NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

(NASA-CR-144597) RESULTS OF AN INVESTIGATION OF JET PLUME EFFECTS ON A 0.010-SCALE MODEL (75-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE 8 X 7-FOOT LEG OF THE NASA/AMES UNITARY WIND TUNNEL G3/18

N76-22255
HC $11.00
Unclas
14356

SPACE SHUTTLE

AERTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER CORPORATION

March, 1976

DMS-DR-2219
NASA CR-144,597
VOLUME 1 OF 2

RESULTS OF AN INVESTIGATION OF JET PLUME EFFECTS ON AN 0.010-SCALE MODEL (75-OTS) OF THE SPACE SHUTTLE INTEGRATED VEHICLE IN THE 8 X 7-FOOT LEG OF THE NASA/AMES UNITARY WIND TUNNEL (IA82C)

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:	ARC 87-044
NASA Series Number:	IA82C
Model Number:	75-OTS
Test Dates:	November 8 through 15, 1974
Occupancy Hours:	60

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ABSTRACT

This document presents results of a wind tunnel test of the Rockwell International Space Shuttle Mated Vehicle in the NASA Ames Research Center at Moffett Field, California. The test is identified as IA82C and was conducted in the 8 X 7-foot leg of the Ames Unitary Plan Wind Tunnel.

The primary test objective was to define the base pressure environment of the first and second stage mated vehicle in a supersonic flow field from Mach 2.60 through 3.50 with simulated rocket engine exhaust plumes. The secondary objective was to obtain the pressure environment of the Orbiter at various vent port locations at these same freestream conditions.

Data were obtained at angles of attack from -4° through +4° at zero yaw, and at yaw angles from -4° through +4° at zero angle of attack, with rocket plume sizes varying from smaller than nominal to much greater than nominal. Failed Orbiter engine data were also obtained. Elevon hinge moments and wing panel load data were obtained during all runs.

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PLOTTED COEFFICIENTS SCHEDULE:

A) CBMW, CTMW, CNW, XWCP/L, YWCP/B versus ALPHA

B) CHEI, CHEO versus ALPHA

C) CBMW, CTMW, CNW, XWCP/L, YWCP/B versus BETA

D) CHEI, CHEO versus BETA

E) DCBMW, DCTMW, DCNW, DXWCP, DYWCP versus MACH

F) DCHEI, DCHEO versus MACH

NOMENCLATURE

General

Symbol	Plot Symbol	Definition
a		speed of sound; m/sec, ft/sec
C_p	CP	pressure coefficient; $(p_l - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m^2, psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m^2, psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ρ		mass density; kg/m^3, $slugs/ft^3$

Reference & C.G. Definitions

Symbol	Plot Symbol	Definition
A_b		base area; m^2, ft^2
b_{REF}	BREF	reference span; m, ft
b		model span; m, ft
c.g.		center of gravity
ℓ_{REF} $\bar{c}$	LREF	reference length, m, ft mean aerodynamic chord; m, ft
S_w	SREF	wing area or reference area; m^2, ft^2
	MRP	moment reference point

NOMENCLATURE (Continued)

Symbol	Plot Symbol	Definition
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis
$A_{T_{SRB}}$		SRB nozzle throat area, in^2
$A_{T_{MPS}}$		MPS nozzle throat area, in^2
b_W	BW	wing bending moment, about Y_o = 106., in-lbf
C_{B_W}	CBMW	wing bending moment coefficient, about Y_o = 106
$\bar{c}_e$	CE	elevon reference length, in
$C_{h_{ei}}$	CHEI	inner elevon hinge moment coefficient, about hinge line
$C_{h_{eo}}$	CHEO	outer elevon hinge moment coefficient, about hinge line
C_{N_W}	CNW	wing panel normal force coefficient
C_{p_i}	CPi	surface tap pressure coefficient, i = tap number
C_{T_W}	CTMW	wing torsion moment coefficient, about X_o = 1307
δ_{ei}	ELV-IB	inboard elevon deflection, degrees
δ_{eo}	ELV-OB	outboard elevon deflection, degrees
ϵ_{MPS}	EPSLNO	expansion ratio, MPS nozzle
ϵ_{SRM}	EPSLNS	expansion ratio, SRM nozzle
ET	ET	external tank
h_{ei}	HEI	inner elevon hinge moment about hinge line, in-lbs

NOMENCLATURE (Continued)

Symbol	Plot Symbol	Definition
h_{eo}	HEO	outer elevon hinge moment about hinge line, in-lbs
Λ_{LE}	LAMBDA	leading edge sweep angle, deg.
P_s	PS	static pressure, psia
θ_i		nozzle plume boundary exit angle measured relative to the nozzle centerline
ML	ML	local Mach number
MPS	MPS	main propulsion system
n_W	NW	wing panel normal force - lbf
P_i	Pi	surface pressure at ith tap number
P_c		chamber pressure, psia
P_{co}	PCORB	Orbiter chamber pressure, psia
P_{cs}	PCSRM	SRM chamber pressure, psia
P_{ei}	PEi	nozzle exit, i indicates nozzle location, psia
P_L	PL	local static pressure, psia
P_∞	PO	tunnel freestream static pressure, psia
P_t	PT	tunnel freestream total pressure, psia
P_{t_i}	PTi	local total pressure at ith probe, psia
P_{co}/P_∞	MPSCPR	Orbiter chamber to freestream pressure ratio
P_{cs}/P_∞	SRBCPR	SRB chamber to freestream pressure ratio
P_{ei}/P_∞	RPEI	exit to freestream pressure ratio at ith station
S_e	SE	elevon computation area, ft^2

NOMENCLATURE (Continued)

Symbol	Plot Symbol	Definition
SRB	SRB	solid rocket booster
SSME	SSME	space shuttle main engines
T_T	TTR	average tunnel total temperature °R
$T_{T_{ORB}}$	TTORB	Orbiter plume air total temperature, °R
$T_{T_{SRM}}$	TTSRM	SRM plume air total temperature, °R
T_W	TW	wing panel torsion moment, in-lbf
$\dot{w}_{SRB}$		SRB nozzle weight flow rate, lb/sec
$\dot{w}_{MPS}$		MPS nozzle weight flow rate lb/sec

Subscripts

i - Nozzle number,

1 = Top MPS nozzle,
2 = L.H. MPS nozzle,
3 = R.H. MPS nozzle,
4 = L.H. SRB nozzle,
5 = R.H. SRB nozzle,

or:

i = surface tap numbers, see figure 2i
∞ = freestream tunnel conditions
b = base
l = local
s = static conditions
t = total conditions

NOMENCLATURE (Continued)

Additions

Symbol	Plot Symbol	Definition
XC_p/ℓ_{REF}	XWCP/L	wing center of pressure as a fraction of body length
YC_p/b_{REF}	YWCP/B	wing center of pressure as a fraction of body span
$\Delta\delta_{ei}$	DELVIB	incremental inboard elevon deflection, degrees
$\Delta\delta_{eo}$	DELVOB	incremental outboard elevon deflection, degrees
ΔC_p	DCP	incremental surface tap pressure coefficient
ΔC_{B_W}	DCBMW	incremental wing bending moment coefficient, about Y_o = 106
ΔC_{T_W}	DCTMW	incremental wing torsion moment coefficient, about X_o = 1307
ΔC_{N_W}	DCNW	incremental wing panel normal force coefficient
$\Delta C_{h_{ei}}$	DCHEI	hinge moment coefficient increment for inboard elevon due to power/plume effect, power on- power off
$\Delta C_{h_{eo}}$	DCHEO	hinge moment coefficient increment for outboard elevon due to power/plume effect, power on- power off
$\Delta XC_p/\ell_{REF}$	DXWCP	incremental wing center of pressure as a fraction of body length
$\Delta YC_p/b_{REF}$	DYWCP	incremental wing center of pressure as a fraction of body span
ϕ_B	PHI	SRM base angle of roll, degrees
ϕ_O	PHI	Orbiter angle of roll, degrees
ϕ_S	PHI	SRB Mach rake angle of roll, degrees
ϕ_T	PHI	external tank angle of roll, degrees

NOMENCLATURE (Concluded)

Symbol	Plot Symbol	Definition
X_B	XB	SRM base longitudinal distance, in
X_O	XO	Orbiter longitudinal distance, in
Y_O	YO	Orbiter lateral distance, in
Z_O	ZO	Orbiter vertical distance, in
X_S	XS	SRB Mach rake longitudinal distance, in
X_T	XT	external tank longitudinal distance, in
R, in		radius of tap location, in
R/R_{OD}	R/ROD	radius of tap location divided by outer radius
δ_{BF}	BDFLAP	body flap deflection angle, degrees
δ_r	RUDDER	rudder deflection angle, degrees
δ_e	ELEVON	elevon deflection angle, degrees
δ_{SB}	SPDBRK	speed brake flare angle, degrees

REMARKS

To obtain data for data sets (comprised of three data runs), the wind tunnel freestream Mach number was set, and the model nozzle blowing system pressures were set and allowed to stabilize. Pressure and panel data were then recorded at each of the five α/β combinations.

No difficulty was encountered in bleeding off the added mass of model nozzle plume air from the tunnel circuit to maintain constant freestream conditions.

Good data confidence is assignable on the basis of model and instrumentation performance and running checks for anomalies made throughout the test program.

Hinge moment data are good, and wing normal force and bending moment data are in reasonable agreement with prior data. Wing root torsional moment data differ from expected values. However, this difference is primarily due to loads on the forward wing glove (a primary contribution to wing root torsional moment) which were not measured by the instrumentation on the model.

Zero returns on the wing gauges taken varied less than 0.4% and sensitivity shifts were negligible. The elevon zero returns were generally less than 0.3% with zero shift of less than 0.4%. These values are for full scale ranges which were nominally 1.05 times the maximum test loads for wing normal and bending, 3 times in torsion and 1.5 times the elevon hinge moments.

CONFIGURATIONS INVESTIGATED

The model was a blade strut mounted 0.010-scale replica of the Rockwell International first stage (Orbiter, external oxygen hydrogen tank and solid rocket boosters) Space Shuttle Vehicle. The model was used to simulate the second stage by the removal of the solid rocket boosters.

The model was fabricated entirely of Armco steel stock, with the exception of mechanical fasteners, seals, and electrical instrumentation by and under the direction of the B-1 Division of Rockwell International.

The basic Orbiter was in accord with Rockwell International drawing VL70-000140C lines with the substitution of the blunter VL70-08410 and VL70-08401 Orbital Maneuvering System (OMS) pods on the upper sidewalls and the elimination of the drag chute fairing from the vertical tail, reverting to the prior drawing, VL70-000146A. This combination has been designated - "140C modified" or VC70-000002.

The Orbiter is of blended wing body design with a double delta planform ($81/45\Lambda_{LE}$) 12% thick wing and full span elevons with a six inch interpanel gap between the independently deflectable inner and outer panels. A single centerline vertical tail with rudder and/or speedbrake capability is mounted between the two OMS pods, and a single body flap to aid in trim control during reentry from orbit is fitted on the lower trailing edge of the fuselage; the rudder/speedbrake and body flaps are not deflectable on this model. The Orbiter configuration simulated is shown in figure 2b.

The External Tank (ET) was in accord with Rockwell International drawing VC78-000002 for general confirmation. The attach hardware was on drawing VL78-000062B and is the same as fitted to model 52T. The tank was of cylindrical cross-section and had a liquid oxygen vent valve housing with lightning rod at the front of the 612.0" radius tangent ogive nose. The outer surface simulated was what is referred to on later drawings as the outside skin line which is the surface without the TPS thickness (SOFI) added. Longeron hat section stiffeners between the oxygen and hydrogen portions of the ET were simulated.

The general arrangement of External Tank is shown in Figure 2c.

The Solid Rocket Boosters (SRB) were modelled to conform to Rockwell International drawing VC77-000002A with the exception that to maintain consistency with model 88-S, the nozzle external contours were reflective of the earlier VL77-000066 drawing with a nozzle gimbal point 86.8 inches from the exit plane.

The SRB's are of cylindrical form with a flared base shielding the nozzle and forward skirt with a conical nose. A data capsule on the forward skirt, the cable systems tunnel and aft skirt stiffening struts were simulated.

The general layout of an SRB is shown in Figure 2d.

The model was basically in accord with Rockwell International Shuttle Control drawing VC72-000002 with the exceptions noted, and may be properly referred to as Modified Vehicle 4 or proposed Vehicle 5.

The general layout of the first and second stage vehicles is shown in Figures 2a and 2e.

The Ames Unitary Tunnel high pressure air supply was utilized for cold jet plume simulation of the jet plumes eminating from the Orbiter MPS and SRB nozzles. The Orbiter MPS and the SRB nozzles were on each of two independent air supply systems which allow for separate throttling of each nozzle system.

The blowing nozzles were test flowed in calibration programs at the Rocketdyne Rocket Nozzle Test Facility to determine that a satisfactory quiescent plume shape was produced, and to calibrate initial turning angle versus chamber pressure. These calibrations were performed with an appropriate simulated air supply system, MPS or SRB, to most accurately reproduce the quiescent plume shape that could be expected with the nozzle mounted on the model, and consequently most accurately predict the Newtonian plume to be obtained at tunnel freestream conditions.

The initial turning angle is defined in Figure 2j. Results of the nozzle calibrations are tabulated in Table IV.

The plume shapes for various Mach numbers were obtained by using one nozzle contour and setting specific values of P_{co}/P_{∞} or P_{ei}/P_{∞} for each different Mach number. The nominal settings are presented in Tables IV and V for the Orbiter and SRB nozzles.

The theoretical flow rates for MPS and SRB nozzle can be obtained by the following equations:

Assume: T_T = 560°R (100°F)

$A_{T_{MPS}} = .04285 \text{ in}^2$

$A_{T_{SRB}} = .32715 \text{ in}^2$

$\dot{w}_{MPS} = .00098\, P_{co}$ lb/sec per MPS nozzle

$\dot{w}_{SRB} = .0074\, P_{cs}$ lb/sec per SRB nozzle

The following nomenclature was used to designate Orbiter components (O_1):

Nomenclature	Orbiter Component
B_{62}	Body
C_{12}	Canopy
E_{52}	Elevon
F_{10}	Body flap
M_{16}	OMS pod
R_5	Rudder
N_{87}	MPS nozzles
N_{89}	OMS nozzle
V_8	Vertical tail
W_{127}	Wing

The nomenclature for the external oxygen hydrogen tank (T_{28}) was:

Nomenclature	Tank Component
FR_{10}	Aft attach cross beam

Nomenclature	Tank Component
T_{28}	External tank
AT_{28}	Attach structure
AT_{31}	Attach structure
AT_{32}	Attach structure
PT_{12}	ET protuberances
PT_{22}	ET protuberances
PT_{23}	ET protuberances
PT_{24}	ET protuberances
PT_{25}	ET protuberances
PT_{26}	ET protuberances
PT_{27}	ET protuberances
FL_{10}	Feedline
FL_{11}	Feedline

The nomenclature for the Solid Rocket Booster (S_{22}) was:

Nomenclature	SRB Component
S_{22}	Solid rocket booster
N_{88}	SRB nozzle
PS_{20}	SRB protuberances
PS_{21}	SRB protuberances
PS_{22}	SRB protuberances
PS_{14}	SRB protuberances
PS_{13}	SRB protuberances

CONFIGURATIONS INVESTIGATED (Concluded)

PS_{15}	SRB protuberances
PS_{16}	SRB protuberances

The entire mated vehicle first stage was O_1 T_{28} S_{22}, and the second stage was O_1 T_{28}.

Dimensional data are presented in Table III.

MODEL INSTRUMENTATION

Two three-pack scanivalves mounted at the base of the blade were used to accrue data from 82 surface pressure taps, distributed as follows:

Location	Number of Taps
Orbiter base	13
OMS pod base	4
Vertical	1
Body flap	5
Side of Orbiter	20
External tank	31
SRB bases	8

These pressure taps were hardlined to the connection at the scanivalve. The basic array of the pressure taps is shown in figures 2f through i.

The numbering scheme is 100 series taps on the Orbiter, 200 series on the External Tank and 300 series on the SRB's.

The right hand wing was made with the panel integral with a three component strain gauged beam to allow root bending moment, root torsion moment and panel normal force to be measured. The .015 inch gap to the Orbiter fuselage was not sealed.

The left hand wing panel was rigidly attached to the fuselage of the Orbiter, but was provided with plain bearing hinged deflectable elevon with the inner and outer panels supported in torsion by individual strain gauged beams to allow elevon hinge moments to be obtained. The elevon was made with a cylindrical section lower gap and a conical section upper gap with centerlines on the elevon hingeline so that the elevon gap will remain constant with deflection. No attempt was made to simulate the elevon flapper doors.

To provide similar model aeroelastic characteristics on both wings, the elevon arrangement on the right hand wing was identical to the left hand, but the beams were not gauged.

TEST FACILITY DESCRIPTION

The Ames Research Center Unitary Plan Wind Tunnel 8 x 7-foot supersonic test circuit is a closed-return, variable-density, air medium continuous flow facility with a 16 foot long test section and was used for IA82C. The throat has flexible sidewalls for control of tunnel Mach number. The tunnel is capable of attaining Mach numbers from 2.45 to 3.50 at Reynolds numbers from below 1.0×10^6/ft to approximately 5.0×10^6/ft.

Models are supported in general from stings mounted to a body of revolution on a floor to ceiling strut system. Internal strain-gauge balances are used for force and moment data, and pressure instrumentation is provided.

Schlieren and shadowgraph equipment is available as well as additional force, moment, and stress monitoring instrumentation for specific models.

A high pressure cold air supply system for simulation of reaction motor exhaust plumes was installed, with operation from the control room. This system had a new series of redundant regulators fitted and the system updated in 1974. Flow capabilities run to greater than 100 lbm/second of unheated air at 3000 psig, fed from a huge vertical subterranian bottle field allowing large flows for protracted periods.

DATA REDUCTION

The blowing systems were monitored at two nominal stations, upstream of the nozzle (chamber pressure) and at the nozzle exits. The ratios of chamber pressure to freestream static were computed:

$$\frac{P_{co}}{P_\infty} = \frac{PCORB}{PO} = MPSCPR$$

$$\frac{P_{cs}}{P_\infty} = \frac{PCSRM}{PO} = SRBCPR$$

$$\frac{P_{ei}}{P_\infty} = \frac{PEi}{Po} = RPEi$$

The plume air total temperatures, TTORB and TTSRM were also recorded.

Pressure coefficients were computed as follows:

$$\frac{P_i - P_\infty}{q} = C_{p_i}$$

where:

P_i = individual measured pressure.

For the base pressures,

i = 101 - 114 (omit 106)
= 121 - 124
= 131
= 141 - 145
= 201 - 231
= 301 - 304
= 311 - 314 (62 pressures)

and for the vent location pressures,

$$i = 151 - 170 \text{ (20 pressures)}$$

The inboard elevon panel and outboard elevon panel hinge moment coefficients were computed:

$$CHEI = \frac{HEI}{S_e \bar{c}_e}$$

$$CHEO = \frac{HEO}{S_e \bar{c}_e}$$

Right hand wing computations were:

$$CNW = \frac{NW}{qS_W}$$

$$CBMW = \frac{BW}{qS_W b}$$

$$CTMW = \frac{TW}{qS_W \bar{c}}$$

The following reference dimensions were used:

Symbol	Model Scale Value	Full Scale Value
b	9.3668 in	936.68 in
$\bar{c}_e$	0.907 in	90.70 in
$\bar{c}$	4.748 in	474.80 in
S_e	0.0210 ft^2	210.00 ft^2
S_W	0.2690 ft^2	2690.00 ft^2
b_{REF}	12.903 in	1290.3 in
ℓ_{REF}	12.903 in	1290.3 in

Note: Coefficient equations on previous page do not use the plot reference block LREF (ℓ_{REF}) and BREF (b_{REF}) values.

All the IA82C source data is presented in the Appendix. However, only the wing panel loads and hinge moment plotted data figures are presented in this report (data sets RE5XXX).

The IA82B pressure data (Mach number range of 1.55 to 2.20) was combined with the pressure data from IA82C (Mach number range of 2.60 to 3.50) and plotted versus Mach number. These results are published in the IA82B report (DMS-DR-2231).

TABLE I.

TEST : IA82C

DATE : Nov. 1974

TEST CONDITIONS

MACH NUMBER	REYNOLDS NUMBER (per ft) x 10^6	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
2.6	2.6	3.58	120° max
2.6	1.2	1.63	120° max
3.0	2.1	2.59	120° max
3.0	1.55	1.89	120° max
3.0	1.0	1.18	120° max
3.5	1.67	1.70	120° max
3.5	1.2	1.23	120° max
3.5	.78	0.77	120° max

BALANCE UTILIZED: __________

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS:

ORIGINAL PAGE IS OF POOR QUALITY

TABLE II.

REVISED 2-6-75

TEST : ARC 87-044, IA82C

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE : POST TEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	CONTROL DEFLECTION SRF	MPS	δ_{EI}	δ_{EO}	NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) MACH	PT	SRB	SSME		α=-4	α=0	α=4		
RES001	0,T28S22	A	C	–	–	0	0		3.0	14.7	–	–		1	2	3		
02				–	–				2.6		–	–		4	5	6		
03				N	N						627	1091		7	8	9		
04			B	<N	N						332	1091		10	11	12		
05				>N	N						1378	1091		13	14	15		
06				N	<N						627	685		16	17	18		
07				N	>N						627	1621		19	20	21		
08				>>N	N					6.7	1411	497		22	23	24		
09				>>N	N				3.0		1456	473		25	26	27		
10				–	>>>N						–	1820		28	29	30		
11				–	>>N						–	1147		31	32	33		
12				>N	N					10.7	1382	757		34	35	36		
13			C	N	N					15.1	868	1040		37	38	39		
14			B	–	N						–	1040		40	41	42		
15				–	>N						–	1520		43	44	45		
16				<N	N						388	1040		46	47	48		
17				N	<N						868	656		49	50	51		
18				N	>N						868	1520		52	53	54		

TEST RUN NUMBERS

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

73

COEFFICENTS

IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

α) A = -4, 0, 4

β) B = 0 @ α = ±4; -4, 0, 4 @ α = 0

β) C = -4, -2, 0, 2, 4 @ ALL α

TABLE II. - Continued

REVISED 2-6-75

TEST : ARC 87-044, IA82C

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE : POST TEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	CONTROL DEFLECTION SRB	CONTROL DEFLECTION MPS	CONTROL DEFLECTION δ_{EI}	CONTROL DEFLECTION δ_{EO}	NO. OF RUNS	MACH	PT	SRB	SSME		$\alpha=-4$	$\alpha=0$	$\alpha=4$		
RES019	$O_1 T_{28} S_{22}$	A	C	—	—	0	0		3.5	15.1	—	—		55	56	57		
20				N	N						1175	948		58	59	60		
21			B	—	>N						—	1521		61	62	63		
22				—	N						—	948		64	65	66		
23				<N	N						524	948		67	68	69		
24				N	<N						1175	607		70	71	72		
25				N	>N						1175	1521		73	74	75		
26				>N	N					10.7	1239	672		76	77	78		
27				—	>>N					6.7	—	837		79	80	81		
28				—	>>>N						—	1246		82	83	84		
29				>>N	N						1012	427		85	86	87		
30				—	—	4			2.6	15.1	—	—		88	89	90		
31				N	N						642	1116		91	92	93		
32				—	—				3.0		—	—		94	95	96		
33				N	N						888	1064		97	98	99		
34				—	—				3.5		—	—		100	101	102		
35				N	N						1175	948		103	104	105		
36				—	—		-4		2.6		—	—		106	107	108		

MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

α) A = -4, 0, 4

β) B = 0 @ α = ±4 ; -4, 0, 4 @ α = 0

β) C = -4, -2, 0, 2, 4 @ ALL α

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TABLE II. - Continued

REVISED 2-6-75

TEST : ARC 87-044, IA82C

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE : POST TEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	CONTROL DEFLECTION SRB	MPS	δ_{EI}	δ_{EO}	NO. OF RUNS	MACH	PT	SRB	SSME		α=-4	α=0	α=4		
RE5037	$O_1 T_{28} S_{22}$	A	B	N	N	4	-4		2.6	15.1	642	1116		109	110	111		
38				-	-				3.0		-	-		112	113	114		
39				N	N						888	1064		115	116	117		
40				-	-				3.5		-	-		118	119	120		
41				N	N						1175	948		121	122	123		
42				-	-	10			2.6		-	-		124	125	126		
43				N	N						642	1116		127	128	129		
44				-	-				3.0		-	-		130	131*	132		
45				N	N						888	1064		133	134	135		
46				-	-				3.5		-	-		136	137	138		
47				N	N						1175	948		139	140	141		
48			D	-	-	8			2.6		-	-		142	143	144		
49			D	N	N						642	1116		145	146	147		
50			C	-	-				3.0		-	-		148	149	150		
51				N	N						888	1064		151	152	153		
52				-	-				3.5		-	-		154	155	156		
53				N	N						1175	948		157	158	159		
54			B	-	-		0		2.6		-	-		160	161	162		

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

α) A = -4, 0, 4

β) B = 0 @ α = ±4 ; -4, 0, 4 @ α = 0

β) C = -4, -2, 0, 2, 4 @ ALL α

β) D = -4, 0, 4 @ ALL α

*RUN 131 : β = -4, 0

TABLE II. - Continued

REVISED 2-6-75

TEST : ARC87-044, IA82C

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE : POST TEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	CONTROL DEFLECTION SRB	MPS	δ_{EI}	δ_{EO}	NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) MACH	PT	SRB	SSME		α=-4	α=0	α=4		
RES055	$O_1T_{28}S_{22}$	A	B	N	N	8	O		2.6	15.1	642	1116		163	164	165		
56				–	–				3.0		–	–		166	167	168		
57				N	N				↓		888	1064		169	170	171		
58				–	–				3.5		–	–		172	173	174		
59			↓	N	N	↓			↓		1175	948		175	176	177		
60			D	–	–	10			2.6		–	–		178	179	180		
61				N	N				↓		642	1116		181	182	183		
62				–	–				3.0		–	–		184	185	186		
63				N	N				↓		888	1064		187	188	189		
64				–	–				3.5		–	–		190	191	192		
65			↓	N	N	↓			↓		1175	948		193	194	195		
66	#1 MPS OUT		B	N	N	0			2.6		642	1116		196	197	198		
67				N	N				3.0		888	1064		199	200	201		
68	↓			N	N				3.5		1175	948		202	203	204		
69	#2 MPS OUT			N	N				2.6		642	1116		205	206	207		
70				N	N				3.0		888	1064		208	209	210		
↓ 71	↓ ↓	↓	↓	N	N	↓	↓		3.5	↓	1175	948		211	212	213		

TEST RUN NUMBERS

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

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

α) A = -4, 0, 4

β) B = 0 @ α = ±4 ; -4, 0, 4 @ α = 0

β) D = -4, 0, 4 @ ALL α

TABLE II. - Concluded

TEST : ARC87-044, IA82C

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE : POST TEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	CONTROL DEFLECTION SRB	MPS	δ_{EI}	δ_{EO}	NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) MACH	PT	SRB	SSME		α=-4	α=0	α=4		
RE5072	O1T28, #2 SSME OUT	A	B	–	N	0	0		3.5	15.1	-	948		214	215	216		
73	, #1 SSME OUT			–	N						-	948		217	218	219		
74				–	–						-	-		220	221	222		
75				–	N						-	948		223	224	225		
76				–	<N						-	607		226	227	228		
77				–	>N						-	1321		229	230	231		
78				–	>>N					6.7	-	837		232	233	234		
79				–	>>>N						-	1248		235	236	237		
80				–	>>>>N						-	1820		238	239	240		

TEST RUN NUMBERS

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

COEFFICENTS

IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

α) A = -4, 0, 4

β) B = 0 @ α = ±4 ; -4, 0, 4 @ α = 0

TABLE III

MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B_{62}

GENERAL DESCRIPTION : Configuration 140 C orbiter fuselage, MCR 200-R4. Similar to 140 A/B fuselage except aft body revised and improved midbody-wing-boot fairing. X_o = 940 to X_o = 1040.

MODEL SCALE: 0.010

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

DIMENSIONS	FULL SCALE	MODEL SCALE
Length (IML: Fwd Sta. X_o=238), In.	1290.3	12.903
Length (OML: Fwd Sta X_o=235), In.	1293.3	12.933
Max Width (@ X_o = 1528.3), In.	264.0	2.640
Max Depth (@ X_o = 1464), In.	250.0	2.500
Fineness Ratio	4.899	4.899
Area - Ft^2		
Max. Cross-Sectional	340.885	.03409
Planform		
Wetted		
Base		

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : CANOPY - C_{12}

GENERAL DESCRIPTION : Configuration 140 C orbiter canopy, vehicle cabin No. 31 updated to MCR 200-R_4. Used with fuselage B_{62}.

MODEL SCALE: 0.010

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

DIMENSIONS :

	FULL SCALE	MODEL SCALE
Length (X_O= 434.643-578), in.	143.357	1.434
Max Width (@ X_O = 513.127), In.	152.412	1.524
Max Depth (Z_O=501 to 449.39), In.	51.61	0.516
Fineness Ratio		
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		

TABLE III (Cont'd)

MODEL COMPONENT: ELEVON - E_{52}

GENERAL DESCRIPTION: Elevon for configuration 140C. Hingeline at $X_o = 1387$, elevon split line $X_w = 312.5$. 6.0" gaps, beveled edges, and centerbodies.

MODEL SCALE: 0.010

DRAWING NUMBER: VL70-000140C, -006089, -006092, SS-A01260

DIMENSIONS: (Data for One Side)	FULL-SCALE	MODEL SCALE
Area - Ft^2	210.0	0.021
Span (equivalent), In.	349.2	3.492
Inb'd equivalent chord, In.	118.0	1.180
Outb'd equivalent chord, In.	55.19	0.552
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.2096	0.2096
At Outb'd equiv. chord	0.4004	0.4004
Sweep Back Angles, degrees		
Leading Edge	0.0	0.0
Tailing Edge	-10.056	-10.056
Hingeline	0.00	0.0
Area Moment (Product of Area & $\bar{c}$) ~~(Normal to hinge line)~~,	1587.25	0.0016
Mean Aerodynamic Chord, In.	90.7	0.907
Hingeline dihedral (origin at $Z_0 = 261.3509$), deg.	5.229	5.229

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY FLAP - F_{10}

GENERAL DESCRIPTION : Configuration 140C body flap. Hingeline located at $X_o = 1532$, $Z_o = 238$.

MODEL SCALE: 0.010

DRAWING NUMBER : VL70-000140C, VL70-355114

DIMENSIONS :

	FULL SCALE	MODEL SCALE
Length (X_o=1525.5 to X_o=1613), In.	87.50	0.875
Max Width (@ L.E., X_o = 1525.5), In.	256.00	2.560
Max Depth (X_o = 1532), In.	19.798	0.198
Fineness Ratio		
Area - Ft^2		
Max. Cross-Sectional (@H.L.)	35.196	.00352
Planform	135.00	.01350
Wetted		
Base (X_o = 1613)	4.89	.0005

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : OMS POD - M_{16}

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

MODEL SCALE: 0.010

DRAWING NUMBER : VL70-008401, VL70-008410

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta X_o=1310.5), In.	258.50	2.585
Max Width (@ X_o = 1511), In.	136.8	1.368
Max Depth (@ X_o = 1511), In.	74.70	0.747
Fineness Ratio	2.484	2.484
Area - Ft^2		
Max. Cross-Sectional	58.864	0.00589
Planform		
Wetted		
Base		

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: RUDDER - R_5

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

MODEL SCALE: 0.010

DRAWING NUMBER: VL70-000146B, -000095

DIMENSIONS:

	FULL-SCALE	MODEL SCALE
Area - Ft^2	100.15	0.01002
Span (equivalent), In.	201.00	2.010
Inb'd equivalent chord, In.	91.585	0.916
Outb'd equivalent chord, In.	50.833	0.508
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 and $\bar{c}$), Ft^3	610.92	0.000610
Mean Aerodynamic Chord	73.2	0.732

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: MPS NOZZLES - N_{87}

GENERAL DESCRIPTION: Flow-through MPS nozzles.

MODEL SCALE: 0.010

DRAWING NUMBER: SS-A01279

DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NO. 2.6, 3.0, 3.5		
Length - In.		
Gimbal Point to Exit Plane	157.0	1.570
Throat to Exit Plane	181.55	1.816
Diameter - In.		
Exit	90.435	0.9044
Throat	23.3502	0.2335
Inlet		
Area - ft^2		
Exit	44.607	0.00446
Throat	2.974	0.000297
Gimbal Point (Station) - In.		
Upper Nozzle		
X_o	1445.00	14.450
Y_o	0.0	0.0
Z_o	443.00	4.430
Lower Nozzles		
X_o	1468.17	14.682
Y_o	53.0	± 0.530
Z_o	342.64	3.426
Null Position - Deg.		
Upper Nozzle		
Pitch	16°	16°
Yaw	0°	0°
Lower Nozzle		
Pitch	10°	10°
Yaw	0°	0°

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TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: NOZZLES - N_{89}

GENERAL DESCRIPTION: OMS nozzle in stowed position which is outboard 8 deg and down 7deg from null position. Use with M_{16}.

MODEL SCALE = 0.010

DRAWING NO. SS-A01279

DIMENSIONS	FULL SCALE	MODEL SCALE
Mach No.		
Length ~ in.		
Gimbal Point to Exit Plan	56.0	0.560
Throat to Exit Plane		
Diameter ~ in.		
Exit (O.D.)	50.0	0.50
Throat		
Inlet		
Area ~ ft^2.		
Exit		
Throat		
Gimbal Point (station) ~ in.		
X_o	1518.00	15.180
Y_o	88.00	0.880
Z_o	492.0	4.920
Null Position ~ deg.		
Pitch	15°49'	15°49'
Yaw	6°30'	6°30'

*REVISED 4/24/74

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: VERTICAL - V_8

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

MODEL SCALE: 0.010

DRAWING NUMBER: VL70-000140C, -000146B

DIMENSIONS:

	FULL SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) - Ft^2		
Planform	413.253	0.0413
Span (Theo) - In.	315.720	3.157
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep-Back Angles, Degrees.		
Leading Edge	45.000	45.000
* Trailing Edge	26.2	26.2
0.25 Element Line	41.130	41.130
Chords:		
Root (Theo) WP	268.500	2.685
Tip (Theo) WP	108.470	1.085
MAC	199.808	1.998
Fus. Sta. of .25 MAC	1463.50	14.635
W.P. of .25 MAC	635.522	6.355
B.L. of .25 MAC	0.000	0.000
Airfoil Section		
Leading Wedge Angle - Deg.	10.000	10.000
Trailing Wedge Angle - Deg.	14.920	14.920
Leading Edge Radius	2.00	0.02
Void Area	13.17	0.00131
Blanketed Area	0.00	0.000

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TABLE III (CONT'D)

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_o = 940 to X_o = 1040); elevon split line relocated from Y_o=281 to Y_o=312.5.

MODEL SCALE: 0.010

TEST NO.

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

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft^2		
Planform	2690.00	0.2690
Span (Theo In.	936.68	9.3668
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees	3.500	3.500
Incidence Angle, degrees	0.500	0.500
Aerodynamic Twist, degrees	3.000	3.000
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	-10.056	-10.056
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.O.O.	689.24	6.892
Tip, (Theo) B.P.	137.85	1.379
MAC	474.81	4.748
Fus. Sta. of .25 MAC	1136.83	11.368
W.P. of .25 MAC	290.58	2.906
B.L. of .25 MAC	182.13	1.821
EXPOSED DATA		
Area (Theo) Ft^2	1751.50	0.1752
Span, (Theo) In. BP108	720.68	7.207
Aspect Ratio	2.059	2.059
Taper Ratio	0.245	0.245
Chords		
Root BP108	562.09	5.621
Tip 1.00 $\frac{b}{2}$	137.85	1.379
MAC	392.83	3.928
Fus. Sta. of .25 MAC	1185.98	11.860
W.P. of .25 MAC	294.30	2.943
B.L. of .25 MAC	251.77	2.518
Airfoil Section (Rockwell Mod NASA) XXXX-64		
Root $\frac{b}{2}$ =	0.113	0.113
Tip $\frac{b}{2}$ =	0.12	0.12
Data for (1) of (2) Sides		
Leading Edge Cuff Planform Area Ft^2	113.18	0.01132
Leading Edge Intersects Fus M. L. @ Sta	500.00	5.000
Leading Edge Intersects Wing @ Sta	1024.00	10.240

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: FAIRING - FR_{10}

GENERAL DESCRIPTION: Umbilical door fairing between aft ET/orbiter attach structure.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, -000062B, Martin Marietta 82600207000

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Leading edge at	X_T	2052.0	20.520
Length		193.00	1.930
Width		15.00	0.150

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : EXTERNAL TANK - T_{28}

GENERAL DESCRIPTION : Same as T_{20} except larger.

MODEL SCALE: 0.010

DRAWING NUMBER : VL72-000143D, VL78-000063

(Dimensions are to tank structural OML, TPS not included)

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	1844.275	18.443
Max Width , Diameter, In.	331.00	3.310
Max Depth		
Fineness Ratio	5.687	5.687
Area - Ft^2		
Max. Cross-Sectional	597.58	0.0598
Planform		
Wetted		
Base		

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT_{28}

GENERAL DESCRIPTION: Rear orbiter to ET attach structure (LH and RH) (2 members).

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

	MEMBER		FULL SCALE	MODEL SCALE
	#1	X_O	1317.00	13.170
		Y_O	- 96.50 (LH)	- 0.965
			96.50 (RH)	0.965
		Z_O	267.50	2.675
		X_T	2058.00	20.580
		Y_T	- 125.68 (LH)	-1.257
			125.68 (RH)	1.257
		Z_T	515.5	5.155
	#2	X_O	1317.00	13.170
		Y_O	- 96.50 (LH)	- 0.965
			96.50 (RH)	0.965
		Z_O	267.50	2.675
		X_T	1872.00	18.720
		Y_T	- 125.68 (LH)	- 1.257
			125.68 (RH)	1.257
		Z_T	504.5	5.045
Diameter, In.	#1		11.5	0.115
	#2		15.5	0.155

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT_{31}

GENERAL DESCRIPTION: Rear ET to SRB attach structure (LH and RH), 3 members

MODEL SCALE: 0.010 MODEL DRAWING: ______

DRAWING NO.: VL78-000063, -000062B, -000066

DIMENSIONS:

MEMBER		FULL SCALE	MODEL SCALE
#1	X_T	2058.00	20.580
	Y_T	- 171.50 (LH)	-1.715
		171.50 (RH)	1.715
	Z_T	457.00	4.570
	X_S	1511.00	15.110
	Y_S	53.24	0.5324
	Z_S	57.00	0.570
#2	X_T	2058.00	20.580
	Y_T	- 163.85	- 1.639
	Z_T	449.81	4.498
	X_S	1511.00	15.110
	Y_S	76.56	0.766
	Z_S	15.73	0.157
#3	X_T	2058.00	20.580
	Y_T	- 161.72	- 1.617
	Z_T	343.00	3.430
	X_S	1511.00	15.110
	Y_S	53.24	0.532
	Z_S	- 57.00	- 0.570

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT_{32}

GENERAL DESCRIPTION: Forward orbiter/ET attach structure (2 member structure)

MODEL SCALE: 0.010 MODEL DRAWING NO.:

DRAWING NO.: VL78-000062B, Martin Marietta 82600209l4

DIMENSIONS:

		FULL SCALE	MODEL SCALE
	X_O	388.15	3.882
	Y_O	0.0	0.0
	Z_O	LWR LML	LWR LML
	X_T	1129.9	11.299
	Y_T	46.50	4.650
	Z_T	562.58	5.626
	X_T	388.15	3.882
	Y_T	0	0
	Z_T	LWR LML	LWR LML
	X_O	1129.9	11.299
	Y_O	- 46.50	- 0.465
	Z_O	562.58	5.626
Attach structure dia., in.		6.0	0.060

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ET PROTUBERANCE - PT_{12}

GENERAL DESCRIPTION: Lightning rod attached to ET nose.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000068B

DIMENSIONS:	FULL SCALE	MODEL SCALE
Length - In.	30.90	0.309
Diameter - In.	3.20	0.032

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ELECTRICAL LINE - PT_{22}

GENERAL DESCRIPTION: Left-hand electrical conduit line on T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	1084.333	10.843
	Y_T	- 99.591	- 0.996
	Z_T	- 139.620	- 1.396
Trailing edge at:	X_T	2058.00	20.580
	Y_T	- 99.591	- 0.996
	Z_T	- 139.620	- 1.396
Conduit size:		2.0 x 6.0	0.02 x 0.06

Centerline of line located radially at $\phi = 35.5^{\circ}$

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: LO_2 RECIRCULATION LINE - PT_{23}

GENERAL DESCRIPTION: LO_2 recirculation line on right-hand upper side of T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	1040.667	10.407
	Y_T	94.169	0.942
	Z_T	540.934	5.409
Trailing edge at:	X_T	2062.920	20.629
	Y_T	70.000	0.700
	Z_T	573.934	5.739
Diameter of line		4.0	0.040

Centerline of lines located radially at $\phi = 33^\circ 45'$

(Right of TDC looking forward).

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: LH_2 RECIRCULATION LINE - PT_{24}

GENERAL DESCRIPTION: LH_2 recirculation line on T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	1040.667	10.407
	Y_T	- 94.169	- 0.942
	Z_T	540.934	5.409
Trailing edge at:	X_T	2062.920	20.629
	Y_T	- 70.00	- 0.700
	Z_T	573.934	5.739
Diameter of line		4.00	0.040

Centerline of line located radially at $\phi = 33^{\circ}45'$

(Left of TDL looking forward)

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ELECTRICAL LINE - PT_{25}

GENERAL DESCRIPTION: Right-hand aft electrical conduit line on T_{28} with LH_2 pressure sensor line and LO_2 vent valve actuator line.

MODEL SCALE: 0.010

DRAWINGS NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	1084.333	10.843
	Y_T	99.591	0.996
	Z_T	139.620	1.396
Trailing edge at:	X_T	2058.00	20.580
	Y_T	99.591	0.996
	Z_T	139.620	1.396
Conduit size		2.0 x 6.0	0.020 x 0.06

Centerline of line located radially at $\phi = 35.5^{\circ}$

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: LO_2 PRESSURE LINE - PT_{26}

GENERAL DESCRIPTION: LO_2 pressure line on the T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	360.733	3.607
	Y_T	15.145	0.151
	Z_T	407.718	4.077
Trailing edge at:	X_T	2083.5	20.835
	Y_T	63.25	0.633
	Z_T	609.00	6.090
Centerline of line located radially at $\phi = 27^{o}$			
Line diameter		2.0	0.020

TABLE III. (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: ELECTRICAL LINE - PT_{27}

GENERAL DESCRIPTION: Electrical conduit on the right-hand forward section of T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000062B

DIMENSIONS:		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	360.733	3.607
	Y_T	11.549	0.115
	Z_T	412.474	4.125
Trailing edge at:	X_T	876.273	8.763
	Y_T	226.114	2.261
	Z_T	646.774	6.468

Centerline of conduit located radially at ϕ =

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: FEEDLINE - FL_{10}

GENERAL DESCRIPTION: LH_2 feedline on upper left-hand side of T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	2071.5	20.715
	Y_T	- 70.0	- 0.700
	Z_T	573.934	5.739
Trailing edge at:	X_T	2081.8	20.818
	Y_T	- 70.0	-0.700
	Z_T	584.059	5.841
Diameter of line (17.0 I.D.)		18.160	0.182

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: FEEDLINE: - FL_{11}

GENERAL DESCRIPTION: LO_2 feedline on upper right-hand of T_{28}.

MODEL SCALE: 0.010

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Leading edge at:	X_T	1000.667	10.007
	Y_T	70.00	0.700
	Z_T	150.519	1.505
Trailing edge at:	X_T	2071.5	20.715
	Y_T	70.00	0.700
	Z_T	573.934	5.739
Diameter of line (17.0 I.D.)		18.16 O.D.	0.182

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : BOOSTER SOLID ROCKET MOTOR - S_{22}

GENERAL DESCRIPTION : The BSRM is an external propulsion system which is jettisoned and recoverable after burnout. The BSRM's can be refurbished and reused after recovery.

MODEL SCALE: 0.010

DRAWING NUMBER : VC77-000002, VC70-000002

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length, In.	1789.60	17.896
Max Width, Tank Dia., In.	146.00	1.460
Max Depth, Aft shroud dia., In.	208.20	2.082
Fineness Ratio	8.596	8.596
Area - Ft^2		
Max. Cross-Sectional	236.423	0.0236
Planform		
Wetted		
Base		
WP of BSRM centerline (Z_T)	400.00	4.00
FS of BSRM nose (X_T)	743.0	7.430
BP of BSRM centerline (Y_T)	250.5	2.505

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: SRB NOZZLES - N_{88}

GENERAL DESCRIPTION: Flow-through SRB nozzle simulator ϵ = 7.0 prototype.

MODEL SCALE = 0.010

DRAWING NO. SS-A01281

MACH NO.: 2.6, 3.0, 3.5

DIMENSIONS	FULL SCALE	MODEL SCALE
Mach No: 2.6, 3.0, 3.5		
Length ~ in.		
Gimbal Point to Exit Plane	86.8	0.868
Throat to Exit Plane	112.135	1.121
Diameter ~ in.		
Exit	144.290	1.443
Throat	64.53	0.645
Inlet		
Area ~ ft^2.		
Exit	356.738	0.03567
Throat	22.712	0.00227
Gimbal Point (station) ~ in.		
X_B	1902.6	19.026
Y_B	± 250.5	± 2.505
Z_B		
Null Position ~ d		
Pitch	0	0
Yaw	0	0

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT : SRB PROTUBERANCES - PS_{20}

GENERAL DESCRIPTION : Electrical tunnel on SRB side, 30 deg taper leading edge, circular cross-section with mounting flange. Tunnel discontinued from X_B = 1504.25 to 1517.75.

MODEL SCALE: 0.010 MODEL DRAWING: SS-A01281

DRAWING NUMBER : VC77-000002A

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	1384.57	13.846
Max Width	13.00	0.130
Max Depth	3.72	0.037
Radius	6.19	0.0619
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		
Taper at leading edge	30 deg.	30 deg.

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: CIRCUMFERENTIAL STIFFENER - PS_{21}

GENERAL DESCRIPTION: Four-ring stiffeners located at aft end of the solid rocket boosters. The stiffener is a curved I-beam.

MODEL SCALE: 0.010

DRAWING NO.: VC77-000002

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Height	4.7	0.047
Length, In.	4.0	0.040
Locations:	1602.0	
	1694.4	
	1729.0	
	1771.4	

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: SRB PROTUBERANCE - PS_{22}

GENERAL DESCRIPTION: Tie-down fixture on aft skirt. Total of four mounted @ 30 deg to the vertical SRM centerline.

MODEL SCALE: 0.010

DRAWING NO.: VC77-000002

DIMENSIONS:

	FULL SCALE	MODEL SCAL
Leading edge @ X_B =	1855.2	18.552
Trailing edge @ X_B =	1925.2	19.252
Width, maximum , In.	14.5	0.145
Height, maximum	9.0	0.090
Plan taper	12°	12°
OAC	70.0	0.700

Tapers from zero height at 1855.2 to 9" @ 1925.2

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: SOLID ROCKET BOOSTER - EXTERNAL TANK ATTACH - PS_{14}

GENERAL DESCRIPTION: Two ring stiffeners located at aft end of solid rocket boosters. The stiffener is curved L-beam.

MODEL SCALE: 0.010

DRAWING NO.: VC77-000002

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Height, In.		8.00	0.0800
Length, In.		3.00	0.0300
Location	X_B = 1511.00		

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: CIRCUMFERENTIAL STIFFENER - PS_{13}

GENERAL DESCRIPTION: Ring stiffener located at the point where the skirt flares. The stiffener is I-beam.

MODEL SCALE: 0.010

DRAWING NO.: VC77-000002

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Height, In.		6.50	0.065
Length, In.		4.00	0.040
Location:	X_B = 1833.70		

TABLE III (CONT'D)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: Data capsule and CAMERA - PS_{15}

GENERAL DESCRIPTION: Cylinder located on forward skirt of SRB containing camera and data storage equipment, mounted longitudinally.

MODEL SCALE: 0.010

DRAWING NO.: VC77-000002

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Length, In. at X_B = 403.38	36.00	0.360
Diameter, In.	9.00	0.090

TABLE III. (Concluded)

MODEL DIMENSIONAL DATA

MODEL COMPONENT: FORWARD ATTACH - PS_{16}

GENERAL DESCRIPTION: On SRB, forward SRB-ET attach

MODEL SCALE: 0.010

DRAWING NO.: VC77-000002

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Height, In.	9.50	0.0950
Inner:		
Length, In, @ X_B = 442.70	44.28	0.443
Width, In.	16.00	0.160
Outer:		
Length, In. @ X_B = 442.70	23.85	0.239
Width, In.	11.00	0.110

TABLE IV. MPS BLOWING SYSTEM SET PRESSURES

MACH M_∞	P_T	CHAMBER PRESSURE $\theta_i = N+3$	$\theta_i = N$	$\theta_i = N-3$
1.55	14.7	1341	1006	745
2.0	↓	1616	930	648
2.2	↓	1705	1018	605
2.6	↓	1621	1091	685
3.0	↓	1520	1040	656
3.5	↓	1486	926	598
1.55	10.7	976	732	542
2.0	↓	1177	677	472
2.2	↓	1241	741	440
2.6	↓	1179	793	499
3.0	↓	1106	757	477
3.5	↓	1078	672	434
1.55	6.7	611	458	339
2.0	↓	736	424	295
2.2	↓	778	464	276
2.6	↓	739	497	313
3.0	↓	692	473	299
3.5	↓	685	427	276

$\theta_i = N+3$ INDICATES 3° OVER PROTOTYPE PLUME TURNING ANGLE

= ">N"

$\theta_i = N-3$ = "<N"

TABLE V. - SRB BLOWING SYSTEM SET PRESSURES

MACH M_∞	P_T	CHAMBER PRESSURE			
		$\theta_i = N+10$	$\theta_i = N+5$	$\theta_i = N$	$\theta_i = N-5$
1.55	14.7	1266	804	547	372
2.0		1597	846	560	357
2.2		1925	921	514	344
2.6		3095	1378	627	332
3.0		3200	1900	868	388
3.5		—	1708	1148	512
1.55	10.7	921	685	398	271
2.0		1163	616	408	260
2.2		1401	671	374	250
2.6		2251	1002	456	241
3.0		2328	1382	632	282
3.5		—	1239	833	371
1.55	6.7	577	367	250	170
2.0		728	385	255	163
2.2		878	420	235	157
2.6		1411	628	286	151
3.0		1456	865	395	177
3.5		—	779	524	233

$\theta_i = N+10$ = "$>>N$"

$= N+5$ = "$>N$"

$= N$

$= N-5$ = "$<N$"

TABLE VI.- BASE AND BODY FLAP PRESSURE TAP LOCATION

	TAP NUMBER	Y_o	Z_o	X_o
ORBITER BASE	101	0	324.7	
	102	-53.0	309.4	
	103	53.0	309.4	
	104	-110.0	324.7	
	105	110.0	324.7	
	106	DELETED		
	107	-103.0	383.3	
	108	103.0	383.3	
	109	0	396.1	
	110	-25.0	401.9	
	111	25.0	401.9	
	112	-80.0	433.6	
	113	80.0	433.6	
	114	0	494.2	
OMS	121	-60.0	505	
	122	60.0	505	
	123	-120.0	460	
	124	120.0	460	
VERTICAL	131	0	534.0	
BODY FLAP	141	-75		1565.0
	142	0		
	143	75		
	144	-75		
	145	75		
	146	0		

TABLE VII.
IA82C COEFFICIENT SCHEDULE

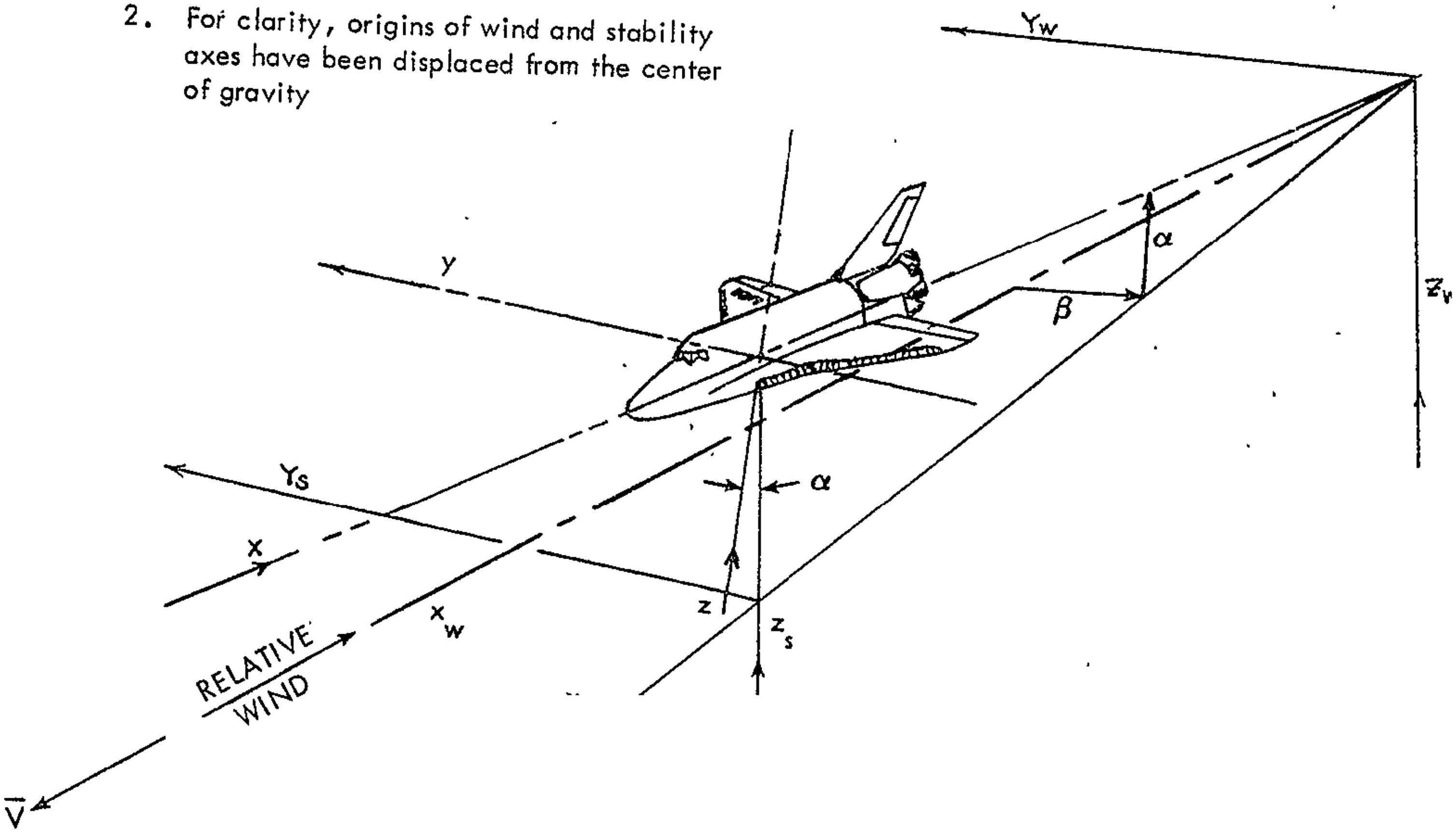
Dataset Type	Dataset Sequence	1st ID	2nd ID	Coefficients									
				1	2	3	4	5	6	7	8	9	10
RE5XXX	01 - 80	ALPHA	BETA	MACH	CNW	CTMW	CBMW	CHEI	CHEO				
AE5XXX	01 - 80	ALPHA	BETA	CP151	CP152	CP153	CP154	CP155	CP156	CP157	CP158	CP159	CP160
BE5XXX	01 - 80	ALPHA	BETA	CP161	CP162	CP163	CP164	CP165	CP166	CP167	CP168	CP169	CP170
CE5XXX	01 - 80	ALPHA	BETA	CP101	CP102	CP103	CP104	CP105	CP107	CP108	CP109	CP110	CP111
DE5XXX	01 - 80	ALPHA	BETA	CP112	CP113	CP114	CP121	CP122	CP123	CP124	CP131		
EE5XXX	01 - 80	ALPHA	BETA	CP141	CP142	CP143	CP144	CP145					
RE5HXX	01 - 80	ALPHA	BETA	CP201 - CP231 as a function of radius and PHI values									
IE5XXX	01 - 80	ALPHA	BETA	CP231	CP311	CP312	CP313	CP314	CP301	CP302	CP303	CP304	Q(PSF)

Note: ID = independent variable

Notes:

1. Positive directions of angles are indicated by arrows

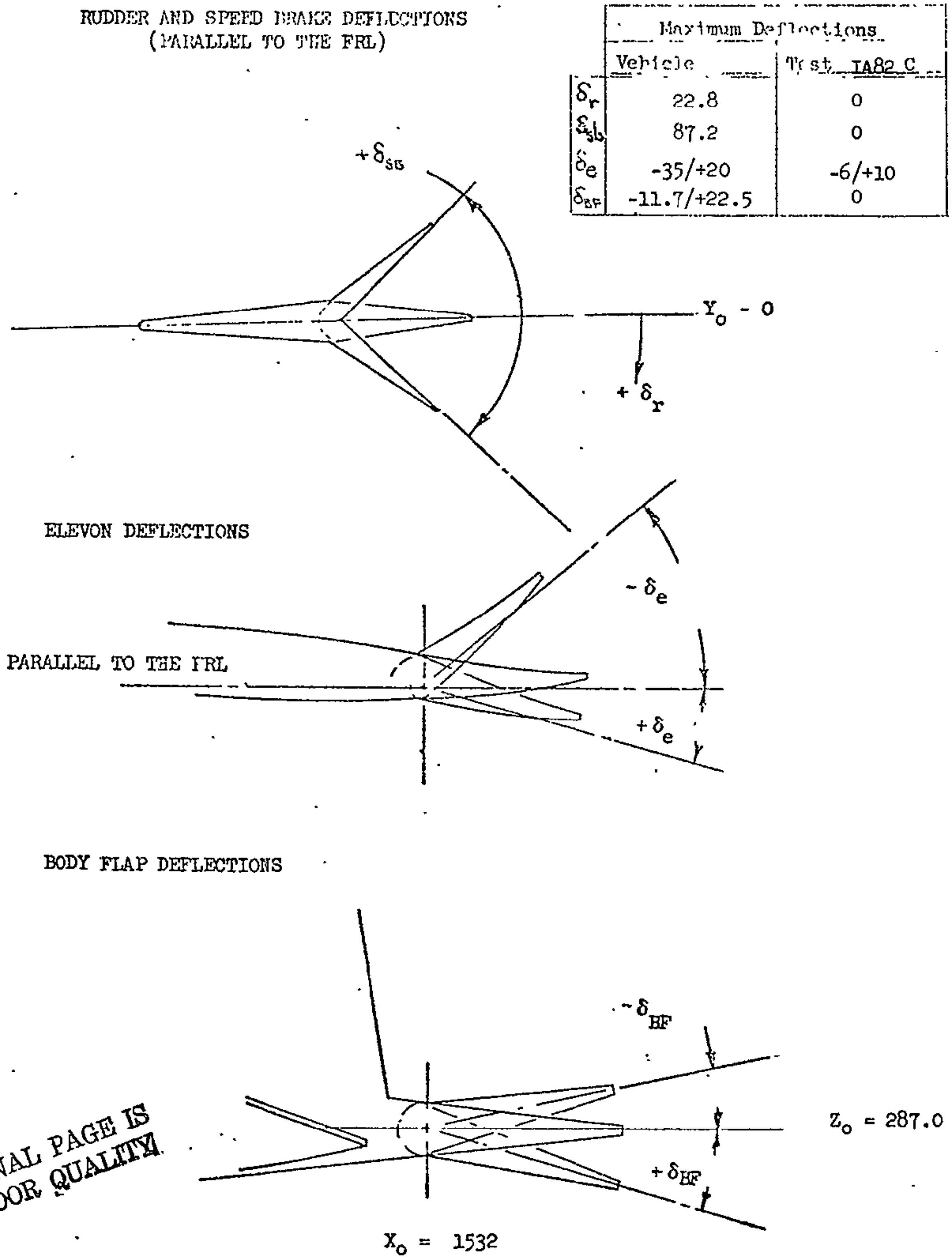
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity



a. General

Figure 1. - Axis Systems.

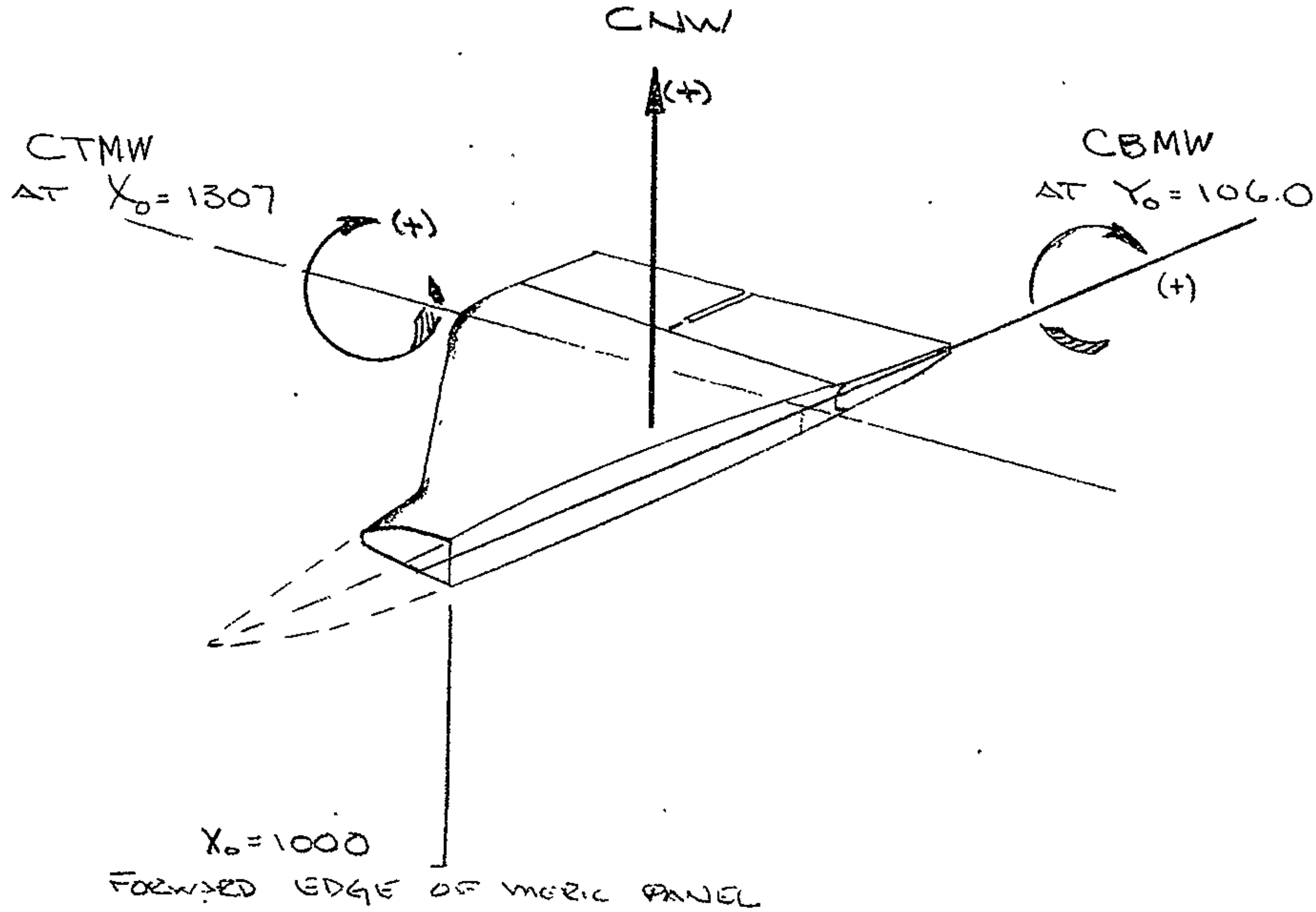
	Maximum Deflections	
	Vehicle	Test IA82 C
δ_r	22.8	0
δ_{sb}	87.2	0
δ_e	-35/+20	-6/+10
δ_{BF}	-11.7/+22.5	0



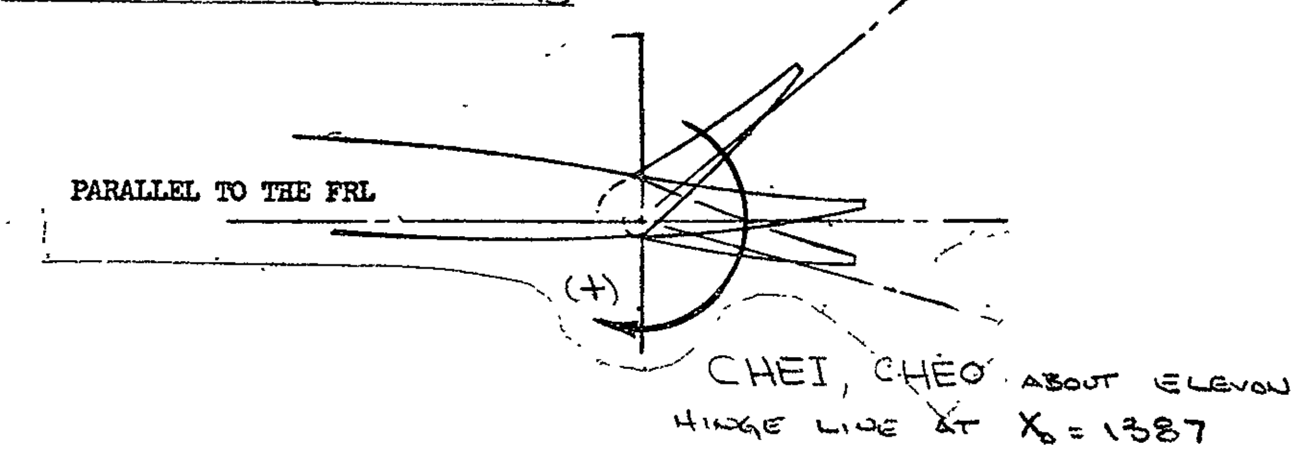
b. Control Surface deflections

Figure 1. - Continued.

WING PANEL LOADS

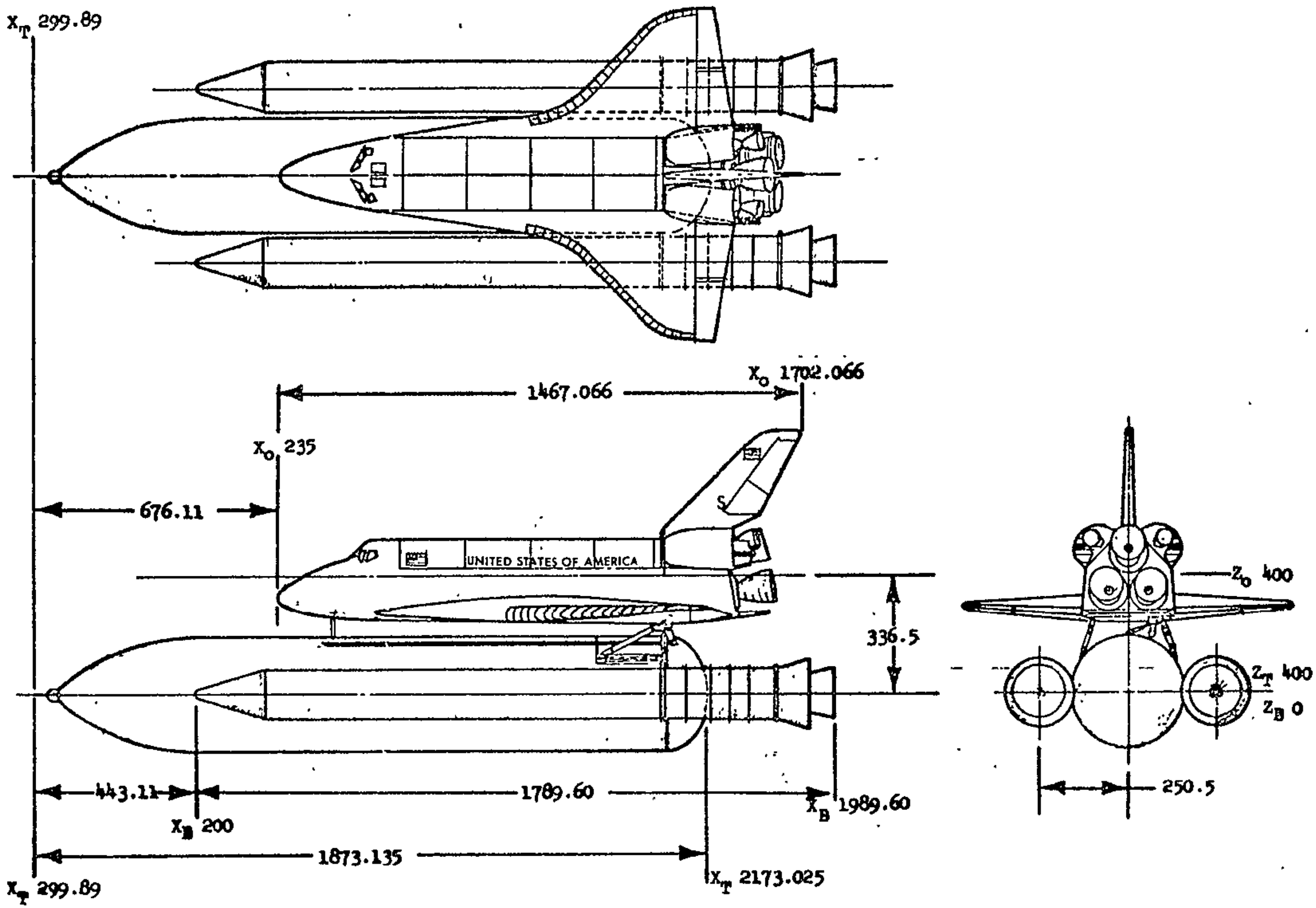


ELEVON HINGE MOMENTS



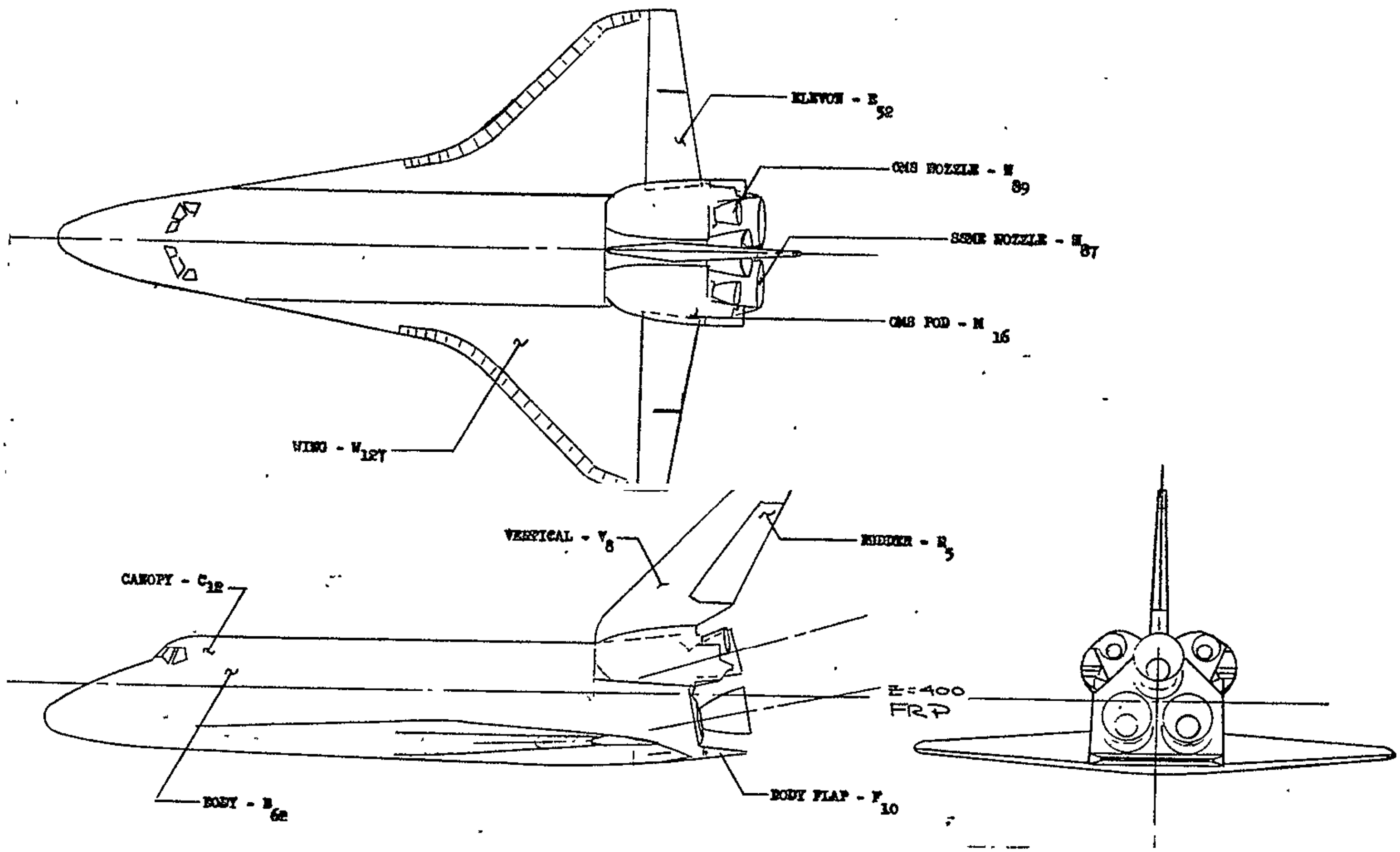
c. Panel Loads and Hinge Moments

Figure 1. - Concluded.



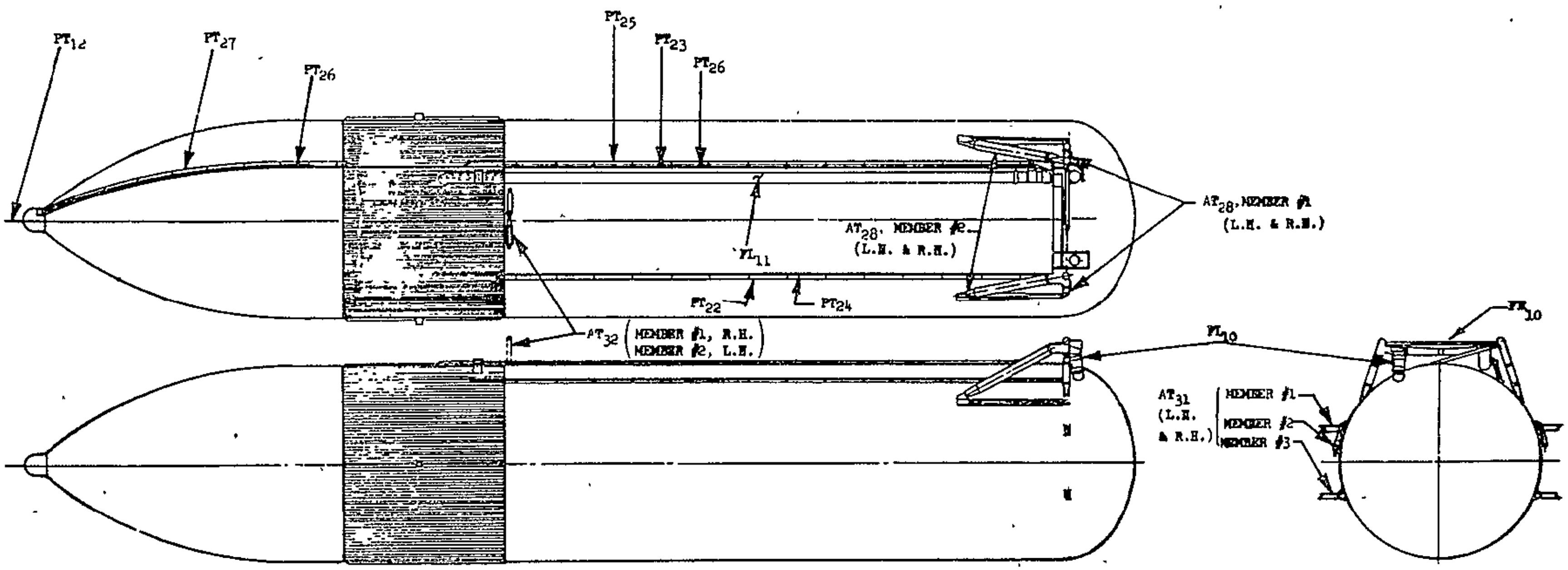
a. Integrated Space Shuttle Vehicle Launch Configuration

Figure 2. - Model Sketches.



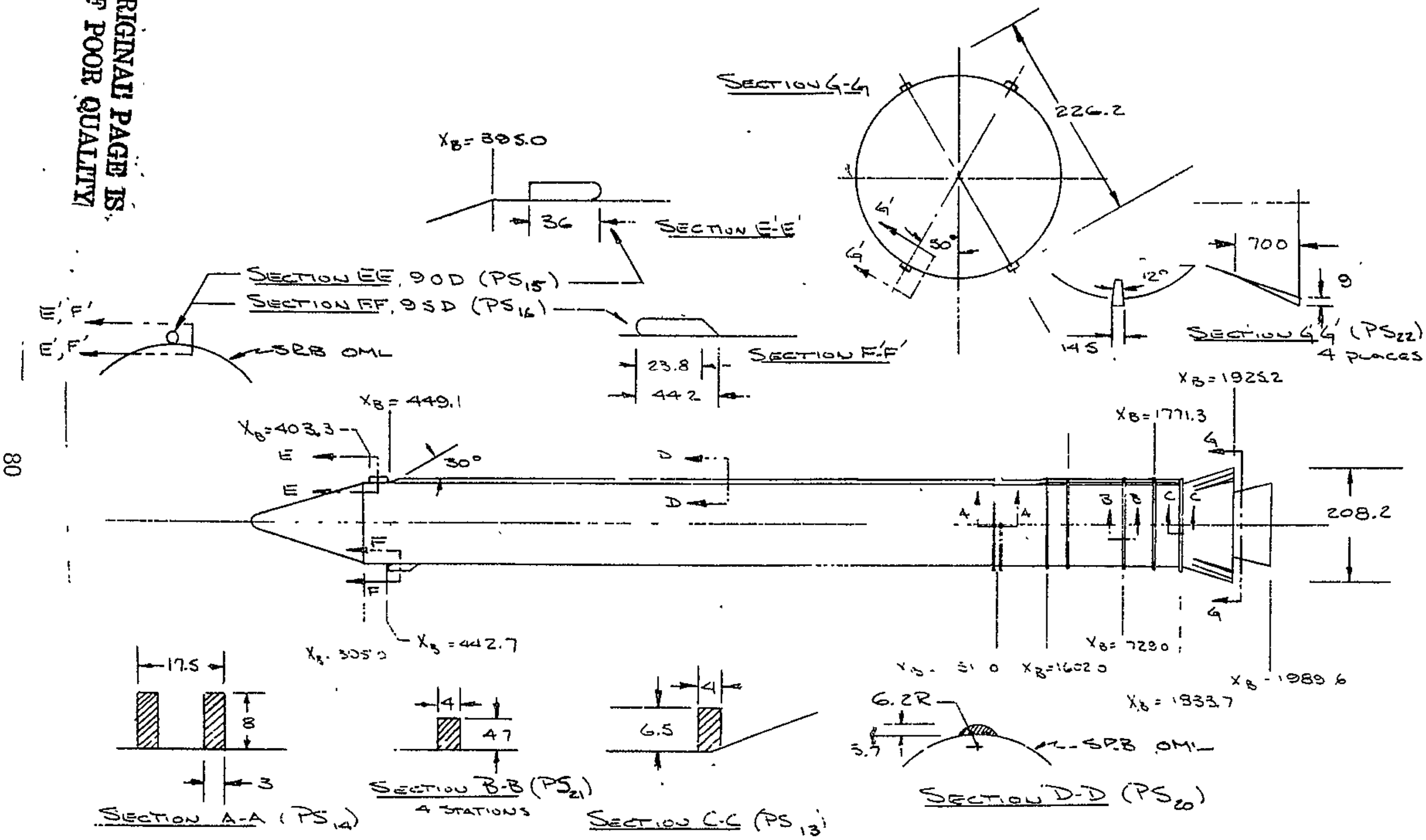
b. Orbiter (O_1) Components

Figure 2. - Continued.



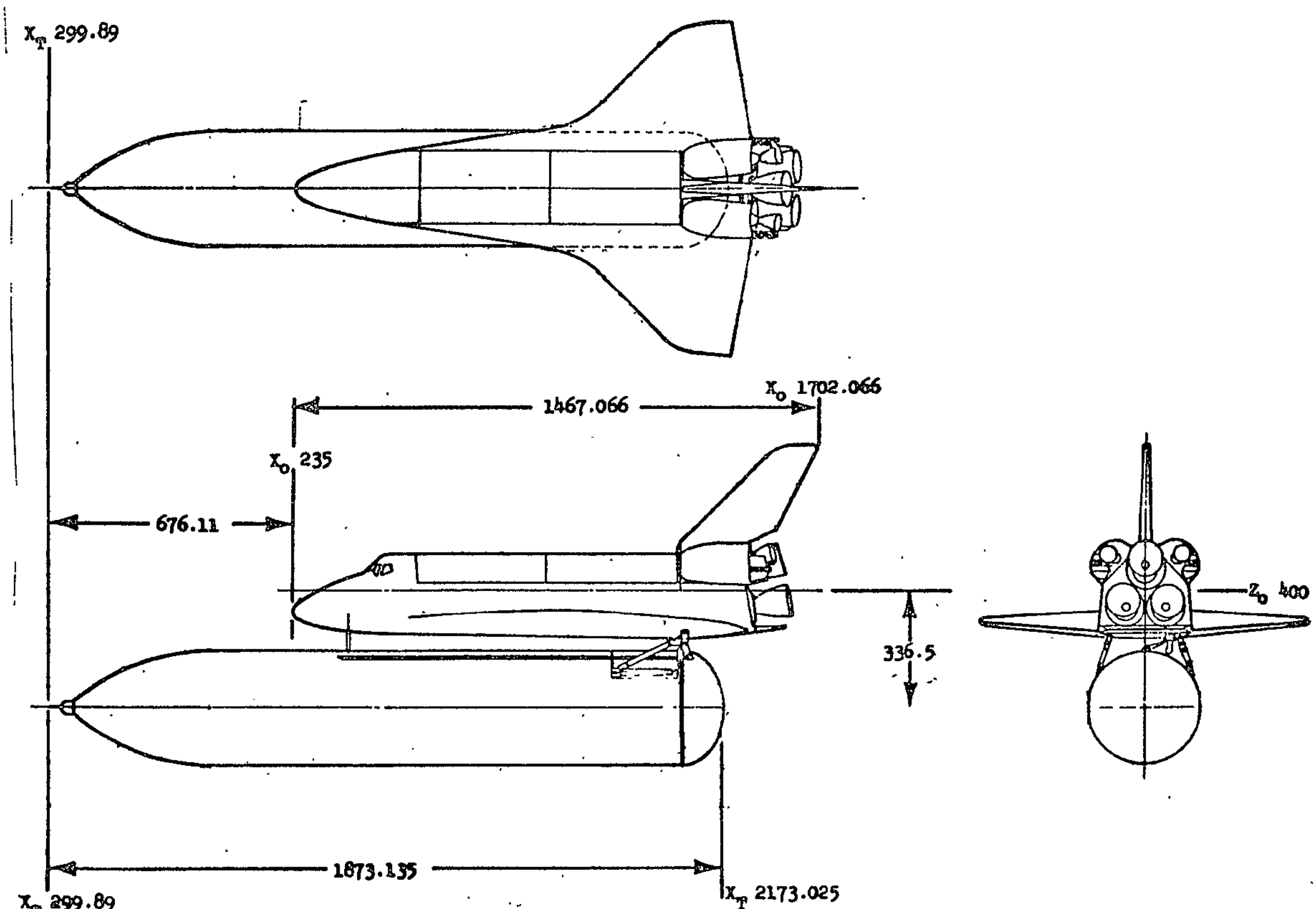
c. External Tank (T_{28}) Protrusions

Figure 2. - Continued.



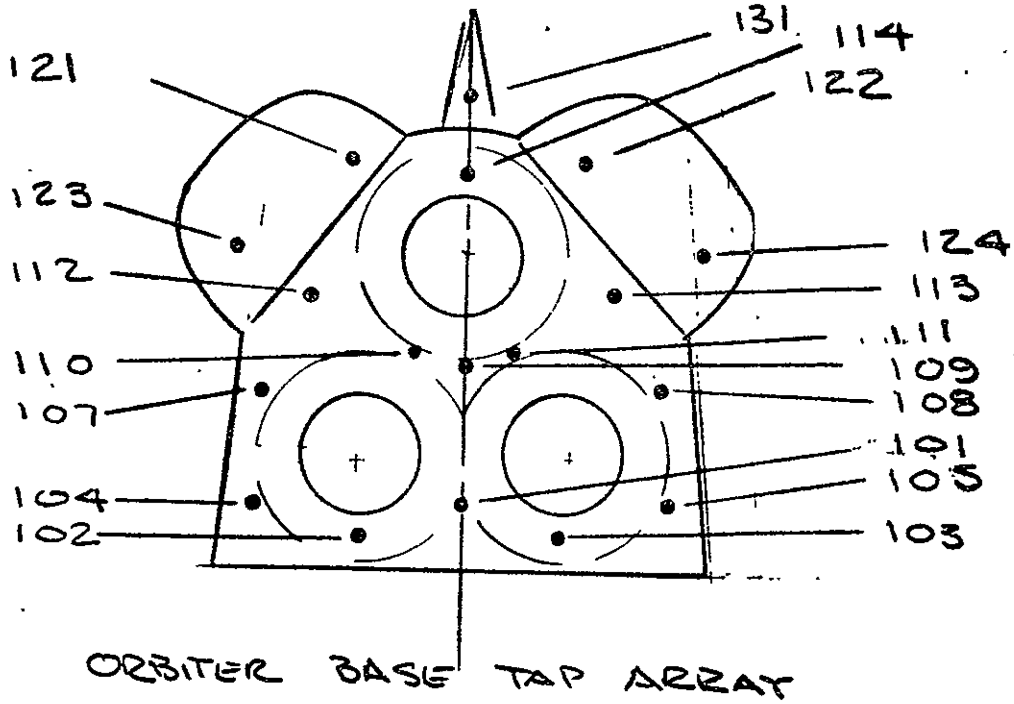
d. SRB (S_{22}) Protrusions

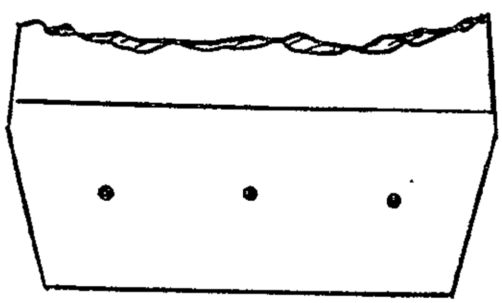
Figure 2. - Continued.



e. Integrated Space Shuttle Vehicle, Second Stage

Figure 2. - Continued.



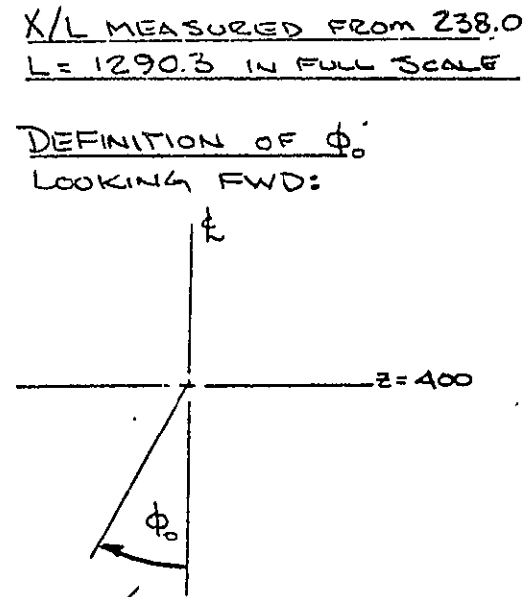


TOP	144	146	145
BOTTOM	141	142	143

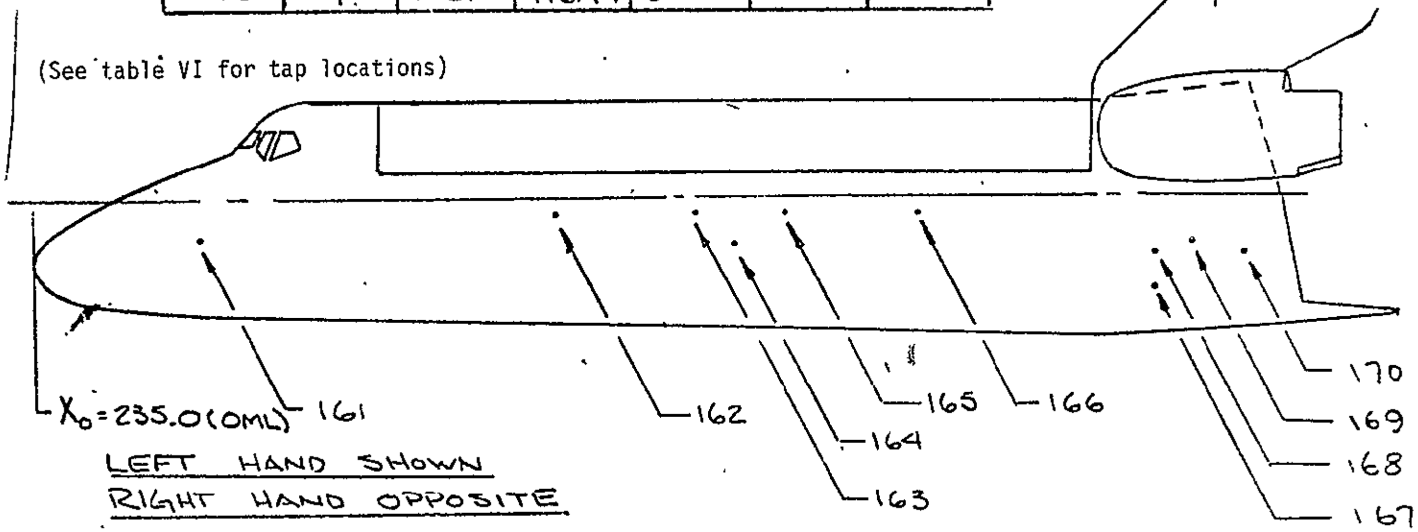
BODY FLAP PRESSURE TAPS

f. Orbiter Base and Body Flap Pressure Tap Array
Figure 2. - Continued.

TAP. No's		X_o Full Scale	Y_o Full Scale	Z_o Full Scale	X/L	ϕ_o
RH	LH					
151	161	395.63	78.28	358.13	0.127	61.8
152	162	764.25	105.00	385.24	0.410	82.0
153	163	905.00	105.00	385.24	0.520	82.0
154	164	932.12	105.00	357.07	0.540	61.7
155	165	994.62	105.00	385.24	0.586	82.0
156	166	1128.08	105.00	385.24	0.690	82.0
157	167	1373.75	112.09	311.00	0.880	51.6
158	168	1373.75	111.36	344.00	0.880	63.3
159	169	1390.25	112.74	357.50	0.893	69.3
160	170	1427.00	116.74	344.00	0.920	64.3



(See table VI for tap locations)

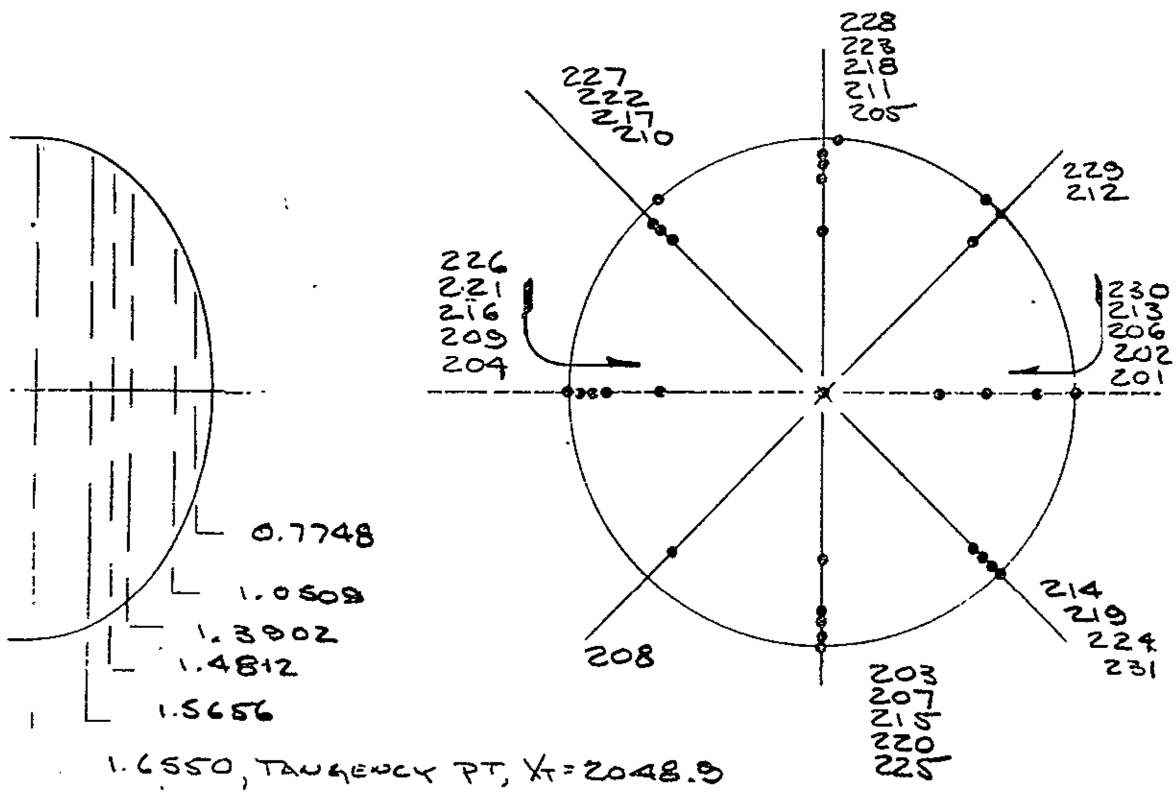


g. Orbiter Vent Pressure Tap Array

Figure 2. - Continued.

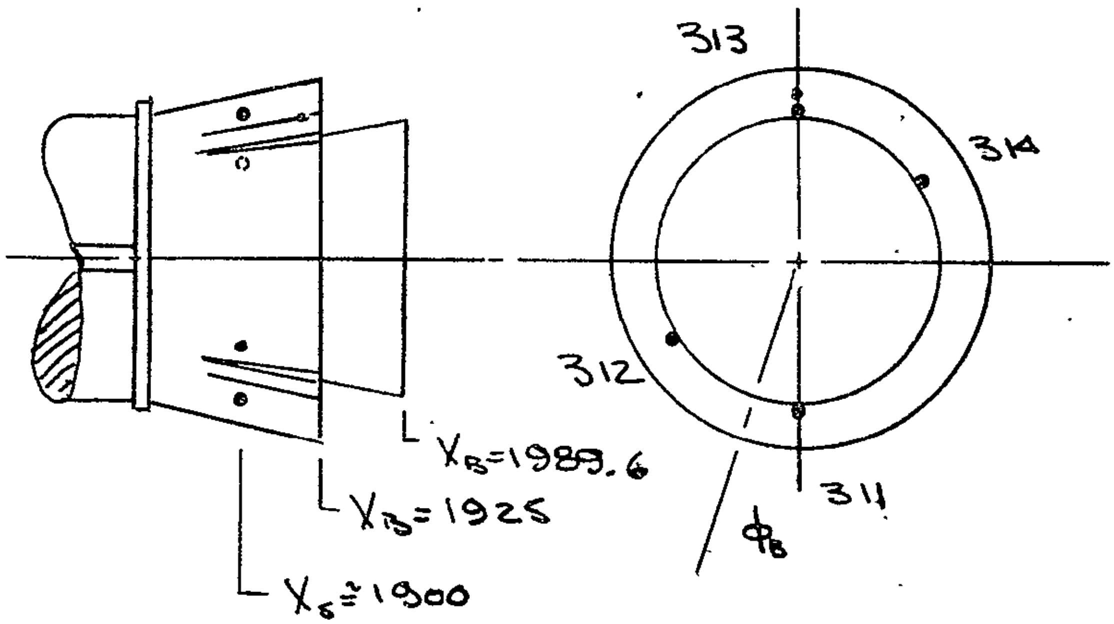
TAP NUMBER	R, IN	φ
201	0	—
202	0.7448	270
203	1.0509	0
204		90
205		180
206		270
207	1.3902	0
208		45
209		90
210		135
211		180
212		225
213		270
214		315
215	1.4812	0
216		90

TAP NUMBER	R, IN	φ
217	1.4812	135
218		180
219		315
220	1.5656	0
221		90
222		135
223		180
224		315
225	1.6550	0
226		90
227		141
228		186
229		219
230		270
231		315



h. ET Base Pressure Tap Array

Figure 2. - Continued.



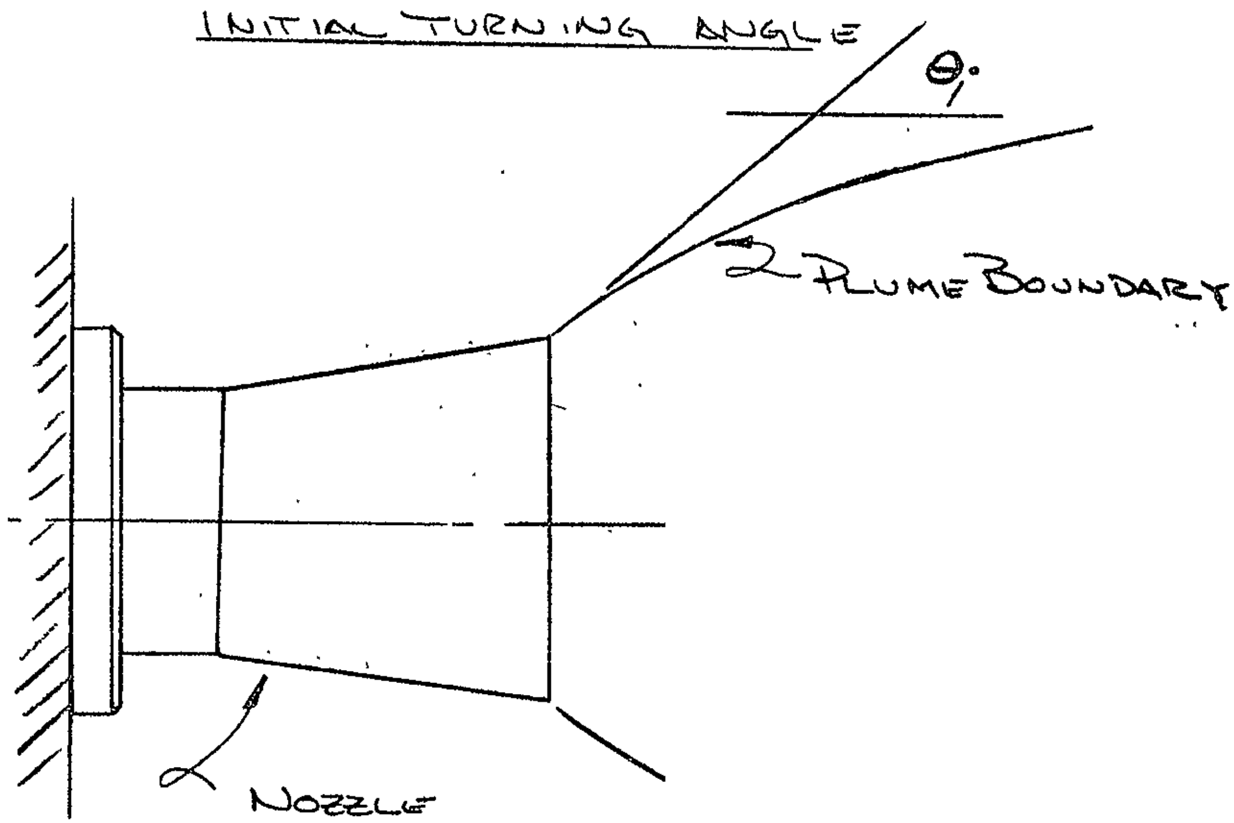
LEFT HAND SHOWN

TAPS ARE FREE STANDING INSIDE SKIRT

TAP NO's		X_B		R.H. ϕ_B	L.H. ϕ_B
RH	LH				
301	311	1900		0°	0°
302	312			120	60
303	313			180	180
304	314			300	240

i. SRM Base Pressure Tap Array

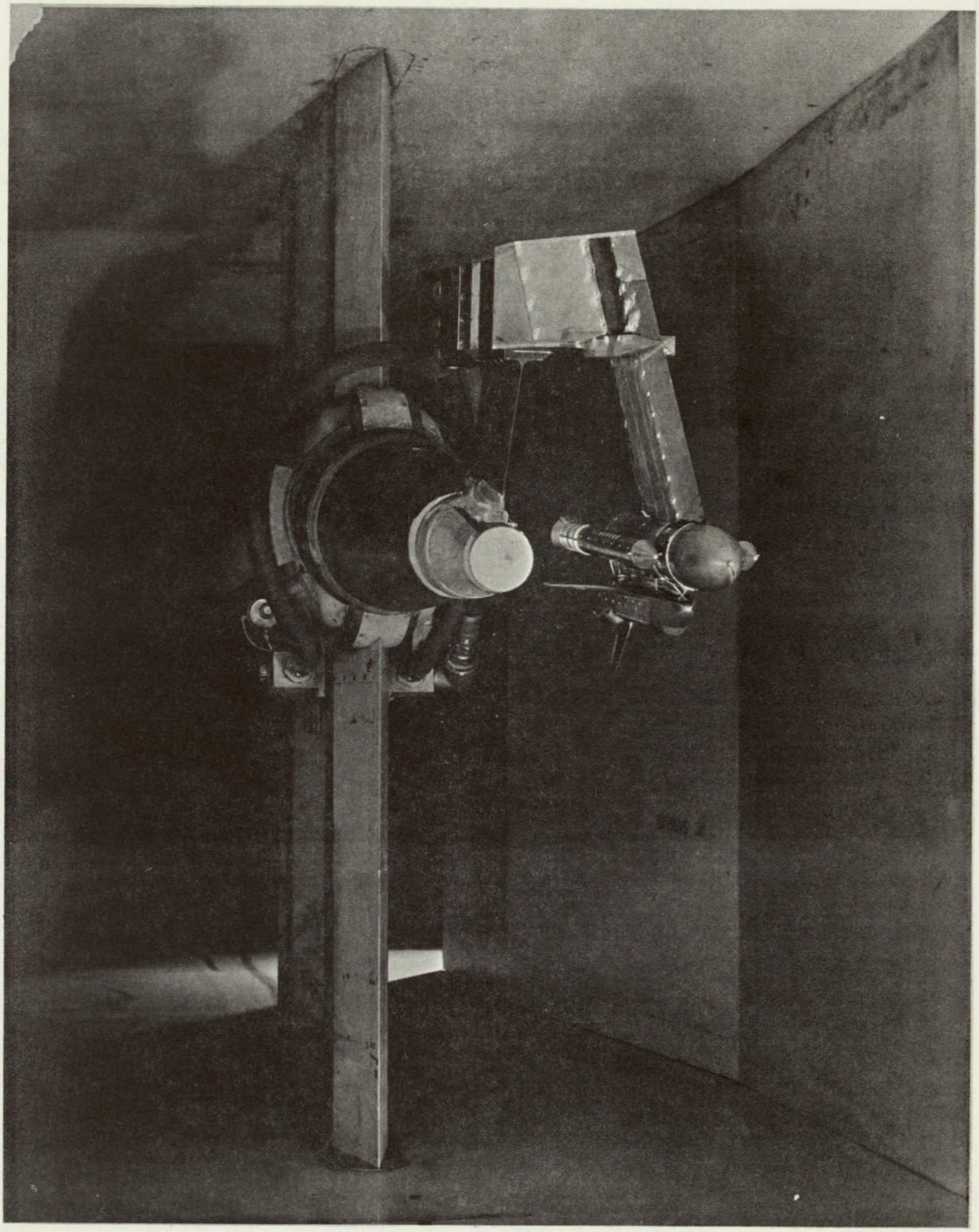
Figure 2. - Continued.



θ_i IS THE PLUME EXIT ANGLE MEASURED RELATIVE TO THE NOZZLE CENTERLINE. NOMINAL IS INDICATIVE OF THE PROTOTYPE PLUME SHAPE AND INITIAL TURNING ANGLE; LESS THAN NOMINAL INDICATES A SMALLER AND GREATER THAN NOMINAL A LARGER THAN PROTOTYPE PLUME.

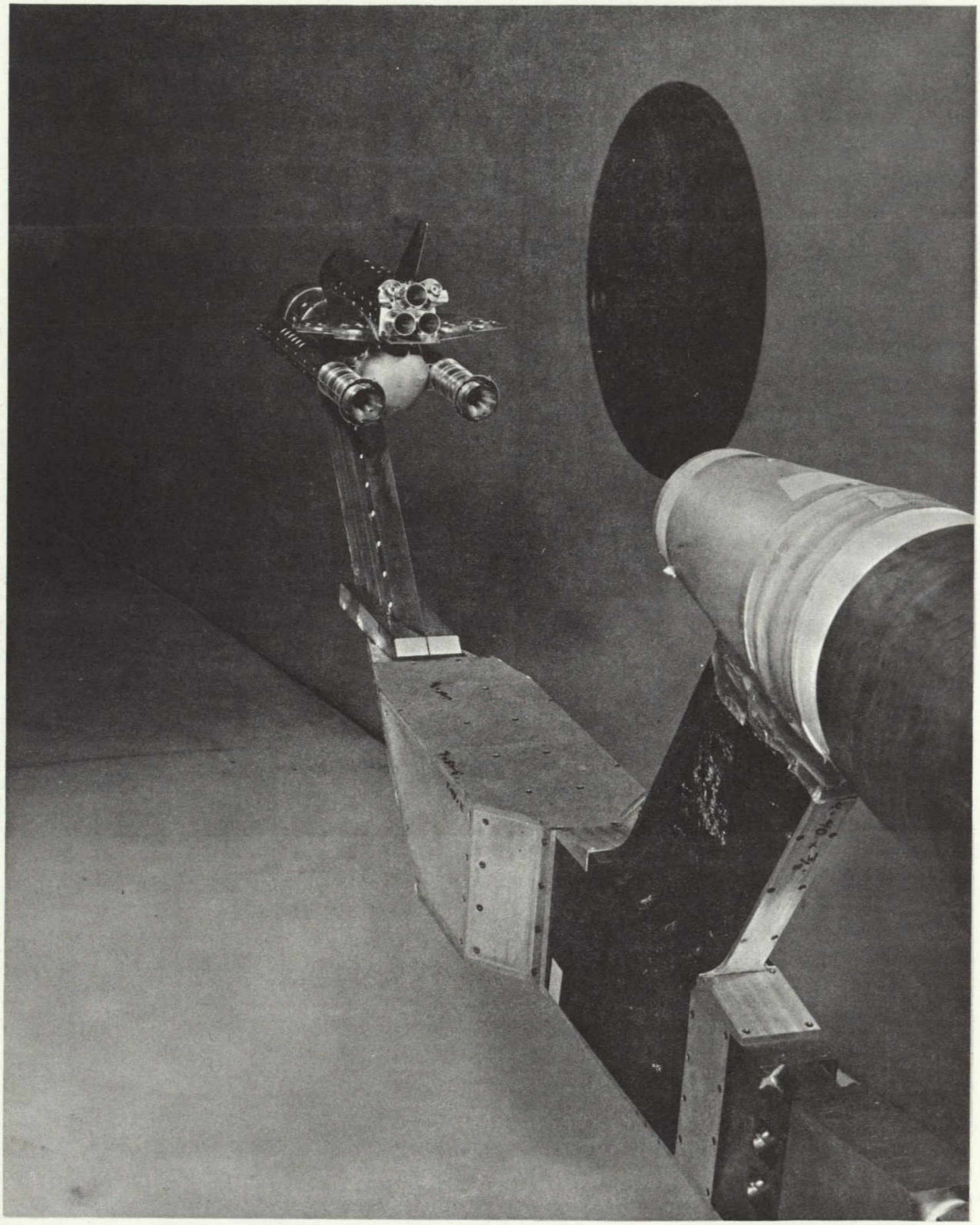
j. Definition of Θ_i

Figure 2. - Concluded.



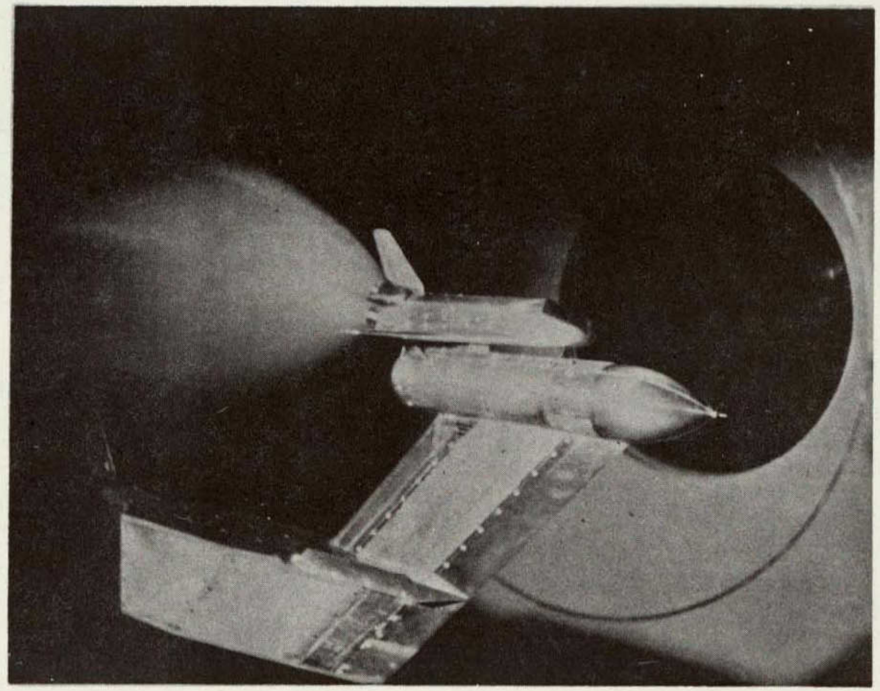
a. 75-OTS in the ARC 8 x 7 Wind Tunnel, 3/4 Front View

Figure 3. Model photographs.



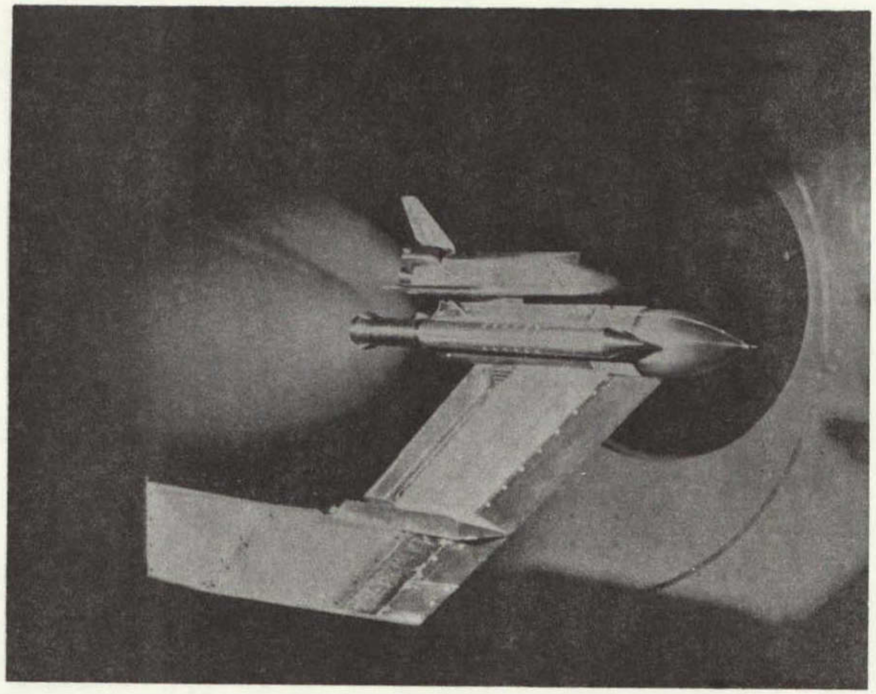
b. 75-OTS in the ARC 8 x 7 Wind Tunnel, 3/4 Rear View

Figure 3. - Continued.



c. 75-OT in the ARC 8 x 7 Wind Tunnel, α=-4°, P_c/P_∞>>N

Figure 3. - Continued.



d. 75-OTS in the ARC 8 x 7 Wind Tunnel, $\alpha=0°$, $P_c/P_\infty >> N$

Figure 3. - Concluded.

DATA

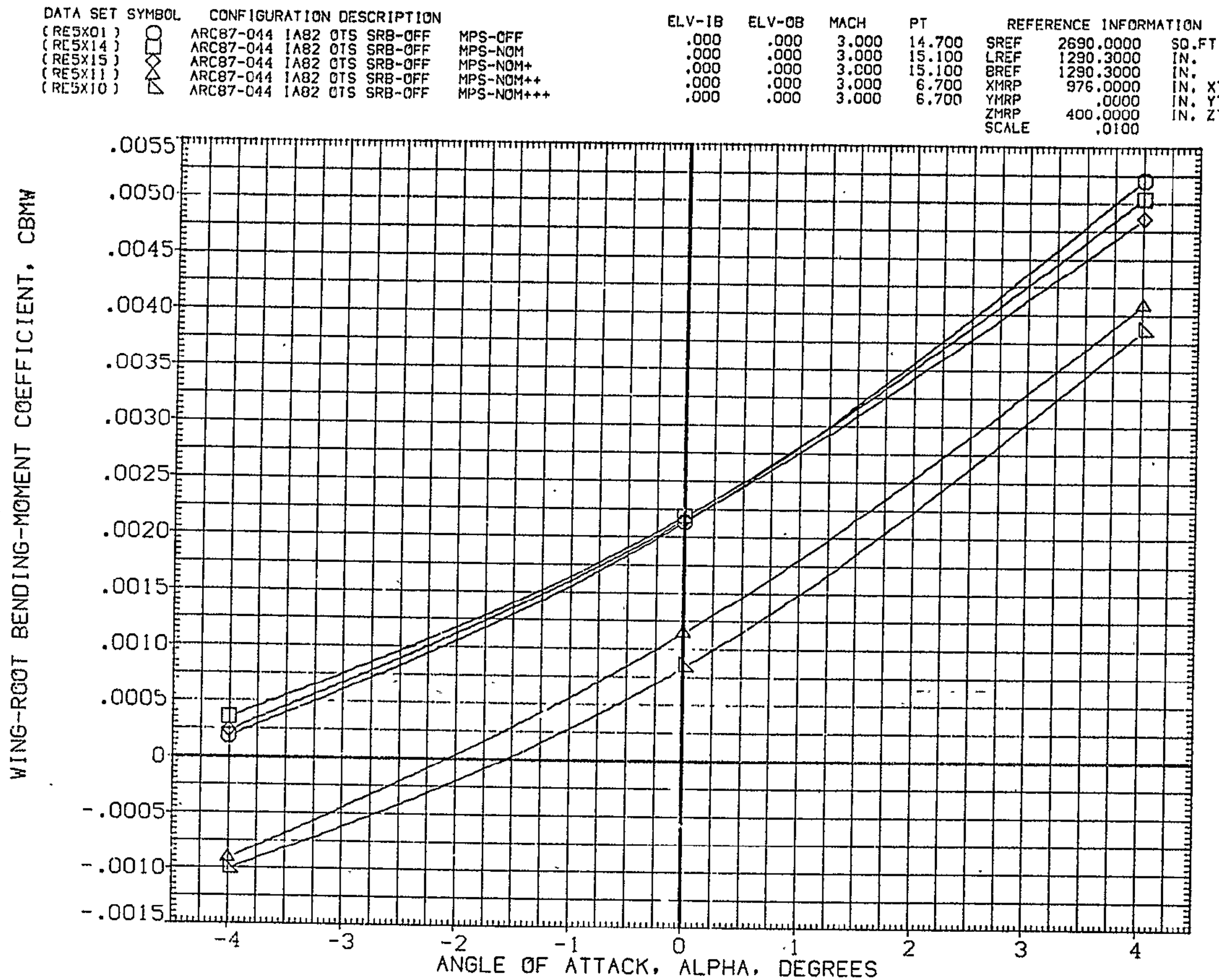


FIG. 4 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

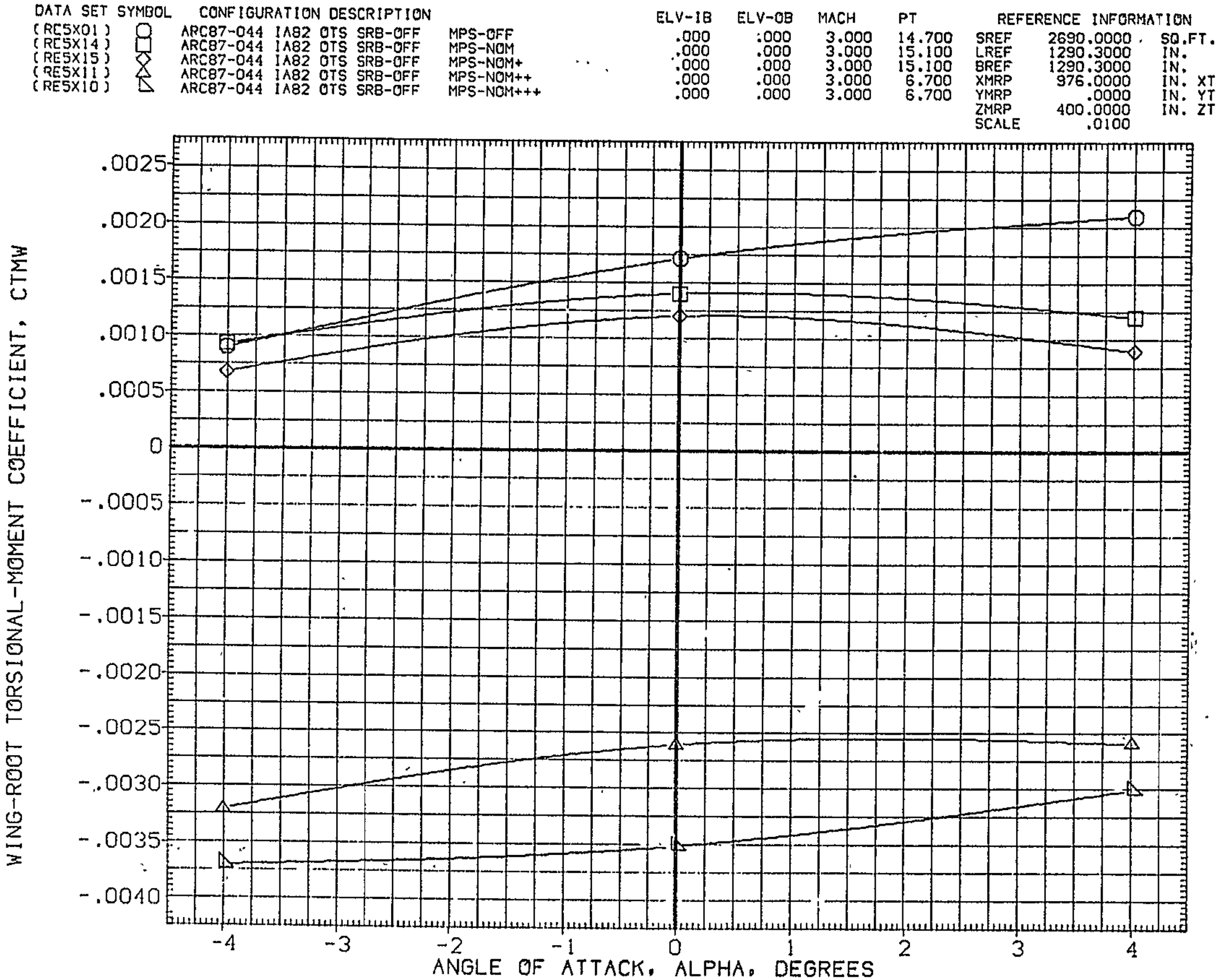


FIG. 4 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5X14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5X15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5X11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700	XMRP	976.0000	IN. XT
(RE5X10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700	YMRP	.0000	IN. YT
								ZMRP	400.0000	IN. ZT
								SCALE	.0100	

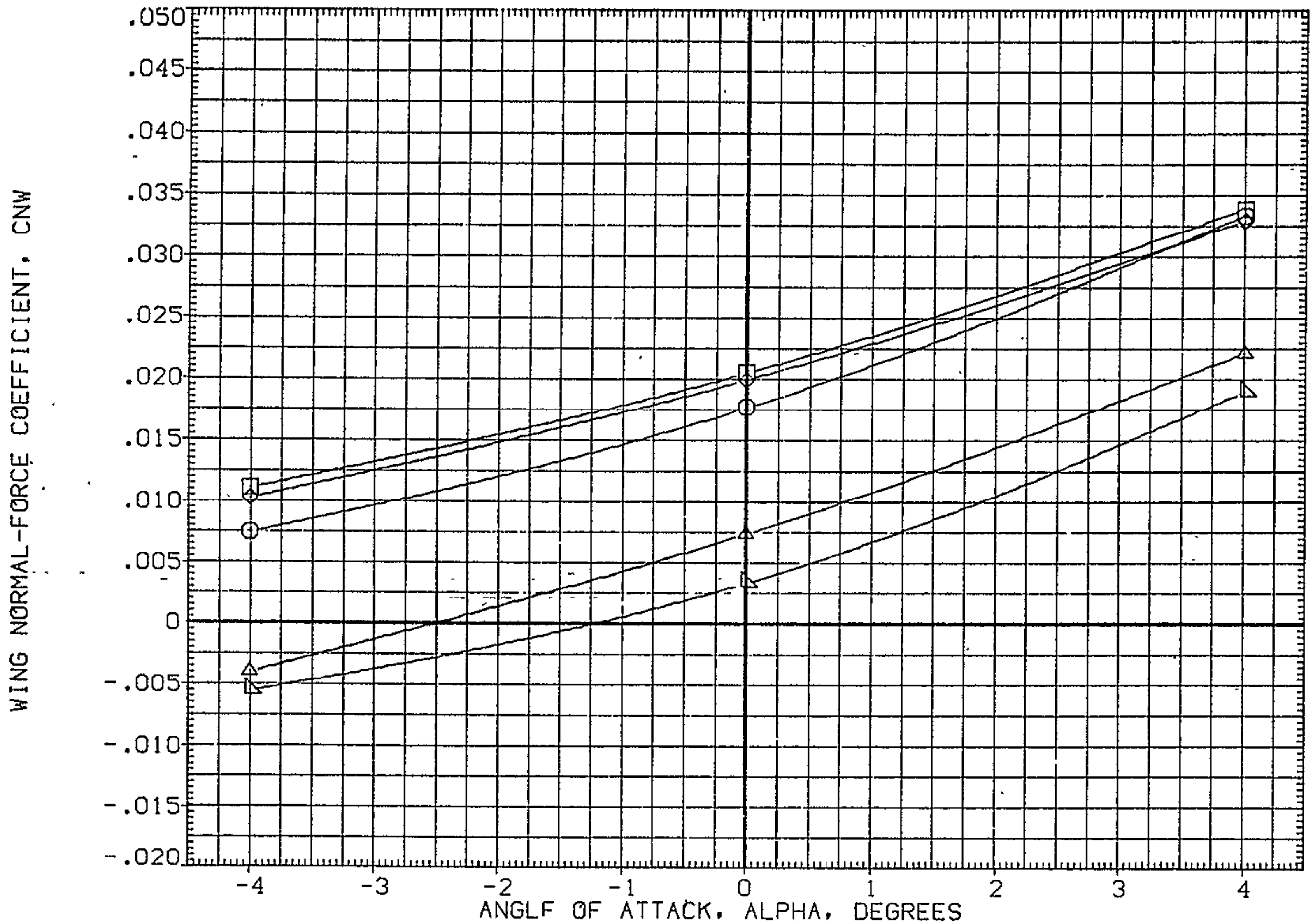


FIG. 4 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

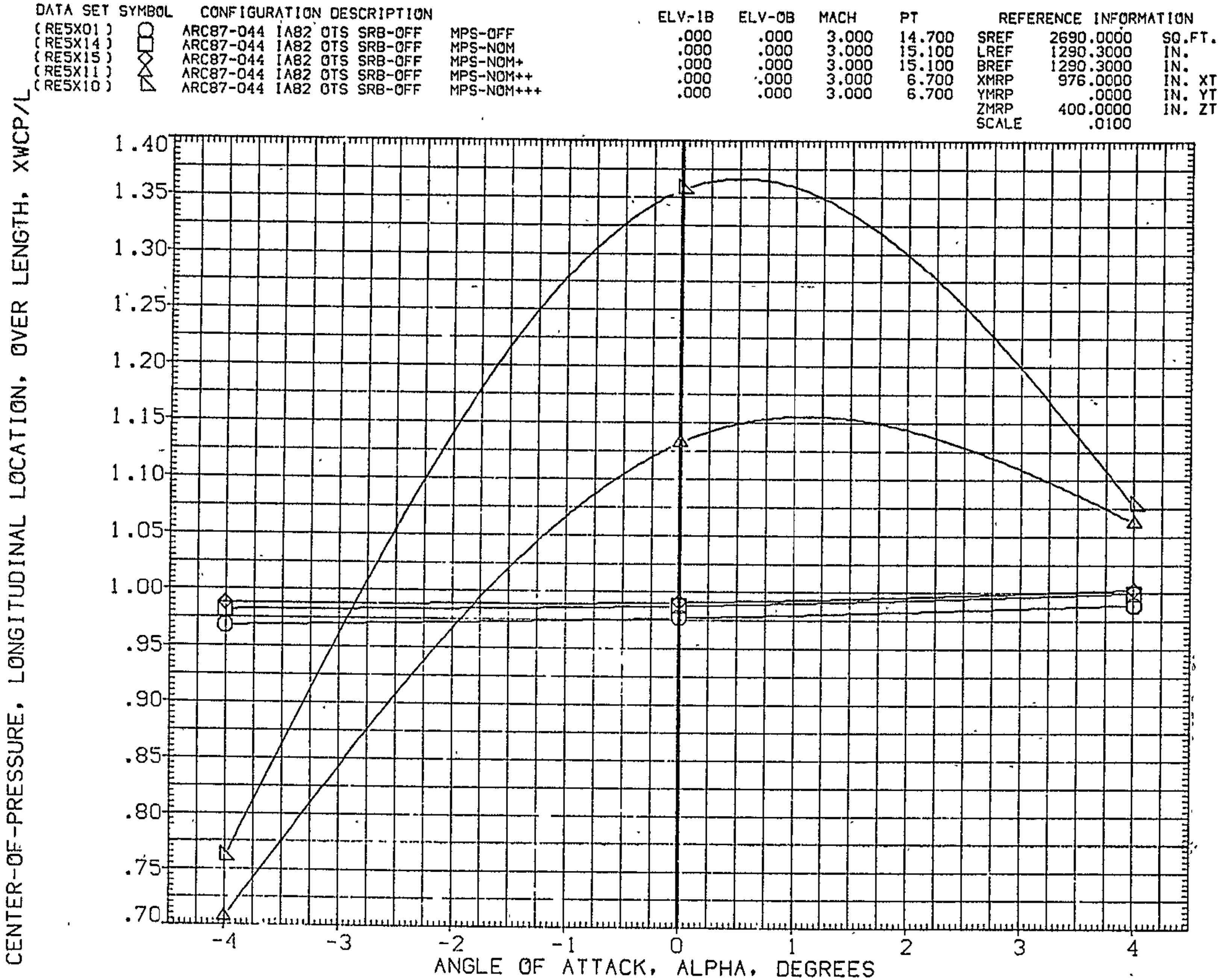


FIG. 4 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5X15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM>	.000	.000	3.000	15.100
(RE5X11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5X10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

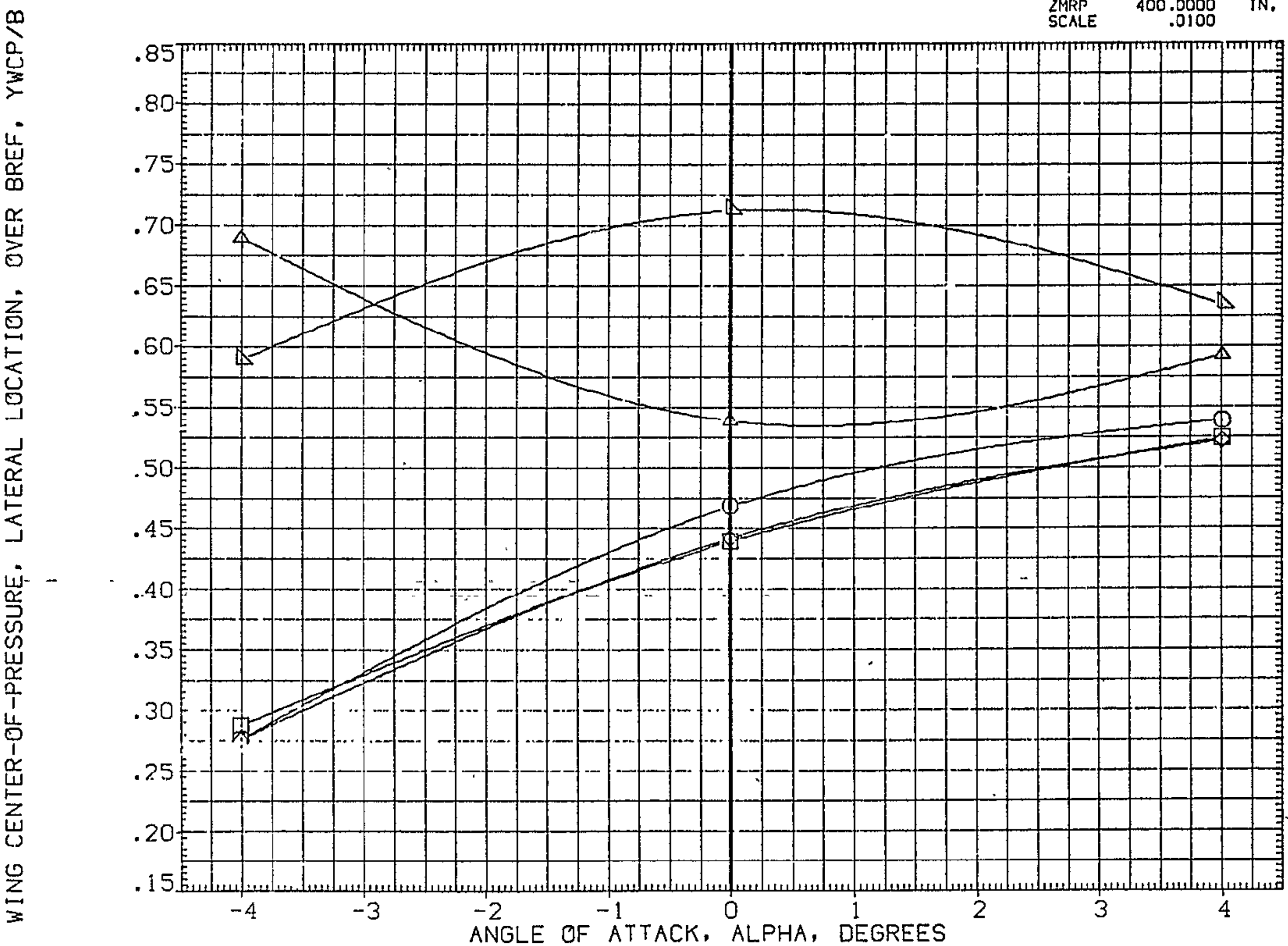


FIG. 4 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5X21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5X27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5X28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

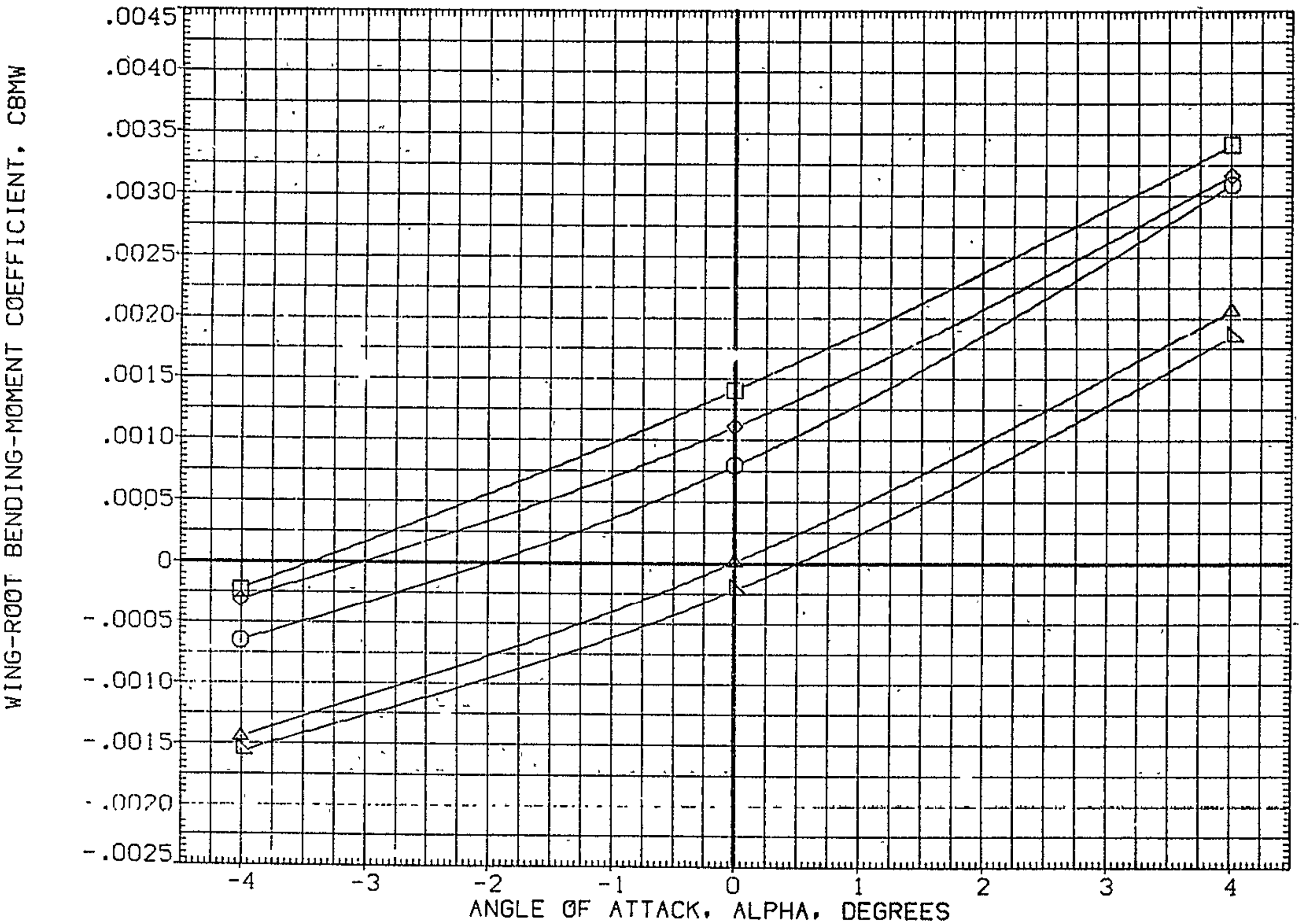


FIG. 5 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5X21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5X27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5X28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

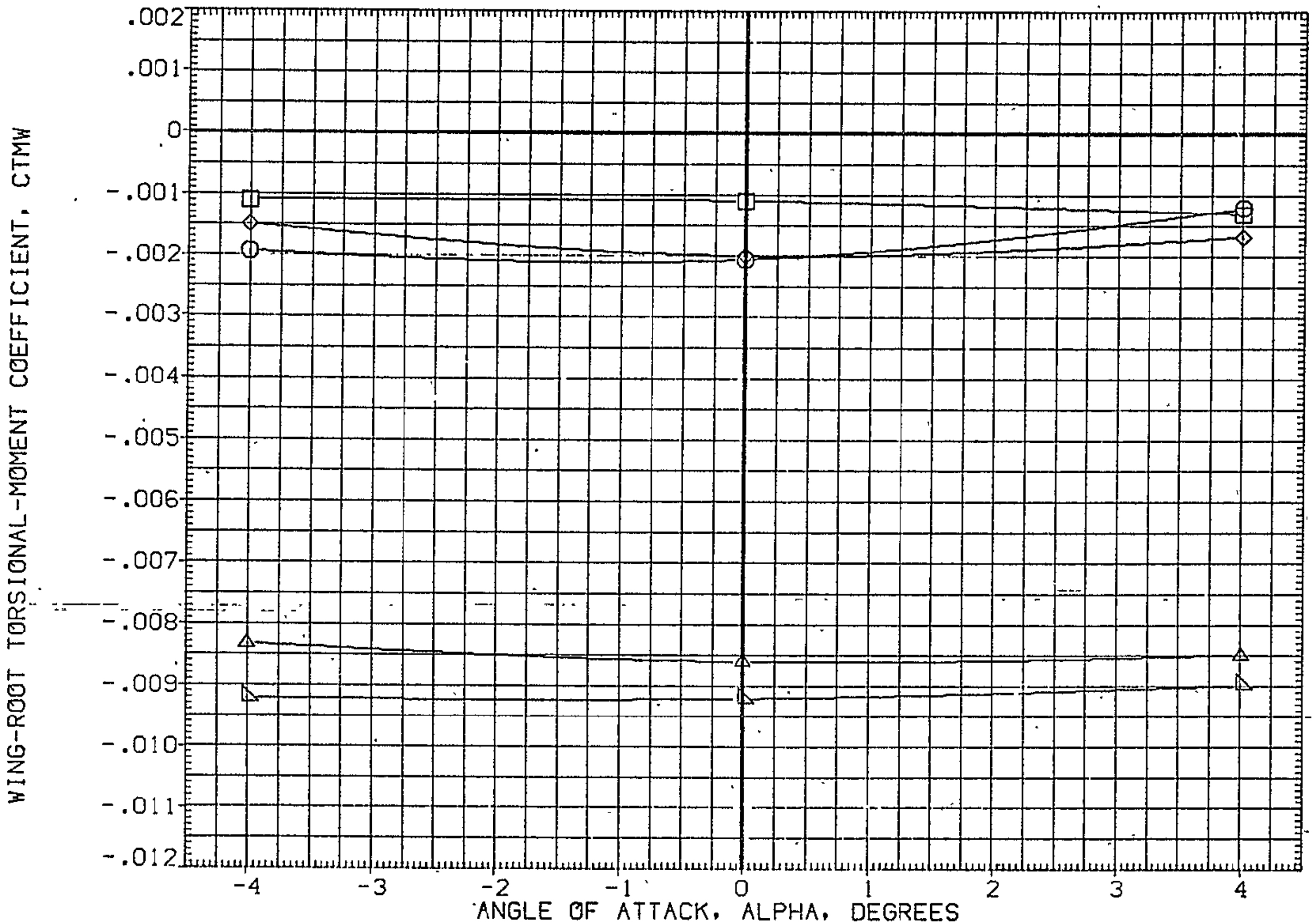


FIG. 5 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5X21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5X27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5X28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

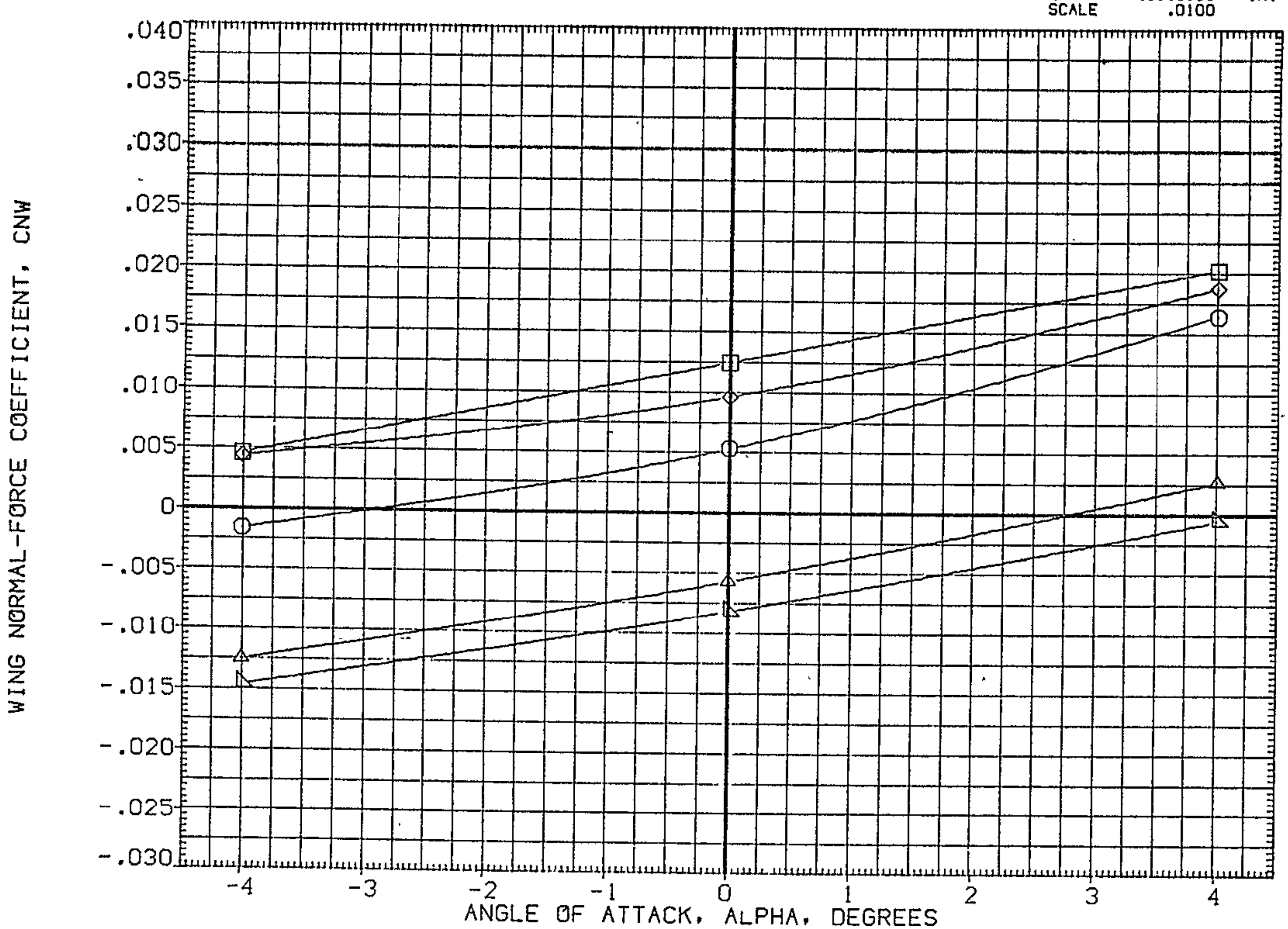


FIG. 5 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

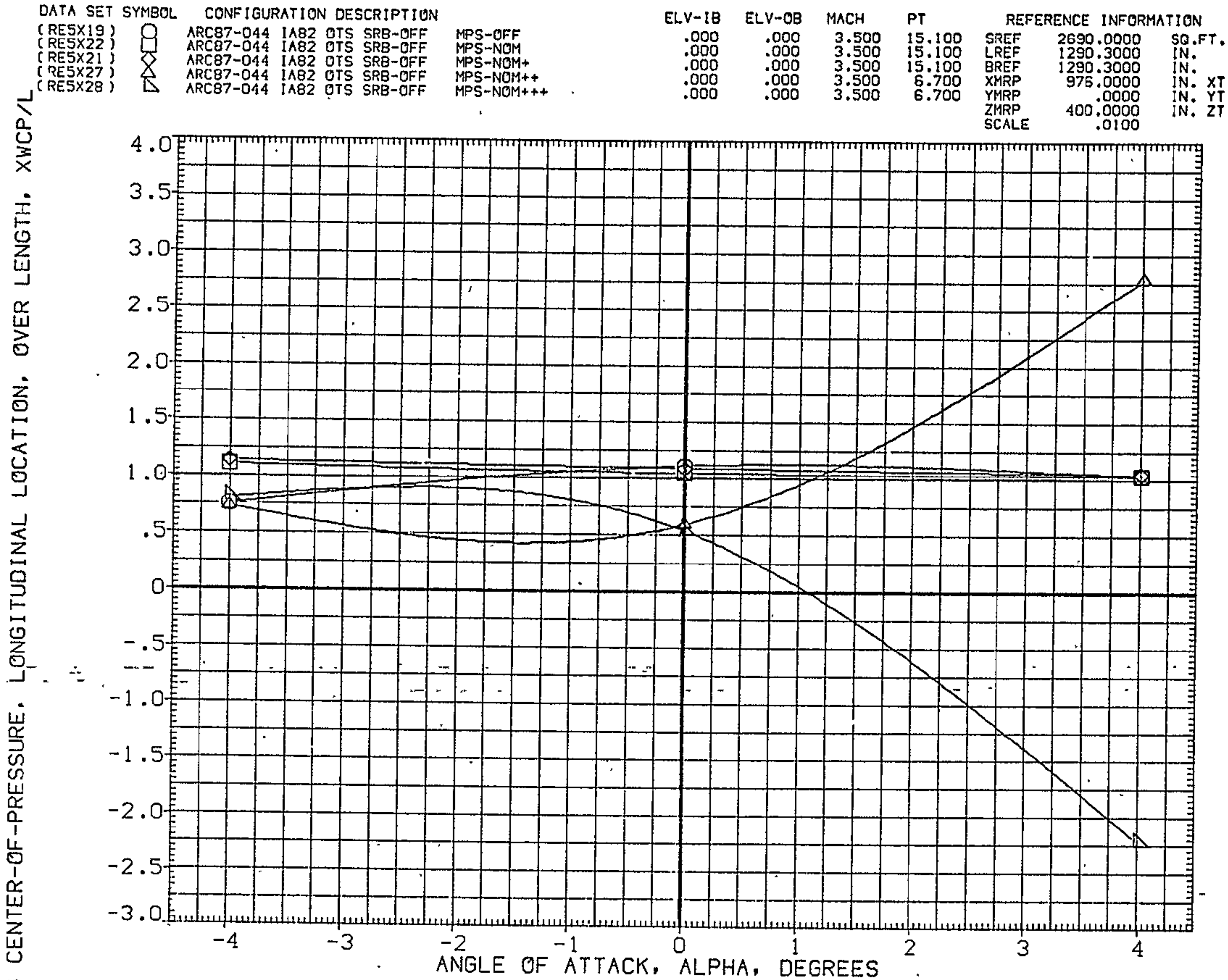


FIG. 5 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5X21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5X27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5X28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

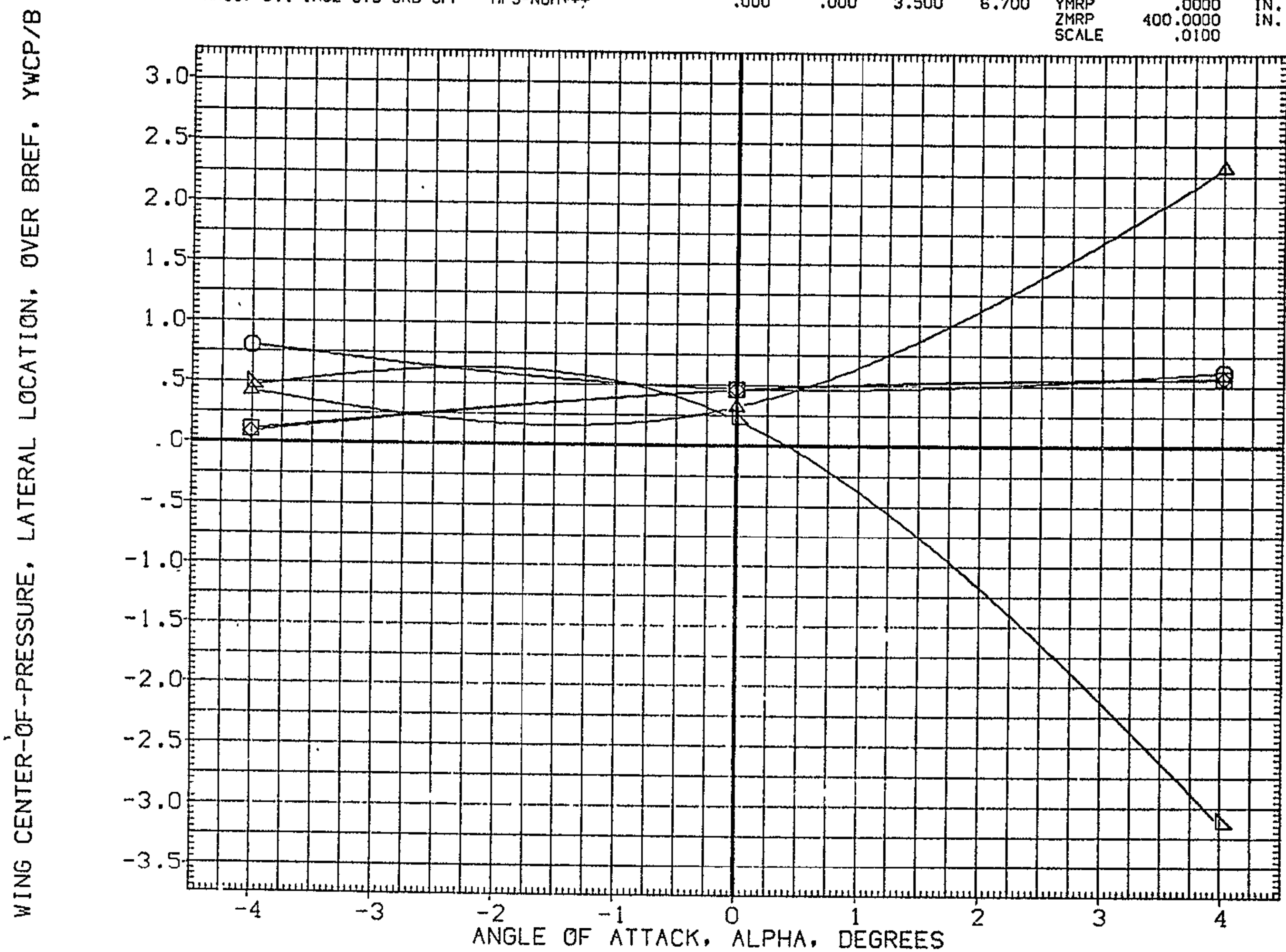


FIG. 5 MPS PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5X14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5X15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5X11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700	XMRP	976.0000	IN. XT
(RE5X10)	⊿	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700	YMRP	.0000	IN. YT
								ZMRP	400.0000	IN. ZT
								SCALE	.0100	

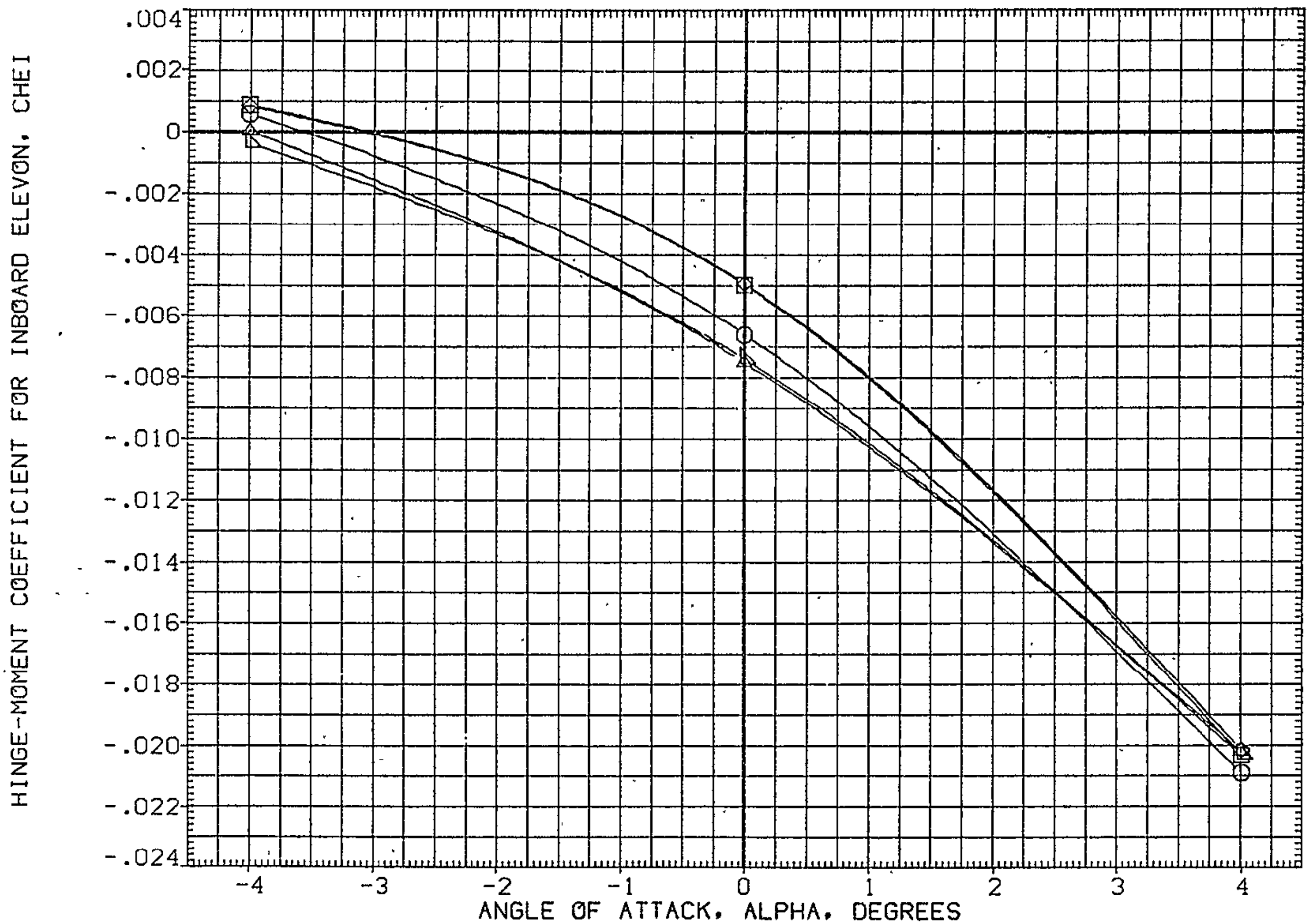


FIG. 6 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.0

(A)BETA = .00

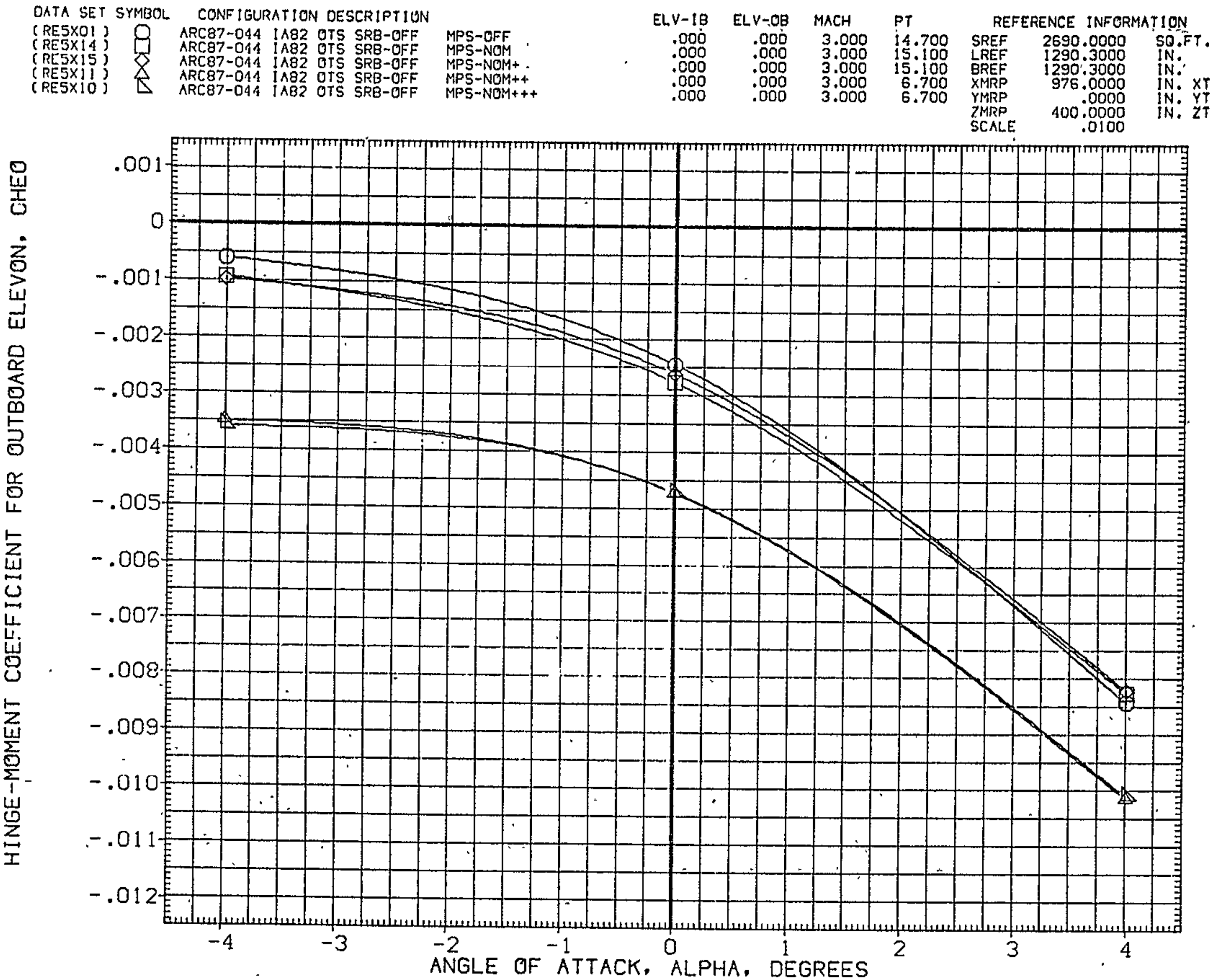


FIG. 6 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)		ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X22)		ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5X21)		ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5X27)		ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5X28)		ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

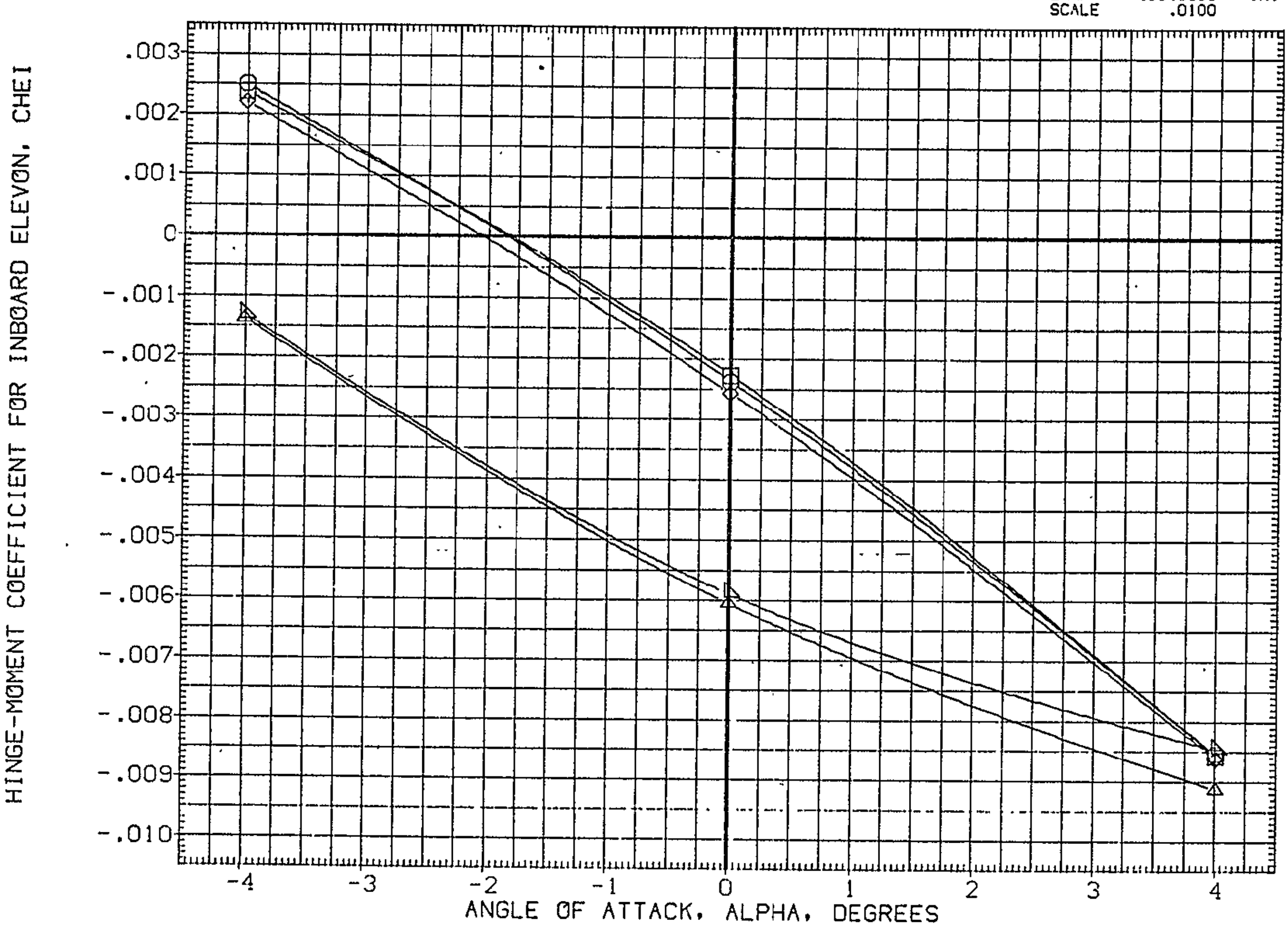


FIG. 7 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5X21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5X27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5X28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

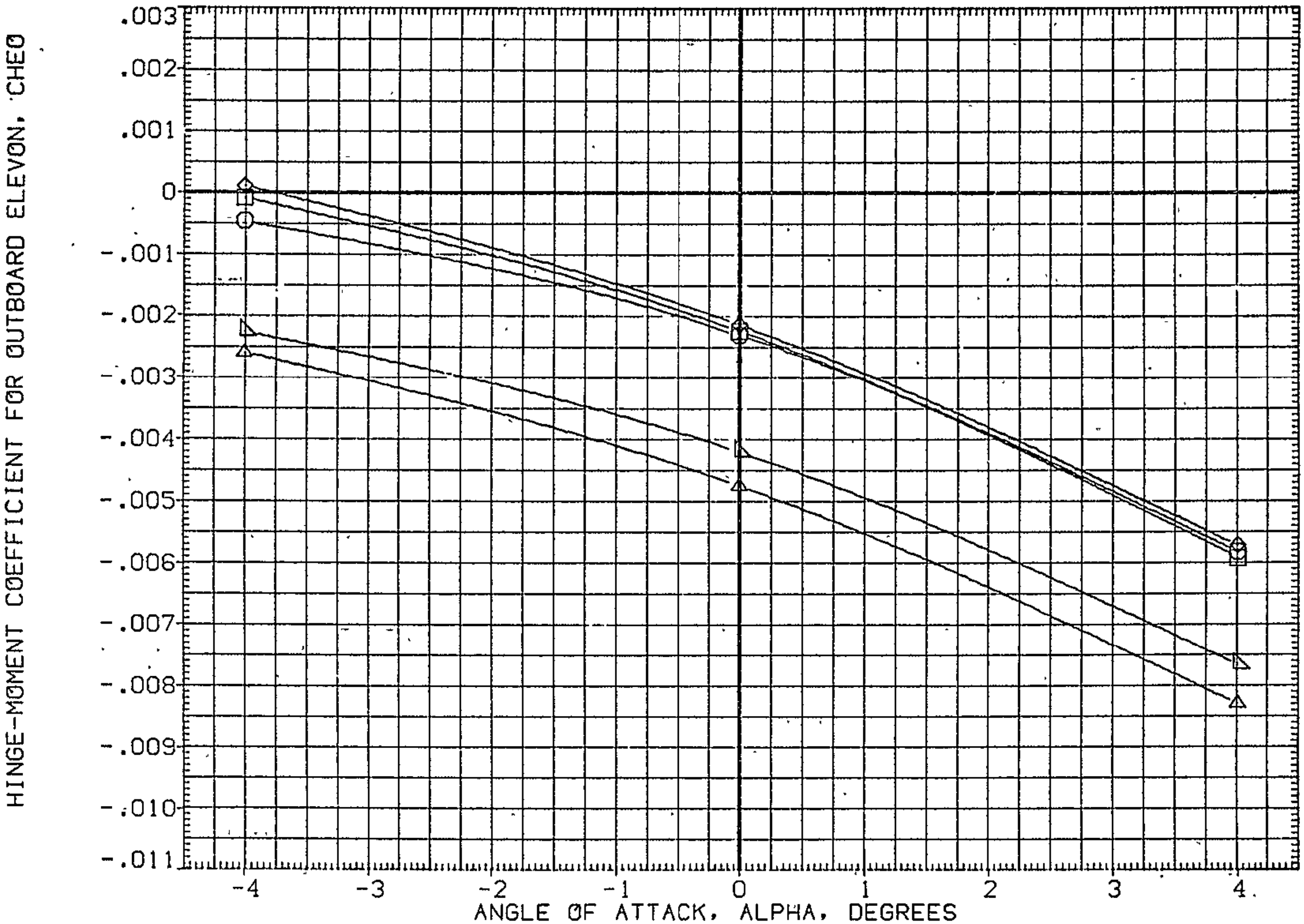


FIG. 7 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5Y15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100
(RE5Y11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5Y10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

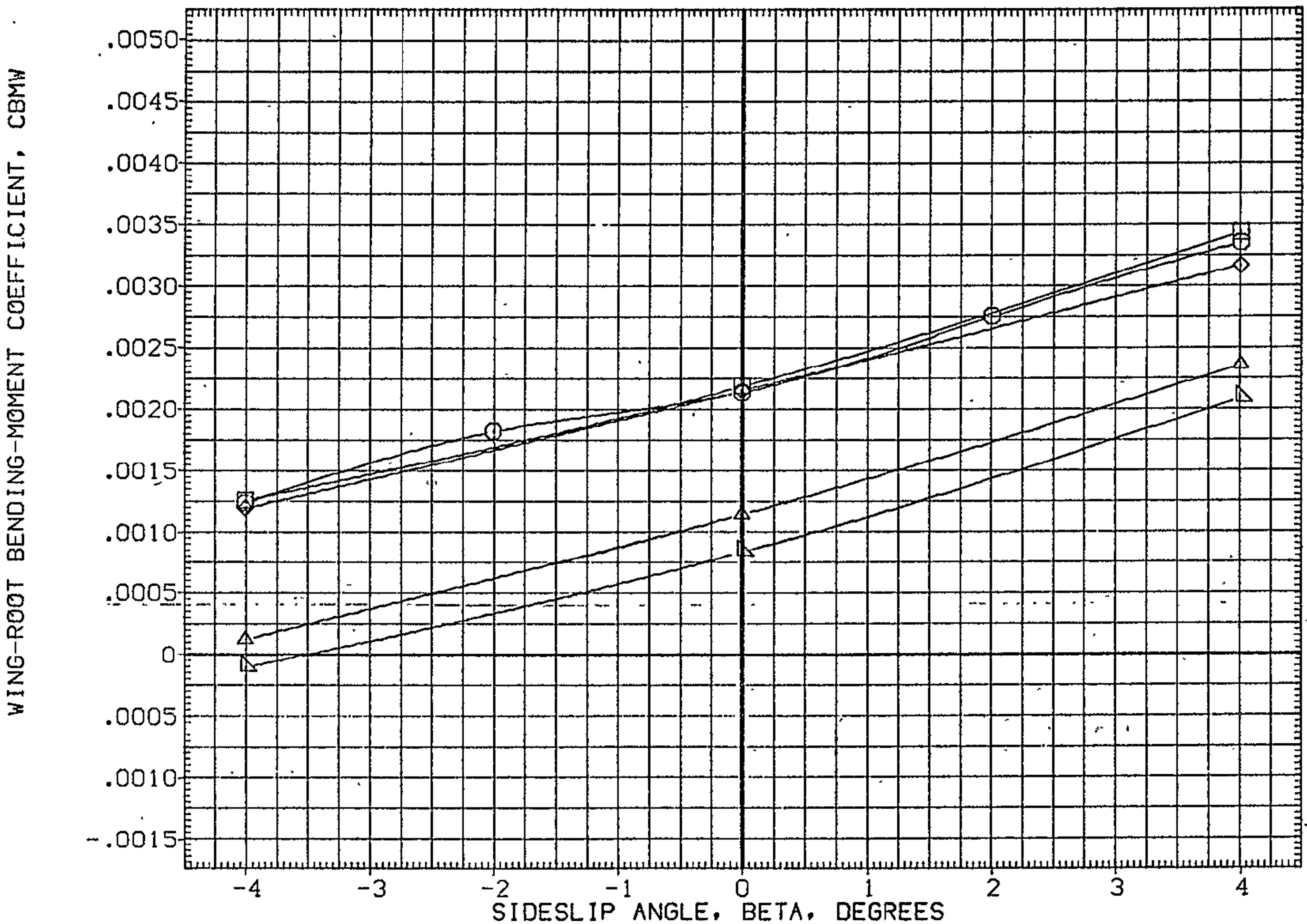


FIG. 8 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5Y15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100
(RE5Y11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5Y10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

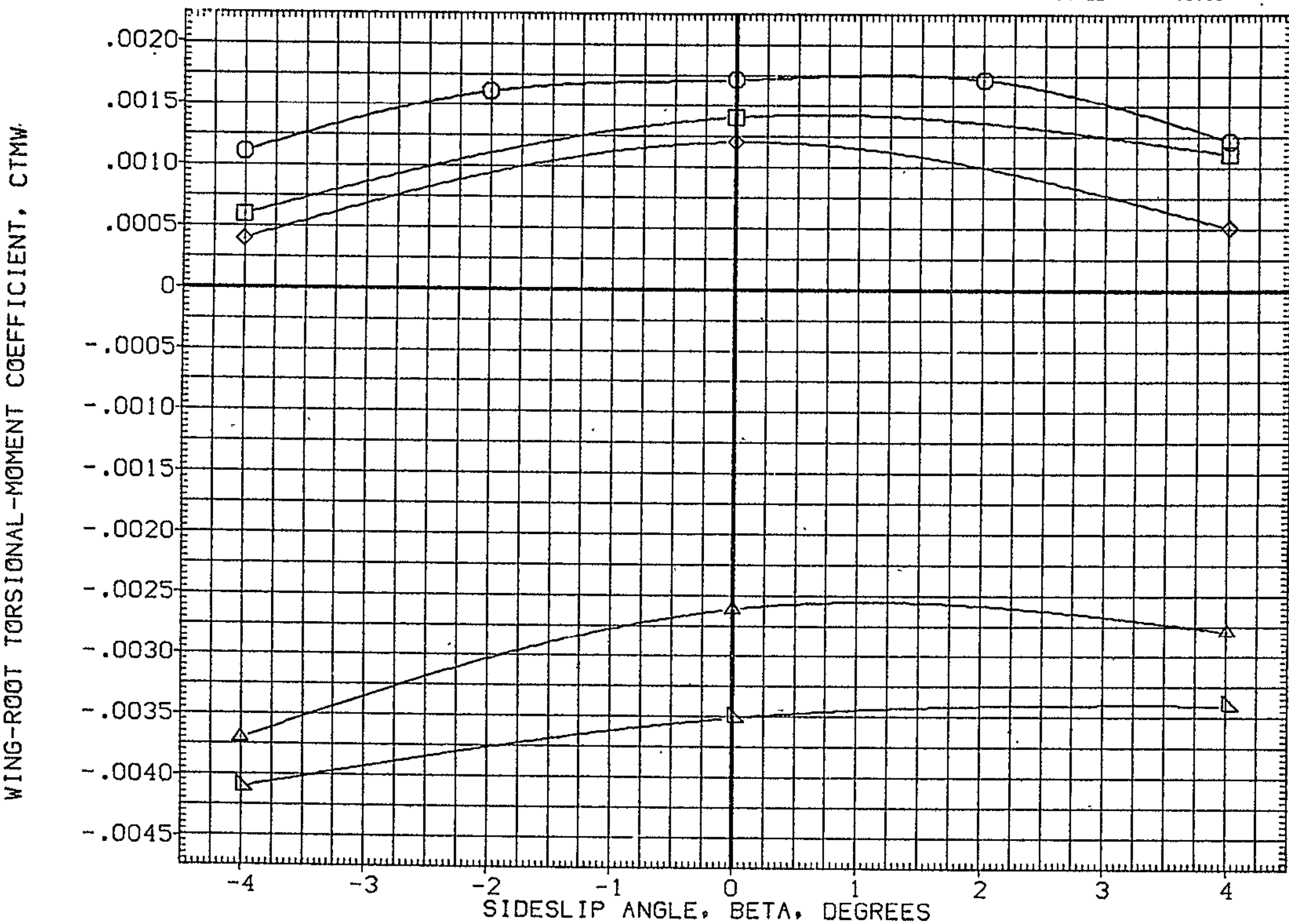


FIG. 8 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	FLV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5Y15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100
(RE5Y11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5Y10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

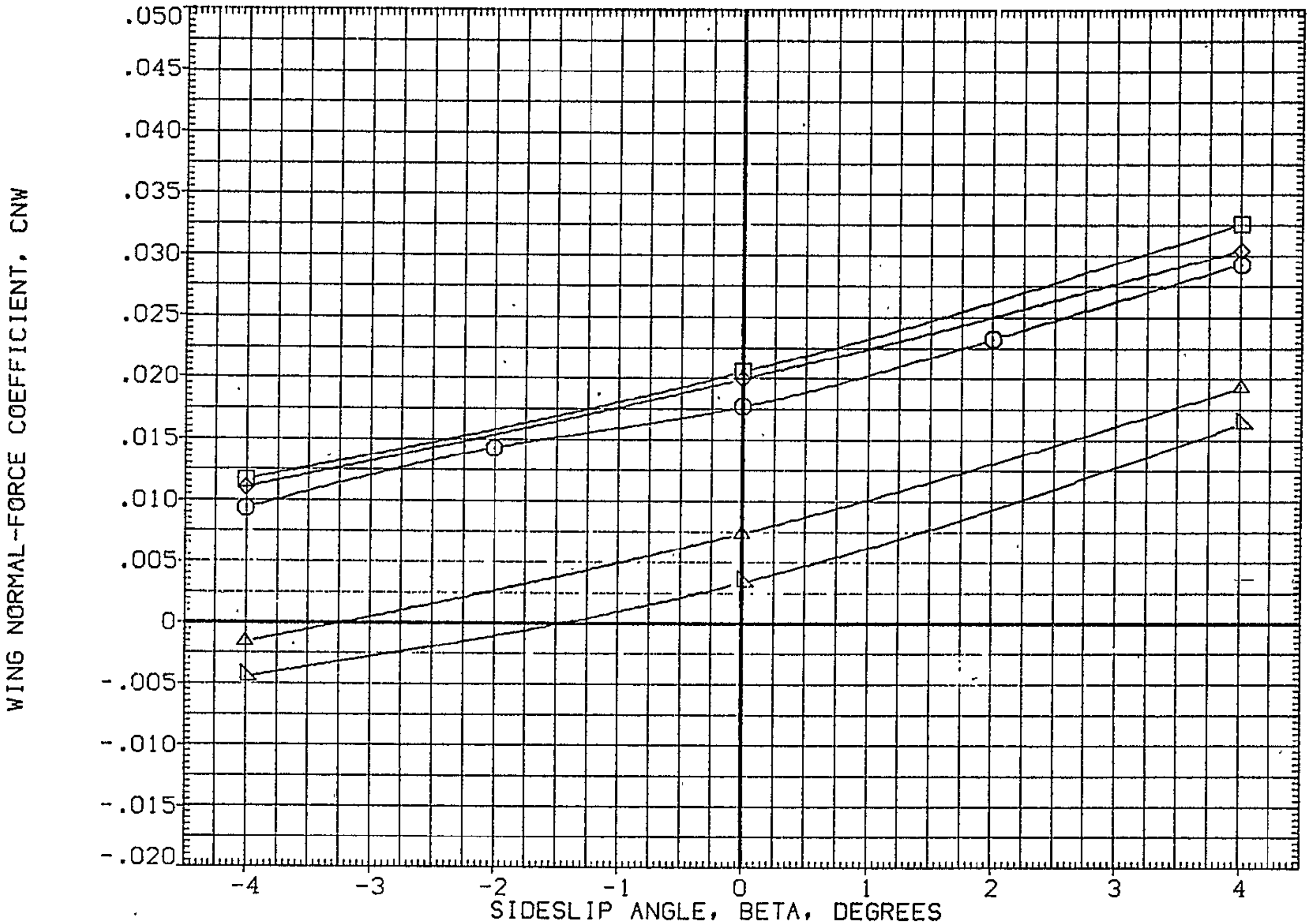


FIG. 8 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5Y15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100
(RE5Y11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5Y10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

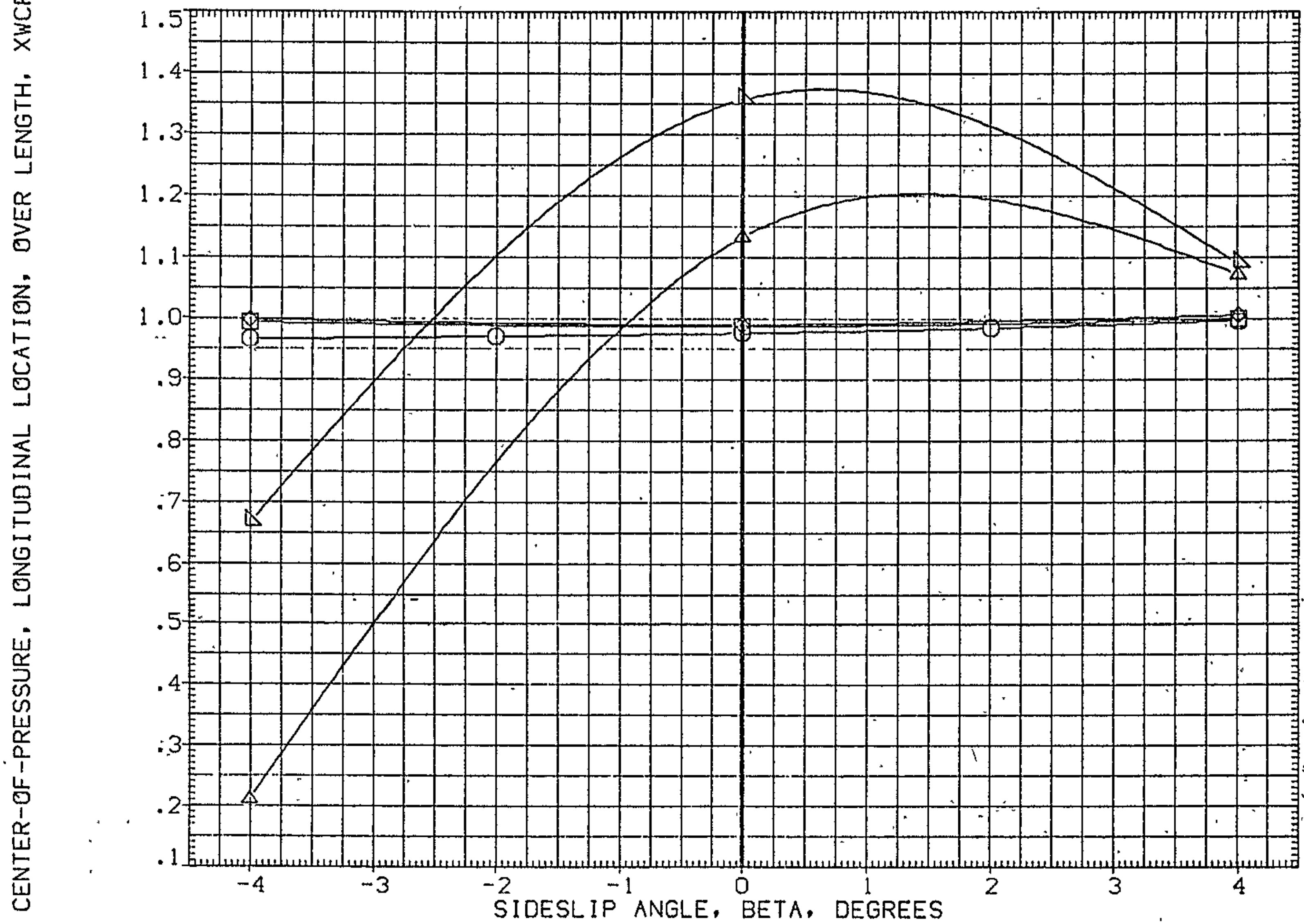


FIG. 8 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

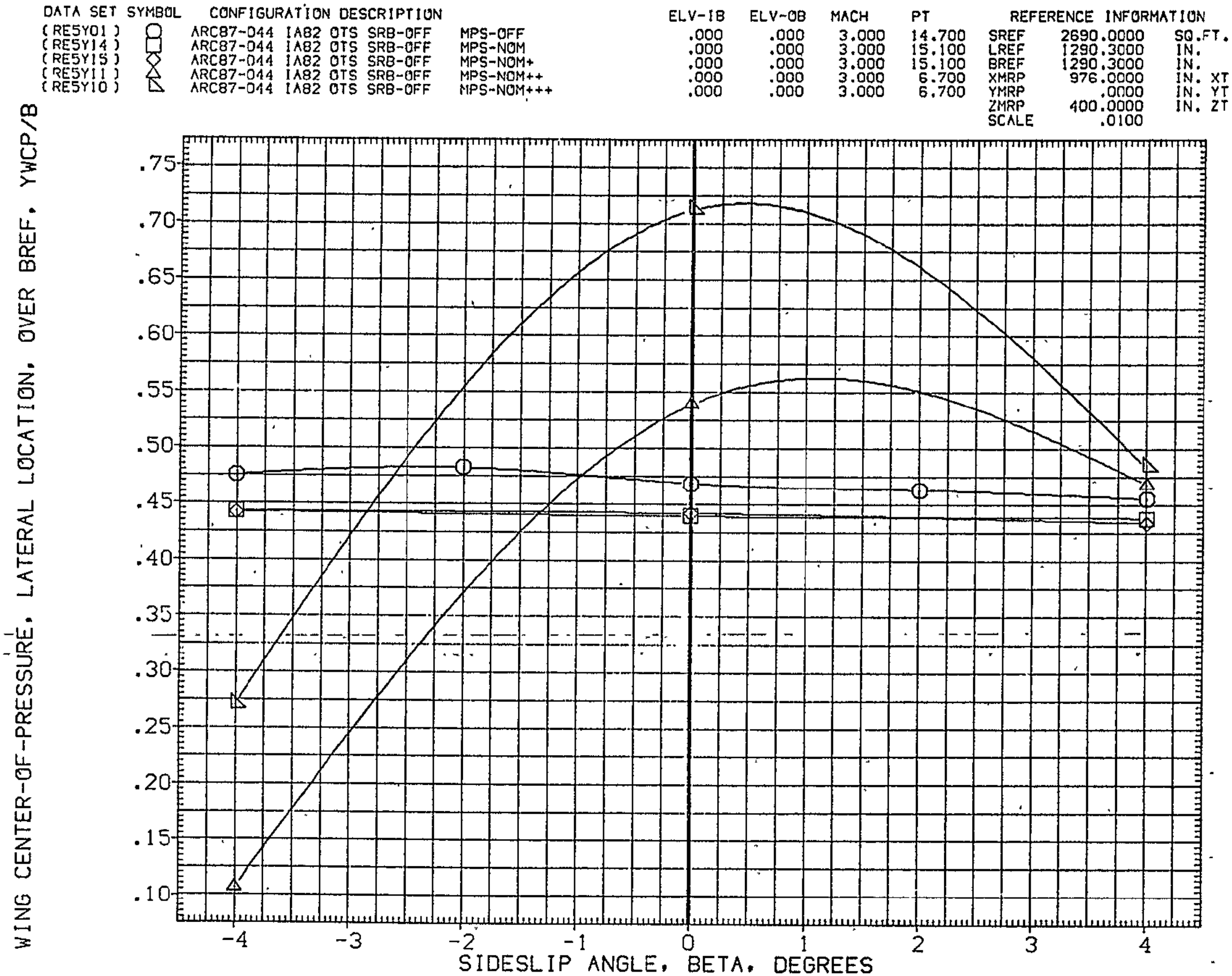


FIG. 8 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RESY19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RESY22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RESY21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RESY27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RESY28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

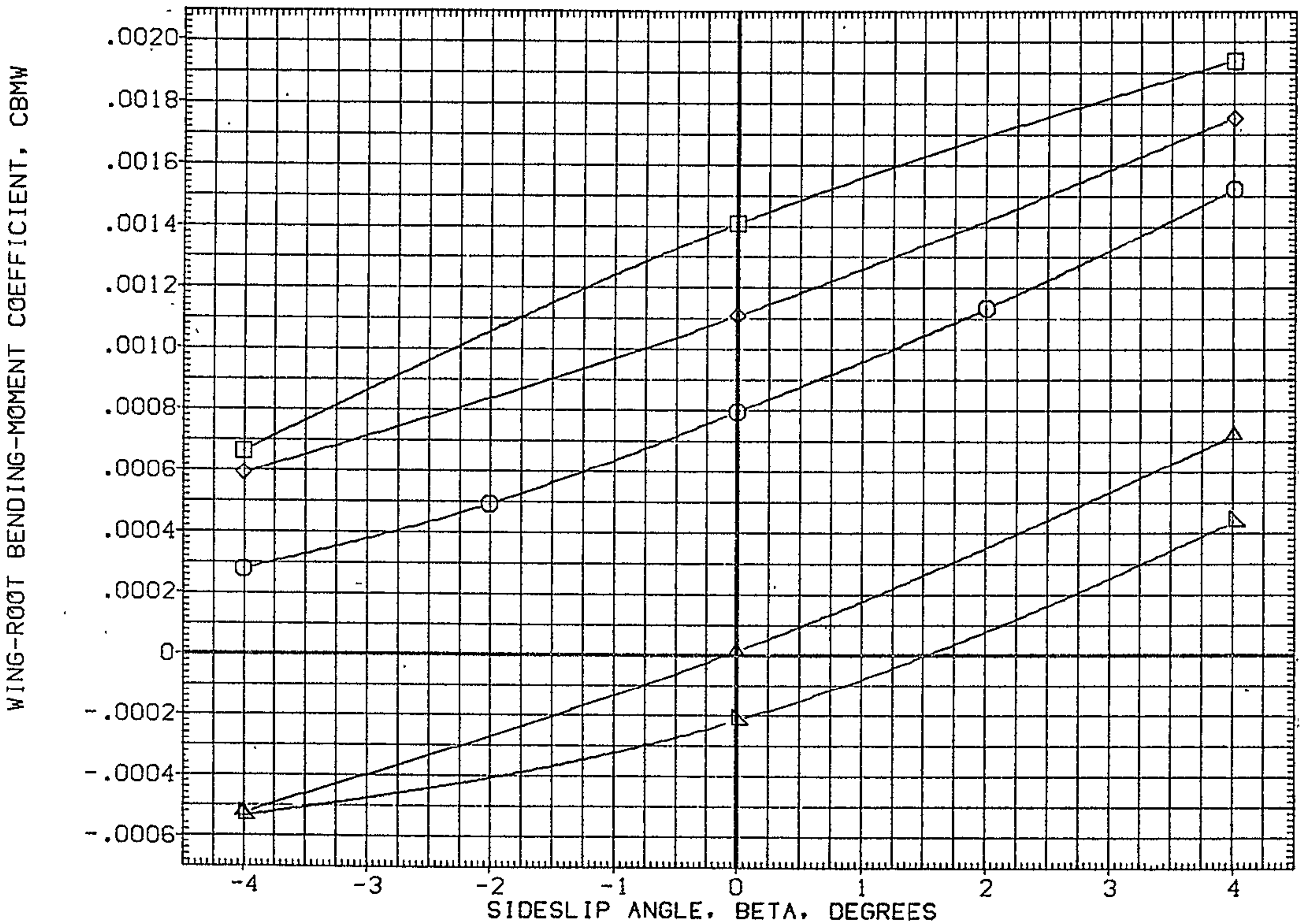


FIG. 9 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	APC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5Y21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5Y27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5Y28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

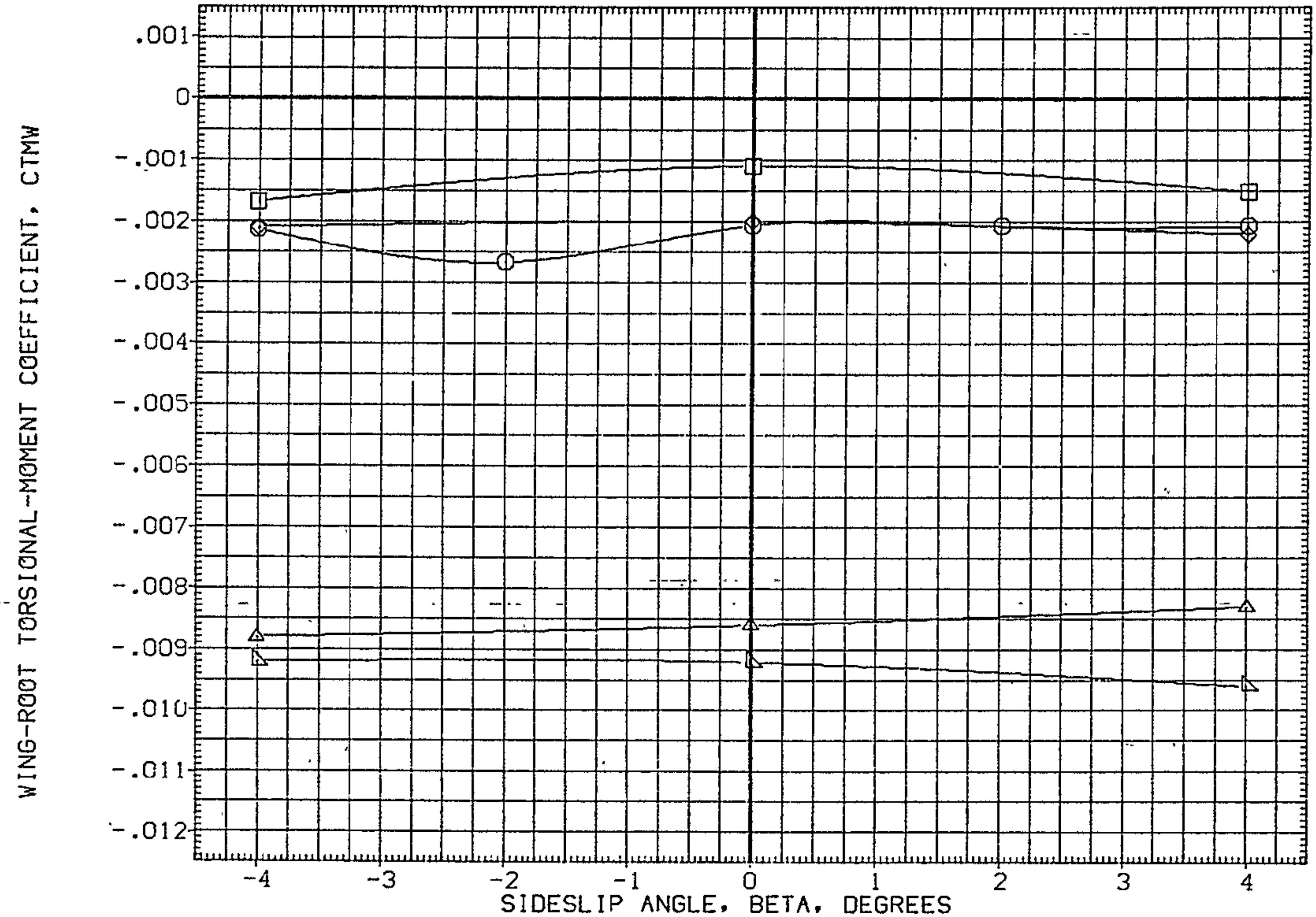


FIG. 9 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT.
(RE5Y22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RE5Y21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RE5Y27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700	XMRP	976.0000	IN. XT
(RE5Y28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700	YMRP	.0000	IN. YT
								ZMRP	400.0000	IN. ZT
								SCALE	.0100	

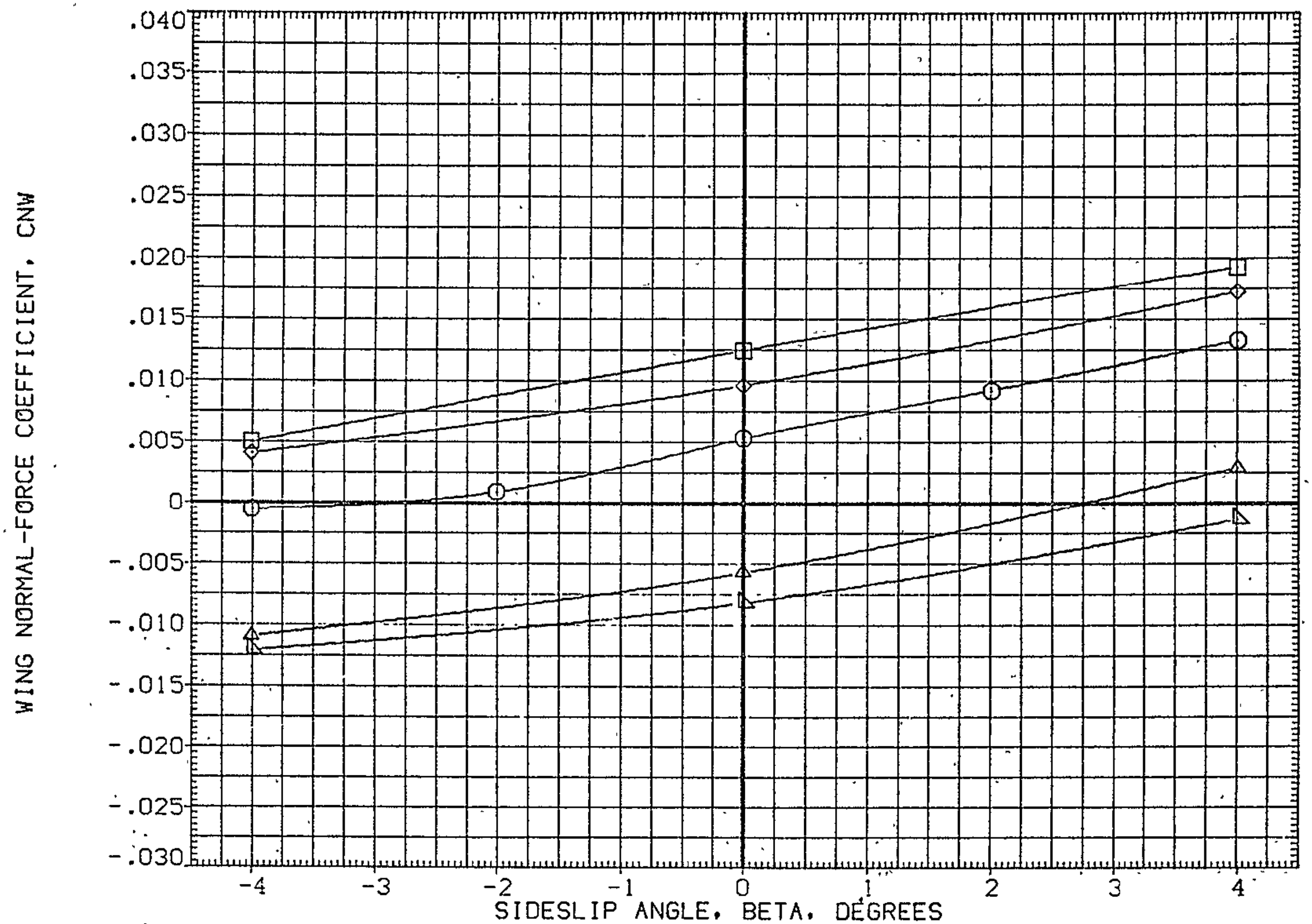


FIG. 9 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5Y21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5Y27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5Y28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

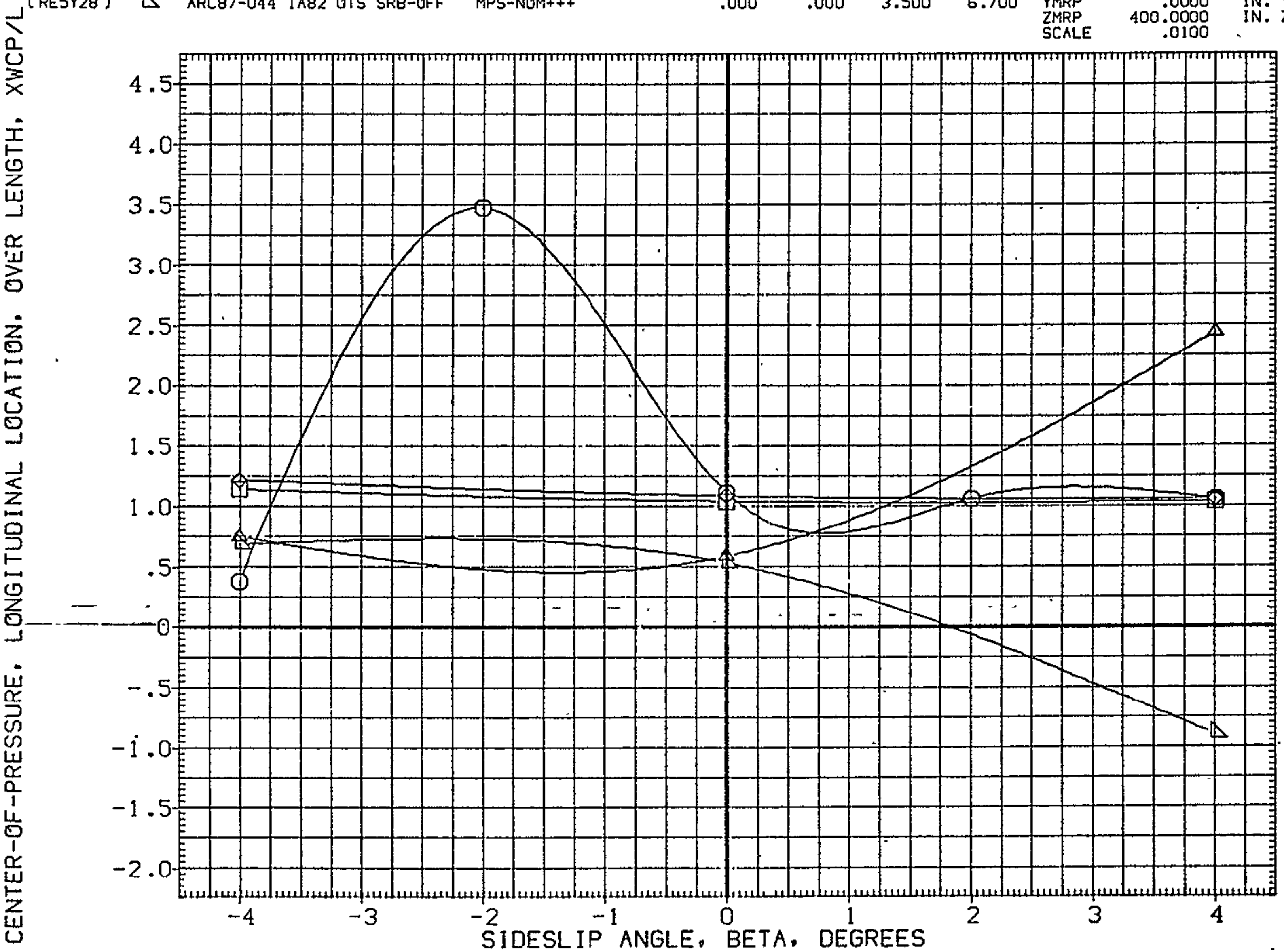


FIG. 9 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5Y21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5Y27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5Y28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

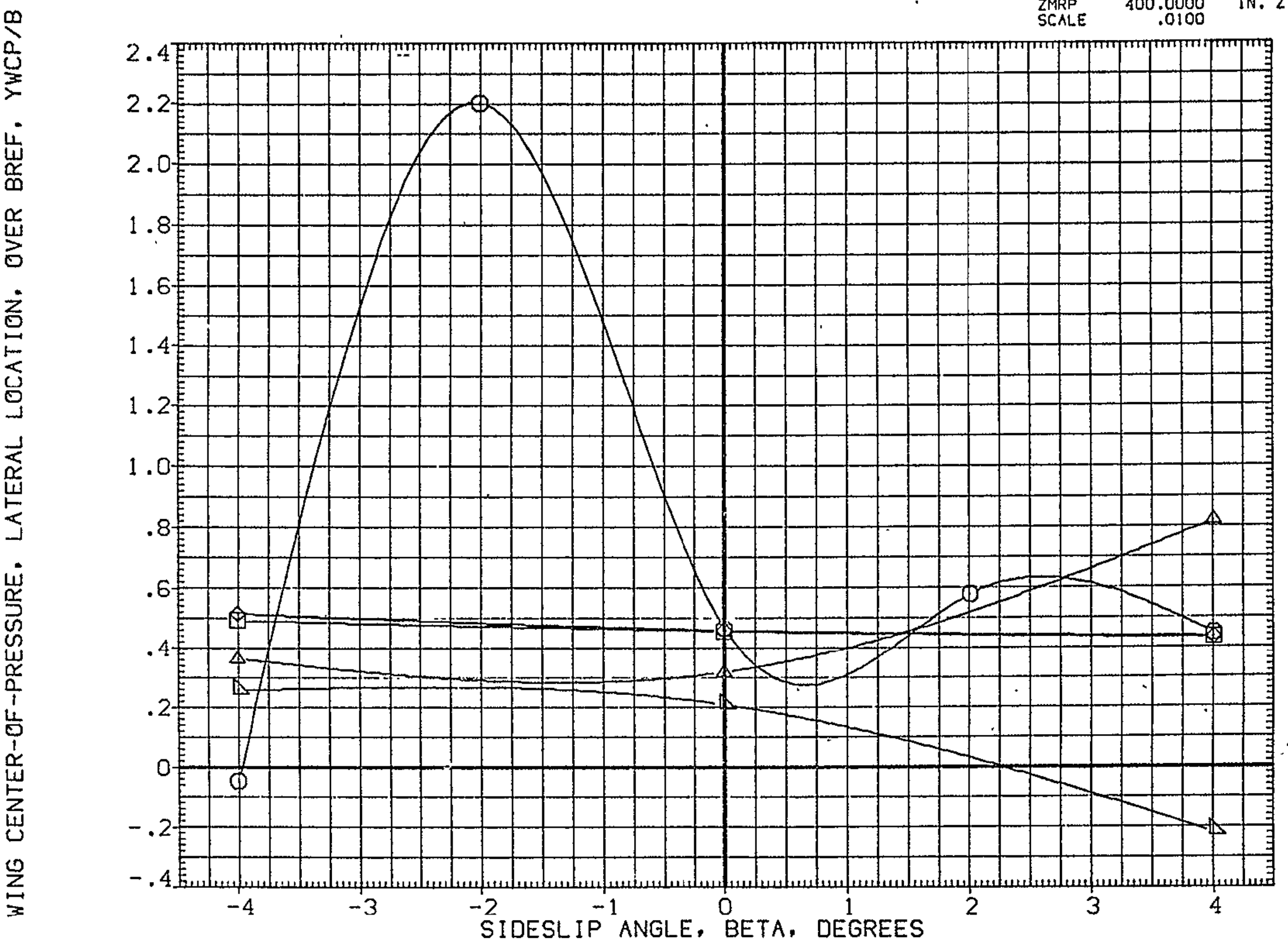


FIG. 9 MPS PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5Y15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100
(RE5Y11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5Y10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

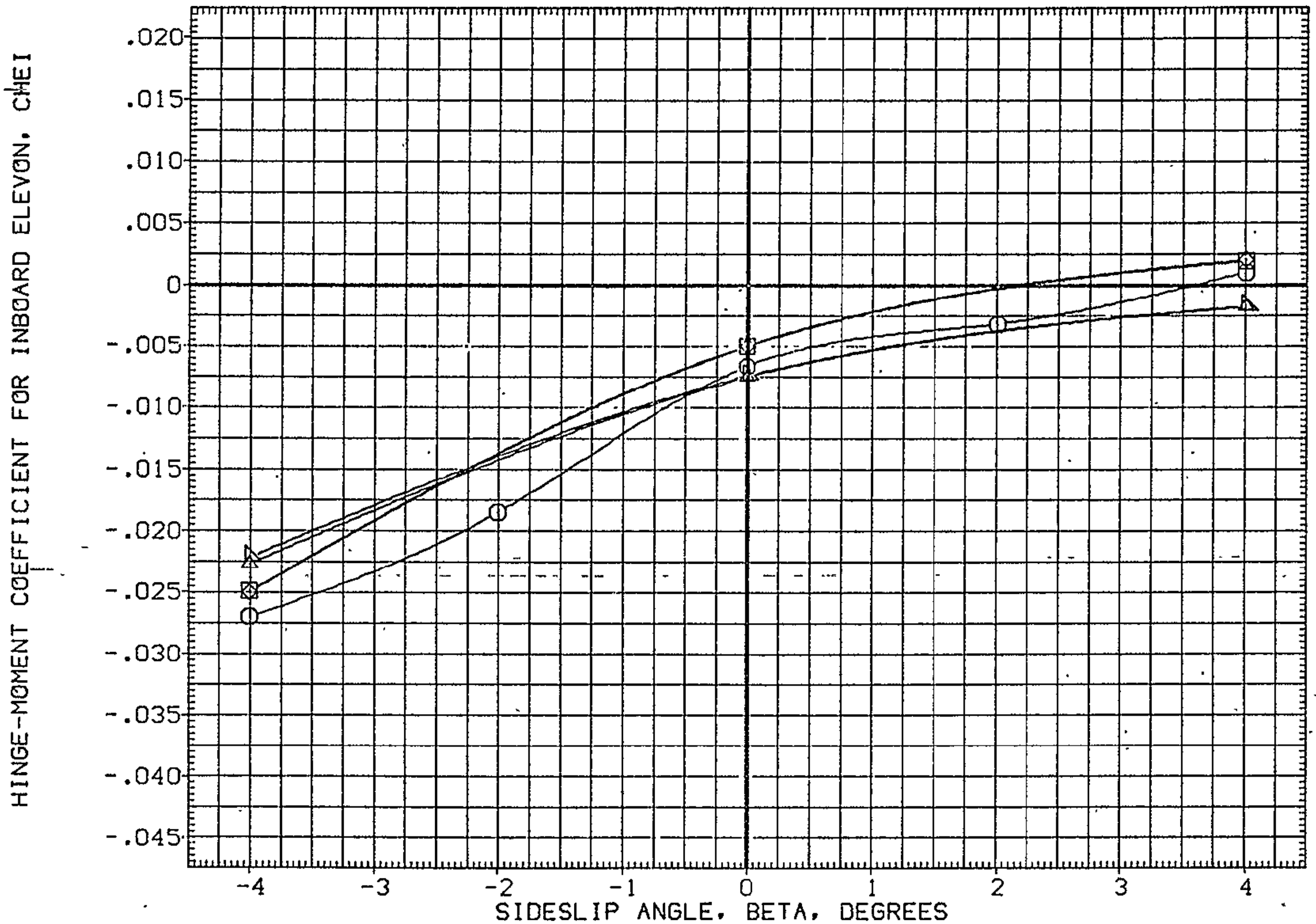


FIG. 10 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y14)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.000	15.100
(RE5Y15)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.000	15.100
(RE5Y11)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.000	6.700
(RE5Y10)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

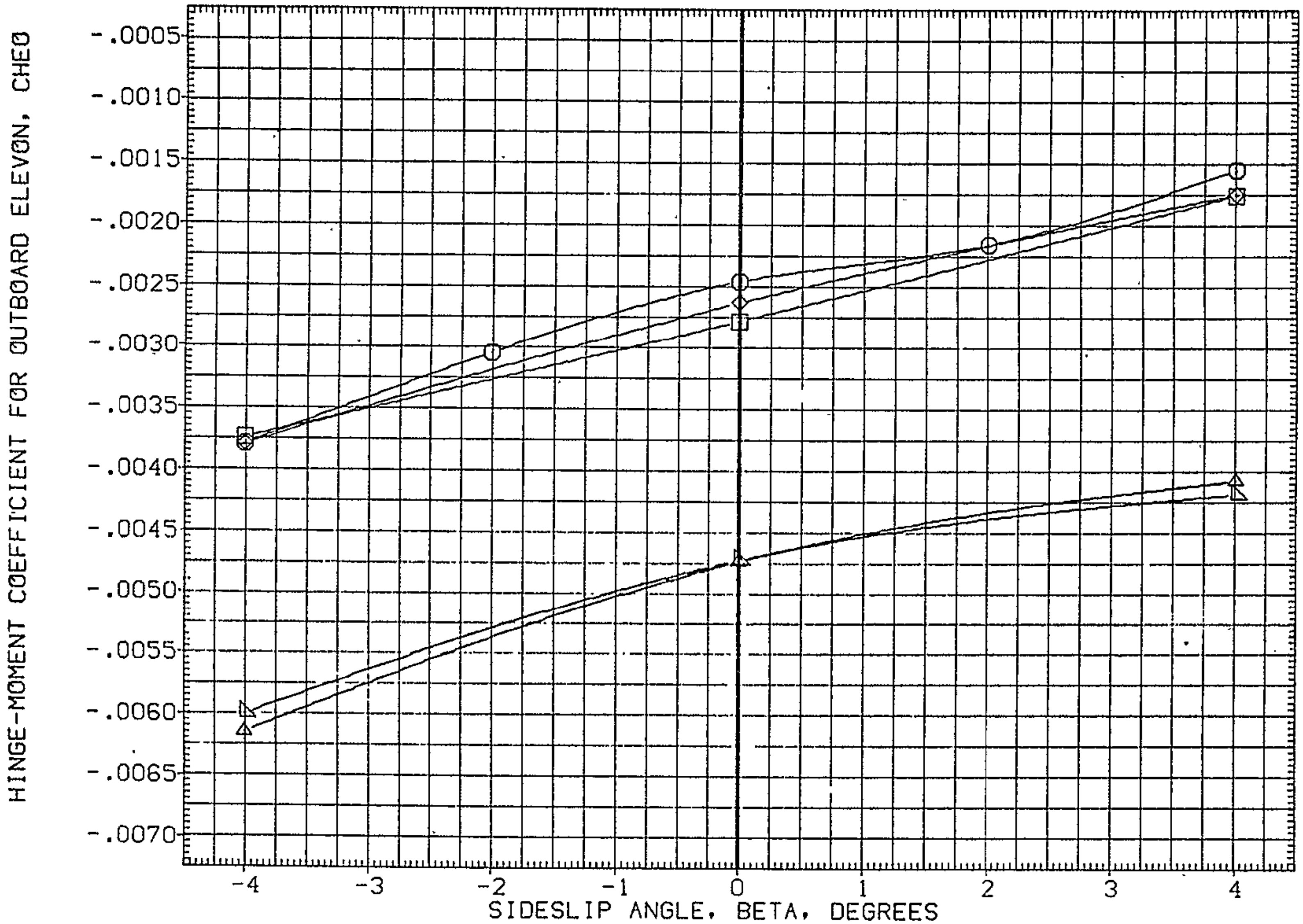


FIG. 10 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5Y21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5Y27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5Y28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

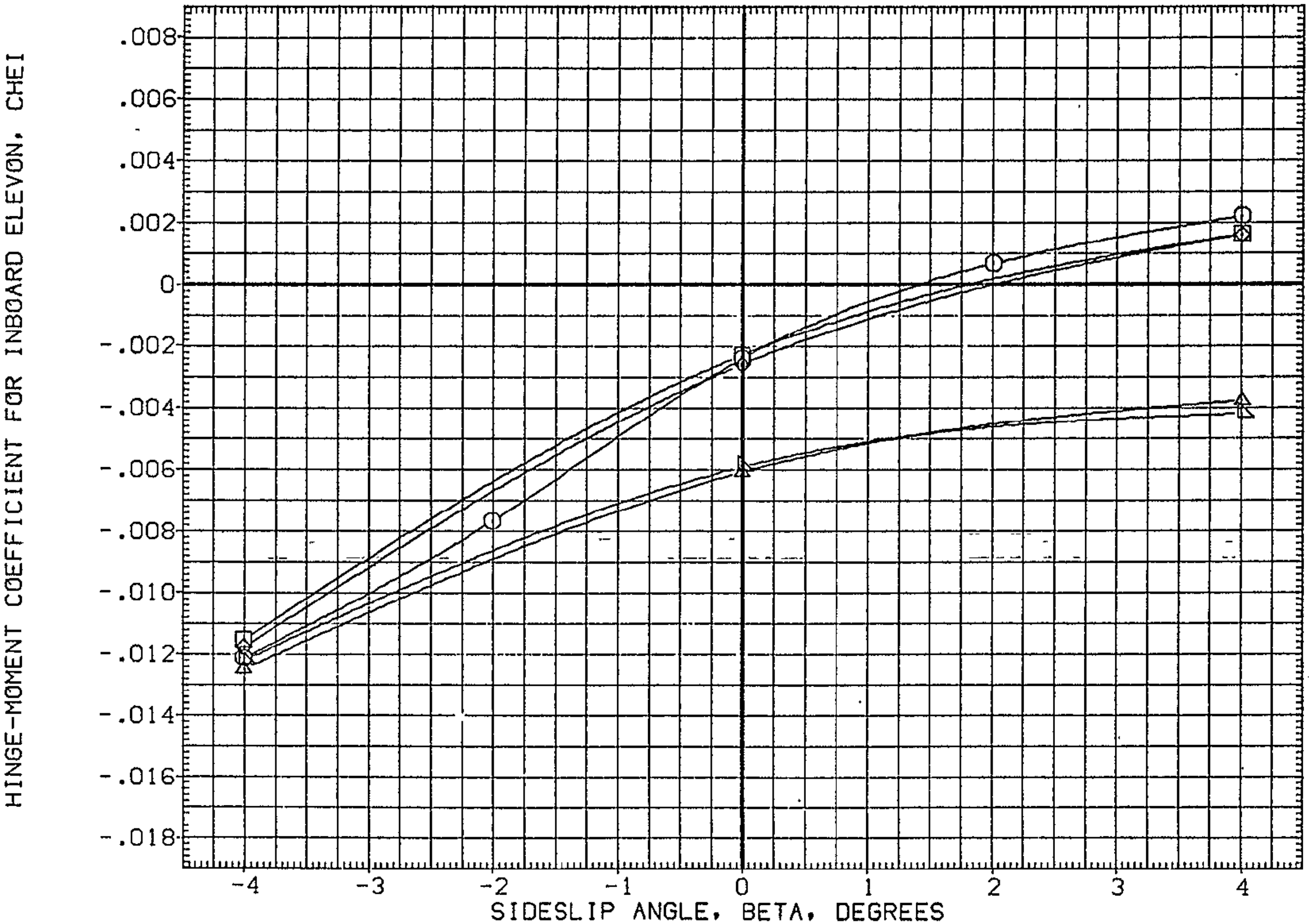


FIG. 11 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y22)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	3.500	15.100
(RE5Y21)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	3.500	15.100
(RE5Y27)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	3.500	6.700
(RE5Y28)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

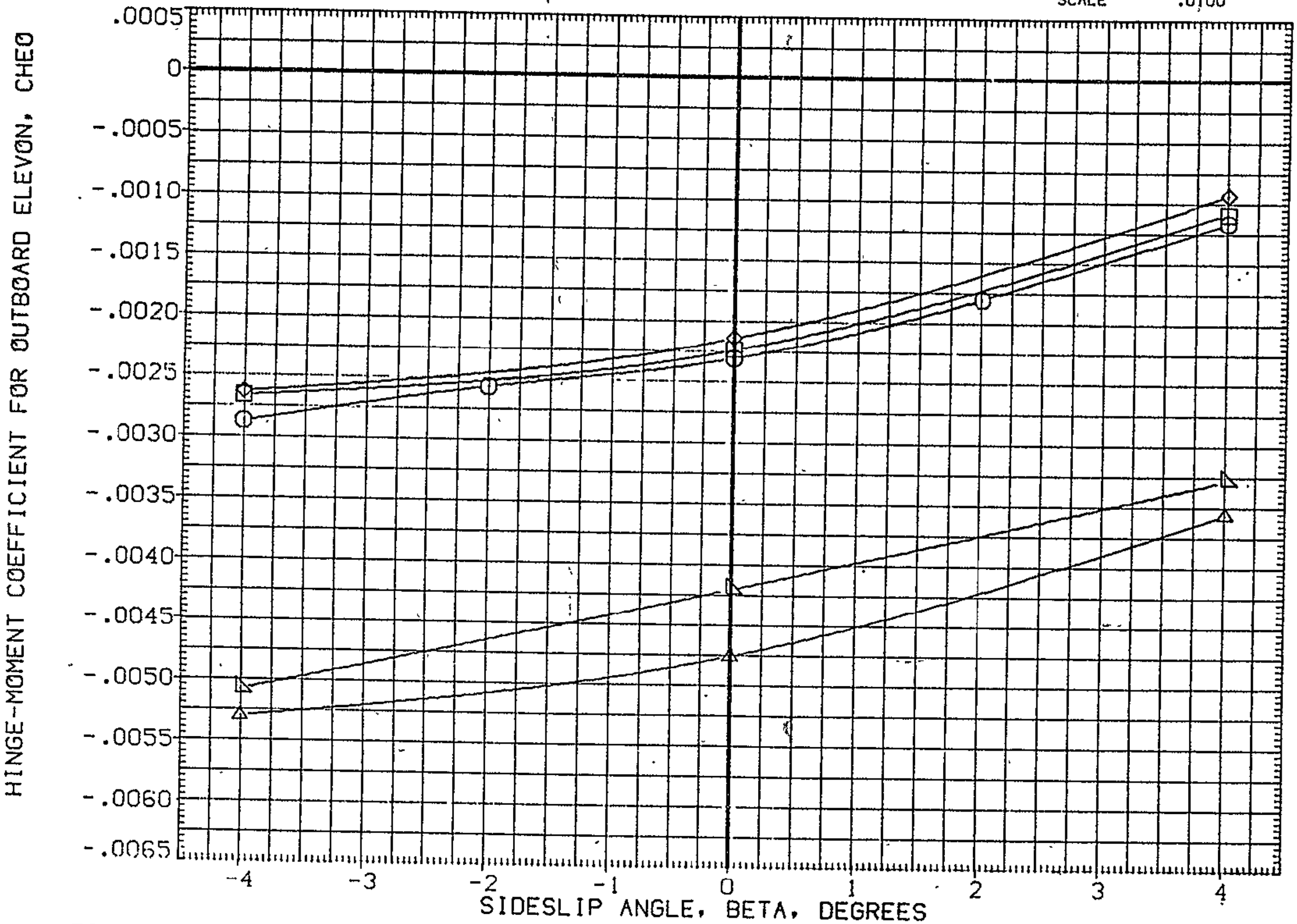


FIG. 11 MPS PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	☆	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◁	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

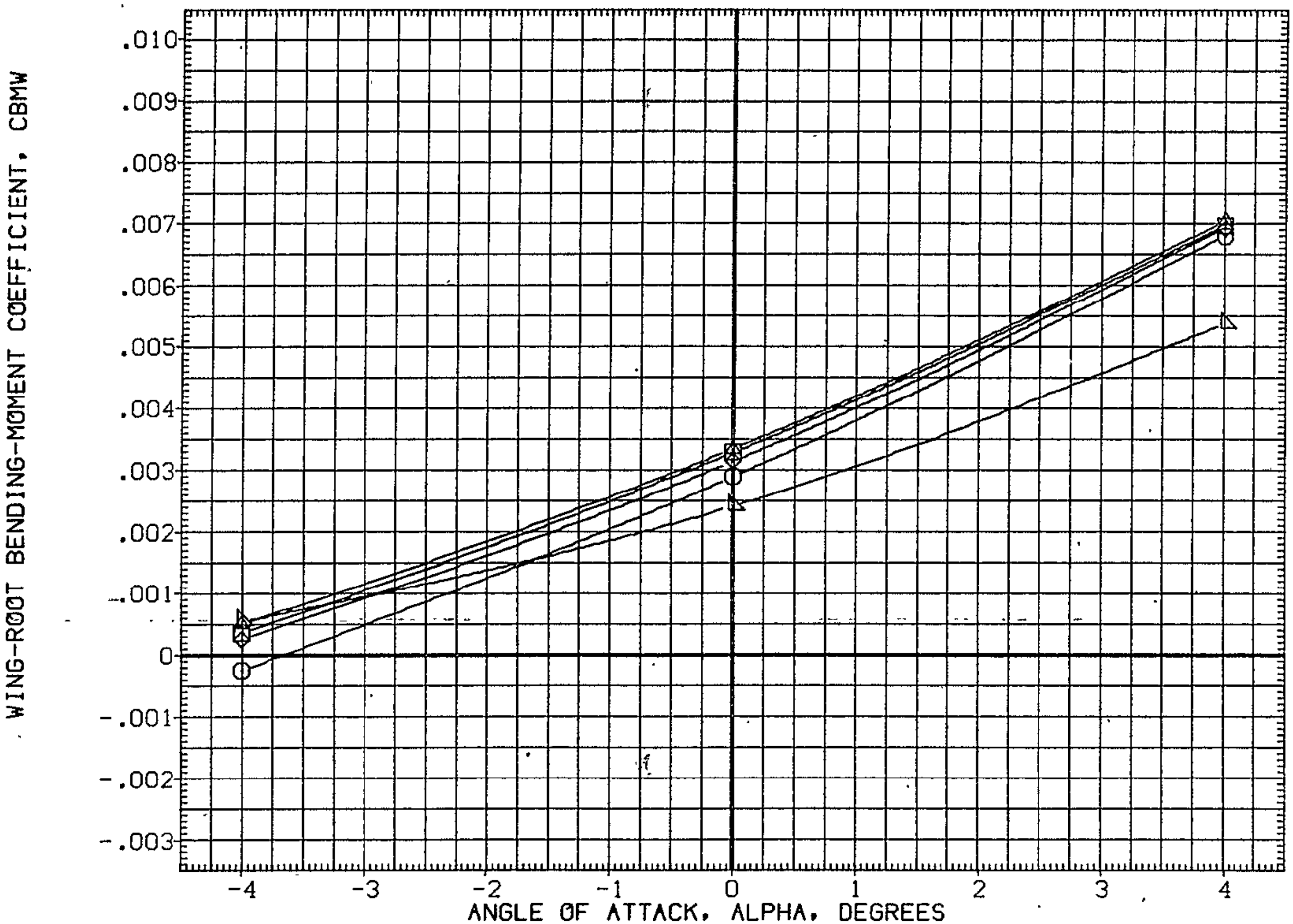


FIG. 12 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT.
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

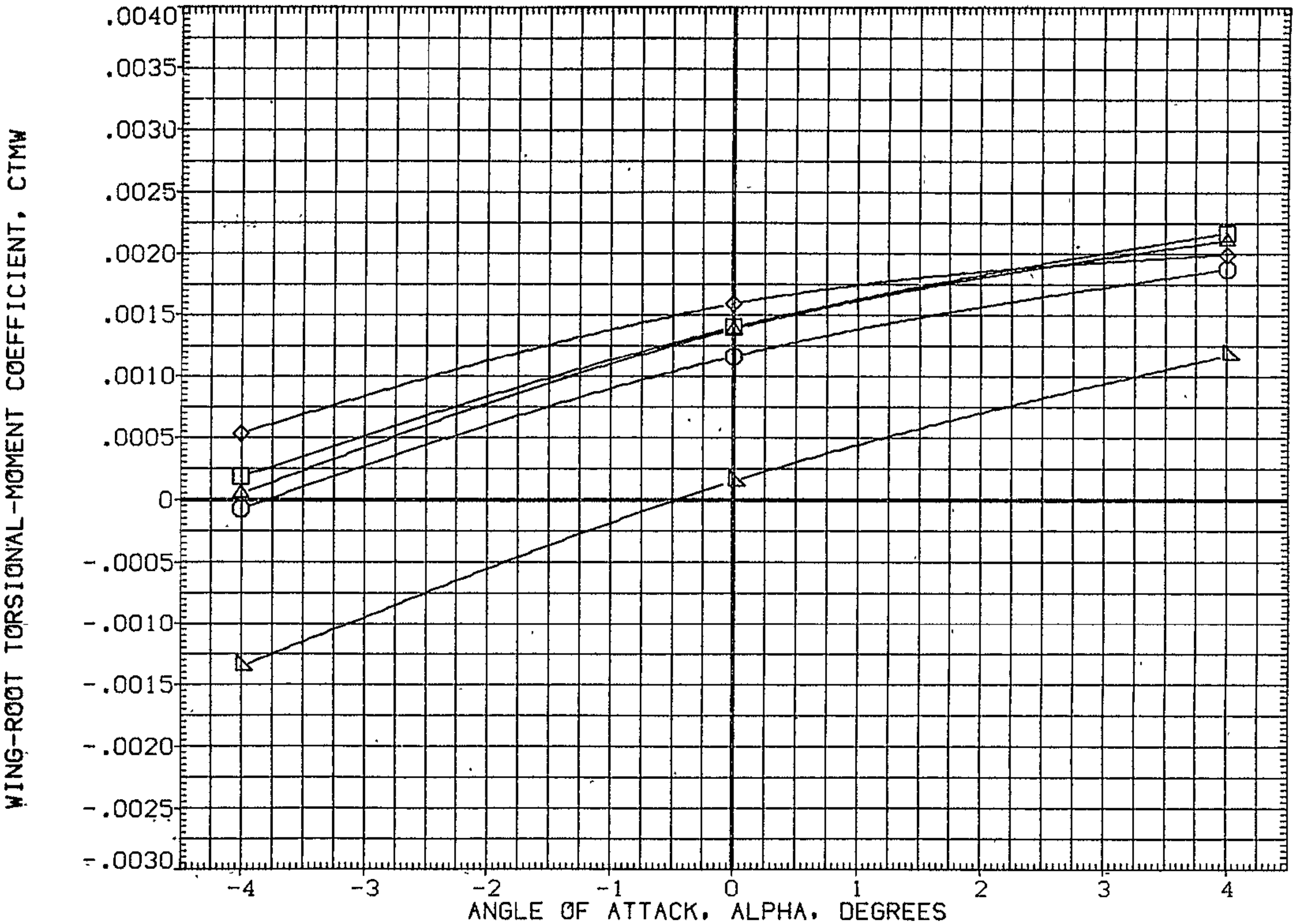


FIG. 12 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

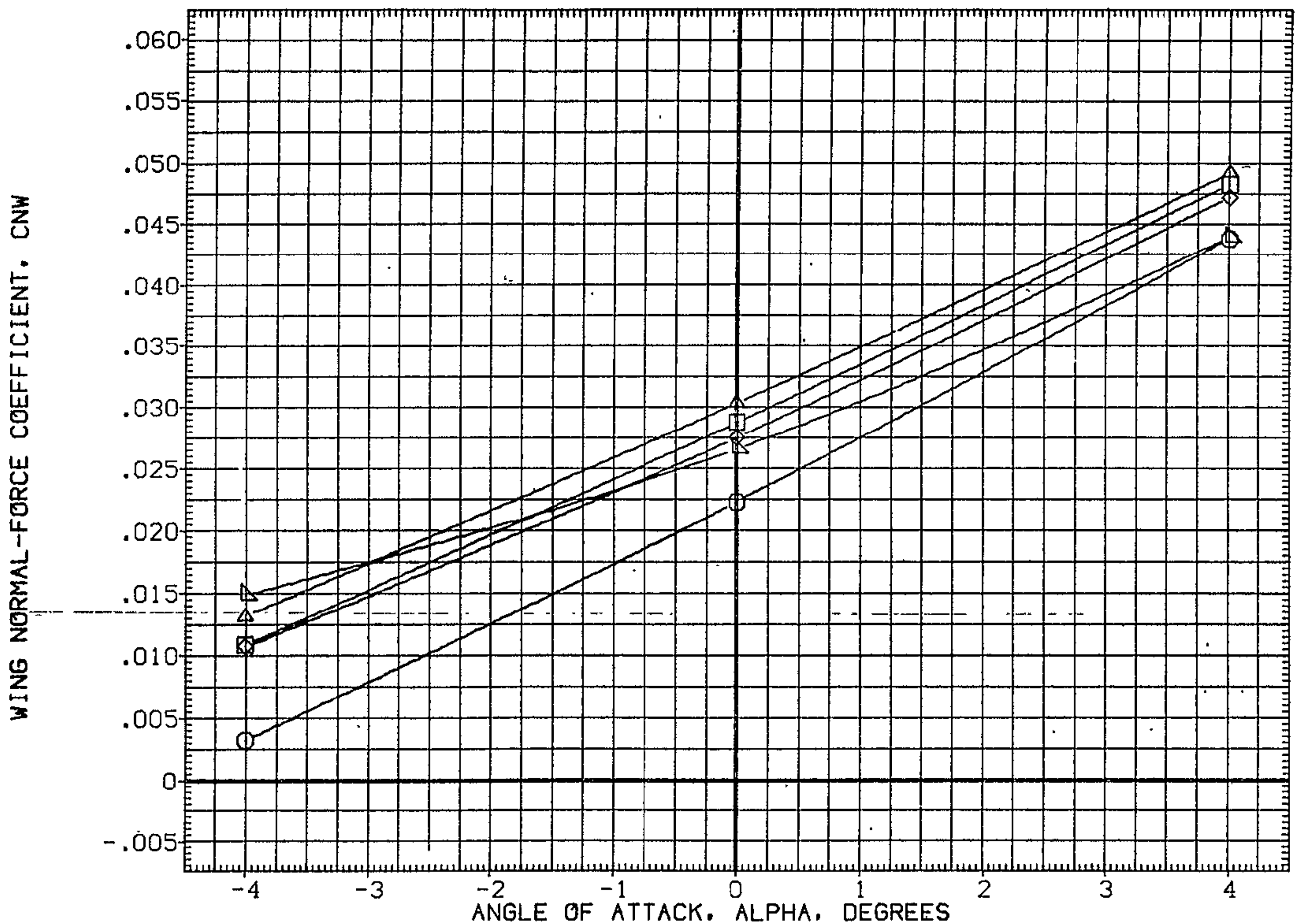


FIG. 12 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◁	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

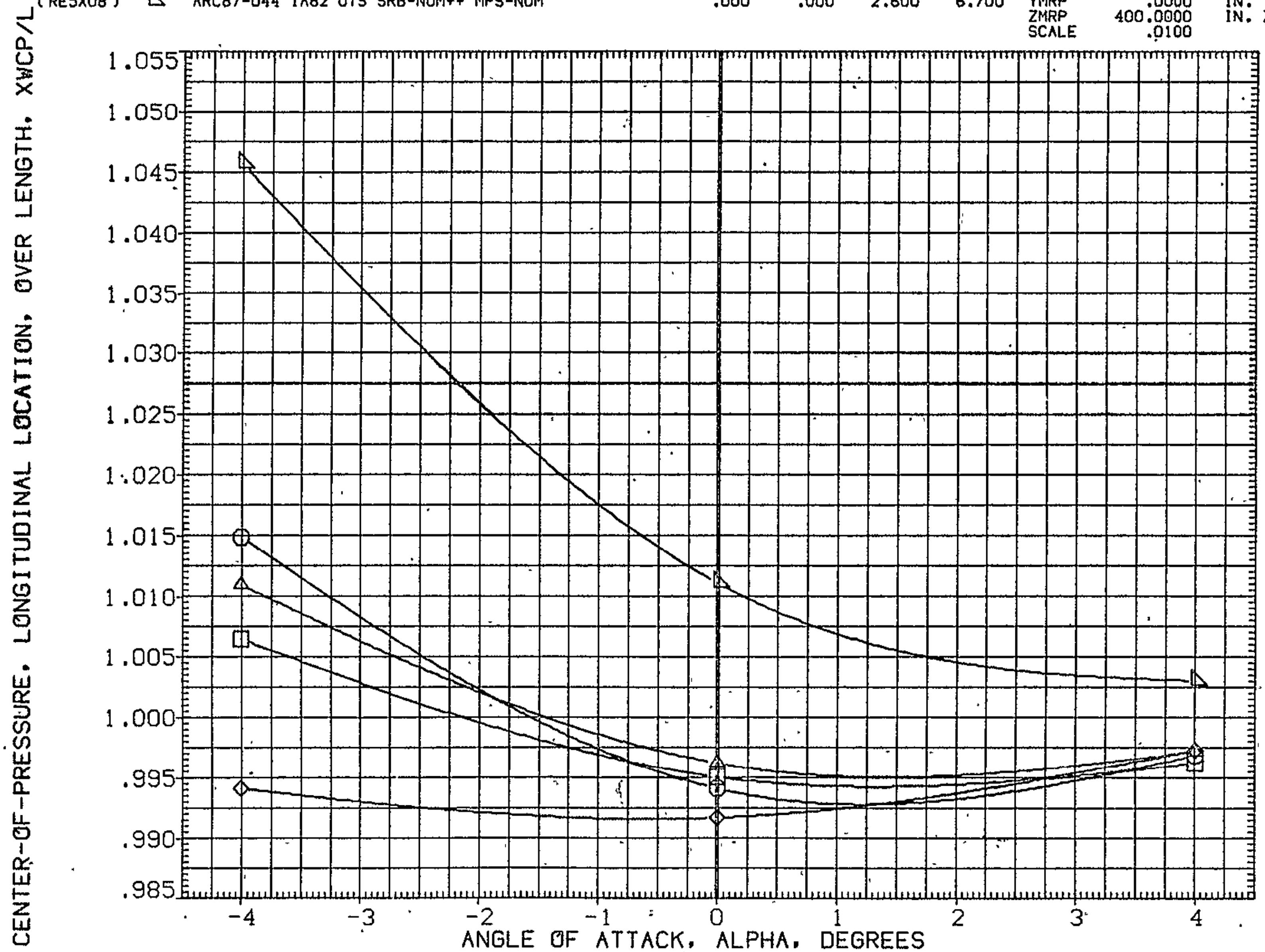


FIG. 12 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

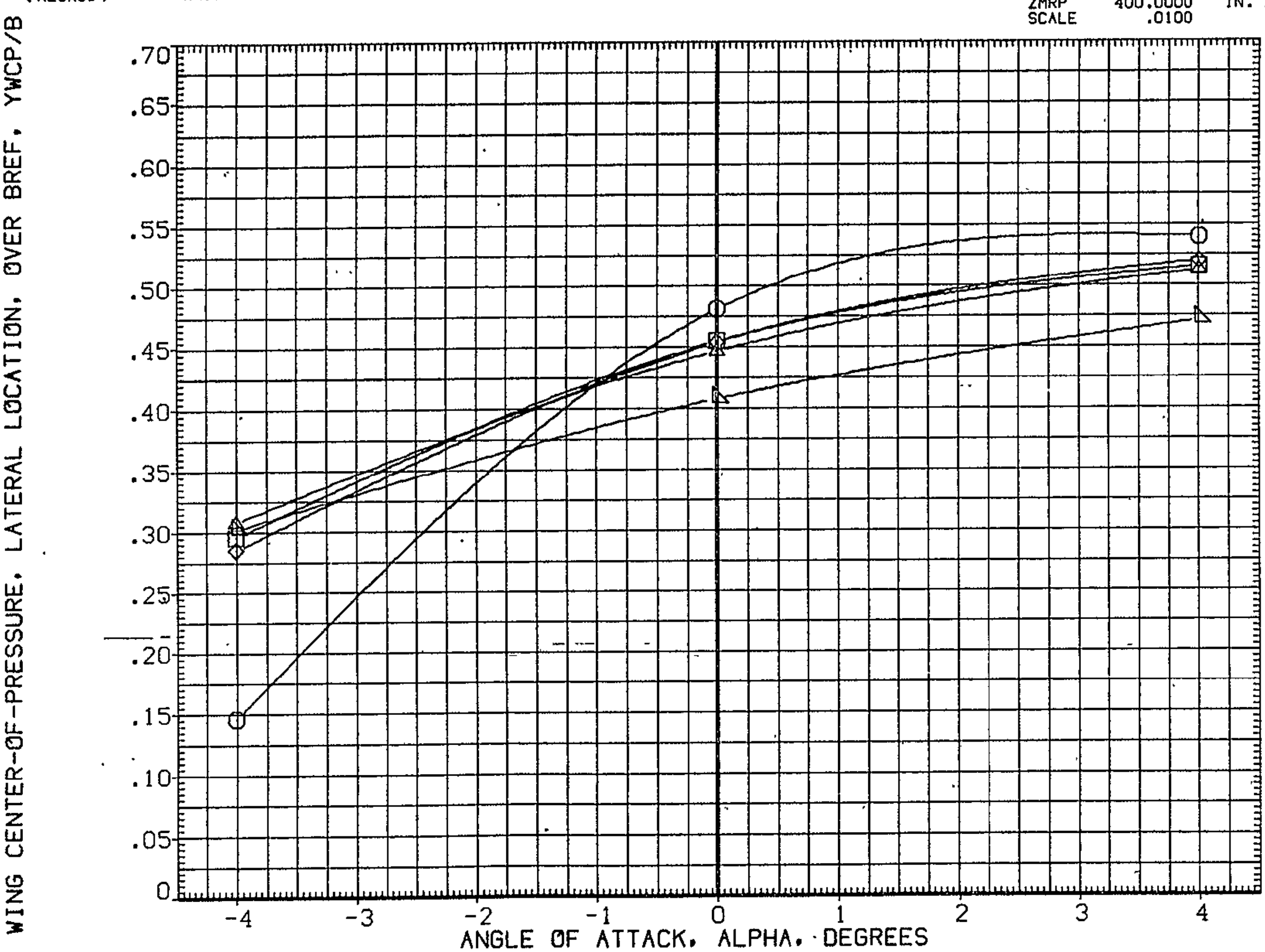


FIG. 12 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X16)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5X12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5X09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

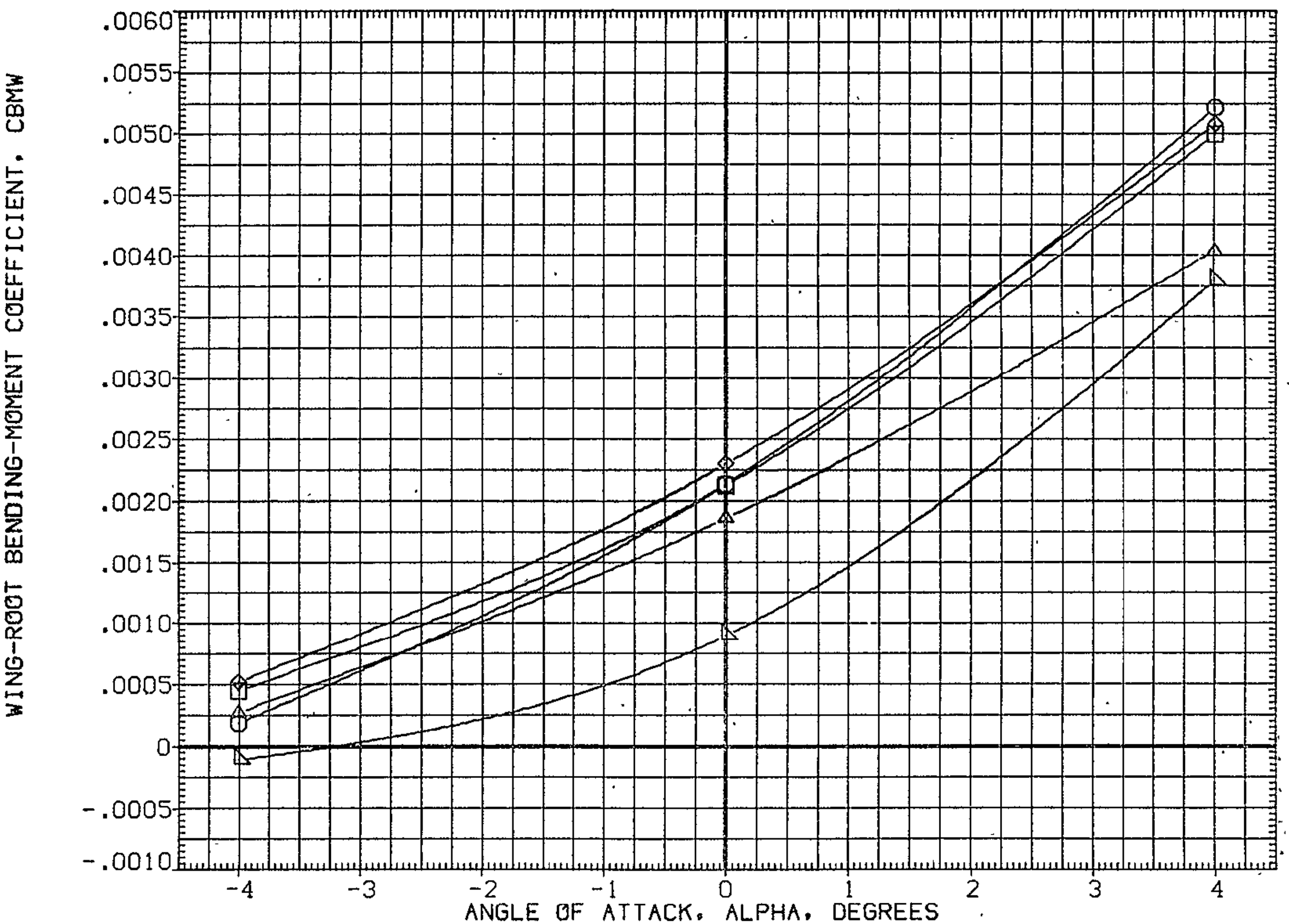


FIG. 13 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5X16)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.000	15.100
(RE5X12)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.000	10.700
(RE5X09)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

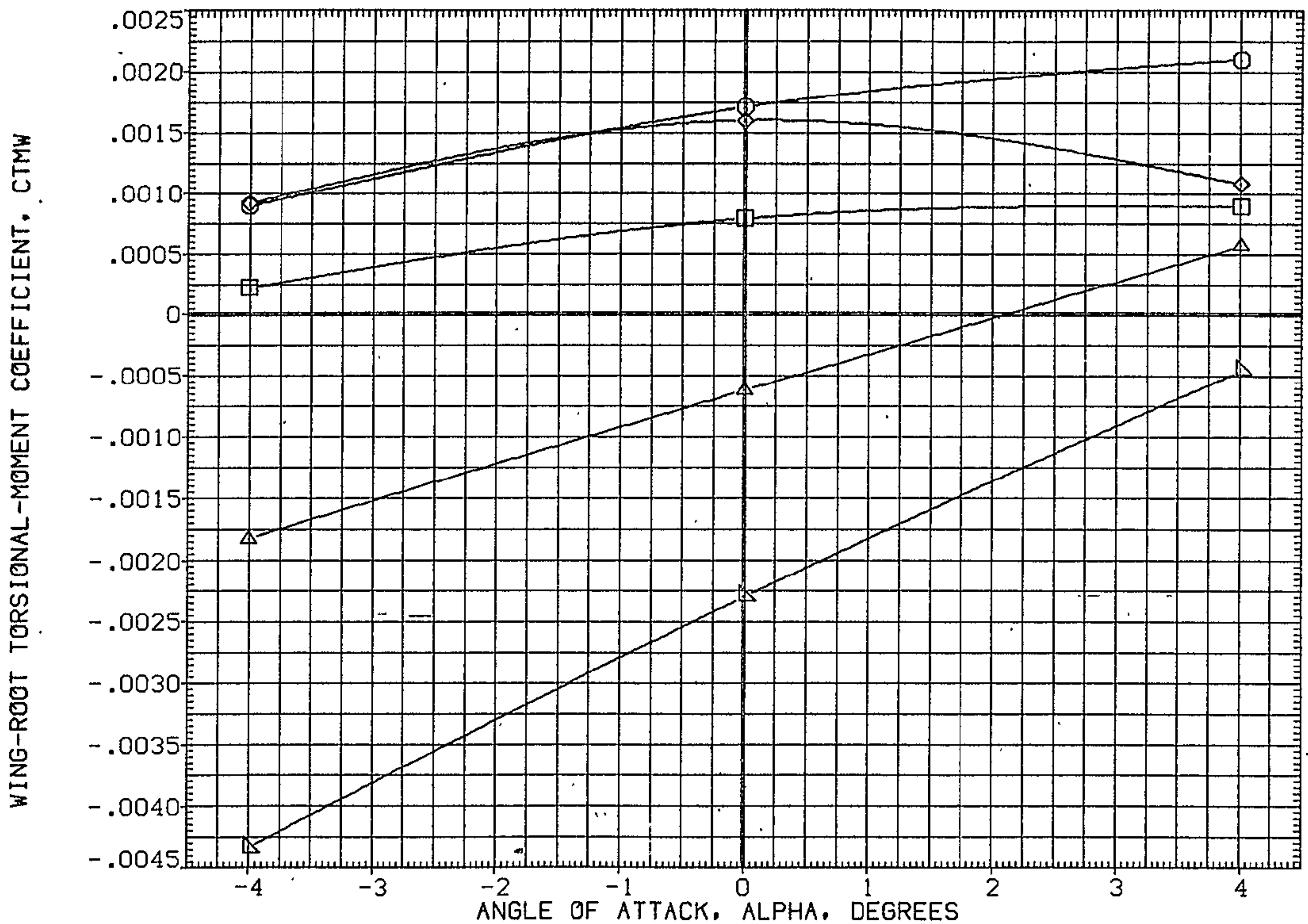


FIG. 13 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5X16)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.000	15.100
(RE5X12)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.000	10.700
(RE5X09)	⊿	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

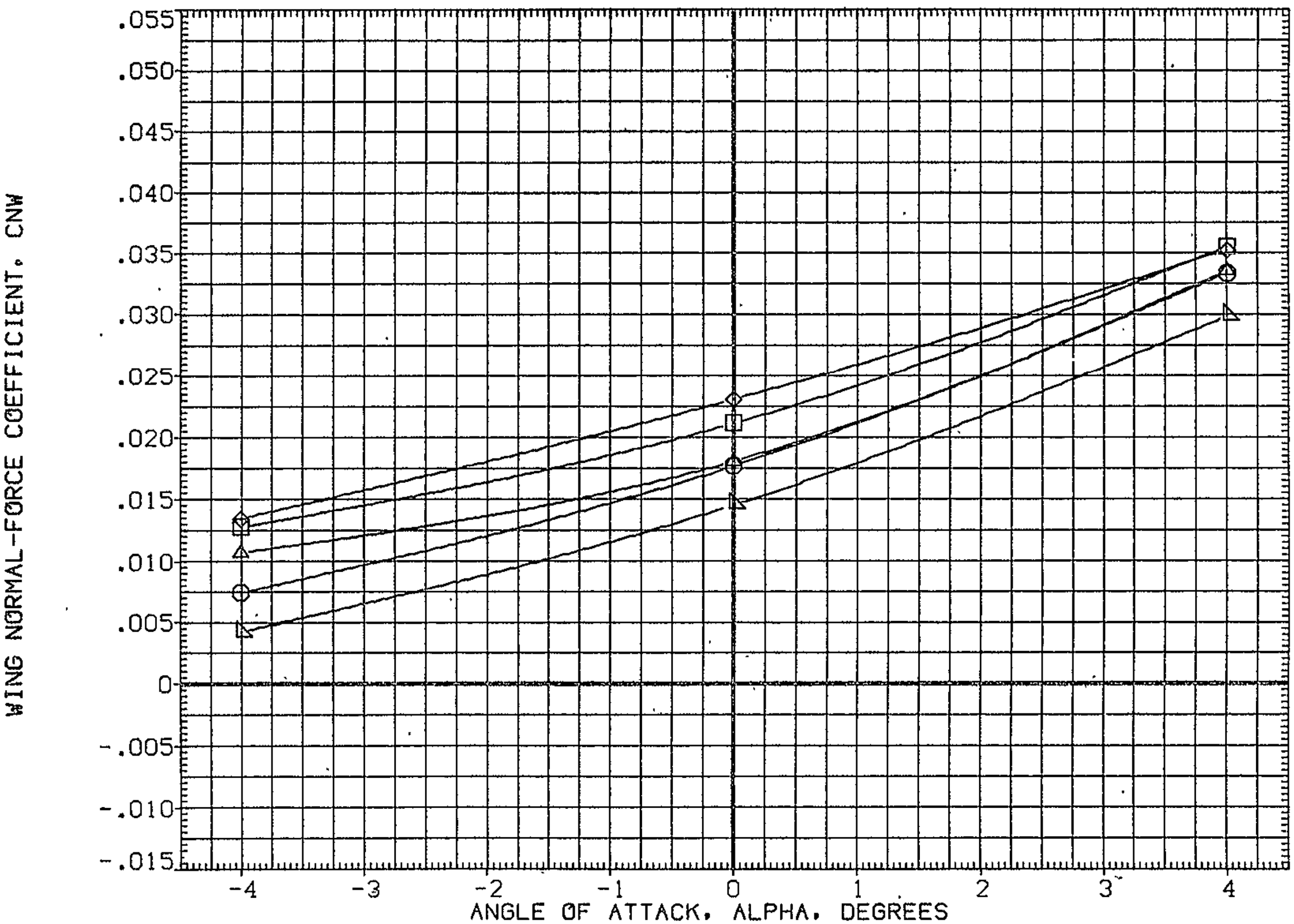


FIG. 13 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

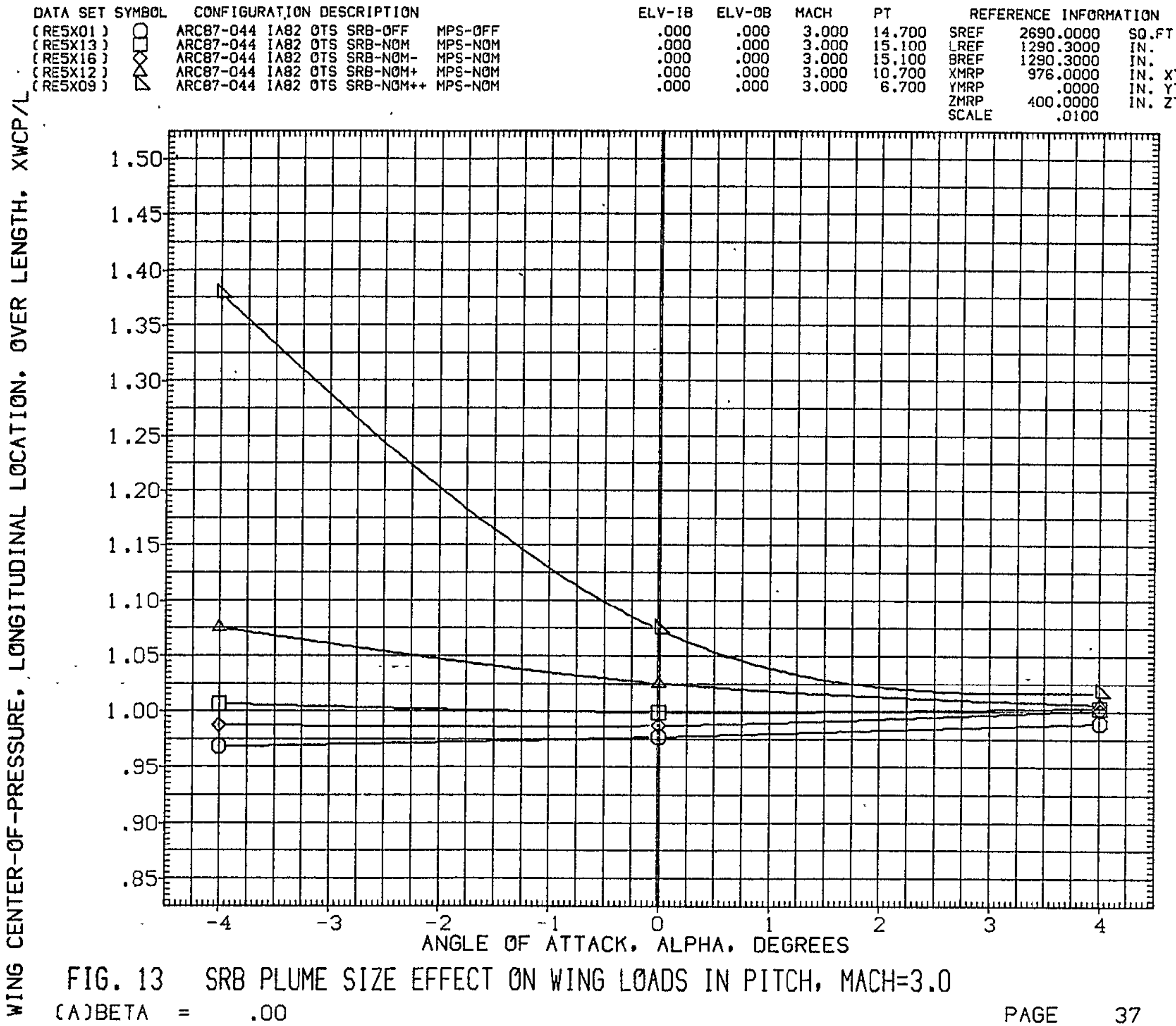


FIG. 13 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5X16)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.000	15.100
(RE5X12)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.000	10.700
(RE5X09)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

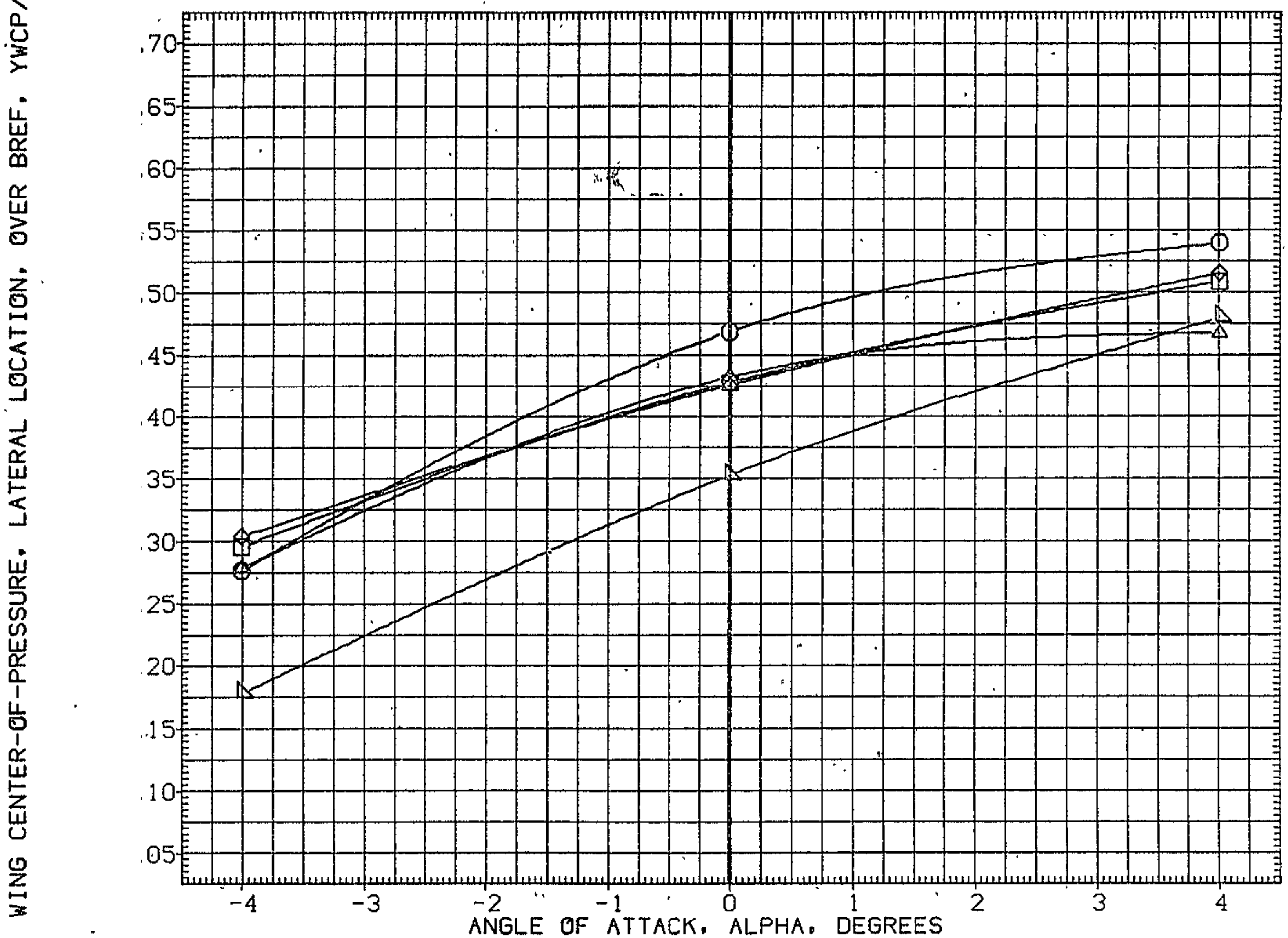


FIG. 13 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5X23)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.500	15.100
(RE5X26)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.500	10.700
(RE5X29)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

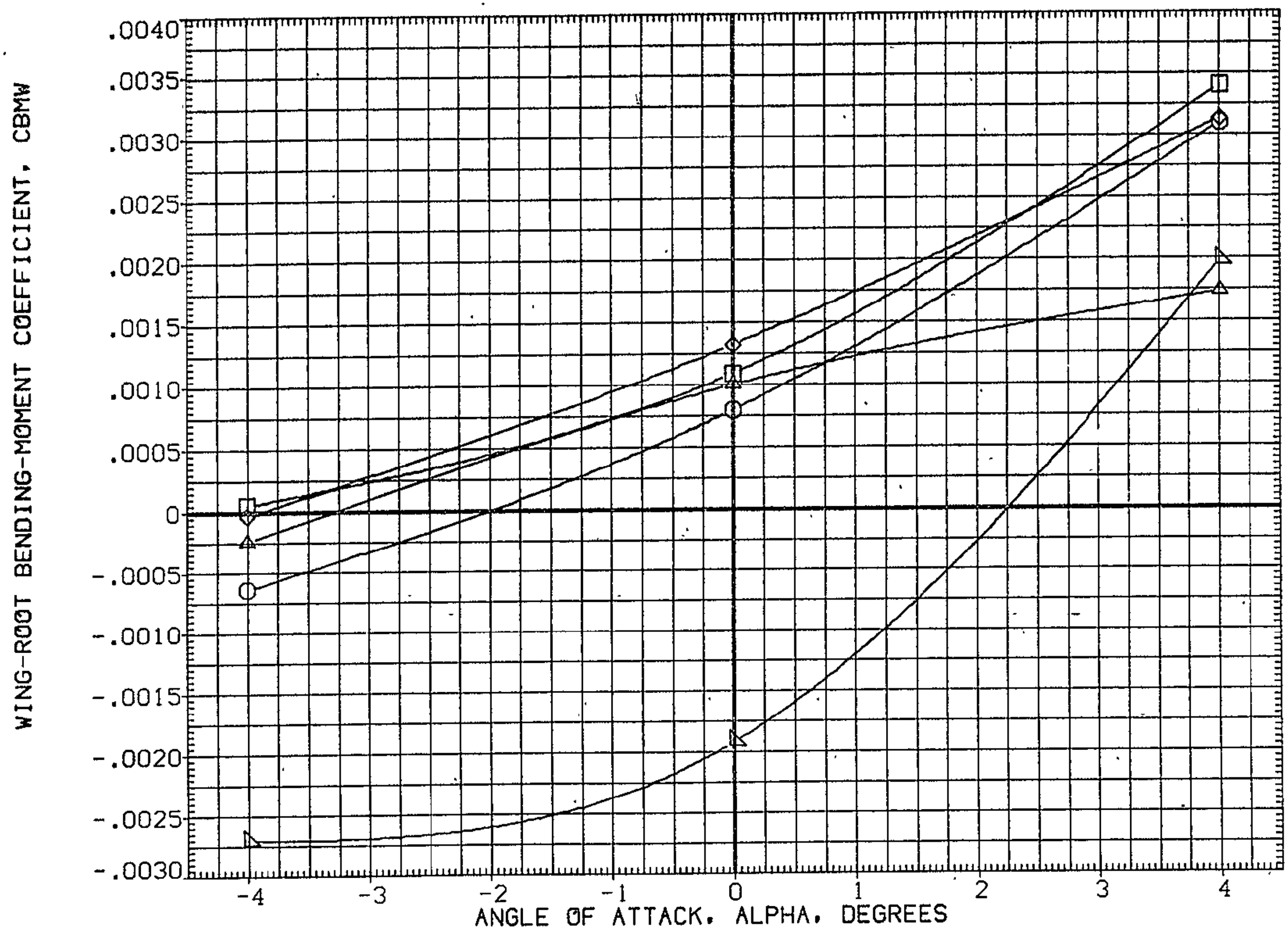


FIG. 14 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5X23)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.500	15.100
(RE5X26)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.500	10.700
(RE5X29)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

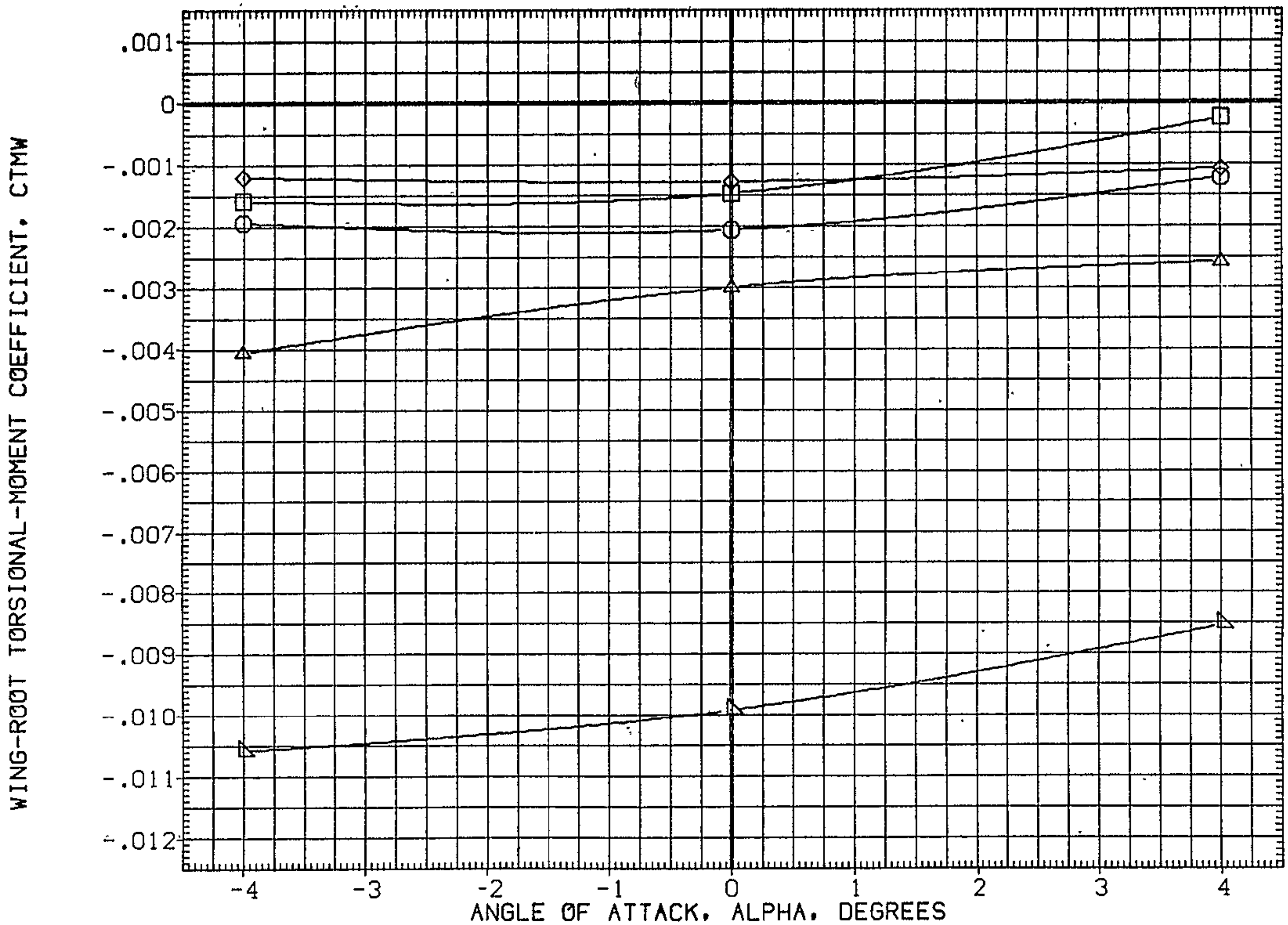


FIG. 14 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

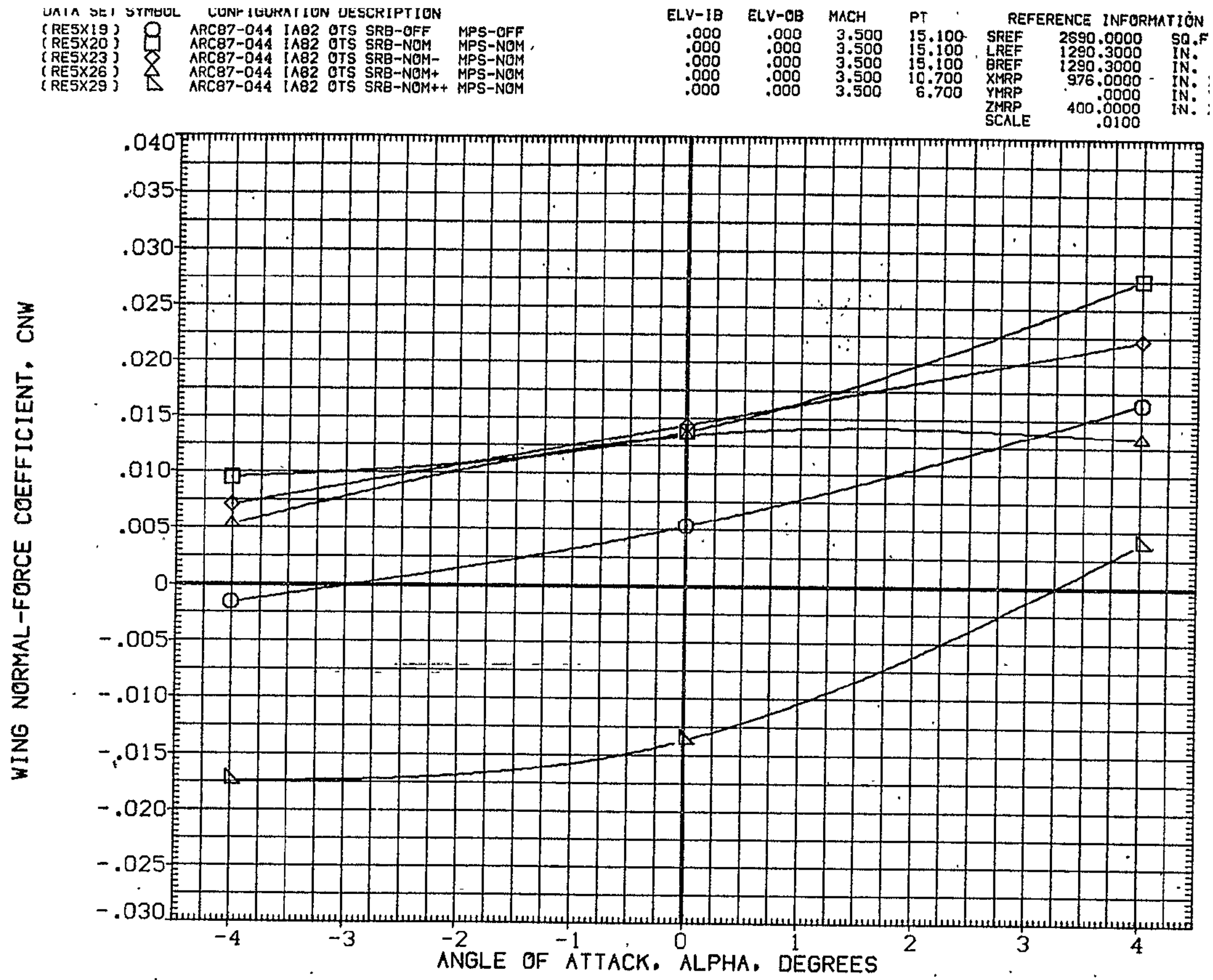


FIG. 14 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5
(A)BETA = .00

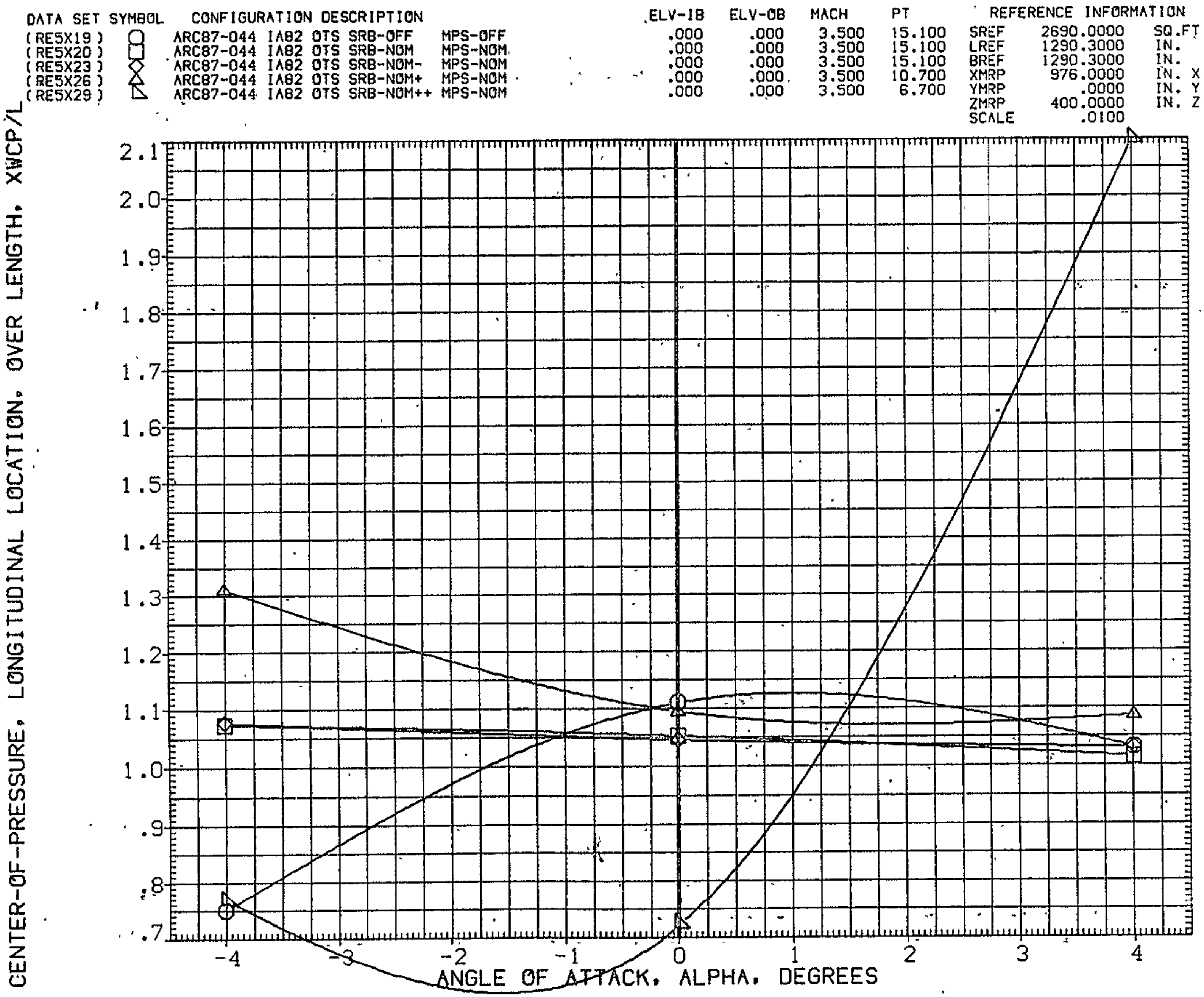


FIG. 14 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

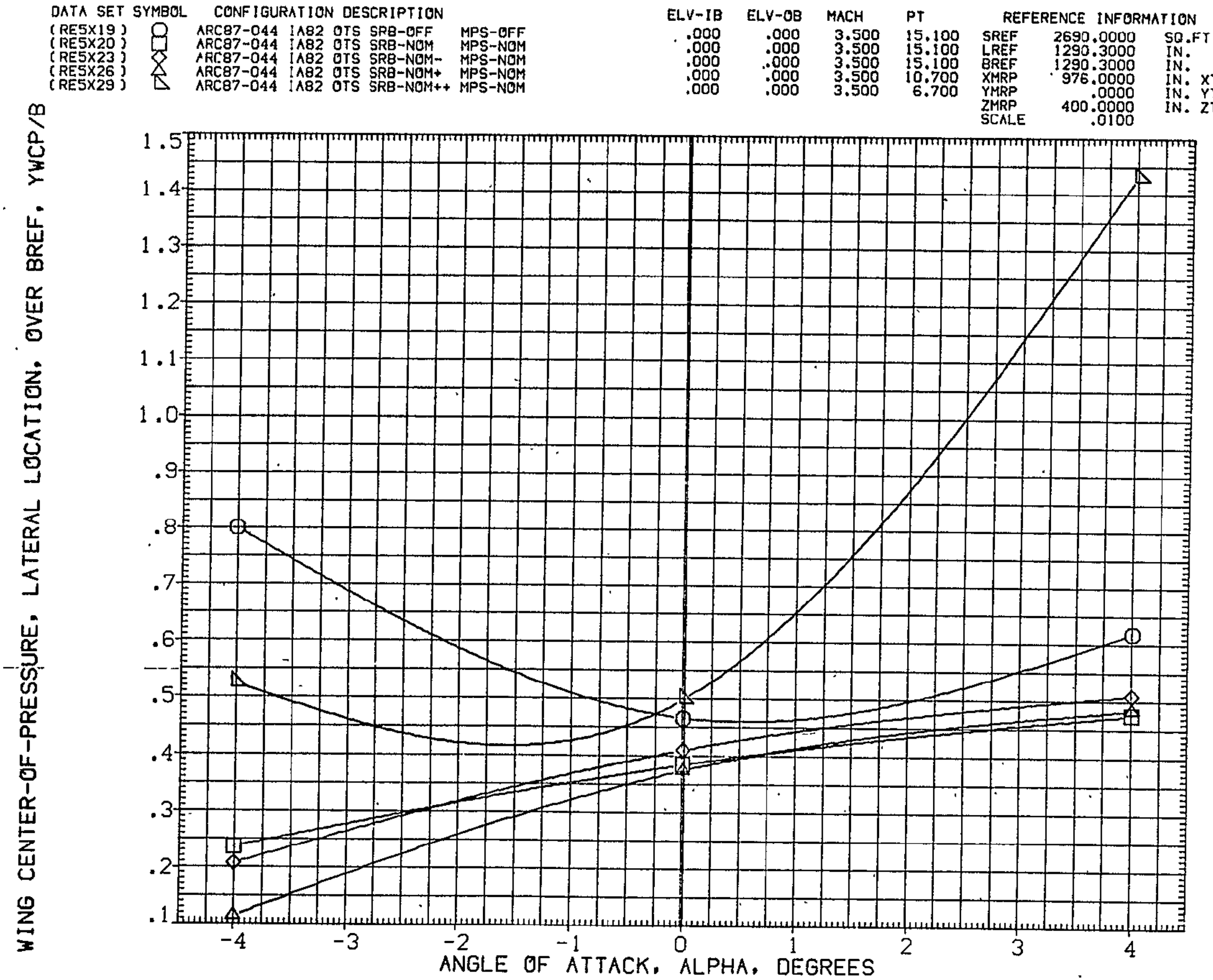


FIG. 14 SRB PLUME SIZE EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

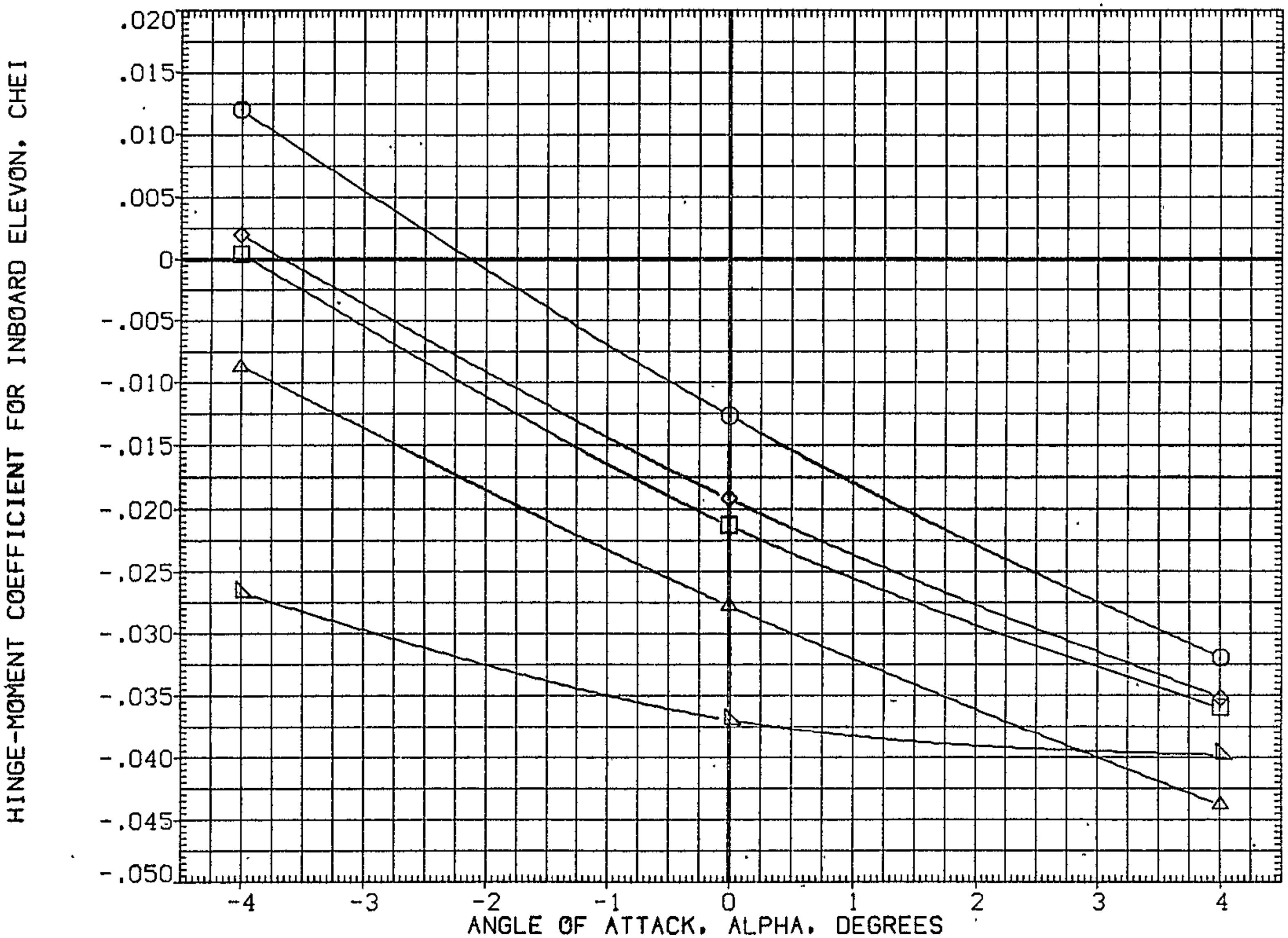


FIG. 15 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X04)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	2.600	14.700
(RE5X05)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	2.600	14.700
(RE5X08)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

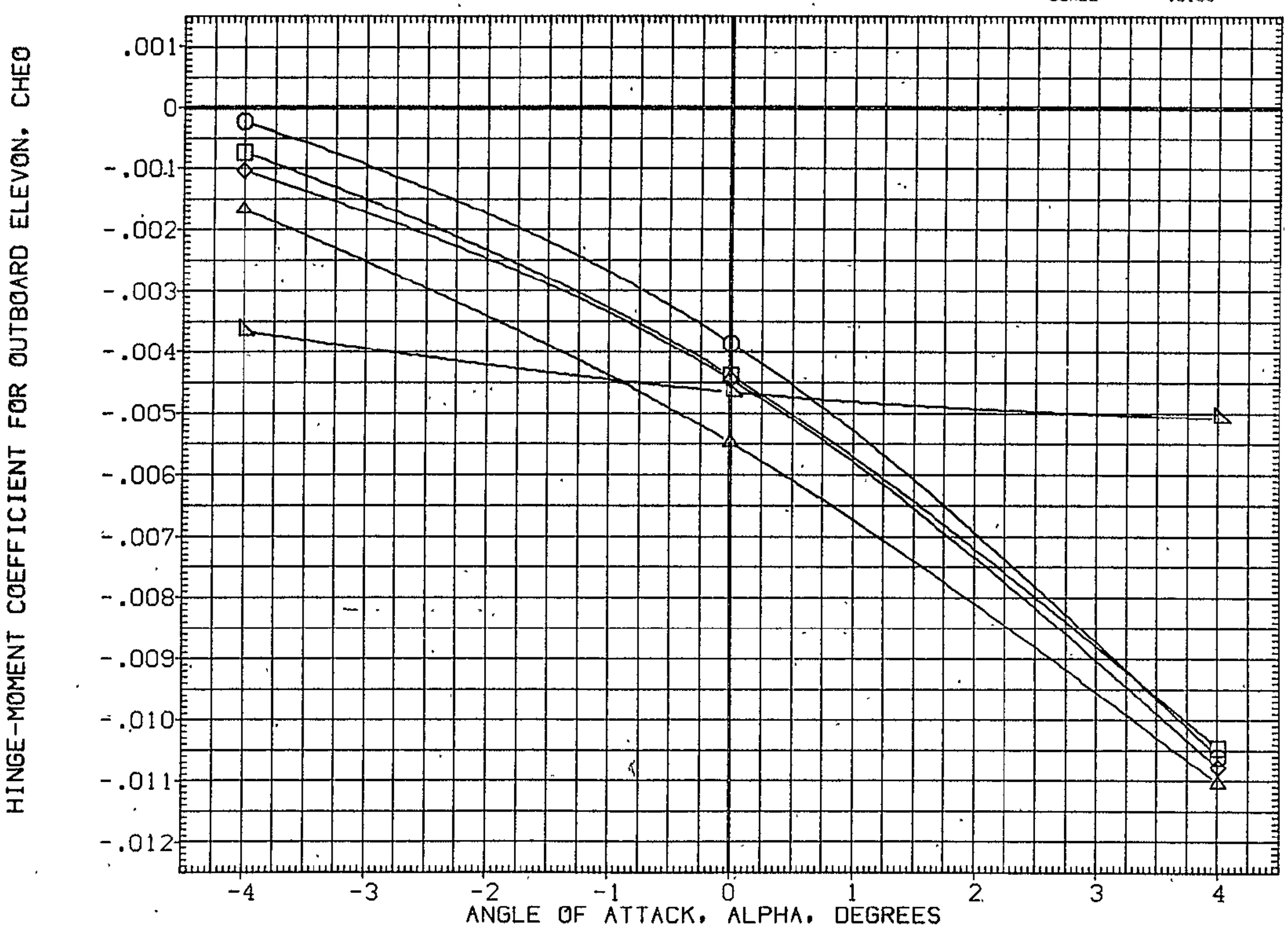


FIG. 15 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X16)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5X12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5X09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

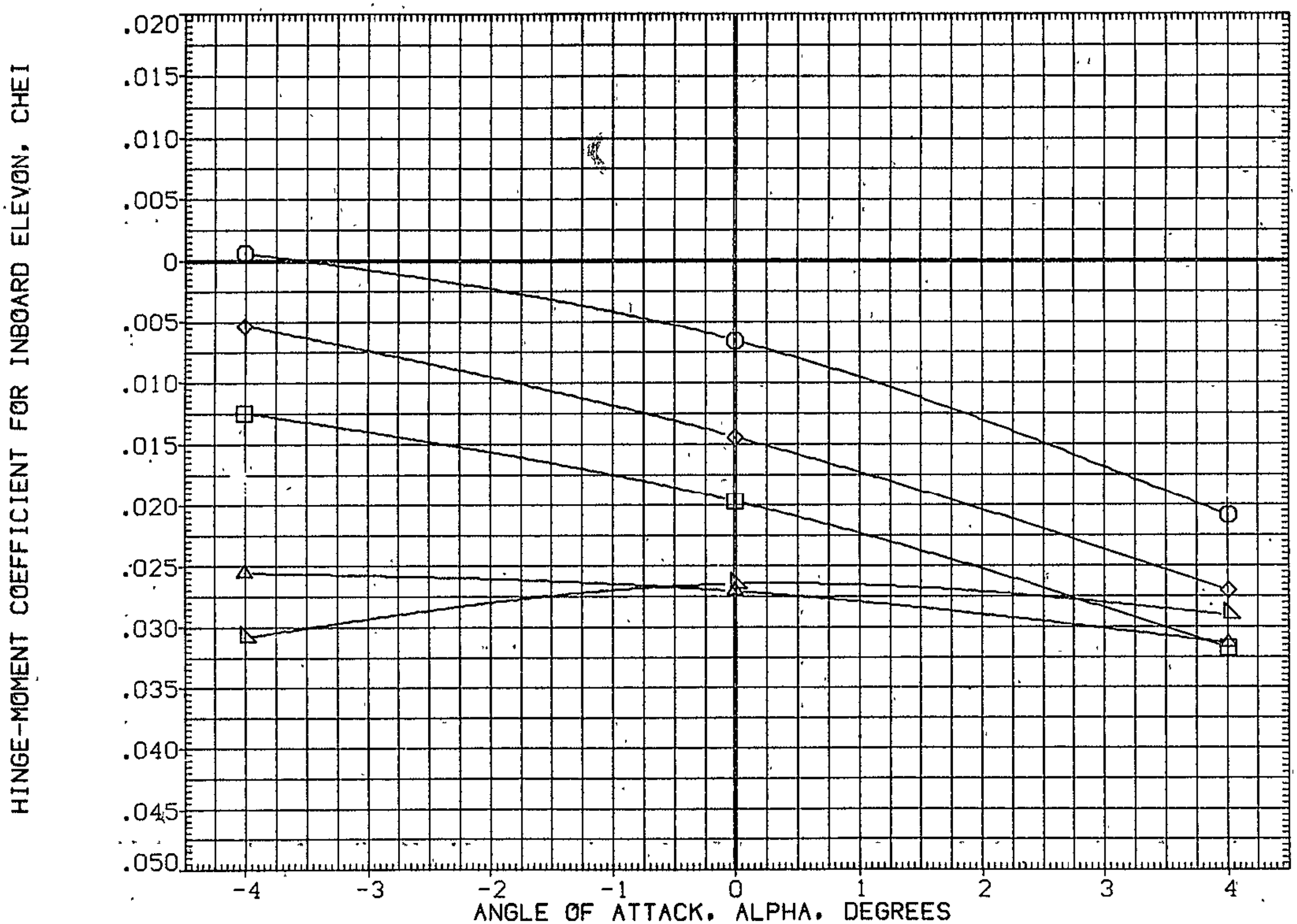


FIG. 16 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5X16)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.000	15.100
(RE5X12)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.000	10.700
(RE5X09)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

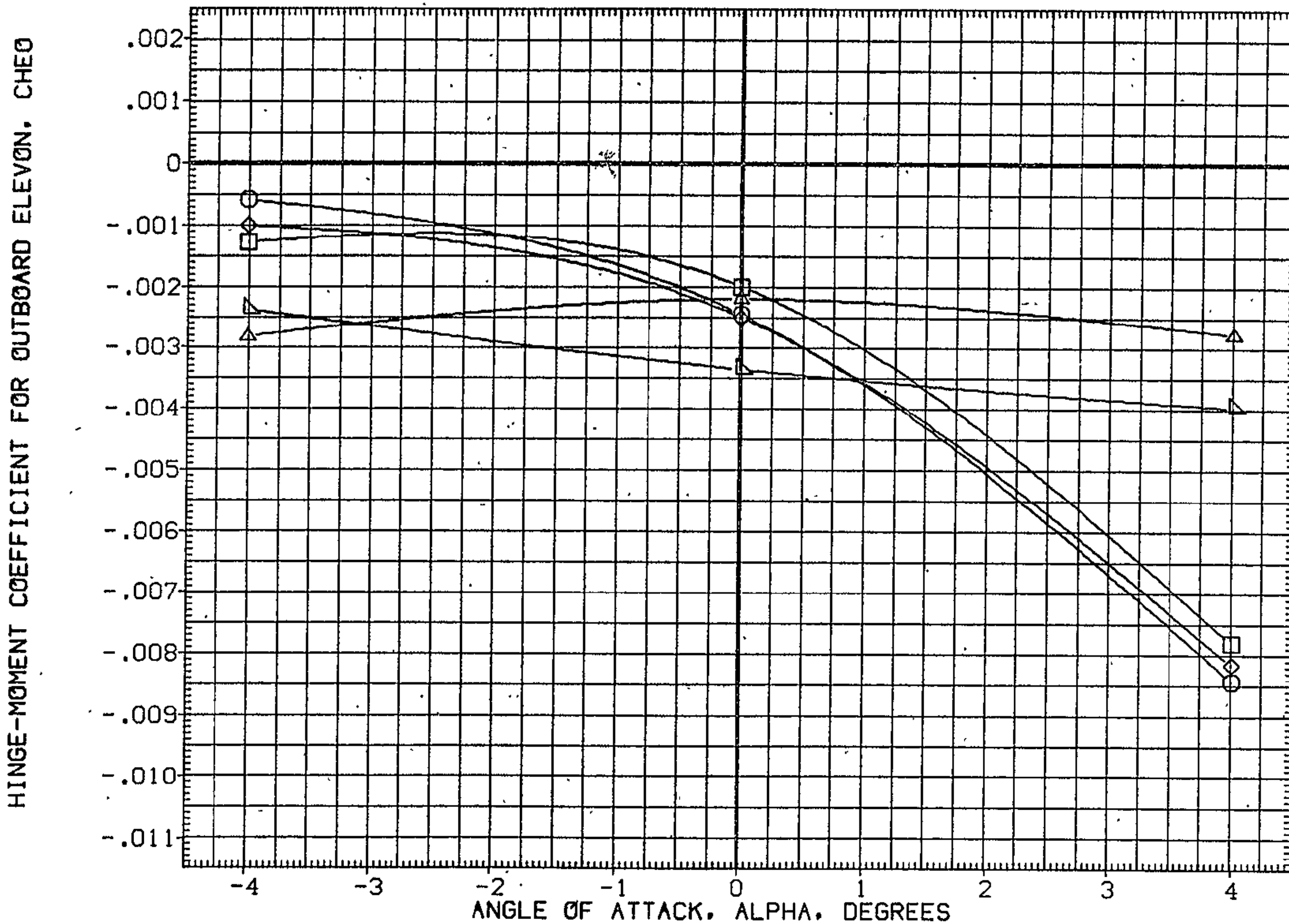


FIG. 16 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5X23)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.500	15.100
(RE5X26)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.500	10.700
(RE5X29)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

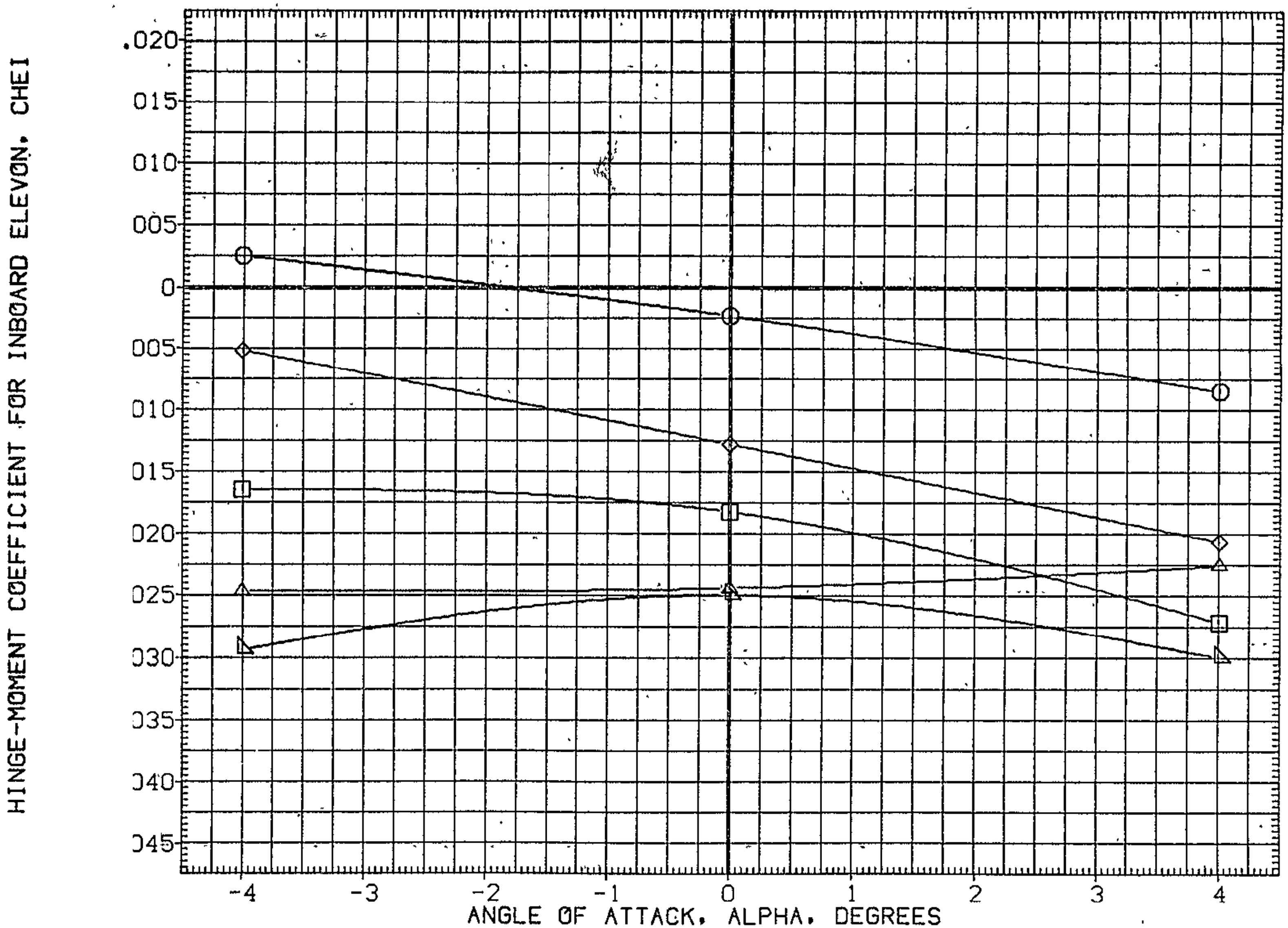


FIG. 17 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.5

(A)BETA = .00

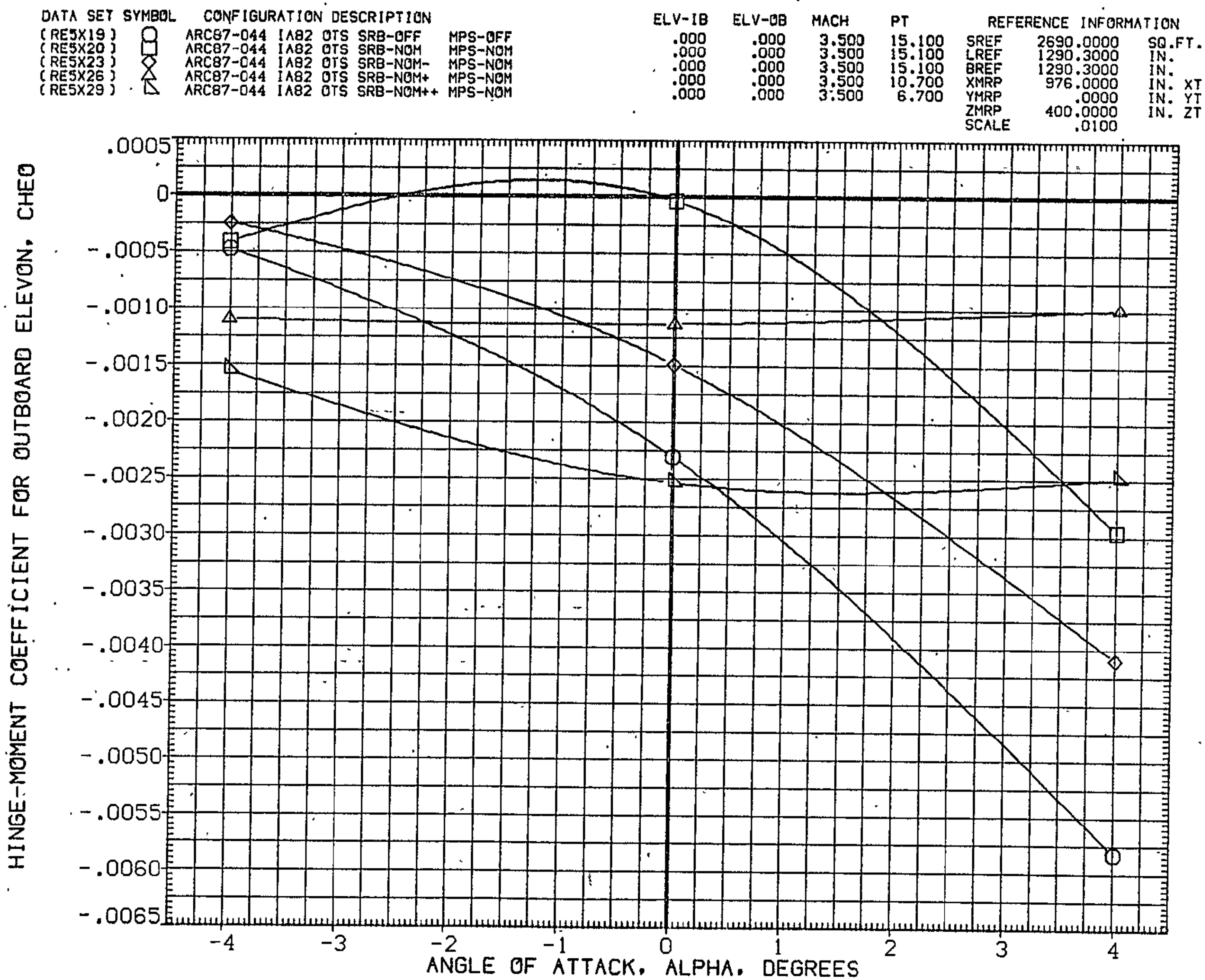


FIG. 17 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN PITCH, MACH=3.5
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5Y04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5Y05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5Y08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

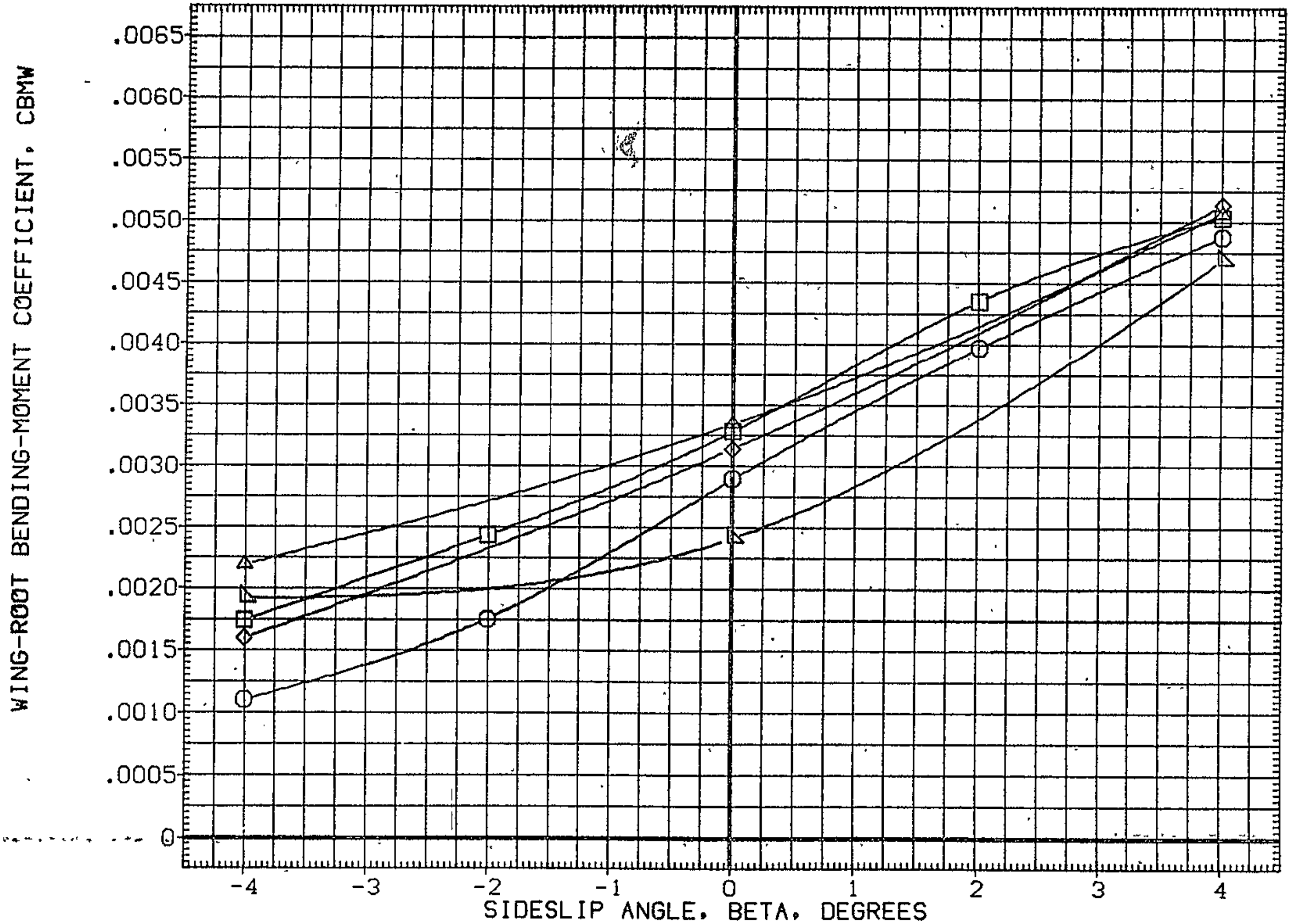


FIG. 18 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5Y04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5Y05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5Y08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

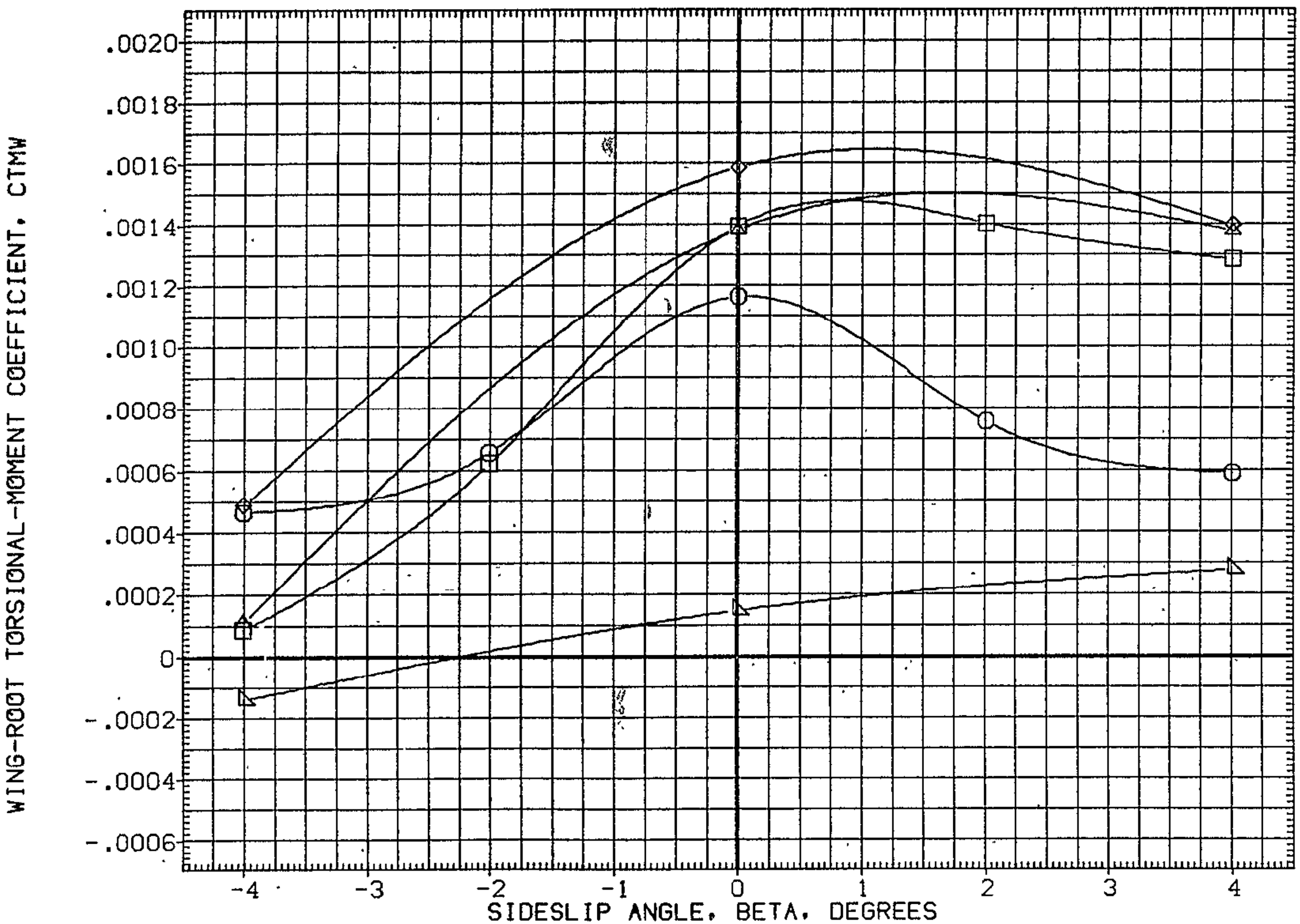


FIG. 18 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5Y04)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	2.600	14.700
(RE5Y05)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	2.600	14.700
(RE5Y08)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

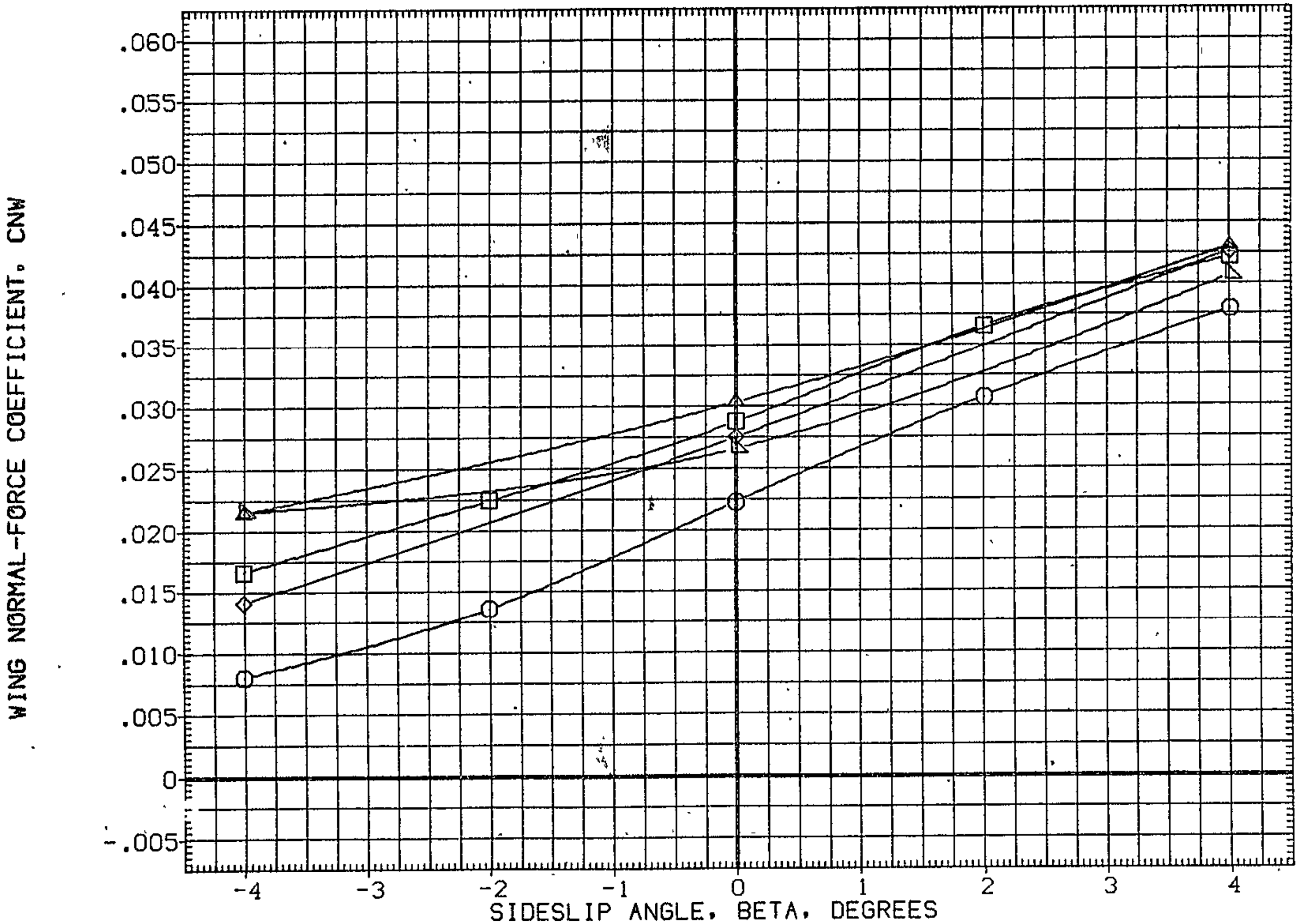


FIG. 18 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

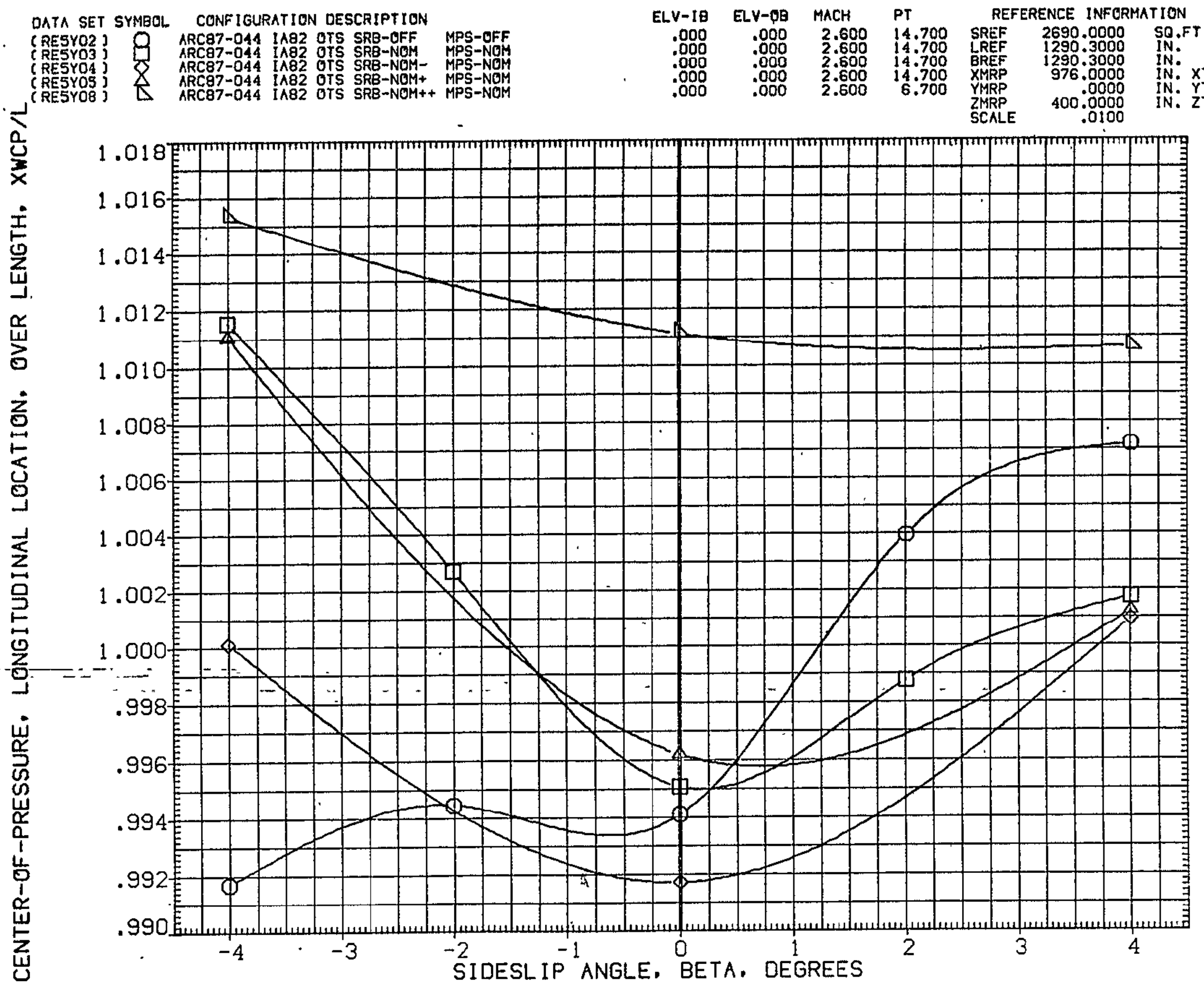


FIG. 18 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y04)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	2.600	14.700
(RE5Y05)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	2.600	14.700
(RE5Y08)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

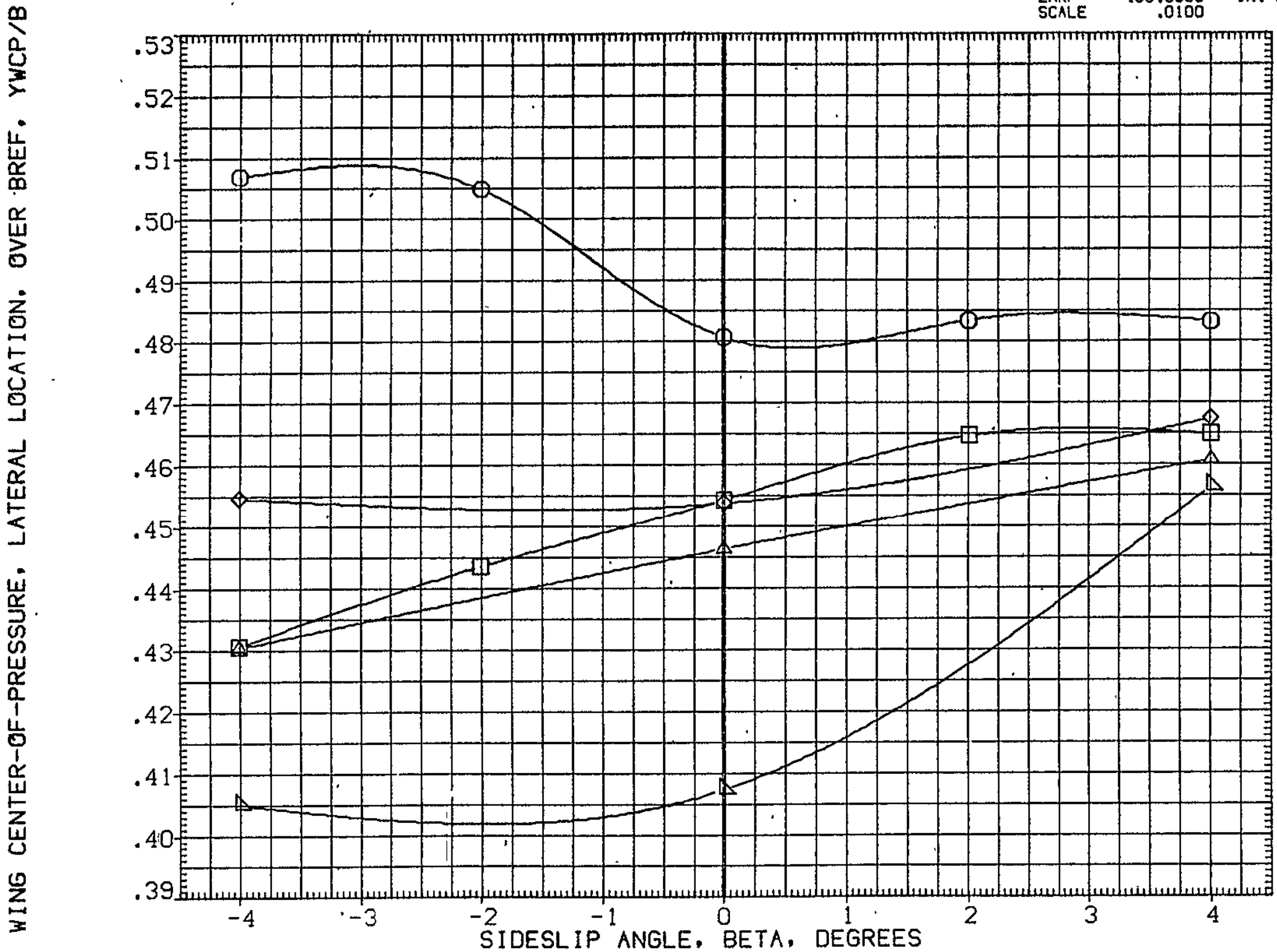


FIG. 18 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

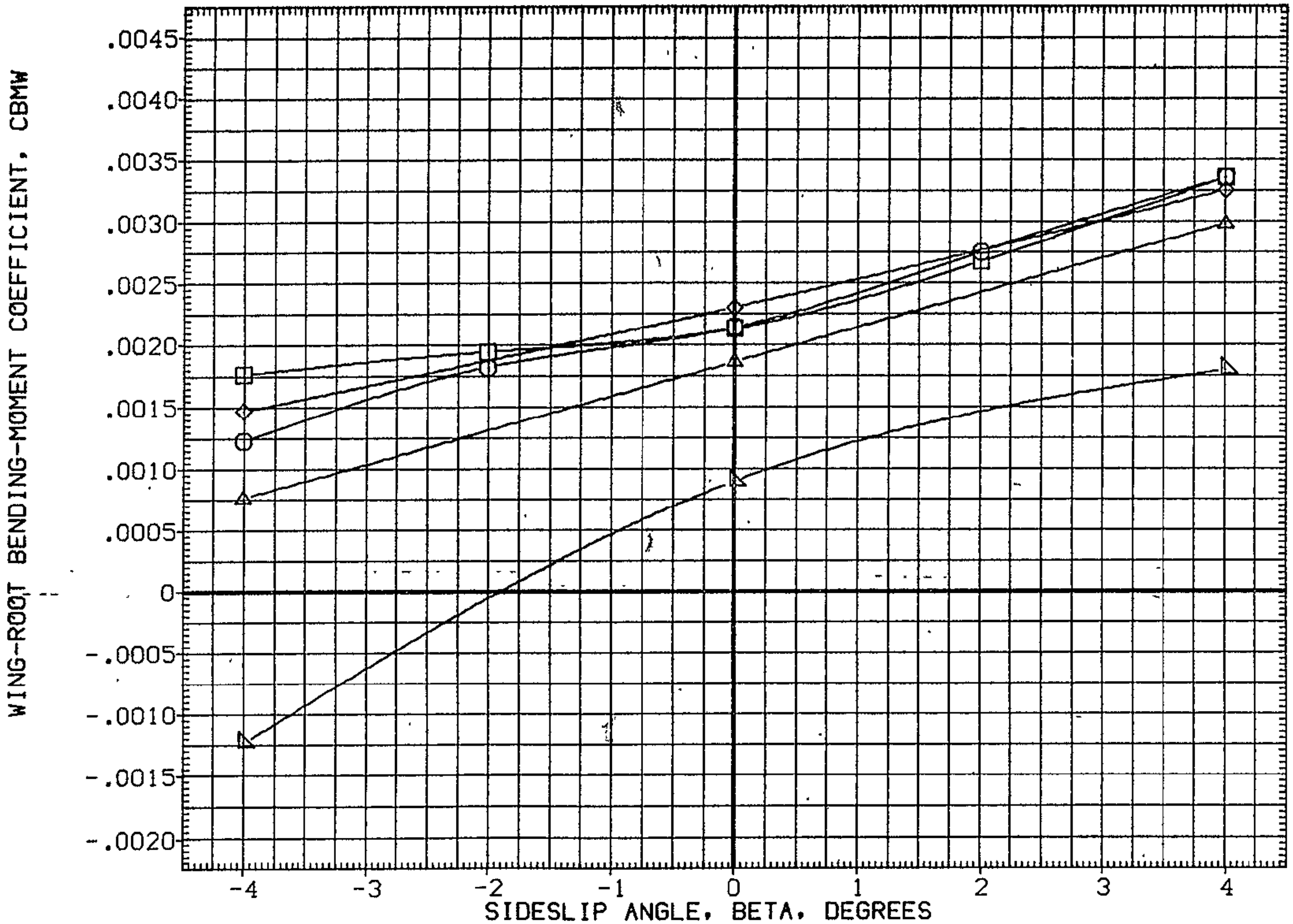


FIG. 19 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y01)		ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)		ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)		ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)		ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

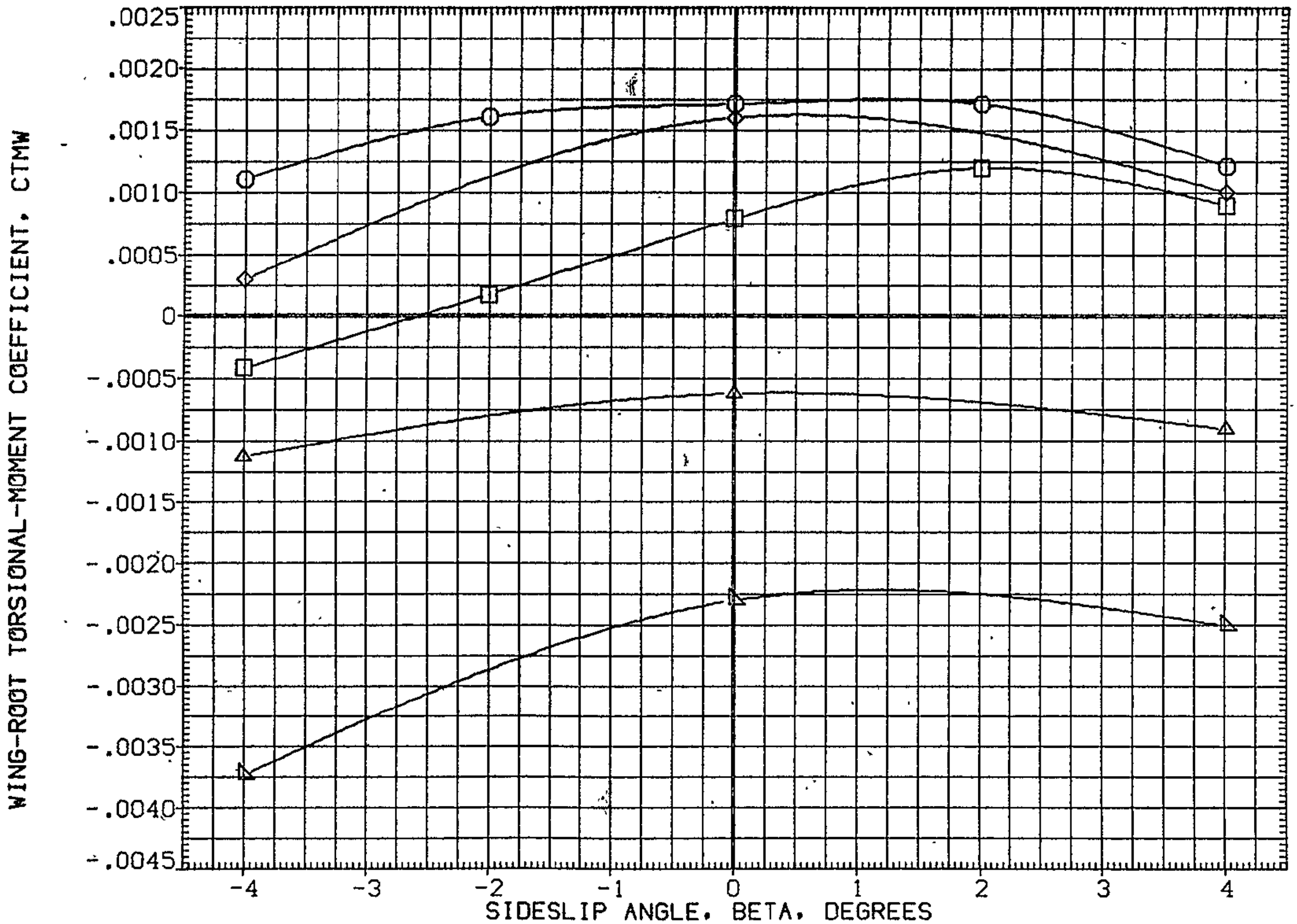


FIG. 19 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

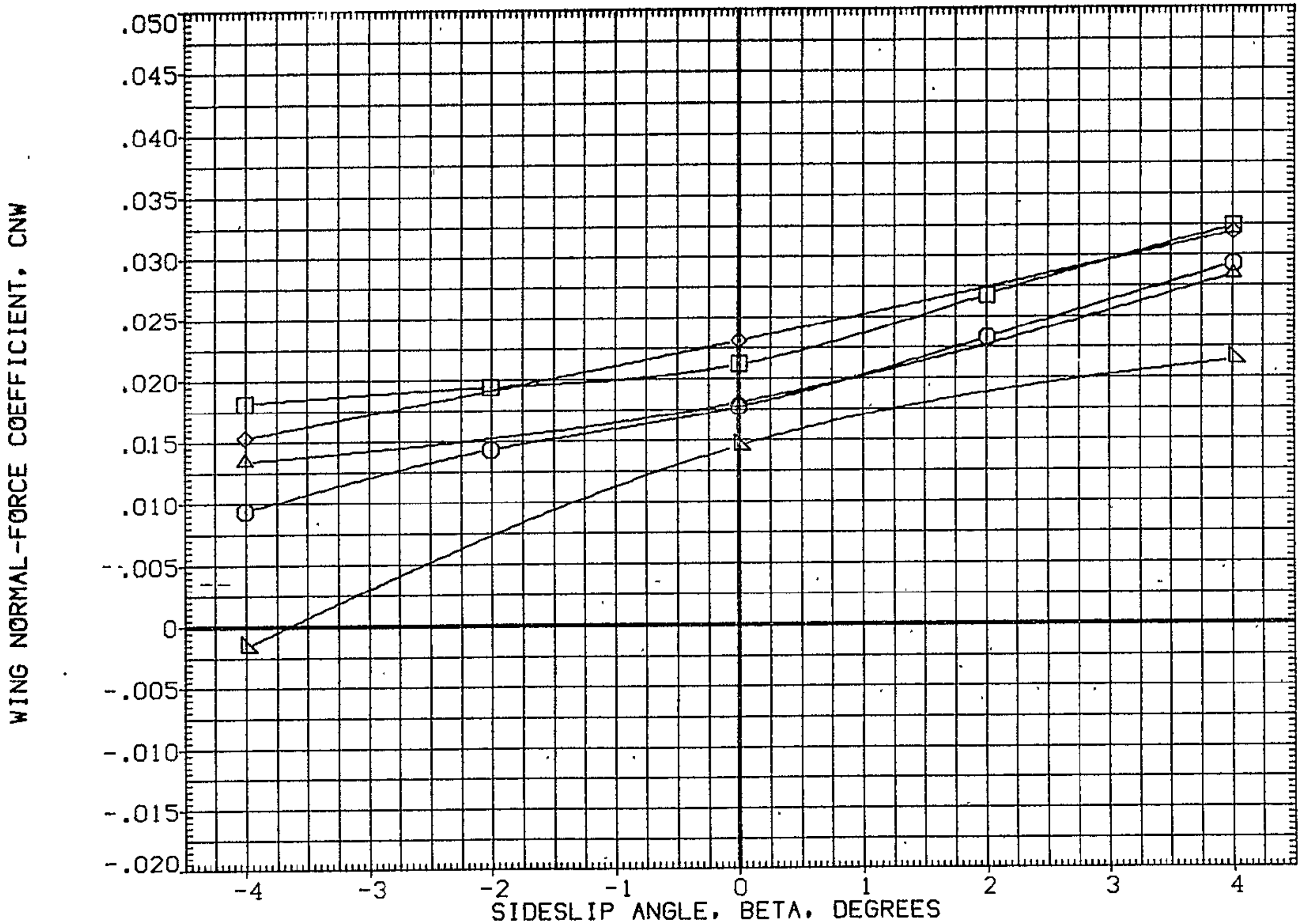


FIG. 19 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

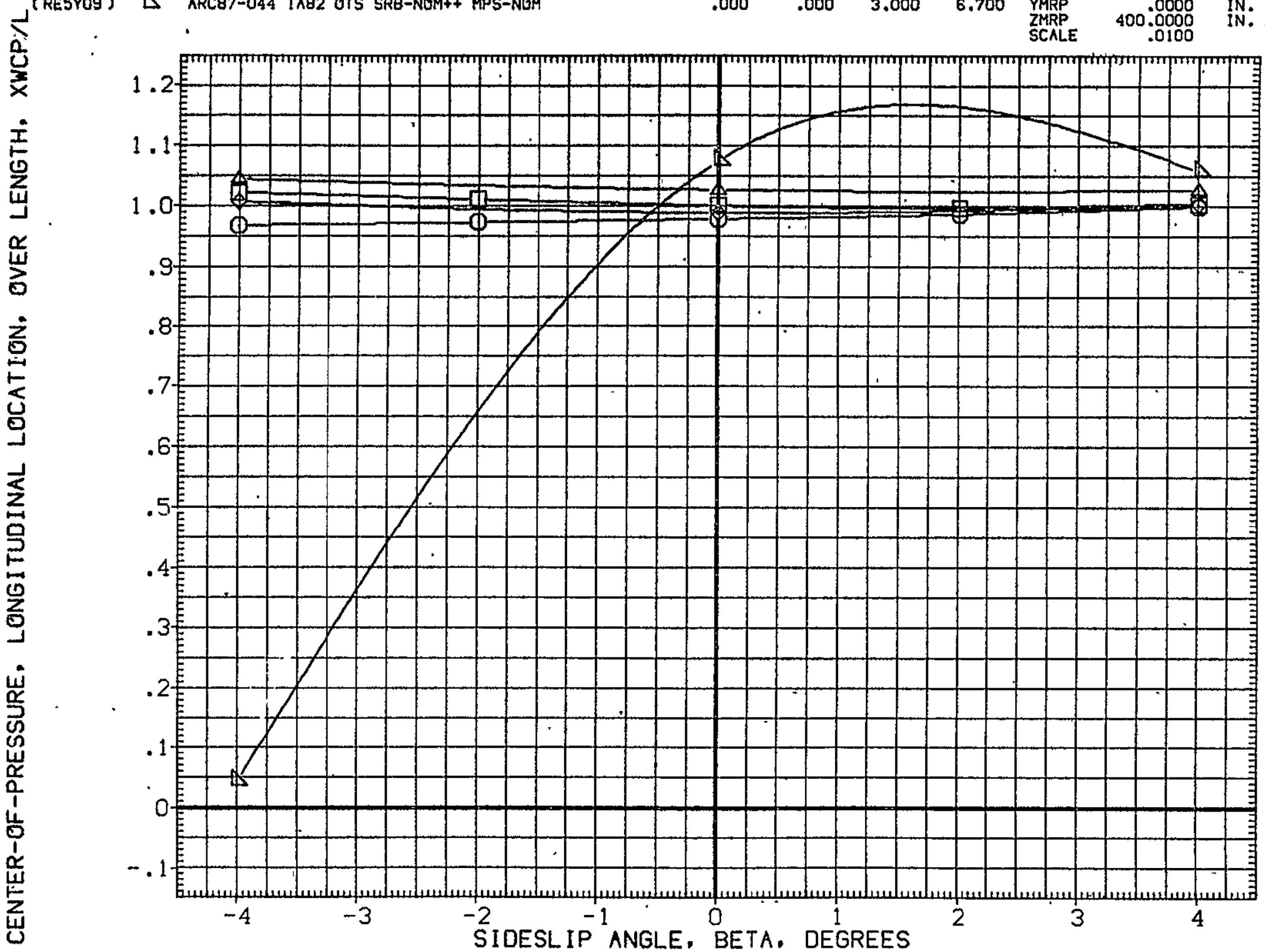


FIG. 19 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)	⊠	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

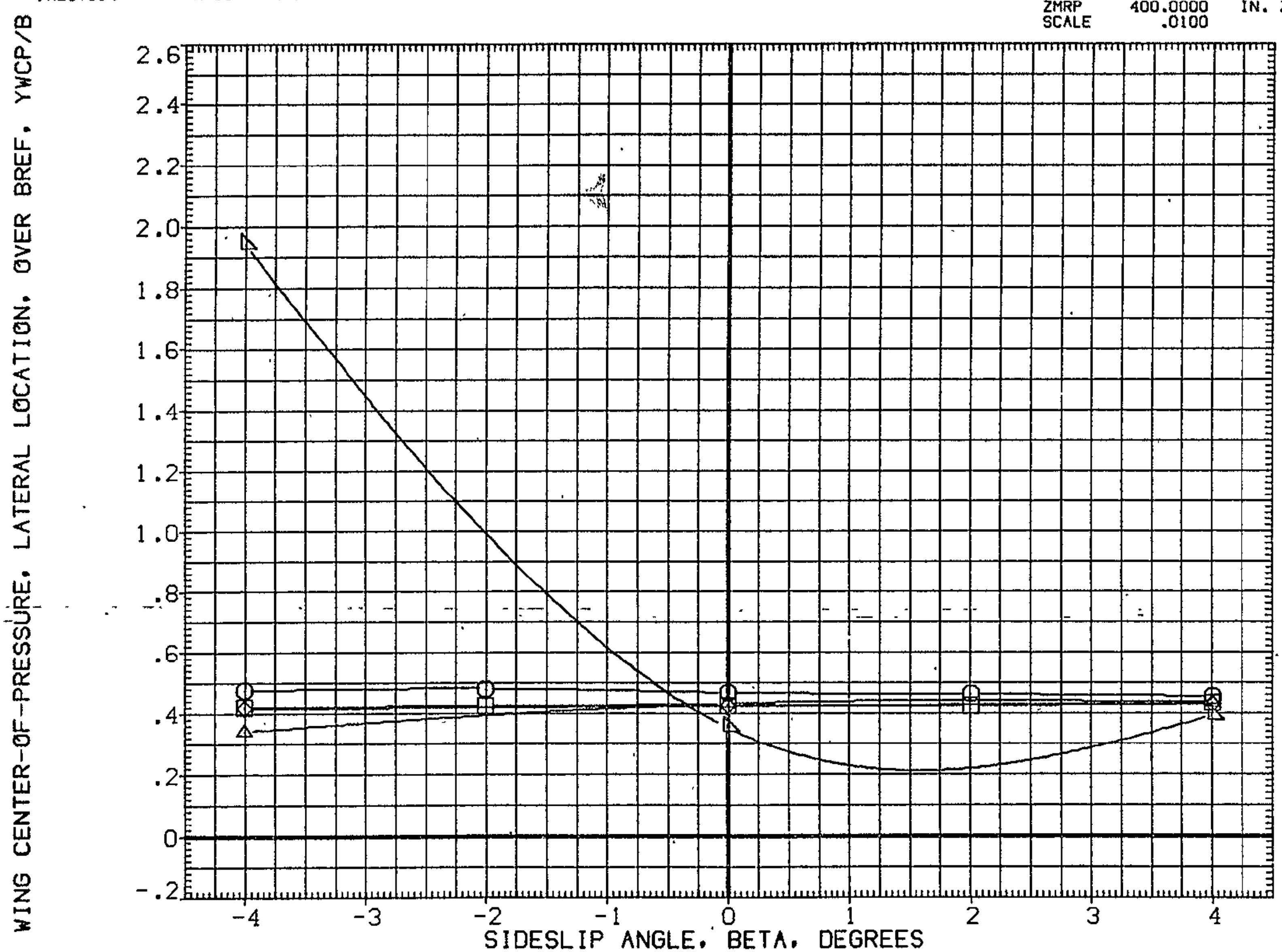


FIG. 19 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

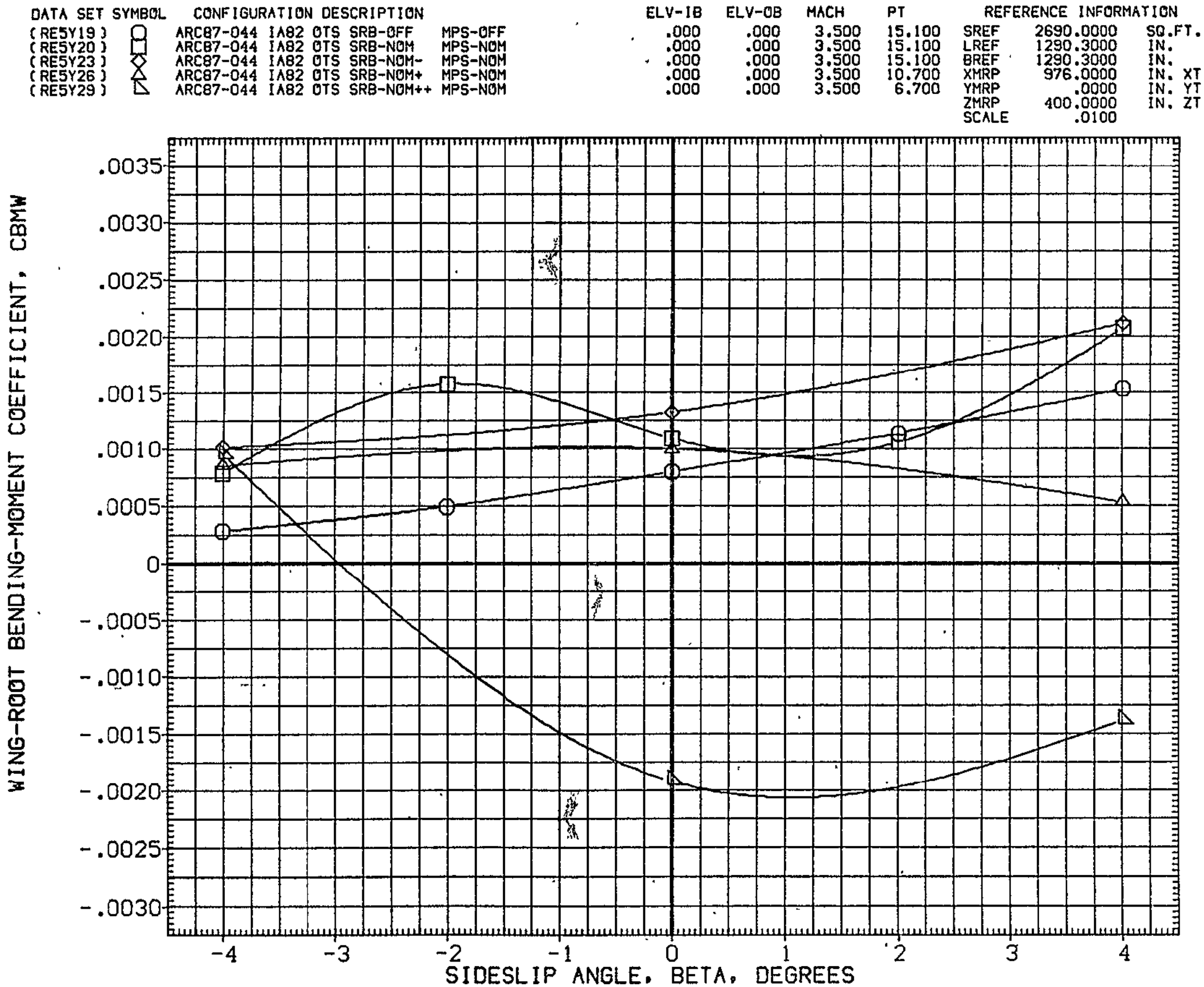


FIG. 20 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB.	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y23)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.500	15.100
(RE5Y26)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.500	10.700
(RE5Y29)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

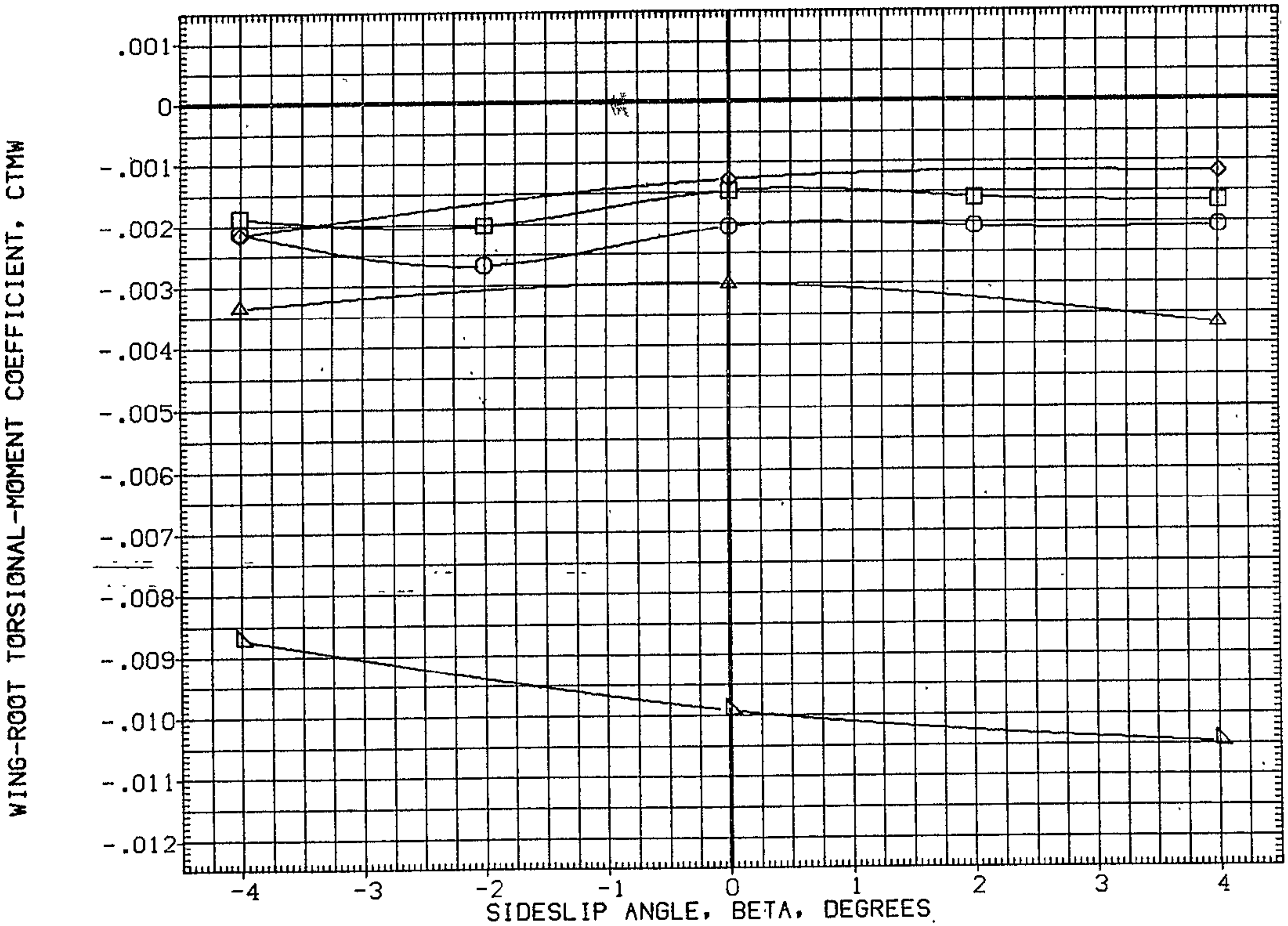


FIG. 20 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = 00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5Y23)	◊	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.500	15.100
(RE5Y26)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.500	10.700
(RE5Y29)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

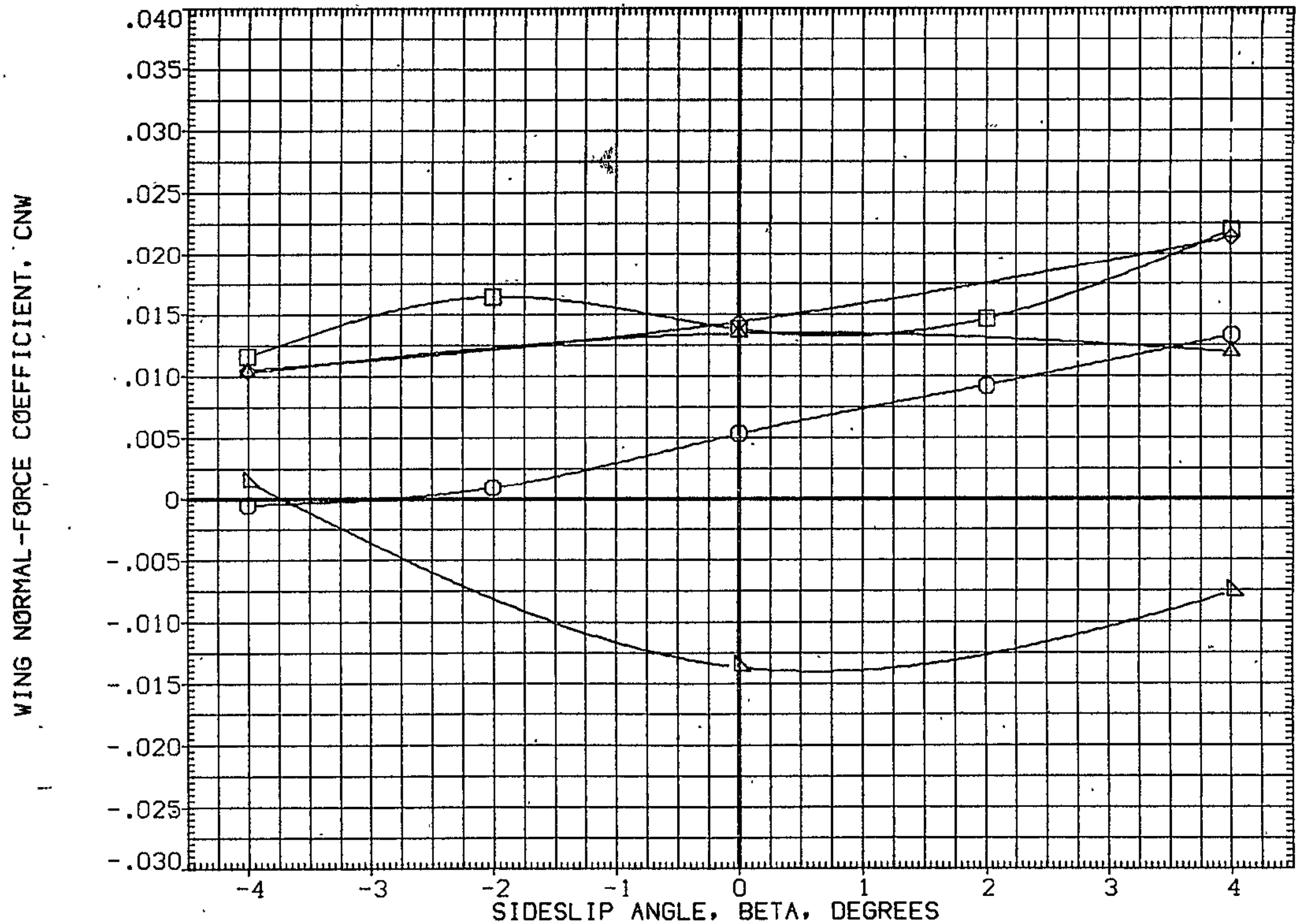


FIG. 20 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

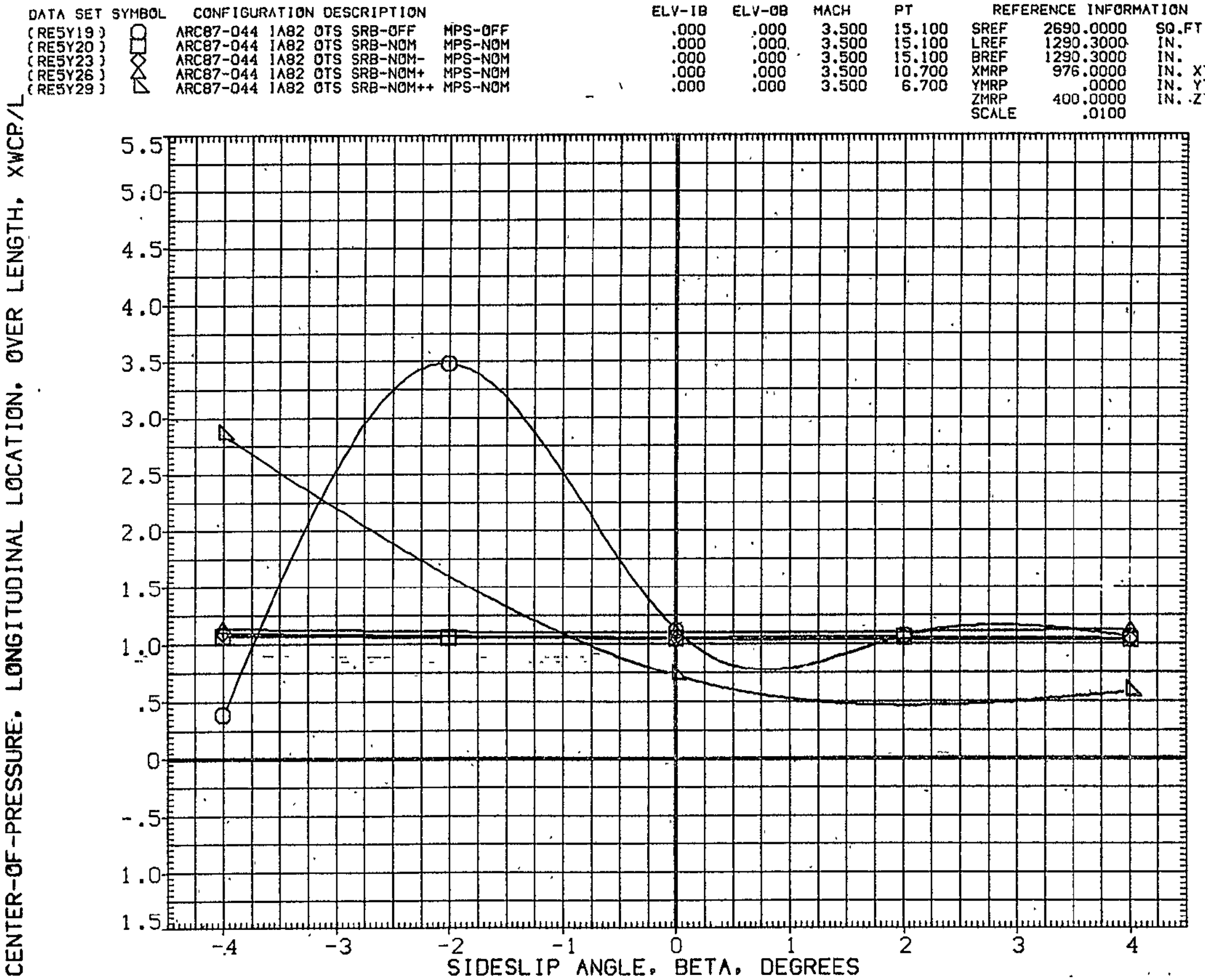


FIG. 20 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5Y23)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.500	15.100
(RE5Y26)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.500	10.700
(RE5Y29)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

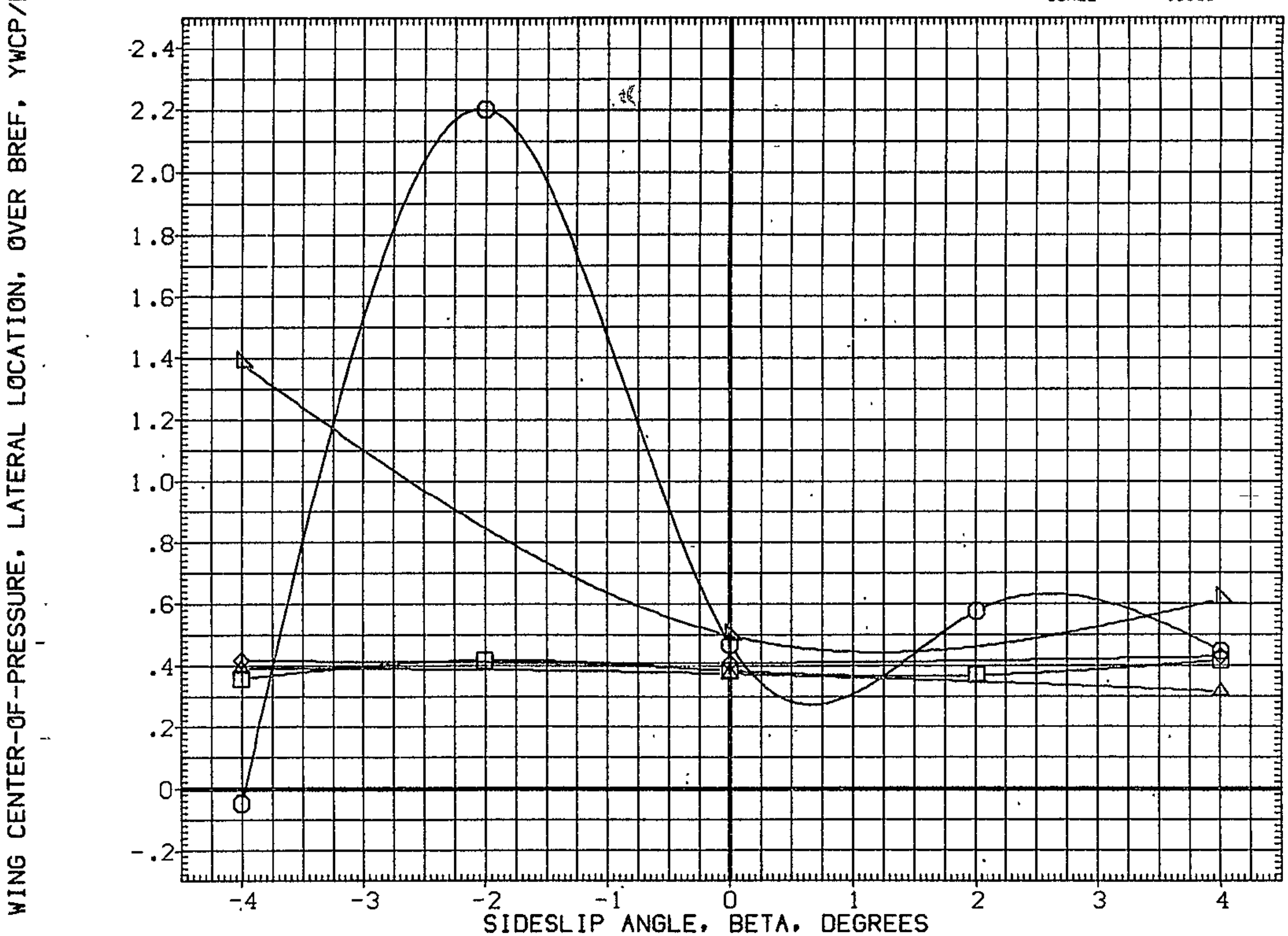


FIG. 20 SRB PLUME SIZE EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y04)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	2.600	14.700
(RE5Y05)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	2.600	14.700
(RE5Y08)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

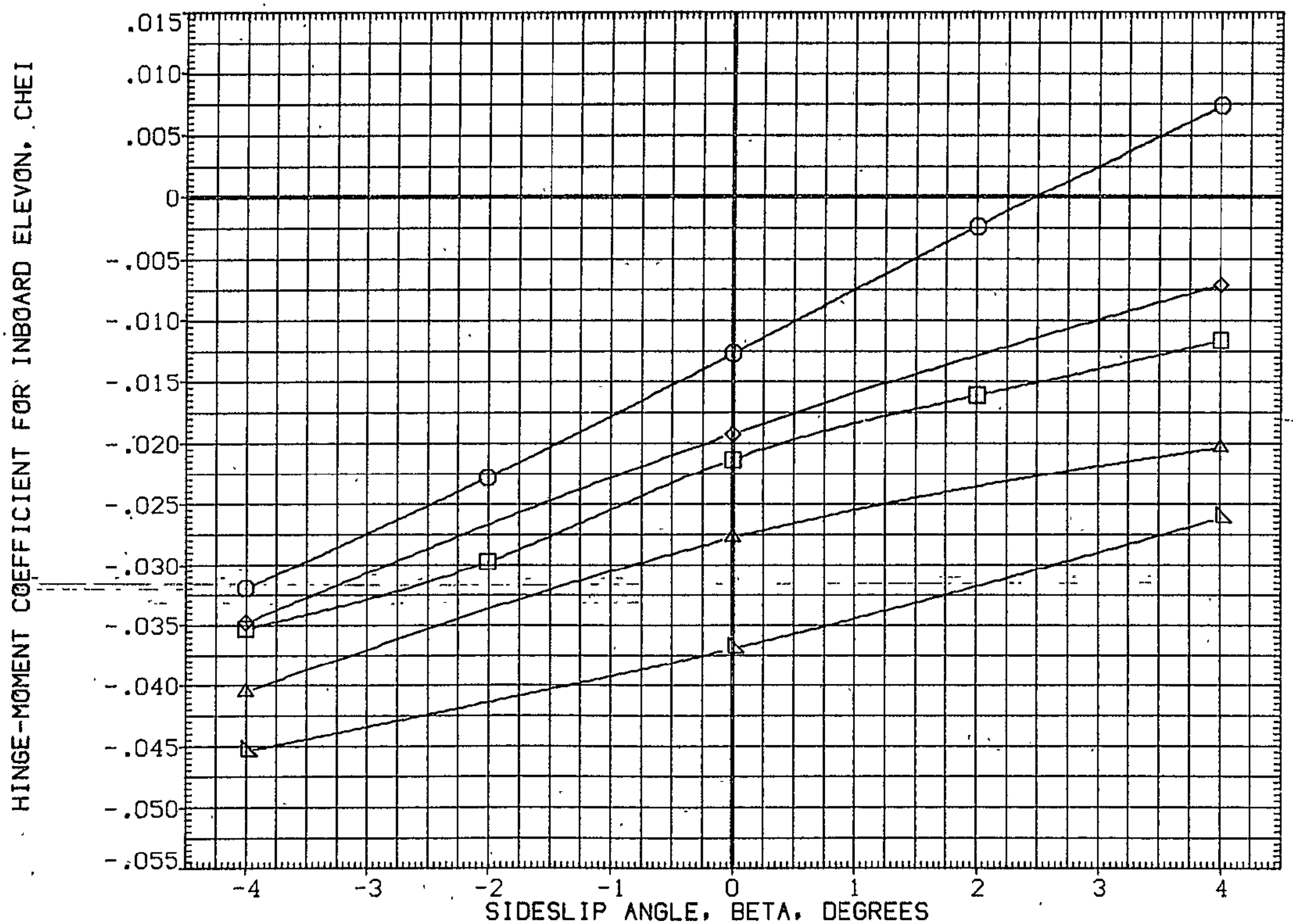


FIG. 21 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y04)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	2.600	14.700
(RE5Y05)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	2.600	14.700
(RE5Y08)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	2.600	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

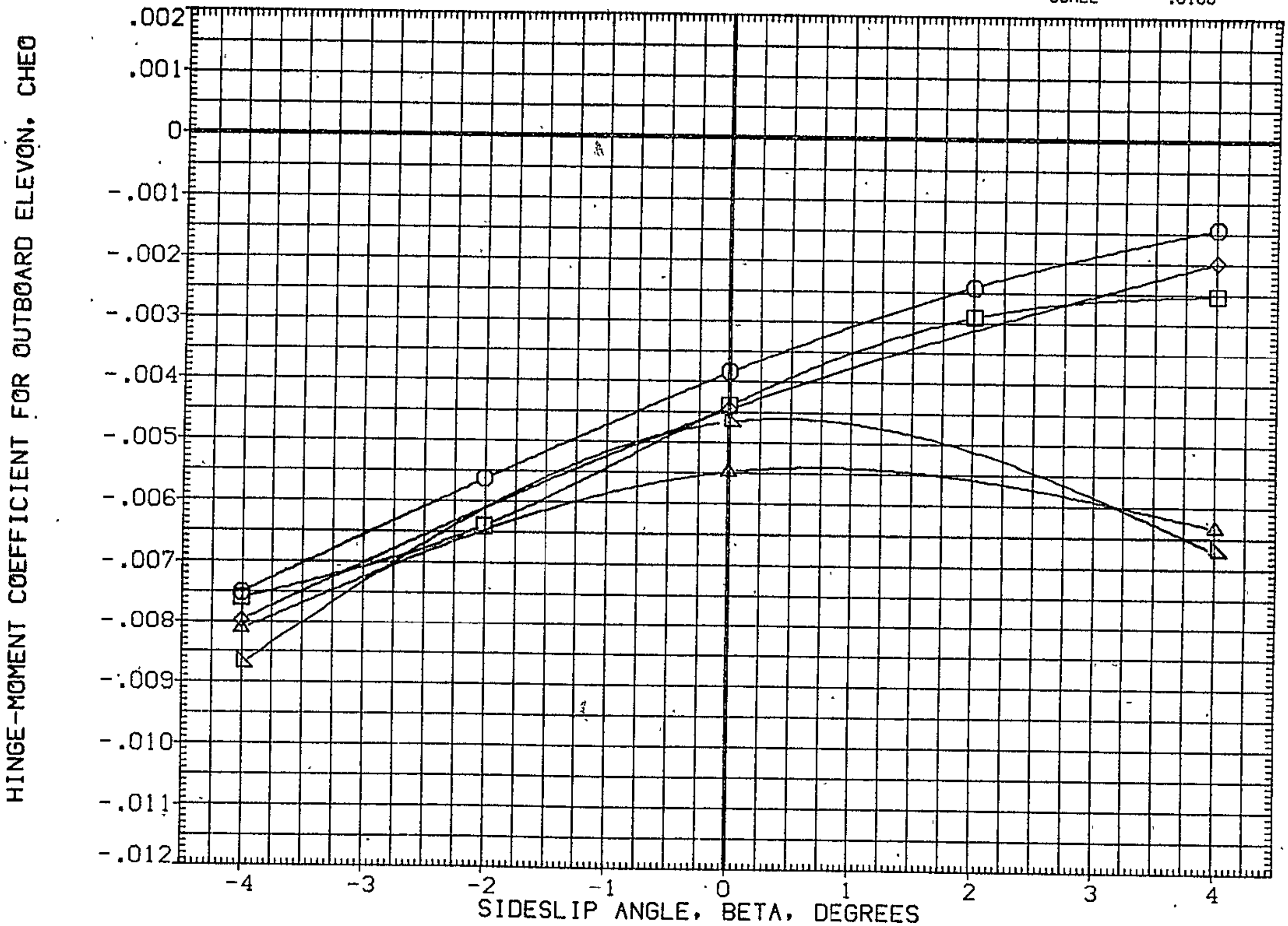


FIG. 21 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

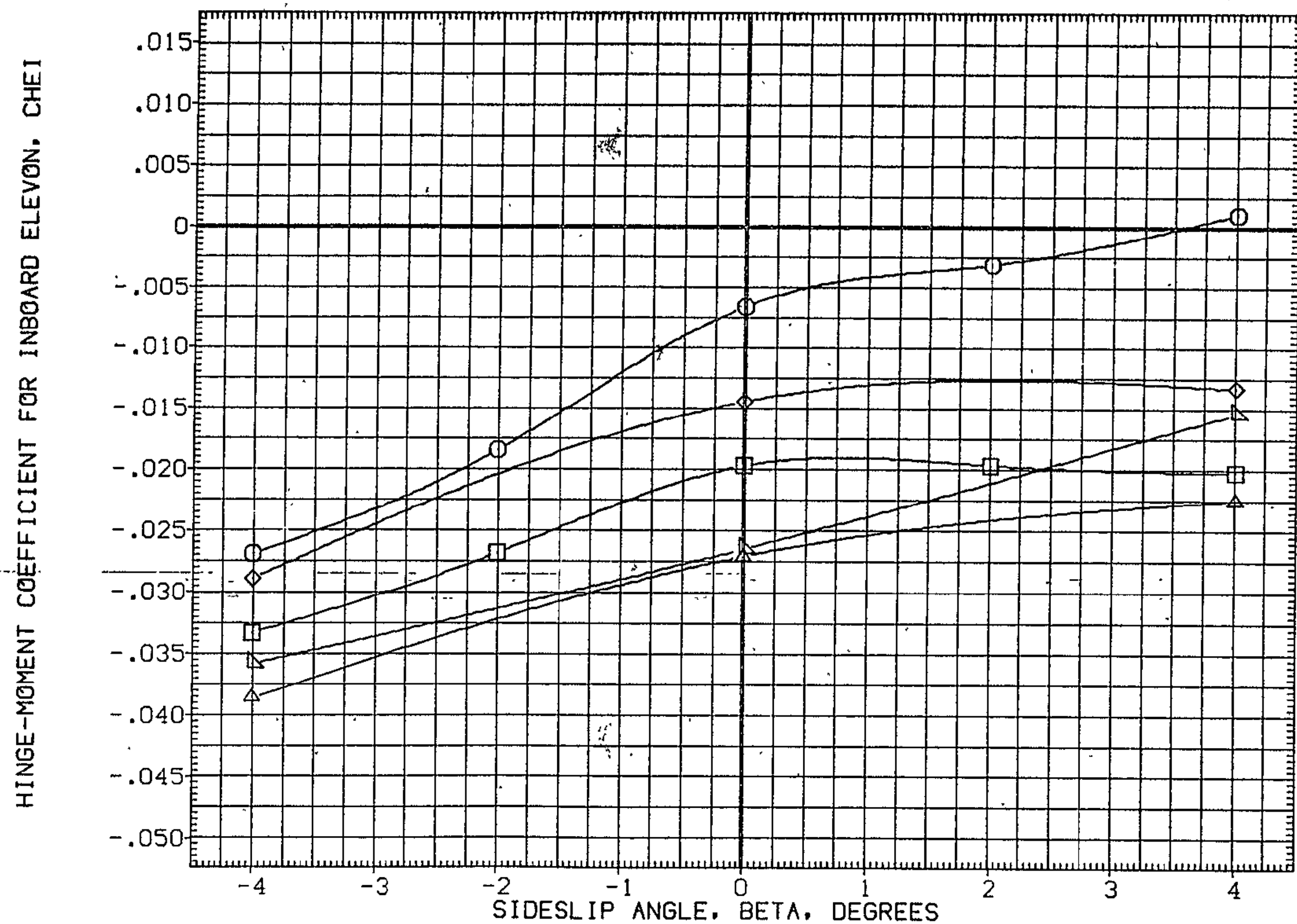


FIG. 22 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5Y16)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.000	15.100
(RE5Y12)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.000	10.700
(RE5Y09)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.000	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.F
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0100	

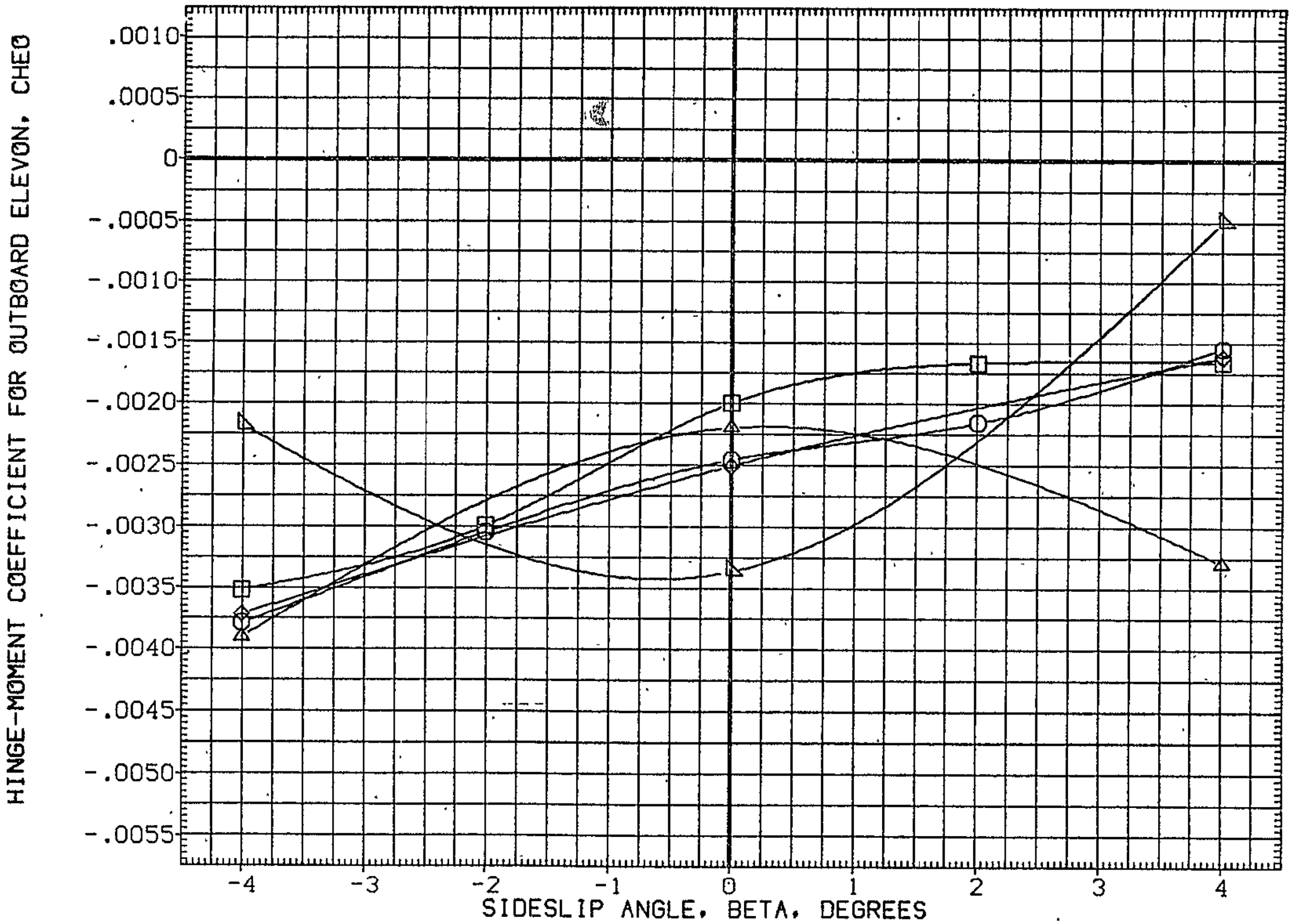


FIG. 22 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5Y23)	◇	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	3.500	15.100
(RE5Y26)	△	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	3.500	10.700
(RE5Y29)	◺	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

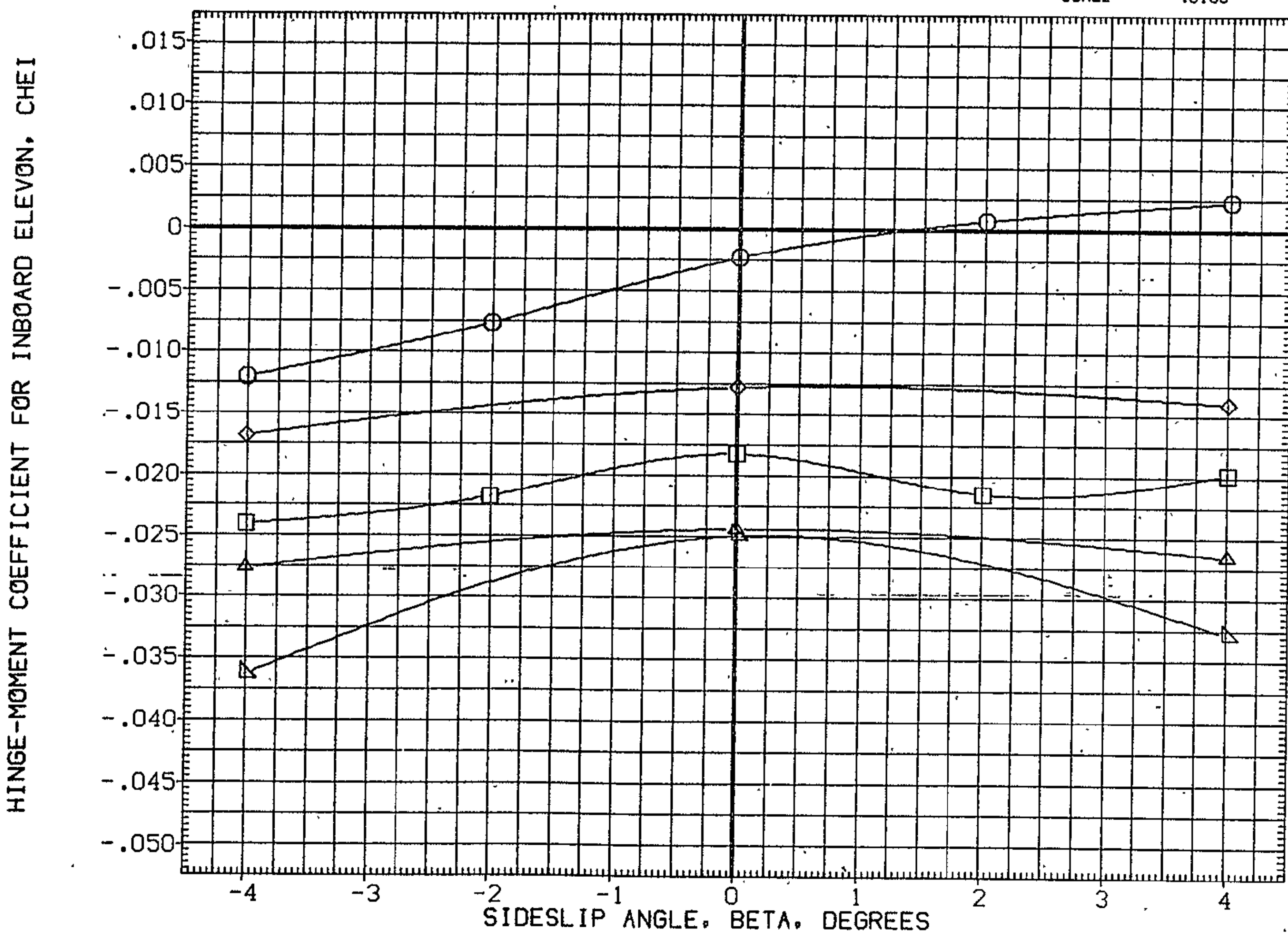


FIG. 23 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y23)	◇	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	3.500	15.100
(RE5Y26)	△	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	3.500	10.700
(RE5Y29)	◺	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	3.500	6.700

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

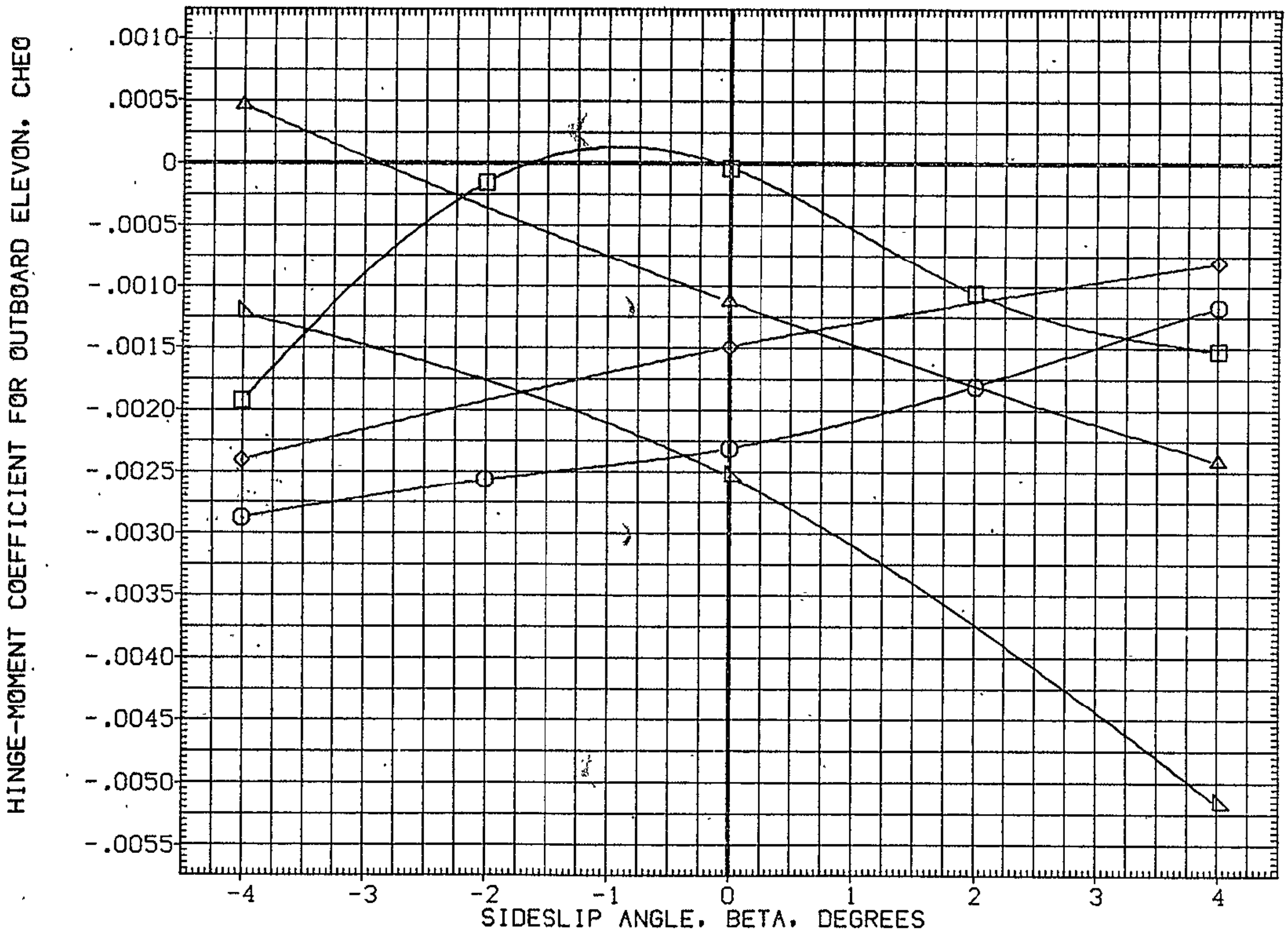


FIG. 23 SRB PLUME SIZE EFFECT ON ELEVON HINGE MOMENTS IN YAW, MACH=3.5

(A)ALPHA = .00

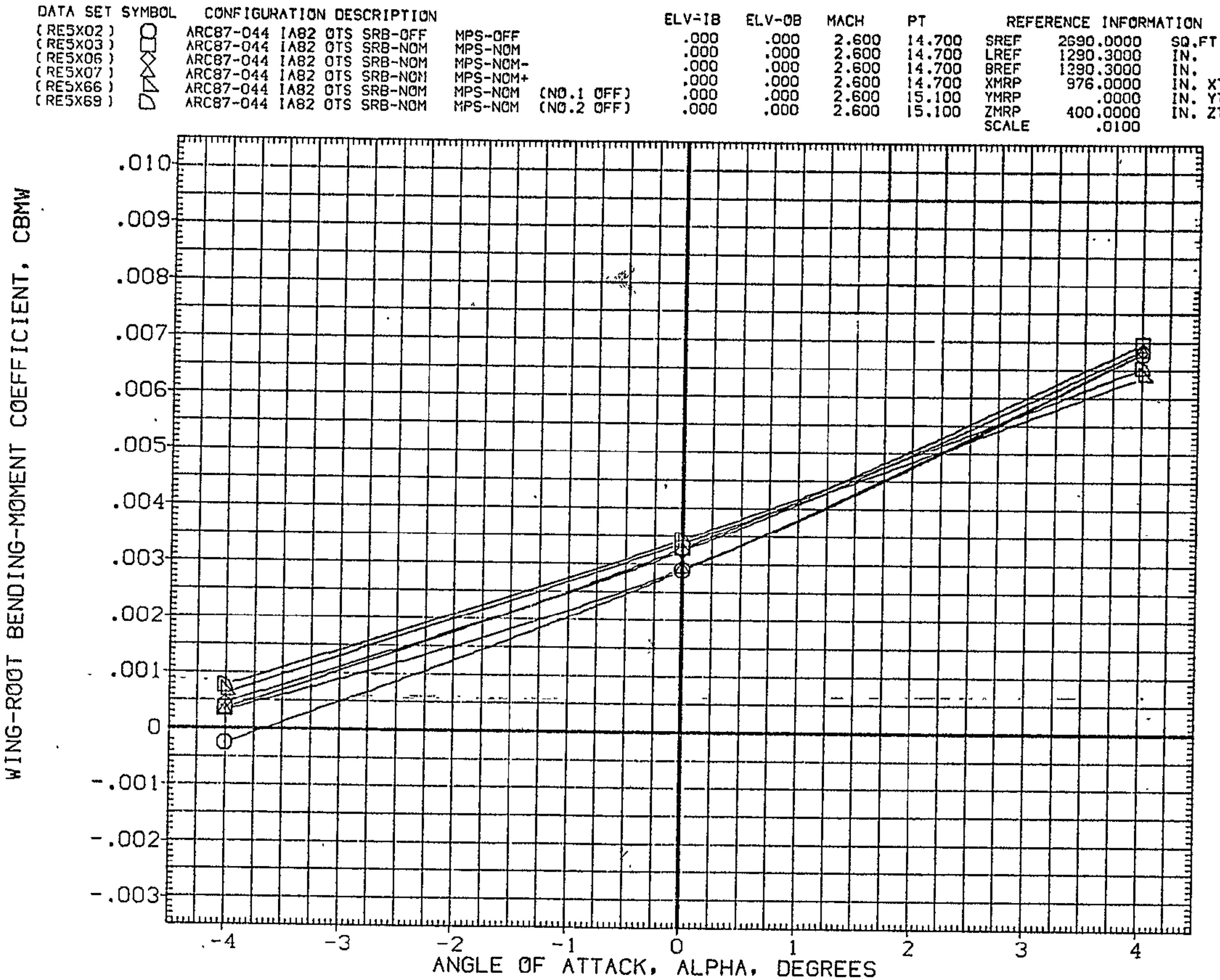


FIG. 24 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X02)		ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700	SREF	2690.0000	SQ.FT.
(RE5X03)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700	LREF	1290.3000	IN.
(RE5X06)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM-	.000	.000	2.600	14.700	BREF	1290.3000	IN.
(RE5X07)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM+	.000	.000	2.600	14.700	XMRP	976.0000	IN. XT
(RE5X66)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.1 OFF)	.000	.000	2.600	15.100	YMRP	.0000	IN. YT
(RE5X69)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.2 OFF)	.000	.000	2.600	15.100	ZMRP	400.0000	IN. ZT
							SCALE	.0100	

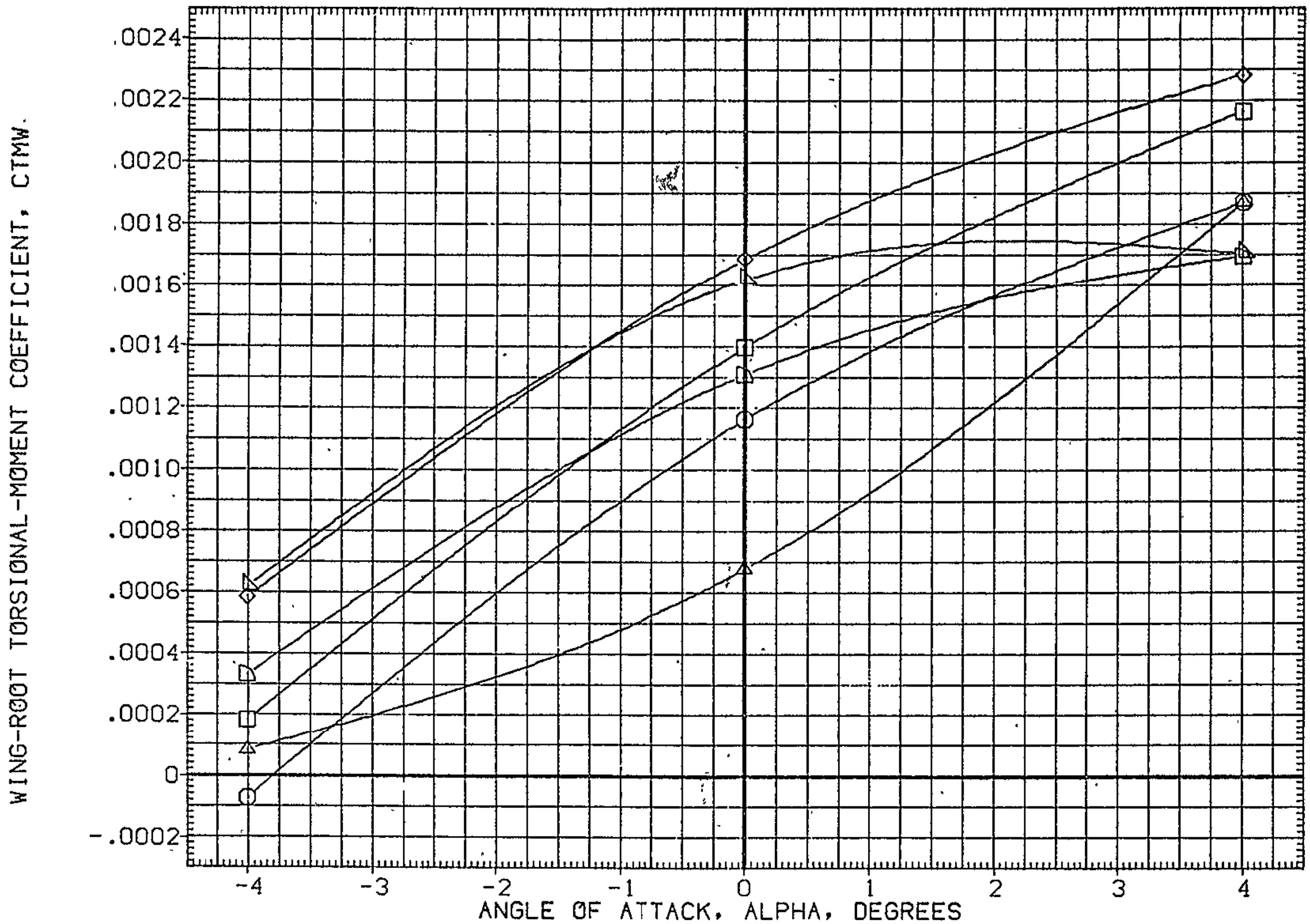


FIG. 24 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	2.600	14.700
(RE5X06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	2.600	14.700
(RE5X07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	2.600	14.700
(RE5X66)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	2.600	15.100
(RE5X69)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

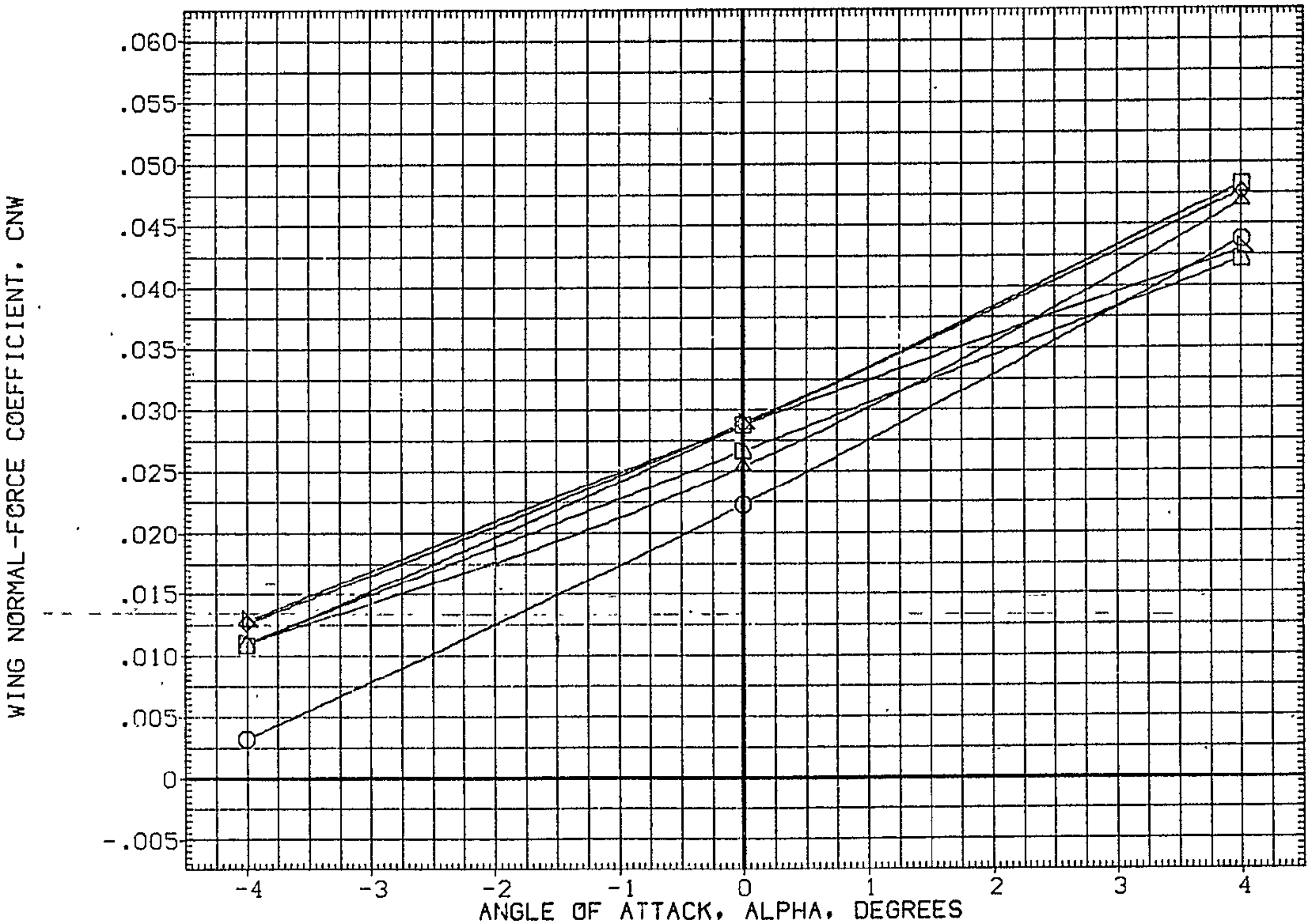


FIG. 24 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	2.600	14.700
(RE5X06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	2.600	14.700
(RE5X07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	2.600	14.700
(RE5X66)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	2.600	15.100
(RE5X69)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X1
YMRP	.0000	IN. Y1
ZMRP	400.0000	IN. Z1
SCALE	.0100	

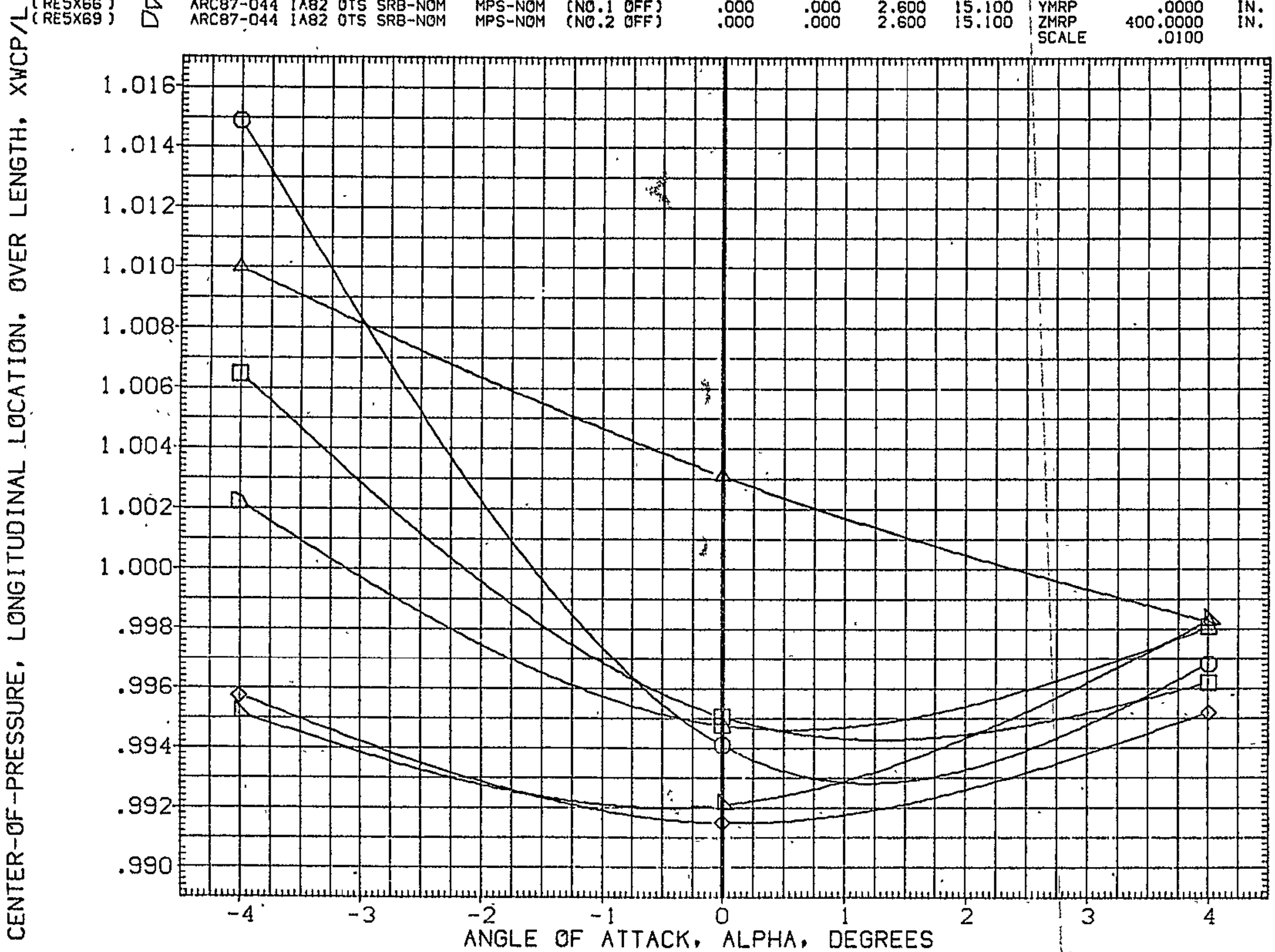


FIG. 24 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	2.600	14.700
(RE5X06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	2.600	14.700
(RE5X07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	2.600	14.700
(RE5X66)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	2.600	15.100
(RE5X69)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

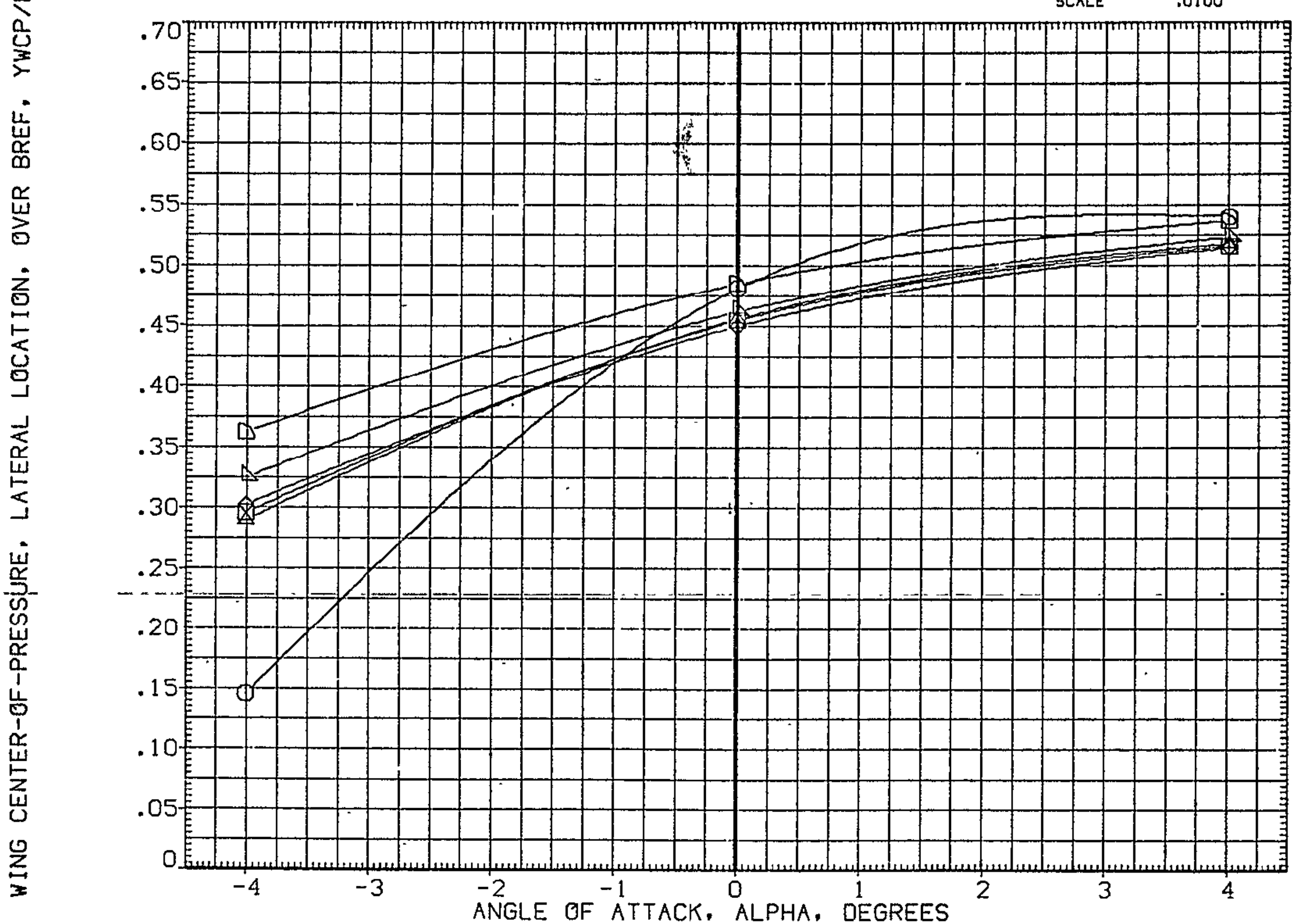


FIG. 24 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5X67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5X70)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

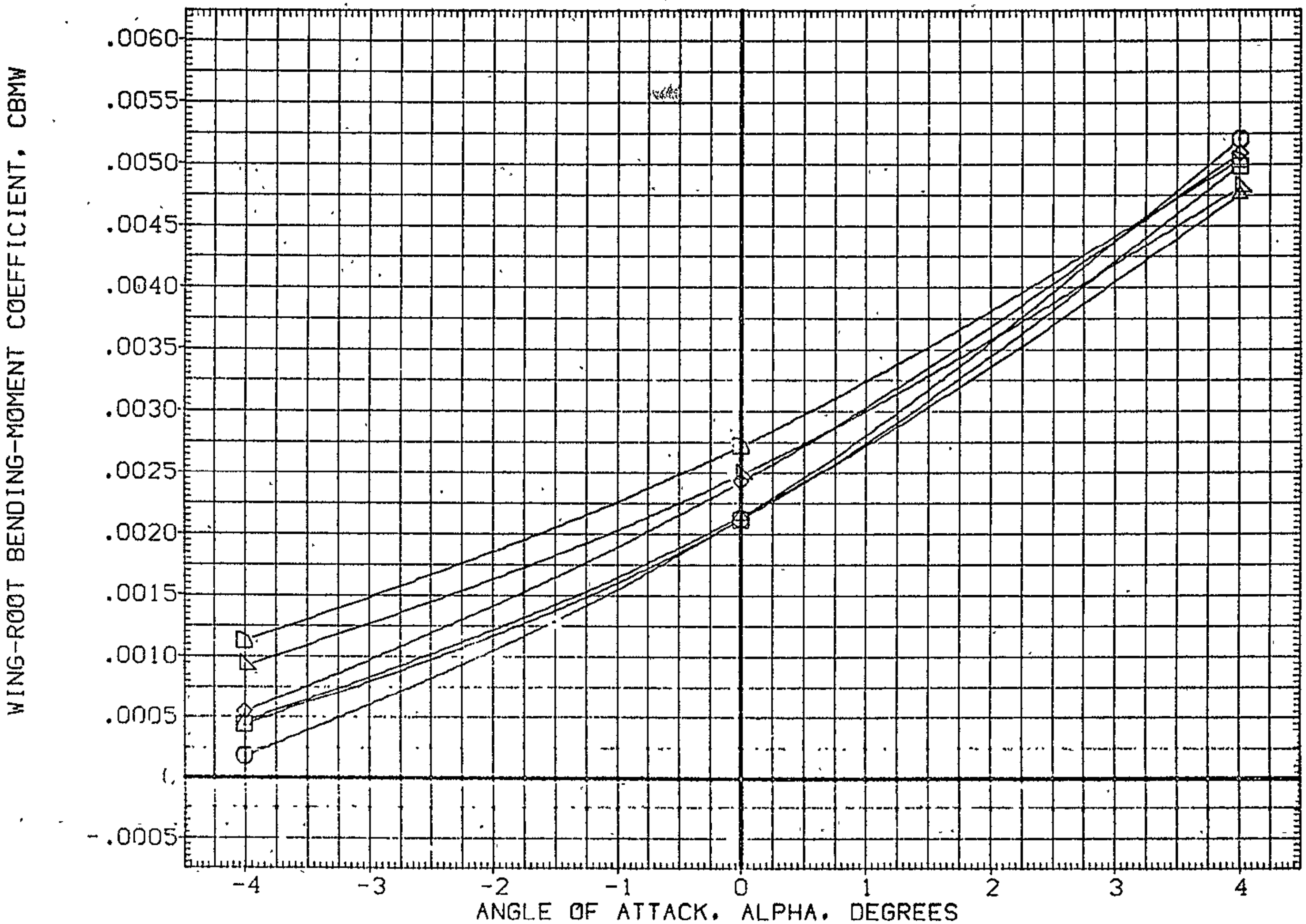


FIG. 25 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5X67)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5X70)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

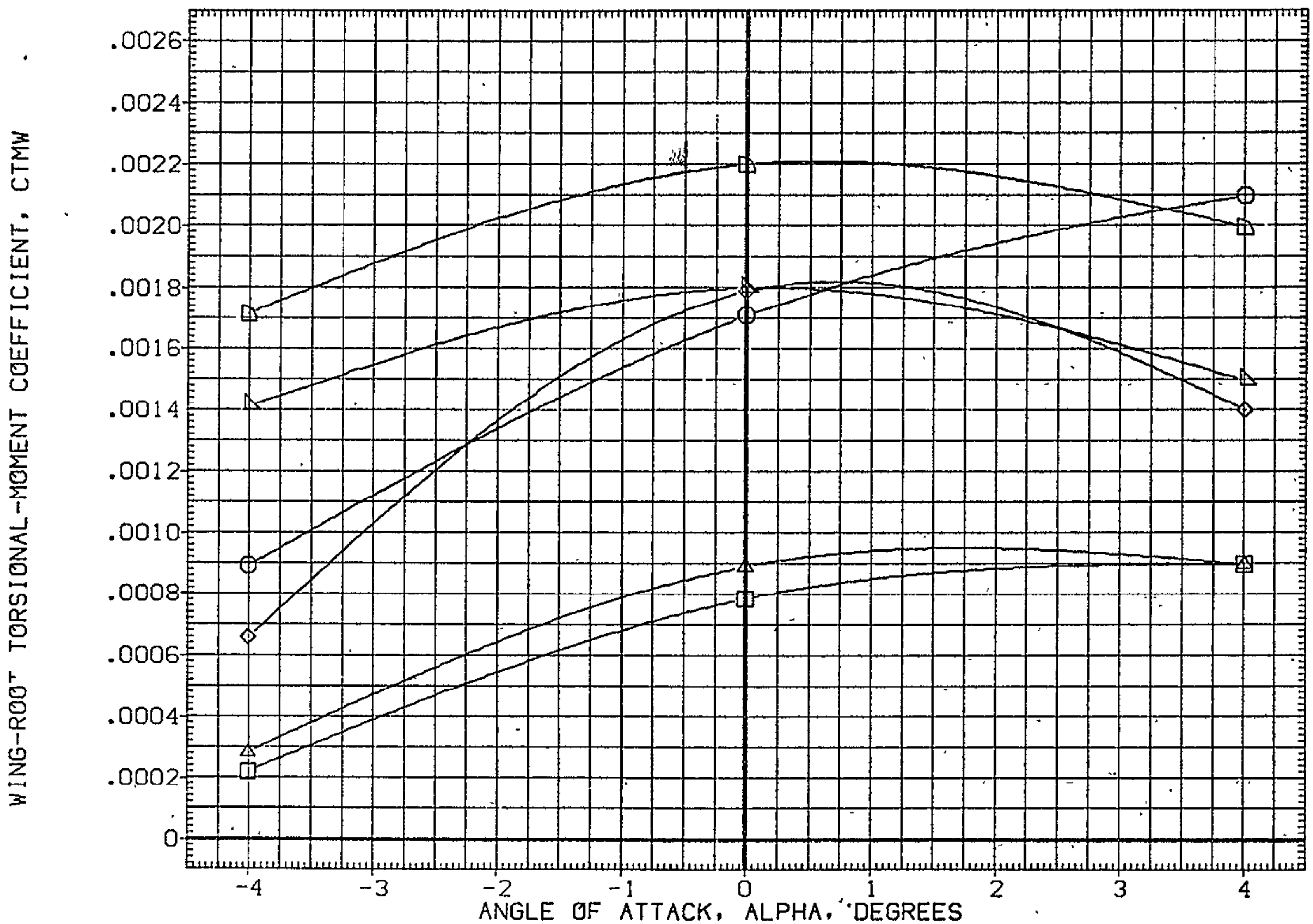


FIG. 25 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100	XMRP	976.0000	IN. XT
(RE5X67)		ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100	YMRP	.0000	IN. YT
(RE5X70)		ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

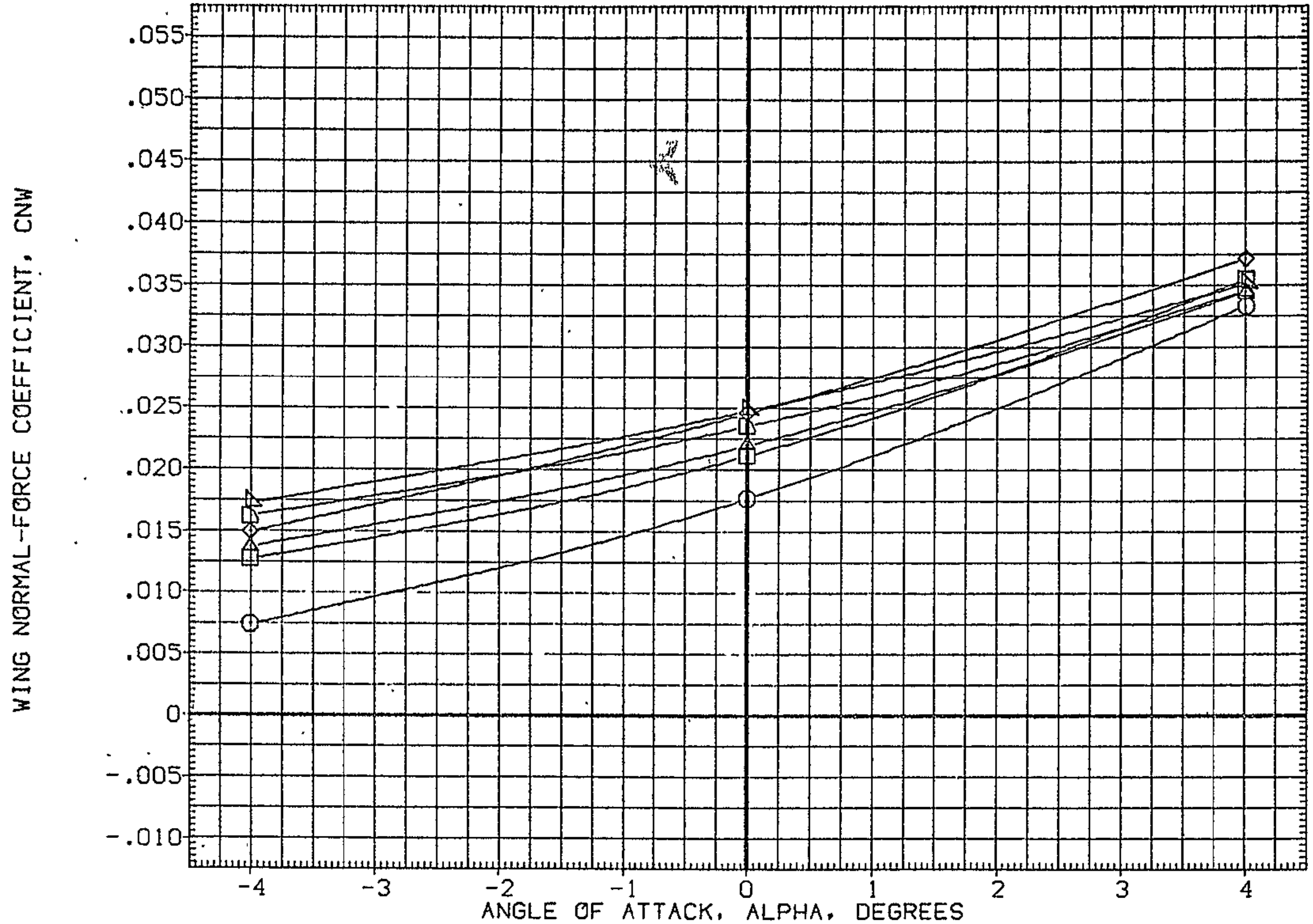


FIG. 25 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	3.000	15.100	XMRP	976.0000	IN. XT
(RE5X67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.1 OFF)	.000	.000	3.000	15.100	YMRP	.0000	IN. YT
(RE5X70)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.2 OFF)	.000	.000	3.000	15.100	ZMRP	400.0000	IN. ZT
								SCALE	.0100	

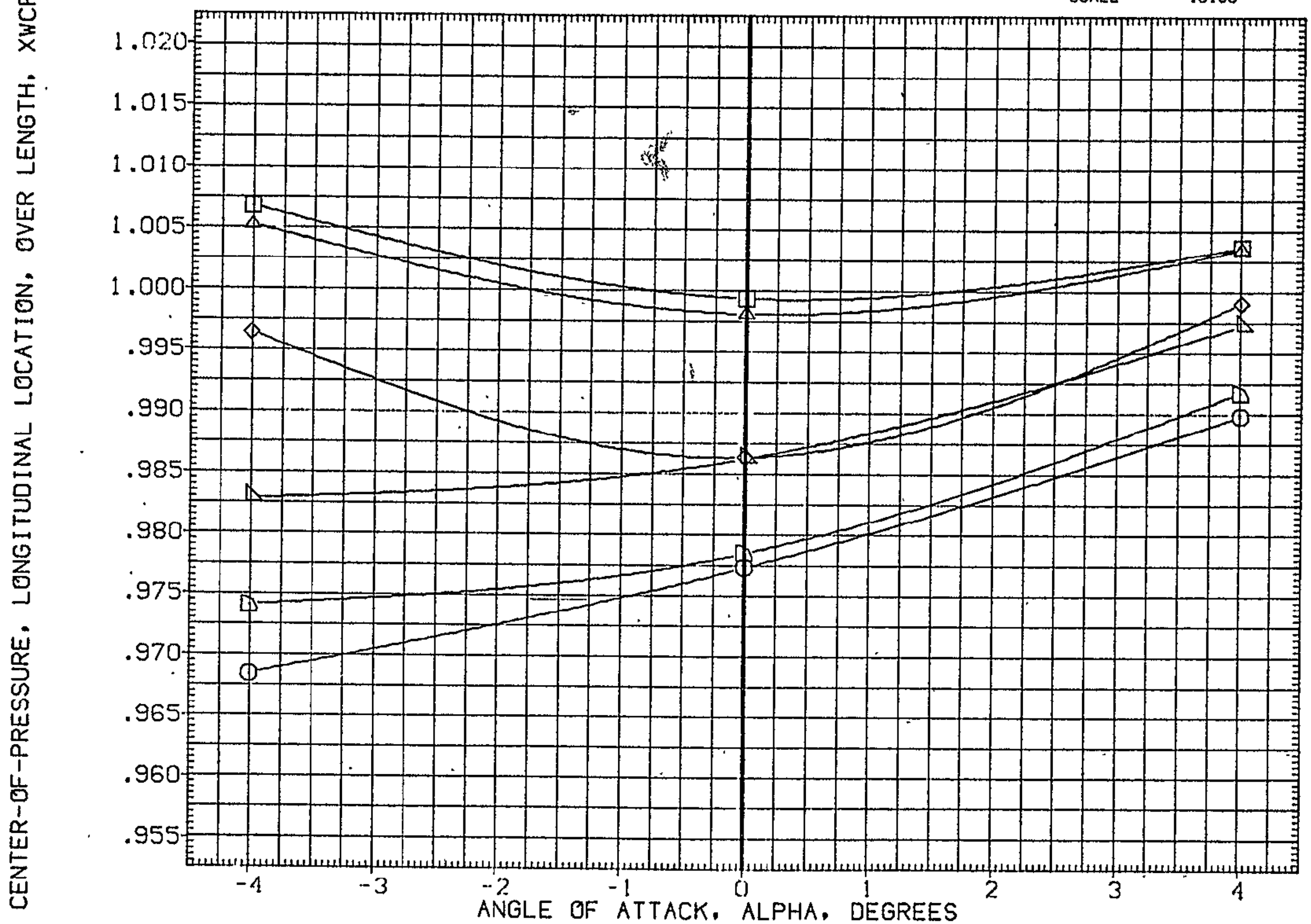


FIG. 25 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5X67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5X70)	⊿	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

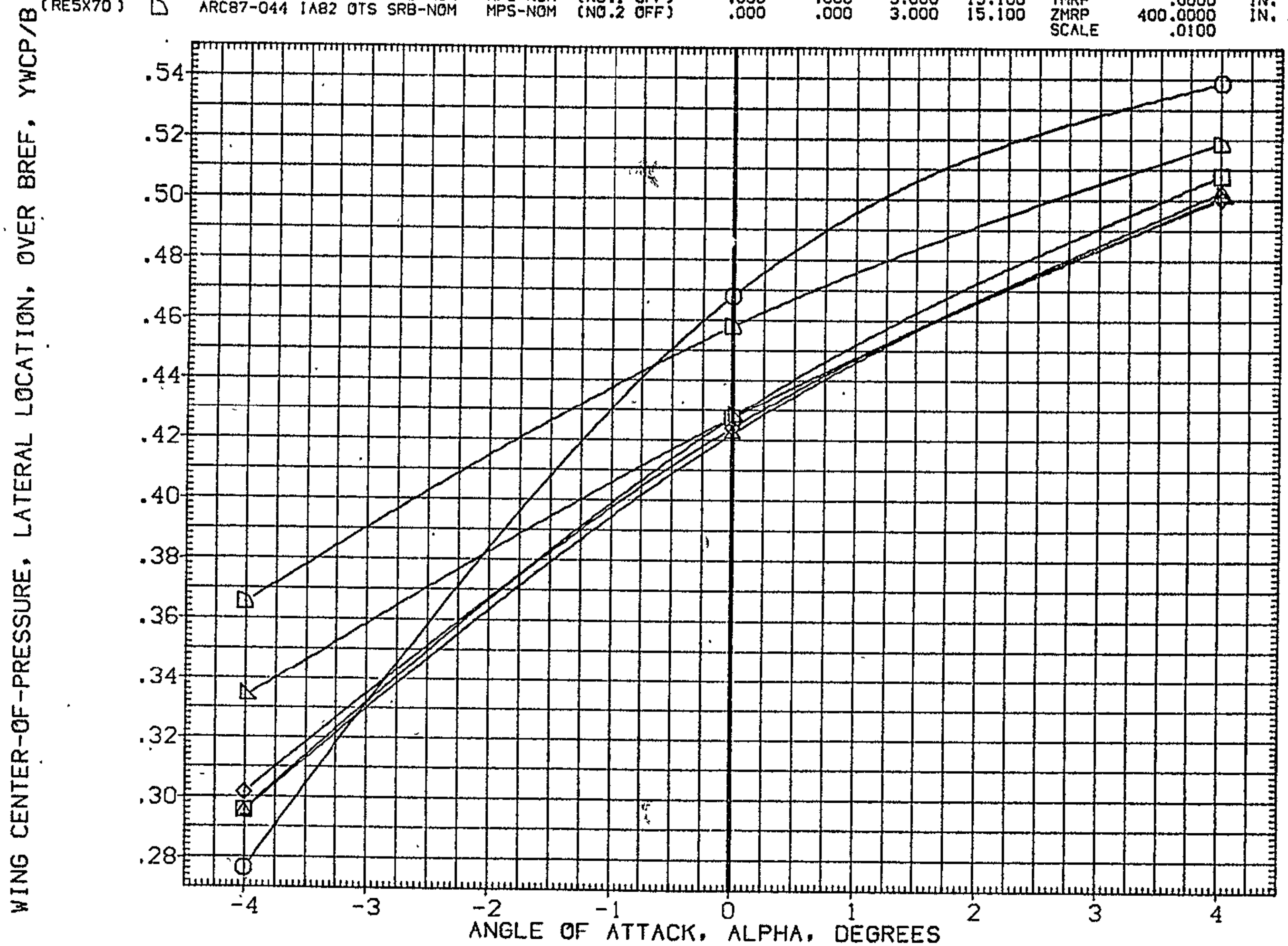


FIG. 25 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100
(RE5X24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100
(RE5X25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100
(RE5X68)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100
(RE5X71)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

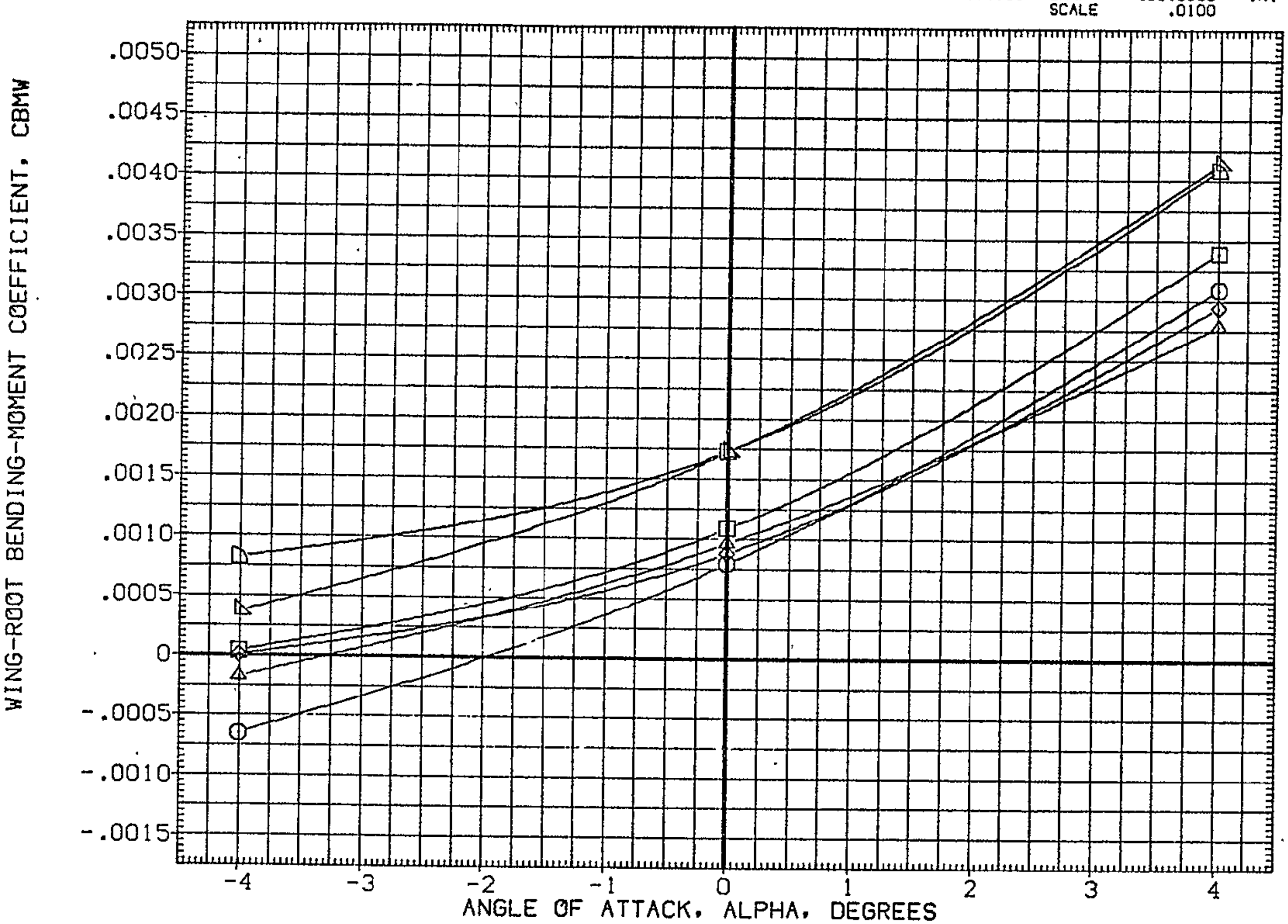


FIG. 26 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

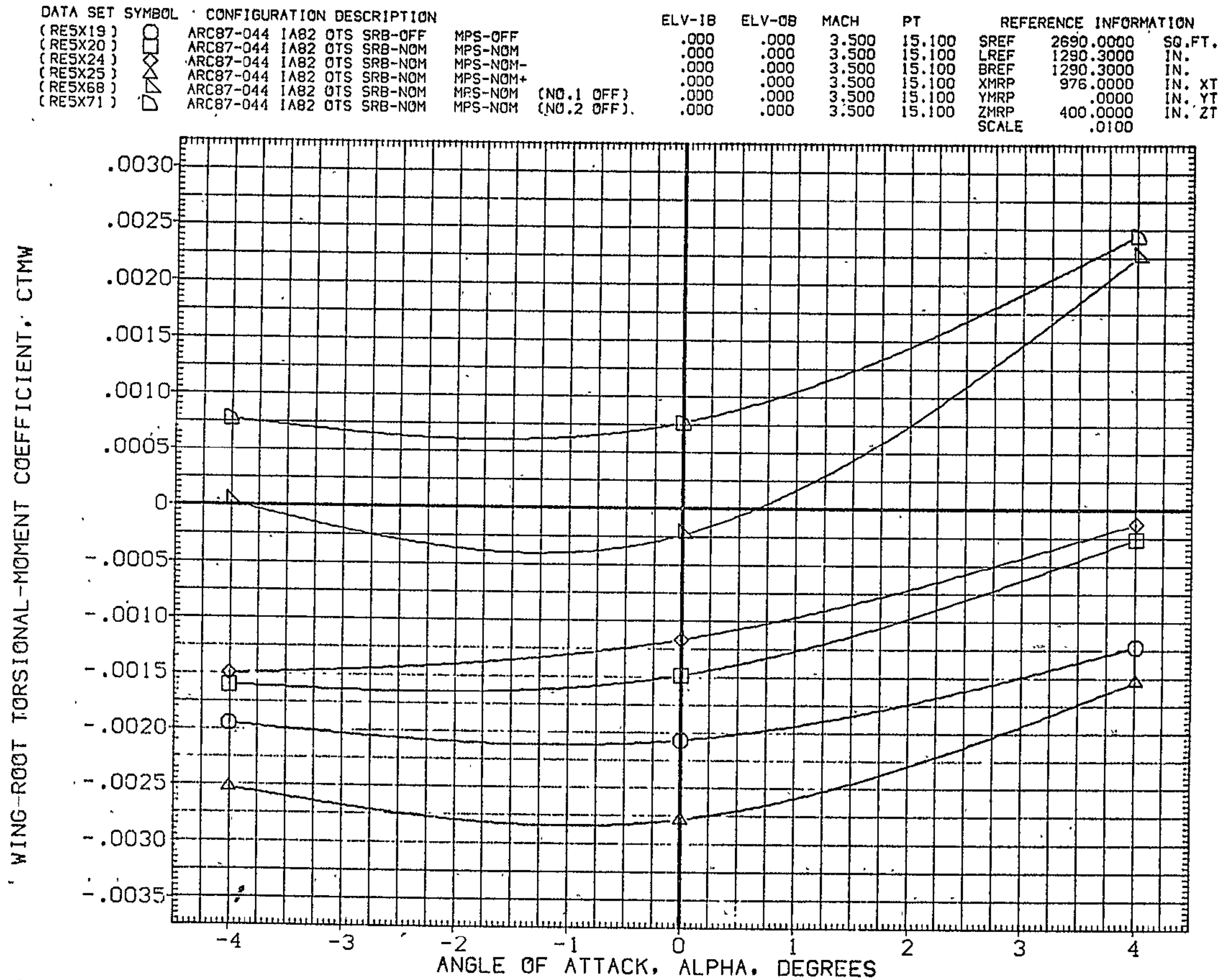


FIG. 26 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT.
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RE5X24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RE5X25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	3.500	15.100	XMRP	976.0000	IN. XT
(RE5X68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100	YMRP	.0000	IN. YT
(RE5X71)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100	ZMRP	400.0000	IN. ZT
								SCALE	.0100	

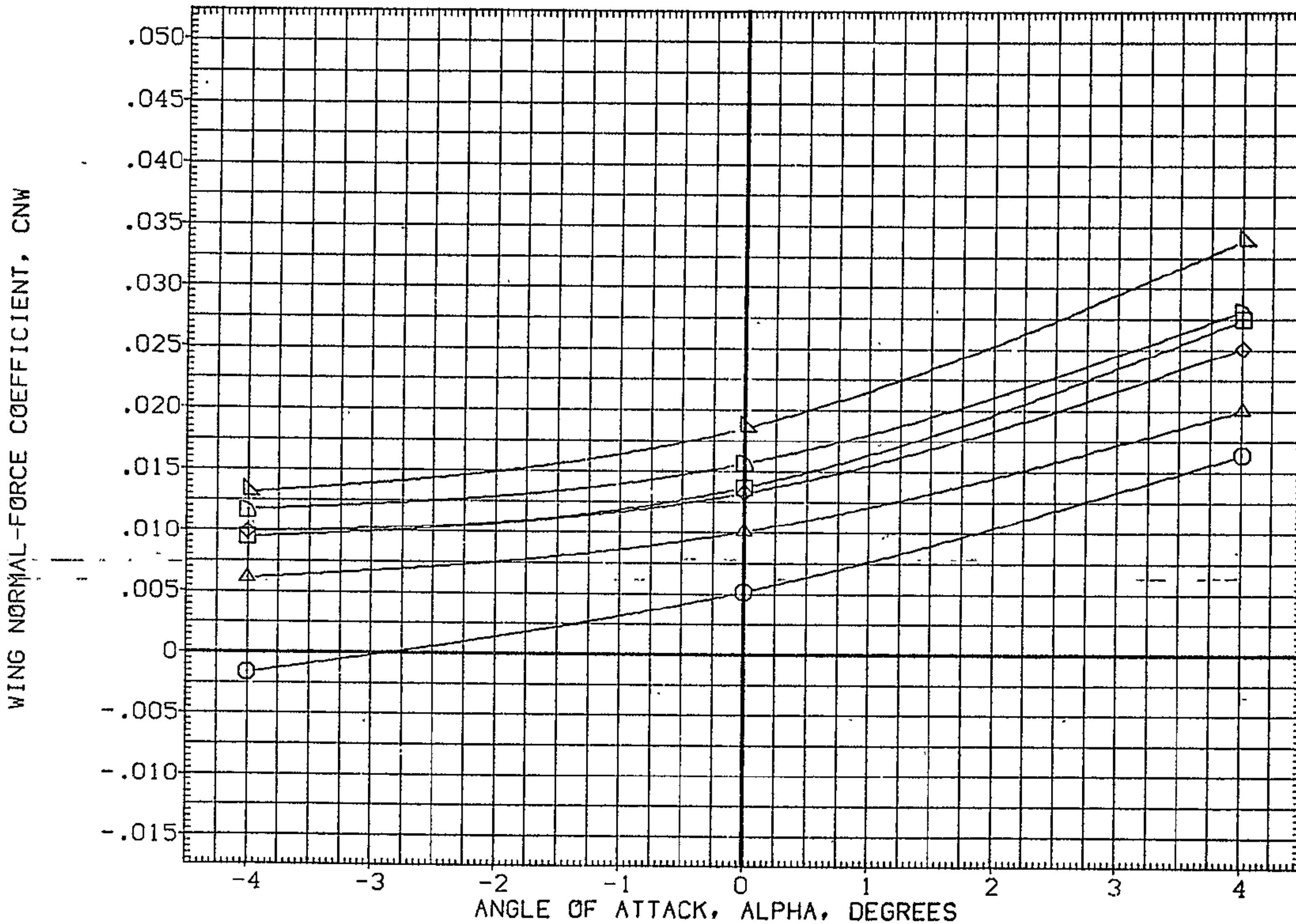


FIG. 26 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100
(RE5X24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100
(RE5X25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100
(RE5X68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100
(RE5X71)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X1
YMRP	.0000	IN. Y1
ZMRP	400.0000	IN. Z1
SCALE	.0100	

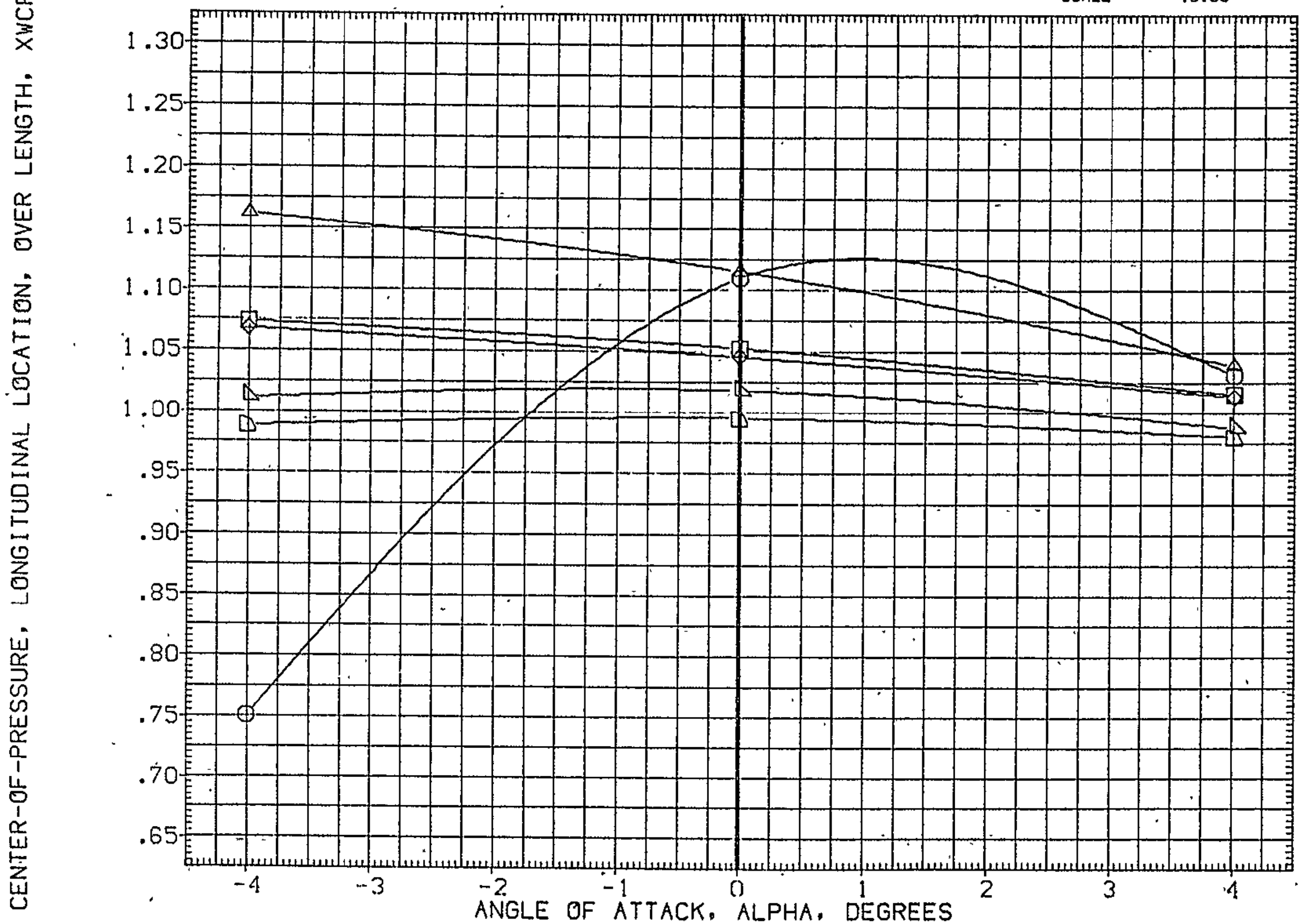


FIG. 26 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	3.500	15.100
(RE5X25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	3.500	15.100
(RE5X68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X71)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

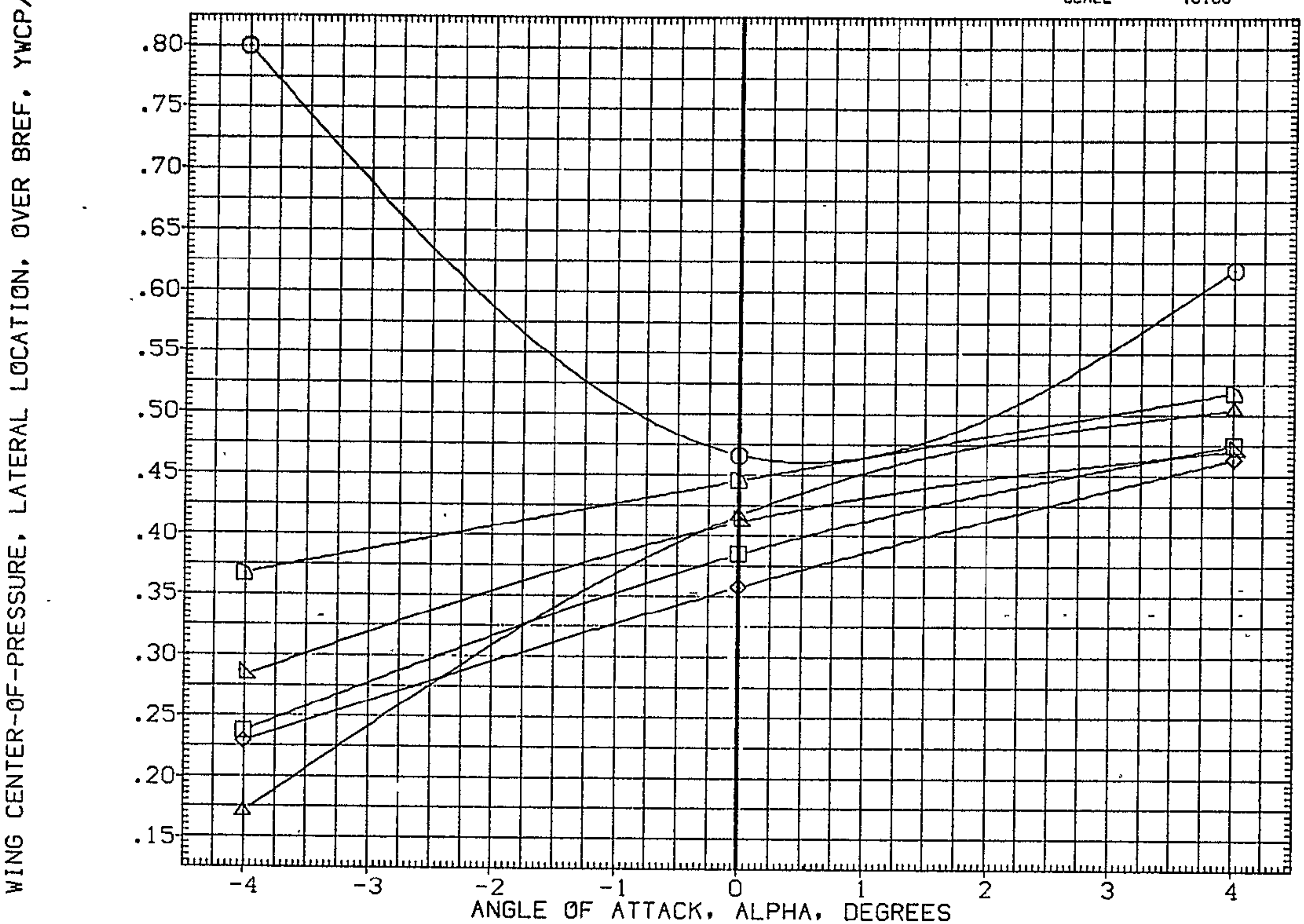


FIG. 26 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5X06)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM-	.000	.000	2.600	14.700
(RE5X07)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM+	.000	.000	2.600	14.700
(RE5X66)	◁	ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.1 OFF)	.000	.000	2.600	14.700
(RE5X69)	D	ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

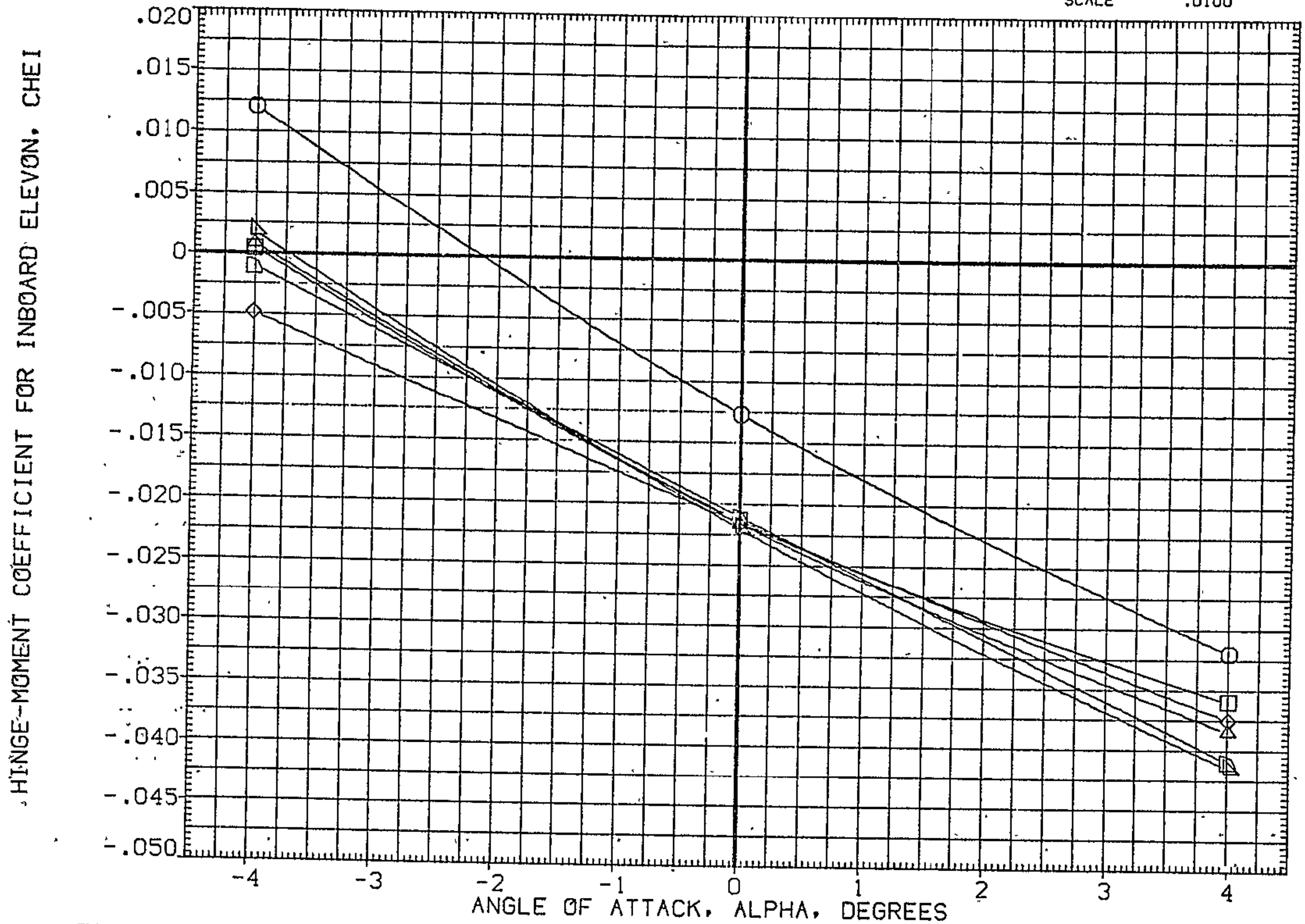


FIG. 27 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	2.600	14.700	SREF	2690.0000	SQ.FT.
(RE5X03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	2.600	14.700	LREF	1290.3000	IN.
(RE5X06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	2.600	14.700	BREF	1290.3000	IN.
(RE5X07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	2.600	14.700	XMRP	976.0000	IN. XT
(RE5X66)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	2.600	15.100	YMRP	.0000	IN. YT
(RE5X69)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	2.600	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

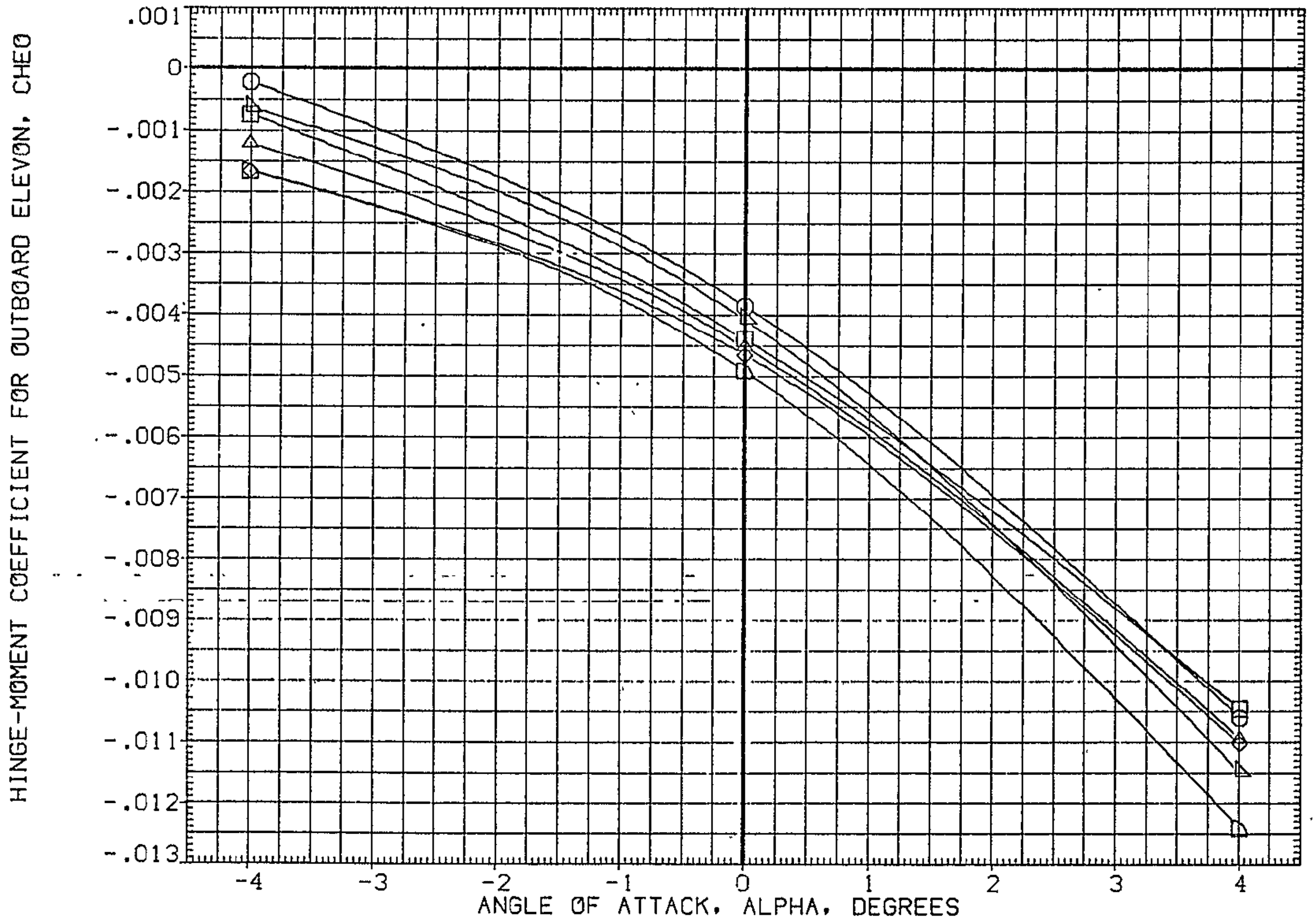


FIG. 27 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN PITCH, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100	XMRP	976.0000	IN. XT
(RE5X67)	⊿	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100	YMRP	.0000	IN. YT
(RE5X70)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

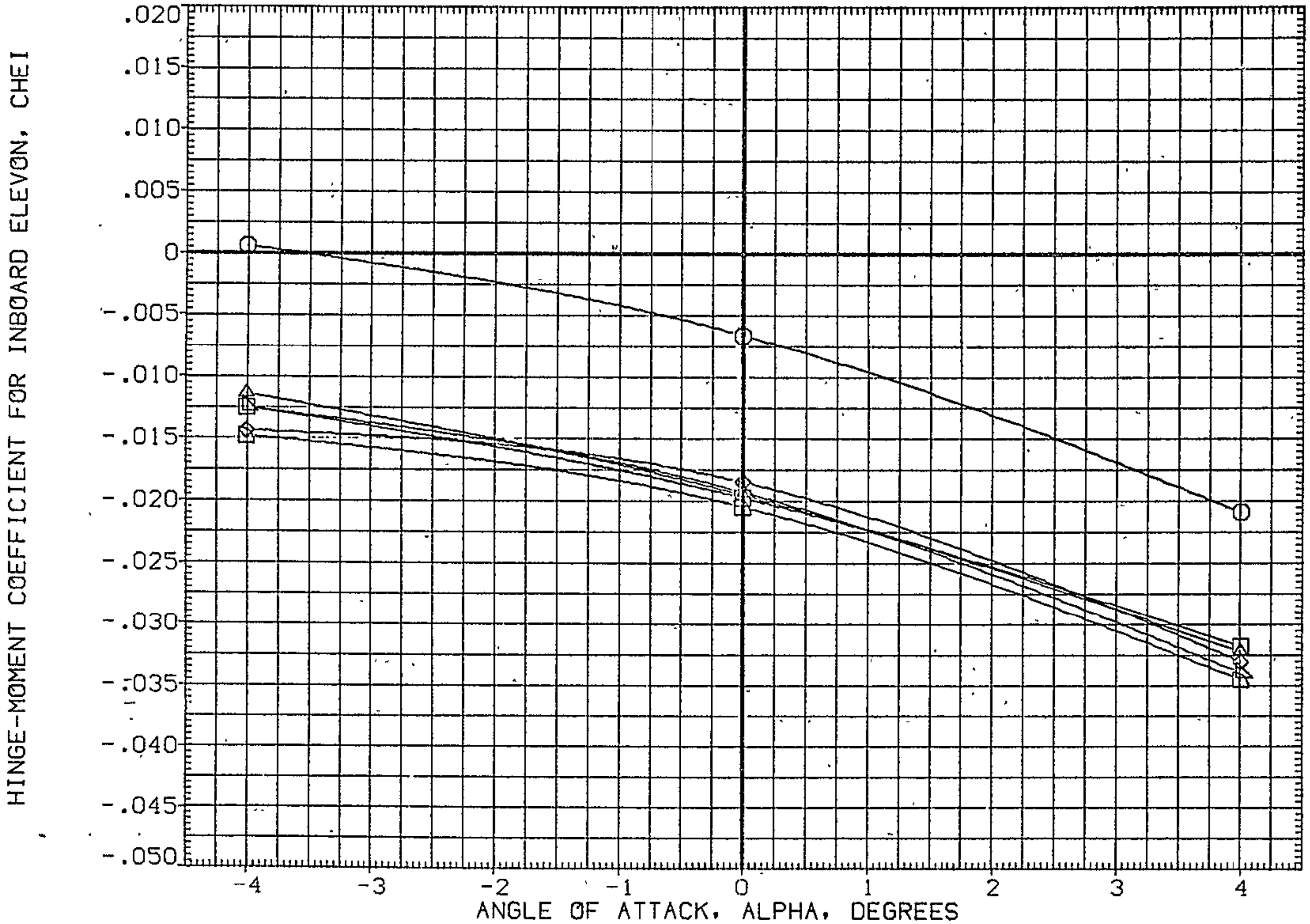


FIG. 28 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5X13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5X17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5X18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5X67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5X70)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

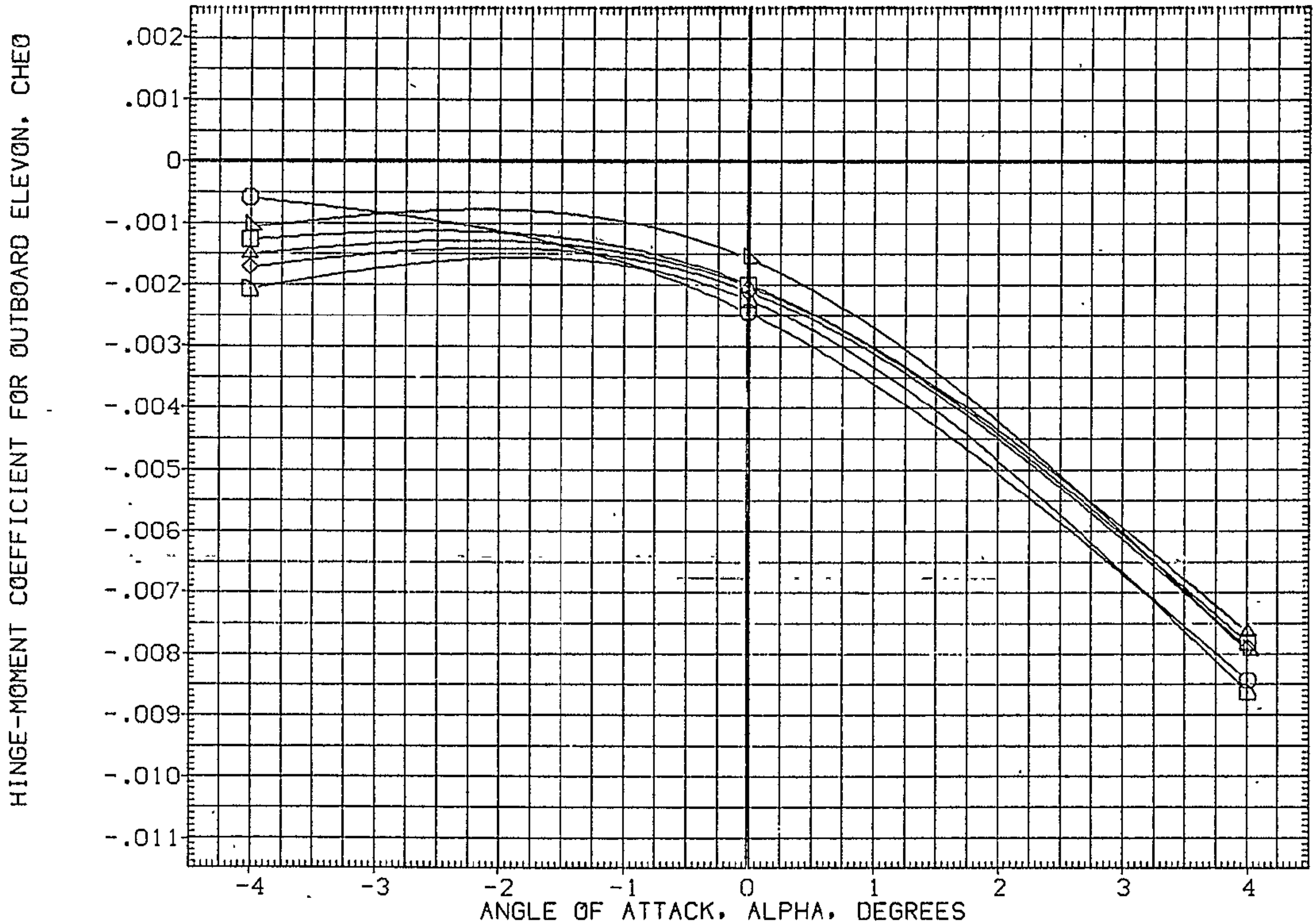


FIG. 28 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN PITCH, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100
(RE5X24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100
(RE5X25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100
(RE5X68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100
(RE5X71)	◹	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

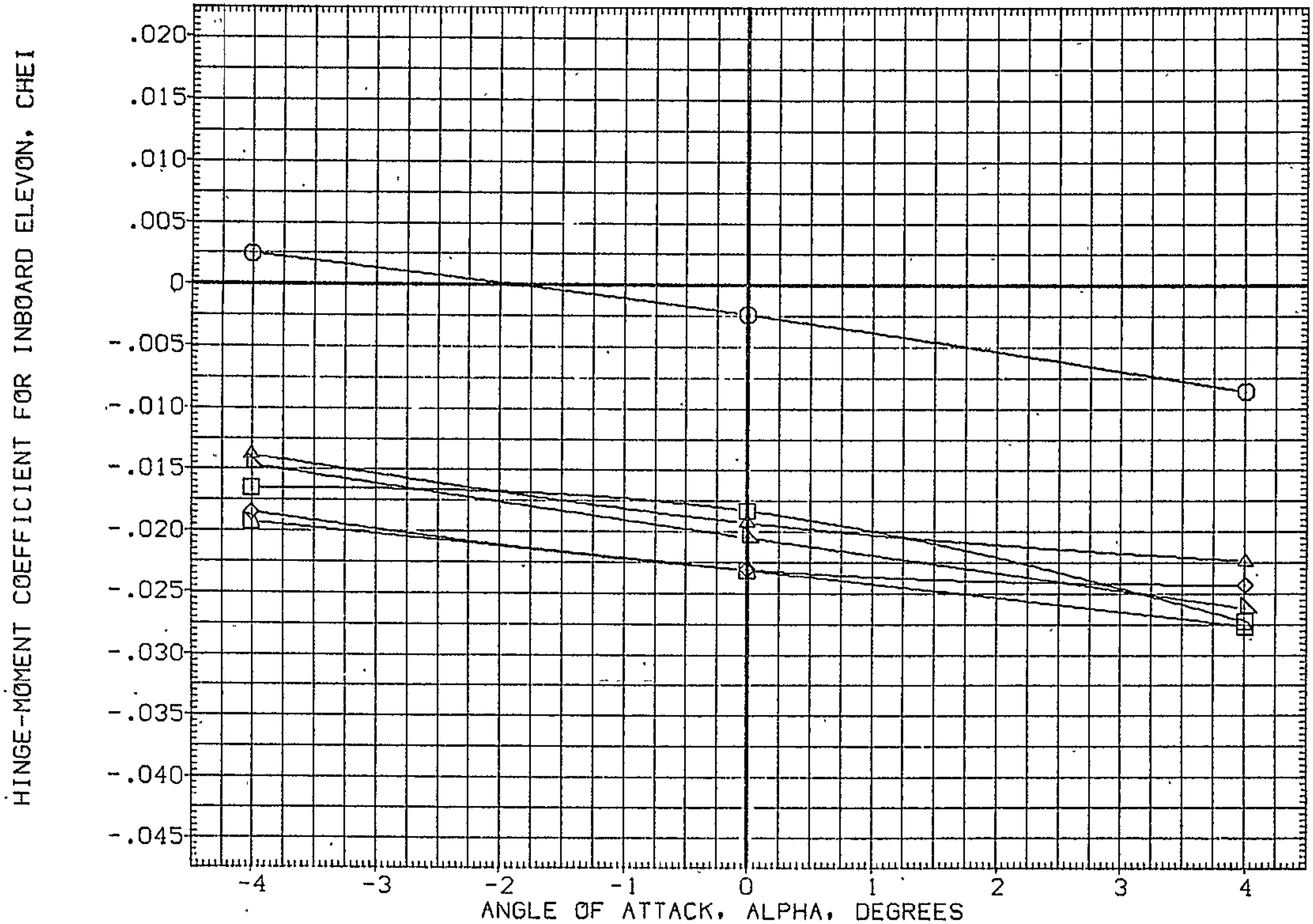


FIG. 29 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN PITCH, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	3.500	15.100
(RE5X25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	3.500	15.100
(RE5X68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X71)	◹	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

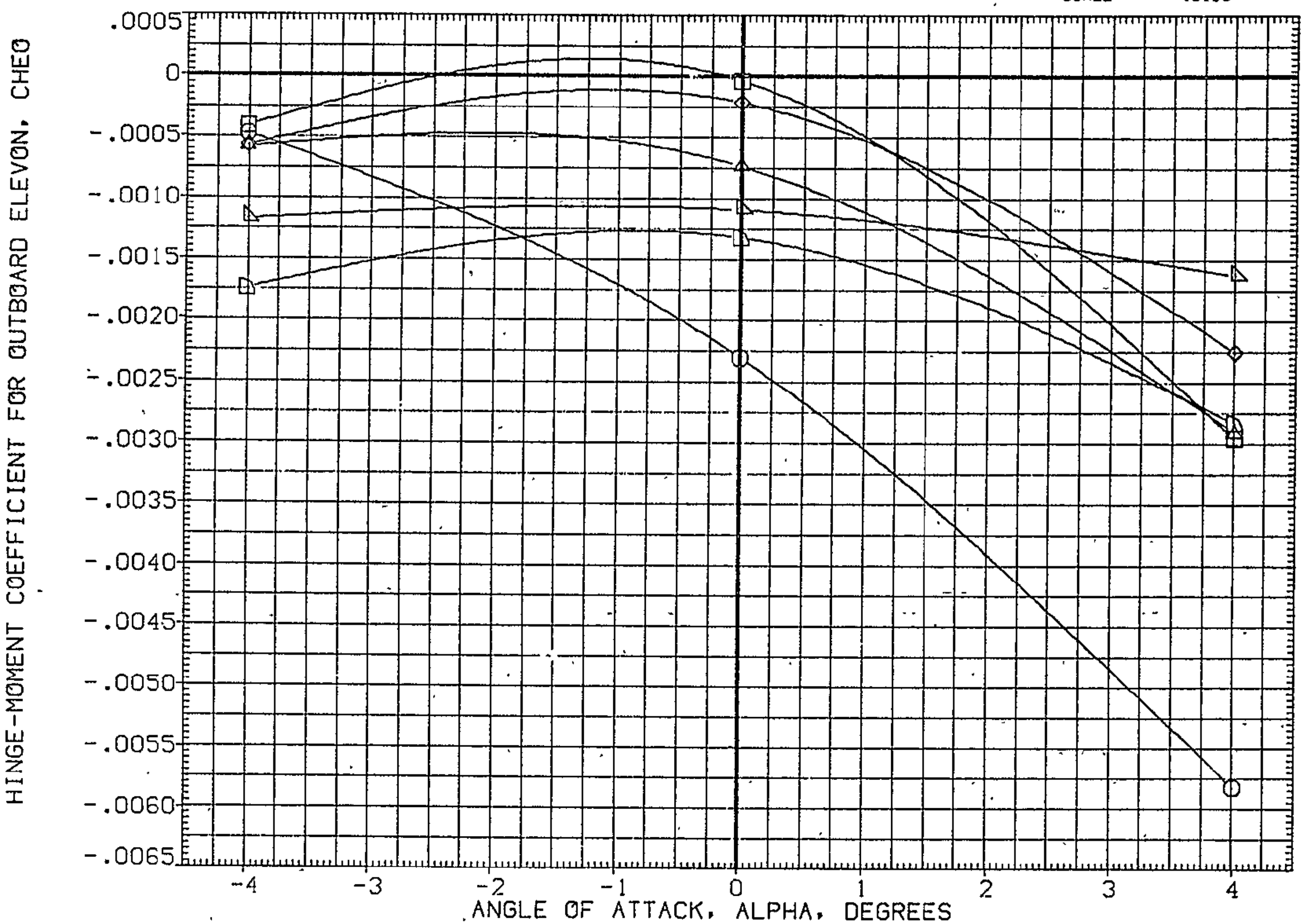


FIG. 29 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN PITCH, MACH=3.5

(A)BETA = .00

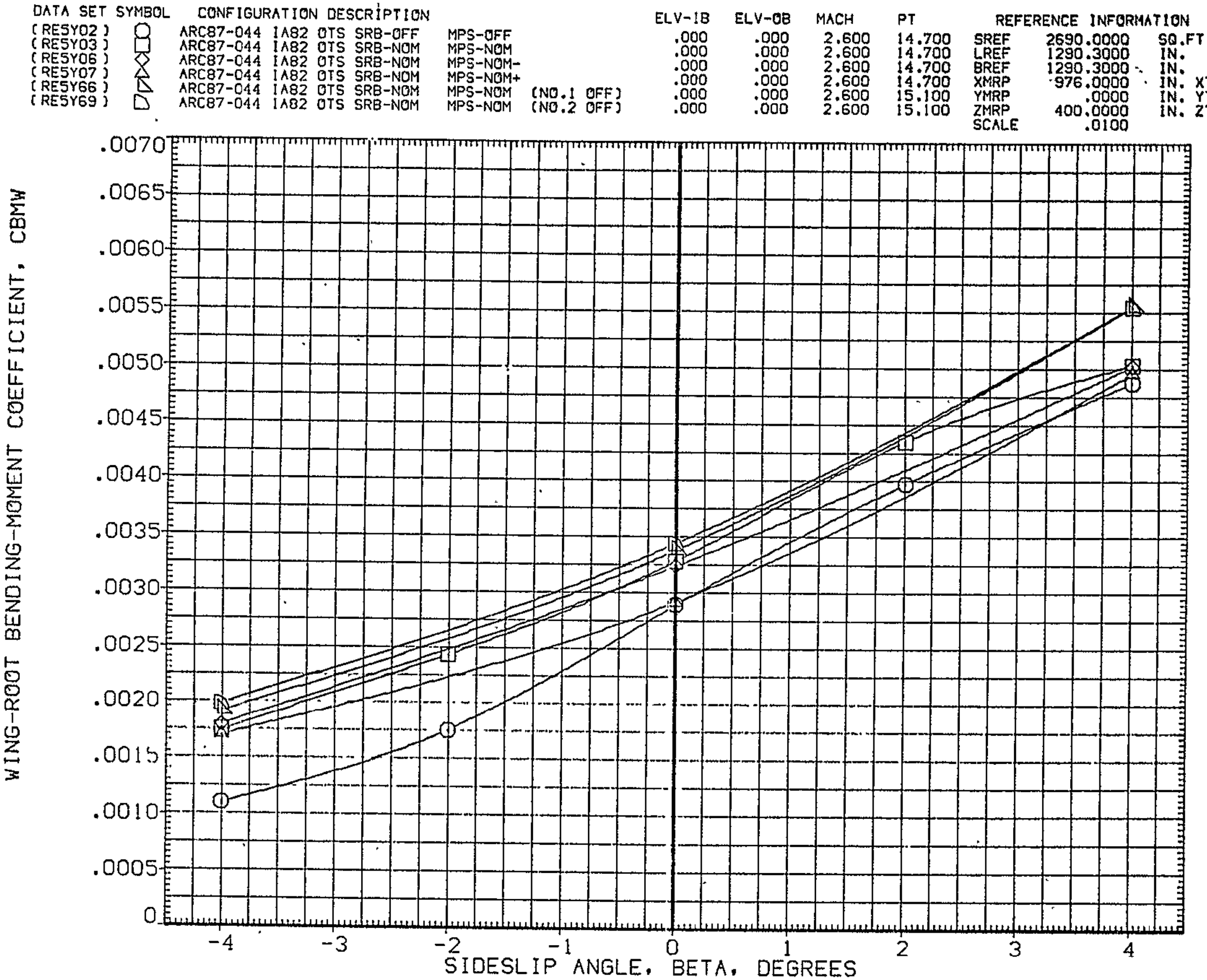


FIG. 30 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	2.600	14.700
(RE5Y07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	2.600	14.700
(RE5Y66)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.1 OFF)	.000	.000	2.600	15.100
(RE5Y69)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

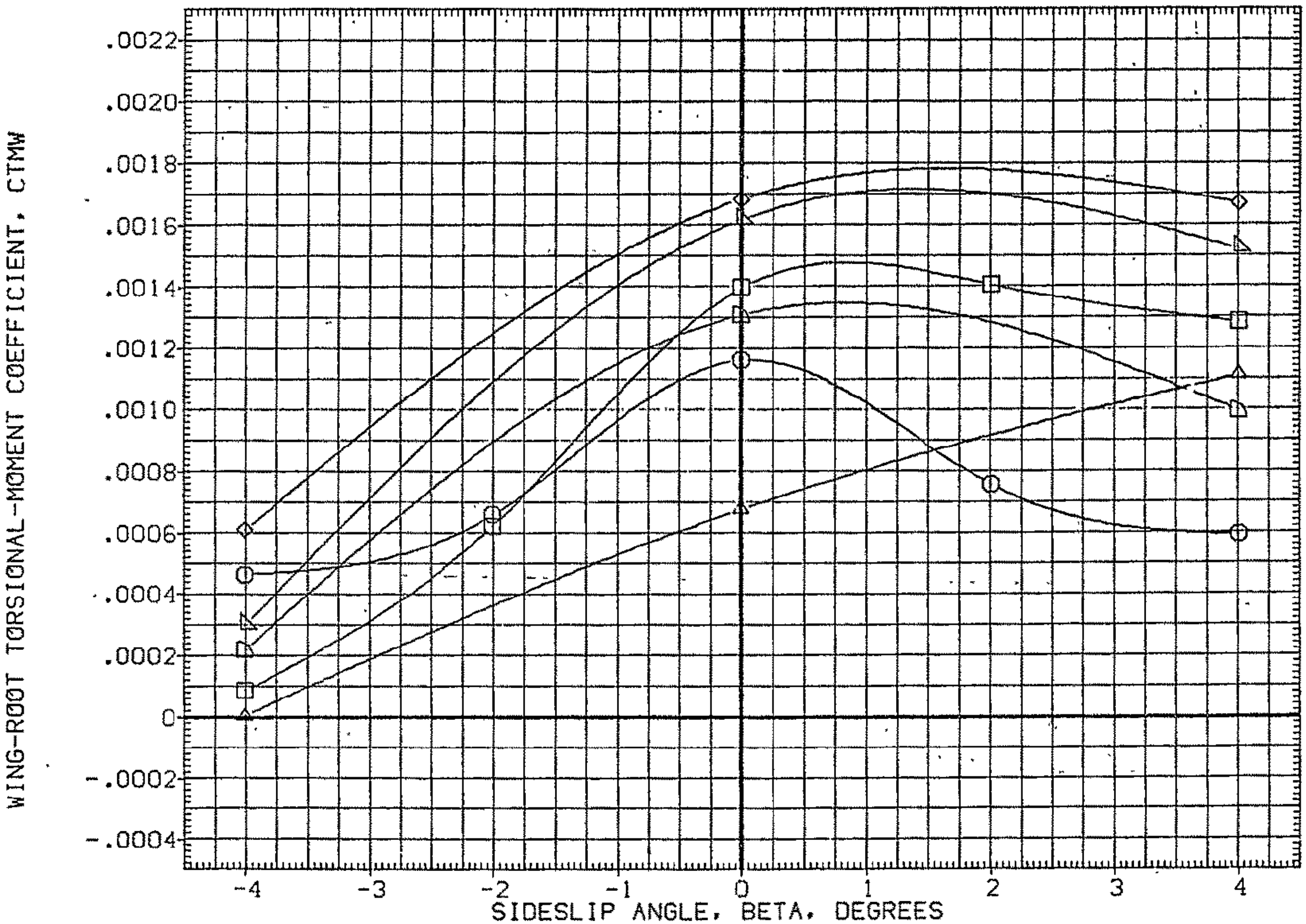


FIG. 30 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y02)		ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700	SREF	2690.0000	SQ.FT.
(RE5Y03)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700	LREF	1290.3000	IN.
(RE5Y06)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM-	.000	.000	2.600	14.700	BREF	1290.3000	IN.
(RE5Y07)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM+	.000	.000	2.600	14.700	XMRP	976.0000	IN. XT
(RE5Y66)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.1 OFF)	.000	.000	2.600	15.100	YMRP	.0000	IN. YT
(RE5Y69)		ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.2 OFF)	.000	.000	2.600	15.100	ZMRP	400.0000	IN. ZT
							SCALE	.0100	

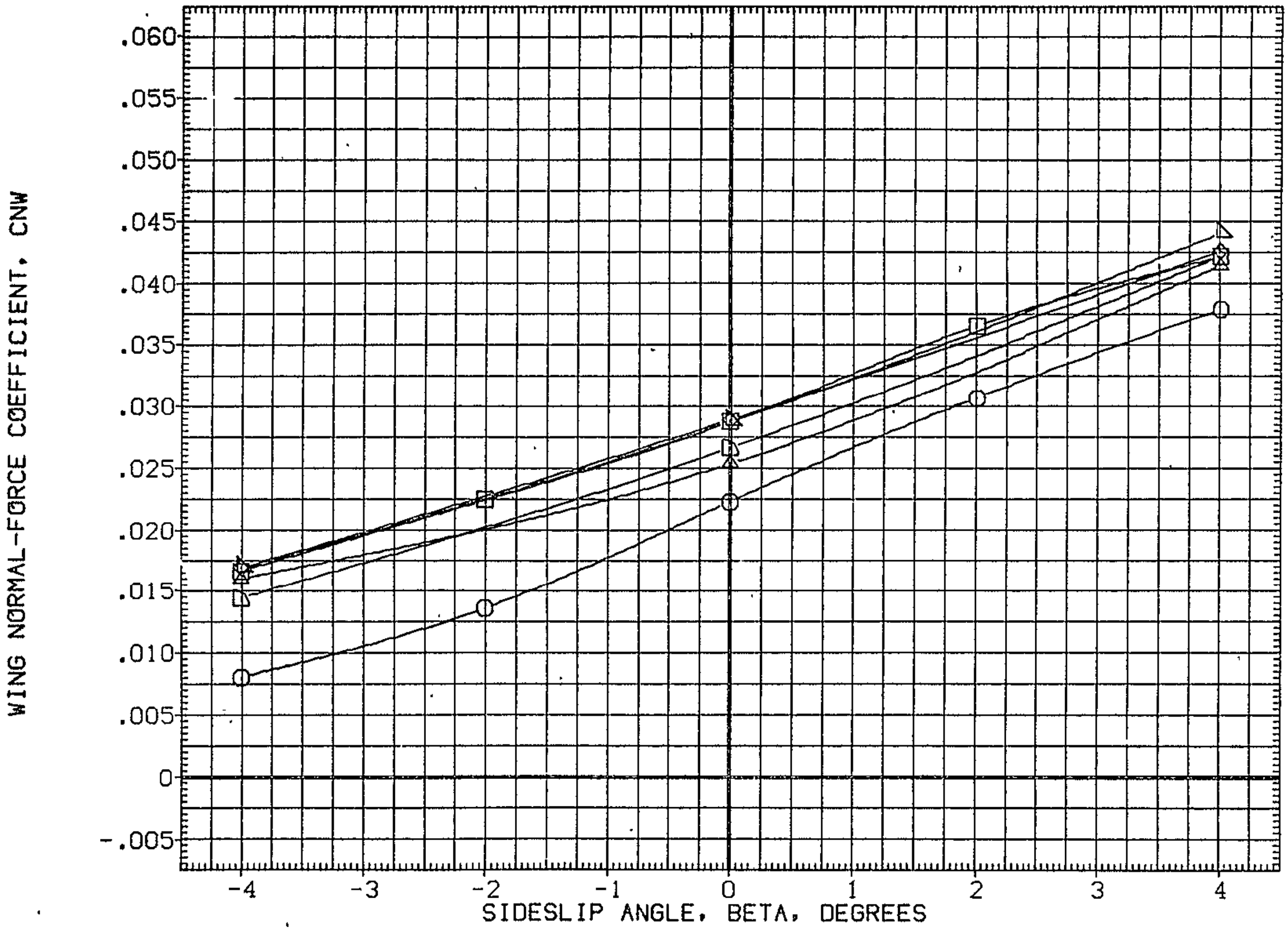


FIG. 30 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

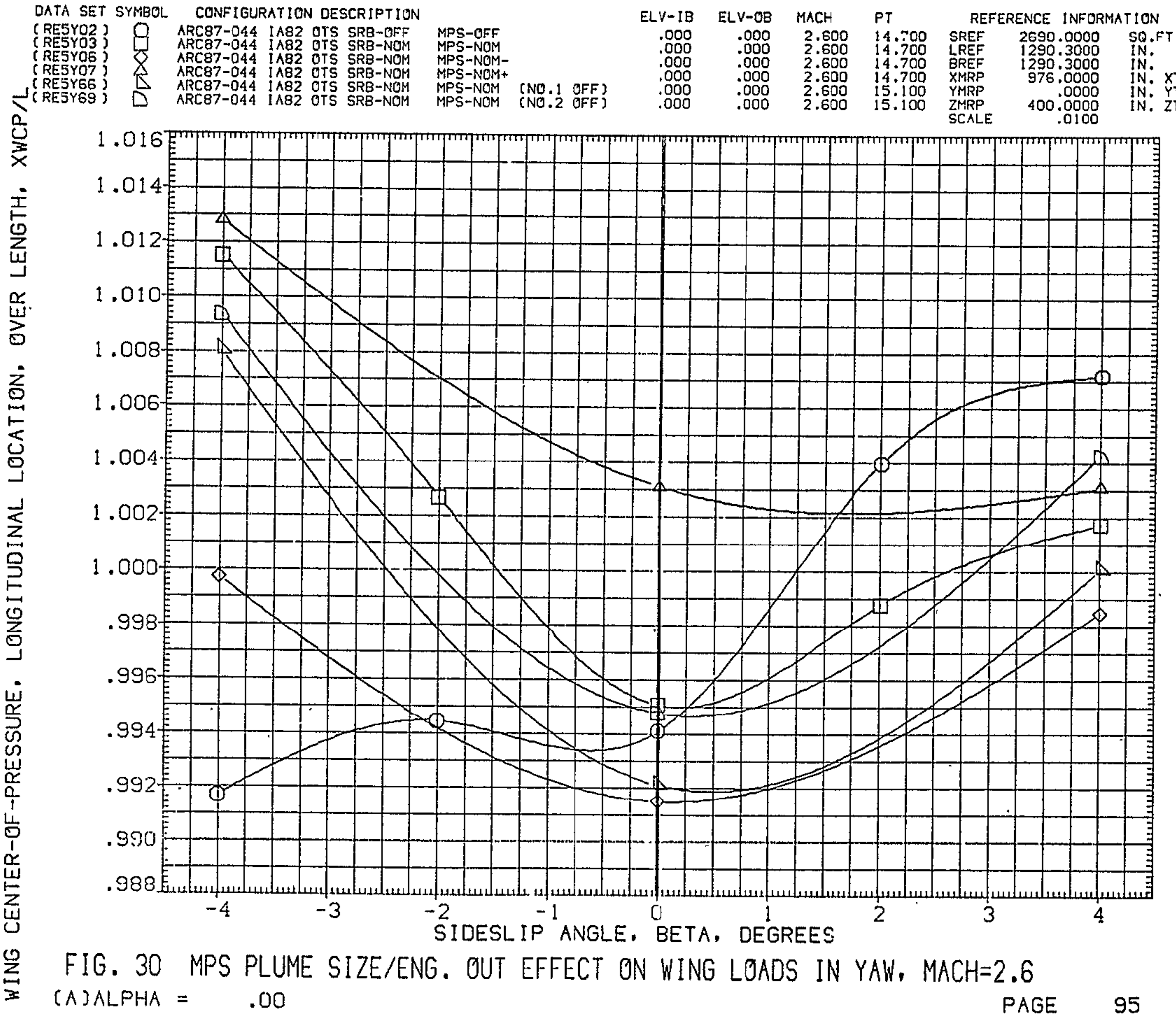


FIG. 30 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=2.6
(A)ALPHA = .00

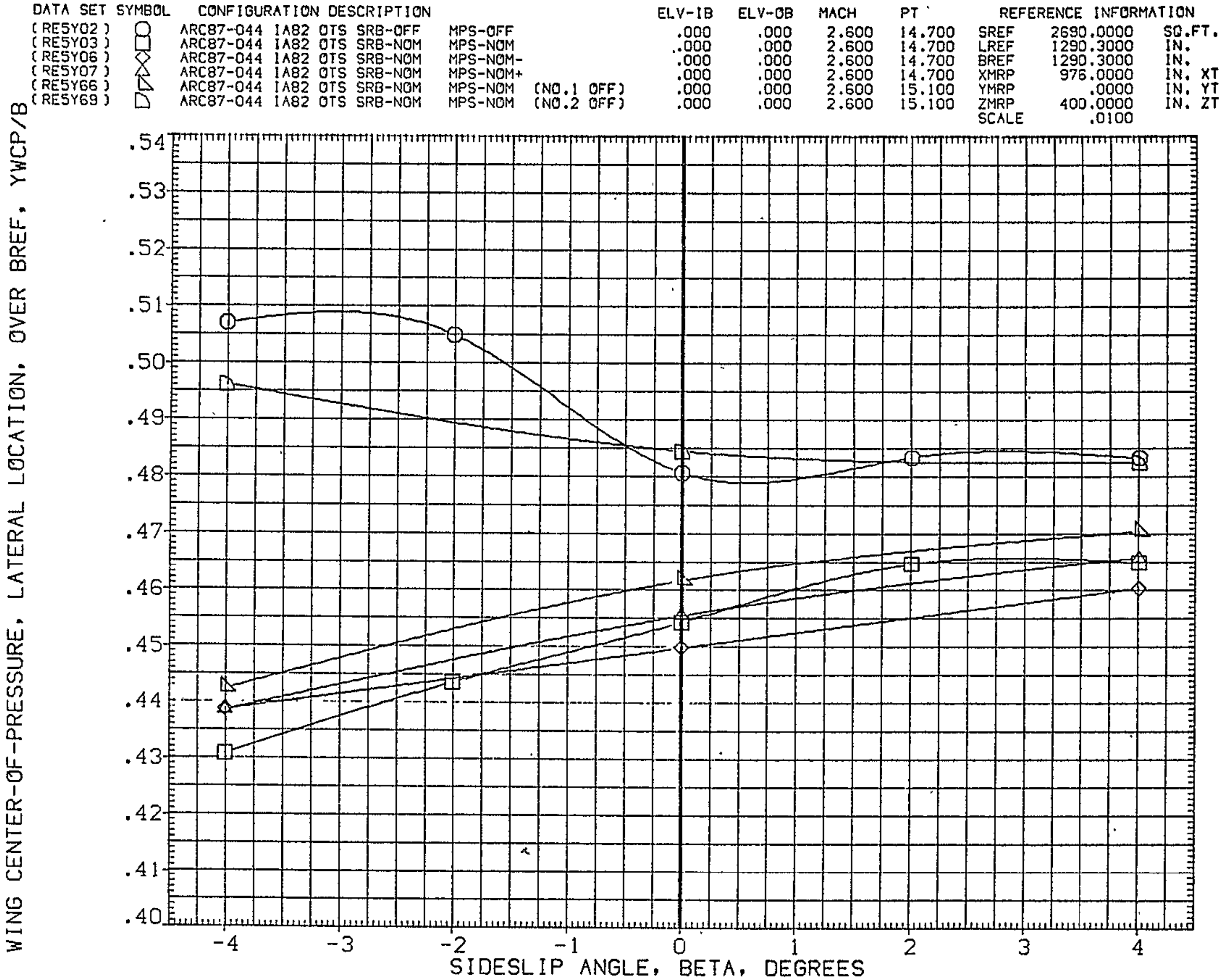


FIG. 30 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	3.000	15.100	XMRP	976.0000	IN. XT
(RE5Y67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.1 OFF)	.000	.000	3.000	15.100	YMRP	.0000	IN. YT
(RE5Y70)	◗	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM (NO.2 OFF)	.000	.000	3.000	15.100	ZMRP	400.0000	IN. ZT
								SCALE	.0100	

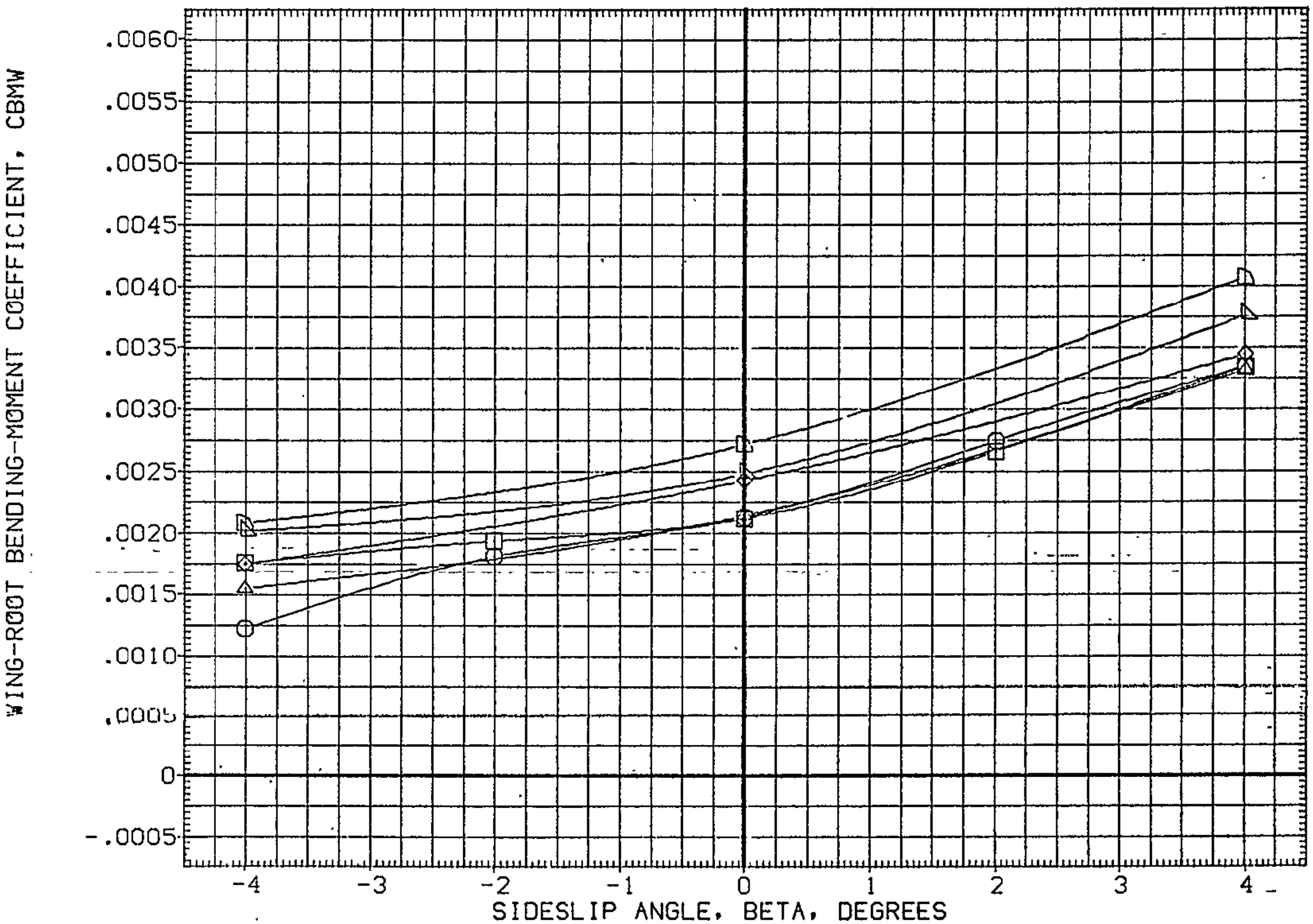


FIG. 31 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100	XMRP	976.0000	IN. XT
(RE5Y67)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100	YMRP	.0000	IN. YT
(RE5Y70)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

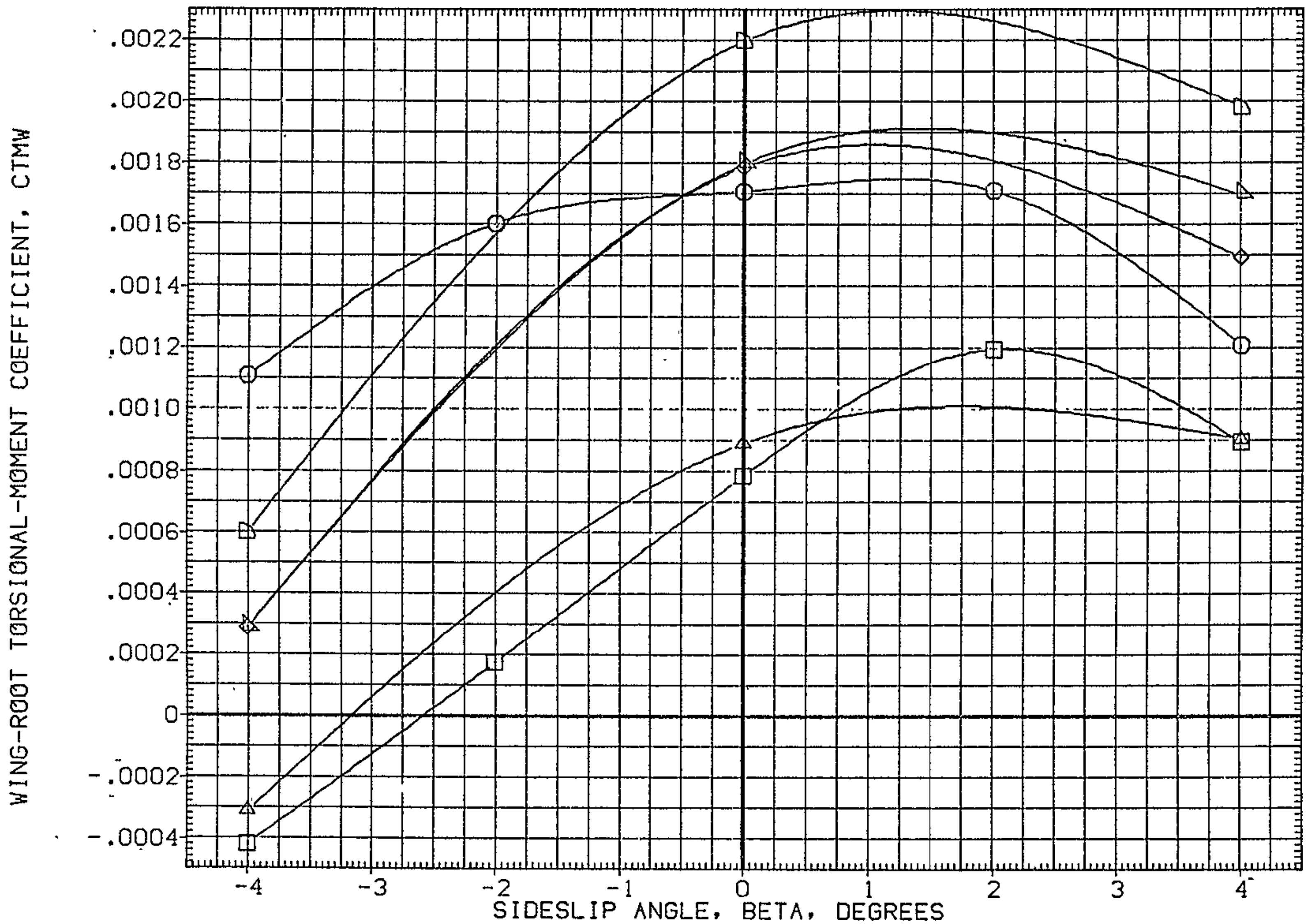


FIG. 31 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700	SREF	2690.0000	SQ.FT.
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100	XMRP	976.0000	IN. XT
(RE5Y67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100	YMRP	.0000	IN. YT
(RE5Y70)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

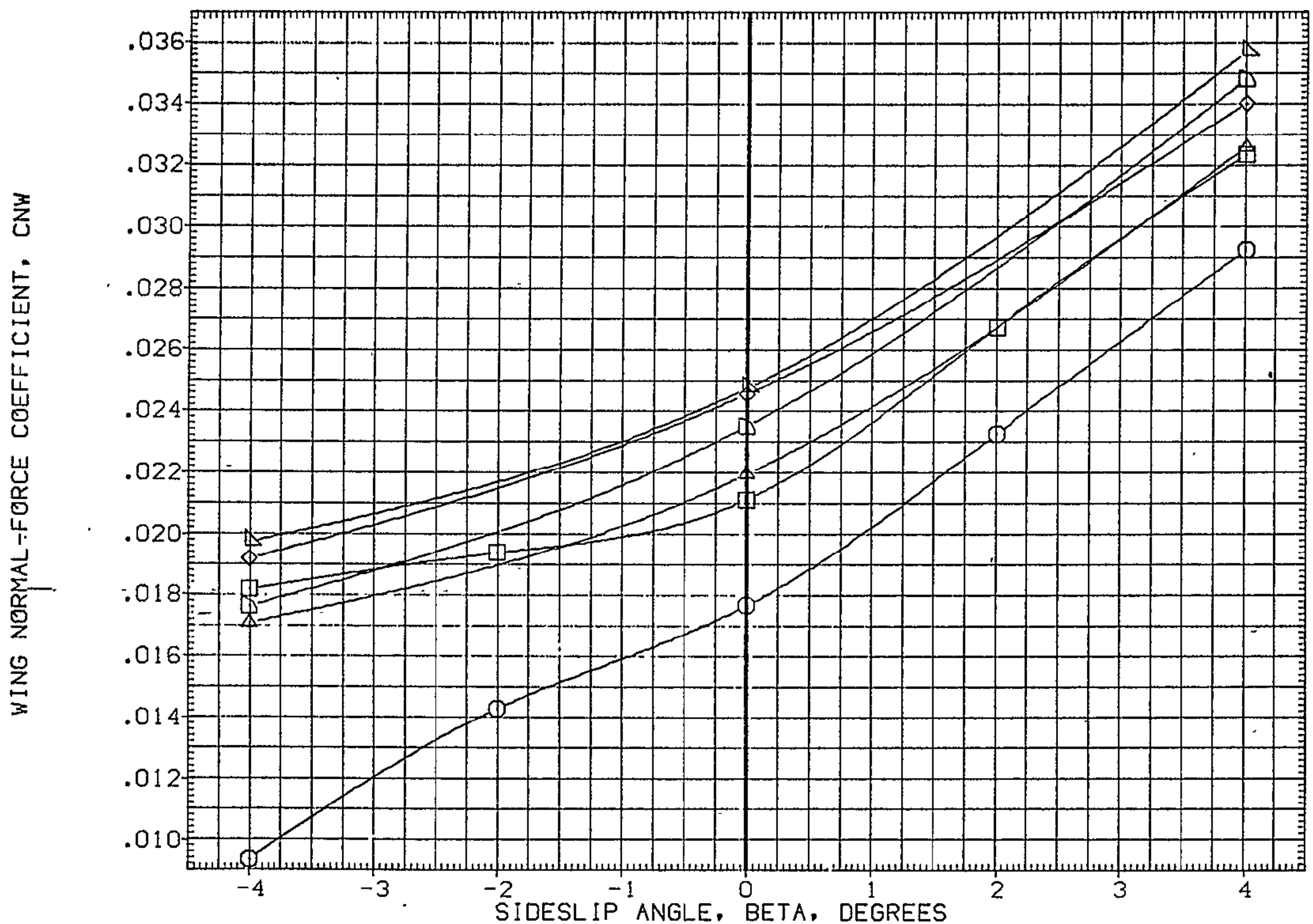


FIG. 31 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

C.3

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5Y67)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5Y70)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

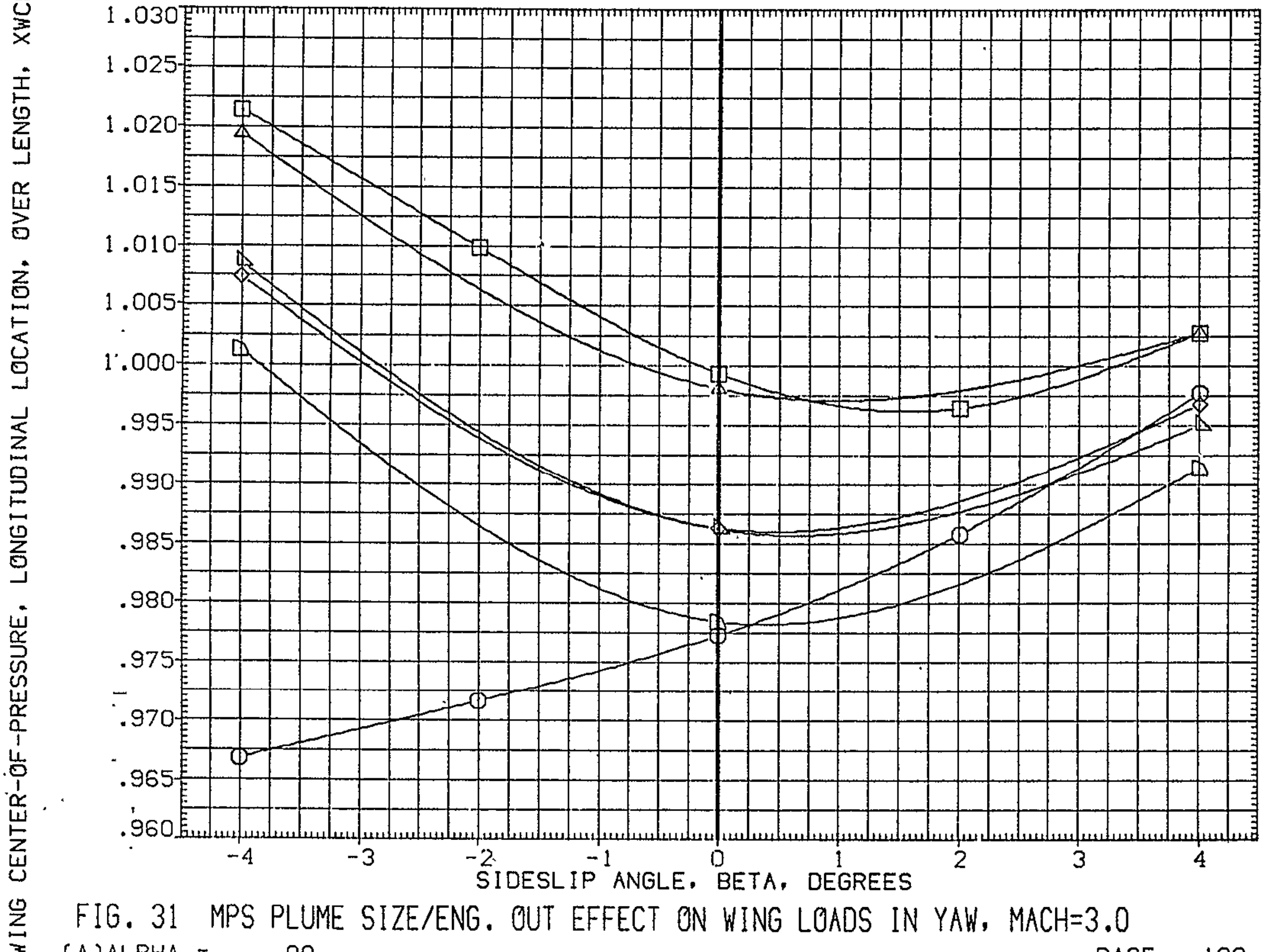


FIG. 31 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5Y67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5Y70)	◹	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

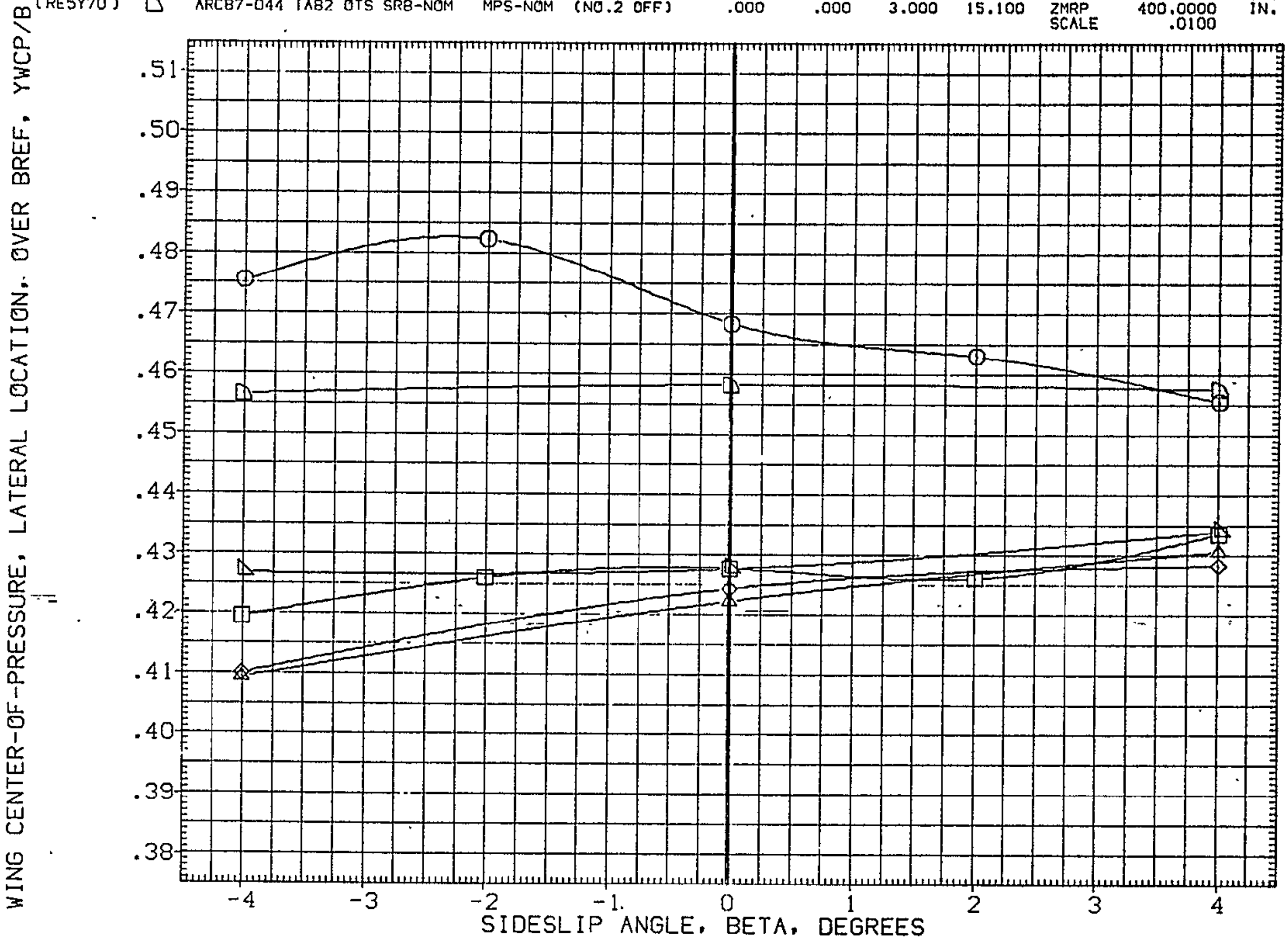


FIG. 31 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RE5Y24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RE5Y25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100	XMRP	976.0000	IN. X
(RE5Y68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100	YMRP	.0000	IN. Y
(RE5Y71)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100	ZMRP	400.0000	IN. Z
									SCALE	.0100	

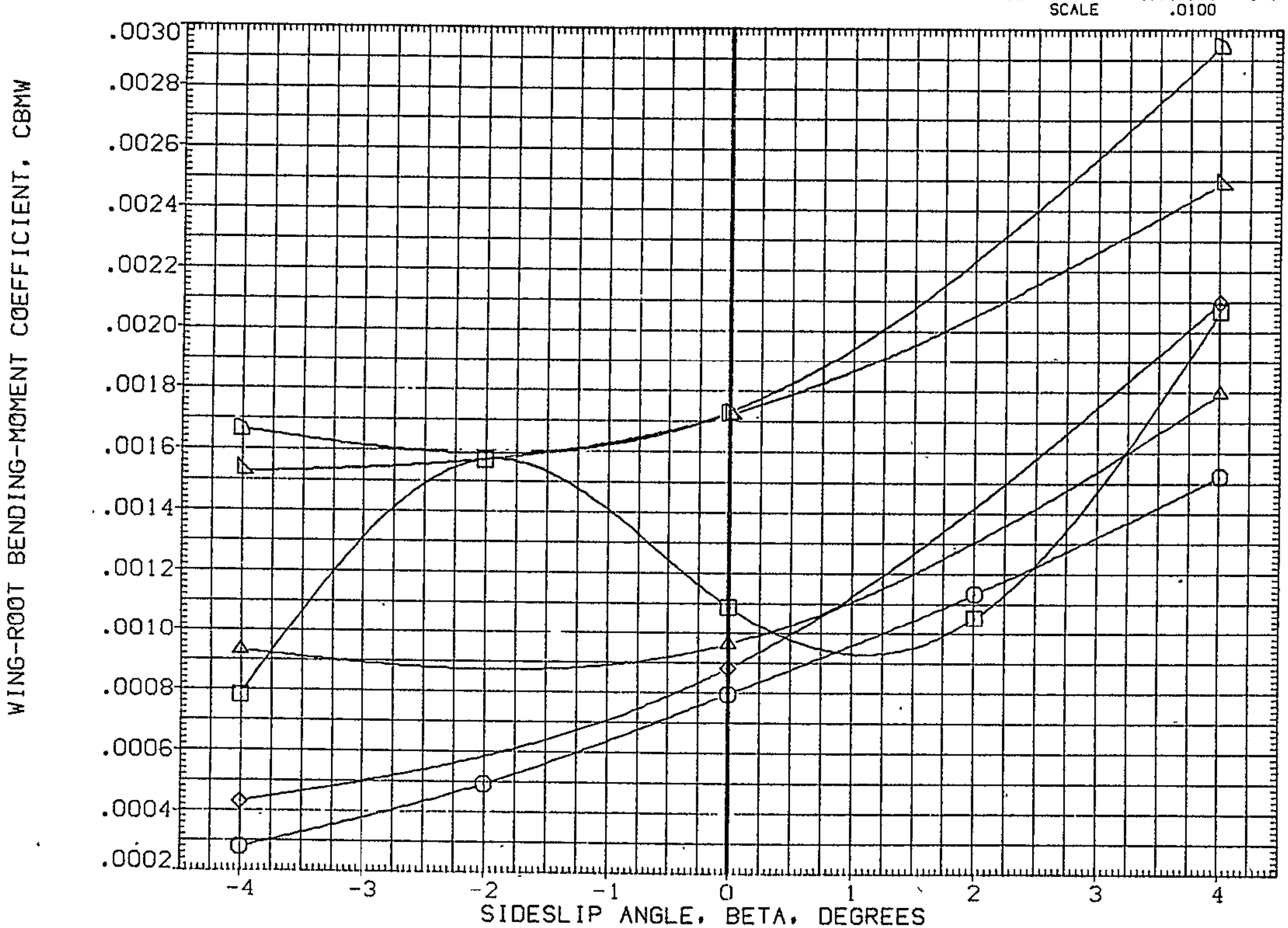


FIG. 32 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100
(RE5Y24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100
(RE5Y25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100
(RE5Y68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100
(RE5Y71)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

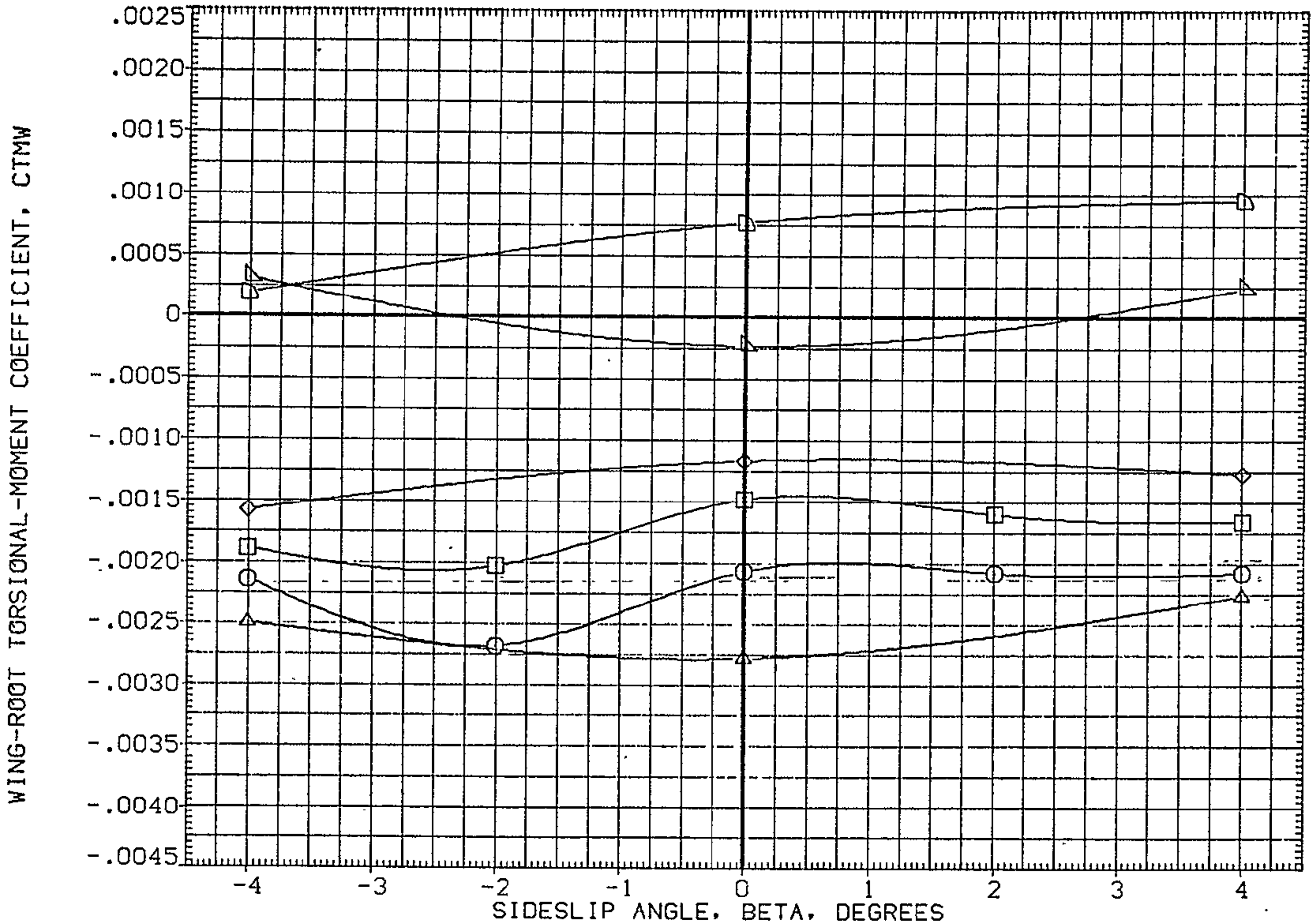


FIG. 32 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5Y24)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM-	.000	.000	3.500	15.100
(RE5Y25)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM+	.000	.000	3.500	15.100
(RE5Y68)	◺	ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5Y71)	D	ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.2 OFF)	-.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

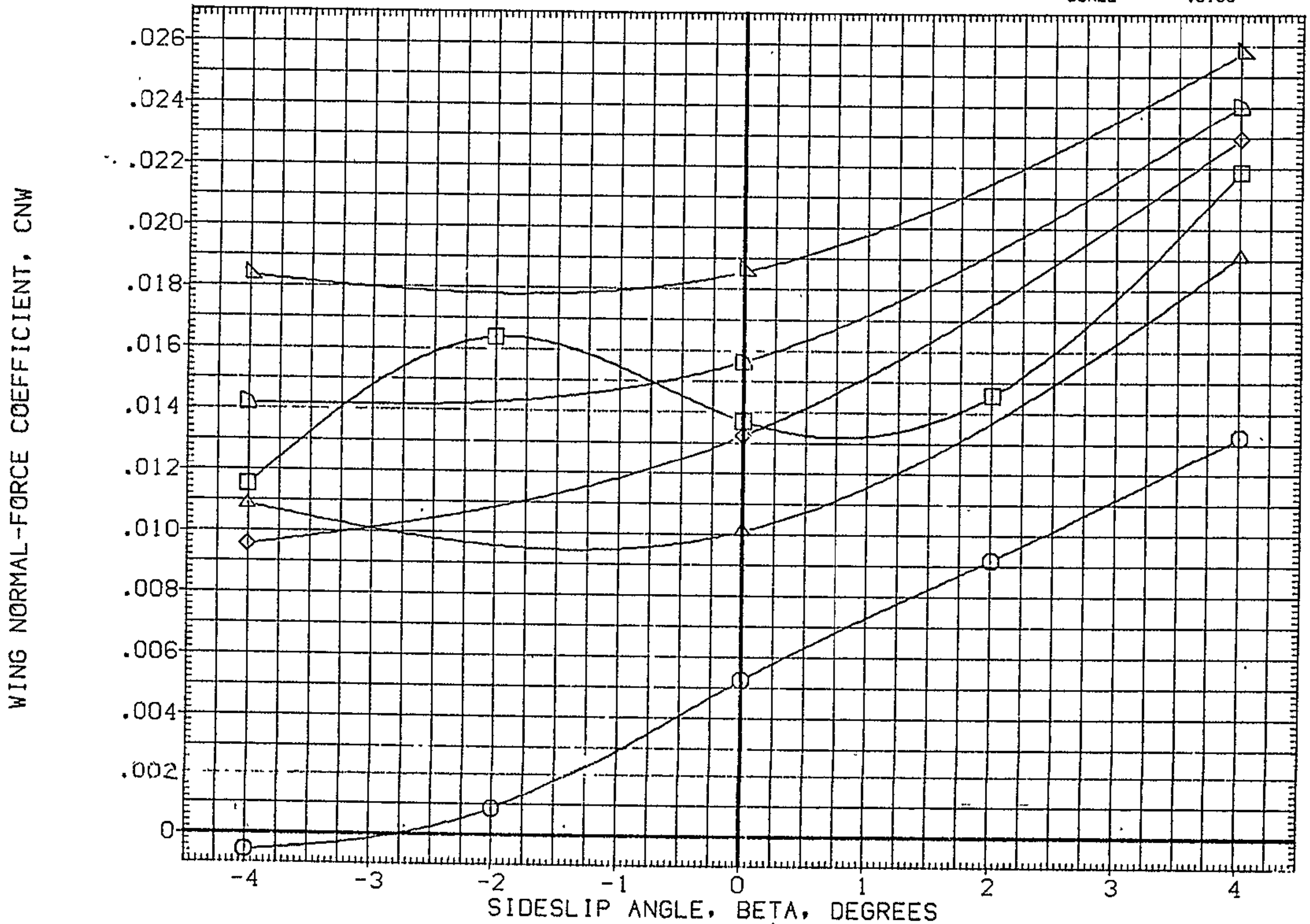


FIG. 32 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RESY19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT.
(RESY20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RESY24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RESY25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100	XMRP	976.0000	IN. XT
(RESY68)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100	YMRP	.0000	IN. YT
(RESY71)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

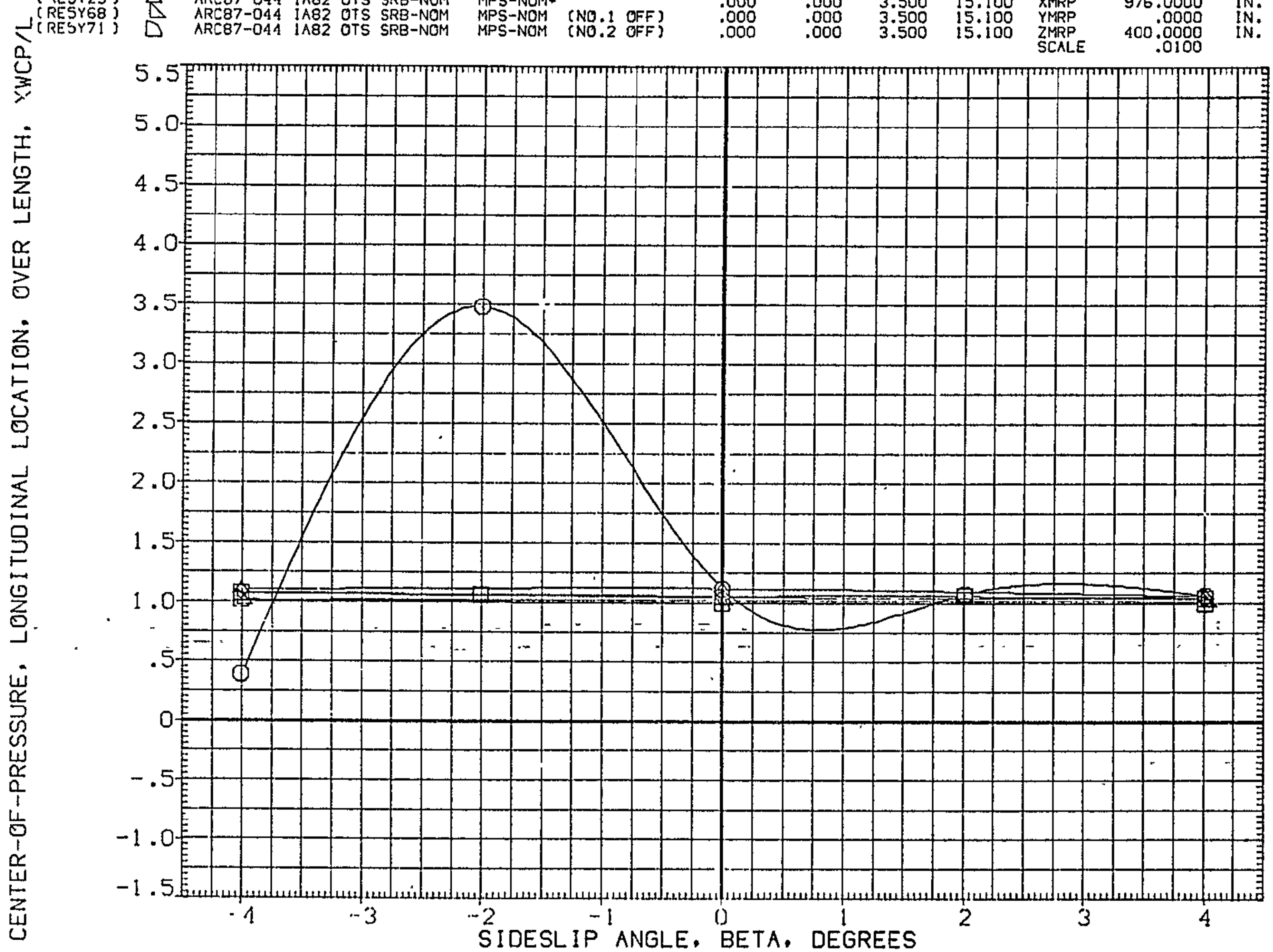


FIG. 32 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100
(RE5Y24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100
(RE5Y25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100
(RE5Y68)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100
(RE5Y71)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

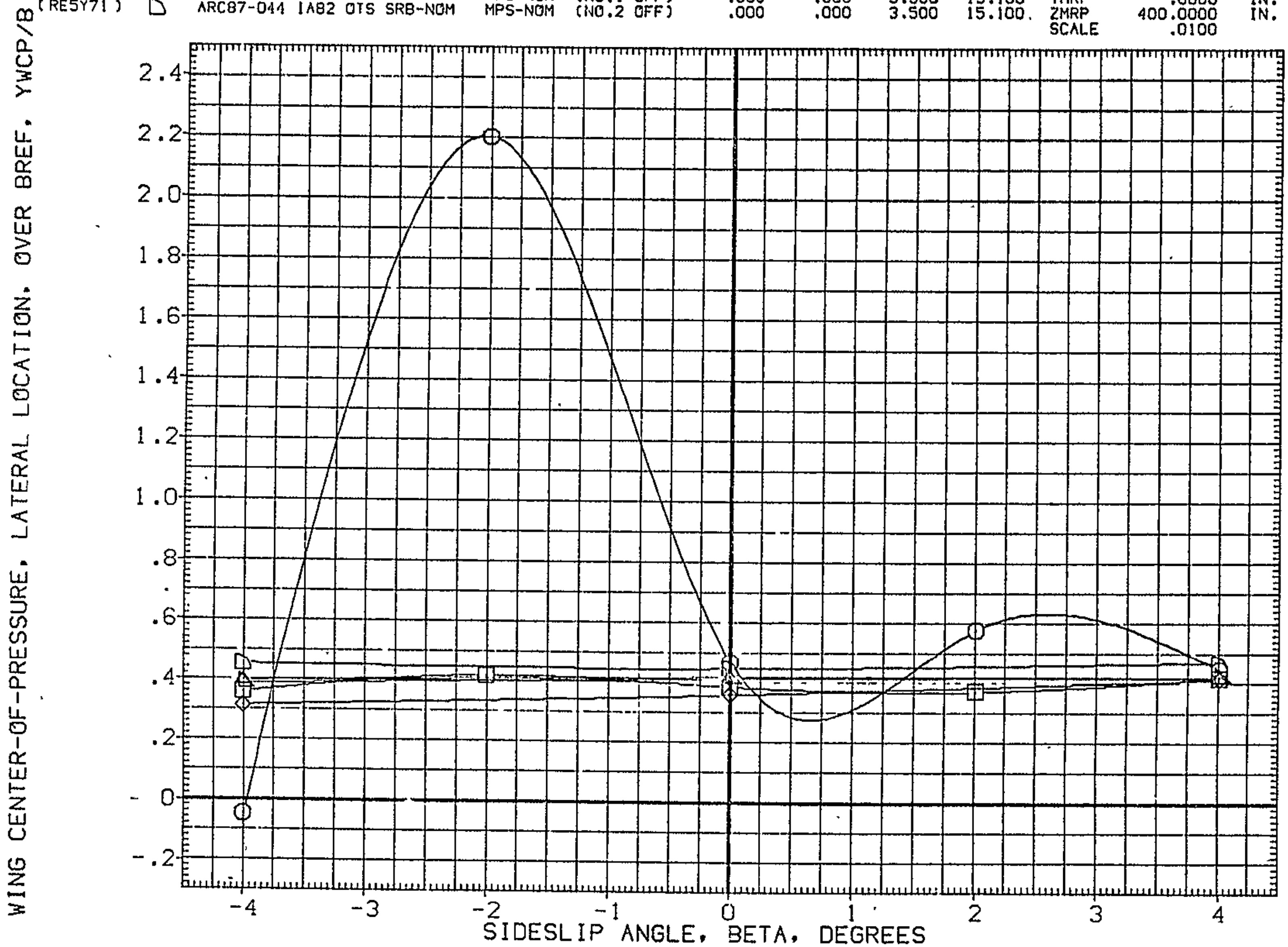


FIG. 32 MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	2.600	14.700
(RE5Y06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	2.600	14.700
(RE5Y07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	2.600	14.700
(RE5Y66)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	2.600	15.100
(RE5Y69)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

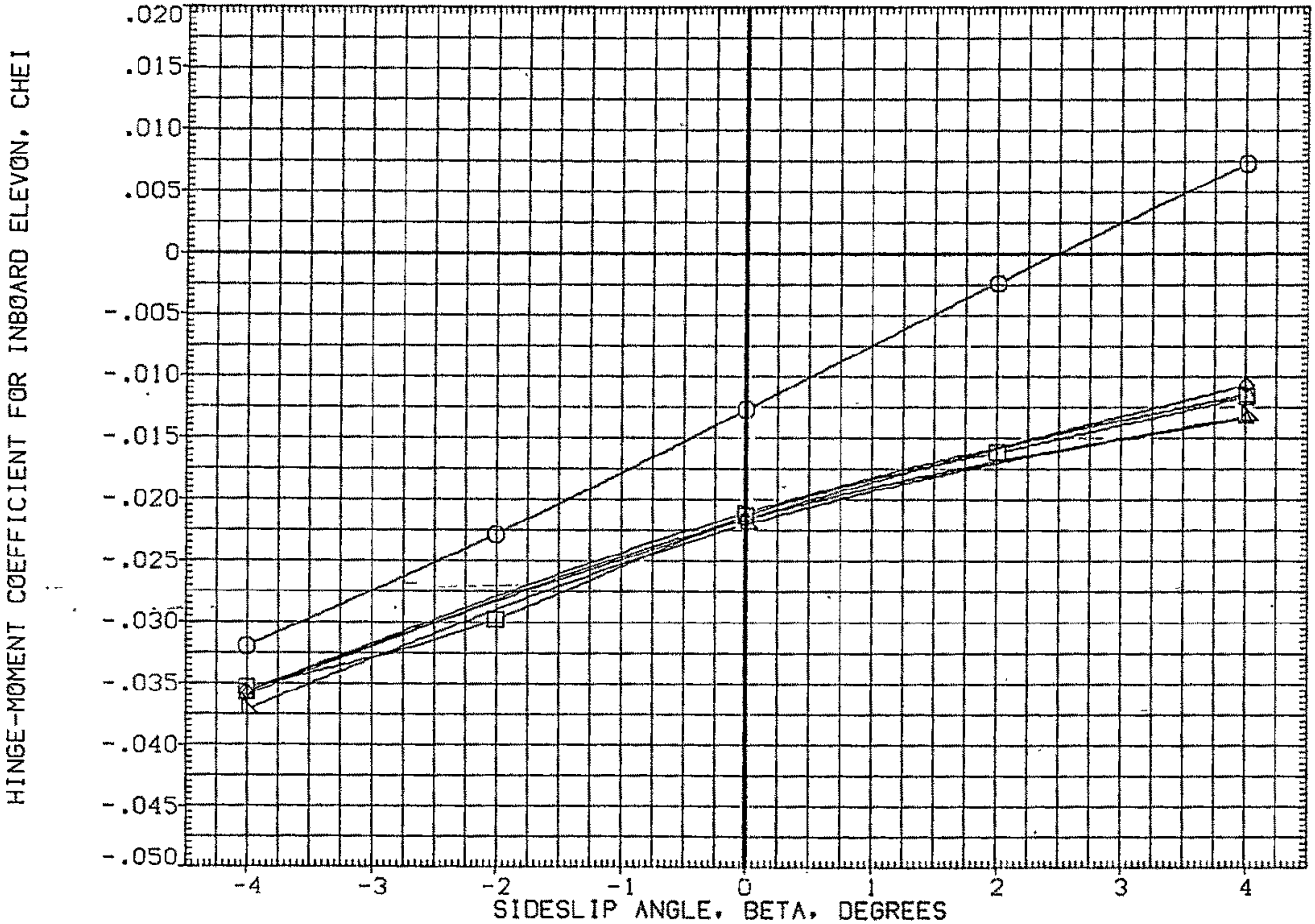


FIG. 33 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	2.600	14.700
(RE5Y03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	2.600	14.700
(RE5Y06)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	2.600	14.700
(RE5Y07)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	2.600	14.700
(RE5Y66)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	2.600	15.100
(RE5Y69)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

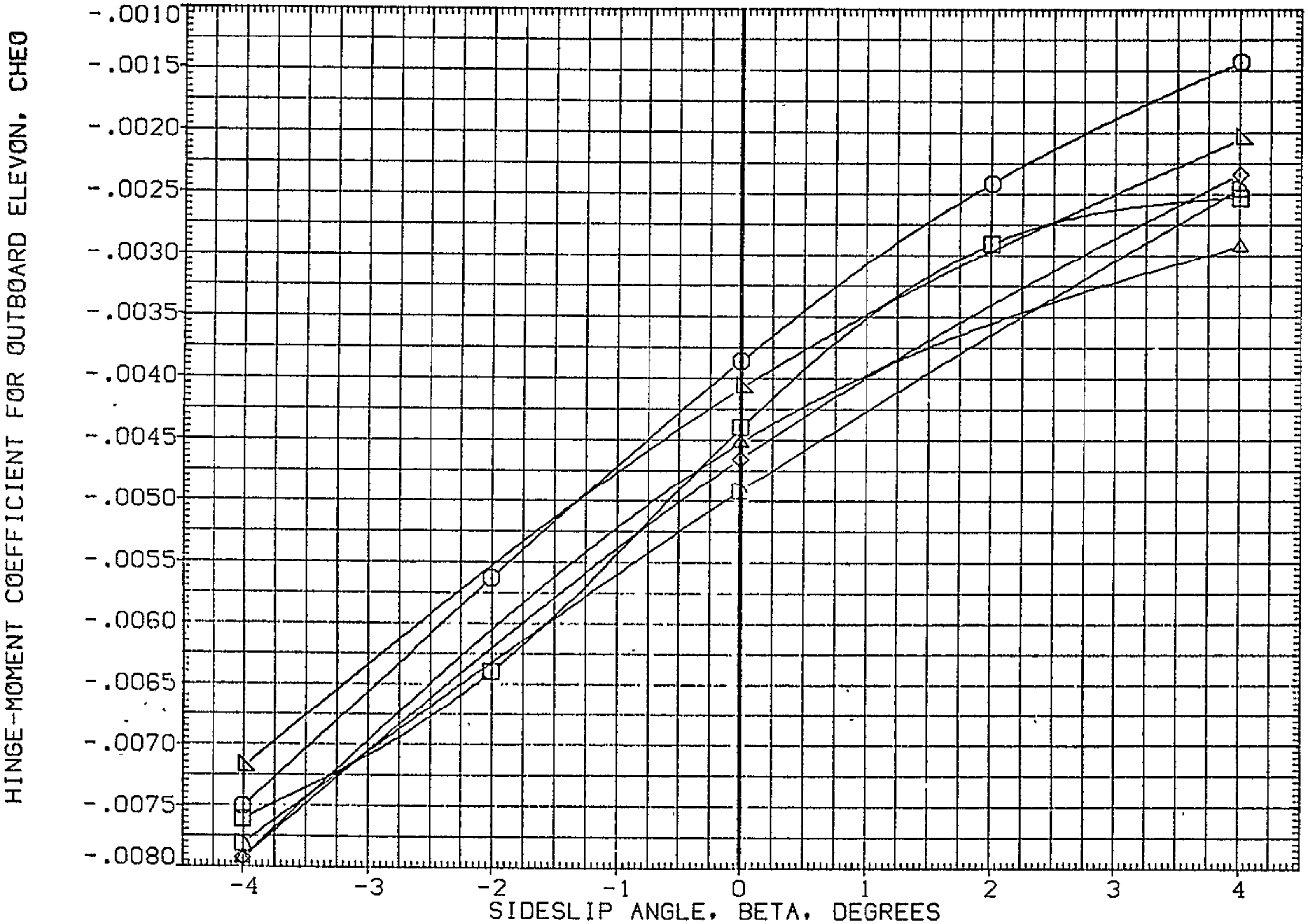


FIG. 33 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN YAW, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5Y67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5Y70)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

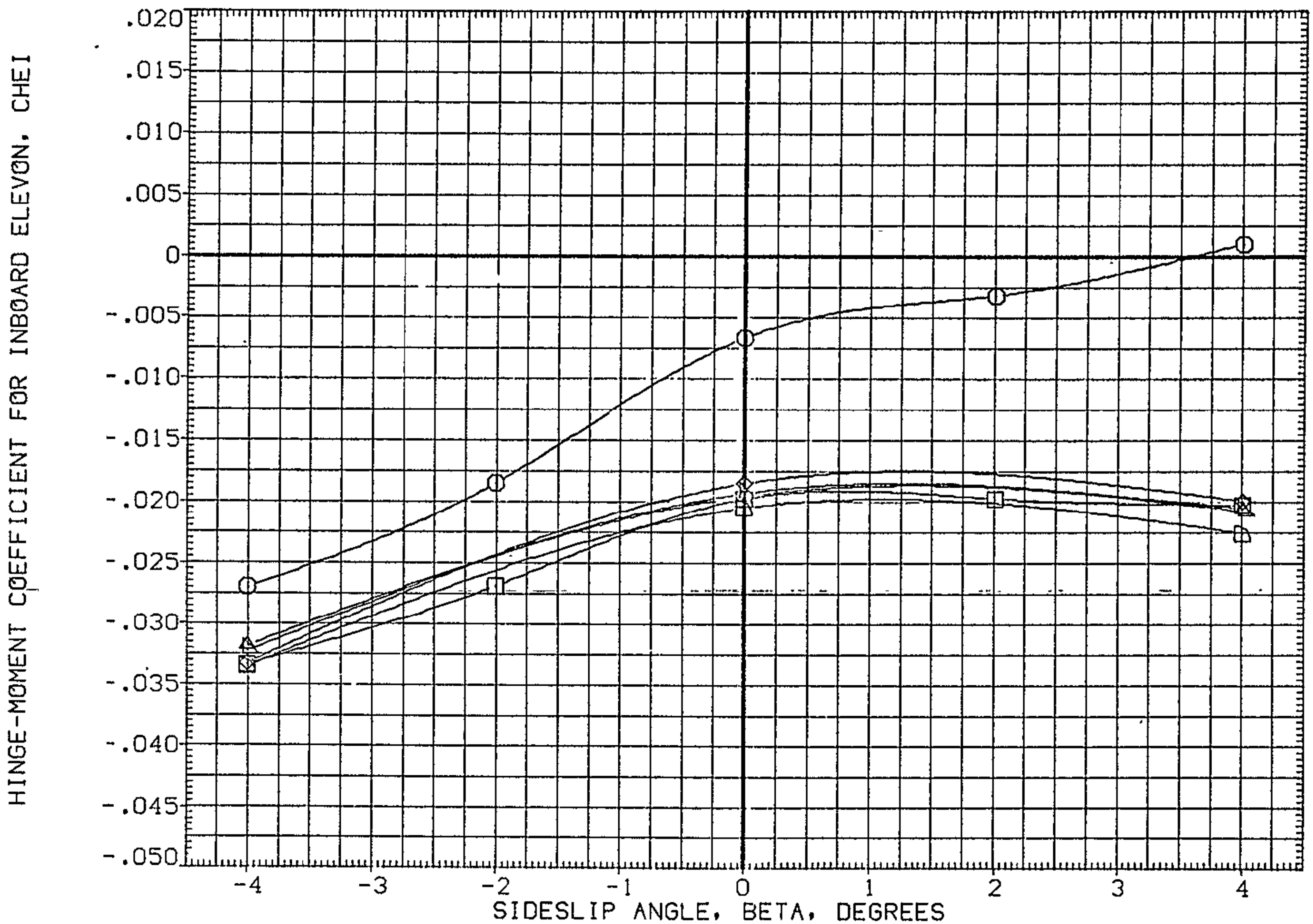


FIG. 34 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.000	14.700
(RE5Y13)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.000	15.100
(RE5Y17)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.000	15.100
(RE5Y18)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.000	15.100
(RE5Y67)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.000	15.100
(RE5Y70)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

FIG. 34 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN YAW, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5Y24)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM-	.000	.000	3.500	15.100
(RE5Y25)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM+	.000	.000	3.500	15.100
(RE5Y68)	◺	ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5Y71)	D	ARC87-044 IA82 OTS SRB-NOM MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

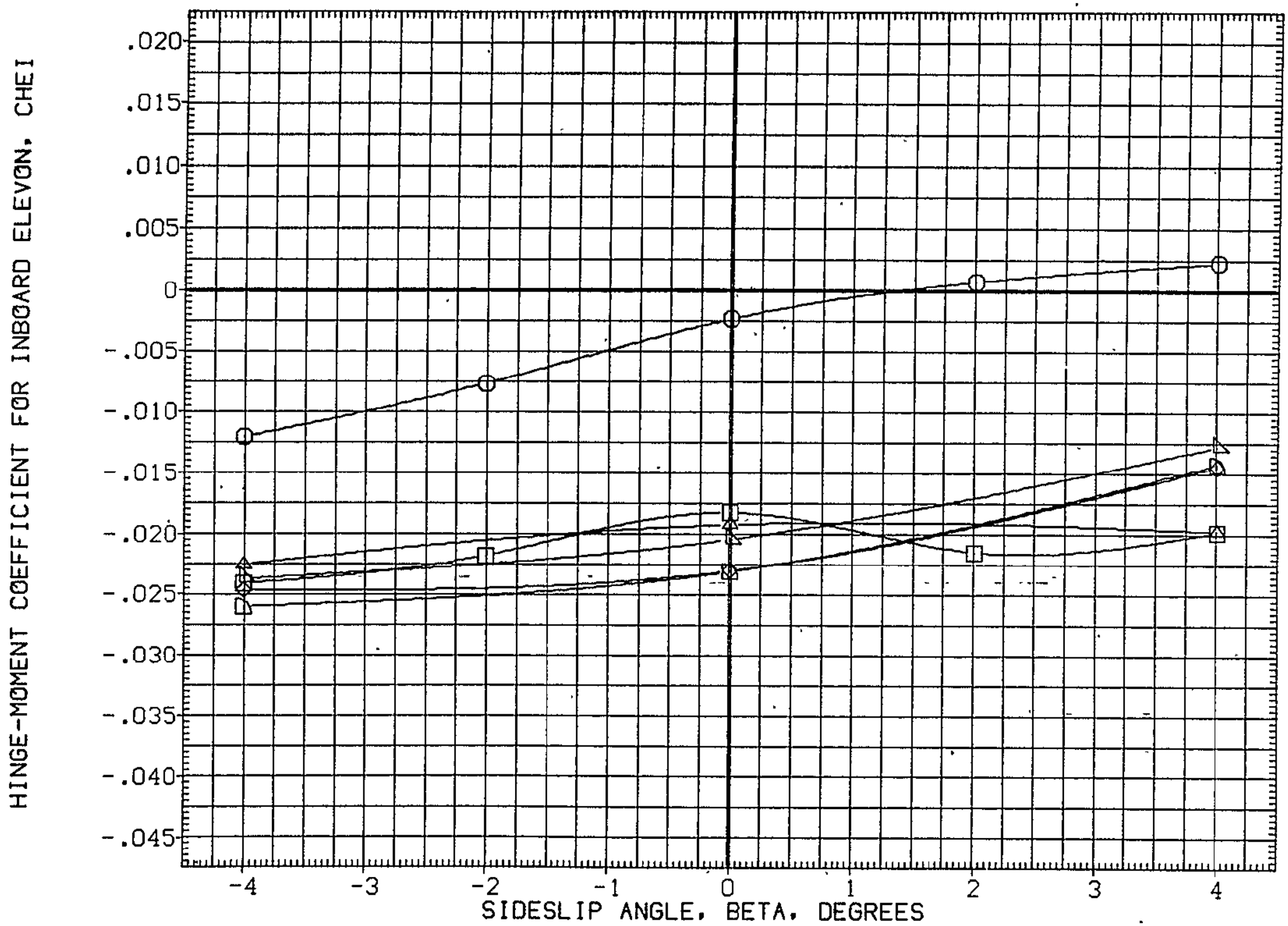


FIG. 35 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION			ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF		.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT.
(RE5Y20)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM		.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RE5Y24)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-		.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RE5Y25)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+		.000	.000	3.500	15.100	XMRP	976.0000	IN. XT
(RE5Y68)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.1 OFF)	.000	.000	3.500	15.100	YMRP	.0000	IN. YT
(RE5Y71)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	(NO.2 OFF)	.000	.000	3.500	15.100	ZMRP	400.0000	IN. ZT
									SCALE	.0100	

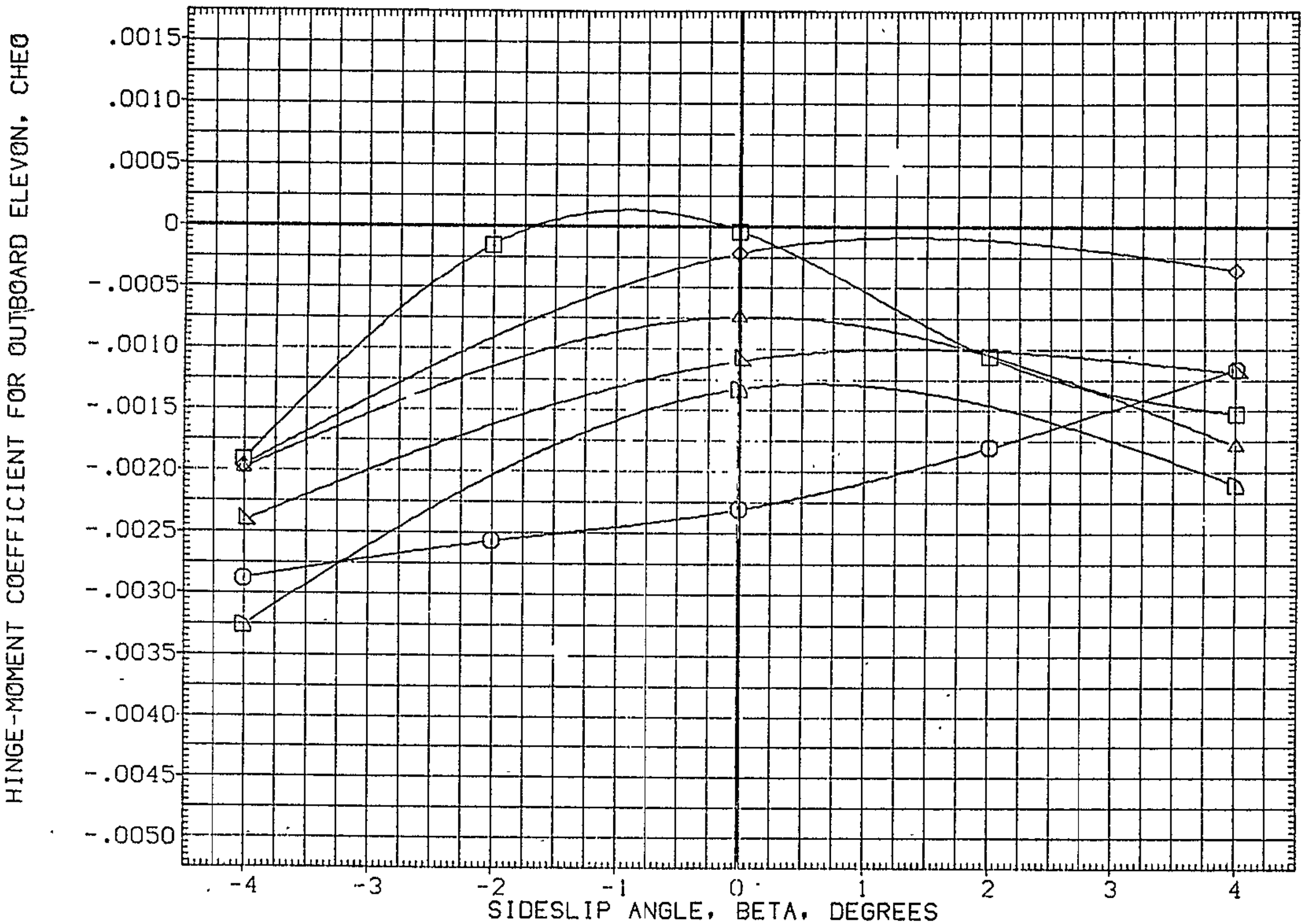


FIG. 35 MPS PLUME SIZE/ENG. OUT EFFECT ON ELV. HINGE MOMENTS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RC5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

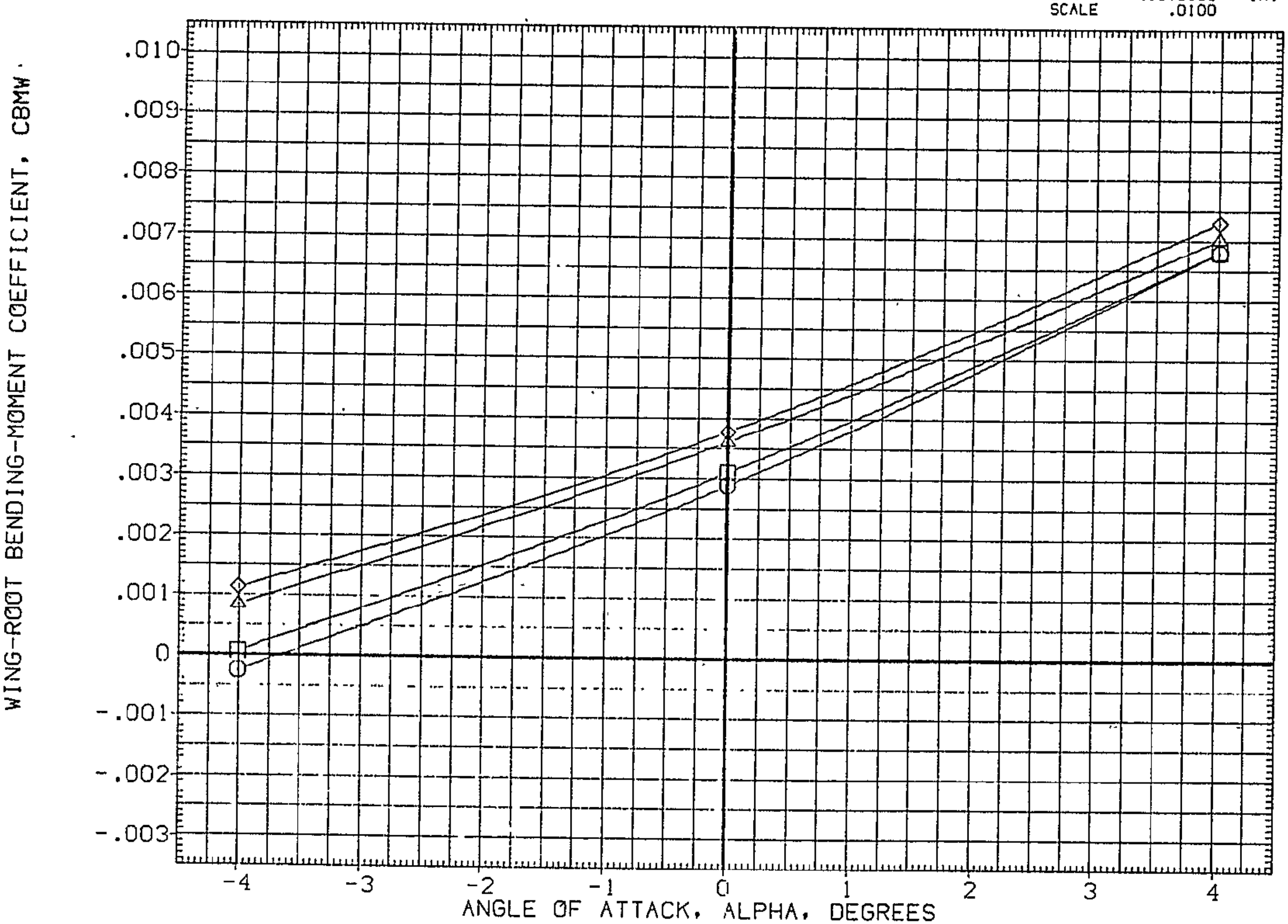


FIG. 36 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

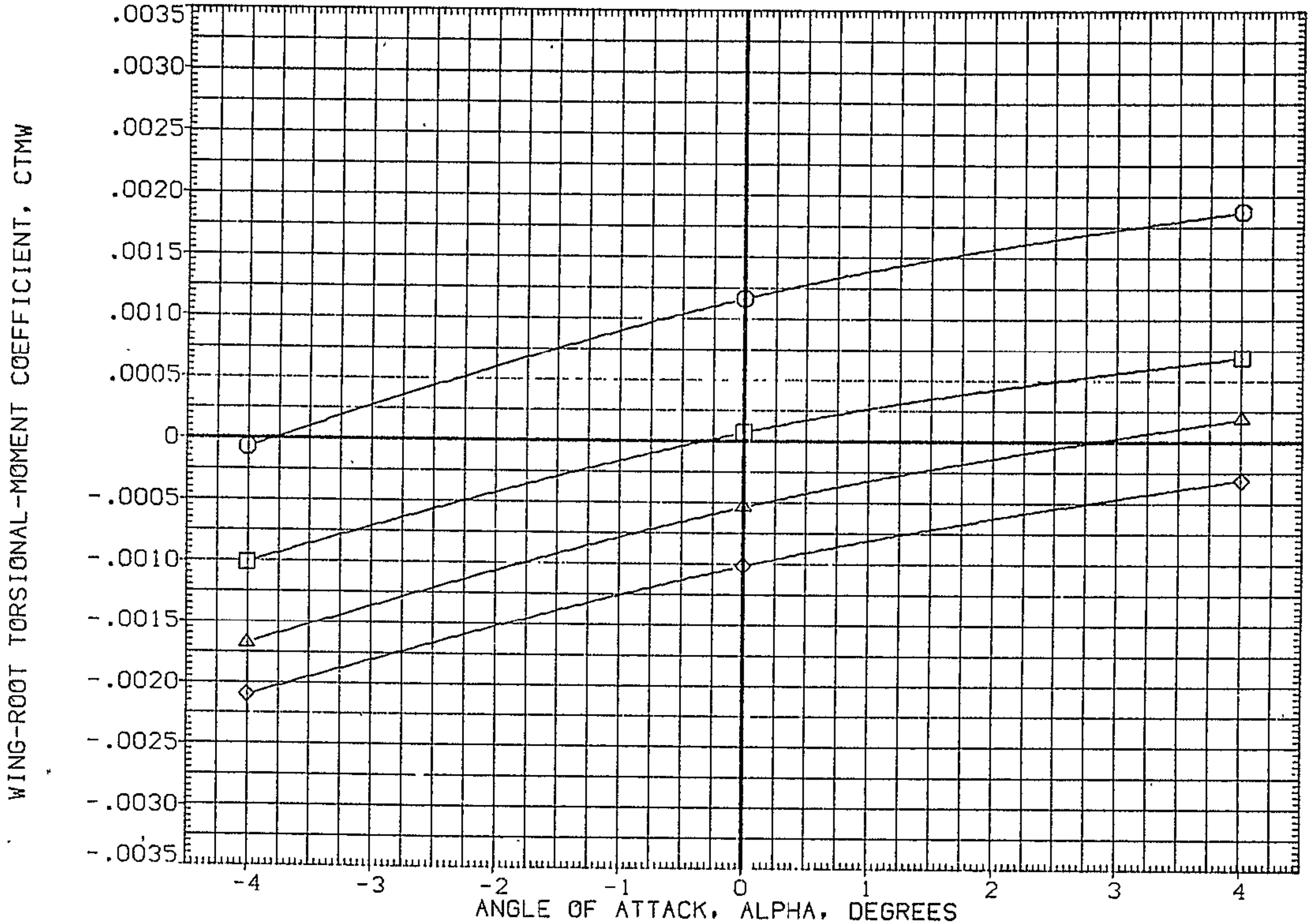


FIG. 36 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

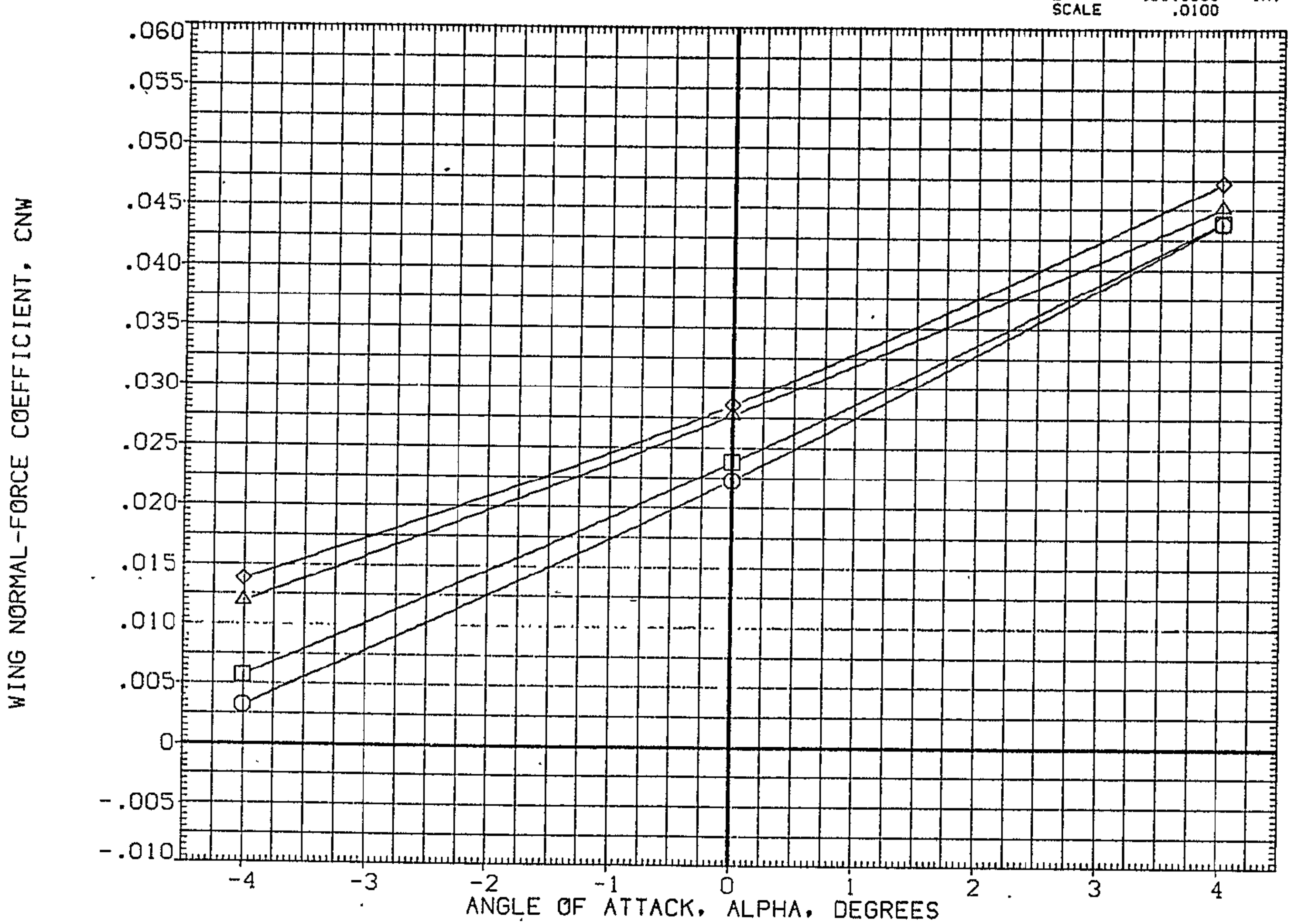


FIG. 36 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

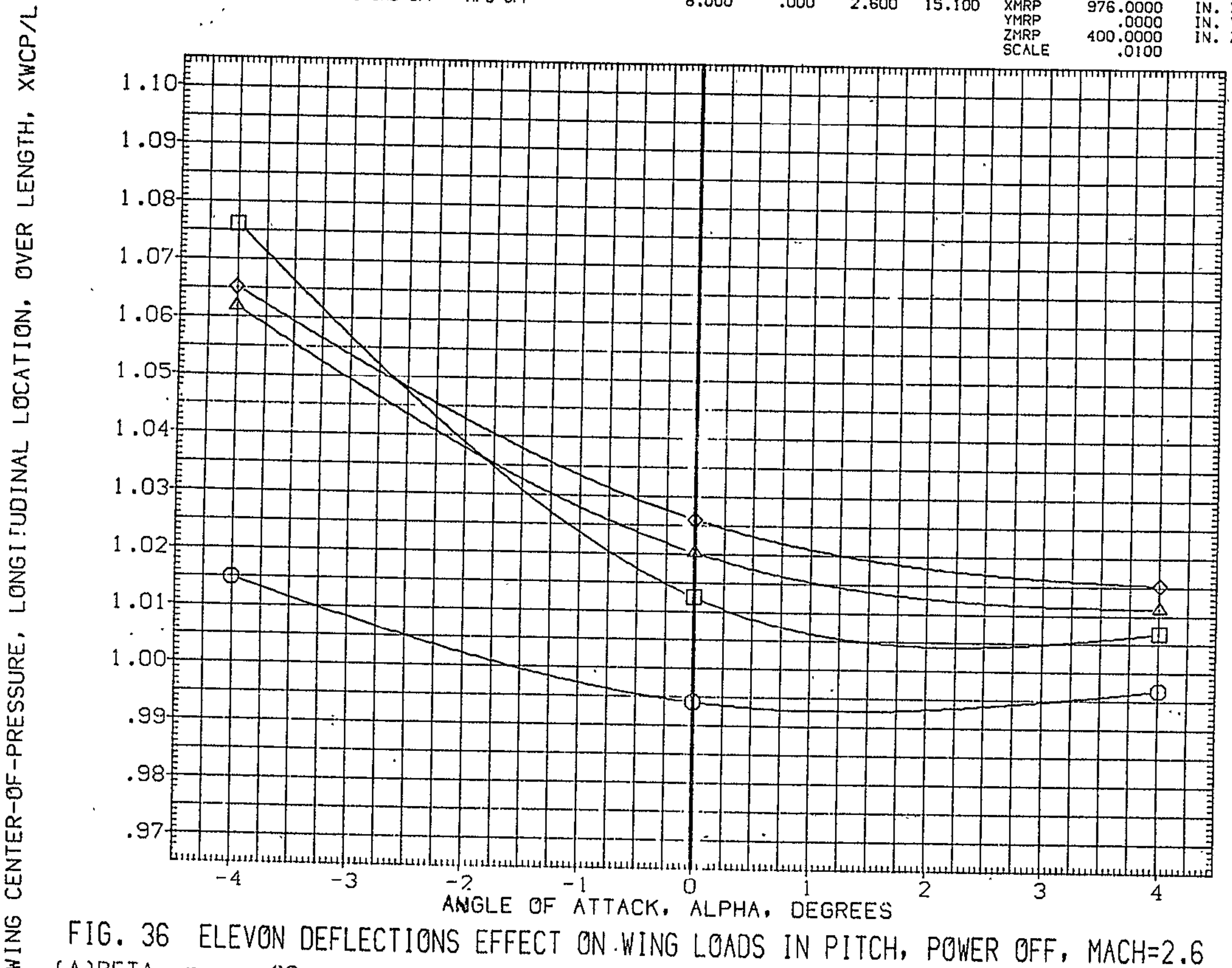


FIG. 36 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

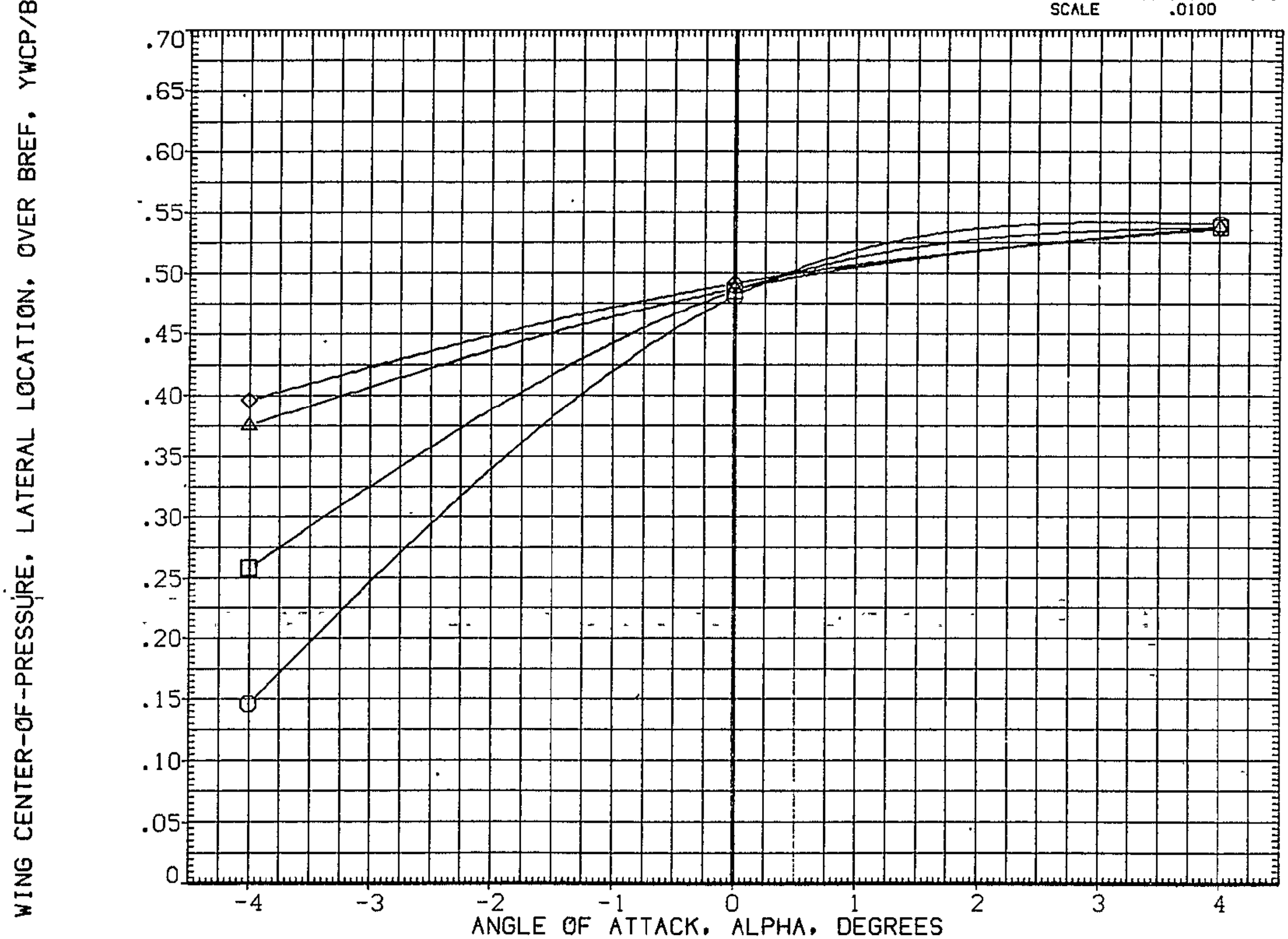


FIG. 36 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5X62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5X56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

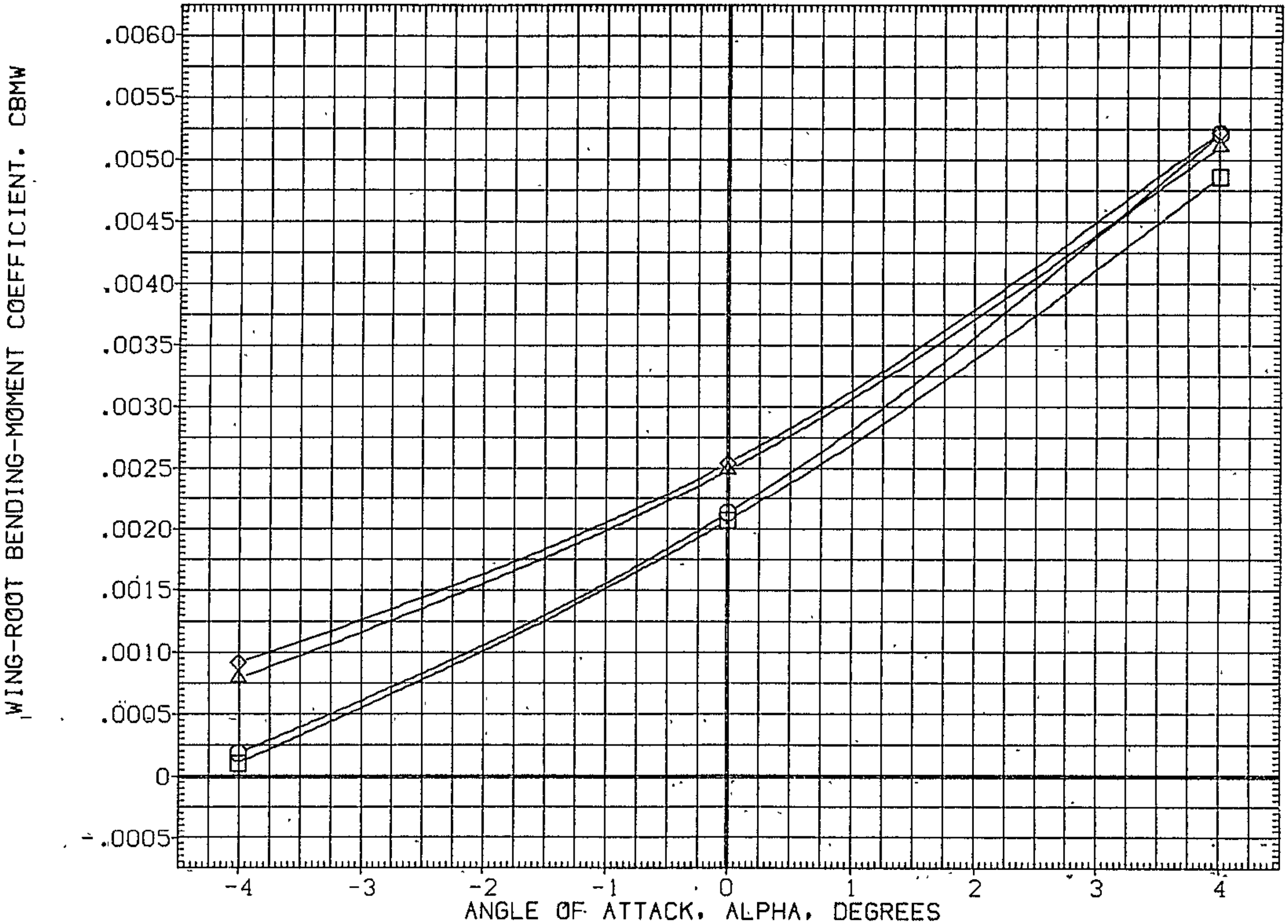


FIG. 37 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5X62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5X56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X1
YMRP	.0000	IN. Y1
ZMRP	400.0000	IN. Z1
SCALE	.0100	

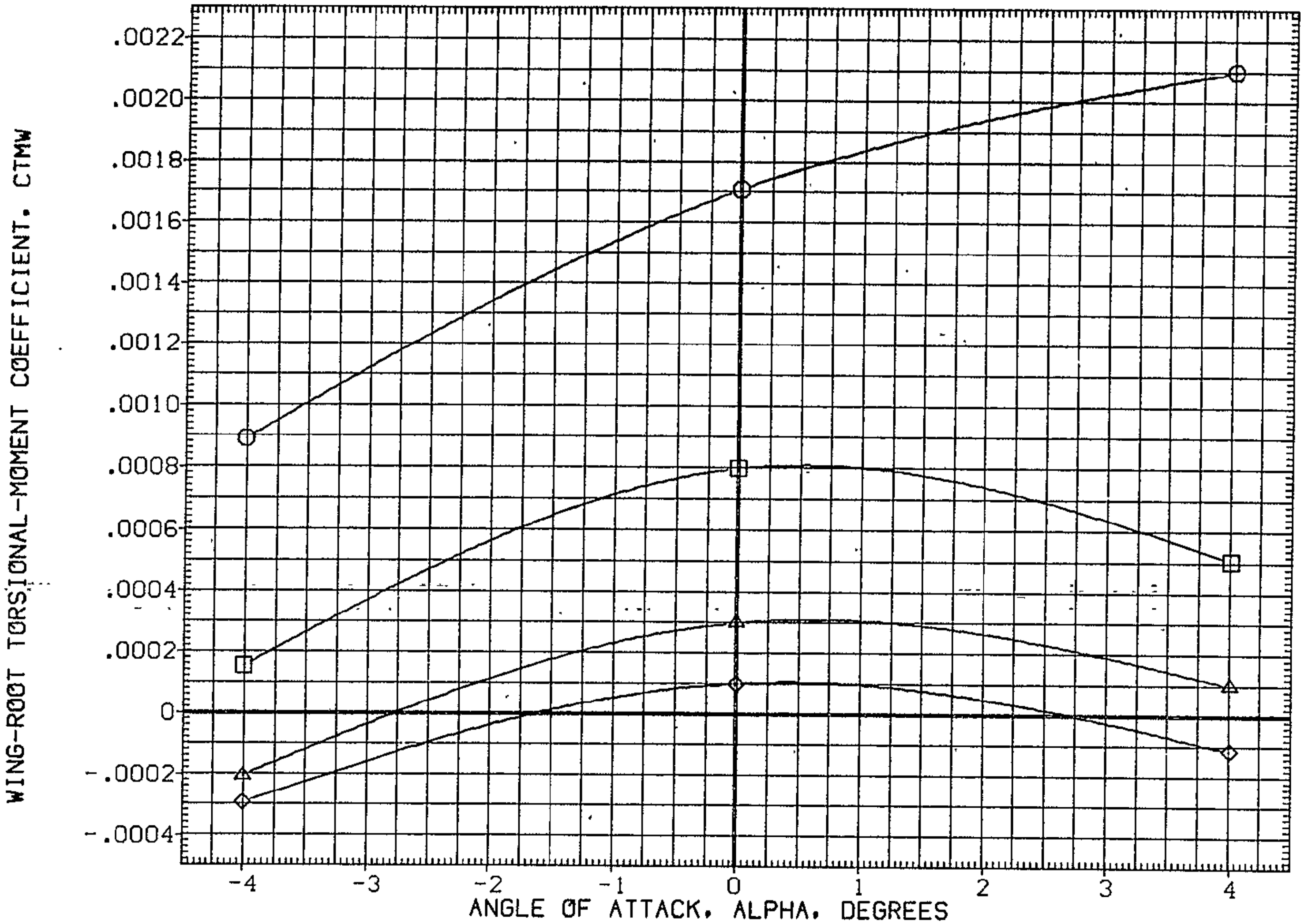


FIG. 37 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5X62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5X56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

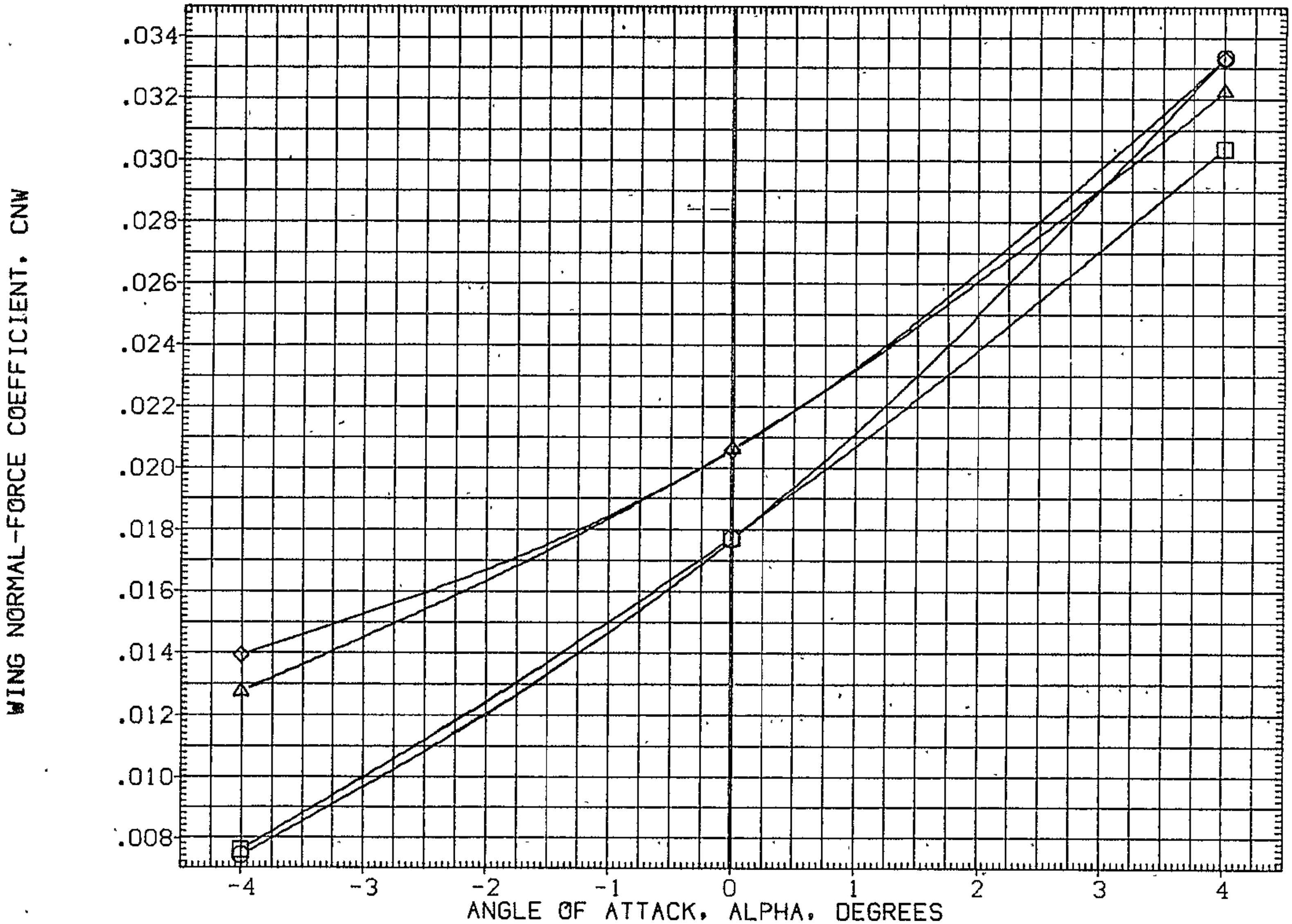


FIG. 37 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5X62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5X56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

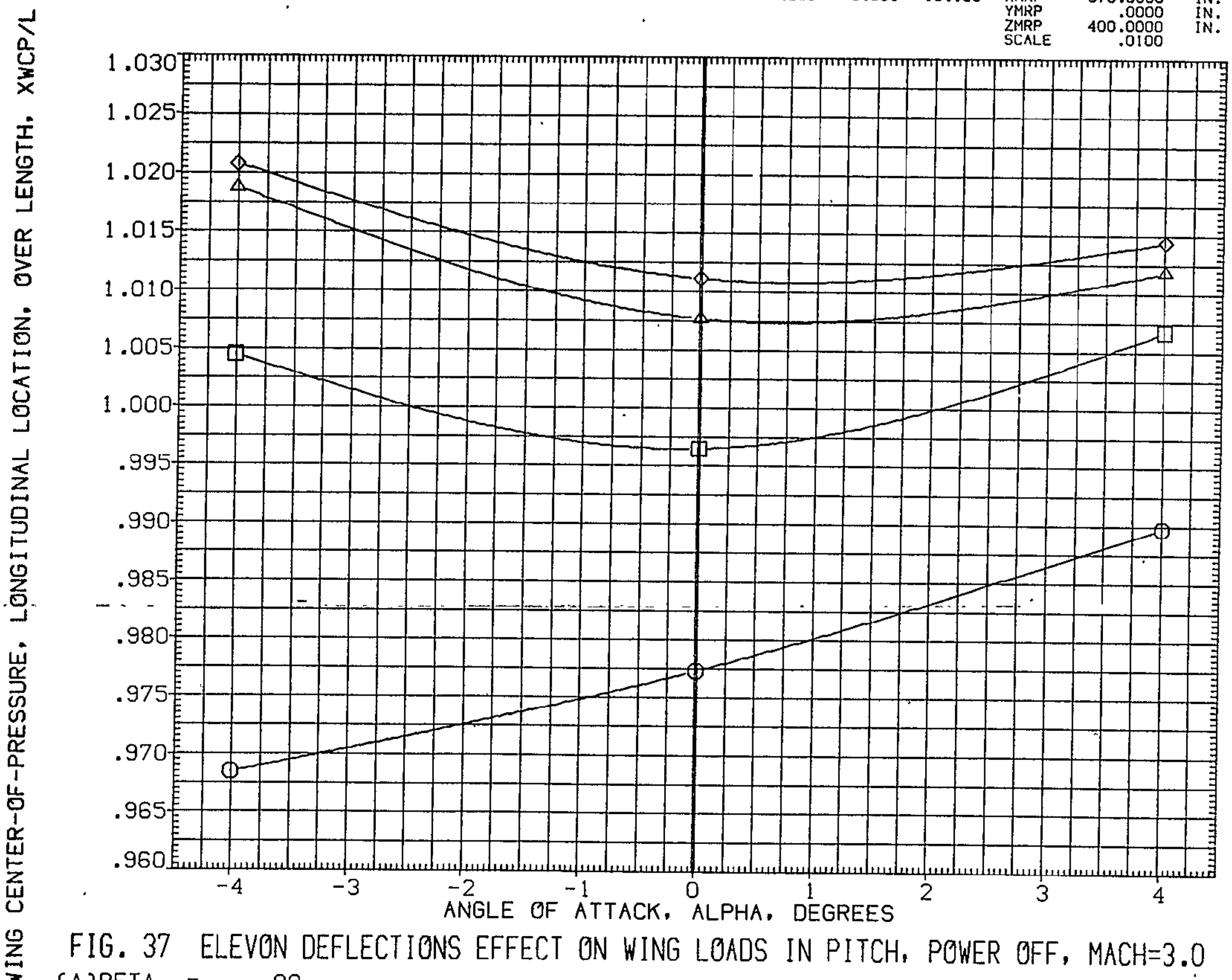


FIG. 37 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

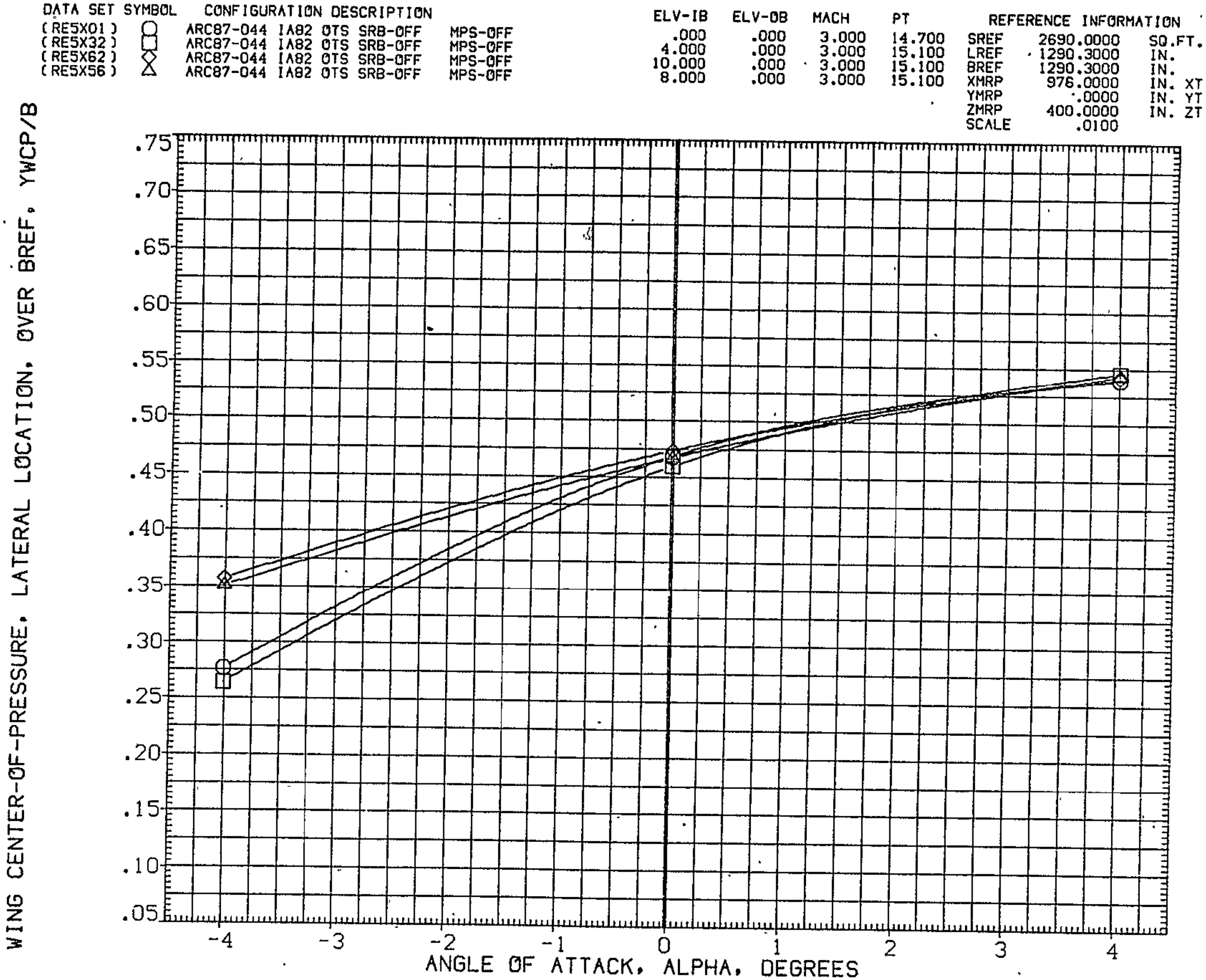


FIG. 37. ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5X64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5X58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

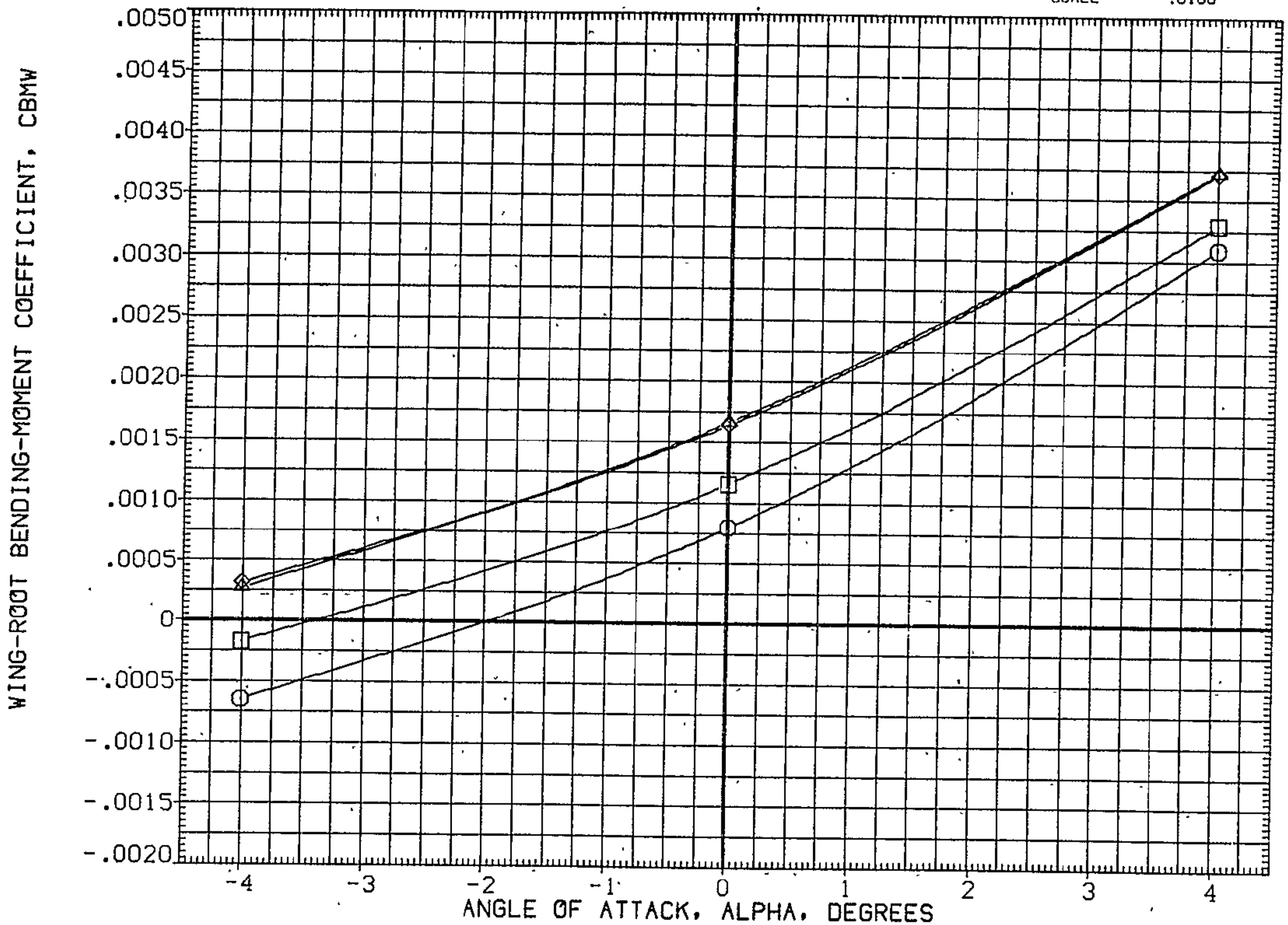


FIG. 38 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5X64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5X58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

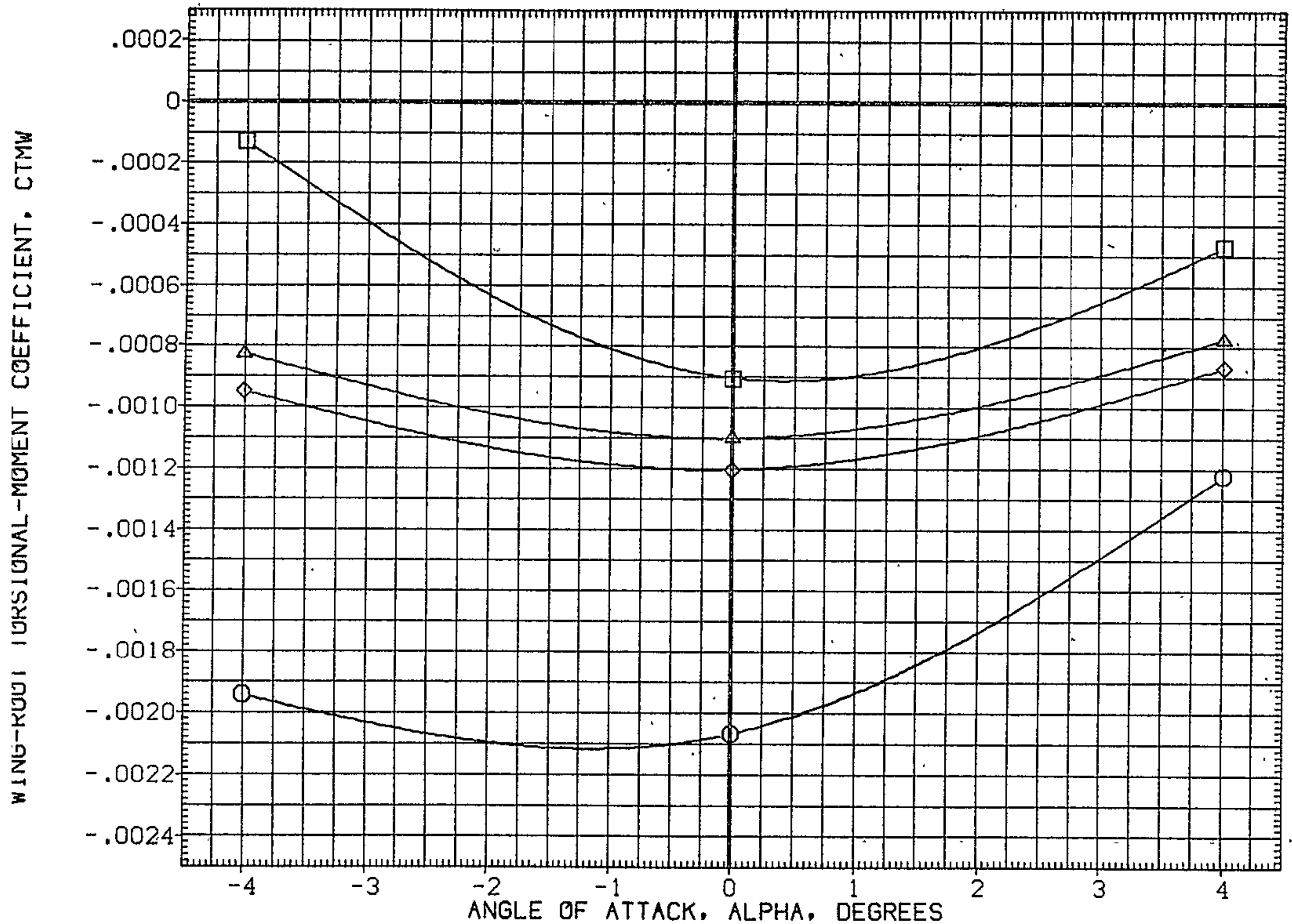


FIG. 38 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5X64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5X58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

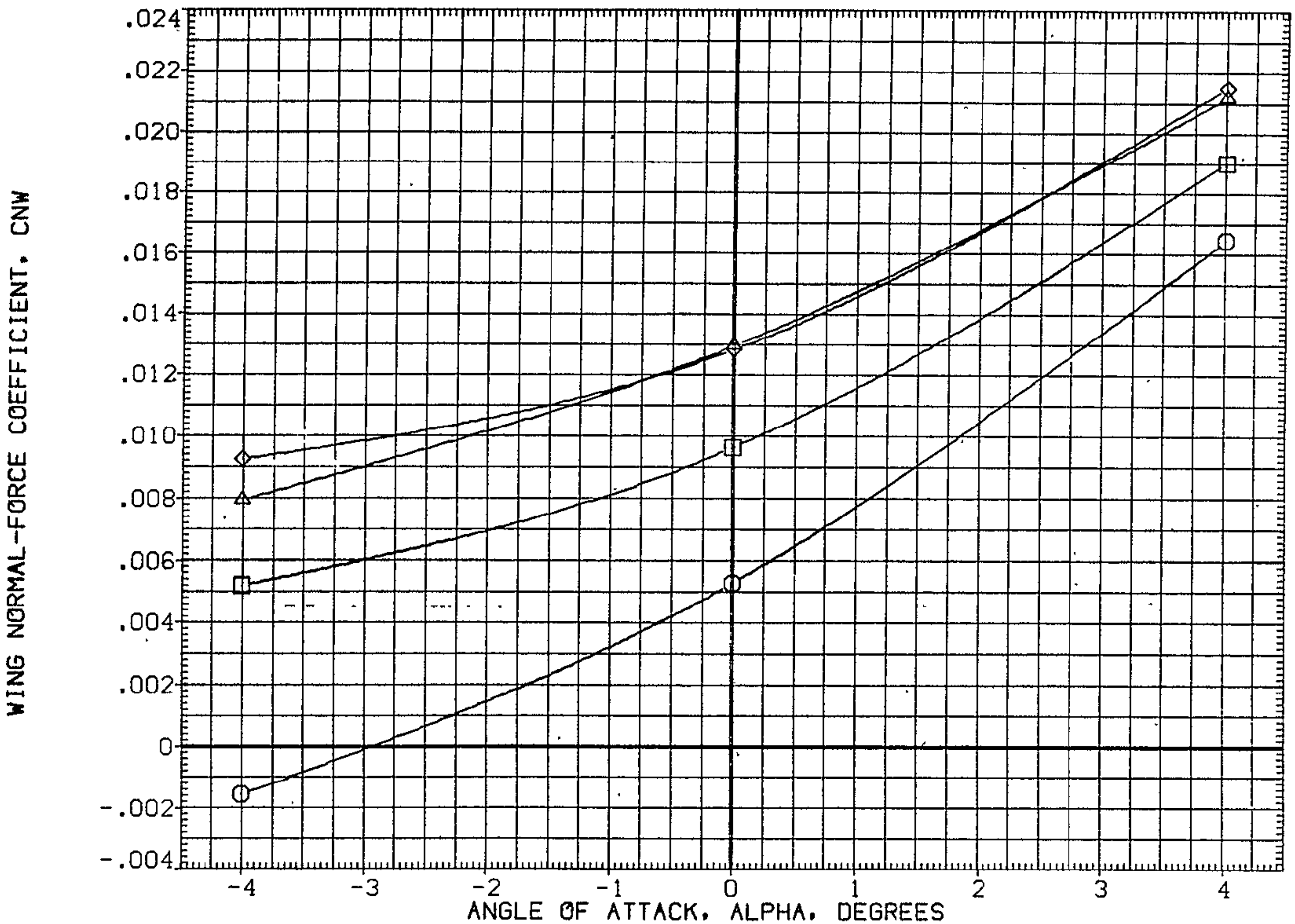


FIG. 38 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5X64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5X58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

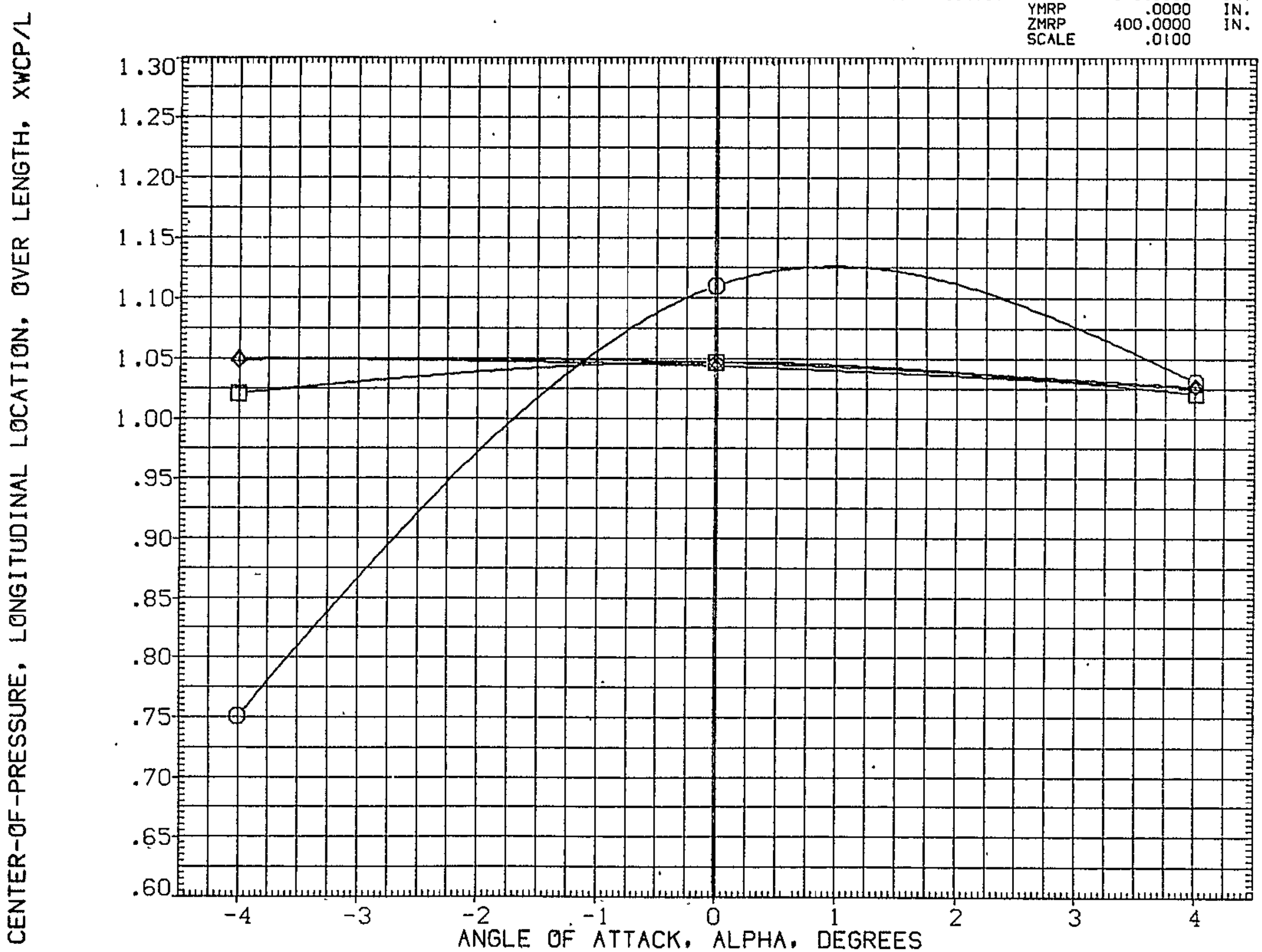


FIG. 38 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

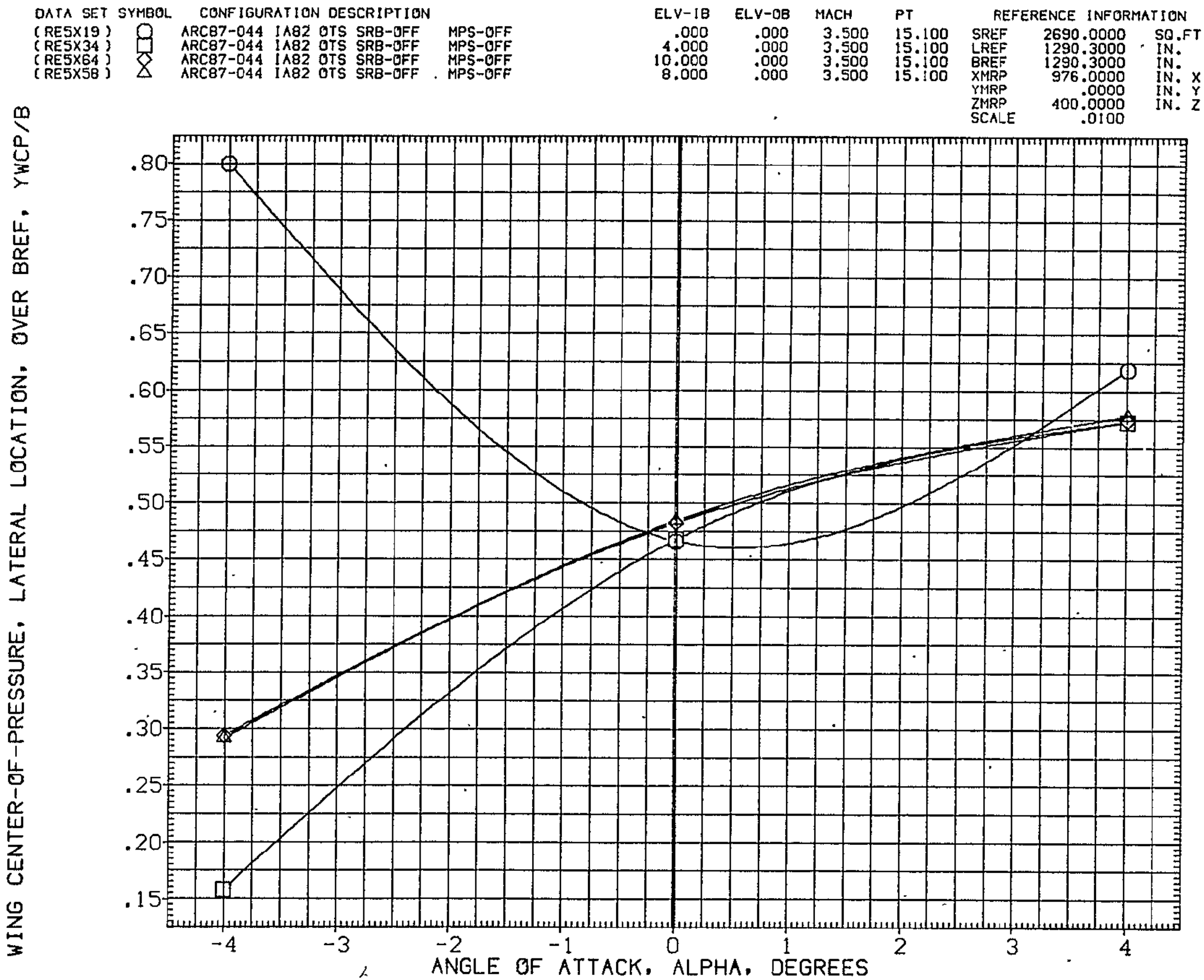


FIG. 38 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

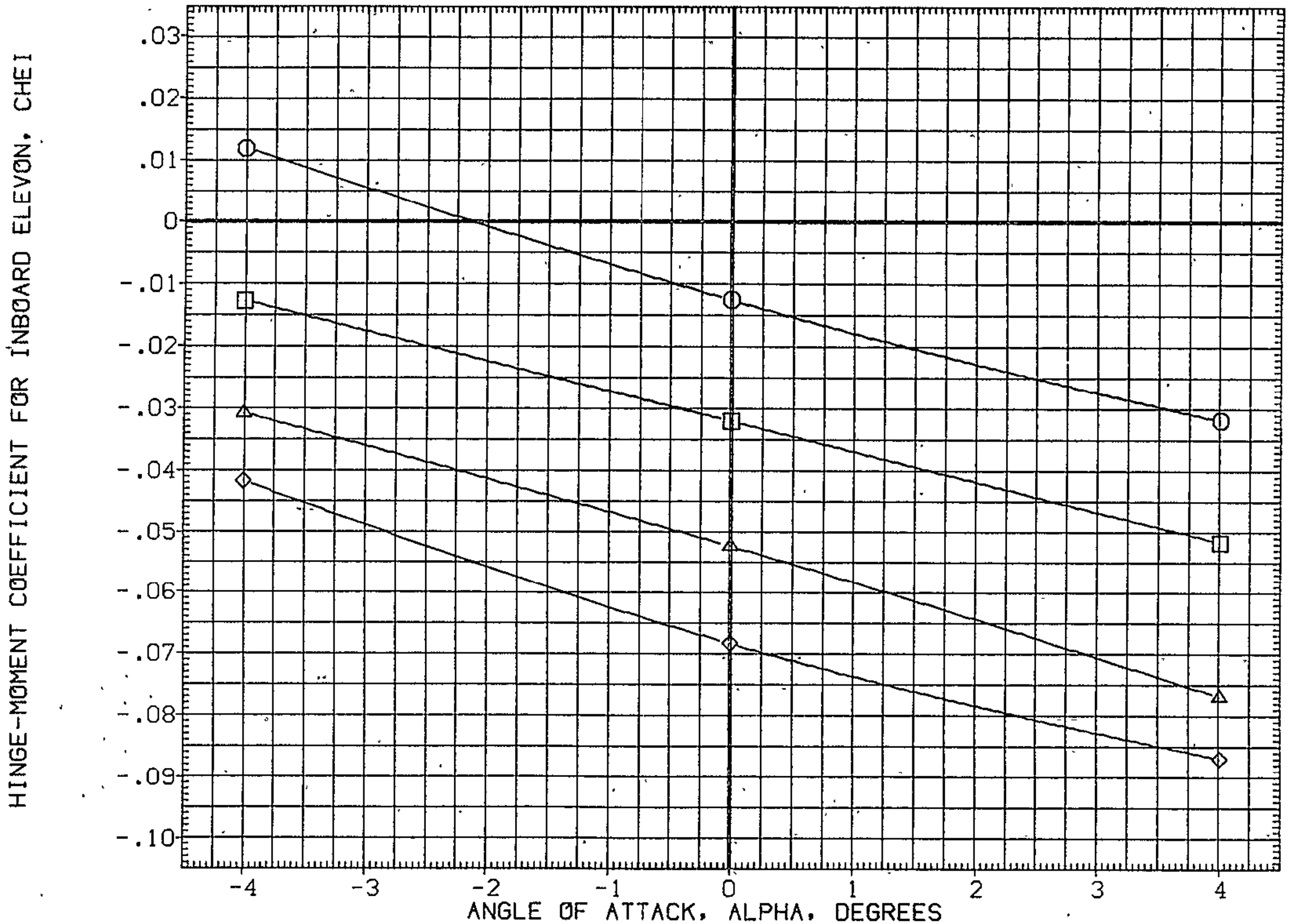


FIG. 39 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5X60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5X54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

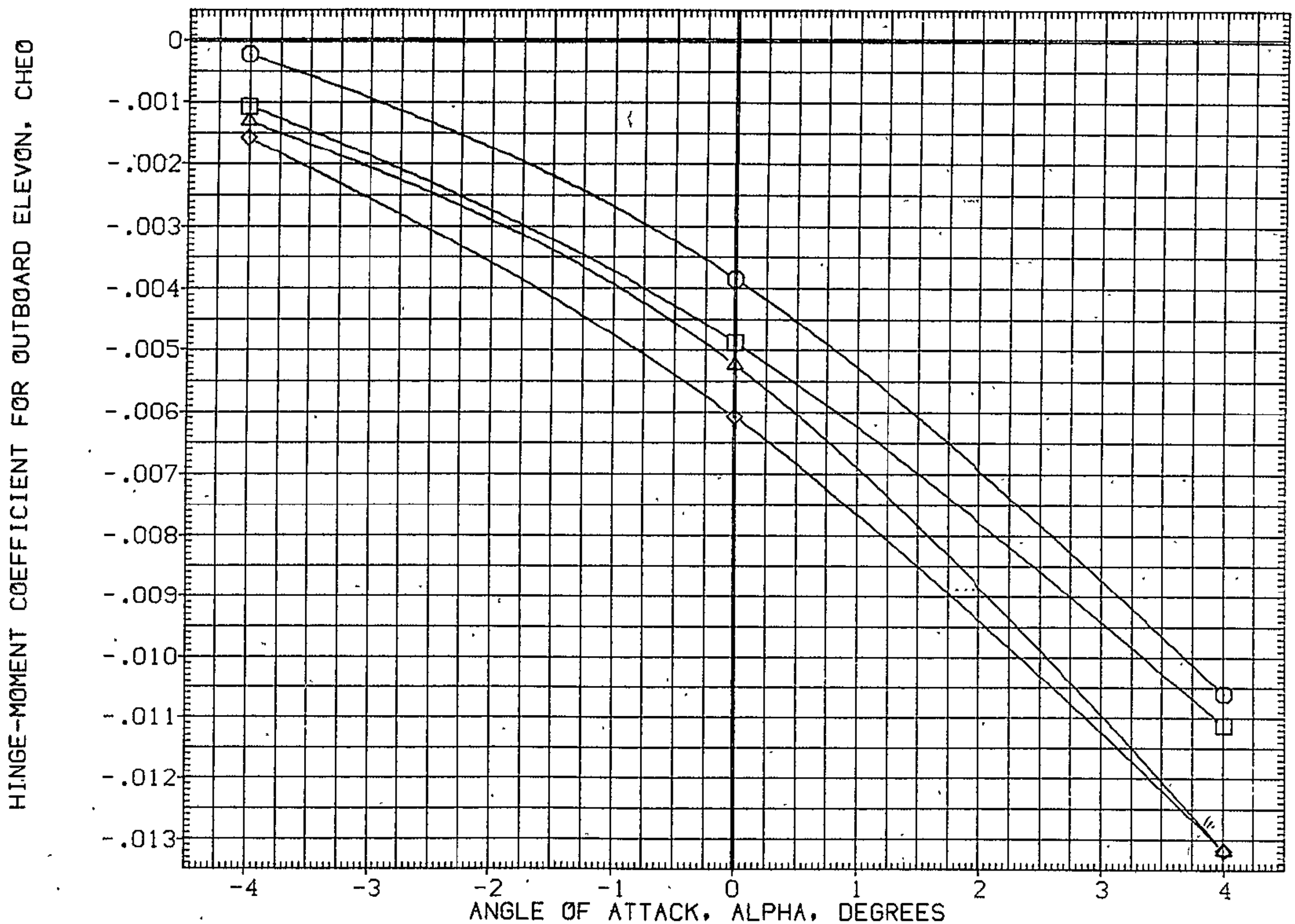


FIG. 39 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5X62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5X56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

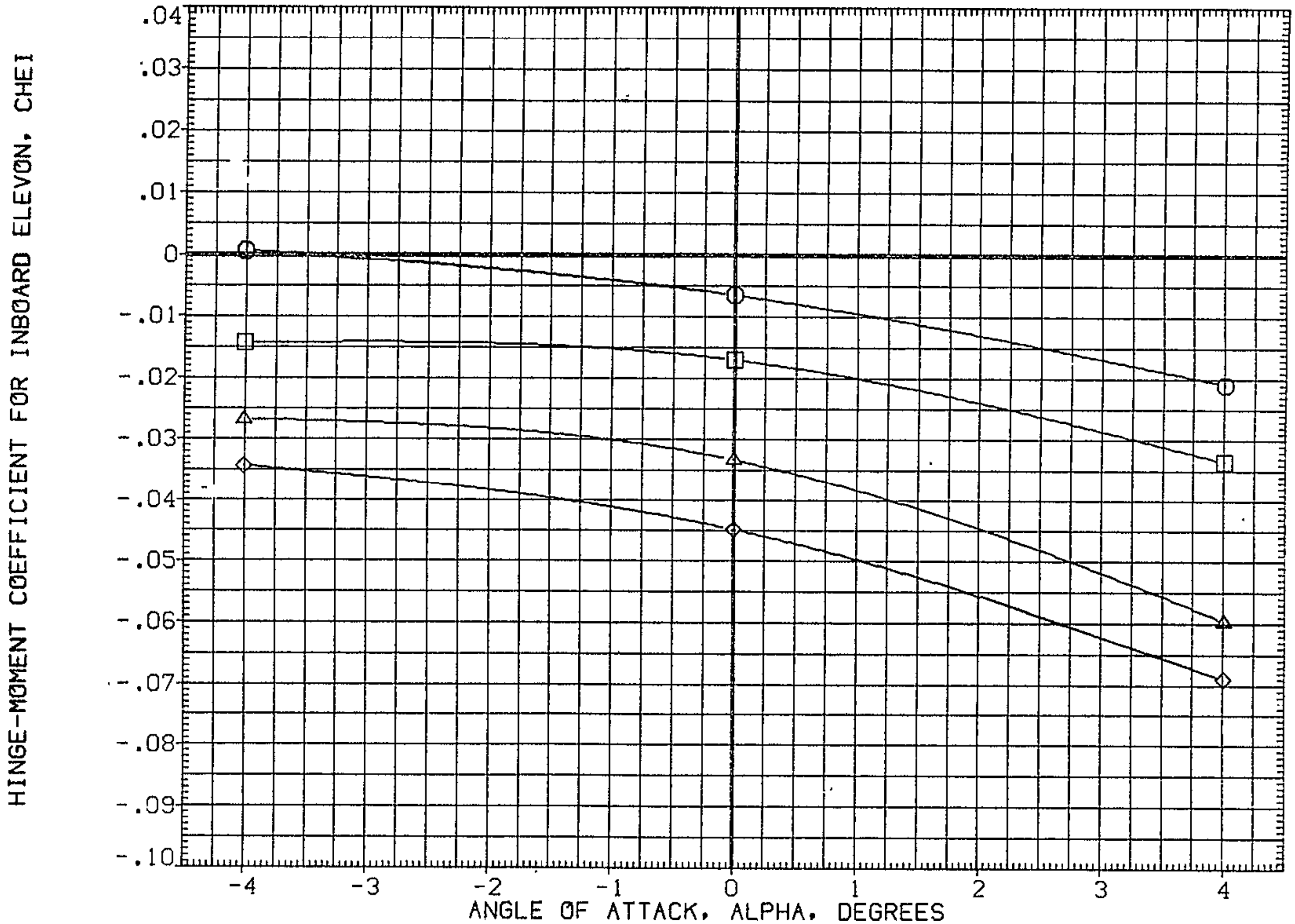


FIG. 40 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5X62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5X56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

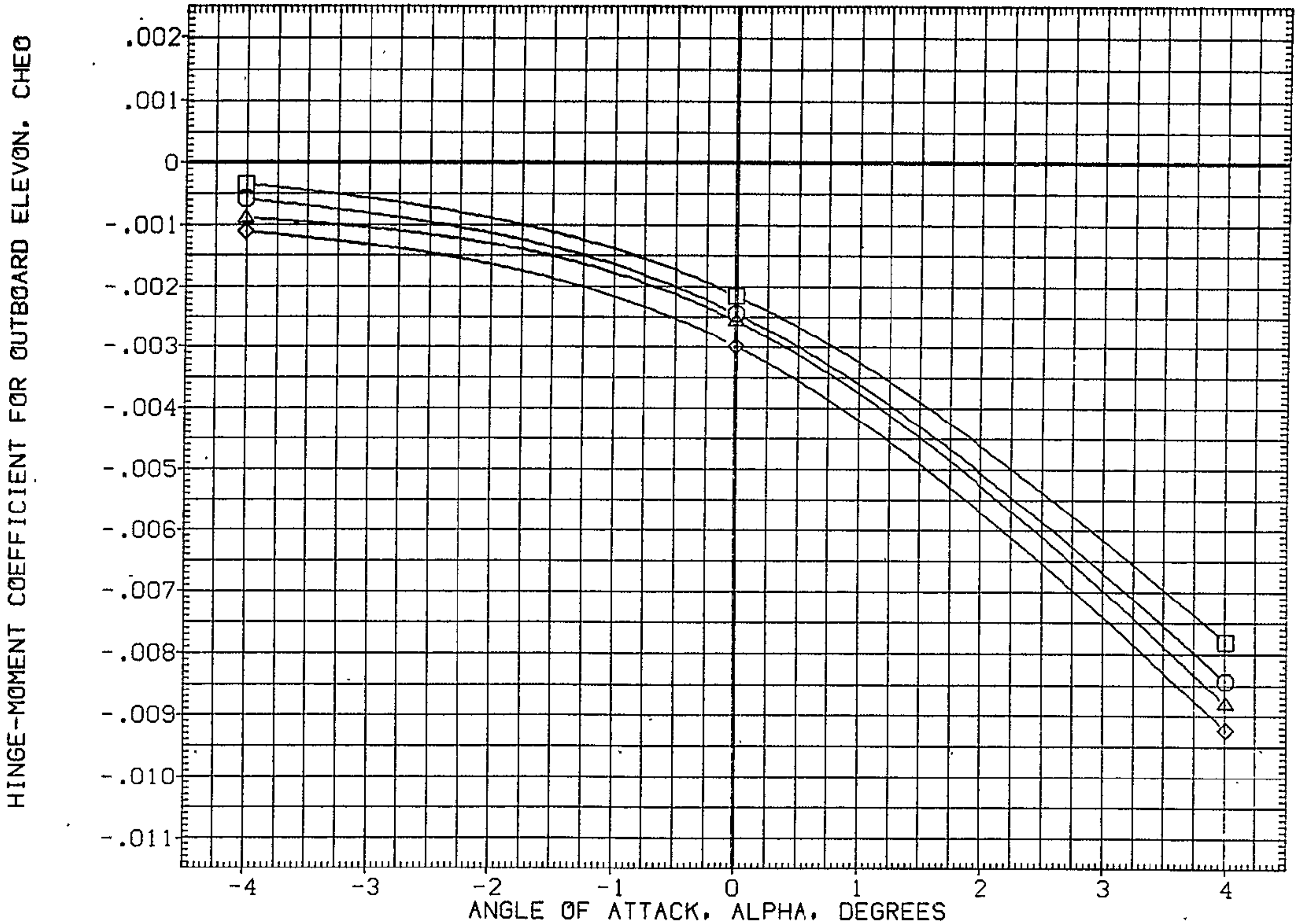


FIG. 40 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

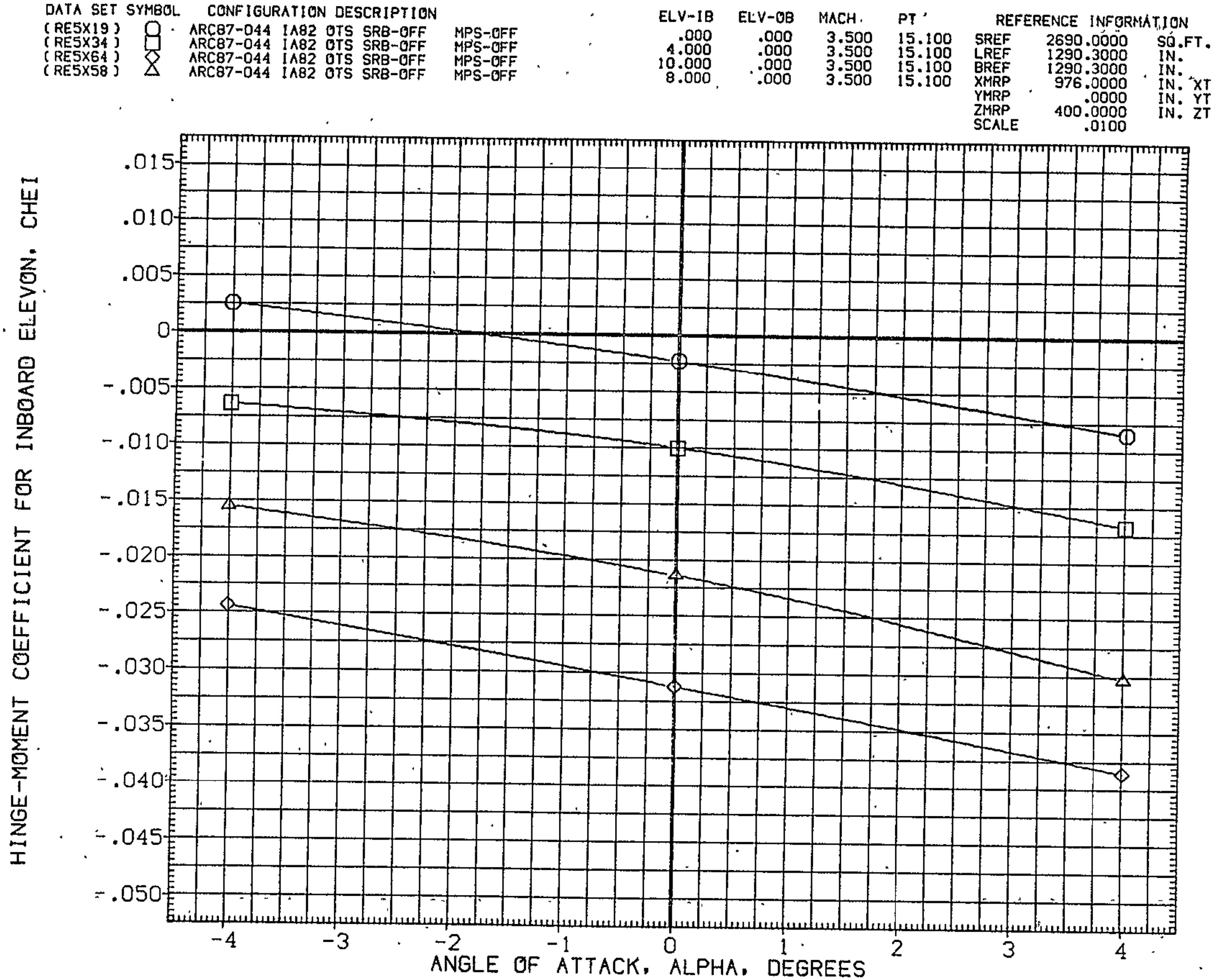


FIG. 41 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.5
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5X64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5X58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

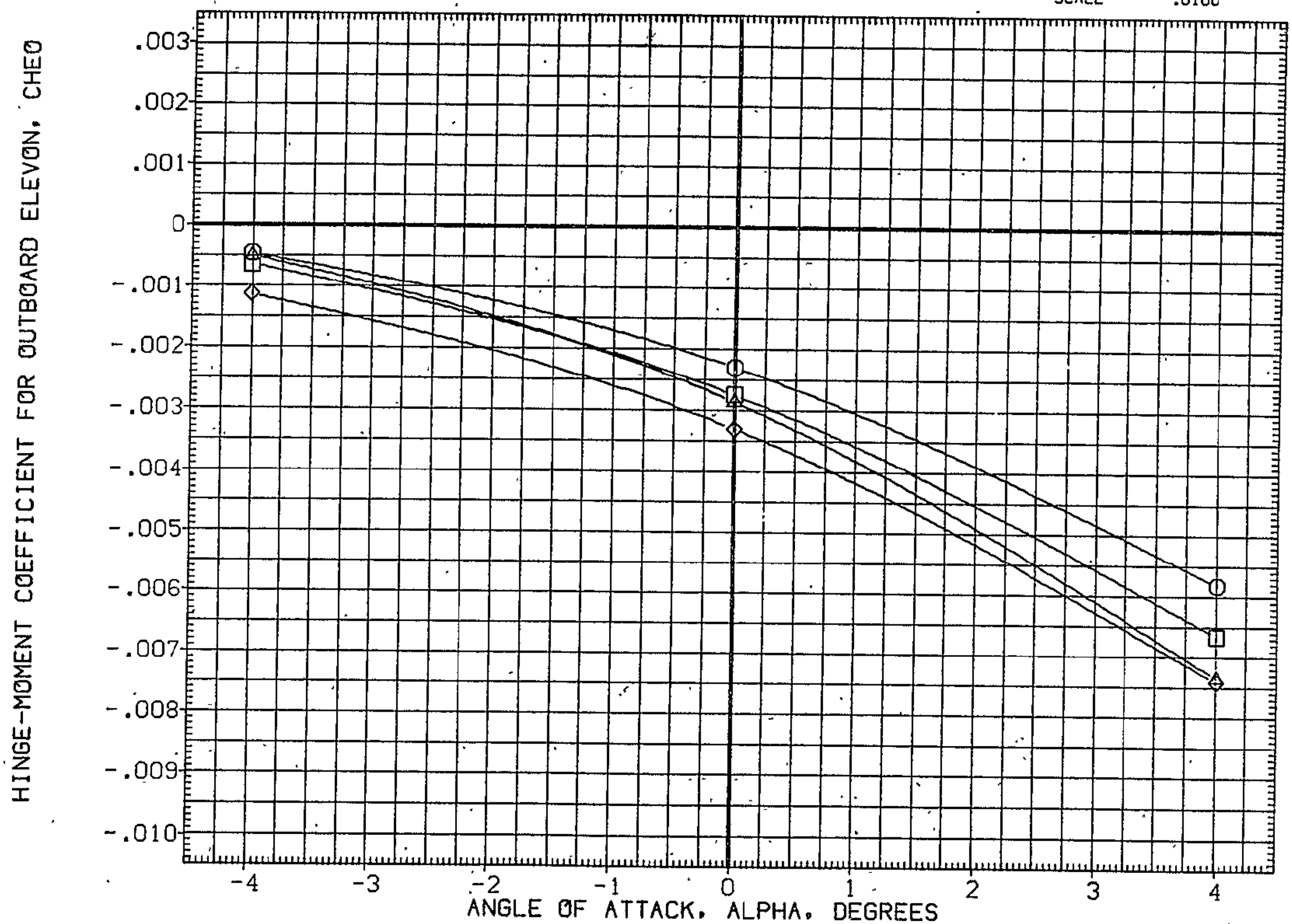


FIG. 41 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

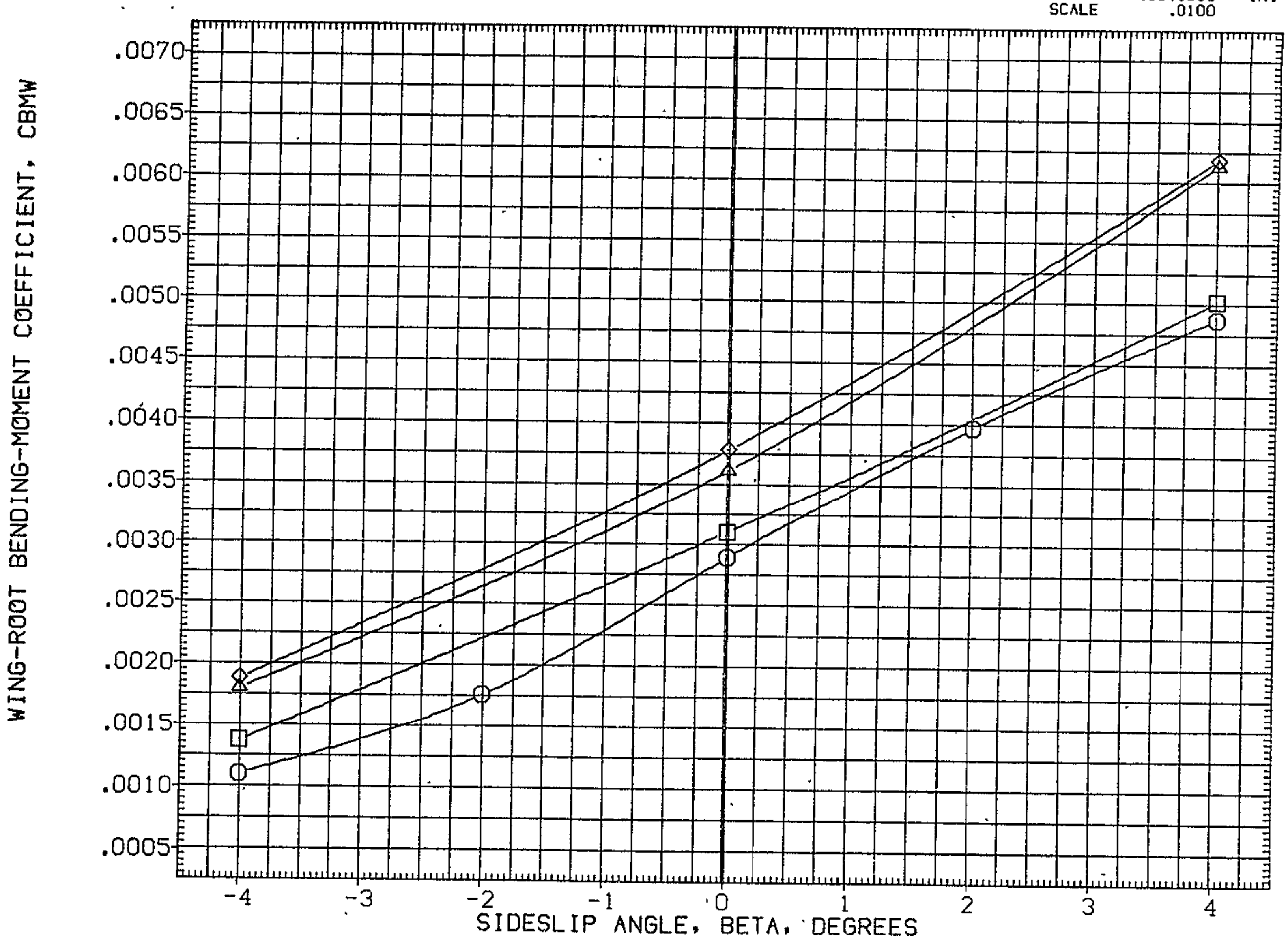


FIG. 42 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

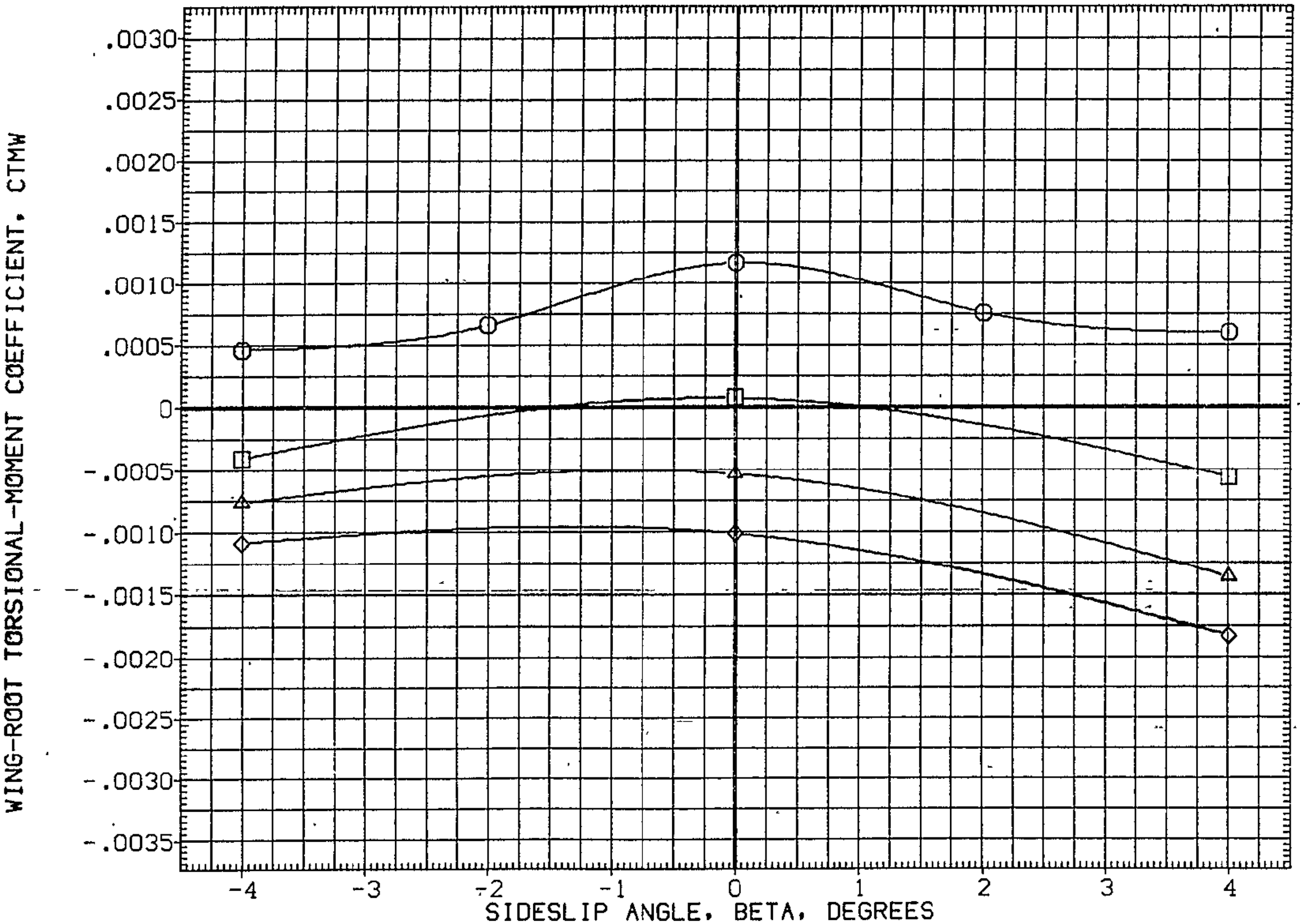


FIG. 42 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

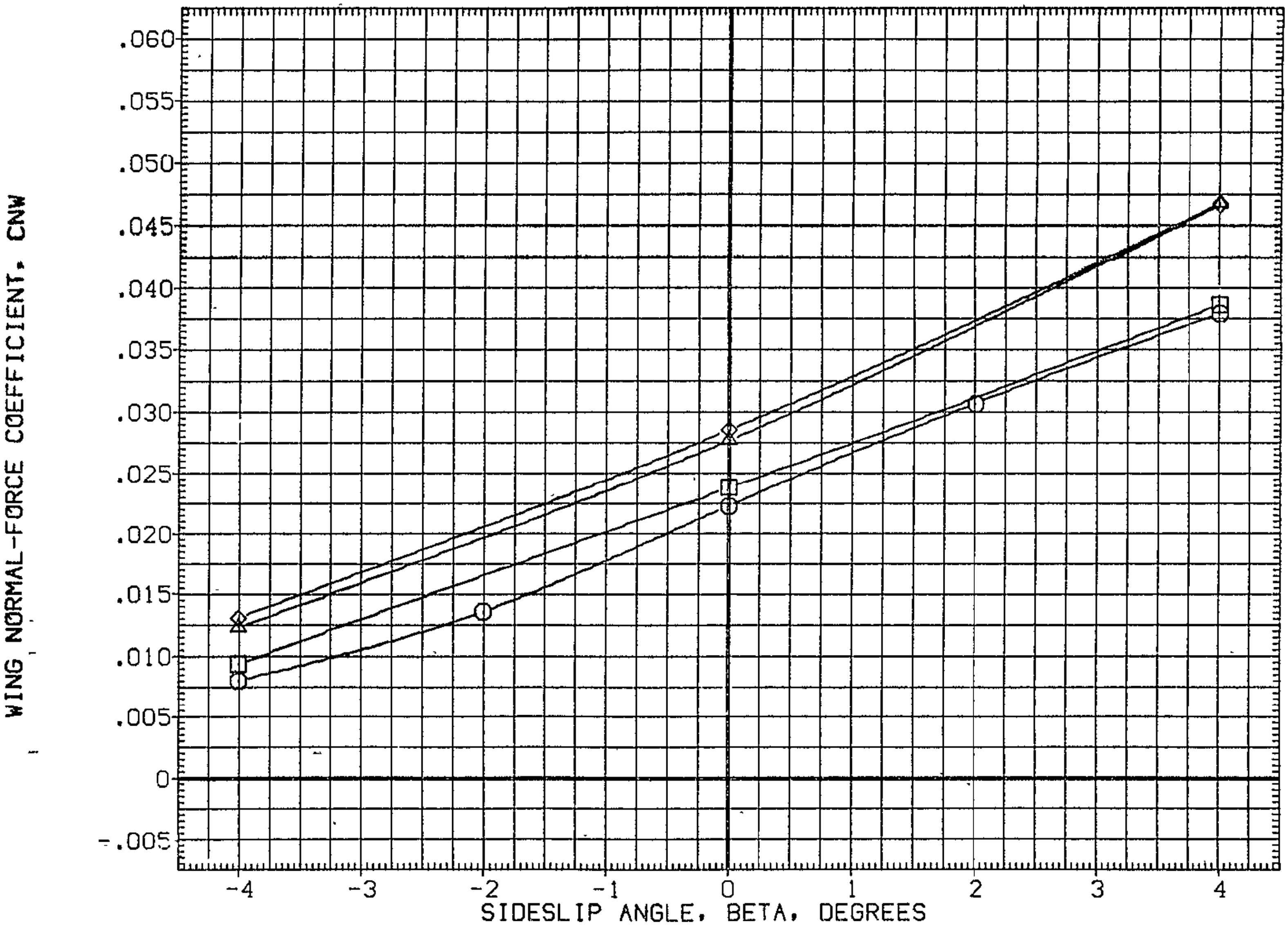


FIG. 42 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

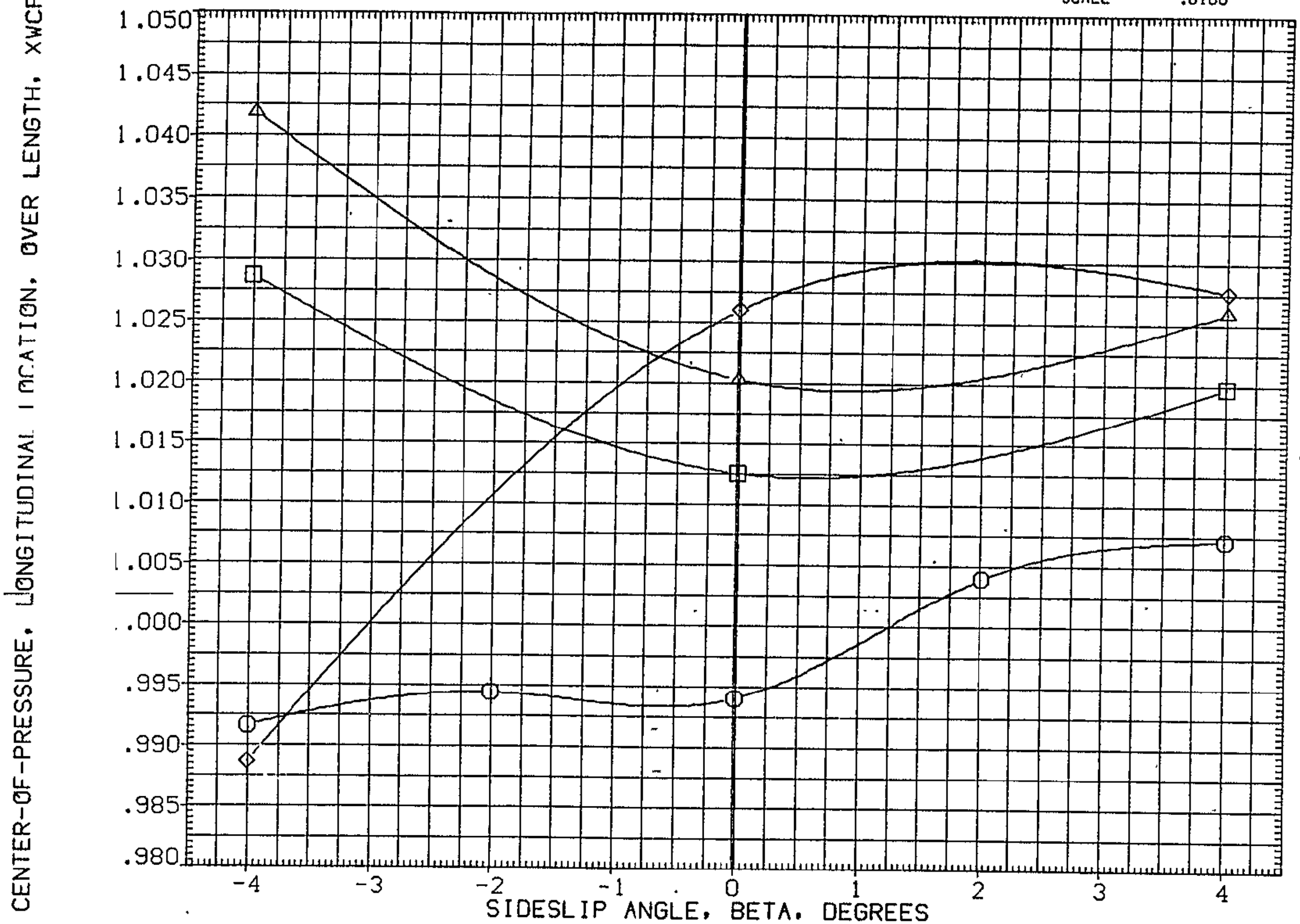


FIG. 42 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

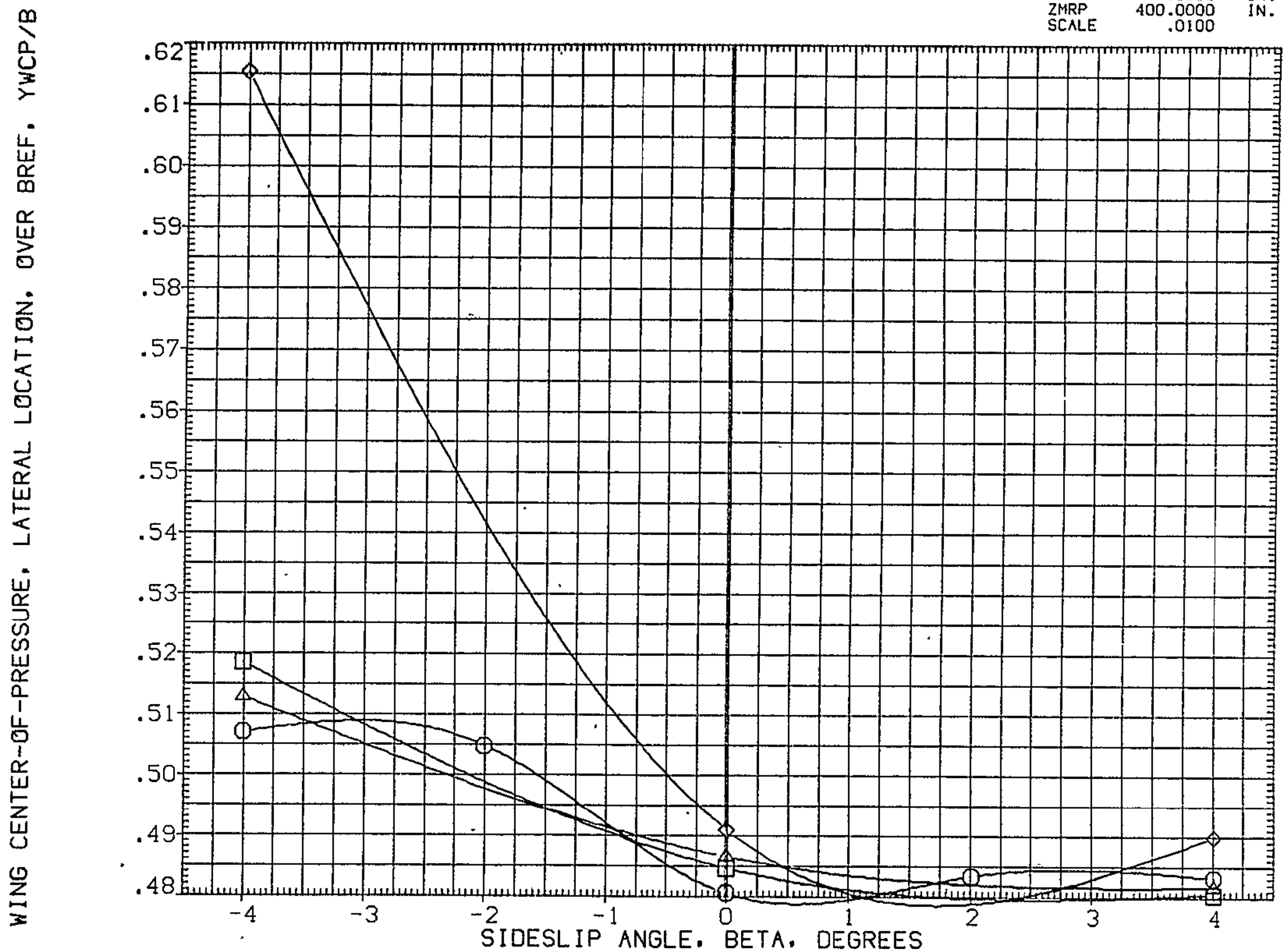


FIG. 42 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

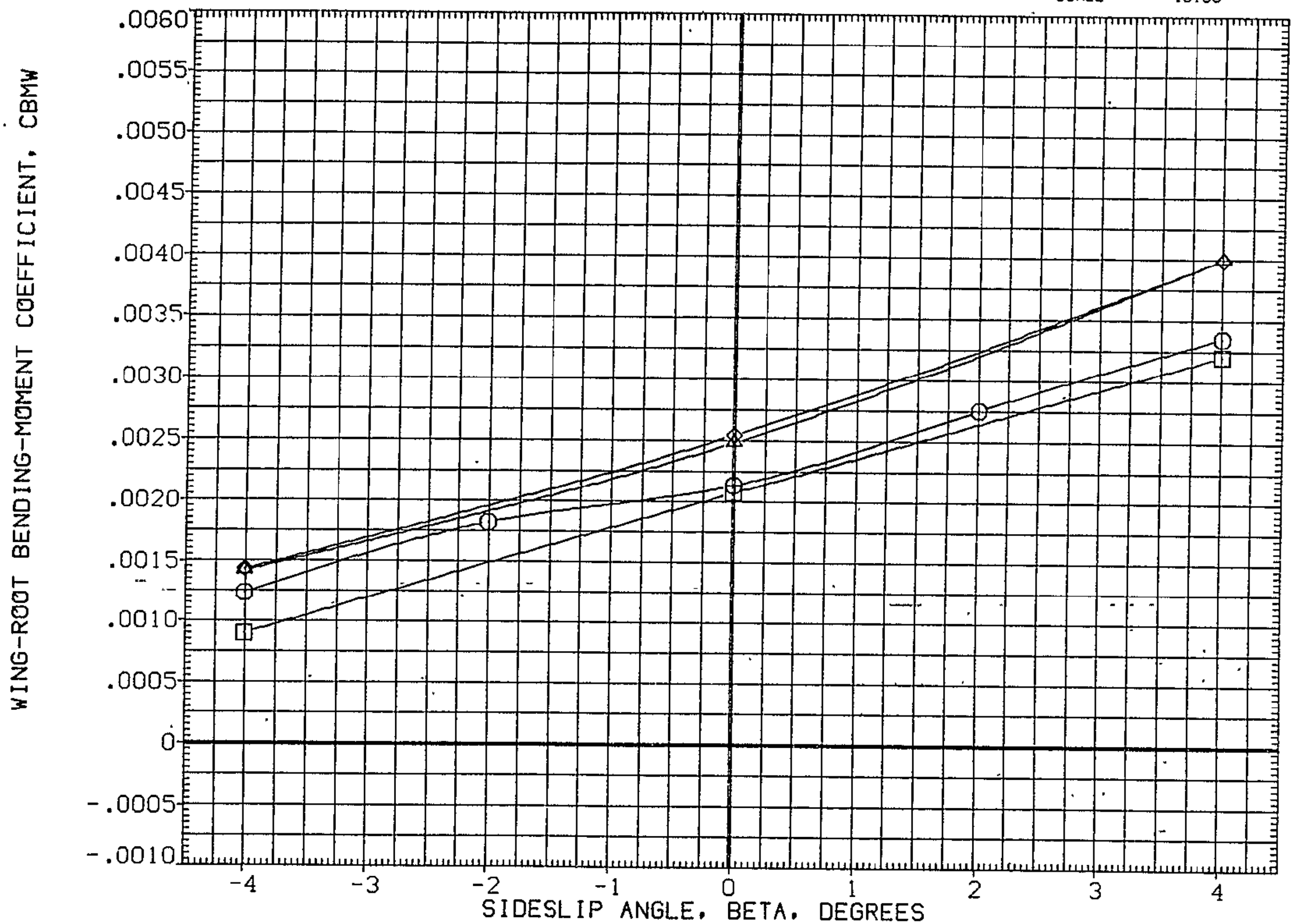


FIG. 43 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

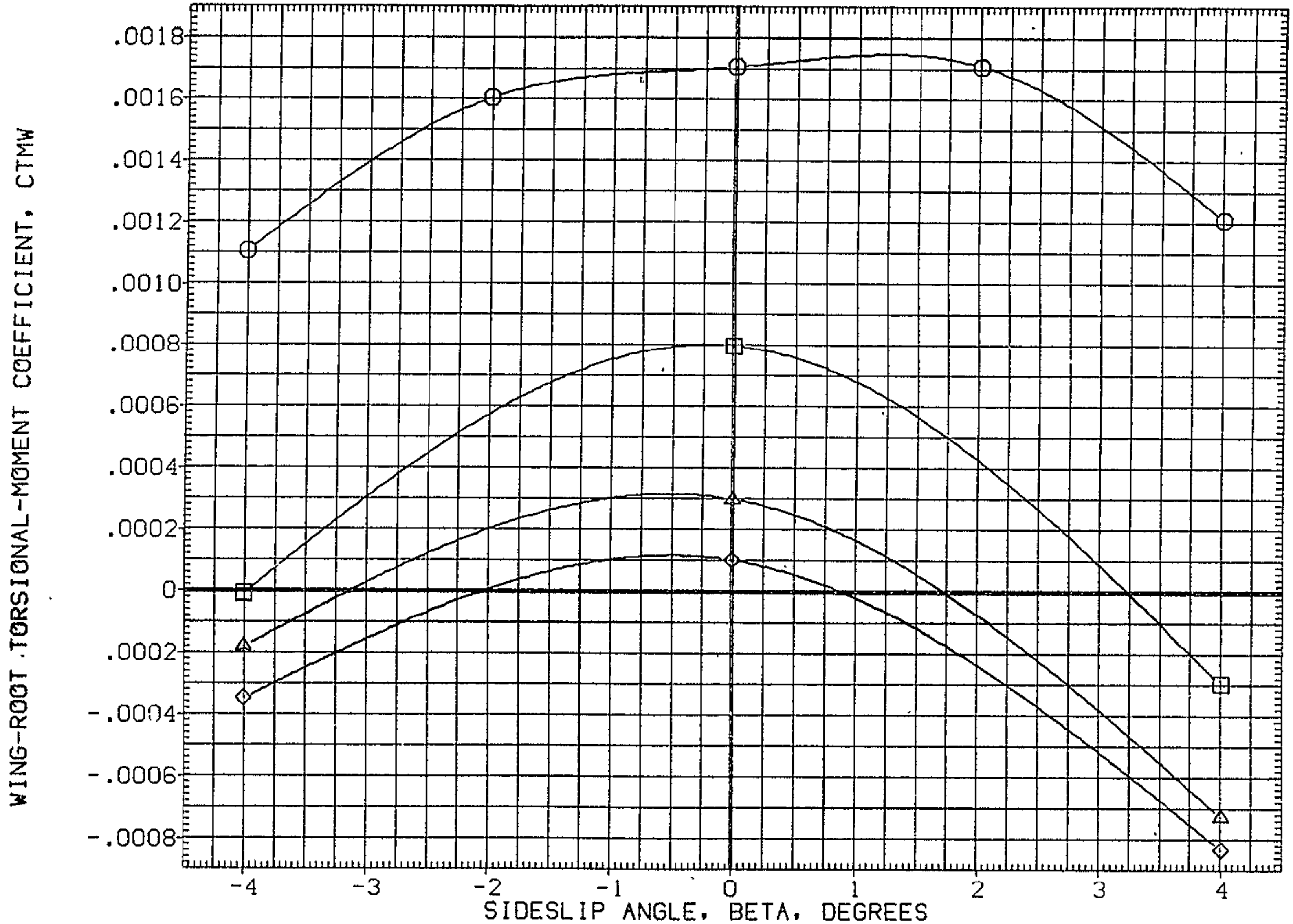


FIG. 43 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

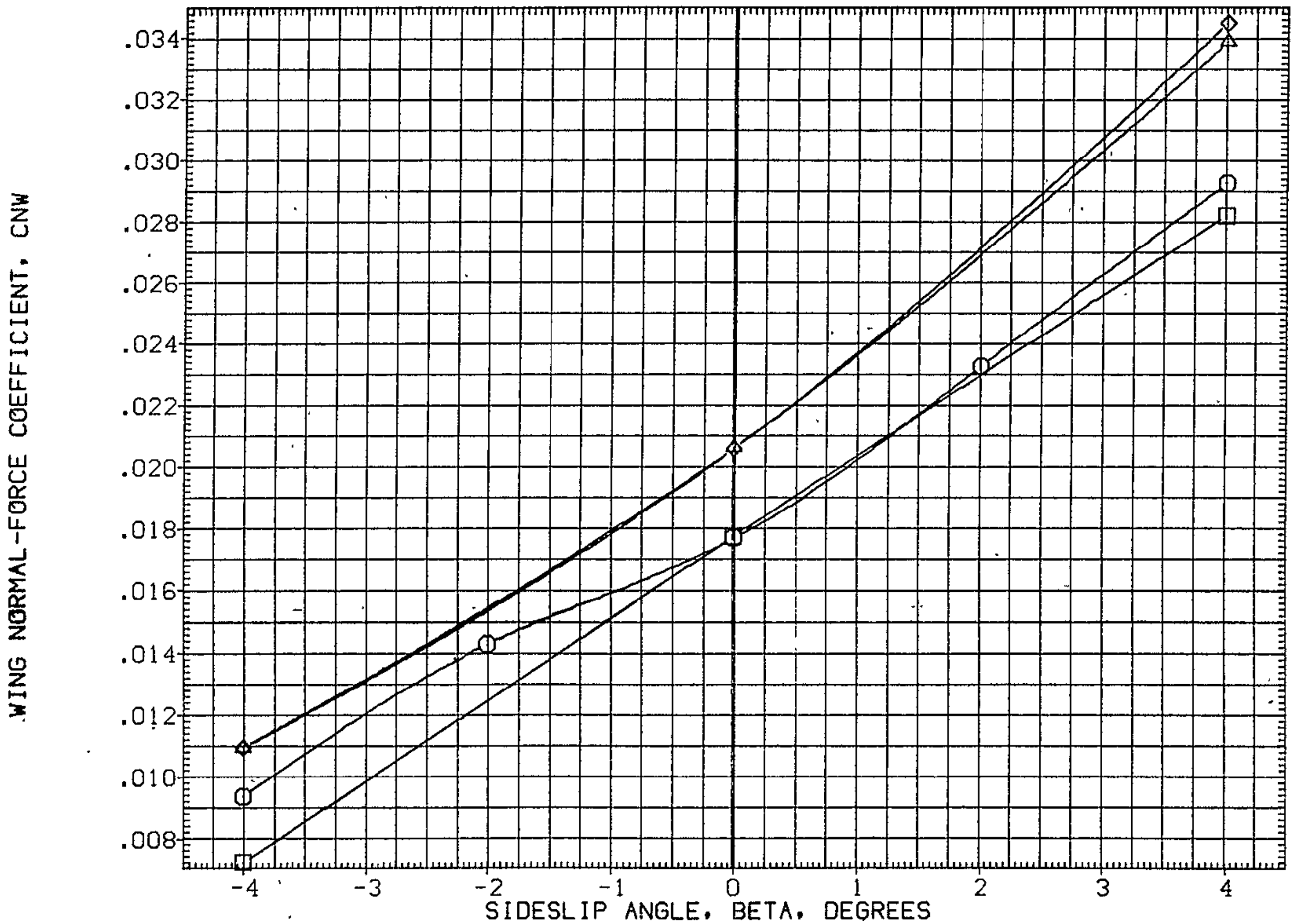


FIG. 43 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.F
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0100	

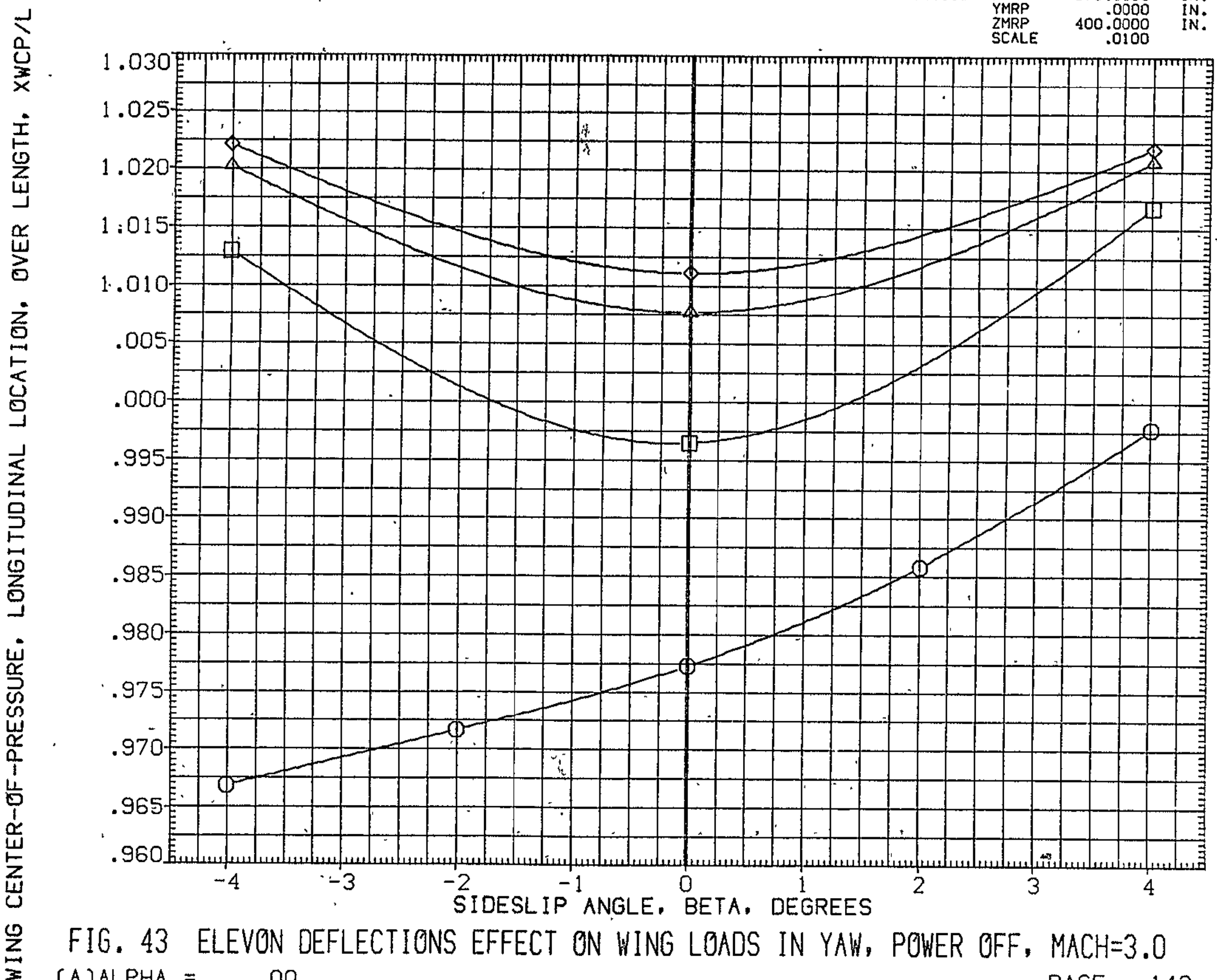


FIG. 43 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

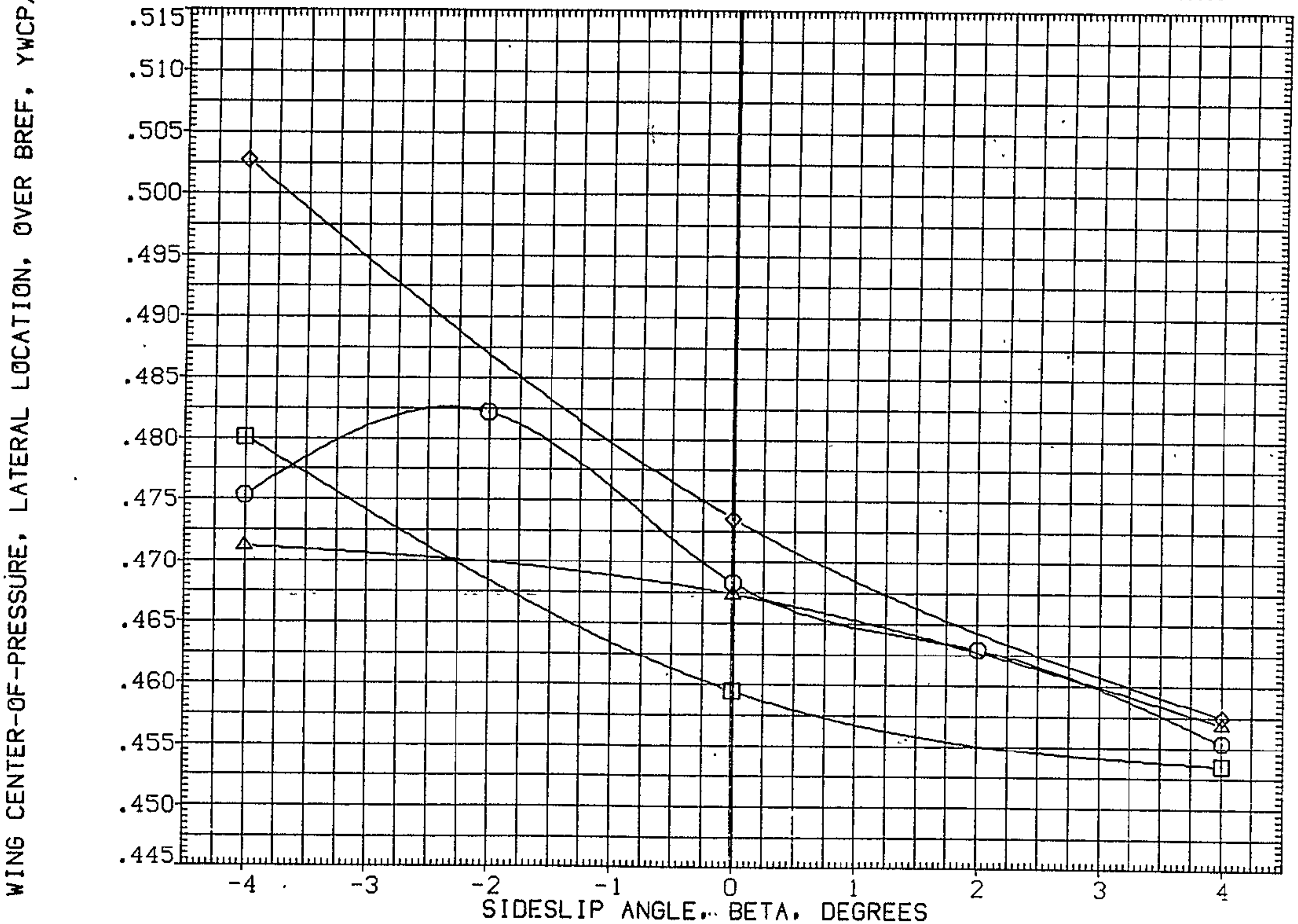


FIG. 43 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

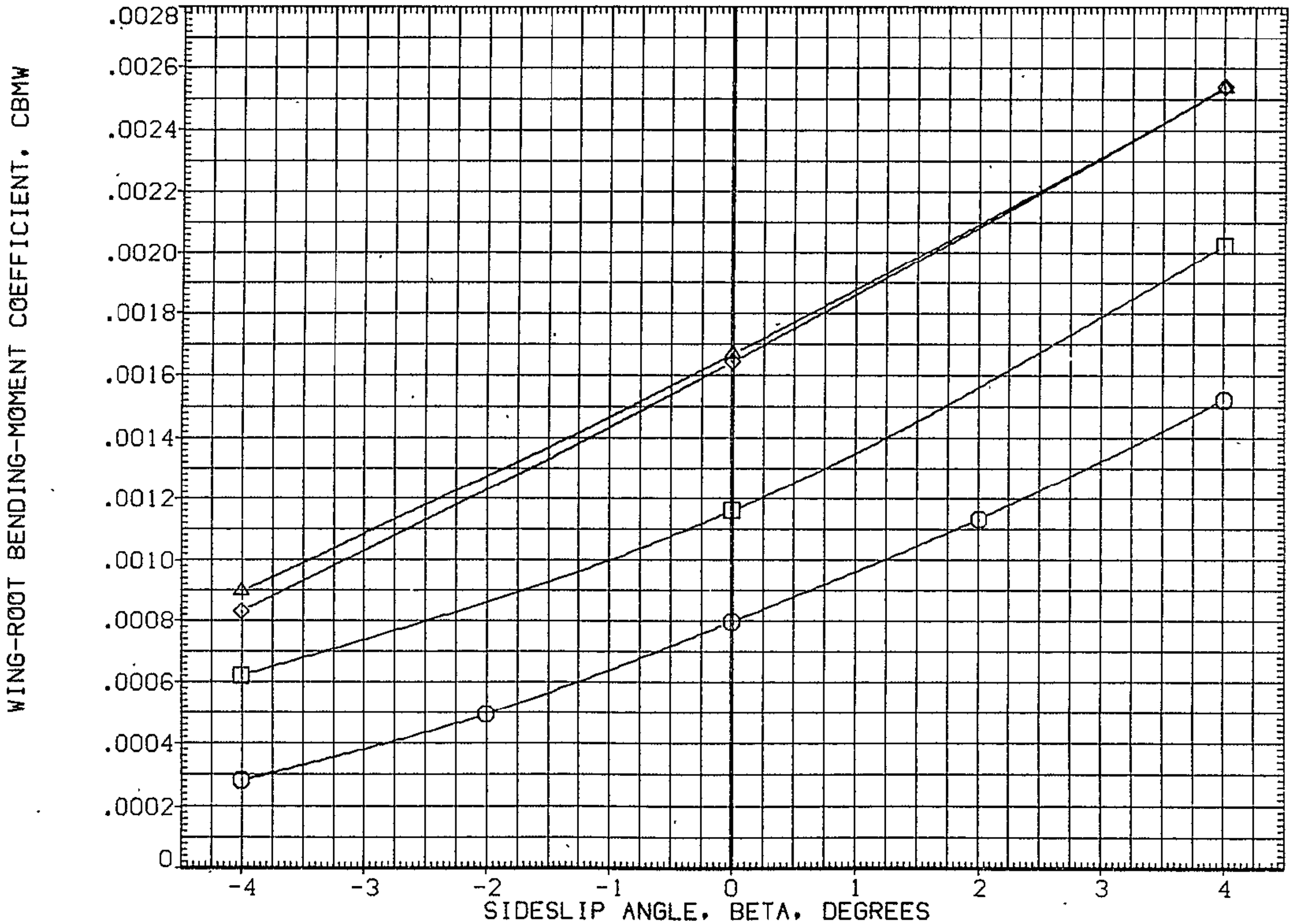


FIG. 44 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

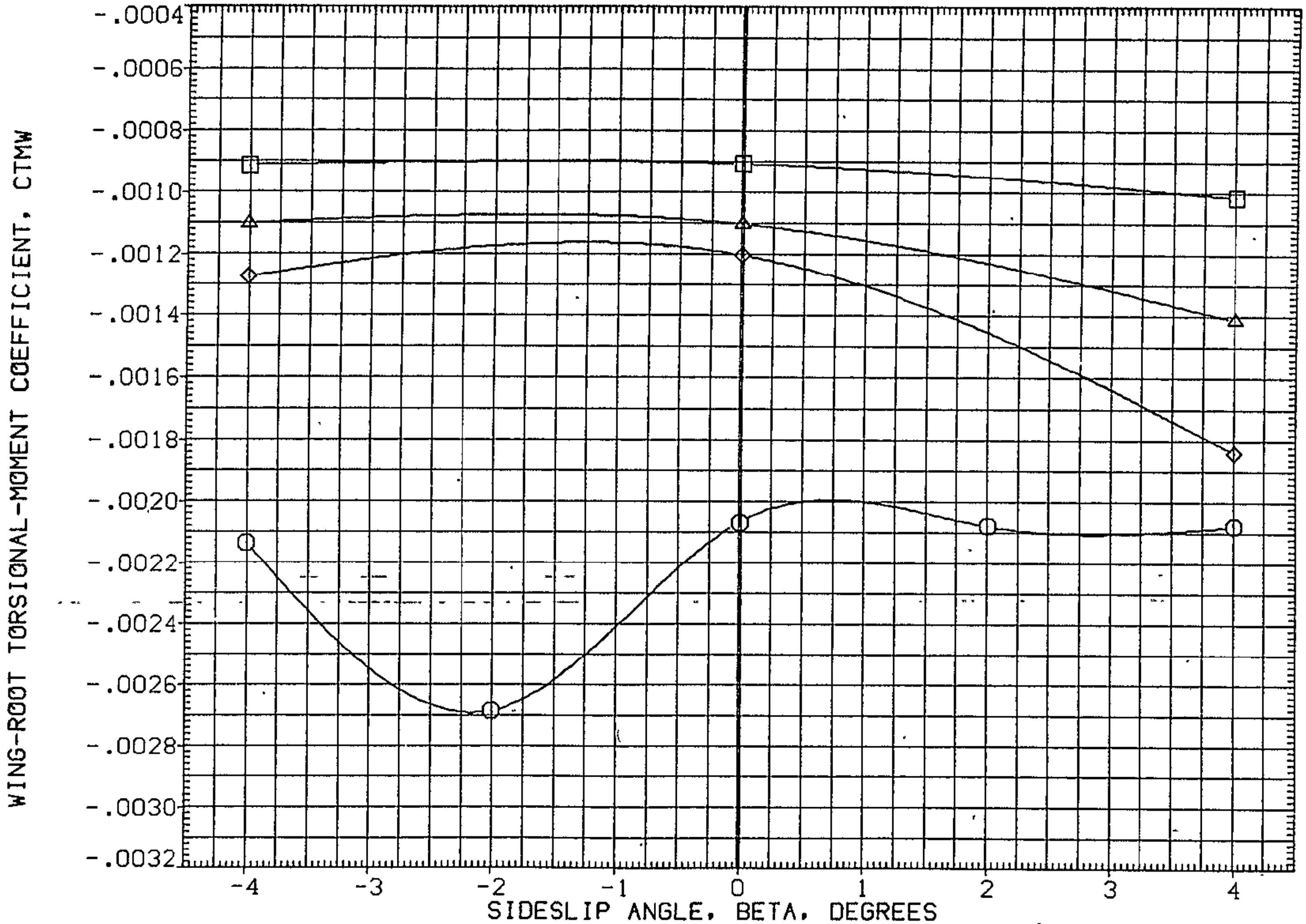


FIG. 44 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

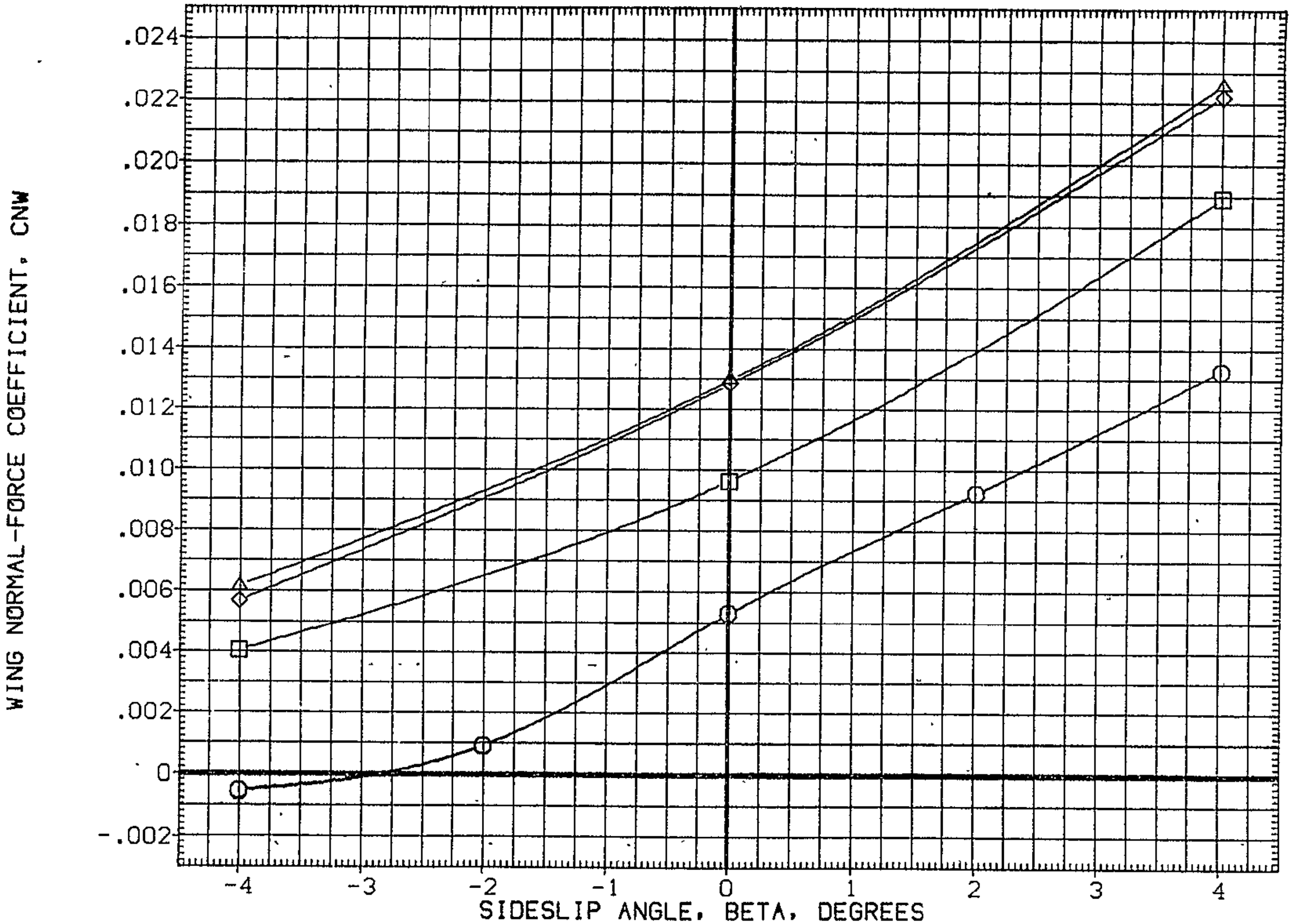


FIG. 44 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5
(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	⧖	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

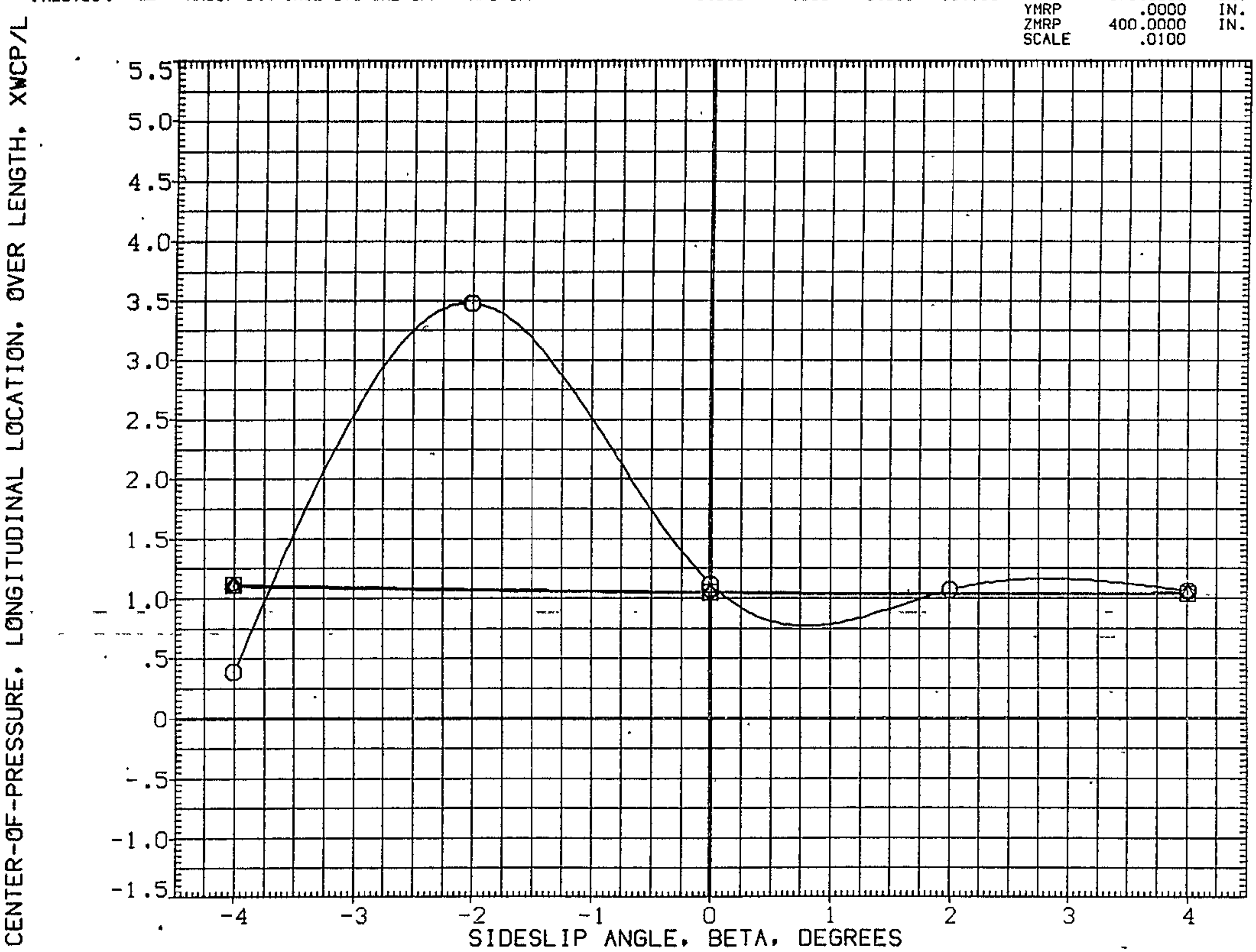


FIG. 44 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

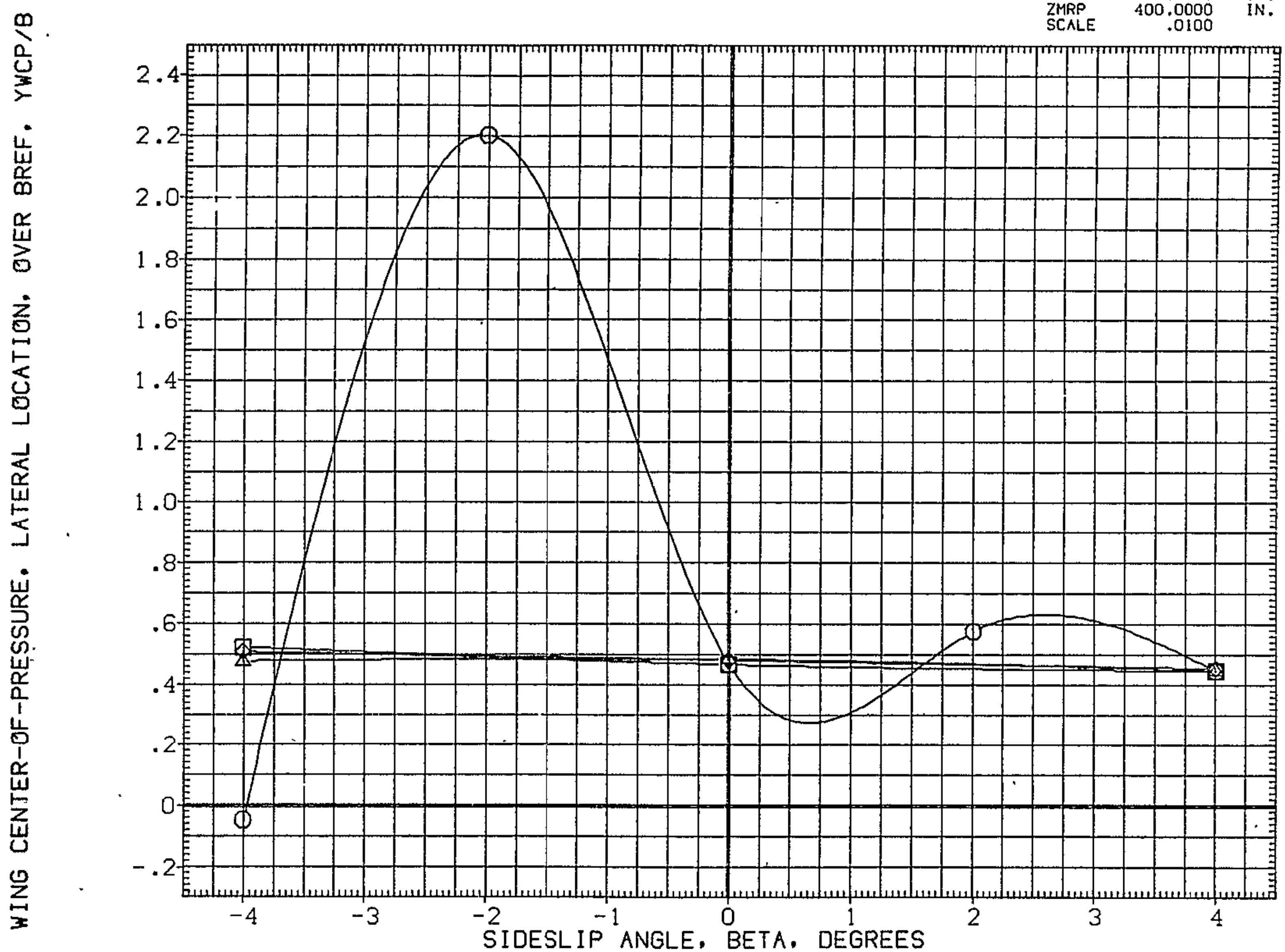


FIG. 44 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

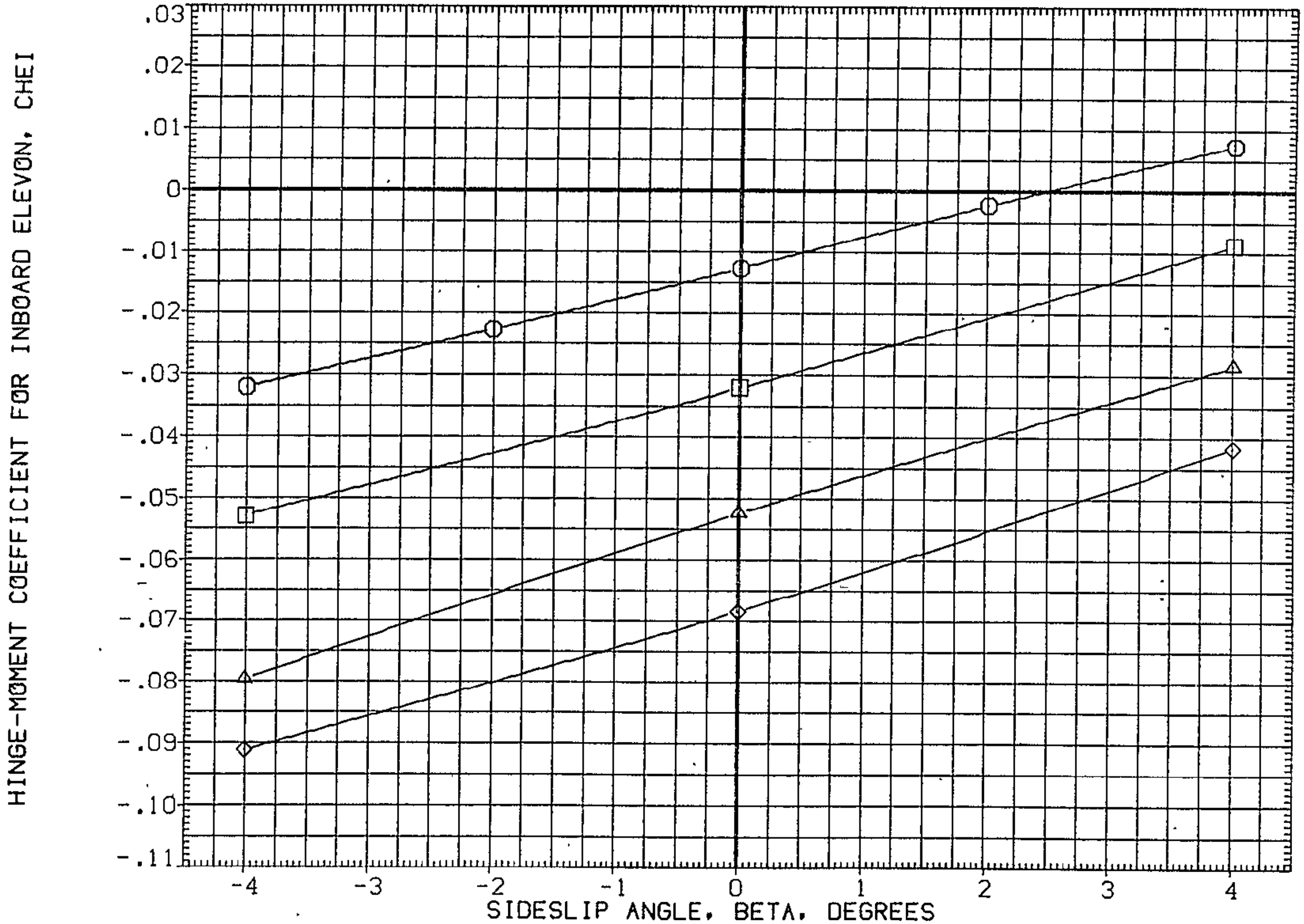


FIG. 45 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y30)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	2.600	15.100
(RE5Y60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	2.600	15.100
(RE5Y54)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

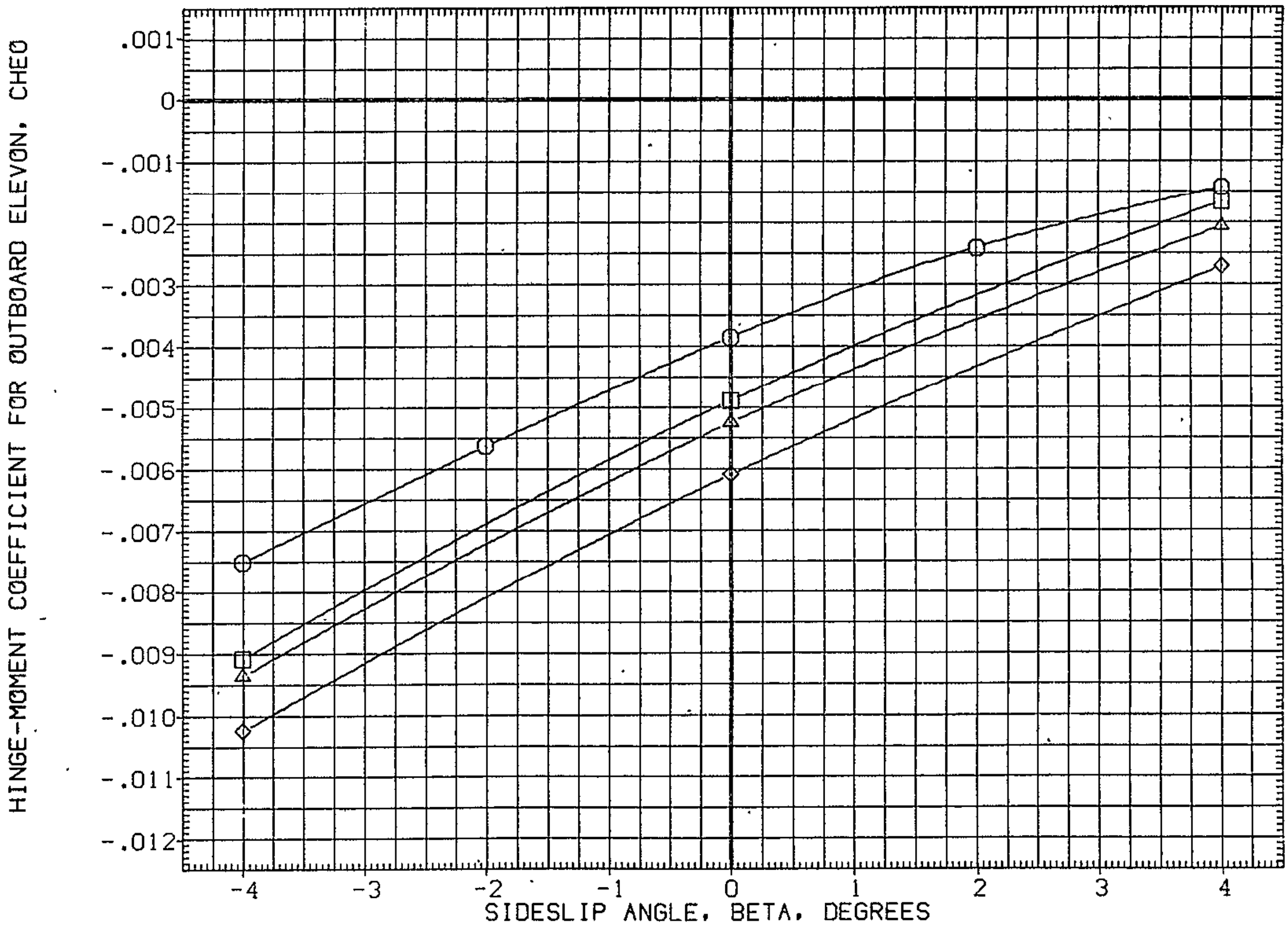


FIG. 45 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

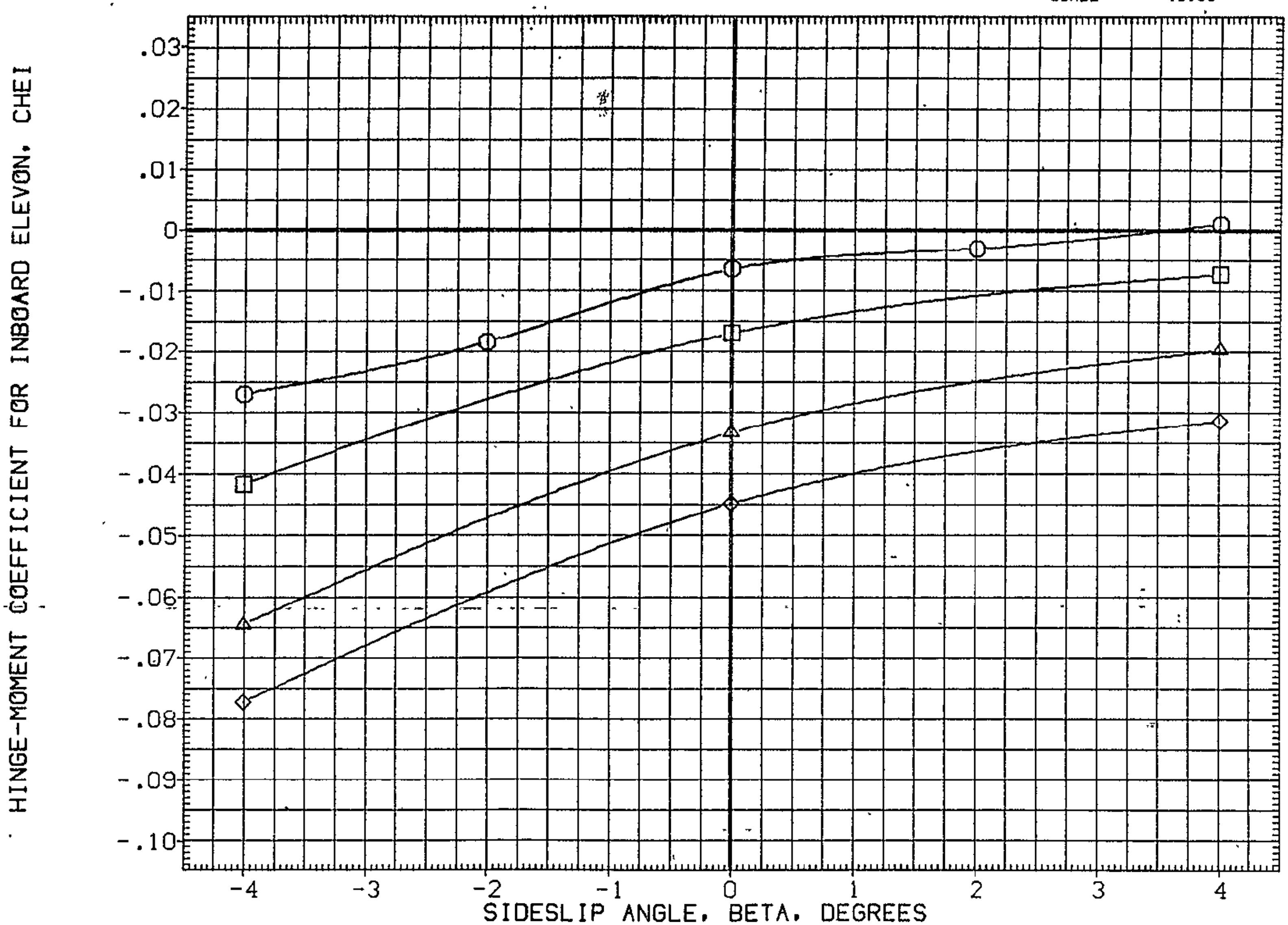


FIG. 46 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y32)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.000	15.100
(RE5Y62)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.000	15.100
(RE5Y56)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

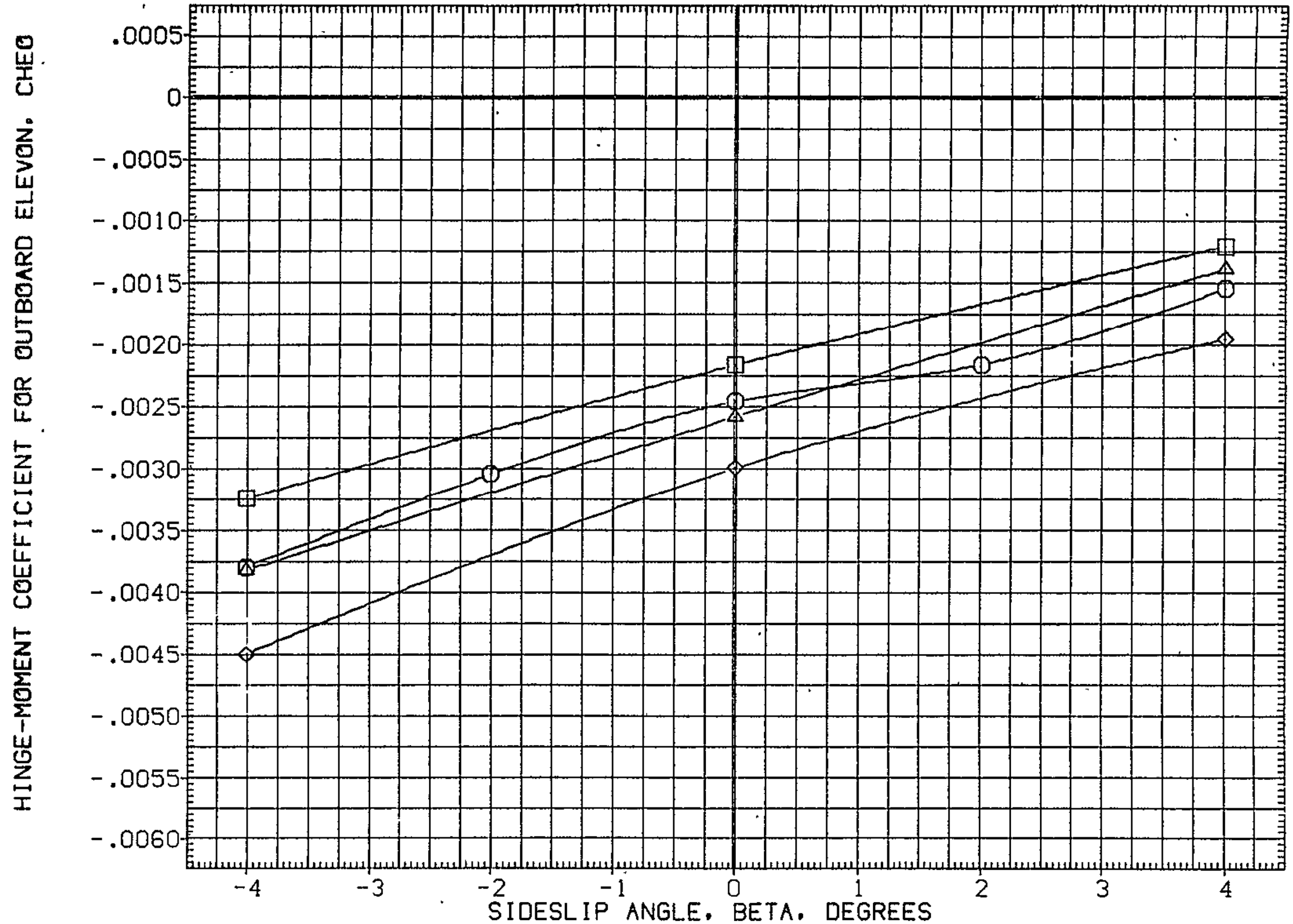


FIG. 46 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X1
YMRP	.0000	IN. Y1
ZMRP	400.0000	IN. Z1
SCALE	.0100	

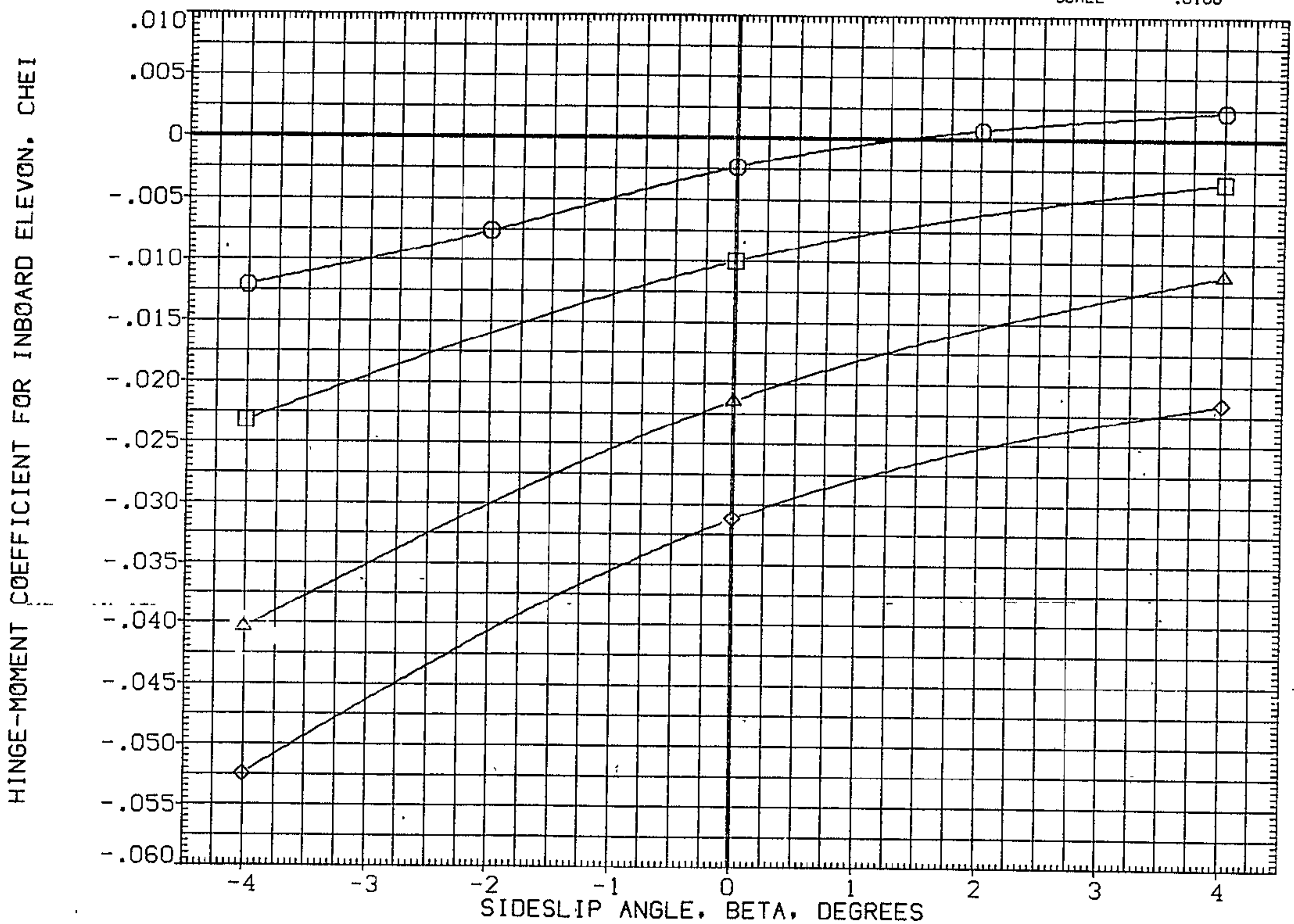


FIG. 47 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y34)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	3.500	15.100
(RE5Y64)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	3.500	15.100
(RE5Y58)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

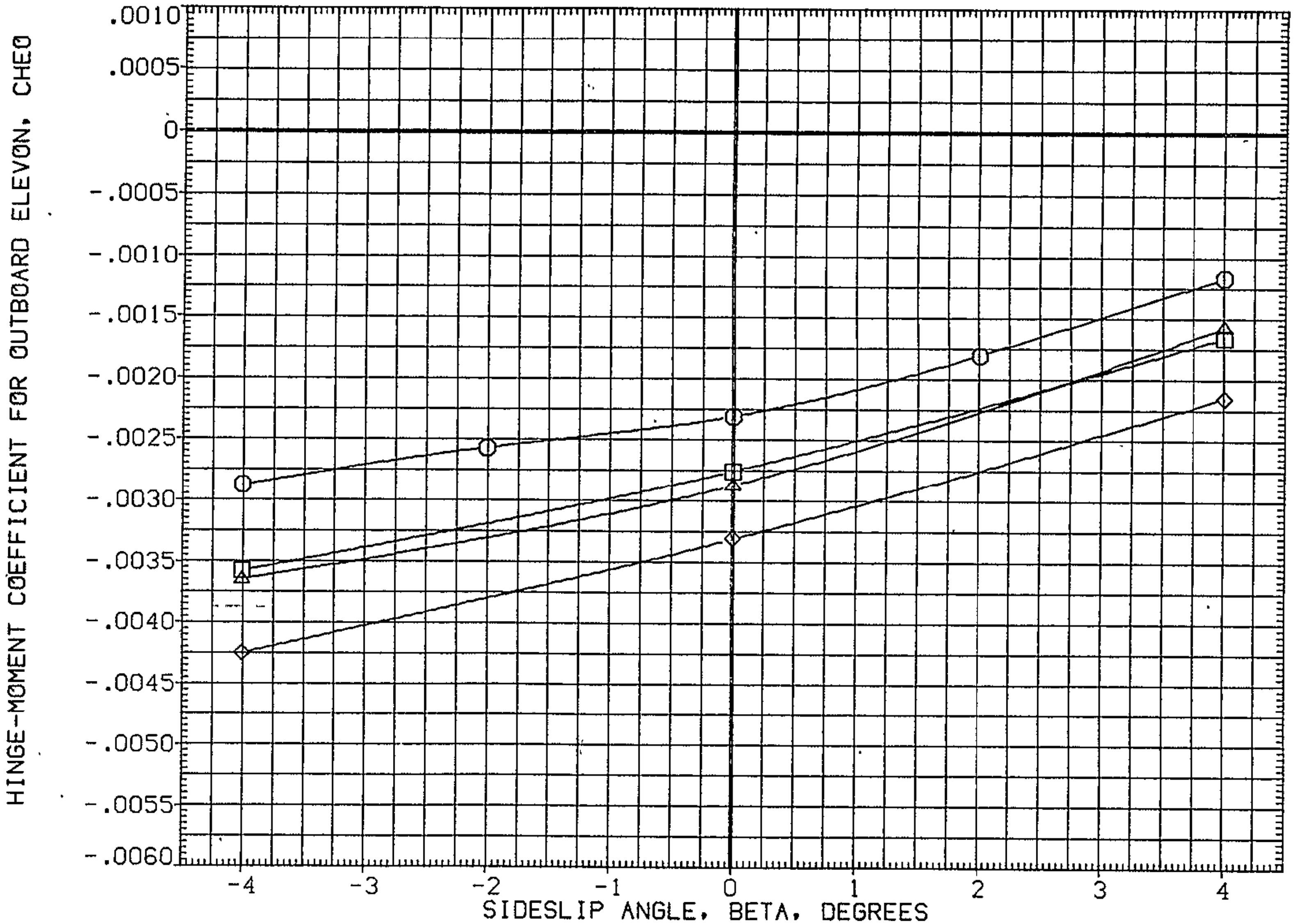


FIG. 47 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

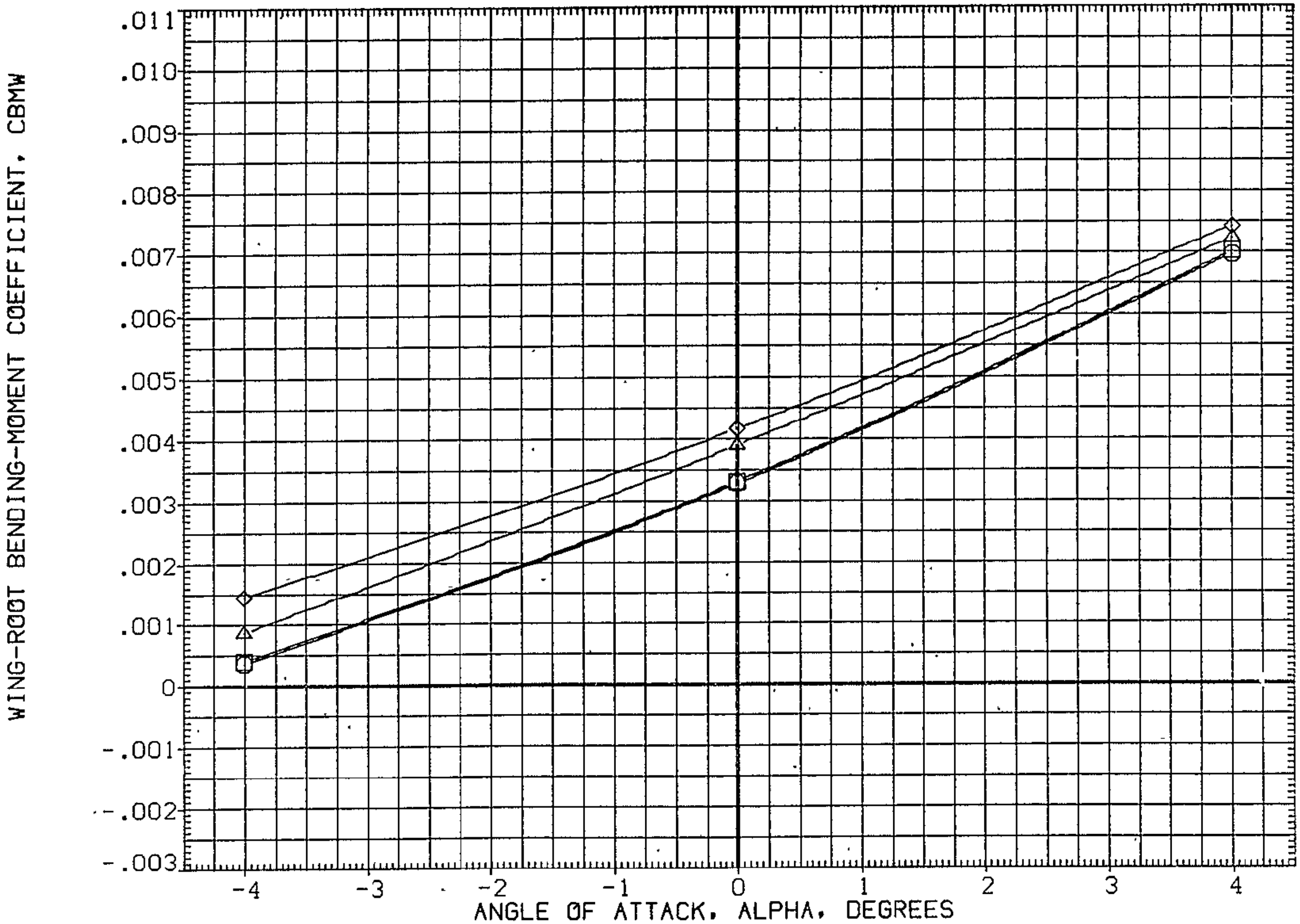


FIG. 48 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

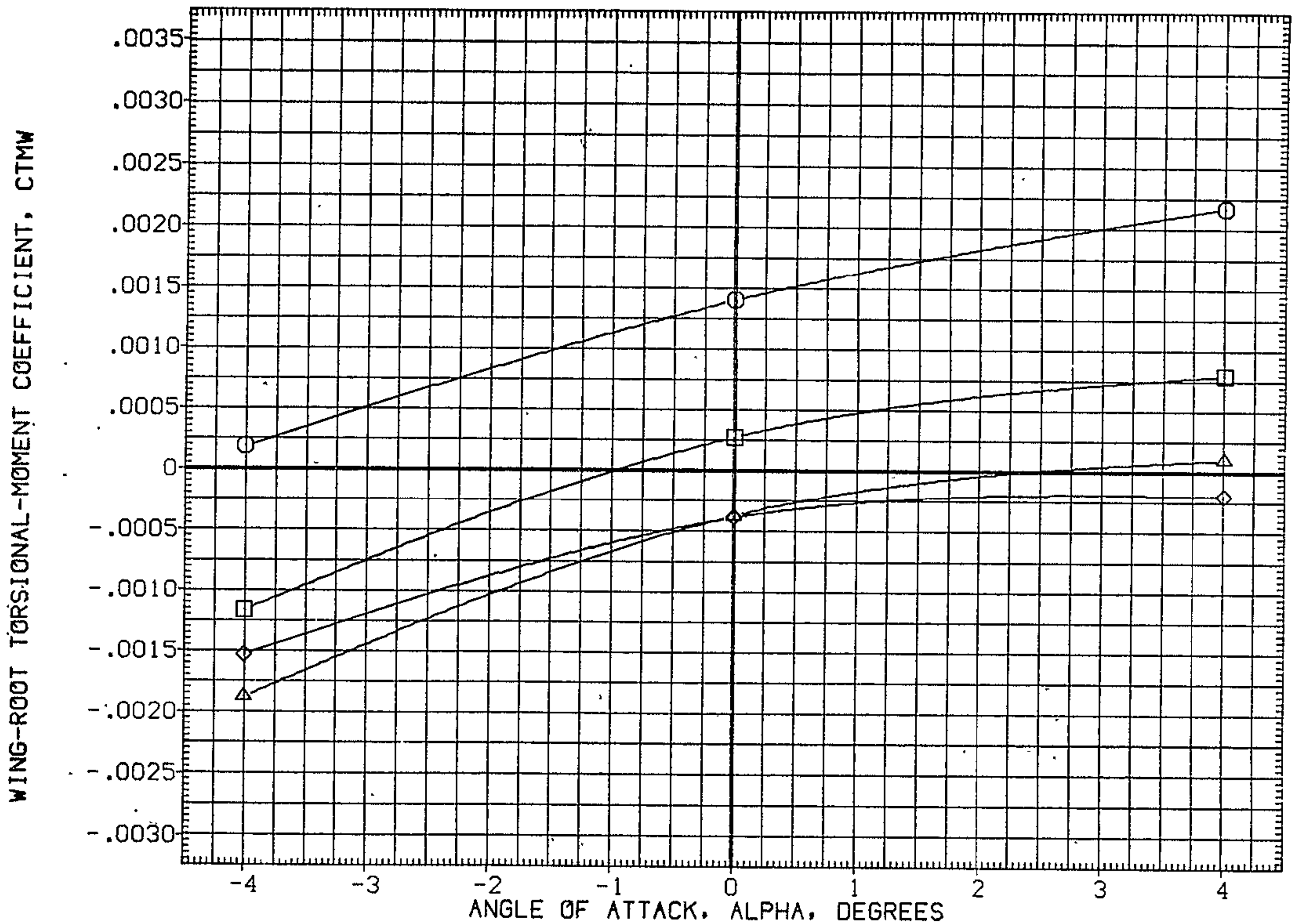


FIG. 48 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

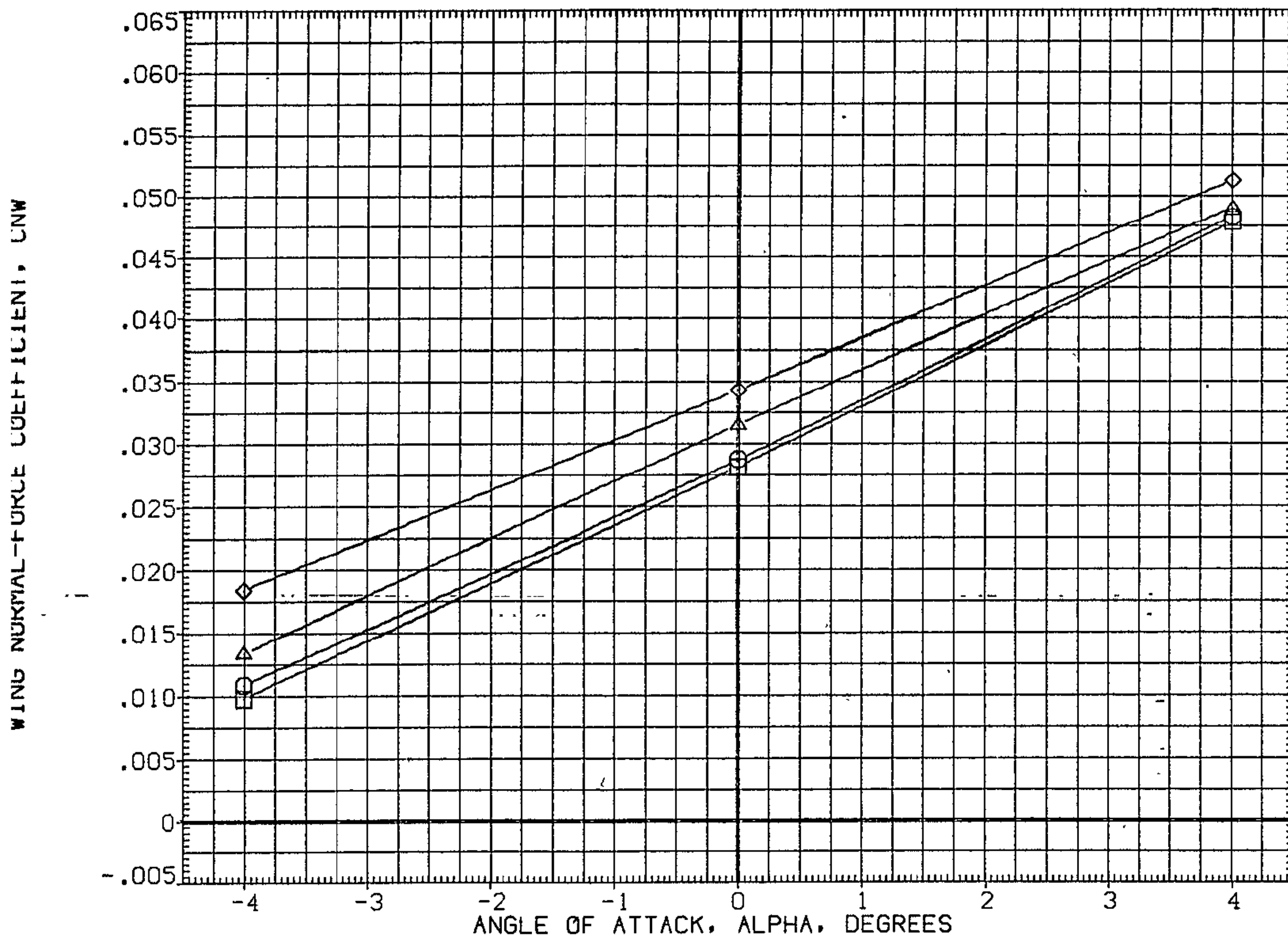


FIG. 48 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

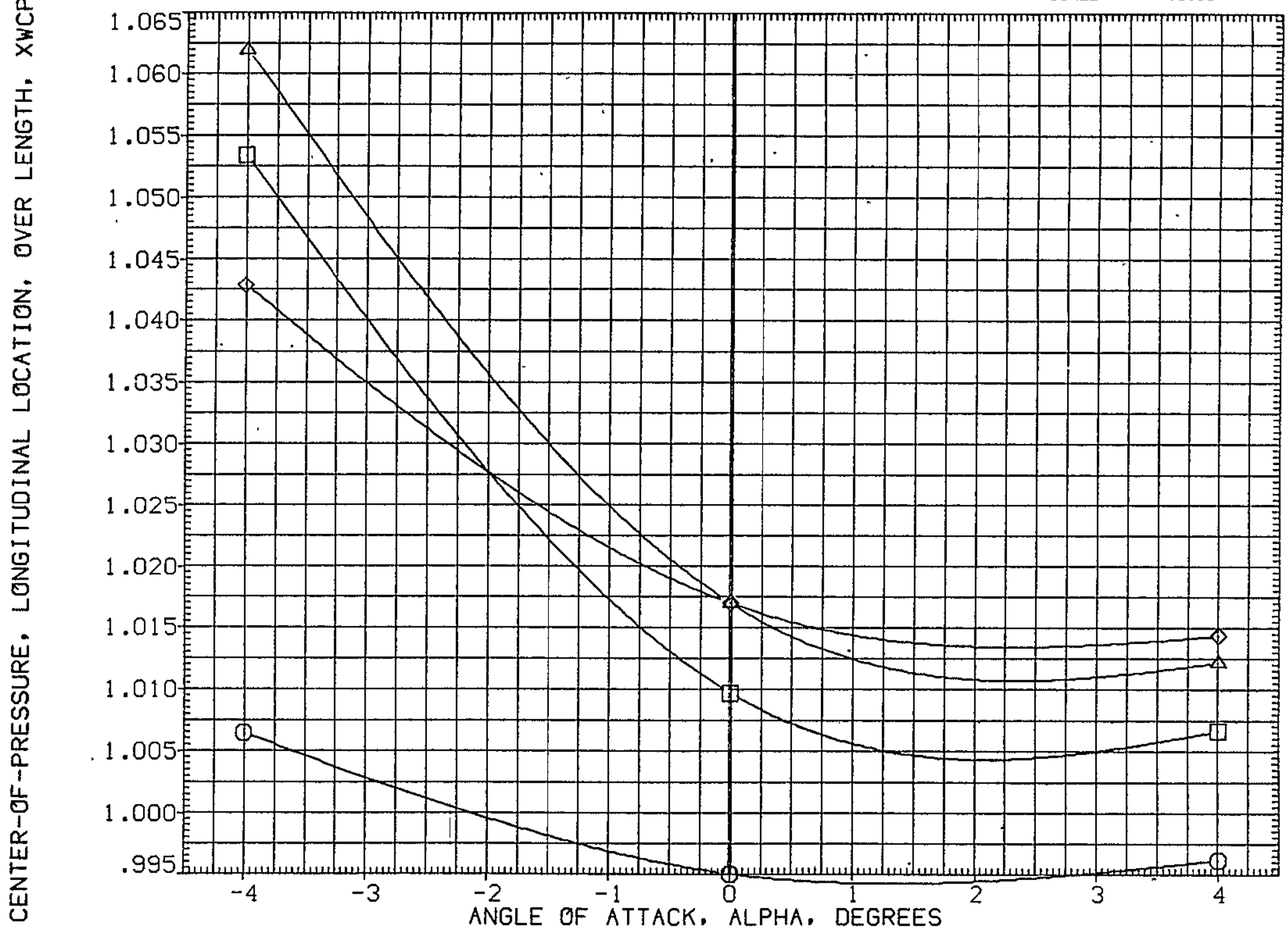


FIG. 48 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

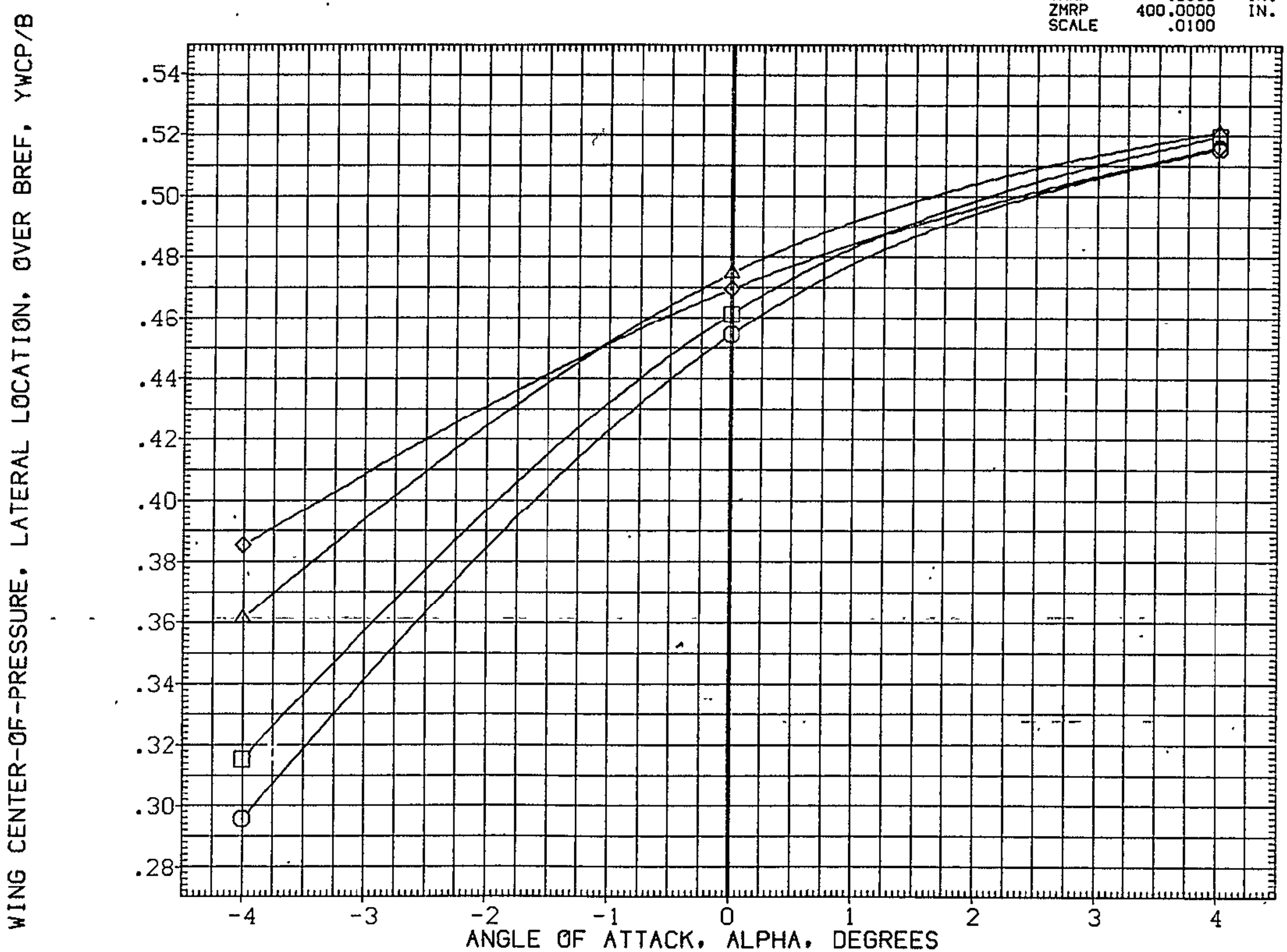


FIG. 48 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

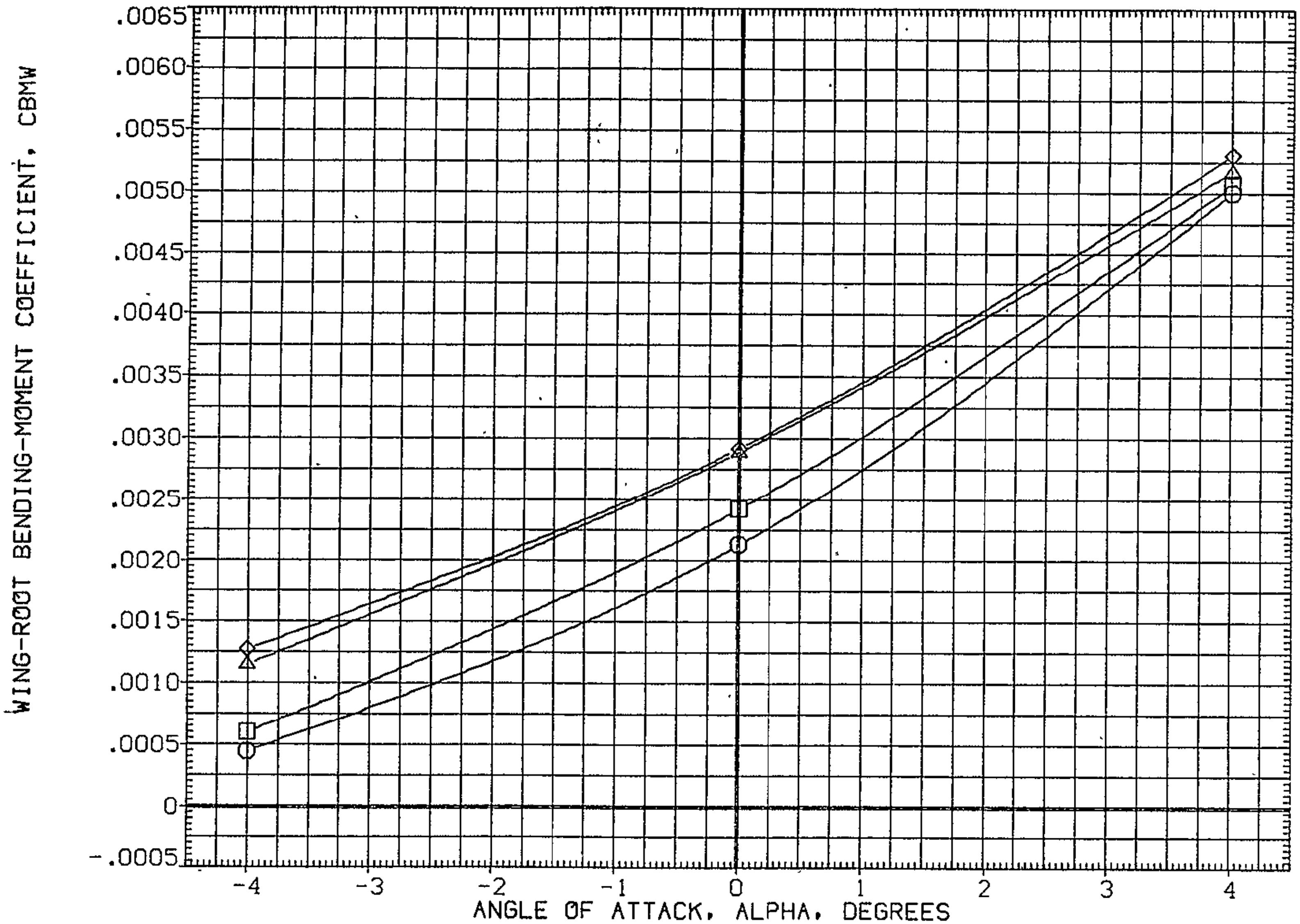


FIG. 49 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

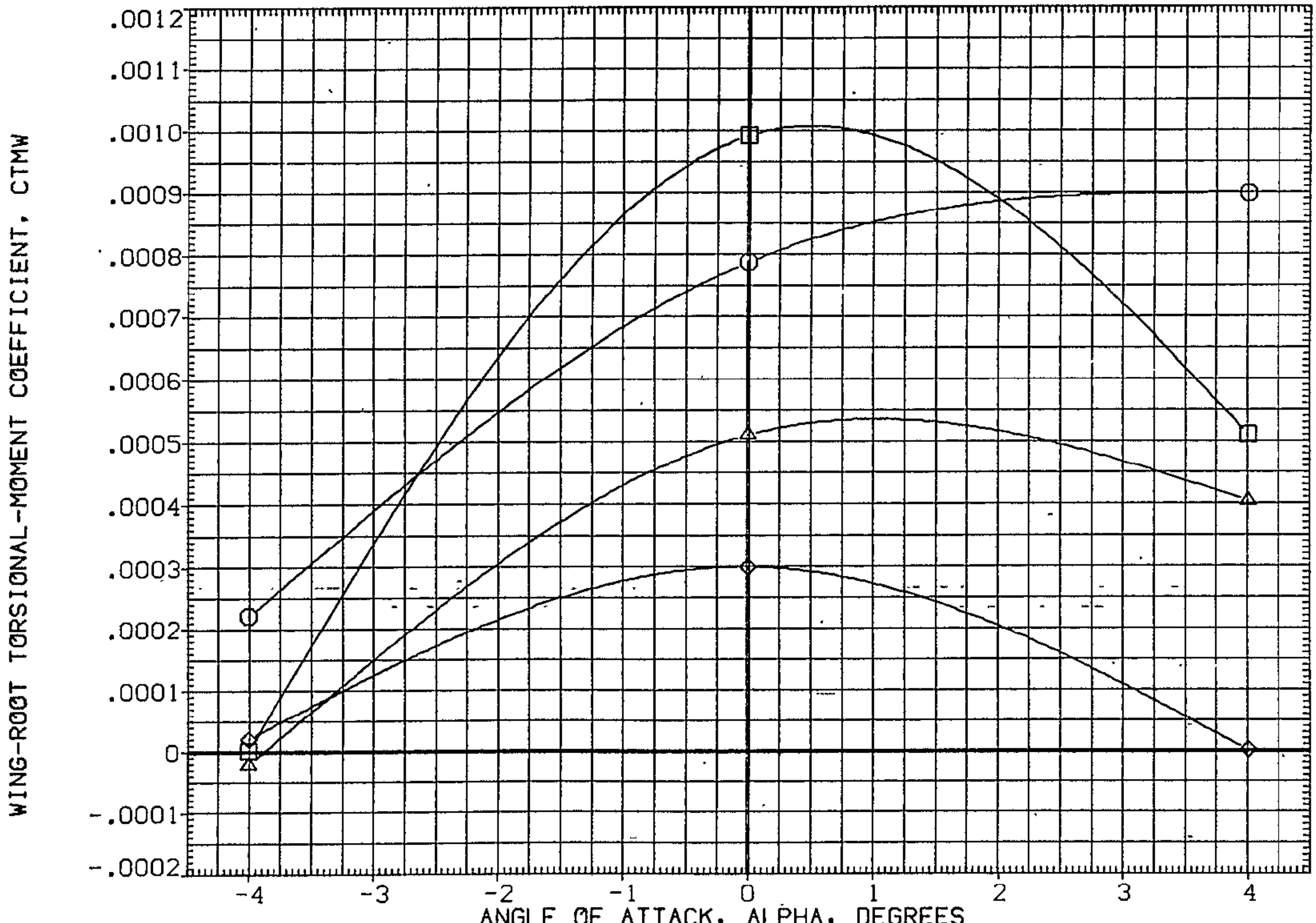


FIG. 49 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

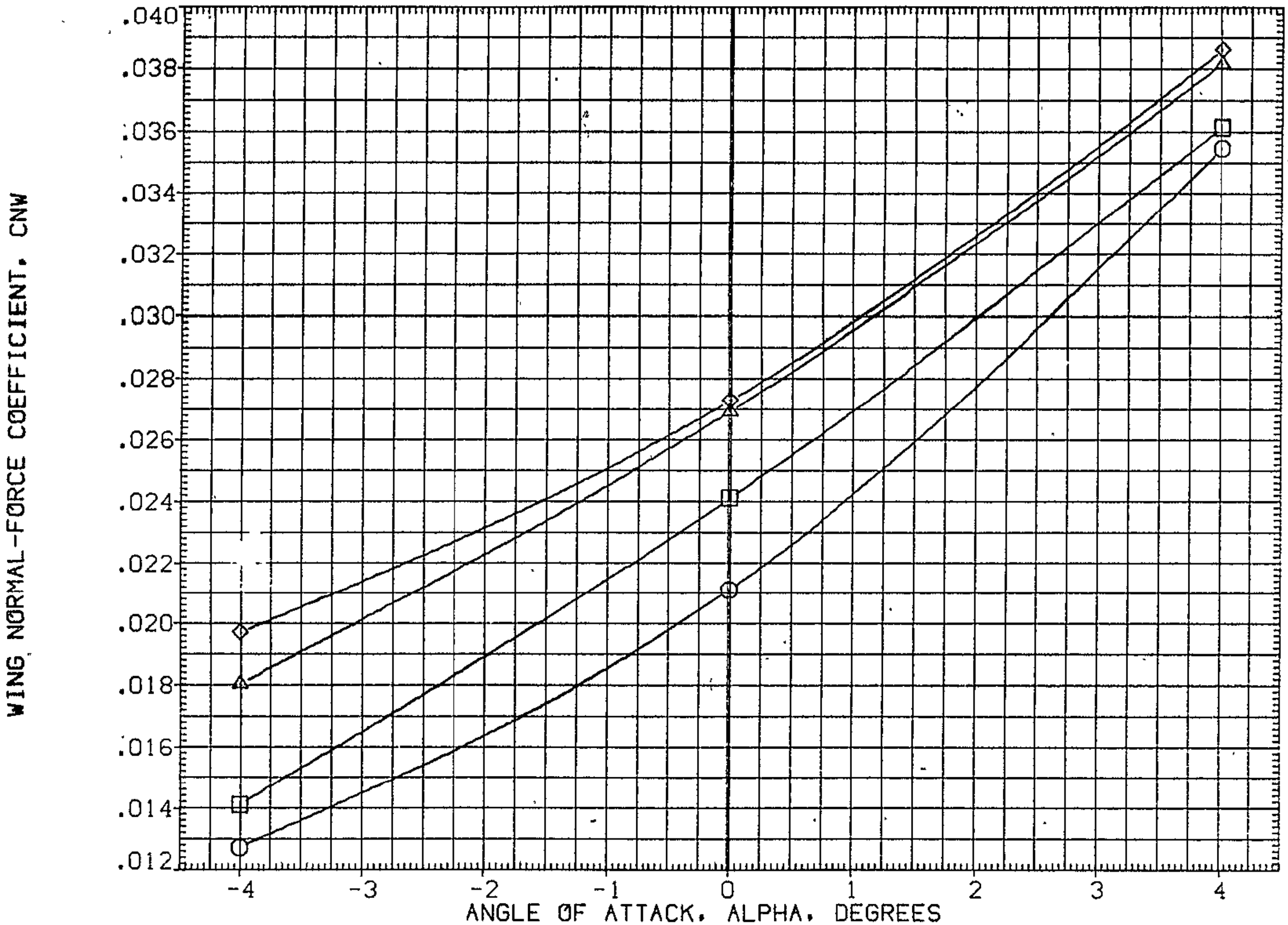


FIG. 49 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

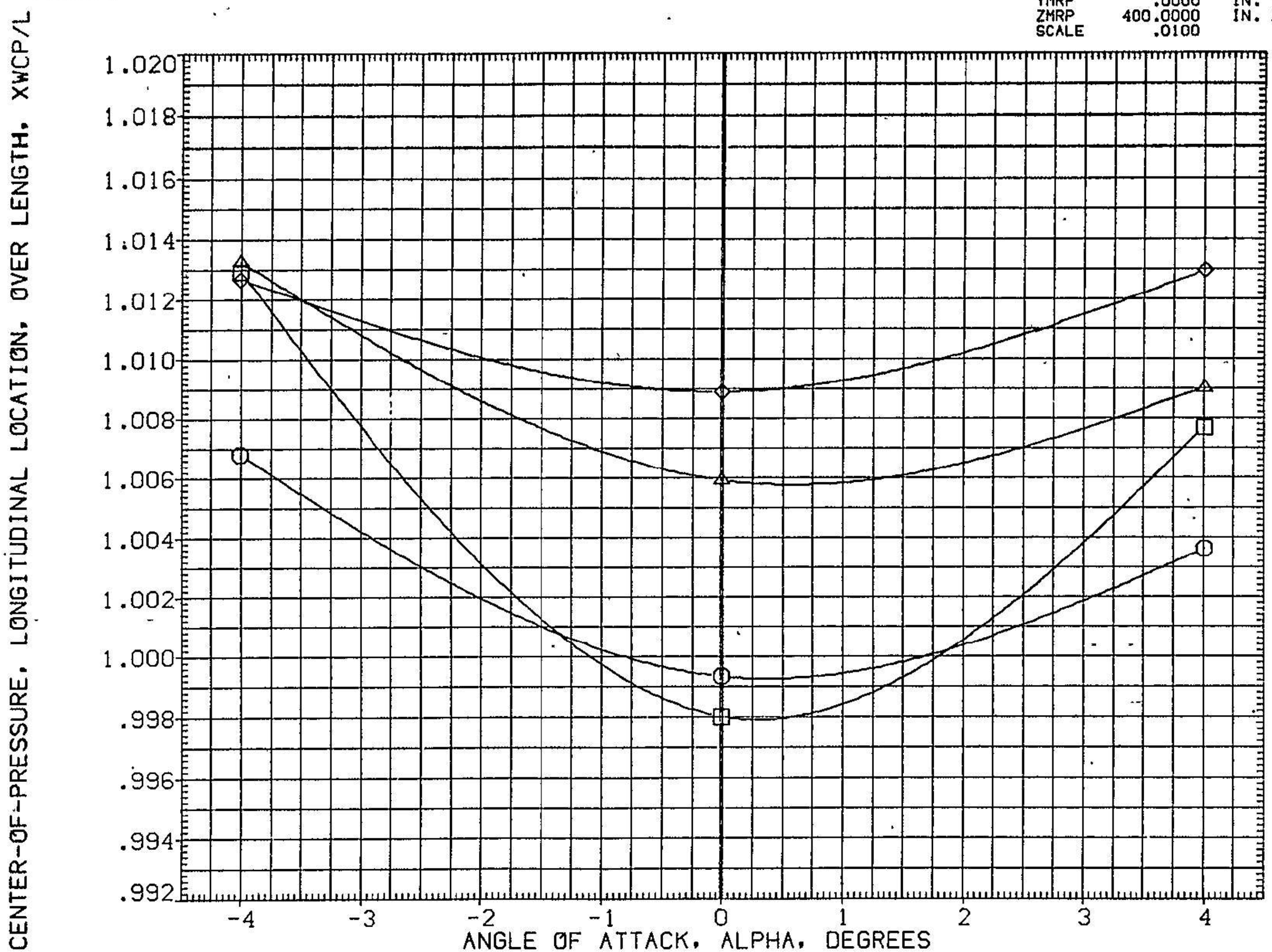


FIG. 49 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON; MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

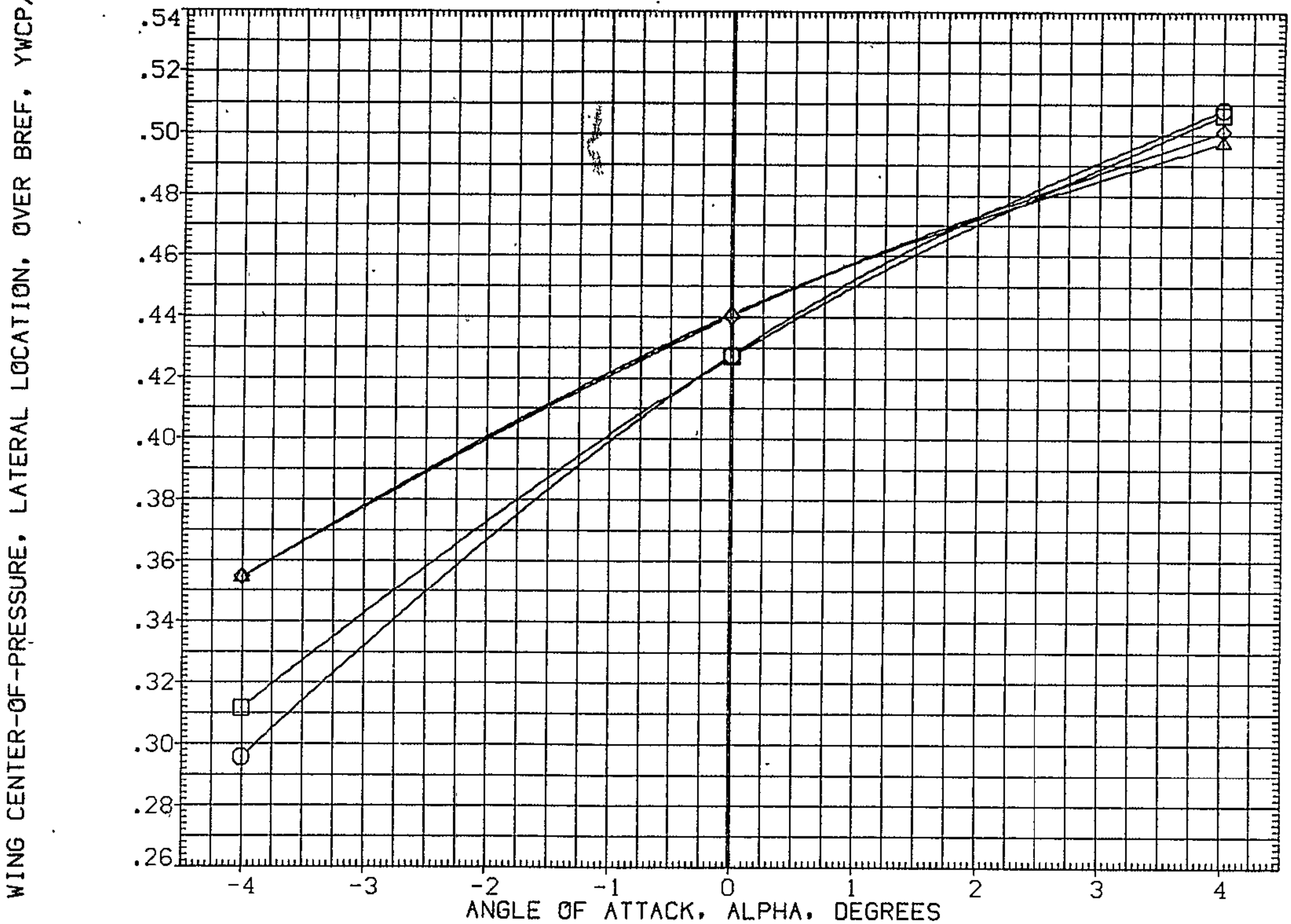


FIG. 49 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5X65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5X59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

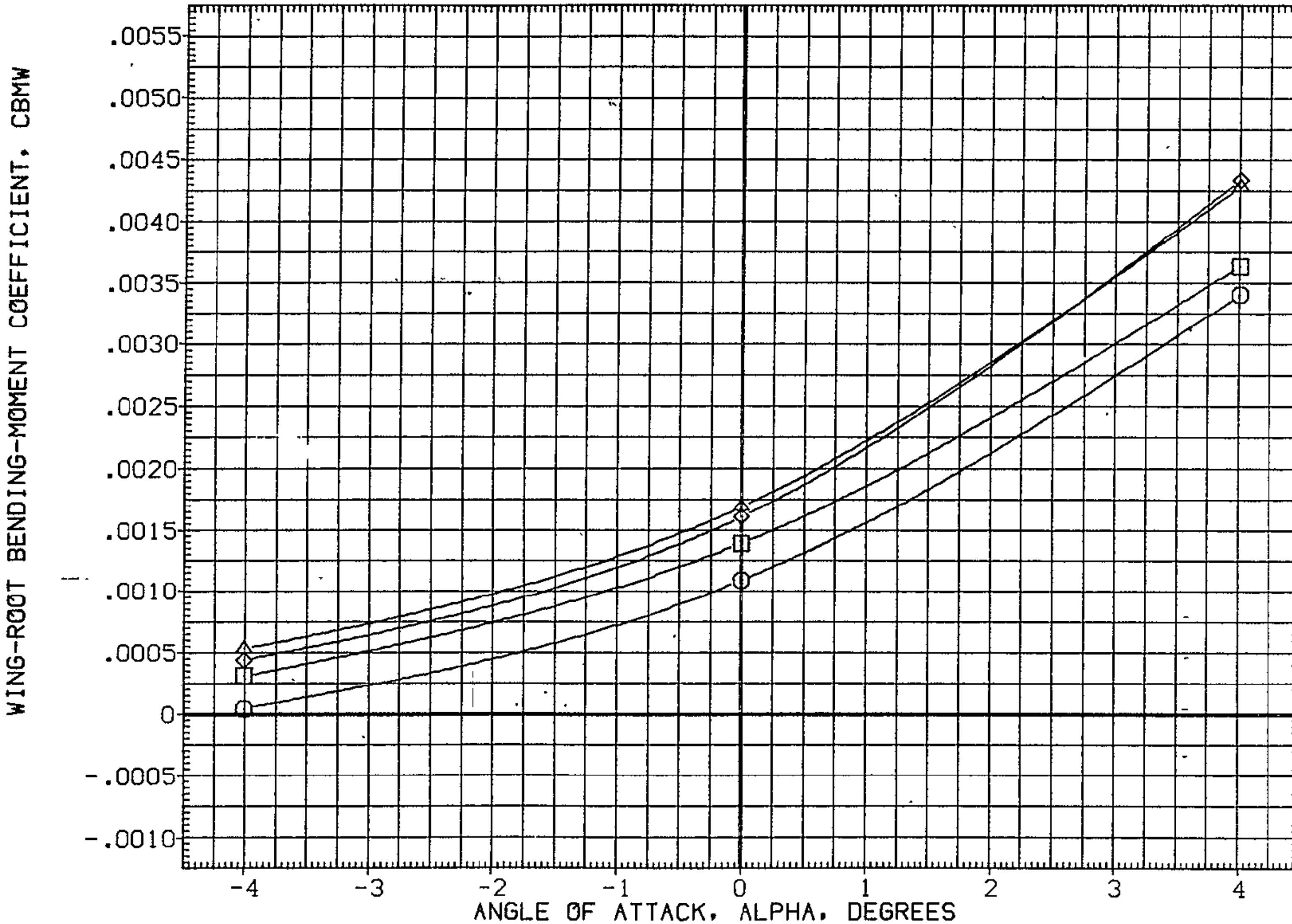


FIG. 50 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5X65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5X59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

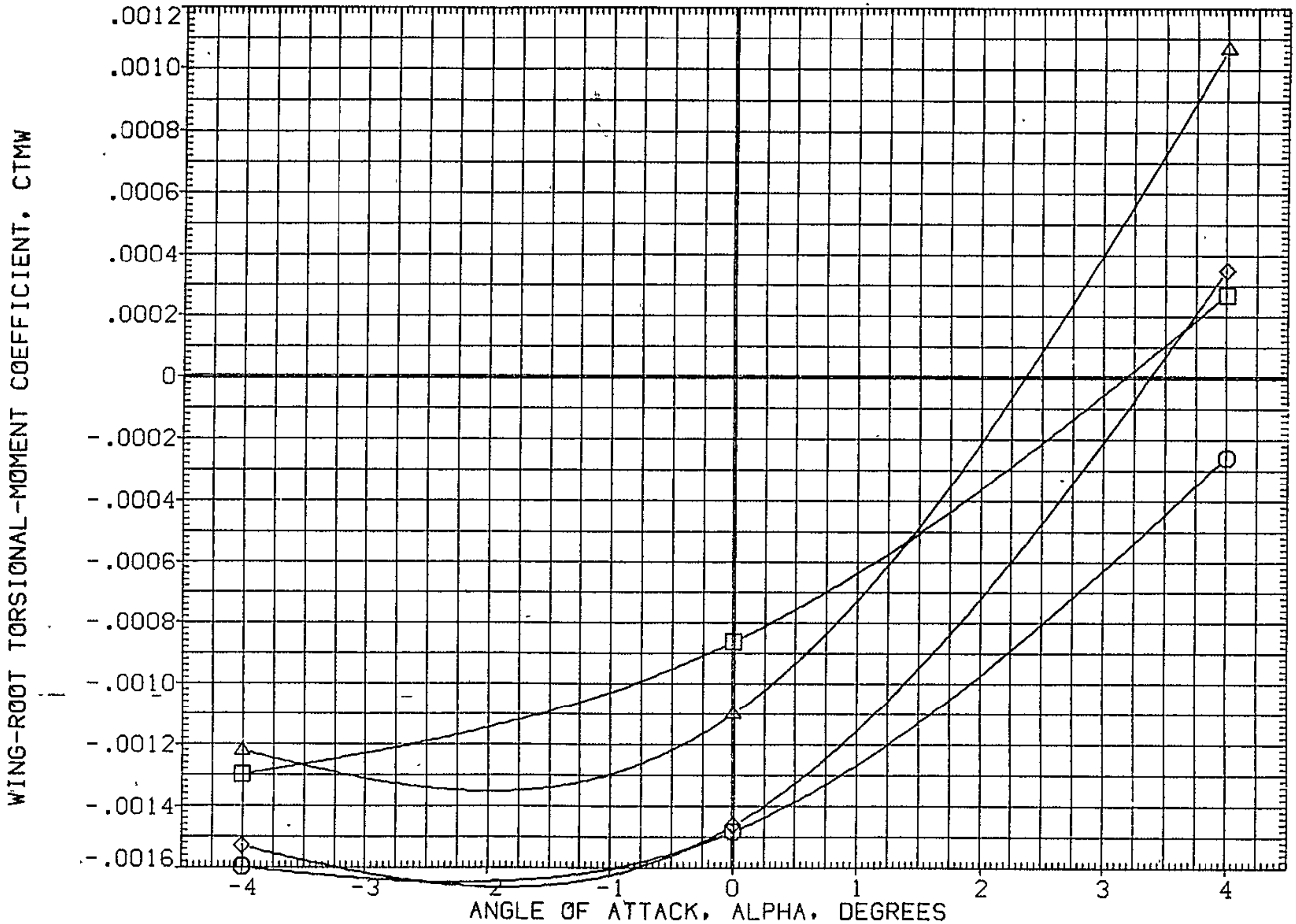


FIG. 50 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5X65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5X59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

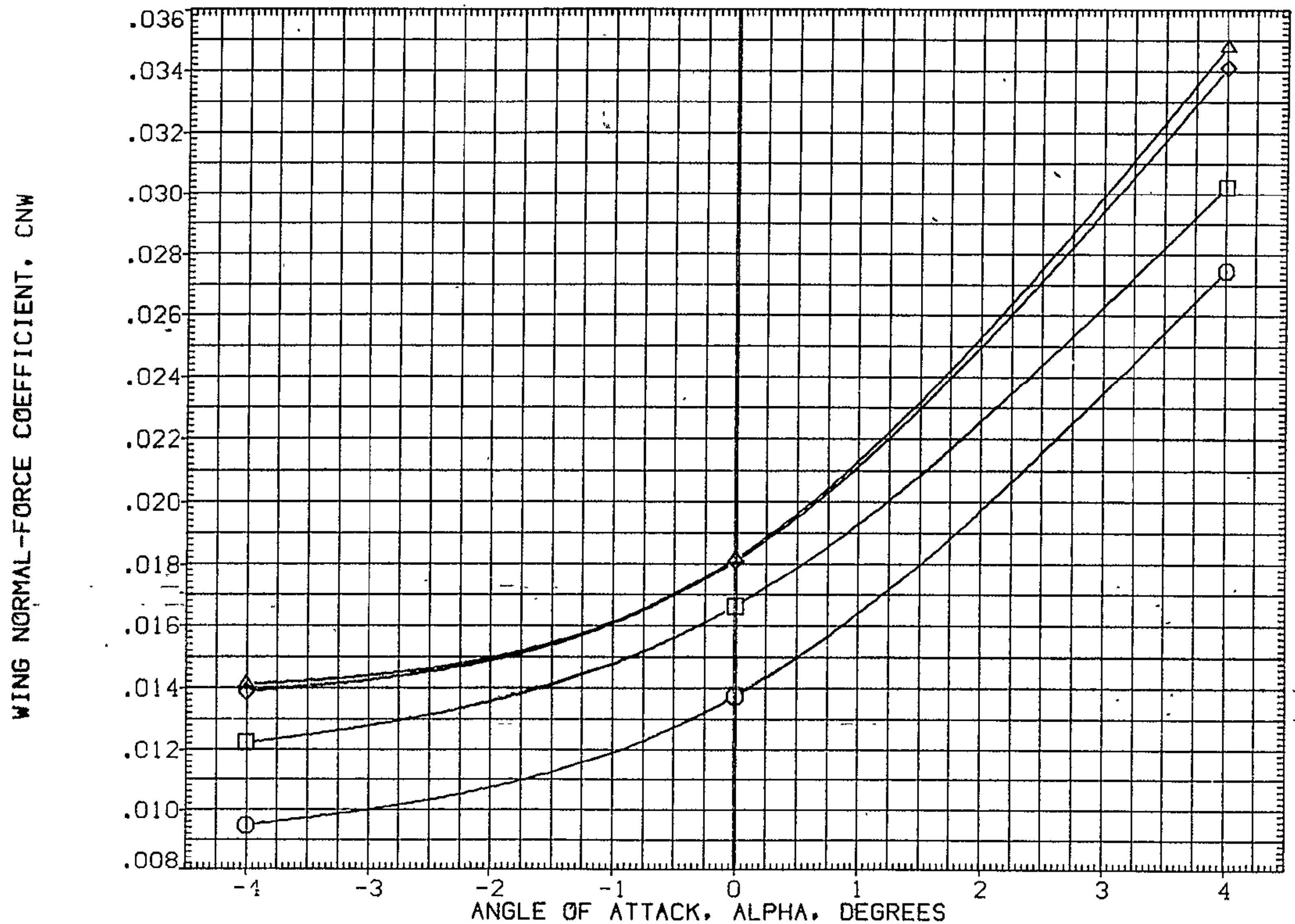


FIG. 50 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5X35)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	3.500	15.100
(RE5X65)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	3.500	15.100
(RE5X59)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

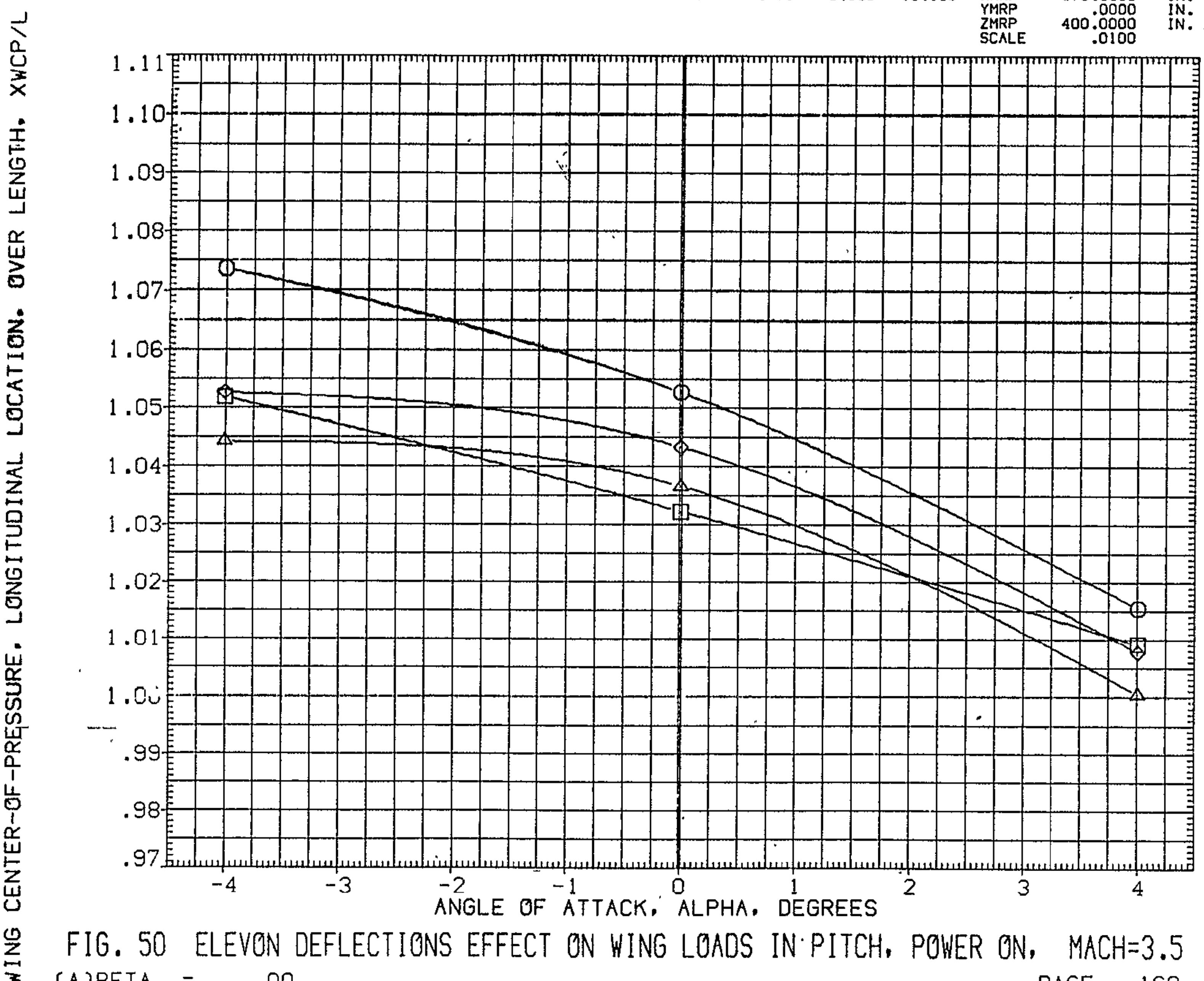


FIG. 50 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

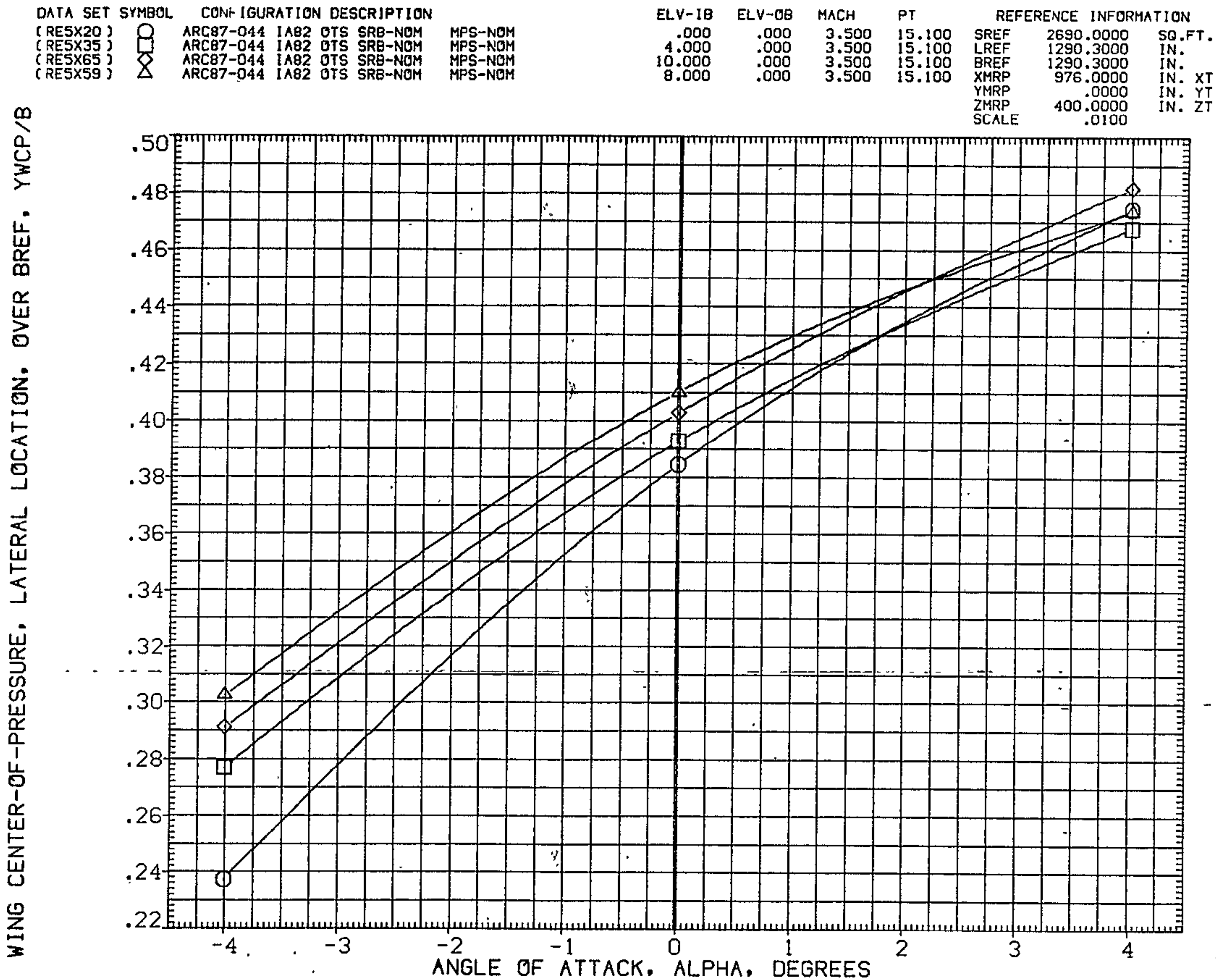


FIG. 50 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

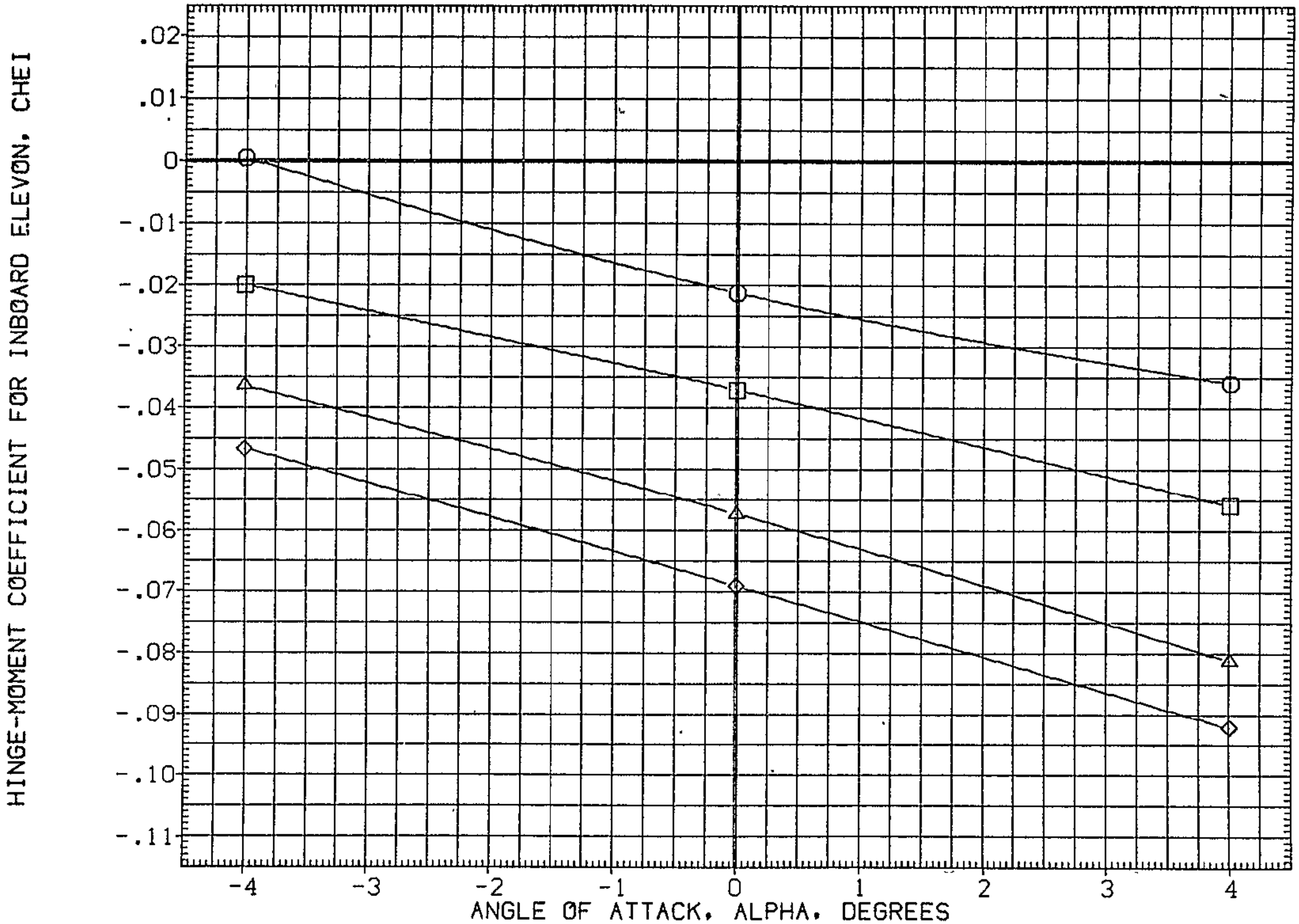


FIG. 51 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5X31)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	2.600	15.100
(RE5X61)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	2.600	15.100
(RE5X55)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

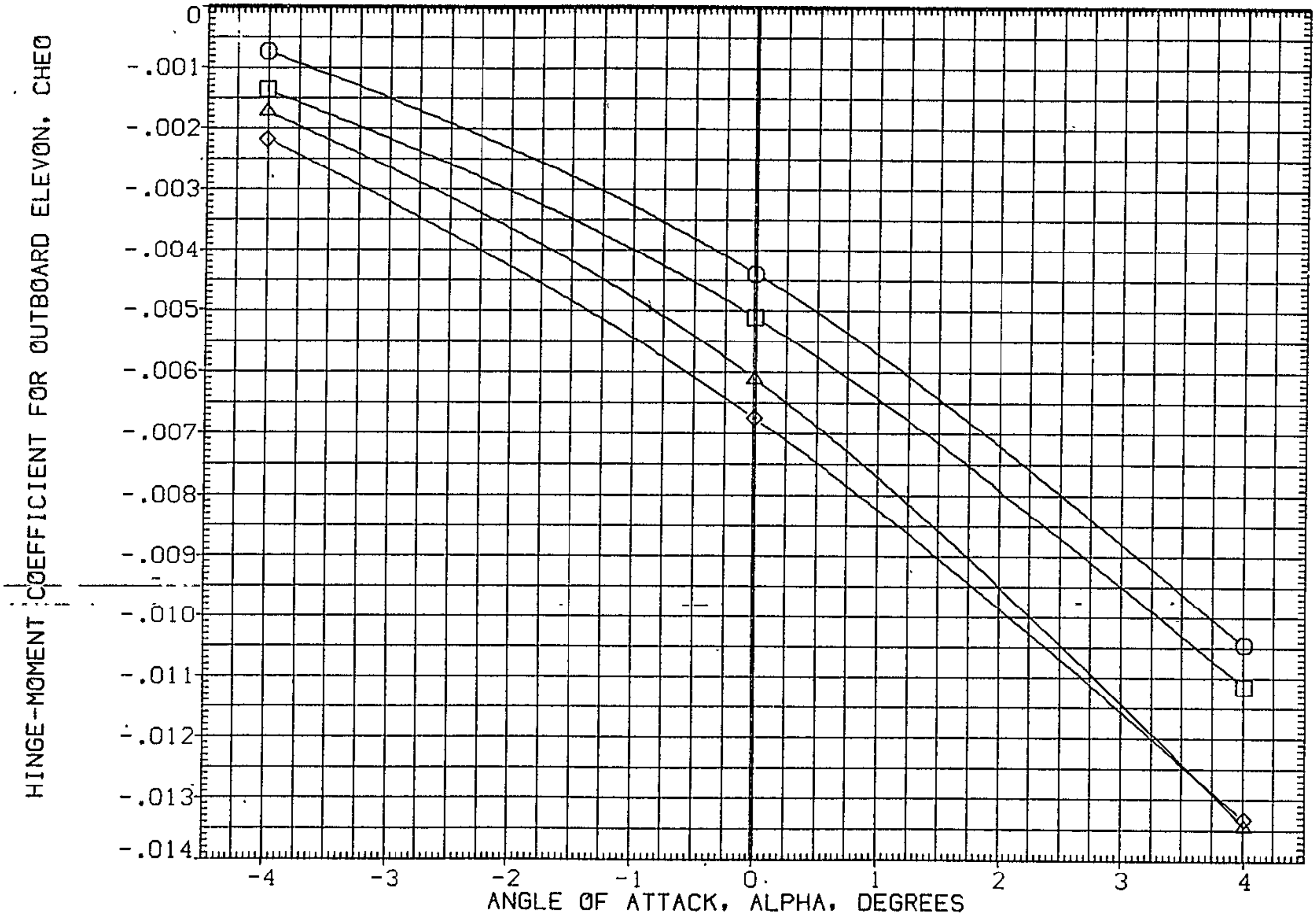


FIG. 51 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100	SREF	2690.0000	SQ.FT.
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100	LREF	1290.3000	IN.
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100	BREF	1290.3000	IN.
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100	XMRP	976.0000	IN. X1
								YMRP	.0000	IN. Y1
								ZMRP	400.0000	IN. Z1
								SCALE	.0100	

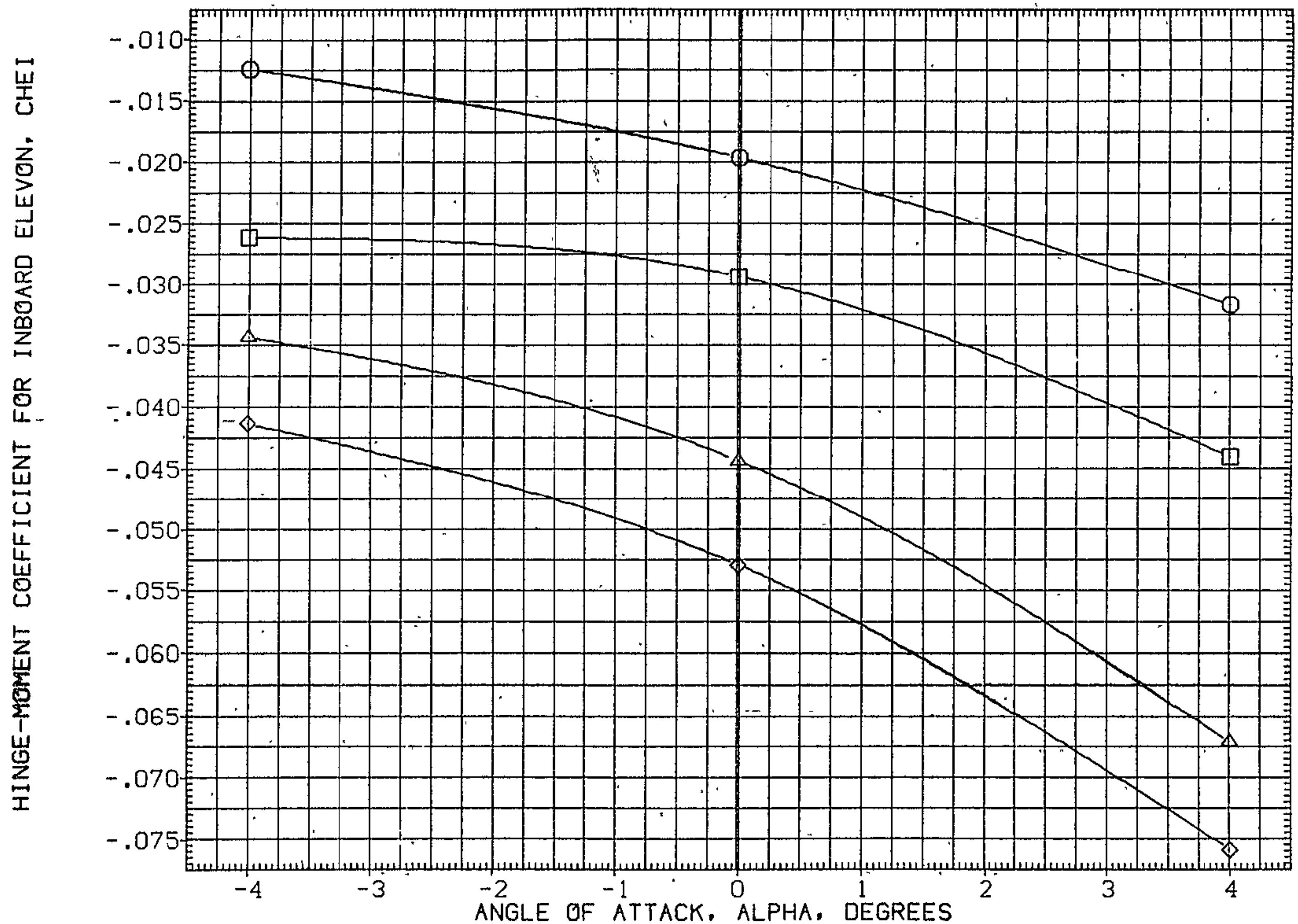


FIG. 52 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5X33)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	3.000	15.100
(RE5X63)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	3.000	15.100
(RE5X57)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

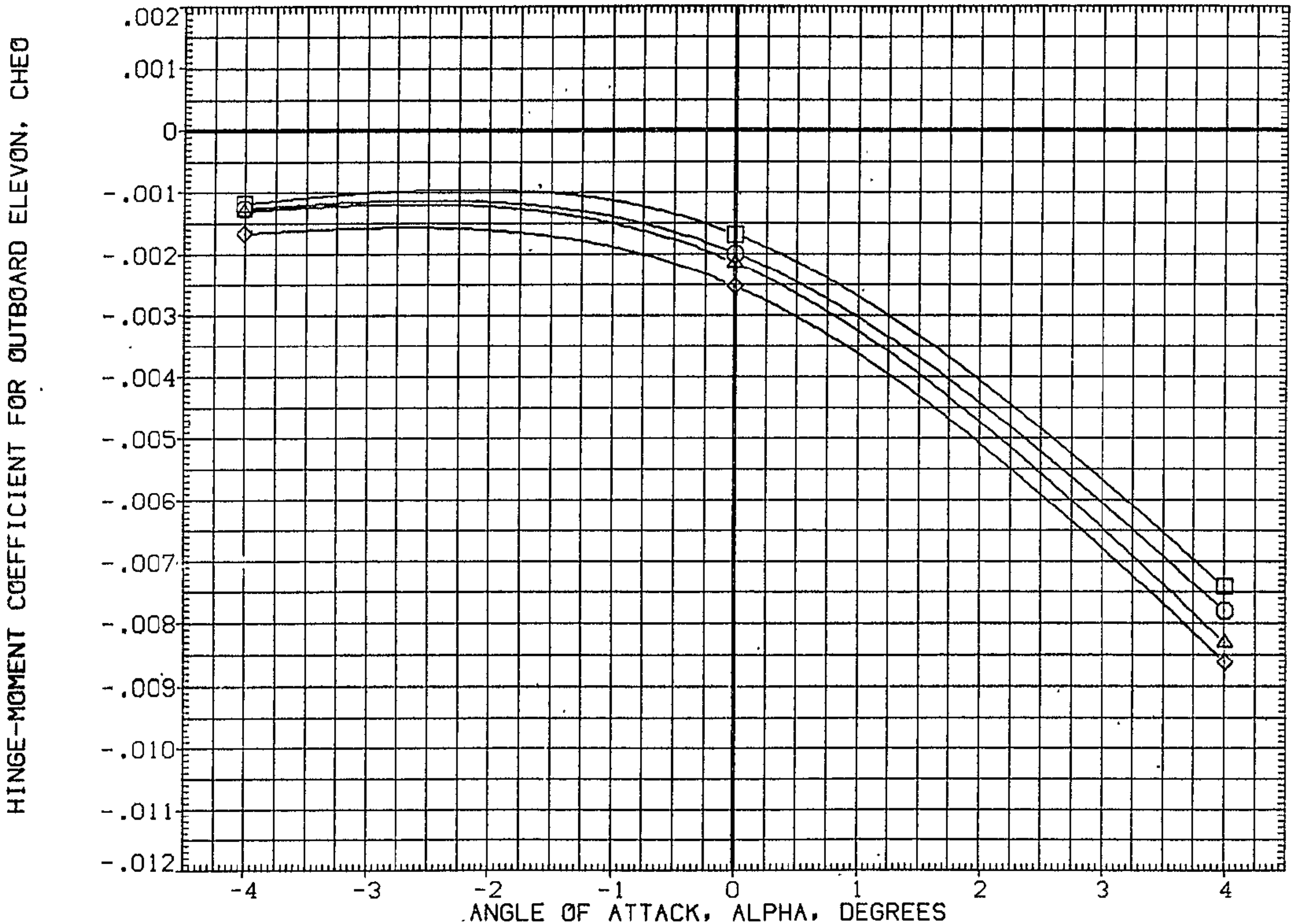


FIG. 52 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

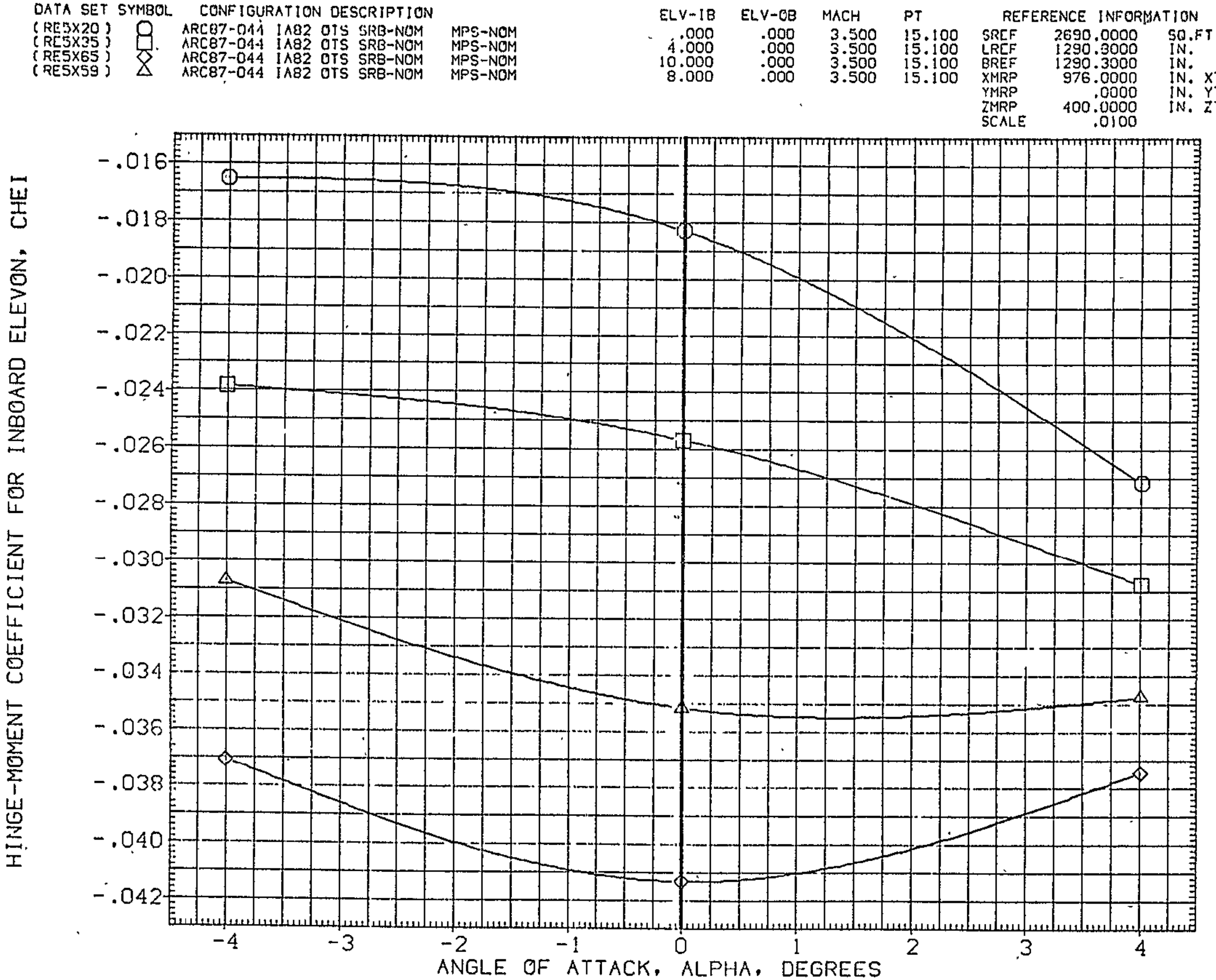


FIG. 53 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5X35)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	3.500	15.100
(RE5X65)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	3.500	15.100
(RE5X59)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

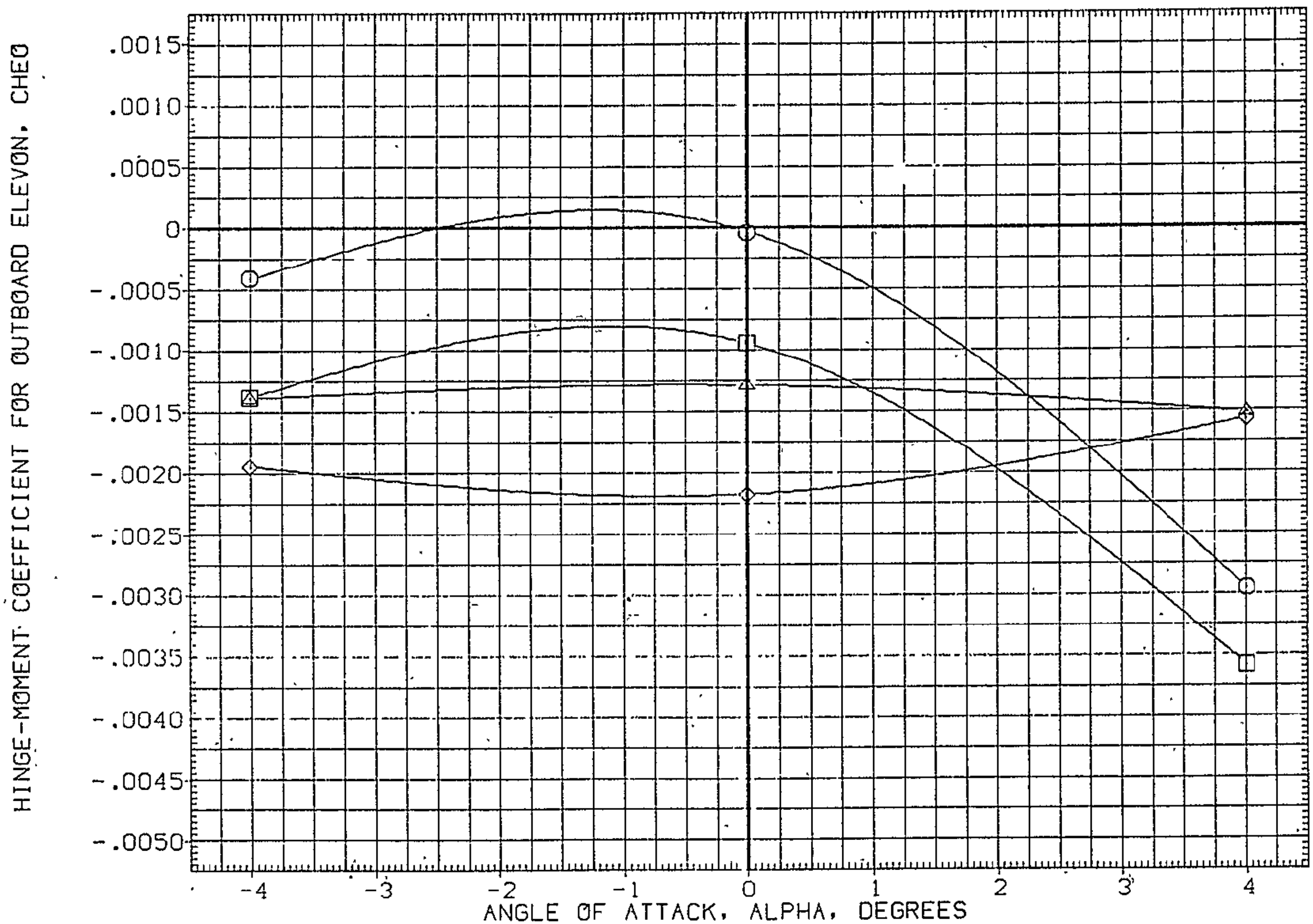


FIG. 53 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

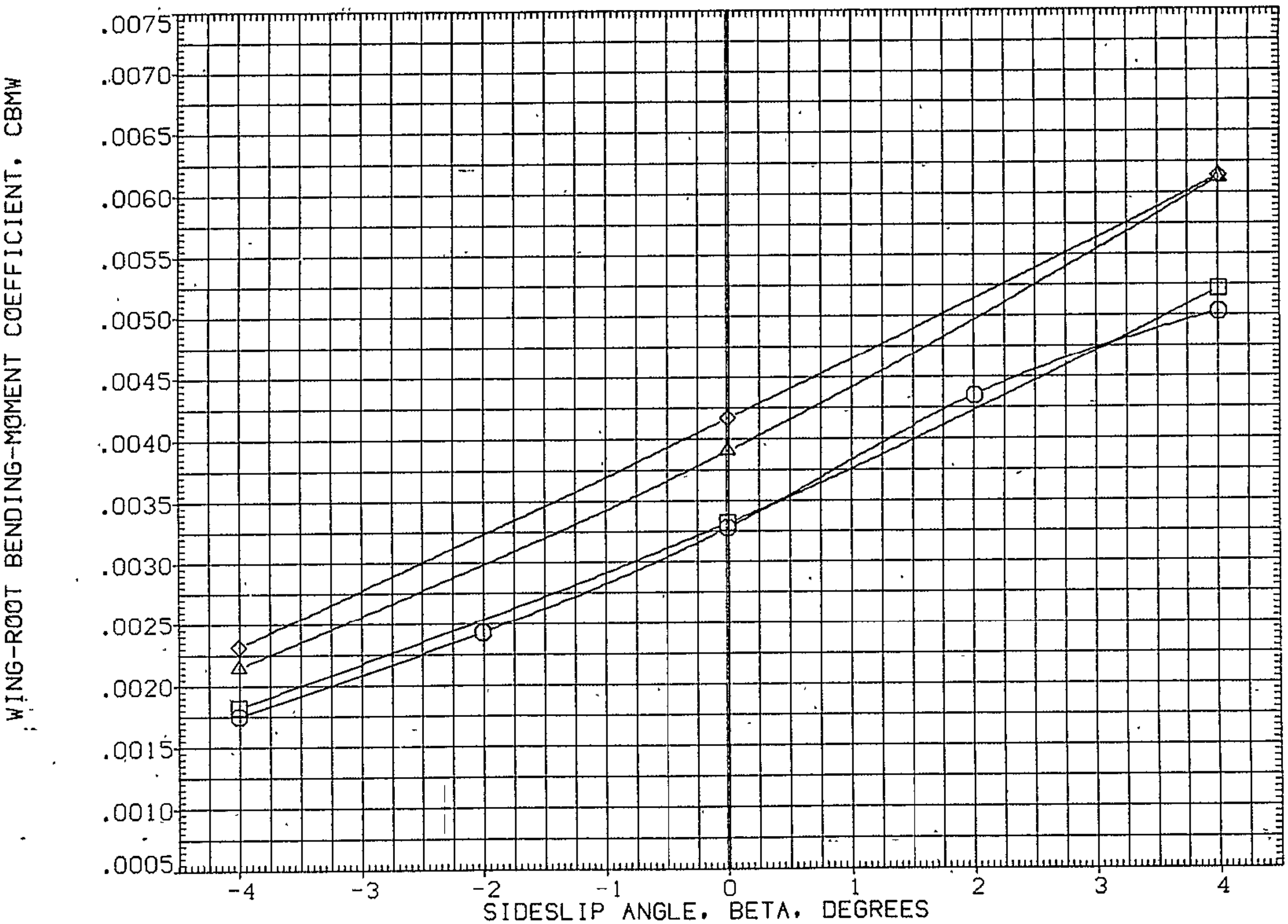


FIG. 54 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

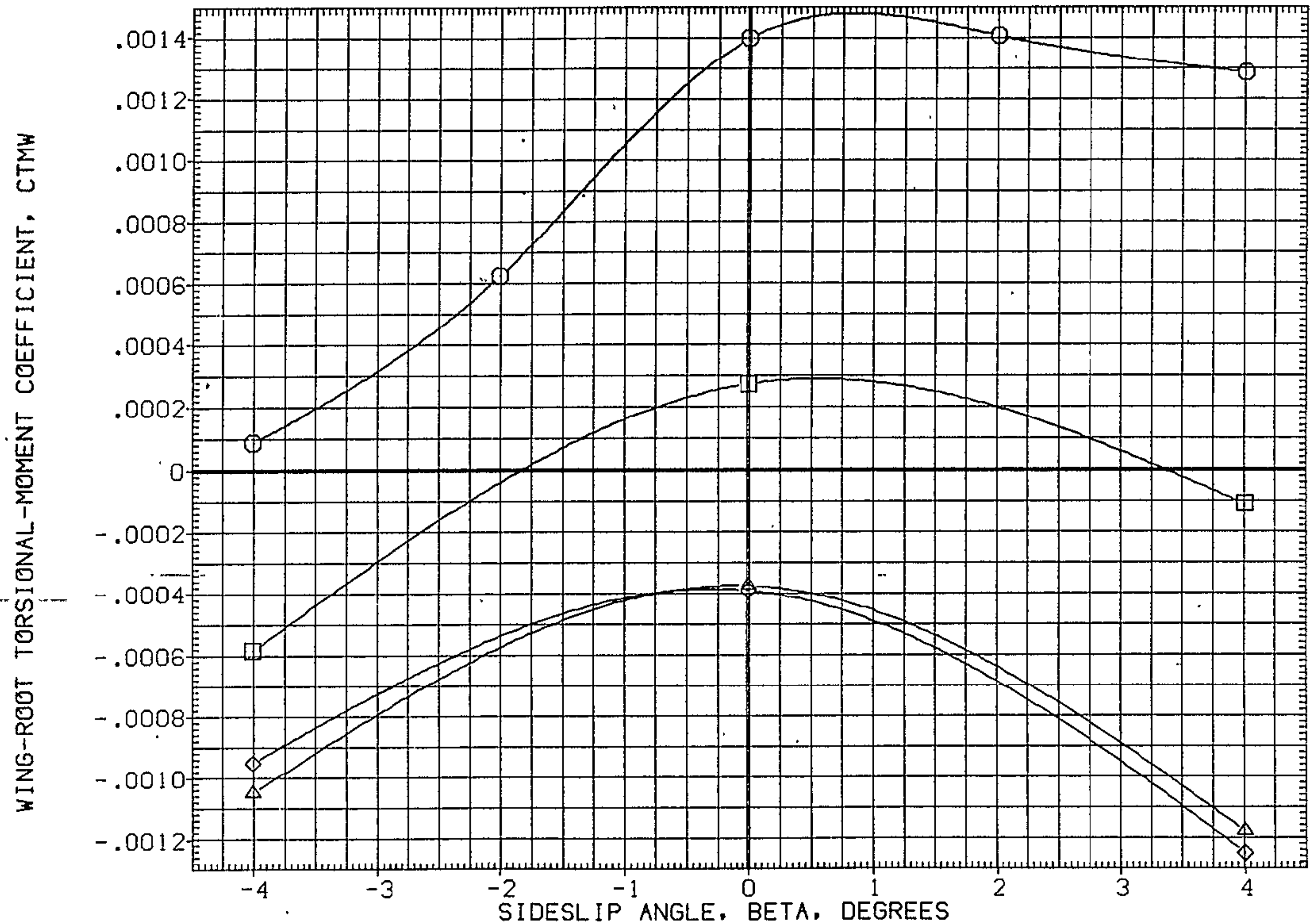


FIG. 54 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

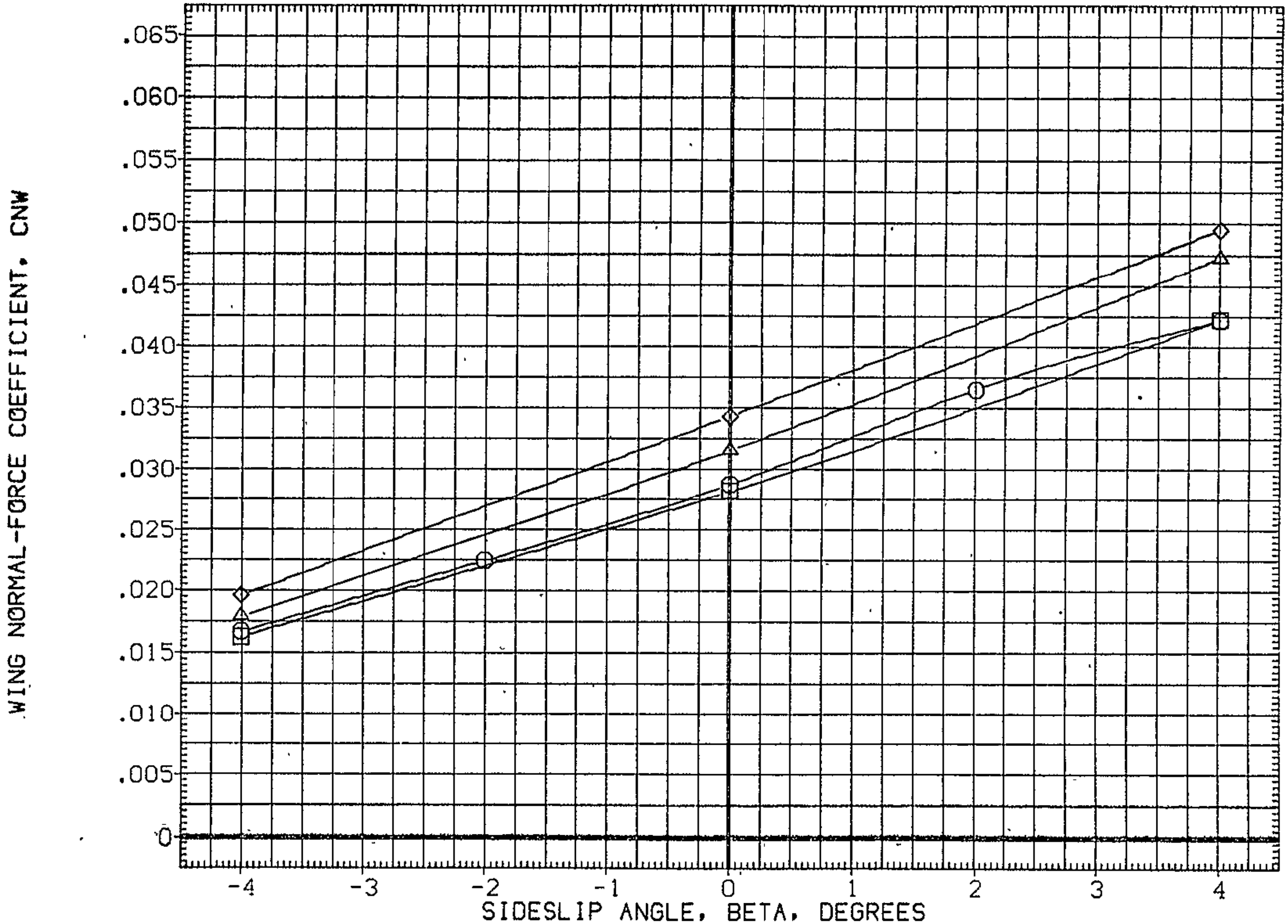


FIG. 54 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

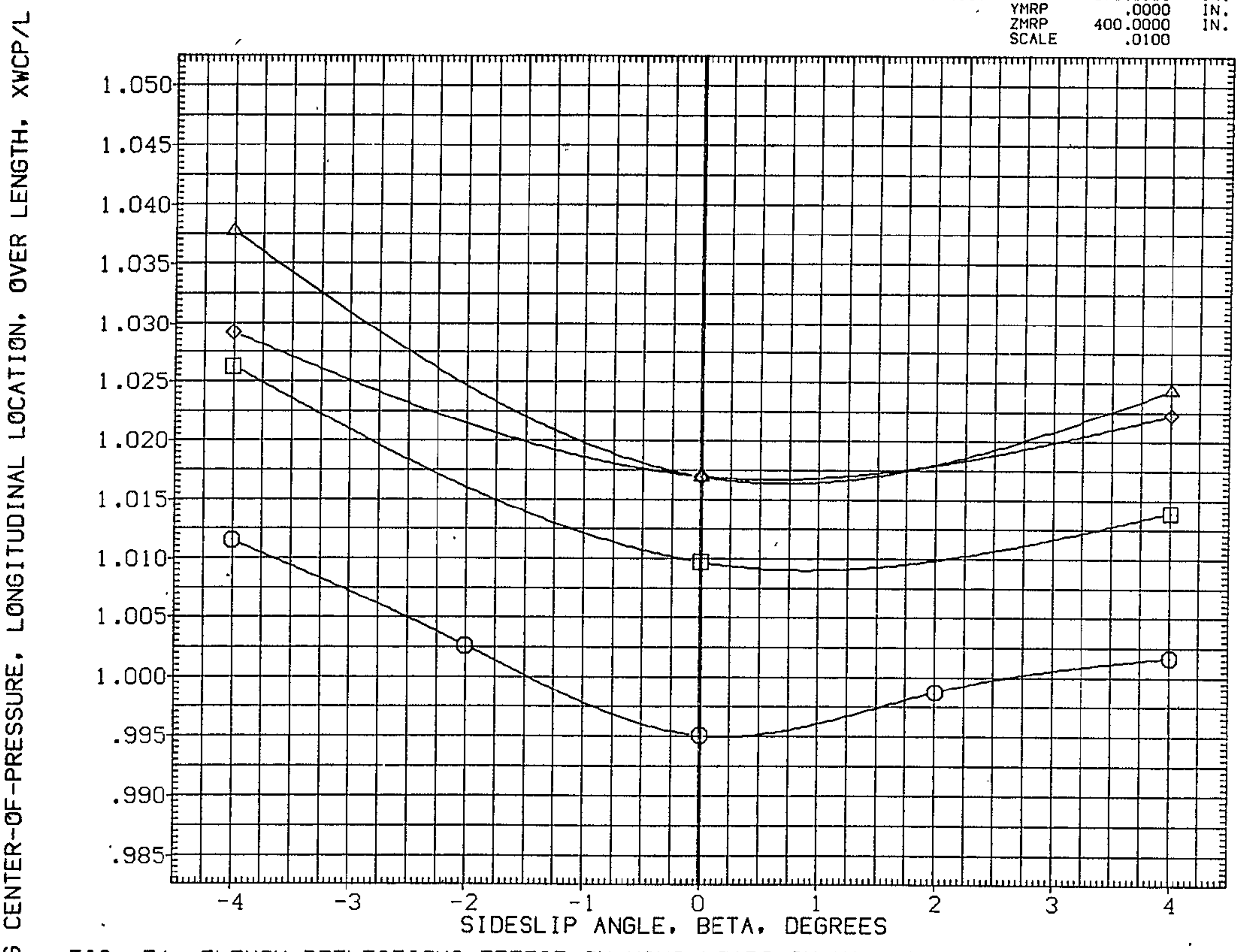


FIG. 54 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

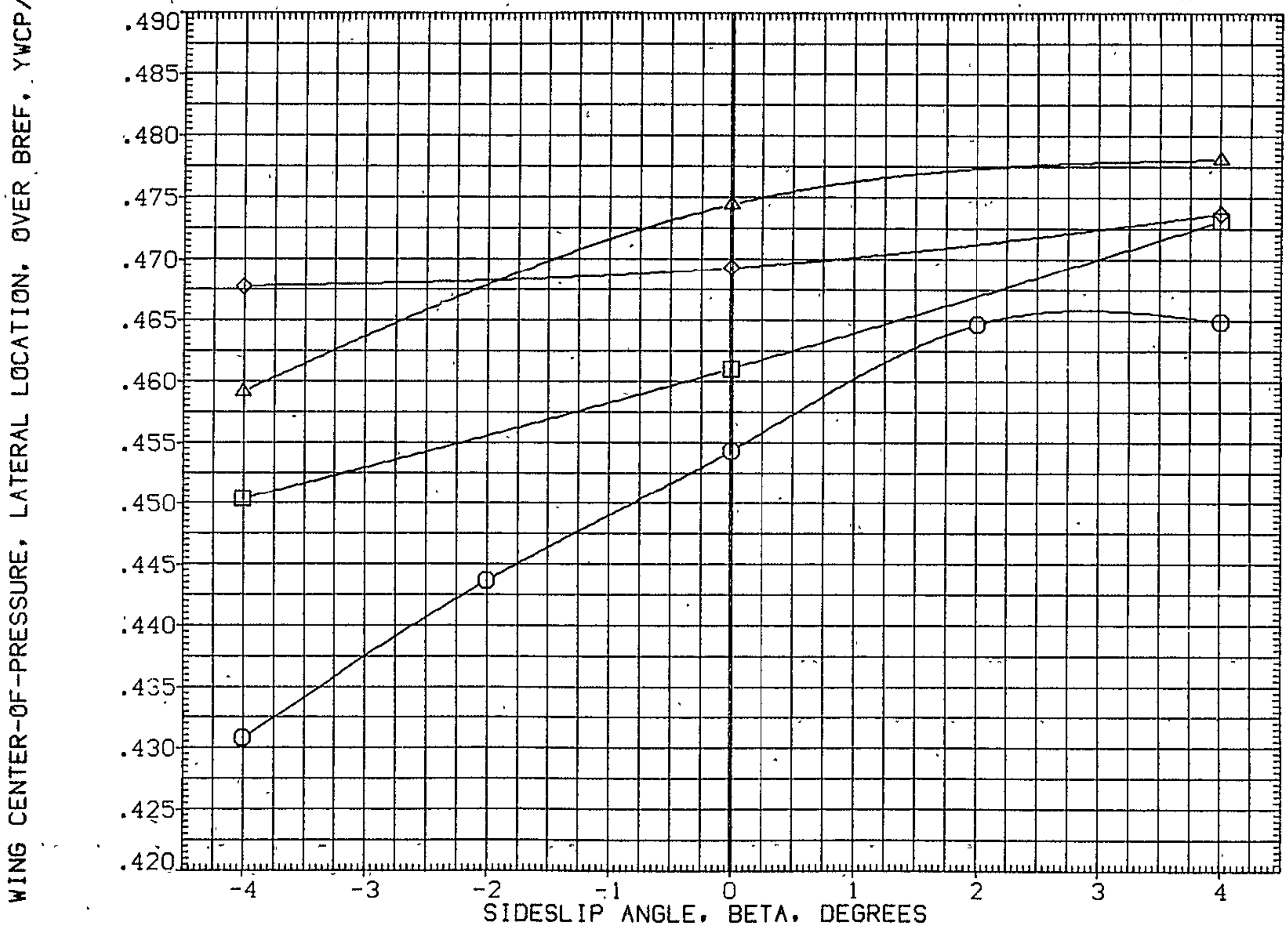


FIG. 54 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

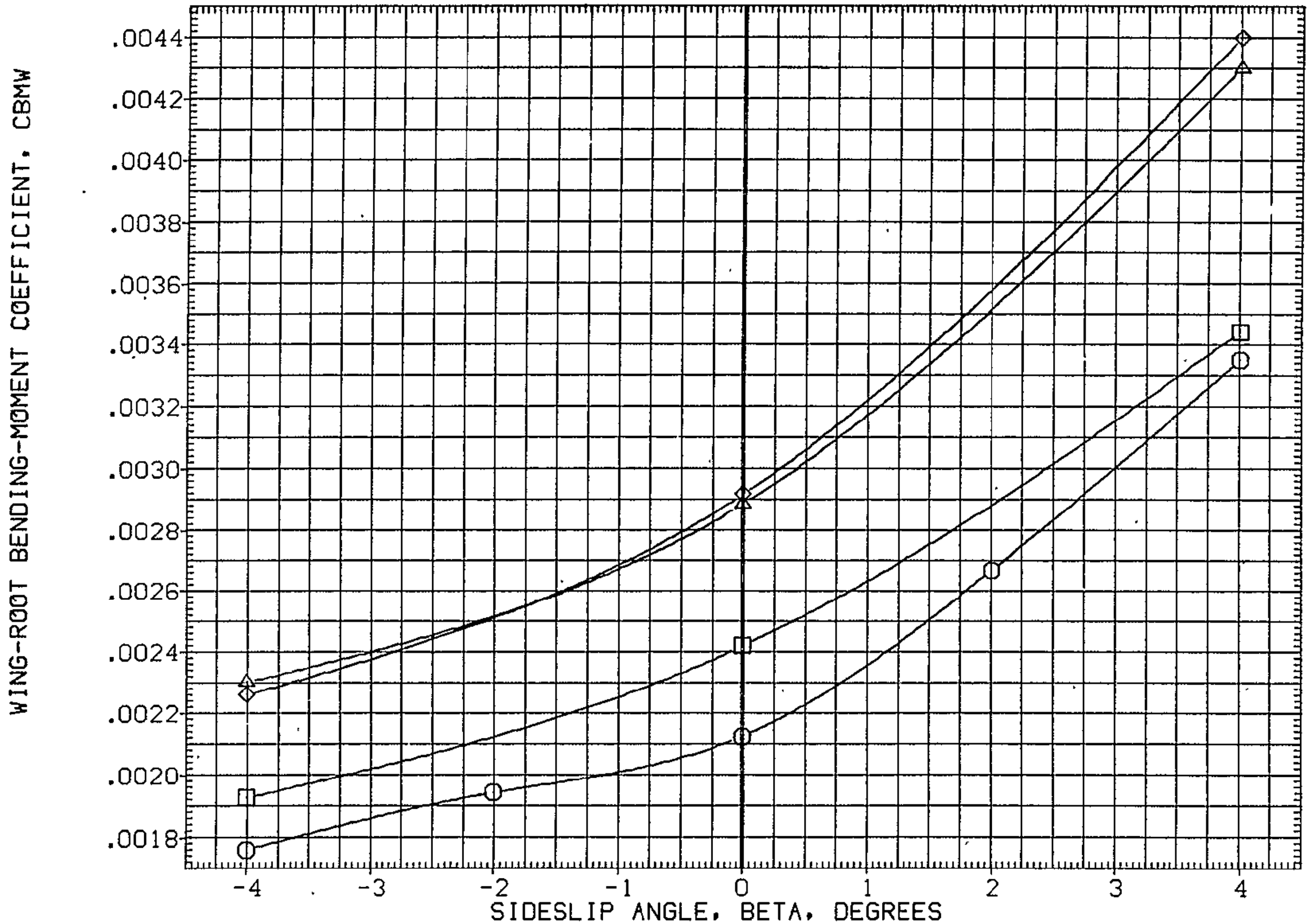


FIG. 55 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

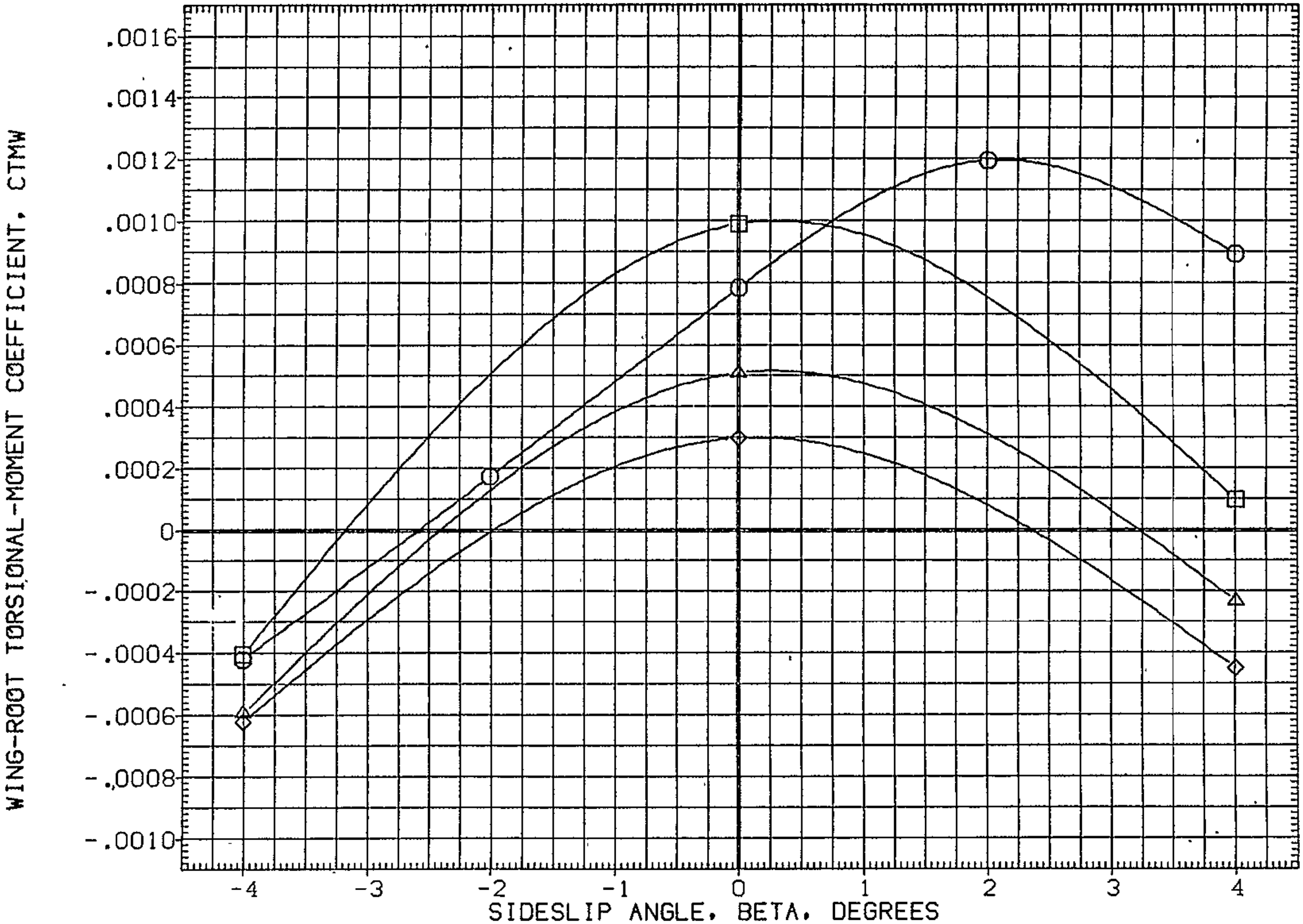


FIG. 55 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

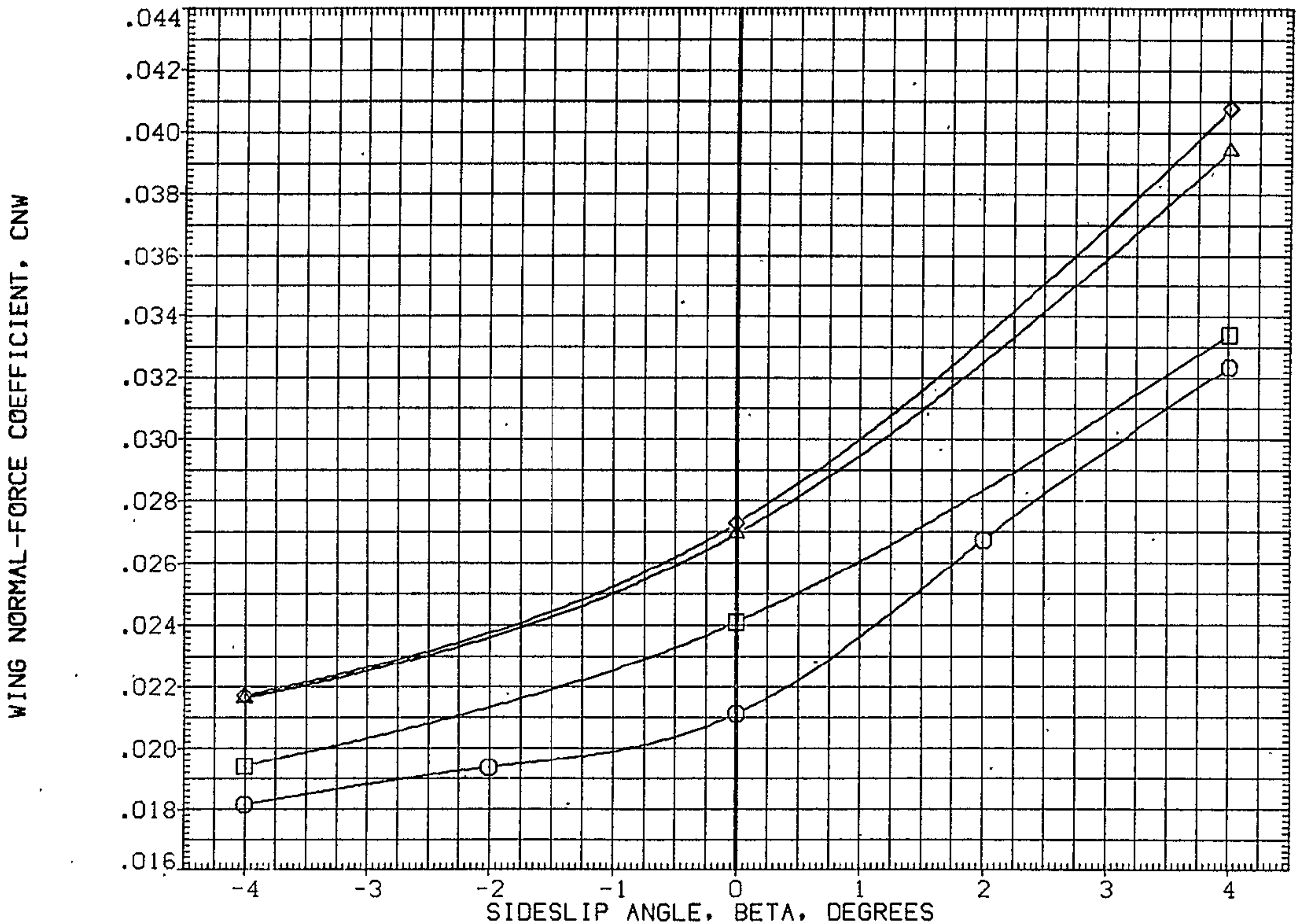


FIG. 55 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

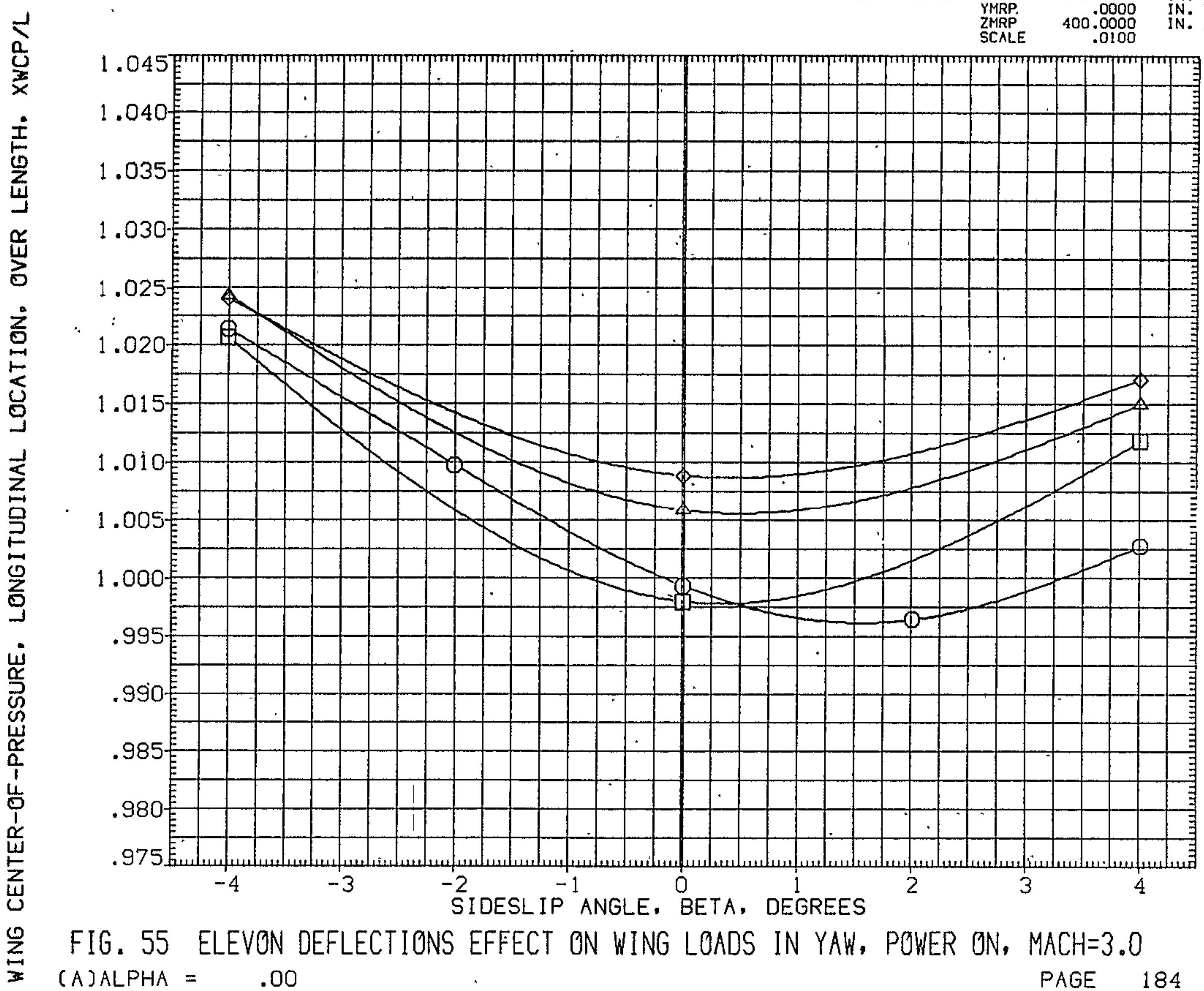


FIG. 55 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

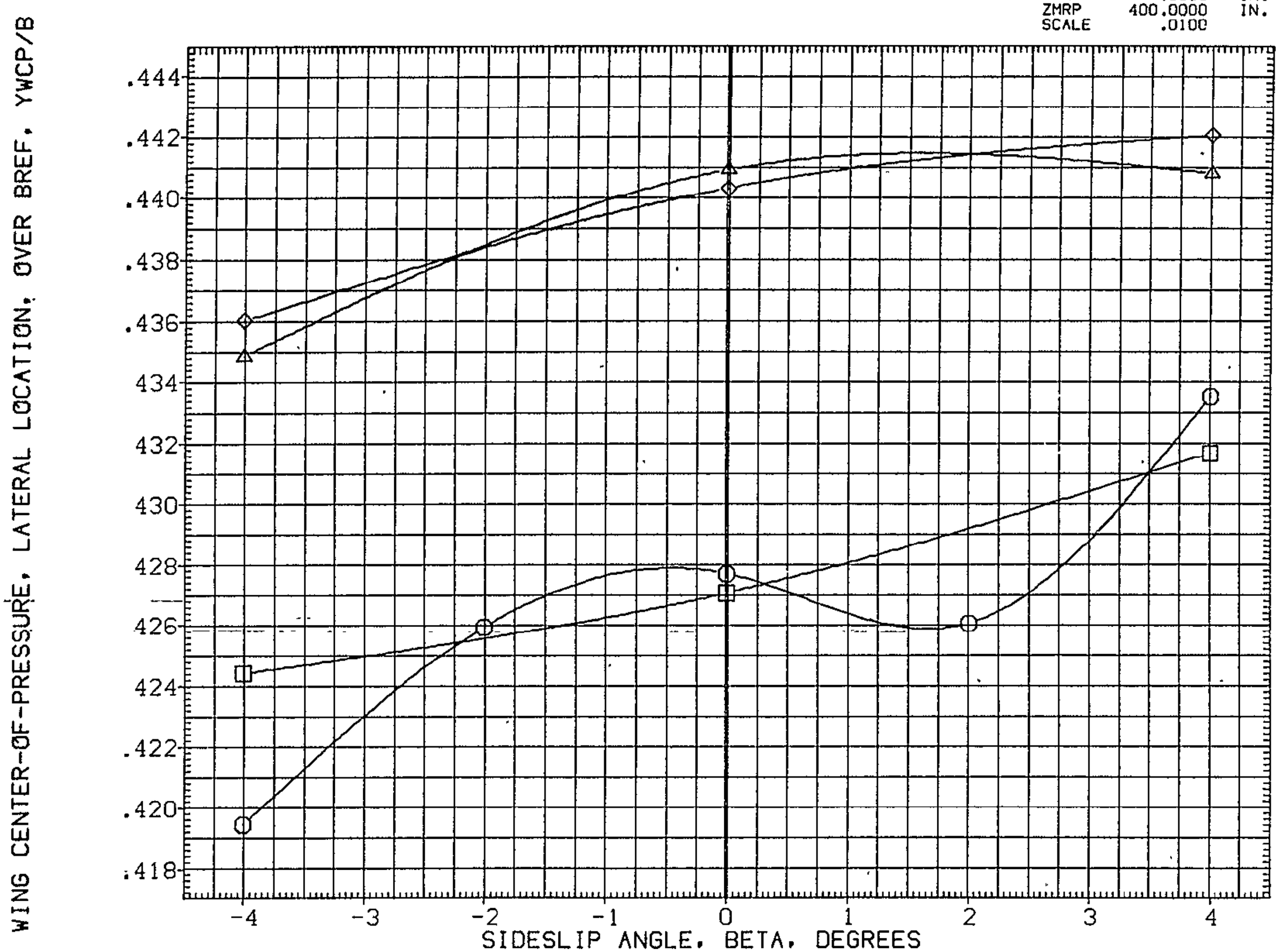


FIG. 55 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5Y35)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	3.500	15.100
(RE5Y65)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	3.500	15.100
(RE5Y59)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

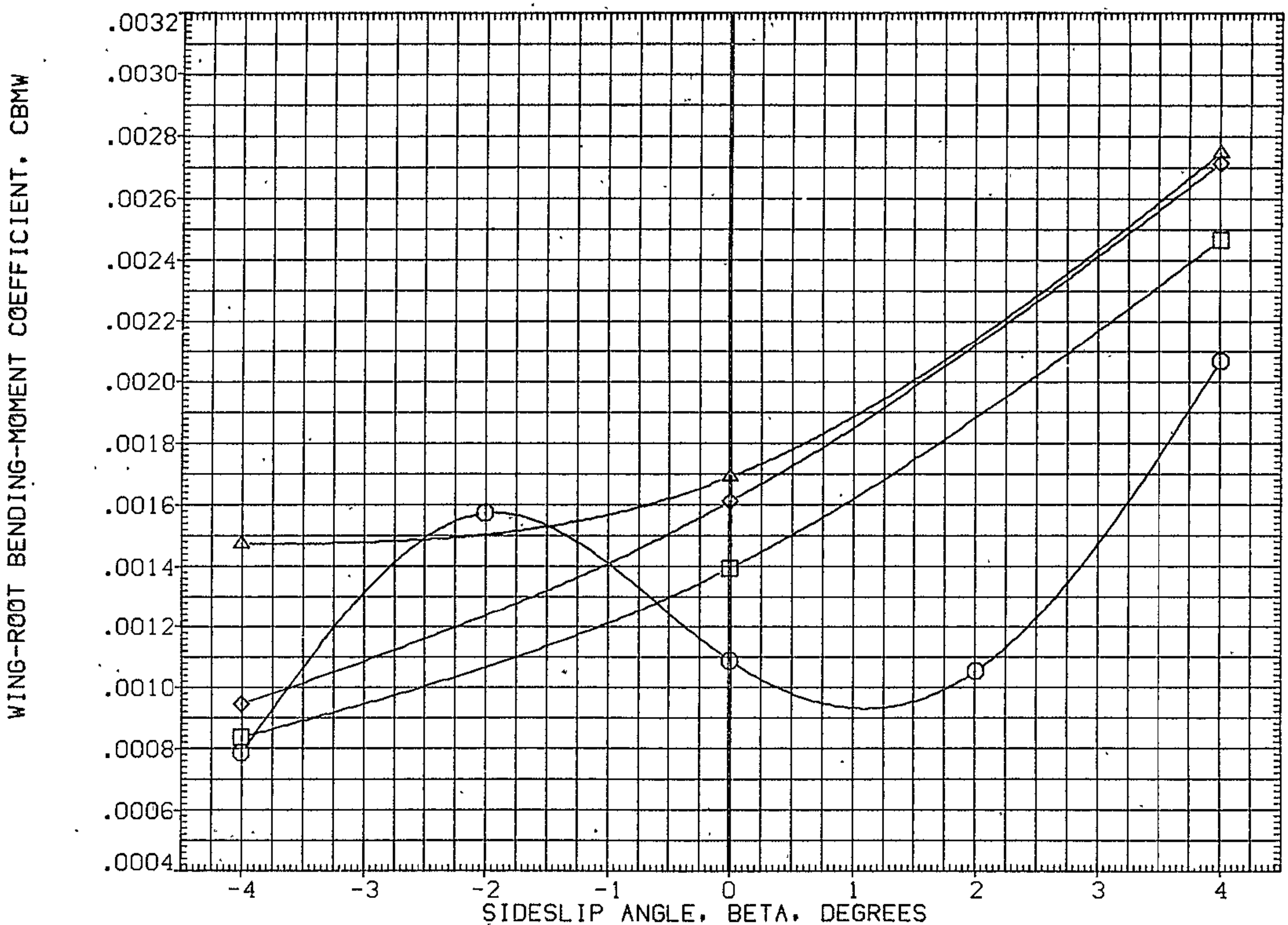


FIG. 56 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5Y65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5Y59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

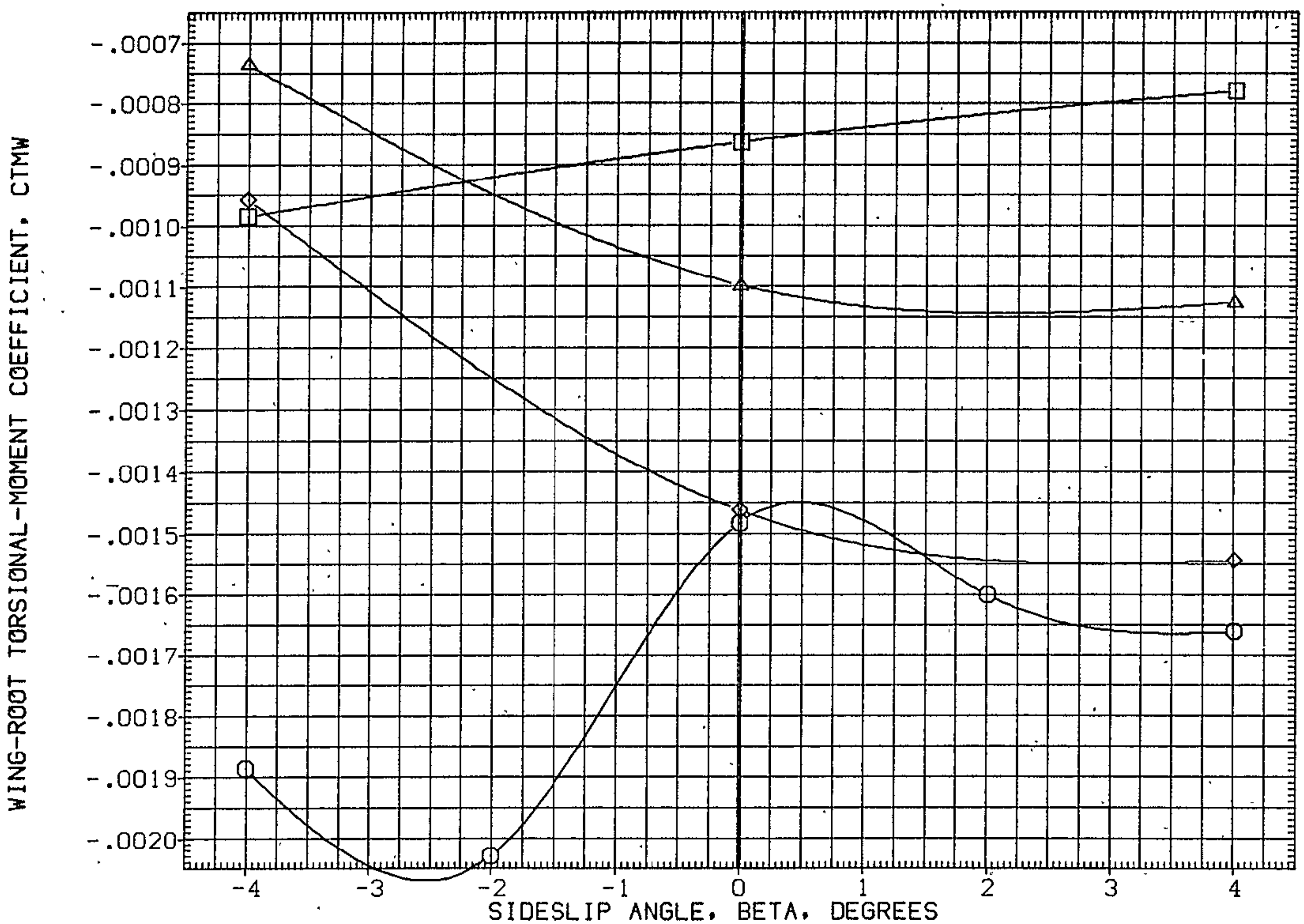


FIG. 56 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

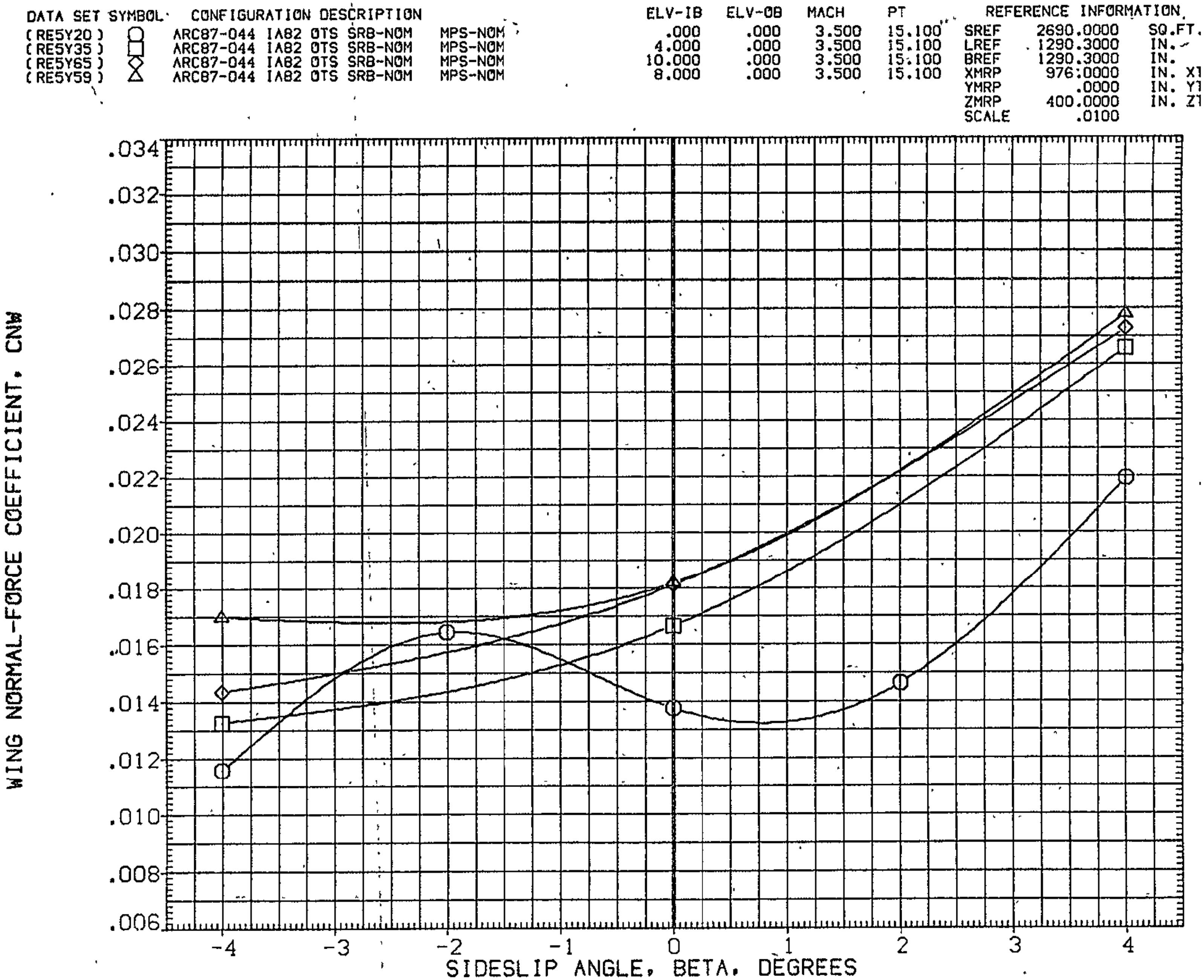


FIG. 56 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5Y65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5Y59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

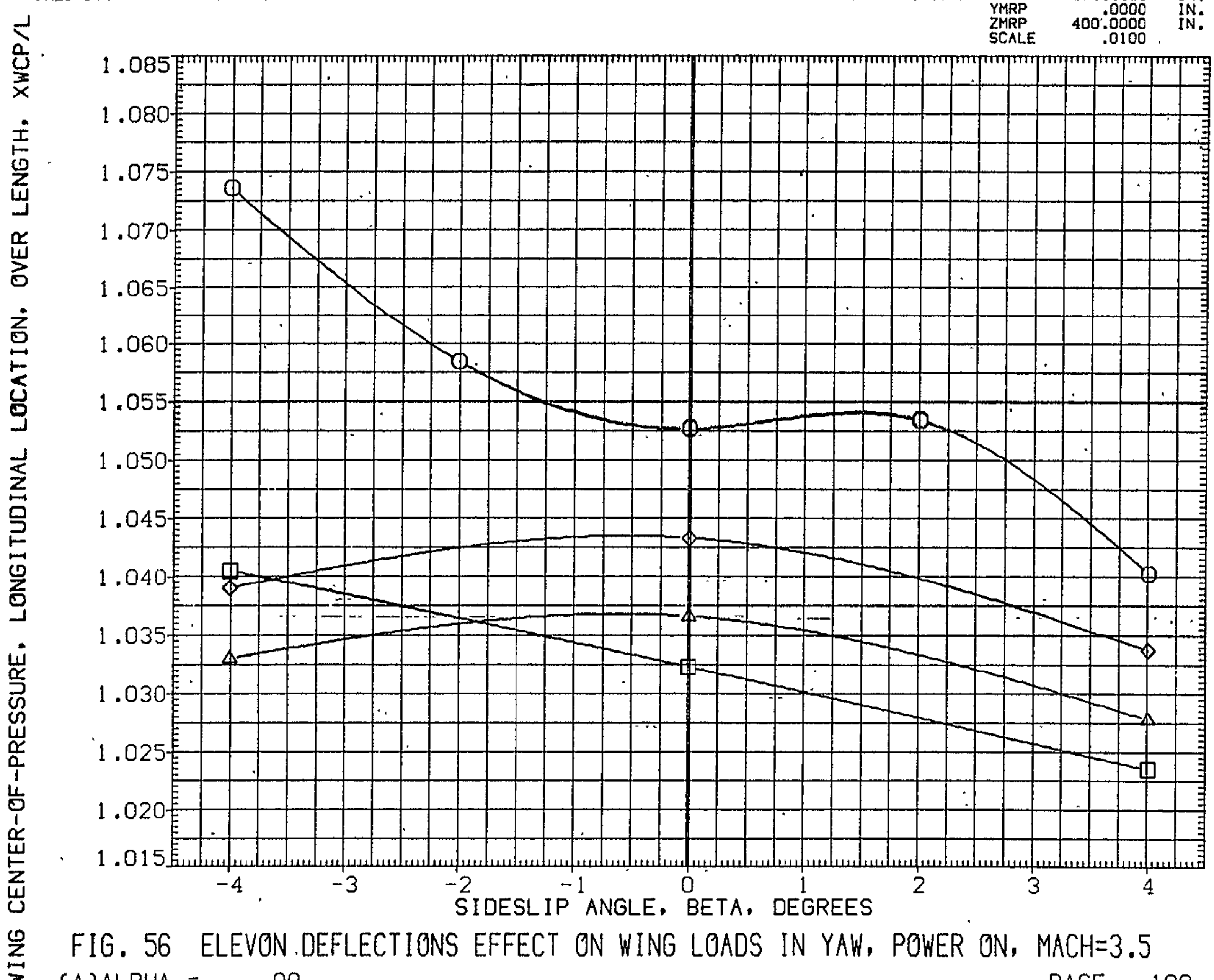


FIG. 56 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5Y65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5Y59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

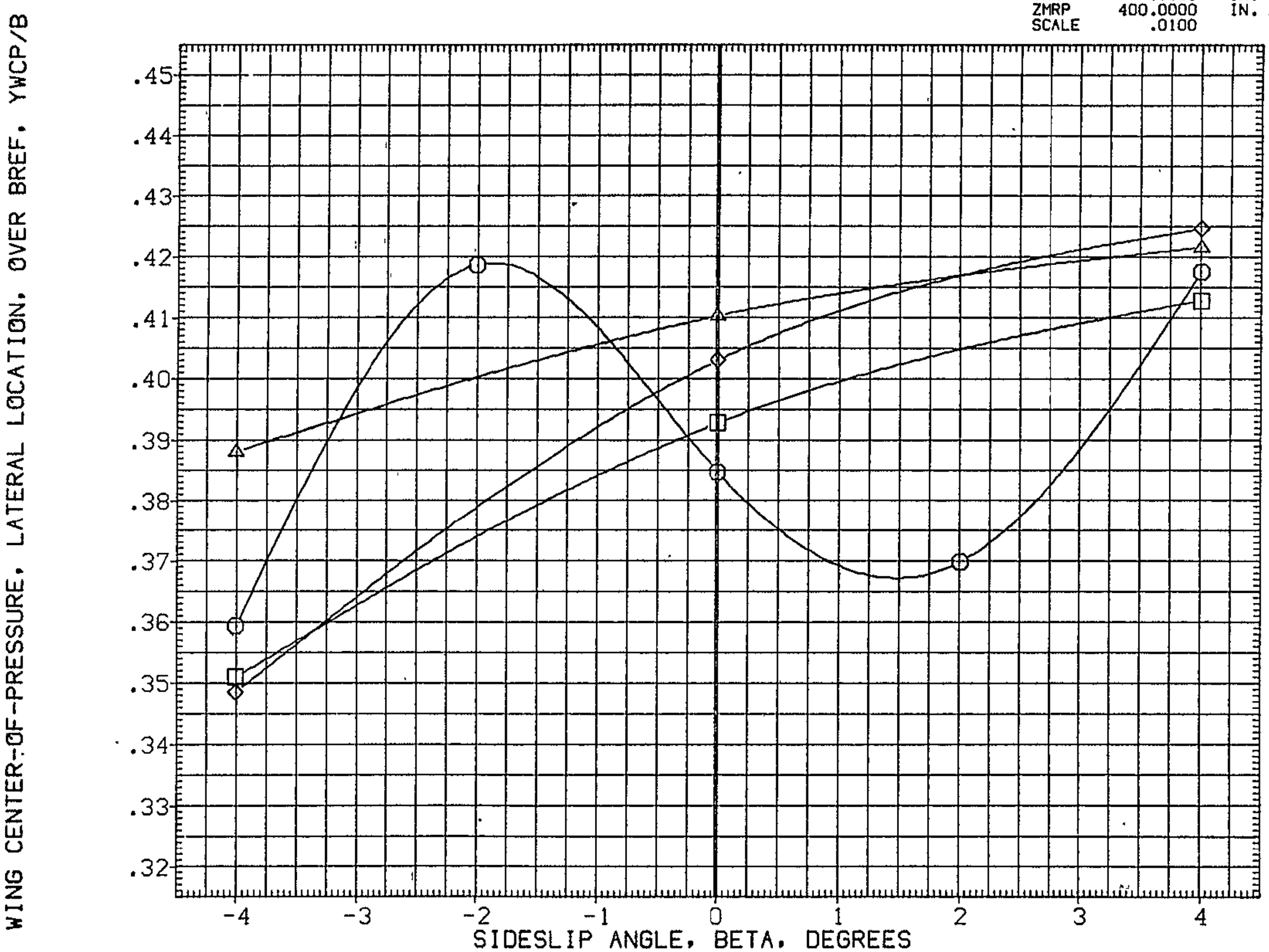


FIG. 56 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

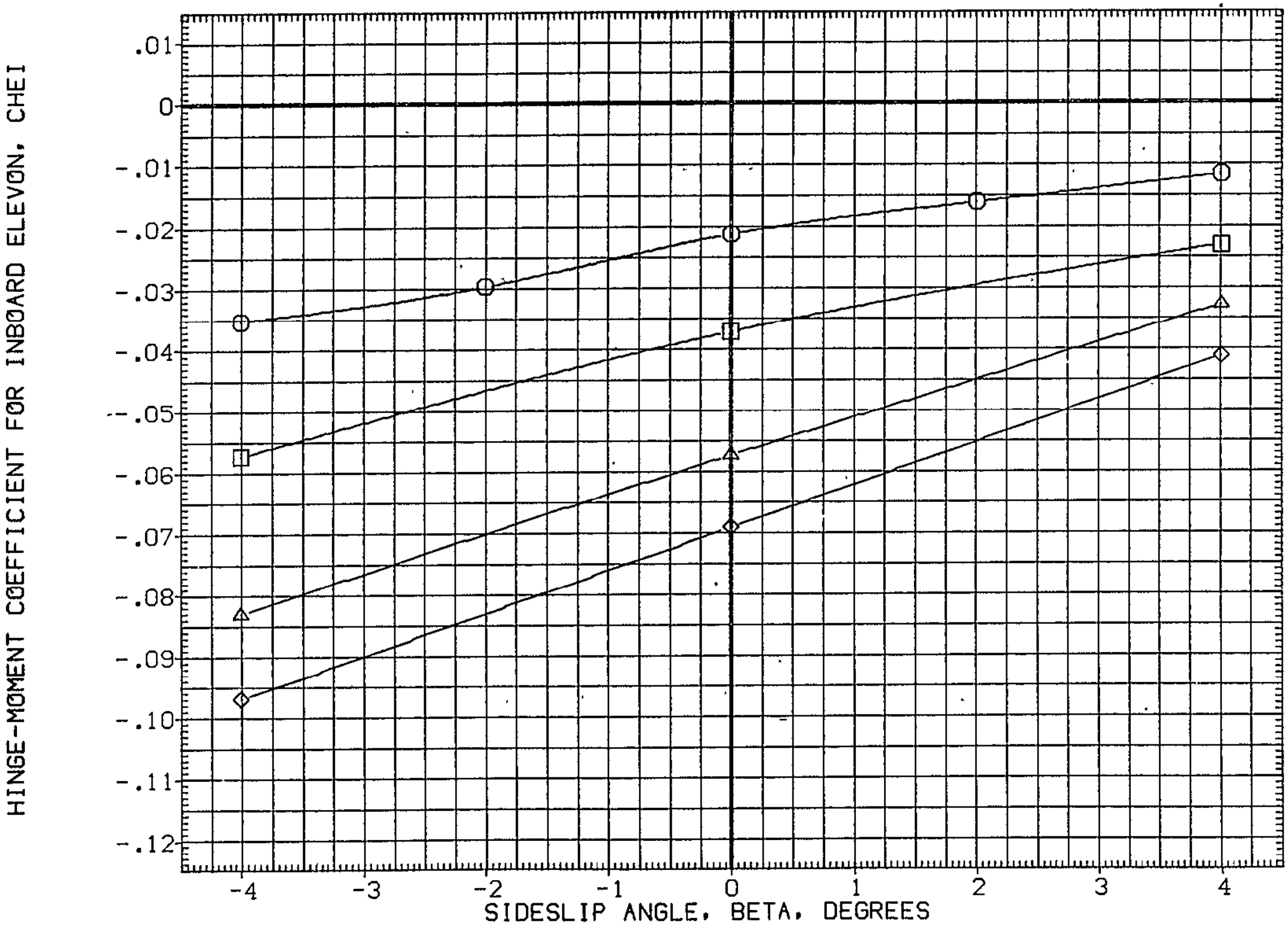


FIG. 57 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	2.600	14.700
(RE5Y31)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	2.600	15.100
(RE5Y61)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	2.600	15.100
(RE5Y55)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

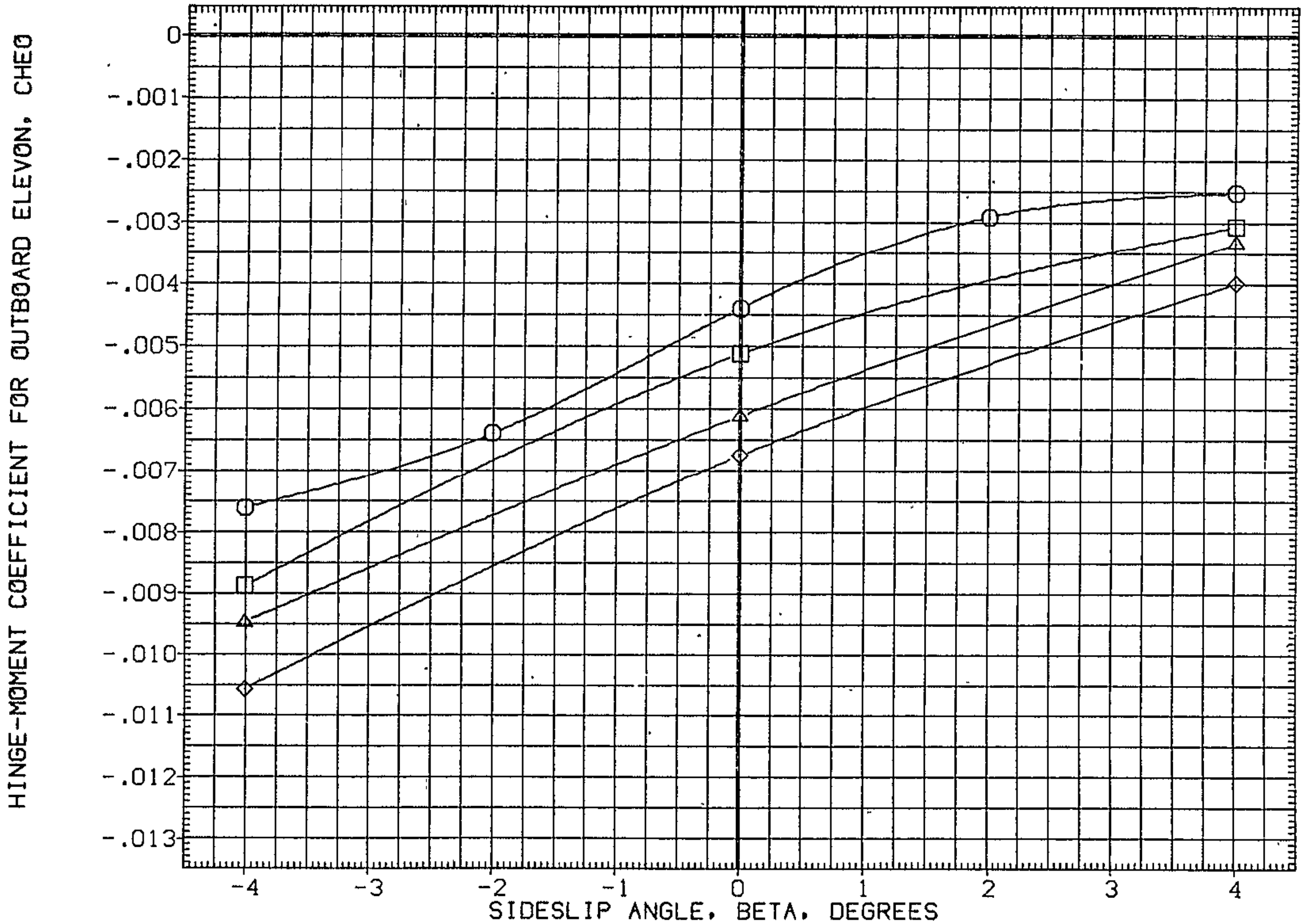


FIG. 57 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

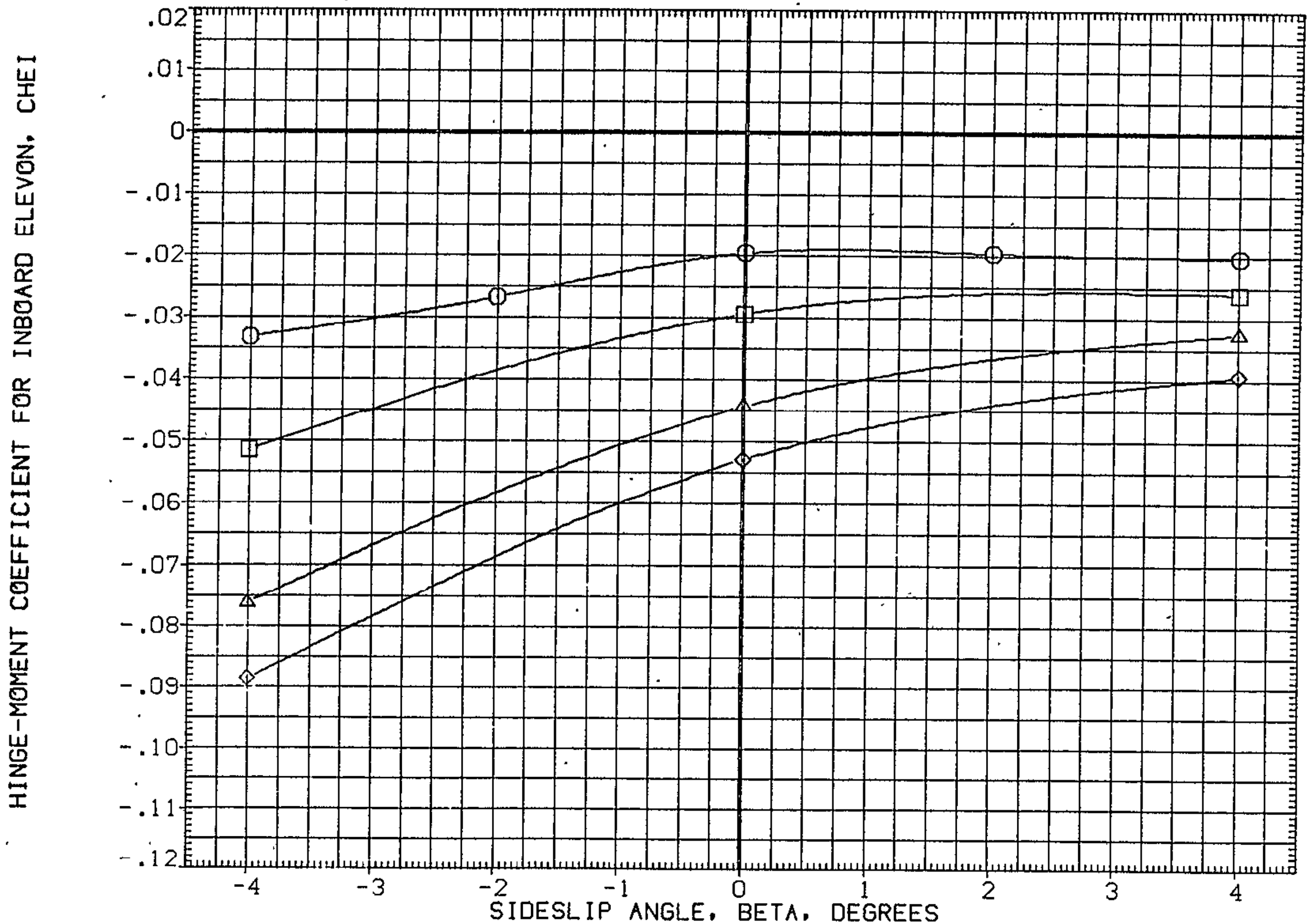


FIG. 58 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y33)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.000	15.100
(RE5Y63)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.000	15.100
(RE5Y57)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

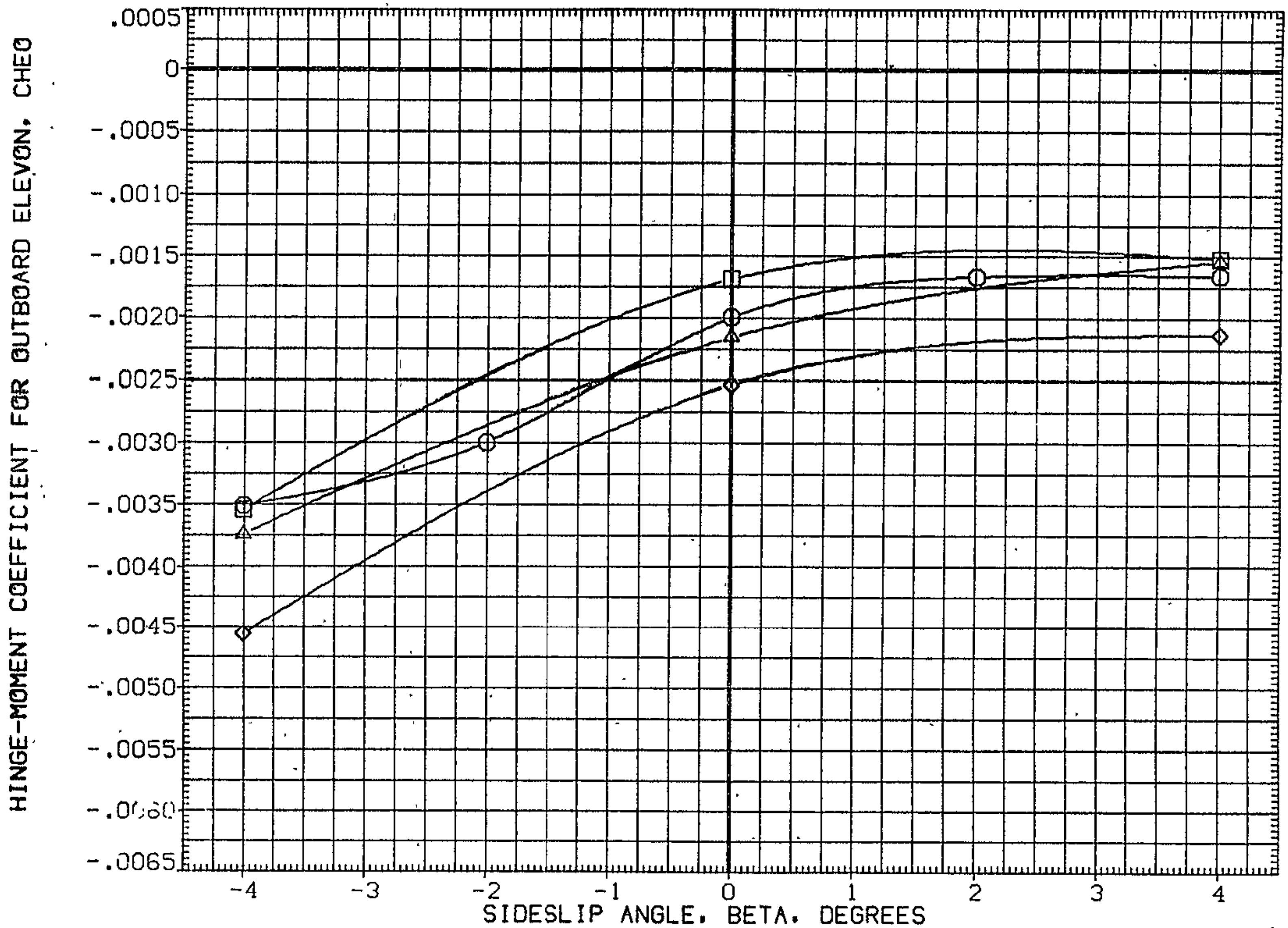


FIG. 58 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5Y65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5Y59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

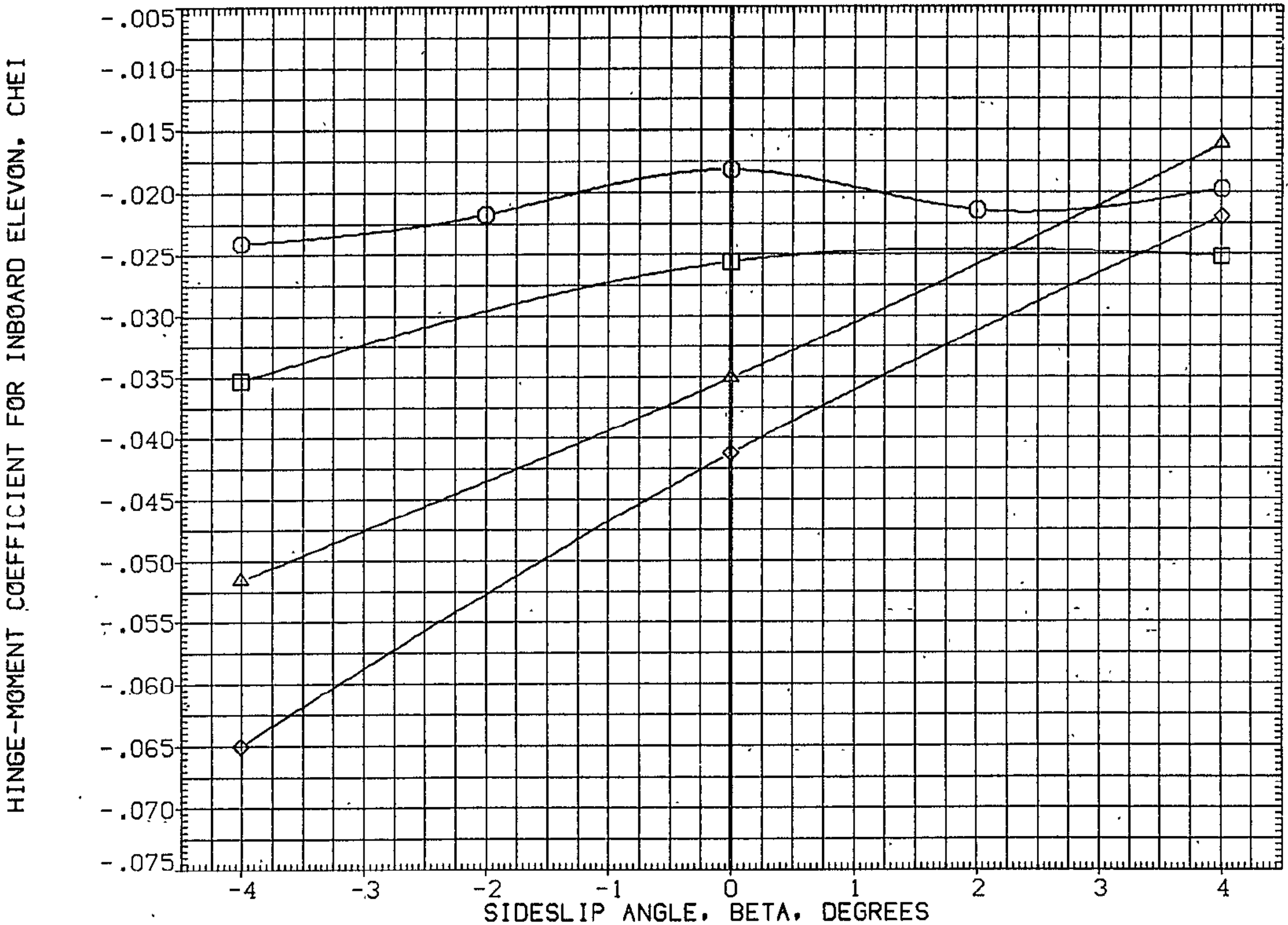


FIG. 59 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y35)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	3.500	15.100
(RE5Y65)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	3.500	15.100
(RE5Y59)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

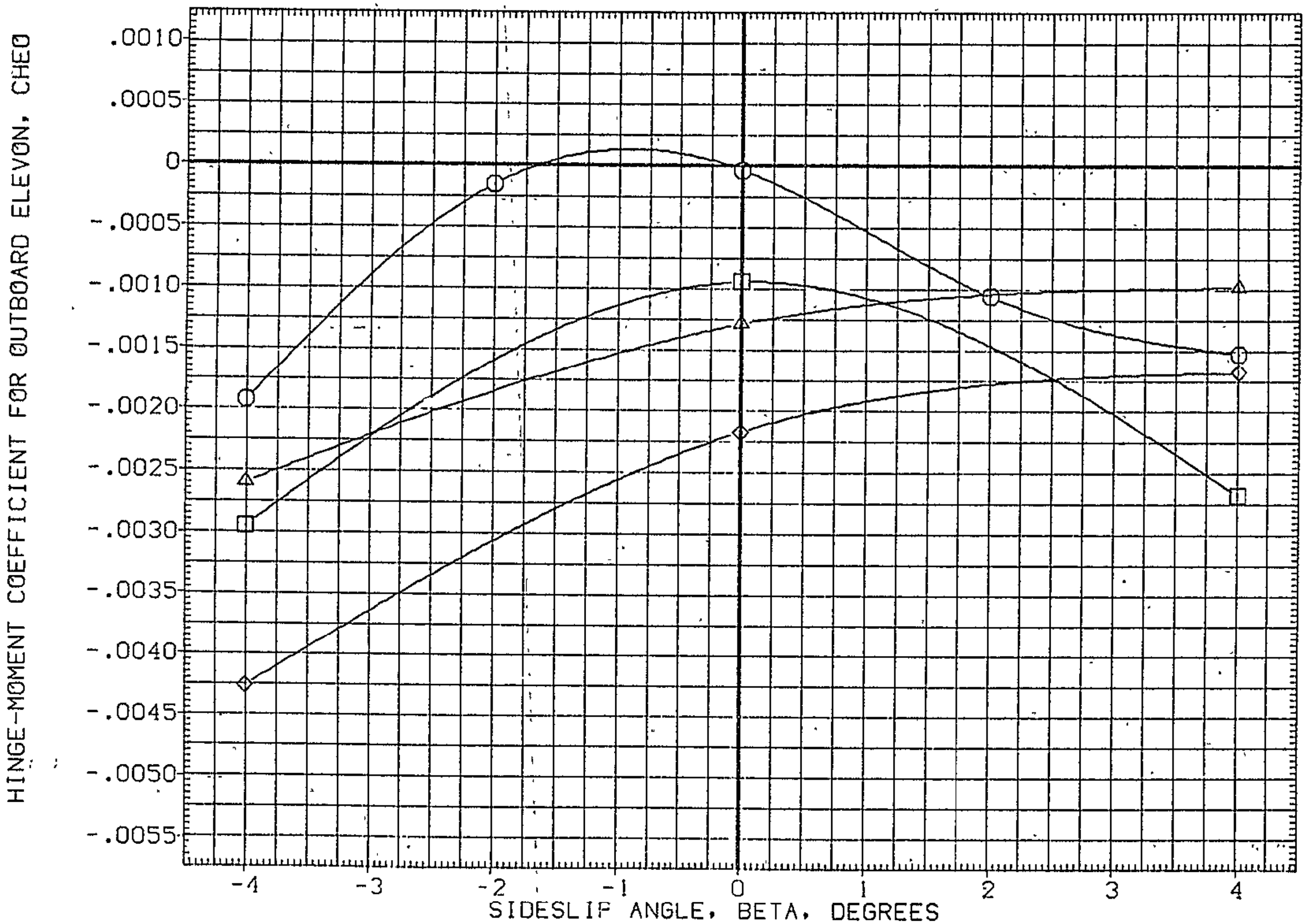


FIG. 59 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

C-4

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

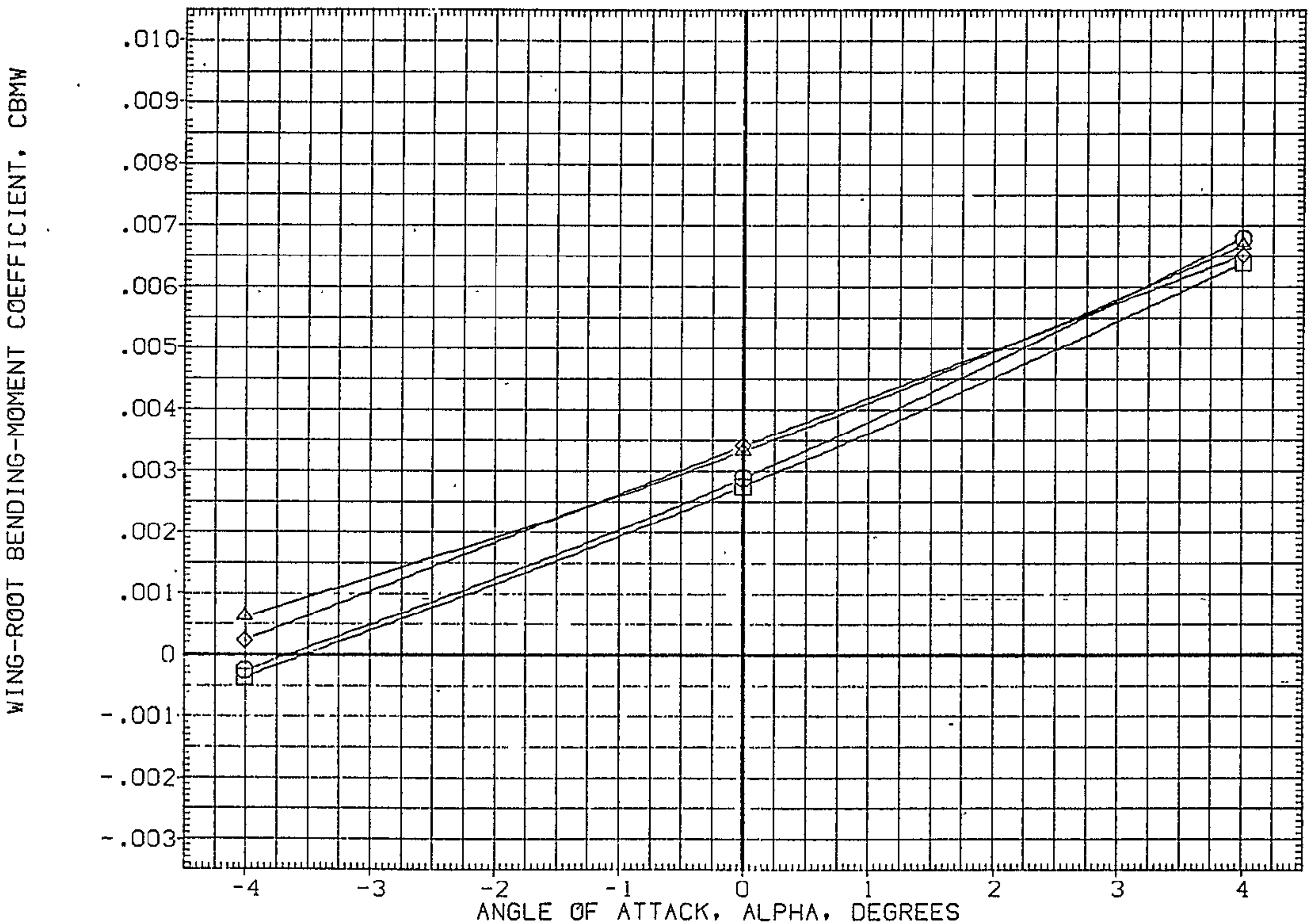


FIG. 60 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

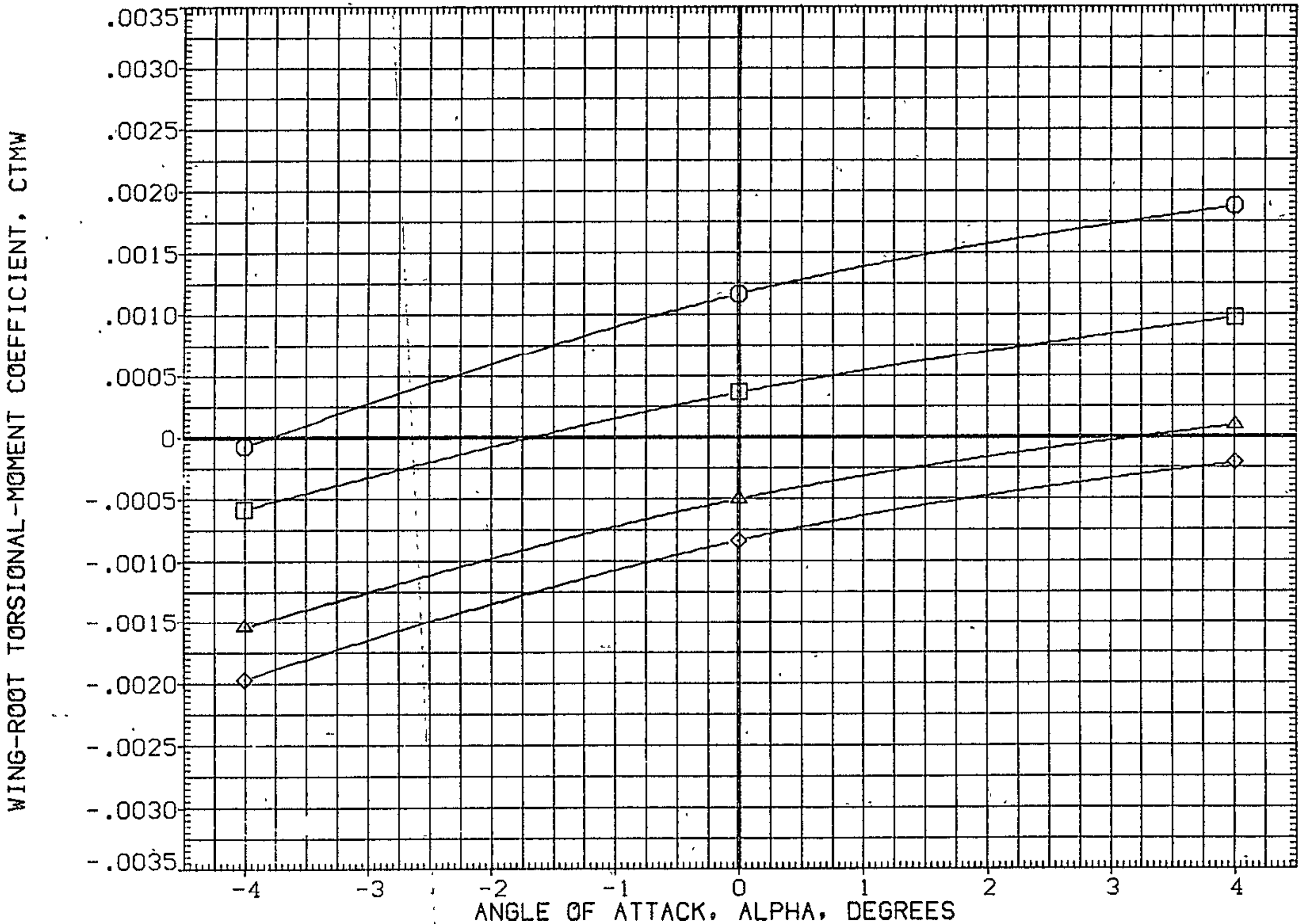


FIG. 60 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

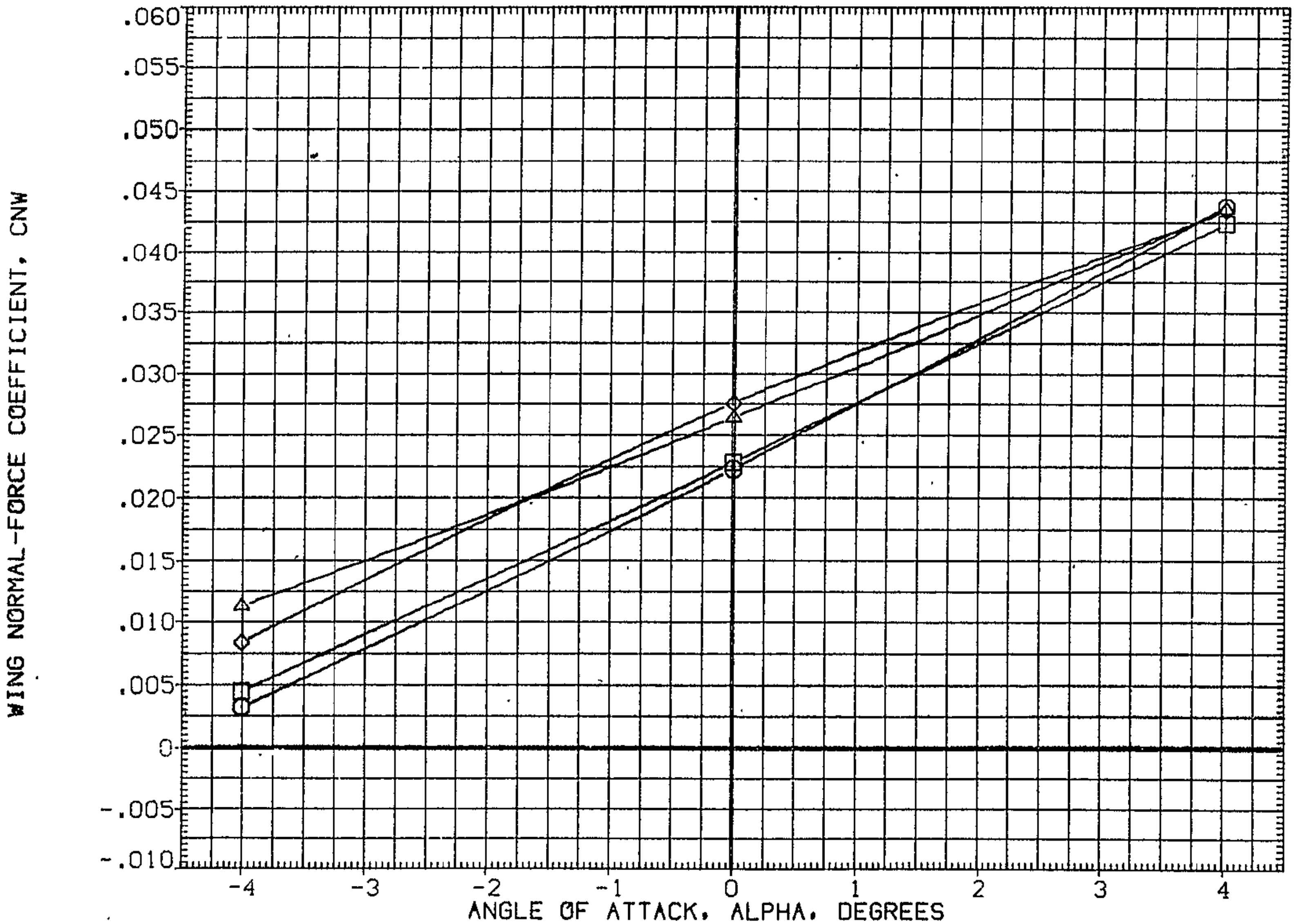


FIG. 60 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

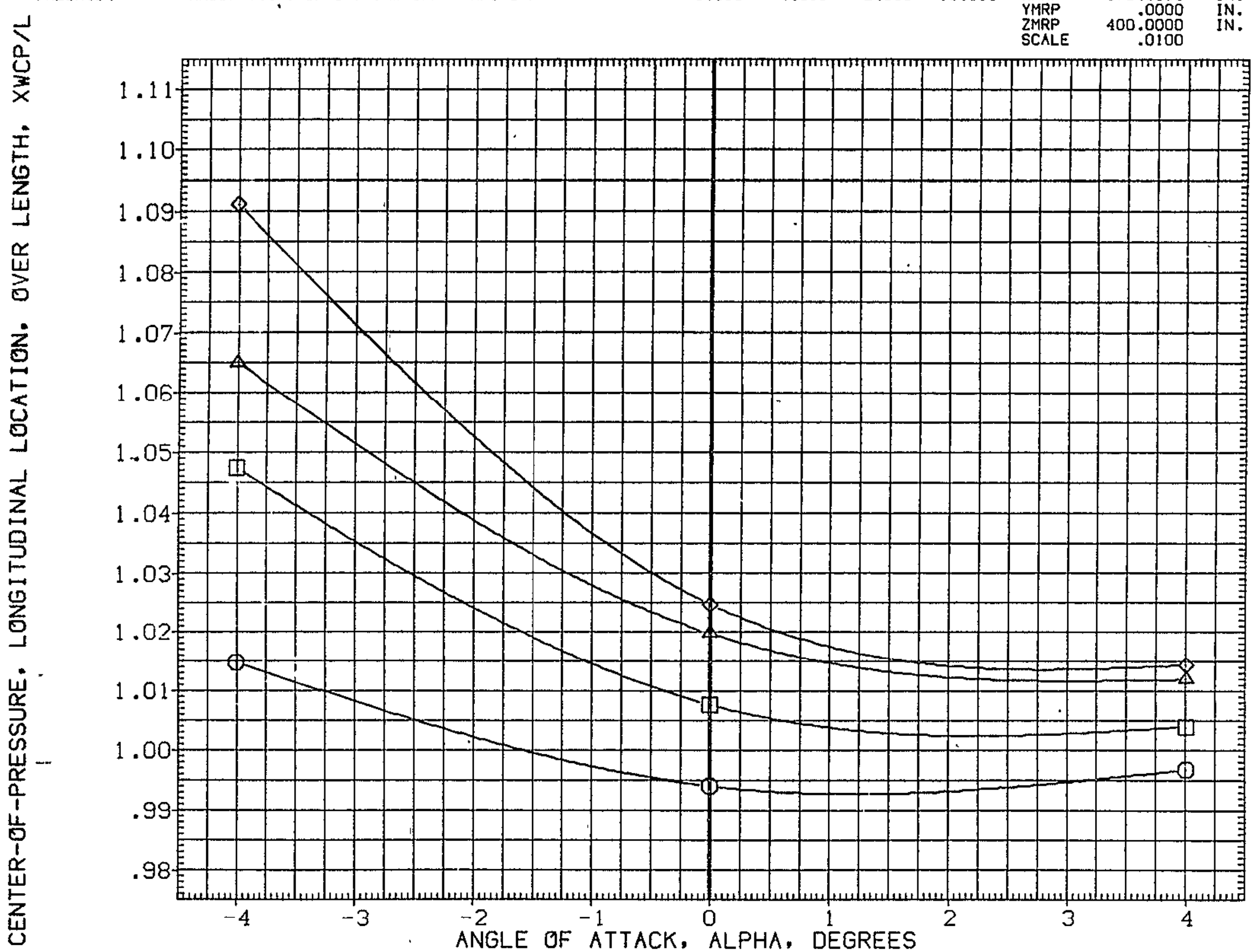


FIG. 60 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

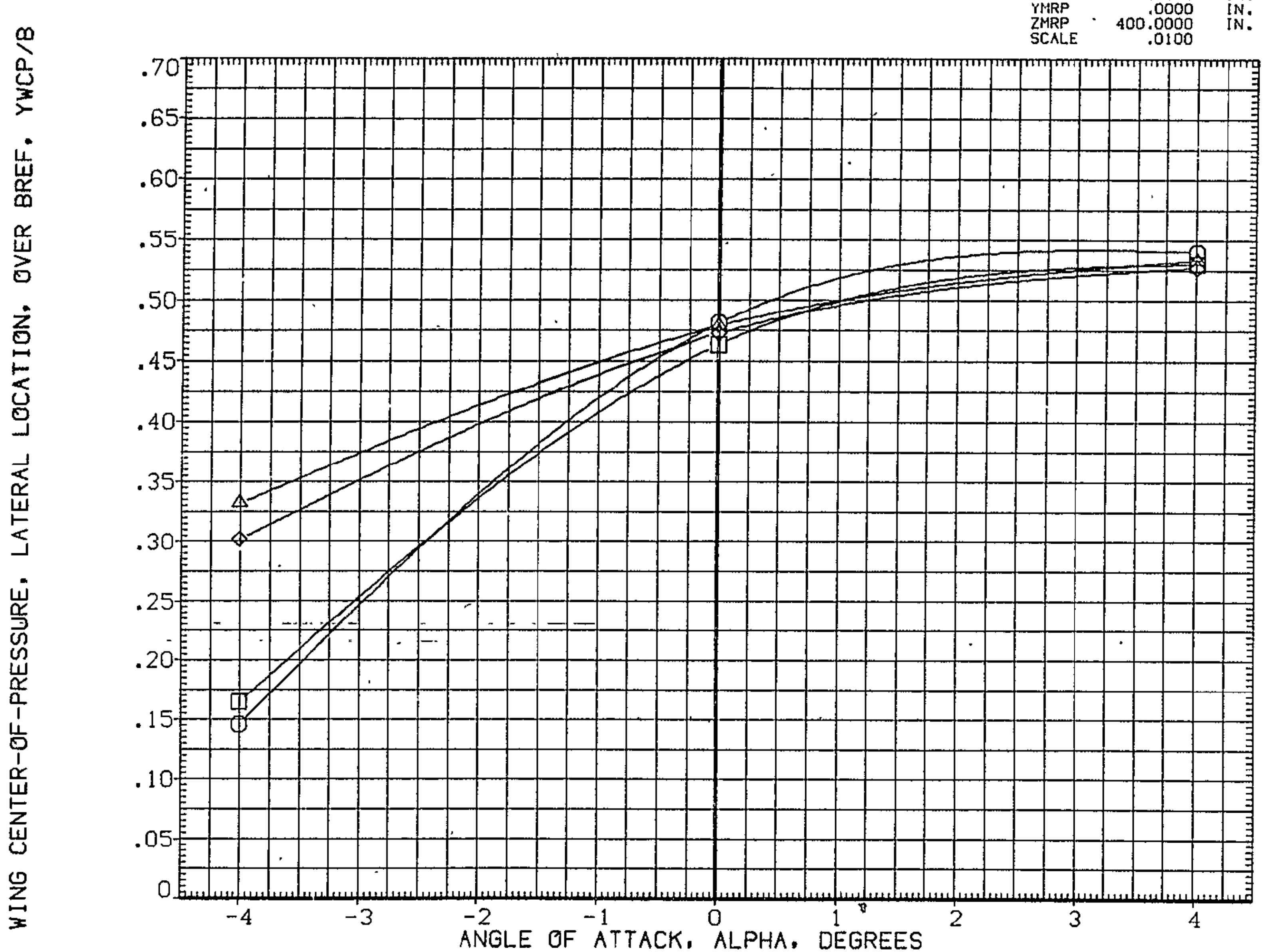


FIG. 60 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5X44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5X50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

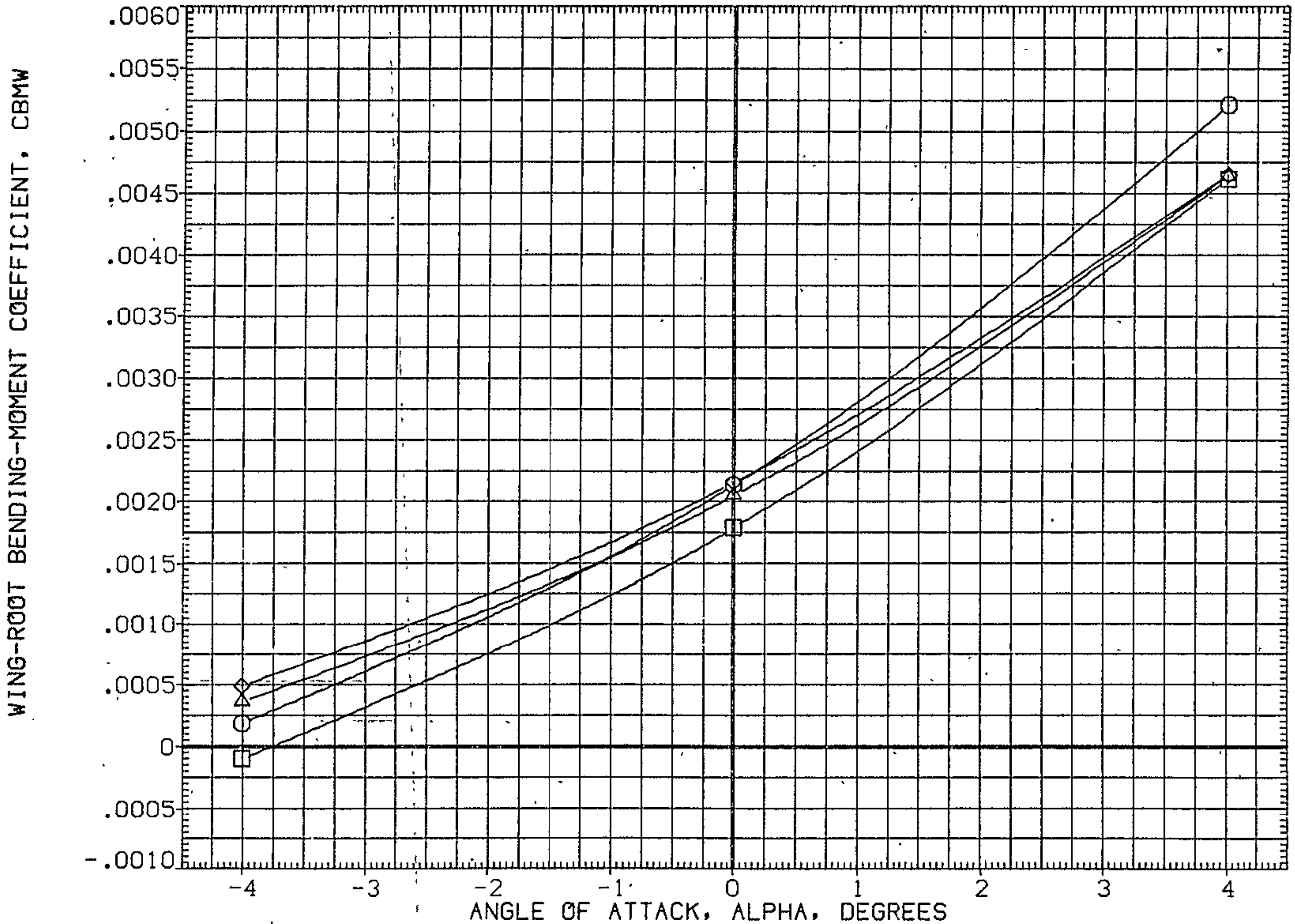


FIG. 61 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5X44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5X50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

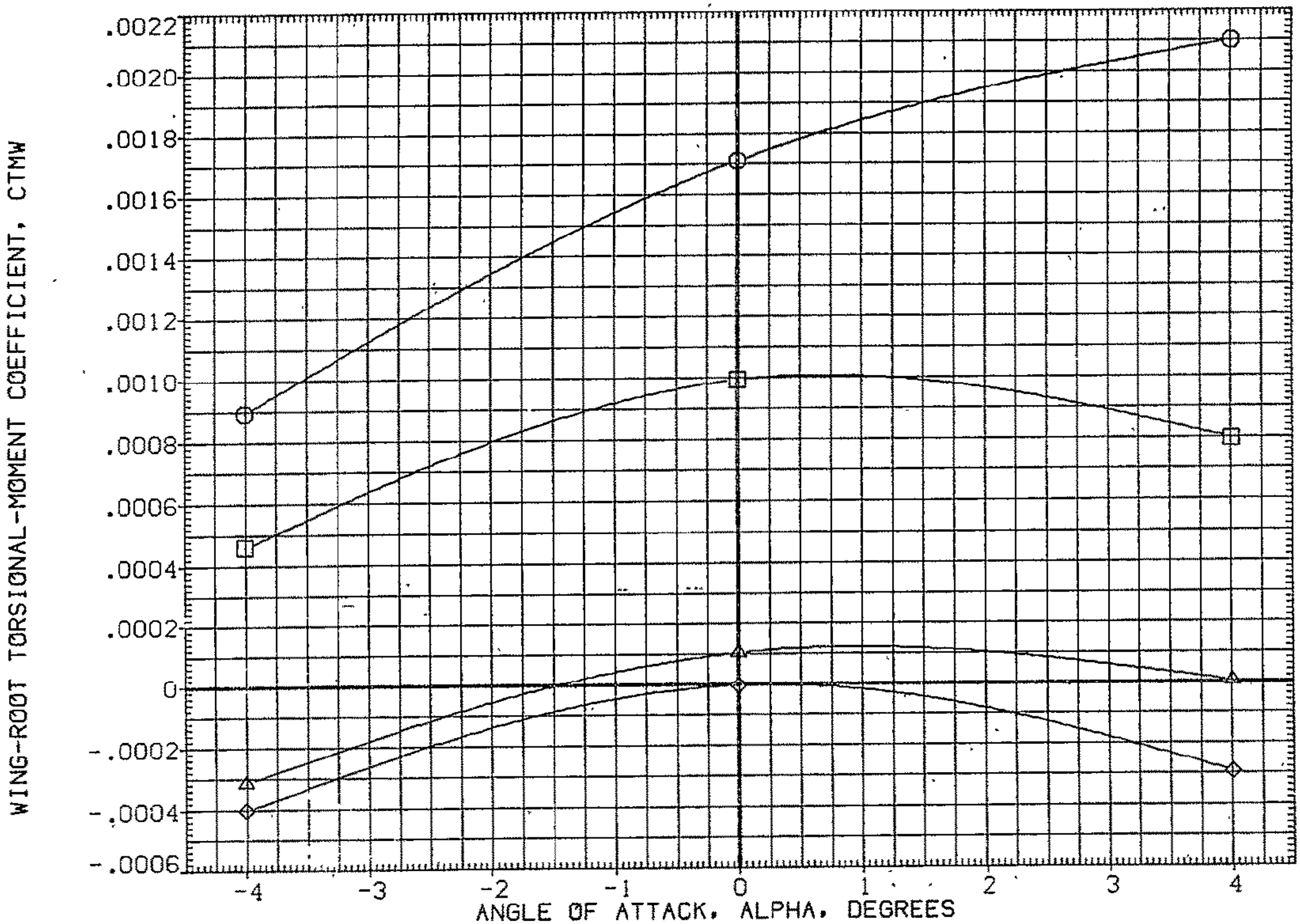


FIG. 61 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5X44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5X50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

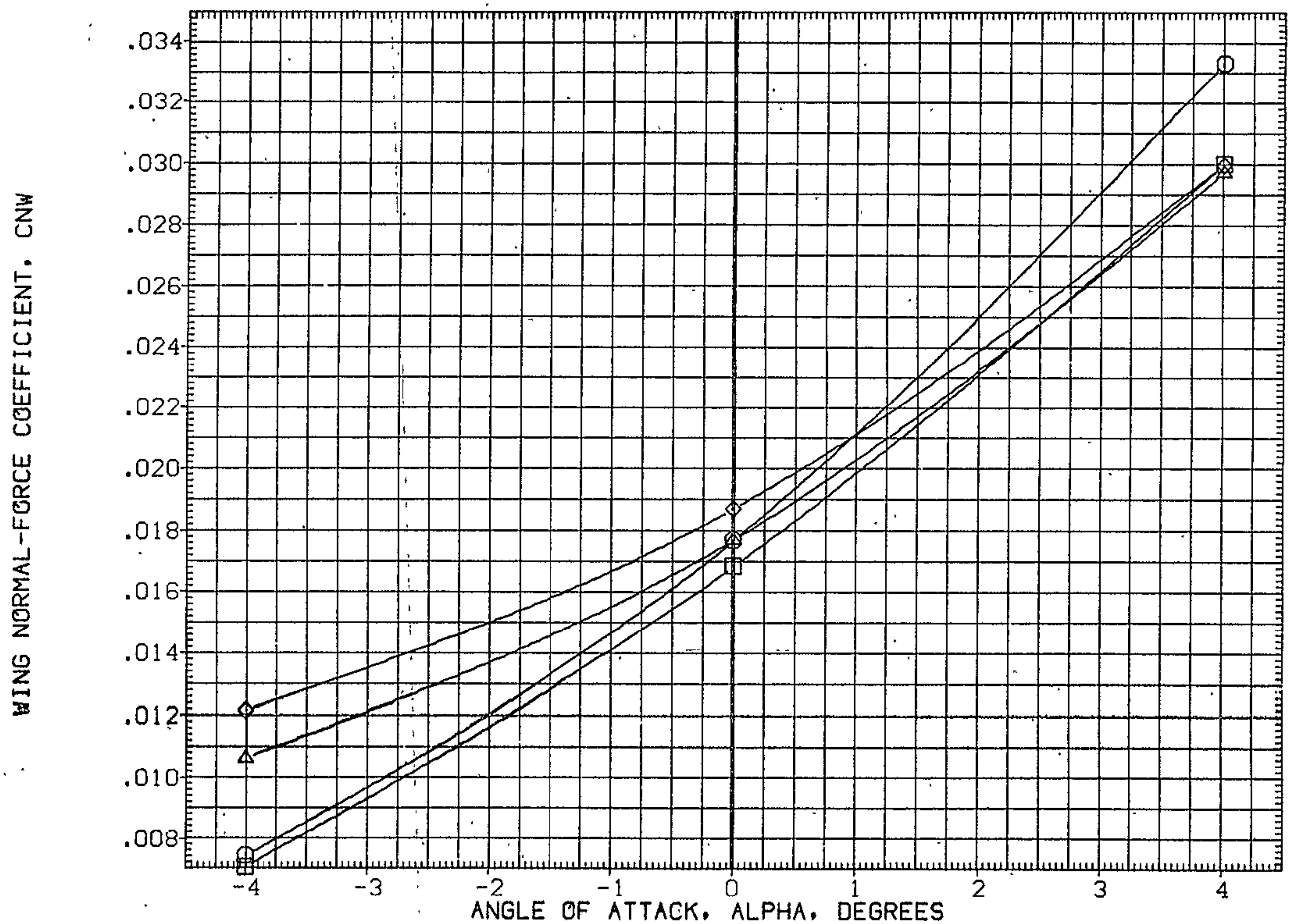


FIG. 61 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5X44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5X50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

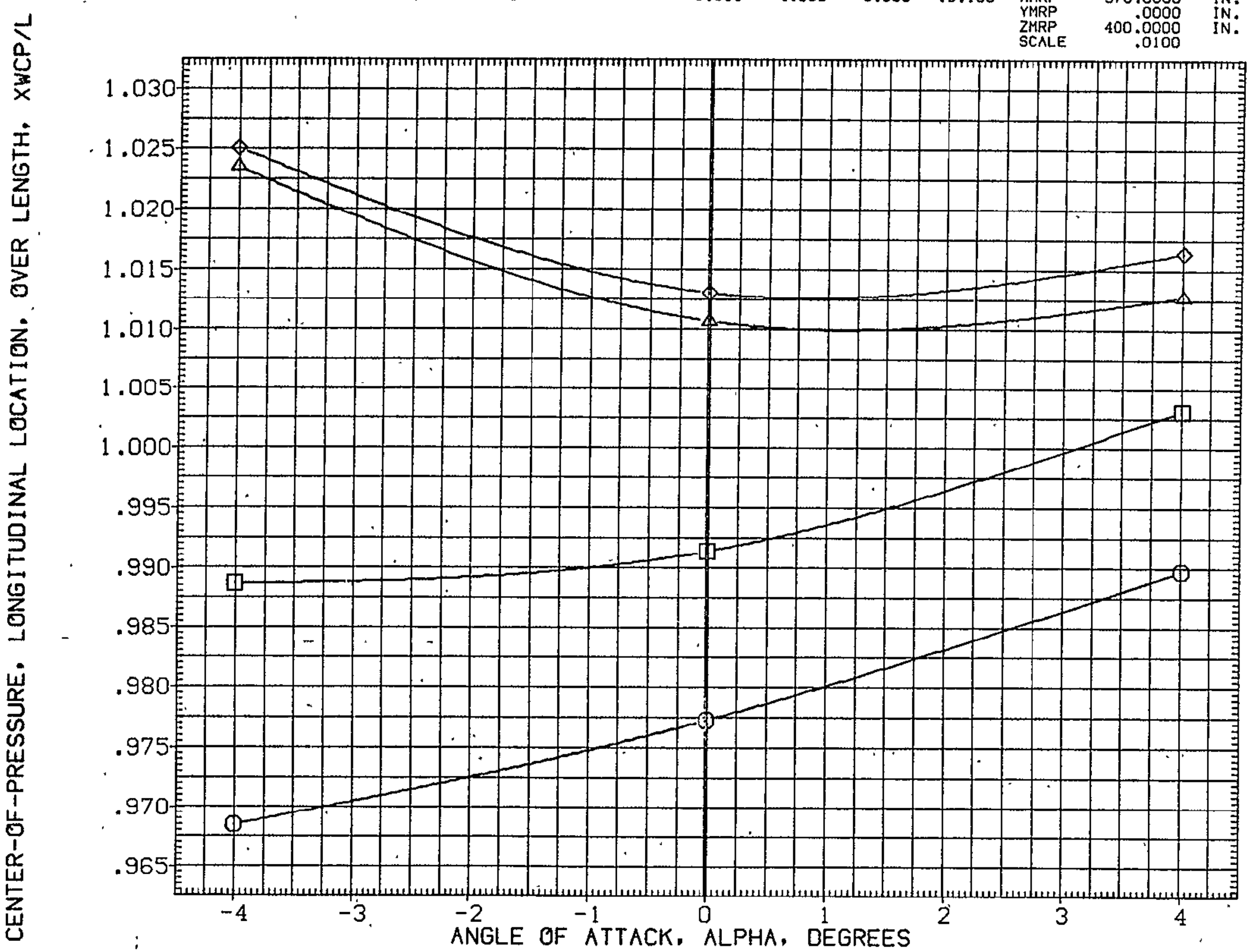


FIG. 61 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
RE5X01	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
RE5X38	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
RE5X44	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
RE5X50	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

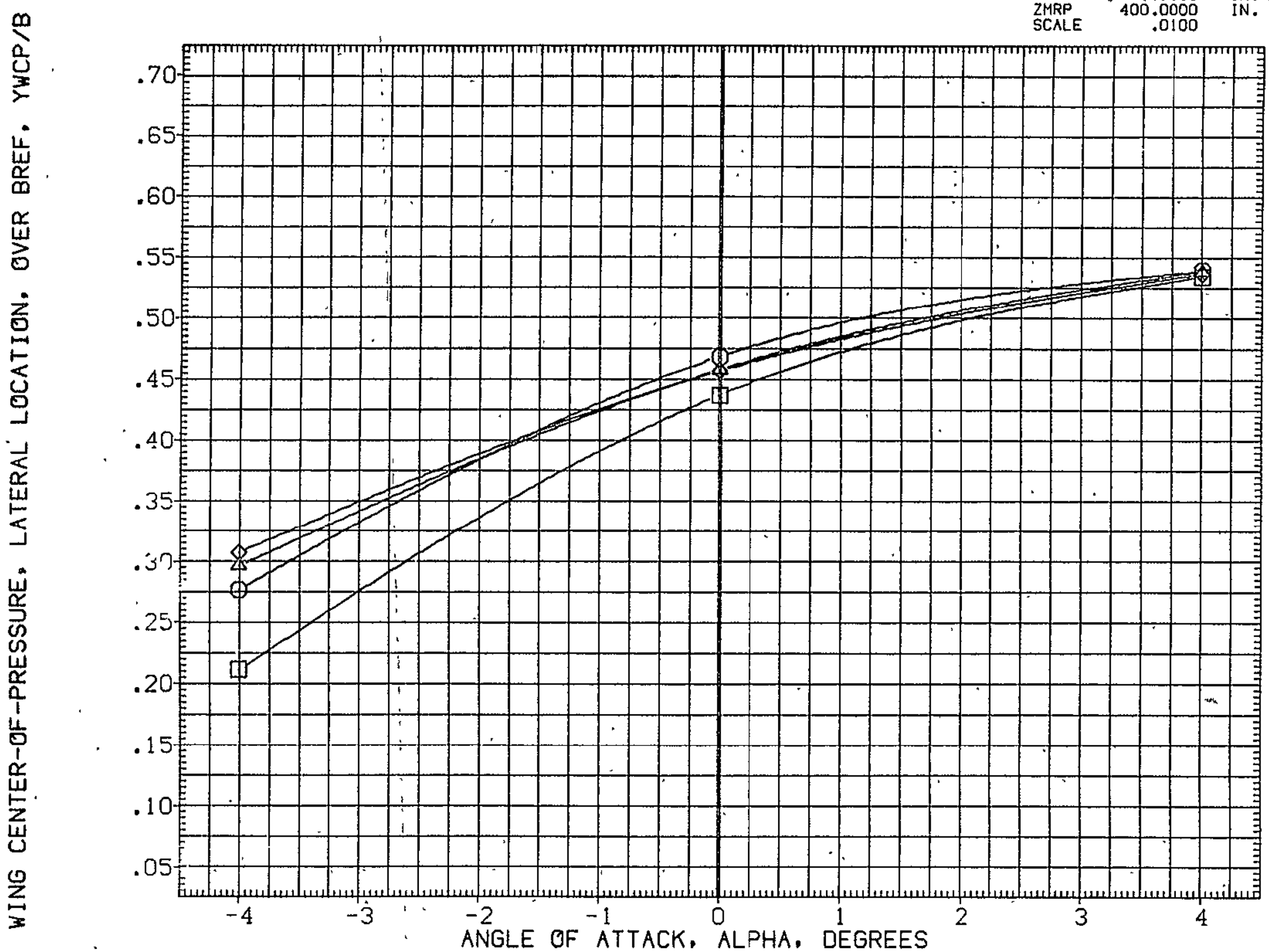


FIG. 61 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

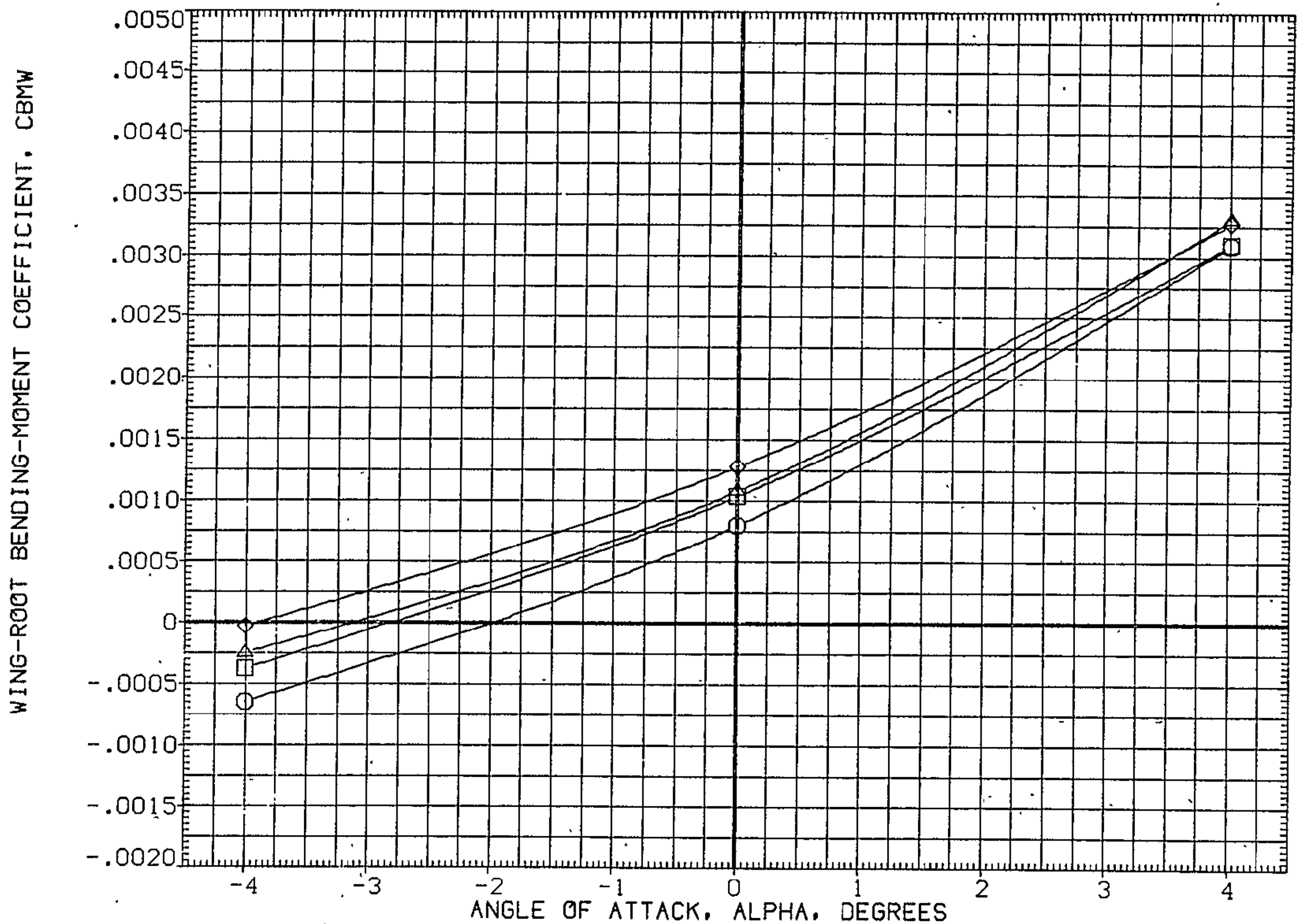


FIG. 62 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

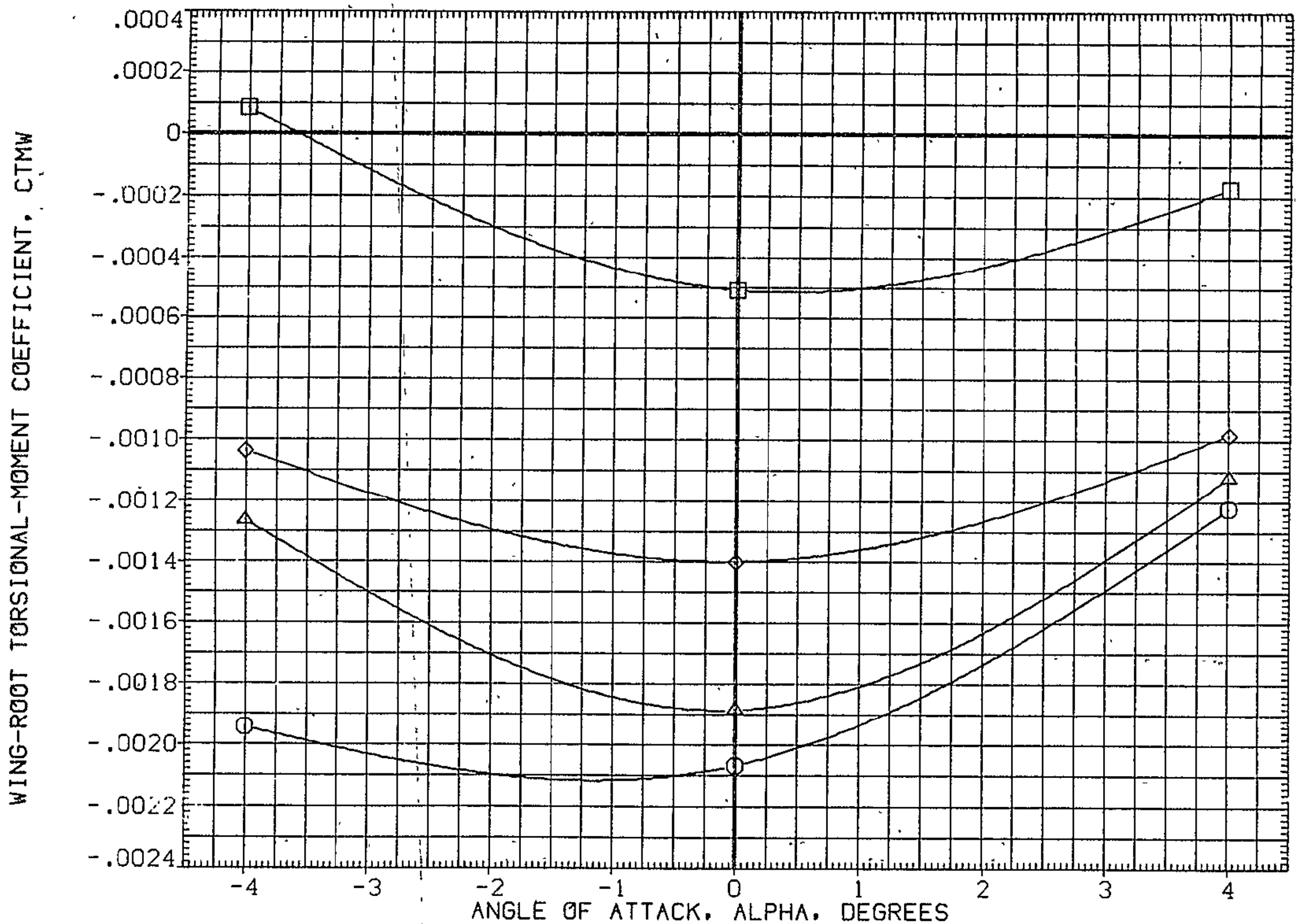


FIG. 62 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

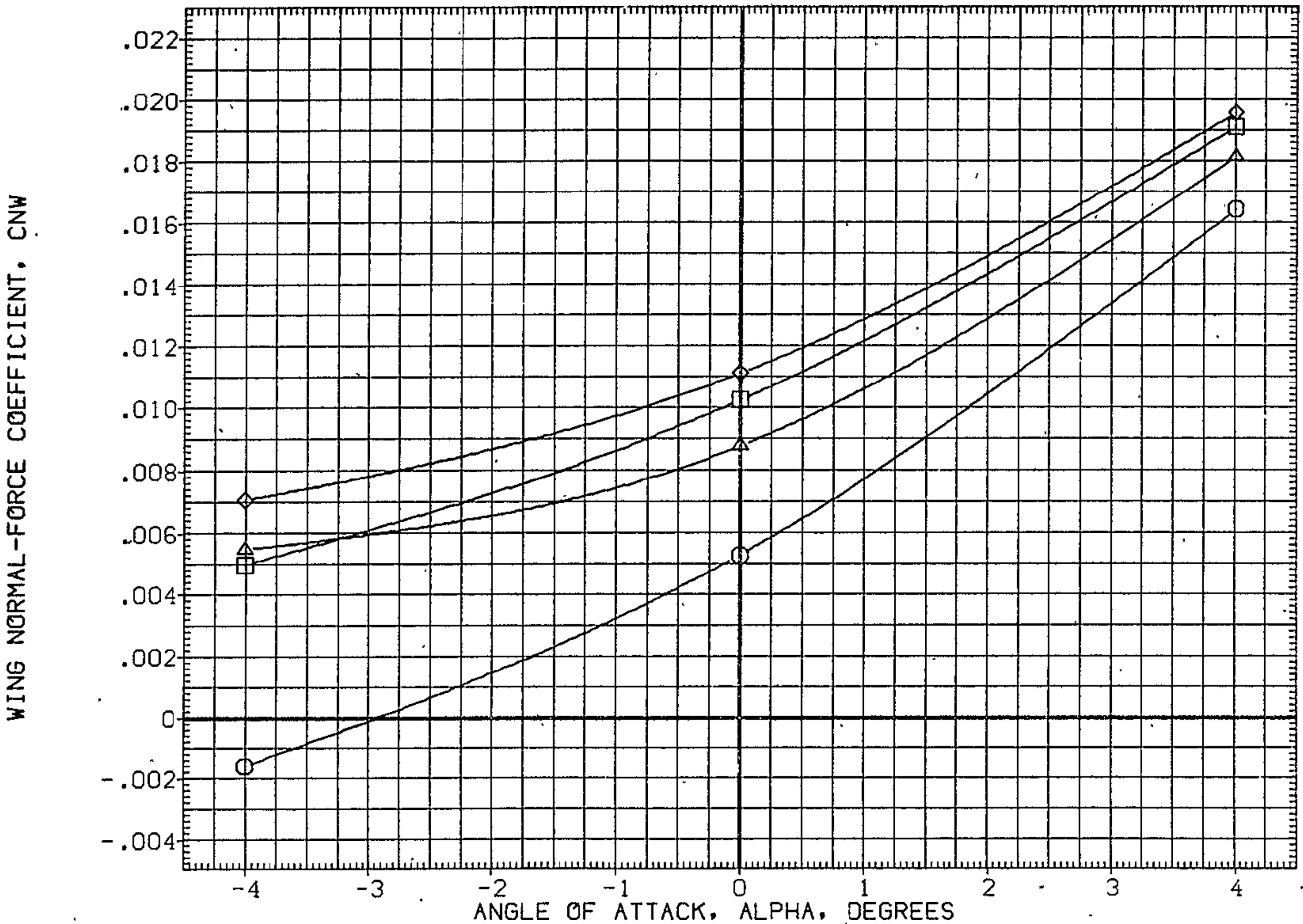


FIG. 62 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

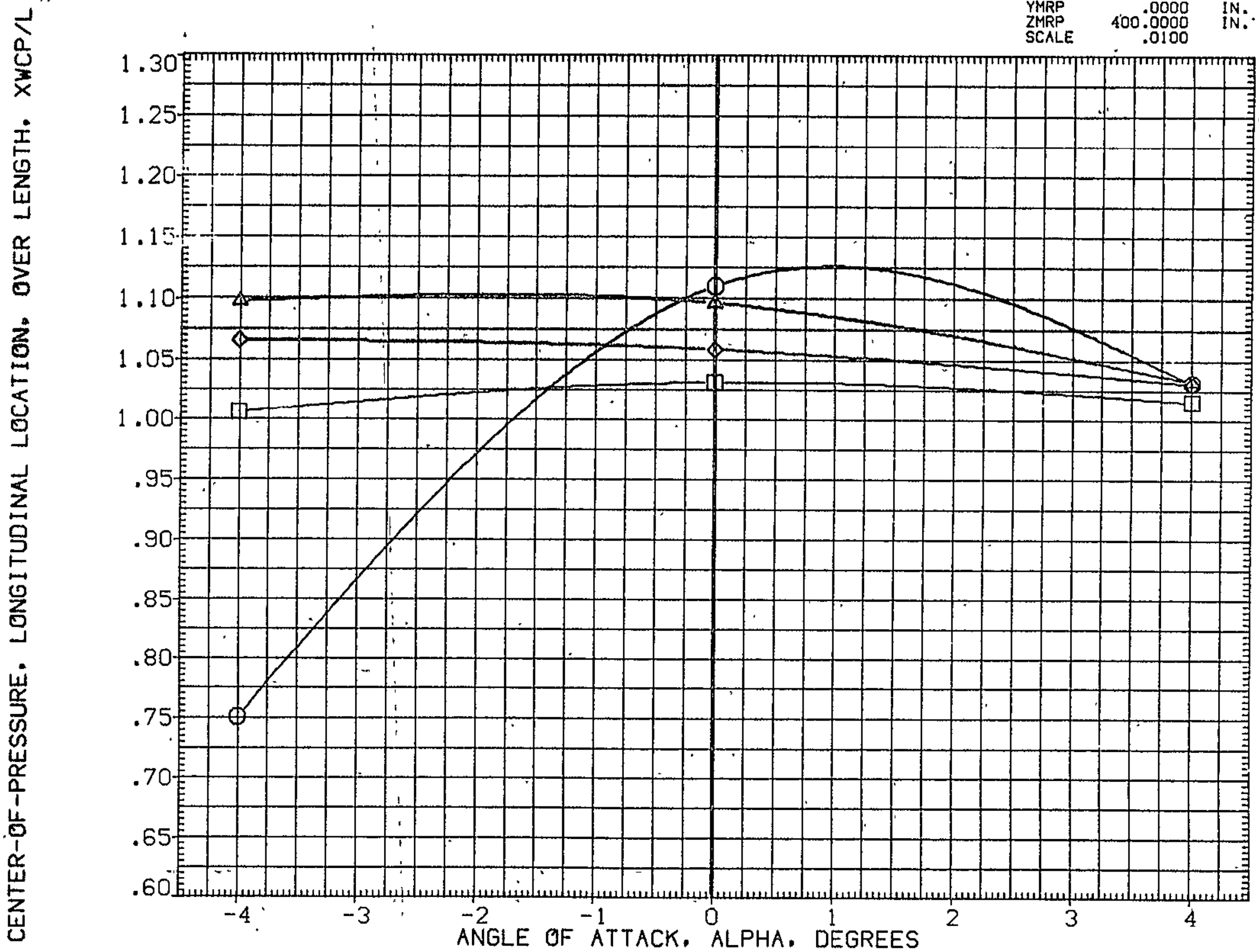


FIG. 62 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

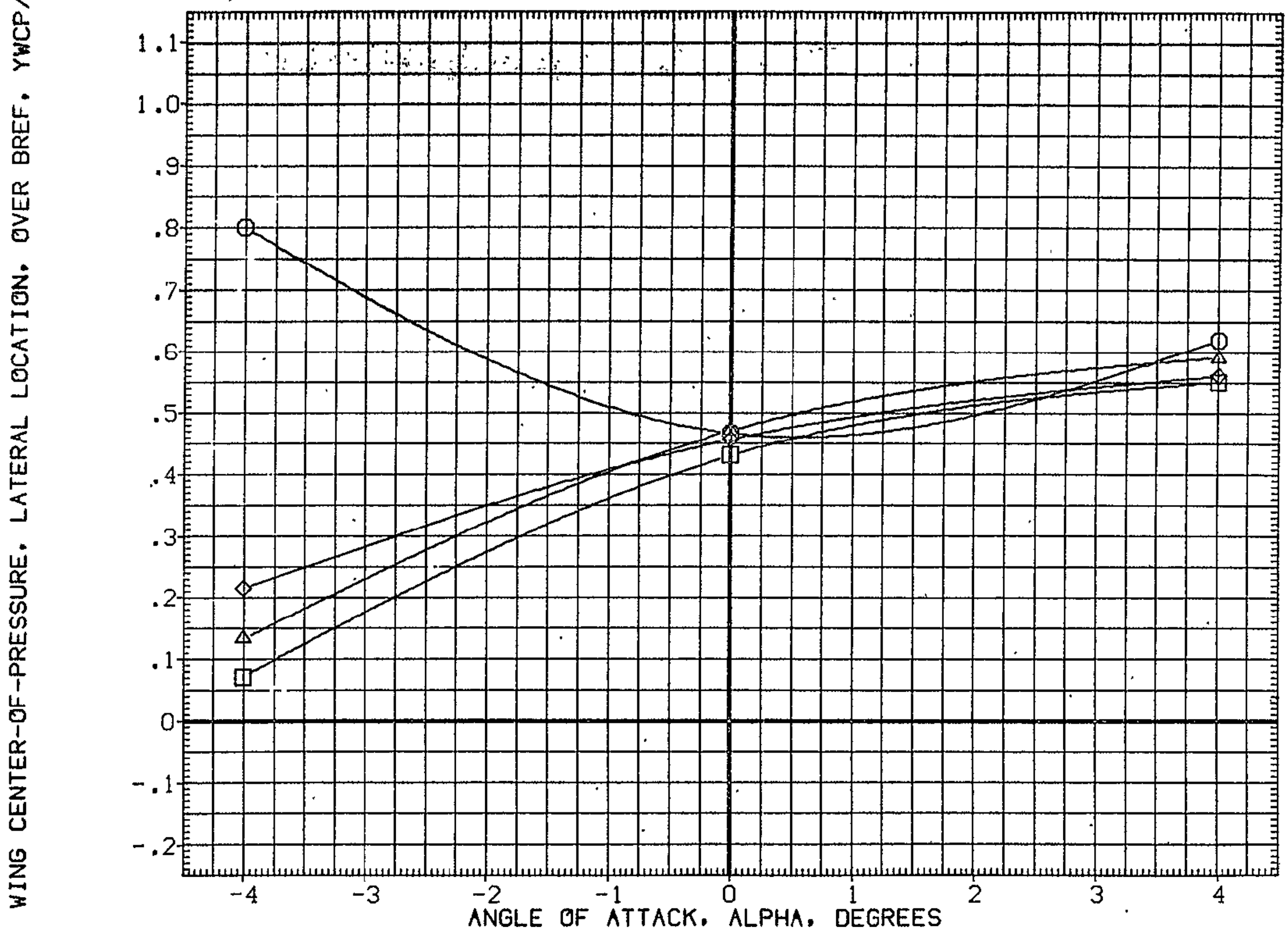


FIG. 62 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

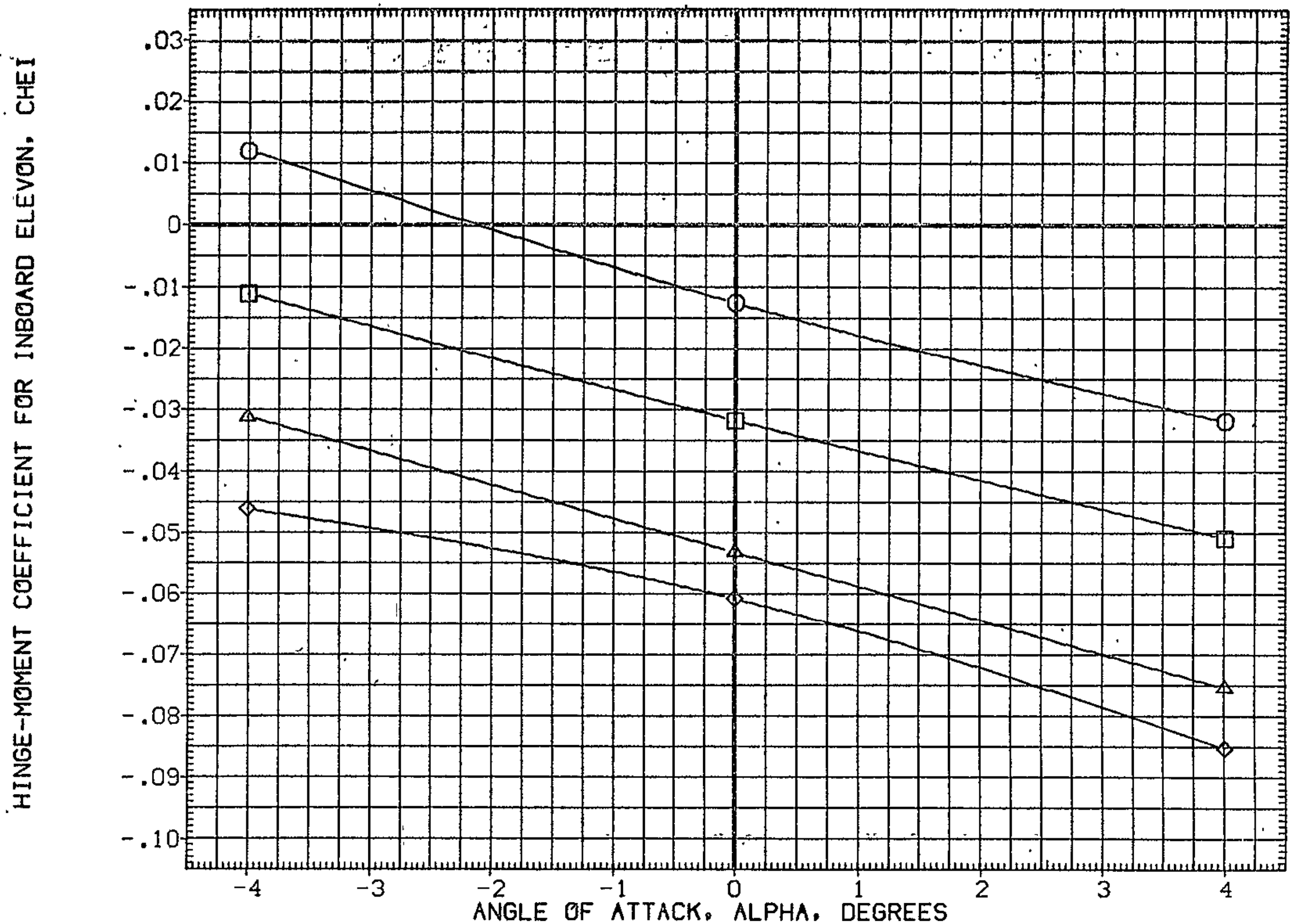


FIG. 63 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5X36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5X42)	⧖	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5X48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

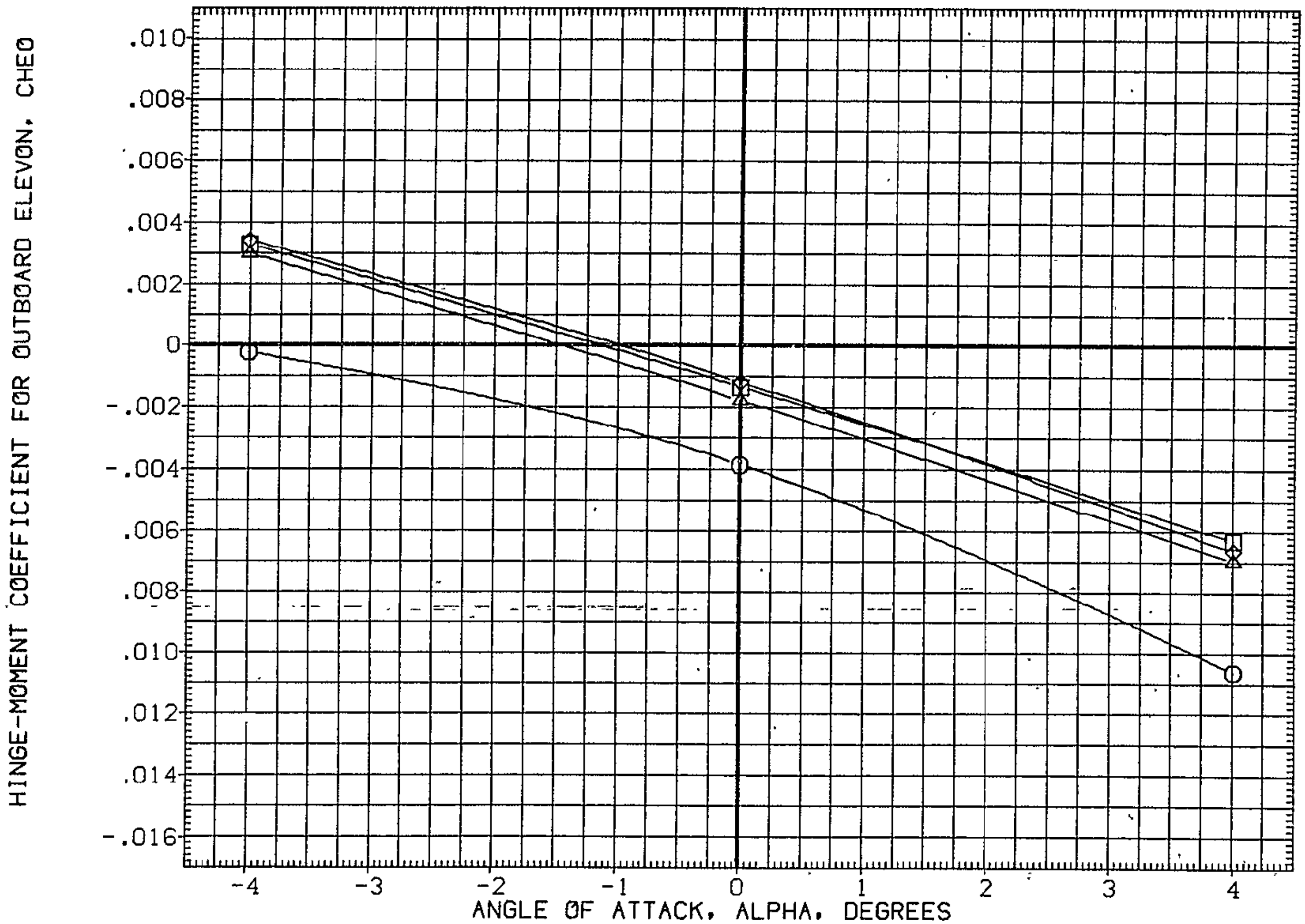


FIG. 63 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5X44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5X50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

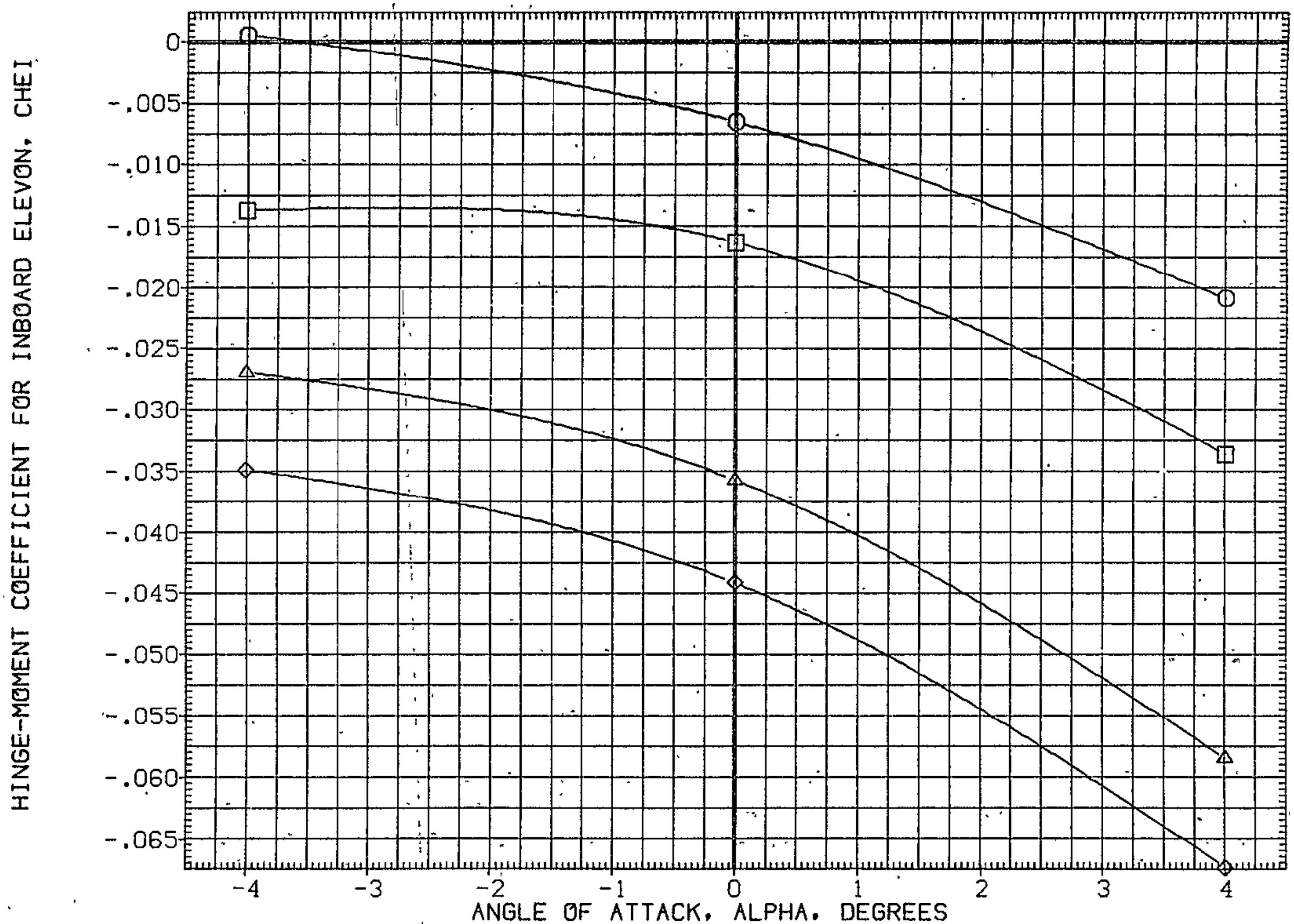


FIG. 64 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5X38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5X44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5X50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

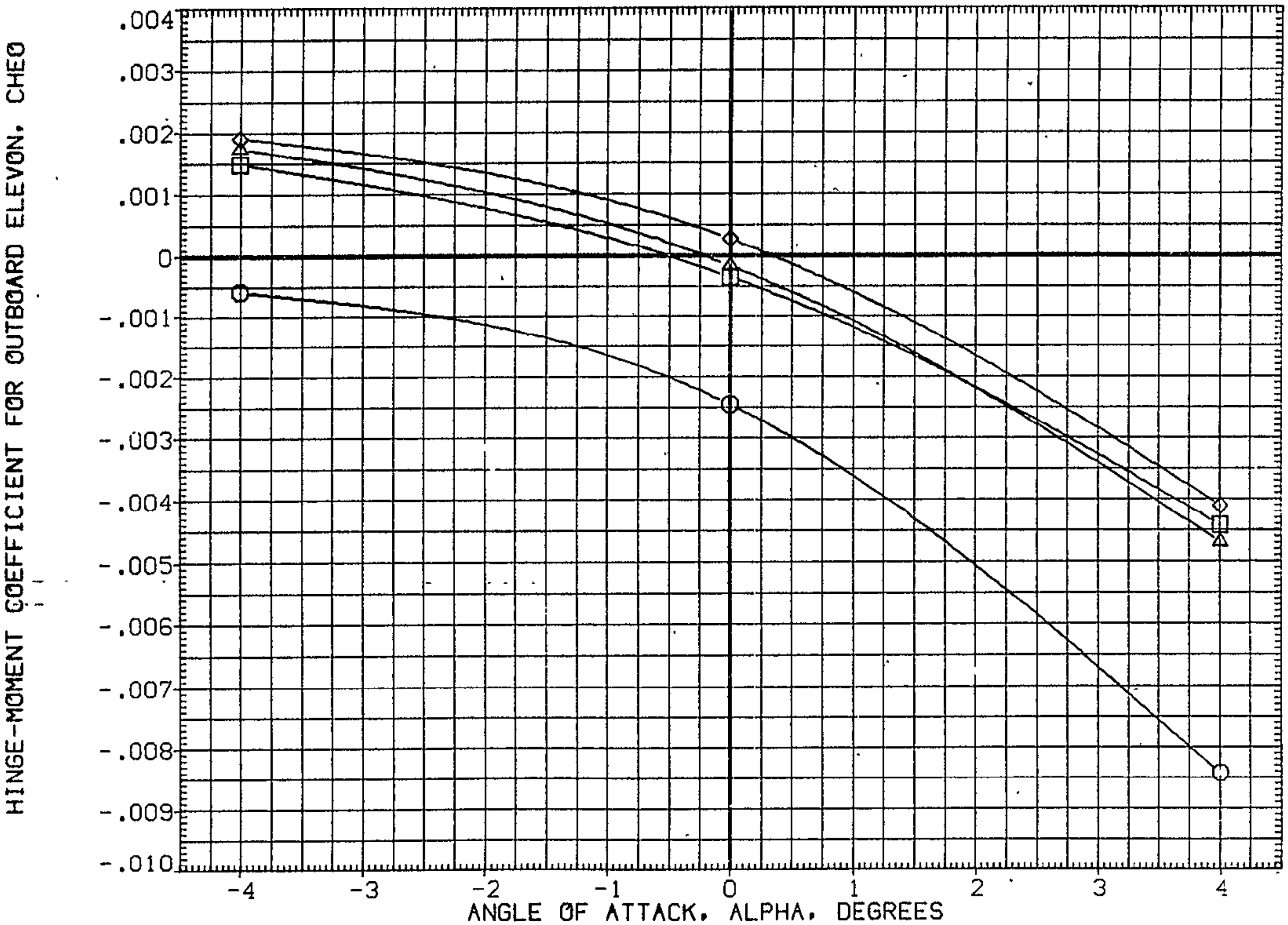


FIG. 64 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF,MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

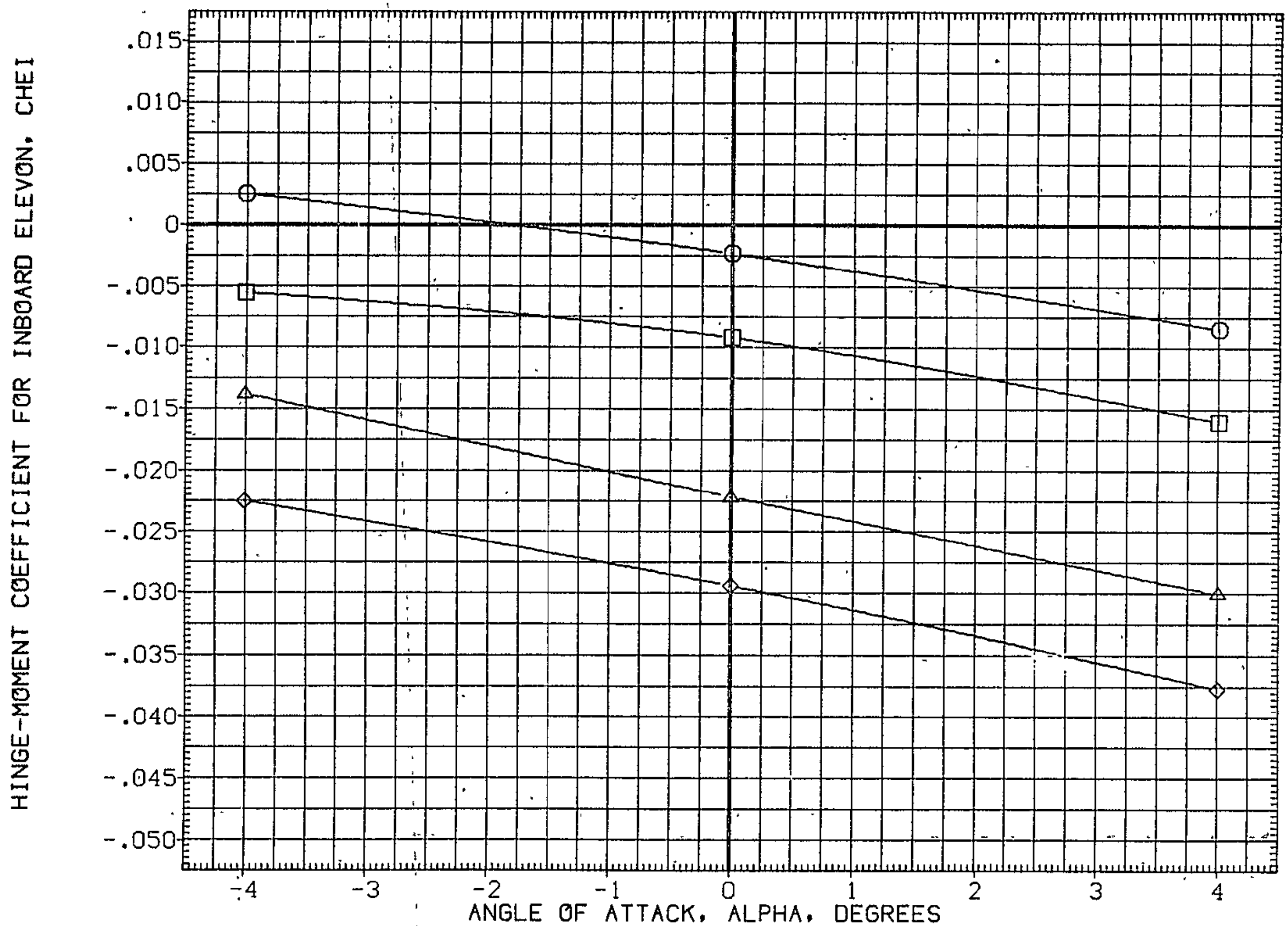


FIG. 65 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5X40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5X46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5X52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

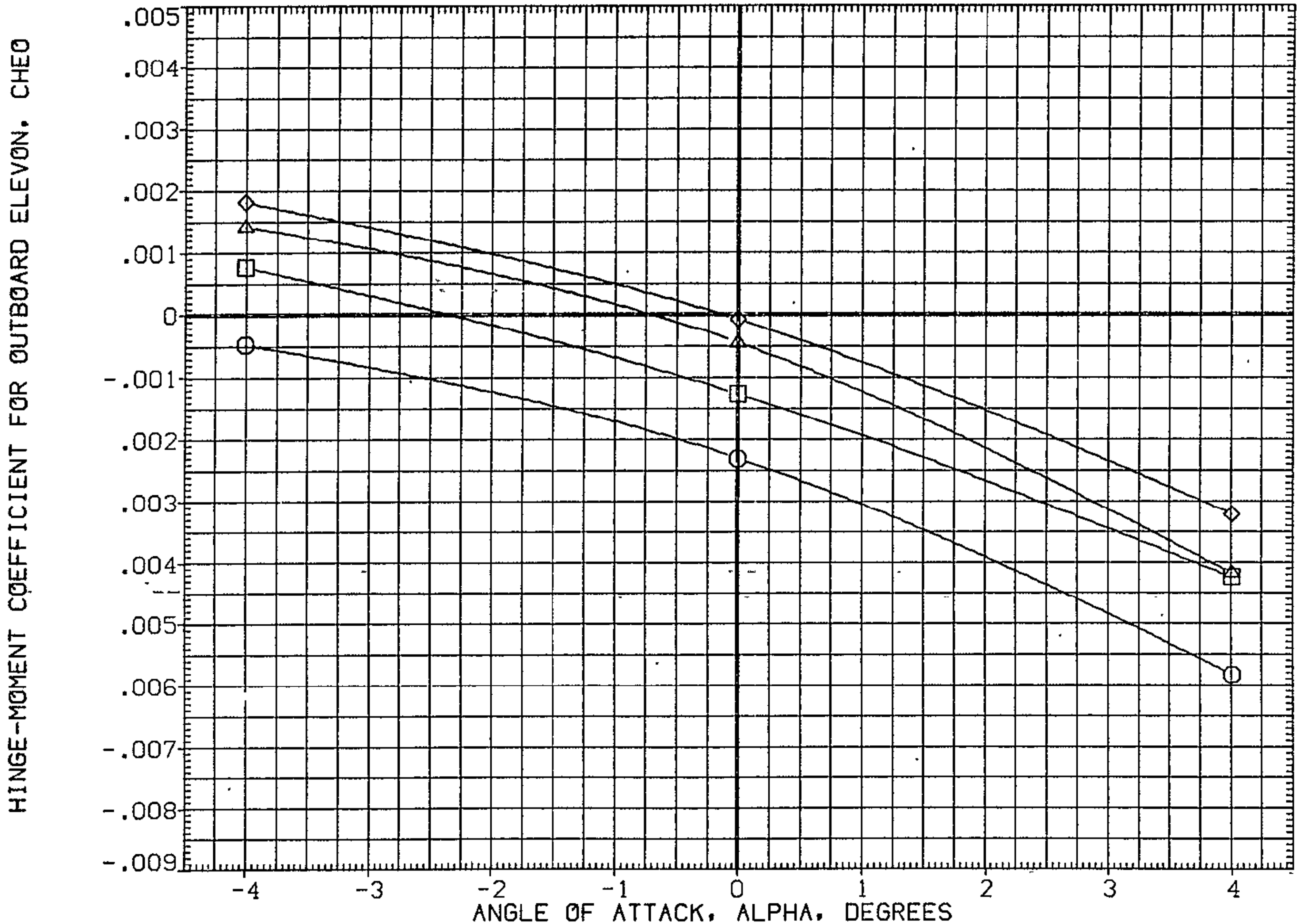


FIG. 65 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER OFF, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	.000	.000	2.600	14.700
(RE5Y36)	□	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	4.000	-4.000	2.600	15.100
(RE5Y42)	◇	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	10.000	-4.000	2.600	15.100
(RE5Y48)	△	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

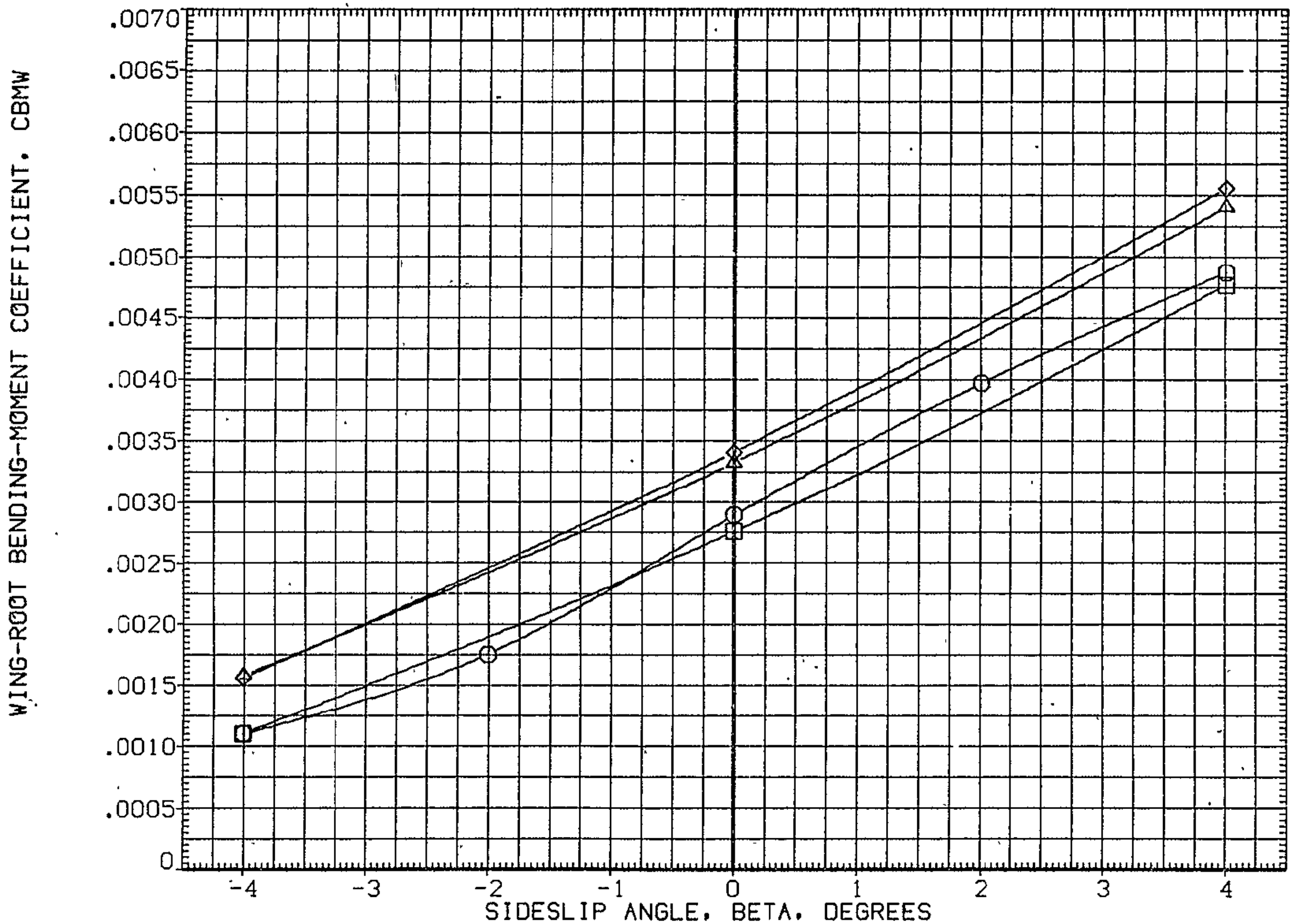


FIG. 66 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = . .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5Y42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5Y48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

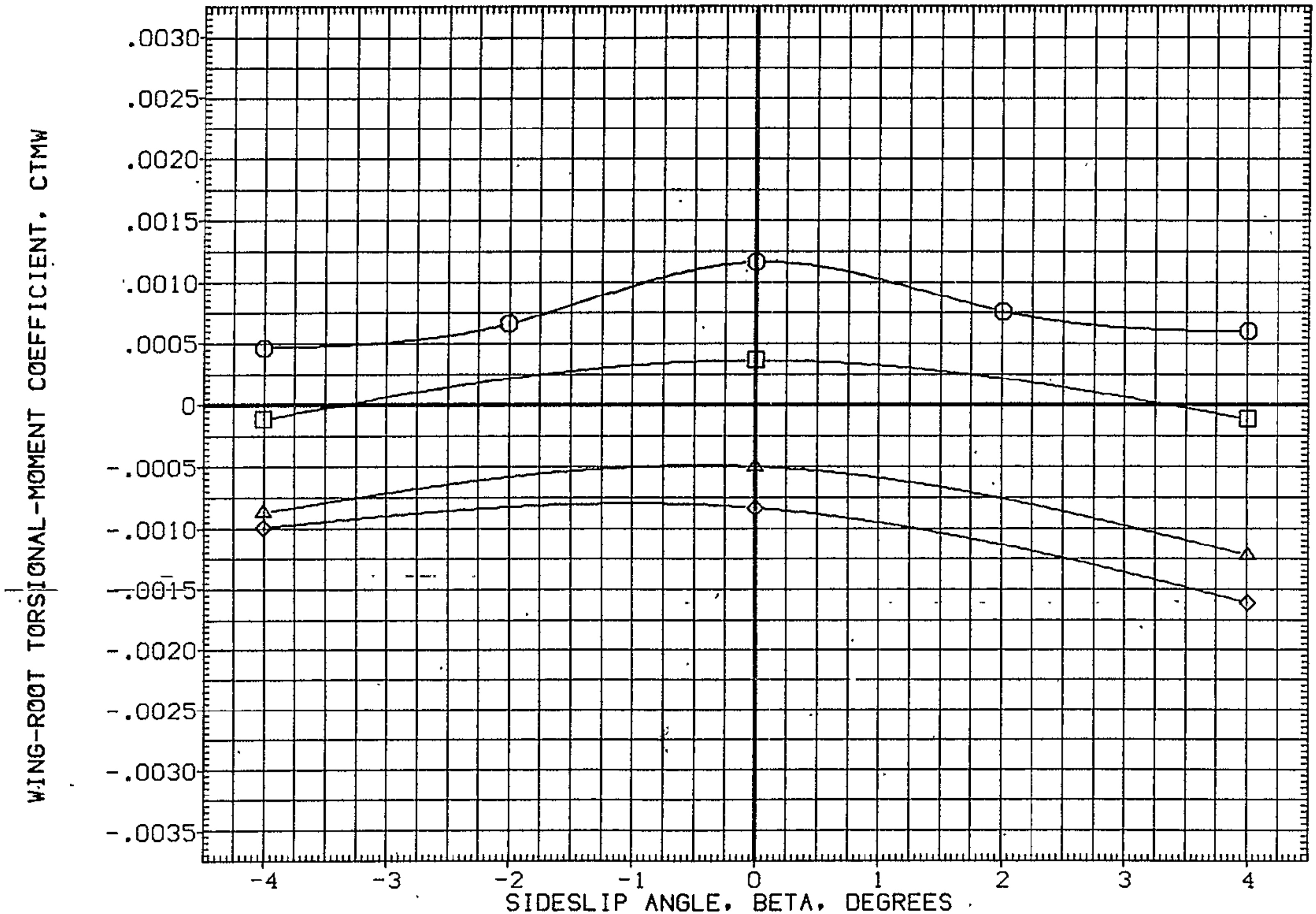


FIG. 66 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5Y42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5Y48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

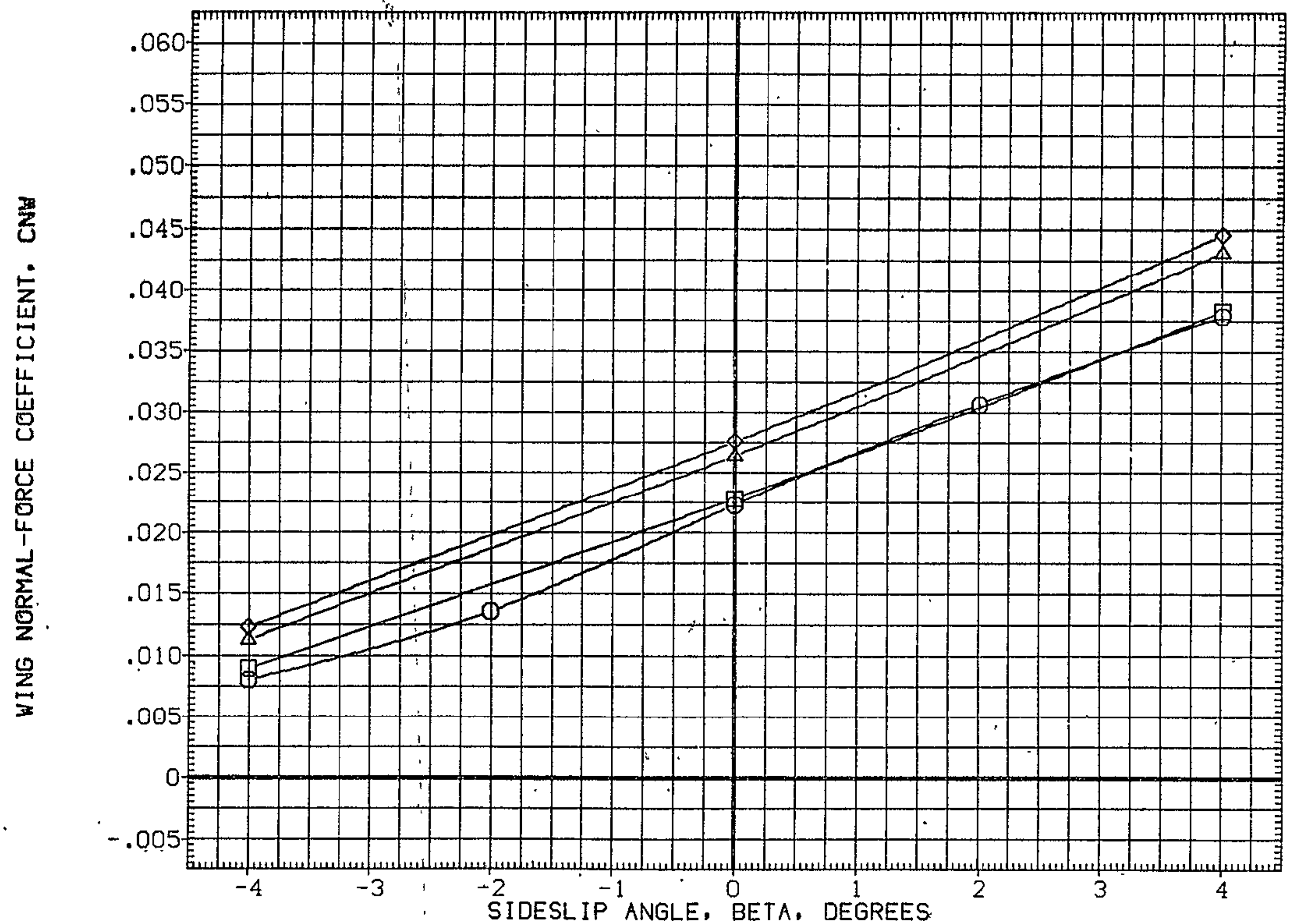


FIG. 66 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5Y42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5Y48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

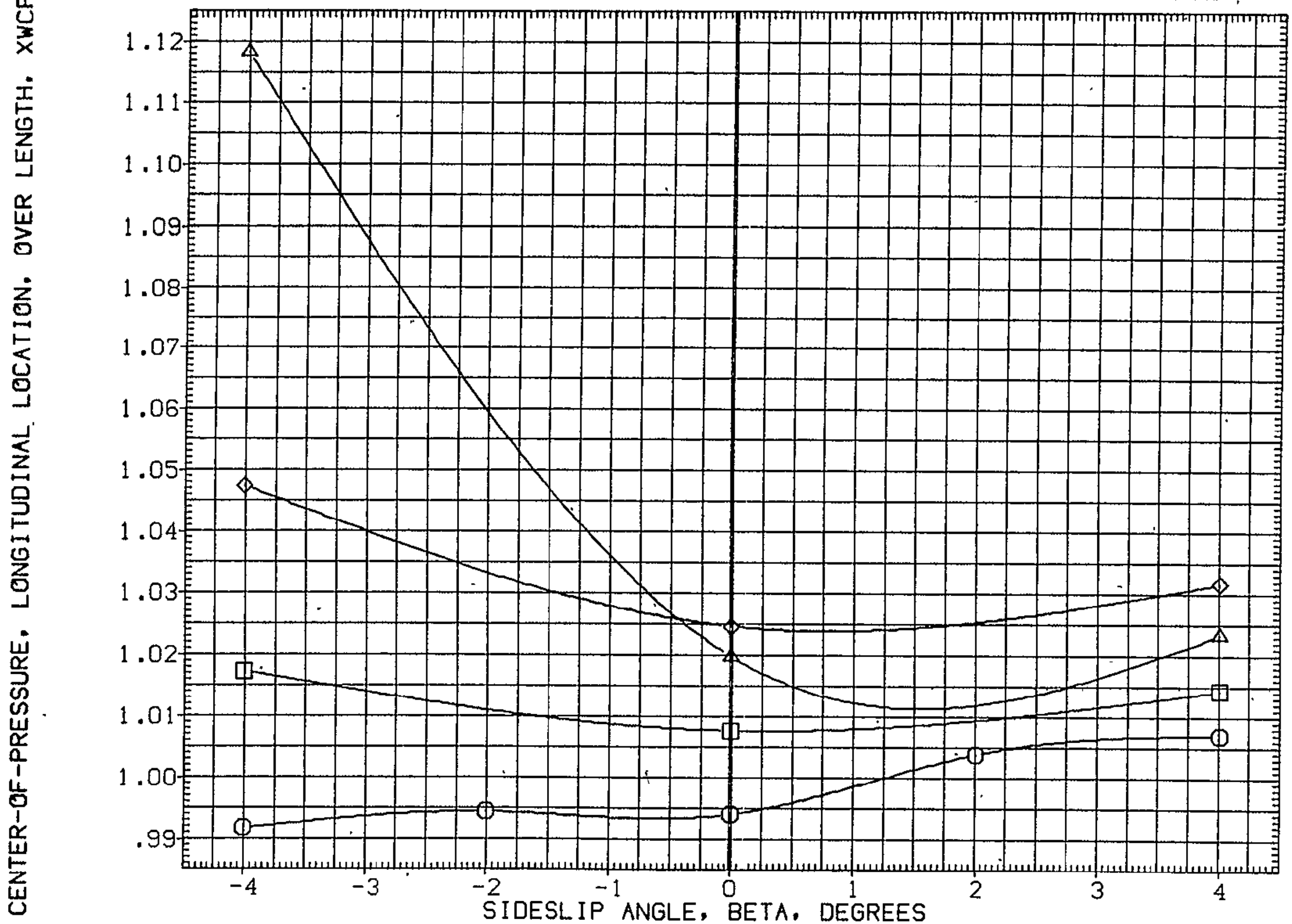


FIG. 66 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5Y42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5Y48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

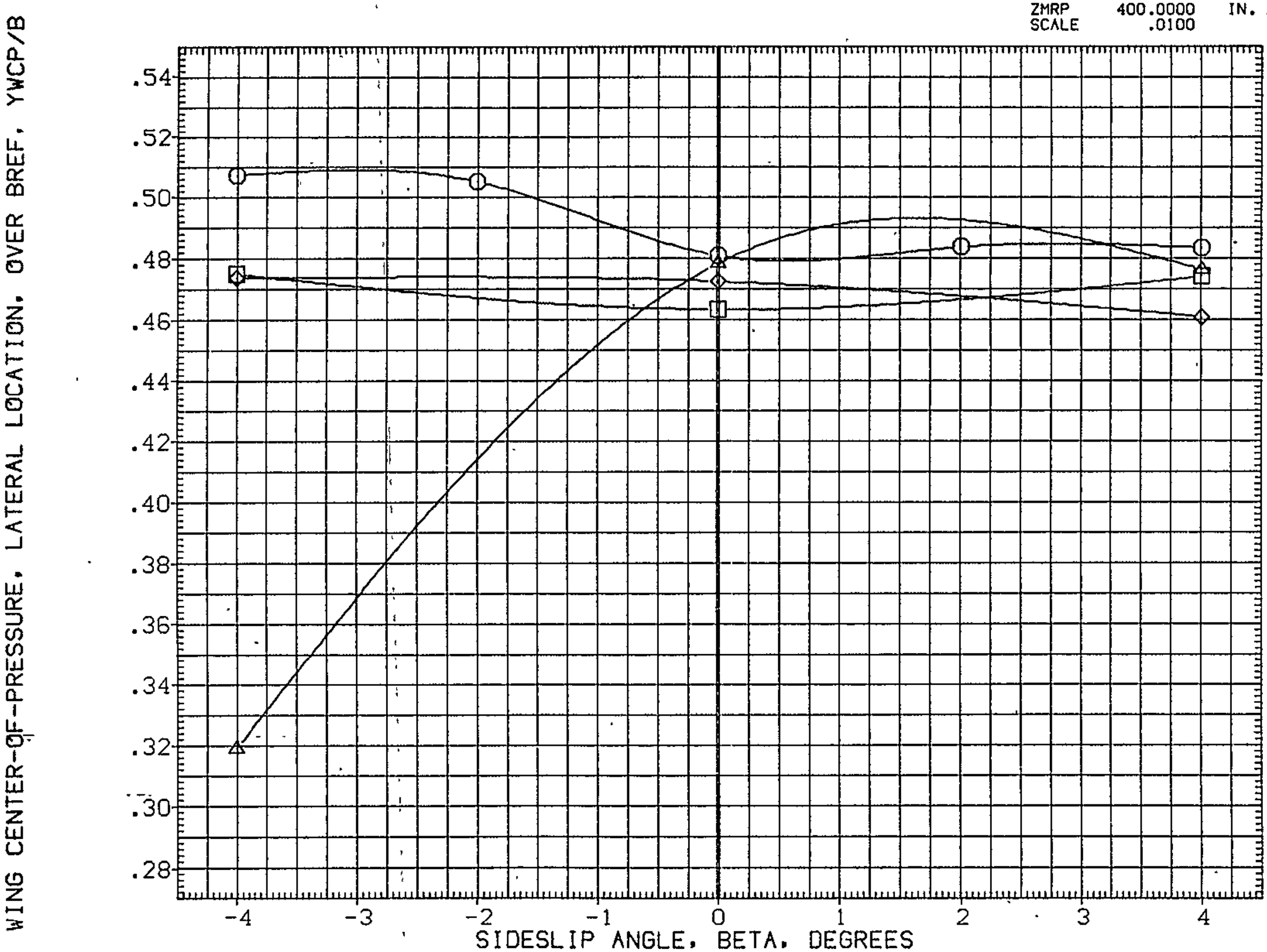


FIG. 66 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5Y44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5Y50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

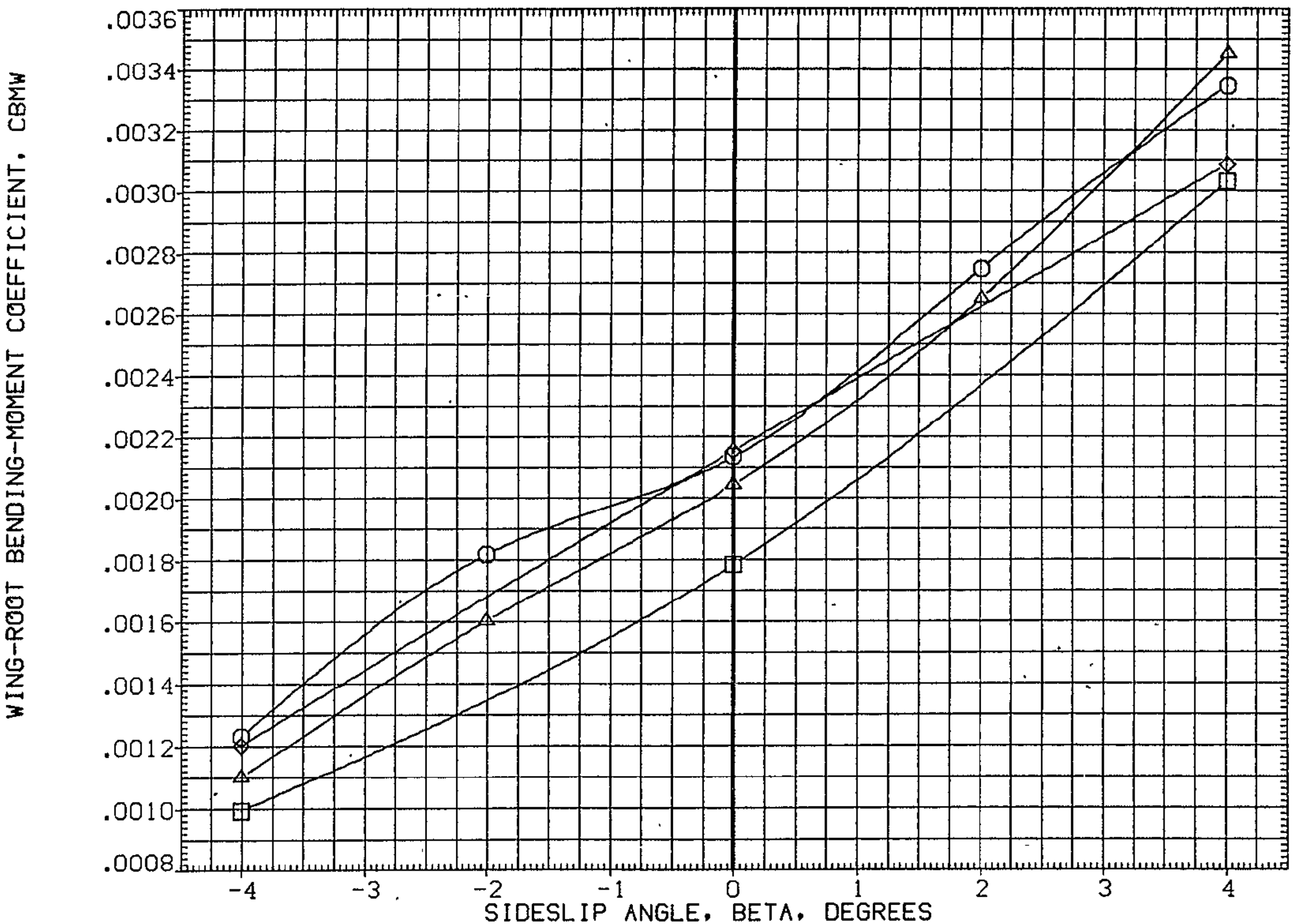


FIG. 67 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION					ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044	IA82	OTS	SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y38)	□	ARC87-044	IA82	OTS	SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5Y44)	◇	ARC87-044	IA82	OTS	SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5Y50)	△	ARC87-044	IA82	OTS	SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

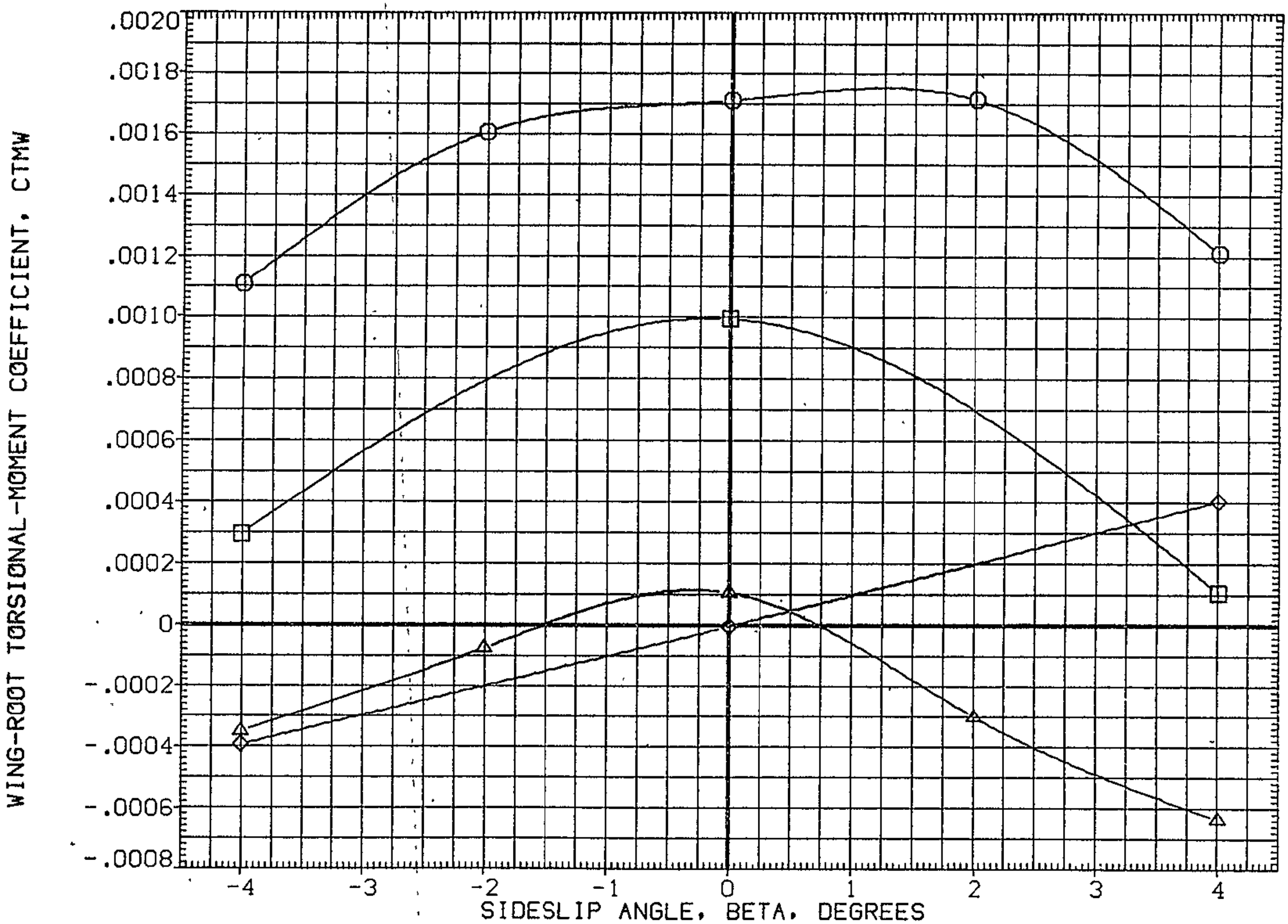


FIG. 67 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5Y44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5Y50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

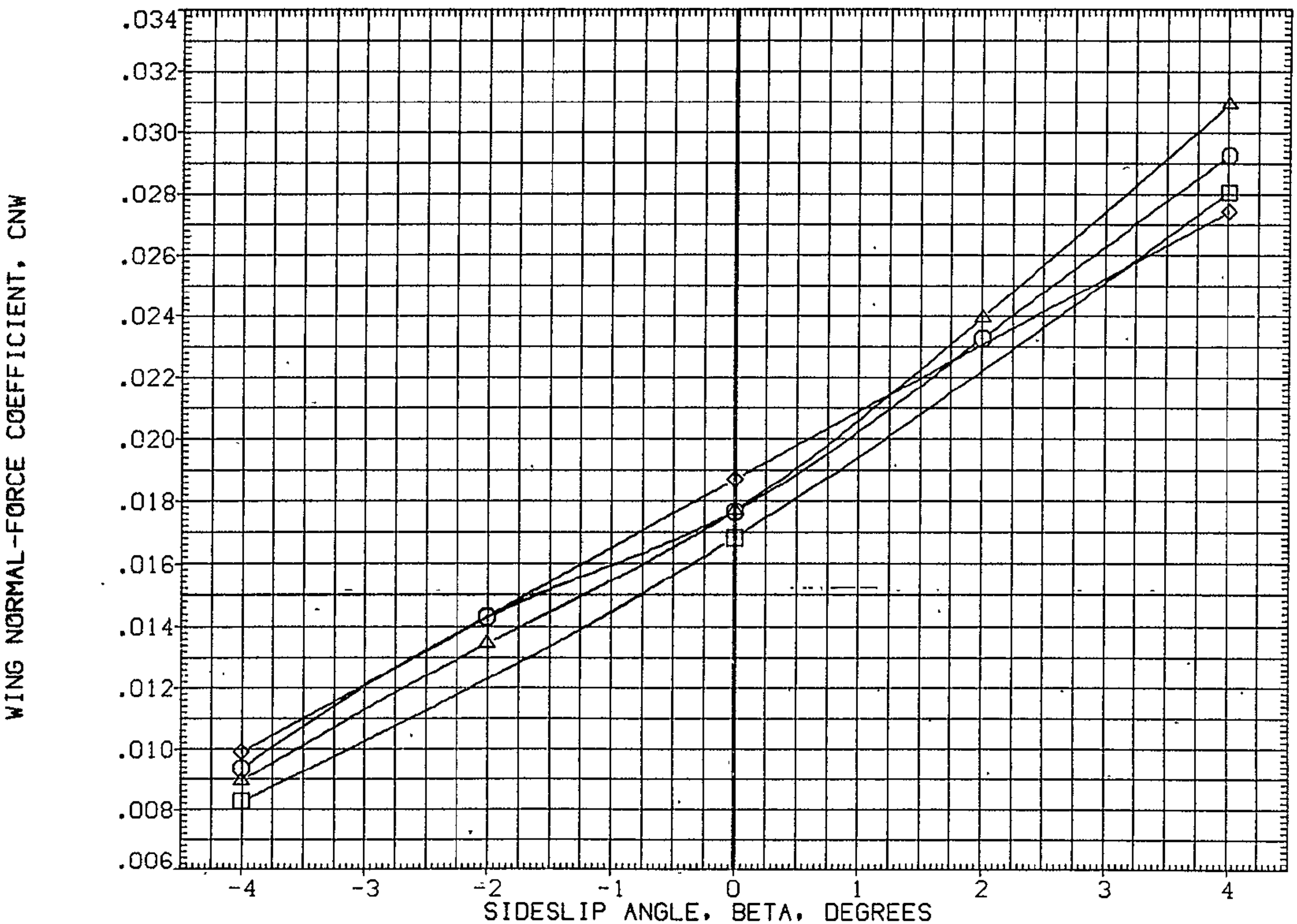


FIG. 67 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION				ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82	OTS	SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y38)	□	ARC87-044 IA82	OTS	SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5Y44)	◇	ARC87-044 IA82	OTS	SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5Y50)	△	ARC87-044 IA82	OTS	SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

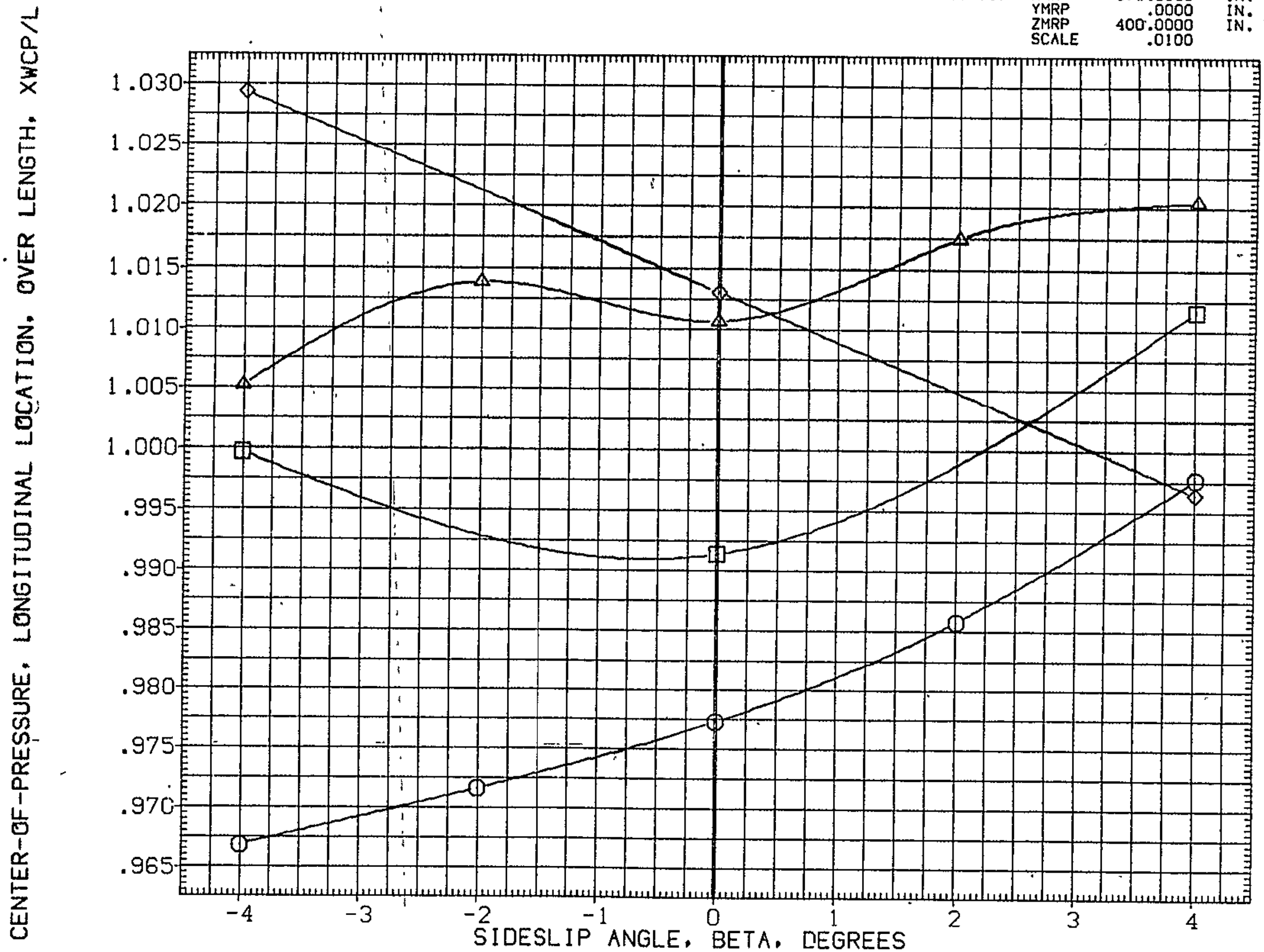


FIG. 67 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

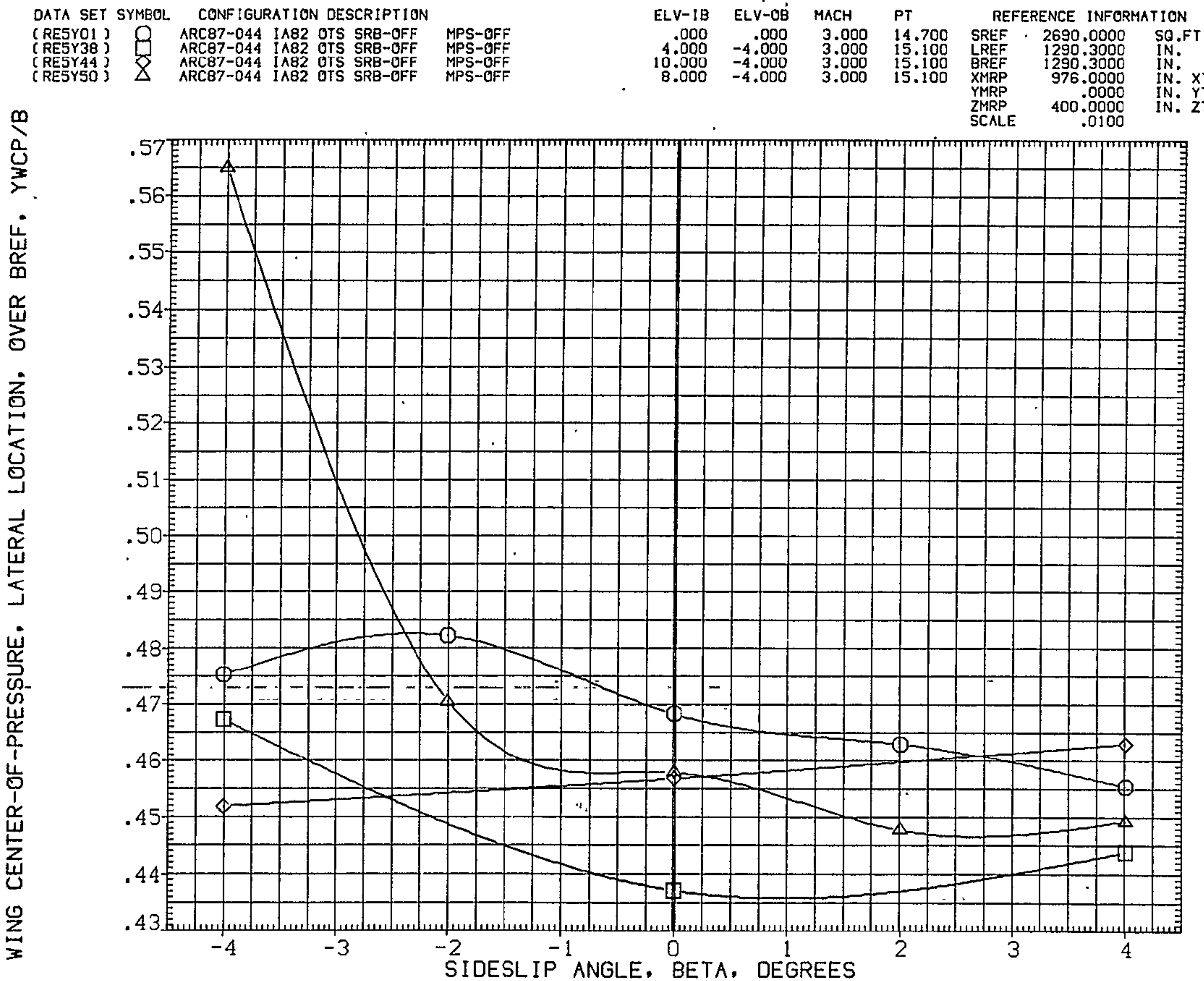


FIG. 67 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

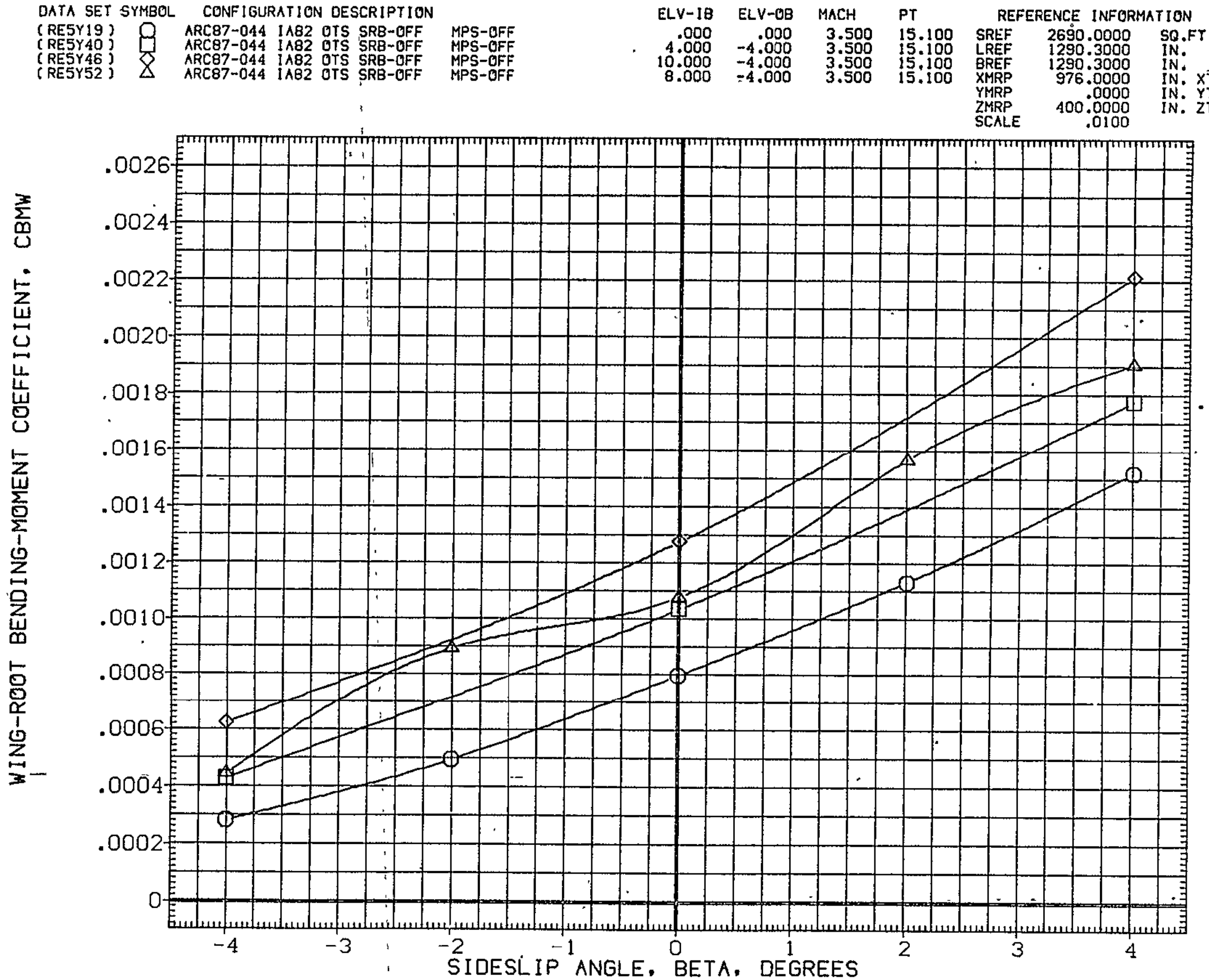


FIG. 68 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

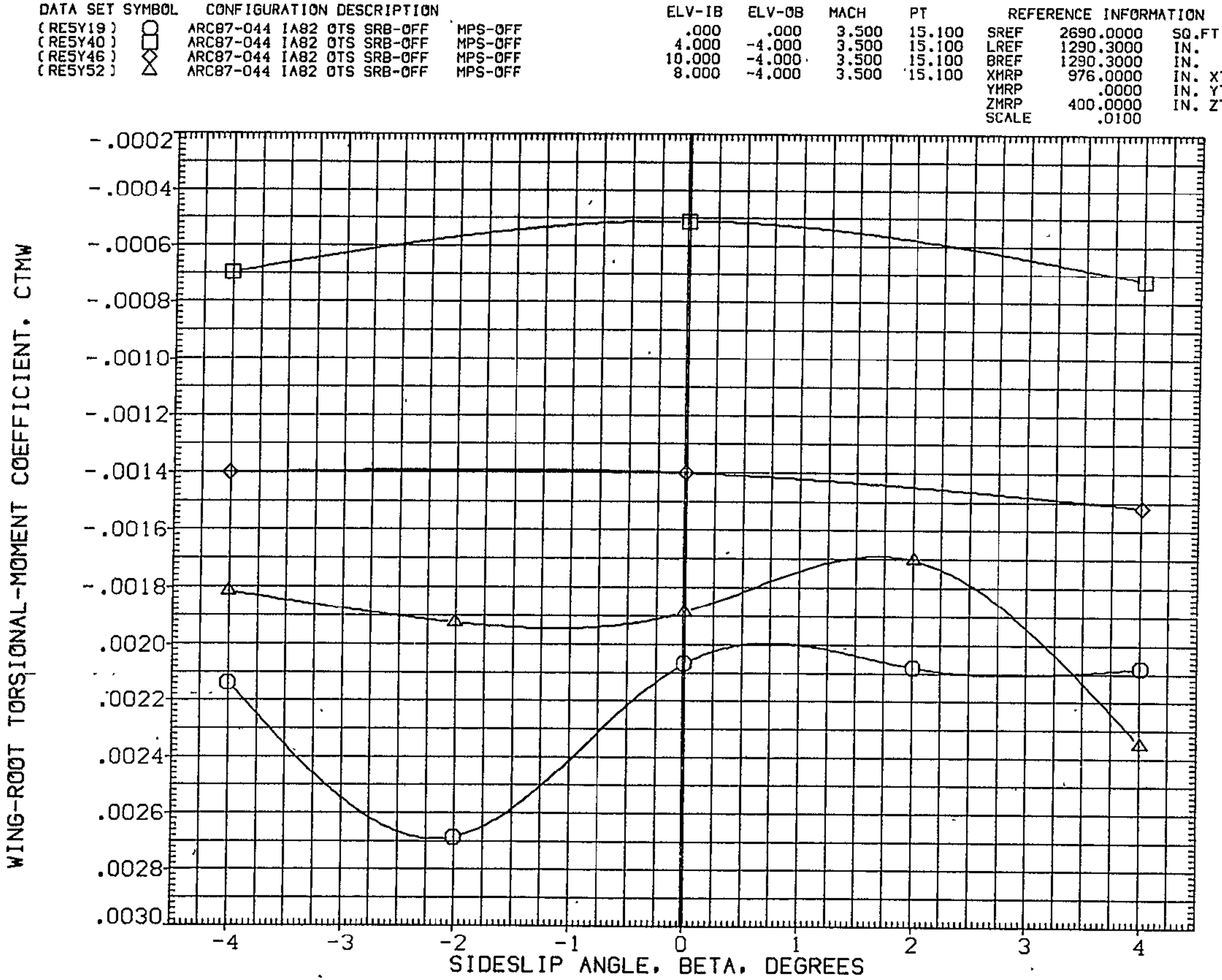


FIG. 68 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5Y46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5Y52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

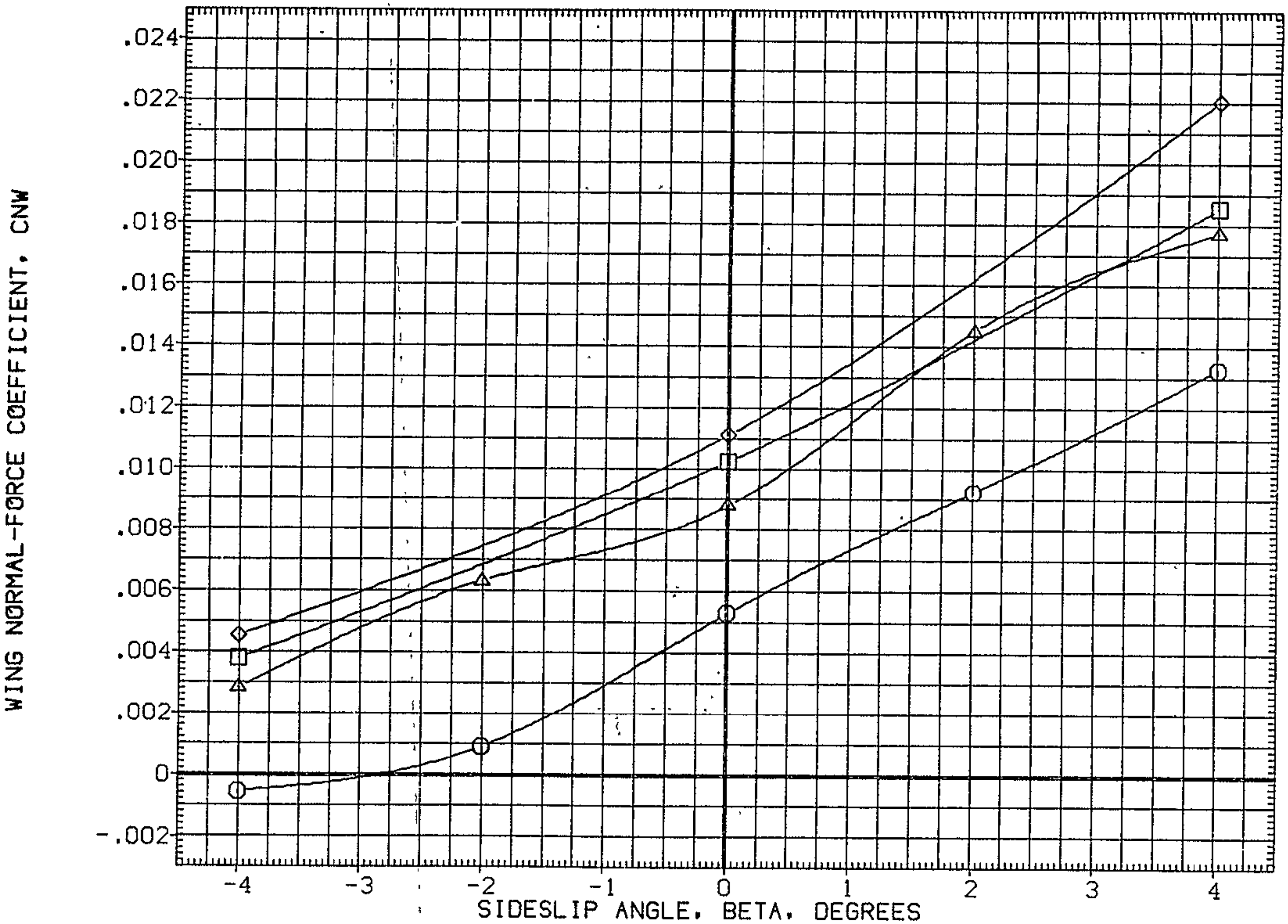


FIG. 68 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

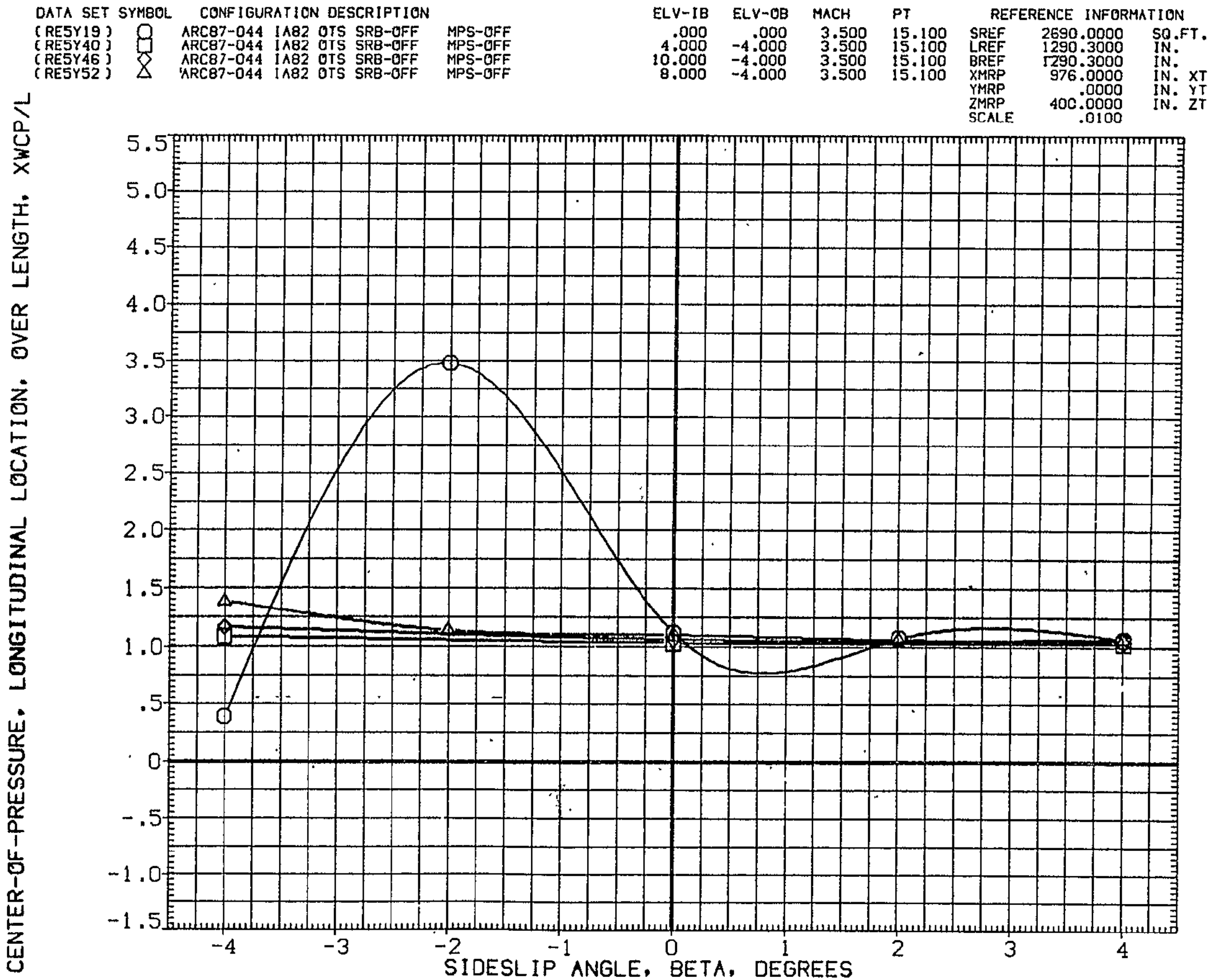


FIG. 68 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5Y46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5Y52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

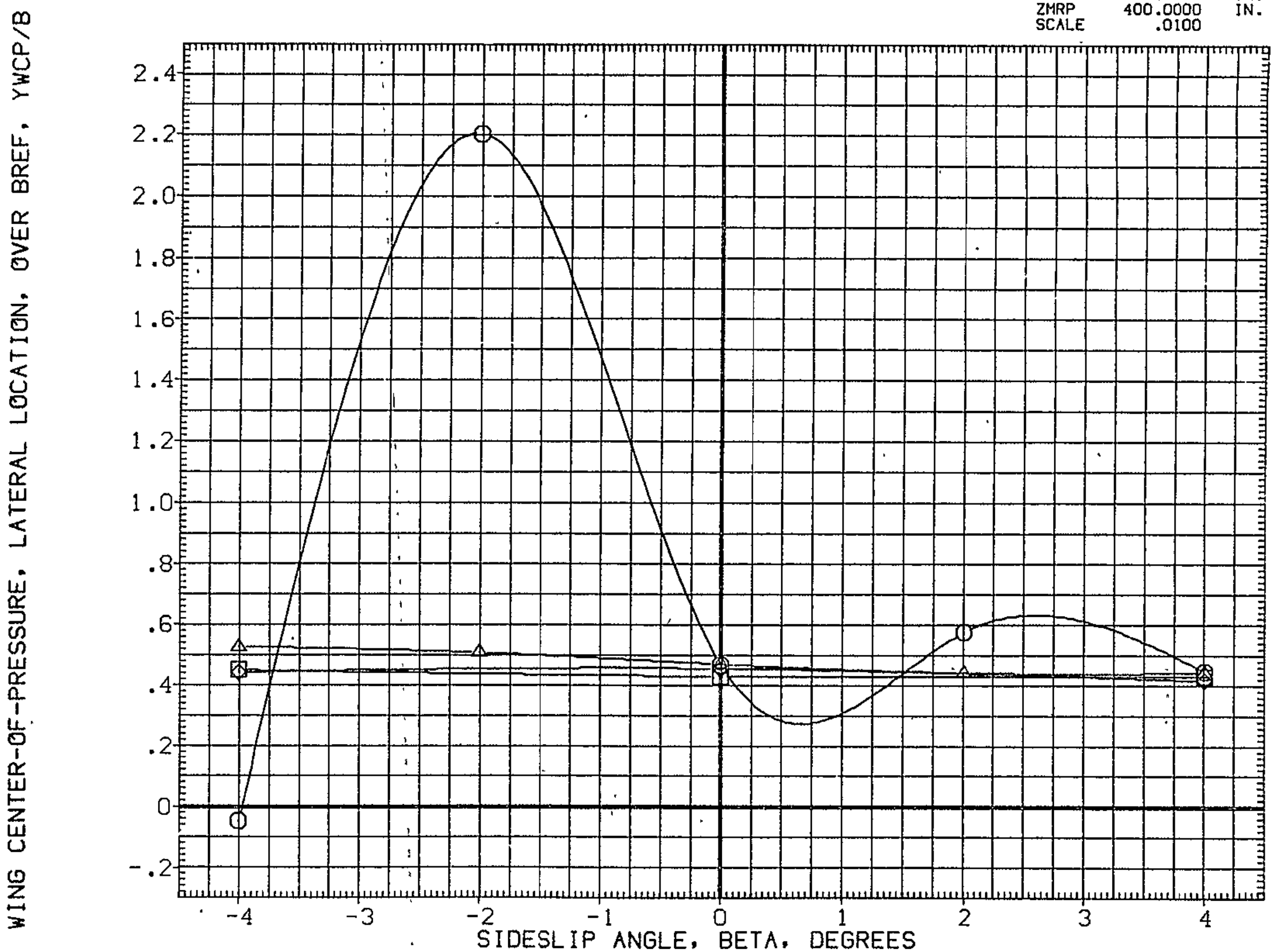


FIG. 68 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y02)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	2.600	14.700
(RE5Y36)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	2.600	15.100
(RE5Y42)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	2.600	15.100
(RE5Y48)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

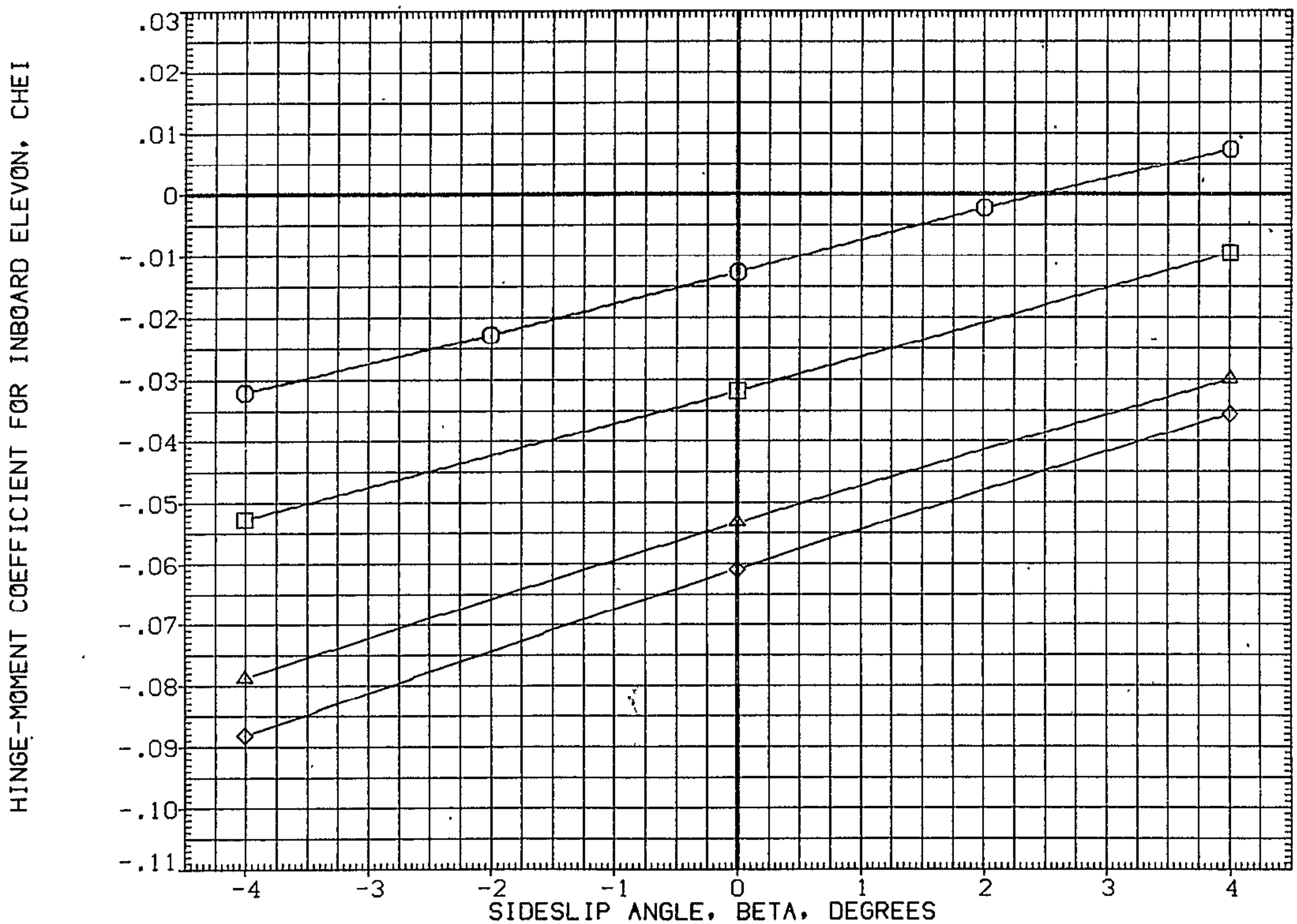


FIG. 69 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

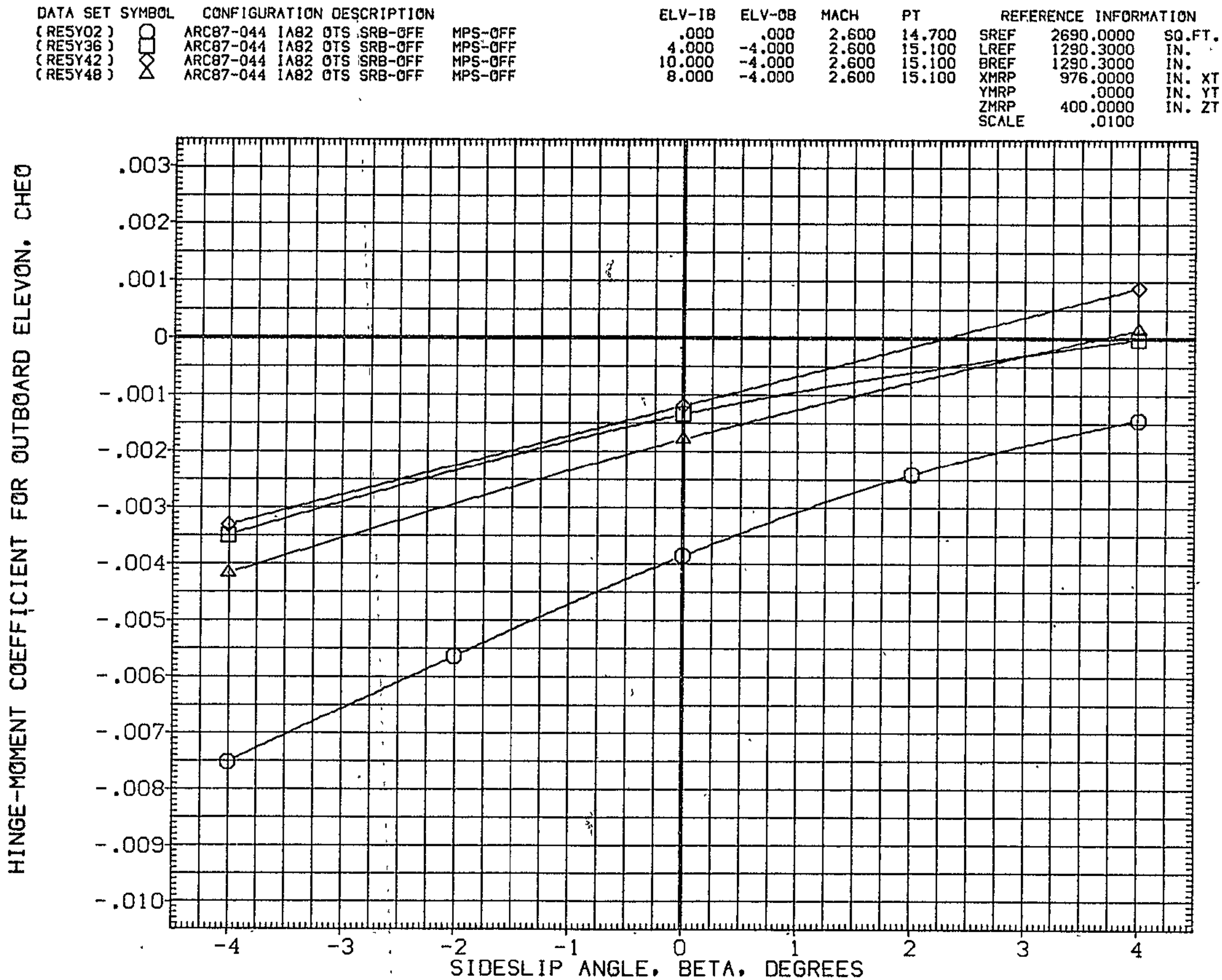


FIG. 69 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5Y44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5Y50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

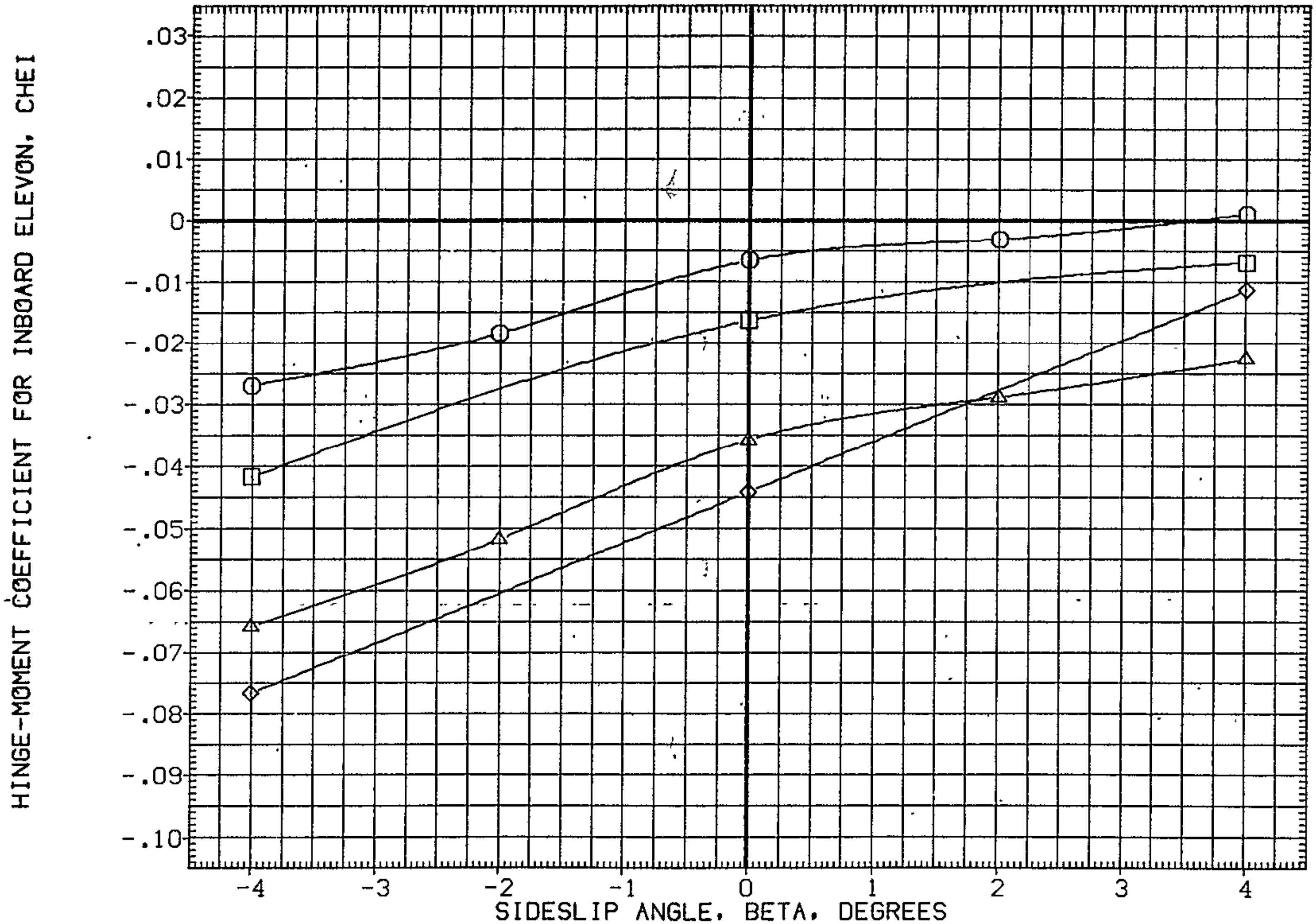


FIG. 70 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y01)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.000	14.700
(RE5Y38)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.000	15.100
(RE5Y44)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.000	15.100
(RE5Y50)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X1
YMRP	.0000	IN. Y1
ZMRP	400.0000	IN. Z1
SCALE	.0100	

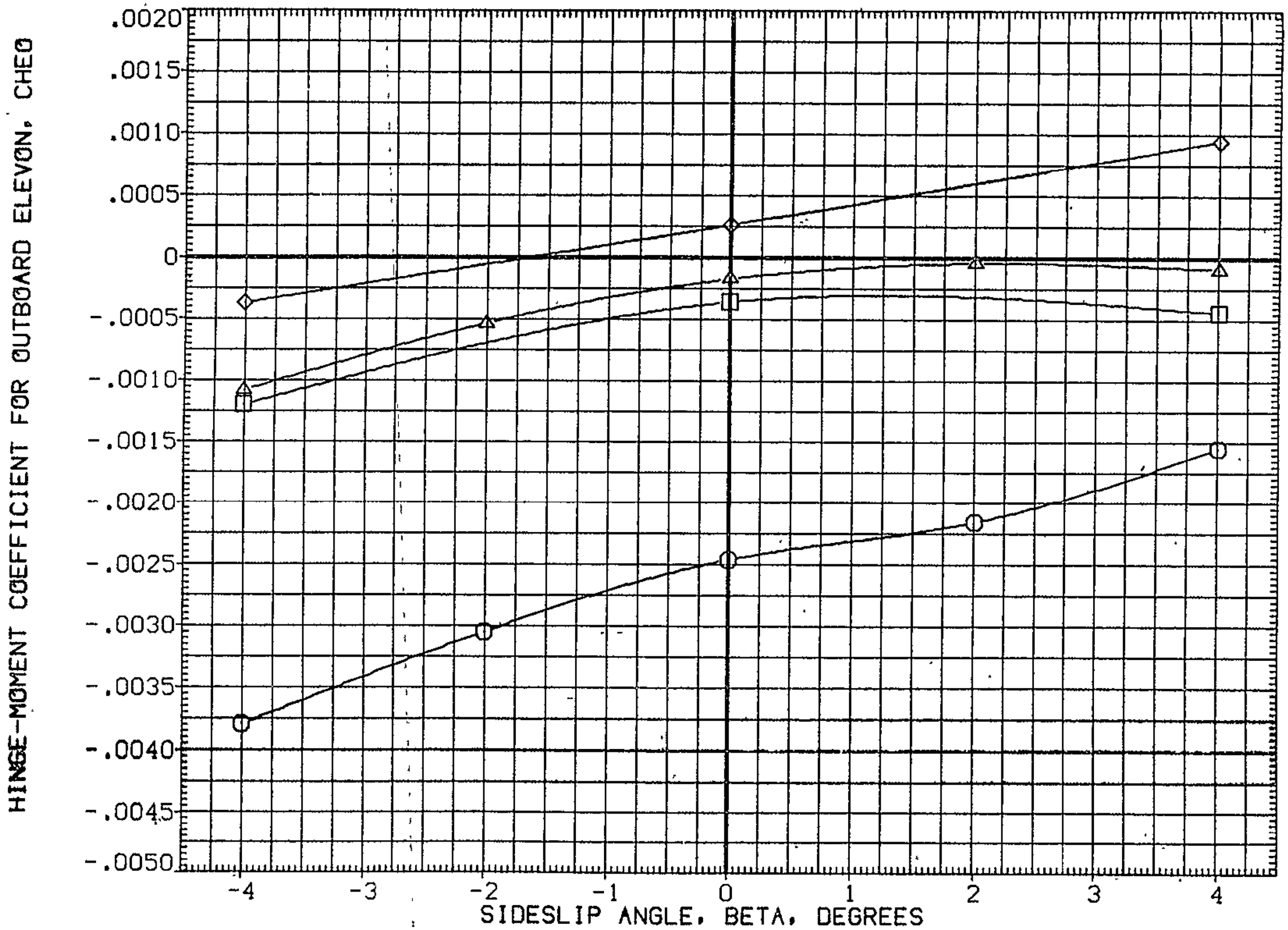


FIG. 70 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.0

(A)ALPHA = .00

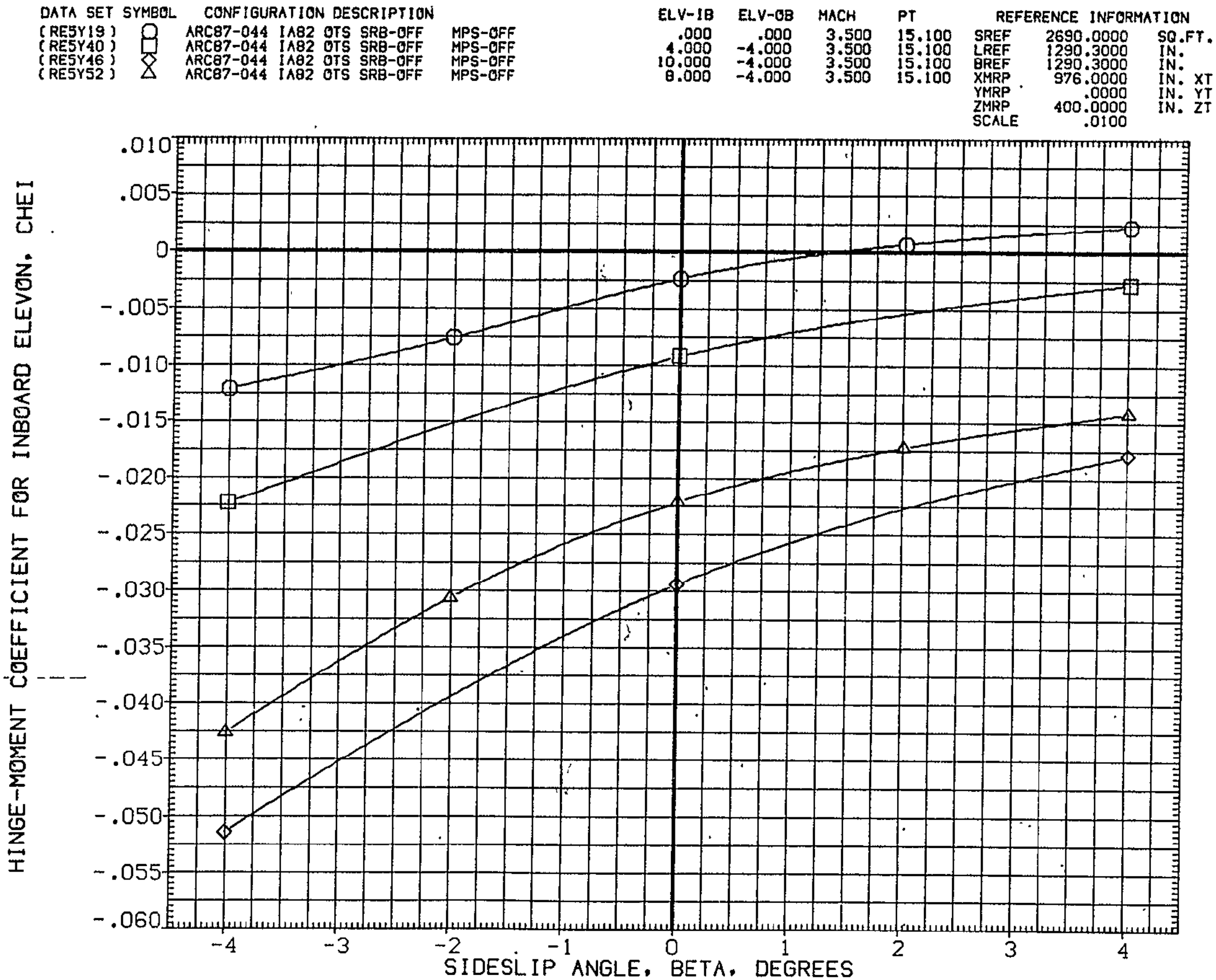


FIG. 71 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y19)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	.000	.000	3.500	15.100
(RE5Y40)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	3.500	15.100
(RE5Y46)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	3.500	15.100
(RE5Y52)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

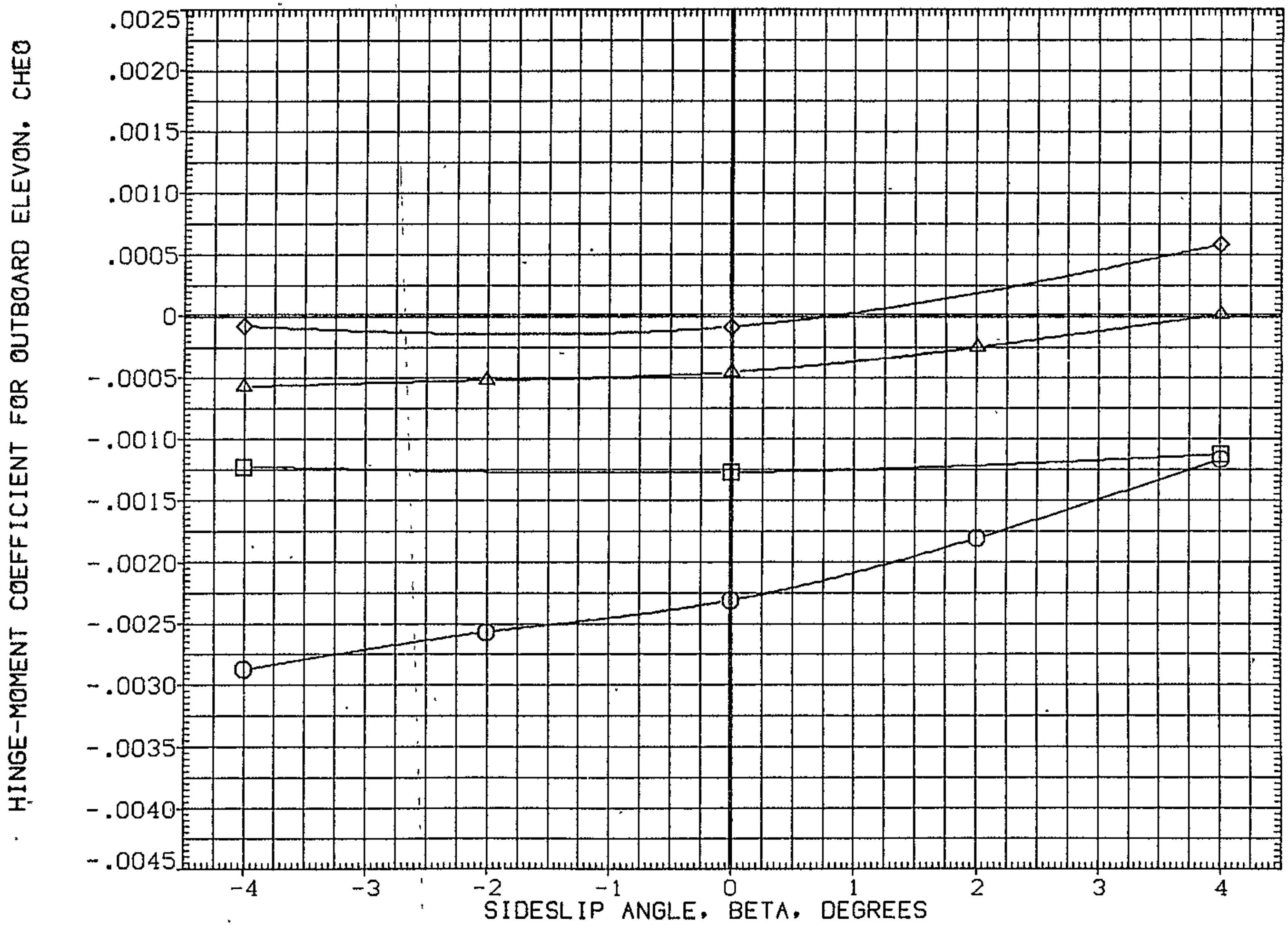


FIG. 71 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER OFF, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5X43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5X49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

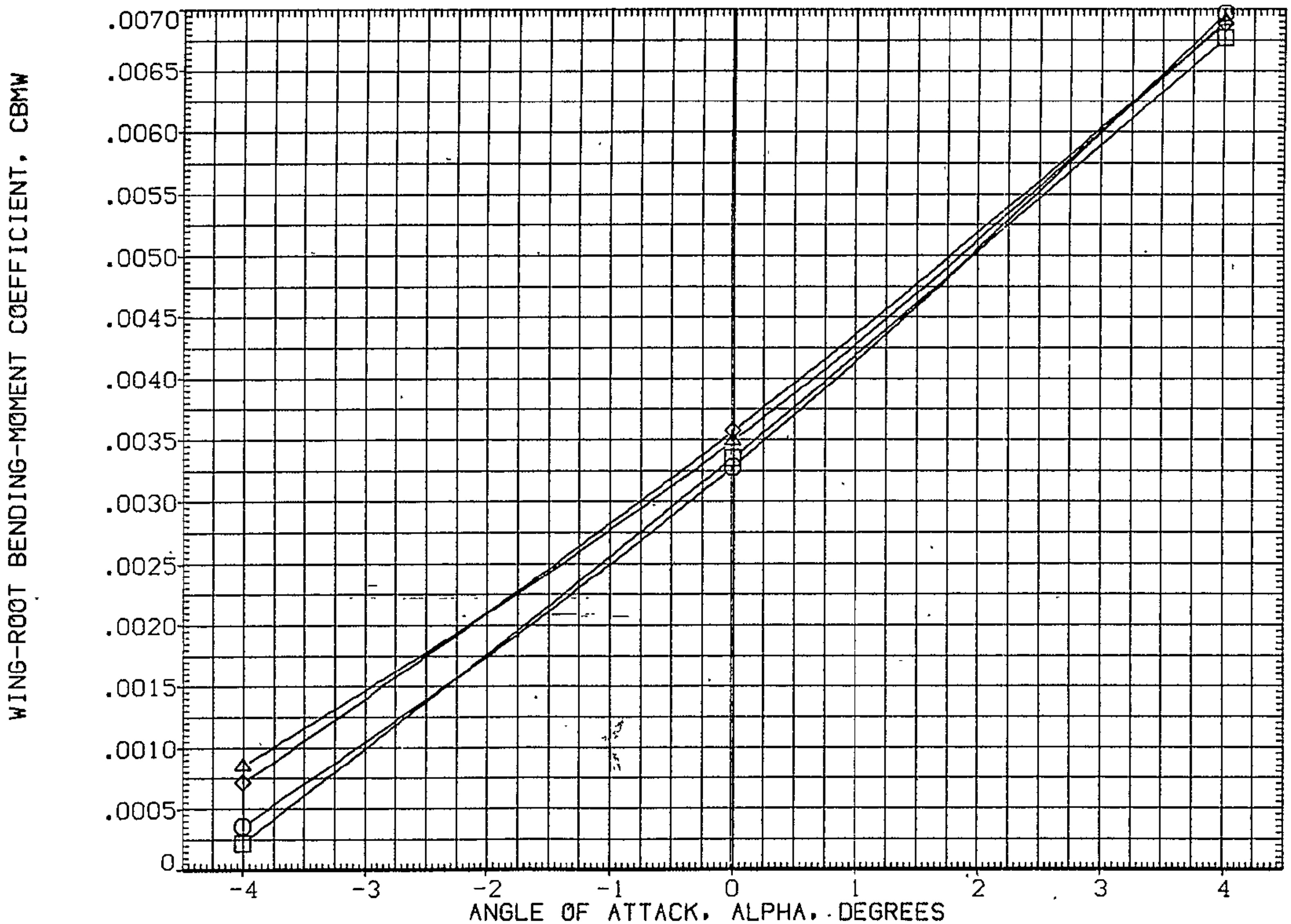


FIG. 72 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

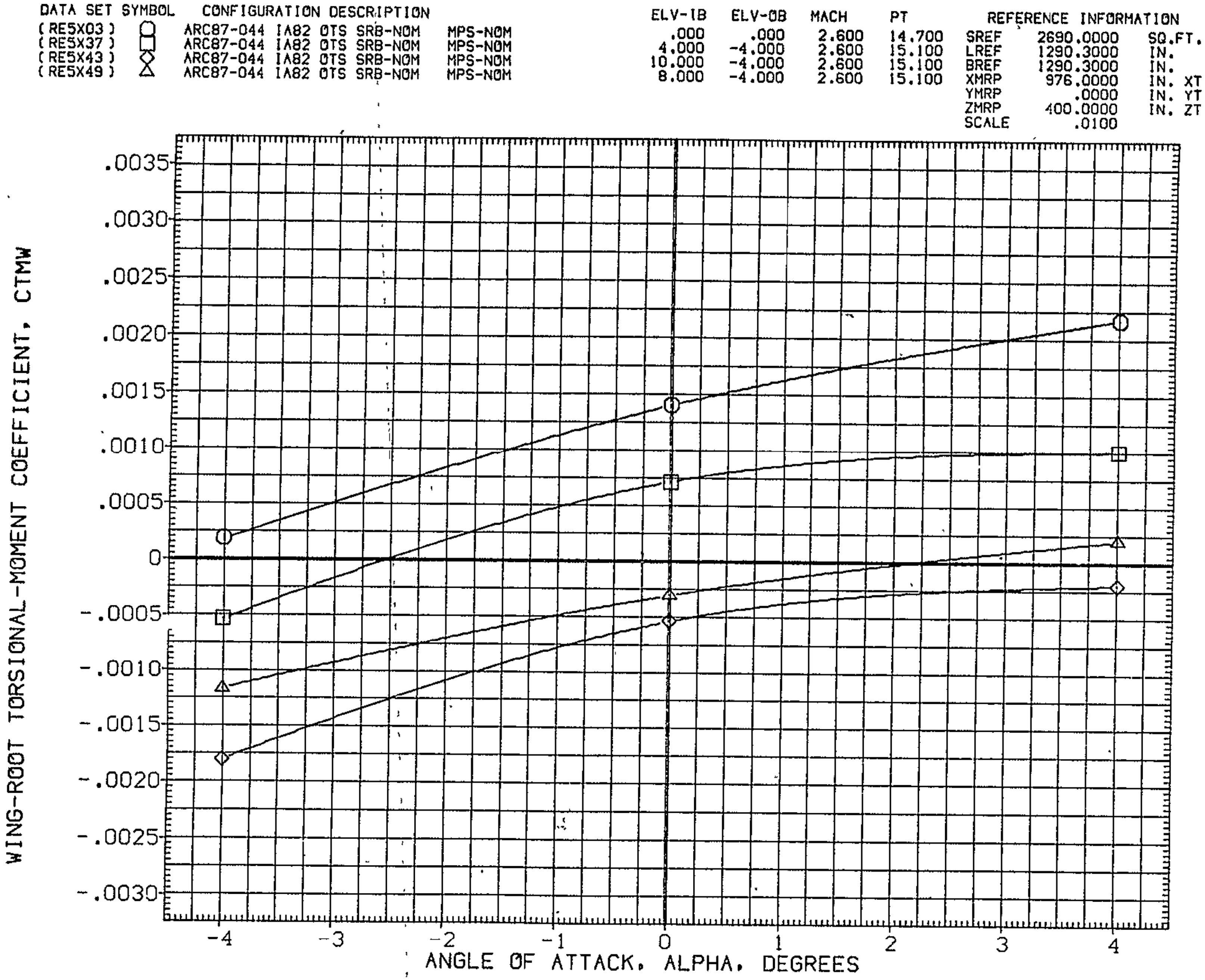


FIG. 72 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5X43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5X49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

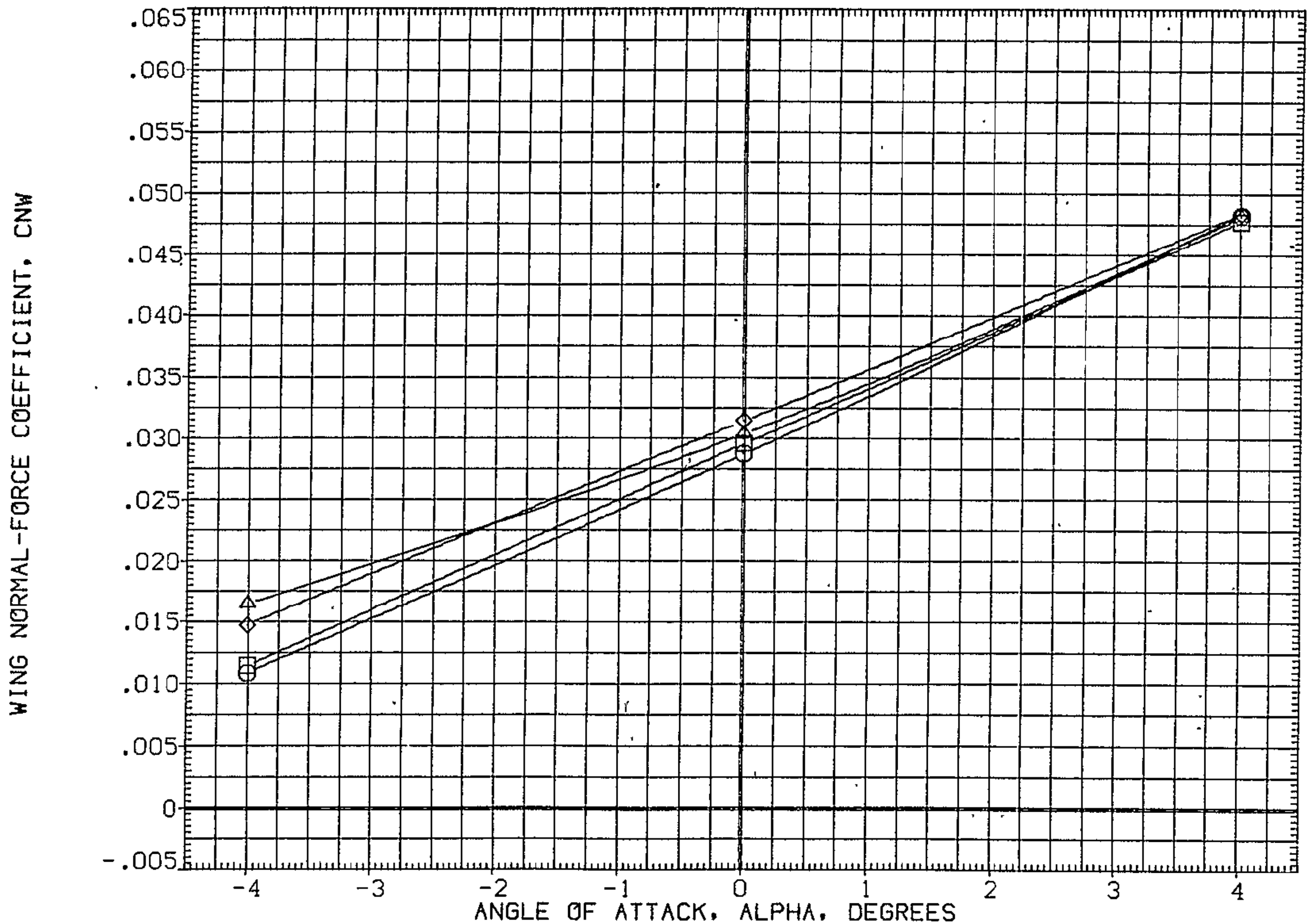


FIG. 72 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5X43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5X49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

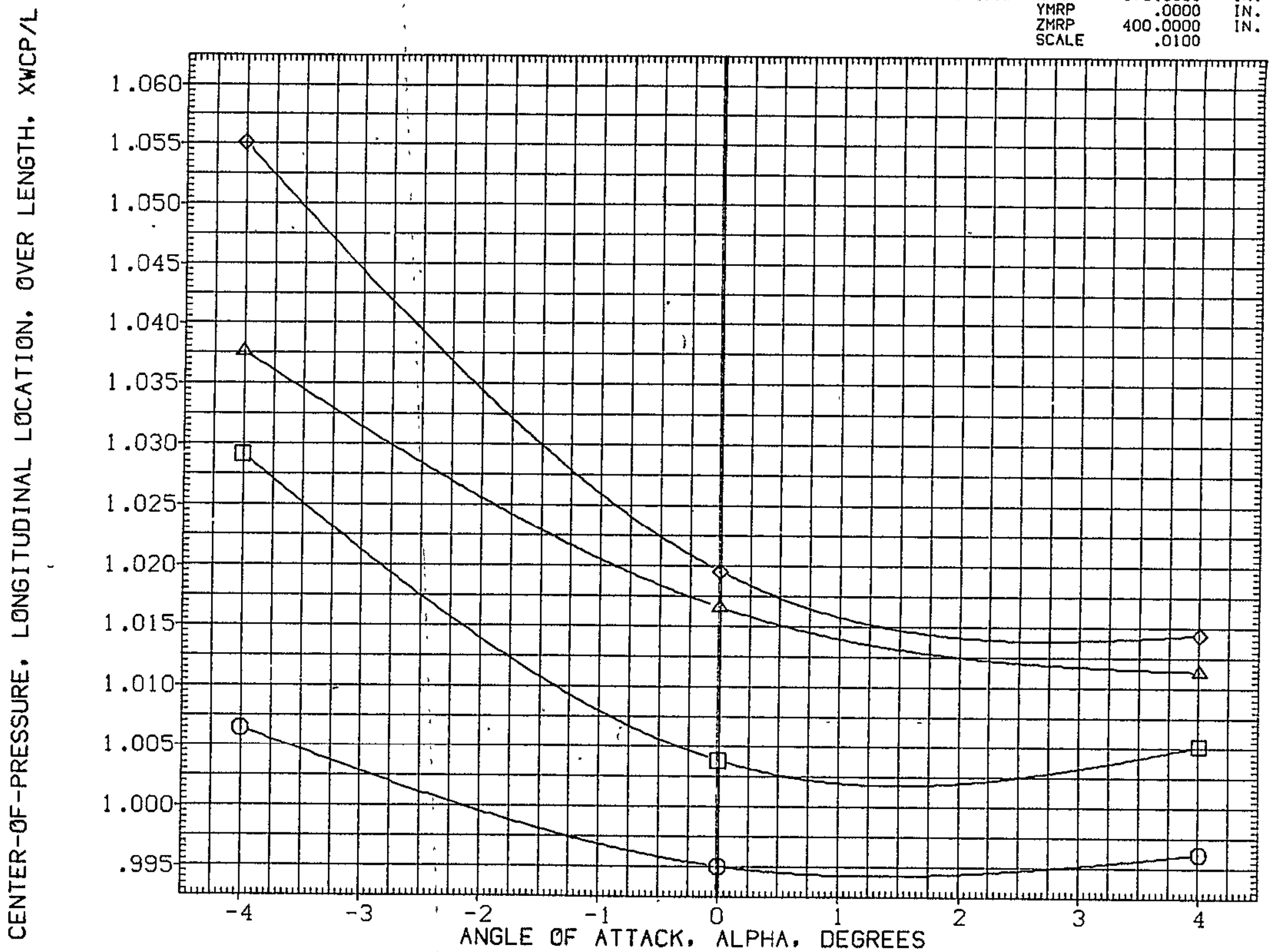


FIG. 72 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5X43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5X49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

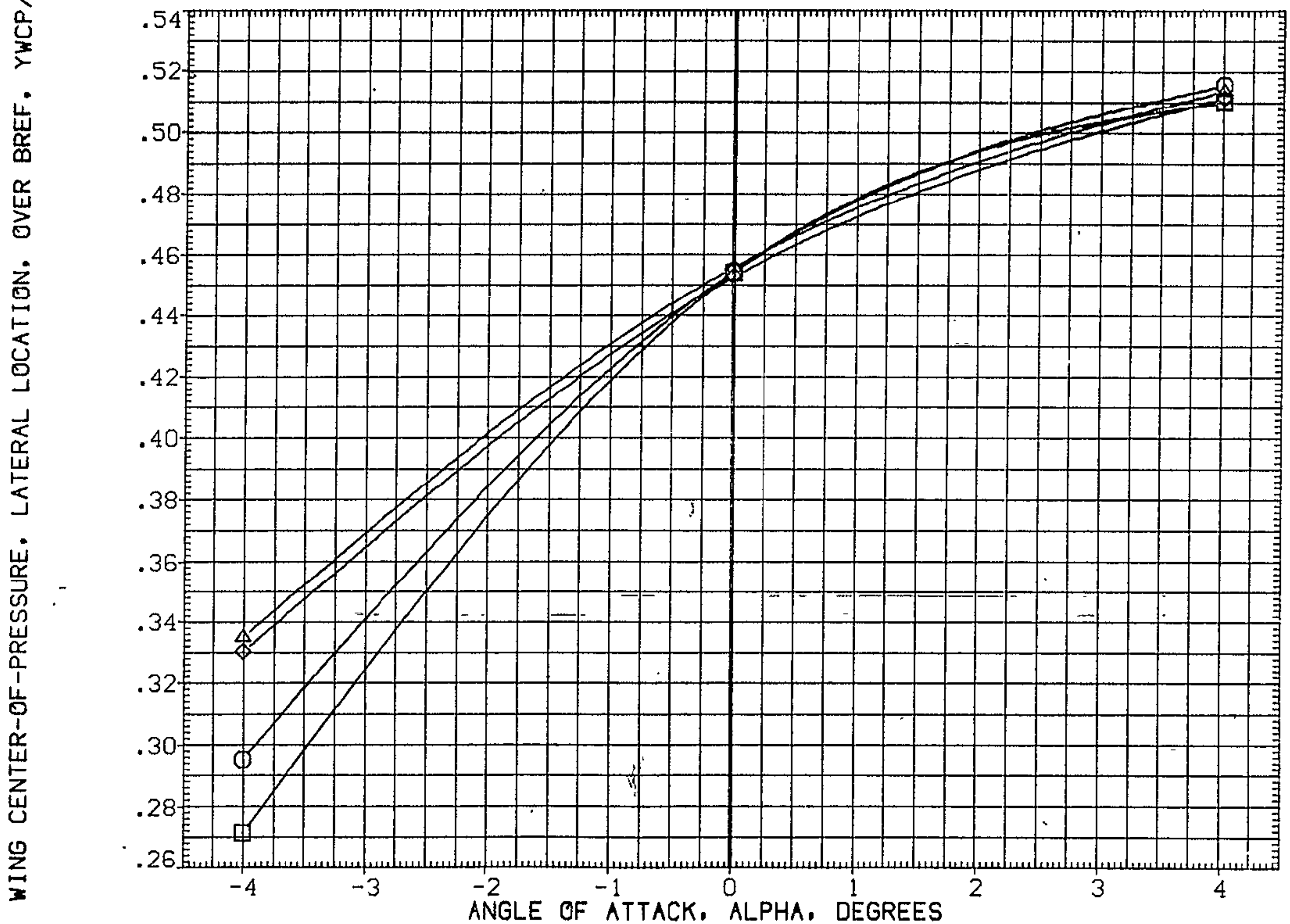


FIG. 72 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

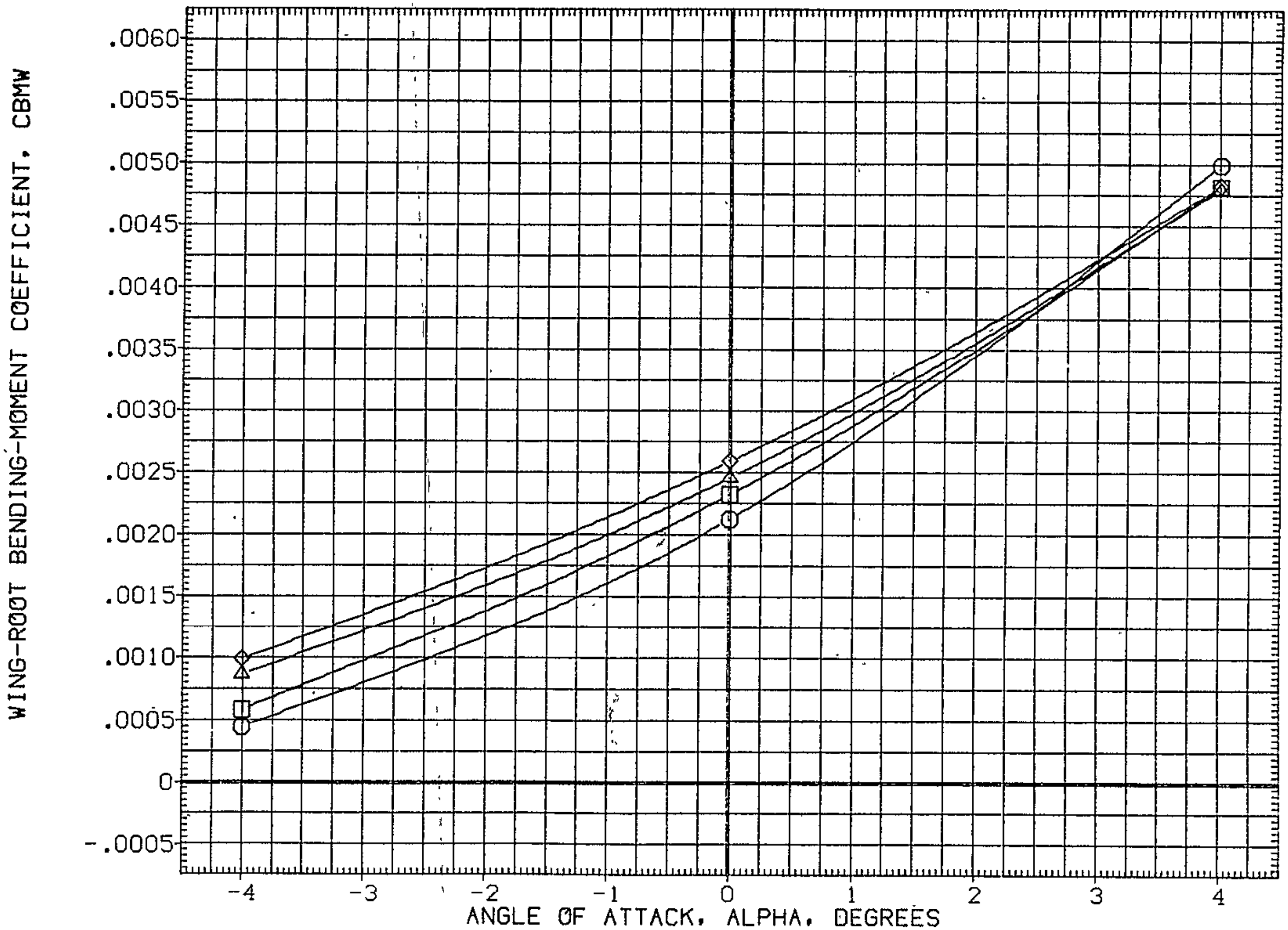


FIG. 73 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X1
YMRP	.0000	IN. Y1
ZMRP	400.0000	IN. Z1
SCALE	.0100	

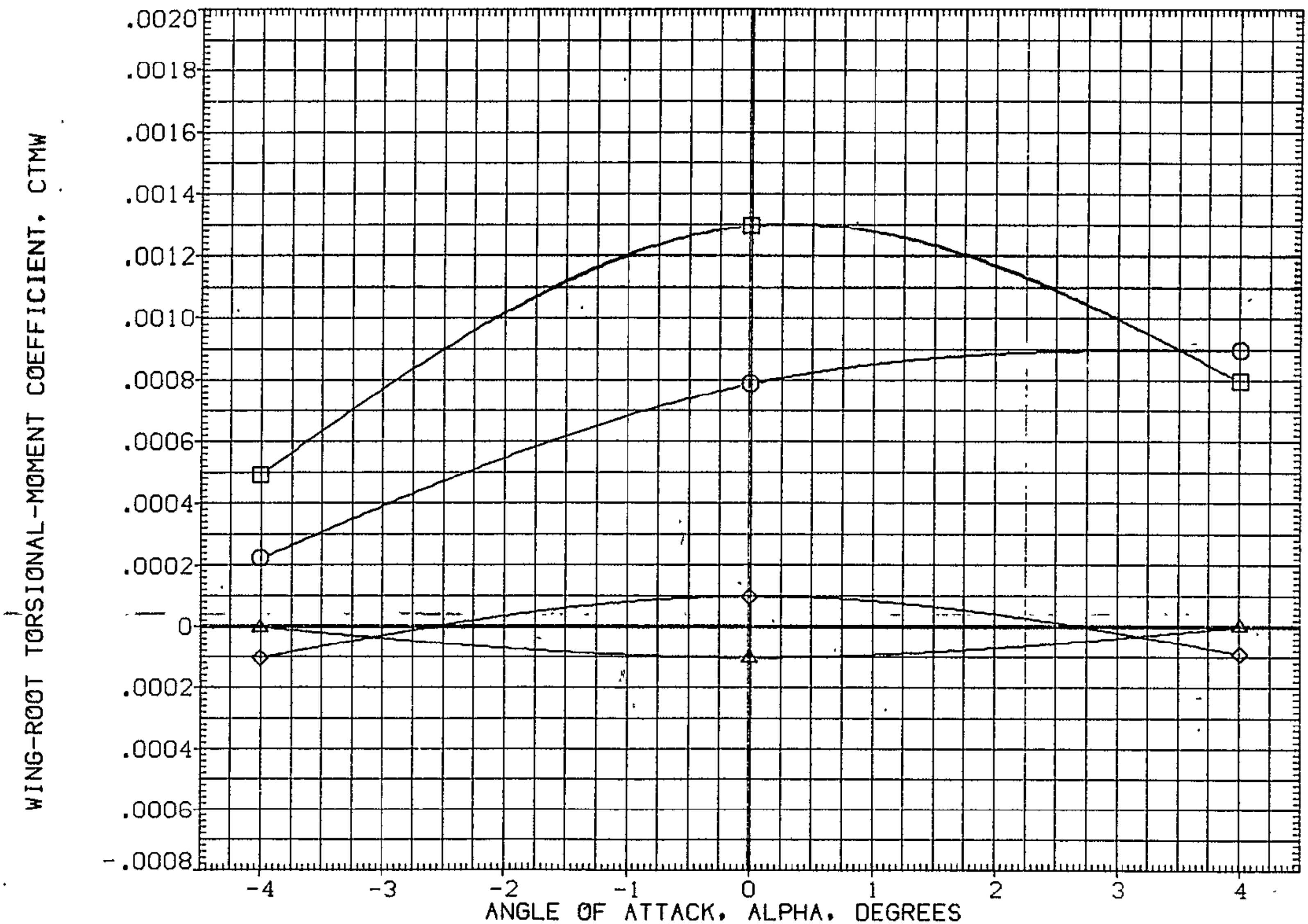


FIG. 73 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	⊡	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

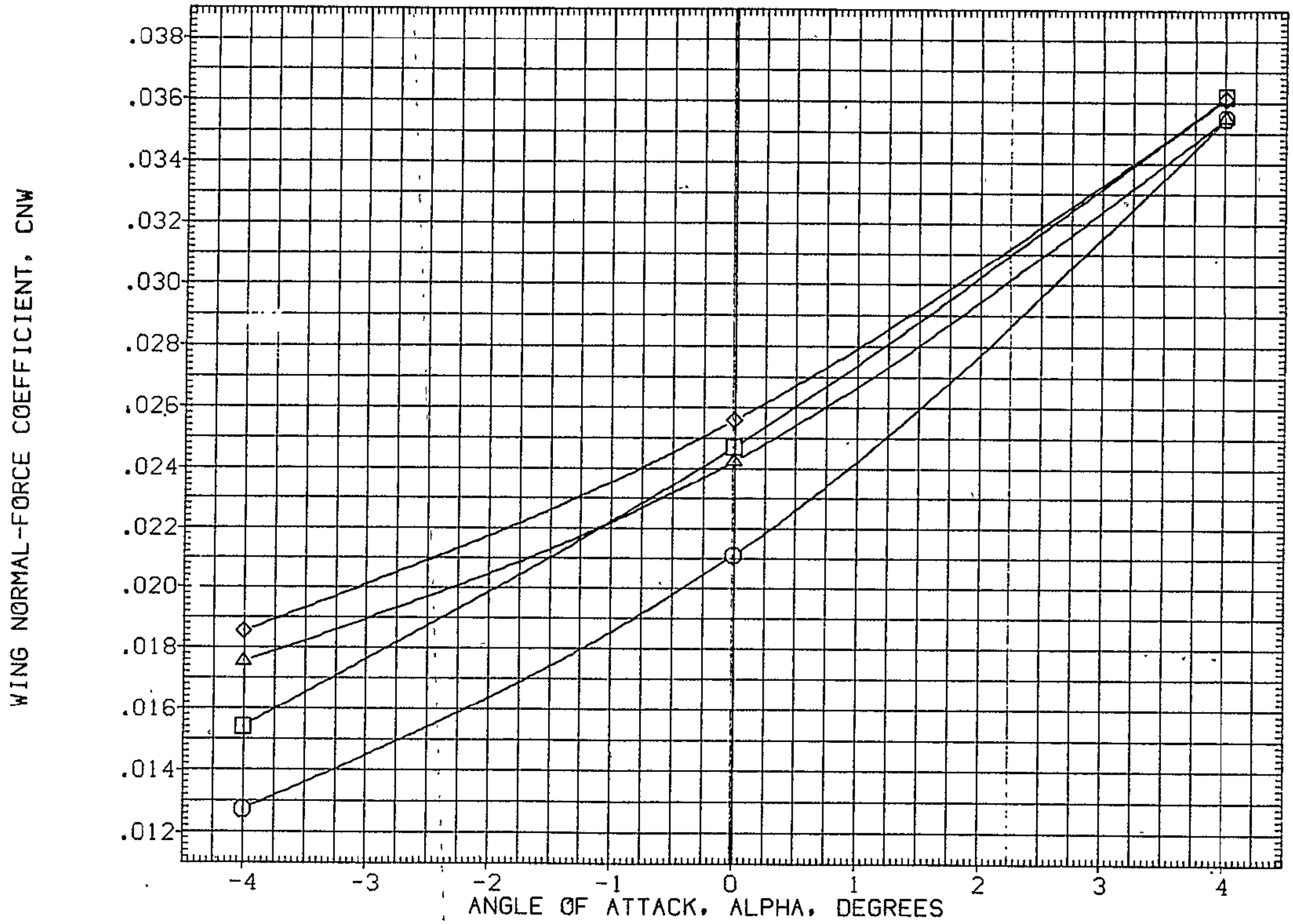


FIG. 73 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

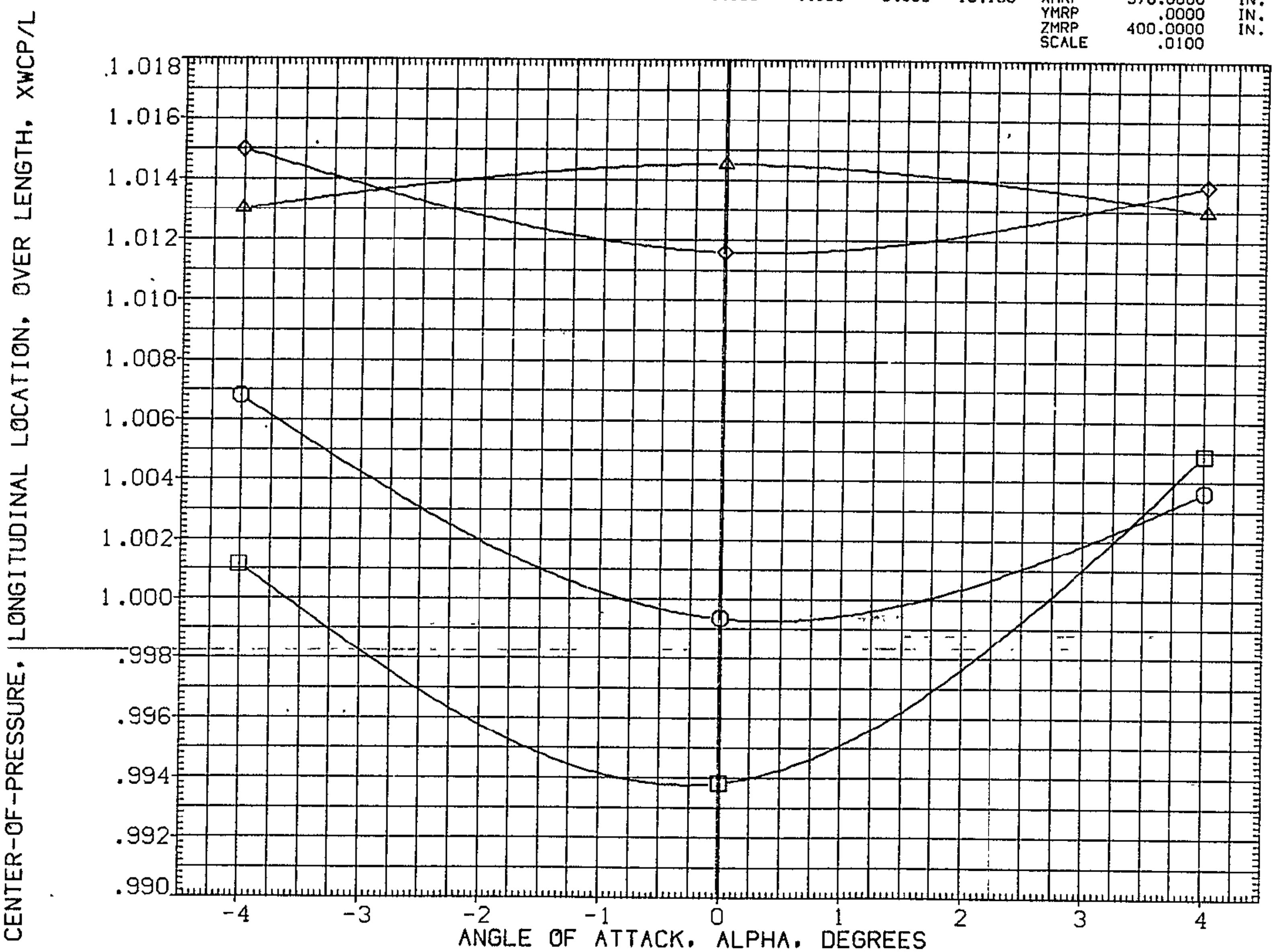


FIG. 73 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

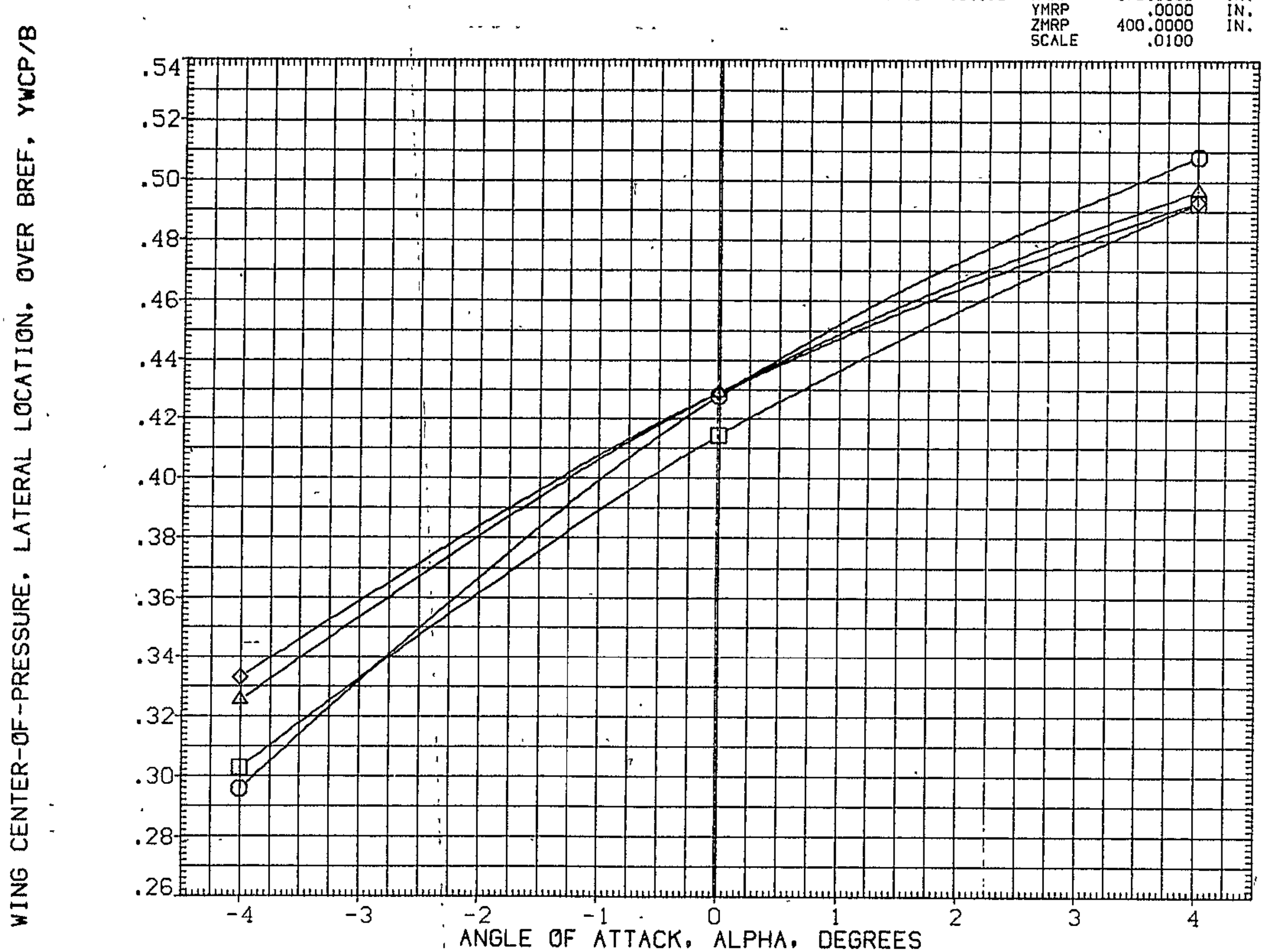


FIG. 73 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

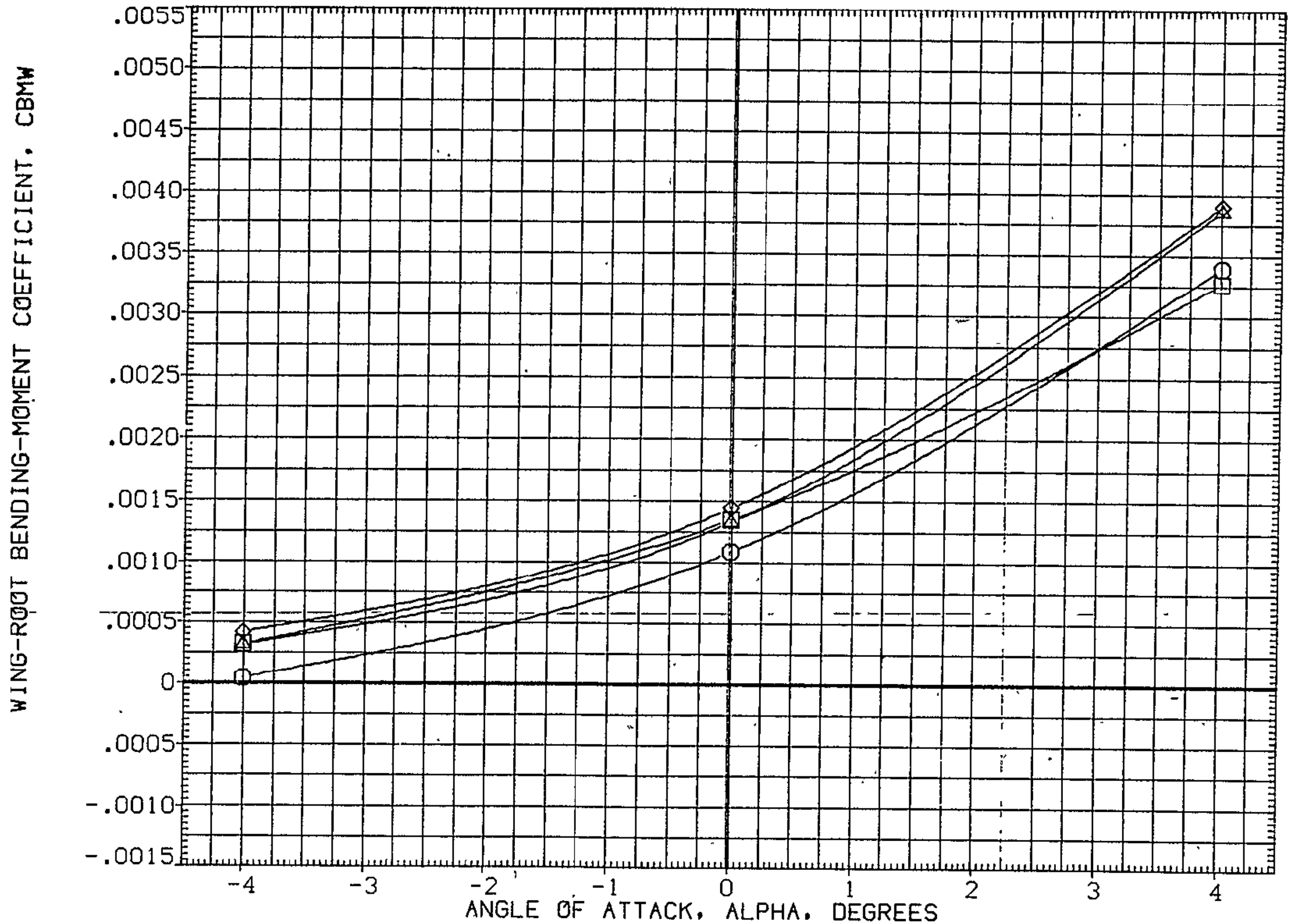


FIG. 74 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

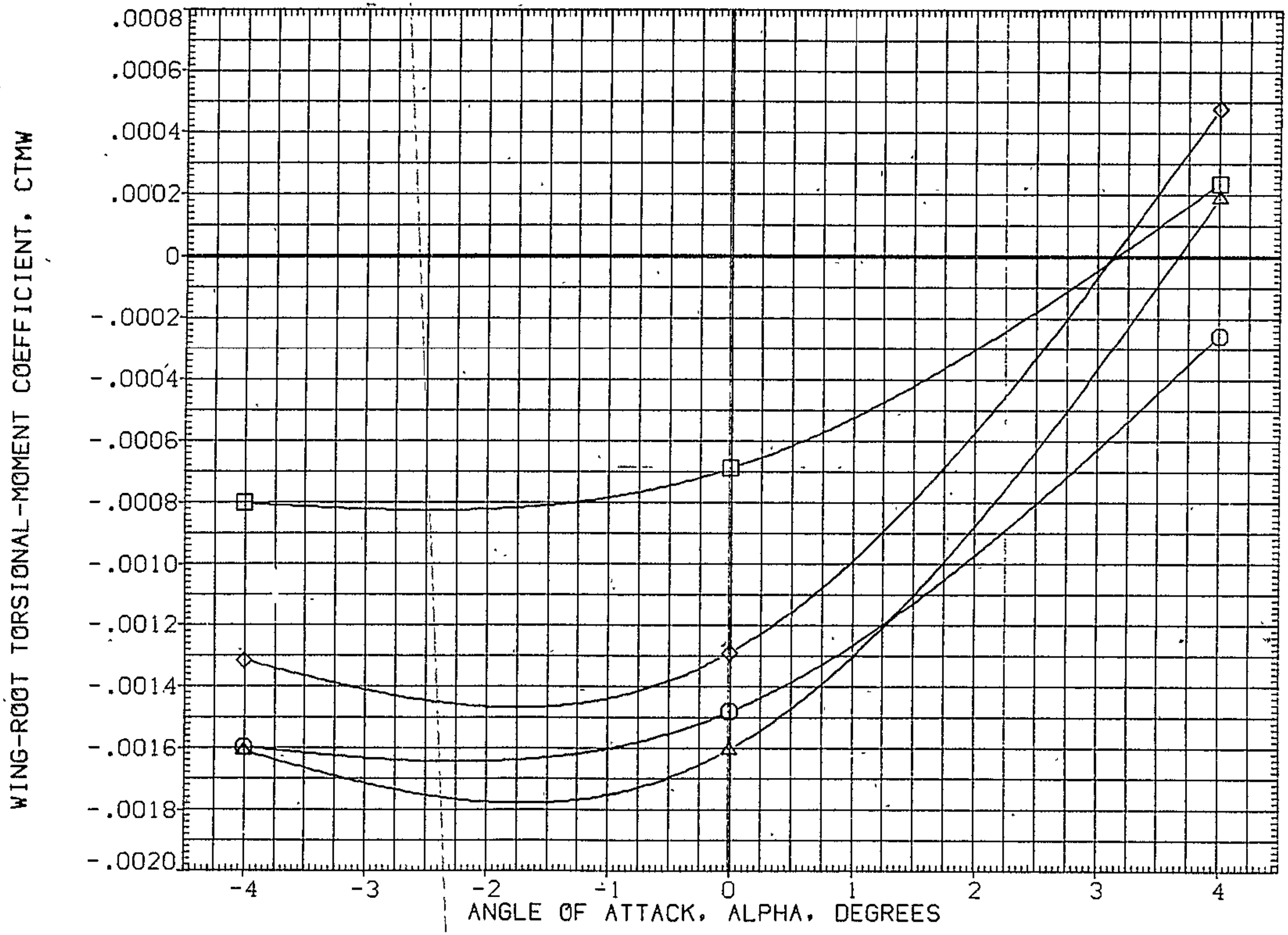


FIG. 74 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

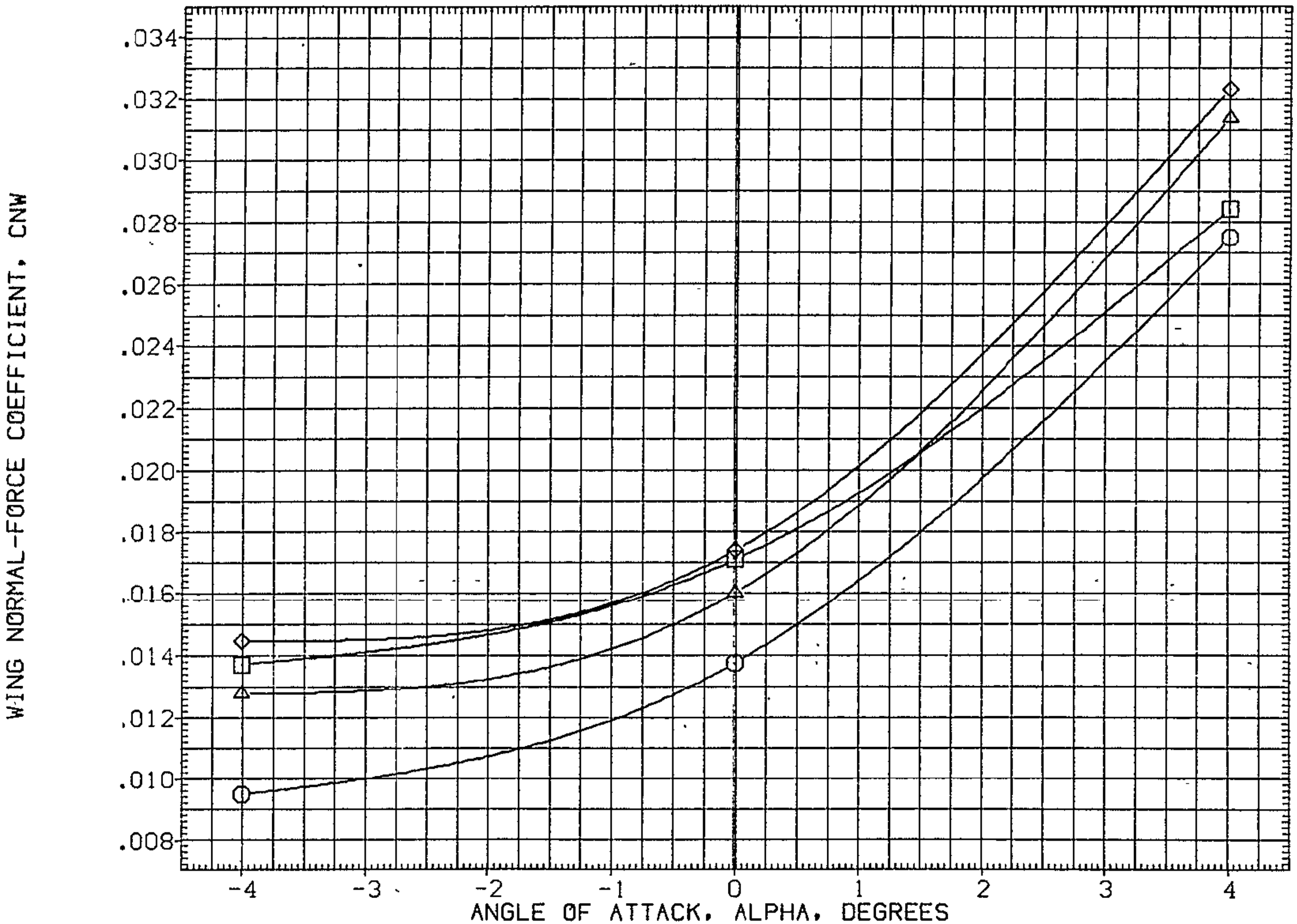


FIG. 74 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

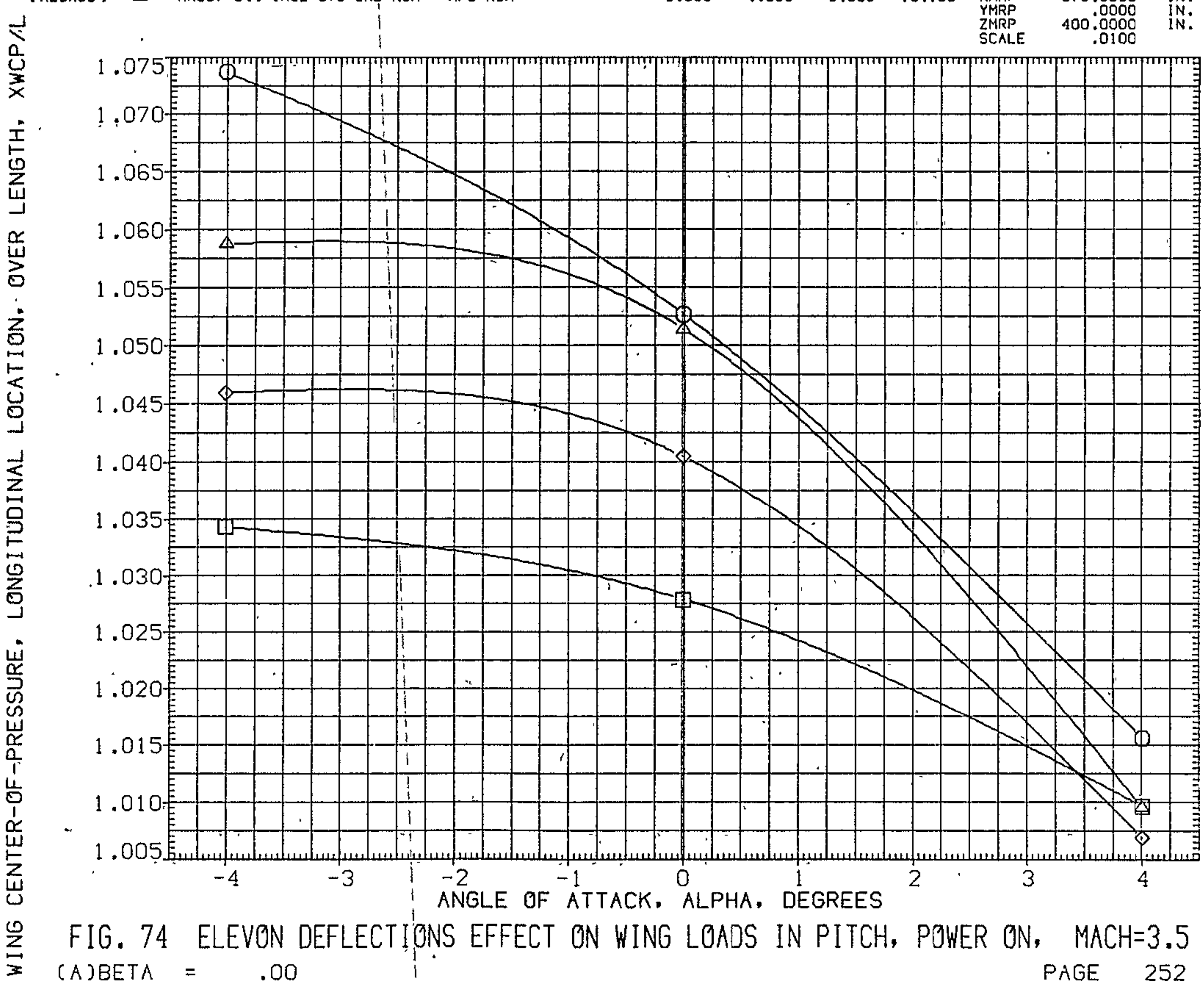


FIG. 74 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

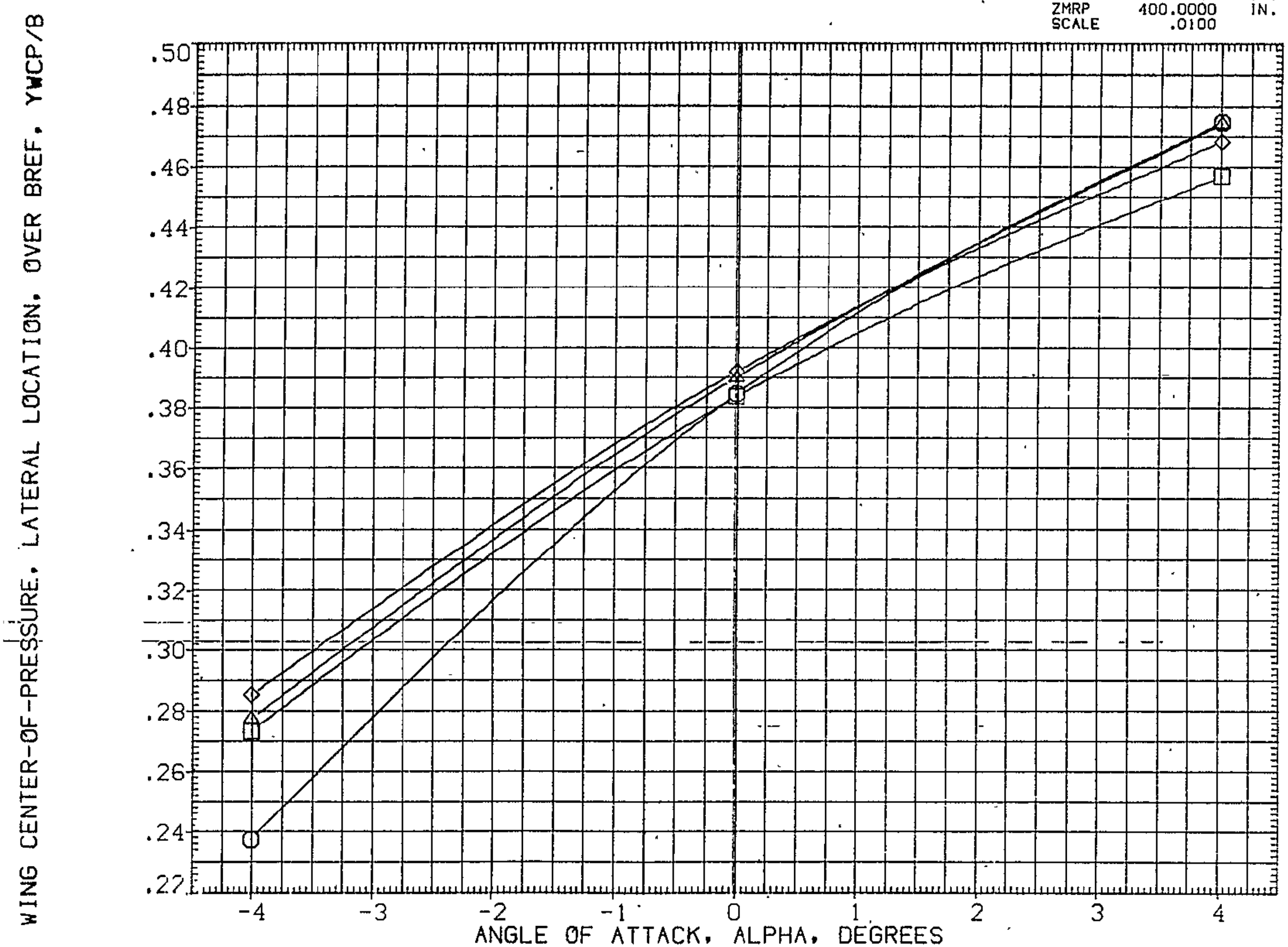


FIG. 74 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5X43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5X49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

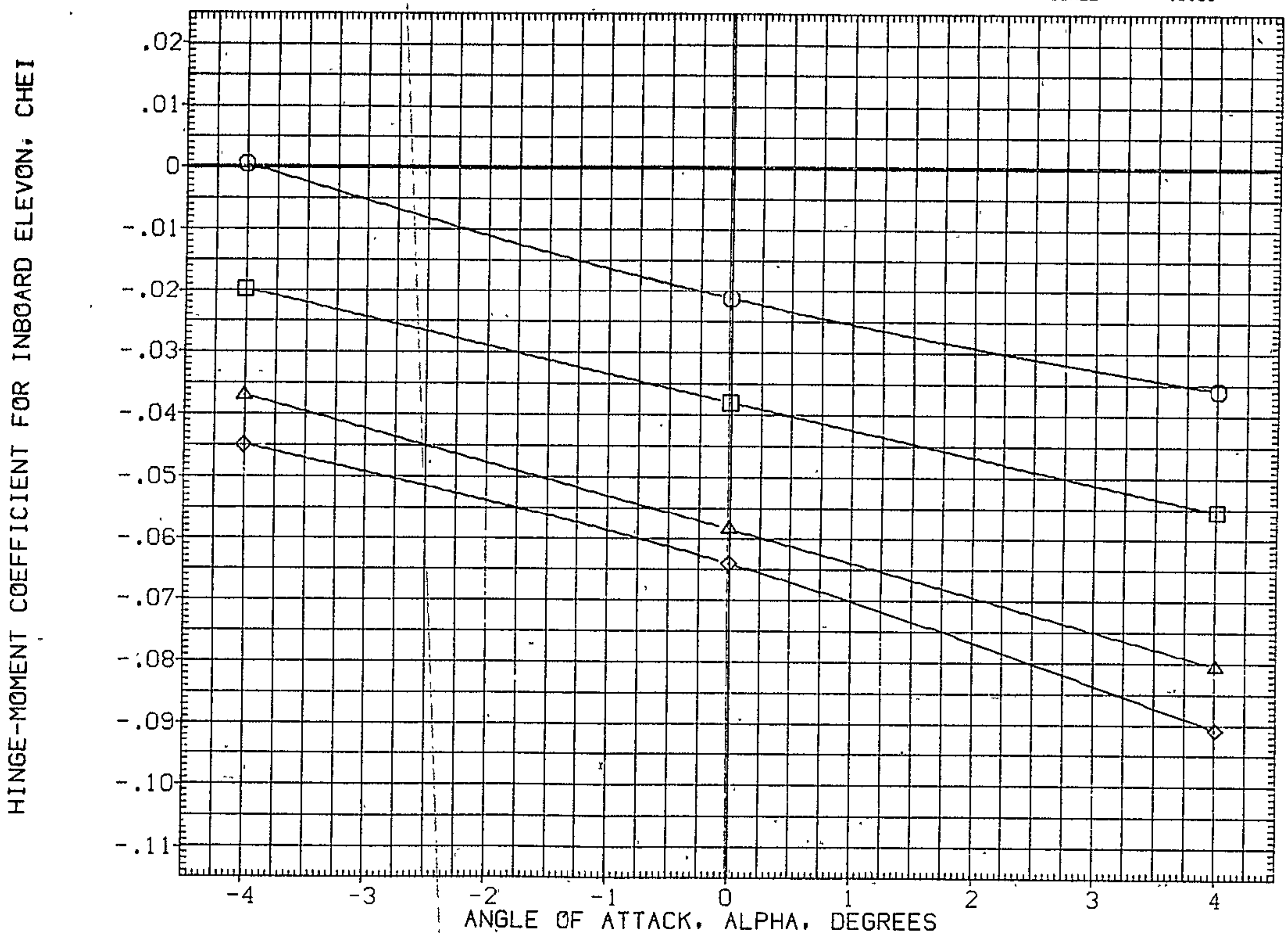


FIG. 75 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5X37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5X43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5X49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

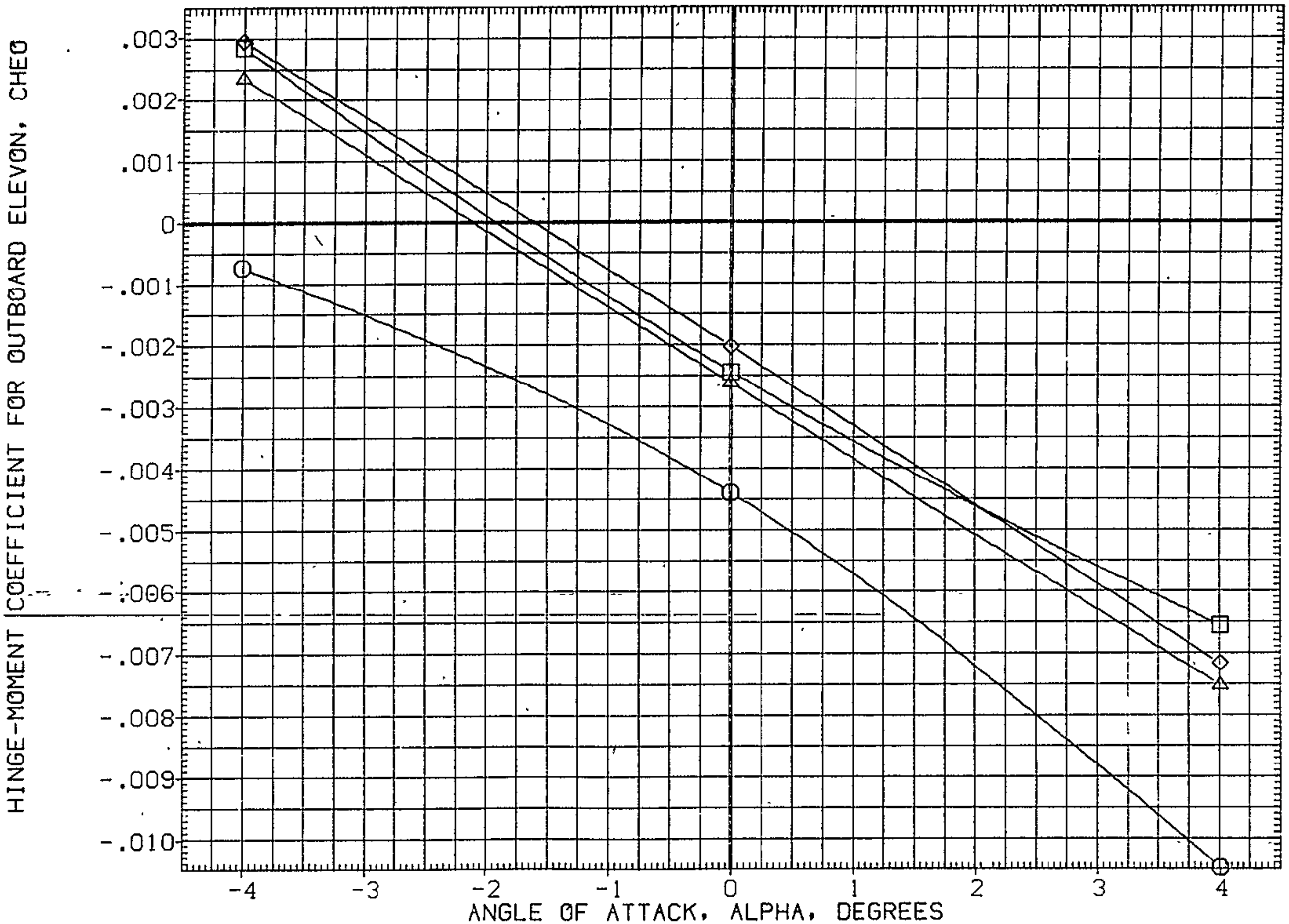


FIG. 75 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=2.6

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

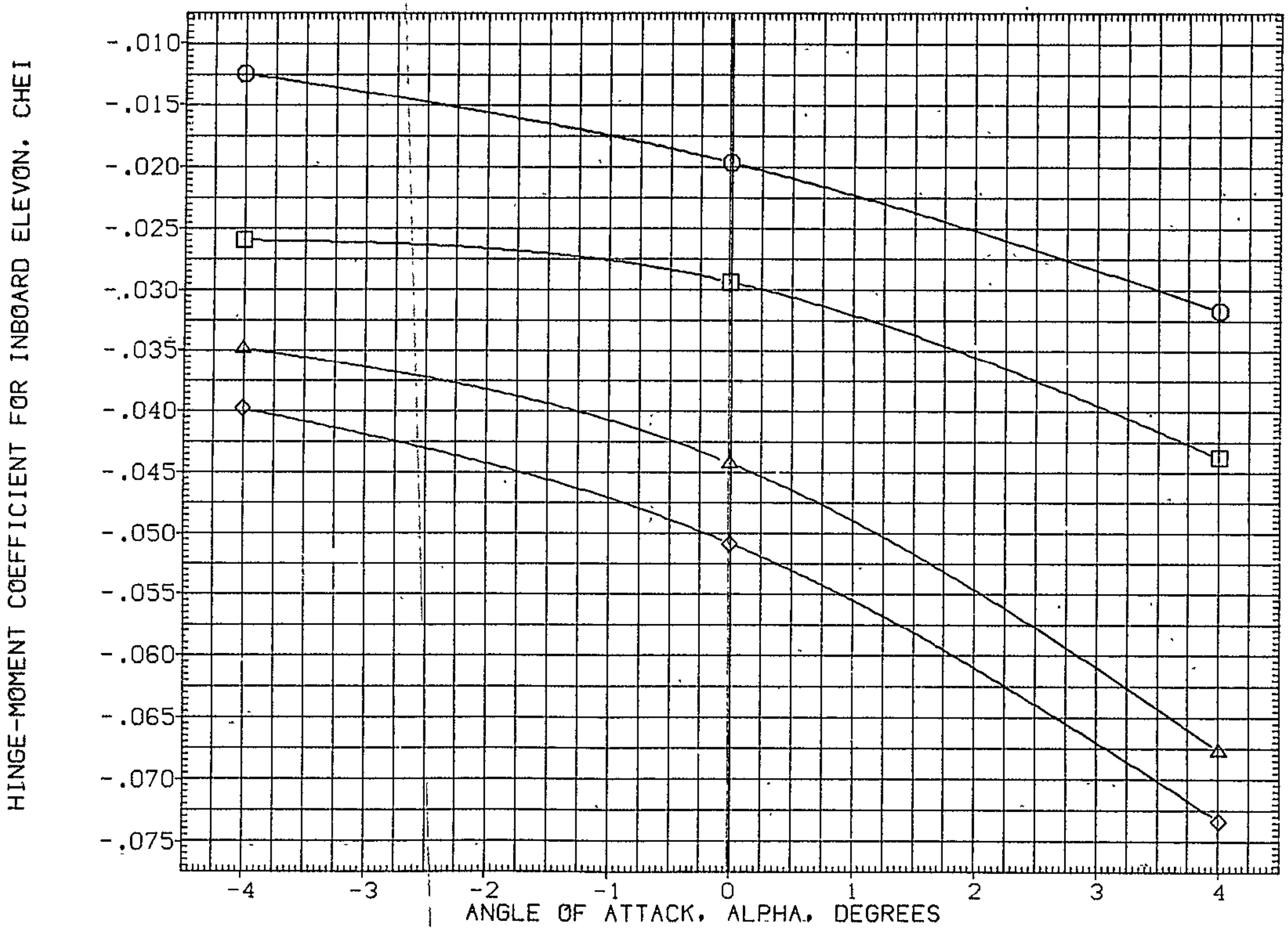


FIG. 76 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5X39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5X45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5X51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

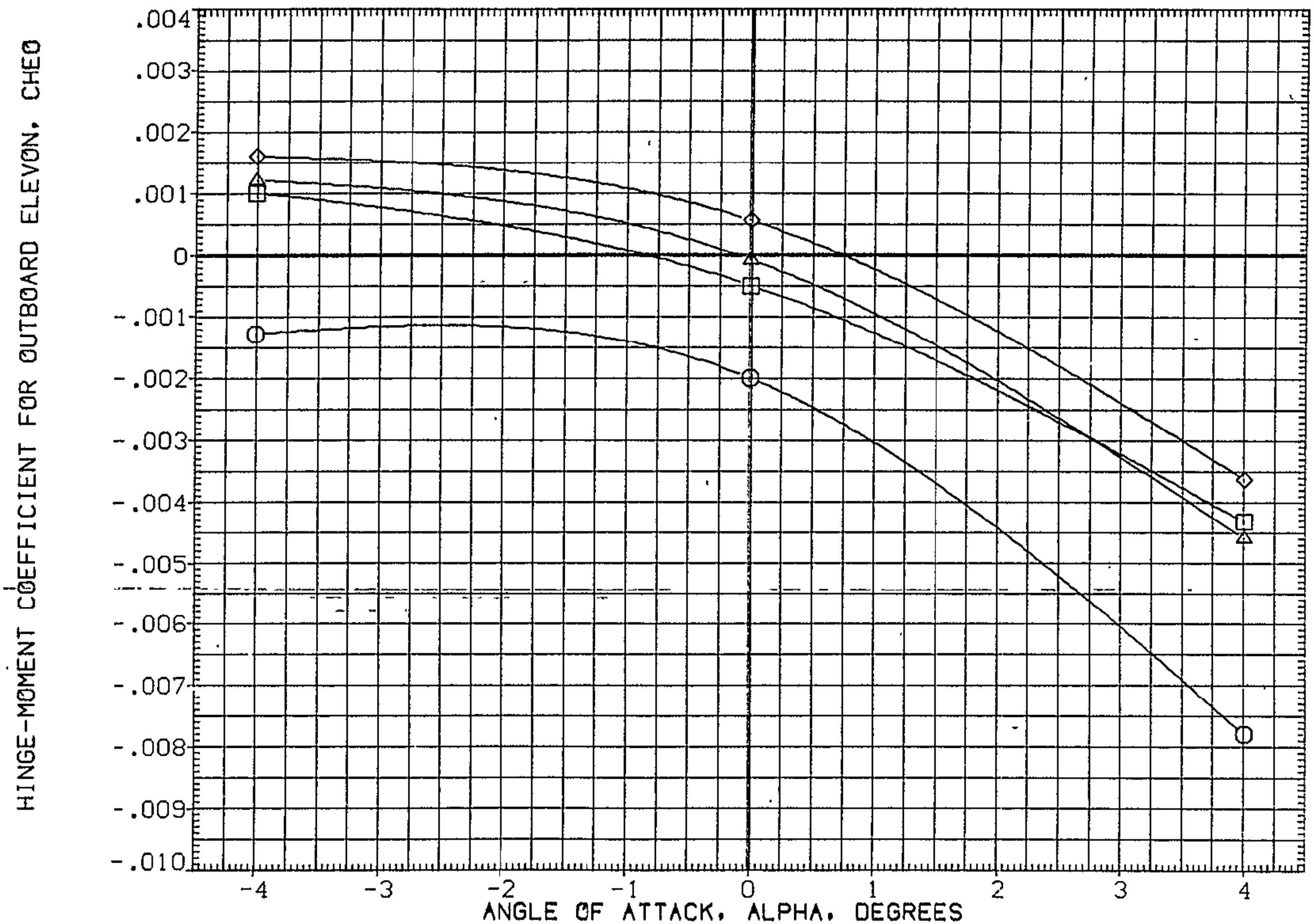


FIG. 76 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	P1
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

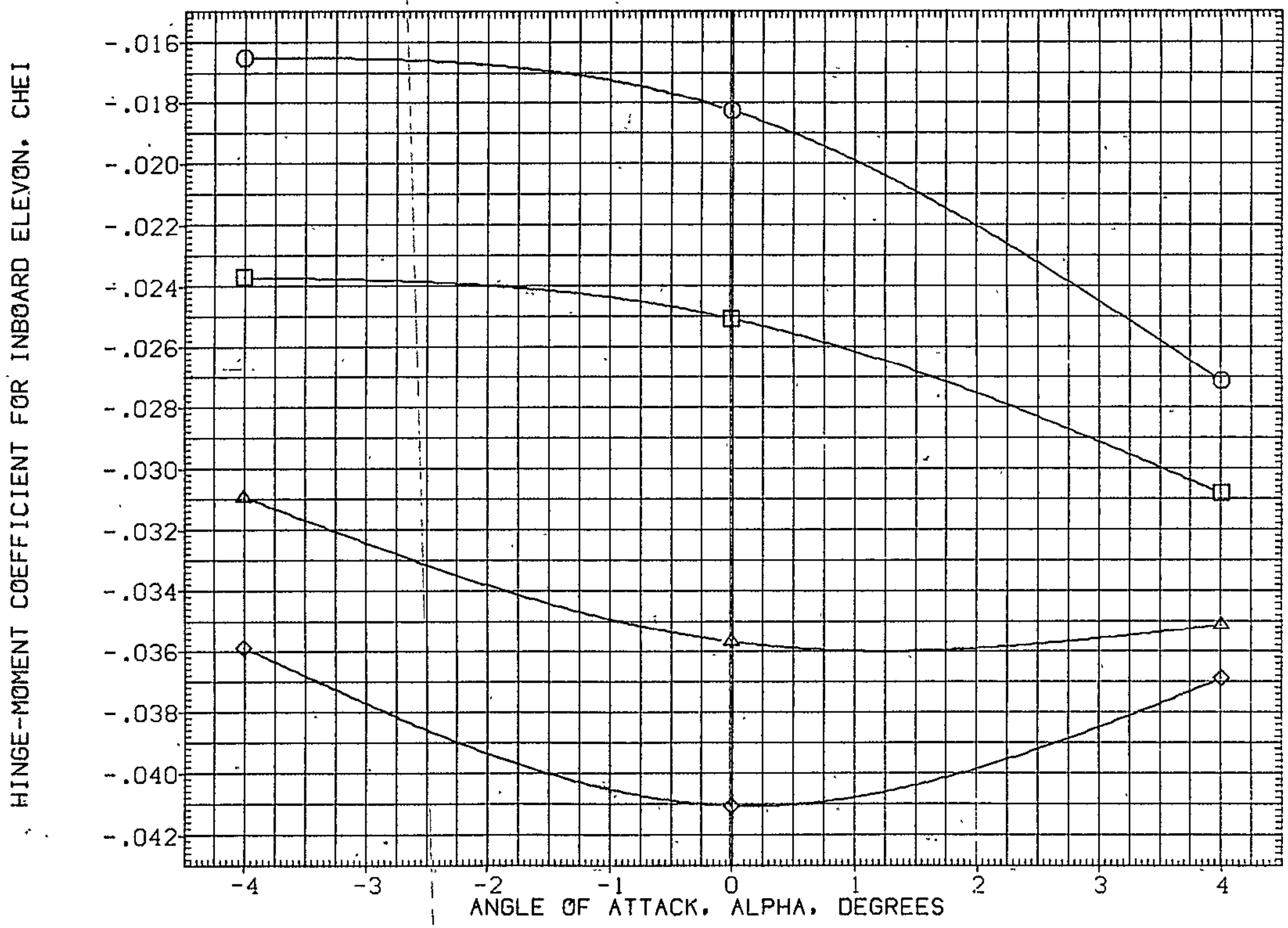


FIG. 77 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5X20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5X41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5X47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5X53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

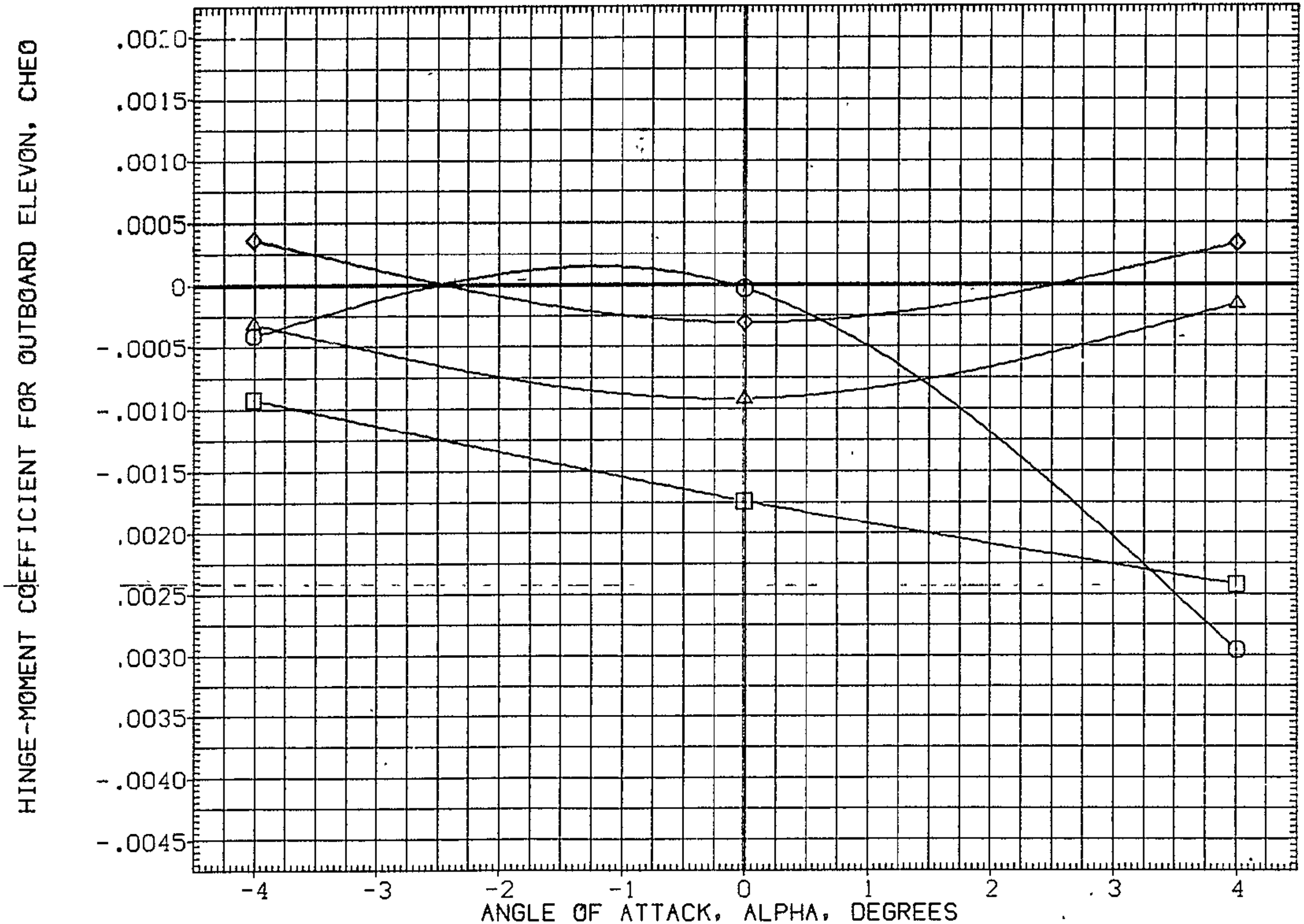


FIG. 77 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN PITCH, POWER ON, MACH=3.5

(A)BETA = .00

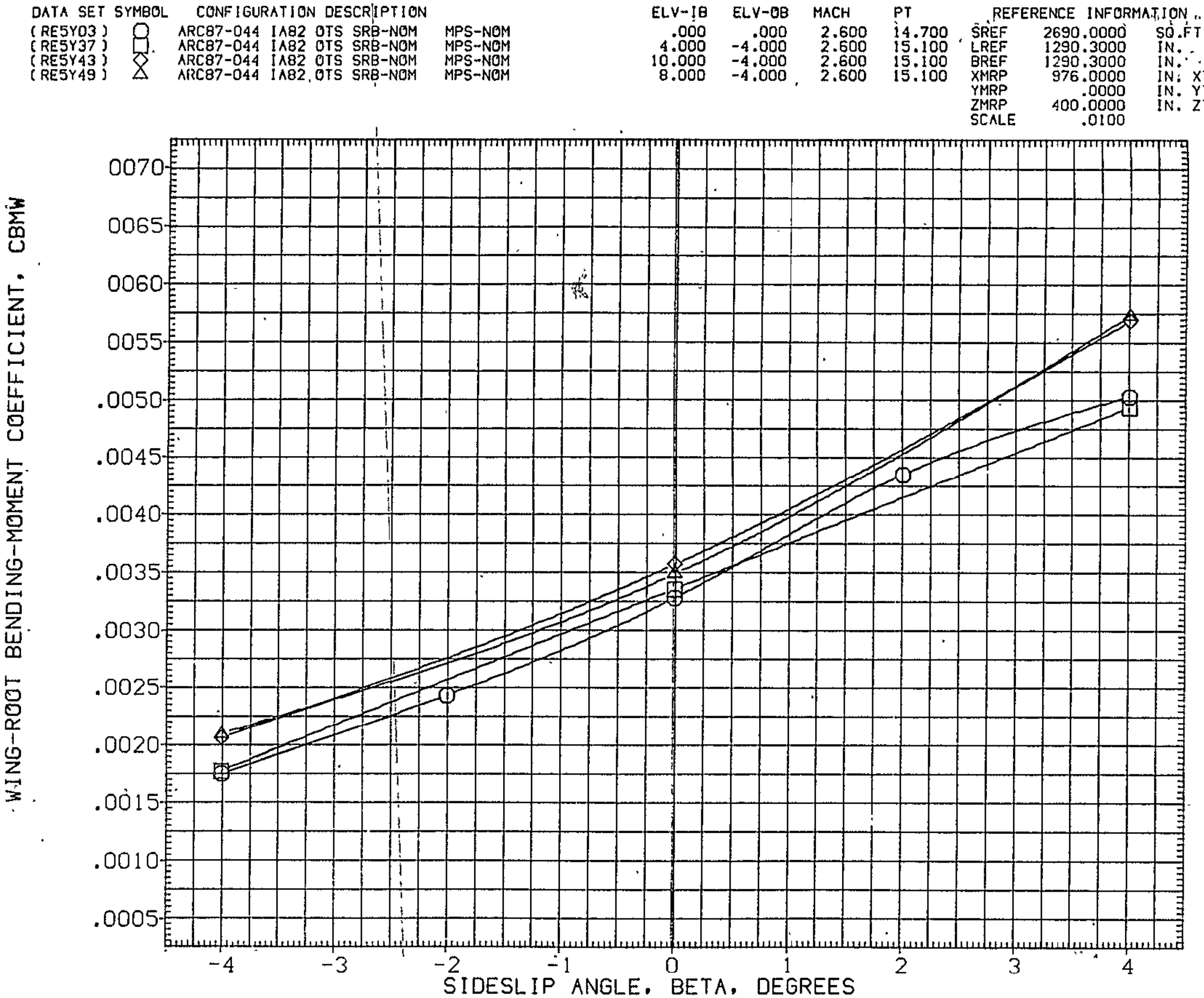


FIG. 78 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5Y43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5Y49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

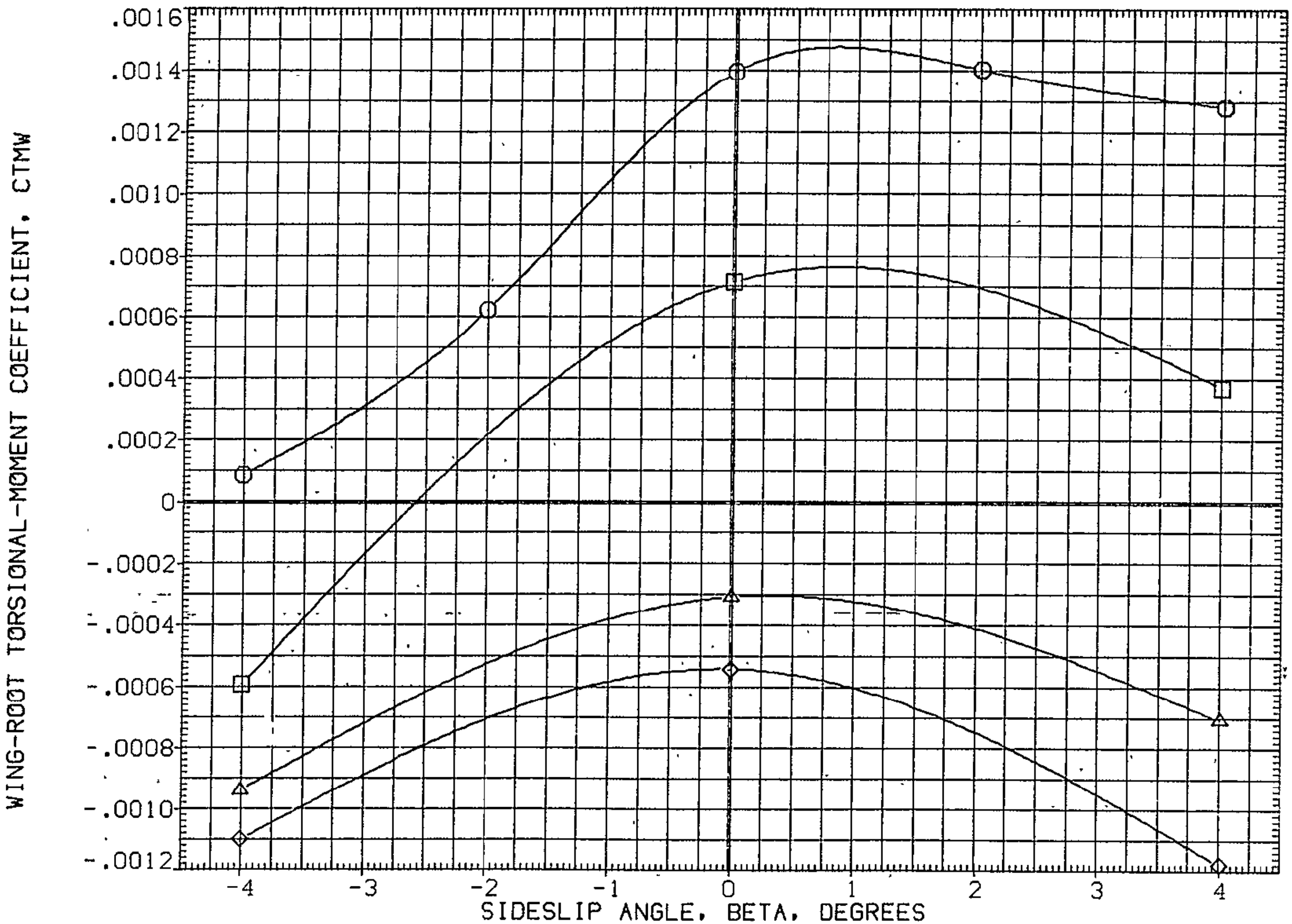


FIG. 78 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT.
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5Y43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5Y49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

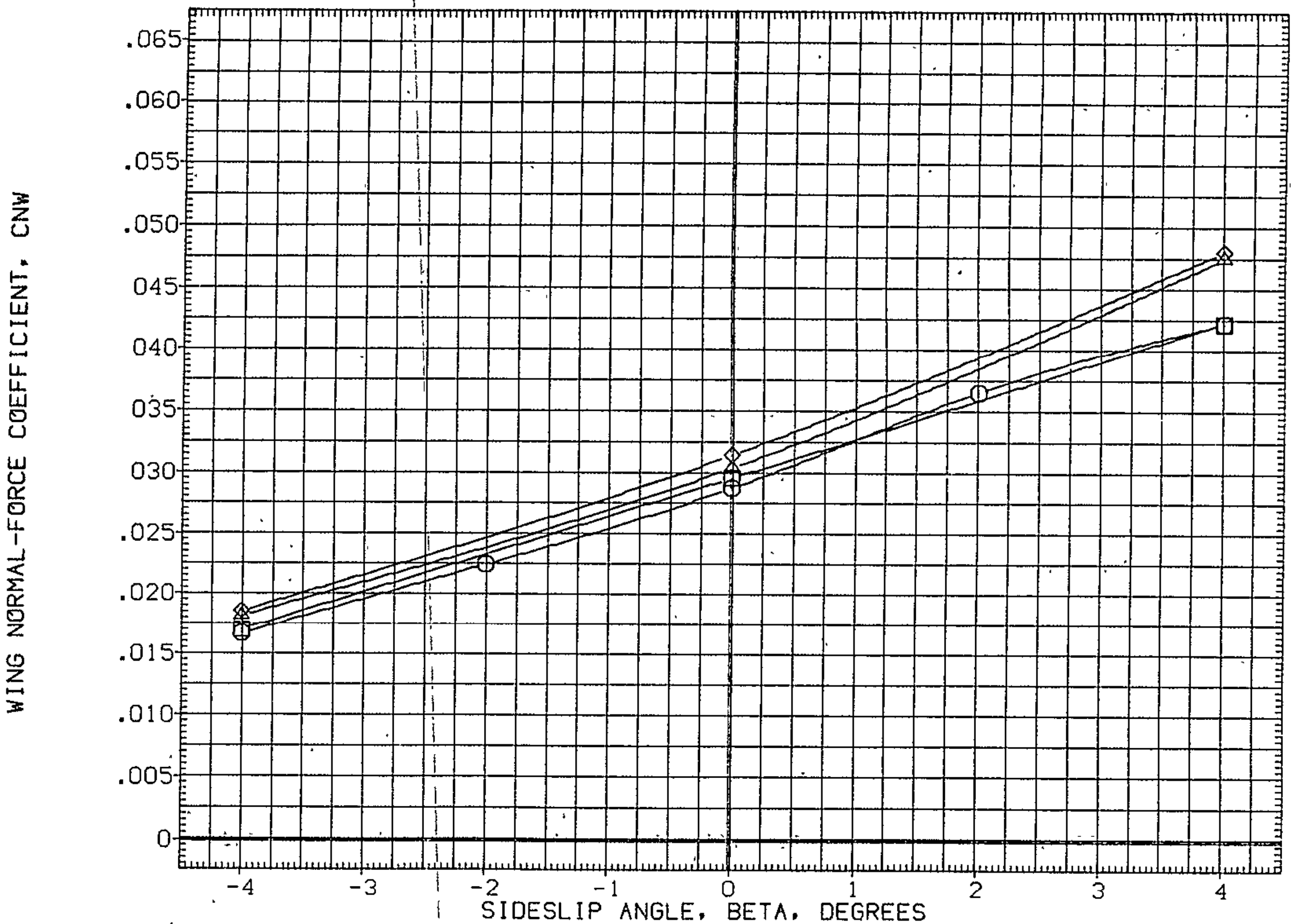


FIG. 78 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5Y43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5Y49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

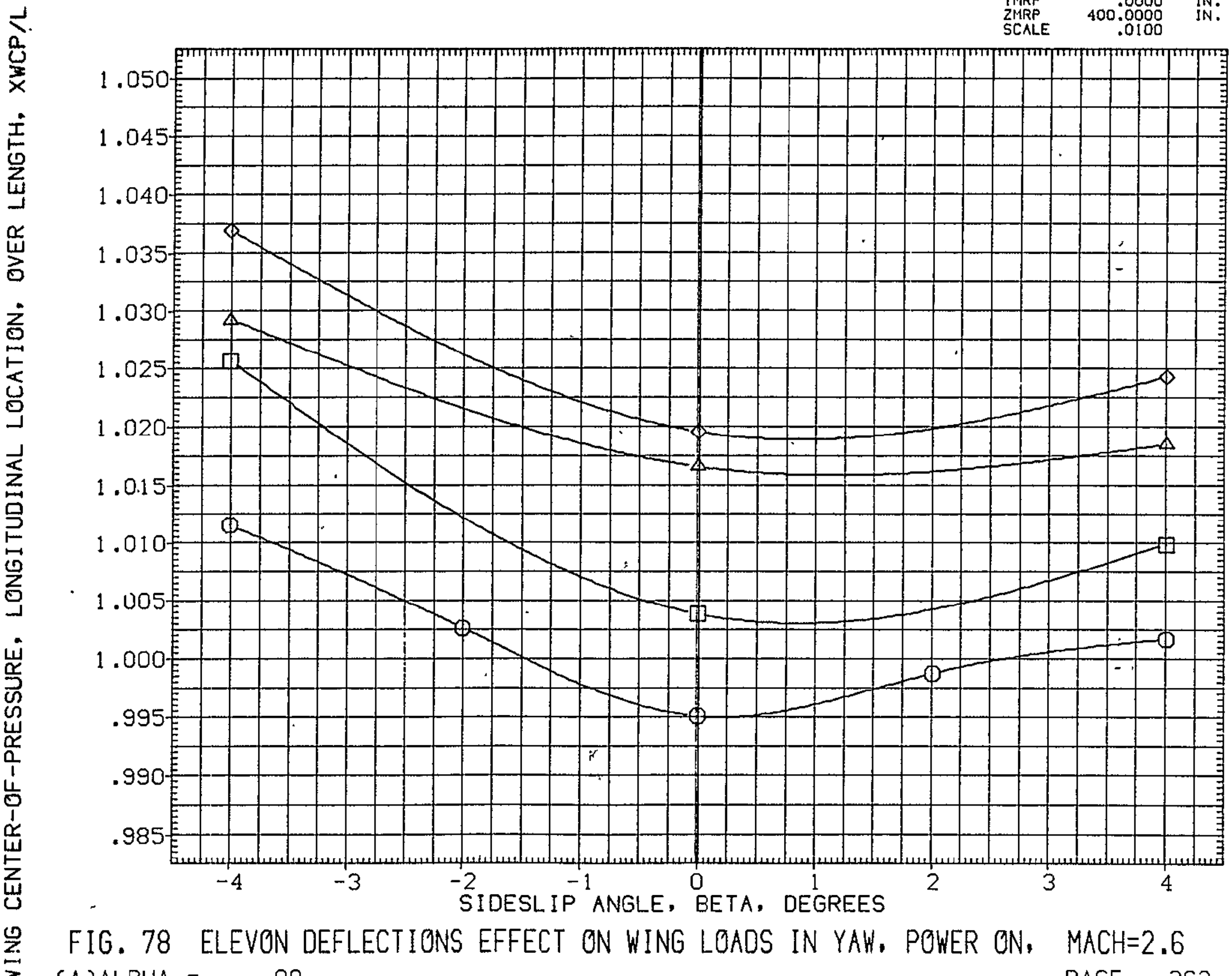


FIG. 78 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5Y43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5Y49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

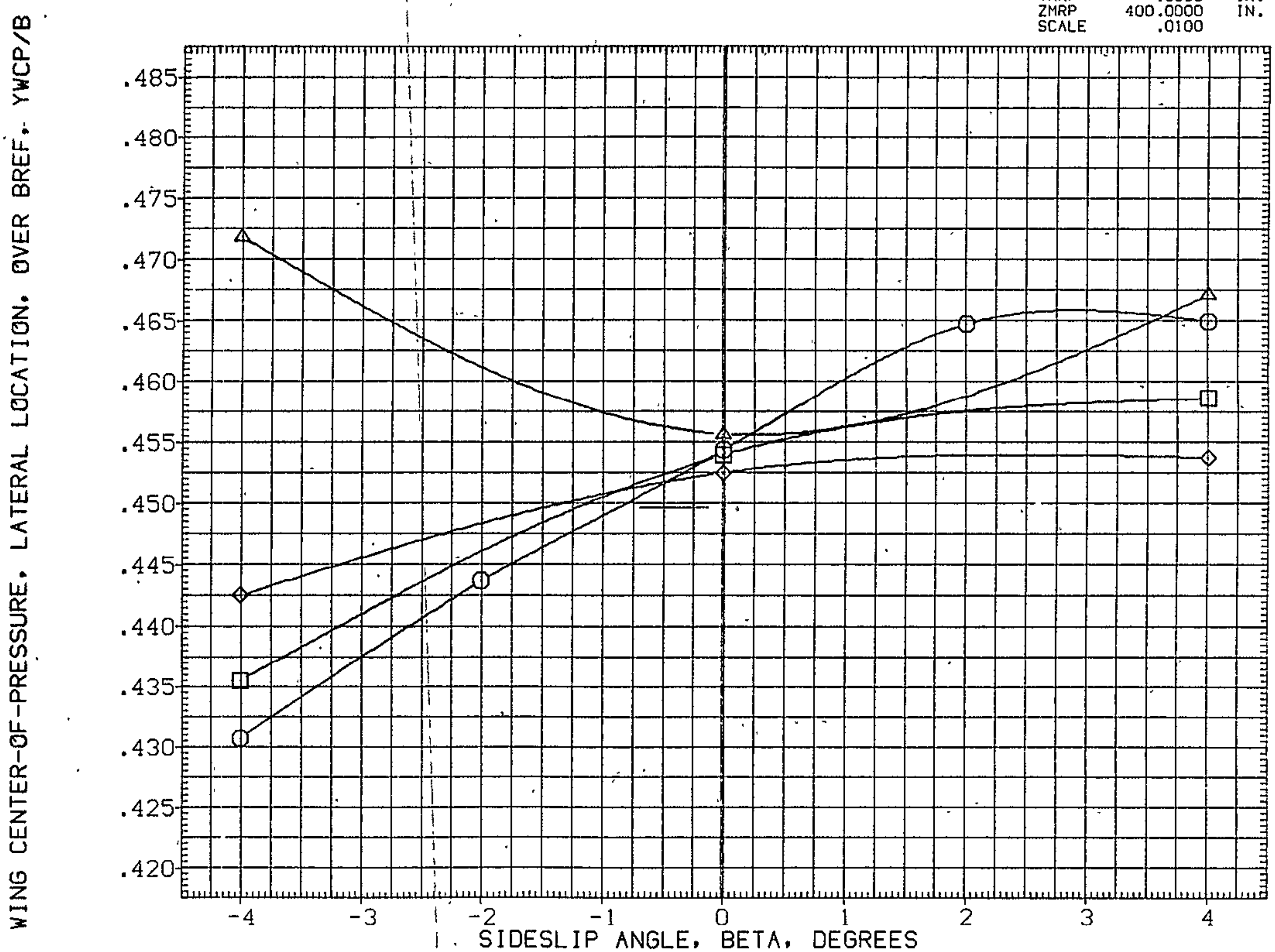


FIG. 78 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5Y45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5Y51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

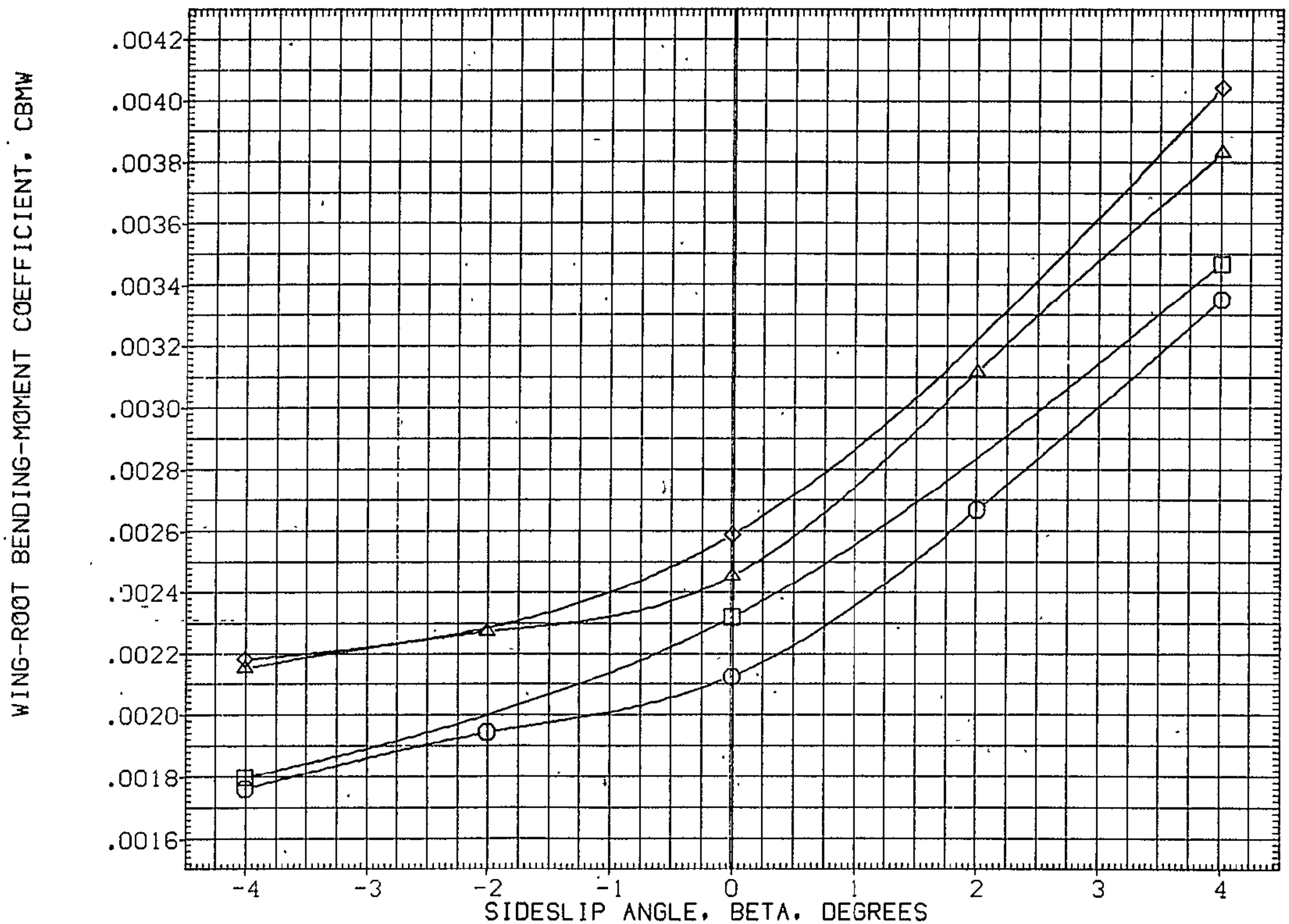


FIG. 79 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5Y45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5Y51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

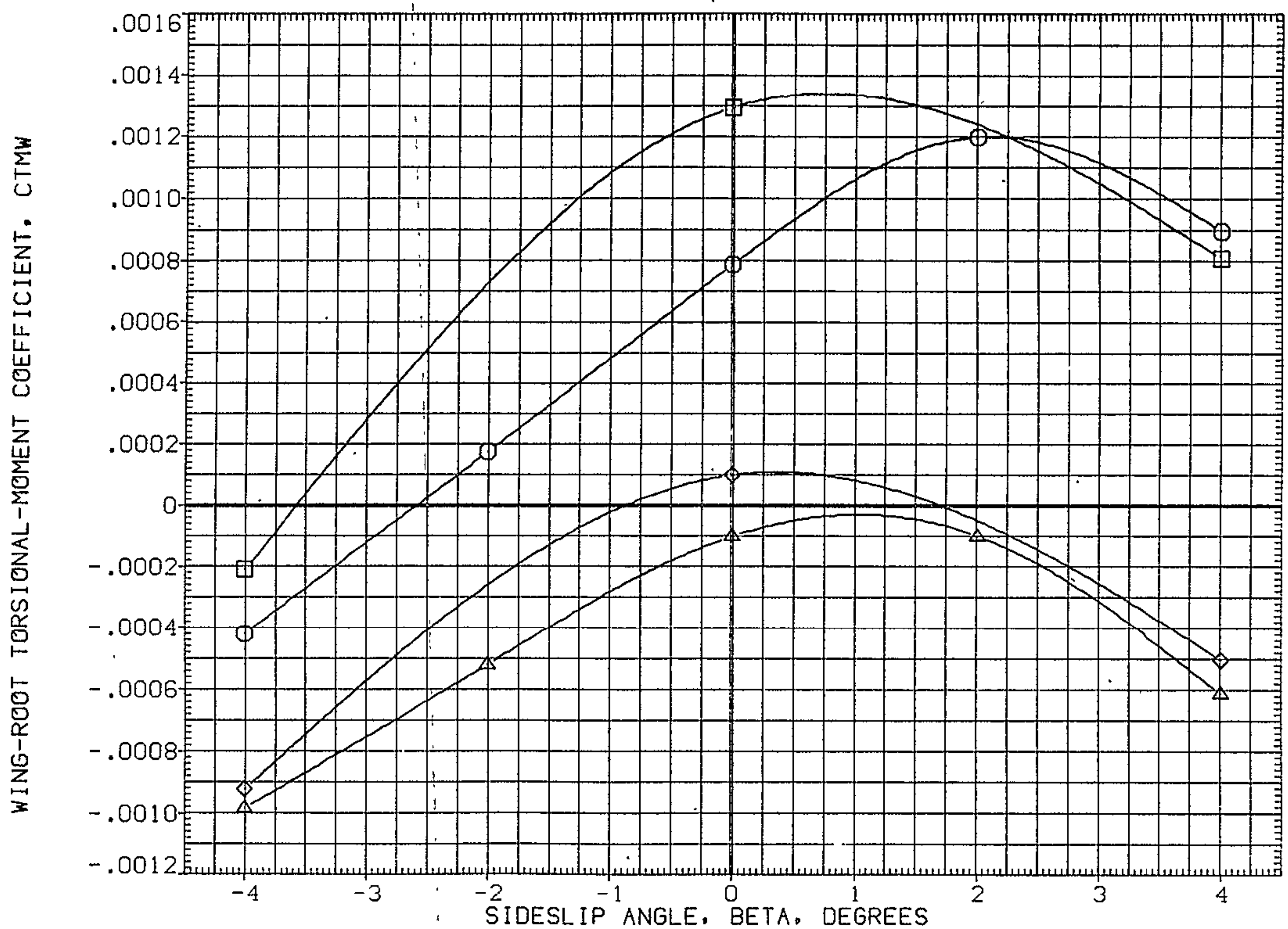


FIG. 79 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	3.000	15.100
(RE5Y39)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	-4.000	3.000	15.100
(RE5Y45)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	-4.000	3.000	15.100
(RE5Y51)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

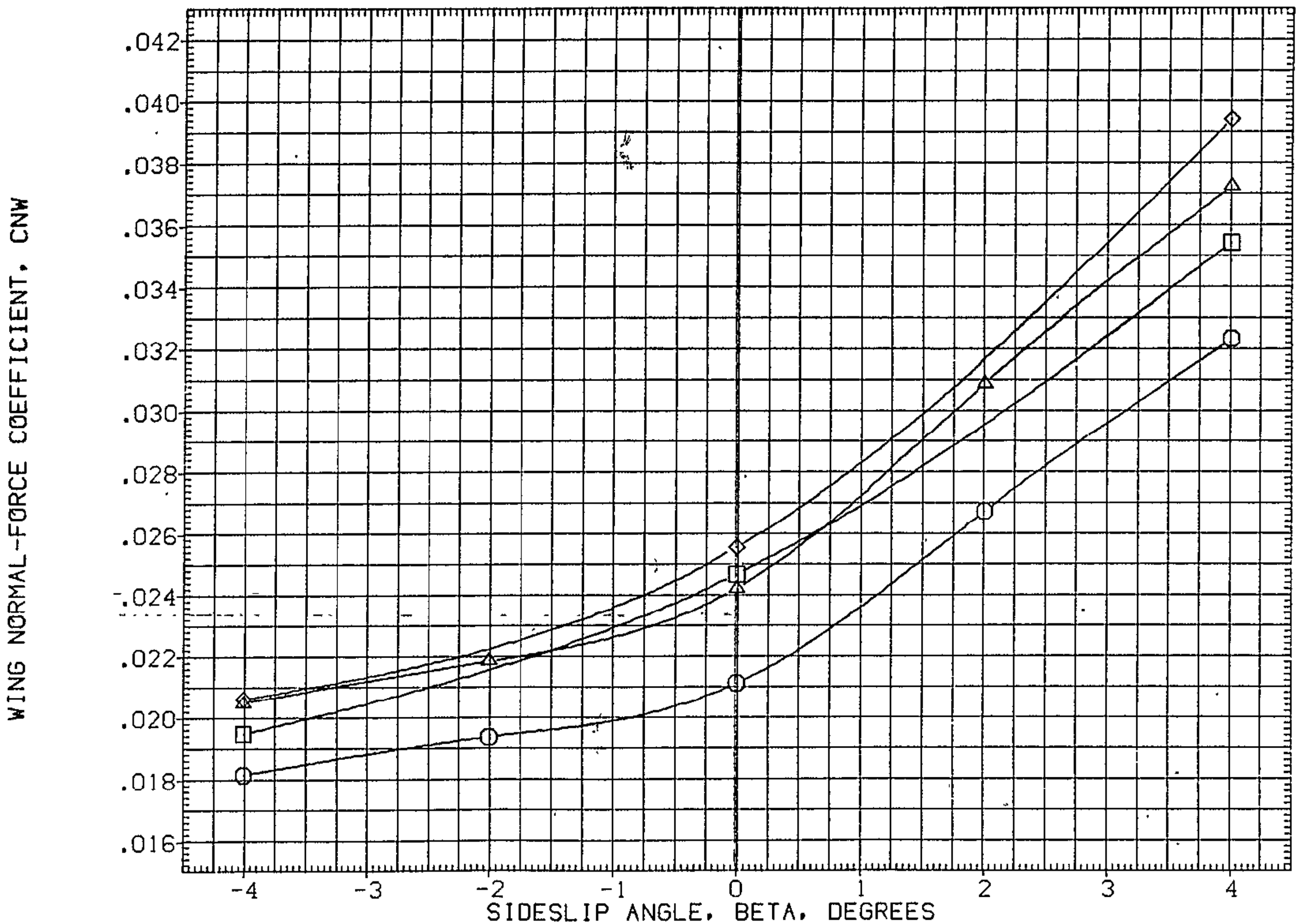


FIG. 79 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0
(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5Y45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5Y51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

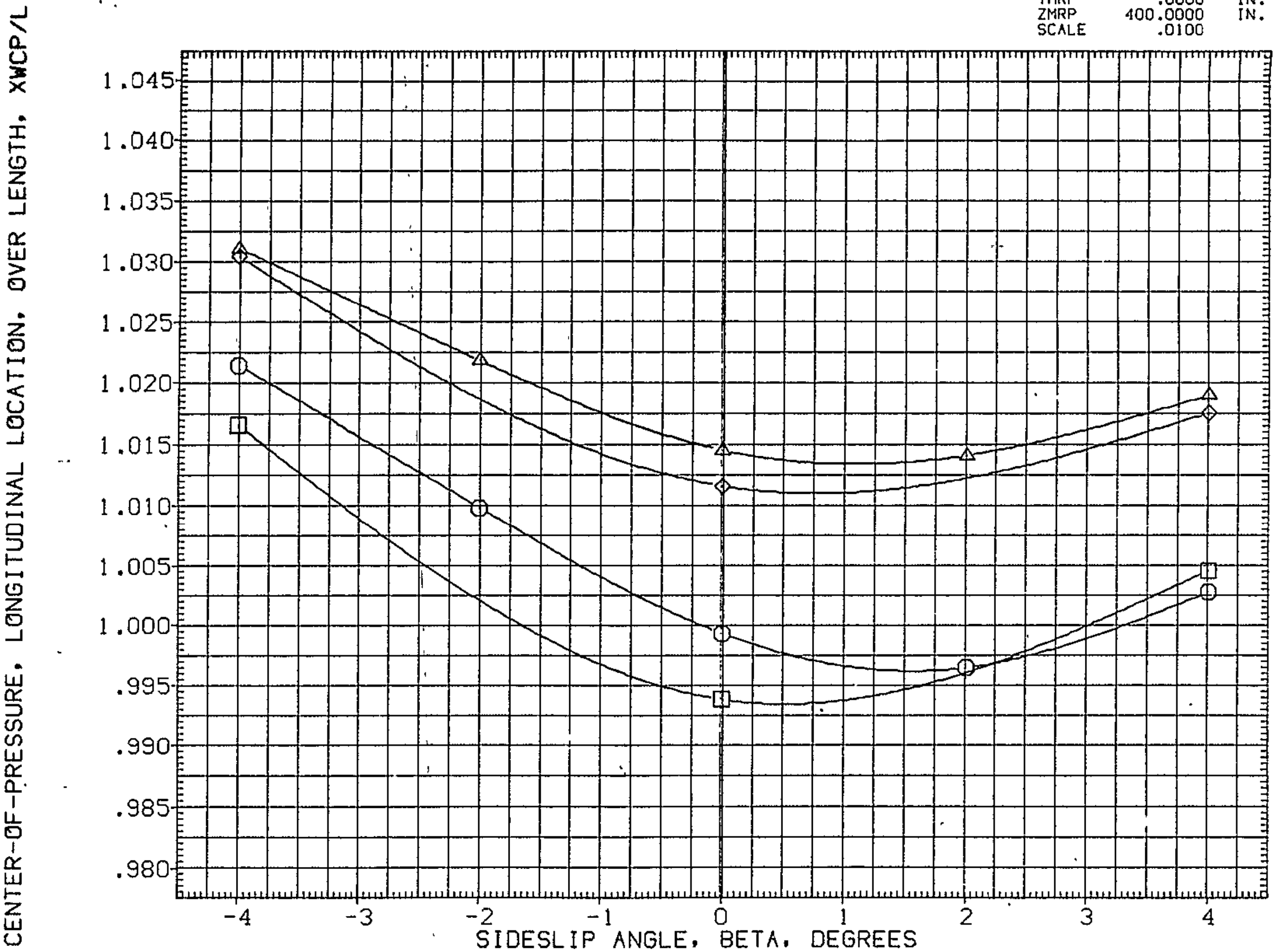


FIG. 79 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

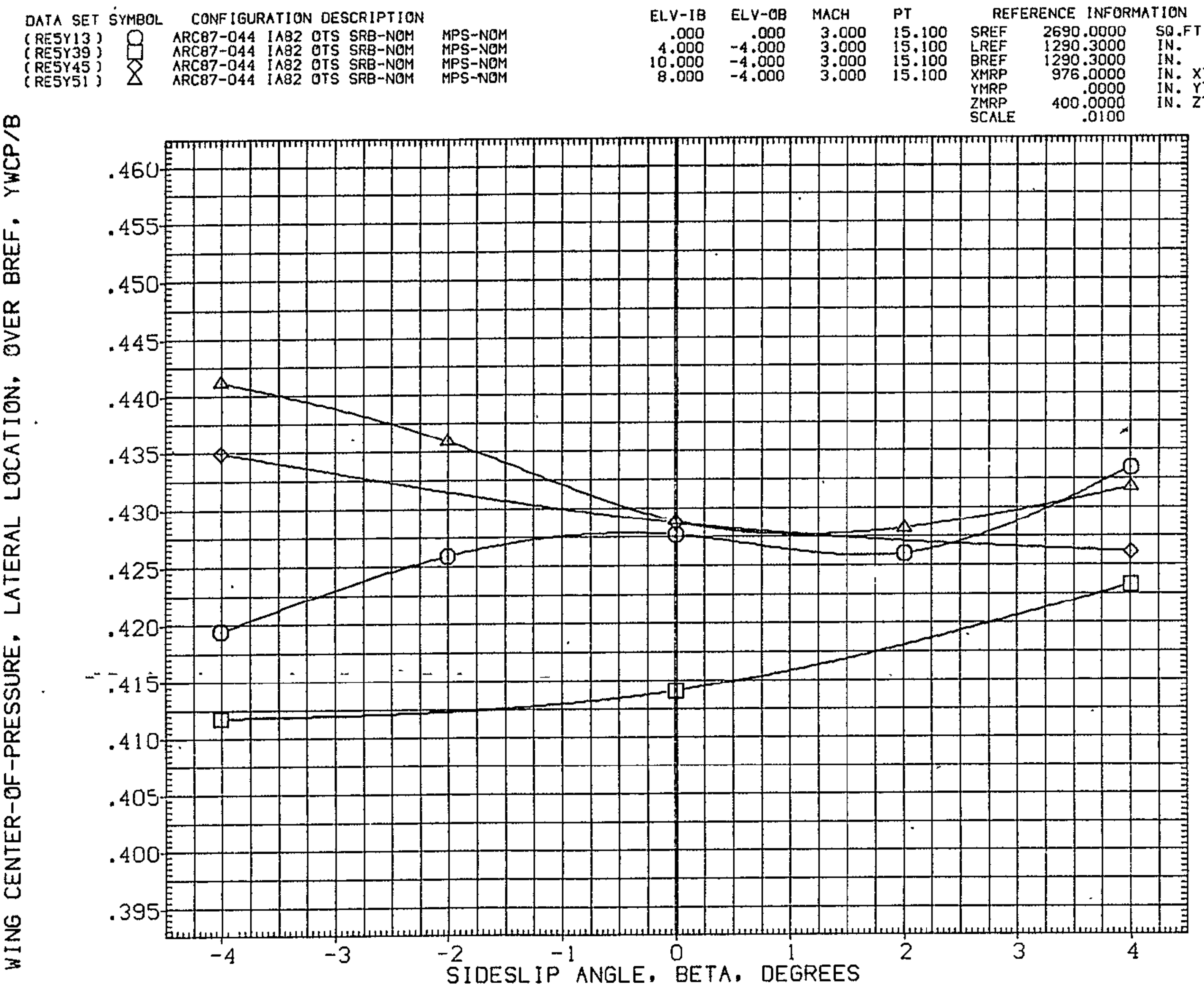


FIG. 79 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5Y47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5Y53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

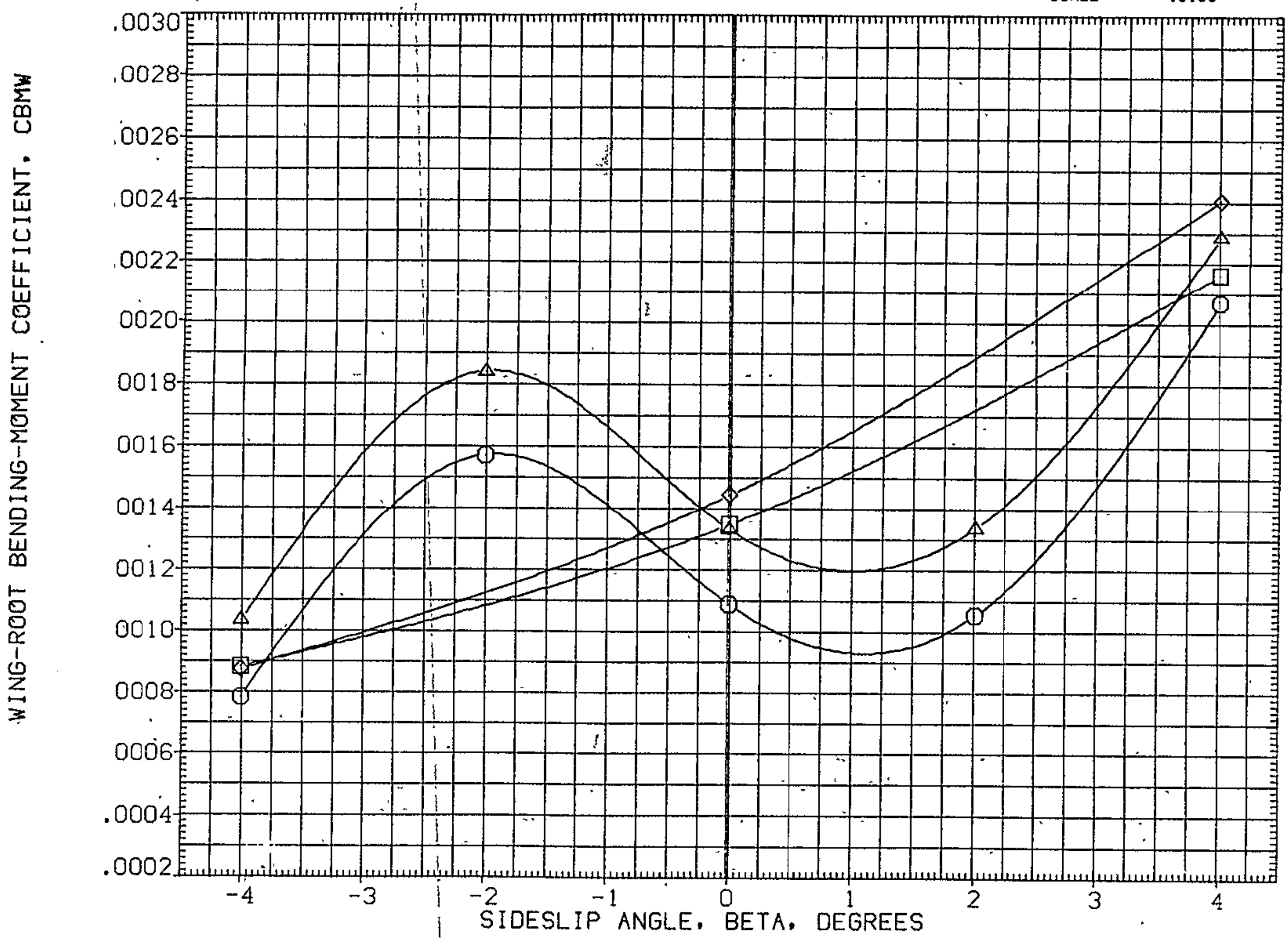


FIG. 80 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5Y47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5Y53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

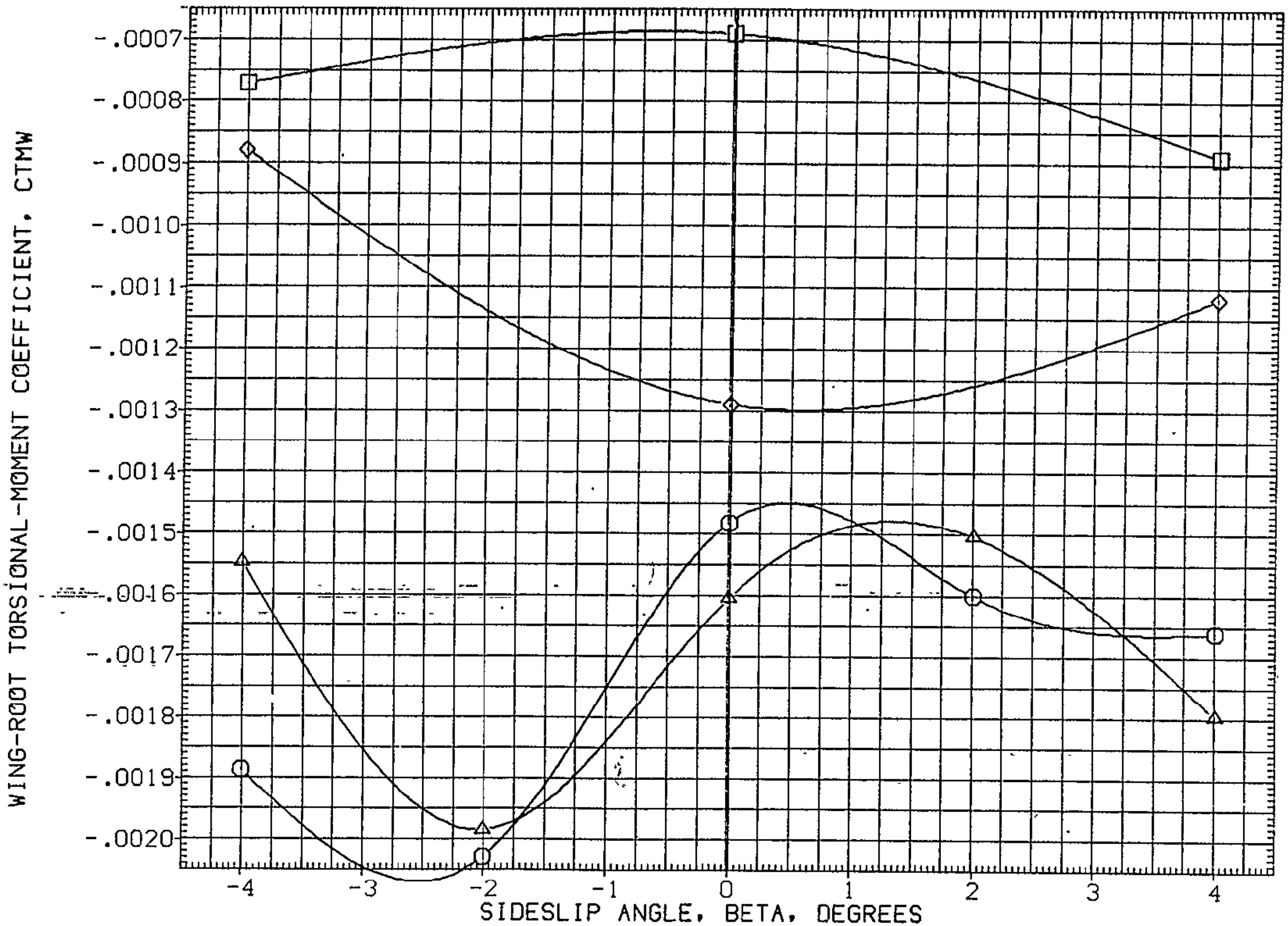


FIG. 80 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

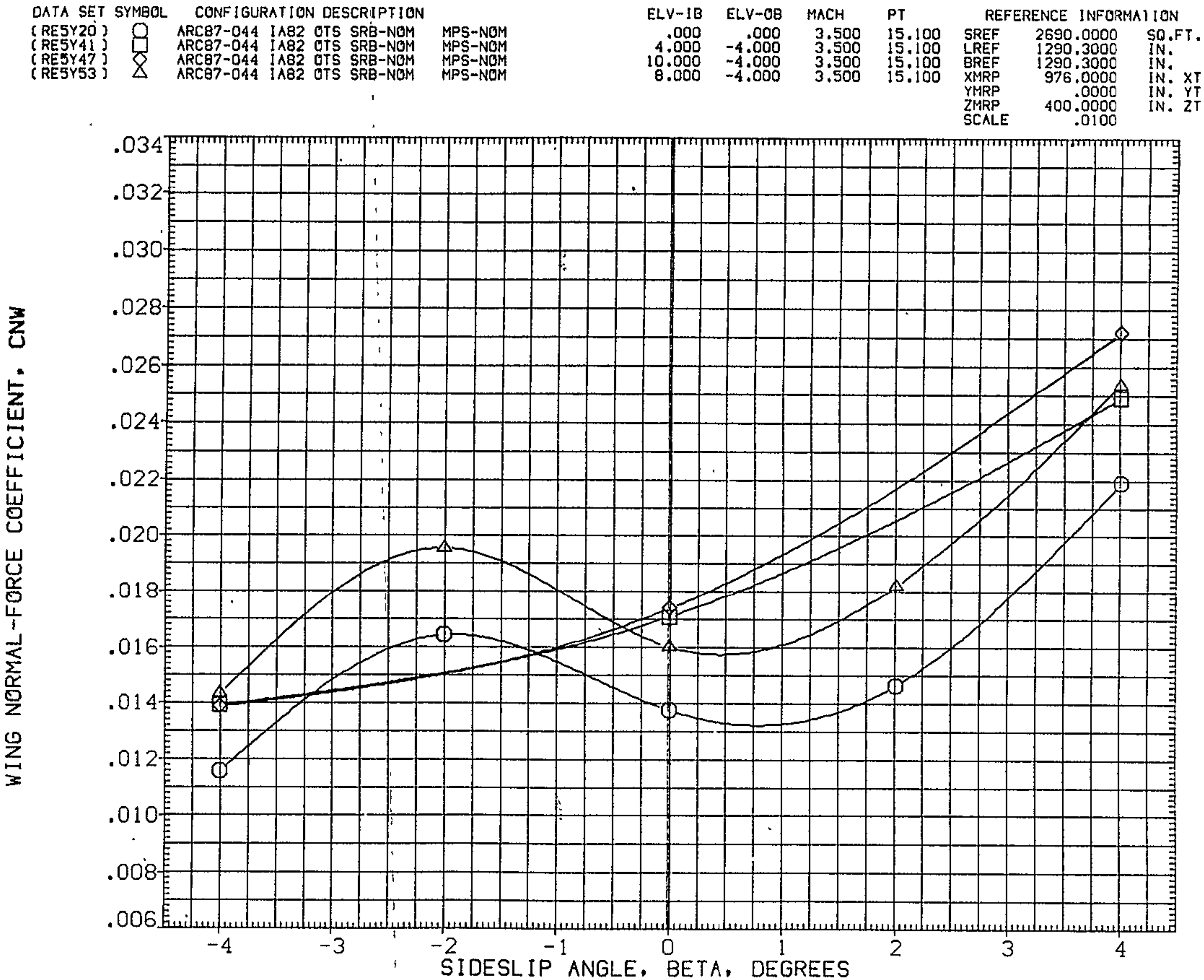


FIG. 80 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

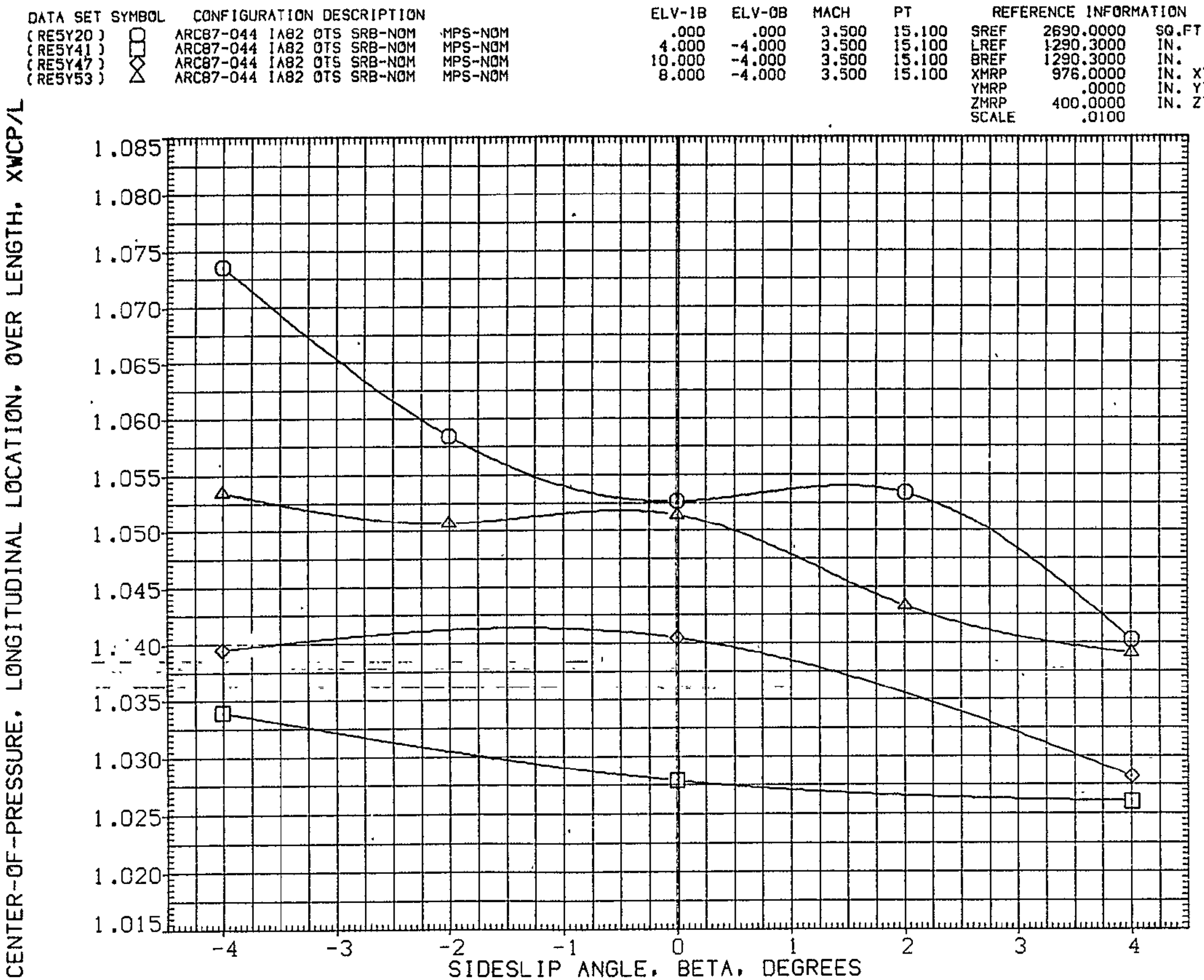


FIG. 80 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5
(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5Y47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5Y53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

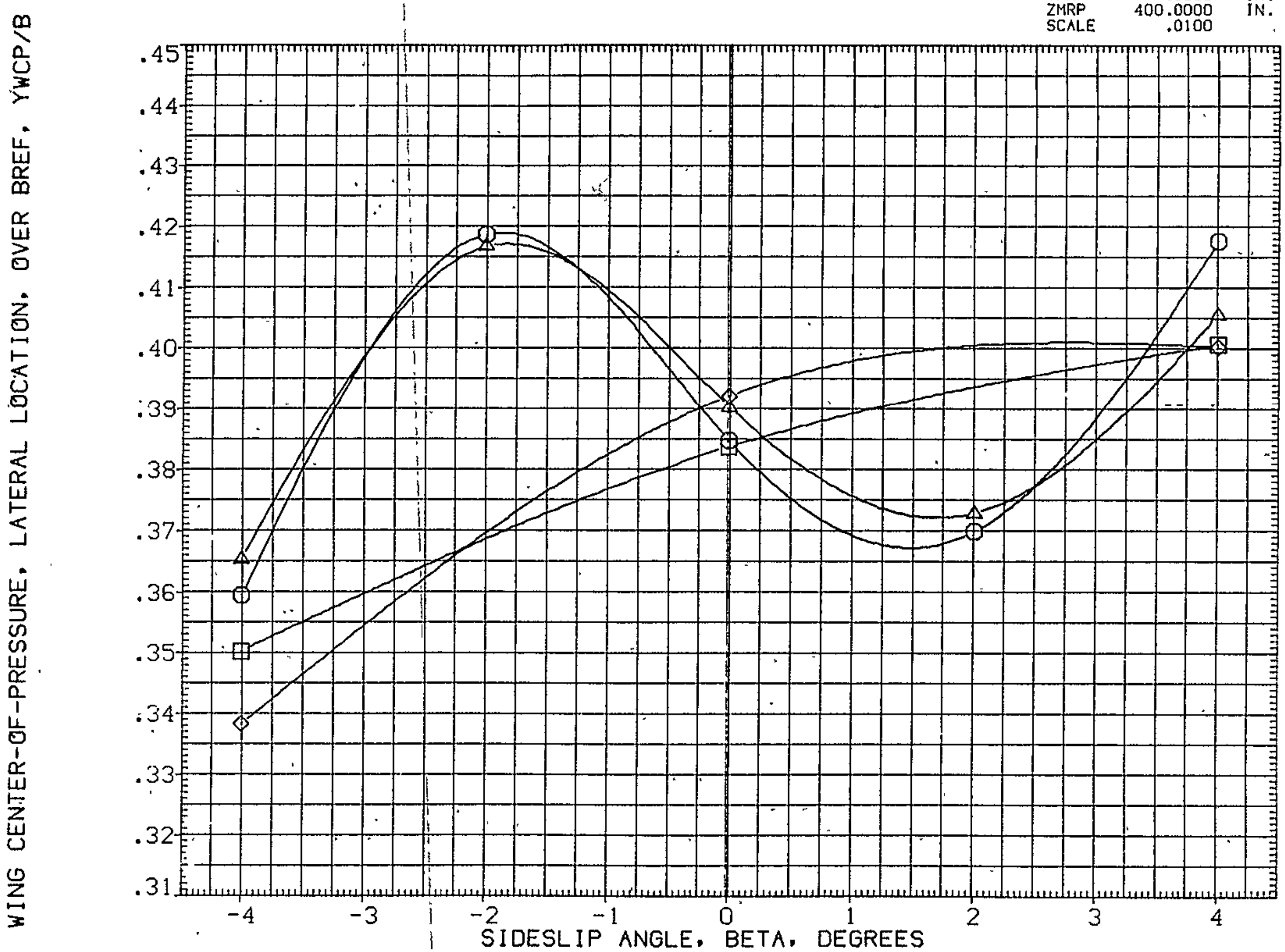


FIG. 80 ELEVON DEFLECTIONS EFFECT ON WING LOADS IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5Y43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5Y49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

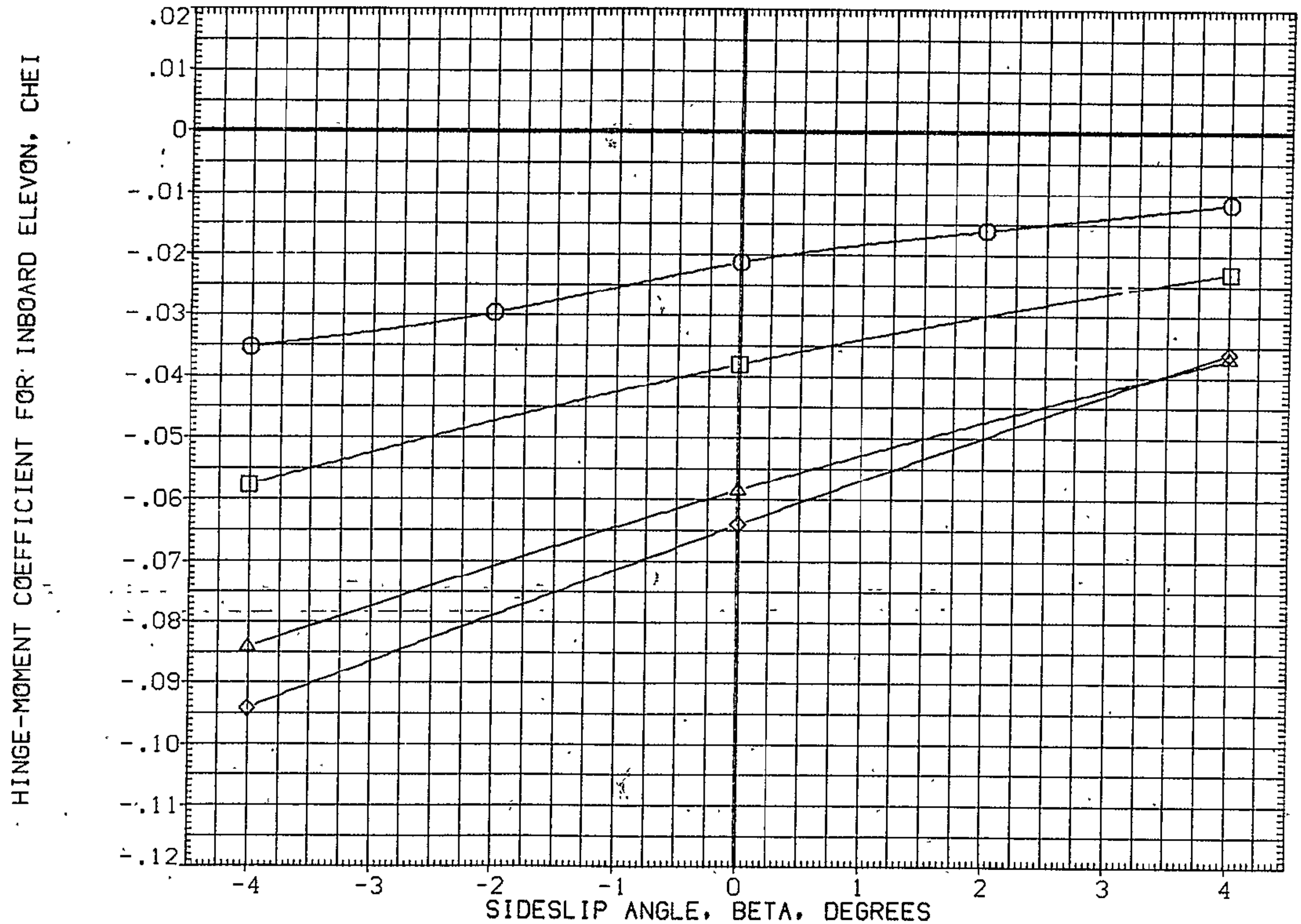


FIG. 81 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	2.600	14.700
(RE5Y37)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	2.600	15.100
(RE5Y43)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	2.600	15.100
(RE5Y49)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	2.600	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

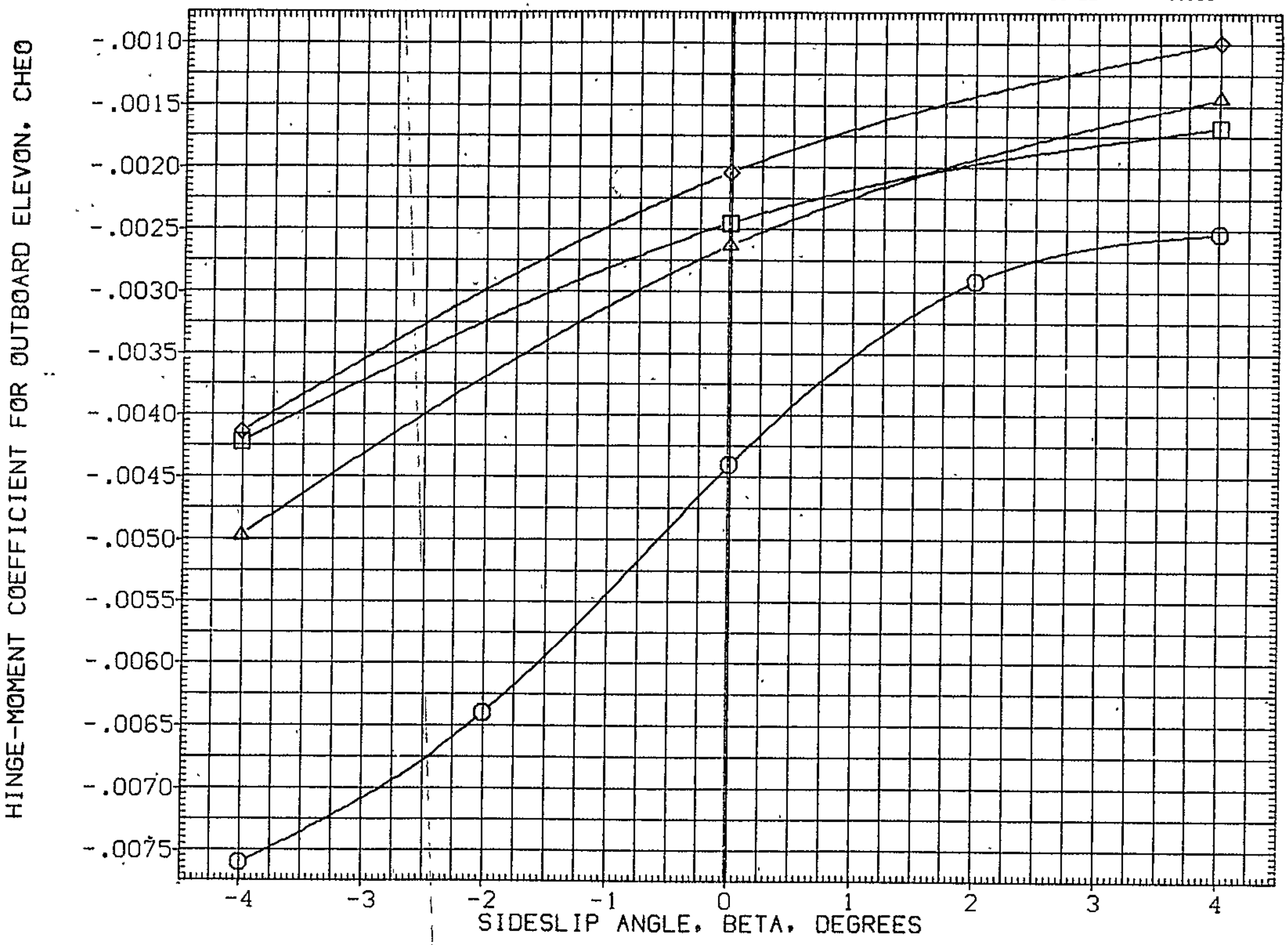


FIG. 81 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=2.6

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5Y45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5Y51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

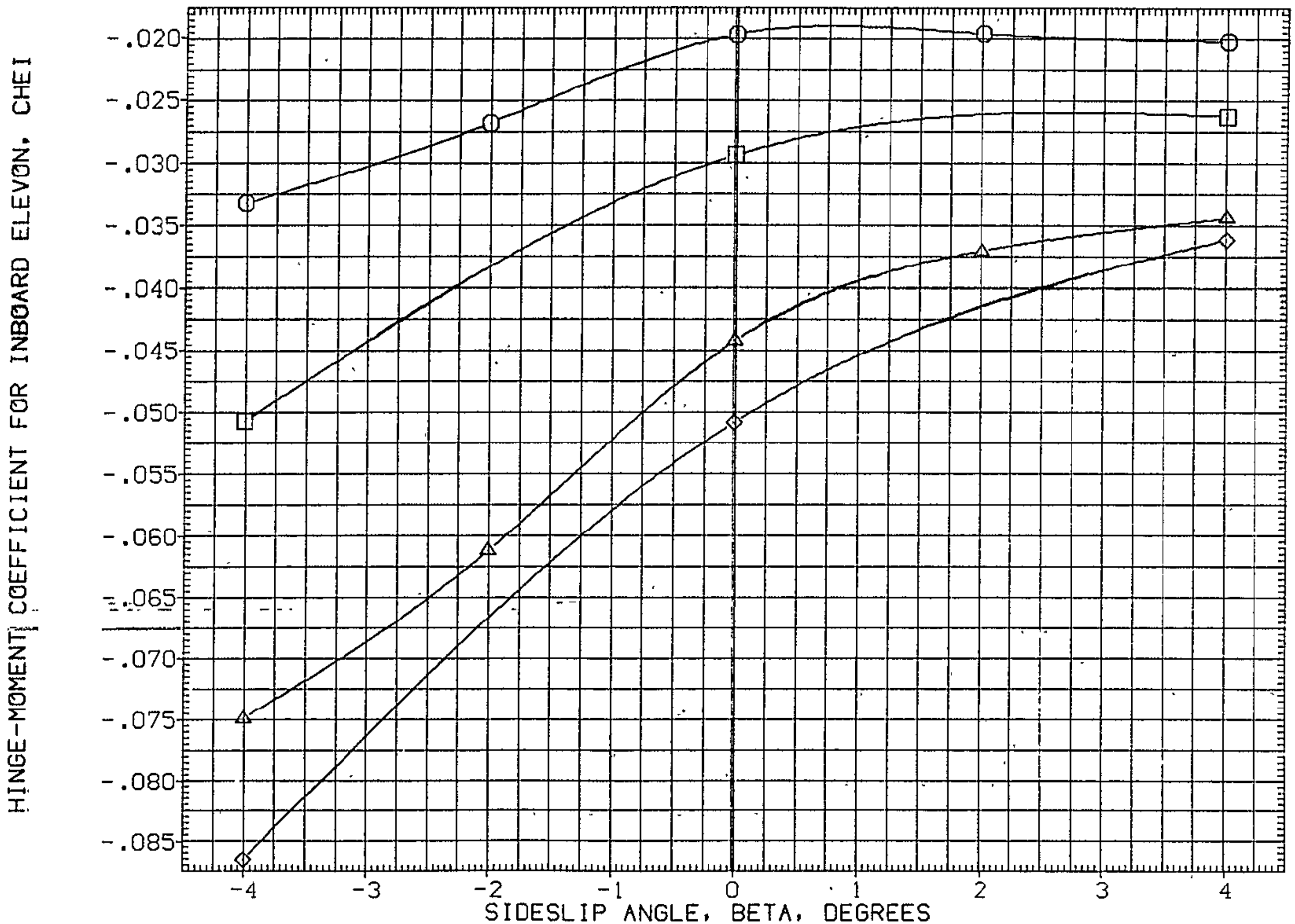


FIG. 82 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y13)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.000	15.100
(RE5Y39)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.000	15.100
(RE5Y45)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.000	15.100
(RE5Y51)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

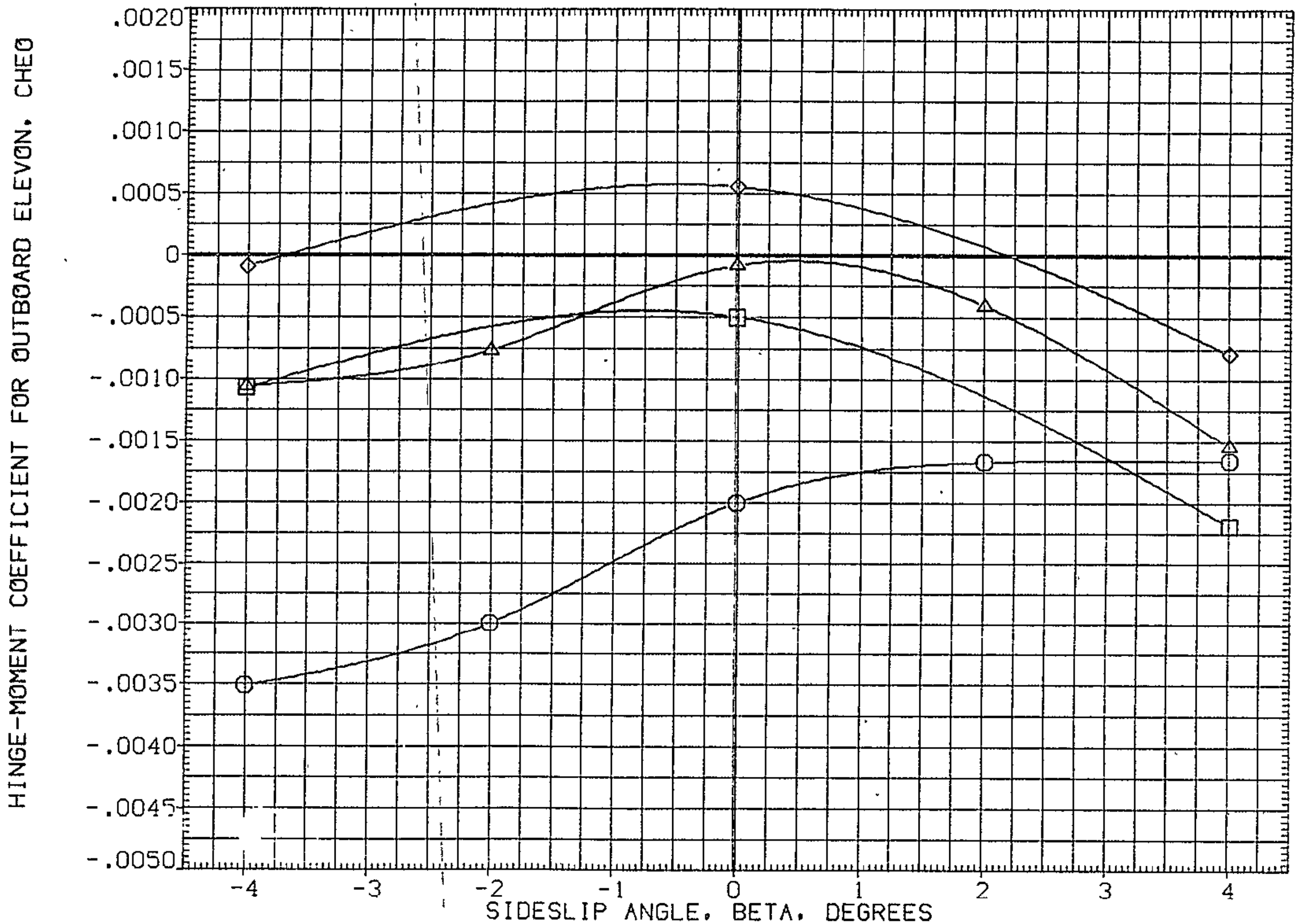


FIG. 82 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.0

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5Y47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5Y53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

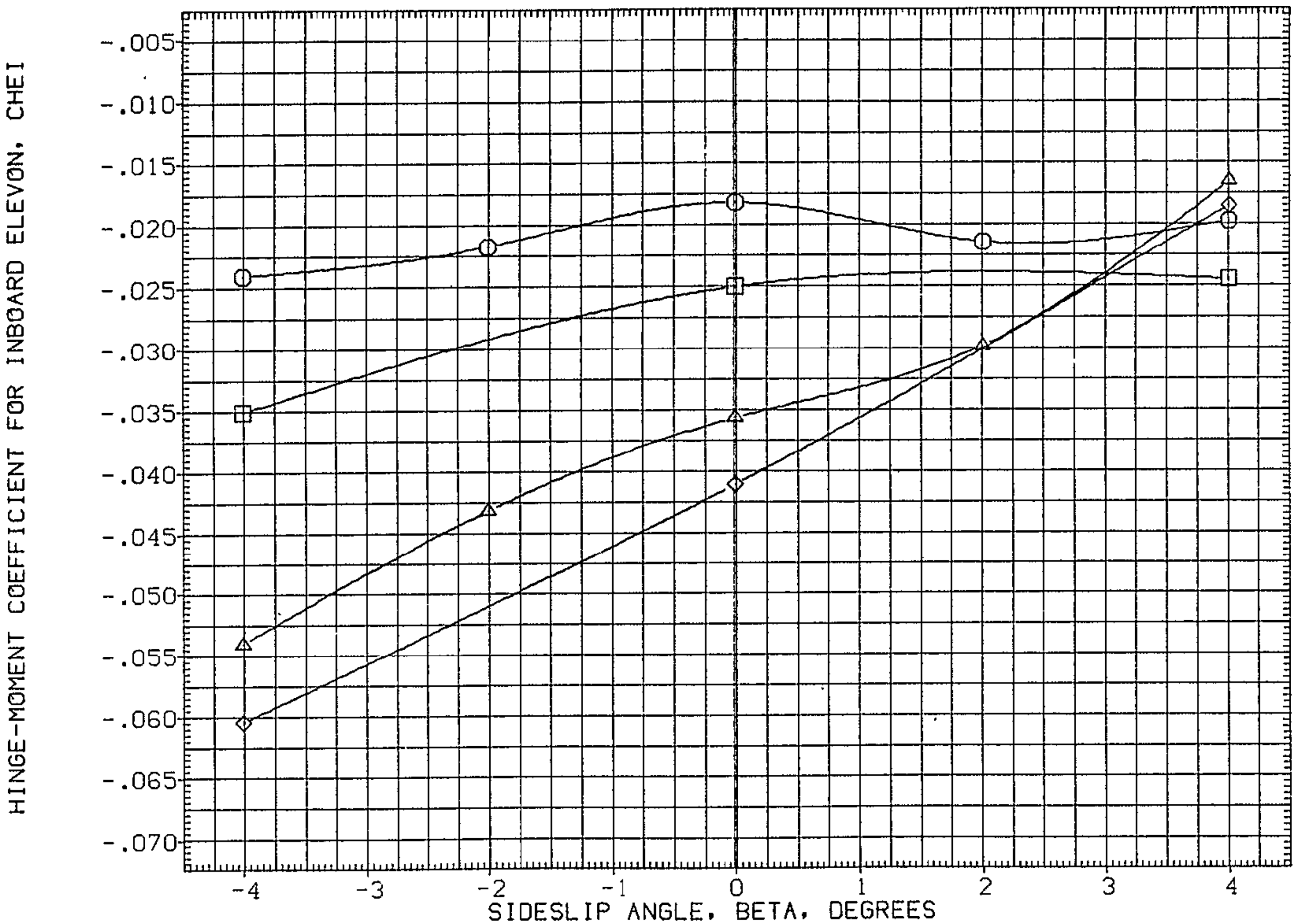


FIG. 83 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	MACH	PT
(RE5Y20)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	3.500	15.100
(RE5Y41)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	3.500	15.100
(RE5Y47)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	3.500	15.100
(RE5Y53)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

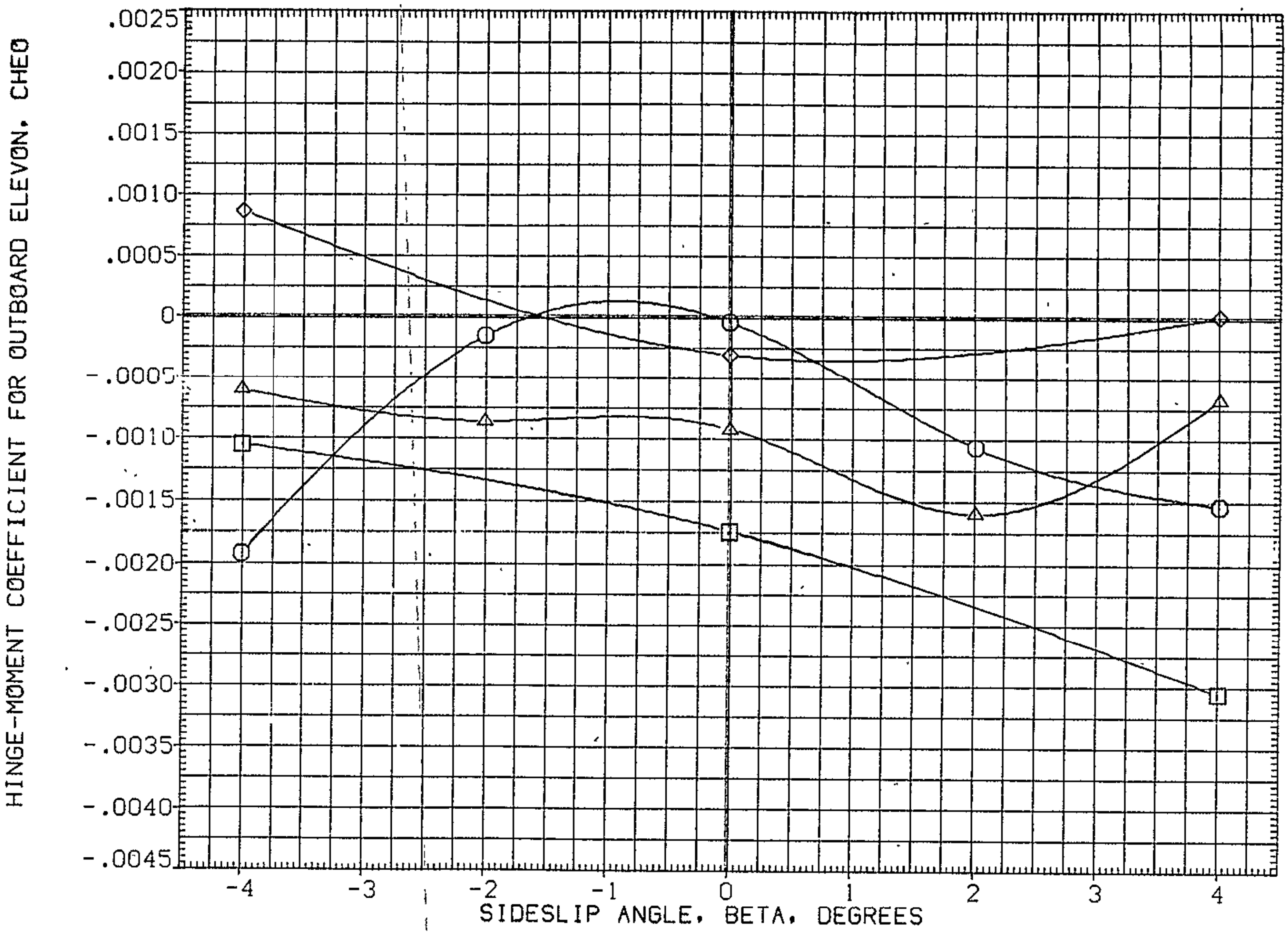


FIG. 83 ELEVON DEFLECTIONS EFFECT ON ELEVON H.M. IN YAW, POWER ON, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RE5X75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RE5X76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RE5X77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RE5X73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X72)	D	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

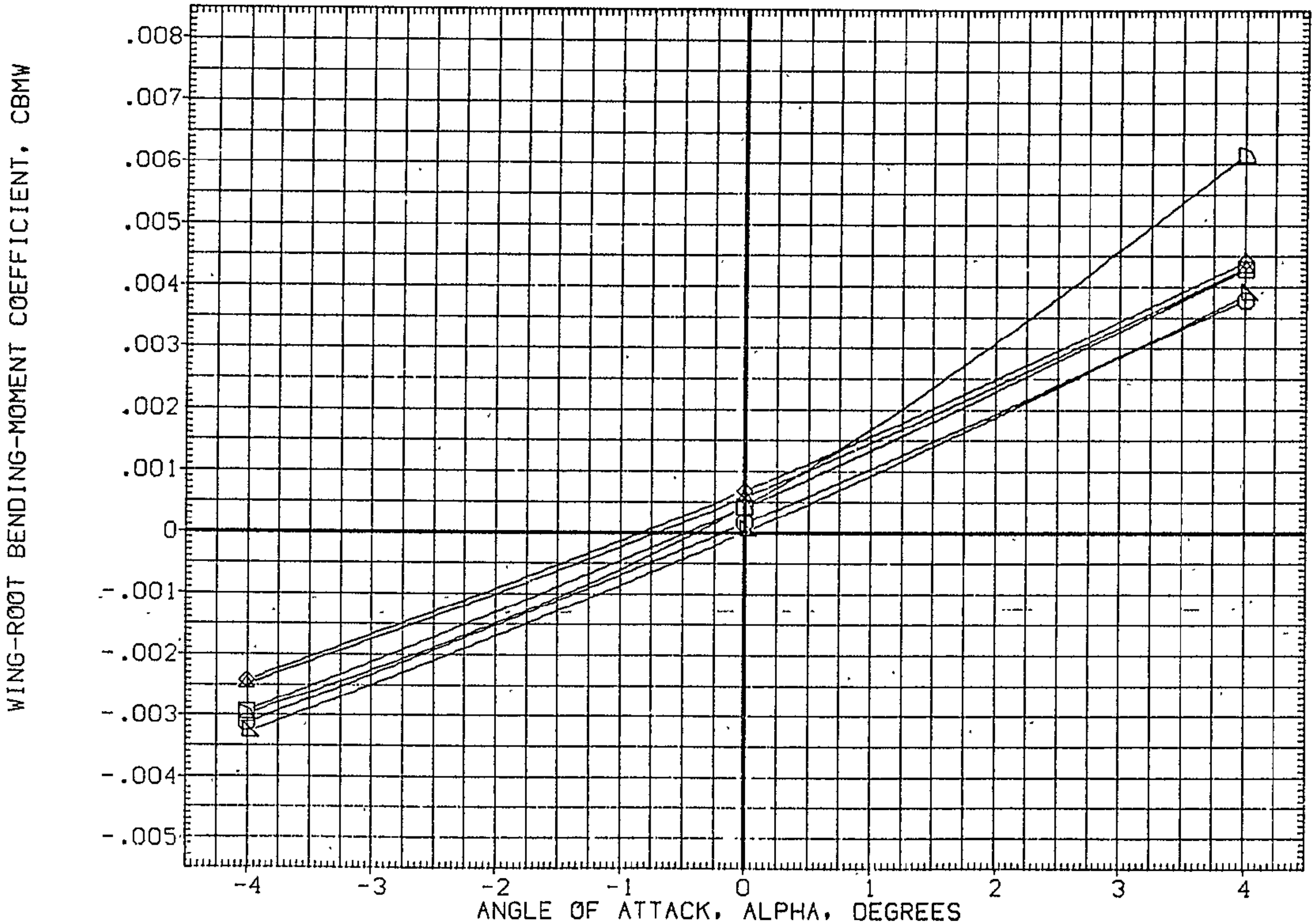


FIG.84 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH,MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RE5X75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RE5X76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RE5X77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RE5X73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X72)	◻	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

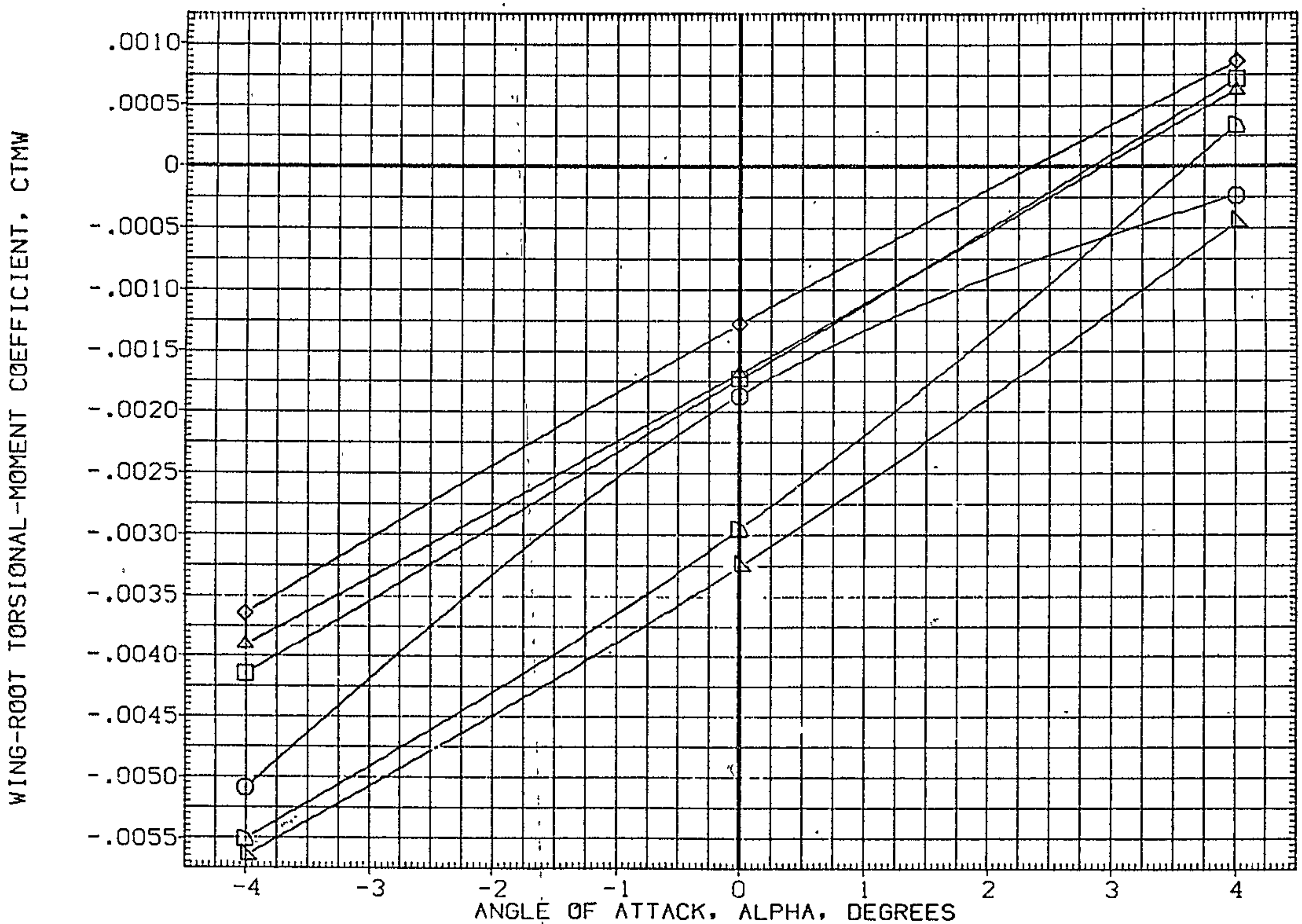


FIG.84 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH,MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RE5X75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RE5X76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RE5X77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RE5X73)	◁	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X72)	D	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

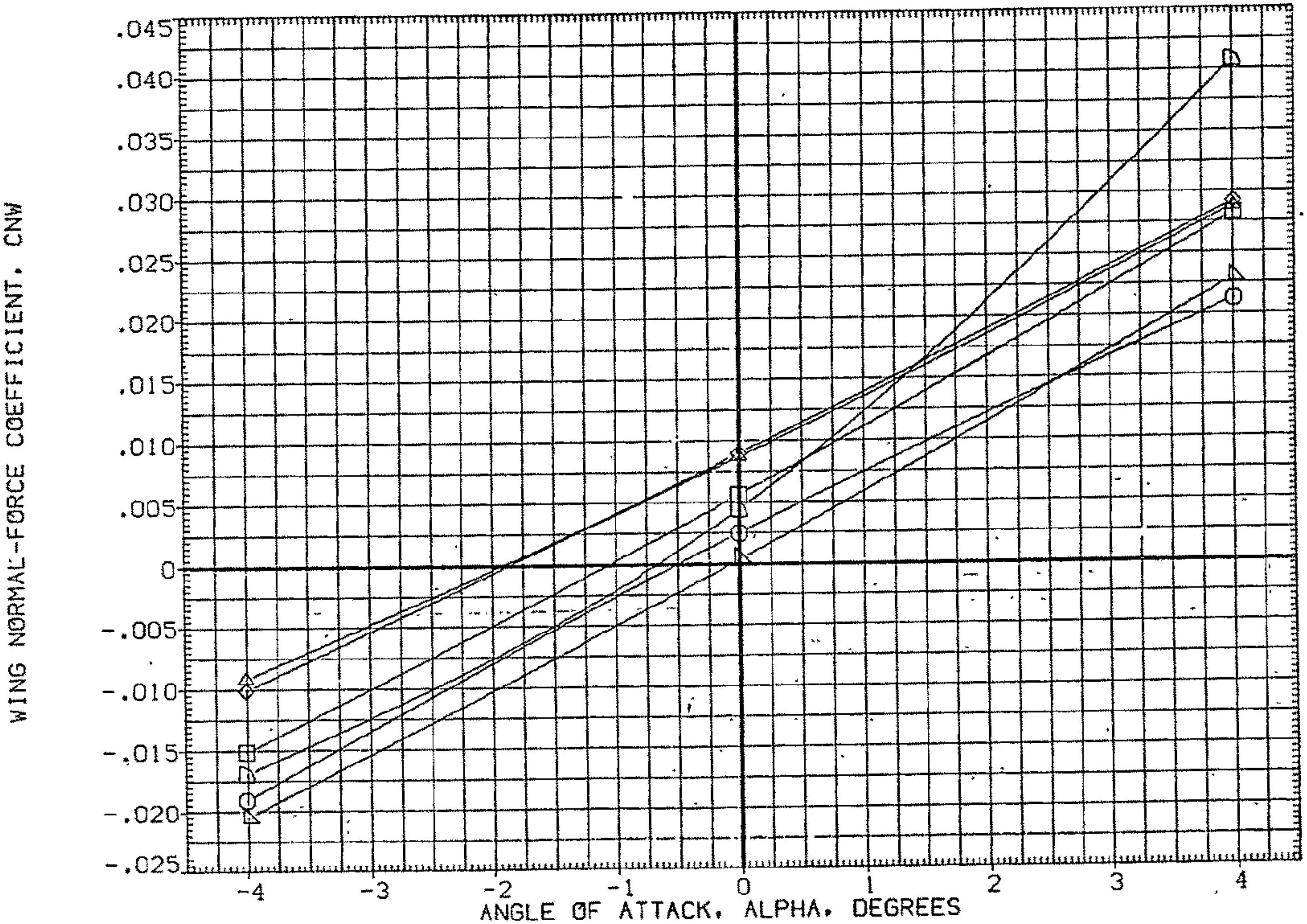


FIG.84 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH,MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RE5X75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RE5X76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RE5X77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RE5X73)	◁	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X72)	◻	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

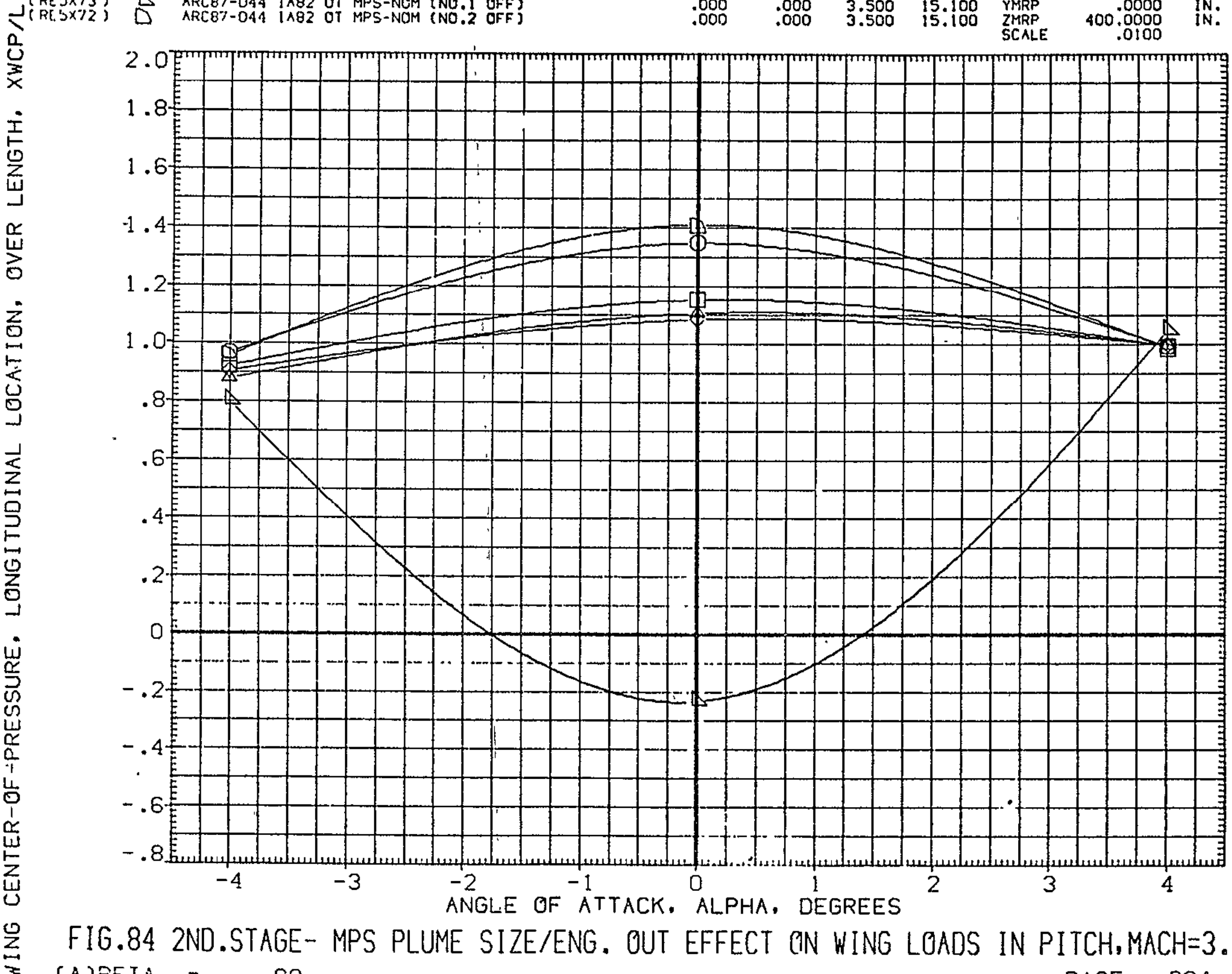


FIG.84 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH,MACH=3.5

(A)BETA = .00

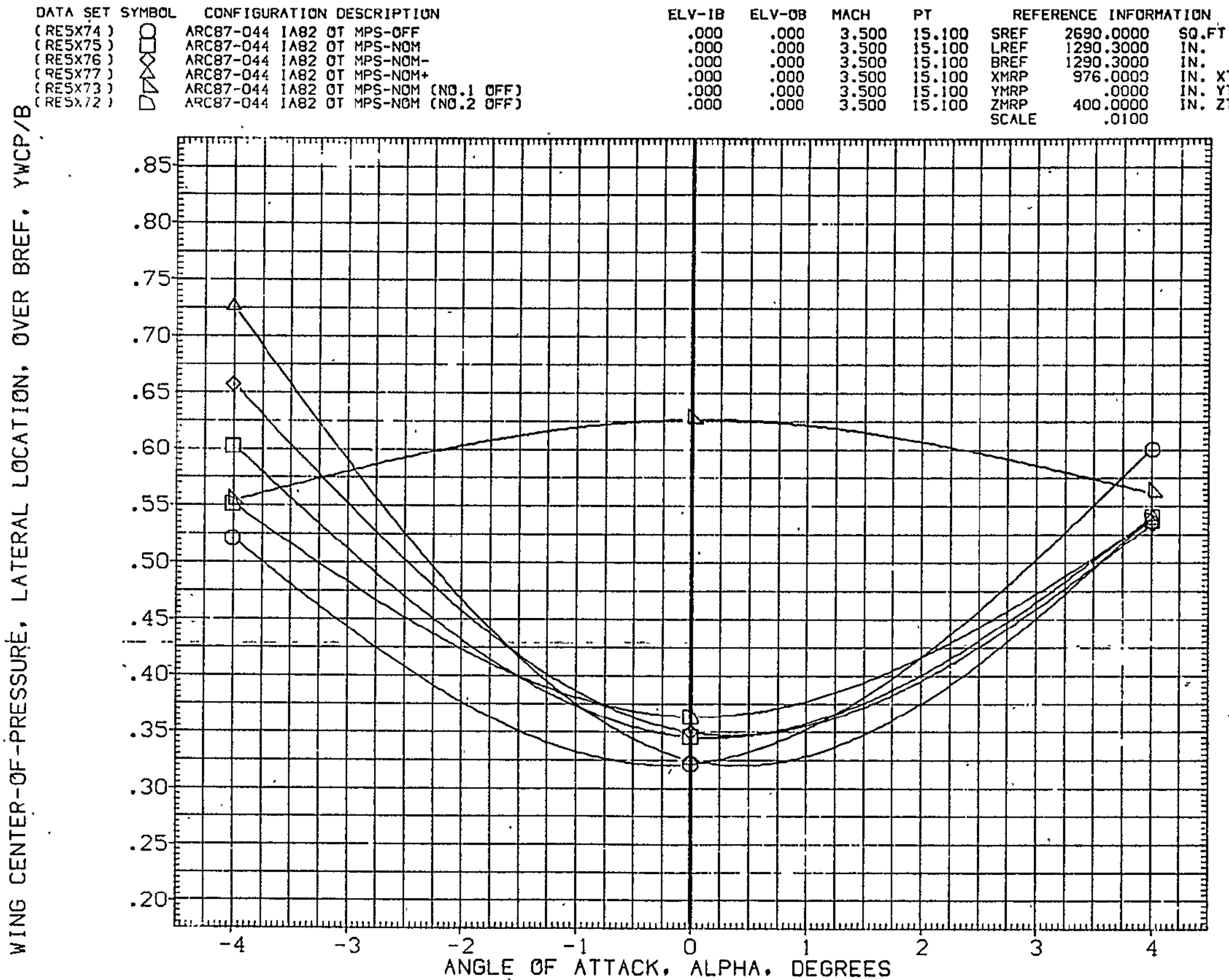


FIG.84 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN PITCH,MACH=3.5

(A)BETA = .00

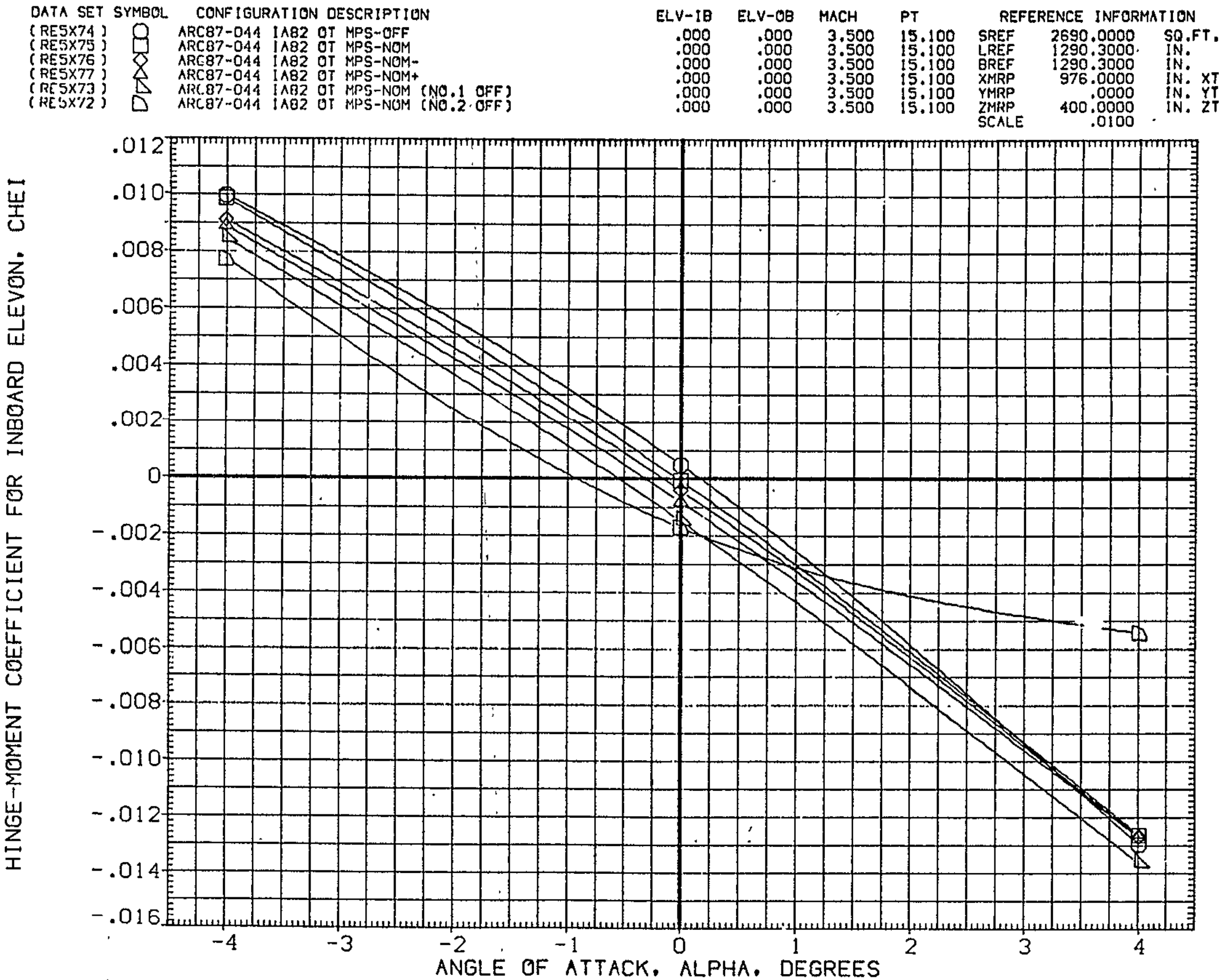


FIG.85 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON ELEVON H.M.IN PITCH,MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5X74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RE5X75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RE5X76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RE5X77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RE5X73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5X72)	D	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

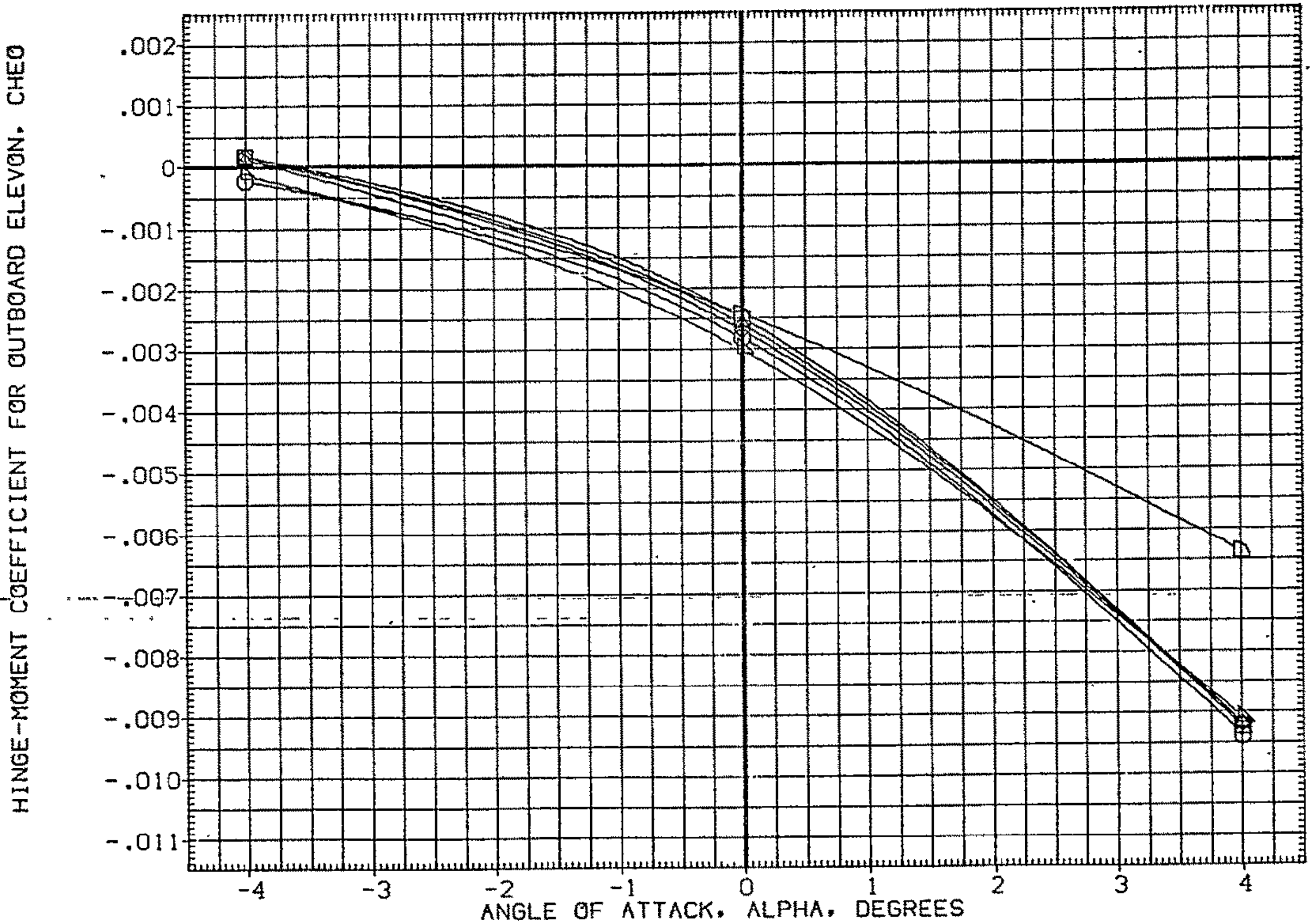


FIG.85 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON ELEVON H.M.IN PITCH,MACH=3.5

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT.
(RE5Y75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RE5Y76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RE5Y77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100	XMRP	976.0000	IN. XT
(RE5Y73)	◸	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100	YMRP	.0000	IN. YT
(RE5Y72)	◺	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100	ZMRP	400.0000	IN. ZT
							SCALE	.0100	

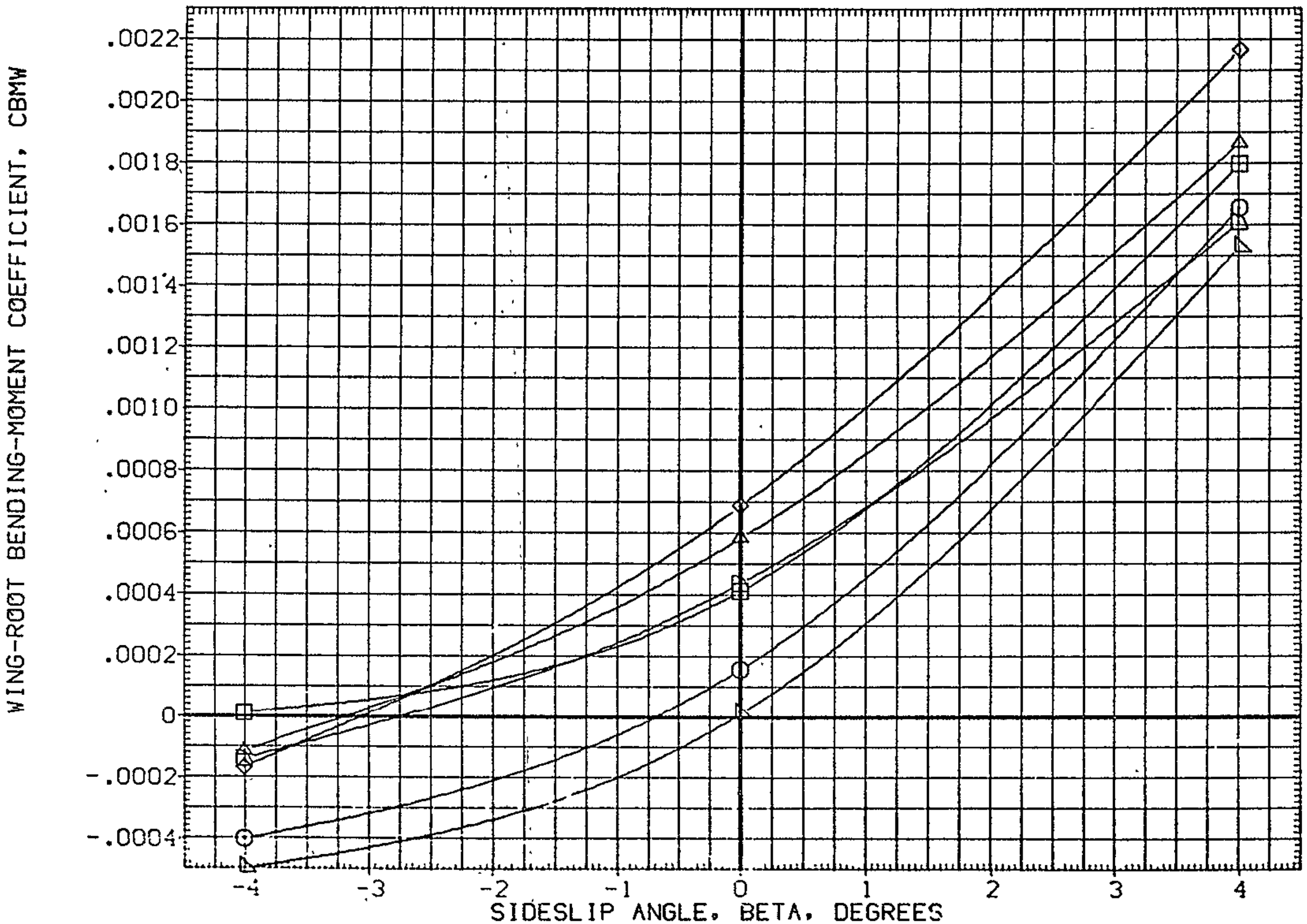


FIG.86 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RESY74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RESY75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RESY76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RESY77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RESY73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RESY72)	◻	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

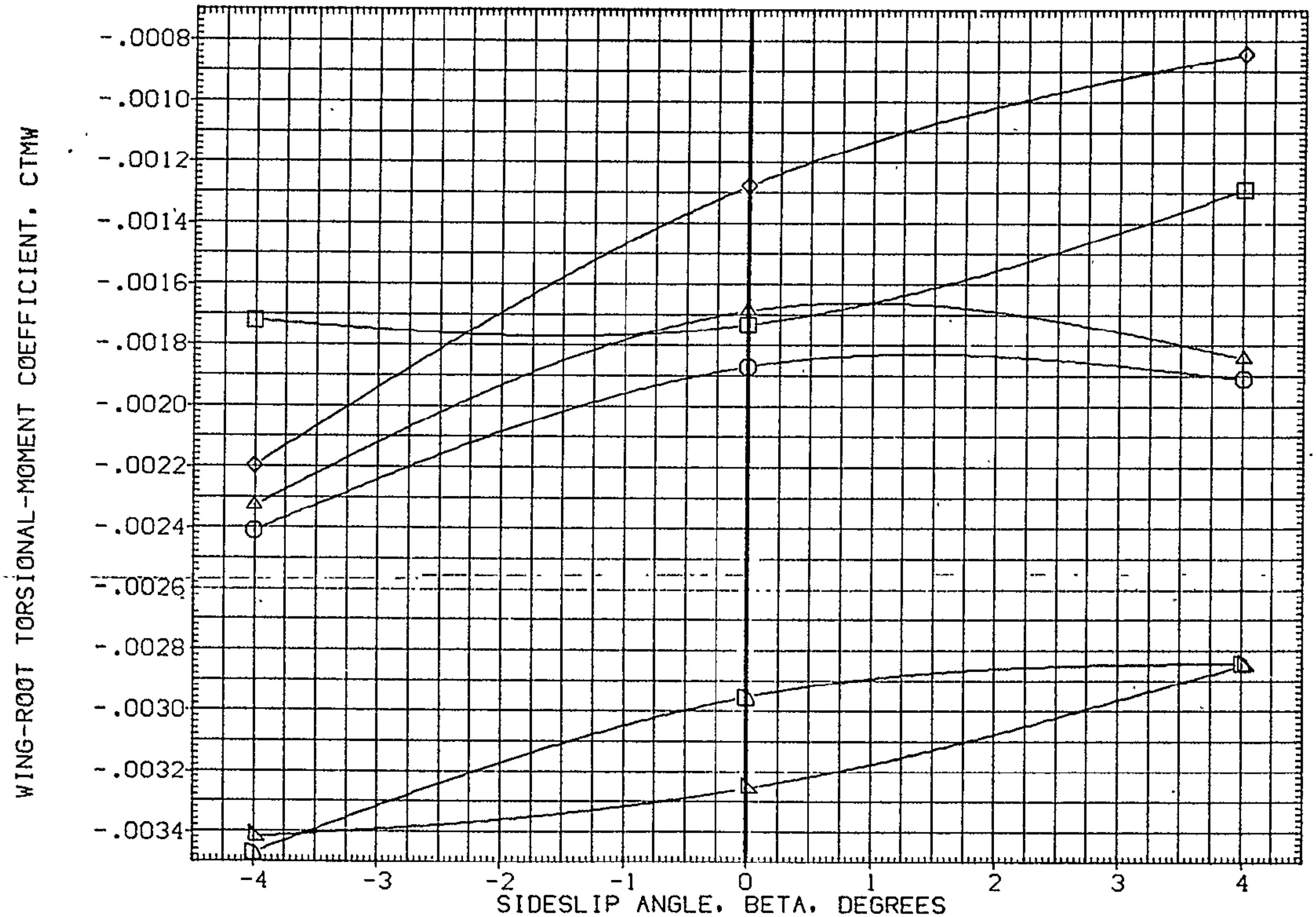


FIG.86 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RE5Y74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RE5Y75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RE5Y76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RE5Y77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RE5Y73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RE5Y72)	D	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

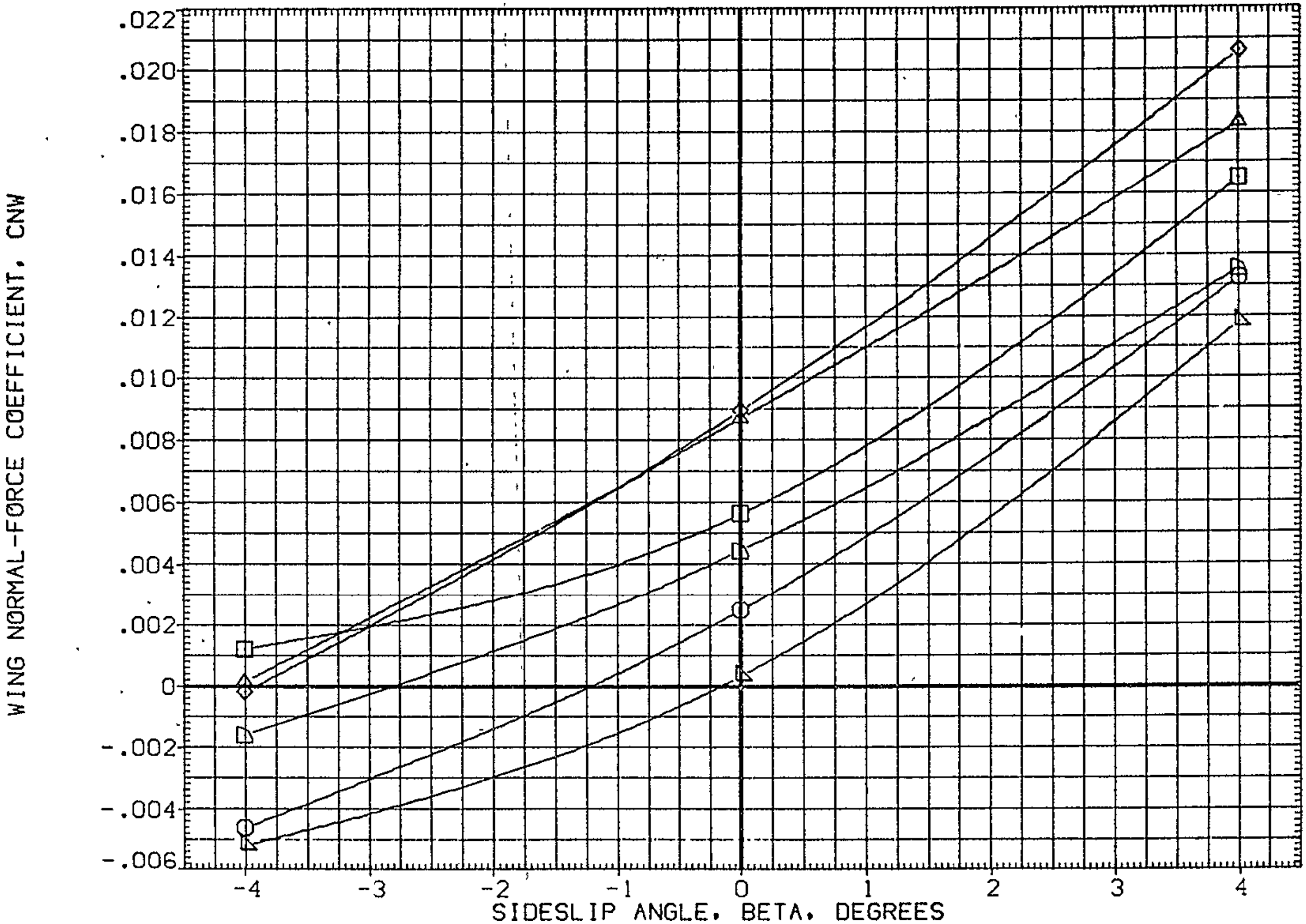


FIG.86 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

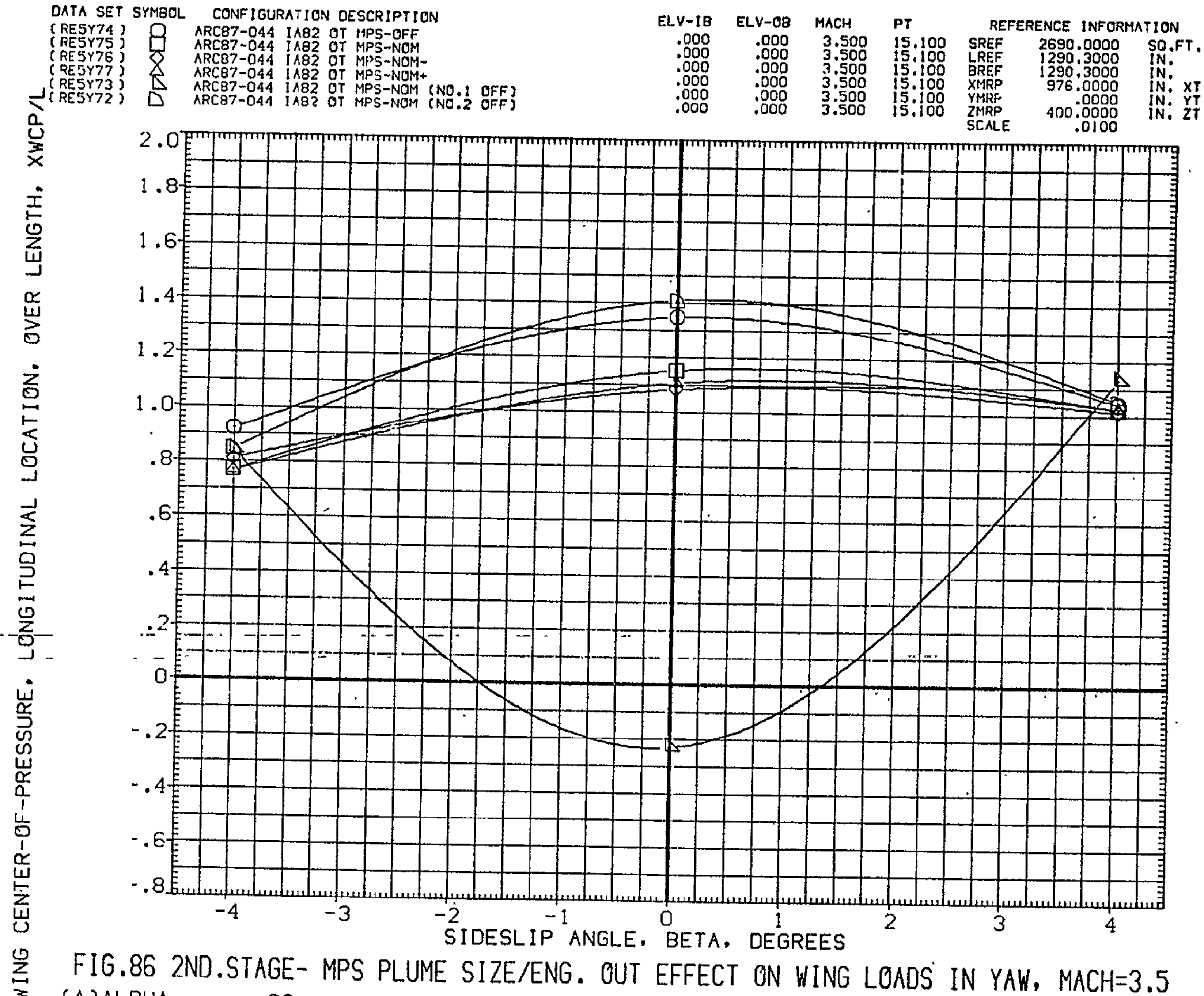


FIG.86 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

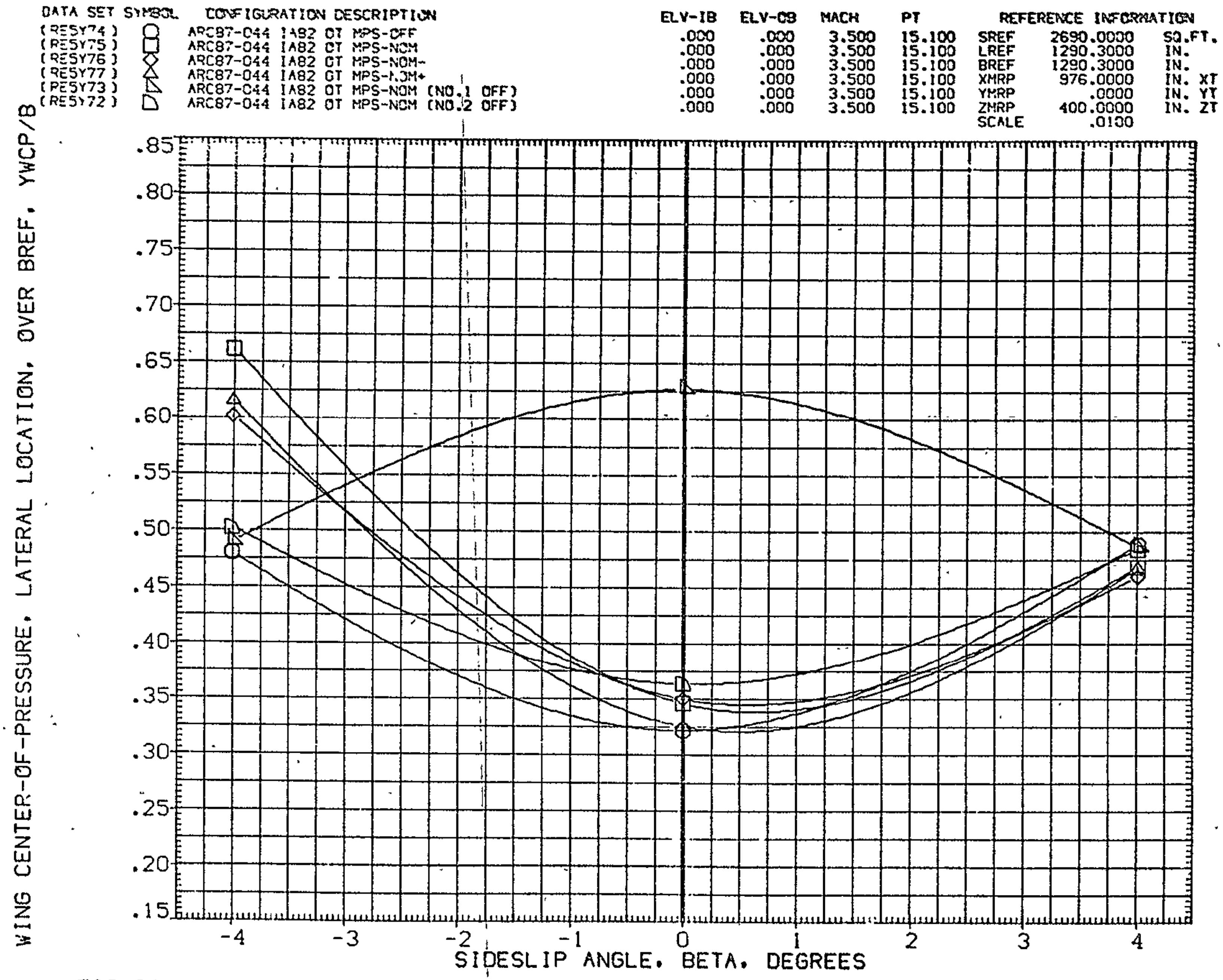


FIG.86 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON WING LOADS IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT
(RESY74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100
(RESY75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100
(RESY76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100
(RESY77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100
(RESY73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100
(RESY72)	◻	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

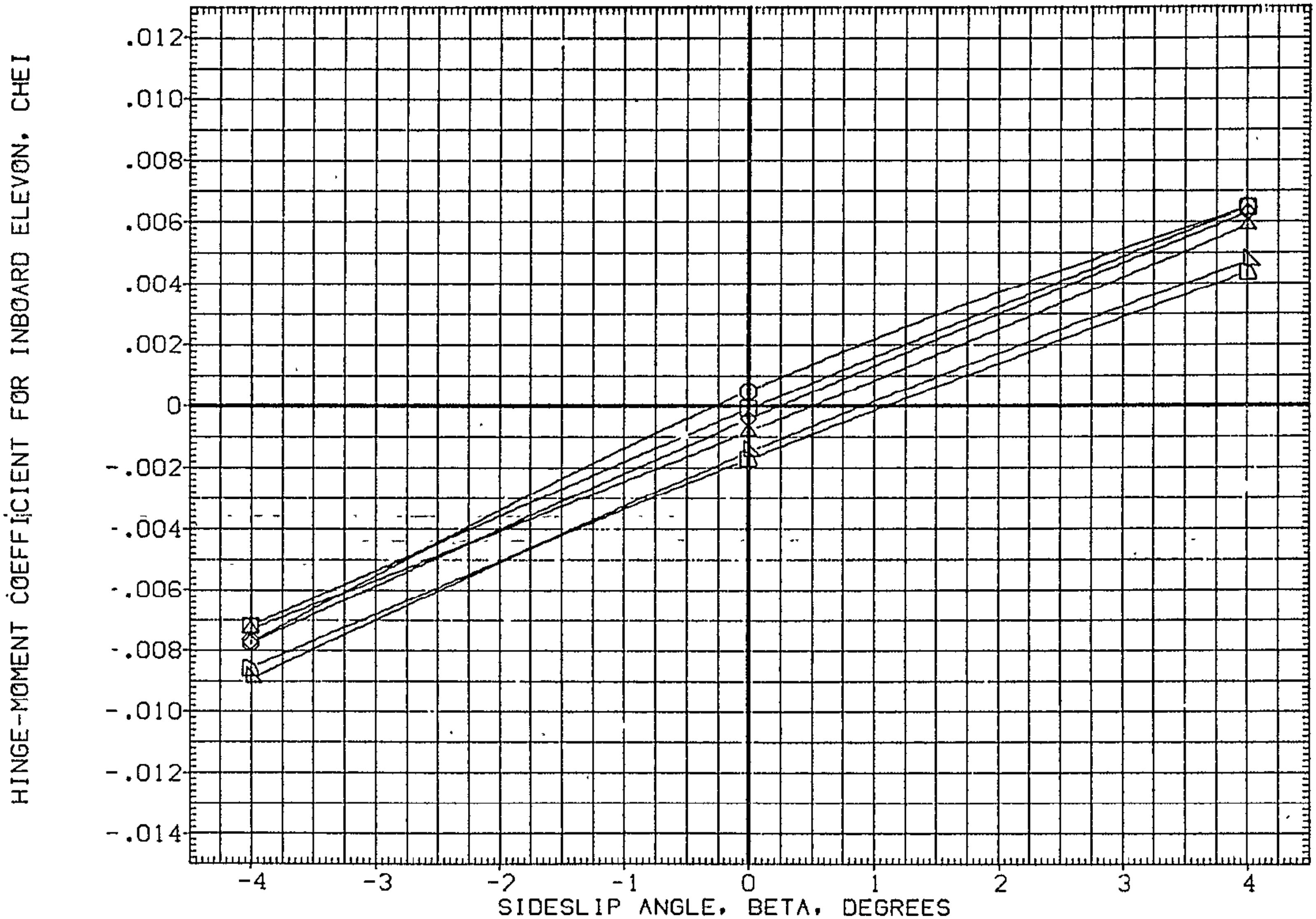


FIG.87 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON ELEVON H.M. IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	PT	REFERENCE INFORMATION		
(RE5Y74)	○	ARC87-044 IA82 OT MPS-OFF	.000	.000	3.500	15.100	SREF	2690.0000	SQ.FT.
(RE5Y75)	□	ARC87-044 IA82 OT MPS-NOM	.000	.000	3.500	15.100	LREF	1290.3000	IN.
(RE5Y76)	◇	ARC87-044 IA82 OT MPS-NOM-	.000	.000	3.500	15.100	BREF	1290.3000	IN.
(RE5Y77)	△	ARC87-044 IA82 OT MPS-NOM+	.000	.000	3.500	15.100	XMRP	976.0000	IN. XT
(RE5Y73)	◺	ARC87-044 IA82 OT MPS-NOM (NO.1 OFF)	.000	.000	3.500	15.100	YMRP	.0000	IN. YT
(RE5Y72)	◹	ARC87-044 IA82 OT MPS-NOM (NO.2 OFF)	.000	.000	3.500	15.100	ZMRP	400.0000	IN. ZT
							SCALE	.0100	

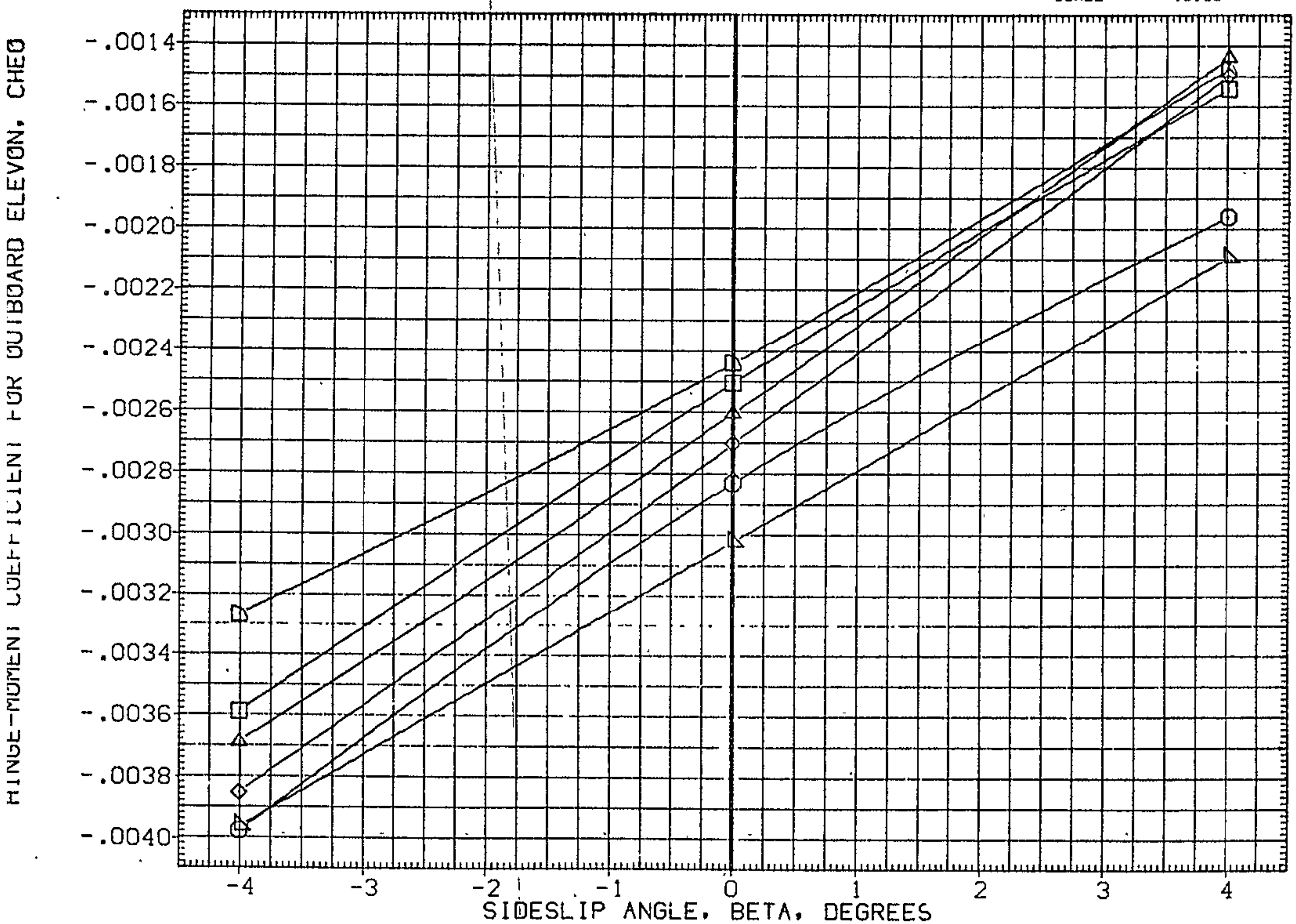


FIG.87 2ND.STAGE- MPS PLUME SIZE/ENG. OUT EFFECT ON ELEVON H.M. IN YAW, MACH=3.5

(A)ALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	ALPHA	PT
(RE5L03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	-4.000	15.100
(RE5M03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000	15.100
(RE5N03)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	4.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

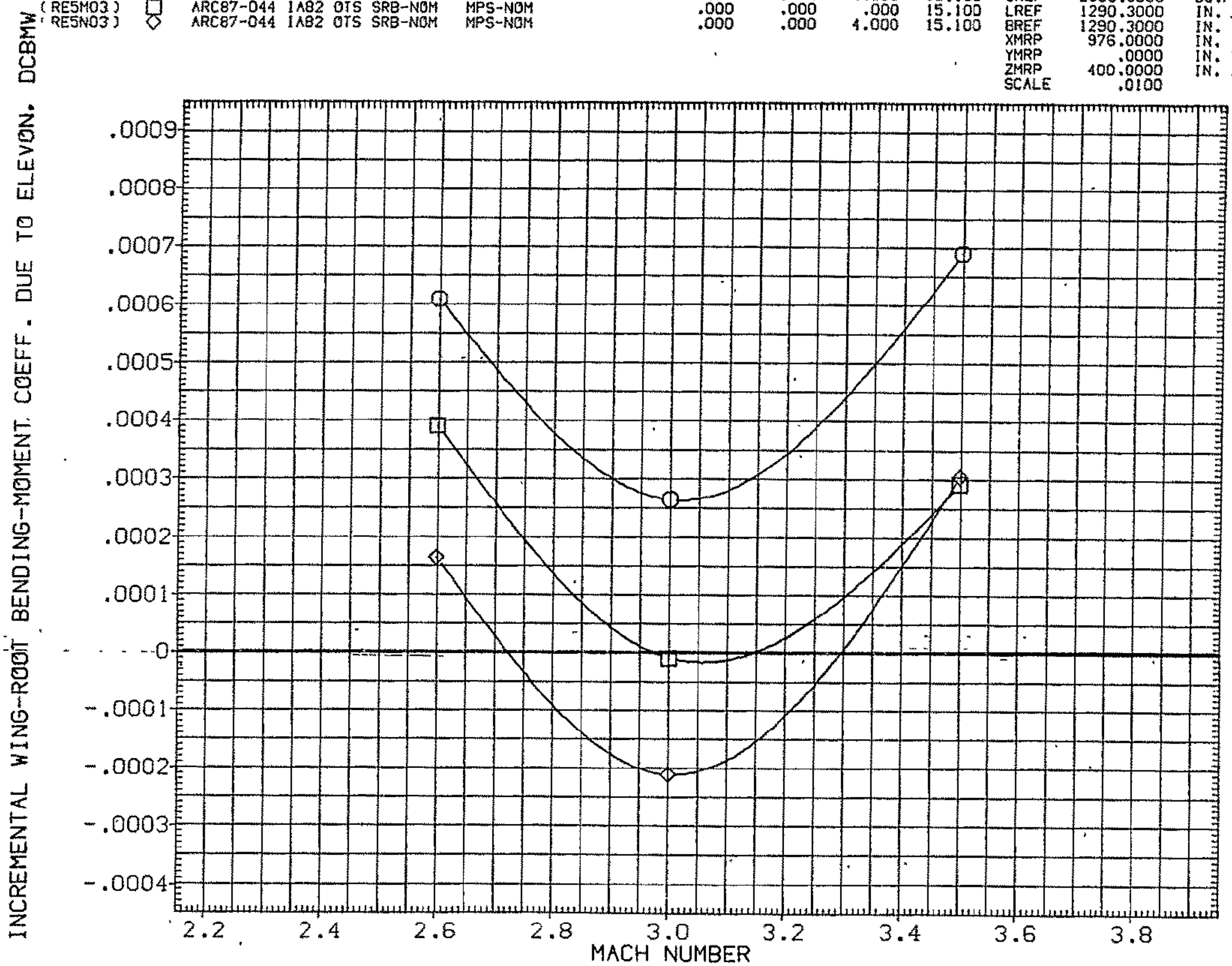


FIG. 88 SUMMARY-NOMINAL PLUME EFFECT ON WING LOADS, ELV-IB=ELV-OB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	ALPHA	PT
(RE5L03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	-4.000	15.100
(RE5M03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000	15.100
(RE5N03)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	4.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

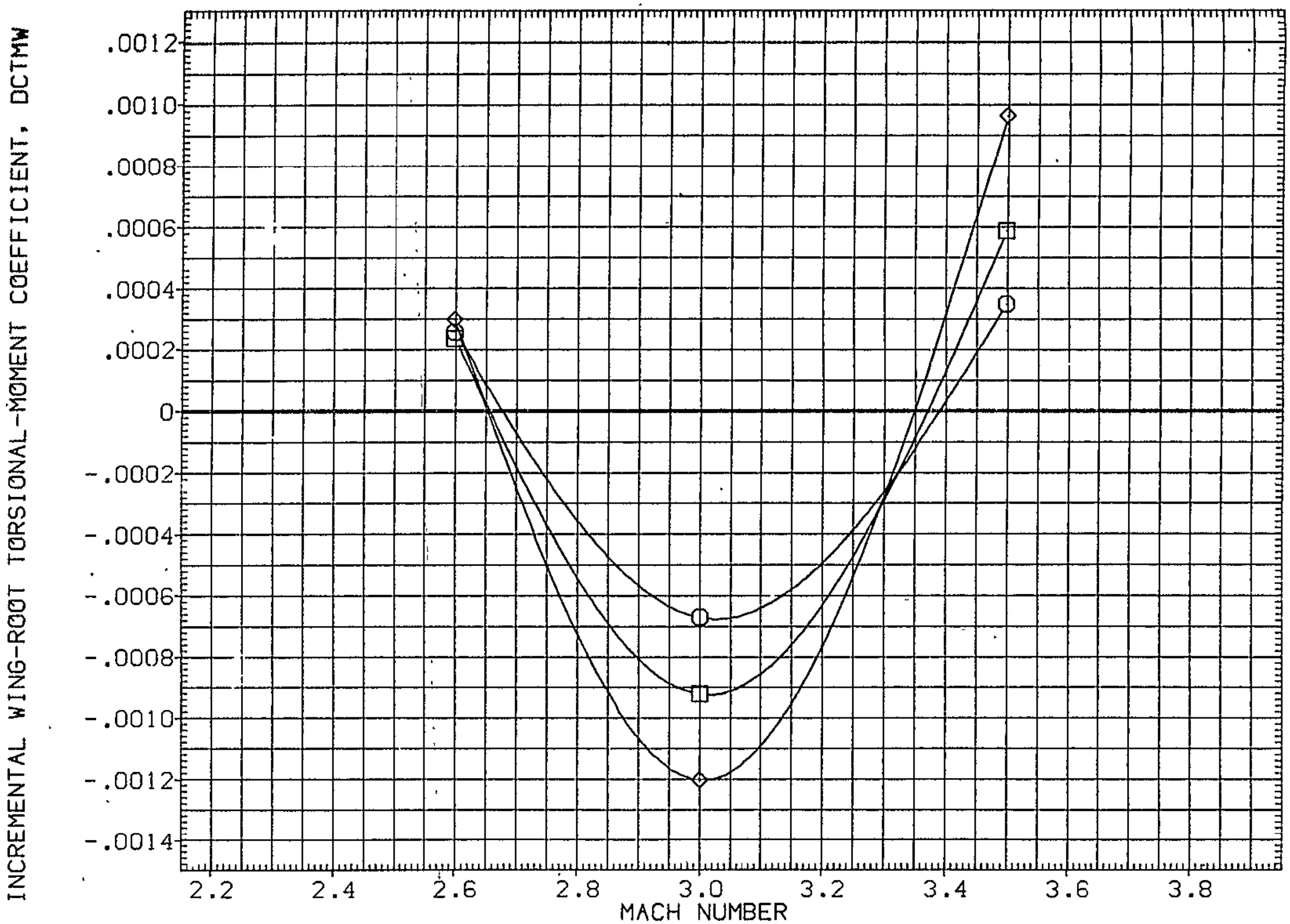


FIG. 88 SUMMARY-NOMINAL PLUME EFFECT ON WING LOADS, ELV-IB=ELV-OB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	ALPHA	PT
(RE5L03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	-4.000	15.100
(RE5M03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000	15.100
(RE5N03)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	4.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

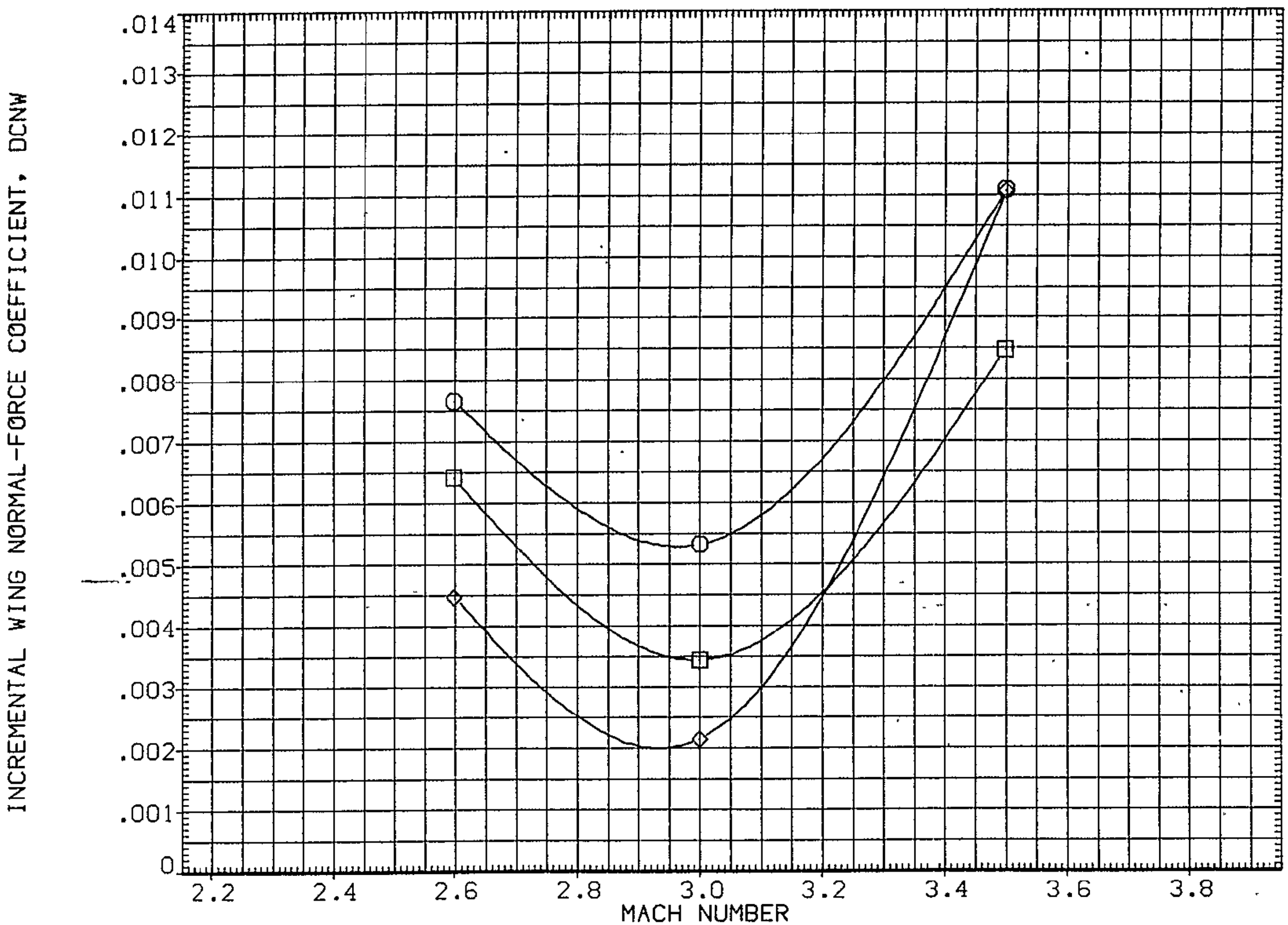


FIG. 88 SUMMARY-NOMINAL PLUME EFFECT ON WING LOADS, ELV-IB=ELV-OB=0.0

(A)BETA = .00 PAGE 297

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	ALPHA	PT
(RE5L03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	-4.000	15.100
(RE5M03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000	15.100
(RE5N03)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	4.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

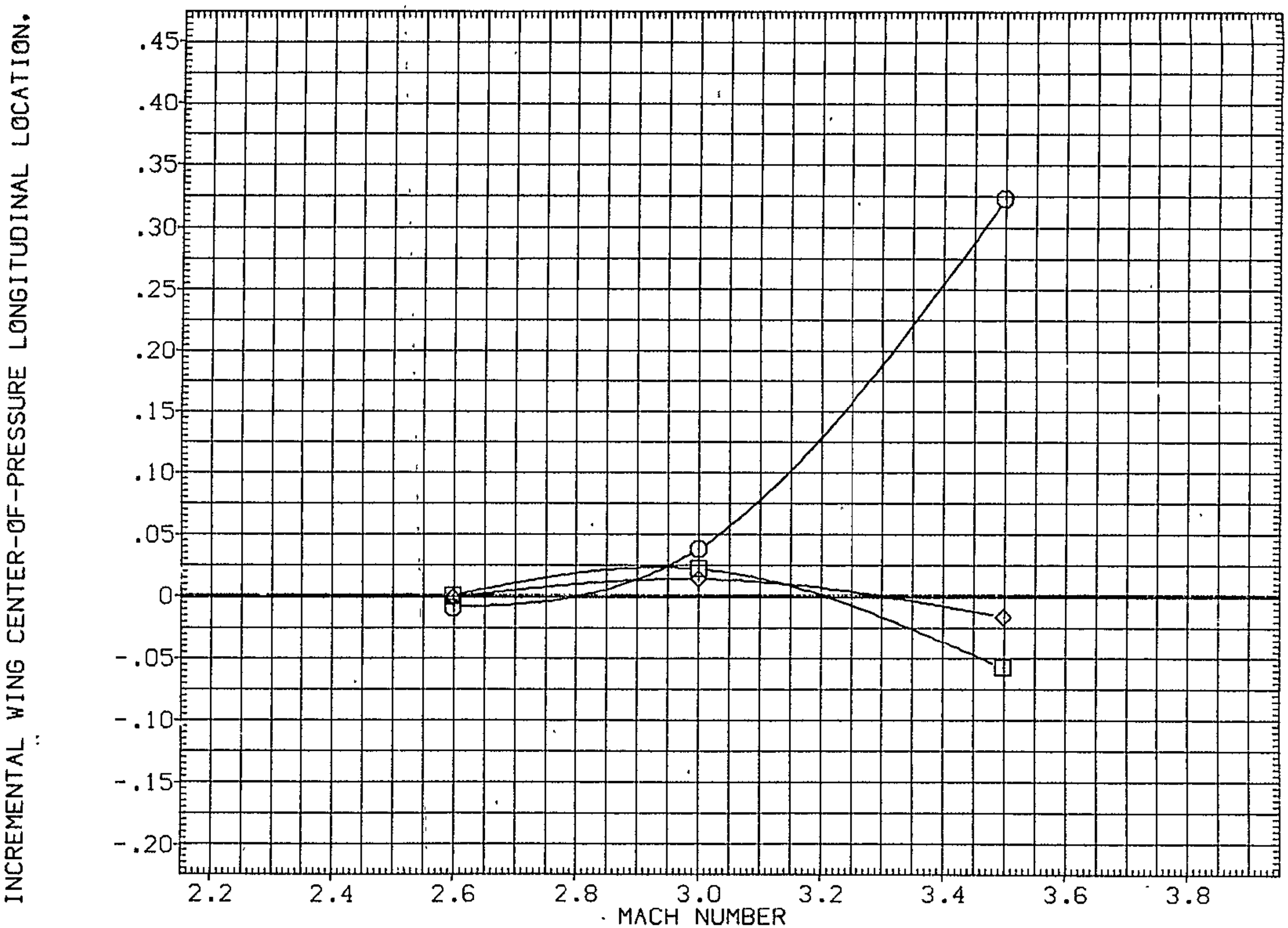


FIG. 88 SUMMARY-NOMINAL PLUME EFFECT ON WING LOADS, ELV-IB=ELV-OB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	ALPHA	PT
(RE5L03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	-4.000	15.100
(RE5M03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000	15.100
(RE5N03)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	4.000	15.100

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

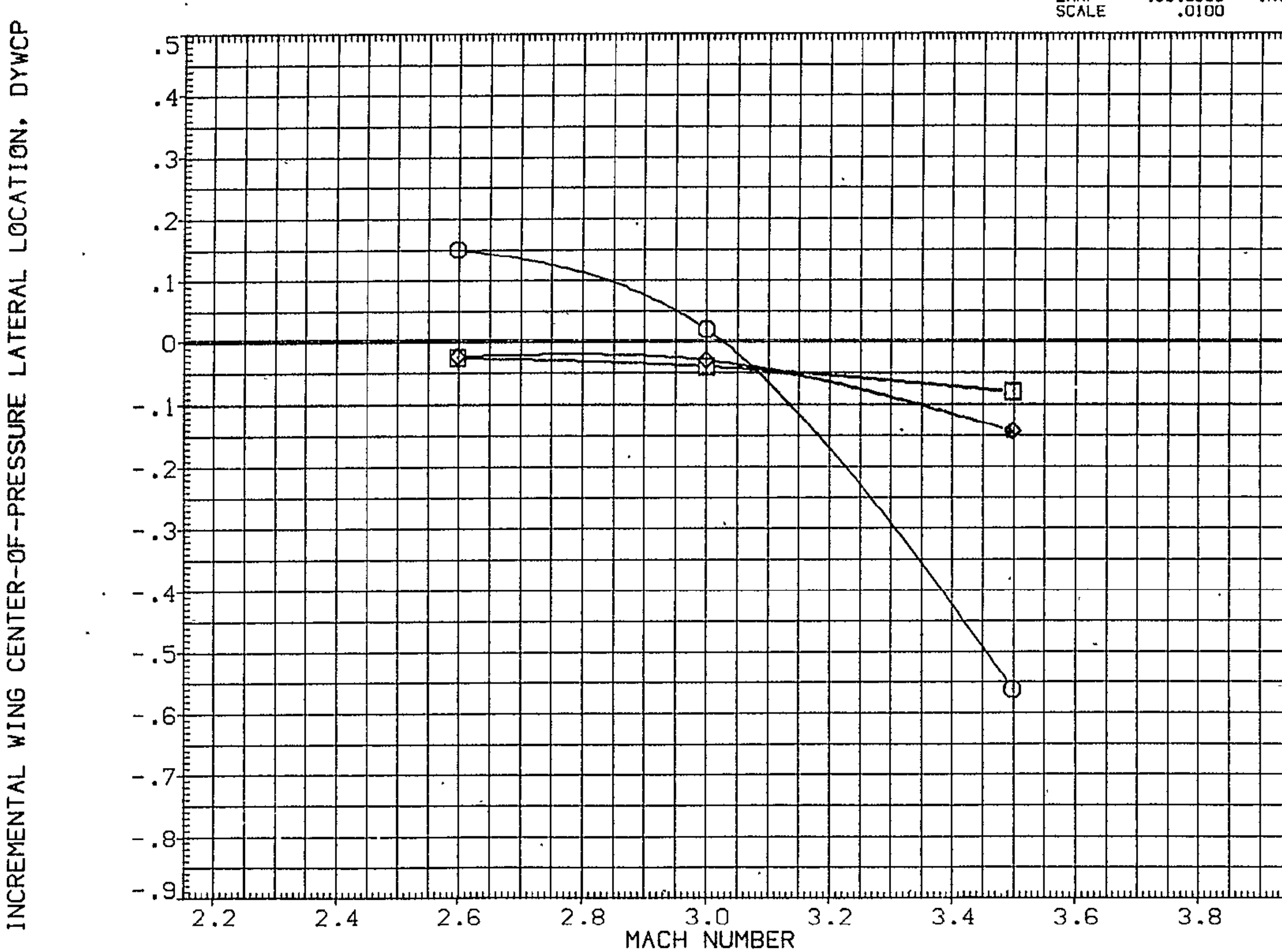


FIG. 88 SUMMARY-NOMINAL PLUME EFFECT ON WING LOADS, ELV-IB=ELV-OB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		ELV-IB	ELV-OB	ALPHA	PT
(RE5L03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	-4.000	15.100
(RE5M03)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000	15.100
(RE5N03)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	4.000	15.100

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

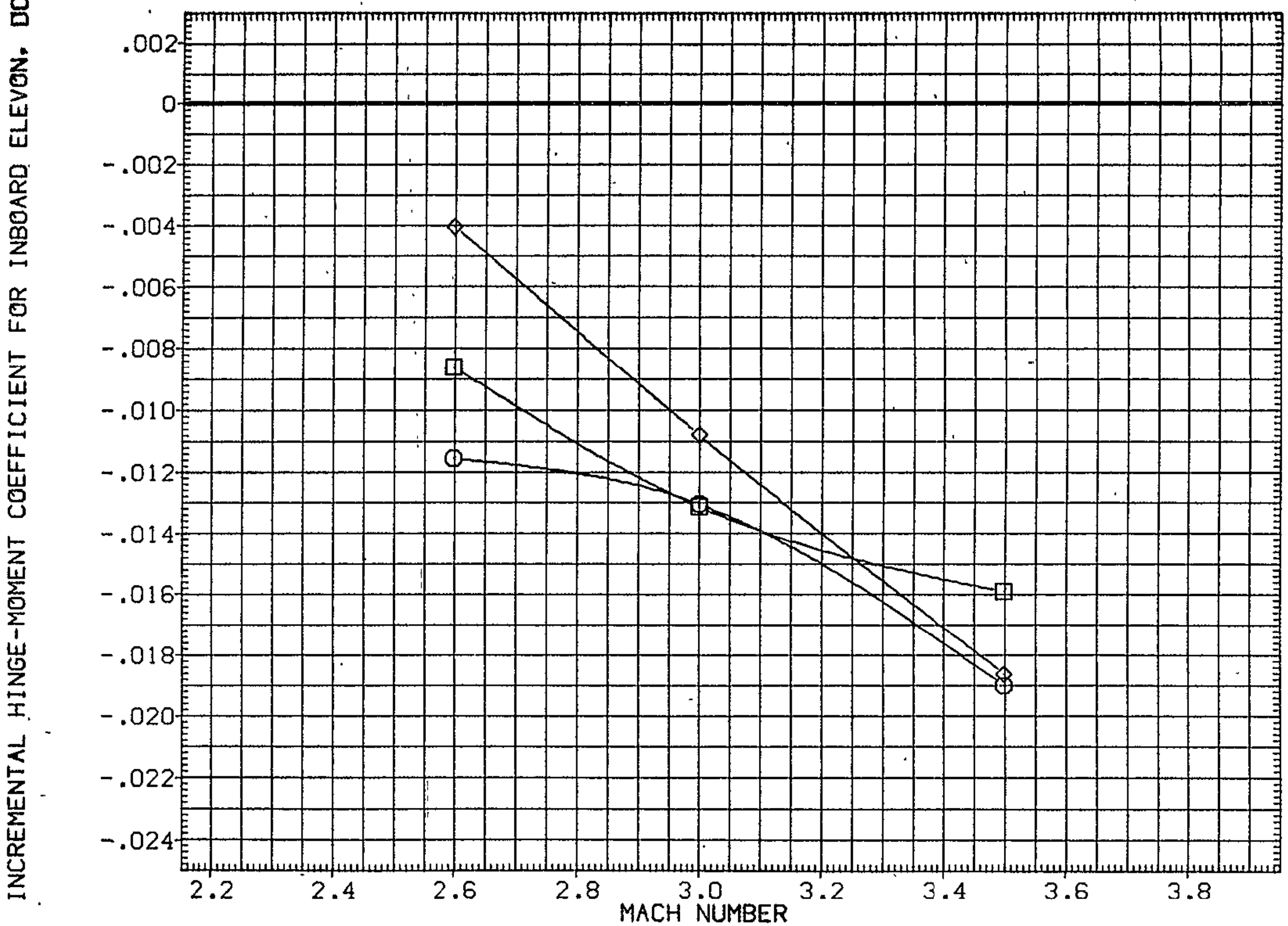


FIG. 89 SUMMARY-NOMINAL PLUME EFFECT ON ELEVON HINGE MOMENTS, ELV-IB=ELV-OB=0.0

(A)BETA = .00

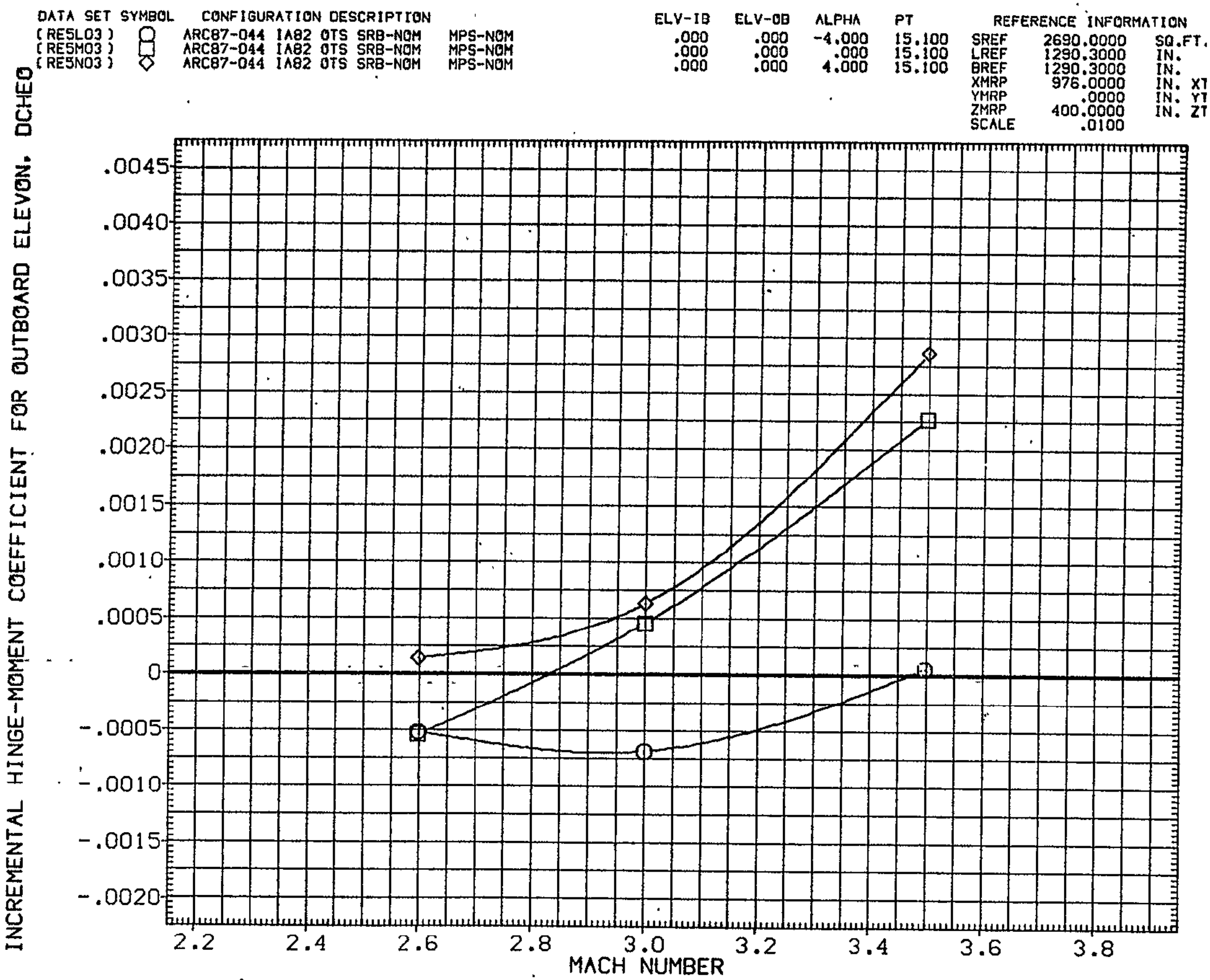


FIG. 89 SUMMARY-NOMINAL PLUME EFFECT ON ELEVON HINGE MOMENTS, ELV-IB=ELV-OB=0.0
(A)BETA = .00

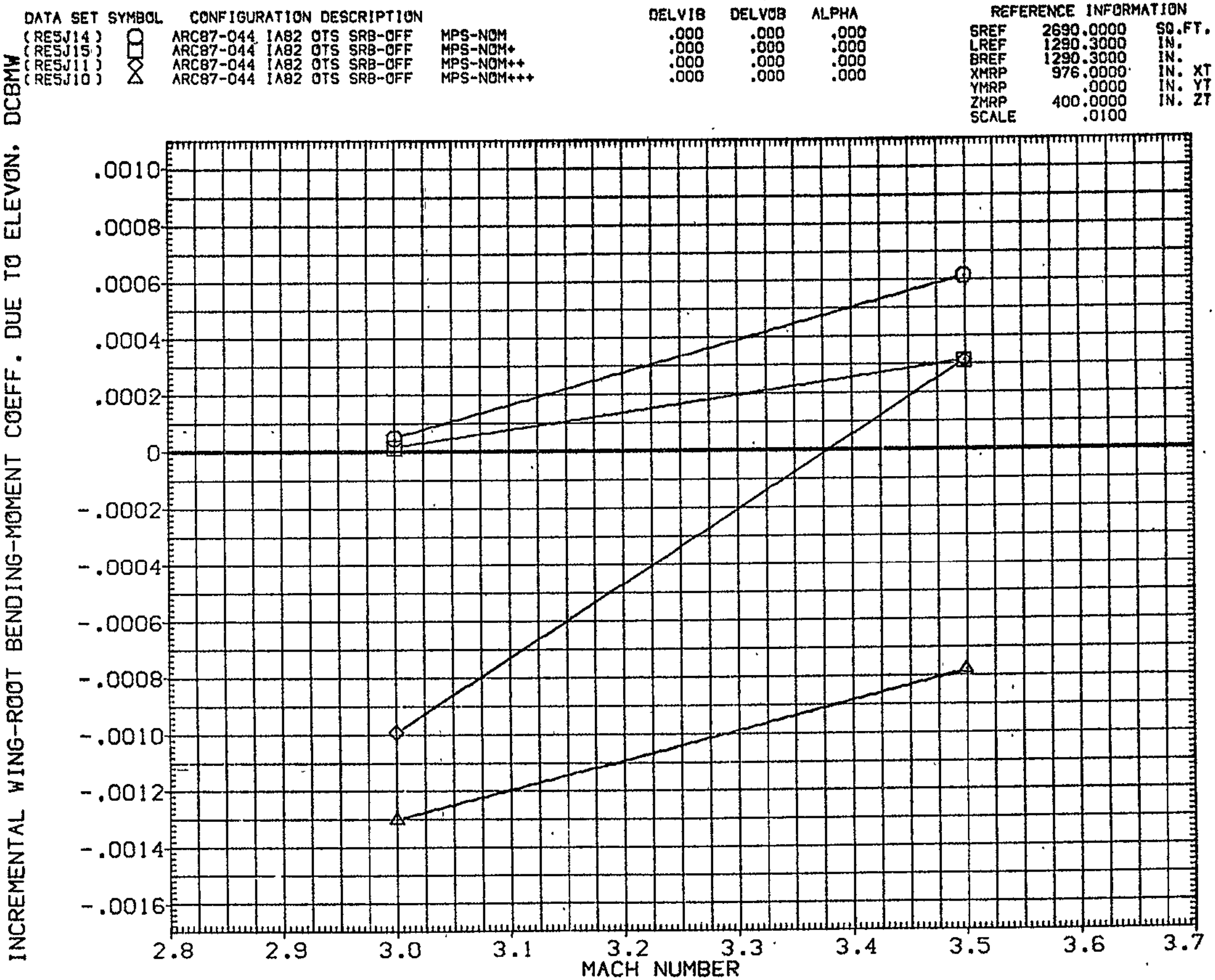


FIG. 90 SUMMARY- MPS PLUME EFFECT ON WING LOADS, SRB OFF, DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J14)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	.000
(RE5J15)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	.000
(RE5J11)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	.000
(RE5J10)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

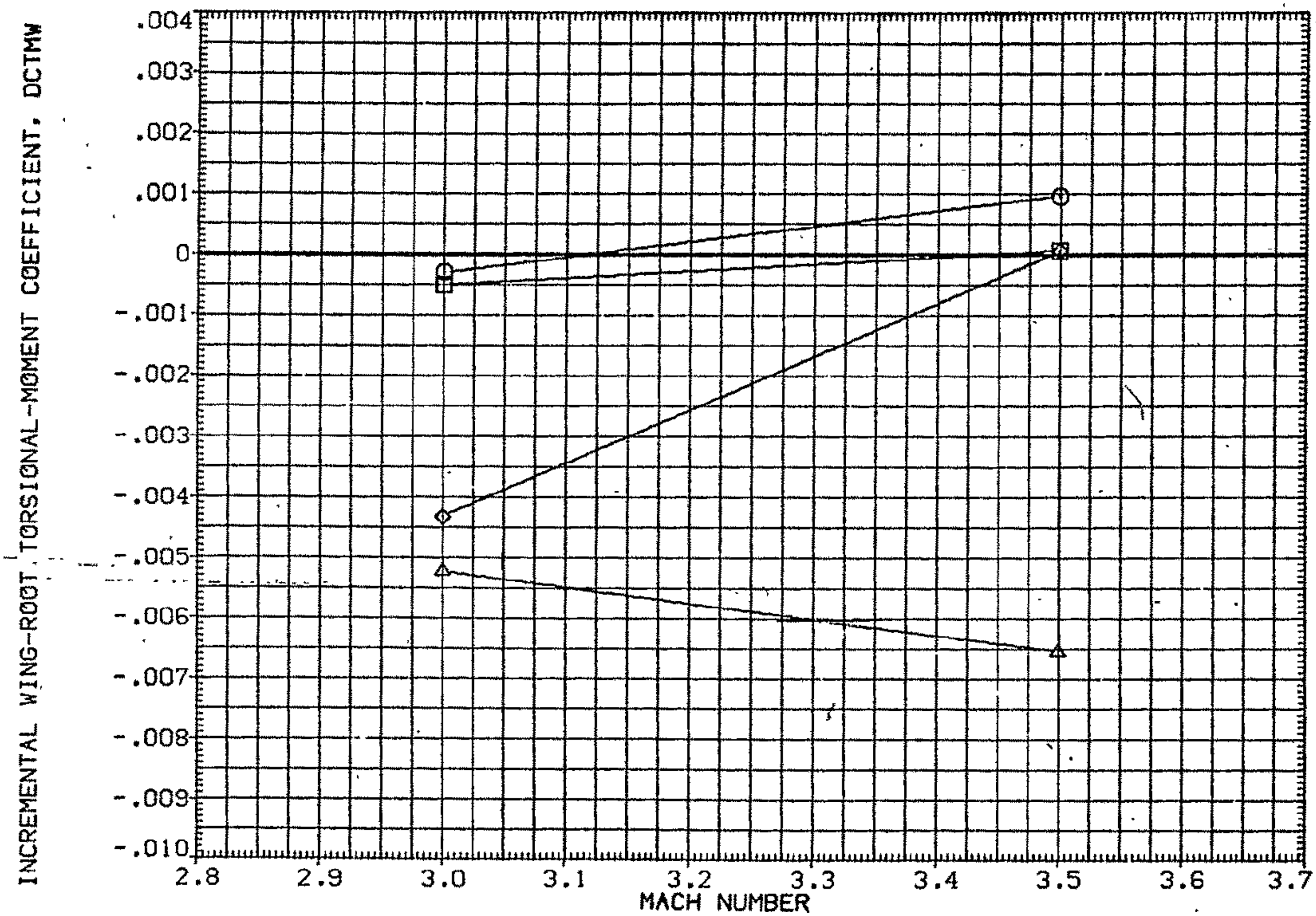


FIG. 90 SUMMARY- MPS PLUME EFFECT ON WING LOADS, SRB OFF, DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J14)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	.000
(RE5J15)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	.000
(RE5J11)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	.000
(RE5J10)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

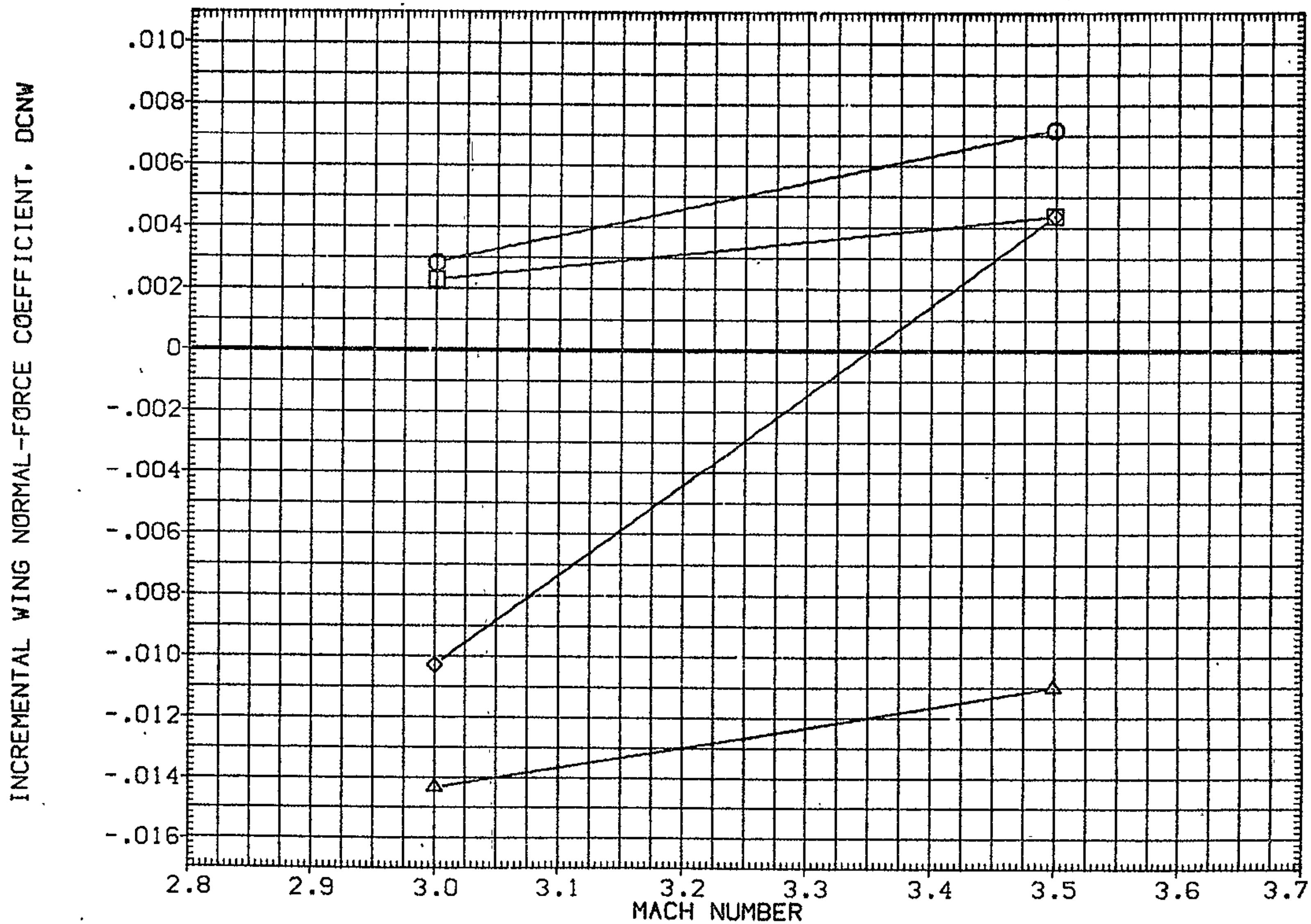


FIG. 90 SUMMARY- MPS PLUME EFFECT ON WING LOADS, SRB OFF, DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J14)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	.000
(RE5J15)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	.000
(RE5J11)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	.000
(RE5J10)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
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YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

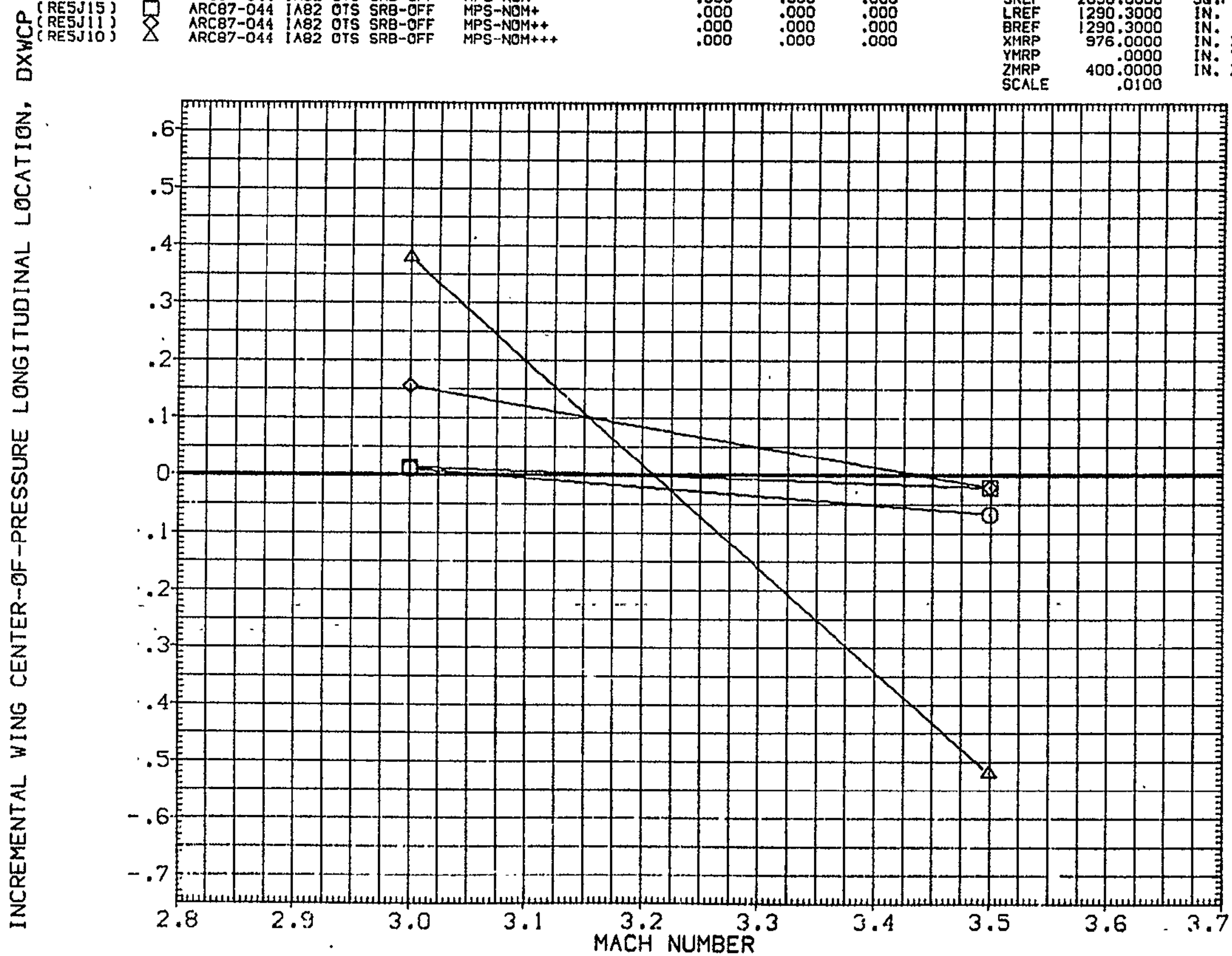

FIG. 90 SUMMARY- MPS PLUME EFFECT ON WING LOADS, SRB OFF, DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J14)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM	.000	.000	.000
(RE5J15)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+	.000	.000	.000
(RE5J11)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM++	.000	.000	.000
(RE5J10)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-NOM+++	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
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YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

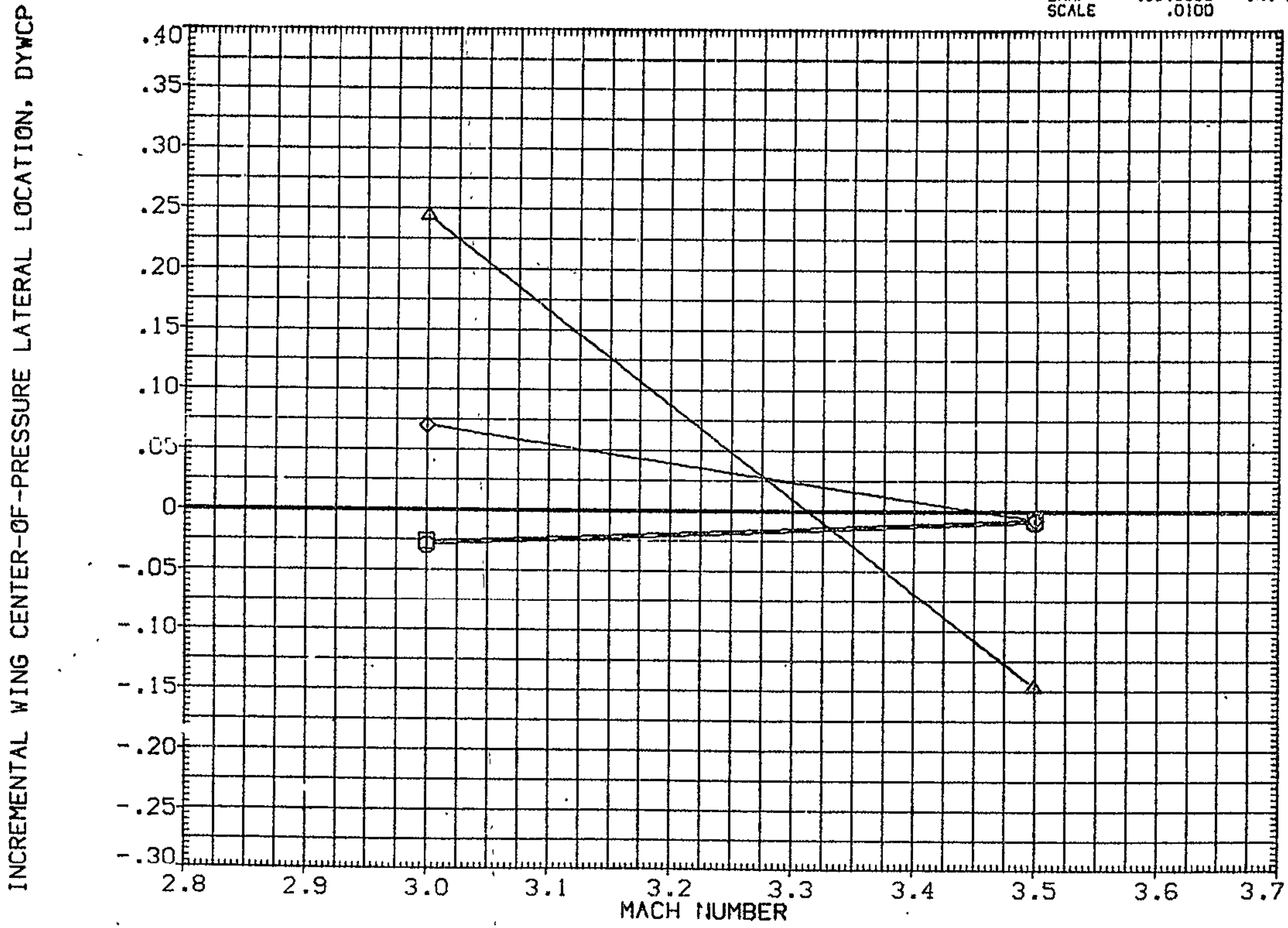

FIG. 90 SUMMARY- MPS PLUME EFFECT ON WING LOADS, SRB OFF, DELVIB=DELVOB=0.0

(A)BETA = .00

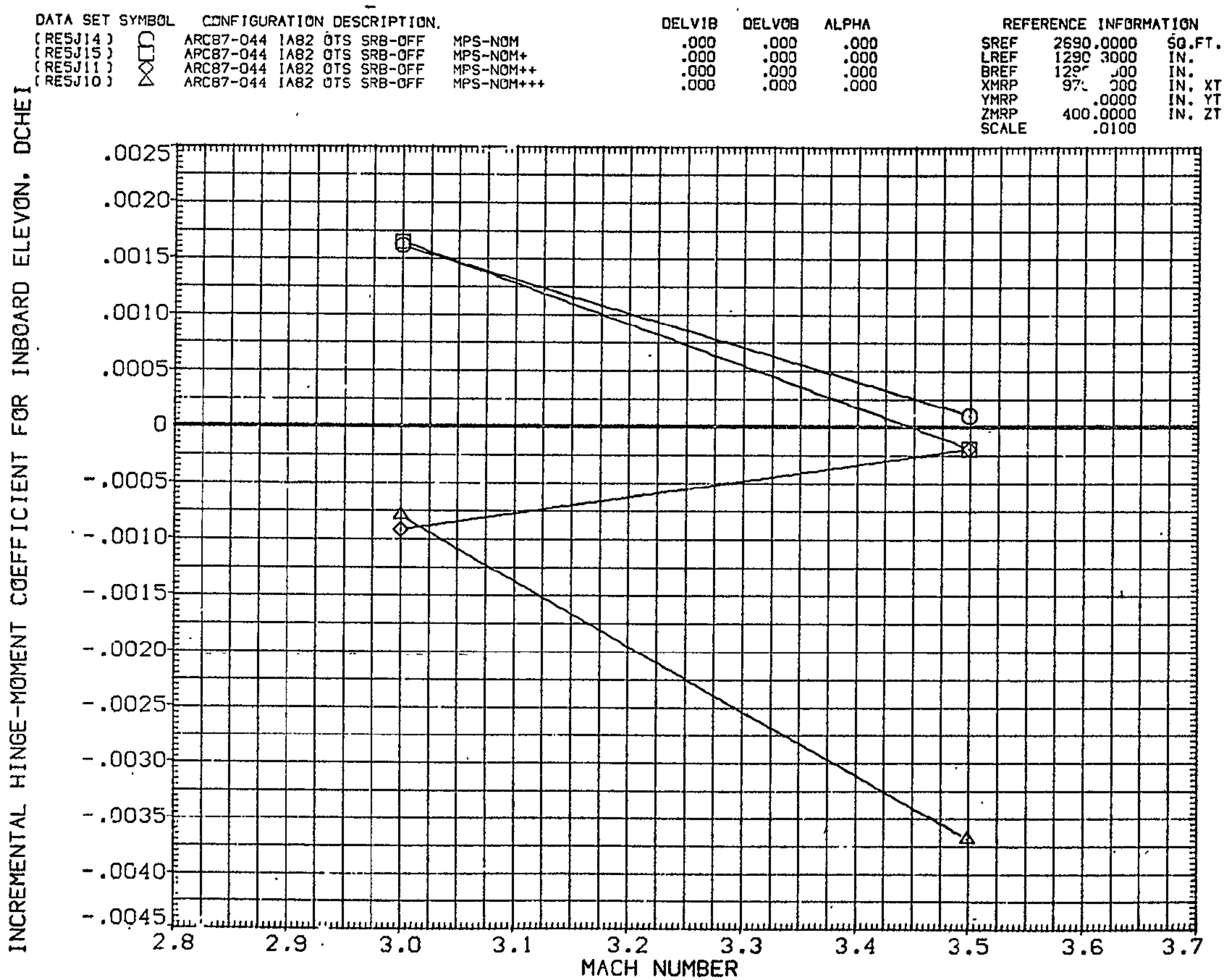

FIG. 91 SUMMARY- MPS PLUME EFFECT ON ELEVON H.M., SRB OFF, DELVIB=DELVOB=0.0

(A)BETA = .00

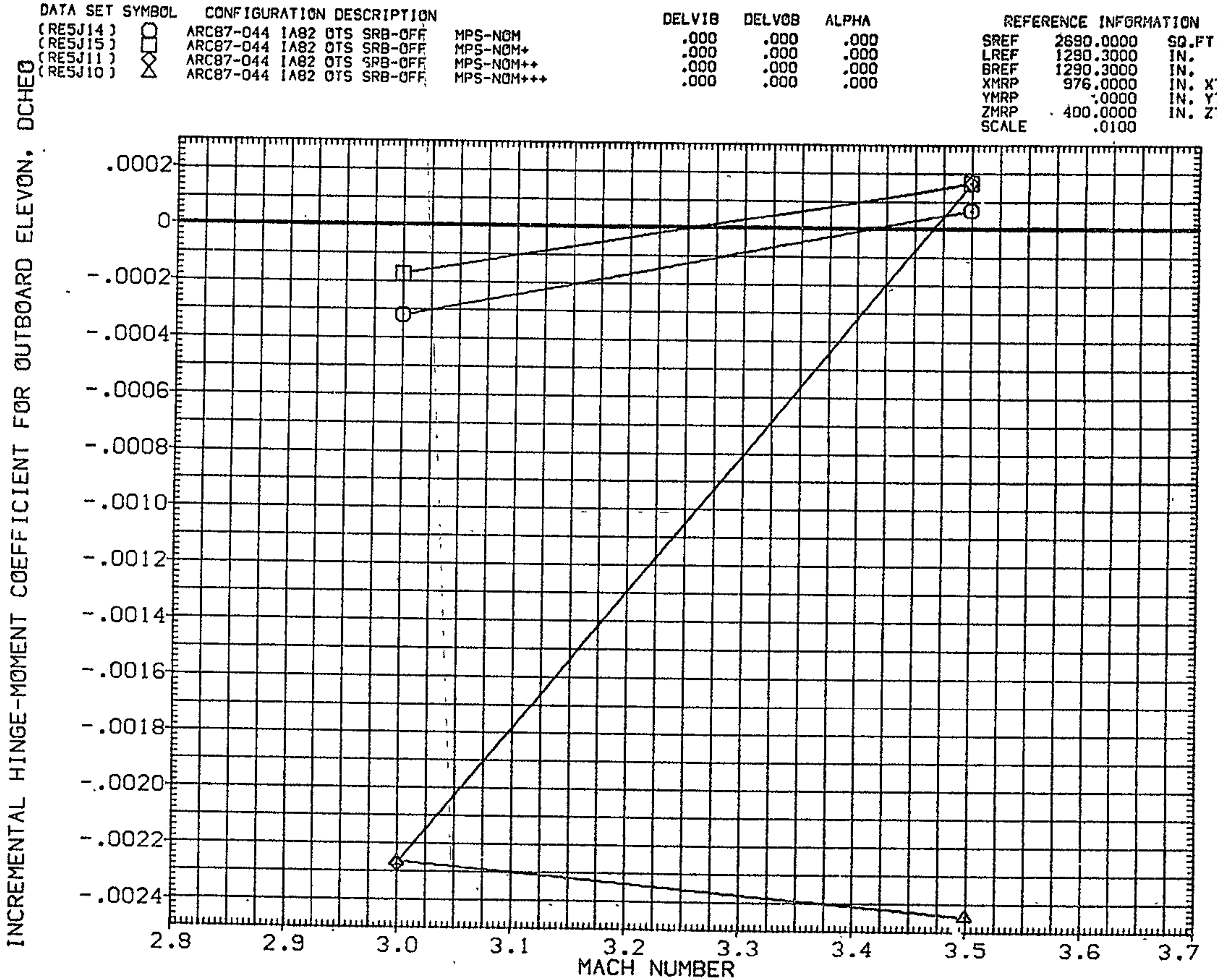

FIG. 91 SUMMARY- MPS PLUME EFFECT ON ELEVON H.M., SRB OFF, DELVIB=DELVOB=0.0
(A)BETA = .00

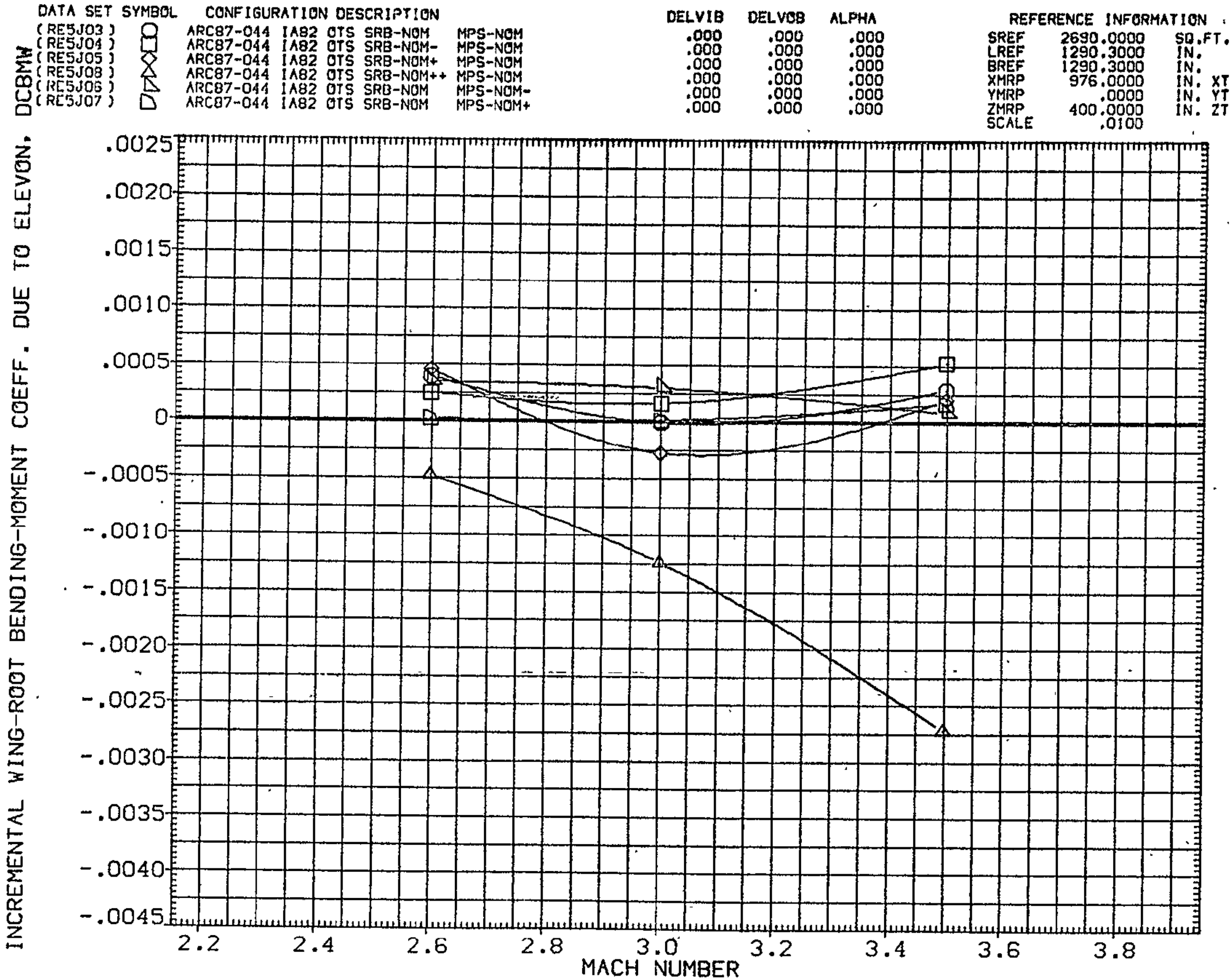

FIG. 92 SUMMARY- MPS PLUME/SRB PLUME EFFECT ON WING LOADS, DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION				DELVIB	DELVOB	ALPHA
(RE5J03)	○	ARC87-044	IA82	OTS	SRB-NOM MPS-NOM	.000	.000	.000
(RE5J04)	□	ARC87-044	IA82	OTS	SRB-NOM- MPS-NOM	.000	.000	.000
(RE5J05)	◇	ARC87-044	IA82	OTS	SRB-NOM+ MPS-NOM	.000	.000	.000
(RE5J08)	△	ARC87-044	IA82	OTS	SRB-NOM++ MPS-NOM	.000	.000	.000
(RE5J06)	◺	ARC87-044	IA82	OTS	SRB-NOM MPS-NOM-	.000	.000	.000
(RE5J07)	D	ARC87-044	IA82	OTS	SRB-NOM MPS-NOM+	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

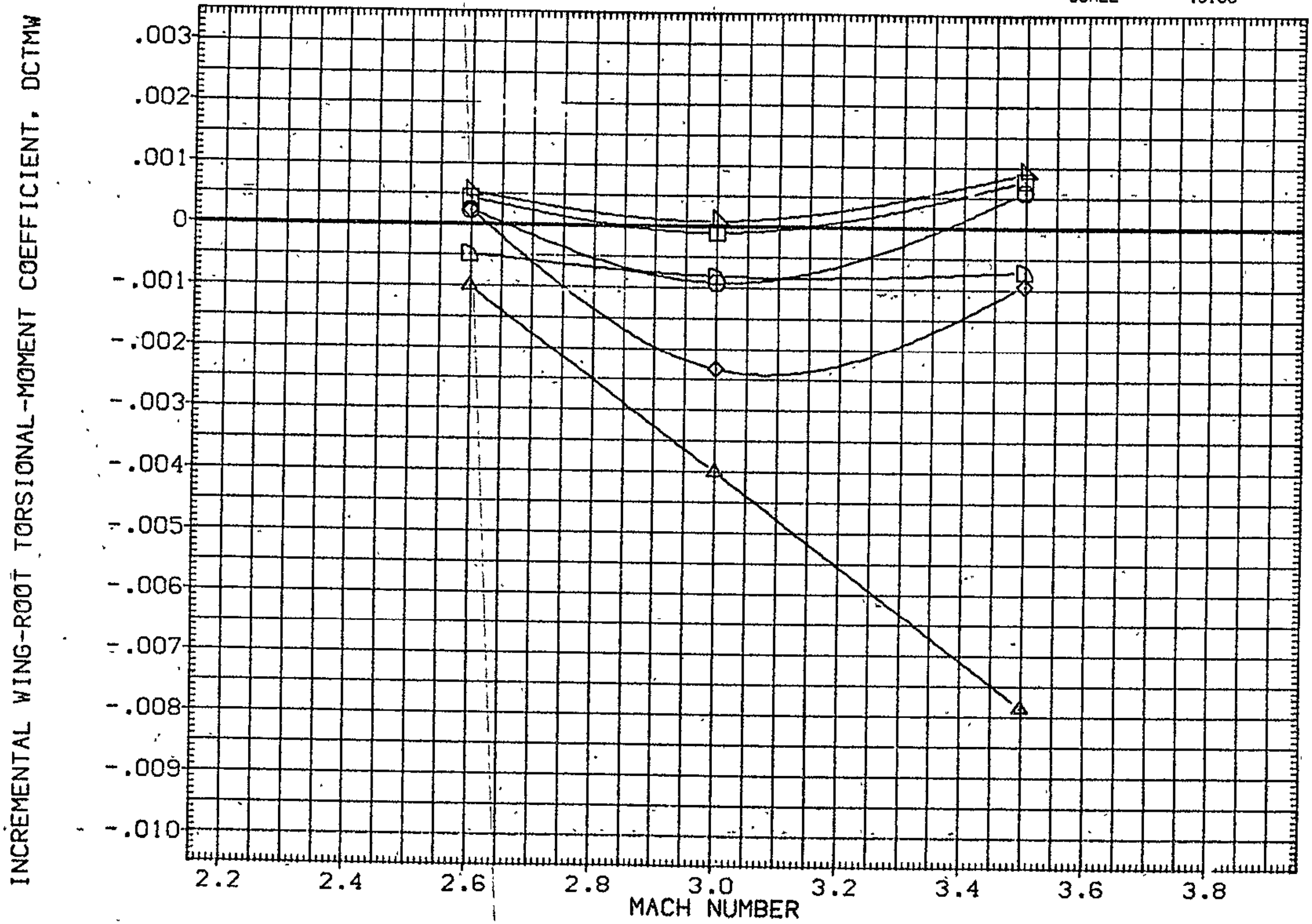

FIG. 92 SUMMARY- MPS PLUME/SRB PLUME EFFECT ON WING LOADS, DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000
(RE5J04)	□	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	.000
(RE5J05)	◇	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	.000
(RE5J08)	△	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	.000
(RE5J06)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	.000
(RE5J07)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

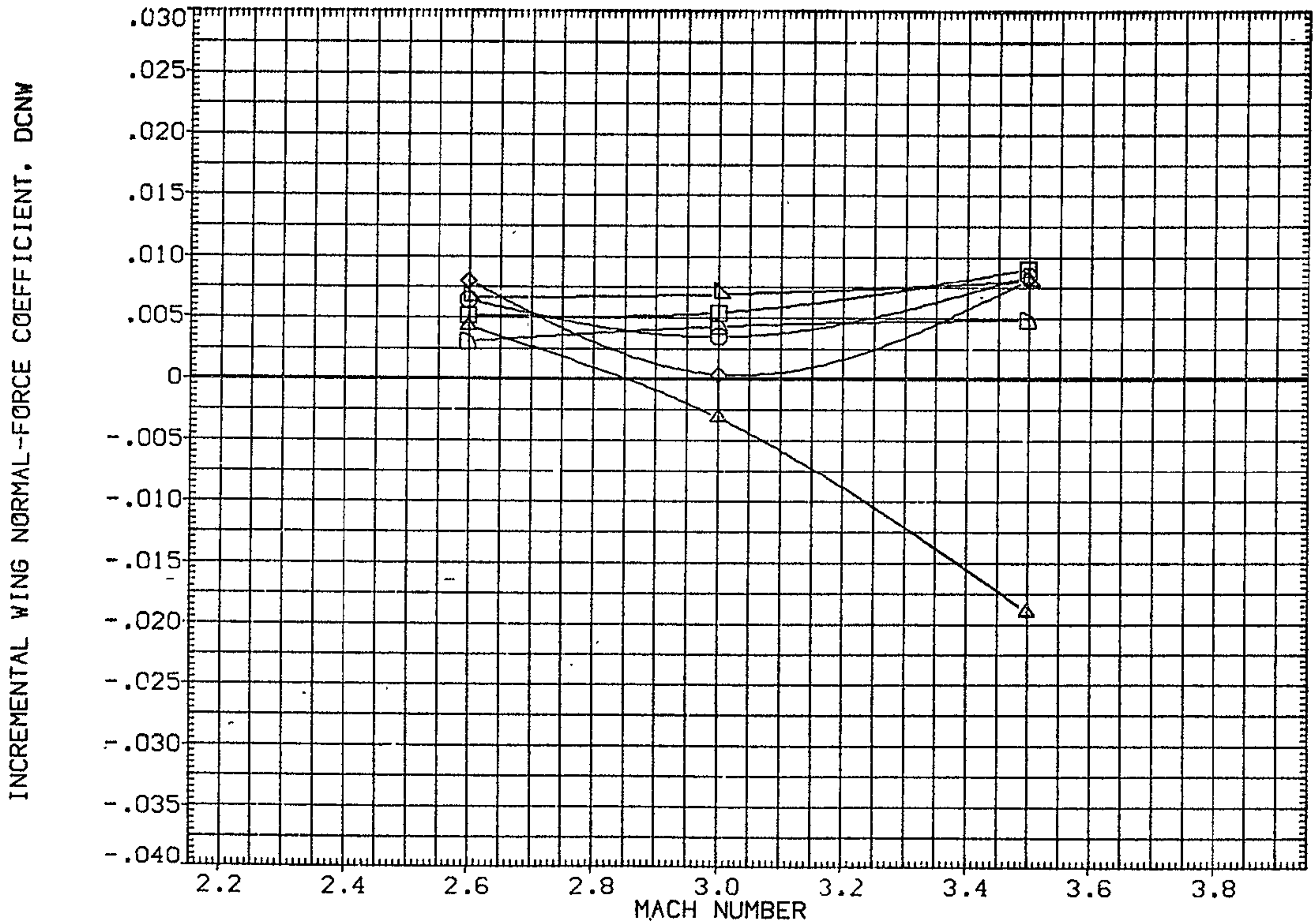

FIG. 92 SUMMARY- MPS PLUME/SRB PLUME EFFECT ON WING LOADS, DELVIB=DELVOB=0.0

(A)BETA = .00

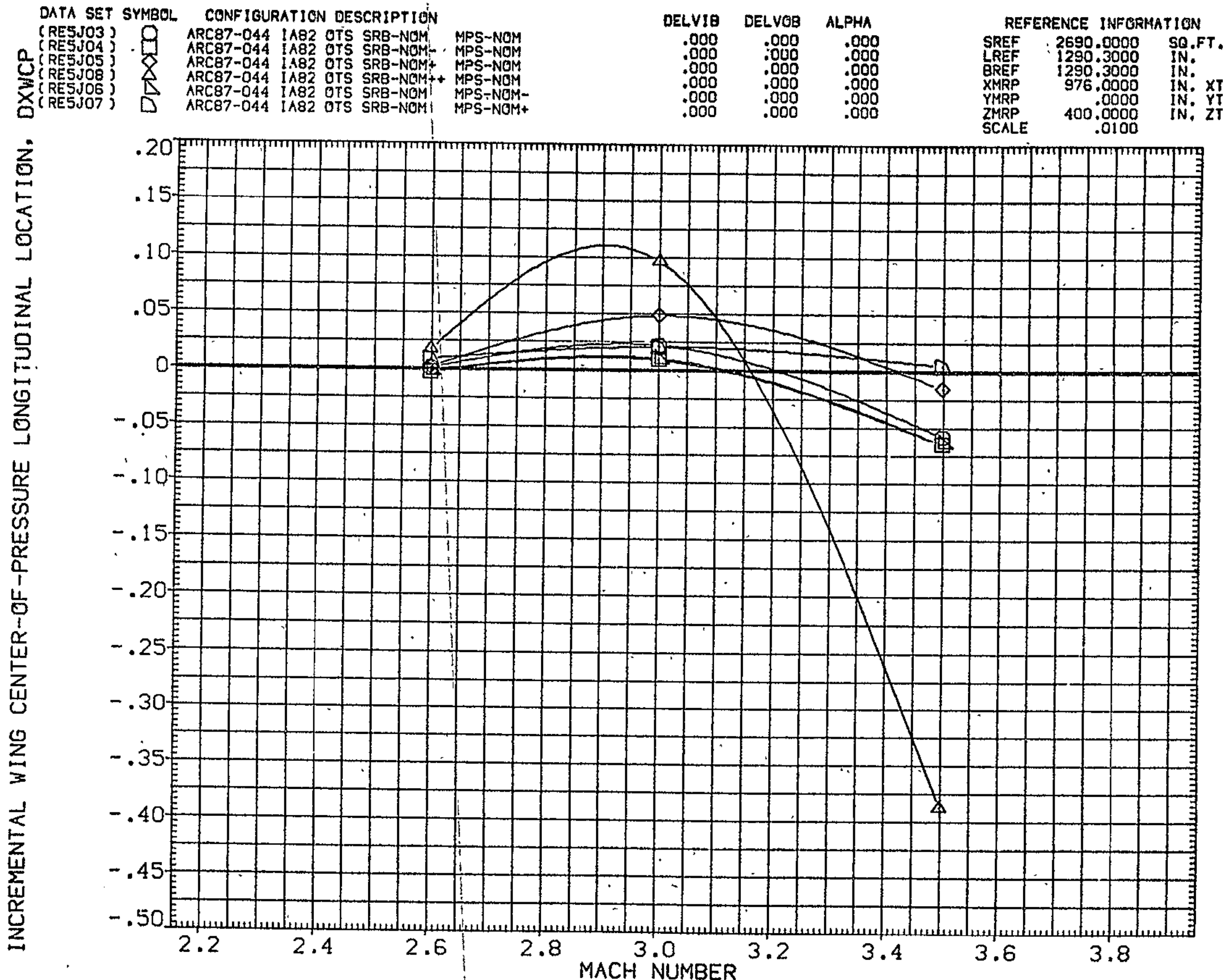

FIG. 92 SUMMARY- MPS PLUME/SRB PLUME EFFECT ON WING LOADS, DELVIB=DELVOB=0.0

(A)BETA = .00

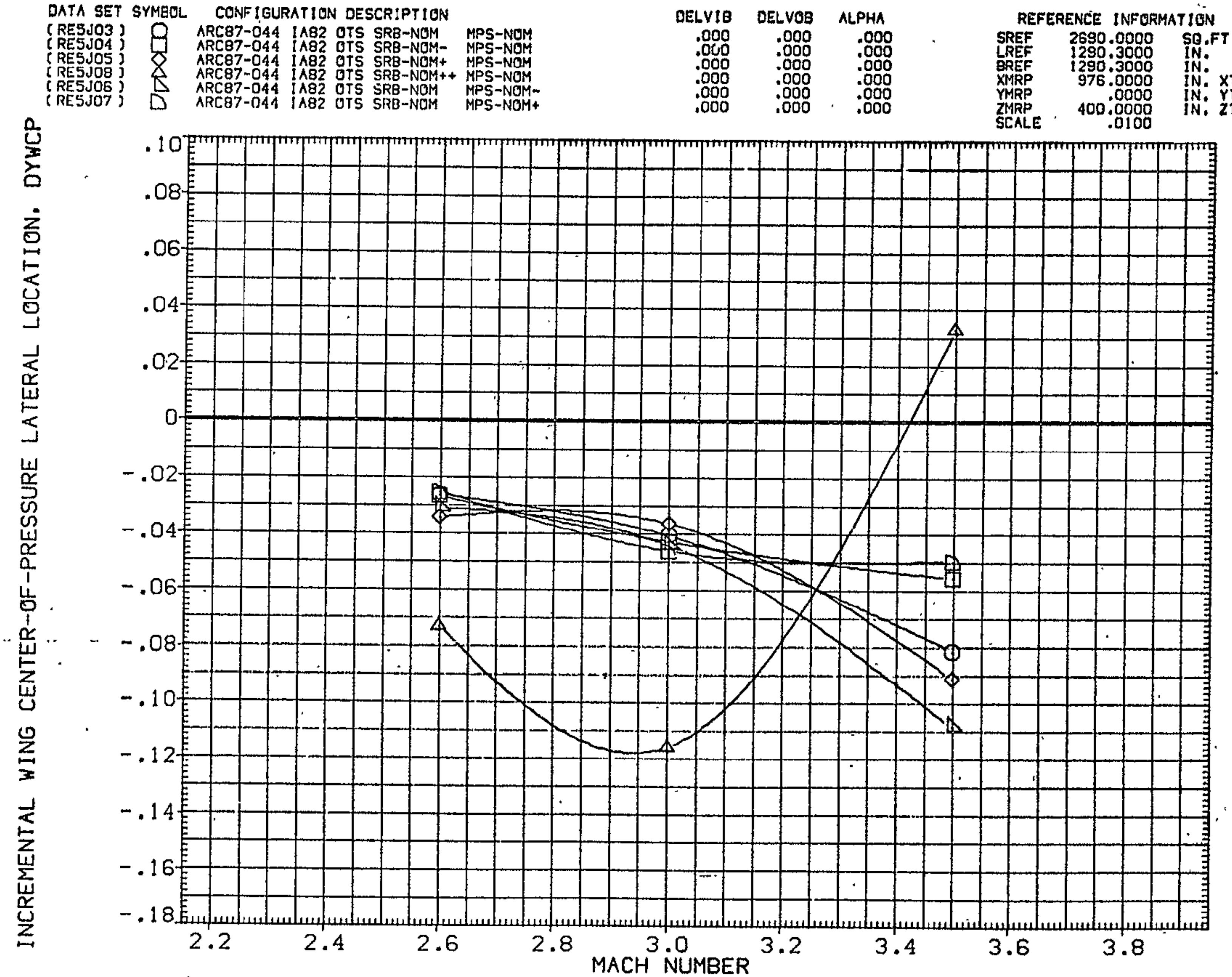

FIG. 92 SUMMARY- MPS PLUME/SRB PLUME EFFECT ON WING LOADS, DELVIB=DELVOB=0.0
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DELVIB	DELVOB	ALPHA
(RE5J03)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	.000	.000	.000
(RE5J04)	□	ARC87-044 IA82 OTS SRB-NOM- MPS-NOM	.000	.000	.000
(RE5J05)	◇	ARC87-044 IA82 OTS SRB-NOM+ MPS-NOM	.000	.000	.000
(RE5J08)	△	ARC87-044 IA82 OTS SRB-NOM++ MPS-NOM	.000	.000	.000
(RE5J06)	▷	ARC87-044 IA82 OTS SRB-NOM MPS-NOM-	.000	.000	.000
(RE5J07)	◺	ARC87-044 IA82 OTS SRB-NOM MPS-NOM+	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0100	

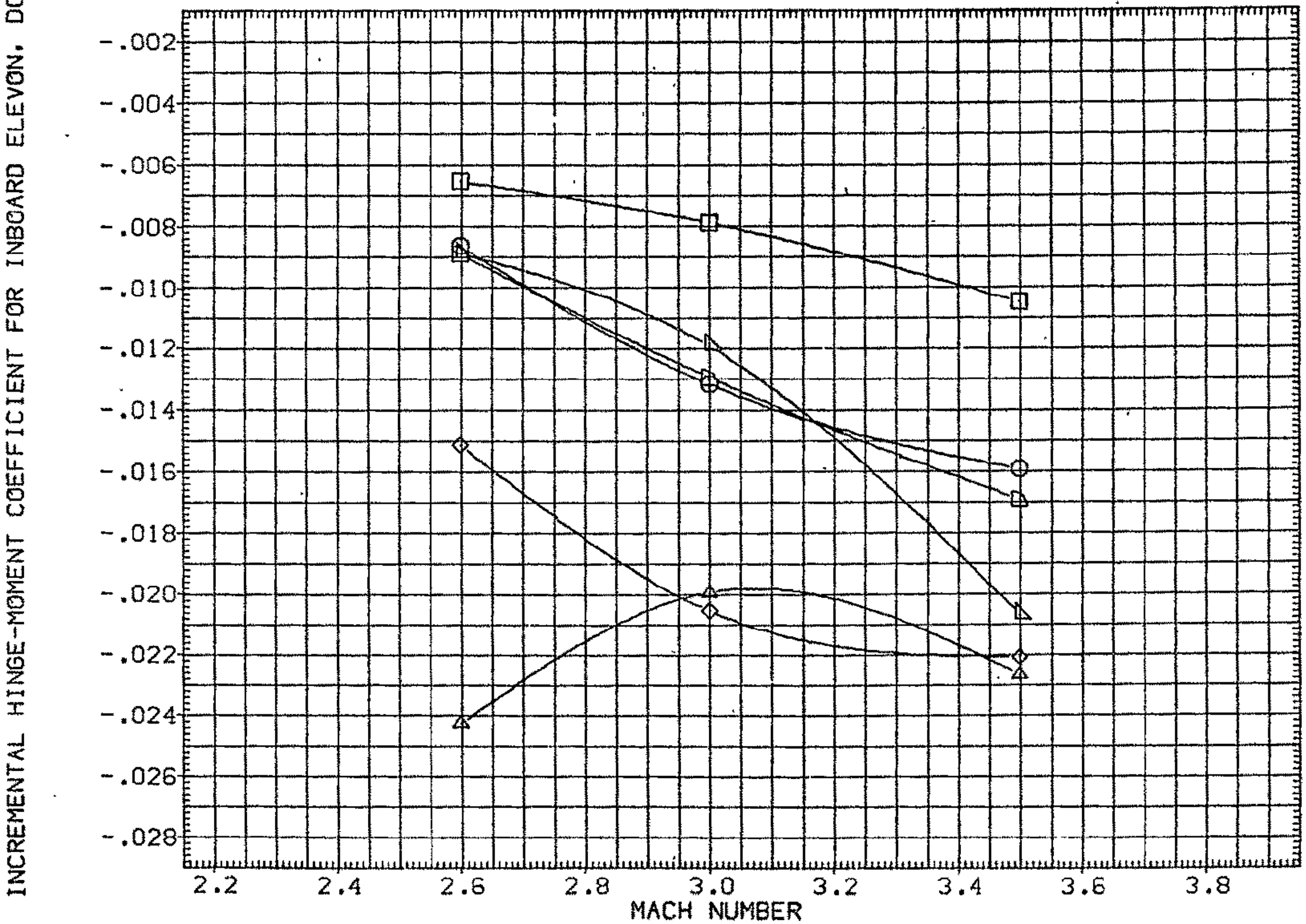

FIG. 93 SUMMARY- MPS/SRB PLUME EFFECT ON ELEVON H.M., DELVIB=DELVOB=0.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J03)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	.000	.000	.000
(RE5J04)	□	ARC87-044 IA82 OTS SRB-NOM-	MPS-NOM	.000	.000	.000
(RE5J05)	◇	ARC87-044 IA82 OTS SRB-NOM+	MPS-NOM	.000	.000	.000
(RE5J08)	△	ARC87-044 IA82 OTS SRB-NOM++	MPS-NOM	.000	.000	.000
(RE5J06)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM-	.000	.000	.000
(RE5J07)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM+	.000	.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

FIG. 93 SUMMARY- MPS/SRB PLUME EFFECT ON ELEVON H.M., DELVIB=DELVOB=0.0

(A)BETA = .00

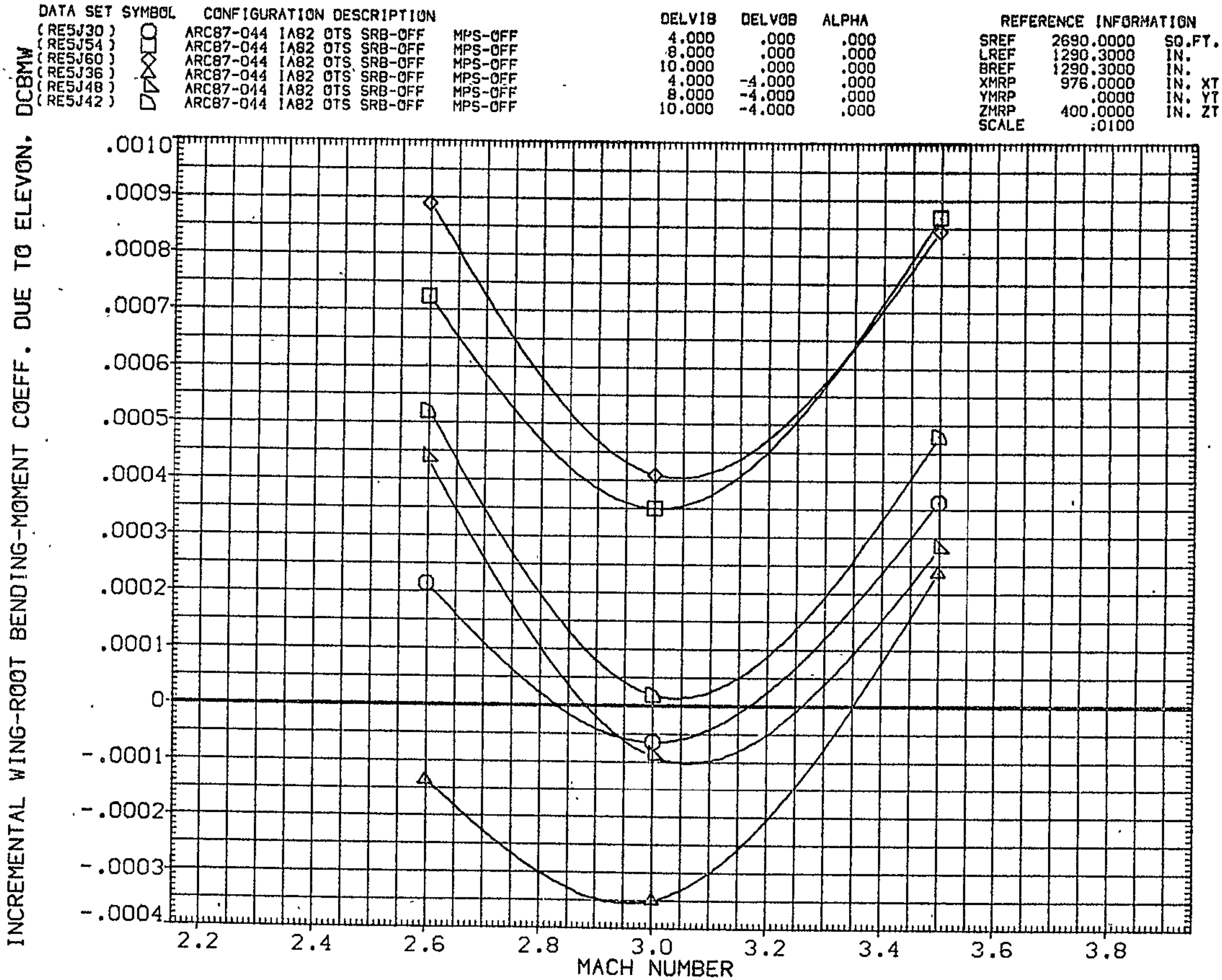

FIG. 94 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, POWER OFF

(A)BETA = .00

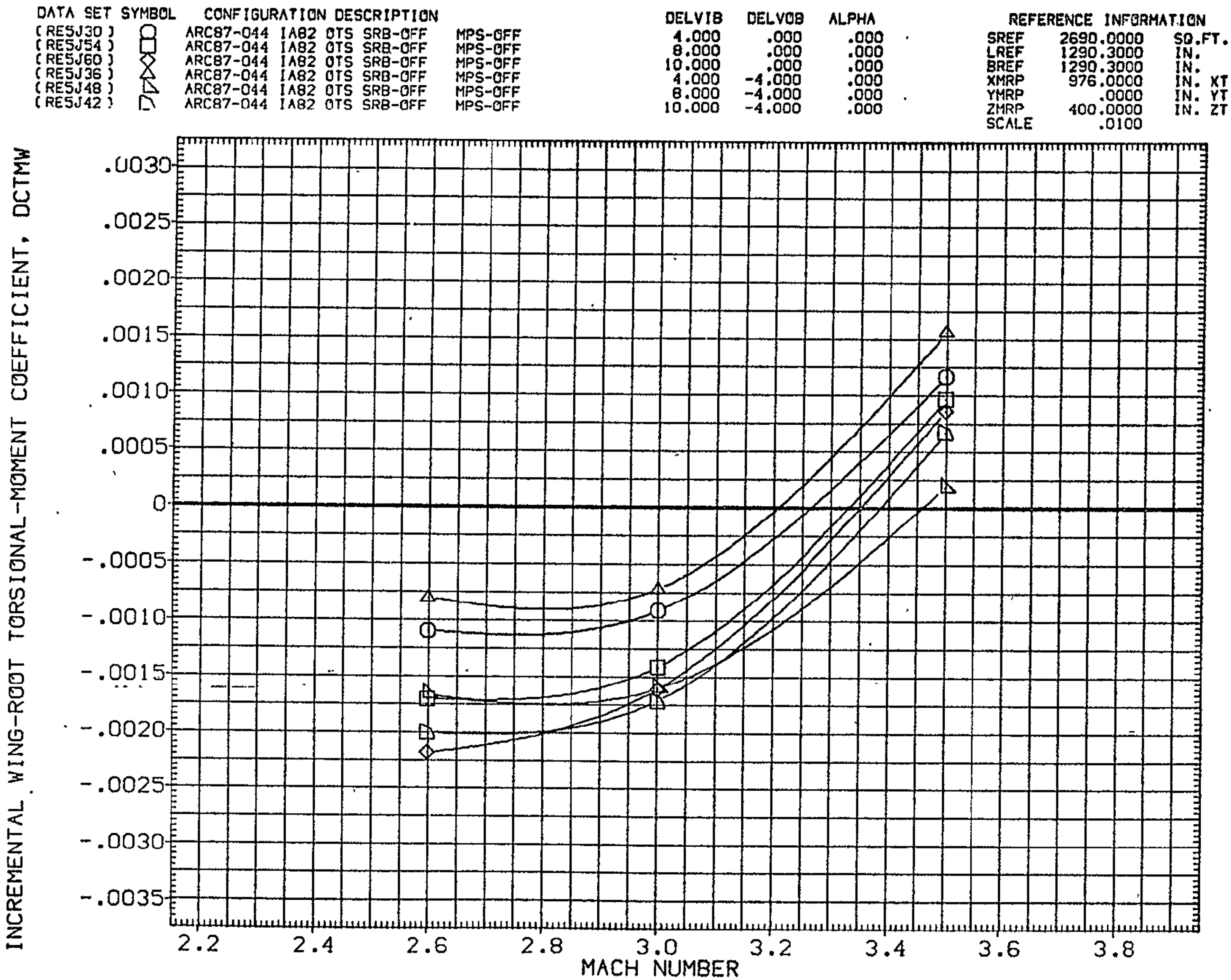

FIG. 94 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, POWER OFF
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J30)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	.000
(RE5J54)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	.000
(RE5J60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	.000
(RE5J36)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	.000
(RE5J48)	◁	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	.000
(RE5J42)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

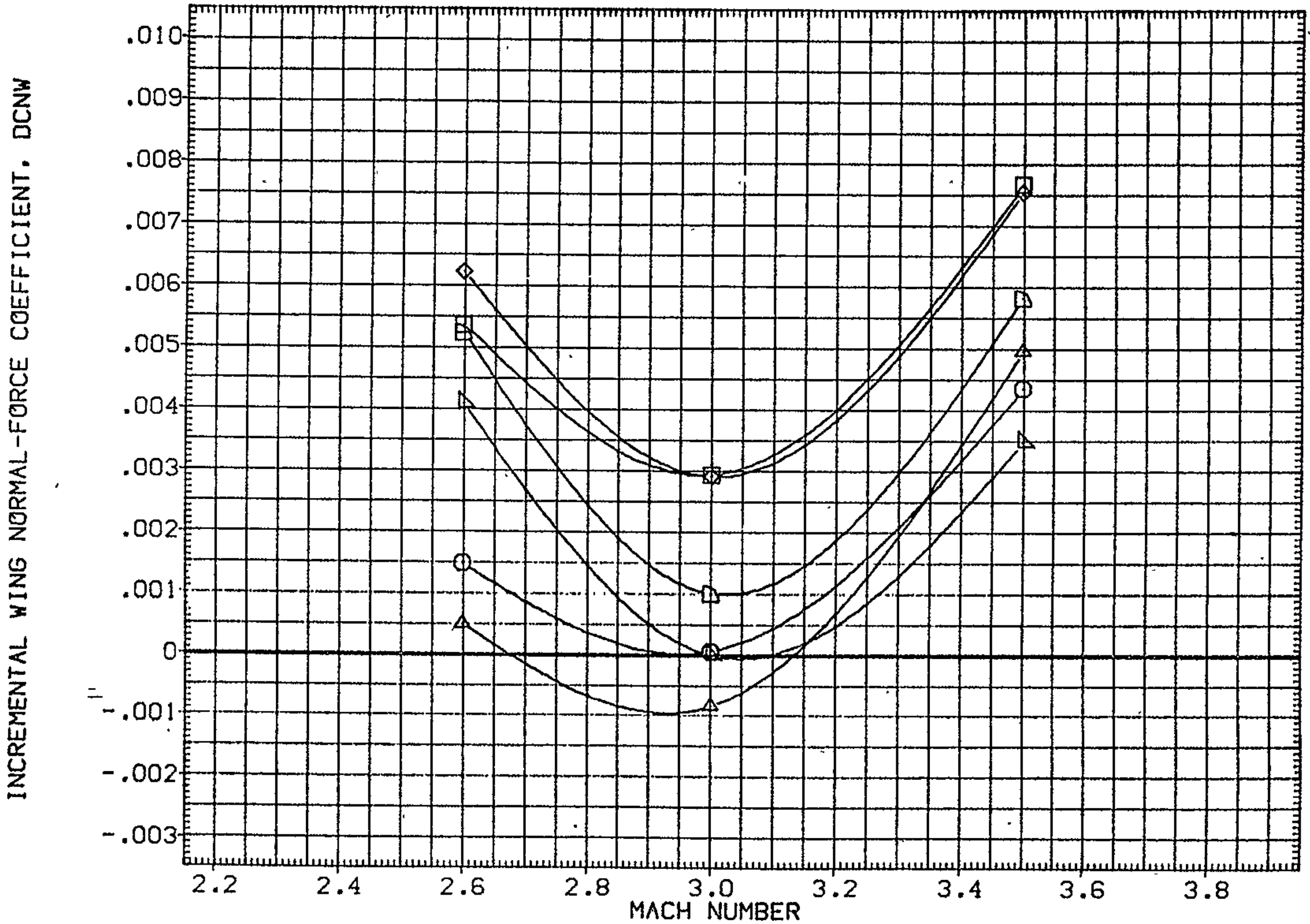

FIG. 94 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, POWER OFF

(A)BETA = .00

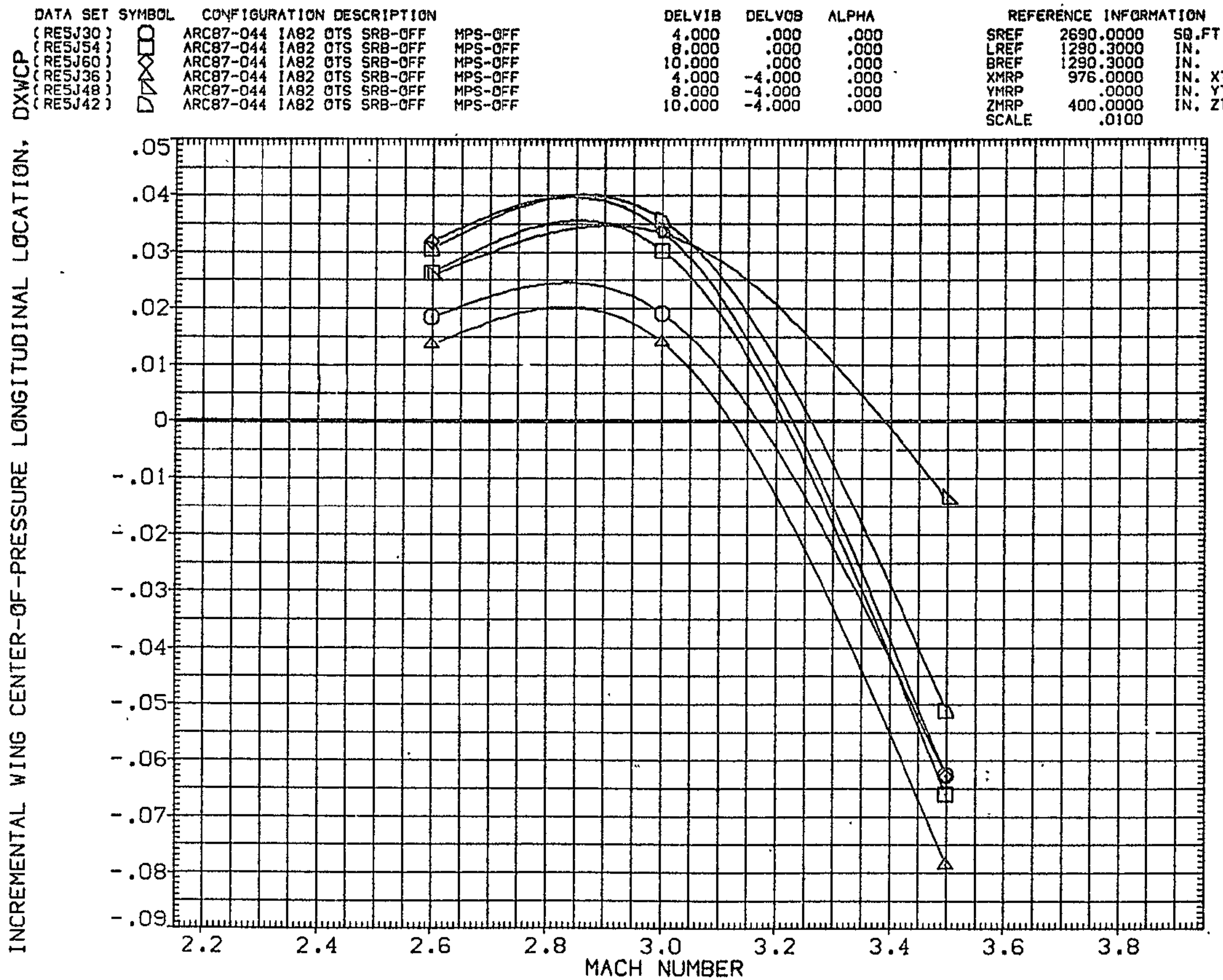

FIG. 94 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, POWER OFF

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J30)	○	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	.000	.000
(RE5J54)	□	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	.000	.000
(RE5J60)	◇	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	.000	.000
(RE5J36)	△	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	4.000	-4.000	.000
(RE5J48)	◺	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	8.000	-4.000	.000
(RE5J42)	◻	ARC87-044 IA82 OTS SRB-OFF	MPS-OFF	10.000	-4.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

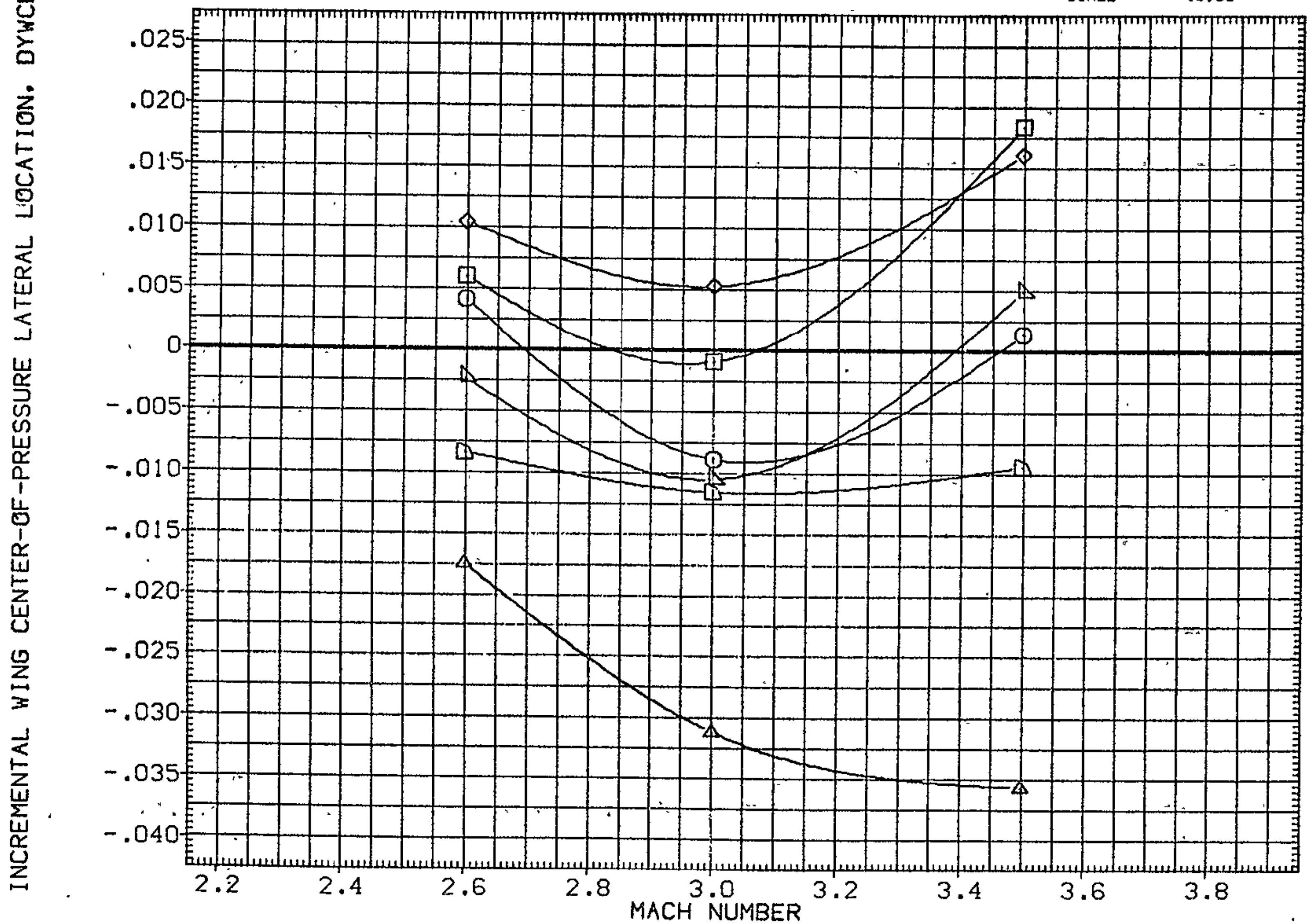

FIG. 94 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, POWER OFF
(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DELVIB	DELVOB	ALPHA
(RE5J30)	○	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	4.000	.000	.000
(RE5J54)	□	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	8.000	.000	.000
(RE5J60)	◇	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	10.000	.000	.000
(RE5J36)	△	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	4.000	-4.000	.000
(RE5J48)	◺	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	8.000	-4.000	.000
(RE5J42)	◻	ARC87-044 IA82 OTS SRB-OFF MPS-OFF	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
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YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

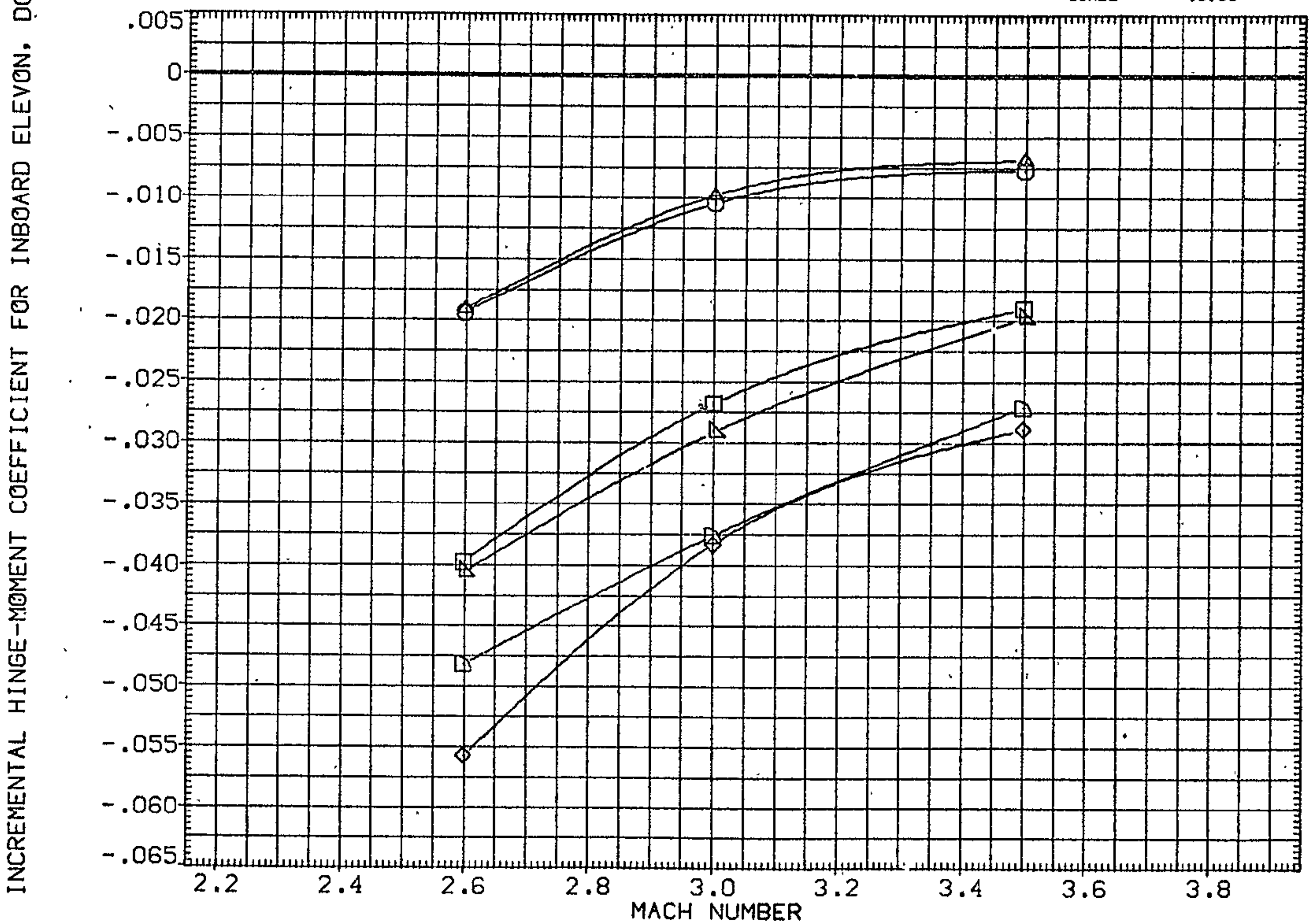

FIG. 95 SUMMARY-ELEVON DEFLECTIONS EFFECT ON ELEVON H.M., POWER OFF

(A)BETA = .00

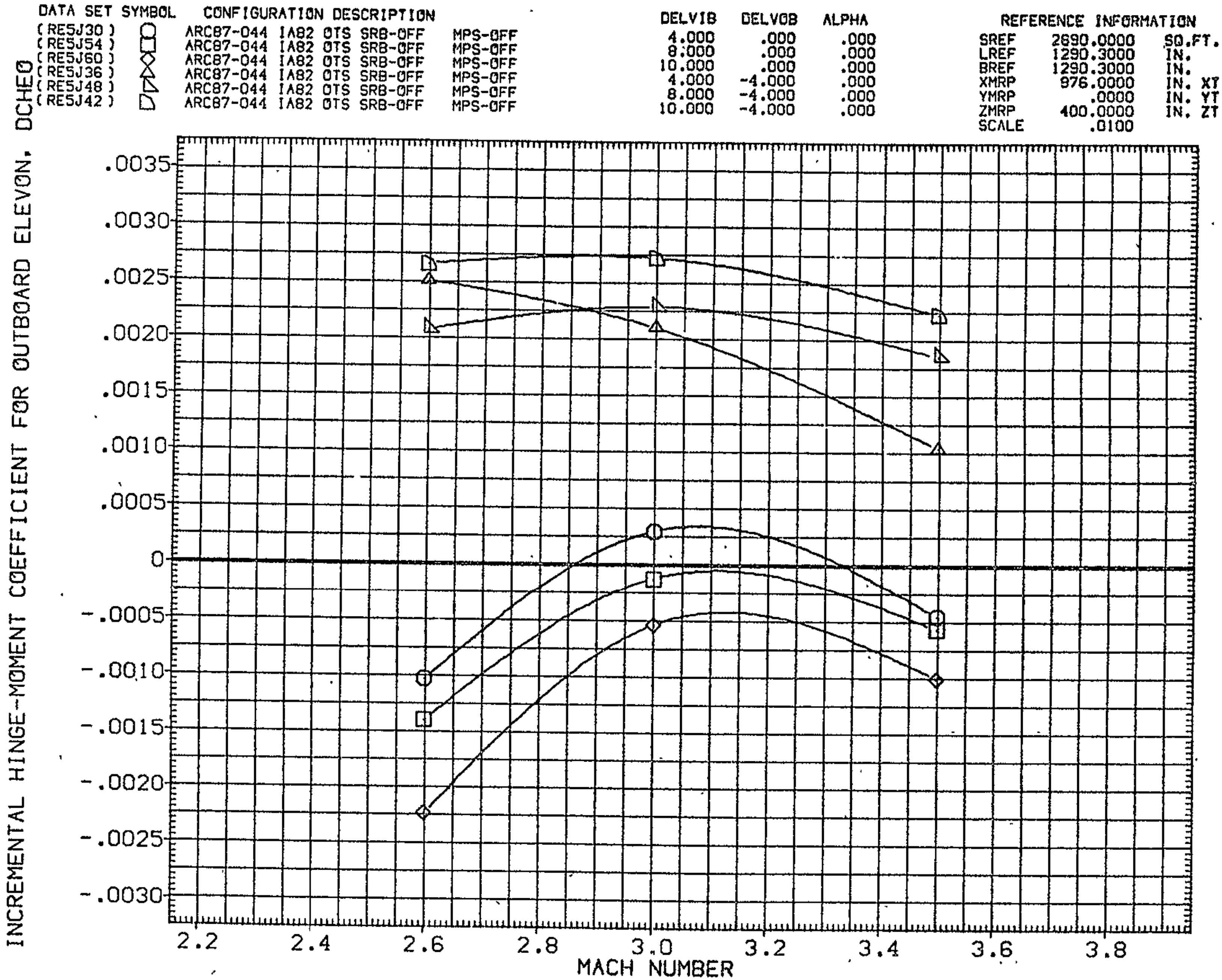

FIG. 95 SUMMARY-ELEVON DEFLECTIONS EFFECT ON ELEVON H.M., POWER OFF

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	.000
(RE5J49)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	.000
(RE5J43)	◹	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

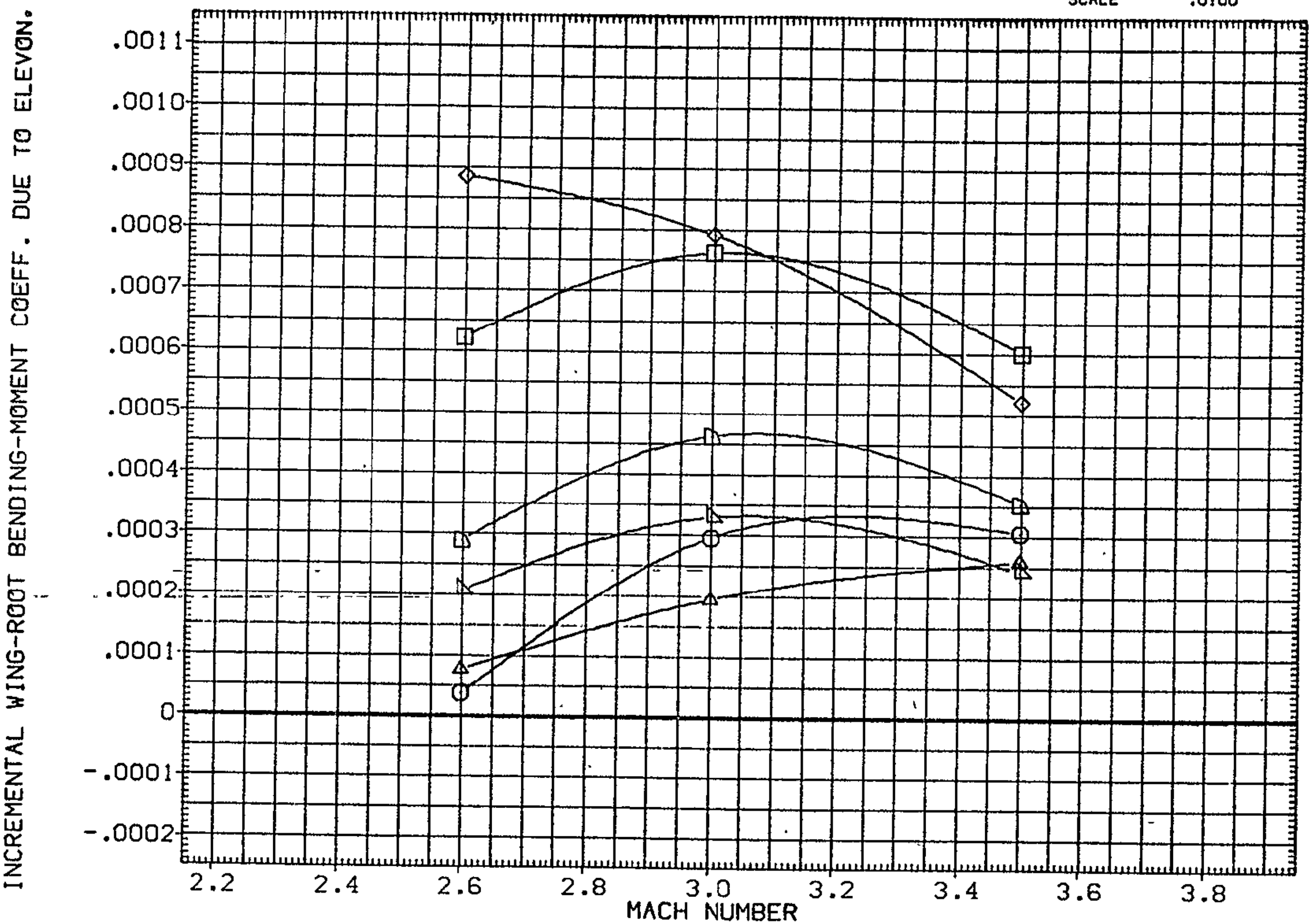

FIG. 96 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, NOMINAL POWER ON

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	4.000	-4.000	.000
(RE5J49)	◺	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	8.000	-4.000	.000
(RE5J43)	D	ARC87-044 IA82 OTS SRB-NOM MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

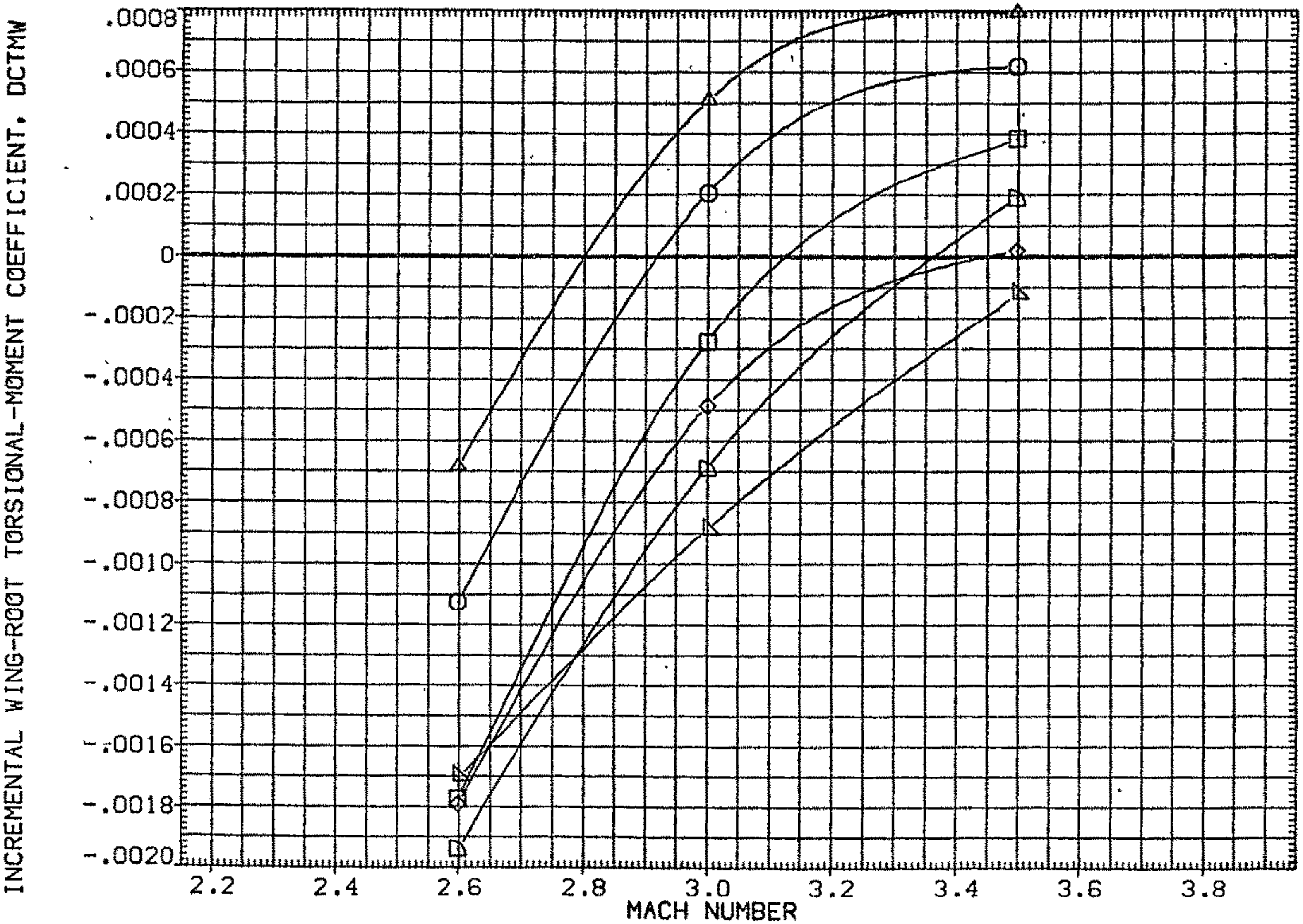

FIG. 96 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, NOMINAL POWER ON

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	.000
(RE5J49)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	.000
(RE5J43)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

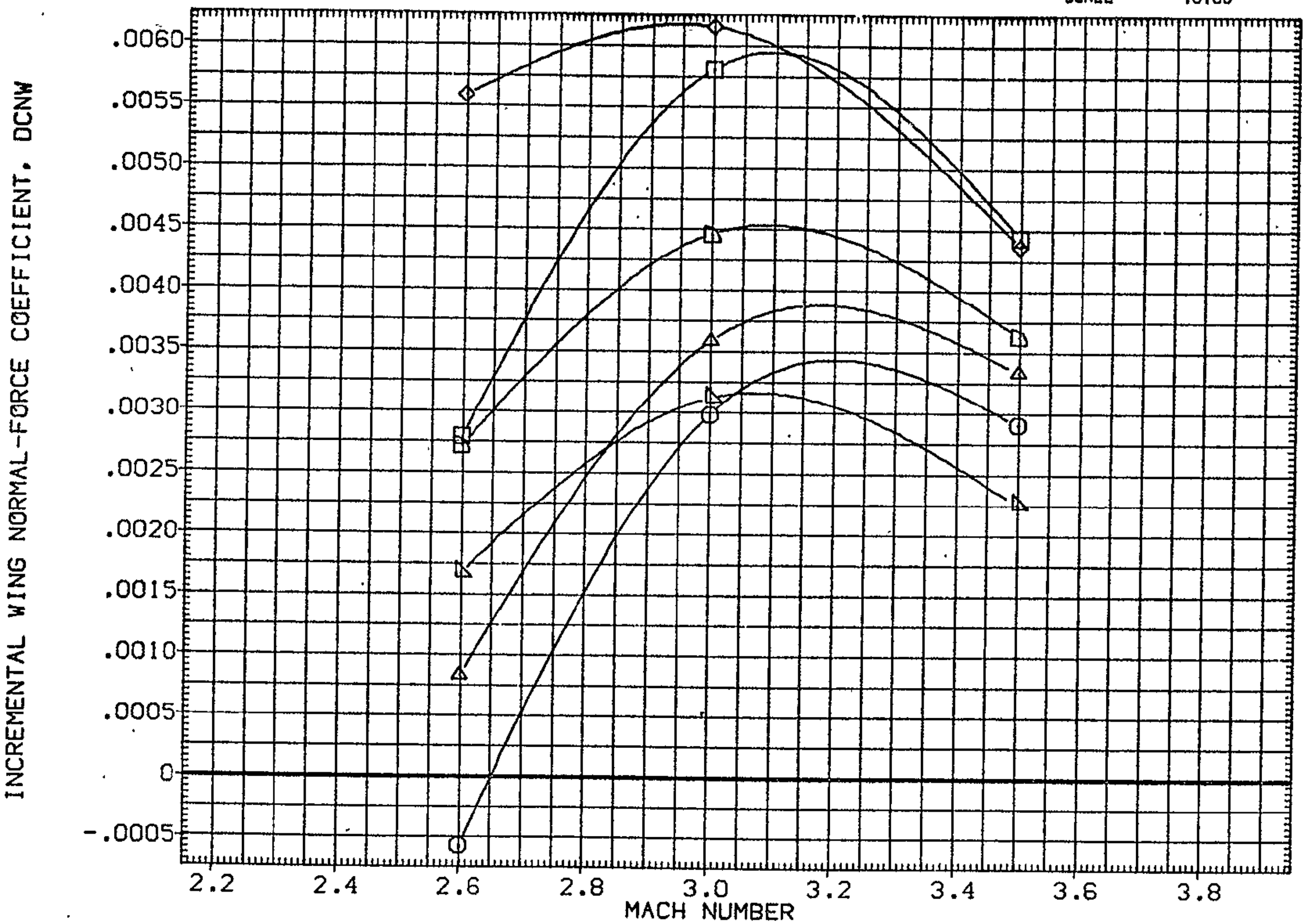

FIG. 96 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, NOMINAL POWER ON

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	.000
(RE5J49)	◁	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	.000
(RE5J43)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

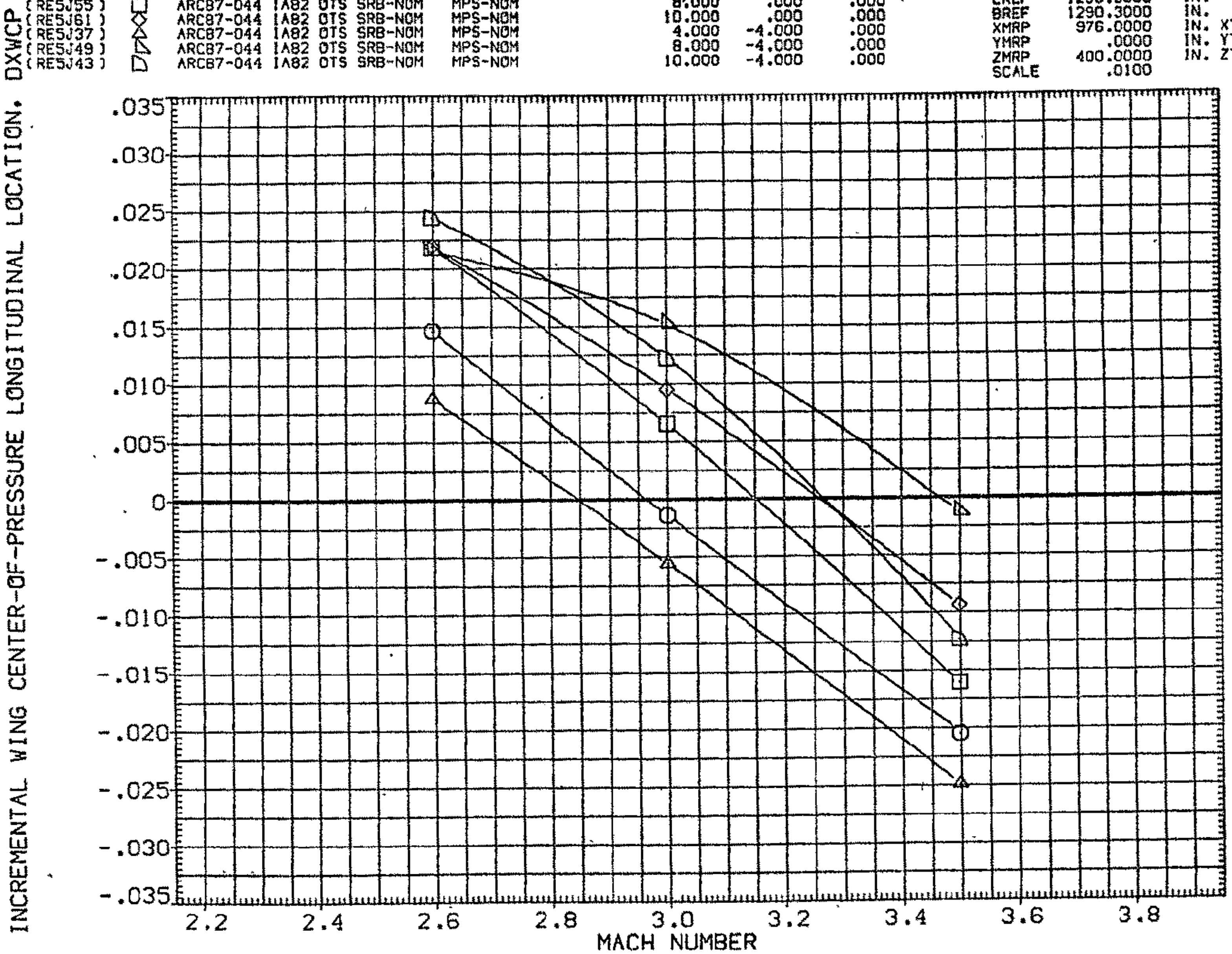

FIG. 96 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, NOMINAL POWER ON

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	.000
(RE5J49)	▷	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	.000
(RE5J43)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

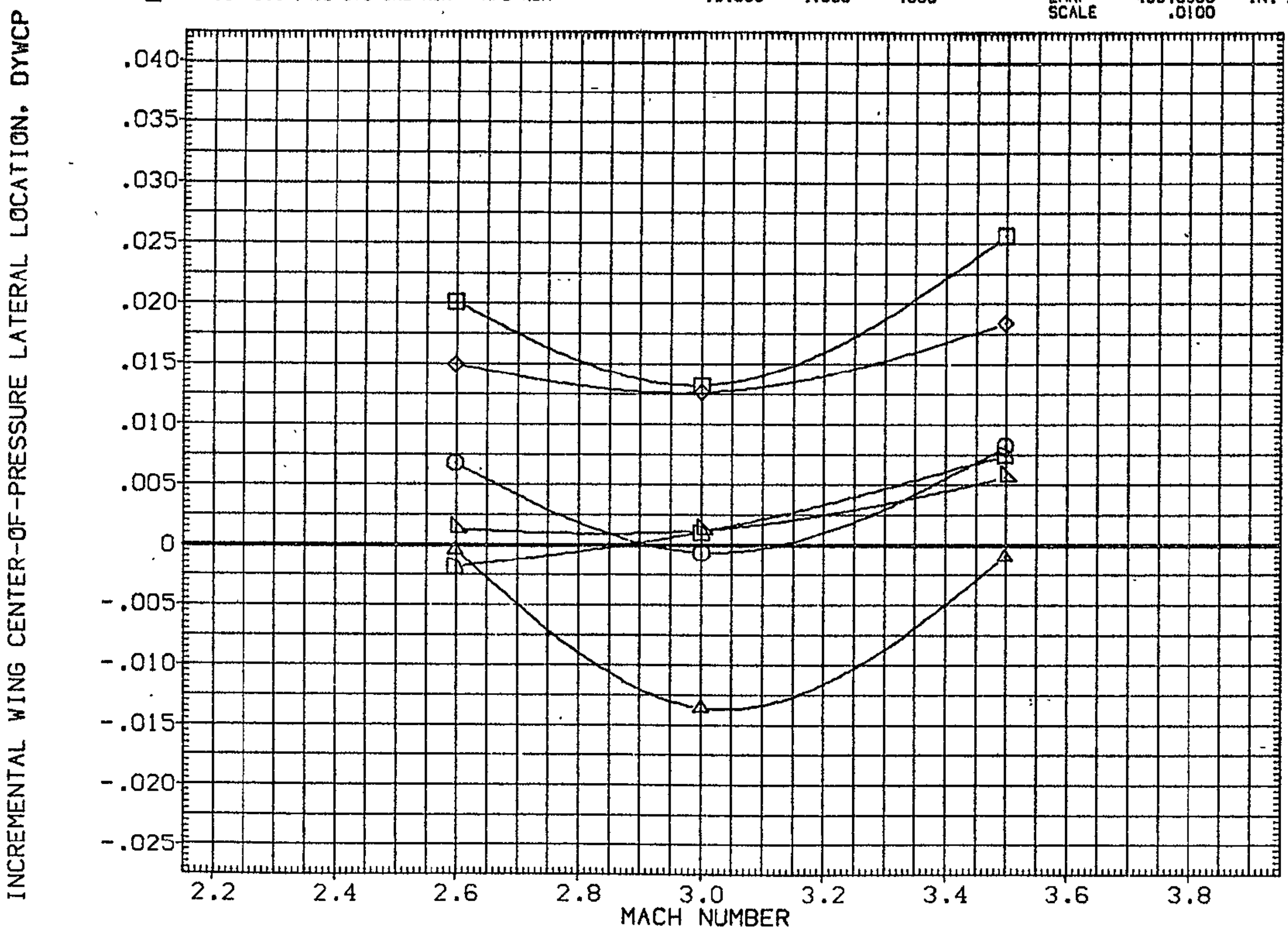

FIG. 96 SUMMARY-ELEVON DEFLECTIONS EFFECT ON WING LOADS, NOMINAL POWER ON

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	.000
(RE5J49)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	.000
(RE5J43)	◻	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

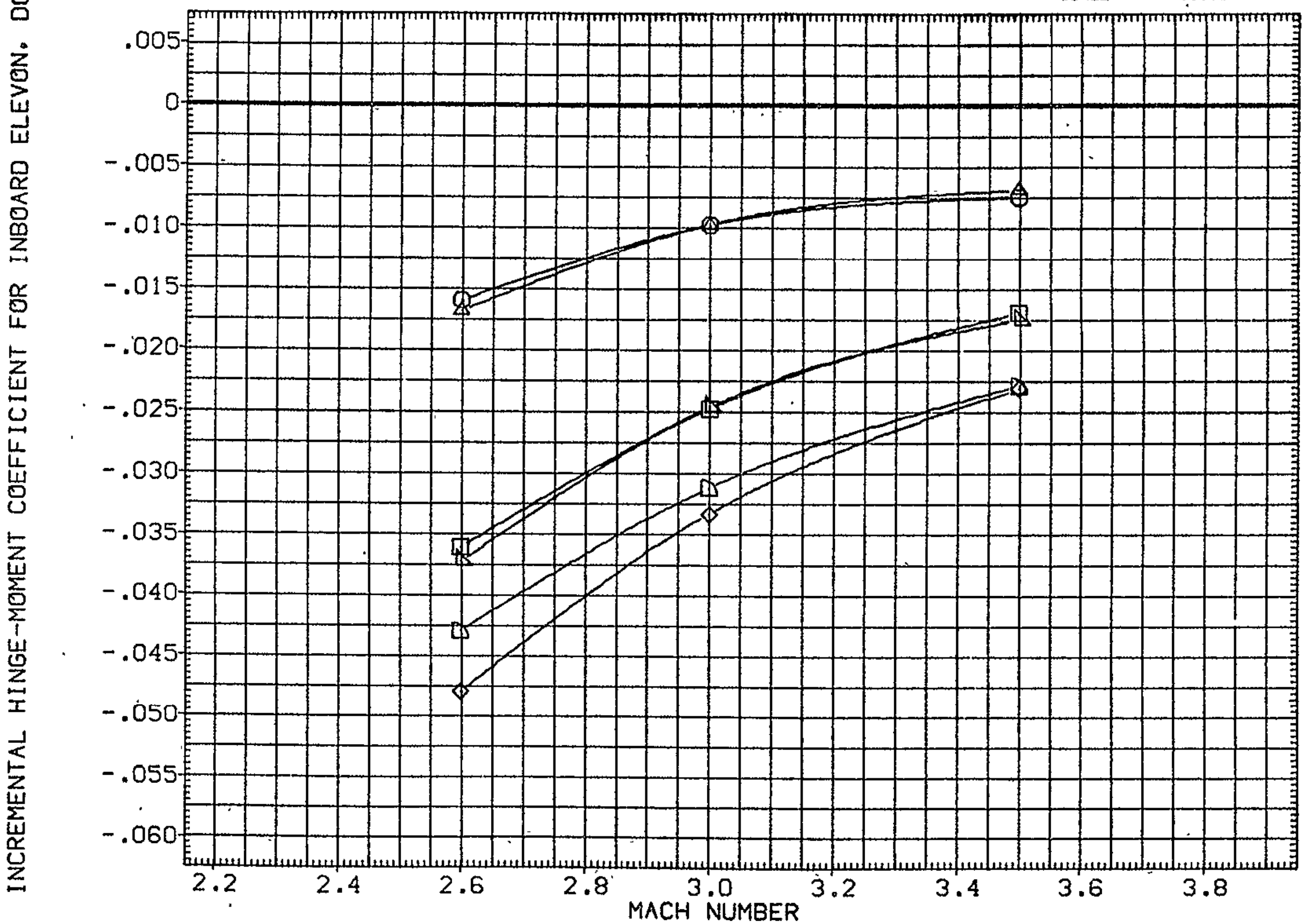

FIG. 97 SUMMARY-ELEVON DEFLECTIONS EFFECT ON ELEVON H.M., NOMINAL POWER ON

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION		DELVIB	DELVOB	ALPHA
(RE5J31)	○	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	.000	.000
(RE5J55)	□	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	.000	.000
(RE5J61)	◇	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	.000	.000
(RE5J37)	△	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	4.000	-4.000	.000
(RE5J49)	◺	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	8.000	-4.000	.000
(RE5J43)	D	ARC87-044 IA82 OTS SRB-NOM	MPS-NOM	10.000	-4.000	.000

REFERENCE INFORMATION		
SREF	2690.0000	SQ.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0100	

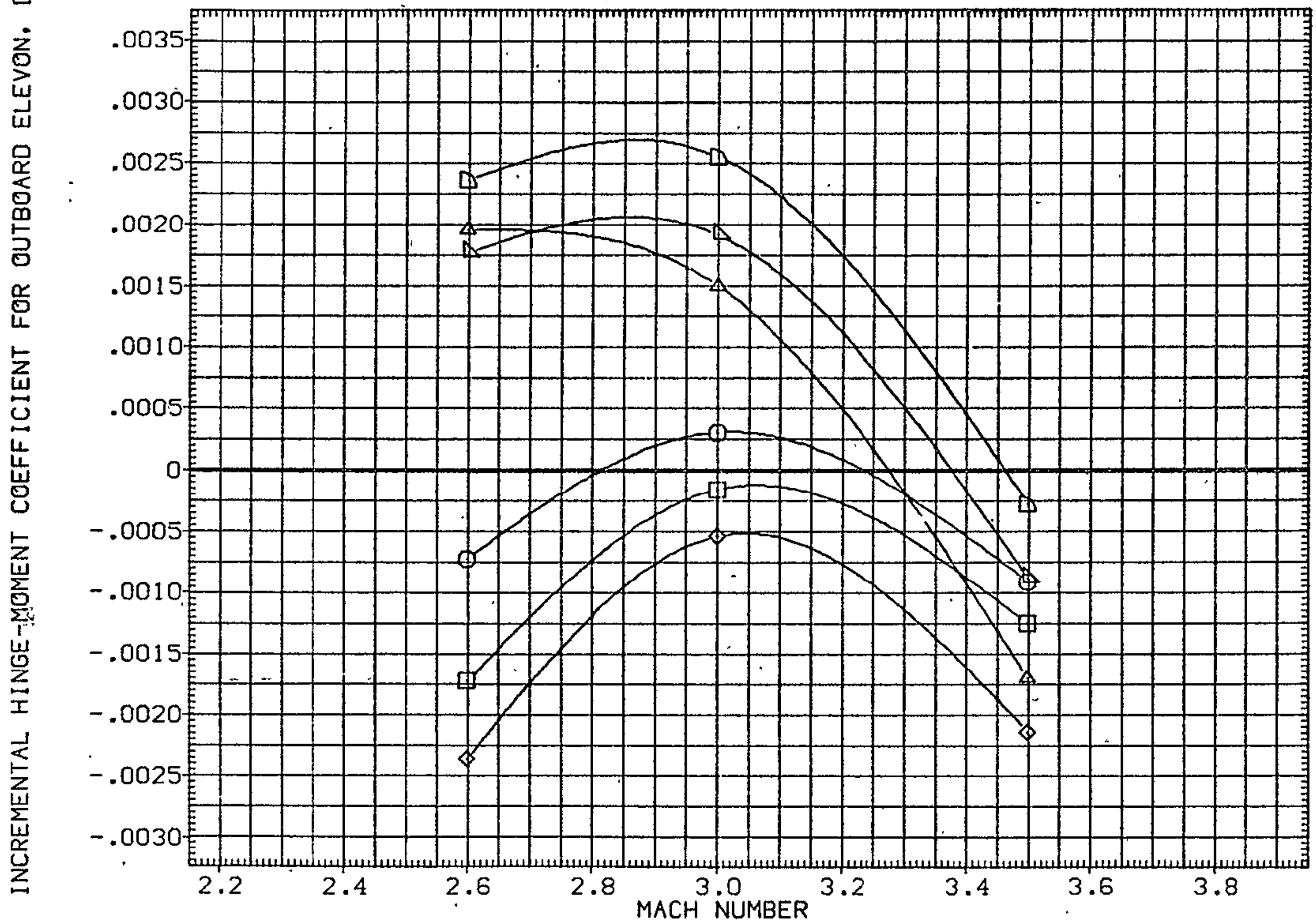

FIG. 97 SUMMARY-ELEVON DEFLECTIONS EFFECT ON ELEVON H.M., NOMINAL POWER ON

(A)BETA = .00