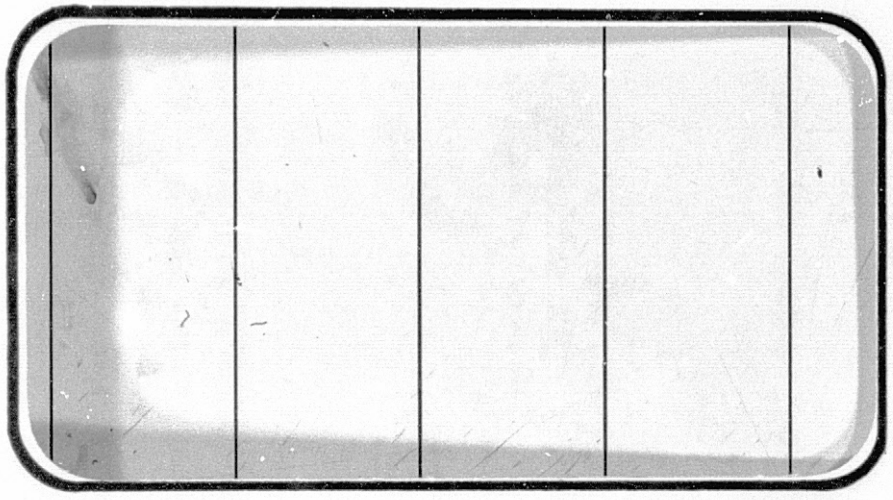
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



(NASA-CR-147611) RESULTS OF A LANDING GEAR LOADS TEST USING A 0.0405-SCALE MODEL (16-0) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163), VOLUME 1 (Chrysler Corp.) 435 p

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER CORPORATION

November 1976

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VOLUME 1 OF 4

RESULTS OF A LANDING GEAR LOADS TEST USING A 0.0405-SCALE MODEL (16-0) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163)

by

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Prepared under NASA Contract Number NAS9-13247

by

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for

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Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number:	NAAL 751
NASA Series Number:	OA163
Model Number:	16-0
Test Dates:	November 25 through December 9, 1975
Occupancy Hours:	144

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

RESULTS OF A LANDING GEAR LOADS TEST USING A 0.0405-SCALE MODEL (16-Ø) OF THE SPACE SHUTTLE ORBITER IN THE ROCKWELL INTERNATIONAL NAAL WIND TUNNEL (OA163)

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ABSTRACT

Experimental aerodynamic investigations were conducted on a sting mounted .0405 scale representation of the 140C outer mold line space shuttle orbiter configuration in the Rockwell International 7.75 x 11.00 foot low speed wind tunnel during the time period from 25 November 1975 to 9 December 1975. NASA designation for this test period was OA163. Facility designation was NAAL 751.

The primary test objectives were to define the orbiter landing gear system pressure loading and to record landing gear door and strut hinge-moment levels.

Secondary objectives included recording the aerodynamic influence of various landing gear configurations on orbiter force data as well as investigating 40' x 80' Ames Wind Tunnel strut simulation effects on both orbiter landing gear loads and aerodynamic characteristics.

Testing was conducted at a Mach number of 0.17, free stream dynamic pressure of 42.5 PSF, and Reynolds number per unit length of 1.2×10^6 per foot. Angle of attack variation was 0 to 20 degrees while yaw angles ranged from -10 to 10 degrees.

TABLE OF CONTENTS

INDEX OF MODEL FIGURES

INDEX OF DATA FIGURES

FIGURE NUMBER	TITLE	CONDITION VARYING	PLOTTED COEFFICIENT SCHEDULE	PAGE
4	LONGITUDINAL AERODYNAMIC COEFFICIENTS	BETA, CONFIGURATION, ELEVON, BDFLAP, SPDBRK	A	1-136
5	LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS	ALPHA, CONFIGURATION, ELEVON, BDFLAP, SPDBRK	B	137-241
6	ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT	BETA, ALPHA	C	242-247
7	ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT	BETA, ALPHA	D	248-253
8	ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT	BETA, ALPHA	E	254-259
9	ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT	BETA, ALPHA	F	260-265
10	HINGE MOMENT COEFFICIENTS - LANDING GEAR RETRACTED	BETA	G	266-269
11	HINGE MOMENT COEFFICIENTS - LANDING GEAR FULLY DEPLOYED	BETA	G	270-273
12	HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED	BETA	G	274-281
13	HINGE MOMENT COEFFICIENTS W/GROUND PLANE AND SIMULATED SUPPORT STRUTS	BETA	G	282-285

INDEX OF DATA FIGURES (Concluded)

PLOTTED COEFFICIENTS SCHEDULE:

A) C_{A_b}, C_{A_f}, C_N and C_m versus α

B) C_Y, C_n(BODY) and C_ℓ(BODY) versus β

C) $C_{h_{ND}}$ versus Φ_N

D) $C_{h_{NS}}$ versus Θ_N

E) $C_{h_{MD}}$ versus Φ_M

F) $C_{h_{MS}}$ versus Θ_M

G) $C_{h_{ND}}$, $C_{h_{NS}}$, $C_{h_{MD}}$ and $C_{h_{MS}}$ versus α

NOMENCLATURE
General

SYMBOL	MNEMONIC	DEFINITION
a		speed of sound; m/sec, ft/sec
C_p	CP	pressure coefficient; $(p_l - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m^2, psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m^2, psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m^3, $slugs/ft^3$
		Reference & C.G. Definitions
A_b		base area; m^2, ft^2
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
ℓ_{REF} $\bar{c}$	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m^2, ft^2
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
o	total conditions
∞	free stream

NOMENCLATURE (Continued)

SYMBOL	MNEMONIC	DEFINITION
A_{BC}		balance cavity area, ft.^{2}
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	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS\ell_{REF}}$
C_n(BODY)	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$, body axis
C_ℓ(BODY)	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$, body axis
$C_{h_{XY}}$	CHMXY	landing gear door or strut hinge moment coefficient = $\frac{HMXY}{qS\,\ell_B} * 1000$
HMXY	HMXY	landing gear door or strut hinge moment, in-lbs
XY	XY	letter designation for landing gear component = NS, nose landing gear strut = MS, main landing gear right hand strut = ND, nose landing gear right hand door = MD, main landing gear right hand door
	DUMMY1 DUMMY2	artificial geometric variable/dimension used as second dimension in datasets containing perimeter and strut pressure taps
ℓ_B		fuselage reference length, in

NOMENCLATURE (Concluded)

SYMBOL	MNEMONIC	DEFINITION
	TAP	pressure tap number, Figures 2d,e,f give locations
	X/CML	longitudinal position along main landing gear door, as a fraction of it's length
	X/CNL	longitudinal position along nose landing gear door, as a fraction of it's length
	Y/BML	lateral position across main landing gear door, as a fraction of it's reference width
	Y/BNL	lateral position across nose landing gear door, as a fraction of it's reference width
δ_{bf}	BDFLAP	body flap deflection, degrees
δ_e	ELEVON	elevon deflection, degrees
δ_{sb}	SPDBRK	speed brake deflection, degrees
Θ_N	THETAN	nose landing gear strut position, degrees
Θ_M	THETAM	main landing gear strut position, degrees
Φ_N	PHI-N	nose landing gear door position, degrees
Φ_M	PHI-M	main landing gear door position, degrees
Φ_P		main landing gear strut pressure orifice location, degrees
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_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qSb}$, stability axis
C_ℓ	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qSb}$, stability axis
	XCP/L	center of pressure location referred to ℓ_b

CONFIGURATIONS INVESTIGATED

The model provided for test period OA163 was an .0405-scale representation of the 140C space shuttle orbiter outer mold line configuration. The basic model was of the blended wing-body design utilizing a double delta wing ($75°/45° \Lambda_{L.E.}$), full span, dual panel elevons (unswept hingeline and 6" gaps), a centerline vertical tail with rudder and/or speed brake deflection capability, a canopy, a body flap, and an orbital maneuvering system (OMS pods) mounted on the aft fuselage sidewalls adjacent to the vertical tail. Landing gear simulation consisted of both nose and main landing gear systems each with the deployment capability from full up to full down.

Both the nose and main landing gear systems were instrumented with static pressure measuring orifices and hinge moment beams as illustrated in figures 2c through 2h.

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

Component	Description
B68	140C orbiter fuselage with air vent door and vent door probe simulation
C12	140C orbiter canopy
E55	140C orbiter dual panel elevons
F10	140C orbiter body flap
G20	140C orbiter nose and main landing gear system simulation
M16	140C orbiter OMS/RCS pods

CONFIGURATIONS INVESTIGATED (Concluded)

Component	Description
N28	140C orbiter OMS nozzles
W127	140C orbiter double delta wing
R5	140C orbiter rudder
V8	140C orbiter centerline vertical tail
X9	transition grit

Designated configurations are:

O ≡ B68 C12 E55 F10 M16 N28 R5 V8 W127 X9

GP ≡ Ground plane installed

SS ≡ Strut simulation (40' x 80' Ames Wind Tunnel)

TEST FACILITY DESCRIPTION

North American Aerodynamics Laboratory (NAAL) 7.75 x 11-foot Wind Tunnel is a continuous flow, closed circuit, single return tunnel capable of speeds up to 200 miles per hour.

The test section is vented to atmospheric pressure and is 7.75 x 11 feet wide and 12 feet long. Power is supplied by a 1250-horsepower nacelle-mounted synchronous motor driving a 19-foot, seven-blade, laminated birch propeller. Airspeed is controlled by using a magnetic clutch to vary the degree of coupling between the motor and propeller. Turbulence is minimized by a damping screen and a honeycomb section in the settling chamber upstream from the contraction cone (ratio 7.53 to 1).

Tests may be conducted using a variety of mounting systems: single strut, double strut, sting strut, reflection plane, cable suspension, or two-dimensional wall. Aerodynamic data may be measured by a planar type external balance system or sting-mounted internal balances. An Astrodata Automatic Data Acquisition System collects, multiplexes, digitizes, and records on magnetic tape 50 channels of force or pressure data or both. Data are then reduced and plotted using automatic data processing equipment and an automatic digital plotter.

The NAAL Wind Tunnel has been operating since June 1943. Calibrations are available over a wide range of test conditions.

DATA REDUCTION

The aerodynamic force data presented in this report was measured by the Task Corporation 2.5 inch MK IX six-component strain gage balance. All steady state static pressures were measured by ±2.5 psid Statham differential pressure transducers installed in a four-pack model mounted scanivalve referenced to tunnel static pressure. Landing gear strut and door hinge moment loads were measured from single beam, bearing mounted strain gages.

Corrections applied to the aforementioned data were test section wall effects on model aerodynamic coefficients, model tunnel blockage effects on test section dynamic pressure, model base pressure drag effects on model angle of attack and angle of sideslip.

Nose and main landing gear door static pressure tap locations are presented non-dimensionalized by landing gear door total chord or span. The coordinate systems used have origins at the forward outer corner of each respective door. Tap locations about the door perimeters and left main landing gear are presented by tap number only.

The following reference dimensions and constants were used in data reduction:

Symbol		Model Scale	Full Scale
A_b	area of model base, (not including A_{BC}), ft^2	0.5885	
A_{BC}	area of balance cavity, ft^2	0.0985	
b	wing span, in.	37.9356	936.68

Symbol		Model Scale	Full Scale
b_{ML}	left main landing gear door reference span, in.	2.794	68.99
b_{NL}	left nose landing gear door reference span, in.	1.154	28.49
$\bar{c}$	wing MAC, in.	19.2300	474.81
c_{ML}	left main landing gear door reference chord, in.	6.116	151.01
c_{NL}	left nose landing gear door reference chord, in.	4.393	108.47
S	wing area, ft^2	4.4123	2690.00
XMRP	reference C.G., fus. sta.	43.6055	1076.68
ZMRP	reference C.G. waterplane	15.1875	375.00
ℓ_B	orbiter body length, in.	52.2572	1290.30

The plotted and tabulated data are arranged in the following manner:

VOLUME NO.

1	Data Figures Tabulated Force Data	
	Tabulated Pressure Data	Fourth Character *
2	Nose landing gear door outer surface	N
	Nose landing gear door inner surface	E
3	Main landing gear door outer surface	M
	Main landing gear door inner surface	F
4	Nose and main landing gear door perimeter	P
	Main landing gear strut	W

* The fourth character in each dataset identifier (i.e., RFFPXX, for perimeter) represents the individual component.

REMARKS

All landing gear pressure data obtained in this test program showed good agreement with predicted data trends and evidenced excellent repeatability. No anomalies occurred in their acquisition or reduction.

Likewise, excellent behavior was experienced with main balance and landing gear door hinge moment data. These were acceptable for immediate reduction and presentation after the test.

Nose gear strut trunnion-moment outputs were also notable for their repeatability and consistency with expected trends, although the absolute magnitude of these loads data was almost double what had been predicted prior to the test.

Main gear strut trunnion-moments also exhibited exceptional repeatability, both in testing and in all pre- and post-test calibrations. However, unusual behavior was observed in the data obtained for the full-down strut position (and somewhat at the 80° setting). Plots of hinge moment versus strut position showed a hook in the vicinity of the fully extended position. After close examination, this was attributed to the fully-extended main gear drag link taking up part of the strut load when the strut was deflected under load. Initial calibrations of the strut hinge moment gage were done with the drag link removed. The gage was recalibrated with the drag link installed. This calibration was used again to reduce the test data. These data are presented in this report.

REFERENCE

AD75-SH-0238, "Pretest Information For A Landing Gear Loads Test (0A163) Of The 0.0405-Scale Model Of The Space Shuttle Orbiter In The Rockwell International NAAL Wind Tunnel (Model 16-ϕ)," November 10, 1975.

TABLE I

TEST : 0A163

DATE : 1/6/76

TEST CONDITIONS

MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE	STAGNATION TEMPERATURE (degrees Fahrenheit)
0.17	1.20×10^6/ft.	42.5#/ft^2	80 - 120°F

BALANCE UTILIZED: 2.5" MK IX

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	1500# each gage	±.25%	
SF	750# each gage	±.25%	
AF	200# each gage	±.25%	
PM			
RM			
YM			

COMMENTS:

TABLE II.

TEST: 0A163 | DATA SET/RUN NUMBER COLLATION SUMMARY | DATE: FEB. '76

DATA SET IDENTIFIER	CONFIGURATION	SCHD. β	SCHD. α	PARAMETERS M	δ_E	δ_{BF}	δ_{SB}	ϕ_N	θ_N	ϕ_M	θ_M	BETA -10	-5	-2	0	2	5	10
RFF101	0	F	A	.17	0°	0°	25°	0°	0°	0°	0°	5	4		1		3	2
102								.26		.23°		10	9		8		7	6
03								2		2		15	14		13		12	11
04								4		4		20	19		18		17	16
05								6		6	1.1	25	24		23		22	21
06								8	1	8		30	29		28		27	26
07								10	1.3	10	1.6	35	34		33		32	31
08								15	2	15	2.4	156	157		155		158	159
09								20	2.9	20	3.1	150	151		152		153	154
10								30.8	5	32.2	5	50	49		48		47	46
11										40	6.2	51	52		53		54	55
12								50	9.8	48.3		56	57		58		59	60
13								66	20	70	11.2	62	63		67		68	69
14										88	20	70	71		72		73	74
15									35°		35	75	76		77		78	79
16									50		50	80	81		82		83	84
17									65		65	85	86		87		88	89
18									80		80	90	91		92		93	94

TEST RUN NUMBERS

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

CL CDF CLM CN CAF CLN CSL CY XCP/L CAB BETA ALPHA   j = 0

COEFFICIENTS   IDVAR (1)   IDVAR (2)   NDV

α OR β SCHEDULES

$\alpha(A) = 0 \rightarrow 10°, \Delta\alpha = 2°$

$\alpha(B) = 0, 2, 4, 5, 6, 8, 10, 15, 20$

$\alpha(C) = 0 \rightarrow 20°, \Delta\alpha = 5°$

$\beta(D) = -10, -5, -2, 0, 5, 10$

TABLE II. - Continued.

TEST: OA163 — DATA SET RUN NUMBER COLLATION SUMMARY — DATE: FEB. '76

DATA SET IDENTIFIER	CONFIGURATION	SCHD. β	SCHD. α	PARAMETERS M	δ_E	δ_{BF}	δ_{SB}	ϕ_N	θ_N	ϕ_M	θ_M	BETA -10	-5	-2	0	2	5	10
RFF 319	0	F	A	.17	0°	0°	25°	66	95	88	98	145	146		147		148	149
320									108			130	131		132		133	134
321					5	-11.7						105	106		107		108	109
322						0						110	111		112		113	114
323					10							135	136		137		138	139
324						-11.7	85					140	141		142		143	144
325					0	15	25					129	128		127		126	125
326						10						160	161		162		163	164
327	0 + GP	E	B			-11.7	0					165	166	167	168	169	170	171
328							85					172	173	174	175	176	177	178
329					10		0					179	180	181	182	183	184	185
330		D			-10							186	187	188	189		190	191
331	0 + GP + SS	F	C		0													
											0	200	199		192		209	210
											5	201	198		192		208	211
									$\alpha(C) \equiv$		10	202	197		192		207	212
											15	203	196		193		206	213
											20	204	195		194		205	215

TEST RUN NUMBER

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

C.H.M.N.D. C.H.M.N.S. C.H.M.M.D. C.H.M.M.S. BET.A. ALPHA. i=H

IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

COEFFICIENTS

$\beta(E) = -10, -5, -2, 0, 2, 5, 10$

$\beta(F) = -10 \rightarrow 10°, \Delta\beta = 5°$

TABLE II. - Concluded.

Definition of DATASET IDENTIFIER 4th Character (i)

4th Character		Type of Data
	Force Data	
O	≡	Aerodynamic force coefficients
H	≡	Left nose and main landing gear door and strut hinge moment coefficients
	Pressure Data	
N	≡	Left nose landing gear door outer surface static pressure coefficients
E	≡	Left nose landing gear door inner surface static pressure coefficients
M	≡	Left main landing gear door outer surface static pressure coefficients
F	≡	Left main landing gear door inner surface static pressure coefficients
P	≡	Left nose and main landing gear door perimeter static pressure coefficients
W	≡	Left main landing gear strut static pressure coefficients

TABLE III.
MODEL DIMENSIONAL DATA

MODEL COMPONENT: BODY - B_{68}

GENERAL DESCRIPTION: Configuration 140C orbiter fuselage. Similar to 140A/B fuselage except aft body revised and midbody-wing glove area modified. B_{68} has the addition of air vent doors and air vent door probes.

MODEL SCALE: 0.0405

DRAWING NUMBER: VL70-000140C, -000202C, -000205A, -000200B, -000203

DIMENSIONS:	FULL SCALE	MODEL SCALE
Length (IML: Nose @ X_o = 238), In.	1290.30	52.257
Length (OML: Nose @ X_o = 235), In.	1293.30	52.379
Max Width (@ X_o = 1528.3), In.	264.0	10.692
Max Depth (@ X = 1464), In.	250.00	10.125
Fineness Ratio	4.899	4.899
Area - Ft^2		
Max. Cross-Sectional	340.89	0.559
Planform		
Wetted		
Base		

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT : CANOPY - C_{12}

GENERAL DESCRIPTION : Configuration 140C orbiter canopy, vehicle cabin No. 31 updated to MCR 200-R4. Used with fuselage B_{6z}.

MODEL SCALE: 0.0405

DRAWING NUMBER : VL70-000140C, -000202B, -000204

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (X_O = 434.643 to 578), In.	143.357	5.806
Max Width (@ X_O = 513.127), In.	152.412	6.173
Max Depth (Z_O = 501 to 449.39), In.	51.61	2.090
Fineness Ratio		
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ELEVON - E_{55}

GENERAL DESCRIPTION: Configuration 140C dual panel elevon. Elevon hingeline at $X_0 = 1387$. Elevon split line at $Y_0 = 281$ to 312.5. Upper wing/elevon gap sealed by flipper doors.

MODEL SCALE: 0.0405

DRAWING NUMBER: VL70-000140C, -006089, -000200B, -006092

DIMENSIONS:

	FULL-SCALE	MODEL SCALE
Area - Ft^2	210.00	0.344
Span (equivalent) , In.	349.20	14.143
Inb'd equivalent chord , In.	118.00	4.779
Outb'd equivalent chord , In.	55.19	2.235
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.210	0.210
At Outb'd equiv. chord	0.400	0.400
Sweep Back Angles, degrees		
Leading Edge	0.0	0.0
Tailing Edge	- 10.056	- 10.056
Hingeline	0.0	0.0
Area Moment (Product of Area & $\bar{c}$), Ft^3	1587.25	0.1054
Mean Aerodynamic Chord, In.	90.70	3.673

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY FLAP - F_{10}

GENERAL DESCRIPTION : Configuration 140C body flap. Hingeline located at $X_0 = 1532$, $Z_0 = 287$.

DRAWING NUMBER : VL70-000140C, -355114

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (X_0=1525.5 to X_0=1613), In.	87.50	3.544
Max Width (@ L.E., X_0=1525.5), In.	256.00	10.368
Max Depth (X_0 = 1532), In.	19.798	0.802
Fineness Ratio		
Area		
Max. Cross-Sectional (@H.L.)	35.196	0.058
Planform	135.00	0.220
Wetted		
Base (X_0 = 1613)	4.89	0.008

TABLE III (Continued)
MODEL DIMENSIONAL DATA

MODEL COMPONENT: Landing Gear - G_{20}

GENERAL DESCRIPTION: G_{17} modified to conform to updated drawings V070-510001 and V070-510501, including web-simulation.

Model Scale = 0.0405

Drawing Number: V070-510001, V070-510501

DIMENSIONS:	FULL SCALE	MODEL SCAIE
NOSE LANDING GEAR		
STRUT		
Number	1	1
Diameter in.	6.420	0.260
Length in.		
Exposed	63.704	2.580
Pivot Point to Wheel Axis	76.543	3.100
Pivot Point Location in.		
X_o	375.506	15.208
Z_o	298.000	12.069
WHEELS		
Number	2	2
Diameter in.	32.099	1.300
Width in.	9.877	0.400
Axis Location in.		
X_o	370.167	14.992
Y_o	0.0	0.0
Z_o	221.643	8.977
DOORS		
Side		
Number	2.	2
Length in.	108.47	4.393
Height in.	20.543	0.832
Area Ft^2	--	--
Hingeline Location		
X_o	--	--
Y_o	± 28.494	± 1.154
Z_o	301.836	12.224
End		
Number	NONE	NONE
Length in.		
Depth in.		
Area Ft^2		
Hingeline Location		
X_o		
Y_o		
Z_o		

TABLE III (Continued)

MODEL COMPONENT: Landing Gear - G_{20} (Continued)

DIMENSIONS:	FULL SCALE	MODEL SCALE
MAIN LANDING GEAR		
STRUT		
Number	2	2
Diameter in.	9.383	0.380
Length in.		
Exposed	87.901	3.560
Pivot Point to Wheel Axis	107.901	4.370
Pivot Point Location in.		
X_o	1180.0	47.790
Z_o	283.012	11.462
WHEELS		
Number	4	4
Diameter in.	49.383	2.000
Width in.	17.778	0.720
Axis Location in.		
X_o	1172.473	47.485
Y_o	± 136.000	± 5.508
Z_o	175.372	7.103
DOORS		
Side		
Number	2	2
Length in.	151.012	6.116
Height in.	62.469	2.530
Area Ft^2		
Hingeline Location		
X_o		
Y_o	+ 174.000	± 7.047
Z_o	282.148	11.427
END		
Number	NONE	NONE
Length in.		
Depth in.		
Area Ft^2		
Hingeline Location		
X_o		
Y_o		
Z_o		

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : OMS POD - M_{16}

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

MODEL SCALE: 0.0405

DRAWING NUMBER : VL70-008401, -008410

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta. X_0=1310.5), In.	258.50	10.469
Max Width (@ X_0 = 1511), In.	136.8	5.540
Max Depth (@ X_0 = 1511), In.	74.70	3.025
Fineness Ratio		
Area - Ft^2		
Max. Cross-Sectional	58.864	0.0966
Planform		
Wetted		
Base		

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: OMS NOZZLES - N_{28}

GENERAL DESCRIPTION: Configuration 140C - orbiter OMS Nozzles.

MODEL SCALE: 0,0405

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

DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane		
Throat to Exit Plane		
Diameter - In.		
Exit		
Throat		
Inlet		
Area - ft^2		
Exit		
Throat		
Gimbal Point (Station) - In.		
Left ~~Upper~~ Nozzle		
X_0	1518.00	61.479
Y_0	- 88.0	- 3.564
Z_0	492.0	19.926
Right ~~Lower~~ Nozzles		
X_0	1518.00	61.479
Y_0	88.00	3.564
Z_0	492.00	19.926
Null Position - Deg.		
Left ~~Upper~~ Nozzle		
Pitch	15°49'	15°49'
Yaw	12°17'	12°17'
Right ~~Lower~~ Nozzle		
Pitch	15°49'	15°49'
Yaw	12°17'	12°17'

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : RUDDER - R_5

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

MODEL SCALE: 0.0405

DRAWING NUMBER VL70-000146B, -000095

DIMENSIONS	FULL SCALE	MODEL SCALE
Area - Ft^2	100.15	0.1643
Span (equivalent), In.	201.00	8.141
Inb'd equivalent chord	91.585	3.709
Outb'd equivalent chord	50.833	2.059
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.400	0.400
At Outb'd equiv. chord	0.400	0.400
Sweep Back Angles, degrees		
Leading Edge	34.83	34.83
Trailing Edge	26.25	26.25
Hingeline	34.83	34.83
Area Moment (Product of Area & $\bar{c}$) (~~Normal to hinge line~~), Ft^3	610.92	0.0406
Mean Aerodynamic Chord, In.	73.2	2.965

TABLE III (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: VERTICAL - V_8

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

MODEL SCALE: 0.0405

DRAWING NUMBER: VL70-000140C, 70-000146B

DIMENSIONS:	FULL SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) - Ft^2	413.253	0.678
Planform	315.72	12.787
Span (Theo) - In.	1.675	1.675
Aspect Ratio	0.507	0.507
Rate of Taper	0.404	0.404
Taper Ratio		
Sweep-Back Angles, Degrees.		
Leading Edge	45.00	45.00
Trailing Edge	26.25	26.25
0.25 Element Line	41.13	41.13
Chords:		
Root (Theo) WP	268.50	10.874
Tip (Theo) WP	108.47	4.393
MAC	199.81	8.092
Fus. Sta. of .25 MAC	1463.35	59.272
W.P. of .25 MAC	635.52	25.738
B.L. of .25 MAC	0.00	0.00
Airfoil Section		
Leading Wedge Angle - Deg.	10.00	10.00
Trailing Wedge Angle - Deg.	14.92	14.92
Leading Edge Radius	2.00	0.0810
Void Area	13.17	0.022
Blanketed Area	0.0	0.0

TABLE III. (Continued)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: WING-W_{127}

GENERAL DESCRIPTION: Configuration 140C orbiter wing, MCR 200-R4, similar to 140A/B wing W_{116} but with refinements: improved wing-boot-midbody fairing (X_0 = 940 to X_0 = 1040); elevon split line relocated from Y_0 = 281 to Y_0 = 312.5.

MODEL SCALE: 0.0405

TEST NO.

DWG. NO. VL70-000140C, -000200B

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft^2	2690.00	4.412
Planform		
Span (Theo In.	936.68	37.936
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees	3.500	3.500
Incidence Angle, degrees	0.500	0.500
Aerodynamic Twist, degrees		
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	- 10.056	- 10.056
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.0.0.	689.24	27.914
Tip, (Theo) B.P.	137.85	5.583
MAC	474.81	19.230
Fus. Sta. of .25 MAC	1136.83	46.042
W.P. of .25 MAC	290.58	11.769
B.L. of .25 MAC	182.13	7.736
EXPOSED DATA		
Area (Theo) Ft^2	1751.50	2.873
Span, (Theo) In. BP108	720.68	29.188
Aspect Ratio	2.059	2.059
Taper Ratio	0.245	0.245
Chords		
Root BP108	562.09	22.765
Tip 1.00 $\frac{b}{2}$	137.85	5.583
MAC	392.83	15.910
Fus. Sta. of .25 MAC	1185.98	48.032
W.P. of .25 MAC	294.30	11.919
B.L. of .25 MAC	251.77	10.197
Airfoil Section (Rockwell Mod NASA) XXXX-64		
Root $\frac{b}{2}$ =	0.113	0.113
Tip $\frac{b}{2}$ =	0.120	0.120
Data for (1) of (2) Sides		
Leading Edge Cuff		
Planform Area Ft^2	113.18	0.186
Leading Edge Intersects Fus M. L. @ Sta	500.00	20.250
Leading Edge Interseets Wing @ Sta	1024.00	41.472

TABLE III. (Concluded)
MODEL DIMENSIONAL DATA

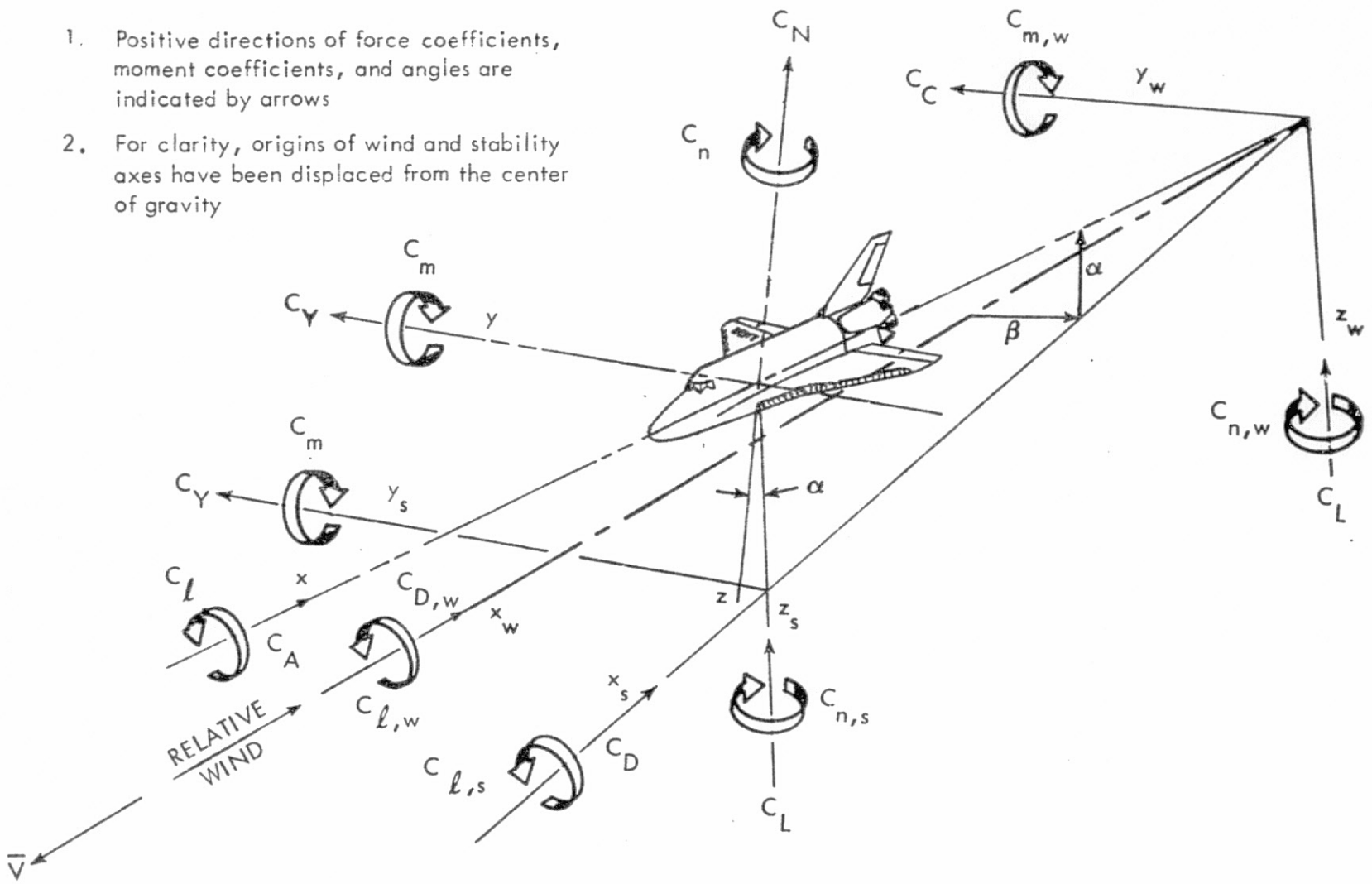
MODEL COMPONENT: TRANSITION GRIT - X_9

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

NOMINAL GRIT DIAMETER - IN.	
Fuselage	0.0054
All surfaces except fuselage	0.0076
STRIP THICKNESS - In.	0.10
LOCATION:	
Inches aft of local leading edge (streamwise)	1.00

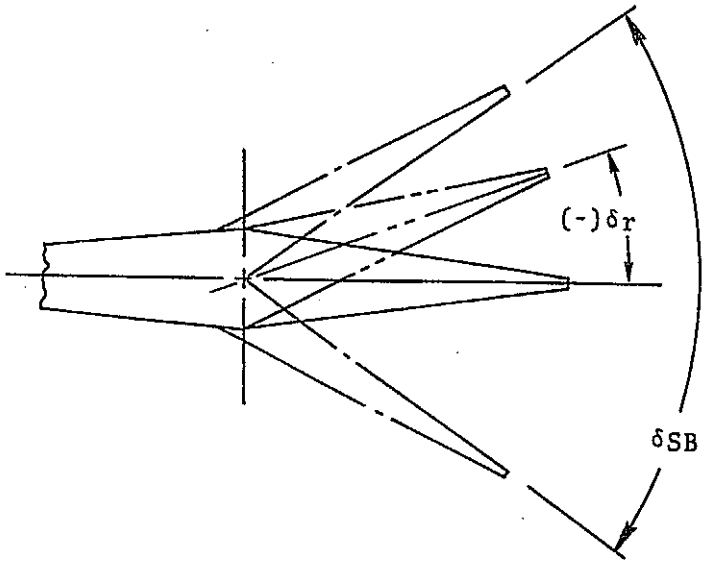
Notes:

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

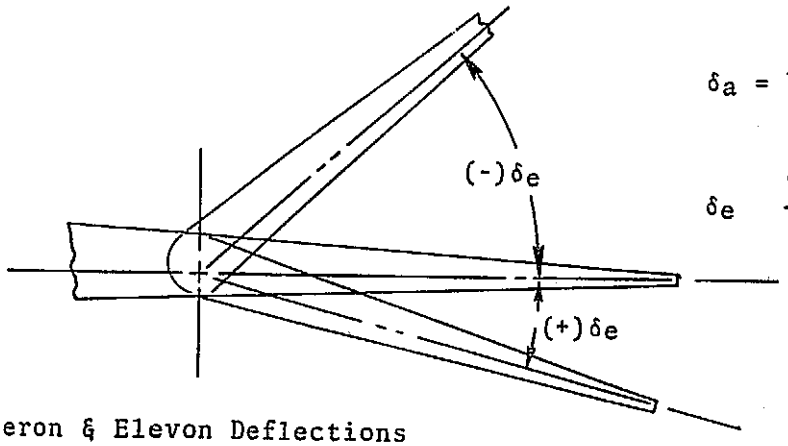


a. Axis Systems

Figure 1. Axis Systems and Sign Conventions



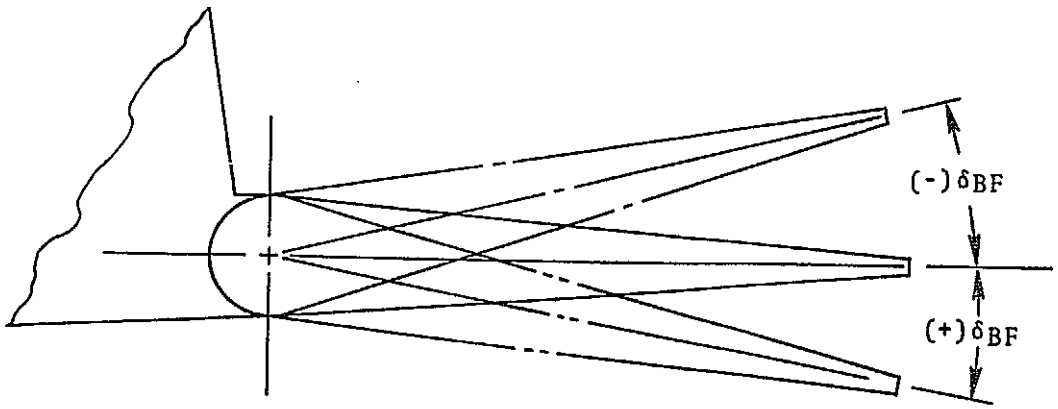
Rudder and
Speed Brake
Deflections



$$\delta a = \frac{\delta eL - \delta eR}{2}$$

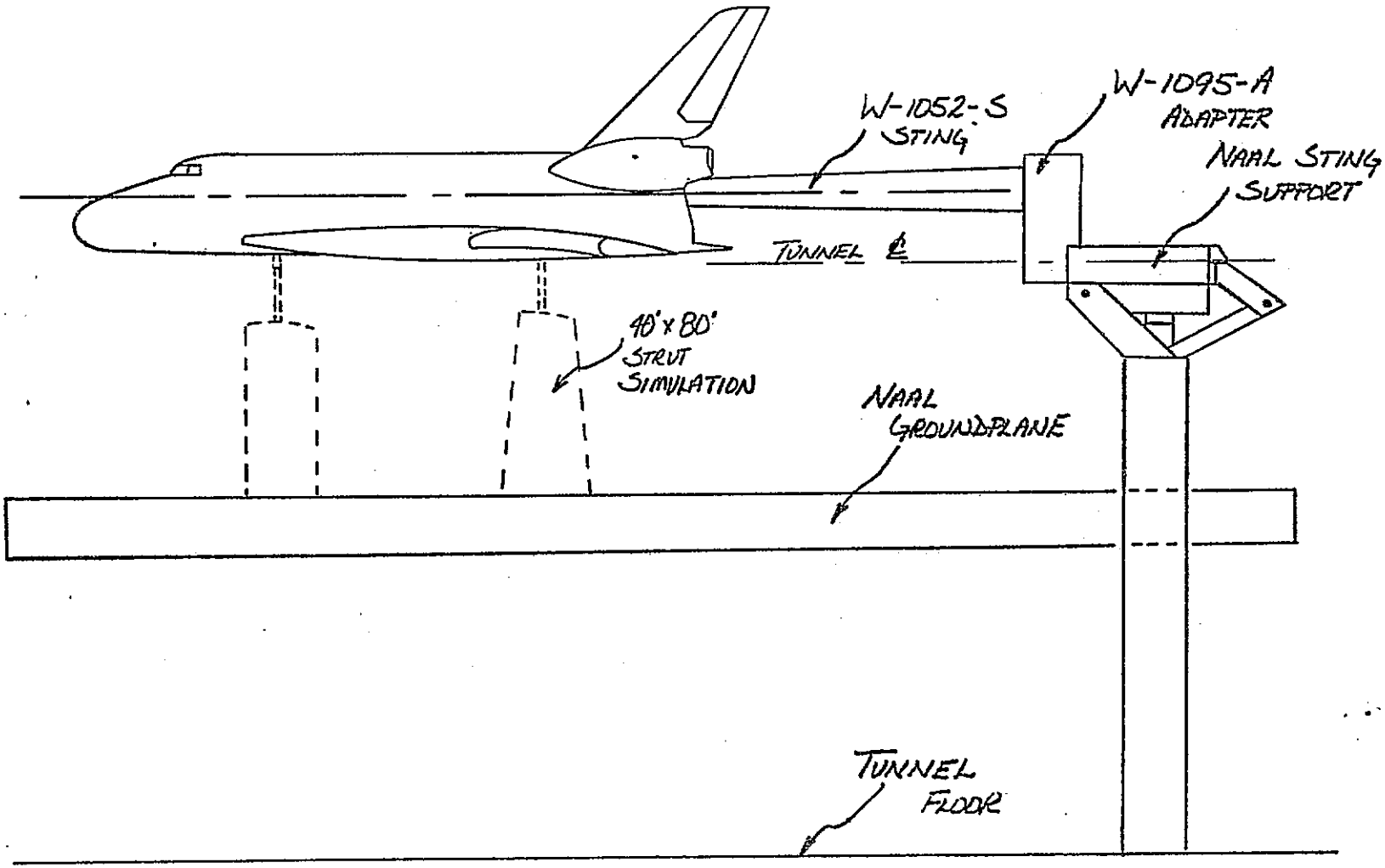
$$\delta e \quad \frac{\delta e_{L+} \delta e_R}{2}$$

Aileron & Elevon Deflections



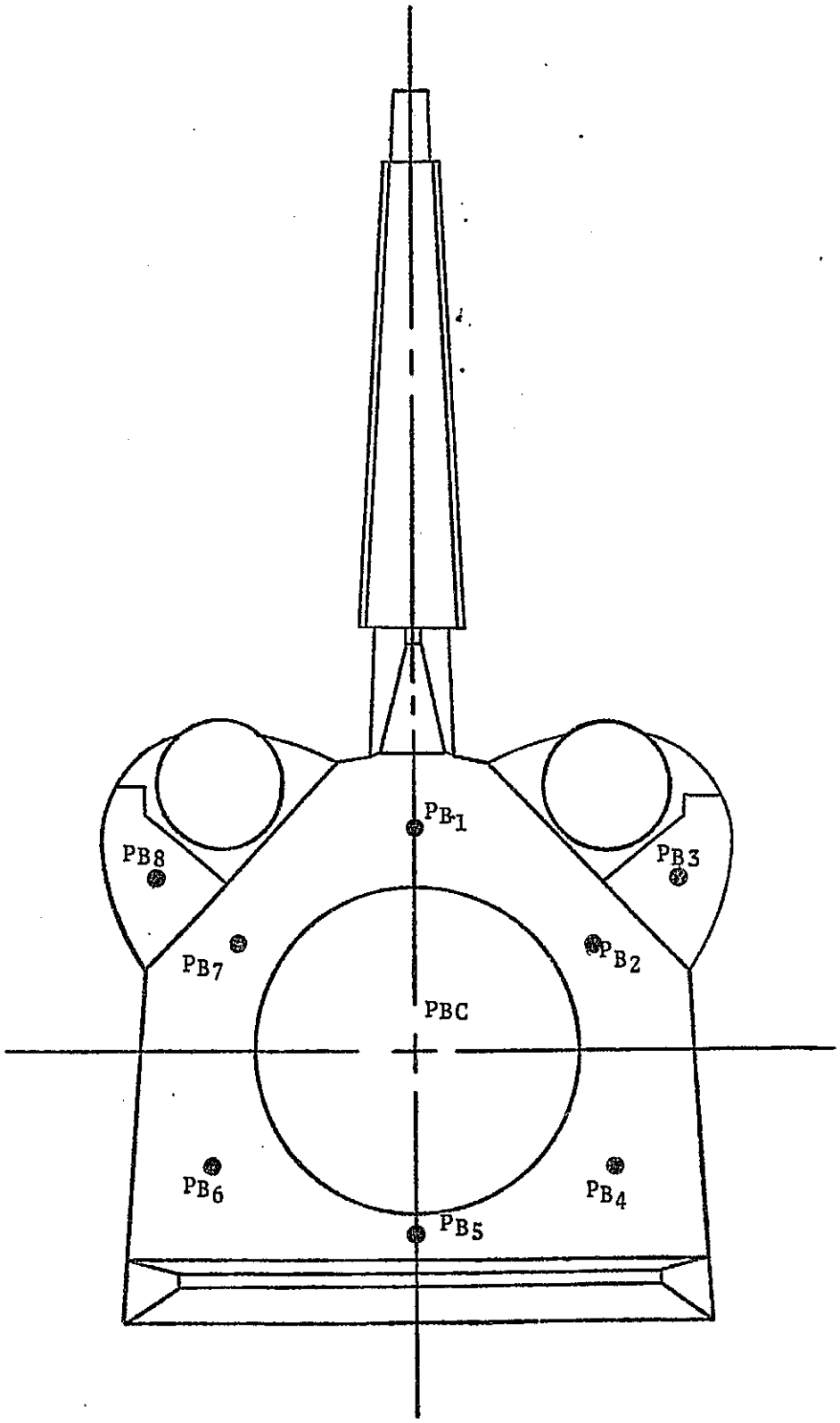
Body Flap Deflections

b. Sign Convention for Control Surfaces
Figure 1. Axis Systems and Sign Conventions



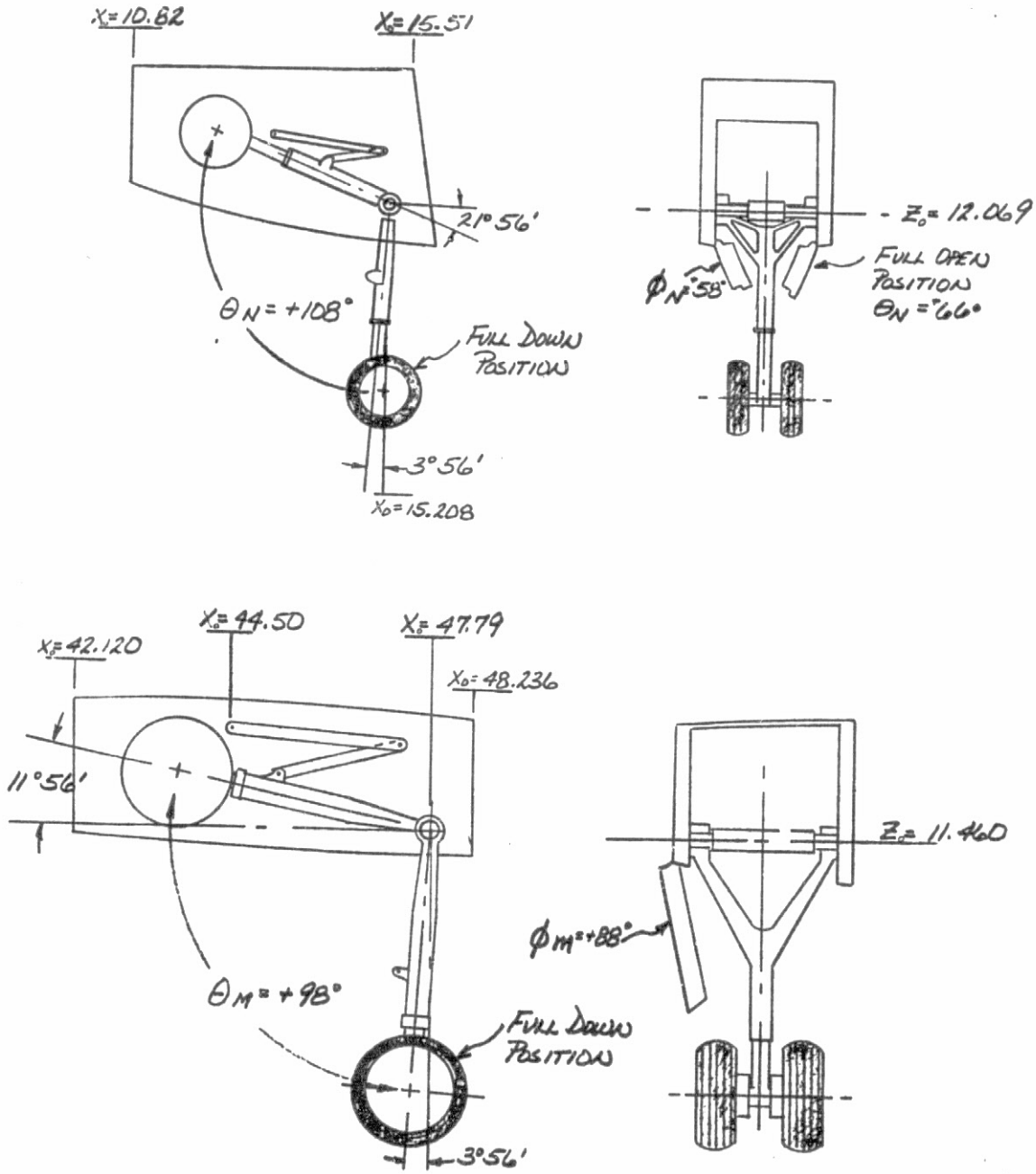
a. NAAL Tunnel Installation

Figure 2. Model sketches

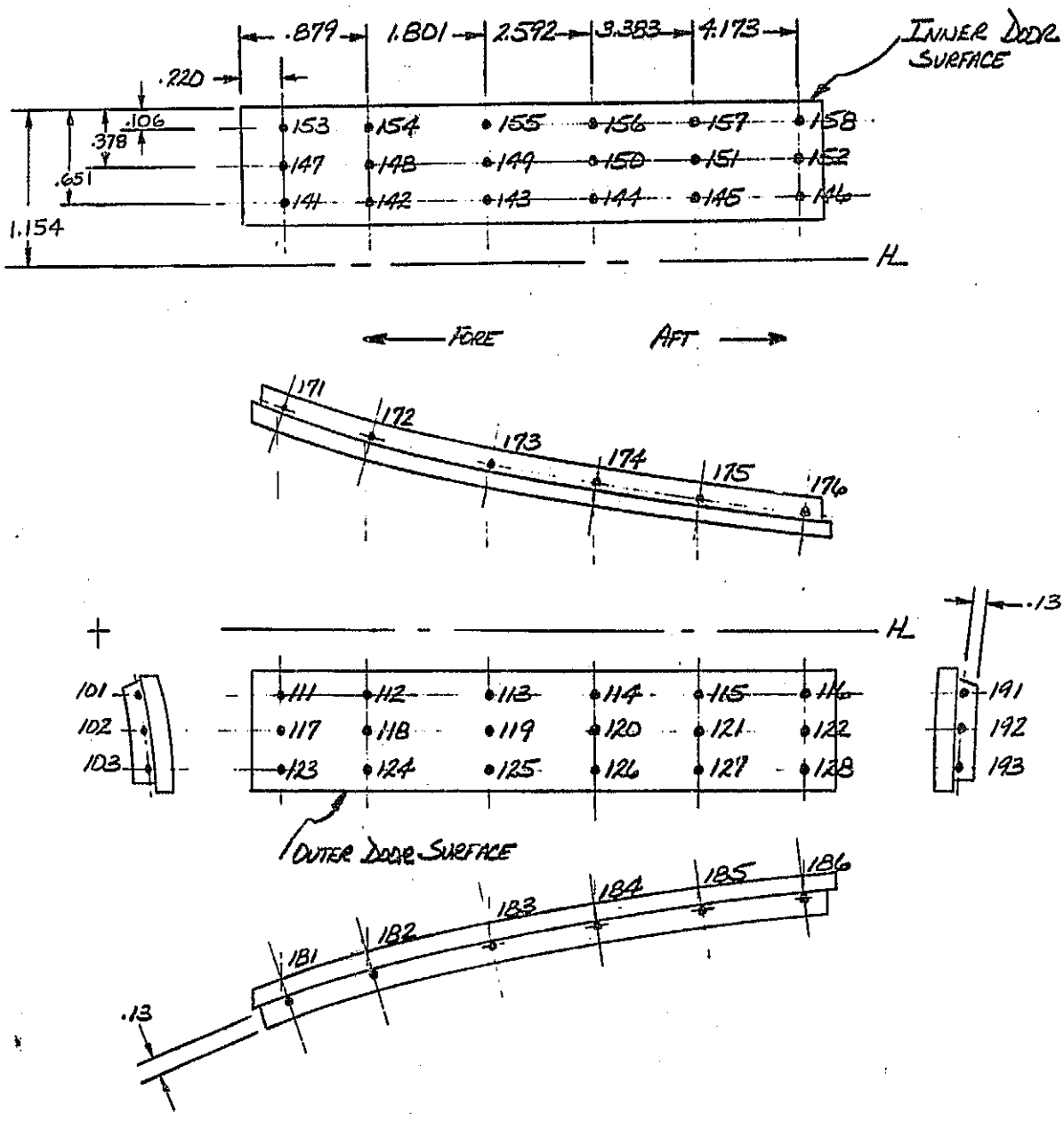


b. Model Base Pressure Instrumentation

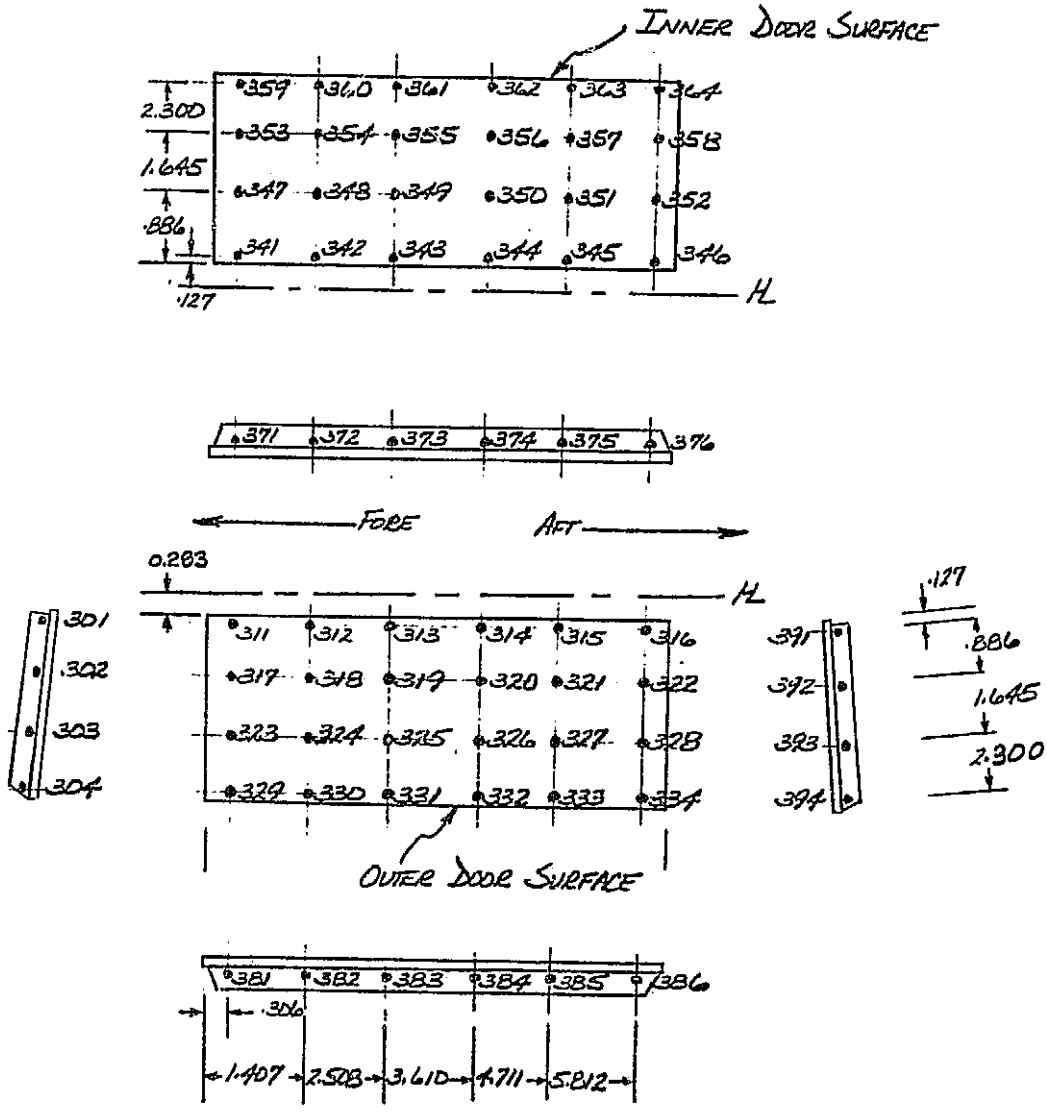
Figure 2. Model sketches



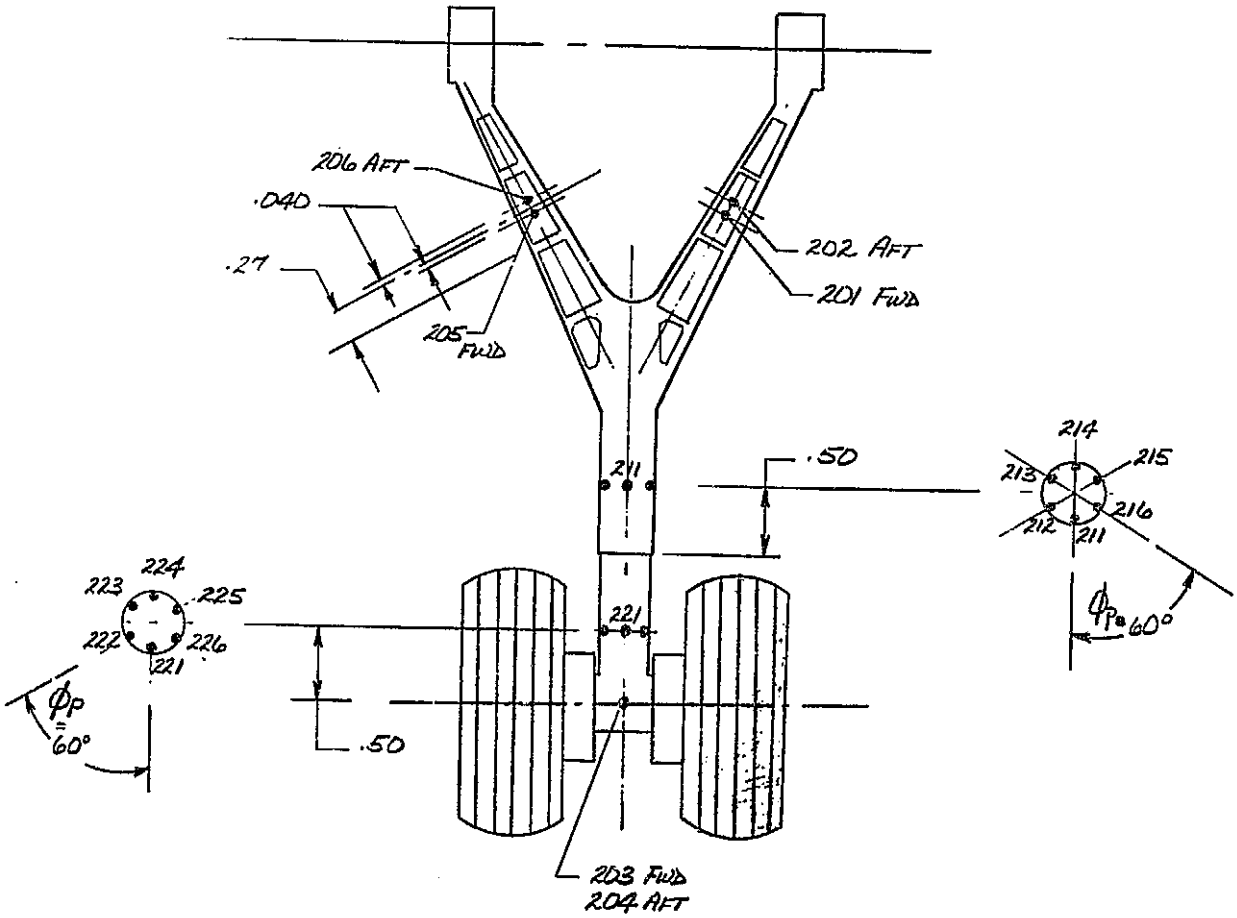
c. Sign Convention for Landing Gear
Figure 2. Model sketches



d. L. H. NLG Door Pressure Instrumentation
Figure 2. Model sketches

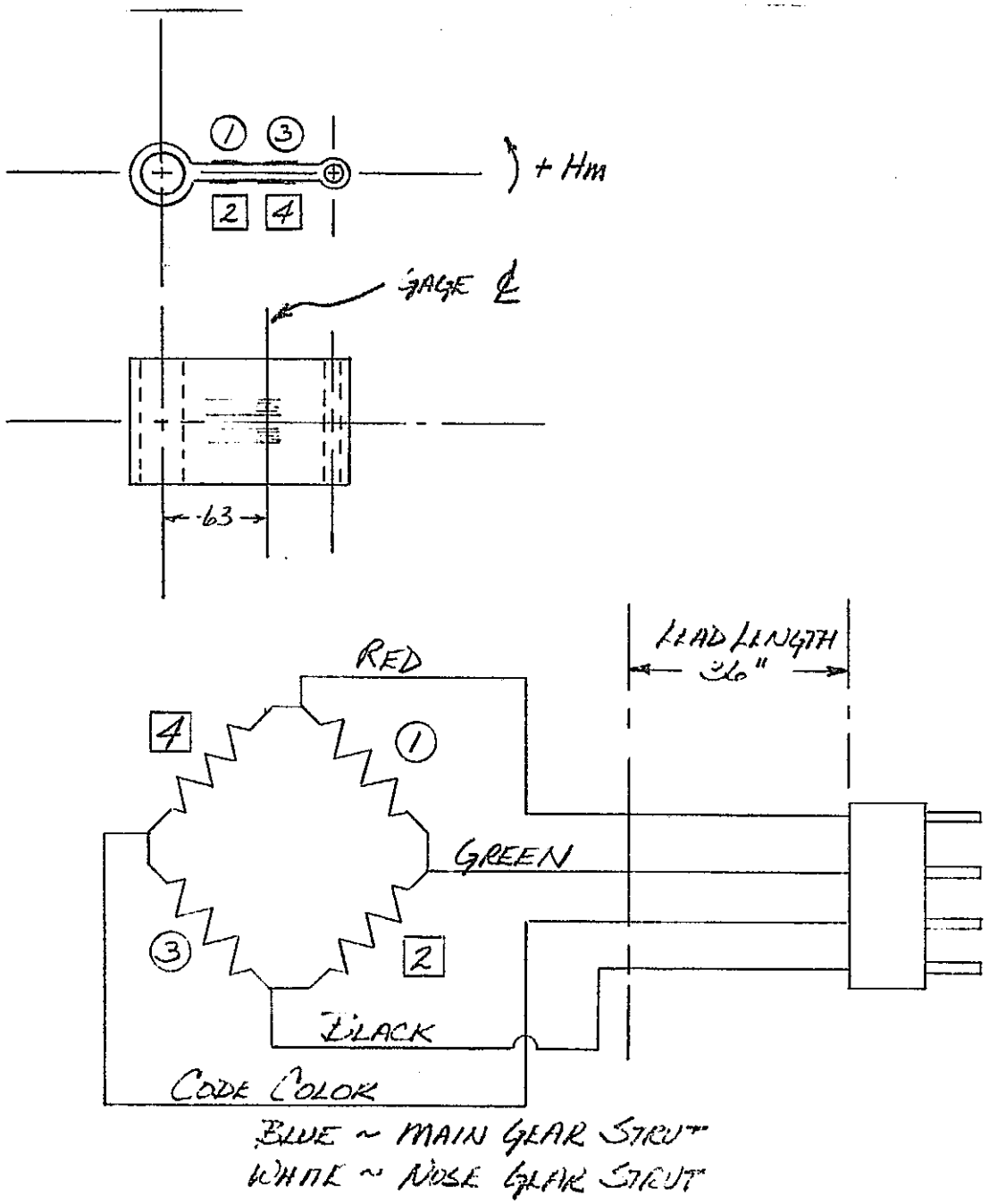


e. L. H. MLG Door Pressure Instrumentation
Figure 2. Model sketches

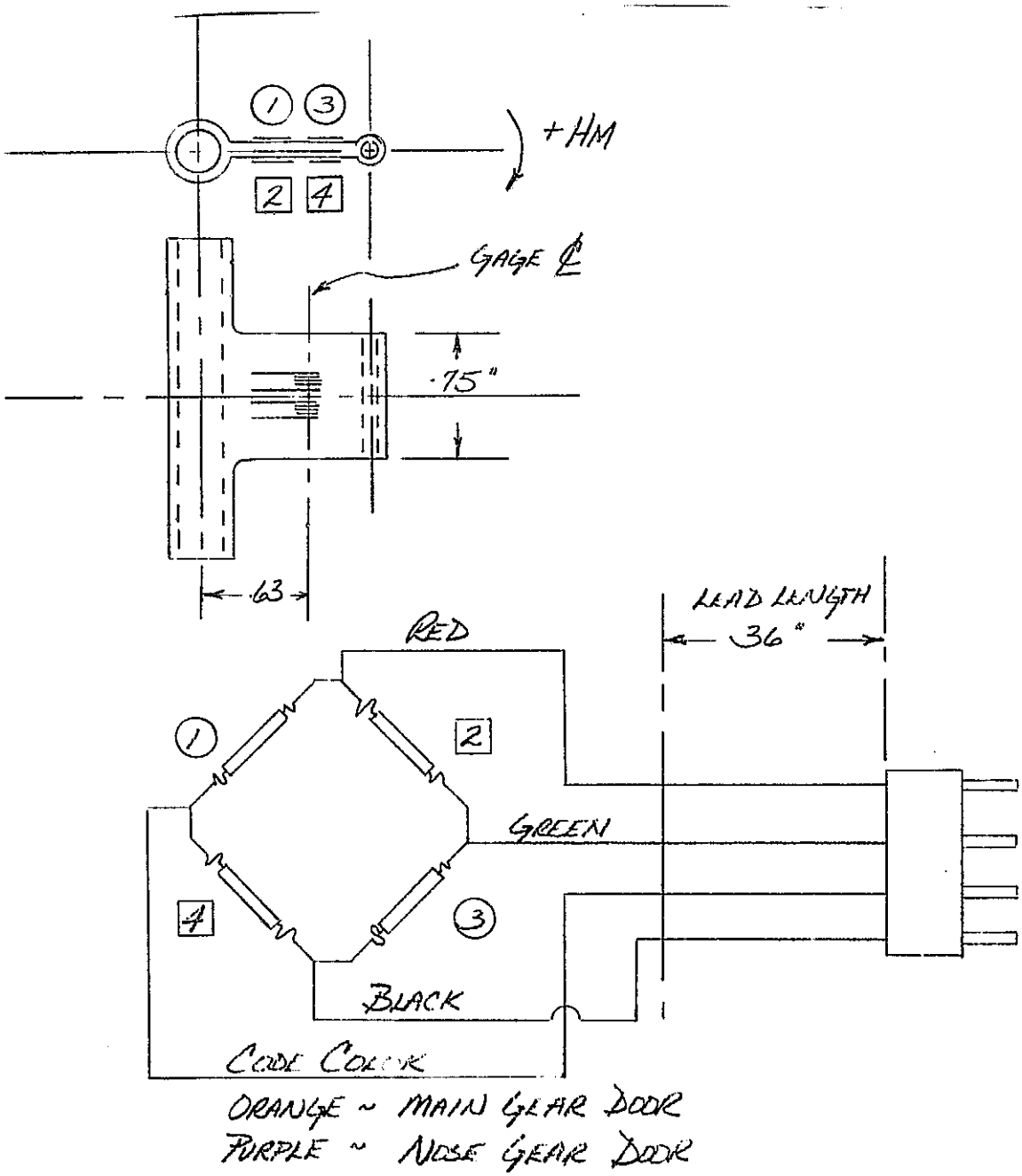


f. L. H. MLG Strut Pressure Instrumentation

Figure 2. Model sketches

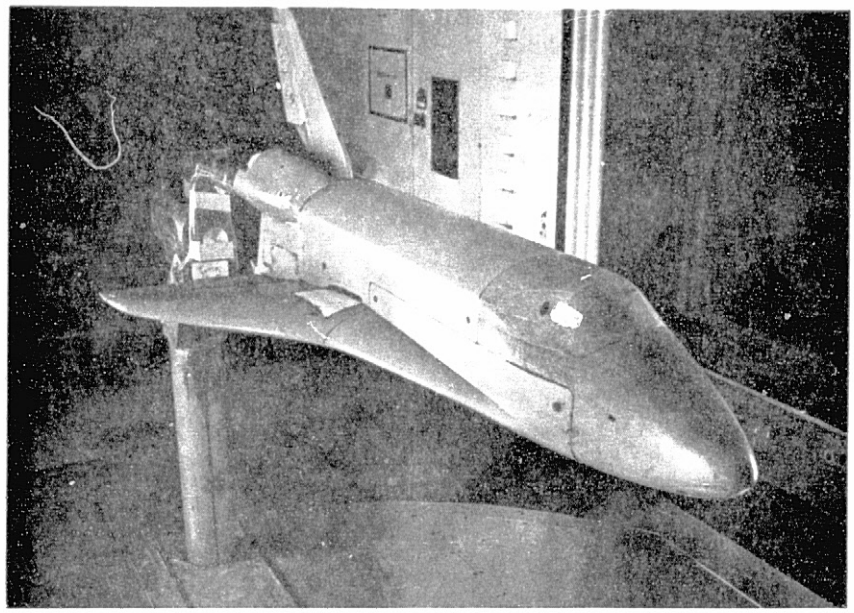


g. Typical Landing Gear Strut Strain Gage Instrumentation
Figure 2. Model sketches

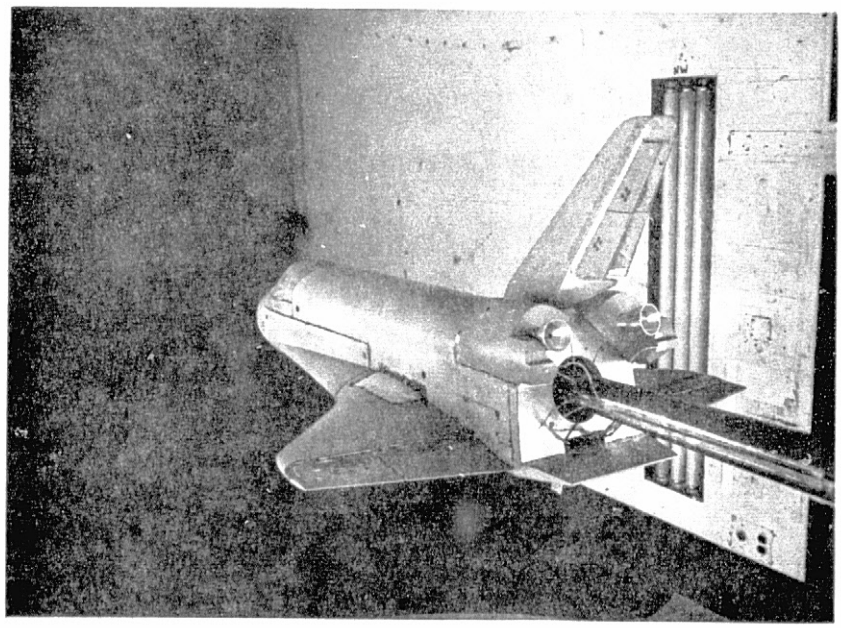


h. Typical Landing Gear Door Strain Gage Instrumentation

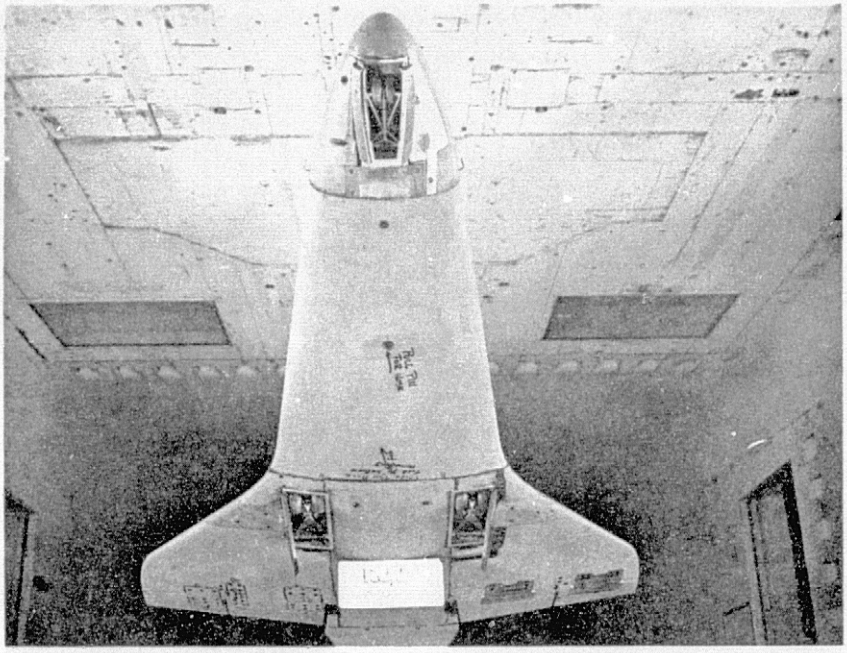
Figure 2. Model sketches



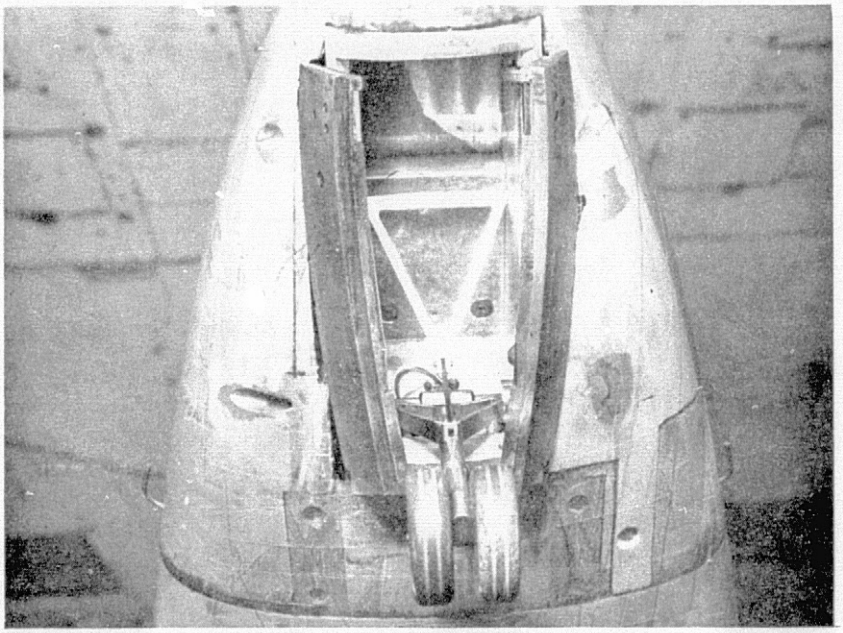
a. NAAL Installation, Front View, Model Configuration
B68C12G20M16N28W127E55F10V8R5X9
Figure 3. Model photographs



b. NAAL Installation, Rear view, Model Configuration
B68C12G20M16N28W127E55F10V8R5X9
Figure 3. Model photographs

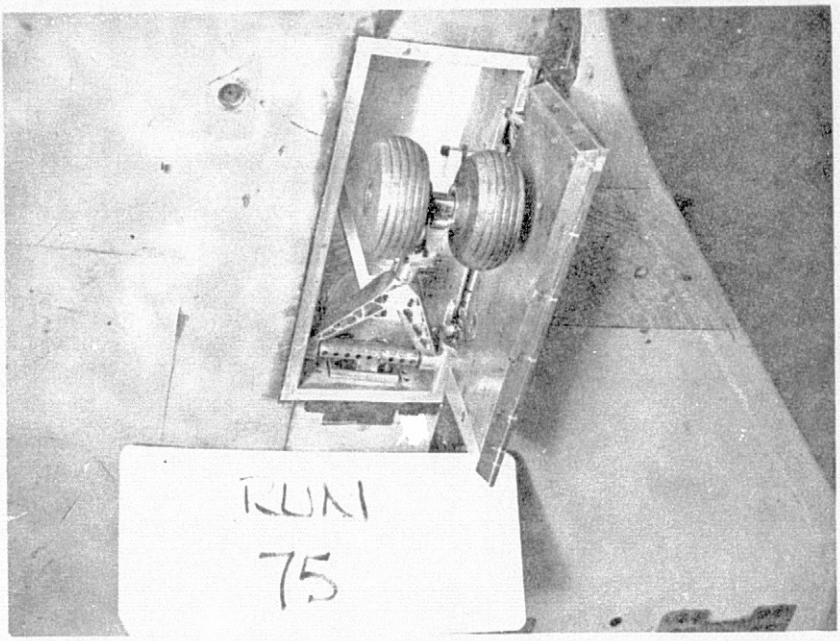


c. NAAL Installation, Bottom View, Model Configuration B68C12G20M16N28W127E55F10V8R5X9

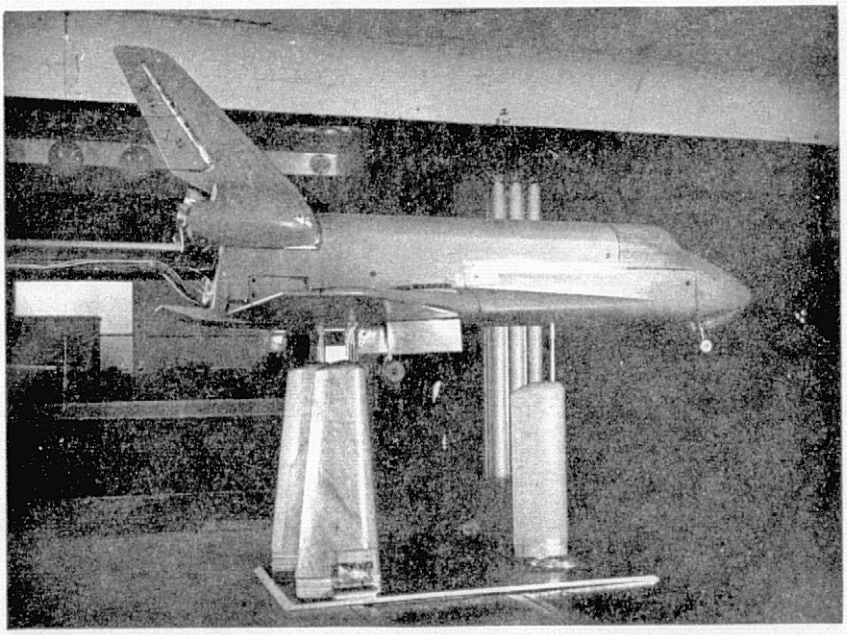


d. Nose Landing Gear, $\Theta_N = 108^\circ$, $\Phi_N = 66^\circ$

Figure 3. Model photographs



e. Main Landing Gear, $\Theta_M = 35°$, $\Phi_M = 88°$
Figure 3. Model photographs



f. NAAL Installation, Side View, Model Configuration B68C12G20M16N28W127E55F10V8R5X9 + 40' x 80' Strut Simulation
Figure 3. Model photographs

(Reverse of this page is blank.)

DATA FIGURES

(AFF001) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

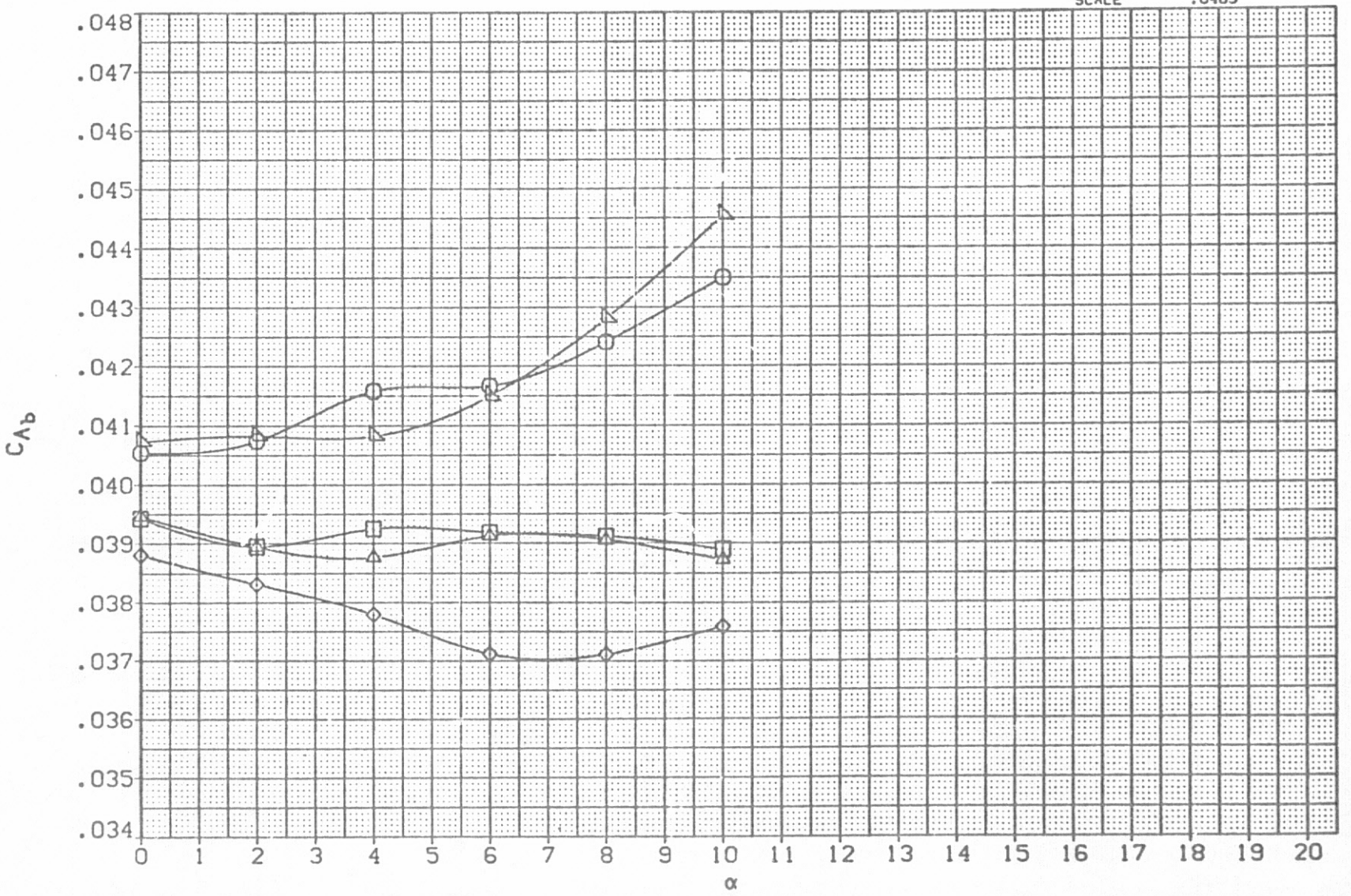


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF001) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

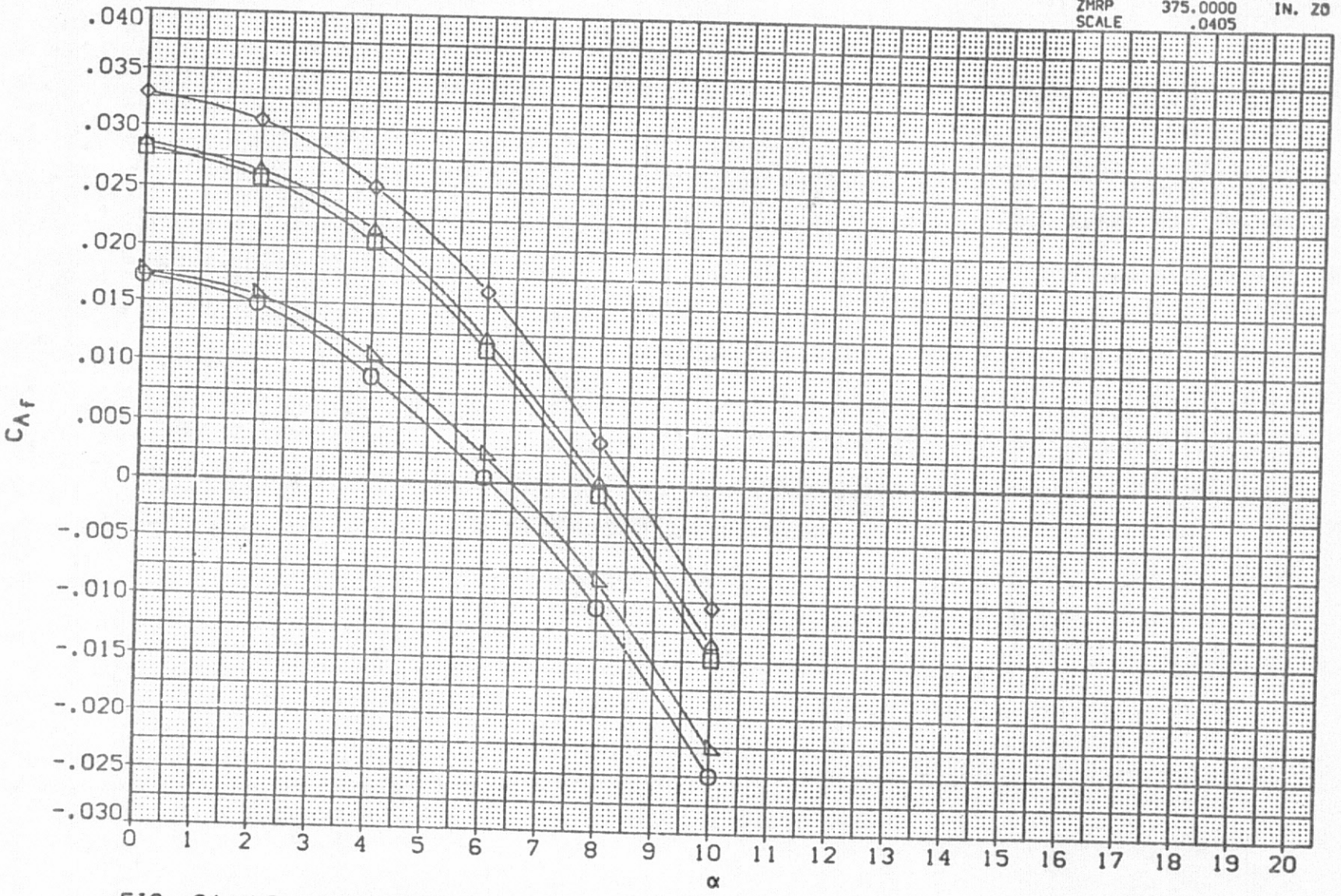


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF001) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

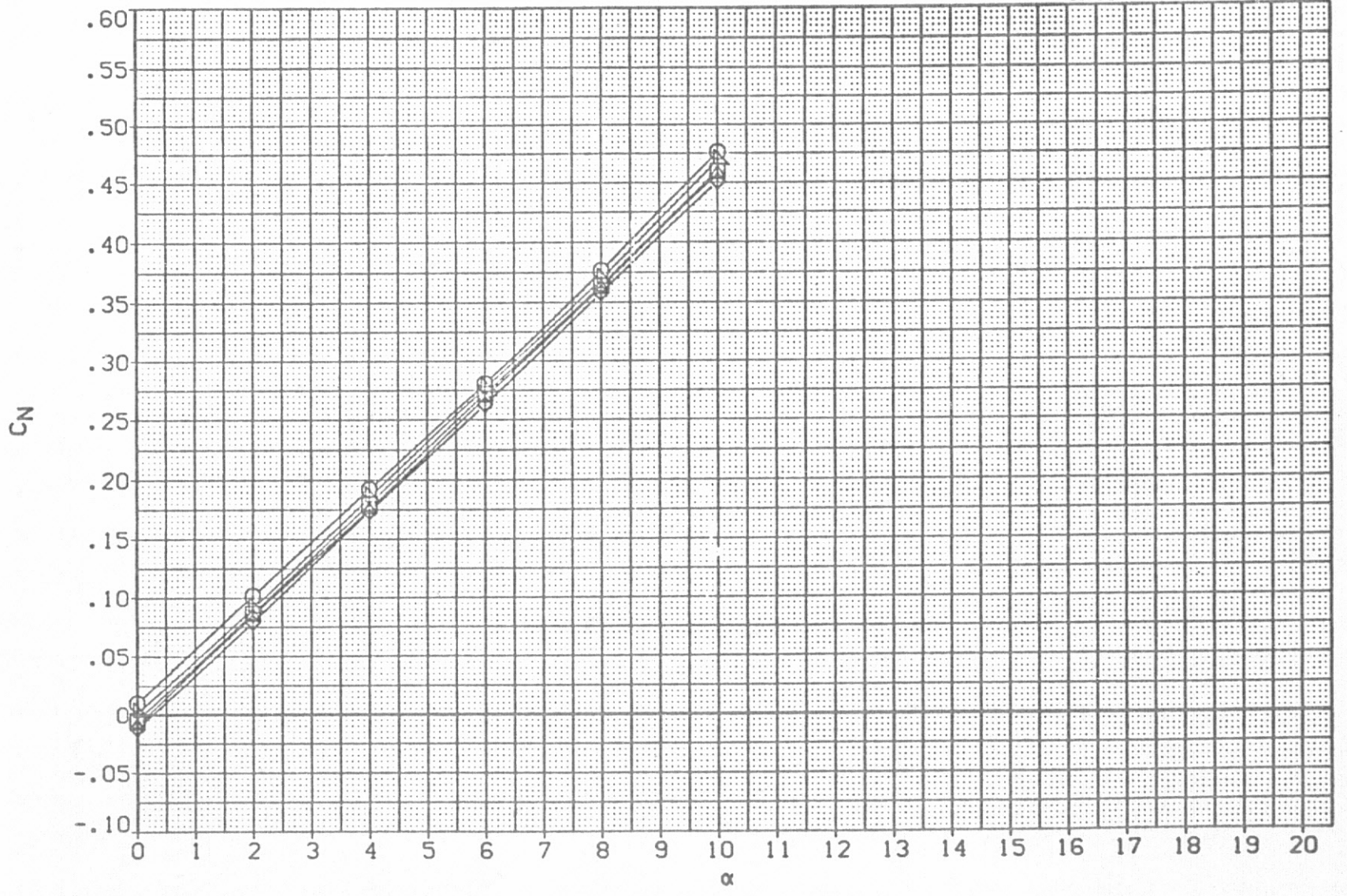


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF001) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
◁	.000
△	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

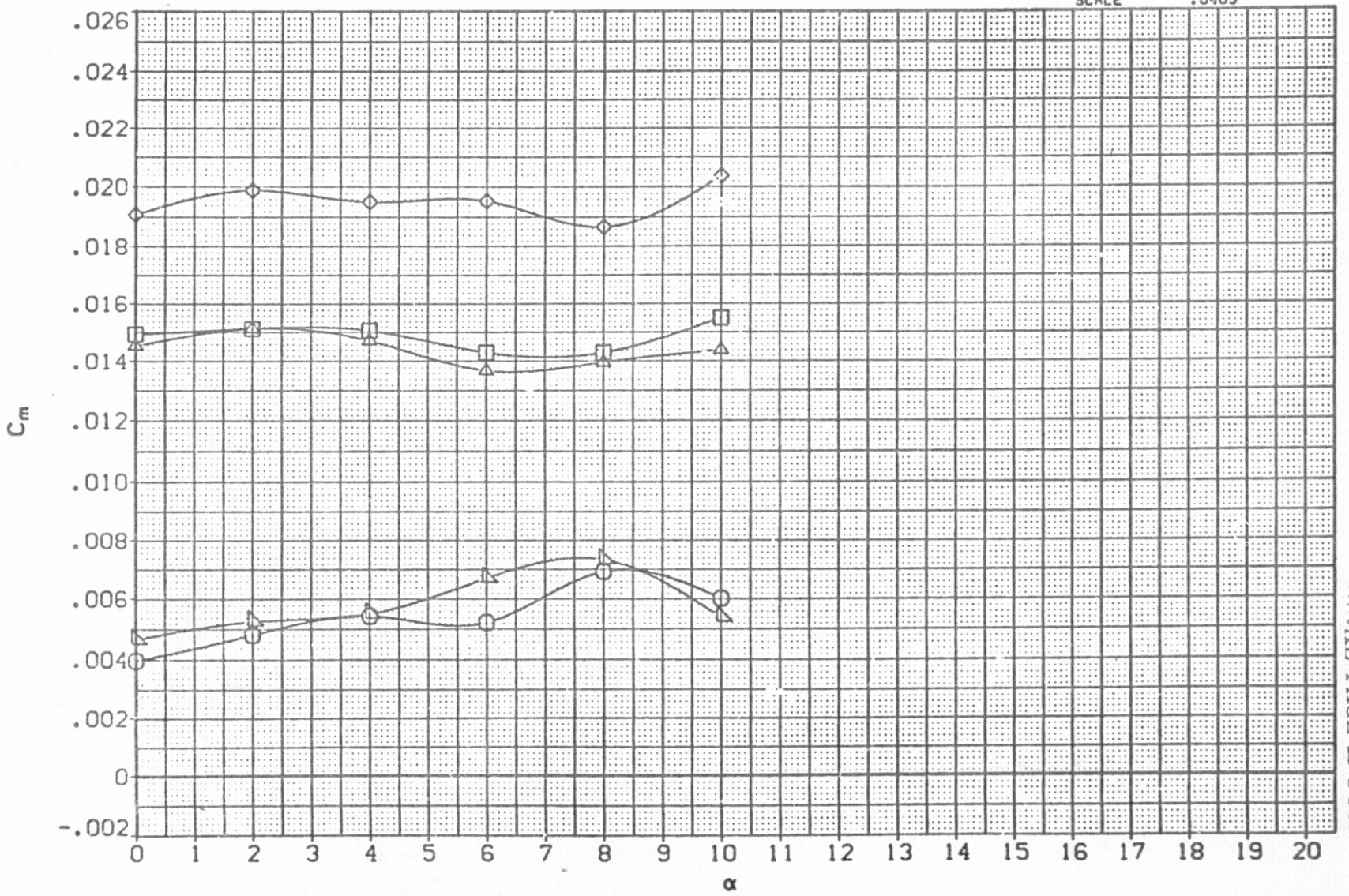


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF002) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
▽	-10.000
◇	-5.000
□	.000
△	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BOFLAP	.000	SPDBRK	25.000
PHI-N	.260	THETAN	.000
PHI-M	.230	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

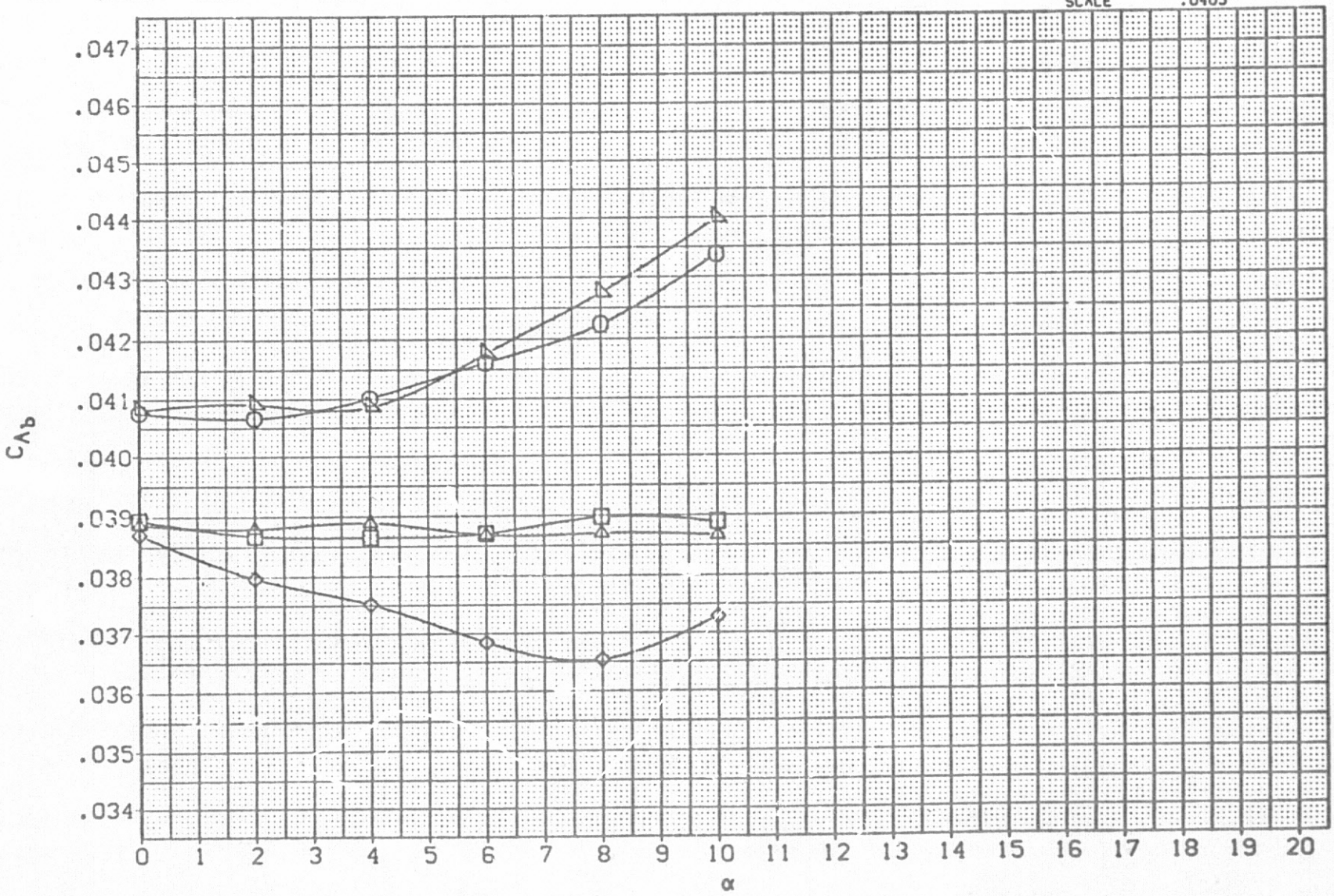


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF002) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
◁	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.260	THETAN	.000
PHI-M	.230	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

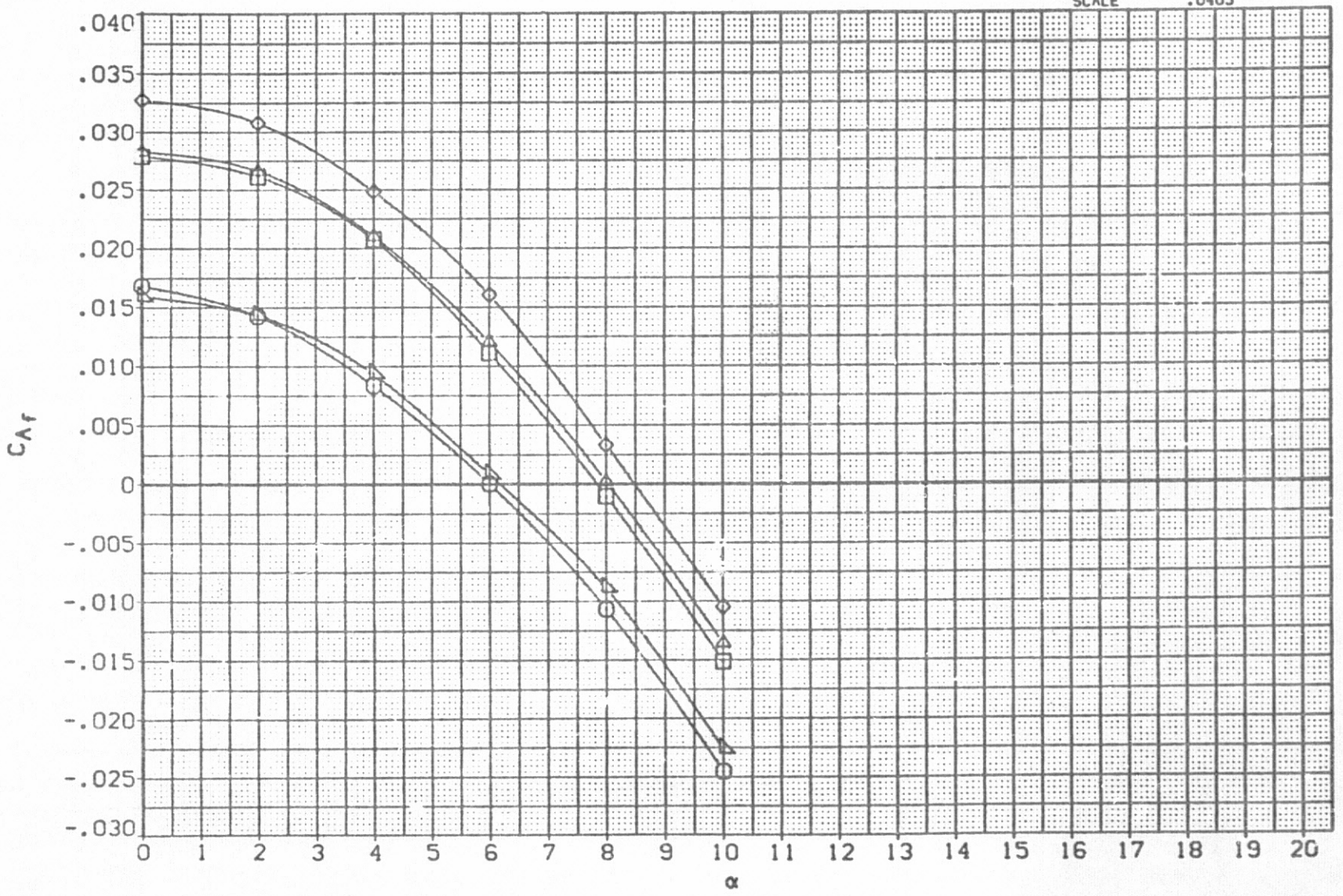


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF002) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.260	THETAN	.000
PHI-M	.230	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

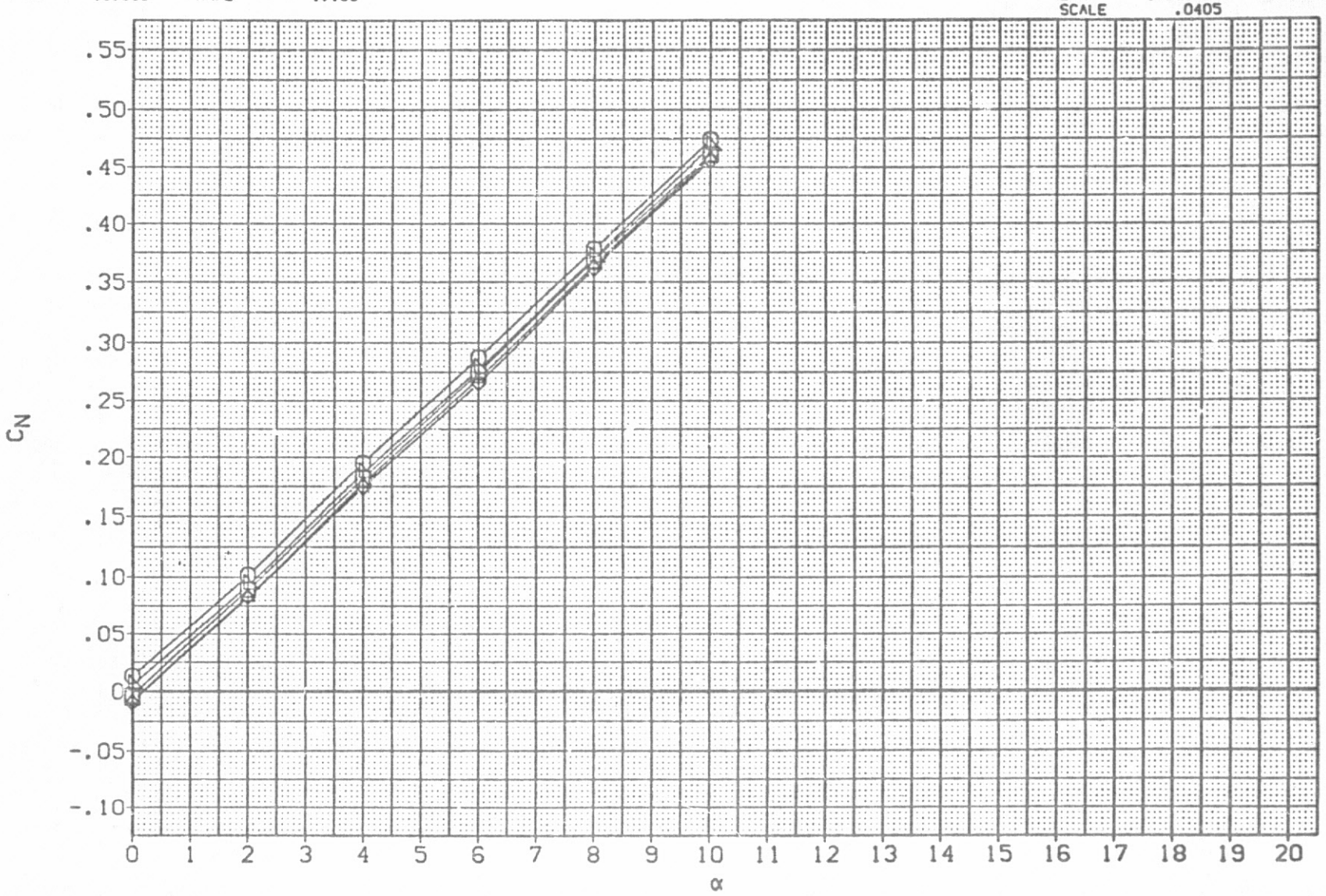


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF002) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
▽	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.260	THETAN	.000
PHI-M	.230	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

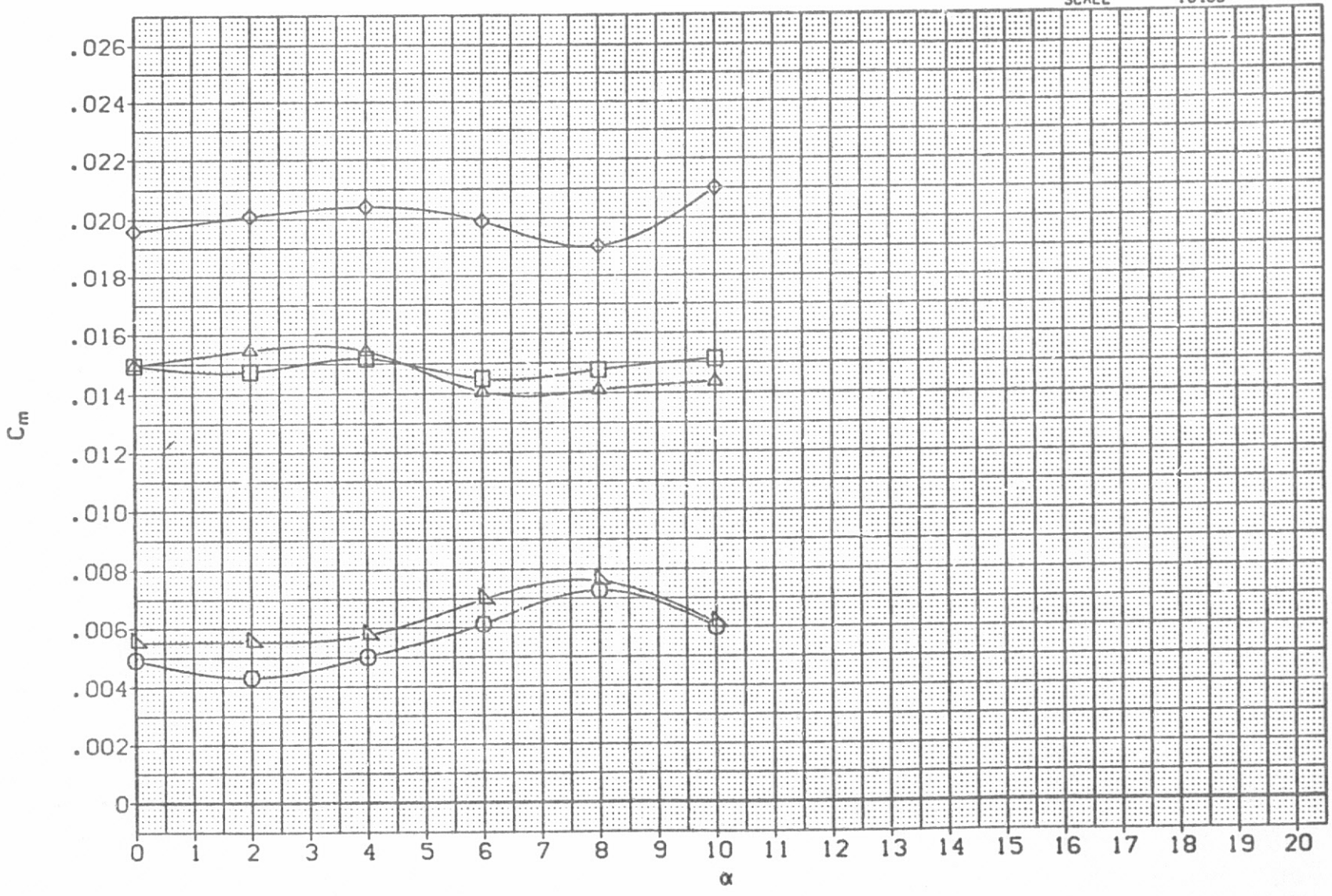


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

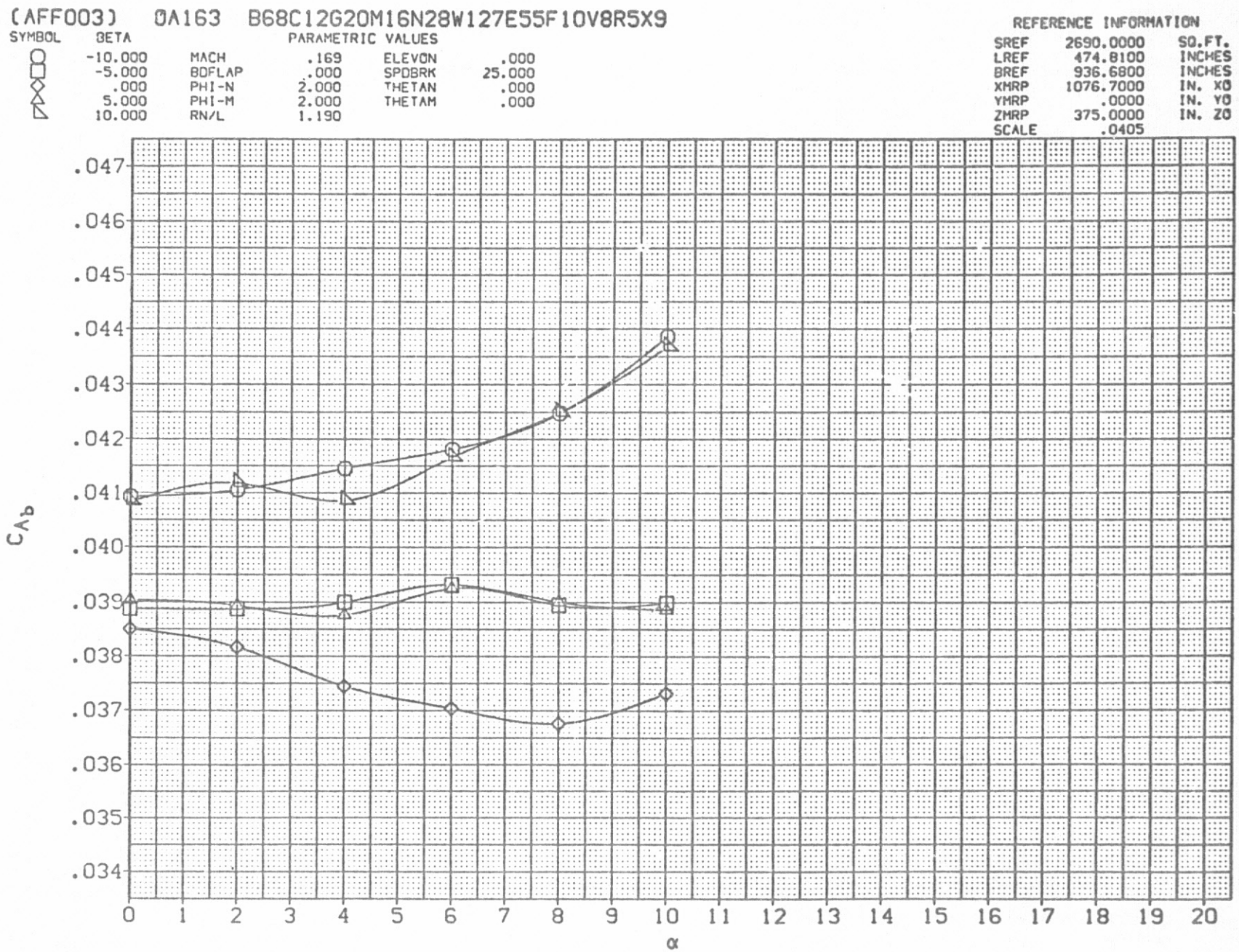


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF003) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⊠	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	2.000	THETAN	.000
PHI-M	2.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

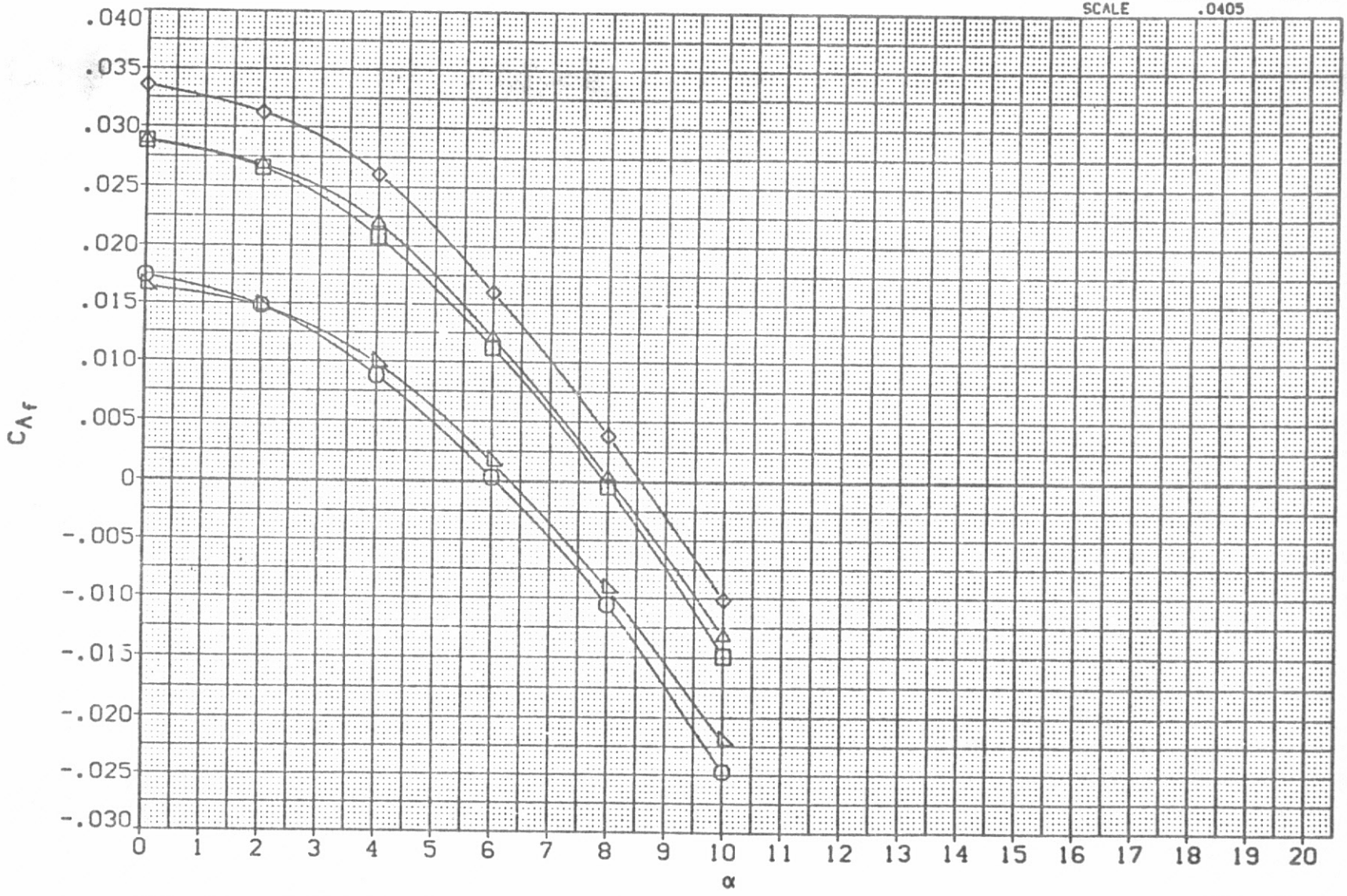


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF003) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	2.000	THETAN	.000
PHI-M	2.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

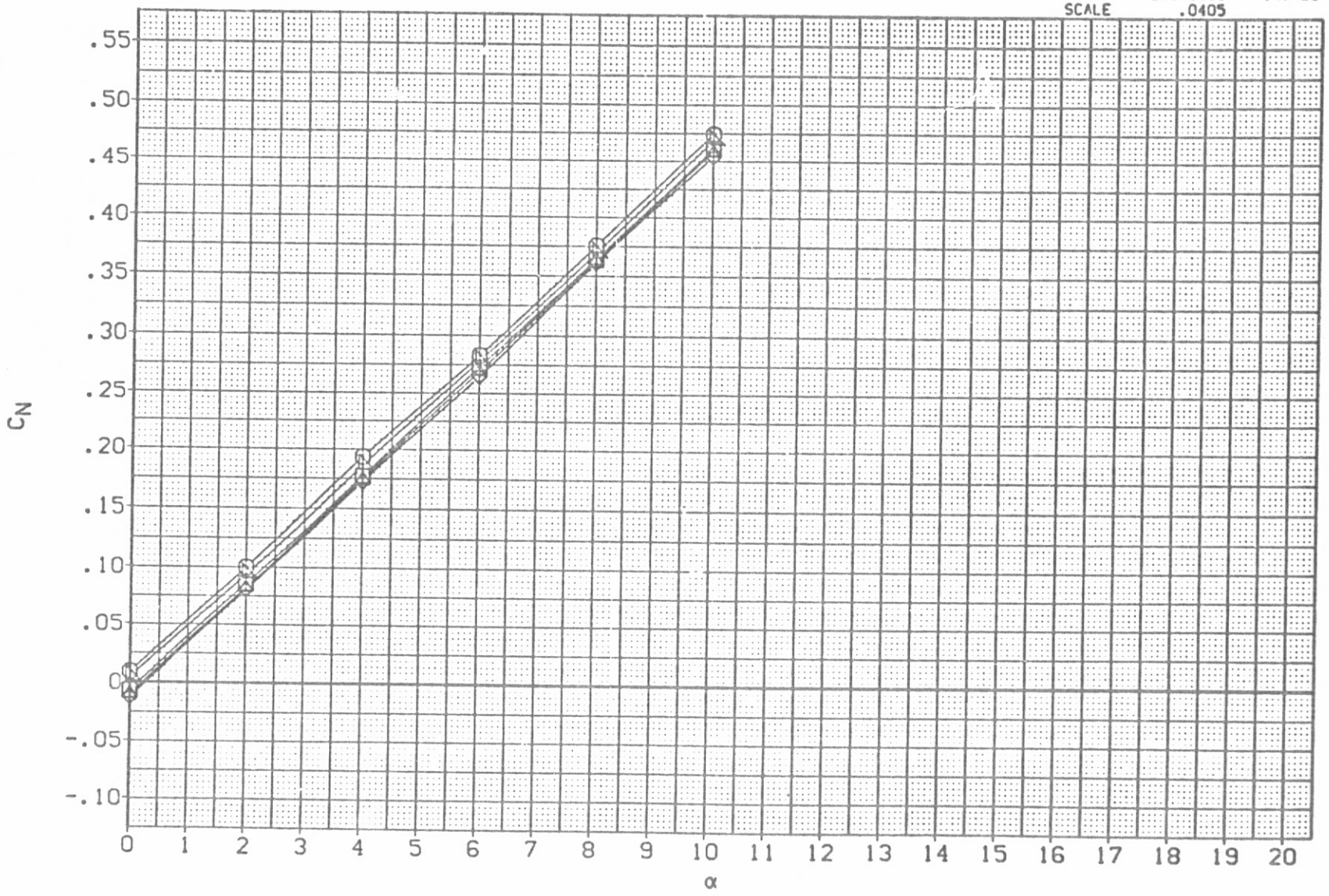


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF003) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
▽	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	2.000	THETAN	.000
PHI-M	2.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

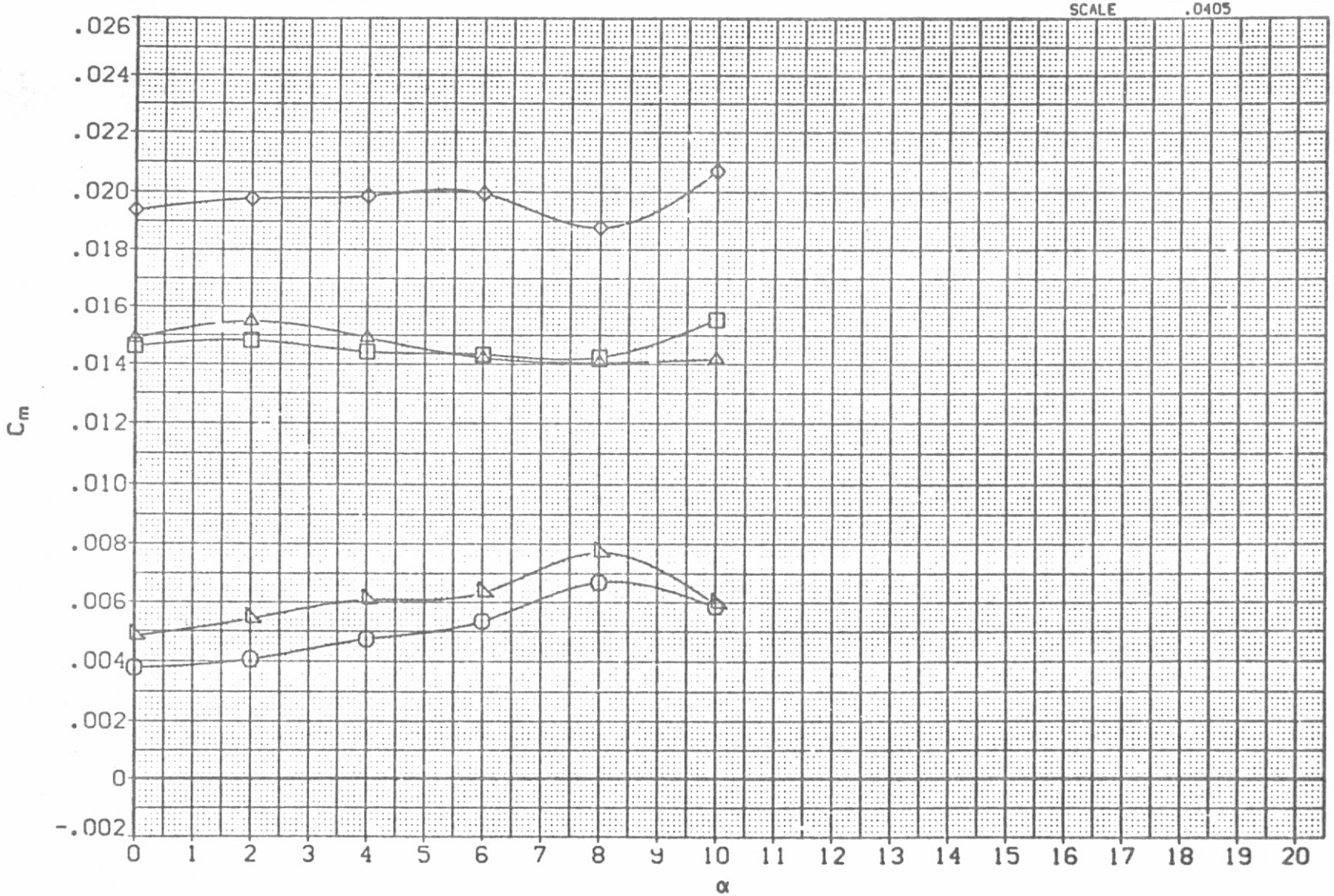


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF004) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000	
BDFLAP	.000	SPDBRK	25.000	
PHI-N	4.000	THETAN	.000	
PHI-M	4.000	THETAM	.000	
RN/L	1.190			

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

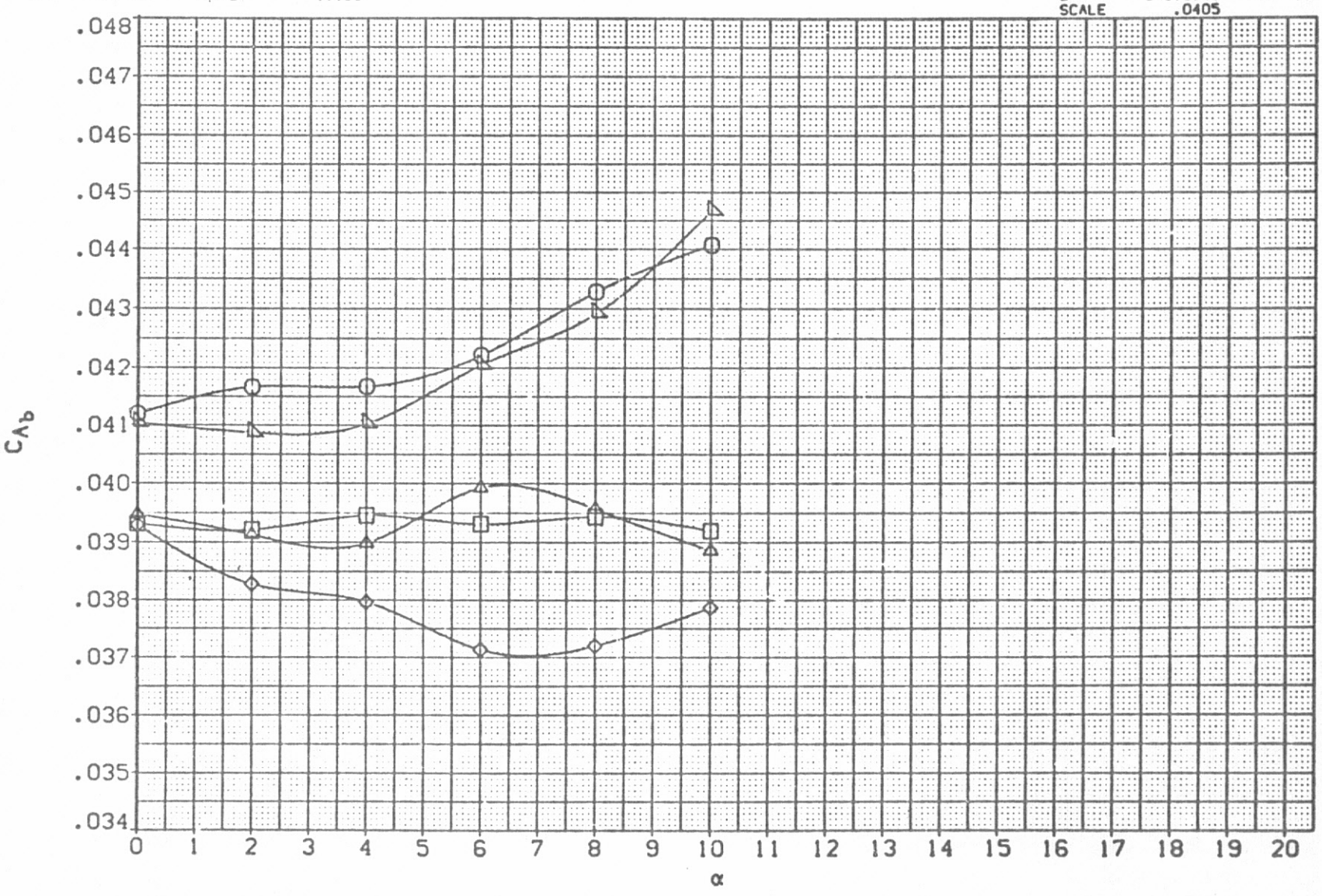


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF004) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
◇	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	4.000	THETAN	.000
PHI-M	4.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

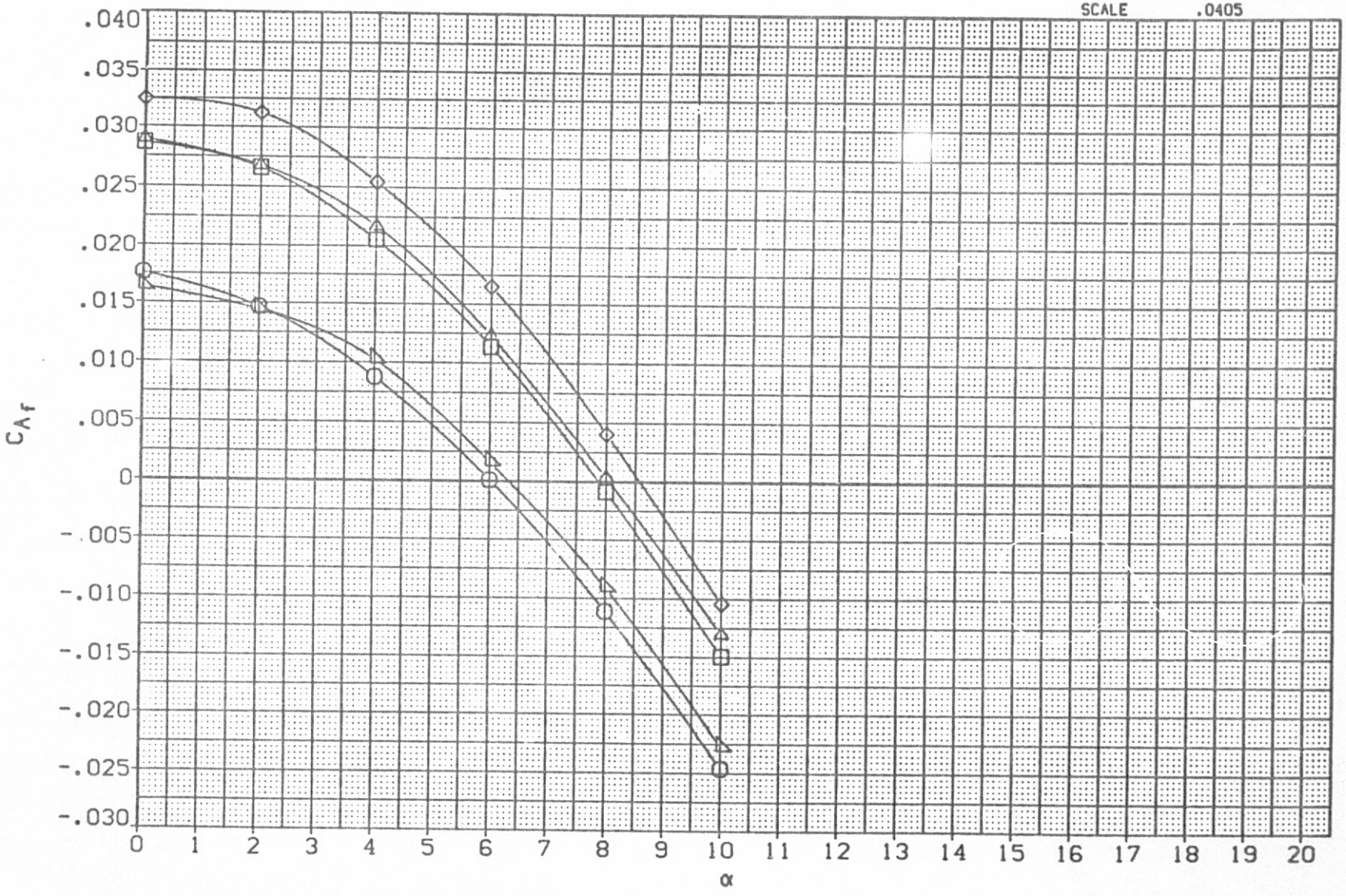


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF004) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	4.000	THETAN	.000
PHI-M	4.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

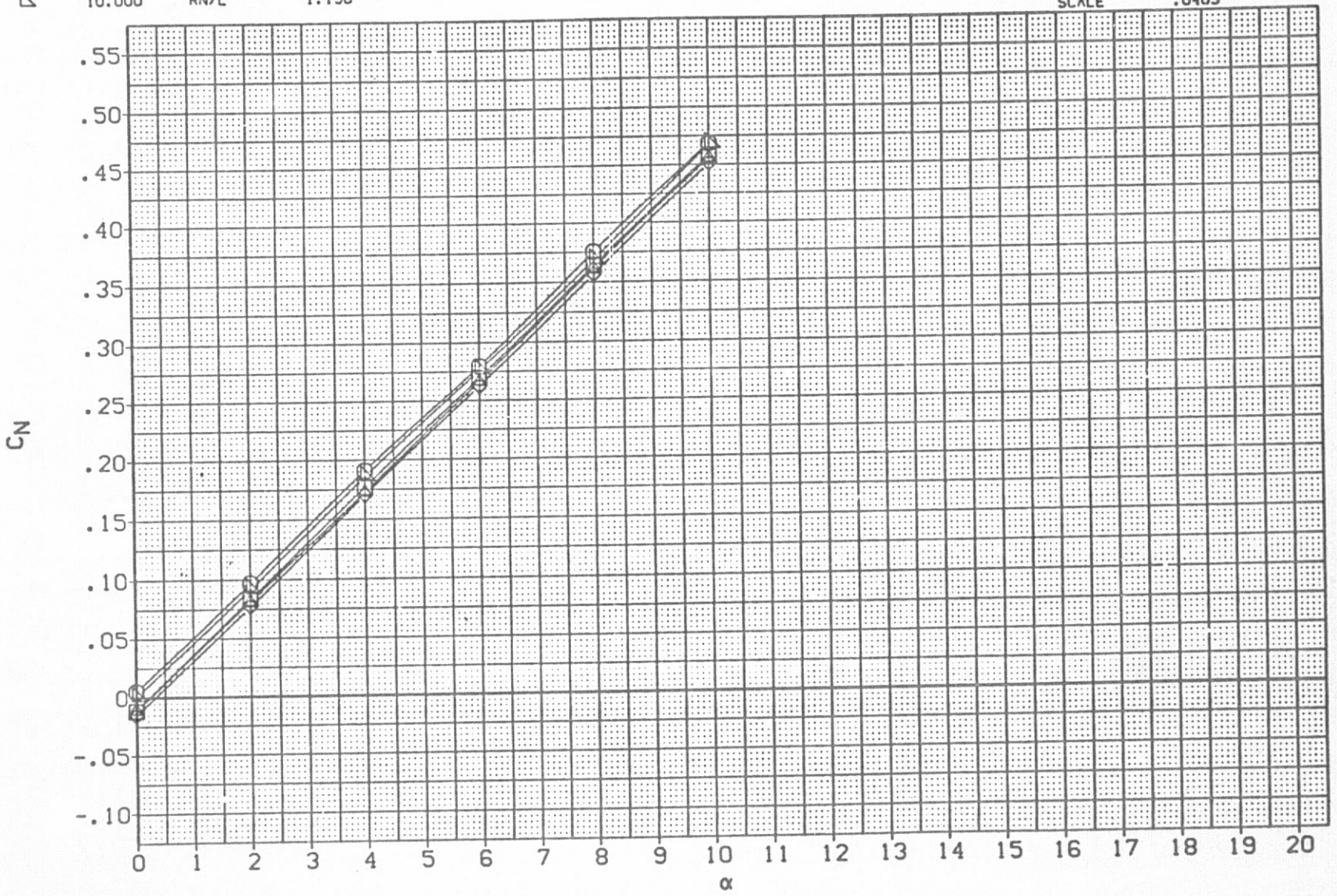


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF004) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	4.000	THETAN	.000
PHI-M	4.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

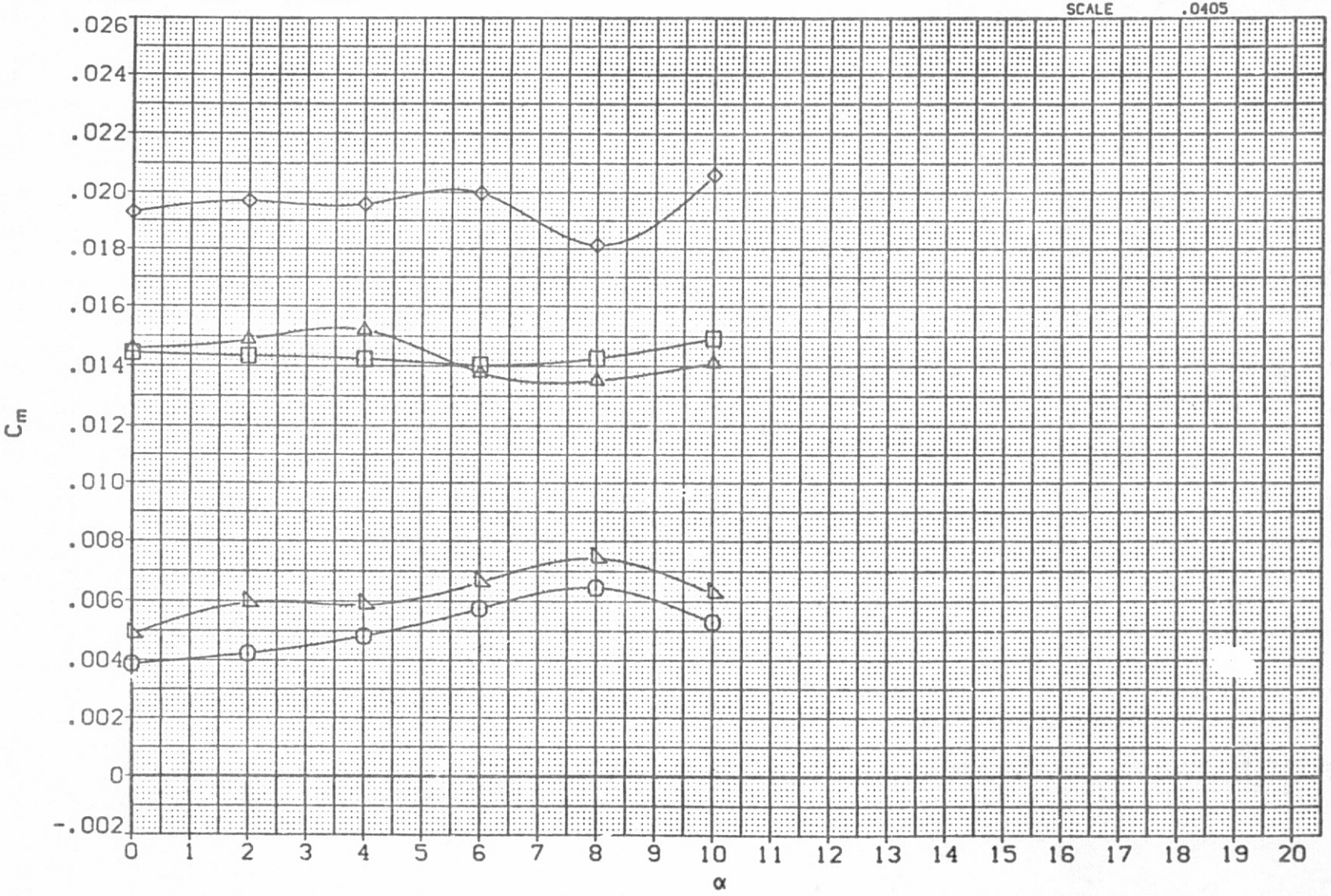


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF005) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
▭	-10.000
◇	-5.000
△	.000
◁	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	6.000	THETAN	.000
PHI-M	6.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

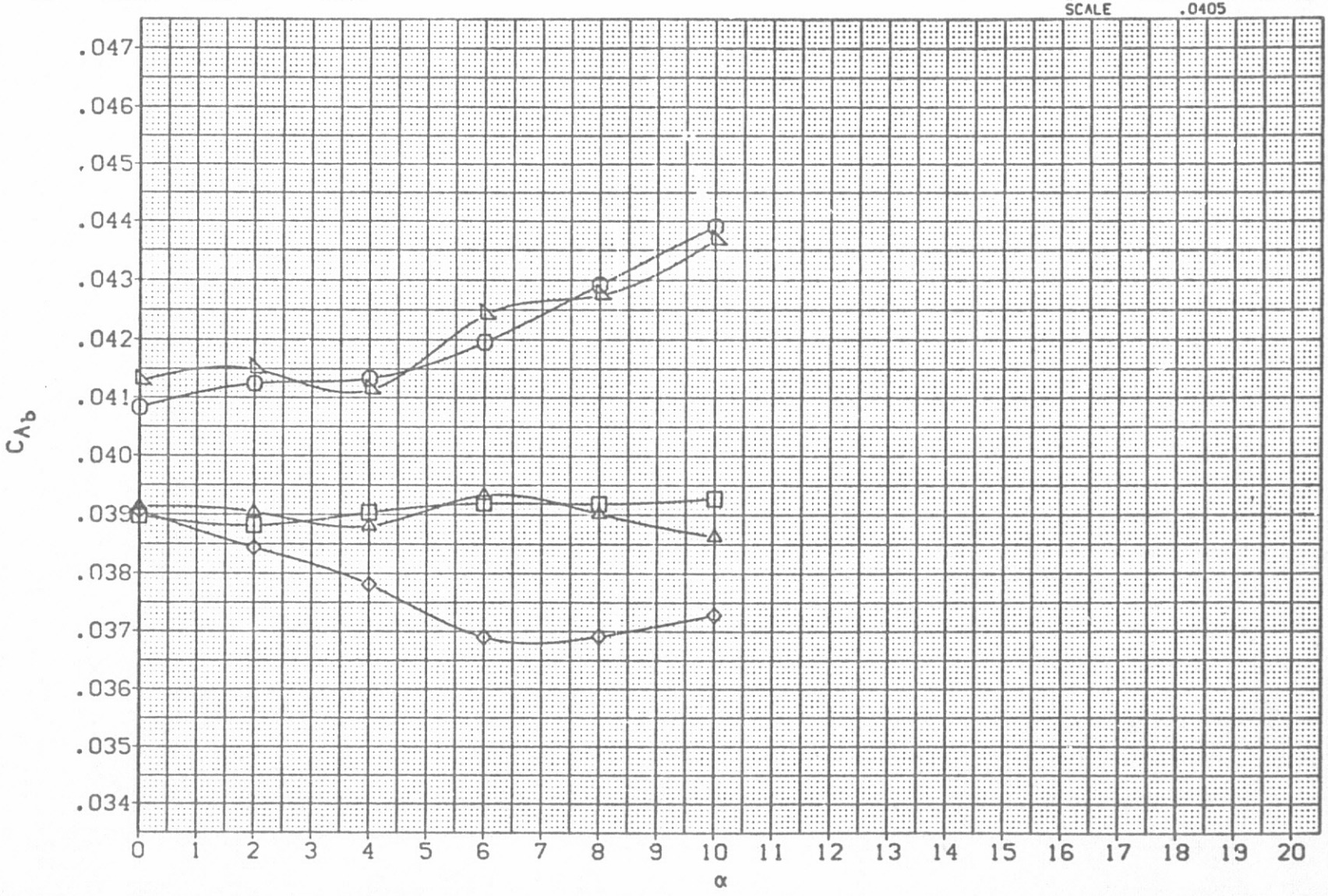


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF005) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
◁	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	6.000	THETAN	.000
PHI-M	6.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

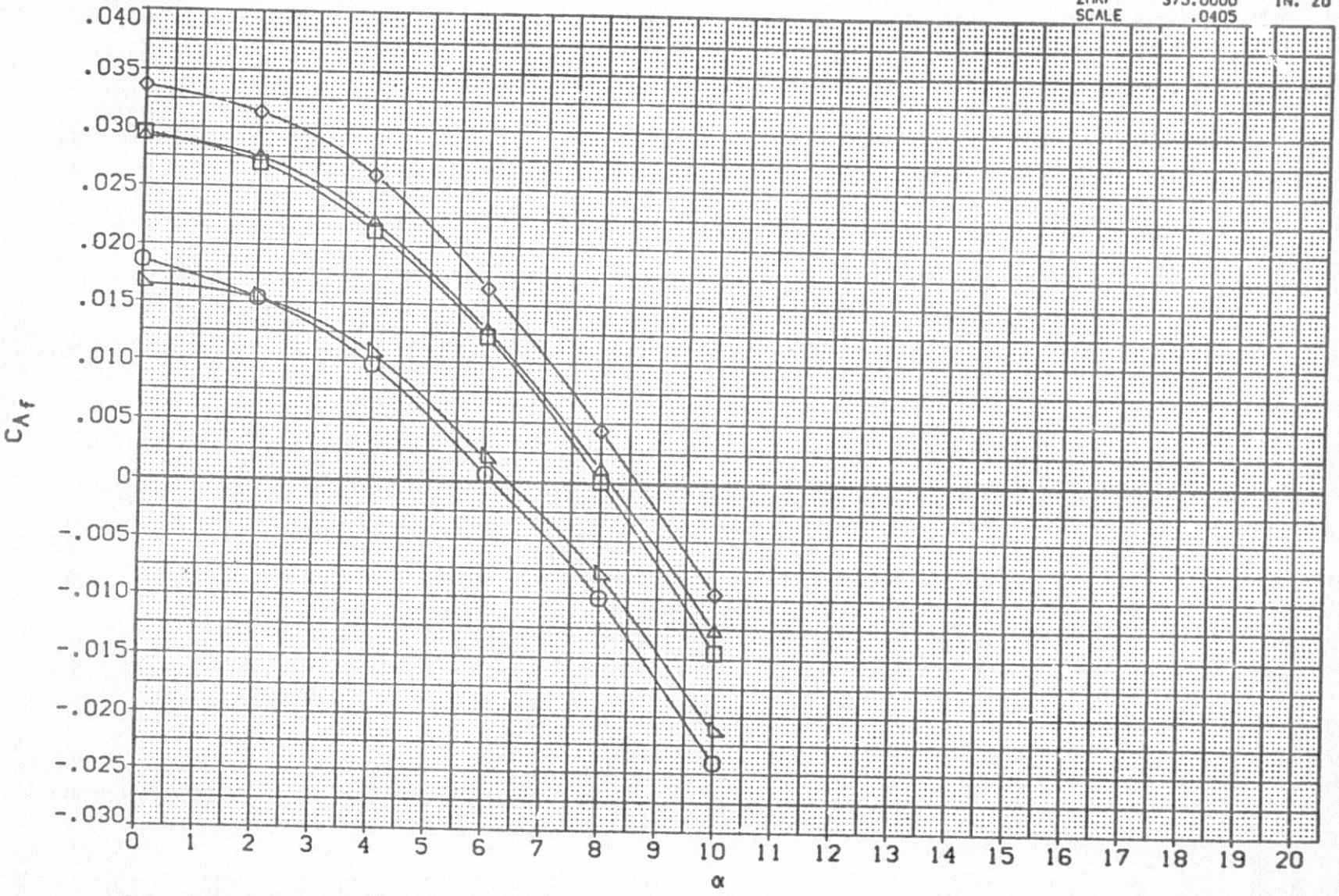


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF005) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	6.000	THETAN	.000
PHI-M	6.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

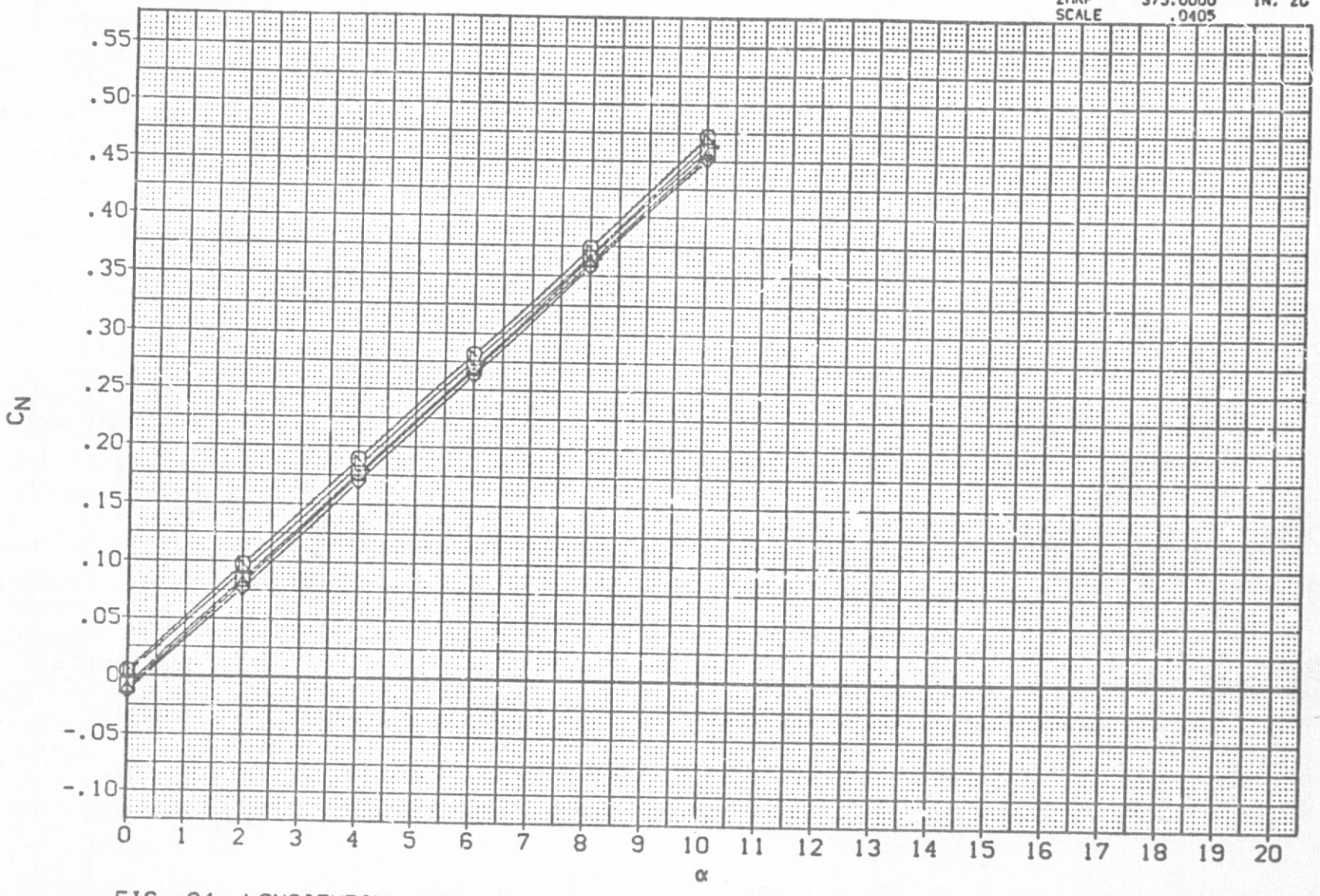


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF005) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.300
○	-5.000
◇	.00
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	6.000	THETAN	.000
PHI-M	6.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6300	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

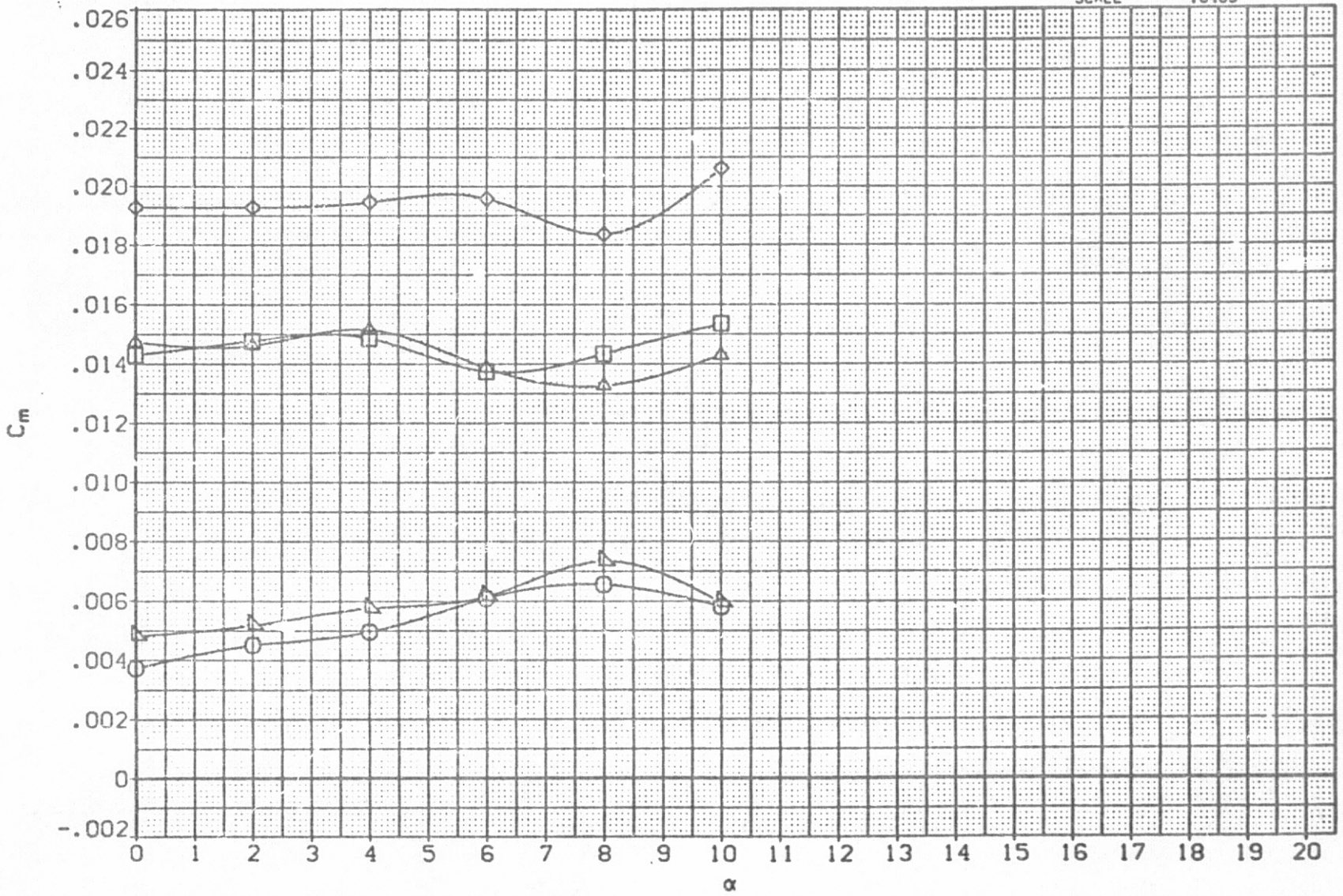


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

(AFF006) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	8.000	THETAN	1.000
PHI-M	8.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

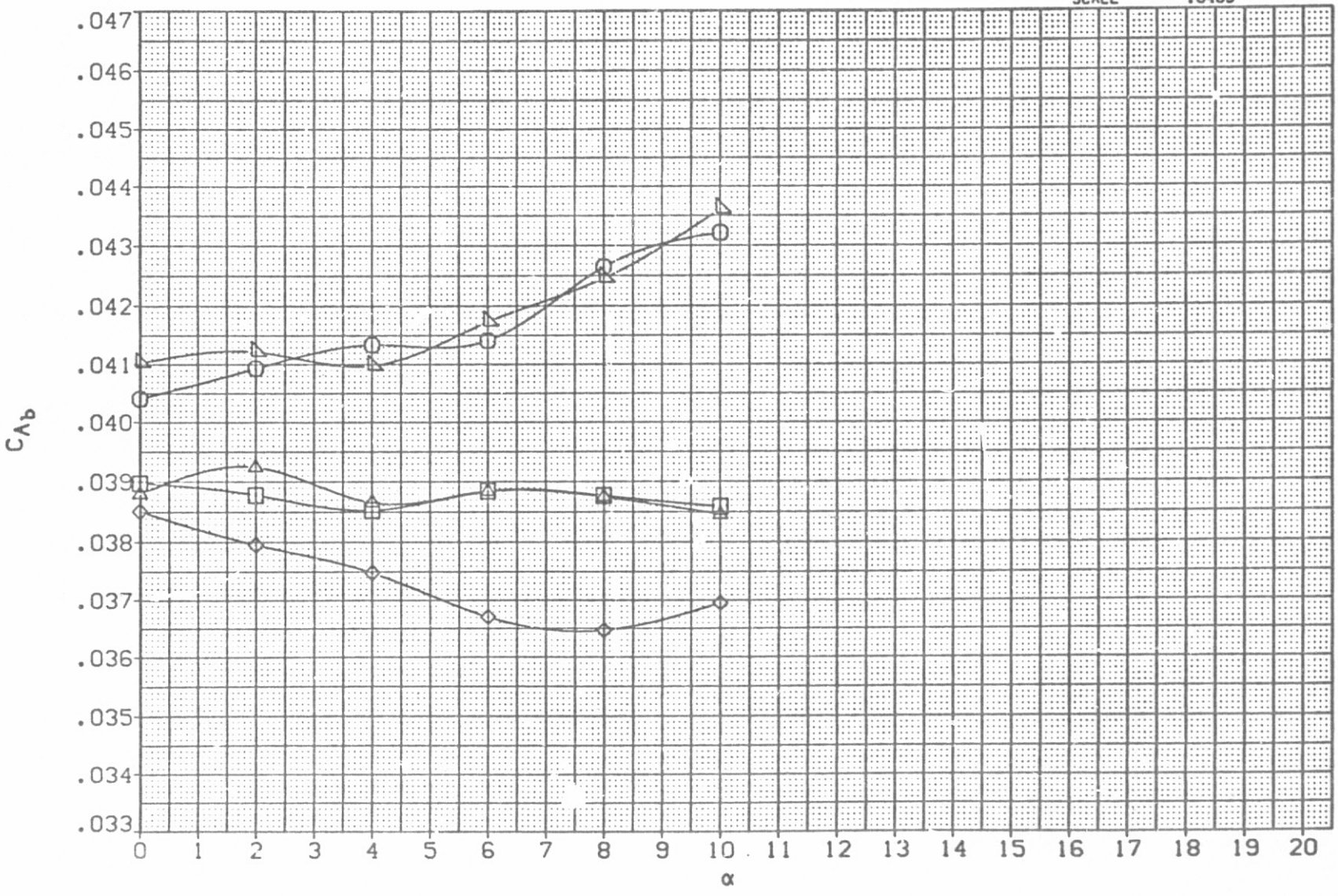


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF006) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	8.000	THETAN	1.000
PHI-M	8.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

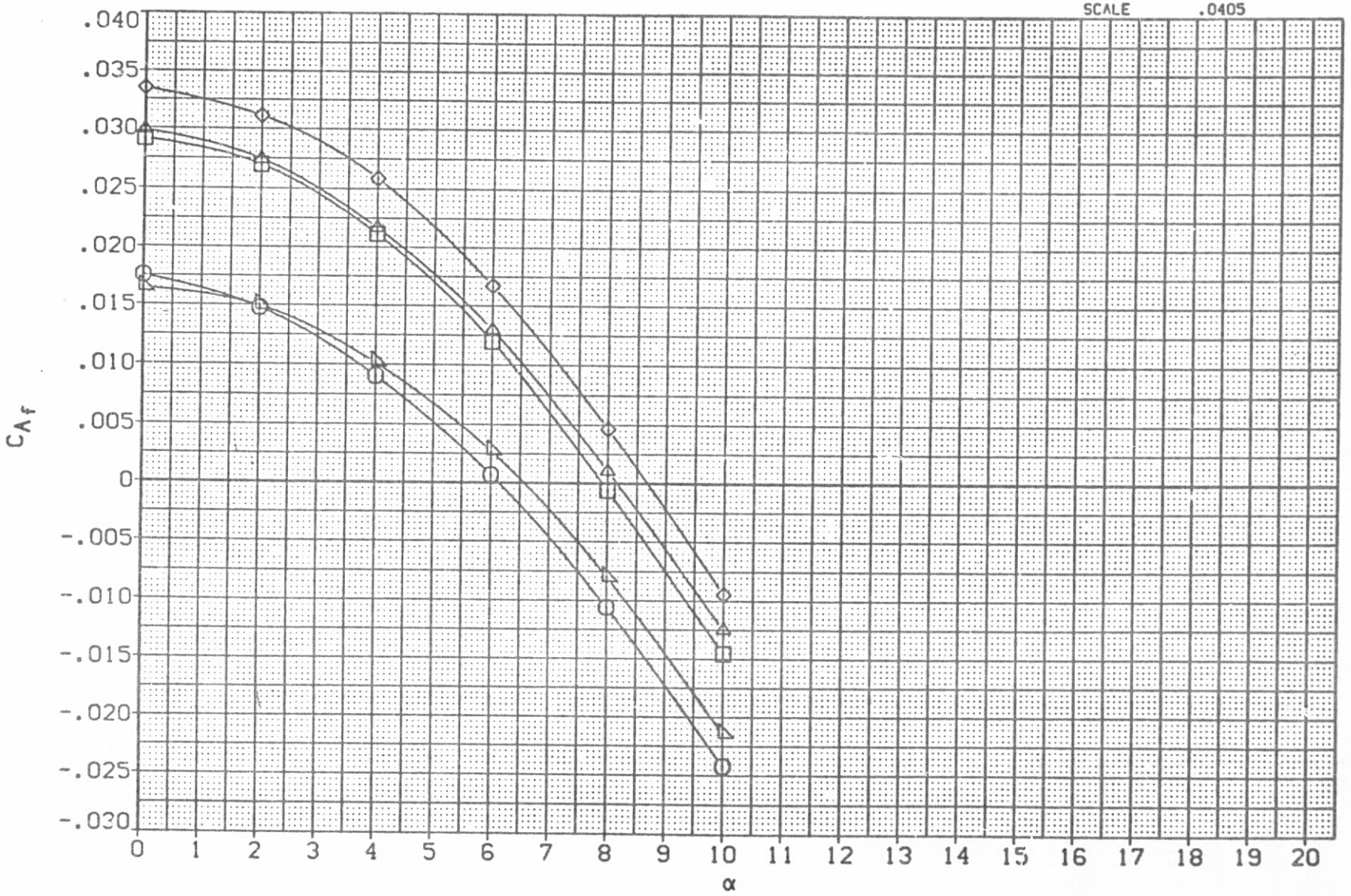


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

(AFF006) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
◁	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	8.000	THETAN	1.000
PHI-M	8.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

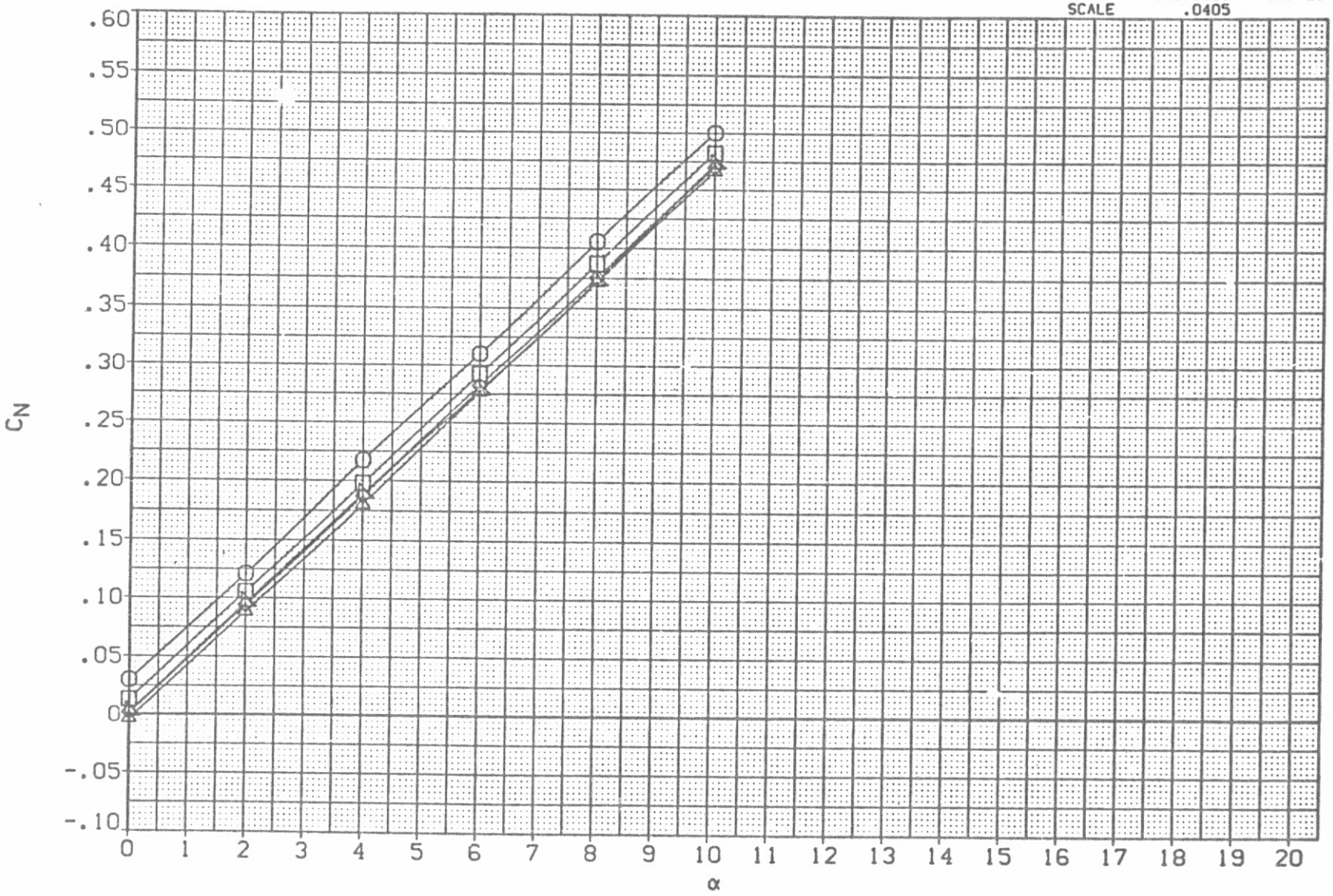


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF006) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
▽	0.000
△	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	8.000	THETAN	1.000
PHI-M	8.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

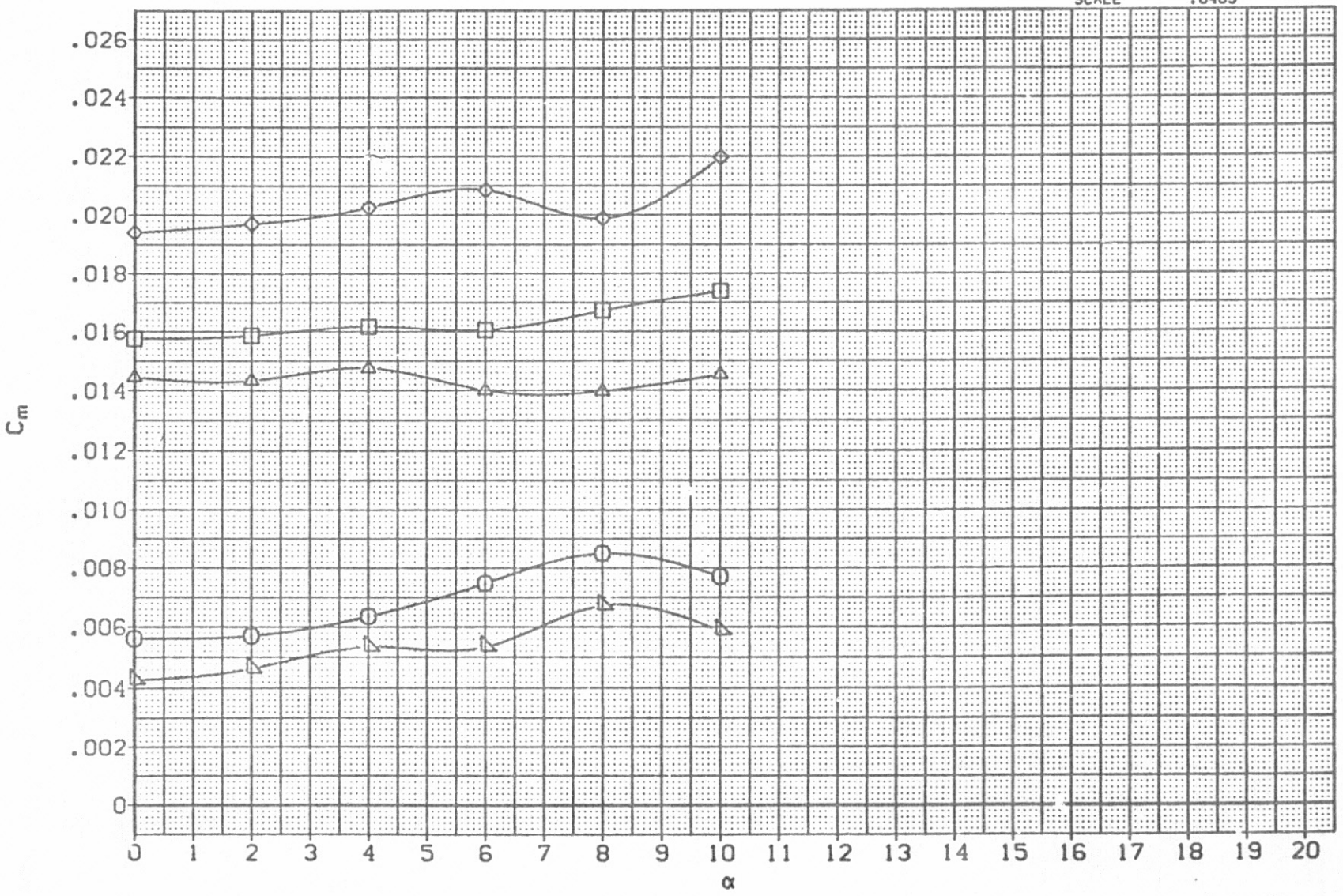


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF007) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPOBRK	25.000
PHI-N	10.000	THETAN	1.300
PHI-M	10.000	THETAM	1.600
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

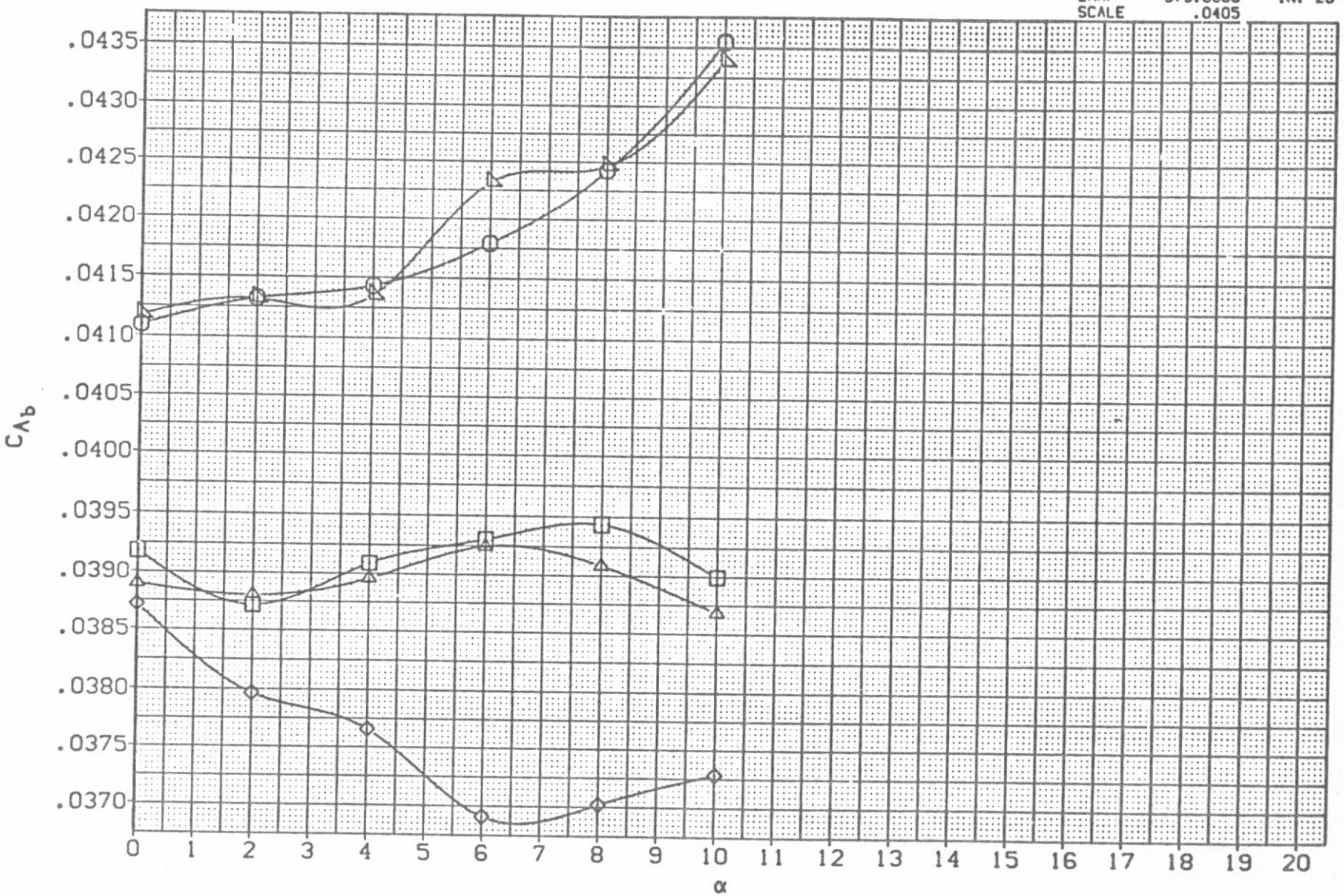


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF007) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
◁	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	10.000	THETAN	1.300
PHI-M	10.000	THETAM	1.600
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

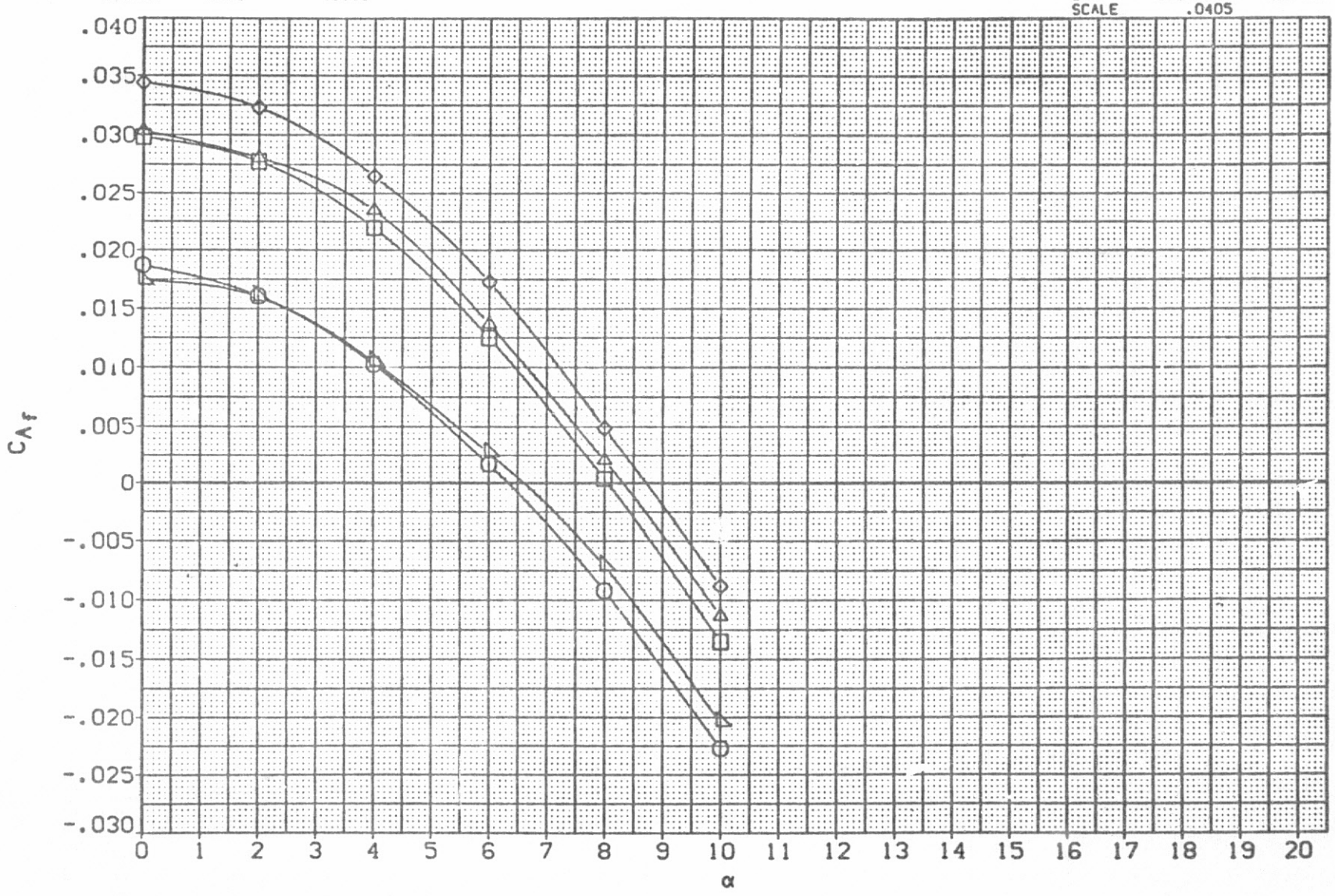


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF007) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
▽	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	10.000	THETAN	1.300
PHI-M	10.000	THETAM	1.600
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

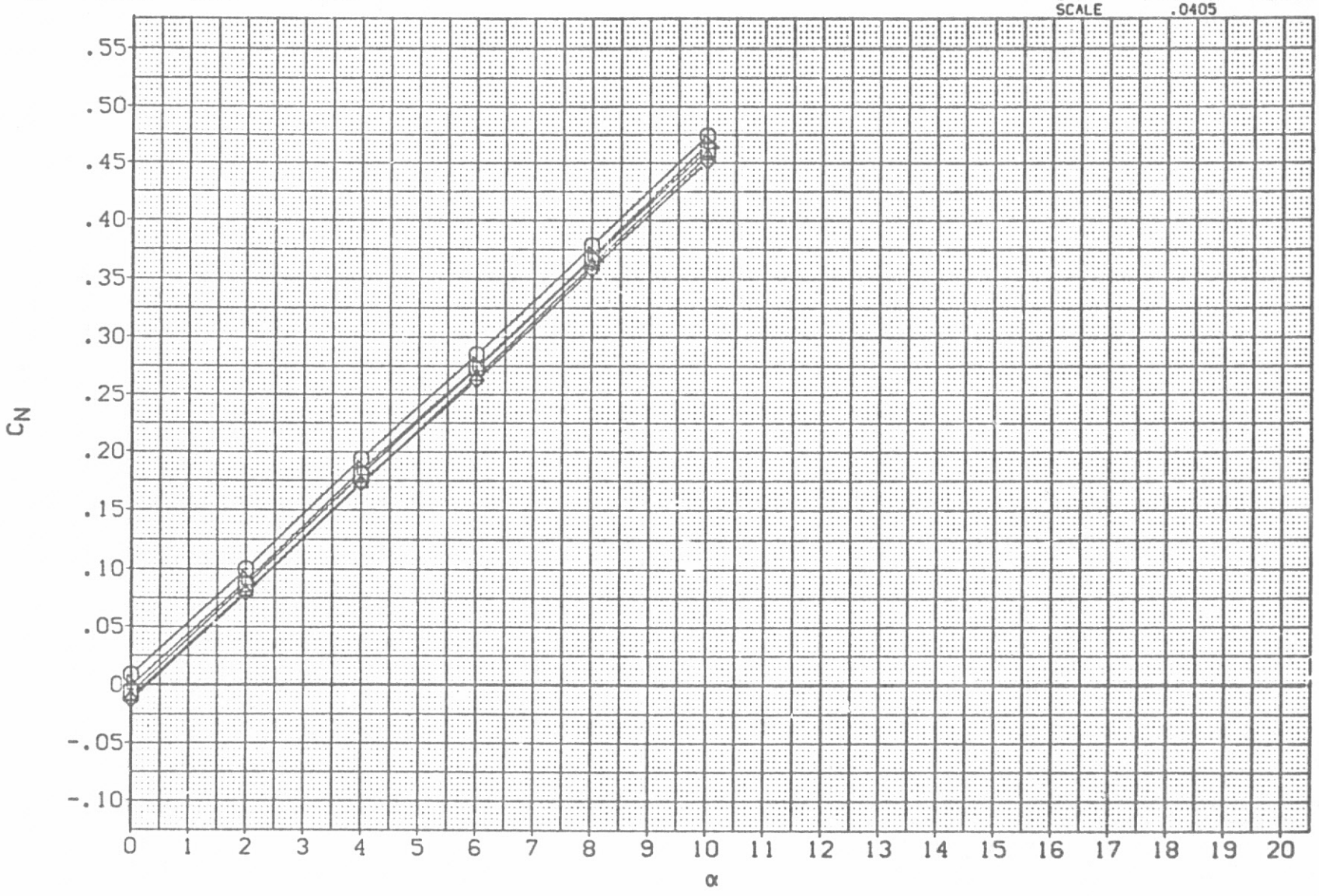


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF007) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⋈	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BOFLAP	.000	SPDBRK	25.000
PHI-N	10.000	THETAN	1.300
PHI-M	10.000	THETAM	1.600
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

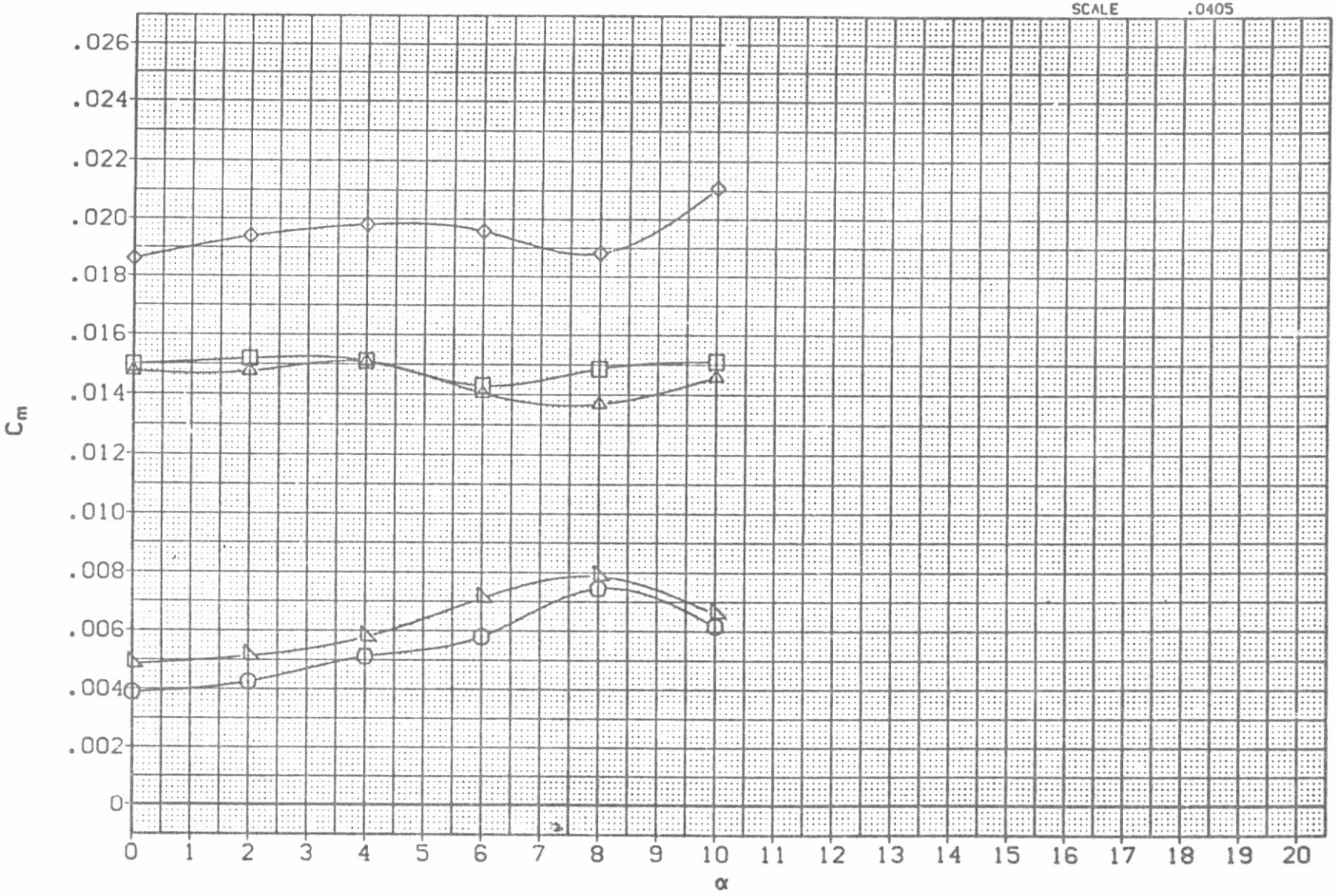


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF008) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
▽	.000
△	5.000
◇	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	15.000	THETAN	2.000
PHI-M	15.000	THETAM	2.400
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

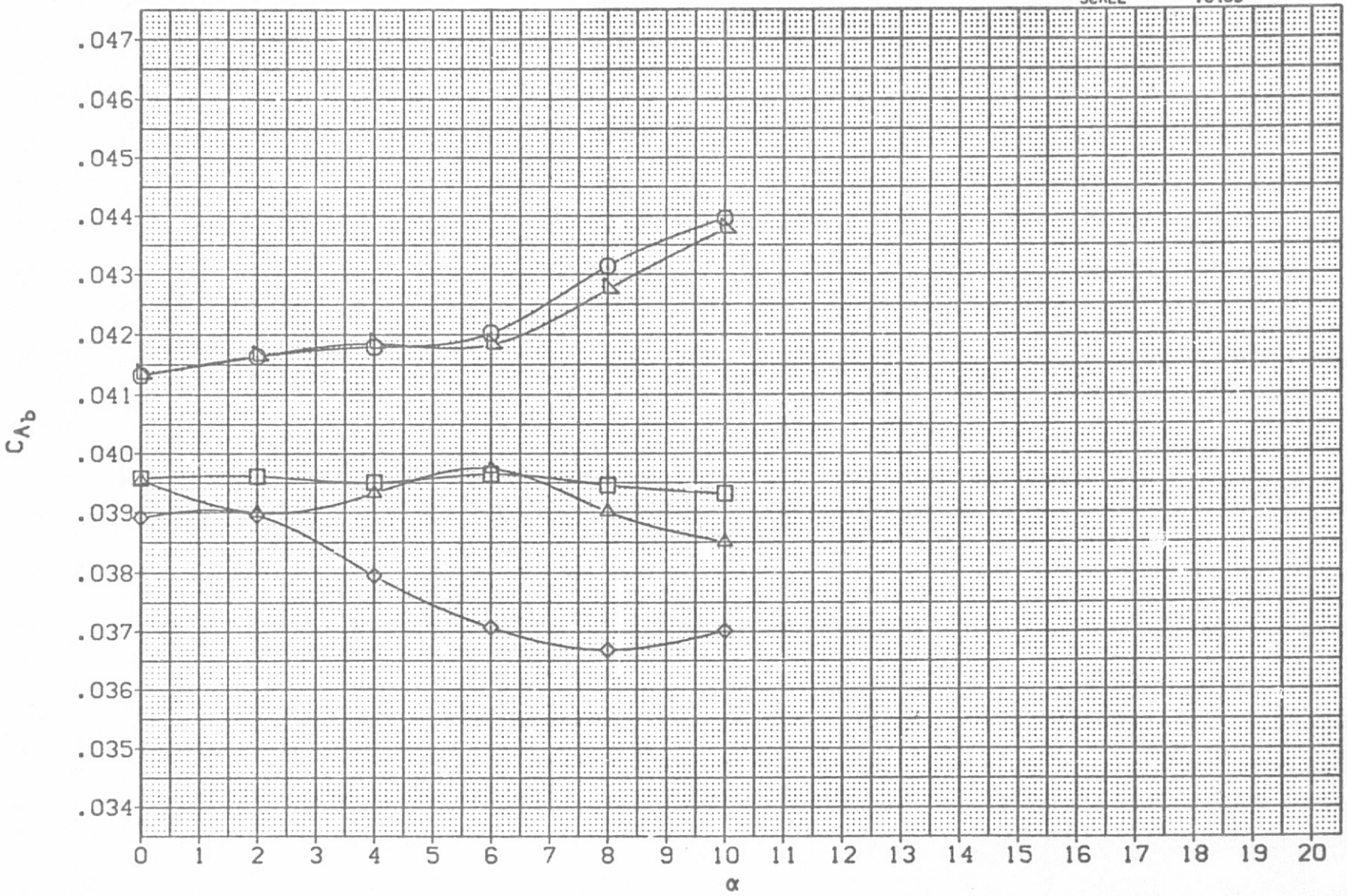


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF008) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
◁	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	15.000	THETAN	2.000
PHI-M	15.000	THETAM	2.400
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

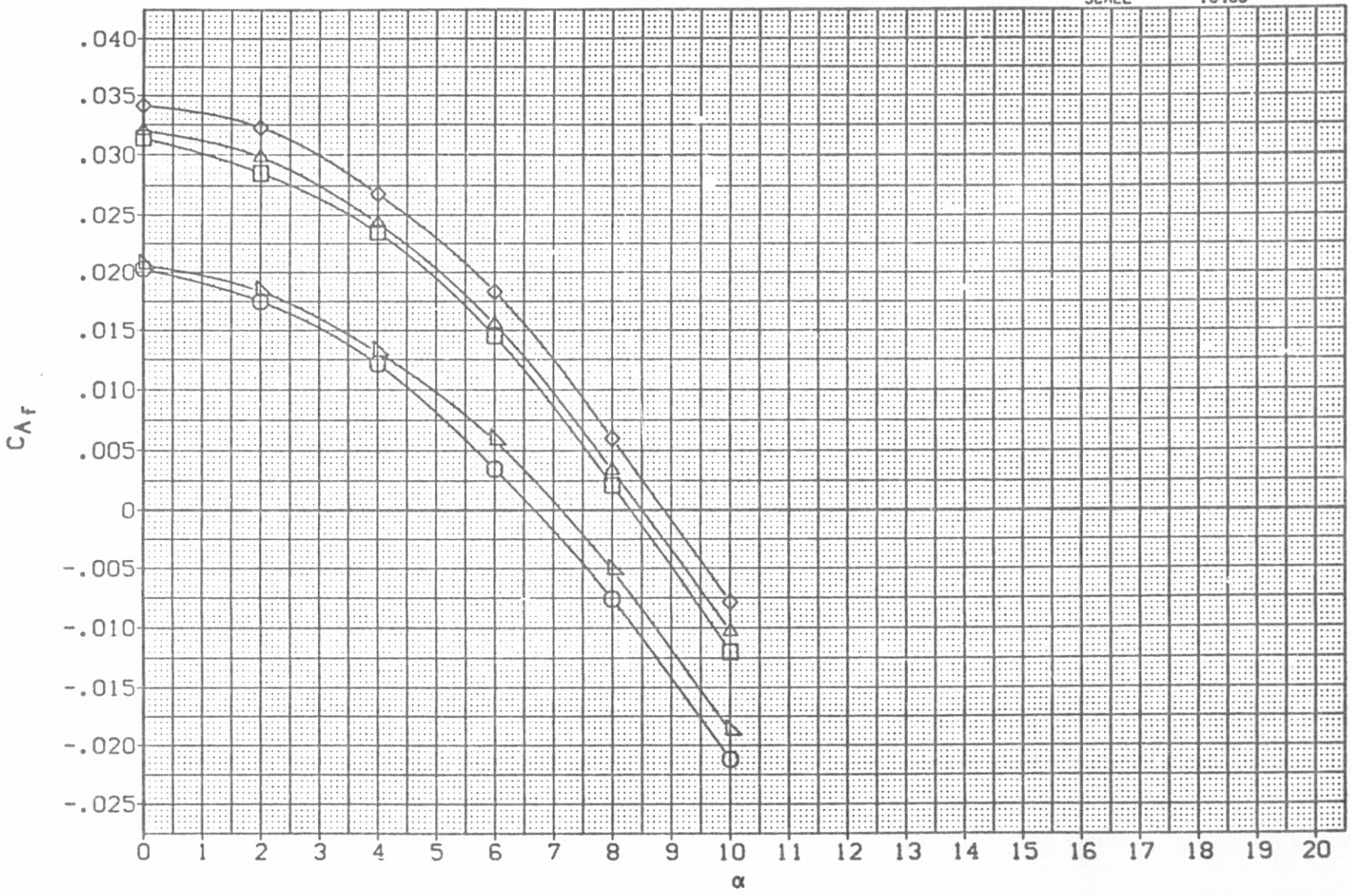


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF008) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
◁	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	15.000	THETAN	2.000
PHI-M	15.000	THETAM	2.400
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

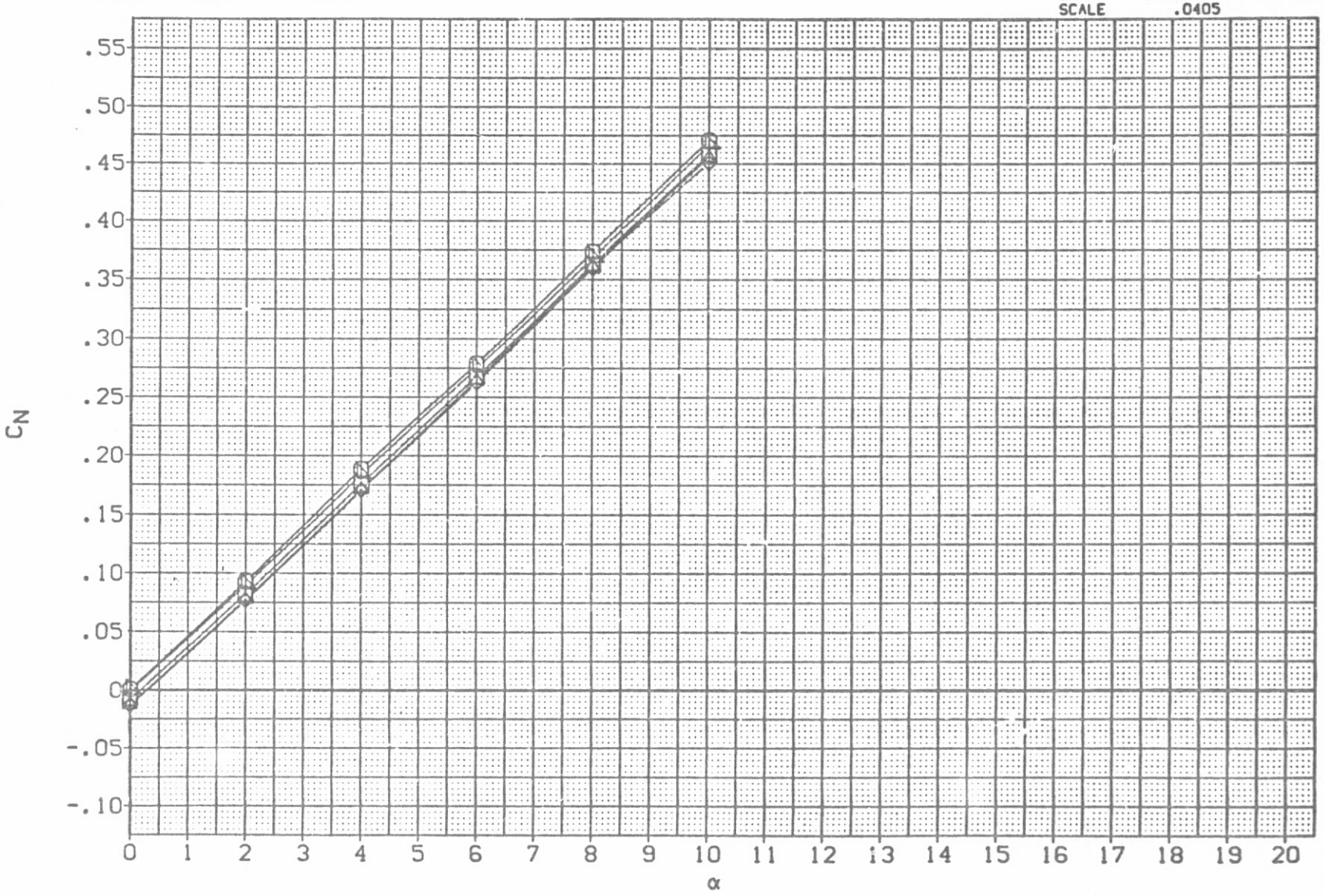


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF008) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
▽	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BOFLAP	.000	SPOBRK	25.000
PHI-N	15.000	THETAN	2.000
PHI-M	15.000	THETAM	2.400
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

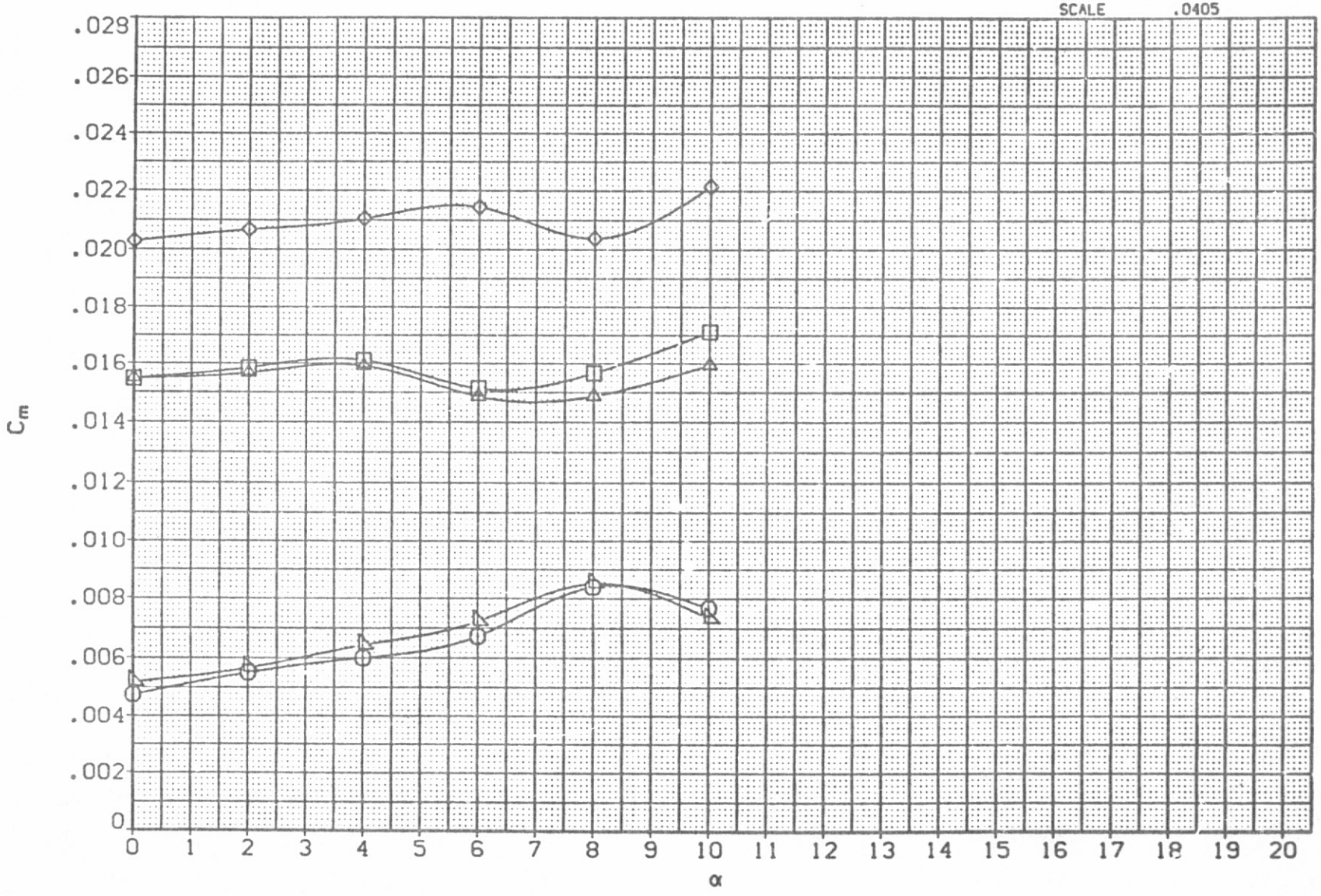


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

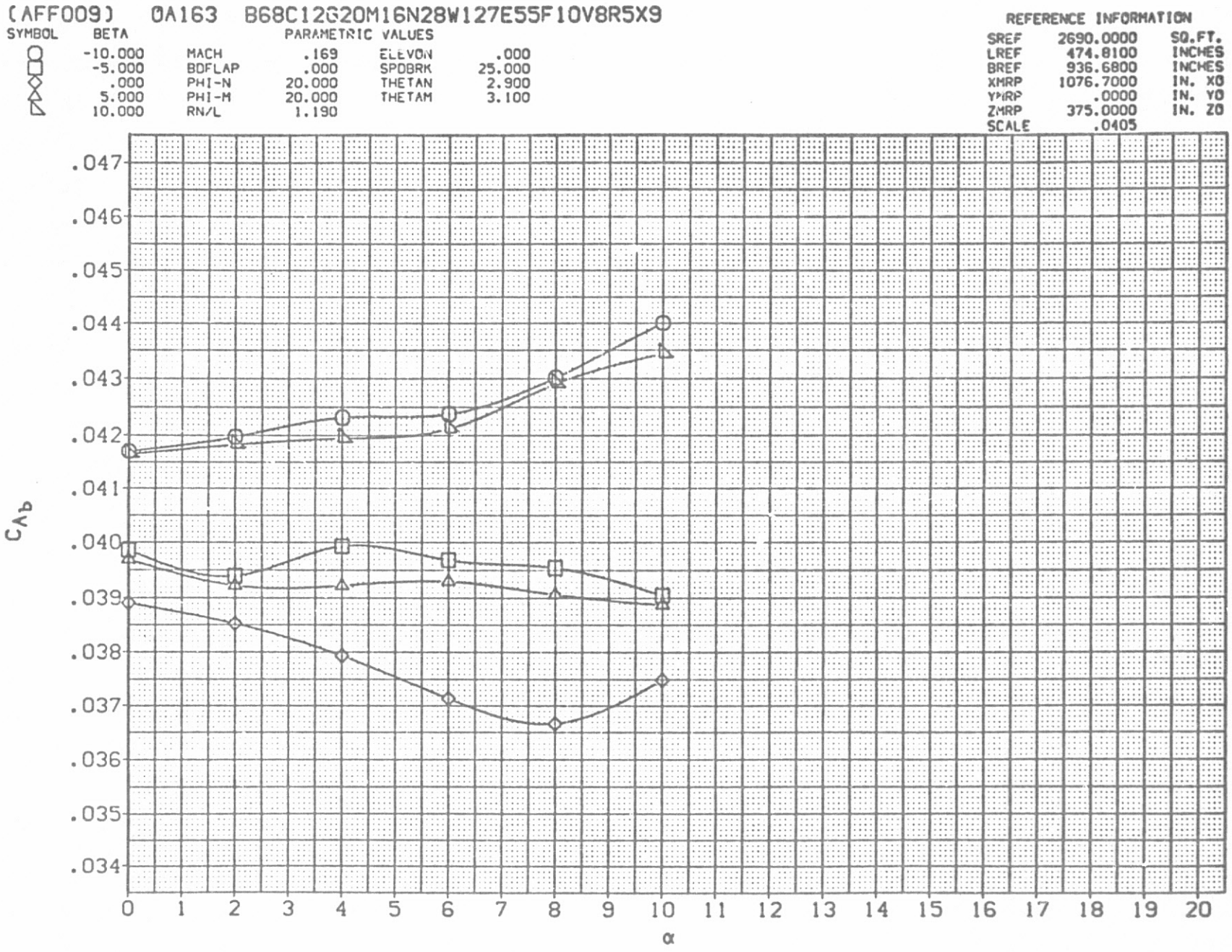


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF009) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
△	.000
◇	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	20.000	THETAN	2.900
PHI-M	20.000	THETAM	3.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

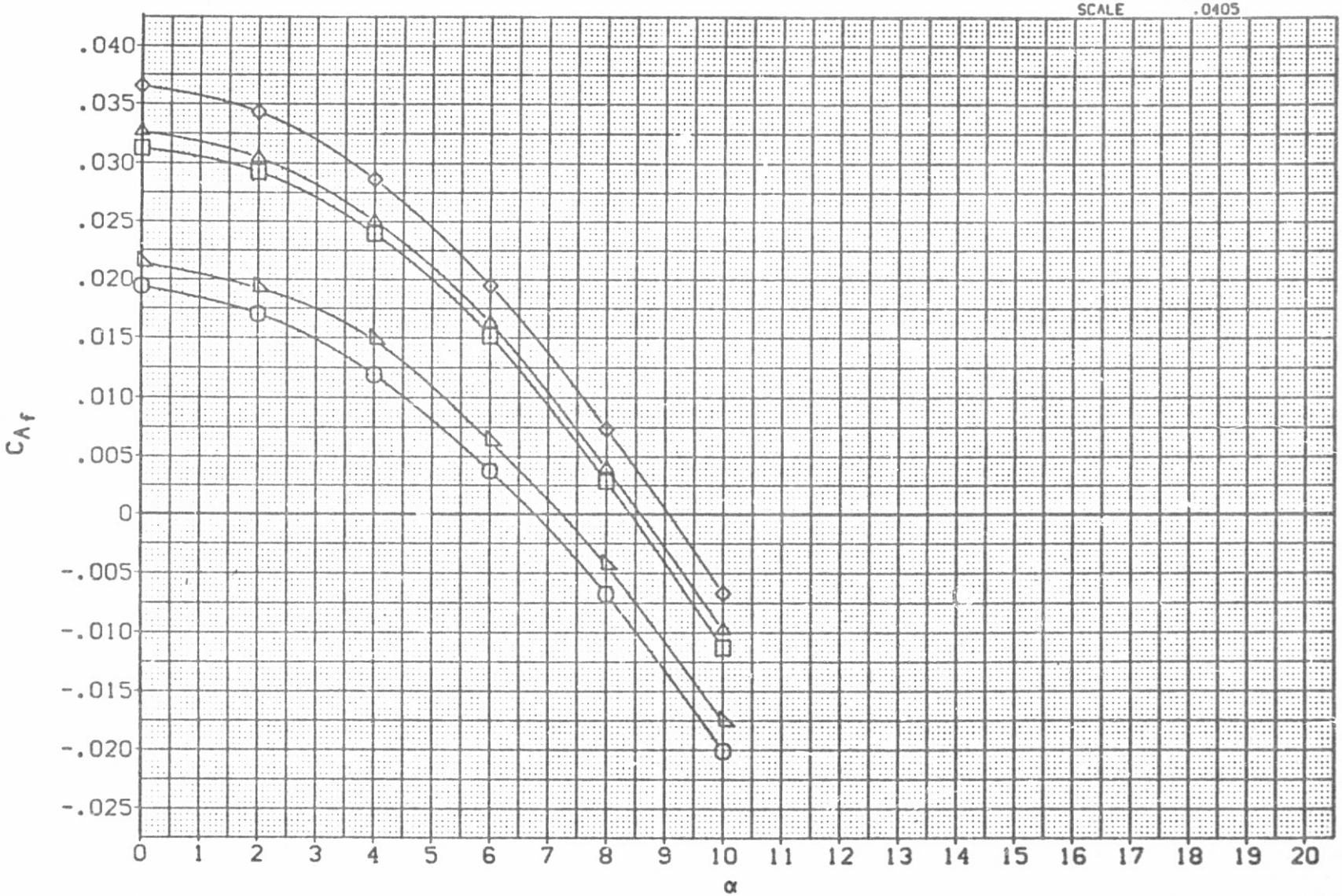


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF009) 0A163 B68C12G20M16N28W127E35F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	20.000	THETAN	2.900
PHI-M	20.000	THETAM	3.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

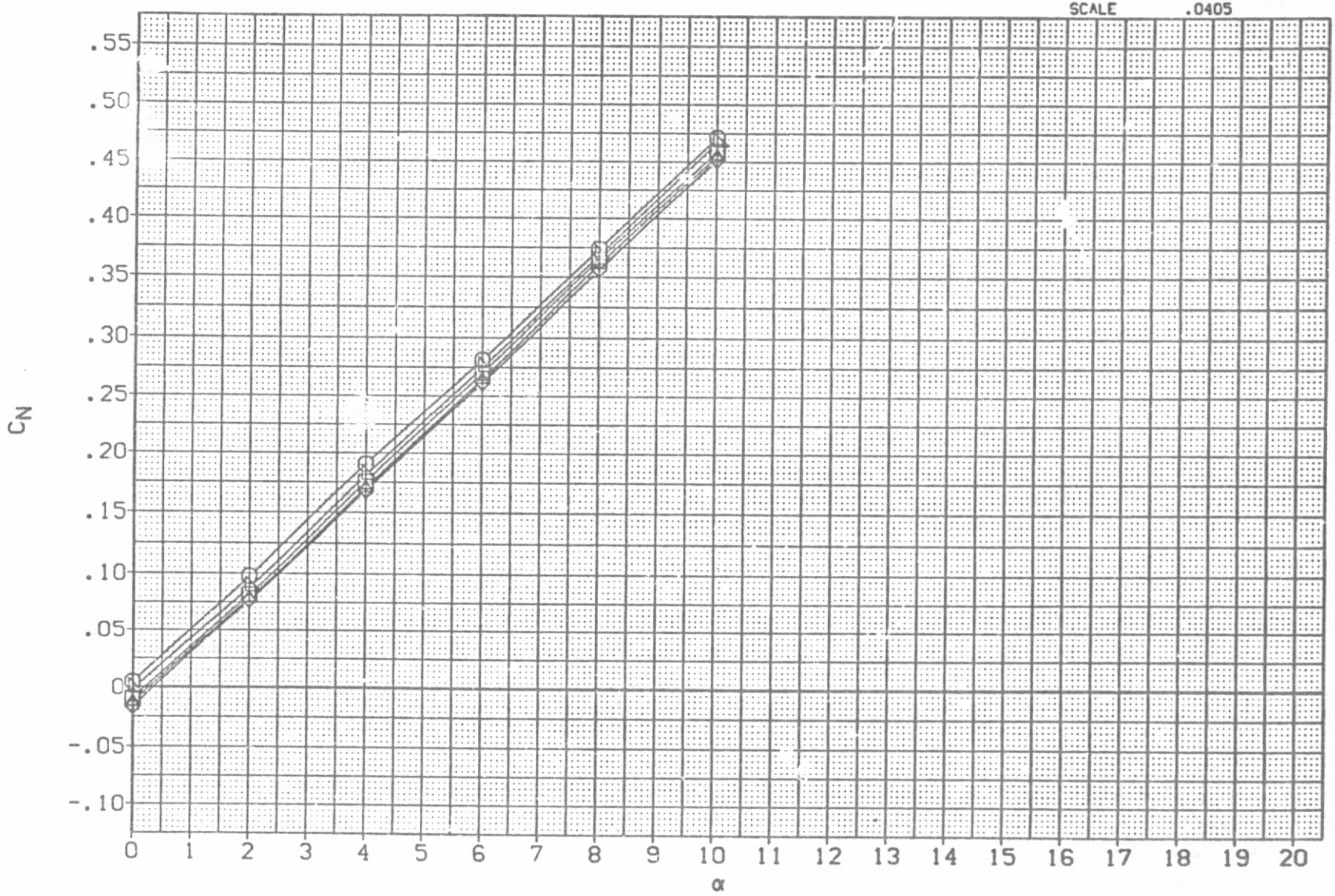


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF009) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⋈	.000
△	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	20.000	THETAN	2.900
PHI-M	20.000	THETAM	3.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

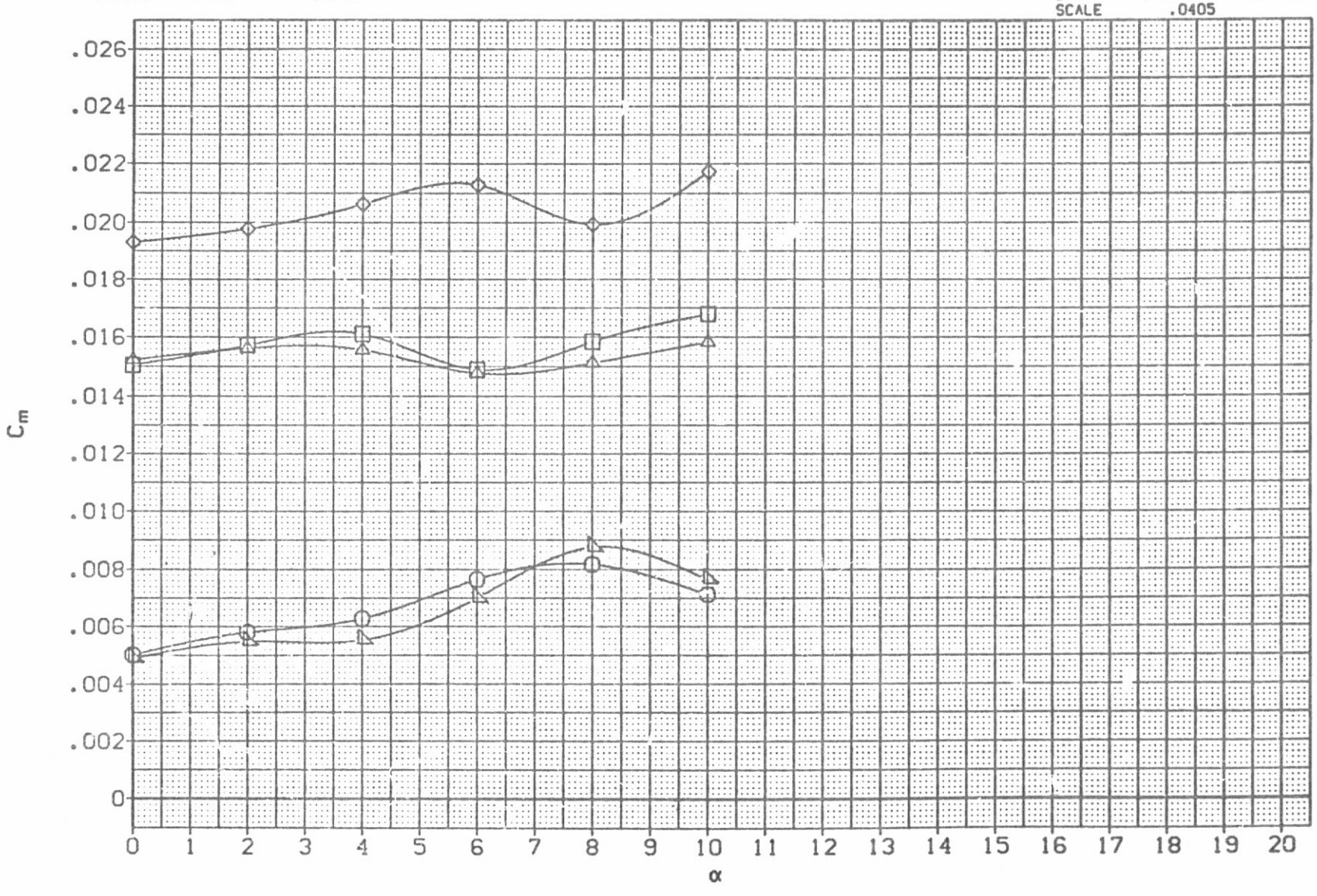


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

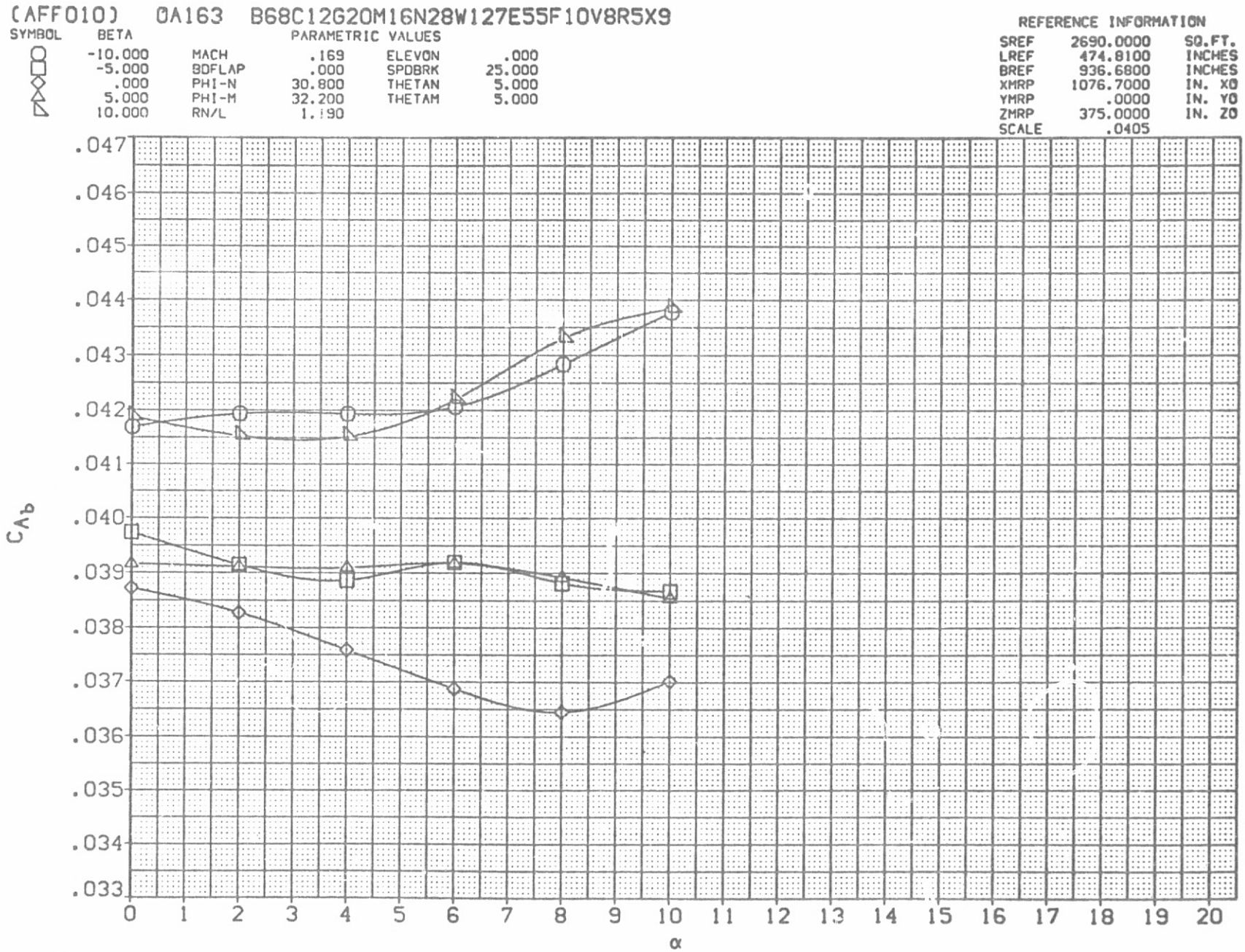


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF010) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	32.200	THETAM	5.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

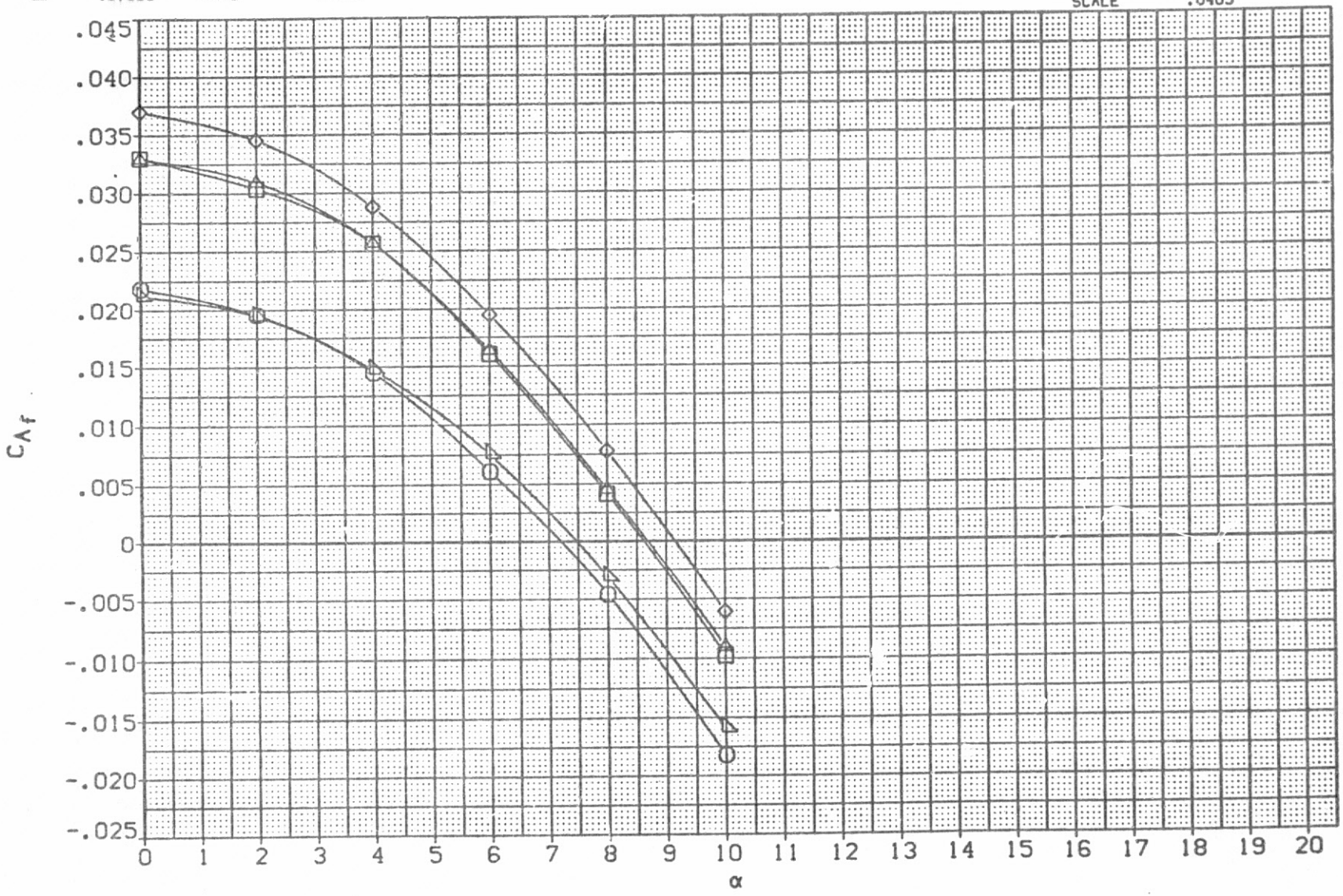


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF010) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
⊲	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	32.200	THETAM	5.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

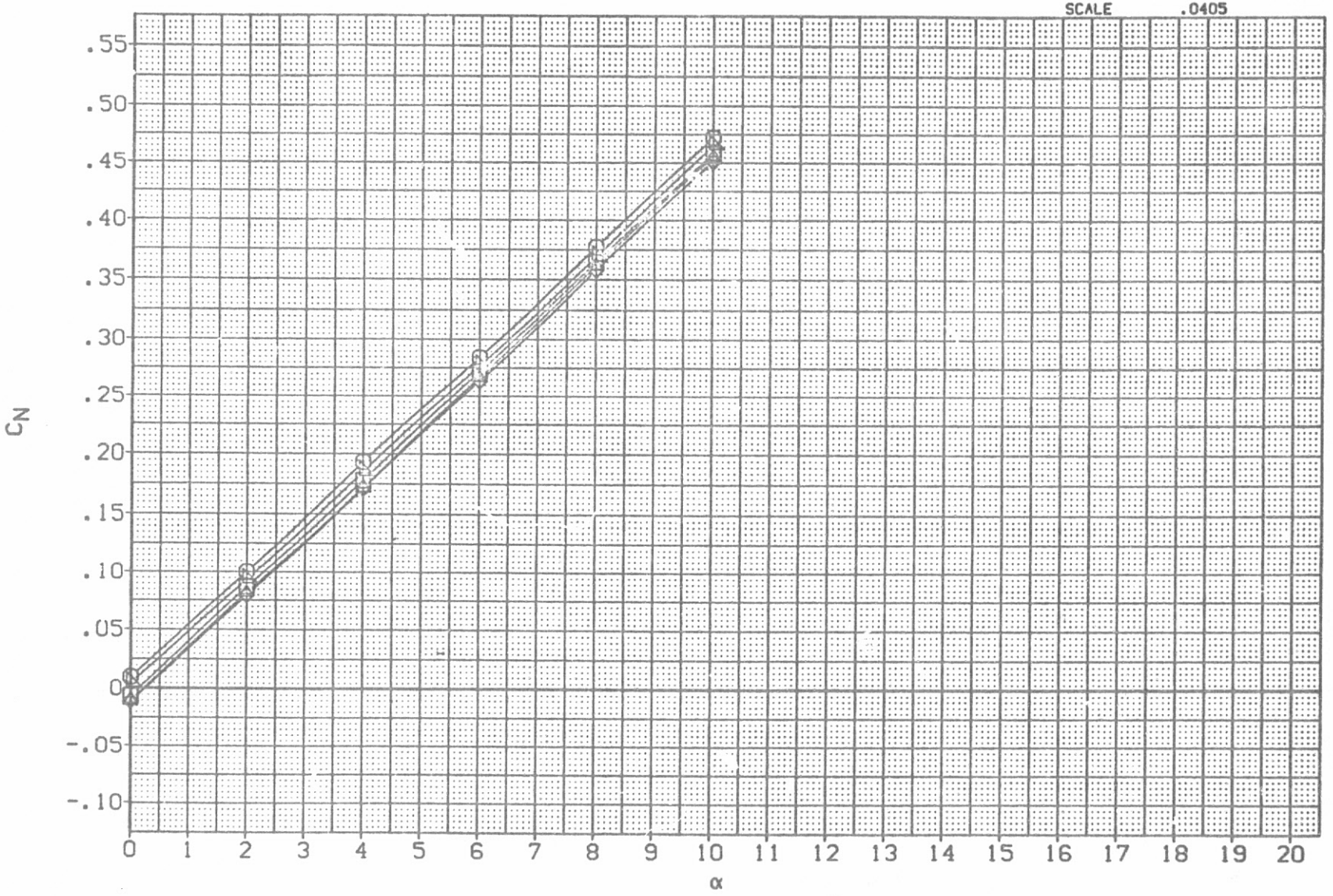


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF010) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	32.200	THETAM	5.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

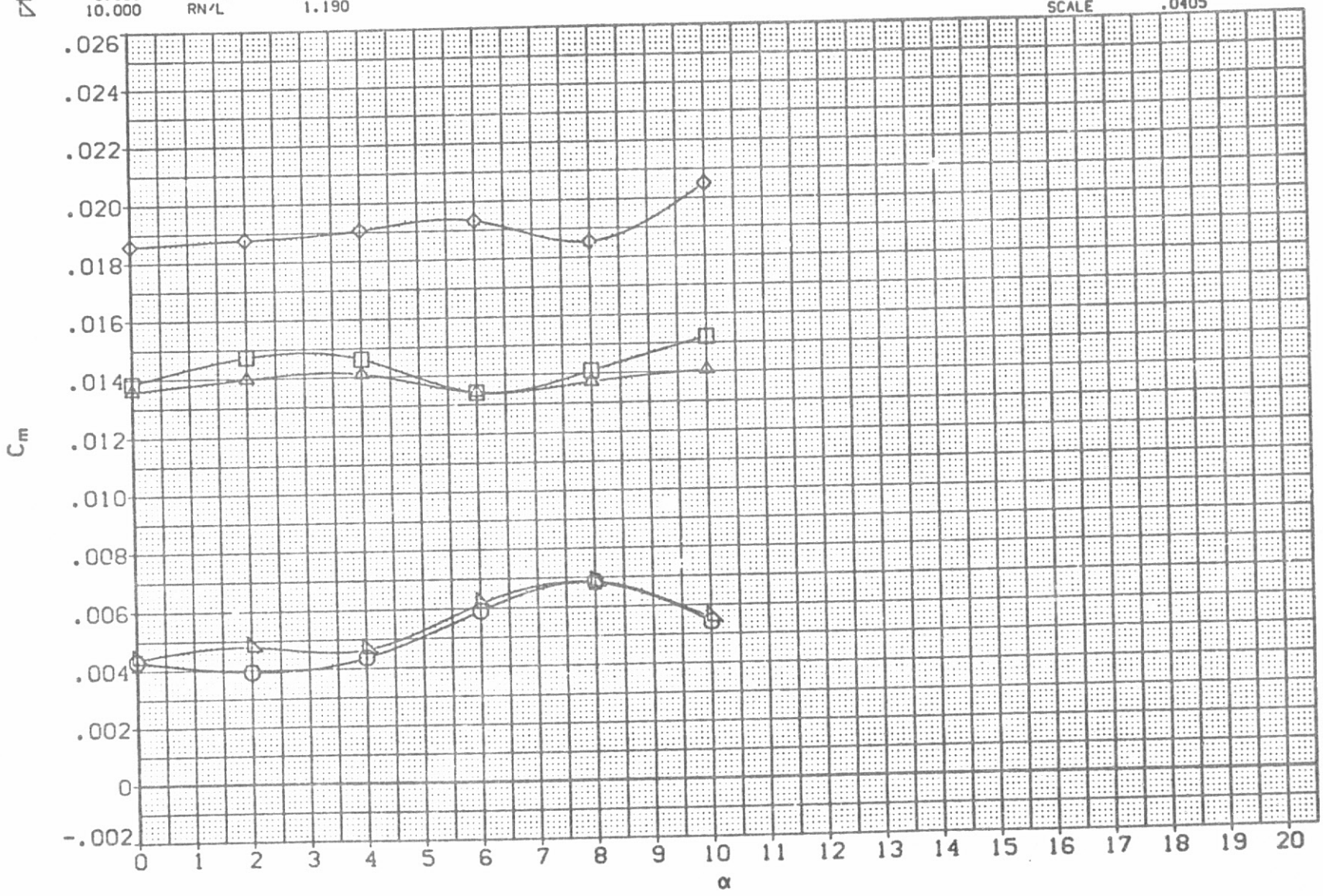


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

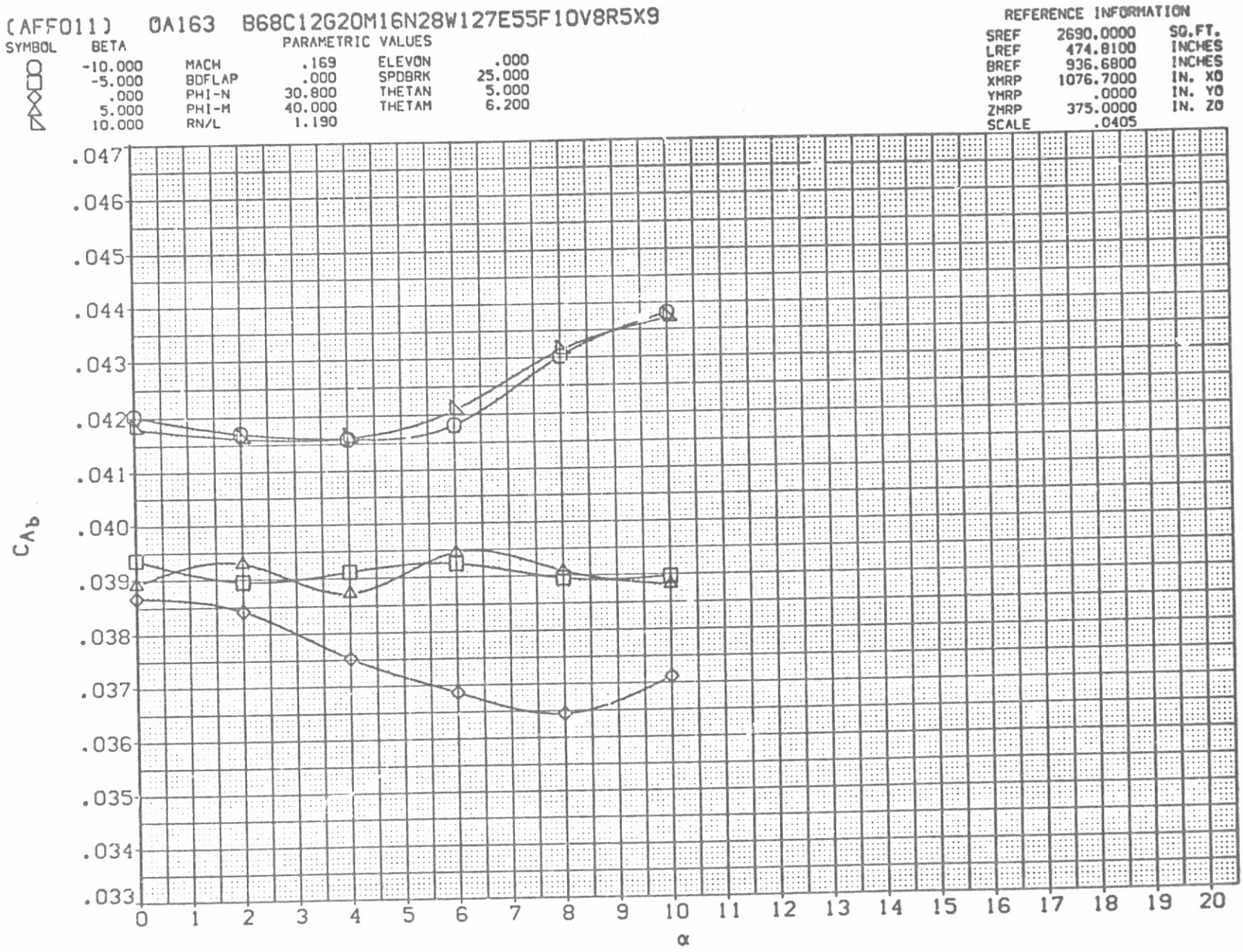


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF011) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⊠	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	40.000	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

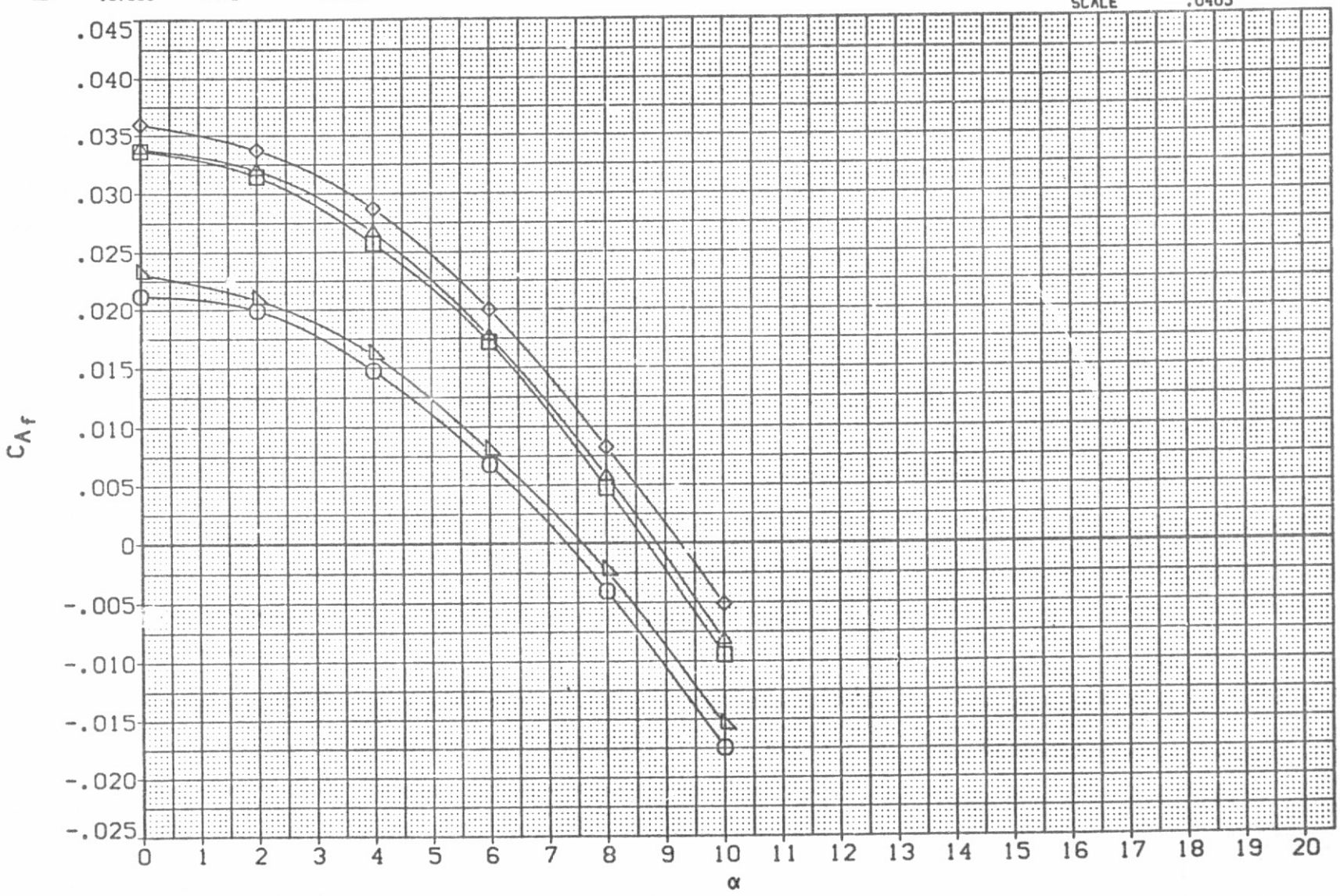


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF011) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
▽	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	40.000	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

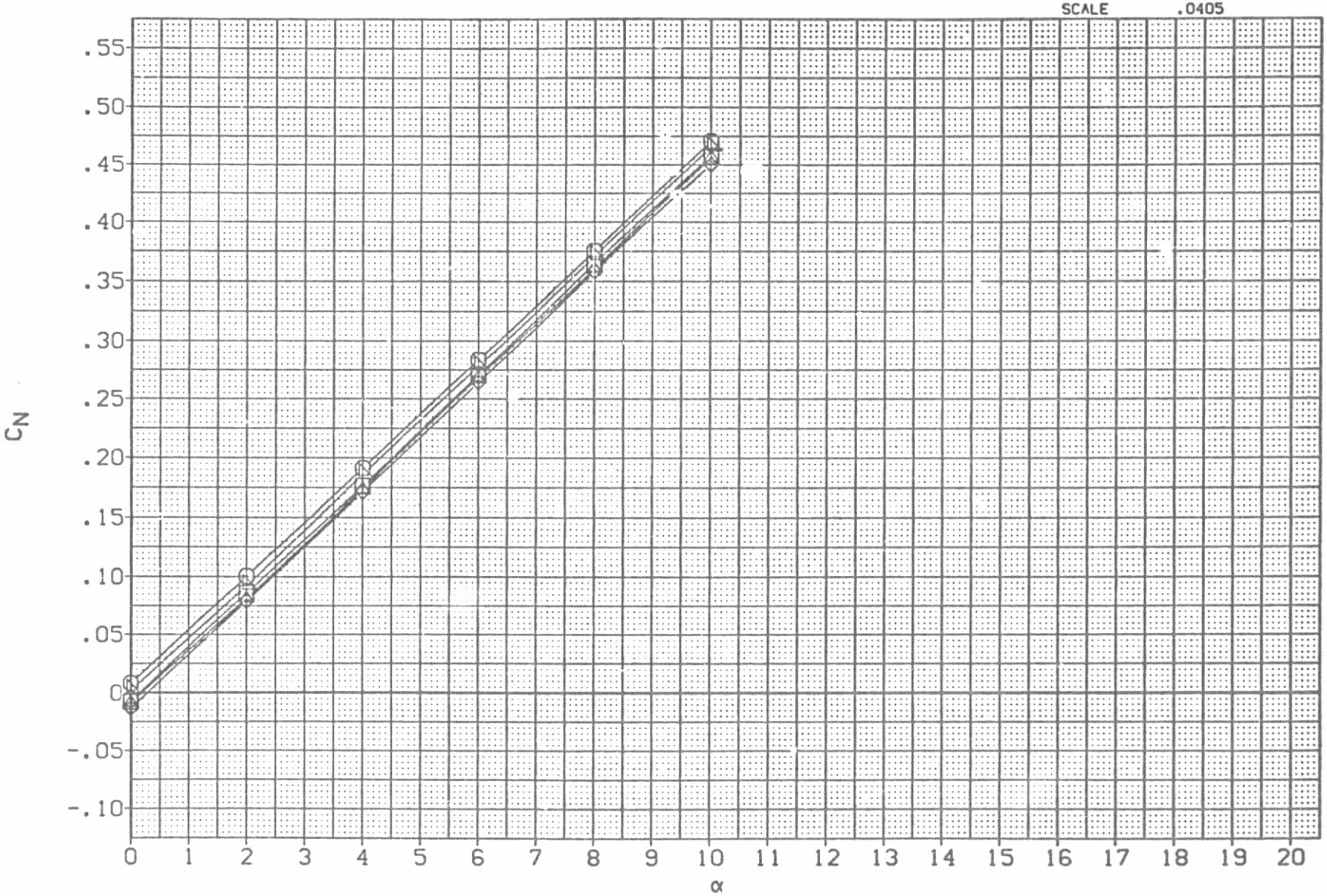


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF011) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
◇	.000
△	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	40.000	THETAM	6.200
RN/L	1.190		

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

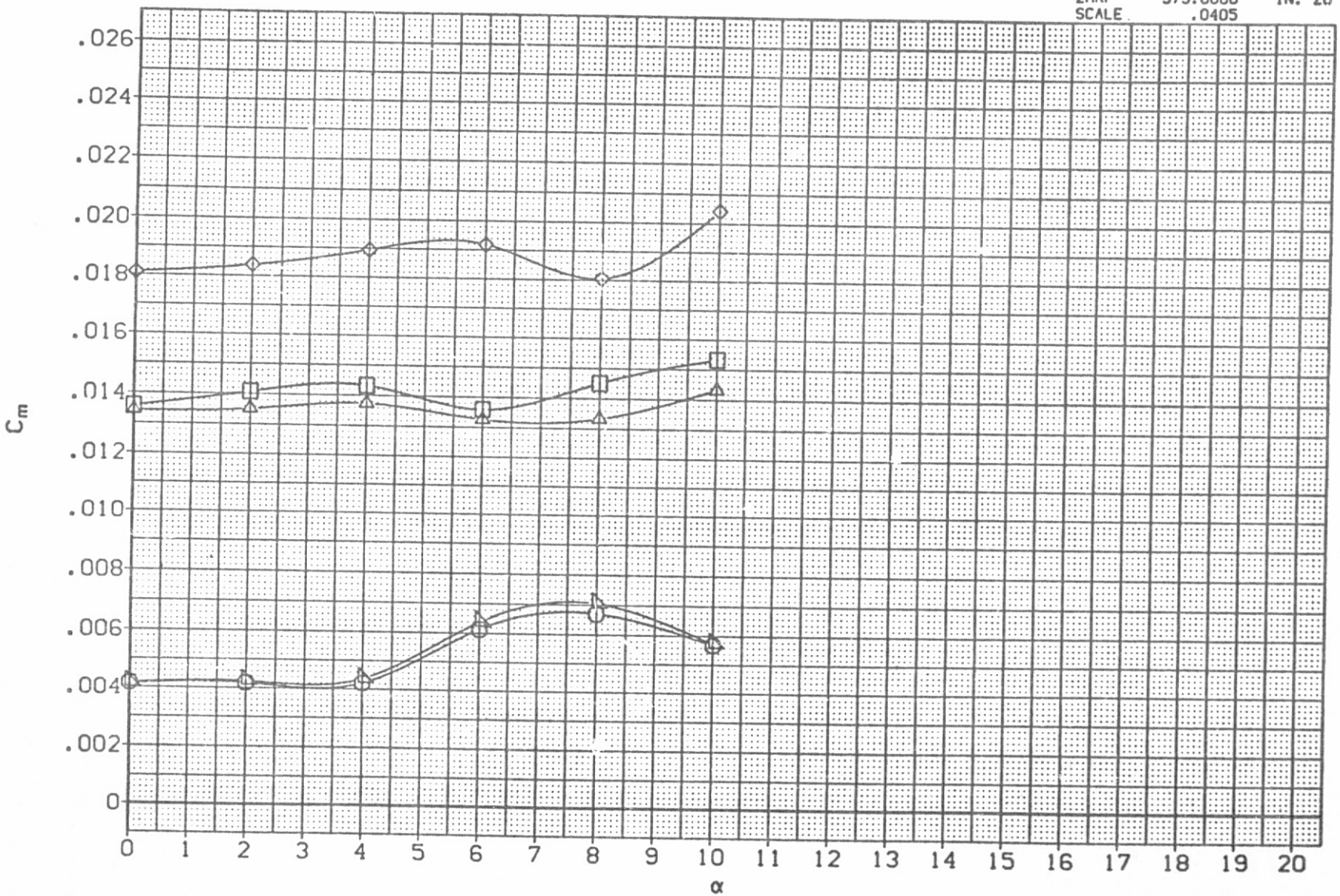


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF012) MA163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	50.000	THETAN	9.800
PHI-M	48.300	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

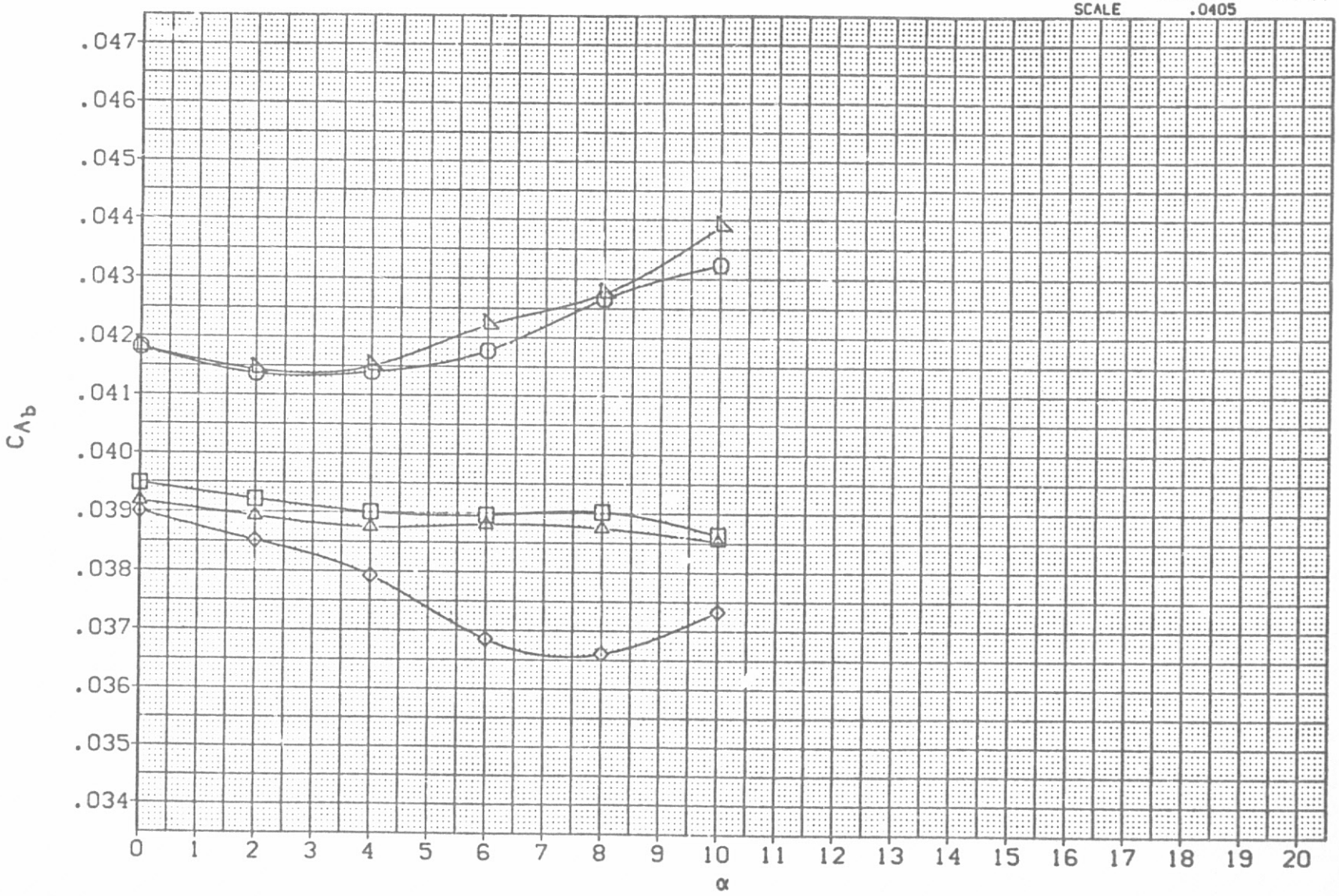


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF01?) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⋈	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BOFLAP	.000	SPOBRK	25.000
PHI-N	50.000	THETAN	9.800
PHI-M	48.300	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

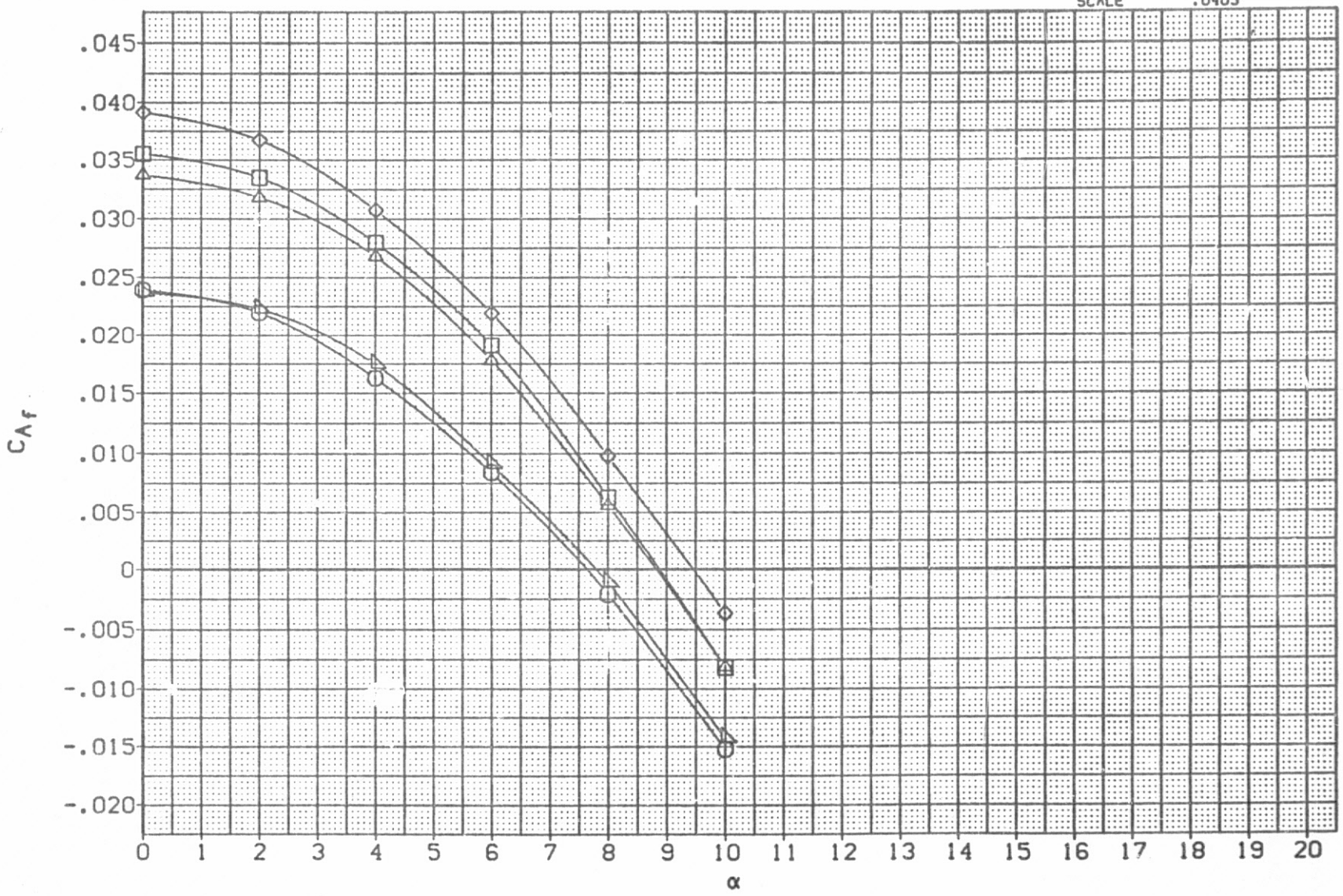


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFFC12) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	50.000	THETAN	9.800
PHI-M	48.300	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

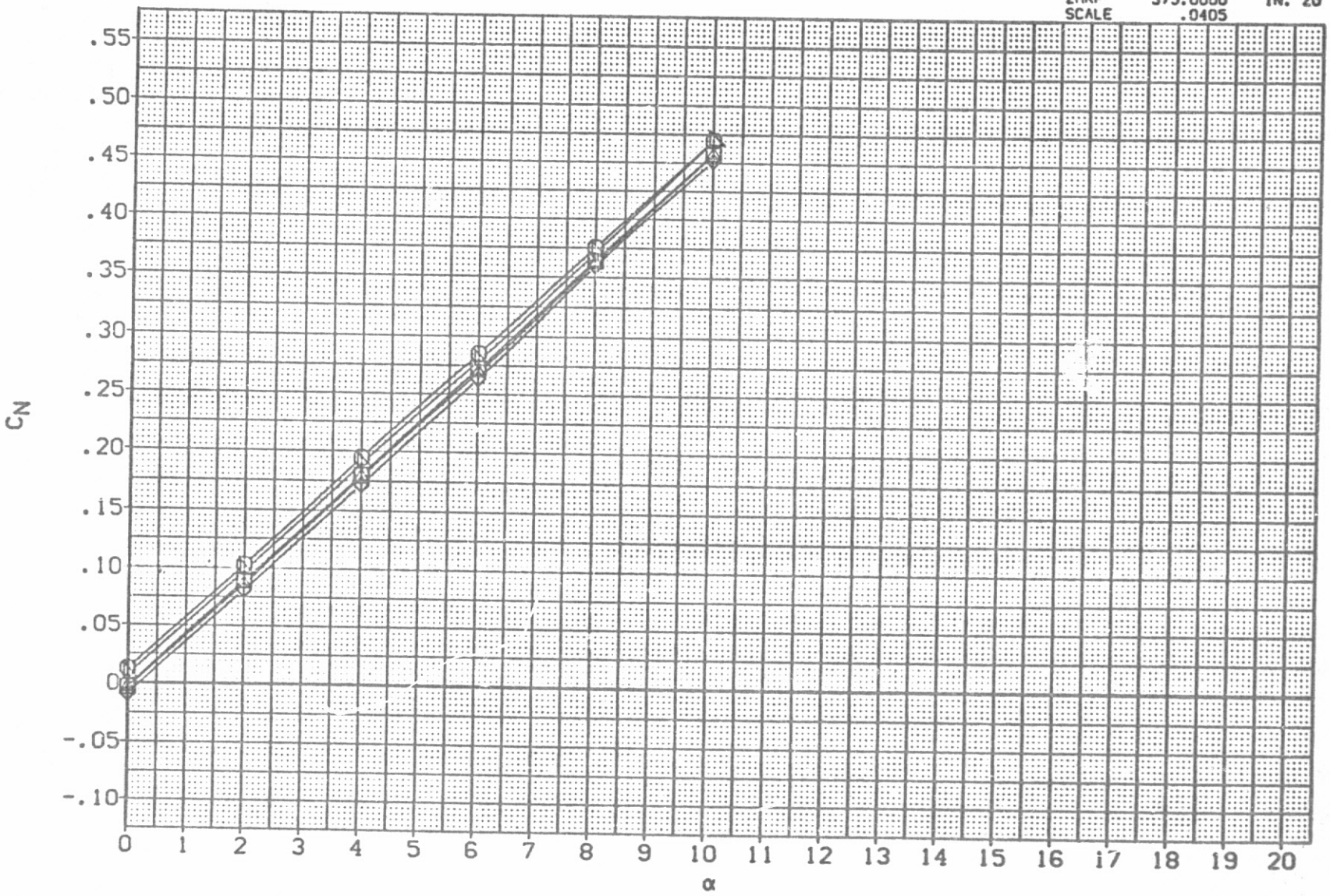


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF012) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BODY LAP	.000	SPDBRK	25.000
PHI-N	50.000	THETAN	9.800
PHI-M	48.300	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

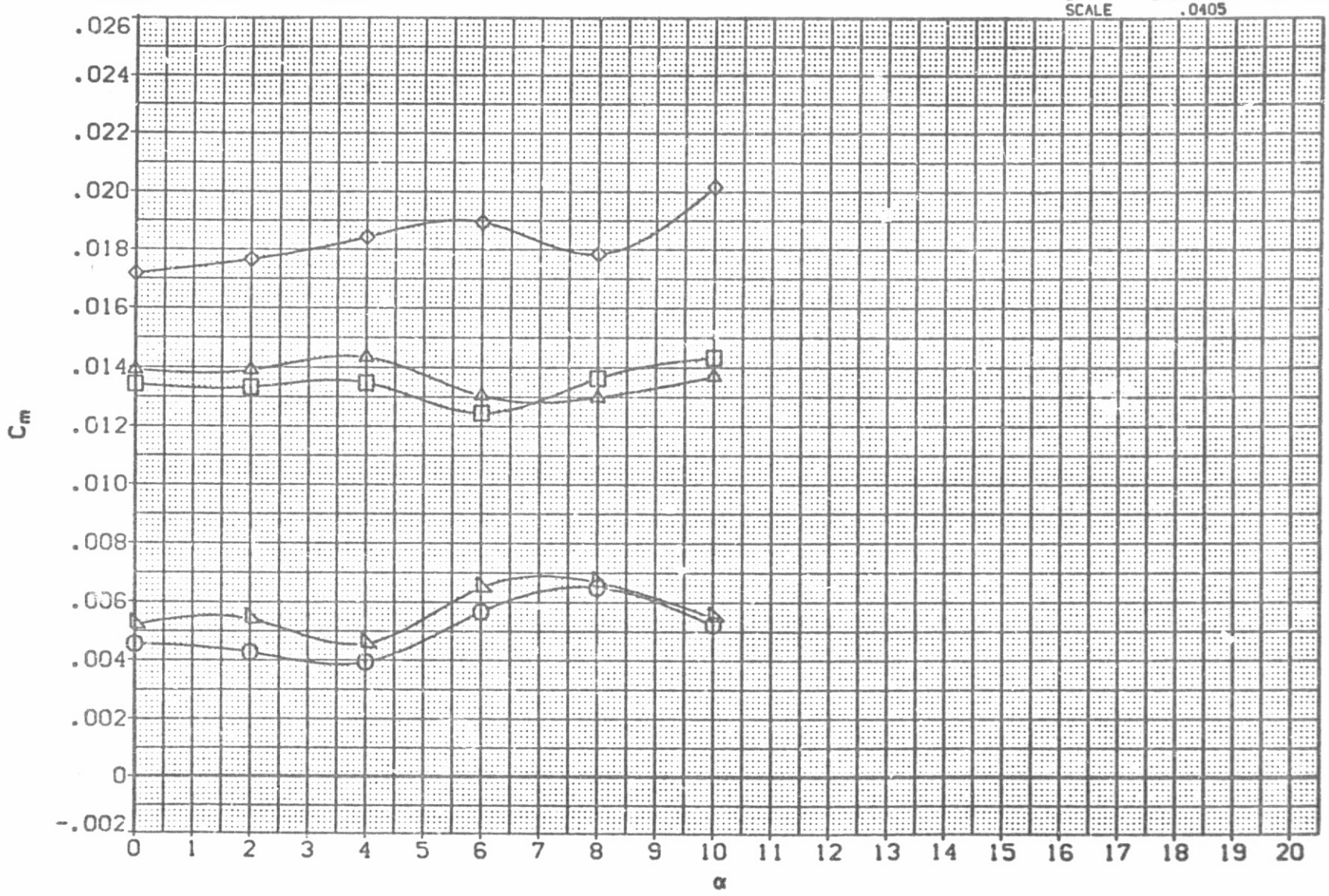


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

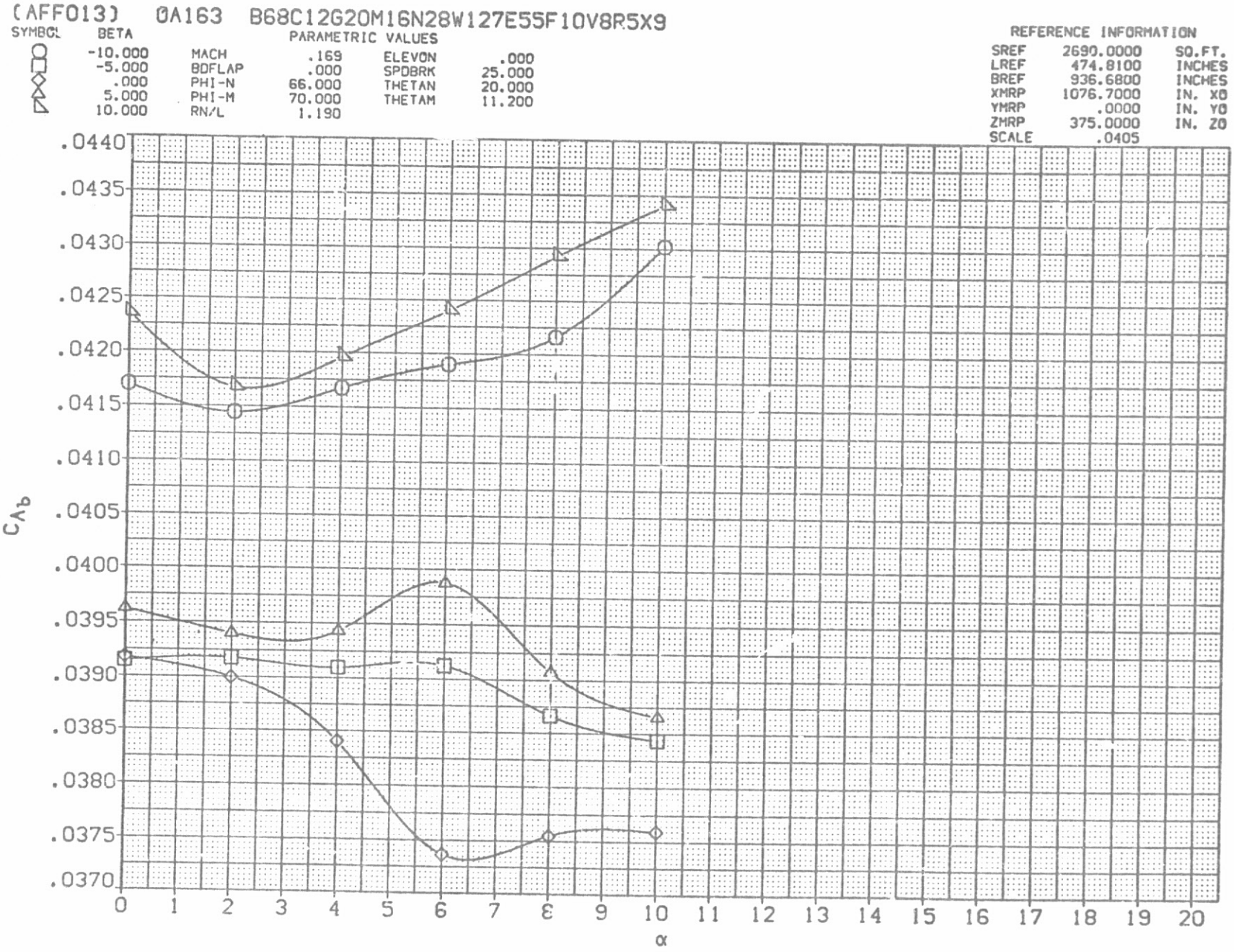


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF013) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA		PARAMETRIC VALUES		
	-10.000	MACH	.169	ELEVON	.000
	5.000	BDFLAP	.000	SPDBRK	25.000
	.000	PHI-N	60.000	THETAN	20.000
	5.000	PHI-M	70.000	THETAM	11.200
	10.000	RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

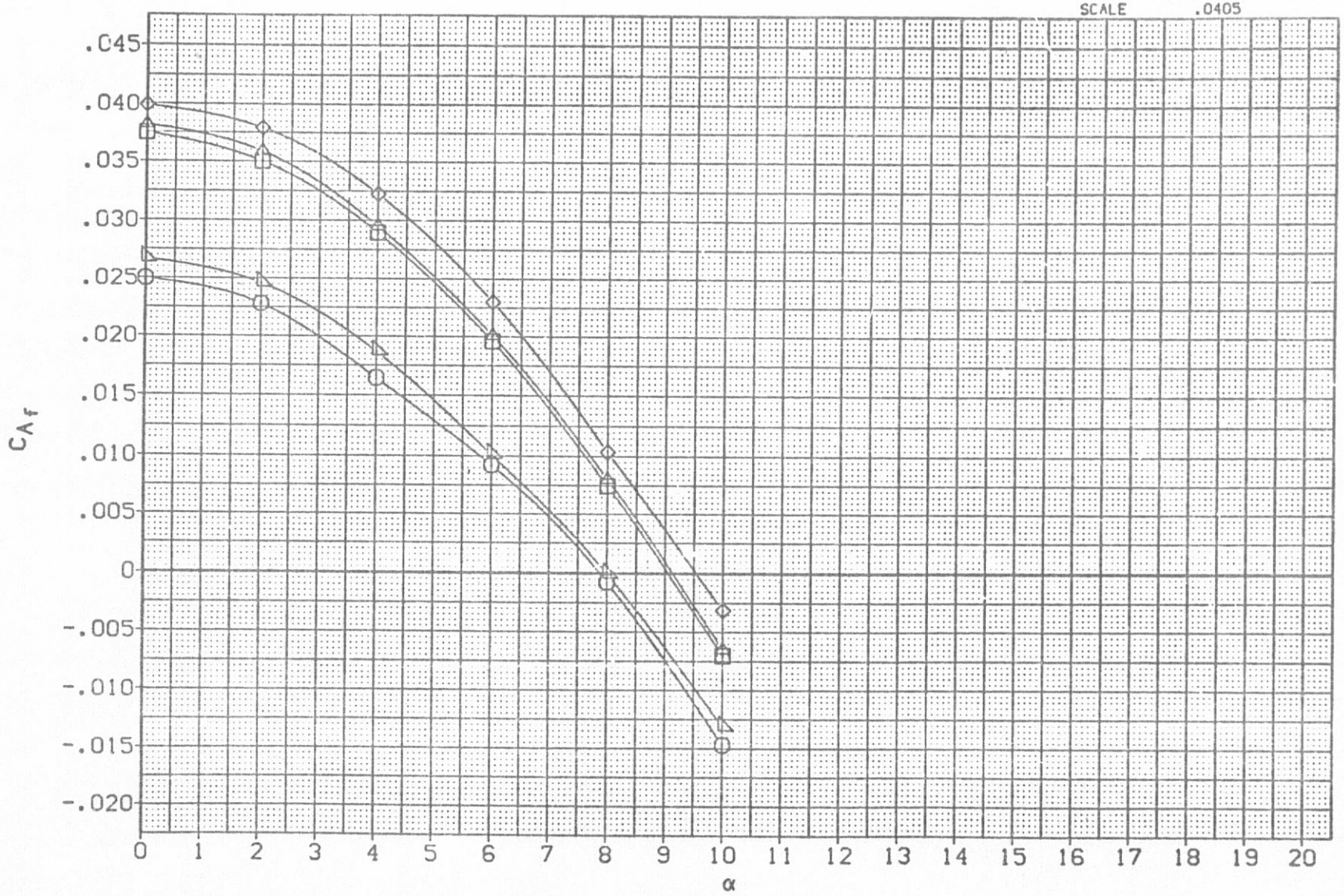


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

C-2

(AFF013) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	20.000
PHI-M	70.000	THETAM	11.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

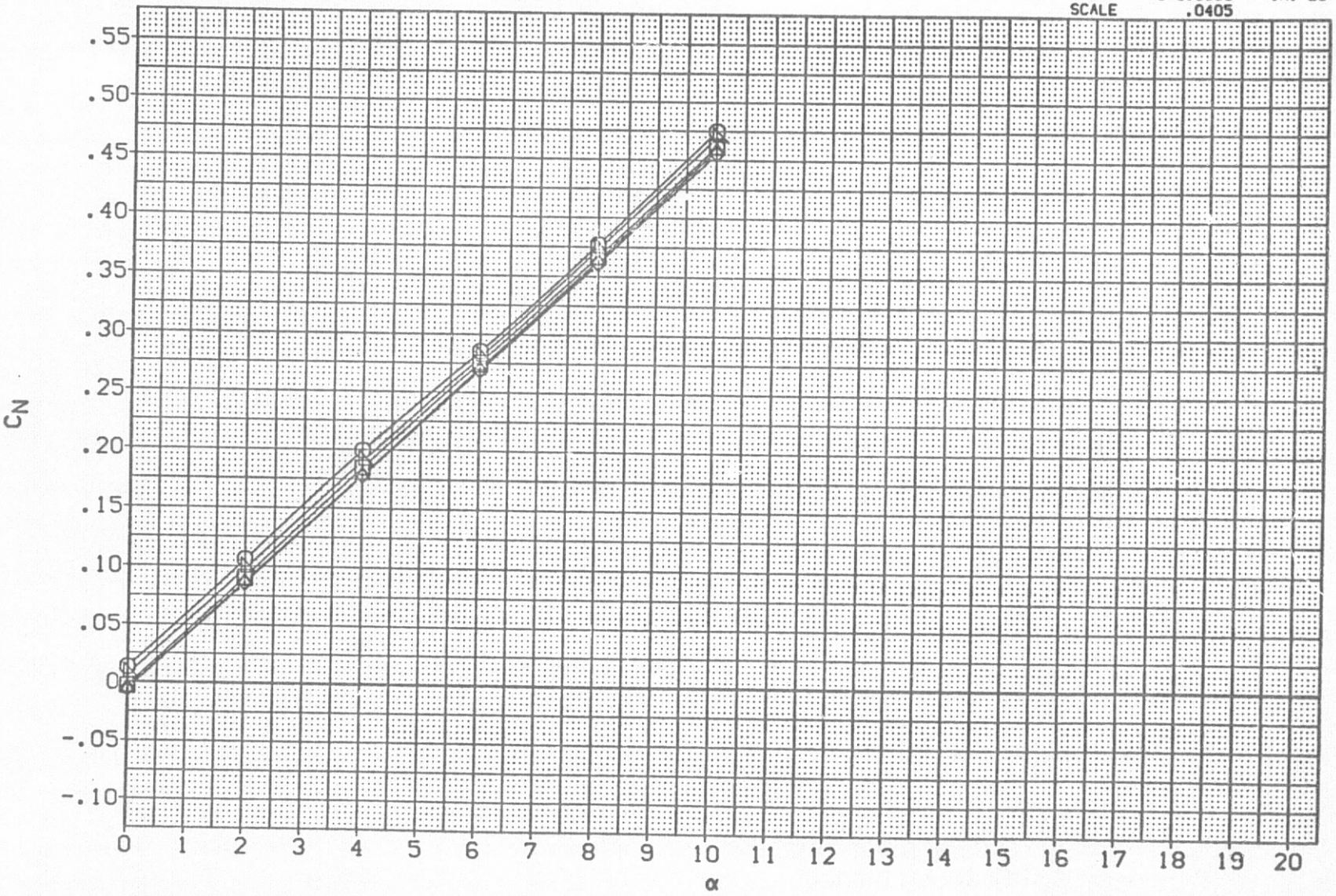


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF013) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⋈	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPOBRK	25.000
PHI-N	66.000	THETAN	20.000
PHI-M	70.000	THETAM	11.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

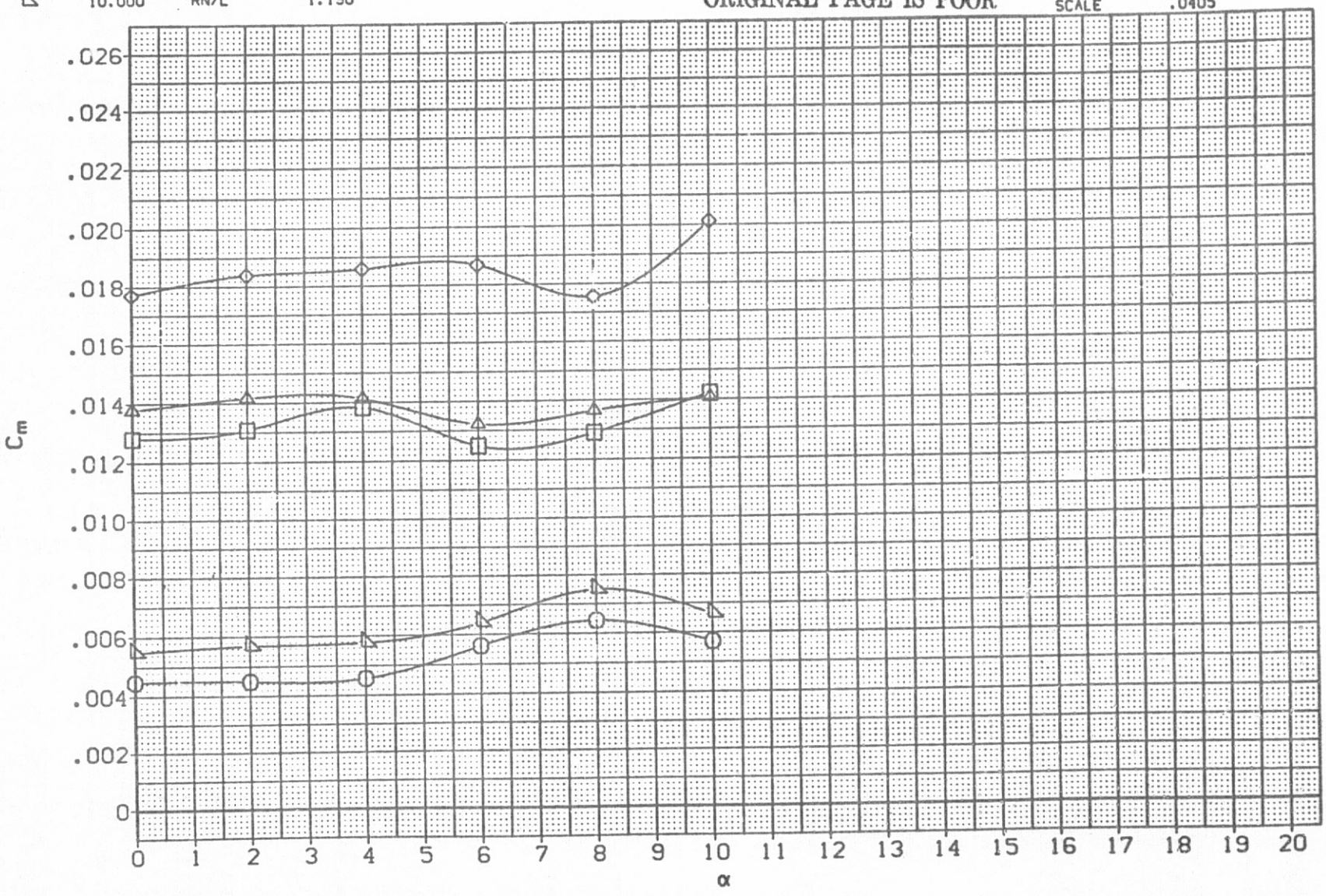


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF014) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	20.000
PHI-M	88.000	THETAM	20.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

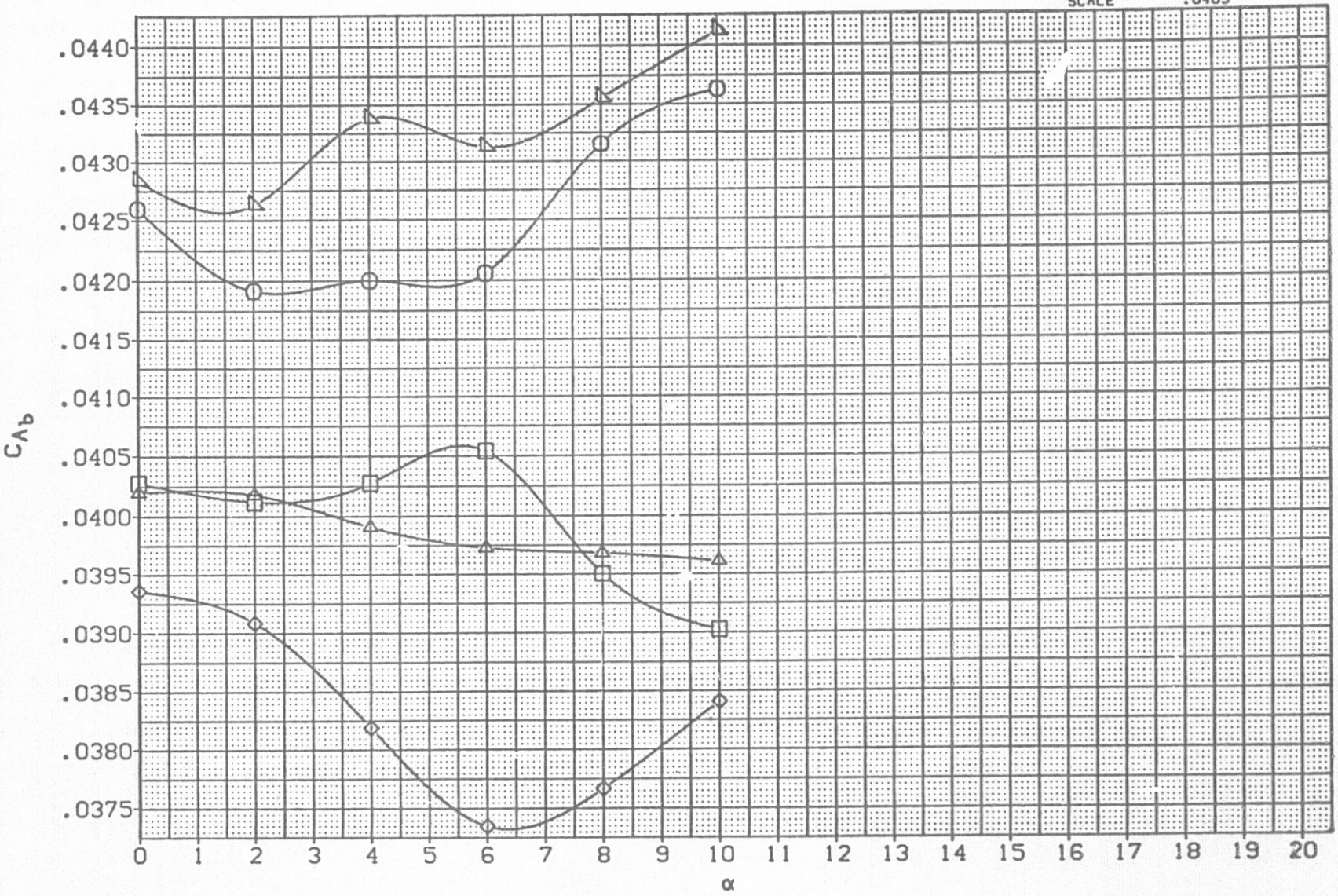


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF014) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ETA
◇	-10.000
□	-5.000
◇	.000
△	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	20.000
PHI-M	88.000	THETAM	20.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

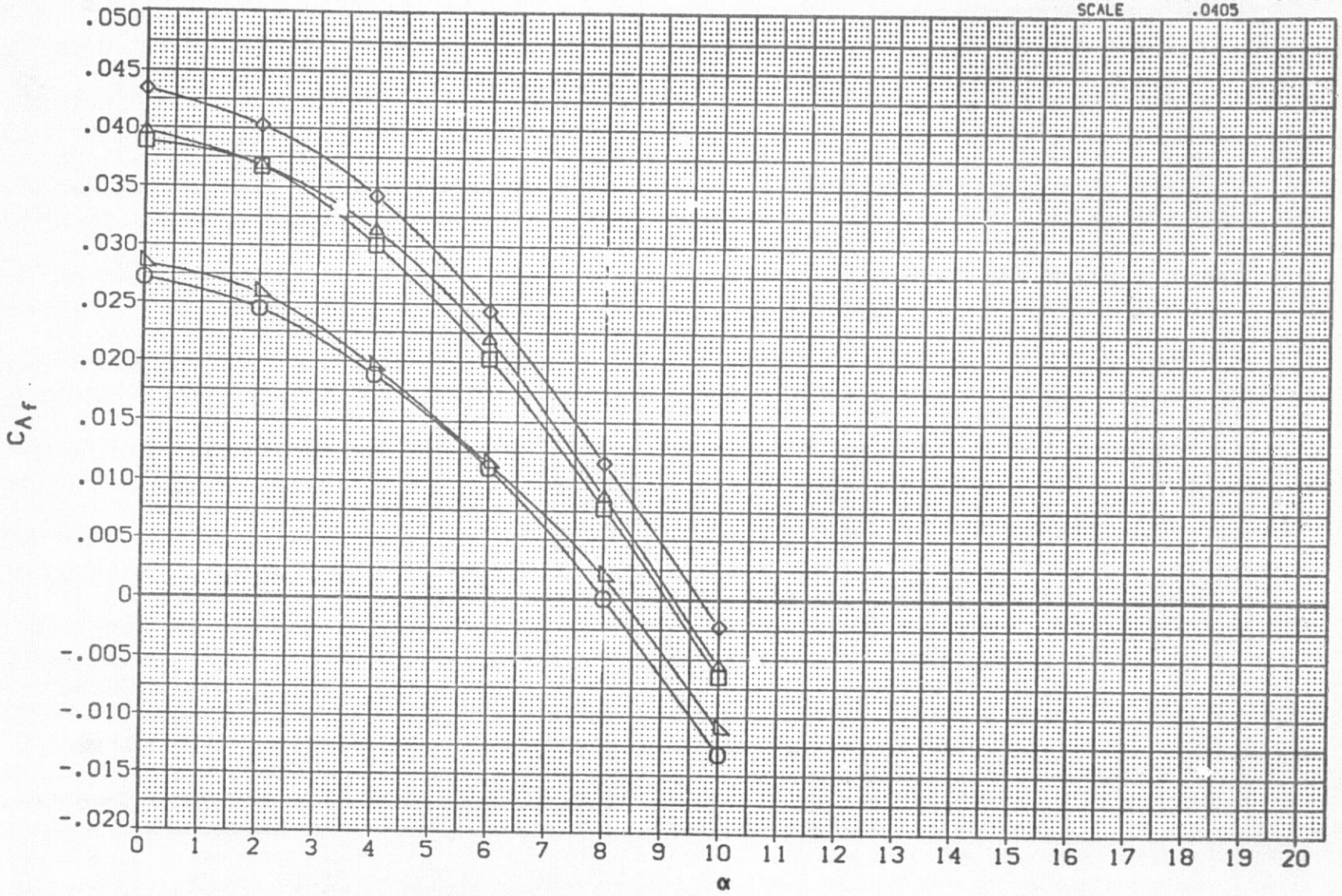


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

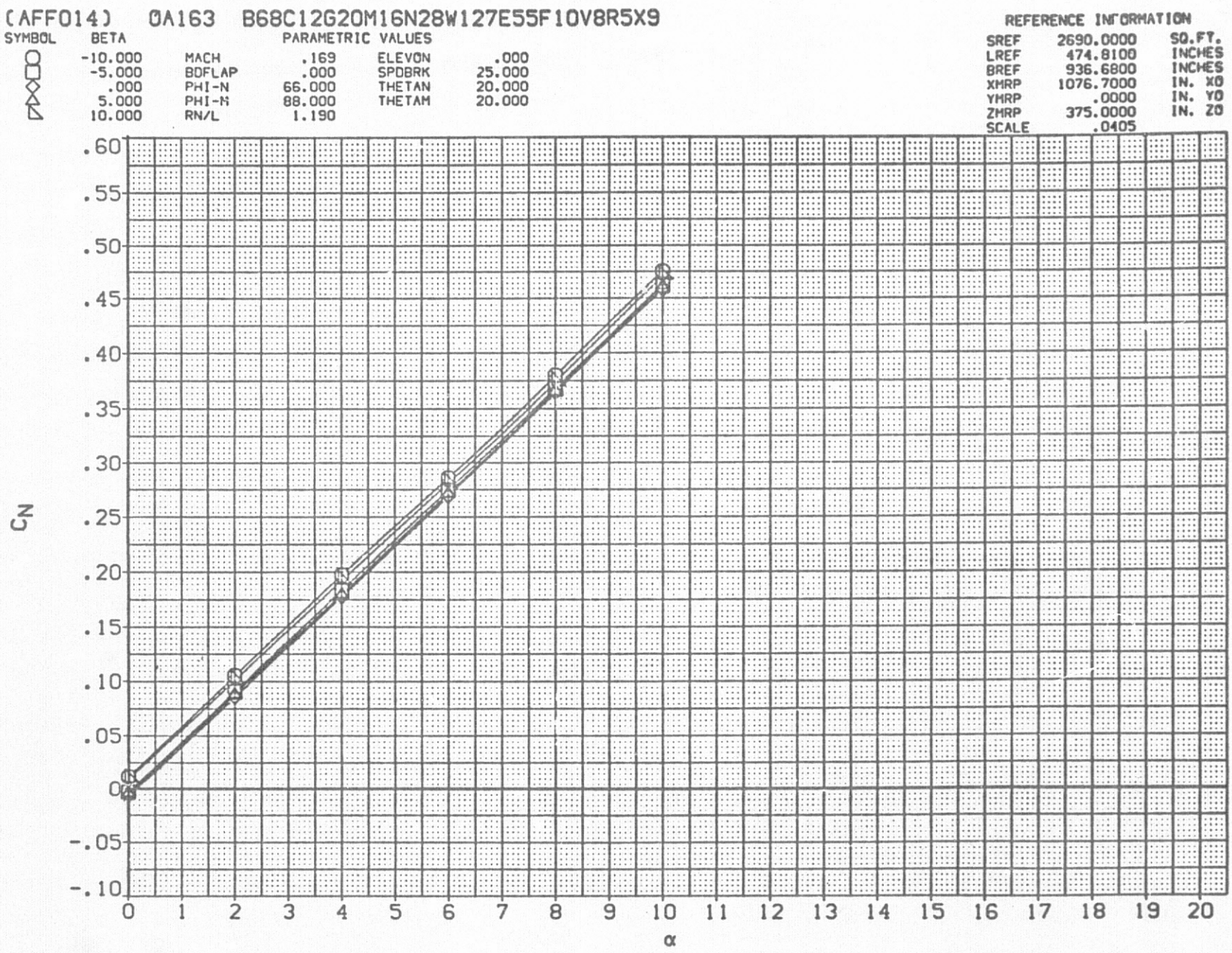


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF014) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000	
BDFLAP	.000	SPDBRK	25.000	
PHI-N	66.000	THETAN	20.000	
PHI-M	88.000	THETAM	20.000	
RN/L	1.190			

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

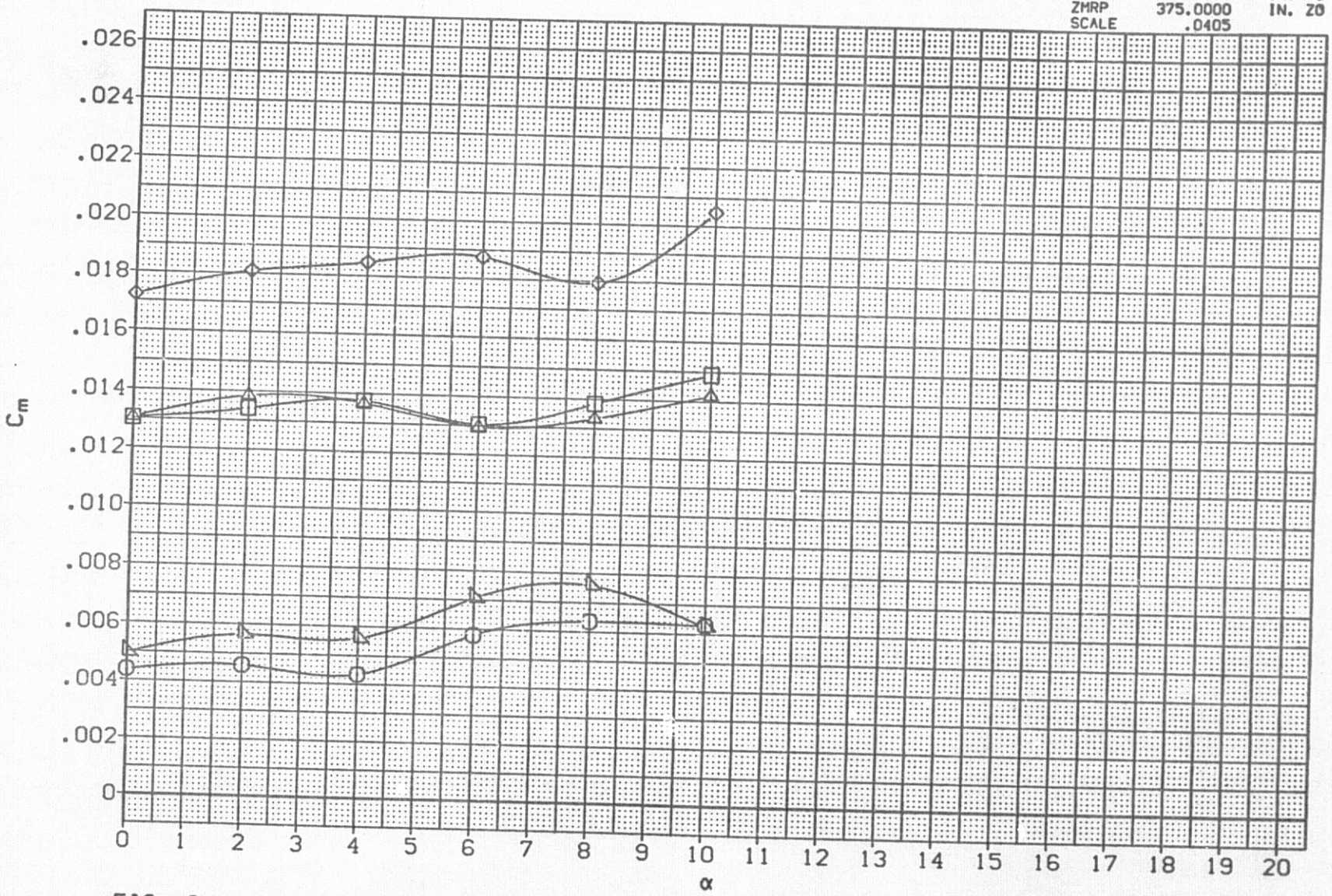


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF015) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	35.000
PHI-M	88.000	THETAM	35.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

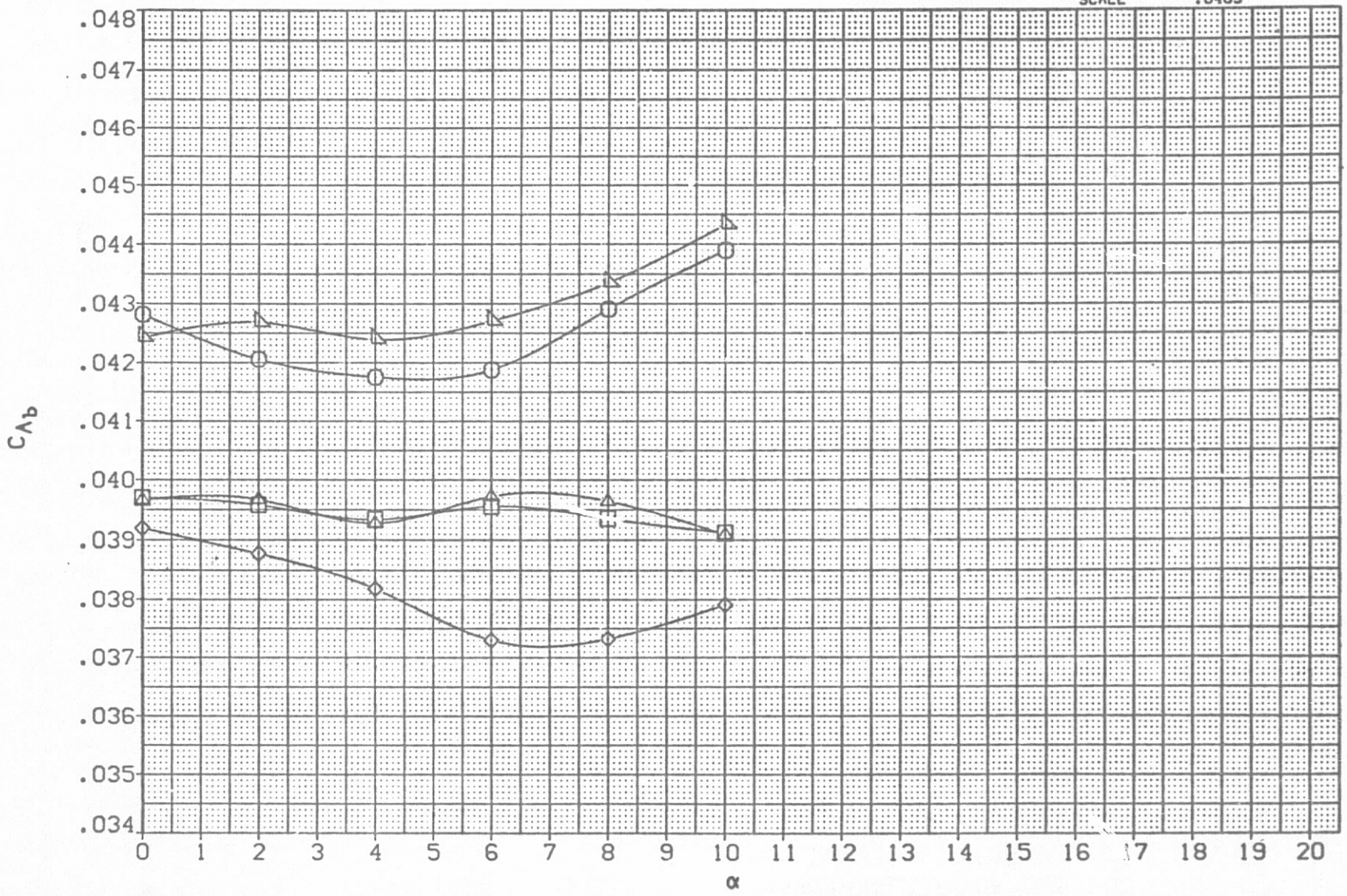


FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF015) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⊲	.000
△	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	35.000
PHI-M	88.000	THETAM	35.000
RN/L	1.190		

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REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

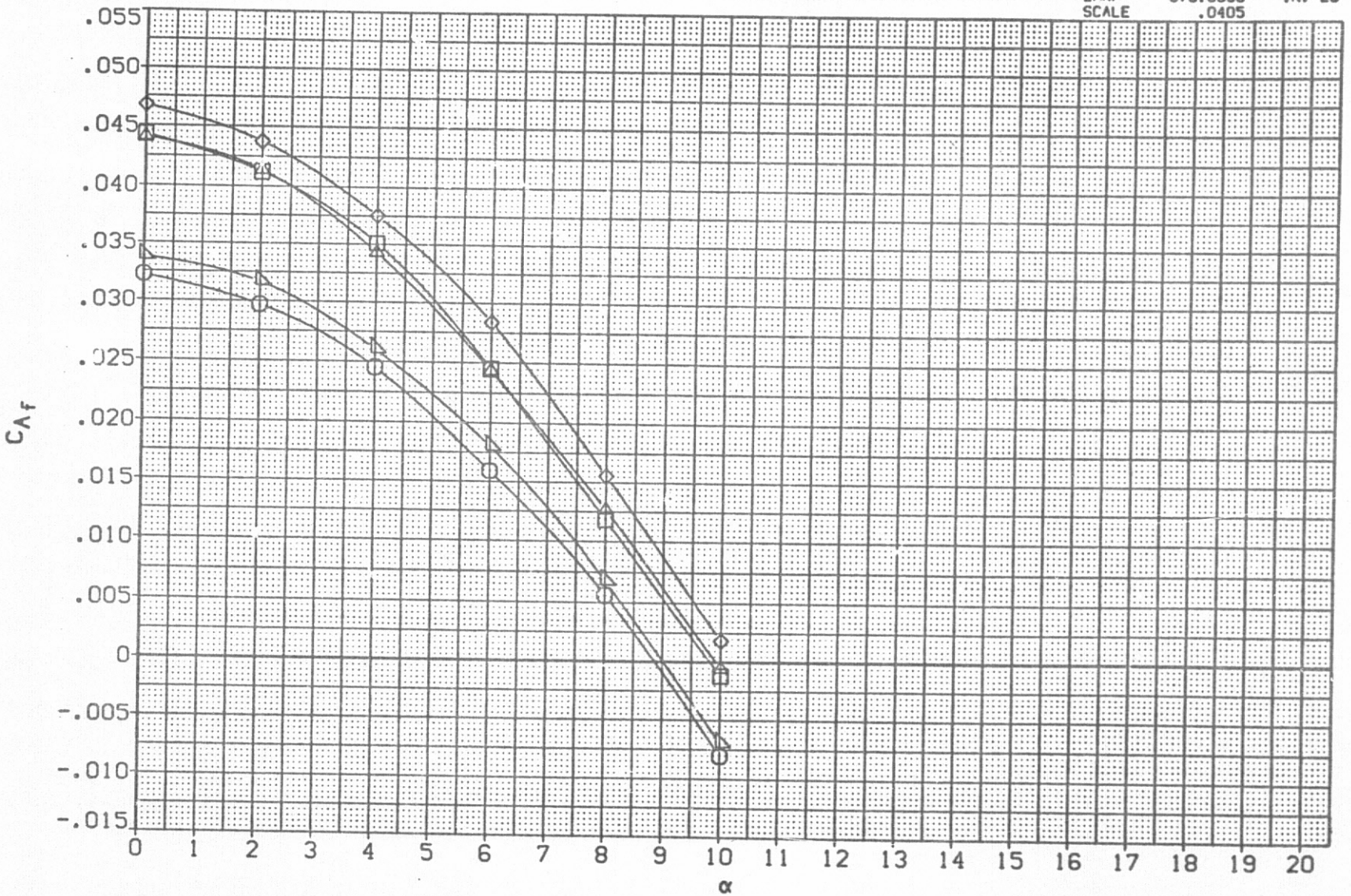

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF015) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	35.000
PHI-M	88.000	THETAM	35.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

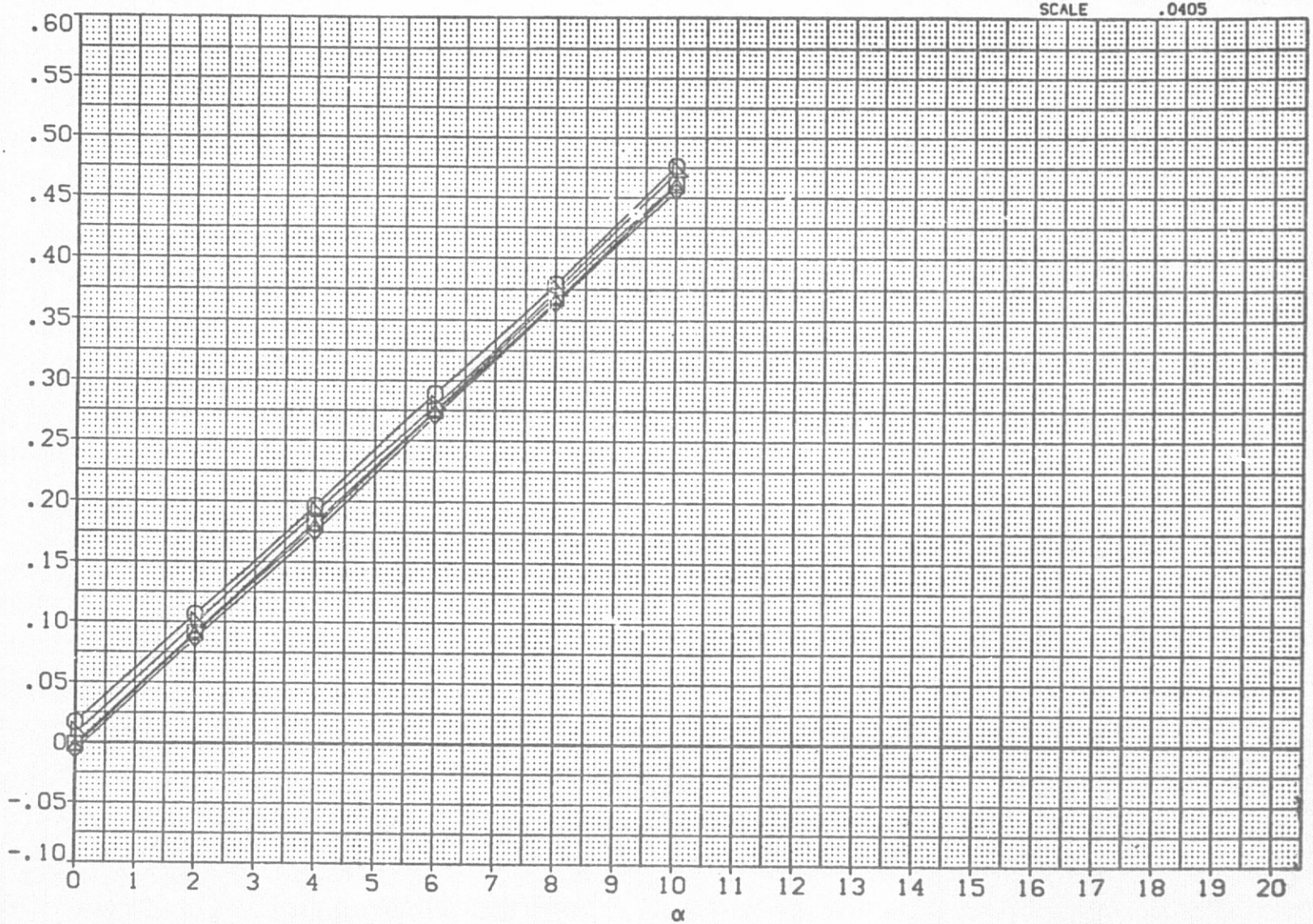

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF015) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA		PARAMETRIC VALUES		
	-10.000	MACH	.169	ELEVON	.000
	.000	BDFLAP	.000	SPDBRK	25.000
	5.000	PHI-N	66.000	THETAN	35.000
	10.000	PHI-M	88.000	THETAM	35.000
		RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

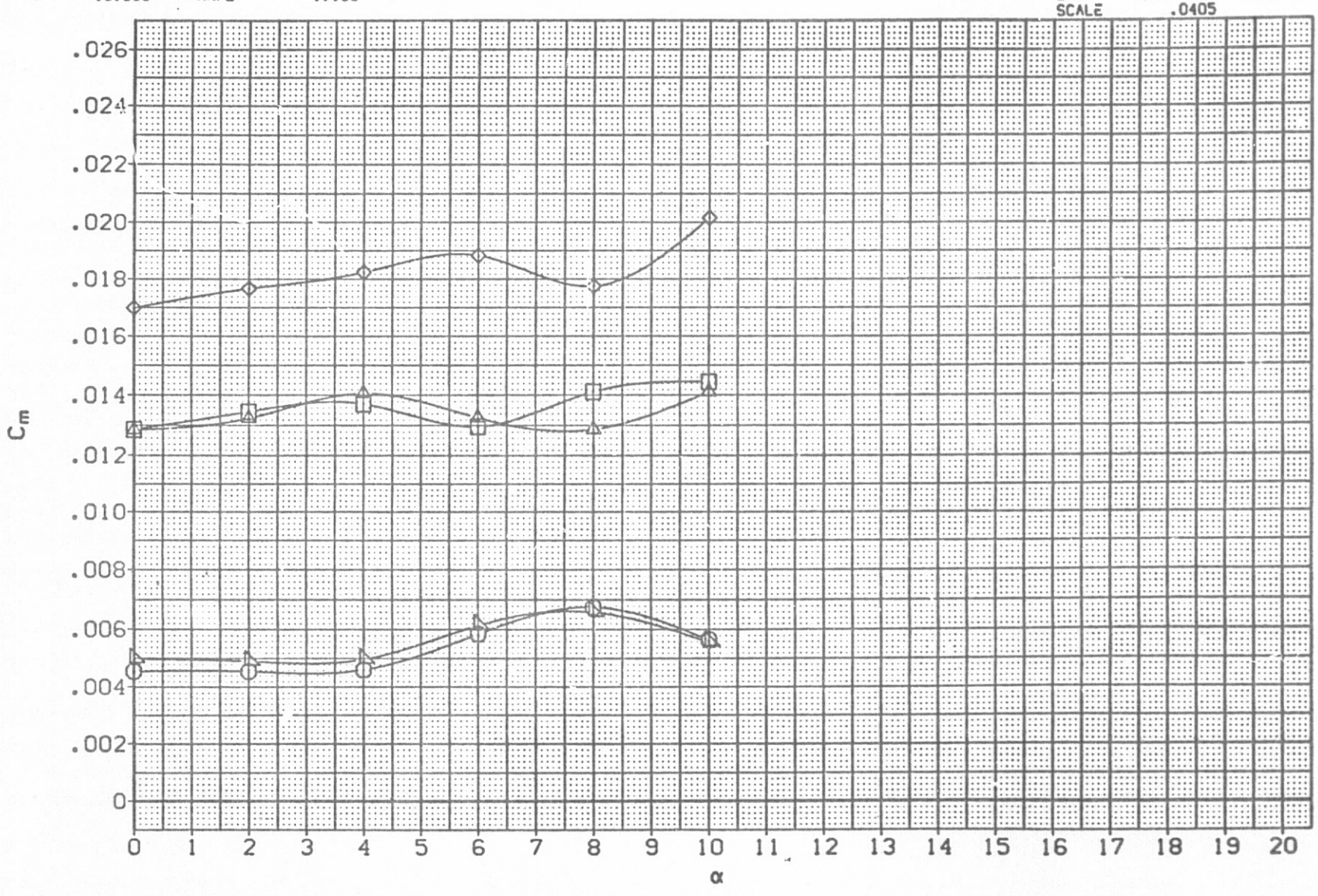

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

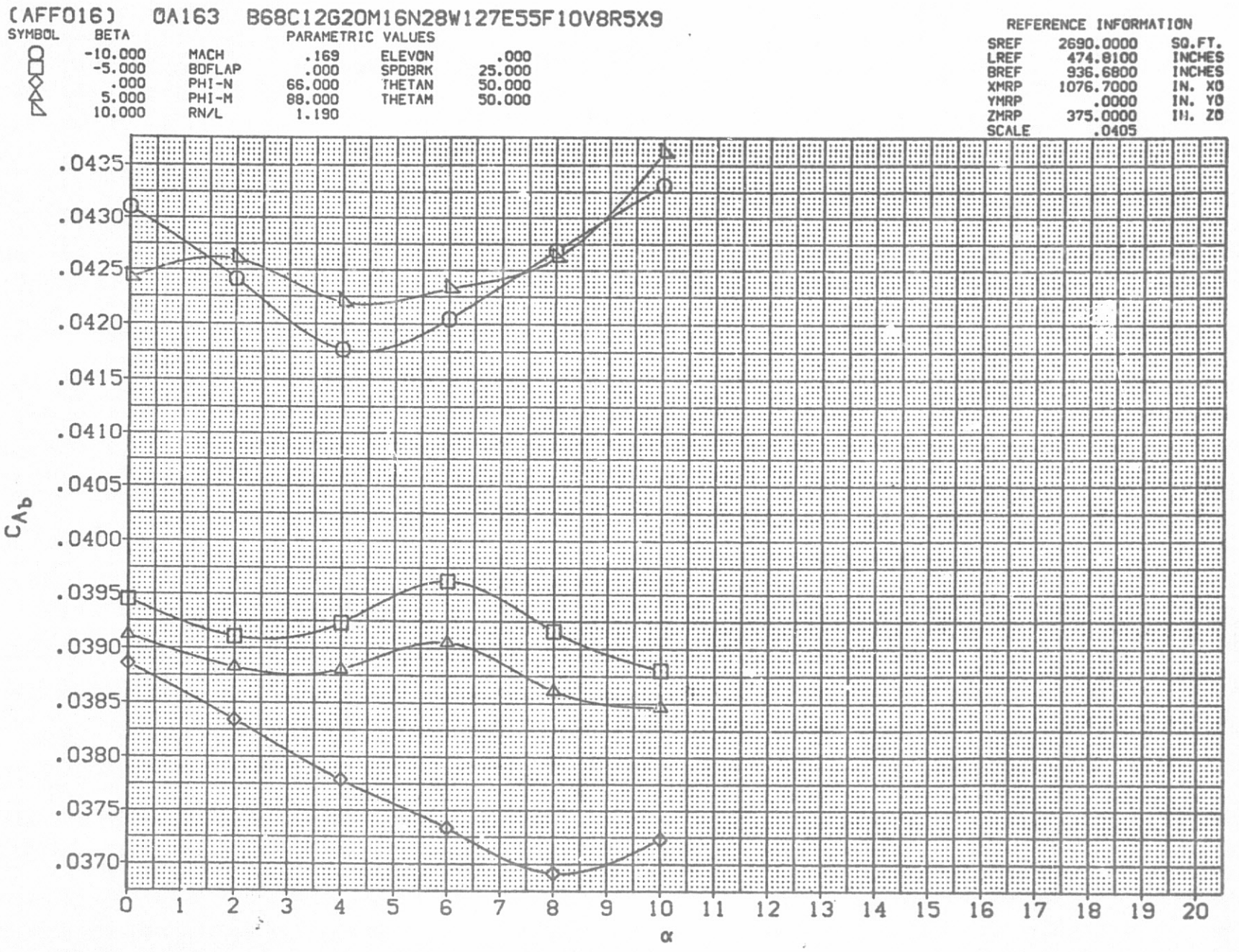

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF016) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	5.000
▽	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	50.000
PHI-M	88.000	THETAM	50.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

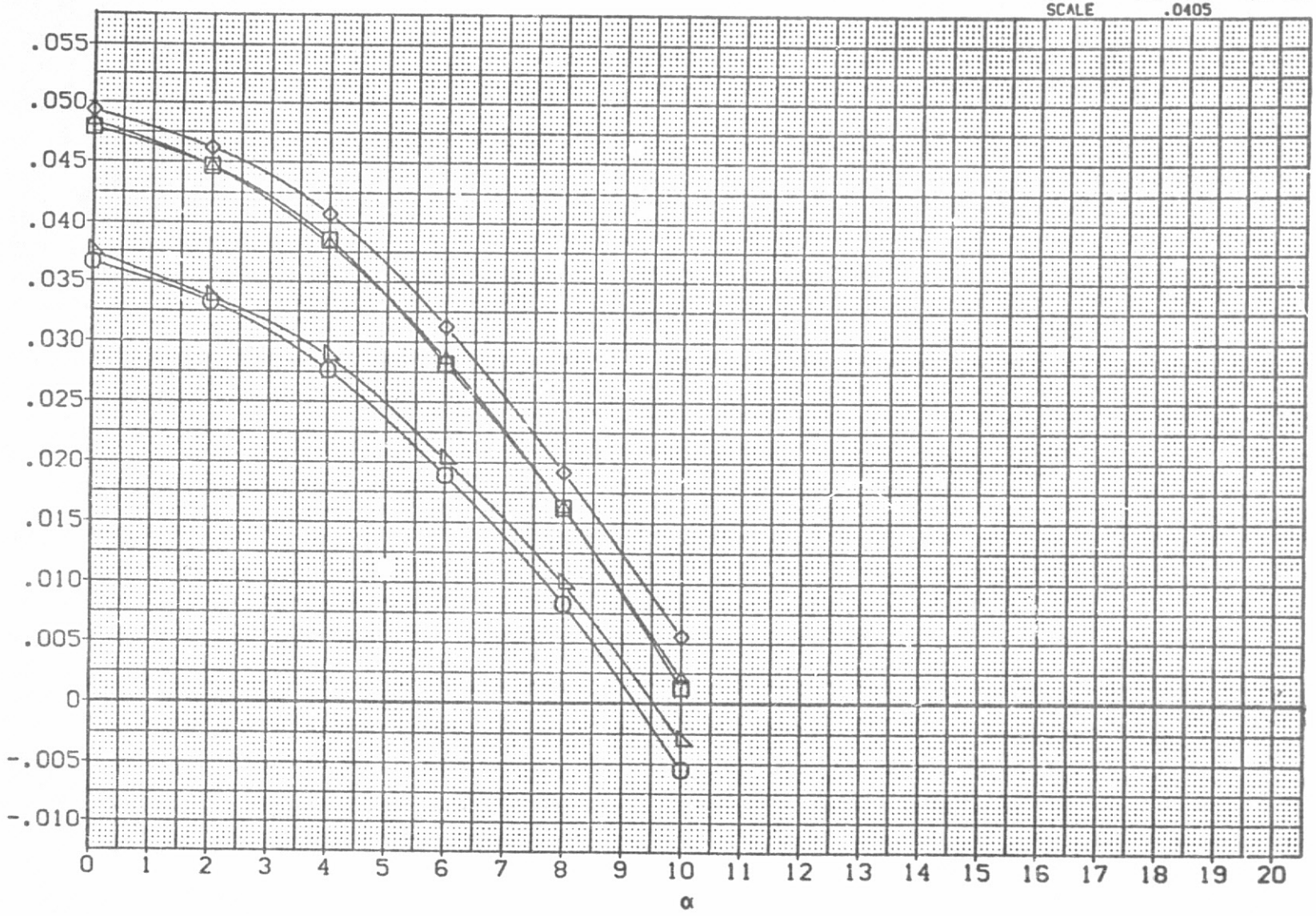

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF016) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
○	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	50.000
PHI-M	88.000	THETAM	50.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

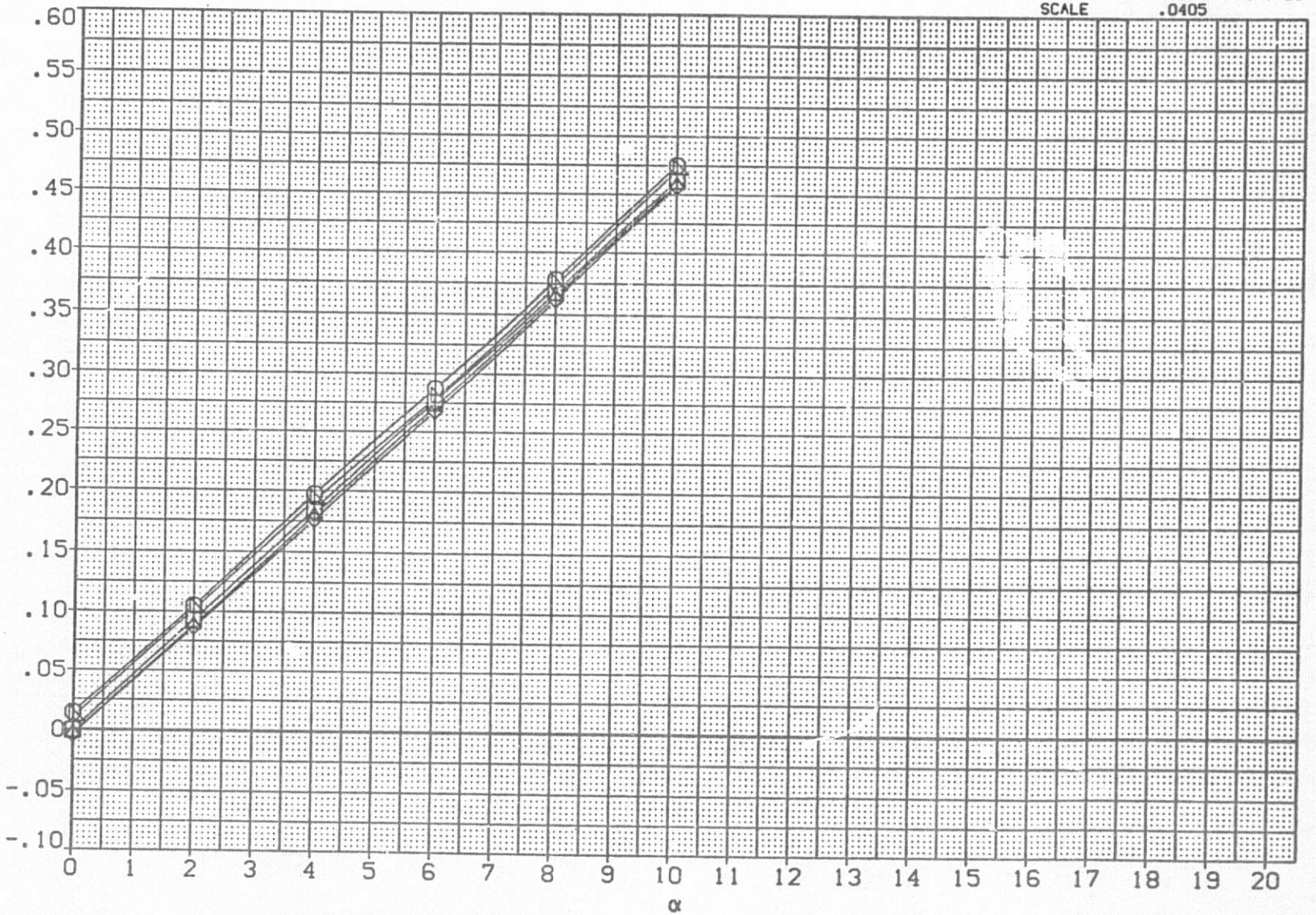

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF016) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA		PARAMETRIC VALUES		
○	-10.000	MACH	.169	ELEVON	.000
□	-5.000	BDFLAP	.000	SPDBRK	25.000
◇	.000	PHI-N	66.000	THETAN	50.000
△	5.000	PHI-M	88.000	THETAM	50.000
▽	10.000	RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

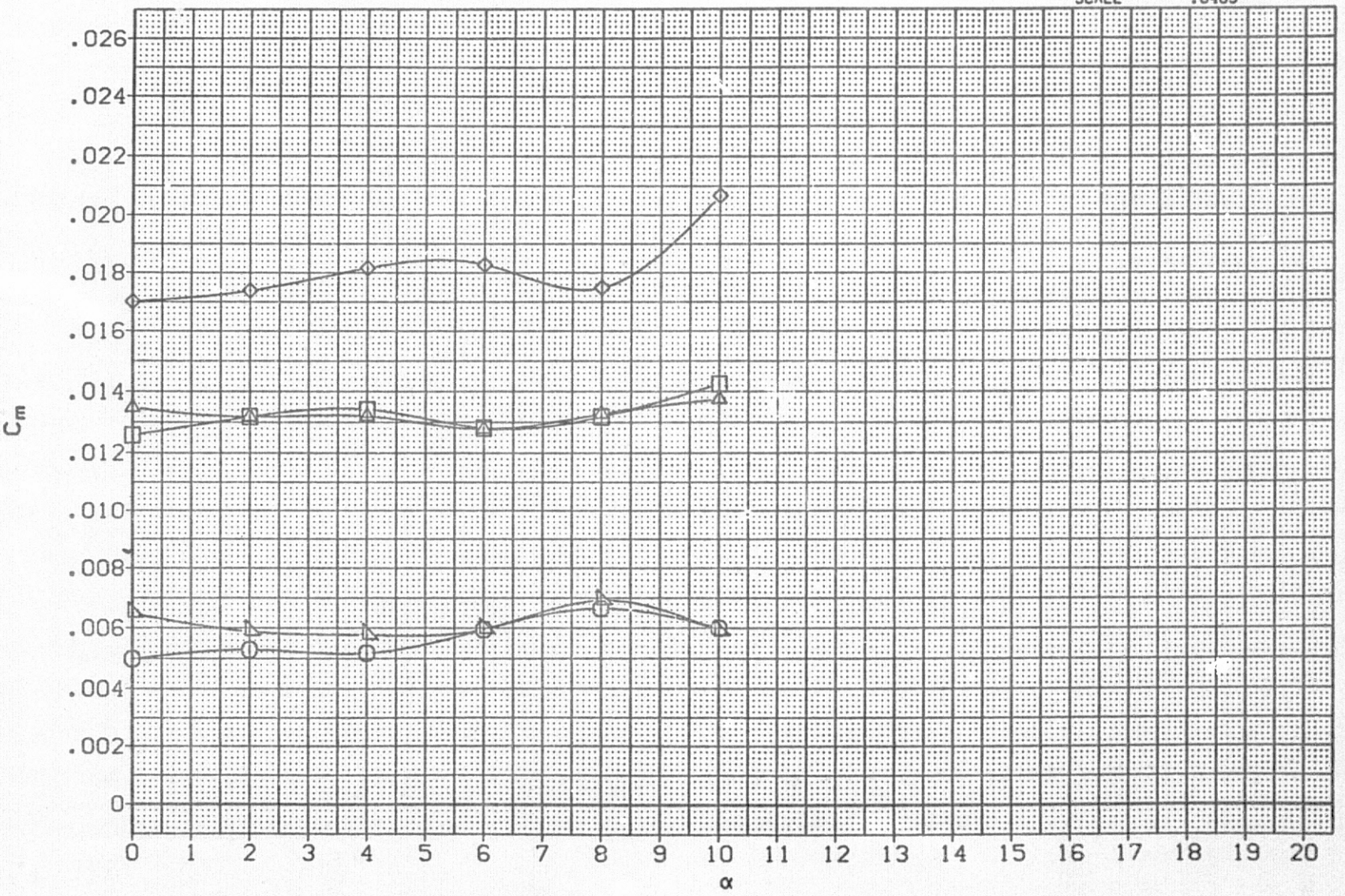

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF017) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
	-10.000
	-5.000
	.000
	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	65.000
PHI-M	88.000	THETAM	65.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

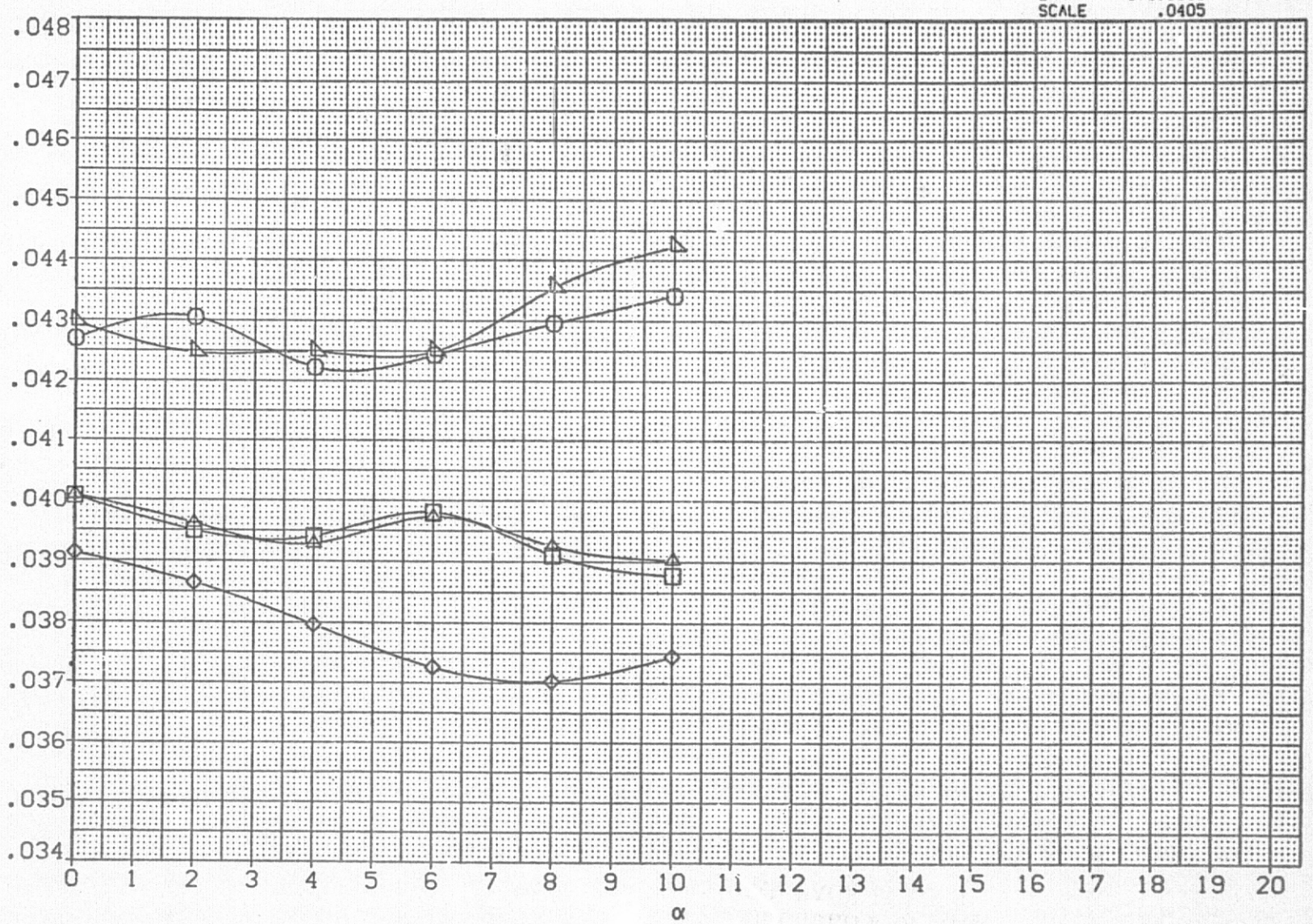

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF017) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▷	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	65.000
PHI-M	88.000	THETAM	65.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

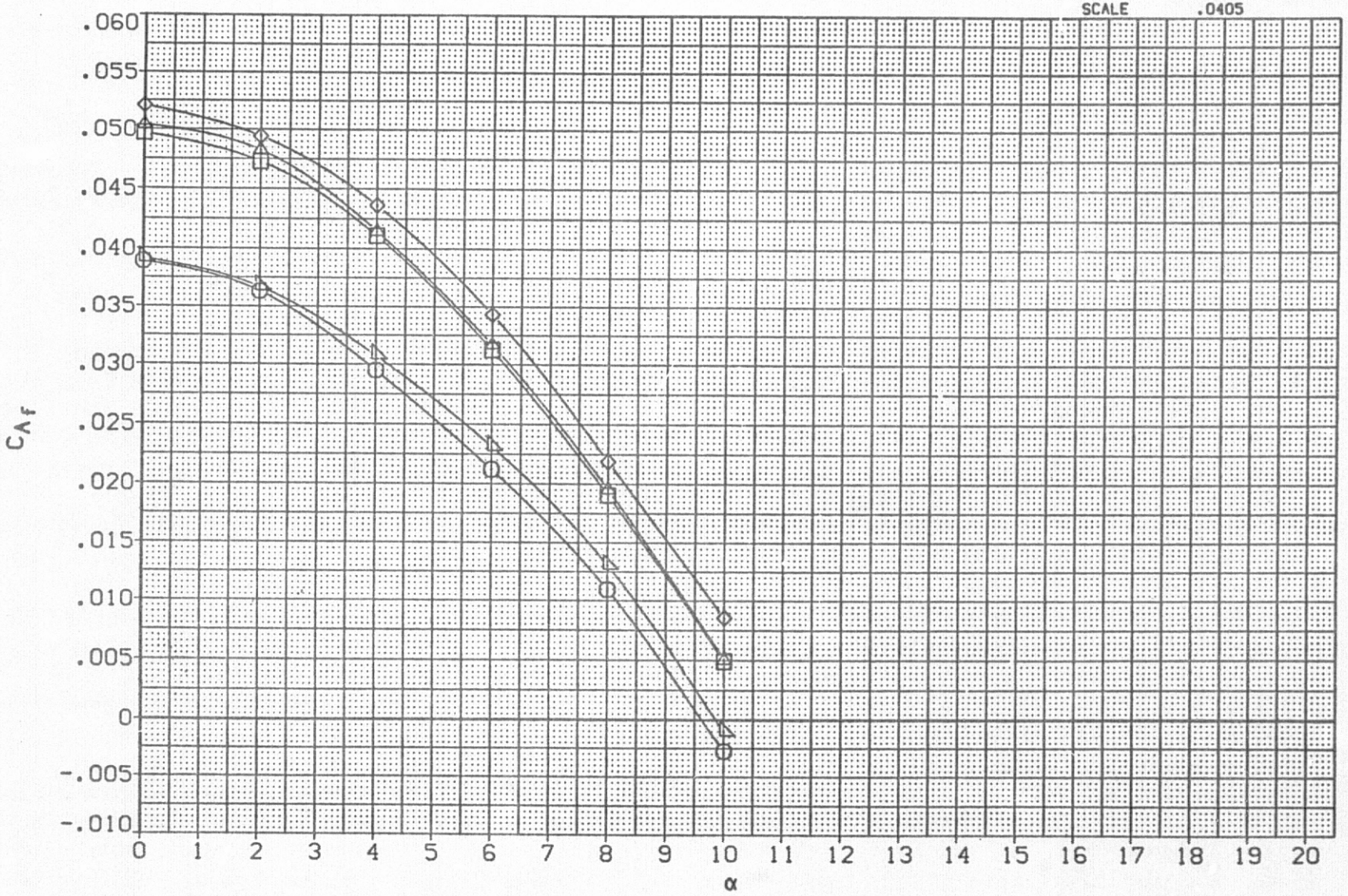

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

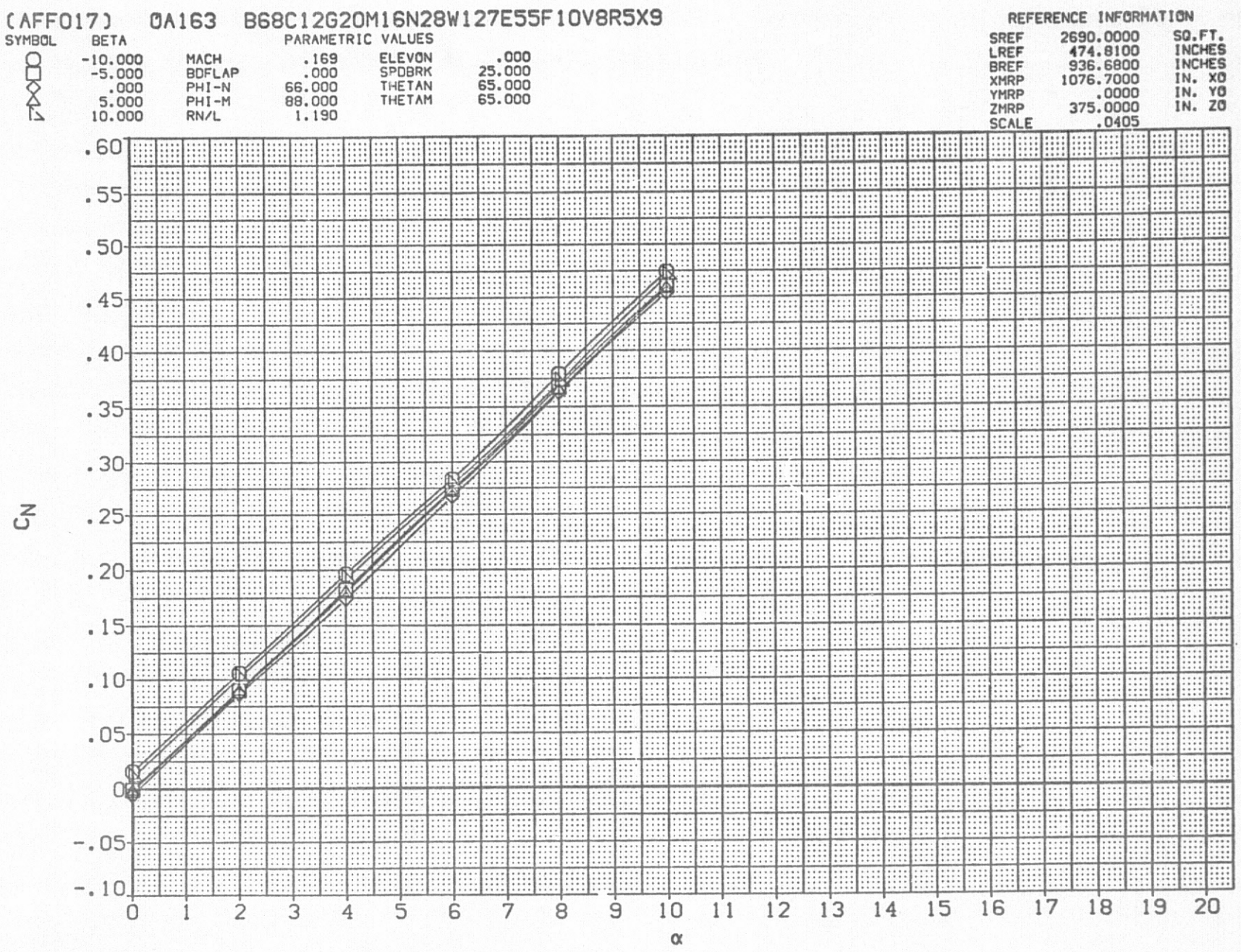

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF017) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	65.000
PHI-M	88.000	THETAM	65.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

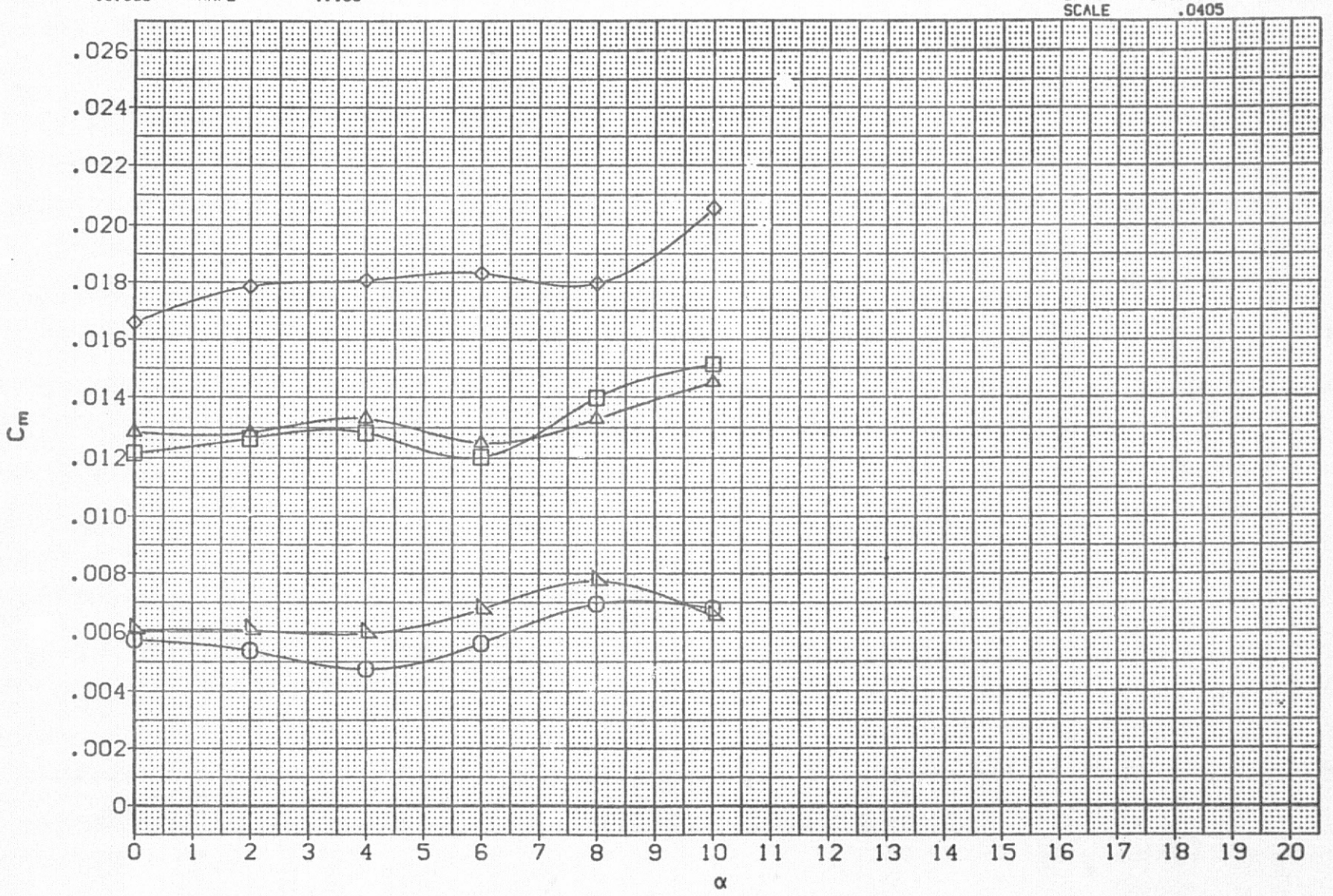

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

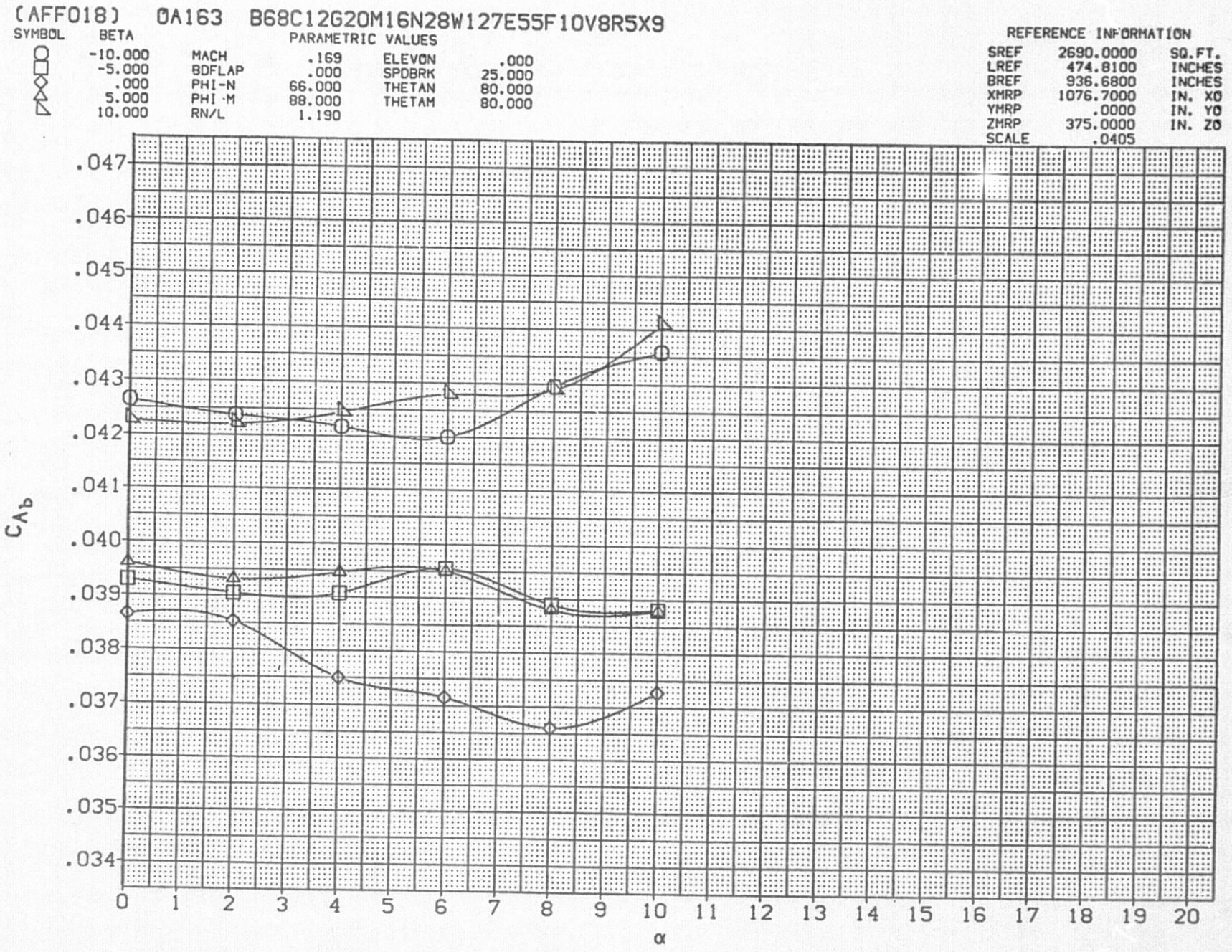

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF018) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	80.000
PHI-M	88.000	THETAM	80.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

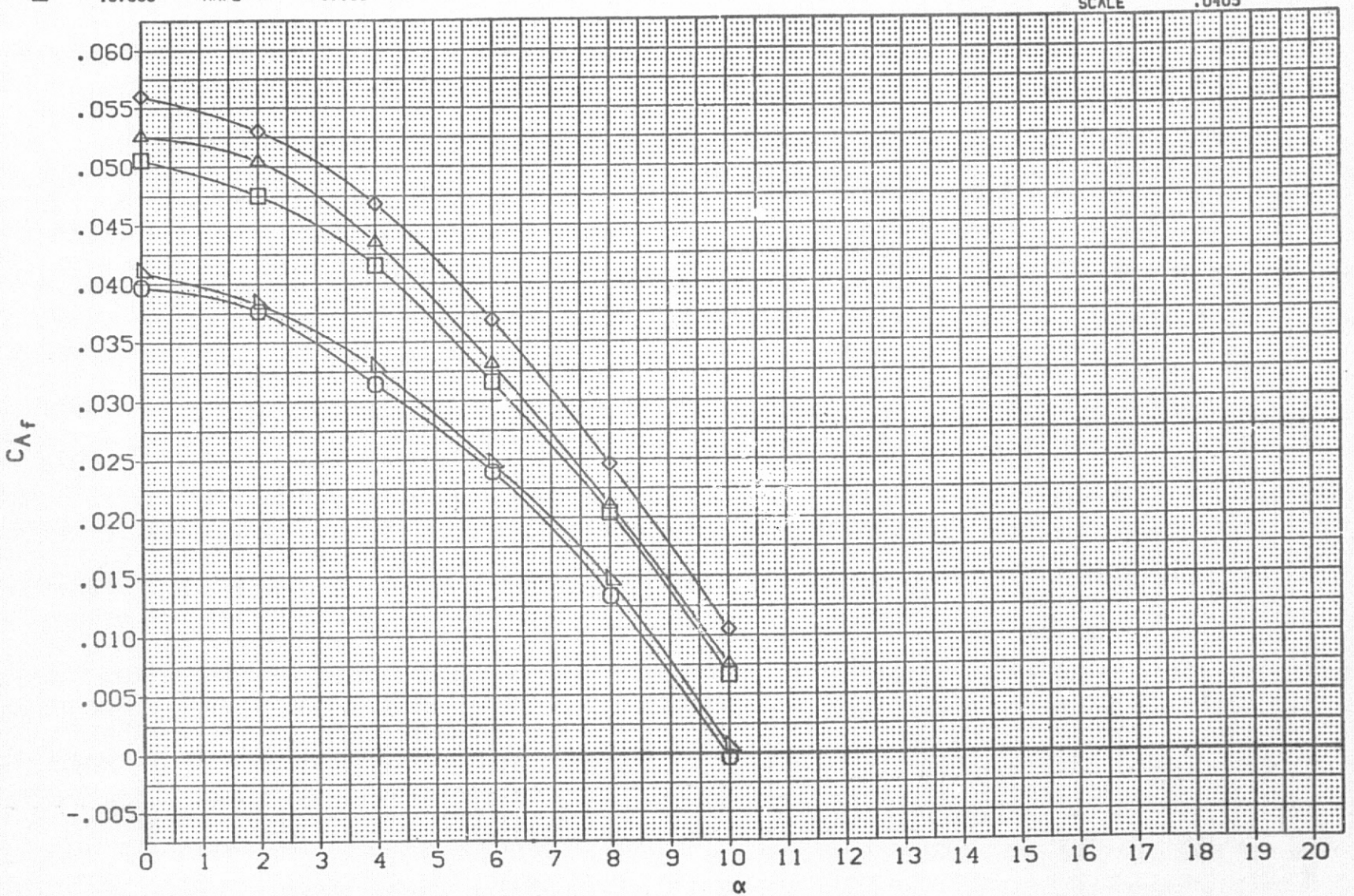

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF018) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
◁	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	80.000
PHI-M	88.000	THETAM	80.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

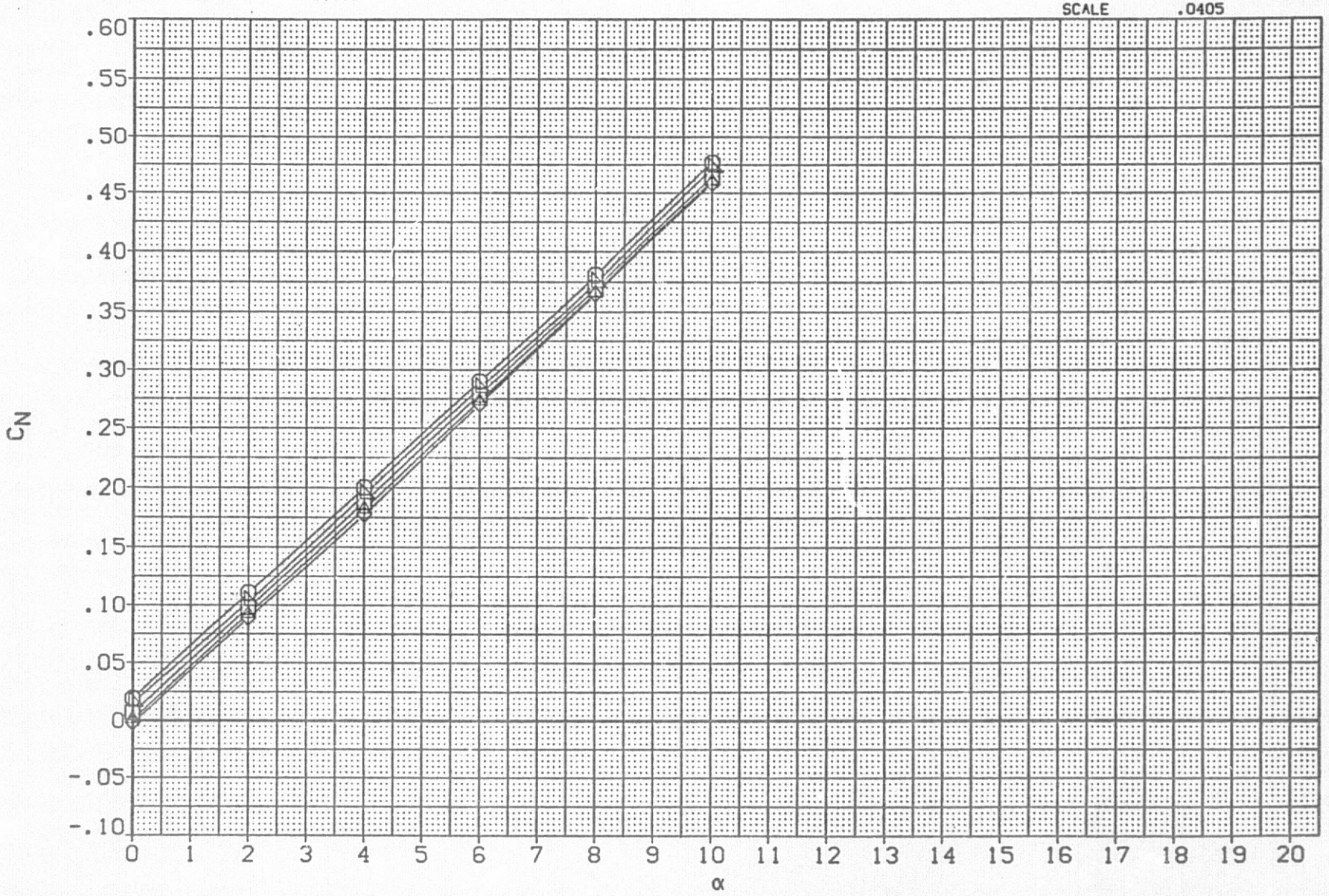

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF018) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	80.000
PHI-M	88.000	THETAM	80.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

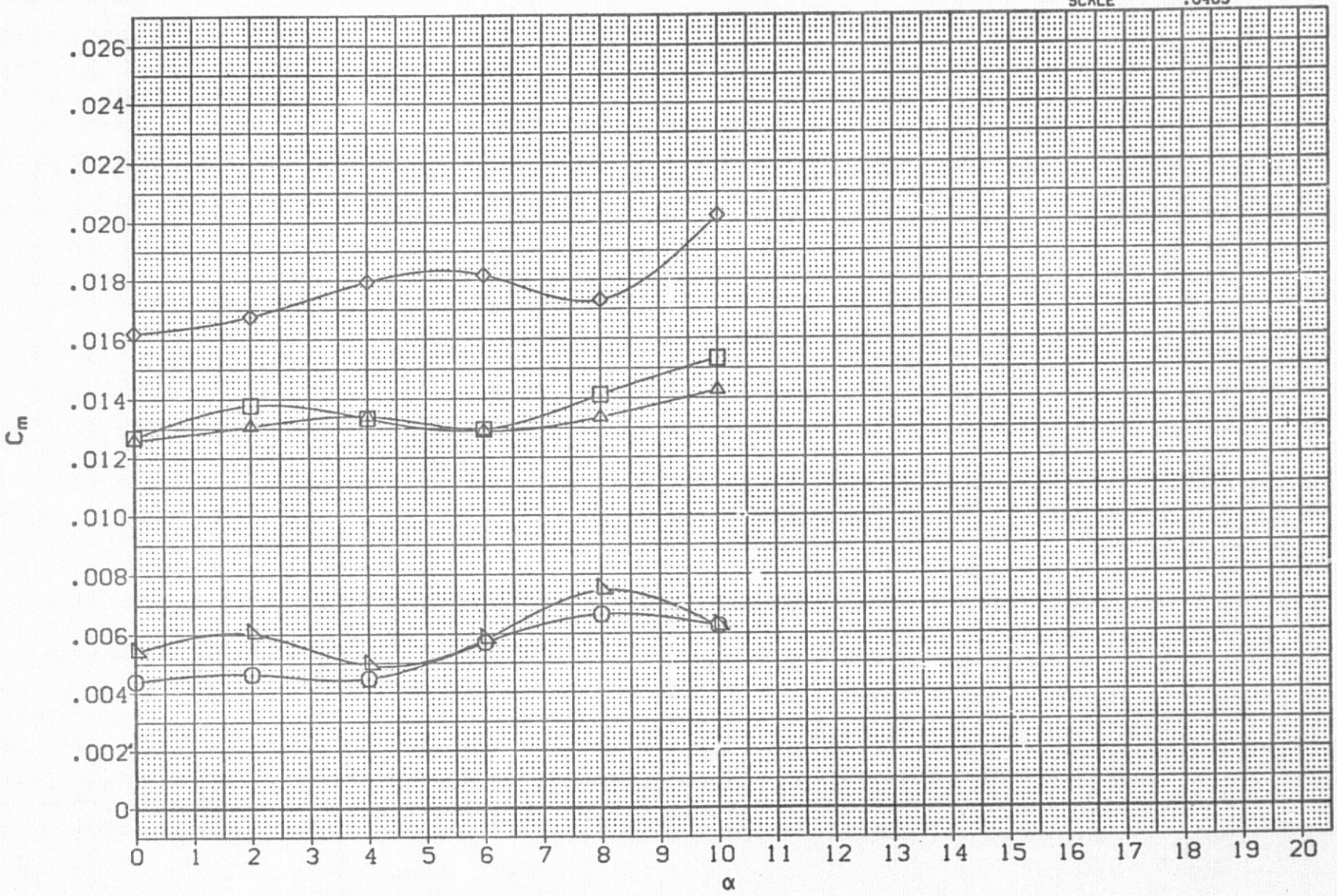

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

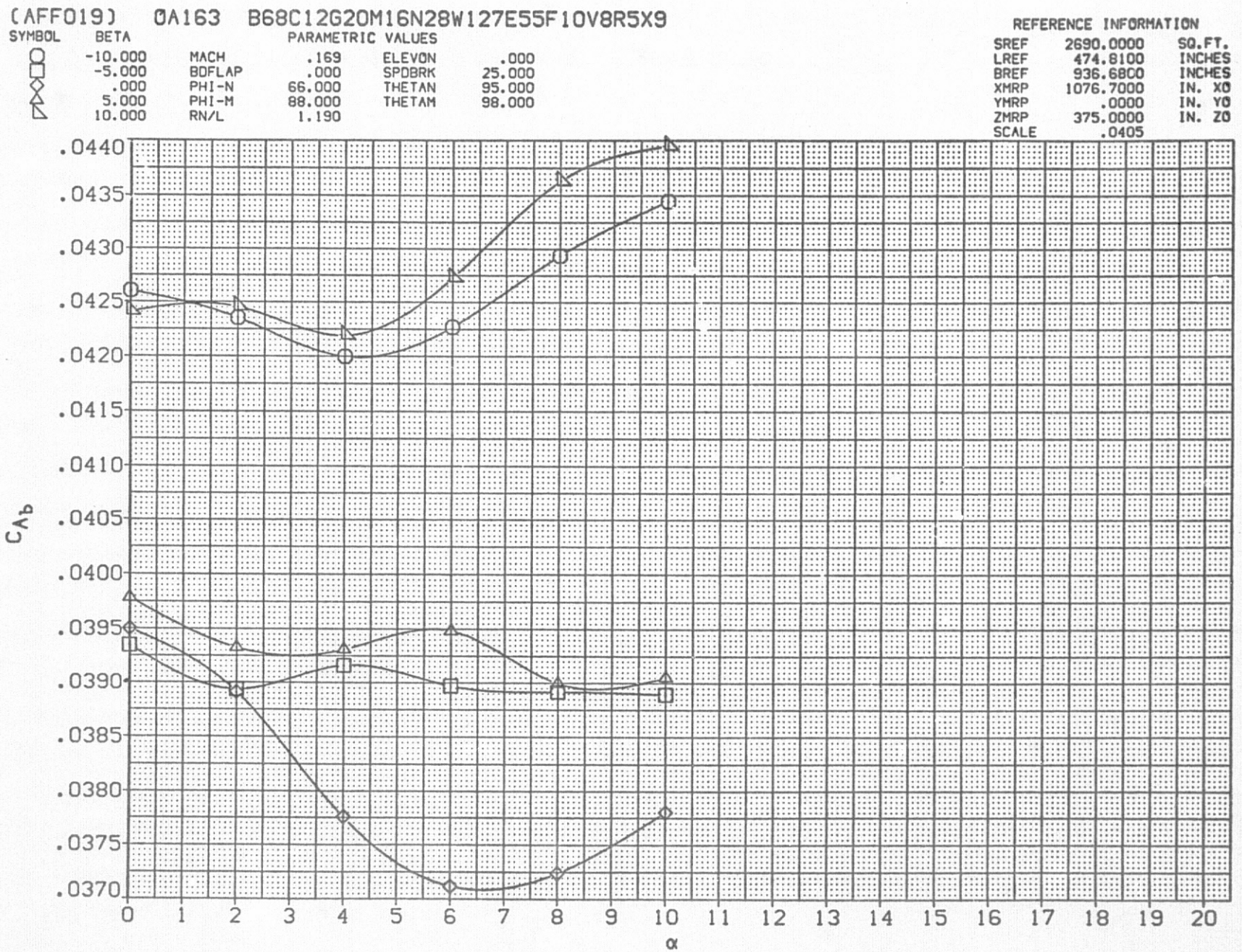

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF019) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	95.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.6100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

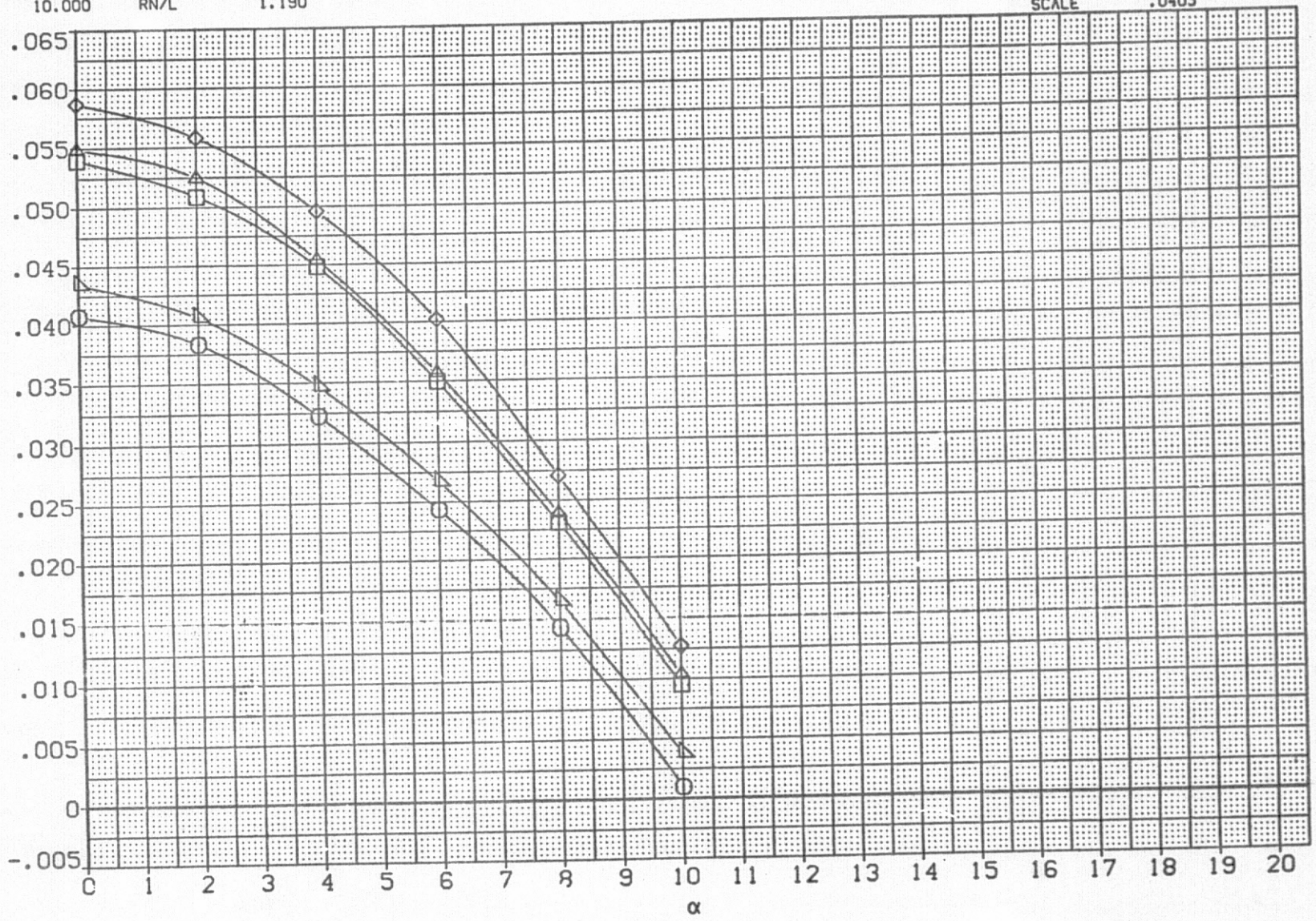

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF019) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
◁	5.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	95.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

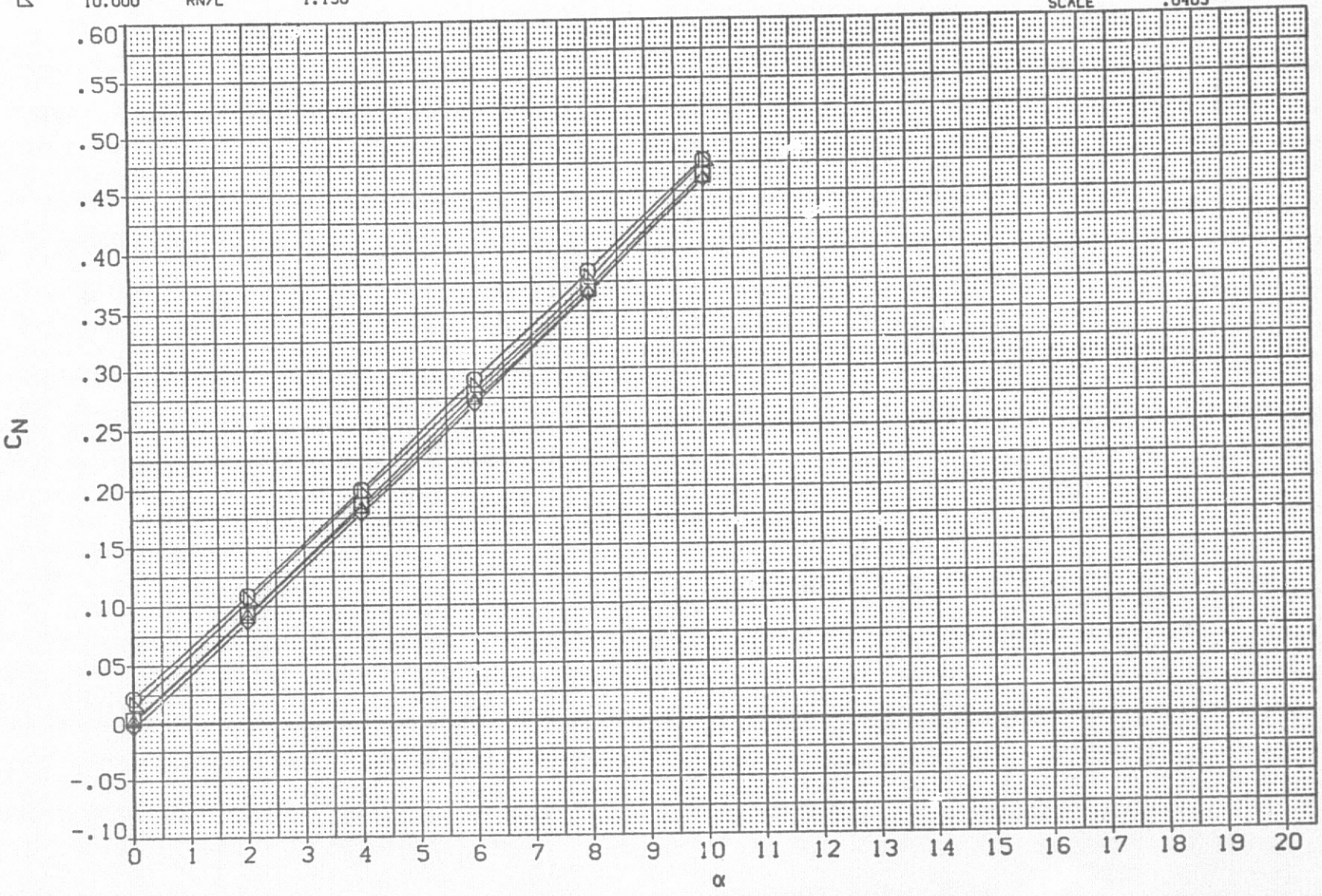

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF019) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA	PARAMETRIC VALUES			
	-10.000	MACH	.169	ELEVON	.000
	-5.000	BDFLAP	.000	SPDBRK	25.000
	.000	PHI-N	66.000	THETAN	95.000
	5.000	PHI-M	88.000	THETAM	98.000
	10.000	RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

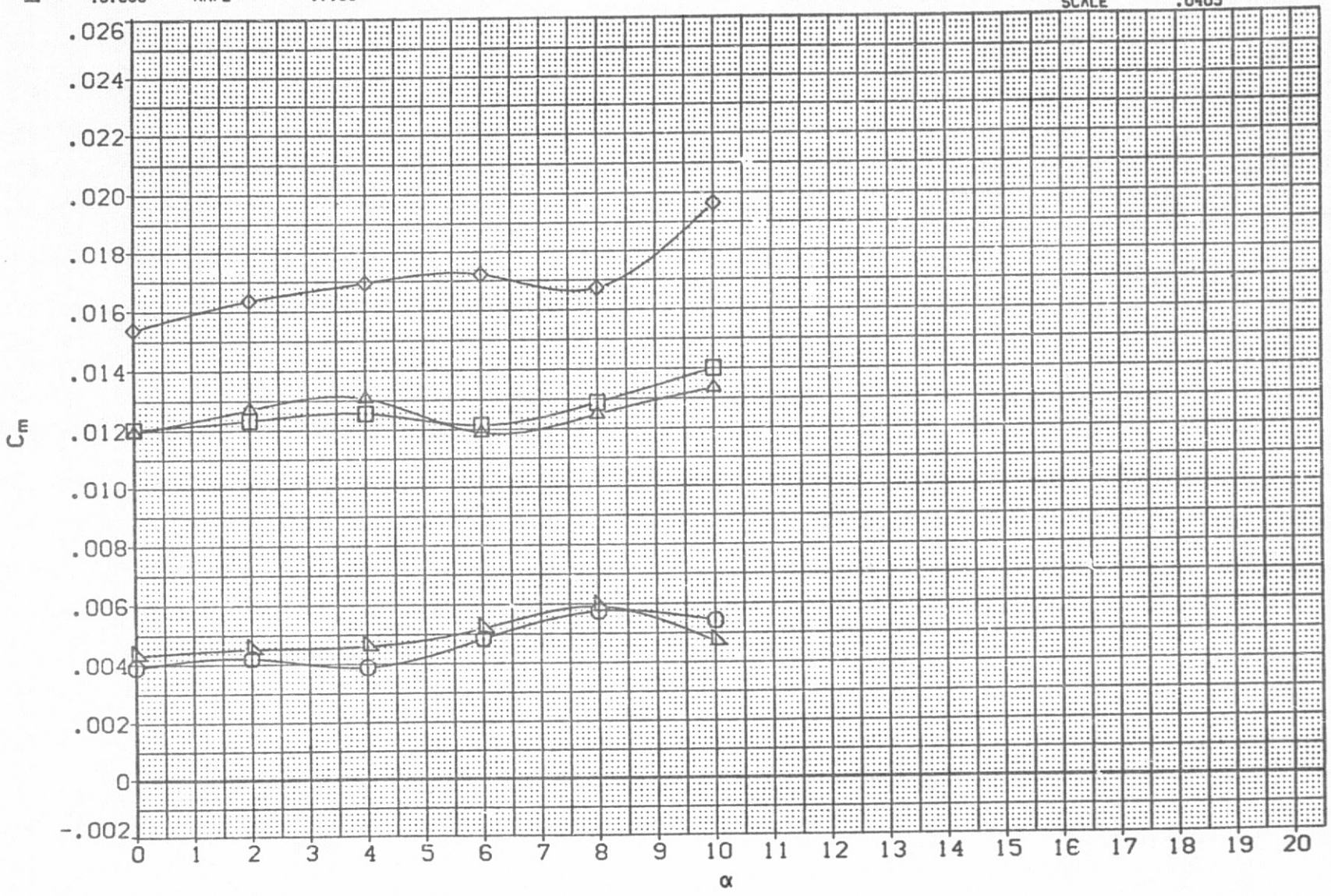

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF020) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPOBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

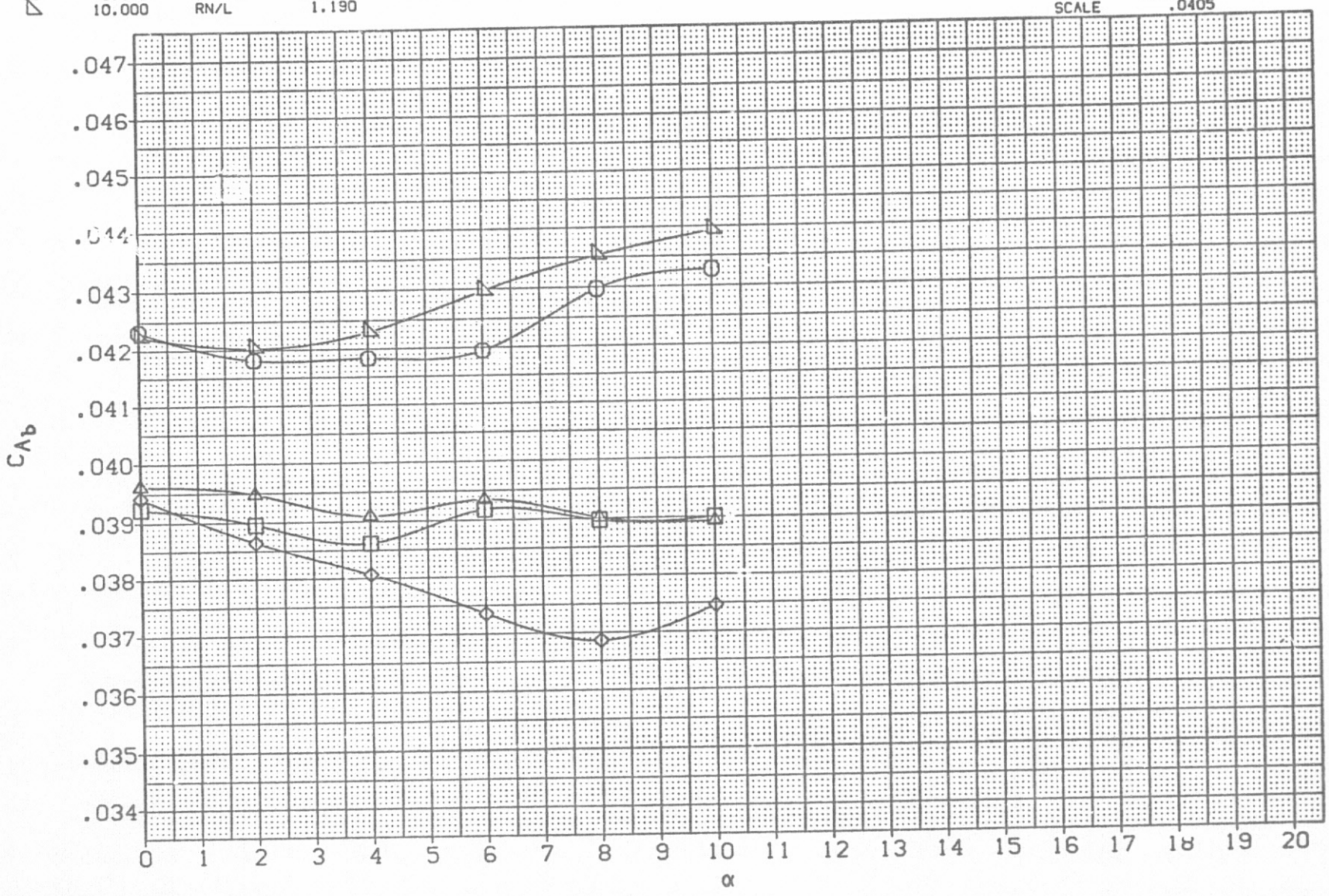

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF020) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▷	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

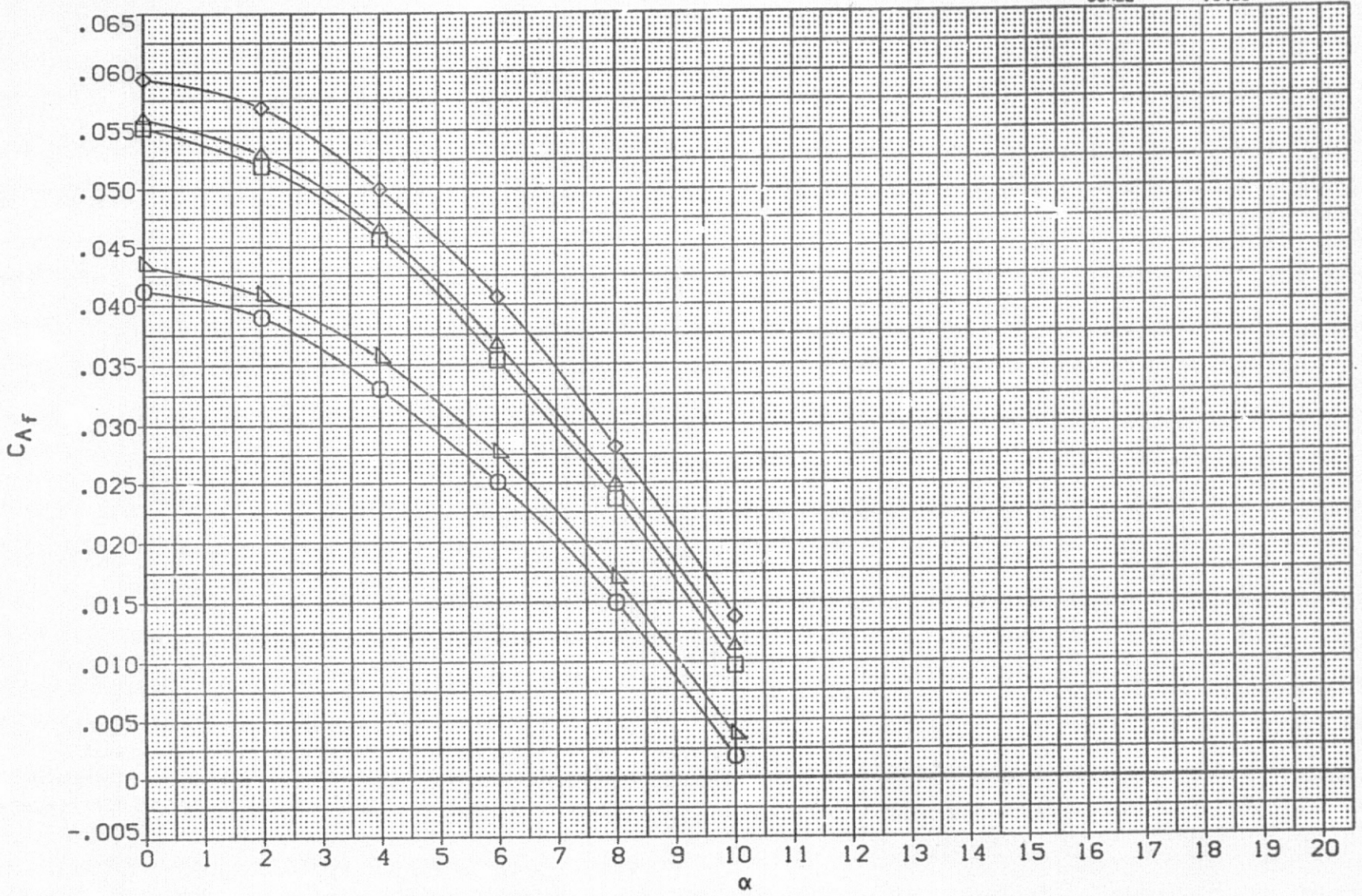

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF020) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

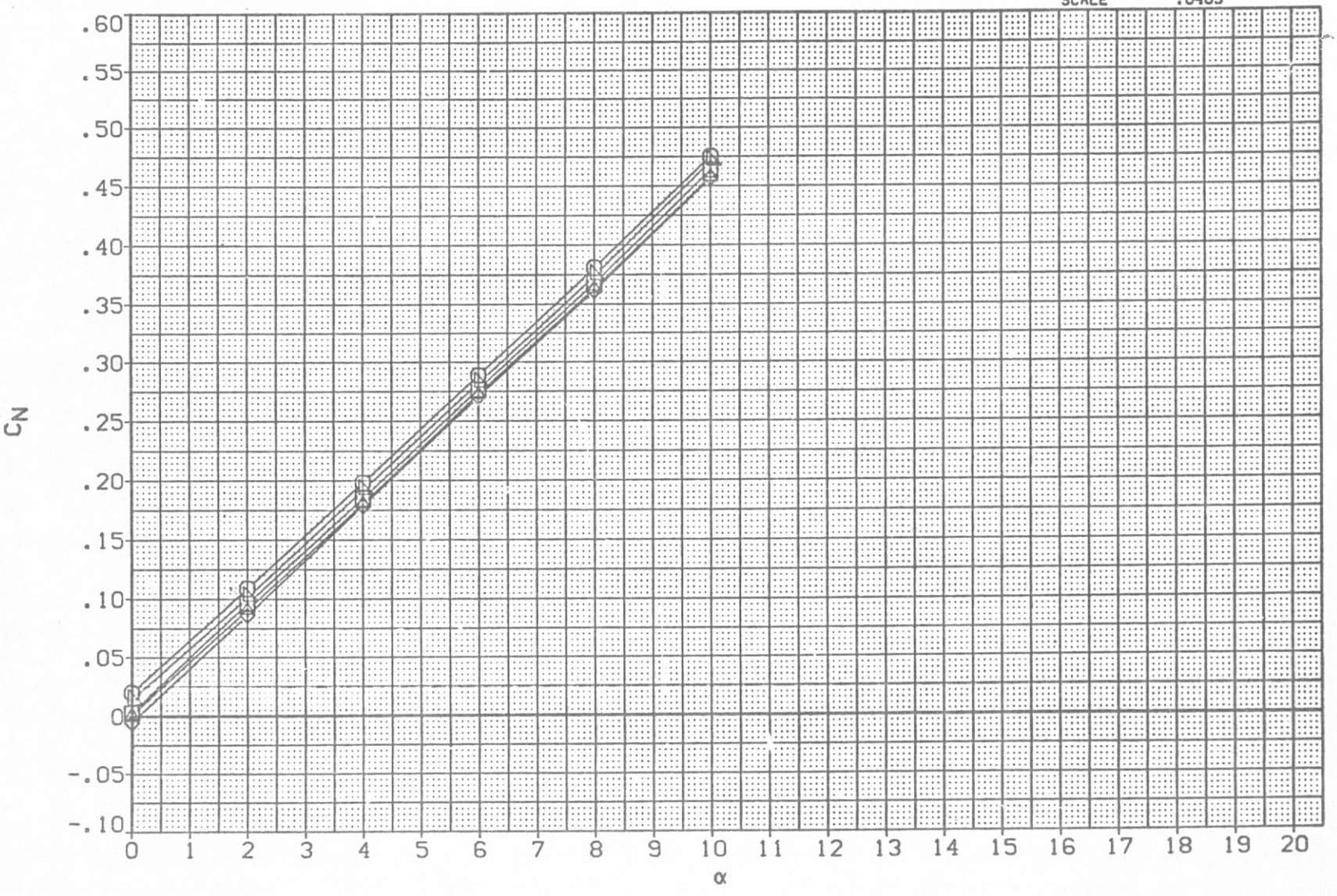

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF020) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
⋈	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

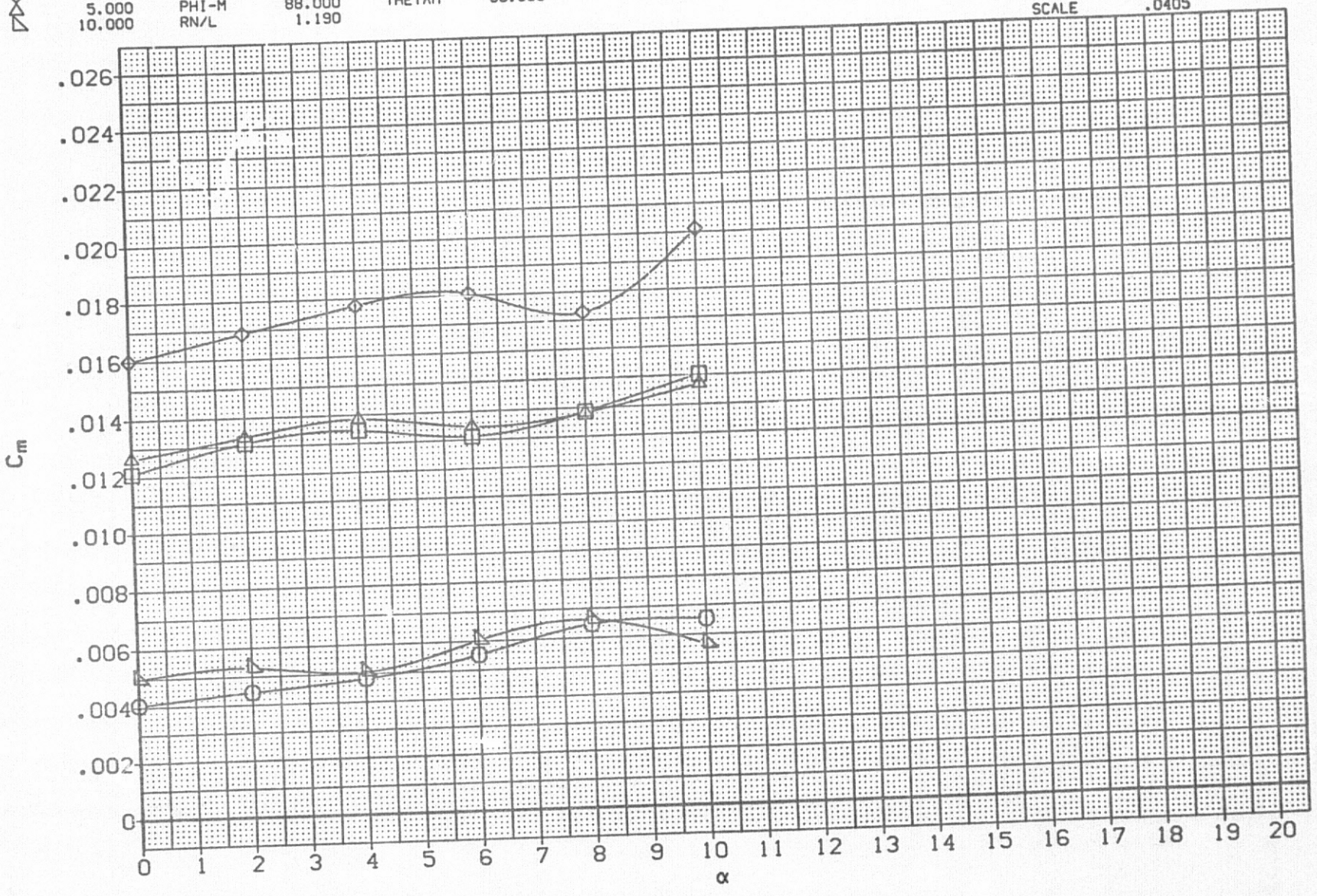

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF021) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	5.000
BDFLAP	-11.700	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

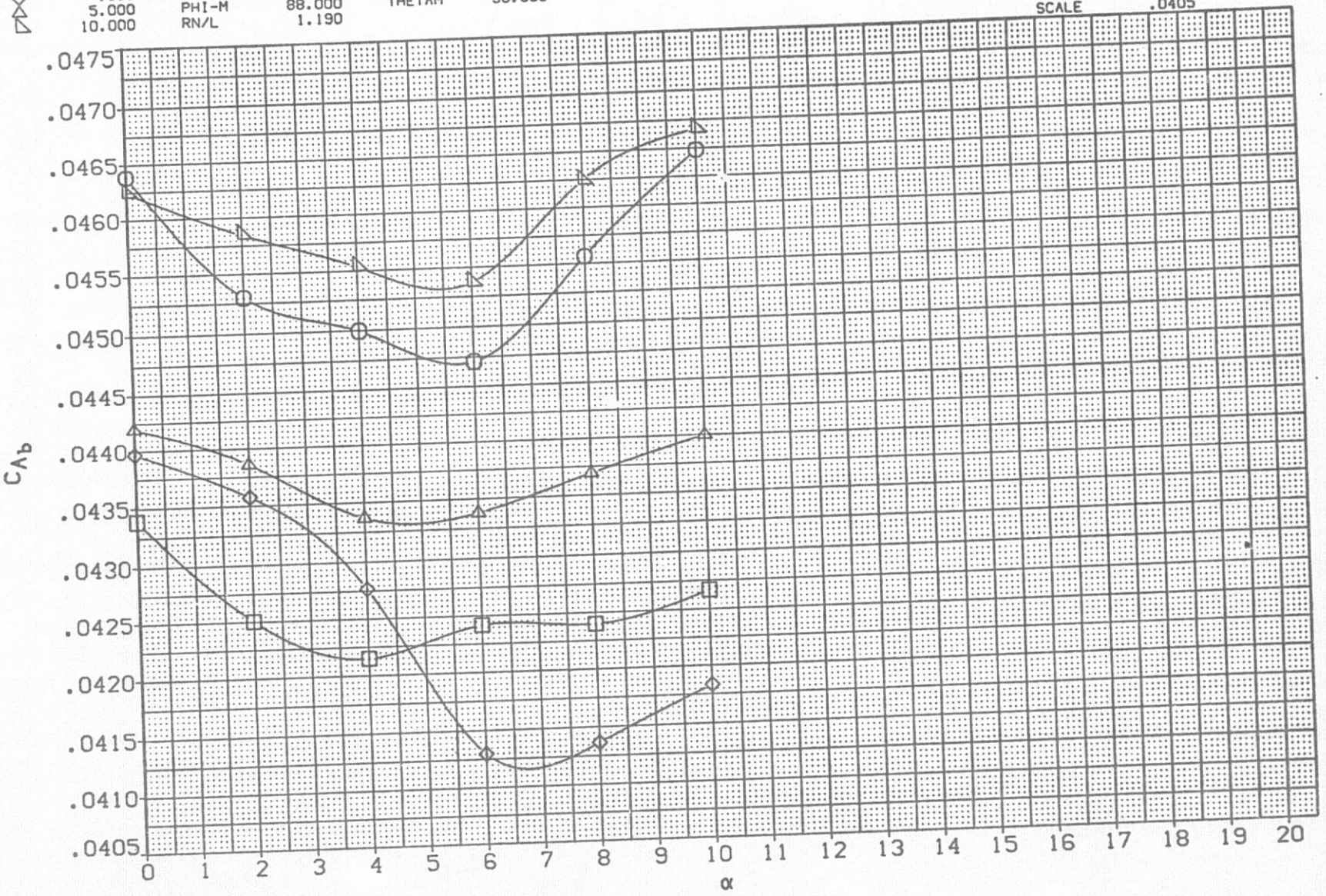

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF021) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⋈	.000
◇	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	5.000
BDFLAP	-11.700	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

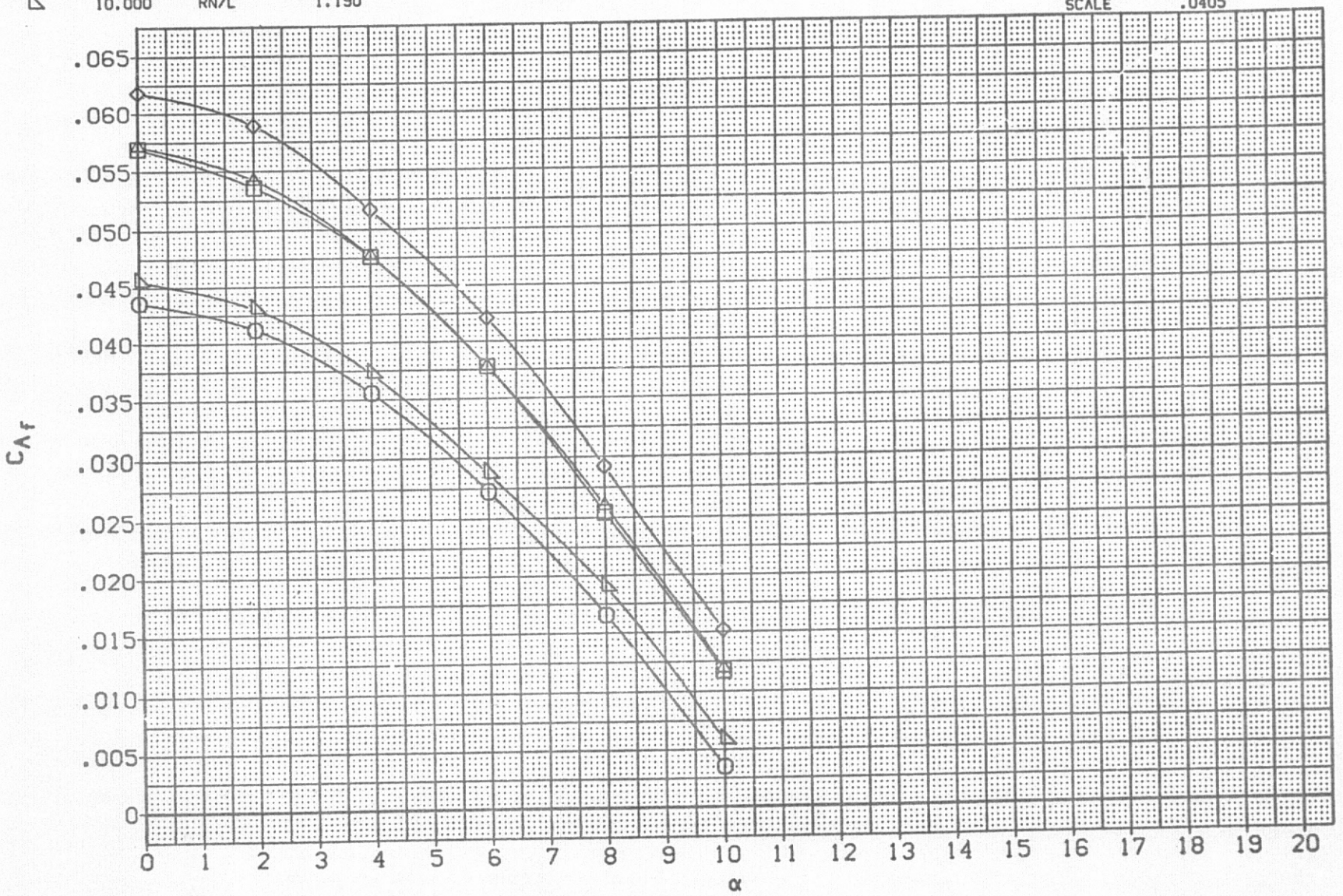

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF021) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA		PARAMETRIC VALUES		
○	-10.000	MACH	.169	ELEVON	5.000
□	-5.000	BDFLAP	-11.700	SPDBRK	25.000
◇	.000	PHI-N	66.000	THETAN	108.000
△	5.000	PHI-M	88.000	THETAM	98.000
	10.000	RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

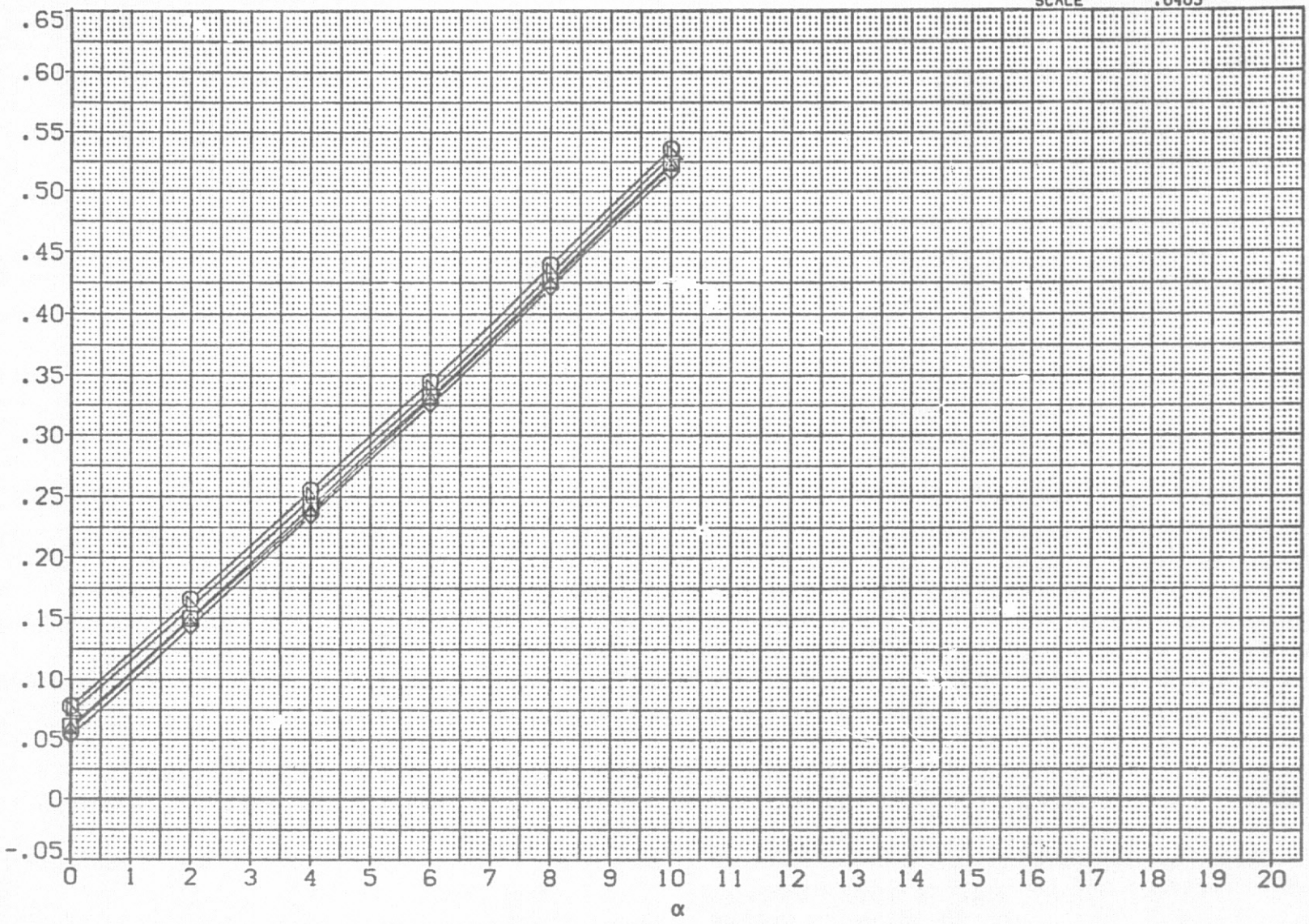

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF021) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
◇	.000
△	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	5.000
BDFLAP	-11.700	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

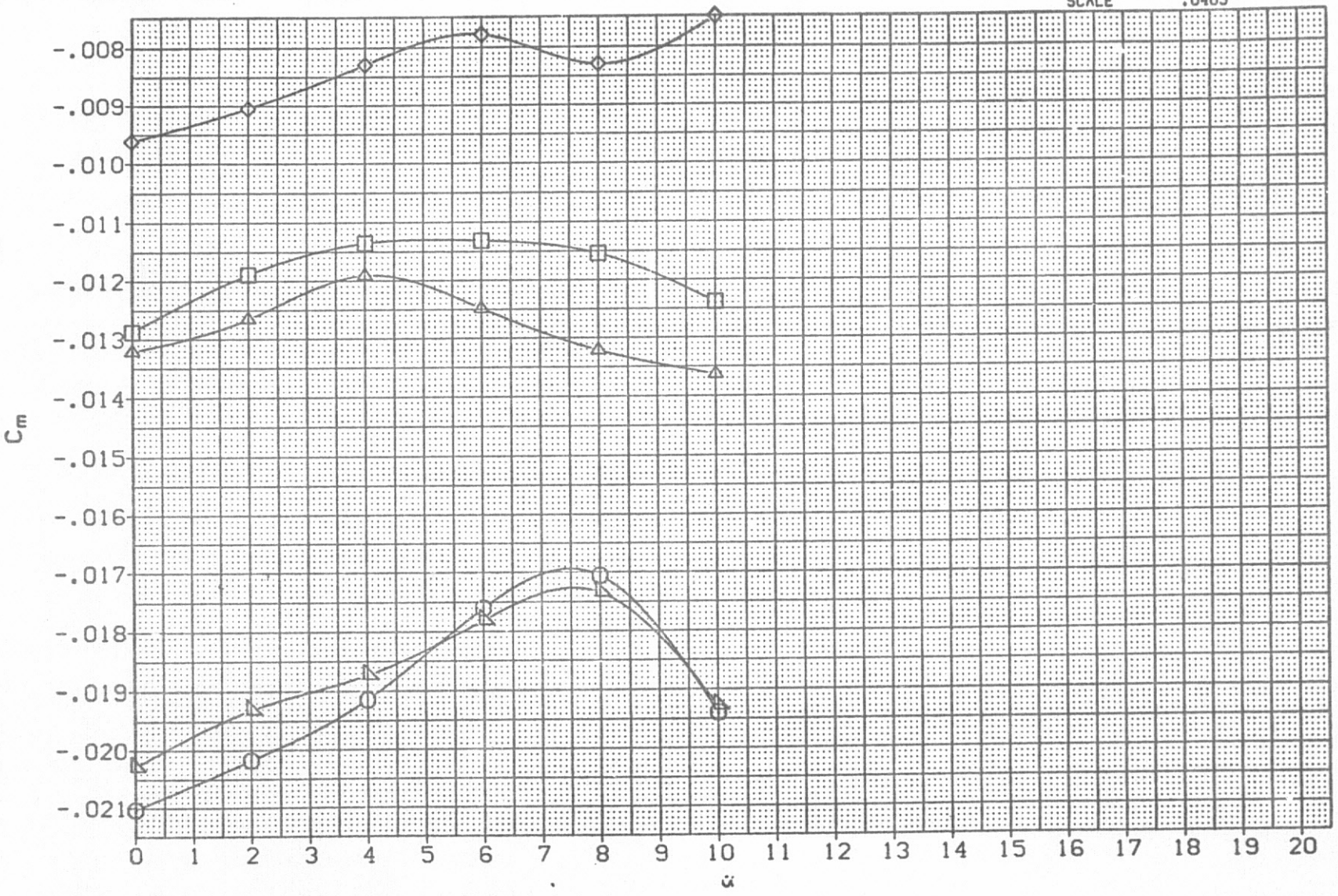

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

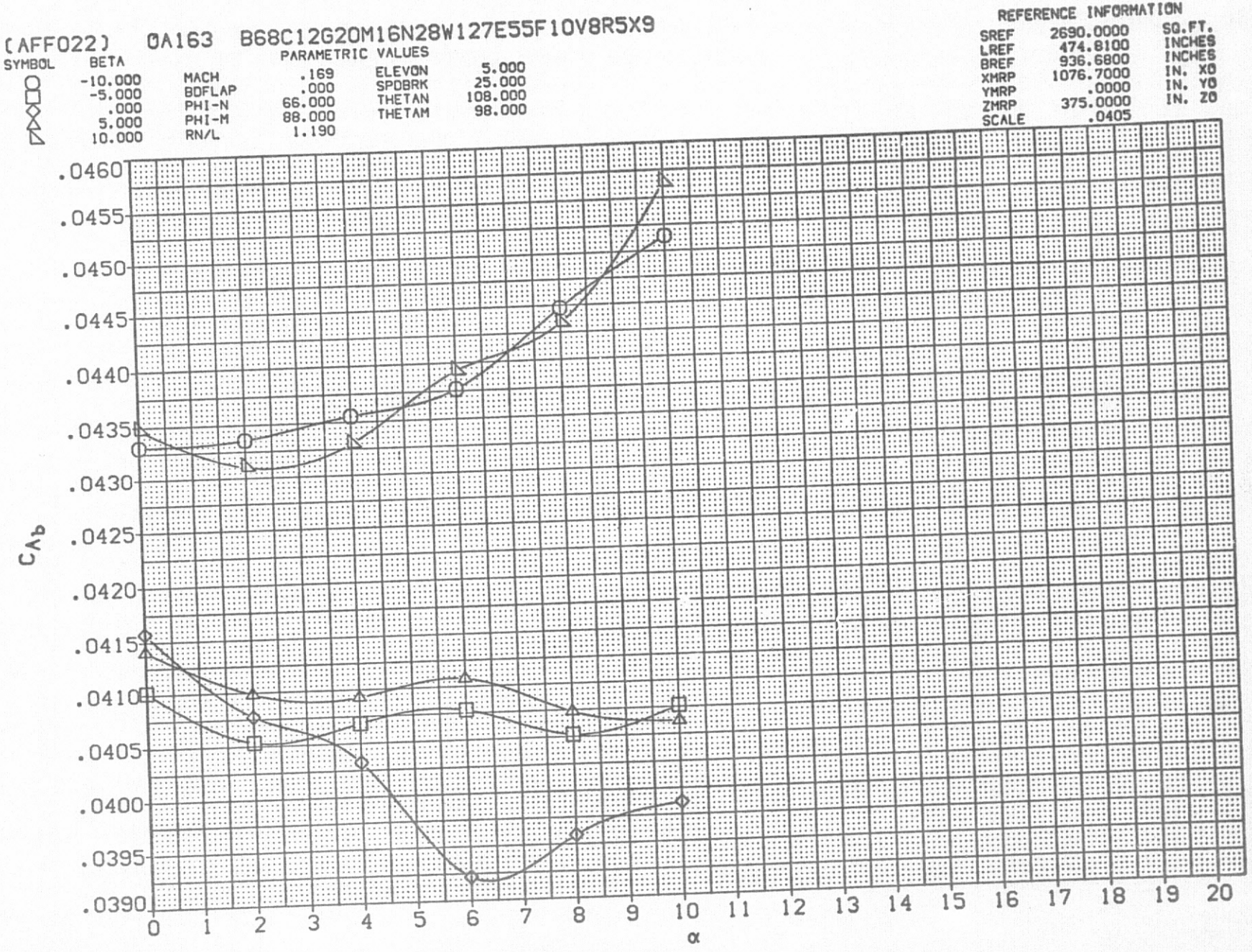

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF022) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⋈	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	5.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

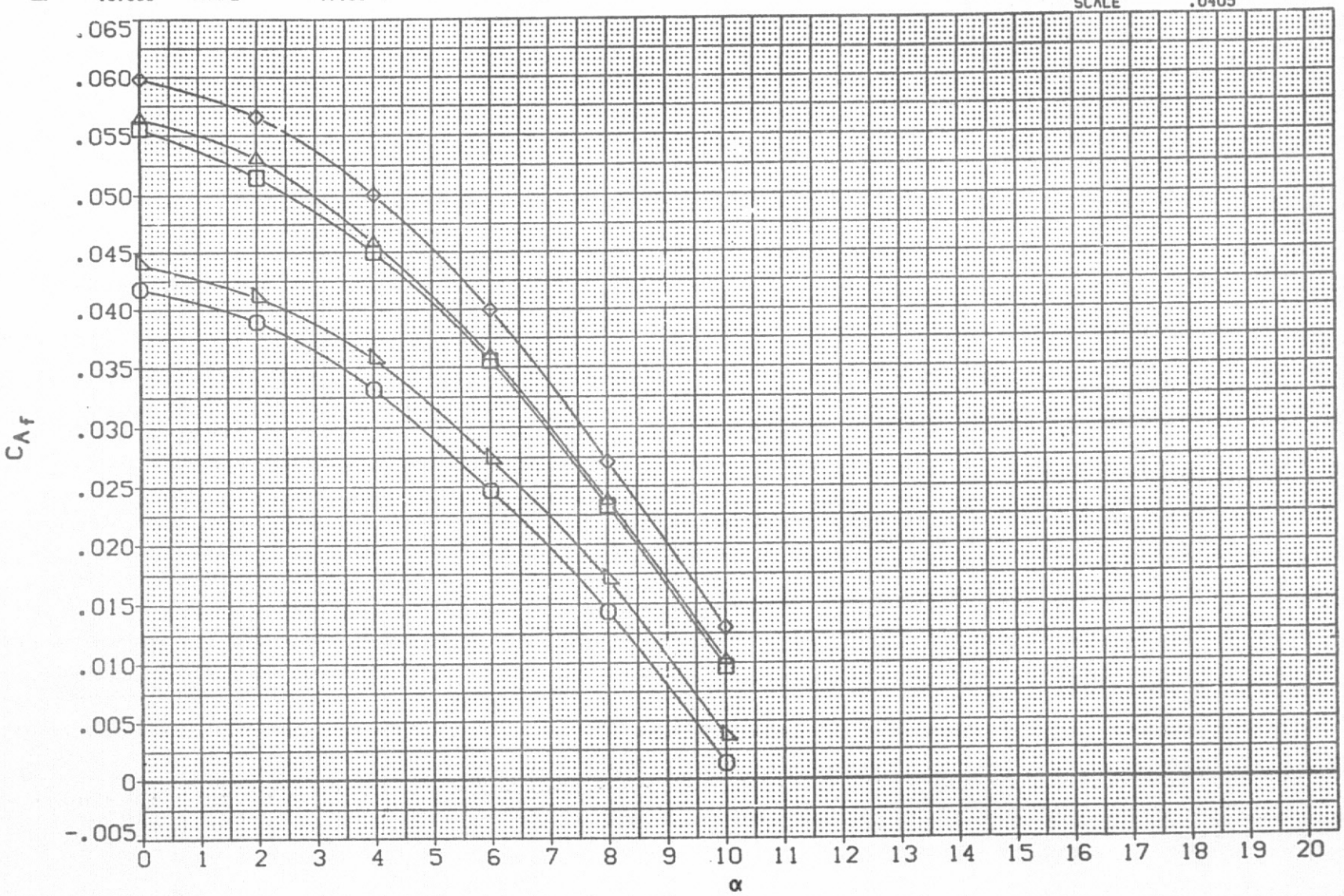

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF022) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	5.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

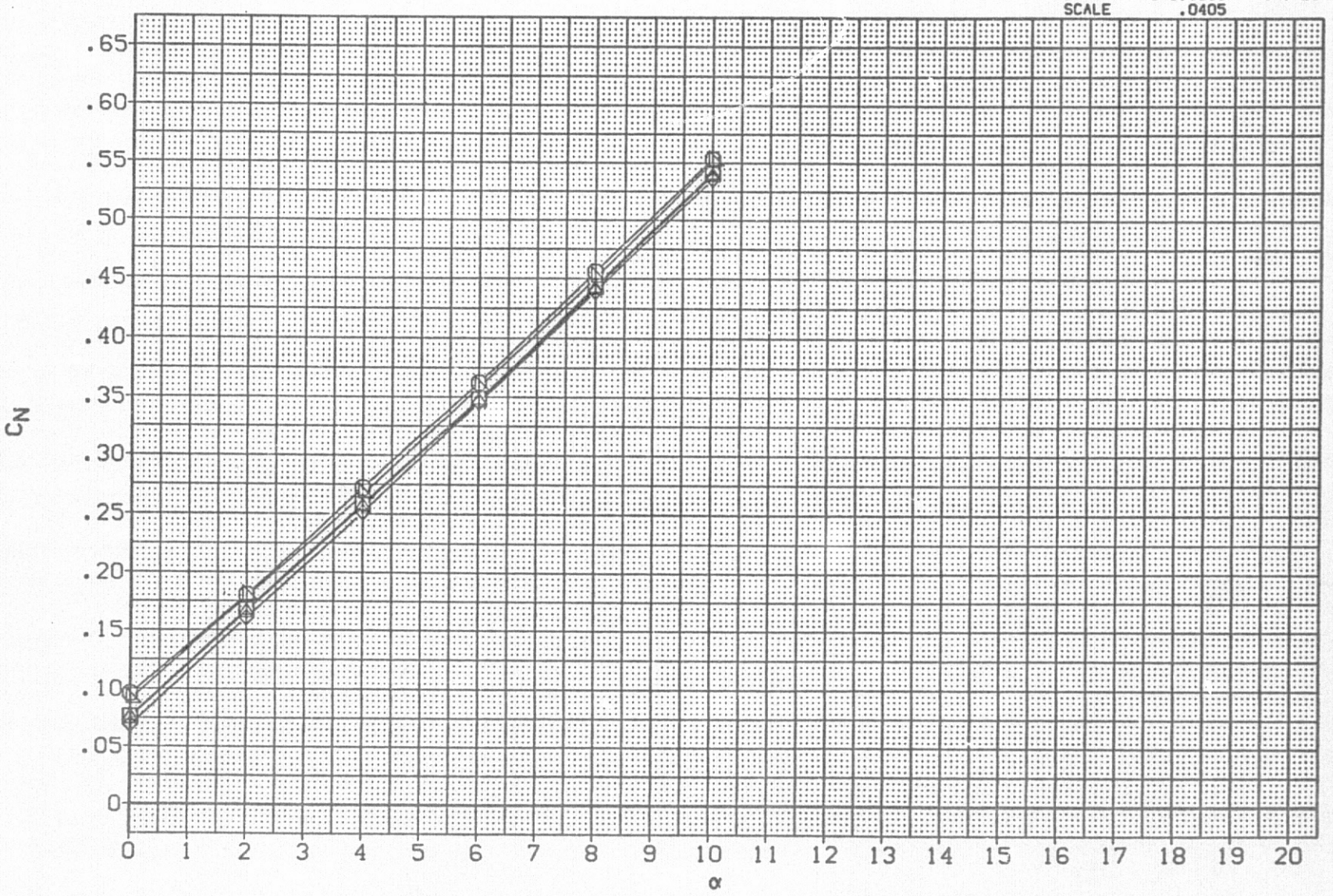

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF022) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	5.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

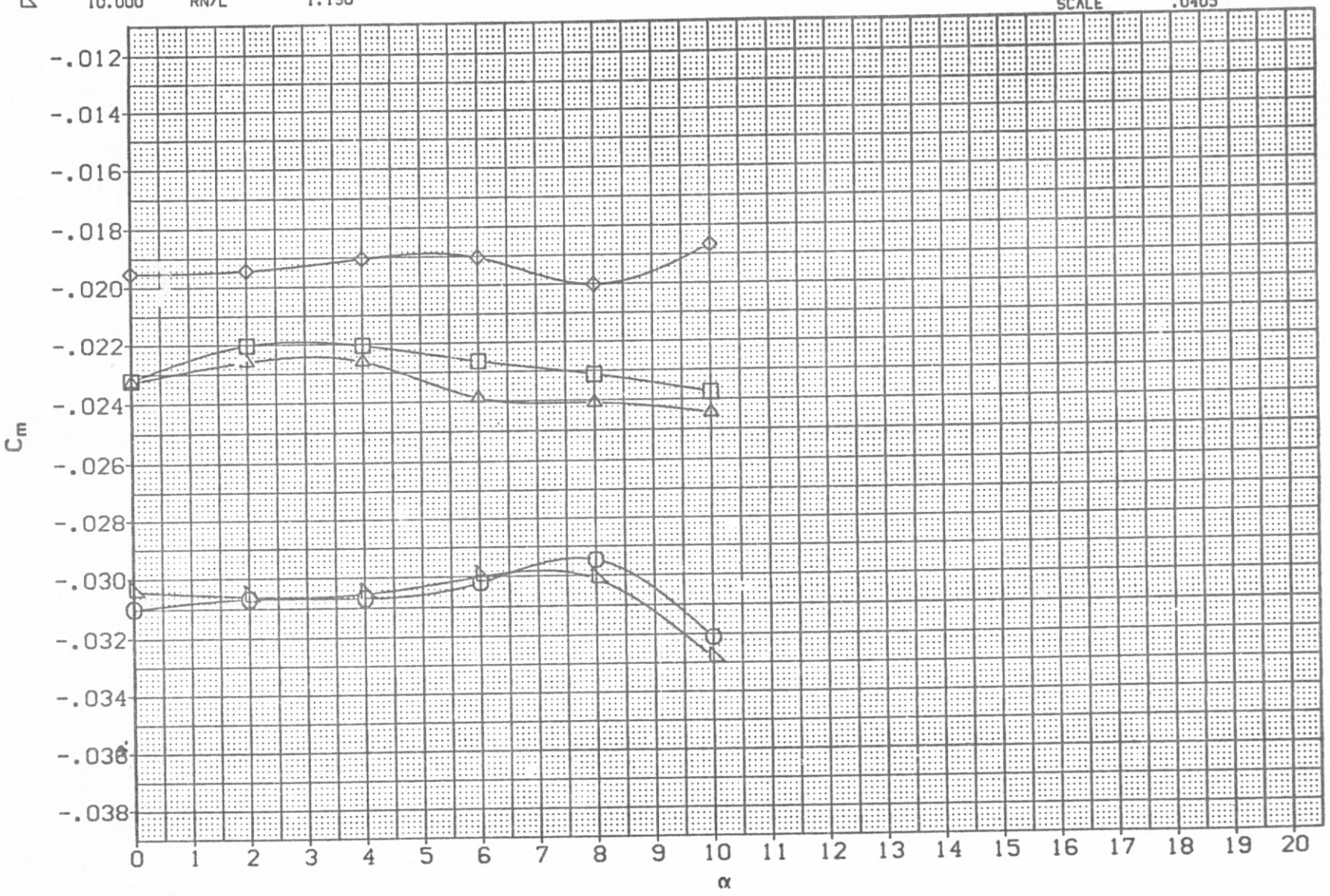

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF023) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

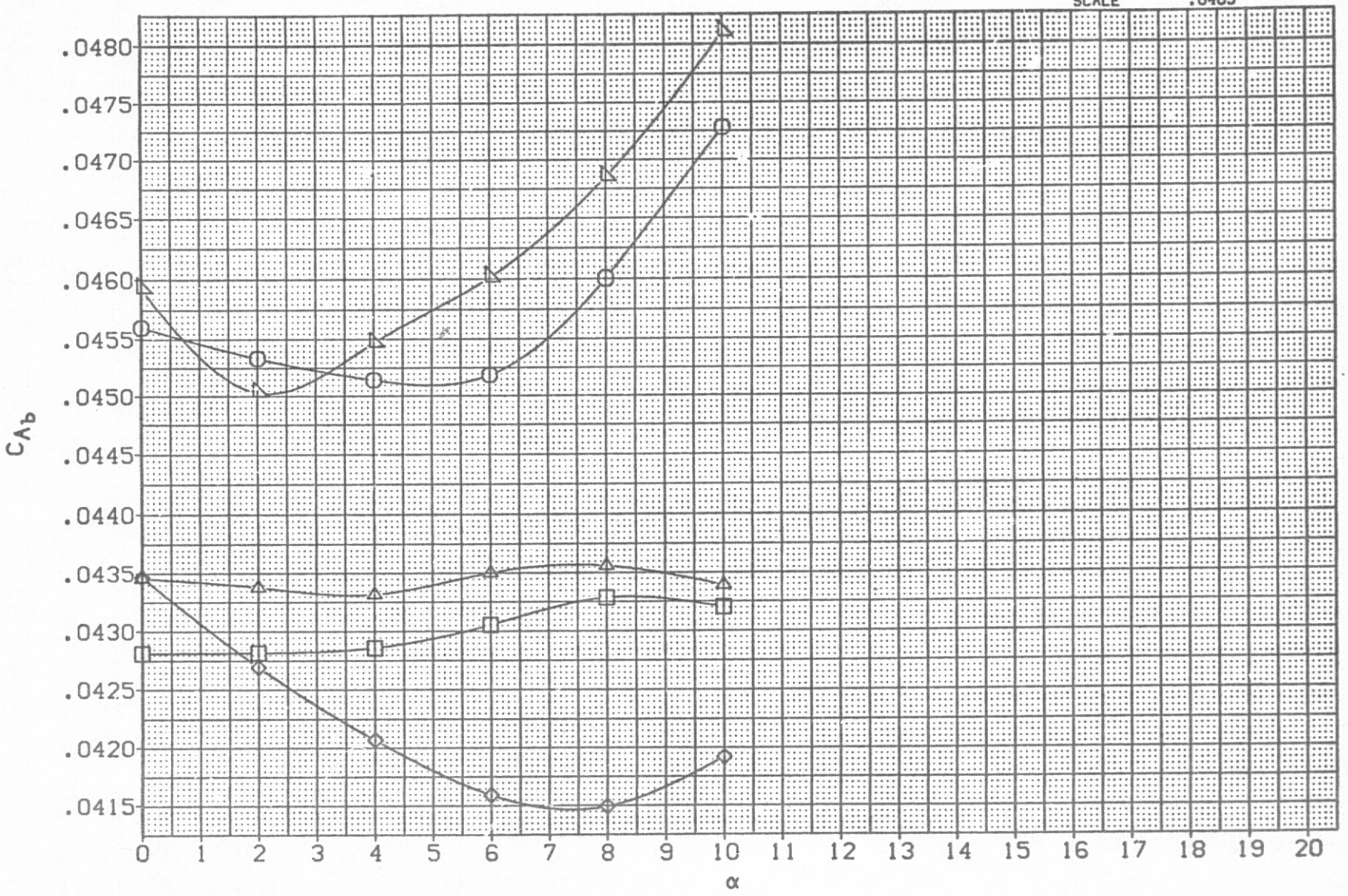

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF023) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

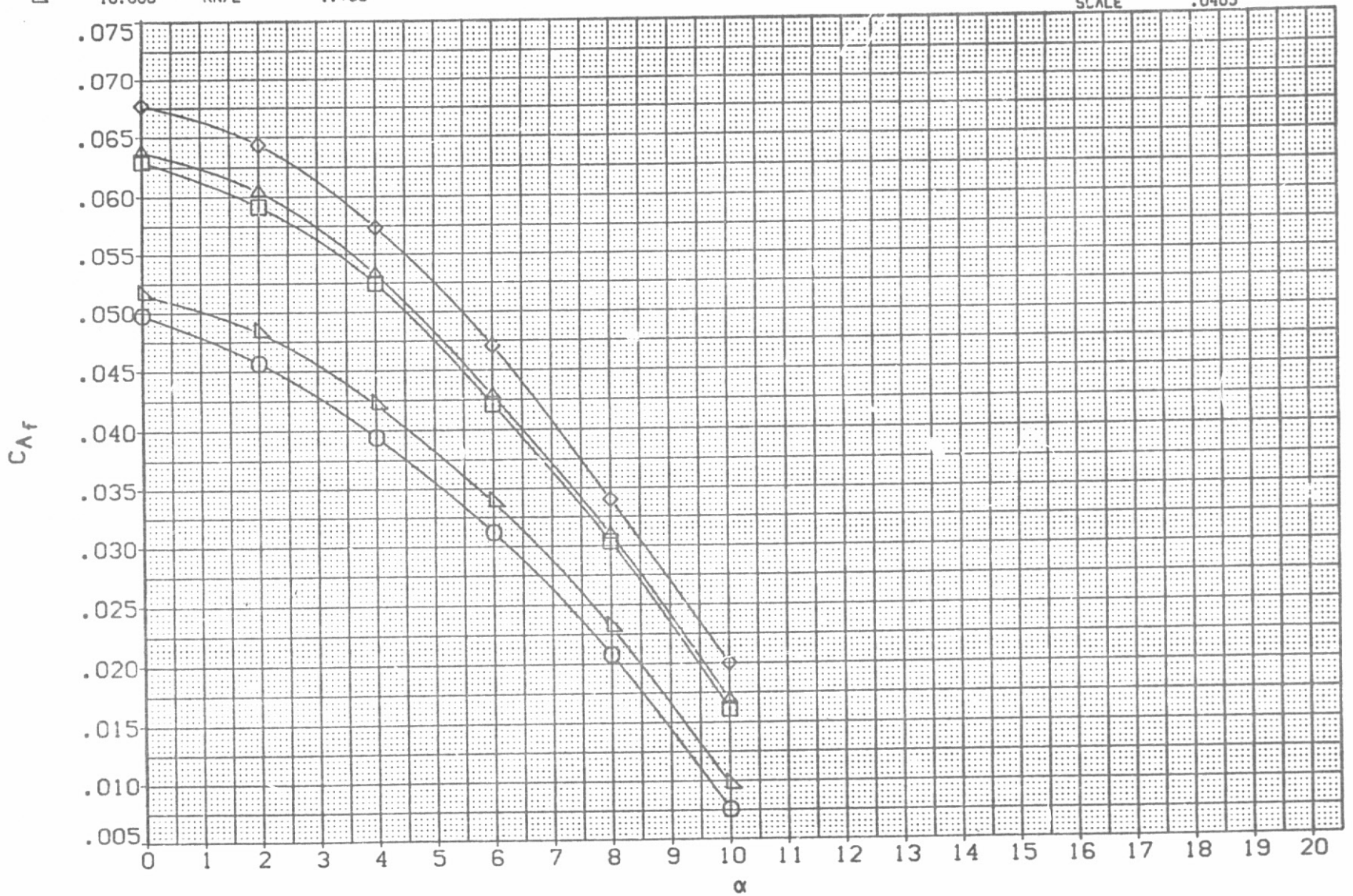

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF023) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
⋈	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

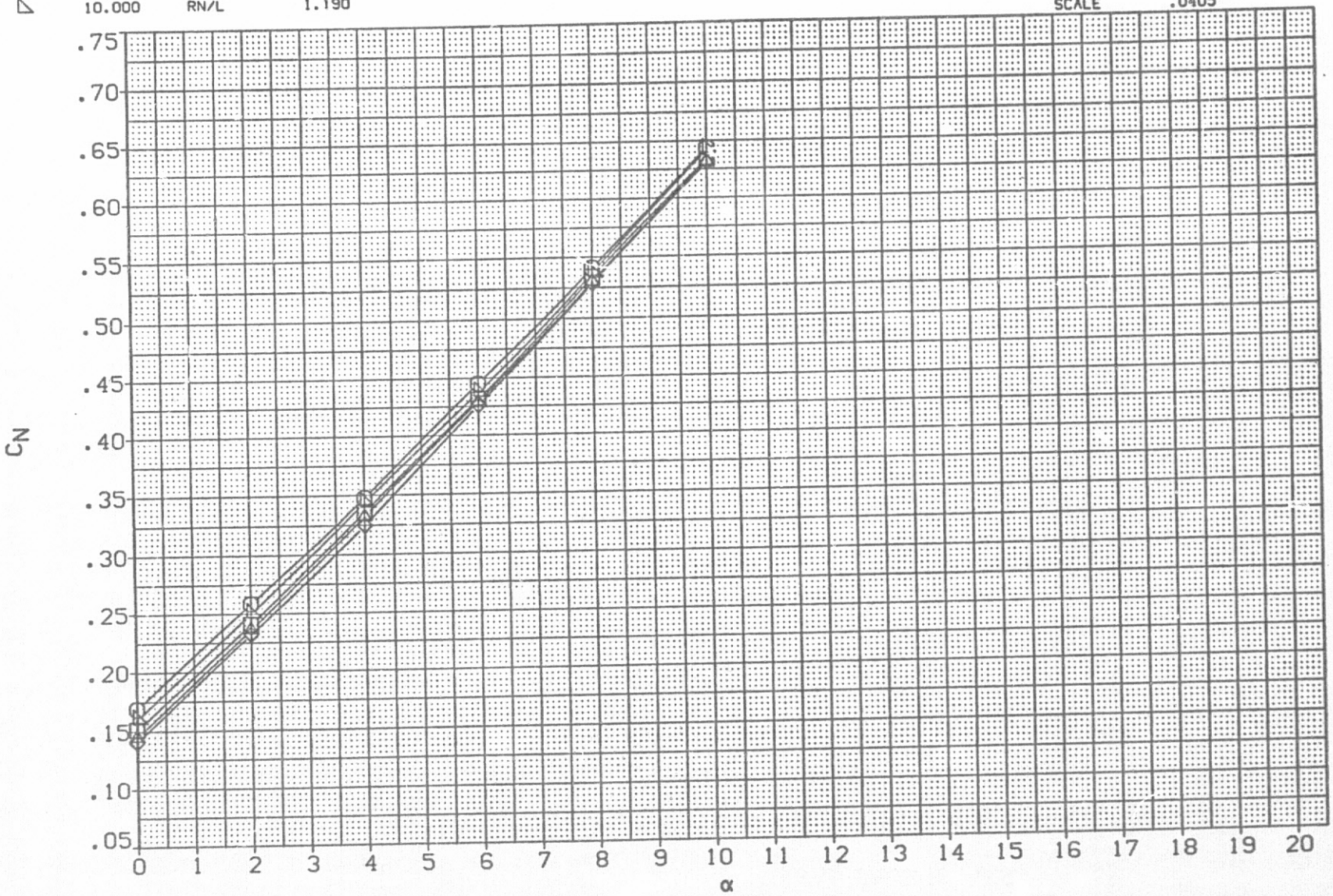

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF023) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

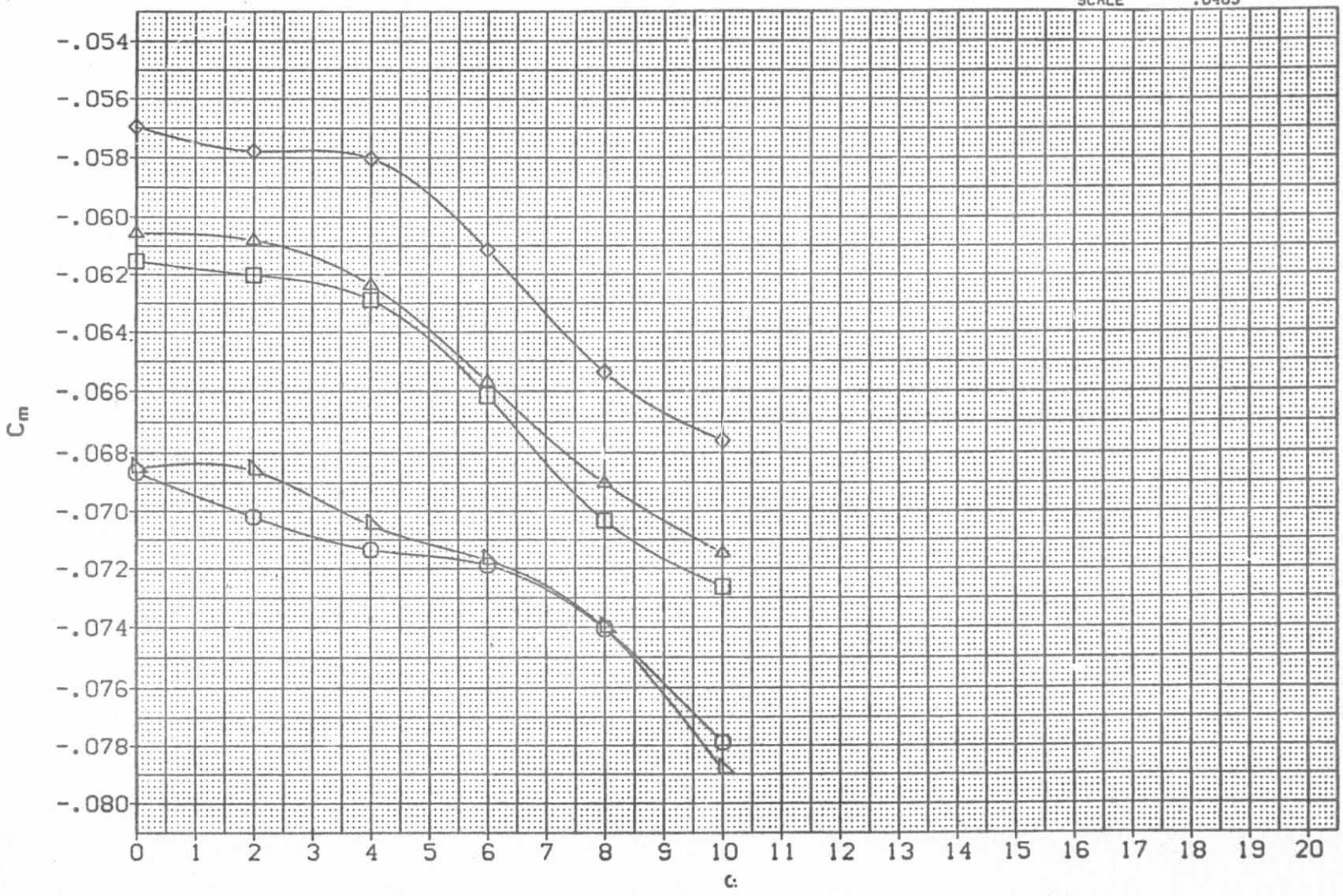

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

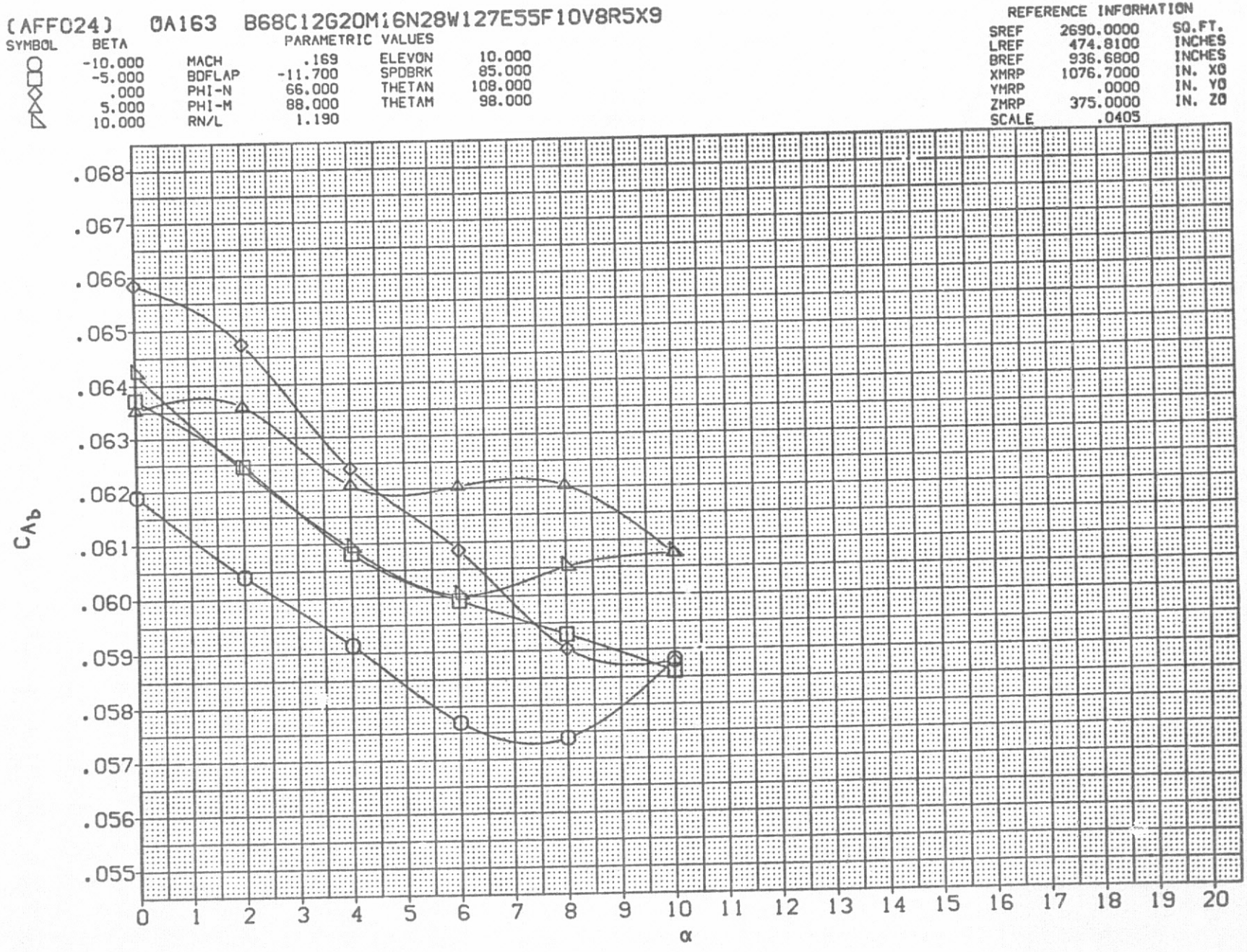

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF024) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
⊠	.000
△	5.000
⊿	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000	
BDFLAP	-11.700	SPDBRK	85.000	
PHI-N	66.000	THETAN	108.000	
PHI-M	88.000	THETAM	98.000	
RN/L	1.190			

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

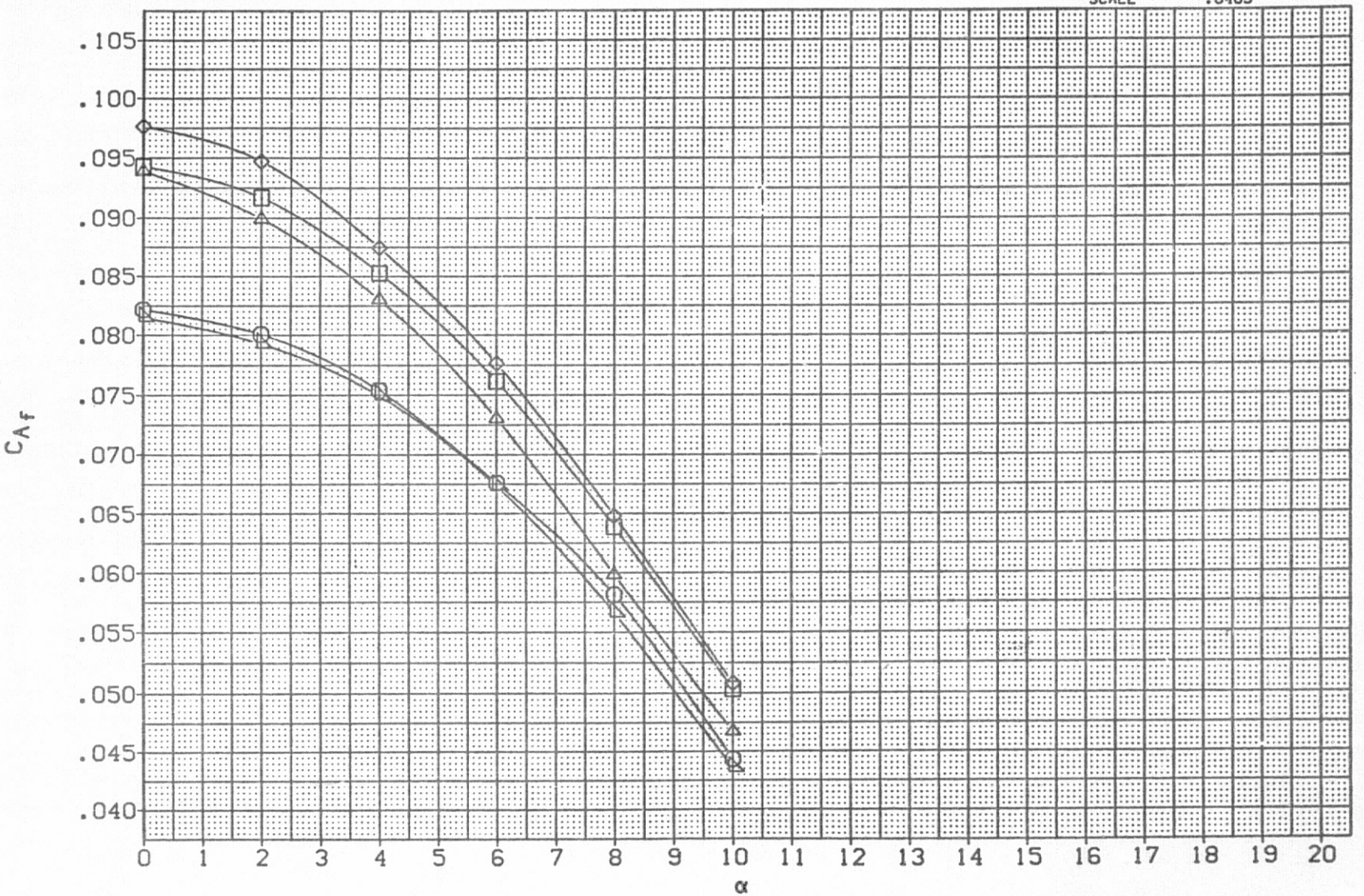

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF024) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
⊠	.000
▽	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

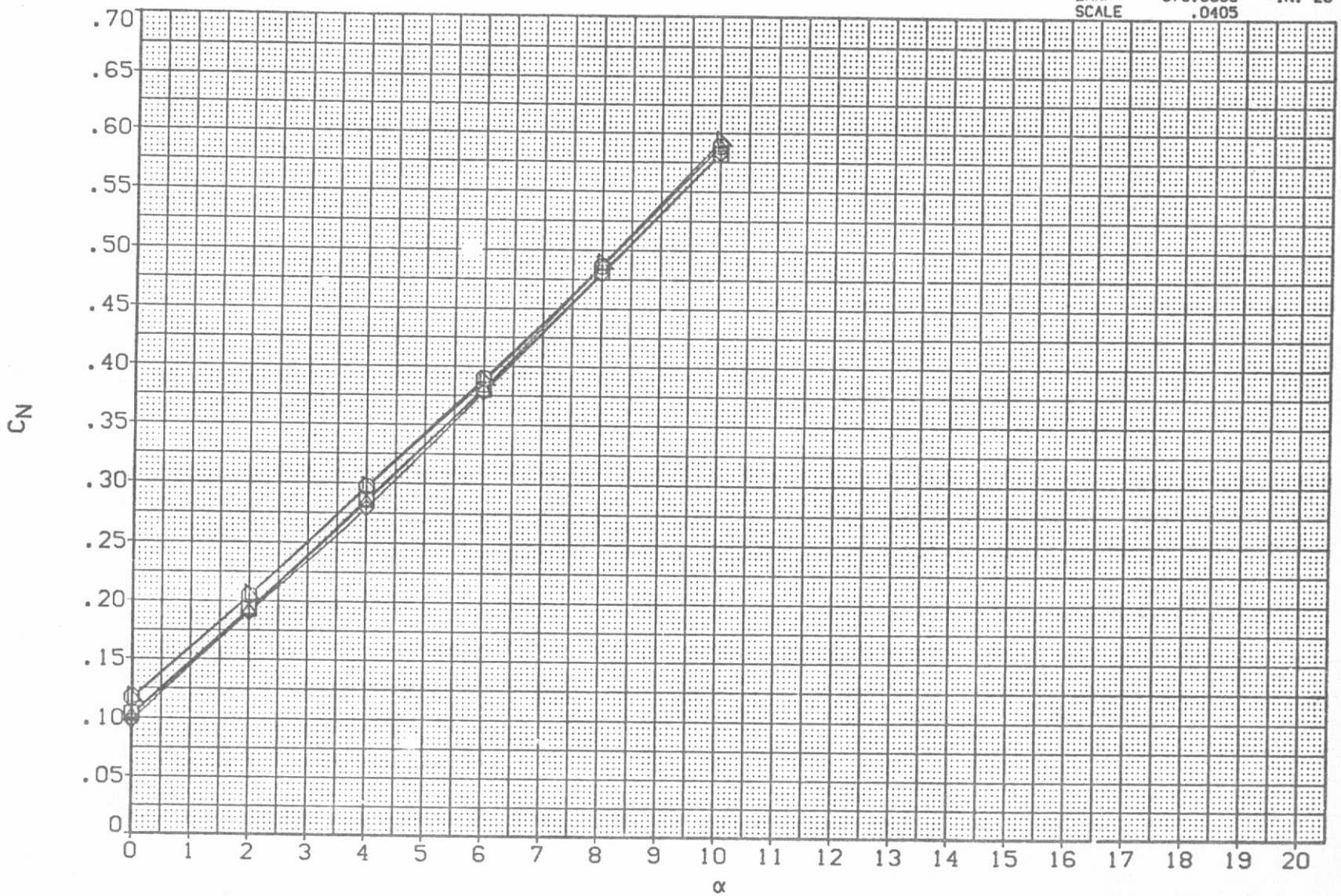

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF024) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
△	.000
▽	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

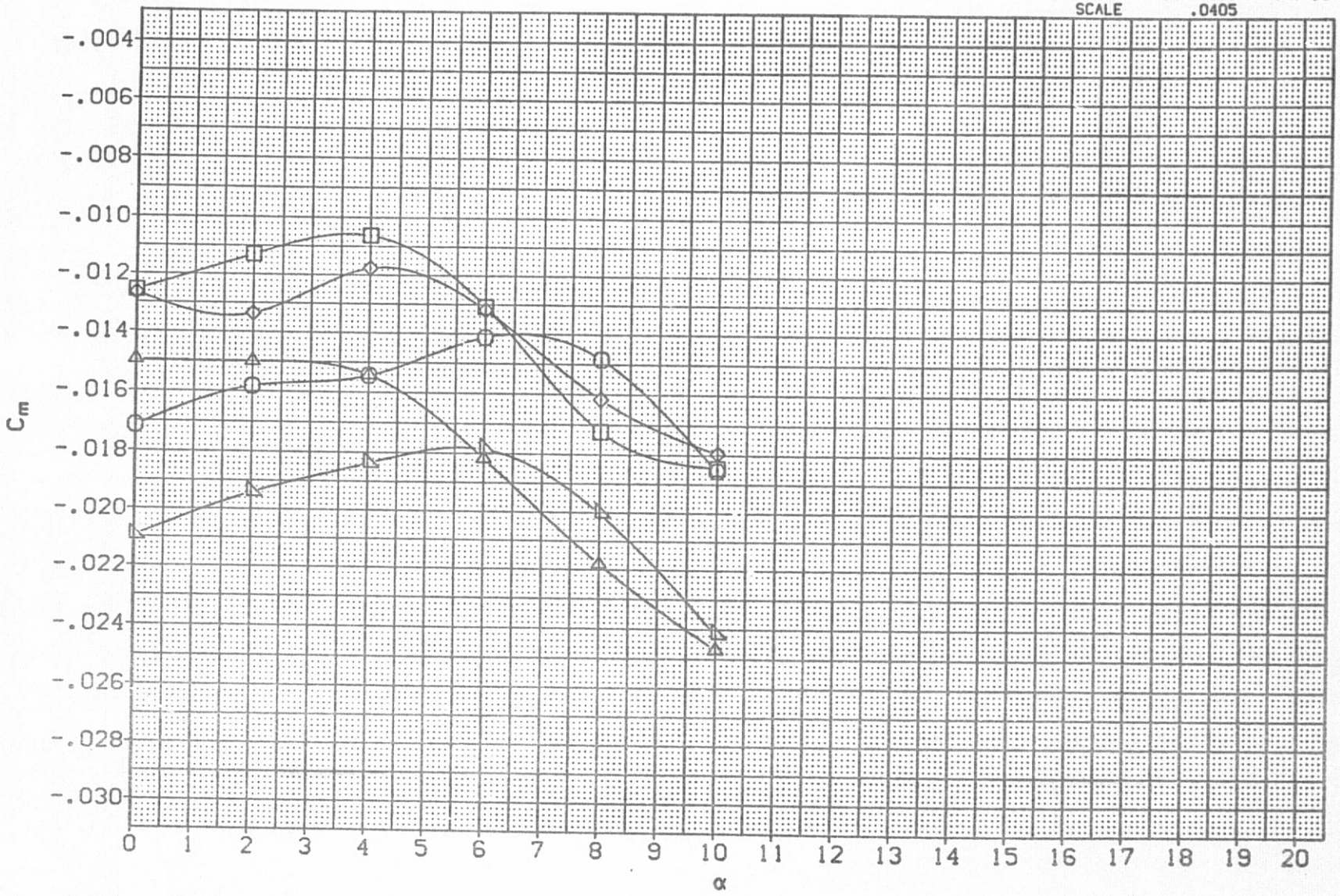

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF025) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
□	-10.000
◇	-5.000
⊠	.000
△	5.000
◪	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	15.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

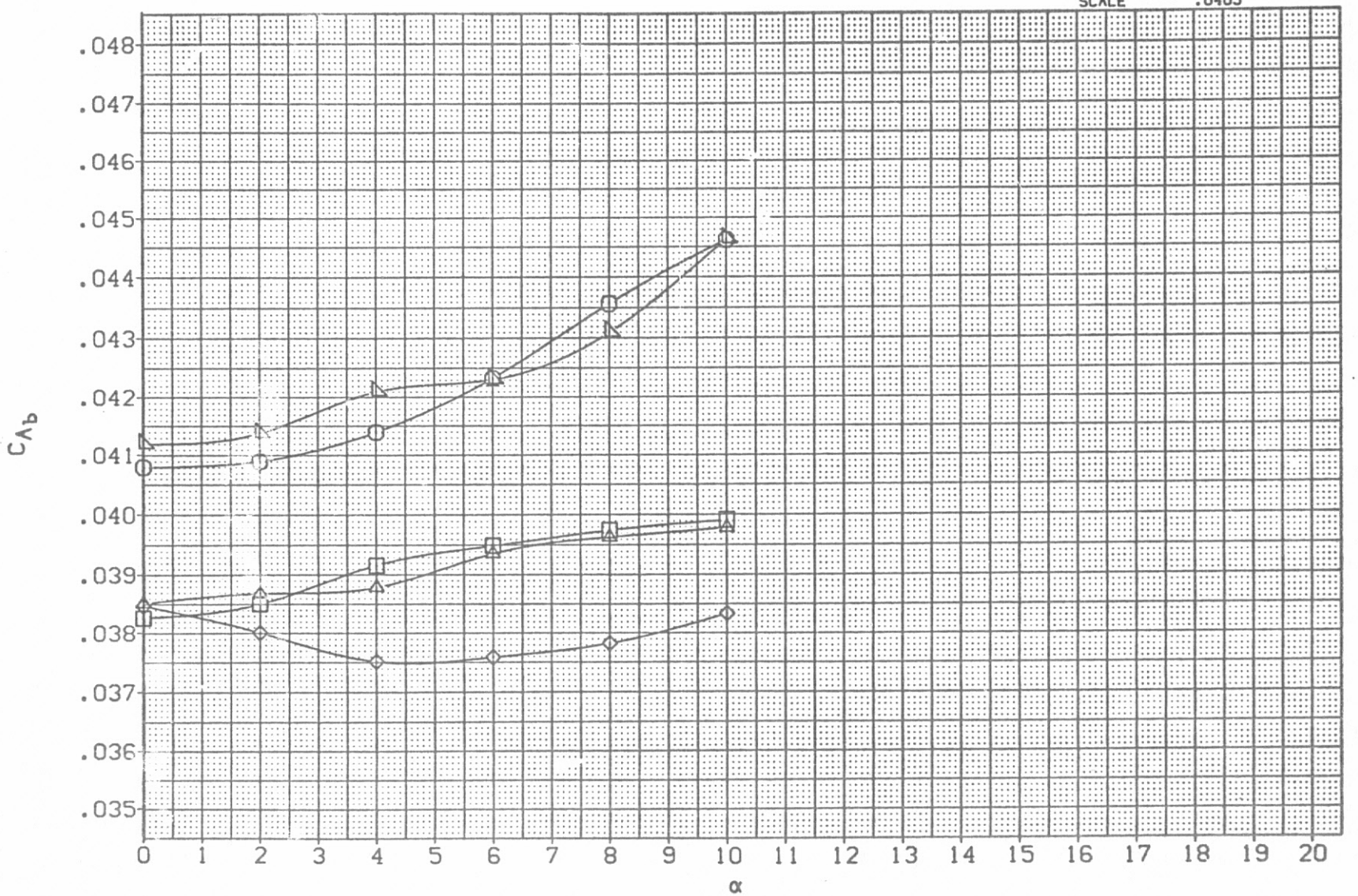

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF025) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	15.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

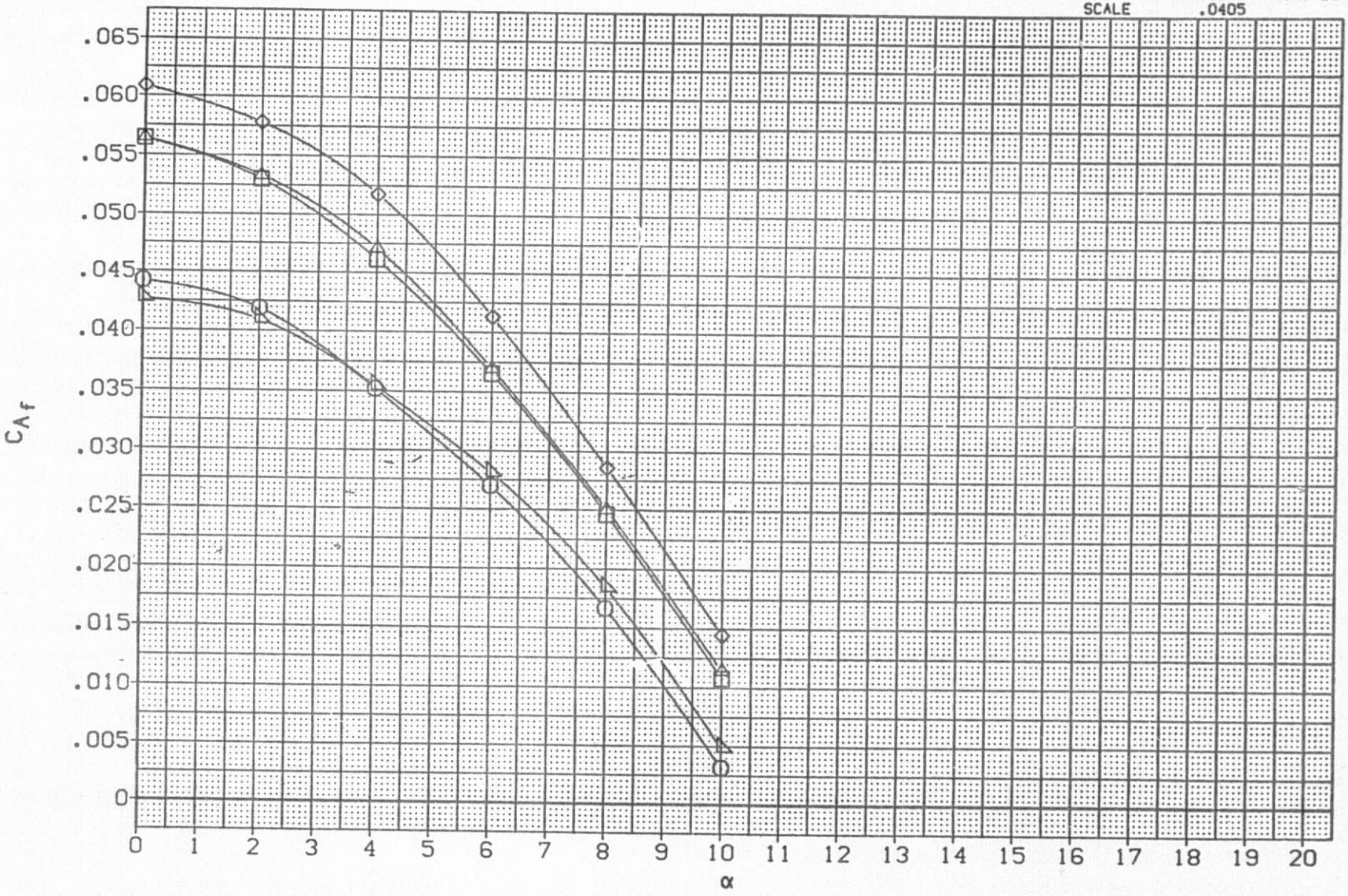

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF025) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA	PARAMETRIC VALUES			
○	-10.000	MACH	.169	ELEVON	.000
□	-5.000	BDFLAP	15.000	SPDBRK	25.000
◇	.000	PHI-N	66.000	THETAN	108.000
△	5.000	PHI-M	88.000	THETAM	98.000
◺	10.000	RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

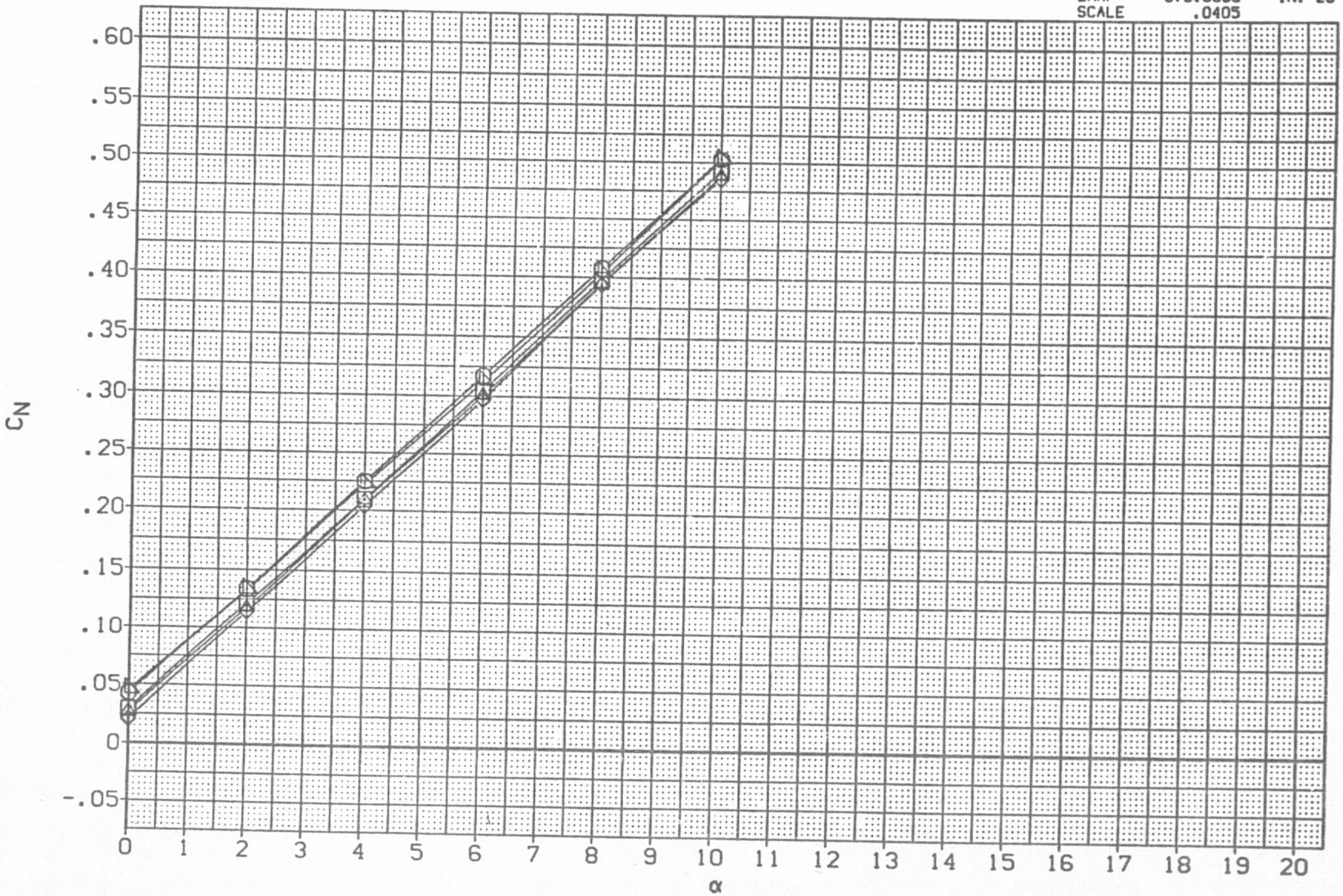

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF025) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	15.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

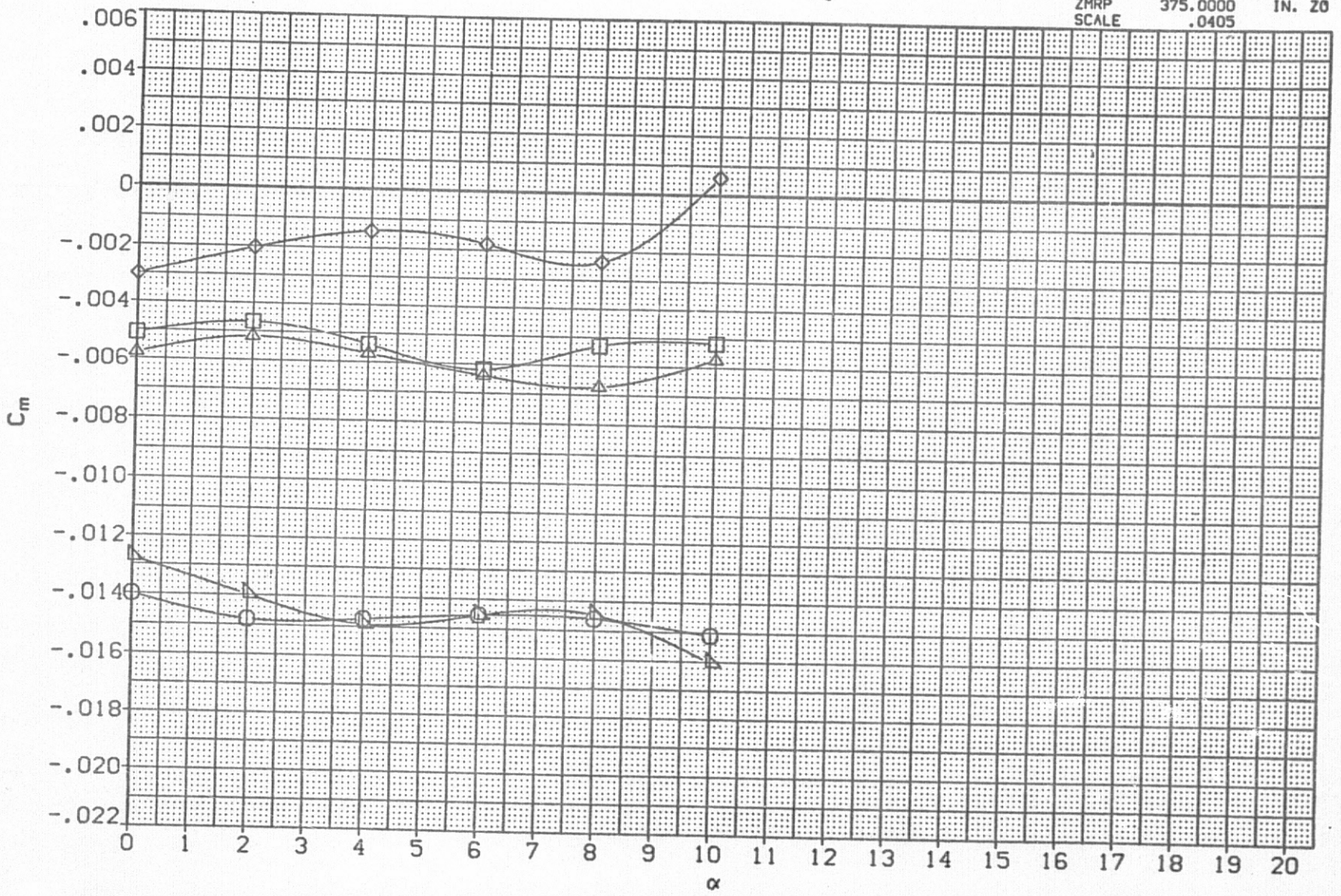

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF026) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
▽	-10.000
□	-5.000
◇	.000
△	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	10.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

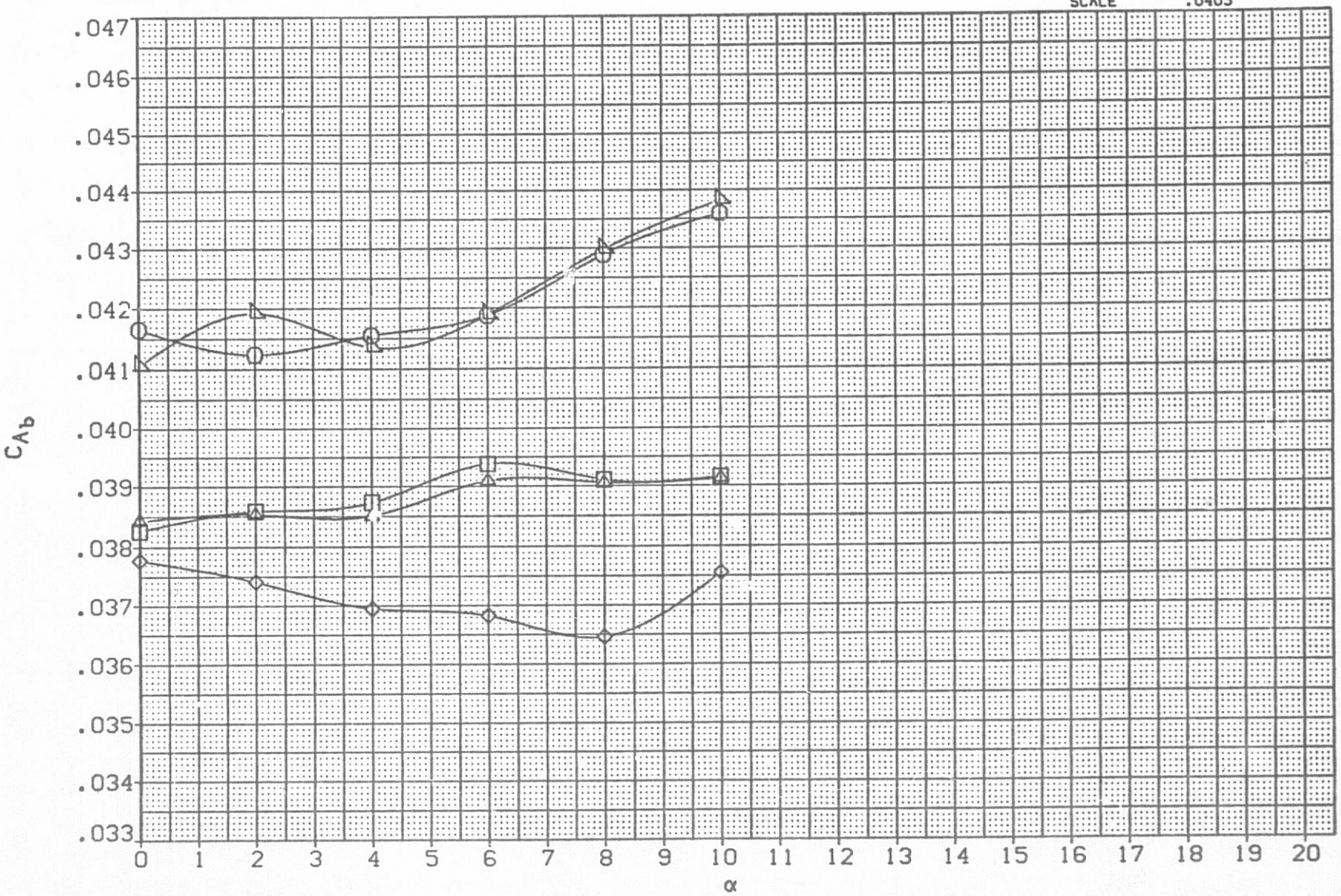

FIG. 04 LØNGITUDINAL AERØDYNAMIC CØEFFICIENTS

(AFF026) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	10.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

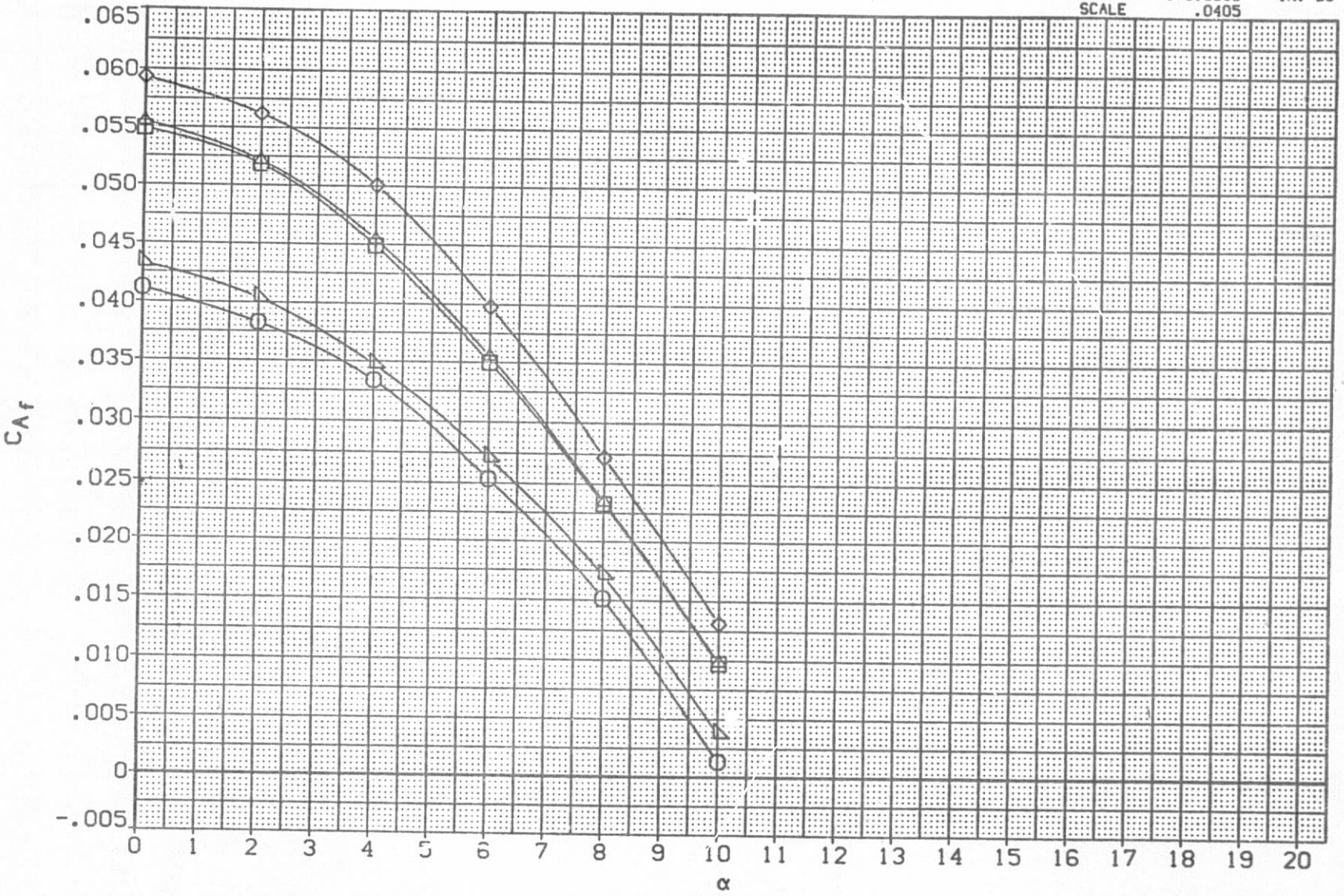

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF026) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	10.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

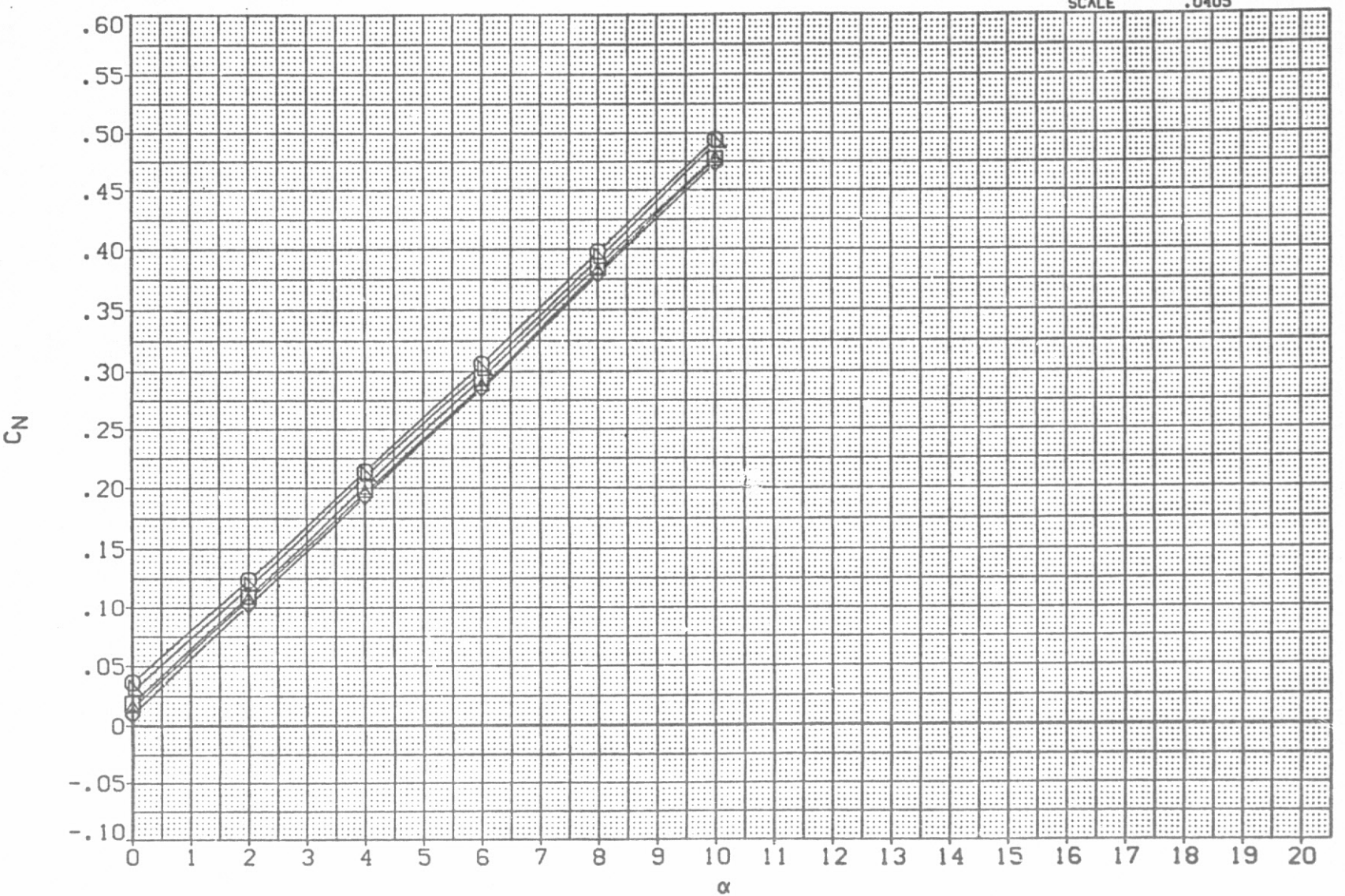

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF026) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◇	-10.000
□	-5.000
◇	.000
△	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	10.000	SPOBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

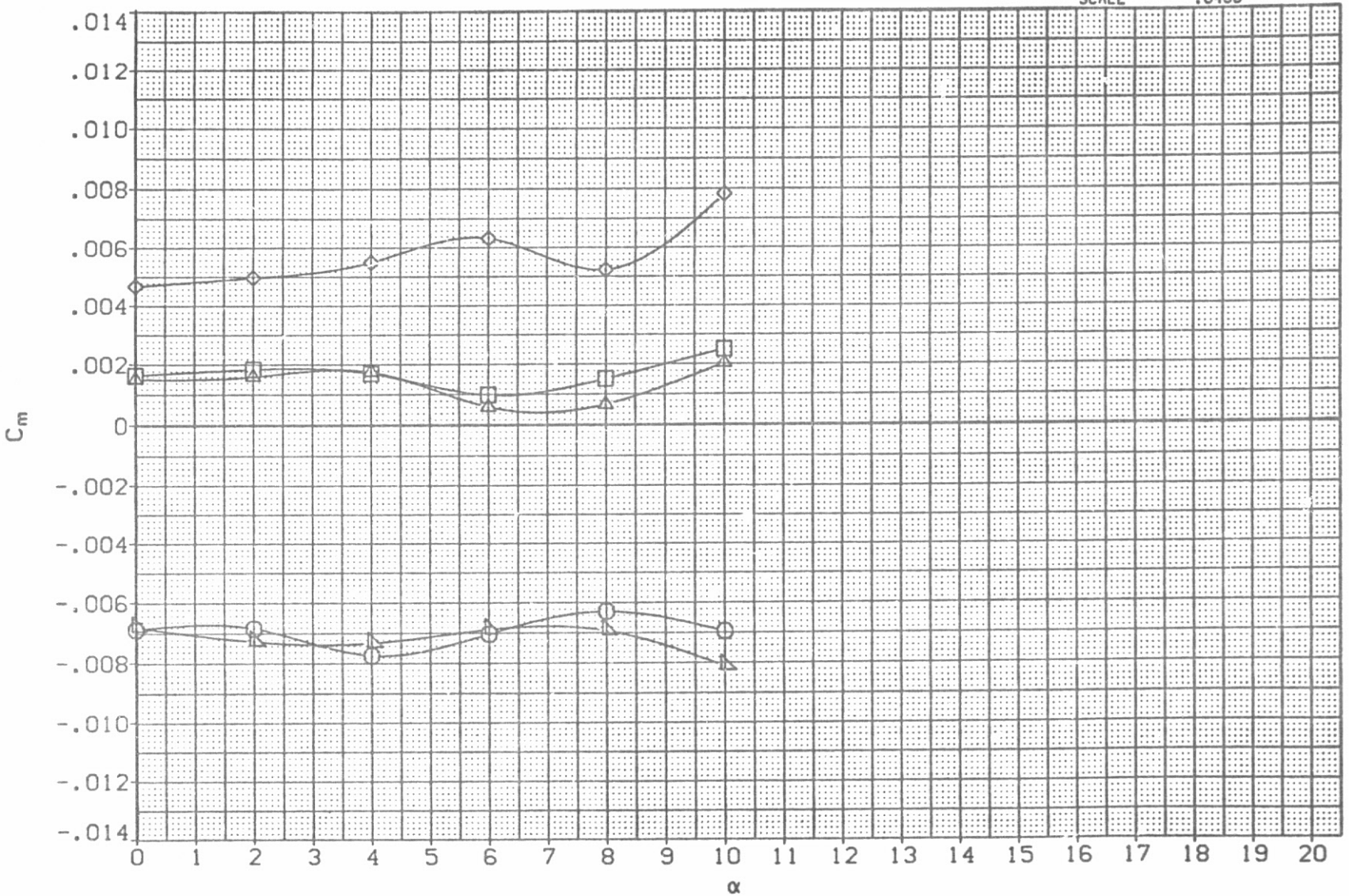

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

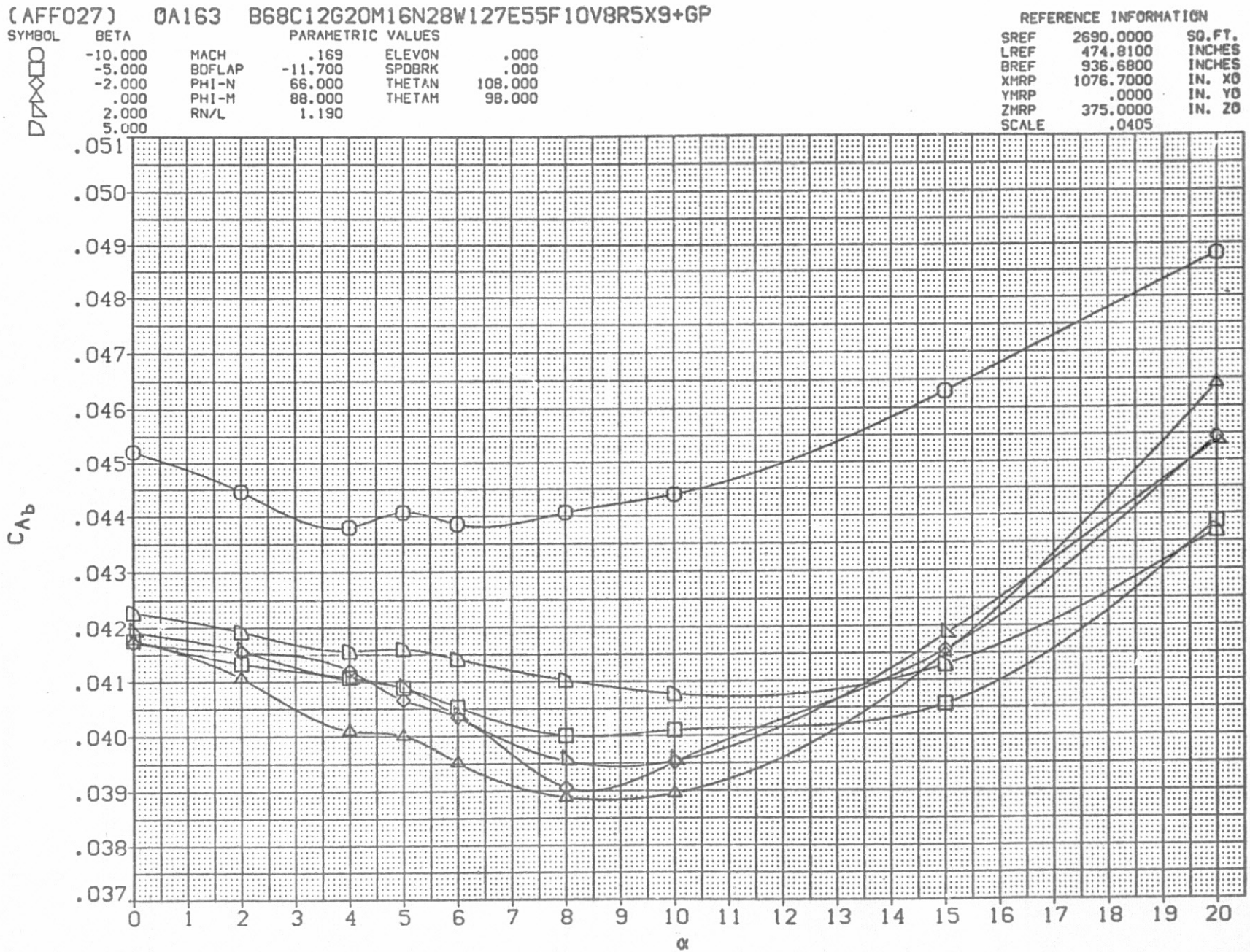

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF027) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

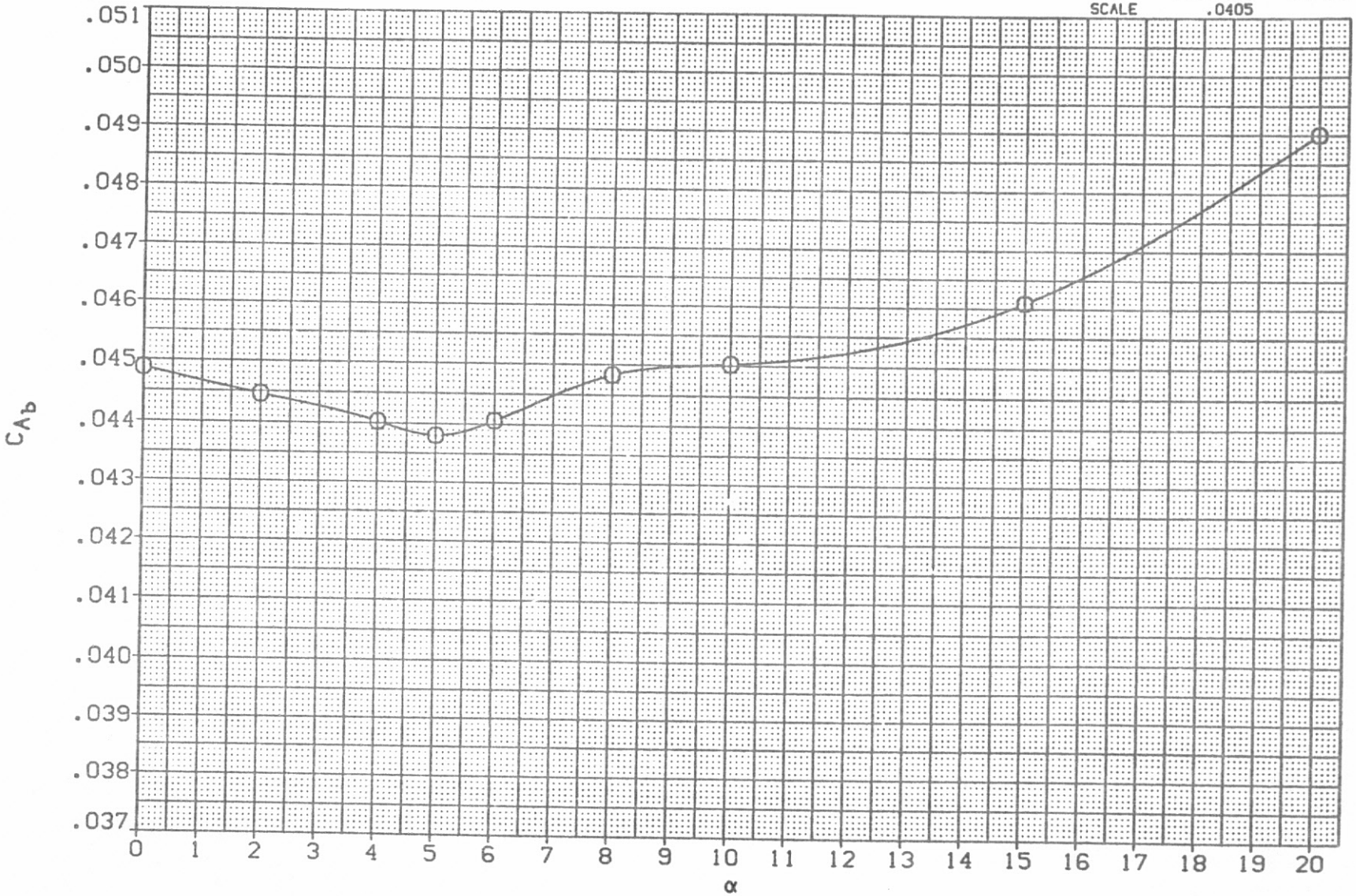

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

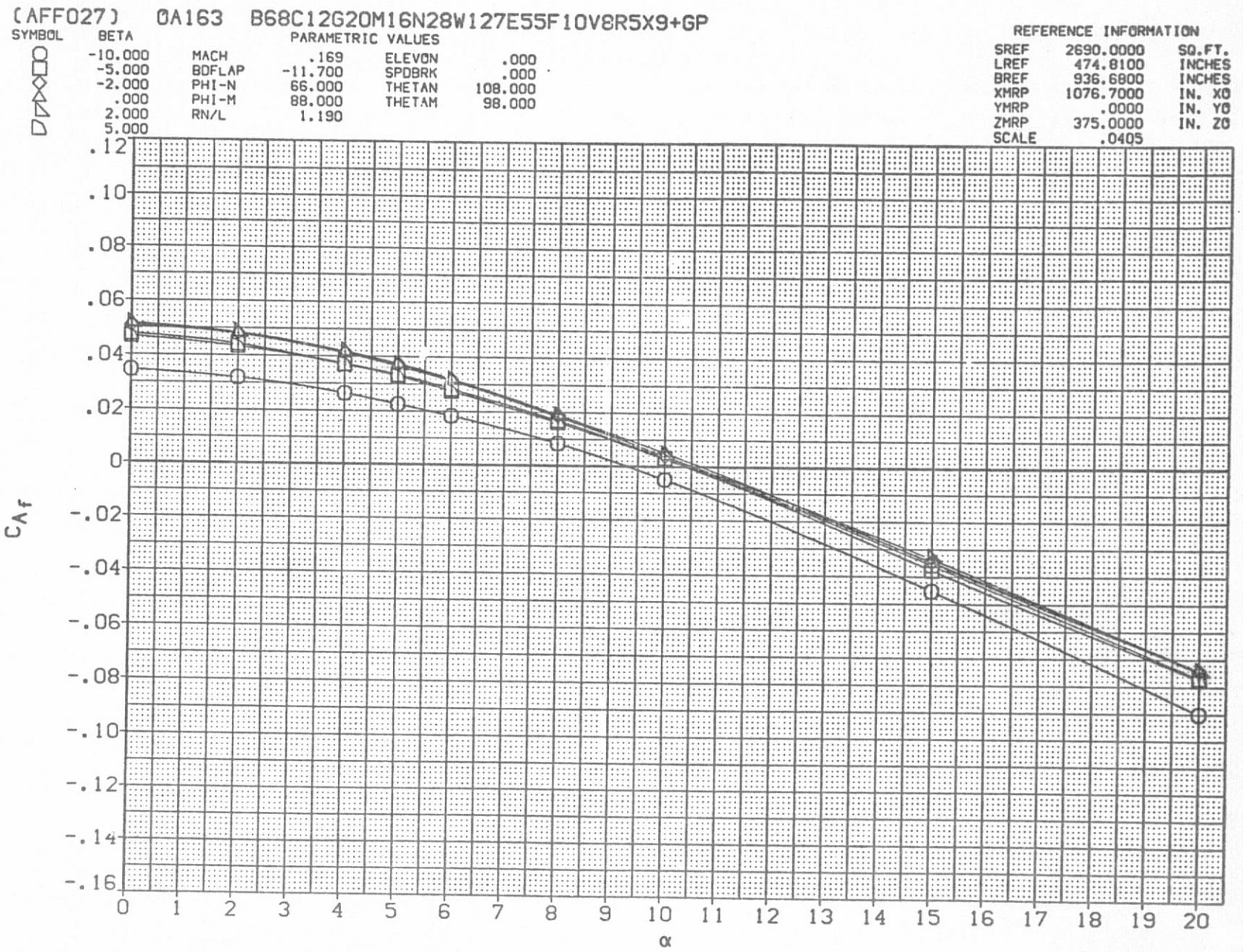

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF027) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

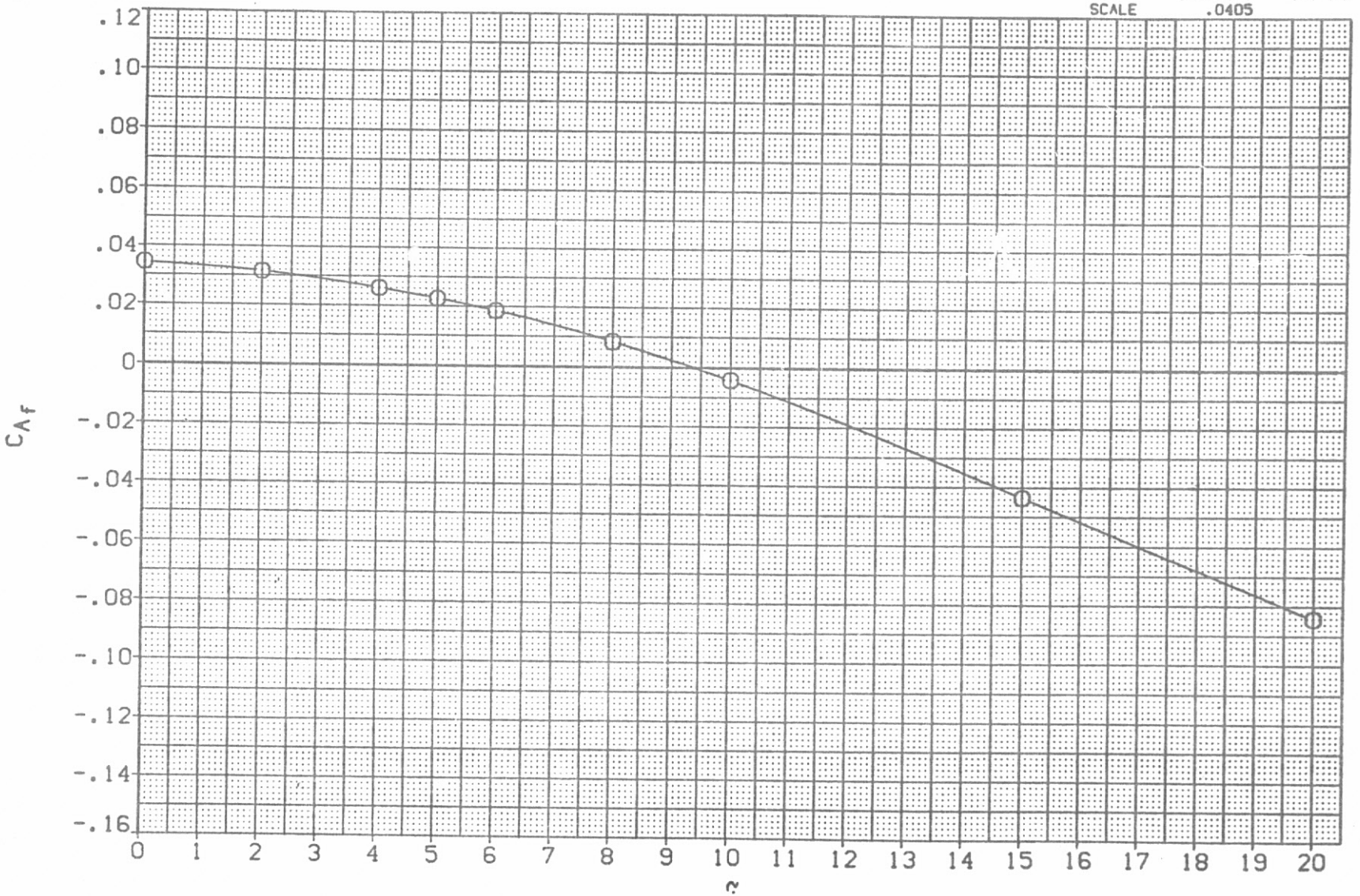

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF027) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
□	-10.000
□	-5.000
◇	-2.000
△	.000
△	2.000
	5.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

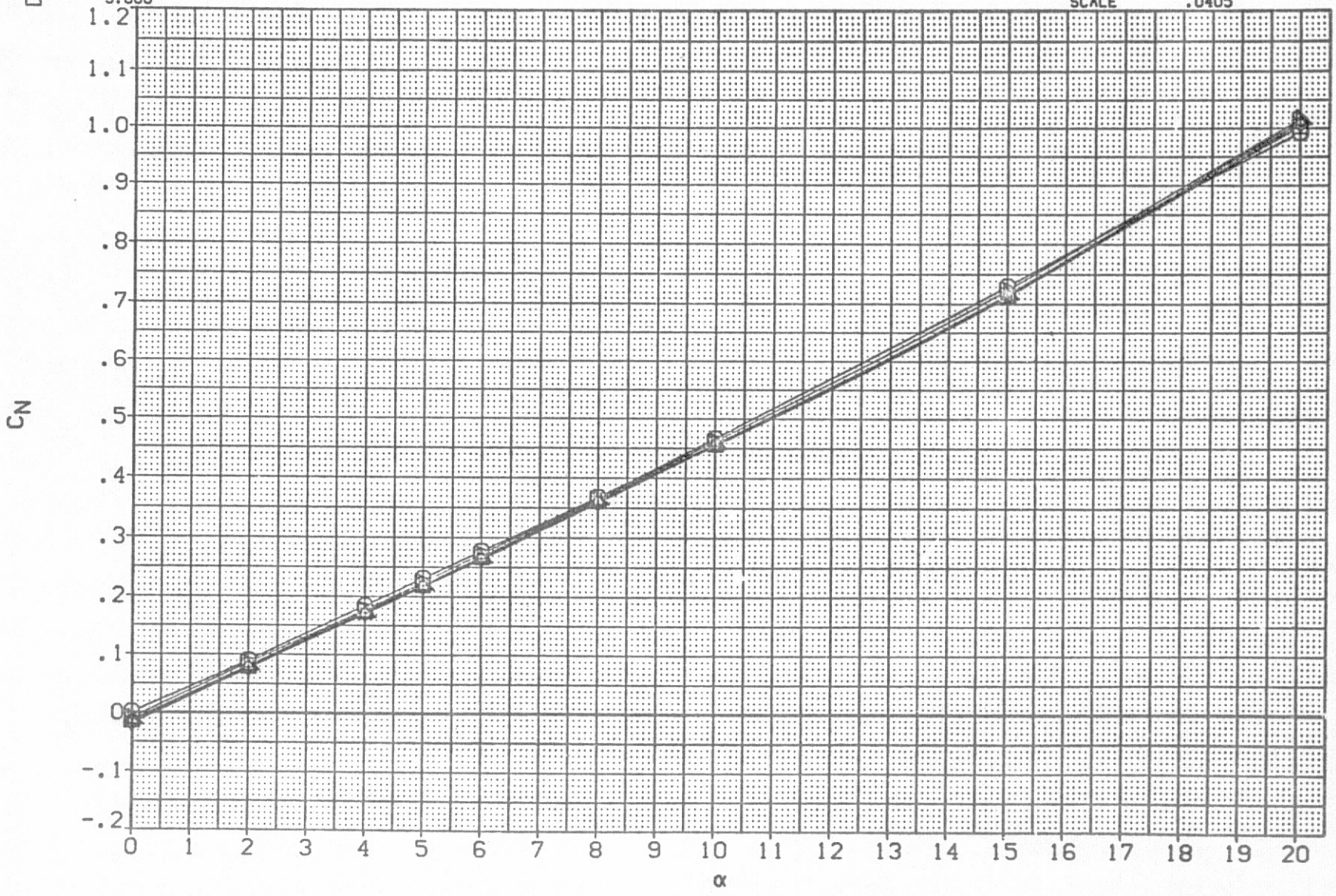

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF027) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

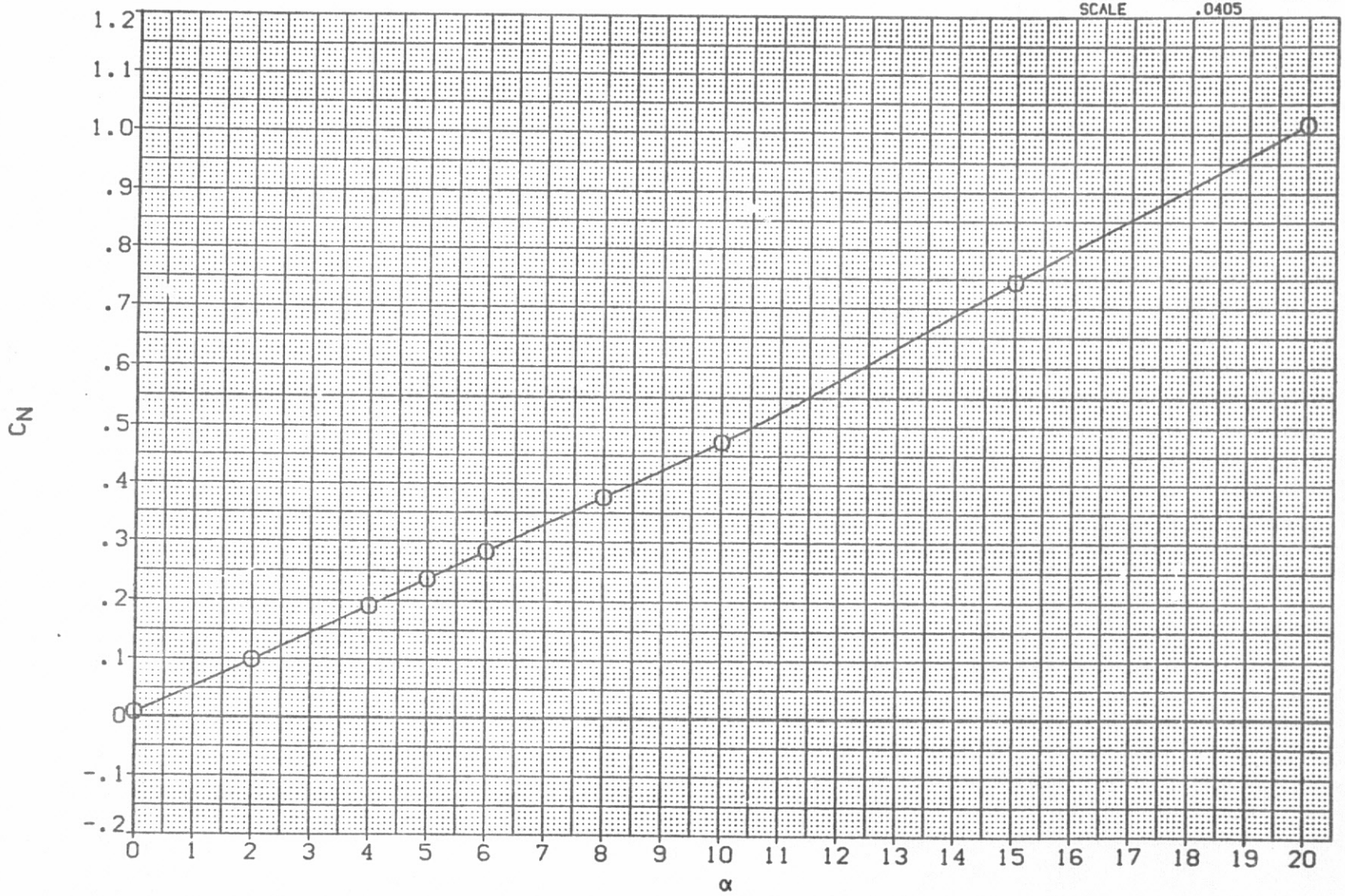

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

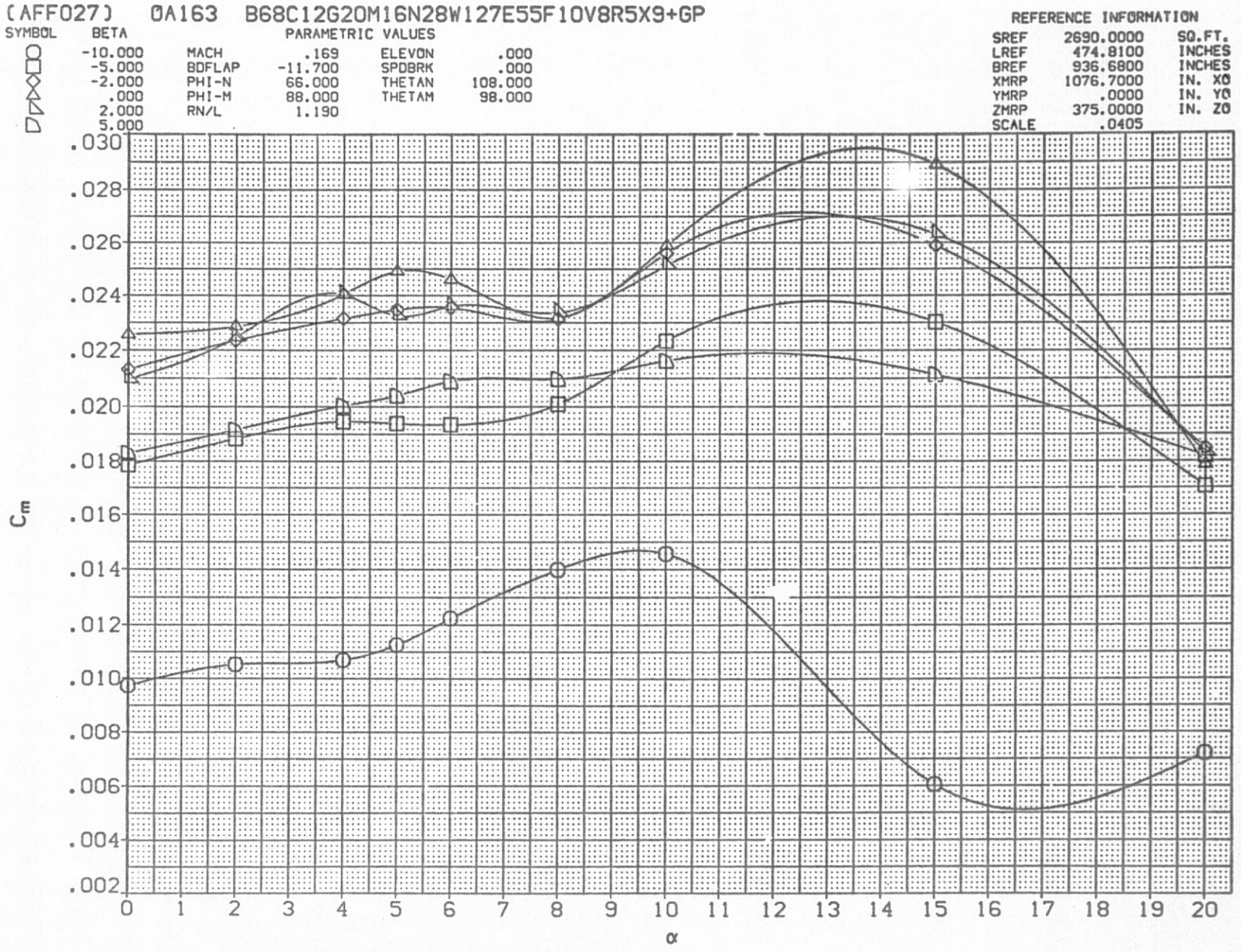

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF027) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

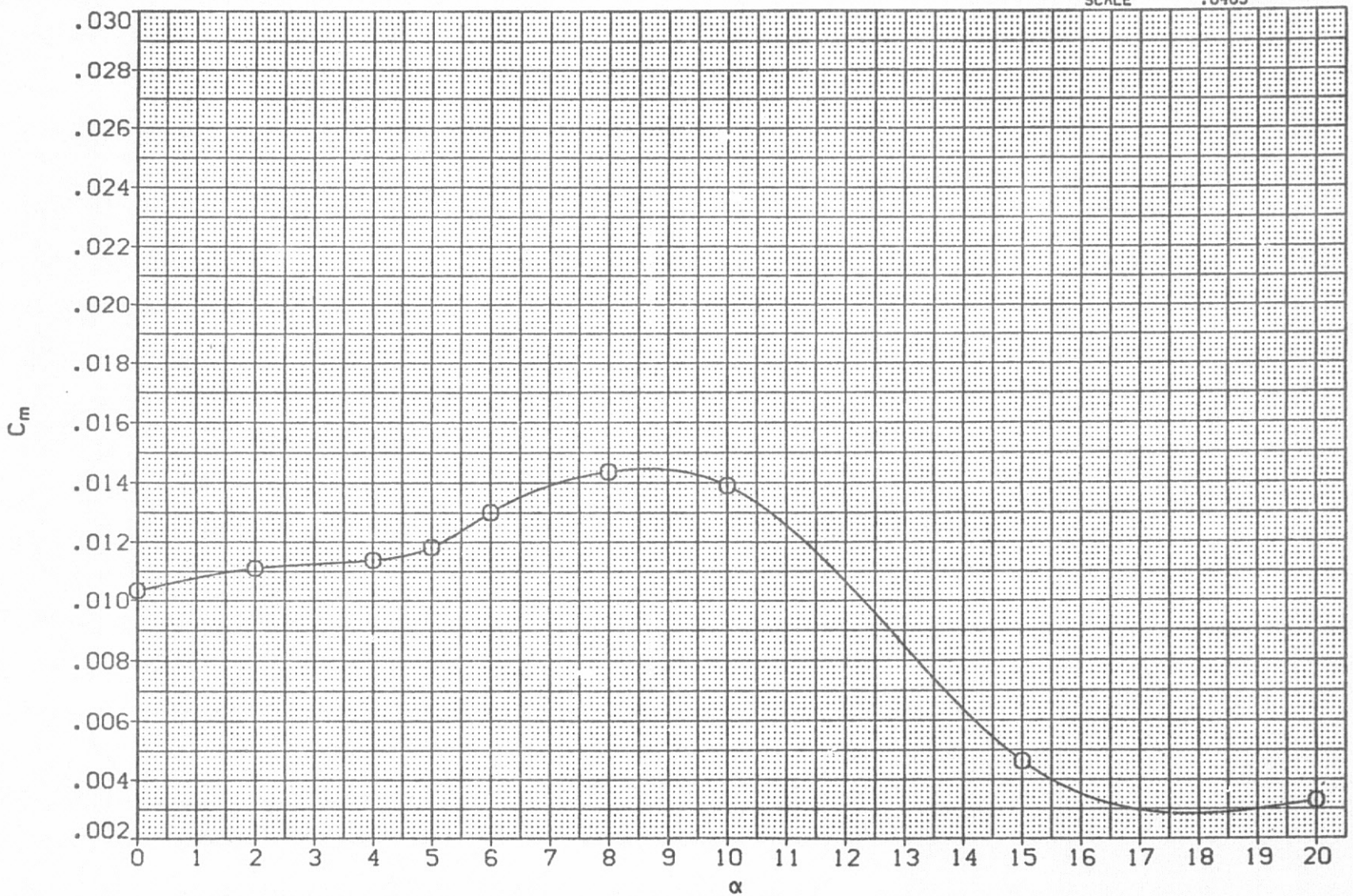

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

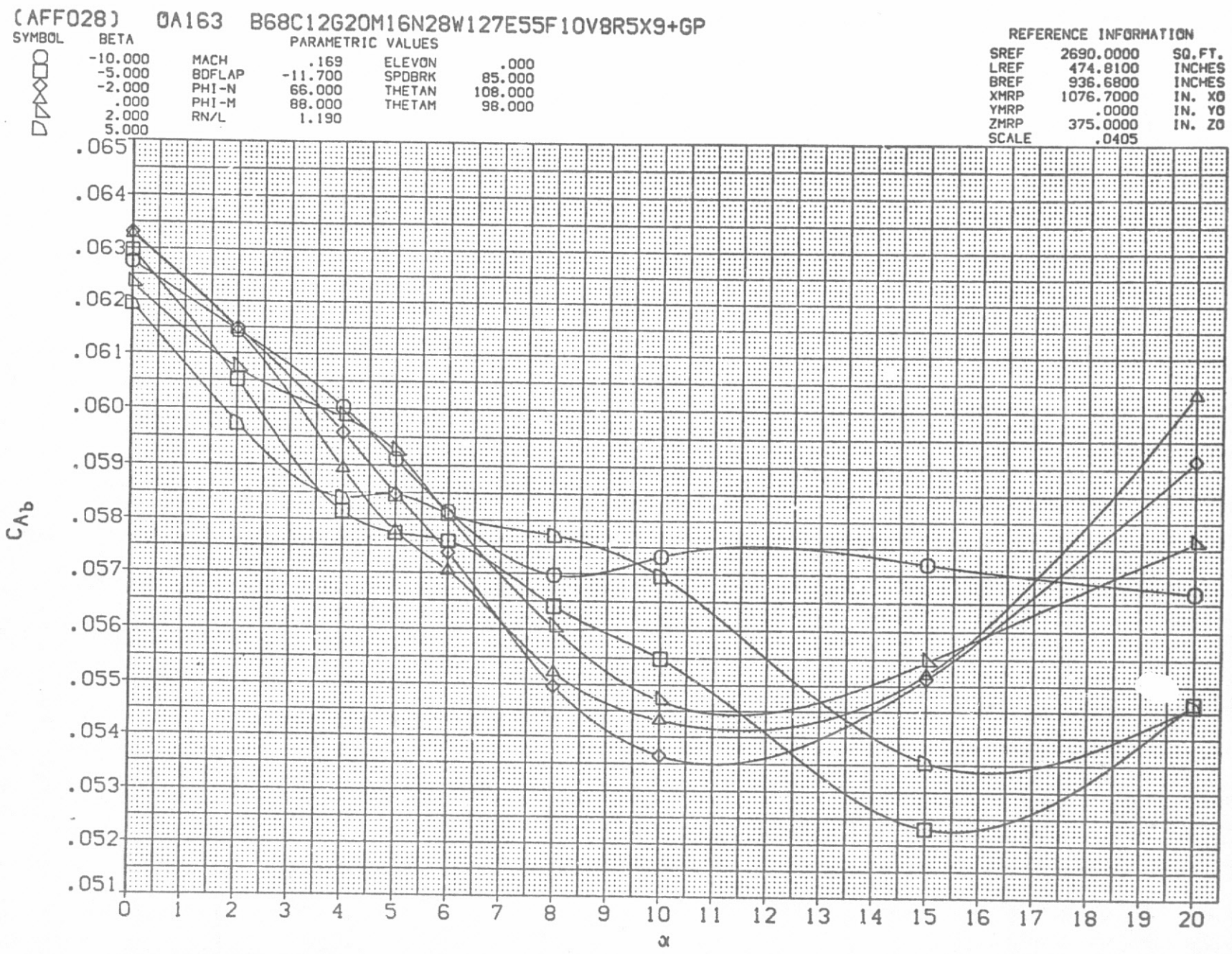

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

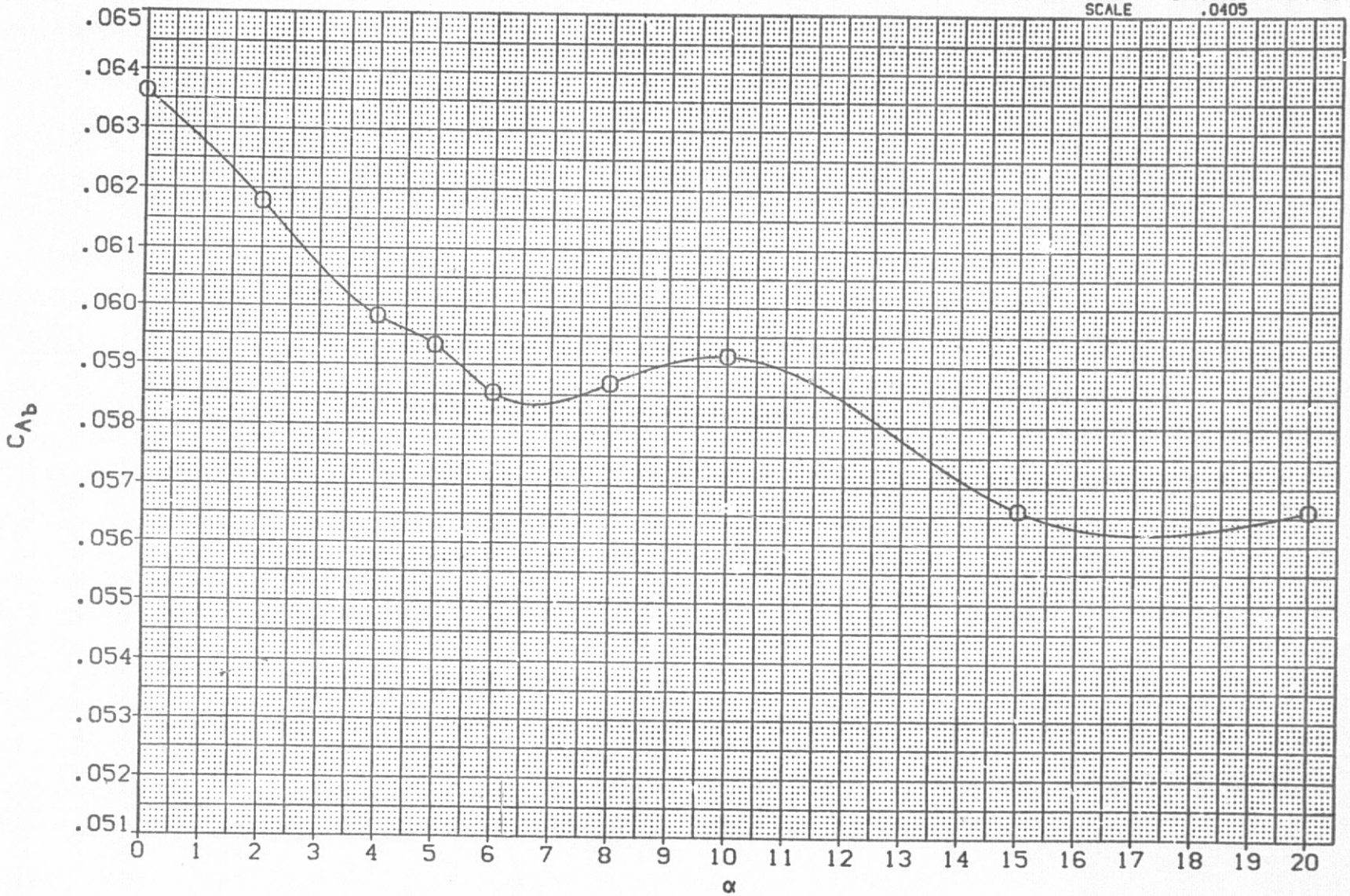

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

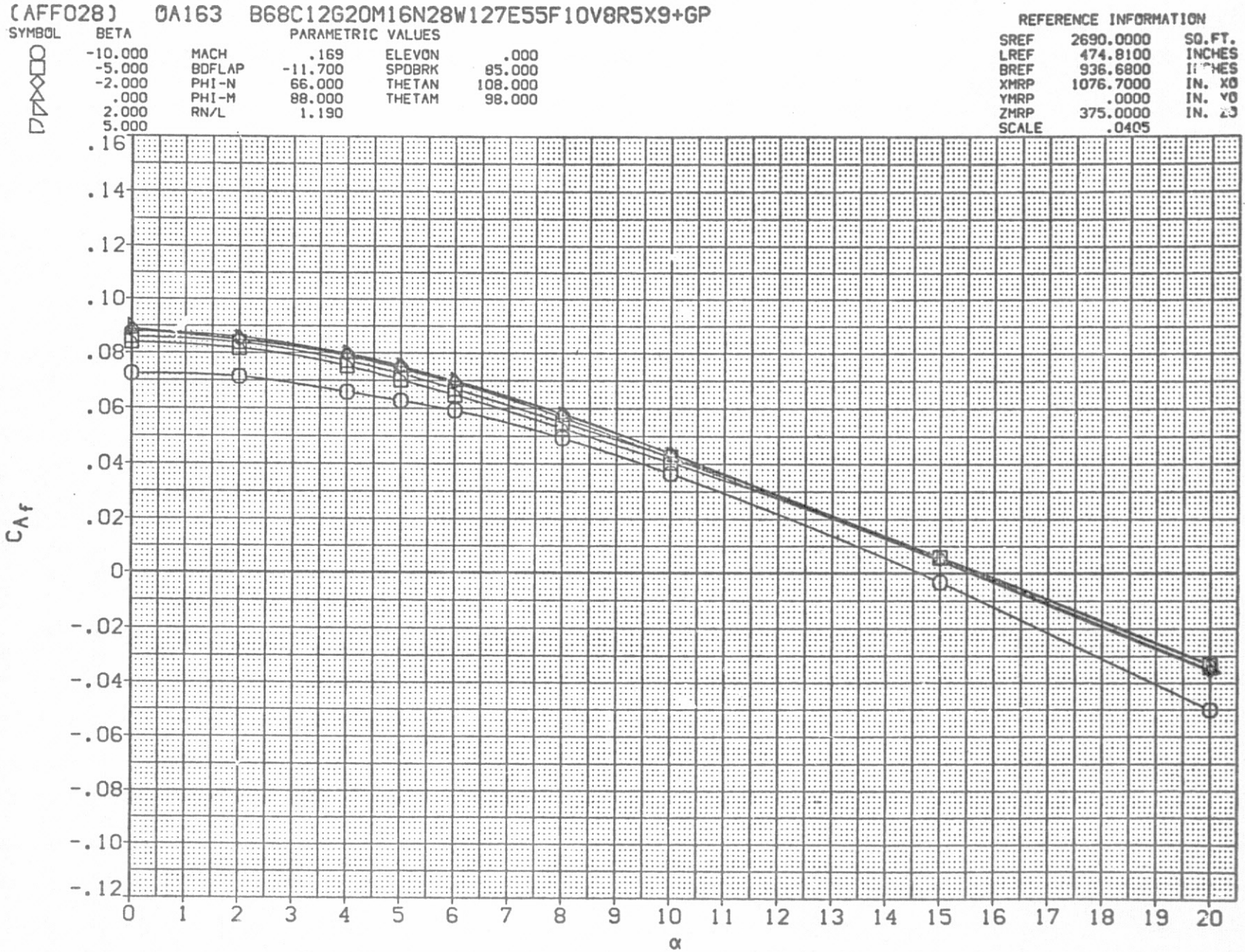

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
□	-10.000
○	-5.000
◇	-2.000
△	.000
▽	2.000
⊲	5.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	90.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

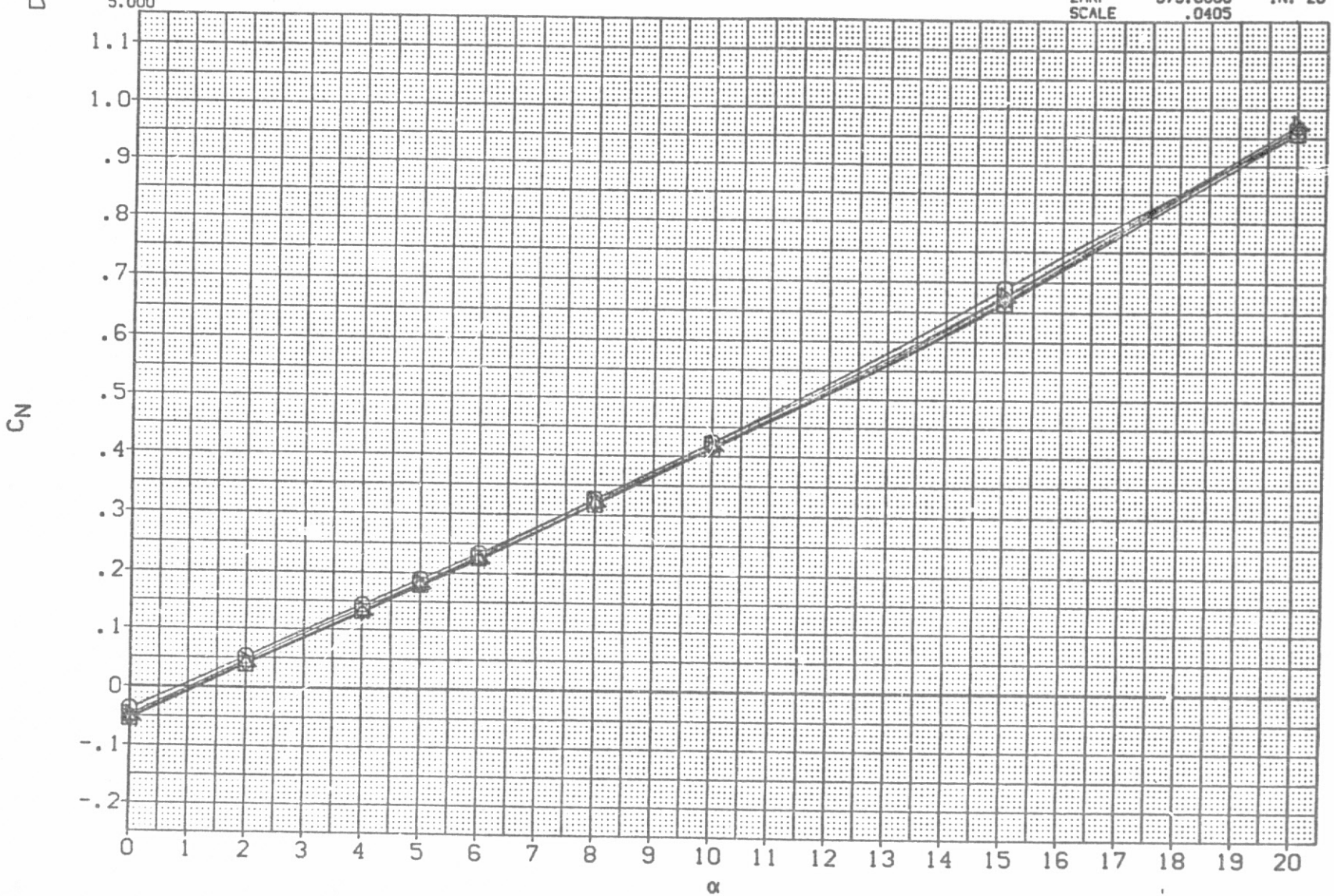

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

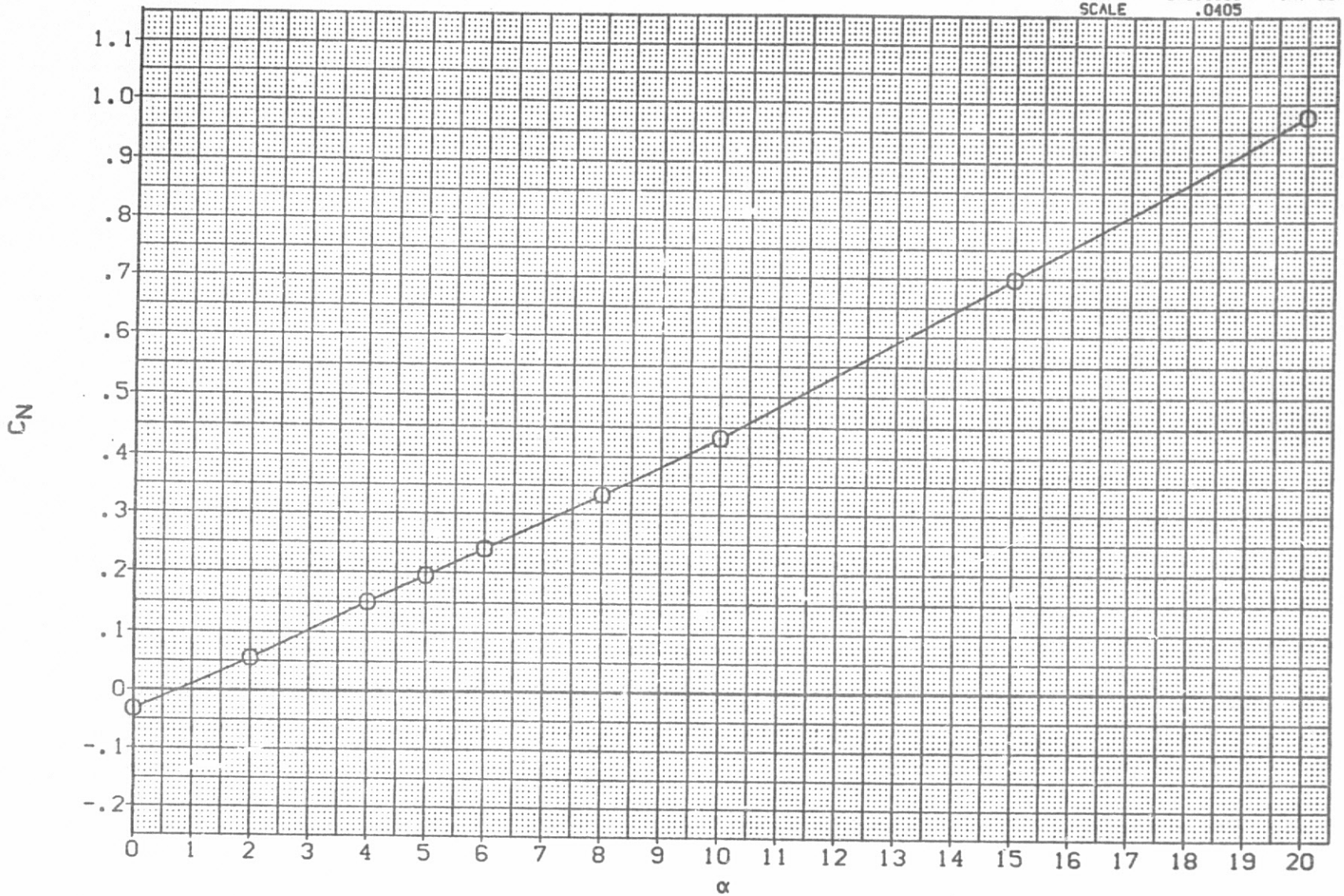

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

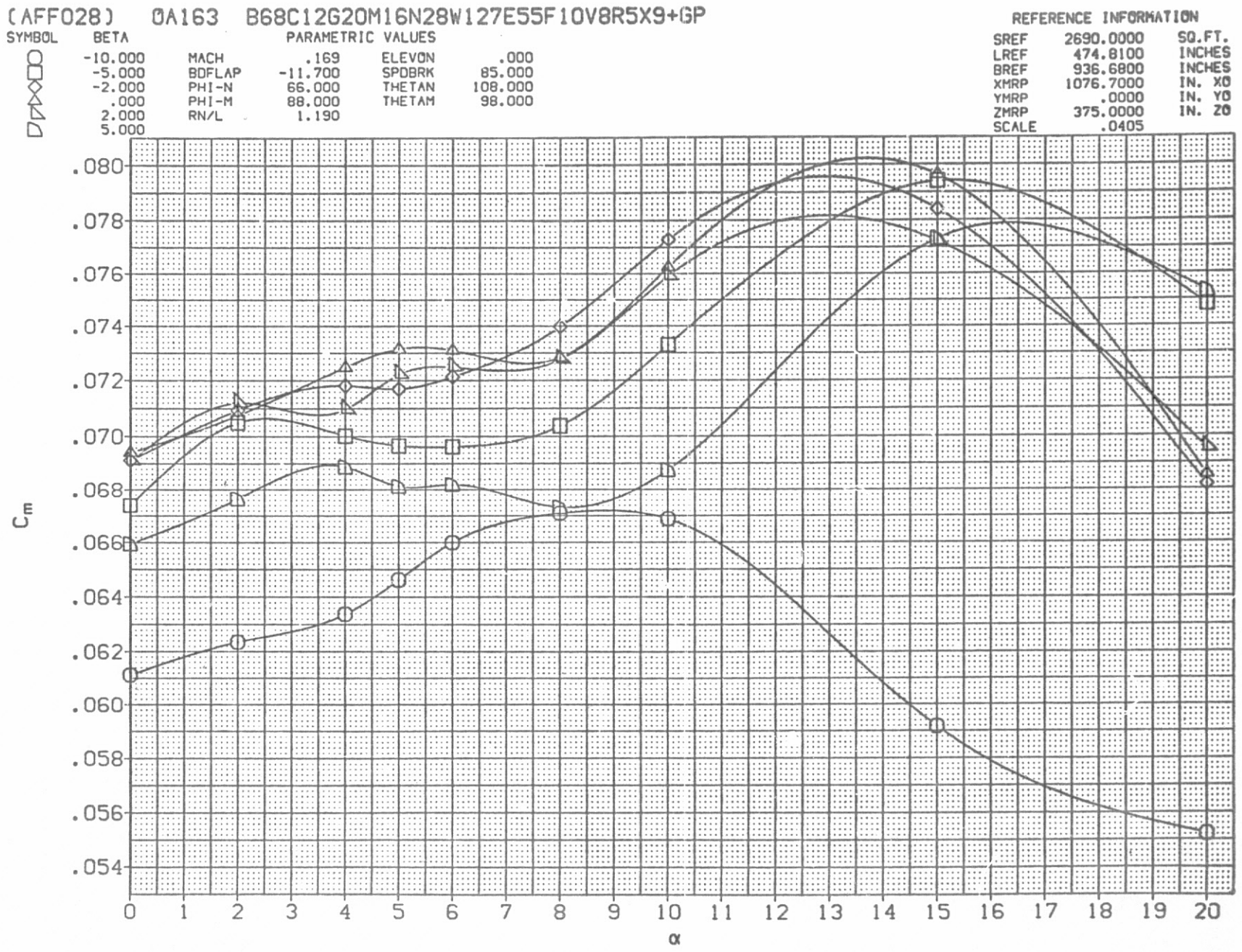

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

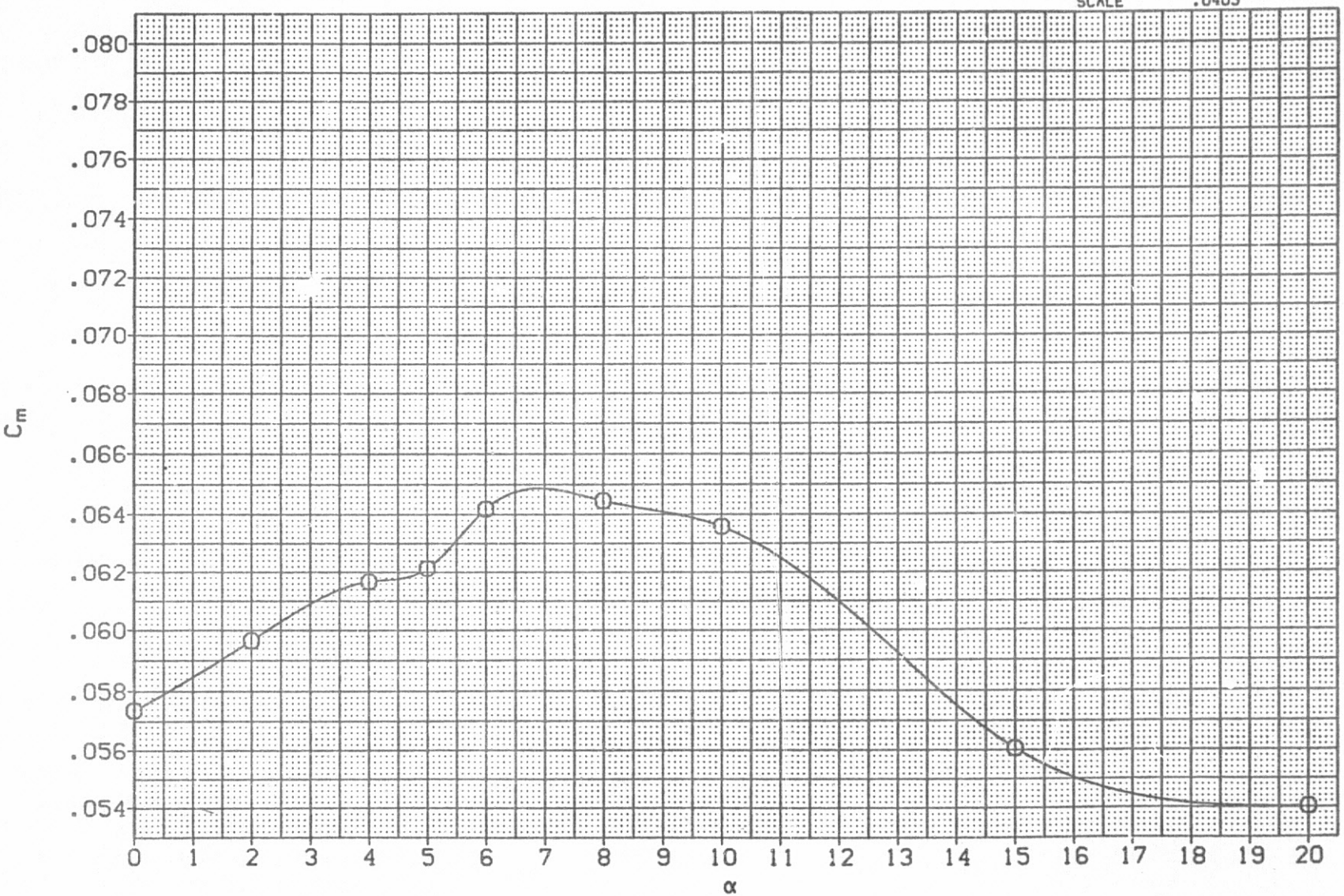

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
◇	-10.000
□	-5.000
△	-2.000
◇	.000
□	2.000
△	5.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

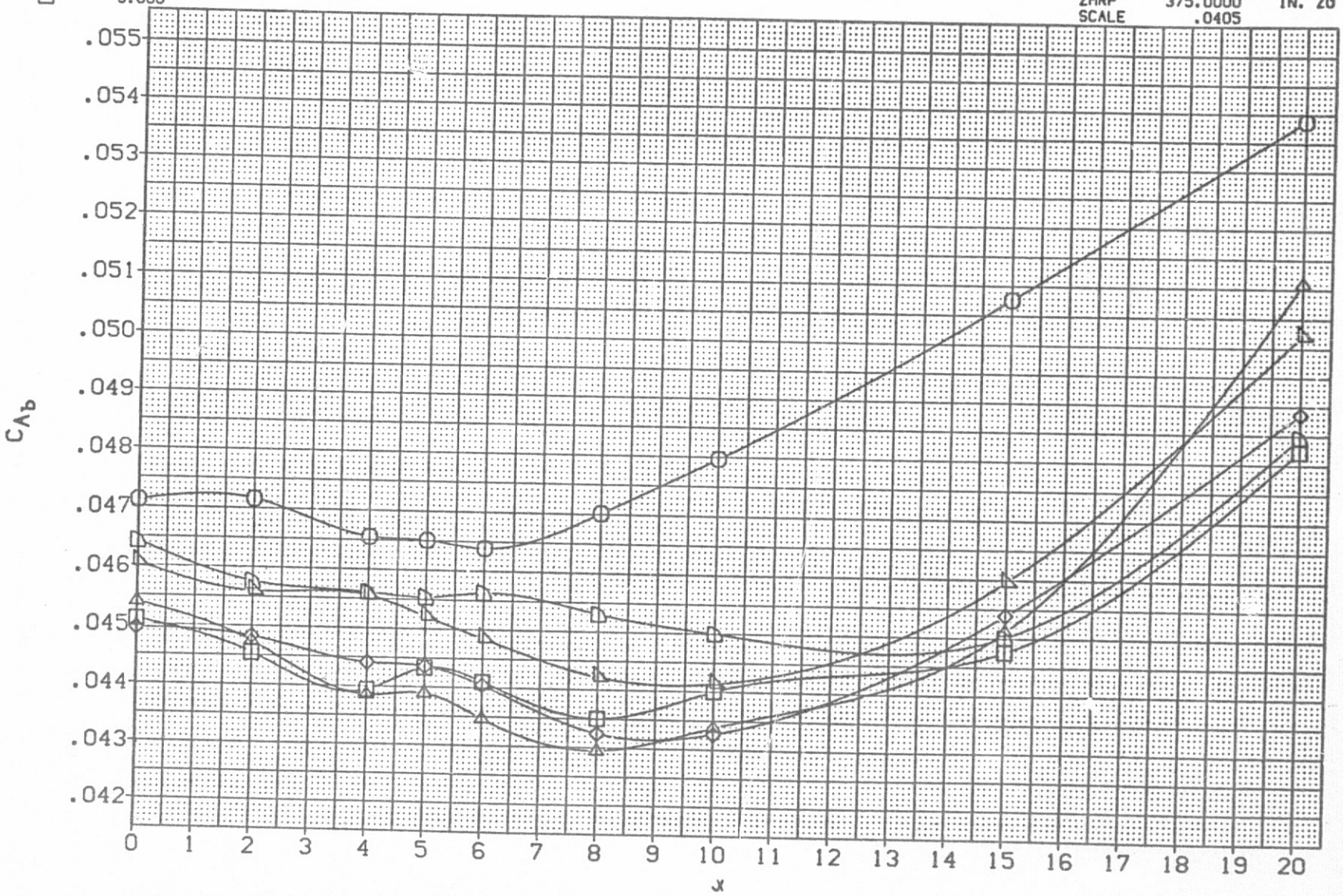

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

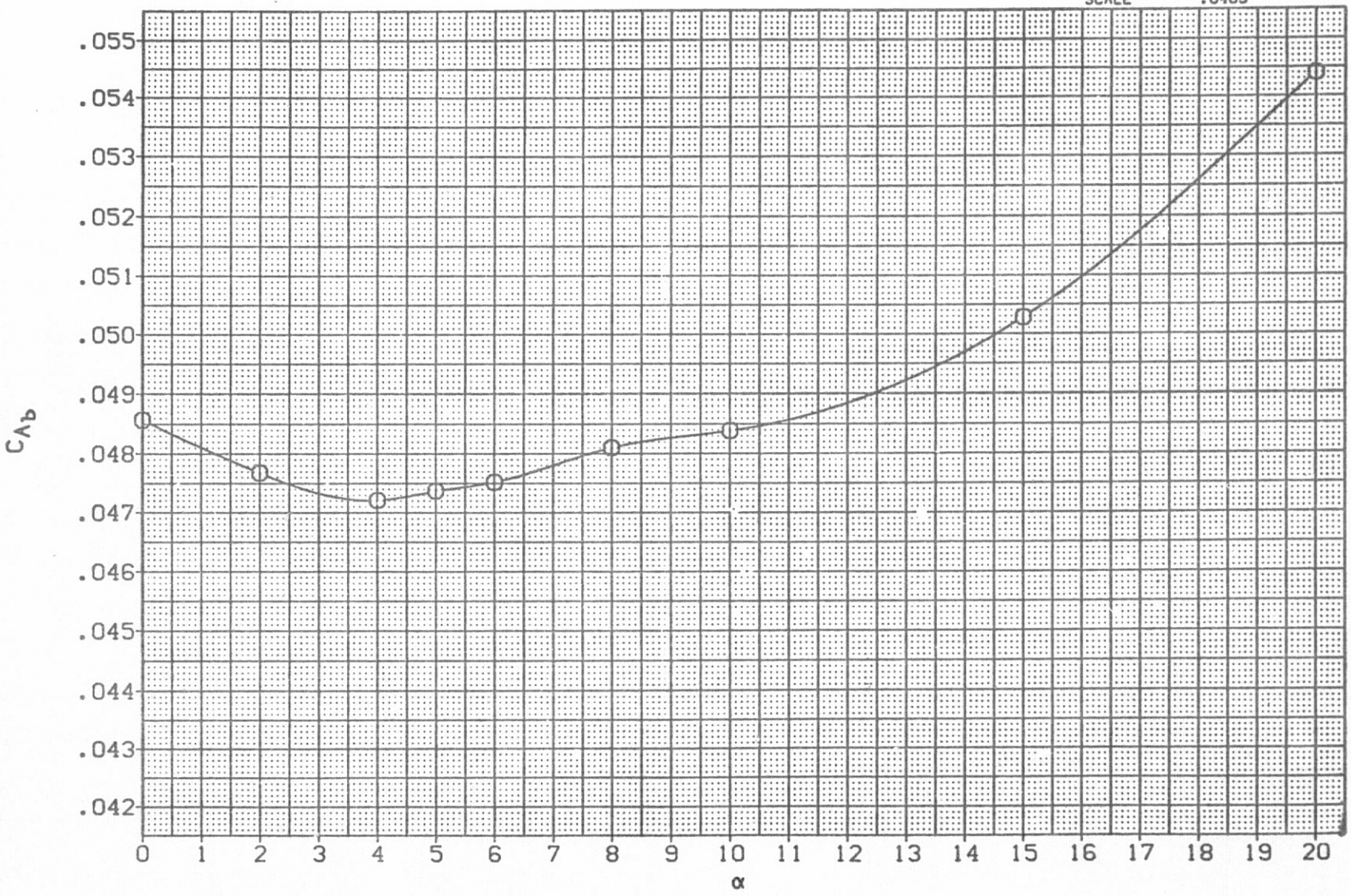

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
□	-10.000
□	-5.000
◇	-2.000
△	.000
△	2.000
□	5.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

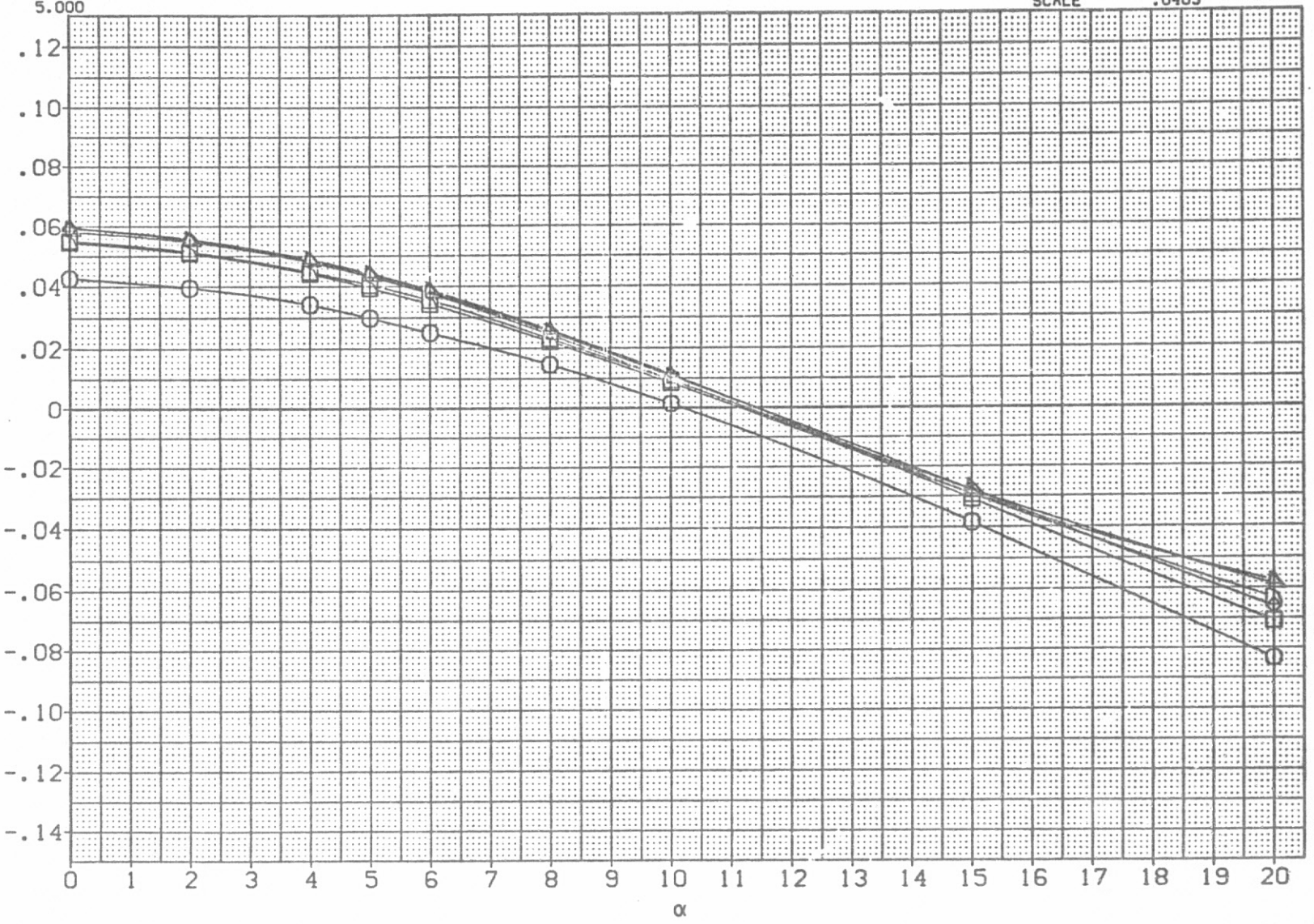

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BOFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

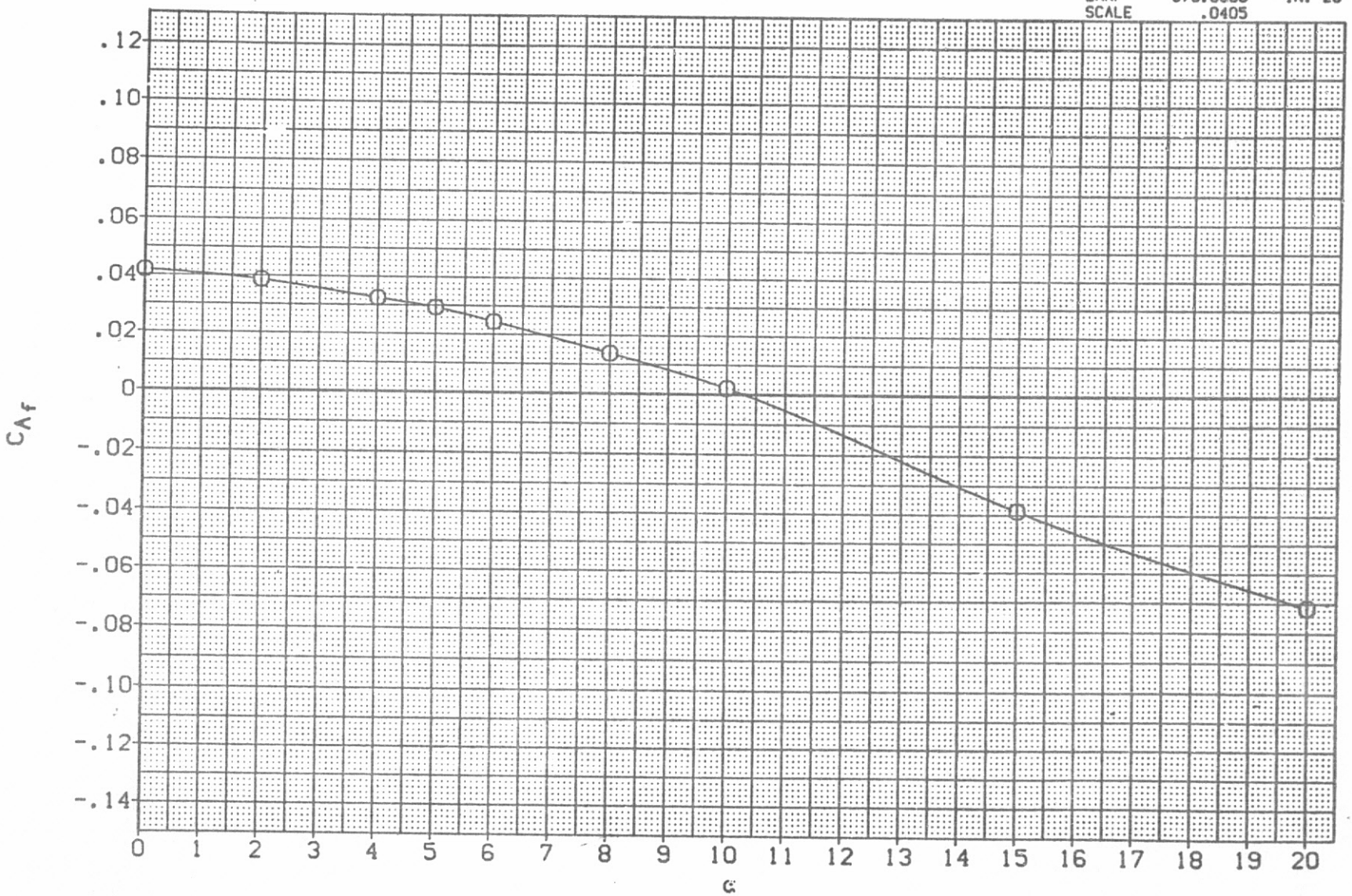

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

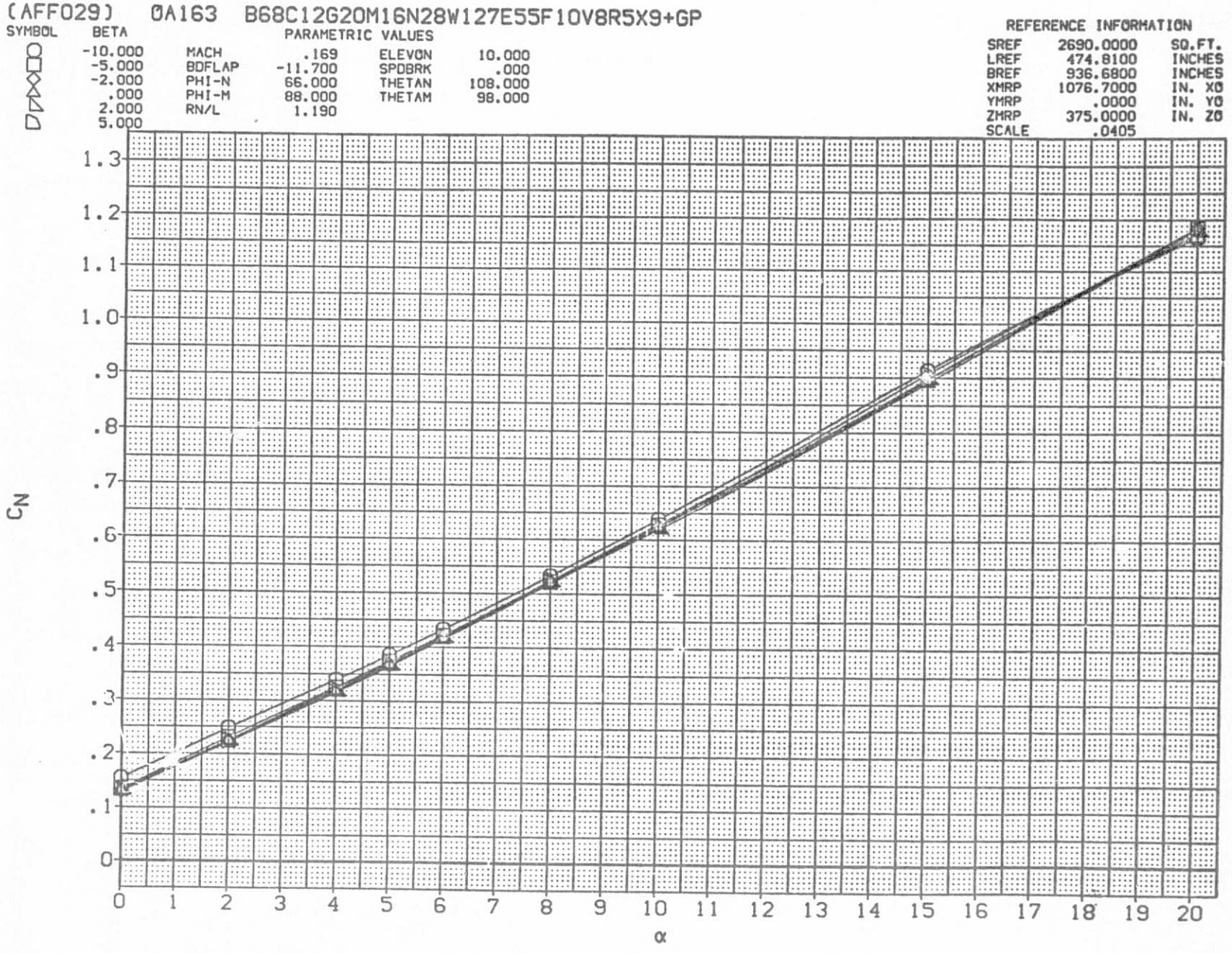

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

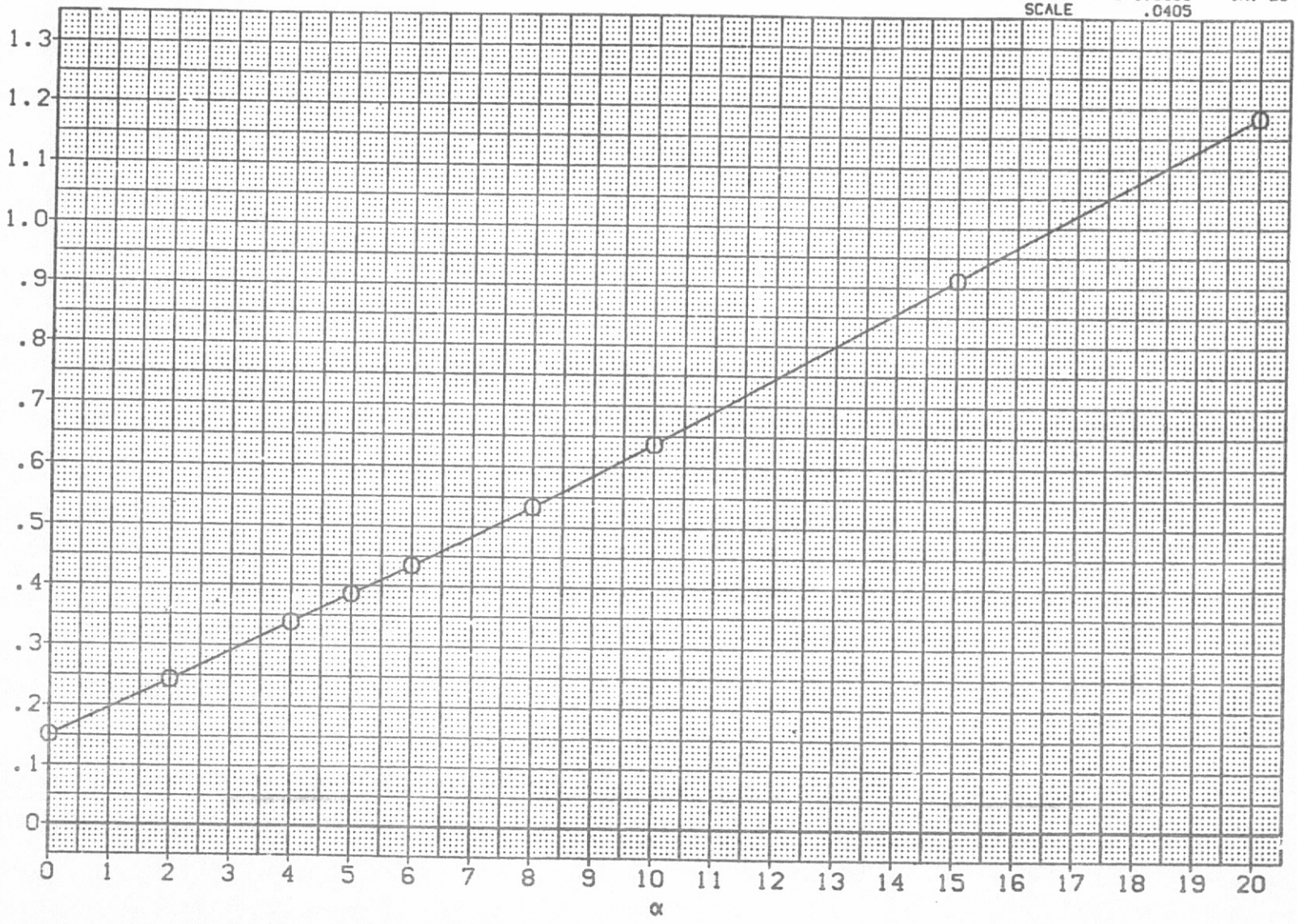

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

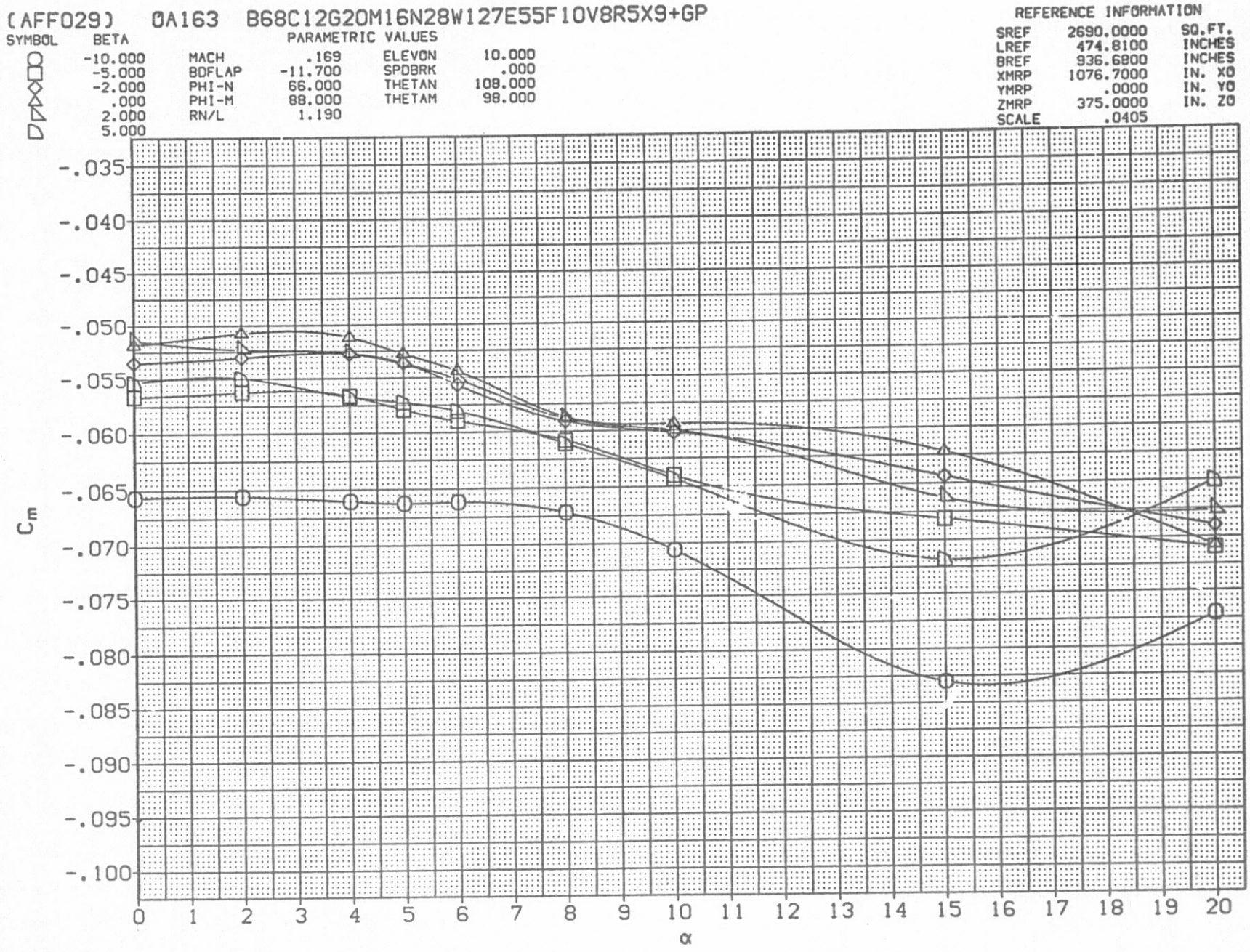

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPOBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

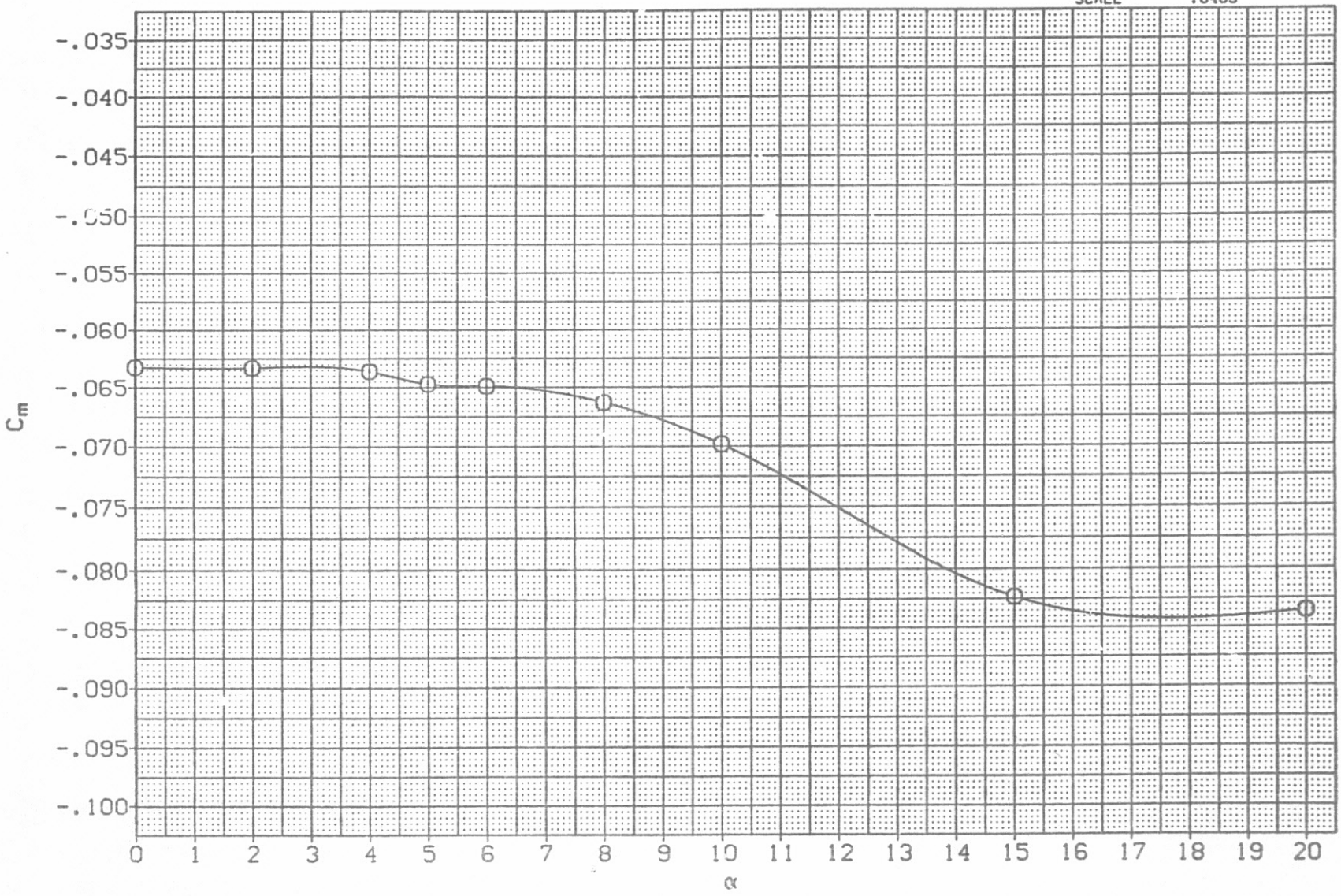

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

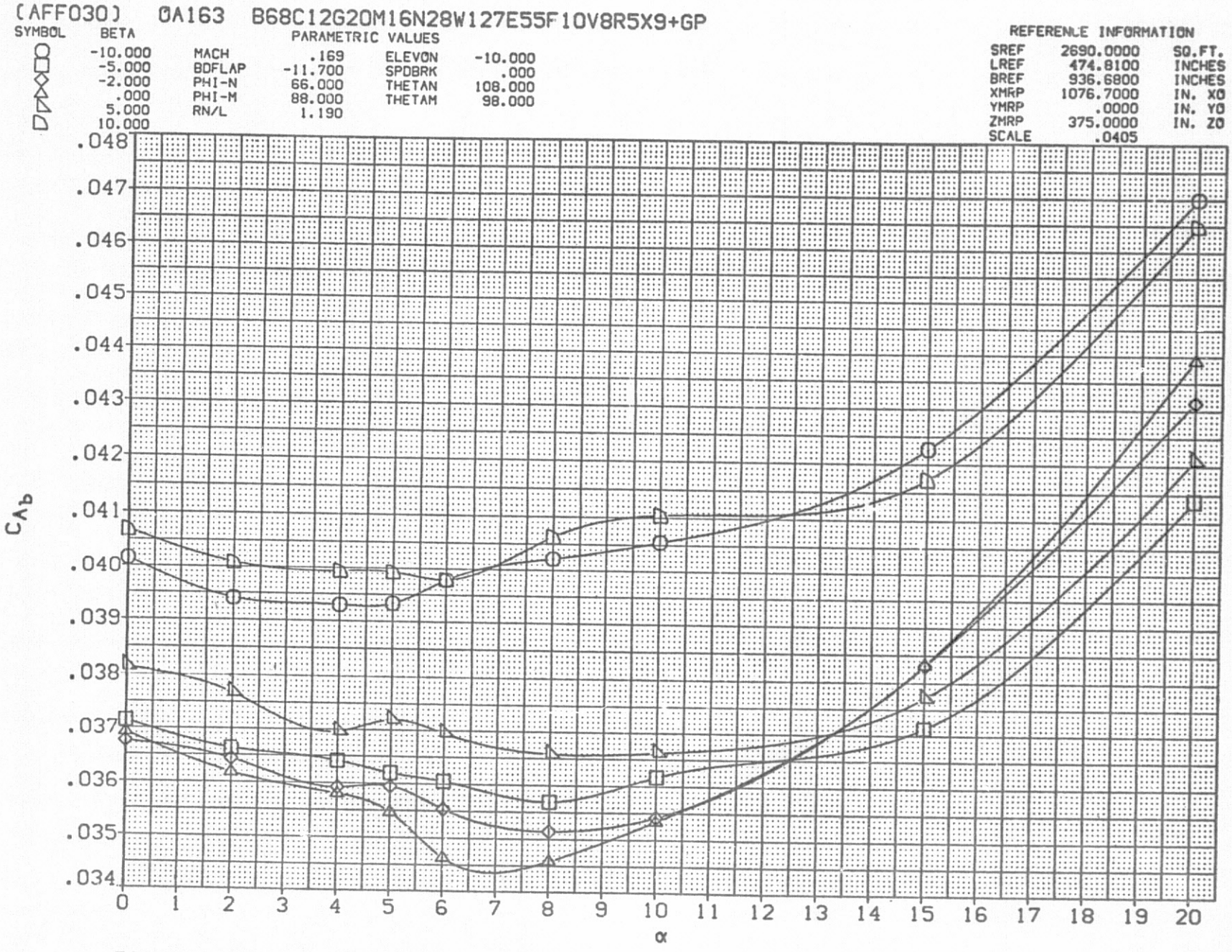

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF030) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
◇	-10.000
□	-5.000
△	-2.000
◇	.000
△	5.000
□	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	-10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

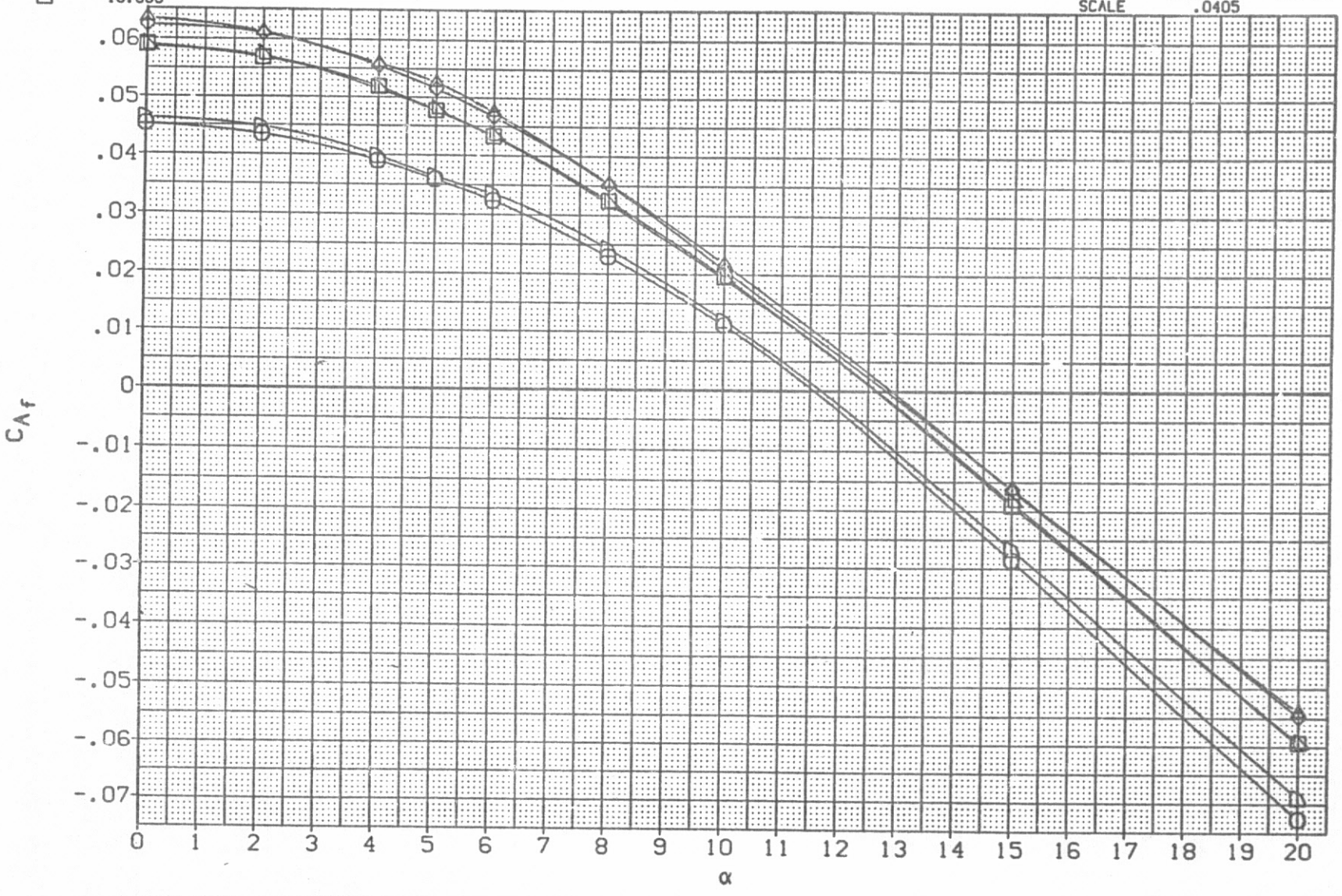

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF030) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
◇	-10.000
□	-5.000
△	-2.000
○	.000
◇	5.000
□	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	-10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

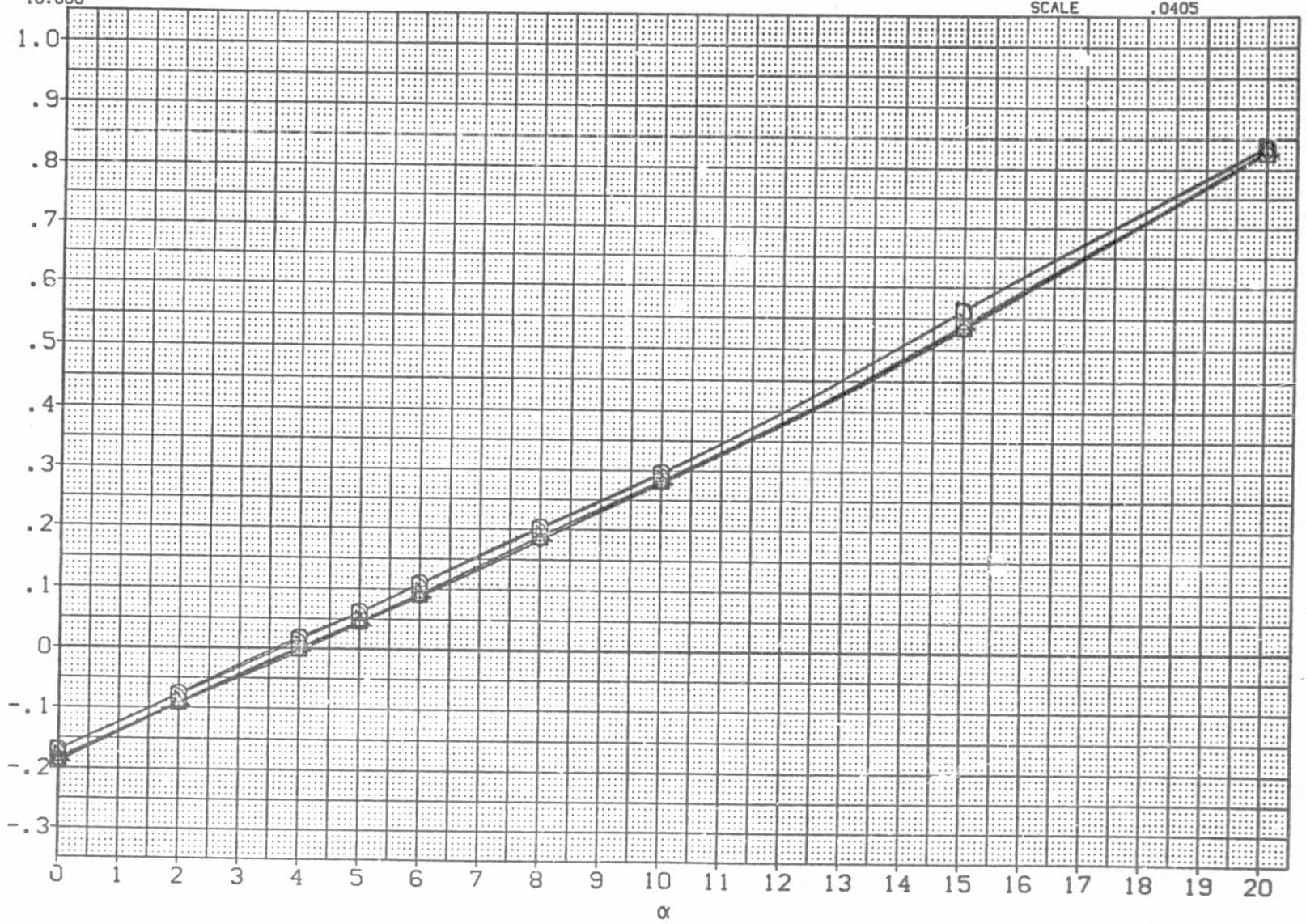

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

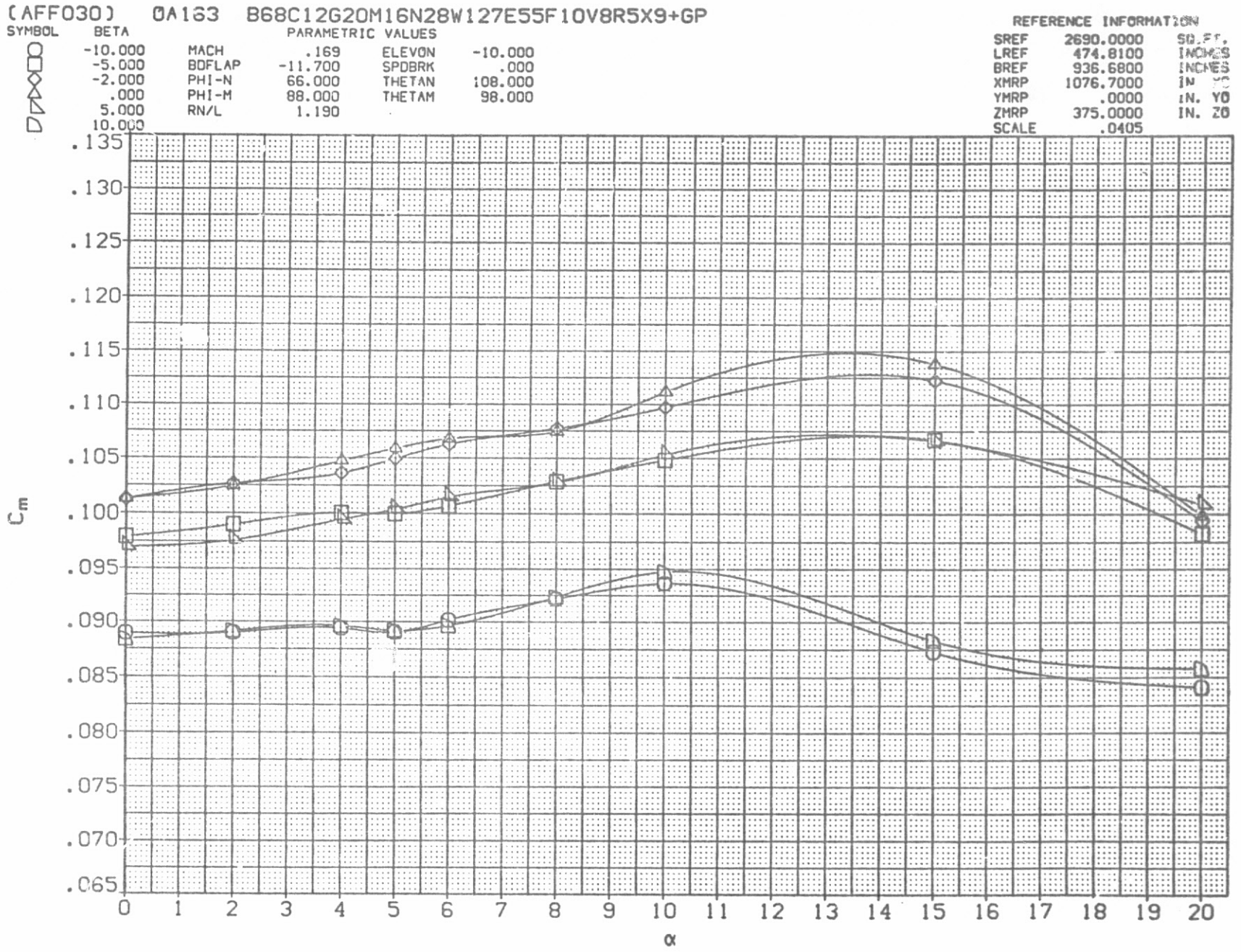

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

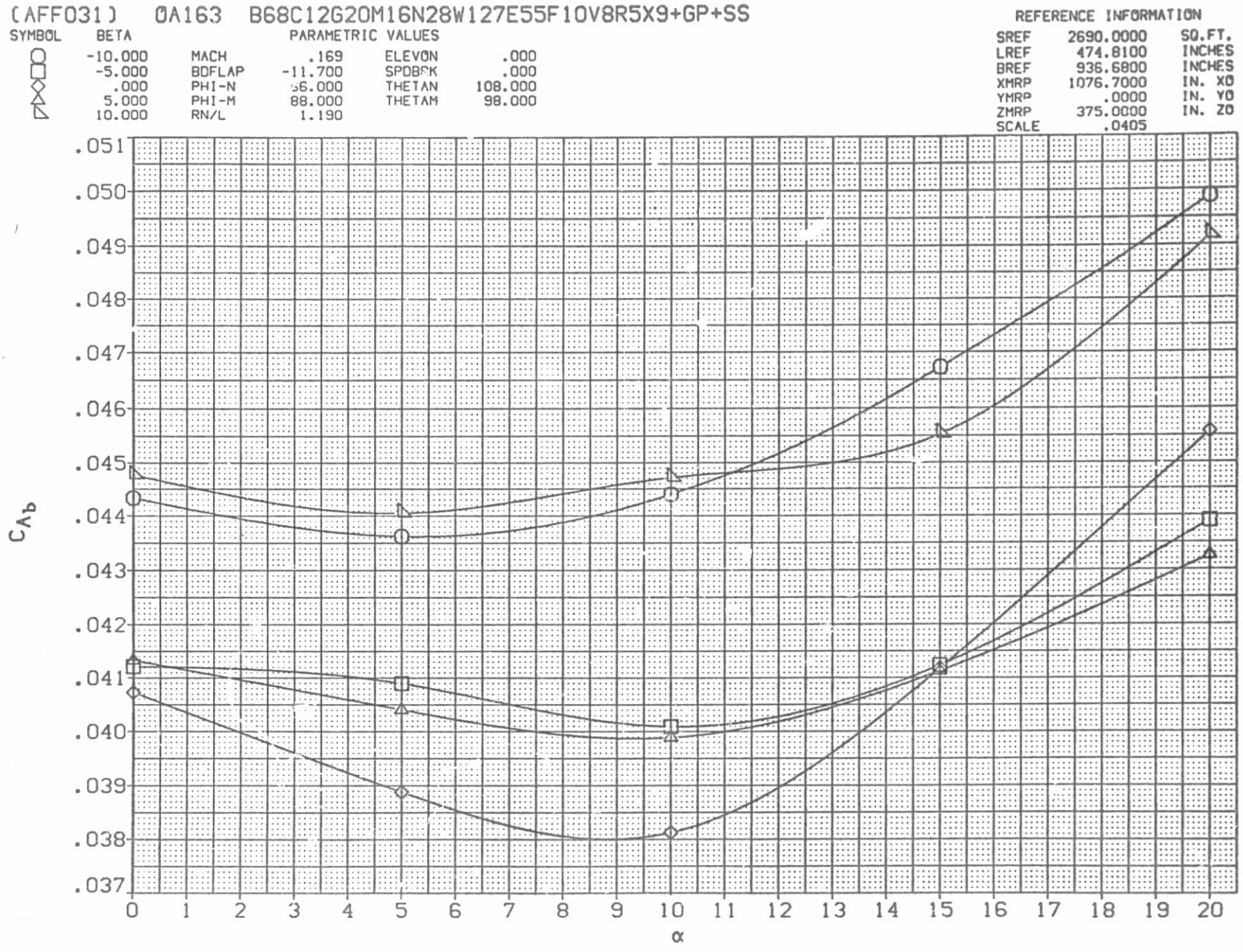

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF031) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS

SYMBOL	BETA
◇	-10.000
□	-5.000
◁	.000
▷	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

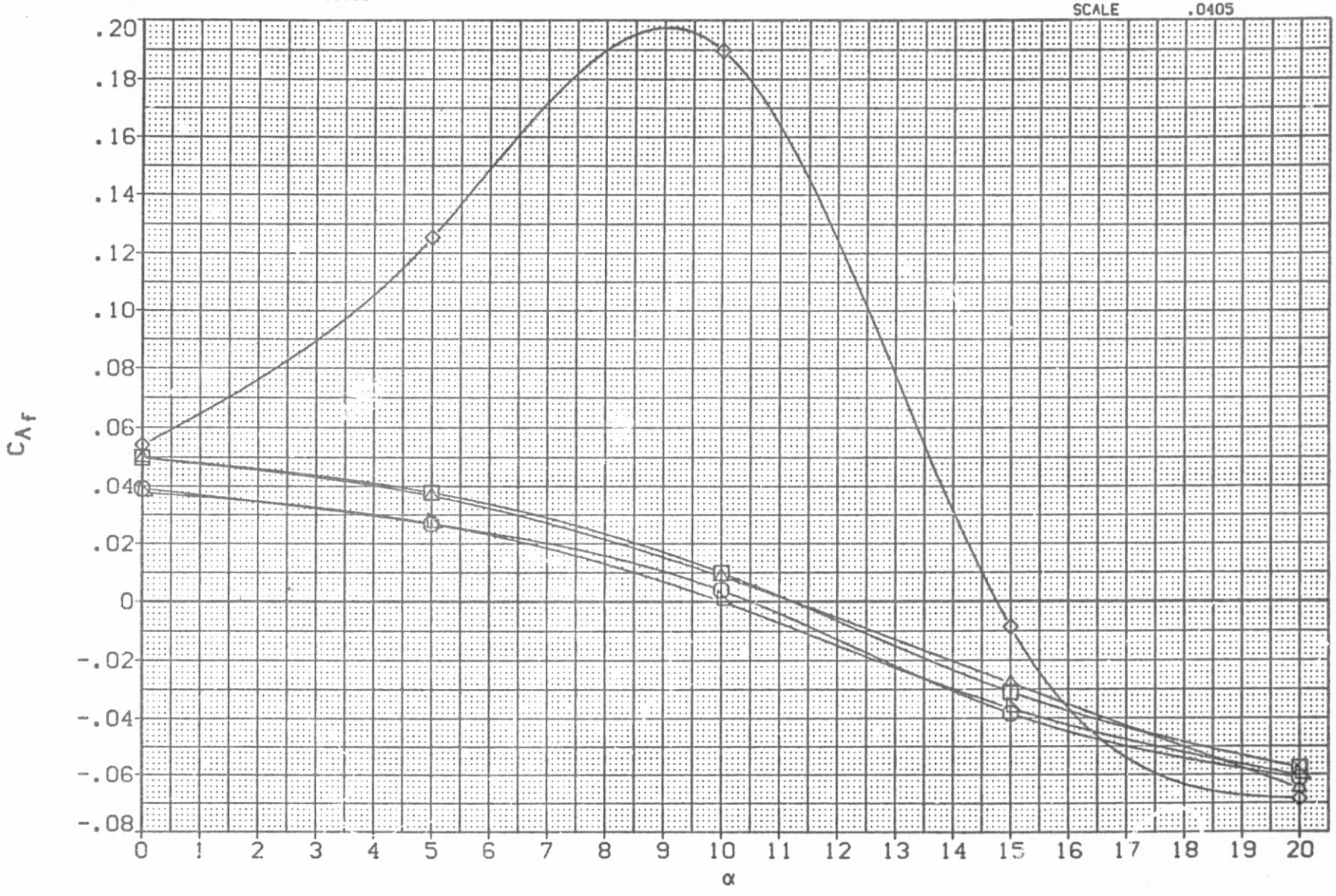

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF031) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BOFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

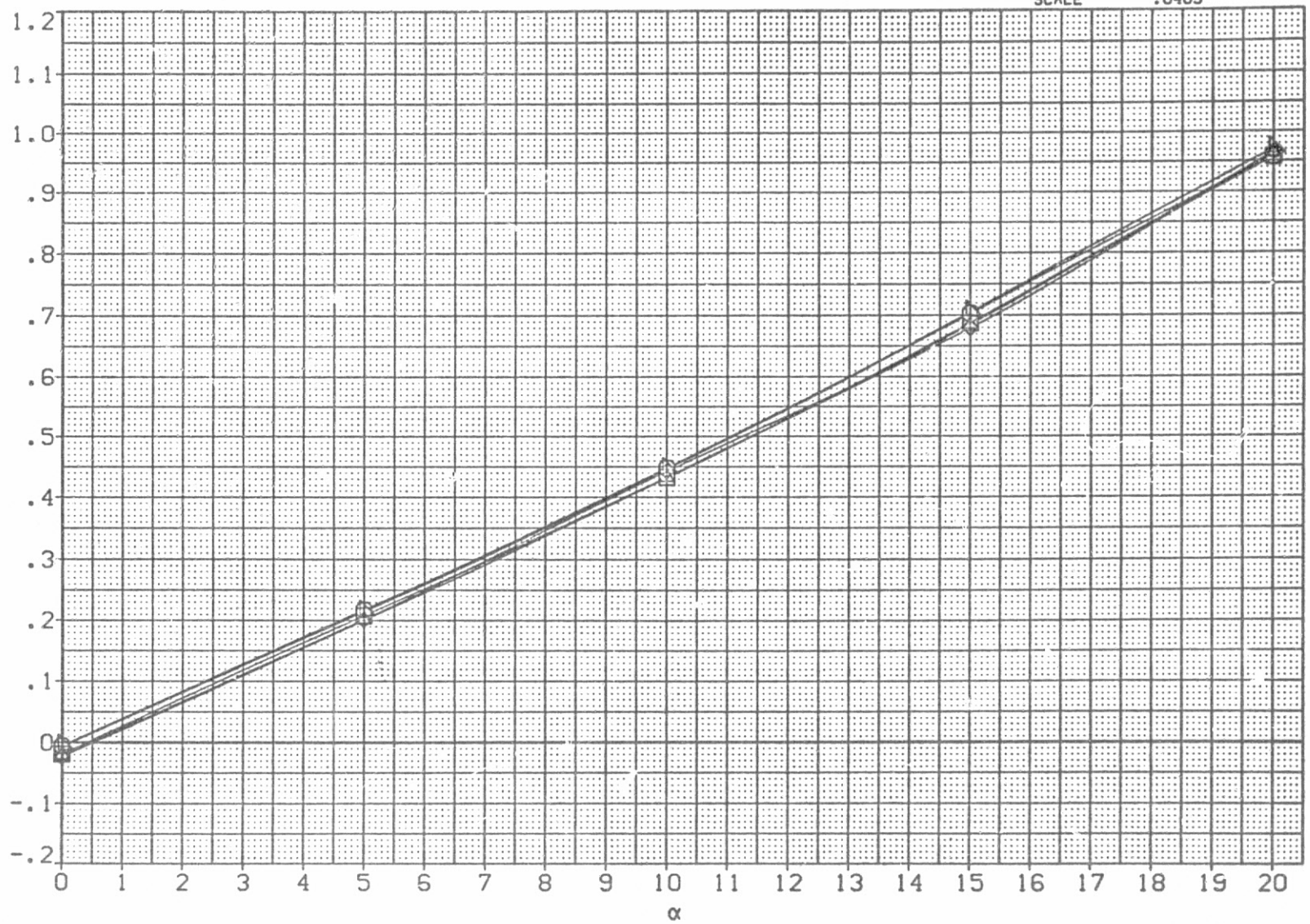

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

(AFF031) DA163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS

SYMBOL	BETA
◇	-10.000
□	-5.000
○	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

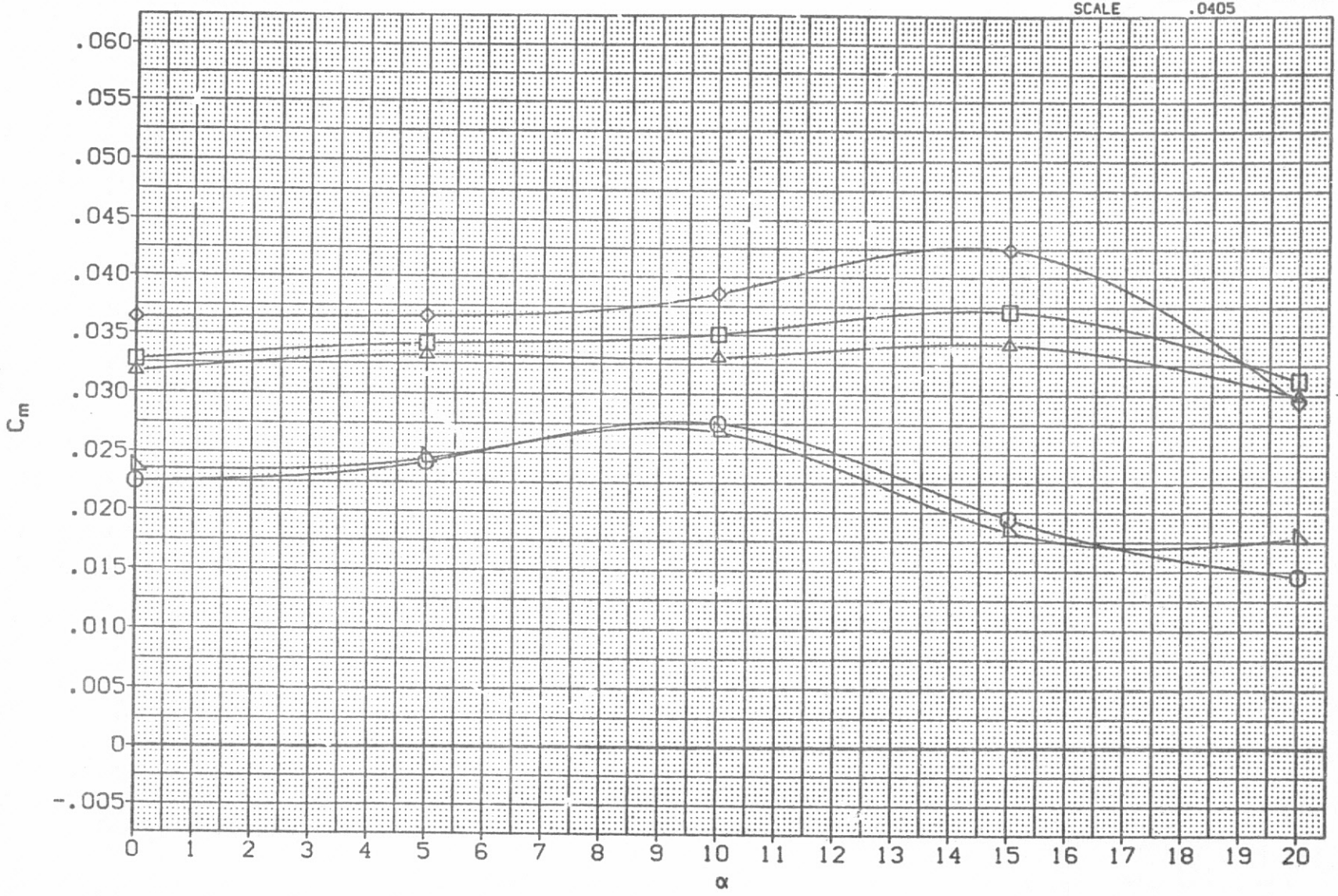

FIG. 04 LONGITUDINAL AERODYNAMIC COEFFICIENTS

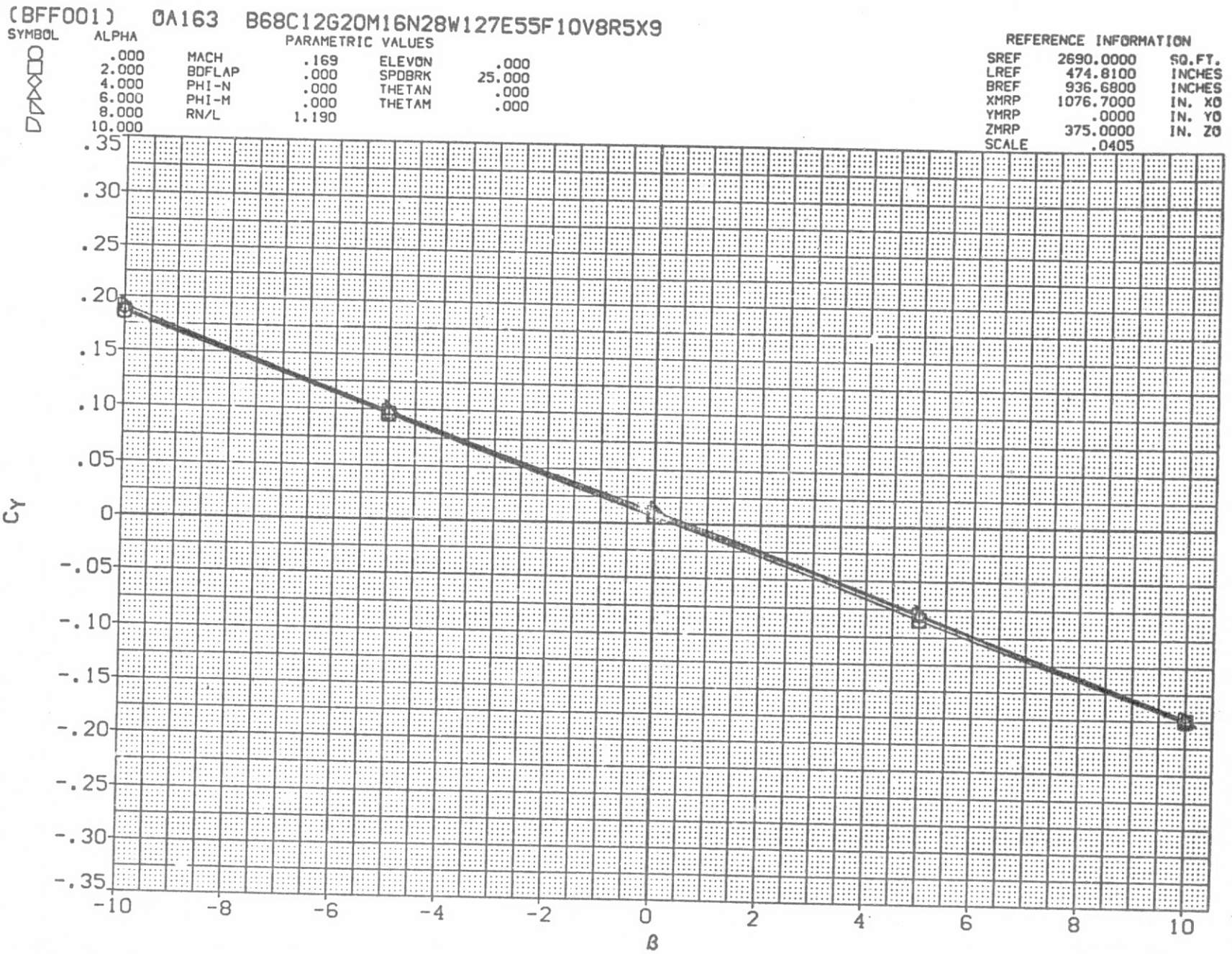

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF001) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
D	.000
△	2.000
◇	4.000
▷	6.000
□	8.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

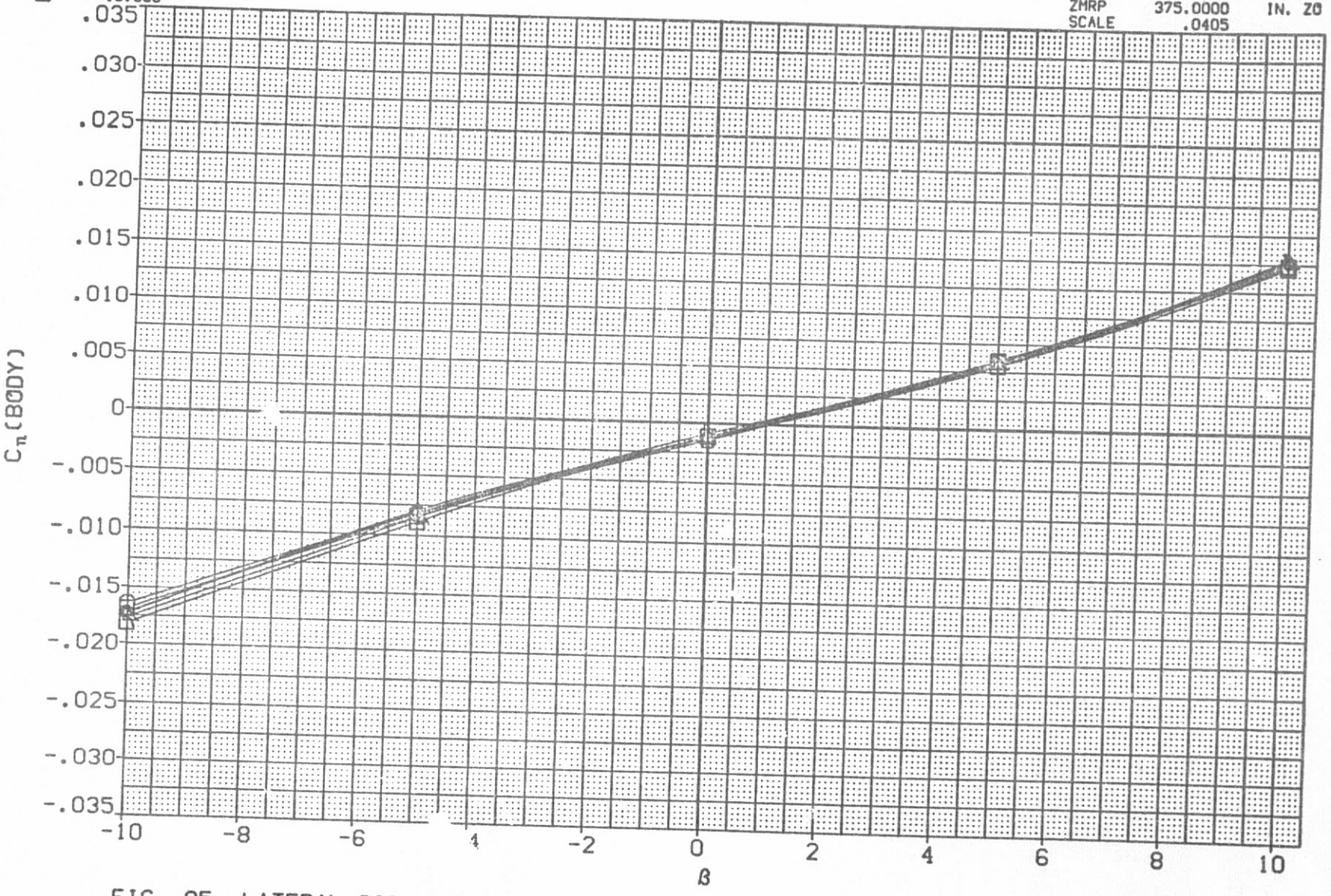

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

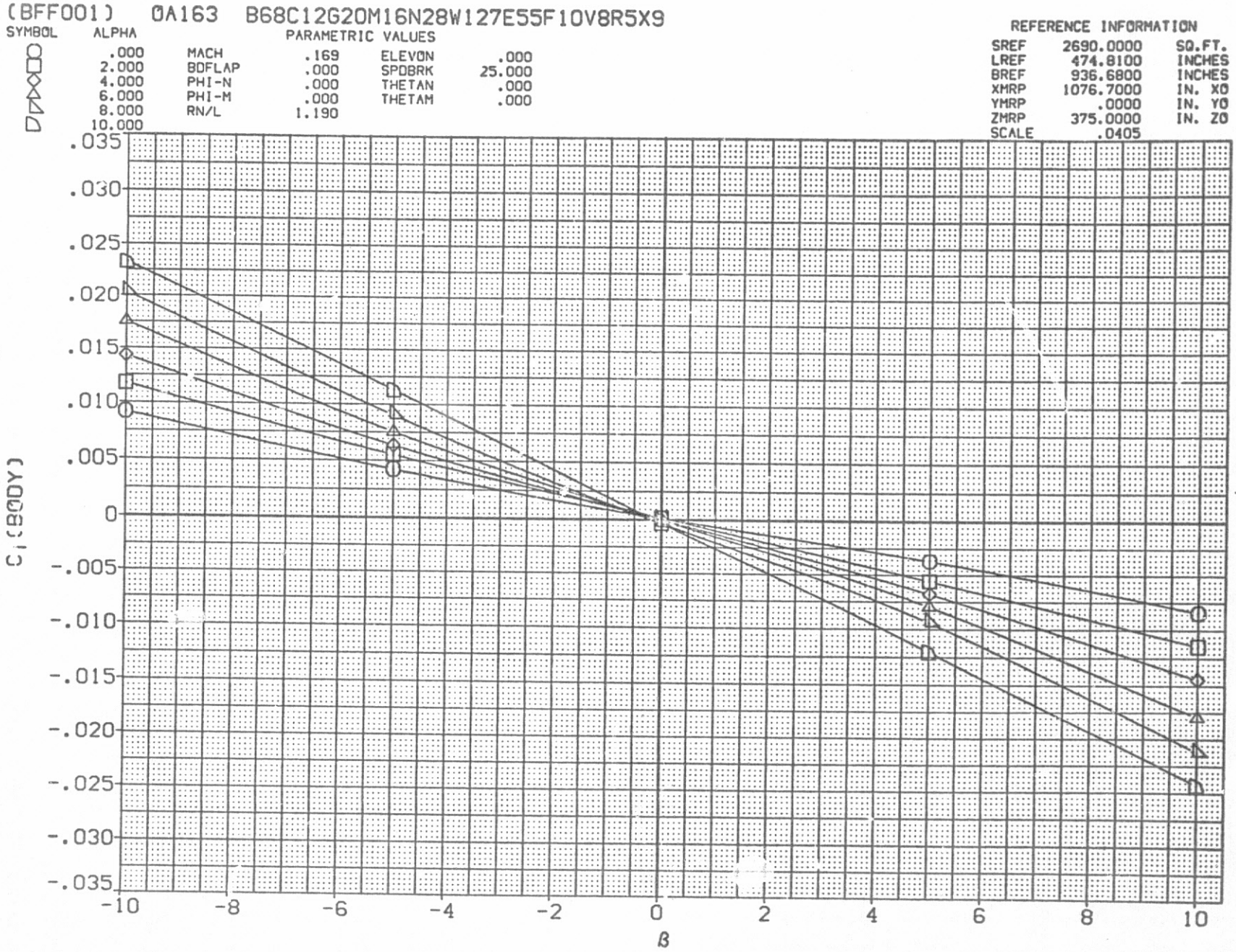

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF002) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	-.000
◇	2.000
△	4.000
▽	6.000
⊡	8.000
⊠	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.260	THETAN	.000
PHI-M	.230	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

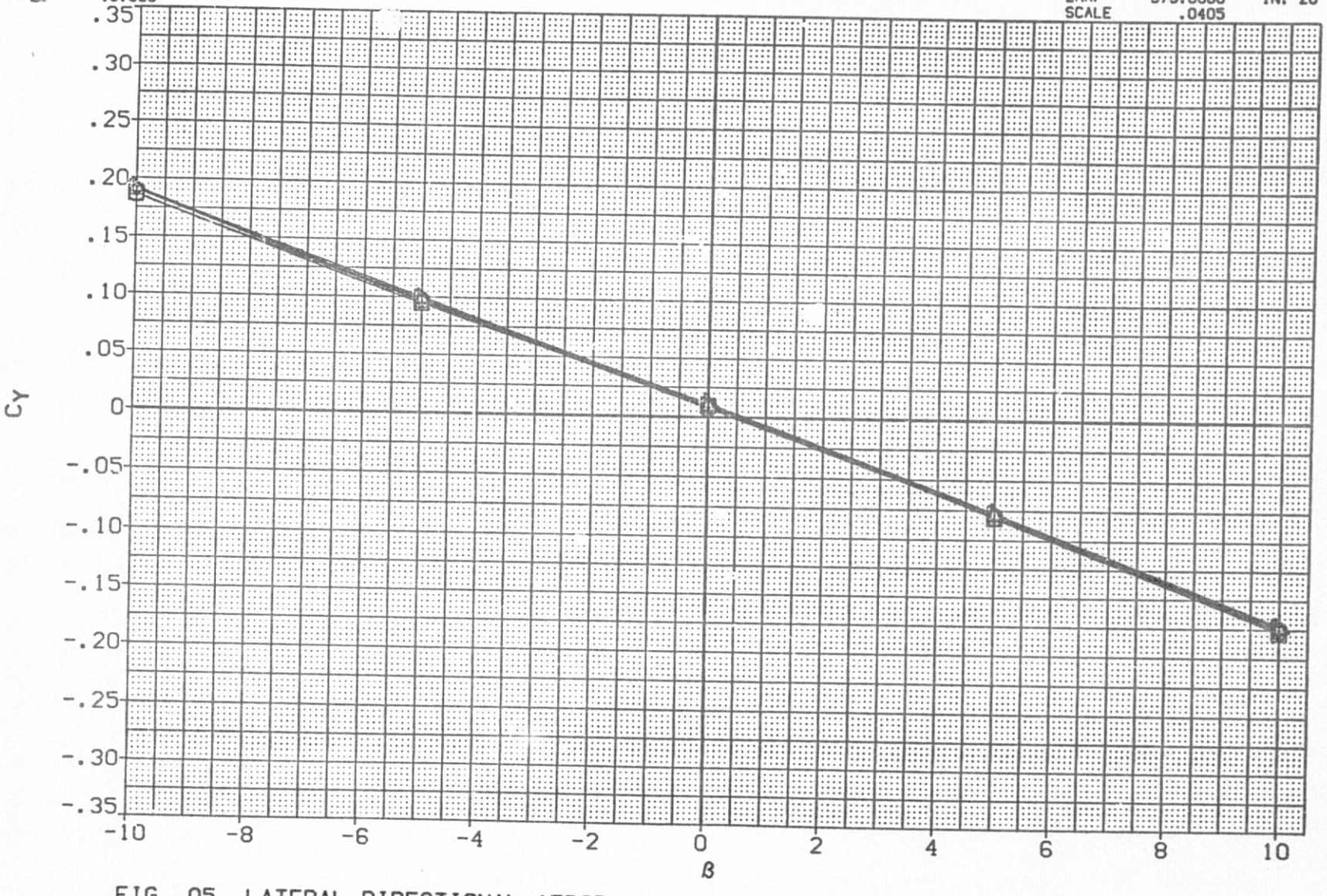

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

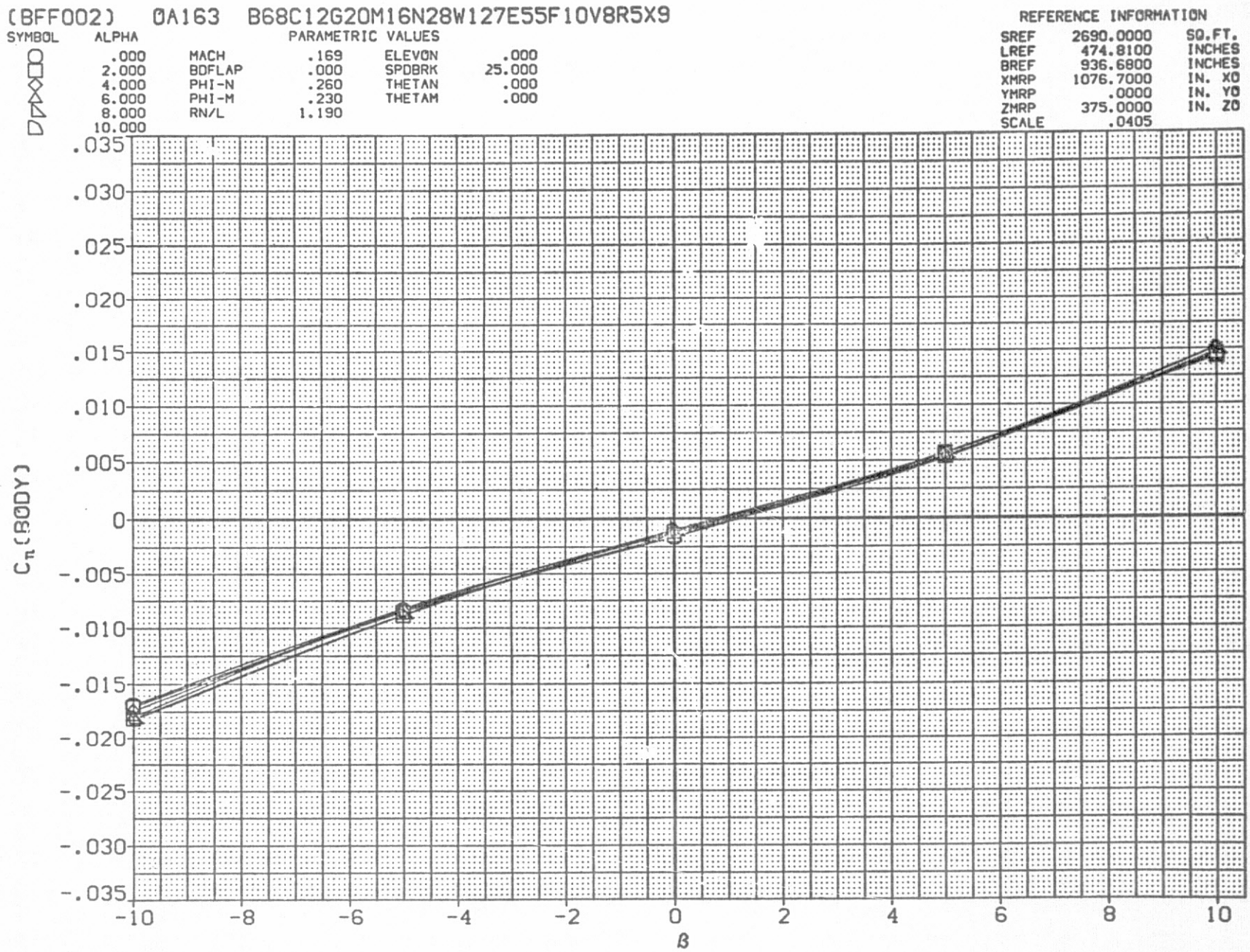

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF002) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
○	.000
□	2.000
◇	4.000
△	6.000
▷	8.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.260	THETAN	.000
PHI-M	.230	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

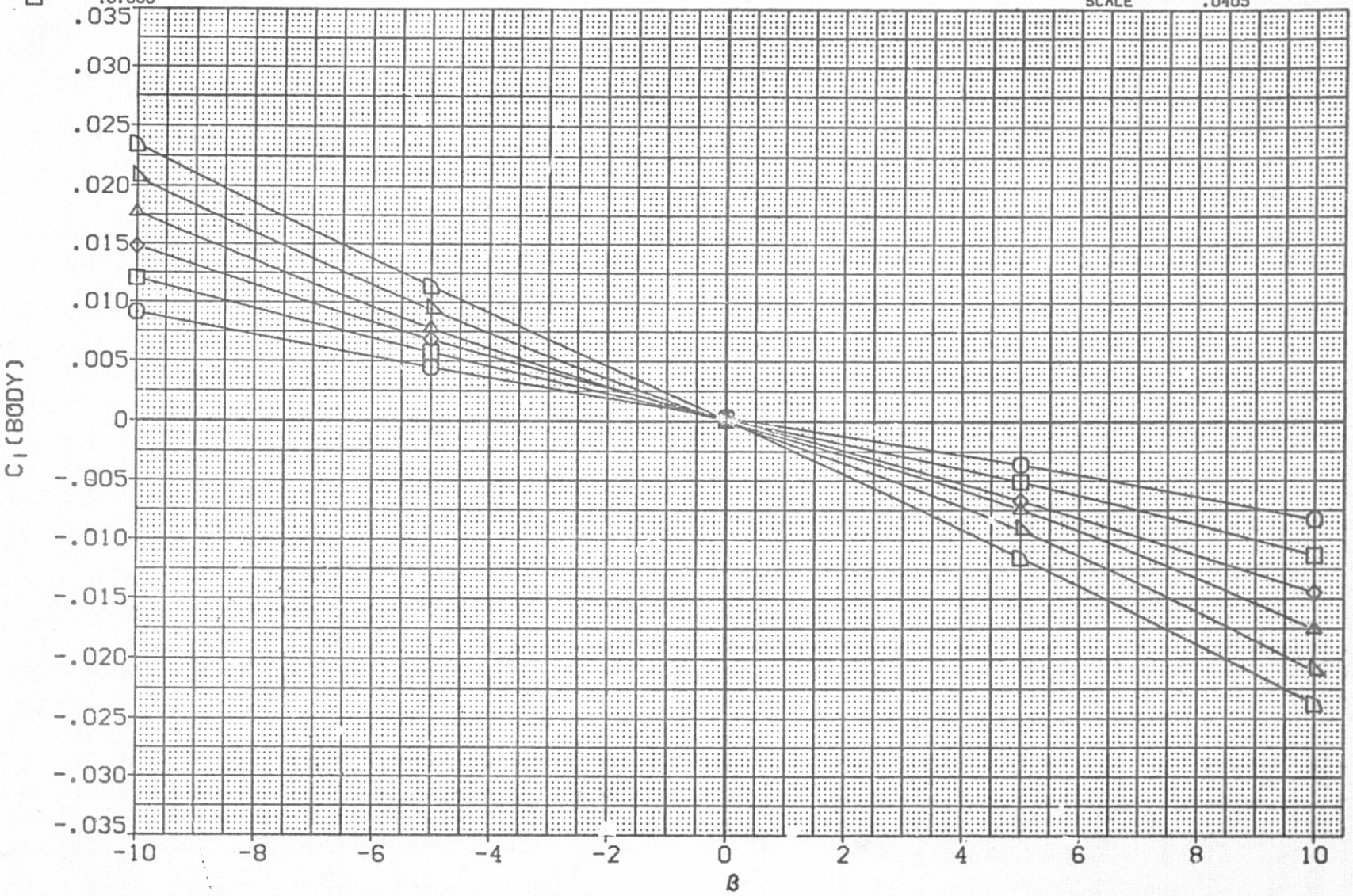

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF003) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
○	6.000
⊲	8.000
⊳	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	2.000	THETAN	.000
PHI-M	2.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XØ
YMRP	.0000	IN. YØ
ZMRP	375.0000	IN. ZØ
SCALE	.0405	

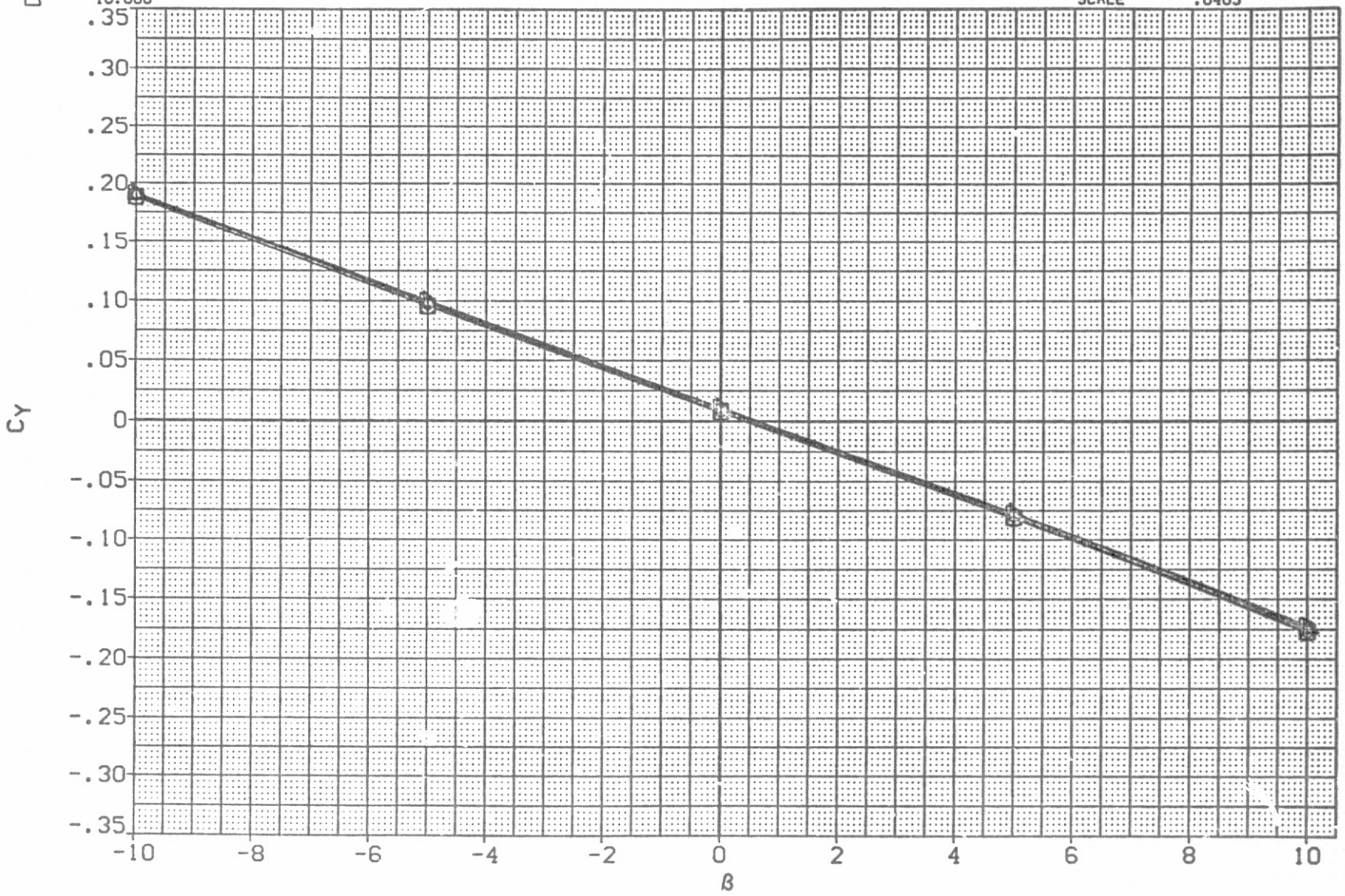

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF003) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
▽	.000
△	2.000
◇	4.000
▷	6.000
◁	8.000
□	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	2.000	THETAN	.000
PHI-M	2.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

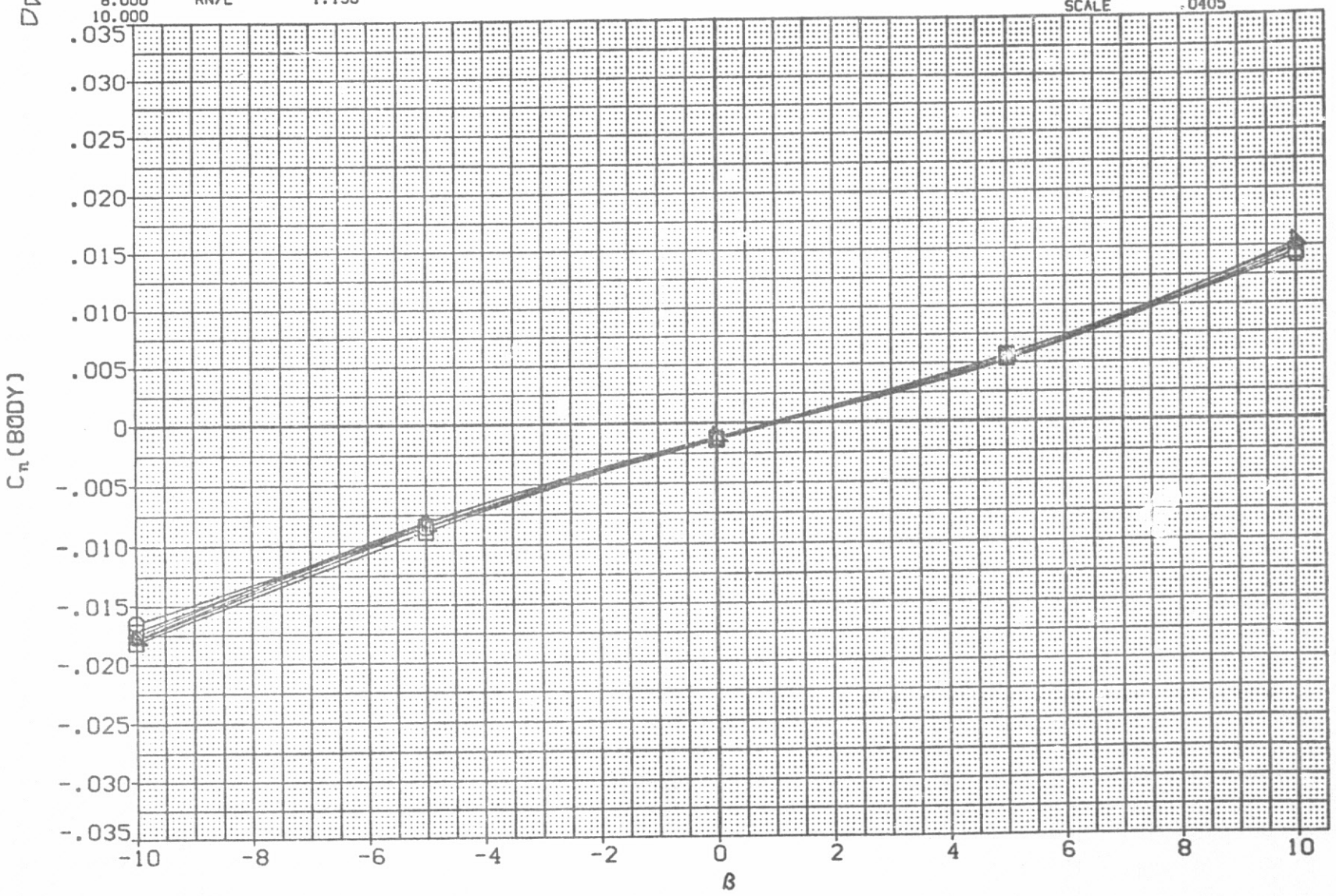

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

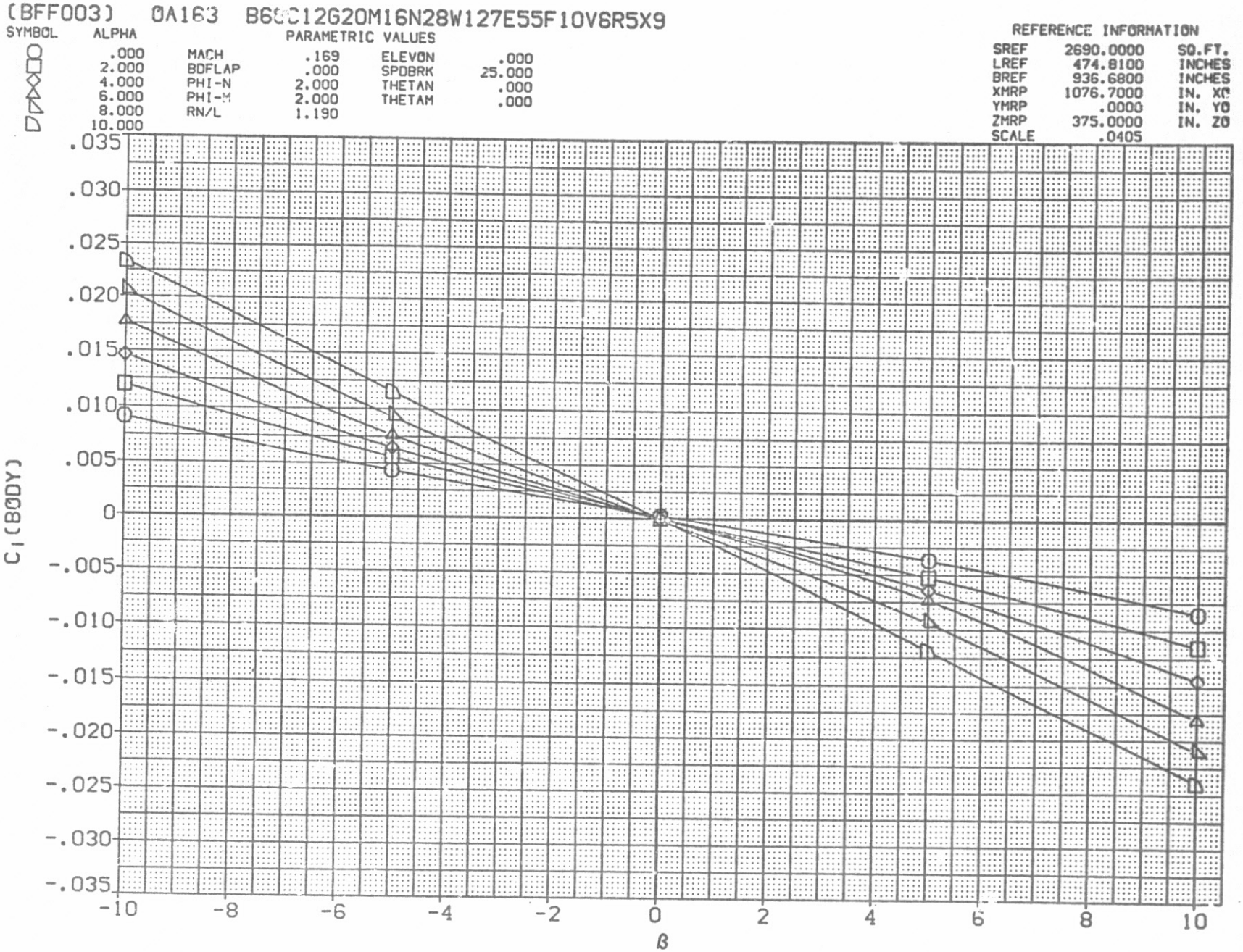

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF004) CA163 B68C12G20M1SN28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
□	6.000
◇	8.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPOBRK	25.000
PHI-N	4.000	THETAN	.000
PHI-M	4.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

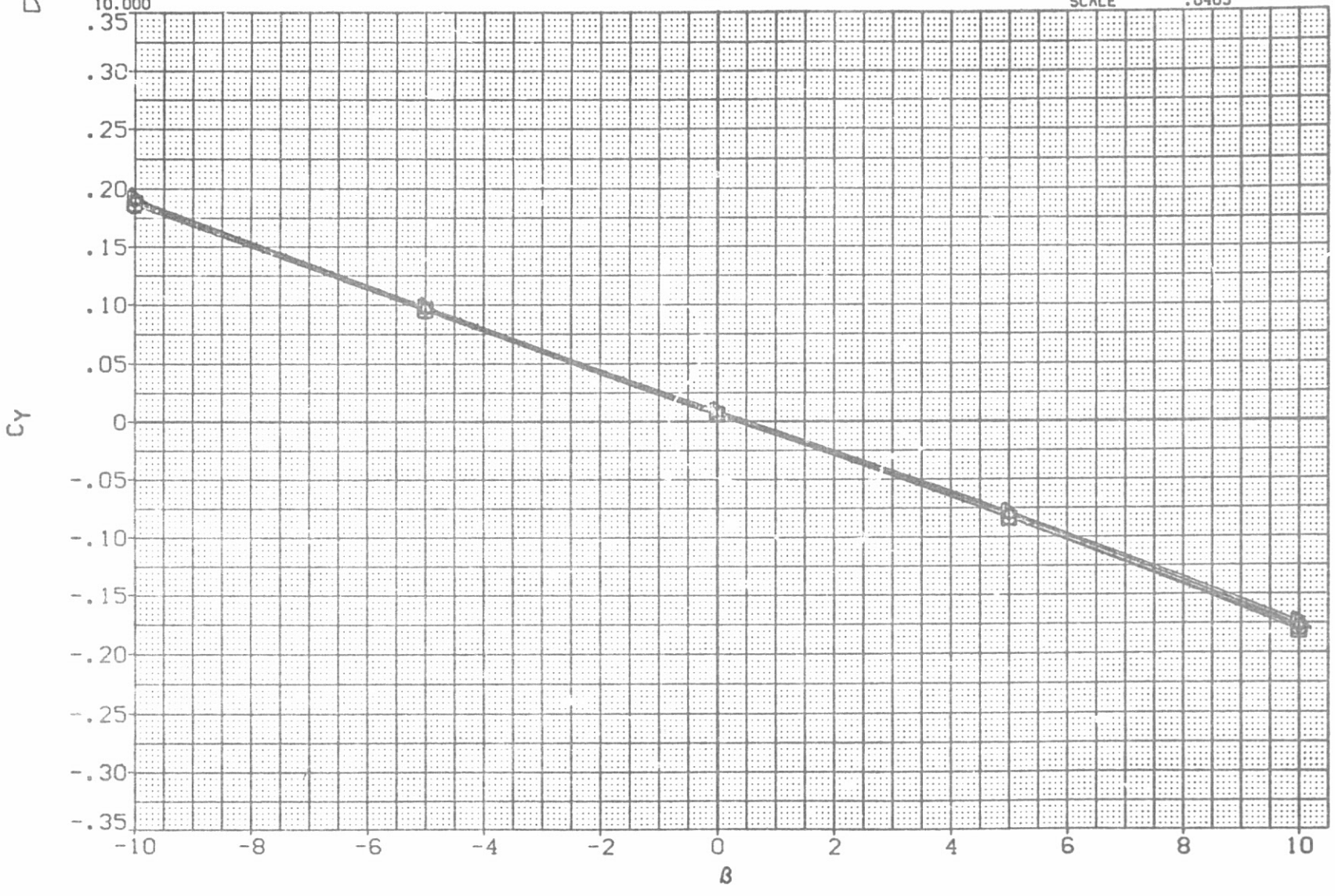

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

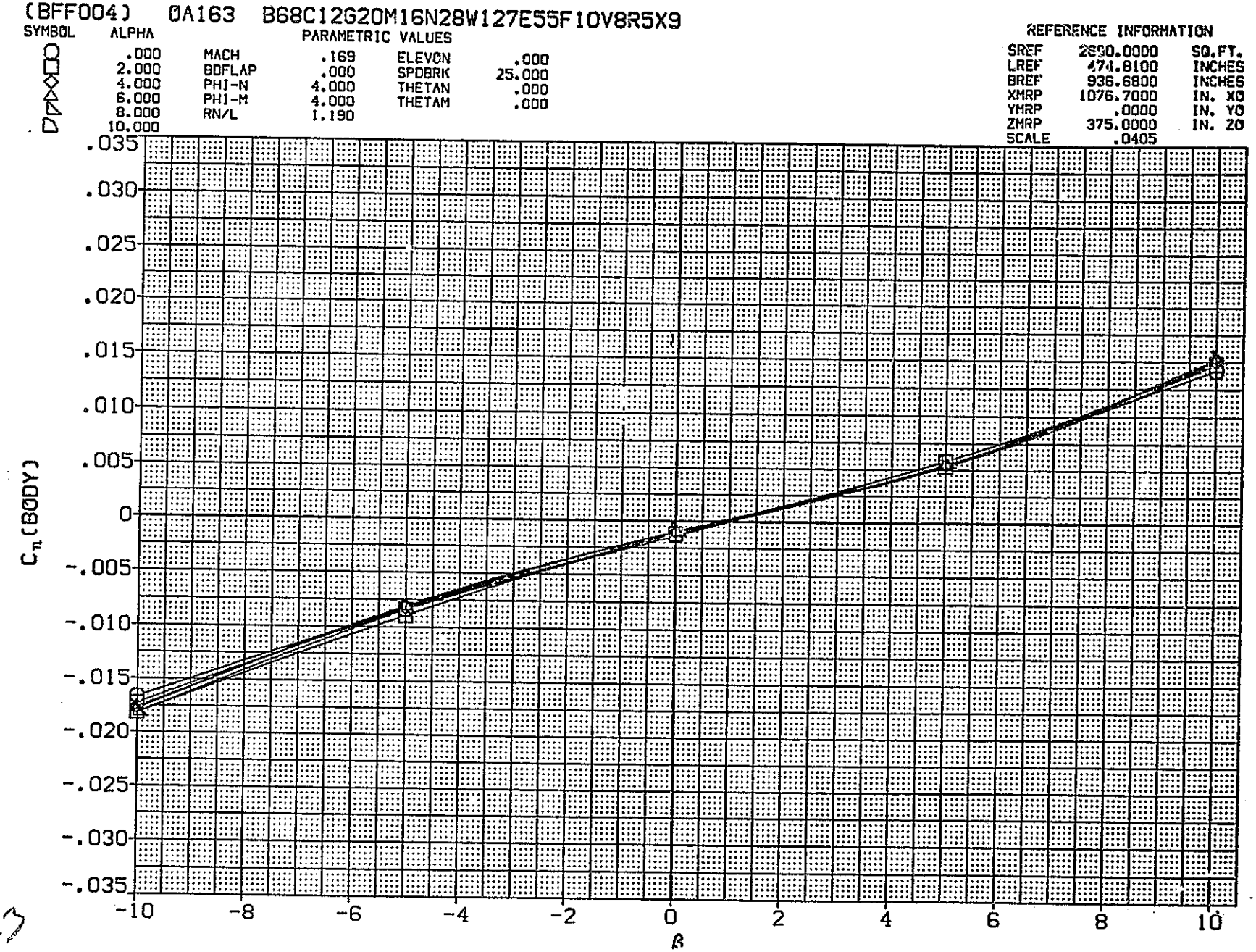

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

C-3

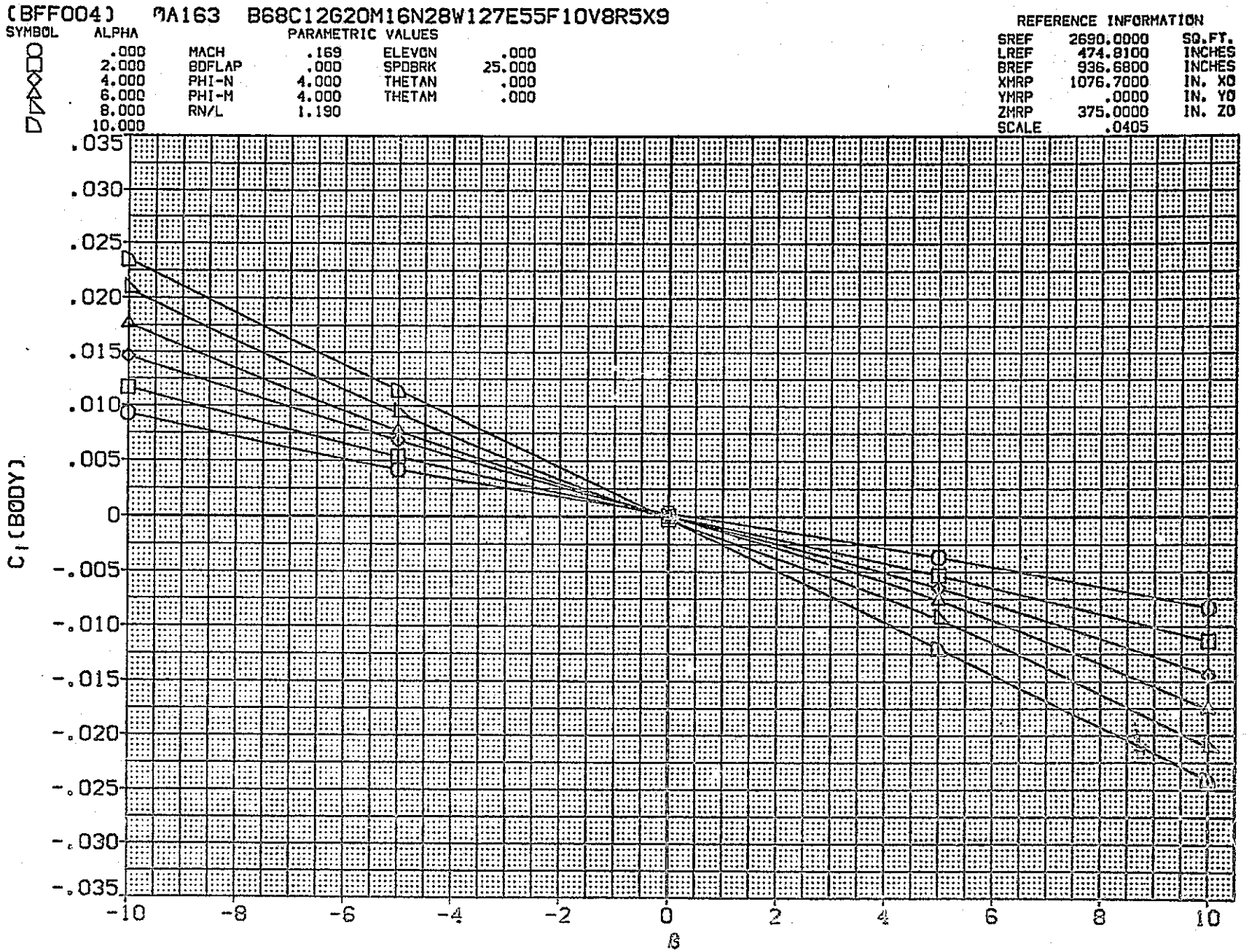

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF005) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
○	.000
□	2.000
◇	4.000
△	6.000
⊲	8.000
⊳	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPOBRK	25.000
PHI-N	6.000	THETAN	.000
PHI-M	6.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

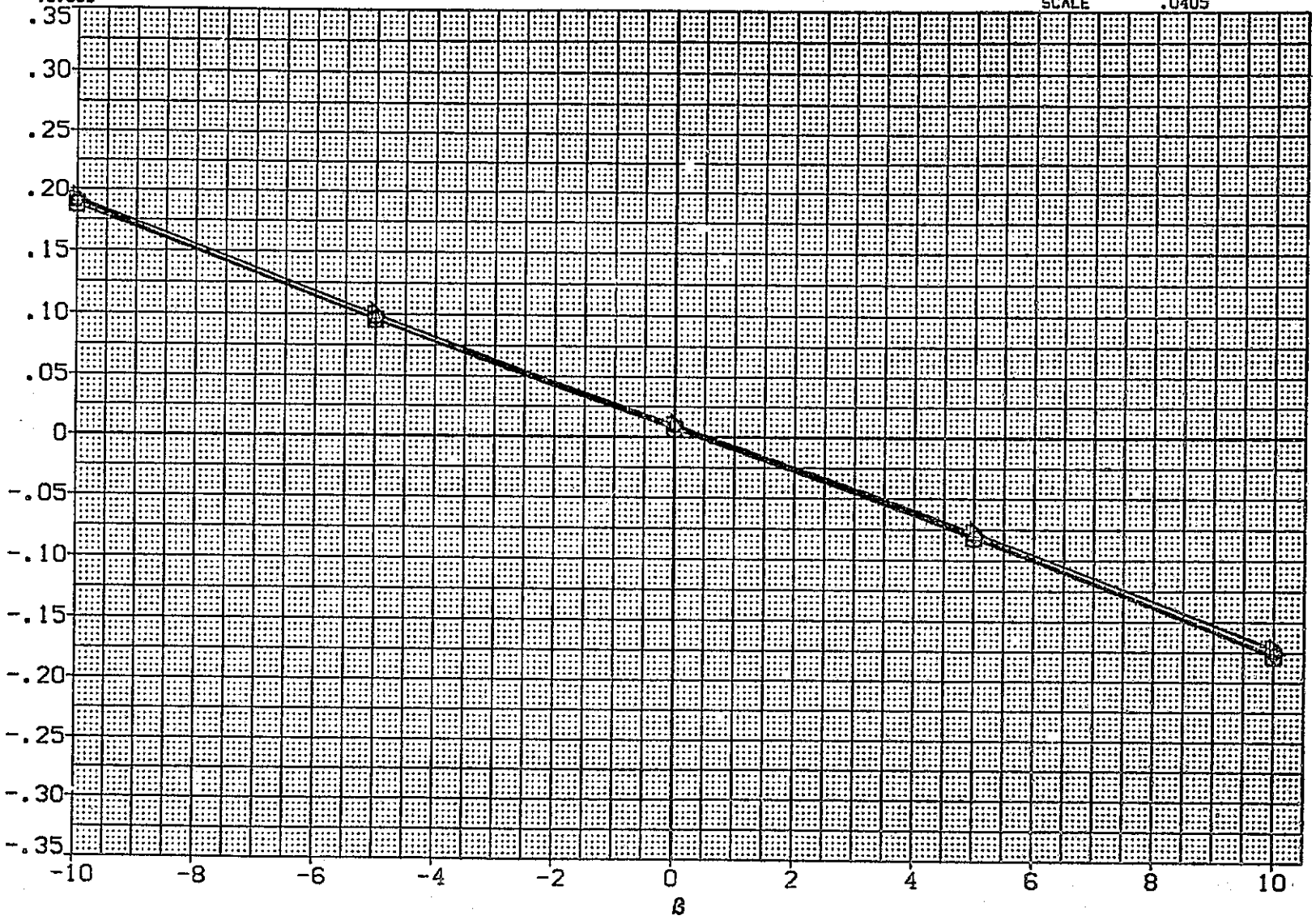

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF005) MA163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
D	.000
▽	2.000
◇	4.000
△	6.000
□	8.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	6.000	THETAN	.000
PHI-M	6.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

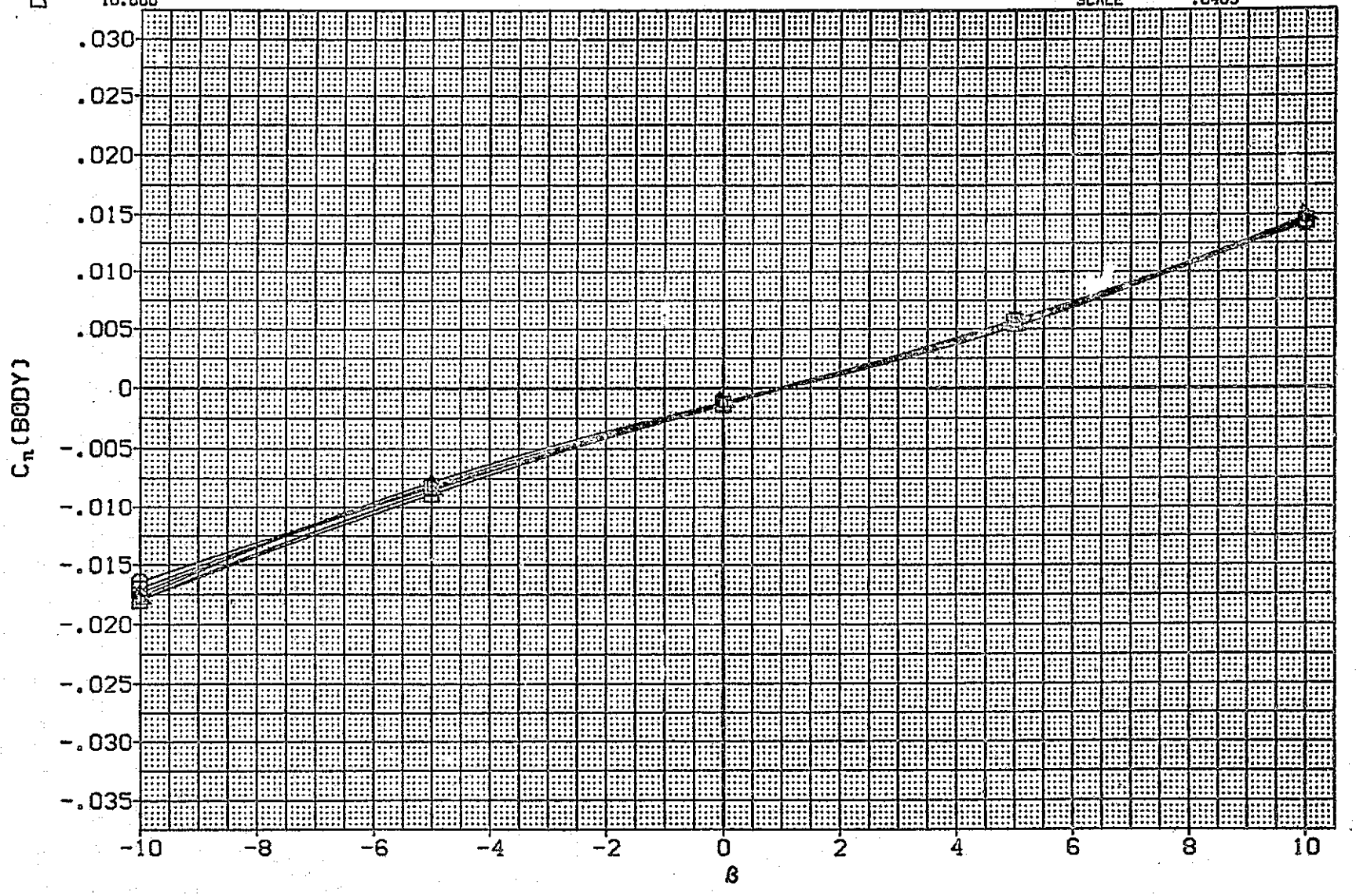

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

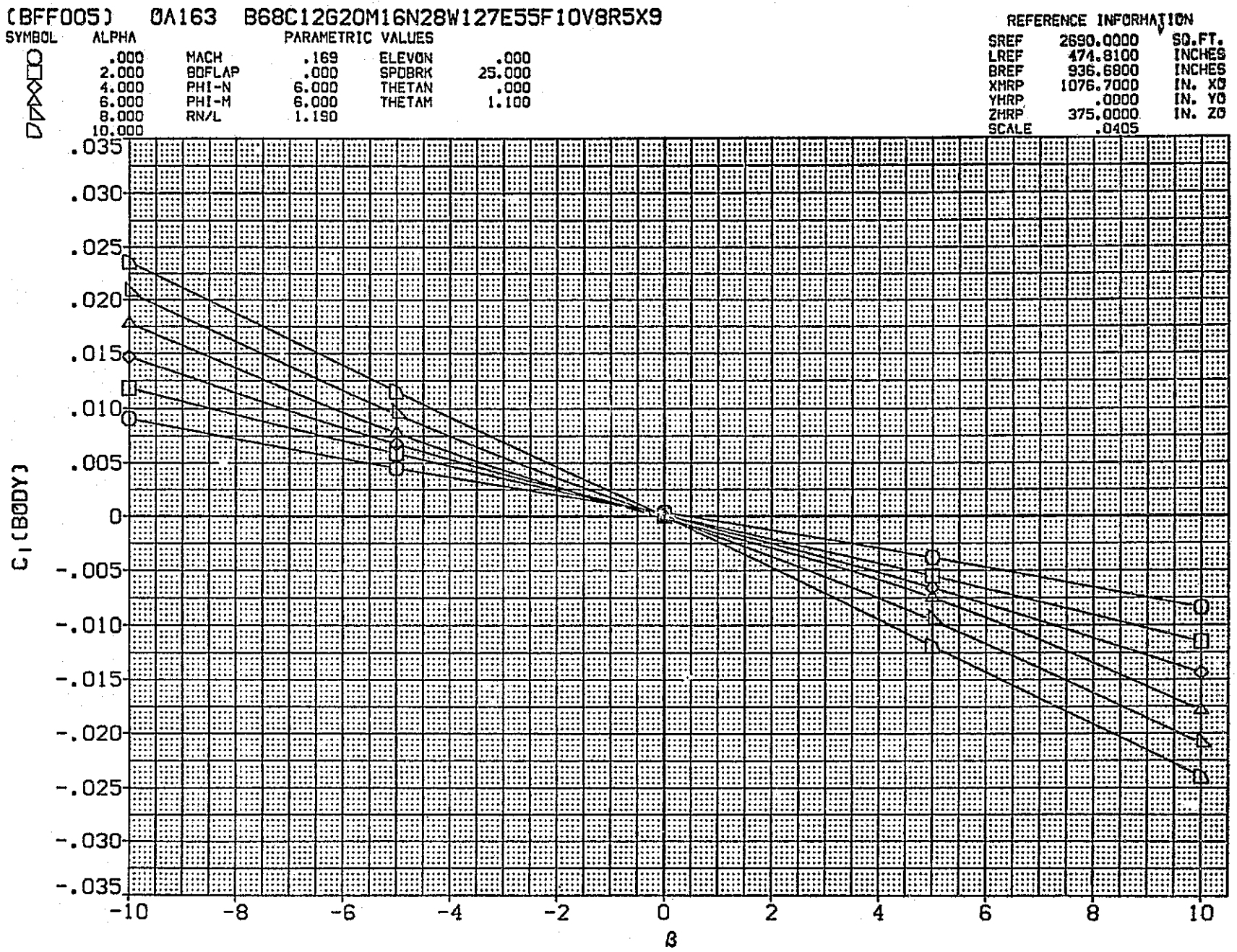

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF006) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
○	6.000
▽	8.000
⊠	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	8.000	THETAN	1.000
PHI-M	8.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

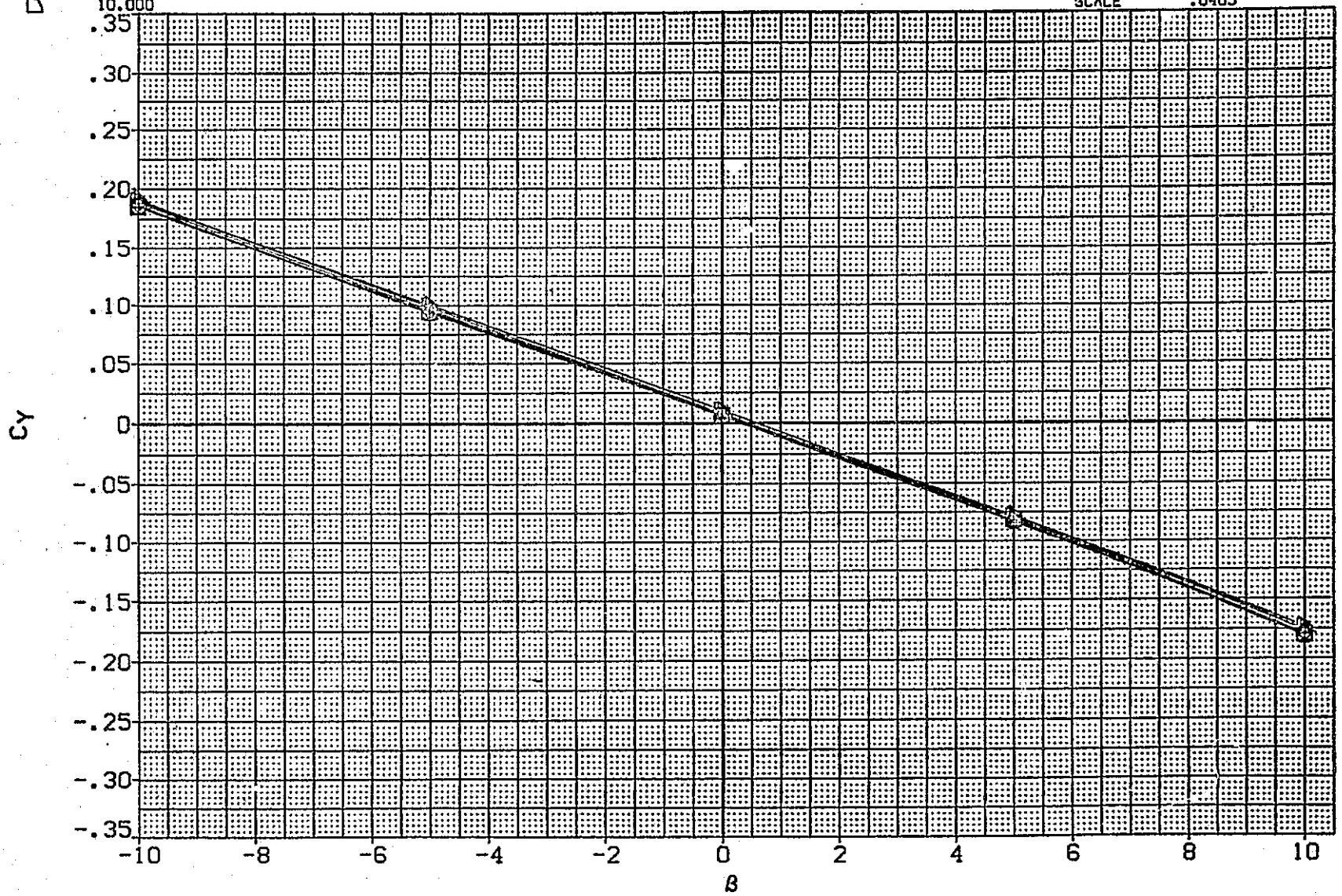

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

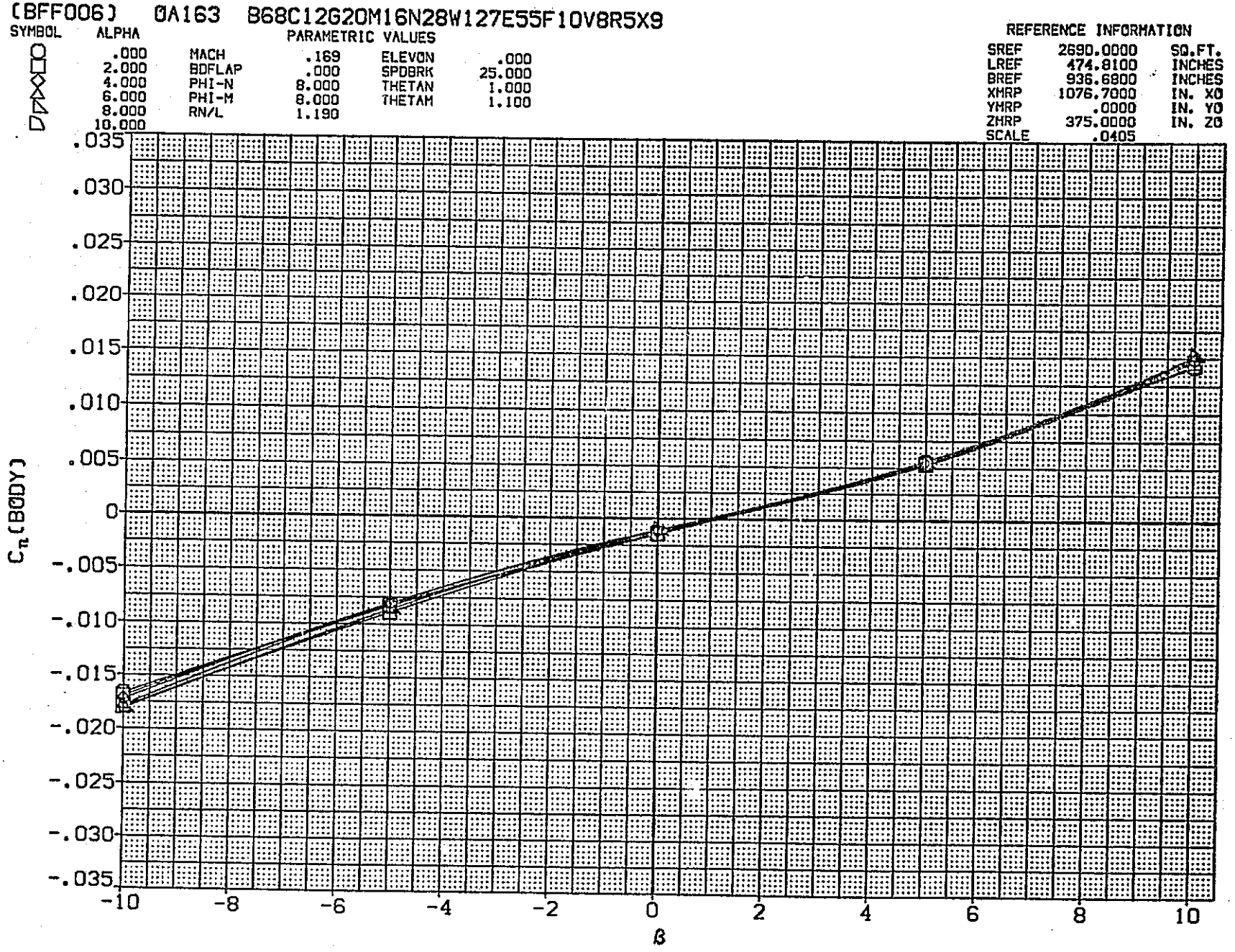

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF006) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
◇	.000
□	2.000
△	4.000
▽	6.000
◇	8.000
□	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	8.000	THETAN	1.000
PHI-M	8.000	THETAM	1.100
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

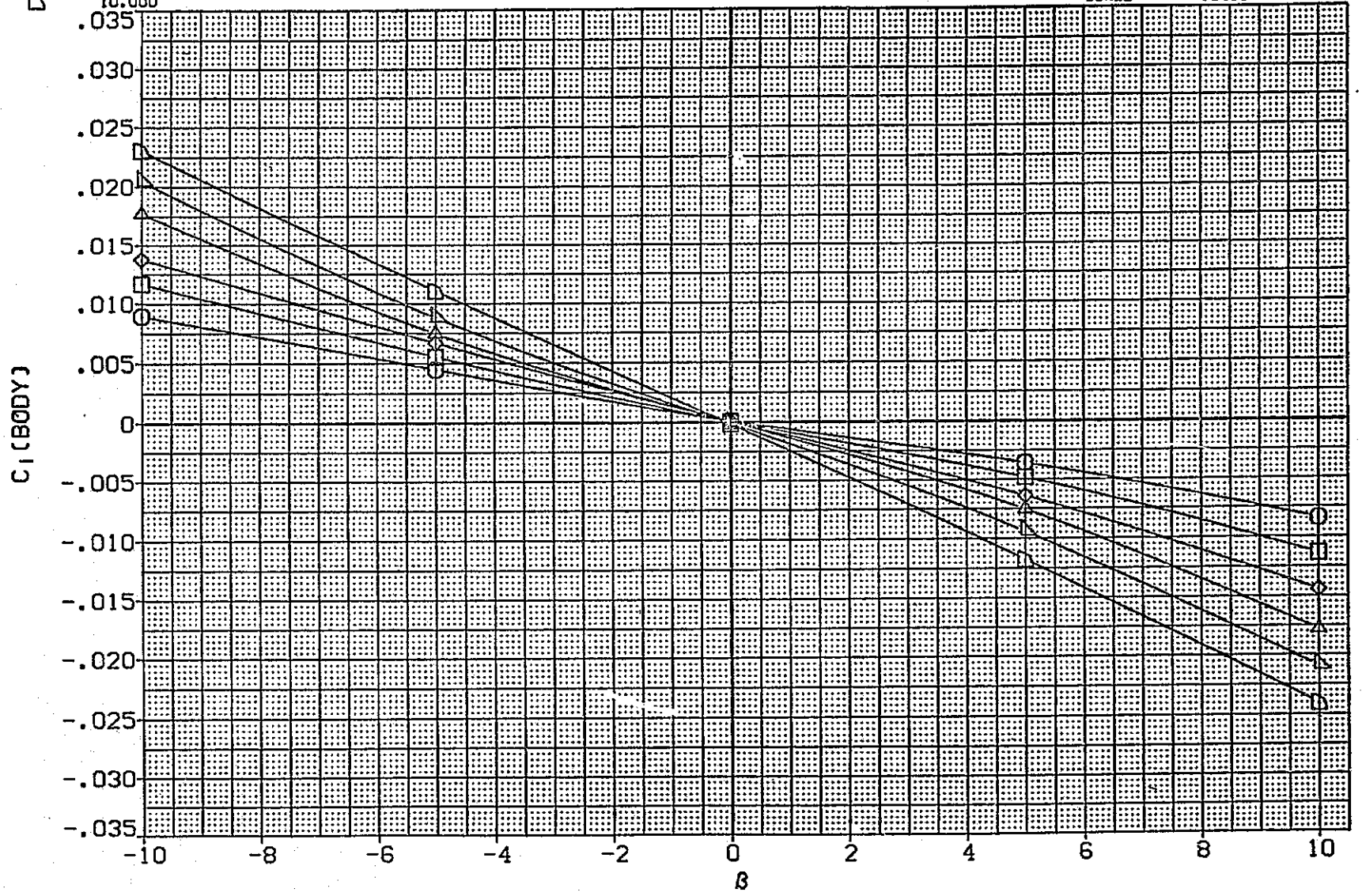

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

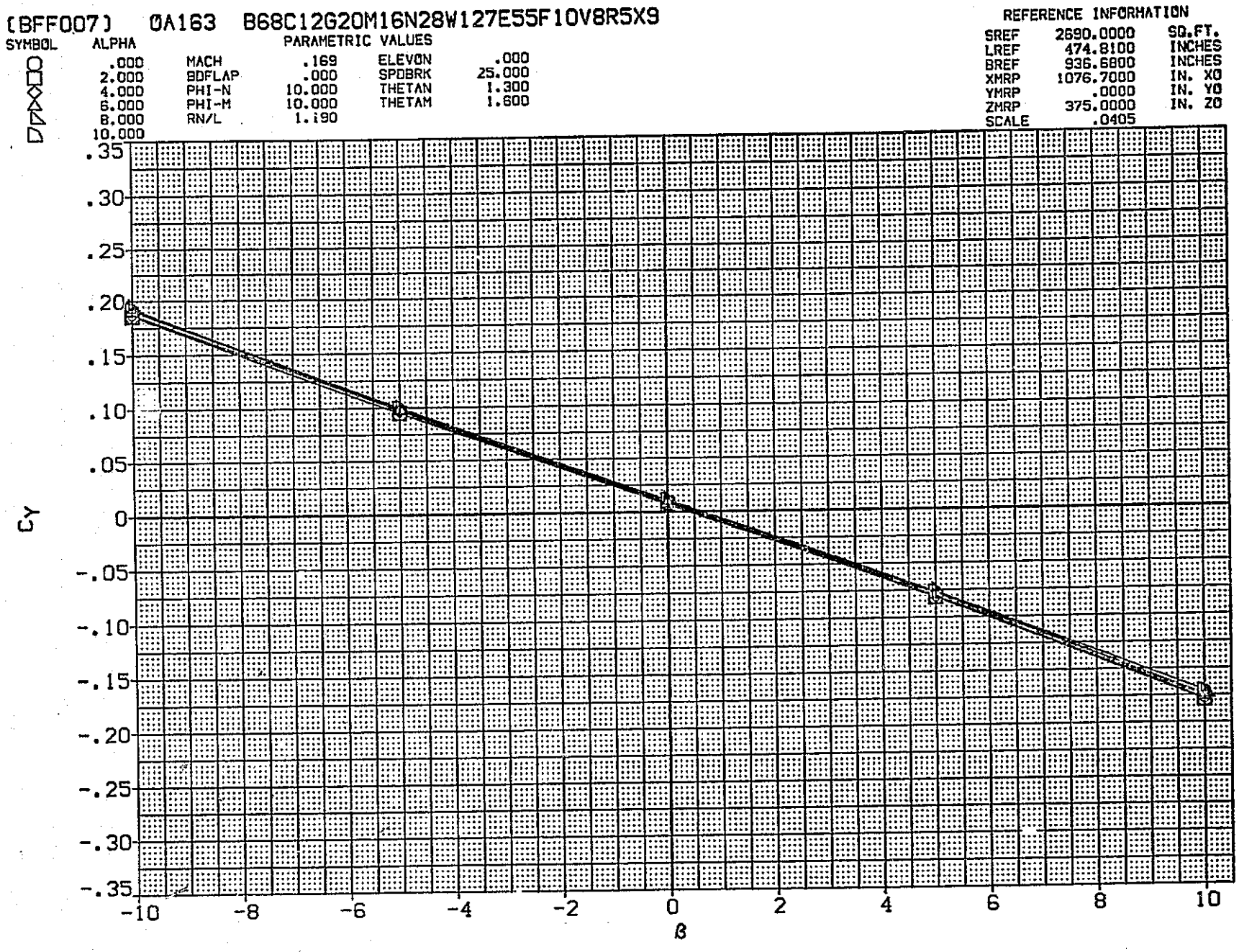

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

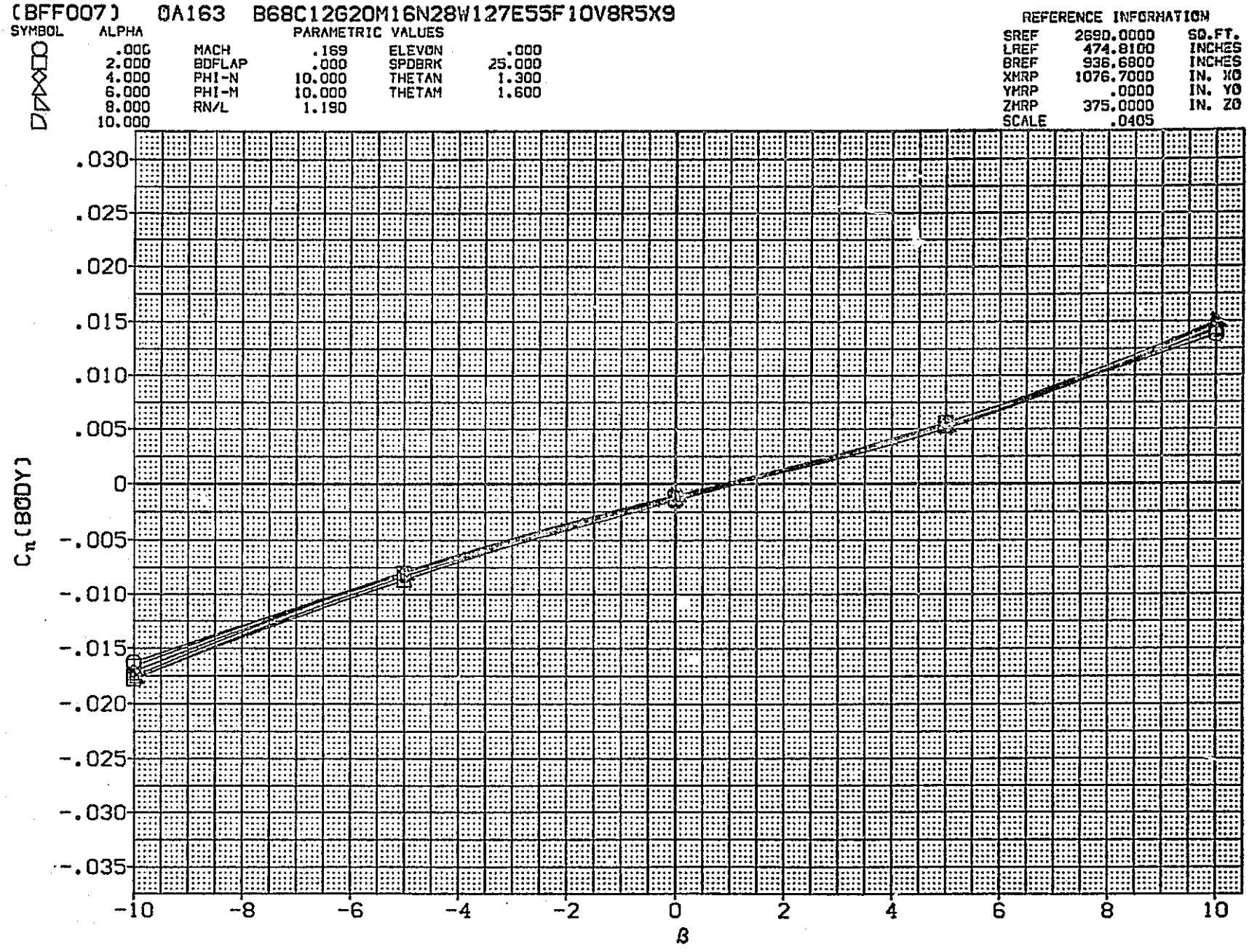

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

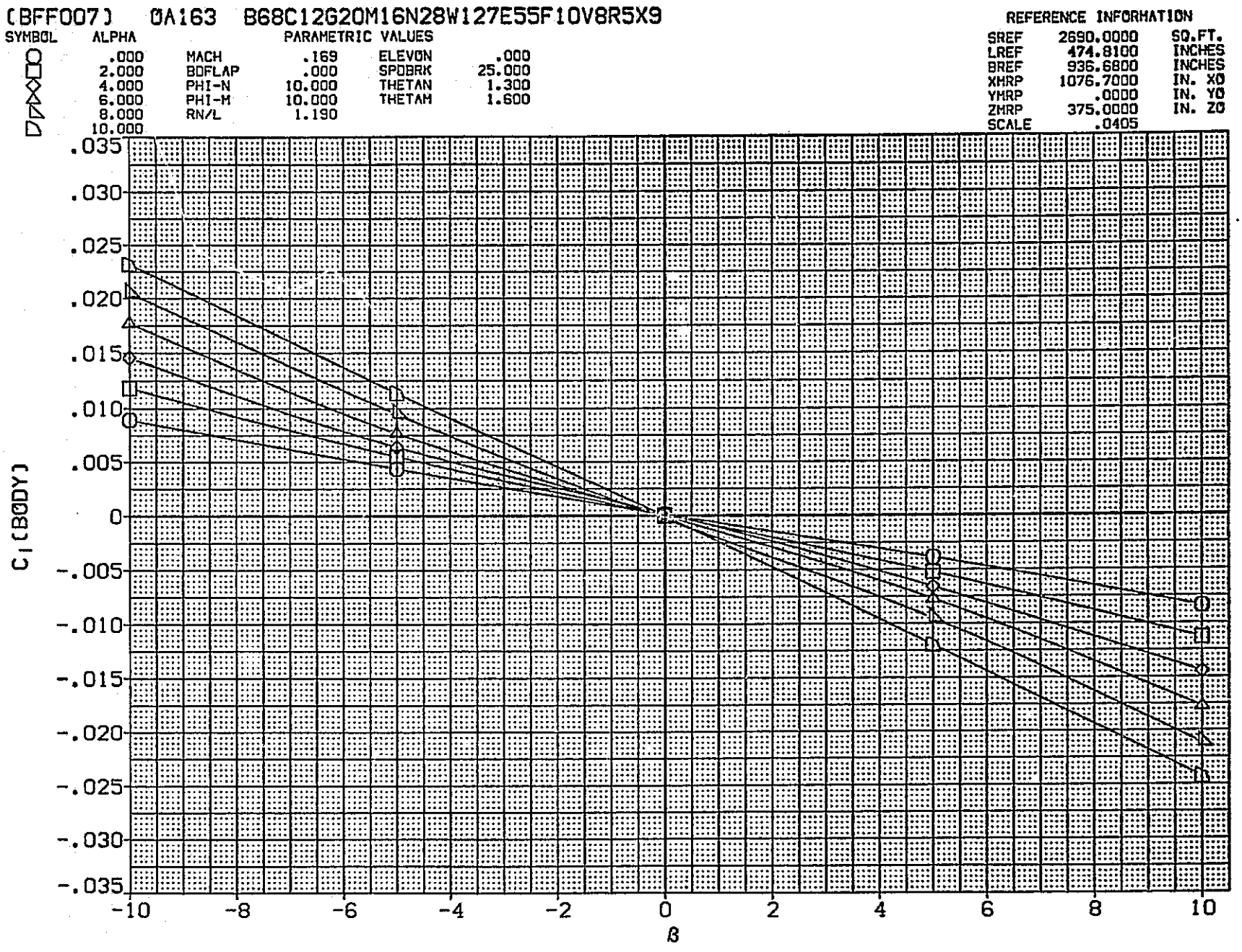

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF008) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
◇	.000
□	2.000
⊠	4.000
△	6.000
◁	8.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	15.000	THETAN	2.000
PHI-M	15.000	THETAM	2.400
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

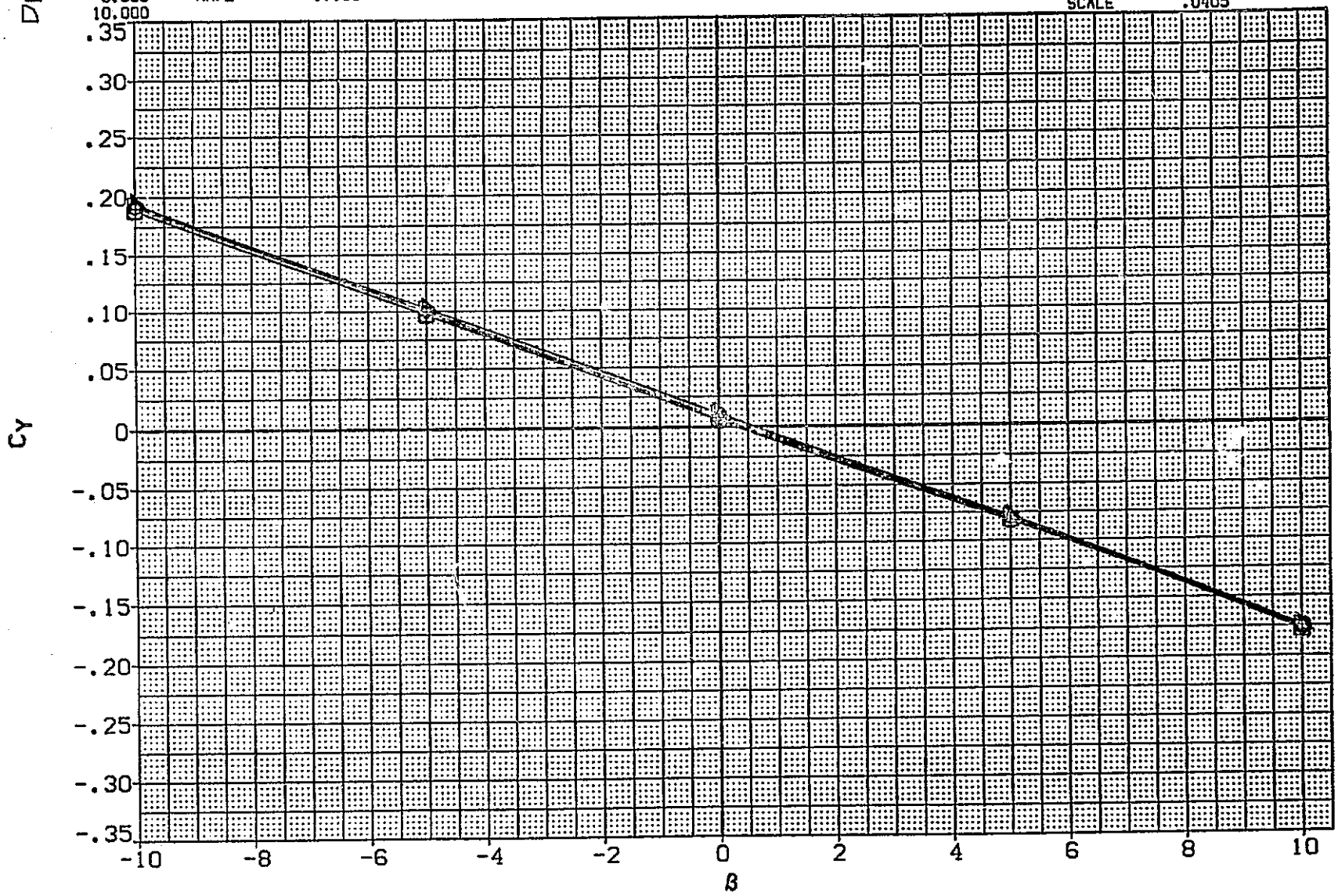

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

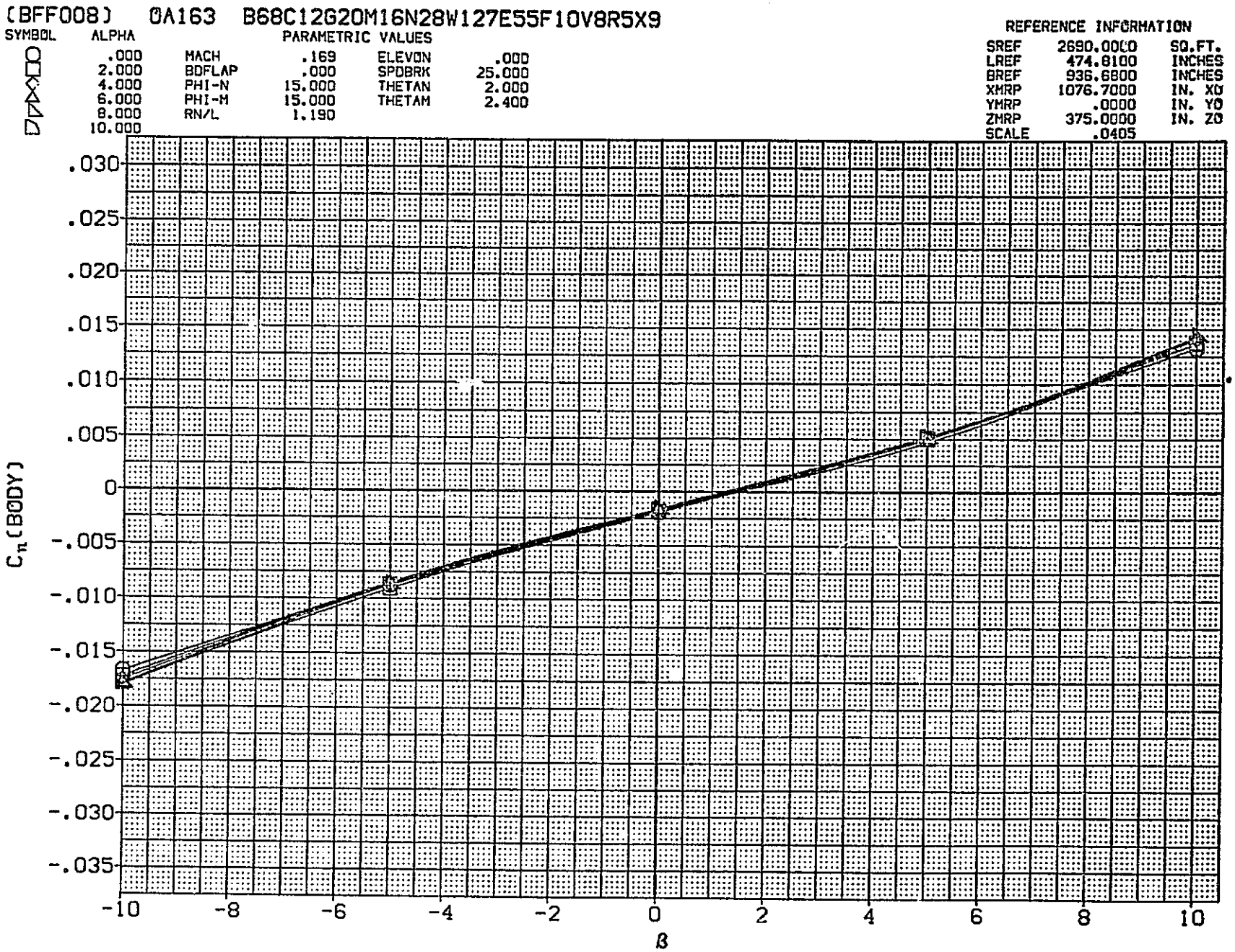

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

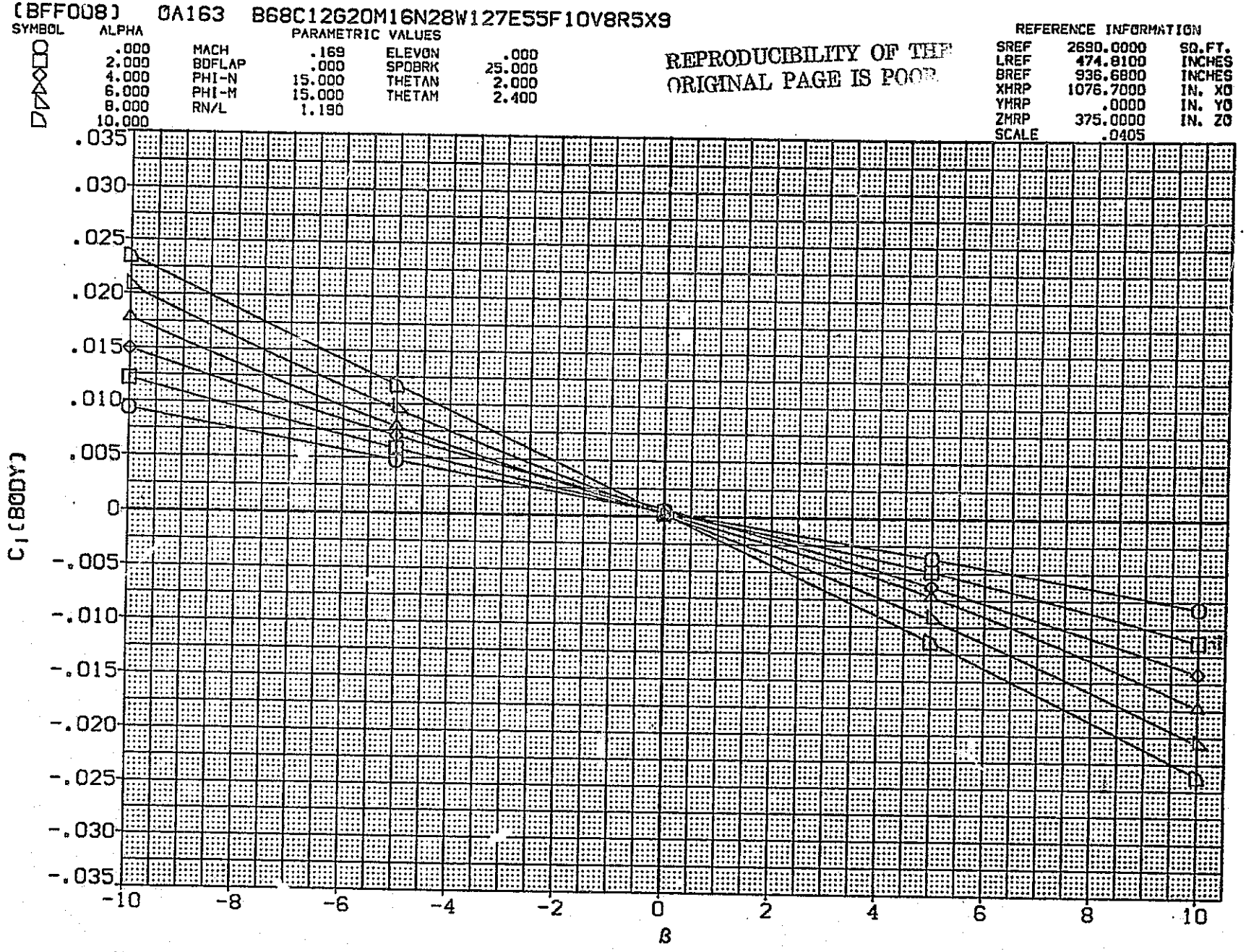

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

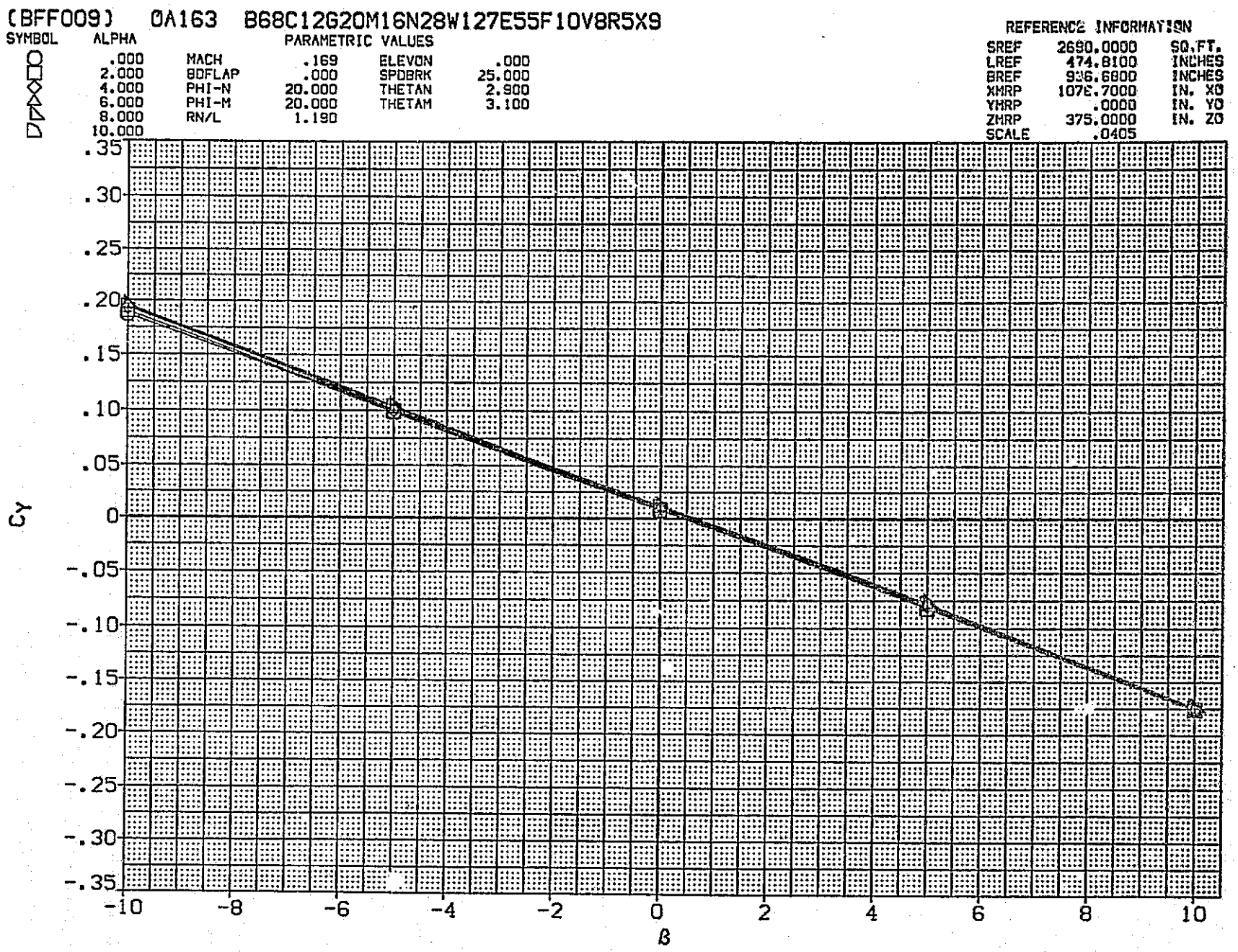

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

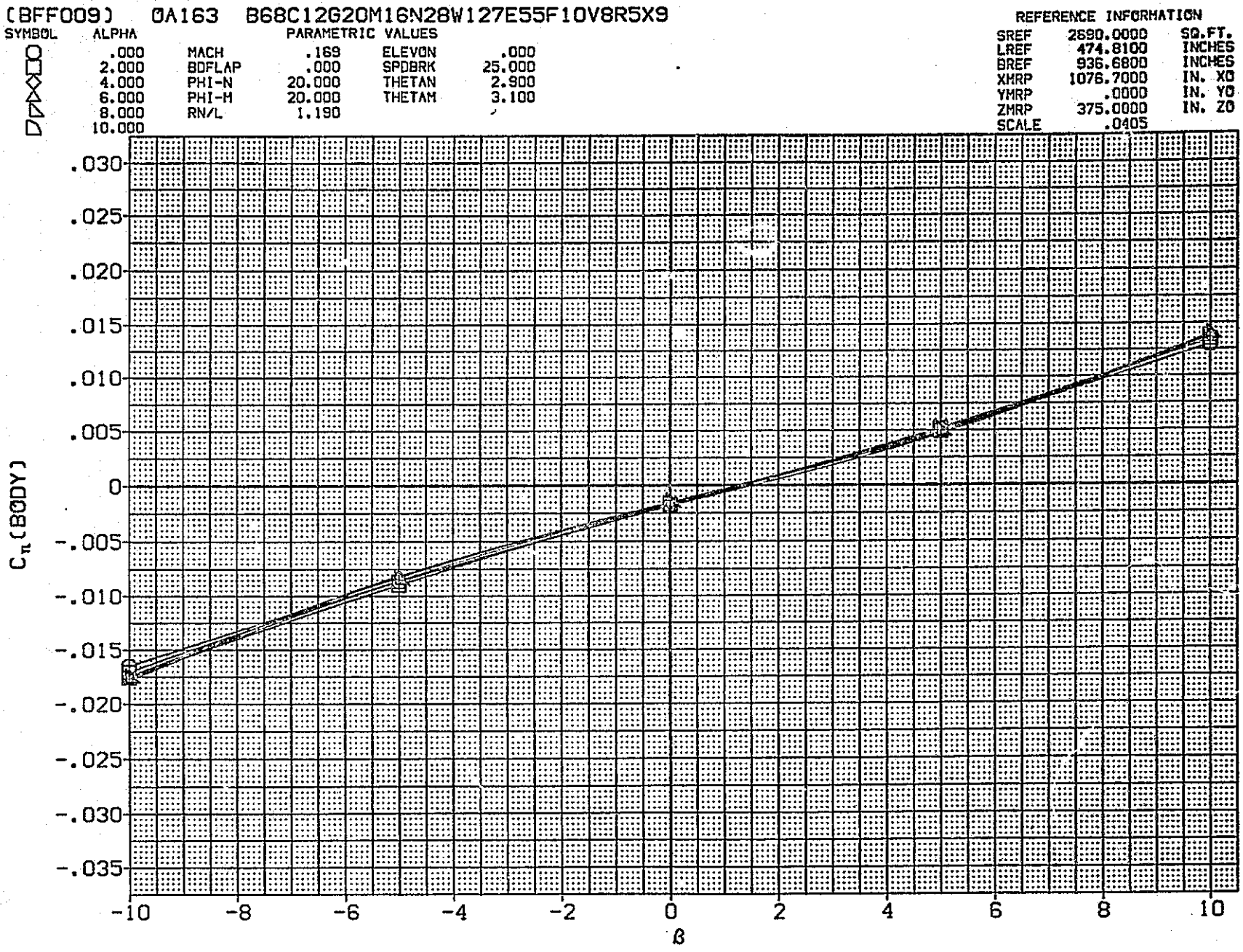

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

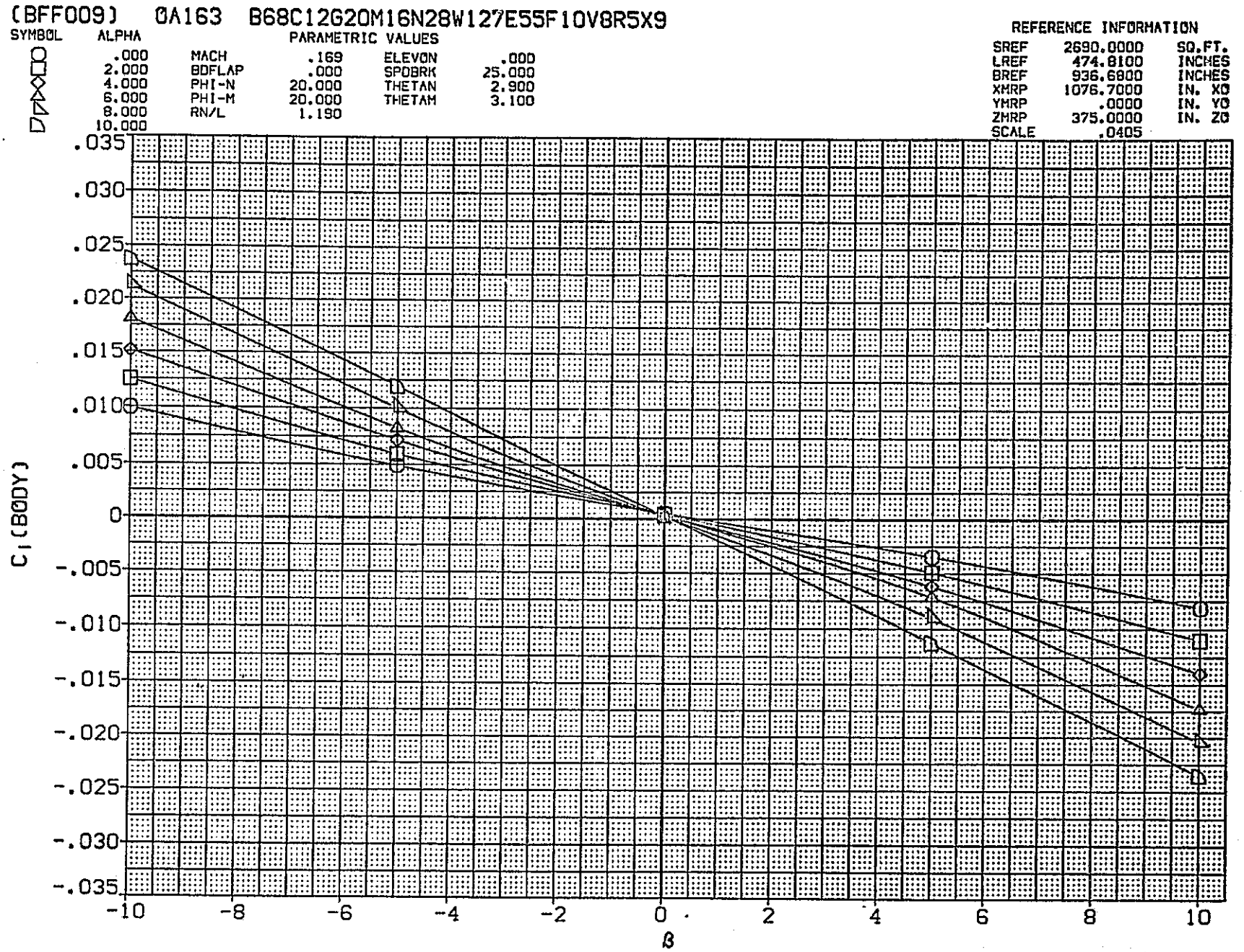

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF)10) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMB	ALPHA		PARAMETRIC VALUES		
	.000	MACH	.169	ELEVON	.000
	2.000	BDFLAP	.000	SPDBRK	25.000
	4.000	PHI-N	30.800	THETAN	5.000
	6.000	PHI-M	32.200	THETAM	5.000
	8.000	RN/L	1.190		
	10.000				

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

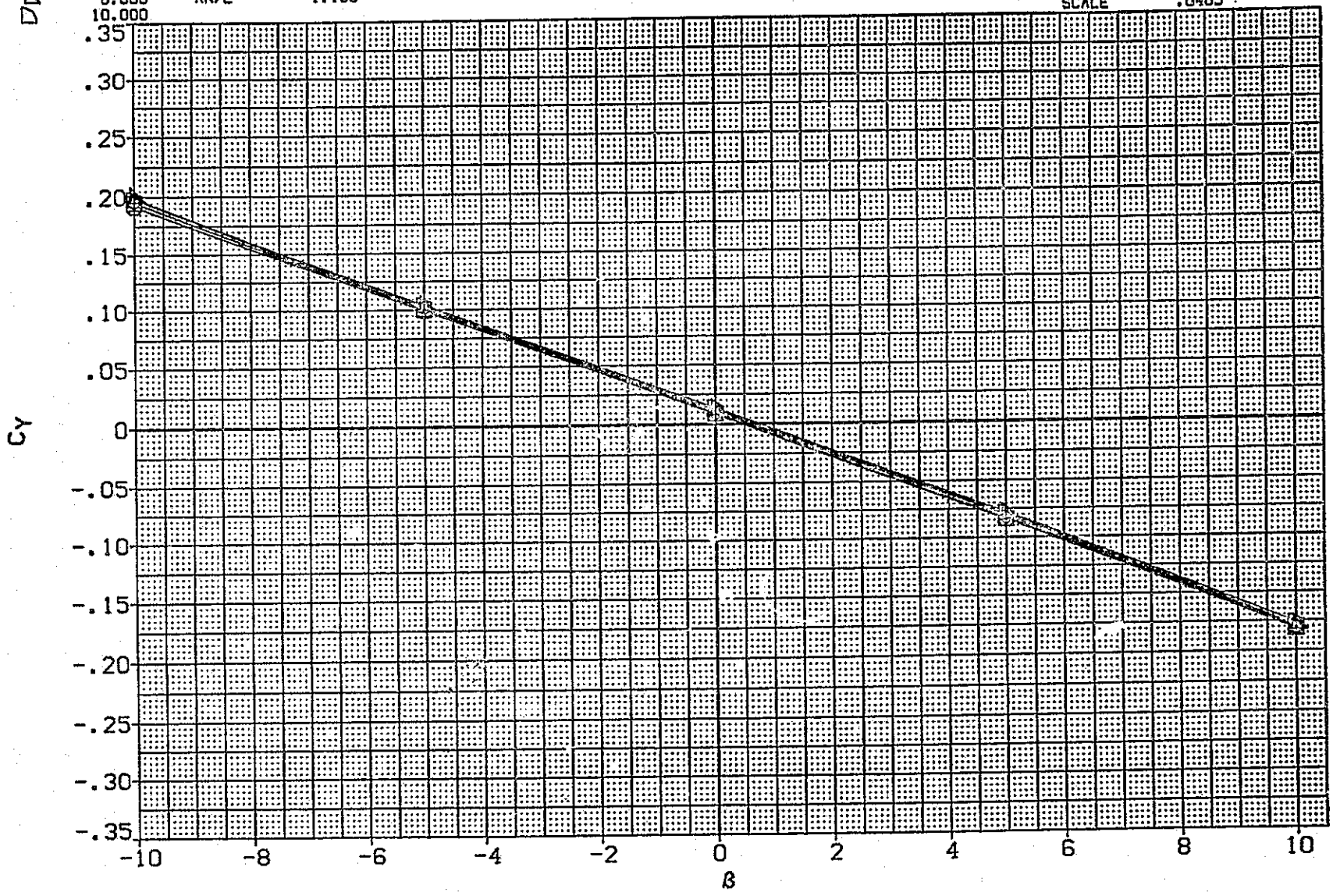

FIG. 05 LATERAL DIRECTIONAL AERØDYNAMIC CØEFFICIENTS

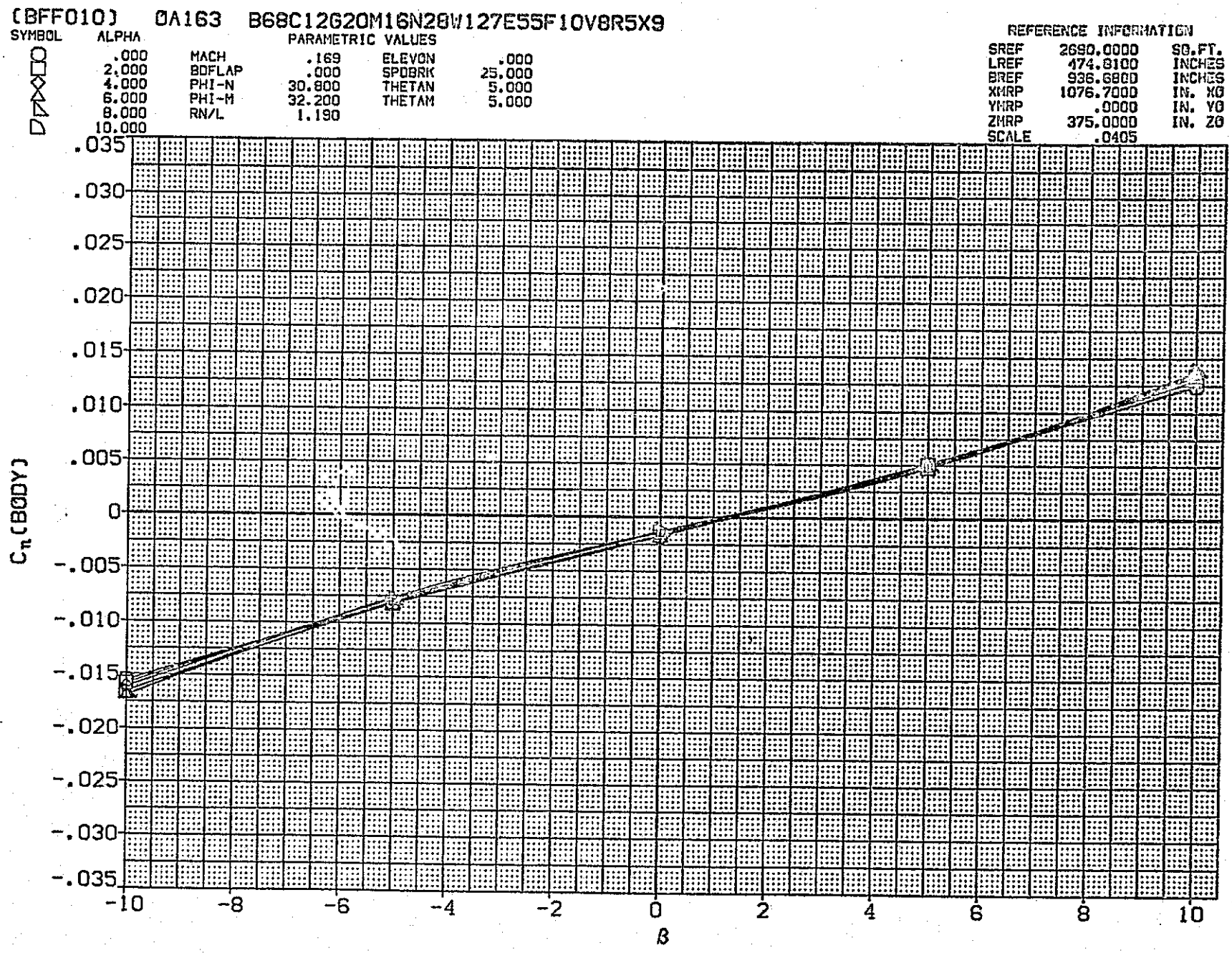

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

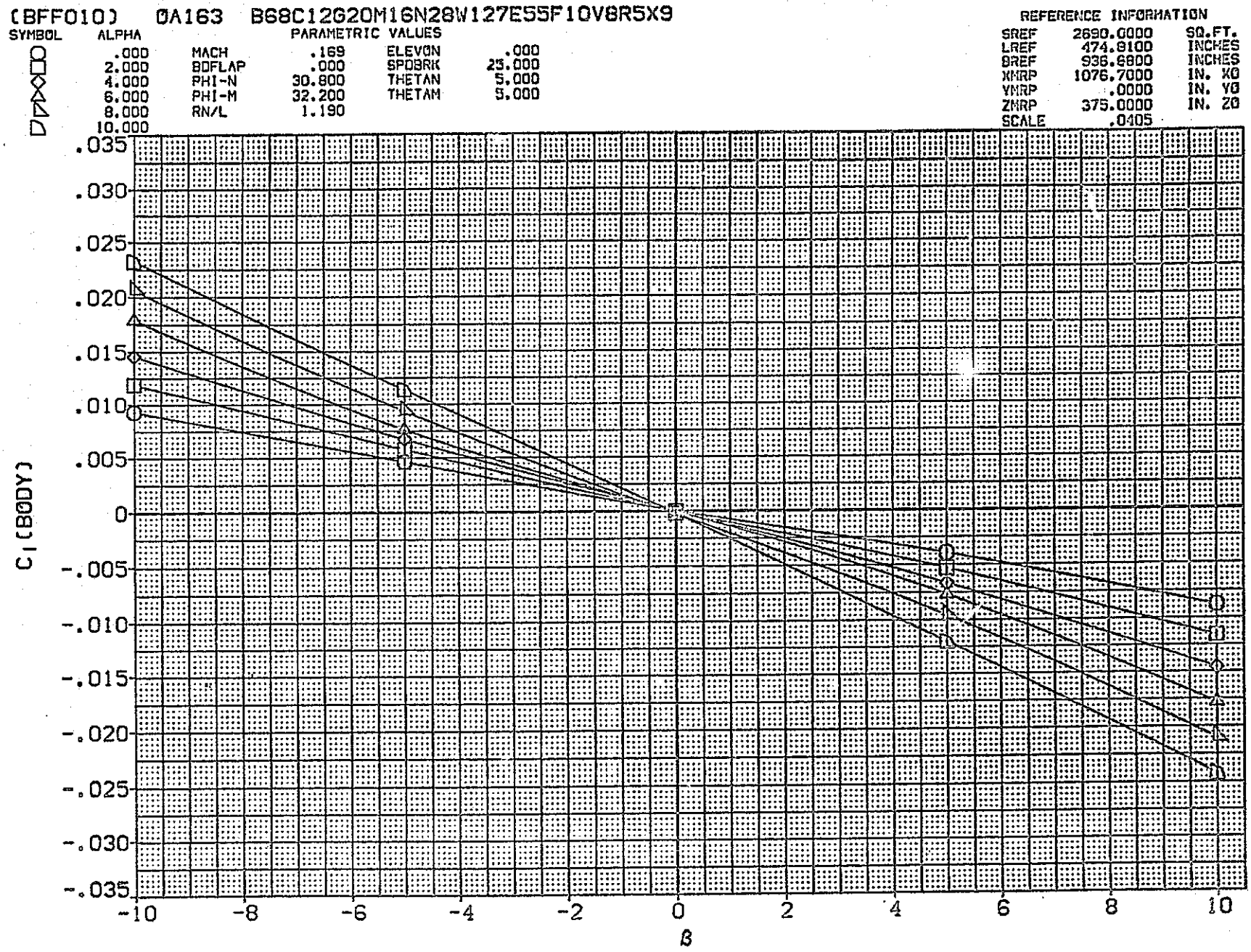

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF011) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
▽	6.000
○	8.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	40.000	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

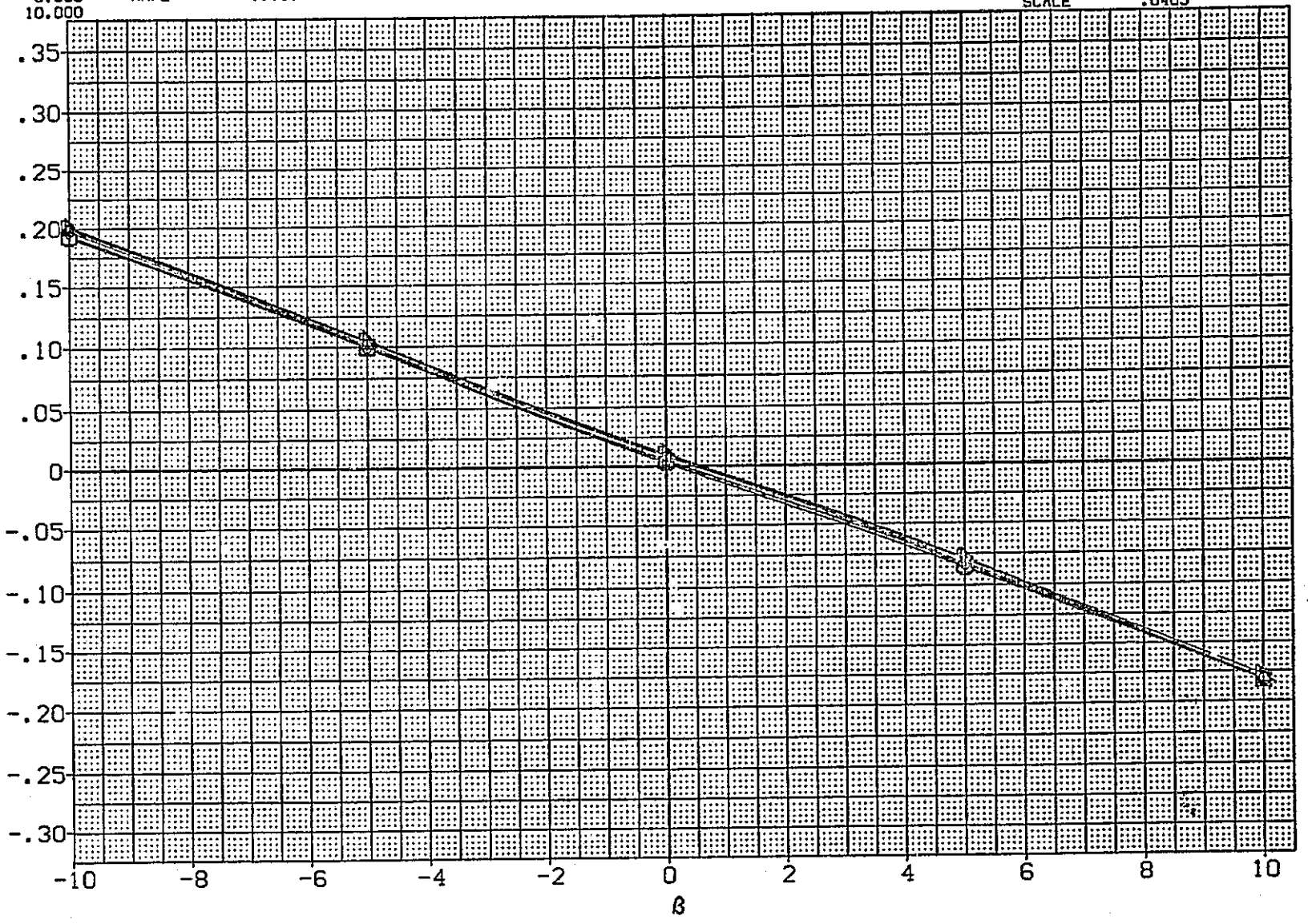

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF011) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
4	4.000
△	6.000
	8.000
	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	30.800	THETAN	5.000
PHI-M	40.000	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

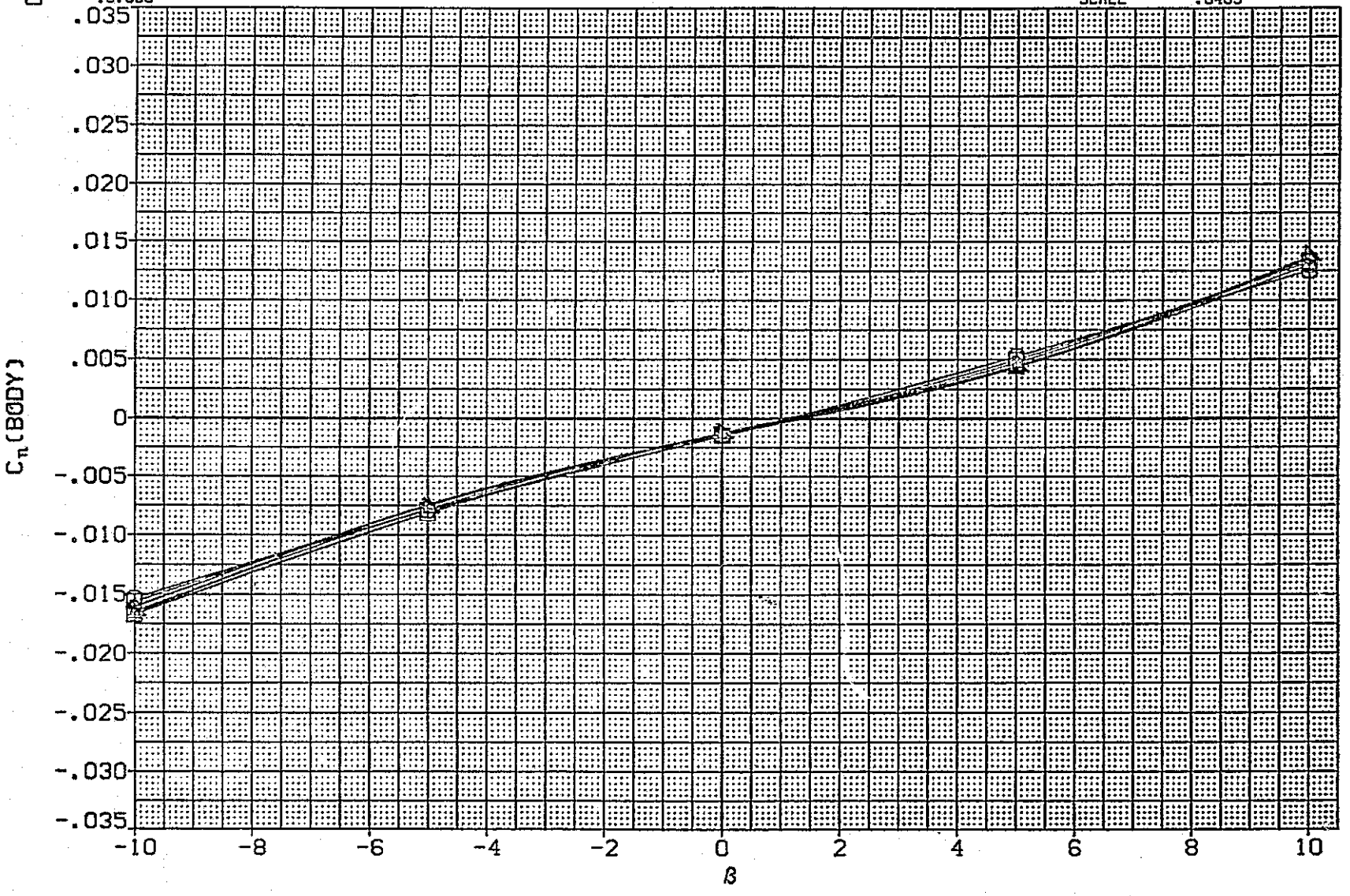

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

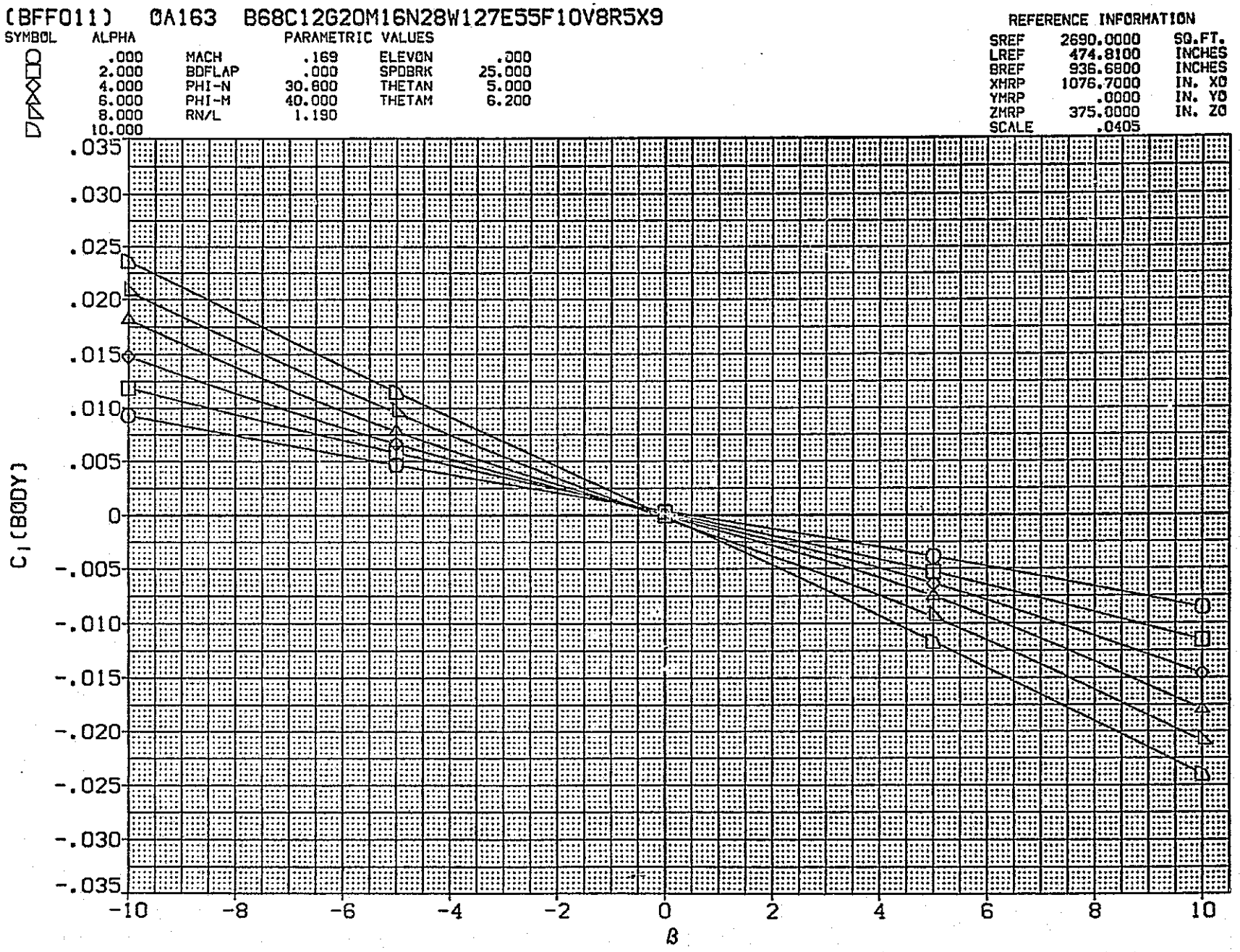

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF012) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
⊲	6.000
⊳	8.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPOBRK	25.000
PHI-N	50.000	THETAN	9.800
PHI-M	48.300	THETAM	6.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

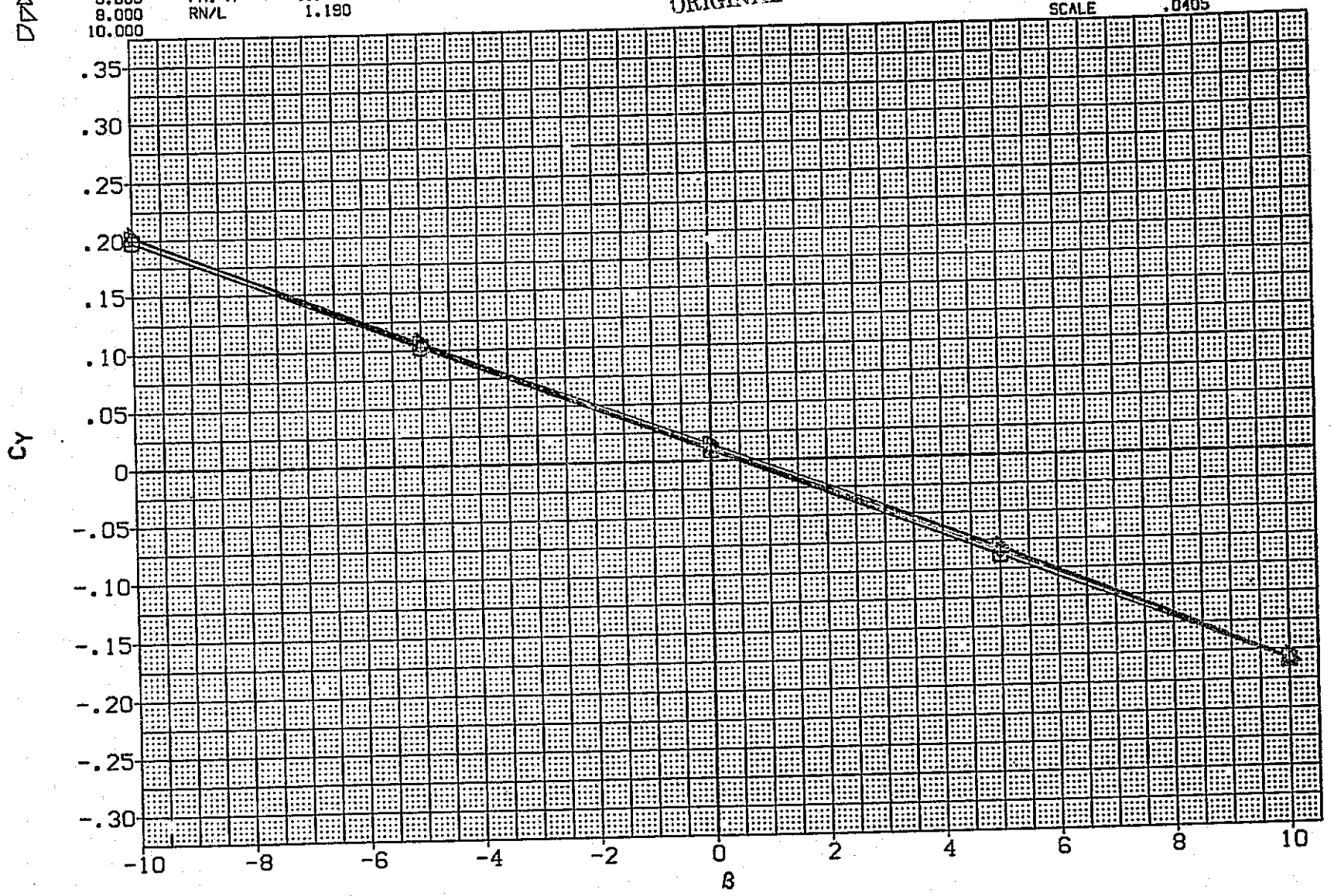

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

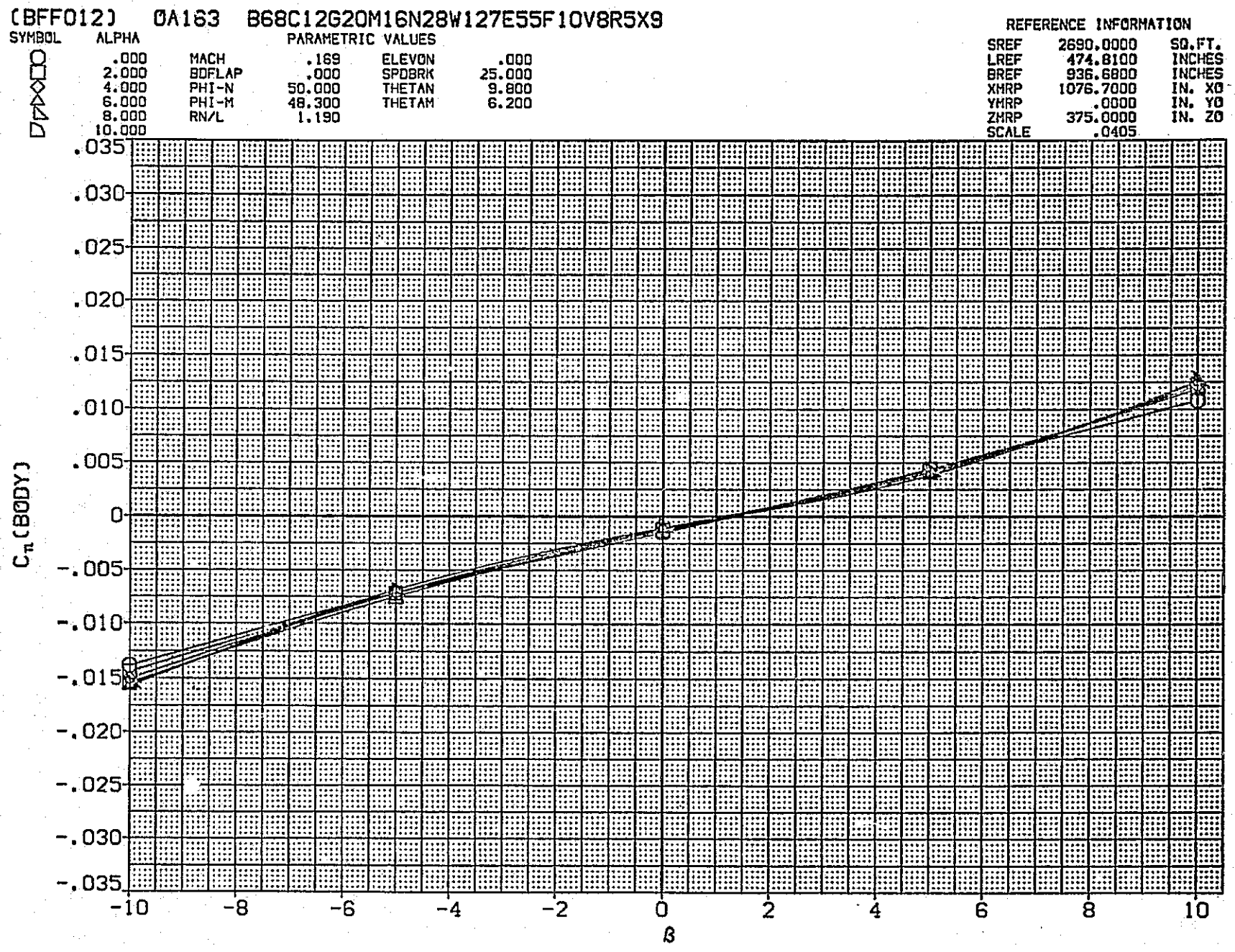

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

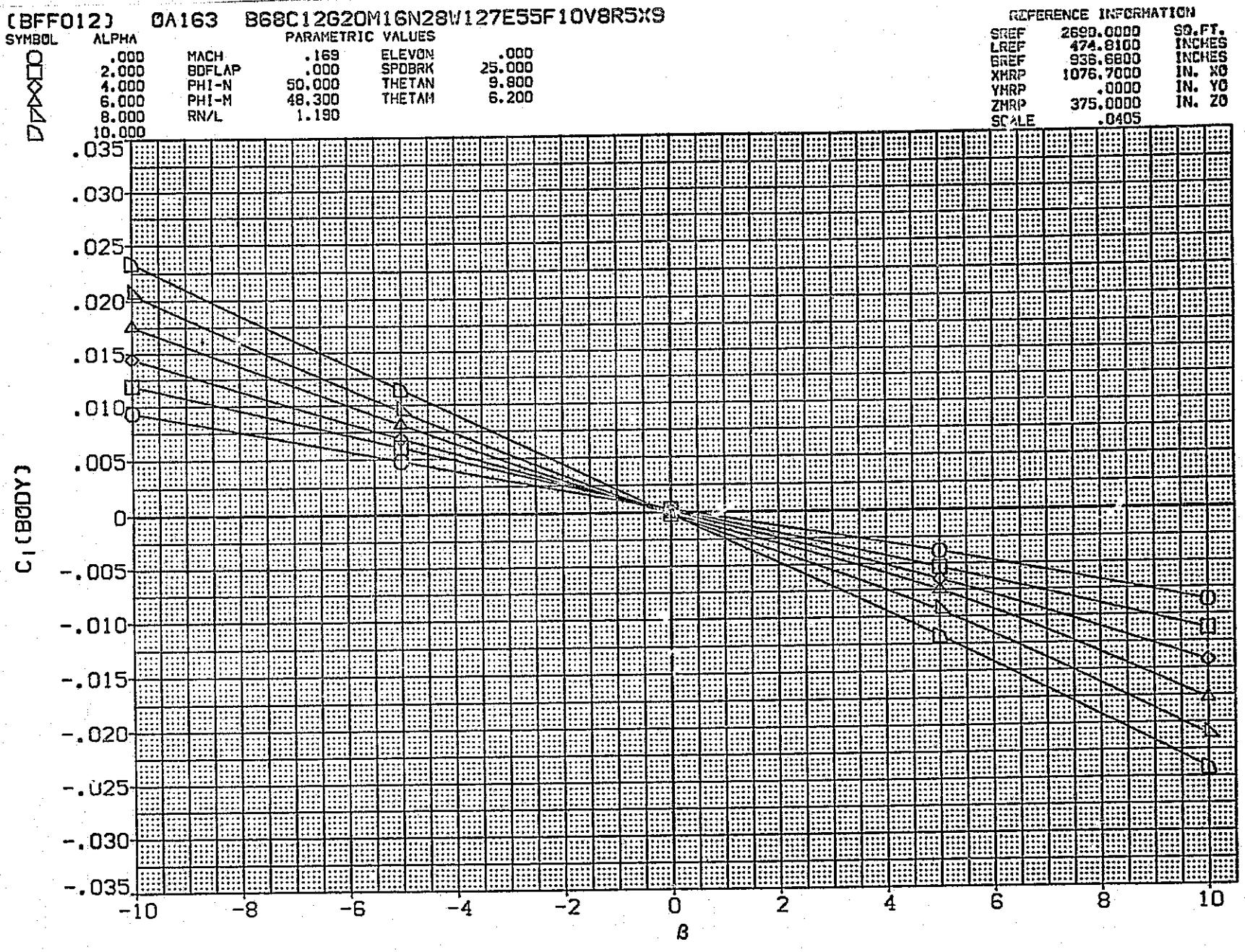

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

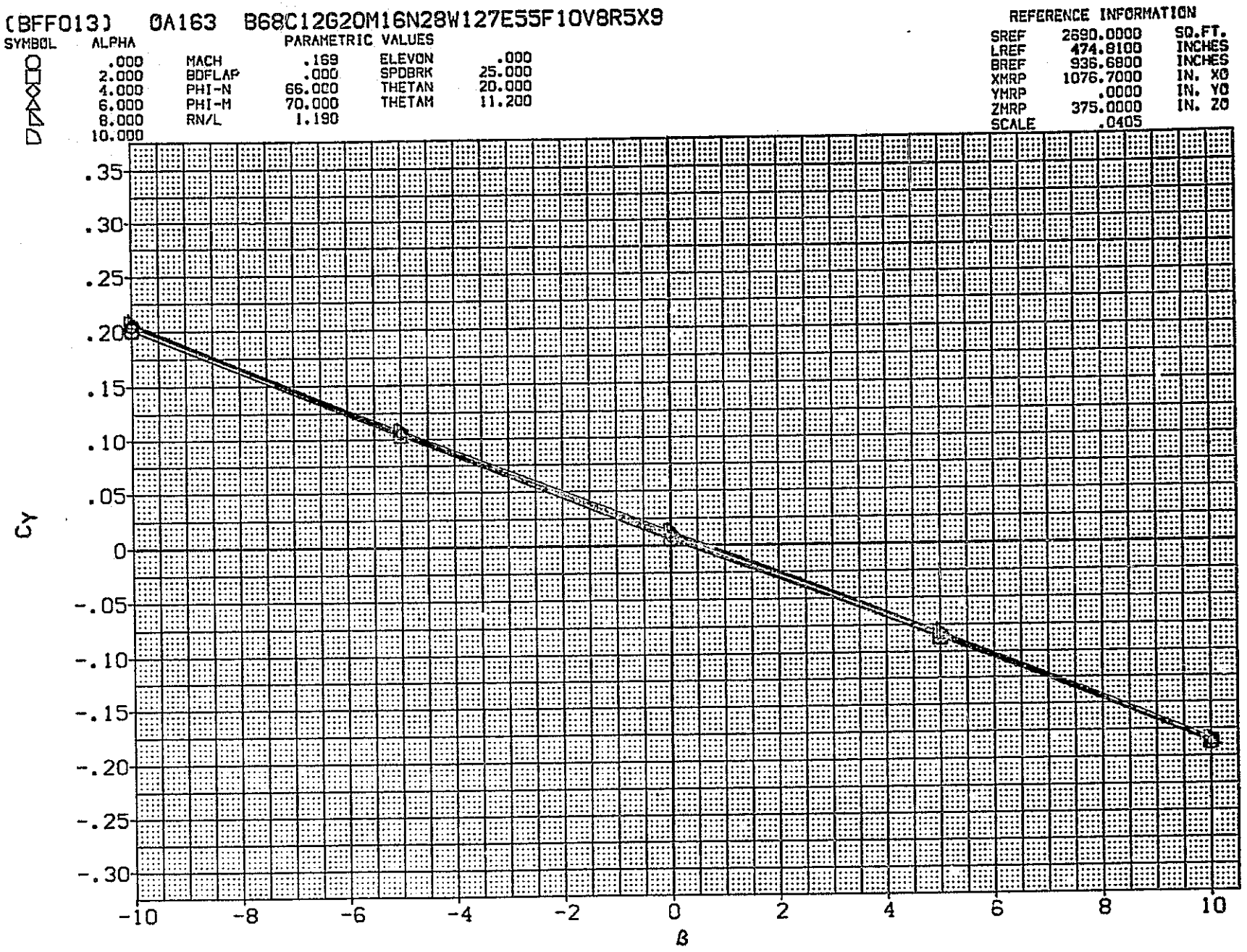

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF013) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
▽	.000
△	2.000
◇	4.000
□	6.000
○	8.000
	10.000

PARAMETRIC VALUES

MACH	.165	ELEVON	.000
BOFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	20.000
PHI-M	70.000	THETAM	11.200
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

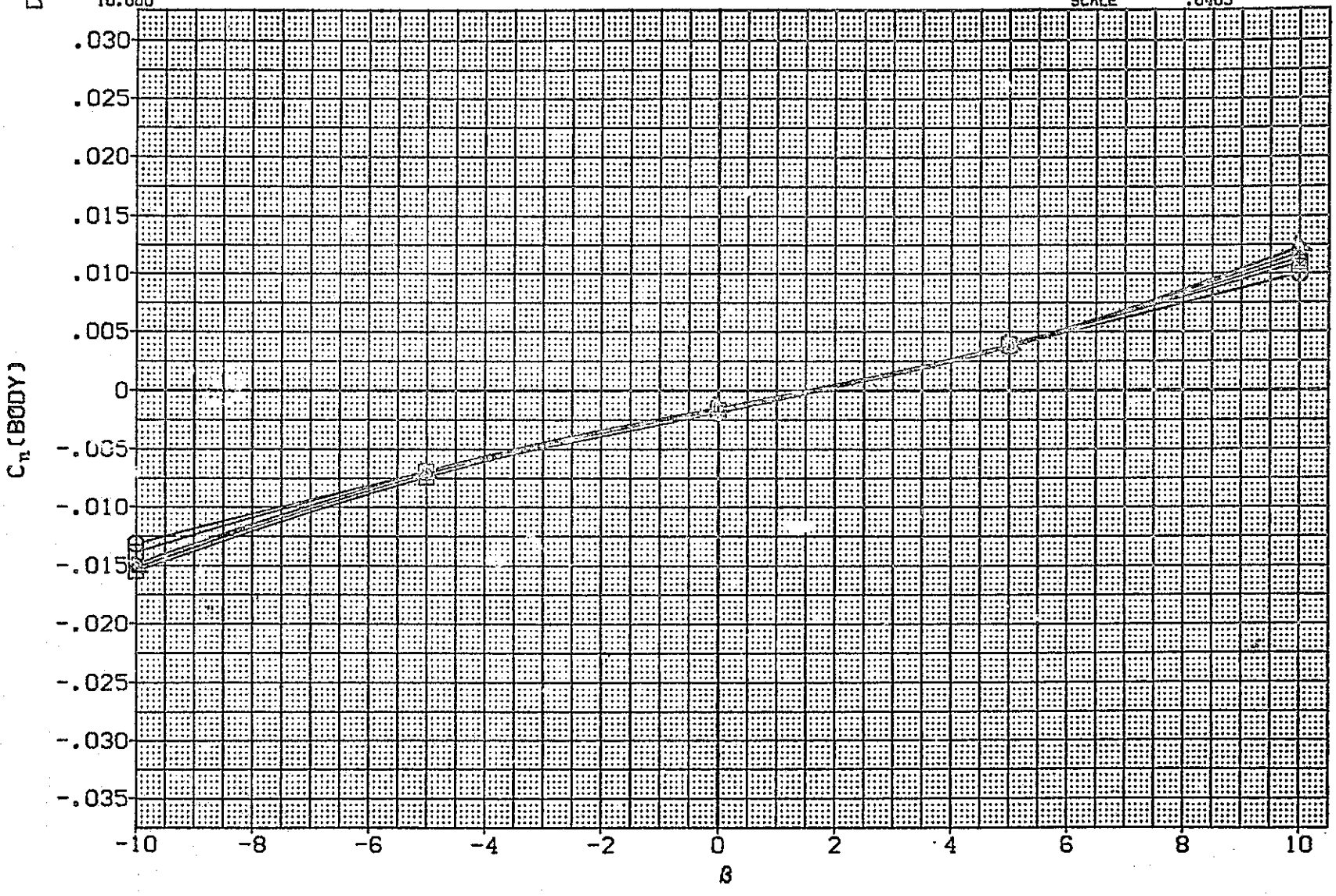

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

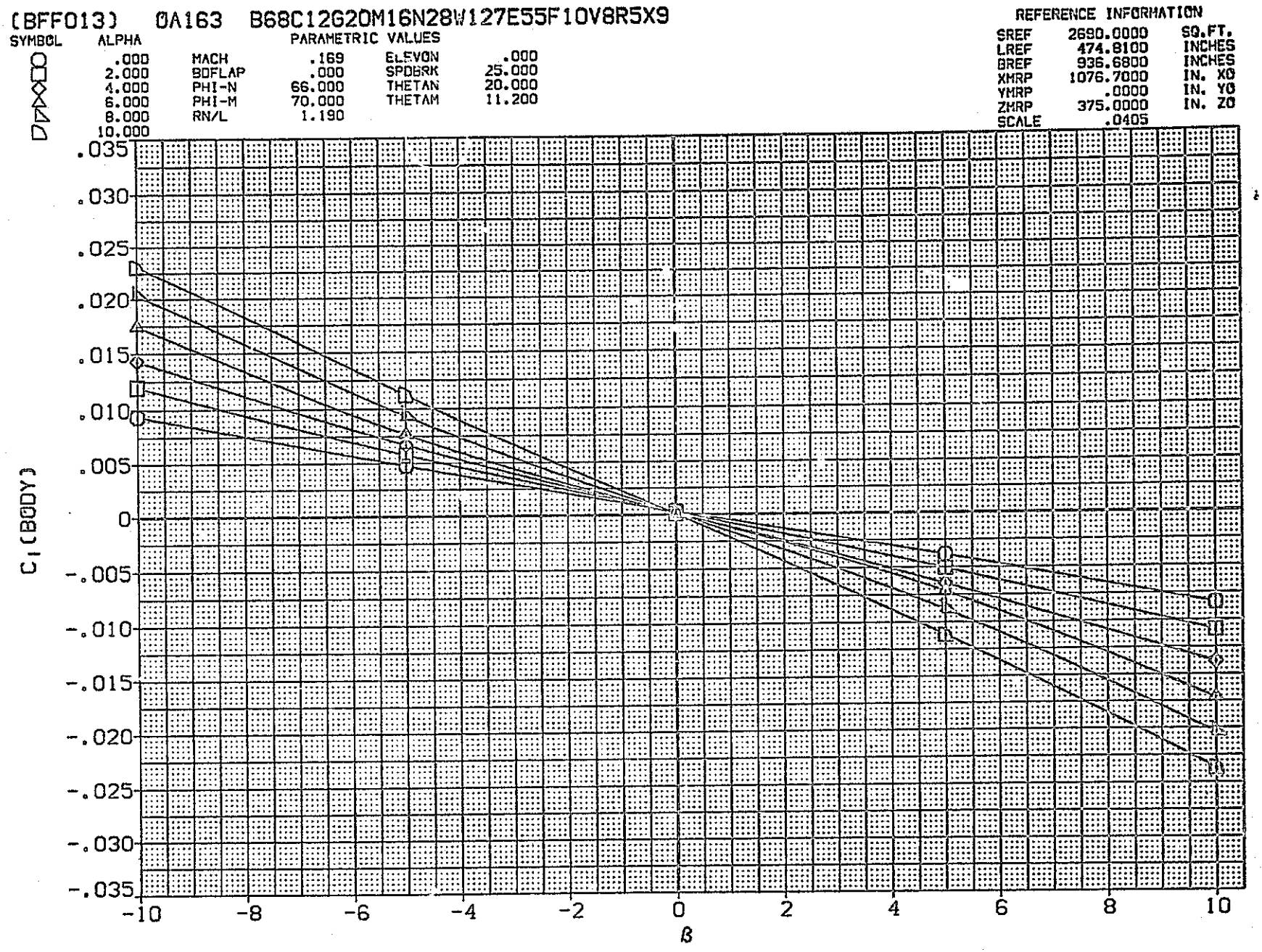

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

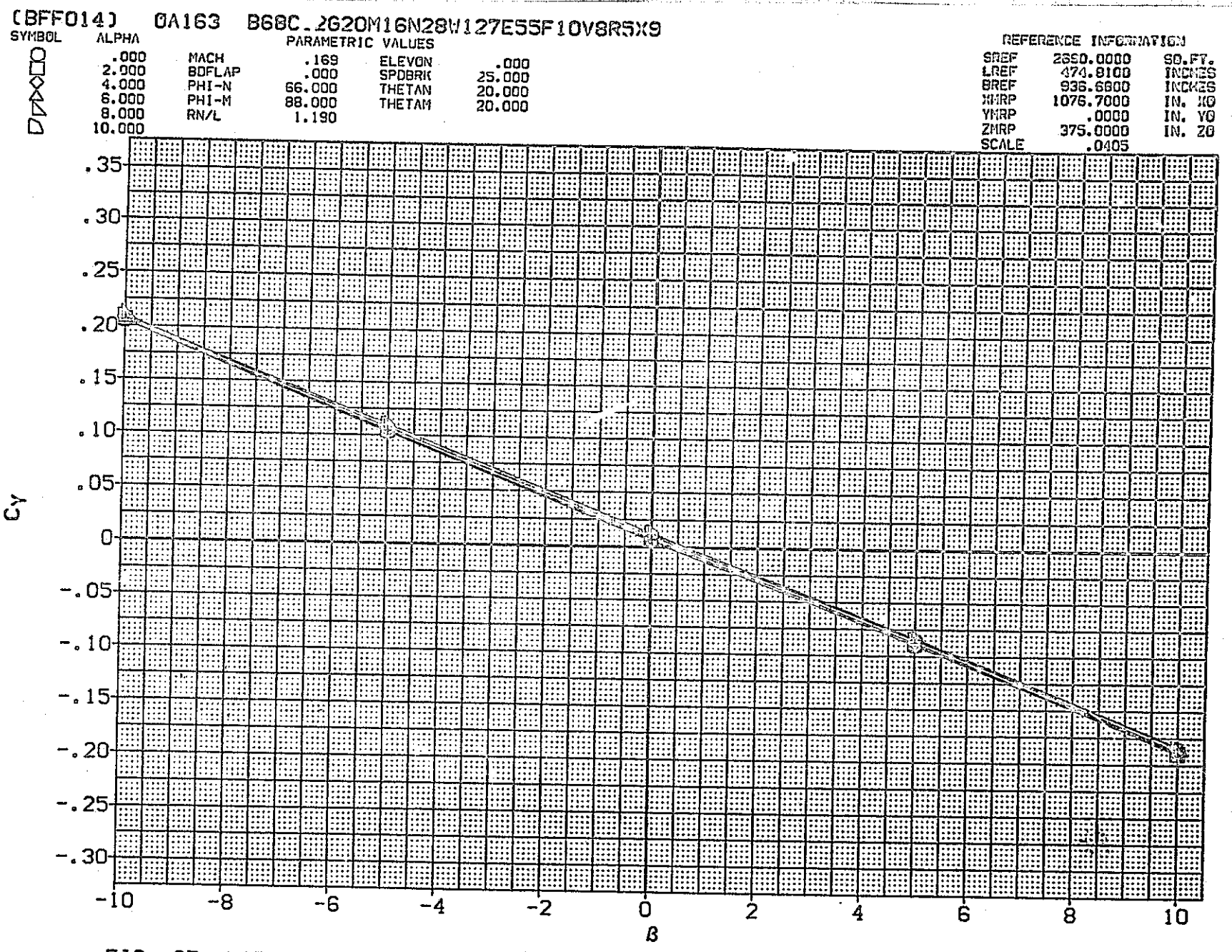

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

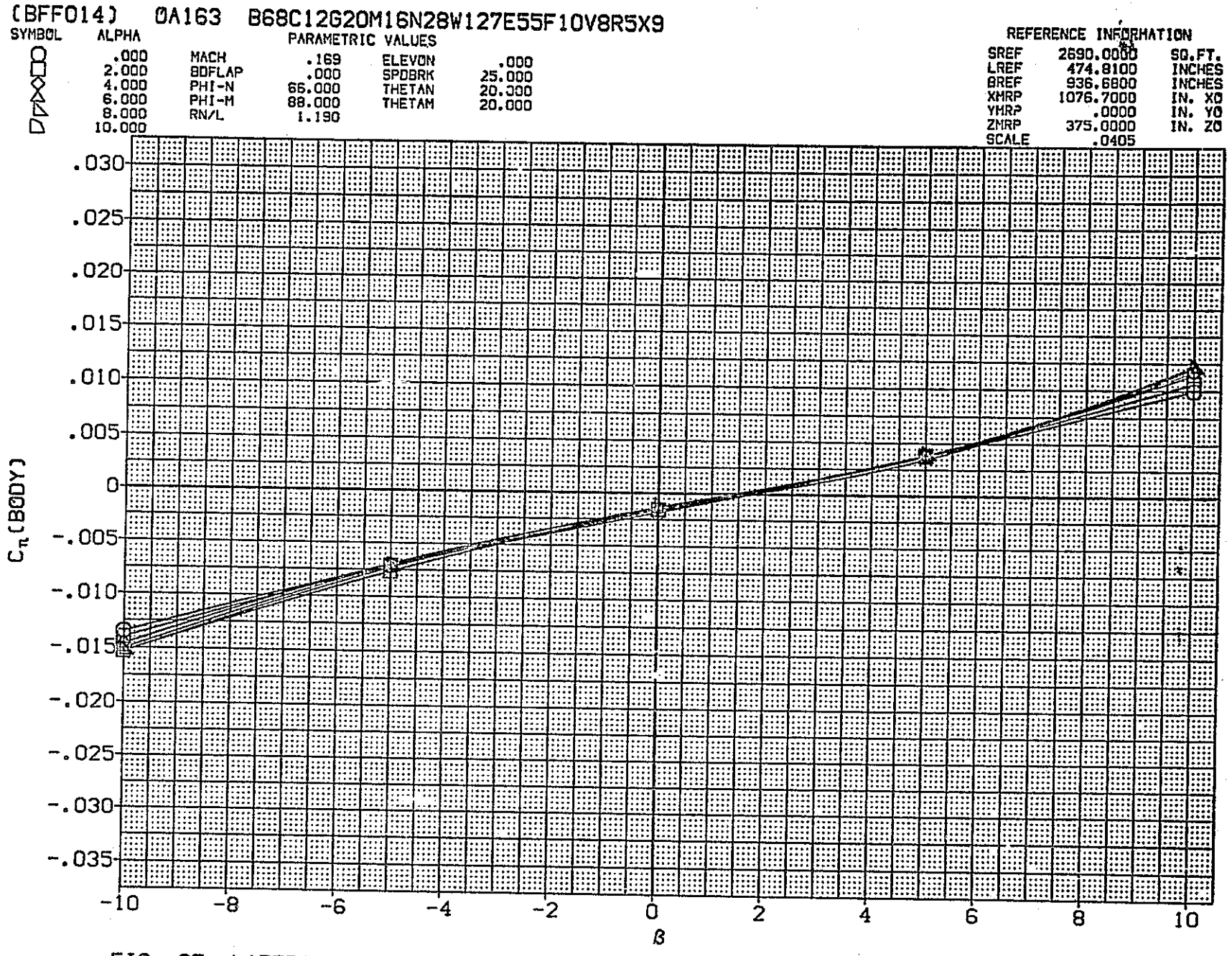

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

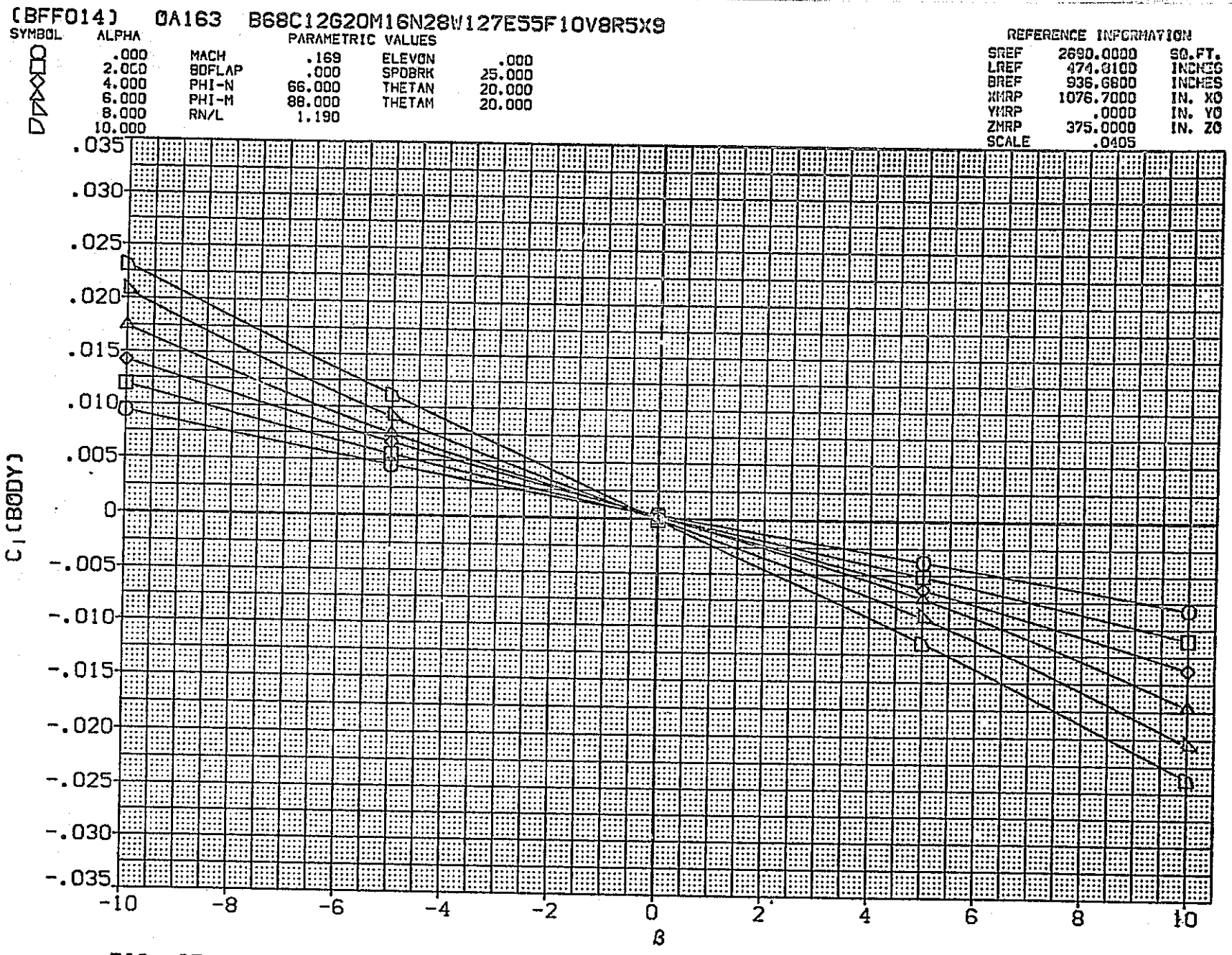

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

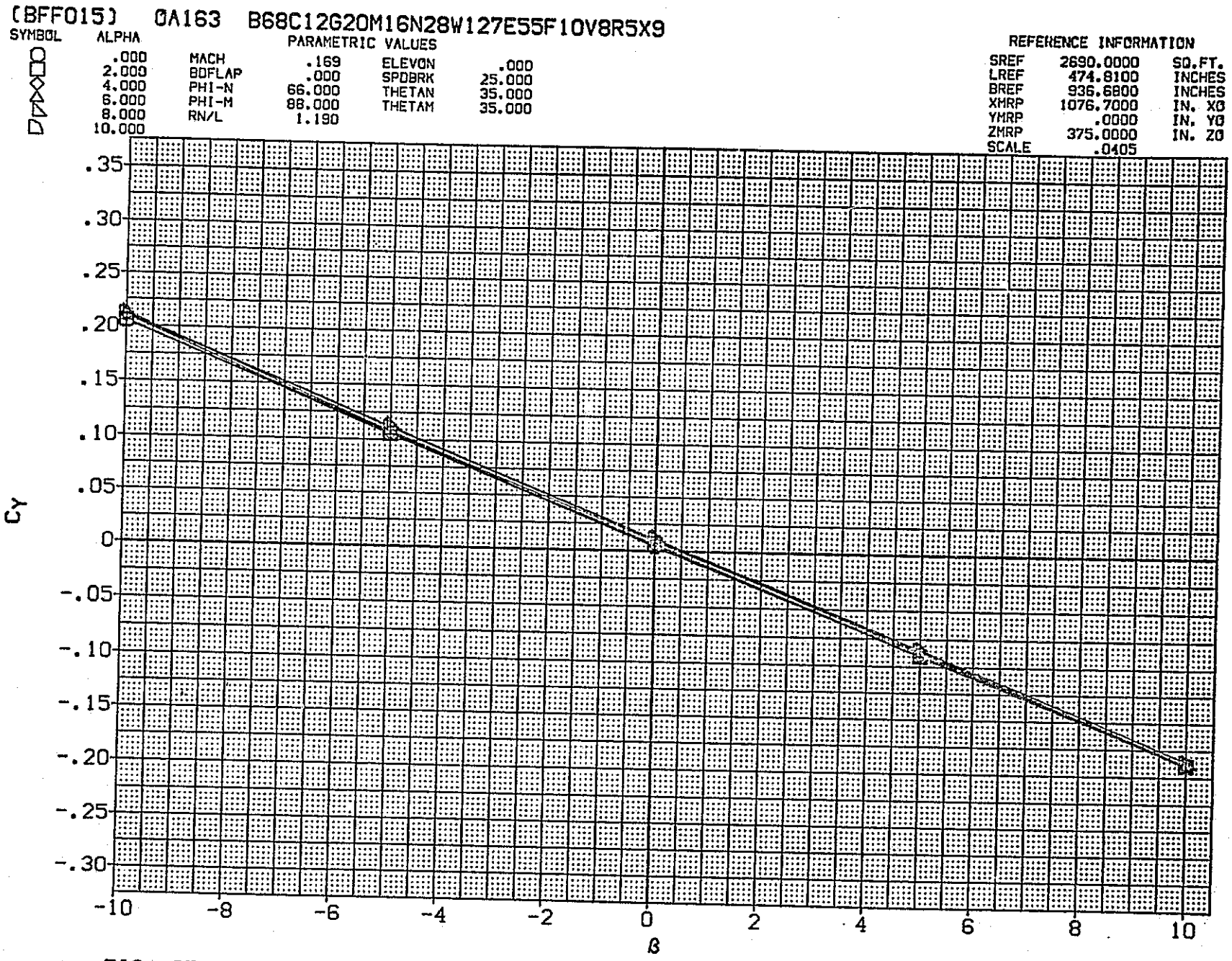

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

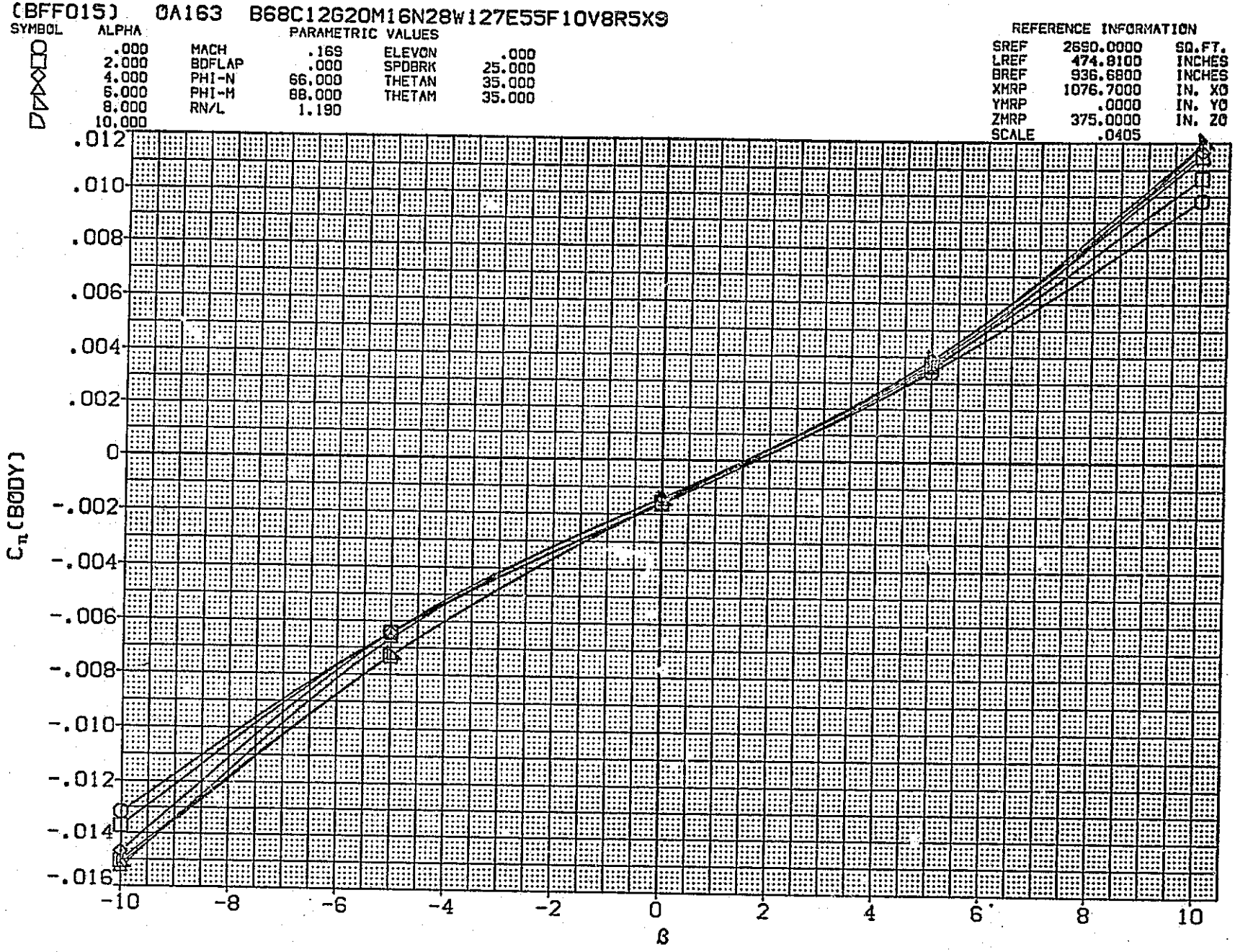

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

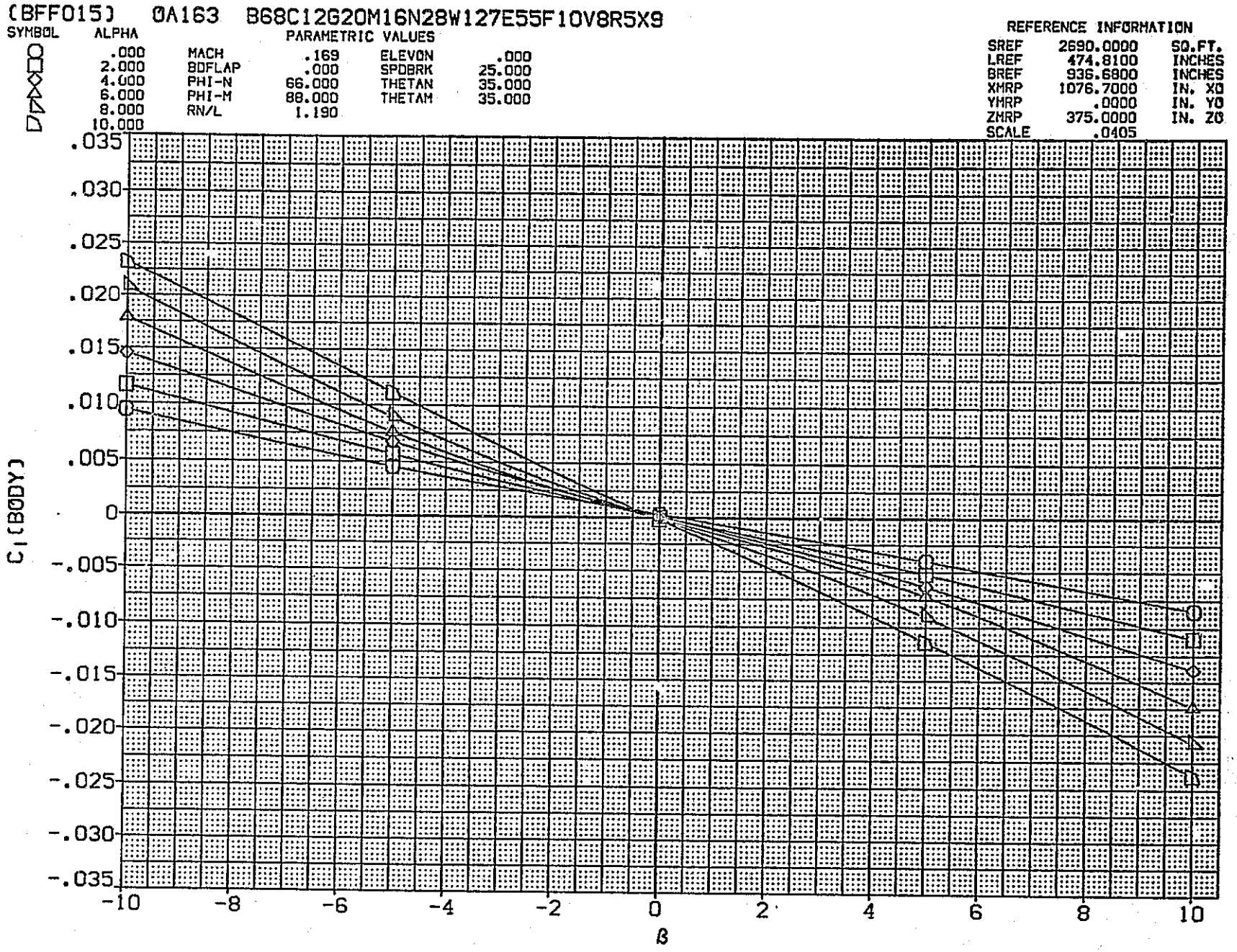

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF016) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
▽	2.000
◇	4.000
△	6.000
□	8.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	50.000
PHI-M	88.000	THETAM	50.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

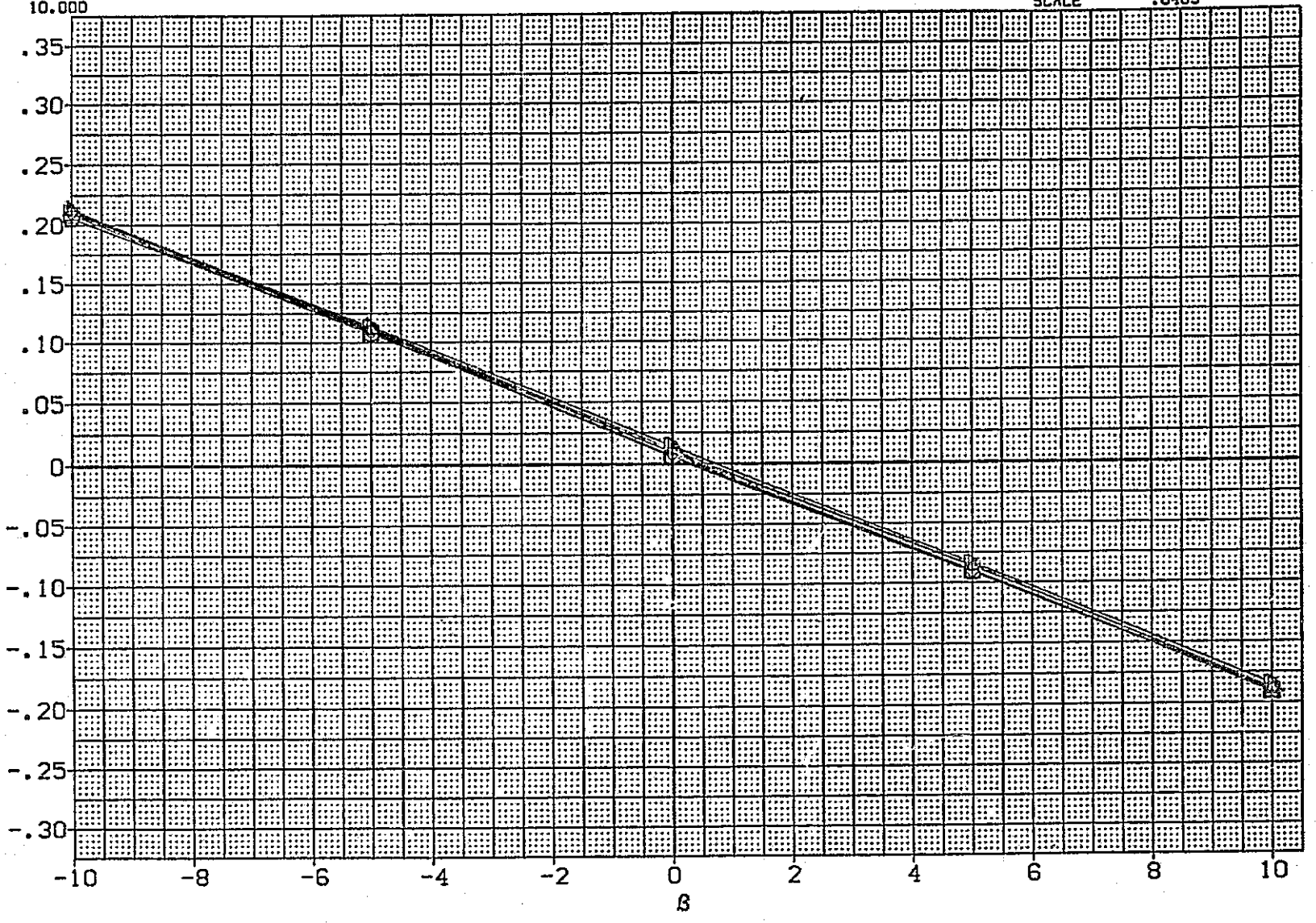

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

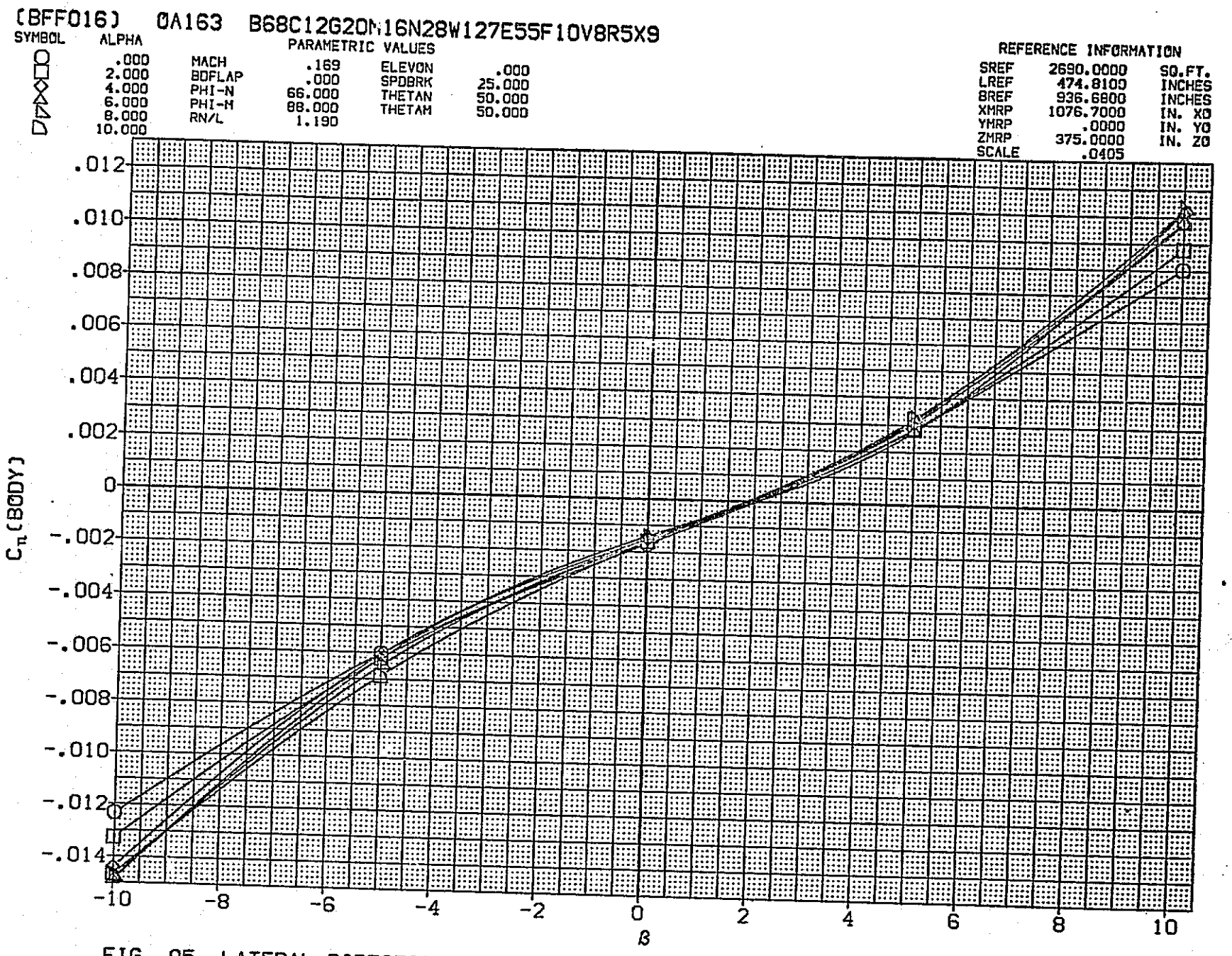

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

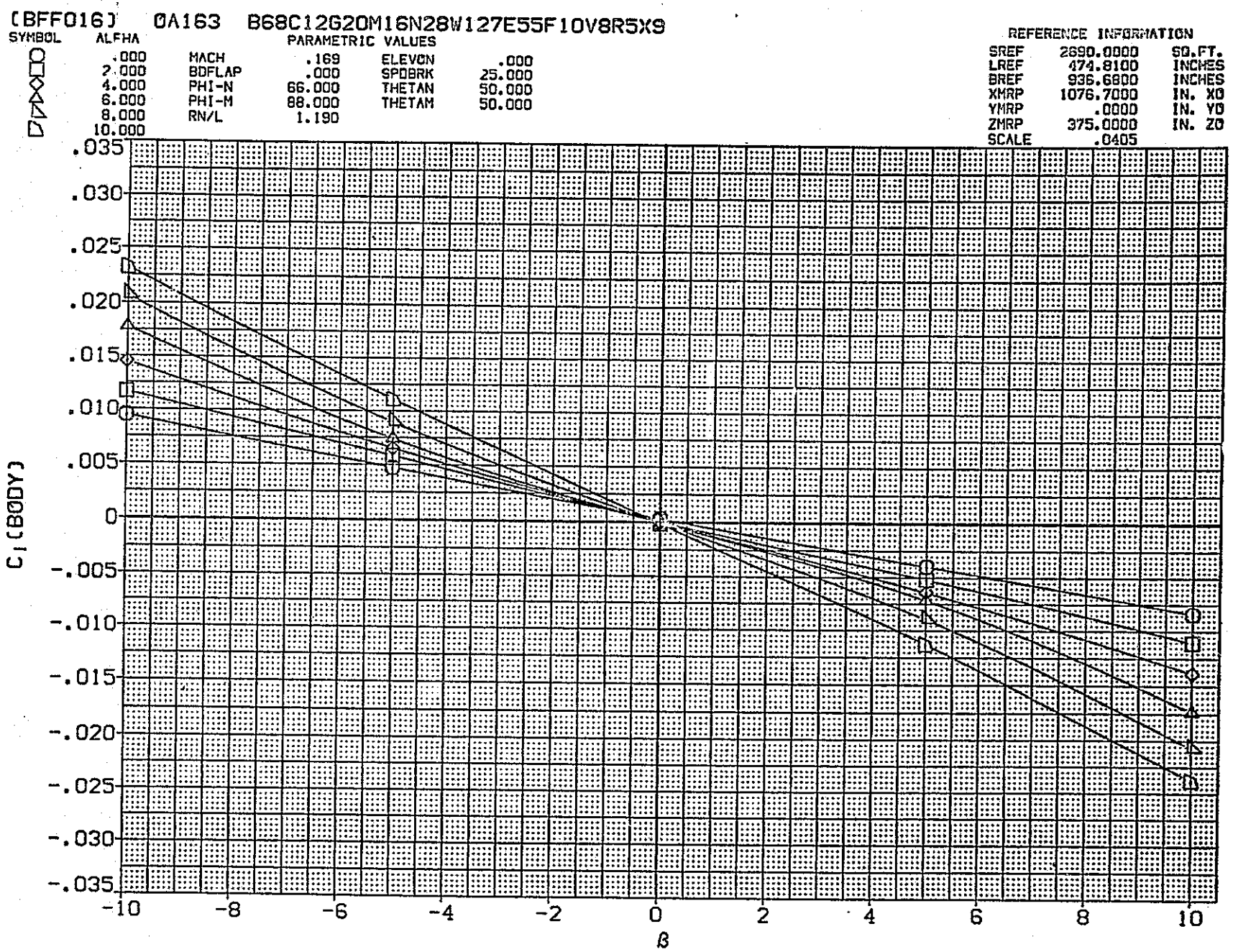

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

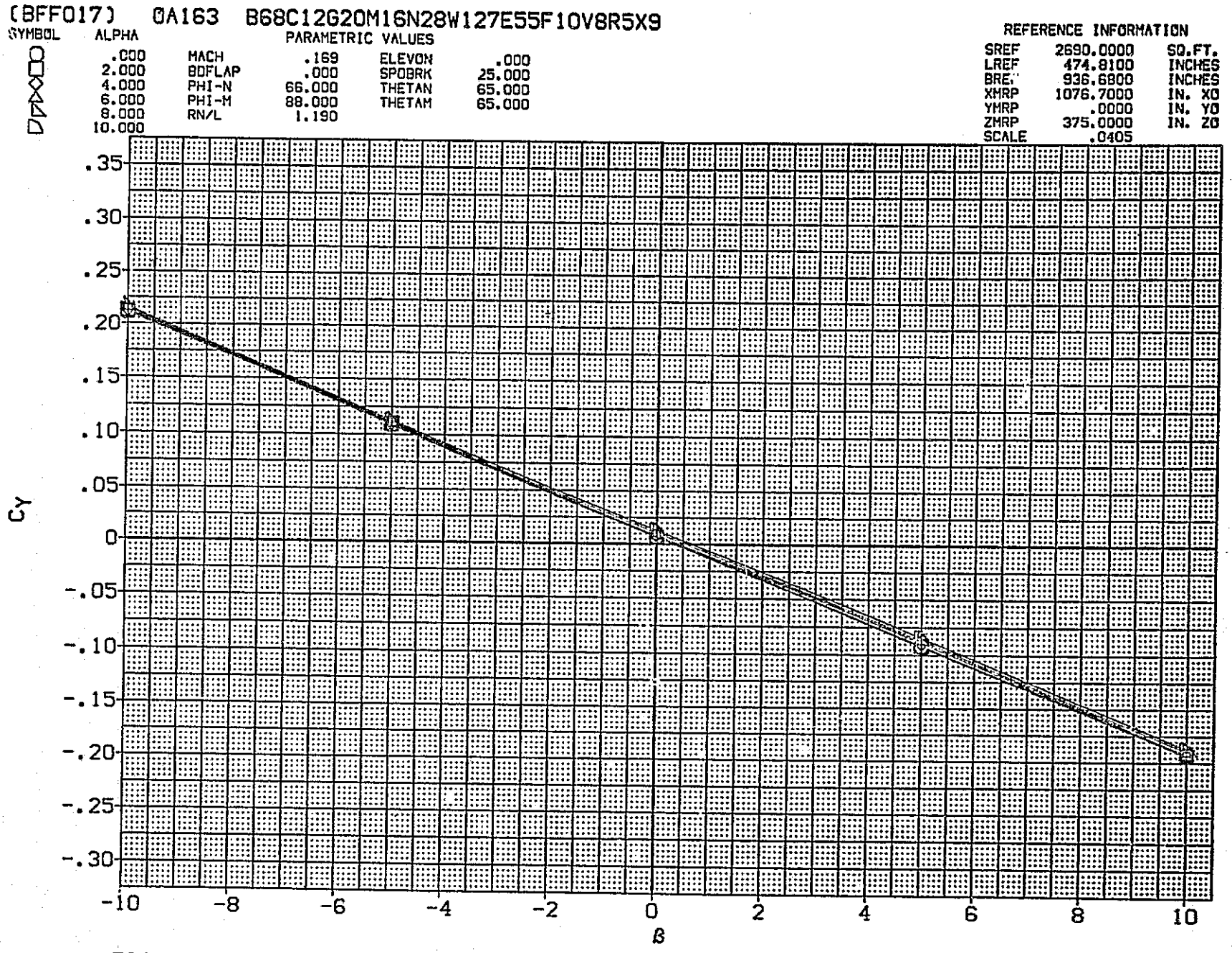

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

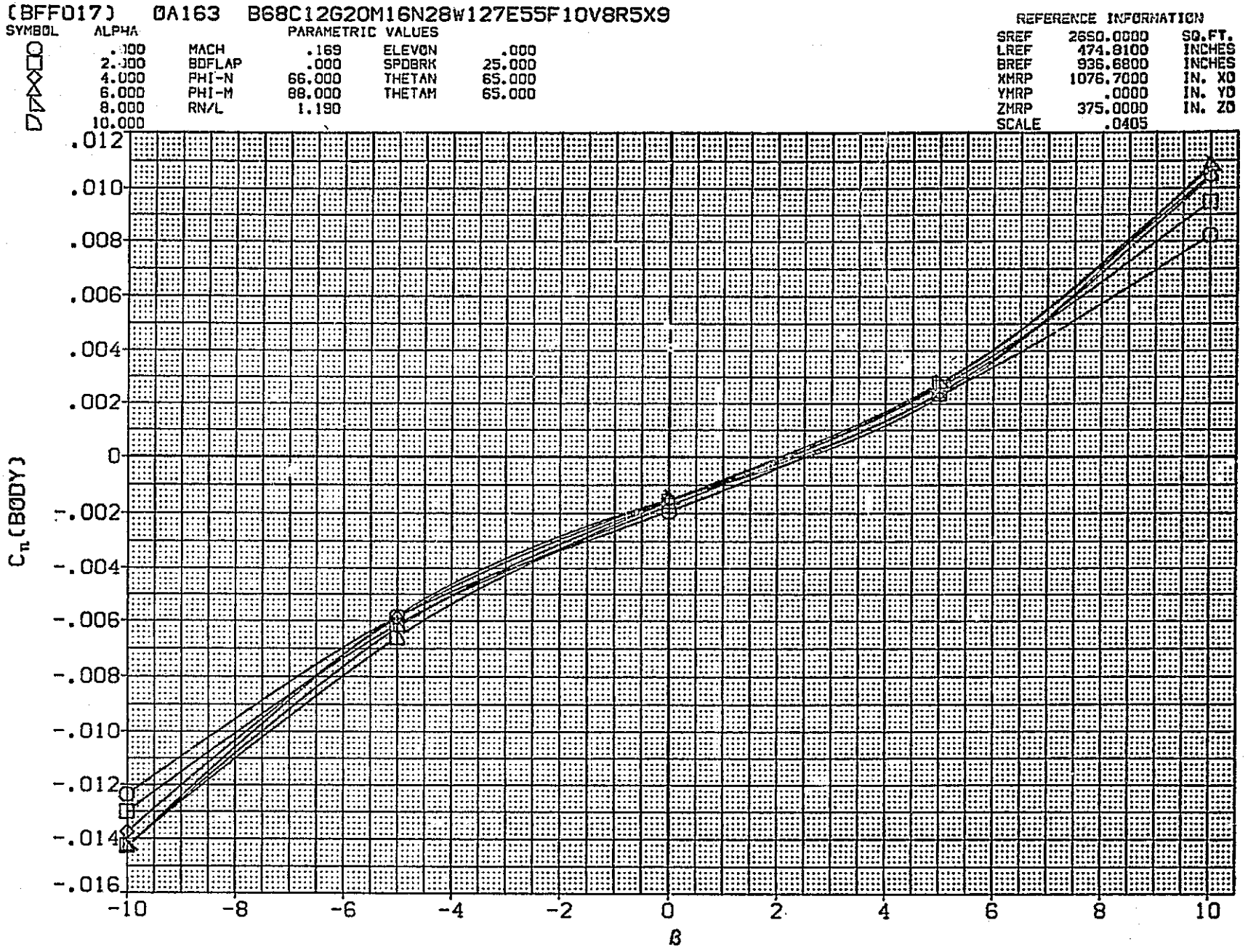

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

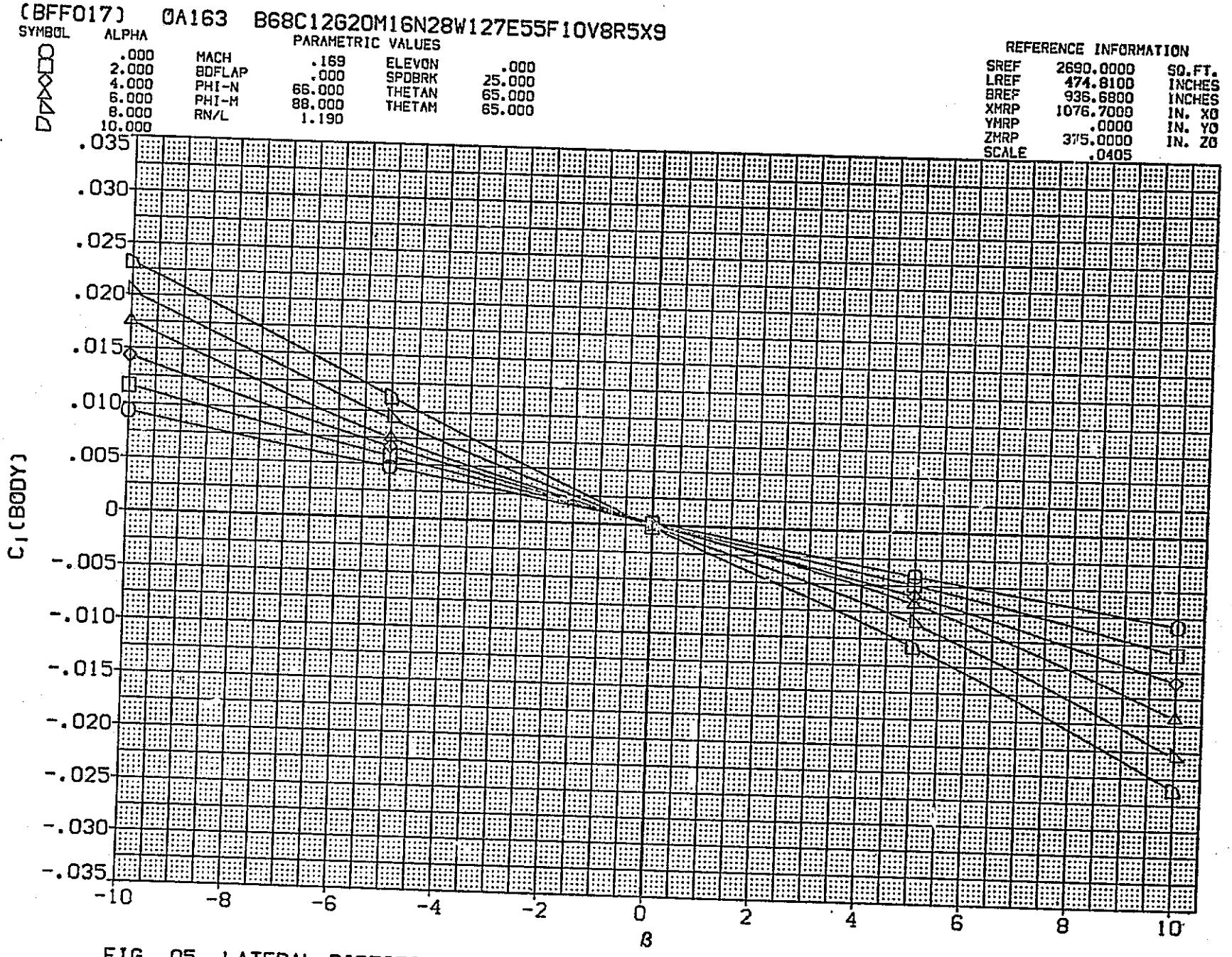

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF018) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
○	.000
□	2.000
◇	4.000
△	6.000
▽	8.000
⬠	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	80.000
PHI-M	88.000	THETAM	80.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
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YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

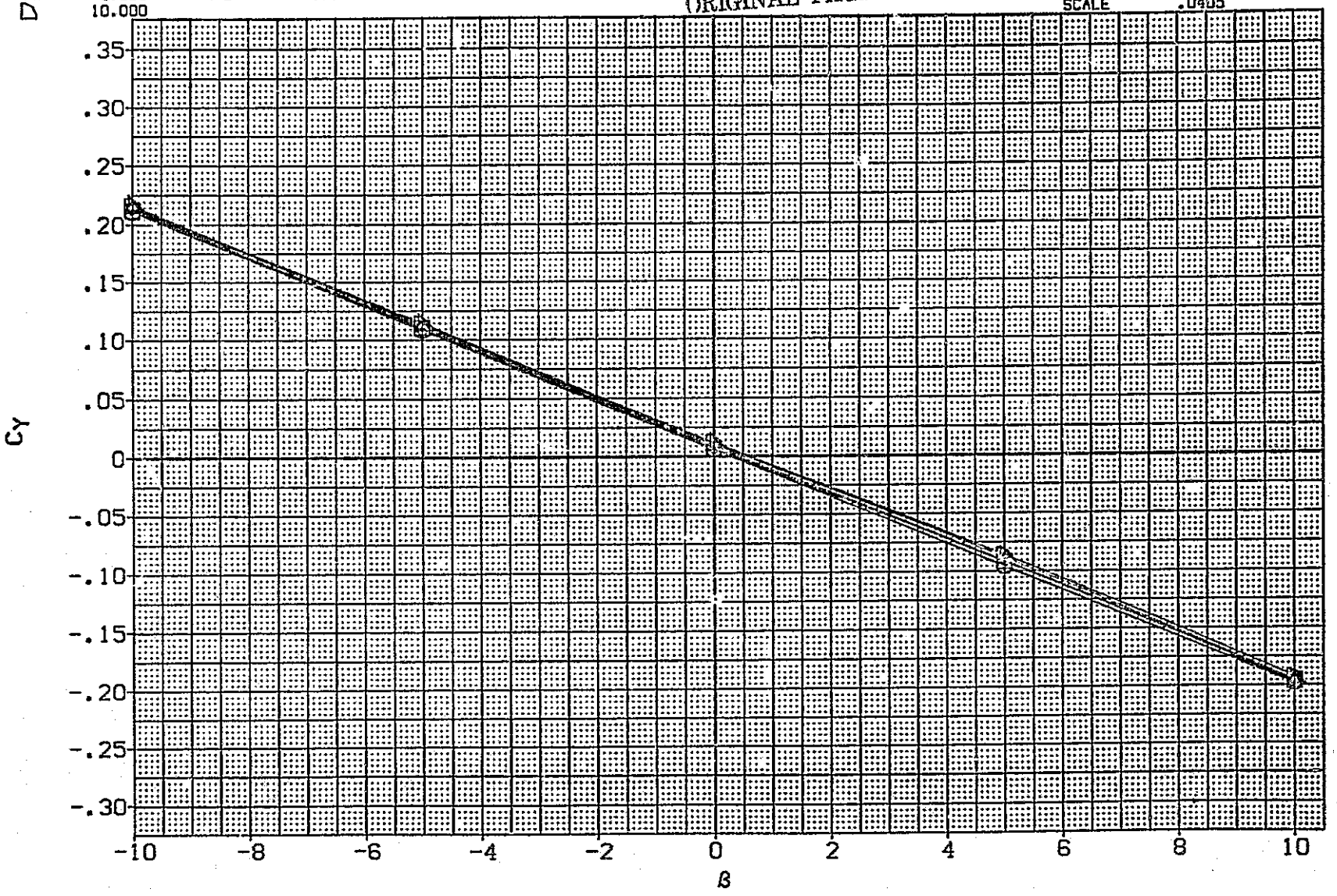

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

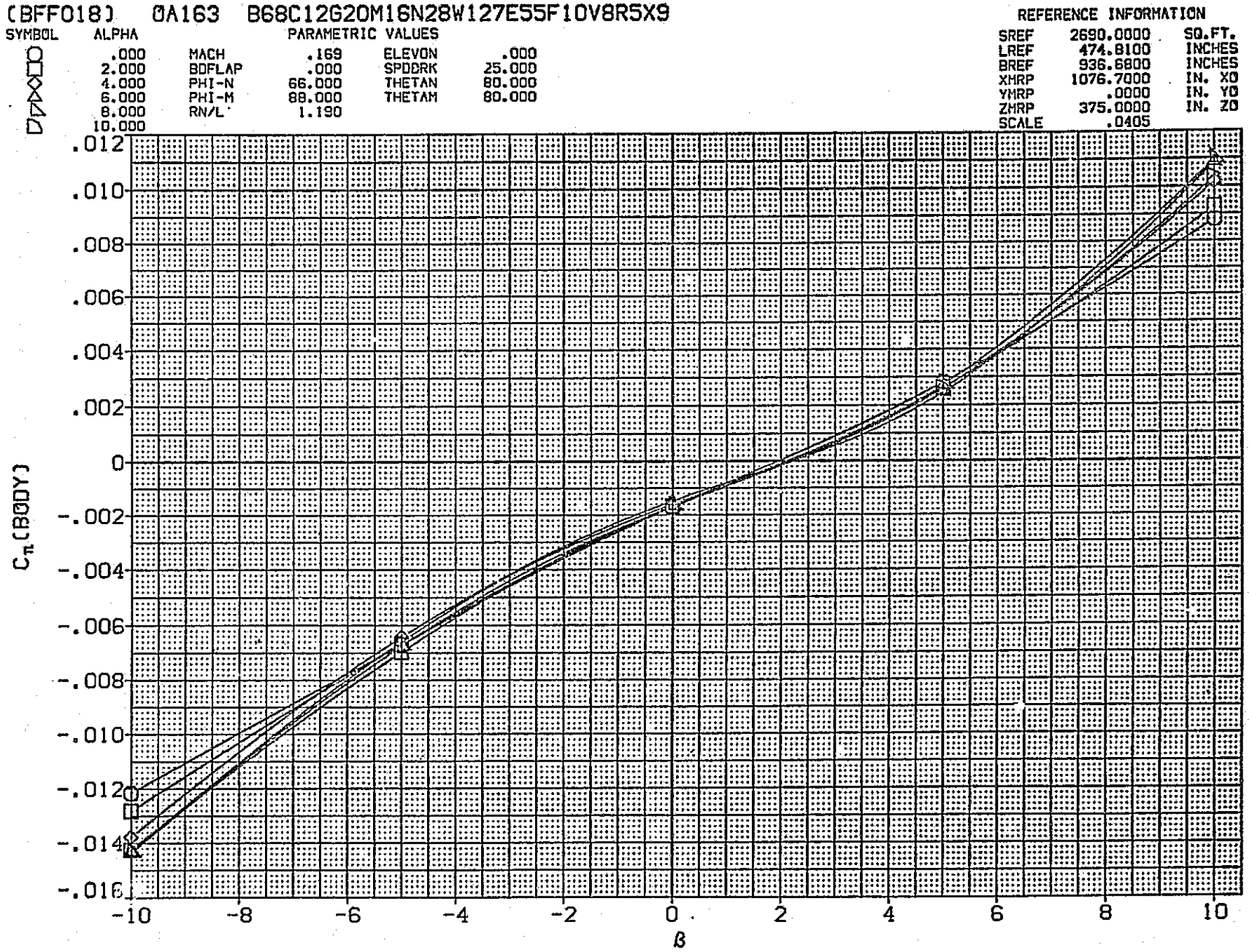

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

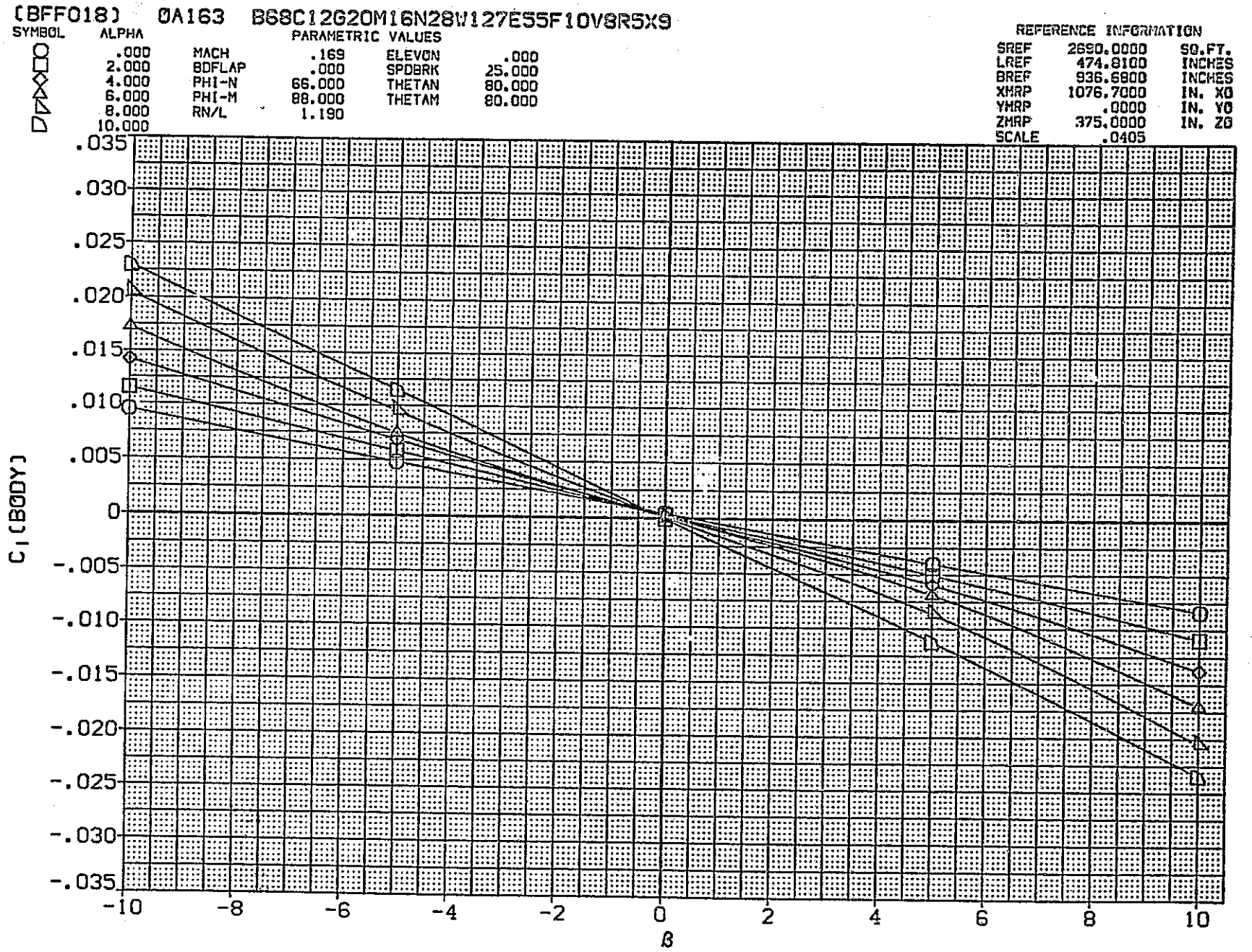

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

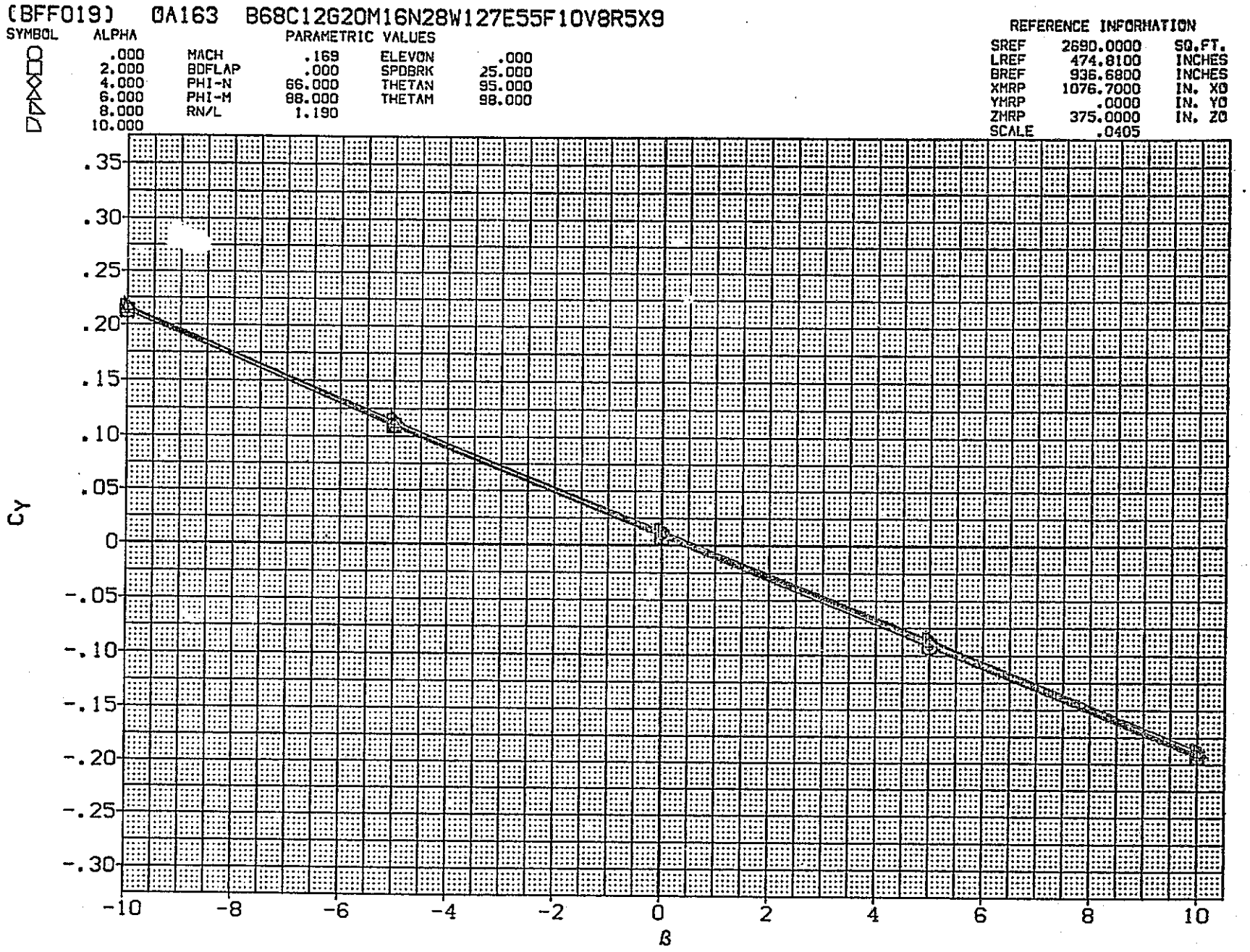

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

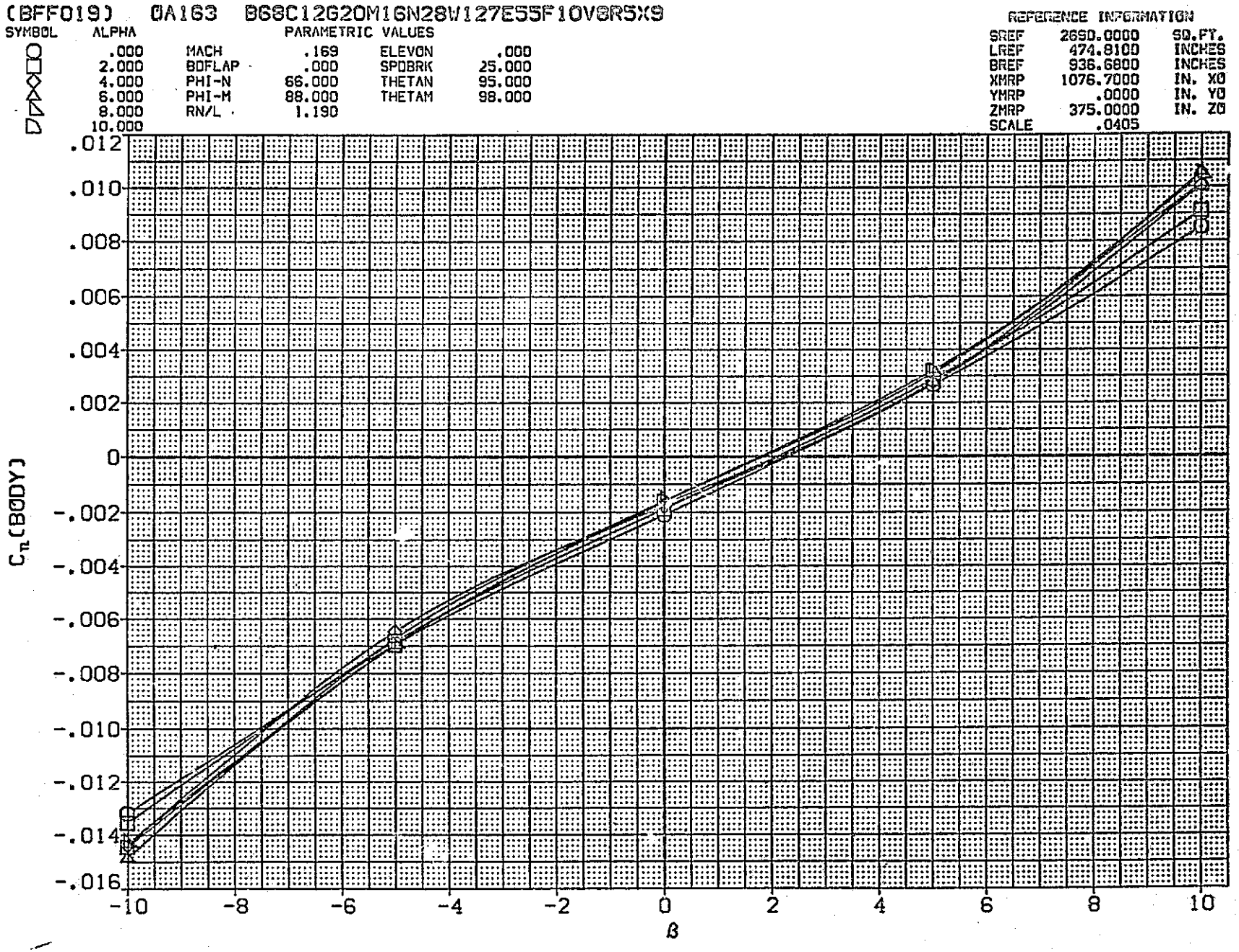

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

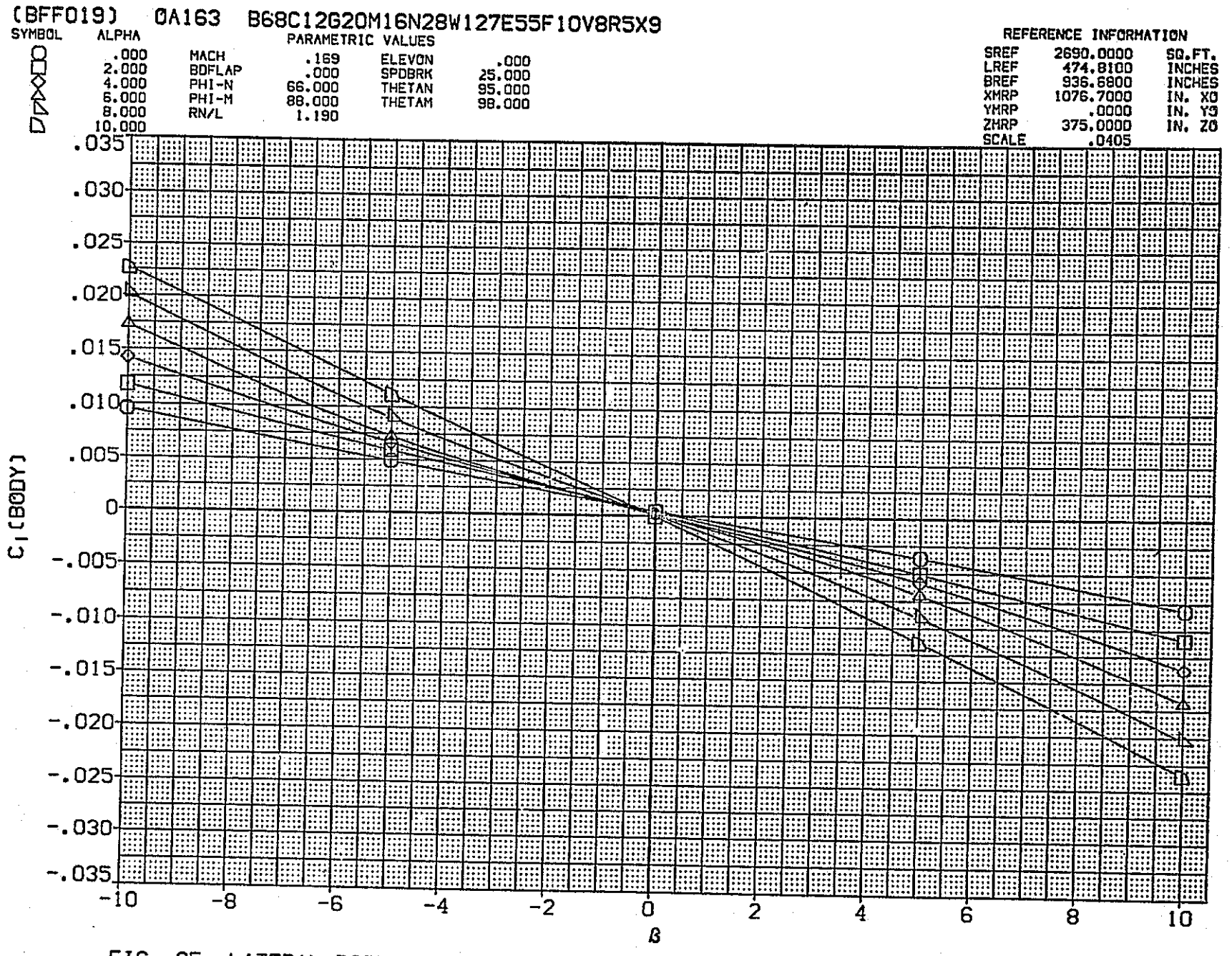

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

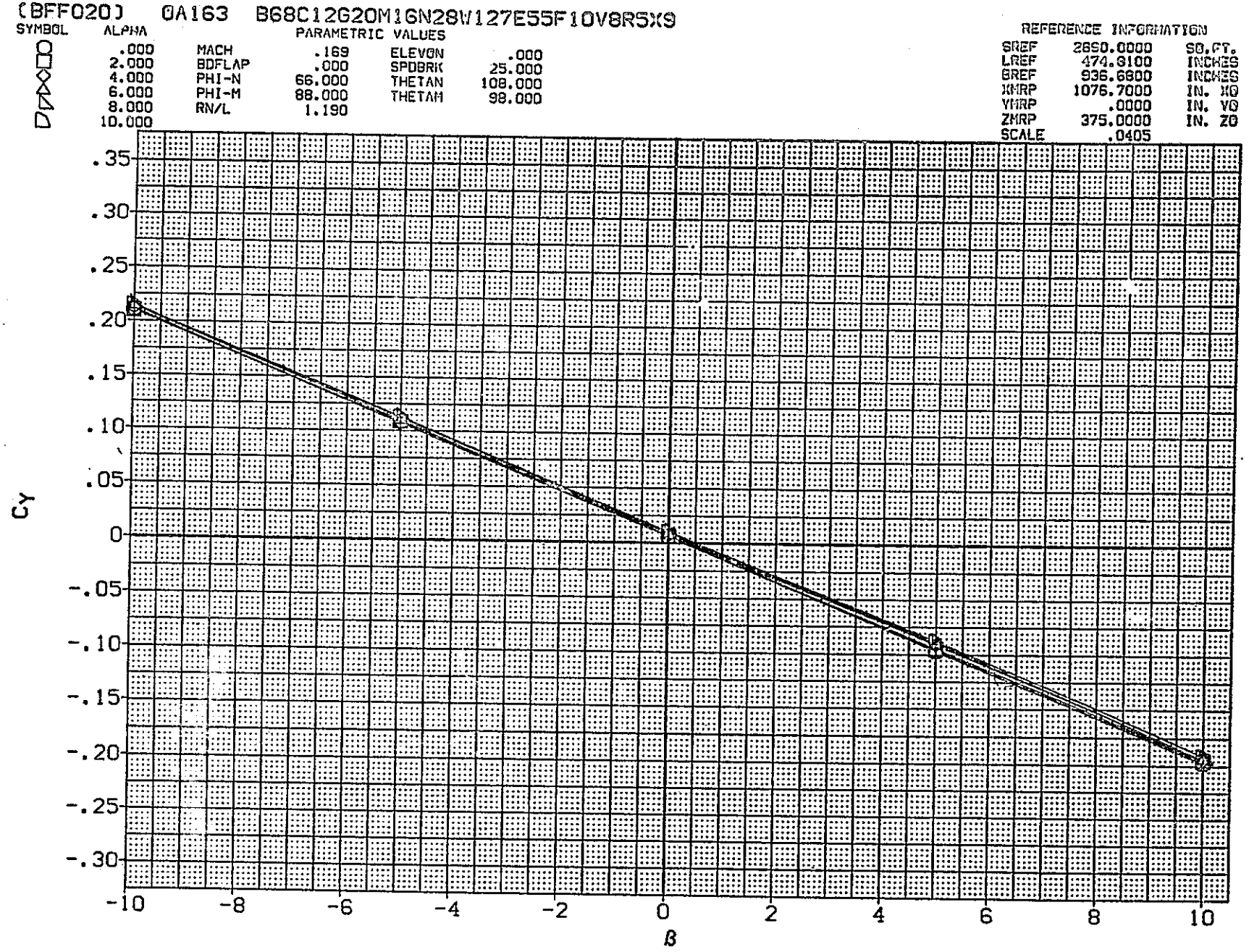

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

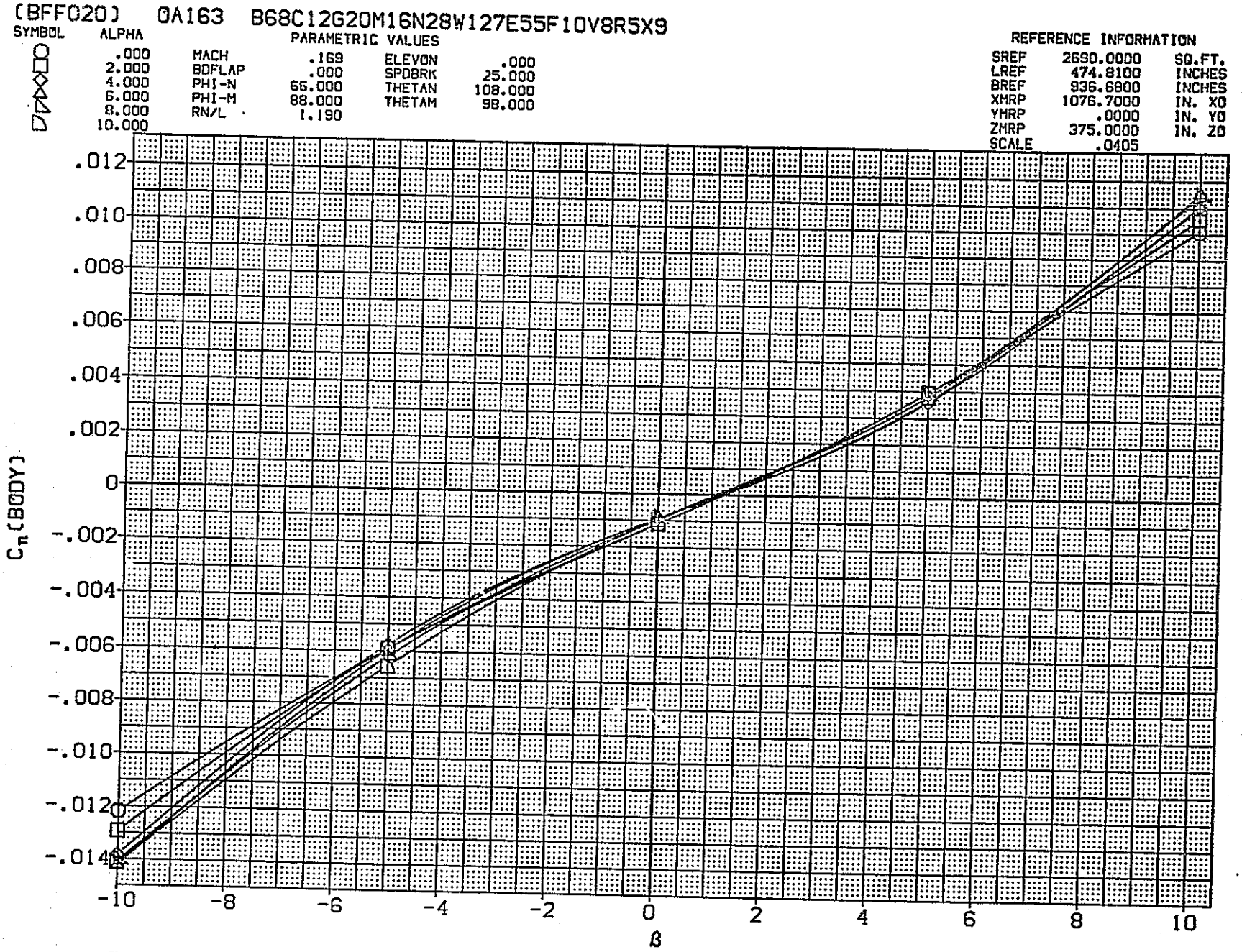

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

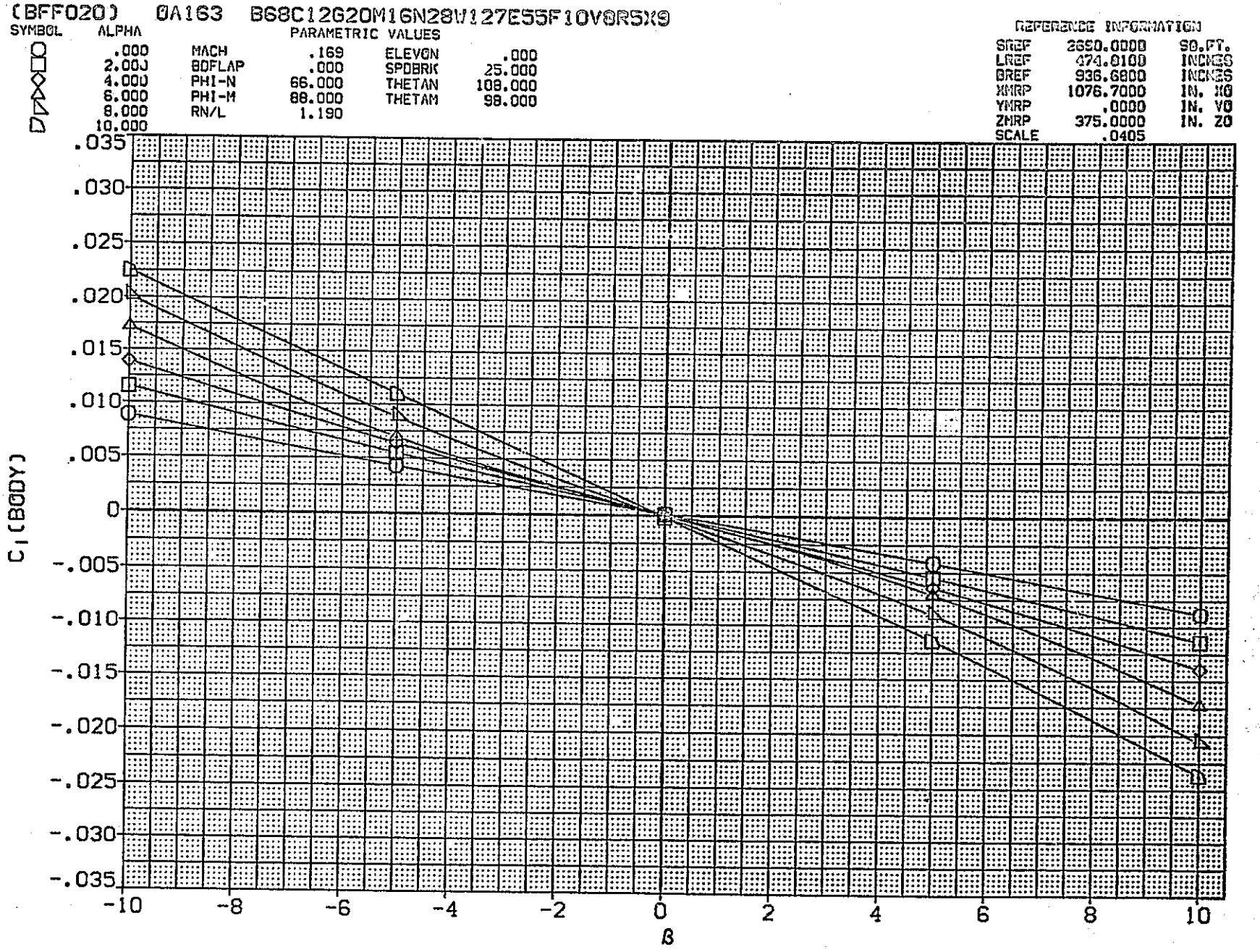

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

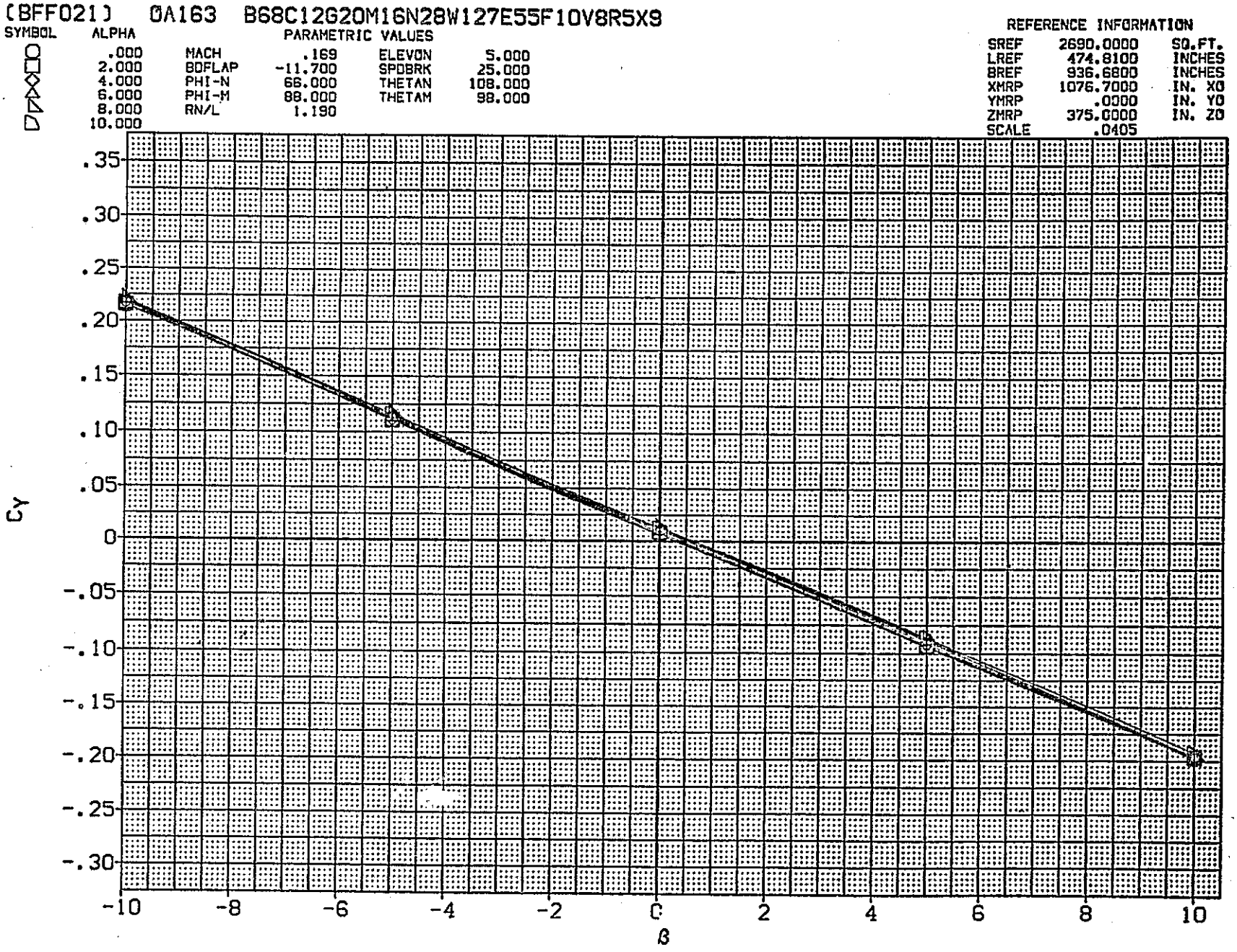

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

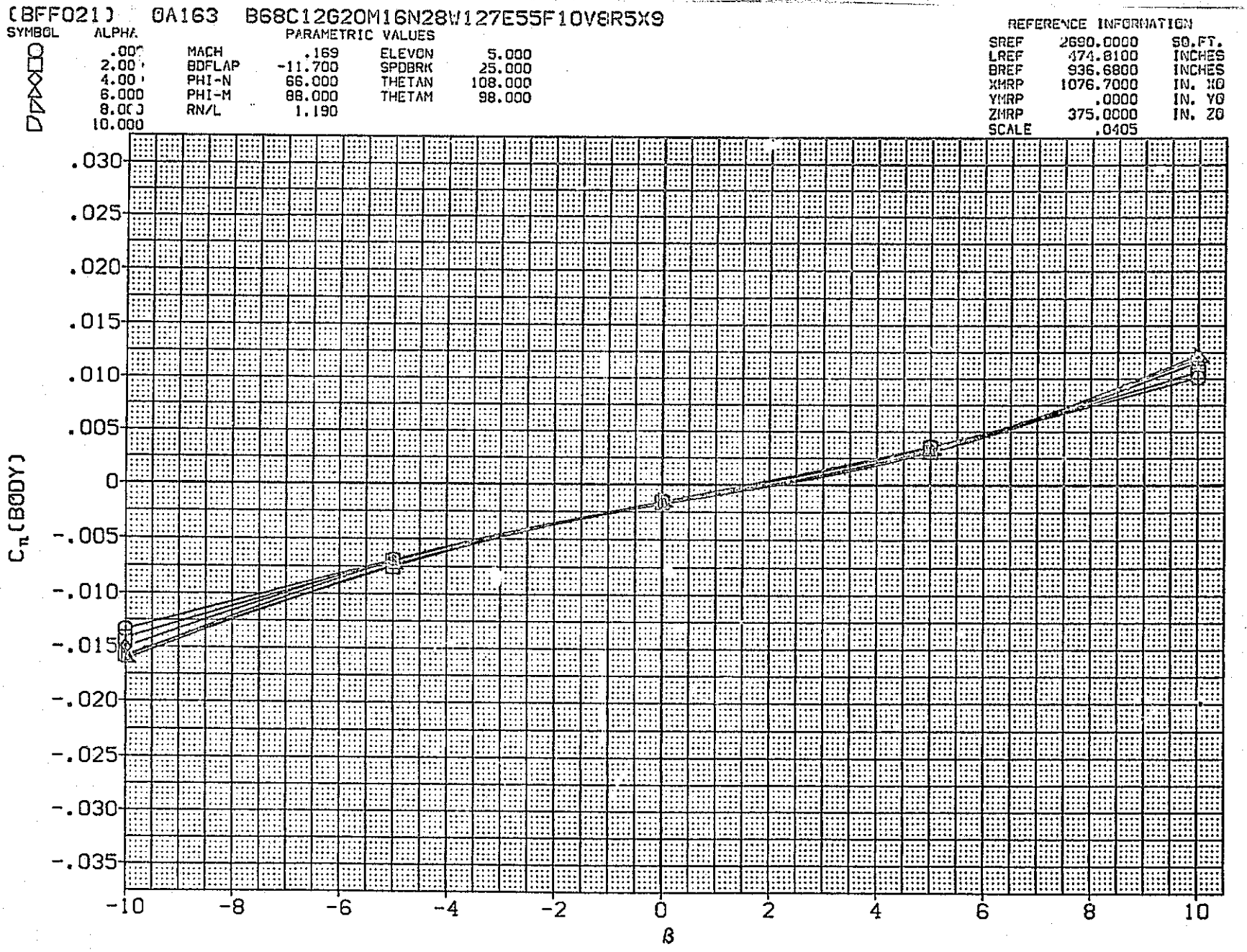

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

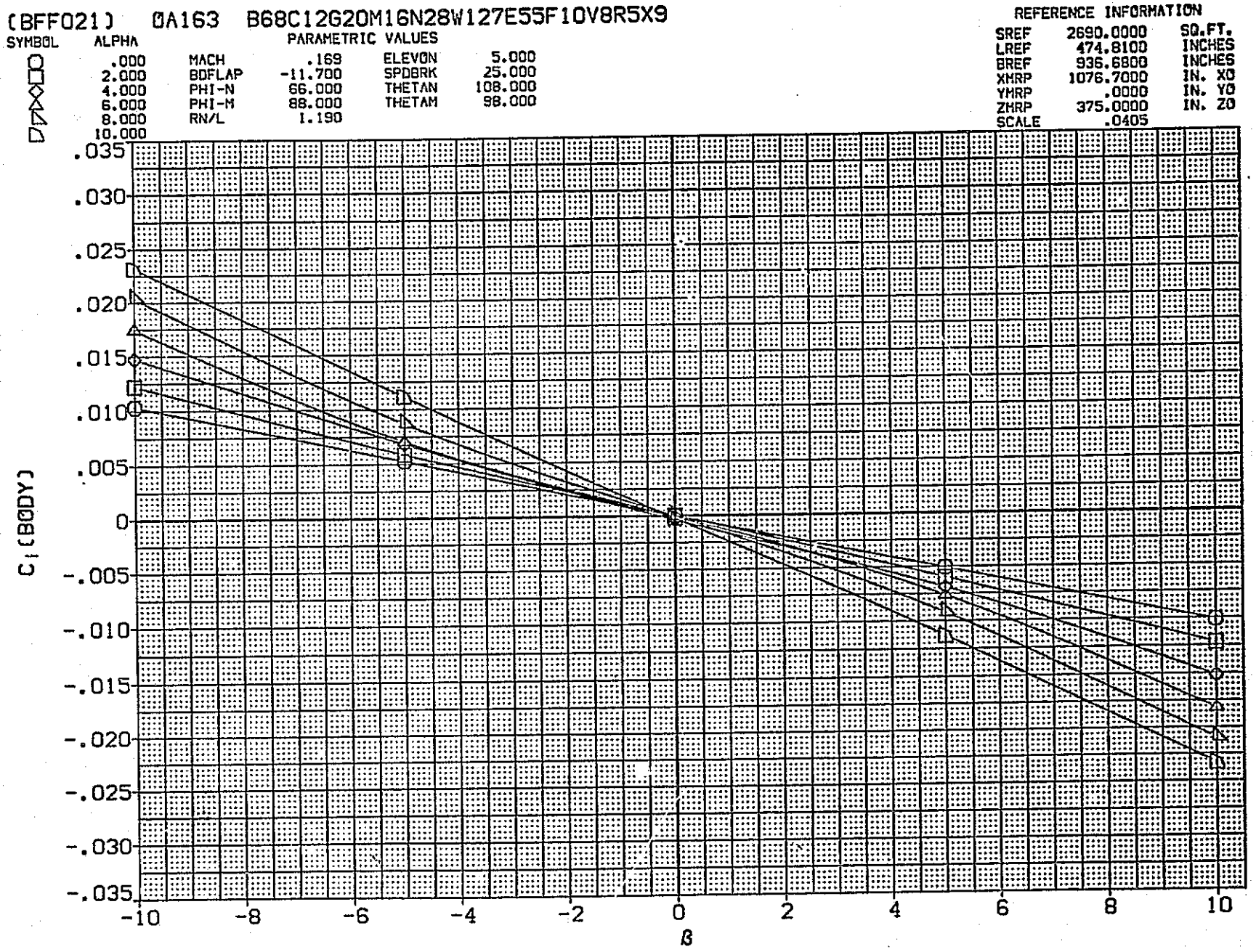

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

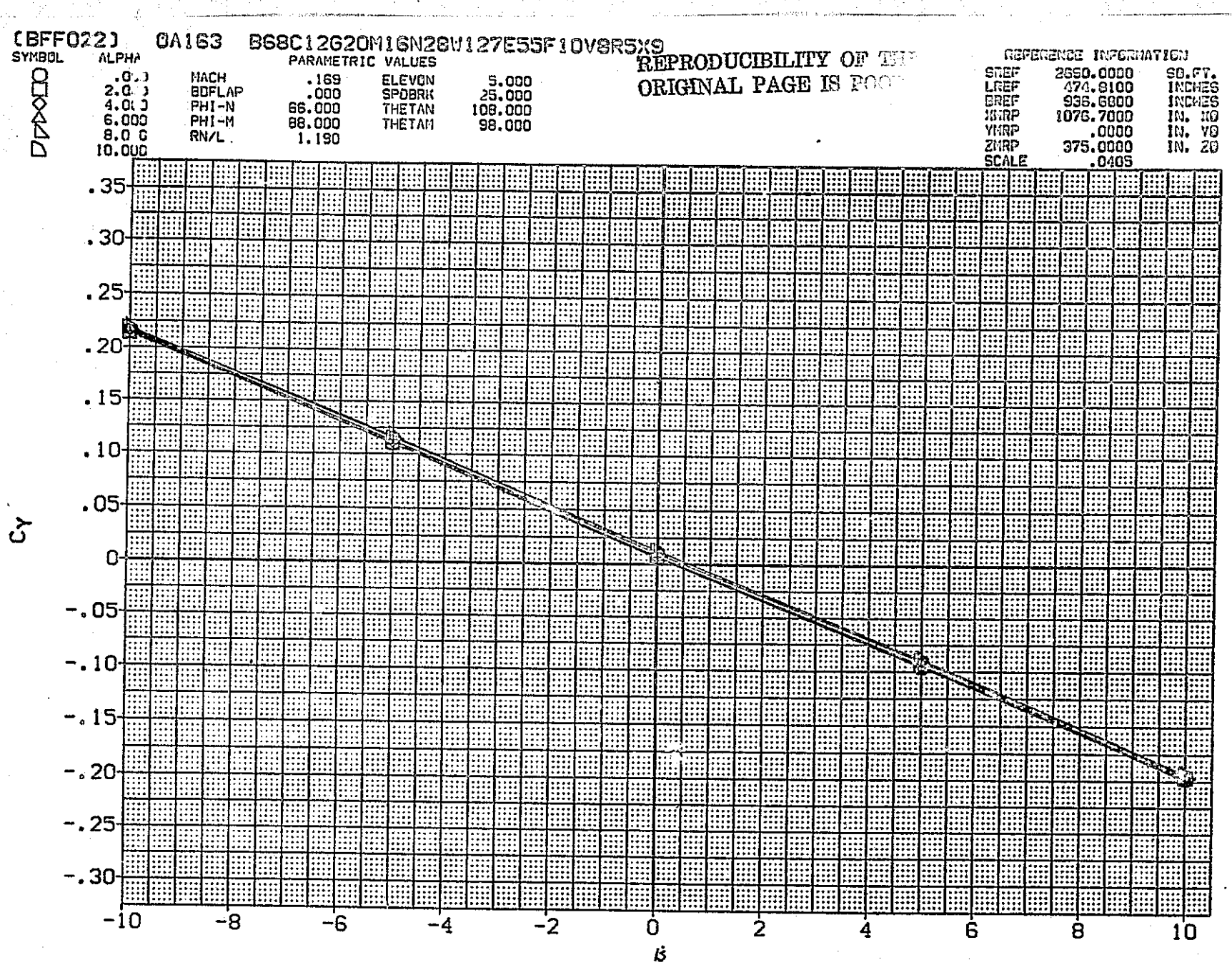

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

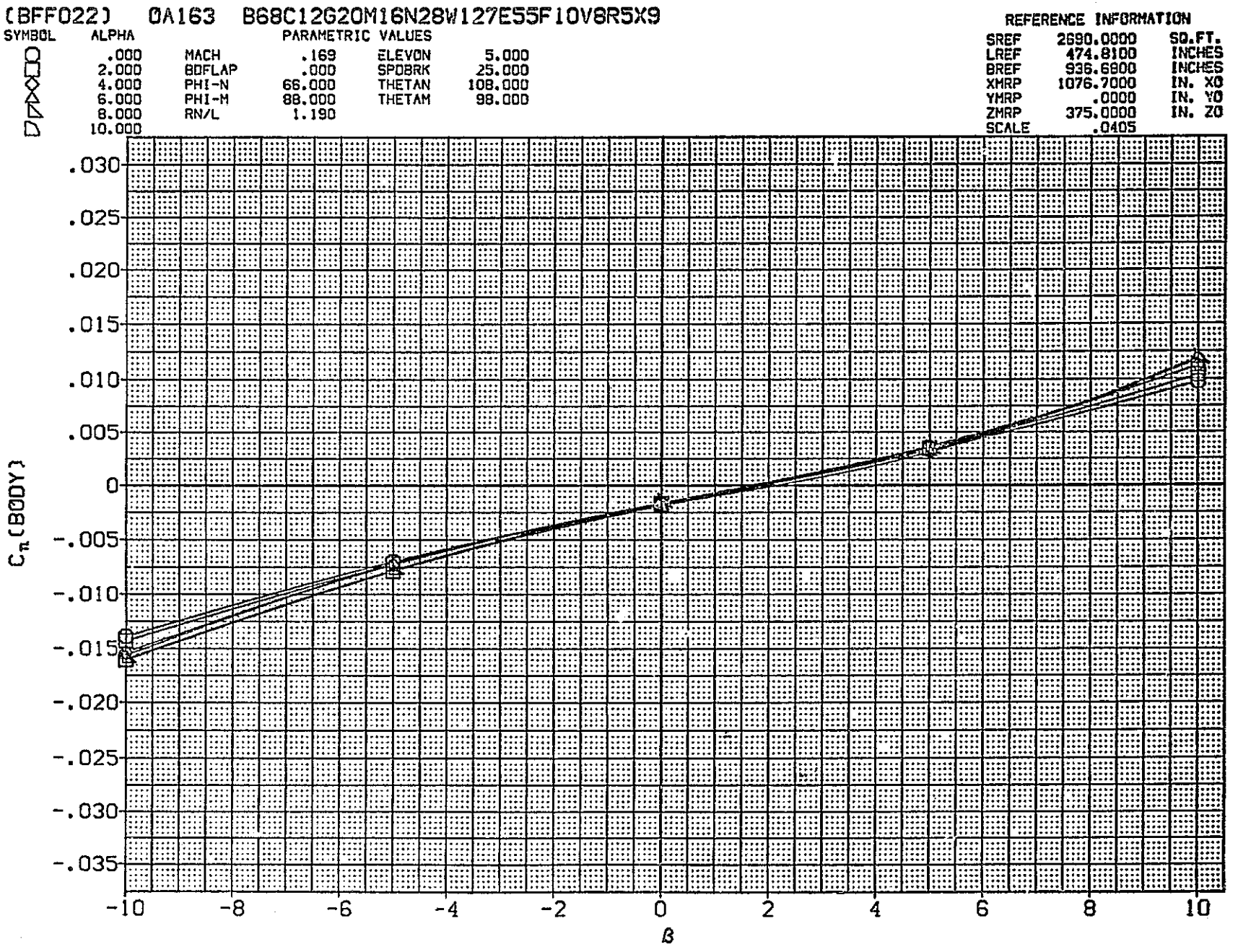

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

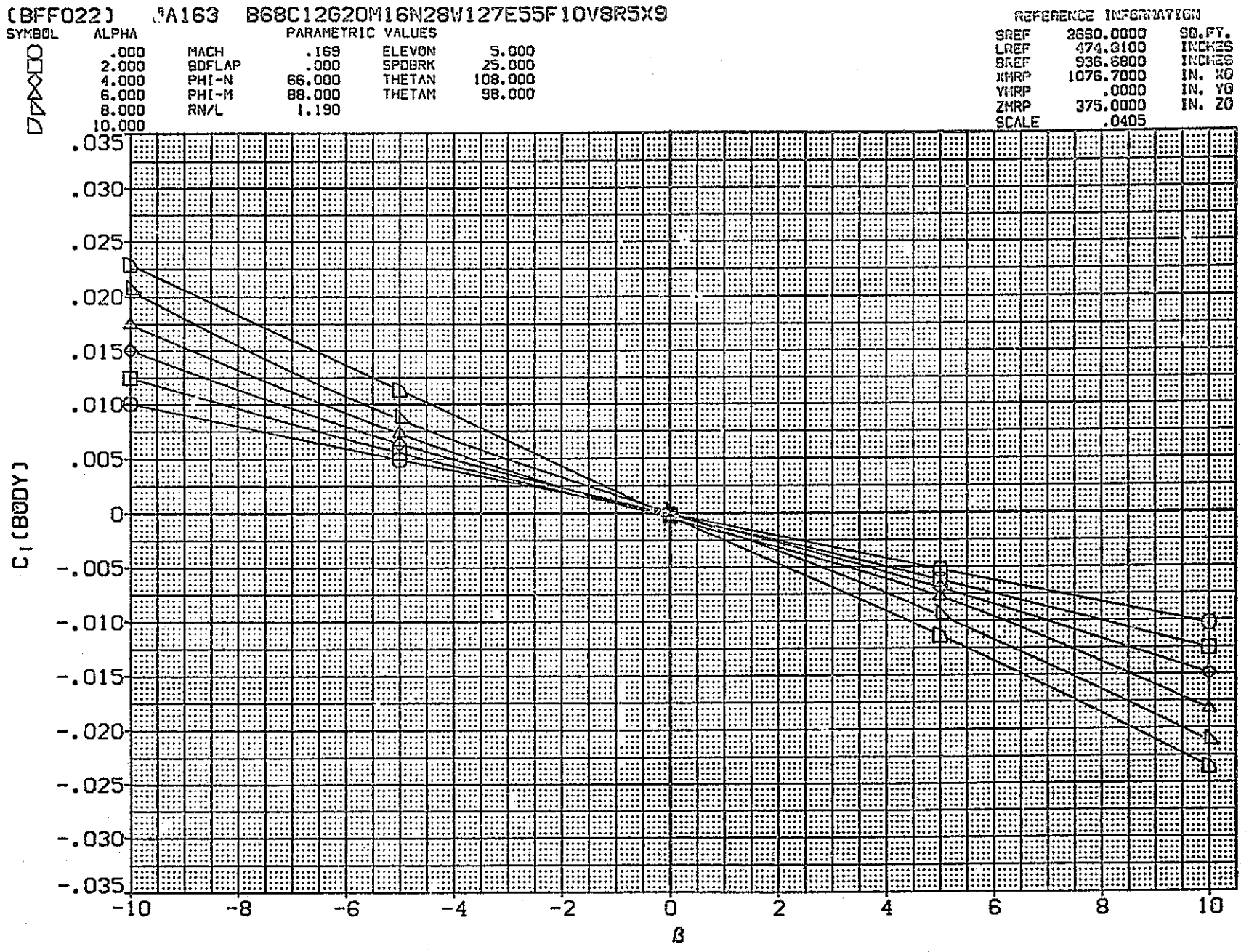

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

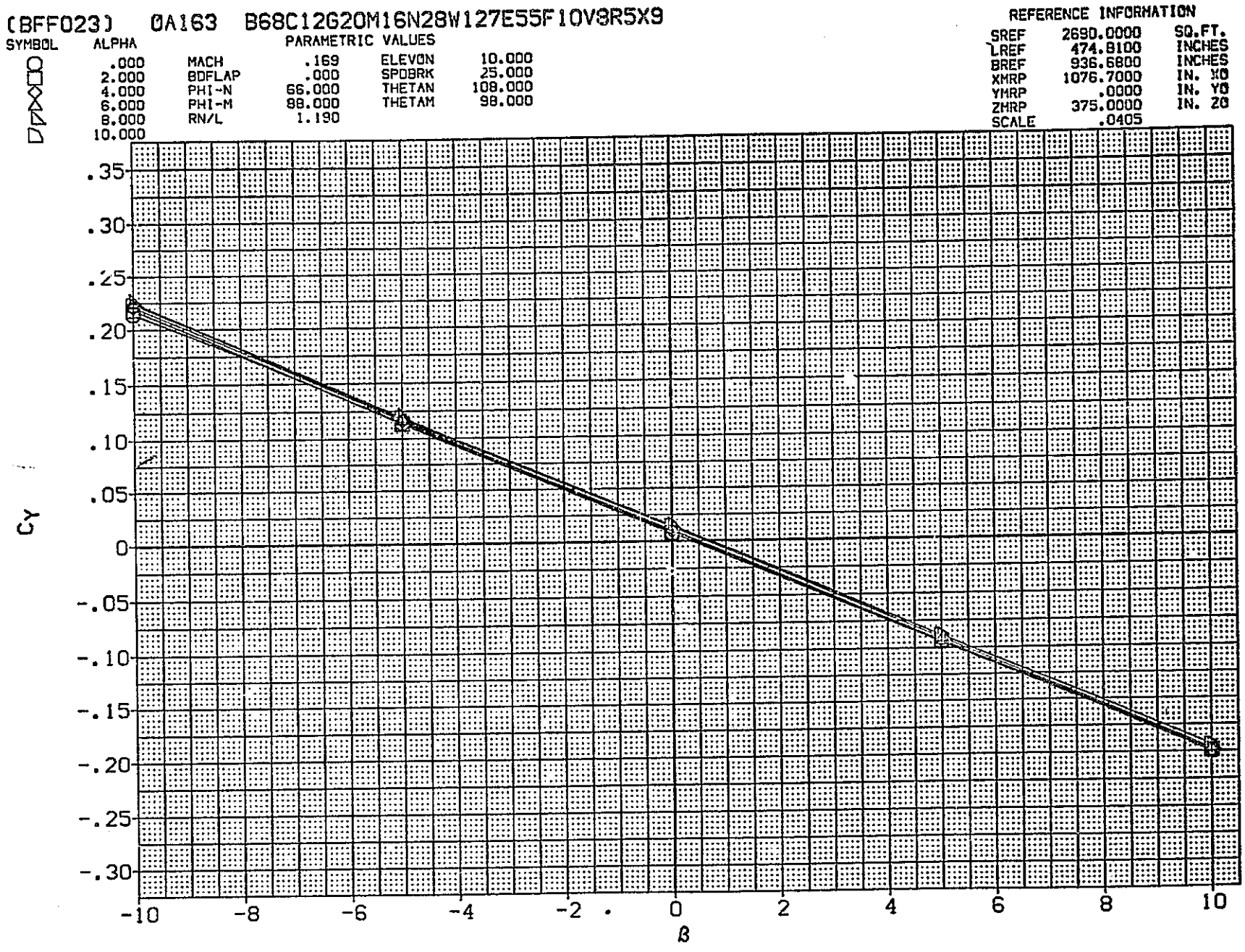

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

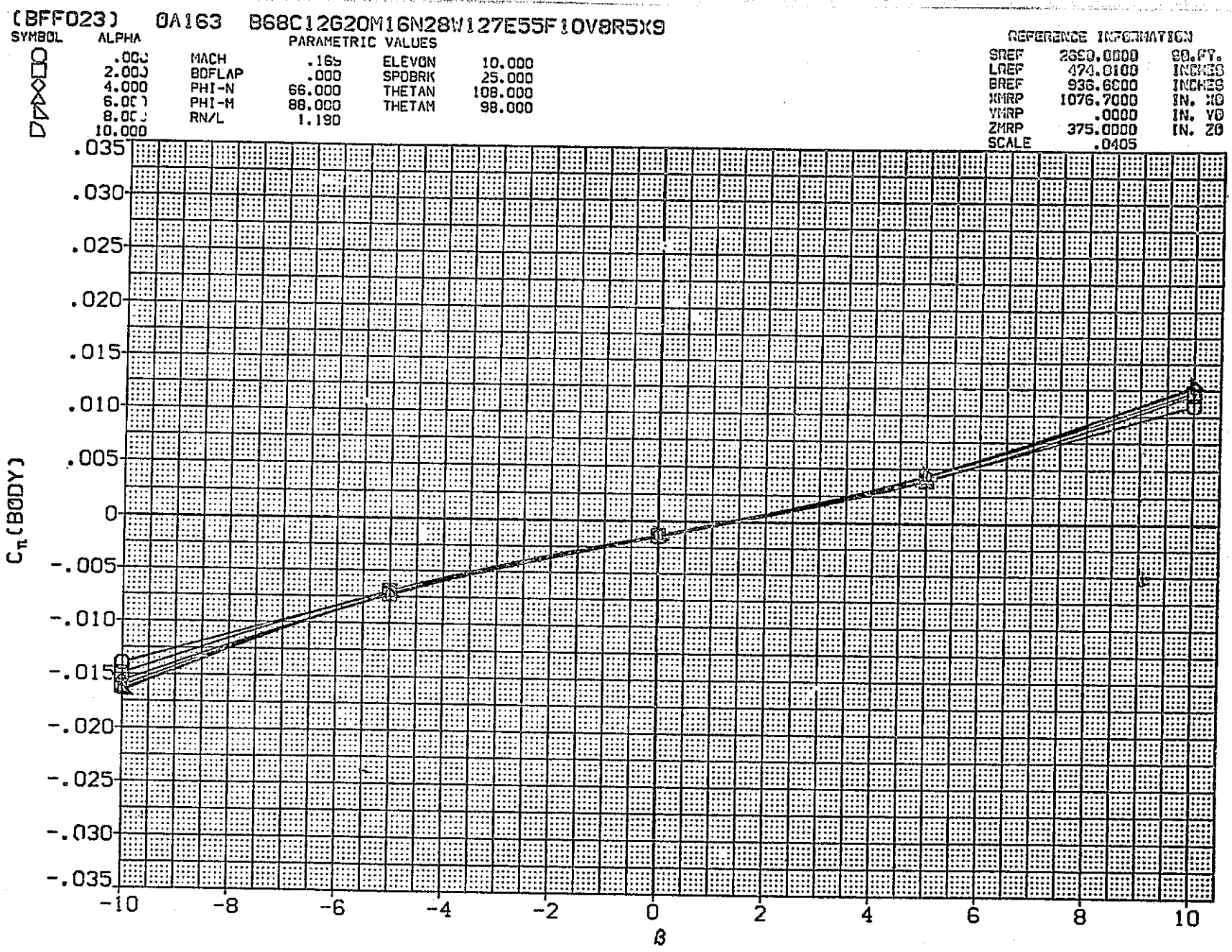

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

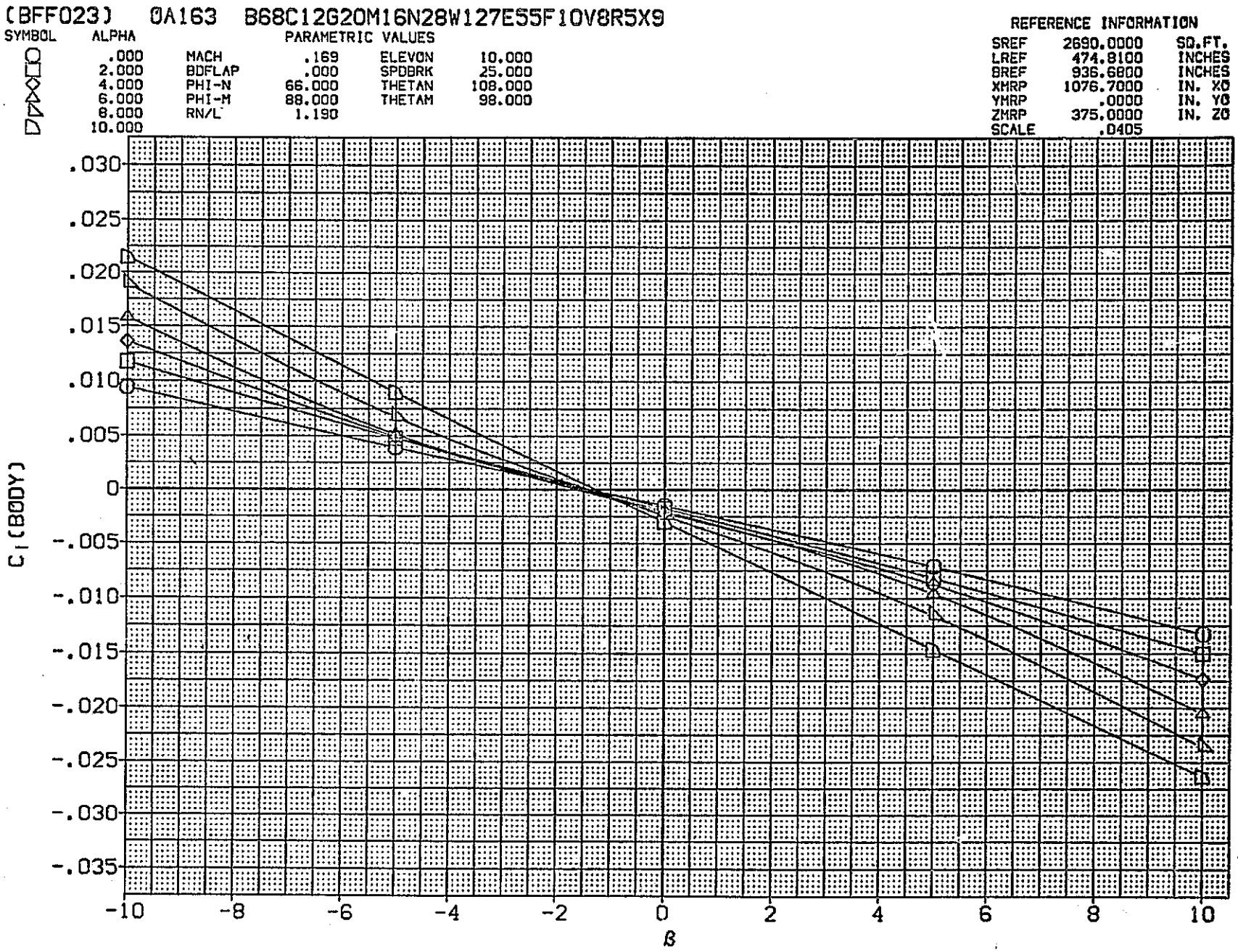

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF024) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
▽	6.000
◁	8.000
▷	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2650.0000	SQ.FT.
LREF	474.0100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

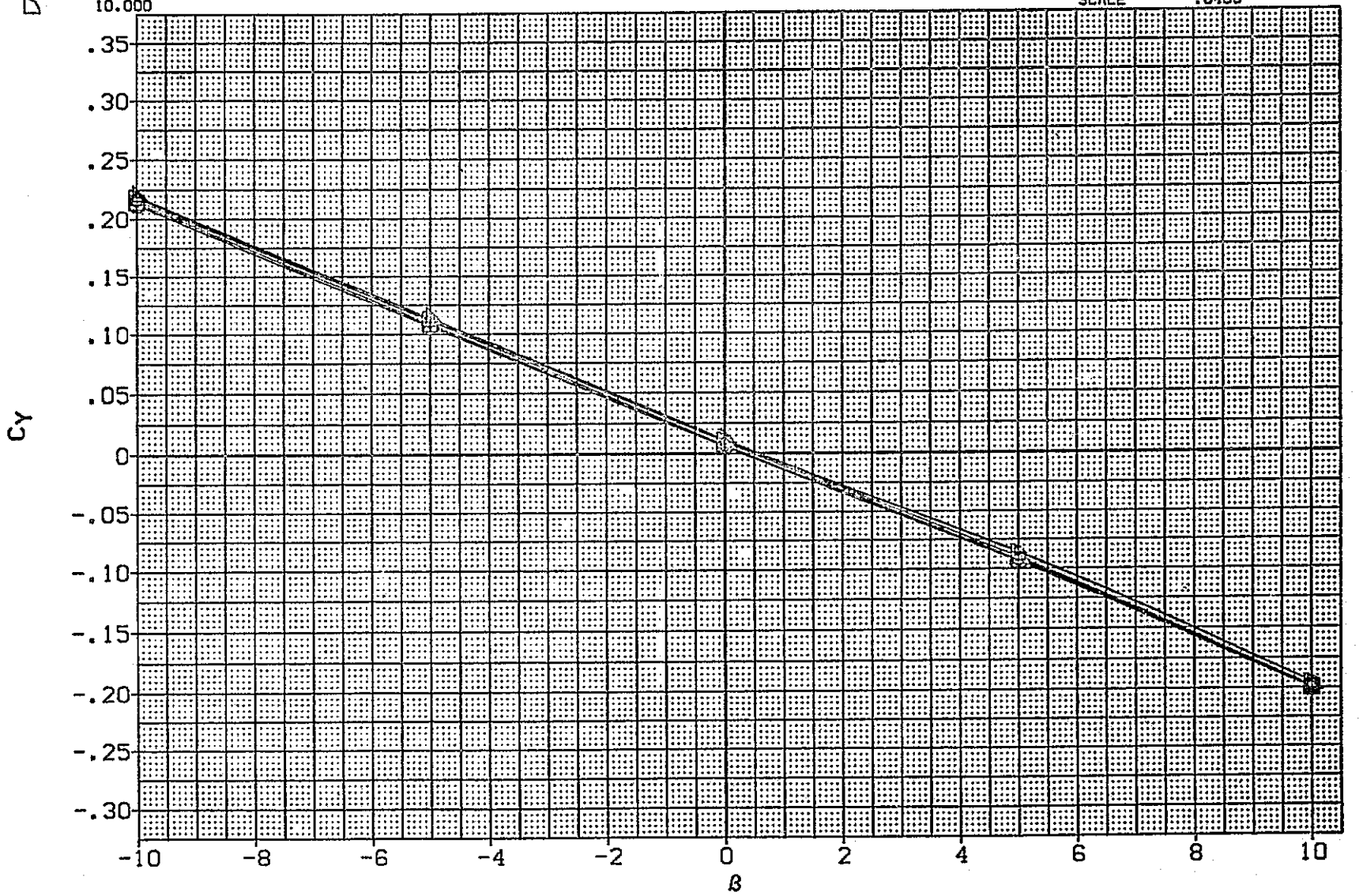

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

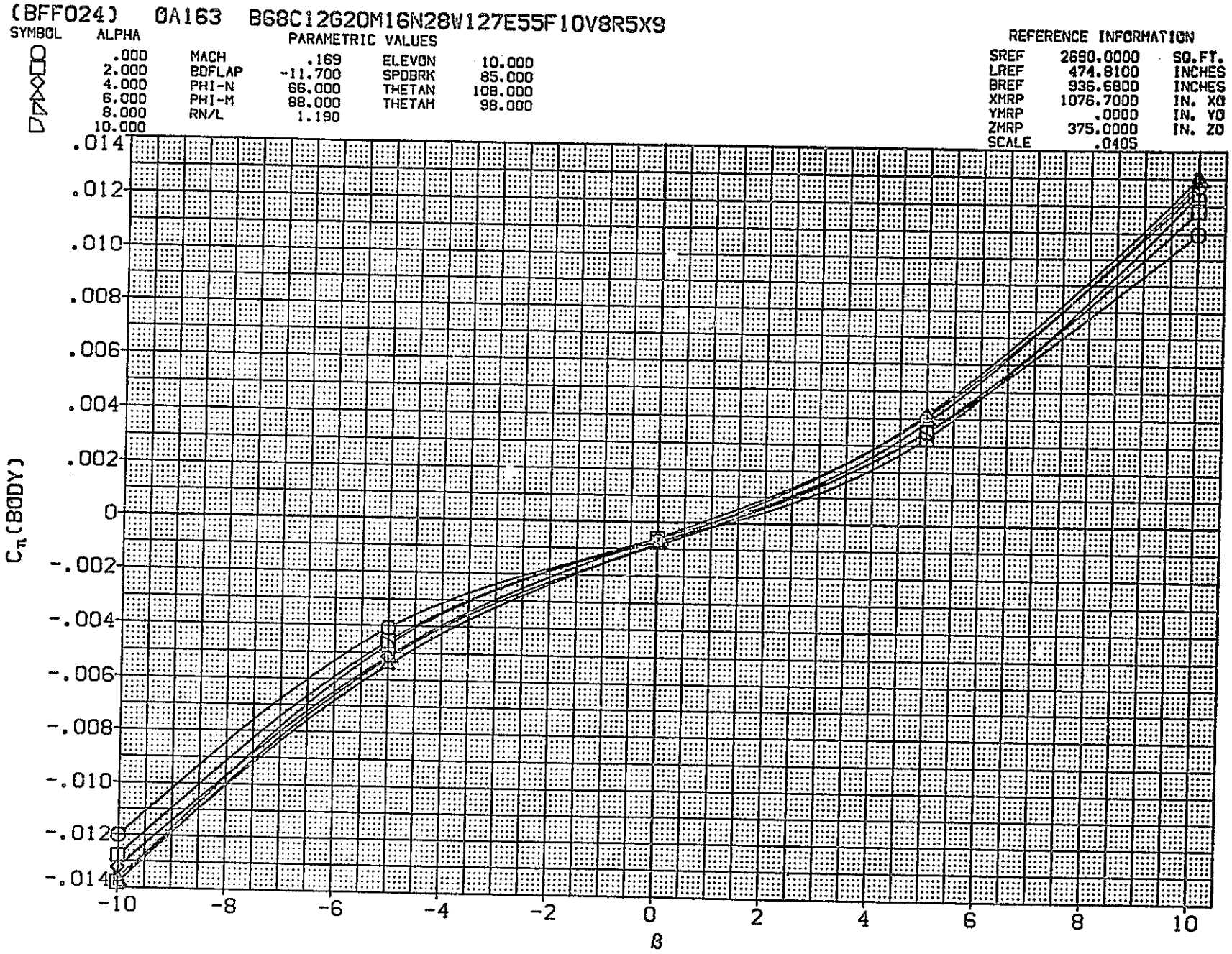

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

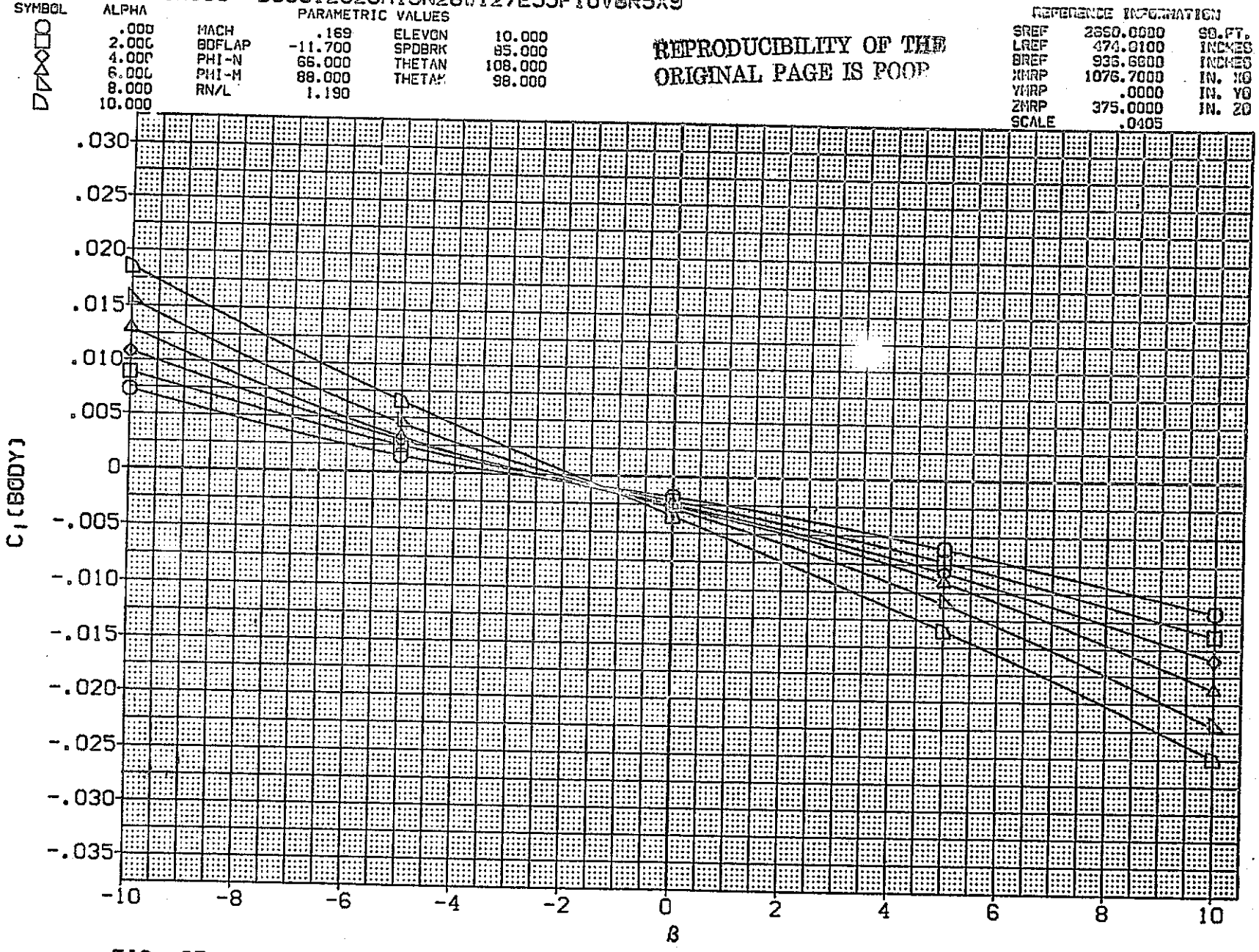

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

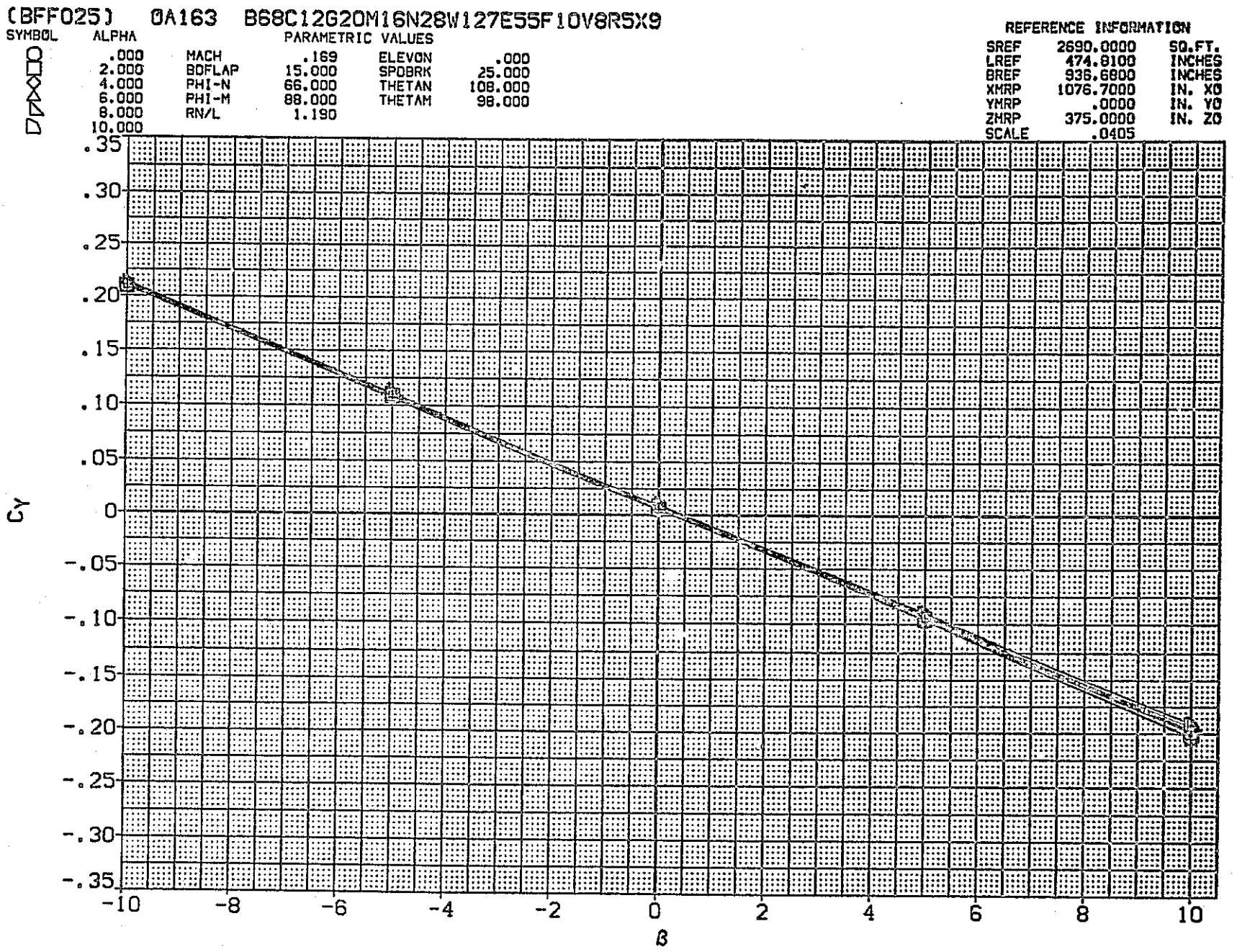

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

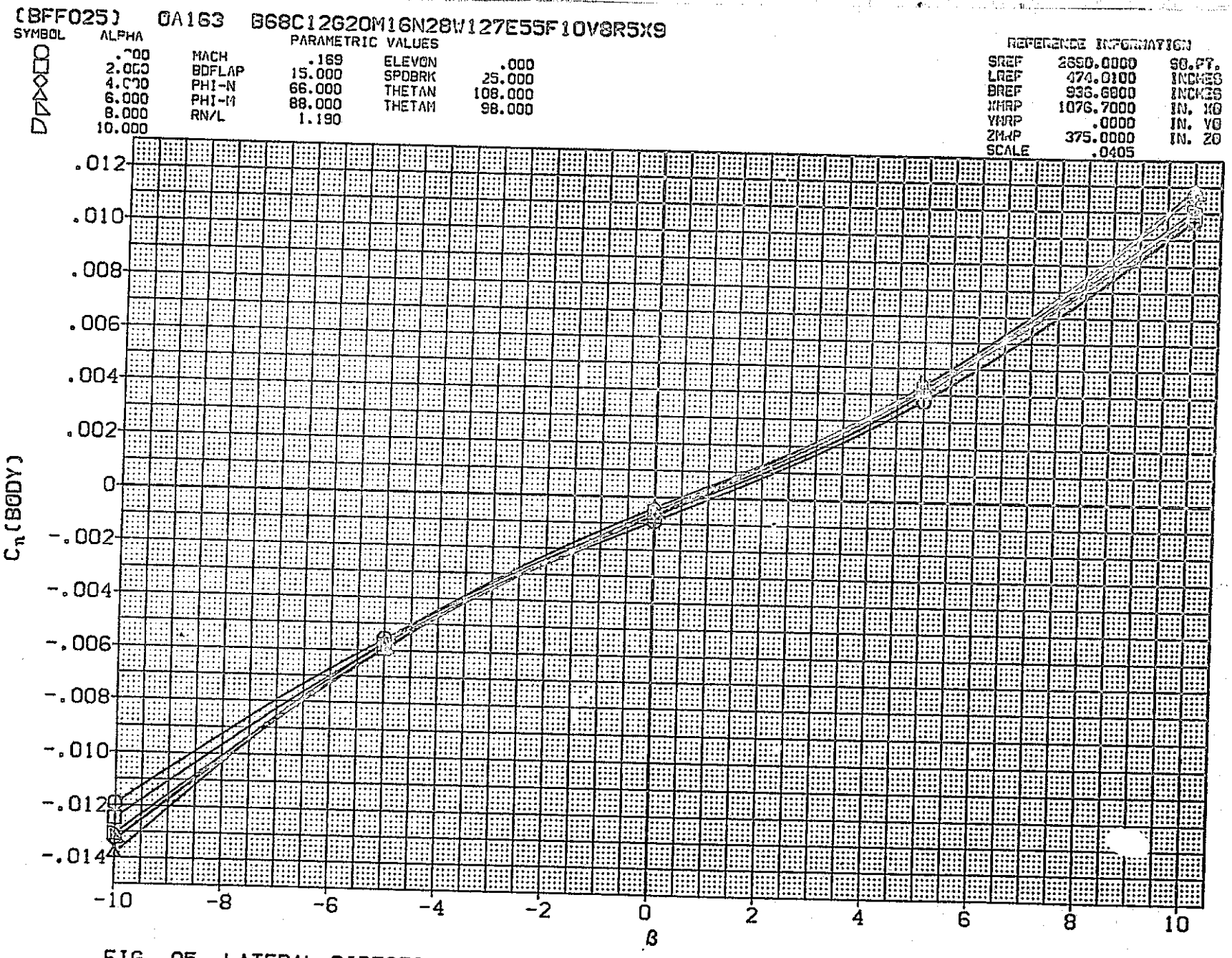

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

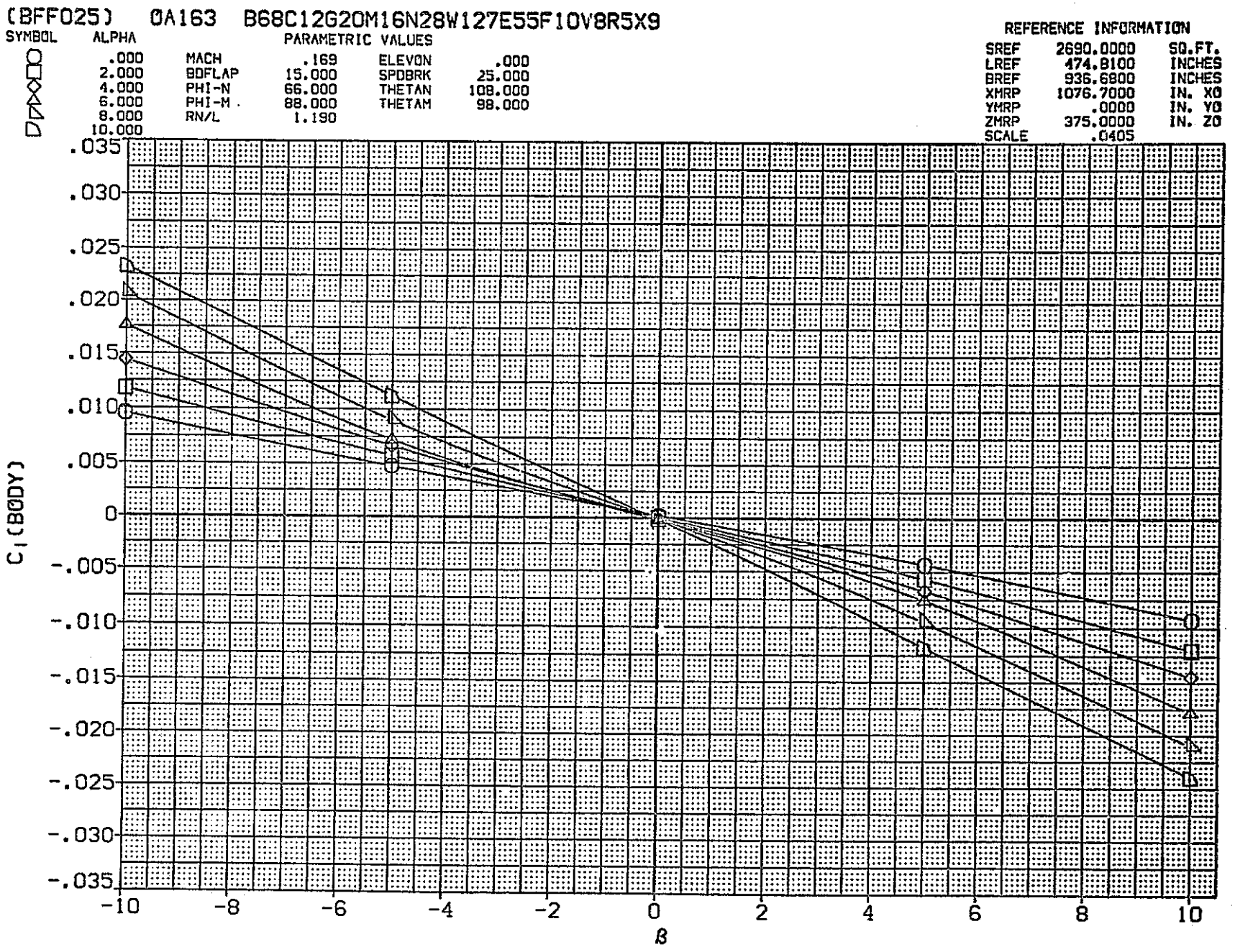

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF026) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
○	6.000
▽	8.000
⊠	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	10.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2880.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

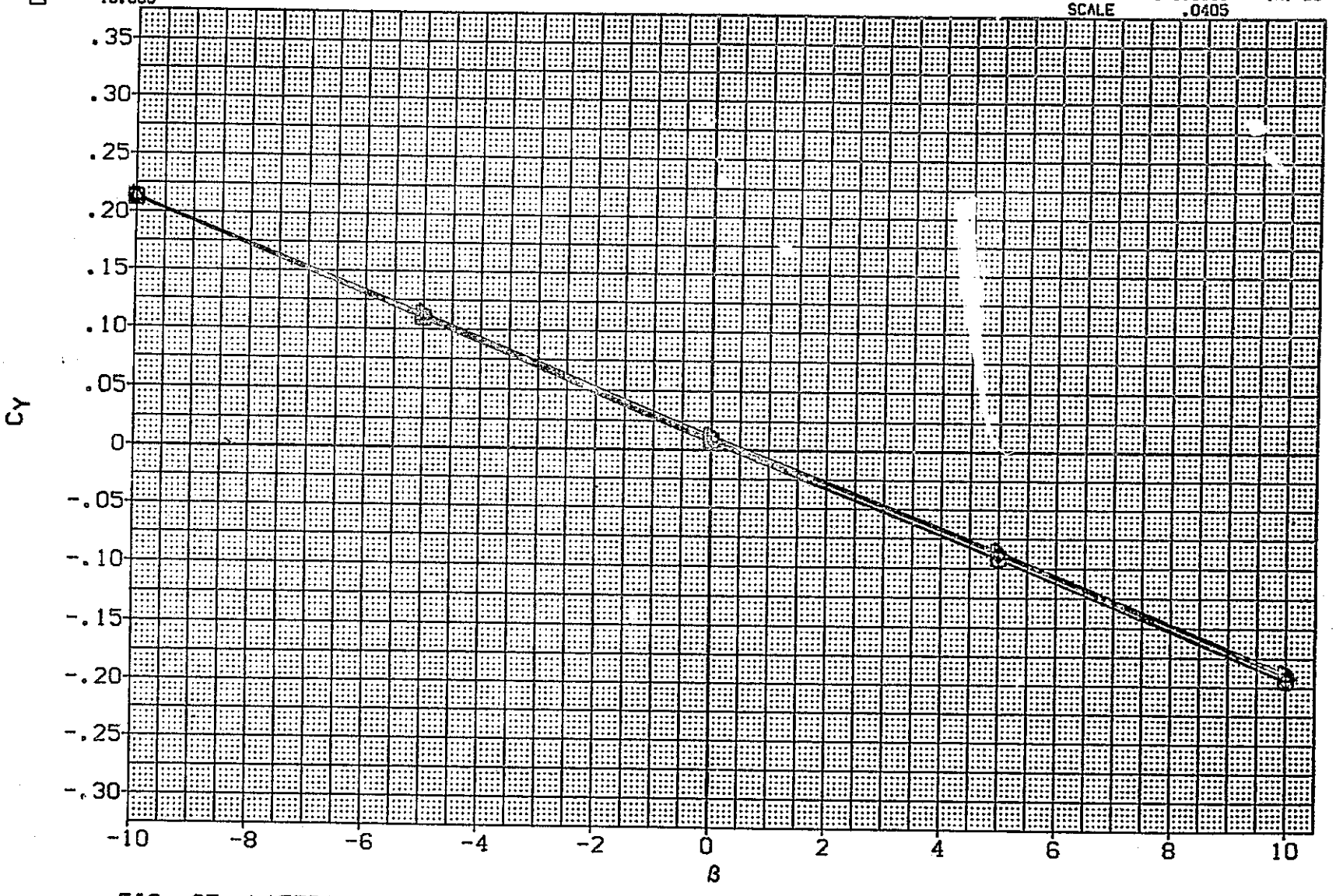

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

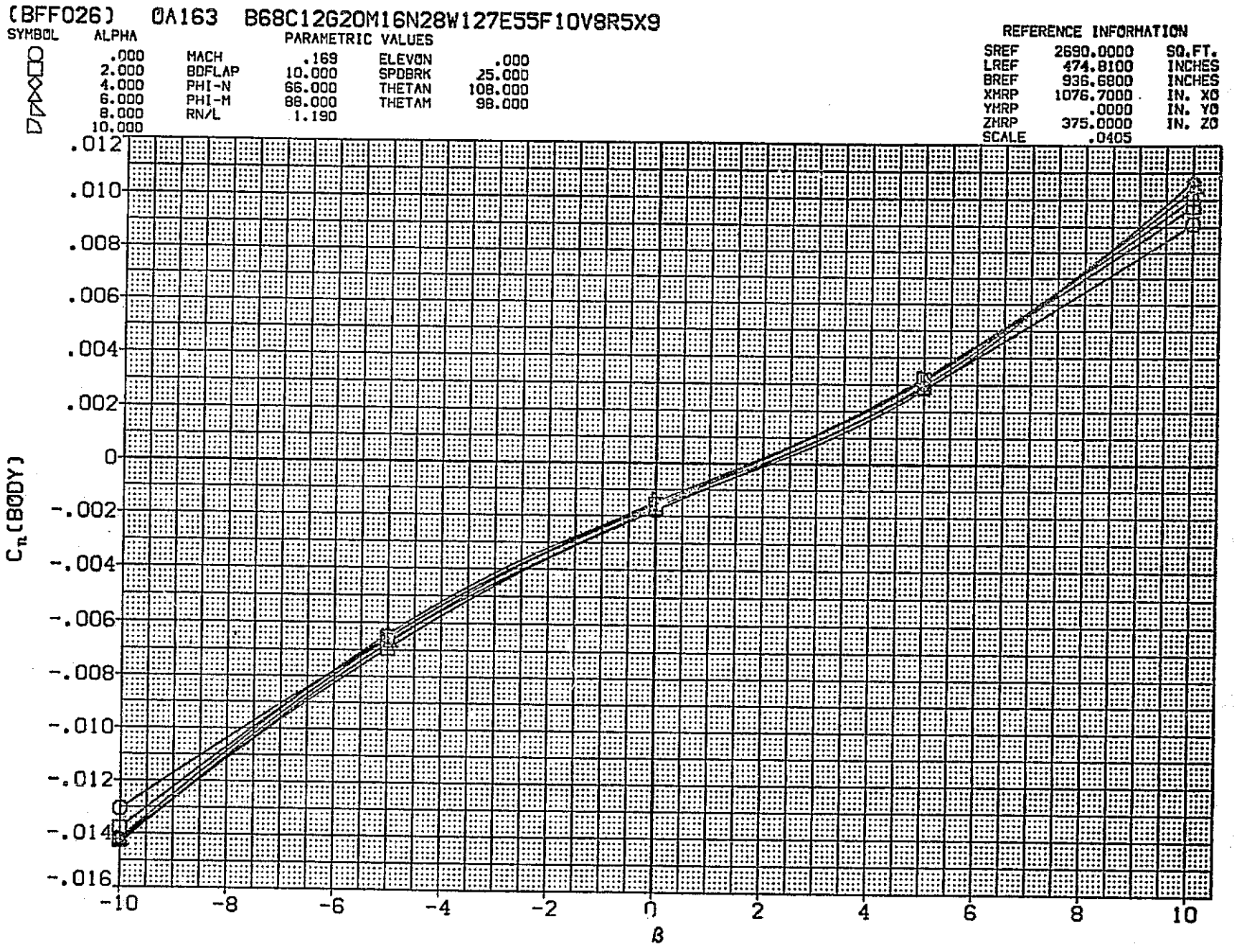

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

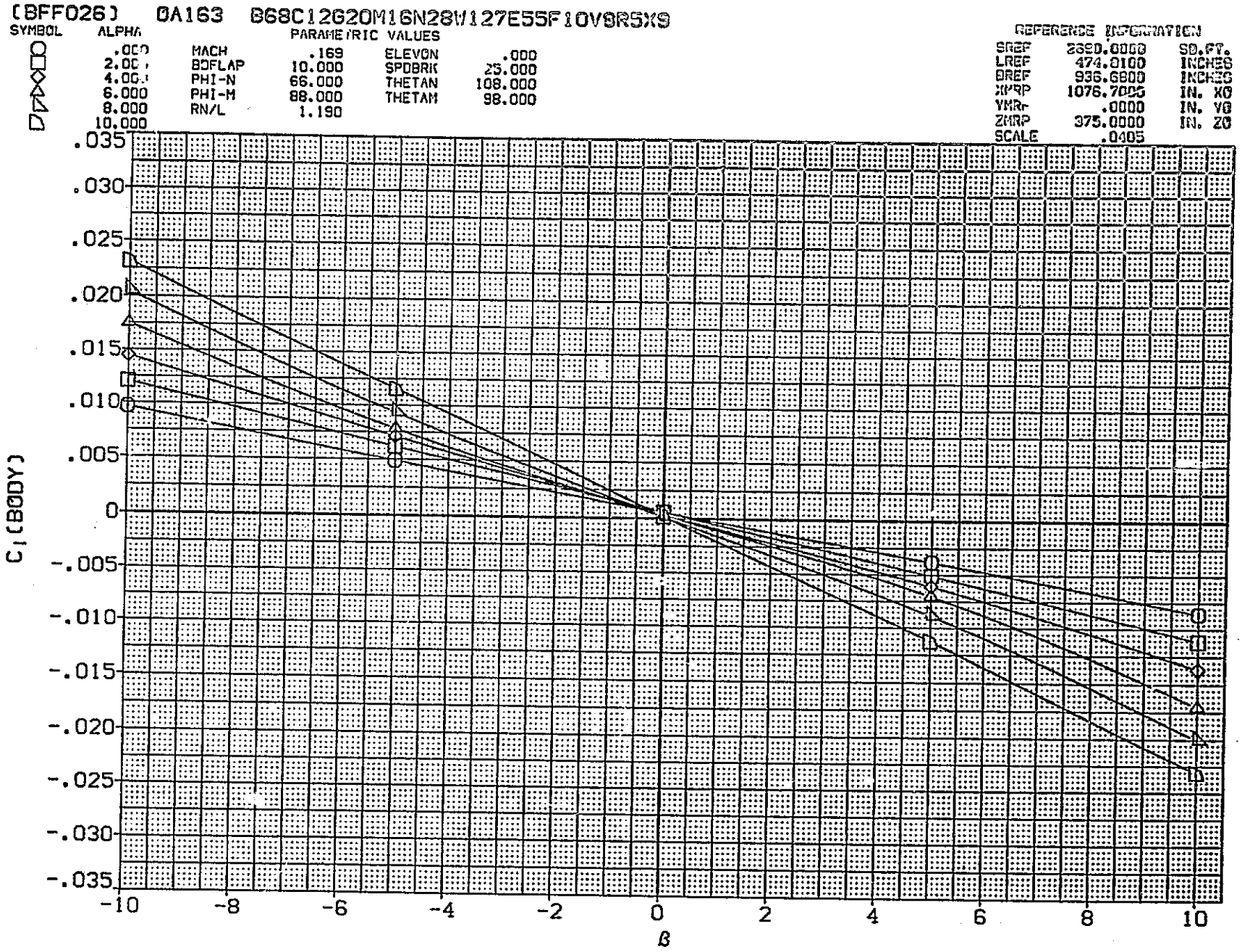

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

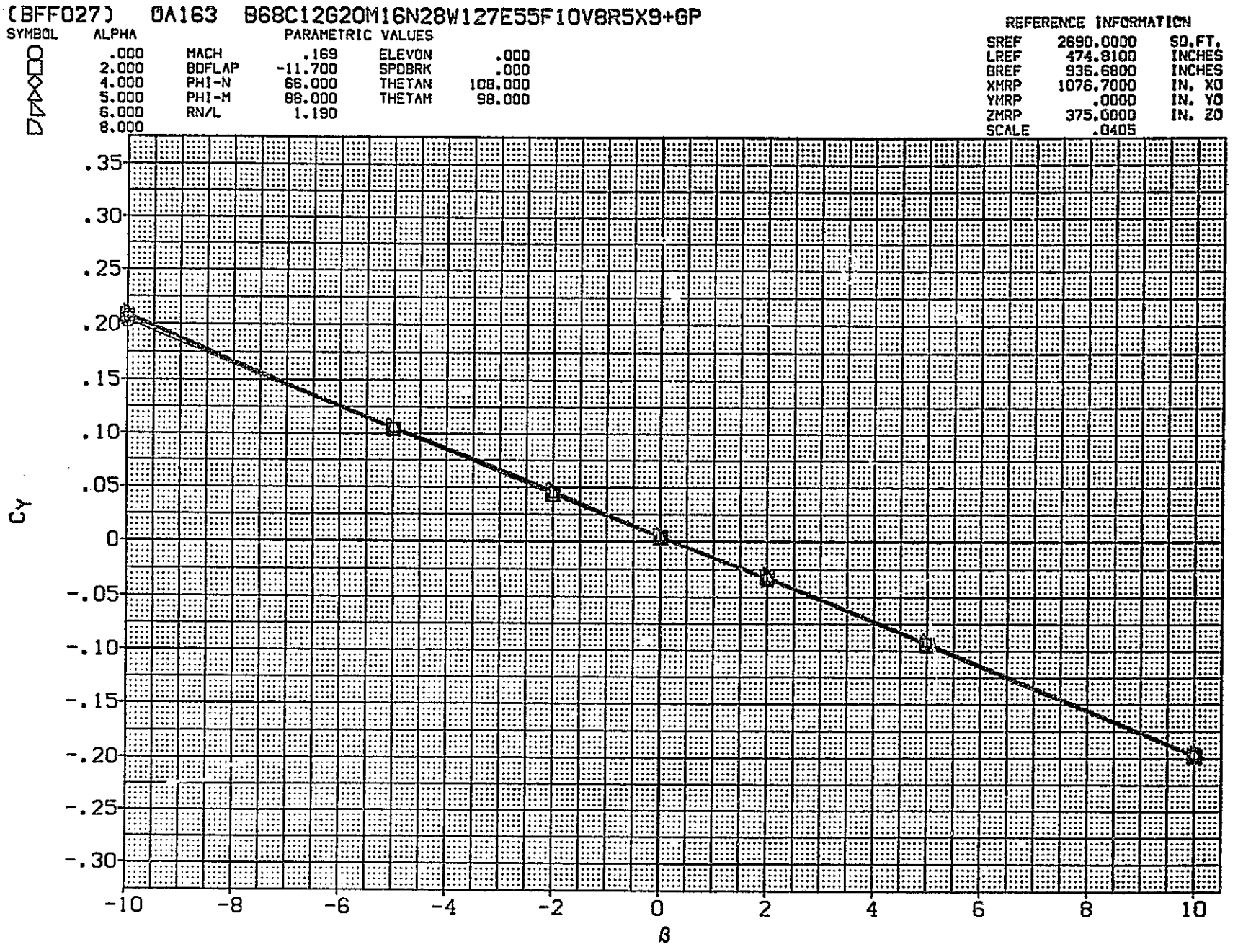

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF027) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
○	10.000
□	15.000
◇	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2650.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

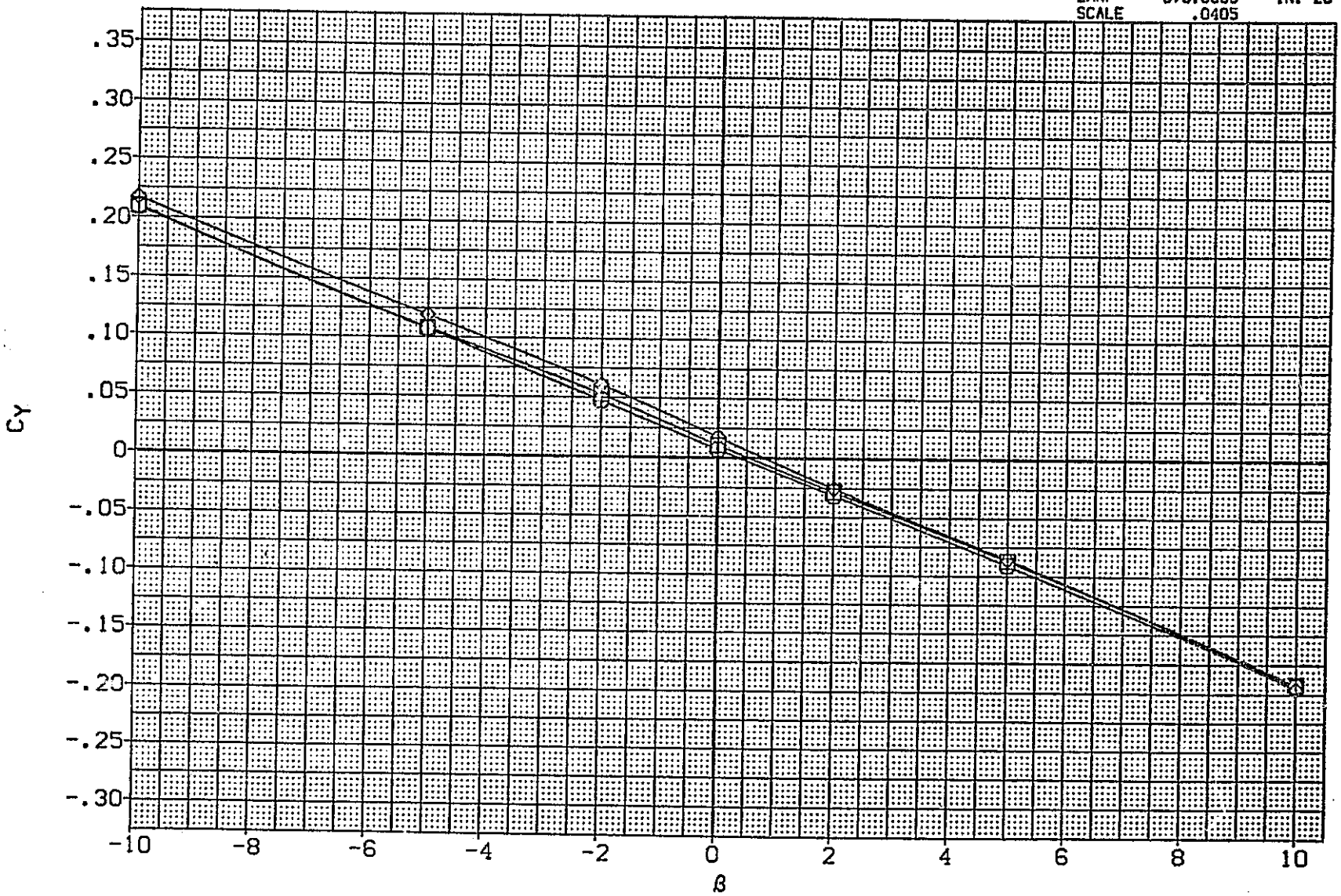

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

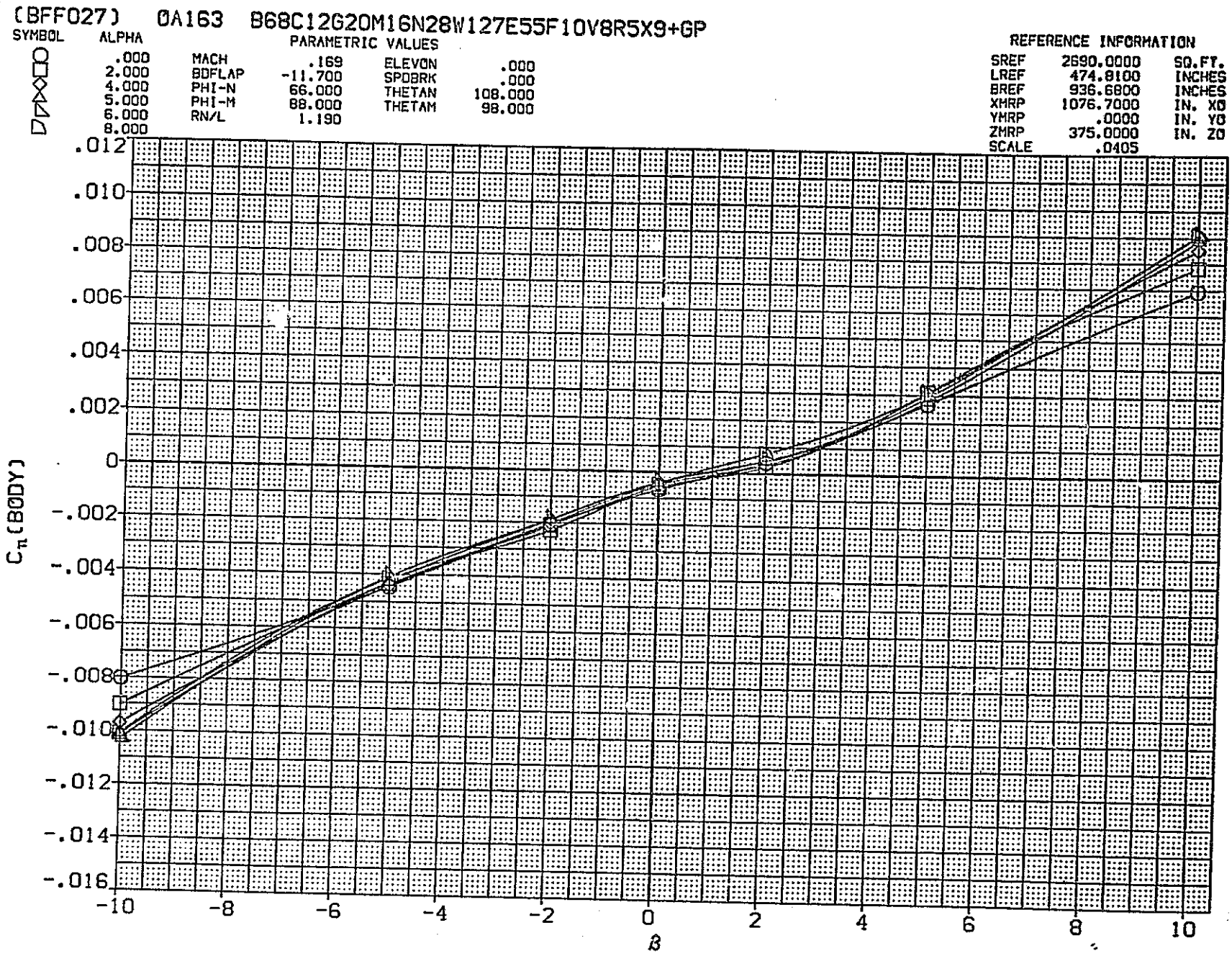

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

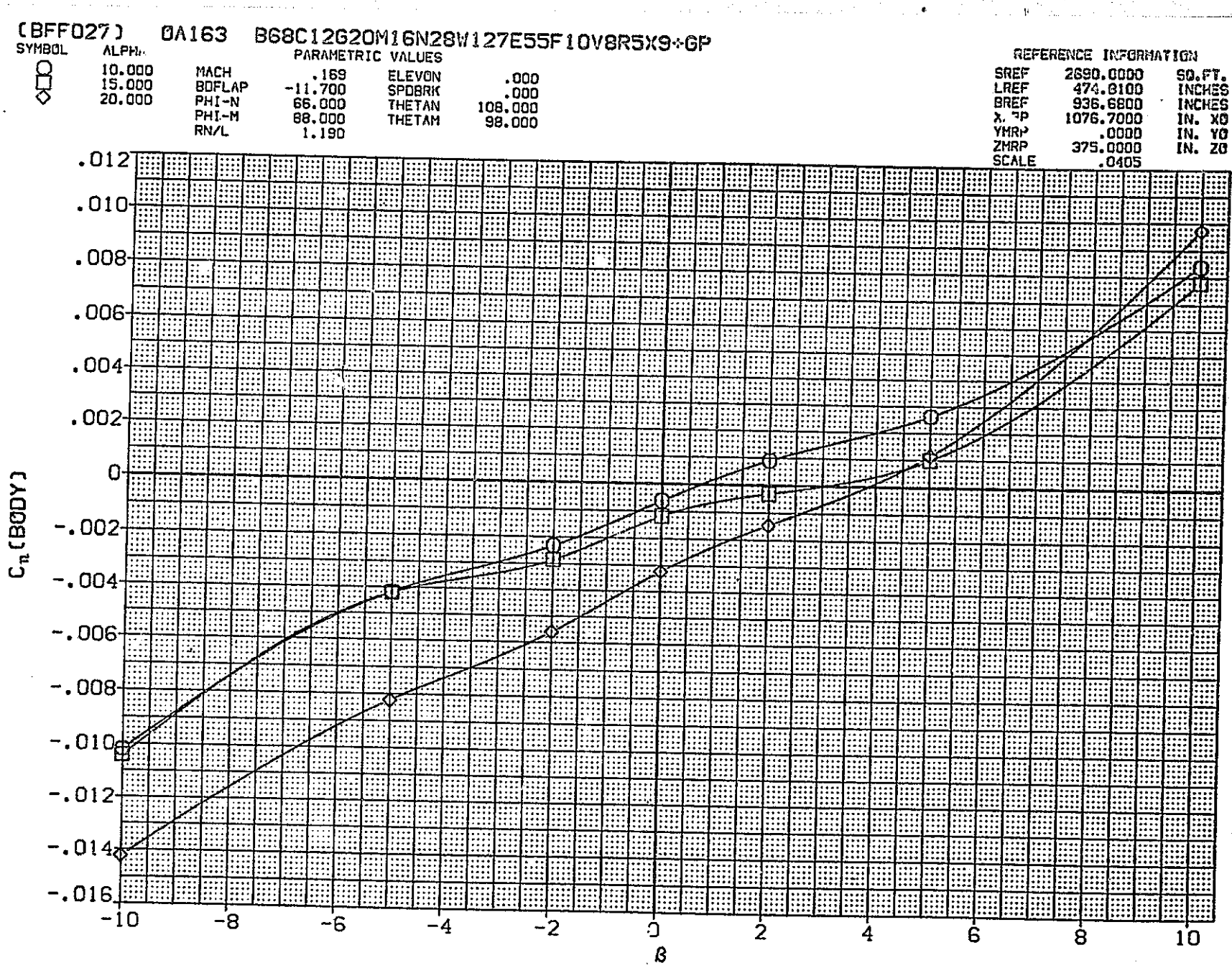

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

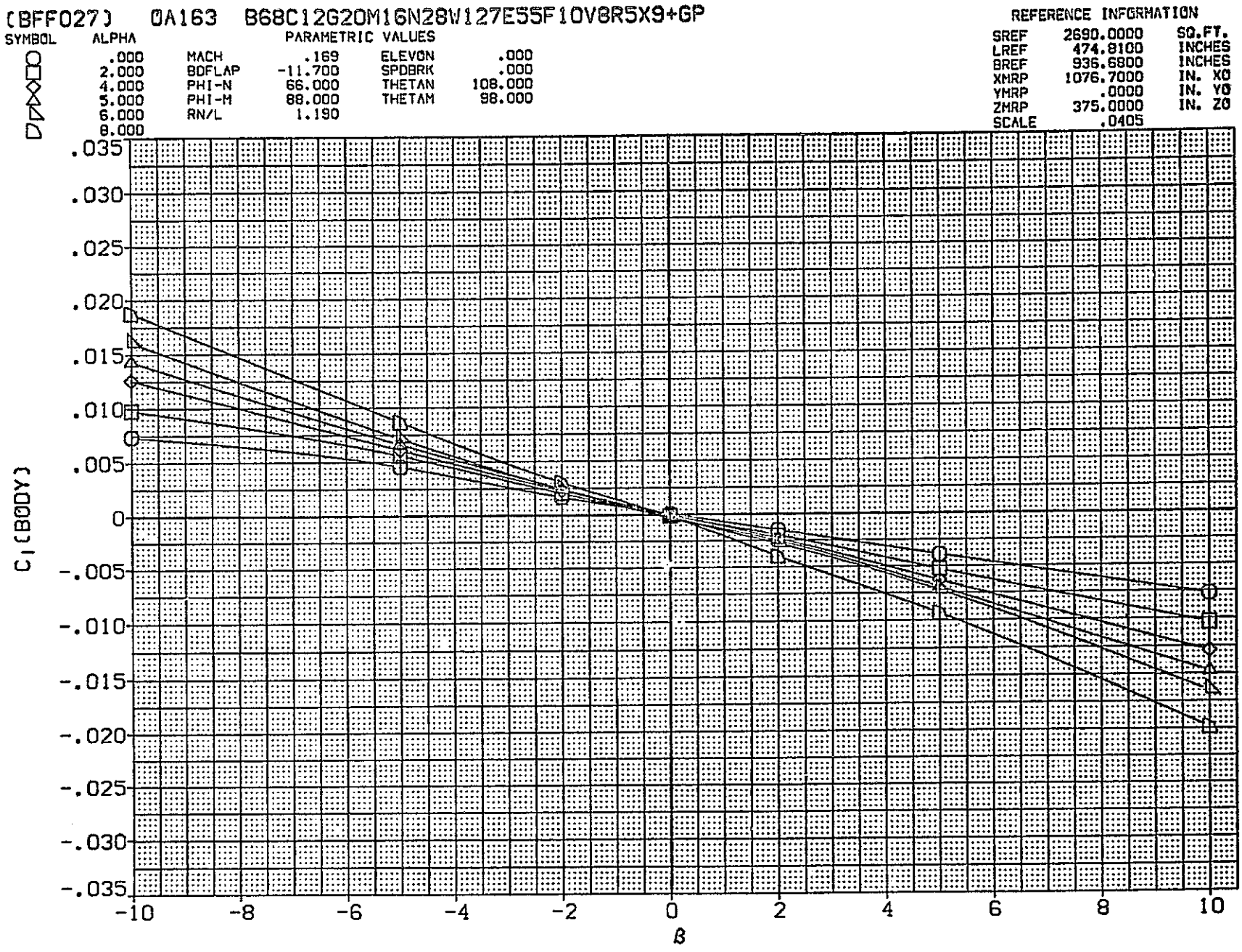

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF027) 0A163 B68C12G20M16N28W127E55F10V9R5X9+GP

SYMBOL	ALPH
○	10.0[illegible]
□	15.0[illegible]
◇	20.0[illegible]

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPOBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAH	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

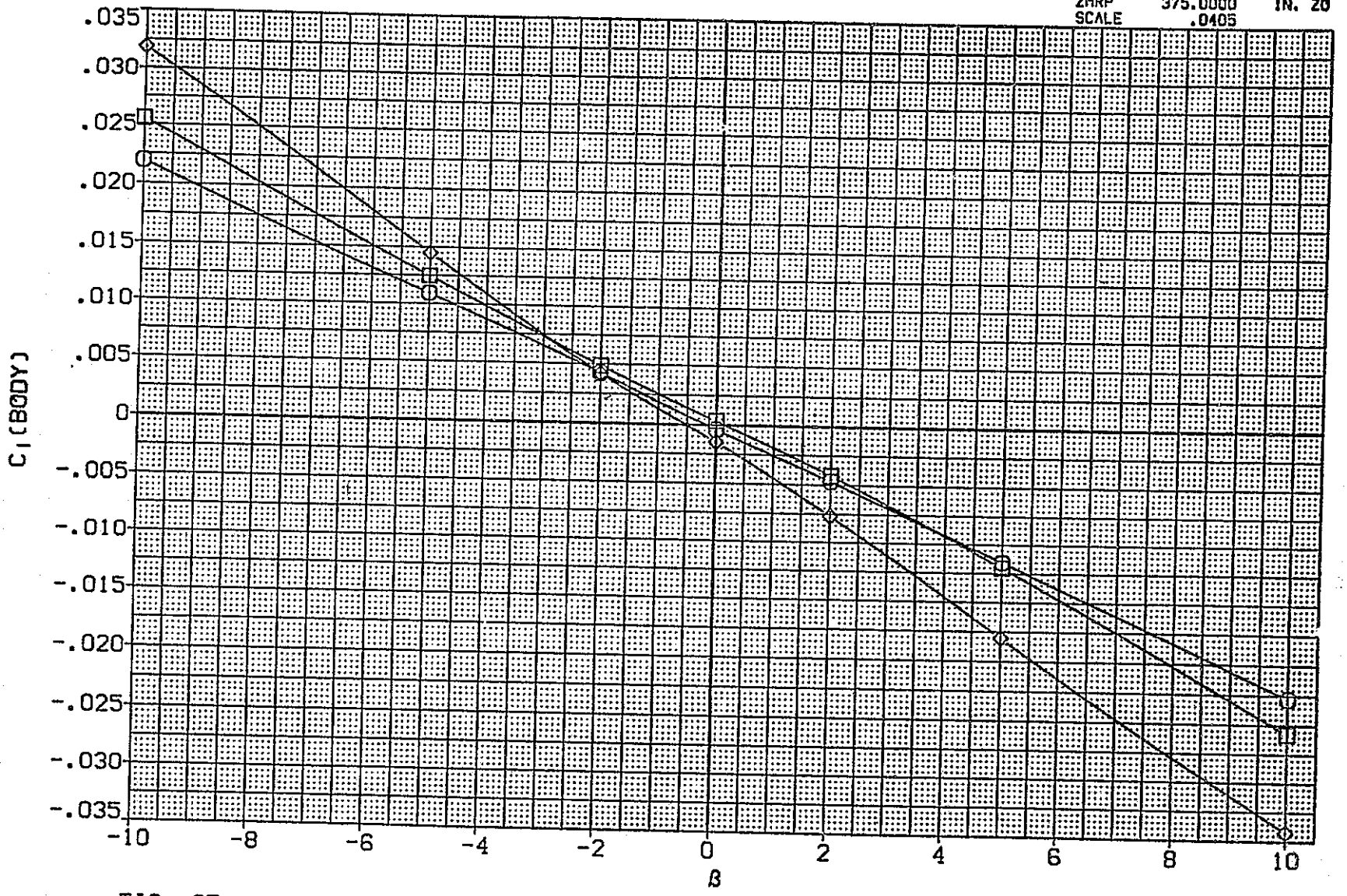

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

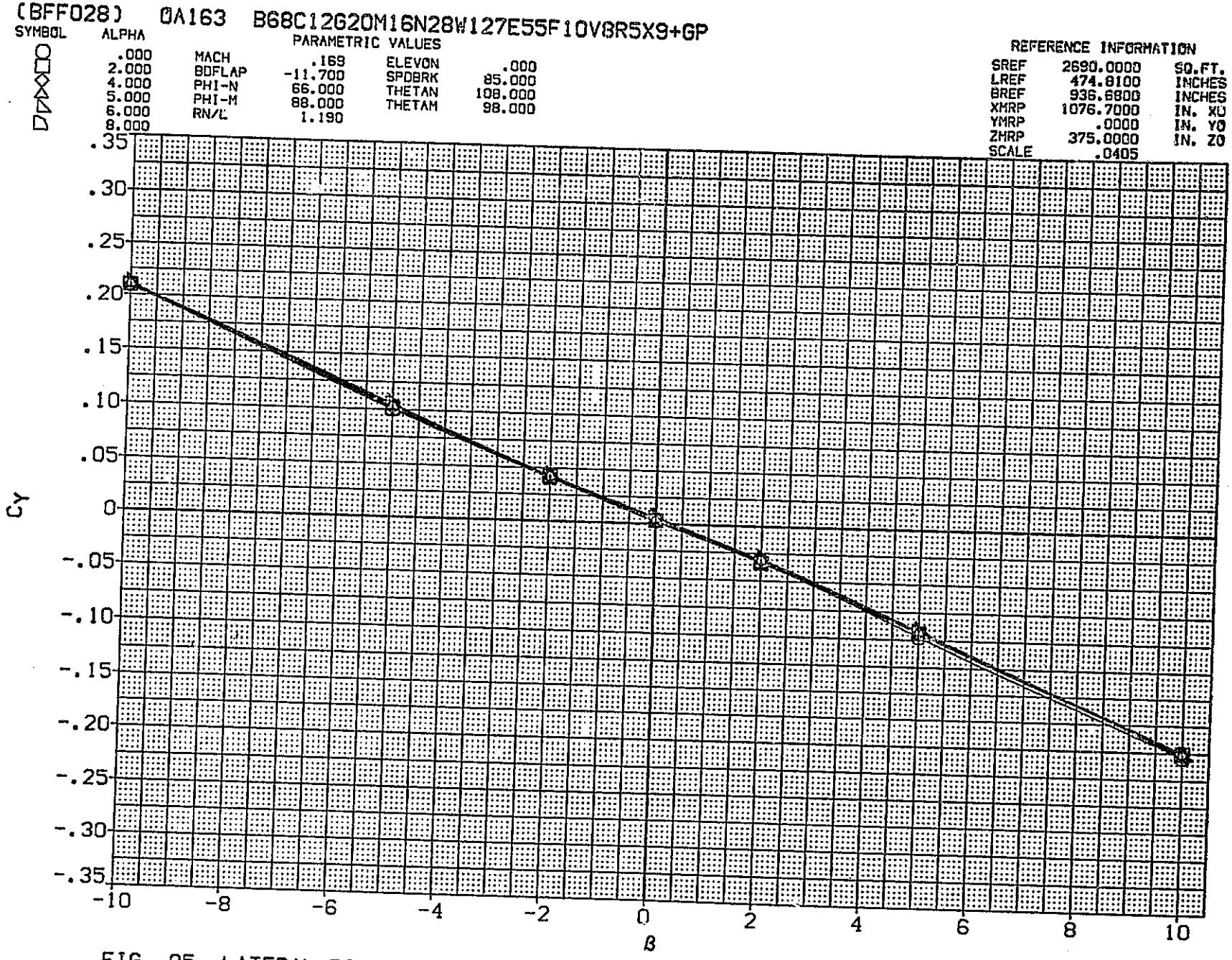

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
○	10.000
□	15.000
◇	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.9100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

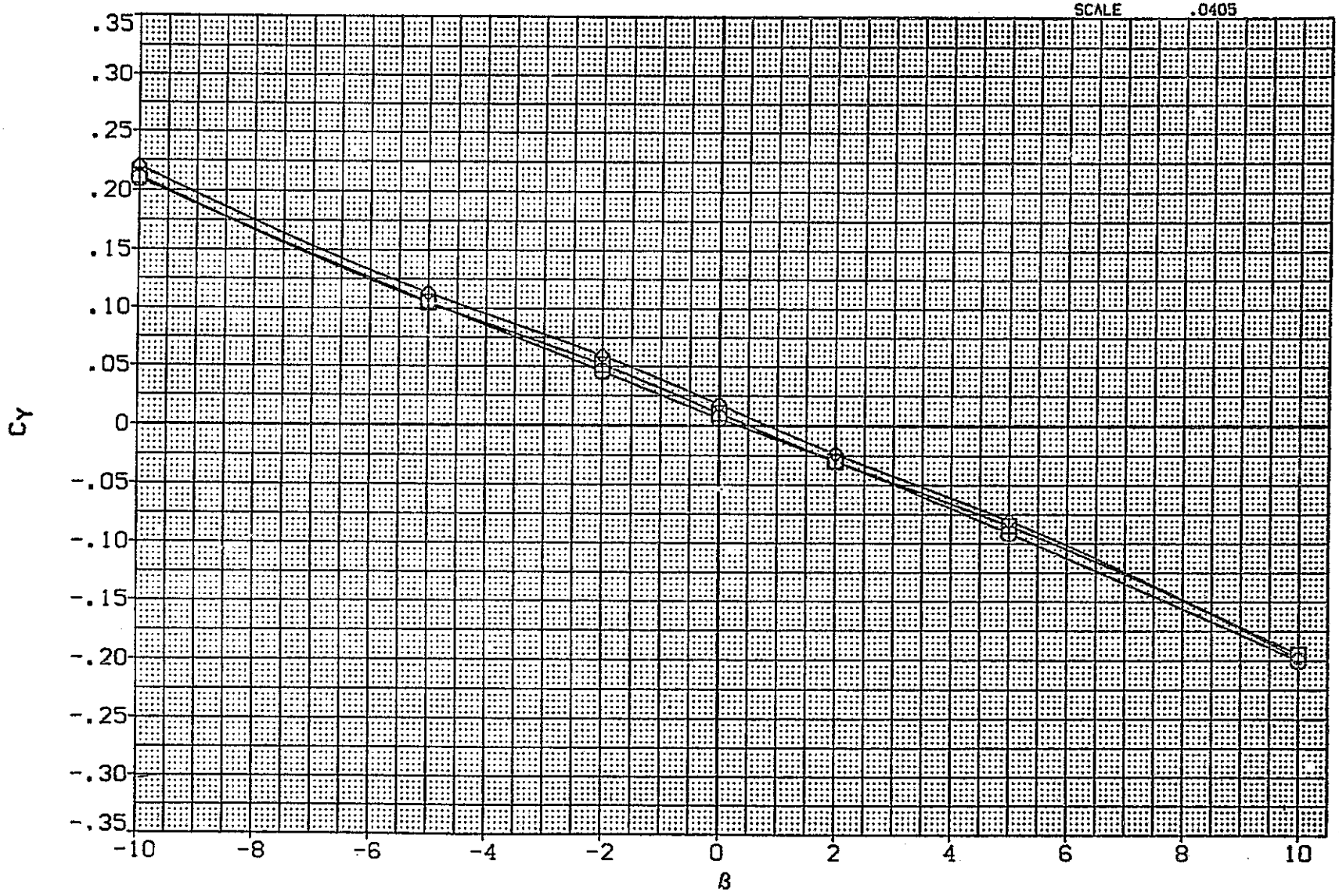

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

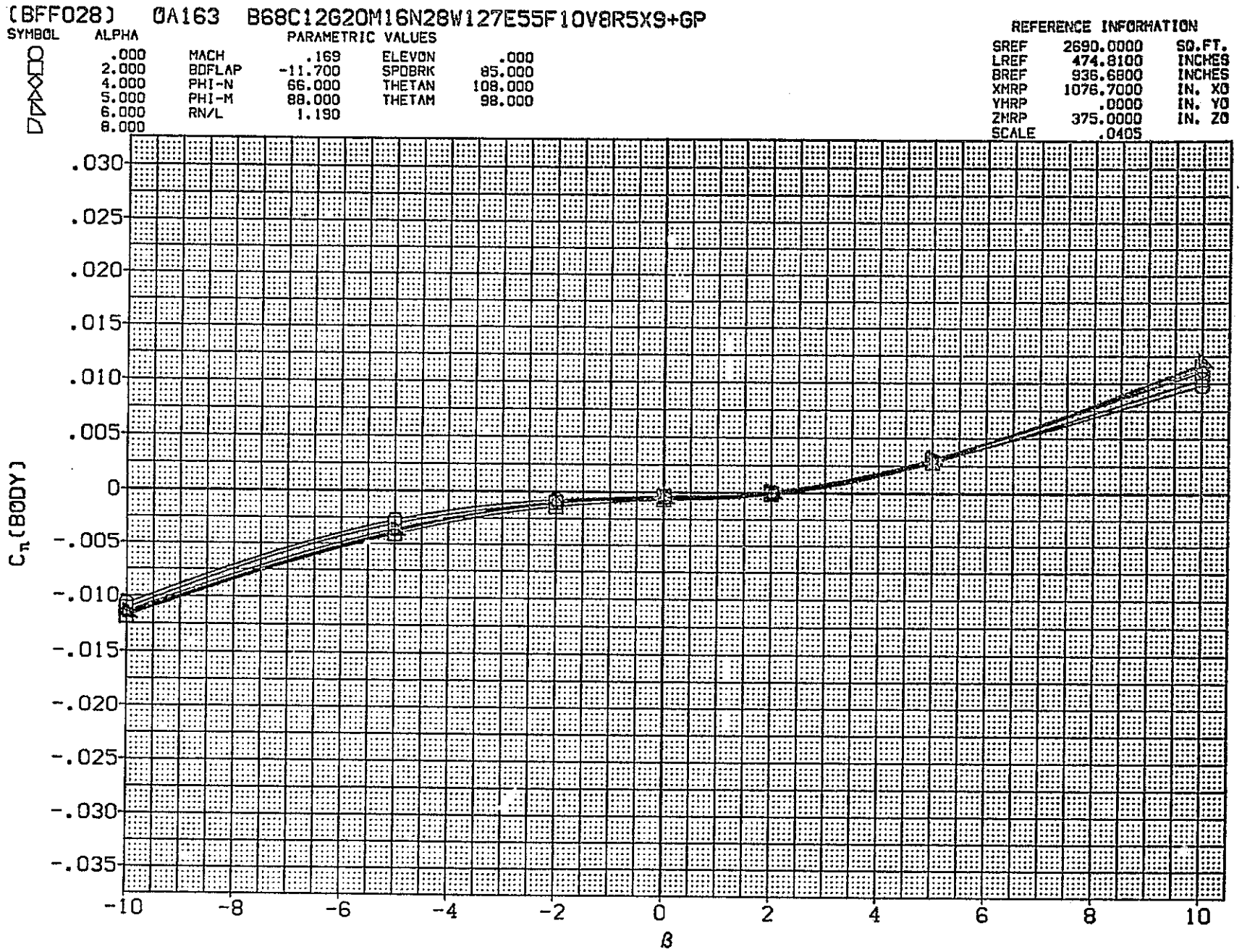

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF028) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
○	10.000
□	15.000
◇	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	85.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.6100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

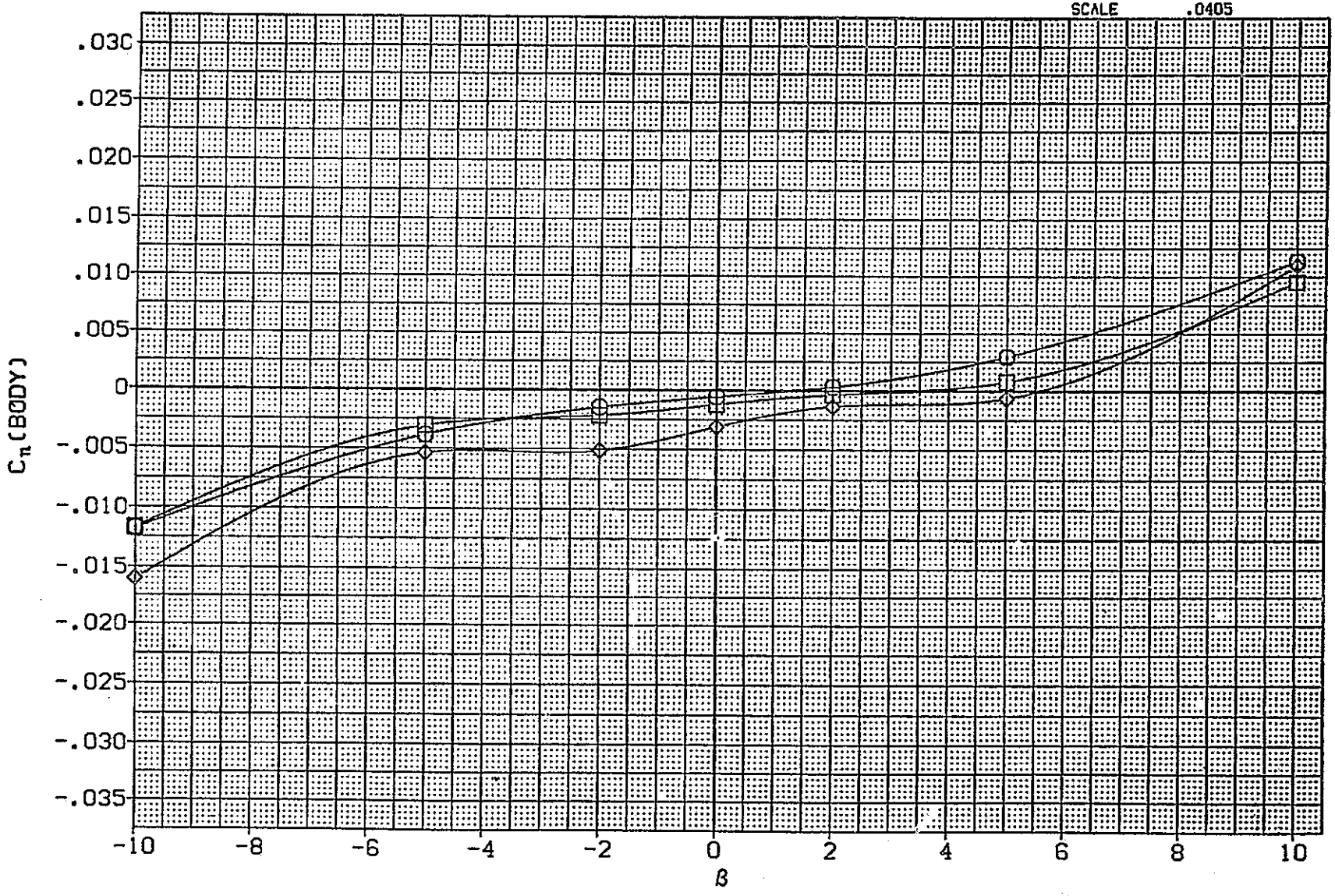

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

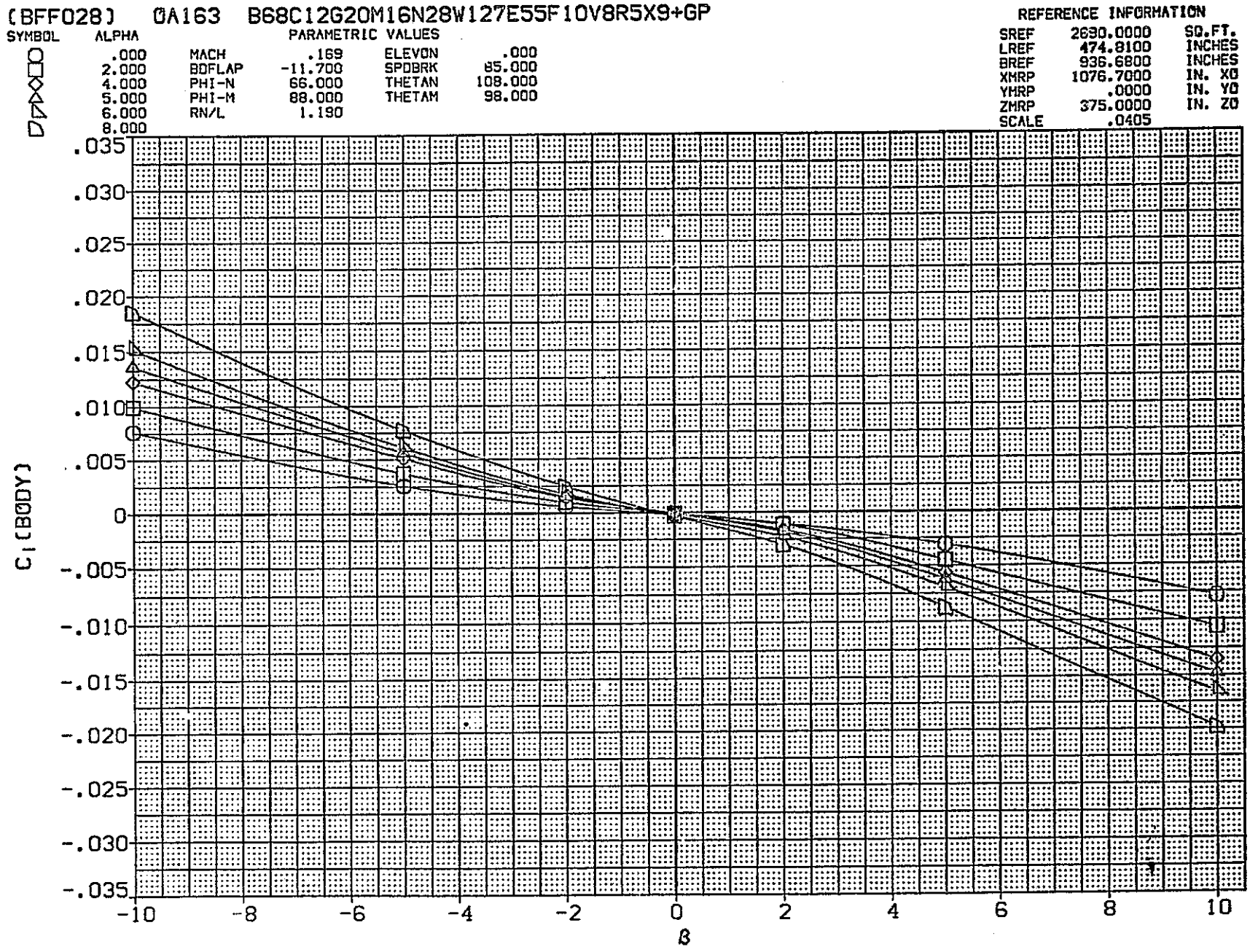

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

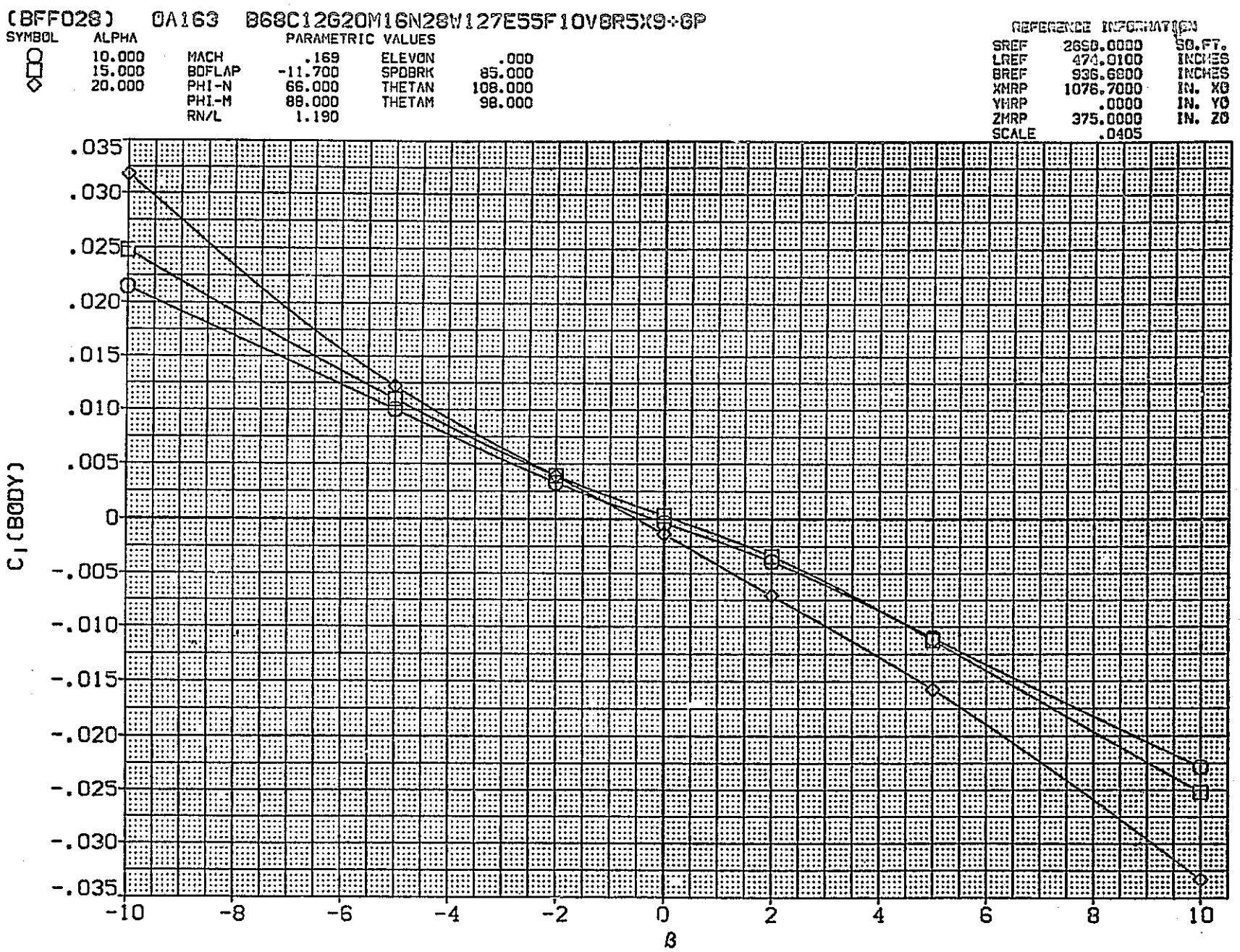

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

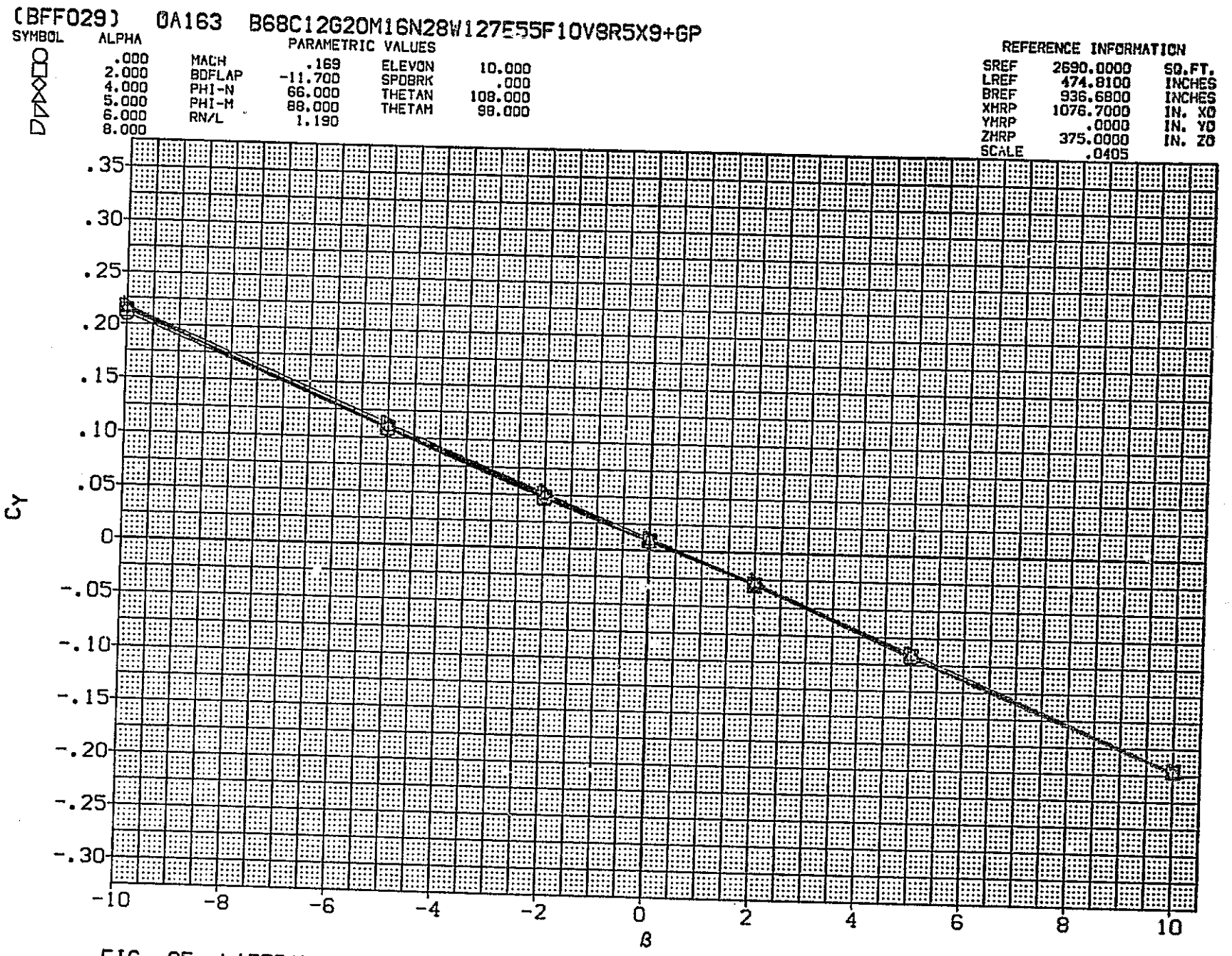

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9*GP

SYMBOL	ALPHA
◇	10.000
□	15.000
○	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2350.0000	SQ.FT.
LREF	474.0100	INCHES
BREF	936.6600	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

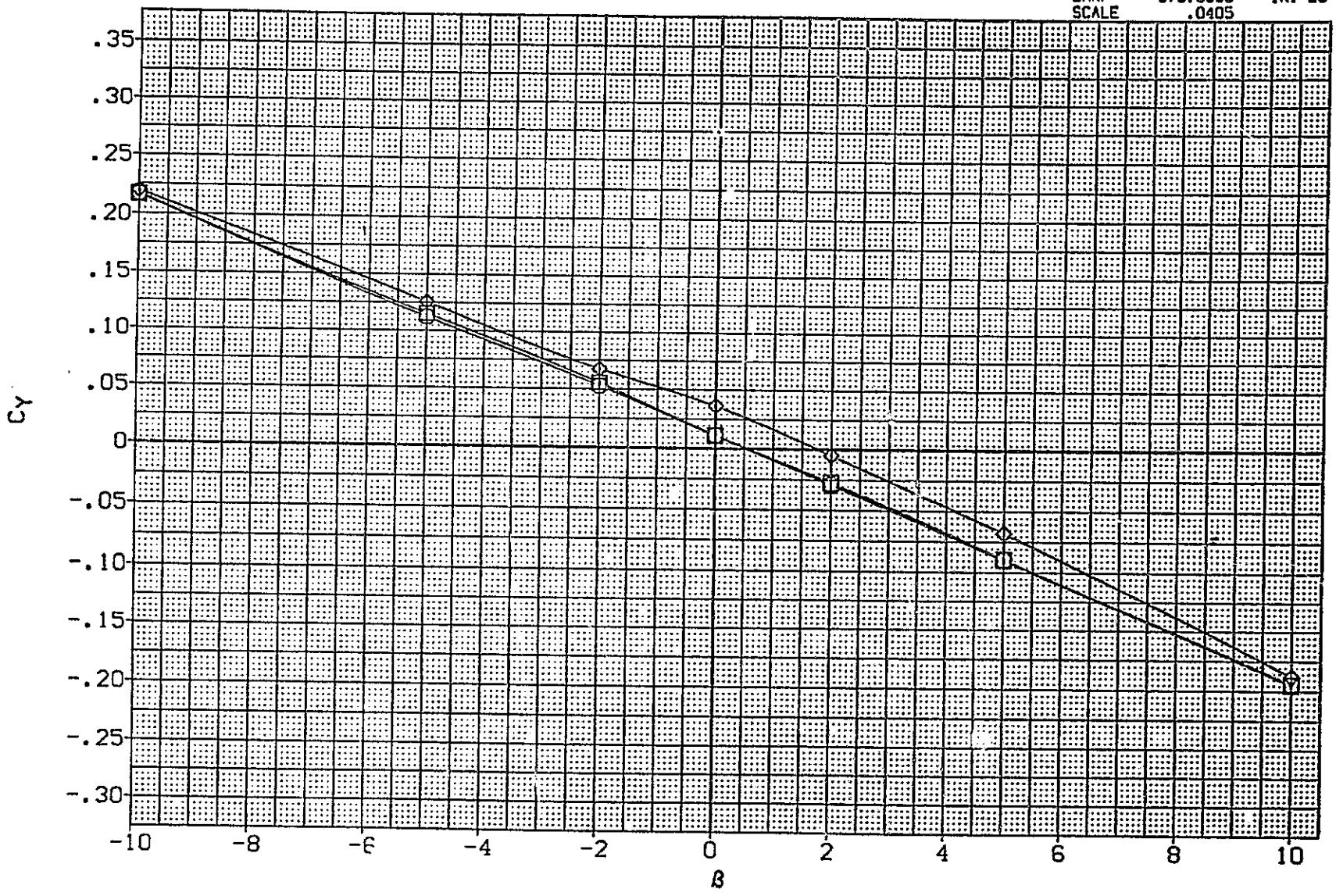

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

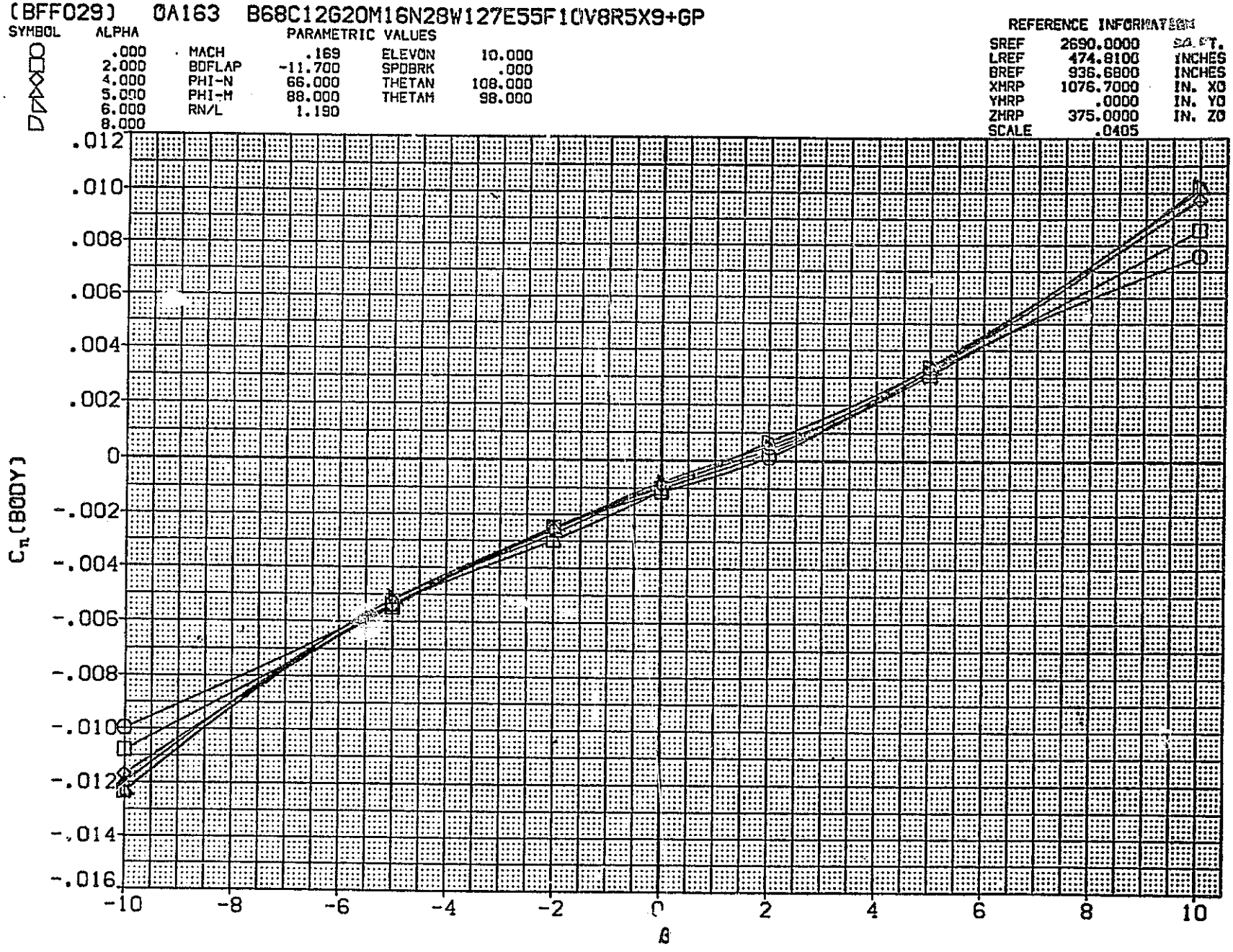

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+6P

SYMBOL	ALPHA
○	10.000
□	15.000
◇	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6000	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

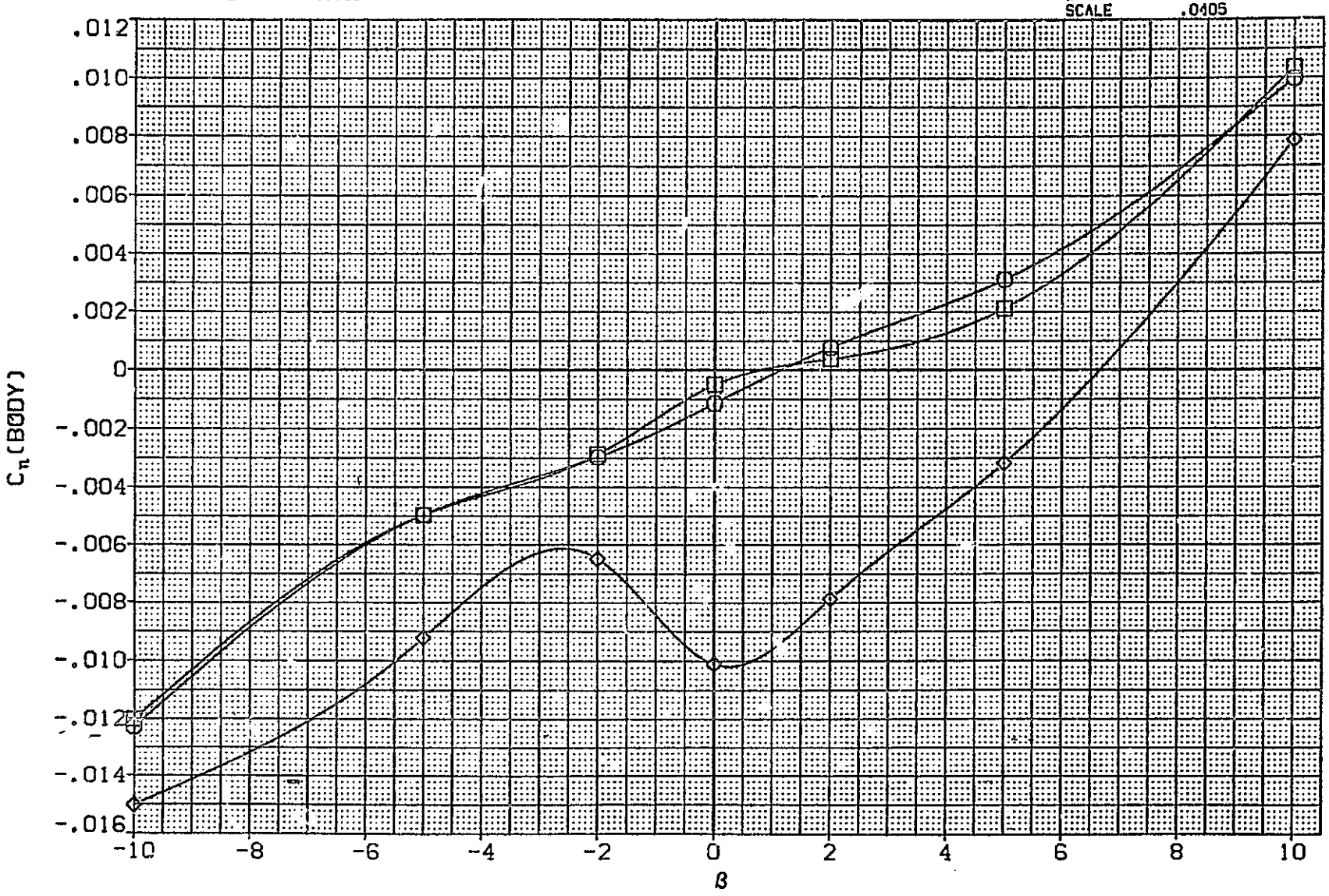

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

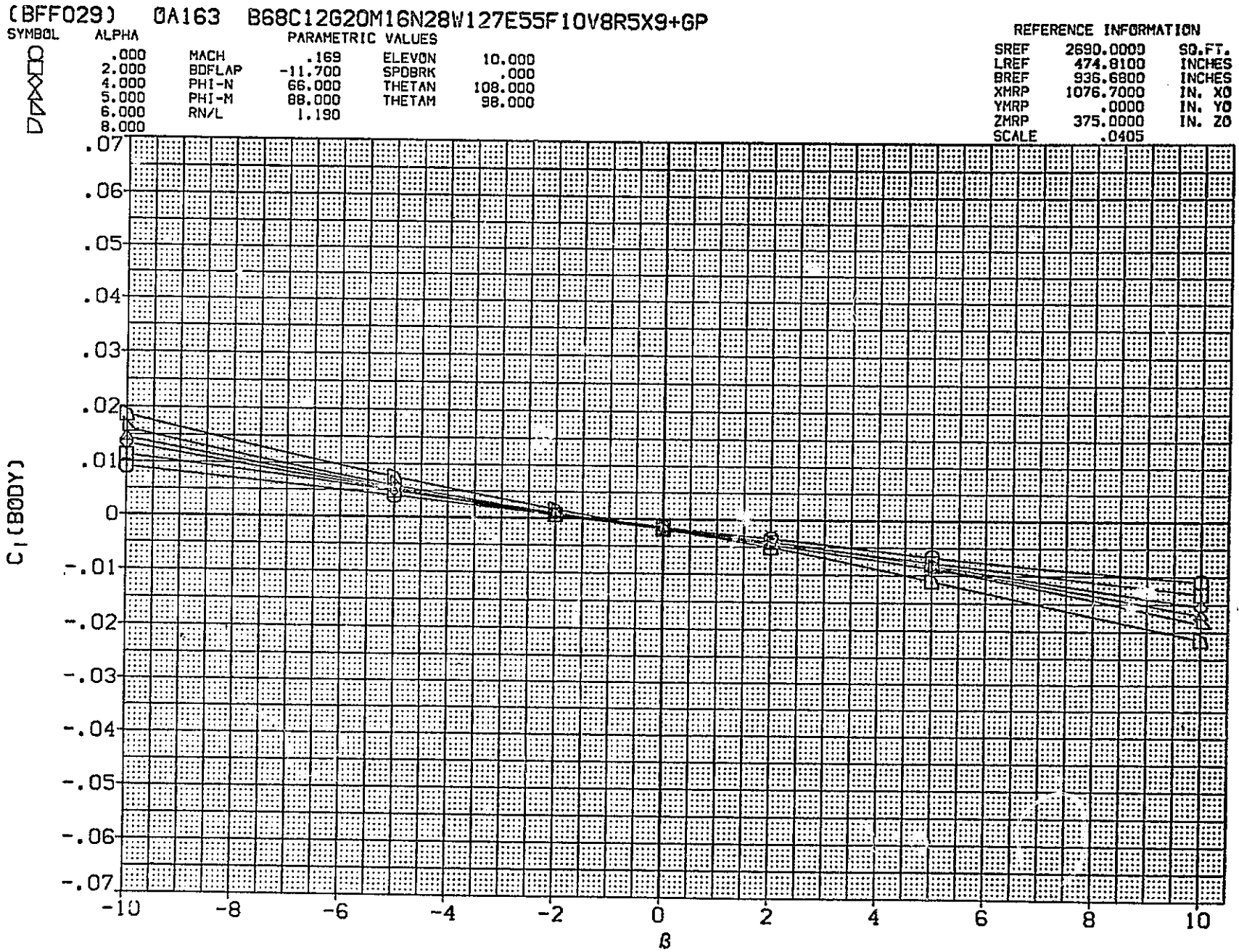

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF029) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
◇	10.000
□	15.000
○	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

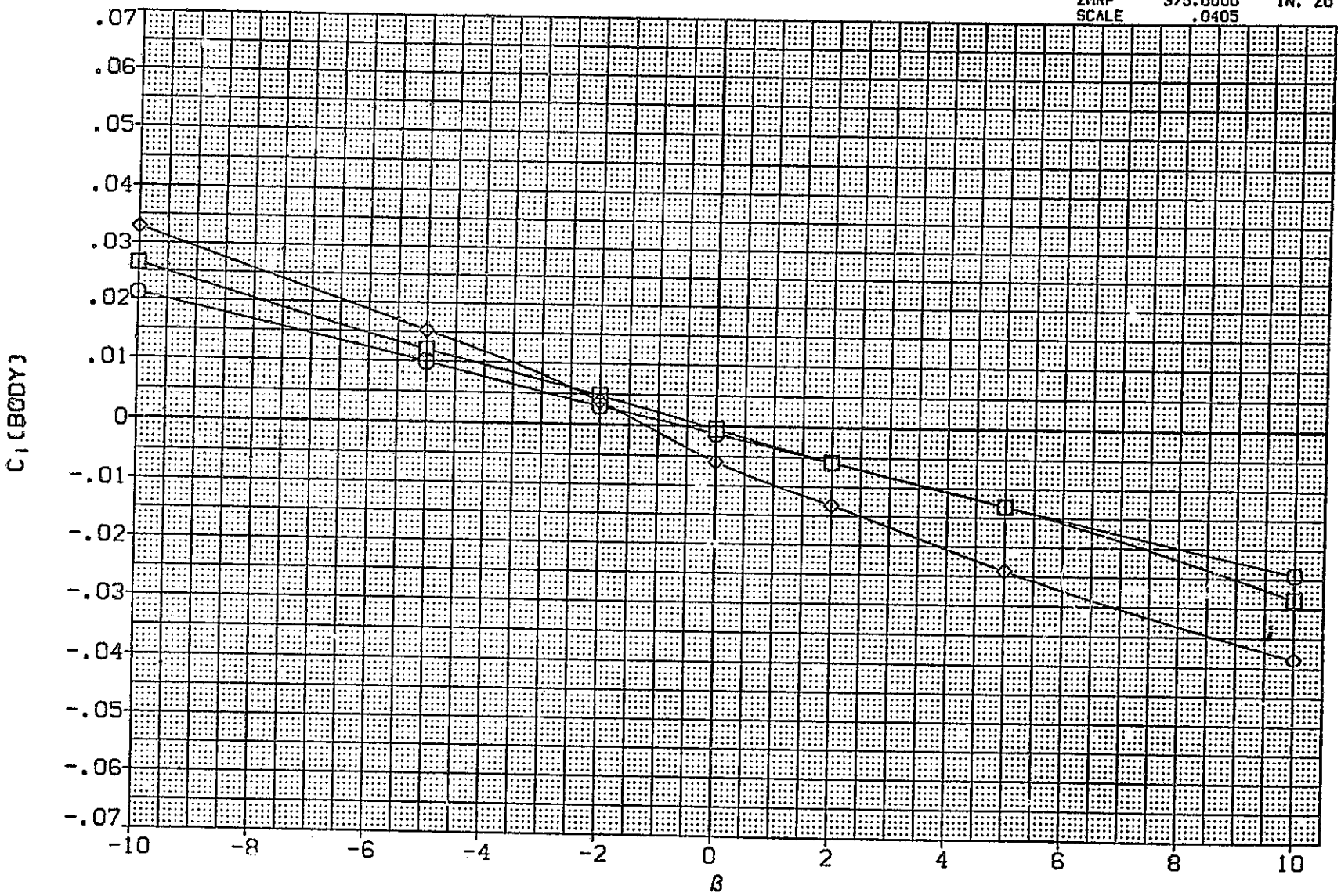

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF030) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
□	.000
◇	2.000
△	4.000
▽	5.000
⊲	6.000
⊳	8.000

PARAMETRIC VALUES

MACH	.169	ELEVON	-10.000
BOFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

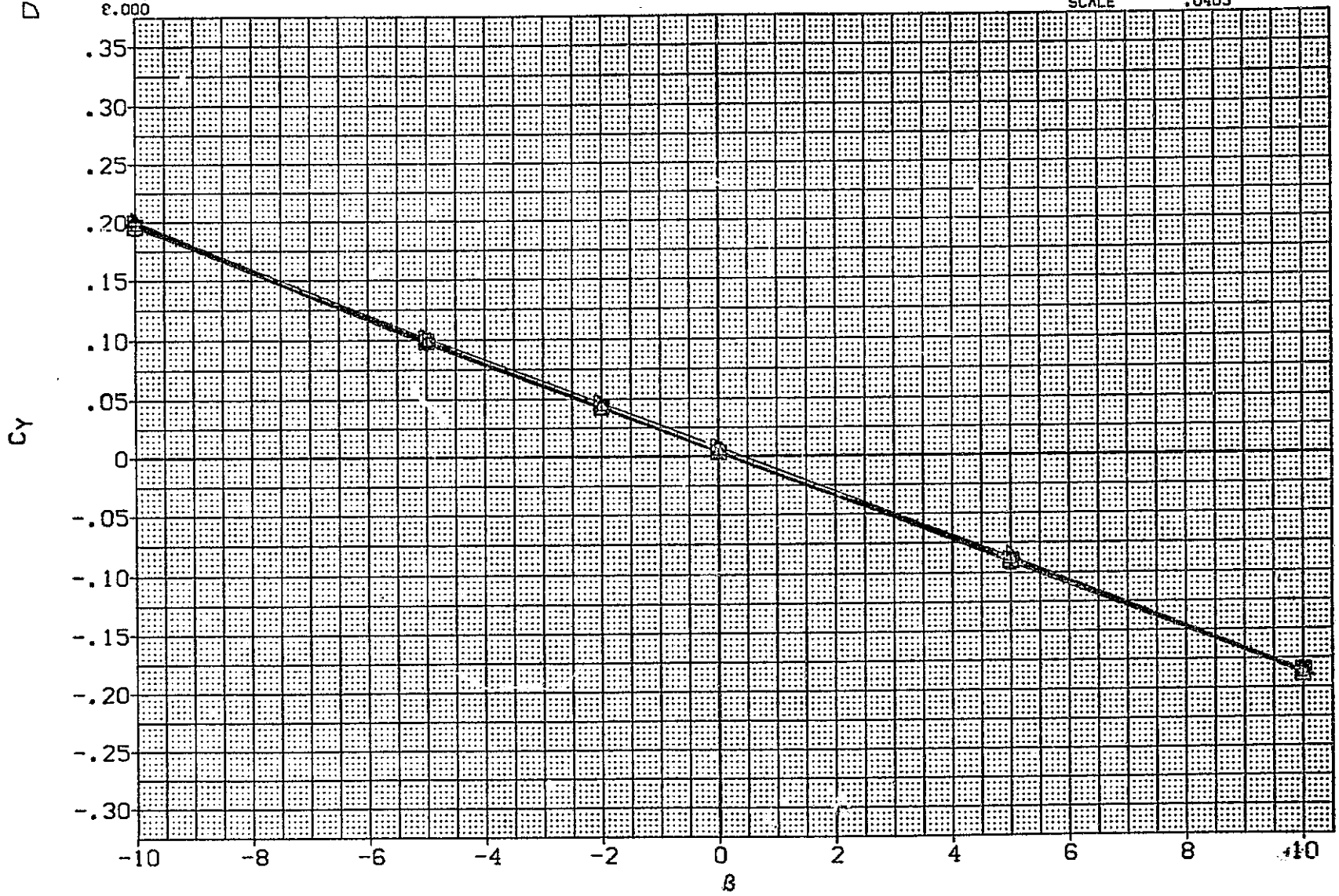

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF030) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
○	10.000
□	15.000
◇	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	-10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

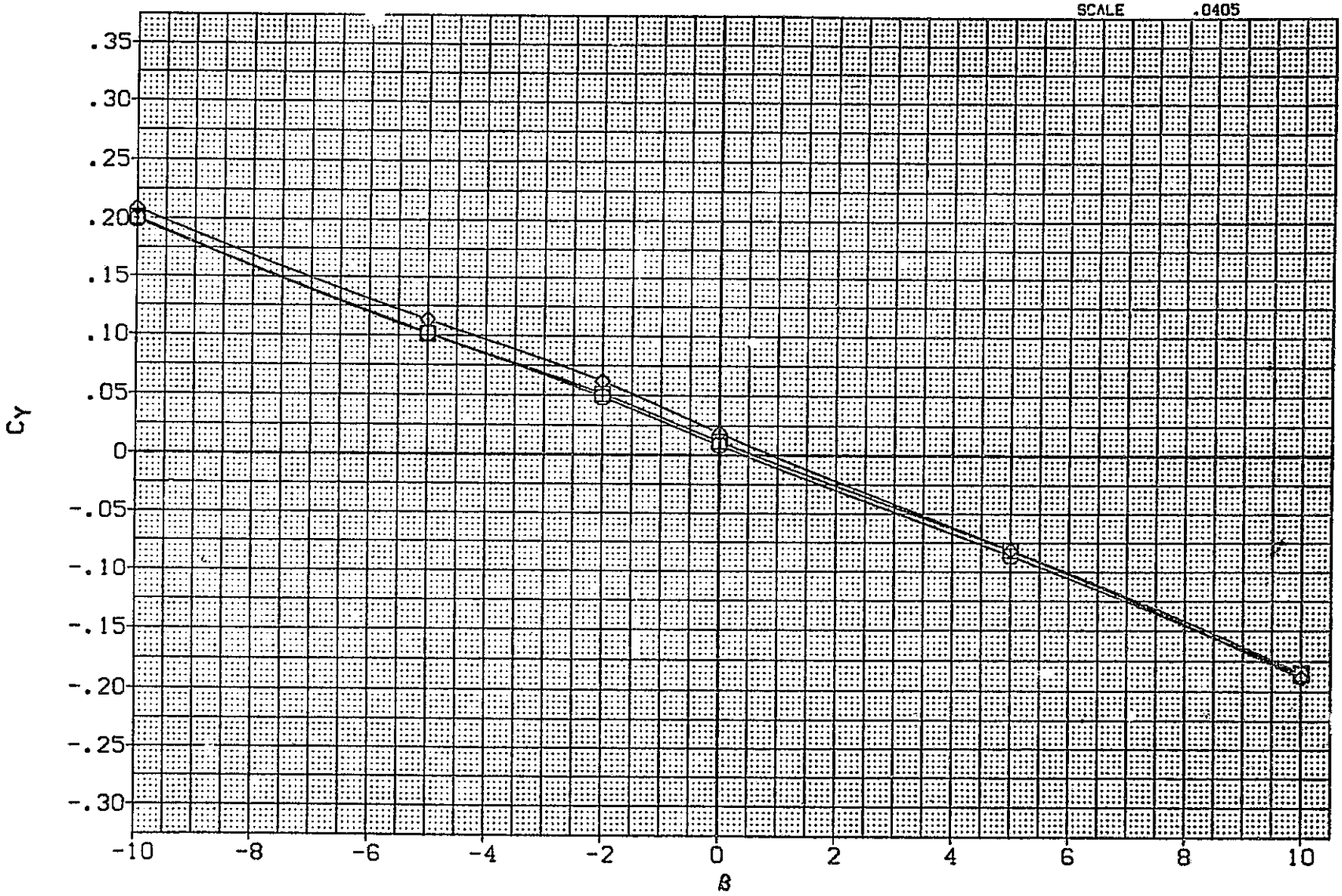

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

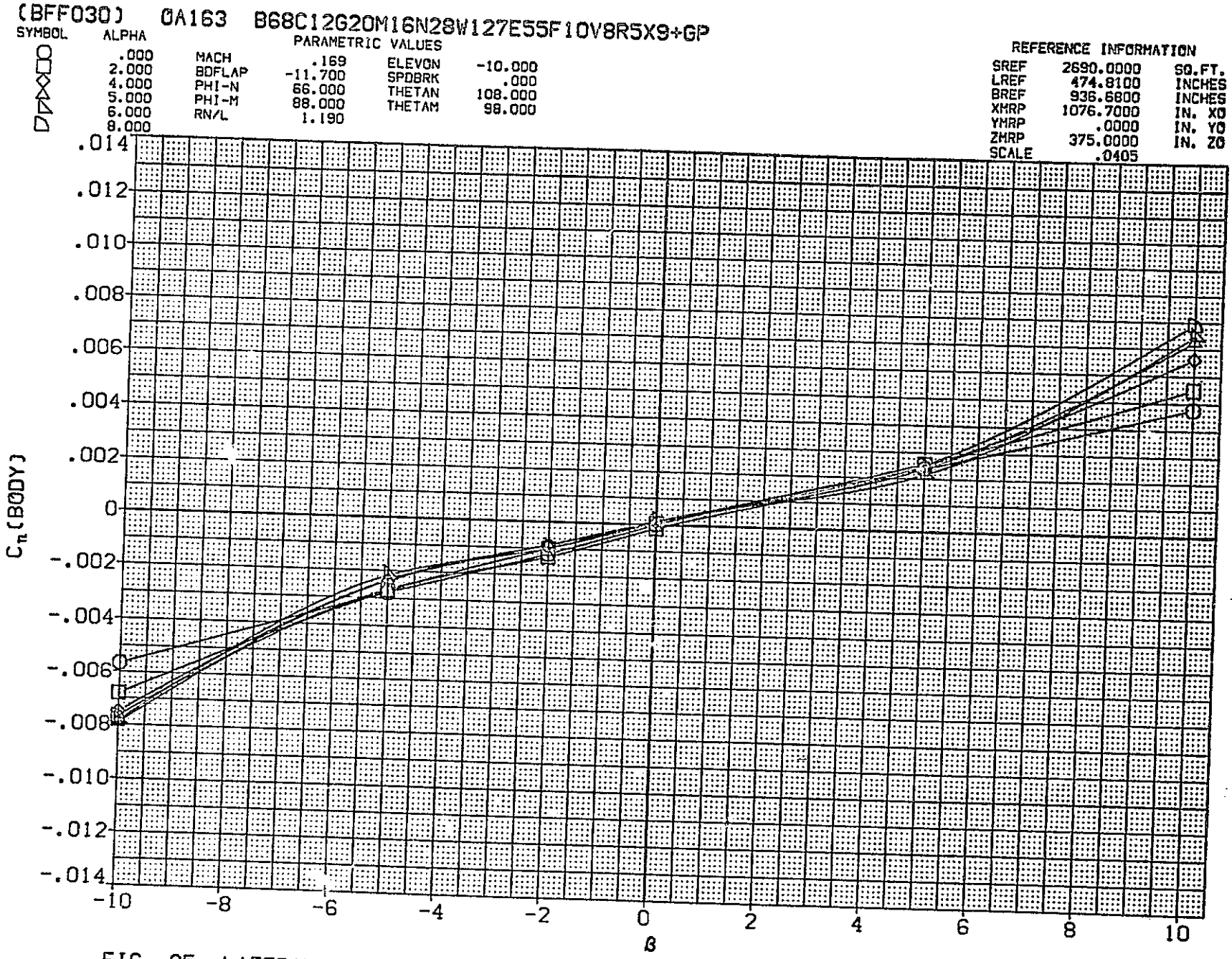

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF030) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	ALPHA
○	10.000
□	15.000
◇	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	-10.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

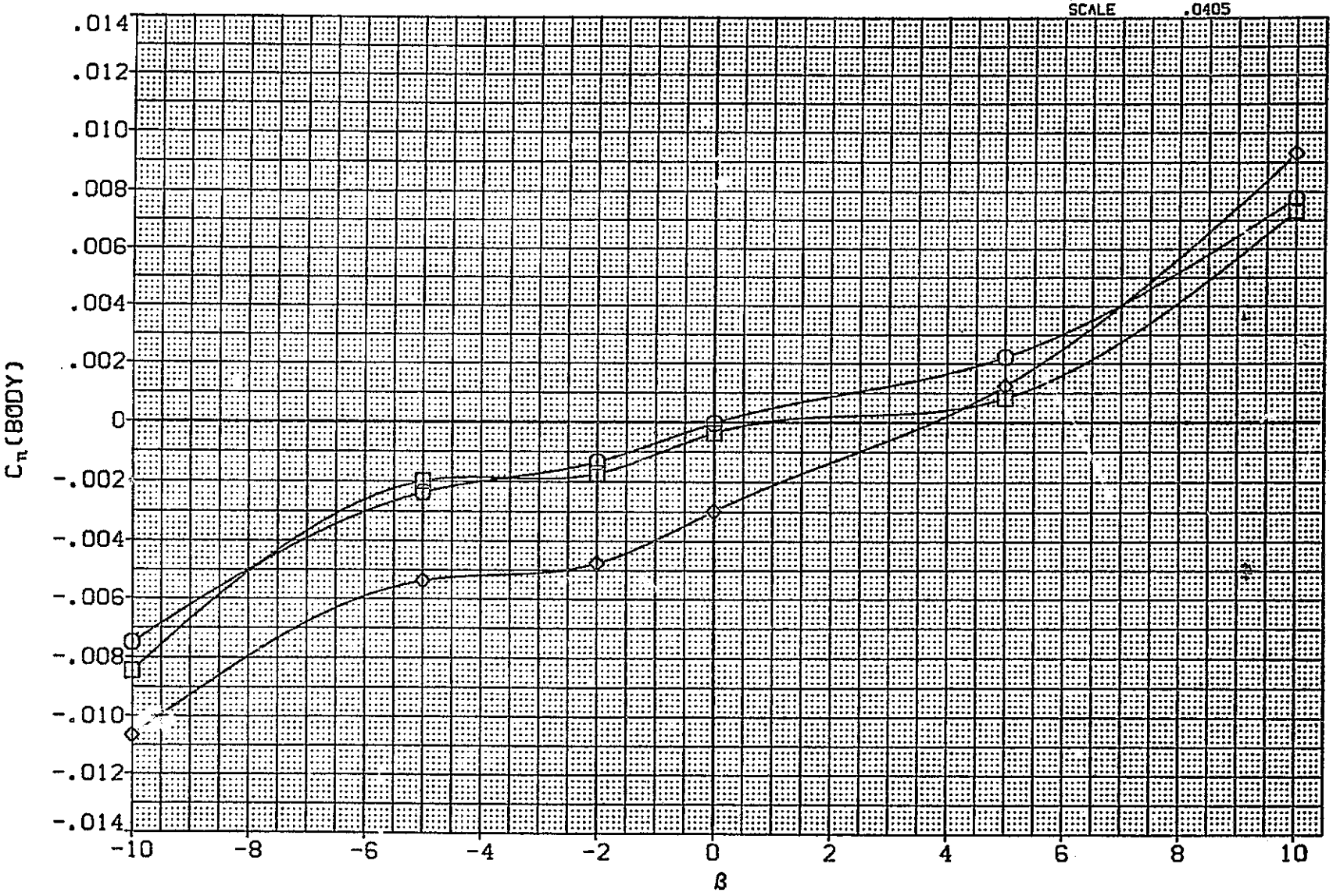

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

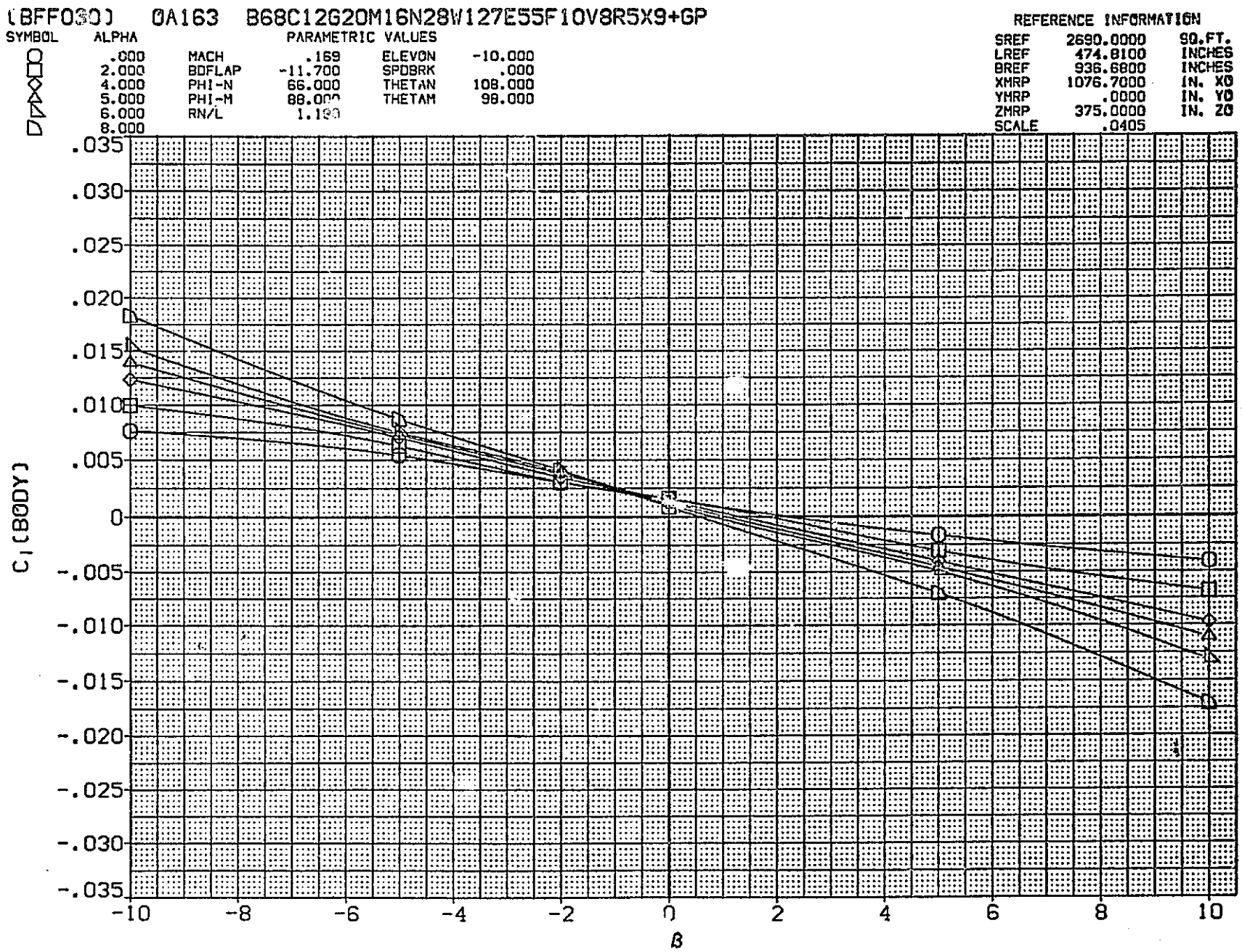

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

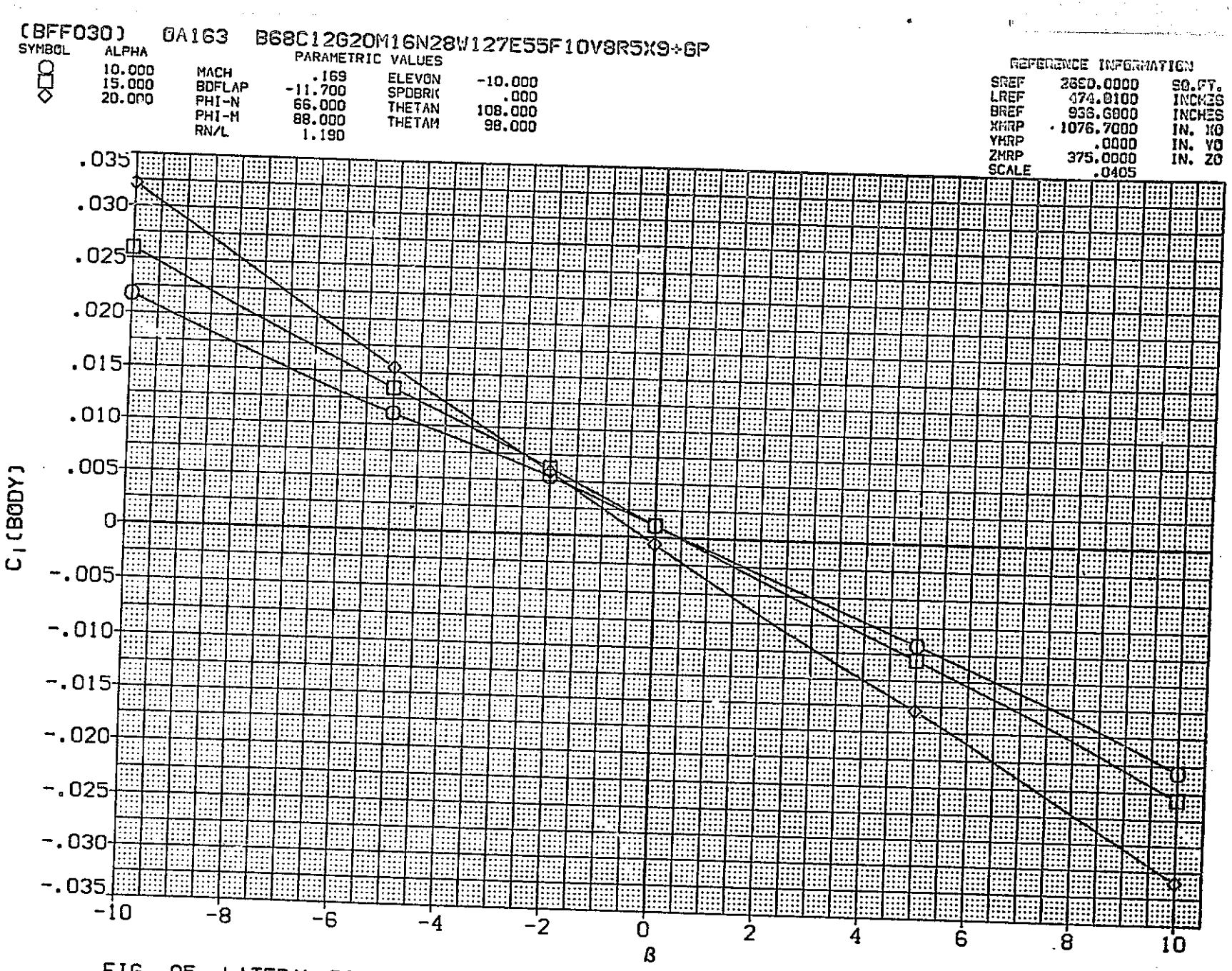

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF031) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS

SYMBOL	ALPHA
□	.000
◇	5.000
△	10.000
▽	15.000
◁	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

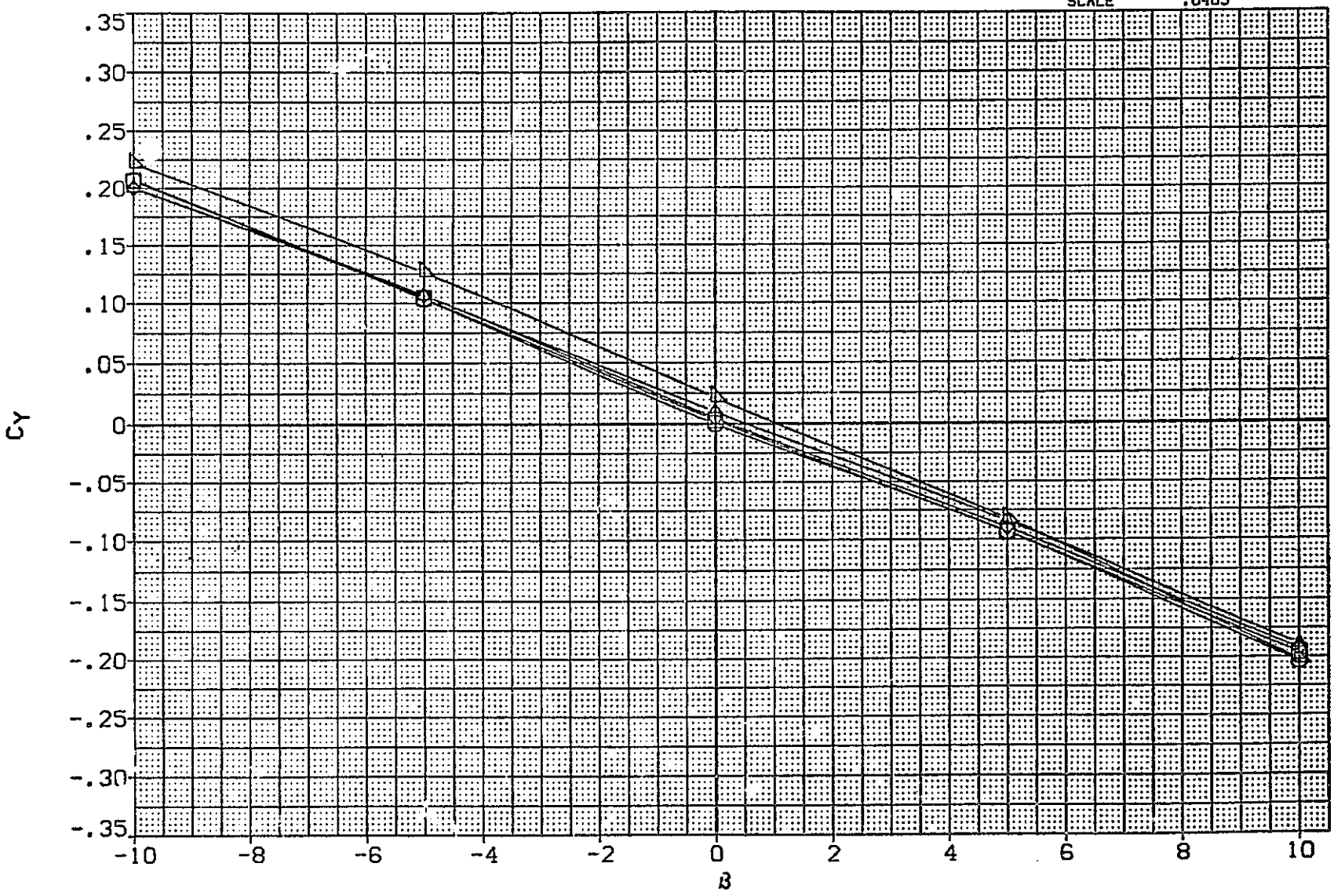

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

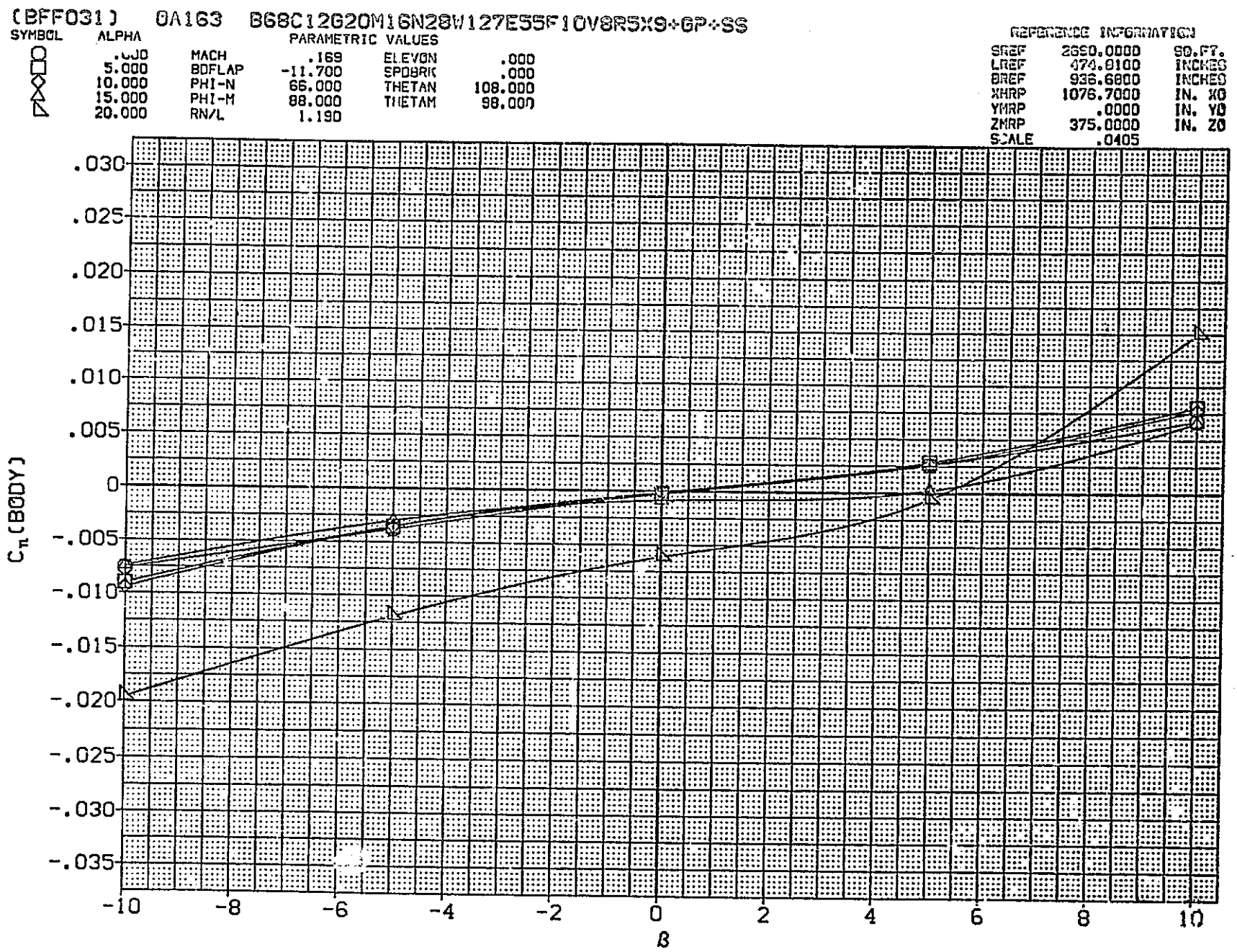

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

(BFF031) 0A163 B68C12G20M16N28W127E55F1CV8R5X9+GP+SS

SYMBOL	ALPHA
○	.000
□	5.000
◇	10.000
△	15.000
▽	20.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

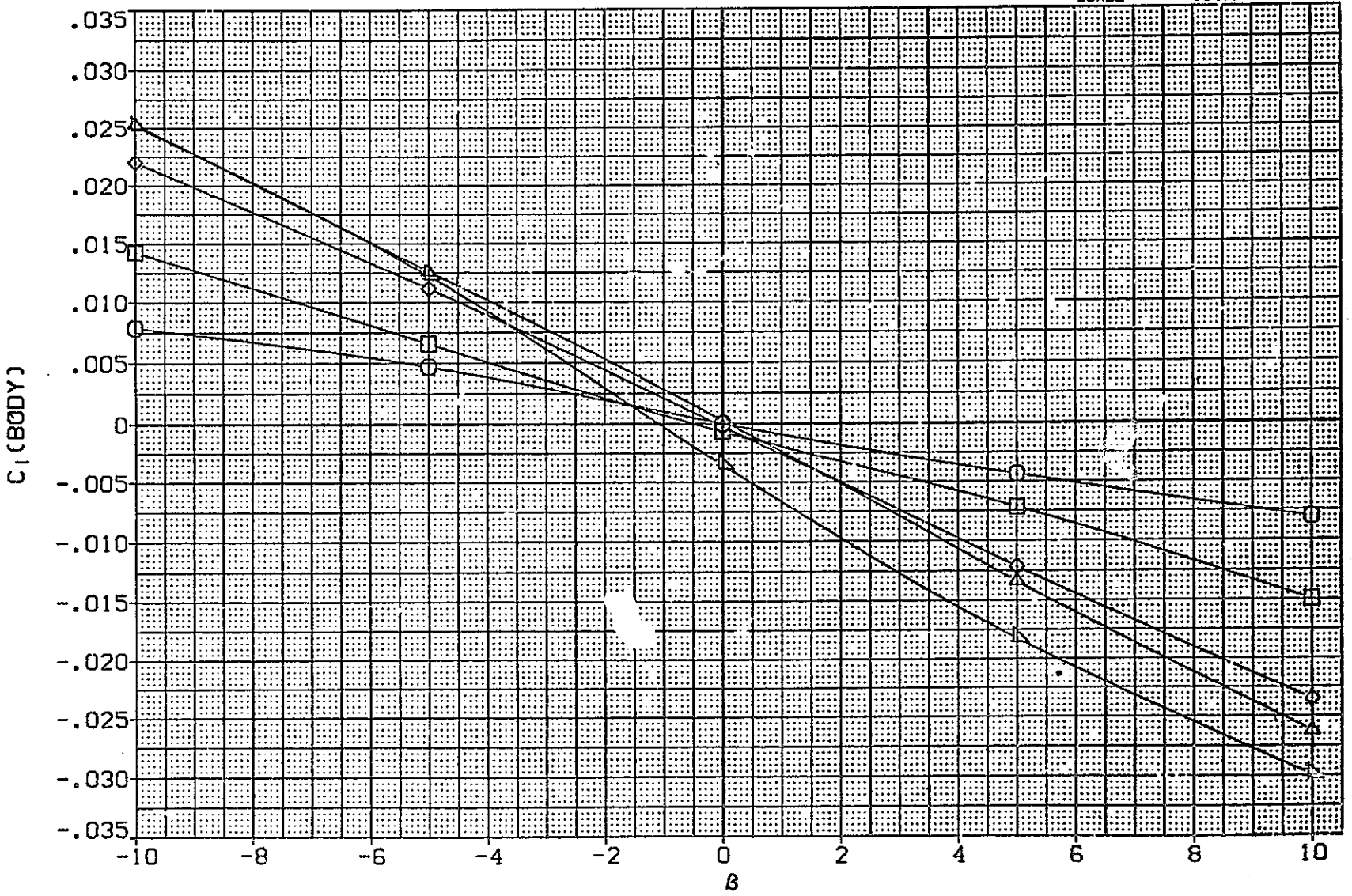

FIG. 05 LATERAL DIRECTIONAL AERODYNAMIC COEFFICIENTS

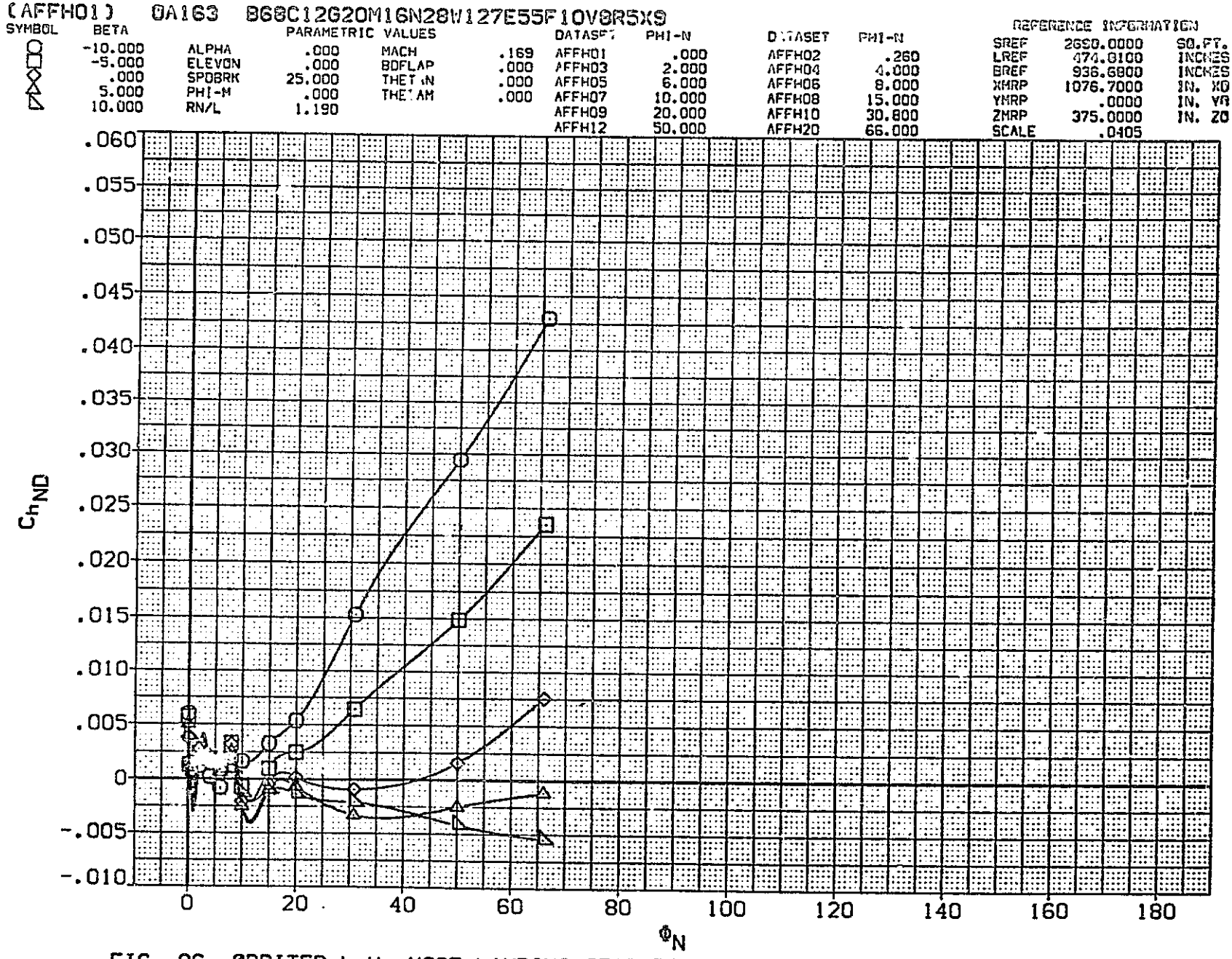

FIG. 06 ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT

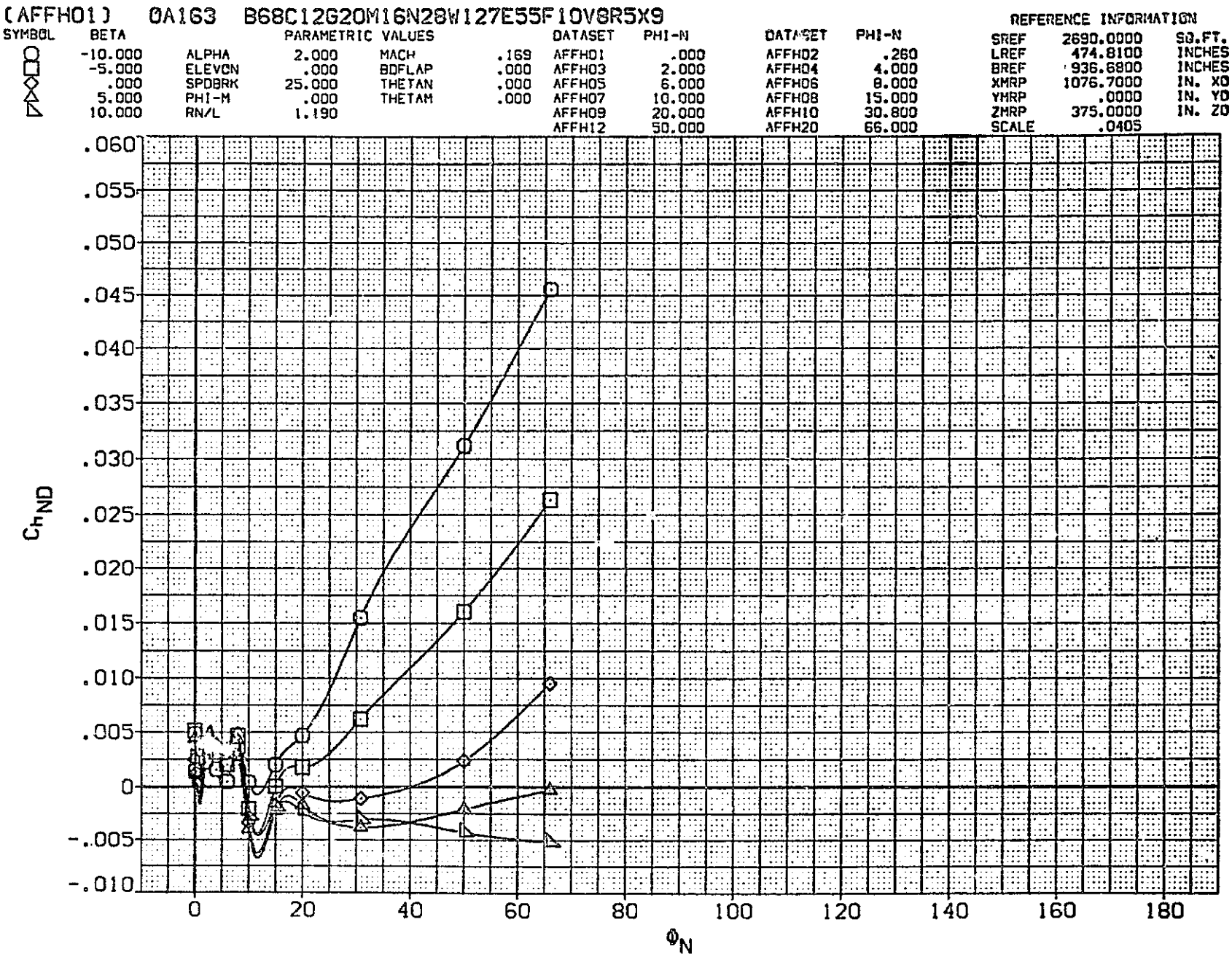

FIG. 06 ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT

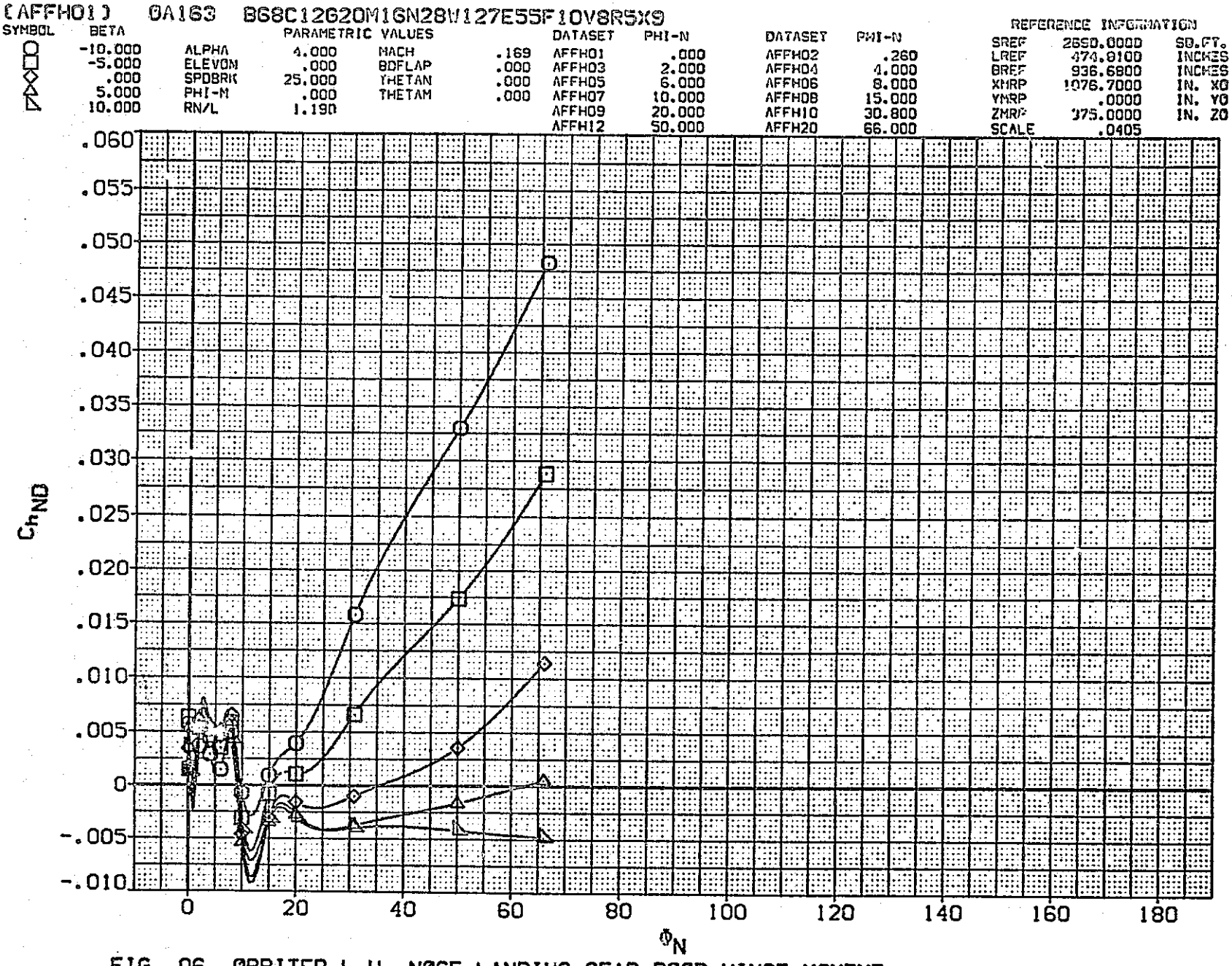

FIG. 06 ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT

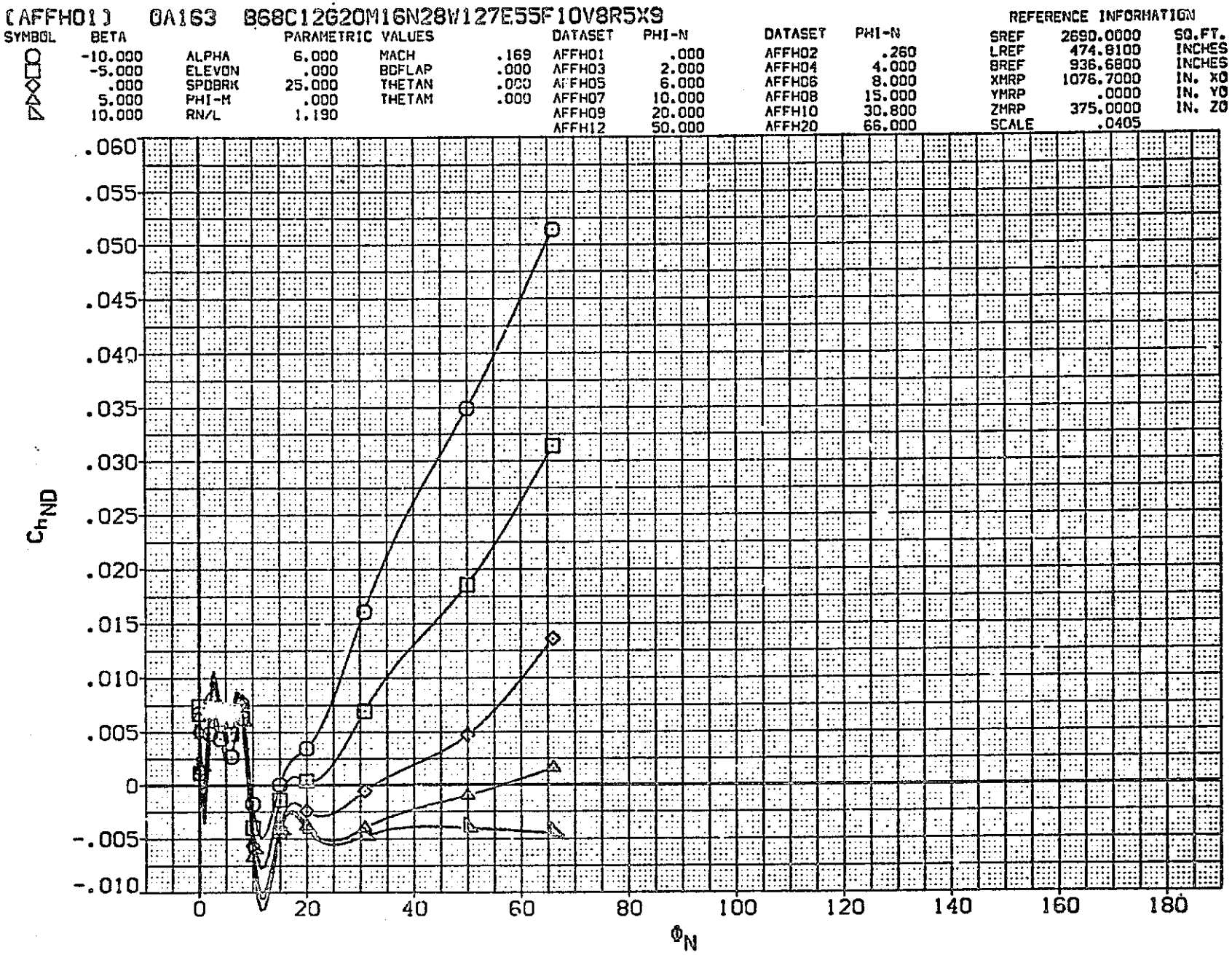

FIG. 06 ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT

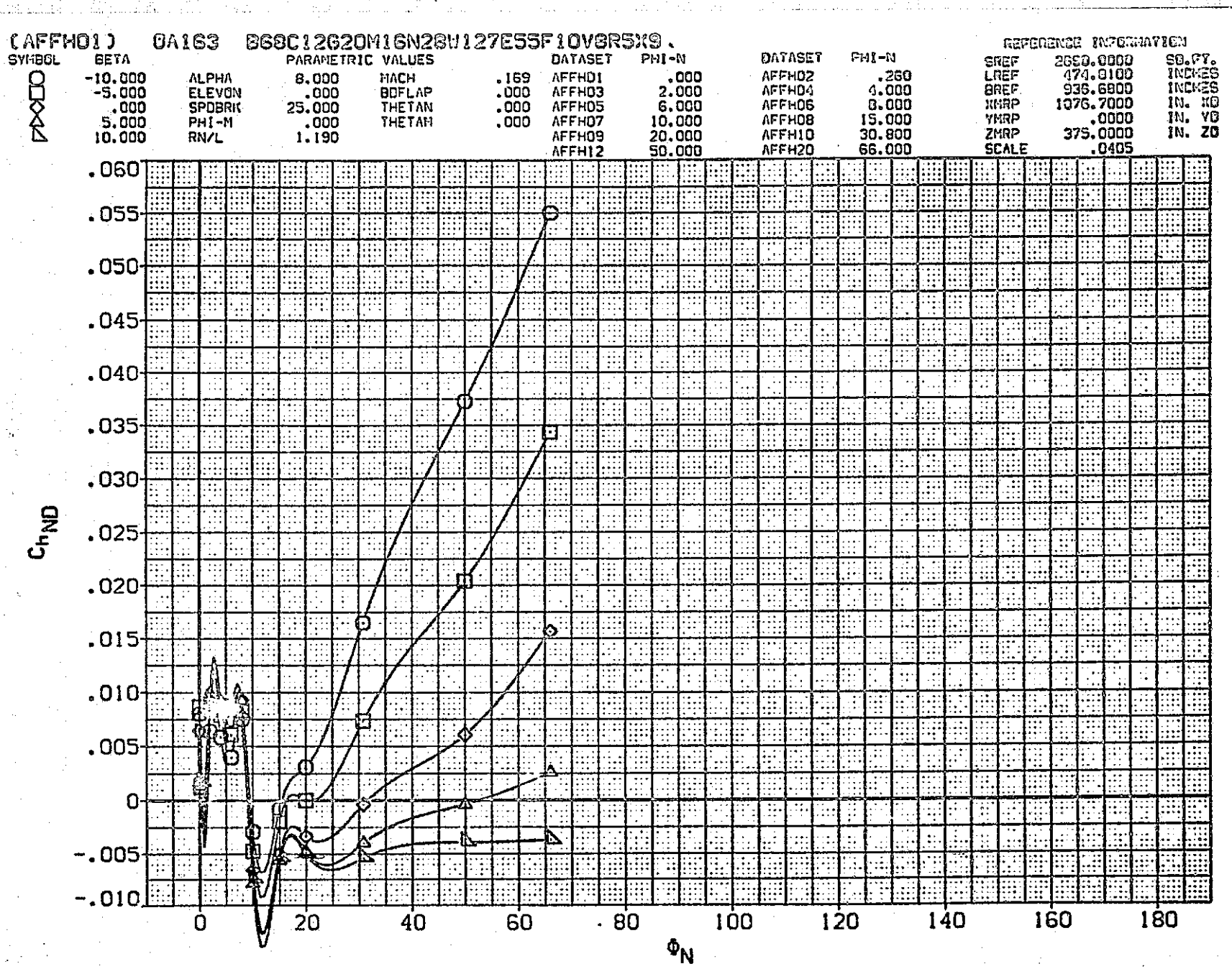

FIG. 06 ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT

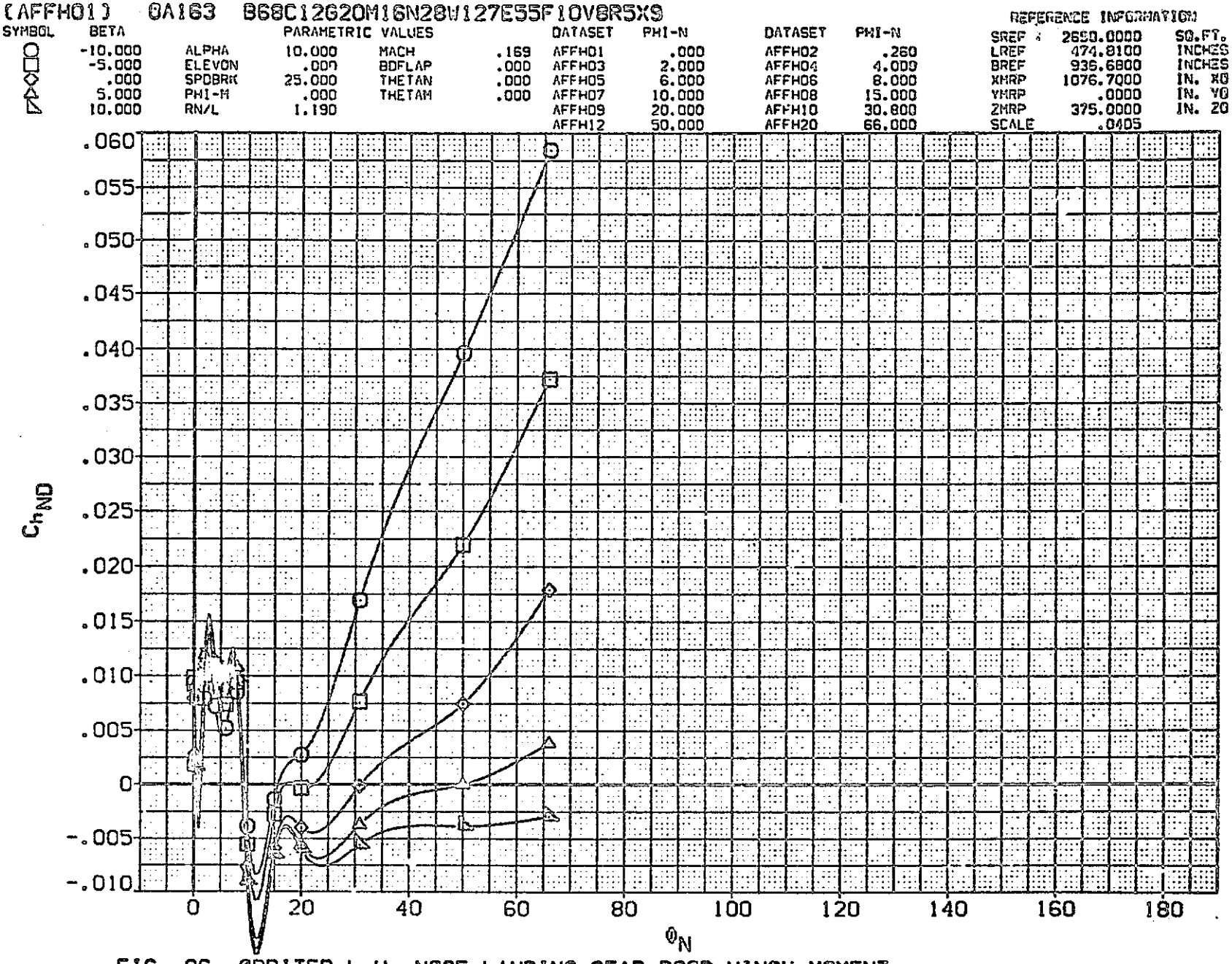

FIG. 06 ORBITER L.H. NOSE LANDING GEAR DOOR HINGE MOMENT

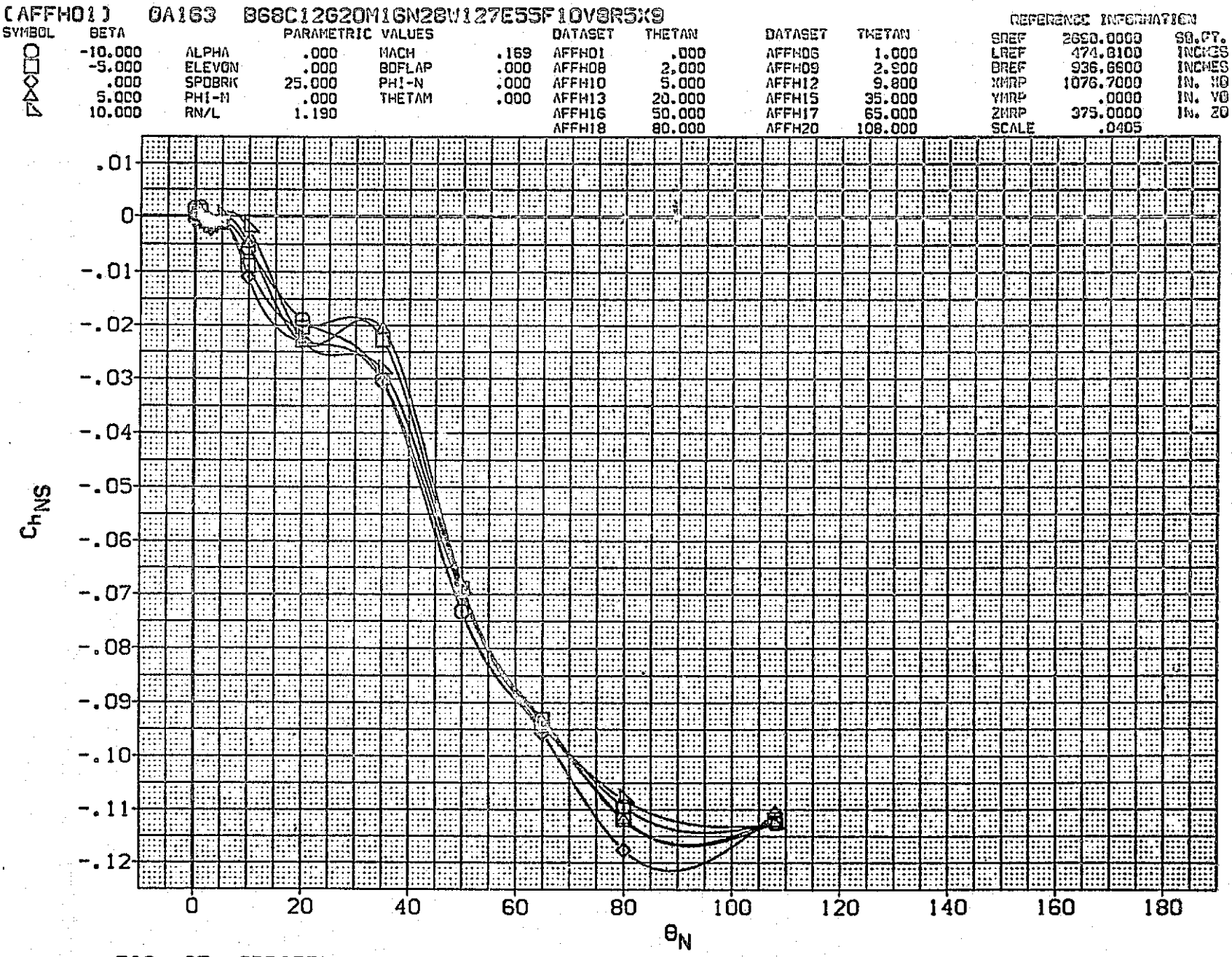

FIG. 07 ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT

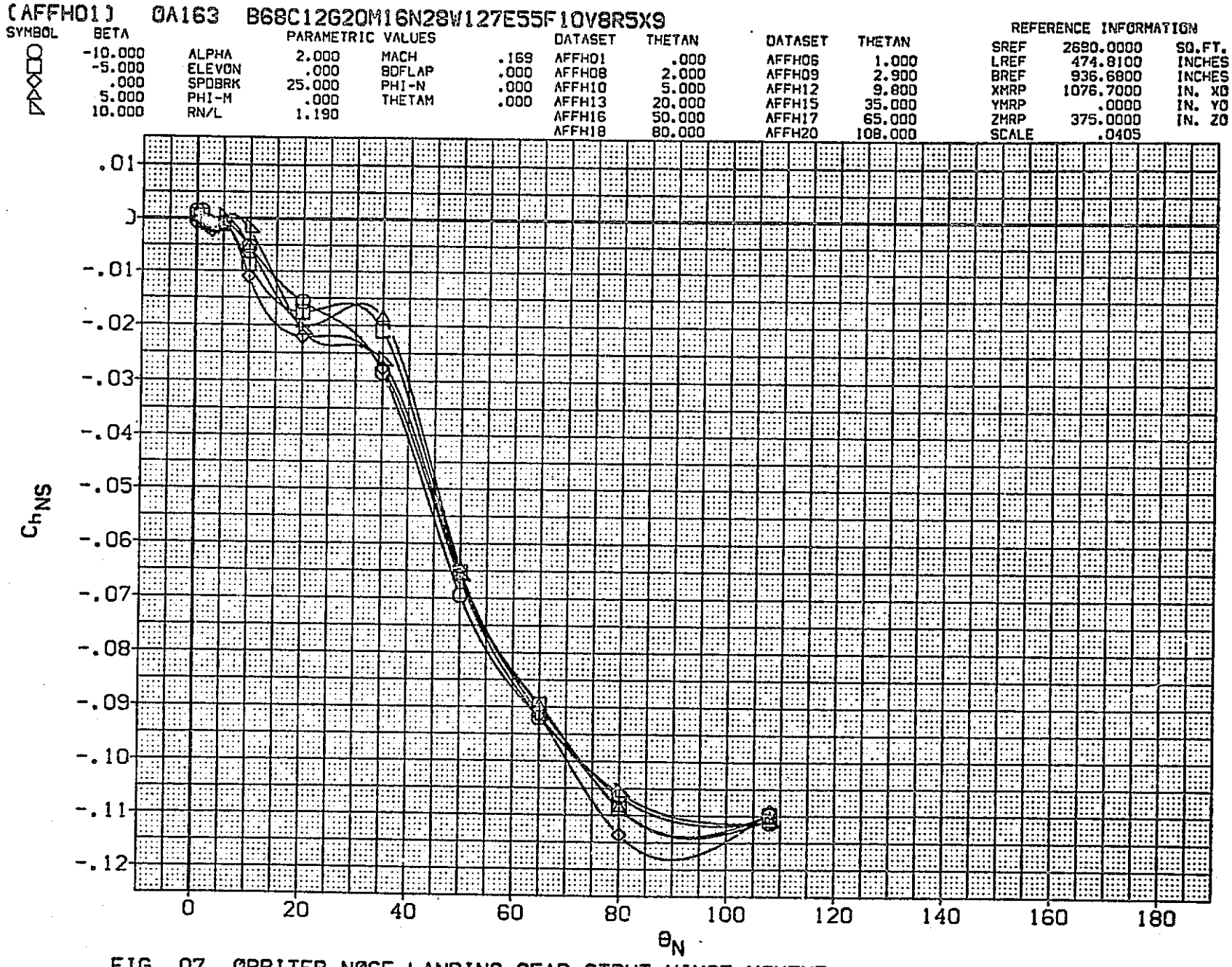

FIG. 07 ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT

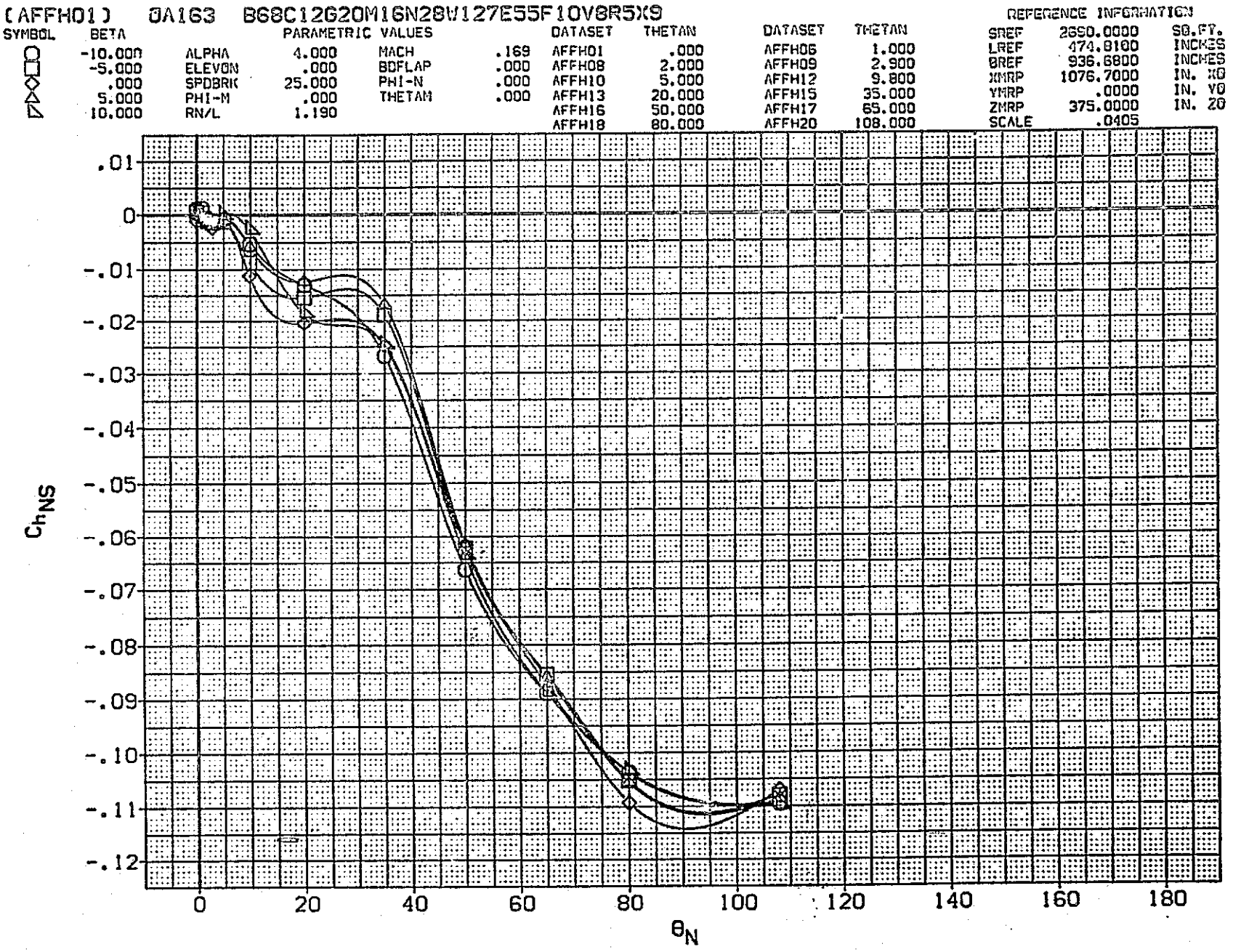

FIG. 07 ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

ALPHA	6.000	MACH	.169	
ELEVON	.000	BDFLAP	.000	
SPOBRK	25.000	PHI-N	.000	
PHI-M	.000	THETAM	.000	
RN/L	1.190			

DATASET	THETAN	DATASET	THETAN
AFFH01	.000	AFFH06	1.000
AFFH08	2.000	AFFH09	2.900
AFFH10	5.000	AFFH12	9.800
AFFH13	20.000	AFFH15	35.000
AFFH16	50.000	AFFH17	65.000
AFFH18	80.000	AFFH20	108.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

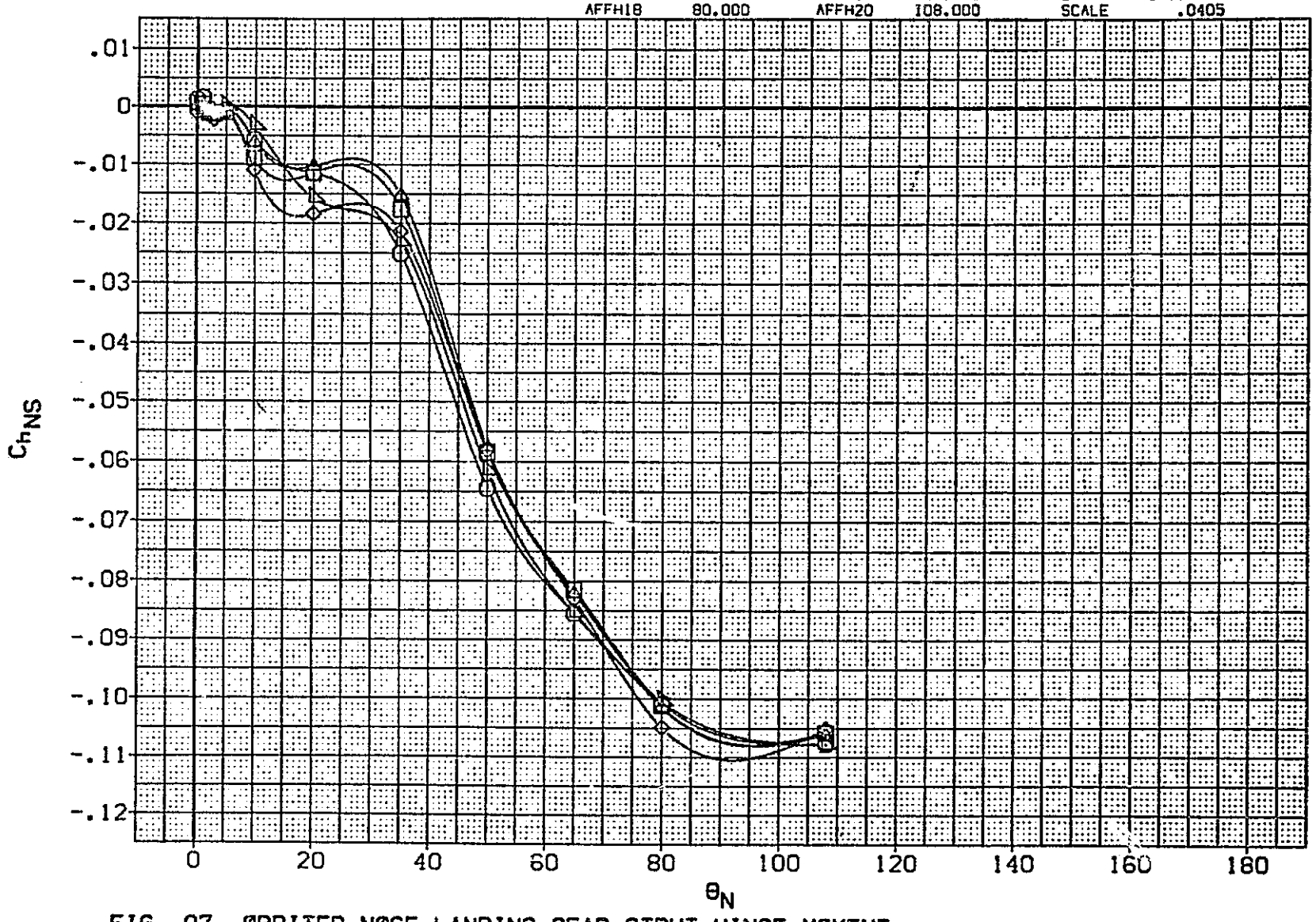

FIG. 07 ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT

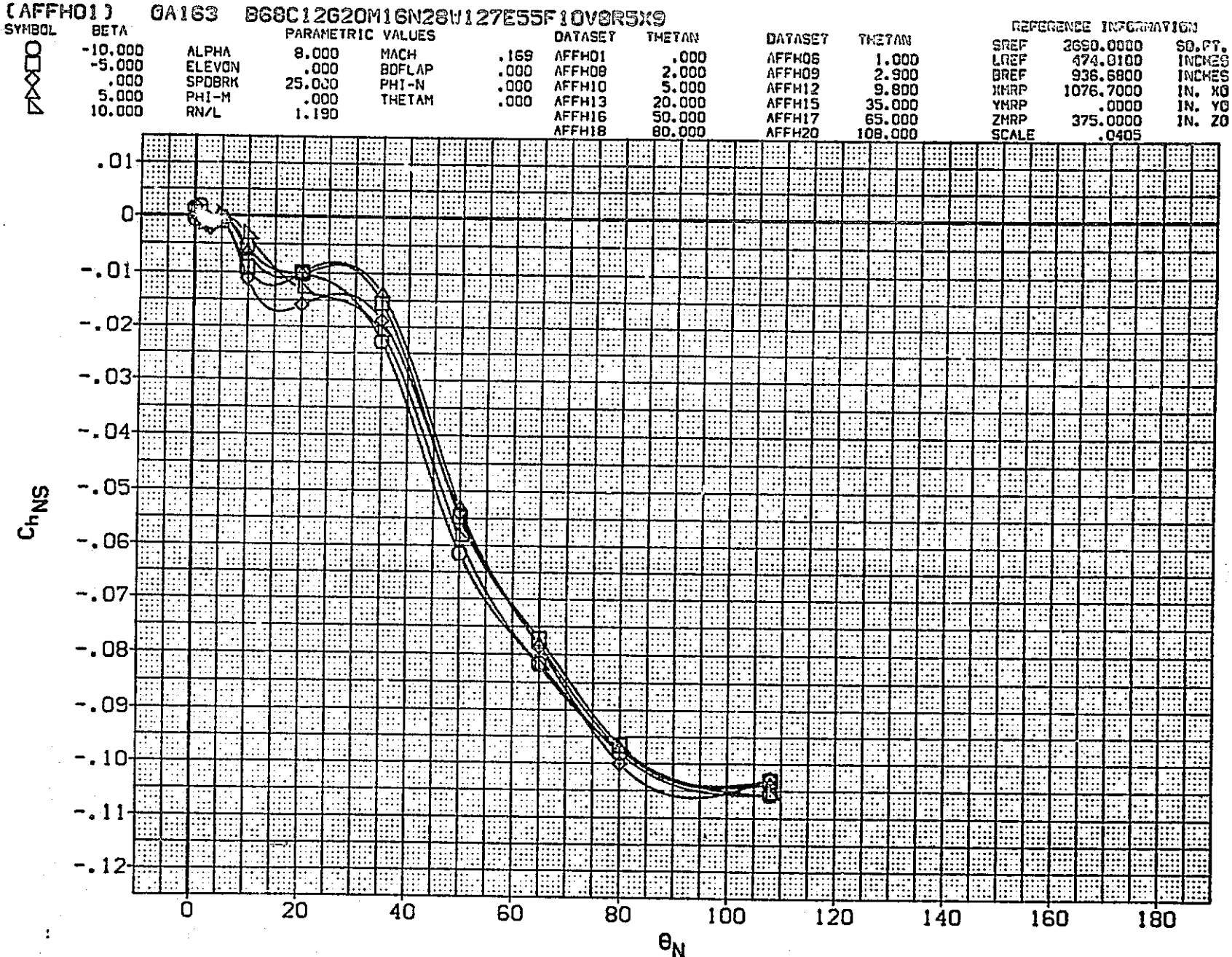

FIG. 07 ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT

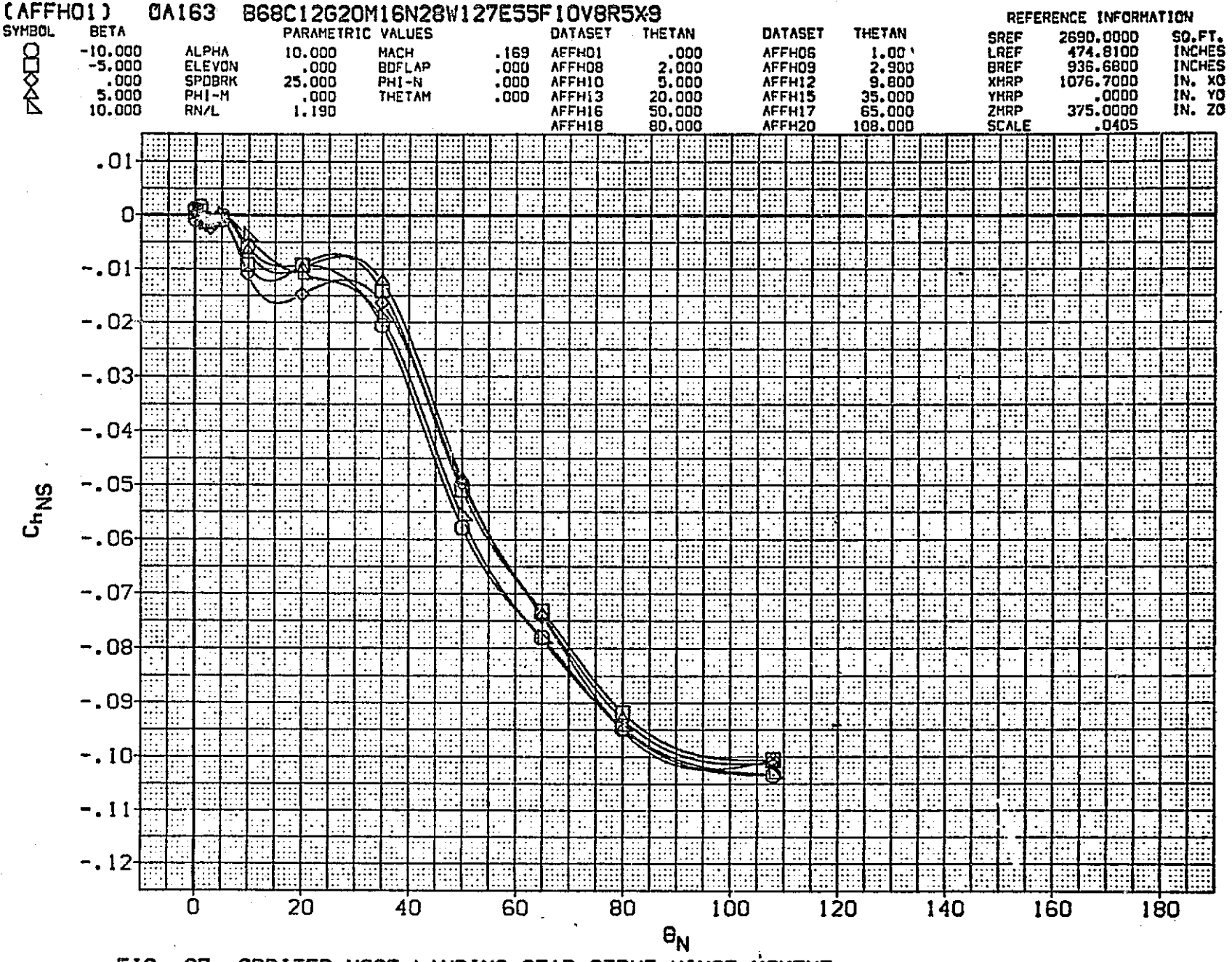

FIG. 07 ORBITER NOSE LANDING GEAR STRUT HINGE MOMENT

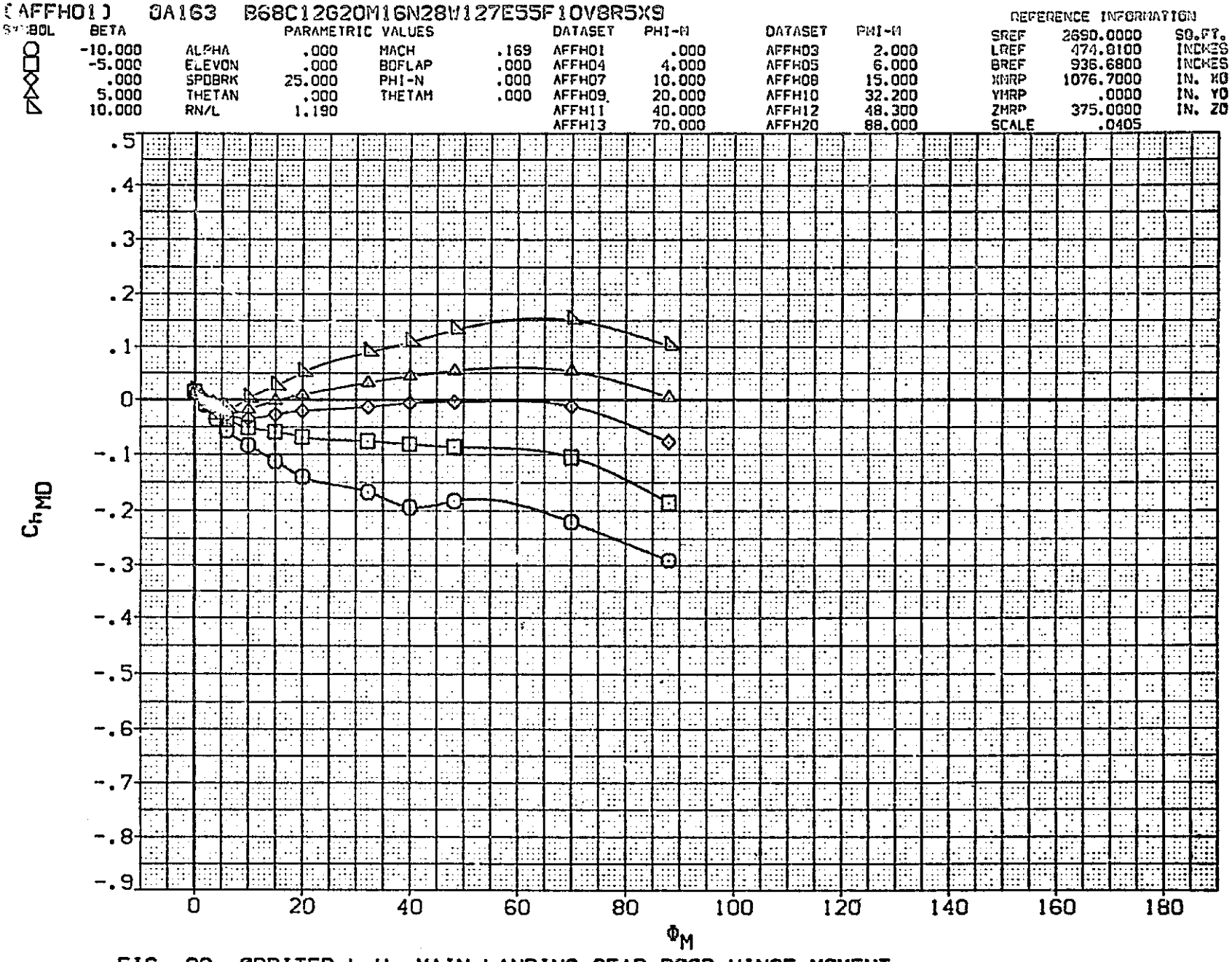

FIG. 08 ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT

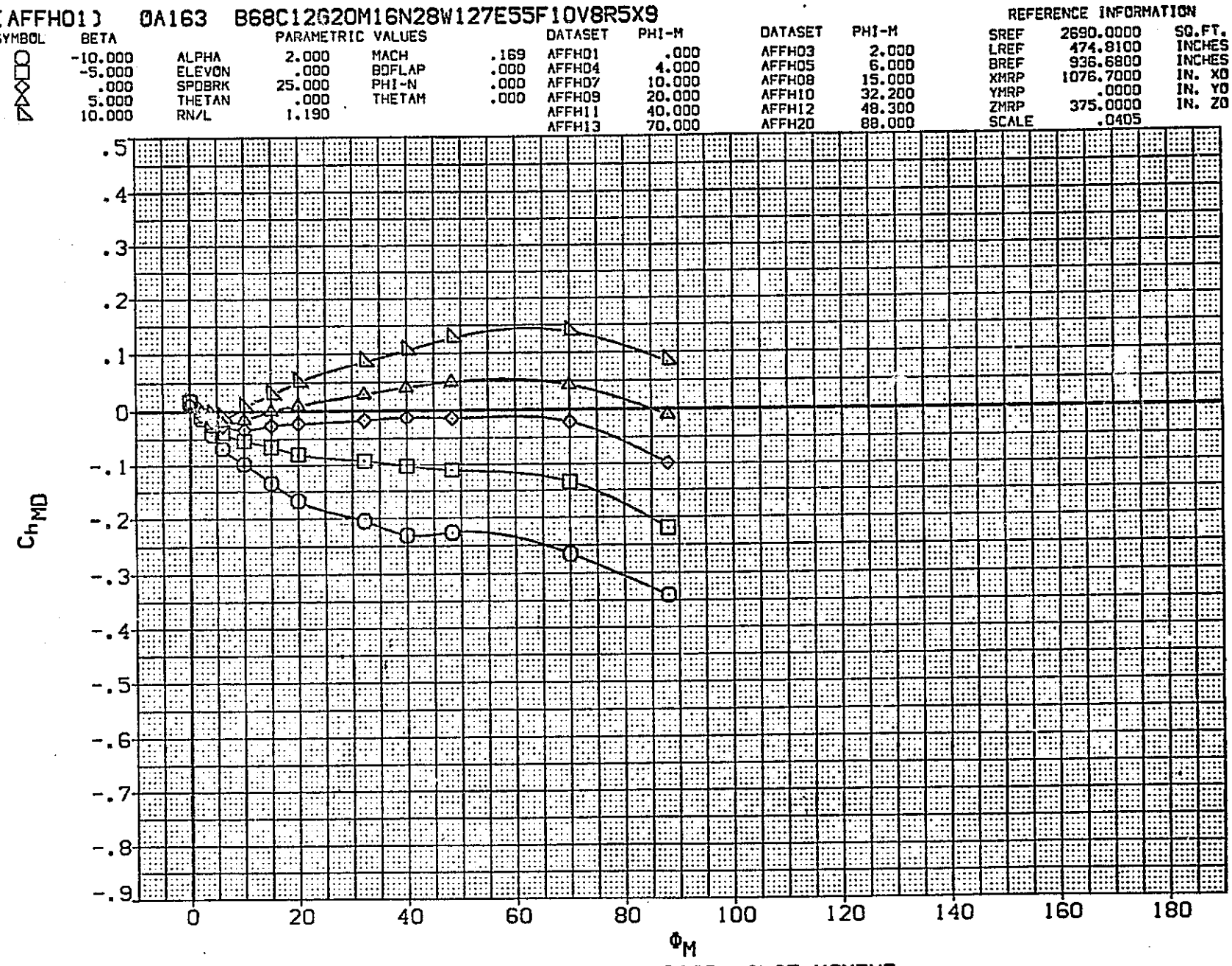

FIG. 08 ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT

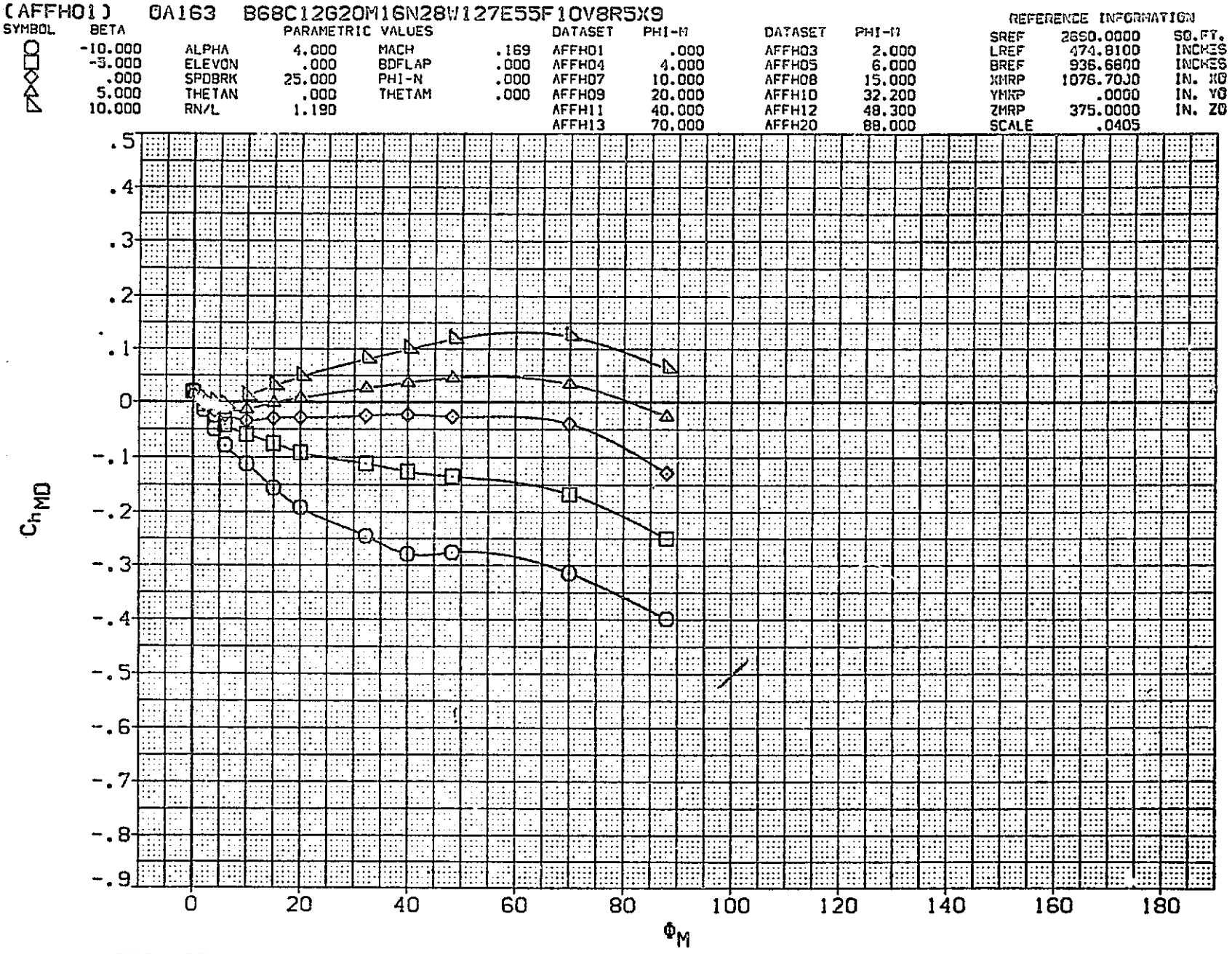

FIG. 08 ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT

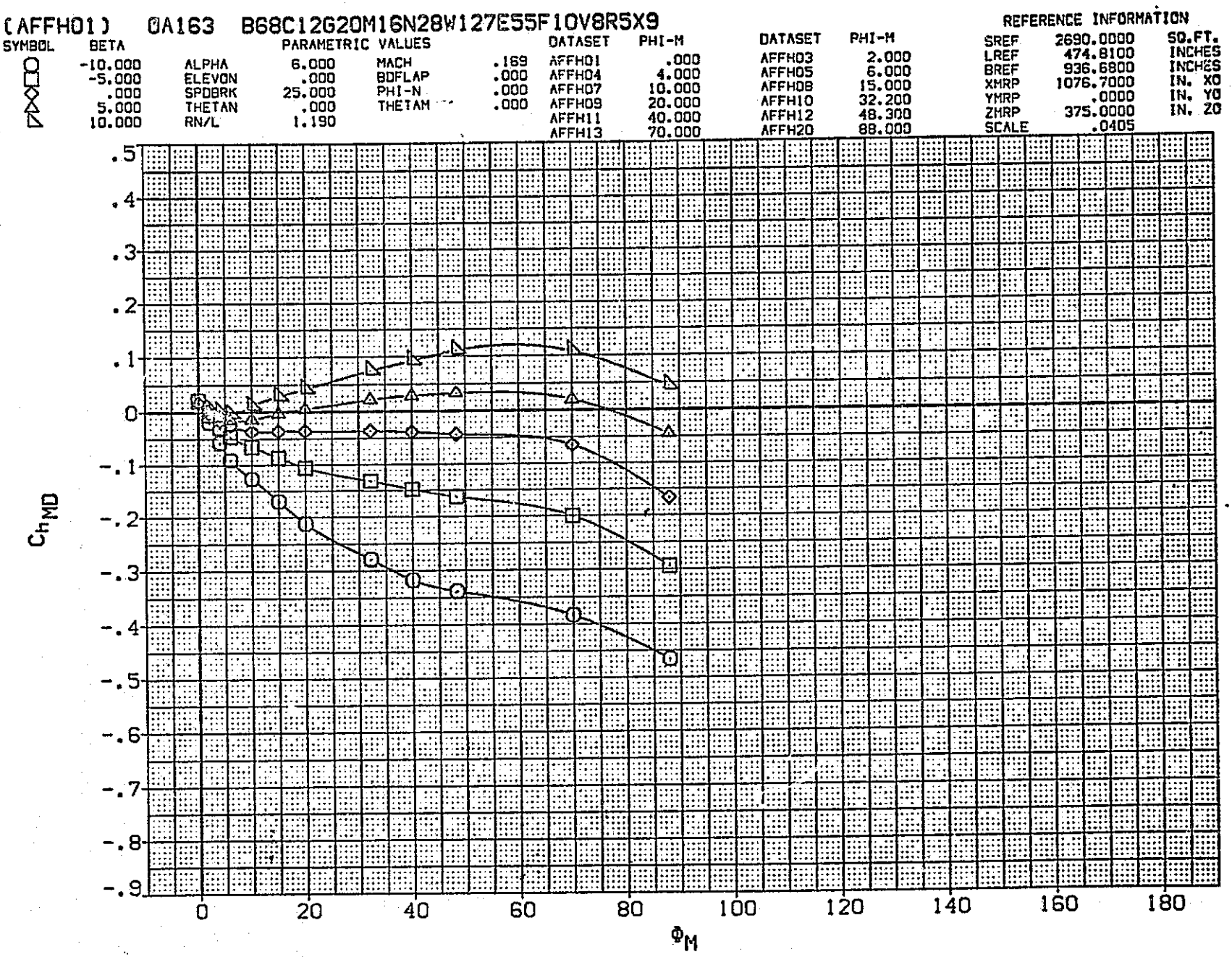

FIG. 08 ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT

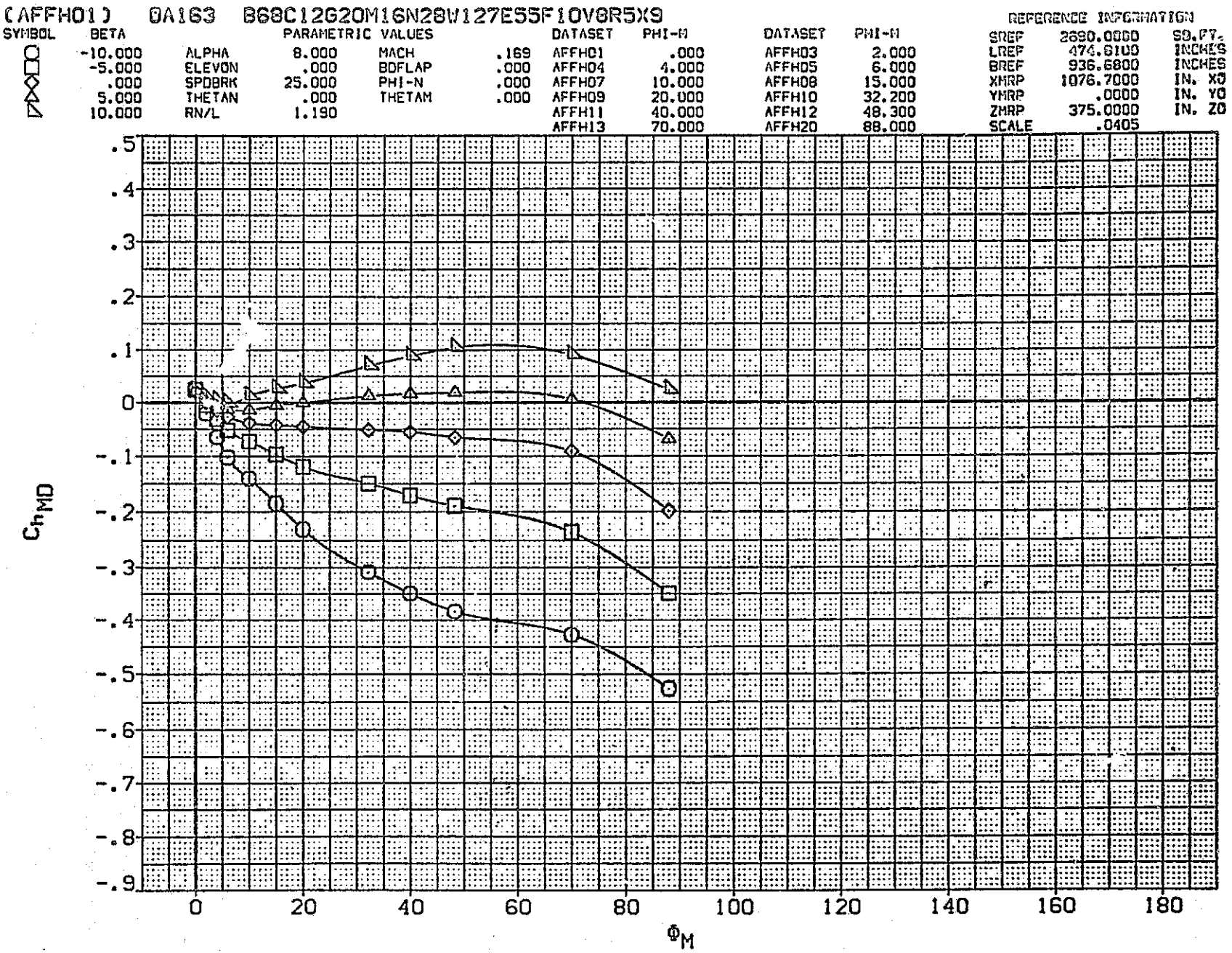

FIG. 08 ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT

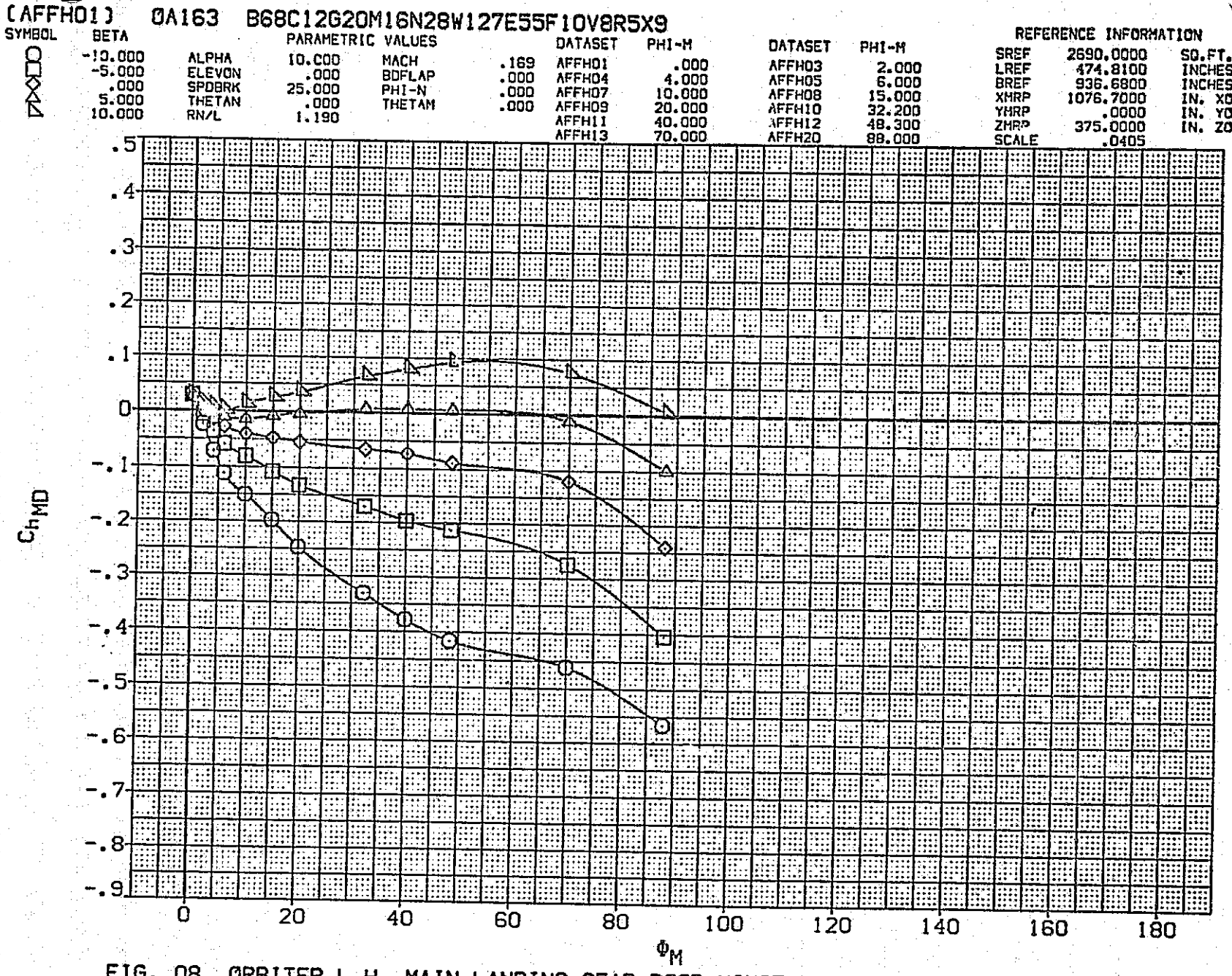

FIG. 08 ORBITER L.H. MAIN LANDING GEAR DOOR HINGE MOMENT

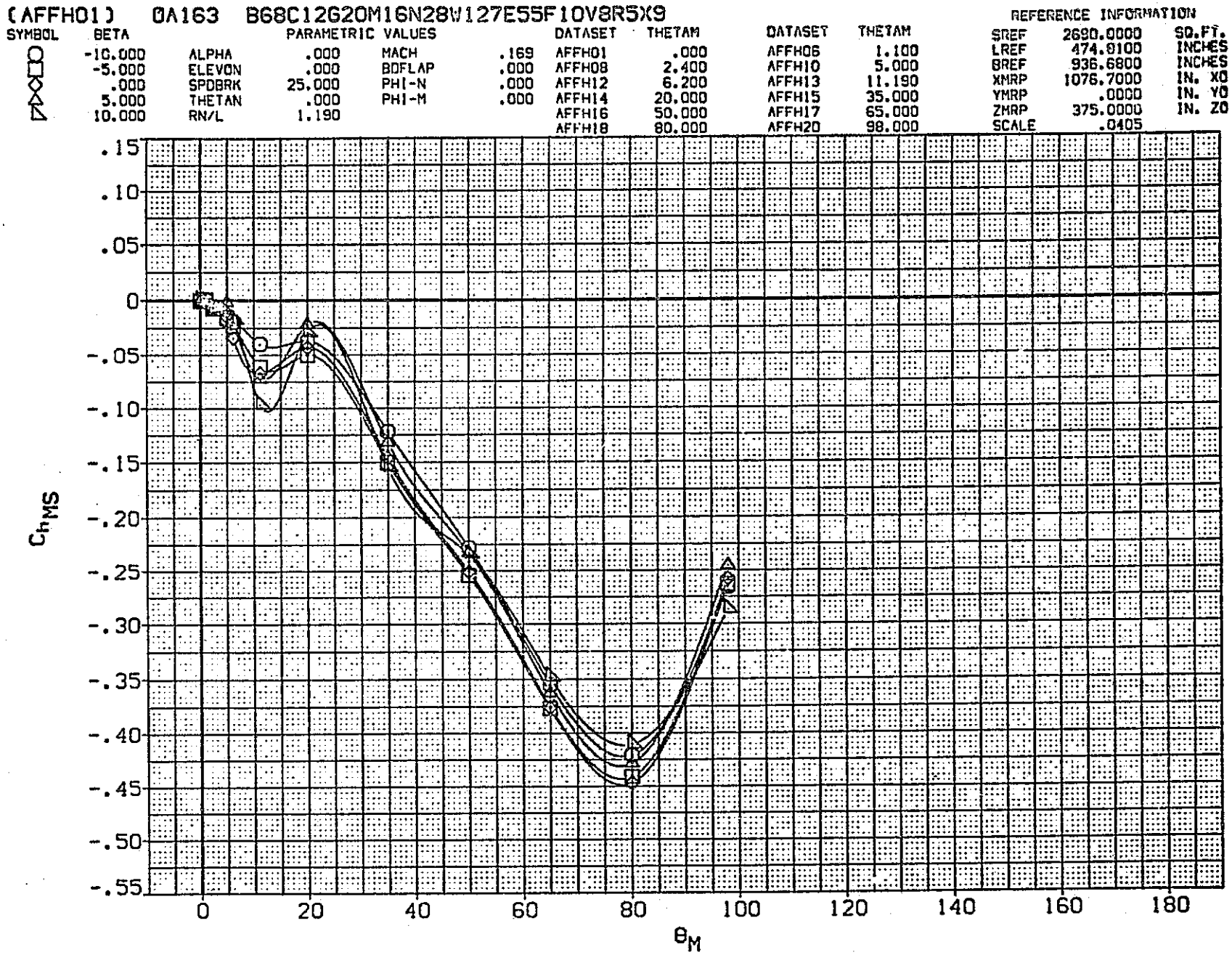

FIG. 09 ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT

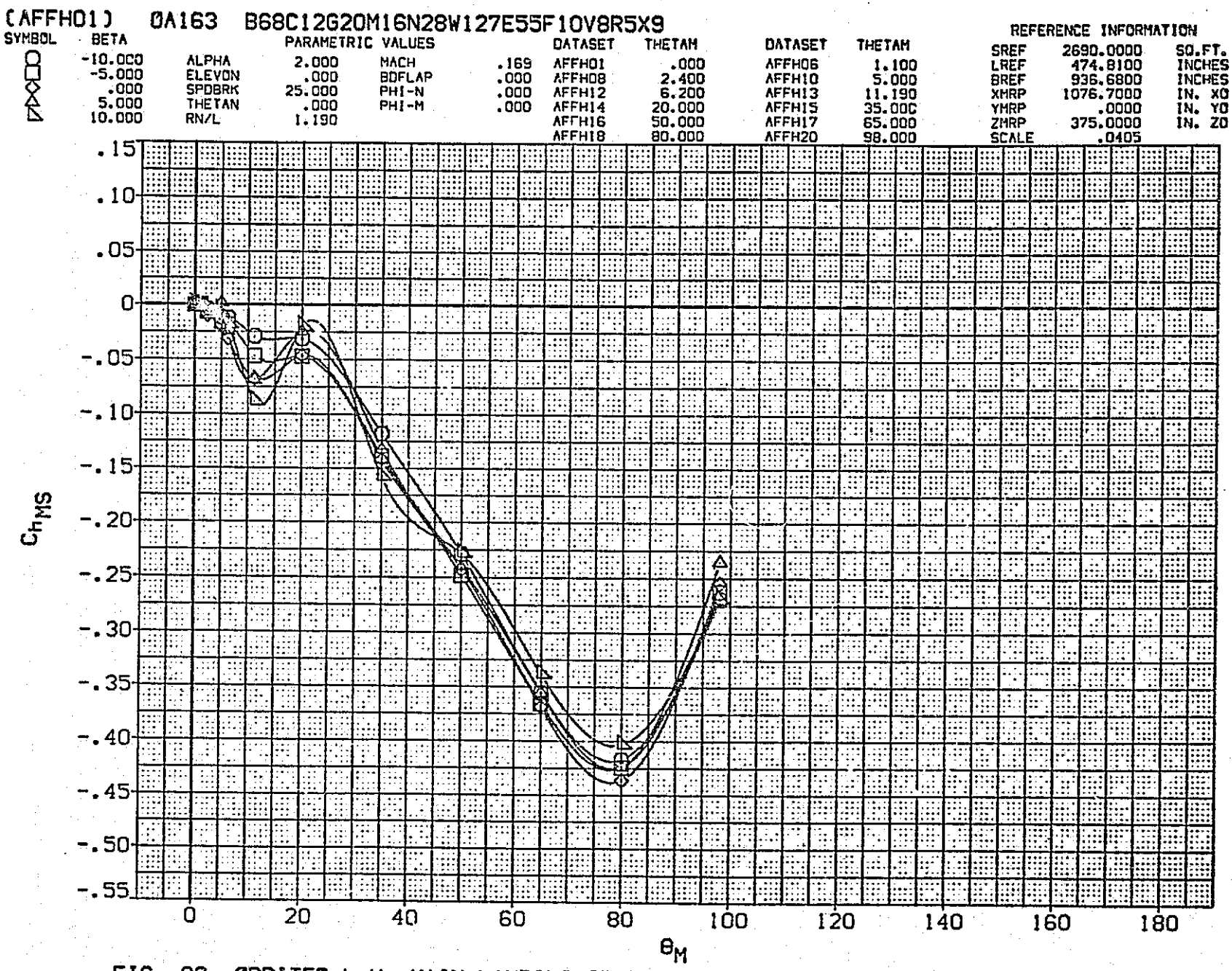

FIG. 09 ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA	PARAMETRIC VALUES				DATASET	THETAM	DATASET	THETAM
□	-10.000	ALPHA	4.000	MACH	.169	AFFH01	.000	AFFH06	1.100
◇	-5.000	ELEVON	.000	BDFLAP	.000	AFFH09	2.400	AFFH10	5.000
⊲	.000	SPOBRK	25.000	PHI-N	.000	AFFH12	6.200	AFFH13	11.190
	5.000	THETAN	.000	PHI-M	.000	AFFH14	20.000	AFFH15	35.000
	10.000	RN/L	1.190			AFFH16	50.000	AFFH17	65.000
						AFFH18	80.000	AFFH20	98.000

REFERENCE INFORMATION

SREF	2650.0000	SQ.FT.
LREF	474.9100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

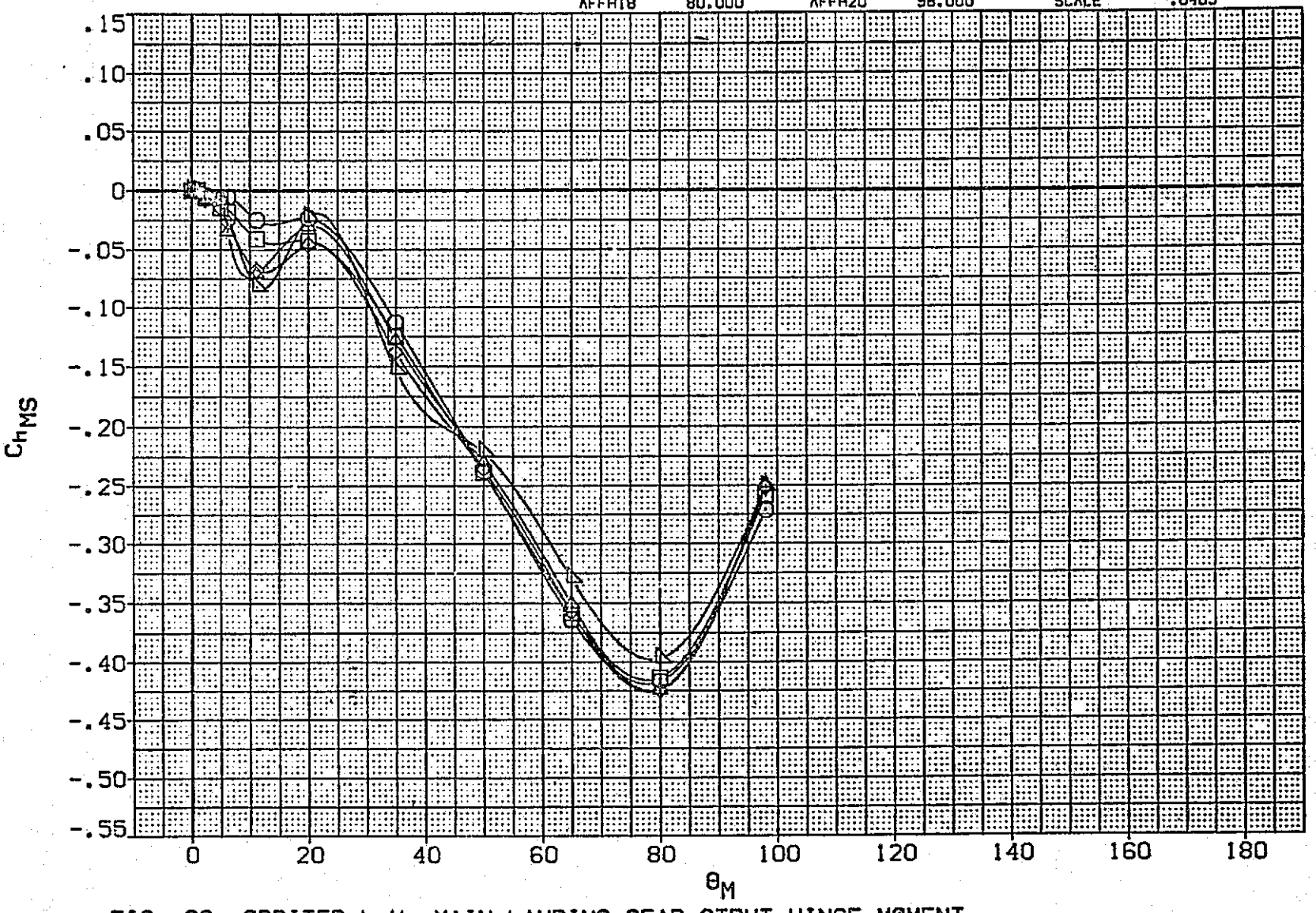

FIG. 09 ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT

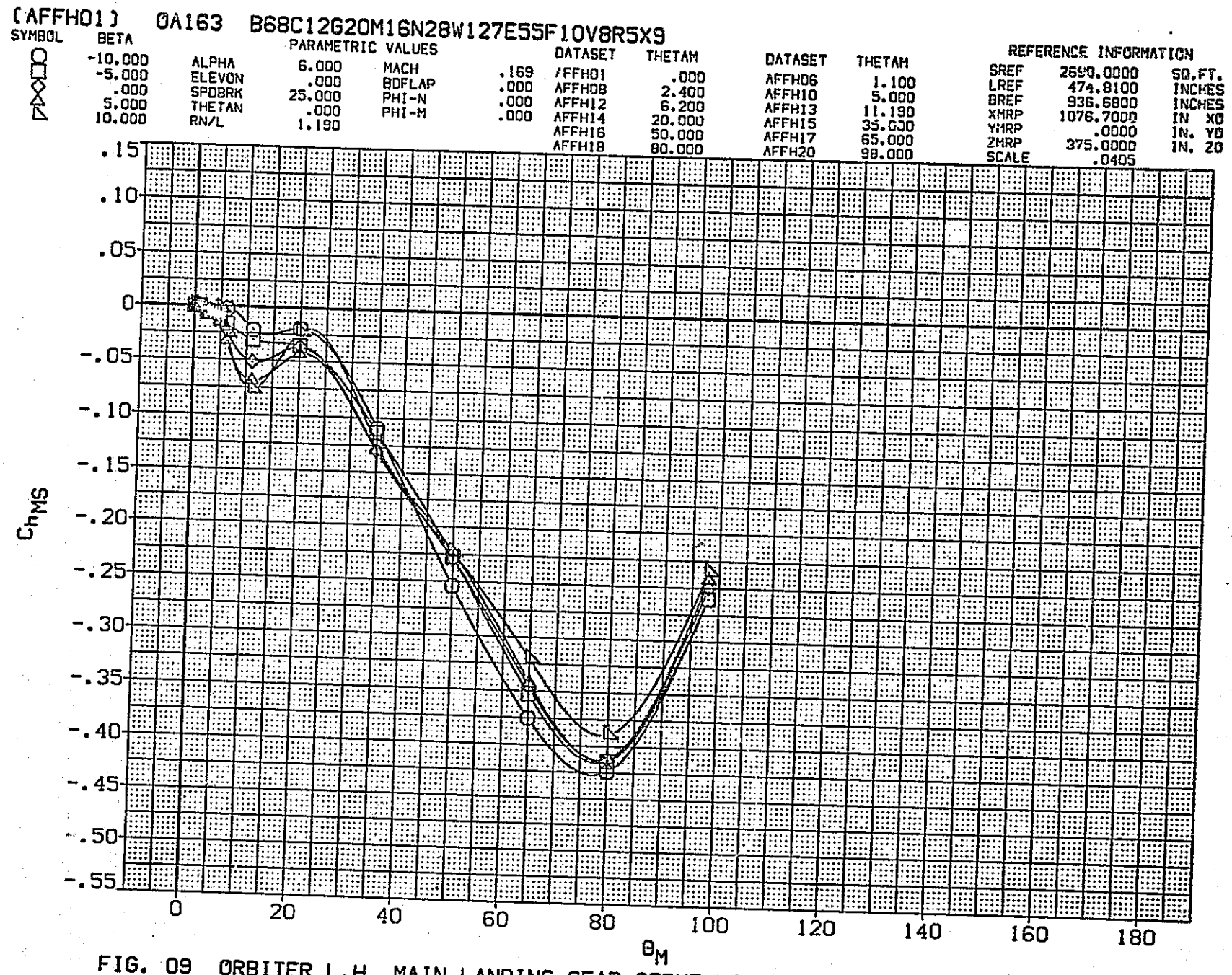

FIG. 09 ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
◻	-10.00
◇	-5.00
△	.000
	5.000
	10.000

PARAMETRIC VALUES

ALPHA	8.000	MACH	.169	
ELEVON	.000	BDFLAP	.000	
SPOBRK	25.000	PHI-N	.000	
THETAN	.000	PHI-M	.000	
RN/L	1.190			

DATASET	THETAN	DATASET	THETAN
AFFH01	.000	AFFH06	1.100
AFFH08	2.400	AFFH10	5.000
AFFH12	6.200	AFFH13	11.190
AFFH14	20.000	AFFH15	35.000
AFFH16	50.000	AFFH17	65.000
AFFH18	80.000	AFFH20	98.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.0100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

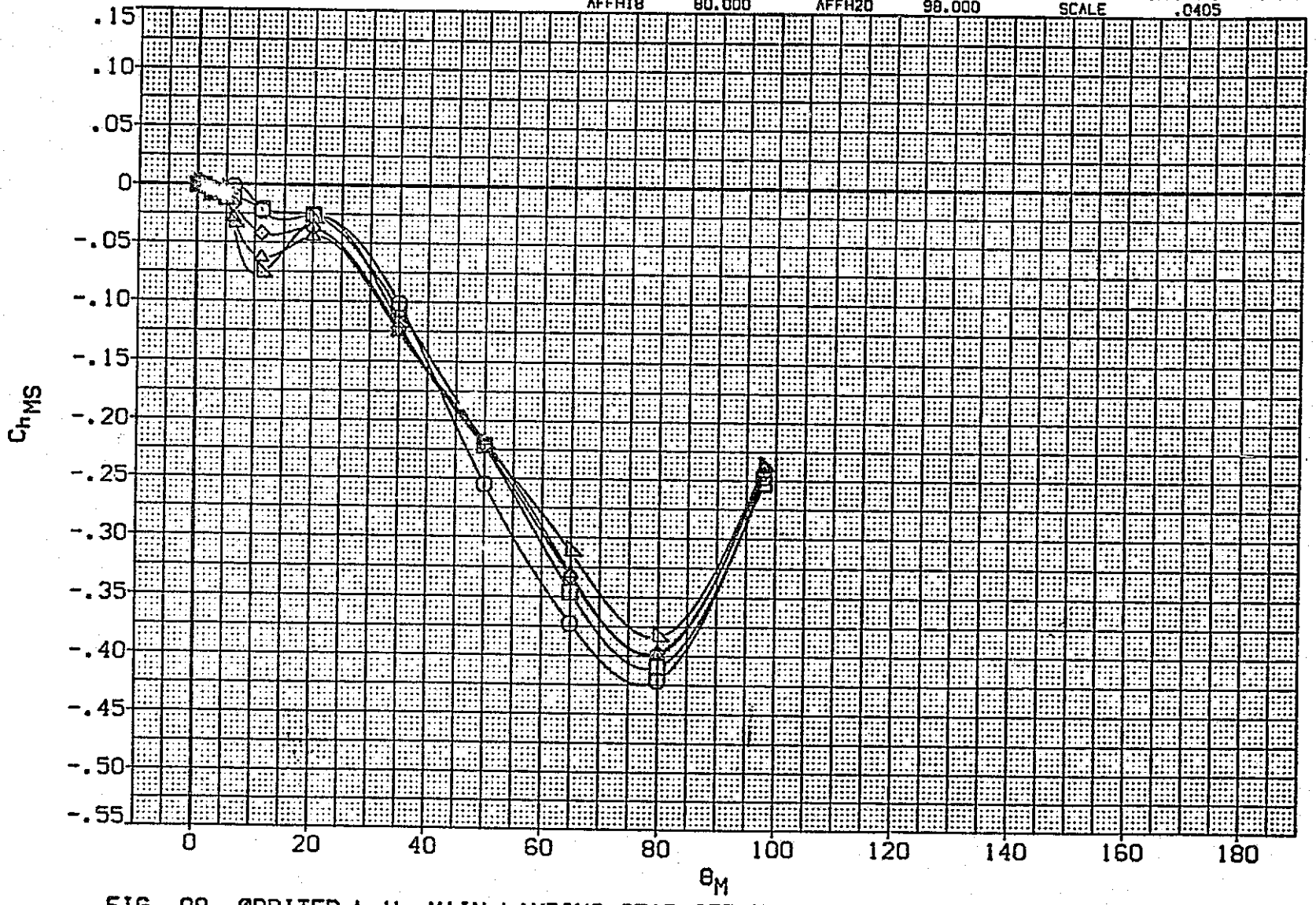

FIG. 09 ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
▱	-10.000
◇	-5.000
△	.000
✕	5.000
□	10.000

PARAMETRIC VALUES

ALPHA	10.000	MACH	.169
ELEVON	.000	BDFLAP	.000
SPOBRK	25.000	PHI-N	.000
THETAN	.000	PHI-M	.000
RN/L	1.190		

DATASET	THETAM	DATASET	THETAM
AFFH01	.000	AFFH06	1.100
AFFH08	2.400	AFFH10	5.000
AFFH12	6.200	AFFH13	11.190
AFFH14	20.000	AFFH15	35.000
AFFH16	50.000	AFFH17	65.000
AFFH18	80.000	AFFH20	98.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

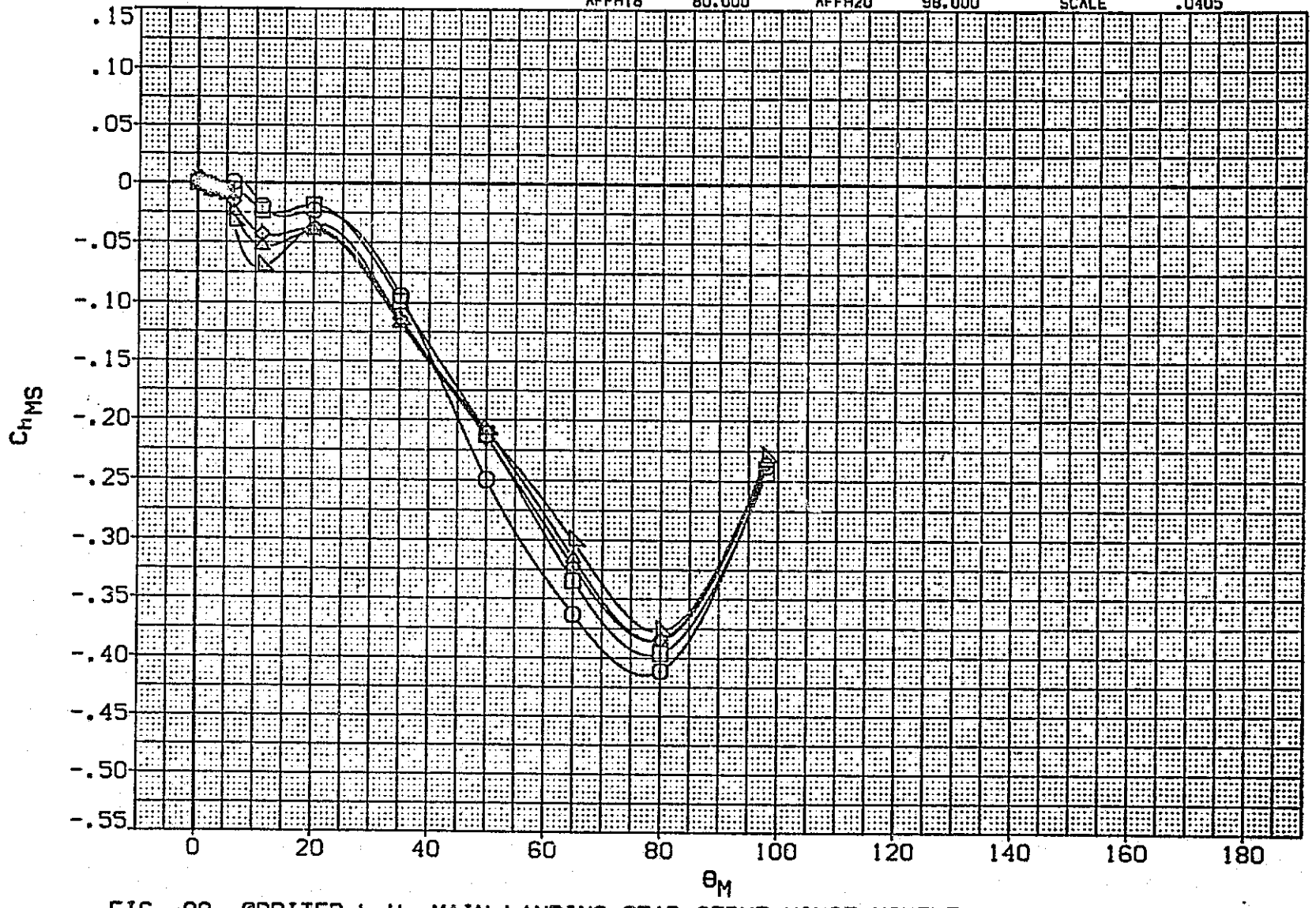

FIG. 09 ORBITER L.H. MAIN LANDING GEAR STRUT HINGE MOMENT

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XB
YMRP	.0000	IN. YB
ZMRP	375.0000	IN. ZB
SCALE	.0405	

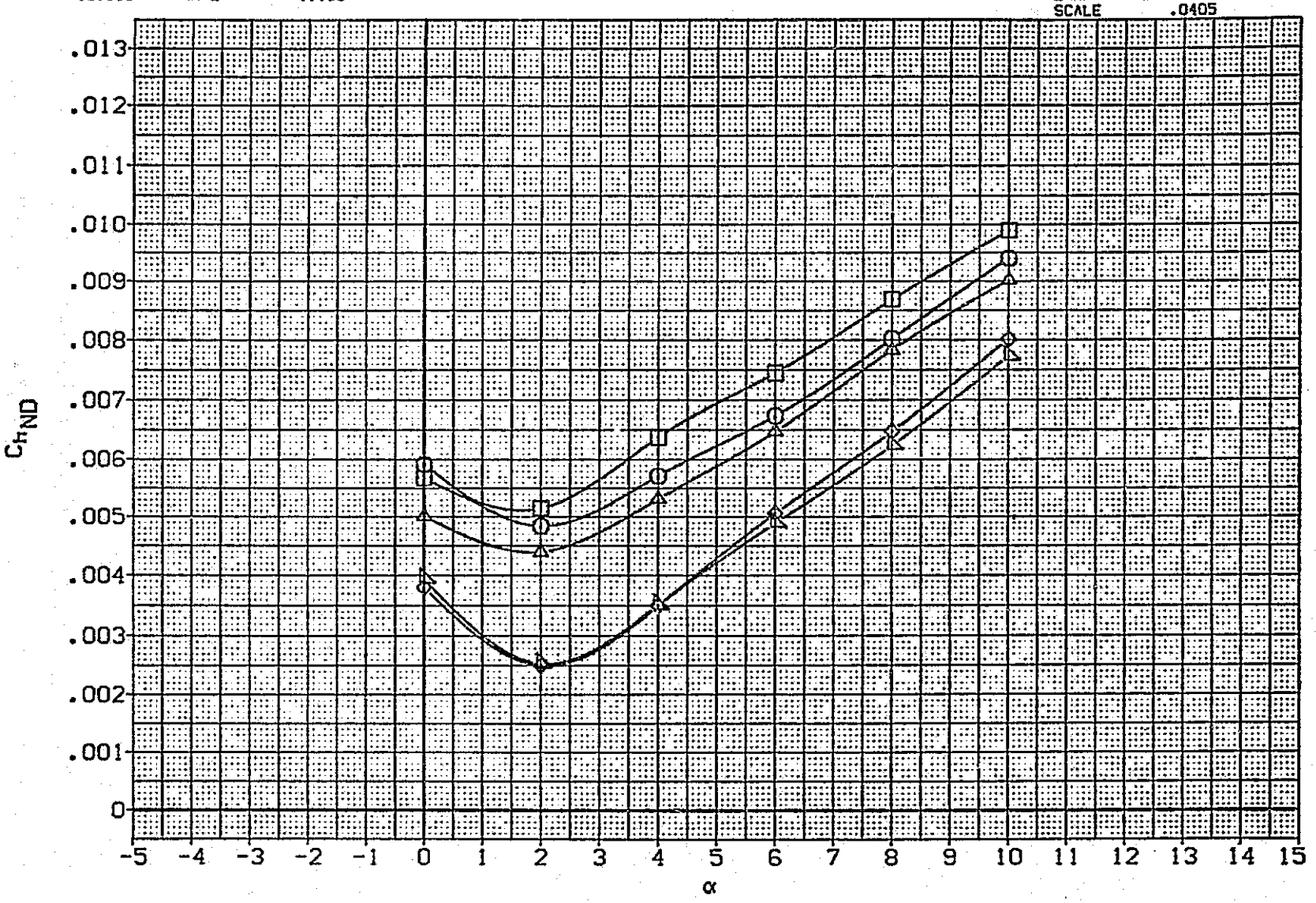

FIG. 10 HINGE MOMENT COEFFICIENTS - LANDING GEAR RETRACTED

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

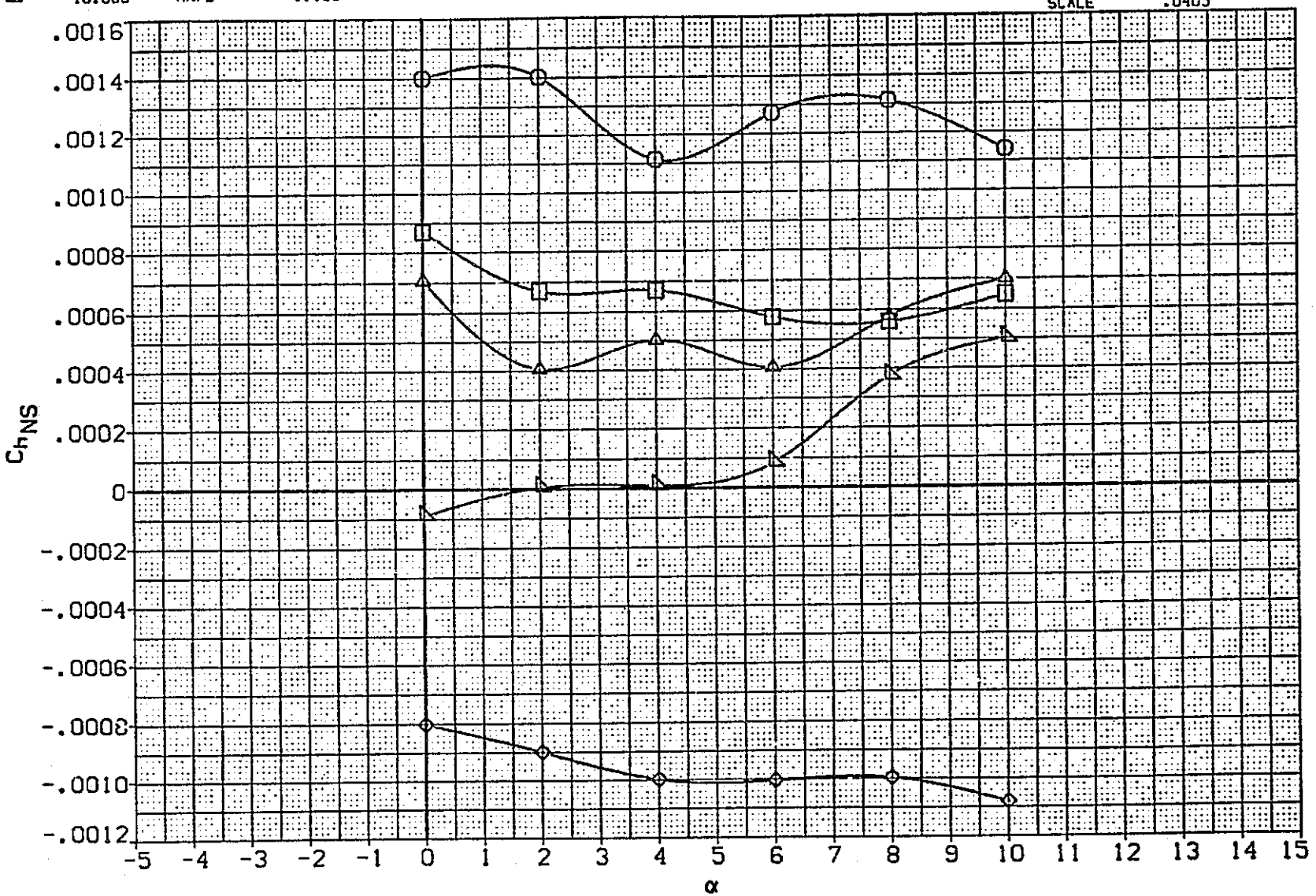

FIG. 10 HINGE MOMENT COEFFICIENTS - LANDING GEAR RETRACTED

(AFFH01) 0A163 B68C12G20M16N28W127E55F10V8R5X9.

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
▽	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	.000	THETAN	.000
PHI-M	.000	THETAM	.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.0100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

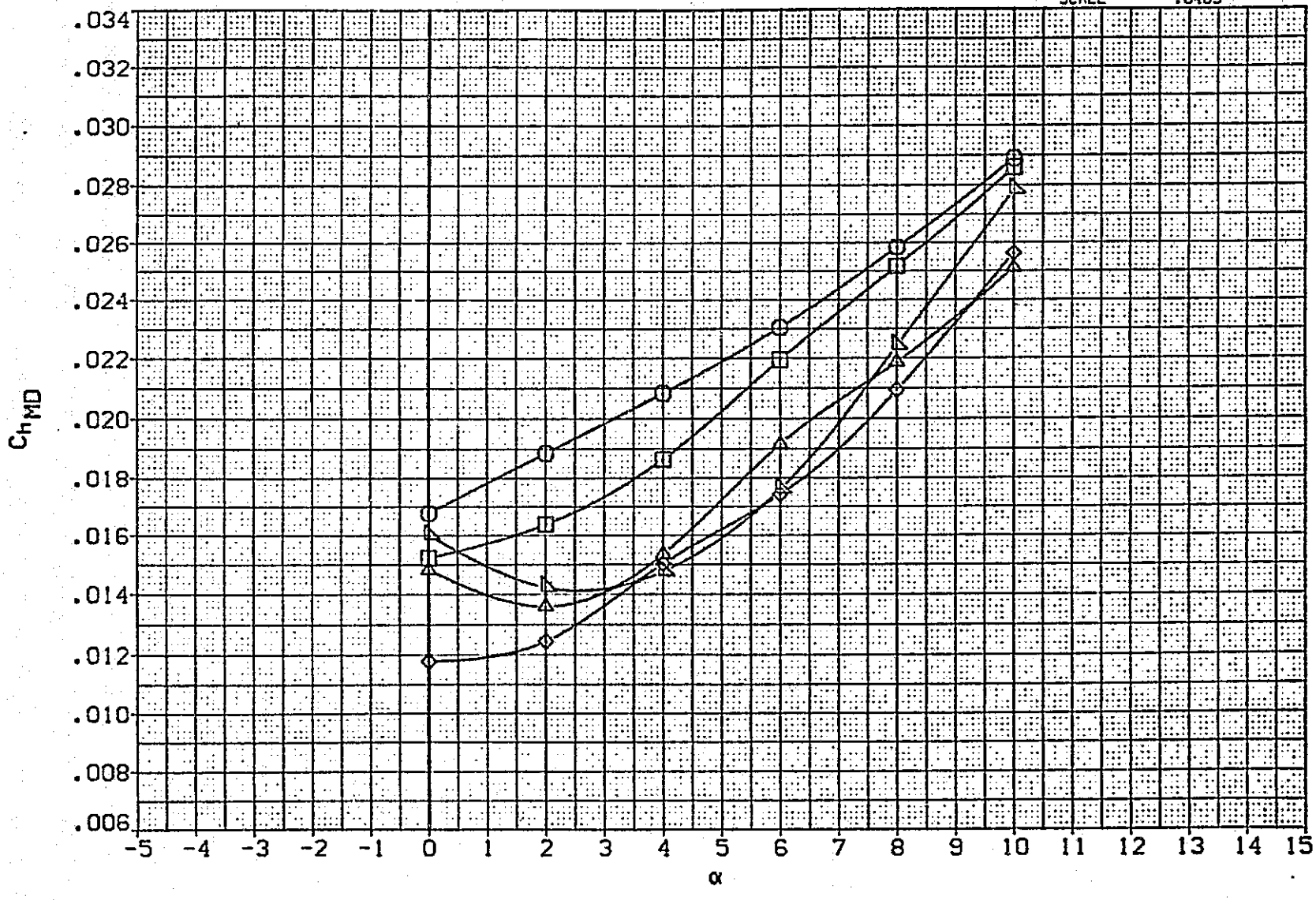

FIG. 10 HINGE MOMENT COEFFICIENTS - LANDING GEAR RETRACTED

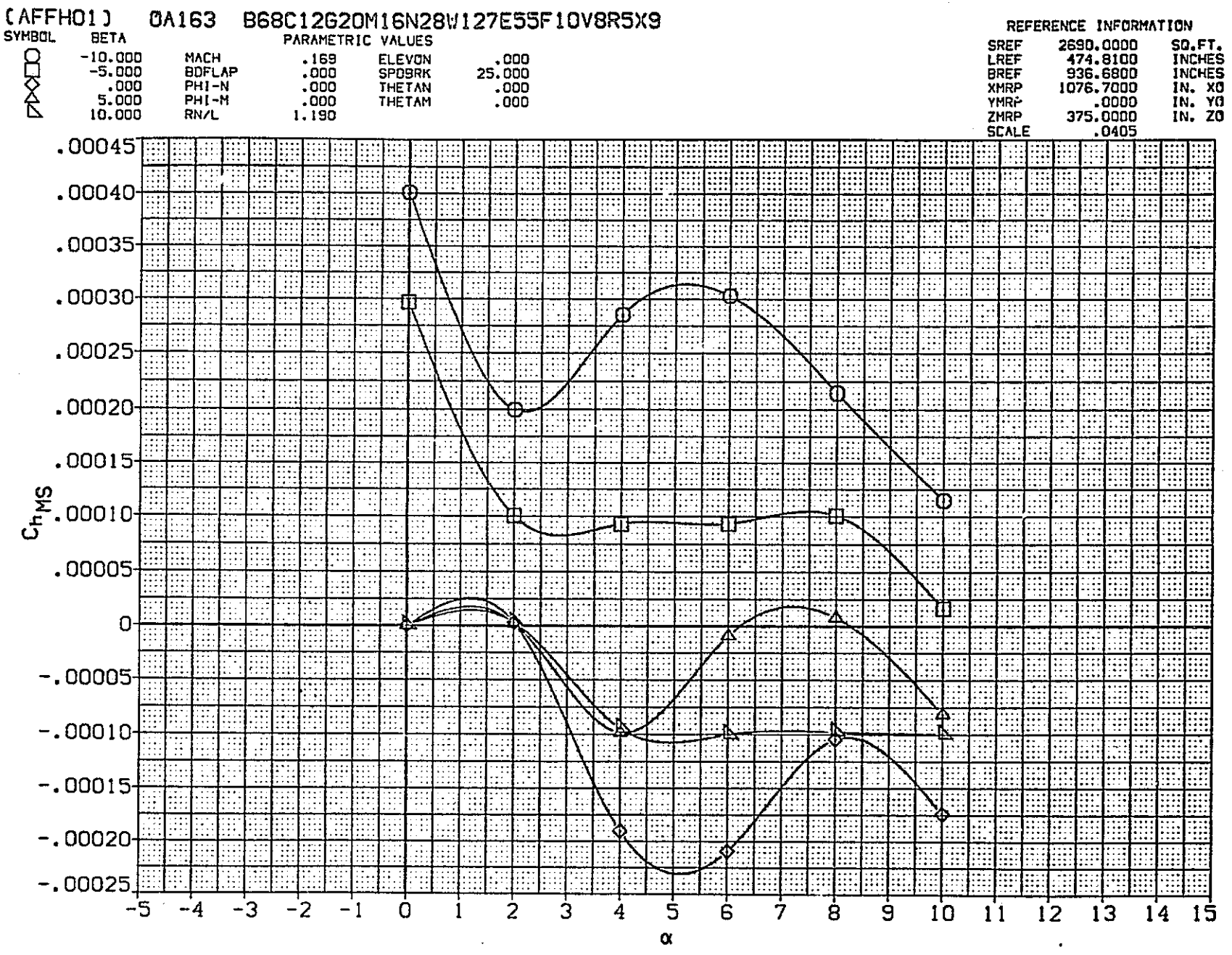

FIG. 10 HINGE MOMENT COEFFICIENTS - LANDING GEAR RETRACTED

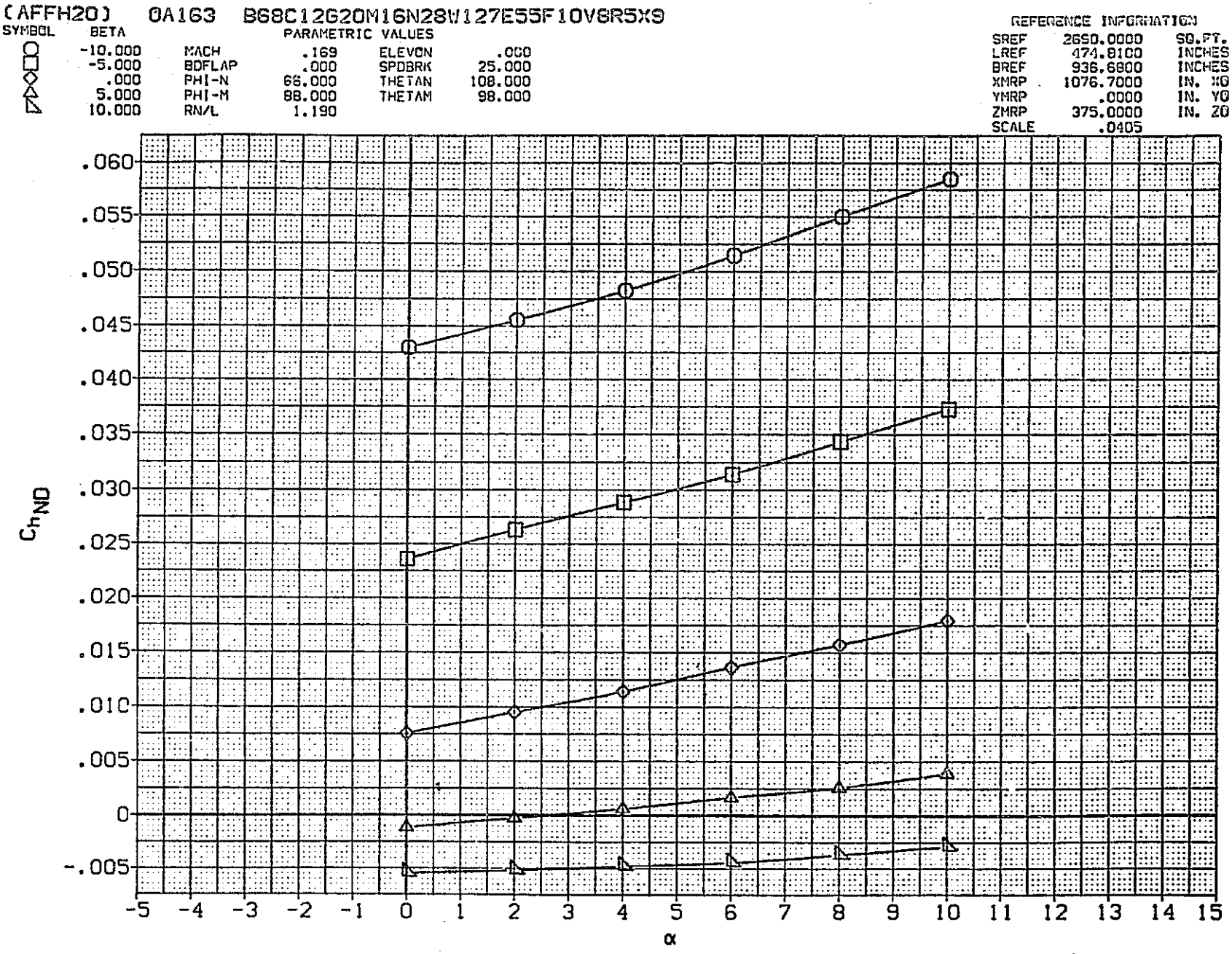

FIG. 11 HINGE MOMENT COEFFICIENTS - LANDING GEAR FULLY DEPLOYED

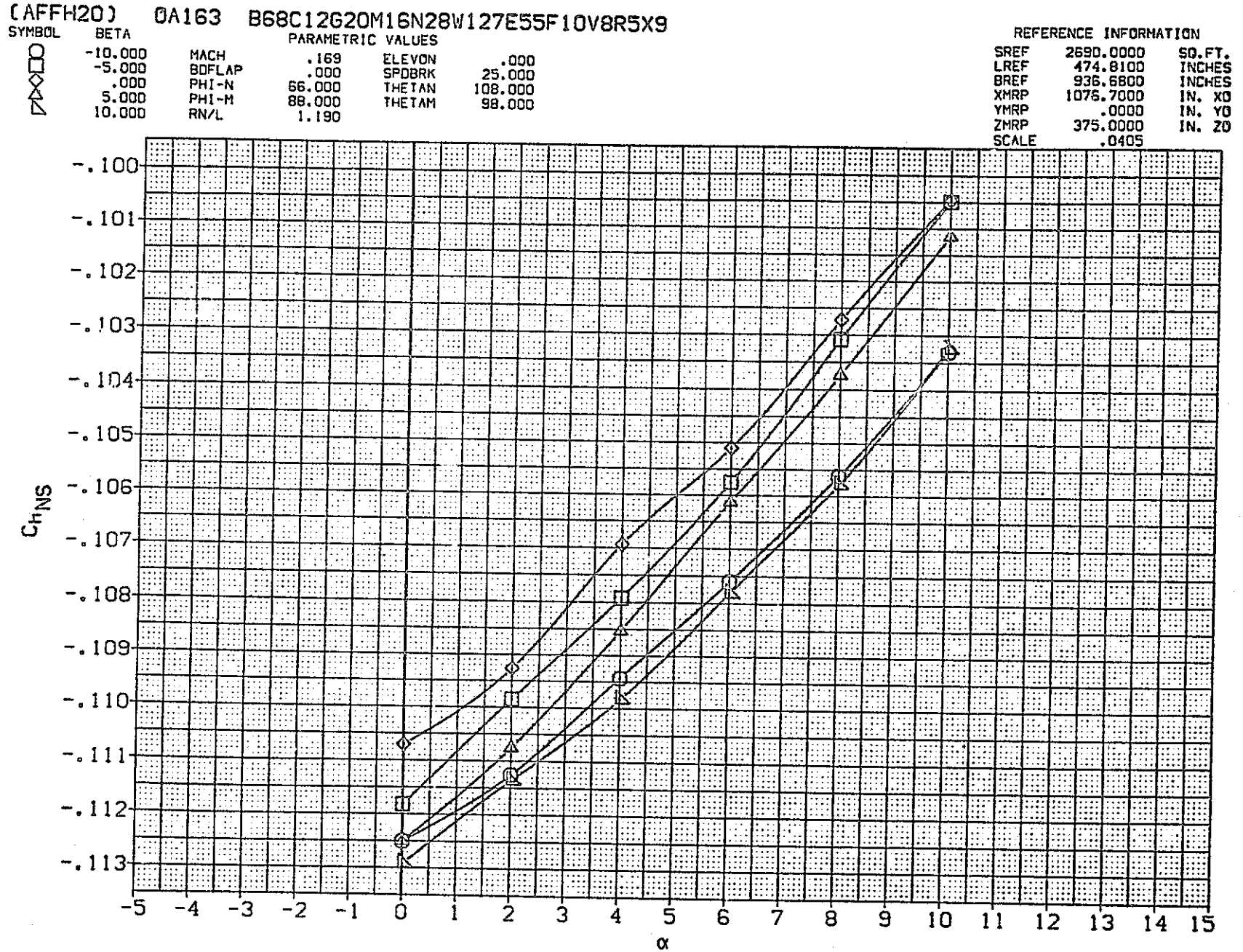

FIG. 11 HINGE MOMENT COEFFICIENTS - LANDING GEAR FULLY DEPLOYED

(AFFH20) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
○	-10.000
□	-5.000
◇	.000
△	5.000
◁	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

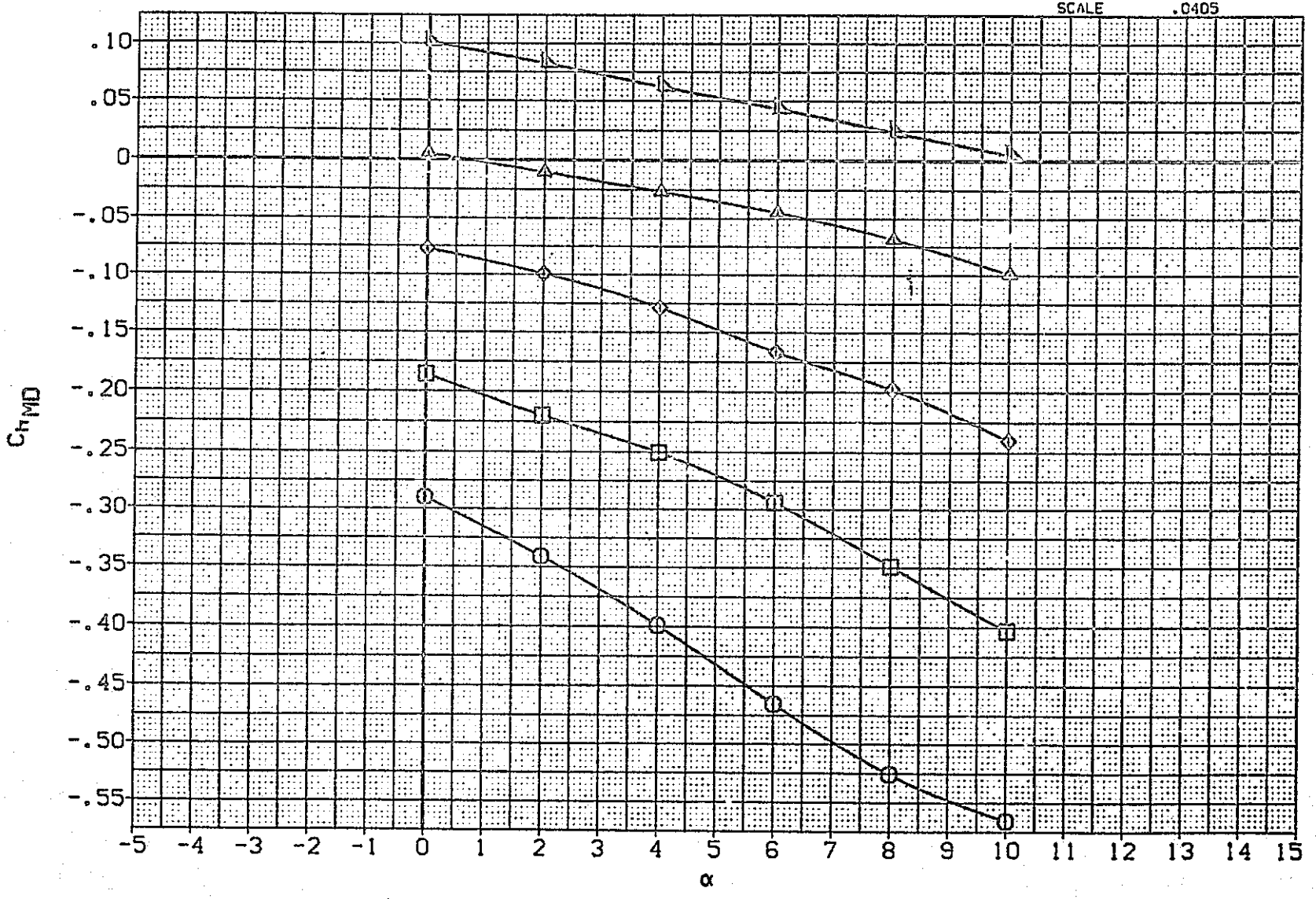

FIG. 11 HINGE MOMENT COEFFICIENTS - LANDING GEAR FULLY DEPLOYED

(AFFH20) 0A163 B68C12G20M16N28W127E55F10V8R5X9

SYMBOL	BETA
▽	-10.000
◇	-5.000
□	.000
△	5.000
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	.000	SPDBRK	25.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

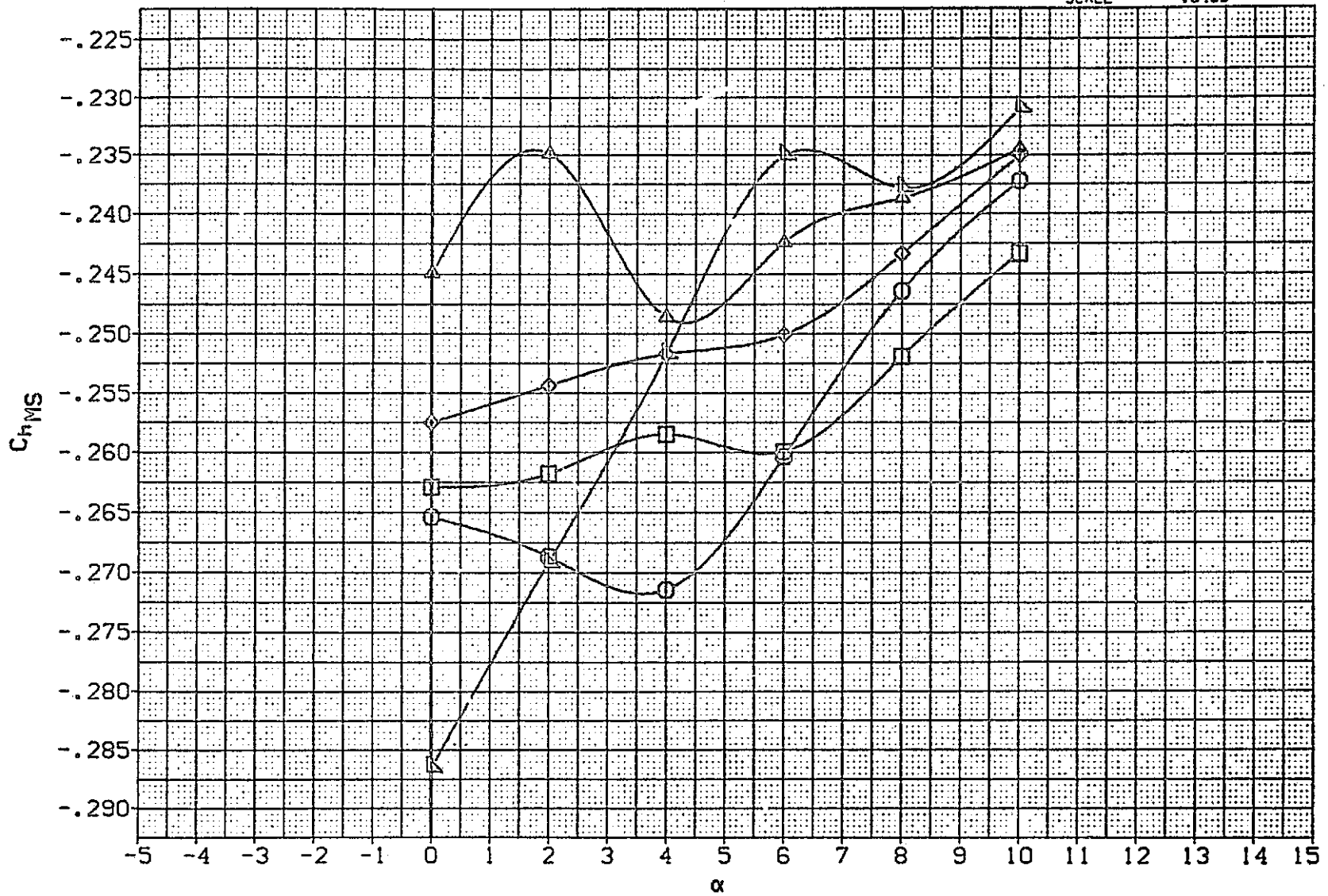

FIG. 11 HINGE MOMENT COEFFICIENTS - LANDING GEAR FULLY DEPLOYED

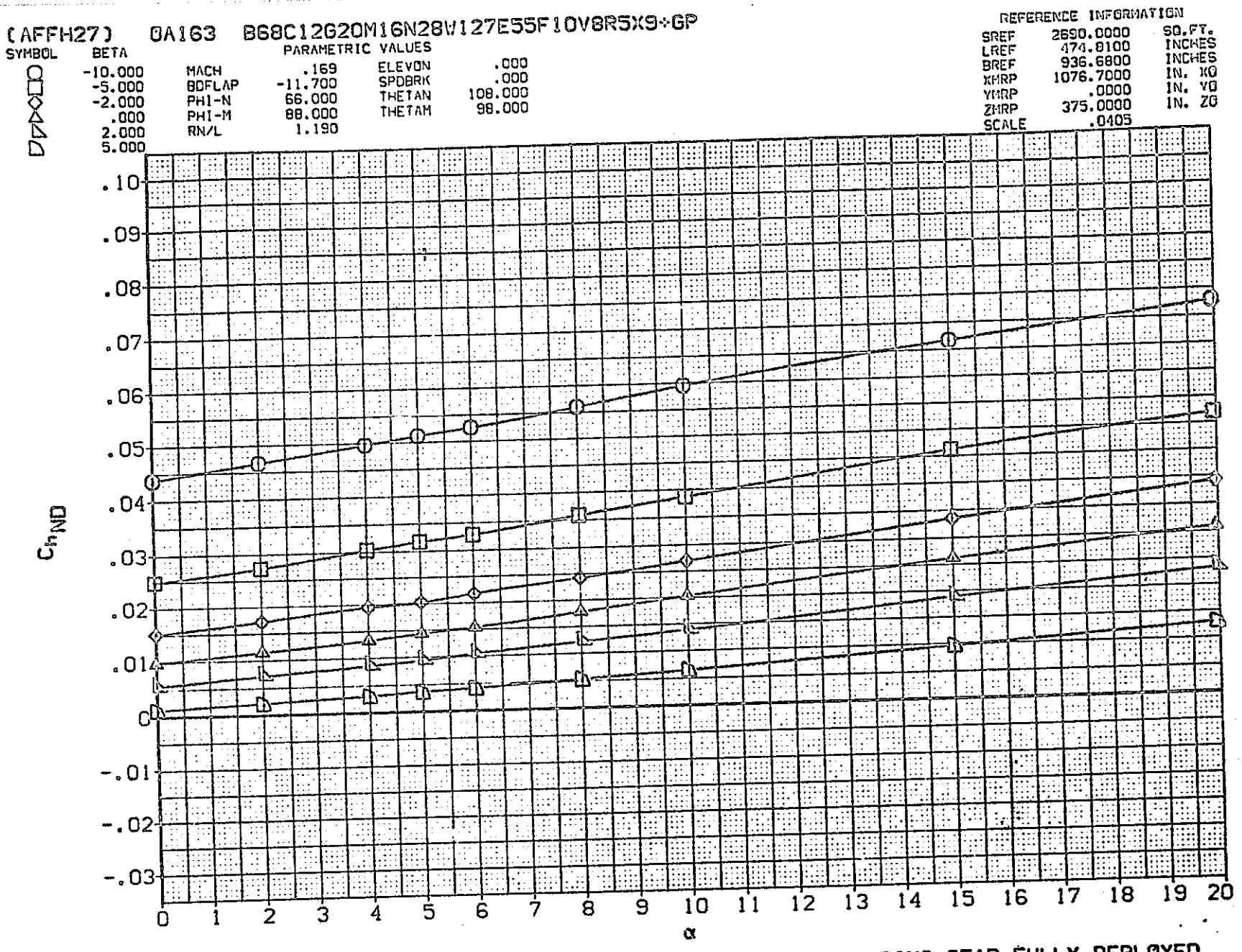

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

(AFFH27) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
O	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BOFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

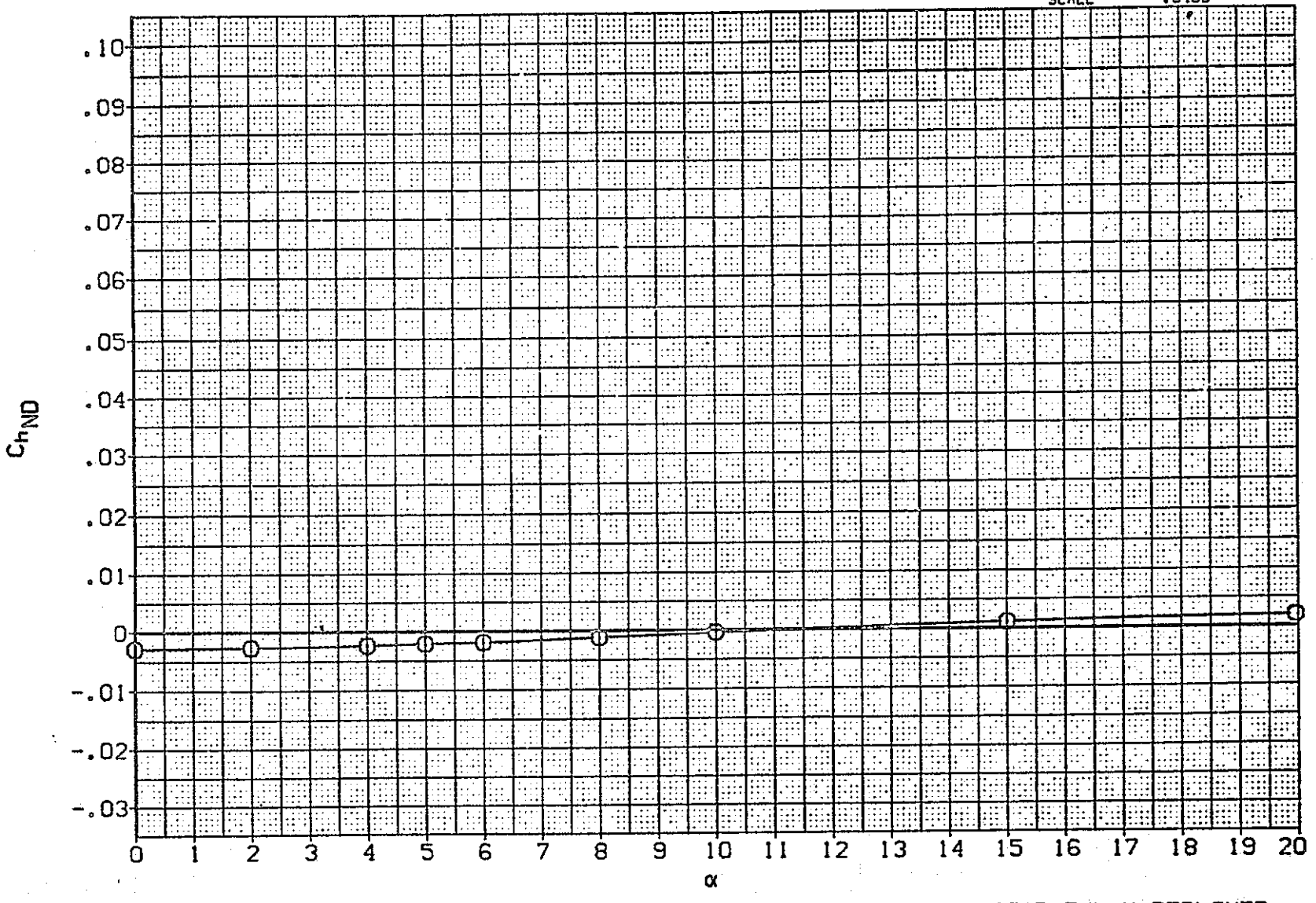

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

(AFFH27) 0A163 B68C12G20M16N28W127E55F10V8R5X9*GP

SYMBOL	BETA
□	-10.000
◇	-5.000
△	-2.000
○	.000
▽	2.000
⊲	5.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XQ
YMRP	.0000	IN. YQ
ZMRP	375.0000	IN. ZQ
SCALE	.0405	

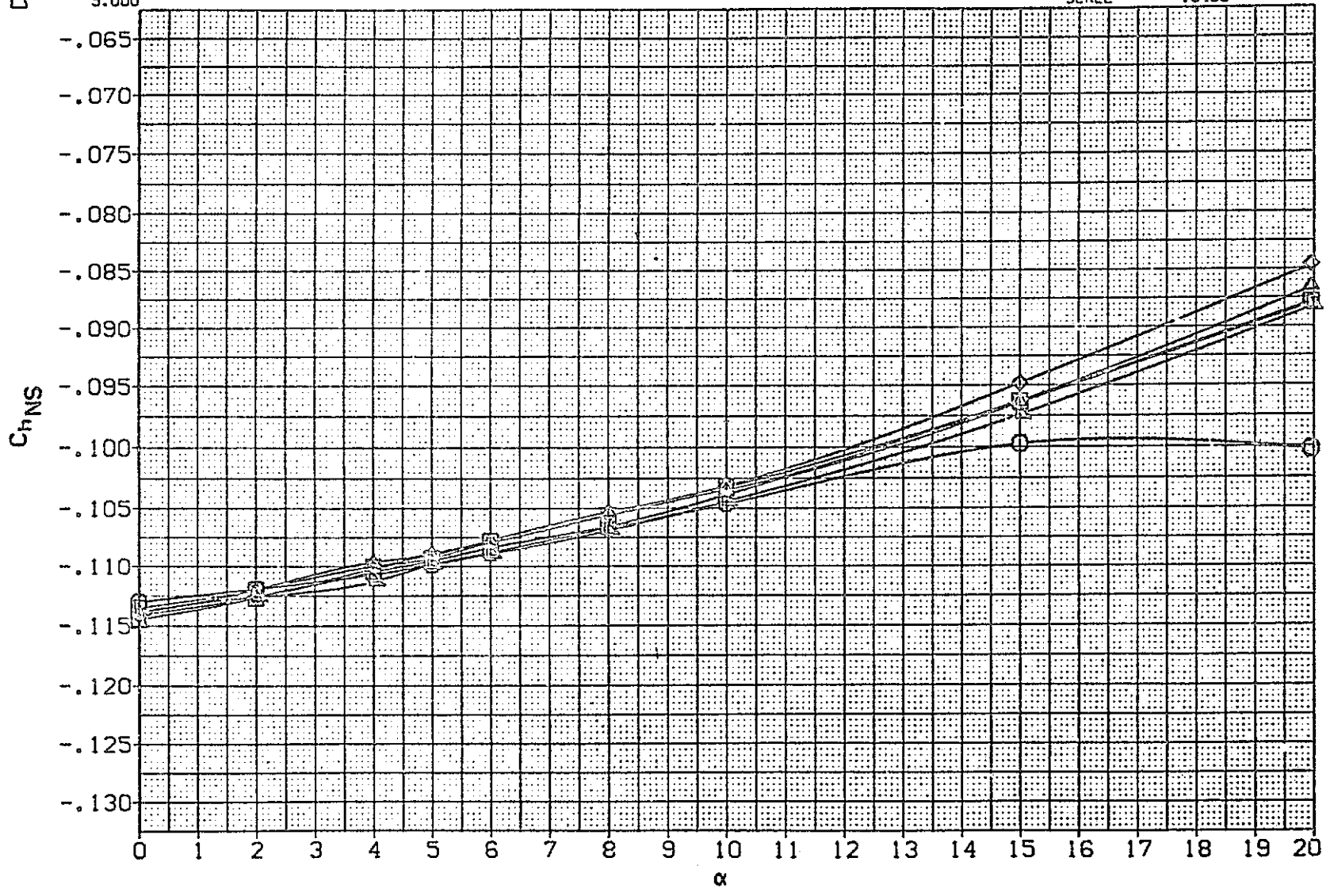

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

(AFFH27) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
○	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XO
YMRP	.0000	IN. YO
ZMRP	375.0000	IN. ZO
SCALE	.0405	

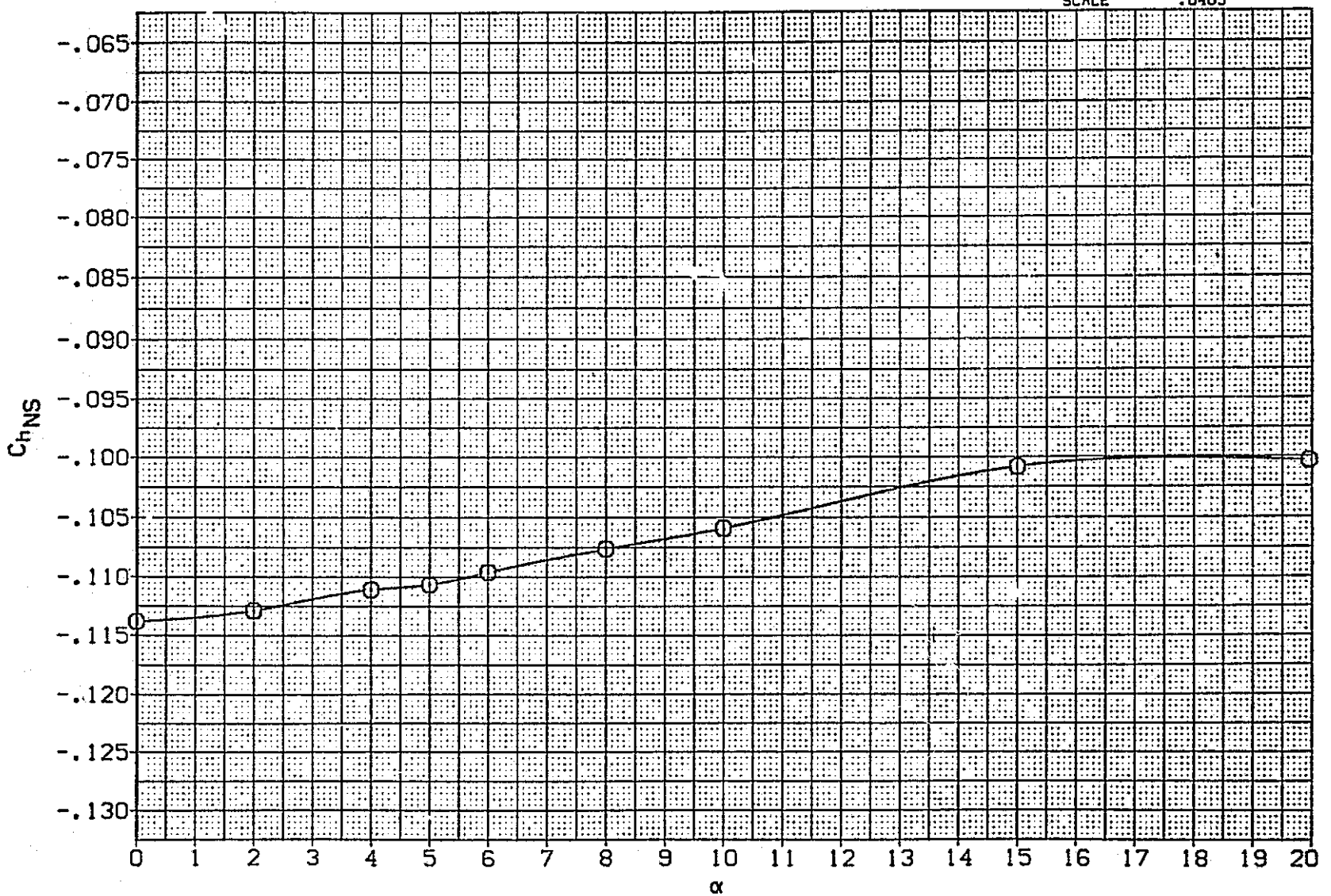

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

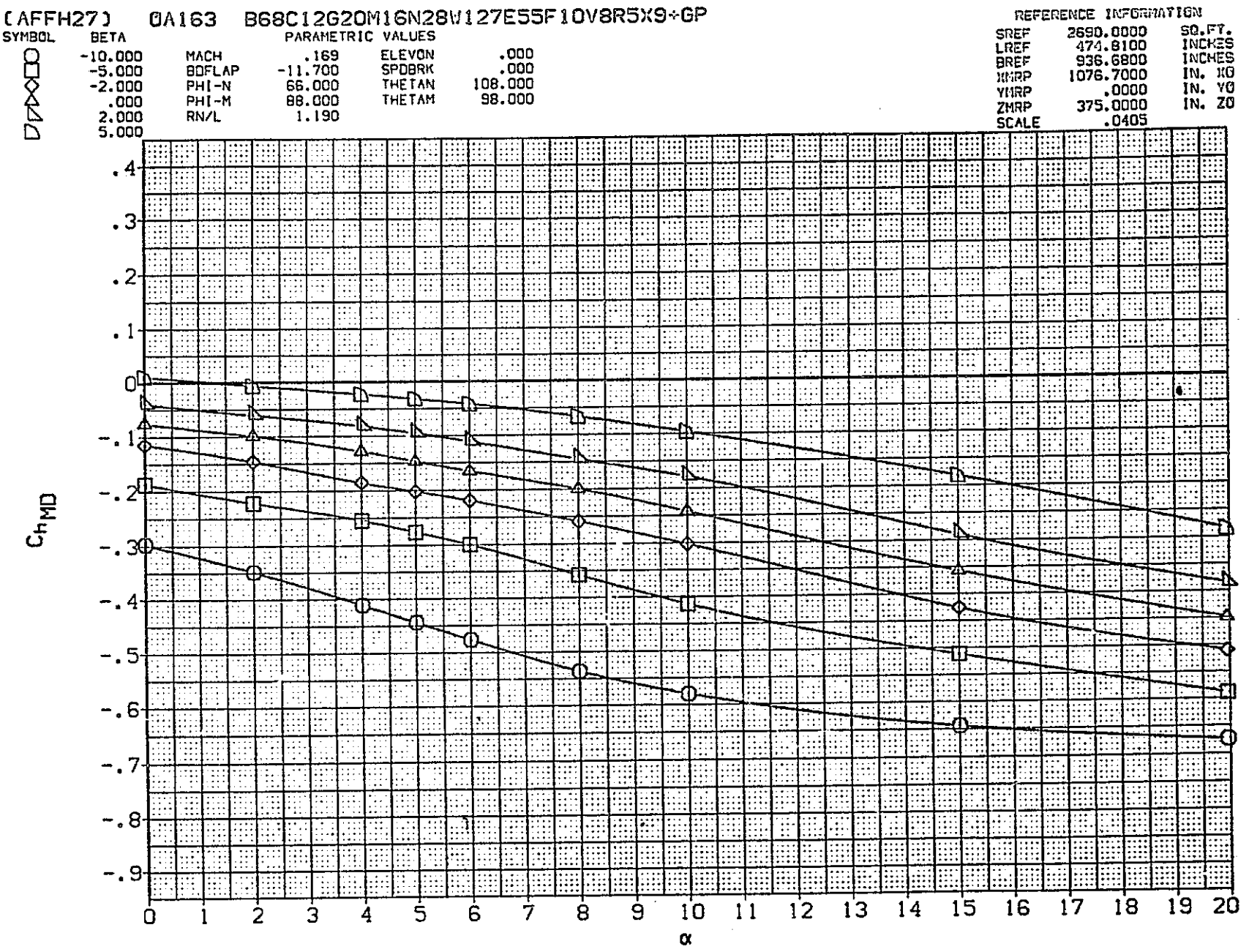

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

(AFFH27) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP

SYMBOL	BETA
O	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPDBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. X0
YMRP	.0000	IN. Y0
ZMRP	375.0000	IN. Z0
SCALE	.0405	

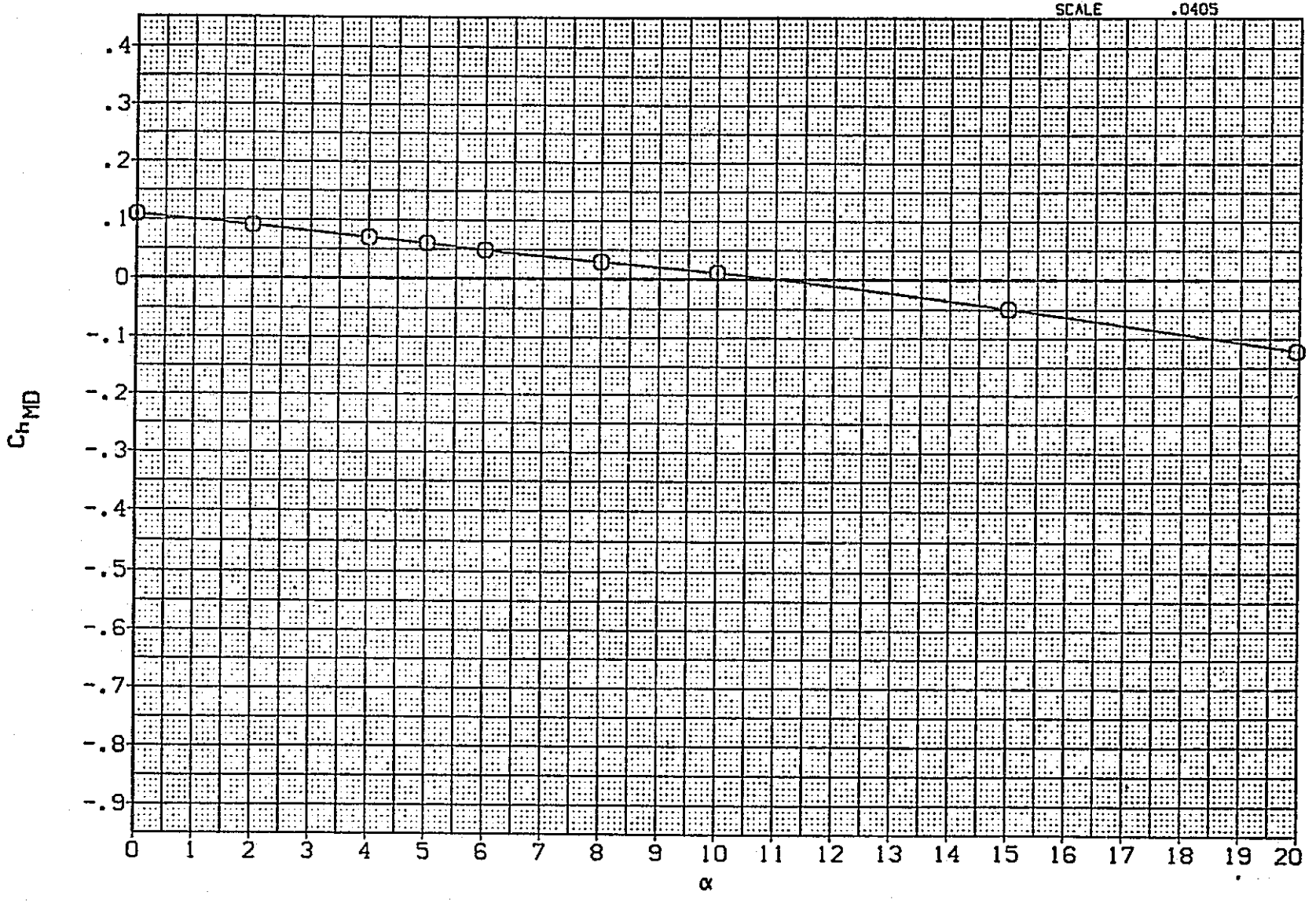

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

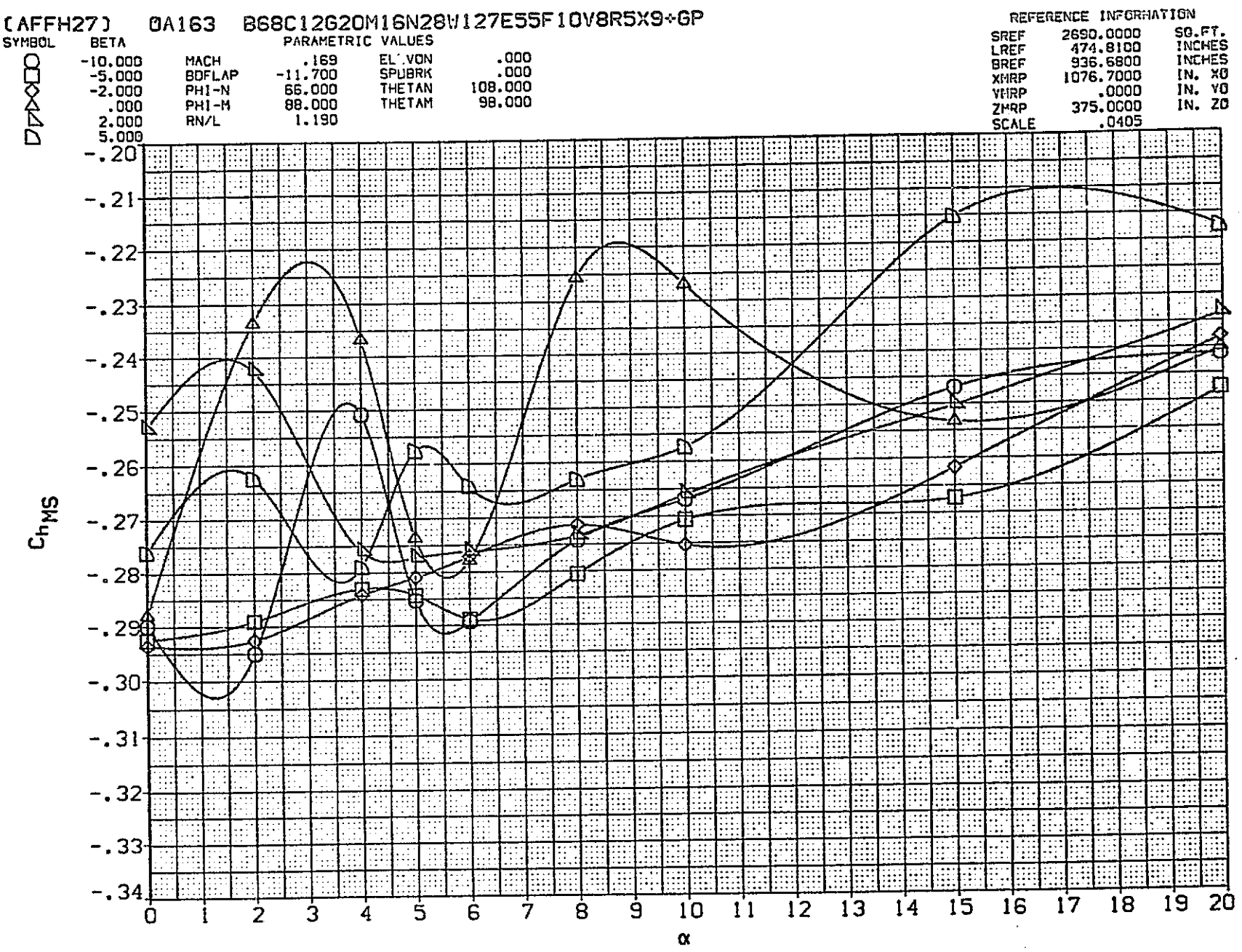

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

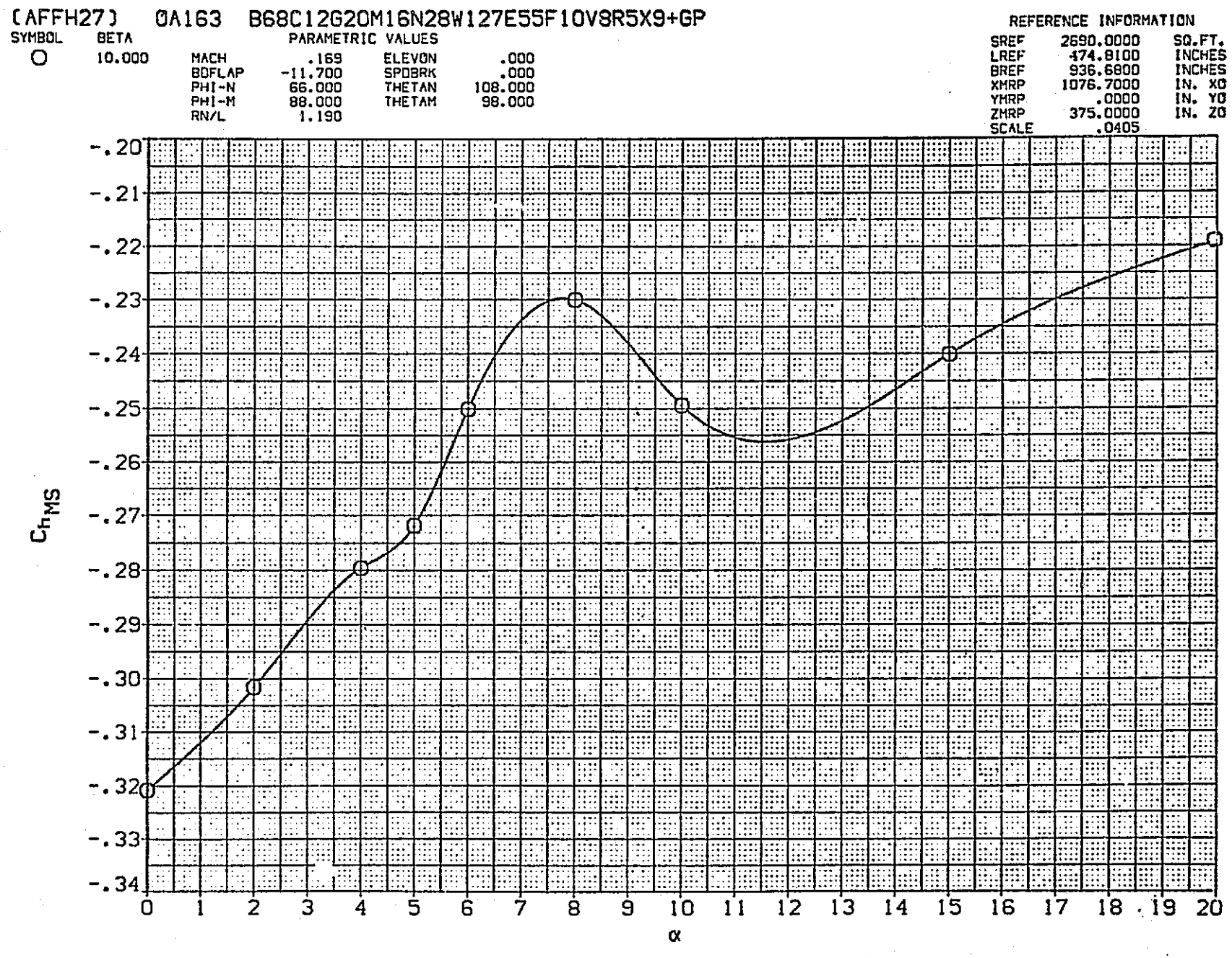

FIG. 12 HINGE MOMENT COEFFICIENTS W/GROUND PLANE - LANDING GEAR FULLY DEPLOYED

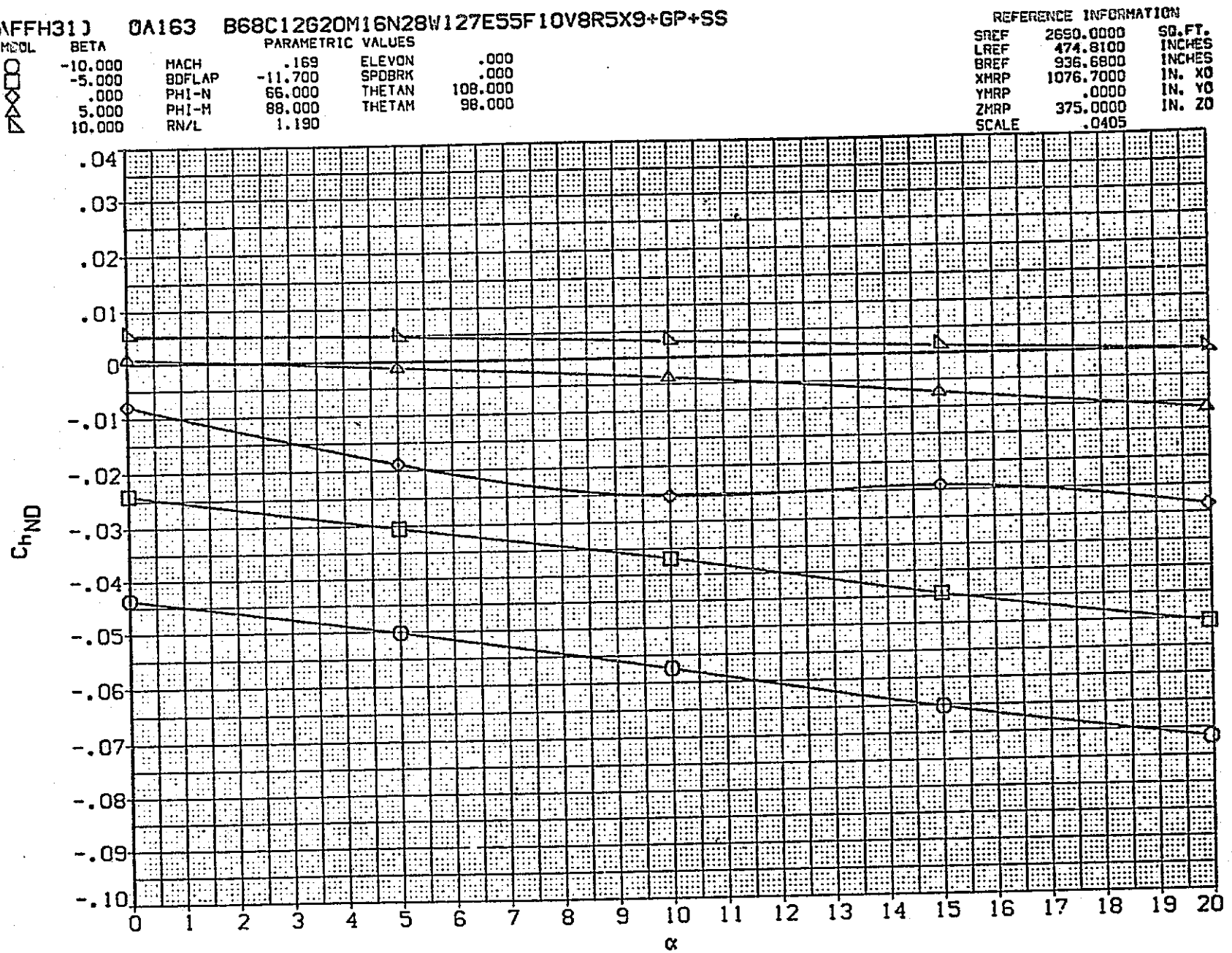

FIG. 13 HINGE MOMENT COEFFICIENTS W/GROUND PLANE AND SIMULATED SUPPORT STRUTS

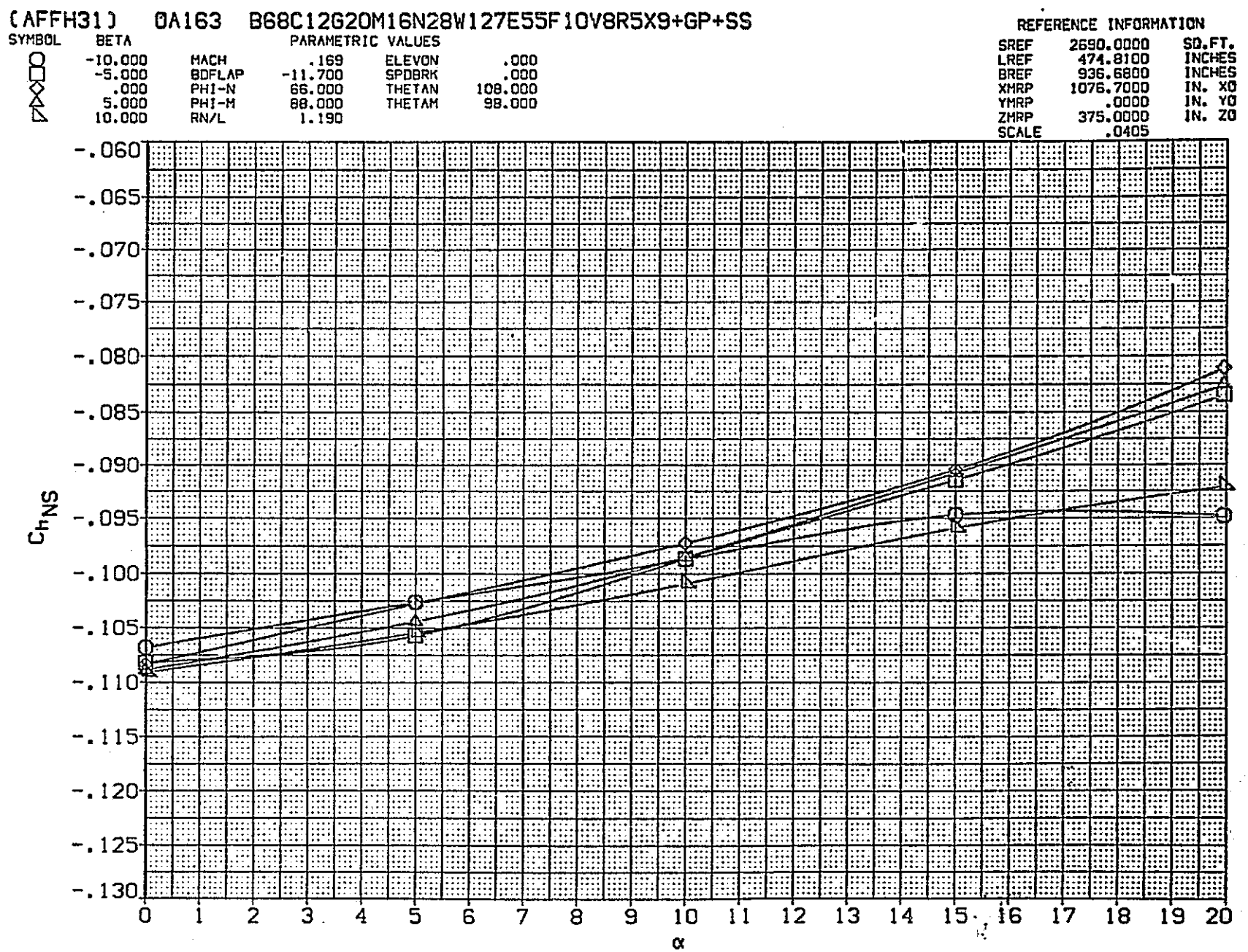

FIG. 13 HINGE MOMENT COEFFICIENTS W/GROUND PLANE AND SIMULATED SUPPORT STRUTS

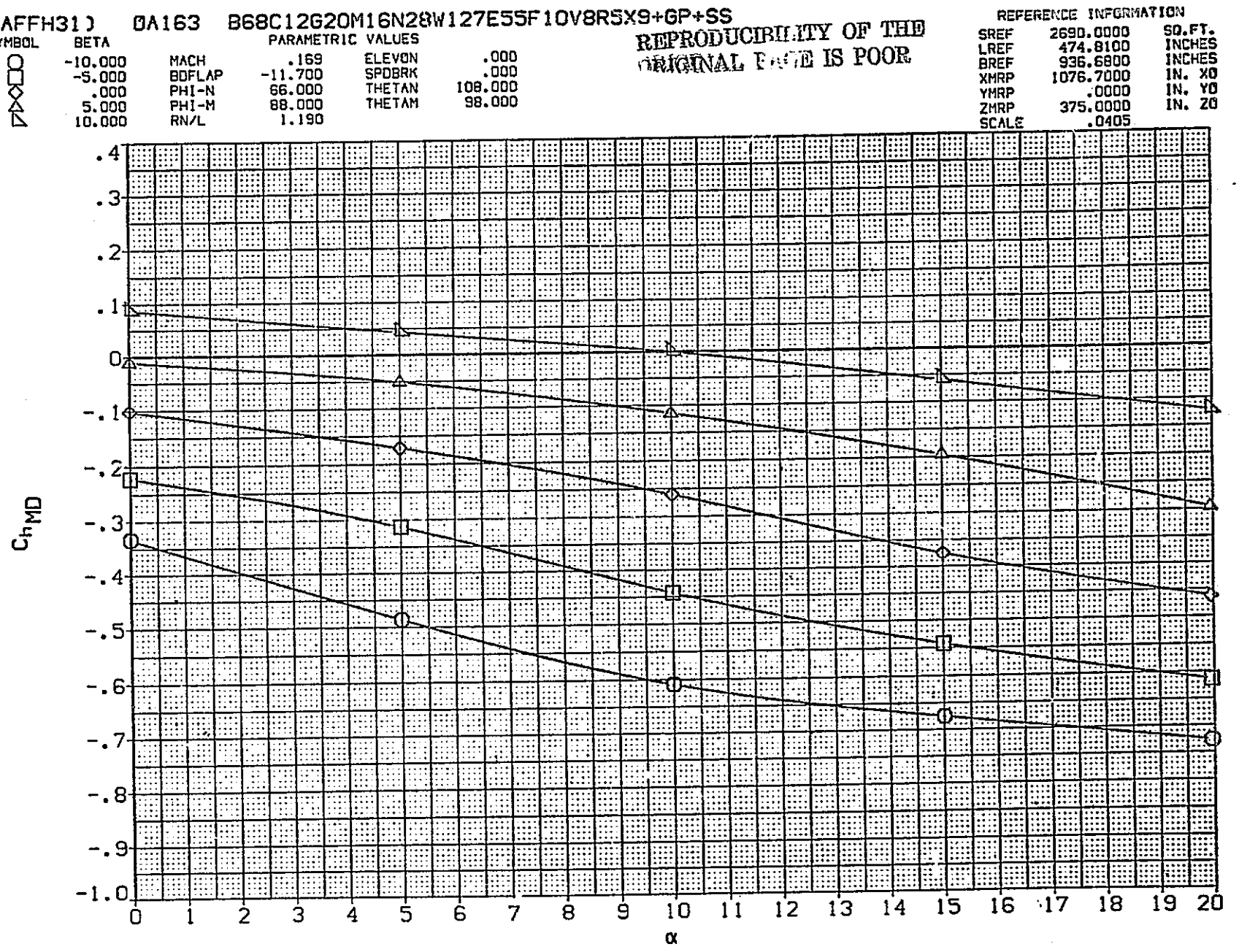

FIG. 13 HINGE MOMENT COEFFICIENTS W/GROUND PLANE AND SIMULATED SUPPORT STRUTS

(AFFH31) 0A163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS

SYMBOL	BETA
□	-10.000
□	-5.000
◇	.000
◇	5.000
△	10.000

PARAMETRIC VALUES

MACH	.169	ELEVON	.000
BDFLAP	-11.700	SPOBRK	.000
PHI-N	66.000	THETAN	108.000
PHI-M	88.000	THETAM	98.000
RN/L	1.190		

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	474.8100	INCHES
BREF	936.6800	INCHES
XMRP	1076.7000	IN. XG
YMRP	.0000	IN. YG
ZMRP	375.0000	IN. ZG
SCALE	.0405	

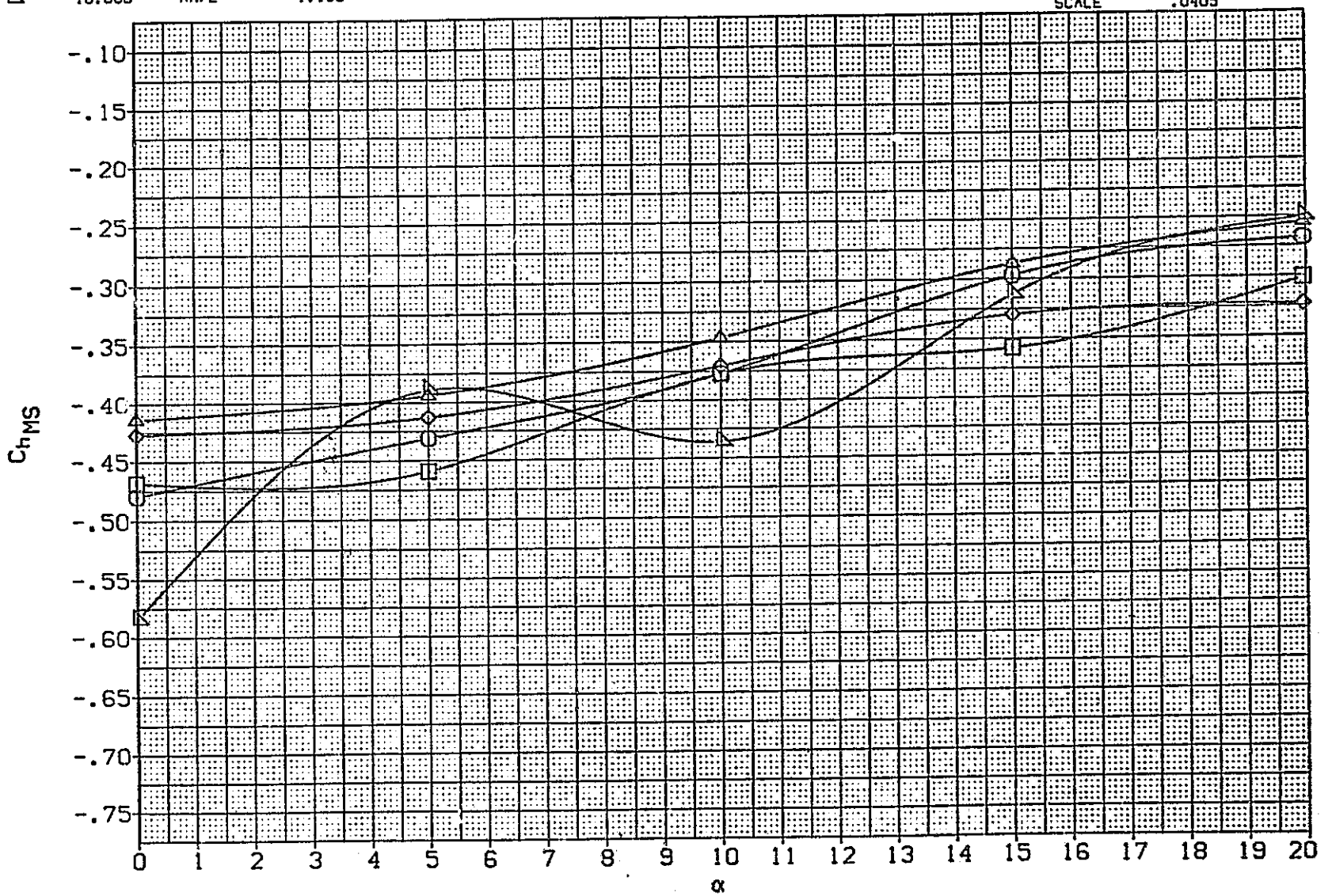

FIG. 13 HINGE MOMENT COEFFICIENTS W/GROUND PLANE AND SIMULATED SUPPORT STRUTS

APPENDIX

Tabulated Force Data

Tabulations of plotted data are available on request from Data Management Services.

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF001) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = .000 THETAN = .000
PHI-M = .000 THETAM = .000
RN/L = 1.190

RUN NO. 5/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.120	.010	.01060	.01690	.00370	.01060	.01690	-.01660	.00940	.18800	.70440	.04057
-10.120	2.090	.10550	.01820	.00460	.10610	.01438	-.01750	.01150	.18900	.81820	.04082
-10.120	4.220	.20090	.02250	.00520	.20200	.00764	-.01650	.01360	.19100	.82480	.04169
-10.120	6.200	.28810	.03050	.00510	.28980	-.00077	-.01940	.01620	.19100	.82780	.04174
-10.120	8.310	.38950	.04390	.00690	.39180	-.01290	-.02080	.01830	.19400	.82790	.04267
-10.120	10.330	.48970	.06110	.00540	.49270	-.02777	-.02250	.02050	.19400	.83030	.04382
	GRADIENT	.04520	.00133	.00036	.04546	-.00220	-.00045	.00100	.00071	.02850	.00027

RUN NO. 4/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.090	.010	-.00420	.02790	.01480	-.00420	.02795	-.00830	.00440	.09800	2.13240	.03944
-5.090	2.050	.08820	.02870	.01500	.08910	.02558	-.00870	.00540	.09800	.77220	.03897
-5.090	4.120	.18350	.03310	.01490	.18540	.01982	-.00870	.00600	.09900	.80480	.03930
-5.090	6.220	.27950	.04030	.01410	.28220	.00983	-.00890	.00700	.10000	.81600	.03922
-5.090	8.280	.37380	.05140	.01430	.37730	-.00293	-.01000	.00820	.10100	.82040	.03916
-5.090	10.320	.47080	.06820	.01560	.47540	-.01722	-.01100	.01020	.10000	.82220	.03890
	GRADIENT	.04567	.00127	.00002	.04613	-.00198	-.00010	.00039	.00024	-.32219	-.00003

RUN NO. 1/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.01200	.03290	.01910	-.01200	.03292	-.00140	.00020	.00800	1.42240	.03881
.000	2.050	.08040	.03340	.01990	.08150	.03050	-.00110	.00020	.00700	.74440	.03830
.000	4.130	.17690	.03750	.01950	.17920	.02472	-.00120	.00000	.00900	.79430	.03775
.000	6.190	.26820	.04440	.01950	.27150	.01520	-.00120	-.00010	.01000	.80790	.03708
.000	8.300	.36600	.05530	.01870	.37220	.00157	-.00080	-.00040	.01300	.81580	.03717
.000	10.350	.46140	.07110	.02090	.46660	-.01296	-.00120	-.00040	.01100	.81790	.03769
	GRADIENT	.04574	.00112	.00010	.04630	-.00199	.00005	-.00005	.00024	-.15165	-.00026

RUN NO. 3/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
4.970	.010	-.00920	.02850	.01460	-.00920	.02858	.00590	-.00360	-.08300	1.41920	.03945
4.970	2.060	.08670	.02940	.01520	.08770	.02635	.00620	-.00530	-.08300	.77050	.03892
4.970	4.150	.17980	.03410	.01470	.18180	.02104	.00620	-.00630	-.07900	.80450	.03877
4.970	6.200	.27500	.04100	.01370	.27780	.01106	.00640	-.00730	-.08000	.81610	.03913
4.970	8.250	.37100	.05240	.01410	.37460	-.00139	.00690	-.00860	-.07900	.82050	.03900
4.970	10.330	.46810	.06920	.01450	.47300	-.01587	.00760	-.01120	-.07800	.82310	.03865
	GRADIENT	.04565	.00136	.00002	.04613	-.00182	.00007	-.00065	.00097	-.14794	-.00016

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF001) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	.000	THETAN =	.000
PHI-M =	.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 2/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.040	.020	.00240	.01740	.00460	.00240	.01742	.01480	-.00840	-.17600	.14250	.04074
10.040	2.100	.09490	.01880	.00520	.09550	.01534	.01540	-.01100	-.17500	.81410	.04084
10.040	4.150	.19100	.02370	.00550	.19220	.00986	.01640	-.01350	-.17600	.82380	.04086
10.040	6.200	.28400	.03220	.00680	.28580	.00133	.01740	-.01650	-.17500	.82560	.04162
10.040	8.250	.37890	.04470	.00720	.38140	-.01015	.01810	-.01920	-.17600	.82740	.04304
10.040	10.370	.48420	.06260	.00480	.48760	-.02562	.01890	-.02180	-.17200	.83070	.04494
	GRADIENT	.04566	.00152	.00022	.04595	-.00183	.00039	-.00123	.00000	.16535	.00003

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF002) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	.260	THETAN =	.000
PHI-M =	.230	THETAM =	.000
RN/L =	1.190		

RUN NO. 10/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.050	.040	.01450	.01670	.00480	.01460	.01674	-.01700	.00920	.18700	.71310	.04079
-10.050	2.090	.10510	.01780	.00420	.10570	.01399	-.01760	.01160	.18800	.81960	.04070
-10.050	4.170	.20190	.02240	.00500	.20300	.00764	-.01860	.01380	.19200	.82520	.04109
-10.050	6.240	.29660	.03130	.00620	.29820	-.00114	-.02000	.01610	.19200	.82660	.04172
-10.050	8.270	.38810	.04380	.00720	.39030	-.01242	-.02120	.01830	.19200	.82760	.04239
-10.050	10.340	.48770	.06140	.00550	.49080	-.02707	-.02220	.02040	.19300	.83020	.04367
	GRADIENT	.04538	.00138	.00005	.04562	-.00221	-.00039	.00111	.00121	.02708	.00007

RUN NO. 9/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.030	.010	-.00310	.02790	.01490	-.00310	.02790	-.00840	.00450	.09700	2.58120	.03895
-5.030	2.090	.09220	.02930	.01470	.09320	.02599	-.00880	.00550	.09500	.77620	.03869
-5.030	4.150	.18650	.03370	.01510	.18840	.02015	-.00890	.00630	.09700	.80490	.03867
-5.030	6.190	.28080	.04060	.01440	.28360	.01006	-.00910	.00700	.09800	.81570	.03875
-5.030	8.260	.37670	.05190	.01480	.38030	-.00272	-.01020	.00830	.09900	.82010	.03902
-5.030	10.430	.47570	.06900	.01510	.48030	-.01826	-.01080	.01010	.10100	.82280	.03886
	GRADIENT	.04580	.00140	.00005	.04626	-.00187	-.00012	.00043	-.00000	-.42977	-.00007

OA163 B6BC12G20M16N28W127E55F10V8R5X9 (RFF002) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = .260 THETAN = .000
PHI-M = .230 THETAM = .000
RN/L = 1.190

RUN NO. 8/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.010	.030	-.00810	.03270	.01960	-.00810	.03280	-.00160	.00030	.00700	1.72230	.03870
.010	2.050	.08420	.03380	.02010	.08530	.03076	-.00140	.00010	.00900	.74770	.03796
.010	4.200	.18090	.03740	.02040	.18320	.02412	-.00100	.00010	.00900	.79340	.03747
.010	6.190	.27120	.04450	.01980	.27440	.01507	-.00130	-.00020	.00900	.80780	.03679
.010	8.290	.37110	.05550	.01910	.37520	.00139	-.00110	-.00020	.01100	.81570	.03659
.010	10.320	.46500	.07190	.02150	.47030	-.01259	-.00120	-.00010	.01000	.81750	.03747
	GRADIENT	.04532	.00113	.00019	.04587	-.00209	.00014	-.00005	.00047	-.22014	-.00029

RUN NO. 7/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.040	.030	-.00700	.02820	.01490	-.00700	.02827	.00570	-.00370	-.08100	1.61870	.03888
5.040	2.060	.08430	.02950	.01540	.08530	.02649	.00590	-.00500	-.08200	.76770	.03882
5.040	4.110	.18010	.03350	.01530	.18210	.02057	.00620	-.00640	-.08000	.80340	.03891
5.040	6.180	.27490	.04090	.01390	.27770	.01109	.00610	-.00700	-.08000	.81590	.03870
5.040	8.250	.37210	.05250	.01410	.37580	-.00140	.00680	-.00870	-.07900	.82050	.03875
5.040	10.380	.47120	.06980	.01430	.47610	-.01625	.00750	-.01090	-.07800	.82330	.03868
	GRADIENT	.04586	.00130	.00010	.04635	-.00189	.00012	-.00066	.00025	-.19947	.00001

RUN NO. 6/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.100	.000	.00520	.01560	.00530	.00520	.01569	.01460	-.00840	-.17800	.46440	.04087
10.100	2.050	.09480	.01740	.00530	.09530	.01400	.01490	-.01100	-.18000	.81380	.04096
10.100	4.120	.19050	.02240	.00560	.19160	.00871	.01640	-.01370	-.17800	.82360	.04093
10.100	6.240	.28660	.03080	.00700	.28830	-.00047	.01720	-.01640	-.17600	.82540	.04196
10.100	8.250	.37970	.04450	.00740	.38220	-.01050	.01790	-.01930	-.17600	.82720	.04297
10.090	10.340	.48200	.06210	.00560	.48530	-.02536	.01890	-.02130	-.17400	.83010	.04435
	GRADIENT	.04458	.00165	.00007	.04524	-.00170	.00044	-.00129	.00000	.08705	.00001

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF003) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	2.000	THETAN =	.000
PHI-M =	2.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 15/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.040	.000	.00950	.01730	:00370	.00960	.01729	-.01650	.00920	.18800	.68980	.04095
-10.040	2.050	.10240	.01820	.00400	.10300	.01458	-.01760	.01150	.18900	.81990	.04108
-10.040	4.100	.19740	.02240	.00470	.19850	.00831	-.01860	.01360	.19100	.82560	.04149
-10.040	6.190	.29030	.03070	.00540	.29200	-.00071	-.01970	.01610	.19000	.82750	.04187
-10.040	8.250	.38590	.04350	.00670	.38820	-.01231	-.02080	.01820	.19100	.82800	.04264
-10.040	10.310	.48740	.06100	.00550	.49050	-.02717	-.02220	.02030	.19200	.83020	.04413
	GRADIENT	.04583	.00124	.00024	.04607	-.00219	-.00051	.00107	.00073	.03312	.00013

RUN NO. 14/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.020	.000	-.00640	.02870	.01460	-.00640	.02876	-.00850	.00440	.09600	1.67010	.03888
-5.020	2.040	.08720	.02950	.01480	.08820	.02646	-.00860	.00540	.09600	.77260	.03888
-5.020	4.080	.17920	.03320	.01440	.18110	.02043	-.00850	.00600	.09800	.80500	.03902
-5.020	6.170	.27870	.04040	.01430	.28140	.01026	-.00900	.00690	.09900	.81560	.03933
-5.020	8.260	.37290	.05190	.01430	.37640	-.00216	-.00980	.00830	.09900	.82030	.03892
-5.020	10.300	.47150	.06820	.01580	.47610	-.01726	-.01090	.01020	.10100	.82210	.03905
	GRADIENT	.04549	.00110	-.00005	.04596	-.00204	.00000	.00039	.00049	-.21203	.00003

RUN NO. 13/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.010	.000	-.01190	.03350	.01940	-.01190	.03356	-.00120	.00030	.00700	1.43400	.03850
.010	2.050	.08210	.03410	.01980	.08330	.03115	-.00130	.00000	.00800	.74670	.03815
.010	4.090	.17470	.03820	.01990	.17700	.02568	-.00130	.00000	.00800	.79290	.03742
.010	6.160	.26980	.04430	.01990	.27300	.01508	-.00110	-.00010	.00700	.80750	.03701
.010	8.250	.36930	.05570	.01880	.37350	.00216	-.00110	-.00030	.01000	.81580	.03678
	10.300	.46230	.07140	.02120	.46770	-.01234	-.00120	-.00020	.01100	.81770	.03745
	GRADIENT	.04502	.00115	.00012	.04619	-.00193	-.00002	-.00007	.00024	-.15689	-.00026

RUN NO. 12/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.060	-.010	-.00970	.02870	.01480	-.00970	.02877	.00580	-.00370	-.08300	1.39250	.03905
5.060	2.030	.08310	.02960	.01540	.08410	.02665	.00600	-.00510	-.08200	.76700	.03895
5.060	4.090	.17730	.03420	.01480	.17930	.02151	.00620	-.00610	-.08100	.80390	.03880
5.060	6.160	.27440	.04270	.01410	.27720	.01106	.00610	-.00690	-.07900	.81560	.03930
5.060	8.250	.37200	.05250	.01400	.37570	-.00133	.00690	-.00890	-.07900	.82060	.03900
5.060	10.330	.46970	.06960	.01410	.47460	-.01573	.00760	-.01120	-.07800	.82340	.03891
	GRADIENT	.04561	.00134	-.00000	.04610	-.00177	.00010	-.00059	.00049	-.14330	-.00006

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF003) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	2.000	THETAN =	.000
PHI-M =	2.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 11/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.110	.000	.00570	.01610	.00460	.00570	.01610	.01440	-.00860	-.18000	.53760	.04088
10.110	2.030	.09520	.01770	.00520	.09580	.01435	.01510	-.01110	-.17900	.81440	.04123
10.110	4.080	.18930	.02280	.00590	.19050	.00926	.01630	-.01360	-.17900	.82300	.04091
10.110	6.220	.28710	.03150	.00630	.28890	.00026	.01710	-.01690	-.17600	.82640	.04182
10.110	8.250	.37940	.04390	.00760	.38180	-.01101	.01850	-.01920	-.17700	.82700	.04269
10.100	10.320	.48210	.06300	.00530	.48560	-.02438	.01670	-.02160	-.17300	.83030	.04401
	GRADIENT	.04500	.00164	.00032	.04530	-.00168	.00047	-.00123	.00024	.06984	.00001

OA163 B68C12G20M16N29W127E55F10V8R5X9 (RFF004) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	4.000	THETAN =	.000
PHI-M =	4.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 20/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.030	-.010	.00470	.01750	.00380	.00470	.01752	-.01670	.00930	.18700	.53240	.04122
-10.020	2.010	.09660	.01790	.00420	.09720	.01458	-.01770	.01110	.18900	.81820	.04169
-10.030	4.090	.19370	.02220	.00480	.19480	.00833	-.01870	.01350	.19100	.82520	.04171
-10.020	6.150	.28480	.03000	.00580	.28640	-.00070	-.01970	.01590	.19200	.82690	.04231
-10.020	8.220	.38370	.04270	.00640	.38590	-.01258	-.02110	.01830	.19300	.82830	.04342
	10.290	.47870	.05980	.00500	.48160	-.02670	-.02210	.02030	.19300	.83050	.04420
	GRADIENT	.04610	.00115	.00024	.04637	-.00225	-.00049	.00103	.00098	.07108	.00012

RUN NO. 19/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.020	-.030	-.01280	.02860	.01440	-.01290	.02861	-.00840	.00420	.09600	1.24790	.03934
-5.020	2.040	.08430	.02940	.01430	.08530	.02646	-.00860	.00510	.09700	.77250	.03924
-5.020	4.070	.17830	.03290	.01420	.18010	.02020	-.00870	.00630	.09800	.80520	.03948
-5.020	6.140	.27340	.04000	.01400	.27610	.01056	-.00890	.00690	.09900	.81570	.03934
-5.020	8.270	.37320	.05140	.01430	.37670	-.00274	-.00980	.00830	.09900	.82040	.03947
	10.300	.46680	.06750	.01500	.47140	-.01713	-.01100	.01000	.10000	.82260	.03916
	GRADIENT	.04661	.00105	-.00005	.04707	-.00205	-.00007	.00051	.00049	-.10838	.00003

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF004) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	4.000	THETAN =	.000
PHI-M =	4.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 18/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	-.020	-.01620	.03240	.01930	-.01620	.03247	-.00140	.00030	.00700	1.27250	.03932
.000	2.010	.07660	.03390	.01970	.07770	.03120	-.00120	.00000	.00700	.74090	.03829
.000	4.070	.17120	.03730	.01960	.17340	.02514	-.00100	.00000	.00600	.79280	.03796
.000	6.140	.26580	.04440	.01990	.26910	.01571	-.00110	-.00010	.00800	.80710	.03711
.000	8.240	.36380	.05510	.01810	.36790	.00237	-.00100	-.00050	.00900	.81620	.03728
.000	10.310	.46050	.07080	.02130	.46570	-.01275	-.00120	-.00040	.01100	.81750	.03800
	GRADIENT	.04582	.00120	.00007	.04636	-.00180	.00010	-.00007	-.00025	-.11694	-.00033

RUN NO. 17/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.050	-.020	-.01190	.02880	.01450	-.01190	.02883	.00590	-.00370	-.08300	1.28010	.03950
5.050	2.010	.08100	.02950	.01480	.08200	.02664	.00610	-.00520	-.08400	.76780	.03915
5.050	4.070	.17390	.03380	.01510	.17590	.02136	.00600	-.00620	-.08000	.80280	.03904
5.050	6.160	.27140	.04070	.01360	.27420	.01131	.00630	-.00720	-.08100	.81610	.04001
5.050	8.210	.36790	.05200	.01350	.37150	-.00109	.00690	-.00980	-.08000	.82100	.03953
5.050	10.290	.46470	.06900	.01410	.46950	-.01513	.00750	-.01140	-.07800	.82330	.03882
	GRADIENT	.04543	.00122	.00015	.04592	-.00183	.00002	-.00061	.00074	-.11637	-.00011

RUN NO. 16/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.080	.000	.00080	.01610	.00470	.00080	.01616	.01430	-.00840	-.18000	-1.20240	.04108
10.080	2.070	.09450	.01750	.00580	.09510	.01412	.01530	-.01100	-.18200	.81190	.04091
10.090	4.100	.18920	.02320	.00570	.19040	.00966	.01620	-.01360	-.17900	.82320	.04111
10.090	6.160	.28180	.03100	.00660	.28350	.00061	.01720	-.01630	-.17800	.82580	.04217
10.090	8.220	.37670	.04370	.00730	.37910	-.01062	.01830	-.01930	-.17700	.82720	.04313
10.090	10.340	.48210	.06210	.00580	.48540	-.02549	.01900	-.02170	-.17400	.83000	.04519
	GRADIENT	.04595	.00173	.00024	.04624	-.00158	.00046	-.00127	.00024	.49562	.00001

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF005) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 6.000 THETAN = .000
PHI-M = 6.000 THETAM = 1.100
RN/L = 1.190

RUN NO. 25/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.020	.020	.00520	.01850	.00370	.00520	.01859	-.01650	.00920	.18700	.56840	.04084
-10.020	2.070	.10060	.01880	.00450	.19120	.01523	-.01750	.01140	.18800	.81800	.04126
-10.020	4.150	.19490	.02320	.00500	.19610	.00911	-.01850	.01370	.19000	.82490	.04136
-10.020	6.210	.29000	.03110	.00620	.29160	-.00043	-.01970	.01620	.19100	.82650	.04206
-10.020	8.290	.38520	.04420	.00650	.38760	-.01179	-.02090	.01840	.19300	.82820	.04308
-10.020	10.360	.48730	.06180	.00560	.49050	-.02686	-.02210	.02060	.19100	.83020	.04410
	GRADIENT	.04593	.00114	.00031	.04622	-.00230	-.00048	.00109	.00073	.06196	.00013

RUN NO. 24/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.010	.010	-.00750	.02950	.01430	-.00750	.02955	-.00840	.00460	.09600	1.53290	.03897
-5.010	2.090	.08810	.03010	.01480	.08920	.02687	-.00850	.00570	.09600	.77310	.03882
-5.010	4.180	.18320	.03410	.01480	.18520	.02067	-.00860	.00630	.09700	.80490	.03906
-5.010	6.190	.27580	.04120	.01370	.27860	.01123	-.00870	.00710	.09600	.81620	.03920
-5.010	8.260	.37420	.05270	.01450	.37790	-.00162	-.01000	.00850	.10000	.82020	.03919
-5.010	10.340	.47120	.06860	.01550	.47590	-.01702	-.01090	.01020	.10000	.82240	.03930
	GRADIENT	.04573	.00110	.00012	.04621	-.00213	-.00005	.00041	.00024	-.17443	.00002

RUN NO. 23/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.020	.010	-.01250	.03370	.01930	-.01250	.03370	-.00140	.00040	.00600	1.40290	.03905
.020	2.060	.07900	.03410	.01930	.08020	.03132	-.00130	.00010	.00600	.74560	.03842
.020	4.110	.17260	.03810	.01950	.17490	.02567	-.00120	.00000	.00800	.79330	.03776
.020	6.220	.27040	.04480	.01950	.27370	.01524	-.00120	-.00030	.00900	.80810	.03684
.020	8.270	.36680	.05600	.01840	.37100	.00264	-.00120	-.00020	.00900	.81610	.03696
.020	10.340	.46210	.07210	.02130	.46750	-.01202	-.00120	-.00020	.01000	.81760	.03734
	GRADIENT	.04515	.00107	.00005	.04571	-.00196	.00005	-.00010	.00049	-.14868	-.00031

RUN NO. 22/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	.020	-.01030	.02910	.01470	-.01030	.02919	.00580	-.00380	-.08300	1.35830	.03914
5.030	2.050	.08310	.03040	.01460	.08410	.02742	.00590	-.00530	-.08200	.77050	.03904
5.030	4.120	.17820	.03450	.01510	.18030	.02159	.00600	-.00620	-.08100	.80340	.03883
5.030	6.190	.27410	.04150	.01370	.27700	.01173	.00600	-.00700	-.08000	.81610	.03937
5.030	8.260	.36980	.05310	.01330	.37360	-.00057	.00670	-.00900	-.07800	.82130	.03896
5.030	10.340	.46680	.06970	.01450	.47180	-.01516	.00760	-.01110	-.07800	.82300	.03860
	GRADIENT	.04598	.00132	.00010	.04649	-.00186	.00005	-.00058	.00049	-.13484	-.00008

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF005) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	6.000	THETAN =	.000
PHI-M =	5.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 21/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.060	.000	.00190	.01640	.00470	.00190	.01642	.01430	-.00840	-.18000	-.06540	.04132
10.060	2.080	.09550	.01860	.00510	.09620	.01512	.01500	-.01110	-.17900	.81480	.04151
10.060	4.200	.19100	.02380	.00570	.19230	.00982	.01590	-.01360	-.17800	.82350	.04121
10.060	6.210	.28430	.03170	.00620	.28600	.00084	.01670	-.01660	-.17700	.82630	.04256
10.060	8.320	.38010	.04550	.00730	.38270	-.00998	.01790	-.01910	-.17400	.82730	.04284
10.050	10.370	.48140	.06360	.00540	.48500	-.02407	.01850	-.02160	-.17200	.83030	.04399
	GRADIENT	.04502	.00176	.00024	.04533	-.00157	.00038	-.00124	.00048	.21098	-.00003

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF006) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	8.000	THETAN =	1.000
PHI-M =	8.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 30/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.050	.020	.03100	.01740	.00550	.03100	.01739	-.01670	.00900	.18800	.76900	.04043
-10.050	2.100	.12510	.01900	.00560	.12570	.01440	-.01740	.01120	.18700	.81780	.04098
-10.060	4.170	.22440	.02460	.00630	.22560	.00826	-.01830	.01280	.18900	.82400	.04138
-10.060	6.210	.31830	.03410	.00750	.32010	-.00052	-.01980	.01620	.19100	.82570	.04151
-10.060	8.300	.41730	.04810	.00840	.41990	-.01267	-.02100	.01810	.19300	.82700	.04287
-10.060	10.370	.51450	.06670	.00730	.51820	-.02699	-.02193	.02010	.19200	.82920	.04329
	GRADIENT	.04660	.00173	.00019	.04689	-.00220	-.00039	.00092	.00024	.01326	.00023

RUN NO. 29/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.030	.010	.01370	.02900	.01570	.01370	.02906	-.00830	.00450	.09500	.41300	.03898
-5.040	2.070	.10780	.03060	.01580	.10880	.02676	-.00840	.00530	.09600	.78090	.03878
-5.040	4.180	.20420	.03530	.01610	.20620	.02036	-.00850	.00620	.09500	.80560	.03855
-5.040	6.210	.29940	.04340	.01600	.30240	.01074	-.00890	.00670	.09800	.81490	.03889
-5.030	8.290	.39690	.05510	.01680	.40070	-.00266	-.00990	.00780	.10000	.81900	.03875
-5.040	10.340	.49370	.07280	.01740	.49880	-.01701	-.01080	.00980	.10200	.82150	.03859
	GRADIENT	.04568	.00151	.00010	.04616	-.00209	-.00005	.00041	.00024	.09382	-.00010

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF006) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	8.000	THETAN =	1.000
PHI-M =	8.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 28/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	.000	.00150	.03350	.01940	.00150	.03351	-.00140	.00010	.00700	2.86920	.03851
.000	2.060	.09550	.03440	.01970	.09670	.03099	-.00130	.00000	.00700	.75920	.03794
-.010	4.120	.19050	.03920	.02030	.19290	.02541	-.00110	.00000	.00800	.79560	.03744
-.010	6.200	.28840	.04700	.02080	.29180	.01559	-.00100	-.00010	.00800	.80810	.03664
-.010	8.280	.38400	.05870	.01990	.38850	.00277	-.00110	-.00030	.00900	.81550	.03650
-.010	10.350	.48070	.07550	.02260	.48650	-.01202	-.00130	-.00040	.01200	.81720	.03707
	GRADIENT	.04587	.00138	.00022	.04646	-.00197	.0000	-.00002	.00024	-.50330	-.00026

RUN NO. 27/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.000	-.00380	.02980	.01440	-.00380	.02983	.00570	-.00360	-.08300	2.20960	.03880
5.020	2.070	.09060	.03050	.01430	.09160	.02725	.00570	-.00470	-.08100	.77660	.03924
5.020	4.130	.18420	.03450	.01470	.18620	.02115	.00620	-.00610	-.08200	.80520	.03864
5.020	6.180	.28230	.04260	.01390	.28520	.01197	.00620	-.00710	-.08000	.81640	.03887
5.020	8.270	.38060	.05460	.01400	.38450	-.00075	.00680	-.00890	-.07900	.82090	.03872
5.020	10.370	.47850	.07220	.01460	.48370	-.01510	.00750	-.01110	-.07800	.82330	.03842
	GRADIENT	.04552	.00114	.00007	.04600	-.00210	.00012	-.00061	.00024	-.34033	-.00004

RUN NO. 26/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.070	.000	.00180	.01620	.00410	.00180	.01622	.01440	-.00850	-.18100	.00980	.04106
10.070	2.050	.09740	.01810	.00450	.09800	.01463	.01500	-.01100	-.18000	.81750	.04124
10.070	4.110	.19250	.02340	.00520	.19370	.00960	.01610	-.01360	-.18000	.82450	.04102
10.070	6.230	.28650	.03280	.00530	.28830	.00150	.01690	-.01660	-.17600	.82760	.04187
10.070	8.280	.38340	.04580	.00670	.38600	-.00991	.01830	-.01910	-.17700	.82790	.04263
10.070	10.340	.48580	.06420	.00540	.48950	-.02399	.01890	-.02170	-.17300	.83030	.04393
	GRADIENT	.04640	.00175	.00027	.04669	-.00161	.00041	-.00124	.00024	.19807	-.00001

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF007) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	10.000	THETAN =	1.300
PHI-M =	10.000	THETAM =	1.600
RN/L =	1.190		

RUN NO. 35/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.070	.000	.00950	.01850	.00370	.00950	.01855	-.01640	.00900	.18800	.68840	.04113
-10.070	2.060	.10310	.01950	.00410	.10380	.01581	-.01720	.01140	.18700	.81980	.04137
-10.070	4.120	.19900	.02400	.00500	.20020	.00968	-.01830	.01360	.18900	.82510	.04148
-10.070	6.180	.29240	.03230	.00580	.29420	.00066	-.01960	.01610	.19200	.82710	.04187
-10.070	8.270	.38940	.04550	.00740	.39190	-.01101	-.02080	.01820	.19400	.82740	.04259
-10.070	10.330	.48770	.06330	.00560	.49110	-.02518	-.02180	.02020	.19300	.83020	.04384
	GRADIENT	.04600	.00133	.00032	.04629	-.00215	-.00046	.00112	.00024	.03318	.00008

RUN NO. 34/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	-.010	-.00630	.02980	.01490	-.00630	.02980	-.00830	.00440	.09600	1.69410	.03920
-5.050	2.090	.09040	.03080	.01510	.09150	.02754	-.00830	.00530	.09600	.77330	.03874
-5.040	4.090	.18300	.03470	.01500	.18510	.02156	-.00850	.00590	.09800	.80440	.03913
-5.040	6.200	.28050	.04190	.01420	.28340	.01137	-.00880	.00700	.09900	.81580	.03935
-5.040	8.270	.37670	.05330	.01490	.38040	-.00143	-.00990	.00850	.09900	.81990	.03945
-5.040	10.310	.47210	.06990	.01500	.47700	-.01574	-.01070	.01000	.10100	.82280	.03892
	GRADIENT	.04617	.00119	.00002	.04668	-.00200	-.00005	.00037	.00048	-.21884	-.00002

RUN NO. 33/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.01210	.03440	.01850	-.01210	.03444	-.00150	.00010	.00800	1.40190	.03872
.000	2.050	.08130	.03510	.01940	.08250	.03224	-.00130	.00000	.00700	.74780	.03796
.000	4.080	.17490	.03970	.01980	.17790	.02622	-.00110	.00010	.00700	.79320	.03764
.000	6.170	.26810	.04540	.01950	.27150	.01637	-.00110	-.00020	.00800	.80800	.03688
.000	8.290	.36650	.05660	.01890	.37280	.00296	-.00120	-.00050	.01000	.81570	.03708
.000	10.350	.46220	.07300	.02170	.46780	-.01119	-.00120	-.00020	.01100	.81730	.03732
	GRADIENT	.04563	.00105	.00029	.04640	-.00201	.00010	-.00000	-.00025	-.14947	-.00026

RUN NO. 32/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	-.010	-.01030	.03030	.01470	-.01030	.03036	.00560	-.00390	-.08200	1.35860	.03891
5.030	2.010	.08040	.03080	.01470	.08150	.02804	.00580	-.00510	-.08200	.76780	.03882
5.030	4.100	.17560	.03570	.01500	.17770	.02311	.00600	-.00630	-.08100	.80320	.03899
5.030	6.170	.27190	.04210	.01390	.27480	.01270	.00590	-.00730	-.07900	.81570	.03928
5.030	8.230	.36950	.05410	.01370	.37340	.00061	.00650	-.00900	-.07800	.82080	.03907
5.030	10.310	.46610	.07110	.01470	.47140	-.01349	.00750	-.01130	-.07700	.82290	.03864
	GRADIENT	.04523	.00132	.00007	.04574	-.00177	.00010	-.00058	.00024	-.13426	.00002

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF007) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 10.000 THETAN = 1.300
PHI-M = 10.000 THETAM = 1.600
RN/L = 1.190

RUN NO. 31/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.110	.000	.00020	.01700	.00460	.00020	.01709	.01400	-.00850	-.18100	1.38350	.04124
10.110	2.040	.09180	.01890	.00490	.09240	.01567	.01480	-.01100	-.18100	.81470	.04138
10.110	4.100	.18790	.02330	.00560	.18910	.00984	.01620	-.01370	-.18000	.82340	.04144
10.110	6.210	.28280	.03230	.00710	.28460	.00157	.01690	-.01660	-.17800	.82510	.04245
10.110	8.250	.37860	.04600	.00770	.38130	-.00879	.01800	-.01950	-.17600	.82690	.04258
10.100	10.330	.47970	.06410	.00610	.48350	-.02301	.01870	-.02200	-.17200	.82970	.04374
	GRADIENT	.04578	.00154	.00024	.04607	-.00177	.00054	-.00127	.00024	-.13638	.00005

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF008) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 15.000 THETAN = 2.000
PHI-M = 15.000 THETAM = 2.400
RN/L = 1.190

RUN NO. 156/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.070	.010	.00100	.02010	.00460	.00100	.02010	-.01680	.00950	.19000	-.86510	.04135
-10.070	2.090	.09620	.02060	.00540	.09690	.01714	-.01780	.01180	.19100	.81380	.04168
-10.070	4.130	.19310	.02540	.00590	.19450	.01147	-.01870	.01400	.19300	.82310	.04183
-10.070	6.220	.28680	.03350	.00680	.28880	.00220	-.01990	.01630	.19500	.82560	.04213
-10.080	8.300	.38550	.04650	.00840	.38810	-.00966	-.02100	.01850	.19600	.82640	.04337
-10.070	10.360	.48470	.06430	.00720	.48830	-.02394	-.02190	.02060	.19500	.82890	.04413
	GRADIENT	.04662	.00128	.00032	.04696	-.00209	-.00046	.00109	.00073	.41106	.00012

RUN NO. 157/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	.020	-.00690	.03120	.01540	-.00680	.03129	-.00880	.00490	.09800	1.65960	.03959
-5.050	2.070	.08430	.03130	.01580	.08540	.02832	-.00690	.00570	.09900	.76610	.03962
-5.050	4.160	.18100	.03600	.01600	.18320	.02283	-.00920	.00660	.10100	.80220	.03953
-5.050	6.240	.27580	.04330	.01500	.27890	.01308	-.00940	.00720	.10200	.81450	.03968
-5.050	8.280	.37210	.05430	.01580	.37600	.00013	-.01020	.00860	.10400	.81890	.03946
-5.050	10.340	.46900	.07080	.01730	.47410	-.01451	-.01120	.01050	.10400	.82090	.03934
	GRADIENT	.04539	.00116	.00014	.04590	-.00205	-.00010	.00041	.00073	-.20637	-.00001

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF008) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	15.000	THETAN =	2.000
PHI-M =	15.000	THETAM =	2.400
RN/L =	1.190		

RUN NO. 155/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.01290	.03410	.02030	-.01290	.03415	-.00190	.00050	.00600	1.41350	.03891
.000	2.070	.07890	.03500	.02070	.08010	.03214	-.00180	.00040	.00700	.73910	.03893
.000	4.130	.17410	.03690	.02110	.17650	.02632	-.00170	.00060	.00700	.79040	.03788
.000	6.200	.26860	.04650	.02140	.27210	.01727	-.00170	.00010	.00900	.80530	.03701
.000	8.280	.36840	.05770	.02040	.37290	.00407	-.00170	.00000	.01100	.81420	.03669
	10.340	.46010	.07360	.02270	.46590	-.01021	-.00160	.00000	.01200	.81640	.03711
	GRADIENT	.04528	.00116	.00019	.04586	-.00190	.00005	.00002	.00024	-.15101	-.00025

RUN NO. 158/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.000	.000	-.01290	.03190	.01550	-.01290	.03199	.00520	-.00360	-.08200	1.27440	.03954
5.000	2.070	.07940	.03250	.01570	.08060	.02968	.00530	-.00470	-.08100	.76270	.03899
5.000	4.130	.17460	.03640	.01590	.17680	.02381	.00550	-.00590	-.08000	.80110	.03936
5.000	6.200	.27090	.04390	.01480	.27410	.01445	.00550	-.00670	-.07900	.81440	.03972
5.000	8.260	.36910	.05520	.01500	.37320	.00161	.00640	-.00870	-.07800	.81950	.03890
	10.370	.46780	.07250	.01620	.47320	-.01285	.00730	-.01050	-.07800	.82180	.03846
	GRADIENT	.04540	.00109	.00010	.04593	-.00198	.00007	-.00056	.00048	-.11471	-.00004

RUN NO. 159/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.050	.000	-.00020	.02040	.00510	-.00020	.02048	.01340	-.00820	-.17600	3.27670	.04135
10.050	2.080	.09270	.02140	.00560	.09340	.01807	.01420	-.01090	-.17800	.81230	.04168
10.050	4.130	.18830	.02620	.00640	.18970	.01257	.01520	-.01330	-.17700	.82190	.04187
10.050	6.200	.28180	.03540	.00730	.28400	.00480	.01610	-.01600	-.17600	.82480	.04189
10.050	8.280	.37660	.04790	.00850	.38150	-.00707	.01730	-.01820	-.17600	.82620	.04295
10.050	10.320	.47860	.06570	.00690	.48270	-.02113	.01790	-.02130	-.17400	.82910	.04398
	GRADIENT	.04564	.00140	.00031	.04598	-.00191	.00044	-.00124	-.00024	-.59582	.00013

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF009) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	20.000	THETAN =	2.900
PHI-M =	20.000	THETAM =	3.100
RN/L =	1.190		

RUN NO. 150/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.050	.000	.00430	.01930	.00490	.00430	.01934	-.01660	.01000	.18800	.41320	.04173
-10.050	2.060	.09960	.02040	.00570	.10030	.01685	-.01760	.01200	.19100	.81340	.04202
-10.060	4.120	.19470	.02540	.00620	.19500	.01140	-.01870	.01410	.19500	.82270	.04236
-10.060	6.200	.28850	.03400	.00770	.29050	.00271	-.01990	.01650	.19700	.82460	.04244
-10.060	8.290	.38470	.04730	.00800	.38750	-.00859	-.02070	.01900	.19600	.82670	.04320
-10.060	10.400	.48730	.06600	.00670	.49120	-.02300	-.02170	.02080	.19600	.82930	.04429
	GRADIENT	.04621	.00148	.00032	.04653	-.00193	-.00051	.00100	.00170	.09939	.00015

RUN NO. 151/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.030	.000	-.01010	.03120	.01500	-.01010	.03128	-.00870	.00490	.09900	1.38040	.03937
-5.030	2.070	.08370	.03220	.01570	.08480	.02916	-.00890	.00570	.10000	.76610	.03942
-5.030	4.140	.17980	.03650	.01600	.18200	.02345	-.00880	.00670	.10100	.80200	.03997
-5.030	6.210	.27680	.04420	.01480	.28000	.01404	-.00910	.00750	.10200	.81490	.03967
-5.040	8.290	.37430	.05540	.01600	.37840	.00084	-.01010	.00900	.10400	.81880	.03955
-5.040	10.420	.47250	.07240	.01680	.47780	-.01429	-.01120	.01060	.10500	.82140	.03893
	GRADIENT	.04587	.00128	.00024	.04640	-.00189	-.00002	.00043	.00048	-.13971	.00002

RUN NO. 152/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.01680	.03660	.01930	-.01680	.03660	-.00180	.00050	.00800	1.25740	.03891
.000	2.070	.07840	.03710	.01980	.07970	.03426	-.00180	.00040	.00800	.74260	.03851
.000	4.130	.17140	.04060	.02070	.17390	.02821	-.00160	.00020	.00800	.79050	.03789
.000	6.220	.26830	.04770	.02120	.27190	.01833	-.00180	.00010	.01000	.80570	.03706
.000	8.270	.36410	.05860	.01990	.36980	.00562	-.00160	.00000	.01100	.81440	.03670
.000	10.340	.46170	.07500	.02230	.46770	-.00909	-.00170	.00000	.01200	.81680	.03772
	GRADIENT	.04527	.00097	.00034	.04617	-.00203	.00005	-.00007	.00000	-.11316	-.00025

RUN NO. 153/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.030	-.01190	.03260	.01520	-.01180	.03267	.00510	-.00350	-.08200	1.30530	.03969
5.020	2.070	.08030	.03320	.01560	.08140	.03036	.00540	-.00490	-.08200	.76350	.03923
5.020	4.100	.17250	.03710	.01550	.17470	.02471	.00530	-.00590	-.08000	.80170	.03925
5.020	6.210	.27120	.04470	.01470	.27450	.01514	.00550	-.00680	-.07900	.81460	.03931
5.020	8.270	.36900	.05590	.01520	.37330	.00218	.00620	-.00860	-.07800	.81930	.03905
5.020	10.350	.46530	.07260	.01590	.47080	-.01217	.00700	-.01060	-.07800	.82200	.03887
	GRADIENT	.04531	.00110	.00007	.04582	-.00196	.00005	-.00059	.00049	-.12385	-.00011

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF009) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	20.000	THETAN =	2.900
PHI-M =	20.000	THETAM =	3.100
RN/L =	1.190		

RUN NO. 154/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.080	.000	-.00190	.02120	.00470	-.00190	.02127	.01310	-.00820	-.17700	1.74270	.04169
10.080	2.070	.09040	.02220	.00530	.09110	.01900	.01400	-.01070	-.17800	.81290	.04189
10.080	4.130	.18530	.02760	.00540	.18680	.01424	.01490	-.01330	-.17800	.82360	.04200
10.080	6.200	.28190	.03580	.00710	.28420	.00519	.01590	-.01620	-.17700	.82520	.04222
10.080	8.280	.37850	.04890	.00870	.38170	-.00613	.01690	-.01880	-.17600	.82600	.04309
10.080	10.440	.48510	.06820	.00700	.48940	-.02080	.01810	-.02150	-.17500	.82910	.04360
	GRADIENT	.04533	.00155	.00017	.04569	-.00170	.00044	-.00123	-.00024	-.22273	.00008

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF010) (19 MAY 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	30.800	THETAN =	5.000
PHI-M =	32.200	THETAM =	5.000
RN/L =	1.190		

RUN NO. 50/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.060	.010	.01070	.02160	.00420	.01070	.02167	-.01560	.00940	.19300	.68990	.04172
-10.060	2.080	.10370	.02300	.00380	.10450	.01923	-.01630	.01150	.19600	.82100	.04198
-10.070	4.130	.19850	.02820	.00430	.20000	.01383	-.01730	.01370	.19700	.82640	.04198
-10.070	6.210	.29230	.03670	.00600	.29460	.00494	-.01900	.01650	.20000	.82690	.04215
-10.070	8.290	.38860	.05000	.00670	.39170	-.00651	-.01980	.01850	.20000	.82810	.04304
-10.070	10.350	.48540	.06740	.00490	.48960	-.02090	-.02060	.02060	.19900	.83070	.04402
	GRADIENT	.04558	.00160	.00002	.04595	-.00190	-.00041	.00104	.00097	.03318	.00006

RUN NO. 49/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.040	.000	-.00600	.03290	.01380	-.00600	.03293	-.00820	.00470	.10000	1.67120	.03975
-5.040	2.070	.08920	.03340	.01470	.09040	.03019	-.00830	.00560	.10100	.77460	.03914
-5.050	4.110	.18140	.03820	.01450	.18370	.02517	-.00830	.00630	.10200	.80530	.03890
-5.050	6.180	.27750	.04510	.01330	.28080	.01496	-.00850	.00700	.10300	.81690	.03923
-5.050	8.250	.37280	.05650	.01420	.37700	.00244	-.00940	.00850	.10400	.82050	.03880
-5.050	10.350	.46950	.07320	.01530	.47500	-.01234	-.01020	.01020	.10500	.82250	.03872
	GRADIENT	.04560	.00129	.00017	.04616	-.00189	-.00002	.00039	.00049	-.21123	-.00021

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF010) (19 MAY 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 30.800 THETAN = 5.000
PHI-M = 32.200 THETAM = 5.000
RN/L = 1.190

RUN NO. 48/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.020	.000	-.01050	.03690	.01860	-.01050	.03699	-.00170	.00010	.00900	1.48680	.03872
-.020	2.090	.08280	.03740	.01880	.08420	.03435	-.00160	.00000	.00900	.75200	.03825
-.020	4.100	.17420	.04090	.01910	.17660	.02837	-.00130	.00000	.00900	.79440	.03755
-.020	6.200	.26970	.04780	.01930	.27330	.01840	-.00140	-.00010	.01100	.80830	.03681
-.020	8.240	.36520	.05920	.01860	.36990	.00623	-.00130	-.00040	.01200	.81580	.03646
-.020	10.360	.46210	.07570	.02110	.46820	-.00869	-.00130	-.00030	.01400	.81780	.03719
	GRADIENT	.04505	.00097	.00012	.04563	-.00210	.00010	-.00002	.00000	-.17009	-.00028

RUN NO. 47/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.000	-.010	-.01050	.03290	.01360	-.01050	.03296	.00520	-.00390	-.08400	1.31200	.03916
5.000	2.030	.08240	.03389	.01400	.08360	.03085	.00530	-.00510	-.08400	.77270	.03911
5.000	4.110	.17510	.03790	.01410	.17730	.02526	.00550	-.00630	-.08300	.80500	.03910
5.000	6.190	.27300	.04500	.01340	.27630	.01532	.00560	-.00720	-.08100	.81640	.03917
5.000	8.250	.36960	.05650	.01380	.37390	.00289	.00630	-.00900	-.08000	.82070	.03887
5.000	10.310	.46510	.07320	.01410	.47070	-.01120	.00690	-.01130	-.07800	.82340	.03849
	GRADIENT	.04505	.00122	.00012	.04558	-.00187	.00007	-.00058	.00024	-.12261	-.00001

RUN NO. 46/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.050	.000	.00500	.02100	.00430	.00500	.02106	.01260	-.00880	-.18100	.52040	.04191
10.050	2.040	.09500	.02260	.00470	.09580	.01922	.01360	-.01120	-.18200	.81600	.04155
10.050	4.120	.19000	.02790	.00460	.19150	.01423	.01490	-.01380	-.18200	.82550	.04156
10.050	6.250	.28660	.03770	.00630	.28900	.00630	.01560	-.01670	-.18000	.82630	.04236
10.050	8.240	.37770	.05000	.00670	.38100	-.00464	.01680	-.01930	-.18000	.82790	.04346
10.050	10.330	.47740	.06860	.00520	.48200	-.01817	.01770	-.02200	-.17700	.83040	.04396
	GRADIENT	.04491	.00168	.00007	.04527	-.00166	.00056	-.00121	-.00024	.07383	-.00008

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF011) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	30.800	THETAN =	5.000
PHI-M =	40.000	THETAM =	6.200
RN/L =	1.190		

RUN NO. 51/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.080	.020	.00900	.02090	.00400	.00900	.02092	-.01550	.00940	.19400	.67060	.04208
-10.080	2.080	.10330	.02330	.00400	.10410	.01956	-.01620	.01150	.19600	.81990	.04175
-10.080	4.110	.19490	.02820	.00410	.19640	.01416	-.01730	.01390	.20000	.82650	.04163
-10.080	6.200	.29060	.03720	.00620	.29300	.00561	-.01880	.01670	.20200	.82650	.04194
-10.080	8.270	.38480	.04990	.00650	.38800	-.00590	-.01950	.01860	.20200	.82820	.04326
-10.080	10.330	.48230	.06770	.00530	.48670	-.01993	-.02100	.02090	.20400	.83030	.04399
	GRADIENT	.04545	.00178	.00002	.04582	-.00165	-.00044	.00110	.00147	.03820	-.00011

RUN NO. 52/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	.000	-.00760	.03350	.01350	-.00760	.03356	-.00800	.00470	.10100	1.48540	.03939
-5.060	2.060	.08770	.03440	.01400	.08890	.03124	-.00820	.00560	.10200	.77610	.03898
-5.060	4.130	.18000	.03820	.01420	.18230	.02516	-.00810	.00620	.10200	.80570	.03917
-5.060	6.190	.27600	.04610	.01350	.27940	.01606	-.00840	.00720	.10400	.81650	.03928
-5.060	8.260	.37240	.05690	.01460	.37680	.00283	-.00930	.00870	.10600	.82010	.03898
-5.060	10.340	.46770	.07310	.01530	.47320	-.01199	-.01030	.01030	.10700	.82240	.03905
	GRADIENT	.04542	.00114	.00017	.04598	-.00203	-.00002	.00036	.00024	-.16443	-.00005

RUN NO. 53/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	.000	-.01320	.03590	.01810	-.01330	.03595	-.00150	.00040	.00400	1.33660	.03868
-.010	2.060	.08060	.03650	.01840	.08180	.03360	-.00150	.00020	.00600	.75140	.03841
-.020	4.140	.17530	.04090	.01900	.17780	.02821	-.00130	.00000	.00700	.79500	.03747
-.020	6.220	.27080	.04840	.01910	.27450	.01879	-.00140	-.00020	.01000	.80880	.03681
-.010	8.260	.36550	.05970	.01810	.37030	.00657	-.00130	-.00050	.01100	.81630	.03647
-.010	10.340	.45950	.07630	.02110	.46580	-.00747	-.00130	-.00020	.01200	.81770	.03731
	GRADIENT	.04553	.00121	.00022	.04616	-.00187	.00005	-.00010	.00072	-.13058	-.00029

RUN NO. 54/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.000	-.00830	.03370	.01340	-.00830	.03376	.00530	-.00390	-.08500	1.42290	.03893
5.020	2.090	.08430	.03480	.01350	.08550	.03178	.00520	-.00520	-.08300	.77630	.03929
5.020	4.130	.17750	.03900	.01370	.17990	.02617	.00520	-.00610	-.08200	.80620	.03875
5.020	6.200	.27440	.04640	.01320	.27780	.01654	.00520	-.00720	-.08100	.81690	.03952
5.020	8.250	.36780	.05740	.01340	.37230	.00407	.00580	-.00900	-.07900	.82110	.03903
5.020	10.330	.46660	.07420	.01450	.47230	-.01066	.00660	-.01110	-.07800	.82310	.03884
	GRADIENT	.04499	.00128	.00007	.04557	-.00183	-.00002	-.00053	.00073	-.14998	-.00004

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF011) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 30.800 THETAN = 5.000
PHI-M = 40.000 THETAM = 6.200
RN/L = 1.190

RUN NO. 55/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.120	.000	.00220	.02270	.00390	.00220	.02278	.01270	-.00870	-.18200	.20440	.04190
10.120	2.050	.09410	.02380	.00400	.09490	.02041	.01390	-.01130	-.18400	.81850	.04168
10.120	4.110	.18980	.02900	.00420	.19130	.01541	.01480	-.01400	-.18400	.82620	.04170
10.120	6.180	.28410	.03760	.00640	.28650	.00682	.01570	-.01690	-.18300	.82610	.04222
10.130	8.260	.38000	.05090	.00680	.38340	-.00418	.01690	-.01940	-.18300	.82780	.04337
10.130	10.330	.47680	.06650	.00520	.48140	-.01806	.01730	-.02210	-.17900	.83040	.04392
	GRADIENT	.04565	.00153	.00007	.04601	-.00179	.00051	-.00129	-.00049	.15117	-.00005

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF012) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 50.000 THETAN = 9.800
PHI-M = 48.300 THETAM = 6.200
RN/L = 1.190

RUN NO. 56/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.090	.010	.01340	.02370	.00440	.01340	.02373	-.01400	.00950	.19900	.71340	.04186
-10.090	2.070	.10550	.02540	.00410	.10640	.02163	-.01500	.01160	.20000	.82000	.04140
-10.100	4.130	.19970	.03000	.00380	.20130	.01558	-.01630	.01370	.20400	.82740	.04146
-10.090	6.230	.29350	.03930	.00580	.29610	.00718	-.01780	.01630	.20500	.82720	.04190
-10.100	8.300	.38630	.05230	.00630	.38980	-.00406	-.01860	.01880	.20500	.82840	.04286
-10.100	10.390	.48420	.07050	.00470	.48900	-.01803	-.01970	.02100	.20400	.83080	.04342
	GRADIENT	.04522	.00153	-.00015	.04561	-.00198	-.00056	.00102	.00121	.02767	-.00010

RUN NO. 57/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.040	.010	-.00230	.03550	.01340	-.00230	.03550	-.00720	.00490	.10300	2.97570	.03949
-5.040	2.060	.09090	.03660	.01330	.09220	.03336	-.00750	.00590	.10400	.78110	.03922
-5.040	4.120	.18320	.04080	.01340	.18570	.02751	-.00770	.00550	.10500	.80770	.03901
-5.040	6.180	.27740	.04820	.01240	.28100	.01809	-.00780	.00760	.10400	.81810	.03899
-5.040	8.270	.37250	.05860	.01380	.37700	.00439	-.00860	.00860	.10700	.82090	.03903
-5.040	10.320	.46770	.07450	.01430	.47350	-.01052	-.00960	.01040	.10700	.82330	.03857
	GRADIENT	.04513	.00129	.00000	.04574	-.00194	-.00012	.00039	.00049	-.52705	-.00012

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF012) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 50.000 THETAN = 9.800
PHI-M = 48.300 THETAM = 6.200
RN/L = 1.190

RUN NO. 58/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	.000	-.00850	.03920	.01720	-.00850	.03921	-.00150	.00040	.00900	1.57870	.03900
-.010	2.070	.08350	.03960	.01770	.08490	.03663	-.00130	.00030	.00900	.75760	.03850
.000	4.120	.17530	.04300	.01850	.17800	.03033	-.00120	.00010	.00900	.79610	.03787
-.010	6.190	.26900	.05020	.01890	.27290	.02093	-.00110	-.00020	.01000	.80880	.03677
-.010	8.270	.36790	.06160	.01790	.37290	.00805	-.00110	-.00030	.01200	.81670	.03666
-.010	10.310	.45930	.07770	.02080	.46580	-.00572	-.00130	-.00030	.01500	.81790	.03748
	GRADIENT	.04461	.00092	.00032	.04527	-.00215	.00007	-.00007	.00000	-.19029	-.00027

RUN NO. 59/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	.000	-.00340	.03370	.01390	-.00340	.03371	.00440	-.00380	-.08900	2.30510	.03918
5.030	2.040	.08740	.03490	.01390	.08860	.03175	.00460	-.00520	-.08800	.77640	.03893
5.030	4.090	.18070	.03940	.01430	.18310	.02647	.00460	-.00620	-.08500	.80560	.03876
5.030	6.230	.27660	.04680	.01290	.28000	.01653	.00470	-.00720	-.08300	.81730	.03883
5.020	8.330	.37410	.05820	.01310	.37860	.00345	.00550	-.00910	-.08200	.82160	.03873
5.020	10.320	.46660	.07450	.01390	.47240	-.01033	.00630	-.01120	-.08100	.82360	.03850
	GRADIENT	.04501	.00139	.00010	.04560	-.00177	.00005	-.00059	.00098	-.36631	-.00010

RUN NO. 60/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.070	.000	.00780	.02360	.00510	.00780	.02363	.01090	-.00870	-.18300	.59350	.04185
10.060	2.060	.09960	.02570	.00530	.10050	.02211	.01240	-.01100	-.18500	.81480	.04146
10.060	4.110	.19300	.03090	.00450	.19470	.01700	.01330	-.01360	-.18400	.82570	.04156
10.060	6.180	.28510	.03910	.00660	.28760	.00818	.01460	-.01670	-.18500	.82590	.04231
10.060	8.260	.38020	.05240	.00650	.38380	-.00271	.01550	-.01960	-.18300	.82810	.04290
10.060	10.330	.48130	.07080	.00520	.48620	-.01666	.01650	-.02220	-.18300	.83040	.04420
	GRADIENT	.04506	.00178	-.00015	.04547	-.00161	.00058	-.00119	-.00024	.05654	-.00007

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF013) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	20.000
PHI-M =	70.000	THETAM =	11.200
RN/L =	1.190		

RUN NO. 62/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.100	.010	.01390	.02460	.00430	.01390	.02466	-.01320	.00950	.20300	.72090	.04176
-10.100	2.090	.10940	.02630	.00430	.11030	.02229	-.01440	.01170	.20400	.81980	.04150
-10.100	4.120	.20310	.03030	.00440	.20480	.01570	-.01600	.01350	.20700	.82640	.04175
-10.100	6.180	.29080	.03970	.00560	.29330	.00824	-.01710	.01620	.20900	.82730	.04197
-10.100	8.270	.38650	.05360	.00630	.39020	-.00262	-.01820	.01850	.20900	.82840	.04232
-10.100	10.330	.48660	.07100	.00530	.49140	-.01736	-.01960	.02060	.21000	.83040	.04332
	GRADIENT	.04603	.00138	.00002	.04645	-.00218	-.00068	.00097	.00097	.02576	-.00000

RUN NO. 63/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.060	.000	-.00290	.03740	.01270	-.00290	.03740	-.00700	.00480	.10500	2.42060	.03916
-5.060	2.050	.09180	.03810	.01300	.09310	.03480	-.00710	.00560	.10500	.78270	.03919
-5.060	4.090	.18630	.04190	.01370	.18880	.02851	-.00740	.00630	.10700	.80760	.03912
-5.060	6.180	.28020	.04890	.01230	.28390	.01850	-.00770	.00710	.10700	.81840	.03914
-5.060	8.280	.37500	.06010	.01300	.37980	.00546	-.00850	.00860	.10800	.82180	.03863
-5.060	10.300	.46980	.07580	.01430	.47580	-.00938	-.00940	.01010	.11000	.82330	.03846
	GRADIENT	.04626	.00110	.00024	.04687	-.00217	-.00010	.00037	.00049	-.39471	-.00001

RUN NO. 67/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.00570	.03980	.01770	-.00570	.03989	-.00180	.00030	.00600	1.96610	.03918
.000	2.040	.08640	.04090	.01840	.08780	.03783	-.00160	.00020	.00700	.75690	.03899
.000	4.120	.18060	.04490	.01860	.18330	.03178	-.00150	.00000	.00900	.79700	.03834
.000	6.200	.27400	.05170	.01860	.27800	.02185	-.00140	.00000	.01100	.80980	.03732
.000	8.270	.36650	.06210	.01760	.37360	.00853	-.00140	-.00010	.01200	.81700	.03760
.000	10.320	.46390	.07910	.02080	.47050	-.00529	-.00140	-.00020	.01400	.81810	.03736
	GRADIENT	.04522	.00124	.00022	.04587	-.00197	.00007	-.00007	.00073	-.28277	-.00020

RUN NO. 68/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.050	.010	-.00560	.03810	.01370	-.00560	.03812	.00390	-.00390	-.08700	1.72170	.03963
5.050	2.040	.08760	.03880	.01410	.08890	.03570	.00420	-.00500	-.08700	.77570	.03941
5.050	4.140	.18180	.04210	.01400	.18430	.02886	.00450	-.00630	-.08600	.80640	.03948
5.050	6.210	.27690	.04910	.01310	.28060	.01887	.00460	-.00690	-.08400	.81710	.03989
5.050	8.320	.37380	.06050	.01370	.37860	.00578	.00530	-.00860	-.08300	.82110	.03896
5.050	10.370	.47010	.07650	.01400	.47620	-.00938	.00610	-.01080	-.08200	.82350	.03868
	GRADIENT	.04537	.00097	.00007	.04598	-.00225	.00015	-.00058	.00024	-.22027	-.00004

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF013) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 20.000
PHI-M = 70.000 THETAM = 11.200
RN/L = 1.190

RUN NO. 69/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.100	.030	.00830	.02630	.00530	.00830	.02639	.01020	-.00850	-.18900	.59830	.04240
10.100	2.080	.10100	.02780	.00550	.10200	.02416	.01160	-.01070	-.18800	.81430	.04172
10.100	4.110	.19350	.03190	.00560	.19530	.01800	.01260	-.01330	-.18700	.82380	.04204
10.100	6.230	.28830	.04030	.00640	.29090	.00879	.01440	-.01630	-.18900	.82630	.04250
10.100	8.280	.38270	.05380	.00740	.39650	-.00190	.01540	-.01910	-.18800	.82730	.04309
10.090	10.340	.48080	.07180	.00620	.48590	-.01563	.01610	-.02190	-.18400	.82970	.04359
	GRADIENT	.04539	.00137	.00007	.04583	-.00205	.00059	-.00118	.00049	.05535	-.00009

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF014) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 20.000
PHI-M = 88.000 THETAM = 20.000
RN/L = 1.190

RUN NO. 70/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.090	.010	.01330	.02690	.00420	.01330	.02697	-.01360	.00950	.20700	.71780	.04264
-10.090	2.110	.11050	.02810	.00440	.11140	.02405	-.01460	.01160	.20800	.81960	.04194
-10.090	4.120	.20200	.03280	.00420	.20380	.01823	-.01580	.01340	.21000	.82670	.04203
-10.090	6.190	.29260	.04190	.00580	.29550	.01008	-.01710	.01620	.21100	.82710	.04213
-10.090	8.270	.38990	.05490	.00620	.39370	-.00177	-.01840	.01680	.21100	.82850	.04337
-10.100	10.340	.48760	.07310	.00610	.49280	-.01565	-.01940	.02060	.21100	.82980	.04376
	GRADIENT	.04582	.00143	.00000	.04635	-.00212	-.00053	.00095	.00073	.02666	-.00015

RUN NO. 71/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.080	-.010	-.00230	.03870	.01290	-.00240	.03872	-.00720	.00460	.10500	2.81980	.04031
-5.080	2.070	.09340	.03980	.01330	.09490	.03647	-.00740	.00540	.10600	.78270	.04015
-5.080	4.110	.18680	.04300	.01360	.18940	.02950	-.00750	.00630	.10600	.80780	.04034
-5.080	6.200	.29140	.04970	.01290	.28510	.01904	-.00800	.00690	.10900	.81760	.04055
-5.080	8.270	.37700	.06070	.01390	.38180	.00582	-.00870	.00830	.11000	.82100	.03942
-5.080	10.330	.47210	.07690	.01490	.47830	-.00895	-.00980	.01010	.11200	.82290	.03906
	GRADIENT	.04590	.00104	.00017	.04655	-.00223	-.00007	.00041	.00024	-.48995	.00001

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF014) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	20.000
PHI-M =	88.000	THETAM =	20.000
RN/L =	1.190		

RUN NO. 72/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.00580	.04340	.01720	-.00580	.04344	-.00180	.00030	.00600	1.92000	.03936
.000	2.030	.08660	.04330	.01810	.08810	.04023	-.00160	.00010	.00700	.75880	.03908
.000	4.120	.18100	.04690	.01850	.18390	.03380	-.00150	.00010	.00800	.79730	.03813
.000	6.180	.27430	.05320	.01870	.27850	.02333	-.00150	.00000	.01000	.80960	.03733
.000	8.240	.37190	.06400	.01800	.37720	.01001	-.00130	-.00030	.01100	.81680	.03776
.000	10.310	.46620	.08030	.02110	.47300	-.00440	-.00150	-.00040	.01300	.81800	.03853
	GRADIENT	.04534	.00085	.00031	.04604	-.00234	.00007	-.00005	.00049	-.27107	-.00030

RUN NO. 73/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.000	-.00300	.03970	.01300	-.00300	.03973	.00380	-.00380	-.09000	2.38810	.04021
5.030	2.050	.09030	.03990	.01380	.09170	.03669	.00410	-.00510	-.08900	.77890	.04019
5.020	4.110	.18310	.04410	.01360	.18580	.03094	.00430	-.00620	-.08800	.80740	.03991
5.020	6.170	.27640	.05090	.01290	.28030	.02089	.00430	-.00700	-.08500	.81740	.03974
5.030	8.260	.37360	.06120	.01340	.37850	.00689	.00520	-.00880	-.08500	.82130	.03970
5.020	10.330	.47230	.07800	.01432	.47860	-.00796	.00590	-.01100	-.08400	.82340	.03961
	GRADIENT	.04528	.00107	.00015	.04594	-.00214	.00012	-.00058	.00049	-.38427	-.00007

RUN NO. 74/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.080	-.010	.01040	.02820	.00480	.01040	.02821	.01010	-.00830	-.19100	.66380	.04289
10.080	2.040	.10320	.02930	.00550	.10420	.02559	.01120	-.01080	-.19100	.81460	.04268
10.080	4.130	.19730	.03310	.00550	.19920	.01880	.01290	-.01320	-.19100	.82410	.04346
10.080	6.180	.28750	.04170	.00710	.29030	.01056	.01420	-.01620	-.19000	.82530	.04317
10.080	8.270	.38390	.05600	.00740	.38800	.00025	.01500	-.01920	-.18900	.82730	.04372
10.080	10.320	.48190	.07420	.00580	.48740	-.01339	.01570	-.02190	-.18400	.82996	.04428
	GRADIENT	.04514	.00119	.00017	.04560	-.00228	.00068	-.00118	.00000	.03861	.00014

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF015) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 35.000
PHI-M = 88.000 THETAM = 35.000
RN/L = 1.190

RUN NO. 75/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.090	.010	.01770	.03190	.00440	.01770	.03195	-.01330	.00960	.20700	.74250	.04288
-10.080	2.110	.11030	.03330	.00440	.11140	.02927	-.01430	.01140	.20800	.81960	.04207
-10.080	4.100	.19870	.03830	.00450	.20090	.02398	-.01590	.01380	.21200	.82610	.04179
-10.090	6.210	.29550	.04700	.00590	.29880	.01473	-.01740	.01670	.21500	.82710	.04198
-10.090	8.280	.38720	.06020	.00660	.39180	.00382	-.01820	.01900	.21200	.82820	.04314
-10.080	10.350	.48780	.07810	.00520	.49390	-.01078	-.01920	.02080	.21400	.83050	.04414
	GRADIENT	.04425	.00156	.00002	.04479	-.00194	-.00063	.00103	.00122	.02059	-.00027

RUN NO. 76/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.060	.000	-.00130	.04420	.01280	-.00130	.04420	-.00650	.00470	.10800	-2.23500	.03972
-5.060	2.060	.09220	.04430	.01340	.09370	.04100	-.00670	.00560	.10700	.78160	.03959
-5.060	4.130	.18560	.04790	.01360	.18860	.03446	-.00700	.00650	.10800	.80770	.03936
-5.060	6.190	.27940	.05360	.01290	.28360	.02324	-.00760	.00710	.11000	.81760	.03960
-5.060	8.250	.37610	.06480	.01420	.38150	.01012	-.00870	.00820	.11400	.82070	.03935
-5.060	10.320	.46810	.08180	.01430	.47520	-.00332	-.00930	.01020	.11300	.82330	.03913
	GRADIENT	.04525	.00090	.00019	.04598	-.00236	-.00012	.00044	.00000	.73615	-.00009

RUN NO. 77/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.00690	.04670	.01700	-.00690	.04676	-.00160	.00040	.00500	1.73480	.03919
.000	2.050	.08680	.04670	.01770	.08840	.04364	-.00160	.00010	.00700	.76070	.03876
.000	4.100	.17630	.04980	.01830	.17950	.03713	-.00140	.00010	.00700	.79690	.03814
.000	6.190	.27470	.05730	.01880	.27920	.02730	-.00140	-.00020	.01000	.80950	.03725
.000	8.250	.36910	.06750	.01780	.37500	.01384	-.00150	-.00030	.01100	.81690	.03738
.000	10.310	.46210	.08370	.02080	.46960	-.00028	-.00150	-.00040	.01200	.81800	.03801
	GRADIENT	.04468	.00076	.00032	.04563	-.00235	.00005	-.00007	.00049	-.22876	-.00026

RUN NO. 78/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.050	-.010	-.00420	.04400	.01280	-.00420	.04402	.00350	-.00400	-.09000	1.95700	.03968
5.050	2.050	.09040	.04440	.01320	.09200	.04119	.00390	-.00510	-.09100	.78140	.03968
5.050	4.120	.18190	.04690	.01400	.18480	.03368	.00440	-.00610	-.09000	.80650	.03930
5.050	6.180	.27760	.05350	.01310	.28170	.02331	.00440	-.00690	-.09800	.81720	.03979
5.050	8.250	.37130	.06500	.01290	.37680	.01104	.00530	-.00870	-.08700	.82170	.03962
5.050	10.310	.46770	.08230	.01430	.47490	-.00274	.00580	-.01090	-.08500	.82330	.03902
	GRADIENT	.04506	.00070	.00029	.04576	-.00250	.00022	-.00051	.00000	-.27834	-.00009

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF015) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 35.000
PHI-M = 88.000 THETAM = 75.000
RN/L = 1.190

RUN NO. 79/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.120	.000	.00770	.03350	.00480	.00770	.03350	.01000	-.00850	-.19000	.60310	.04250
10.120	2.060	.10020	.03490	.00470	.10140	.03127	.01130	-.00970	-.19100	.81710	.04276
10.120	4.130	.19440	.03940	.00480	.19670	.02535	.01290	-.01130	-.19100	.82530	.04247
10.120	6.170	.28270	.04770	.00610	.28620	.01704	.01400	-.01350	-.19200	.82640	.04282
10.120	8.240	.38080	.06030	.00640	.38550	.00509	.01510	-.01340	-.19000	.82820	.04355
10.120	10.370	.48220	.07830	.00510	.48850	-.00979	.01590	-.01200	-.18700	.83050	.04469
	GRADIENT	.04521	.00143	.00000	.04576	-.00197	.00070	-.00116	-.00024	.05376	-.00001

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF016) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 50.000
PHI-M = 88.000 THETAM = 50.000
RN/L = 1.190

RUN NO. 80/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.110	.010	.01450	.03630	.00480	.01450	.03634	-.01250	.00960	.20800	.71200	.04320
-10.110	2.060	.10640	.03670	.00510	.10770	.03289	-.01390	.01140	.21100	.81690	.04248
-10.110	4.110	.19980	.04140	.00500	.20230	.02701	-.01570	.01380	.21300	.82520	.04182
-10.110	6.180	.29190	.04960	.00590	.29560	.01784	-.01700	.01660	.21500	.82700	.04215
-10.110	8.260	.38510	.06250	.00650	.39010	.00652	-.01790	.01890	.21300	.82820	.04286
-10.110	10.370	.48750	.08070	.00560	.49400	-.00834	-.01890	.02090	.21300	.83020	.04355
	GRADIENT	.04520	.00124	.00005	.04580	-.00228	-.00078	.00102	.00122	.02761	-.00034

RUN NO. 81/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.060	.000	-.00080	.04790	.01250	-.00080	.04790	-.00610	.00480	.10900	-.44650	.03948
-5.060	2.050	.09360	.04780	.01310	.09530	.04450	-.00650	.00570	.10900	.78370	.03913
-5.060	4.130	.18690	.05160	.01330	.19020	.03799	-.00660	.00620	.11100	.80850	.03929
-5.060	6.180	.28030	.05760	.01270	.28480	.02711	-.00710	.00690	.11200	.81790	.03966
-5.070	8.250	.37340	.06880	.01320	.37940	.01453	-.00790	.00830	.11300	.82150	.03914
-5.070	10.330	.46970	.08420	.01430	.47710	-.00140	-.00900	.01020	.11500	.82330	.03882
	GRADIENT	.04545	.00090	.00019	.04625	-.00240	-.00012	.00034	.00049	.30316	-.00005

OA163 B68C12G20M16N28W.27E55F10V8R5X9 (RFF016) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	50.000
PHI-M =	88.000	THETAM =	50.000
RN/L =	1.190		

RUN NO. 82/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.00420	.04940	.01700	-.00420	.04941	-.00170	.00030	.00600	2.29610	.03886
.000	2.060	.08750	.04930	.01740	.08920	.04612	-.00160	.00000	.00700	.76230	.03833
.000	4.120	.17820	.05320	.01820	.18160	.04032	-.00150	-.00010	.00900	.79740	.03776
.000	6.190	.27160	.05990	.01820	.27640	.03024	-.00140	-.00020	.01000	.81010	.03729
.000	8.250	.36720	.07110	.01760	.37360	.01760	-.00150	-.00030	.01200	.81700	.03691
-.010	10.340	.46430	.08800	.02150	.47260	.00323	-.00160	-.00040	.01500	.81760	.03734
	GRADIENT	.04427	.00092	.00029	.04510	-.00221	.00005	-.00010	.00073	-.36376	-.00027

RUN NO. 83/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.050	.000	-.00360	.04830	.01340	-.00360	.04837	.00290	-.00400	-.09200	2.19710	.03914
5.050	2.090	.09050	.04770	.01310	.09210	.04438	.00310	-.00520	-.09100	.78210	.03884
5.050	4.140	.18280	.05090	.01310	.18600	.03758	.00360	-.00630	-.09100	.80840	.03885
5.050	6.200	.27600	.05760	.01270	.28070	.02744	.00360	-.00700	-.08700	.81770	.03908
5.050	8.280	.37190	.06860	.01330	.37800	.01431	.00460	-.00880	-.08700	.82140	.03859
5.050	10.330	.46600	.08460	.01370	.47360	-.00039	.00530	-.01100	-.08400	.82370	.03852
	GRADIENT	.04502	.00063	-.00007	.04580	-.00260	.00017	-.00056	.00024	-.33655	-.00007

RUN NO. 84/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.110	.030	.01160	.03710	.00630	.01160	.03716	.00920	-.00850	-.19200	.63570	.04252
10.110	2.060	.10340	.03700	.00570	.10470	.03331	.01040	-.01090	-.19300	.81430	.04270
10.110	4.130	.19500	.04230	.00560	.19750	.02817	.01200	-.01340	-.19200	.82380	.04227
10.110	6.210	.28480	.05010	.00590	.28850	.01900	.01330	-.01660	-.19200	.82670	.04243
10.110	8.260	.38050	.06360	.00680	.38570	.00831	.01440	-.01950	-.19000	.82780	.04280
10.110	10.340	.48080	.08210	.00540	.48770	-.00558	.01510	-.02220	-.18600	.83030	.04397
	GRADIENT	.04473	.00127	-.00017	.04534	-.00219	.00068	-.00120	.00000	.04574	-.00006

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF017) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	65.000
PHI-M =	88.000	THETAM =	65.000
RN/L =	1.190		

RUN NO. 85/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.110	.010	.01730	.03850	.00560	.01730	.03859	-.01250	.00950	.21300	.71460	.04276
-10.100	2.110	.11060	.03980	.00520	.11200	.03578	-.01360	.01140	.21400	.81710	.04311
-10.100	4.170	.20220	.04330	.00460	.20480	.02852	-.01500	.01370	.21500	.82610	.04224
-10.100	6.230	.29130	.05180	.00570	.29520	.01995	-.01640	.01640	.21800	.82720	.04255
-10.100	8.300	.38910	.06580	.00690	.39450	.00893	-.01730	.01860	.21700	.82790	.04311
-10.110	10.360	.48520	.08300	.00650	.49230	-.00561	-.01850	.02100	.21500	.82950	.04362
	GRADIENT	.04445	.00115	-.00024	.04507	-.00242	-.00060	.00101	.00048	.02687	-.00012

RUN NO. 86/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.060	.010	.00060	.04960	.01210	.00060	.04960	-.00590	.00480	.11000	.84250	.04008
-5.060	2.120	.09440	.05040	.01260	.09620	.04694	-.00640	.00570	.11100	.78590	.03950
-5.060	4.150	.18630	.05390	.01270	.18980	.04036	-.00640	.00640	.11100	.80970	.03946
-5.060	6.210	.27940	.06050	.01200	.28430	.02996	-.00670	.00710	.11200	.81880	.03983
-5.060	8.270	.37510	.07190	.01420	.38150	.01718	-.00770	.00870	.11200	.82060	.03904
-5.060	10.350	.46900	.08800	.01510	.47710	.00227	-.00870	.01040	.11400	.82270	.03881
	GRADIENT	.04485	.00103	.00015	.04570	-.00223	-.00012	.00039	.00024	-.00805	-.00015

RUN NO. 87/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.000	-.00480	.05200	.01660	-.00480	.05207	-.00190	.00030	.00700	2.08750	.03913
.000	2.080	.08870	.05250	.01790	.09060	.04925	-.00170	.00010	.00700	.76160	.03862
.000	4.140	.17760	.05600	.01810	.18110	.04307	-.00150	.00000	.00800	.79760	.03791
.000	6.180	.27100	.06280	.01830	.27620	.03330	-.00150	.00000	.00800	.80990	.03721
.000	8.290	.37040	.07410	.01810	.37720	.01997	-.00150	-.00030	.01100	.81670	.03705
.000	10.320	.46030	.09040	.02120	.46910	.00642	-.00150	-.00040	.01300	.81770	.03754
	GRADIENT	.04406	.00097	.00036	.04490	-.00217	.00010	-.00007	.00024	-.31210	-.00029

RUN NO. 88/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.050	.000	-.00100	.05030	.01280	-.00100	.05032	.00240	-.00410	-.09300	-1.19350	.04010
5.050	2.090	.09200	.05130	.01280	.09380	.04797	.00290	-.00490	-.09300	.78380	.03961
5.060	4.130	.18310	.05410	.01320	.18660	.04081	.00290	-.00590	-.09000	.80820	.03933
5.060	6.180	.27630	.06070	.01240	.28120	.03062	.00310	-.00660	-.08900	.81800	.03978
5.060	8.260	.37050	.07170	.01340	.37700	.01770	.00410	-.00840	-.08800	.82120	.03922
5.060	10.370	.46870	.08790	.01460	.47690	.00215	.00480	-.01050	-.08500	.82310	.03908
	GRADIENT	.04458	.00092	.00010	.04542	-.00230	.00012	-.00044	.00072	.48656	-.00019

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF017) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 65.000
PHI-M = 88.000 THETAM = 65.000
RN/L = 1.190

RUN NO. 89/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.120	.010	.01210	.03870	.00590	.01210	.03879	.00840	-.00840	-.19500	.65520	.04304
10.120	2.050	.10350	.03990	.00590	.10490	.03624	.01010	-.01070	-.19600	.81360	.04254
10.120	4.140	.19610	.04420	.00580	.19880	.02994	.01170	-.01310	-.19600	.82350	.04256
10.120	6.220	.28520	.05320	.00680	.28920	.02196	.01300	-.01620	-.19600	.82570	.04261
10.120	8.270	.37960	.06650	.00760	.38520	.01121	.01390	-.01940	-.19200	.82700	.04381
10.120	10.340	.48050	.08380	.00600	.48770	-.00382	.01490	-.02200	-.19000	.82980	.04444
	GRADIENT	.04455	.00133	-.00002	.04520	-.00215	.00080	-.00114	-.00024	.04060	-.00012

OA163 B68C12G20M16N28W12?E55F10V8R5X9 (RFF018) (10 APR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 80.000
PHI-M = 88.000 THETAM = 80.000
RN/L = 1.190

RUN NO. 90/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.110	.020	.02030	.03940	.00420	.02030	.03939	-.01230	.00960	.21400	.75740	.04275
-10.110	2.050	.11150	.04130	.00440	.11290	.03731	-.01340	.01120	.21500	.82000	.04247
-10.110	4.110	.20270	.04540	.00430	.20540	.03078	-.01500	.01350	.21700	.82660	.04225
-10.110	5.150	.25160	.04970	.00490	.25500	.02693	-.01560	.01490	.21700	.82720	.04209
-10.110	6.210	.29440	.05500	.00570	.29870	.02291	-.01640	.01610	.21800	.82730	.04210
-10.110	8.270	.38790	.06790	.00650	.39370	.01143	-.01740	.01880	.21900	.82820	.04321
-10.110	10.340	.48610	.08570	.00590	.49390	-.00293	-.01840	.02060	.21900	.83000	.04377
	GRADIENT	.04460	.00147	.00002	.04525	-.00211	-.00066	.00095	.00073	.01689	-.00012

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF018) (10 APR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	80.000
PHI-M =	88.000	THETAM =	80.000
RN/L =	1.190		

RUN NO. 91/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.000	.000	.00670	.05050	.01270	.00670	.05053	-.00670	.00480	.10900	.13840	.03931
-5.000	2.070	.09900	.05090	.01380	.10080	.04737	-.00690	.00560	.11100	.78390	.03906
-5.000	4.110	.18940	.05480	.01330	.19280	.04108	-.00690	.00640	.11000	.80690	.03911
-5.000	6.190	.28240	.06130	.01300	.28730	.03055	-.00740	.00680	.11300	.81770	.03956
-5.000	8.250	.37440	.07330	.01430	.38110	.01884	-.00810	.00870	.11400	.82060	.03883
-5.000	10.330	.47090	.09010	.01550	.47950	.00422	-.00900	.01030	.11500	.82250	.03888
	GRADIENT	.04445	.00104	.00015	.04528	-.00230	-.00005	.00039	.00025	.16350	-.00005

RUN NO. 92/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.010	-.00170	.05590	.01620	-.00170	.05598	-.00170	.00040	.00700	-2.25340	.03867
.000	2.060	.08930	.05610	.01680	.09130	.05286	-.00170	.00020	.00800	.76650	.03852
.000	4.110	.17880	.05930	.01800	.18260	.04637	-.00160	.00010	.00900	.79800	.03747
.000	6.180	.27340	.06560	.01810	.27890	.03582	-.00150	.00000	.01000	.81040	.03713
.000	8.240	.36910	.07670	.01740	.37630	.02299	-.00170	-.00020	.01200	.81730	.03661
.000	10.310	.46340	.09270	.02090	.47250	.00825	-.00160	-.00040	.01300	.81810	.03748
	GRADIENT	.04432	.00083	.00044	.04495	-.00234	.00002	-.00007	.00049	.74424	-.00029

RUN NO. 93/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.000	-.020	.00000	.05250	.01260	.00000	.05257	.00280	-.00400	-.09500	-3.27670	.03963
5.000	2.100	.09480	.05370	.01310	.09670	.05020	.00280	-.00500	-.09100	.78440	.03933
5.000	4.110	.18360	.05630	.01340	.18710	.04303	.00300	-.00590	-.09000	.80790	.03949
5.000	6.170	.27600	.06220	.01290	.28110	.03215	.00320	-.00670	-.09000	.81740	.03948
5.000	8.290	.37290	.07370	.01350	.37960	.01920	.00400	-.00850	-.08700	.82120	.03874
5.000	10.310	.46620	.09040	.01440	.47490	.00540	.00460	-.01100	-.08500	.82320	.03886
	GRADIENT	.04416	.00092	.00019	.04531	-.00230	.00005	-.00044	.00122	.99745	-.00003

RUN NO. 94/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.000	.000	.01530	.04090	.00540	.01530	.04093	.00880	-.00840	-.19700	.70410	.04228
10.000	2.080	.10480	.04190	.00600	.10630	.03908	.00970	-.01070	-.19500	.81360	.04223
10.000	4.120	.19670	.04660	.00490	.19960	.03237	.01120	-.01320	-.19500	.82520	.04248
10.000	6.200	.28860	.05520	.00600	.29290	.02371	.01270	-.01610	-.19600	.82660	.04282
10.000	8.250	.37990	.06920	.00750	.38570	.01303	.01380	-.01910	-.19400	.82720	.04298
10.000	10.360	.48210	.08580	.00580	.48970	-.00230	.01430	-.02170	-.19100	.83000	.04440
	GRADIENT	.04403	.00138	-.00012	.04473	-.00208	.00058	-.00116	.00049	.02947	.00005

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF019) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 95.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 145/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.070	.010	.02300	.04060	.00380	.02300	.04060	-.01330	.00970	.21400	.77220	.04266
-10.070	2.060	.11070	.04200	.00410	.11210	.03805	-.01410	.01150	.21400	.82070	.04240
-10.070	4.150	.20400	.04640	.00380	.20680	.03155	-.01560	.01350	.21700	.82760	.04203
-10.070	6.210	.29710	.05580	.00490	.30140	.02329	-.01680	.01610	.21800	.82840	.04238
-10.070	8.250	.38960	.06940	.00570	.39550	.01276	-.01720	.01840	.21700	.82900	.04308
	10.360	.48710	.08730	.00520	.49490	-.00168	-.01860	.02030	.21800	.83050	.04360
	GRADIENT	.04372	.00140	-.00000	.04440	-.00219	-.00056	.00092	.00073	.01335	-.00015

RUN NO. 146/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	-.010	.00380	.05390	.01200	.00380	.05398	-.00700	.00500	.11100	-.30900	.03936
-5.050	2.050	.09370	.05410	.01230	.09550	.05074	-.00710	.00580	.11100	.78700	.03895
-5.050	4.120	.18850	.05800	.01250	.19220	.04430	-.00700	.00630	.11000	.81040	.03919
-5.050	6.190	.28230	.06470	.01210	.28760	.03387	-.00760	.00670	.11300	.81880	.03898
-5.050	8.260	.37570	.07620	.01300	.38270	.02140	-.00830	.00830	.11500	.82190	.03895
	10.310	.47020	.09300	.01410	.47920	.00733	-.00900	.01020	.11500	.82350	.03891
	GRADIENT	.04472	.00099	.00012	.04562	-.00234	.00000	.00031	-.00024	.27083	-.00004

RUN NO. 147/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	-.010	-.00290	.05870	.01540	-.00290	.05877	-.00210	.00050	.00900	2.76260	.03950
-.010	2.040	.08730	.05890	.01640	.08930	.05574	-.00190	.00040	.00800	.76670	.03889
-.010	4.110	.18050	.06230	.01700	.18460	.04920	-.00180	.00010	.01000	.80050	.03770
-.010	6.200	.27390	.06900	.01720	.27970	.03908	-.00170	.00000	.01000	.81180	.03710
-.010	8.280	.37170	.07950	.01690	.37930	.02516	-.00160	-.00010	.01200	.81790	.03730
	10.330	.46640	.09560	.02040	.47600	.01042	-.00160	-.00030	.01400	.81860	.03791
	GRADIENT	.04454	.00088	.00039	.04551	-.00232	.00007	-.00010	.00024	-.47544	-.00044

RUN NO. 148/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.040	-.020	.00150	.05480	.01190	.00150	.05488	.00270	-.00360	-.09300	-2.07400	.03980
5.040	2.050	.09300	.05570	.01270	.09490	.05233	.00310	-.00500	-.09200	.78510	.03933
5.040	4.110	.18470	.05830	.01300	.18840	.04492	.00320	-.00570	-.09000	.80880	.03934
5.040	6.200	.27760	.06500	.01180	.28300	.03462	.00360	-.00680	-.08800	.81900	.03949
5.040	8.240	.37070	.07630	.01260	.37780	.02238	.00450	-.00880	-.08700	.82210	.03898
	10.310	.46640	.09320	.01340	.47550	.00824	.00530	-.01100	-.08600	.82400	.03913
	GRADIENT	.04436	.00085	.00027	.04525	-.00241	.00012	-.00051	.00073	.69857	-.00011

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF019) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 95.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 149/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.080	.000	.01560	.04320	.00420	.01560	.04328	.00860	-.00820	-.19500	.73540	.04246
10.080	2.040	.10510	.04410	.00440	.10660	.04032	.00960	-.01070	-.19400	.81890	.04251
10.080	4.100	.19840	.04650	.00450	.20130	.03418	.01120	-.01320	-.19300	.82600	.04224
10.080	6.180	.28750	.05710	.00520	.29200	.02579	.01250	-.01600	-.19400	.82780	.04286
10.080	8.260	.38300	.07060	.00580	.38920	.01483	.01340	-.01910	-.19100	.82890	.04380
10.080	10.310	.48290	.08960	.00430	.49110	.00166	.01430	-.02190	-.18800	.83110	.04405
	GRADIENT	.04459	.00129	.00007	.04529	-.00222	.00063	-.00122	.00049	.02207	-.00005

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF020) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 130/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.030	.010	.02030	.04100	.00400	.02040	.04109	-.01220	.00890	.21200	.76170	.04234
-10.030	2.090	.11150	.04270	.00440	.11300	.03867	-.01340	.01120	.21100	.81980	.04182
-10.030	4.150	.20210	.04710	.00480	.20490	.03236	-.01490	.01310	.21300	.82570	.04185
-10.030	6.240	.29520	.05630	.00560	.29960	.02395	-.01610	.01600	.21500	.82750	.04203
-10.030	8.310	.38940	.07000	.00650	.39540	.01305	-.01690	.01830	.21500	.82930	.04313
-10.040	10.360	.48440	.08770	.00640	.49230	-.00077	-.01810	.02010	.21600	.82960	.04328
	GRADIENT	.04391	.00147	.00019	.04457	-.00211	-.00065	.00101	.00024	.01548	-.00012

RUN NO. 131/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.020	.030	.00380	.05510	.01210	.00390	.05510	-.00590	.00430	.10900	-.30800	.03923
-5.020	2.060	.09680	.05520	.01310	.09870	.05175	-.00610	.00530	.10900	.76550	.03895
-5.020	4.130	.18690	.05860	.01340	.19070	.04505	-.00620	.00600	.10800	.80840	.03864
-5.020	6.210	.28100	.06490	.01310	.28640	.03415	-.00670	.00640	.11100	.81750	.03922
-5.030	8.290	.37440	.07650	.01400	.38150	.02171	-.00750	.00820	.11300	.82090	.03894
-5.030	10.400	.47420	.09380	.01520	.48330	.00665	-.00860	.01010	.11400	.82280	.03908
	GRADIENT	.04465	.00086	.00032	.04556	-.00245	-.00007	.00041	-.00024	.27143	-.00014

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF020) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 132/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	.010	-.00500	.05930	.01600	-.00500	.05930	-.00110	.00010	.00700	2.01380	.03941
-.010	2.060	.08700	.05990	.01690	.08910	.05672	-.00110	.00000	.00700	.76440	.03862
-.010	4.130	.18050	.06260	.01780	.18460	.04943	-.00090	-.00010	.00800	.79870	.03802
-.010	6.200	.27360	.06940	.01800	.27950	.03949	-.00090	-.00010	.00800	.81060	.03728
-.010	8.340	.36980	.09020	.01740	.37750	.02575	-.00090	-.00030	.01000	.81740	.03687
-.010	10.350	.46380	.09610	.02090	.47350	.01121	-.00090	-.00030	.01100	.81810	.03764
	GRADIENT	.04502	.00080	.00044	.04602	-.00240	.00005	-.00005	.00024	-.29442	-.00034

RUN NO. 133/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	.020	.00160	.05580	.01260	.00160	.05583	.00400	-.00420	-.09700	-2.01420	.03962
5.030	2.070	.09210	.05610	.01330	.09410	.05273	.00420	-.00540	-.09500	.78220	.03947
5.030	4.120	.18190	.05920	.01380	.18570	.04595	.00410	-.00620	-.09100	.80700	.03910
5.030	6.200	.27620	.06570	.01340	.28170	.03552	.00450	-.00680	-.09100	.81690	.03937
5.030	8.280	.36890	.07700	.01390	.37620	.02310	.00520	-.00870	-.09000	.82080	.03898
5.030	10.340	.46460	.09380	.01480	.47390	.00885	.00590	-.01100	-.08800	.82280	.03897
	GRADIENT	.04398	.00083	.00029	.04490	-.00241	.00002	-.00049	.00146	.68810	-.00013

RUN NO. 134/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.050	.030	.01520	.04310	.00490	.01530	.04316	.01020	-.00890	-.19800	.71510	.04226
10.050	2.100	.10460	.04420	.00520	.10610	.04040	.01110	-.01120	-.19600	.81620	.04205
10.040	4.170	.19650	.04920	.00500	.19950	.03483	.01220	-.01340	-.19500	.82500	.04237
10.040	6.230	.28780	.05790	.00610	.29240	.02638	.01350	-.01640	-.19500	.82670	.04307
10.040	8.280	.38120	.07070	.00650	.38740	.01509	.01440	-.01930	-.19500	.82820	.04363
10.050	10.350	.48020	.08880	.00530	.48830	.00107	.01520	-.02190	-.19100	.83040	.04405
	GRADIENT	.04379	.00147	.00002	.04449	-.00201	.00048	-.00109	.00072	.02655	.00003

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF021) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 5.000
BDFLAP = -11.700 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 105/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.050	.050	.08130	.04350	-.02110	.08130	.04346	-.01350	.01040	.21600	.92990	.04640
-10.050	2.160	.17160	.04720	-.02020	.17330	.04079	-.01480	.01190	.21700	.87730	.04529
-10.050	4.190	.26110	.05400	-.01910	.26440	.03477	-.01630	.01390	.21900	.86110	.04501
-10.050	6.250	.35210	.06470	-.01750	.35710	.02600	-.01800	.01600	.22100	.85240	.04477
-10.050	8.340	.44900	.08040	-.01730	.45590	.01442	-.01910	.01840	.22100	.84840	.04580
-10.050	10.430	.54840	.10140	-.02020	.55770	.00049	-.01980	.02060	.21800	.84770	.04669
	GRADIENT	.04343	.00253	.00048	.04422	-.00209	-.00068	.00084	.00072	-.01667	-.00034

RUN NO. 106/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	.070	.06530	.05690	-.01290	.06530	.05681	-.00700	.00530	.11200	.90700	.04337
-5.050	2.130	.15480	.05900	-.01190	.15680	.05324	-.00730	.00570	.11200	.86240	.04247
-5.050	4.160	.24550	.06490	-.01140	.24960	.04692	-.00750	.00640	.11300	.85120	.04217
-5.060	6.240	.33820	.07360	-.01140	.34420	.03635	-.00790	.00640	.11500	.84660	.04247
-5.060	8.320	.43440	.08710	-.01170	.44250	.02326	-.00880	.00800	.11700	.84410	.04244
-5.060	10.400	.53330	.10690	-.01270	.54380	.00888	-.00960	.01020	.11700	.84300	.04280
	GRADIENT	.04406	.00195	.00037	.04506	-.00242	-.00012	.00027	.00024	-.01366	-.00029

RUN NO. 107/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.030	.060	.05670	.06180	-.00960	.05680	.06180	-.00160	.00000	.00700	.89670	.04396
-.030	2.130	.14760	.06410	-.00900	.14980	.05862	-.00170	.00000	.00900	.85660	.04354
-.030	4.230	.24160	.06870	-.00820	.24600	.05069	-.00180	-.00050	.01100	.84680	.04261
-.030	6.240	.33100	.07720	-.00780	.33740	.04075	-.00180	-.00020	.01100	.84300	.04120
-.030	8.310	.42660	.09000	-.00830	.43710	.02707	-.00170	-.00030	.01300	.84140	.04146
-.030	10.400	.52490	.10900	-.00720	.53600	.01245	-.00160	-.00050	.01300	.83940	.04190
	GRADIENT	.04424	.00166	.00034	.04537	-.00267	-.00005	-.00012	.00096	-.01195	-.00032

RUN NO. 108/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.000	.070	.06290	.05720	-.01320	.06290	.05712	.00360	-.00510	-.09400	.91180	.04419
5.000	2.140	.15380	.05970	-.01260	.15590	.05394	.00370	-.00590	-.09300	.86430	.04383
5.000	4.160	.24160	.06470	-.01190	.24570	.04705	.00380	-.00670	-.09100	.85230	.04335
5.000	6.250	.33660	.07350	-.01260	.34260	.03644	.00390	-.00740	-.08900	.84800	.04342
5.000	8.320	.43230	.08740	-.01330	.44040	.02395	.00450	-.00900	-.08800	.84560	.04375
5.000	10.390	.53120	.10660	-.01370	.54170	.00908	.00510	-.01100	-.08600	.84370	.04406
	GRADIENT	.04369	.00183	.00032	.04470	-.00246	.00005	-.00039	.00073	-.01458	-.00021

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF021) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	5.000
BDFLAP =	-11.700	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 109/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.020	.040	.07560	.04550	-.02030	.07570	.04547	.01020	-.01020	-.19800	.93330	.04625
10.020	2.120	.16310	.04880	-.01930	.16480	.04278	.01120	-.01200	-.19700	.87750	.04584
10.020	4.190	.25430	.05520	-.01870	.25760	.03651	.01280	-.01460	-.19700	.86110	.04552
10.010	6.250	.34440	.06540	-.01770	.34950	.02759	.01420	-.01710	-.19800	.85310	.04543
10.010	8.360	.44240	.08210	-.01750	.44970	.01693	.01490	-.01950	-.19600	.84880	.04641
10.010	10.420	.54220	.10250	-.01990	.55180	.00278	.01570	-.02130	-.19200	.84770	.04669
	GRADIENT	.04306	.00234	.00039	.04383	-.00216	.00063	-.00106	.00024	-.01741	-.00018

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF022) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	5.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 110/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.020	.060	.09820	.04170	-.03100	.09820	.04164	-.01390	.01020	.21600	.95070	.04332
-10.020	2.110	.18370	.04540	-.03070	.18530	.03865	-.01480	.01220	.21500	.89540	.04338
-10.020	4.160	.27630	.05260	-.03070	.27940	.03249	-.01650	.01420	.21700	.87490	.04358
-10.020	6.230	.36800	.06380	-.03010	.37280	.02350	-.01750	.01610	.21800	.86410	.04383
-10.020	8.290	.46280	.08020	-.02960	.46950	.01259	-.01890	.01860	.21900	.85760	.04461
	10.380	.56290	.10170	-.03290	.57210	-.00137	-.02000	.02010	.22000	.85560	.04527
	GRADIENT	.0434	.00266	.00007	.04420	-.00223	-.00063	.00098	.00024	-.01849	.00006

RUN NO. 111/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.020	.020	.07700	.05550	-.02320	.07700	.05549	-.00700	.00500	.11100	.94550	.04101
-5.020	2.100	.16990	.05740	-.02200	.17190	.05119	-.00740	.00540	.11200	.88150	.04053
-5.020	4.150	.26090	.06330	-.02210	.26480	.04432	-.00770	.00600	.11300	.86520	.04071
-5.020	6.220	.35210	.07290	-.02270	.35800	.03429	-.00840	.00670	.11400	.85780	.04077
-5.020	8.290	.44960	.08700	-.02320	.45750	.02132	-.00910	.00780	.11800	.85310	.04052
	10.380	.54850	.10760	-.02390	.55890	.00700	-.00980	.01050	.11600	.85010	.04087
	GRADIENT	.04453	.00189	.00027	.04547	-.00270	-.00017	.00024	.00048	-.01947	-.00007

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF022) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 5.000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 112/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.010	.010	.06920	.05980	-.01950	.06920	.05980	-.00170	.00000	.00700	.93840	.04157
.010	2.090	.16250	.06230	-.01940	.16470	.05634	-.00160	-.00020	.00800	.87780	.04075
.010	4.140	.25350	.06790	-.01900	.25780	.04942	-.00160	-.00020	.00800	.86150	.04026
.010	6.200	.34840	.07680	-.01910	.35460	.03876	-.00170	-.00060	.01100	.85430	.03917
.010	8.290	.44470	.09020	-.02000	.45300	.02511	-.00160	-.00010	.01100	.85070	.03968
.010	10.370	.54270	.10980	-.01820	.55360	.01031	-.00180	-.00070	.01400	.84650	.03986
	GRADIENT	.04463	.00196	.00012	.04567	-.00251	.00002	-.00005	.00024	-.01865	-.00032

RUN NO. 113/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.040	.000	.07590	.05620	-.02330	.07590	.05628	.00340	-.00520	-.09600	.94750	.04141
5.040	2.080	.16760	.05890	-.02260	.16970	.05276	.00380	-.00610	-.09400	.88360	.04098
5.030	4.170	.26060	.06410	-.02270	.26460	.04500	.00420	-.00670	-.09400	.86610	.04095
5.030	6.220	.35140	.07320	-.02400	.35730	.03472	.00400	-.00750	-.09100	.85910	.04108
5.030	8.280	.44750	.08720	-.02410	.45540	.02186	.00480	-.00920	-.09000	.85390	.04070
5.030	10.350	.54570	.10760	-.02460	.55620	.00776	.00560	-.01080	-.08900	.85070	.04065
	GRADIENT	.04429	.00189	.00014	.04525	-.00271	.00019	-.00036	.00048	-.01951	-.00011

RUN NO. 114/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.060	.030	.09230	.04370	-.03050	.09230	.04370	.00990	-.01030	-.19800	.95610	.04350
10.060	2.090	.18120	.04730	-.03070	.18280	.04072	.01100	-.01230	-.19700	.89620	.04313
10.060	4.150	.27010	.05470	-.03060	.27330	.03502	.01250	-.01430	-.19900	.87570	.04337
10.060	6.240	.36470	.06610	-.03000	.36970	.02607	.01410	-.01730	-.19800	.86430	.04402
10.060	8.290	.45740	.08200	-.03040	.46450	.01517	.01480	-.01970	-.19500	.85850	.04450
10.060	10.370	.56110	.10360	-.03360	.57060	.00086	.01550	-.02160	-.19400	.85610	.04603
	GRADIENT	.04316	.00267	-.00002	.04393	-.00211	.00063	-.00097	-.00024	-.01951	-.00003

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF023) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 10.000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 135/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.040	.110	.17340	.04980	-.06880	.17350	.04951	-.01410	.00960	.21500	.98040	.04562
-10.040	2.170	.26400	.05520	-.07040	.26590	.04516	-.01550	.01140	.21900	.93190	.04534
-10.040	4.240	.35500	.06490	-.07150	.35580	.03848	-.01680	.01270	.22200	.90770	.04515
-10.040	6.300	.45360	.08000	-.07210	.45970	.02975	-.01830	.01440	.22600	.89210	.04527
-10.040	8.370	.55010	.09970	-.07470	.55870	.01851	-.01930	.01690	.22500	.88360	.04625
-10.040	10.450	.65590	.12550	-.07890	.66780	.00439	-.01980	.01880	.22400	.87790	.04763
	GRADIENT	.04397	.00366	-.00065	.04487	-.00267	-.00065	.00075	.00169	-.01760	-.00011

RUN NO. 136/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.030	.100	.15560	.06300	-.06160	.15570	.06291	-.00720	.00400	.11500	.98000	.04282
-5.030	2.160	.24580	.06810	-.06210	.24820	.05875	-.00720	.00460	.11400	.92640	.04283
-5.030	4.260	.34330	.07700	-.06320	.34810	.05129	-.00780	.00440	.11700	.90130	.04289
-5.030	6.290	.43840	.08910	-.06680	.44550	.04049	-.00780	.00450	.11700	.88960	.04311
-5.030	8.390	.54320	.10830	-.07100	.55320	.02783	-.00830	.00610	.11900	.88160	.04332
-5.030	10.460	.64250	.13150	-.07700	.65570	.01265	-.00890	.00810	.12000	.87540	.04317
	GRADIENT	.04512	.00337	-.00039	.04625	-.00277	-.00014	.00010	.00048	-.01890	.00002

RUN NO. 137/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	.090	.14470	.06790	-.05700	.14480	.06766	-.00150	-.00150	.00800	.97940	.04343
-.010	2.160	.23680	.07300	-.05780	.23940	.06402	-.00130	-.00180	.00800	.92330	.04264
-.010	4.220	.33030	.08090	-.05620	.33530	.05639	-.00120	-.00220	.01000	.89830	.04201
-.010	6.300	.43380	.09350	-.06180	.44150	.04532	-.00120	-.00210	.01100	.88590	.04155
-.010	8.390	.53720	.11090	-.06600	.54770	.03139	-.00110	-.00270	.01400	.87880	.04154
-.010	10.450	.64000	.13520	-.06790	.65400	.01695	-.00080	-.00330	.01500	.87260	.04206
	GRADIENT	.04454	.00315	-.00029	.04613	-.00273	.00007	-.00017	.00048	-.01964	-.00034

RUN NO. 138/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	.110	.14980	.06390	-.06060	.14990	.06362	.00410	-.00720	-.09500	.98330	.04346
5.030	2.160	.24140	.06910	-.06090	.24380	.06001	.00430	-.00810	-.09400	.92640	.04338
5.030	4.210	.33760	.07730	-.06270	.34240	.05229	.00510	-.00850	-.09400	.90180	.04334
5.030	6.310	.43720	.08970	-.06630	.44450	.04111	.00540	-.00930	-.09400	.88930	.04355
5.040	8.380	.53890	.10820	-.06960	.54690	.02851	.00610	-.01140	-.09100	.88110	.04357
5.040	10.440	.64060	.13200	-.07200	.65390	.01361	.00710	-.01440	-.08900	.87500	.04337
	GRADIENT	.04580	.00327	-.00051	.04695	-.00276	.00024	-.00032	.00024	-.01988	-.00003

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF023) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 10.000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 139/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.060	.120	.16530	.05160	-.06860	.16540	.05128	.01120	-.01340	-.20100	.98700	.04590
10.060	2.180	.25620	.05750	-.06880	.25820	.04773	.01280	-.01480	-.20000	.93250	.04504
10.060	4.240	.35070	.06730	-.07080	.35480	.04114	.01410	-.01680	-.20100	.90790	.04558
10.060	6.320	.44630	.08180	-.07200	.45260	.03220	.01520	-.01960	-.19900	.89300	.04614
10.060	8.360	.54650	.10140	-.07480	.55540	.02080	.01630	-.02210	-.19800	.88400	.04710
10.060	10.450	.65360	.12710	-.08020	.66590	.00644	.01690	-.02440	-.19400	.87870	.04848
	GRADIENT	.04500	.00381	-.00053	.04597	-.00246	.00070	-.00083	-.00000	-.01920	-.00008

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF024) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 10.000
BDFLAP = -11.700 SPDBRK = 85.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 140/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.030	.080	.12100	.08210	-.01710	.12110	.08200	-.01210	.00740	.21300	.88650	.06183
-10.030	2.140	.20850	.08760	-.01580	.21160	.07975	-.01320	.00860	.21500	.86200	.06030
-10.040	4.190	.30020	.09690	-.01540	.30650	.07467	-.01410	.01010	.21700	.85290	.05899
-10.030	6.280	.39360	.11000	-.01400	.40330	.06630	-.01510	.01180	.21900	.84720	.05753
-10.040	8.380	.49260	.12900	-.01530	.50610	.05582	-.01610	.01400	.22000	.84530	.05751
-10.040	10.420	.59360	.15090	-.01950	.61110	.04097	-.01710	.01650	.21900	.84620	.05923
	GRADIENT	.04300	.00360	.00041	.04511	-.00178	-.00049	.00066	.00097	-.00818	-.00069

RUN NO. 141/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.020	.080	.10720	.09430	-.01250	.10740	.09416	-.00410	.00160	.10700	.87740	.06367
-5.020	2.140	.19650	.09870	-.01120	.20010	.09134	-.00470	.00240	.10900	.85510	.06234
-5.030	4.200	.28900	.10590	-.01070	.29600	.08443	-.00540	.00270	.11200	.84780	.06067
-5.030	6.230	.38310	.11720	-.01360	.39360	.07470	-.00580	.00280	.11400	.84720	.05984
-5.030	8.330	.48440	.13320	-.01770	.49860	.06162	-.00580	.00410	.11400	.84750	.05918
-5.030	10.420	.58470	.15580	-.01840	.60330	.04744	-.00580	.00620	.11300	.84560	.05846
	GRADIENT	.04413	.00282	.00044	.04578	-.00236	-.00032	.00027	.00121	-.00718	-.00073

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF024) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 142/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.010	.070	.10160	.09770	-.01270	.10170	.09758	-.00070	-.00180	.00600	.88050	.06581
.010	2.130	.19280	.10160	-.01330	.19650	.09435	-.00050	-.00220	.00600	.85930	.06461
.000	4.180	.28100	.10740	-.01170	.28810	.08663	-.00040	-.00250	.00700	.84930	.06221
.010	6.280	.38180	.11850	-.01360	.39250	.07602	-.00050	-.00270	.01000	.84720	.06063
.010	8.360	.48420	.13410	-.01660	.49860	.06227	-.00040	-.00300	.01100	.84670	.05881
.000	10.420	.58600	.15650	-.01820	.60470	.04786	.00000	-.00370	.01100	.84550	.05890
	GRADIENT	.04365	.00236	.00024	.04535	-.00266	.00007	-.00017	.00024	-.00759	-.00088

RUN NO. 143/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.060	.080	.10610	.09380	-.01500	.10620	.09364	.00360	-.00620	-.09500	.88650	.06353
5.050	2.120	.19450	.09680	-.01500	.19790	.08951	.00390	-.00720	-.09400	.86250	.06352
5.050	4.200	.28740	.10340	-.01560	.29420	.08208	.00480	-.00800	-.09400	.85390	.06197
5.050	6.280	.38600	.11420	-.01870	.39620	.07129	.00520	-.00880	-.09400	.85180	.06209
5.050	8.360	.49140	.13020	-.02240	.50510	.05738	.00550	-.01080	-.09100	.85080	.06191
	10.460	.59350	.15410	-.02530	.61160	.04382	.00570	-.01330	-.08600	.84970	.06036
	GRADIENT	.04401	.00233	-.00015	.04563	-.00281	.00029	-.00044	.00024	-.00790	-.00038

RUN NO. 144/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.090	.080	.12040	.08130	-.02100	.12050	.08116	.01120	-.01180	-.20100	.89860	.06417
10.090	2.150	.20890	.08670	-.01940	.21200	.07883	.01260	-.01360	-.20100	.86810	.06225
10.090	4.230	.30090	.09660	-.01830	.30720	.07409	.01410	-.01540	-.20100	.85640	.06074
10.100	6.290	.39190	.10940	-.01790	.40150	.06584	.01530	-.01780	-.20100	.85080	.05995
10.100	8.360	.49360	.12740	-.02060	.50690	.05433	.01620	-.02070	-.20000	.84940	.06057
10.090	10.430	.59830	.15140	-.02510	.61580	.04054	.01700	-.02290	-.19600	.84940	.06072
	GRADIENT	.04319	.00369	.00065	.04499	-.00170	.00070	-.00087	-.00000	-.01017	-.00083

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF025) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.040E				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	15.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 129/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.040	.040	.04420	.04400	-.01410	.04430	.04406	-.01200	.00960	.21100	.95230	.04083
-10.030	2.120	.13730	.04660	-.01490	.13900	.04153	-.01300	.01150	.21100	.87380	.04094
-10.040	4.160	.22890	.05120	-.01480	.23200	.03450	-.01450	.01370	.21400	.85790	.04148
-10.040	6.260	.32440	.06140	-.01460	.32910	.02570	-.01580	.01650	.21500	.85070	.04251
-10.030	8.300	.41480	.07550	-.01470	.42140	.01478	-.01620	.01900	.21100	.84730	.04378
-10.030	10.400	.51370	.09450	-.01530	.52230	.00021	-.01720	.02110	.21100	.84520	.04485
	GRADIENT	.04483	.00175	-.00017	.04556	-.00232	-.00061	.00099	.00073	-.02296	.00016

RUN NO. 128/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.020	.040	.03060	.05630	-.00510	.03070	.05633	-.00560	.00480	.10800	.89610	.03828
-5.020	2.090	.12340	.05720	-.00470	.12540	.05274	-.00600	.00560	.11000	.84830	.03854
-5.020	4.150	.21220	.06090	-.00550	.21610	.04542	-.00620	.00630	.10900	.84380	.03922
-5.020	6.200	.30820	.06910	-.00620	.31390	.03541	-.00650	.00670	.11100	.84170	.03953
-5.020	8.300	.40420	.08180	-.00520	.41170	.02261	-.00730	.00840	.11200	.83910	.03980
-5.030	10.360	.49910	.09950	-.00530	.50880	.00818	-.00790	.01040	.11200	.83820	.03996
	GRADIENT	.04418	.00112	-.00010	.04511	-.00266	-.00015	.00036	.00024	-.01272	.00023

RUN NO. 127/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	.010	.02080	.06080	-.00300	.02090	.06084	-.00090	.00020	.00600	.88830	.03848
.000	2.100	.11650	.06180	-.00200	.11870	.05757	-.00070	.00000	.00700	.84060	.03799
.000	4.200	.20850	.06630	-.00140	.21280	.05091	-.00040	-.00010	.00700	.83700	.03750
.000	6.220	.30160	.07310	-.00190	.30780	.03996	-.00070	-.00030	.01000	.83670	.03762
.000	8.280	.39910	.08500	-.00220	.40720	.02667	-.00060	-.00020	.00900	.83650	.03788
.000	10.370	.49080	.10170	.00140	.50110	.01174	-.00050	-.00030	.01000	.83330	.03846
	GRADIENT	.04460	.00131	.00038	.04580	-.00237	.00012	-.00007	.00024	-.01224	-.00023

RUN NO. 126/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.030	.02820	.05630	-.00580	.02820	.05637	.00380	-.00440	-.09600	.91000	.03853
5.020	2.100	.12020	.05750	-.00520	.12220	.05307	.00440	-.00560	-.09500	.85010	.03870
5.020	4.150	.21130	.06180	-.00580	.21520	.04638	.00470	-.00650	-.09300	.84450	.03883
5.020	6.240	.30620	.06920	-.00650	.31190	.03556	.00490	-.00730	-.09100	.84210	.03944
5.020	8.300	.40080	.08180	-.00670	.40840	.02308	.00580	-.00920	-.09200	.84050	.03967
5.020	10.360	.49450	.09940	-.00550	.50430	.00884	.00630	-.01130	-.08900	.83840	.03984
	GRADIENT	.04444	.00133	.00000	.04539	-.00242	.00022	-.00051	.00073	-.01592	.00007

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF025) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = 15.000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 125/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.070	.030	.04640	.04240	-.01290	.04650	.04244	.01080	-.00940	-.20400	.93690	.04125
10.080	2.080	.13510	.04550	-.01420	.13670	.04056	.01150	-.01180	-.19900	.87270	.04146
10.080	4.150	.22600	.05120	-.01510	.22910	.03474	.01290	-.01390	-.19800	.85870	.04220
10.070	6.220	.31770	.06180	-.01460	.32260	.02706	.01390	-.01700	-.19700	.85100	.04239
10.070	8.300	.41140	.07670	-.01470	.41810	.01653	.01470	-.01970	-.19400	.84740	.04335
10.070	10.380	.51350	.09610	-.01660	.52240	.00194	.01530	-.02230	-.19100	.84610	.04505
	GRADIENT	.04359	.00214	-.00053	.04432	-.00187	.00051	-.00109	.00145	-.01896	.00023

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF026) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = 10.000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 160/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.080	.030	.03830	.04090	-.00700	.03830	.04095	-.01320	.00980	.21500	.90190	.04171
-10.080	2.090	.12670	.04250	-.00700	.12820	.03789	-.01440	.01180	.21400	.85470	.04128
-10.080	4.160	.21860	.04870	-.00790	.22160	.03269	-.01540	.01380	.21500	.84750	.04162
-10.080	6.220	.31230	.05840	-.00700	.31680	.02422	-.01640	.01640	.21500	.84250	.04198
-10.070	8.290	.40540	.07250	-.00640	.41160	.01330	-.01730	.01980	.21400	.84010	.04309
-10.080	10.360	.50500	.09080	-.00730	.51310	-.00145	-.01840	.02090	.21500	.83970	.04375
	GRADIENT	.04306	.00189	-.00022	.04438	-.00200	-.00053	.00097	.00000	-.01316	-.00002

RUN NO. 161/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	.030	.02070	.05480	.00160	.02070	.05482	-.00670	.00500	.11100	.80570	.03829
-5.050	2.080	.11190	.05560	.00180	.11380	.05159	-.00680	.00610	.11100	.82830	.03861
-5.050	4.140	.20470	.05910	.00160	.20840	.04422	-.00700	.00680	.11000	.83150	.03879
-5.050	6.220	.29940	.06660	.00090	.30490	.03375	-.00750	.00730	.11300	.83320	.03944
-5.060	8.290	.39250	.07880	.00160	.39980	.02140	-.00820	.00870	.11400	.83290	.03910
-5.050	10.350	.48460	.09590	.00260	.49390	.00727	-.00910	.01070	.11500	.83240	.03924
	GRADIENT	.04477	.00105	-.00000	.04567	-.00258	-.00007	.00044	-.00024	.00627	.00012

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFF026) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = 10.000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 162/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.020	.020	.01050	.05930	.00470	.01060	.05936	-.00180	.00060	.00700	.67100	.03777
-.020	2.070	.10380	.05990	.00500	.10590	.05610	-.00160	.00060	.00900	.81700	.03739
-.020	4.150	.19620	.06380	.00560	.20030	.04948	-.00160	.00030	.01000	.82400	.03693
-.020	6.200	.28900	.07020	.00630	.29490	.03864	-.00170	.00020	.01100	.82650	.03679
-.020	8.290	.38510	.08170	.00530	.39290	.02529	-.00150	.00000	.01100	.82940	.03650
-.020	10.340	.47950	.09840	.00860	.48940	.01072	-.00180	.00000	.01400	.82790	.03785
	GRADIENT	.04496	.00109	.00022	.04593	-.00239	.00005	-.00007	.00073	.03696	-.00020

RUN NO. 163/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.020	.01620	.05550	.00150	.01620	.05549	.00290	-.00380	-.09300	.79950	.03843
5.020	2.080	.10890	.05590	.00160	.11090	.05196	.00340	-.00500	-.09200	.82880	.03854
5.020	4.130	.19850	.05930	.00170	.20220	.04488	.00340	-.00590	-.08900	.83130	.03854
5.020	6.200	.29140	.06620	.00050	.29690	.03441	.00360	-.00680	-.08800	.83370	.03814
5.020	8.260	.38710	.07820	.00080	.39450	.02180	.00450	-.00860	-.08700	.83360	.03905
5.020	10.350	.48470	.09610	.00230	.49400	.00744	.00530	-.01090	-.08600	.83260	.03918
	GRADIENT	.04436	.00092	.00005	.04526	-.00258	.00012	-.00051	.00097	.00774	.00003

RUN NO. 164/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.070	.000	.02970	.04300	-.00690	.02970	.04309	.00920	-.00850	-.19600	.92080	.04110
10.070	2.070	.11960	.04440	-.00740	.12110	.04008	.01030	-.01090	-.19500	.85700	.04197
10.060	4.140	.21330	.04970	-.00740	.21630	.03416	.01180	-.01310	-.19500	.84710	.04137
10.060	6.230	.30640	.05960	-.00690	.31100	.02603	.01260	-.01620	-.19200	.84260	.04204
10.060	8.280	.39880	.07360	-.00710	.40530	.01537	.01330	-.01880	-.19100	.84090	.04316
10.060	10.360	.50070	.09270	-.00850	.50920	.00114	.01420	-.02160	-.18800	.84060	.04402
	GRADIENT	.04425	.00162	-.00012	.04507	-.00216	.00063	-.00109	.00024	-.01780	.00007

OA163 B68C12G20M16N28W12/E55F10V8R5X9+GP (RFF027) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = -11.700 SPDBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 165/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.090	.000	.00280	.03430	.00960	.00280	.03430	-.00810	.00740	.20600	-.40660	.04529
-10.090	2.070	.09320	.03480	.01040	.09440	.03145	-.00950	.00960	.20900	.79350	.04451
-10.090	4.150	.19050	.03960	.01060	.19280	.02569	-.01080	.01220	.21000	.81410	.04390
-10.090	5.190	.23840	.04320	.01130	.24130	.02151	-.01160	.01380	.21200	.81700	.04417
-10.090	6.240	.28590	.04840	.01240	.28950	.01705	-.01220	.01540	.21000	.81860	.04387
-10.090	8.310	.37830	.06160	.01410	.38320	.00630	-.01290	.01770	.21100	.82080	.04424
-10.090	10.420	.48310	.08040	.01420	.48970	-.00831	-.01430	.02050	.21100	.82370	.04456
-10.090	15.670	.75210	.15770	.00480	.76680	-.05126	-.01750	.02230	.21300	.83210	.04681
	20.910	1.00700	.27900	.00840	1.04030	-.09872	-.02630	.02620	.22100	.83140	.04938
	GRADIENT	.04523	.00128	.00024	.04578	-.00208	-.00065	.00116	.00096	.29392	-.00033

RUN NO. 166/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.060	.000	-.01190	.04760	.01780	-.01190	.04761	-.00450	.00460	.10600	1.38470	.04177
-5.060	2.080	.08370	.04680	.01880	.08540	.04381	-.00460	.00550	.10600	.75330	.04132
-5.060	4.150	.17930	.04950	.01940	.18240	.03641	-.00490	.00590	.10700	.79510	.04105
-5.060	5.200	.22630	.05320	.01930	.23020	.03246	-.00490	.00640	.10700	.80340	.04084
-5.060	6.250	.27650	.05710	.01930	.28110	.02671	-.00490	.00690	.10600	.80910	.04044
-5.060	8.310	.37270	.06950	.02030	.37880	.01492	-.00550	.00840	.10900	.81460	.04002
-5.070	10.410	.47030	.08640	.02270	.47820	-.00002	-.00620	.01050	.10900	.81690	.04016
-5.070	15.670	.73710	.16190	.02240	.75340	-.04332	-.00780	.01100	.11100	.82340	.04079
-5.070	20.940	1.02050	.29990	.01560	1.06030	-.08461	-.01420	.01110	.12400	.82900	.04473
	GRADIENT	.04607	.00046	.00039	.04682	-.00270	-.00010	.00031	.00024	-.14220	-.00017

RUN NO. 167/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-2.030	.000	-.01710	.05070	.02130	-.01710	.05073	-.00210	.00170	.04500	1.29240	.04171
-2.030	2.090	.08050	.05080	.02240	.08240	.04782	-.00220	.00200	.04500	.73410	.04154
-2.030	4.140	.17540	.05350	.02320	.17880	.04074	-.00220	.00220	.04700	.78660	.04115
-2.030	5.200	.22330	.05670	.02350	.22760	.03623	-.00210	.00230	.04400	.79640	.04058
-2.030	6.230	.27160	.06000	.02350	.27650	.03024	-.00220	.00220	.04600	.80310	.04027
-2.030	8.320	.36890	.07060	.02330	.37520	.01651	-.00280	.00290	.04800	.81150	.03895
-2.030	10.410	.46900	.08680	.02620	.47700	.00059	-.00310	.00400	.04900	.81410	.03978
-2.030	15.660	.73470	.16480	.02510	.75200	-.03974	-.00430	.00380	.05500	.82210	.04187
-2.040	20.930	1.02370	.30420	.01690	1.06480	-.08167	-.00740	.00170	.06400	.82850	.04635
	GRADIENT	.04650	.00067	.00046	.04732	-.00241	-.00002	.00012	.00048	-.12265	-.00014

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF027) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 168/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.030	-.020	-.01300	.05160	.02260	-.01310	.05164	-.00070	.00010	.00500	1.47040	.04177
-.030	2.070	.08070	.05100	.02290	.08250	.04811	-.00060	-.00010	.00500	.73200	.04103
-.030	4.150	.17540	.05390	.02420	.17680	.04107	-.00050	.00000	.00500	.78440	.04007
-.030	5.220	.22530	.05700	.02500	.22950	.03628	-.00040	-.00030	.00500	.79420	.03995
-.030	6.230	.27130	.06030	.02440	.27620	.03050	-.00040	-.00030	.00500	.80180	.03938
-.030	8.310	.37150	.07130	.02330	.37790	.01683	-.00050	-.00020	.00700	.81170	.03686
-.030	10.410	.46670	.08780	.02570	.47490	.00202	-.00060	-.00050	.00900	.81360	.03903
-.030	15.650	.73440	.16390	.02820	.75140	-.04031	.00140	.00000	.01300	.82060	.04204
-.040	20.950	1.02730	.30610	.01500	1.05880	-.08150	-.00290	-.00320	.02100	.82920	.04745
	GRADIENT	.04518	.00055	.00038	.04602	-.00253	.00005	-.00002	-.00000	-.16466	-.00041

RUN NO. 169/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
1.990	.000	-.01270	.05100	.02100	-.01270	.05106	.00040	-.00150	-.03300	1.44030	.04191
1.990	2.100	.08370	.05080	.02260	.08550	.04774	.00030	-.00200	-.03100	.73700	.04153
1.990	4.150	.17570	.05350	.02400	.17910	.04063	.00050	-.00230	-.03300	.78510	.04100
1.990	5.190	.22390	.05600	.02320	.22600	.03550	.00070	-.00250	-.03200	.79690	.04081
1.990	6.270	.27310	.05980	.02380	.27800	.02967	.00080	-.00280	-.03100	.80280	.04019
1.990	8.320	.37290	.07030	.02340	.37920	.01604	.00140	-.00400	-.03100	.81160	.03949
1.990	10.400	.46730	.08690	.02570	.47530	.00109	.00170	-.00450	-.03000	.81440	.03961
1.990	15.670	.73740	.16640	.02570	.75490	-.03893	.00070	-.00430	-.02700	.82180	.04229
	20.920	1.02970	.30550	.01640	1.07090	-.08245	.00150	-.00870	-.02400	.82870	.04605
	GRADIENT	.04540	.00060	.00072	.04622	-.00251	.00002	-.00019	.00000	-.15860	-.00022

RUN NO. 170/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	.000	-.00770	.04680	.01830	-.00770	.04669	.00270	-.00390	-.09500	1.70620	.04228
5.010	2.060	.08850	.04630	.01920	.09010	.04313	.00330	-.00520	-.09400	.75600	.04191
5.010	4.160	.18240	.04980	.02010	.18560	.03649	.00350	-.00620	-.09300	.79450	.04156
5.010	5.210	.23220	.05310	.02050	.23610	.03178	.00340	-.00680	-.09200	.80230	.04159
5.020	6.250	.28120	.05690	.02100	.28570	.02598	.00380	-.00700	-.09400	.80730	.04135
5.010	8.320	.37590	.06930	.02100	.38200	.01422	.00440	-.00930	-.09200	.81410	.04099
5.010	10.410	.47570	.08720	.02180	.48350	-.00025	.00460	-.01120	-.09000	.81770	.04074
5.010	15.660	.74500	.16510	.02080	.76220	-.04117	.00420	-.01160	-.08600	.82430	.04151
	20.940	1.03250	.30430	.01760	1.07310	-.08482	.00820	-.01810	-.08500	.82830	.04426
	GRADIENT	.04569	.00072	.00043	.04646	-.00250	.00019	-.00055	.00048	-.21839	-.00017

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF027) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 171/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.070	.010	.00940	.03400	.01020	.00940	.03408	.00700	-.00780	-.19700	.43640	.04492
10.070	2.080	.10260	.03480	.01100	.10380	.03111	.00830	-.01020	-.19900	.79530	.04449
10.070	4.170	.19800	.03580	.01130	.20030	.02530	.00960	-.01260	-.19700	.81360	.04403
10.070	5.230	.24550	.04410	.01190	.24850	.02151	.01040	-.01440	-.19800	.81670	.04385
10.070	6.250	.29290	.04940	.01320	.29650	.01726	.01100	-.01600	-.19800	.81800	.04422
10.070	8.330	.38890	.06330	.01430	.39390	.00630	.01200	-.01900	-.19700	.82100	.04496
10.070	10.410	.48910	.08260	.01340	.49590	-.00718	.01240	-.02150	-.19300	.82440	.04511
10.070	15.690	.76830	.16450	.00330	.78410	-.04948	.01500	-.02340	-.19300	.83280	.04650
10.070	20.930	1.02830	.29500	.00370	1.06590	-.09190	.02260	-.03060	-.19700	.83310	.04976
	GRADIENT	.04534	.00140	.00026	.04589	-.00211	.00062	-.00115	.00000	.09054	-.00021

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF028) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 172/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.080	-.010	-.03650	.07210	.06100	-.03650	.07217	-.01080	.00770	.21200	1.44930	.06270
-10.080	2.060	.05310	.07280	.06220	.05570	.07090	-.01160	.00970	.21200	.42370	.06143
-10.080	4.150	.14640	.07590	.06340	.15150	.06513	-.01240	.01170	.21100	.68030	.05996
-10.080	6.230	.23710	.08430	.06620	.24490	.05807	-.01340	.01430	.21300	.73490	.05796
-10.080	8.340	.33250	.09640	.06710	.34300	.04712	-.01460	.01730	.21200	.76240	.05692
-10.080	10.430	.43300	.11350	.06650	.44640	.03330	-.01570	.01960	.21200	.77950	.05748
-10.080	15.630	.70010	.18630	.05770	.72450	-.00919	-.01860	.02130	.21500	.80510	.05723
-10.090	20.920	.96100	.30370	.05450	1.00610	-.05962	-.02830	.02560	.22500	.81440	.05673
	GRADIENT	.04397	.00091	.00058	.04519	-.00169	-.00038	.00096	-.00024	-.18436	-.00067

OA163 868C12G20M16N28W127E55F10V8R5X9+GP (RFF028) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 173/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	-.030	-.05450	.08580	.06730	-.05450	.08579	-.00270	.00260	.10200	1.28850	.06300
-5.050	2.070	.04010	.08500	.07050	.04320	.08357	-.00320	.00370	.10300	.23410	.06041
-5.060	4.150	.13450	.08630	.06990	.14040	.07637	-.00400	.00500	.10400	.65100	.05802
-5.060	6.260	.23050	.09100	.06960	.23900	.06539	-.00460	.00590	.10600	.72720	.05752
-5.050	8.310	.32160	.10040	.07060	.33270	05284	-.00520	.00750	.10700	.75630	.05624
-5.060	10.450	.42100	.11790	.07400	.43540	.03256	-.00570	.00970	.1070[illegible]	.77180	.05533
-5.060	15.700	.67710	.19050	.07940	.70340	.00019	-.00610	.00980	.1070[illegible]	.79290	.05211
-5.060	20.910	.96260	.32450	.07330	1.01500	-.04040	-.01020	.00990	.11700	.80780	.05555
	GRADIENT	.04522	.00012	.00062	.04663	-.00225	-.00031	.00057	.00048	-.15307	-.00119

RUN NO. 174/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-2.020	-.020	-.05520	.08860	.06910	-.05530	.08864	-.00070	.00060	.04200	1.29440	.06333
-2.010	2.080	.04040	.08630	.07100	.04350	.08479	-.00100	.00100	.04300	.23450	.06141
-2.020	4.130	.13090	.08890	.07180	.13700	.07923	-.00110	.00140	.04300	.64130	.05944
-2.020	5.180	.18070	.09090	.07170	.18810	.07421	-.00100	.00150	.04300	.69420	.05829
-2.010	6.230	.22610	.09320	.07230	.23490	.06812	-.00120	.00170	.04300	.72110	.05711
-2.010	8.310	.32210	.10370	.07440	.33370	.05604	-.00170	.00240	.04400	.75240	.05465
-2.010	10.380	.41790	.11790	.07790	.43230	.04063	-.00210	.00310	.04700	.76800	.05356
-2.010	15.690	.68220	.19130	.07750	.70860	-.00036	-.00340	.00310	.05300	.79410	.05562
-2.020	20.950	.97300	.32640	.06570	1.02540	-.04323	-.00690	.00160	.05200	.81080	.05995
	GRADIENT	.04485	.00007	.00065	.04634	-.00227	-.00010	.00019	.00024	-.15879	-.00094

RUN NO. 175/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.010	-.020	-.05300	.08800	.06940	-.05300	.08802	-.00040	-.00020	.00400	1.31570	.06329
-.010	2.070	.04210	.08720	.07080	.04520	.08567	-.00030	-.00010	.00400	.25810	.06130
-.010	4.140	.13220	.08840	.07260	.13830	.07868	-.00030	-.00010	.00300	.64100	.05876
-.010	5.190	.17930	.09030	.07320	.18670	.07376	-.00040	-.00020	.00400	.69020	.05760
-.010	6.240	.22570	.09370	.07300	.23450	.06860	-.00060	-.00040	.00600	.71980	.05686
-.010	8.310	.32290	.10340	.07310	.33440	.05561	-.00050	-.00040	.00700	.75390	.05498
-.010	10.400	.41990	.11860	.07710	.43440	.04091	-.00050	-.00040	.00700	.76910	.05426
-.010	15.640	.67800	.18900	.07890	.70390	-.00075	-.00140	-.00010	.01200	.79310	.05564
-.010	20.930	.97340	.32660	.06570	1.02580	-.04269	-.00270	-.00300	.02000	.81080	.06155
	GRADIENT	.04452	.00010	.00077	.04599	-.00224	.00002	.00002	-.00024	-.16274	-.00109

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF028) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = -11.700 SPDBRK = 85.000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 176/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
2.000	.000	-.05150	.08890	.06910	-.05150	.08898	.00010	-.00110	-.03200	1.32730	.06232
2.000	2.070	.04110	.08590	.07120	.04410	.08444	.00000	-.00120	-.03300	.24090	.06068
2.000	4.160	.13390	.08620	.07110	.14000	.07823	.00010	-.00170	-.03100	.64740	.05977
2.000	5.180	.18100	.09000	.07240	.18830	.07330	.00010	-.00190	-.03100	.69280	.05907
2.000	6.230	.22590	.09290	.07240	.23450	.06786	.00020	-.00240	-.03000	.72080	.05778
2.000	8.330	.32660	.10280	.07310	.33900	.05437	.00070	-.00310	-.03100	.75470	.05576
2.000	10.420	.42340	.11770	.07660	.43770	.03918	.00100	-.00390	-.02900	.77000	.05453
2.000	15.680	.68700	.19250	.07650	.71350	-.00026	.00050	-.00350	-.02900	.79490	.05578
2.000	20.960	.97890	.32900	.06770	1.03180	-.04268	.00140	-.00830	-.02100	.81020	.05800
	GRADIENT	.04457	-.00017	.00048	.04603	-.00258	.00000	-.00014	.00024	-.16286	-.00061

RUN NO. 177/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	.000	-.04690	.08380	.06590	-.04690	.08383	.00300	-.00310	-.09700	1.35180	.06195
5.030	2.110	.04850	.08320	.06770	.05160	.08141	.00310	-.00450	-.09400	.35160	.05962
5.030	4.110	.13770	.08470	.06880	.14350	.07466	.00360	-.00550	-.09400	.65790	.05839
5.030	5.190	.18500	.08610	.06800	.19200	.06909	.00360	-.00610	-.09300	.70400	.05844
5.030	6.230	.23310	.08920	.06820	.24140	.06344	.00390	-.00680	-.09200	.73040	.05800
5.030	8.330	.33130	.09970	.06720	.34230	.05066	.00450	-.00860	-.09200	.76210	.05768
5.030	10.380	.42730	.11700	.06930	.44140	.03807	.00490	-.01070	-.09100	.77660	.05674
5.030	15.630	.68550	.19300	.07780	.71220	.00110	.00360	-.01080	-.08400	.79420	.05334
5.030	20.910	.96540	.32590	.07410	1.01810	-.04016	.00530	-.01640	-.08000	.80760	.05517
	GRADIENT	.04492	.00021	.00071	.04633	-.00222	.00015	-.00058	.00074	-.17163	-.00087

RUN NO. 178/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.080	-.010	-.03200	.07010	.05720	-.03210	.07009	.01000	-.00790	-.20500	1.49100	.06368
10.080	2.060	.05670	.07050	.05960	.05920	.06846	.01100	-.01040	-.20200	.46410	.06178
10.080	4.150	.15310	.07600	.06160	.15820	.06474	.01230	-.01300	-.20100	.69100	.05979
10.080	5.190	.19800	.07930	.06230	.20430	.06106	.01300	-.01410	-.20300	.72210	.05925
10.080	6.230	.24430	.08360	.06460	.25190	.05664	.01390	-.01570	-.20400	.74000	.05840
10.080	8.330	.33980	.09590	.06420	.35010	.04568	.01460	-.01860	-.20200	.76690	.05886
10.080	10.440	.44300	.11410	.06330	.45640	.03196	.01550	-.02110	-.20100	.78340	.05913
10.080	15.670	.71160	.19050	.05460	.73660	-.00879	.01630	-.02230	-.19600	.80710	.05641
10.080	20.930	.98310	.31920	.05390	1.03230	-.05314	.02370	-.02930	-.20100	.81520	.05697
	GRADIENT	.04450	.00142	.00106	.04575	-.00129	.00055	-.00123	.00096	-.19182	-.00094

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF029) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 10.000
BDFLAP = -11.700 SPOBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 179/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.080	.120	.16170	.04280	-.06580	.16170	.04251	-.01010	.00930	.21200	.98410	.04717
-10.090	2.210	.25720	.04900	-.06580	.25890	.03909	-.01140	.01120	.21500	.92790	.04719
-10.090	4.260	.34910	.05930	-.06630	.35260	.03316	-.01290	.01290	.21600	.90370	.04659
-10.090	5.330	.39740	.06540	-.06640	.40180	.02826	-.01360	.01390	.21700	.89520	.04655
-10.090	6.380	.44650	.07350	-.06630	.45390	.02318	-.01440	.01550	.21800	.88820	.04643
-10.090	8.470	.55010	.09390	-.06790	.55900	.01184	-.01510	.01730	.21900	.87920	.04737
-10.090	10.590	.66120	.12070	-.07220	.67210	-.00290	-.01630	.01950	.22000	.87390	.04830
-10.090	15.840	.93540	.21800	-.08410	.95940	-.04560	-.01940	.02320	.21900	.86670	.05148
-10.090	21.050	1.16980	.35040	-.07400	1.21760	-.09318	-.02740	.02680	.22300	.85680	.05462
	GRADIENT	.04527	.00398	-.00012	.04611	-.00266	-.00068	.00087	.00097	-.01944	-.00014

RUN NO. 180/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.050	.130	.14150	.05530	-.05670	.14160	.05499	-.00540	.00410	.10900	.98180	.04508
-5.050	2.200	.23920	.06010	-.05630	.24140	.05090	-.00570	.00480	.11000	.92030	.04447
-5.060	4.270	.33560	.06880	-.05700	.33980	.04365	-.00580	.00490	.11100	.89620	.04400
-5.060	5.350	.38700	.07530	-.05850	.39240	.03896	-.00570	.00520	.11000	.88930	.04440
-5.050	6.380	.43520	.08240	-.05930	.44170	.03360	-.00600	.00560	.11200	.88380	.04385
-5.050	8.460	.53910	.10050	-.06150	.54800	.02006	-.00650	.00730	.11400	.87570	.04359
-5.060	10.550	.64740	.12630	-.06500	.65950	.00559	-.00670	.00960	.11400	.87070	.04418
-5.050	15.850	.91970	.22180	-.05850	.94540	-.03768	-.00860	.01040	.11800	.86110	.04506
-5.050	21.070	1.19360	.37550	-.07180	1.24880	-.07883	-.01570	.01170	.13000	.85560	.04933
	GRADIENT	.04688	.00326	-.00007	.04787	-.00274	-.00010	.00019	.00048	-.02068	-.00026

RUN NO. 181/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-2.000	.130	.13620	.05960	-.05350	.13640	.05932	-.00250	.00060	.04700	.97880	.04495
-2.010	2.220	.23470	.06440	-.05300	.23700	.05524	-.00250	.00060	.04800	.91670	.04479
-2.000	4.290	.33040	.07220	-.05290	.33490	.04734	-.00260	.00060	.04800	.89260	.04439
-2.000	5.330	.38000	.07790	-.05420	.38560	.04229	-.00260	.00060	.05000	.88620	.04431
-2.000	6.360	.43260	.08470	-.05650	.43930	.03622	-.00290	.00070	.05100	.88170	.04386
-2.000	8.470	.53900	.10260	-.05950	.54820	.02217	-.00320	.00150	.05200	.87440	.04317
-2.010	10.550	.64280	.12670	-.06040	.65510	.00681	-.00350	.00280	.05400	.86840	.04340
-2.010	15.850	.91970	.22530	-.06530	.94630	-.03439	-.00430	.00370	.05700	.85980	.04592
-2.010	21.080	1.19170	.38010	-.06980	1.24870	-.07407	-.00840	.00060	.07200	.85500	.04966
	GRADIENT	.04666	.00303	.00014	.04772	-.00288	-.00002	.00000	.00024	-.02074	-.00013

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF029) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 182/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.020	.100	.13590	.05990	-.05180	.13600	.05971	-.00110	-.00170	.00800	.97470	.04537
.010	2.200	.23170	.06390	-.05070	.23400	.05497	-.00090	-.00160	.00900	.91430	.04465
.020	4.260	.32630	.07240	-.05150	.33080	.04794	-.00070	-.00180	.00800	.89180	.04384
.020	5.350	.38120	.07840	-.05340	.38690	.04257	-.00060	-.00160	.00800	.88520	.04385
.030	6.360	.42810	.08480	-.05500	.43480	.03687	-.00070	-.00210	.00900	.88090	.04323
.030	8.460	.53570	.10270	-.05940	.54500	.02278	-.00080	-.00190	.01100	.87450	.04304
.030	10.560	.64130	.12700	-.05910	.65380	.00725	-.00080	-.00130	.01100	.86770	.04352
.030	15.780	.91020	.22150	-.06340	.93610	-.03446	-.00070	-.00130	.01300	.85930	.04572
	21.060	1.18490	.38990	-.07270	1.24590	-.06205	-.00970	-.01180	.04400	.85590	.05275
	GRADIENT	.04577	.00300	.00007	.04683	-.00283	.00010	-.00002	.00000	-.01996	-.00037

RUN NO. 183/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
2.040	.080	.13410	.05840	-.05150	.13420	.05824	.00020	-.00360	-.03100	.97560	.04604
2.040	2.170	.22870	.06320	-.05240	.23090	.05446	.00050	-.00420	-.03100	.91790	.04560
2.040	4.210	.32290	.07100	-.05290	.32730	.04715	.00080	-.00420	-.03100	.89390	.04554
2.040	5.290	.37480	.07670	-.05410	.38030	.04181	.00100	-.00460	-.03000	.88680	.04512
2.040	6.350	.42900	.08370	-.05580	.43560	.03579	.00090	-.00460	-.02900	.88150	.04477
2.040	8.420	.53360	.10070	-.05940	.54260	.02146	.00160	-.00520	-.03000	.87470	.04416
2.040	10.520	.63490	.12390	-.06020	.64690	.00594	.00190	-.00580	-.02900	.86860	.04423
2.040	15.770	.91520	.22410	-.06730	.94170	-.03308	.00160	-.00620	-.02600	.86070	.04648
2.030	21.050	1.17530	.38340	-.06700	1.23460	-.06446	-.00420	-.01820	.00200	.85440	.05123
	GRADIENT	.04571	.00305	-.00034	.04675	-.00268	.00015	-.00015	.00030	-.01981	-.00012

RUN NO. 184/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.070	.090	.13900	.05470	-.05540	.13930	.05450	.00330	-.00690	-.09500	.98080	.04640
5.060	2.190	.23300	.05940	-.05510	.23510	.05047	.00350	-.00780	-.09300	.92070	.04573
5.060	4.260	.33290	.06800	-.05700	.33700	.04306	.00410	-.00820	-.09400	.89860	.04559
5.060	5.300	.38150	.07370	-.05750	.38670	.03812	.00410	-.00850	-.09300	.88910	.04555
5.060	6.360	.43310	.08090	-.05860	.43940	.03245	.00440	-.00870	-.09300	.88350	.04567
5.050	8.450	.53830	.09950	-.06190	.54700	.01934	.00510	-.01120	-.09000	.87610	.04520
5.050	10.540	.64550	.12500	-.06530	.65750	.00479	.00550	-.01260	-.09100	.87100	.04499
5.050	15.810	.92650	.22580	-.07200	.95300	-.03523	.00550	-.01290	-.08800	.86220	.04528
5.040	21.080	1.16980	.37620	-.06220	1.22680	-.06980	.00540	-.02770	-.06200	.85310	.04955
	GRADIENT	.04642	.00319	-.00038	.04741	-.00274	.00019	-.00031	.00024	-.02021	-.00019

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF029) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = 10.000
BDFLAP = -11.700 SPDBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 185/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.150	.120	.15670	.04180	-.06350	.15680	.04152	.00780	-.01120	-.20000	.98350	.04859
10.150	2.200	.25160	.04770	-.06360	.25330	.03798	.00940	-.01320	-.19900	.92690	.04768
10.150	4.300	.35000	.05780	-.06410	.35330	.03140	.01120	-.01530	-.20100	.90110	.04731
10.150	5.320	.39700	.06500	-.06520	.40130	.02785	.01170	-.01680	-.20000	.89420	.04751
10.150	6.370	.44720	.07230	-.06500	.45250	.02224	.01260	-.01810	-.20200	.88730	.04765
10.150	8.460	.54960	.09320	-.06720	.55740	.01133	.01360	-.02070	-.19300	.87880	.04834
10.150	10.580	.65670	.12060	-.07120	.66770	-.00200	.01470	-.02310	-.19700	.87360	.04856
10.150	15.810	.93270	.21710	-.08410	.95660	-.04520	.01840	-.02600	-.19700	.86670	.05111
10.150	21.070	1.18680	.37440	-.08340	1.24200	-.07730	.02170	-.03530	-.18900	.85910	.05565
	GRADIENT	.04625	.00383	-.00014	.04701	-.00242	.00081	-.00093	-.00024	-.01970	-.00031

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF030) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = -10.000
BDFLAP = -11.700 SPDBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 186/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.100	-.130	-.17420	.04540	.08880	-.17430	.04509	-.00560	.00760	.19700	1.02200	.04028
-10.100	1.950	-.07900	.04060	.08880	-.07760	.04333	-.00720	.00980	.19800	1.25560	.03949
-10.100	4.040	.01940	.04020	.08920	.02220	.03877	-.00850	.01200	.20000	-.64010	.03937
-10.100	5.090	.06410	.04120	.08890	.06750	.03544	-.00930	.01350	.20300	.34950	.03944
-10.100	6.120	.11310	.04400	.09020	.11710	.03176	-.00960	.01480	.20100	.55110	.03994
-10.100	8.250	.21090	.05230	.09220	.21620	.02151	-.01040	.01770	.20200	.67740	.04036
-10.100	10.320	.30710	.06500	.09350	.31370	.00900	-.01150	.02070	.20100	.72470	.04072
-10.110	15.570	.58250	.12730	.08600	.59530	-.03368	-.01570	.02330	.20400	.78120	.04282
-10.110	20.810	.85200	.23840	.08380	.88120	-.07992	-.02240	.02770	.21200	.79940	.04812
	GRADIENT	.04643	-.00125	.00010	.04712	-.00152	-.00070	.00106	.00072	-.39899	-.00022

OA163 B68C12G20M16N28W127L55F10V8R5X9+GP (RFF030) (19 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH =	.169	ELEVON =	-10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 187/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.070	-.110	-.19220	.05950	.09780	-.19230	.05917	-.00280	.00550	.10100	1.02170	.03720
-5.070	1.970	-.09290	.05370	.09890	-.09100	.05693	-.00300	.00630	.10000	1.23450	.03665
-5.070	4.020	-.00100	.05180	.10000	.00250	.05177	-.00290	.00700	.09800	-3.27670	.03643
-5.070	5.050	.04560	.05170	.09990	.05000	.04750	-.00300	.00720	.09900	.09920	.03620
-5.070	6.110	.09300	.05300	.10070	.09810	.04281	-.00300	.00740	.10000	.45640	.03605
-5.070	8.190	.19130	.05910	.10300	.19780	.03126	-.00400	.00960	.10300	.64260	.03572
-5.070	10.280	.28910	.07050	.10500	.29710	.01777	-.00430	.01090	.10300	.70430	.03629
-5.070	15.520	.55150	.12300	.10620	.56590	-.02327	-.00580	.01270	.10300	.76530	.03736
	20.800	.84250	.24980	.09630	.87630	-.06568	-.01140	.01290	.11700	.79390	.04230
	GRADIENT	.04630	-.00187	.00053	.04717	-.00179	-.00002	.00036	-.00073	-1.03799	-.00019

RUN NO. 188/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-2.010	-.110	-.19240	.06280	.10120	-.19260	.06245	-.00120	.00310	.04300	1.02780	.03676
-2.010	1.940	-.09740	.05790	.10270	-.09530	.06122	-.00110	.00310	.04300	1.23080	.03645
-2.010	4.040	-.00170	.05550	.10370	.00210	.05549	-.00110	.00350	.04200	-3.27670	.03592
-2.010	5.070	.04390	.05540	.10510	.04860	.05134	-.00120	.00380	.04400	.03890	.03594
-2.010	6.100	.08660	.05600	.10640	.09410	.04628	-.00140	.00390	.04400	.41810	.03549
-2.010	8.180	.16570	.06110	.10790	.19250	.03407	-.00190	.00400	.04700	.62810	.03515
-2.010	10.300	.28700	.07110	.11010	.29510	.01864	-.00230	.00530	.04900	.69710	.03550
-2.010	15.560	.54930	.13180	.11170	.56450	-.02031	-.00350	.00540	.05200	.76160	.03878
	20.790	.84500	.25580	.09650	.88080	-.06081	-.00710	.00360	.06400	.79410	.04396
	GRADIENT	.04595	-.00176	.00060	.04691	-.00168	.00002	.00010	-.00024	-1.04174	-.00020

RUN NO. 189/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-.030	-.140	-.19580	.06410	.10130	-.19590	.06368	.00000	.00160	.00500	1.02460	.03697
-.030	1.970	-.09580	.05810	.10250	-.09370	.06139	.00000	.00170	.00400	1.23690	.03619
-.030	4.010	-.00730	.05560	.10480	-.00340	.05607	.00000	.00150	.00400	3.27670	.03580
-.030	5.060	.04180	.05640	.10600	.04660	.05249	.00000	.00140	.00400	-.00210	.03543
-.030	6.110	.08760	.05660	.10690	.09310	.04695	.00030	.00120	.00500	.41180	.03457
-.030	8.190	.18430	.06110	.10770	.19120	.03425	-.00030	.00100	.00900	.62710	.03466
-.030	10.280	.28410	.07170	.11180	.29230	.01989	-.00020	.00110	.00900	.69360	.03545
-.030	15.510	.54960	.13160	.11310	.56480	-.02019	-.00080	.00090	.01300	.76070	.03878
-.040	20.800	.84640	.25760	.09690	.88260	-.05976	-.00300	-.00210	.02100	.79400	.04494
	GRADIENT	.04543	-.00205	.00084	.04640	-.00183	.00000	-.00002	-.00024	.54015	-.00028

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFF030) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	-10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 190/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.020	-.130	-.18830	.05920	.09700	-.18840	.05879	.00240	-.00150	-.09200	1.02380	.03815
5.020	1.950	-.09390	.05410	.09760	-.09200	.05730	.00270	-.00290	-.09000	1.22490	.03770
5.020	4.020	.00080	.05160	.09950	.00440	.05146	.00280	-.00380	-.08900	-3.27670	.03697
5.020	5.110	.04730	.05180	.10050	.05170	.04738	.00280	-.00430	-.08900	.11990	.03721
5.020	6.110	.09330	.05300	.10160	.09940	.04281	.00270	-.00470	-.08700	.45440	.03692
5.020	8.200	.19190	.05870	.10300	.19830	.03080	.00360	-.00680	-.08900	.64320	.03659
5.020	10.280	.28970	.07020	.10570	.29760	.01742	.00380	-.00890	-.08600	.70370	.03665
5.020	15.540	.55640	.13110	.10620	.57120	-.02278	.00370	-.01020	-.08200	.76600	.03802
5.020	20.820	.84610	.25090	.09970	.88000	-.06625	.00720	-.01510	-.08200	.79270	.04300
	GRADIENT	.04557	-.00183	.00060	.04646	-.00177	.00010	-.00055	.00072	-1.03535	-.00028

RUN NO. 191/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.100	-.110	-.17270	.04650	.08820	-.17280	.04623	.00480	-.00390	-.18800	1.02240	.04078
10.100	1.980	-.08010	.04180	.08900	-.07860	.04460	.00580	-.00660	-.18700	1.25140	.04014
10.090	4.020	.01420	.04080	.08950	.01700	.03972	.00740	-.00930	-.18700	-1.09810	.04000
10.100	5.080	.06230	.04160	.08900	.06570	.03599	.00840	-.01060	-.19000	.33640	.03997
10.090	6.130	.11120	.04510	.08960	.11540	.03302	.00900	-.01260	-.18900	.54840	.03984
10.090	8.190	.20490	.05290	.09250	.21030	.02319	.01050	-.01620	-.19000	.67250	.04090
10.090	10.280	.30240	.06520	.09470	.30920	.01021	.01150	-.01950	-.18800	.72160	.04114
10.090	15.530	.58150	.12930	.08720	.59490	-.03113	.01370	-.02080	-.18700	.78040	.04211
10.090	20.780	.85220	.24260	.08570	.88280	-.07556	.02090	-.02750	-.19100	.79860	.04759
	GRADIENT	.04525	-.00138	.00032	.04595	-.00157	.00063	-.00131	.00024	-.51089	-.00019

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS (RFF031) (09 APR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = -11.700 SPDBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-10.080	.000	-.00580	.03890	.02230	-.00580	.03894	-.00770	.00790	.20900	2.23730	.04439
-10.080	5.210	.22350	.04710	.02420	.22680	.02659	-.01050	.01380	.20800	.79510	.04366
-10.070	10.420	.46010	.08650	.02720	.46820	.00185	-.01330	.02060	.20100	.81290	.04461
-10.070	15.660	.72170	.15740	.01800	.73740	-.04321	-.01470	.02240	.20300	.82540	.04721
-10.070	20.880	.95780	.29750	.01390	1.00100	-.06343	-.03050	.01560	.22800	.82920	.05059
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
-5.030	.000	-.01940	.04970	.03270	-.01940	.04974	-.00380	.00470	.10400	1.45370	.04122
-5.030	5.200	.21260	.05600	.03420	.21680	.03650	-.00420	.00640	.10500	.77620	.04088
-5.030	10.410	.44290	.08730	.03520	.45140	.00585	-.00550	.01070	.10700	.80570	.04011
-5.030	15.650	.70510	.16060	.03680	.72230	-.03554	-.00680	.01120	.10800	.81560	.04154
-5.040	20.890	.96120	.30150	.02950	1.00550	-.06112	-.01780	.00650	.13200	.82360	.04444
	GRADIENT	00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
.000	-.010	-.02330	.05400	.03640	-.02330	.05403	-.00020	.00000	.00000	1.40830	.04073
.000	5.150	.19590	.14660	.03660	.20820	.12844	-.00020	-.00070	.00300	.76960	.03883
.000	10.360	.41860	.26340	.03890	.45920	.18383	-.00010	-.00020	.00500	.80320	.03821
.000	15.640	.69440	.16150	.04190	.71230	-.03175	-.00120	-.00030	.01100	.81270	.04173
.000	20.910	.97630	.30640	.02580	1.02140	-.06223	-.00540	-.00680	.02400	.82510	.04638
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
5.030	-.010	-.02140	.04960	.03170	-.02140	.04969	.00260	-.00440	-.09400	1.37880	.04134
5.030	5.200	.20560	.05410	.03320	.20960	.03531	.00350	-.00710	-.09400	.77600	.04039
5.020	10.410	.44370	.08680	.03310	.45210	.00521	.00470	-.01180	-.09000	.80740	.03993
5.020	15.650	.70180	.16270	.03400	.71970	-.03265	.00370	-.01320	-.08400	.81700	.04139
5.020	20.900	.97300	.29510	.02870	1.01430	-.07147	.00640	-.01850	-.08300	.82390	.04366
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS (RFF031) (08 APR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = -11.700 SPDBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CL	CDF	CLM	CN	CAF	CLN	CSL	CY	XCP/L	CAB
10.060	.000	-.00560	.03750	.02350	-.00560	.03757	.00680	-.00810	-.20500	2.37630	.04482
10.060	5.200	.22010	.04670	.02450	.22340	.02661	.00950	-.01460	-.19700	.79390	.04410
10.070	10.430	.45990	.08260	.02640	.46730	-.00198	.01190	-.02240	-.19400	.81350	.04485
10.070	15.660	.72390	.16060	.01720	.74040	-.04082	.01410	-.02370	-.19100	.82580	.04589
10.070	20.900	.97390	.30410	.01840	1.01820	-.06331	.02740	-.02290	-.20800	.82770	.05017
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH01) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = .000 THETAN = .000
PHI-M = .000 THETAM = .000
RN/L = 1.190

RUN NO. 5/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.120	.010	.00590	.00140	.01680	.00040
-10.120	2.090	.00480	.00140	.01900	.00020
-10.120	4.220	.00580	.00110	.02110	.00030
-10.120	6.200	.00680	.00130	.02330	.00030
-10.120	8.310	.00820	.00130	.02630	.00020
-10.120	10.330	.00960	.00110	.02940	.00010
	GRADIENT	-.00002	-.00007	.00102	-.00002

RUN NO. 4/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.090	.010	.00570	.00090	.01530	.00030
-5.090	2.050	.00520	.00070	.01650	.00010
-5.090	4.120	.00650	.00070	.01890	.00010
-5.090	6.220	.00760	.00060	.02240	.00010
-5.090	8.280	.00890	.00060	.02570	.00010
-5.090	10.320	.01010	.00070	.02920	.00000
	GRADIENT	.00020	-.00005	.00088	-.00005

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH01) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	.000	THETAN =	.000
PHI-M =	.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 1/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.00380	-.00080	.01180	.00000
.000	2.050	.00250	-.00090	.01250	.00000
.000	4.130	.00360	-.00100	.01520	-.00020
.000	6.190	.00520	-.00100	.01770	-.00020
.000	8.300	.00670	-.00100	.02160	-.00010
.000	10.350	.00830	-.00110	.02650	-.00020
	GRADIENT	-.00005	-.00005	.00082	-.00005

RUN NO. 3/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
4.970	.010	.00500	.00070	.01480	.00000
4.970	2.060	.00440	.00040	.01360	.00000
4.970	4.150	.00540	.00050	.01560	-.00010
4.970	6.200	.00660	.00040	.01950	.00000
4.970	8.250	.00800	.00060	.02220	.00000
4.970	10.330	.00920	.00070	.02570	-.00010
	GRADIENT	.00010	-.00005	.00020	-.00002

RUN NO. 2/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.040	.020	.00390	-.00010	.01600	.00000
10.040	2.100	.00250	.00000	.01420	.00000
10.040	4.150	.00360	.00000	.01490	-.00010
10.040	6.200	.00500	.00010	.01800	-.00010
10.040	8.250	.00640	.00040	.02310	-.00010
10.040	10.370	.00800	.00050	.02890	-.00010
	GRADIENT	-.00007	.00002	-.00027	-.00002

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH02) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1075.7000 IN. XO		
LREF =	474.810[illegible] INCHES	YMRF =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	.260	THETAN =	.000
PHI-M =	.230	THETAM =	.000
RN/L =	1.190		

RUN NO. 10/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.050	.040	.00140	-.00080	.02240	.00070
-10.050	2.090	.00150	-.00170	.02330	.00050
-10.050	4.170	.00160	-.00290	.02490	.00030
-10.050	6.240	.00120	-.00400	.02720	.00000
-10.050	8.270	.00140	-.00520	.03050	-.00030
-10.050	10.340	.00230	-.00660	.03500	-.00080
	GRADIENT	.00005	-.00051	.00051	-.00010

RUN NO. 9/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.030	.010	.00130	-.00110	.02100	.00090
-5.030	2.090	.00140	-.00200	.02210	.00080
-5.030	4.150	.00150	-.00310	.02440	.00060
-5.030	6.190	.00120	-.00420	.02640	.00050
-5.030	8.260	.00130	-.00550	.02940	.00010
-5.030	10.430	.00210	-.00680	.03320	-.00010
	GRADIENT	.00005	-.00048	.00082	-.00007

RUN NO. 8/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.010	.030	.00130	-.00140	.01730	.00110
.010	2.050	.00130	-.00230	.01920	.00100
.010	4.200	.00160	-.00340	.02160	.00090
.010	6.190	.00150	-.00440	.02490	.00070
.010	8.290	.00210	-.00570	.02870	.00040
.010	10.320	.00300	-.00700	.03290	.00010
	GRADIENT	.00007	-.00048	.00103	-.00005

RUN NO. 7/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.040	.030	.00160	-.00190	.01800	.00060
5.040	2.060	.00130	-.00280	.01920	.00060
5.040	4.110	.00150	-.00370	.02170	.00060
5.040	6.180	.00150	-.00480	.02570	.00050
5.040	8.250	.00140	-.00580	.02970	.00030
5.040	10.380	.00210	-.00710	.03460	.00010
	GRADIENT	-.00002	-.00044	.00091	.00000

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH02) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	.260	THETAN =	.000
PHI-M =	.230	THETAM =	.000
RN/L =	1.190		

RUN NO. 6/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.100	.000	.00050	-.00210	.01470	.00000
10.100	2.050	.00030	-.00290	.01620	.00000
10.100	4.120	.00130	-.00390	.01870	.00000
10.100	6.240	.00180	-.00500	.02400	.00020
10.100	8.250	.00170	-.00620	.03010	.00010
10.090	10.340	.00170	-.00740	.03700	.00000
	GRADIENT	.00019	-.00044	.00097	.00000

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH03) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	2.000	THETAN =	.000
PHI-M =	2.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 15/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.040	.000	.00120	.00170	-.00930	.00170
-10.040	2.050	.00230	.00160	-.01220	.00150
-10.040	4.100	.00370	.00140	-.01490	.00130
-10.040	6.190	.00500	.00140	-.01810	.00090
-10.040	8.250	.00660	.00130	-.02080	.00070
-10.040	10.310	.00820	.00130	-.02350	.00040
	GRADIENT	.00061	-.00007	-.00137	-.00010

RUN NO. 14/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.020	.000	.00270	.00140	-.00630	.00160
-5.020	2.040	.00400	.00130	-.00580	.00150
-5.020	4.080	.00540	.00120	-.00500	.00130
-5.020	6.170	.00700	.00120	-.00440	.00100
-5.020	8.260	.00850	.00120	-.00430	.00080
-5.020	10.300	.01040	.00120	-.00550	.00060
	GRADIENT	.00066	-.00005	.00032	-.00007

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH03) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.159	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	2.000	THETAN =	.000
PHI-M =	2.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 13/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.010	.000	.00280	.00100	-.00610	.00120
.010	2.050	.00430	.00100	-.00530	.00120
.010	4.090	.00620	.00080	-.00310	.00110
.010	6.160	.00770	.00080	-.00110	.00090
.010	8.250	.00960	.00080	.00090	.00070
.010	10.300	.01140	.00090	.00340	.00080
	GRADIENT	.00083	-.00005	.00073	-.00002

RUN NO. 12/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.060	-.010	.00280	.00030	-.00290	.00050
5.060	2.030	.00430	.00030	-.00220	.00070
5.060	4.090	.00640	.00040	.00040	.00070
5.060	6.160	.00830	.00050	.00300	.00060
5.060	8.250	.01020	.00050	.00560	.00070
5.060	10.330	.01230	.00070	.00820	.00080
	GRADIENT	.00088	.00002	.00081	.00005

RUN NO. 11/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.110	.000	.00150	.00000	.00000	-.00060
10.110	2.030	.00330	-.00010	.00150	-.00040
10.110	4.080	.00520	-.00020	.00480	-.00030
10.110	6.220	.00750	-.00020	.00860	-.00010
10.110	8.250	.00960	-.00010	.01190	.00000
10.100	10.320	.01200	.00000	.01540	.00020
	GRADIENT	.00091	-.00005	.00118	.00007

OA163 B68C12G20M16N28W127E55F10VBR5X9 (RFFH04) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	4.000	THETAN =	.000
PHI-M =	4.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 20/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.030	-.010	.00020	.00240	-.03530	.00030
-10.020	2.010	.00160	.00210	-.04290	.00020
-10.030	4.090	.00300	.00200	-.04980	.00020
-10.020	6.150	.00450	.00210	-.05750	.00020
-10.020	8.220	.00600	.00190	-.06490	.00010
-10.020	10.290	.00750	.00190	-.07120	-.00010
	GRADIENT	.00068	-.00010	-.00354	-.00002

RUN NO. 19/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.020	-.030	.00180	.00190	-.02250	.00060
-5.020	2.040	.00320	.00190	-.02340	.00060
-5.020	4.070	.00470	.00180	-.02560	.00060
-5.020	6.140	.00640	.00180	-.02820	.00070
-5.020	8.270	.00810	.00170	-.03150	.00070
-5.020	10.300	.00960	.00170	-.03550	.00080
	GRADIENT	.00071	-.00002	-.00076	.00000

RUN NO. 18/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	-.020	.00210	.00180	-.01950	.00040
.000	2.010	.00380	.00160	-.01760	.00060
.000	4.070	.00550	.00160	-.01610	.00070
.000	6.140	.00720	.00150	-.01510	.00080
.000	8.240	.00890	.00160	-.01380	.00100
.000	10.310	.01090	.00160	-.01410	.00090
	GRADIENT	.00083	-.00005	.00083	.00007

RUN NO. 17/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.050	-.020	.00220	.00100	-.01480	.00040
5.050	2.010	.00390	.00090	-.01240	.00050
5.050	4.070	.00570	.00100	-.00940	.00080
5.050	6.160	.00760	.00100	-.00680	.00110
5.050	8.210	.00950	.00130	-.00490	.00130
5.050	10.290	.01150	.00130	-.00310	.00130
	GRADIENT	.00086	.00000	.00132	.00010

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH04) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	4.000	THETAN =	.000
PHI-M =	4.000	THETAM =	.000
RN/L =	1.190		

RUN NO. 16/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.080	.000	.00110	.00010	-.00920	-.00110
10.080	2.070	.00280	.00030	-.00590	-.00080
10.090	4.100	.00500	.00040	-.00120	-.00040
10.090	6.160	.00720	.00050	.00180	.00000
10.090	8.220	.00940	.00050	.00500	.00040
10.090	10.340	.01180	.00080	.00740	.00080
	GRADIENT	.00095	.00007	.00195	.00017

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH05) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	6.000	THETAN =	.000
PHI-M =	6.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 25/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.020	.020	-.00080	-.00010	-.05650	-.00110
-10.020	2.070	.00050	-.00050	-.06850	-.00130
-10.020	4.150	.00160	-.00060	-.07940	-.00120
-10.020	6.210	.00290	-.00050	-.09110	-.00130
-10.020	8.290	.00420	-.00070	-.10290	-.00120
-10.020	10.360	.00550	-.00080	-.11340	-.00120
	GRADIENT	.00058	-.00012	-.00554	-.00002

RUN NO. 24/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.010	.010	.00090	-.00010	-.03530	-.00050
-5.010	2.090	.00210	-.00050	-.03810	-.00030
-5.010	4.180	.00370	-.00050	-.04240	-.00020
-5.010	6.190	.00500	-.00050	-.04600	-.00030
-5.010	8.260	.00630	-.00060	-.05230	-.00020
-5.010	10.340	.00770	-.00060	-.05890	-.00010
	GRADIENT	.00067	-.00010	-.00170	.00007

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH05) (19 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	6.000	THETAN =	.000
PHI-M =	6.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 23/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.020	.010	.00170	-.00040	-.02750	-.00040
.020	2.060	.00320	-.00050	-.02550	-.00010
.020	4.110	.00470	-.00050	-.02450	.00000
.020	6.220	.00610	-.00050	-.02470	.00020
.020	8.270	.00760	-.00050	-.02560	.00040
.020	10.340	.00920	-.00050	-.02740	.00050
	GRADIENT	.00073	-.00002	.00073	.00010

RUN NO. 22/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	.020	.00170	-.00040	-.02310	-.00070
5.030	2.050	.00350	-.00050	-.01920	-.00040
5.030	4.120	.00530	-.00050	-.01560	.00000
5.030	6.190	.00720	-.00050	-.01360	.00020
5.030	8.260	.00890	-.00050	-.01110	.00060
5.030	10.340	.01050	-.00050	-.01000	.00080
	GRADIENT	.00088	-.00002	.00183	.00017

RUN NO. 21/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.060	.000	.00090	.00000	-.01520	-.00170
10.060	2.080	.00290	.00000	-.01090	-.00120
10.060	4.200	.00480	-.00020	-.00610	-.00070
10.060	6.210	.00670	-.00020	-.00260	-.00030
10.060	8.320	.00890	-.00020	.00000	.00010
10.050	10.370	.01080	-.00030	.00270	.00050
	GRADIENT	.00093	-.00005	.00217	.00024

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH06) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	8.000	THETAN =	1.000
PHI-M =	8.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 30/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.050	.020	.00190	.00150	-.07250	.00020
-10.050	2.100	.00350	.00140	-.08660	-.00010
-10.060	4.170	.00510	.00130	-.10030	-.00030
-10.060	6.210	.00650	.00170	-.11260	-.00090
-10.060	8.300	.00770	.00180	-.12680	-.00150
-10.060	10.370	.00880	.00170	-.13900	-.00190
	GRADIENT	.00077	-.00005	-.00670	-.00012

RUN NO. 29/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.030	.010	.00330	.00090	-.04220	.00070
-5.040	2.070	.00470	.00060	-.04650	.00040
-5.040	4.180	.00600	.00060	-.05200	.00020
-5.040	6.210	.00720	.00050	-.05780	-.00010
-5.030	8.290	.00850	.00060	-.06510	-.00050
-5.040	10.340	.00970	.00090	-.07230	-.00100
	GRADIENT	.00065	-.00007	-.00235	-.00012

RUN NO. 28/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	.000	.00320	.00040	-.03090	.00060
.000	2.060	.00490	.00020	-.02880	.00070
-.010	4.120	.00670	.00010	-.02930	.00070
-.010	6.200	.00800	.00000	-.02960	.00060
-.010	8.280	.00950	.00010	-.03150	.00020
-.010	10.350	.01090	.00020	-.03420	-.00010
	GRADIENT	.00085	-.00007	.00039	.00002

RUN NO. 27/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.000	.00250	-.00010	-.02300	.00020
5.020	2.070	.00430	-.00010	-.01910	.00040
5.020	4.130	.00600	-.00020	-.01690	.00080
5.020	6.180	.00780	-.00020	-.01460	.00070
5.020	8.270	.00940	.00000	-.01340	.00090
5.020	10.370	.01110	.00000	-.01230	.00060
	GRADIENT	.00085	-.00002	.00148	.00015

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH06) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	8.000	THETAN =	1.000
PHI-M =	8.000	THETAM =	1.100
RN/L =	1.190		

RUN NO. 26/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.070	.000	.00090	-.00040	-.01270	-.00090
10.070	2.050	.00270	-.00060	-.00790	-.00060
10.070	4.110	.00440	-.00070	-.00340	-.00040
10.070	6.230	.00620	-.00070	.00010	.00000
10.070	8.280	.00810	-.00060	.00340	.00030
10.070	10.340	.01010	-.00040	.00570	.00080
	GRADIENT	.00085	-.00007	.00226	.00012

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH07) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	10.000	THETAN =	1.300
PHI-M =	10.000	THETAM =	1.600
RN/L =	1.190		

RUN NO. 35/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.070	.000	.00170	-.00230	-.08340	-.00530
-10.070	2.060	.00040	-.00230	-.09870	-.00550
-10.070	4.120	-.00070	-.00230	-.11360	-.00550
-10.070	6.180	-.00180	-.00240	-.12800	-.00550
-10.070	8.270	-.00300	-.00260	-.14290	-.00520
-10.070	10.330	-.00390	-.00270	-.15270	-.00520
	GRADIENT	-.00058	.00000	-.00733	-.00005

RUN NO. 34/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	-.010	-.00070	-.00130	-.05080	-.00380
-5.050	2.090	-.00210	-.00130	-.05370	-.00390
-5.040	4.090	-.00310	-.00150	-.05980	-.00390
-5.040	6.200	-.00400	-.00150	-.06590	-.00390
-5.040	8.270	-.00480	-.00170	-.07370	-.00390
-5.040	10.310	-.00560	-.00190	-.08170	-.00420
	GRADIENT	-.00059	-.00005	-.00219	-.00002

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH07) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	10.000	THETAN =	1.300
PHI-M =	10.000	THETAM =	1.600
RN/L =	1.190		

RUN NO. 33/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	-.00210	-.00030	-.03410	-.00320
.000	2.050	-.00340	-.00030	-.03290	-.00280
.000	4.080	-.00460	-.00040	-.03440	-.00230
.000	6.170	-.00570	-.00060	-.03580	-.00230
.000	8.290	-.00670	-.00070	-.03790	-.00220
.000	10.350	-.00780	-.00090	-.04020	-.00210
	GRADIENT	-.00061	-.00002	-.00007	.00022

RUN NO. 32/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	-.010	-.00250	.00090	-.01680	-.00210
5.030	2.010	-.00400	.00090	-.01510	-.00170
5.030	4.100	-.00540	.00070	-.01360	-.00130
5.030	6.170	-.00680	.00050	-.01320	-.00080
5.030	8.230	-.00800	.00030	-.01290	-.00060
5.030	10.310	-.00910	.00010	-.01330	-.00040
	GRADIENT	-.00071	-.00005	.00078	.00019

RUN NO. 31/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.110	.000	-.00130	.00160	.00360	-.00090
10.110	2.040	-.00280	.00180	.00700	-.00040
10.110	4.100	-.00420	.00200	.01060	.00000
10.110	6.210	-.00610	.00200	.01290	.00060
10.110	8.250	-.00760	.00180	.01370	.00090
10.100	10.330	-.00920	.00160	.01340	.00140
	GRADIENT	-.00071	.00010	.00171	.00022

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH08) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	15.000	THETAN =	2.000
PHI-M =	15.000	THETAM =	2.400
RN/L =	1.190		

RUN NO. 156/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.070	.010	.00330	-.00050	-.11240	-.00500
-10.070	2.090	.00200	-.00060	-.13600	-.00370
-10.070	4.130	.00090	-.00050	-.15840	-.00410
-10.070	6.220	.00000	-.00040	-.17190	-.00390
-10.080	8.300	-.00090	-.00050	-.18800	-.00290
-10.070	10.360	-.00140	-.00060	-.20050	-.00250
	GRADIENT	-.00058	-.00000	-.01117	.00022

RUN NO. 157/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	.020	.00100	-.00090	-.05820	-.00640
-5.050	2.070	.00000	-.00090	-.06630	-.00620
-5.050	4.160	-.00080	-.00100	-.07680	-.00560
-5.050	6.240	-.00140	-.00110	-.08760	-.00480
-5.050	8.280	-.00200	-.00120	-.09760	-.00450
-5.050	10.340	-.00280	-.00130	-.11010	-.00440
	GRADIENT	-.00043	-.00002	-.00449	.00019

RUN NO. 155/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	-.00050	-.00130	-.02610	-.00620
.000	2.070	-.00180	-.00140	-.02610	-.00940
.000	4.130	-.00310	-.00140	-.03020	-.00750
.000	6.200	-.00410	-.00140	-.03590	-.00370
.000	8.280	-.00510	-.00150	-.04260	-.00670
.000	10.340	-.00600	-.00160	-.04730	-.00620
	GRADIENT	-.00063	-.00002	-.00099	-.00032

RUN NO. 158/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.000	.000	-.00100	-.00100	-.00060	-.00640
5.000	2.070	-.00230	-.00100	-.00010	-.00640
5.000	4.130	-.00350	-.00090	-.00140	-.00810
5.000	6.200	-.00460	-.00090	-.00200	-.01010
5.000	8.260	-.00570	-.00080	-.00430	-.00960
5.000	10.370	-.00660	-.00090	-.00760	-.00740
	GRADIENT	-.00061	.00002	-.00019	-.00041

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH08) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	15.000	THETAN =	2.000
PHI-M =	15.000	THETAM =	2.400
RN/L =	1.190		

RUN NO. 159/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.050	.000	-.00100	-.00060	.02620	-.00720
10.050	2.080	-.00200	-.00080	.02900	-.00680
10.050	4.130	-.00320	-.00100	.03050	-.00680
10.050	6.200	-.00430	-.00120	.02950	-.00700
10.050	8.280	-.00550	-.00120	.02740	-.00730
10.050	10.320	-.00660	-.00120	.02540	-.00870
	GRADIENT	-.00053	-.00010	.00104	.00010

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH09) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	20.000	THETAN =	2.900
PHI-M =	20.000	THETAM =	3.100
RN/L =	1.190		

RUN NO. 150/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.050	.000	.00540	-.00130	-.13970	-.00630
-10.050	2.060	.00470	-.00120	-.16890	-.00280
-10.060	4.120	.00400	-.00120	-.19470	-.00120
-10.060	6.200	.00350	-.00130	-.21450	-.00010
-10.060	8.290	.00310	-.00140	-.23340	-.00010
-10.060	10.400	.00280	-.00130	-.25090	-.00030
	GRADIENT	-.00034	.00002	-.01335	.00124

RUN NO. 151/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.030	.000	.00250	-.00150	-.06770	-.00760
-5.030	2.070	.00180	-.00120	-.07990	-.00630
-5.030	4.140	.00110	-.00100	-.09290	-.00520
-5.030	6.210	.00040	-.00100	-.10690	-.00420
-5.040	8.290	.00000	-.00100	-.12100	-.00310
-5.040	10.420	-.00030	-.00100	-.13570	-.00180
	GRADIENT	-.00034	.00012	-.00609	.00058

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH09) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	20.000	THETAN =	2.900
PHI-M =	20.000	THETAM =	3.100
RN/L =	1.190		

RUN NO. 152/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.00020	-.00220	-.01960	-.01190
.000	2.070	-.00060	-.00220	-.02280	-.00980
.000	4.130	-.00160	-.00220	-.02900	-.00780
.000	6.220	-.00250	-.00210	-.03620	-.00620
.000	8.270	-.00340	-.00220	-.04580	-.00550
.000	10.340	-.00400	-.00220	-.05500	-.00450
	GRADIENT	-.00044	.00000	-.00228	.00099

RUN NO. 153/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.030	-.00070	-.00210	.01060	-.00520
5.020	2.070	-.00180	-.00200	.00990	-.00480
5.020	4.100	-.00280	-.00190	.00750	-.00900
5.020	6.210	-.00390	-.00180	.00550	-.01070
5.020	8.270	-.00490	-.00170	.00070	-.00830
5.020	10.350	-.00570	-.00150	-.00290	-.00580
	GRADIENT	-.00052	.00005	-.00076	-.00093

RUN NO. 154/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.080	.000	-.00140	-.00150	.05230	-.00710
10.080	2.070	-.00240	-.00160	.05090	-.00650
10.080	4.130	-.00310	-.00140	.04770	-.00630
10.080	6.200	-.00420	-.00130	.04250	-.00590
10.080	8.280	-.00510	-.00120	.03760	-.00680
10.080	10.440	-.00620	-.00110	.03580	-.01000
	GRADIENT	-.00041	.00002	-.00111	.00019

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH10) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	30.800	THETAN =	5.000
PHI-M =	32.200	THETAM =	5.000
RN/L =	1.190		

RUN NO. 50/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.060	.010	.01540	-.00100	-.16720	-.01710
-10.060	2.080	.01560	-.00080	-.20810	-.01110
-10.070	4.130	.01600	-.00070	-.24970	-.00540
-10.070	6.210	.01630	-.00050	-.28340	-.00470
-10.070	8.290	.01670	-.00030	-.31420	-.00530
-10.070	10.350	.01720	-.00010	-.33710	-.00520
	GRADIENT	.00015	.00007	-.02002	.00284

RUN NO. 49/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.040	.000	.00650	-.00110	-.07560	-.01500
-5.040	2.070	.00630	-.00110	-.09370	-.01560
-5.050	4.110	.00680	-.00110	-.11360	-.01430
-5.050	6.180	.00710	-.00100	-.13410	-.01240
-5.050	8.250	.00750	-.00090	-.15190	-.01020
-5.050	10.350	.00790	-.00070	-.17510	-.00510
	GRADIENT	.00007	.00000	-.00924	.00017

RUN NO. 48/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.020	.000	-.00090	-.00100	-.01230	-.01390
-.020	2.090	-.00110	-.00100	-.01730	-.01920
-.020	4.100	-.00090	-.00100	-.02610	-.01430
-.020	6.200	-.00050	-.00100	-.03750	-.01090
-.020	8.240	-.00030	-.00120	-.05240	-.00760
-.020	10.360	.00000	-.00120	-.06780	-.00470
	GRADIENT	-.00000	.00000	-.00336	-.00011

RUN NO. 47/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.000	-.010	-.00330	-.00070	.03290	-.00120
5.000	2.030	-.00380	-.00070	.02900	.00200
5.000	4.110	-.00370	-.00080	.02590	-.00510
5.000	6.190	-.00400	-.00080	.02180	-.01440
5.000	8.250	-.00390	-.00070	.01280	-.01200
5.000	10.310	-.00360	-.00050	.00600	-.01090
	GRADIENT	-.00010	-.00002	-.00170	-.00095

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH10) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	30.800	THETAN =	5.000
PHI-M =	32.200	THETAM =	5.000
RN/L =	1.190		

RUN NO. 46/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.050	.000	-.00210	.00000	.09060	-.01070
10.050	2.040	-.00310	.00000	.08570	-.00970
10.050	4.120	-.00400	.00000	.08080	-.00820
10.050	6.250	-.00480	.00000	.07520	-.00230
10.050	8.240	-.00540	-.00010	.07040	-.00500
10.050	10.330	-.00550	-.00030	.06610	-.01120
	GRADIENT	-.00046	.00000	-.00238	.00061

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH11) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	30.800	THETAN =	5.000
PHI-M =	40.000	THETAM =	6.200
RN/L =	1.190		

RUN NO. 51/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.080	.020	.01480	-.00070	-.19500	-.01520
-10.080	2.080	.01490	-.00060	-.23440	-.00670
-10.080	4.110	.01510	-.00040	-.28440	.00140
-10.080	6.200	.01530	-.00030	-.32310	.00130
-10.080	8.270	.01570	-.00010	-.35530	.00430
-10.080	10.330	.01620	.00000	-.38540	.00620
	GRADIENT	.00007	.00007	-.02185	.00406

RUN NO. 52/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	.000	.00640	-.00090	-.08150	-.01840
-5.060	2.060	.00660	-.00090	-.10440	-.01730
-5.060	4.130	.00650	-.00090	-.12890	-.01390
-5.060	6.190	.00690	-.00080	-.15130	-.01320
-5.060	8.260	.00720	-.00070	-.17500	-.01030
-5.060	10.340	.00790	-.00050	-.20210	-.00440
	GRADIENT	.00002	.00000	-.01148	.00109

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH11) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	30.800	THETAN =	5.000
PHI-M =	40.000	THETAM =	6.200
RN/L =	1.190		

RUN NO. 53/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	.000	-.00140	-.00100	-.00500	-.02420
-.010	2.060	-.00140	-.00100	-.01300	-.02390
-.020	4.140	-.00110	-.00090	-.02450	-.02160
-.020	6.220	-.00090	-.00090	-.04010	-.01850
-.010	8.260	-.00040	-.00100	-.05670	-.01710
-.010	10.340	.00000	-.00110	-.07550	-.01500
	GRADIENT	.00007	.00002	-.00471	.00063

RUN NO. 54/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.000	-.00280	-.00080	.04520	-.01190
5.020	2.090	-.00330	-.00070	.04030	-.01540
5.020	4.130	-.00360	-.00070	.03690	-.02400
5.020	6.200	-.00380	-.00070	.02880	-.02290
5.020	8.250	-.00380	-.00060	.01670	-.02160
5.020	10.330	-.00370	-.00040	.00620	-.01810
	GRADIENT	-.00019	.00002	-.00201	-.00292

RUN NO. 55/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.120	.000	-.00180	.00020	.11100	-.01590
10.120	2.050	-.00270	.00010	.10650	-.01720
10.120	4.110	-.00380	.00000	.10030	-.01800
10.120	6.180	-.00450	.00000	.09400	-.02030
10.130	8.260	-.00520	.00000	.09050	-.02860
10.130	10.330	-.00570	-.00020	.07980	-.02490
	GRADIENT	-.00045	-.00005	-.00260	-.00051

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH12) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	50.000	THETAN =	9.800
PHI-M =	48.300	THETAM =	6.200
RN/L =	1.190		

RUN NO. 56/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.090	.010	.02970	-.00560	-.18350	-.01890
-10.090	2.070	.03150	-.00520	-.22970	-.01190
-10.100	4.130	.03340	-.00520	-.28330	-.00490
-10.090	6.230	.03550	-.00560	-.34730	-.00220
-10.100	8.300	.03800	-.00530	-.39200	-.00070
-10.100	10.390	.04050	-.00570	-.42580	.00080
	GRADIENT	.00090	.00010	-.02422	.00340

RUN NO. 57/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.040	.010	.01500	-.00890	-.08610	-.02240
-5.040	2.060	.01620	-.00870	-.11190	-.01780
-5.040	4.120	.01760	-.00860	-.13710	-.01770
-5.040	6.180	.01890	-.00890	-.16580	-.01620
-5.040	8.270	.02080	-.00910	-.19330	-.00950
-5.040	10.320	.02240	-.00910	-.21730	-.00560
	GRADIENT	.00063	.00007	-.01241	.00114

RUN NO. 58/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	.000	.00160	-.01090	-.00330	-.03350
-.010	2.070	.00240	-.01100	-.01450	-.03050
.000	4.120	.00370	-.01110	-.02790	-.02630
-.010	6.190	.00490	-.01090	-.04500	-.02260
-.010	8.270	.00630	-.01100	-.06770	-.01540
-.010	10.310	.00780	-.01080	-.09140	-.01590
	GRADIENT	.00051	-.00005	-.00597	.00175

RUN NO. 59/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	.000	-.00250	-.00490	.05530	-.01840
5.030	2.040	-.00210	-.00530	.05020	-.02420
5.030	4.090	-.00160	-.00570	.04560	-.03450
5.030	6.230	-.00090	-.00610	.03260	-.03180
5.020	8.330	-.00030	-.00640	.01830	-.02770
5.020	10.320	.00010	-.00660	.00470	-.02350
	GRADIENT	.00022	-.00020	-.00237	-.00394

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH12) (18 MAR 76)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.		
LREF	=	474.8100	INCHES		
BREF	=	936.6800	INCHES		
SCALE	=	.0405			
XMRP	=	1076.7000	IN.	XO	
YMRP	=	.0000	IN.	YO	
ZMRP	=	375.0000	IN.	ZO	

PARAMETRIC DATA

MACH	=	.165	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	25.000
PHI-N	=	50.000	THETAN	=	9.800
PHI-M	=	48.300	THETAM	=	6.200
RN/L	=	1.190			

RUN NO. 60/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.070	.000	-.00420	-.00210	.13350	-.01730
10.060	2.060	-.00430	-.00200	.12770	-.01800
10.060	4.110	-.00420	-.00270	.11890	-.02130
10.060	6.180	-.00400	-.00330	.11140	-.02610
10.060	8.260	-.00390	-.00350	.10550	-.03400
10.060	10.330	-.00380	-.00420	.09140	-.03310
	GRADIENT	-.00000	-.00015	-.00355	-.00097

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH13) (18 MAR 76)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.		
LREF	=	474.8100	INCHES		
BREF	=	936.6800	INCHES		
SCALE	=	.0405			
XMRP	=	1076.7000	IN.	XO	
YMRP	=	.0000	IN.	YO	
ZMRP	=	375.0000	IN.	ZO	

PARAMETRIC DATA

MACH	=	.169	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	25.000
PHI-N	=	66.000	THETAN	=	20.000
PHI-M	=	70.000	THETAM	=	11.190
RN/L	=	1.200			

RUN NO. 62/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.100	.010	.03010	-.01890	-.22160	-.03660
-10.100	2.090	.03280	-.01560	-.27000	-.02790
-10.100	4.120	.03550	-.01280	-.32110	-.02450
-10.100	6.180	.03870	-.01140	-.39220	-.02150
-10.100	8.270	.04270	-.01010	-.43480	-.02210
-10.100	10.330	.04650	-.00920	-.47010	-.01960
	GRADIENT	.00131	.00148	-.02421	.00344

RUN NO. 63/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.060	.000	.01610	-.02040	-.10540	-.06040
-5.060	2.050	.01820	-.01750	-.13610	-.04600
-5.060	4.090	.02070	-.01520	-.17010	-.04020
-5.060	6.180	.02200	-.01100	-.20470	-.02970
-5.060	8.280	.02490	-.00980	-.24200	-.01950
-5.060	10.300	.02780	-.00910	-.28140	-.02430
	GRADIENT	.00112	.00127	-.01582	.00494

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH13) (18 MAR 76)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	= 1076.7000 IN.	XO	
LREF	= 474.8100 INCHES	YMRP	= .0000 IN.	YO	
BREF	= 936.6800 INCHES	ZMRP	= 375.0000 IN.	ZO	
SCALE	= .0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	20.000
PHI-M =	70.000	THETAM =	11.190
RN/L =	1.200		

RUN NO. 67/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.00240	-.02310	-.01100	-.06670
.000	2.040	.00390	-.02200	-.02200	-.06700
.000	4.120	.00570	-.02030	-.04130	-.06700
.000	6.200	.00750	-.01810	-.06710	-.05020
.000	8.270	.00900	-.01560	-.09410	-.04110
.000	10.320	.01120	-.01460	-.12390	-.04380
	GRADIENT	.00080	.00068	-.00736	-.00007

RUN NO. 68/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.050	.010	-.00210	-.02340	.05470	-.07190
5.050	2.040	-.00180	-.01960	.04360	-.06850
5.050	4.140	-.00180	-.01180	.03570	-.07060
5.050	6.210	-.00110	-.01020	.02000	-.06870
5.050	8.320	-.00030	-.01010	.00550	-.06120
5.050	10.370	.00040	-.00960	-.01350	-.05130
	GRADIENT	.00007	.00281	-.00508	.00031

RUN NO. 69/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.100	.030	-.00490	-.02270	.15320	-.09660
10.100	2.080	-.00520	-.02100	.13940	-.08940
10.100	4.110	-.00540	-.01860	.12500	-.08210
10.100	6.230	-.00540	-.01560	.10810	-.07630
10.100	8.280	-.00540	-.01280	.09090	-.07580
10.090	10.340	-.00530	-.01090	.07400	-.06970
	GRADIENT	-.00012	.00100	-.00691	.00355

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH14) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .159 ELEVON = .000
BDFLAP = .000 SPDBRK = 25.000
PHI-N = 66.000 THETAN = 20.000
PHI-M = 88.000 THETAM = 20.000
RN/L = 1.190

RUN NO. 70/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.090	.010	.03060	-.01830	-.19840	-.03590
-10.090	2.110	.03360	-.01530	-.24970	-.03010
-10.090	4.120	.03640	-.01290	-.29600	-.02220
-10.090	6.190	.03940	-.01163	-.35740	-.01970
-10.090	8.270	.04280	-.01020	-.39920	-.02590
-10.100	10.340	.04650	-.00910	-.42300	-.02220
	GRADIENT	.00141	.00131	-.02375	.00333

RUN NO. 71/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.080	-.010	.01630	-.02070	-.08460	-.04990
-5.080	2.070	.01830	-.01780	-.11690	-.04650
-5.080	4.110	.02060	-.01580	-.15330	-.04160
-5.080	6.200	.02240	-.01120	-.20040	-.03480
-5.080	8.270	.02520	-.01030	-.24880	-.02370
-5.080	10.330	.02800	-.00910	-.28960	-.01760
	GRADIENT	.00104	.00119	-.01667	.00201

RUN NO. 72/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.00380	-.02310	-.01130	-.04240
.000	2.030	.00530	-.02200	-.02400	-.04610
.000	4.120	.00690	-.02020	-.04450	-.04520
.000	6.180	.00820	-.01750	-.06870	-.03590
.000	8.240	.01020	-.01610	-.10060	-.03740
.000	10.310	.01230	-.01460	-.14280	-.03790
	GRADIENT	.00075	.00070	-.00807	-.00067

RUN NO. 73/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.000	-.00180	-.02300	.05910	-.02150
5.030	2.050	-.00140	-.02040	.04360	-.02400
5.020	4.110	-.00160	-.01220	.02760	-.03090
5.020	6.170	-.00130	-.01040	.01310	-.04390
5.030	8.260	-.00050	-.01000	-.00440	-.04330
5.020	10.330	.00000	-.00860	-.02590	-.03990
	GRADIENT	.00005	.00263	-.00766	-.00229

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH14) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	20.000
PHI-M =	88.000	THETAM =	20.000
RN/L =	1.190		

RUN NO. 74/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.080	-.010	-.00520	-.02250	.15900	-.02940
10.080	2.040	-.00550	-.02120	.13680	-.01940
10.080	4.130	-.00580	-.01880	.12070	-.02270
10.080	6.180	-.00590	-.01570	.09990	-.02270
10.080	8.270	-.00590	-.01260	.07970	-.03020
10.080	10.320	-.00590	-.01130	.05980	-.03720
	GRADIENT	-.00014	.00089	-.00925	.00161

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH15) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	35.000
PHI-M =	88.000	THETAM =	35.000
RN/L =	1.190		

RUN NO. 75/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.090	.010	.02610	-.03050	-.17050	-.12100
-10.080	2.110	.02730	-.02850	-.22400	-.11690
-10.080	4.100	.02880	-.02680	-.28470	-.11290
-10.090	6.210	.03090	-.02500	-.35090	-.10930
-10.090	8.280	.03230	-.02260	-.39100	-.09960
-10.080	10.350	.03460	-.02030	-.42290	-.09330
	GRADIENT	.00066	.00091	-.02790	.00198

RUN NO. 76/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.060	.000	.01290	-.02270	-.06750	-.14950
-5.060	2.060	.01420	-.02080	-.09640	-.13730
-5.060	4.130	.01560	-.01870	-.13310	-.12320
-5.060	6.190	.01730	-.01740	-.17830	-.11210
-5.060	8.250	.01920	-.01520	-.22650	-.10500
-5.060	10.320	.02100	-.01390	-.27290	-.09700
	GRADIENT	.00065	.00097	-.01589	.00637

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH15) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	35.000
PHI-M =	88.000	THETAM =	35.000
RN/L =	1.190		

RUN NO. 77/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.00320	-.03060	-.00510	-.14540
.000	2.050	.00400	-.02760	-.01460	-.14160
.000	4.100	.00510	-.02460	-.02620	-.13790
.000	6.190	.00660	-.02100	-.05420	-.12910
.000	8.250	.00810	-.01850	-.08680	-.12100
.000	10.310	.00940	-.01590	-.12510	-.11220
	GRADIENT	.00046	.00146	-.00515	.00183

RUN NO. 78/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.050	-.010	-.00250	-.02070	.03330	-.13150
5.050	2.050	-.00240	-.01850	.02450	-.13210
5.050	4.120	-.00200	-.01670	.03140	-.12830
5.050	6.180	-.00160	-.01510	.02140	-.12900
5.050	8.250	-.00110	-.01360	.00620	-.12390
5.050	10.310	-.00070	-.01200	-.01700	-.11640
	GRADIENT	.00012	.00097	-.00046	.00078

RUN NO. 79/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.120	.000	-.00540	-.02880	.11410	-.15500
10.120	2.060	-.00600	-.02690	.10020	-.15840
10.120	4.130	-.00650	-.02490	.08360	-.15230
10.120	6.170	-.00700	-.02320	.06880	-.12180
10.120	8.240	-.00730	-.02110	.07660	-.11780
10.120	10.370	-.00770	-.01920	.05870	-.11460
	GRADIENT	-.00027	.00094	-.00739	.00066

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH16) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	50.000
PHI-M =	88.000	THETAM =	50.000
RN/L =	1.190		

RUN NO. 80/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.110	.010	.04100	-.07330	-.17170	-.22690
-10.110	2.060	.04220	-.06950	-.21550	-.22780
-10.110	4.110	.04330	-.06630	-.26200	-.23780
-10.110	6.180	.04470	-.06440	-.31370	-.25590
-10.110	8.260	.04620	-.06120	-.35210	-.25480
-10.110	10.370	.04860	-.05730	-.38220	-.25020
	GRADIENT	.00056	.00171	-.02202	-.00266

RUN NO. 81/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.060	.000	.02480	-.06900	-.08050	-.25370
-5.060	2.050	.02580	-.06520	-.10700	-.24710
-5.060	4.130	.02740	-.06190	-.14080	-.23800
-5.060	6.180	.02890	-.05810	-.18210	-.22680
-5.070	8.250	.03040	-.05430	-.22010	-.21990
-5.070	10.330	.03230	-.05030	-.25920	-.21060
	GRADIENT	.00063	.00172	-.01460	.00380

RUN NO. 82/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.00870	-.06990	-.01590	-.25050
.000	2.060	.00970	-.06610	-.02460	-.24220
.000	4.120	.01070	-.06180	-.04370	-.23550
.000	6.190	.01180	-.05770	-.06910	-.22870
.000	8.250	.01310	-.05350	-.09850	-.22070
-.010	10.340	.01460	-.04890	-.13980	-.21390
	GRADIENT	.00049	.00197	-.00675	.00364

RUN NO. 83/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.050	.000	.00150	-.06830	.02550	-.23200
5.050	2.090	.00180	-.06450	.02820	-.23970
5.050	4.140	.00250	-.06110	.01900	-.22950
5.050	6.200	.00290	-.05710	.00860	-.22220
5.050	8.280	.00350	-.05240	-.00910	-.21560
5.050	10.330	.00390	-.04820	-.02910	-.20780
	GRADIENT	.00024	.00174	-.00156	.00059

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH16) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	50.000
PHI-M =	88.000	THETAM =	50.000
RN/L =	1.190		

RUN NO. 84/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.110	.030	-.00290	-.06940	.06930	-.23400
10.110	2.060	-.00310	-.06610	.07750	-.22750
10.110	4.130	-.00340	-.06360	.06690	-.22130
10.110	6.210	-.00370	-.06130	.07610	-.22420
10.110	8.260	-.00390	-.05930	.05820	-.21950
10.110	10.340	-.00400	-.05570	.04390	-.20700
	GRADIENT	-.00012	.00141	-.00060	.00310

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH17) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	65.000
PHI-M =	88.000	THETAM =	65.000
RN/L =	1.190		

RUN NO. 85/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.110	.010	.04690	-.09440	-.23260	-.35370
-10.100	2.110	.04970	-.09190	-.29110	-.35530
-10.100	4.170	.05190	-.08870	-.34650	-.36480
-10.100	6.230	.05420	-.08510	-.41360	-.37670
-10.100	8.300	.05680	-.08120	-.45700	-.37120
-10.110	10.360	.05910	-.07750	-.48190	-.36280
	GRADIENT	.00120	.00137	-.02738	-.00266

RUN NO. 86/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.060	.010	.02850	-.09310	-.13030	-.37580
-5.060	2.120	.03070	-.08930	-.16070	-.36510
-5.060	4.150	.03270	-.08510	-.19430	-.35770
-5.060	6.210	.03460	-.08100	-.24160	-.35250
-5.060	8.270	.03650	-.07660	-.28730	-.34420
-5.060	10.350	.03880	-.07250	-.33160	-.33290
	GRADIENT	.00101	.00193	-.01545	.00438

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH17) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	65.000
PHI-M =	88.000	THETAM =	65.000
RN/L =	1.190		

RUN NO. 87/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.000	.01130	-.09570	-.04220	-.37540
.000	2.080	.01300	-.09130	-.05890	-.36770
.000	4.140	.01450	-.08710	-.08270	-.35630
.000	6.180	.01630	-.08260	-.11210	-.34490
.000	8.290	.01810	-.07790	-.14240	-.33060
.000	10.320	.01990	-.07330	-.18110	-.32130
	GRADIENT	.00077	.00208	-.00978	.00461

RUN NO. 88/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.050	.000	.00180	-.09360	.01230	-.36180
5.050	2.090	.00240	-.08970	.00170	-.35460
5.060	4.130	.00330	-.08560	-.00440	-.35030
5.060	6.180	.00430	-.08170	-.01660	-.34090
5.060	8.260	.00530	-.07770	-.03530	-.32770
5.060	10.370	.00640	-.07300	-.06210	-.31300
	GRADIENT	.00036	.00194	-.00405	.00279

RUN NO. 89/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.120	.010	-.00240	-.09440	.08270	-.34760
10.120	2.050	-.00220	-.09180	.07260	-.33760
10.120	4.140	-.00220	-.08860	.06210	-.32810
10.120	6.220	-.00180	-.08510	.04550	-.31900
10.120	8.270	-.00160	-.08170	.03120	-.30950
10.120	10.340	-.00140	-.07790	.02300	-.29920
	GRADIENT	.00005	.00140	-.00499	.00472

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH18) (15 APR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO
SCALE =	.0405			

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	80.000
PHI-M =	88.000	THETAM =	80.000
RN/L =	1.190		

RUN NO. 90/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.110	.020	.04570	-.10940	-.28080	-.41990
-10.110	2.050	.04850	-.10640	-.33450	-.41640
-10.110	4.110	.05140	-.10350	-.39180	-.41740
-10.110	5.150	.05320	-.10210	-.42790	-.42420
-10.110	6.210	.05480	-.10050	-.46080	-.42390
-10.110	8.270	.05810	-.09770	-.51680	-.42000
-10.110	10.340	.06140	-.09420	-.55280	-.40940
	GRADIENT	.00139	.00144	-.02714	.00061

RUN NO. 91/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.000	.000	.02630	-.11180	-.17300	-.44060
-5.000	2.070	.02890	-.10860	-.20720	-.42350
-5.000	4.110	.03110	-.10490	-.23980	-.41370
-5.000	6.190	.03390	-.10070	-.29210	-.41420
-5.000	8.250	.03660	-.09600	-.34240	-.40770
-5.000	10.330	.03920	-.09090	-.39120	-.39360
	GRADIENT	.00117	.00168	-.01625	.00655

RUN NO. 92/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.010	.01050	-.11760	-.06890	-.44650
.000	2.060	.01220	-.11350	-.09080	-.43550
.000	4.110	.01420	-.10900	-.11940	-.42380
.000	6.180	.01630	-.10440	-.15330	-.41130
.000	8.240	.01830	-.09940	-.18480	-.39490
.000	10.310	.02050	-.09430	-.22680	-.38230
	GRADIENT	.00090	.00210	-.01232	.00554

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH18) (15 APR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	80.000
PHI-M =	88.000	THETAM =	80.000
RN/L =	1.190		

RUN NO. 93/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.000	-.020	.00040	-.11200	.00420	-.42820
5.000	2.100	.00120	-.10850	-.00910	-.42300
5.000	4.110	.00200	-.10520	-.01890	-.42410
5.000	6.170	.00310	-.10100	-.03650	-.41080
5.000	8.290	.00450	-.09660	-.06060	-.39640
5.000	10.310	.00590	-.09220	-.08840	-.38310
	GRADIENT	.00039	.00165	-.00560	.00101

RUN NO. 94/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.000	.000	-.00420	-.10810	.09210	-.41030
10.000	2.080	-.00410	-.10580	.07860	-.40260
10.000	4.120	-.00370	-.10330	.06060	-.39670
10.000	6.200	-.00320	-.10010	.04210	-.38850
10.000	8.250	-.00250	-.09700	.02600	-.38230
10.000	10.360	-.00220	-.09400	.01210	-.37640
	GRADIENT	.00012	.00116	-.00764	.00330

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH19) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	95.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 145/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.070	.010	.04380	-.11260	-.29450	-.26600
-10.070	2.060	.04660	-.11110	-.34460	-.27170
-10.070	4.150	.04970	-.10890	-.40610	-.27570
-10.070	6.210	.05290	-.10680	-.47500	-.26190
-10.070	8.250	.05650	-.10410	-.53260	-.24860
-10.070	10.360	.06000	-.10150	-.57410	-.24010
	GRADIENT	.00143	.00089	-.02696	-.00234

RUN NO. 146/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	-.010	.02450	-.11250	-.18580	-.26830
-5.050	2.050	.02730	-.11050	-.21950	-.26670
-5.050	4.120	.02990	-.10840	-.25160	-.26480
-5.050	6.190	.03280	-.10590	-.30170	-.26700
-5.050	8.260	.03600	-.10300	-.36070	-.25500
-5.050	10.310	.03900	-.09970	-.41370	-.24390
	GRADIENT	.00131	.00099	-.01593	.00085

RUN NO. 147/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	-.010	.00840	-.11320	-.07600	-.26300
-.010	2.040	.01050	-.11190	-.09860	-.25930
-.010	4.110	.01270	-.11050	-.12990	-.25700
-.010	6.200	.01510	-.10910	-.16770	-.25390
-.010	8.280	.01780	-.10660	-.20440	-.24750
-.010	10.330	.02010	-.10360	-.24630	-.23690
	GRADIENT	.00104	.00066	-.01309	.00146

RUN NO. 148/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.040	-.020	-.00030	-.11280	.00750	-.24940
5.040	2.050	.00050	-.11100	-.00820	-.24040
5.040	4.110	.00160	-.11040	-.02550	-.25290
5.040	6.200	.00280	-.10810	-.04490	-.24670
5.040	8.240	.00400	-.10590	-.06960	-.24420
5.040	10.310	.00530	-.10300	-.10190	-.23800
	GRADIENT	.00046	.00058	-.00799	-.00084

OA163 B68C12G20M16N28W127E55F10V8R5X9

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO
SCALE =	.0405			

(RFFH19) (18 MAR 76)

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	95.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 149/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.080	.000	-.00460	-.11290	.10350	-.29320
10.080	2.040	-.00450	-.11100	.08560	-.27490
10.080	4.100	-.00390	-.10930	.06450	-.25520
10.080	6.180	-.00330	-.10710	.04490	-.23970
10.080	8.260	-.00250	-.10520	.02350	-.24300
10.080	10.310	-.00160	-.10250	.00450	-.23290
	GRADIENT	.00017	.00088	-.00951	.00927

OA163 B68C12G20M16N28W127E55F10V8R5X9

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO
SCALE =	.0405			

(RFFH20) (18 MAR 76)

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 130/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.030	.010	.04310	-.11250	-.29040	-.26540
-10.030	2.090	.04580	-.11120	-.34360	-.26890
-10.030	4.150	.04860	-.10930	-.40410	-.27120
-10.030	6.240	.05200	-.10740	-.47390	-.25850
-10.030	8.310	.05570	-.10530	-.53400	-.24460
-10.040	10.360	.05930	-.10290	-.57230	-.23580
	GRADIENT	.00133	.00077	-.02746	-.00140

RUN NO. 131/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.020	.030	.02370	-.11180	-.18610	-.26290
-5.020	2.060	.02650	-.10980	-.22090	-.26170
-5.020	4.130	.02910	-.10780	-.25270	-.25860
-5.030	6.210	.03180	-.10550	-.29960	-.25970
-5.030	8.290	.03490	-.10270	-.35750	-.25040
	10.400	.03800	-.10000	-.41450	-.24190
	GRADIENT	.00132	.00098	-.01624	.00107

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH20) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 132/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	.010	.00760	-.11070	-.07700	-.25750
-.010	2.060	.00960	-.10920	-.09970	-.25430
-.010	4.130	.01160	-.10690	-.13080	-.25160
-.010	6.200	.01390	-.10490	-.16980	-.24970
-.010	8.340	.01610	-.10230	-.20350	-.24190
-.010	10.350	.01840	-.10010	-.24820	-.23360
	GRADIENT	.00097	.00095	-.01306	.00143

RUN NO. 133/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	.020	-.00120	-.11250	.00630	-.24480
5.030	2.070	-.00030	-.11070	-.00990	-.23510
5.030	4.120	.00060	-.10840	-.02660	-.24900
5.030	6.200	.00170	-.10590	-.34570	-.24140
5.030	8.280	.00270	-.10340	-.07120	-.23840
5.030	10.340	.00410	-.10070	-.10340	-.23340
	GRADIENT	.00044	.00100	-.00802	-.00102

RUN NO. 134/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.050	.030	-.00550	-.11290	.10250	-.28680
10.050	2.100	-.00520	-.11130	.08310	-.26880
10.040	4.170	-.00480	-.10970	.06140	-.25010
10.040	6.230	-.00440	-.10760	.04240	-.23430
10.040	8.280	-.00360	-.10550	.02230	-.23810
10.050	10.350	-.00280	-.10280	.00300	-.22840
	GRADIENT	.00017	.00077	-.00993	.00886

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH21) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	5.000
BDFLAP =	-11.700	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 105/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.050	.050	.04290	-.11250	-.29310	-.25630
-10.050	2.160	.04600	-.11100	-.34740	-.26260
-10.050	4.190	.04910	-.10940	-.40950	-.26300
-10.050	6.250	.05230	-.10740	-.47710	-.24660
-10.050	8.340	.05580	-.10540	-.53620	-.23700
-10.050	10.430	.05930	-.10310	-.56910	-.22740
	GRADIENT	.00150	.00075	-.02810	-.00163

RUN NO. 106/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	.070	.02370	-.11160	-.18790	-.25580
-5.050	2.130	.02650	-.10960	-.22330	-.25550
-5.050	4.160	.02920	-.10740	-.25570	-.25260
-5.060	6.240	.03220	-.10510	-.30600	-.25460
-5.060	8.320	.03520	-.10280	-.36330	-.24310
-5.060	10.400	.03830	-.09970	-.41910	-.23570
	GRADIENT	.00134	.00103	-.01658	.00078

RUN NO. 107/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.030	.060	.00760	-.11020	-.07770	-.25240
-.030	2.130	.00960	-.10880	-.10190	-.25190
-.030	4.230	.01180	-.10670	-.13790	-.24900
-.030	6.240	.01380	-.10440	-.17150	-.24470
-.030	8.310	.01640	-.10240	-.20790	-.23740
-.030	10.400	.01860	-.09970	-.25150	-.22810
	GRADIENT	.00101	.00084	-.01444	.00082

RUN NO. 108/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.000	.070	-.00110	-.11210	.00430	-.24000
5.000	2.140	-.00030	-.11050	-.01220	-.23250
5.000	4.160	.00060	-.10820	-.02830	-.24490
5.000	6.250	.00170	-.10550	-.04810	-.23820
5.000	8.320	.00300	-.10320	-.07420	-.23420
5.000	10.390	.00410	-.10030	-.10730	-.22970
	GRADIENT	.00042	.00095	-.00797	-.00118

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH21) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	5.000
BDFLAP =	-11.700	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 109/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.020	.040	-.00540	-.11250	.09850	-.28030
10.020	2.120	-.00540	-.11150	.08110	-.26440
10.020	4.190	-.00490	-.10920	.06030	-.24600
10.010	6.250	-.00420	-.10750	.03870	-.24470
10.010	8.360	-.00330	-.10520	.01940	-.23420
10.010	10.420	-.00250	-.10260	.00030	-.22620
	GRADIENT	.00012	.00079	-.00920	.00826

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH22) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	5.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 110/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.020	.060	.04310	-.11240	-.29420	-.25690
-10.020	2.110	.04600	-.11100	-.34610	-.26270
-10.020	4.160	.04890	-.10960	-.40840	-.26450
-10.020	6.230	.05210	-.10730	-.47510	-.24850
-10.020	8.290	.05550	-.10580	-.53210	-.23610
-10.020	10.380	.05930	-.10310	-.56630	-.22770
	GRADIENT	.00141	.00068	-.02785	-.00185

RUN NO. 111/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.020	.020	.02380	-.11200	-.18920	-.25550
-5.020	2.100	.02660	-.10980	-.22290	-.25280
-5.020	4.150	.02920	-.10760	-.25460	-.25080
-5.020	6.220	.03180	-.10540	-.30210	-.25370
-5.020	8.290	.03520	-.10270	-.36270	-.24260
-5.020	10.380	.03800	-.10000	-.41650	-.23450
	GRADIENT	.00131	.00107	-.01608	.00114

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH22) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	5.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 112/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.010	.010	.00750	-.11090	-.07860	-.25120
.010	2.090	.00940	-.10900	-.10240	-.24940
.010	4.140	.01150	-.10680	-.13350	-.24710
.010	6.200	.01380	-.10460	-.17280	-.24340
.010	8.290	.01600	-.10260	-.20690	-.23480
.010	10.370	.01870	-.10010	-.25240	-.22650
	GRADIENT	.00097	.00099	-.01329	.00099

RUN NO. 113/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.040	.000	-.00130	-.11240	.00580	-.23670
5.040	2.080	-.00030	-.11060	-.01220	-.22820
5.030	4.170	.00050	-.10860	-.02810	-.24300
5.030	6.220	.00150	-.10570	-.04880	-.23650
5.030	8.280	.00270	-.10340	-.07440	-.23230
5.030	10.350	.00390	-.10070	-.10750	-.22740
	GRADIENT	.00043	.00091	-.00813	-.00152

RUN NO. 114/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.060	.030	-.00550	-.11290	.09730	-.27860
10.060	2.090	-.00550	-.11140	.08150	-.26170
10.060	4.150	-.00510	-.10930	.06050	-.24320
10.060	6.240	-.00450	-.10770	.03790	-.24100
10.060	8.290	-.00360	-.10540	.01900	-.23090
10.060	10.370	-.00280	-.10300	.00050	-.22220
	GRADIENT	.00010	.00087	-.00993	.00859

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH23) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 135/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.040	.110	.04310	-.11240	-.29950	-.26710
-10.040	2.170	.04620	-.11100	-.35320	-.27650
-10.040	4.240	.04900	-.10920	-.41540	-.27360
-10.040	6.300	.05230	-.10720	-.48310	-.25920
-10.040	8.370	.05560	-.10540	-.53510	-.24480
-10.040	10.450	.05940	-.10320	-.56460	-.23760
	GRADIENT	.00143	.00077	-.02806	-.00157

RUN NO. 136/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.030	.100	.02410	-.11160	-.19570	-.26400
-5.030	2.160	.02670	-.10970	-.22810	-.26340
-5.030	4.260	.02950	-.10730	-.26360	-.26150
-5.030	6.290	.03230	-.10490	-.31320	-.26210
-5.030	8.390	.03520	-.10260	-.37160	-.25070
-5.030	10.460	.03840	-.09960	-.42320	-.24180
	GRADIENT	.00130	.00103	-.01632	.00060

RUN NO. 137/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	.090	.00750	-.11060	-.08110	-.26040
-.010	2.160	.00960	-.10860	-.10670	-.25810
-.010	4.220	.01160	-.10660	-.14090	-.25440
-.010	6.300	.01390	-.10440	-.17810	-.24990
-.010	8.380	.01640	-.10230	-.21750	-.24200
-.010	10.450	.01870	-.09980	-.26100	-.23560
	GRADIENT	.00099	.00097	-.01448	.00145

RUN NO. 138/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	.110	-.00120	-.11210	.00160	-.24400
5.030	2.160	-.00030	-.11060	-.01550	-.25370
5.030	4.210	.00060	-.10840	-.03200	-.25080
5.030	6.310	.00180	-.10580	-.05240	-.24460
5.040	8.380	.00310	-.10310	-.08010	-.23840
5.040	10.440	.00430	-.10070	-.11400	-.23440
	GRADIENT	.00044	.00090	-.00820	-.00166

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH23) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 139/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.060	.120	-.00550	-.11260	.09440	-.28850
10.060	2.180	-.00520	-.11100	.07680	-.26790
10.060	4.240	-.00500	-.10940	.05470	-.24840
10.060	6.320	-.00430	-.10740	.03350	-.24850
10.060	8.360	-.00350	-.10520	.01440	-.23800
10.060	10.450	-.00280	-.10250	-.00440	-.22860
	GRADIENT	.00012	.00078	-.00964	.00973

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH24) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 140/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.030	.080	.04270	-.11200	-.29140	-.26170
-10.030	2.140	.04590	-.11060	-.34570	-.26550
-10.040	4.190	.04890	-.10880	-.40680	-.26850
-10.030	6.280	.05240	-.10690	-.47260	-.25760
-10.040	8.380	.05640	-.10490	-.53270	-.24560
-10.040	10.420	.05980	-.10250	-.55310	-.23620
	GRADIENT	.00151	.00078	-.02808	-.00165

RUN NO. 141/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.020	.080	.02420	-.11170	-.18830	-.22870
-5.020	2.140	.02740	-.10960	-.22370	-.25820
-5.030	4.200	.03020	-.10740	-.25760	-.26230
-5.030	6.260	.03300	-.10500	-.30550	-.26280
-5.030	8.330	.03600	-.10250	-.36530	-.24970
-5.030	10.420	.03900	-.09970	-.41790	-.24230
	GRADIENT	.00146	.00104	-.01682	-.00816

DATE 19 MAY 76 TABULATED FORCE DATA - OA163 (NAAL 751) (RFFH24) (18 MAR 76)

OA163 B68C12G20M16N28W127E55F10V8R5X9

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 142/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.010	.070	.00840	-.11020	-.07770	-.22710
.010	2.130	.01000	-.10830	-.10110	-.21890
.000	4.180	.01220	-.10660	-.13270	-.25400
.010	6.280	.01470	-.10410	-.17250	-.24980
.010	8.360	.01710	-.10180	-.20980	-.24170
.000	10.420	.01960	-.09950	-.25450	-.23310
	GRADIENT	.00092	.00088	-.01338	-.00654

RUN NO. 143/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.060	.080	-.00010	-.11200	.00530	-.24280
5.050	2.120	.00060	-.11040	-.01150	-.20250
5.050	4.200	.00180	-.10820	-.02810	-.24680
5.050	6.280	.00280	-.10550	-.04770	-.24390
5.050	8.350	.00410	-.10310	-.07620	-.19290
5.050	10.460	.00540	-.10030	-.10980	-.19920
	GRADIENT	.00046	.00092	-.00811	-.00104

RUN NO. 144/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.090	.080	-.00410	-.11240	.09920	-.26270
10.090	2.150	-.00400	-.11110	.08120	-.26720
10.090	4.230	-.00360	-.10960	.05980	-.24870
10.100	6.290	-.00290	-.10730	.03770	-.24740
10.100	8.360	-.00210	-.10520	.01860	-.20040
10.090	10.430	-.00140	-.10260	-.00030	-.22260
	GRADIENT	.00012	.00067	-.00949	.00338

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH25) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	15.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 129/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.040	.040	.04360	-.11260	-.29000	-.26390
-10.030	2.120	.04650	-.11100	-.34710	-.27230
-10.040	4.160	.04960	-.10960	-.40630	-.27500
-10.040	6.260	.05290	-.10780	-.47810	-.25970
-10.030	8.300	.05600	-.10560	-.53220	-.24580
-10.030	10.400	.06000	-.10370	-.57270	-.23700
	GRADIENT	.00146	.00073	-.02823	-.00270

RUN NO. 128/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.020	.040	.02410	-.11190	-.18770	-.26600
-5.020	2.090	.02680	-.11010	-.22210	-.26470
-5.020	4.150	.02940	-.10780	-.25410	-.26160
-5.020	6.200	.03220	-.10520	-.30200	-.26350
-5.020	8.300	.03510	-.10290	-.35980	-.25490
-5.030	10.360	.03830	-.10000	-.41290	-.24500
	GRADIENT	.00129	.00100	-.01616	.00107

RUN NO. 127/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	.010	.00750	-.11080	-.07580	-.26240
.000	2.100	.00950	-.10880	-.10170	-.25910
.000	4.200	.01160	-.10710	-.13370	-.25640
.000	6.220	.01370	-.10480	-.17220	-.25370
.000	8.280	.01620	-.10260	-.20560	-.24450
.000	10.370	.01860	-.10010	-.24910	-.23660
	GRADIENT	.00098	.00088	-.01382	.00143

RUN NO. 126/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.030	-.00160	-.11240	.00650	-.24850
5.020	2.100	-.00070	-.11070	-.01040	-.23820
5.020	4.150	.00030	-.10840	-.02780	-.25250
5.020	6.240	.00150	-.10570	-.04720	-.24430
5.020	8.300	.00270	-.10340	-.07290	-.24090
5.020	10.360	.00390	-.10060	-.10530	-.23600
	GRADIENT	.00046	.00097	-.00832	-.00096

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH25) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	15.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 125/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.070	.030	-.00610	-.11290	.10090	-.29220
10.080	2.080	-.00600	-.11120	.09280	-.27310
10.080	4.150	-.00550	-.10940	.06130	-.25330
10.070	6.220	-.00500	-.10760	.04100	-.23880
10.070	8.300	-.00410	-.10540	.01980	-.24110
10.070	10.380	-.00340	-.10300	.00180	-.23040
	GRADIENT	.00015	.00085	-.00961	.00944

OA163 B68C12G20M16N28W127E55F10V8R5X9 (RFFH26) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	10.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 160/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.080	.030	.04300	-.11230	-.29430	-.29230
-10.080	2.090	.04560	-.11080	-.34830	-.30060
-10.080	4.160	.04840	-.10910	-.40840	-.30440
-10.080	6.220	.05180	-.10750	-.47640	-.28910
-10.070	8.290	.05510	-.10570	-.53530	-.27740
-10.080	10.360	.05890	-.10350	-.57600	-.26910
	GRADIENT	.00131	.00077	-.02763	-.00293

RUN NO. 161/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	.030	.02400	-.11220	-.18950	-.29670
-5.050	2.080	.02680	-.11060	-.22370	-.29410
-5.050	4.140	.02930	-.10860	-.25600	-.28980
-5.050	6.220	.03210	-.10660	-.30430	-.29260
-5.060	8.290	.03490	-.10410	-.36250	-.28120
-5.050	10.350	.03800	-.10180	-.41500	-.27410
	GRADIENT	.00129	.00088	-.01618	.00168

DATE 19 MAY 76 TABULATED FORCE DATA - OA163 (NAAL 751)

(RFFH26) (18 MAR 76)

OA163 B68C12G20M16N28W127E55F10V8R5X9

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO
SCALE =	.0405			

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	10.000	SPDBRK =	25.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 162/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.020	.020	.00760	-.11230	-.07750	-.29140
-.020	2.070	.00960	-.11050	-.10140	-.28840
-.020	4.150	.01180	-.10870	-.13490	-.28710
-.020	6.200	.01400	-.10660	-.17110	-.28140
-.020	8.290	.01620	-.10400	-.20710	-.27320
-.020	10.340	.01890	-.10200	-.25340	-.26380
	GRADIENT	.00102	.00087	-.01390	.00104

RUN NO. 163/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.020	-.00090	-.11260	.00650	-.27600
5.020	2.080	.00000	-.11140	-.01020	-.26450
5.020	4.130	.00100	-.10900	-.02770	-.28170
5.020	6.200	.00200	-.10710	-.04820	-.27370
5.020	8.260	.00330	-.10500	-.07460	-.26860
5.020	10.350	.00460	-.10240	-.10690	-.26240
	GRADIENT	.00046	.00088	-.00832	-.00138

RUN NO. 164/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.070	.000	-.00510	-.11220	.10100	-.32800
10.070	2.070	-.00500	-.11100	.08370	-.30630
10.060	4.140	-.00480	-.10950	.06160	-.28300
10.060	6.230	-.00400	-.10790	.03900	-.27610
10.060	8.280	-.00340	-.10610	.02050	-.26890
10.060	10.360	-.00250	-.10430	.00080	-.25650
	GRADIENT	.00007	.00065	-.00952	.01087

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH27) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 165/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.090	.000	.04420	-.11300	-.29900	-.28980
-10.090	2.070	.04720	-.11190	-.35290	-.29410
-10.090	4.150	.05030	-.11060	-.41920	-.25300
-10.090	5.190	.05190	-.10970	-.45370	-.29070
-10.090	6.240	.05340	-.10860	-.48750	-.28540
-10.090	8.310	.05700	-.10640	-.54780	-.27360
-10.090	10.420	.06070	-.10420	-.58990	-.26520
-10.090	15.670	.06800	-.09950	-.65200	-.24470
-10.090	20.910	.07440	-.10100	-.67860	-.24090
	GRADIENT	.00147	.00058	-.02897	.00888

RUN NO. 166/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.060	.000	.02520	-.11350	-.18840	-.29250
-5.060	2.080	.02770	-.11190	-.22490	-.28820
-5.060	4.150	.03090	-.10990	-.25900	-.28230
-5.060	5.200	.03230	-.10910	-.28280	-.28520
-5.060	6.250	.03350	-.10740	-.30810	-.28960
-5.060	8.310	.03670	-.10530	-.36960	-.27780
-5.070	10.410	.03970	-.10270	-.42610	-.26910
-5.070	15.670	.04750	-.09540	-.52420	-.26620
-5.070	20.940	.05340	-.08630	-.60510	-.24230
	GRADIENT	.00137	.00087	-.01701	.00246

RUN NO. 167/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-2.030	.000	.01530	-.11410	-.11570	-.29350
-2.030	2.090	.01750	-.11250	-.14870	-.29300
-2.030	4.140	.01980	-.11000	-.18910	-.28420
-2.030	5.200	.02070	-.10870	-.20620	-.28030
-2.030	6.230	.02230	-.10770	-.22440	-.27620
-2.030	8.320	.02480	-.10510	-.26680	-.27220
-2.030	10.410	.02780	-.10260	-.31270	-.27670
-2.030	15.660	.03450	-.09350	-.44160	-.25820
-2.040	20.930	.04060	-.08260	-.52320	-.23390
	GRADIENT	.00109	.00099	-.01772	.00224

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH27) (18 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.7000 IN. XO
LREF = 474.8100 INCHES YMRP = .0000 IN. YO
BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
SCALE = .0405

PARAMETRIC DATA

MACH = .169 ELEVON = .000
BDFLAP = -11.700 SPDBRK = .000
PHI-N = 66.000 THETAN = 108.000
PHI-M = 88.000 THETAM = 98.000
RN/L = 1.190

RUN NO. 168/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.030	-.020	.00990	-.11400	-.07630	-.28890
-.030	2.070	.01170	-.11190	-.10110	-.23270
-.030	4.150	.01360	-.10950	-.13190	-.24140
-.030	5.220	.01480	-.10880	-.15220	-.27910
-.030	6.230	.01580	-.10740	-.17010	-.27310
-.030	8.310	.01840	-.10500	-.20650	-.22050
-.030	10.410	.02100	-.10300	-.25300	-.23220
-.030	15.650	.02710	-.09520	-.37180	-.25260
-.040	20.950	.03210	-.08450	-.46590	-.23640
	GRADIENT	.00089	.00108	-.01333	.01140

RUN NO. 169/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
1.990	.000	.00560	-.11380	-.04060	-.25320
1.990	2.100	.00730	-.11250	-.06200	-.24330
1.990	4.150	.00880	-.11110	-.08390	-.27710
1.990	5.190	.00970	-.11060	-.09870	-.27670
1.990	6.270	.01080	-.10870	-.11580	-.27620
1.990	8.320	.01260	-.10650	-.15080	-.27210
1.990	10.400	.01440	-.10390	-.18650	-.26430
1.990	15.670	.01970	-.09630	-.30520	-.24830
1.990	20.920	.02420	-.08640	-.40070	-.23000
	GRADIENT	.00077	.00065	-.01043	-.00572

RUN NO. 170/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	.000	.00130	-.11450	.01060	-.27630
5.010	2.060	.00230	-.11260	-.00690	-.26280
5.010	4.160	.00330	-.11030	-.02390	-.27670
5.010	5.210	.00390	-.10930	-.03390	-.25510
5.020	6.250	.00440	-.10810	-.04420	-.26800
5.010	8.320	.00560	-.10620	-.07100	-.26020
5.010	10.410	.00680	-.10320	-.10280	-.25670
5.010	15.660	.01020	-.09530	-.19440	-.21030
5.010	20.940	.01370	-.08610	-.30460	-.22360
	GRADIENT	.00048	.00101	-.00829	-.00012

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH27) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPOBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 171/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.070	.010	-.00280	-.11380	.11060	-.32110
10.070	2.080	-.00260	-.11280	.09180	-.30130
10.070	4.170	-.00230	-.11100	.07010	-.27850
10.070	5.230	-.00200	-.11050	.0594C	-.26880
10.070	6.250	-.00180	-.10930	.04740	-.24370
10.070	8.330	-.00100	-.10740	.02800	-.23160
10.070	10.410	-.00030	-.10550	.00850	-.25350
10.070	15.690	.00130	-.10050	-.05660	-.23590
10.070	20.930	.00200	-.10090	-.13320	-.21730
	GRADIENT	.00012	.00067	-.00974	.01024

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH28) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPOBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 172/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.080	-.010	.0433C	-.11310	-.29510	-.29190
-10.080	2.060	.04630	-.11210	-.34970	-.29440
-10.080	4.150	.04920	-.10970	-.41090	-.30160
-10.080	6.230	.05210	-.10800	-.48140	-.28540
-10.080	8.340	.05530	-.10550	-.54150	-.27300
-10.080	10.430	.05900	-.10390	-.58550	-.26310
-10.060	15.630	.06650	-.10480	-.65310	-.25110
-10. 90	20.920	.07280	-.09970	-.68330	-.23850
	GRADIENT	.00142	.00082	-.02784	-.00233

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH28) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 173/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	-.030	.02410	-.11360	-.18350	-.29230
-5.050	2.070	.02670	-.11190	-.22150	-.28890
-5.060	4.150	.02940	-.10940	-.25350	-.28440
-5.060	6.260	.03200	-.10730	-.30310	-.28620
-5.050	8.310	.03460	-.10460	-.35920	-.27840
-5.060	10.450	.03800	-.10210	-.42000	-.26890
-5.060	15.700	.04580	-.09450	-.51690	-.26330
-5.060	20.910	.05210	-.08600	-.60410	-.23940
	GRADIENT	.00127	.00100	-.01675	.00189

RUN NO. 174/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-2.020	-.020	.01380	-.11370	-.11310	-.28850
-2.010	2.080	.01590	-.11200	-.14550	-.28880
-2.020	4.130	.01820	-.10950	-.18450	-.28160
-2.020	5.180	.01940	-.10830	-.20300	-.27820
-2.010	6.230	.02070	-.10710	-.22100	-.27490
-2.010	8.310	.02320	-.10480	-.26210	-.26930
-2.010	10.380	.02620	-.10210	-.30790	-.27250
-2.010	15.690	.03300	-.09300	-.43910	-.25540
-2.020	20.950	.03920	-.08210	-.52610	-.23980
	GRADIENT	.00106	.00101	-.01720	.00166

RUN NO. 175/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.010	-.020	.00830	-.11310	-.07380	-.28760
-.010	2.070	.01010	-.11130	-.09780	-.28430
-.010	4.140	.01200	-.10940	-.12870	-.28100
-.010	5.190	.01320	-.10810	-.14650	-.27820
-.010	6.240	.01420	-.10700	-.16680	-.27750
-.010	8.310	.01680	-.10470	-.20310	-.26830
-.010	10.400	.01920	-.10250	-.24860	-.25960
-.010	15.640	.02520	-.09440	-.36690	-.25160
-.010	20.930	.03050	-.08370	-.46260	-.23640
	GRADIENT	.00089	.00089	-.01319	.00159

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH28) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	85.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAN =	98.000
RN/L =	1.190		

RUN NO. 176/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
2.000	.000	.00400	-.11390	-.04020	-.27770
2.000	2.070	.00560	-.11210	-.05990	-.28180
2.000	4.160	.00710	-.11030	-.08200	-.27640
2.000	5.180	.00820	-.10960	-.09620	-.27550
2.000	6.230	.00910	-.10810	-.11190	-.27220
2.000	8.330	.01070	-.10600	-.14850	-.26970
2.000	10.420	.01290	-.10330	-.18390	-.26130
2.000	15.680	.01780	-.09580	-.30070	-.24490
2.000	20.960	.02290	-.08580	-.40120	-.22960
	GRADIENT	.00075	.00087	-.01005	.00032

RUN NO. 177/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	.000	-.00030	-.11380	.01290	-.27480
5.030	2.110	.00060	-.11210	-.00520	-.26150
5.030	4.110	.00160	-.11020	-.02180	-.27760
5.030	5.190	.00240	-.10900	-.03140	-.27430
5.030	6.230	.00290	-.10780	-.04220	-.26950
5.030	8.330	.00400	-.10570	-.06820	-.26520
5.030	10.380	.00520	-.10300	-.10100	-.26010
5.030	15.630	.00880	-.09450	-.19230	-.23840
5.030	20.910	.01200	-.08540	-.30150	-.22520
	GRADIENT	.00046	.00088	-.00844	-.00062

RUN NO. 178/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.080	-.010	-.00450	-.11360	.11220	-.31950
10.080	2.060	-.00430	-.11230	.09250	-.29860
10.080	4.150	-.00380	-.11060	.07040	-.27650
10.080	5.190	-.00360	-.10990	.06100	-.26810
10.080	6.230	-.00330	-.10900	.04830	-.27350
10.080	8.330	-.00260	-.10690	.02800	-.26030
10.080	10.440	-.00200	-.10510	.00830	-.25030
10.080	15.670	-.00030	-.09980	-.05490	-.23340
10.090	20.930	.00040	-.09920	-.13250	-.21580
	GRADIENT	.00017	.00072	-.01005	.01034

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH29) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 179/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.080	.120	.04380	-.11260	-.30640	-.28540
-10.090	2.210	.04660	-.11150	-.36680	-.29620
-10.090	4.260	.04930	-.11020	-.42660	-.29620
-10.090	5.330	.05100	-.10880	-.46290	-.28520
-10.090	6.380	.05270	-.10800	-.49730	-.27900
-10.090	8.470	.05590	-.10630	-.55070	-.26510
-10.090	10.590	.05980	-.10400	-.57920	-.25720
-10.090	15.840	.06690	-.10500	-.62130	-.24440
-10.090	21.050	.07270	-.10060	-.63780	-.23410
	GRADIENT	.00133	.00058	-.02903	-.00262

RUN NO. 180/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.050	.130	.02430	-.11340	-.19680	-.28500
-5.050	2.200	.02710	-.11150	-.23230	-.28320
-5.060	4.270	.02960	-.10920	-.26790	-.27970
-5.060	5.350	.03090	-.10840	-.29410	-.28230
-5.050	6.380	.03250	-.10730	-.32170	-.28170
-5.050	8.460	.03550	-.10480	-.38390	-.26930
-5.060	10.550	.03870	-.10240	-.43860	-.26140
-5.050	15.850	.04660	-.09470	-.52100	-.25220
-5.050	21.070	.05280	-.08610	-.57580	-.23040
	GRADIENT	.00128	.00101	-.01717	.00128

RUN NO. 181/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-2.000	.130	.01400	-.11400	-.12260	-.28550
-2.010	2.220	.01630	-.11110	-.15910	-.28160
-2.000	4.290	.01850	-.10950	-.19800	-.27630
-2.000	5.330	.02000	-.10830	-.21690	-.27160
-2.000	6.360	.02130	-.10700	-.23520	-.26850
-2.000	8.470	.02400	-.10490	-.28130	-.26380
-2.010	10.550	.02660	-.10180	-.32670	-.26980
-2.010	15.850	.03350	-.09350	-.44460	-.24760
-2.010	21.080	.03950	-.08190	-.51990	-.19870
	GRADIENT	.00108	.00108	-.01812	.00221

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH29) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 182/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.020	.100	.00860	-.11340	-.08240	-.27810
.010	2.200	.01050	-.11150	-.10950	-.23100
.020	4.260	.01220	-.10930	-.14330	-.24440
.020	5.350	.01330	-.10860	-.16410	-.27040
.030	6.360	.01450	-.10640	-.18190	-.26330
.030	8.460	.01700	-.10440	-.22180	-.25600
.030	10.560	.01940	-.10220	-.27050	-.25130
.030	15.780	.02520	-.09420	-.38050	-.24460
.030	21.060	.03070	-.08330	-.47300	-.22740
	GRADIENT	.00087	.00099	-.01463	.00815

RUN NO. 183/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
2.040	.080	.00380	-.11320	-.04780	-.27920
2.040	2.170	.00520	-.11180	-.06840	-.27360
2.040	4.210	.00670	-.10990	-.09260	-.27130
2.040	5.290	.00770	-.10870	-.11010	-.26790
2.040	6.350	.00870	-.10780	-.13010	-.26540
2.040	8.420	.01050	-.10520	-.16460	-.25950
2.040	10.520	.01240	-.10280	-.20250	-.25300
2.040	15.770	.01750	-.09560	-.32400	-.23580
2.030	21.050	.02240	-.08510	-.41130	-.22300
	GRADIENT	.00070	.00080	-.01084	.00192

RUN NO. 184/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.070	.090	-.00070	-.11350	.00380	-.26320
5.060	2.190	.00010	-.11160	-.01480	-.27120
5.060	4.260	.00100	-.10970	-.03160	-.26890
5.060	5.300	.00160	-.10860	-.04170	-.26420
5.060	6.360	.00210	-.10700	-.05360	-.26170
5.050	8.450	.00330	-.10510	-.08520	-.25620
5.050	10.540	.00450	-.10210	-.11740	-.25140
5.050	15.810	.00780	-.09390	-.21340	-.22940
5.040	21.080	.01130	-.08480	-.31710	-.21580
	GRADIENT	.00041	.00091	-.00849	-.00137

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH29) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 185/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.150	.120	-.00530	-.11310	.09970	-.31280
10.150	2.200	-.00520	-.11160	.08130	-.28730
10.150	4.300	-.00470	-.11030	.05930	-.26660
10.150	5.320	-.00450	-.10940	.04790	-.26500
10.150	6.370	-.00430	-.10830	.03660	-.26580
10.150	8.460	-.00360	-.10680	.01730	-.25460
10.150	10.580	-.00300	-.10410	-.00240	-.24370
10.150	15.810	-.00140	-.09940	-.06880	-.22490
10.150	21.070	-.00050	-.10060	-.14820	-.20600
	GRADIENT	.00014	.00067	-.00967	.01105

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH30) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	-10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 186/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.100	-.130	.04490	-.11310	-.28770	-.29930
-10.100	1.950	.04620	-.11160	-.34060	-.29970
-10.100	4.040	.04930	-.10990	-.40310	-.30700
-10.100	5.090	.05080	-.10980	-.43940	-.30330
-10.100	6.120	.05230	-.10840	-.47450	-.29470
-10.100	8.250	.05580	-.10660	-.54240	-.28150
-10.100	10.320	.05930	-.10400	-.58830	-.27230
-10.110	15.570	.06710	-.09960	-.66850	-.25930
-10.110	20.810	.07350	-.10170	-.74570	-.24910
	GRADIENT	.00130	.00077	-.02768	-.00185

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP (RFFH30) (18 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	-10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 187/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.070	-.110	.02390	-.11400	-.17830	-.29780
-5.070	1.970	.02680	-.11180	-.21600	-.29360
-5.070	4.020	.02920	-.11000	-.24810	-.29010
-5.070	5.050	.03060	-.10860	-.26610	-.29010
-5.070	6.110	.03220	-.10750	-.29230	-.29070
-5.070	8.190	.03530	-.10500	-.35360	-.28590
-5.070	10.280	.03820	-.10250	-.41160	-.27580
-5.070	15.520	.04560	-.09490	-.51960	-.27180
-5.070	20.800	.05210	-.08580	-.61740	-.24780
	GRADIENT	.00128	.00097	-.01690	.00186

RUN NO. 188/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-2.010	-.110	.01370	-.11440	-.10980	-.29620
-2.010	1.940	.01590	-.11260	-.13930	-.29520
-2.010	4.040	.01790	-.10980	-.17750	-.28840
-2.010	5.070	.01950	-.10910	-.19670	-.28670
-2.010	6.100	.02070	-.10760	-.21370	-.28160
-2.010	8.180	.02360	-.10580	-.25340	-.27690
-2.010	10.300	.02660	-.10210	-.30040	-.27120
-2.010	15.560	.03300	-.09330	-.43700	-.24870
-2.010	20.790	.03890	-.08220	-.52660	-.24350
	GRADIENT	.00101	.00111	-.01632	.00189

RUN NO. 189/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-.030	-.140	.00810	-.11360	-.07050	-.29190
-.030	1.970	.01000	-.11140	-.09340	-.28890
-.030	4.010	.01210	-.11010	-.12050	-.28750
-.030	5.060	.01320	-.10900	-.14010	-.28500
-.030	6.110	.01420	-.10710	-.15830	-.28230
-.030	8.190	.01710	-.10510	-.19810	-.27560
-.030	10.280	.01950	-.10310	-.24000	-.26770
-.030	15.510	.02560	-.09520	-.35920	-.26110
-.040	20.800	.03050	-.08410	-.45900	-.24530
	GRADIENT	.00096	.00084	-.01204	.00106

DATE 19 MAY 76 TABULATED FORCE DATA - OA163 (NAAL 751) (RFFH30) (18 MAR 76)

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN. XO		
LREF =	474.8100 INCHES	YMRP =	.0000 IN. YO		
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN. ZO		
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	-10.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 190/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.020	-.130	-.00030	-.11460	.01600	-.28280
5.020	1.950	.00050	-.11300	-.00060	-.27050
5.020	4.020	.00150	-.11040	-.01760	-.27990
5.020	5.110	.00220	-.10940	-.02690	-.27930
5.020	6.110	.00280	-.10830	-.03660	-.27550
5.020	8.200	.00390	-.10610	-.06080	-.27020
5.020	10.280	.00520	-.10330	-.09330	-.26510
5.020	15.540	.00850	-.09500	-.18150	-.24990
5.020	20.820	.01210	-.08600	-.29300	-.23240
	GRADIENT	.00043	.00101	-.00810	.00070

RUN NO. 191/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.100	-.110	-.00440	-.11400	.11790	-.32740
10.100	1.980	-.00420	-.11260	.09570	-.31050
10.090	4.020	-.00390	-.11090	.07760	-.29010
10.100	5.080	-.00390	-.11010	.06670	-.28020
10.090	6.130	-.00340	-.10920	.05590	-.27150
10.090	8.190	-.00270	-.10750	.03380	-.27180
10.090	10.280	-.00200	-.10570	.01530	-.26090
10.090	15.530	-.00030	-.10030	-.04560	-.24380
10.090	20.780	.00060	-.10310	-.12150	-.22590
	GRADIENT	.00012	.00075	-.00976	.00903

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS (RFFH31) (08 APR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.7000 IN.	XO	
LREF =	474.8100 INCHES	YMRP =	.0000 IN.	YO	
BREF =	936.6800 INCHES	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-10.080	.000	-.04390	-.10680	-.33540	-.47980
-10.080	5.210	-.05080	-.10240	-.49540	-.42840
-10.070	10.420	-.05840	-.09830	-.61880	-.37100
-10.070	15.660	-.06640	-.09450	-.68340	-.28780
-10.070	20.880	-.07290	-.09540	-.73770	-.26720
	GRADIENT	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
-5.030	.000	-.02410	-.10820	-.22250	-.46850
-5.030	5.200	-.03080	-.10550	-.31890	-.45710
-5.030	10.410	-.03750	-.09800	-.45390	-.37240
-5.030	15.650	-.04540	-.09050	-.55330	-.35480
-5.040	20.890	-.05160	-.08200	-.62670	-.28560
	GRADIENT	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
.000	-.010	-.00780	-.10840	-.10190	-.42740
.000	5.150	-.01910	-.10260	-.17360	-.41220
.000	10.360	-.02540	-.09680	-.26820	-.36700
.000	15.640	-.02420	-.08940	-.38870	-.32680
.000	20.910	-.02980	-.07920	-.47610	-.32410
	GRADIENT	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
5.030	-.010	.00100	-.10890	-.01070	-.41460
5.030	5.200	-.00120	-.10420	-.05250	-.39250
5.020	10.410	-.00390	-.09790	-.12060	-.34210
5.020	15.650	-.00770	-.08970	-.20710	-.28110
5.020	20.900	-.01170	-.08110	-.31520	-.25100
	GRADIENT	.00000	.00000	.00000	.00000

OA163 B68C12G20M16N28W127E55F10V8R5X9+GP+SS (RFFH31) (08 APR 76)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	= 1076.7000 IN.	XO	
LREF	= 474.8100 INCHES	YMRP	= .0000 IN.	YO	
BREF	= 936.6800 INCHES	ZMRP	= 375.0000 IN.	ZO	
SCALE	= .0405				

PARAMETRIC DATA

MACH =	.169	ELEVON =	.000
BDFLAP =	-11.700	SPDBRK =	.000
PHI-N =	66.000	THETAN =	108.000
PHI-M =	88.000	THETAM =	98.000
RN/L =	1.190		

RUN NO. 0/ 0 RN/L = 1.19 GRADIENT INTERVAL = -5.00/ 5.00

BETA	ALPHA	CHMND	CHMNS	CHMMD	CHMMS
10.060	.000	.00550	-.10910	.09860	-.58710
10.060	5.200	.00470	-.10530	.04220	-.38740
10.070	10.430	.00310	-.10050	-.00350	-.43710
10.070	15.660	.00140	-.09540	-.06620	-.29490
10.070	20.900	.00000	-.09170	-.13040	-.25050
	GRADIENT	.00030	.00000	.00000	.00000