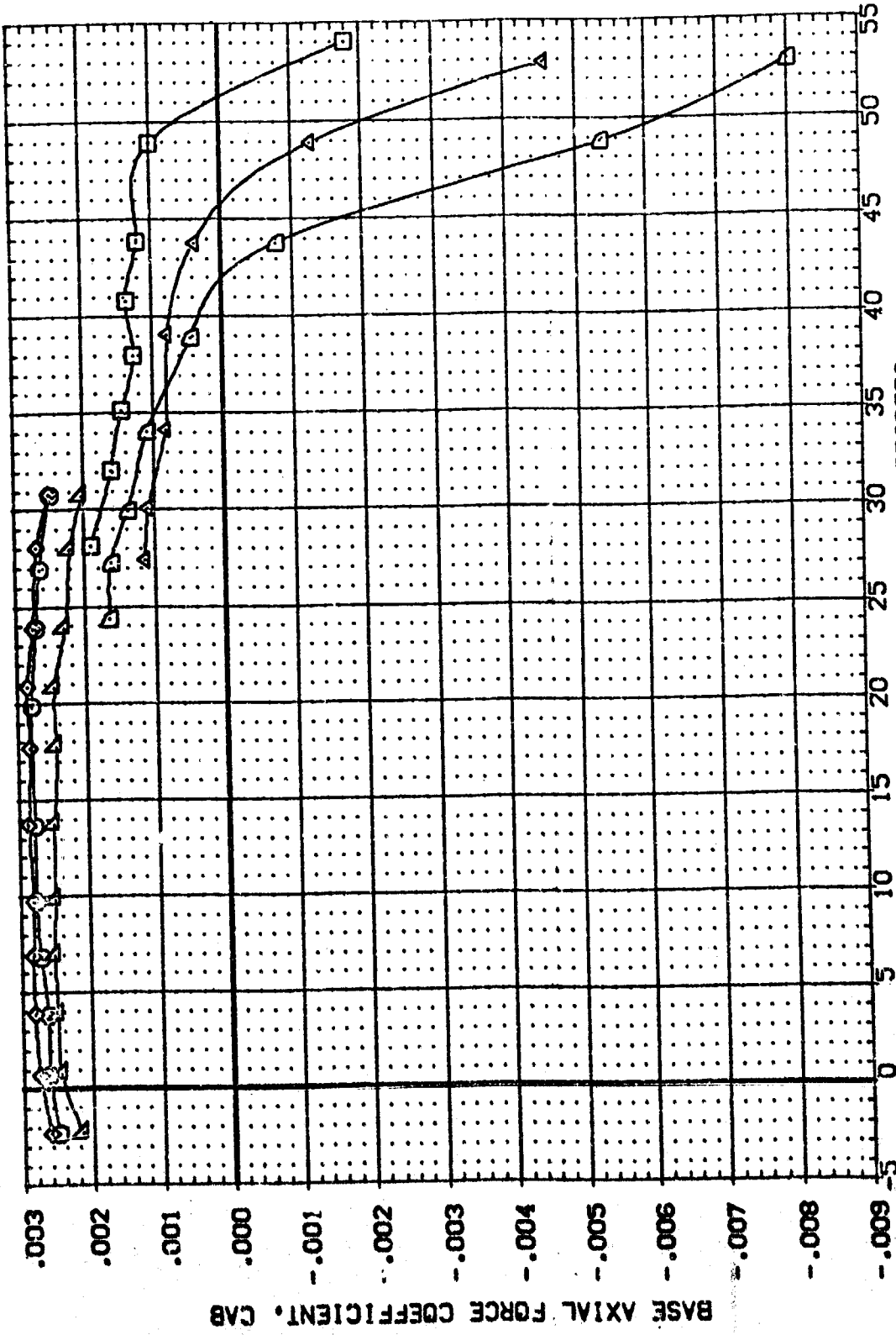


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YMRP 12.5770 IN.
 XMRP 1.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA ELEVON BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -44.000 -14.250 54.920
 .000 .000 -14.250 54.920
 .000 .000 -14.250 54.920
 .000 11.000 13.750 54.920
 .000 11.000 13.750 54.920

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (BBV021) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)
 (BBV019) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)
 (BBV018) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)
 (BBV016) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)
 (BBV024) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)
 (BBV022) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)

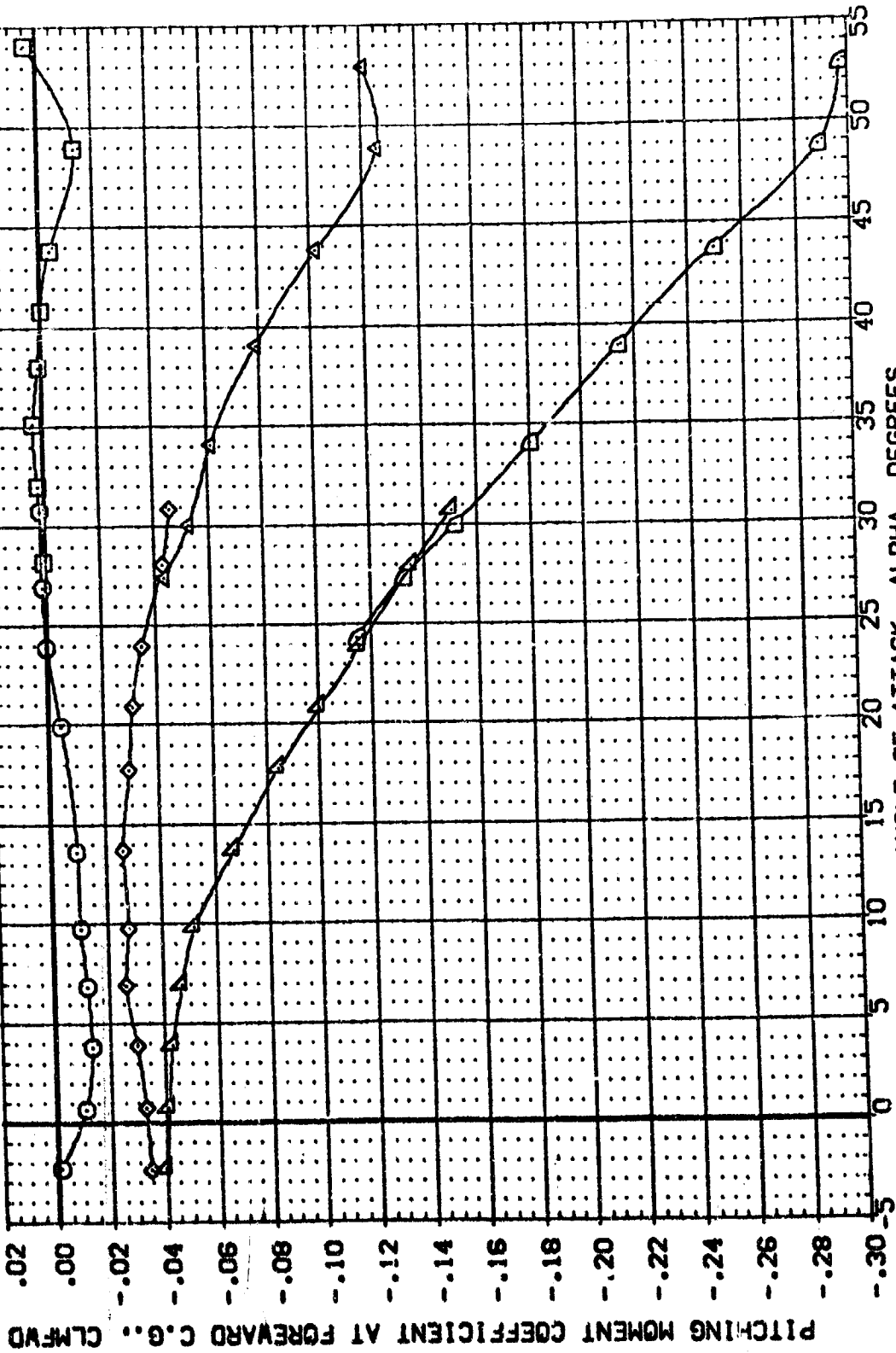


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.32
 (A)MACH = 7.32

DATA SET SYMBOL: (BBY021), (BBY019), (BBY018), (BBY016), (BBY024), (BBY022)

CONFIGURATION DESCRIPTION: AVES 3.5-163 DASH (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 DASH (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 DASH (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 DASH (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 DASH (B17C7M4F5)(V103E22)(V7R5)

BETA: .000, .000, .000, .000, .000, .000

ELEVON: -44.000, -44.000, .000, .000, 11.000, .000

BOFLAP: -14.250, -14.250, -14.250, -14.250, 13.750, 13.750

SPOBRK: 54.920, 54.920, 54.920, 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF 5050, LREF 7.120, BREF 14.050, YMRP 12.5770, ZMRP .0000, SCALE 6.0150

SO.FT.: IN., IN., IN., IN., V.L.

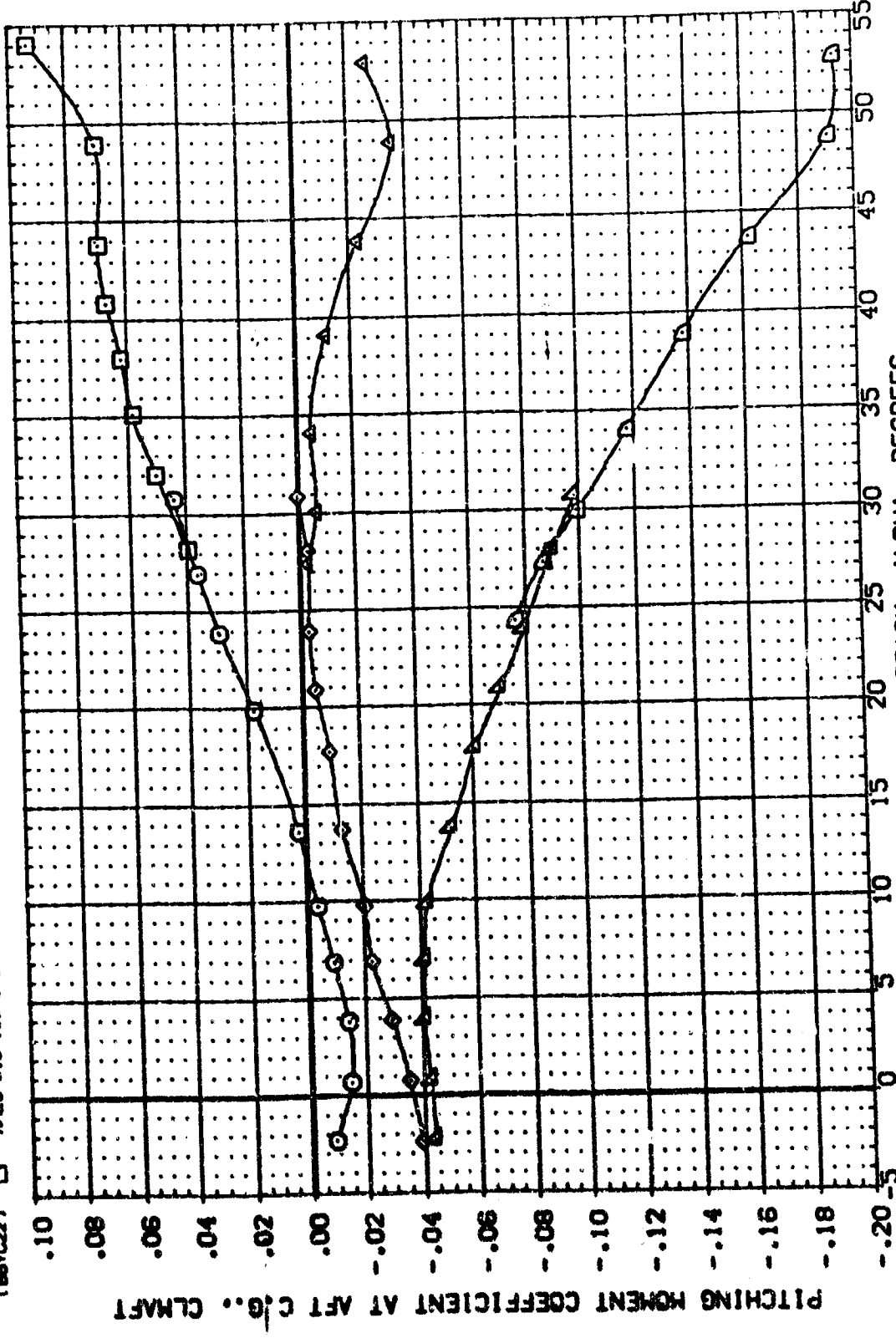


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBO. (88V021) (88V019) (88V018) (88V016) (88V024) (88V022)

CONFIGURATION DESCRIPTION
 ASES 3-5-163 OAS8 (817C7M4F5) (V103E22) (VTR5)
 ASES 3-5-163 OAS8 (817C7M4F5) (V103E22) (VTR5)
 ASES 3-5-163 OAS8 (817C7M4F5) (V103E22) (VTR5)
 ASES 3-5-163 OAS8 (817C7M4F5) (V103E22) (VTR5)
 ASES 3-5-163 OAS8 (817C7M4F5) (V103E22) (VTR5)

BETA .000 .000 .000 .000 .000

ELEVON -44.000 -44.000 .000 .000 11.000 11.000

BOFLAP -14.250 -14.250 -14.250 -14.250 13.750 13.750

SPOBRK 54.920 54.920 54.920 54.920 54.920 54.920

REFERENCE INFORMATION
 SREF 7.1220 SQ.FT.
 LREF 14.0500 IN.
 BRFP 12.5770 IN.
 XMRP .000 IN.
 YMRP 6.000 IN.
 ZMRP .0150 V.L.
 SCALE

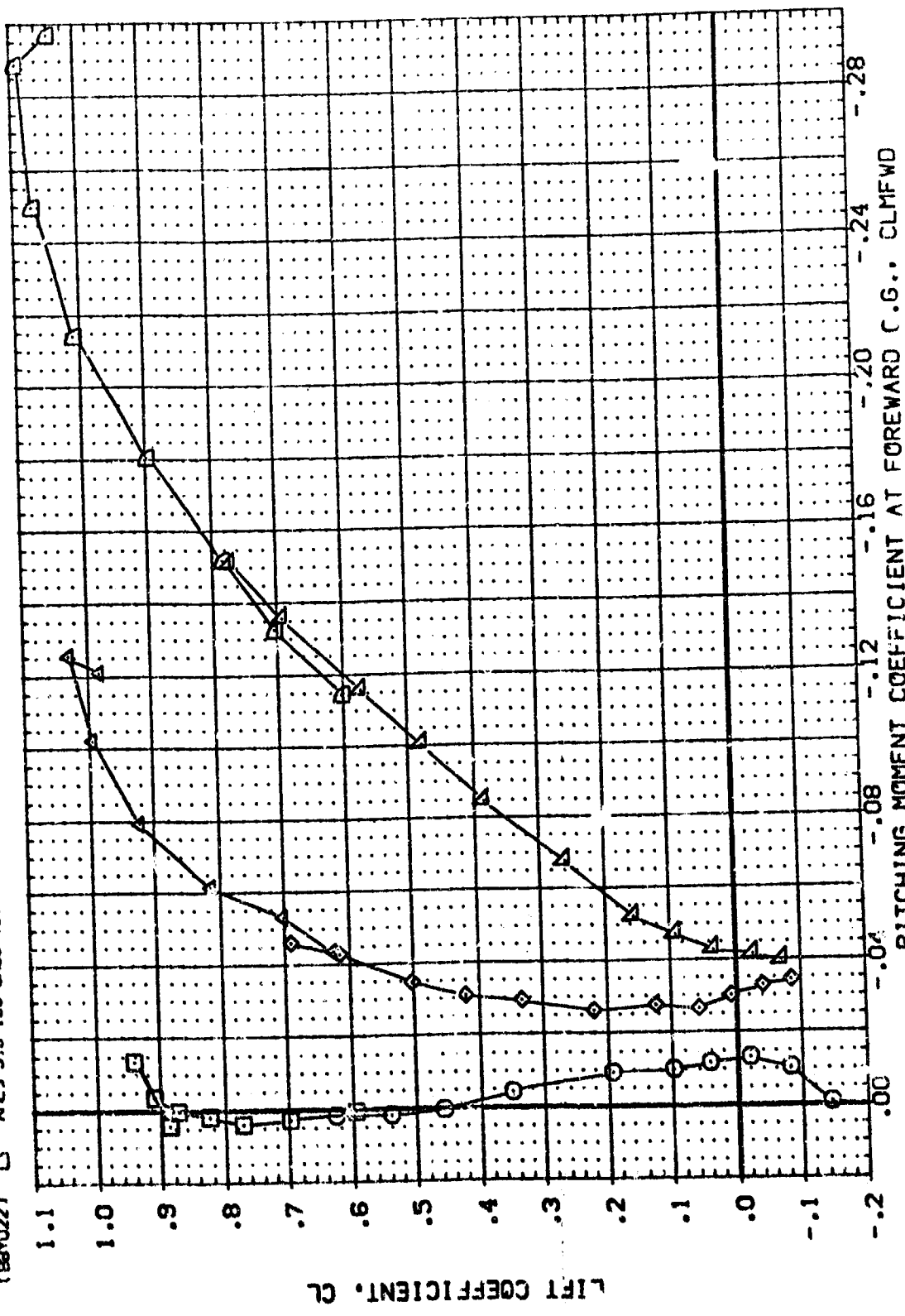


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPEEDYK	REFERENCE INFORMATION
(BBY021)	AVES 3-5-163 CA58 (B17C7M4F5)(V103E22)(V7R5)	.000	-44.000	-14.250	54.920	SREF 6050 SQ.FT.
(BBY019)	AVES 3-5-163 CA58 (B17C7M4F5)(V103E22)(V7R5)	.000	-44.000	-14.250	54.920	LAREF 7.1220 IN.
(BBY018)	AVES 3-5-163 CA58 (B17C7M4F5)(V103E22)(V7R5)	.000	.000	-14.250	54.920	BREF 14.0600 IN.
(BBY016)	AVES 3-5-163 CA58 (B17C7M4F5)(V103E22)(V7R5)	.000	.000	-14.250	54.920	XPRP 12.5770 IN.
(BBY024)	AVES 3-5-163 CA58 (B17C7M4F5)(V103E22)(V7R5)	.000	11.000	13.750	54.920	YPRP .0000 V.L.
(BBY022)	AVES 3-5-163 CA58 (B17C7M4F5)(V103E22)(V7R5)	.000	11.000	13.750	54.920	ZPRP 6.0000 V.L.
						SCALE .0150

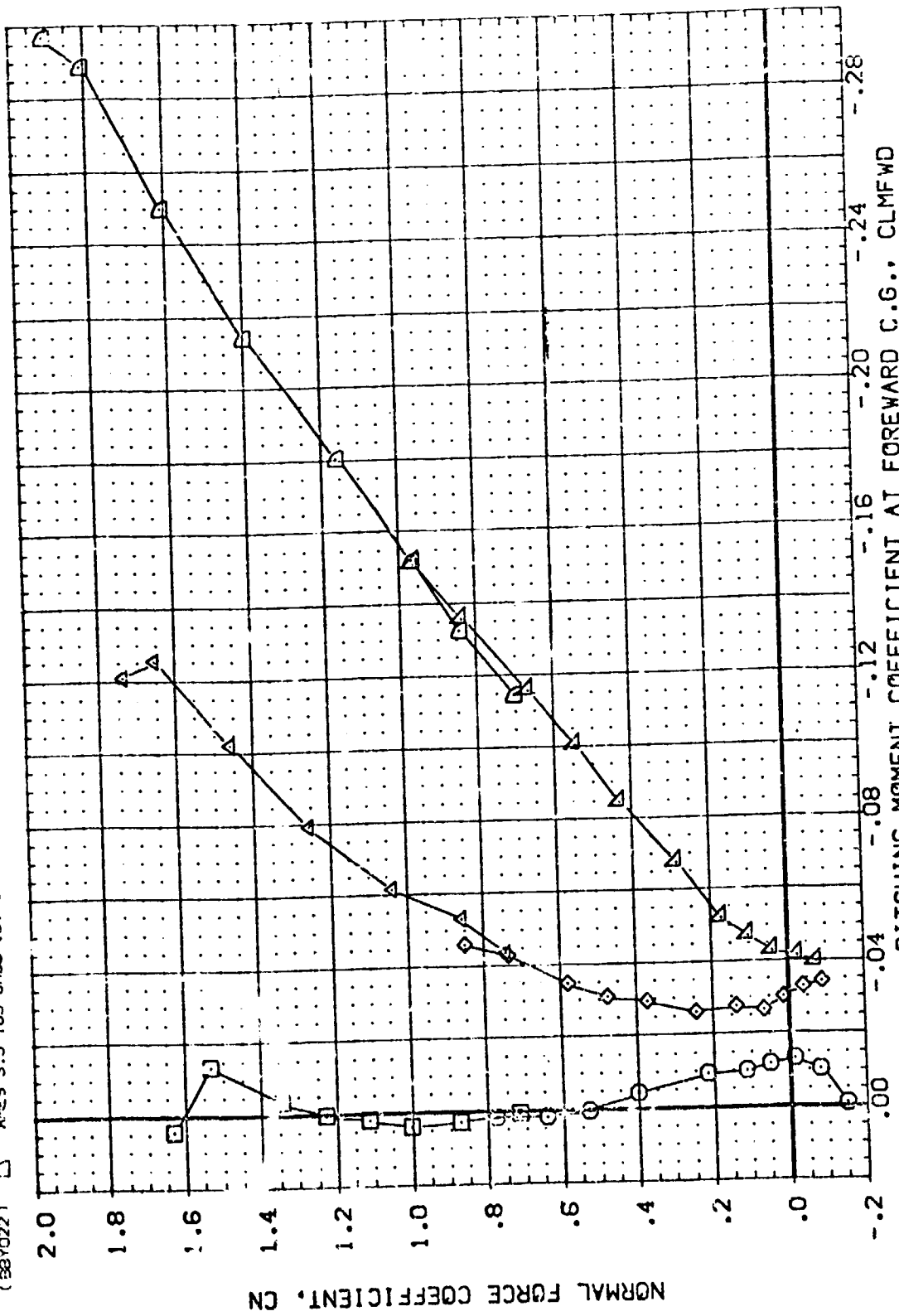


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

BETA	ELEVON	DOFLAP	SPOBRK	REFERENCE INFORMATION
.000	-14.000	-14.250	54.920	SREF .6050 SO.FT.
.000	-14.000	-14.250	54.920	LREF 7.1220 IN.
.000	.000	-14.250	54.920	EREF 14.0000 IN.
.000	.000	-14.250	54.920	YMRP 12.5770 IN.
.000	.000	13.750	54.920	ZMRP .0000 IN.
.000	11.000	13.750	54.920	SCALE 6.0000 V.L.

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(RBY021)	AVES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)
(RBYK19)	AVES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)
(RBY018)	AVES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)
(RBYK16)	AVES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)
(RBY024)	AVES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)
(RBY022)	AVES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)

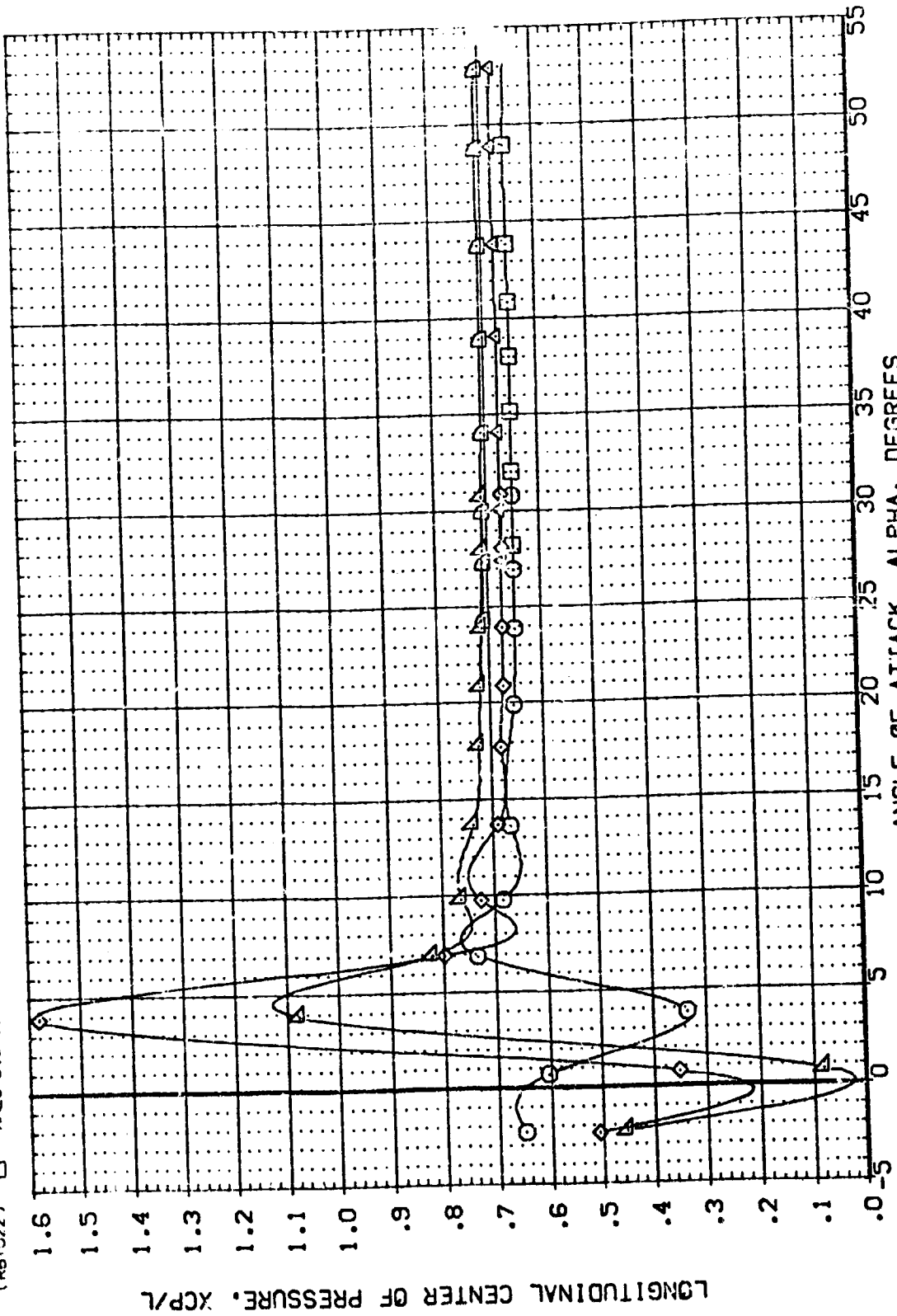


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.32
 (A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	BDFLAP	SPOBRK	REFERENCE INFORMATION
(EBY021)	AVES 3.5-163 DAS8 (817C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6050 SO.FT.
(HBY019)	AVES 3.5-163 DAS8 (817C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	LREF 7.120 IN.
(EBY024)	AVES 3.5-163 DAS8 (817C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
(EBY022)	AVES 3.5-163 DAS8 (817C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	XMRP 12.5770 IN.
						YMRP .0000 IN.
						ZMRP 6.0000 V.L.
						SCALE .0150

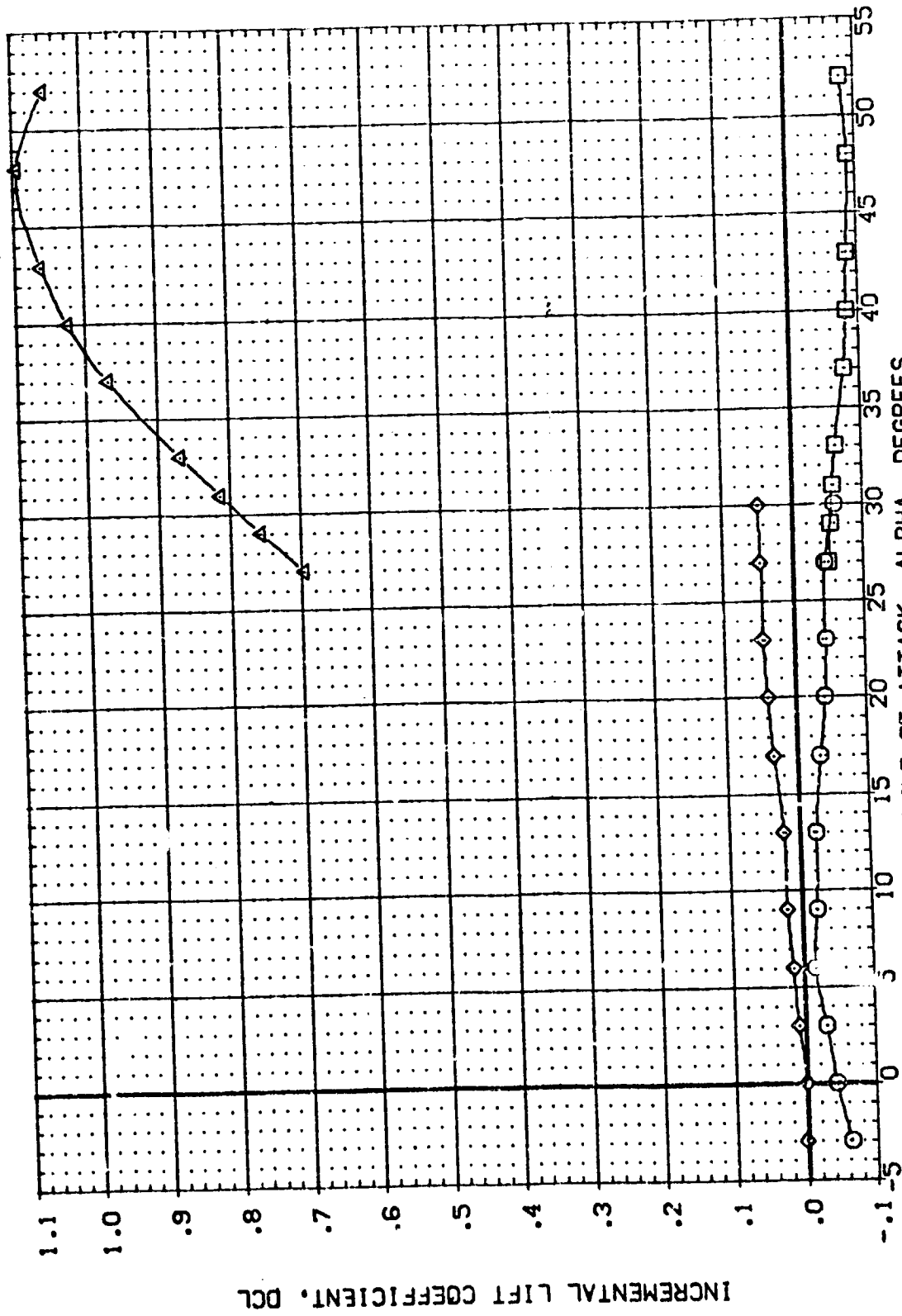


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	BOFLAP	SPOBRK	REFERENCE INFORMATION
(EBY021)	AVES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)	.000	-44.000	-14.250	54.920	SREF 6050
(EBY019)	AVES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)	.000	-44.000	-14.250	54.920	LREF 7.1220
(EBY024)	AVES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)	.000	11.000	13.750	54.920	BREF 14.0500
(EBY022)	AVES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)	.000	11.000	13.750	54.920	XMRP 12.5770
						YMRP 6.0000
						ZMRP 6.0000
						SCALE .0150

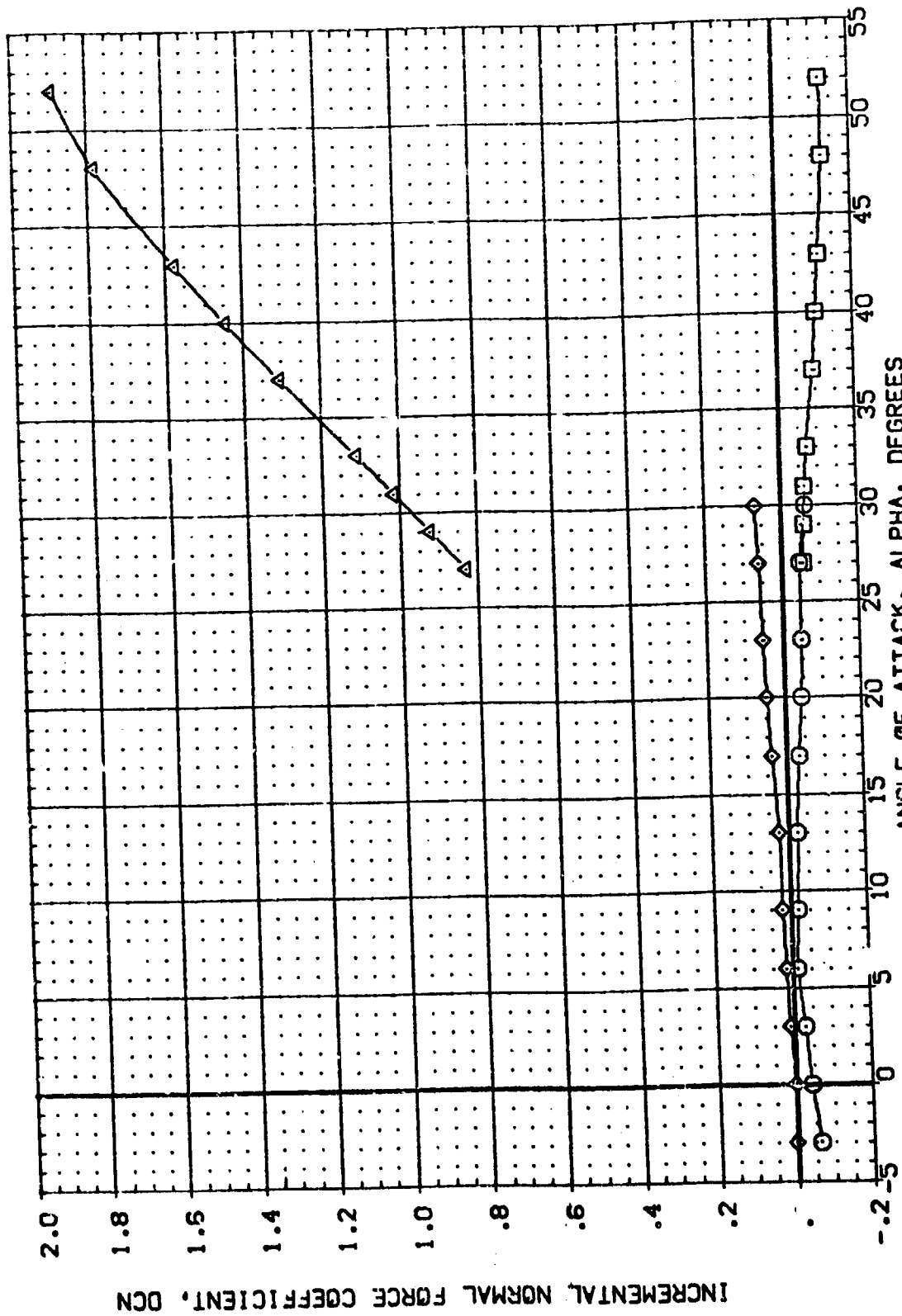


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	BOFLAP	SPOBRK	REFERENCE INFORMATION
(EBY021)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	-44.000	-14.250	54.920	SREF .6050 SQ.FT.
(EBY019)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(EBY024)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
(EBY022)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	11.000	13.750	54.920	XMRP 12.5770 IN.
						ZMRP 6.0000 IN.
						SCALE V.L. .0150

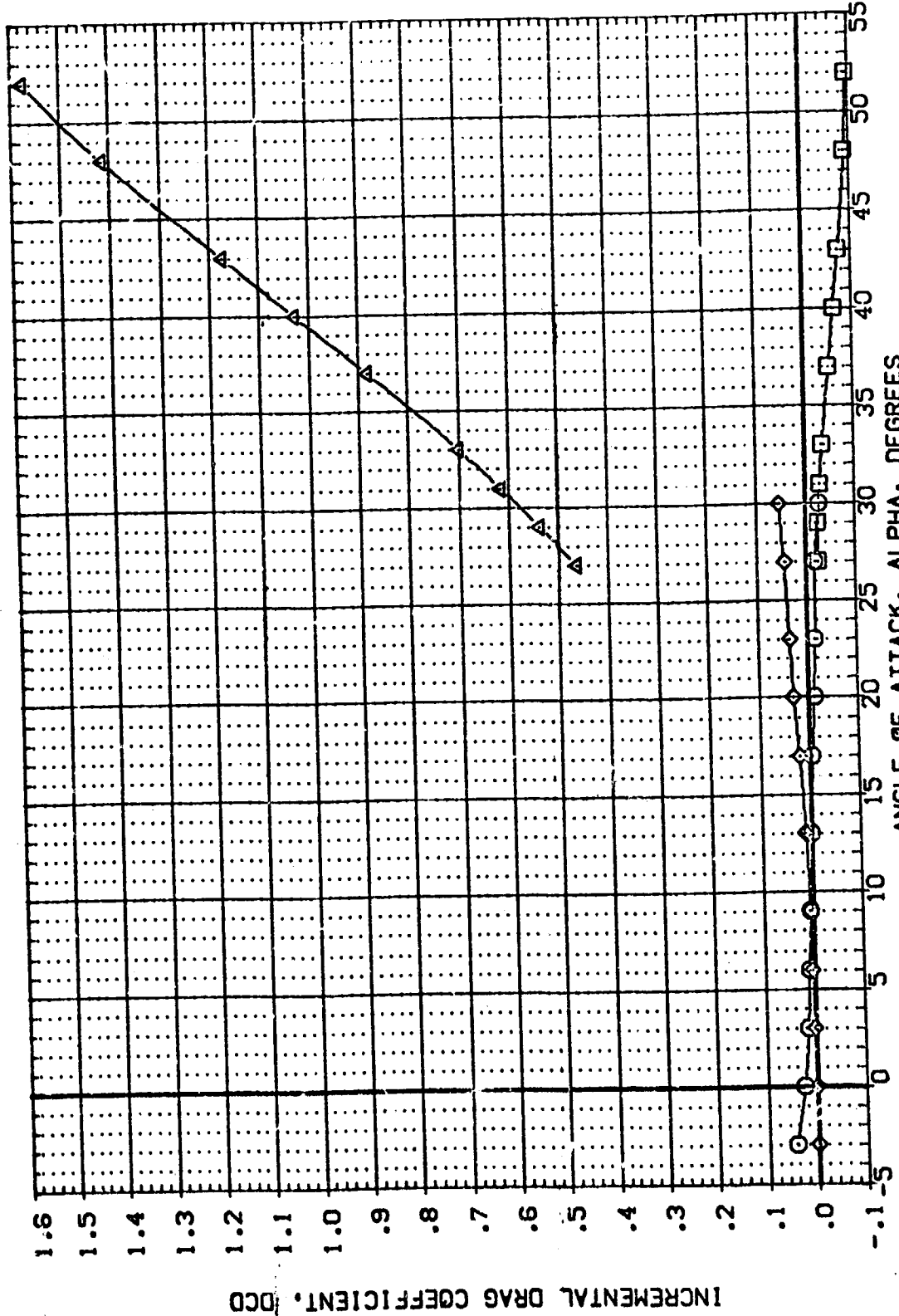


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL: (EBY021), (EBY019), (EBY024), (EBY022)

CONFIGURATION DESCRIPTION: AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS), AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS), AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7RS)

BETA: .000, .000, .000, .000

DE: -44.000, -44.000, 11.000, 11.000

BOFLAP: -14.250, -14.250, 13.750, 13.750

SPOBRK: 54.920, 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF: .6050, LREF: 7.1220, BREF: 14.0500, XMRP: 12.5770, YMRP: 6.0000, ZMRP: .0150, SCALE: .0150

SO. FT.: IN., IN., IN., V.L.

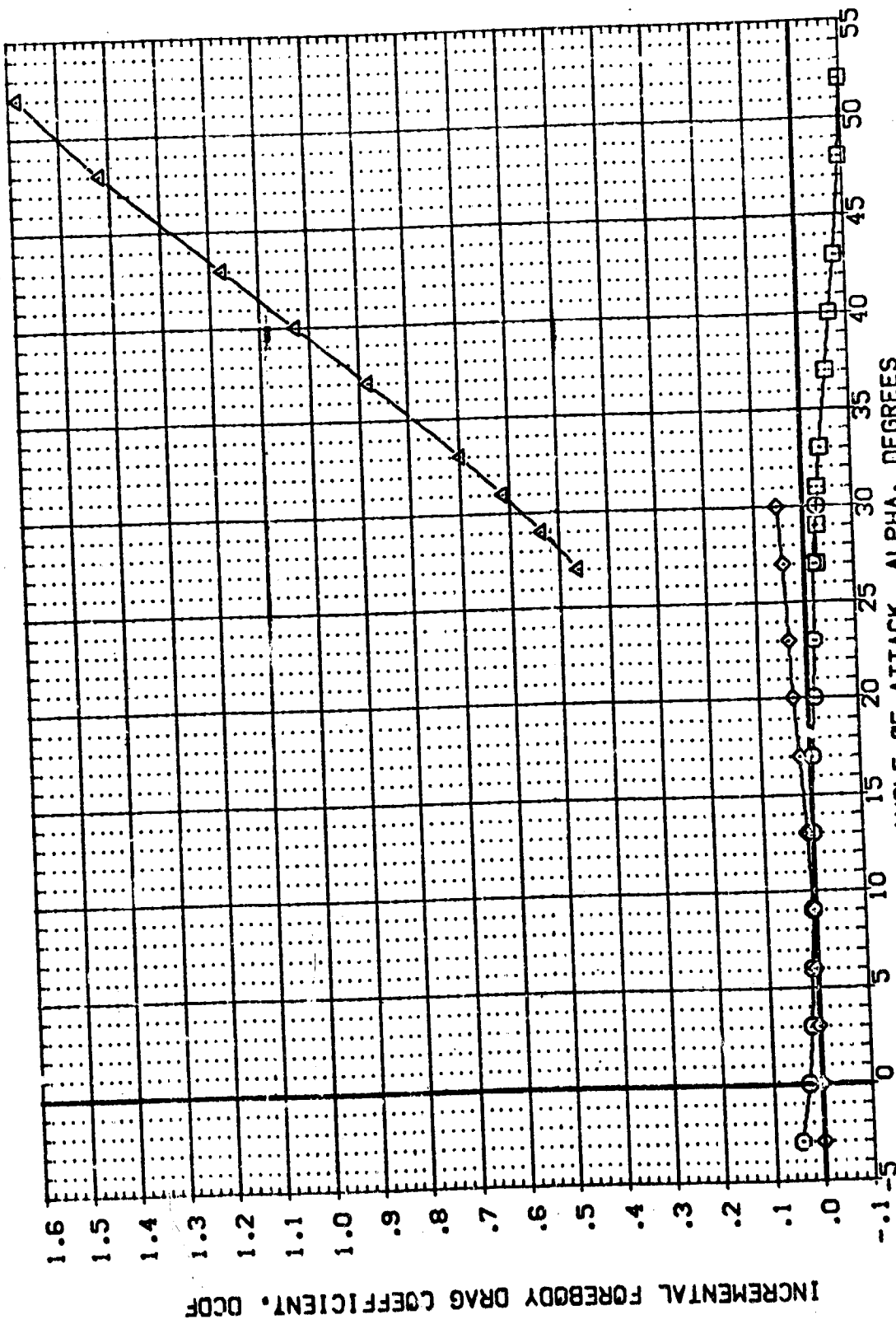


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3
 (A)MACH = 7.30

REFERENCE INFORMATION
 SREF 7.1220 SQ.FT.
 LREF 14.0500 IN.
 BREF 12.5770 IN.
 XRRP .0000 IN.
 YRRP 6.0000 V.L.
 ZRRP .0150
 SCALE

SPOBRK SPOBRK
 54.920
 54.920
 54.920
 54.920

BOFLAP BOFLAP
 -14.250
 -14.250
 13.750
 13.750

DE DE
 -44.000
 -44.000
 11.000
 11.000

BETA BETA
 .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 APES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
 APES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
 APES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
 APES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)

DATA SET SYMBOL
 (EBY021) ○
 (HBYC19) ◇
 (EBY024) △
 (EBY022) □

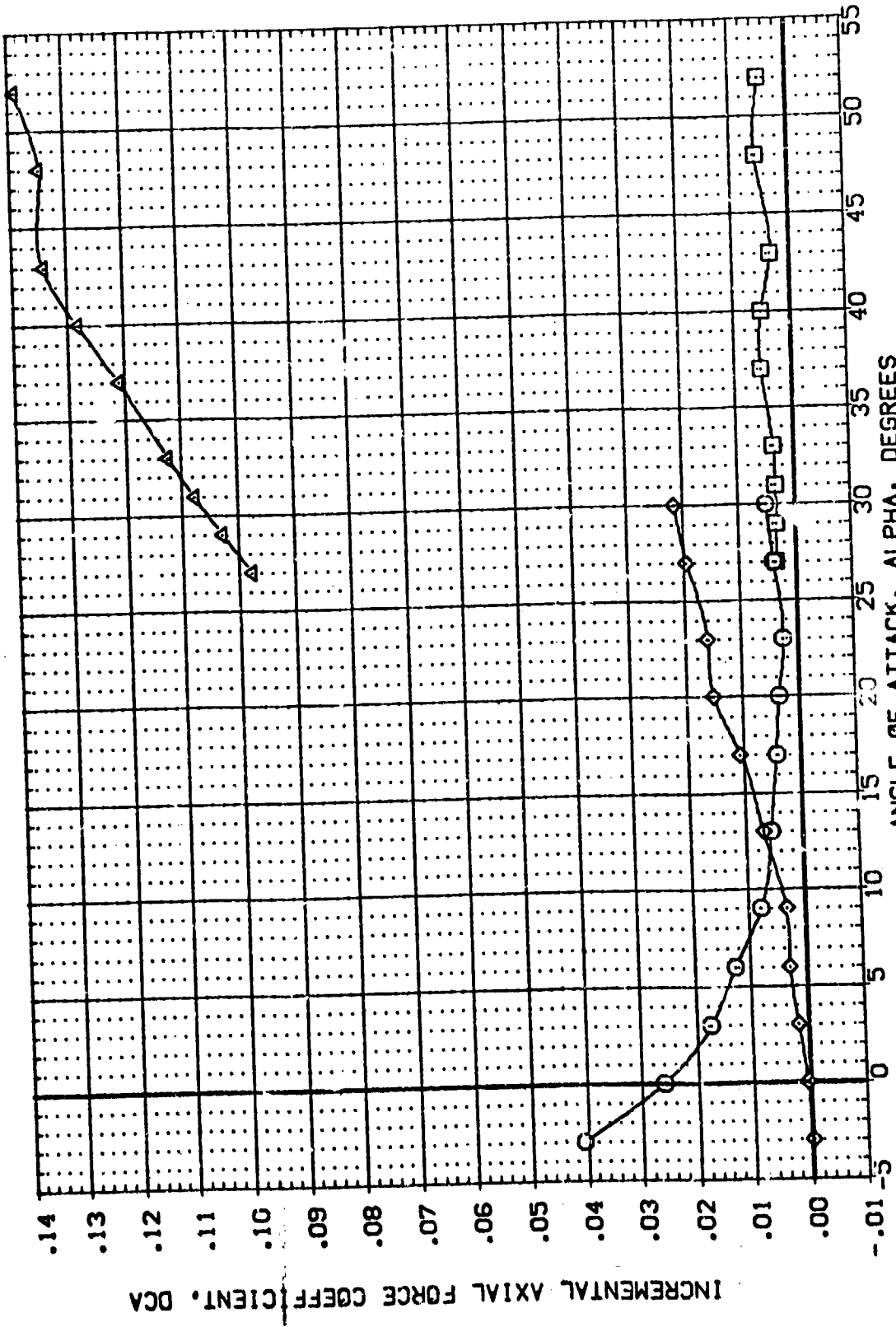


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

CAJ MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	BD/LAP	SPOBRK	REFERENCE INFORMATION	SQ.FT.
(EBY021)	AMES 3.5-163 OASB (817C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	SREF	6050
(HBV019)	AMES 3.5-163 OASB (817C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	LREF	7.1230
(EBY024)	AMES 3.5-163 OASB (817C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	BREF	14.0560
(EBY022)	AMES 3.5-163 OASB (817C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	XMRP	12.5770
						ZMRP	.0000
						SCALE	6.0150

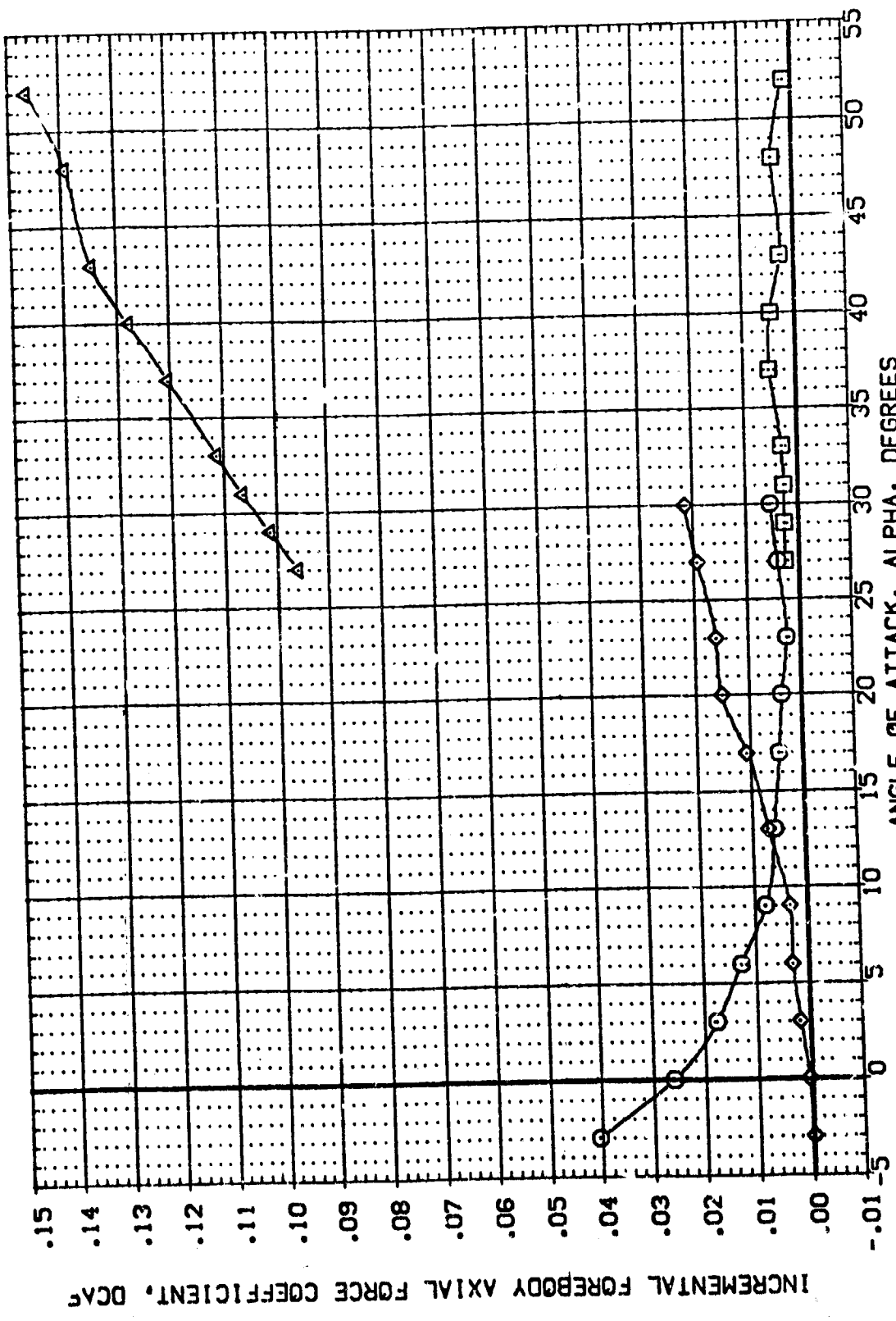


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A) MACH = 7.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EBY021) AVES 3-5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 (MBY019) AVES 3-5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 (EBY024) AVES 3-5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 (EBY022) AVES 3-5-163 OASB (B17C7M4F5)(V103E22)(V7R5)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -44.000 -14.250 54.920
 .000 11.000 13.750 54.920
 .000 11.000 13.750 54.920

REFERENCE INFORMATION
 SREF 6050 50.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 YMRP 12.5770 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

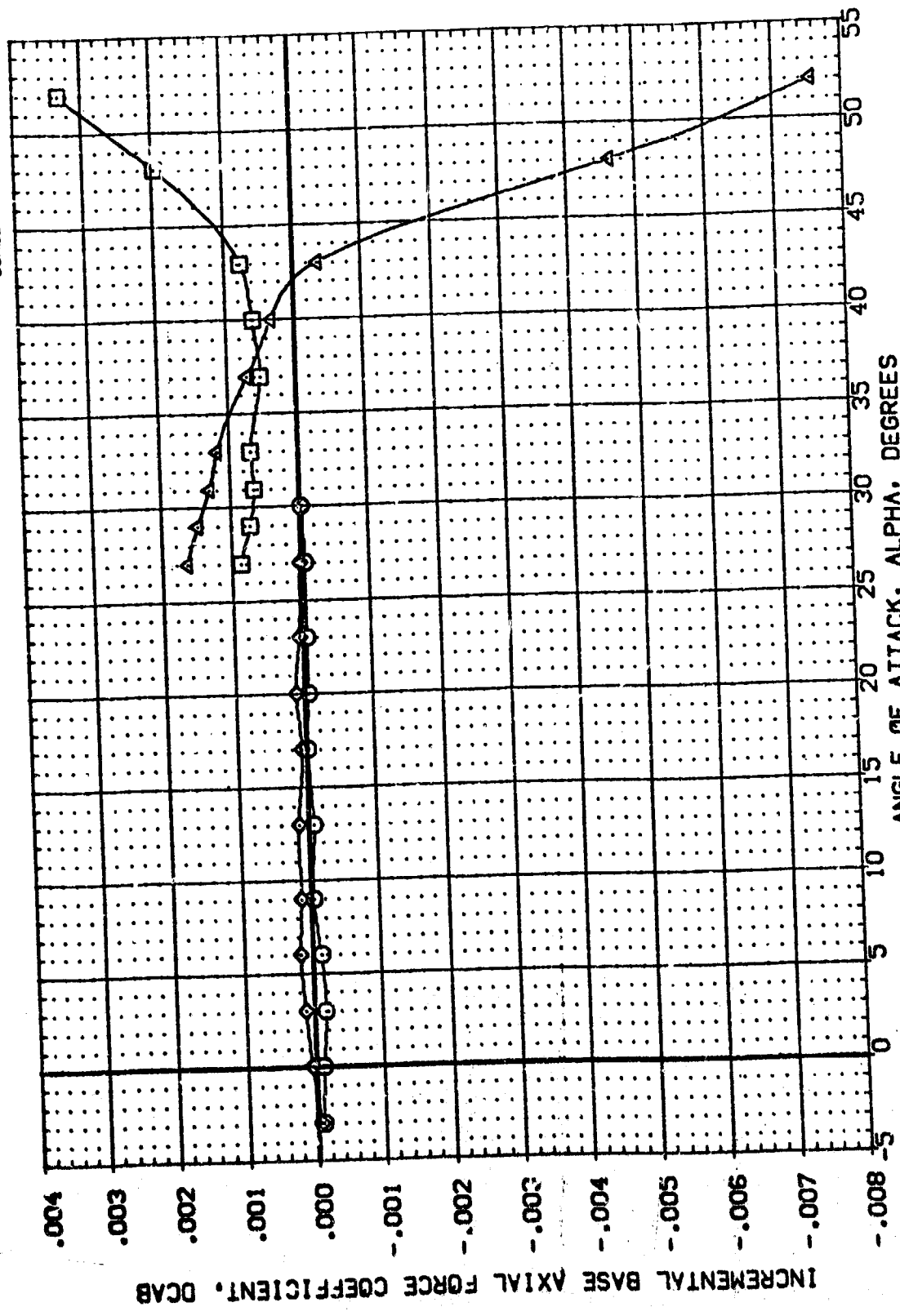


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.30
 (A)MACH = 7.30

DATA SET SYMB. CONFIGURATION DESCRIPTION
 (EBY021) AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)
 (H07019) AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)
 (F3Y024) AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)
 (EBY022) AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 -44.000 -14.250 54.920
 .000 11.000 13.750 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

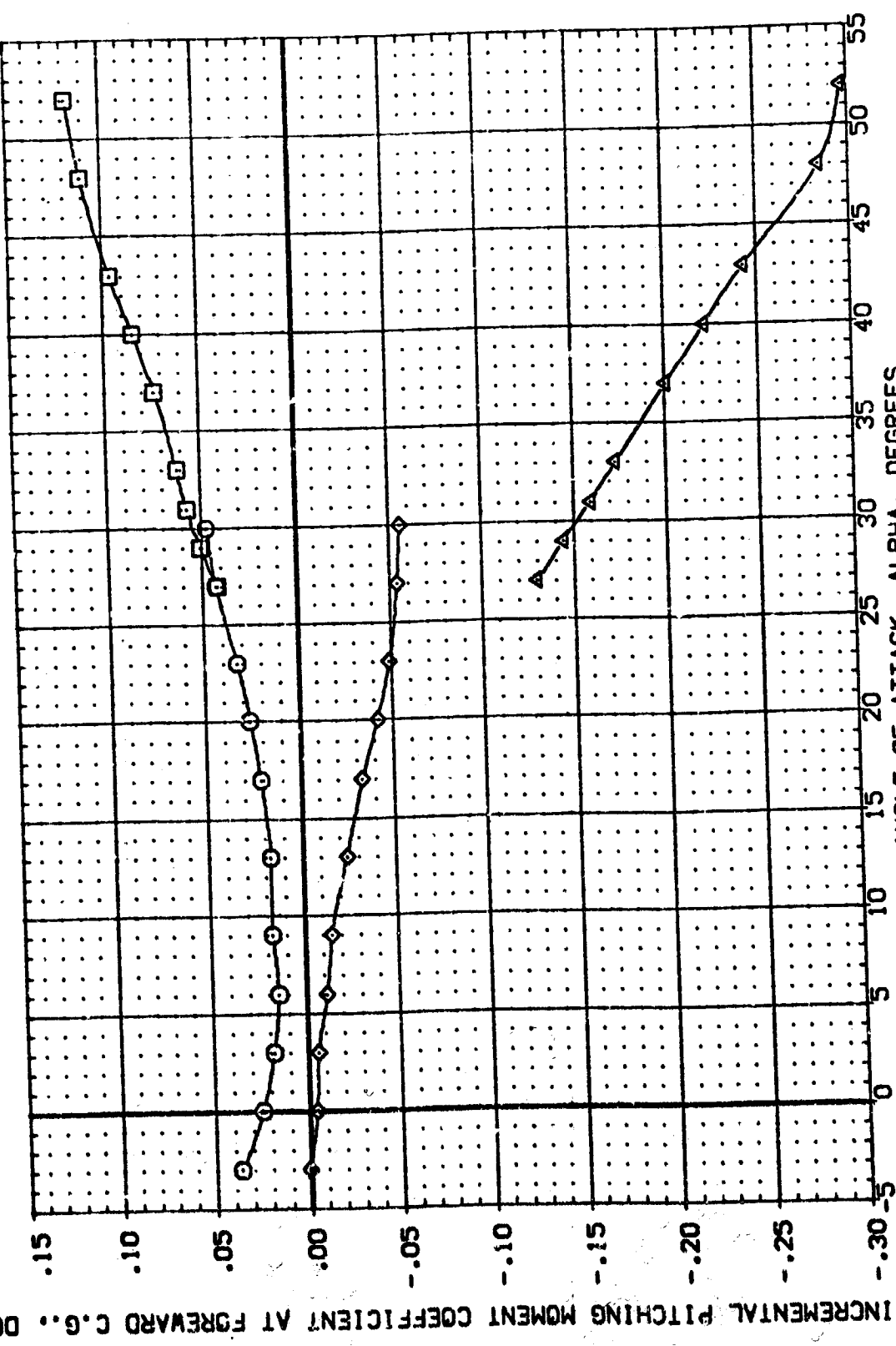


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	BOFLAP	SPOSRK	REFERENCE INFORMATION
(EBY021)	AMES 3-5-163 OA58 (817C7M4FS)(W103E22)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6.050 SO.FT.
(EBY019)	AMES 3-5-163 OA58 (817C7M4FS)(W103E22)(V7RS)	.000	-44.000	-14.250	54.920	LREF 7.1220 IN.
(EBY024)	AMES 3-5-163 OA58 (817C7M4FS)(W103E22)(V7RS)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
(EBY022)	AMES 3-5-163 OA58 (817C7M4FS)(W103E22)(V7RS)	.000	11.000	13.750	54.920	XMRP 12.5770 IN.
						YMRP .0000 IN.
						ZMRP 6.0000 V.L.
						SCALE .0150

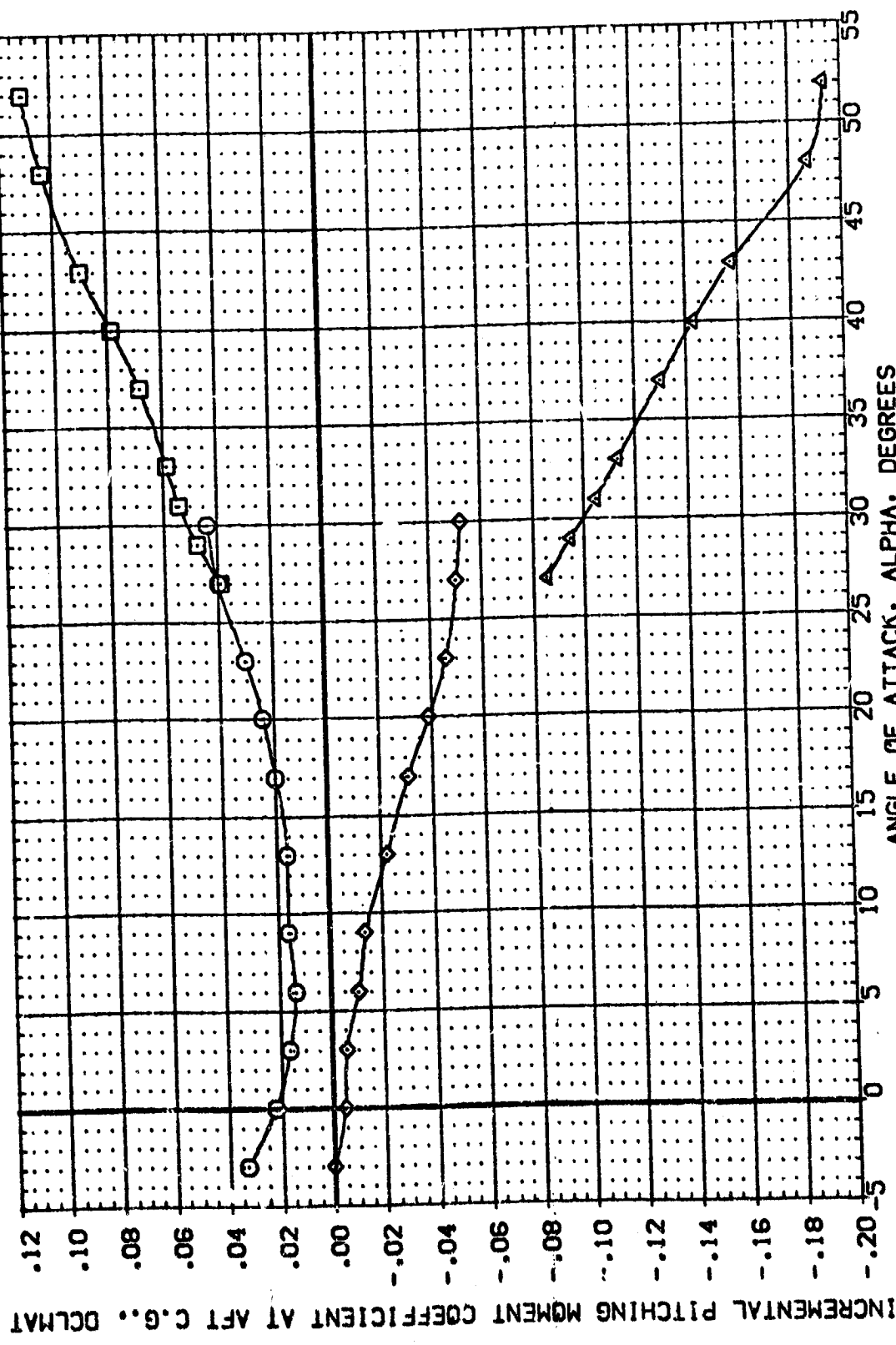


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

AMES 3.5-163 01.58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	SREF	SO.FT.
-3.000	MACH	.000	EBY021	.000	LREF	IN.
.000	BDFLAP	54.920	EBY024	.000	BREF	IN.
3.000	RUDDER	11.000			XREF	IN.
6.000					YREF	IN.
9.000					ZREF	V.L.
13.000					SCALE	

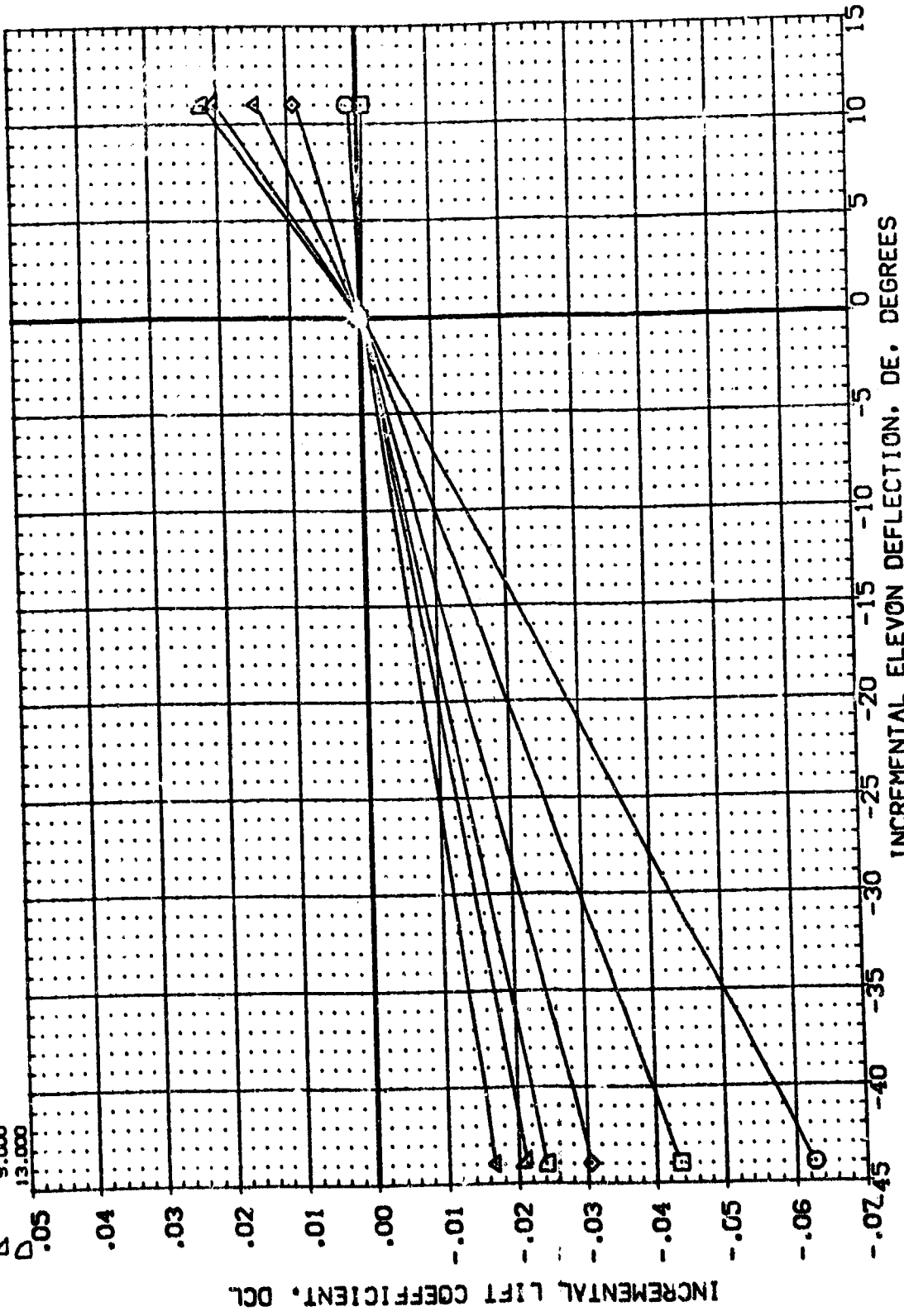


FIG. 10 CONFIGURATION -139 ELEVEN EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

ALPHA	PARAMETRIC VALUES	DATA SOURCE	REFERENCE INFORMATION
17.000	MACH 7.300	DE .000	SREF .6050 SO.FT.
20.000	BETA -14.250	DE -44.000	LREF 7.1220 IN.
23.000	SPDRK .000	DE 11.000	BREF 14.0500 IN.
27.000	RUDDER	DEBY021	XMRP 12.5770 IN.
30.000		DEBY024	YMRP .0000 IN.
		SCALE	ZMRP 8.0000 V.L.
			SCALE .0150

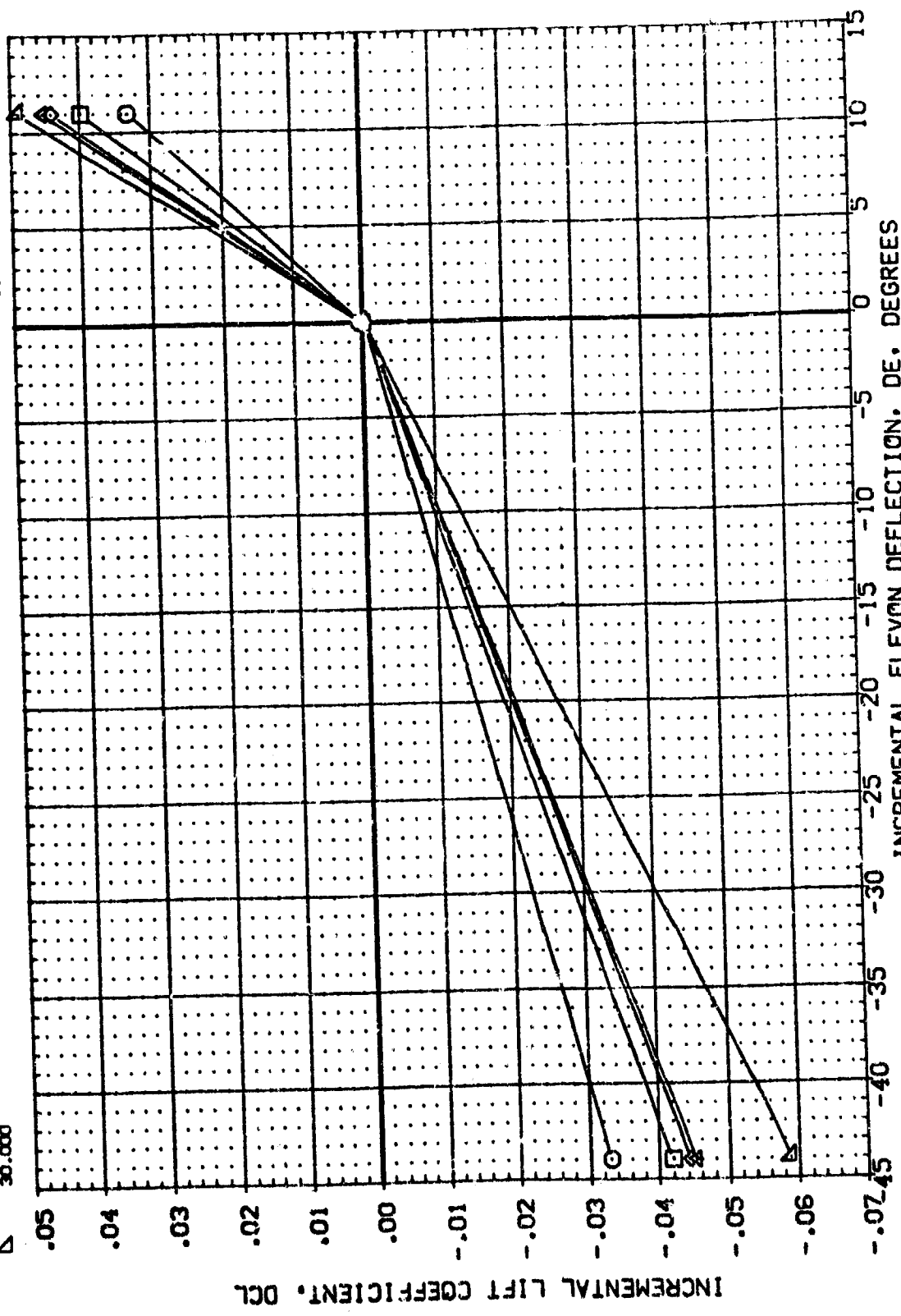


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	BETA	DE	DE	SREF	SO. FT.
-3.000	7.300	.000	.000	LREF	7.1220
.000	-14.250	EBY021	EBY018	BREF	14.0500
3.000	.000	54.920	EBY024	XTRP	12.5770
6.000		-44.000		YTRP	.0000
9.000		11.000		ZTRP	6.0000
13.000				SCALE	.0150

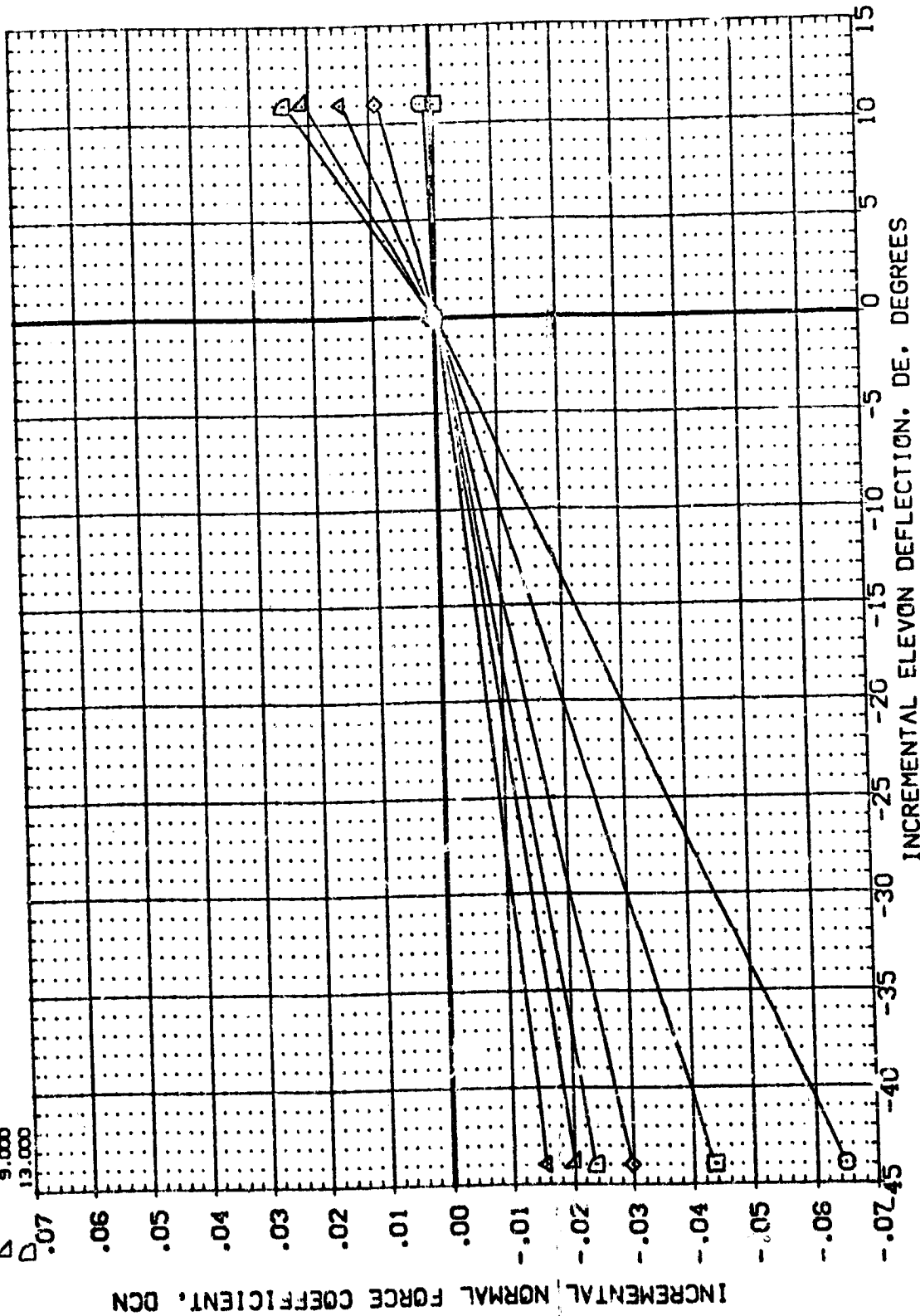


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	SREF	REFERENCE INFORMATION
○	17.000	7.300	BETA		.000	EBY021	.000	LREF	.6050	SO.FT.
□	20.000	-14.250	SPOBRK		54.920	EBY021	-44.000	BREF	7.1220	IN.
◇	23.000	.000				EBY024	11.000	XMRP	14.0500	IN.
△	27.000							YMRP	12.5770	IN.
▽	30.000							ZMRP	6.0000	V.L.
								SCALE	.0150	

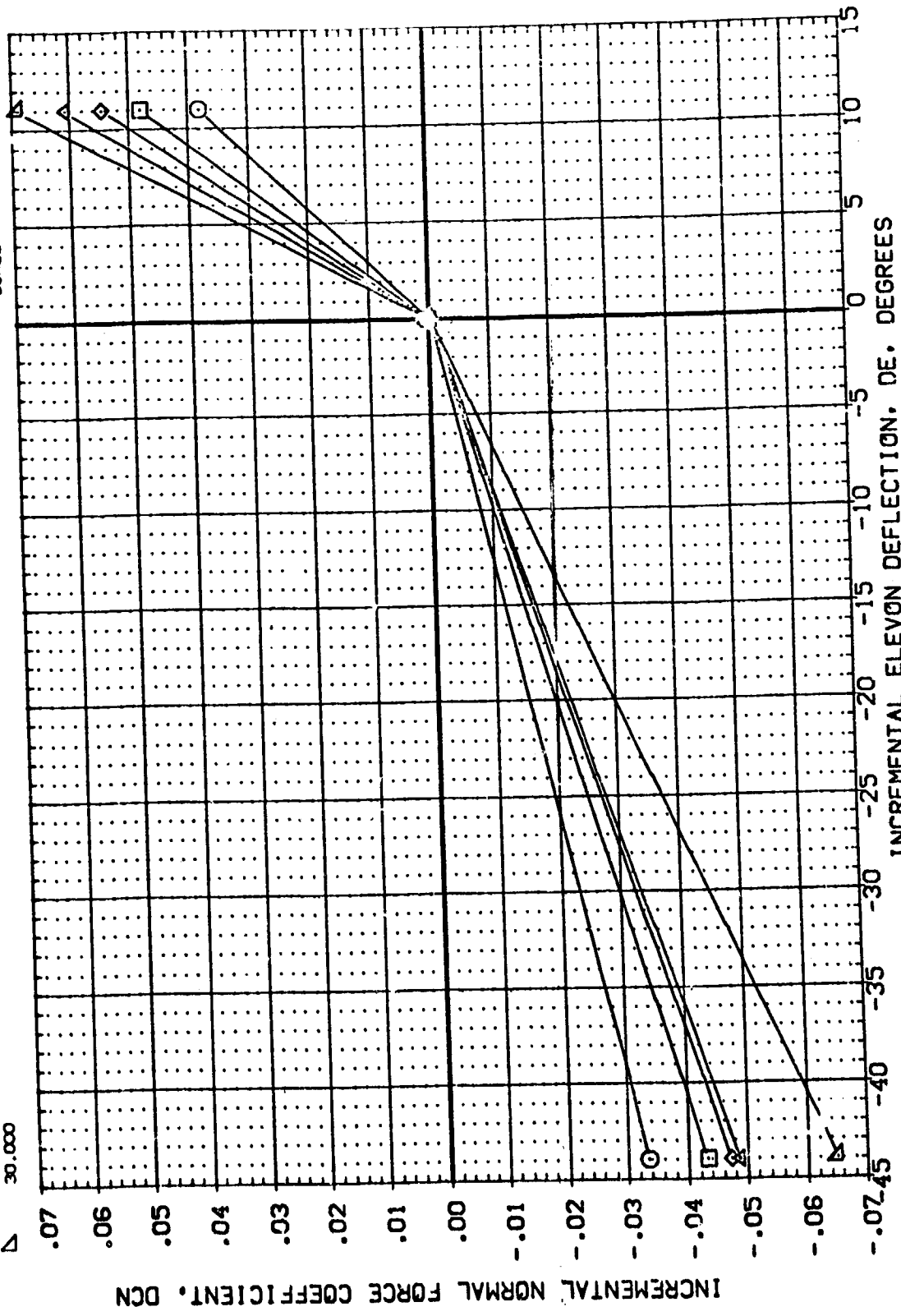


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

DATA SOURCE
 DE EB018
 DE -41.000
 DE 11.000

PARAMETRIC VALUES
 BETA .000
 SPOBRK 54.920
 MACH 7.300
 BOFLAP -14.250
 RUDDER .000

ALPHA
 -3.000
 .000
 3.000
 6.000
 9.000
 13.000

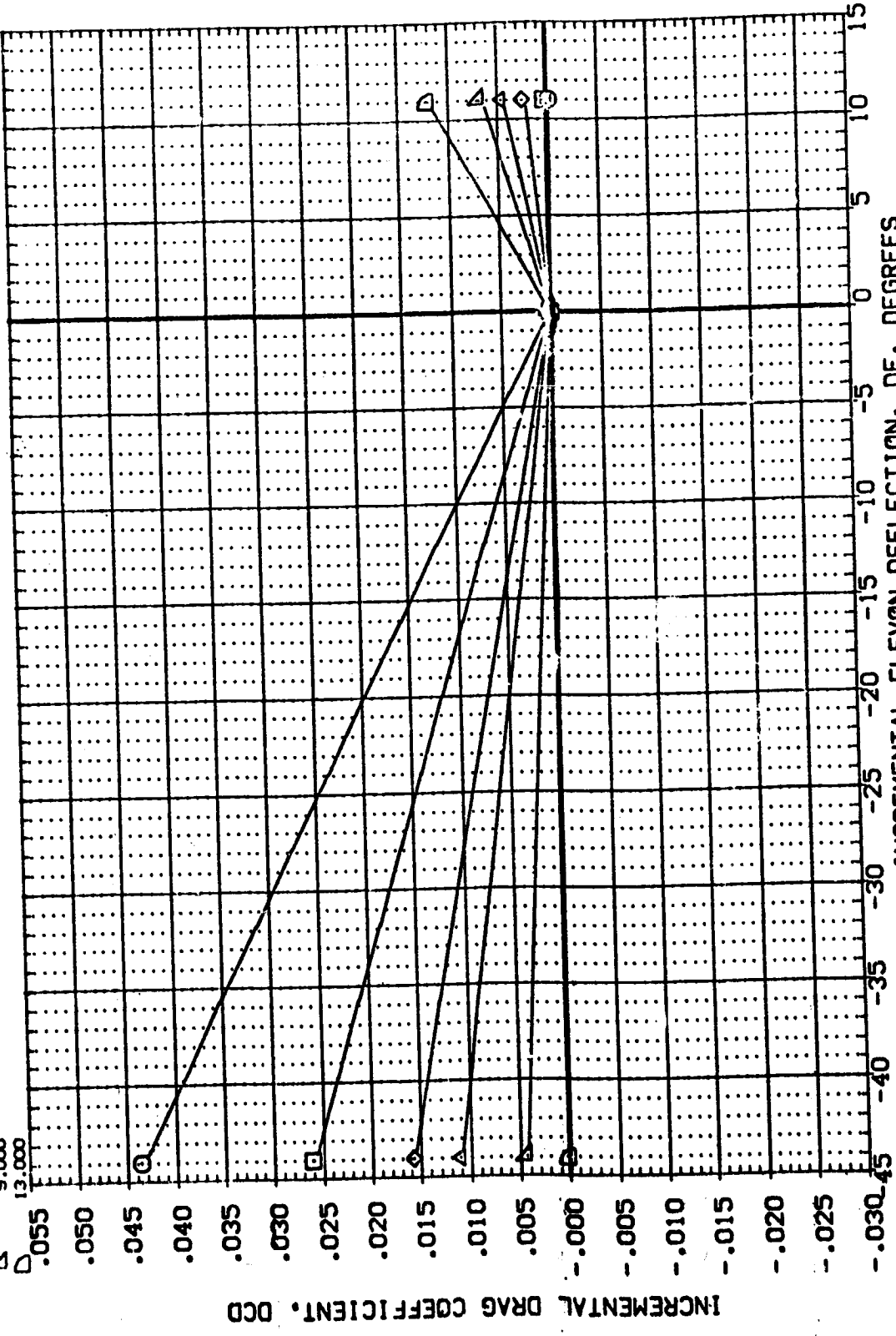


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	BETA	DE	LREF	SO. FT.
17.000	7.300	54.920	.000	7.1220	IN.
20.000	-14.250	EBY021	EBY018	BREF	IN.
23.000	SPOBRK	EBY024	EBY018	YMRP	IN.
27.000	.000			ZMRP	IN.
30.000				ZMRP	V.L.
				SCALE	
					.0150

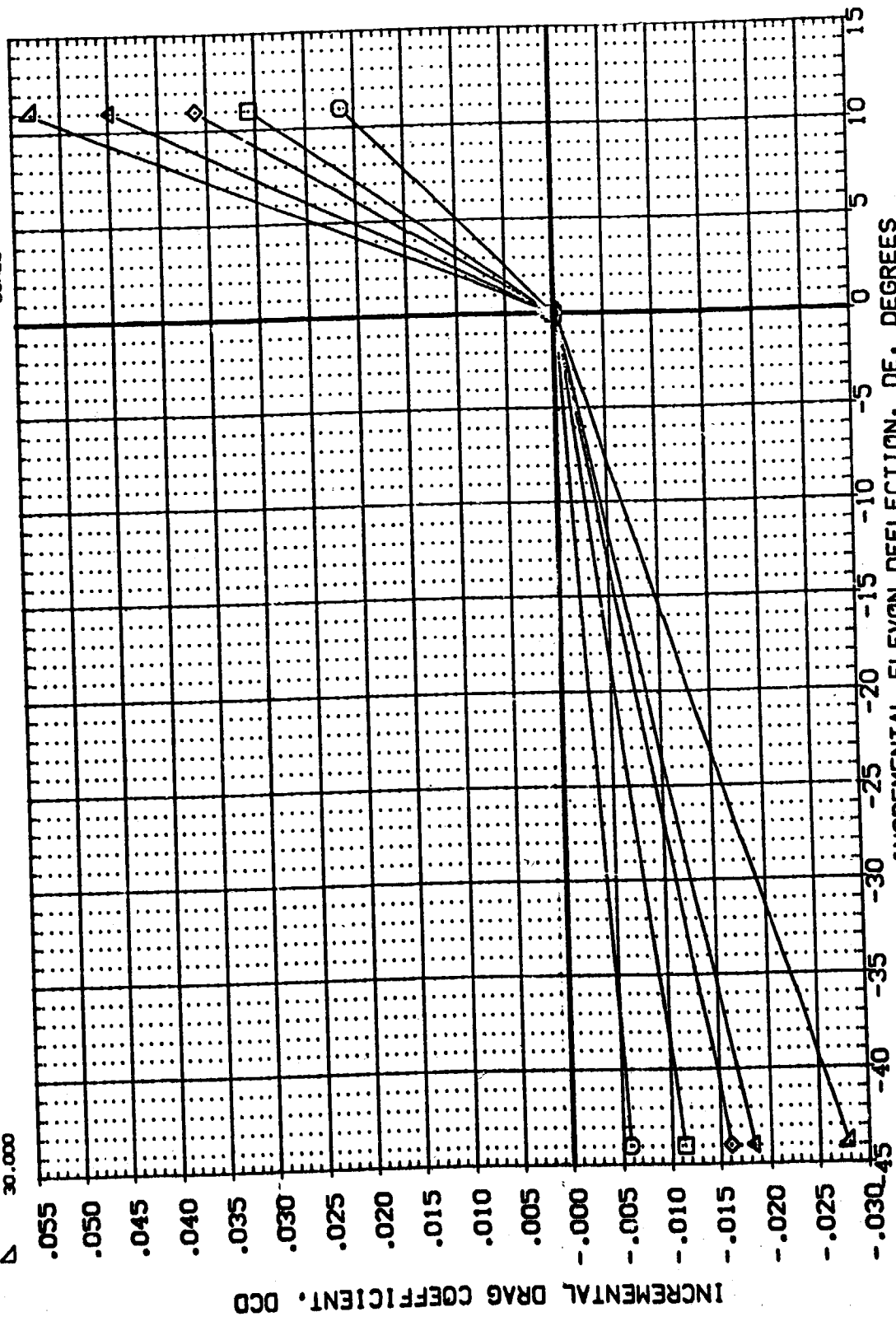


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

SYMBOL	ALPHA	MACH	BOFLAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DE	DATASET	DE	REF	SG.FT.
○	-3.000	.000	.000	.000	BETA	DE	-44.000	EBY018	.000	SREF	6.050
□	3.000	.000	.000	.000	SPOBRK	DE	11.000			LREF	7.120
◇	6.000	.000	.000	.000						BREF	14.050
△	9.000	.000	.000	.000						XPRP	12.570
▽	13.000	.000	.000	.000						YPRP	.000
										ZPRP	6.000
										SCALE	.0150
											V.L.

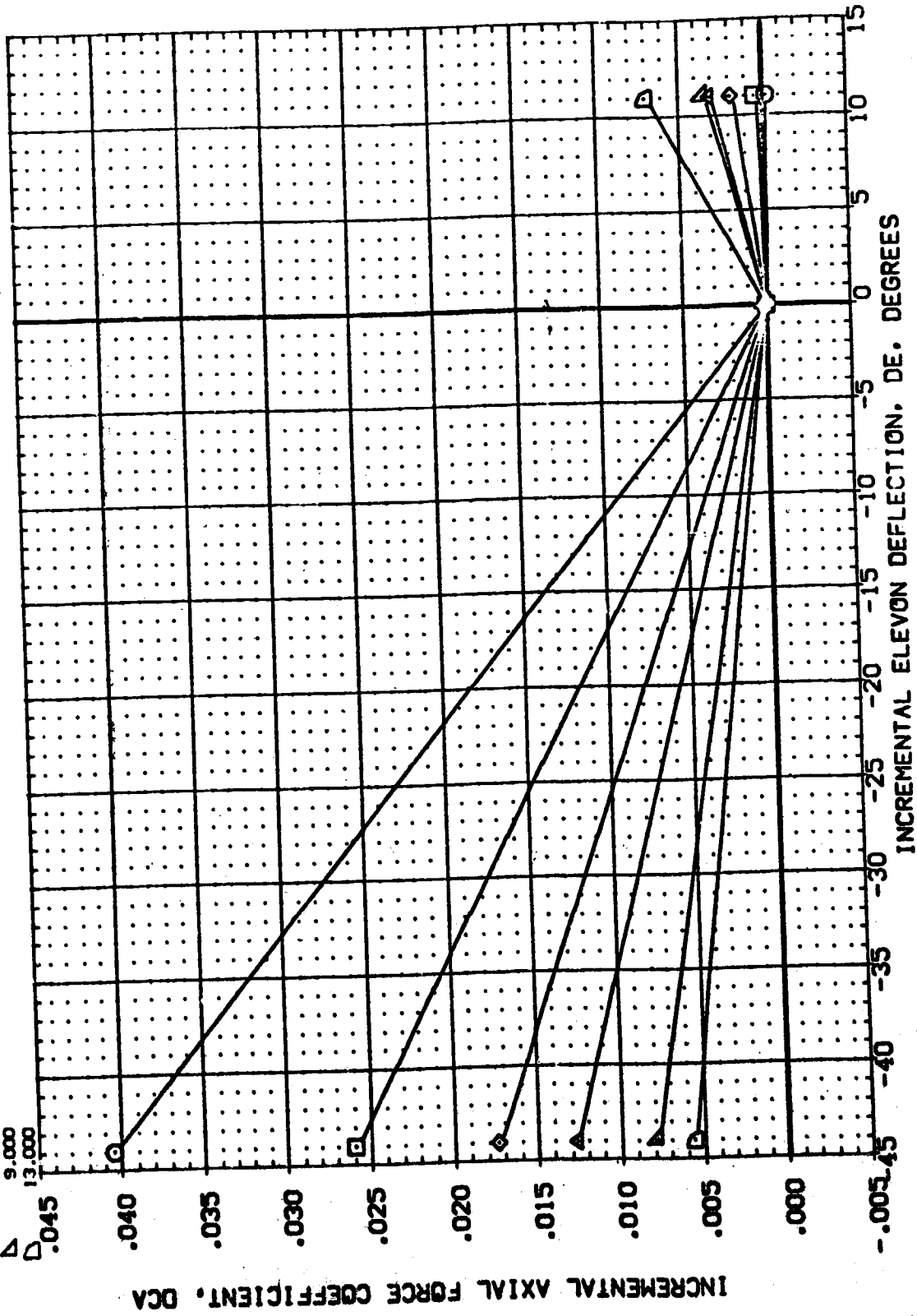
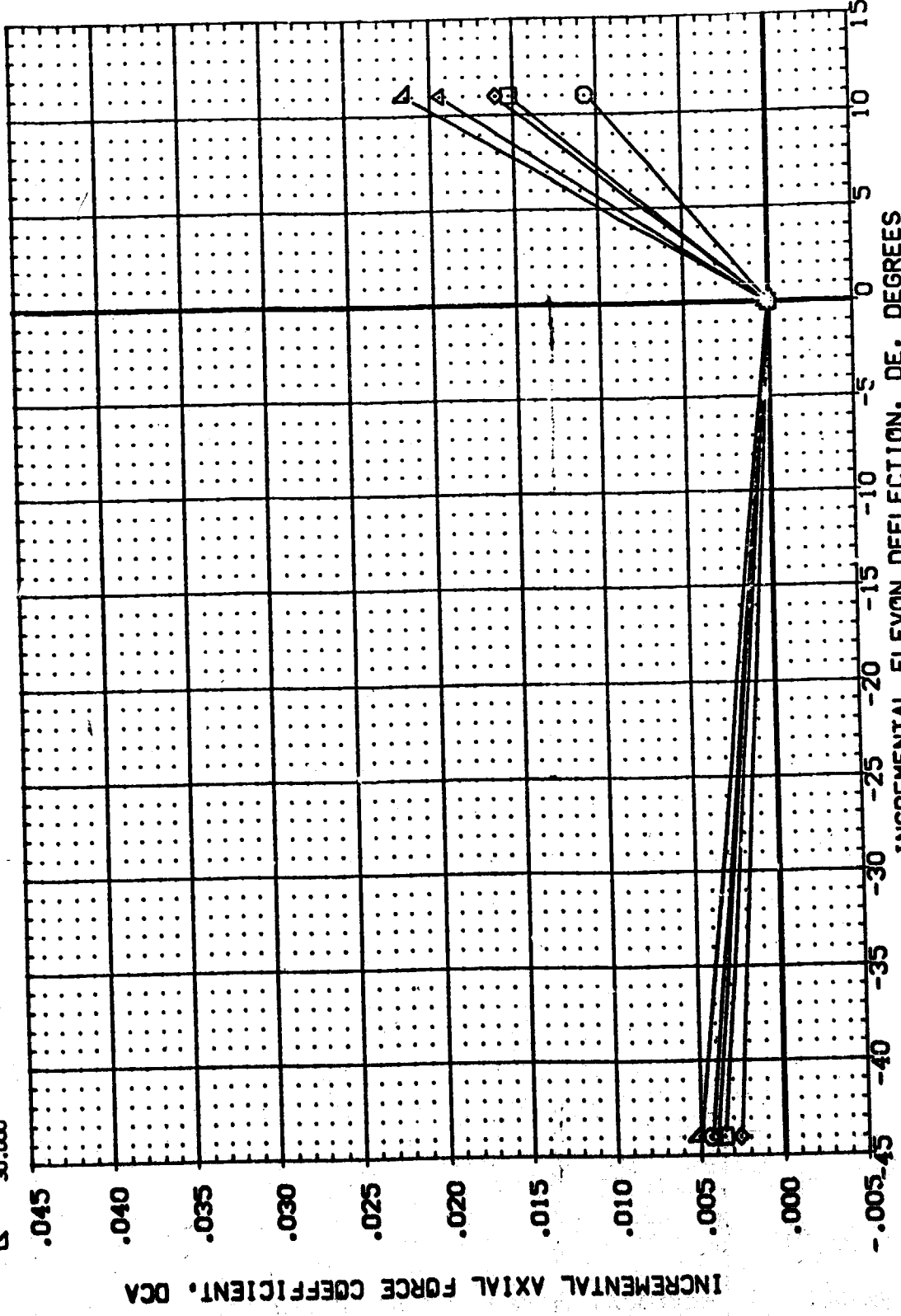


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH: 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (E8Y021)

SYMBOL	ALPHA	MACH	BOFLAP	RLODER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	REF	SO.FT.
○	17.000				BETA	.000	EBY021	.000	LREF	7.1220
□	20.000				SPOBRK	-44.000	EBY024	.000	BREF	14.0500
◇	23.000					11.000			YWRP	12.5770
△	27.000								ZWRP	6.0000
▽	30.000								SCALE	.0150



INCREMENTAL AXIAL FORCE COEFFICIENT, DCA

INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (817C7M4F5)(W103E22)(V7R5) (EBY021)

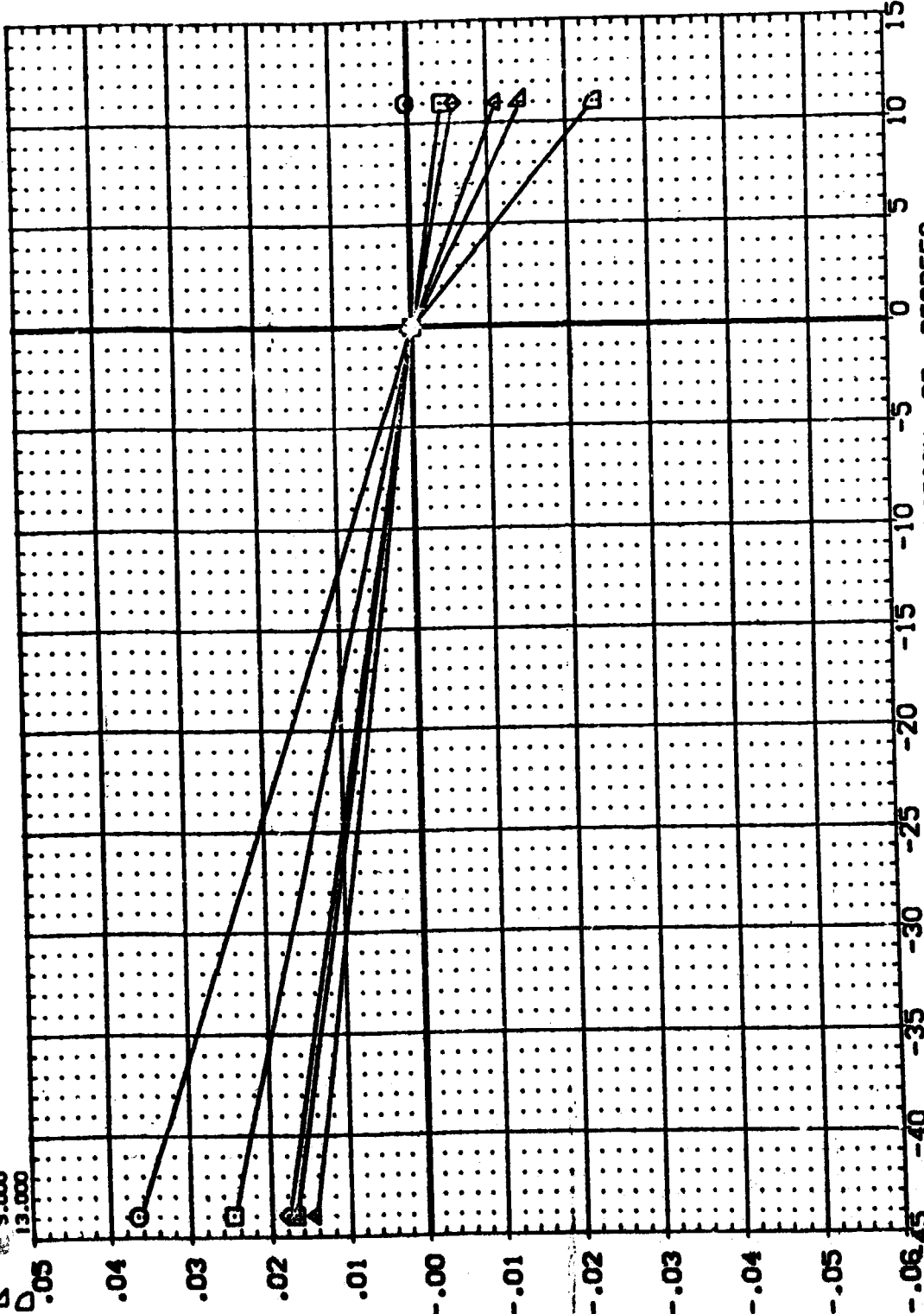
PARAMETRIC VALUES
 ALPHA 3.000
 MACH 7.300
 BETA 7.300
 SPOBK -14.250
 RUDER .000
 3.000
 6.000
 9.000
 13.000

DATA SOURCE
 DATASET DE
 EBY021
 EBY024
 -44.000
 11.000

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1200
 IN. 14.0500
 IN. 12.5700
 IN. 6.0000
 V.L. .0150

SYMBOL
 □ □ □ □ □
 ○ ○ ○ ○ ○

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

PARAMETRIC VALUES
 MACH 7.300
 BFLAP -14.250
 RUDDER .000

DATA SOURCE
 DATASET DE -41.000
 EBY021
 DATASET DE 11.000
 EBY024

REFERENCE INFORMATION
 SQ.FT.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 YPRP 12.5770
 ZPRP 6.0000
 SCALE .0150

ALPHA 17.000
 20.000
 23.000
 27.000
 30.000

SYMBOL
 ○ □ △

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMPD

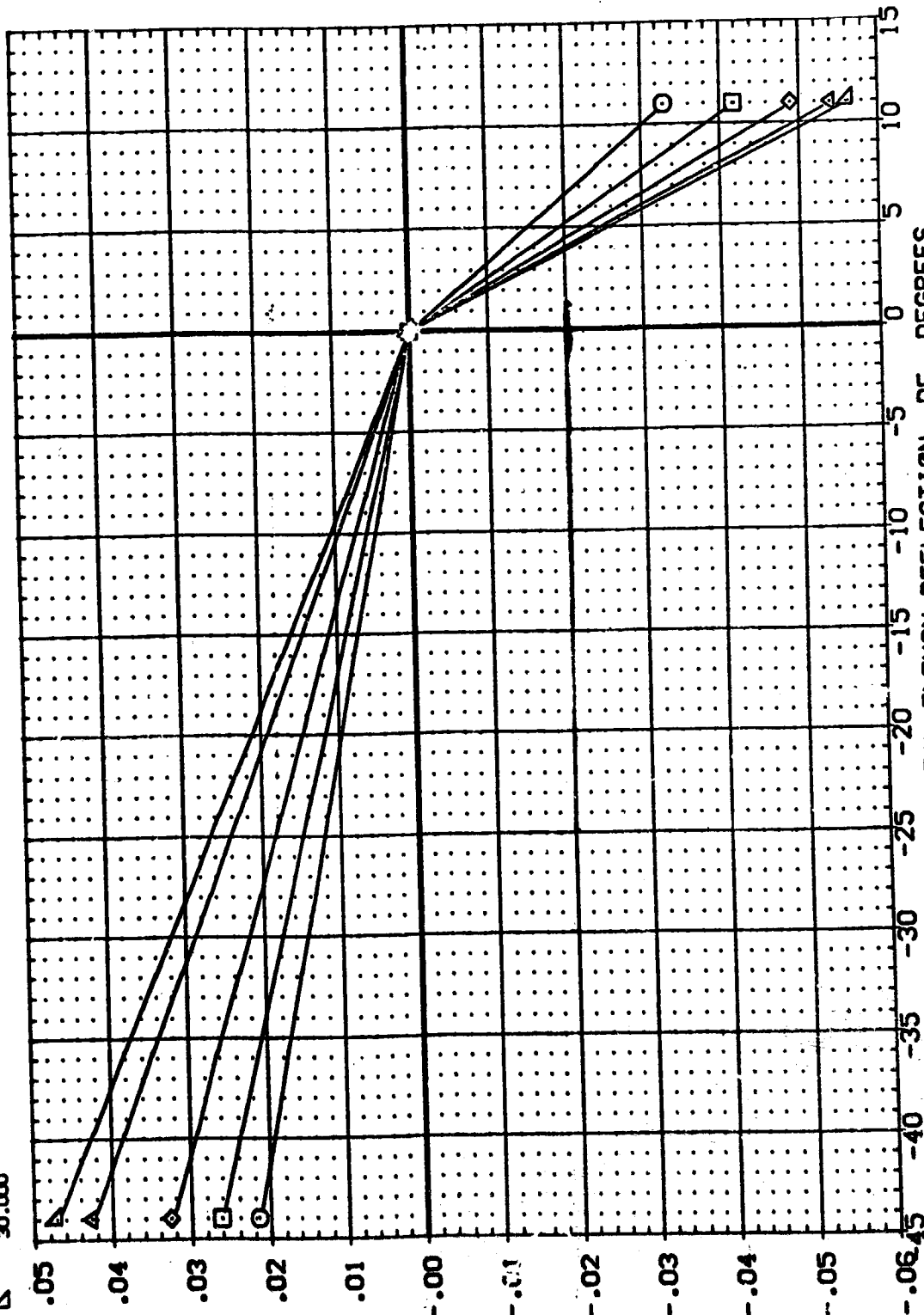


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

SYMBOL	ALPHA	MACH	80FLAP	FLOOR	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	SCALE	REFERENCE INFORMATION
□	-3.000	.000	7.300	BETA	.000	EBY018	.000	SREF	.6050	SO.FT.
□	3.000	.000	-14.250	SPOBRK	54.520	EBY021	-44.000	LREF	7.120	IN.
□	6.000	.000	.000		11.000	EBY024	11.000	BREF	14.050	IN.
□	9.000							XPRP	12.570	IN.
△	13.000							YPRP	.000	IN.
								Z-PRP	6.000	V.L.

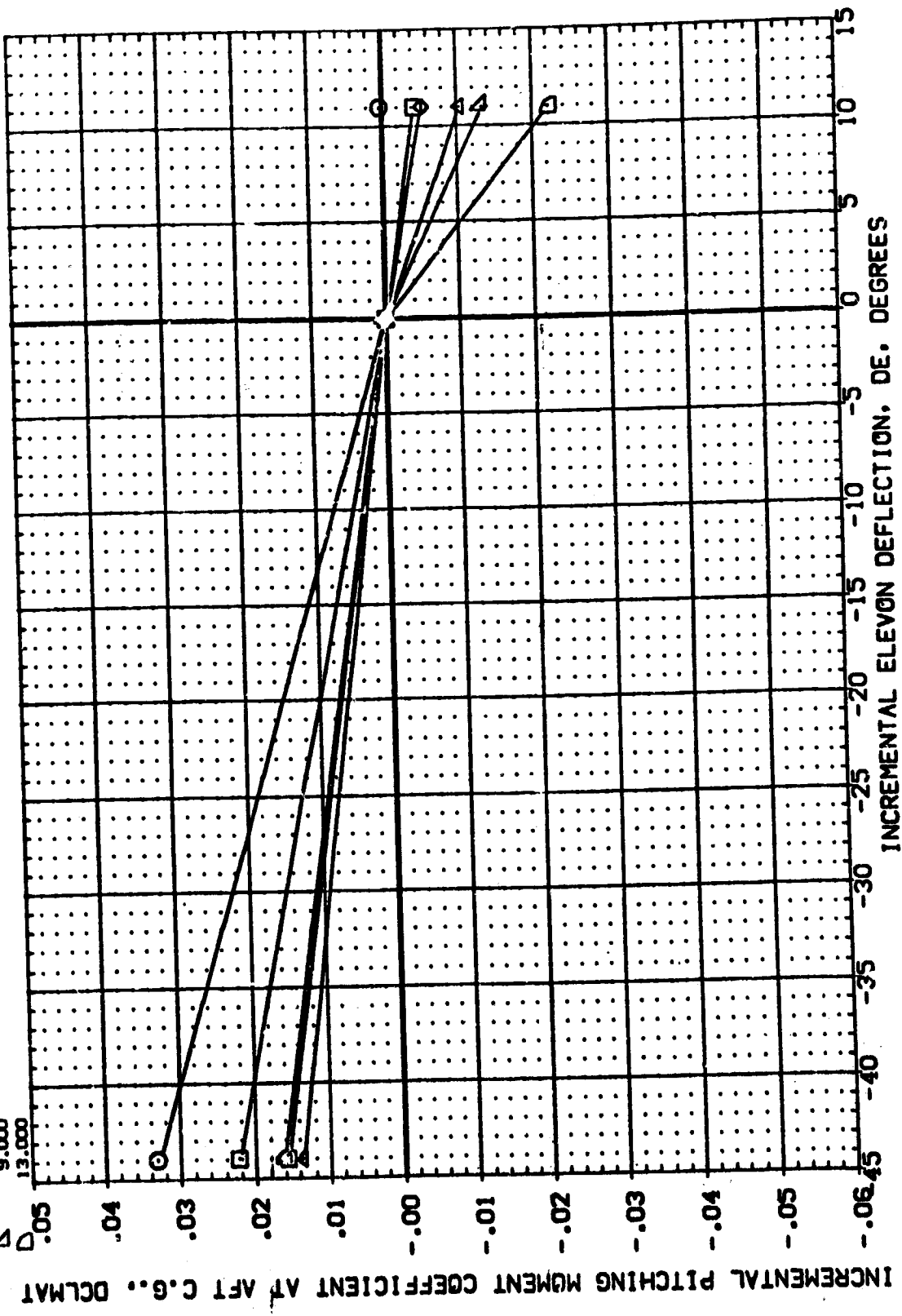


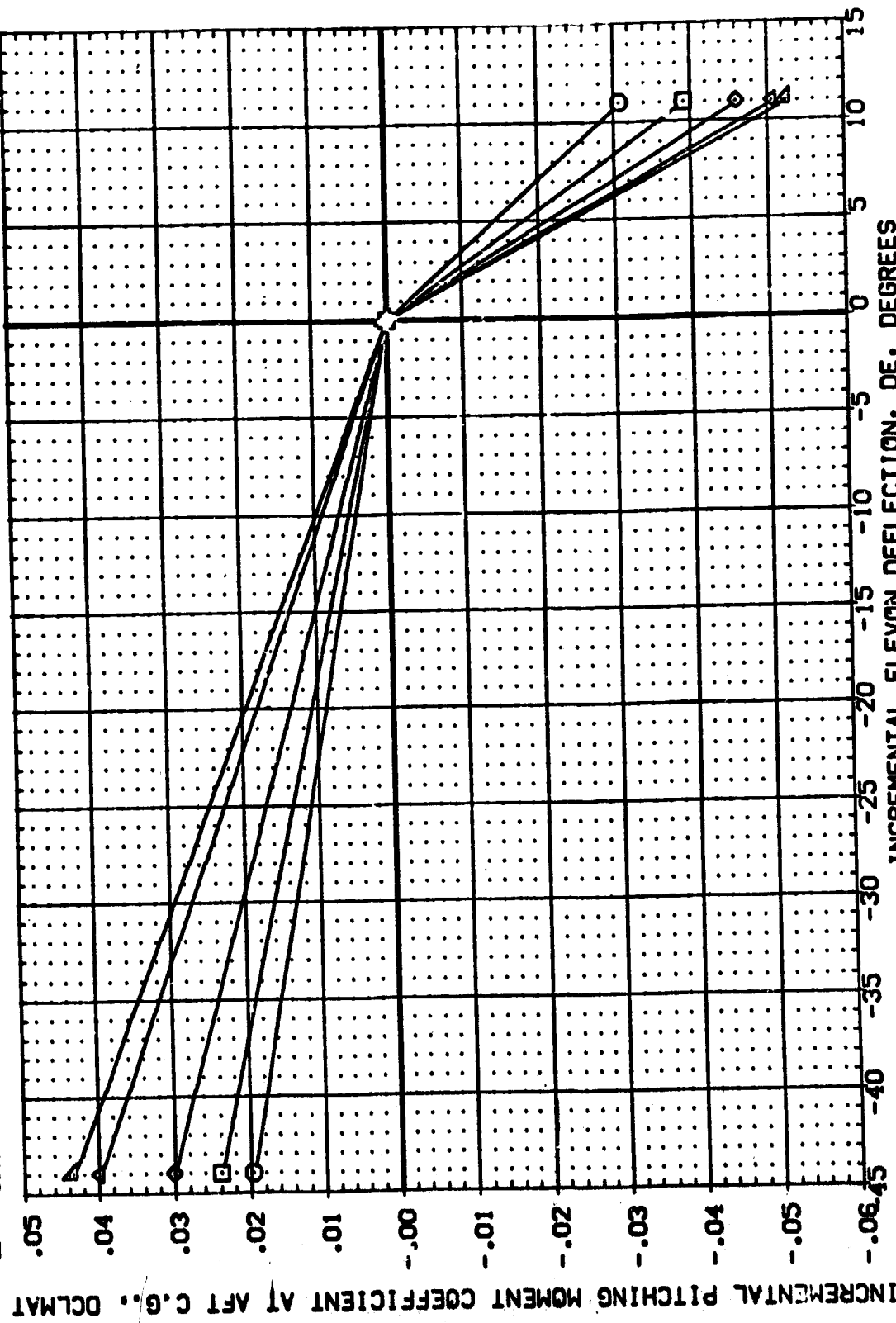
FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY021)

PARAMETRIC VALUES
 MACH 7.300
 BFLAP -14.250
 RUDDER .000
 SPOBRK 54.920
 DATASET DE -44.000
 DATA SOURCE EBY021
 DATASET DE 11.000

REFERENCE INFORMATION
 GORSO 6050
 LREF 7.1220
 XREF 14.0500
 YTRP 12.5770
 ZTRP .0000
 V.L. 6.0000
 SCALE .0150

SYMBOL
 ○
 □
 △
 ◇
 ▲



INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT

INCREMENTAL ELEVON DEFLECTION, DE. DEGREES

FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

SYMBOL
 □ □ □ □
 ◇ ◇ ◇ ◇
 △ △ △ △
 ▽ ▽ ▽ ▽
 1.1
 1.0
 .9
 .8
 .7
 .6
 .5
 .4
 .3
 .2
 .1
 .0
 -.1

ALPHA
 27.000
 29.000
 31.000
 33.000
 37.000
 40.000

MACH
 7.300
 7.300
 7.300
 7.300
 7.300

BOFLAP
 -14.250
 -14.250
 -14.250
 -14.250
 -14.250

RUDDER
 .000
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 BETA
 54.920
 54.920
 54.920
 54.920
 54.920

DATA SOURCE
 DATASET DE
 HBY019
 HBY019
 HBY019
 HBY019

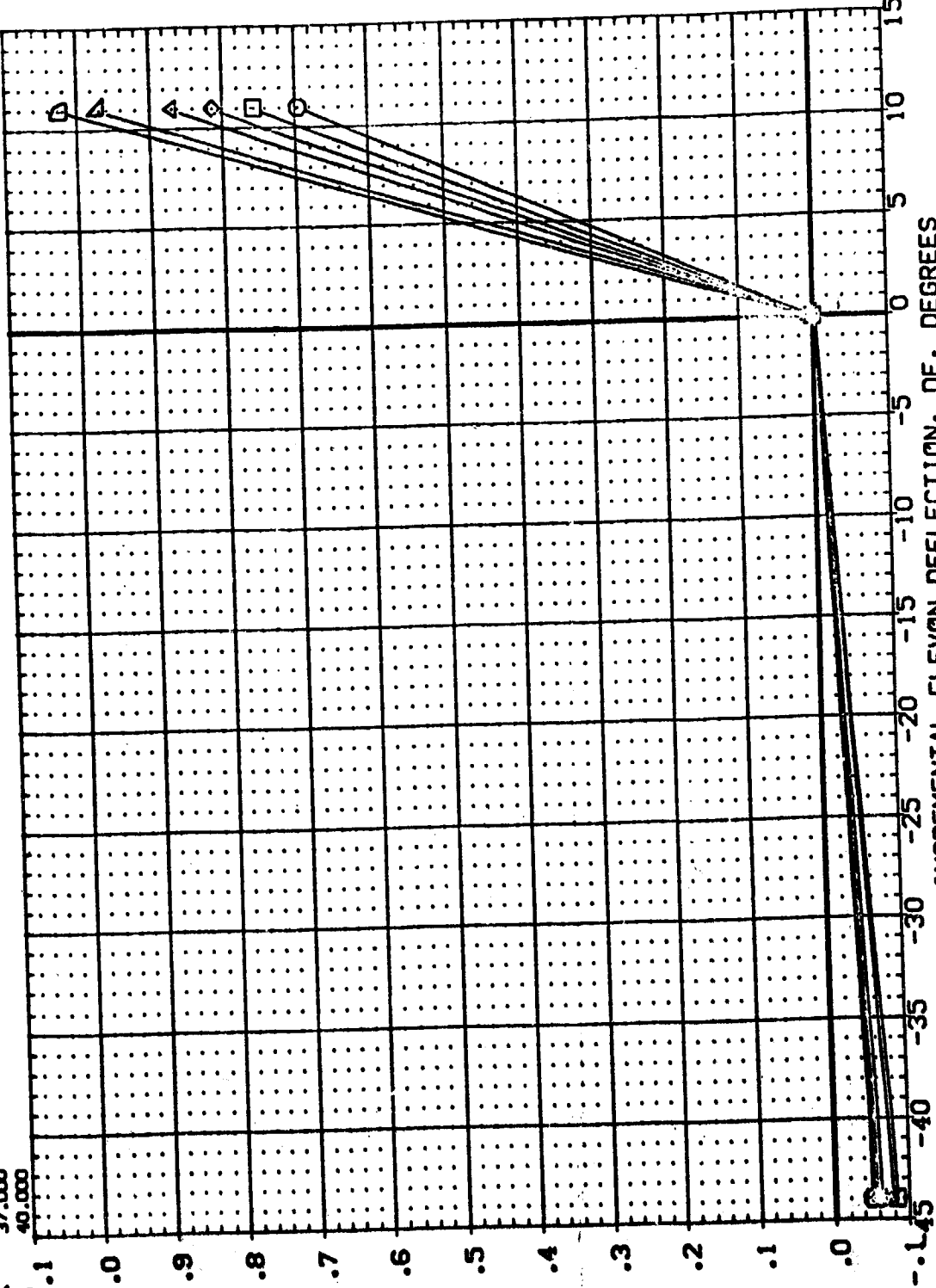
DE
 -44.000
 -44.000
 -44.000
 -44.000

DE
 .000
 .000
 .000
 .000

SREF
 LREF
 XMRP
 YMRP
 ZMRP
 SCALE

SO.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.

.6050
 7.1220
 14.0500
 12.5770
 .0000
 6.0000
 .0150



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION			
□	ALPHA	43.000	MACH	.000	DATASET	DE	SREF	.6050	SO.FT.
○	48.000	BOFLAP	7.300	BETA	HBY016	.000	LREF	7.1220	IN.
◇	52.000	RUDDER	-14.250	SPOBRK	HBY019		EREF	14.0500	IN.
			.000		EBY022		XTRP	12.5770	IN.
							YTRP	0.0000	IN.
							ZTRP	6.0000	V.L.
							SCALE	.0150	

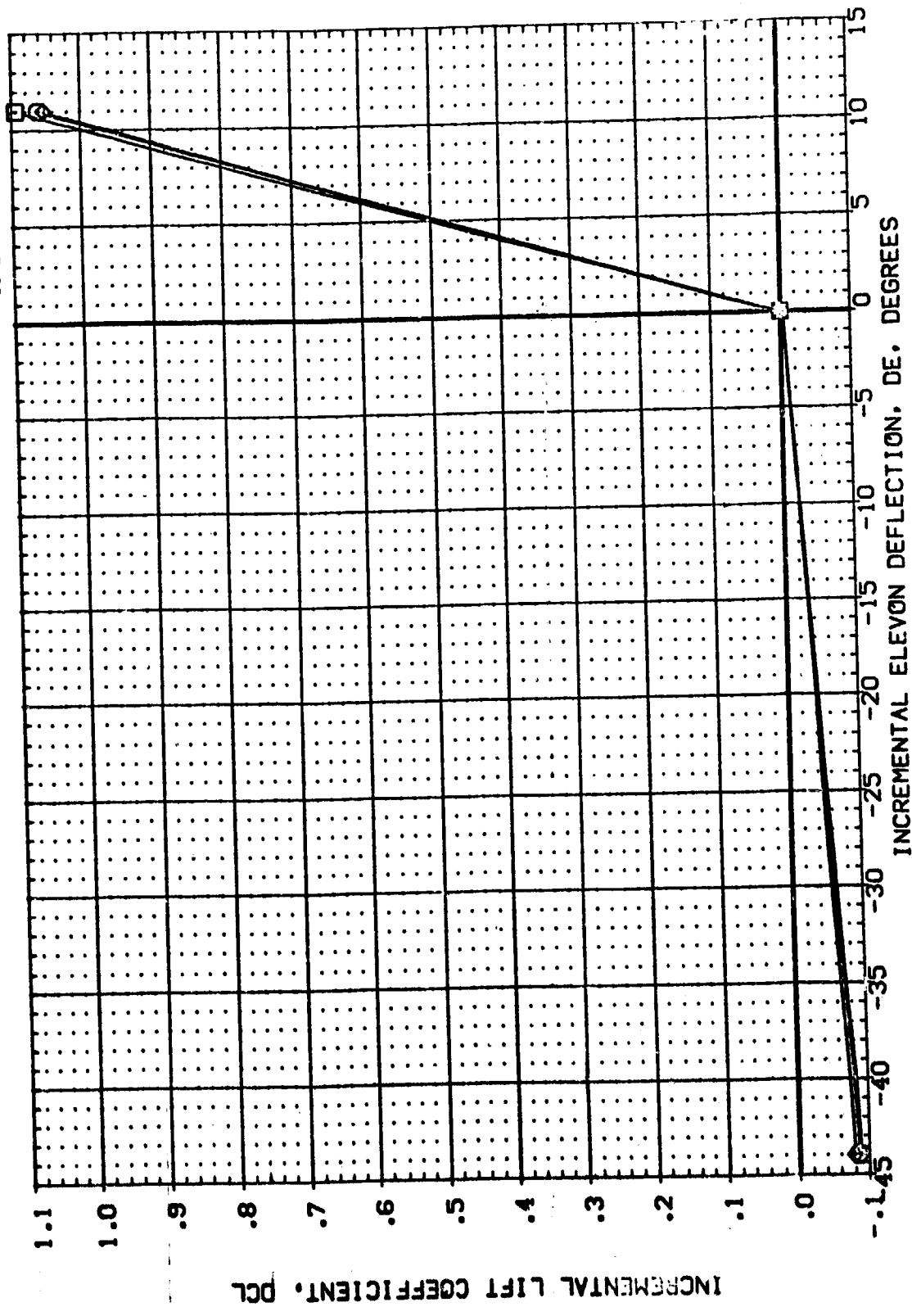


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBV019)

REFERENCE INFORMATION
 .6050 SQ.FT.
 7.1220 IN.
 14.0500 IN.
 12.5770 IN.
 .0000 IN.
 6.0000 IN.
 .0150 V.L.

SREF LREF
 XREF YREF
 ZREF SCALE

DATA SOURCE
 DE HBV016
 DE .000

PARAMETRIC VALUES
 MACH 7.300
 BETA -14.250
 SPDRK .000

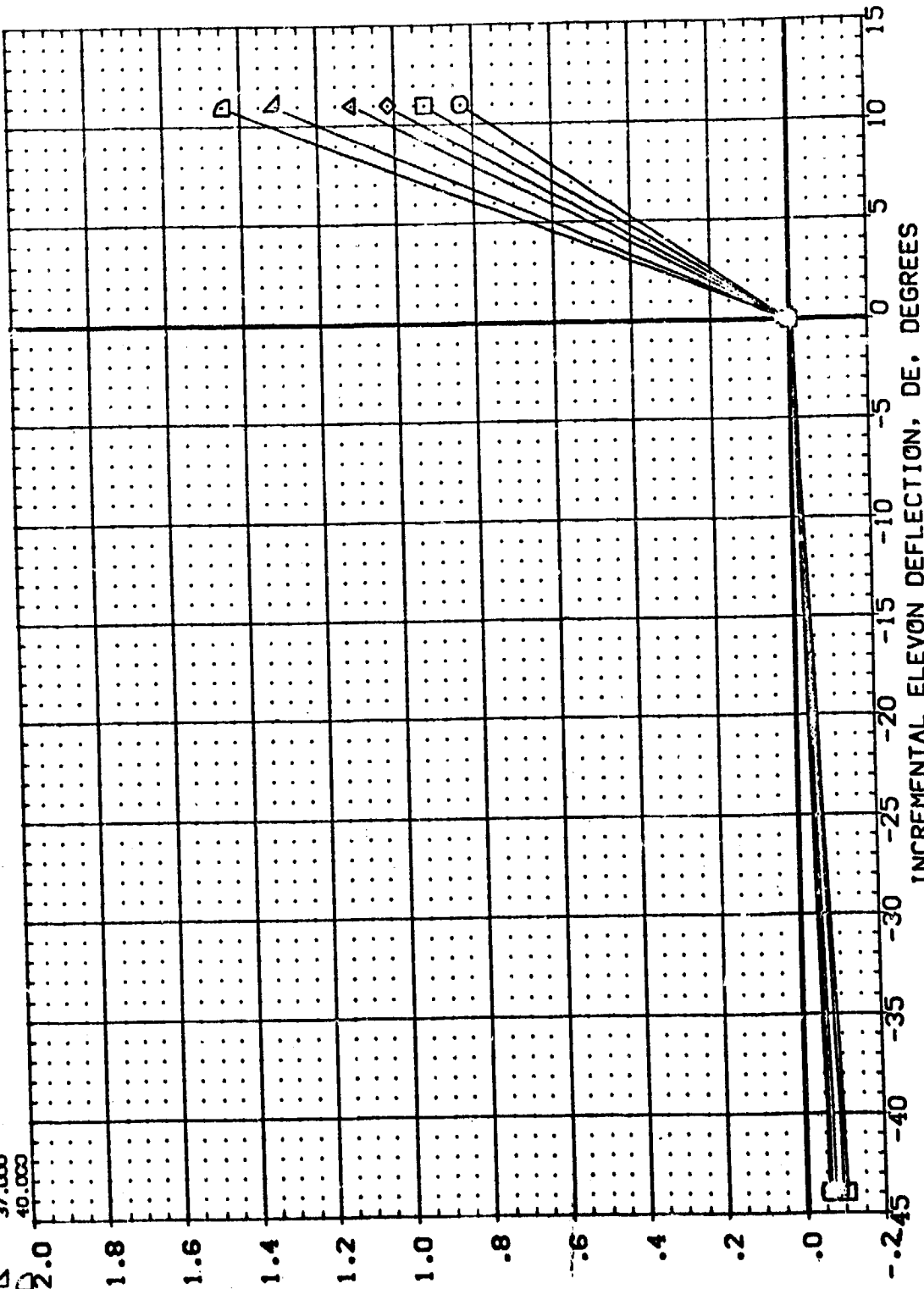
DATA SOURCE
 DE HBV019
 DE -44.000
 DE EBV022
 DE 11.000

PARAMETRIC VALUES
 MACH 7.300
 BETA -14.250
 SPDRK .000

DATA SOURCE
 DE HBV019
 DE -44.000
 DE EBV022
 DE 11.000

PARAMETRIC VALUES
 MACH 7.300
 BETA -14.250
 SPDRK .000

DATA SOURCE
 DE HBV019
 DE -44.000
 DE EBV022
 DE 11.000



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES
 INCREMENTAL NORMAL FORCE COEFFICIENT, DCN
 FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

(HBY019)

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5)

REFERENCE INFORMATION
 SO.FT. IN.
 6050 7.1220
 14.0500
 12.5770
 .0000
 6.0000
 .0150

SREF
 LBREF
 XMRP
 YMRP
 ZMRP
 SCALE

DATA SOURCE
 DE HBY016

DE -44.000
 11.000

DATA SOURCE
 DE HBY019
 EBY022

DE 54.920
 11.000

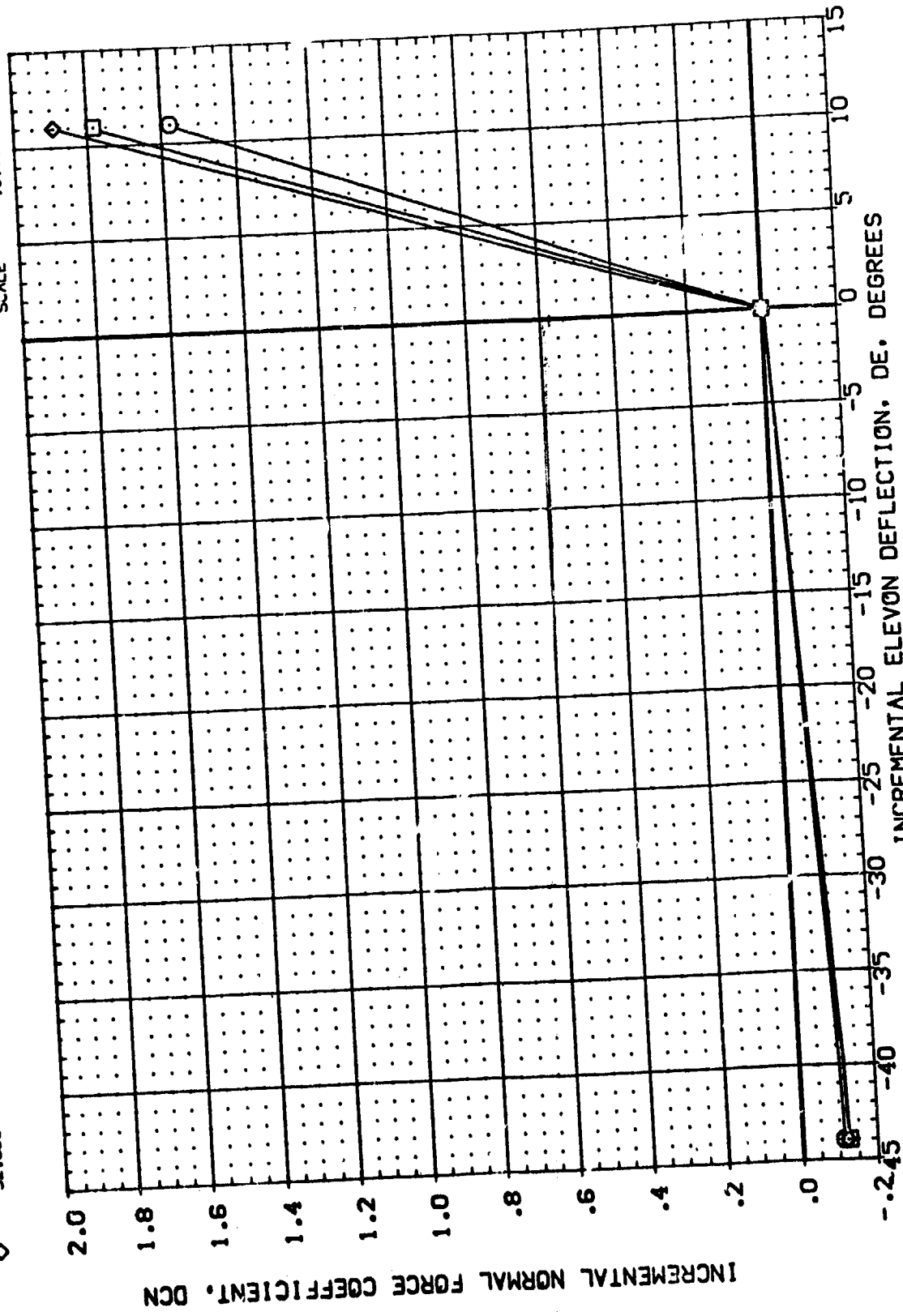
PARAMETRIC VALUES
 BETA
 SPOBRK

7.300
 -14.250
 .000

MACH
 BDFLAP
 RUDDER

43.000
 48.000
 52.000

SYMBOL
 □
 ◇



INCREMENTAL NORMAL FORCE COEFFICIENT, DCN

INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

REFERENCE INFORMATION
 SQ. FT.
 IN.
 IN.
 IN.
 IN.
 V.L.
 SREF 6.050
 LREF 7.1220
 RREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150

DATA SOURCE
 DE HBY016
 DE .000

PARAMETRIC VALUES
 BETA 7.300
 SPOBRK -14.250
 .000

DATA SOURCE
 DE HBY019
 DE -44.000
 DE 11.000

PARAMETRIC VALUES
 BETA 54.920
 SPOBRK 54.920
 .000

DATA SOURCE
 DE HBY022
 DE -11.000

SYMBOL
 ○
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 ◇
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 P

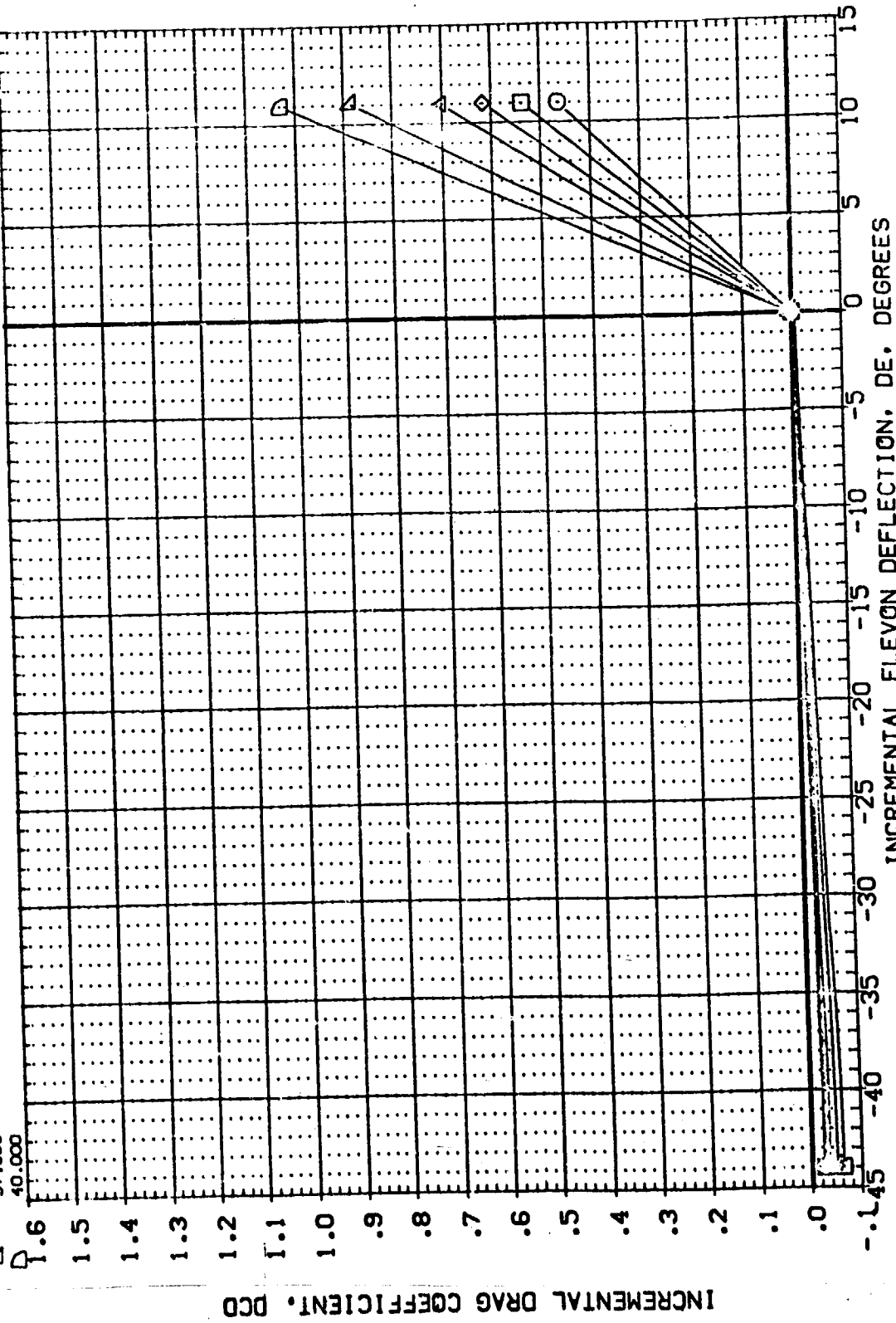


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

SYMBOL		PARAMETRIC VALUES		DATA SOURCE		DATASET DE		SREF		REFERENCE INFORMATION	
○	ALPHA	7.300	BETA	.000	DE	.000	DE	LREF	.6050	SO.FT.	IN.
□	MACH	-14.250	SPDRK	54.920	DE	-44.000	DE	BREF	7.1220	IN.	IN.
◇	BDFLAP	.000		11.000				XMRP	14.0500	IN.	IN.
	RUDDER							YMRP	12.5770	IN.	IN.
								ZMRP	6.0000	IN.	V.L.
								SCALE	.0150		

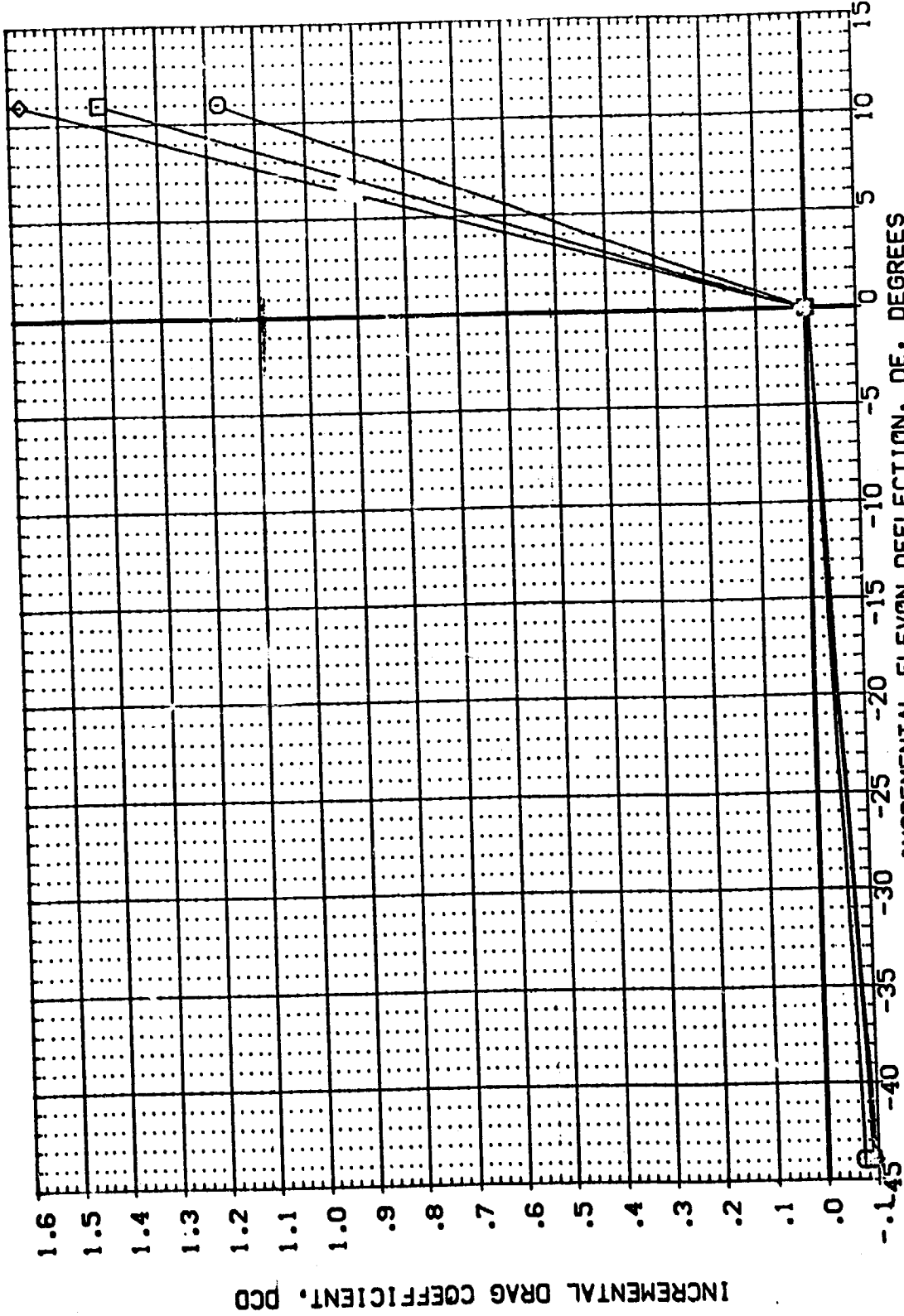


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

ALPHA	27.000	MACH	7.300	PARAMETRIC VALUES	.000	DATA SOURCE	DE	DATASET	DE	SREF	SO.FT.
BFLAP	29.000	BETA	-14.250	BETA	HBY019	HBY016	-44.000	HBY016	.000	LREF	7.1220
RUDDER	31.000	SPOBRK	.000	SPOBRK	EBYZZ	EBYZZ	11.000			BREF	14.0500
	33.000									XTRP	12.5770
	37.000									YTRP	.0000
	40.000									ZTRP	6.0000
										SCALE	.0150

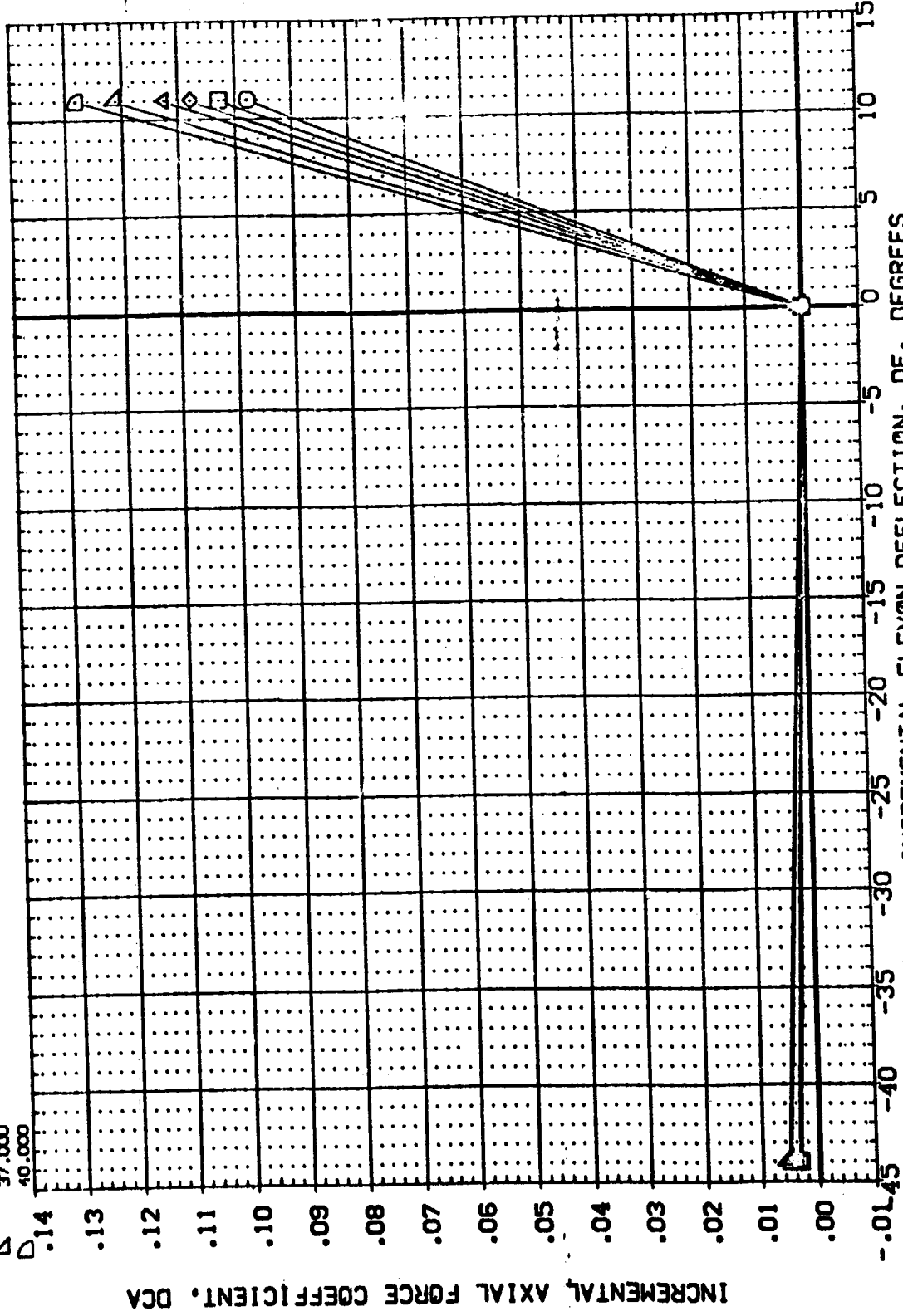


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

SYMBOL	ALPHA	MACH	BOFLAP	RUDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	SREF	SO.FT.
○	43.000	7.300	BETA	SPDRK	.000	HBY019	.000	LREF	7.1270	IN:
□	48.000	-14.250	SPOBRK	51.920	-44.000	EBY022	11.000	BREF	14.0500	IN:
◇	52.000	.000			11.000			XMRP	12.5770	IN:
								ZMRP	.0000	V.L.
								SCALE	6.0000	
									.0150	

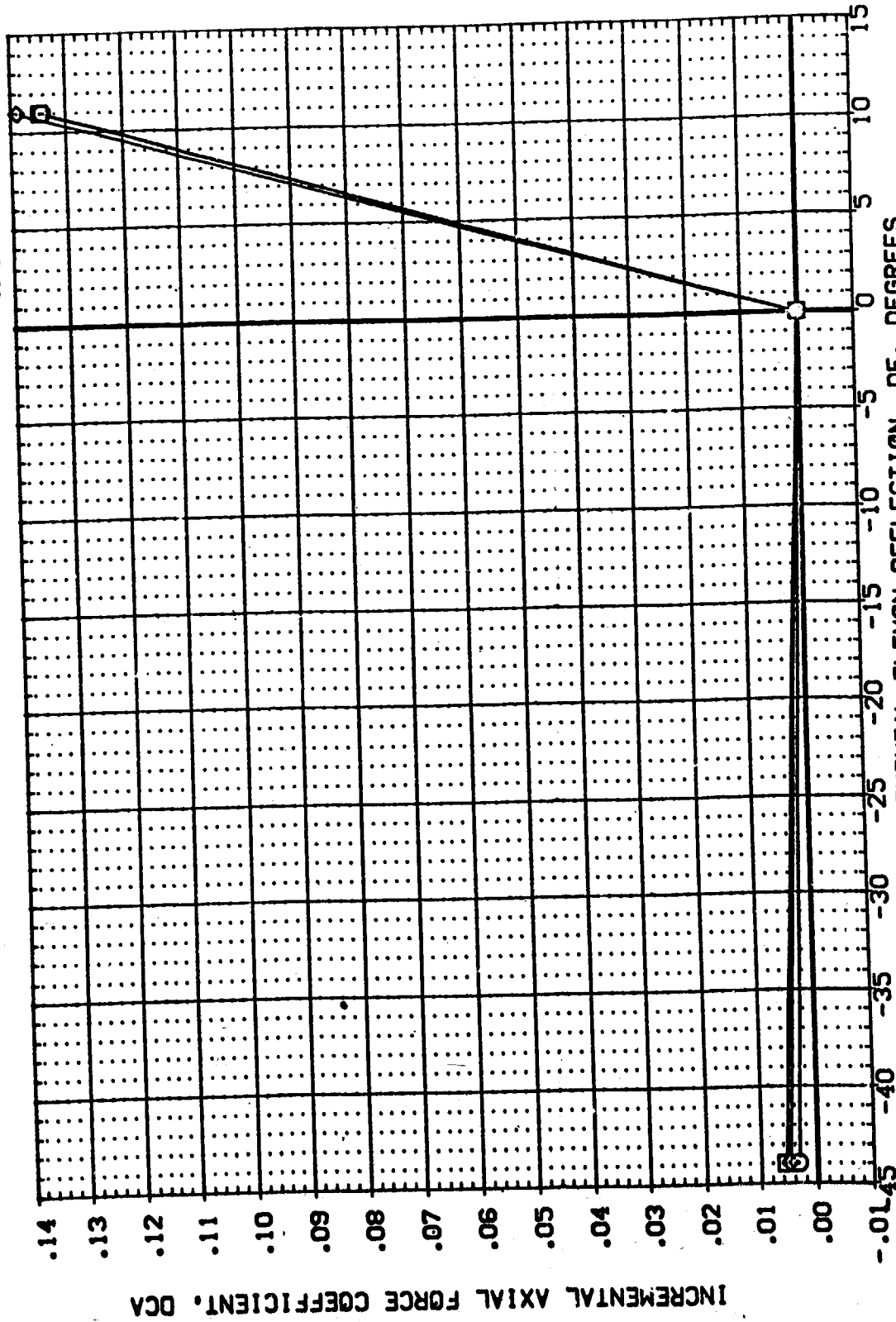


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBV019)

REFERENCE INFORMATION
 SO.FT.
 IN: 6050
 IN: 7.1220
 IN: 14.0500
 IN: 12.5770
 IN: .0000
 V.L. 6.0000
 .0150

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

DATA SOURCE
 DE .000
 HBV016

PARAMETRIC VALUES
 MACH 7.300
 BETA SPOBRK -14.250
 RUCZER .000

.000 DATASET DE
 54.920 HBV019
 11.000 EBY022

ALPHA
 27.000
 29.000
 31.000
 33.000
 37.000
 40.000

SYMBOL
 ○
 □
 ◇
 △
 ▽
 ▽

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

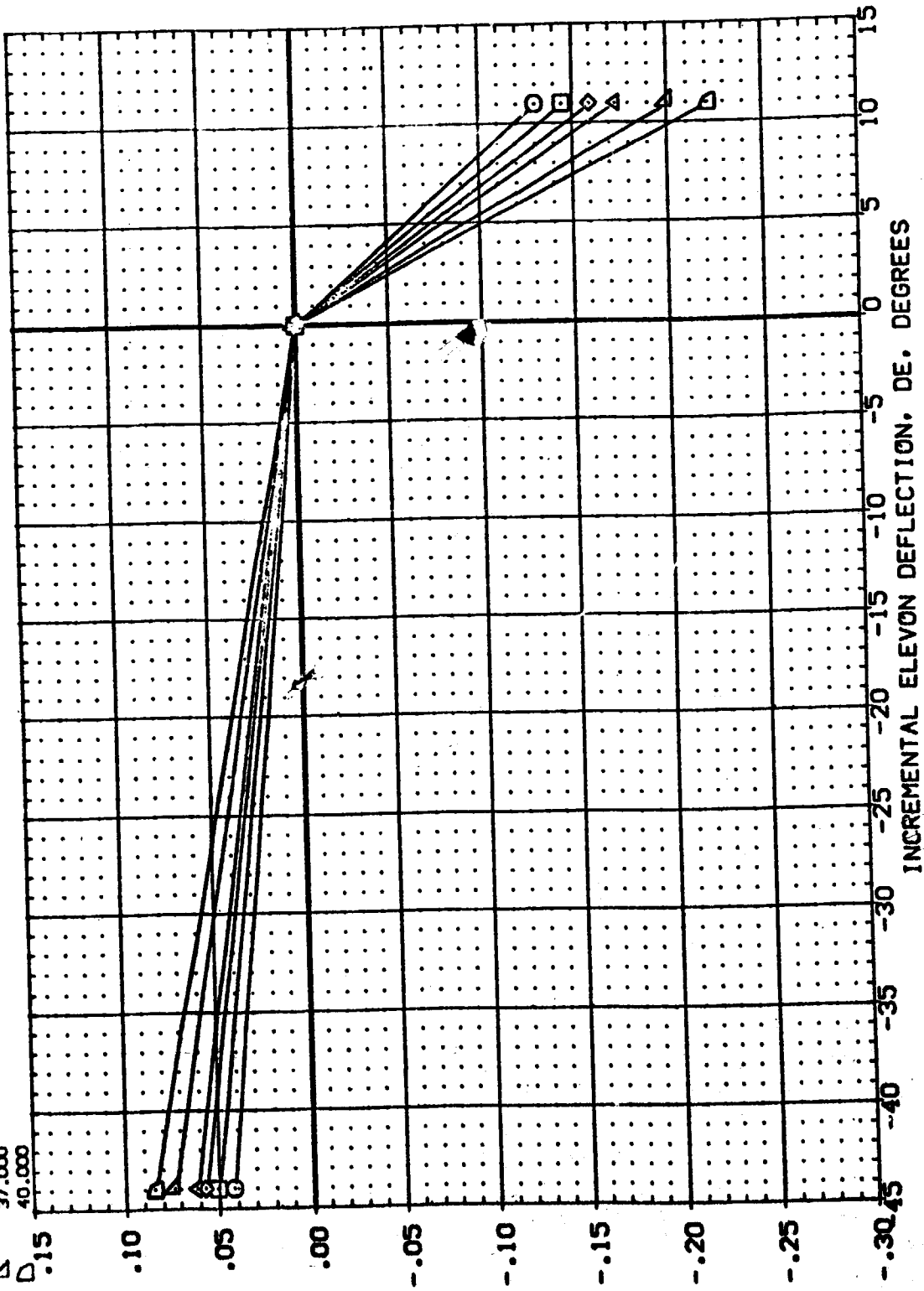


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

DATA SOURCE
 DE M8Y016

DE DATASET
 DE M8Y019
 DE EBY022

PARAMETRIC VALUES
 BETA 7.300
 SPORBK -14.250
 .000

MACH 80FLAP
 RLODER

ALPHA 43.000
 48.000
 52.000

SYMBOL
 □
 ○
 ◇

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMPD

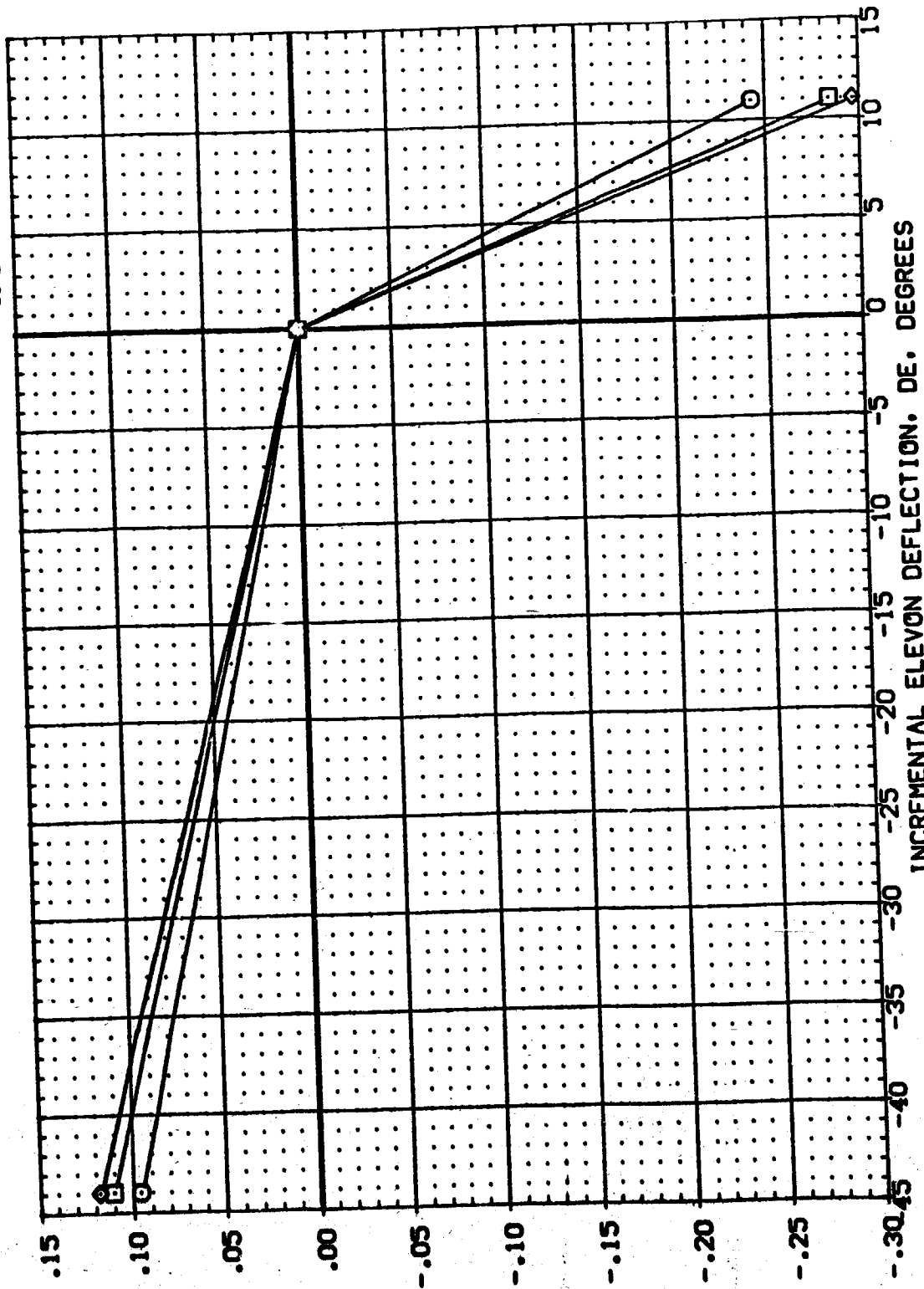


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

REFERENCE INFORMATION
 SQ. FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. 6.0000
 .0150

DATA SOURCE
 DATASET DE HBY016
 DATASET DE HBY019
 DATASET DE EB022
 DATASET DE -44.000
 DATASET DE 11.000

PARAMETRIC VALUES
 BETA 7.300
 SPOBRK -14.250
 SPOBRK .000

MACH 7.300
 BDFLAP -14.250
 RUDDER .000

ALPHA
 27.000
 29.000
 31.000
 33.000
 37.000
 40.000

SYMBOL

□
 ◇
 △
 ▽
 ○

INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT

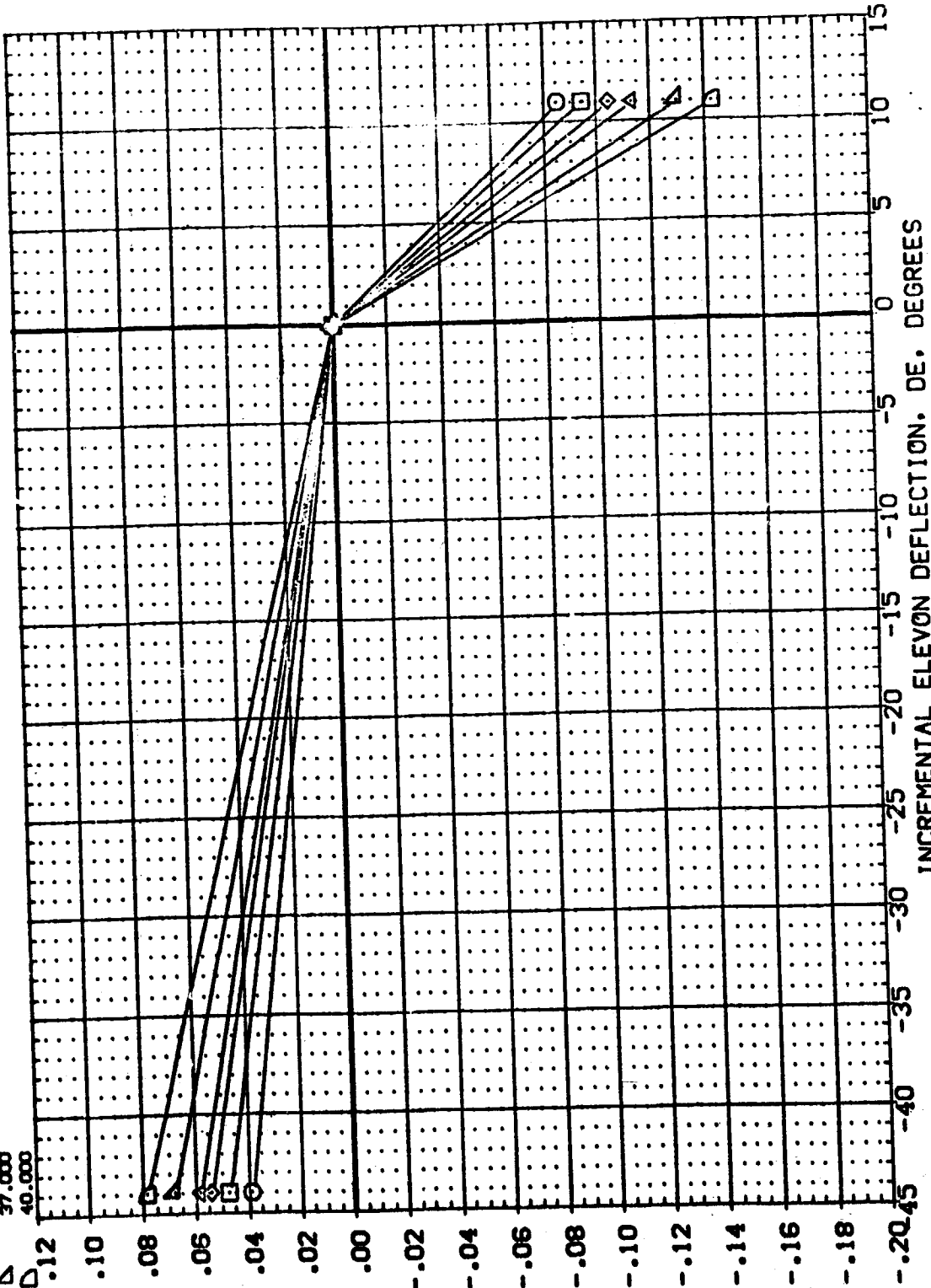


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (HBY019)

SYMBL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DE	REF	SO.FT.
○	43.000		7.300 BETA	.000	HBY019	.000	SREF	.6050
□	48.000		-14.250 SPOBRK	54.920	HBY019	-44.000	LREF	7.1220
◇	52.000		.000 RUDDER	11.000	EBY022	11.000	BREF	14.0500
							XTRP	12.5770
							YTRP	.0000
							ZTRP	6.0000
							SCALE	.0150
								V.L.

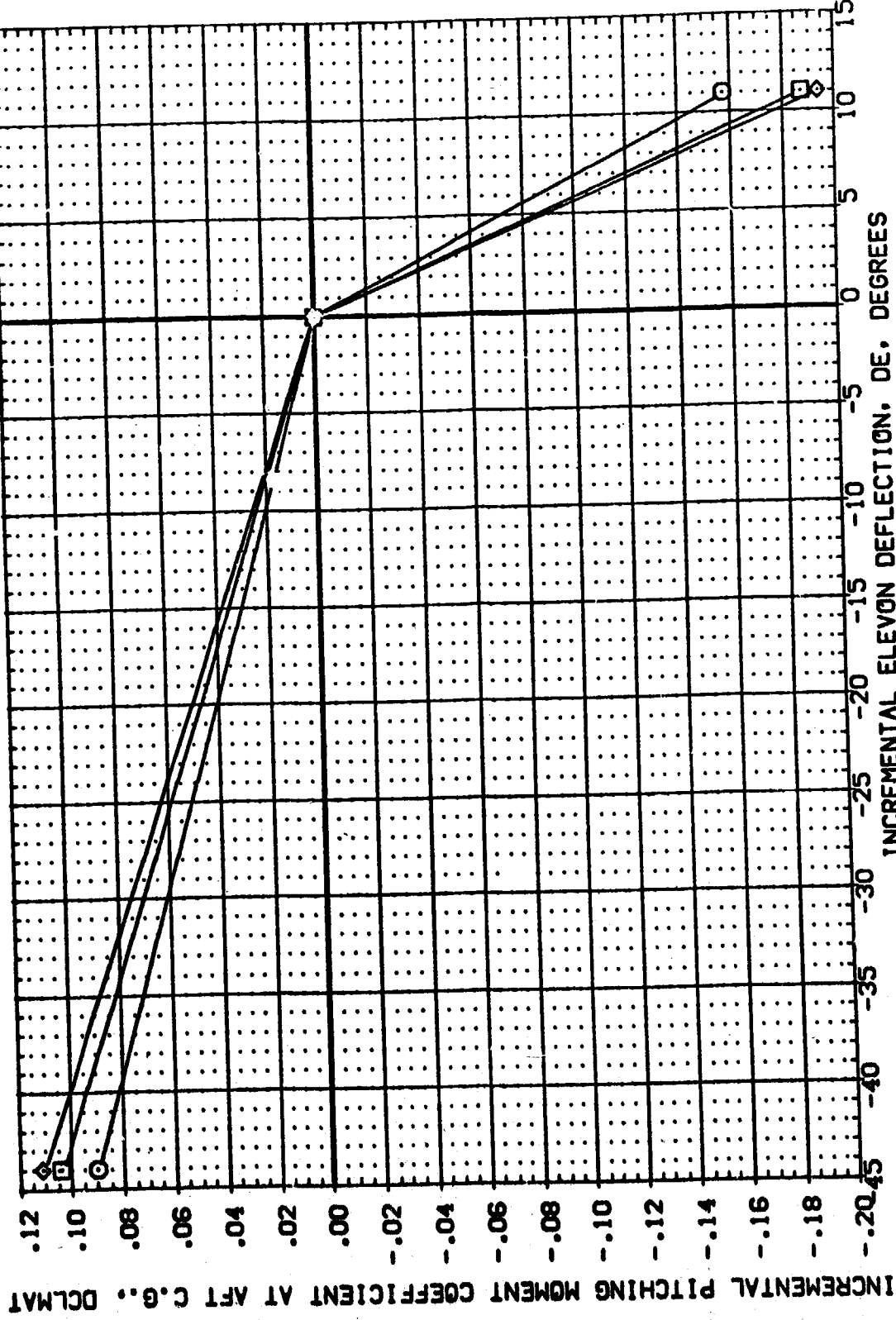


FIG. 10 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 7.3

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY020)	AVES 3.5-163 OA58 (B17C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	SREF
(BBY017)	AVES 3.5-163 OA58 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF
(BBY023)	AVES 3.5-163 OA58 (B17C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	BREF
						XTRP
						YTRP
						ZTRP
						SCALE
						SQ.FT.
						IN.
						IN.
						IN.
						V.L.

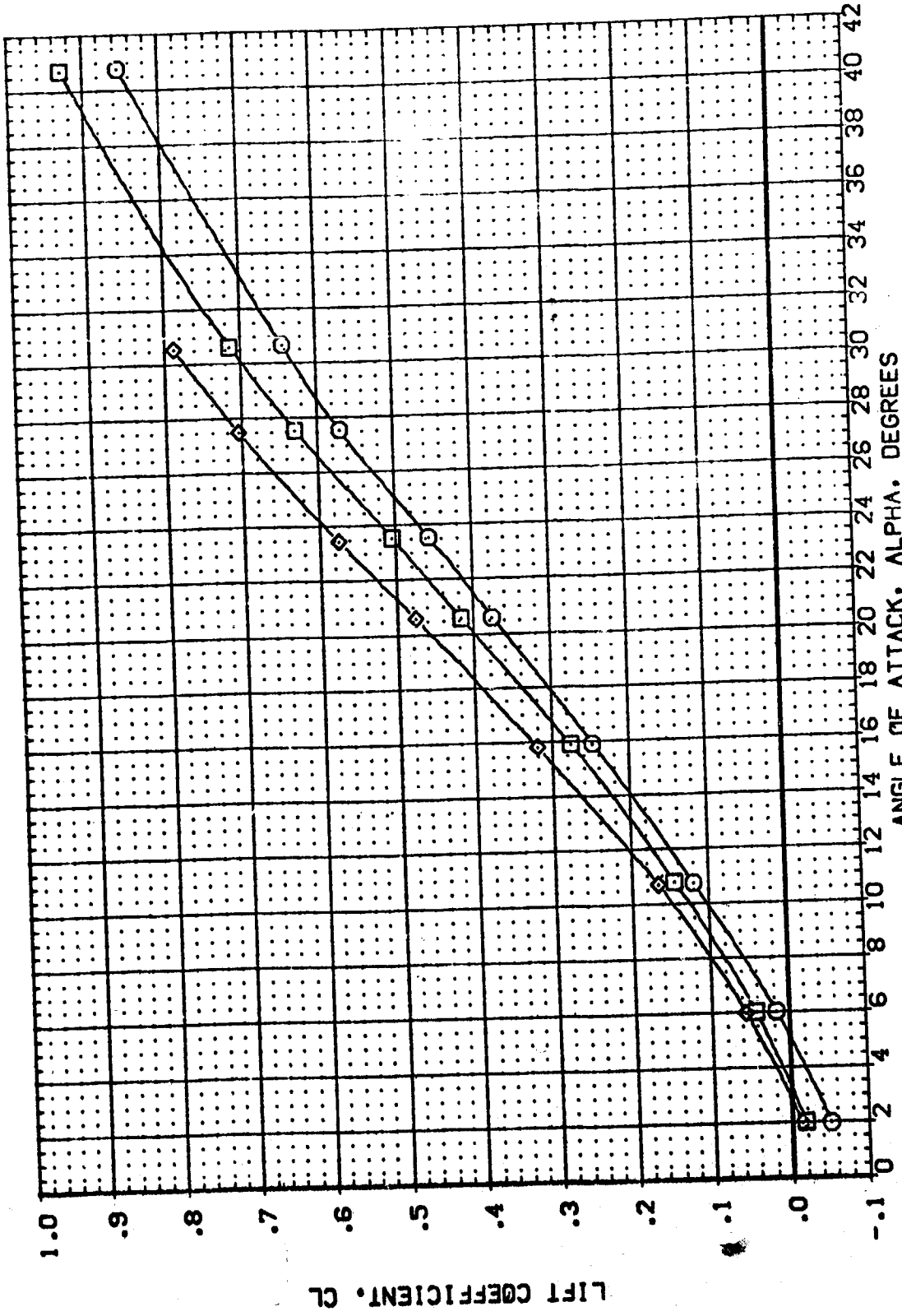


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA ELEVON BOFLAP SPOBRK
 .000 -44.000 54.920
 .000 .000 -14.250
 .000 11.000 13.750
 54.920
 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BB7020) AVES 3-5-163 QAS8 (B17C7M4F5)(V103E22)(V7RS)
 (BB7017) AVES 3-5-163 QAS8 (B17C7M4F5)(V103E22)(V7RS)
 (BB7023) AVES 3-5-163 QAS8 (B17C7M4F5)(V103E22)(V7RS)

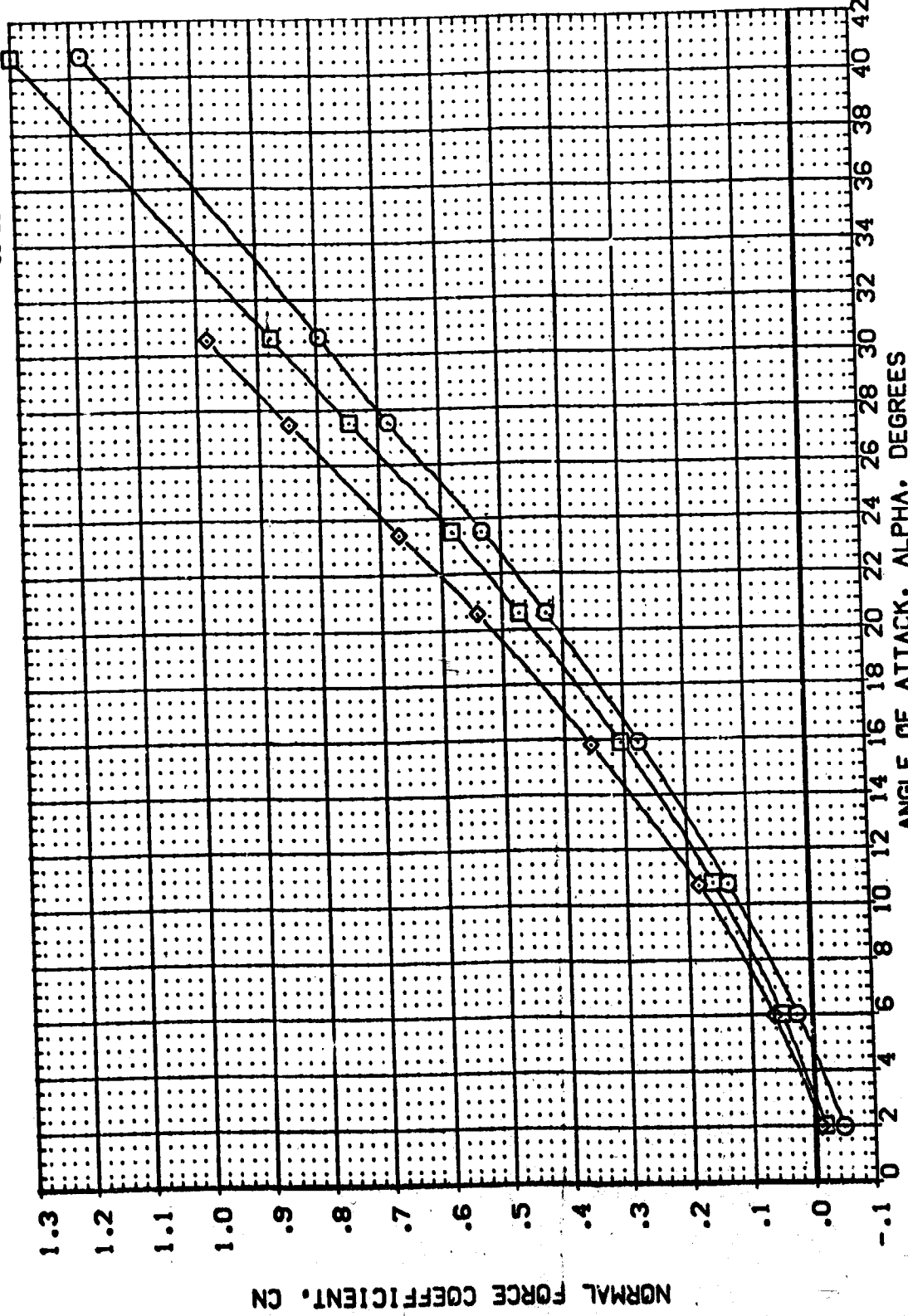


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

BETA .000
 .000
 .000
 11.000
 .000

ELEVON -44.000
 .000
 .000
 11.000
 .000

BOFLAP -14.250
 -14.250
 13.750

SPOBRK 54.920
 54.920
 54.920

CONFIGURATION DESCRIPTION
 AVES 3.5-163 DASS (B17C7MFS)(V103E22)(V7RS)
 AVES 3.5-163 DASS (B17C7MFS)(V103E22)(V7RS)
 AVES 3.5-163 DASS (B17C7MFS)(V103E22)(V7RS)

DATA SET SYMB.
 (BBY020)
 (BBY017)
 (BBY023)

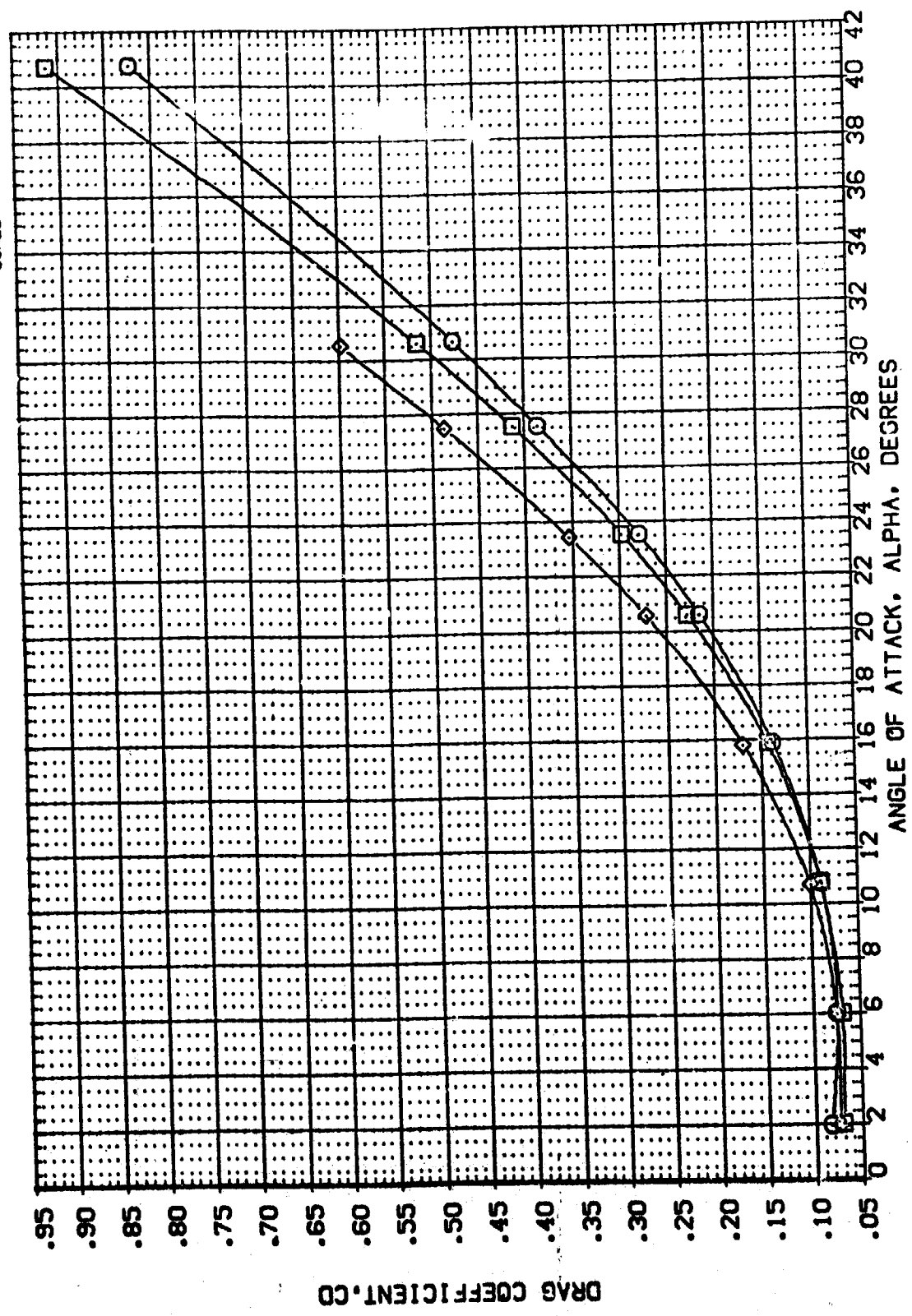


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY020)	AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	6050
(BBY017)	AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	7.1220
(BBY023)	AVES 3.5-163 0A58 (817C7M4FS)(V103E22)(V7RS)	.000	11.000	13.750	54.920	14.0500
						12.5770
						.0000
						6.0000
						.0150

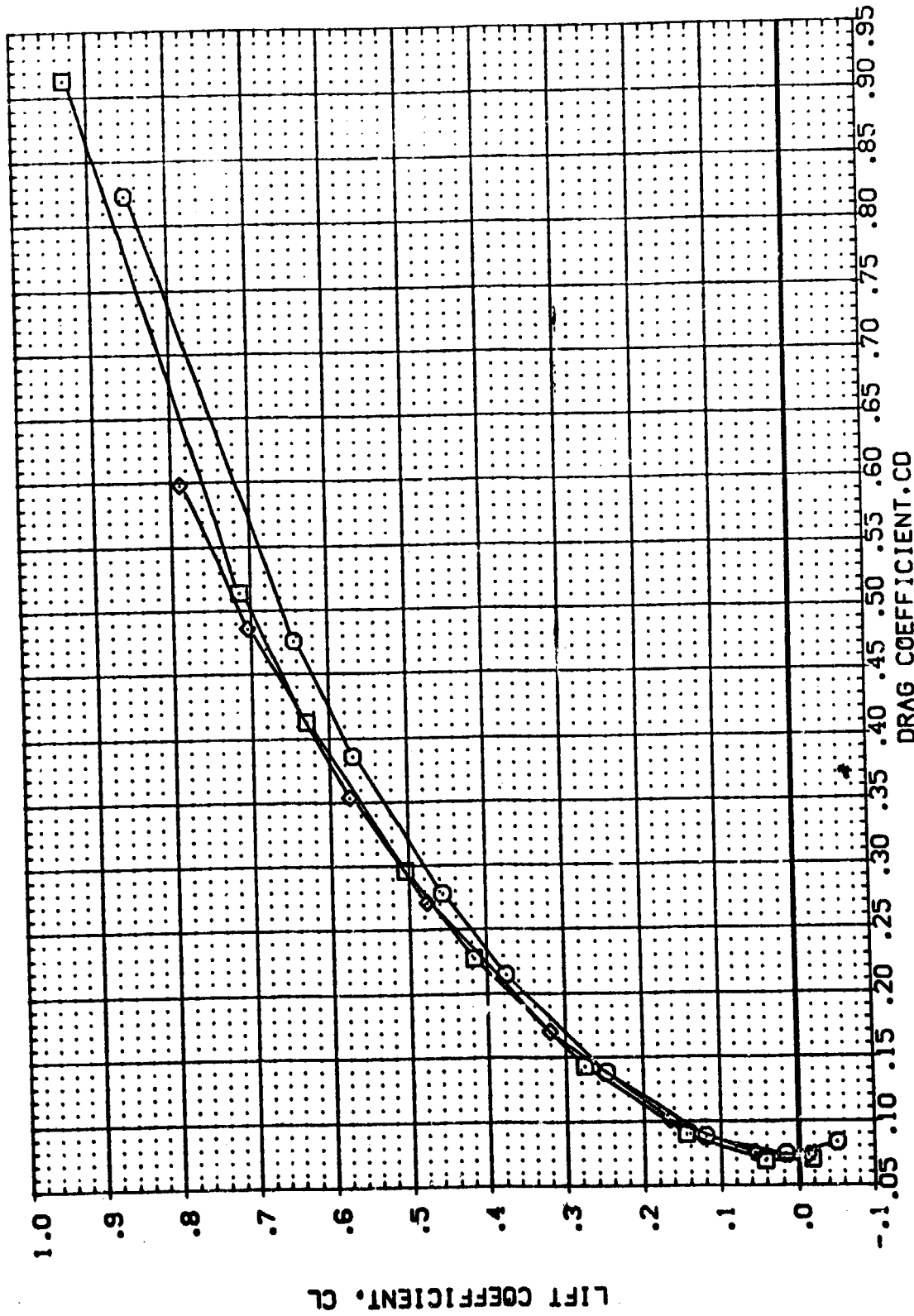


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMB.	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY020)	AMES 3-5-163 OASB (817C7MFS)(V103E22)(V1RS)	.000	-44.000	-14.250	54.920	SREF
(BBY017)	AMES 3-5-163 OASB (817C7MFS)(V103E22)(V1RS)	.000	.000	-14.250	54.920	LREF
(BBY023)	AMES 3-5-163 OASB (817C7MFS)(V103E22)(V1RS)	.000	11.000	13.750	54.920	BREF
						XMRP
						YMRP
						ZMRP
						SCALE
						6050
						7.1200
						14.0500
						12.5770
						.0000
						.0000
						6.0150
						V.L.

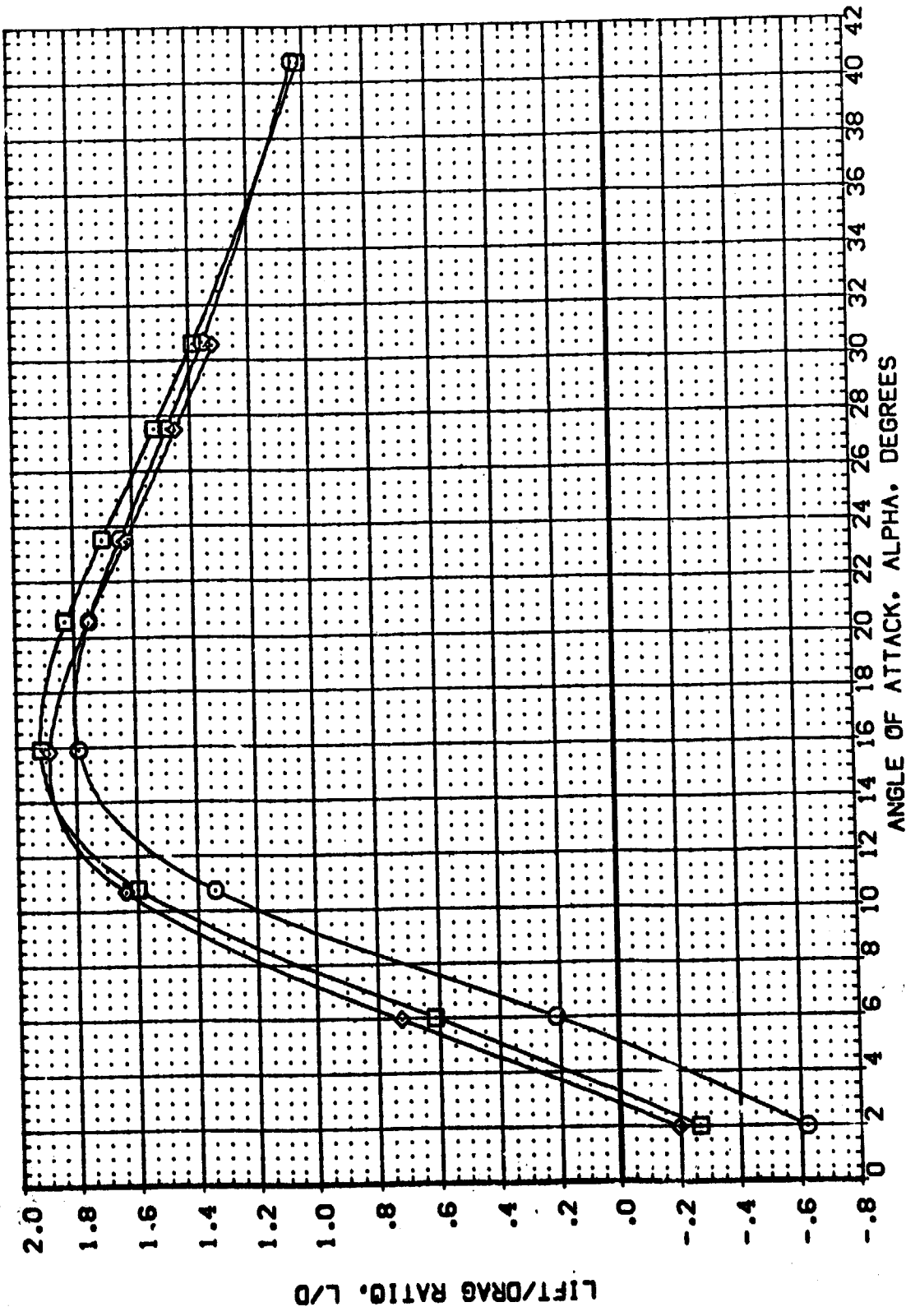


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

DATA SET SYMBOL: (BBY020), (BBY017), (BBY023)

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 OASB (817C7MFS)(V103E22)(V7RS)
 AVES 3.5-163 OASB (817C7MFS)(V103E22)(V7RS)
 AVES 3.5-163 OASB (817C7MFS)(V103E22)(V7RS)

BETA: .000, .000, .000

ELEVON: -44.000, .000, 11.000

BOFLAP: -14.250, -14.250, 13.750

SPOBRK: 54.920, 54.920, 54.920

REFERENCE INFORMATION:
 SREF: .6050 SO.FT.
 LREF: 7.1220 IN.
 BREF: 14.0500 IN.
 XMRP: 12.5770 IN.
 YMRP: .0000 IN.
 ZMRP: 6.0000 IN.
 SCALE: .0150

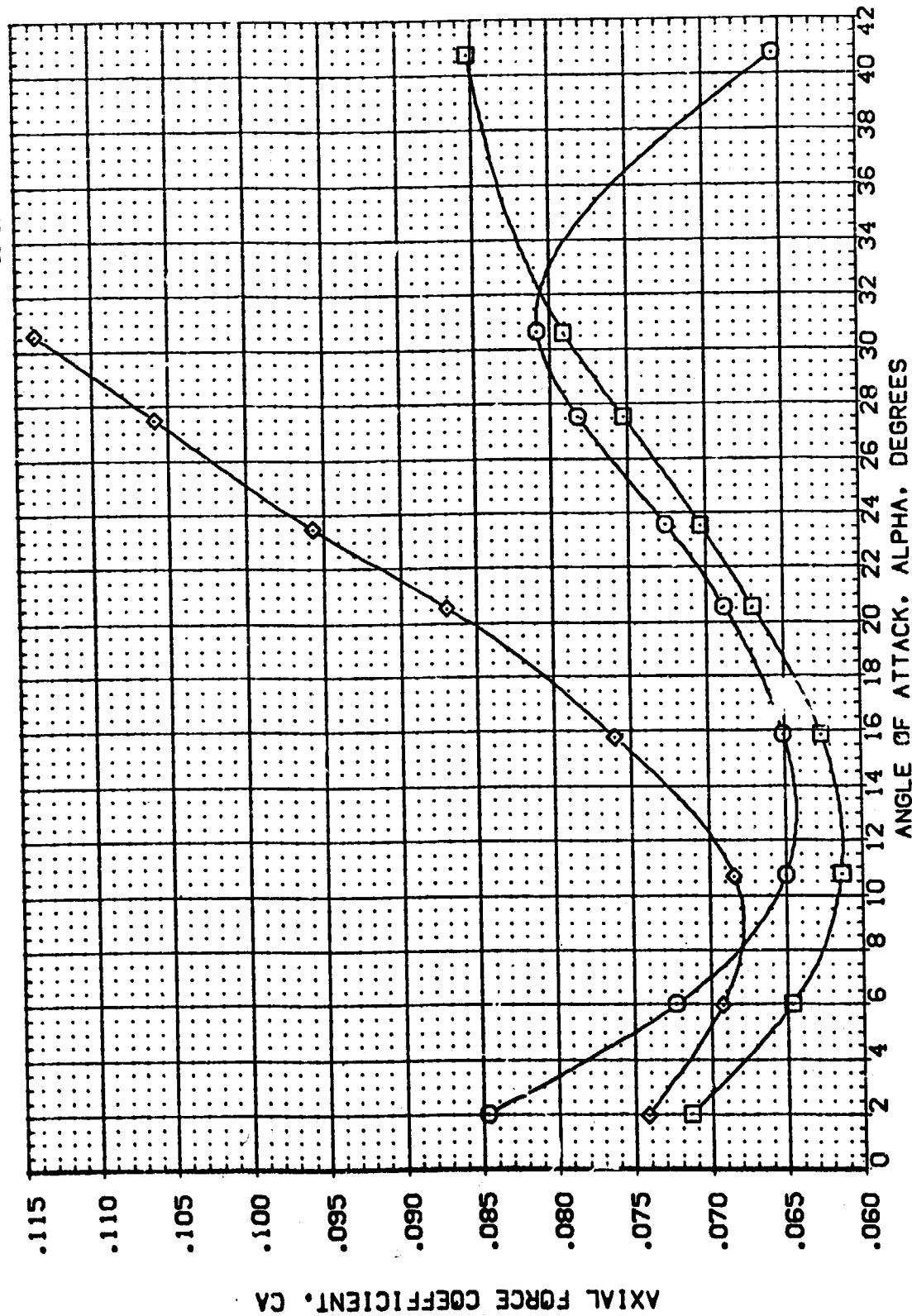


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

CA/MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SQ. FT.
 LREF 7.1220 IN.
 BREF 14.6500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

BETA ELEVON BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 .000 -14.250 54.920
 .000 11.000 13.750 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BBY020) AVES 3.5-163 D458 (B17C7MFS)(V103E22)(V7RS)
 (BBY017) AVES 3.5-163 D458 (B17C7MFS)(V103E22)(V7RS)
 (BBY023) AVES 3.5-163 D458 (B17C7MFS)(V103E22)(V7RS)

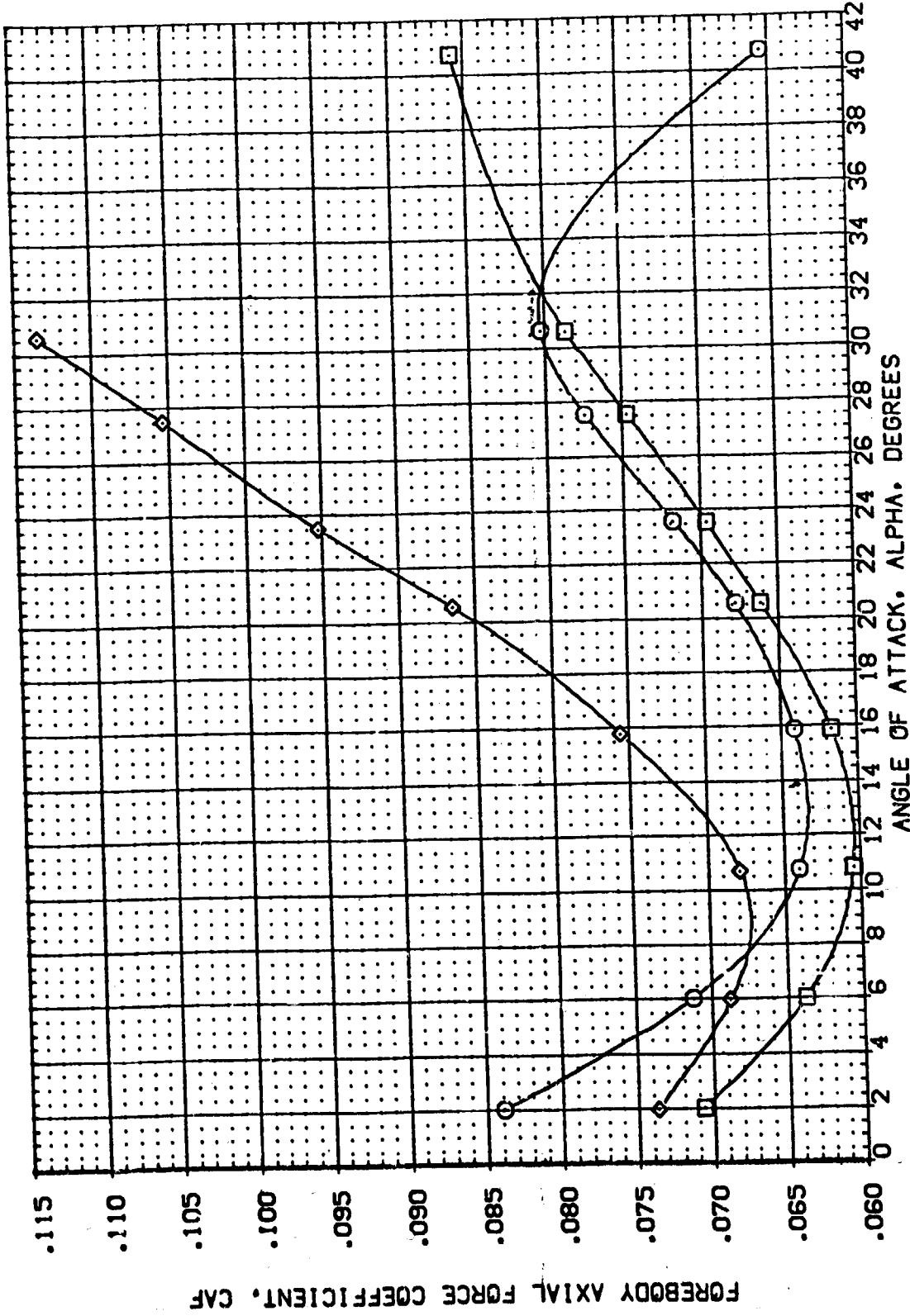


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY020)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	-44.000	-14.250	54.920	SREF 6050 SQ.FT.
(BBY017)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBY023)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	11.000	13.750	54.920	BREF 14.0500 IN.
						XPRP 12.5770 IN.
						YMRP .0000 IN.
						ZMRP 6.0150 V.L.
						SCALE

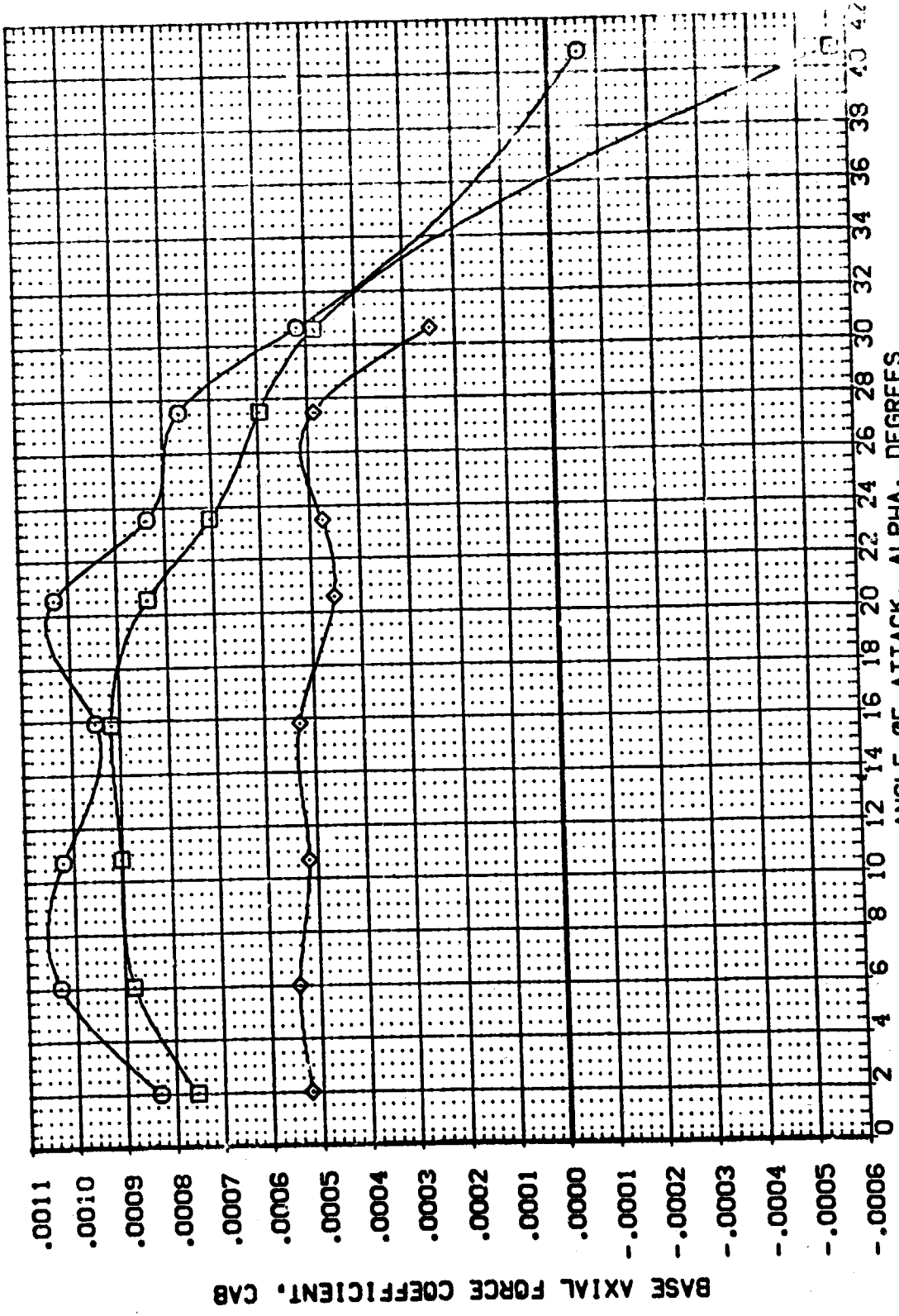


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3
(A)MACH = 10.29

REFERENCE INFORMATION
 SQ. FT. 6050
 SREF 7.1220 IN.
 LREF 14.0500 IN.
 BREF 12.5770 IN.
 XMRP 6.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA ELEVON SPOBRK
 .000 -44.000 54.920
 .000 .000 54.920
 .000 11.000 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BBY020) ASES 3.5-163 OASB (817C7M4FS)(V103E22)(V7RS)
 (BBY017) ASES 3.5-163 OASB (817C7M4FS)(V103E22)(V7RS)
 (BBY023) ASES 3.5-163 OASB (817C7M4FS)(V103E22)(V7RS)

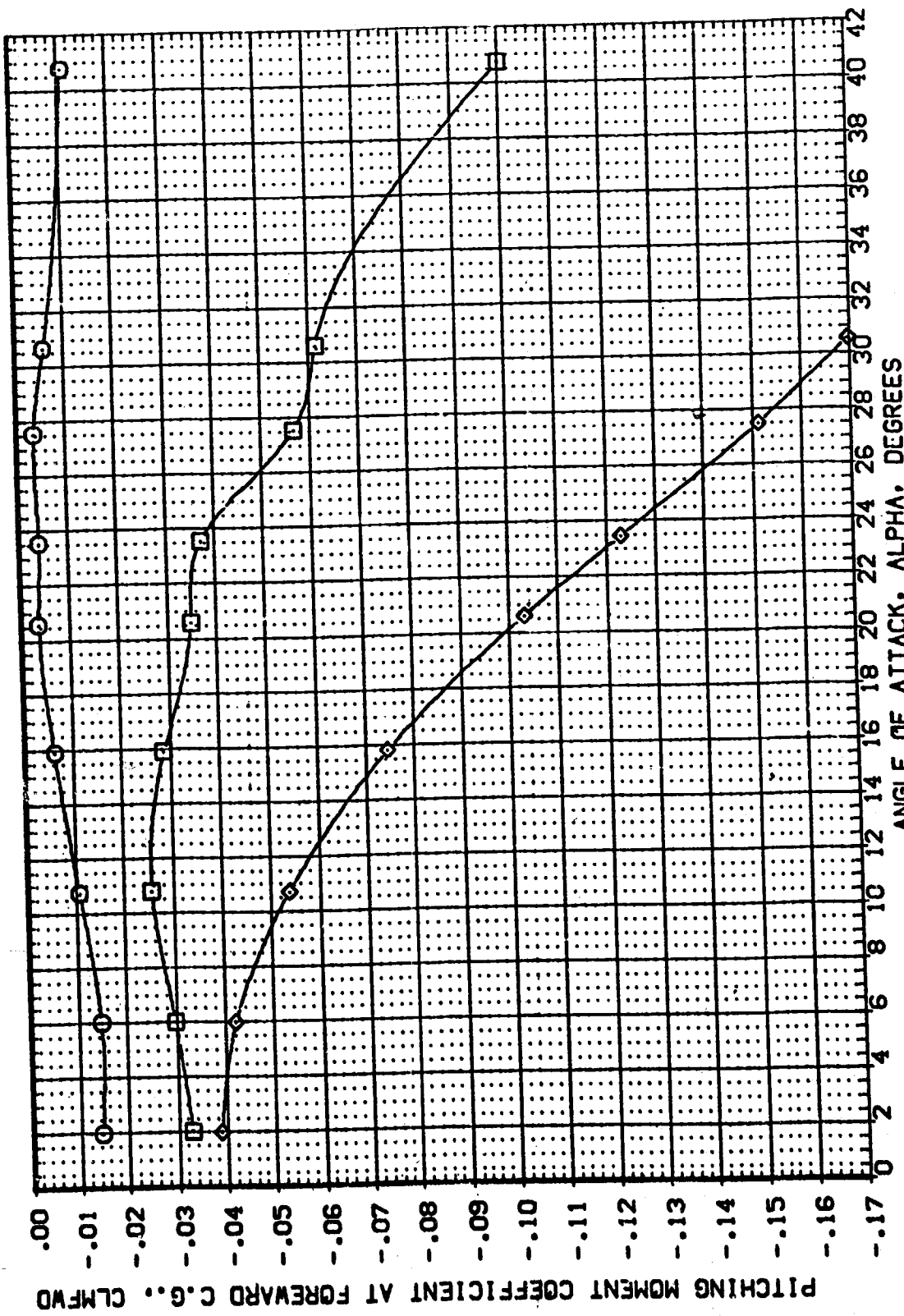


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

BETA ELEVON BOFLAP SPDBRK
 .000 -44.000 0.000 54.920
 .000 .000 -14.250 54.920
 .000 11.000 13.750 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BBY020) APES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY017) APES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)
 (BBY023) APES 3.5-163 0A58 (B17C7MFS)(V103E22)(V7RS)

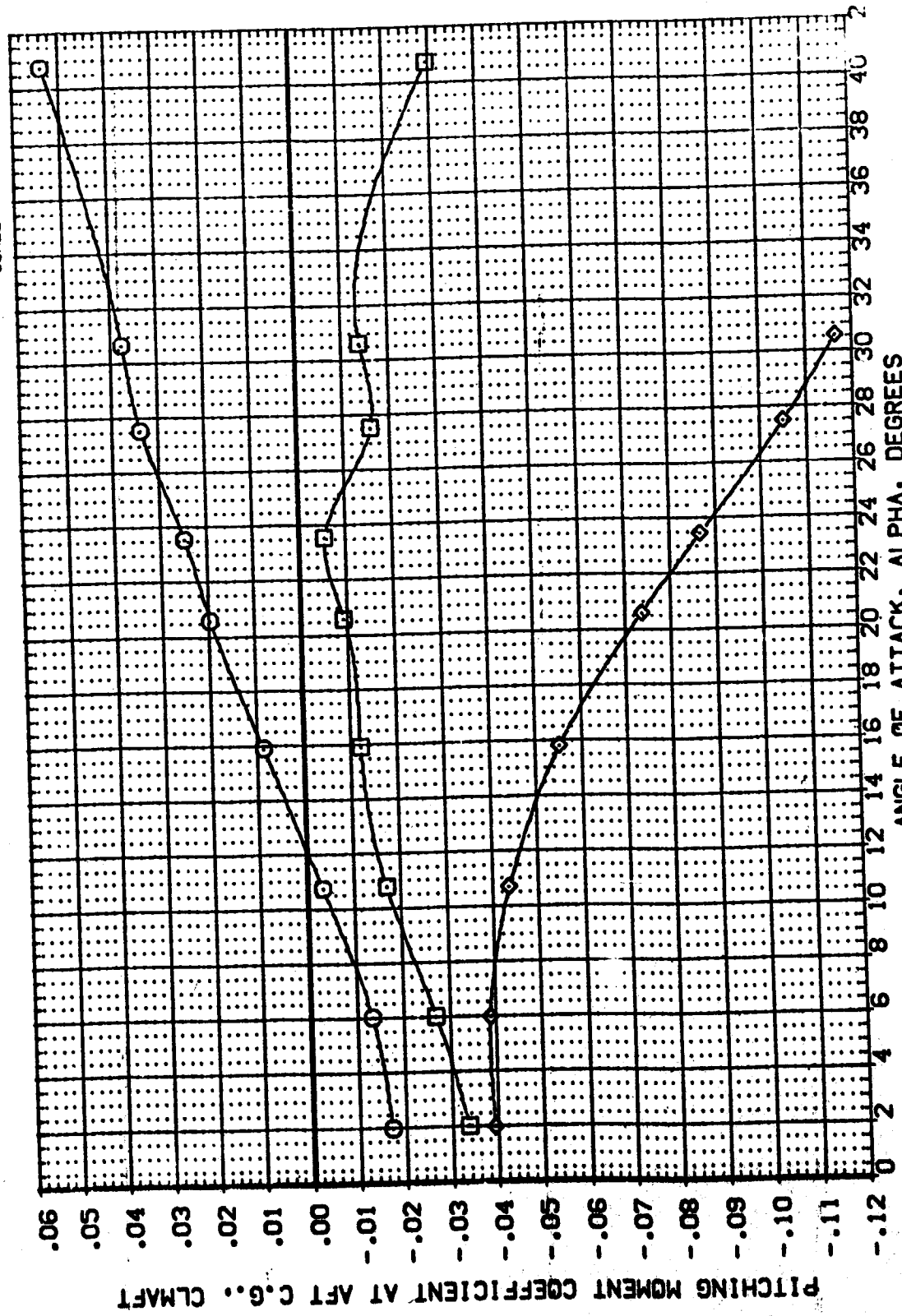


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3
 (AJMACH = 10.29)

DATA SET SYMBL. (88Y020) (88Y017) (88Y023)

CONFIGURATION DESCRIPTION
 ARES 3.5-163 0A58 (817C7MF5)(V103E22)(V7MS)
 ARES 3.5-163 0A58 (817C7MF5)(V103E22)(V7MS)
 ARES 3.5-163 0A58 (817C7MF5)(V103E22)(V7MS)

BETA .000
 ELEVON -44.000
 SPOBRK 54.920
 BOTLAP -14.250
 YPRP 0.000
 ZPRP 0.000
 SCALE .0150

REFERENCE INFORMATION
 SREF 7.1220
 LREF 14.0500
 XPRP 12.5770
 YPRP 0.0000
 ZPRP 6.0000
 SCALE .0150

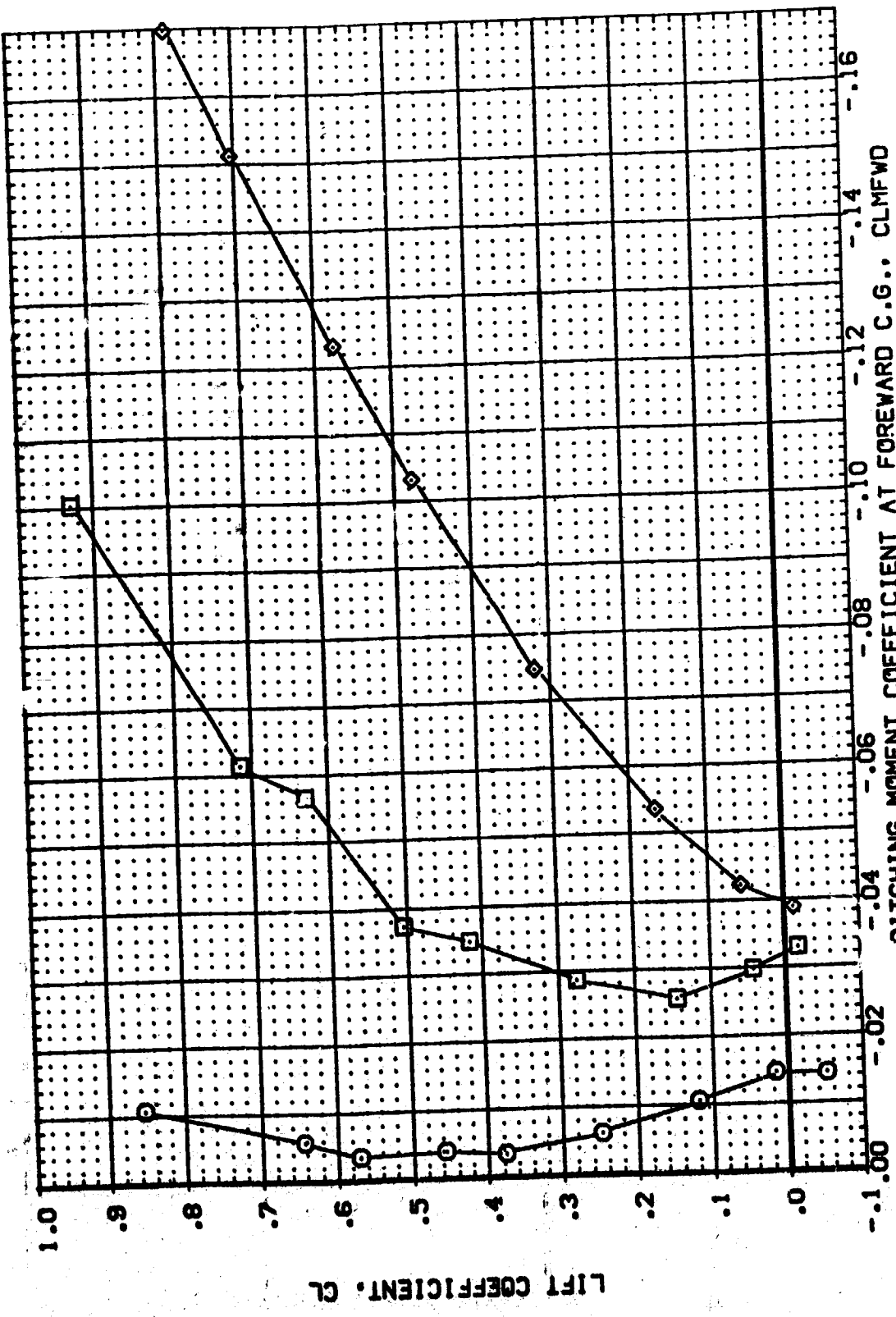


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

CA/MACH = 10.29

DATA SET SYMBOL: (88Y020), (88Y017), (88Y023)

CONFIGURATION DESCRIPTION:
 AVES 3-S-163 0A58 (817C7M4F5)(V103E22)(V7RS)
 AVES 3-S-163 0A58 (817C7M4F5)(V103E22)(V7RS)
 AVES 3-S-163 0A58 (817C7M4F5)(V103E22)(V7RS)

BETA: .000, .000, .000

ELEVON: -44.000, .000, 11.000

BD/FLAP: -14.250, -14.250, -13.750

SPOBRK: 54.920, 54.920, 54.920

REFERENCE INFORMATION:

SREF: 6050 SQ.FT.

LREF: 7.1220 IN.

BREF: 14.0500 IN.

XTRP: 12.5770 IN.

YTRP: .0000 IN.

ZTRP: 6.0000 IN.

SCALE: .0150 V.L.

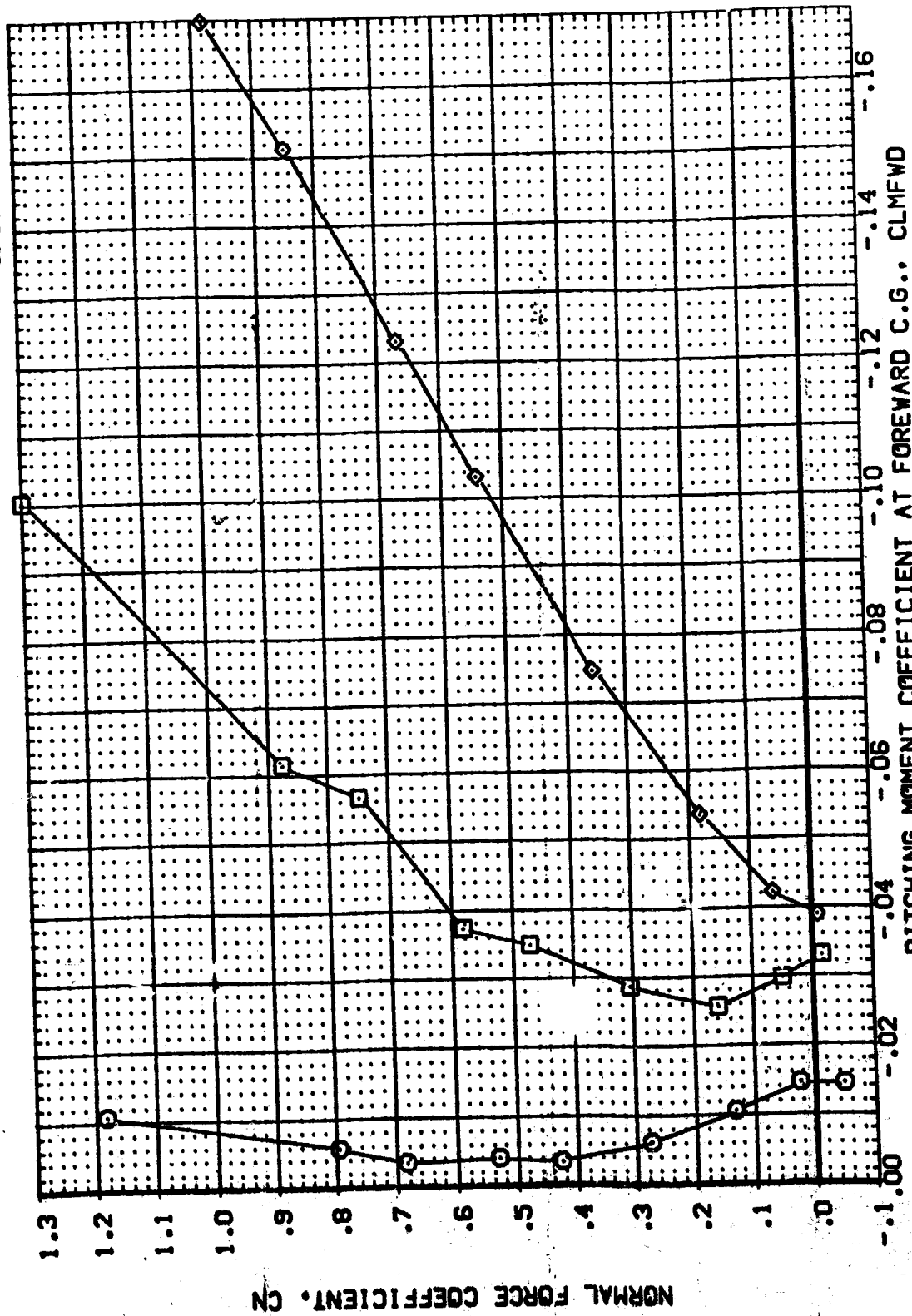


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XTRP 12.5770 IN.
 YTRP .0000 IN.
 ZTRP 6.0000 V.L.
 SCALE .0150

BETA ELEVON BOFLAP SPOBK
 .000 -44.000 -14.250 54.920
 .000 .000 -14.250 54.920
 .000 11.000 13.750 54.920

DATA SET SYMBL. CONFIGURATION DESCRIPTION
 (RBY020) MES 3.5-163 QASB (B17C7MFS)(V10E22)(V7RS)
 (RBY017) MES 3.5-163 QASB (B17C7MFS)(V10E22)(V7RS)
 (RBY023) MES 3.5-163 QASB (B17C7MFS)(V10E22)(V7RS)

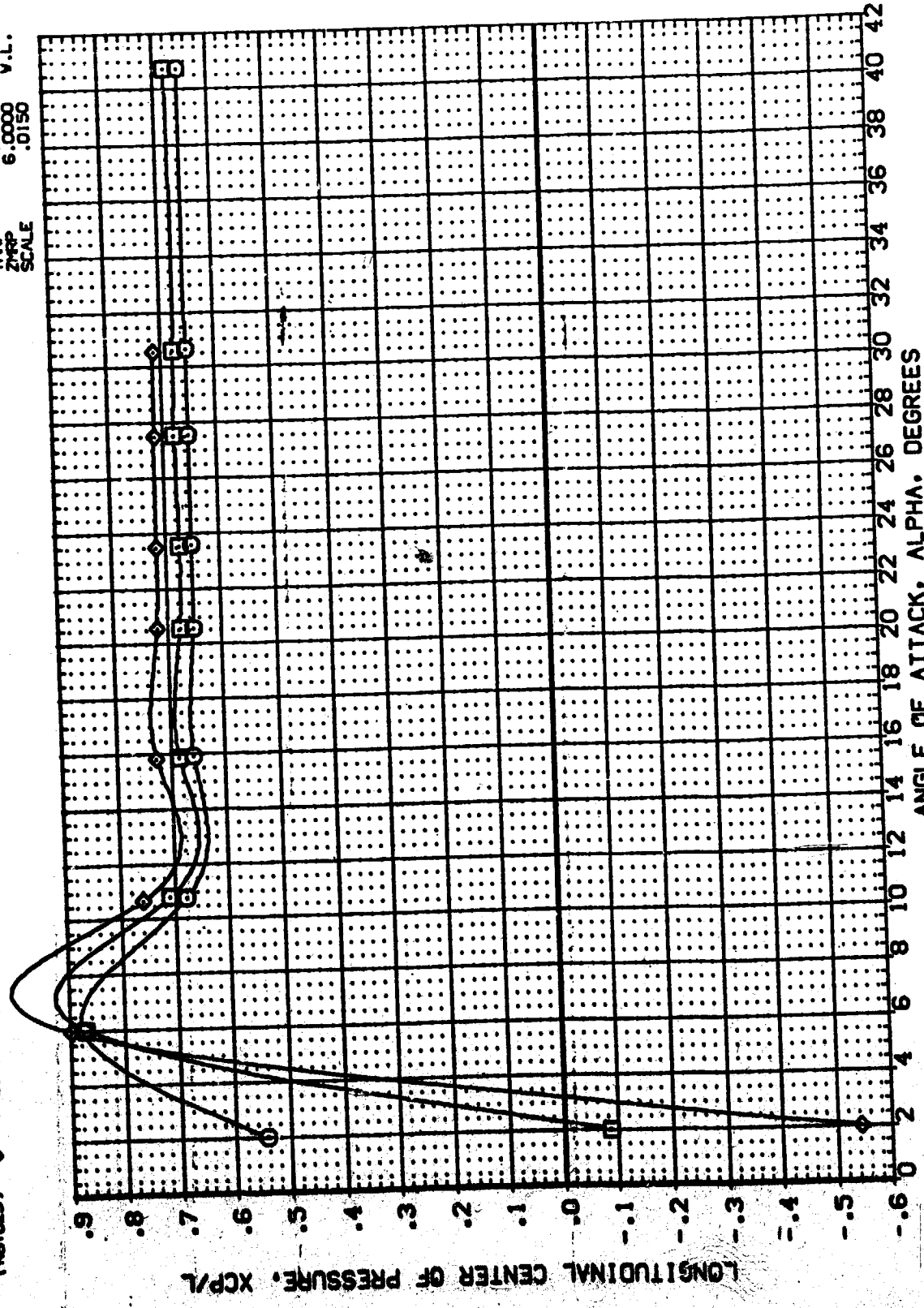


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBL. CONFIGURATION DESCRIPTION
 (EBY020) \square AVES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
 (EBY023) \square AVES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)

BETA DE BOFLAP SPDBRK
 .000 -11.000 -14.250 54.920
 .000 11.000 13.750 54.920

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BRREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

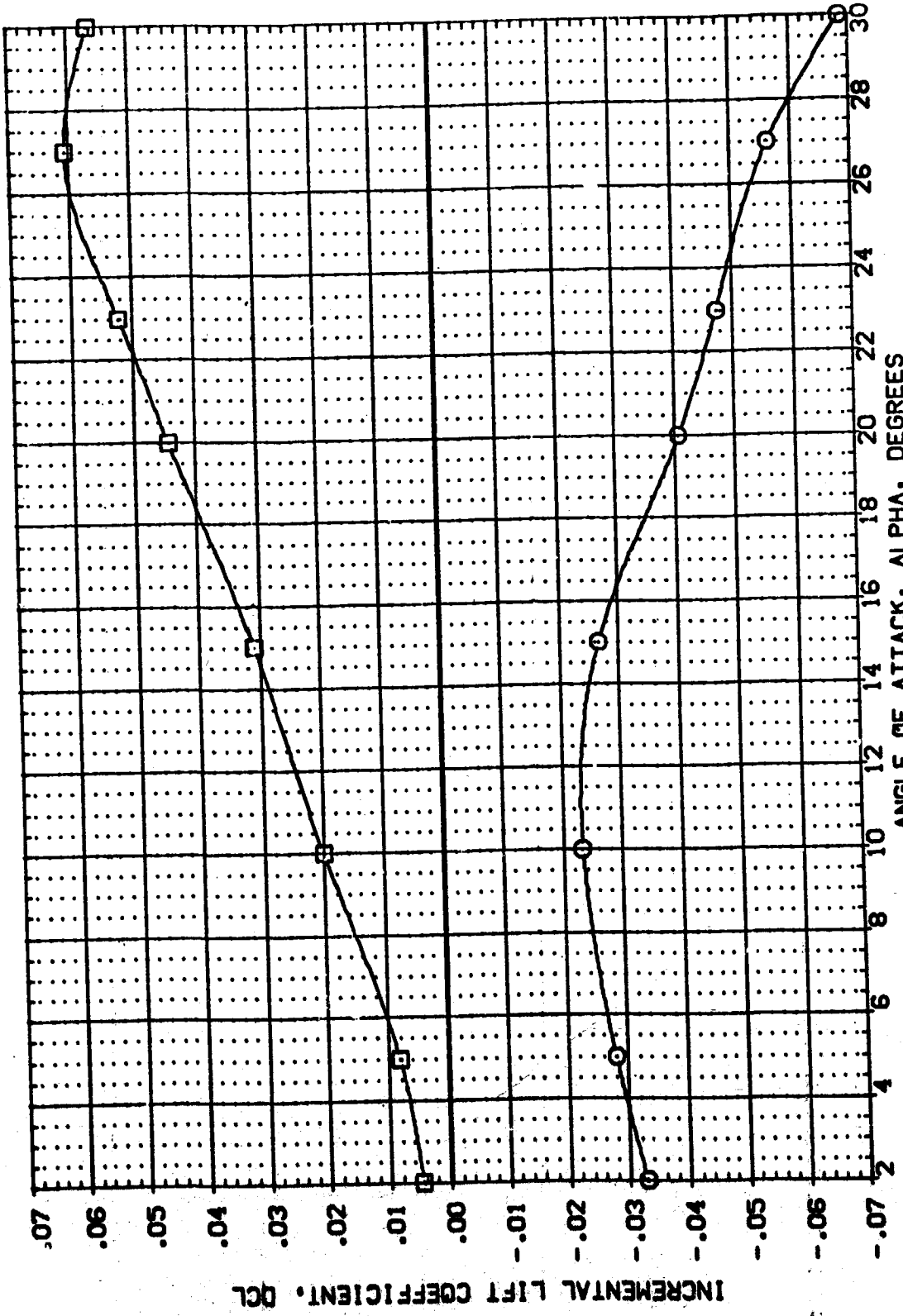


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.30

DATA SET SYMBL. CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(EBY020)	8	ANES 3.5-163 0A58 (B17C7M4F5)(V103E22)(V7RS)	SREF	6050	50.FT.
(EBY023)		ANES 3.5-163 0A58 (B17C7M4F5)(V103E22)(V7RS)	LRREF	7.1220	IN.
			BRREF	14.0500	IN.
			XMRP	12.5770	IN.
			YMRP	6.0000	IN.
			ZMRP	6.0000	V.L.
			SCALE	.0150	

BETA DE BOFLAP SPOBRK

.000	-44.000	-14.250	54.920
.000	11.000	13.750	54.920

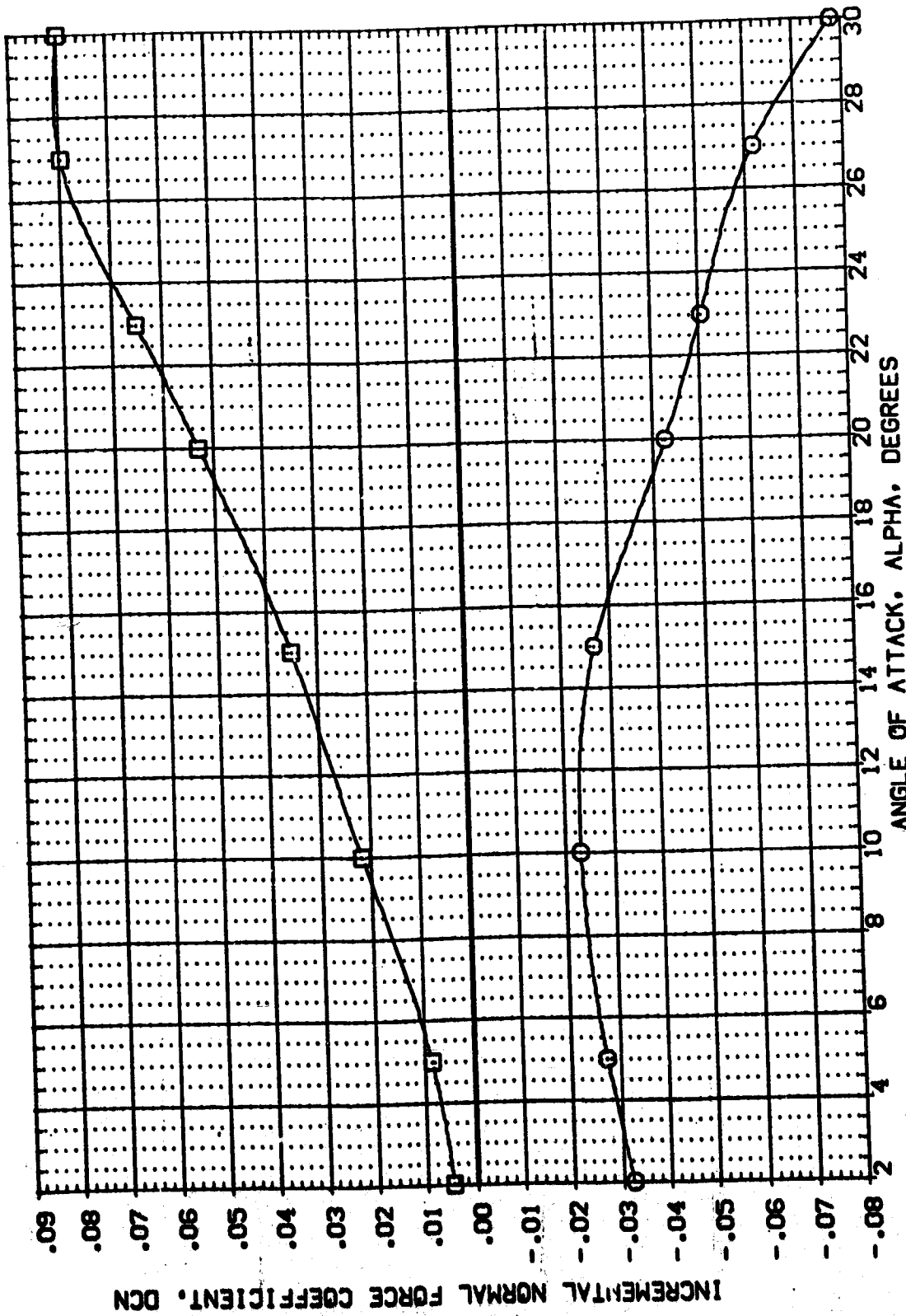


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (E87020) (E87023) □

CONFIGURATION DESCRIPTION
 ASES 3.5-163 QAS8 (817C7M4F5)(V103E22)(V7R5)
 ASES 3.5-163 QAS8 (817C7M4F5)(V103E22)(V7R5)

BETA DE SPOBRK SREF LREF BREF XMRP YMRP ZMRP SCALE

REFERENCE INFORMATION SO.FT.
 6050 IN.
 7.1220 IN.
 14.0500 IN.
 12.5770 IN.
 6.0000 IN.
 .0150 V.L.

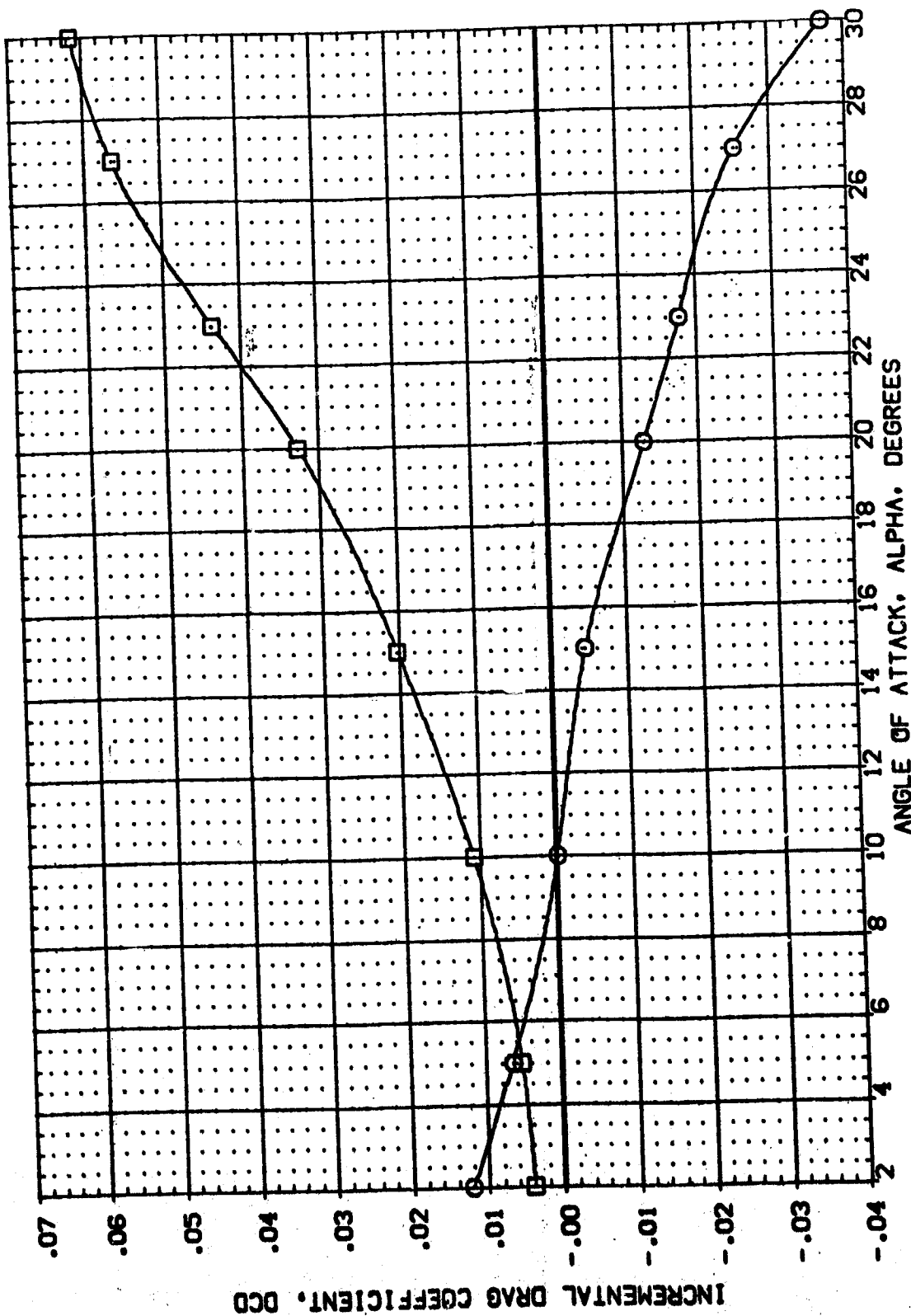


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 11.000 13.750 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EBY020) □ AVES 3.5-163 QAS8 (B17C7M4F5)(V103E22)(V7R5)
 (EBY023) □ AVES 3.5-163 QAS8 (B17C7M4F5)(V103E22)(V7R5)

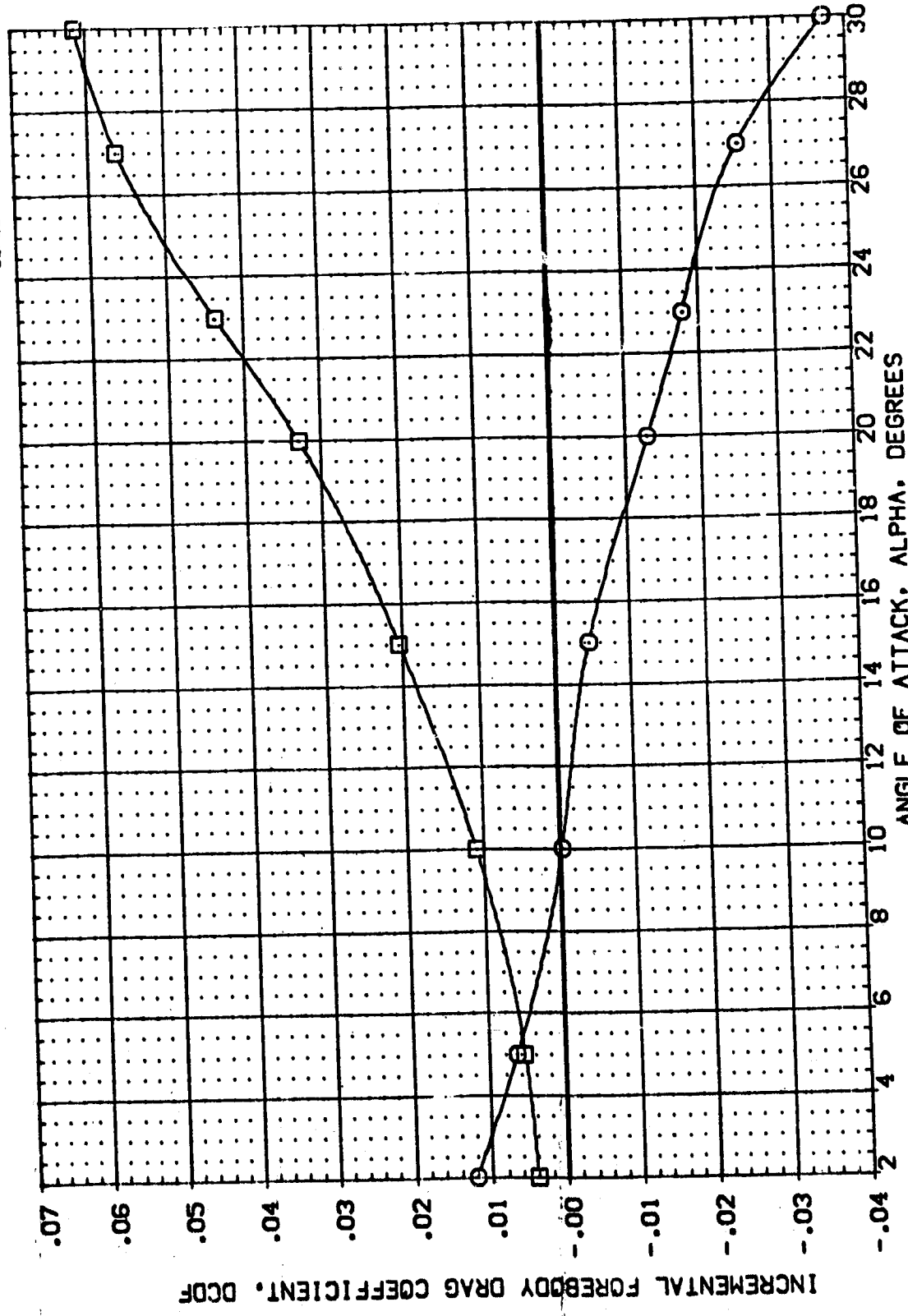


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A) MACH = 10.30

DATA SET SYMBOL (EBY020) (EBY023) □
 CONFIGURATION DESCRIPTION
 AMES 3.5-163 GAS8 (B17C7MAF5)(V103E22)(V7RS)
 AMES 3.5-163 GAS8 (B17C7MAF5)(V103E22)(V7RS)

BETA .000
 DE -44.000
 BOFLAP -14.250
 SPOBRK 54.920

REFERENCE INFORMATION
 SREF 6050 SG.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP .0150 V.L.
 SCALE

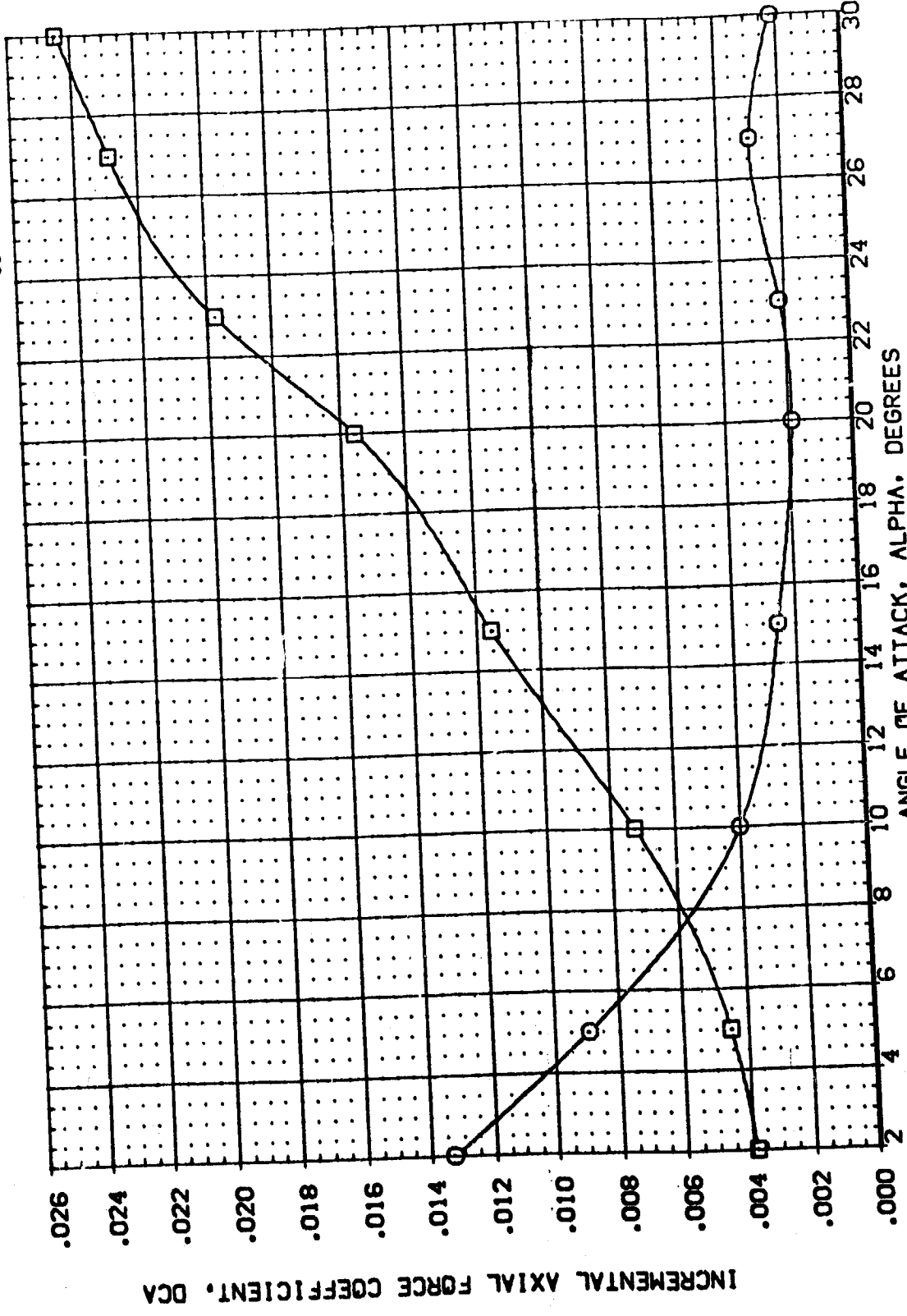


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

BETA DE BDFLAP SPOBRK
 .000 -44.000 54.920
 .000 11.000 54.920

DATA SET SYMBL CONFIGURATION DESCRIPTION
 (BY020) APES 3.5-163 DAS8 (B17C7MFS)(V103E22)(V7R5)
 (BY023) APES 3.5-163 DAS8 (B17C7MFS)(V103E22)(V7R5)

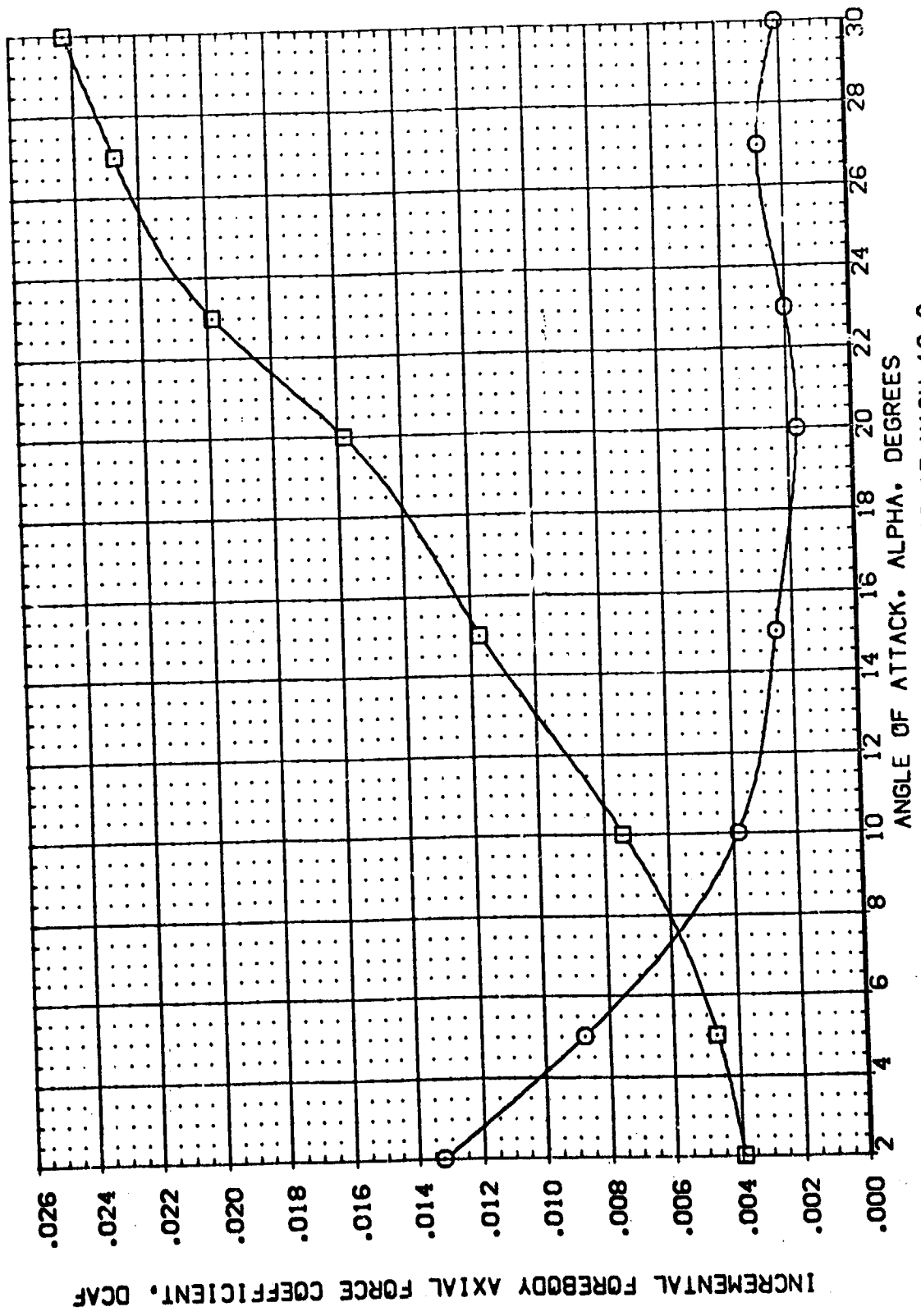


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL: (EBY020) □ (EBY023) □

CONFIGURATION DESCRIPTION:
 AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)

BETA: .000, .000

DE: -44.000, 11.000

BOFLAP: -14.250, 13.750

SPOBRK: 54.920, 54.920

REFERENCE INFORMATION:
 SQ.FT.: 6050
 IN.: 7.1220
 IN.: 14.0500
 IN.: 12.5770
 IN.: .0000
 V.L.: 6.0000
 SCALE: .0150

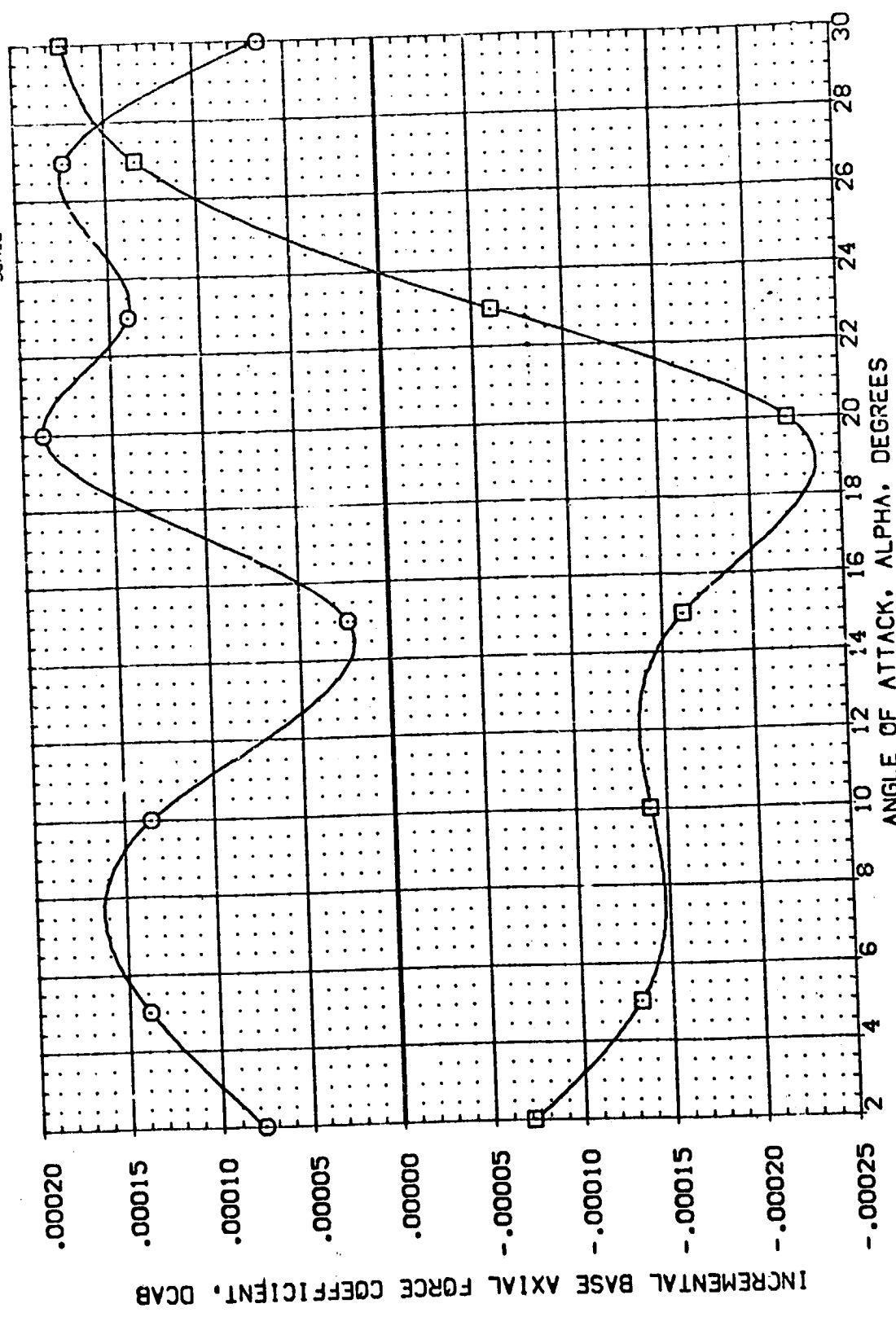


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (EBY020) (EBY023)

CONFIGURATION DESCRIPTION
 APES 3.5-163 0A58 (B17C7M4F5)(V103E22)(V7RS)
 APES 3.5-163 0A58 (B17C7M4F5)(V103E22)(V7RS)

BETA DE BOFLAP SPOBRK
 .000 -14.000 -14.250 54.920
 .000 11.000 13.750 54.920

REFERENCE INFORMATION
 SREF 6050 50.FT.
 LREF 7.1720 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

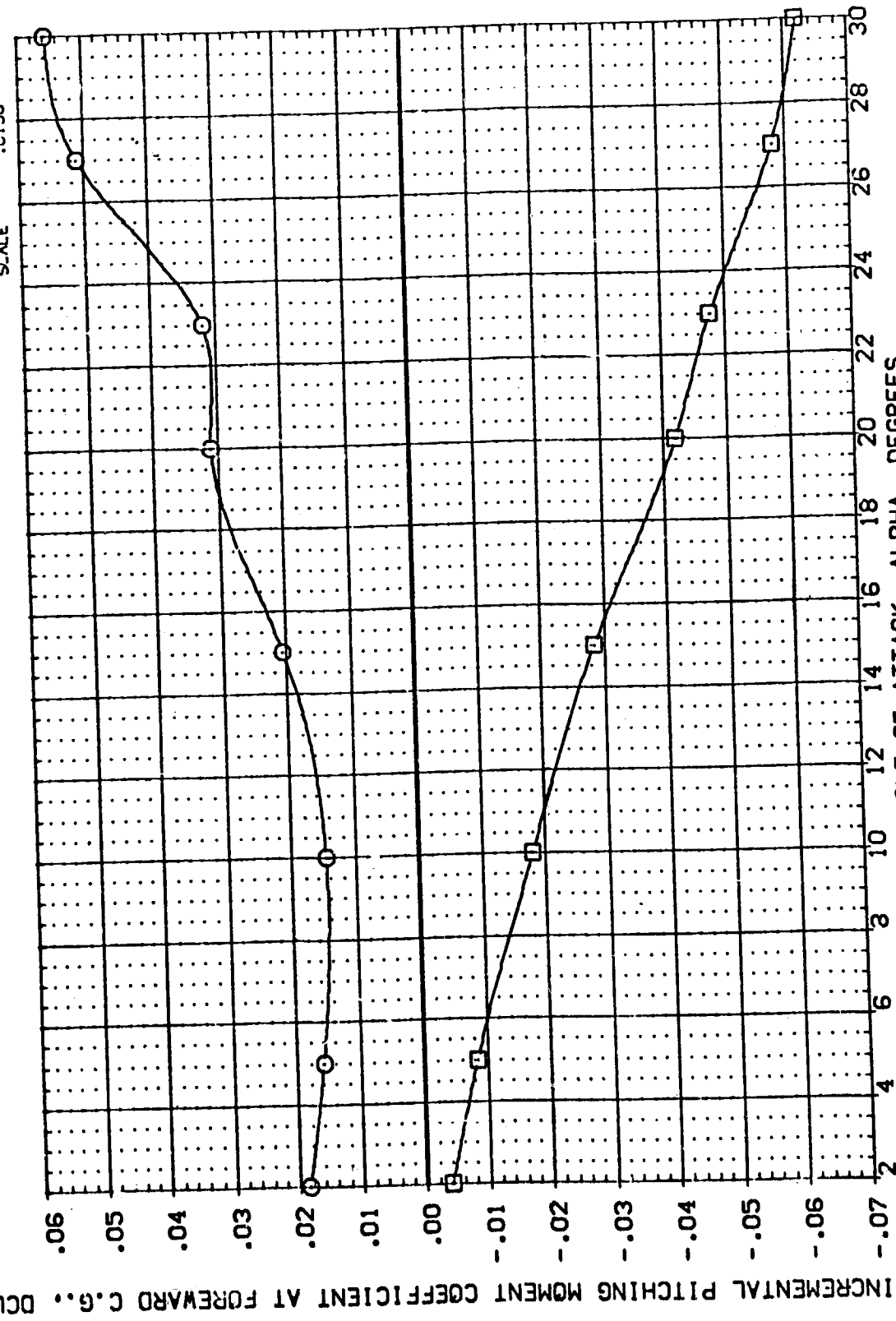


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (EBY020)
 (EBY023)
 CONFIGURATION DESCRIPTION
 ASES 3-5-163 CAS8 (B17C7M4F5)(V103E22)(V7R5)
 ASES 3-5-163 CAS8 (B17C7M4F5)(V103E22)(V7R5)

BETA DE BOFLAP SPOBRK
 .000 -44.000 -14.250 54.920
 .000 11.000 13.750 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YREF .0000 IN.
 ZREF 6.0000 IN.
 SCALE .0150

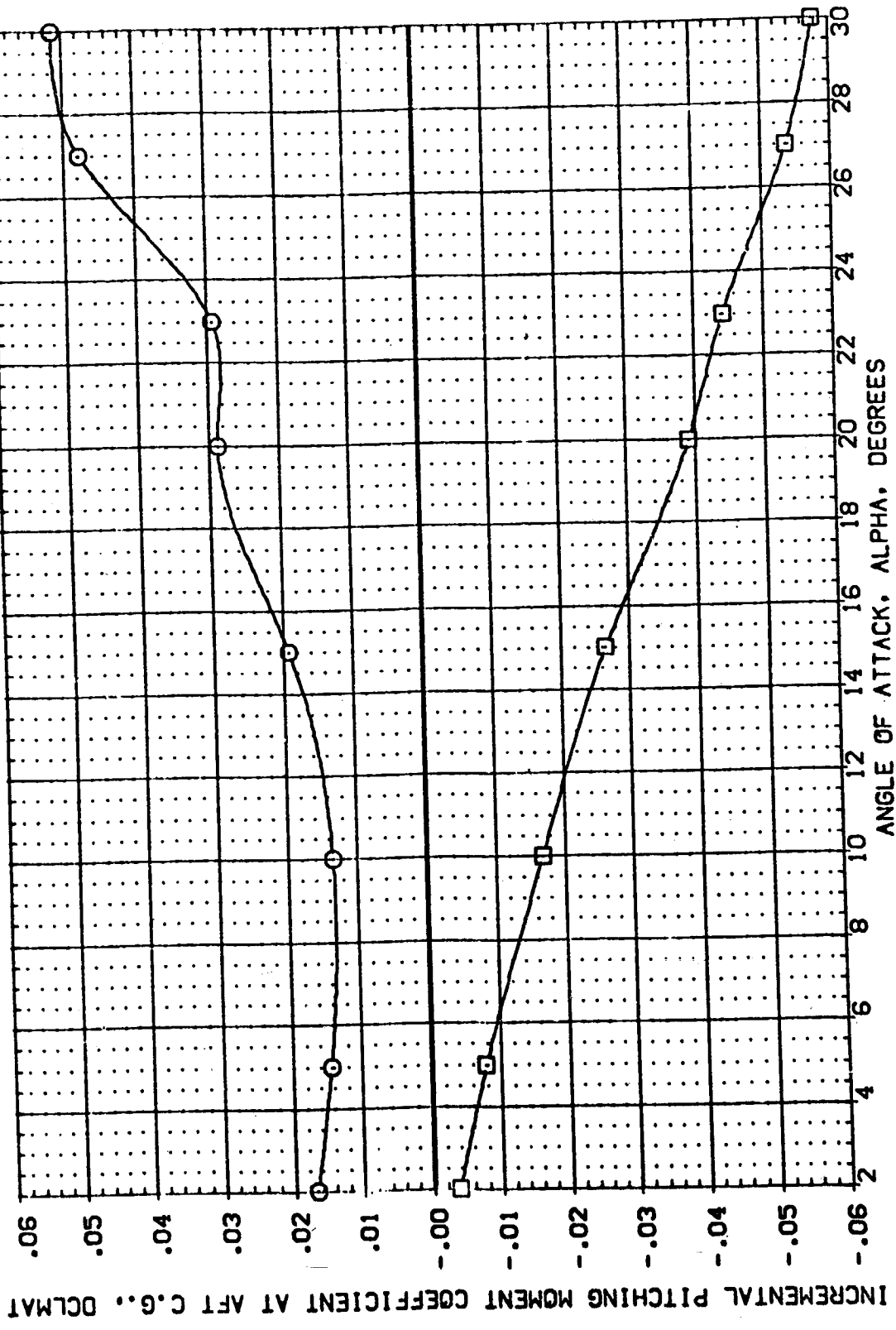


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.30

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION	
ALPHA	MACH	BETA	SPORBK	DE	SO.FT.
2.000	10.300	.000	EBY020	.000	7.1220
5.000	-14.250	51.920	EBY023	.000	14.0500
10.000	.000	-44.000			12.5770
15.000		11.000			.0000
20.000					6.0000
23.000					.0150
					SCALE

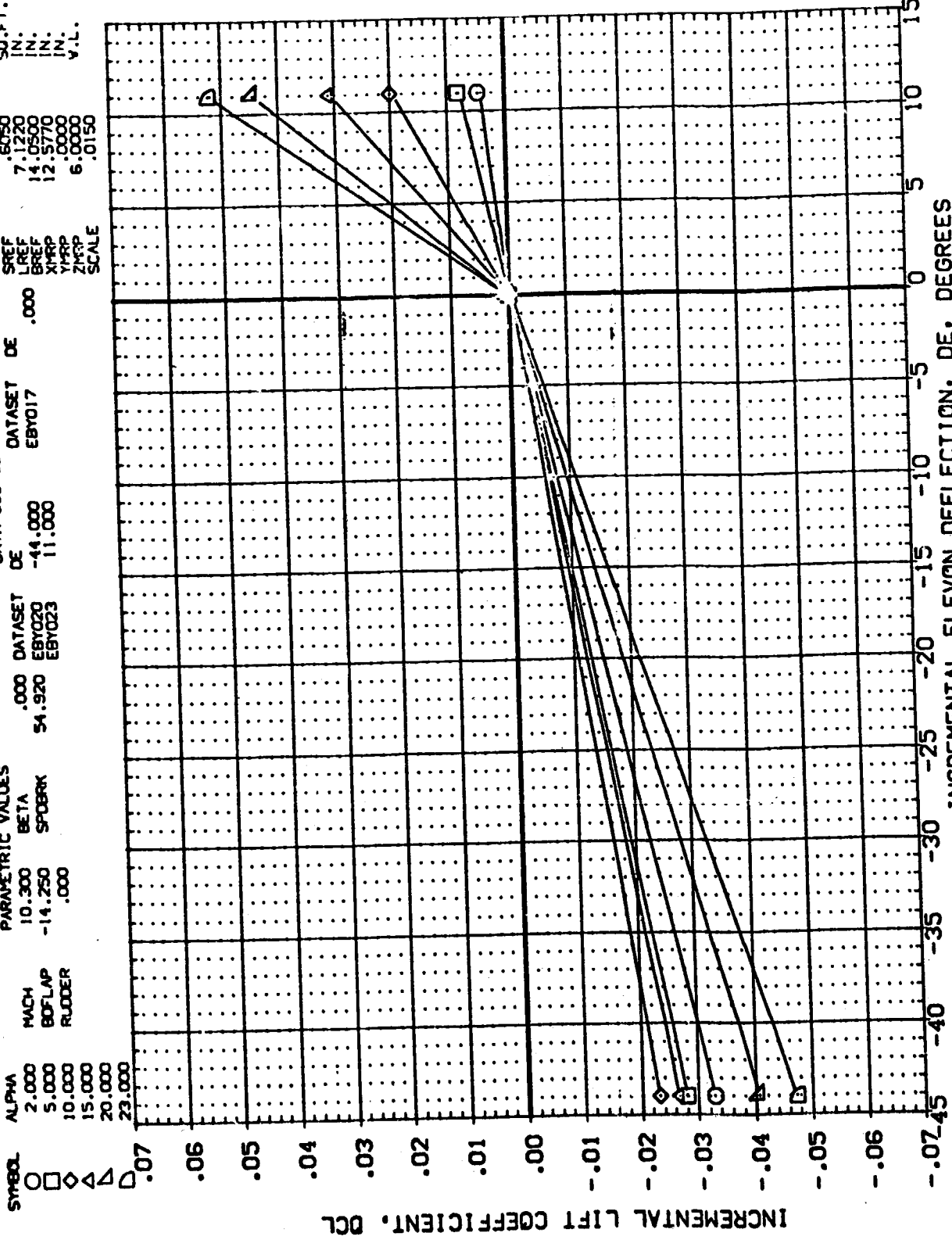


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

DATA SOURCE
 DE EBY017

PARAMETRIC VALUES
 BETA 10.300
 SPOBRK -14.250
 .000

DATA SOURCE
 DE EBY020
 DE EBY023

PARAMETRIC VALUES
 BETA 10.300
 SPOBRK -14.250
 .000

DATA SOURCE
 DE EBY017

SYMBOL
 ○
 □

ALPHA 27.000
 30.000
 MACH 80FLAP
 RUDDER

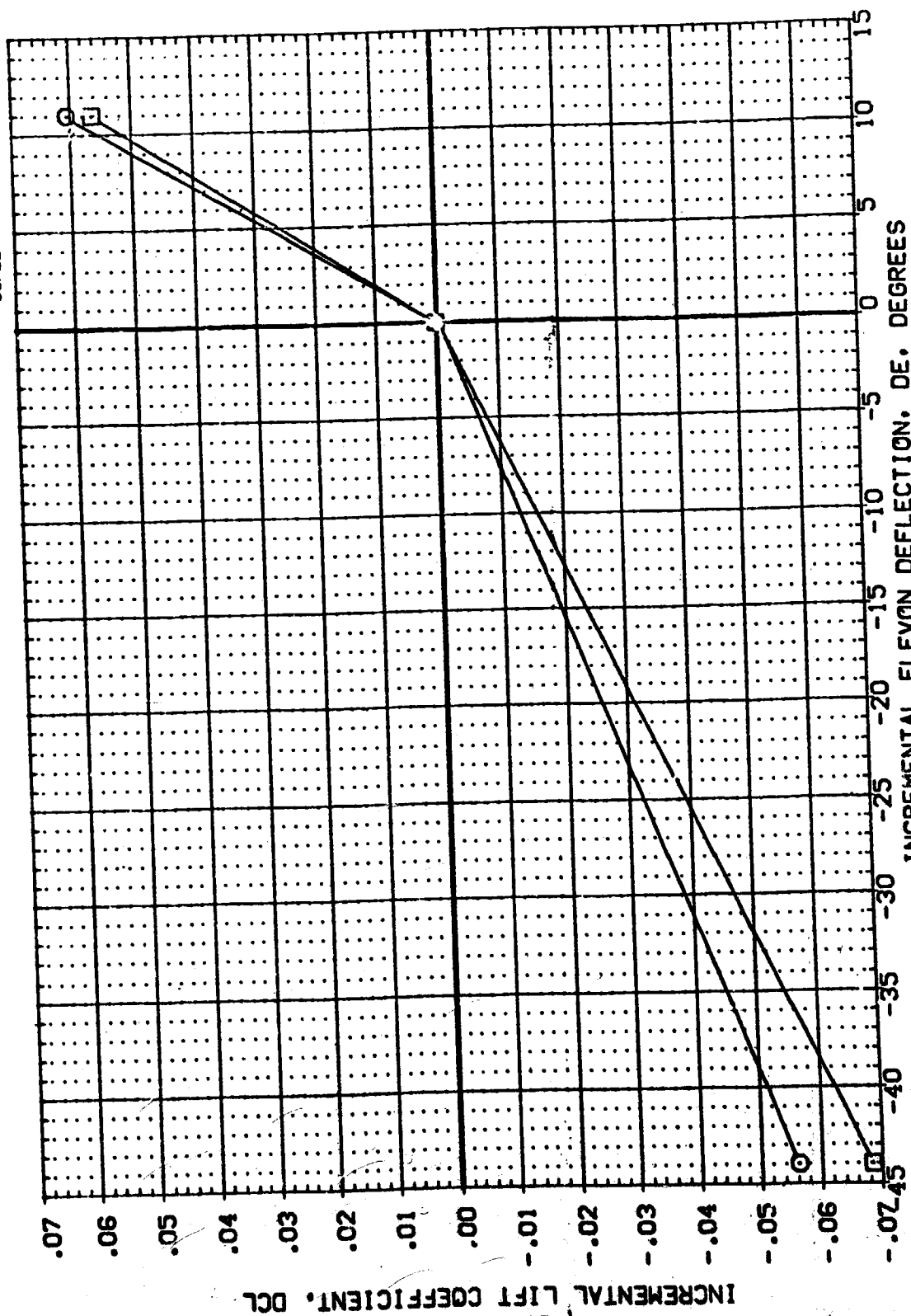


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

REFERENCE INFORMATION
 SO. FT. .6050
 IN. 7.1250
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

DATA SOURCE
 DATASET DE .000
 EBY017

PARAMETRIC VALUES
 BETA 10.300
 SPOBRK -14.250
 .000

DATA SOURCE
 DATASET DE .000
 EBY020
 EBY023

PARAMETRIC VALUES
 MACH 10.300
 BOFLAP -14.250
 RUDDER .000

ALPHA 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

SYMBOL
 ○
 □
 ◇
 △
 ▽

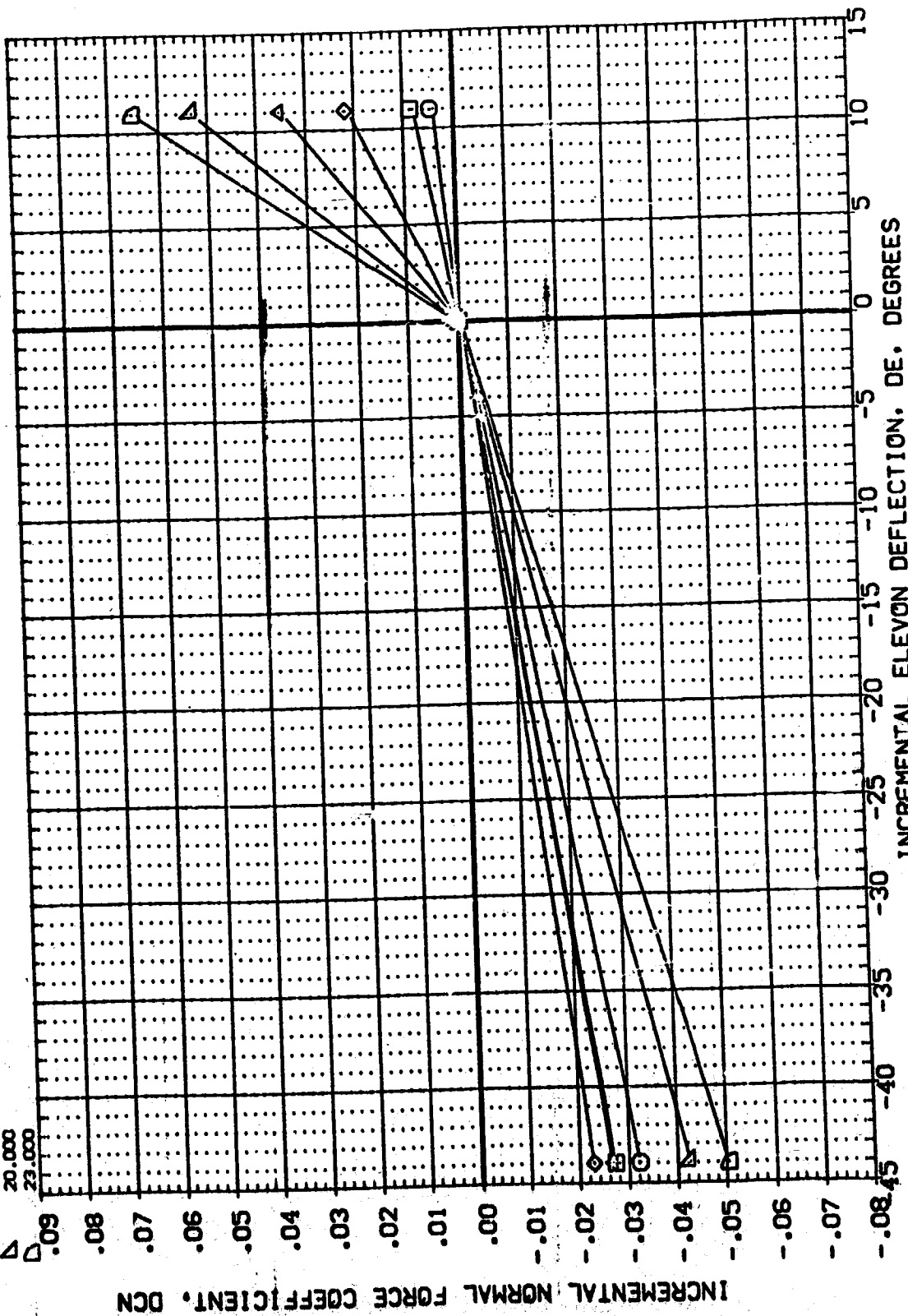


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

SYMBL. ALPHA MACH 60FLAP RUDDER
 O 27.000 30.000
 □

PARAMETRIC VALUES
 BETA 10.300
 SPOBRK -14.250
 .000

DATA SOURCE
 DE DATASET DE
 EB020 EB023
 54.920 11.000

DATASET DE
 EB017 .000

REFERENCE INFORMATION
 SQ. FT. SO. FT.
 SREF 7.1220
 LREF 14.0500
 BREF 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150
 V.L.L.

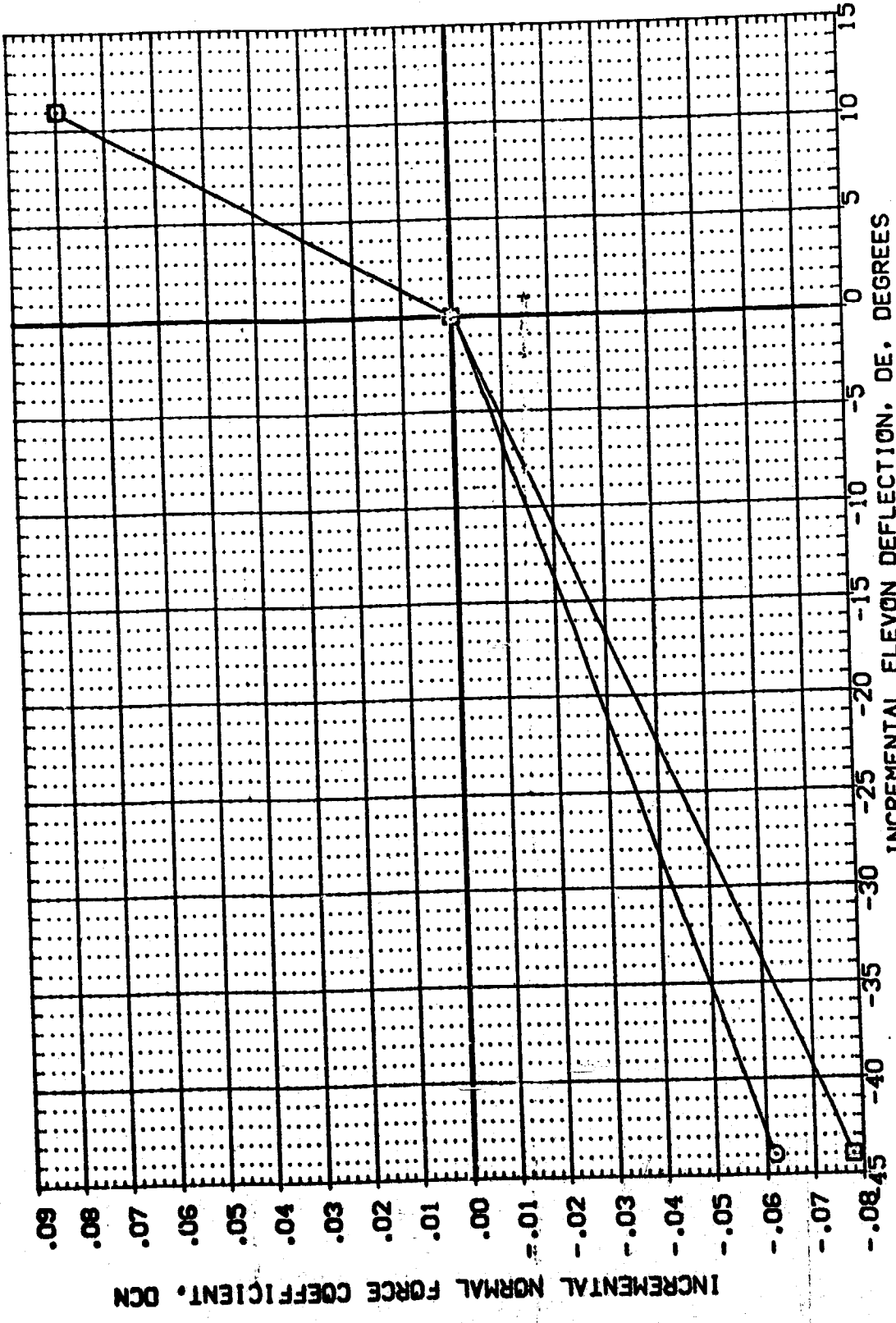


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

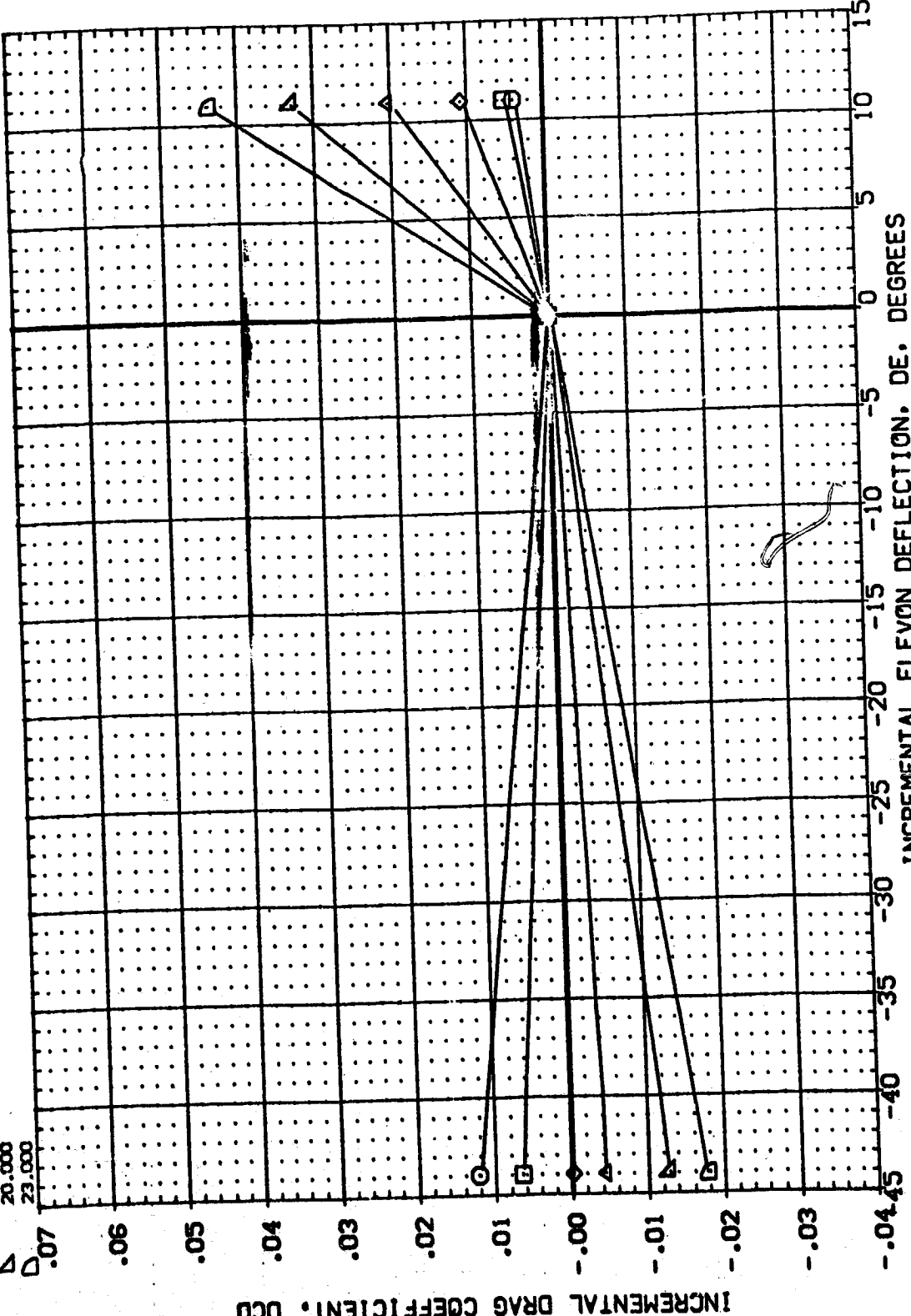
PARAMETRIC VALUES
 ALPHA 2.000
 MACH 10.300
 BFLAP -14.250
 RUDDER .000
 BETA 10.300
 SPOBRK 54.920
 DATASET DE -44.000
 DATASET DE 11.000
 DATASET DE .000
 DE EB017
 DE EB020
 DE EB023

DATA SOURCE
 DE -44.000
 DE 11.000
 DE .000
 EB017
 EB020
 EB023

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

SREF
 LREF
 BRP
 YMRP
 ZMRP
 SCALE

SYMBOL
 ○
 □
 ◇
 △
 ▽
 ○



INCREMENTAL ELEVON DEFLECTION, DE, DEGREES

INCREMENTAL DRAG COEFFICIENT, DCD

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	SREF	REFERENCE INFORMATION
○	27.000		BETA	DE	EBY017	.000	LREF	.6050
□	30.000	BD/FLAP	SPDRK	DE	EBY020	-14.000	RREF	7.1220
		RUDER		DE	EBY023	-11.000	XMRP	14.0500
							YMRP	12.5770
							ZMRP	.0000
							SCALE	6.0000
								V.L.
								.0150

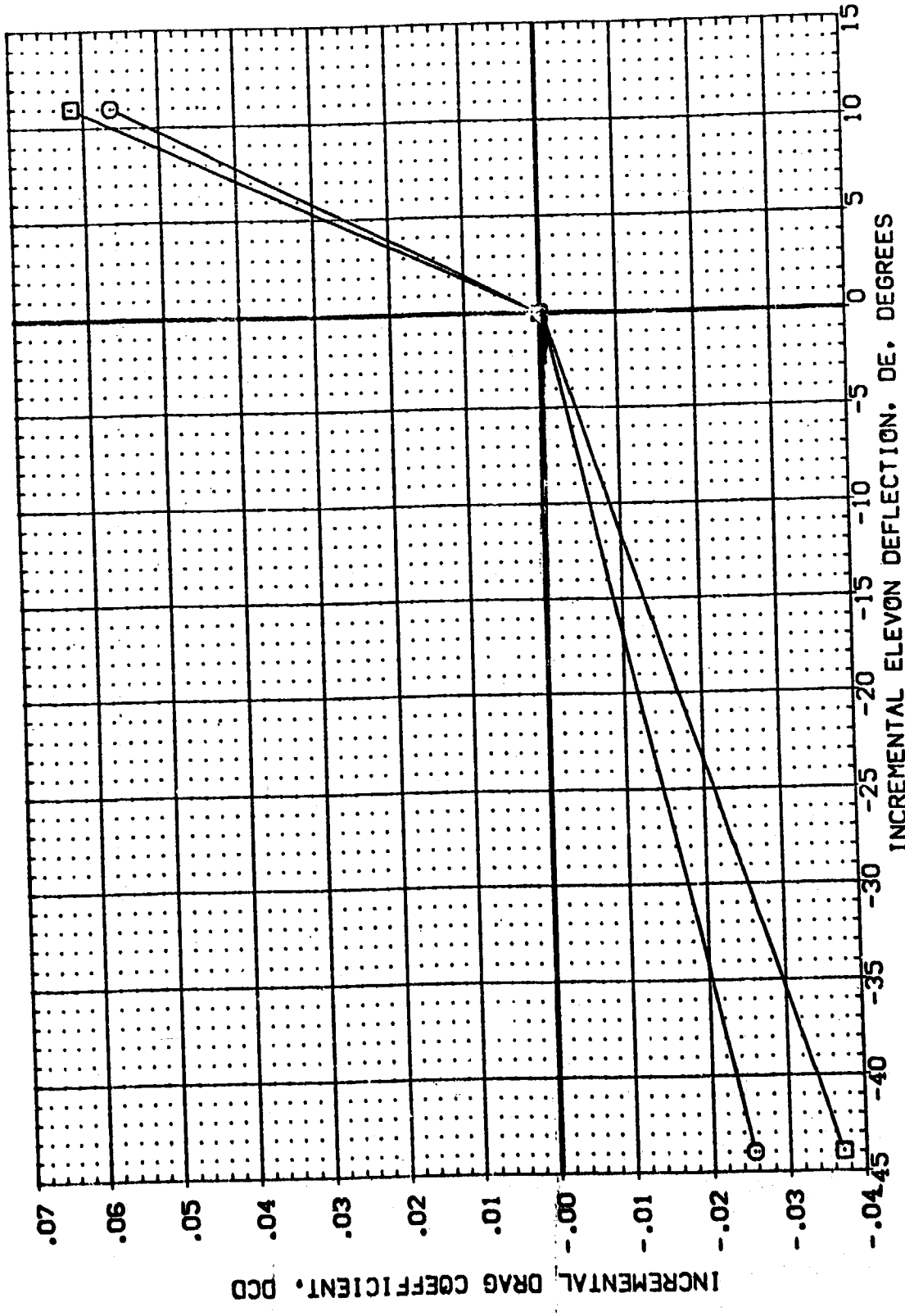


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

PARAMETRIC VALUES
 MACH 10.300 BETA
 BOFLAP -14.250 SPOBRK
 RUDDER .000

DATA SOURCE
 DATASET DE
 EBY017

REFERENCE INFORMATION
 SQ.FT.
 IN.
 IN.
 IN.
 V.L.

ALPHA
 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

.000 DATASET DE
 -44.000
 11.000

.6050
 7.1220
 14.0500
 12.5770
 .0000
 6.0000
 .0150

SYMBOL
 ○
 □
 ◇
 △
 ▽
 ▽

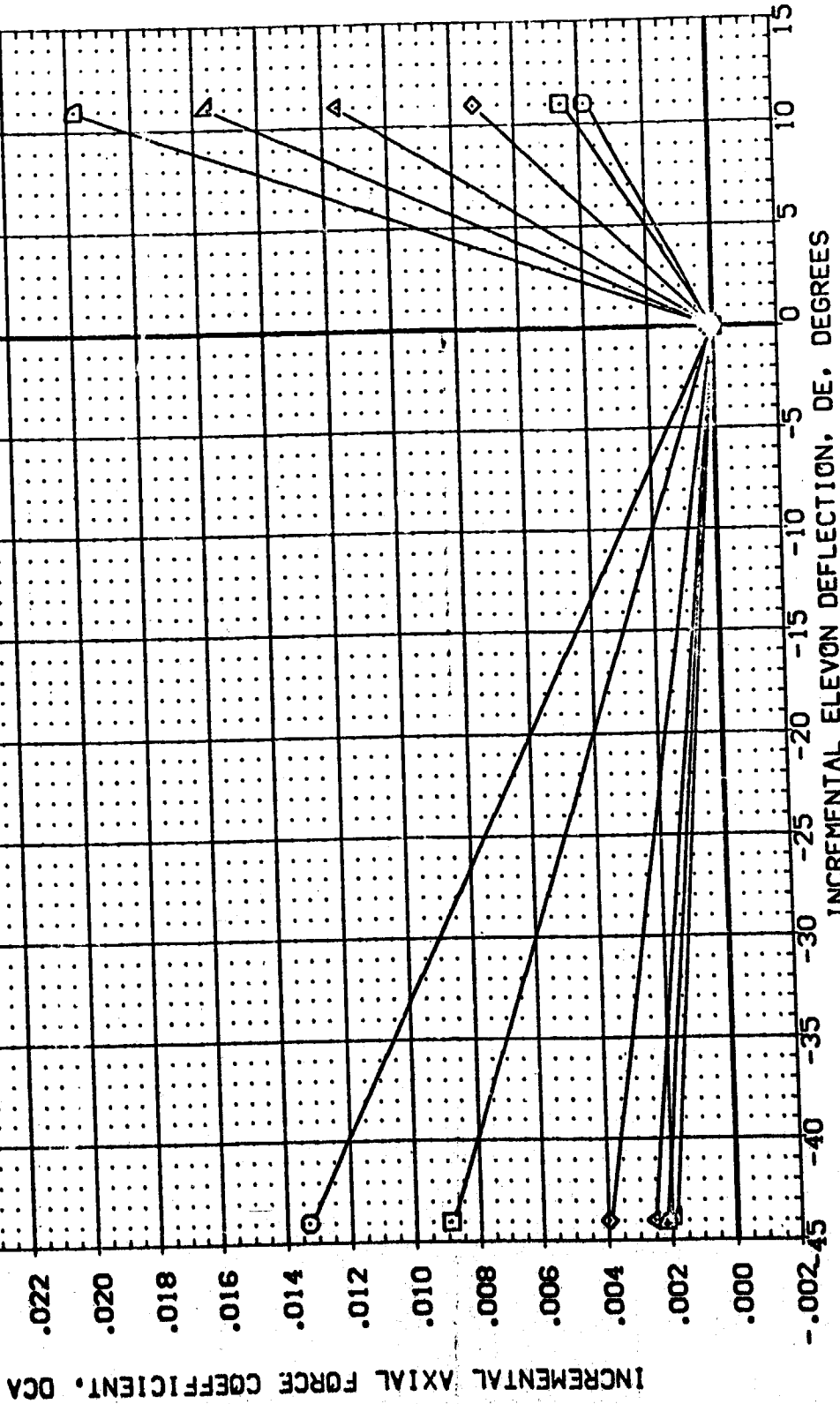


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 9A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

DATA SOURCE
 DE -44.000
 DE 11.000

PARAMETRIC VALUES
 BETA 10.300
 SPDRK -14.250

MACH 27.000
 BDFLAP 30.000
 RUDDER .000

SYMBOL
 O
 □

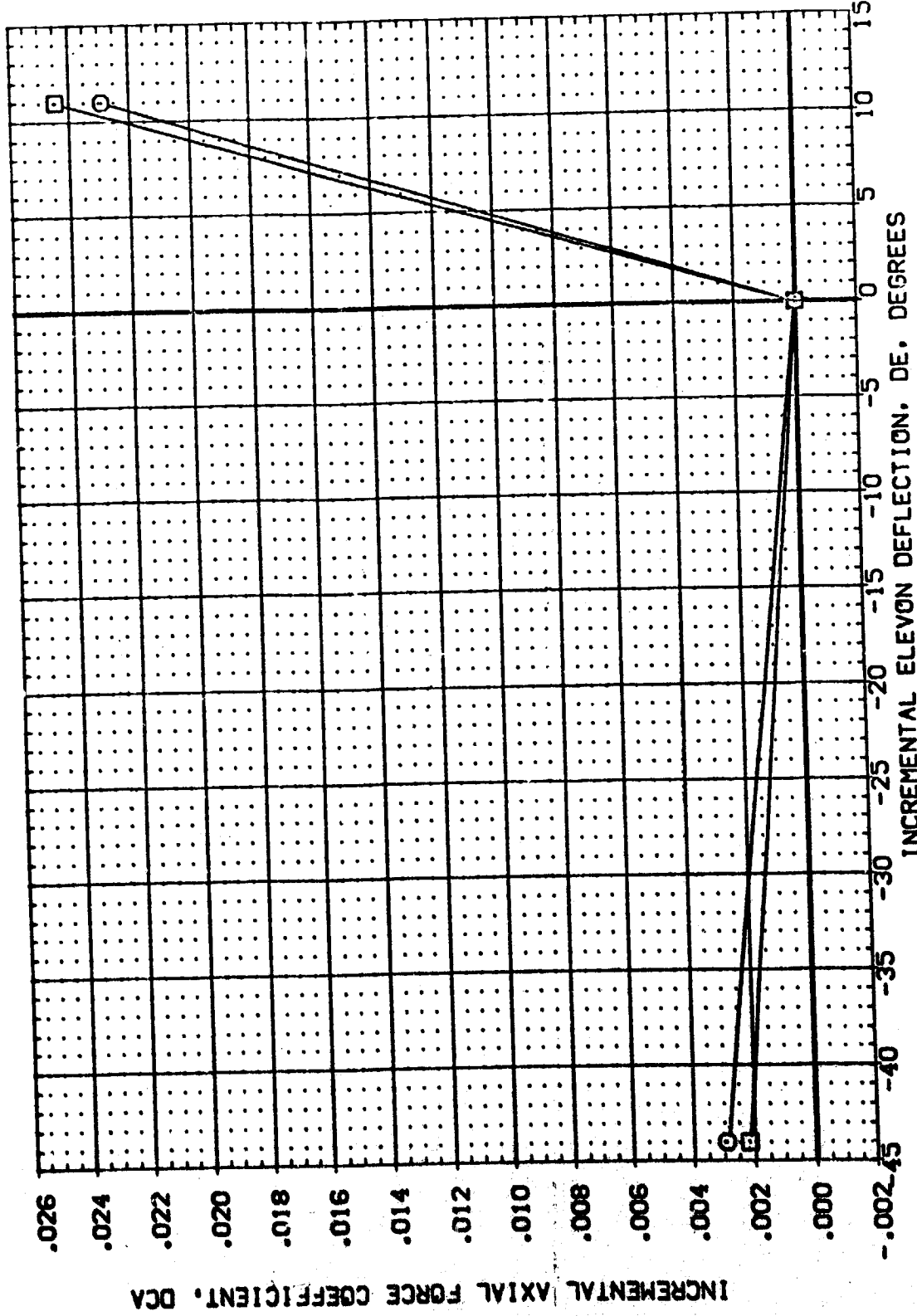


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LREF 7.1220 IN.
 BRP 14.0500 IN.
 YMRP 12.5770 IN.
 ZMRP .0000 V.L.
 SCALE 6.0000 V.L.
 .0150

DATA SOURCE DATASET DE
 .000 EBY017 .000

PARAMETRIC VALUES
 MACH 10.300 BETA
 BOFLAP -14.250 SPOBRK
 RUDDER .000

ALPHA
 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

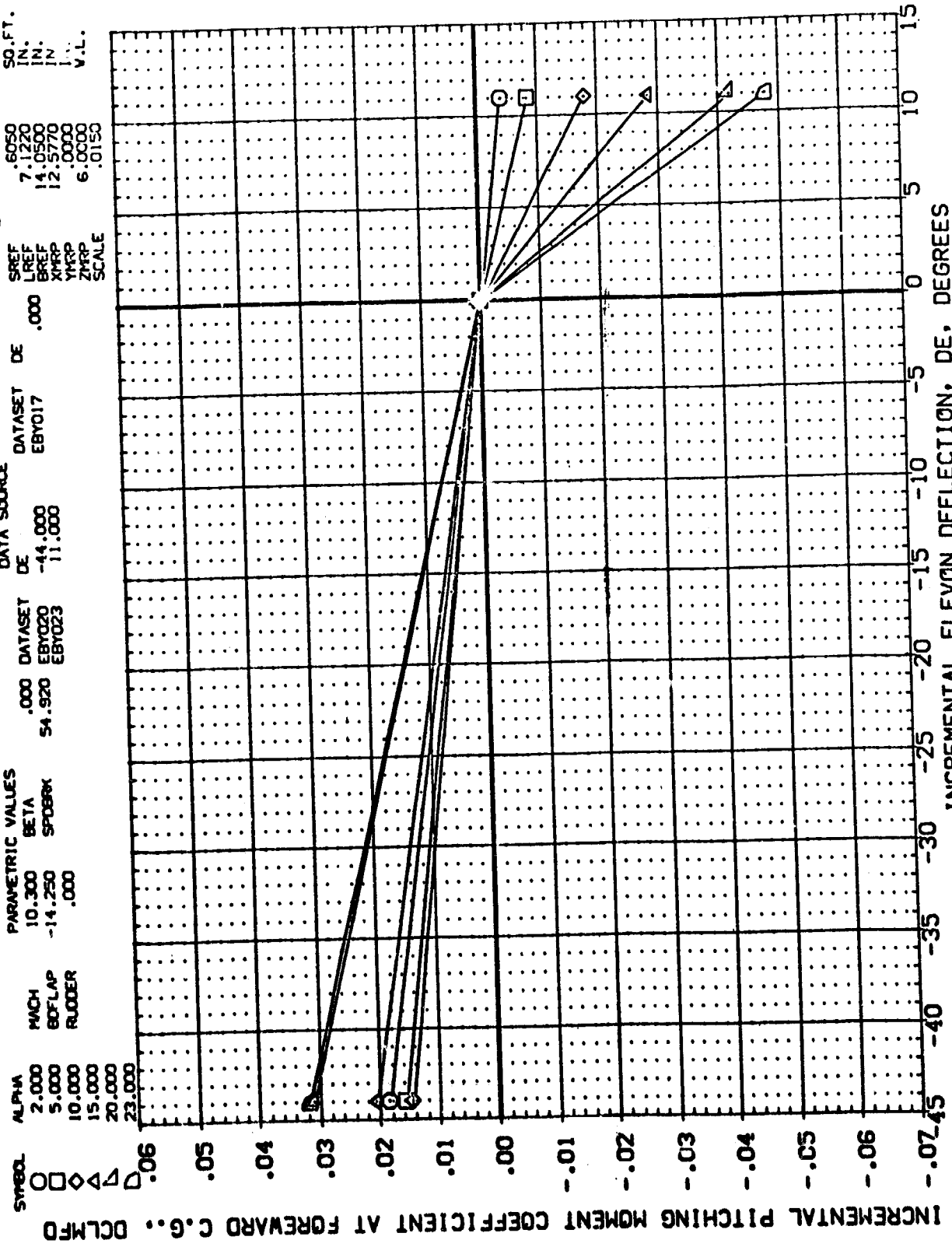


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 SCALE .0150

DATA SOURCE
 DE EBV017

PARAMETRIC VALUES
 BETA .000
 SPDRK 54.920
 EBV020
 EBV023

MACH 10.300
 BOFLAP -14.250
 RUDDER .000

ALPHA 27.000
 30.000

SYMBOL
 ○
 □

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD

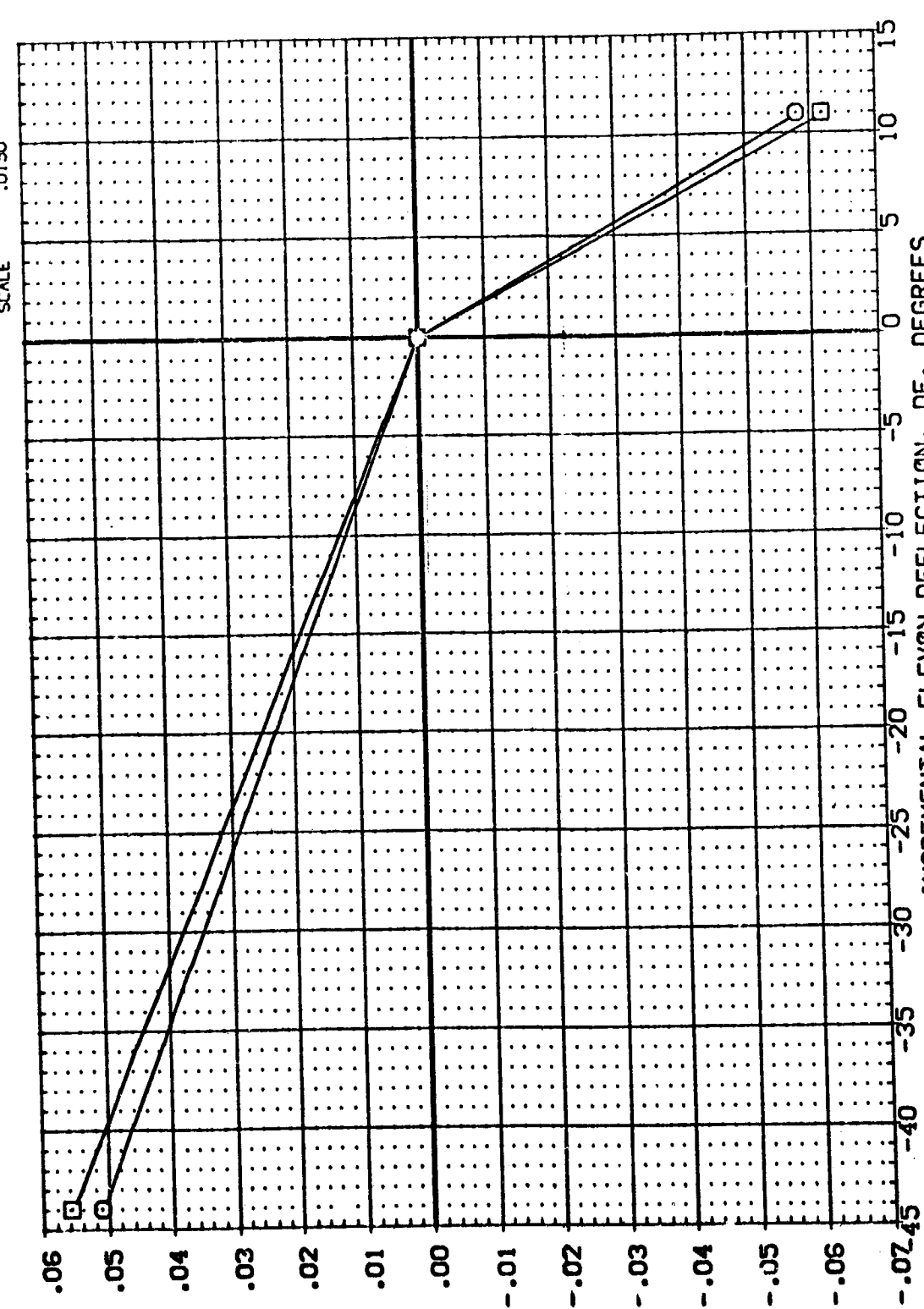


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

SYMBOL	ALPHA	MACH	BOG/LAP	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DE	REFERENCE INFORMATION
○	2.000				10.300 ECTA	.000	EBY017	.000	SREF 6050 SO.FT.
□	5.000				-14.250 SPOBRK	-44.000			LREF 7.1220 IN.
◇	10.000				.000	11.000			BREF 14.0500 IN.
△	15.000								XMRP .0000 IN.
▽	20.000								YMRP .0000 IN.
▽	23.000								ZMRP 6.0000 V.L.
									SCALE .0150

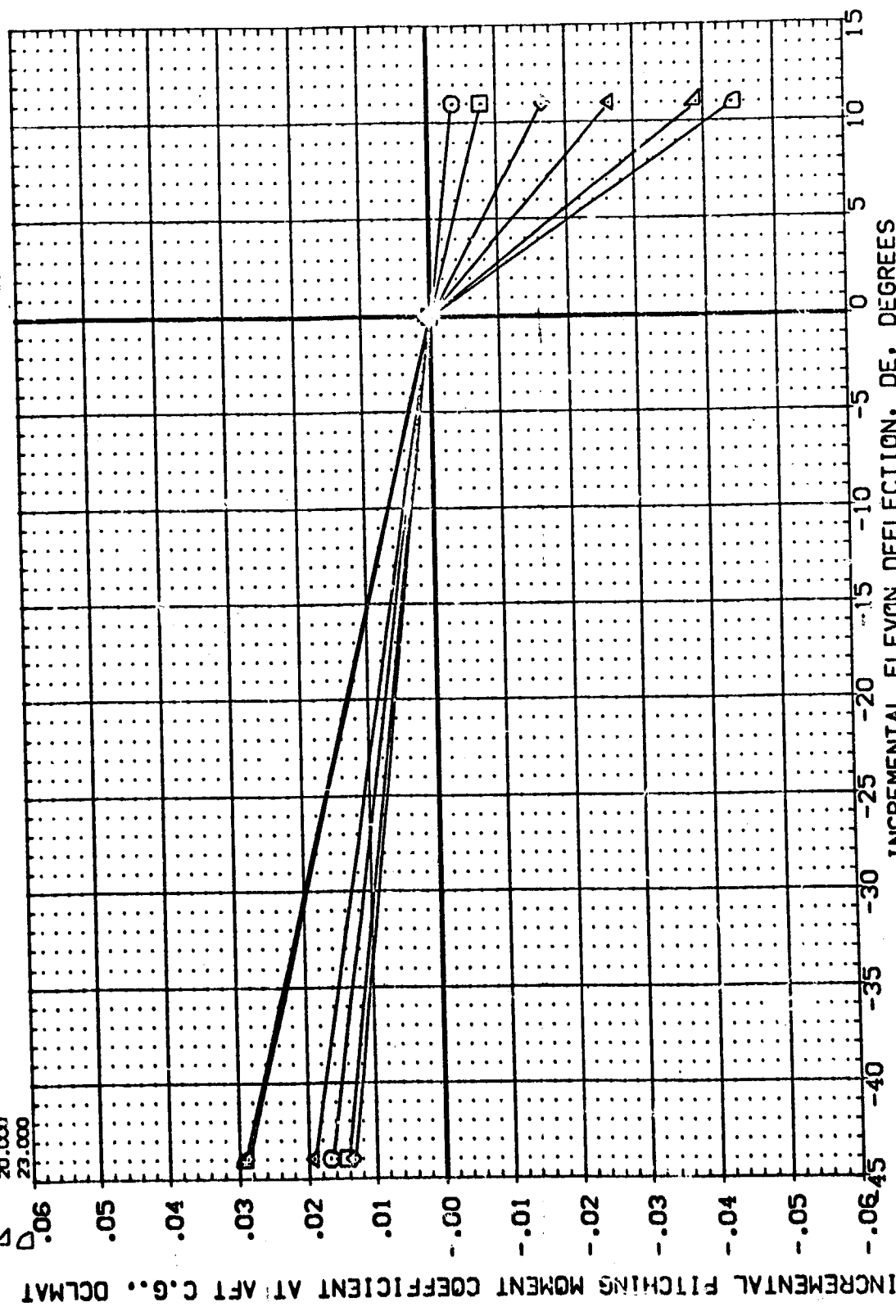


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (EBY020)

ALPHA	27.000	MACH	10.300	BETA	54.920	.000	DATA SOURCE	DE	EBY017	DE	.000	SREF	6.050	SO.FT.
BOF.LAP	30.000	RUDDER	-14.250	SPOBRK	11.000	-44.000	DE	EBY020	DE	11.000	EBY023	LREF	7.1220	IN.
			.000									BRREF	14.0500	IN.
												XMRP	12.5770	IN.
												ZMRP	6.0000	IN.
												SCALE	6.0000	V.L.
													.0150	

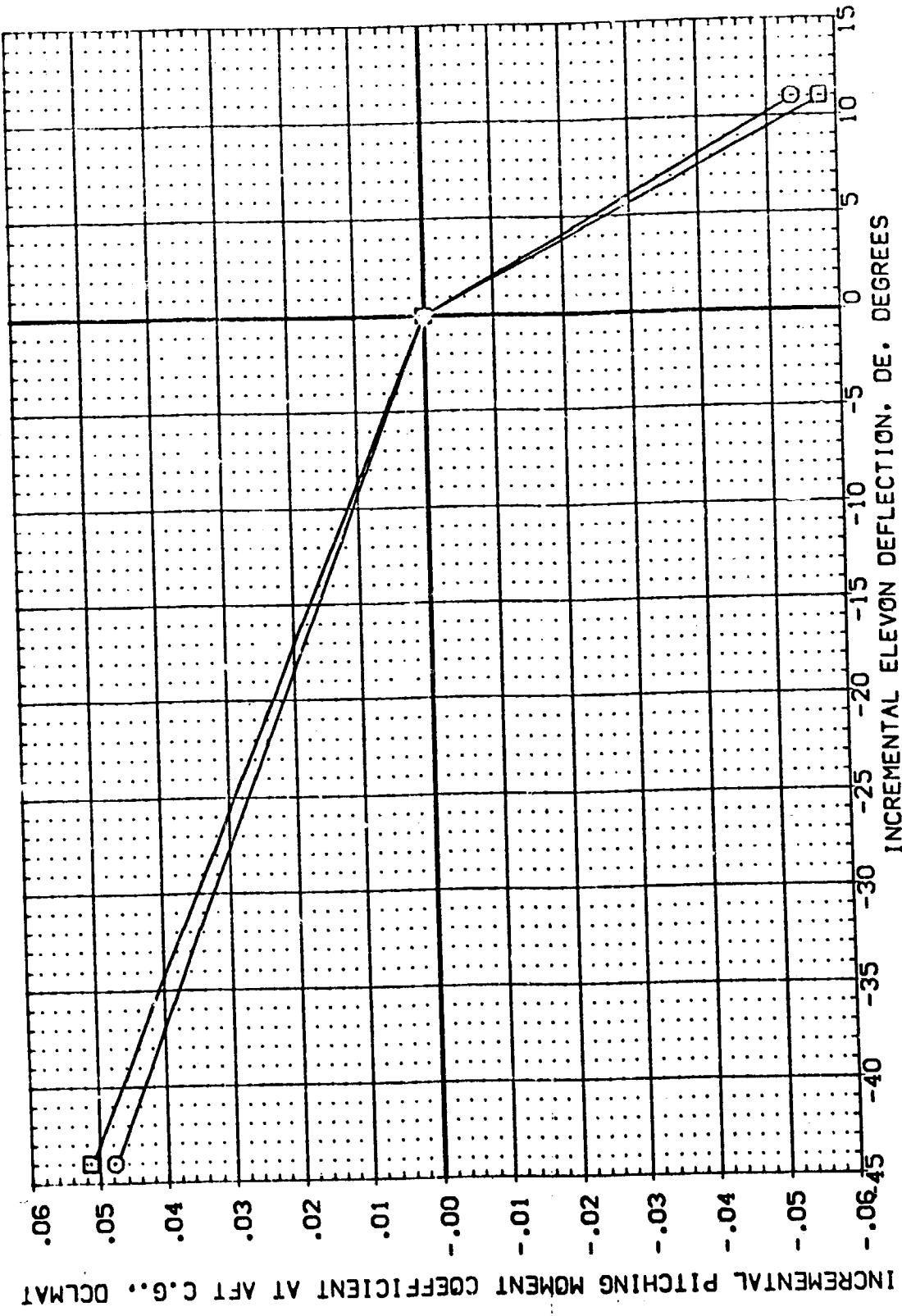
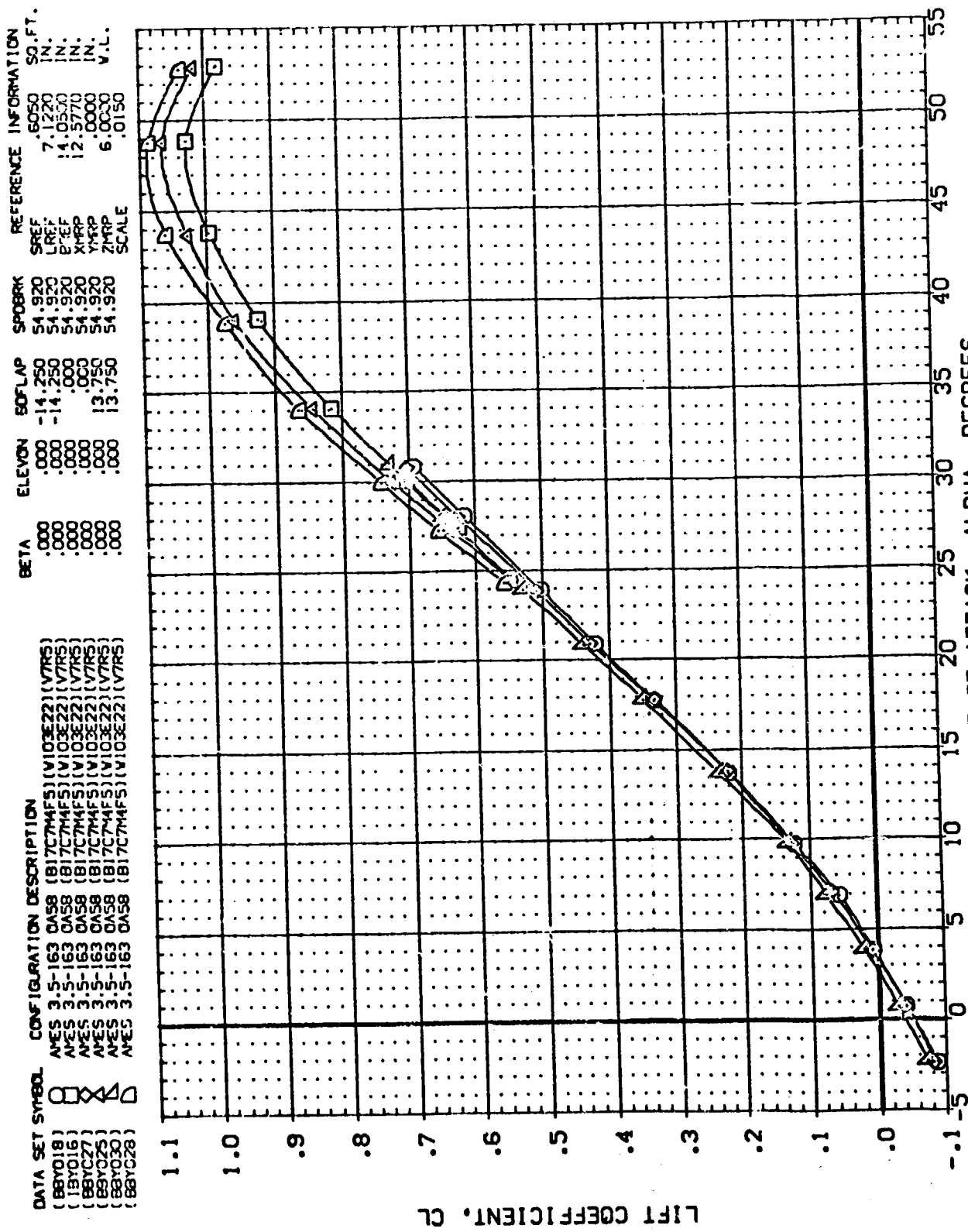


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3



DATA SET SYMBOL: (BBY018), (BBY016), (BBYC27), (BBY025), (BBY030), (BBYC28)

CONFIGURATION DESCRIPTION: AVES 3-5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS), AVES 3-5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS), AVES 3-5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS), AVES 3-5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS), AVES 3-5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)

BETA: .000, .000, .000, .000, .000

ELEVON: .000, .000, .000, .000, .000

SOFLAP: -14.250, -14.250, .000, 13.750, 13.750

SPOBRK: 54.920, 54.920, 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF: 7.1220, LREF: 14.0560, B*REF: 12.5770, XMRP: .0000, YMRP: 6.0000, ZMRP: .0150, SCALE: SQ.FT., IN., IN., IN., V.L.

FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(88Y019)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF 6050 SQ.FT.
(13Y016)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(88Y027)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	BREF 14.0500 IN.
(88Y025)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	XMRP 12.5770 IN.
(88Y030)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	ZMRP 6.0000 V.L.
(88Y028)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	SCALE 0.050

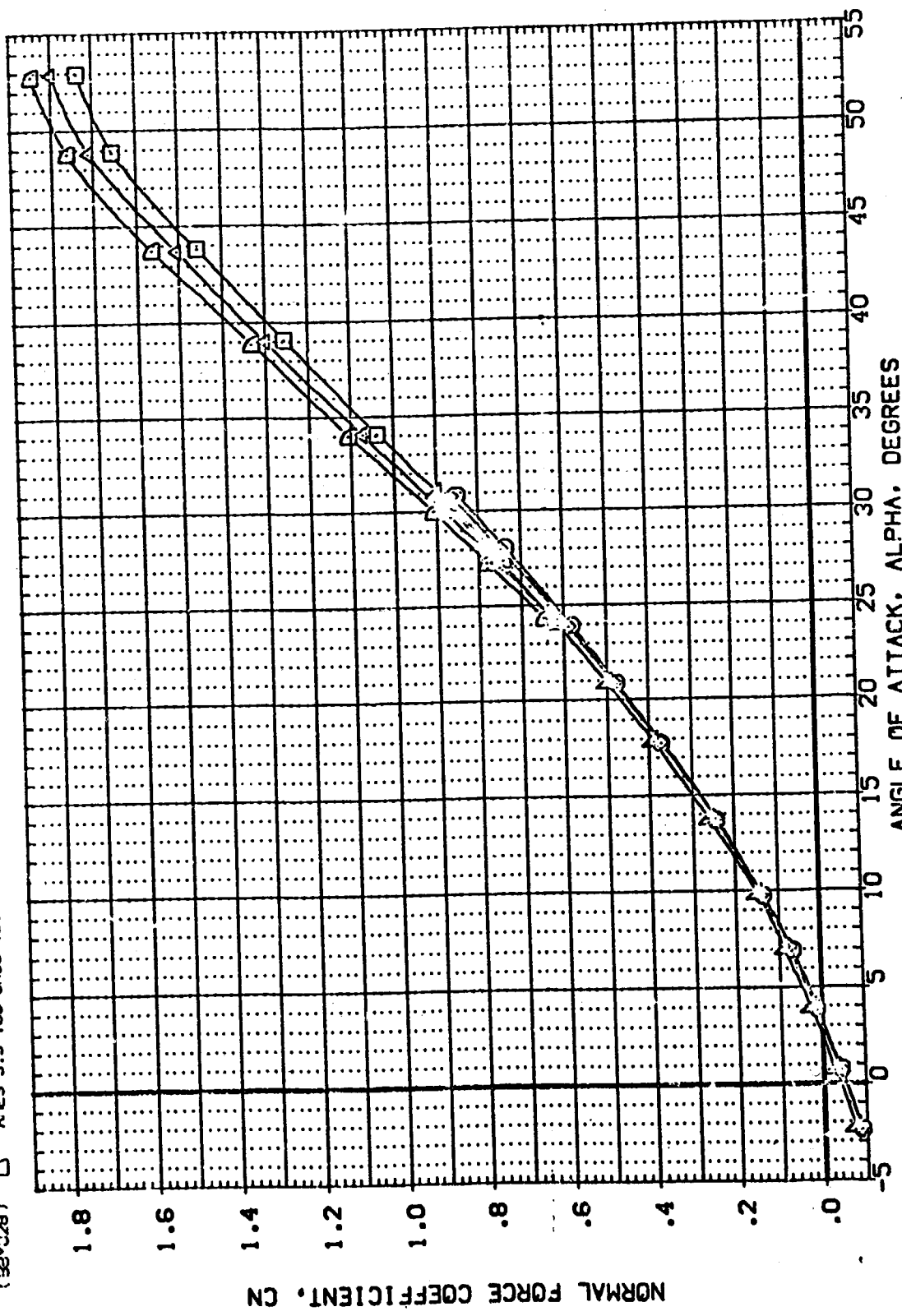


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

10

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BDFLAP	SPOBRK	REFERENCE INFORMATION	SO.FT.
(BBY018)	AVES 3.5-163 DA58 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	-14.250	54.920	SREF	6050
(BBY016)	AVES 3.5-163 DA58 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	-14.250	54.920	LREF	7.1220
(BBY027)	AVES 3.5-163 DA58 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	.000	54.920	BREF	14.0500
(BBY025)	AVES 3.5-163 DA58 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	.000	54.920	XMRP	12.5770
(BBY030)	AVES 3.5-163 DA58 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	13.750	54.920	ZMRP	6.0000
(BBY028)	AVES 3.5-163 DA58 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	13.750	54.920	ZMRP	.0150
						SCALE	

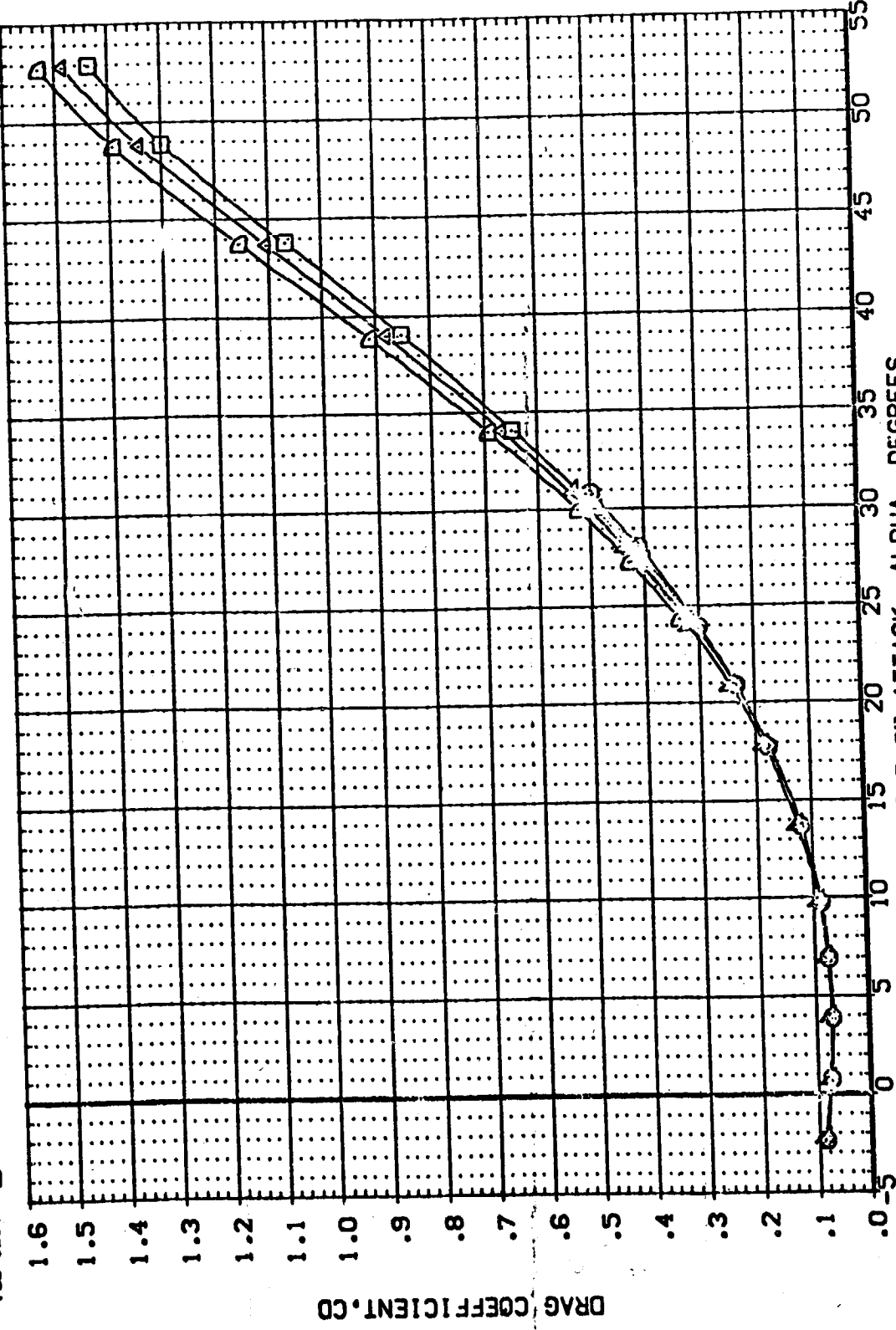


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

REFERENCE INFORMATION
 SREF 6050 50.FT.
 LREF 7.1220 IN.
 GREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

SPOBRK 54.970
 54.970
 54.970
 54.970
 54.970
 54.970
 54.970
 54.970
 54.970
 54.970
 54.970

BOFLAP -14.250
 -14.250
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

ELEVON .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

BETA .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

DATA SET SYMBOL
 (BBY018) \square
 (BY016) \square
 (BBY027) \square
 (BBY025) \square
 (BBY030) \square
 (BBY028) \square

CONFIGURATION DESCRIPTION
 AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)
 AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)

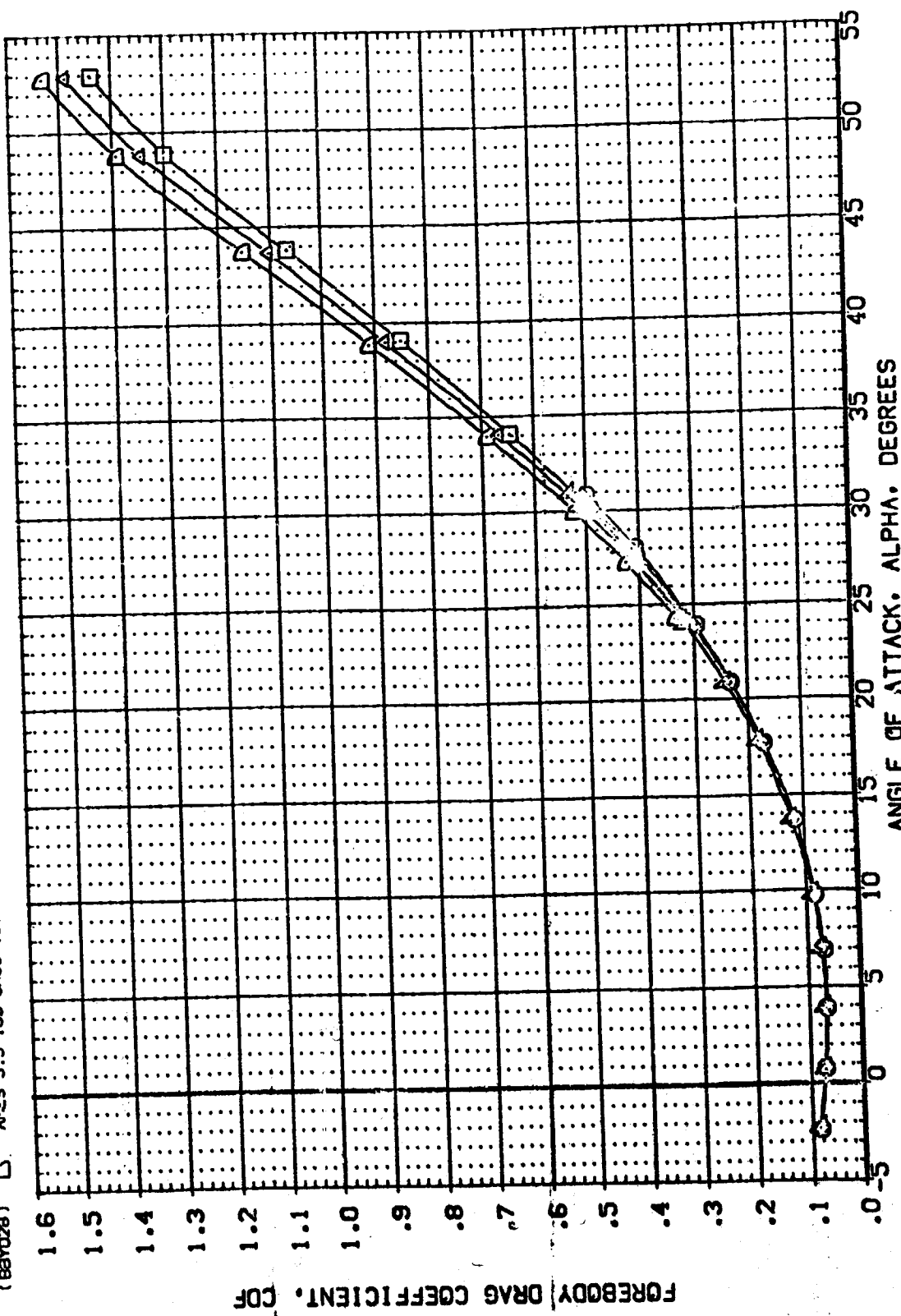


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY018)	AMES 3-5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF 6050 SO.FT.
(BBY016)	AMES 3-5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	LREF 7.1220 IN.
(BBY027)	AMES 3-5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.030	.000	54.920	BREF 14.0500 IN.
(BBY025)	AMES 3-5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	XMRP 12.5770 IN.
(BBY030)	AMES 3-5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	ZMRP 6.0000 V.L.
(BBY028)	AMES 3-5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	SCALE .0150

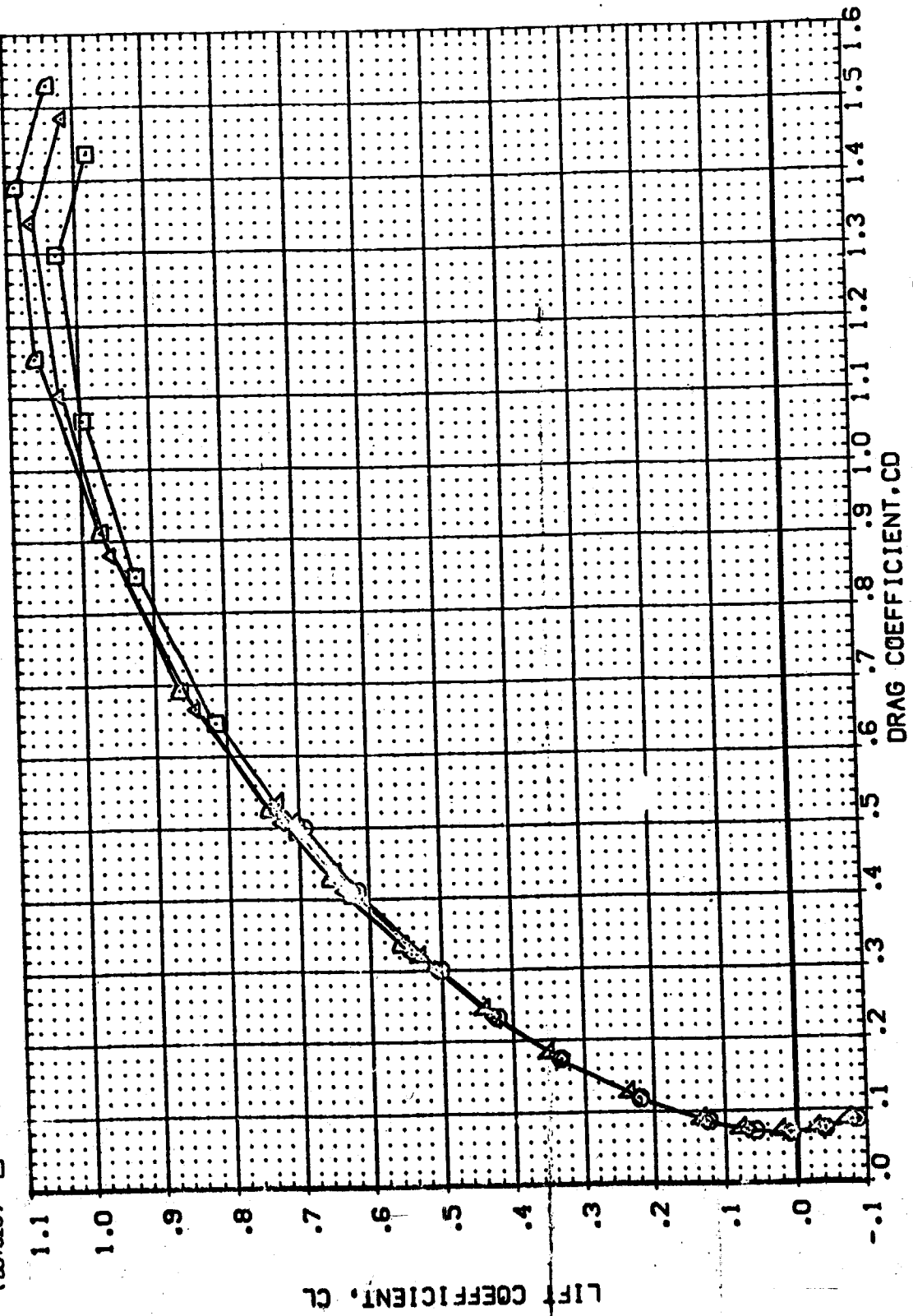


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A) MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY018)	AVES 3-5-163 OA58 (B17C7M4F5) (V103E22) (V7RS)	.000	.000	-14.250	54.920	.6C50
(LBY016)	AVES 3-5-163 OA58 (B17C7M4F5) (V103E22) (V7RS)	.000	.000	-14.250	54.920	7.1270
(BBY027)	AVES 3-5-163 OA58 (B17C7M4F5) (V103E22) (V7RS)	.000	.000	.000	54.920	14.0500
(BBY025)	AVES 3-5-163 OA58 (B17C7M4F5) (V103E22) (V7RS)	.000	.000	.000	54.920	12.5770
(BBY030)	AVES 3-5-163 OA58 (B17C7M4F5) (V103E22) (V7RS)	.000	.000	13.750	54.920	.0000
(BBY028)	AVES 3-5-163 OA58 (B17C7M4F5) (V103E22) (V7RS)	.000	.000	13.750	54.920	6.0000
						.0150
						SCALE

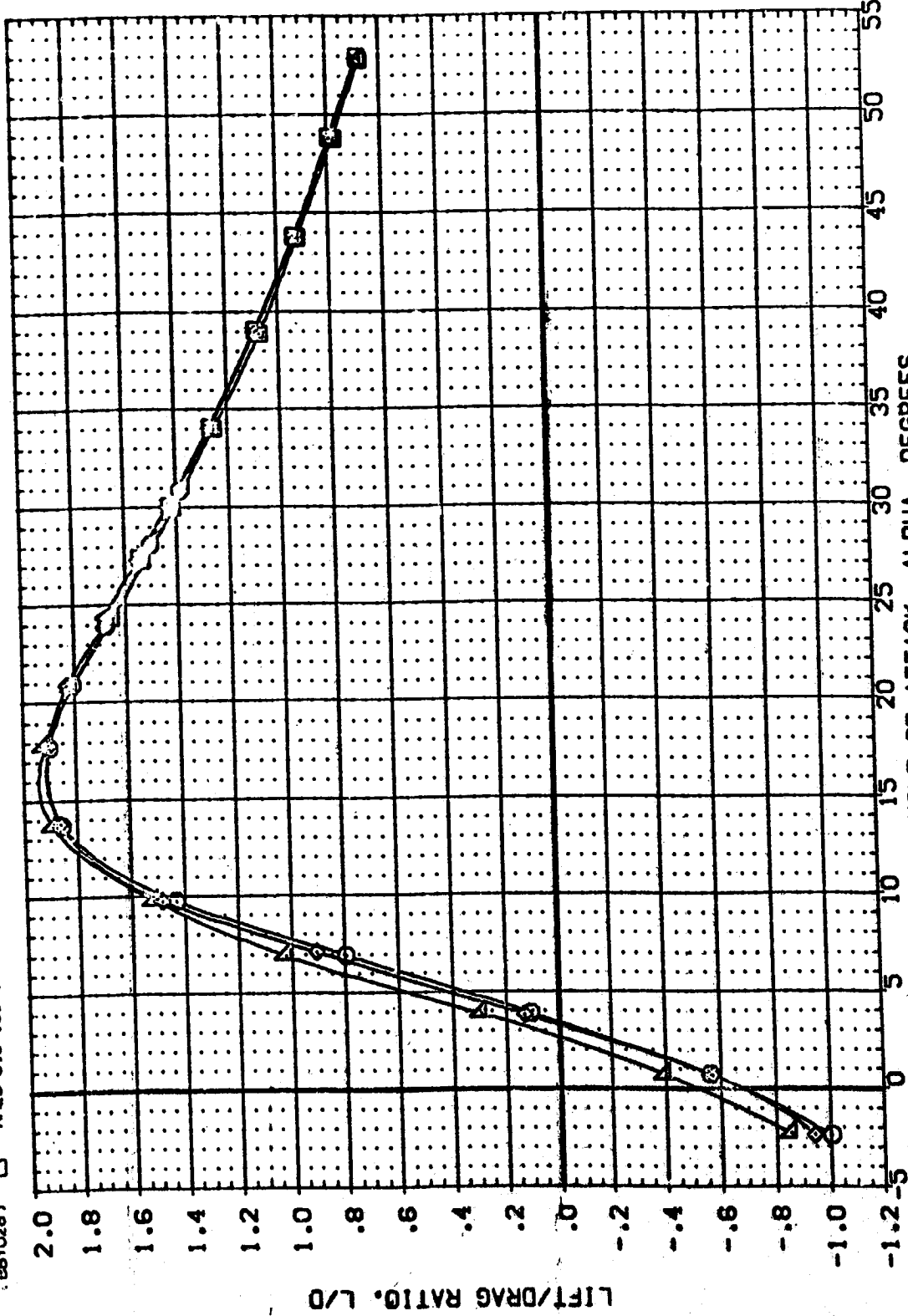


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A) MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BD/LAP	SPOBRK	REFERENCE INFORMATION
(BB7018)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF .6050 SQ.FT.
(BB7016)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BB7027)	AMES 3.5-163 OAS6 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	.000	54.920	BREF 14.0500 IN.
(BB7025)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	.000	54.920	XREF 12.5770 IN.
(BB7030)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	13.750	54.920	YREF 6.0000 IN.
(BB7028)	AMES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	13.750	54.920	ZREF 6.0000 V.L.
						SCALE .0150

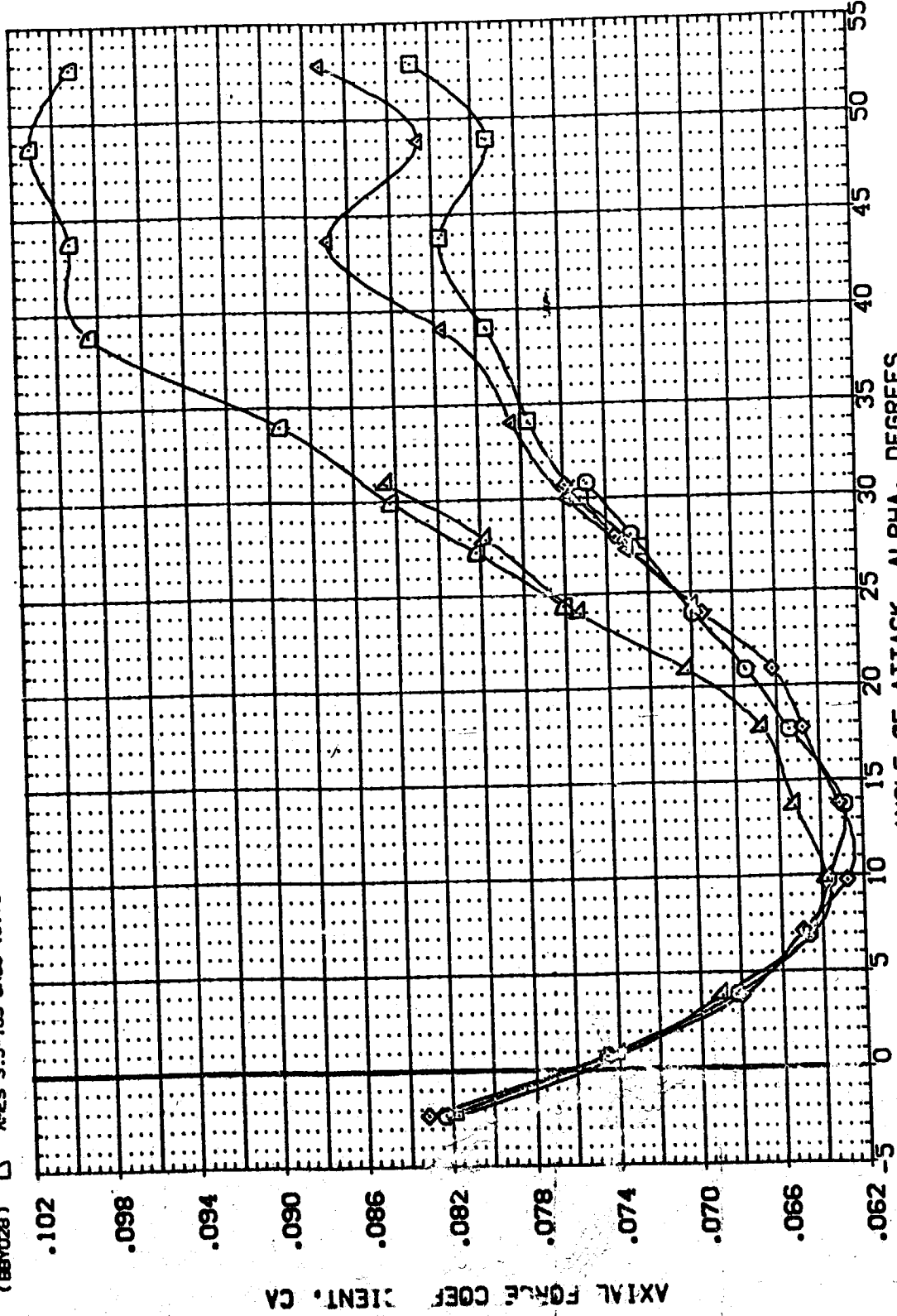


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BDFLAP	SPOBRK	REFERENCE INFORMATION
(BBY018)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF 6050
(BBY016)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220
(BBY027)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	BREF 14.0500
(BBY025)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	YMRP 12.5770
(BBY020)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	ZMRP 6.0000
(BBY028)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	SCALE .0150

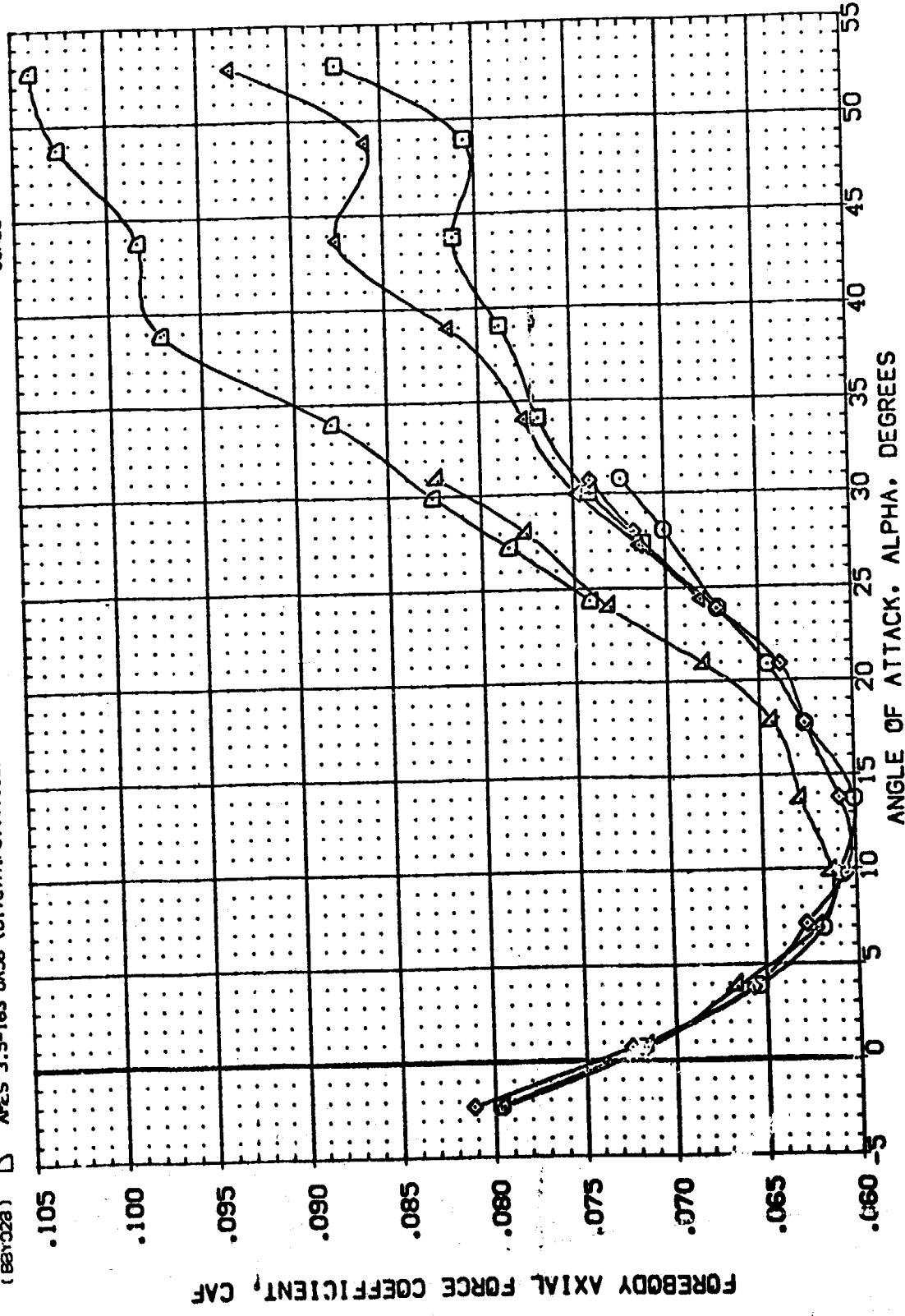


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.32
 (A)MACH = 7.32

BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
.000	.000	-14.250	54.920	SREF 6050 SQ.FT.
.000	.000	-14.250	54.920	LREF 7.1220 IN.
.000	.000	.000	54.920	BREF 14.0500 IN.
.000	.000	.000	54.920	XMRP 12.5770 IN.
.000	.000	13.750	54.920	OLAS 6.0000 V.L.
.000	.000	13.750	54.920	ZMRP 6.0000 V.L.
.000	.000		54.920	SCALE .0150

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(BBYC18)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)
(IBYC16)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)
(BBYC27)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)
(BBYC25)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)
(BBYC30)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)
(BBYC28)	AVES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)

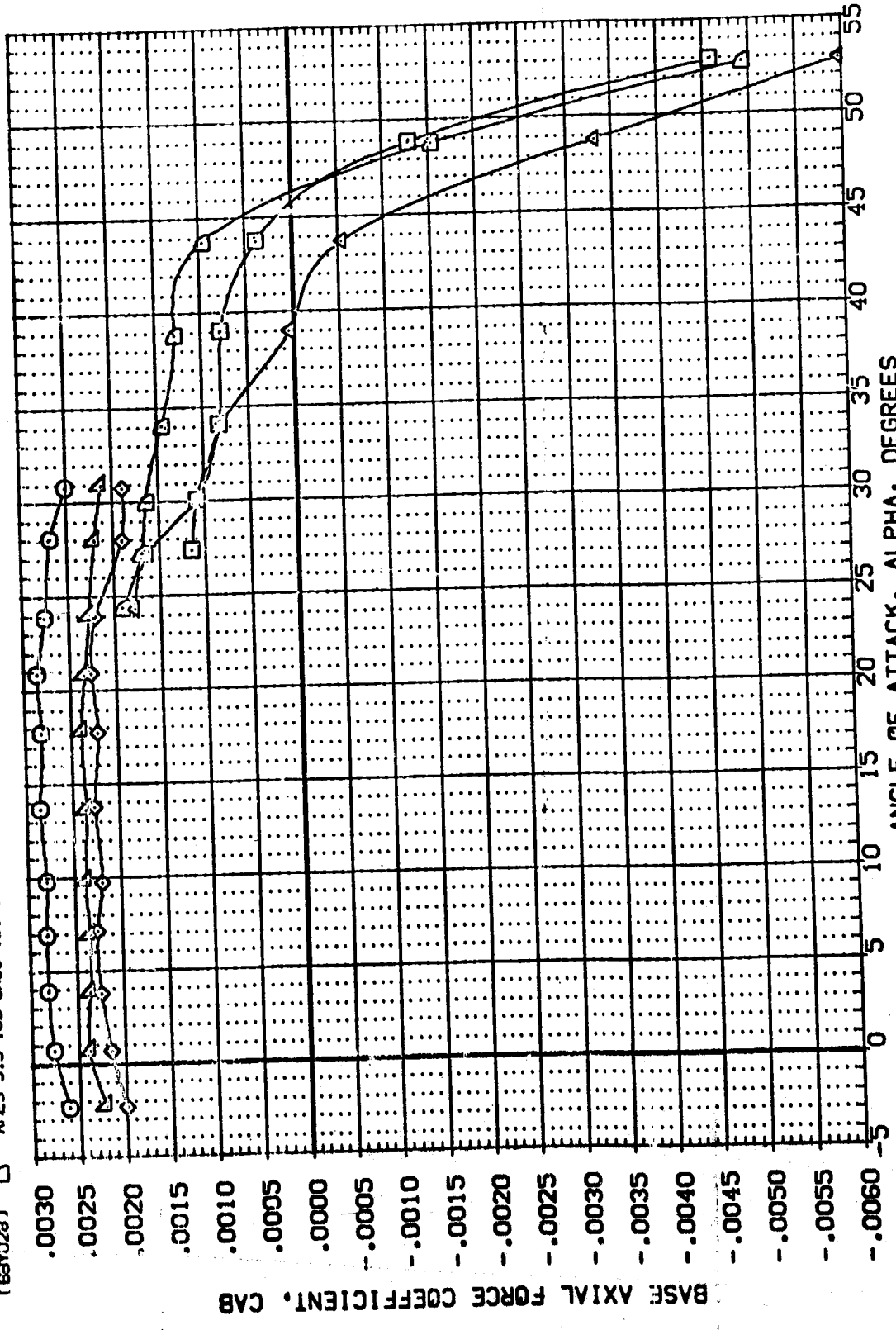


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

REFERENCE INFORMATION
 SO.FT. IN.
 6050
 7.1220
 14.0500
 12.5770
 6.0000
 6.0150
 SREF LREF BRFP XMRP YMRP ZMRP SCALE

BETA
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

BOFLAP
 -14.250
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000
 .000

SPOBRK
 54.920
 54.920
 54.920
 54.920
 54.920
 54.920
 54.920
 54.920
 54.920
 54.920

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BBVC18) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)
 (BBVC19) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)
 (BBVC20) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)
 (BBVC21) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)
 (BBVC22) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)
 (BBVC23) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)
 (BBVC24) ASES 3.5-163 OASB (B17C7M4F5)(W103E22)(V7RS)

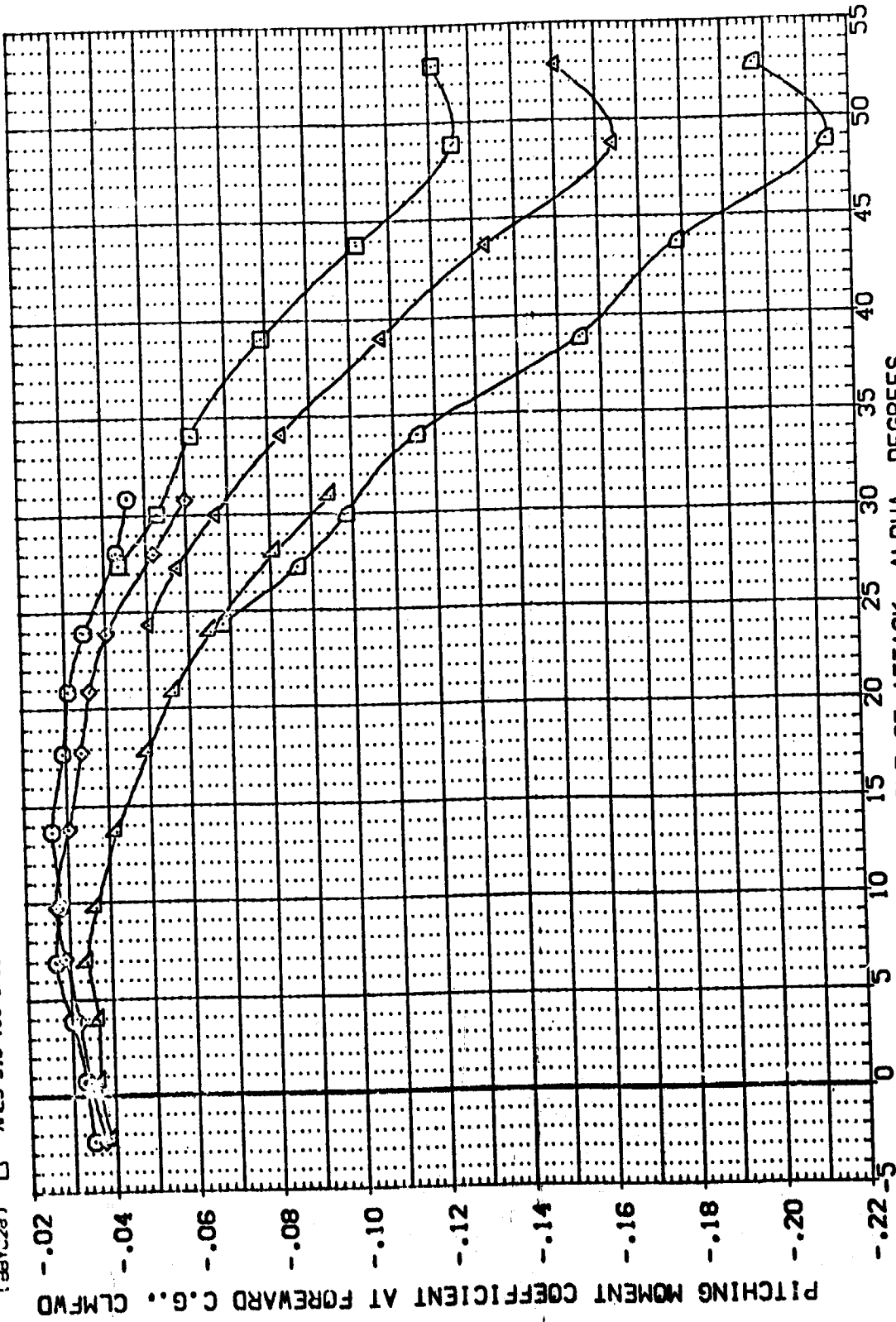


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBY018)	AMES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF 6050 SQ.FT.
(BBY016)	AMES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220 IN.
(BBY027)	AMES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	.000	54.920	BREF 14.0500 IN.
(BBY025)	AMES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	.000	54.920	XPRP 12.5770 IN.
(BBY030)	AMES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	13.750	54.920	YPRP 6.0000 IN.
(BBY028)	AMES 3-5-163 OAS8 (B17C7M4F5)(V103E22)(V7RS)	.000	.000	13.750	54.920	ZPRP 6.0000 V.L.
						SCALE .0150

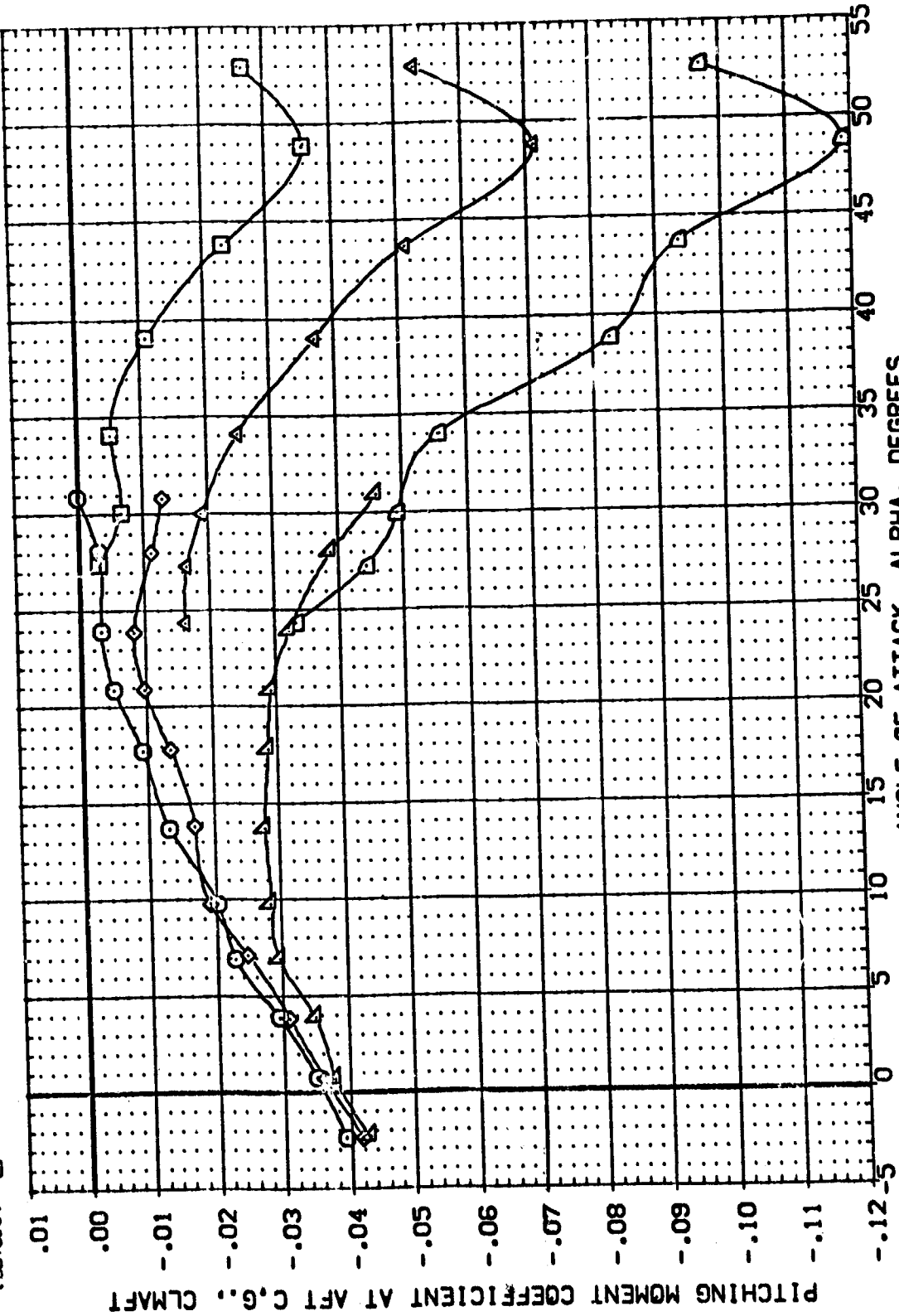


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BDFLAP	SPOBRK	REFERENCE INFORMATION
(BBY018)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	-14.250	54.920	.6050 SO.FT.
(BBY016)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	-14.250	54.920	7.1270 IN.
(BBY027)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	.000	54.920	14.0500 IN.
(BBY025)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	.000	54.920	12.5770 IN.
(BBY020)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	13.750	54.920	.0000 IN.
(BBY028)	AVES 3-5-163 DAS8 (B17C7M4FS)(V103E22)(V7R5)	.000	.000	13.750	54.920	6.0000 V.L.
						.0150 SCALE

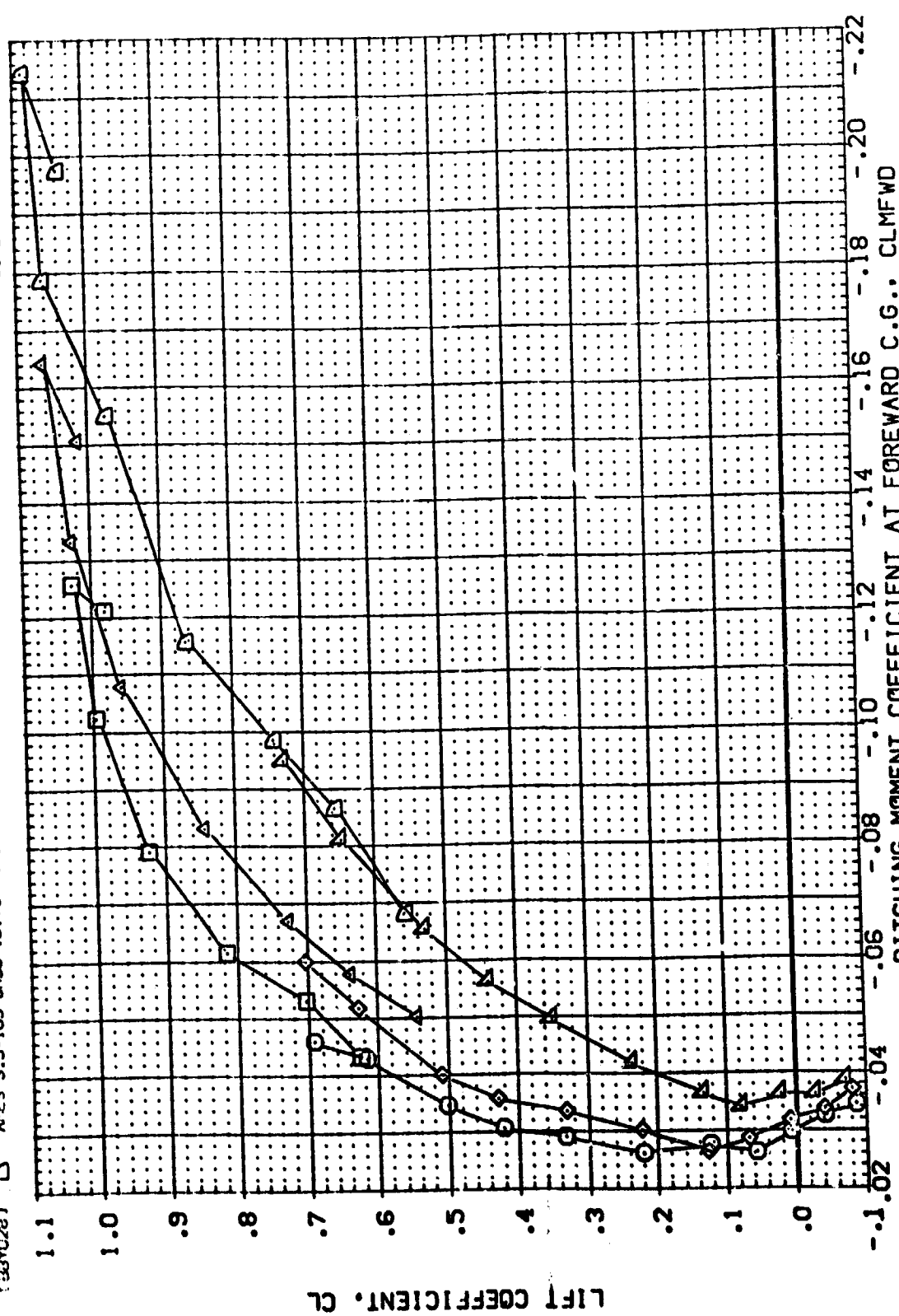


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BDFLAP	SPOBRK	REFERENCE INFORMATION
(88V018)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	.6050 SQ.FT.
(18V016)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	7.1220 IN.
(88V027)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	14.0500 IN.
(88V025)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	12.5770 IN.
(88V033)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	.0000 IN.
(88V028)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	6.0000 V.L.
						.0150 SCALE

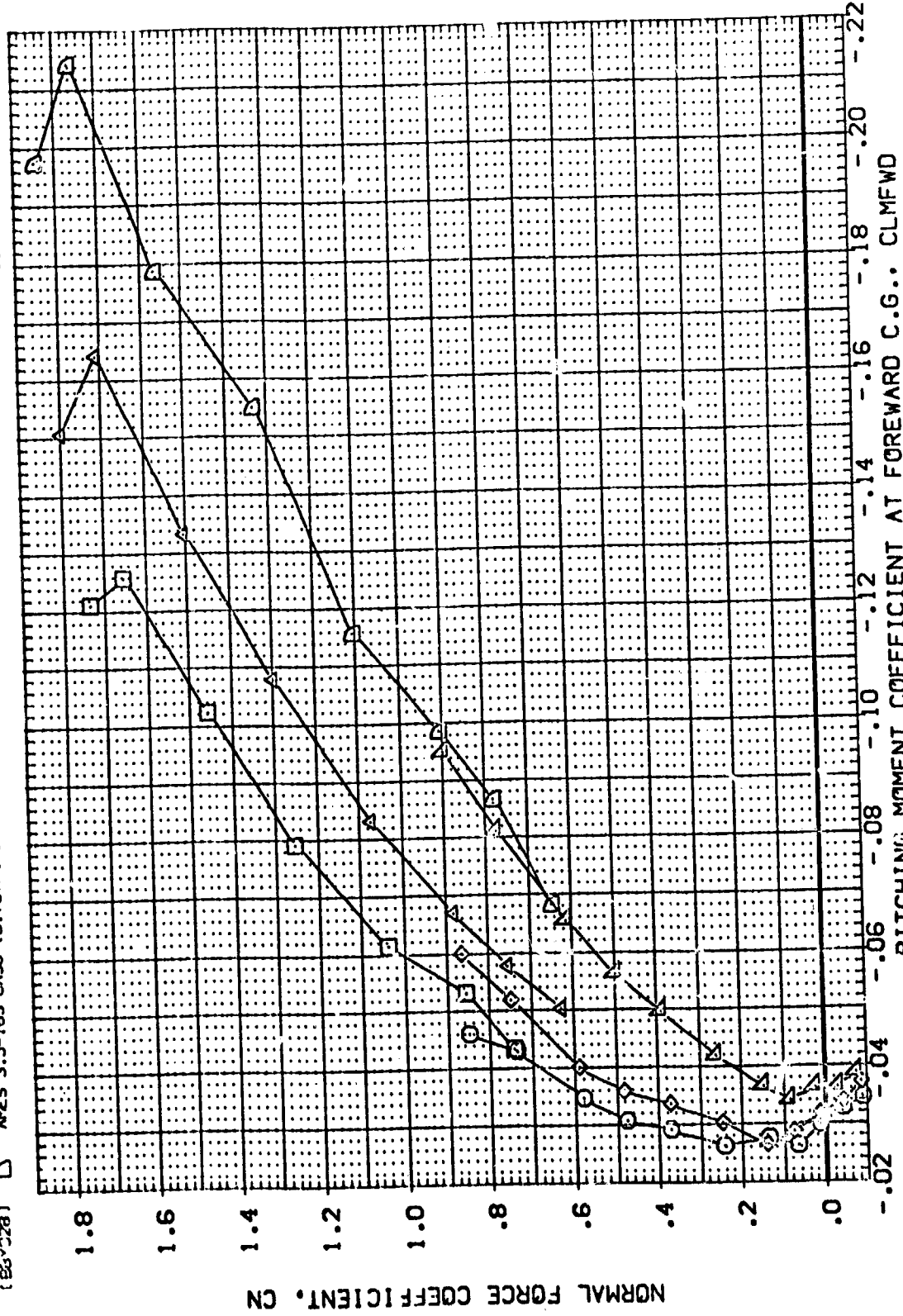


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.32

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BD/LAP	SFOBRK	REFERENCE INFORMATION
(RBV18)	AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	.6050
(RBV16)	AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	7.1220
(RBV027)	AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	14.0500
(RBV025)	AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	12.5770
(RBV030)	AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	6.0000
(RBV028)	AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	6.0000
						SCALE

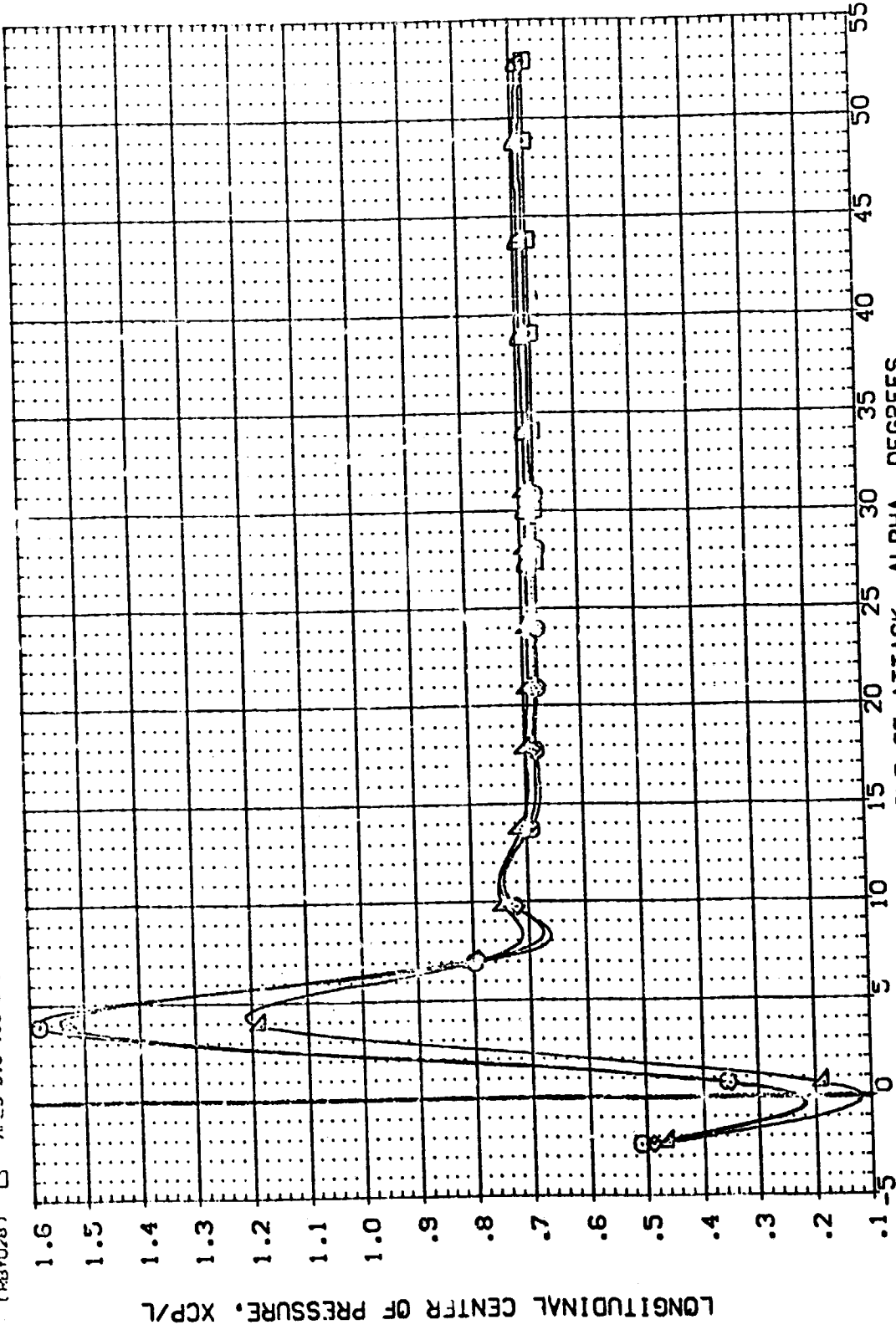


FIG. 11 CONFIGURATION -139 ELEVON EFFECTIVENESS AT MACH 10.3

(A)MACH = 7.32

DATA SET SYMBOL
 (SBY018)
 (SBY016)
 (SBY030)
 (SBY028)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 OASB (817C7M4F5)(V103E22)(V7R5)
 AVES 3.5-163 OASB (817C7M4F5)(V103E22)(V7R5)
 AVES 3.5-163 OASB (817C7M4F5)(V103E22)(V7R5)
 AVES 3.5-163 OASB (817C7M4F5)(V103E22)(V7R5)

BETA
 .000
 .000
 .000
 .000

DE
 .000
 .000
 .000

DBF
 -14.250
 -14.250
 13.750

SPOBRK
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YREF .0000 IN.
 ZREF 6.0000 V.L.
 SCALE .0150

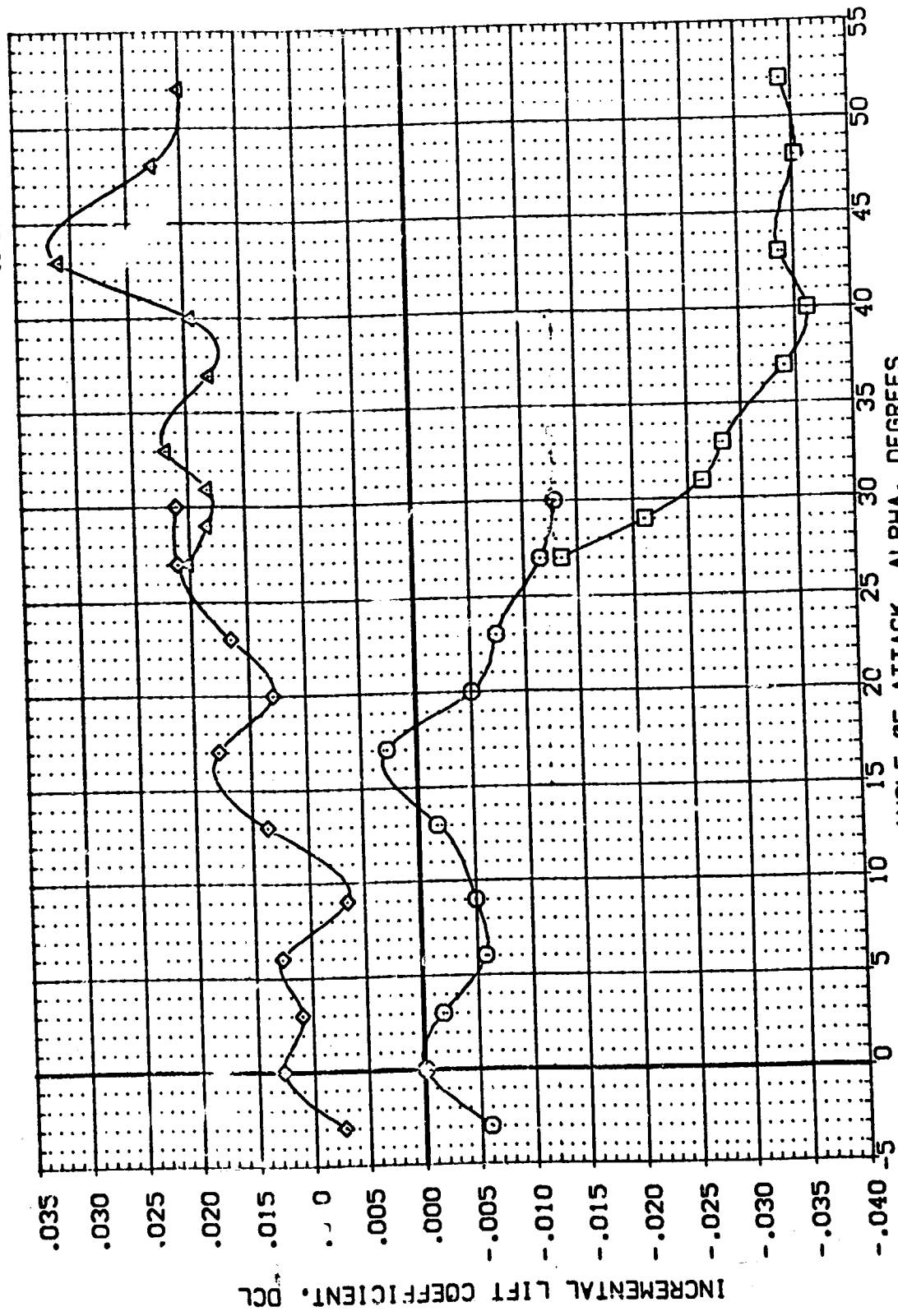


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(S9Y018)	AMES 3.5-163 OASB (B17C7MFS)(V103E22)(V7RS)	SREF	6050	SO.FT.
(S9Y016)	AMES 3.5-163 OASB (B17C7MFS)(V103E22)(V7RS)	LREF	7.1220	IN.
(S9Y030)	AMES 3.5-163 OASB (B17C7MFS)(V103E22)(V7RS)	BREF	14.0500	IN.
(S9Y028)	AMES 3.5-163 OASB (B17C7MFS)(V103E22)(V7RS)	XPRP	12.5770	IN.
		YPRP	6.0000	IN.
		ZPRP	6.0000	V.L.
		SCALE	.0150	

BETA DE DBF SPOBRK

.000	.000	-14.250	54.920
.000	.000	-14.250	54.920
.000	.000	13.750	54.920
.000	.000	13.750	54.920

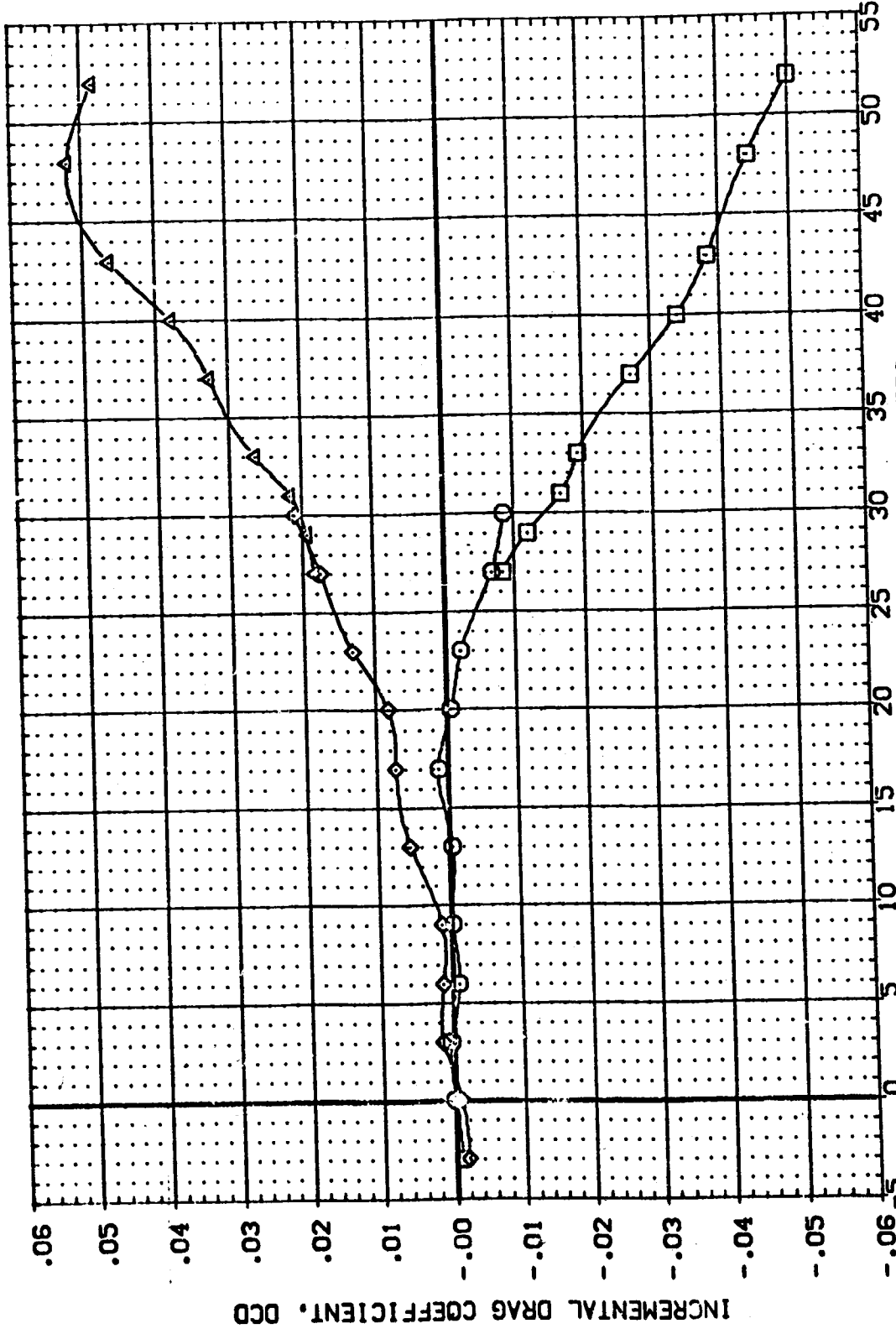


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	DBF	SPOBRK	REFERENCE INFORMATION
(SBV018)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	.6050 SQ.FT.
(SBV016)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	7.1220 IN.
(SBV030)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	14.0500 IN.
(SBV028)	AVES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	12.5770 IN.
						.0000 IN.
						6.0000 V.L.
						.0150 SCALE

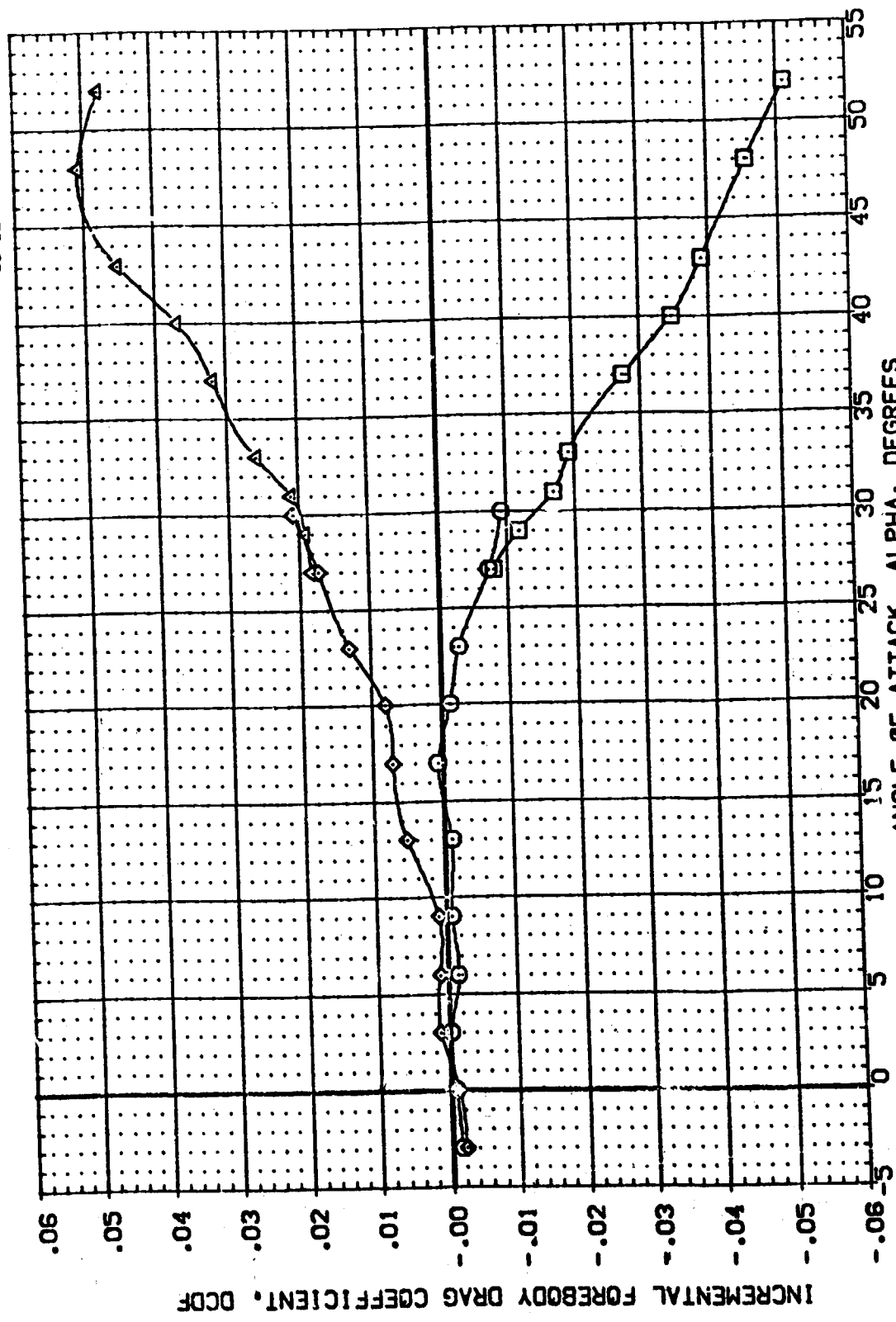


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30



DATA SET SYMBOL: (SBY018), (SBY016), (SBY020), (SBY028)

CONFIGURATION DESCRIPTION: AYES 3.5-163 CAS8 (817C7M4FS)(V103E22)(V7RS), AYES 3.5-163 CAS8 (817C7M4FS)(V103E22)(V7RS), AYES 3.5-163 CAS8 (817C7M4FS)(V103E22)(V7RS), AYES 3.5-163 CAS8 (817C7M4FS)(V103E22)(V7RS)

BETA: .000, .000, .000, .000

DE: .000, .000, .000, .000

DBF: -14.250, -14.250, 13.750, 13.750

SPDBRK: 54.920, 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF 7.1220 IN., LREF 14.0500 IN., BREF 12.5770 IN., XMRP 6.0000 IN., YMRP .0150 V.L., SCALE

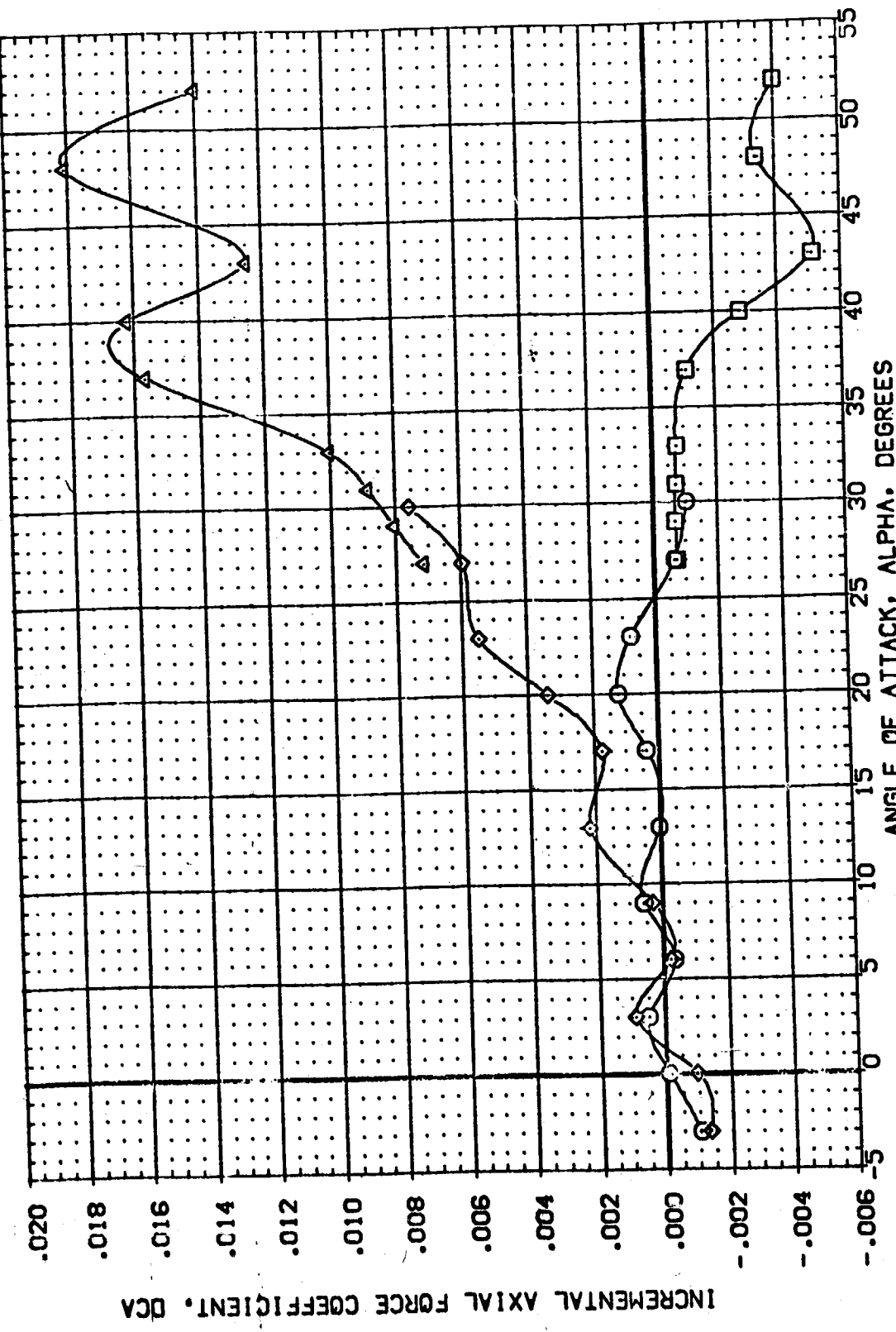


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

REFERENCE INFORMATION
 SREF .6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 V.L.
 SCALE .0150

SPDRK 54.970
 DBF -14.250
 DE .000
 BETA .000
 .000
 .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (SBV018) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 (SBV016) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 (SBV030) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 (SBV028) AMES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)

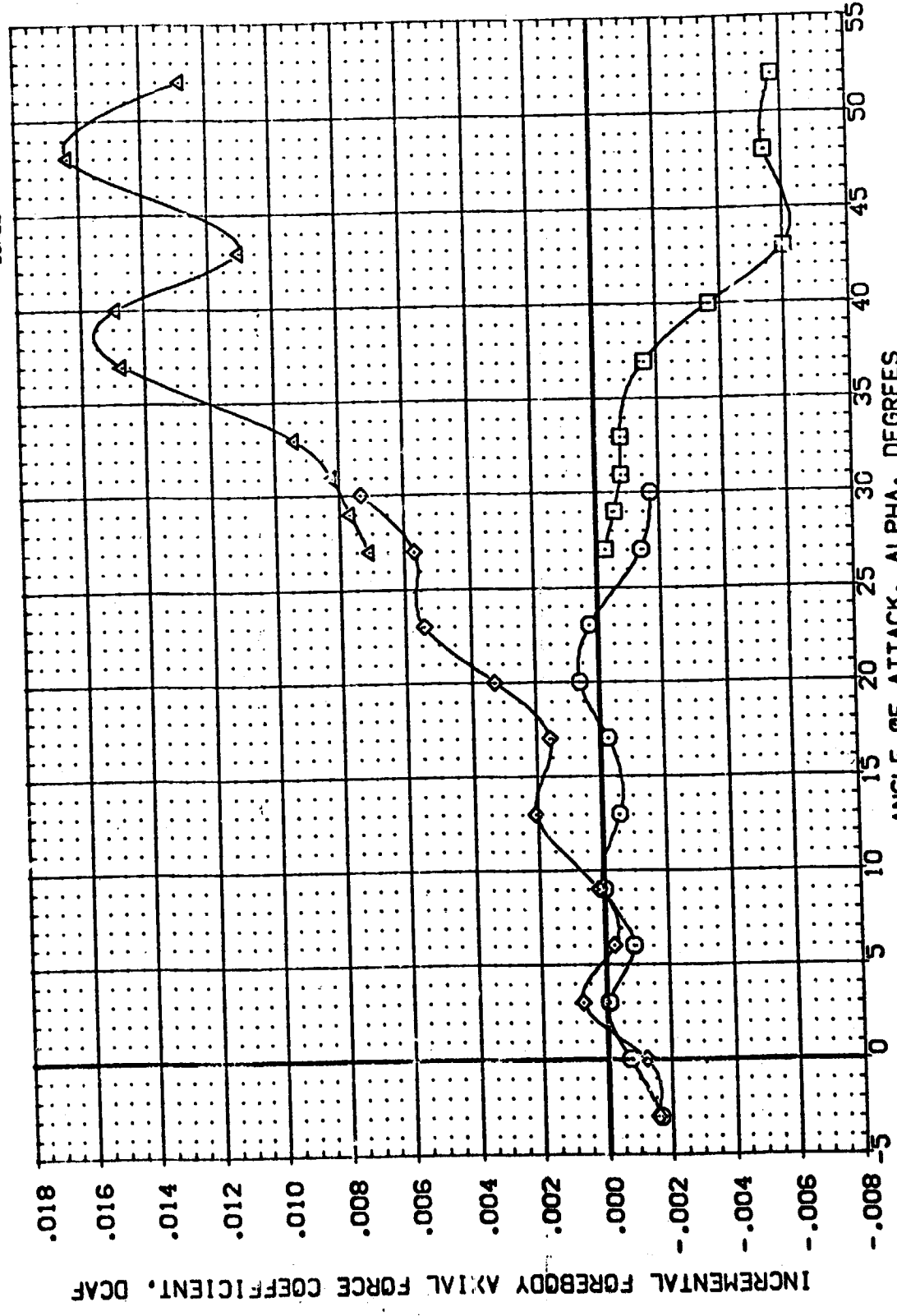


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	DE	DBF	SPOBRK	REFERENCE INFORMATION
(SBY018)	AVES 3.5-163 OAS8 (B17C7MFS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF 6050
(SBY016)	AVES 3.5-163 OAS8 (B17C7MFS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	LREF 7.1220
(SBY030)	AVES 3.5-163 OAS8 (B17C7MFS)(V103E22)(V7RS)	.000	.000	13.750	54.920	BREF 14.0500
(SBY028)	AVES 3.5-163 OAS8 (B17C7MFS)(V103E22)(V7RS)	.000	.000	13.750	54.920	XMRP 12.5770
						ZMRP .0000
						SCALE 6.0000
						V.L. .0150

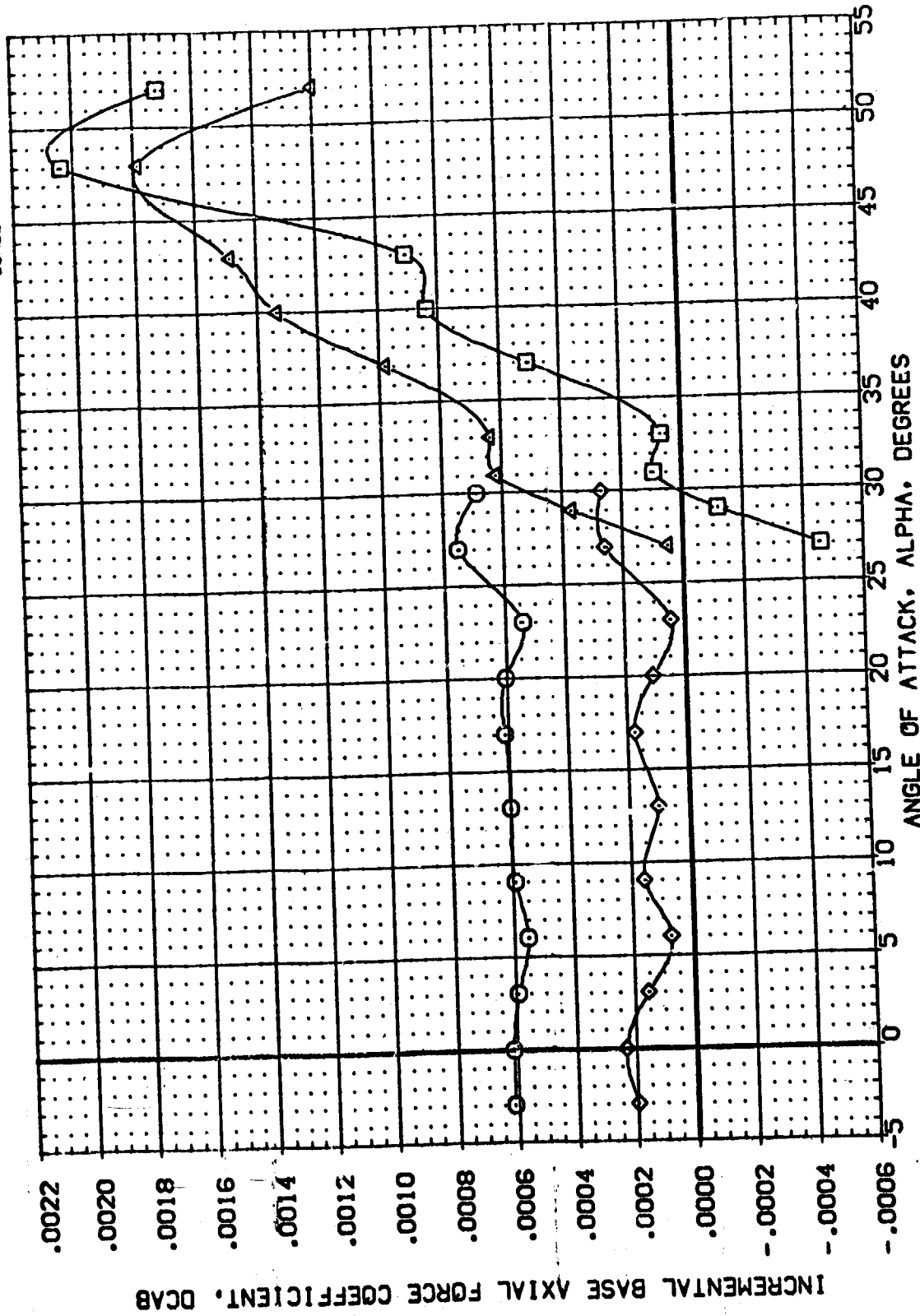


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., C_{LPMFD}

DATA SET SYMB. CONFIGURATION DESCRIPTION

(SBV018) AMES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)

(SBV019) AMES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)

(SBV020) AMES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)

(SBV021) AMES 3.5-163 OASB (817C7M4F5)(W103E22)(V7R5)

BETA DE .000

DEF -14.250

SPOBRK 54.920

REFERENCE INFORMATION

6090 SO.FT.

7.1220 IN.

14.0500 IN.

12.5770 IN.

0.0000 IN.

6.0350 V.L.

SCALE

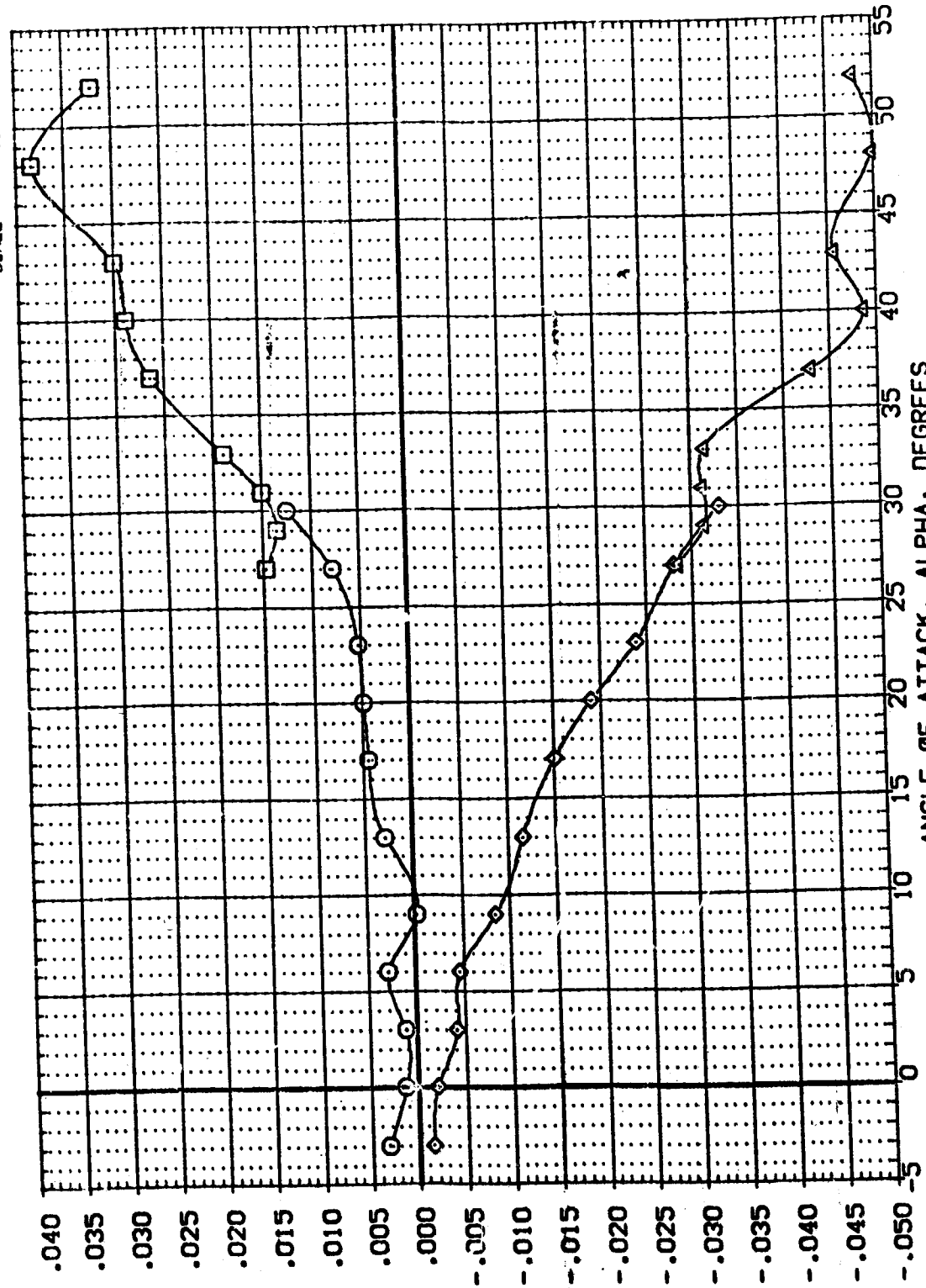


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

DATA SET SYMBOL: (SBV018), (SBV016), (SBV030), (SBV028)
 CONFIGURATION DESCRIPTION: AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5), AVES 3.5-163 OAS8 (B17C7M4F5)(V103E22)(V7R5)
 BETA: .000, .000, .000, .000
 DE: .000, .000, .000, .000
 DEF: -14.250, -14.250, -13.750, -13.750
 SPOBRK: 54.920, 54.920, 54.920, 54.920
 REFERENCE INFORMATION: SREF .6050 SO.FT., LREF 7.1220 IN., BREF 14.0500 IN., XMRP 12.5770 IN., YMRP .0000 IN., ZMRP 6.0000 V.L., SCALE .0150

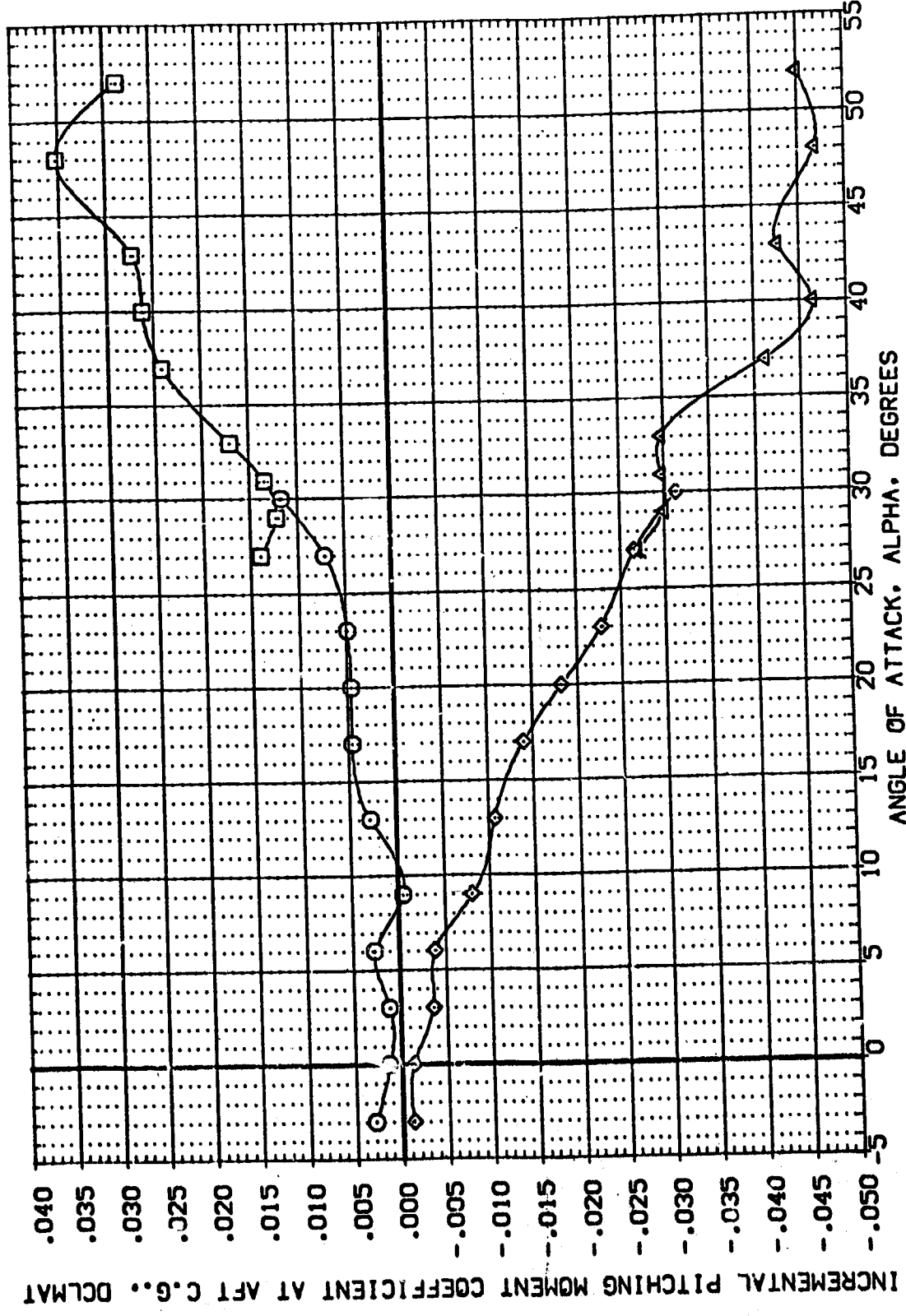
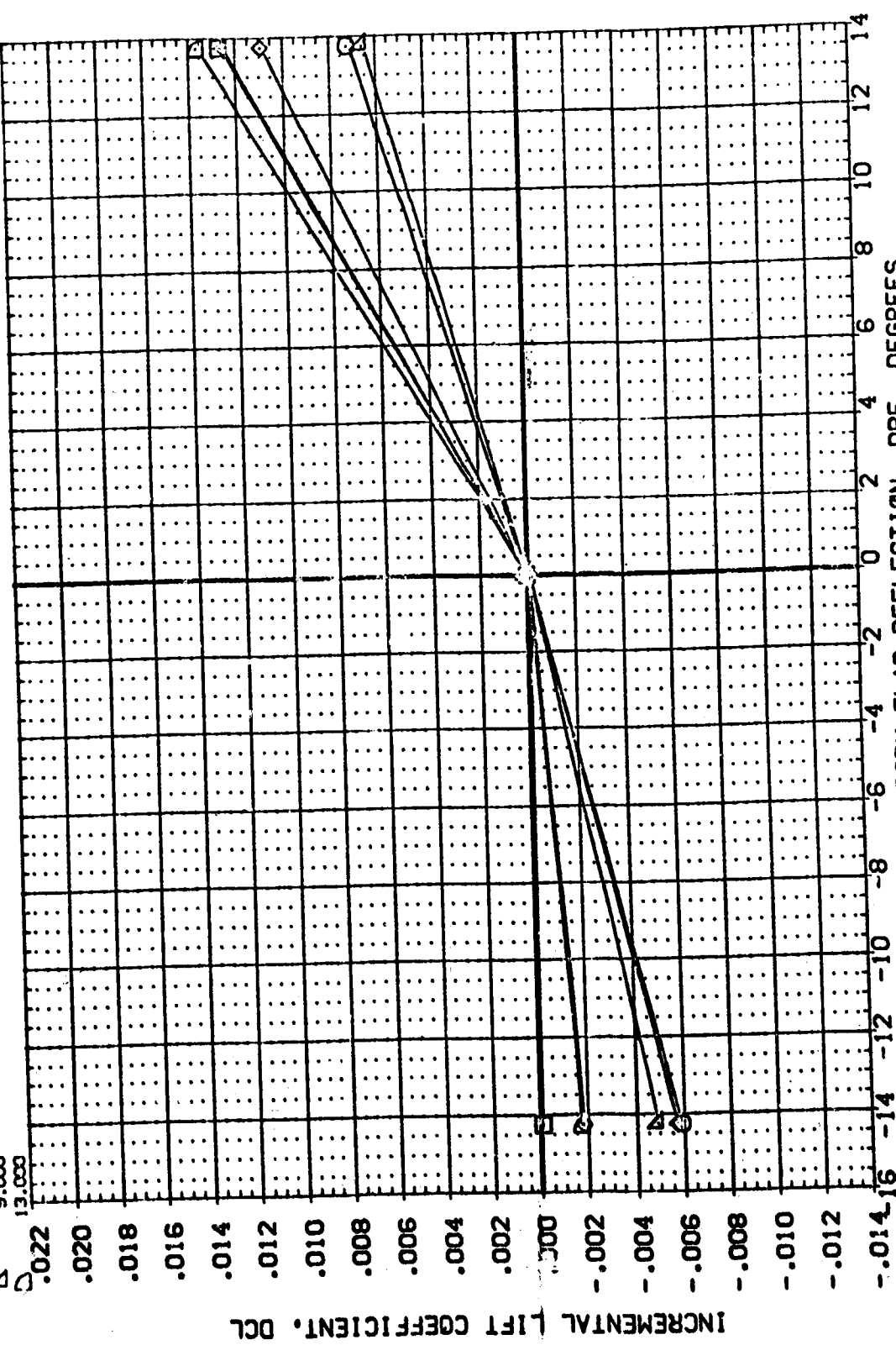


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

(A)MACH = 7.30

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

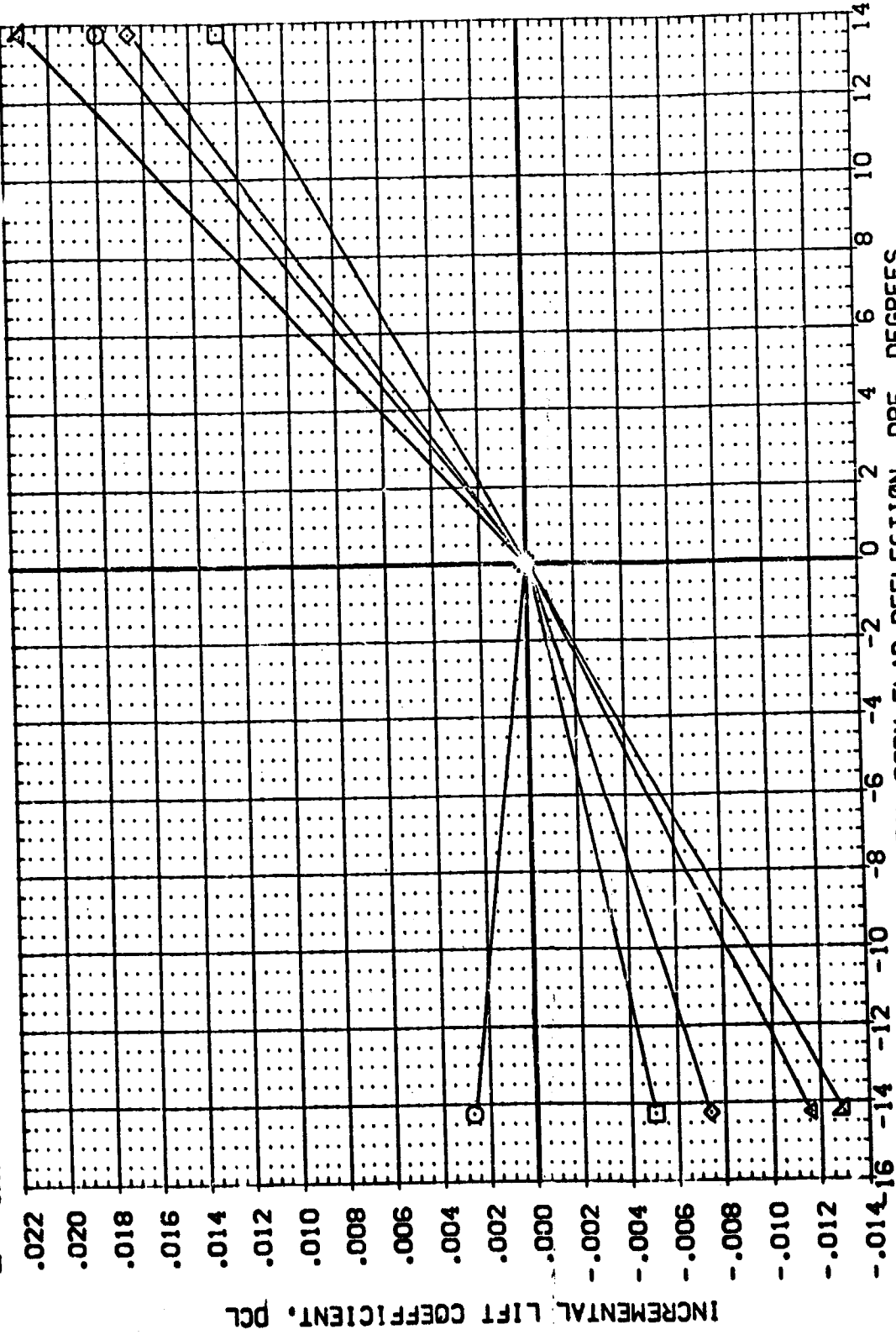
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	REFERENCE INFORMATION
○	-3.000	7.300	DE	.000	SBY018	-14.250	SREF
□	.000	.000	SPDRK	54.920	SBY030	-13.750	LREF
◇	3.000	.000					BREF
△	6.000						XREF
▽	9.000						YREF
							ZREF
							SCALE
							SO.FT.
							IN.
							IN.
							IN.
							IN.
							V.L.



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL LIFT COEFFICIENT, DCL
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

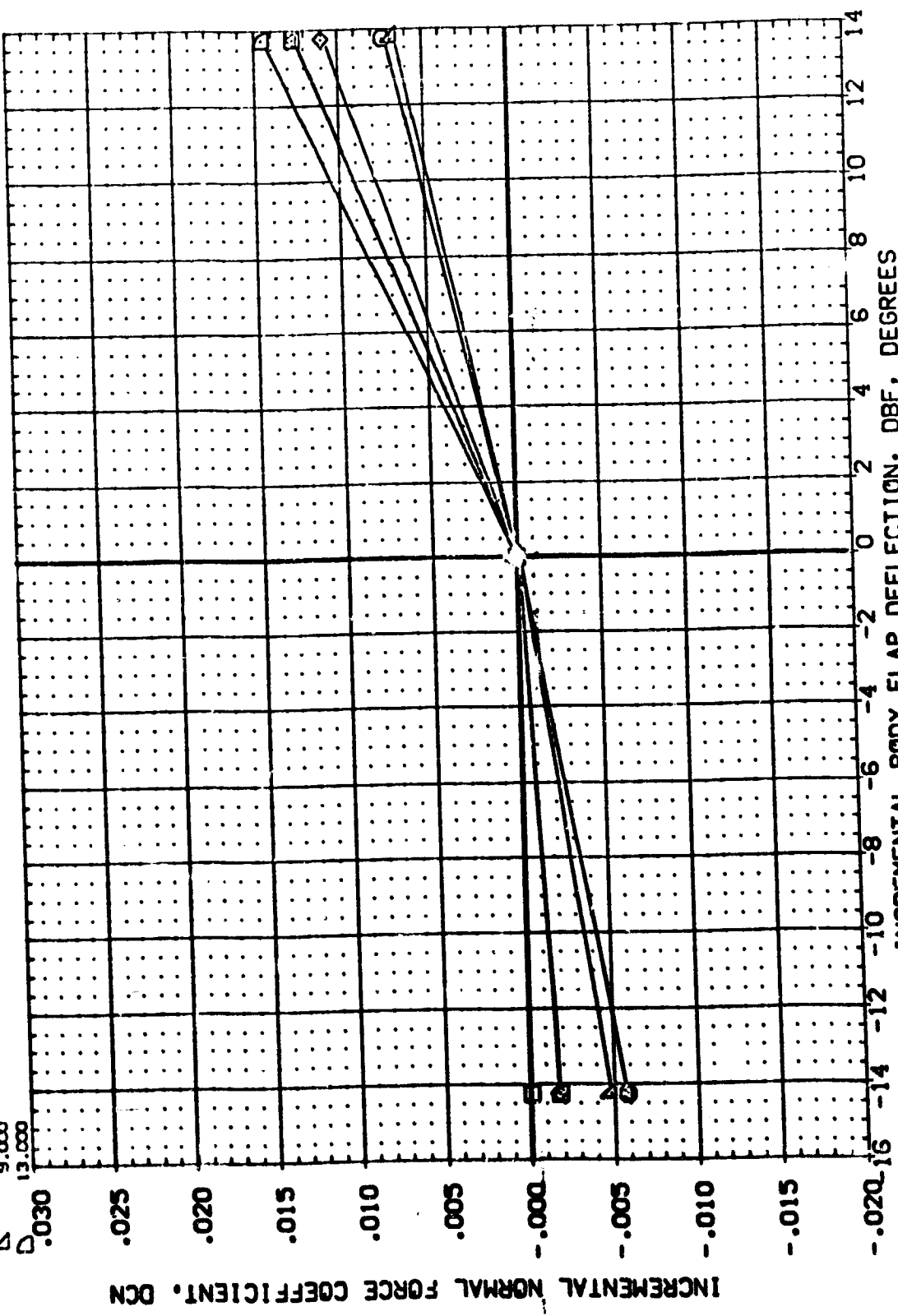
SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	SO.FT.
○	17.000	7.300	DE	DBF	SBY027	.000	LREF	6050
□	20.000	.000	SPOBRK	SBY018			BREF	7.1220
◇	23.000	.000		SBY030			XMRP	14.0500
△	27.000	.000					YMRP	12.5770
▽	30.000						ZMRP	.0000
							SCALE	6.0000
								V.L.
								.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DEF	SREF	REFERENCE INFORMATION
-3.000	7.300	DE	.000	SBY018	.000	LREF	SO.FT.
3.000	.000	SPOBRK	54.920	SBY030		BREF	IN.
6.000	.000	RUDDER	-14.250	SBY027		XPRP	IN.
9.000			13.750			ZPRP	IN.
13.000						SCALE	V.L.
							.6050
							7.1220
							14.0500
							12.5770
							.0000
							6.0000
							.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL NORMAL FORCE COEFFICIENT, DCN
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

SYMBOL	ALPHA	MACH	BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	REFERENCE INFORMATION
○	.7.000				7.300 DE	.000 DATASET	SBY027	.007	7.1230	SO.FT.
□	20.000				.000 SPOBRK	-14.250 DEF			14.0600	IN.
◇	23.000				.000	SBY018			12.5770	IN.
△	27.000					SBY030			.0000	IN.
▽	30.000								6.0000	V.L.
									.0150	SCALE

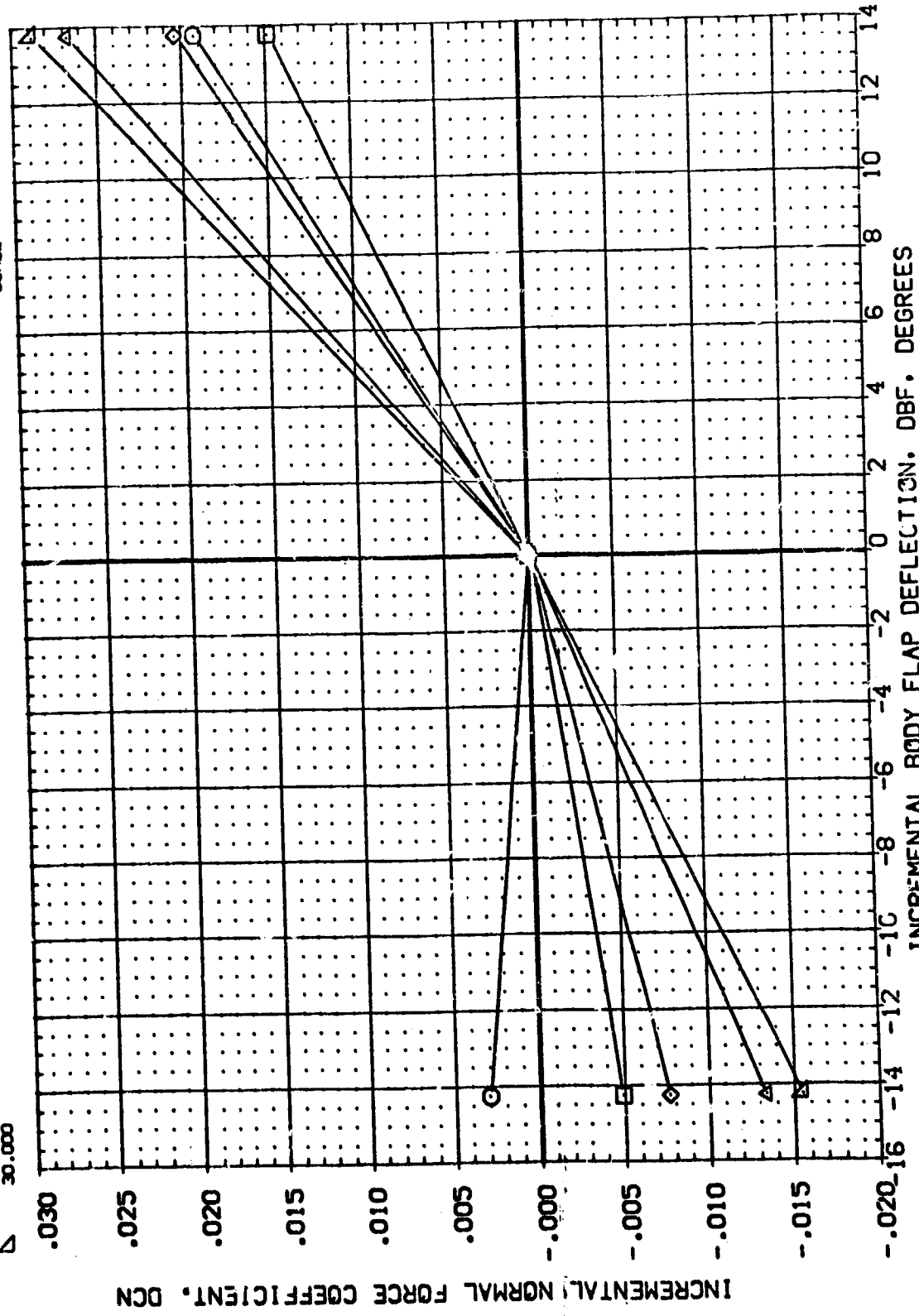


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

REFERENCE INFORMATION
 SC.FT.
 .6050
 7.1220
 14.0500
 12.5770
 .0000
 6.0000
 .0150

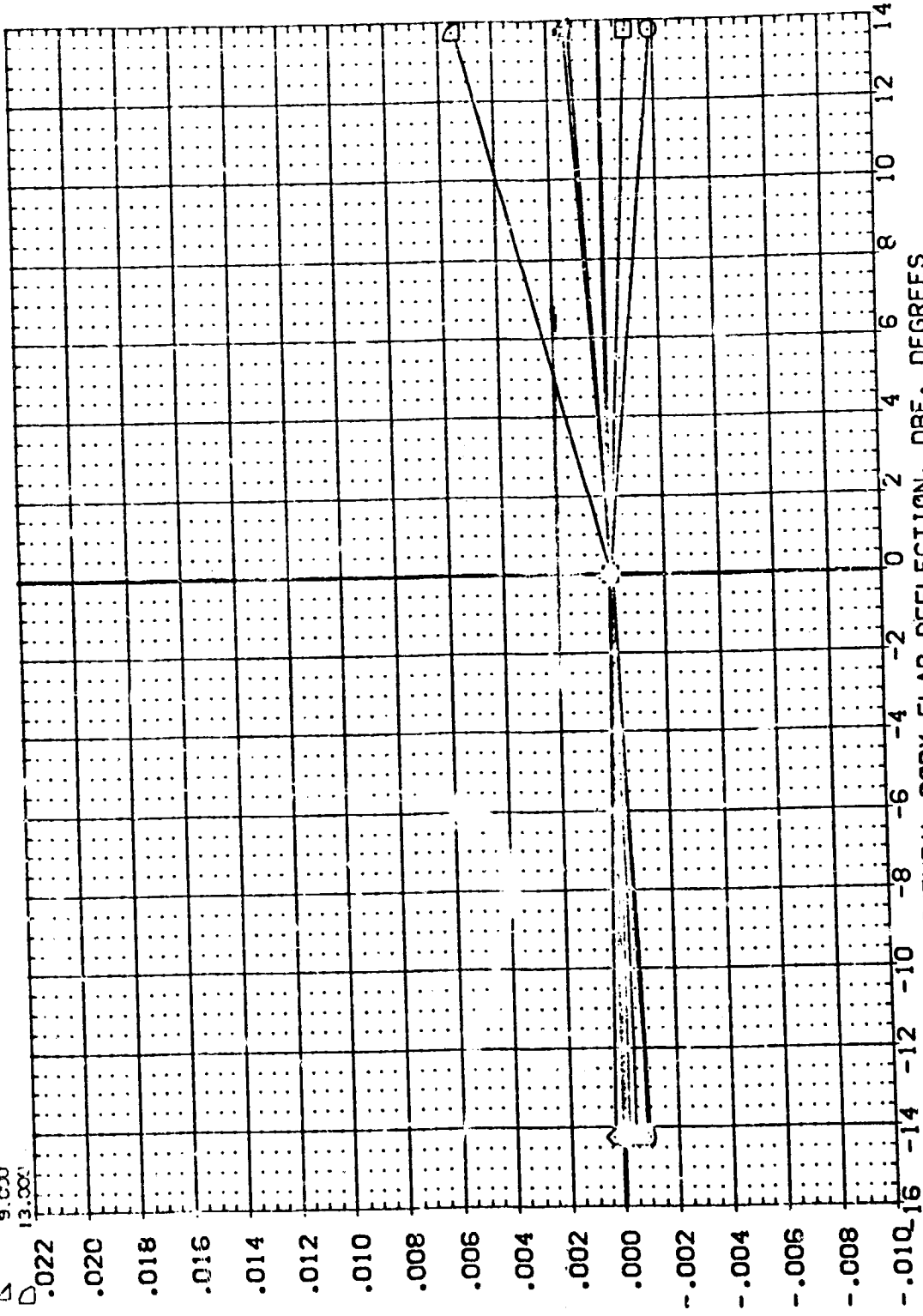
DATA SOURCE
 DSF -14.250
 -13.750

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 RUDDER .000

DE 7.300
 SPUBRK .000
 .000

ALPHA
 -5.000
 .000
 3.000
 6.000
 9.000
 13.000

SYMBOL
 O
 □
 △
 ▽
 ○



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 RUDDER .000

DATA SOURCE
 DATASET SBY027
 DBF -14.250

DATA SOURCE
 DATASET SBY030
 DBF -13.750

REFERENCE INFORMATION
 SREF 6050
 LREF 7.1220
 BREF 14.0500
 XWRP 12.5770
 YWRP .0000
 ZWRP 6.0000
 SCALE .0150

SYMBOL
 ○ 17.000
 □ 20.000
 ◇ 23.000
 △ 27.000
 ▽ 30.000

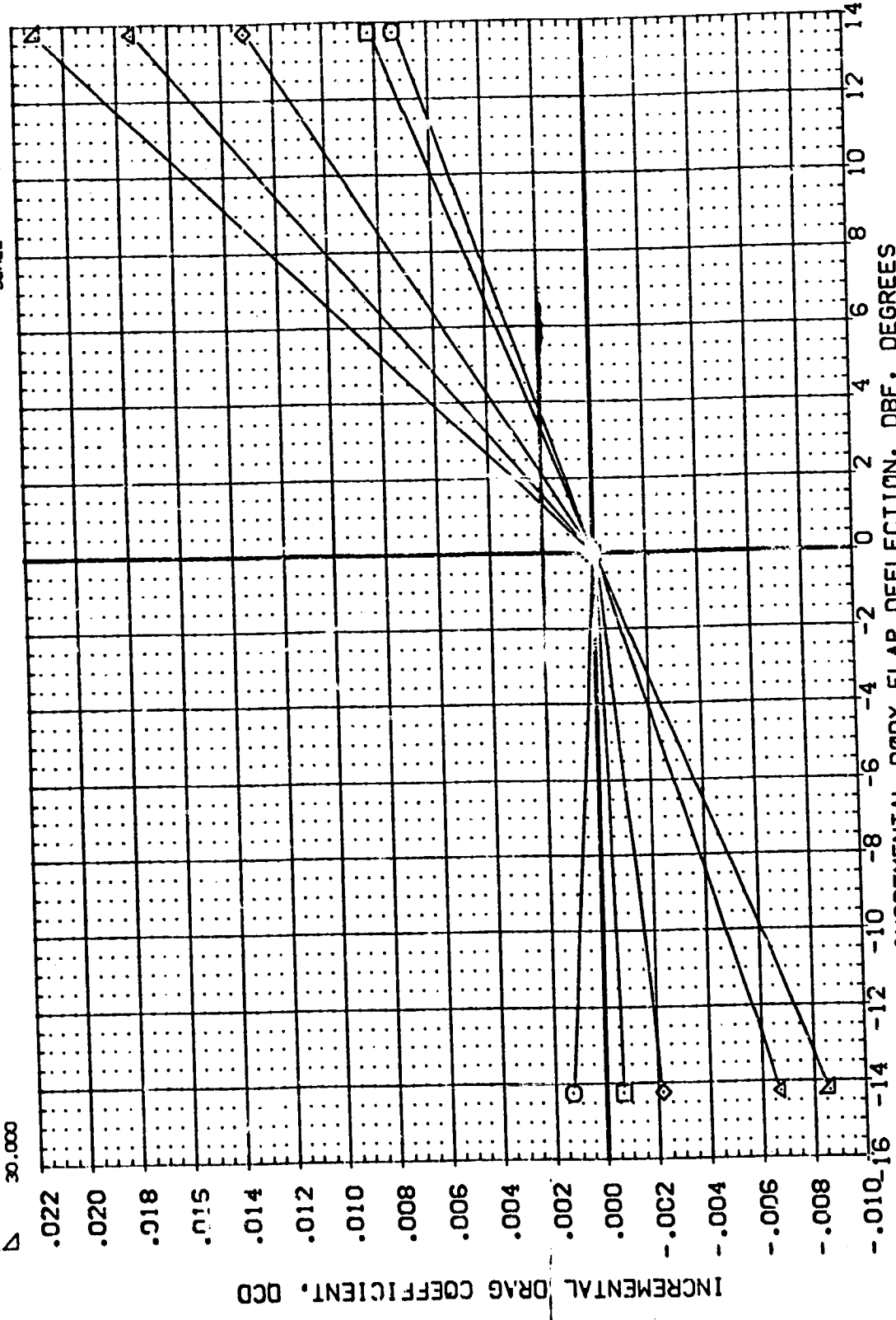


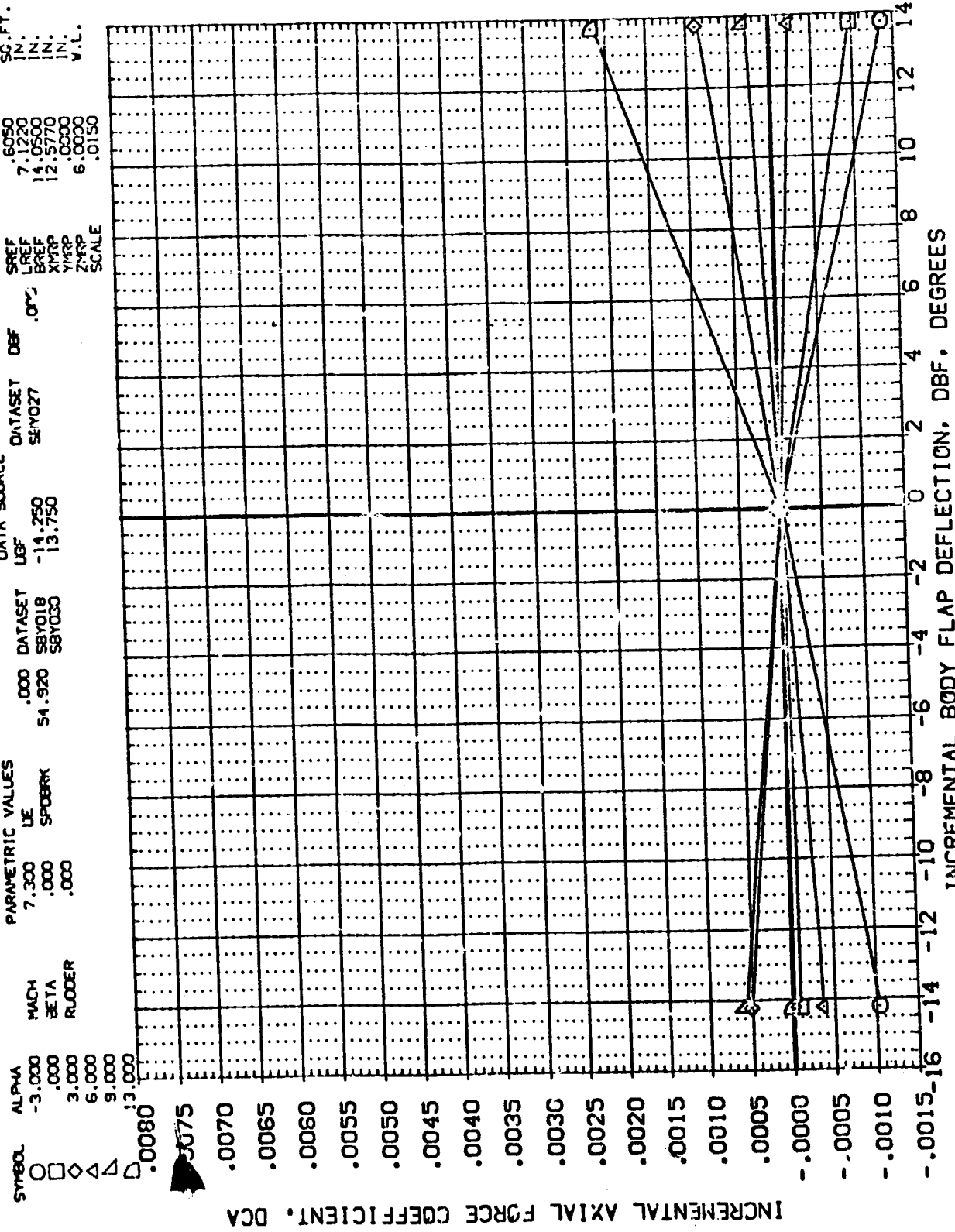
FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 RUDDER .000
 ALPHA -3.000
 .000
 3.000
 6.000
 9.000
 13.000

DATA SOURCE
 UBF .000
 DATASET SBY018
 SBY030
 DATASET SBY027
 SBY027

REFERENCE INFORMATION
 SC.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.
 SREF .6050
 LREF 7.1220
 BREF 14.0500
 XMRP 12.5770
 YMRP .0000
 ZMRP 6.0000
 SCALE .0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL AXIAL FORCE COEFFICIENT, DCA
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET DBF	SREF	REFERENCE INFORMATION
□	17.000	7.300	DE	DBF	.000	LREF	SO.FT.
○	20.000	.000	SPOGRK	SBY018	SBYC27	BREF	IN.
◇	23.000	.000		-14.750		XMRP	IN.
△	27.000			13.750		YMRP	IN.
▽	30.000					ZMRP	V.L.
						SCALE	
							.6050
							7.1220
							14.0500
							12.5770
							.0000
							6.0000
							.0150

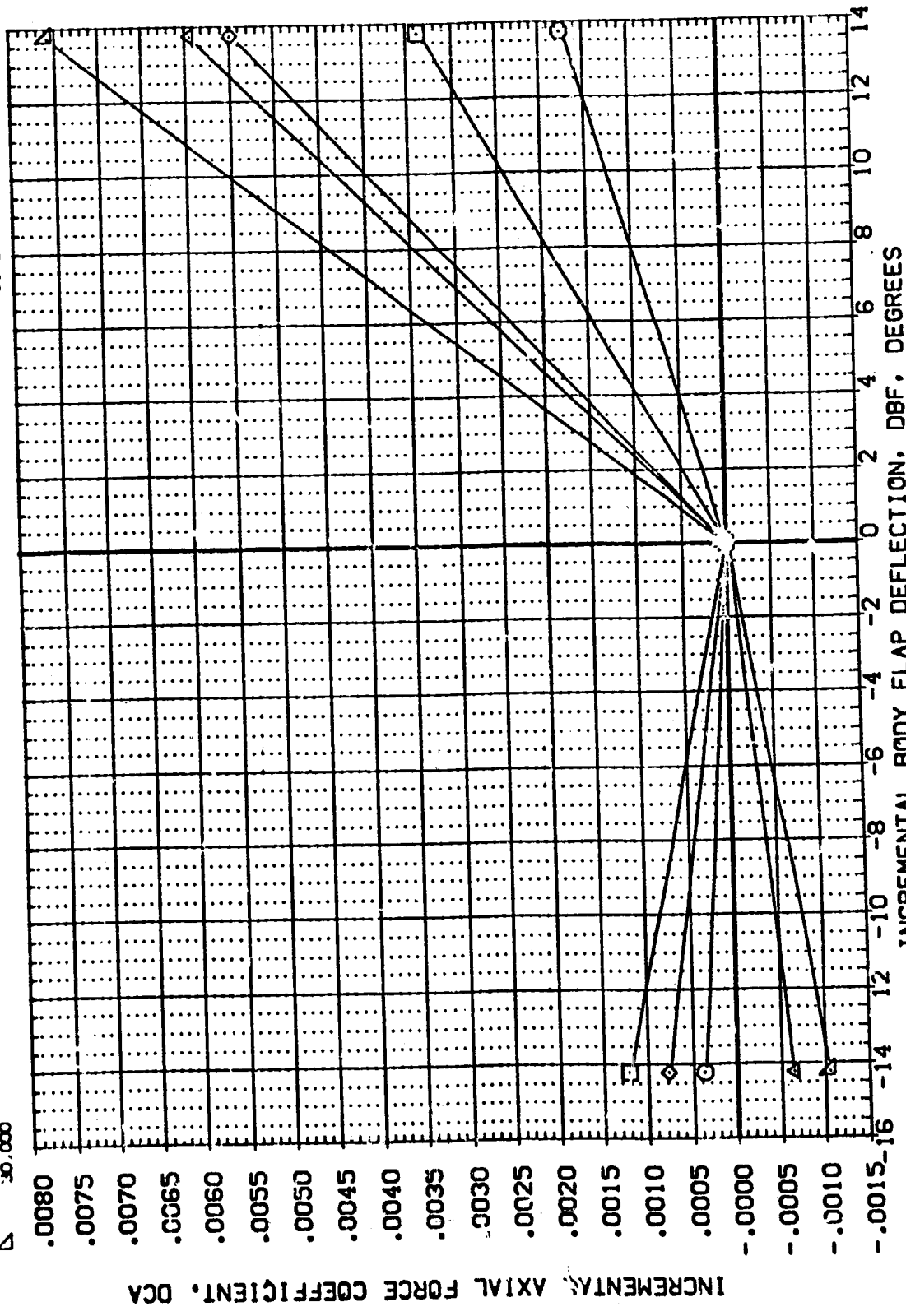


FIG. 12 CONFIGURATION -139 801" FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.3770
 IN. .0000
 V.L. 6.0000
 .0150

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 RUDDER .000
 DE SPOBRK .000

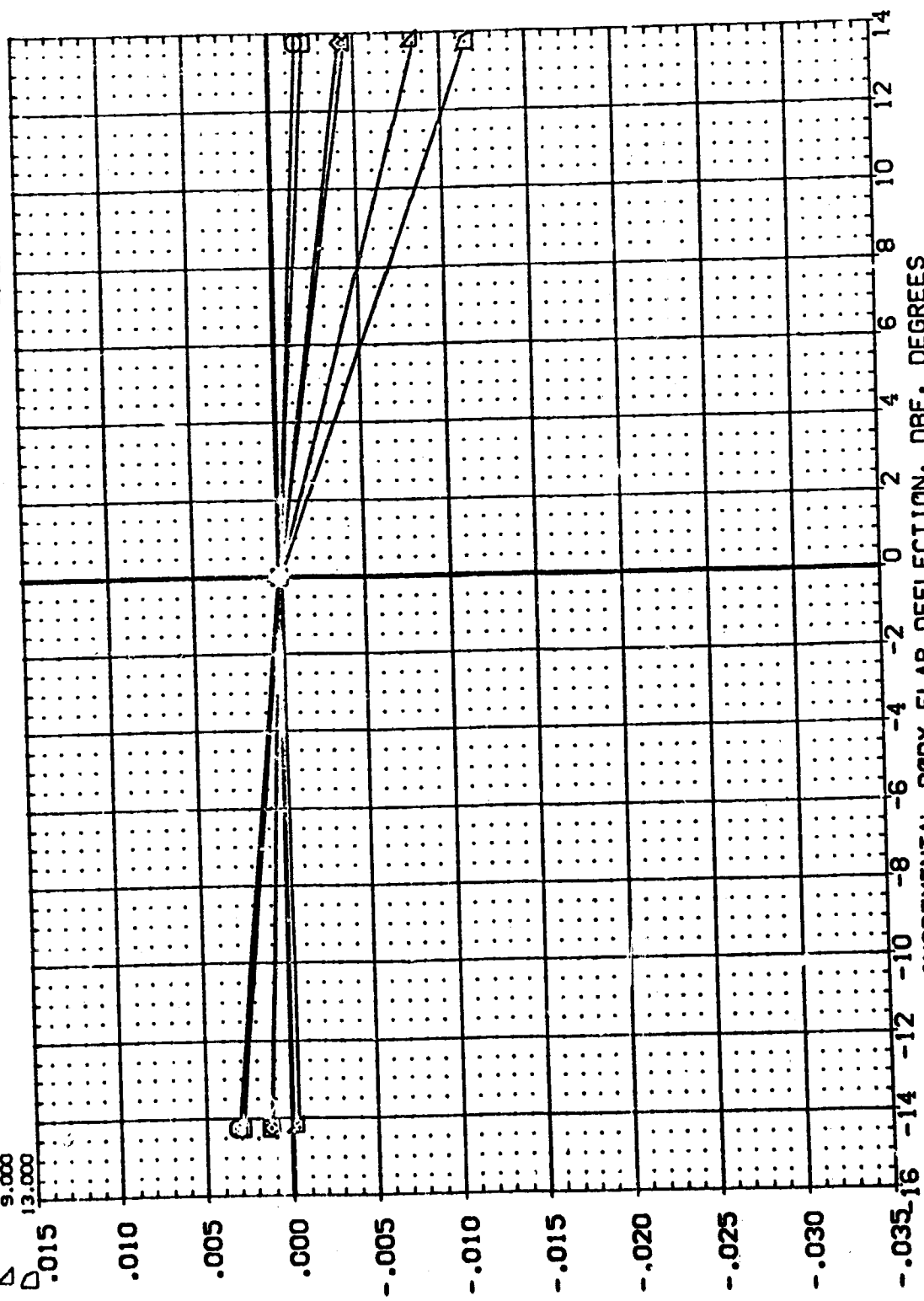
DATA SOURCE
 DATASET SBY027
 DBF .000

PARAMETRIC VALUES
 DATASET SBY016
 DBF -14.250
 SBY030 13.750
 .000 54.920

PARAMETRIC VALUES
 DATASET SBY018
 DBF -14.250
 SBY030 13.750
 .000 54.920

SYMBOL
 -3.000
 .000
 3.000
 6.000
 9.000
 13.000

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150

DATA SOURCE
 DBF -13.750
 DATASET SBY027

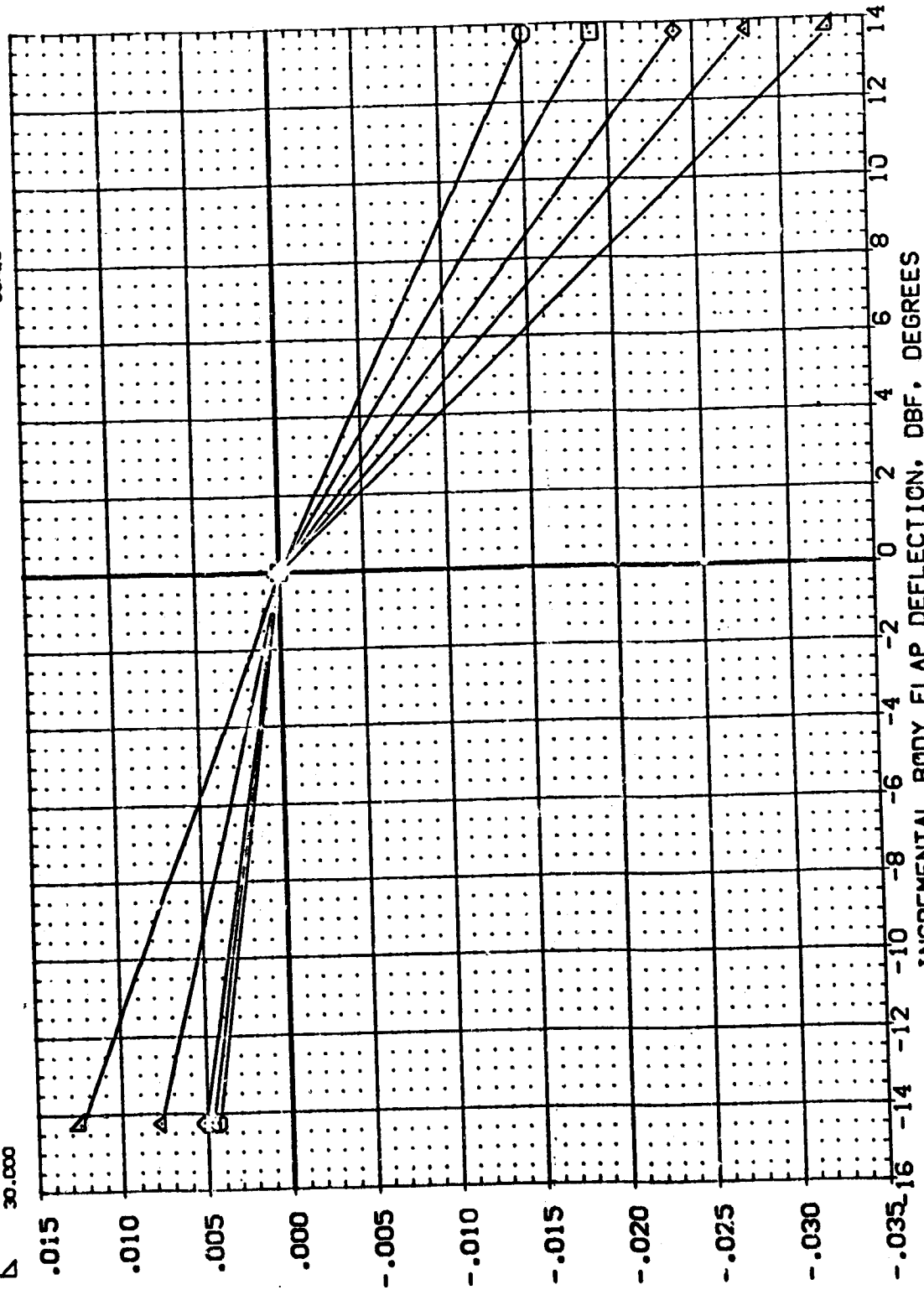
PARAMETRIC VALUES
 DE 54.920
 SPOBRK .000
 SBY018 .000
 SBY030 .000

MACH 7.300
 BETA .000
 FLUDDER .000

ALPHA 17.000
 20.000
 23.000
 27.000
 30.000

SYMBOL
 □
 ◇
 △

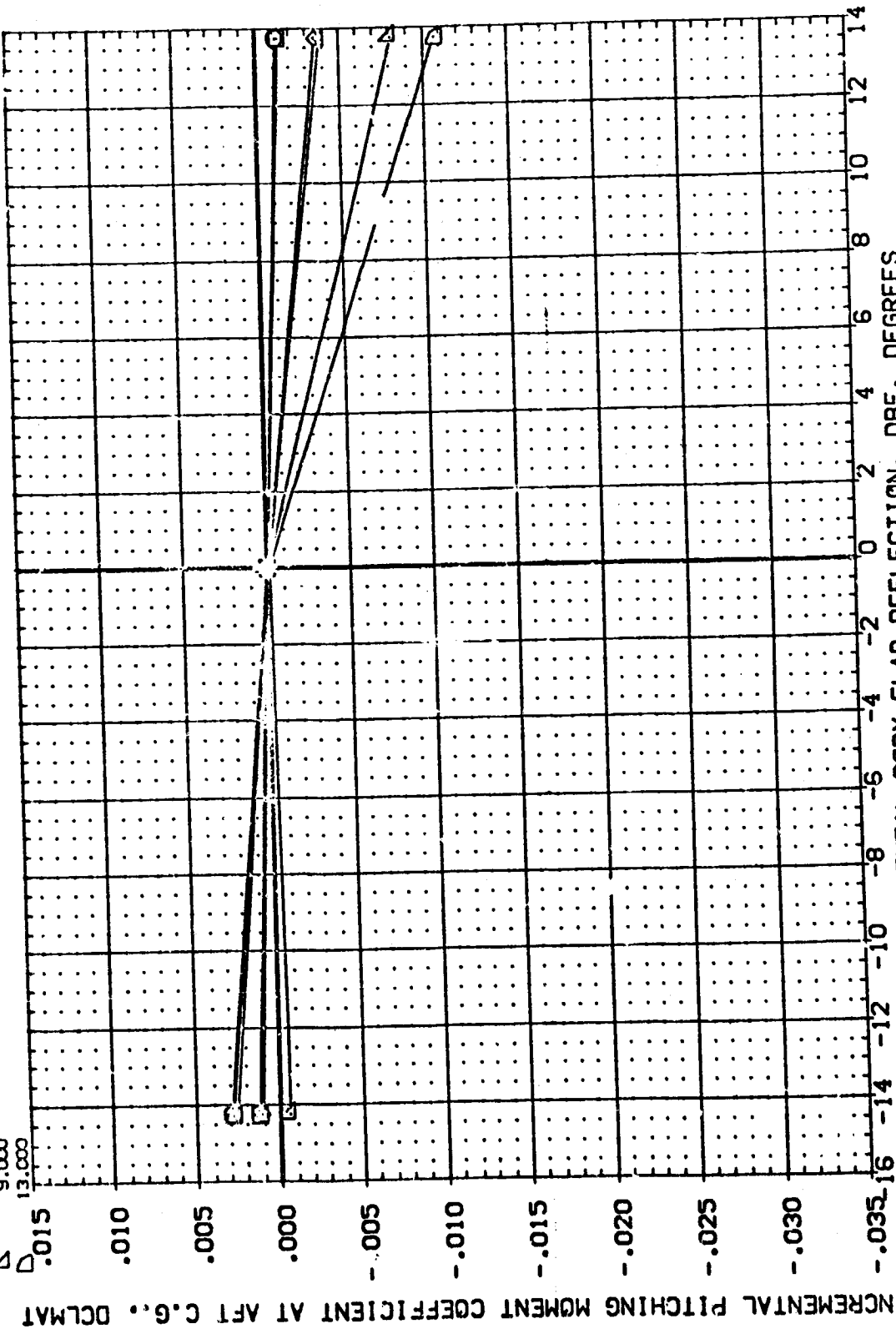
INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY018)

SYMBOL	ALPHA	MACH	BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	REFERENCE INFORMATION
○	-3.000	7.300	.000	.000	DE	.000	SBY018	.000	LREF	7.1225
□	.000	.000	.000	.000	SPOBRK	54.920	SBY018	.000	BREF	14.0500
△	3.000	.000	.000	.000		-14.250	SBY027	.000	XMRP	12.5770
▽	6.000	.000	.000	.000		13.750			YMRP	.0000
◇	9.000								ZMRP	6.0000
◇	13.000								SCALE	.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT

AMES 3.5-163 0A58 (B17C7M4F5)(W1C3E22)(V7R5) (SBY018)

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

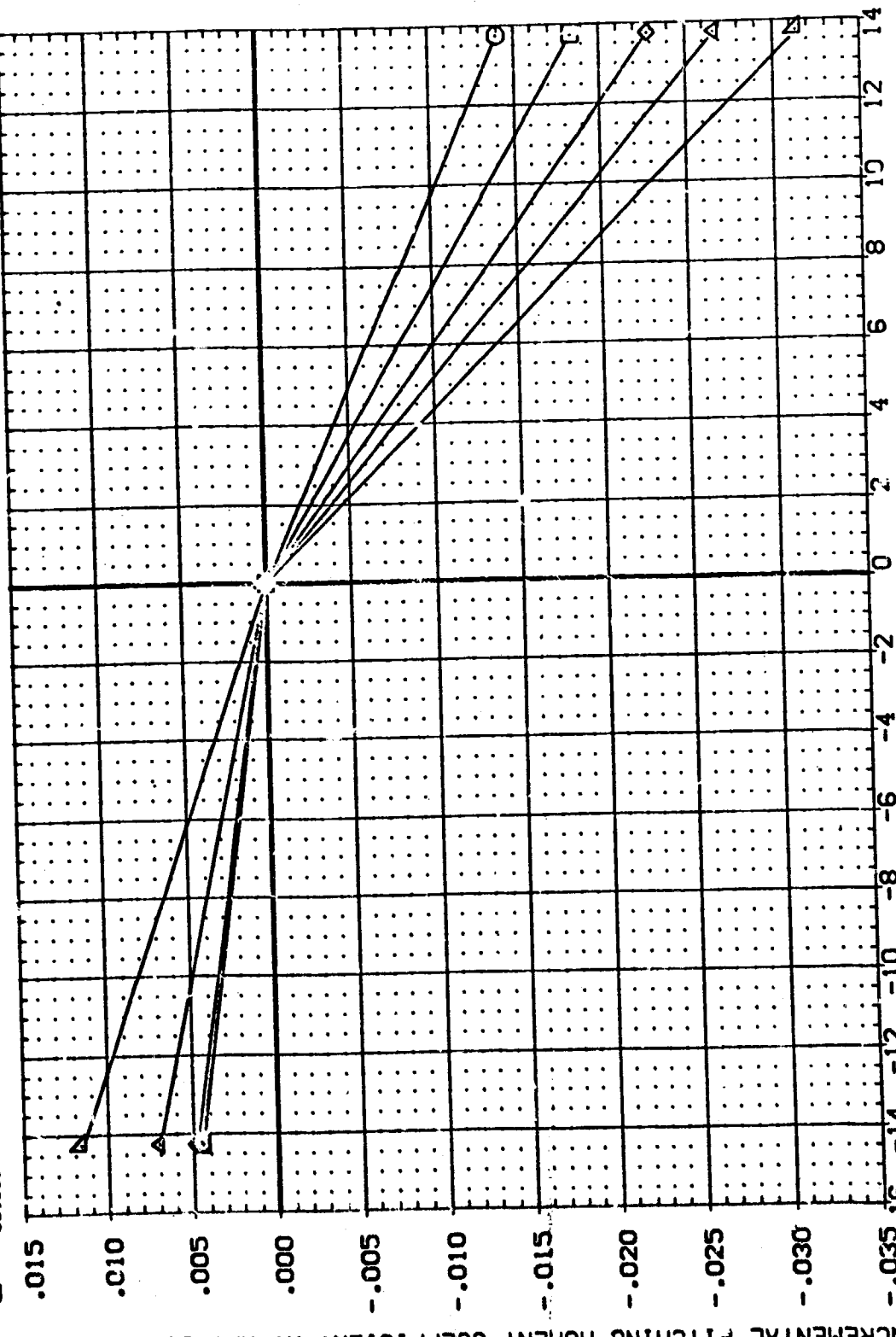
DATA SOURCE
 DBF
 SBY027

PARAMETRIC VALUES
 DE
 SPOBRK
 54.920
 13.750

MACH
 BETA
 RUDDER

ALPHA
 17.000
 20.000
 23.000
 27.000
 30.000

SYMBOL
 ○
 □
 ◇
 △



INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLMAT

INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

REFERENCE INFORMATION
 SQ.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

DATASET DBF
 SBY025 .000

DATA SOURCE DBF
 -14.250
 13.750

.000 DATASET DBF
 SBY016
 SBY028

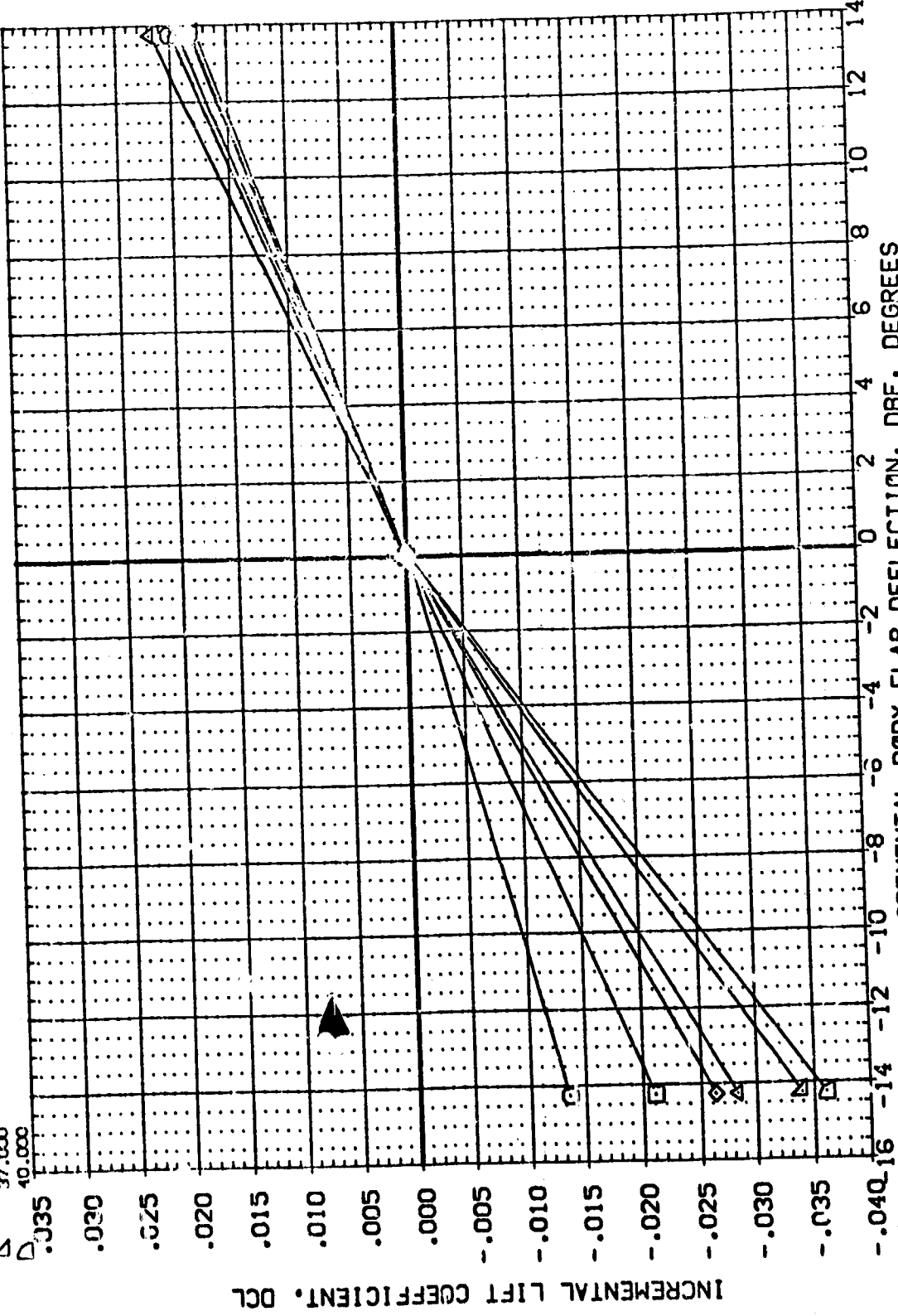
54.920 SPOBRK
 .000

PARAMETRIC VALUES
 DE
 SPOBRK
 .000

MACH 7.300
 BETA .000
 RUDDER .000

ALPHA
 27.000
 29.000
 31.000
 33.000
 37.000
 40.000

SYMBOL
 ○
 □
 ◇
 ▲
 △



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL LIFT COEFFICIENT, DCL
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

SYMBL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	SO.FT.
○	43.000	7.300	DE	.000	SBY016	-14.250	LREF	7.1220
□	48.000	.000	SPOBRK	54.920	SBY016	13.750	BRF	14.0500
◇	52.000	.000			SBY028		XPRP	12.5770
							YPRP	.0000
							ZPRP	6.0000
							SCALE	.0150
								V.L.

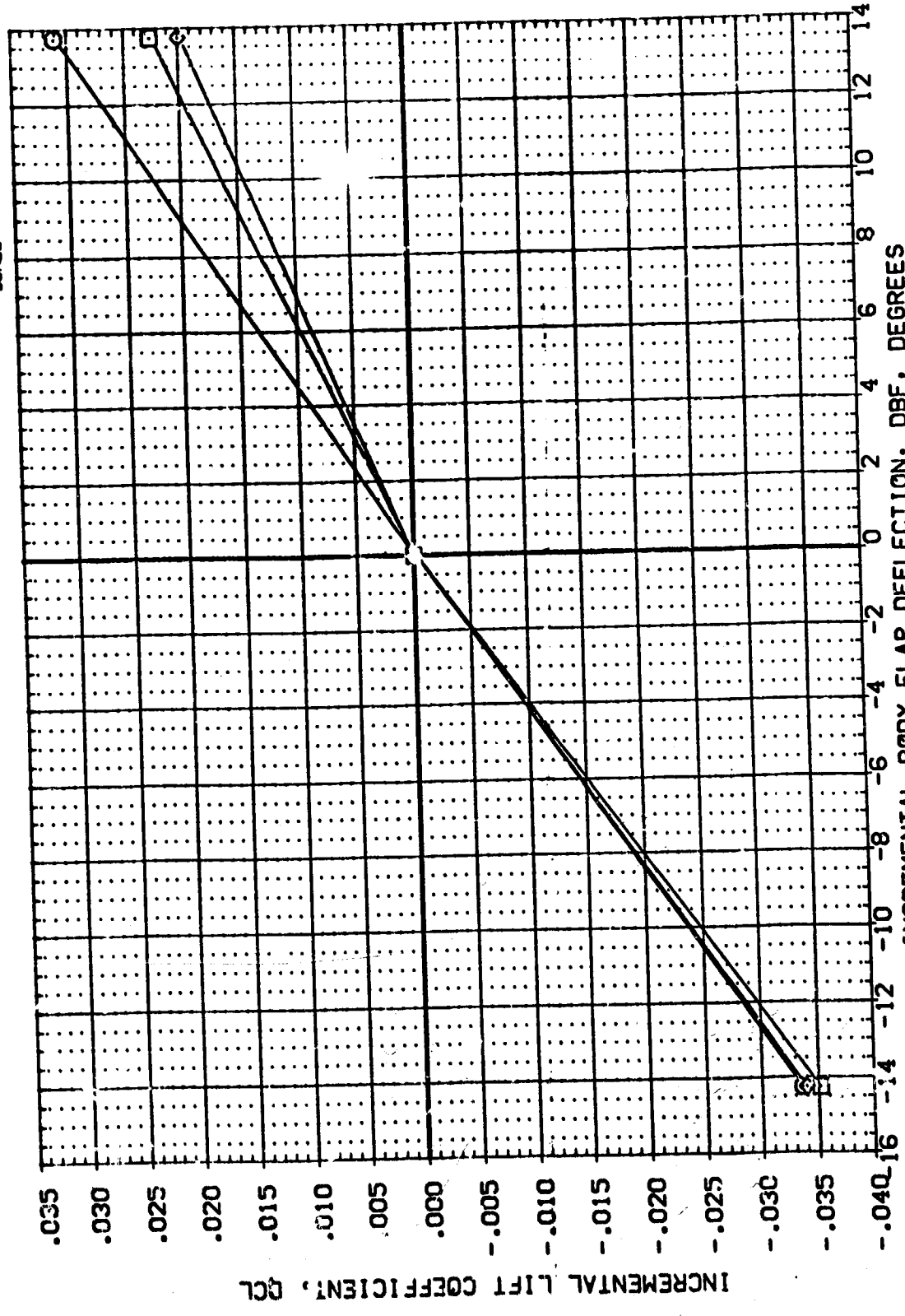


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

REFERENCE INFORMATION
 SO.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

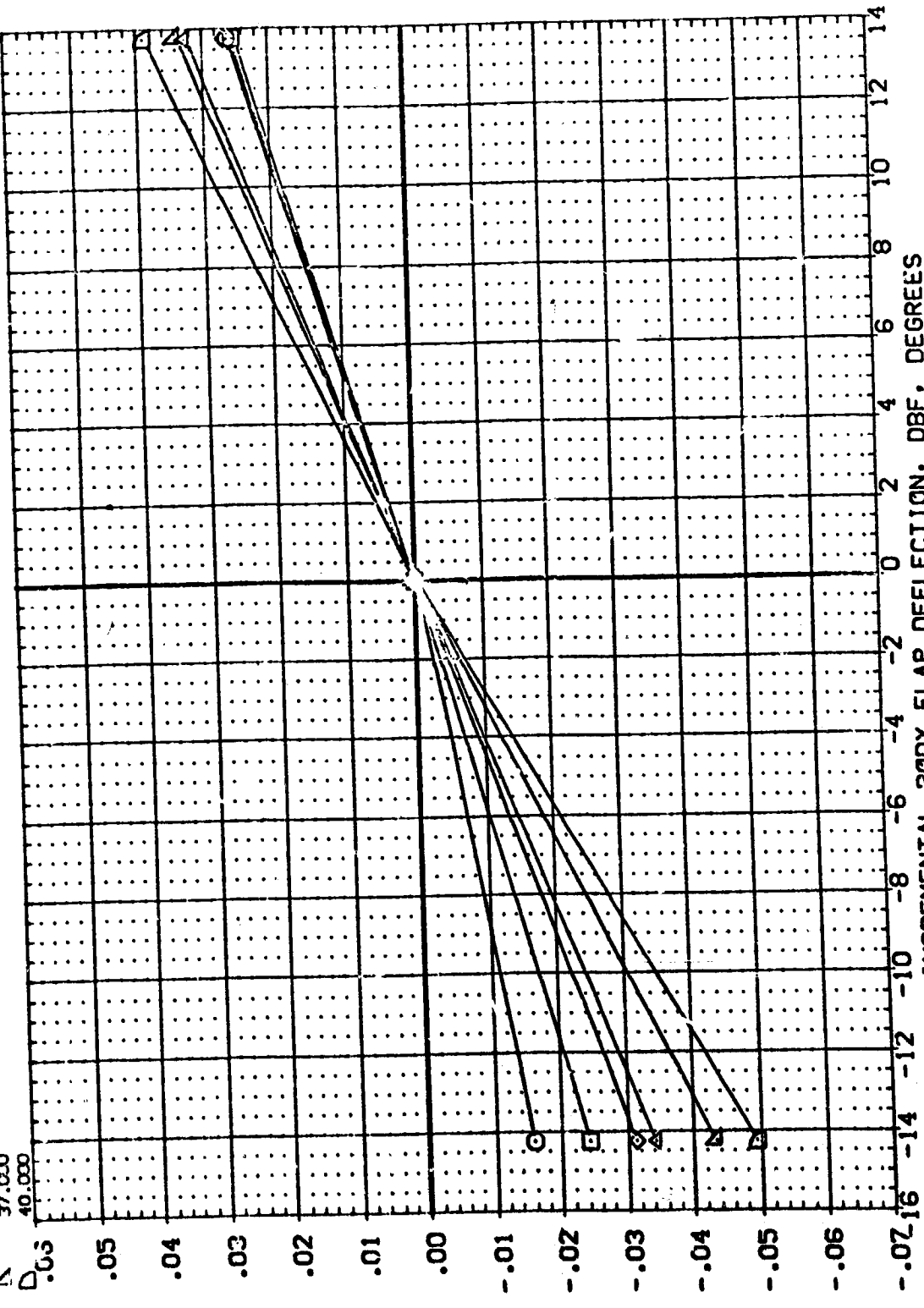
DATA SOURCE
 DATASET
 DBF

DATAS:
 SBY016
 SBY028

PARAMETRIC VALUES
 DE
 SPOBRK

ALPHA
 BETA
 RUDDER

7.300
 .000
 .000



INCREMENTAL NORMAL FORCE COEFFICIENT, DCN

INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

SYMBOL	ALPHA	MACH	BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DBF	SREF	SO.FT.
○	43.000	7.300	.000		DE	CF	SBY016	.000	LREF	IN.
□	48.000	.000	SPDRK		-14.250	SBY025			BRF	IN.
◇	52.000	.000			13.750				XTRP	IN.
									ZTRP	IN.
									SCALE	V.L.
										.0150

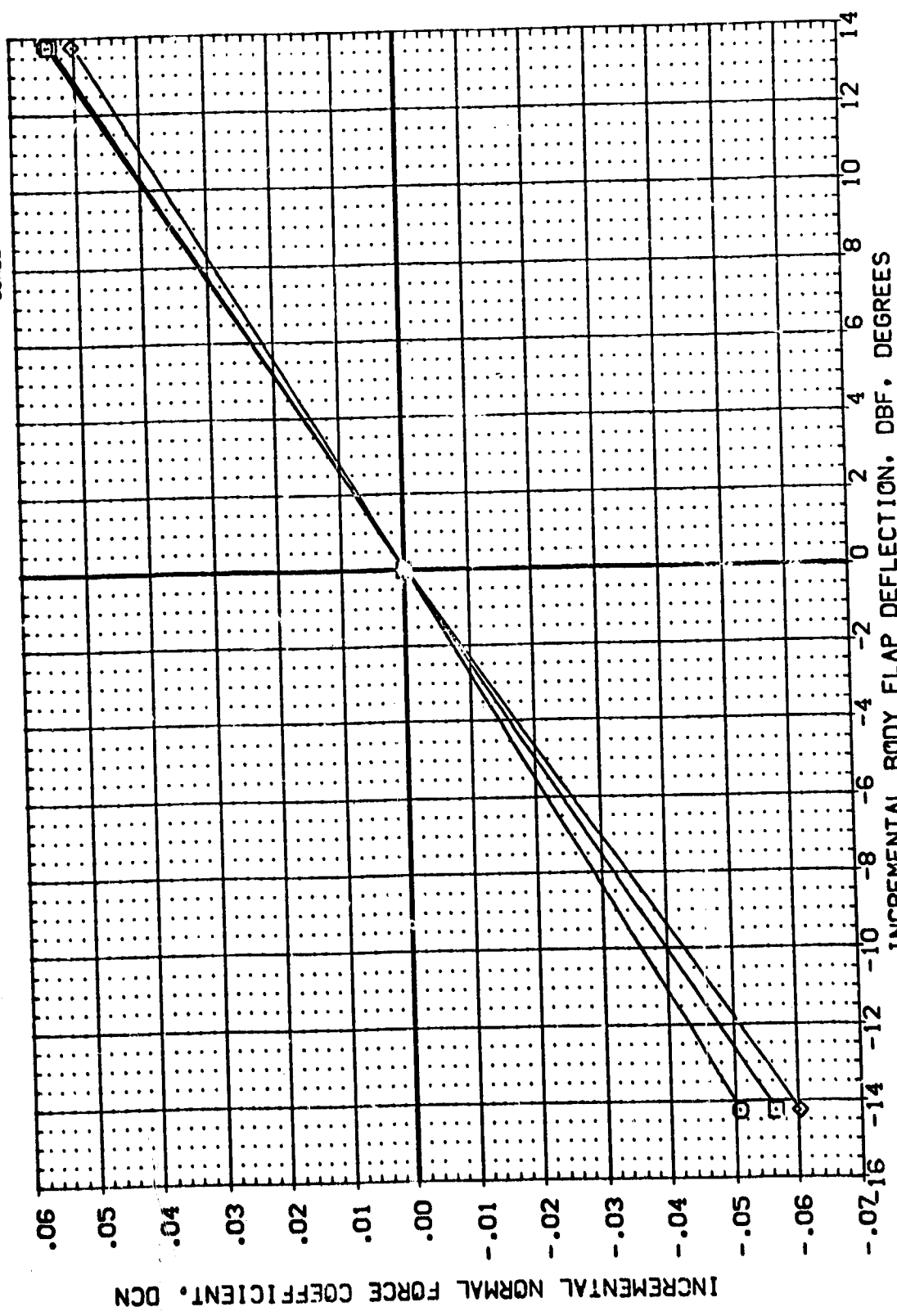
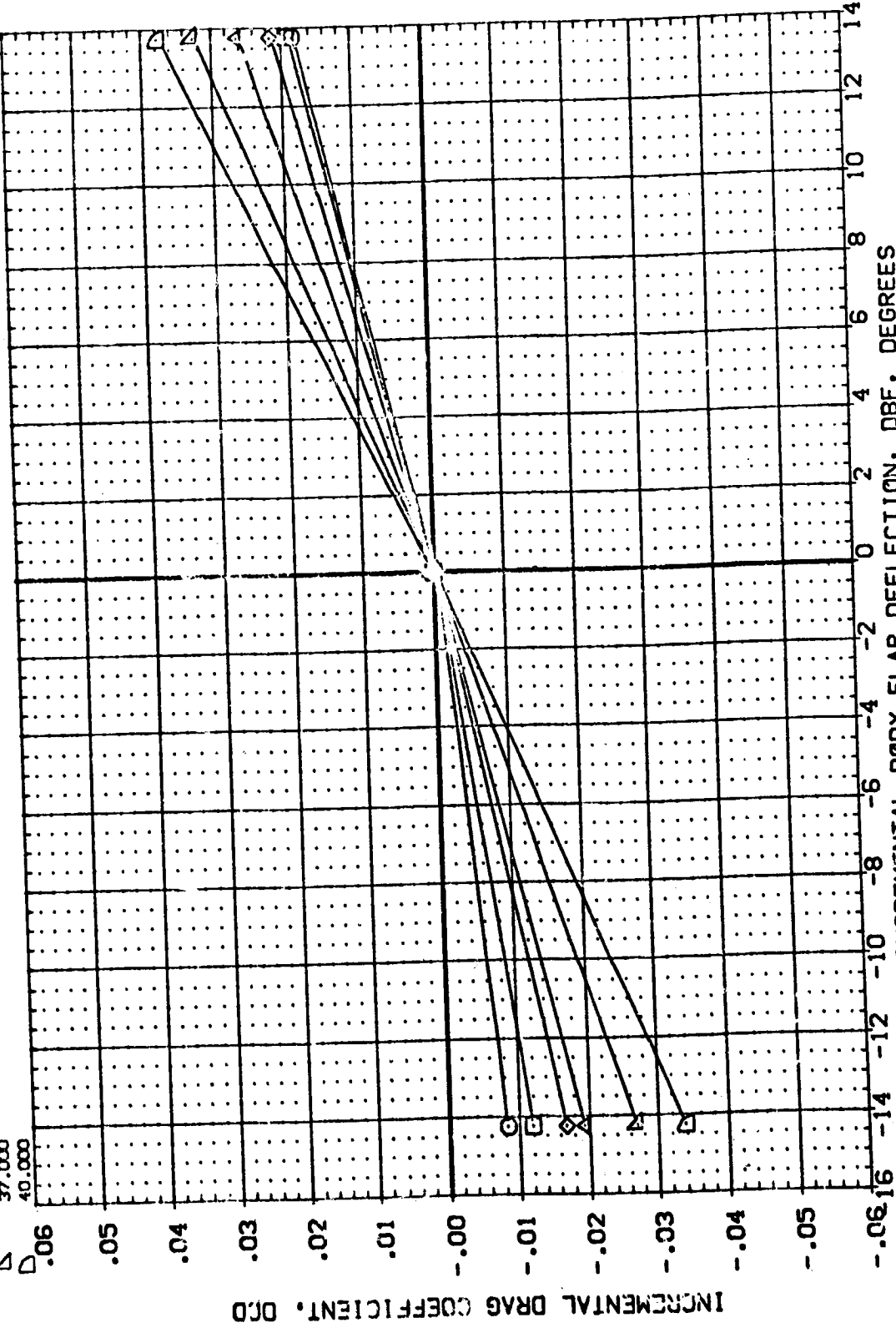


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

ALPHA	7.300	DE	.000	DATASET	SBY016	DSF	-14.250	DATA SOURCE	SBY025	DSF	.000	SREF	6.050	SO.FT.
MACH	.000	SPOBRK	54.920	SBY028	13.750							LREF	7.1220	IN.
BETA	.000											EREF	14.0500	IN.
RUDDER	.000											XMRP	12.5770	IN.
	27.000											YMRP	.0000	IN.
	29.000											ZMRP	6.0000	V.L.
	31.000											SCALE	.0150	
	33.000													
	37.000													
	40.000													



INCREMENTAL BODY FLAP DEFLECTION, DBF. DEGREES
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DBF	DBF	SCALE	REFERENCE INFORMATION
○	43.000		7.300 DE	.000	SBY016	.000		SCAL
□	48.000	BETA	.000	54.920	SE7028			7.1220
◇	52.000	RUDDER	.000	-14.250				14.0500
				13.750				12.5770
								.0000
								6.0000
								.0150

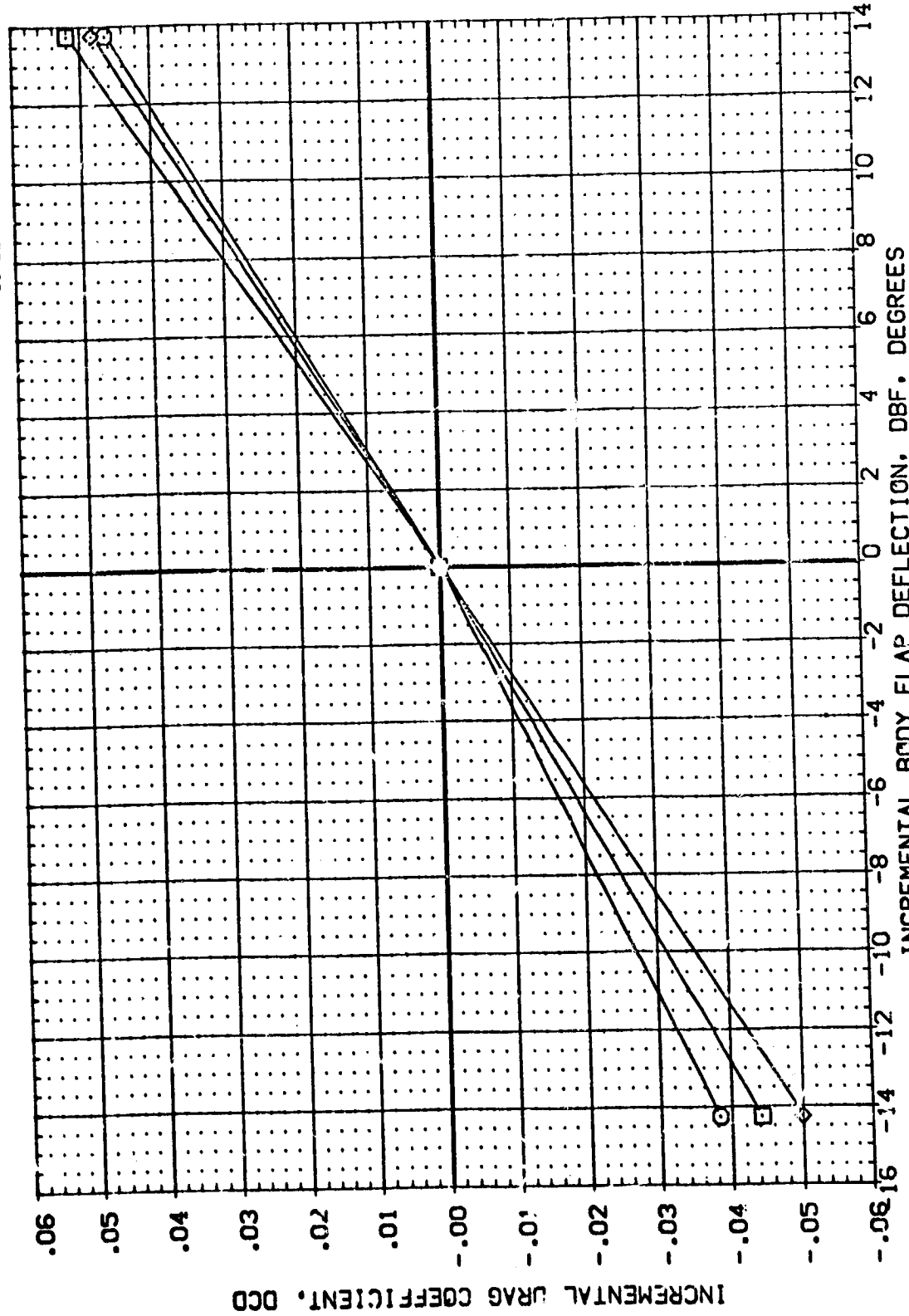
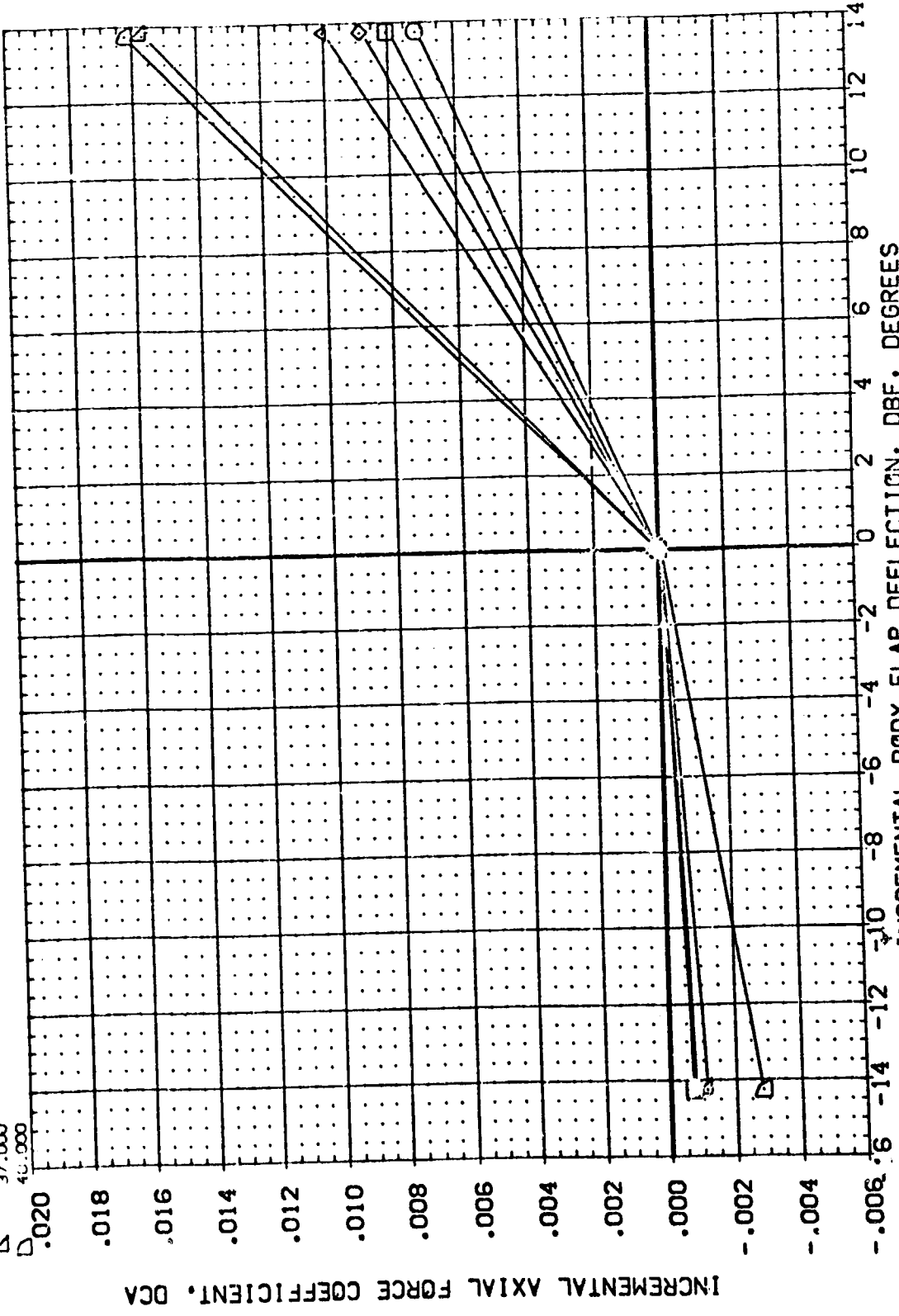


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

ALPHA	7.300	DE	.000	DATASET	DBF	DATA SOURCE	DBF	SREF	SO.FT.
MACH	.000	SPOBRK	54.920	SBY016	.000	SBY025	LREF	7.1220	IN.
BETA	.000	RUDDER		SBY028			XMRP	14.0500	IN.
27.000							YMRP	12.3770	IN.
29.000							ZMRP	.0000	V.L.
31.000							SCALE	6.0000	
33.000								.0150	
37.000									
40.000									



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL AXIAL FORCE COEFFICIENT, DCA
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

C-51

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

SYMBOL	ALPHA	MACH	BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DBF	DBF	SREF	REFERENCE INFORMATION
○	43.000				7.300 DE	.000	SBY016	-14.250	.000	7.1270	SQ.FT.
□	48.000				.000 SPOBRK	54.320	SBY025	13.750	.000	14.0500	IN.
◇	52.000				.000					12.5770	IN.
										.0000	IN.
										6.0000	V.L.
										.0150	SCALE

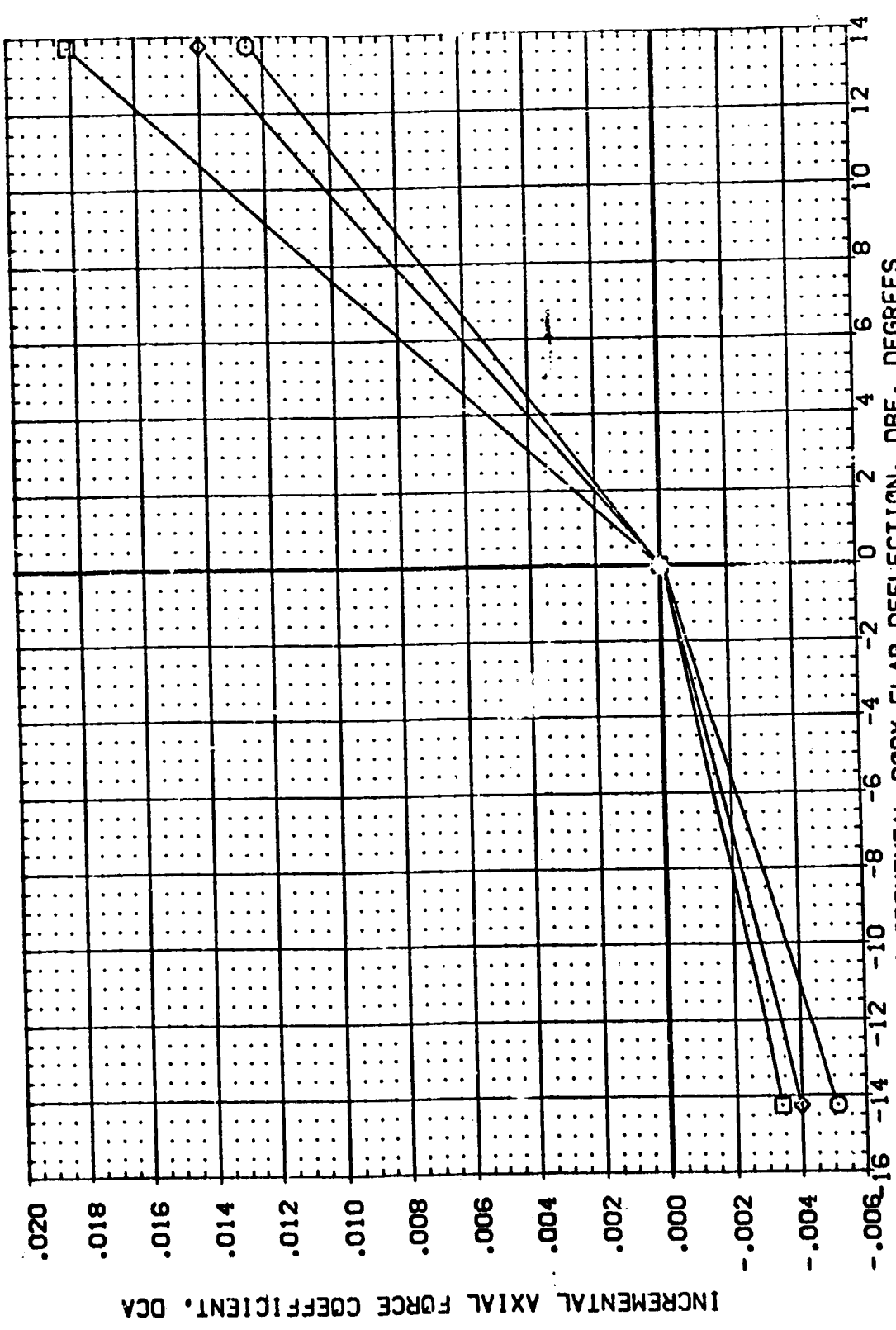


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

REFERENCE INFORMATION
 SO.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 RUDDER .000
 DATA SOURCE
 DATASET DBF .000
 SBY025

SYMBOL

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 ◇
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ALPHA 29.000
 31.000
 33.000
 37.000
 40.000

DATA SOURCE
 DATASET DBF -14.250
 SBY016
 SBY028

DE 54.920
 SPOBRK -13.750

SREF LREF
 BREF XMRP
 YMRP ZMRP
 SCALE

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G. DCLMFD

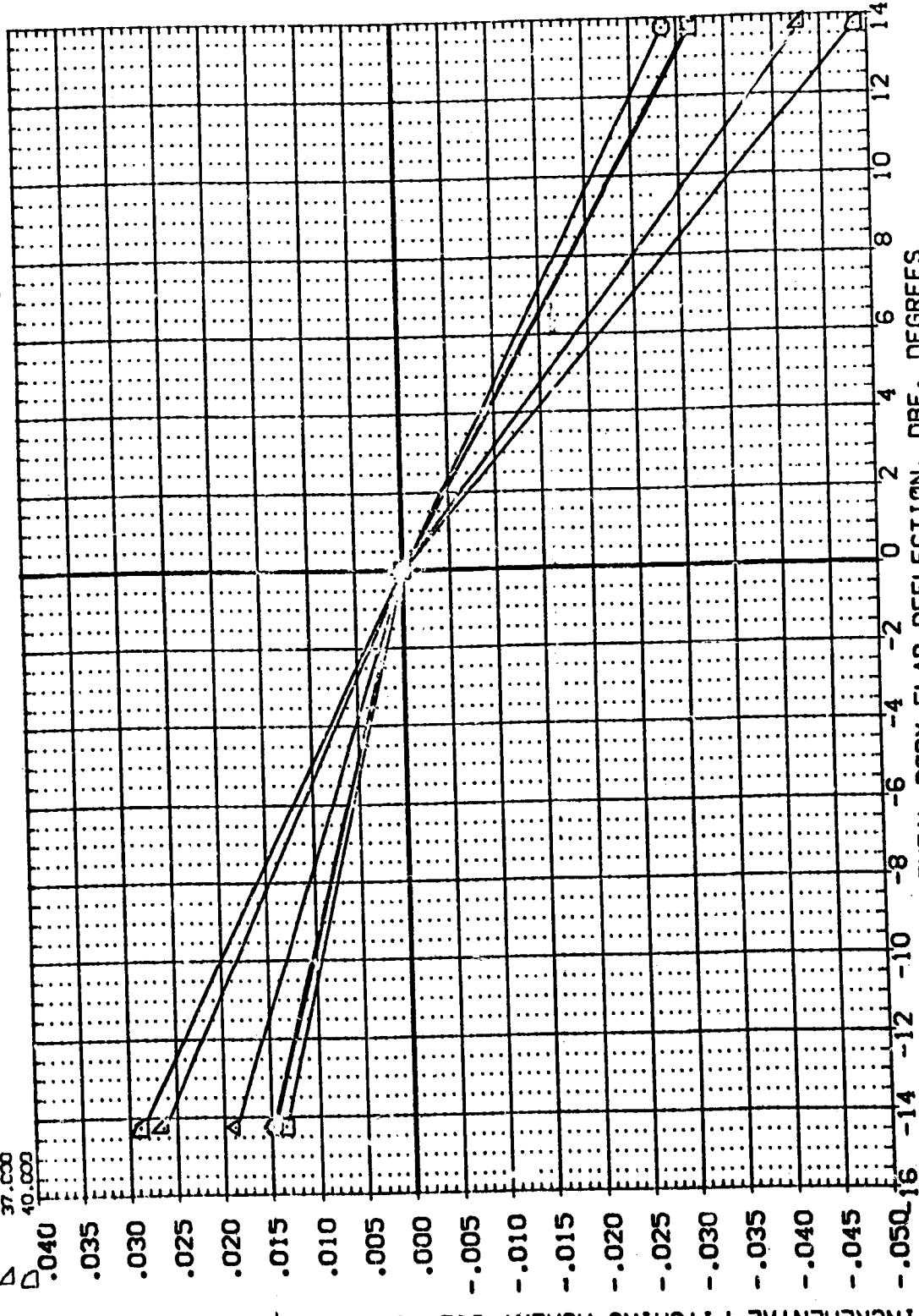


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(M103E22)(V7R5) (SBY016)

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0003
 V.L. 6.0000
 .0150

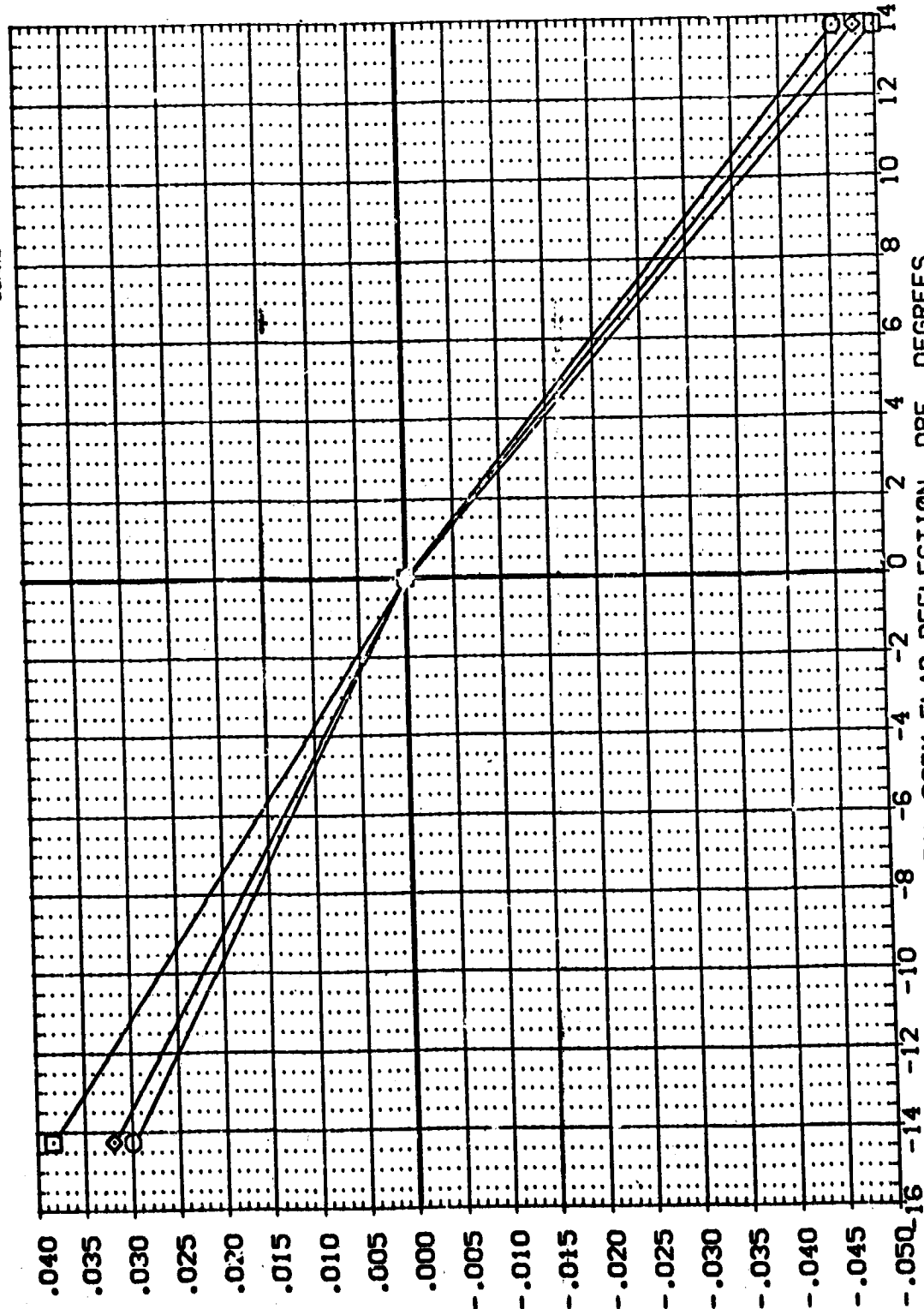
DATA SOURCE
 DBF SBY025
 DBF -14.250
 DBF 13.750

PARAMETRIC VALUES
 DE 7.300
 SPOBRK .000
 SPOBRK .000

MACH 43.000
 BETA 48.000
 RUDDER 52.000

SYMBOL
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INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G. DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G. DCLMFD
 FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

PARAMETRIC VALUES
 MACH 7.300
 BETA .000
 RUDDER .000

DATA SOURCE
 DSF .000
 DATASET SBY016
 SBY028

DATA SOURCE
 DSF -14.250
 SBY028 13.750

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 IN. 6.0000
 V.L. .0150

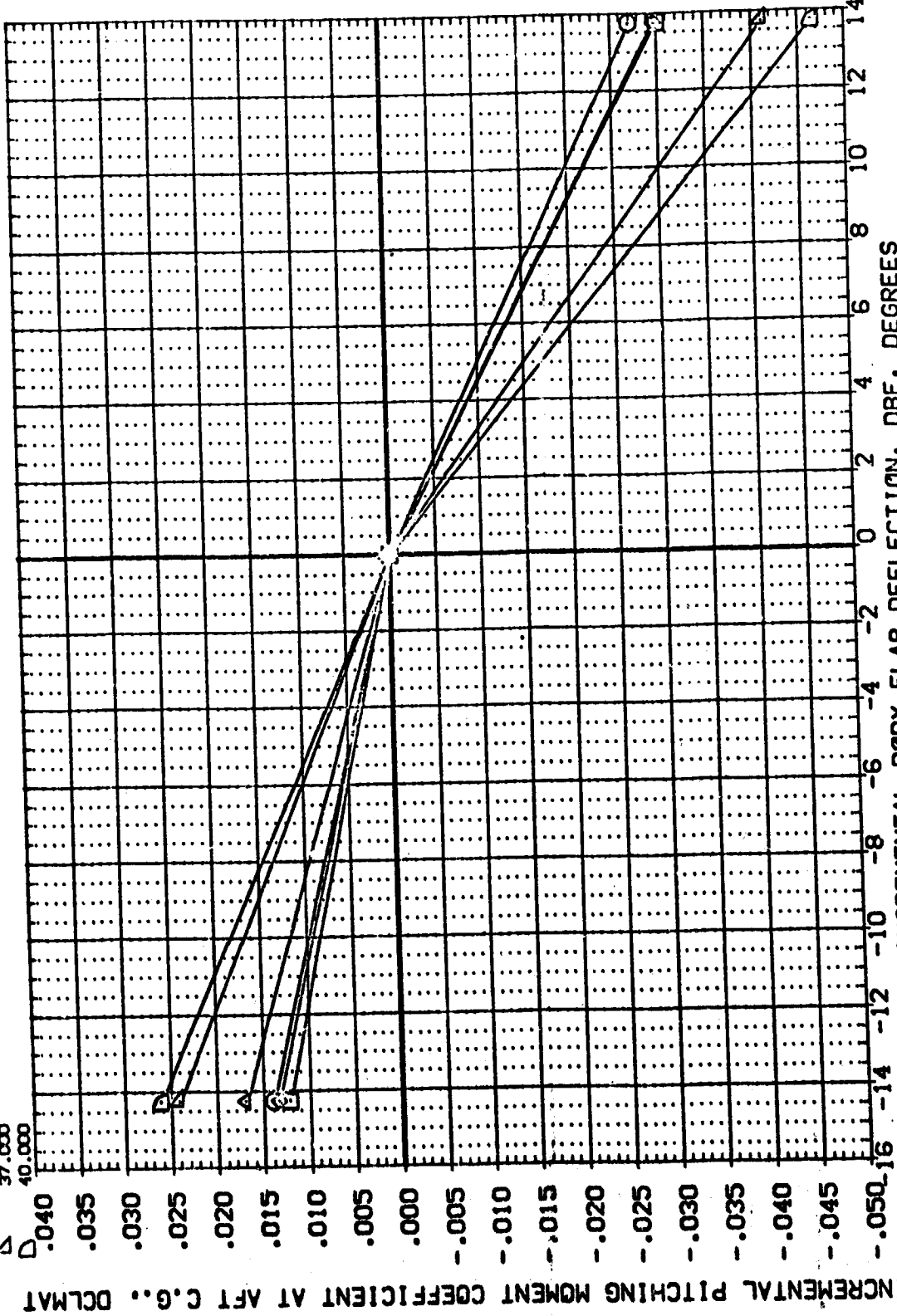


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

AMES 3.5-163 OAS8 (B17C7M4F5)(W103E22)(V7R5) (SBY016)

SYMBOL	ALPHA	MACH	BETA	RUDER	PARAMETRIC VALUES	DATA SOURCE	DATA SET	DBF	SCALE	REFERENCE INFORMATION
○	43.000	7.300	.000	SPDRK	.000	SBY016	.000	SBY025	SBY025	SO.FT.
□	48.000	.000	.000	DE	54.920	SBY016	.000	SBY025	SBY025	IN.
◇	52.000	.000	.000	SPDRK	-14.250	SBY028	.000	SBY025	SBY025	IN.
				RUDER	13.750	SBY028	.000	SBY025	SBY025	IN.
							.0000	SBY025	SBY025	IN.
							6.0000	SBY025	SBY025	V.L.
							.0190	SBY025	SBY025	

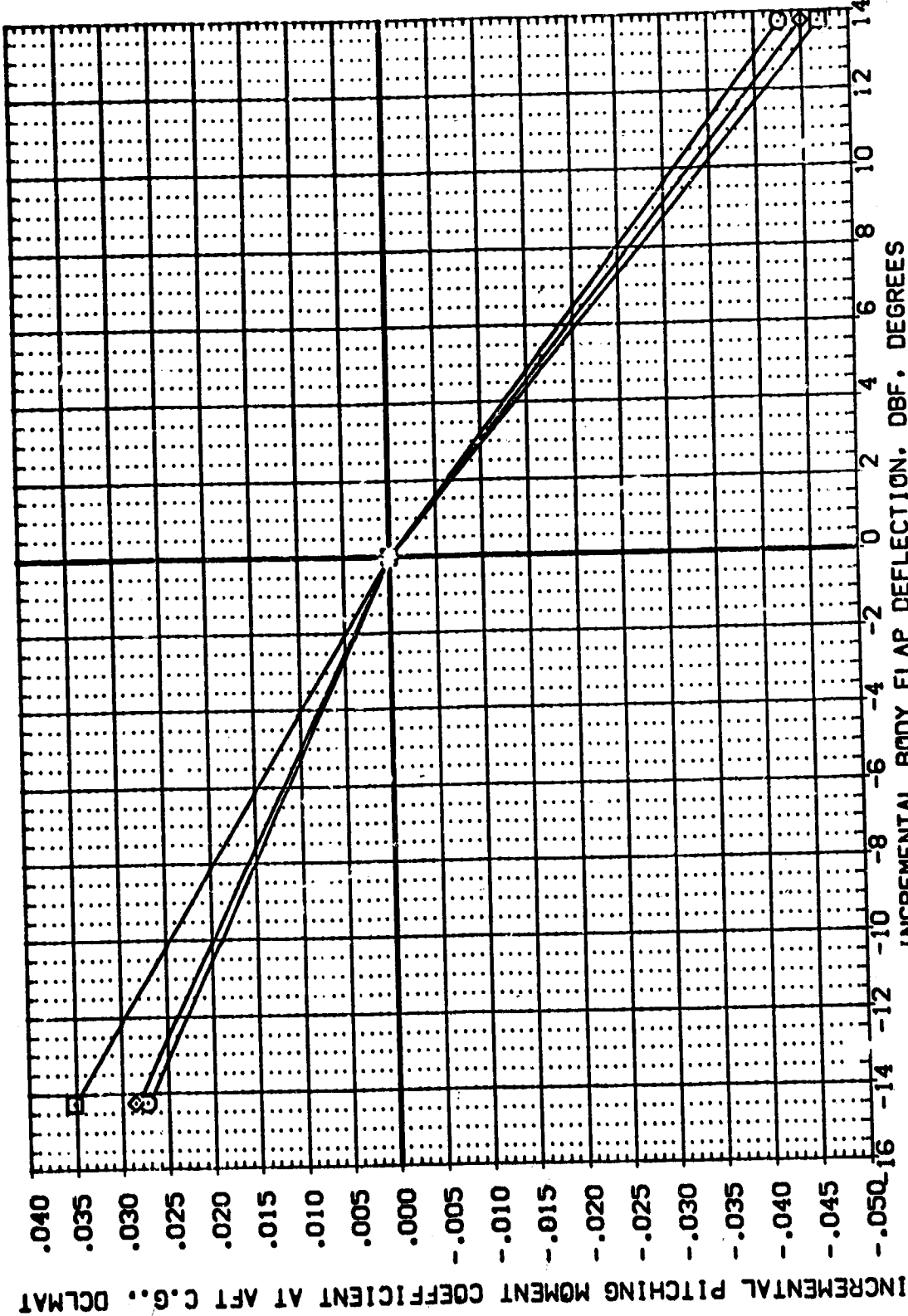


FIG. 12 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 7.3

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 (BBY017) AVES 3.5-163 OAS8 (817C7MFS)(V103E22)(V7R5)
 (BBY026) AVES 3.5-163 OAS8 (817C7MFS)(V103E22)(V7R5)
 (BBY029) AVES 3.5-163 OAS8 (817C7MFS)(V103E22)(V7R5)

BETA .000
 .000
 .000
 ELEVON .000
 .000
 .000
 BOFLAP -14.250
 .000
 13.750
 SPOBRK 54.920
 54.920
 54.920
 REFERENCE INFORMATION
 SO.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. 6.0000
 V.L. .0150
 SCALE

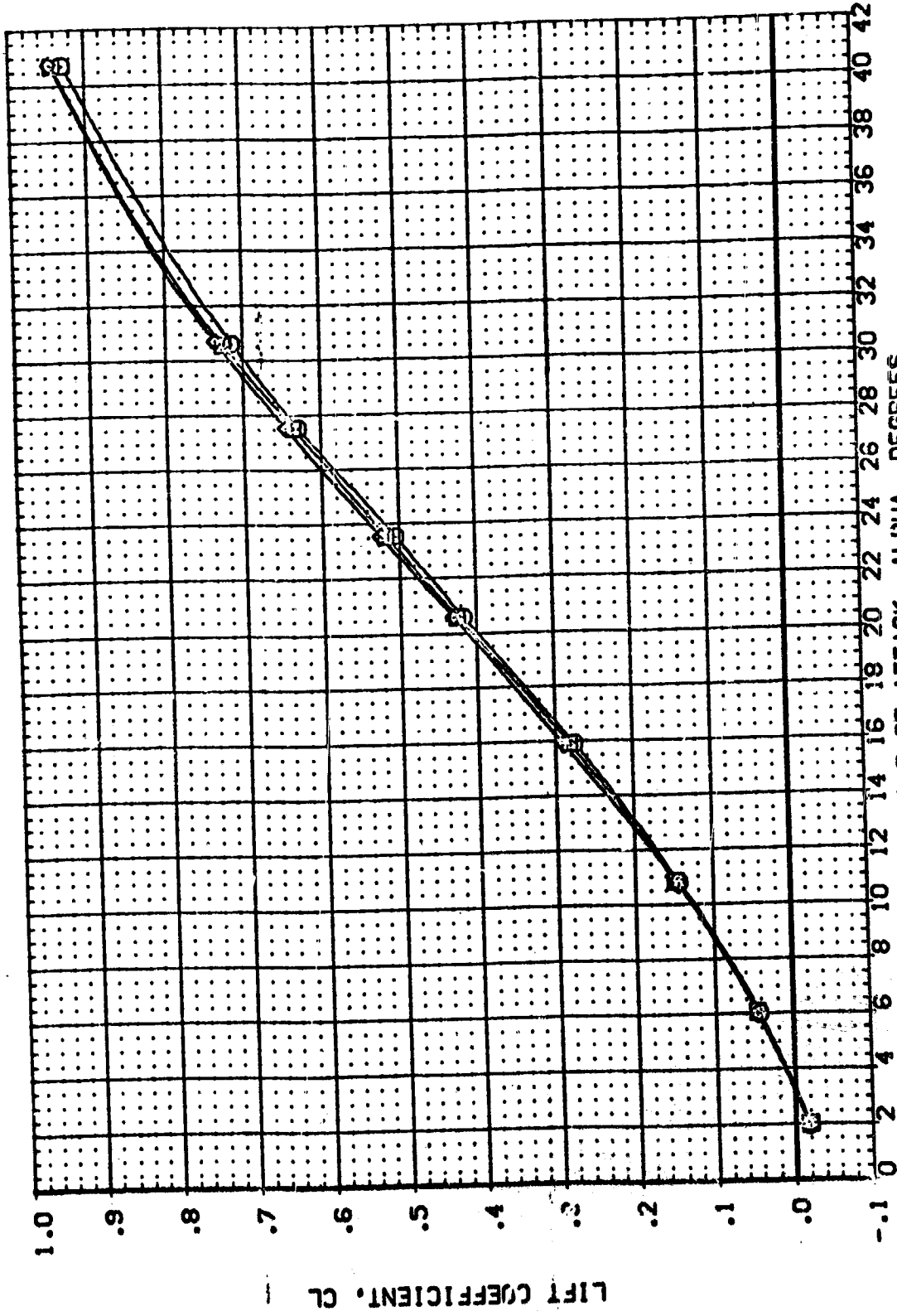


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BD/FLAP	SPORON	REFERENCE INFORMATION
(BB7017)	AVES 3-5-163 OASB (817C7MF5)(V103E22)(V7RS)	.000	.000	-14.200	54.900	SHEET 60750 90.FT.
(BB7026)	AVES 3-5-163 OASB (817C7MF5)(V103E22)(V7RS)	.000	.000	.000	54.900	IN. 7.1270
(BB7029)	AVES 3-5-163 OASB (817C7MF5)(V103E22)(V7RS)	.000	.000	13.750	54.900	IN. 14.0500
						IN. 12.5770
						IN. 6.0000
						V.L. 6.0150
						SCALE

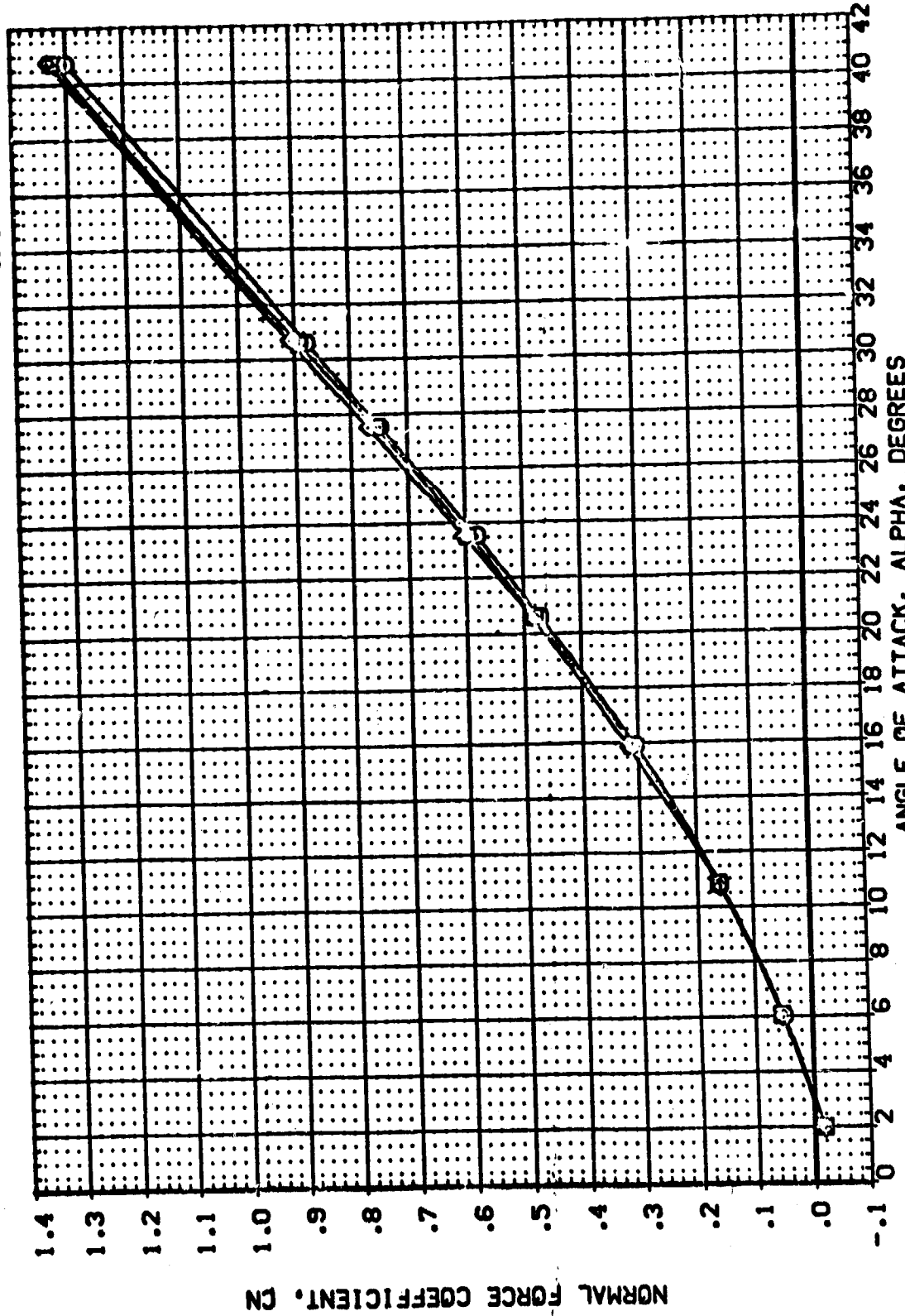


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBL. (BBY017) (BBY026) (BBY029)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 OAS8 (B17C7M4F5) (V103E22) (V7R5)
 AVES 3.5-163 OAS8 (B17C7M4F5) (V103E22) (V7R5)
 AVES 3.5-163 OAS8 (B17C7M4F5) (V103E22) (V7R5)

BETA .000 .000 .000
 ELEVON .000 .000 .000
 BOFLAP -14.750 .000 13.750
 SPOBRK 54.920 54.920 54.920

REFERENCE INFORMATION
 SREF 6050
 LBREF 7.1220
 XREF 14.0500
 YREF 12.5770
 ZREF .0000
 VREF 6.0000
 SCALE .0150

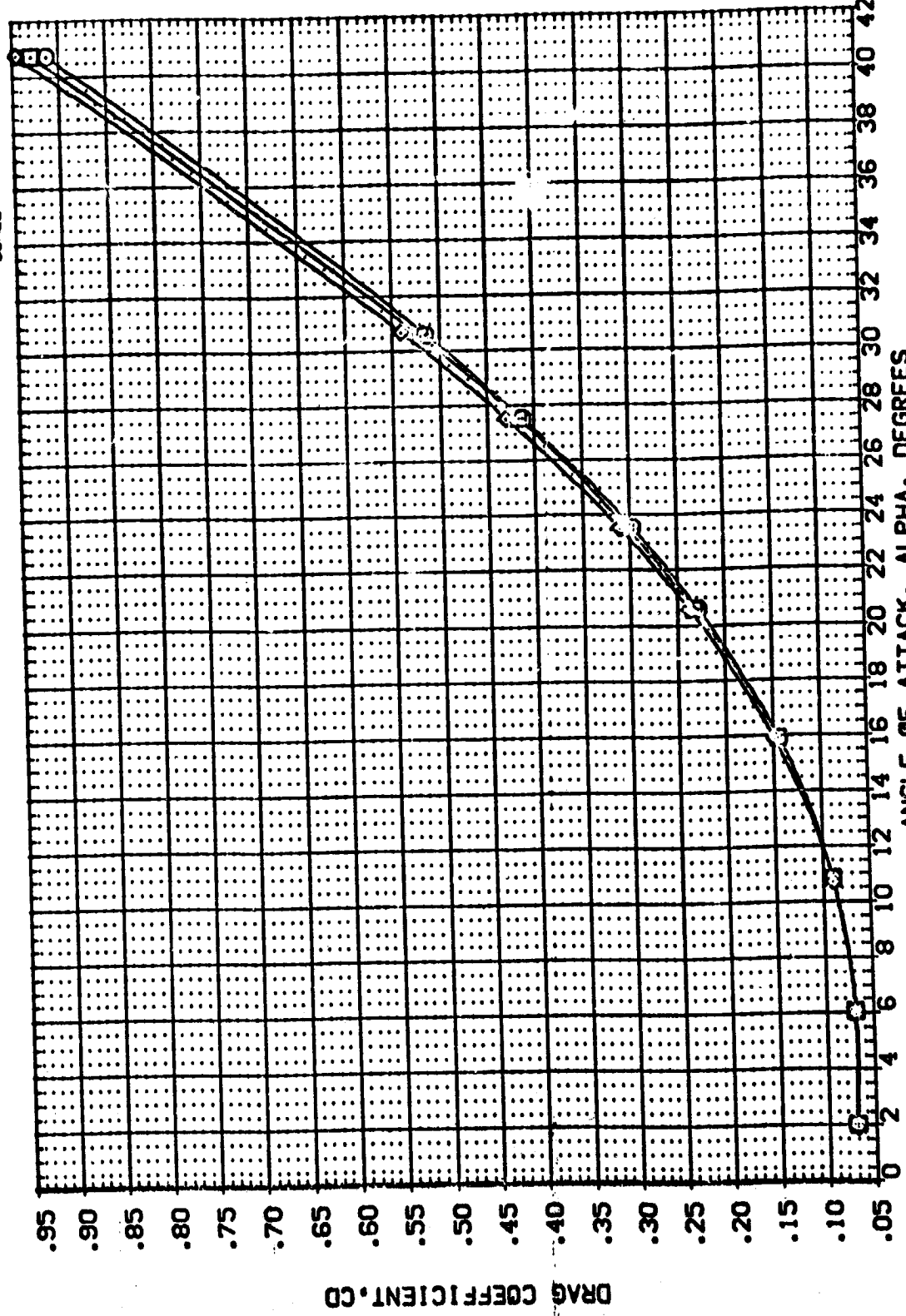


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A) MACH = 10.29

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 XREF 14.0500 IN.
 YREF 12.5770 IN.
 ZREF 6.0000 IN.
 SCALE .0150

BETA .000
 ELEVON .000
 BDFLAP -14.250
 SPOBRK 54.920

CONFIGURATION DESCRIPTION
 AVES 3.5-163 OASB (B17C7M4F5)(W103E22)(VRS)
 AVES 3.5-163 OASB (B17C7M4F5)(W103E22)(VRS)
 AVES 3.5-163 OASB (B17C7M4F5)(W103E22)(VRS)

DATA SET SYMBOL
 (BBY017)
 (BBY026)
 (BBY029)

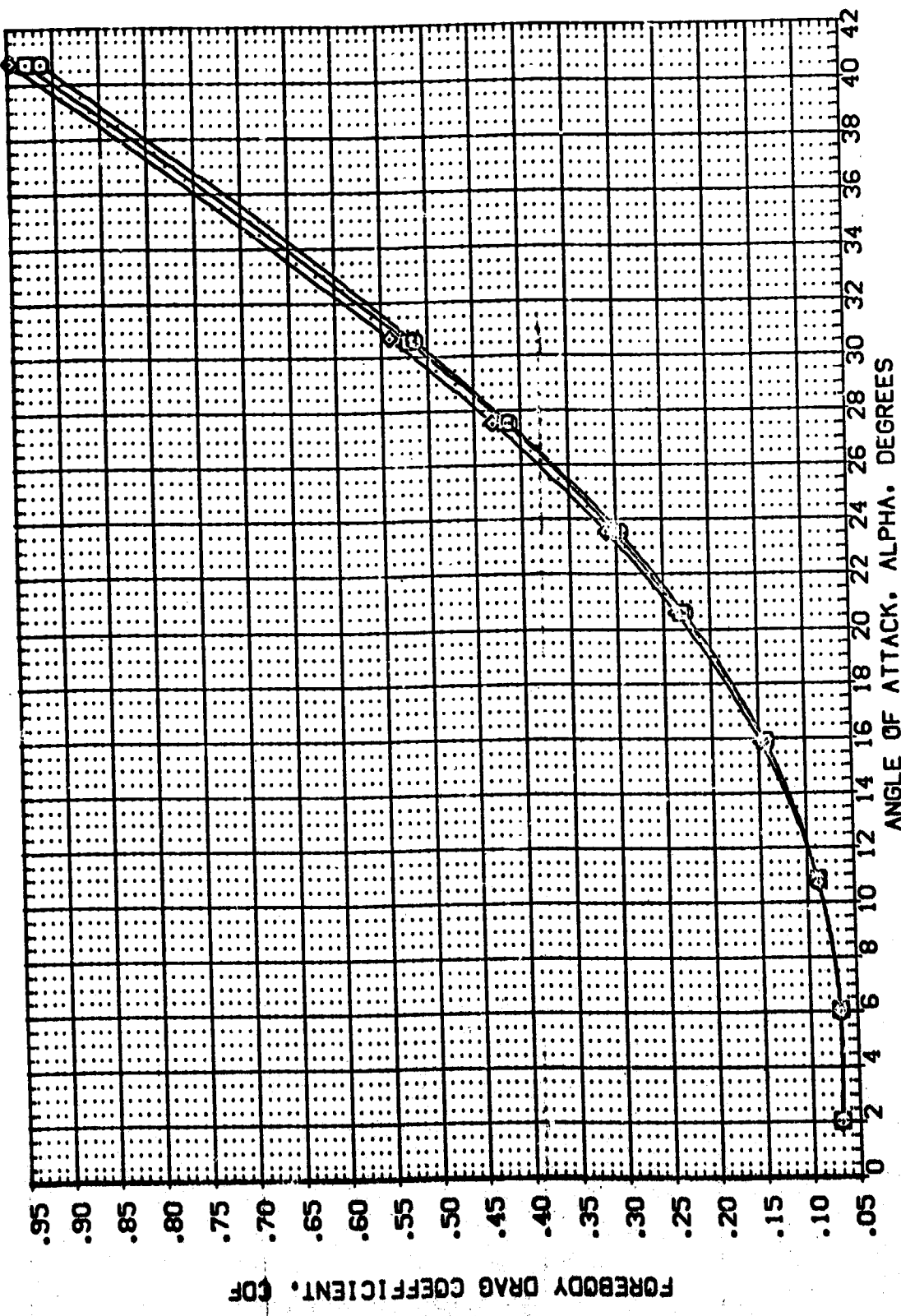


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL (BBY017) (BBY026) (BBY029)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 DAS8 (817C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 DAS8 (817C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 DAS8 (817C7M4FS)(V103E22)(V7RS)

BETA .000
 ELEVON .000
 BOFLAP -14.250
 SPOORX 54.920

REFERENCE INFORMATION
 SREF 6050 SO.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.

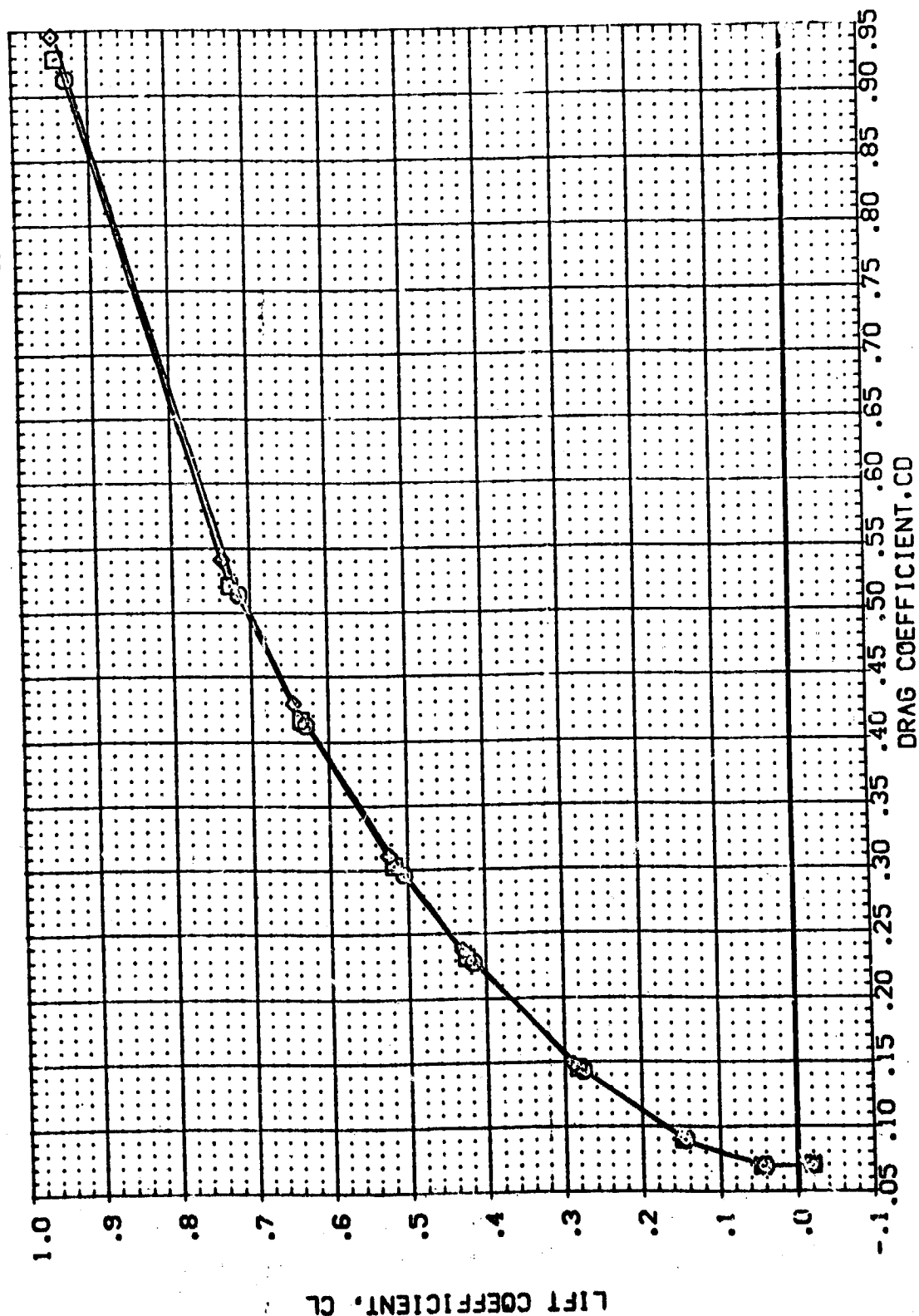


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(AJMACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(BBV017)	AMES 3-5-163 JAS8 (817C7MFS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF 6050 SO.FT.
(B3V026)	AMES 3-5-163 OAS8 (817C7MFS)(V103E22)(V7RS)	.000	.000	.000	54.920	LREF 7.120 IN.
(BBV025)	AMES 3-5-163 OAS8 (817C7MFS)(V103E22)(V7RS)	.000	.000	13.750	54.920	BREF 14.0500 IN.
						XMRP 12.5770 IN.
						YMRP .0000 IN.
						ZMRP 6.0000 V.L.
						SCALE .0150

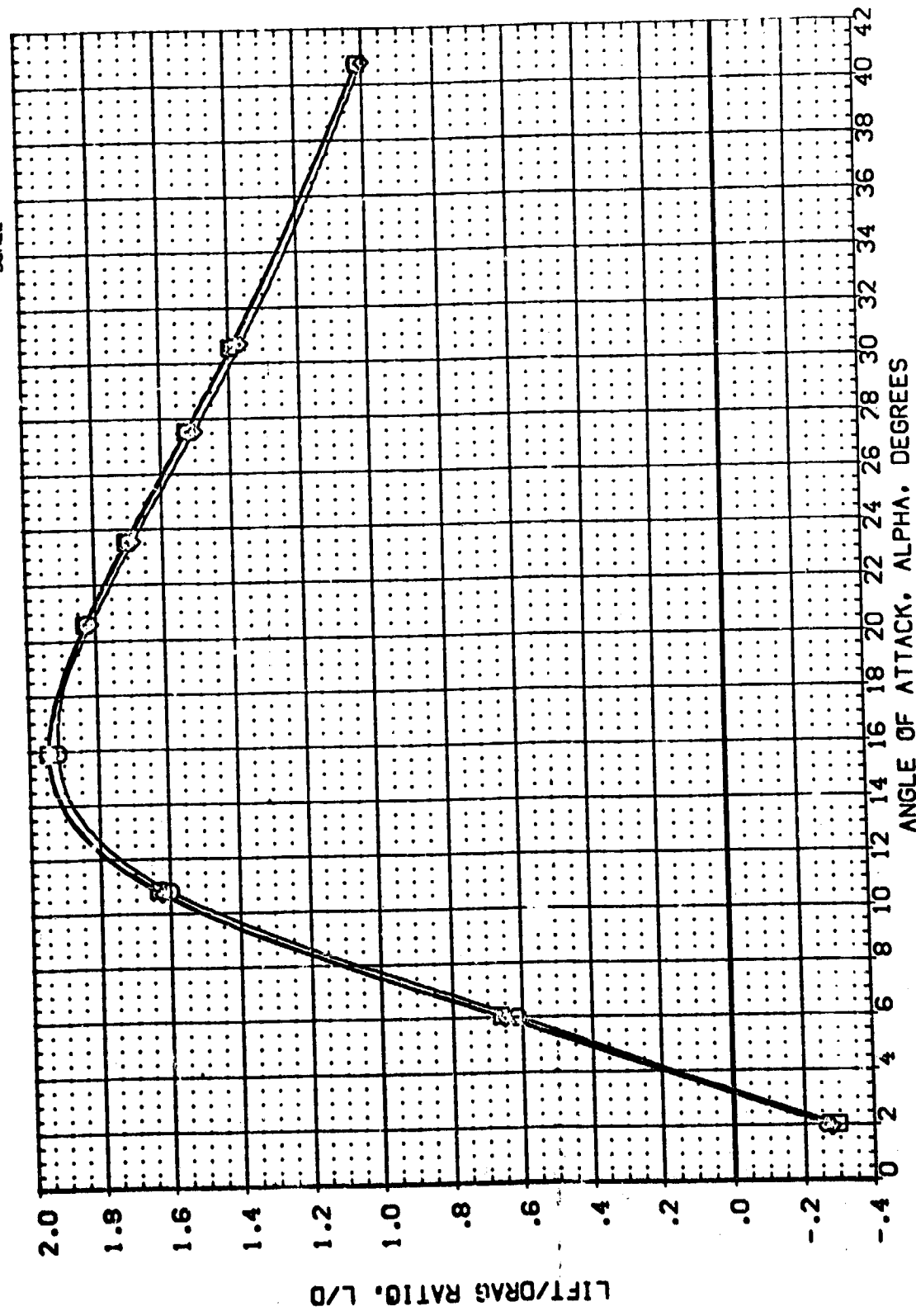


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3
(A)MACH = 10.29

DATA SET SYMBOL: (BB7017), (BB7026), (BB7029)

CONFIGURATION DESCRIPTION: AMES 3-5-163 CAS8 (817C7M4F5)(W103E22)(V7R5), AMES 3-5-163 CAS8 (817C7M4F5)(W103E22)(V7R5), AMES 3-5-163 CAS8 (817C7M4F5)(W103E22)(V7R5)

BETA: .000, .000, .000

ELEVON: .000, .000, .000

BOFLAP: -14.250, .000, 13.750

SPOBRK: 54.920, 54.920, 54.920

REFERENCE INFORMATION: SREF, LREF, BREF, XMRP, YMRP, ZMRP, SCALE

SO.FT.: 6050, 7.120, 14.050, 12.5770, .0000, 6.0000, .0150

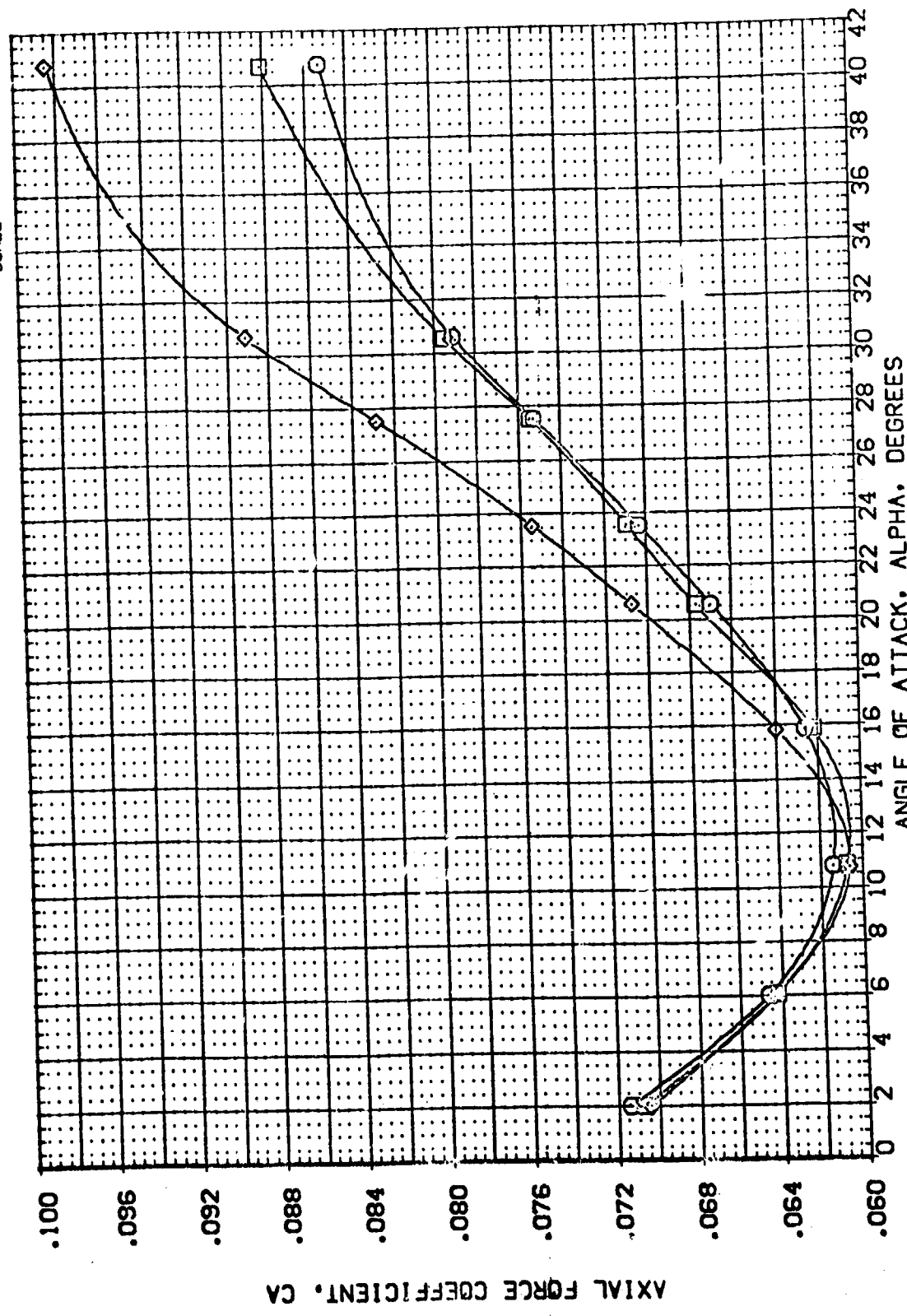


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BDFLAP	SPOBRK	REFERENCE INFORMATION
(BBV017)	AMES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	SREF .6050 SO.FT.
(BBV026)	AMES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	LREF 7.1220 IN.
(BBV029)	AMES 3.5-163 OAS8 (817C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	BRCF 14.0500 IN.
						YMRP 12.5770 IN.
						ZMRP 6.0000 IN.
						SCALE 6.0150

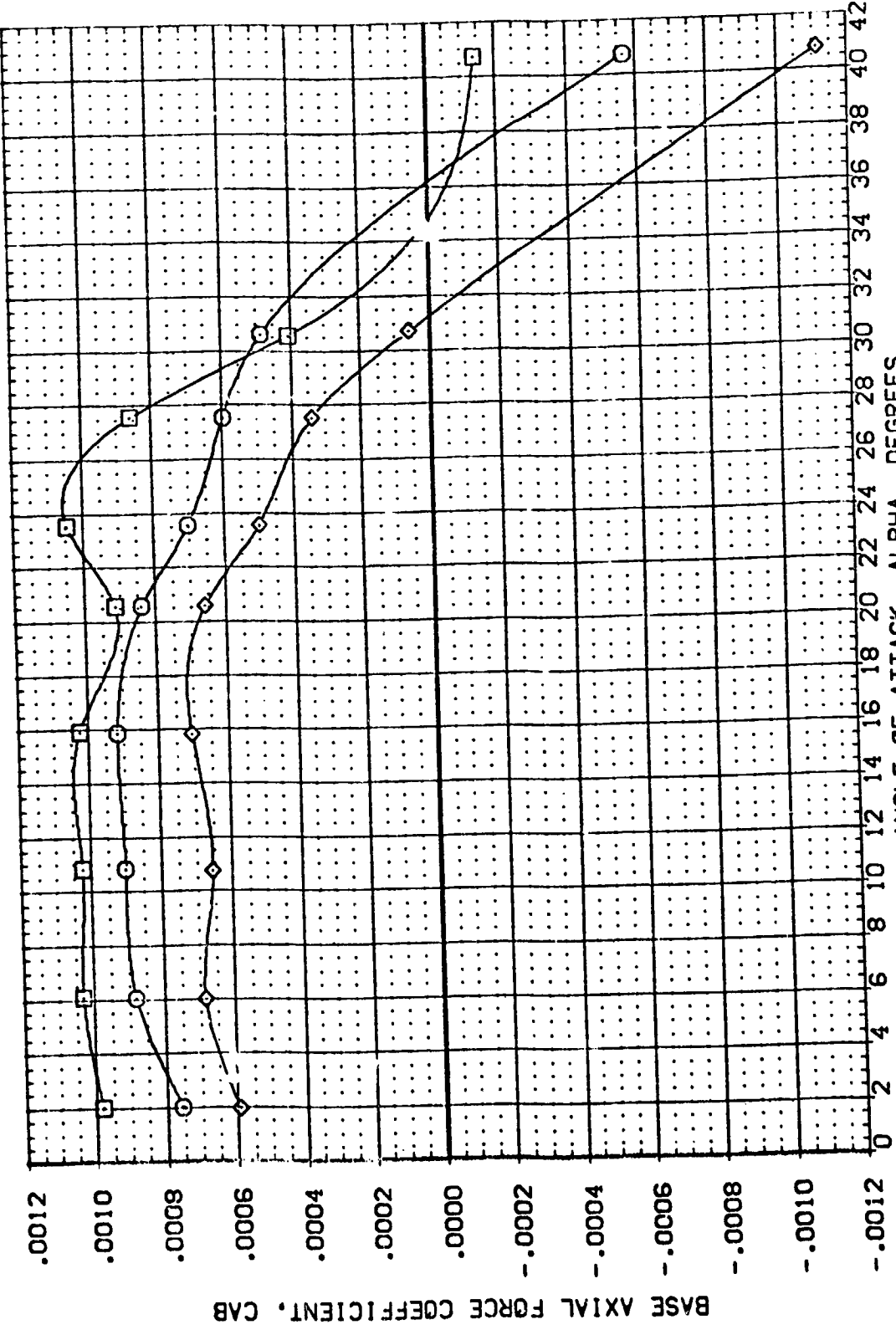





FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SO.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 .0150

BETA .000
 ELEVON .000
 BOFLAP -14.250
 SPOBRK 54.920

CONFIGURATION DESCRIPTION
 AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 CAS8 (B17C7M4FS)(V103E22)(V7RS)

DATA SET SYMBOL
 (BBY017) 
 (BBY026) 
 (BBY029) 

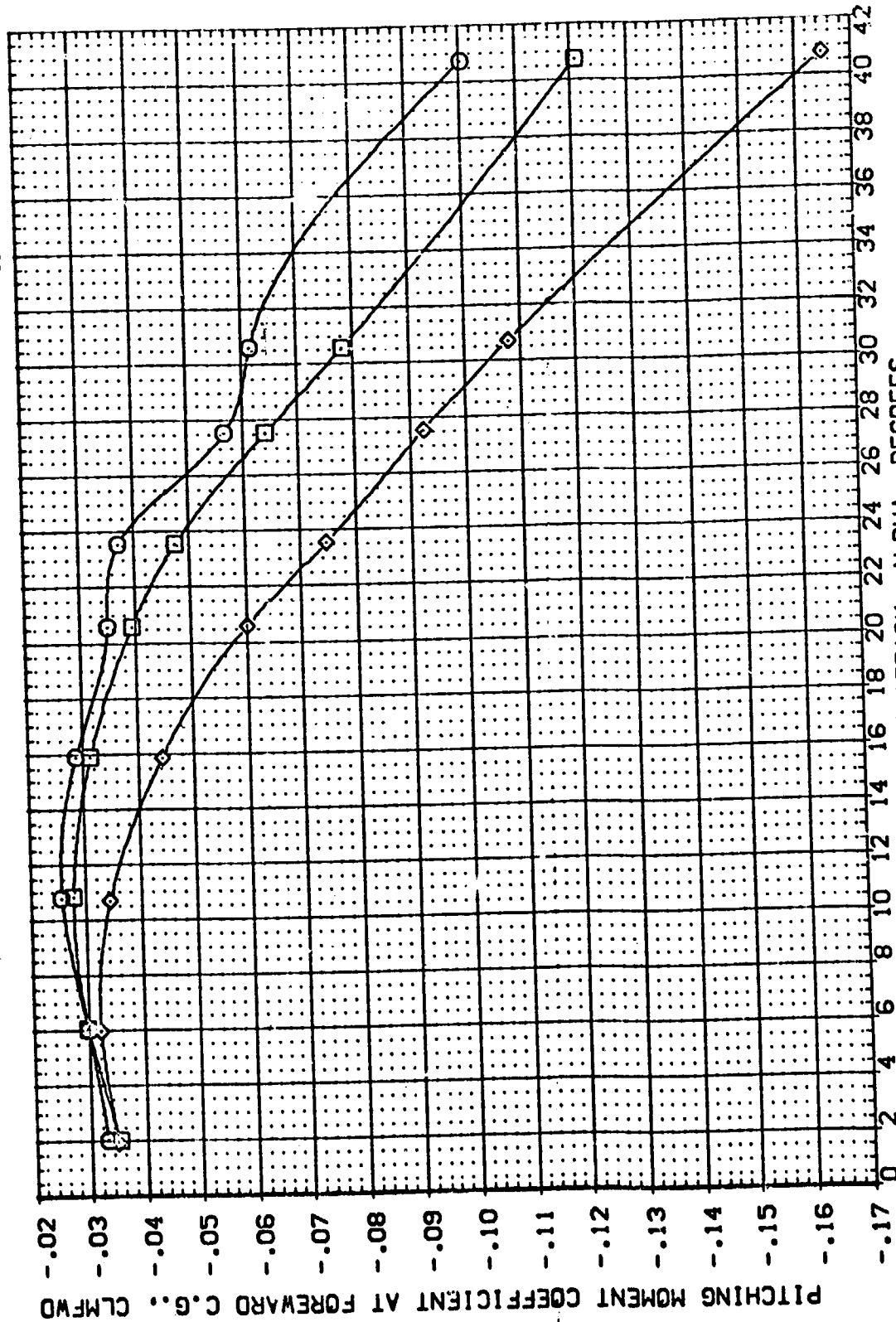


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SQ. FT. .6050
 IN. 7.1270
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 ZMCP .0150
 SCALE

SPOBRK 54.920
 54.920
 54.920
 54.920

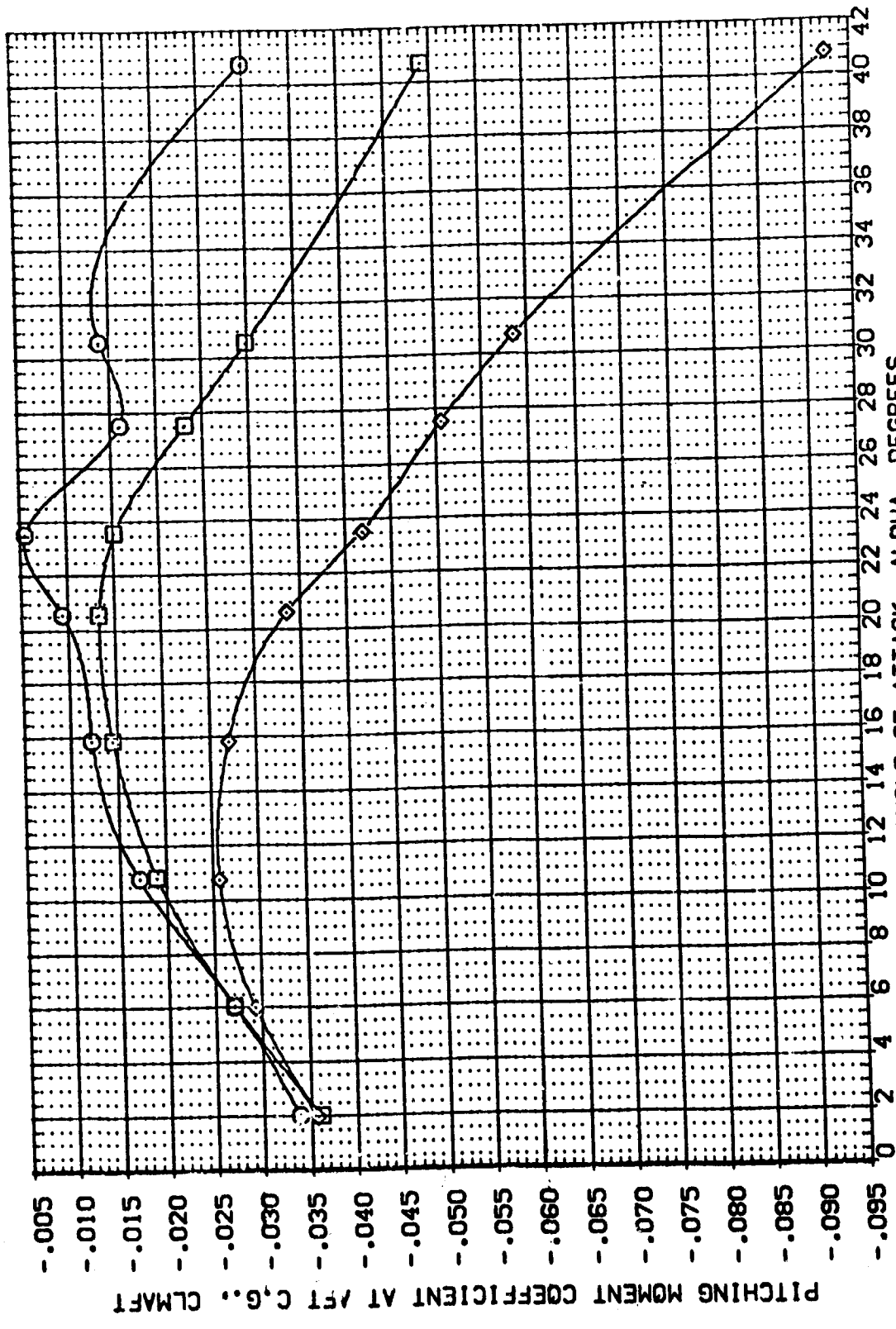
80FLAP -14.250
 .000
 .000
 13.750

ELEVON .000
 .000
 .000

BETA .000
 .000
 .000

CONFIGURATION DESCRIPTION
 AVES 3.5-163 OASB (B17C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 OASB (B17C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 OASB (B17C7M4FS)(V103E22)(V7RS)

DATA SET SYMBOL
 (88Y017)
 (88Y026)
 (88Y029)



ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	ELEVON	BOFLAP	SPOBRK	REFERENCE INFORMATION
(88Y017)	APES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	-14.250	54.920	6050 SO.FT.
(88Y026)	APES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	.000	54.920	7.1220 IN.
(88Y029)	APES 3.5-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)	.000	.000	13.750	54.920	14.0500 IN.
						12.5770 IN.
						0.0000 IN.
						6.0000 V.L.
						SCALE

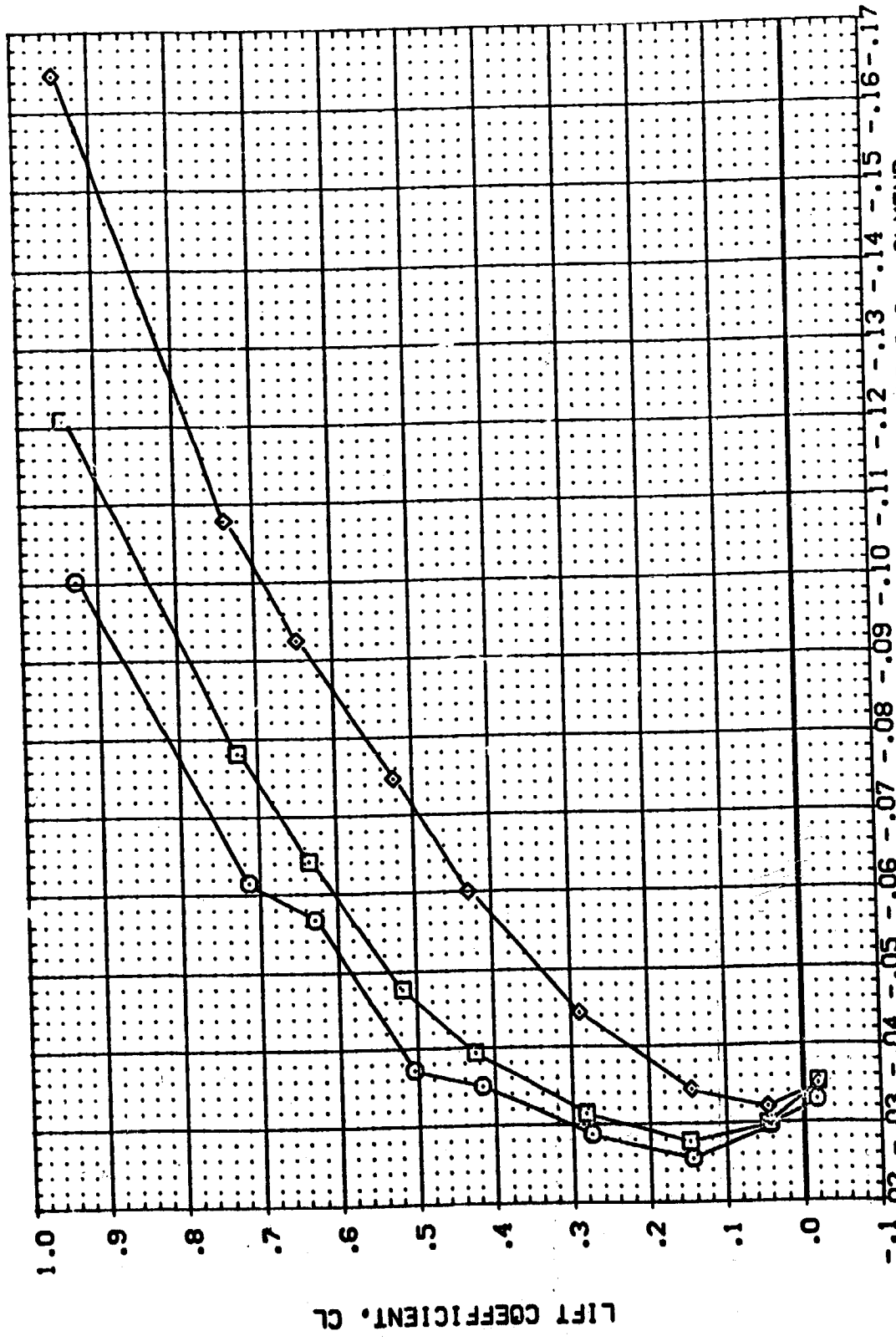


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(AJMACH = 10.29

DATA SET SYMBOL
 (BBY017)
 (BBY026)
 (BBY029)

CONFIGURATION DESCRIPTION
 AVES 3.5-163 DAS8 (B17C7M4FS)(W103E22)(V7RS)
 AVES 3.5-163 DAS8 (B17C7M4FS)(W103E22)(V7RS)
 AVES 3.5-163 DAS8 (B17C7M4FS)(W103E22)(V7RS)

BETA
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000

BDFLAP
 -14.250
 .000
 13.750

SPDBRK
 54.920
 54.920
 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XREF 12.5770 IN.
 YREF .0000 IN.
 ZREF 6.0000 IN.
 SCALE .0150 V.L.

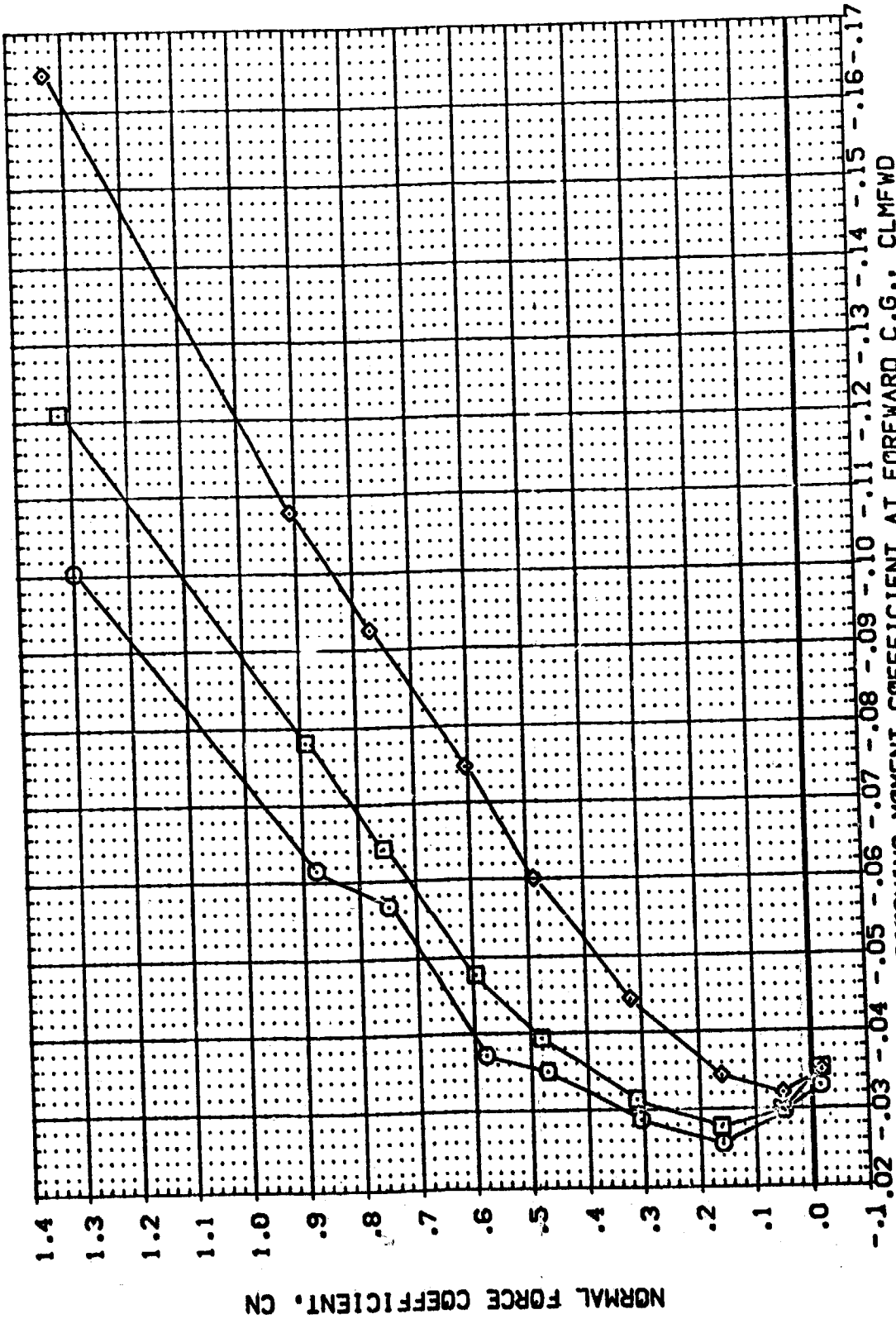


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.29

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. .0150

BETA .000
 .000
 .000
 .000

CONFIGURATION DESCRIPTION
 ARES 3.5-163 0A58 (817C7MFS)(V103E22)(V7RS)
 ARES 3.5-163 0A58 (817C7MFS)(V103E22)(V7RS)
 ARES 3.5-163 0A58 (817C7MFS)(V103E22)(V7RS)

DATA SET SYMBOL
 (RBY017)
 (RBY026)
 (RBY029)

ELEVON .000
 BOFLAP -14.250
 SPDBRK 54.920
 54.920
 54.920

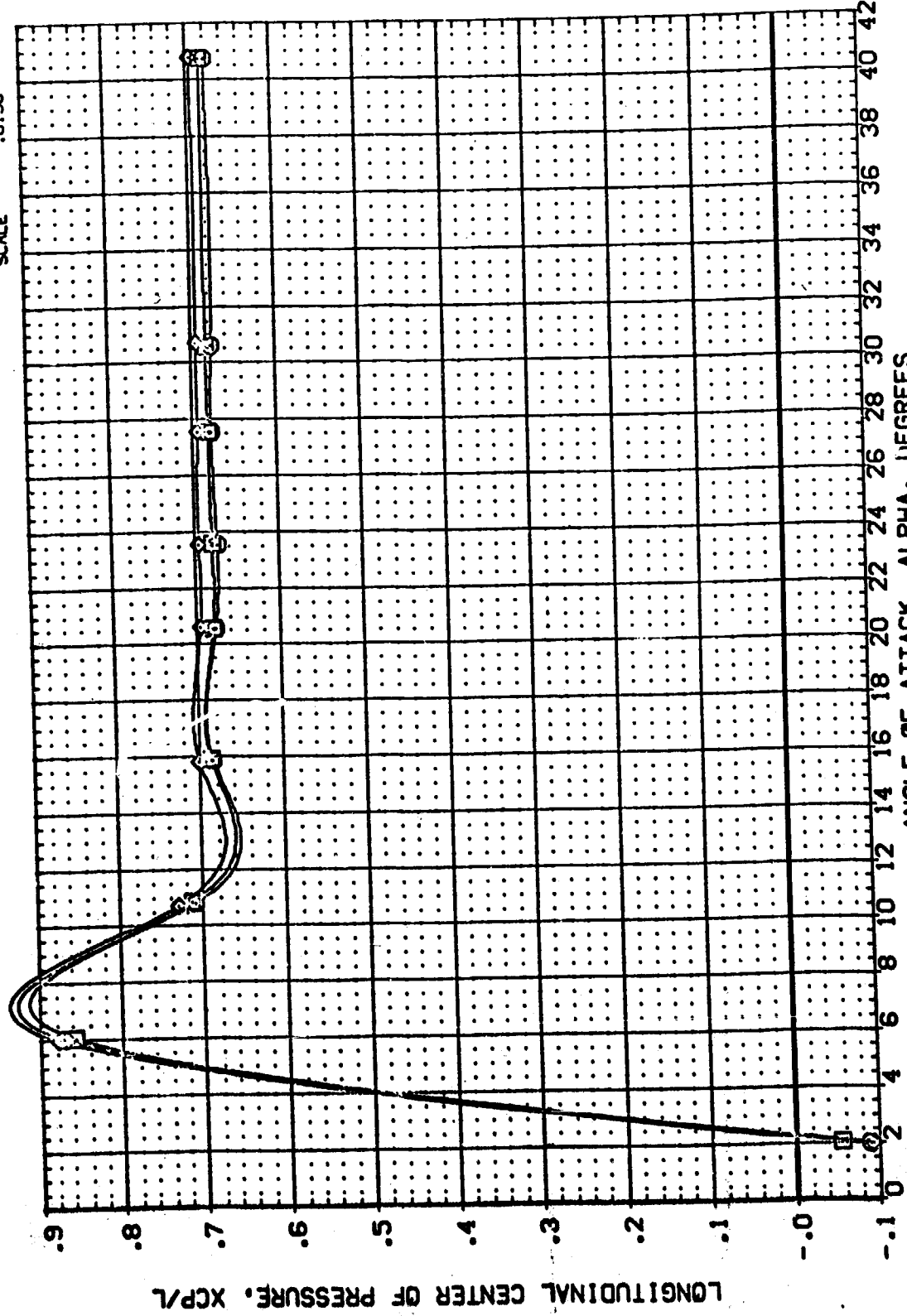


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

DATA SET SYMBOL (507017) (587029) □

CONFIGURATION DESCRIPTION
 AMES 3.5-163 OAS8 (817C7M4F5)(V103E22)(V7R5)
 AMES 3.5-163 OAS8 (817C7M4F5)(V103E22)(V7R5)

BETA DE DBF SPOBRK
 .000 .000 -14.250 54.920
 .000 .000 13.750 54.920

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1270 IN.
 BREF 14.0500 IN.
 XGRP 12.5770 IN.
 YGRP .0000 IN.
 ZGRP 6.0000 V.L.
 SCALE .0150

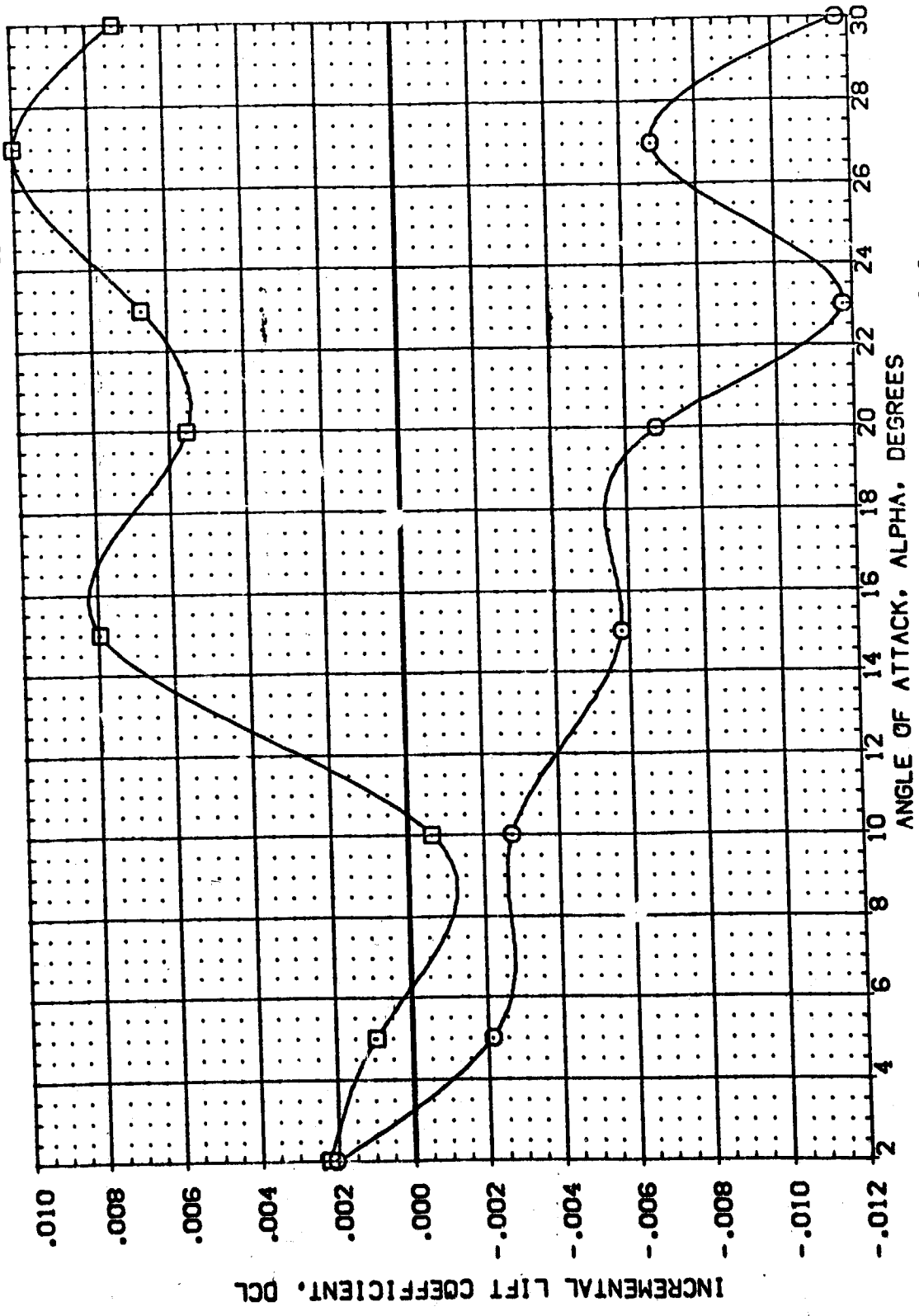


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (SBY017) (SBY029)

CONFIGURATION DESCRIPTION
 AVES 3-5-163 OASB (B17C7M4FS)(V103E22)(V7R5)
 AVES 3-5-163 OASB (B17C7M4FS)(V103E22)(V7R5)

BETA .000 .000

DE .000 .000

DEF -14.250 -13.750

SPOBRK 54.920 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XTRP 12.5770 IN.
 YTRP 6.0000 IN.
 ZTRP 6.0000 IN.
 SCALE .0150

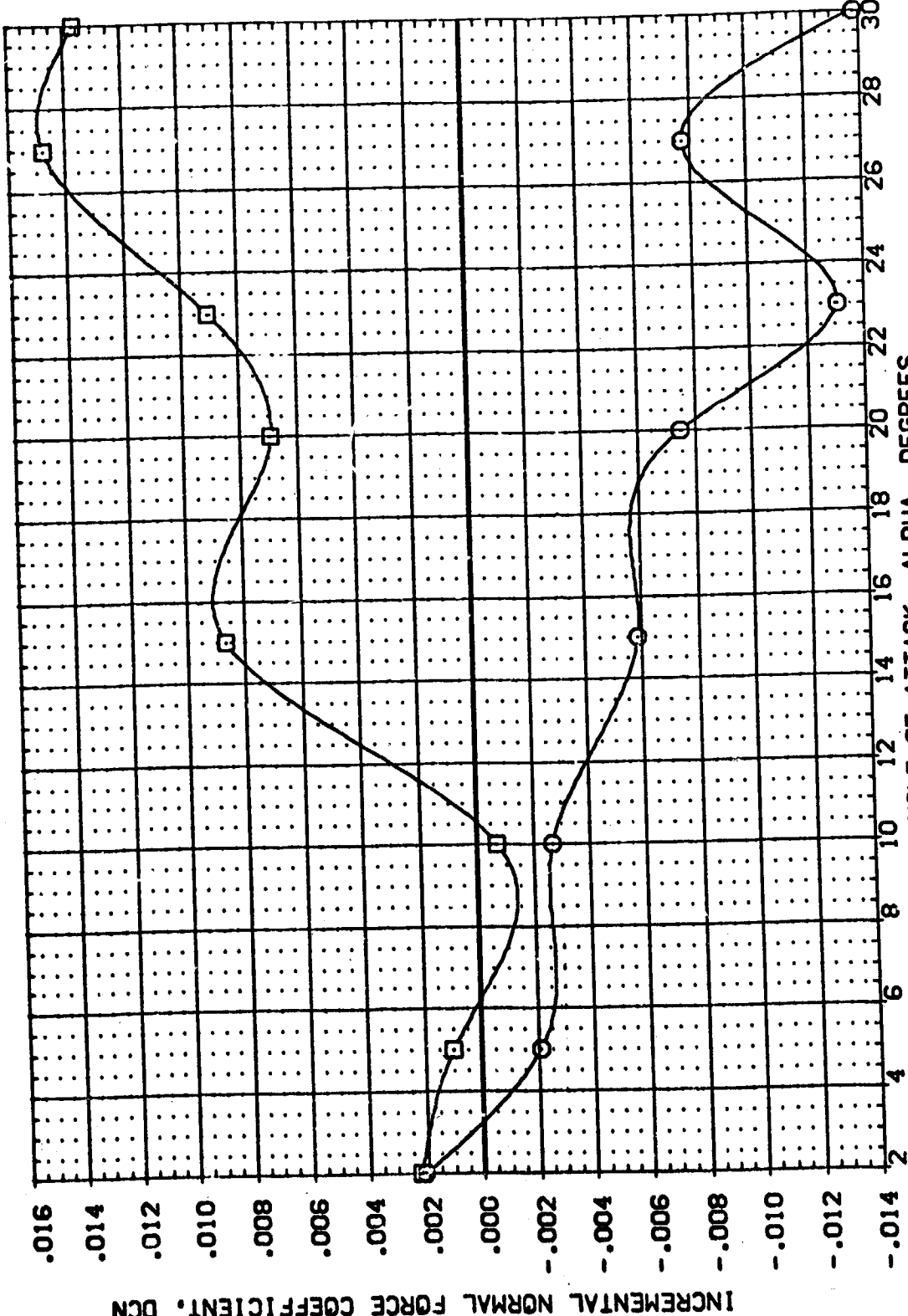


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A)MACH = 10.30

DATA SET SYMBOL (SBY017)
 (SBY029)

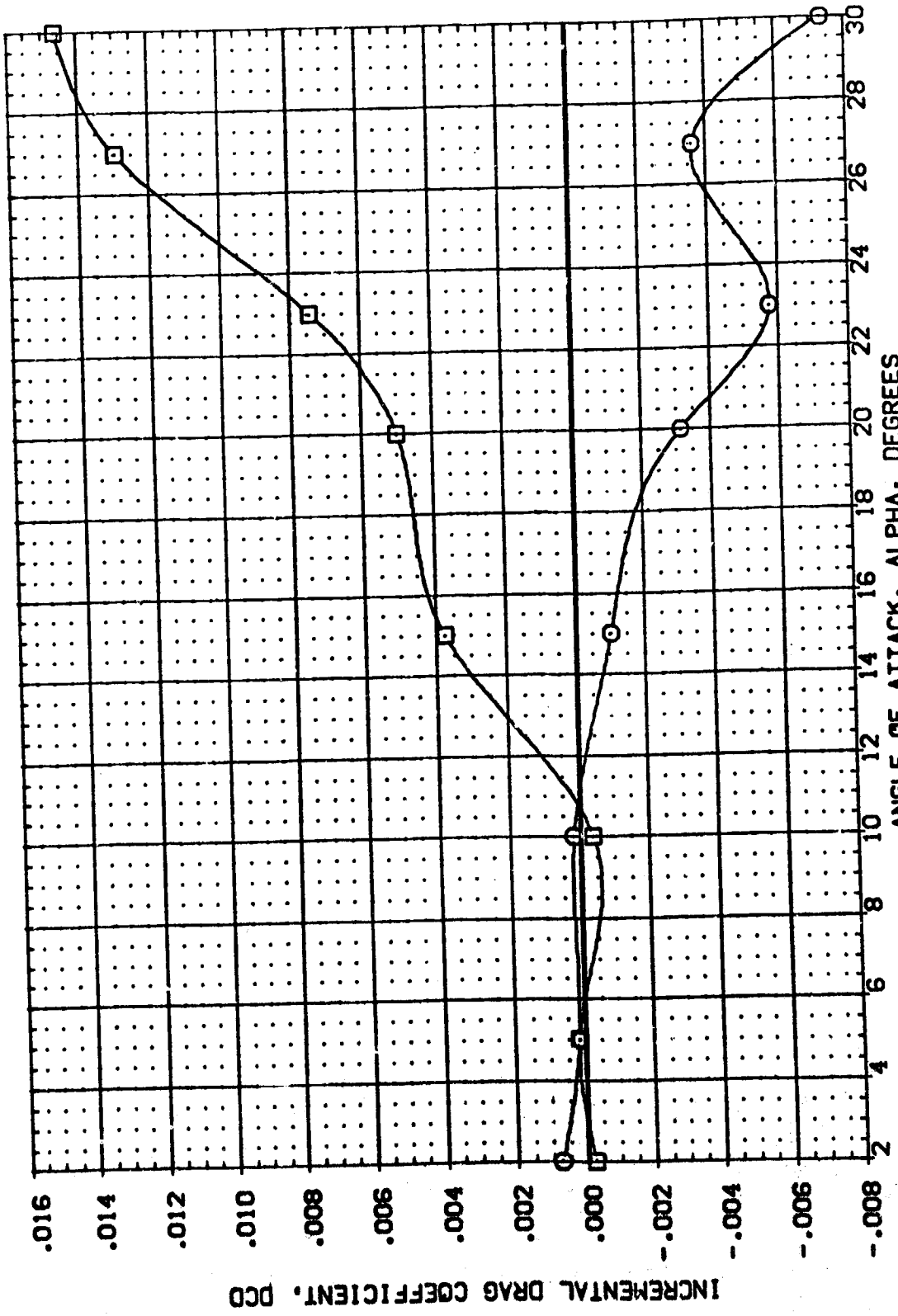
CONFIGURATION DESCRIPTION
 ASES 3-S-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)
 ASES 3-S-163 OAS8 (B17C7M4FS)(V103E22)(V7RS)

BETA DE .000
 .000

DBF -14.250
 13.750

SPOBRK 54.920
 54.920

REFERENCE INFORMATION
 SREF 6050 50.FT.
 LREF 7.1220 IN.
 BREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP 6.0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150 V.L.



INCREMENTAL DRAG COEFFICIENT, DCD

ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL: (SBV017) (SBV029)
 CONFIGURATION DESCRIPTION: AVES 3.5-163 OASB (B17C7M4FS)(V103E22)(V7RS)
 AVES 3.5-163 OASB (B17C7M4FS)(V103E22)(V7RS)

BETA: .000
 DE: .000
 DBF: 14.250
 SPOBRK: 54.920

REFERENCE INFORMATION:
 SO.FT.: 6050
 IN.: 7.120
 IN.: 14.050
 IN.: 12.5770
 IN.: 6.0000
 V.L.: .0150

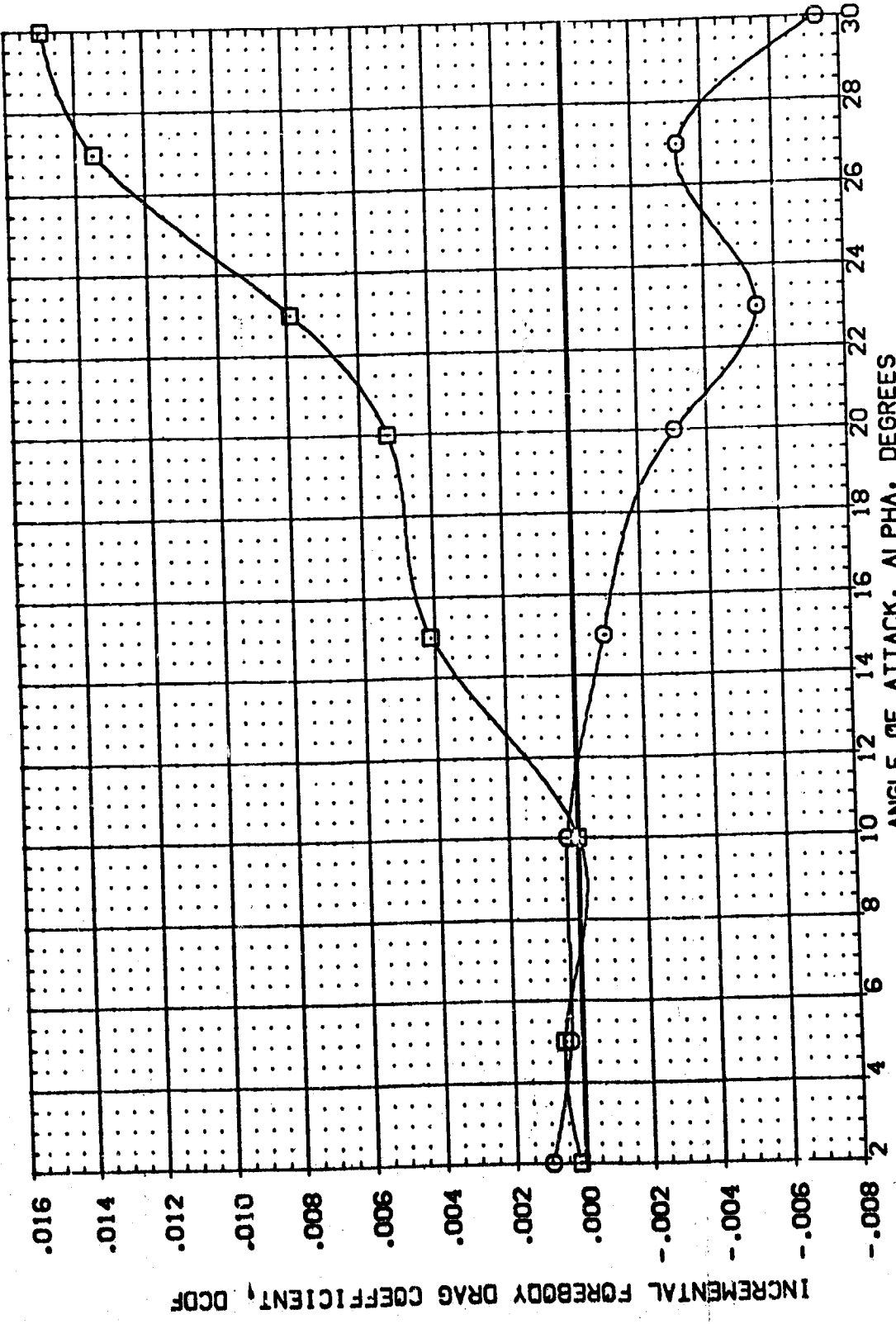


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL (SBY017) (SBY029) \square

CONFIGURATION DESCRIPTION
 AMES 3.5-163 CASB (B17C7MHFS)(V103E22)(V7RS)
 AMES 3.5-163 CASB (B17C7MHFS)(V103E22)(V7RS)

BETA DE .000 .000
 DBF -14.250 13.750
 SPOBRK 54.920 54.920

REFERENCE INFORMATION
 SREF 6050 SQ.FT.
 LREF 7.1220 IN.
 BRREF 14.0500 IN.
 YMRP 12.5770 IN.
 ZMRP .0000 IN.
 SCALE 6.0000 V.L.
 .0150

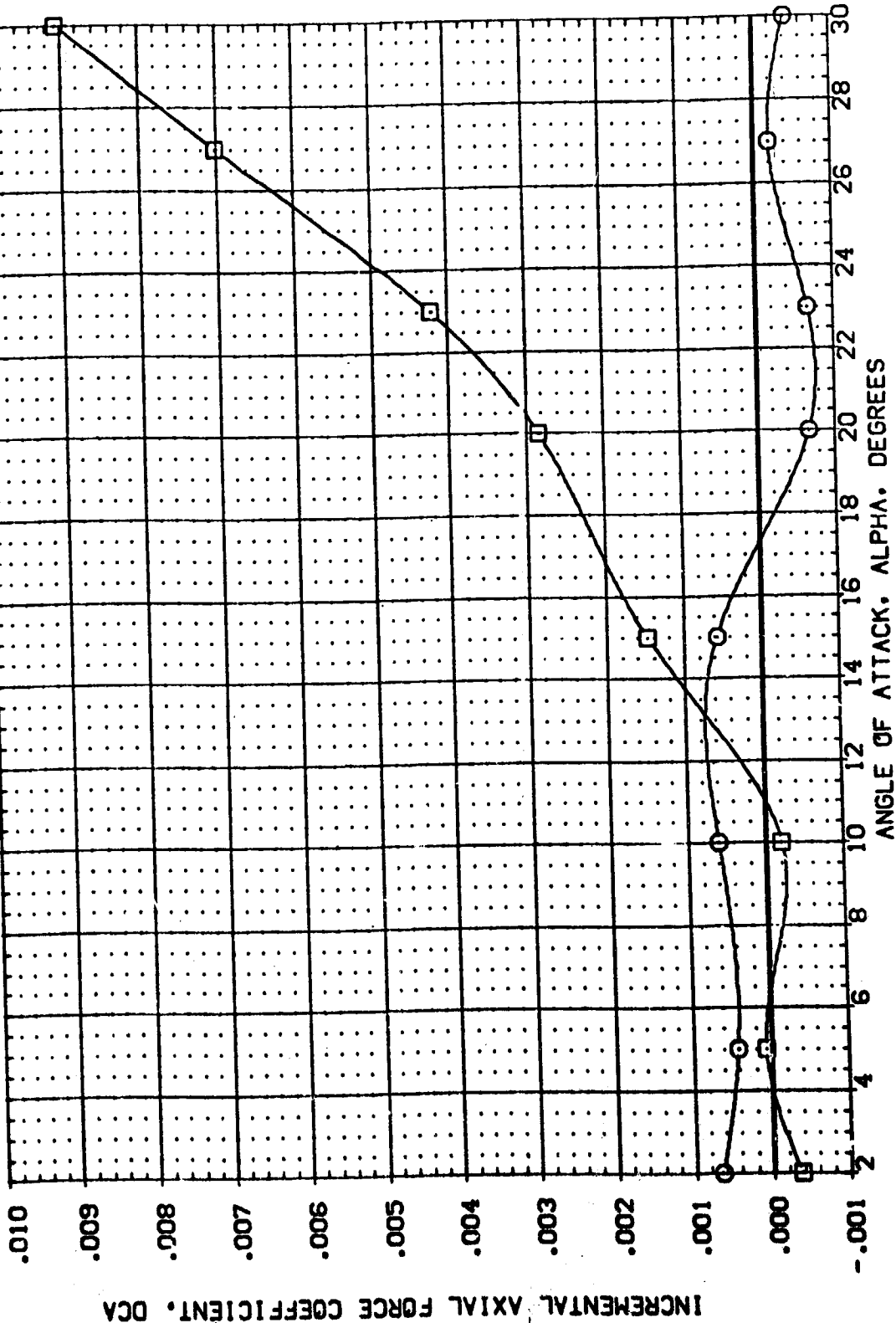


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL: (SB017) (SB029) **□**

CONFIGURATION DESCRIPTION:
 AMES 3.5-163 OAS8 (817C7M4F5)(V103E22)(V7RS)
 AMES 3.5-163 OAS8 (817C7M4F5)(V103E22)(V7RS)

BETA: .000
 DE: .000
 DBF: -14.250
 13.750

SPOBRK: 54.920
 54.920

REFERENCE INFORMATION:
 SREF: 6050 SQ.FT.
 LREF: 7.1220 IN.
 BRFP: 14.0500 IN.
 YMRP: 12.5770 IN.
 ZMRP: .0000 IN.
 SCALE: 6.0000 V.L.
 .0150

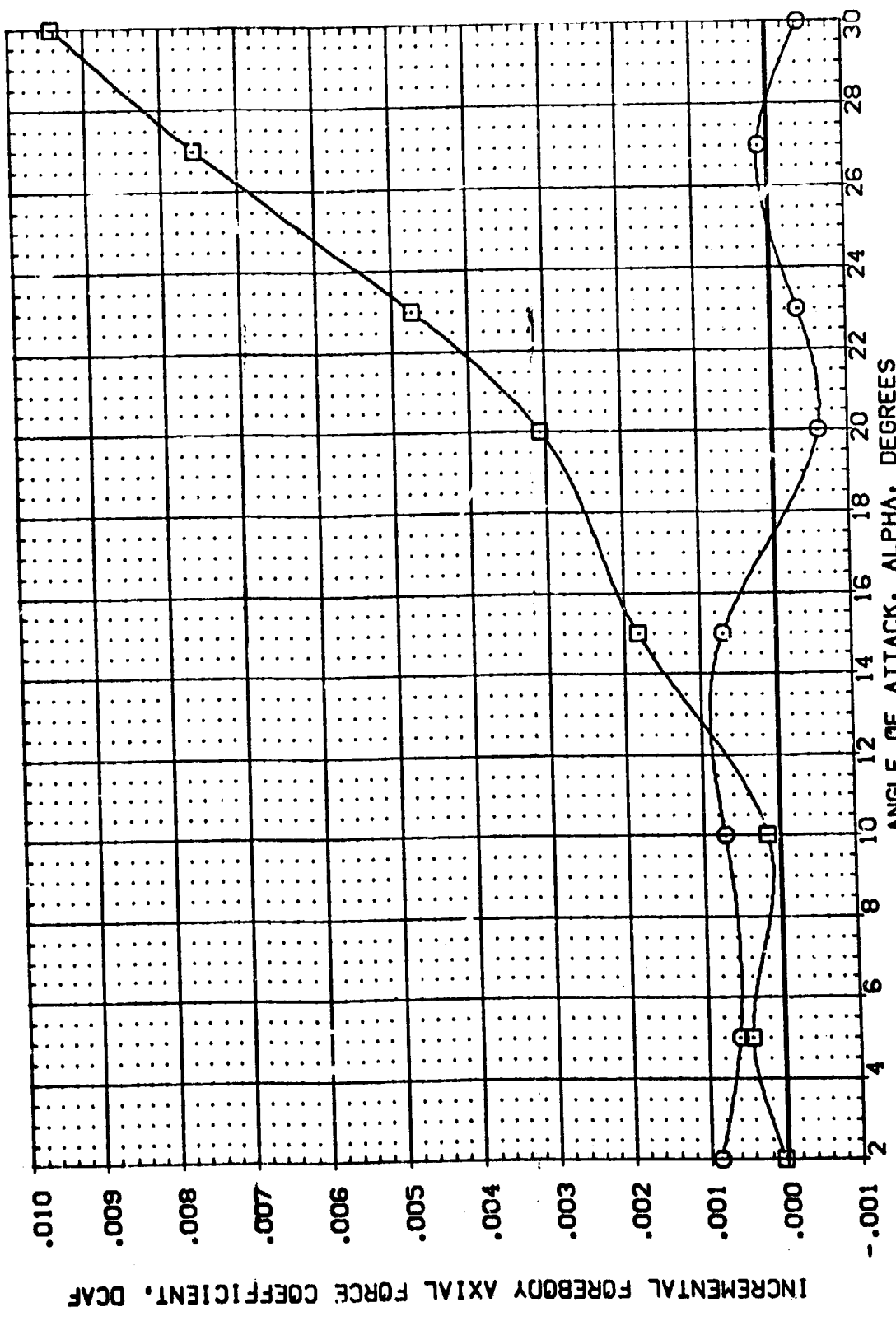



FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

DATA SET SYMBOL: (SBY017) (SBY029) 

CONFIGURATION DESCRIPTION:
 APES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)
 APES 3.5-163 OASB (B17C7M4F5)(V103E22)(V7R5)

BETA: .000
 DE: .000
 DBF: -14.250
 13.750

SPOBRK: S4.920
 S4.920

REFERENCE INFORMATION:
 SREF: .6050 SQ.FT.
 LREF: 7.1230 IN.
 XMRP: 14.0500 IN.
 YMRP: 12.5770 IN.
 ZMRP: .0000 IN.
 SCALE: 6.0000 V.I.
 .0150

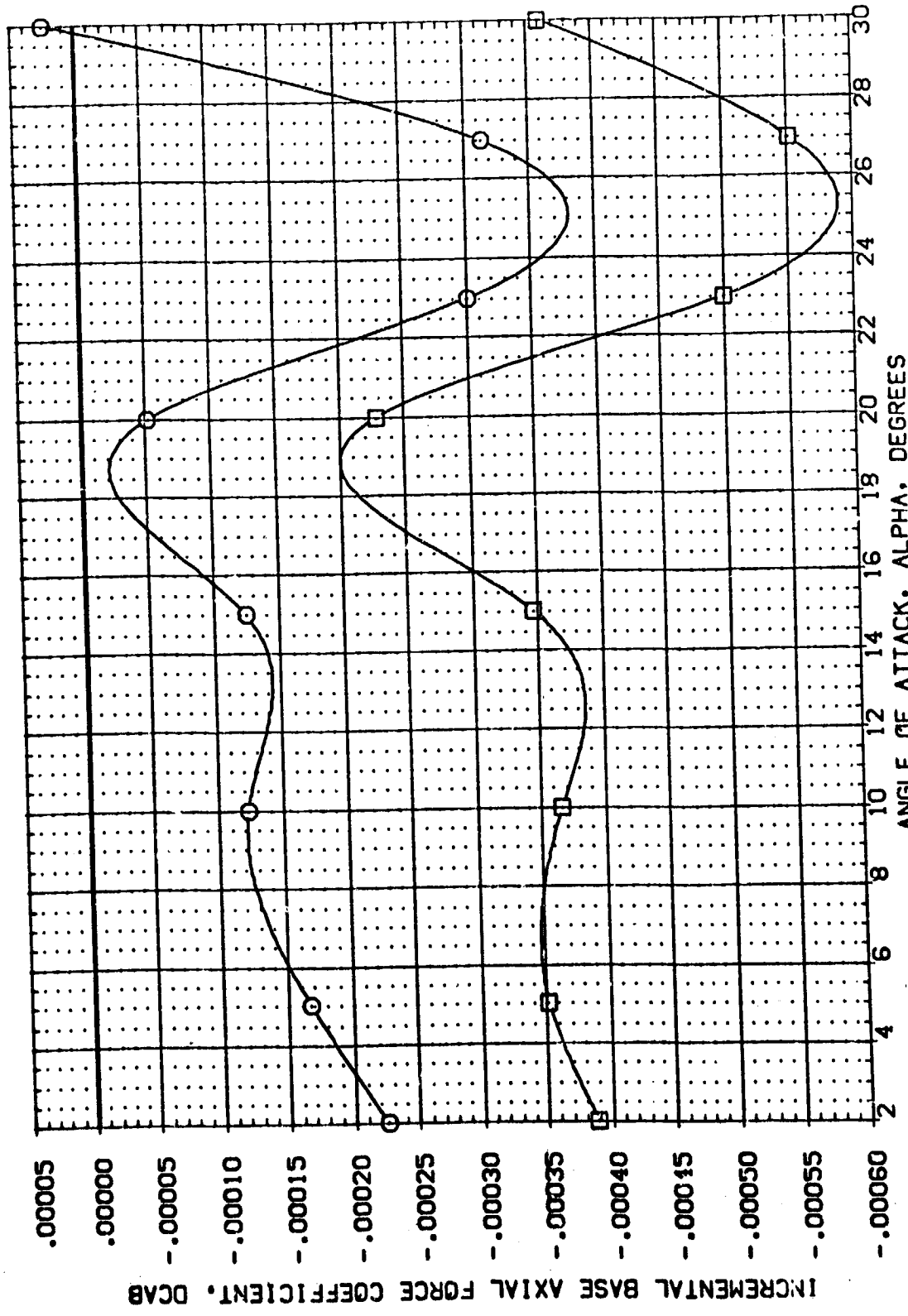


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3
 (A) MACH = 10.30

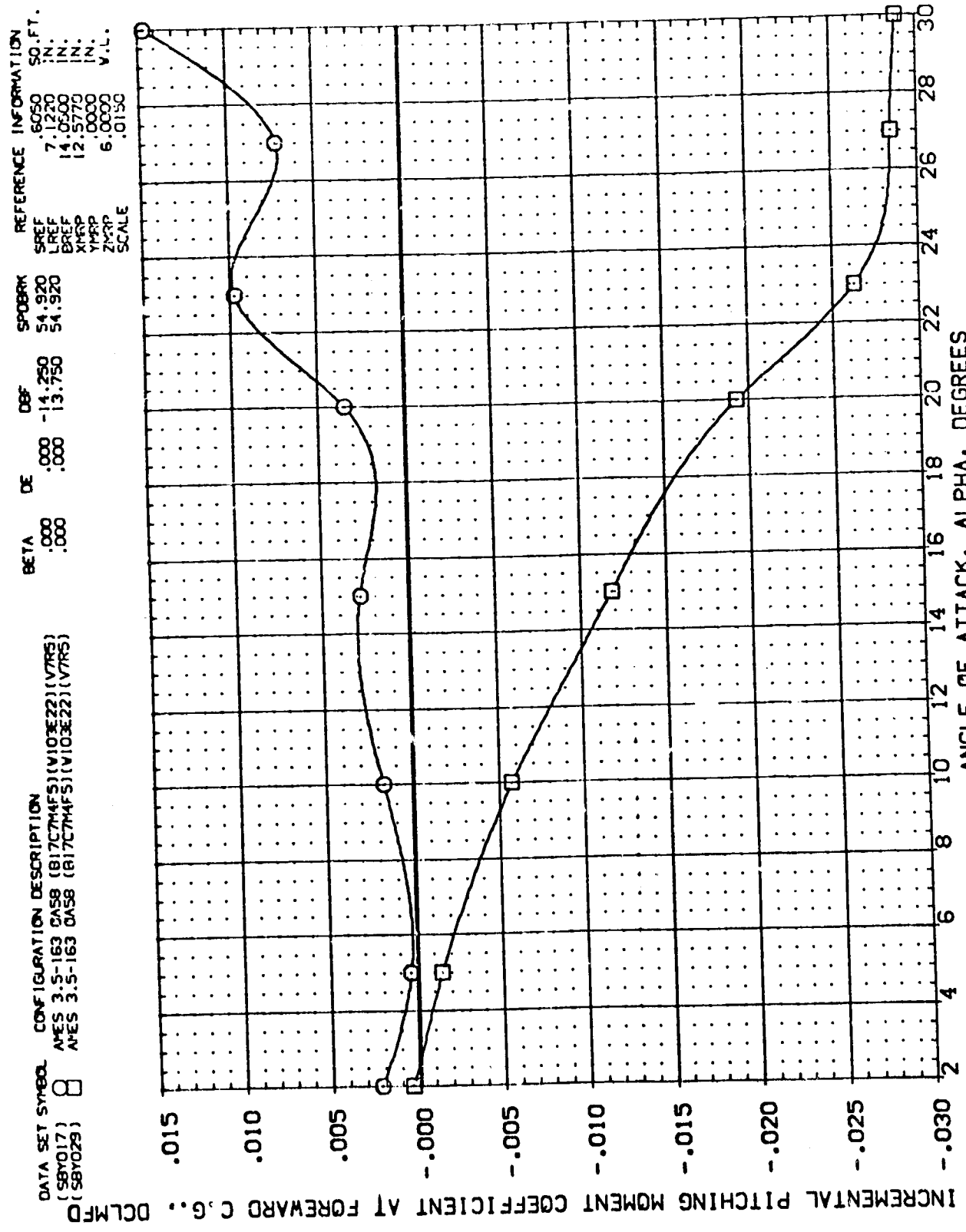


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

REFERENCE INFORMATION
 SREF .6050 SQ.FT.
 LREF 7.1220 IN.
 DREF 14.0500 IN.
 XMRP 12.5770 IN.
 YMRP .0000 IN.
 ZMRP 6.0000 IN.
 SCALE .0150

SPDRK 54.920
 54.920
 DBF -14.250
 13.750
 DE .000
 .000
 BETA .000
 .000

CONFIGURATION DESCRIPTION
 APES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)
 APES 3.5-163 DAS8 (B17C7M4FS)(V103E22)(V7RS)

DATA SET SYMBOL
 (SBY017)
 (SBY029)

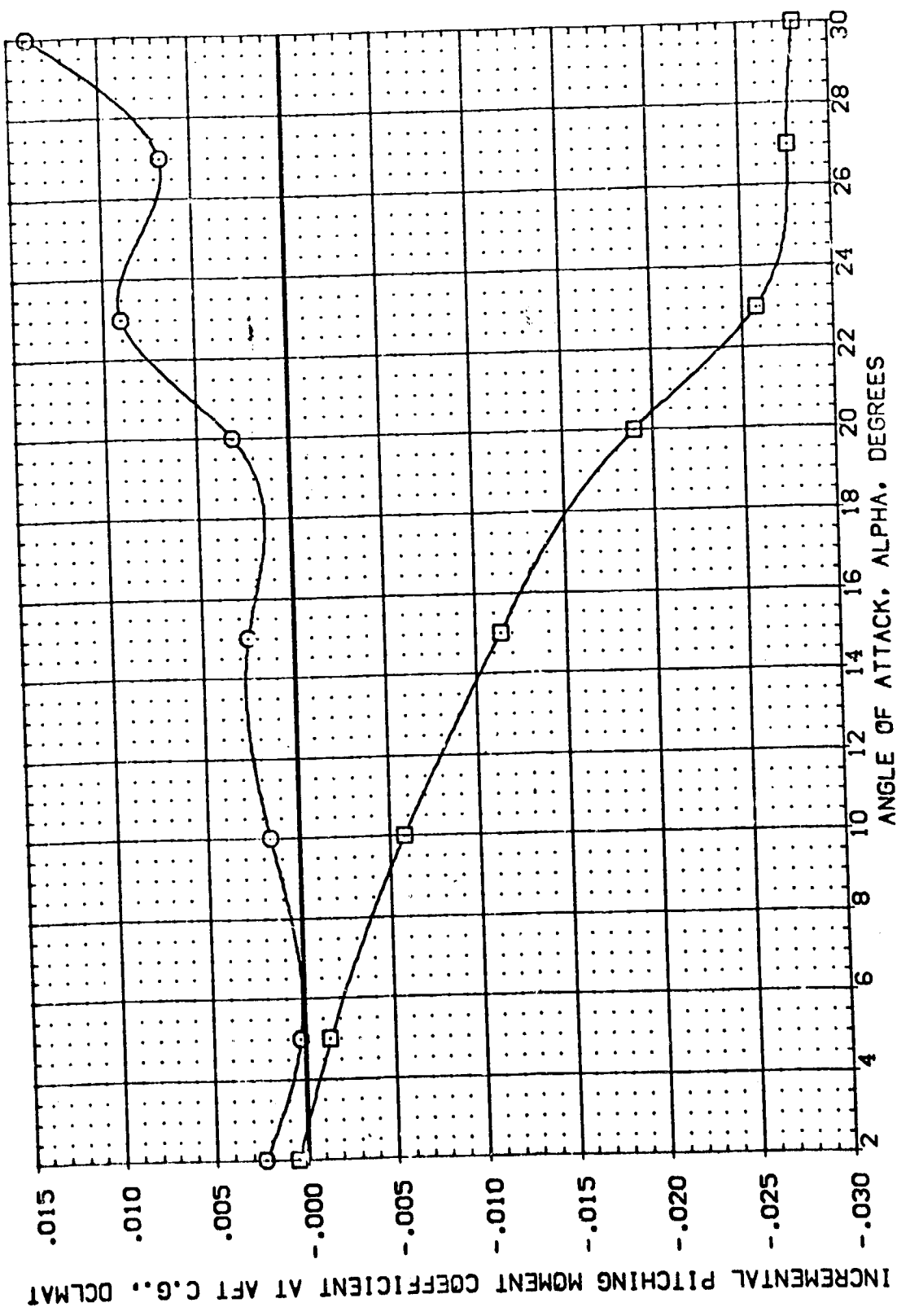


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

(A)MACH = 10.30

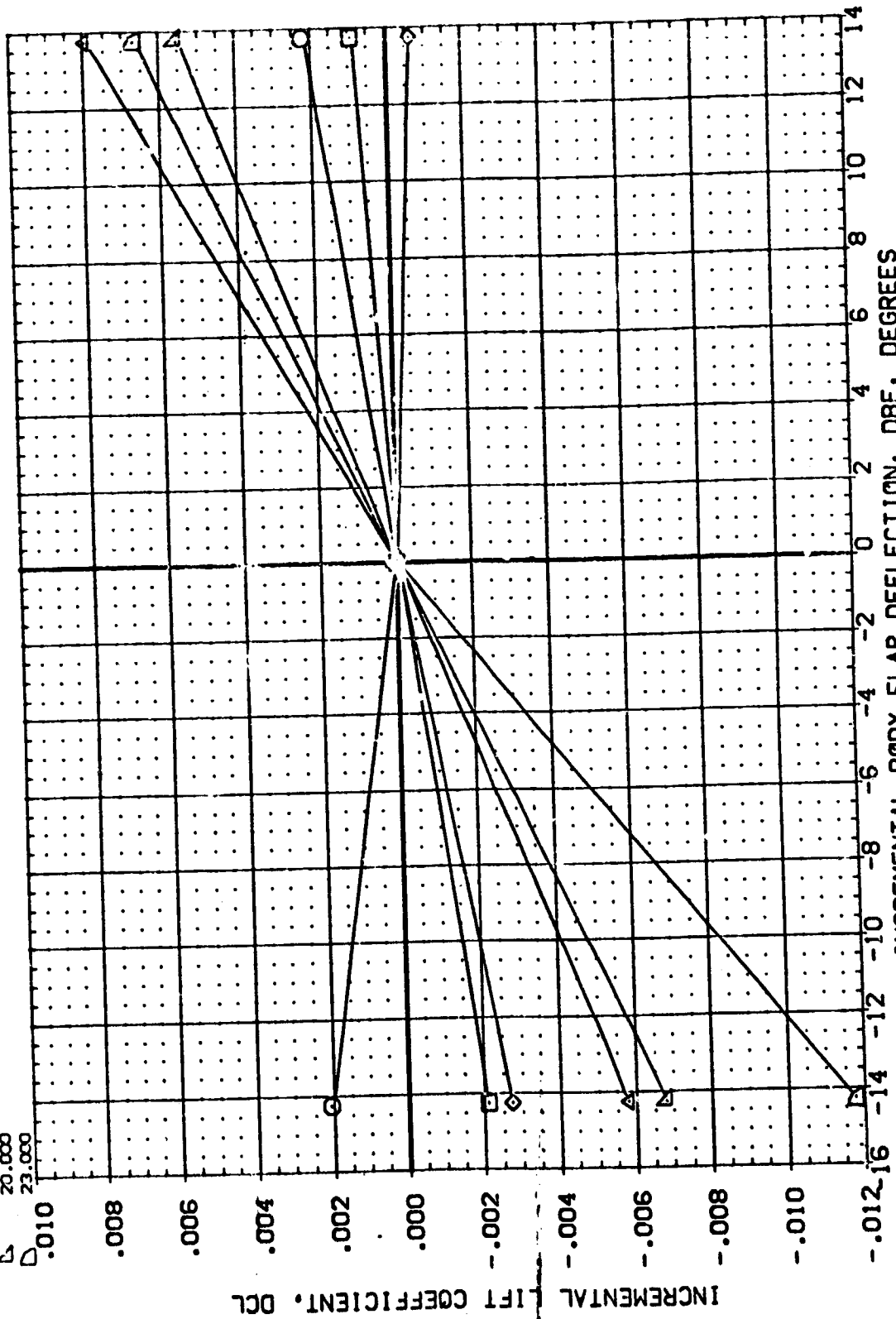
AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

PARAMETRIC VALUES
 ALPHA 2.000
 MACH 10.300
 BETA .000
 RUDDER .000
 DE SPOBRK 54.920
 DBF -14.250
 DBF -13.750

DATA SOURCE
 DATASET SBY026
 DBF .000

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.120
 IN. 14.050
 IN. 12.570
 IN. .000
 V.L. 6.000
 SCALE .0150

SYMBOL
 ○ □ ◇ △ ▽ ▽
 .010
 .008
 .006
 .004
 .002
 .000
 -.002
 -.004
 -.006
 -.008
 -.010
 -.012
 -.016



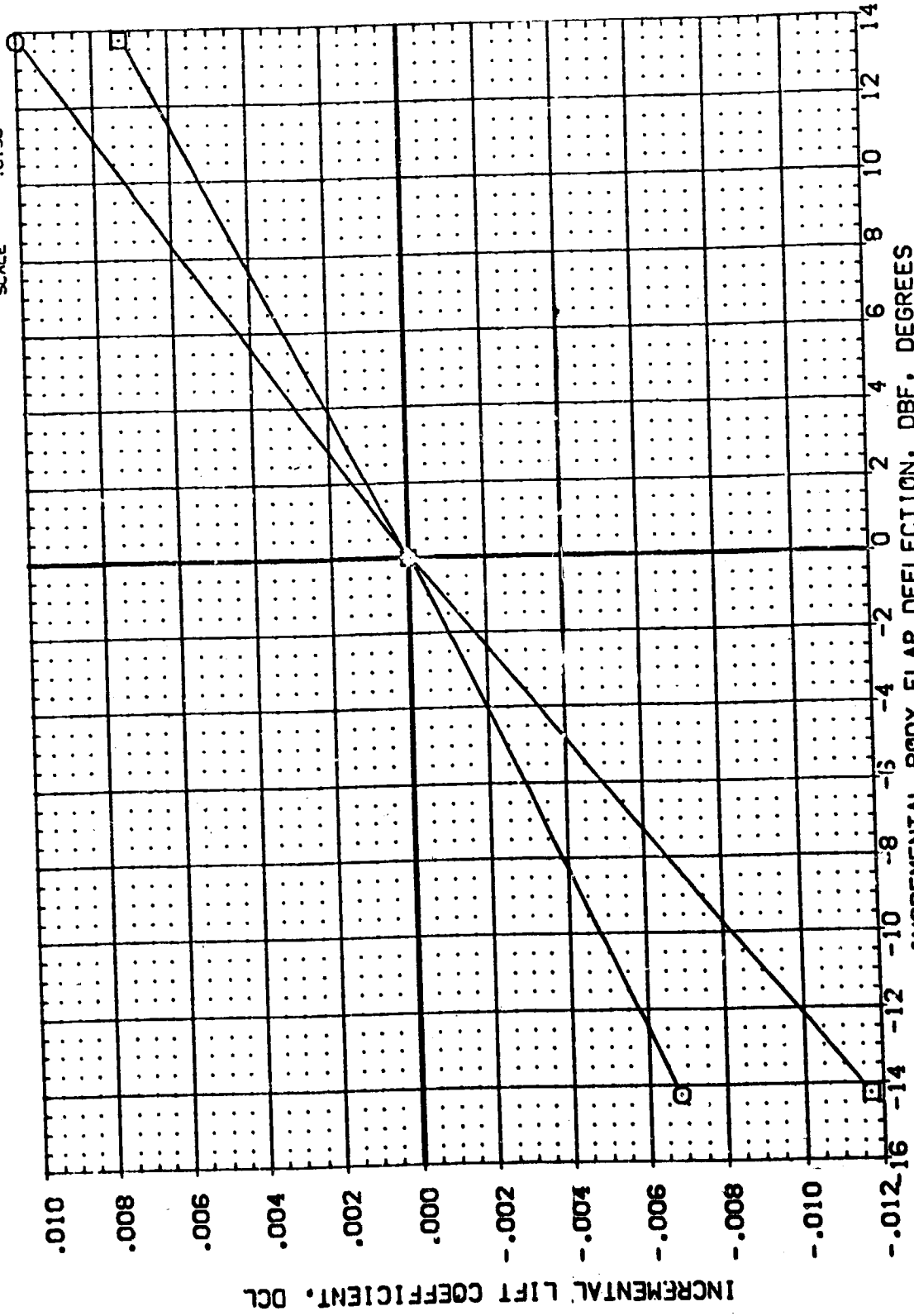
INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

INCREMENTAL LIFT COEFFICIENT, DCL

FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

SYMBOL	ALPHA	MACH	BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	REFERENCE INFORMATION
○	27.000				10.300 DE	DBF	SBY017	.000	LREF	SO.FT.
□	30.000				.000 SPOBRK	-14.750	SBY026	.000	BREF	IN.
					.000	13.750			XPRP	IN.
									YMRP	IN.
									ZMRP	V.L.
									SCALE	.0150



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL LIFT COEFFICIENT, DCL
 FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

REFERENCE INFORMATION
 SQ.FT.
 IN.
 IN.
 IN.
 IN.
 V.L.

SREF .6050
 LREF 7.1220
 BREF 14.0500
 XPRP 12.5770
 YPRP .0000
 ZPRP 6.0000
 SCALE .0150

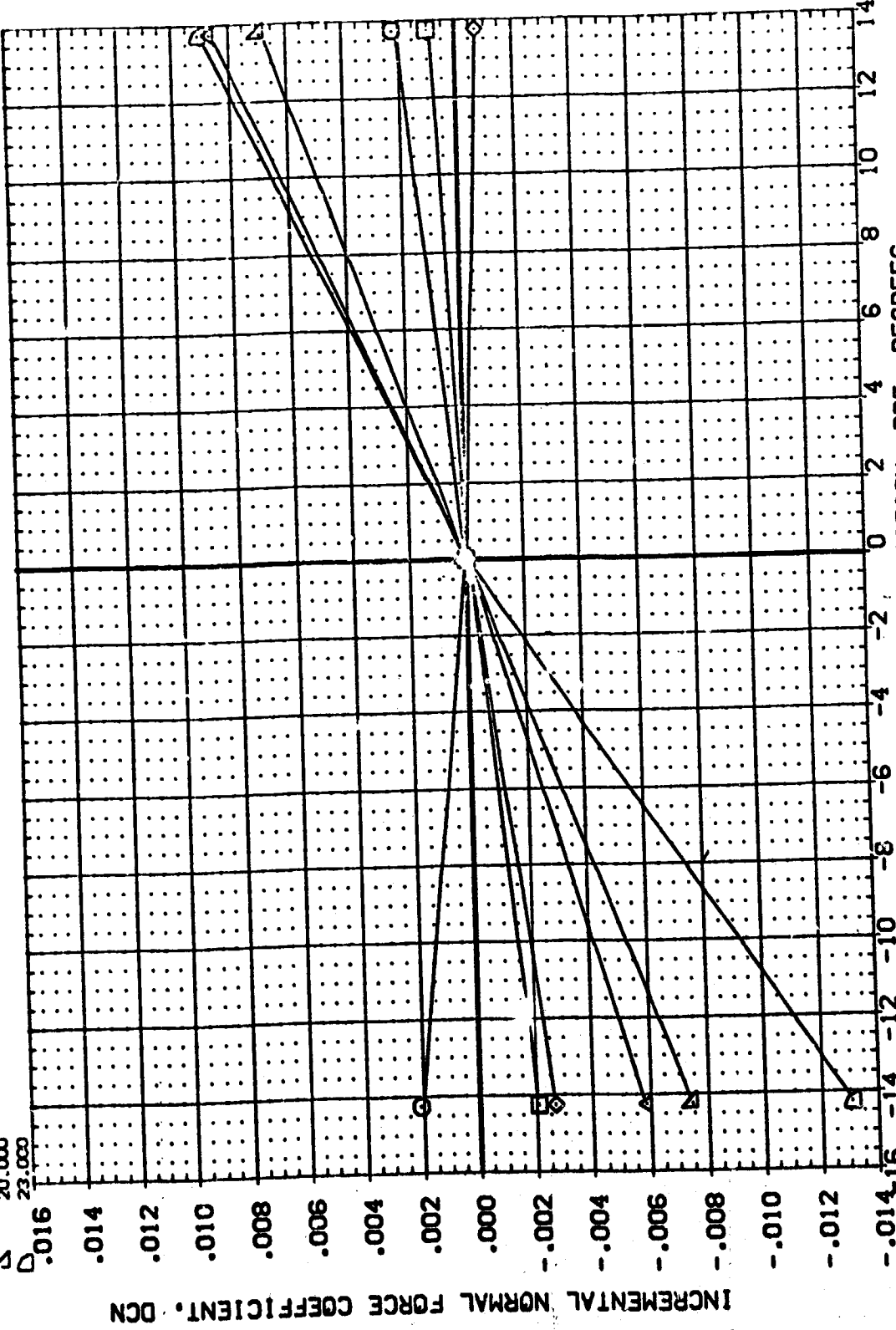
DATA SOURCE
 DATASET DBF
 SBY026 .000

PARAMETRIC VALUES
 DE DBF
 SBY017 -14.250
 SBY029 13.750

MACH 10.300
 BETA .000
 RUDDER .000

ALPHA 2.000
 5.000
 10.000
 15.000
 20.000
 23.000

SYMBOL
 ○
 □
 ◇
 △
 ▽
 ◊



INCREMENTAL NORMAL FORCE COEFFICIENT, DFN

INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

SYMBOL \square \square

ALPHA 27.000
MACH 30.000
BETA
RUDDER

PARAMETRIC VALUES
10.300 DE
.000 SPDRK
.000

DATA SOURCE
DATASET DBF
SBY026

REFERENCE INFORMATION
SO. FT.
6050
7.1220 IN.
14.0500 IN.
12.5770 IN.
.0000 IN.
6.0000 V.L.
.0150 SCALE

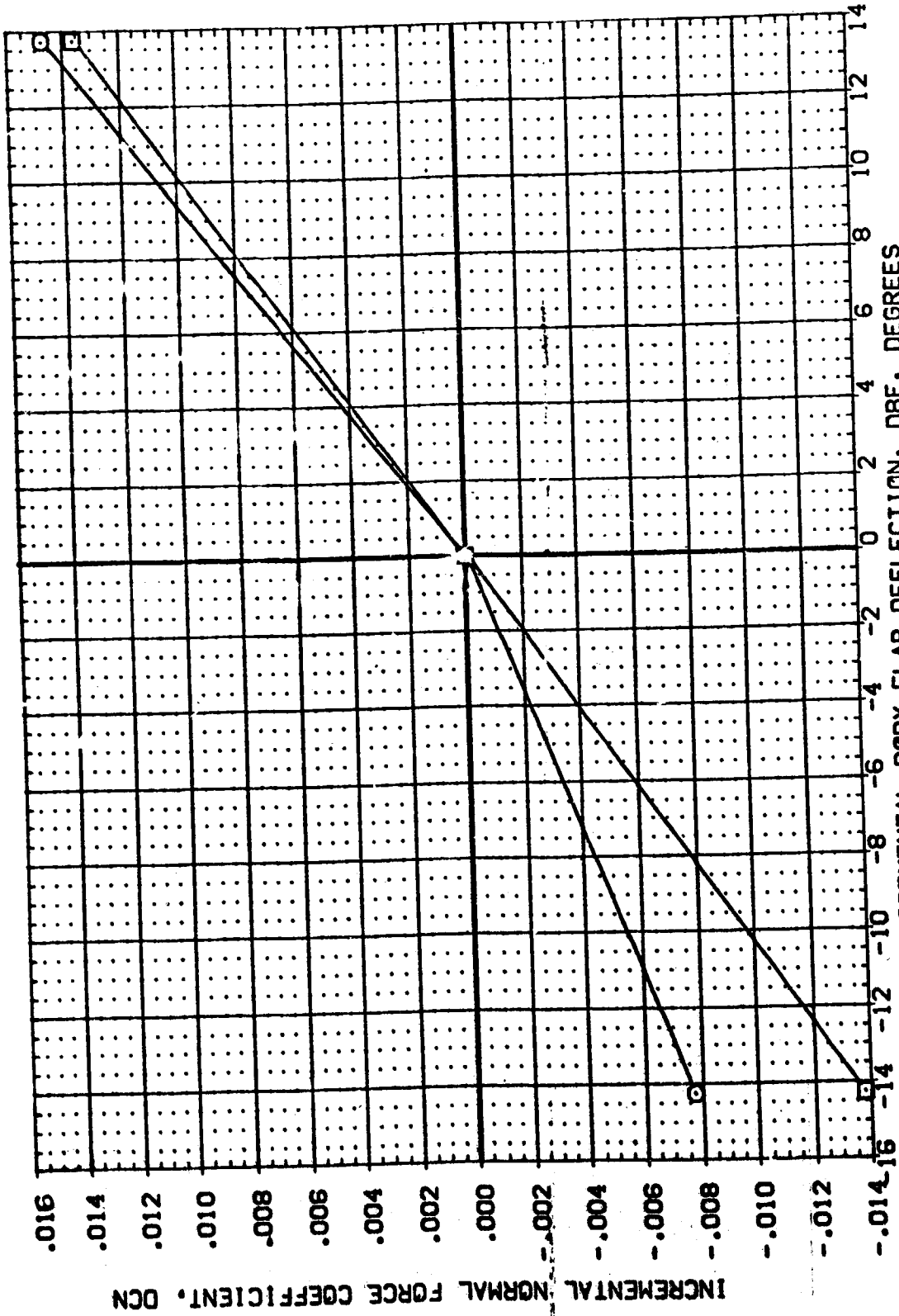


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

PARAMETRIC VALUES

ALPHA	2.000
MACH	10.300
BETA	.000
RUDDER	.000
DE	54.920
SPOBRK	-14.250
DBF	-13.750

DATA SOURCE

DATASET	SBY017
DBF	SBY029

REFERENCE INFORMATION

SREF	.6050	SO.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XTRP	12.5770	IN.
YTRP	6.0000	IN.
ZTRP	6.0000	IN.
SCALE	.0150	V.L.

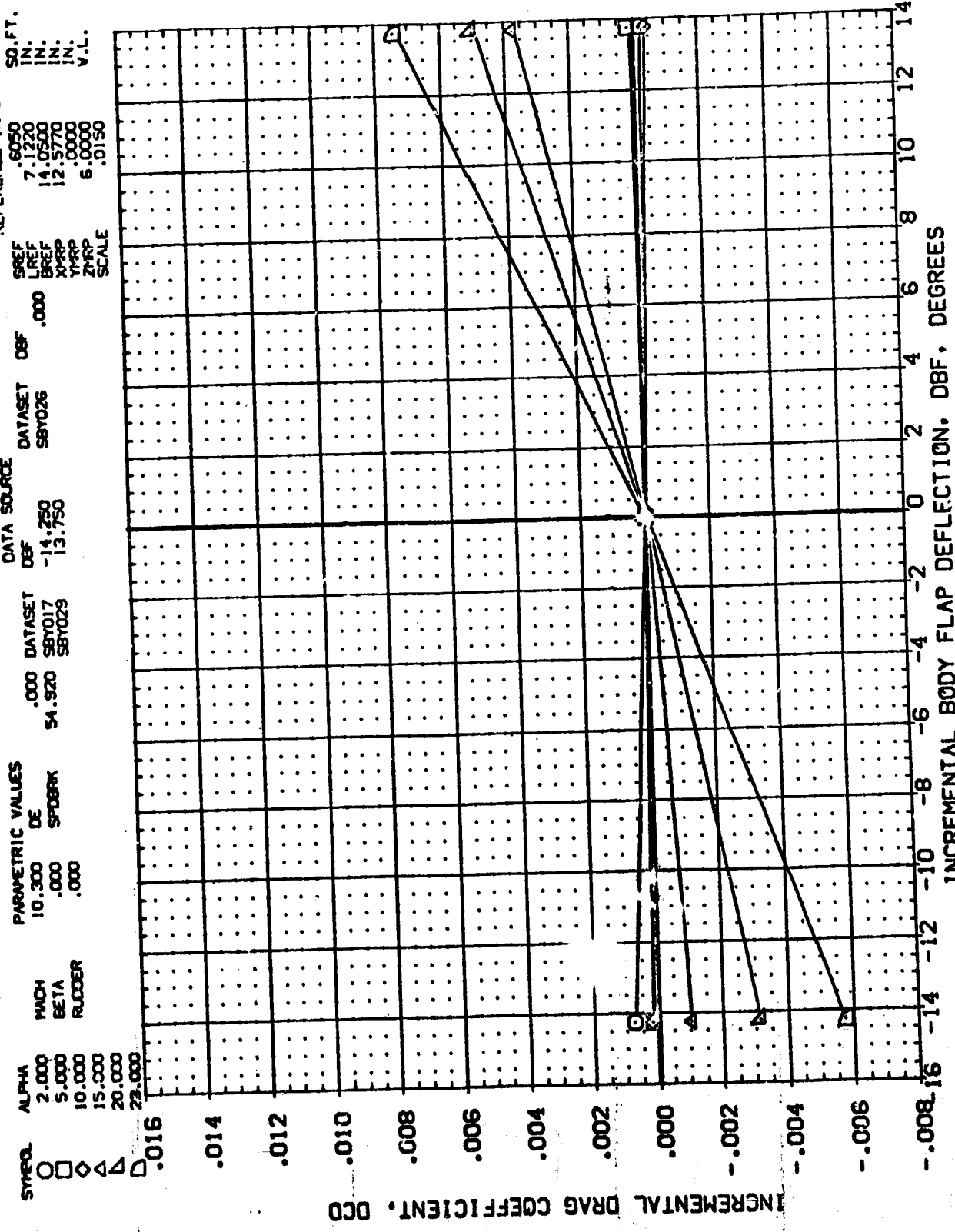
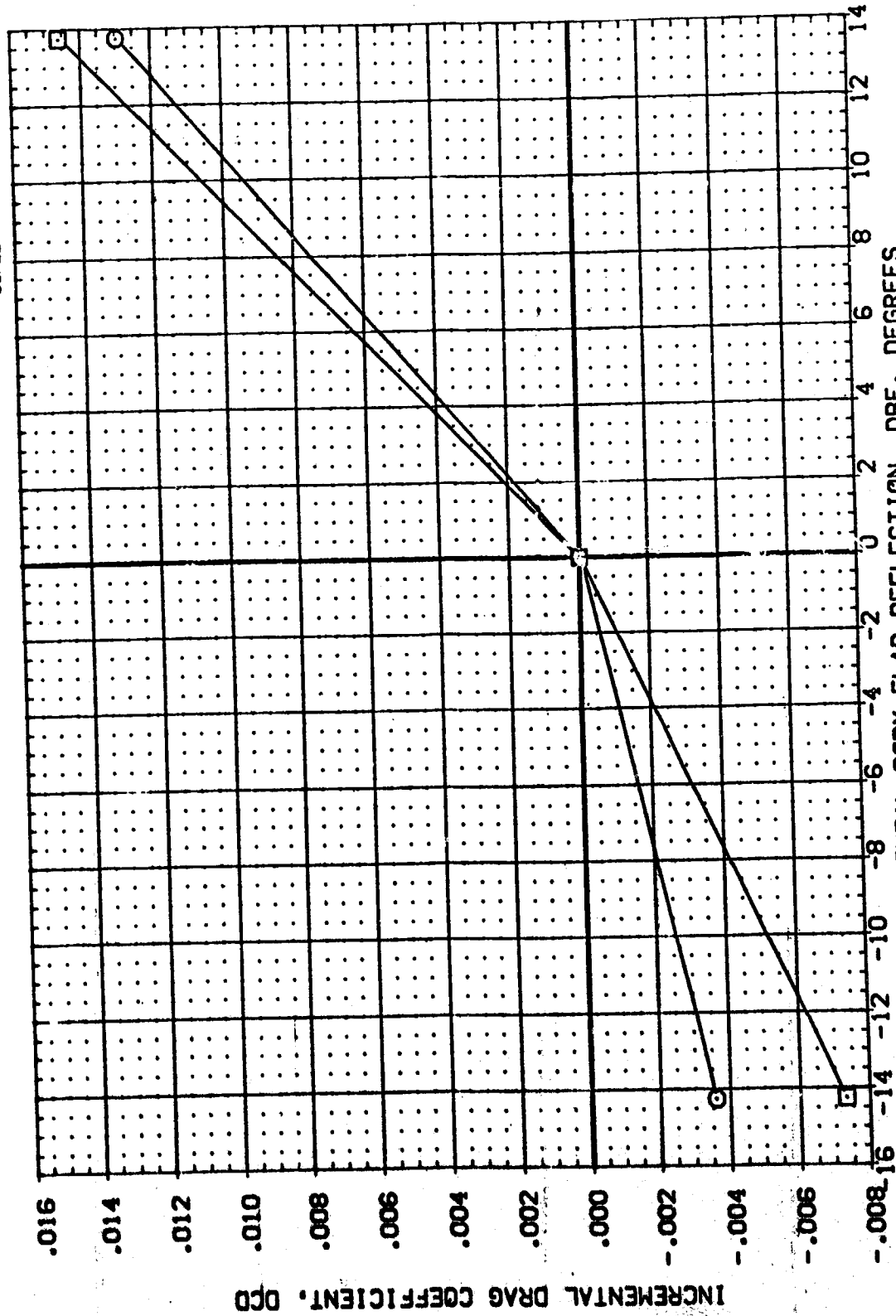


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

SYMBOL		ALPHA		MACH		BETA		RUDDER		PARAMETRIC VALUES		DATA SOURCE		DATASET		DBF		SREF		SO.FT.		
○		27.000		10.300	DE	.000	SFOBRK	54.920	.000	SBY017	-14.250	SBY026	.000	SREF	7.1220	IN.	7.1220	IN.	14.0500	IN.	12.5770	IN.
□		30.000		.000		.000				SBY025	13.750			LREF								
														XMRP	6.0000	IN.	6.0000	IN.				
														ZMRP								
														SCALE	.0150	V.L.						



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL DRAG COEFFICIENT, DCD
 FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

REFERENCE INFORMATION

SREF	6050	SQ.FT.
LREF	7.1220	IN.
BREF	14.0500	IN.
XMRP	12.5770	IN.
ZMRP	6.0000	IN.
V.L.	.0150	

DATA SOURCE

DBF	SBY026	DBF	.000
DBF	-14.250	DBF	SBY026
DBF	13.750	DBF	SBY029

PARAMETRIC VALUES

DE	54.920
SPOBRK	.000
DE	.000
SPOBRK	.000

MACH 10.300

BETA .000

RUDDER .000

ALPHA 2.000

5.000

10.000

15.000

20.000

23.800

SYMBOL

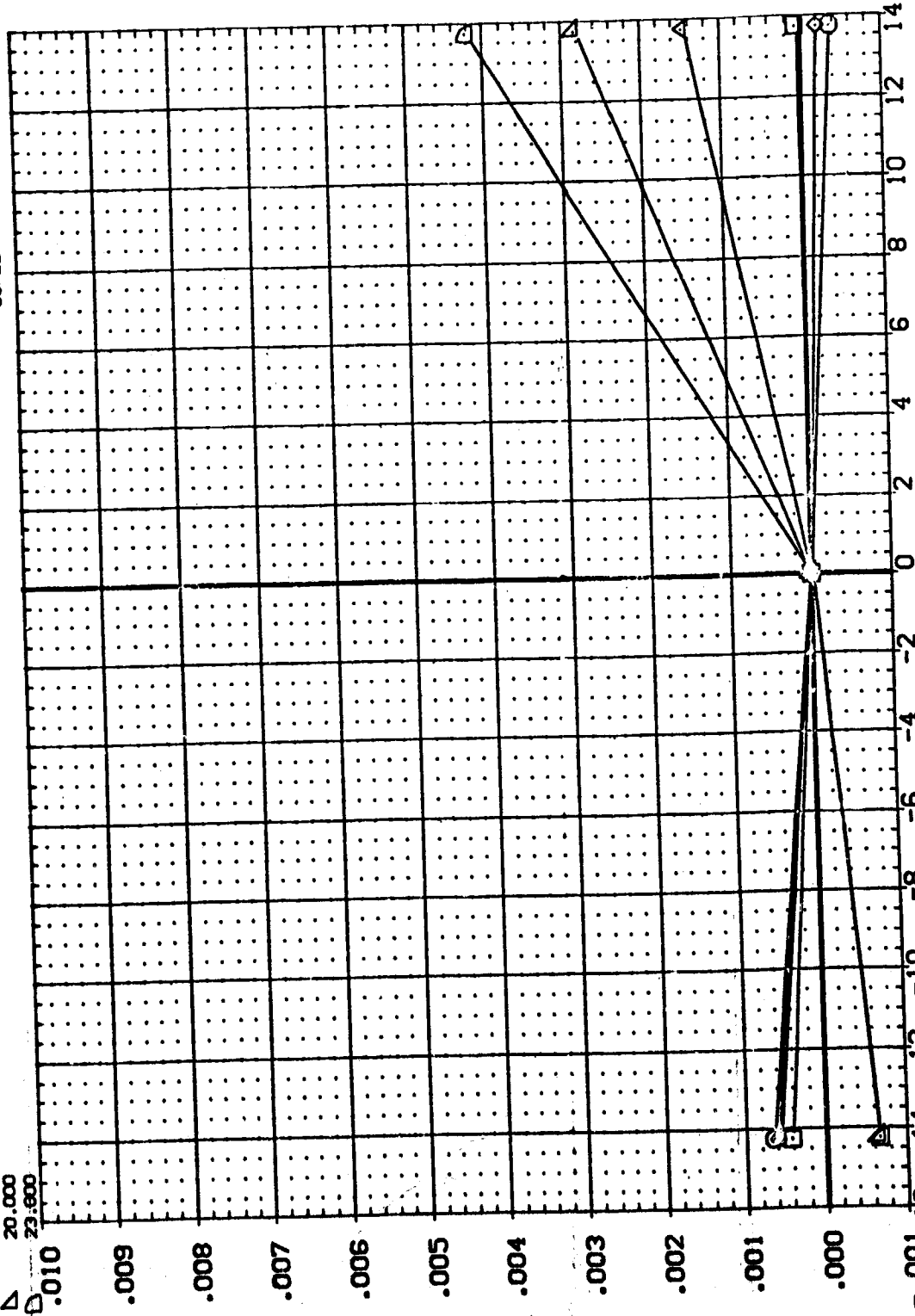
□

◇

△

○

INCREMENTAL AXIAL FORCE COEFFICIENT, DCA



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES

FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

SYMBOL	ALPHA	MACH	BETA	RUDDER	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	SREF	SO.FT.
○	27.000				10.300 DE	.000 DATASET	SBY017	.000	LREF	7.1220
□	30.000				.000 SPDRK	54.920 SBY029	SBY026	.000	BREF	14.0500
					.000	-14.250			XMRP	12.5770
						13.750			YMRP	.0000
									ZMRP	6.0000
									SCALE	.0150
										V.L.

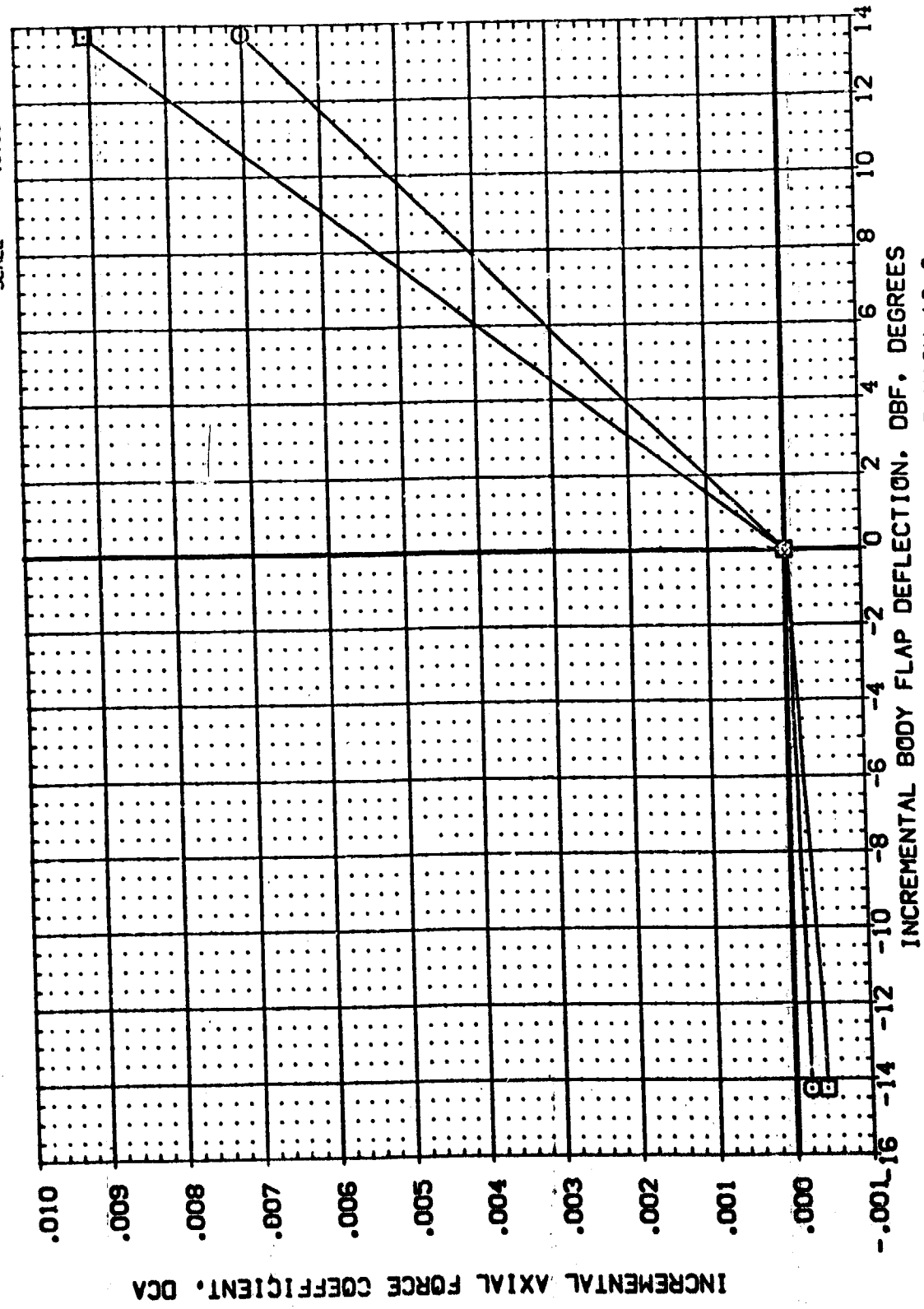
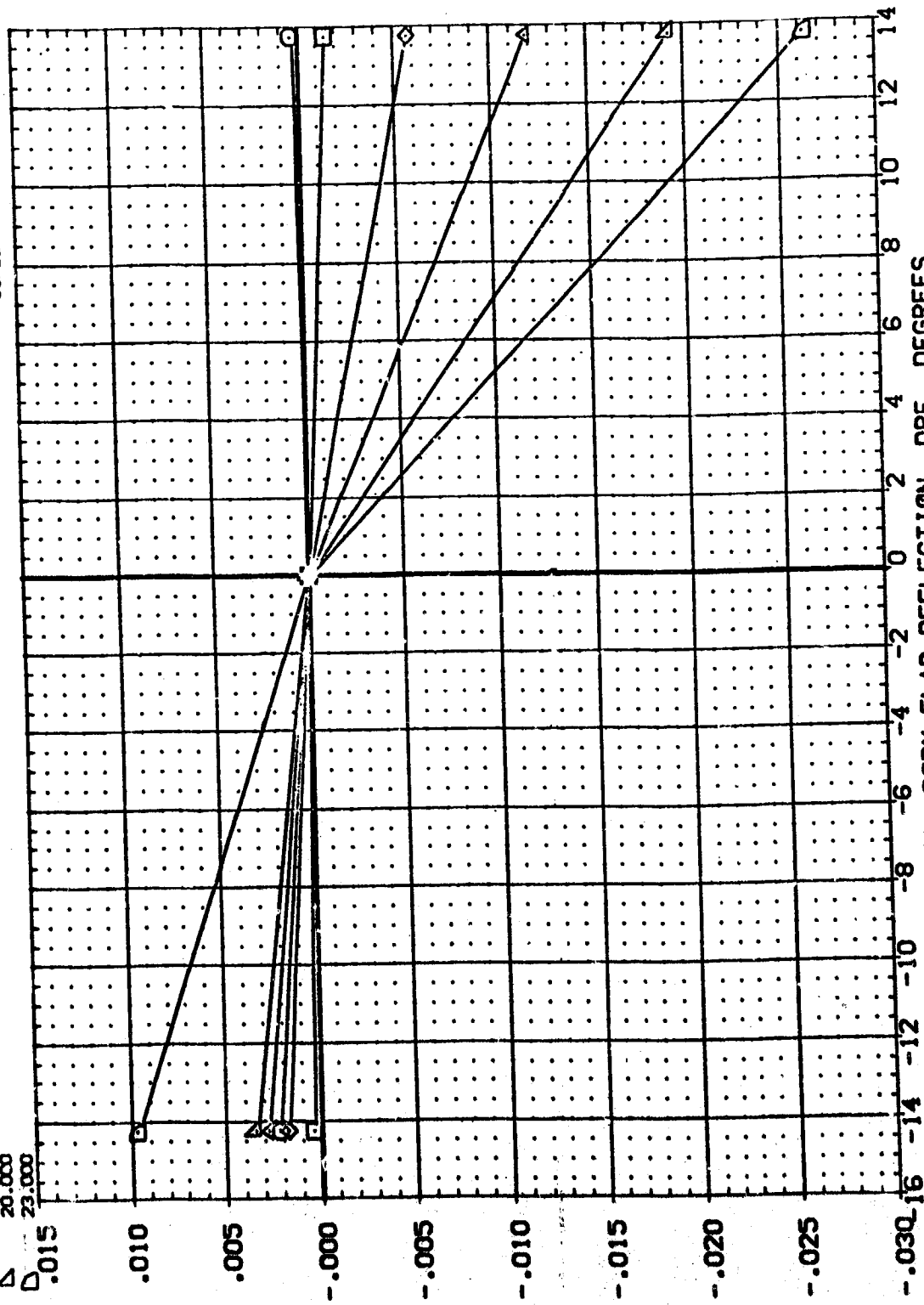


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

PARAMETRIC VALUES		DATA SOURCE		REFERENCE INFORMATION					
ALPHA	2.000	MACH	10.300	CE	54.920	SREF	.6050	SO.FT.	
BETA	5.000	RUDDER	.000	SPORR	-14.250	LREF	7.1220	IN.	
	10.000		.000		-13.750	BREF	14.0500	IN.	
	15.000		.000			XPRP	12.5770	IN.	
	20.000					ZMRP	6.0000	IN.	
	23.000					SCALE	.0150	W.L.	
						DATASET	DBF		
						SBY026	.000		
						SBY017			
						SBY025			

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

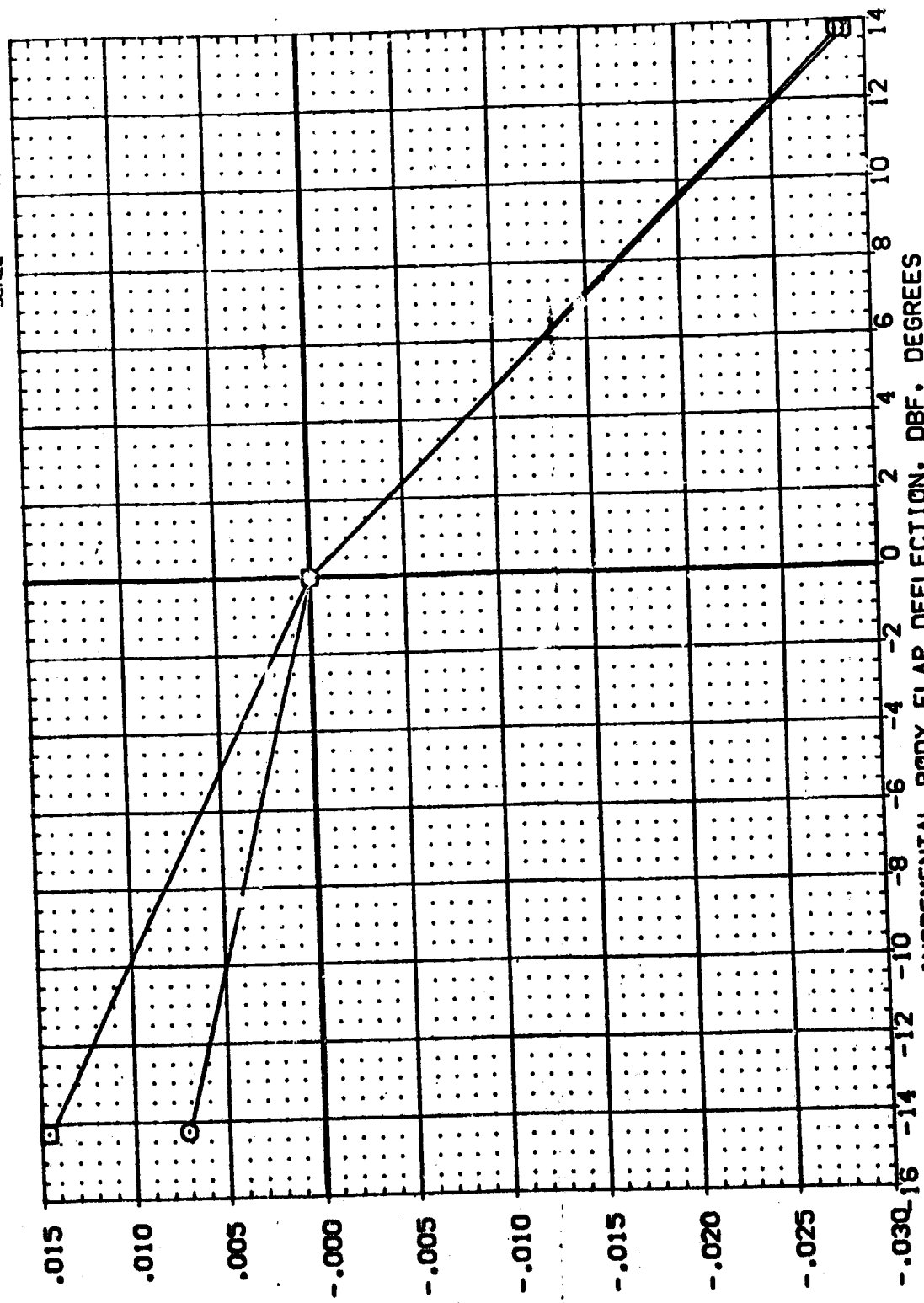
PARAMETRIC VALUES
 ALPHA 27.000 MACH 10.300 DE .000
 BETA 30.000 SPOBRK 54.920 SBY017 -14.250
 RUDDER .000 SBY029 13.750

DATA SOURCE
 DATASET DBF SBY026
 DATASET DBF .000

REFERENCE INFORMATION
 SQ.FT. .6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 ZMRP .0150
 SCALE

SYMBOL

INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT FORWARD C.G., DCLMFD
 FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

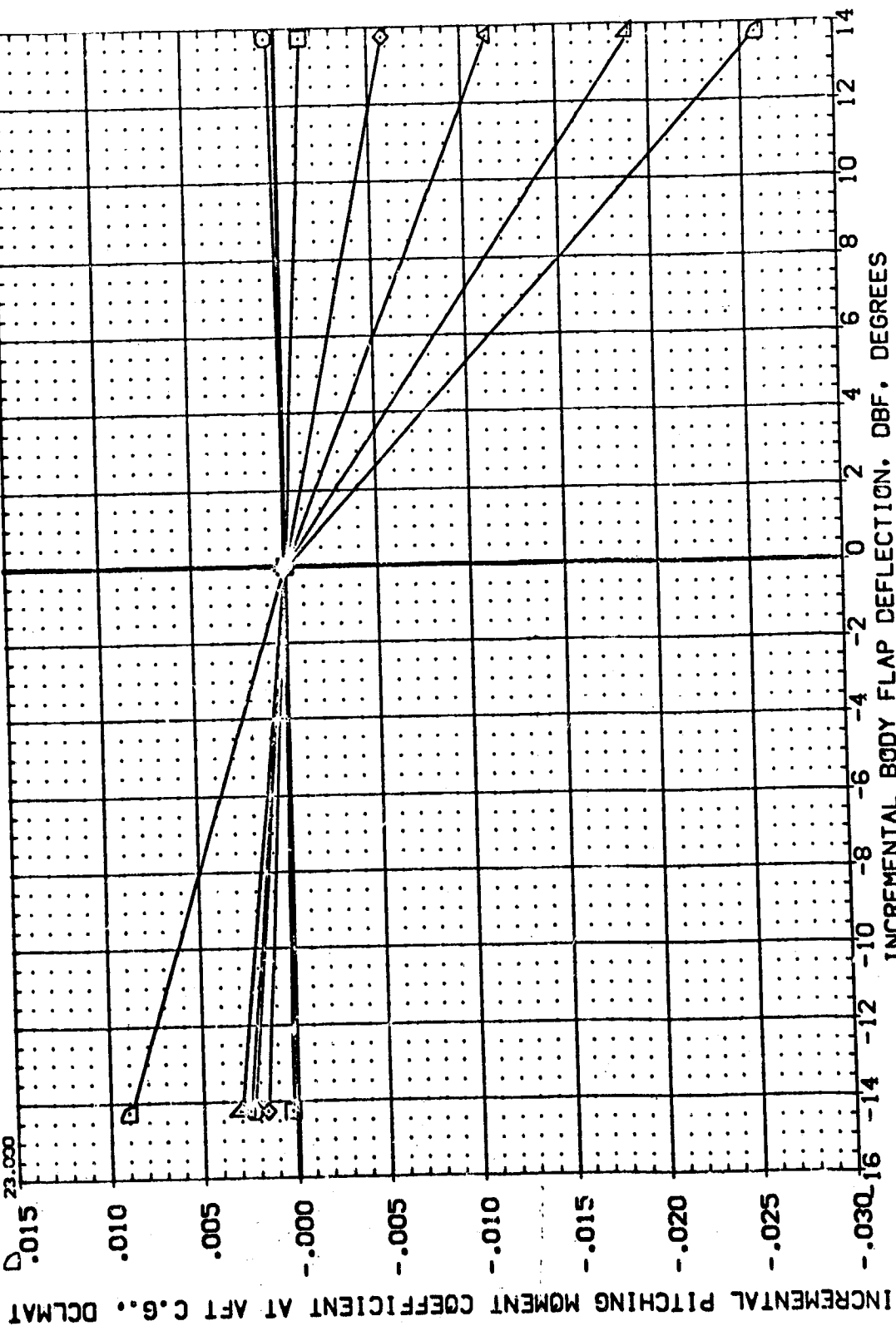
AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

PARAMETRIC VALUES
 MACH 10.300
 BETA .000
 RUDDER .000
 DE 54.920
 SPOBRK 13.750

DATA SOURCE
 DATASET SBY026
 DBF .000

REFERENCE INFORMATION
 SQ.FT. 6050
 IN. 7.1220
 IN. 14.0500
 IN. 12.5770
 IN. .0000
 V.L. 6.0000
 SCALE .0150

SYMBOL
 ○ 2.000
 □ 5.000
 ◇ 10.000
 △ 15.000
 ▽ 20.000
 ▽ 23.000



INCREMENTAL BODY FLAP DEFLECTION, DBF, DEGREES
 INCREMENTAL PITCHING MOMENT COEFFICIENT AT AFT C.G., DCLM1
 FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

AMES 3.5-163 0A58 (B17C7M4F5)(W103E22)(V7R5) (SBY017)

SYMBOL	ALPHA	MACH	PARAMETRIC VALUES	DATA SOURCE	DATASET	DBF	REFERENCE INFORMATION
□	27.000	BETA	10.300 DE	.000 DATASET	SBY026	.000	6.050 SQ.FT.
□	30.000	RUDDER	.000 SPDRK	54.920 SBY017			7.1220 IN.
			.000	-14.250 SBY029			14.0500 IN.
				13.750			12.5770 IN.
							.0000 IN.
							6.0000 V.L.
							.0150 SCALE

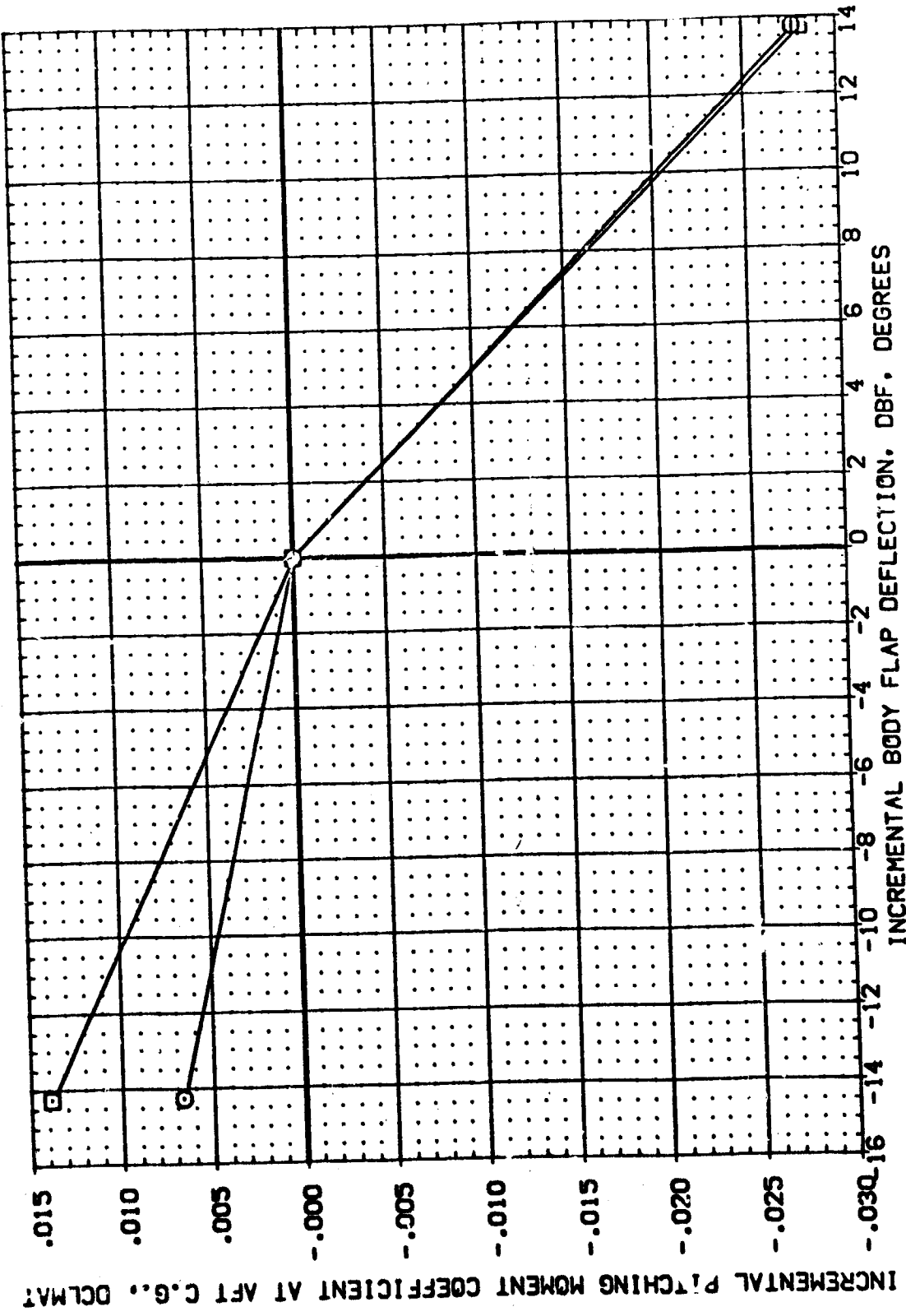


FIG. 13 CONFIGURATION -139 BODY FLAP EFFECTIVENESS AT MACH 10.3

APPENDIX
TABULATED SOURCE DATA

Tabulations of plotted data are available on request from
Data Management Systems

TABLATED SOURCE DATA FOR CASE (ARC 3.5-183)

DATE 15 APR 74

(M8Y001) (15 APR 74)

AMES 3.5-183 CASE (B19C7M4F5) (M02E23) (VTR5)

PARAMETRIC DATA

BETA = .000 ELEVOM = .000
 BOFLAP = -14.250 SPOBRK = 54.920
 RUDDER = .000

REFERENCE DATA

SREF = .6050 SQ.FT. XMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0150

RUN NO. D/O RN/L = 1.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
5.256	24.284	.61936	.08297	-.01766	.53866	.31211	1.72987	.66082	-.03216	-.03772	-.03563
5.256	27.206	.74520	.06010	-.01814	.63328	.39415	1.61177	.65928	-.03243	-.03501	-.03479
5.256	29.911	.87296	.05993	-.02450	.72680	.48725	1.49164	.66085	-.03231	-.03484	-.03437
5.256	34.003	1.05695	.06116	-.03347	.84367	.64291	1.31227	.66265	-.03240	-.03399	-.03438
5.256	38.866	1.28981	.05801	-.03229	.96787	.85492	1.15264	.66525	-.02957	-.03226	-.03344
5.256	43.752	1.51481	.05059	-.06555	1.05923	1.08406	.97707	.66625	-.02957	-.02986	-.03231
5.256	48.854	1.73959	.04774	-.08290	1.10868	1.34138	.82653	.66787	-.02645	-.02955	-.03094
5.256	52.795	1.82424	.04556	-.07688	1.06677	1.48051	.72054	.66584	.00729	.01169	.01114
GRADIENT		.04388	-.00062	-.00250	.01980	.04238	-.03359	.00320	.00092	.00112	.00102

RUN NO. D/O RN/L = 1.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.320	23.819	.53275	.05337	.00663	.46582	.26397	1.76468	.64574	-.02431	-.02139	-.02344
7.320	26.992	.65478	.05585	.00292	.55810	.34694	1.60863	.64867	-.02631	-.02217	-.02448
7.320	29.773	.77281	.05529	.00105	.64343	.43178	1.49013	.64982	-.02465	-.02051	-.02385
7.320	33.915	.85594	.05425	-.00350	.76303	.57840	1.31922	.65243	-.02491	-.01994	-.02280
7.320	38.874	1.18634	.05382	-.01888	.88982	.78846	1.13143	.65618	-.02231	-.01922	-.02158
7.320	43.782	1.40392	.03174	-.03507	.97815	1.07042	.96998	.65952	-.02091	-.01726	-.02126
7.320	48.900	1.58932	.04758	-.05997	1.00892	1.22893	.82097	.66329	-.00980	.00099	-.00418
7.320	51.054	1.65876	.04257	-.05775	1.00957	1.31883	.76667	.66314	.01642	.02411	.01758
GRADIENT		.04233	-.00037	-.00254	.02057	.03973	-.03636	.00066	.00109	.00128	.00114

DATE 15 APR 74 TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(KBY002) (15 APR 74)
AMES 3.5-163 CASE (B19CTHAF5) (M07E25) (V7R3)

REFERENCE DATA

SRCP = .6050 36.FT. XMRP = 12.3770 IN.
LREF = 7.1220 IN. YMRP = .0000 IN.
BRCP = 14.0500 IN. ZMRP = 6.0000 M.L.
SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

RUN NO. 0/0 RV/L = 1.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	KCP/L1	CP1	CP3	CP4
9.236	-2.329	-.09795	.09397	-.02451	-.09406	.09778	-.96198	.55616	-.04025	-.03666	-.03747
9.237	.714	-.04056	.06412	-.02116	-.04181	.06360	-.49764	.45923	-.04119	-.03636	-.03724
9.237	3.776	.01670	.07904	-.01892	.01345	.09010	1.8791	1.02293	-.04122	-.03771	-.03833
9.237	6.896	.06451	.07906	-.01333	.07513	.08268	.90886	.71711	-.04104	-.03793	-.03850
9.236	9.606	.15337	.06640	-.01366	.13947	.09352	1.49132	.68316	-.04029	-.03613	-.03911
9.236	13.063	.26226	.06600	-.01287	.23924	.12808	1.89753	.66810	-.04069	-.03936	-.03959
9.236	17.743	.39877	.06303	-.01212	.35107	.17850	1.96672	.66180	-.03909	-.03854	-.04040
9.236	20.911	.49141	.06207	-.01340	.43669	.23336	1.87201	.65961	-.03875	-.03693	-.04024
9.236	23.984	.60294	.06186	-.01554	.52603	.30106	1.74734	.65100	-.03679	-.03636	-.03914
9.236	27.965	.75728	.06164	-.02196	.63995	.40955	1.56256	.64566	-.03716	-.03610	-.03943
9.236	30.658	.86681	.06103	-.02965	.71299	.49672	1.43540	.63500	-.03771	-.03689	-.03876
GRADIENT		.01911	-.00243	.00092	.01781	-.00269	.16510	.07625	-.00016	-.00017	-.00014

RUN NO. 0/0 RV/L = 1.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	KCP/L1	CP1	CP3	CP4
7.380	-2.360	-.10370	.08781	-.03316	-.09997	.09184	-1.08854	.53250	-.01155	-.01333	-.01369
7.380	.980	-.03355	.07976	-.08952	-.05444	.07815	-.69661	.44729	-.01391	-.01419	-.01499
7.380	2.777	-.00181	.07230	-.02273	-.00457	.07203	-.09119	-3.97484	-.01366	-.01487	-.01554
7.380	6.826	.03460	.06958	-.01491	.04641	.07161	.64802	.75087	-.01398	-.01482	-.01559
7.380	9.729	.11096	.06373	-.01030	.09060	.10616	1.20887	.68451	-.01317	-.01939	-.01577
7.380	13.697	.20512	.05931	-.00109	.16324	.10619	1.74437	.65228	-.01300	-.01544	-.01600
7.380	17.747	.32617	.05627	.00313	.29269	.15491	1.69067	.64679	-.01321	-.01513	-.01613
7.380	20.908	.45911	.05644	.00655	.37719	.20666	1.62517	.64465	-.01330	-.01612	-.01659
7.380	23.903	.53077	.05761	.00718	.46189	.26774	1.72316	.64534	-.00952	-.01778	-.01608
7.380	27.999	.67662	.05791	.00992	.57244	.36842	1.54959	.64494	-.01054	-.01408	-.01571
7.380	30.770	.79389	.05913	.00524	.65186	.45580	1.43013	.64789	-.00990	-.01330	-.01466
GRADIENT		.01655	-.00248	.00170	.01517	-.00321	.16815	-.73564	-.00035	-.00027	-.00030

DATE 15 APR 74

PAGE 3

TABULATED SOURCE DATA FOR CASE (ARC 3.5-103)

(NBY003) (15 APR 74)

AMFS 3.5-103 CASE (B19CTMFS) (MIDT23) (VTR5)

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
 BOVLAP = -14.250 SPOBRK = 54.920
 RUDDER = .000

REFERENCE DATA

MREF = .6050 88.FT. XMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0150

RUN NO. 0/ 0 RM/L = 1.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
5.256	27.907	.70877	.06825	.02714	.59480	.39111	1.52061	.63822	-.03416	-.03368	-.03489
5.256	31.915	.87710	.06399	.02730	.71066	.51801	1.37195	.63865	-.03368	-.03414	-.03427
5.256	34.976	1.01261	.06285	.02858	.79369	.63196	1.25591	.63992	-.03371	-.03293	-.03410
5.256	37.931	1.13312	.06300	.02492	.85503	.74623	1.14580	.64222	-.03228	-.03238	-.03290
5.256	40.793	1.25436	.05992	.02633	.91057	.86480	1.05292	.64259	-.03167	-.03083	-.03200
5.256	43.722	1.37816	.05699	.02370	.95661	.99371	.96267	.64398	-.02850	-.02810	-.03083
5.257	46.617	1.57420	.05503	.02051	.99514	1.22099	.81303	.64552	-.02402	-.02715	-.02669
5.257	53.994	1.73651	.04934	.03684	.98094	1.43376	.66417	.64250	-.02630	-.02540	-.02656
GRADIENT		.04003	-.00063	.00011	.01321	-.03227	-.00029	.00034	.00037	.00037	.00036

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

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.320	33.345	.85659	.05154	.04151	.66724	.51390	1.33731	.63247	-.02268	-.01917	-.02232
7.320	35.226	.93746	.05170	.04287	.73599	.58296	1.26247	.63348	-.02230	-.01793	-.02150
7.320	37.235	1.01922	.04972	.04402	.78182	.65647	1.19064	.63442	-.02103	-.01717	-.02011
7.320	38.303	1.07845	.04941	.04351	.81164	.70862	1.14506	.63543	-.01976	-.01621	-.01930
7.320	40.930	1.16450	.04800	.04461	.86264	.81318	1.06083	.63643	-.01798	-.01502	-.01844
7.320	43.064	1.27191	.04785	.04337	.89657	.90344	.99239	.63770	-.01930	-.01467	-.01938
7.320	45.088	1.35211	.04653	.04056	.92025	.99181	.92785	.63916	-.01652	-.01515	-.01806
7.320	46.973	1.50775	.04672	.03894	.93446	1.16612	.81709	.64081	-.01435	-.01180	-.01589
7.320	52.636	1.82136	.04378	.03968	.94457	1.31853	.71638	.64126	.00310	.00624	.00220
GRADIENT		.04005	-.00036	-.00019	.01392	-.04197	-.03191	.00046	.00103	.00098	.00093

DATE 15 APR 74

TABULATED SOURCE DATA FOR OASB (ARC 3.5-163)

AVES 3.5-163 OASB (B19CTHAF5) (MIDTRES) (VTRS)

(XBYD04) (15 APR 74)

REFERENCE DATA

BREF = .0050 SQ.FT. MRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
 BOFLAP = -14.250 SPOBRK = 54.950
 RUDDER = .000

RA/L = 1.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 10.890	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
2.054	-.07010	.06331	-.00468	.07750	-.07937	.06076	-.80637	.62470	.00184	-.00082	-.00120
6.010	.00116	.07750	.00020	.00020	-.00696	.07720	-.09022	.56720	.00158	-.00210	-.00300
10.706	.10337	.06627	.00596	.00596	.06826	.06432	1.05964	.62909	.00085	-.00301	-.00351
15.632	.23770	.06114	.01485	.01485	.21197	.12374	1.71296	.62731	.00090	-.00259	-.00321
20.562	.36645	.06053	.02445	.02445	.34331	.19337	1.77356	.62719	.00076	-.00262	-.00267
23.563	.49517	.06129	.03030	.03030	.48938	.29412	1.66966	.62763	.00220	-.00126	-.00269
27.560	.63615	.06355	.03501	.03501	.53633	.35180	1.52336	.62711	.00212	.00136	-.00235
30.661	.75762	.06507	.03673	.03673	.61637	.44254	1.39731	.63246	.00165	.00230	-.00226
35.671	.93818	.06549	.03951	.03951	.72995	.60028	1.20602	.63481	.00023	-.00163	-.00073
40.768	1.13455	.06378	.04536	.04536	.81917	.76856	1.03752	.63559	.00072	.00339	-.00016
		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

GRADIENT

(M8Y005) (15 APR 74)

TABLATED SOURCE DATA FOR CASE (ARC 3.5-183)

AMES 3.5-183 CASE (B19CTMFF3) (M07E23) (V7R5)

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
 SOFLAP = -14.250 SPOBINK = 54.920
 RUDDER = .000

REFERENCE DATA

MACH = .6030 BA.FT. WARP = 12.5770 IN.
 LREF = 7.1250 IN. WARP = .0000 IN.
 SREF = 14.0500 IN. WARP = 6.0000 M.L.
 SCALE = .0150

RUN NO. 0/0 RN/L = 1.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
5.257	-2.268	-1.1716	.13106	.01642	-.16584	.13773	-1.20405	.68565	-.03804	-.03414	-.03471
5.257	.604	-1.0039	.11837	.01257	-1.0201	.11495	-.08741	.69644	-.03794	-.03331	-.03475
5.257	3.903	-.02705	.10379	.01142	-.03408	.10171	-.33483	.80572	-.03734	-.03493	-.03608
5.256	6.944	.04336	.09104	.00835	-.03206	.09582	.33523	.57941	-.03787	-.03703	-.03767
5.256	9.784	.11424	.06489	.01040	.09815	.10507	.95229	.61680	-.03850	-.03770	-.03785
5.256	13.636	.21980	.07748	.01262	.19534	.12710	1.53680	.65917	-.03927	-.03760	-.03880
5.256	19.808	.41569	.07102	.01480	.36667	.20831	1.76023	.63720	-.03907	-.03855	-.03933
5.256	25.908	.55278	.06940	.01683	.47722	.28747	1.66006	.63777	-.03910	-.03835	-.03964
5.256	26.836	.69999	.06778	.01880	.55768	.35940	1.55171	.63963	-.03631	-.03743	-.03835
5.256	30.791	.80271	.06633	.02353	.65561	.46790	1.40118	.63952	-.03592	-.03681	-.03861
5.256	GRADIENT	.02335	-.00442	-.00081	.02136	-.00584	.14091	.01946	.00011	-.00013	-.00022

RUN NO. 0/0 RN/L = 1.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.320	-2.313	-1.6235	.12533	.00491	-.15756	.13179	-1.19407	.66145	-.00922	-.00821	-.00916
7.320	.723	-.09792	.10371	-.00223	-.09922	.10246	-.96833	.64195	-.01011	-.00831	-.01030
7.320	3.889	-.04412	.09003	-.00125	-.09012	.08663	-.57724	.64002	-.01094	-.00937	-.01116
7.320	6.868	.01929	.07857	.00209	.08032	.12143	.61041	.61041	-.01021	-.01095	-.01171
7.320	9.729	.06016	.07243	.00724	.06677	.08493	.78809	.61706	-.01096	-.01160	-.01237
7.320	13.722	.17661	.06828	.01511	.15564	.10626	1.46635	.61861	-.01045	-.01212	-.01296
7.320	19.884	.35744	.06309	.02789	.31467	.16091	1.73938	.62156	-.00968	-.01314	-.01327
7.320	23.983	.48564	.06162	.03627	.41867	.25369	1.65029	.62281	-.00948	-.01196	-.01274
7.320	28.933	.56222	.06147	.04240	.49123	.31851	1.54224	.62350	-.00842	-.01057	-.01301
7.320	30.765	.72565	.06318	.04718	.59949	.42445	1.38885	.62631	-.00859	-.01053	-.01188
7.320	GRADIENT	.01908	-.00968	-.00086	.01728	-.00723	.09963	-.00343	-.00028	-.00019	-.00033

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

DATE 15 APR 74

AMES 3.5-163 CASE (BISCTM4F5) (M107E23) (VTR5)

(NBY006) (15 APR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
SOFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MACH = 7.860
ALPHA = .0000 90.71.
REF = 7.1800 IN.
LAP = 7.1800 IN.
REF = 14.0000 IN.
SCALE = .0150

RV/L = 2.12 GRADIENT INTERVAL = -5.00/ 5.00

Table with columns: MACH, ALPHA, CH, CA, CLM, CL, CD, L/D, MCP/L1, CP1, CP3, CP4. Values range from -0.0000 to 1.0000.

GRADIENT

AMES 3.5-163 CASE (BISCTM4F5) (M107E23) (VTR5)

(NBY001) (15 APR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
SOFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MACH = 16.500
ALPHA = .0000 90.71.
REF = 7.1800 IN.
LAP = 7.1800 IN.
REF = 14.0000 IN.
SCALE = .0150

RV/L = 1.93 GRADIENT INTERVAL = -5.00/ 5.00

Table with columns: MACH, ALPHA, CH, CA, CLM, CL, CD, L/D, MCP/L1, CP1, CP3, CP4. Values range from -0.0000 to 1.0000.

GRADIENT

DATE 18 APR 74

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

AMES 3.5-163 CASE (B19CTM4F5) (M107E23) (V7R5)

PAGE 7
(XBY008) (15 APR 74)

REFERENCE DATA

MACH = 7.360
ALPHA = -2.368
BET = -0.0866
LWZ = 7.1220 IN.
BET = 14.0900 IN.
SCALE = .0150

BETA = .000
BOFLAP = 13.750
RUDDER = .000

ELEVON = 11.000
SPDRBK = 54.920

PARAMETRIC DATA

RV/L = 1.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	CA	CLM	CL	CD	L/D	MCP/L1	CP1	CP3	CP4
7.360	.05631	-.03991	-.09010	.08214	-.97791	.49372	-.01312	-.01451	-.01575
7.360	.07967	-.03669	-.04473	.07916	-.96506	.34196	-.01375	-.01491	-.01674
7.360	.07403	-.03391	.00279	.07437	-.93756	2.28666	-.01383	-.01611	-.01678
7.360	.06828	-.03141	.06079	.07613	.79850	.61680	-.01413	-.01627	-.01724
7.360	.06049	-.02809	.15032	.06862	1.33773	.73680	-.01362	-.01710	-.01715
7.360	.05519	-.02564	.22260	.12246	1.81741	.70322	-.01345	-.01694	-.01743
7.360	.04971	-.02326	.34064	.17921	1.90193	.69466	-.01251	-.01679	-.01706
7.360	.04450	-.02098	.43693	.24242	1.80240	.69072	-.01290	-.01668	-.01706
7.360	.03919	-.01845	.52751	.31396	1.67945	.68916	-.01196	-.01528	-.01706
7.360	.03365	-.01605	.64845	.43411	1.49377	.68812	-.01157	-.01528	-.01592
7.360	.02805	-.01368	.72818	.53115	1.37095	.68823	-.01036	-.01424	-.01629
7.360	.02239	-.01131	.81517	-.00290	1.16886	.68823	-.00902	-.01268	-.01629
7.360	.01667	-.00898	.91517	-.00290	1.00000	.68823	-.00781	-.01129	-.01629
7.360	.01093	-.00664	1.01007	1.03971	.82045	.68823	-.00656	-.00977	-.01629
7.360	.00519	-.00431	1.03771	1.26491	.62045	.68823	-.00531	-.00852	-.01629
7.360	.00037	-.00204	1.02781	1.34306	.76527	.68823	-.00411	-.00727	-.01629
7.360	-.00037	-.00031	.02094	1.34306	.82045	.68823	-.00286	-.00602	-.01629
7.360	-.00037	-.00031	.02094	1.34306	.82045	.68823	-.00161	-.00477	-.01629
7.360	-.00037	-.00031	.02094	1.34306	.82045	.68823	-.00036	-.00352	-.01629
7.360	-.00037	-.00031	.02094	1.34306	.82045	.68823	-.00011	-.00227	-.01629

REFERENCE DATA

MACH = 7.360
ALPHA = 27.839
BET = 27.065
LWZ = 29.847
BET = 33.965
SCALE = .0150

BETA = .000
BOFLAP = .000
RUDDER = .000

ELEVON = .000
SPDRBK = 54.920

PARAMETRIC DATA

RV/L = 2.21 GRADIENT INTERVAL = -5.00/ 5.00

MACH	CA	CLM	CL	CD	L/D	MCP/L1	CP1	CP3	CP4
7.360	.05671	-.00646	-.47759	-.27503	1.74923	.65466	-.01199	-.01306	-.01355
7.360	.05640	-.01079	.57841	.39575	1.61229	.65466	-.01275	-.01337	-.01495
7.360	.05608	-.01495	.66837	.44921	1.48786	.65466	-.01157	-.01151	-.01323
7.360	.05592	-.02483	.79155	.60105	1.31695	.65466	-.01034	-.01151	-.01274
7.360	.05436	-.04006	.92056	.61468	1.12997	.65466	-.00756	-.00935	-.01129
7.360	.05309	-.06031	1.01007	1.03971	.97149	.65466	-.00411	-.00877	-.00775
7.360	.04846	-.08187	1.03771	1.26491	.82045	.65466	-.00286	-.00727	-.00652
7.360	.04642	-.09040	1.02781	1.34306	.76527	.65466	-.00161	-.00602	-.00527
7.360	.04058	-.06642	.02094	1.34306	.82045	.65466	-.00036	-.00477	-.00416
7.360	.03474	-.04258	.02094	1.34306	.82045	.65466	-.00011	-.00352	-.00366

(XBY009) (15 APR 74)

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(RBY010) (15 APR 74)

AMES 3.5-163 CASE (B19CTM4F5) (M10TE23) (VTR5)

REFERENCE DATA

MACH = 10.290
 ALPHA = 1.961
 5.932
 10.328
 15.616
 20.523
 23.461
 27.520
 30.539
 35.529
 40.667
 GRADIENT = .00000

MACH = 10.290
 ALPHA = 1.961
 5.932
 10.328
 15.616
 20.523
 23.461
 27.520
 30.539
 35.529
 40.667
 GRADIENT = .00000

BETA = .000
 ELEVON = .000
 SPOBRK = 34.920
 RUDDER = .000

PARAMETRIC DATA

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
10.290	1.961	-.03384	.07259	-.02621	-.03403	.07139	-.50474	.38255	.00121	-.00353	-.00396
5.932	5.932	.02997	.06411	-.01865	.01921	.06645	.29906	.91477	.00049	-.00244	-.00493
10.328	10.328	.12591	.05754	-.00957	.11300	.07997	1.41305	.67539	.00052	-.00420	-.00498
15.616	15.616	.27346	.05569	-.00447	.24792	.12812	1.93503	.65633	.00072	-.00491	-.00473
20.523	20.523	.42944	.05591	-.00161	.36296	.20306	1.66595	.65170	.00030	-.00410	-.00439
23.461	23.461	.54098	.05651	-.00506	.47376	.26721	1.77299	.65576	.00144	-.00310	-.00396
27.520	27.520	.66801	.05602	-.01034	.59222	.37986	1.58359	.65577	.00136	-.00006	-.00371
30.539	30.539	.83309	.05651	-.01764	.66776	.47369	1.45191	.65820	.00238	-.00124	-.00254
35.529	35.529	1.02822	.05606	-.03546	.80366	.64534	1.24563	.66301	.00124	-.00165	-.00184
40.667	40.667	1.22297	.05768	-.04791	.91273	.86020	1.06107	.66440	.00356	.00333	-.00282
GRADIENT	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(RBY011) (15 APR 74)

AMES 3.5-163 CASE (B19CTM4F5) (M10TE23) (VTR5)

REFERENCE DATA

MACH = 7.360
 ALPHA = 7.360
 3.795
 6.816
 9.779
 13.718
 17.797
 20.843
 23.879
 27.908
 30.844
 GRADIENT = .01567

MACH = 7.360
 ALPHA = 7.360
 3.795
 6.816
 9.779
 13.718
 17.797
 20.843
 23.879
 27.908
 30.844
 GRADIENT = .01567

BETA = .000
 ELEVON = .000
 SPOBRK = 34.920
 RUDDER = .000

PARAMETRIC DATA

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.360	7.360	-.10465	.08750	-.03303	-.10102	.06190	-1.09917	.53432	-.00914	-.00651	-.00856
3.795	3.795	-.03318	.07875	-.02781	-.05411	.07611	-.99274	.45775	-.00996	-.01052	-.01021
6.816	6.816	-.00841	.07263	-.02273	-.01113	.07205	-.15471	-.65669	-.00968	-.01074	-.01049
9.779	9.779	.03203	.06693	-.01741	.04374	.07263	.60215	.77352	-.00991	-.01109	-.01075
13.718	13.718	.10914	.06299	-.01062	.09691	.08054	1.20331	.64617	-.00976	-.01121	-.01061
17.797	17.797	.21255	.05941	-.00776	.19240	.10312	1.77843	.66375	-.00924	-.01002	-.01095
20.843	20.843	.34331	.05642	-.00426	.30054	.15765	1.90636	.65504	-.00992	-.01079	-.01144
23.879	23.879	.43190	.05901	-.00103	.36257	.20696	1.83081	.65120	-.00864	-.01225	-.01108
27.908	27.908	.54247	.05794	-.00190	.47256	.27257	1.73376	.65181	-.00875	-.01047	-.01146
30.844	30.844	.69034	.05626	-.00696	.59226	.37539	1.53112	.65403	-.00692	-.00787	-.01062
GRADIENT	GRADIENT	.00371	.05661	-.00561	.66160	.46356	1.42716	.65480	-.00623	-.00956	-.00979
GRADIENT	GRADIENT	.01567	-.00240	.00166	.01449	-.00320	1.12216	-.19149	-.00126	-.00036	-.00031

BETA = .000
 ELEVON = .000
 SPOBRK = 34.920
 RUDDER = .000

AMES 3.5-163 CASE (B19CT74AF5) (M07E23) (V7R5)

REFERENCE DATA

MACH = 7.350
ALPHA = .0090 88.FT. XGRP = 12.9770 IN.
LREF = 7.1220 IN. YGRP = .0000 IN.
BREF = 14.0500 IN. ZGRP = 6.0000 W.L.
SCALE = .0150

MV/L = 2.30 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOBRK = 34.920
RUDDER = .000

MACH	CA	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.350	.06003	.49760	.28314	1.74577	.66790	-.01547	-.01539	-.01672
ALPHA	.06244	.59907	.37465	1.59901	.66942	-.01605	-.01723	-.01656
23.736	.06420	.68315	.46417	1.47176	.67192	-.01508	-.01646	-.01602
26.951	.06565	.81092	.62366	1.29978	.67253	-.01622	-.01425	-.01652
28.934	.06828	.94231	.84764	1.11205	.67426	-.01219	-.01353	-.01571
33.694	.06920	1.03112	1.06183	.95313	.67639	-.00940	-.00694	-.01006
36.875	.06425	1.05332	1.30461	.80736	.67859	.02027	-.01691	.01659
43.721	.06476	1.04266	1.39325	.74838	.68036	.03290	.04171	.03622
48.667	.00016	.02074	.04190	-.03634	.00043	.00156	.00177	.00166
51.056								
GRADIENT								

REFERENCE DATA

MACH = 10.290
ALPHA = .0090 88.FT. XGRP = 12.9770 IN.
LREF = 7.1220 IN. YGRP = .0000 IN.
BREF = 14.0500 IN. ZGRP = 6.0000 W.L.
SCALE = .0190

MV/L = 1.79 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

MACH	CA	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
10.290	.07497	-.03547	.07579	-.46065	.33052	-.00166	-.00334	-.00432
ALPHA	.06833	.02226	.06902	.32251	.90930	-.00169	-.00512	-.00550
1.961	.06023	.11433	.08291	1.37890	.69328	-.00229	-.00507	-.00517
5.962	.05944	.25097	.13305	1.66623	.67400	-.00235	-.00521	-.00580
10.706	.06213	.39345	.21403	1.63833	.67096	-.00219	-.00501	-.00460
15.822	.06403	.46766	.28218	1.72954	.67167	-.00194	-.00394	-.00371
20.971	.06702	.50347	.39229	1.54709	.67335	-.00062	-.00220	-.00344
27.596	.06963	.60691	.49636	1.41044	.67524	.00050	-.00263	-.00119
33.321	.07303	.70009	.69136	1.21259	.68065	.00262	.00028	-.00117
39.669	.07303	.85829	.85812	1.03506	.68047	.00586	.00713	.00266
46.637	.07200	-.10611	.90190	1.03506	.00000	.00000	.00000	.00000
49.833	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
GRADIENT								

AMES 3.5-163 CASE (B19CT74AF5) (M07E23) (V7R5)

(XBY013) (15 APR 74)

TABULATED SOURCE DATA FOR OAS6 (ARC 3.5-163)

AMES 3.5-163 OAS6 (B19C7M4F5) (M10TE23) (VTR5)

DATE 15 APR 74

(XBVD14) (15 APR 74)

REFERENCE DATA

MACH = 7.350 ALPHA = 10.290
SREF = 6.050 94.FT. ZREF = 12.5770 IN.
LREF = 7.1250 IN. YREF = .0000 IN.
BREF = 14.0500 IN. ZREF = 6.0000 W.L.
SCALE = .0150

RM/L = 1.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CA	CLM	CL	CD	L/D	MCP/L1	CP1	CP3	CP4
	-2.427	.06822	-.03648	-.09069	.09248	-1.06706	.51926	-.01391	-.01626	-.01648
	.624	.07861	-.02679	-.05793	.07796	-.74292	.47745	-.01586	-.01715	-.01768
	3.753	.07270	-.02336	-.01000	.07221	-.13847	-.97976	-.01593	-.01730	-.01792
	6.860	.06703	-.02023	.04366	.07279	-.80262	.79291	-.01585	-.01798	-.01834
	9.775	.11248	-.01670	.10021	.08092	1.23846	.70498	-.01517	-.01710	-.01866
	13.682	.21791	-.01510	.19722	.11108	1.77552	.67584	-.01538	-.01798	-.01961
	17.776	.34361	-.01634	.30696	.16239	1.90272	.66782	-.01533	-.01798	-.01902
	20.823	.49274	-.01740	.40149	.21765	1.84469	.66447	-.01452	-.01694	-.01902
	23.997	.55817	-.02250	.48304	.28247	1.71003	.66521	-.01371	-.01850	-.01911
	27.962	.71406	-.03176	.60093	.39089	1.53732	.66670	-.01241	-.01651	-.01801
	30.829	.83207	-.03601	.69122	.48218	1.41278	.66714	-.01229	-.01558	-.01684
GRADIENT		.01579	-.00252	.01440	-.00329	.15990	-.24408	-.00033	-.00016	-.00023

AMES 3.5-163 OAS6 (B19C7M4F5) (M10TE23) (VTR5)

DATE 15 APR 74

(XBVD15) (15 APR 74)

REFERENCE DATA

MACH = 7.350 ALPHA = 10.290
SREF = 6.050 94.FT. ZREF = 12.5770 IN.
LREF = 7.1250 IN. YREF = .0000 IN.
BREF = 14.0500 IN. ZREF = 6.0000 W.L.
SCALE = .0150

RM/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CA	CLM	CL	CD	L/D	MCP/L1	CP1	CP3	CP4
	2.094	.07566	-.02583	-.03592	.07231	-.49675	.56315	.73550	.45933	.63240
	6.029	.06467	-.01735	.02366	.06753	.35067	.65971	.72199	.45434	.62953
	10.778	.05916	-.00781	.11346	.06182	1.38672	.87302	.72888	.45416	.62709
	15.903	.05276	-.00189	.24305	.05192	1.80359	.83287	.72518	.45104	.62378
	20.386	.05995	.00172	.37684	.02914	1.67218	.84682	.72085	.44809	.62005
	25.491	.05801	-.00001	.46099	.02656	1.74870	.85033	.71739	.44758	.61773
	27.314	.05926	-.00499	.56048	.02605	1.57717	.85300	.71628	.44759	.61581
	30.817	.05964	-.00691	.67066	.02480	1.45856	.85344	.71429	.44708	.61441
	35.463	.06029	-.00593	.80642	.02460	1.24278	.85956	.71716	.44678	.61373
	40.861	.05702	-.02509	.89497	.02418	1.05974	.85724	.71807	.45442	.62142
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

DATE 15 APR 74

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TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(NBYG16) (29 MAR 74)

AMES 3.5-163 CASE (B17C7M4F5) (M05E2E) (V7R5)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MACH = .6030 80-FT. ZWRP = 12.9770 IN.
LWCZ = 7.1220 IN. YWRP = .0000 IN.
BWCZ = 14.9900 IN. ZWRP = 6.0020 M.L.
SCALE = .0150

RUN NO. 0/0 RW/L = 1.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	'A	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
5.256	24.108	.6024	.07443	-.06040	.57279	.33787	1.69532	.68398	-.03592	-.03713	-.03832
5.256	27.284	.79871	.07765	-.07262	.67263	.43400	1.54985	.68388	-.03724	-.03727	-.03834
5.256	30.030	.91596	.07710	-.08079	.75444	.52515	1.43662	.68280	-.03817	-.03764	-.03823
5.256	34.090	1.11416	.07994	-.09632	.87814	.69076	1.27197	.68215	-.03651	-.03719	-.03754
5.255	38.021	1.34434	.08541	-.12171	.99067	.91276	1.08535	.68366	-.03374	-.03597	-.03693
5.255	43.053	1.57716	.08813	-.14536	1.07628	1.15624	.93084	.68426	-.03129	-.03227	-.03210
5.255	48.009	1.77809	.08854	-.14201	1.09817	1.39870	.78514	.67976	-.02767	-.02965	-.02693
5.255	52.953	1.84533	.08232	-.12534	1.04606	1.52242	.68710	.67533	.00732	.01282	.00693
GRADIENT		.04306	.00041	-.00282	.01786	.04288	-.03502	-.00021	.00108	.00116	.00101

RUN NO. 0/0 RW/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	ON	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.380	27.401	.74275	.07236	-.04334	.62613	.40606	1.54196	.67180	-.00382	-.00920	-.00818
7.380	30.070	.89566	.07517	-.05299	.70286	.49379	1.42339	.67312	-.00361	-.00832	-.00814
7.380	34.108	1.03716	.07761	-.06145	.81525	.64582	1.26236	.67214	-.00250	-.00676	-.00608
7.380	38.024	1.23488	.07957	-.07909	.92478	.85195	1.08549	.67353	-.00249	-.00519	-.00681
7.380	43.000	1.45829	.08182	-.10233	.99604	1.06826	.93239	.67616	-.00131	-.00176	-.00599
7.380	48.060	1.69521	.07928	-.12567	1.02859	1.29924	.79169	.67628	.00691	-.01125	-.00584
7.380	52.905	1.73761	.08283	-.12107	.98196	1.43593	.68385	.67598	.02556	.03315	.02606
GRADIENT		.04036	.00034	-.00340	.01511	.04148	-.03350	.00022	.00090	.00140	.00109

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(XBY017) (29 MAR 74)

AMES 3.5-163 CASE (S17CTM4F5) (M03E22) (VTR5)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MACH = 10.590
ALPHA = 2.000
REF = 7.1250 IN. XWRP = 12.5770 IN.
REF = 14.0500 IN. YWRP = .0000 IN.
SCALE = .0150

MU/L = 1.69 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
8.000	2.000	-.01641	.07136	-.03292	-.01990	.07076	-.26702	-.06832	-.00354	-.00470	-.00377
8.000	6.065	.04863	.06463	-.02975	.04237	.06946	.61268	.87107	-.00421	-.00585	-.00827
10.001	10.001	.15916	.06139	-.02560	.14305	.06994	1.59937	.70991	-.00405	-.00595	-.00674
15.874	15.874	.30395	.06281	-.02870	.27523	.14336	1.91967	.68509	-.00389	-.00613	-.00699
20.599	20.599	.47048	.06694	-.03492	.41701	.22790	1.82976	.67765	-.00318	-.00632	-.00602
25.545	25.545	.59109	.07031	-.03720	.50482	.29856	1.70145	.67389	-.00262	-.00512	-.00530
27.549	27.549	.74843	.07326	-.03972	.62875	.41290	1.52275	.67823	-.00052	-.00497	-.00555
30.613	30.613	.87950	.07908	-.06158	.71407	.51441	1.36913	.67619	-.00205	-.00401	-.00269
40.726	40.726	1.59976	.09530	-.10034	.96955	.91267	1.01826	.67875	.00341	.00950	.00159
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(XBY016) (29 MAR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MACH = 7.350
ALPHA = -2.335
REF = 7.1250 IN. XWRP = 12.5770 IN.
REF = 14.0500 IN. YWRP = .0000 IN.
SCALE = .0150

MU/L = 1.68 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	C	L/D	XCP/L1	CP1	CP3	CP4
7.350	-2.335	-.06978	.06251	-.03440	-.06832	.06593	-1.00449	.50921	-.01537	-.01657	-.01641
7.350	.711	-.04066	.07457	-.03278	-.04160	.07406	-.56170	.35359	-.01631	-.01740	-.01741
7.350	2.063	.01163	.06620	-.02994	.00721	.06604	1.04668	1.38253	-.01652	-.01782	-.01782
7.350	6.990	.06654	.06469	-.02836	.05730	.07209	.79485	.78845	-.01613	-.01623	-.01791
7.350	9.749	.13555	.06366	-.02758	.12261	.09571	1.43282	.72524	-.01630	-.01761	-.01809
13.082	13.082	.24152	.06269	-.02620	.21977	.11827	1.65819	.63026	-.01587	-.01675	-.01828
17.708	17.708	.39989	.06339	-.02917	.33247	.17480	1.90270	.67936	-.01523	-.01665	-.01846
20.865	20.865	.47568	.06739	-.03074	.42048	.23239	1.60934	.67411	-.01493	-.01958	-.01837
23.907	23.907	.56015	.06991	-.03461	.50204	.29902	1.67896	.67229	-.01523	-.01781	-.01814
26.070	26.070	.73705	.07276	-.04285	.61612	.41102	1.49888	.67172	-.01450	-.01729	-.01795
30.611	30.611	.85016	.07486	-.04594	.69182	.49977	1.38426	.67022	-.01357	-.01564	-.01719
GRADIENT		.01634	-.00227	.00072	.01904	-.00274	.17853	.17362	-.00016	-.00020	-.00023

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(NOY019) (29 MAR 74)

AMES 3.5-163 CASE (BITCHMPS) (NO322) (VTR)

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
BOFLAP = -14.250 SPOBRK = 54.950
RUDDER = .000

REFERENCE DATA

REF = .0000 24. FT. MRFP = 12.9770 IN.
LREF = 7.1250 IN. YREF = .0000 IN.
ZREF = 14.0000 IN. ZMRP = 6.0000 W.L.
SCALE = .0150

RLIN NO. O/ O RW/L = 1.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
8.256	28.016	.76079	.06082	-.01610	.63376	.48932	1.47998	.65911	-.04688	-.04337	-.04653
8.256	31.889	.93191	.08332	-.01667	.74815	.56179	1.36110	.65770	-.04636	-.04378	-.04445
8.256	34.997	1.06067	.08931	-.02267	.81825	.60066	1.25007	.65019	-.04506	-.04261	-.04399
8.256	37.915	1.16796	.08889	-.02913	.86277	.79990	1.10360	.65904	-.04578	-.04311	-.04478
8.256	40.795	1.30172	.09072	-.02961	.90635	.91501	1.00799	.65959	-.04591	-.04166	-.04416
8.256	43.717	1.42451	.08752	-.03677	.96808	1.04775	.92494	.65982	-.04472	-.04046	-.04194
8.256	46.802	1.62205	.08993	-.02753	1.00071	1.27973	.79197	.65657	-.04169	-.03894	-.04015
8.257	49.976	1.73160	.08682	-.03542	.94687	1.43297	.65159	.64916	-.04437	-.03670	-.03963
GRADIENT		.03643	.00026	.00037	.01274	.04051	-.03163	-.00025	.00014	.00027	.00024

RLIN NO. O/ O RW/L = 1.61 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.260	28.167	.71067	.07685	.00869	.59531	.40959	1.46776	.64966	-.00685	-.01311	-.01351
7.260	32.021	.87423	.07995	.00276	.86683	.53132	1.31226	.64915	-.00678	-.01161	-.01131
7.260	35.144	1.00029	.08220	.00940	.77226	.64417	1.19665	.64673	-.00634	-.01006	-.01048
7.260	37.961	1.11257	.08478	.00171	.82477	.75150	1.09749	.64973	-.00464	-.00753	-.01145
7.260	40.842	1.22773	.08326	.00023	.87304	.86741	1.00650	.65025	-.00637	-.00666	-.01229
7.260	43.643	1.34472	.08478	-.00053	.91114	.99261	.91782	.65129	-.00426	-.00426	-.01116
7.260	46.804	1.52962	.08534	-.01325	.94127	1.20999	.77656	.65351	-.00378	-.00318	-.00950
7.260	49.976	1.63217	.08759	.00423	.86804	1.37222	.64715	.64956	.00633	.01486	.01001
GRADIENT		.03646	.00037	-.00024	.01202	.05943	-.03155	.00008	.00045	.00091	.00064

AMES 3.5-163 CASE (B17C7M4F5) (M03E22) (V7R5)

(XBY020) (29 MAR 74)

REFERENCE DATA

MACH = 10.290 ALPHA = .6050 98.FT. XMRP = 12.9770 IN. YMRP = .0000 IN. ZMRP = 6.0000 W.L. SCALE = .0190

RM/L = 2.04 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000 BOFLAP = -14.250 SPOBRK = 54.920 RUDDER = .000

Table with columns: MACH, ALPHA, CN, CA, CLM, CL, CD, L/D, XCP/L1, CP1, CP3, CP4. Values range from -0.0000 to 0.0000.

REFERENCE DATA

MACH = 7.320 ALPHA = .6050 98.FT. XMRP = 12.9770 IN. YMRP = .0000 IN. ZMRP = 6.0000 W.L. SCALE = .0190

RM/L = 1.71 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000 BOFLAP = -14.250 SPOBRK = 54.920 RUDDER = .000

Table with columns: MACH, ALPHA, CN, CA, CLM, CL, CD, L/D, XCP/L1, CP1, CP3, CP4. Values range from -0.0000 to 0.0000.



DATE 15 APR 74 TABULATED SOURCE DATA FOR OA58 (ARC 3.5-163)

(XBY024) (29 MAR 74)

AMES 3.5-163 OA58 (B17CTM4F5) (M03E22) (V7R5)

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
BDFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MREF = .6050 SQ.FT. YMRP = 12.5770 IN.
LREF = 7.1220 IN. YMRP = .0000 IN.
BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
SCALE = .0150

RM/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

Table with columns: MACH, ALPHA, CN, CA, CLM, CL, CD, L/D, MCP/L1, CPI, CP3, CP4. Values range from -0.0053 to 0.0843.

AMES 3.5-163 OA58 (B17CTM4F5) (M03E22) (V7R5)

(XBY025) (29 MAR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BDFLAP = .000 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

MREF = .6050 SQ.FT. YMRP = 12.5770 IN.
LREF = 7.1220 IN. YMRP = .0000 IN.
BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
SCALE = .0150

RM/L = 1.42 GRADIENT INTERVAL = -5.00/ 5.00

Table with columns: MACH, ALPHA, CN, CA, CLM, CL, CD, L/D, MCP/L1, CPI, CP3, CP4. Values range from -0.0057 to 0.0843.

DATE 15 APR 74 TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(XBY026) (29 MAR 74) AMES 3.5-163 CASE (B17CTM4F5) (M03E22) (VTR5)

REFERENCE DATA

MACH = 16.280 ALPHA = 2.011
REF = .6050 94.FT. XGRP = 12.5770 IN. YGRP = .0000 IN. ZGRP = 6.0000 W.L.
SCALE = .0150

BETA = .000 ELEVON = .000
BOXFLAP = .000 SPOBRK = 54.920
RUDDER = .000

PARAMETRIC DATA

RV/L = 1.67 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
16.280	2.011	.07071	-.03310	-.02078	.07003	-.29668	-.05593	-.00564	-.00548	-.00707
	6.051	.06420	-.02988	.04592	.06942	.66140	.63766	-.00553	-.00620	-.00741
	10.624	.06075	-.02774	.14724	.08986	1.63630	.71356	-.00536	-.00595	-.00770
	15.697	.06223	-.03138	.28206	.14501	1.94509	.68748	-.00520	-.00619	-.00762
	20.573	.06770	-.03936	.42467	.23182	1.83317	.68055	-.00424	-.00575	-.00697
	23.565	.07092	-.04754	.51720	.30296	1.70717	.67975	-.00594	-.00718	-.00629
	27.555	.07546	-.06416	.63554	.41673	1.52508	.68156	-.00431	-.00545	-.00616
	30.545	.07950	-.07813	.72546	.52041	1.39403	.68267	-.00180	-.00241	-.00332
	40.724	.08814	-.12095	.94391	.92687	1.01619	.68403	.00084	-.00310	-.00131
		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

MACH = 7.380 ALPHA = 2.356
REF = .6050 94.FT. XGRP = 12.5770 IN. YGRP = .0000 IN. ZGRP = 6.0000 W.L.
SCALE = .0150

BETA = .000 ELEVON = .000
BOXFLAP = .000 SPOBRK = 54.920
RUDDER = .000

PARAMETRIC DATA

RV/L = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CA	CLM	CL	CD	L/D	XCP/L1	CP1	CP3	CP4
7.380	2.356	.06315	-.03719	-.06186	.06680	-.94556	-.46990	-.00464	-.01566	-.01652
	6.777	.07454	-.03365	-.04243	.07405	-.57303	.35031	-.00585	-.01633	-.01765
	9.760	.06793	-.03172	.00879	.06886	.12799	1.52962	-.00616	-.01735	-.01791
	13.767	.06497	-.02680	.06694	.07377	.90758	.79078	-.00596	-.01793	-.01610
	17.759	.06260	-.02660	.12668	.09549	1.48409	.72033	-.00351	-.01721	-.01610
	20.845	.06476	-.03016	.11947	.11947	1.66210	.69577	-.00567	-.01788	-.01633
	23.906	.06614	-.03349	.33209	.17436	1.90442	.69370	-.00311	-.01741	-.01642
	27.941	.06945	-.04008	.42761	.23377	1.62917	.67756	-.00376	-.01777	-.01646
	30.782	.07357	-.05179	.50923	.30170	1.68790	.67543	-.00468	-.01793	-.01633
		.07456	-.05179	.62654	.41610	1.50543	.67580	-.00409	-.01393	-.01732
		.08406	-.03986	.70349	.50744	1.38635	.67583	-.00201	-.01558	-.01741
		.01611	.00089	.01480	-.00292	.17338	.17040	-.00021	-.00028	-.00023

TABLATED SOURCE DATA FOR CASE (ARC 3.5-163)

DATE 15 APR 74

AMES 3.5-163 CASE (S17C7M4F5) (M03E22) (V7R8)

(NBY030) (29 MAR 74)

REFERENCE DATA

MACH = 7.320
 ALPHA = -2.305
 .878
 3.824
 6.898
 9.774
 13.840
 17.766
 20.851
 23.949
 27.966
 30.876
 GRADIENT

BETA = .000 ELEVON = .000
 SPOPLAP = 13.750 SPOBRK = 94.950
 RUDDER = .000

PARAMETRIC DATA

RM/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CN	CA	CLM	CL	CD	L/D	XCF/L1	CP1	CP3	CP4
-2.305	-.07587	.06168	-.03875	-.07253	.06467	-.85653	.48224	-.01391	-.01395	-.01310	
.878	-.02850	.07390	-.03620	-.02945	.07356	-.40037	.18386	-.01493	-.01509	-.01405	
3.824	.02301	.06849	-.03626	.02036	.07040	.28923	1.16421	-.01468	-.01483	-.01419	
6.898	.06420	.06450	-.03402	.07585	.07414	1.02299	.79912	-.01463	-.01482	-.01433	
9.774	.14589	.06369	-.03636	.13298	.08753	1.51885	.74216	-.01429	-.01509	-.01469	
13.840	.23778	.06422	-.04179	.23512	.12417	1.89355	.71002	-.01408	-.01519	-.01442	
17.766	.38795	.6870	-.04956	.34910	.18190	1.91917	.69736	-.01395	-.01540	-.01497	
20.851	.49728	.07021	-.05618	.43972	.24262	1.81242	.69192	-.01305	-.01582	-.01451	
23.949	.61249	.07533	-.06543	.52916	.31747	1.66687	.68966	-.01317	-.01409	-.01501	
27.966	.77511	.07974	-.08105	.64722	.43390	1.49161	.68883	-.01189	-.01420	-.01474	
30.876	.89778	.08439	-.09490	.72720	.53317	1.36393	.68925	-.01176	-.01347	-.01410	
GRADIENT	.01646	-.00208	.00040	.01516	-.00232	.18753	.11967	-.00012	-.00014	-.00018	

DATE 15 APR 74

TABULATED SOURCE DATA FOR OAS8 (ARC 3.5-163)

(YBY001) (15 APR 74)

AMES 3.5-163 OAS8 (B19CTMFP) (M07E23) (VTR5)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
SDFLAP = -14.250 SFDGRK = 84.950
RUDDER = .000

REFERENCE DATA

SWEP = .6050 50.FT. XMRP = 12.5770 IN.
LWEP = 7.1750 IN. YMRP = .0000 IN.
SWEP = 14.0900 IN. ZMRP = 6.0000 W.L.
SCALE = .0150

RUN NO. 0/0 RM/L = 1.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CEL
5.256	24.284	.00000	-.00110	-.00151	-.00141
5.256	27.206	.00000	-.00147	-.00209	-.00095
5.256	29.911	.00000	.00065	-.00137	-.00069
5.256	34.003	.00000	.00222	-.00122	-.00161
5.256	36.666	.00000	.00566	-.00151	-.00269
5.256	43.752	.00000	.00986	-.00232	-.00235
5.256	46.654	.00000	.01374	-.00249	-.00333
5.256	52.795	.00000	.01629	-.00347	-.00466
	GRADIENT	.00000	.00066	-.00006	-.00012

RUN NO. 0/0 RM/L = 1.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CEL
7.320	23.619	.00000	.00905	-.00143	.00009
7.320	26.992	.00000	.00909	-.00213	-.00012
7.320	29.773	.00000	.01078	-.00199	.00001
7.320	33.919	.00000	.01392	-.00141	-.00014
7.320	36.874	.00000	.01702	-.00072	-.00041
7.320	43.762	.00000	.02055	-.00147	-.00002
7.320	46.900	.00000	.02369	-.00164	-.00062
7.320	51.054	.00000	.02259	-.00242	-.00054
	GRADIENT	.00000	.00056	-.00001	-.00002

DATE 15 APR 74

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

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AMES 3.5-163 CASE (S18CTNMP71) (A187E23) (V1'15)

(YBY002) (15 APR 74)

REFERENCE DATA

WDF = .0050 84. FT. 300P = 12.5770 IN.
 LDF = 7.1220 IN. 100P = .0000 IN.
 SDF = 14.0500 IN. 200P = 8.0000 MIL.
 SCALE = .0150

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 SOFLAP = -14.250 SPDRNK = 54.000
 RUDDER = .000

RUN NO. 0/ 0 RW/L = 1.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CIL
5.256	-2.328	.00000	-.00109	.00009	.00033
5.257	.714	.00000	-.00281	-.00032	.00015
5.257	3.778	.00000	-.00232	-.00074	.00008
5.257	6.898	.00000	-.00142	-.00108	.00098
5.258	9.808	.00000	-.00028	-.00172	-.00011
5.258	13.843	.00000	.00181	-.00087	-.00017
5.258	17.743	.00000	.00405	-.00168	-.00026
5.258	20.911	.00000	.00810	-.00082	-.00004
5.258	23.884	.00000	.00808	-.00098	-.00033
5.258	27.945	.00000	.01044	-.00038	-.00079
5.258	30.836	.00000	.01041	-.00135	-.00122
5.258	GRADIENT	.00000	-.00080	-.00014	-.00004

RUN NO. 0/ 0 RW/L = 1.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CIL
7.353	-2.340	.00000	-.00873	-.00006	.00113
7.353	.680	.00000	-.01038	-.00068	.00098
7.353	3.777	.00000	-.00979	-.00048	.00021
7.353	6.836	.00000	-.00850	-.00144	-.00011
7.353	9.729	.00000	-.00771	-.00111	-.00064
7.353	13.687	.00000	-.00570	-.00188	-.00037
7.353	17.747	.00000	-.00318	-.00188	-.00091
7.353	20.908	.00000	-.00232	-.00299	-.00104
7.353	23.805	.00000	-.00212	-.00331	-.00174
7.353	27.959	.00000	.00089	-.00300	-.00189
7.353	30.770	.00000	-.00027	-.00163	-.00233
7.353	GRADIENT	.00000	-.00017	-.00003	-.00015

REFERENCE DATA

SREF = .6090 86.FT. WHP = 12.5770 IN.
 LREF = 7.1220 IN. YHP = .0000 IN.
 SREF = 14.0500 IN. ZHP = 0.0000 W.L.
 SCALE = .0130

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
 BOFLAP = -14.250 SPORK = 94.980
 RUDDER = .000

RUN NO. 0/0 RW/L = 1.66 GRADIENT INTERVAL = -8.00/ 5.00

WACH	ALPHA	BETA	CY	CYN	CEL
9.256	27.967	.00000	.00082	-.00127	-.00110
9.256	31.915	.00000	.00454	-.00197	-.00093
9.256	34.976	.00000	.00926	-.00130	-.00196
9.256	37.931	.00000	.00805	-.00037	-.00111
9.256	40.793	.00000	.00949	.00092	-.00233
9.256	43.722	.00000	.01234	-.00165	-.00142
9.257	46.817	.00000	.01652	-.00064	-.00091
9.257	53.994	.00000	.01618	-.00320	-.00048
	GRADIENT	.00000	.00059	-.00003	.00001

RUN NO. 0/0 RW/L = 2.01 GRADIENT INTERVAL = -8.00/ 5.00

WACH	ALPHA	BETA	CY	CYN	CEL
7.380	33.345	.00000	.00606	.00090	-.00017
7.380	35.226	.00000	.00895	.00109	-.00030
7.380	37.234	.00000	.01173	-.00062	-.00095
7.380	40.903	.00000	.01364	-.00085	-.00081
7.380	40.990	.00000	.01494	.00059	-.00054
7.380	43.064	.00000	.01590	-.00056	-.00071
7.380	45.066	.00000	.01560	-.00073	-.00116
7.380	48.973	.00000	.01679	-.00058	-.00062
7.380	52.636	.00000	.02072	-.00059	-.00106
	GRADIENT	.00000	.00063	-.00003	-.00003



TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(VBY004) (15 APR 74)

AMES 3.5-163 CASE (B19CTMFFS) (M07E23) (VTRS)

BETA = .000 ELEVON = -44.000
BOFLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

PARAMETRIC DATA

REFERENCE DATA

WREF = .6030 88.FT. XREF = 12.5770 IN.
LREF = 7.1250 IN. YREF = .0000 IN.
BREF = 14.0500 IN. ZREF = 6.0000 W.L.
SCALE = .0190

RM/L = 1.62 GRADIENT INTERVAL = -9.00/ 5.0'

MACH = 10.290

ALPHA	BETA	CY	CYN	CEL
2.034	.00000	-.00499	-.00115	.00022
6.010	.00000	-.00392	-.00043	.00026
10.706	.00000	-.00066	-.00179	-.00053
15.632	.00000	.00184	-.00032	-.00014
20.562	.00000	.00399	-.00090	-.00099
25.563	.00000	.00710	.00014	-.00025
30.661	.00000	.00957	-.00100	-.00126
35.671	.00000	.00814	-.00254	-.00143
40.726	.00000	.01031	-.00015	-.00106
GRADIENT	.00000	.01466	-.00272	-.00247
	.00000	.05000	.00000	.00000

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

AVES 3.5-163 CASE (S18CTMAP3) (NOTES) (VTRS)

(YBY009) (15 APR 74)

REFERENCE DATA

SREF = .0300 SQ.FT. WARP = 1E.3770 IN.
 LREF = 7.1250 IN. YARP = .0000 IN.
 SREF = 14.0000 IN. ZARP = 6.0000 W.L.
 SCALE = .0190

BETA = .000 ELEVON = -44.000
 SDFLAP = -14.250 SPOBRK = 54.920
 RUDDER = .000

RUN NO. D/O MVL = 1.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CBL
5.257	-2.266	.00000	-.00432	-.00107	-.00027
5.257	.804	.00000	-.00361	-.00060	.00039
5.257	3.903	.00000	-.00406	-.00049	.00052
5.256	6.944	.00000	-.00311	-.00155	.00019
5.256	9.784	.00000	.00019	-.00092	-.00015
5.256	13.639	.00000	.00060	-.00091	-.00021
5.256	19.908	.00000	.00461	-.00167	-.00057
5.256	23.908	.00000	.00671	-.00146	.00005
5.256	26.936	.00000	.00749	-.00079	-.00044
5.256	30.791	.00000	.00661	-.00105	-.00130
	GRADIENT	.00000	.00007	.00010	.00013

RUN NO. D/O MVL = 1.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CBL
7.350	-2.313	.00000	-.00296	-.00001	.00043
7.350	.723	.00000	-.00278	-.00063	-.00007
7.350	3.669	.00000	-.00297	-.00016	.00034
7.350	6.666	.00000	-.00315	-.00159	.00074
7.350	9.723	.00000	-.00225	-.00031	.00023
7.350	13.722	.00000	.00021	-.00216	.00029
7.350	19.696	.00000	.00393	-.00067	-.00015
7.350	23.963	.00000	.00454	-.00265	.00020
7.350	26.933	.00000	.00603	-.00120	-.00016
7.350	30.765	.00000	.01047	-.00164	-.00019
	GRADIENT	.00000	.00000	-.00003	-.00004

DATE 15 APR 74

(YBY006) (15 APR 74)

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)
AMES 3.5-163 CASE (S19CTMIF5) (M07E23) (VTR5)

REFERENCE DATA

SRP = 6050 SA.FT. WRP = 12.5770 IN.
LWP = 7.1250 IN. YRP = .0000 IN.
BRP = 14.0500 IN. ZRP = 6.0000 W.L.
SCALE = .0150

RM/L = 2.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 7.320

ALPHA	BETA	CY	CYN	CEL
23.907	.00000	.00660	-.00170	-.00012
26.966	.00000	.00976	-.00137	.00014
29.790	.00000	.01110	-.00192	.00024
33.968	.00000	.01367	-.00165	-.00055
38.898	.00000	.01534	-.00370	-.00124
43.856	.00000	.02176	-.00127	-.00015
48.821	.00000	.02273	-.00382	-.00203
51.040	.00000	.02635	-.00253	.00279
GRADIENT	.00000	.00064	-.00005	.00002

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
SDFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

SRP = 6050 SA.FT. WRP = 12.5770 IN.
LWP = 7.1250 IN. YRP = .0000 IN.
BRP = 14.0500 IN. ZRP = 6.0000 W.L.
SCALE = .0150

RM/L = 1.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 10.250

ALPHA	BETA	CY	CYN	CEL
1.707	.00000	-.00463	-.00018	.00017
5.995	.00000	-.00569	-.00049	.00017
10.646	.00000	-.00119	-.00216	-.00023
15.995	.00000	.00074	-.00098	-.00002
20.713	.00000	.00346	-.00374	-.00140
23.756	.00000	.00686	-.00137	-.00094
27.736	.00000	.00743	-.00081	-.00213
30.937	.00000	.01068	-.02190	-.00161
35.919	.00000	.01897	-.00192	-.00068
GRADIENT	.00000	.00000	.00000	.00000

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
SDFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

(YBY007) (15 APR 74)

DATE 19 APR 74

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

(18Y008) (19 APR 74)

REFERENCE DATA

WAVE = .0050 88-FT. WAVE = 12.5770 IN.
LAMP = 7.1220 IN. WAVE = .0000 IN.
WAVE = 14.0000 IN. WAVE = 6.0000 M.L.
SCALE = .0180

MACH = 1.79 GRADIENT INTERVAL = -8.00/ 9.00

MACH = 7.360

ALPHA	BETA	CY	CYN	CEL
-2.366	.00000	-.00833	-.00340	.00043
.656	.00000	-.00996	-.00121	.00006
3.735	.00000	-.00859	-.00092	.00001
6.695	.00070	-.01097	-.00194	.00012
9.702	.00000	-.00751	-.00212	-.00056
13.633	.00000	-.00605	-.00325	-.00059
17.607	.00000	-.00593	-.00290	-.00121
20.769	.00000	-.00149	-.00347	-.00171
23.613	.00000	.00134	-.00326	-.00211
27.653	.00000	.00174	-.00361	-.00187
30.722	.00000	-.00249	-.00340	-.00212
GRADIENT	.00000	-.00021	-.00008	-.00007

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
BOFLAP = 13.750 SPOBRK = 34.980
RUDDER = .000

AMES 3.5-163 CASE (S19CTMFP) (ADDRESS) (VTRS)

(18Y009) (15 APR 74)

REFERENCE DATA

WAVE = .0050 88-FT. WAVE = 12.5770 IN.
LAMP = 7.1220 IN. WAVE = .0000 IN.
WAVE = 14.0000 IN. WAVE = 6.0000 M.L.
SCALE = .0180

MACH = 2.81 GRADIENT INTERVAL = -9.00/ 9.00

MACH = 7.360

ALPHA	BETA	CY	CYN	CEL
23.639	.00000	.00931	-.00115	-.00001
27.055	.00000	.01131	-.00079	-.00026
29.647	.00000	.01344	-.00045	-.00050
33.945	.00000	.01549	-.00104	-.00105
36.974	.00000	.01667	-.00274	-.00105
43.730	.00000	.02153	-.00081	-.00015
46.936	.00000	.02260	-.00319	-.00094
51.001	.00000	.02477	-.00265	-.00108
GRADIENT	.00000	.00055	-.00008	-.00002

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = .000 SPOBRK = 34.980
RUDDER = .000

REFERENCE DATA
SREF = .6050 98. FT. XGRP = 12.5770 IN.
LREF = 7.1220 IN. YGRP = .0000 IN.
BREF = 14.0500 IN. ZGRP = 6.0000 W.L.
SCALE = .0150

PARAMETRIC DATA
BETA = .000 ELEVON = .000
DOFLAP = .000 SPOBRK = 54.920
RUDDER = .000

MACH = 10.290
RNVL = 2.06 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CY	CYN	CBL
1.981	.00000	-.00424	-.00106	.00031
5.932	.00000	-.00320	-.00015	-.00069
10.726	.00000	.00007	-.00042	.00011
15.818	.00000	.00353	-.00016	-.00024
20.523	.00000	.00321	.00013	-.00024
23.461	.00000	.00721	-.00143	-.00102
27.520	.00000	.00921	-.00212	-.00125
30.539	.00000	.00975	-.00157	-.00004
35.529	.00000	.01453	-.00005	-.00195
40.667	.00000	.01776	-.00111	-.00137
GRADIENT	.00000	.00000	.00000	.00000

REFERENCE DATA
SREF = .6050 98. FT. XGRP = 12.5770 IN.
LREF = 7.1220 IN. YGRP = .0000 IN.
BREF = 14.0500 IN. ZGRP = 6.0000 W.L.
SCALE = .0150

PARAMETRIC DATA
BETA = .000 ELEVON = .000
DOFLAP = .000 SPOBRK = 54.920
RUDDER = .000

MACH = 7.320
RNVL = 1.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CY	CYN	CBL
-2.450	.00000	-.01100	-.00090	.00097
.678	.00000	-.01084	-.00109	.00074
3.755	.00000	-.00928	-.00111	.00010
6.816	.00000	-.01015	-.07162	-.00010
7.750	.00000	-.00843	-.00117	.00004
13.718	.00000	-.00570	-.00126	-.00051
17.767	.00000	-.00516	-.00251	-.00078
20.863	.00000	-.00400	-.00292	-.00090
23.879	.00000	-.00092	-.00332	-.00082
27.986	.00000	.00039	-.00308	-.00141
30.844	.00000	.00006	-.00275	-.00161
GRADIENT	.00000	.00028	-.00003	-.00114

(YBY013) (15 APR 74)

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

AMES 3.5-163 CASE (B19CTHAF5)(M10TE23)(VTR5)

REFERENCE DATA

WREF = .6050 94.0 FT XWRP = 12.5770 IN.
LREF = 7.1220 IN. YWRP = .0000 IN.
BREF = 14.0900 IN. ZWRP = 6.0000 W.L.
SCALE = .0150

RM/L = 2.30 GRADIENT INTERVAL = -.5.00/ 5.00

MACH = 7.320	ALPHA	BETA	CY	CYN	CBL
	23.798	.00000	.00647	-.00785	.00038
	26.891	.00000	.00652	-.00136	-.00006
	29.738	.00000	.01145	-.00217	-.00033
	33.694	.00000	.01514	-.00214	-.00073
	36.675	.00000	.01725	-.00225	-.00098
	43.721	.00000	.02210	-.00198	-.00030
	48.687	.00000	.02586	-.00221	-.00129
	51.056	.00000	.02612	-.00294	-.00066
	GRADIENT	.00000	.00077	-.00005	-.00004

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

DATE 15 APR 74

REFERENCE DATA

WREF = .6050 94.0 FT XWRP = 12.5770 IN.
LREF = 7.1220 IN. YWRP = .0000 IN.
BREF = 14.0900 IN. ZWRP = 6.0000 W.L.
SCALE = .0150

RM/L = 1.70 GRADIENT INTERVAL = -.5.00/ 5.00

MACH = 10.290	ALPHA	BETA	CY	CYN	CBL
	1.961	.00000	-.00377	-.00061	.00036
	5.962	.00000	-.00319	-.00069	.00023
	10.708	.00000	-.00116	-.00203	-.00029
	15.652	.00000	.00206	-.00134	-.00050
	20.571	.00000	.00571	-.00090	-.00075
	25.521	.00000	.00607	-.00137	-.00102
	27.556	.00000	.00894	-.00126	-.00016
	30.668	.00000	.00673	-.00215	-.00243
	35.657	.00000	.01411	-.00356	-.00025
	40.833	.00000	.01883	-.00243	-.00422
	GRADIENT	.00000	.00000	-.00000	.00000

(YBY013) (15 APR 74)

TABULATED SOURCE DATA FOR CASE (B19CTHAF5)(M10TE23)(VTR5)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOBRK = 54.920
RUDDER = .000

DATE 15 APR 74

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

PAGE 29

(YBY014) (15 APR 74)

AMES 3.5-163 CASE (B19C7M4F5) (M107E23) (V7R5)

REFERENCE DATA

SREF = .6050 SQ.FT. XMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0150

MV/L = 1.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 7.320

ALPHA	BETA	CY	CYN	CBL
-2.427	.00000	-.00977	-.00095	.00049
.624	.00000	-.00987	.00012	.00020
3.733	.00000	-.01166	-.00235	.00014
6.860	.00000	-.00907	-.00112	-.00002
9.773	.00000	-.00938	-.00064	.00028
13.692	.00000	-.00642	-.00261	-.00046
17.776	.00000	-.00502	-.00165	-.00111
20.923	.00000	-.00380	-.00285	-.00109
23.997	.00000	-.00349	-.00344	-.00143
27.962	.00000	-.00199	-.00221	-.00168
30.829	.00000	-.00186	-.00408	-.00190
GRADIENT	.00000	-.00047	-.00023	-.00008

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 SDFLAP = 13.750 SPOBRK = 54.920
 RUDDER = .000

REFERENCE DATA

SREF = .6050 SQ.FT. XMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 BREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0150

MV/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 10.290

ALPHA	BETA	CY	CYN	CBL
2.094	.00000	-.00562	-.00104	.00002
6.029	.00000	-.00511	-.00066	-.00004
10.778	.00000	-.00131	-.00028	-.00058
15.903	.00000	.00121	-.00120	-.00053
20.586	.00000	.00415	-.00067	-.00123
23.491	.00000	.00668	-.00024	-.00126
27.514	.00000	.00772	-.00093	-.00154
30.617	.00000	.00908	-.00138	-.00225
35.463	.00000	.01272	.00076	-.00272
40.661	.00000	.01777	-.00071	-.00326
GRADIENT	.00000	.00000	.00000	.00000

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 SDFLAP = -14.250 SPOBRK = 54.920
 RUDDER = .000

(YBY015) (15 APR 74)

(YBY016) (29 MAR 74)

TABLATED SOURCE DATA FOR QAS8 (ARC 3.5-163)

AWES 3.5-163 QAS8 (B17CTHAFS) (MDSSE22) (VTRS)

REFERENCE DATA

SREF = .6090 84.FT. YMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 SREF = 14.0900 IN. ZMRP = 8.0000 W.L.
 SCALE = .0150

PARAMETRIC DATA

BETA = .0000 ELEVON = .000
 BOFLAP = -14.250 SPOBRK = 34.850
 RUDDER = .000

RUN NO. 0/ 0 RVL = 1.76 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CBL
5.256	24.109	.00000	.00002	-.00238	-.00097
5.256	27.264	.00000	.00321	-.00123	-.00233
5.256	30.030	.00000	.00143	-.00164	-.00132
5.256	34.070	.00000	.00112	-.00306	-.00104
5.255	39.021	.00000	.01097	-.00090	-.00499
5.255	43.853	.00000	.00883	-.00273	-.00252
5.255	49.009	.00000	.01232	-.00499	.00006
5.255	52.953	.00000	.01612	-.00212	-.00431
	GRADIENT	.00000	.00054	-.00005	-.00005

RUN NO. 0/ 0 RVL = 1.70 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CBL
7.380	27.401	.00000	.00668	-.00091	-.00070
7.380	30.070	.00000	.00123	-.00175	-.00056
7.380	34.106	.00000	.00362	-.00162	-.00112
7.380	39.024	.00000	.00824	-.00174	-.0023F
7.380	43.800	.00000	.00772	-.00276	-.00123
7.380	48.890	.00000	.01354	-.00253	-.00136
7.380	52.905	.00000	.01218	-.00322	-.00348
	GRADIENT	.00000	.00038	-.00008	-.00008

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

DATE 15 APR 74

AMES 3.5-163 CASE (B17CTM4F5) (A103E22) (V7R5)

(YBY017) (19 MAR 74)

REFERENCE DATA

SREF = .6090 90.FT. XMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 QREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0170

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 BOFLAP = -14.250 SPOBRK = 54.920
 RUDDER = .000

RM/L = 1.69 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 10.290

ALPHA	BETA	CY	CYN	CBL
2.000	.00000	-.00051	-.00057	-.00021
6.025	.00000	-.00231	-.00092	-.00034
10.801	.00000	.00261	-.00121	-.00032
15.874	.00000	.00412	-.00164	-.00101
20.559	.00000	.00614	-.00160	-.00105
23.545	.00000	.00812	-.00070	-.00063
27.549	.00000	.04045	-.00019	-.00175
30.613	.00000	.00923	-.00237	-.00120
40.726	.00000	.01626	.00002	-.00446
GRADIENT	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = .6090 90.FT. XMRP = 12.5770 IN.
 LREF = 7.1220 IN. YMRP = .0000 IN.
 QREF = 14.0500 IN. ZMRP = 6.0000 W.L.
 SCALE = .0150

AMES 3.5-163 CASE (B17CTM4F5) (A103E22) (V7R5)

(YBY018) (29 MAR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 BOFLAP = -14.250 SPOBRK = 54.920
 RUDDER = .000

RM/L = 1.66 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 7.320

ALPHA	BETA	CY	CYN	CBL
-2.355	.00000	-.00940	-.00031	.00017
.711	.00000	-.00826	-.00056	-.00040
3.863	.00000	-.00791	-.00121	-.00054
6.890	.00000	-.00913	-.00104	-.00012
9.749	.00000	-.00825	-.00213	-.00086
13.692	.00000	-.00652	-.00306	-.00042
17.708	.00000	-.00433	-.00241	-.00102
20.865	.00000	-.00340	-.00294	-.00134
23.907	.00000	-.00096	-.00171	-.00126
26.070	.00000	-.00082	-.00256	-.00150
30.611	.00000	-.00046	-.00264	-.00209
GRADIENT	.00000	.00024	-.00015	-.00011

DATE 18 APR 74

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

AMES 3.5-163 CASE (B17C7M4F5) (M03E22) (VTR8)

(Y8YD19) (29 MAR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
BOPLAP = -14.250 SPOBRK = 54.920
RUDDER = .000

REFERENCE DATA

REF = .6090 56.FT. XREF = 12.9770 IN.
LREF = 7.1220 IN. YREF = .0000 IN.
BREF = 14.0900 IN. ZREF = 6.0000 M.L.
SCALE = .0190

RUN NO. 0/ 0 RWL = 1.72 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CSL
5.256	29.016	.00000	-.00293	-.00113	-.00134
5.256	31.993	.00000	-.00121	-.00204	-.00126
5.256	34.997	.00000	.00149	-.00144	-.00107
5.256	37.911	.00000	.00318	-.00062	-.00172
5.256	40.785	.00000	.00464	-.00142	-.00224
5.256	43.717	.00000	.00936	-.00279	-.00161
5.256	46.602	.00000	.01056	-.00266	-.00149
5.257	54.978	.00000	.01273	-.00300	-.00266
	GRADIENT	.00000	.00064	-.00007	-.00004

RUN NO. 0/ 0 RWL = 1.61 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CY	CYN	CSL
7.350	29.167	.00000	.00090	-.00196	-.00038
7.350	32.021	.00000	.00567	-.00048	-.00026
7.350	35.144	.00000	.00967	-.00115	-.00190
7.350	37.991	.00000	.00955	-.00208	-.00144
7.350	40.242	.00000	.01162	-.00067	-.00166
7.350	43.843	.00000	.01157	-.00185	-.00145
7.350	46.904	.00000	.01425	-.00276	-.00089
7.350	54.026	.00000	.02044	-.00222	-.00156
	GRADIENT	.00000	.00071	-.00003	-.00003

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

AMES 3.5-163 CASE (BITCHMFS) (ADJSE22) (VTR5)

DATE 15 APR 74

(YBY020) (29 MAR 74)

REFERENCE DATA

SREF = .6030 99.FT. 196P = 12.5770 IN.
 LREF = 7.1220 IN. YREF = .0000 IN.
 BREF = 14.0900 IN. ZREF = 6.0000 W.L.
 SCALE = .0150

RM/L = 2.04 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 10.290

ALPHA	BETA	CY	CYN	CBL
1.995	.00000	-.00360	-.00018	-.00005
6.013	.00000	-.00903	-.00167	-.00009
10.735	.00000	.00028	-.00039	.00007
15.095	.00000	.00311	-.00154	-.00039
20.575	.00000	.00814	-.00136	-.00096
25.563	.00000	.00636	-.00210	-.00096
27.541	.00000	.01017	-.00006	-.00161
30.859	.00000	.01232	-.00120	-.00025
40.754	.00000	.01542	-.00371	-.00228
GRADIENT	.00000	.00000	.00000	.00000

BETA = .000 ELEVON = -44.000
 BOFLAP = -14.250 SPOBRK = 54.980
 RUDDER = .000

PARAMETRIC DATA

REFERENCE DATA

SREF = .6030 99.FT. 196P = 12.5770 IN.
 LREF = 7.1220 IN. YREF = .0000 IN.
 BREF = 14.0900 IN. ZREF = 6.0000 W.L.
 SCALE = .0150

RM/L = 1.71 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 7.360

ALPHA	BETA	CY	CYN	CBL
-6.313	.00008	-.01196	-.00099	.00110
.696	.00000	-.01001	-.00063	.00044
3.804	.00000	-.00969	-.00062	-.00006
6.662	.00000	-.01021	-.00148	.00025
9.790	.00000	-.00601	-.00122	-.00040
13.620	.00000	-.00874	-.00335	-.00042
19.666	.00000	-.00577	-.00348	-.00051
23.689	.00000	-.00167	-.00270	-.00111
26.901	.00000	-.00195	-.00321	-.00122
30.766	.00000	.00067	-.00196	-.00136
GRADIENT	.00000	.00035	.00003	-.00019

AMES 3.5-163 CASE (BITCHMFS) (ADJSE22) (VTR5)

(YBY021) (29 MAR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = -44.000
 BOFLAP = -14.250 SPOBRK = 54.980
 RUDDER = .000

DATE 15 APR 74

TABULATED SOURCE DATA FOR CASE (ARC 3.5-103)

PAGE 34

(YBY022) (29 MAR 74)

AMES 3.5-103 CASE (BITCHMFS) (MLOSSE) (VTRS)

REFERENCE DATA

SRF = .0050 86.FT. YMRP = 12.5770 IN.
LWRP = 7.1220 IN. YMRP = .0000 IN.
SRF = 14.0200 IN. ZMRP = 6.0000 M.L.
SCALE = .0150

RA/L = 1.65 GRADIENT INTERVAL = -5.00/ 9.00

MACH = 7.350
ALPHA
24.368
27.292
29.933
34.055
36.947
43.790
46.816
52.854
GRADIENT

BETA .00000
CY .00572
CYN -.00194
CYL .00059
CY .00293
CYN -.00273
CYL .00045
CY .00474
CYN -.00096
CYL -.00037
CY .00799
CYN -.00150
CYL -.00087
CY .00000
CYN -.00453
CYL .00066
CY .01240
CYN -.00376
CYL .00047
CY .01560
CYN -.00467
CYL .00068
CY .01990
CYN -.00476
CYL .00063
CY .00000
CYN .00037
CYL .00001

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
BOFLAP = 13.750 SPOBRK = 54.950
RUDDER = .000

REFERENCE DATA

SRF = .0050 86.FT. YMRP = 12.5770 IN.
LWRP = 7.1220 IN. YMRP = .0000 IN.
SRF = 14.0200 IN. ZMRP = 6.0000 M.L.
SCALE = .0150

RA/L = 1.95 GRADIENT INTERVAL = -5.00/ 9.00

MACH = 10.280
ALPHA
1.976
9.971
10.679
19.796
20.872
23.466
27.492
30.511
GRADIENT

BETA .00000
CY -.00063
CYN -.00075
CYL .00143
CY .00000
CYN -.00121
CYL .00054
CY .00000
CYN -.00132
CYL .00067
CY .00000
CYN -.00169
CYL .00090
CY .00815
CYN -.00582
CYL -.00040
CY .00867
CYN -.00346
CYL .00000
CY .00890
CYN -.00336
CYL .00000
CY .01196
CYN -.00390
CYL .00066
CY .00000
CYN .00080
CYL .00000

AMES 3.5-103 CASE (BITCHMFS) (MLOSSE) (VTRS)

(YBY023) (29 MAR 74)

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
BOFLAP = 13.750 SPOBRK = 54.950
RUDDER = .000

TABULATED SOURCE DATA FOR CASE (ARC 3.5-163)

DATE 15 APR 74

AMES 3.5-163 CASE (B17CTMFF3) (M05E22) (VTR3)

(18Y024) (29 MAR 74)

REFERENCE DATA

HREF = .6030 34. FT. XREF = 12.5770 IN.
 LREF = 7.1220 IN. YREF = .0000 IN.
 OREF = 14.0500 IN. ZREF = 6.0000 W.L.L.
 SCALE = .0150

MM/L = 1.50 GRADIENT INTERVAL = -5.10/ 5.00

MACH = 7.350

ALPHA	BETA	CY	CYN	CIL
-2.309	.00000	-.073640	-.00093	-.00059
.797	.00000	-.00904	-.00063	-.00021
3.831	.00000	-.07313	-.00161	-.00043
6.911	.00000	-.00634	-.00190	-.00047
9.788	.00000	-.00670	-.00199	-.00051
13.691	.00000	-.00590	-.00163	-.00066
17.747	.00000	-.00344	-.00312	-.00100
20.616	.00000	-.00251	-.00283	-.00067
23.894	.00000	-.00048	-.00331	-.00106
27.933	.00000	.00010	-.00369	-.00136
30.716	.00000	.00005	-.00420	-.00011
	.00000	.00304	-.00011	-.00001

GRADIENT

AMES 3.5-163 CASE (B17CTMFF3) (M05E22) (VTR3)

(18Y025) (29 MAR 74)

REFERENCE DATA

HREF = .6030 34. FT. XREF = 12.5770 IN.
 LREF = 7.1220 IN. YREF = .0000 IN.
 OREF = 14.0500 IN. ZREF = 6.0000 W.L.L.
 SCALE = .0150

MM/L = 1.42 GRADIENT INTERVAL = -5.00/ 5.00

MACH = 7.350

ALPHA	BETA	CY	CYN	CIL
24.332	.00000	.00222	-.00073	.00048
27.279	.00000	.00268	-.00103	-.00048
30.005	.00000	.00347	-.00093	-.00101
34.093	.00000	.00505	-.00139	-.00105
36.372	.00000	.00704	-.00124	-.00095
43.714	.00000	.01036	-.00347	-.00068
46.825	.00000	.01313	-.00339	-.00045
52.826	.00000	.01625	-.00346	-.00470
	.00000	.00050	-.00009	-.00010

GRADIENT

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 SDFLAP = .000 SPOSRK = 54.920
 RUDDER = .000

PARAMETRIC DATA

BETA = .000 ELEVON = 11.000
 SDFLAP = 13.750 SPOSRK = 54.920
 RUDDER = .000

DATE 15 APR 74

TABLATED SOURCE DATA FOR CASE (ARC 3.5-163)

(YBY029) (29 MAR 74)

REFERENCE DATA

SWEP = .0050 98.FT. XWRP = 12.5770 IN.
LWRP = 7.1220 IN. YWRP = .0000 IN.
SWEP = 14.0500 IN. ZWRP = 6.0000 V.L.
SCALE = .0150

MA/L = 1.36 GRADIENT INTERVAL = -9.00/ 9.00

MACH = 7.320

ALPHA	BETA	CY	CYN	CEL
24.363	.00000	.00178	-.00149	.00034
27.259	.00000	.00306	-.00160	-.00053
29.964	.00000	.00504	-.00099	-.00024
34.021	.00000	.00507	-.00107	-.00065
36.865	.00000	.00906	-.00233	-.00139
43.769	.00000	.01260	-.00263	-.00153
46.770	.00000	.01671	-.00375	.00051
52.764	.00000	.01601	-.00417	-.00166
GRADIENT	.00000	.00060	-.00043	-.00004

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOORX = 54.960
RUDDER = .000

REFERENCE DATA

SWEP = .0050 98.FT. XWRP = 12.5770 IN.
LWRP = 7.1220 IN. YWRP = .0000 IN.
SWEP = 14.0500 IN. ZWRP = 6.0000 V.L.
SCALE = .0150

MA/L = 1.93 GRADIENT INTERVAL = -9.00/ 9.00

MACH = 10.290

ALPHA	BETA	CY	CYN	CEL
1.940	.00000	-.00306	-.00026	-.00000
5.977	.00000	-.00211	-.00060	-.00012
10.718	.00000	-.00101	-.00094	-.00013
15.856	.00000	.00498	-.00121	-.00053
20.990	.00000	.00498	-.00187	-.00074
25.547	.00000	.00677	-.00136	-.00133
27.540	.00000	.00666	-.00168	-.00129
30.689	.00000	.01067	-.00125	-.00164
40.783	.00000	.01721	-.00221	-.00317
GRADIENT	.00000	.00000	.00000	.00000

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOORX = 54.960
RUDDER = .000

(YBY029) (29 MAR 74)

DATE 18 APR 74

(Y8Y030) (29 MAR 74)

TABULATED SOURCE DATA FOR CASE (ARC 3.8-103)
AMES 3.8-103 CASE (BITCTMAPS) (MIDSE22) (VTR8)

REFERENCE DATA

SWP = .0250 26. FT. 196P = 12.5770 IN.
LWCP = 7.1220 IN. YWCP = .0000 IN.
SWCP = 14.0000 IN. ZWCP = 6.0000 W.L.
SCALE = .0180

PARAMETRIC DATA

BETA = .000 ELEVON = .000
BOFLAP = 13.750 SPOBKK = 64.920
RUDDER = .000

RA/L = 1.65 GRADIENT INTERVAL = -5.00/ 5.00

INCH = 7.310	BETA	CY	CYN	CEL
ALPHA	.00000	-.00885	-.00036	.00012
-8.305	.00000	-.00453	-.00126	-.00022
.875	.00000	-.00660	-.00160	-.00036
3.824	.00000	-.00935	-.00179	-.00010
6.698	.00000	-.00886	-.00148	-.00060
9.774	.00000	-.00506	-.00237	-.00047
13.640	.00000	-.00137	-.00233	-.00111
17.766	.00000	-.00261	-.00281	-.00113
20.851	.00000	-.00091	-.00294	-.00184
25.949	.00000	-.00076	-.00357	-.00066
27.965	.00000	.00185	-.00245	-.00242
30.878	.00000	.00010	-.00011	-.00006
GRADIENT				