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—SPACE SHUTTLE—

AERODYNAMIC CHARACTERISTICS OF 0.003367 SCALE MODELS OF THE MMC RETRO-GLIDE BOOSTER ALONE AND MATED WITH THE MSC 040-A ORBITER

by

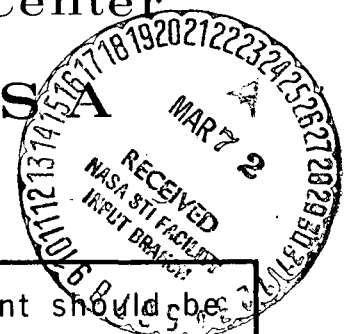
D.J. Michna, MMC
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MSFC 14x14-INCH
TRANSONIC WIND TUNNEL

Marshall Space
Flight Center

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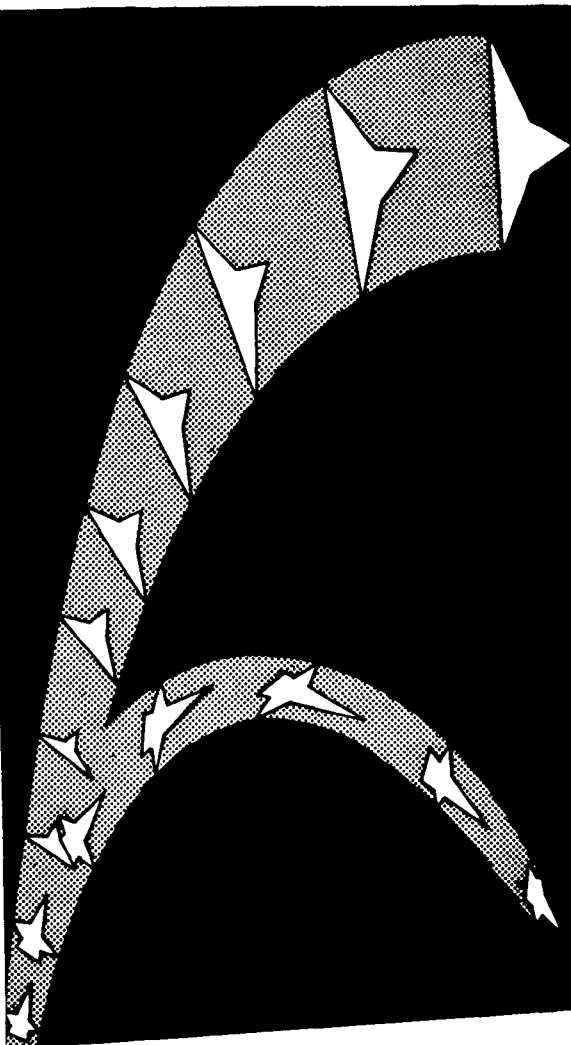
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SADSAC SPACE SHUTTLE
AEROTHERMODYNAMIC
DATA MANAGEMENT SYSTEM

CONTRACT NAS8-4016
MARSHALL SPACE FLIGHT CENTER

SPACE DIVISION  CHRYSLER
CORPORATION

(NASA-CR-120031) SPACE SHUTTLE:
AERODYNAMIC CHARACTERISTICS OF 0.003367
SCALE MODELS OF THE MMC RETRO-GLIDE BOOSTER
ALONE AND MATED D.J. Michna, et al
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CONFIGURATION: MARTIN MARIETTA RETRO GLIDE BOOSTER WITH AND WITHOUT THE
040-A ORBITER

TEST PURPOSE: TO DETERMINE STATIC STABILITY AND CONTROL CHARACTERISTICS

TEST FACILITY: NASA/MSFC 14 X 14 INCH TRISONIC WIND TUNNEL

TESTING AGENCY: MARTIN MARIETTA CORP.

TEST NO. & DATE: MSFC TWT 517; 27 Dec 1971 - 12 Jan 1972

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PROJECT ENGINEER(S): D. J. Michna
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AERODYNAMIC CHARACTERISTICS OF 0.003367 SCALE MODELS
OF THE MMC RETRO-GLIDE BOOSTER ALONE AND MATED WITH
THE MSC 040-A ORBITER

By D. J. Michna and D. Allayaud

SUMMARY

Presented in this report are the plotted data results of aerodynamic tests conducted on the 0.003367 scale models of the Martin Marietta Corporation's Retro-Glide Booster alone and mated with the NASA/MSFC 040A Orbiter. The test was conducted in the NASA/MSFC 14 Inch Trisonic Wind Tunnel over a Mach number range of 0.6 to 4.95 with angles of attack varying from -10° to 60° .

The primary purpose of the test was to obtain six-degree of freedom force and moment data on the launch configuration and booster reentry configuration for preliminary stability and control analysis.

NOMENCLATURE

(General)

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
α	ALPHA	angle of attack, angle between the projection of the wind X_w -axis on the body X, Z-plane and the body X-axis; degrees
β	BETA	sideslip angle, angle between the wind X_w -axis and the projection of this axis on the body X-Z-plane; degrees
ψ	PSI	yaw angle, angle of rotation about the body Z-axis, positive when the positive X-axis is rotated toward the positive Y-axis; degrees
ϕ	PHI	roll angle, angle of rotation about the body X-axis, positive when the positive Y-axis is rotated toward the positive Z-axis; degrees
ρ		air density; K_g/m^3 , slugs/ft ³
a		speed of sound; m/sec, ft/sec
V		speed of vehicle relative to surrounding atmosphere; m/sec, ft/sec
q	$Q(PSI)$ $Q(Psf)$	dynamic pressure; $1/2\rho V^2$, psi, psf
M	MACH	Mach number; V/a
RN/L	RN/L	Reynolds number per unit length; million/ft
p		static pressure; psi
P		total pressure; psi
C_p	CP	pressure coefficient; $(p-p_\infty)/q$

NOMENCLATURE (Continued)

Reference & C. G. Definitions

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
S		wing area; m^2 , ft^2
S	SREF	reference area; m^2 , ft^2
$\bar{c}$		wing mean aerodynamic chord or reference chord; m, ft, in (see l_{ref} or LREF)
l_{ref}	LREF	reference length; m, ft, in.; (see $\bar{c}$)
b_{ref}	BREF	wing span or reference span; m, ft, in
A_b		base area; m^2 , ft^2 , in^2
c. g.		center of gravity
MRP	MRP	abbreviation for moment reference point
	XMRP	abbreviation for moment reference point on X-axis
	YMRP	abbreviation for moment reference point on Y-axis
	ZMRP	abbreviation for moment reference point on Z-axis

NOMENCLATURE (Continued)

Axis System General

<u>SYMBOL</u>	<u>DEFINITION</u>
F	force; F, lbs
M	moment; M, in-lb

<u>Subscript</u>	<u>Definition</u>
N	normal force
A	axial force
L	lift force
D	drag force
Y	force or moment about the Y axis
Z	moment about the Z axis
X	moment about the X axis
s	stability axis system
w	wind axis system
ref	reference conditions
∞	free stream conditions
t	total conditions
b	base

NOMENCLATURE (Continued)
Body & Stability Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
<u>Body Axis System</u>		
C_N	CN	normal force coefficient; F_N/qS
C_A	CA	axial force coefficient; F_A/qS
C_{A_b}	CAB	base axial force coefficient; $\begin{bmatrix} -1 \\ \end{bmatrix} \begin{bmatrix} (P_b - P_\infty)/q \end{bmatrix} (A_b/S)$
C_{A_f}	CAF	forebody axial force coefficient; $C_A - C_{A_b}$
C_n	CYN	yawing moment coefficient; $M_Z/qS b_{ref}$
C_l	CBL	rolling moment coefficient; $M_X/qS b_{ref}$
<u>Common to Both Axis Systems</u>		
C_m	CLM	pitching moment coefficient; $M_Y/qS l_{ref}$
C_y	CY	side force coefficient; F_Y/qS
<u>Stability Axis System</u>		
C_L	CL	lift force coefficient; F_L/qS
C_D	CD	drag force coefficient; F_D/qS
C_{D_b}	CDB	base drag coefficient
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_n	CLN	yawing moment coefficient; $M_{Z,s}/qS b_{ref}$
C_l	CSL	rolling moment coefficient; $M_{X,s}/qS b_{ref}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D_f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

NOMENCLATURE (Continued)

Surface Definitions

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
1 _t	HORIZT	horizontal tail incidence; positive when trailing edge down; degrees
δ		symmetrical surface deflection angle; degrees; positive deflections are:
	AILRON	aileron - total aileron deflection; (left aileron - right aileron)/2
	CANARD	canard - trailing edge down
	ELEVON	elevon - trailing edge down
	ELEVTR	elevator - trailing edge down
	FLAP	flap - trailing edge down
	RUDDER	rudder - trailing edge to the left
	SPOILR	spoiler - trailing edge down
	TAB	tab - trailing edge down with respect to control surface
δ		antisymmetrical surface deflection angle, degrees; positive trailing edge down:
	AIL-L	left aileron - trailing edge down
	AIL-R	right aileron - trailing edge down
	ELVN-L	left elevon - trailing edge down
	ELVN-R	right elevon - trailing edge down
	SPLR-L	left spoiler - trailing edge down
	SPLR-R	right spoiler - trailing edge down

<u>SURFACE SUBSCRIPTS</u>	<u>DEFINITION</u>
a	aileron
b	base
c	canard
e	elevator or elevon
f	flap
r	rudder or ruddervator
s	spoiler
t	tail

CONFIGURATIONS INVESTIGATED

The configurations tested consisted of the following components:

O1	040A Orbiter
B1	Booster Body
W1	Booster Wing Including Elevons
C1	Booster Canard
V1	Booster Vertical Fin Including Rudder
D1	Drop Tank

Combinations of the components tested are shown in the Dataset Collations of Table II.

TEST FACILITY DESCRIPTION

The Marshall Space Flight Center 14" x 14" Trisonic Wind Tunnel is an intermittent blowdown tunnel which operates by high pressure air flowing from storage to either vacuum or atmospheric conditions. A Mach number range from .2 to 5.85 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 0.20 through 2.50, and the supersonic section permits testing at Mach 2.74 through 5.85. Mach numbers between .2 and .9 are obtained by using a controllable diffuser. The range from .95 to 1.3 is achieved through the use of plenum suction and perforated walls. Mach numbers of 1.44, 1.93 and 2.50 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.50 a set of fixed contour nozzle blocks are tilted and translated automatically to produce any desired Mach number in .25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately -40°F dew point and 500 psi. The compressor is a three-stage reciprocating unit driven by a 1500 hp motor.

The tunnel flow is established and controlled with a servo actuated gate valve. The controlled air flows through the valve diffuser into the stilling chamber and heat exchanger where the air temperature can be controlled from ambient to approximately 180°F. The air then passes through the test section which contains the nozzle blocks and test region.

Downstream of the test section is a hydraulically controlled pitch sector that provides a total angle of attack range of 20° (+10°).

DATA REDUCTION

A. Six-Component Balance Data

1. Data Reduction

The balance force and moment data were reduced to coefficient form. The reduction method used a body axis system orientation.

The force data were referenced to the model booster theoretical wing area. In addition, the pitching moment coefficient was referenced to the booster length, and the yawing and rolling moments to the booster wing span. The moment reference point (MRP) was 4.64 in. aft of the booster nose and .667 inch below top of the booster body.

2. Reference Dimensions

$$l_{\text{REF}} = l_B = 1914 \text{ in.} = 6.44 \text{ in. Model Scale}$$

$$S_{\text{REF}} = 6000.0 \text{ ft}^2 = 9.78 \text{ in.}^2 \text{ Model Scale}$$

$$b_{\text{REF}} = 1704 \text{ in.} = 5.73 \text{ in. Model Scale}$$

$$\text{MRP} = 72\% \ l_B = \text{sta } 1378.1 \text{ (4.64 in. aft of booster nose, model scale) and W.L.400 (on balance centerline, which is .667 in. below top of the body)}$$

B. Base Axial Force

Axial force measurements were corrected to reflect ambient base pressures. The measured base and cavity pressures were computed to coefficient from

$$C_{P_x} = \frac{P_x - P_o}{q_o}$$

and then used to provide an axial force coefficient increment as follows:

$$C_{AF} = C_{AT} - C_{AB} - C_{AC}$$

$$C_{AB} = \text{Booster base axial force coefficient}$$

$$C_{AC} = \text{Cavity axial force coefficient}$$

where:

$$C_{AB} = C_{P_{BASE}} \frac{(-1) S_{Base}}{S_{Ref}} = .1535 C_{PB}$$

$$C_{AC} = C_{P_{Cavity}} \frac{(-1) S_{Cavity}}{S_{Ref}} = .0622 C_{PC}$$

using

$$S_{Base} = 1.502 \text{ in.}^2 \text{ and } S_{Cavity} = .608 \text{ in.}^2$$

TABLE 1.
TEST CONDITIONS
TEST MSFC TWT 517

MACH NUMBER	REYNOLDS NUMBER per unit length (FEET)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
.6	5.0 x 10 ⁶	4.4	94 - 100
.9	6.3	7.4	96 - 100
1.0	6.5	8.1	97
1.2	6.8	9.2	95 - 98
1.96	7.1	10.3	94 - 101
2.74	6.0	7.5	100
3.48	7.0	6.9	100
4.96	5.4	3.1	100

BALANCE UTILIZED: MSFC #232, 5/8 inch

CAPACITY:

NF	250	1b
SF	125	1b
AF	50	1b
PM	336	in. 1b
YM	168	in. 1b
RM	100	in. 1b

ACCURACY:

+	.3%

COEFFICIENT
TOLERANCE:

COMMENTS:

TABLE II

TEST TWT-517 DATA SET/RUN NUMBER
 COLLATION SUMMARY
S-0440
DMS-DR-1213

☐ PRETEST
☒ POSTTEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. of RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)									
		α	β	S	E	S	R		.6	.9	1.0	1.2	1.96	2.74	3.48	4.96		
R56001	B1 C1	A	0	-	-	-	0		043/042/0			041/0	063/0					
002		B											113/0	092/0				
003		C											091/0			090/0		
004	B1 W1 C1	A		0					038/039/0			040/064/0	112/0	093/0				
005		B											094/0			093/0		
006		C											094/0			093/0		
007	B1 W1	A							037/034/0			035/024/0	111/0	094/0				
008		B											097/0			096/0		
009		C																
010		D							033/033/0			037/0	029/069/0					
011									031/039/0			029/069/0	108/0105/0					
012													104/0	107/0				
013																		
014	B1 W1 V1	A	0		0	0	0		020/021/0			023/058/0	110/0	099/0				
015		B											109/0			101/0		
016		C																
017		D							025/024/0			023/0	028/059/0					
018									024/027/0				109/0	104/0				
019																		
020													103/0			102/0		

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 7576

CLM CN CY CBL CYN CA CAB CAC CL CD

COEFFICIENTS:

A: $\alpha = 0^\circ$ TO 20° D: $\beta = -10^\circ$ TO 10°

B: $\alpha = 20^\circ$ TO 40° A $\alpha = 40^\circ$ TO 60°

C: $\alpha = 40^\circ$ TO 60°

INDVAR(1) INDVAR(2) INDV

TABLE II (Continued)
 TEST TWT-517 DATA SET/RUN NUMBER
 COLLATION SUMMARY

☐ PRETEST
☒ POSTTEST

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. of RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)									
		a	B	δa	δB	δa	δB		.6	.9	1.0	1.2	1.96	2.74	3.48	4.96		
R56021	B1W1C1V1	A	O	O	O	O	O		.0010	.0020	.0030	.0040	.0050	.0060	.0070	.0080		
022		B							.1200			.1140	.0840			.0870		
023		C							.0060	.0050	.0040	.0090	.0530					
024		O	D						.0070	.0080	.0090	.0530						
025		15										.1190	.0830					
026		30											.0830	.0810	.0800			
027		50																
028		A	O						.0190									
029		C											.0890		.0880			
030		C	D						.0130	.0140	.0150							
031		15							.0120	.0110	.0100	.0530						
032		30										.1180	.0770					
033		50										.0790						
034		30										.1170	.0760					
035		50										.0750						
036		30										.1150	.0710					
037		50										.0720						
038		A	O						.0180	.0170	.0160	.0570				.0730		
039		B										.1150	.0700					
040		C										.0890				.0660		

TEST RUN NUMBERS

COEFFICIENTS:
 a or B
 SCHEDULES

A:	$\alpha = 0^\circ$ TO 20°	D:	$B = -10^\circ$ TO 10°
B:	$\alpha = 20^\circ$ TO 40°	$\Delta \alpha = \Delta B = 2^\circ$	
C:	$\alpha = 40^\circ$ TO 60°		

NASA-MSC-MAF

TEST 7WT 517 DATA SET/RUN NUMBER

☐ PRETEST

☒ POSTTEST

TEST RUN NUMBERS

NASA-MSFC-MAF

TABLE III. DIMENSIONAL DATA

MODEL COMPONENT: 800Y - 040A ORBITERGENERAL DESCRIPTION: .003366 Scale ModelDRAWING NUMBER: _____DIMENSIONS:FULL-SCALEMODEL SCALE

Length, Overall, inch

1516.5.11~~Max. Width~~ SPAN, inch882.2.96Max. ~~Depth~~ HEIGHT, inch608.2.05

Fineness Ratio, body

7.077.07

Area

Max. Cross-Sectional, Body

306.2 ft².499 in.²

Planform, theoretical wing

3155.3 ft²5.15 in.²

Wetted, total less base

12446. ft²20.3 in.²

Base, body

298. ft².486 in.²

Vertical Tail

485. ft².790 in.²

TABLE III (CONTINUED)

MODEL COMPONENT: BODY - BOOSTER BODY, B1GENERAL DESCRIPTION: Nose - CylinderDRAWING NUMBER:RGB4711115DIMENSIONS:FULL-SCALEMODEL SCALE

Length, Inch

1642.5.52Max. ~~Width~~ Dia, Inch396.1.333~~Max. Depth~~----

Fineness Ratio

3.863.86

Area

Max. Cross-Sectional

855. ft²1.395 in.²

Planform

4330. ft²7.07 in.²

Wetted

13140. ft²21.5 in.²

Base, Cylindrical sect.

855. ft²1.395 in.²

BASE, including all aft fairings

1294. ft²2.110 in.²

TABLE III (CONTINUED)

MODEL COMPONENT: BOOSTER WING INCLUDING ELEVONS, W1

GENERAL DESCRIPTION: _____

DRAWING NUMBER: _____

RGB4711115DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area		
Planform	5970. ft ²	9.75 in. ²
Wetted	9270. ft ²	15.13 in. ²
Span (equivalent), inch	1704.	5.73
Aspect Ratio	3.38	3.38
Rate of Taper	--	--
Taper Ratio	.200	.200
Diehedral Angle, degrees	7.0	7.0
Incidence Angle, degrees	0	0
Aerodynamic Twist, degrees	0	0
Toe-In Angle	--	--
Cant Angle	--	--
Sweep Back Angles, degrees		
Leading Edge	44.0	44.0
Trailing Edge	10.0	10.0
0.25 Element Line	37.5	37.5
Chords, inch		
Root (Wing Sta. 0.0)	840.	2.83
Tip, (equivalent)	168.	.566
MAC	578.	1.947
Fus. Sta. of .25 MAC	X 1517.	5.10
W.P. of .25 MAC	Z 190.6	.642
B.L. of .25 MAC	Y 331.	1.113
Airfoil Section		
Root	Inverted NACA 0010-64 a = .4	NACA0010-64 a = .4
Tip	" " "	" "

EXPOSED DATA

Area	3870. ft ²	6.32 in. ²
Span, (equivalent), inch	1308.	4.40
Aspect Ratio	3.07	3.07
Taper Ratio	.245	.245
Chords, inch		
Root	685.	2.30
Tip	168.	.565
MAC	478.	1.610
Fus. Sta. of .25 MAC	X 1617.	5.43
W.P. of .25 MAC	Z 206.2	.693
B.L. of .25 MAC	Y 459.	1.547

TABLE III (CONTINUED)

MODEL COMPONENT: BOOSTER CANARD, C1GENERAL DESCRIPTION: _____

DRAWING NUMBER: _____

RGB4711115DIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area		
Planform	984. ft ²	1.607 in. ²
Wetted	550. ft ²	.898 in. ²
Span (equivalent), inch	680.	2.29
Aspect Ratio	3.26	3.26
Rate of Taper	--	--
Taper Ratio	.102	.102
Diehedral Angle, degrees	0	0
Incidence Angle, degrees	0	0
Aerodynamic Twist, degrees	0	0
Toe-In Angle	--	--
Cant Angle	--	--
Sweep Back Angles, degrees		
Leading Edge	45.0	45.0
Trailing Edge	0	0
0.25 Element Line	36.9	36.9
Chords; inch		
Root (Wing Sta. 0.0)	378.	1.272
Tip, (equivalent)	38.5	.130
MAC	254.	.853
Fus. Sta. of .25 MAC	X 181.8	.611
W.P. of .25 MAC	Z 400.0	1.348
B.L. of .25 MAC	Y 123.8	.417
Airfoil Section		
Root	NACA 0010-64	NACA 0010-64
Tip	" "	" "

EXPOSED DATA

Area	275 ft ²	.448 in. ²
Span, (equivalent), inch	326.	1.097
Aspect Ratio	2.69	2.69
Taper Ratio	.190	.190
Chords, inch		
Root, (equivalent)	203.	.683
Tip	38.5	.130
MAC	139.4	.470
Fus. Sta. of .25 MAC	X 267.4	.900
W.P. of .25 MAC	Z 400.0	1.345
B.L. of .25 MAC	Y 232.5	.781

TABLE III (CONTINUED)

MODEL COMPONENT: BOOSTER VERTICAL FIN INCLUDING RUDDER, V1GENERAL DESCRIPTION: Booster has two fins; one on each body side. Fins are rolled out 15° from the vertical plane.DRAWING NUMBER: RGB4711115

DIMENSIONS: (Each fin including rudder)

FULL-SCALEMODEL SCALETOTAL DATA

Area		
Planform, theoretical	1290. ft ²	2.105 in. ²
Wetted, actual	1659. ft ²	2.71 in. ²
Span (equivalent)	585.	1.97
Aspect Ratio	1.84	1.84
Rate of Taper	--	--
Taper Ratio	.276	.276
Diehedral Angle, degrees	75.	75.
Incidence Angle, degrees	0	0
Aerodynamic Twist, degrees	0	0
Toe-In Angle	0	0
Cant Angle	15.	15.
Sweep Back Angles, degrees		
Leading Edge	44.0	44.0
Trailing Edge	19.0	19.0
0.25 Element Line	39.0	39.0
Chords, inch		
Root (XXXXXXX equivalent)	497.	1.67
Tip, (equivalent)	137.5	.463
MAC	351.	1.183
Fus. Sta. of .25 MAC	X 1728.	5.82
W.P. of .25 MAC	Z 629.	2.12
B.L. of .25 MAC	Y 231.4	.78
Airfoil Section		
Root	NACA 0010-64	NACA 0010-64
Tip	" "	" "

EXPOSED DATA

Area	664. ft ²	1.084 in. ²
Span, (equivalent), inch	387.5	1.307
Aspect Ratio	1.57	1.57
Taper Ratio	.366	.366
Chords, inch		
Root	376.	1.265
Tip	137.5	.463
MAC	276.	.928
Fus. Sta. of .25 MAC	X 1830.	6.16
W.P. of .25 MAC	Z 750.	2.53
B.L. of .25 MAC	Y 263.7	.888

TABLE III (CONTINUED)

MODEL COMPONENT: BOOSTER RUDDER

GENERAL DESCRIPTION: Constant chord control surface. Each rudder can
be deflected independently, thereby, giving combinations of rudder deflection
and flare.

DRAWING NUMBER: RGB4711115

<u>DIMENSIONS: (EACH SURFACE)</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area	<u>264. ft²</u>	<u>.431 in.²</u>
Span (equivalent), in.	<u>352.</u>	<u>1.184</u>
Inb'd equivalent chord, in.	<u>108.</u>	<u>.363</u>
Outb'd equivalent chord, in.	<u>108.</u>	<u>.363</u>
Ratio Elevator chord/horizontal tail chord		
At Inb'd equiv. chord	<u>.306</u>	<u>.306</u>
At Outb'd equiv. chord	<u>.785</u>	<u>.785</u>
Sweep Back Angles, degrees		
Leading Edge	<u>19.</u>	<u>19.</u>
Tailing Edge	<u>19.</u>	<u>19.</u>
Hingeline	<u>19.</u>	<u>19.</u>
Area Moment (Normal to hinge line), in. ³	<u>1.94 x 10⁶</u>	<u>.0740</u>

TABLE III (CONTINUED)

MODEL COMPONENT: BOOSTER ELEVONGENERAL DESCRIPTION: _____

_____DRAWING NUMBER:RGB4711115DIMENSIONS: (EACH SURFACE)FULL-SCALEMODEL SCALE

Area	<u>535 ft²</u>	<u>.873 in.²</u>
Span (equivalent), inch	<u>592.</u>	<u>1.990</u>
Inb'd equivalent chord, inch	<u>130.</u>	<u>.437</u>
Outb'd equivalent chord, inch	<u>130.</u>	<u>.437</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>.205</u>	<u>.205</u>
At Outb'd equiv. chord	<u>.773</u>	<u>.773</u>
Sweep Back Angles, degrees		
Leading Edge	<u>10.</u>	<u>10.</u>
Tailing Edge	<u>10.</u>	<u>10.</u>
Hingeline	<u>10.</u>	<u>10.</u>
Area Moment (Normal to hinge line), in. ³	<u>4.92 x 10⁶</u>	<u>.1880</u>

TABLE III (CONCLUDED)

MODEL COMPONENT: ~~BODY~~ - DROP TANK, D1GENERAL DESCRIPTION: Cone cylinder shaped tank attached to nose of BoosterDRAWING NUMBER: RGB4711115

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length, inch	<u>1492.</u>	<u>5.02</u>
Max. ~~Width~~ DIA., inch	<u>297.</u>	<u>1.00</u>
~~Max. Depth~~ Nose Cone Half Angle, Deg.	<u>15.</u>	<u>15.</u>
Fineness Ratio	<u>4.33</u>	<u>4.33</u>
Area		
Max. Cross-Sectional	<u>483. ft²</u>	<u>.788 in.²</u>
Planform	<u>2660. ft²</u>	<u>4.33 in.²</u>
Wetted	<u>8366. ft²</u>	<u>13.64 in.²</u>
Base	<u>483. ft²</u>	<u>.788 in.²</u>
Nose Radius, inch	<u>32.</u>	<u>.108</u>

TABLE IV
INDEX OF MODEL FIGURES

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TABLE V. INDEX OF DATA FIGURES

TITLE	PLOTTED COEFFICIENTS		CONDITIONS VARYING	PAGES
	SCHEDULE			
Booster Configuration Buildup, Longitudinal Characteristics	A		Configuration	1-70
Booster Configuration Buildup, Lateral-Directional Characteristics	B		Configuration, Alpha	71-114
Booster Baseline Longitudinal Characteristics	A			115-134
Booster Baseline Lateral-Directional Characteristics	B		Alpha	135-150
Effect of Canard Deflection on Booster Longitudinal Characteristics	A		Canard Deflection	151-180
Booster Elevon Effectiveness	A		Elevon Deflection	181-250
Booster Rudder Effectiveness Rudder Flare = 0 Degrees	B		Rudder Deflection, Alpha	251-294
Booster Rudder Effectiveness Rudder Flare = 20 Degrees	B		Rudder Deflection, Alpha	295-310
Effect of 20 Degree Rudder Flare on Booster Longitudinal Characteristics	C		Rudder Deflection, Alpha	311-322
Effect of 20 Degree Rudder Flare on Booster Lateral-Directional Characteristics	B		Rudder Deflection, Alpha	323-338
Ascent Configuration Longitudinal Characteristics	A			339-358
Ascent Configuration Lateral-Directional Characteristics	B			359-366

TABLE V. INDEX OF DATA FIGURES
(Concluded)

PLOTTED COEFFICIENTS SCHEDULE:

- A) CN, CIM, CA, CAF, CAB, CL, CD, L/D vs. ALPHA:
CD vs. CL^2 ; CN vs. CIM
- B) CY, CYN, CBL vs. BETA; CYN vs. CY
- C) CN, CIM, CA vs. BETA

MODEL FIGURES

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

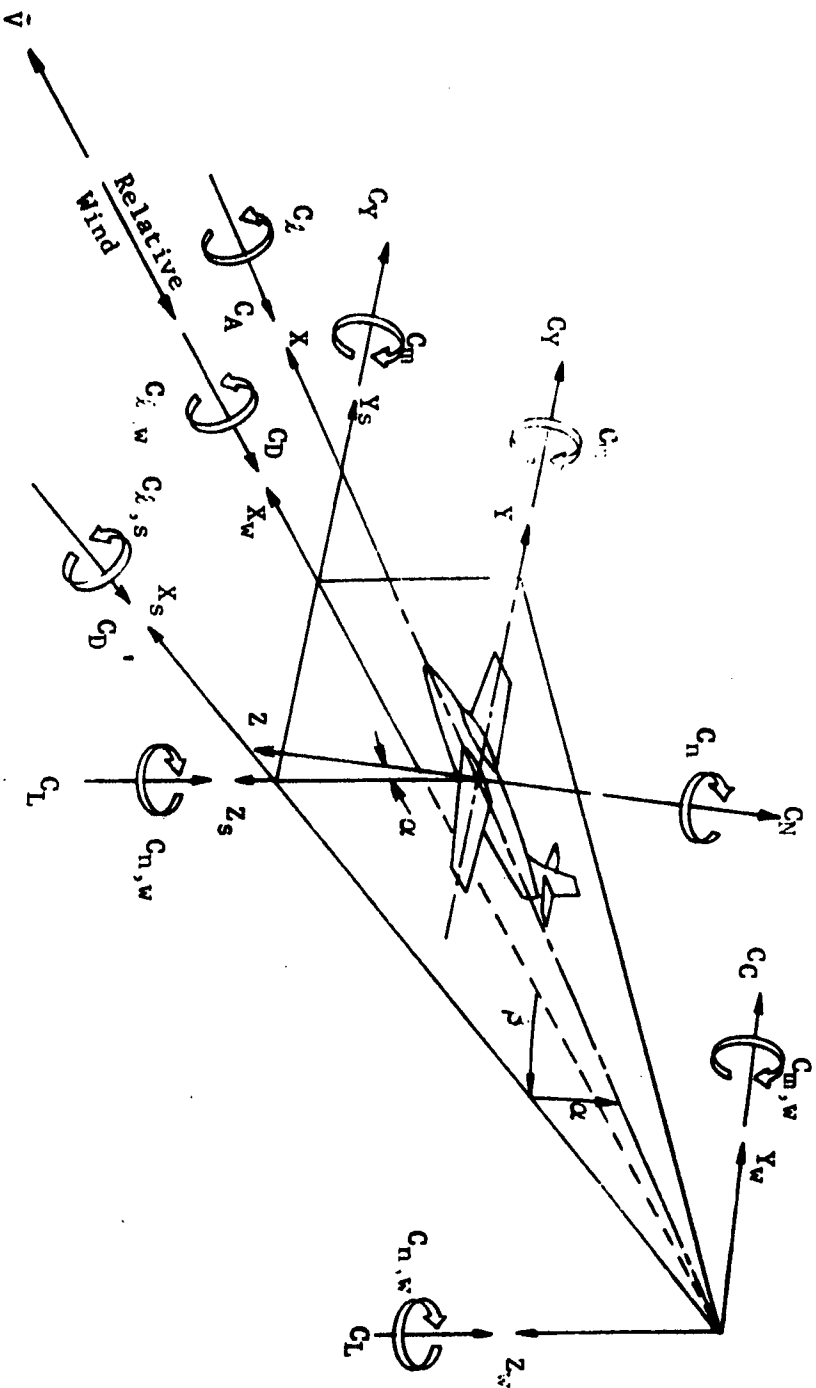


Figure 1. Axis systems, showing direction and sense of force and moment coefficients, angle of attack, and sideslip angle

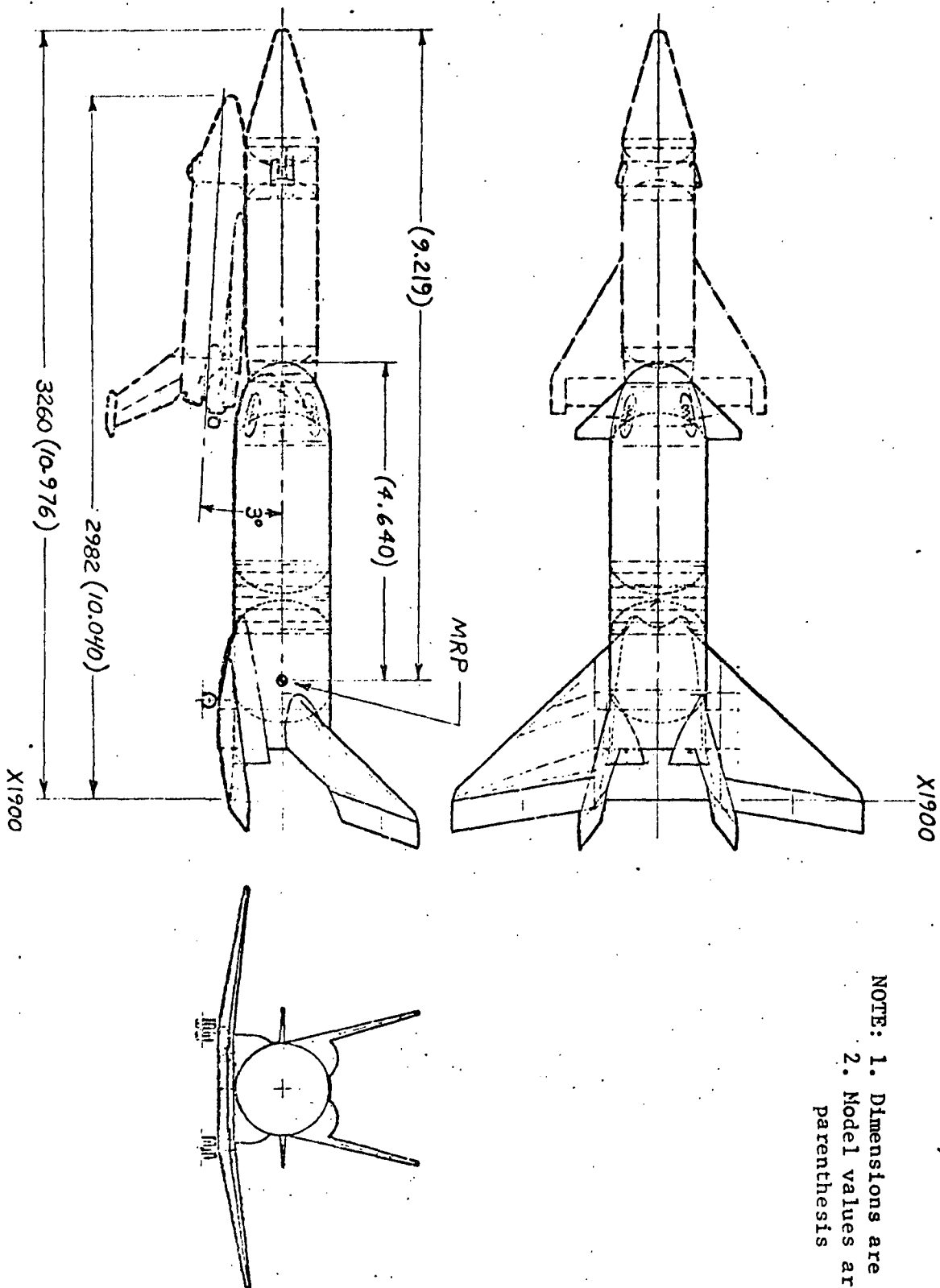
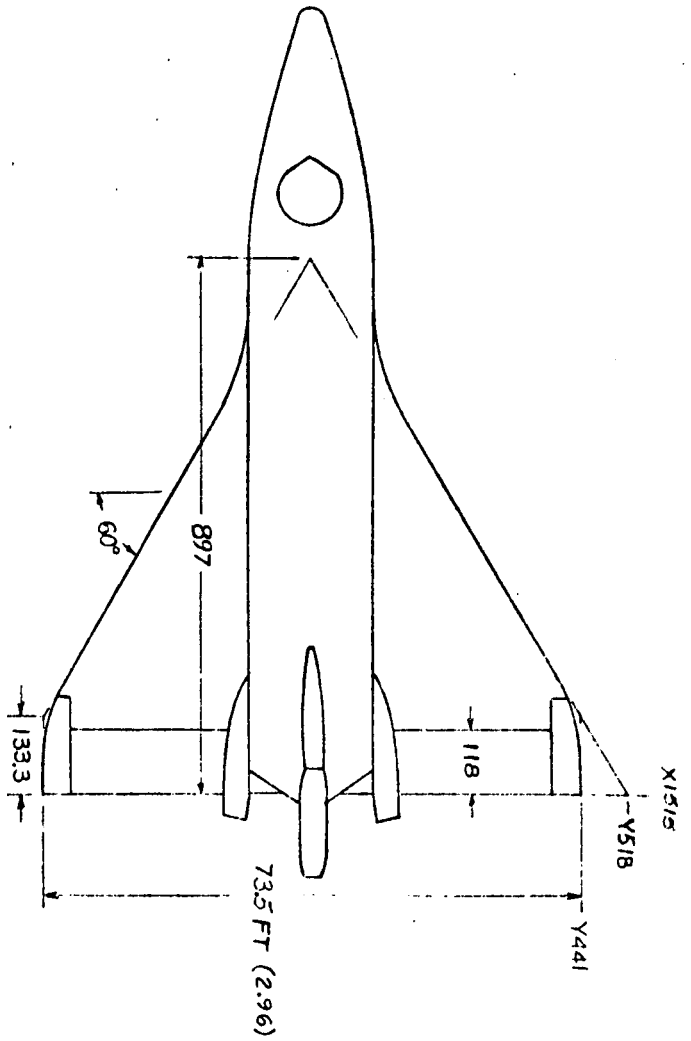


FIGURE 3. LAUNCH CONFIGURATION, L1 O1 D1, GENERAL ARRANGEMENT

NOTE: 1. Dimensions are in inches
2. Model values are shown in parenthesis



NOTES: 1. All dimensions are full scale in inches unless otherwise indicated.
2. Model values are shown in inches in parenthesis.

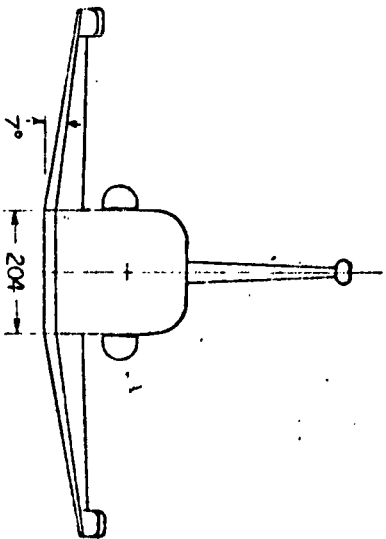
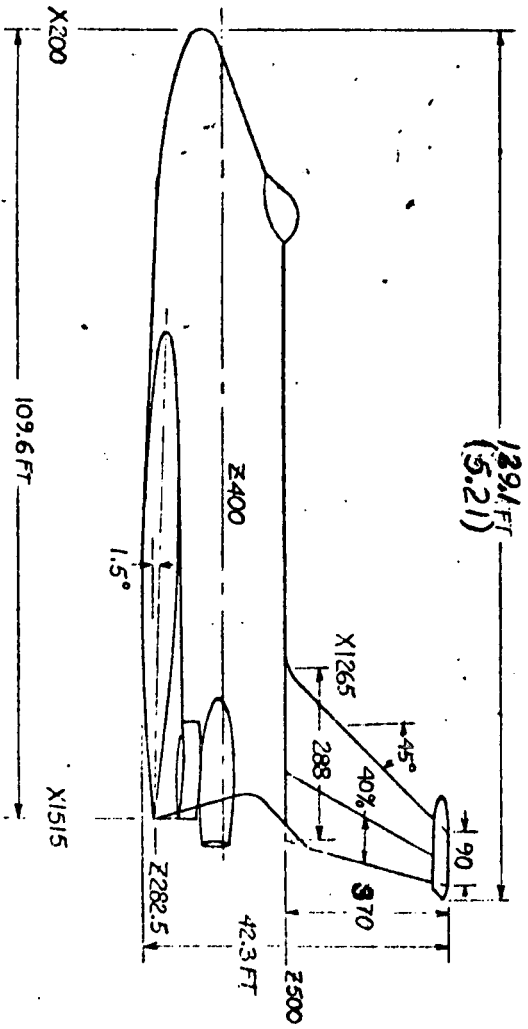


FIGURE 4. GENERAL ARRANGEMENT OF 040A ORBITER

- NOTES:
1. All dimensions are in inches
 2. Model values are shown in parenthesis

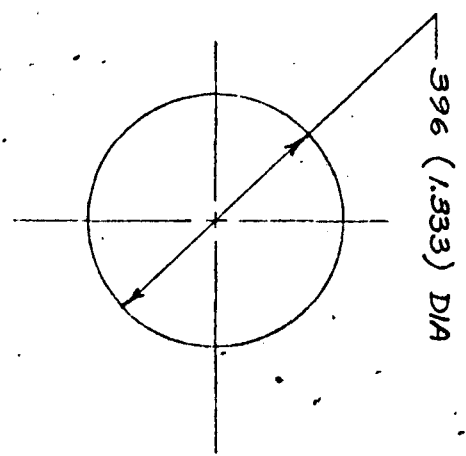
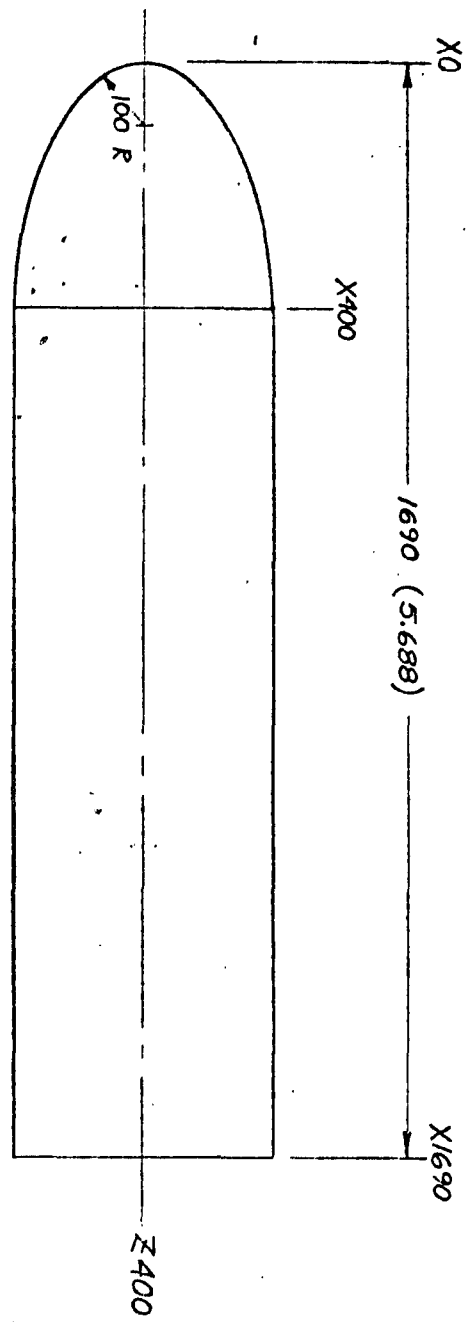


FIGURE 5. BOOSTER BODY, B1

NOTES:

1. All dimensions are in inches
2. Model values are shown in parenthesis

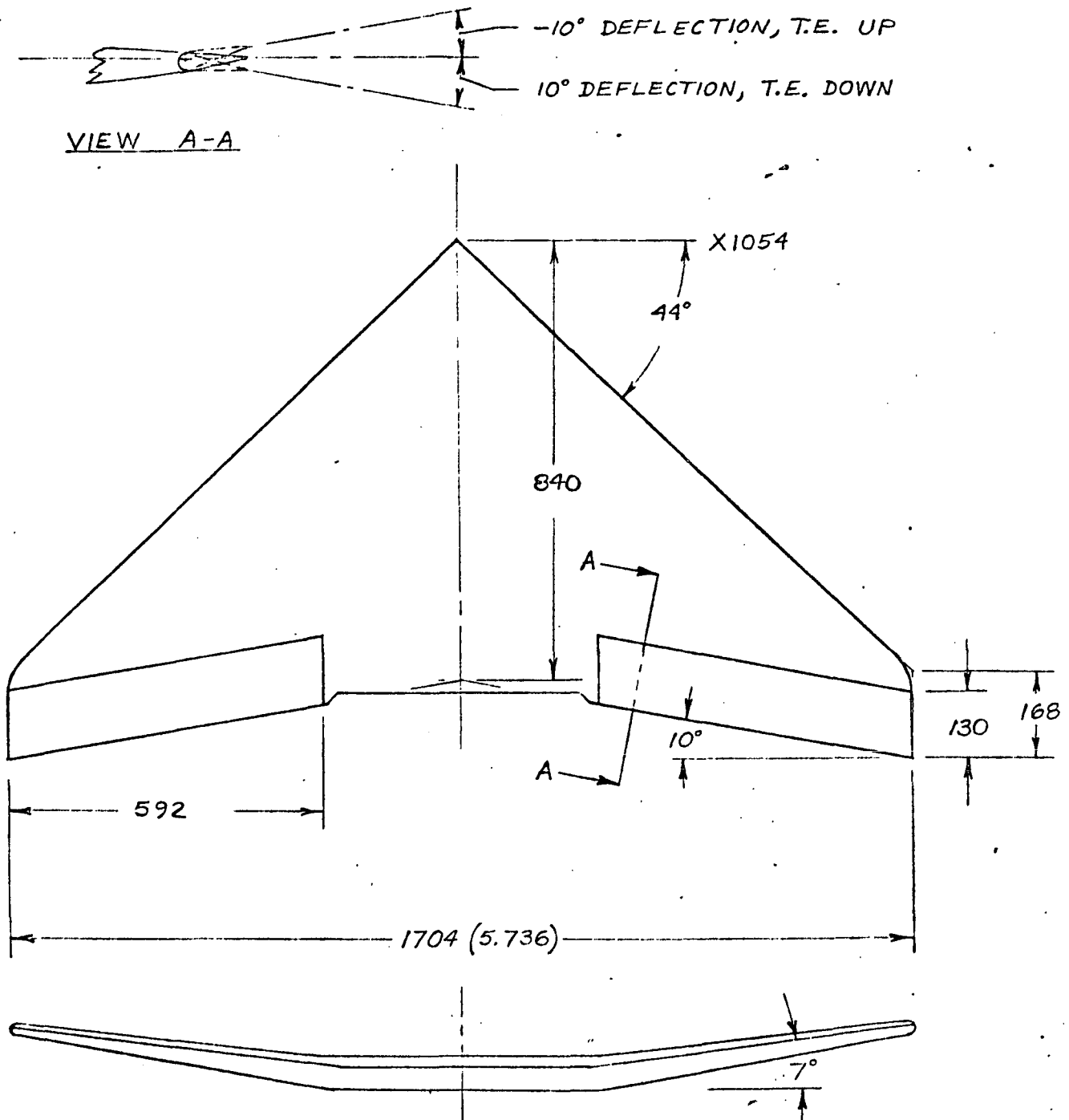


FIGURE 6. BOOSTER WING AND ELEVON, W1

NOTES:

1. All dimensions are in inches
2. Model values are shown in parenthesis

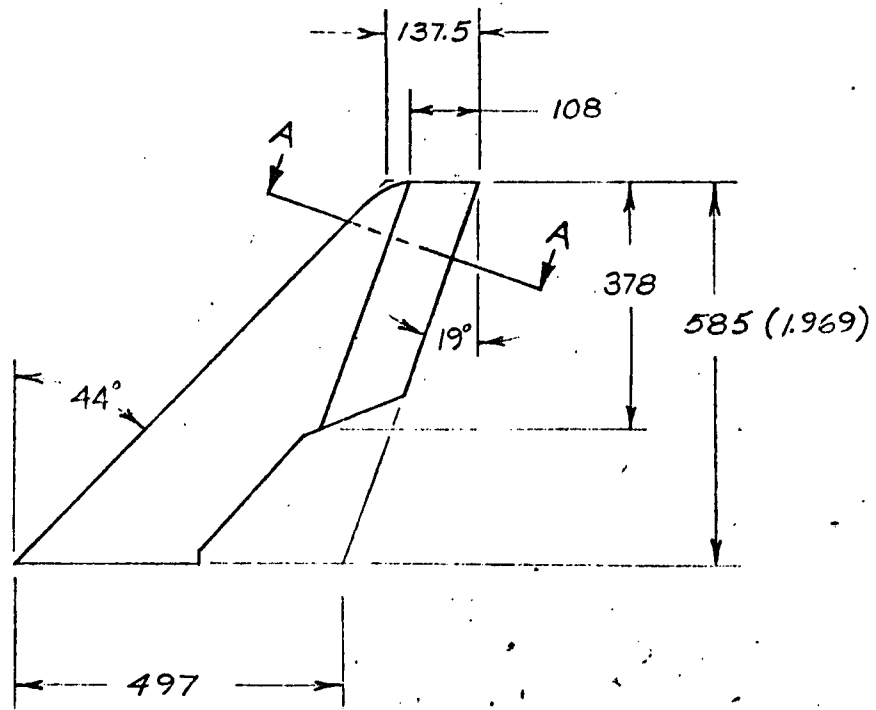
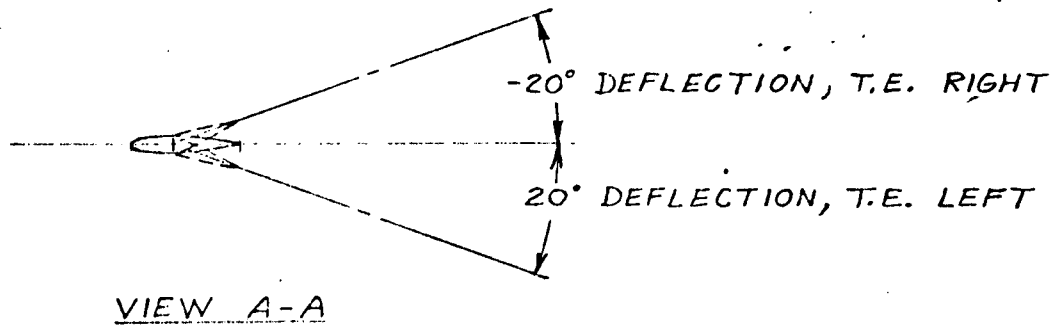


FIGURE 7. BOOSTER VERTICAL TAIL AND RUDDER, V1

NOTES:

1. All dimensions are in inches
2. Model values are shown in parenthesis

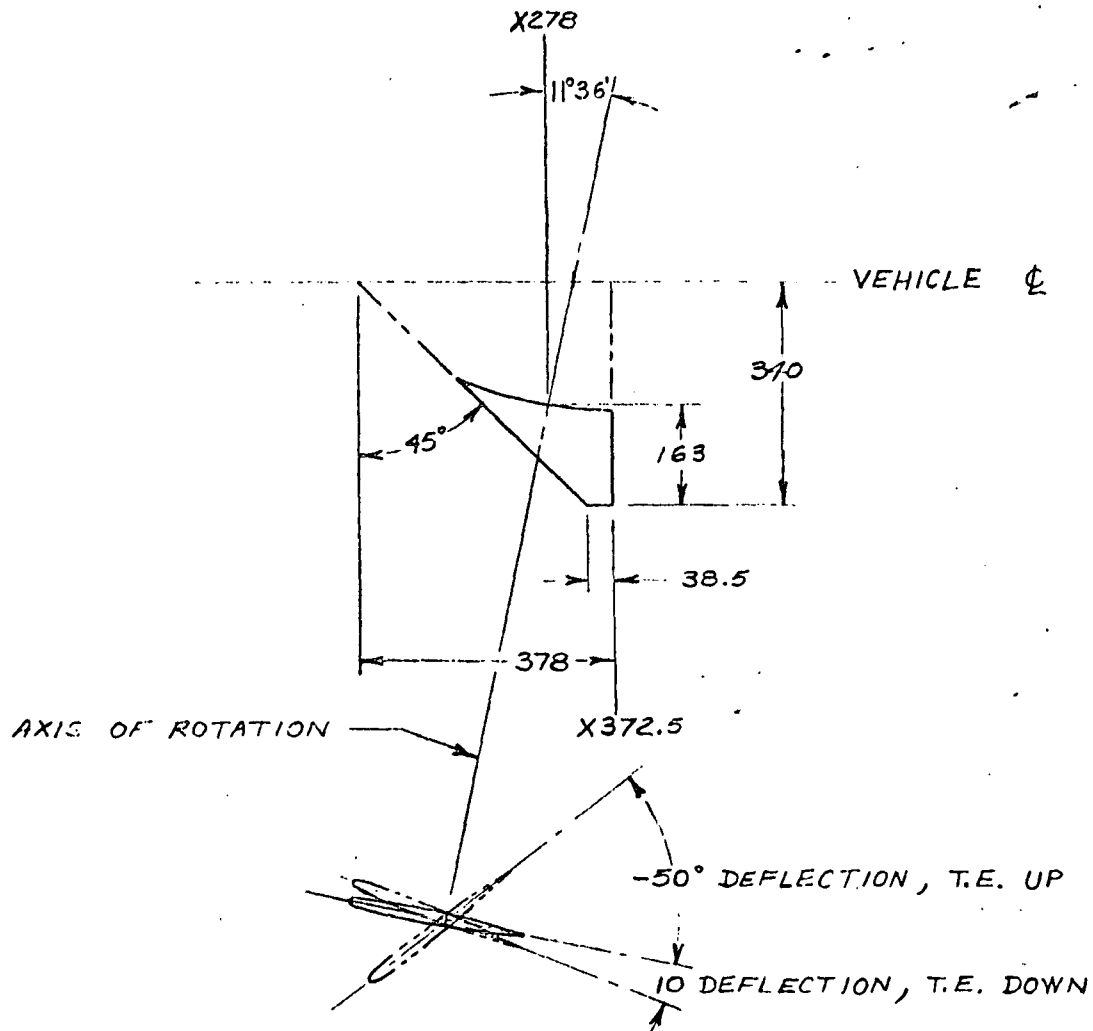


FIGURE 8. BOOSTER CANARD, C1 (LEFT SURFACE SHOWN)

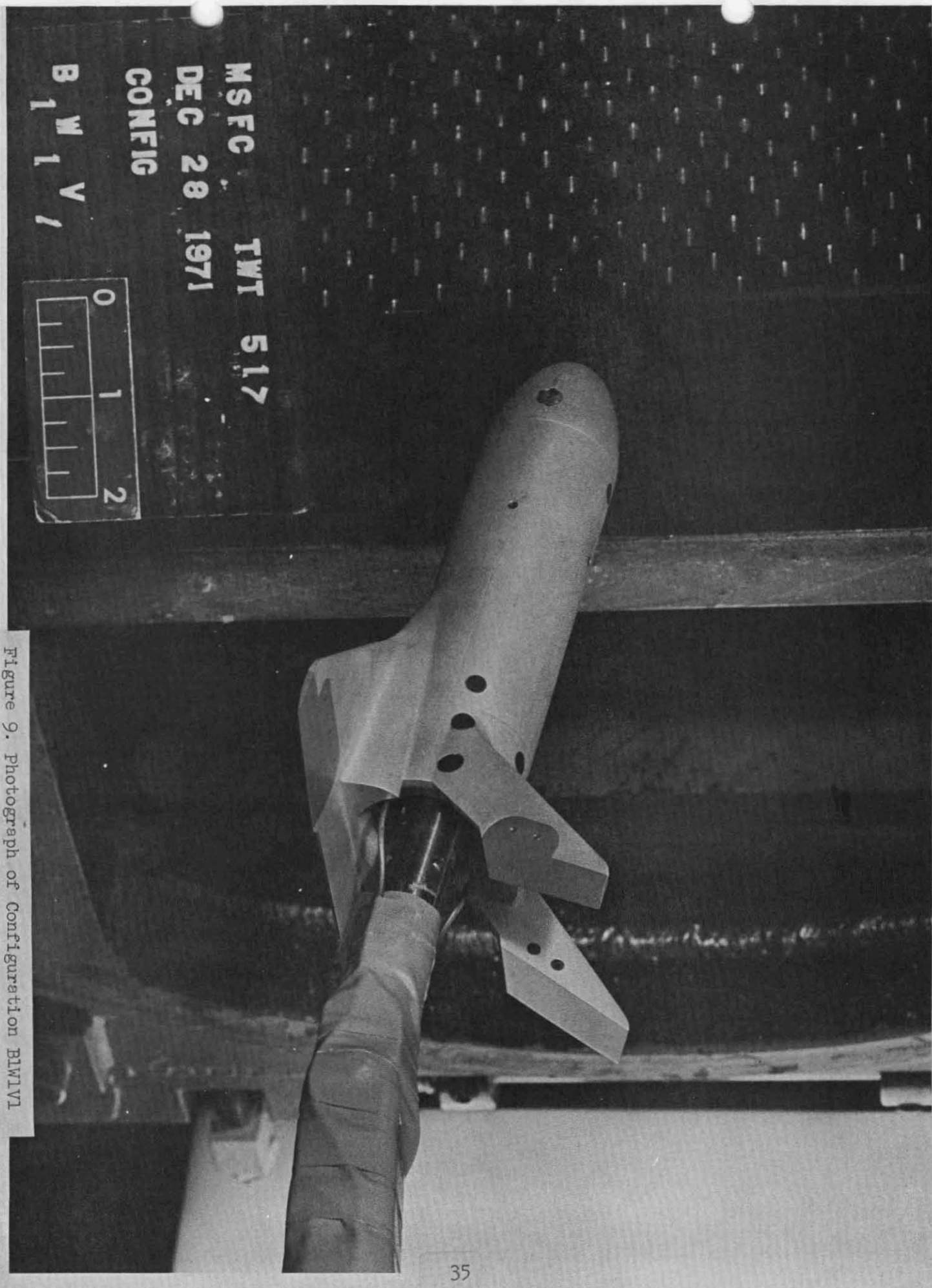
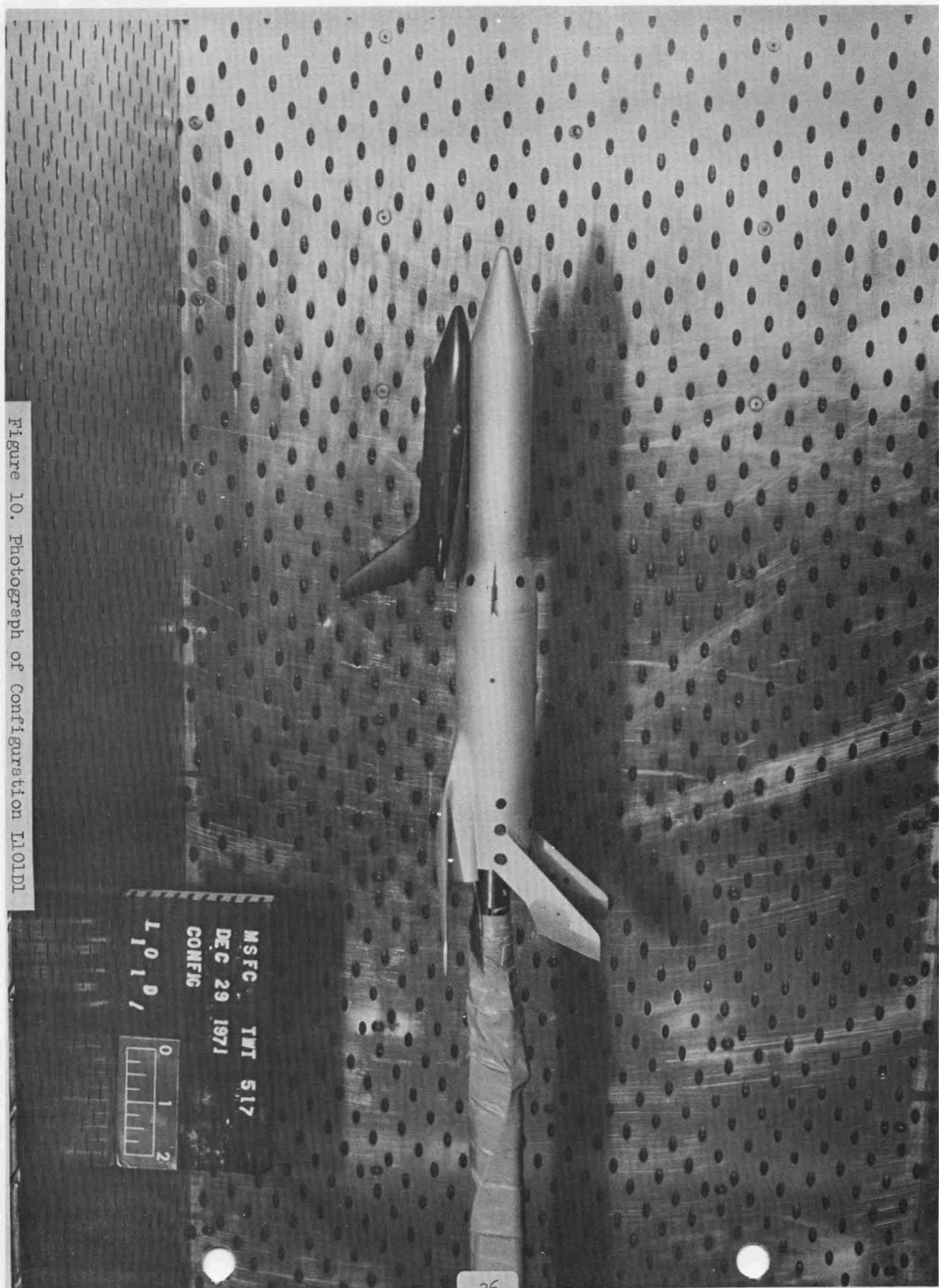


Figure 9. Photograph of Configuration BW1V1

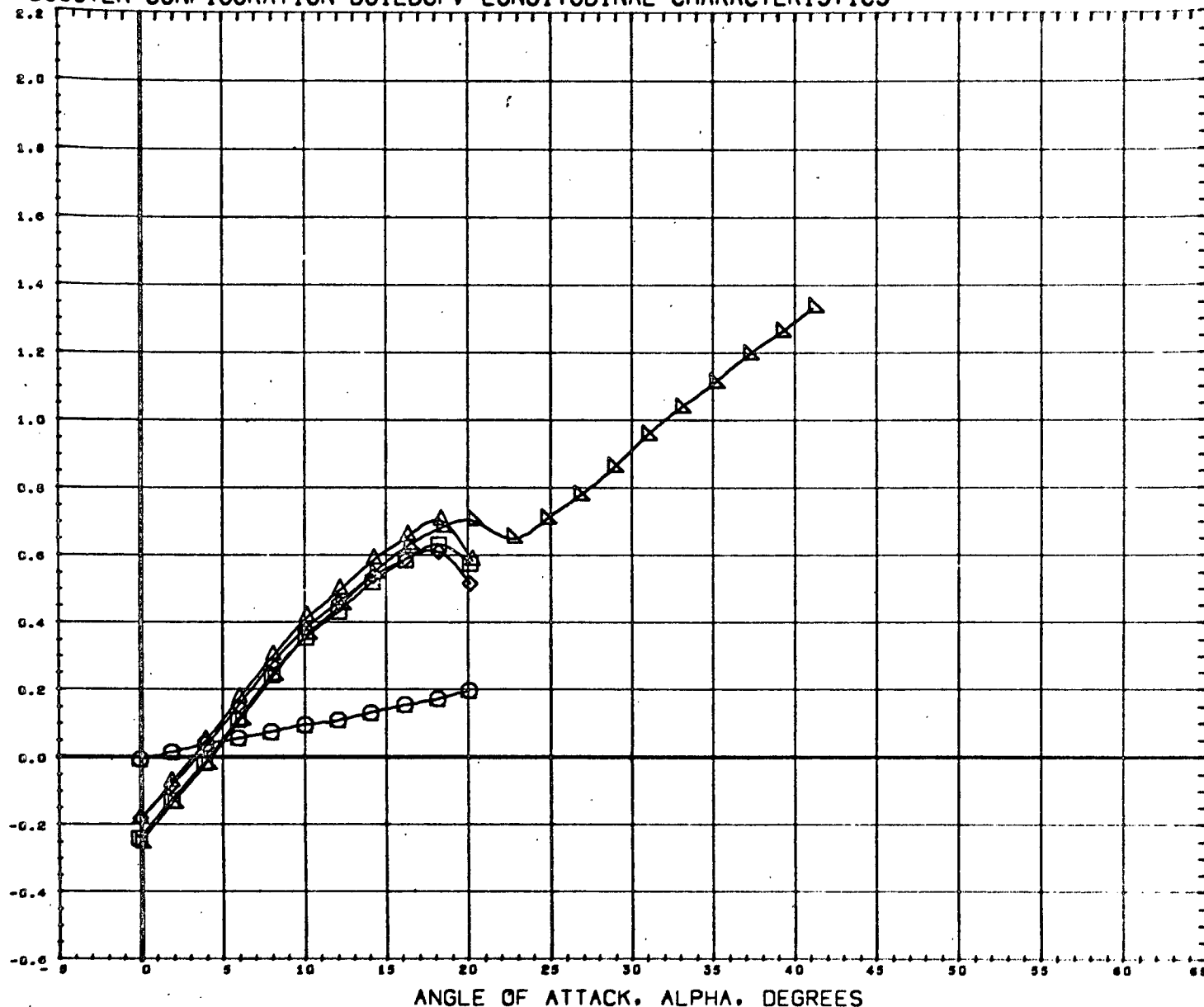
Figure 10. Photograph of Configuration L101D1



DATA FIGURES

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

NORMAL FORCE COEFFICIENT, CN



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

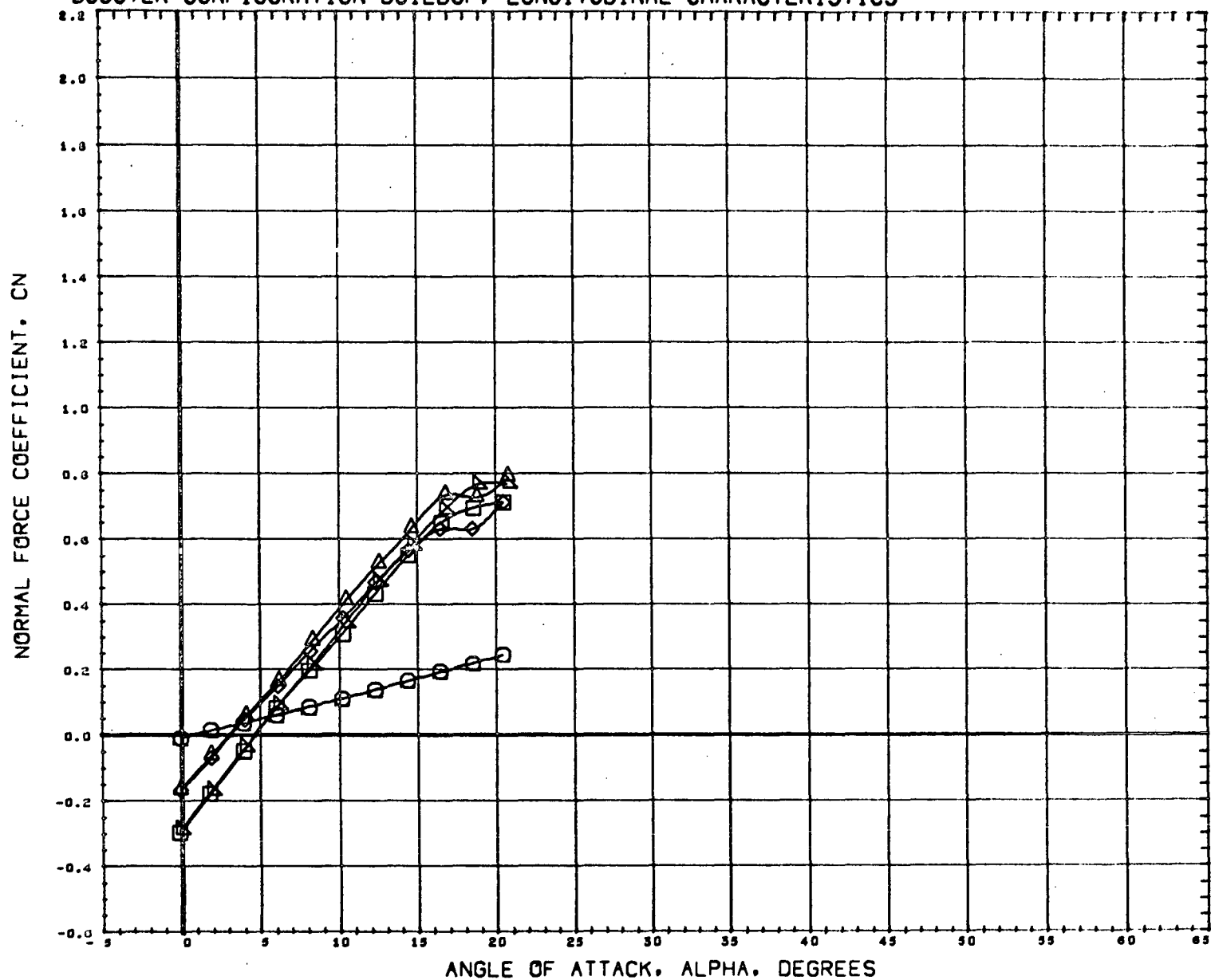
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BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	INCH

MACH 0.597

PAGE 1

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

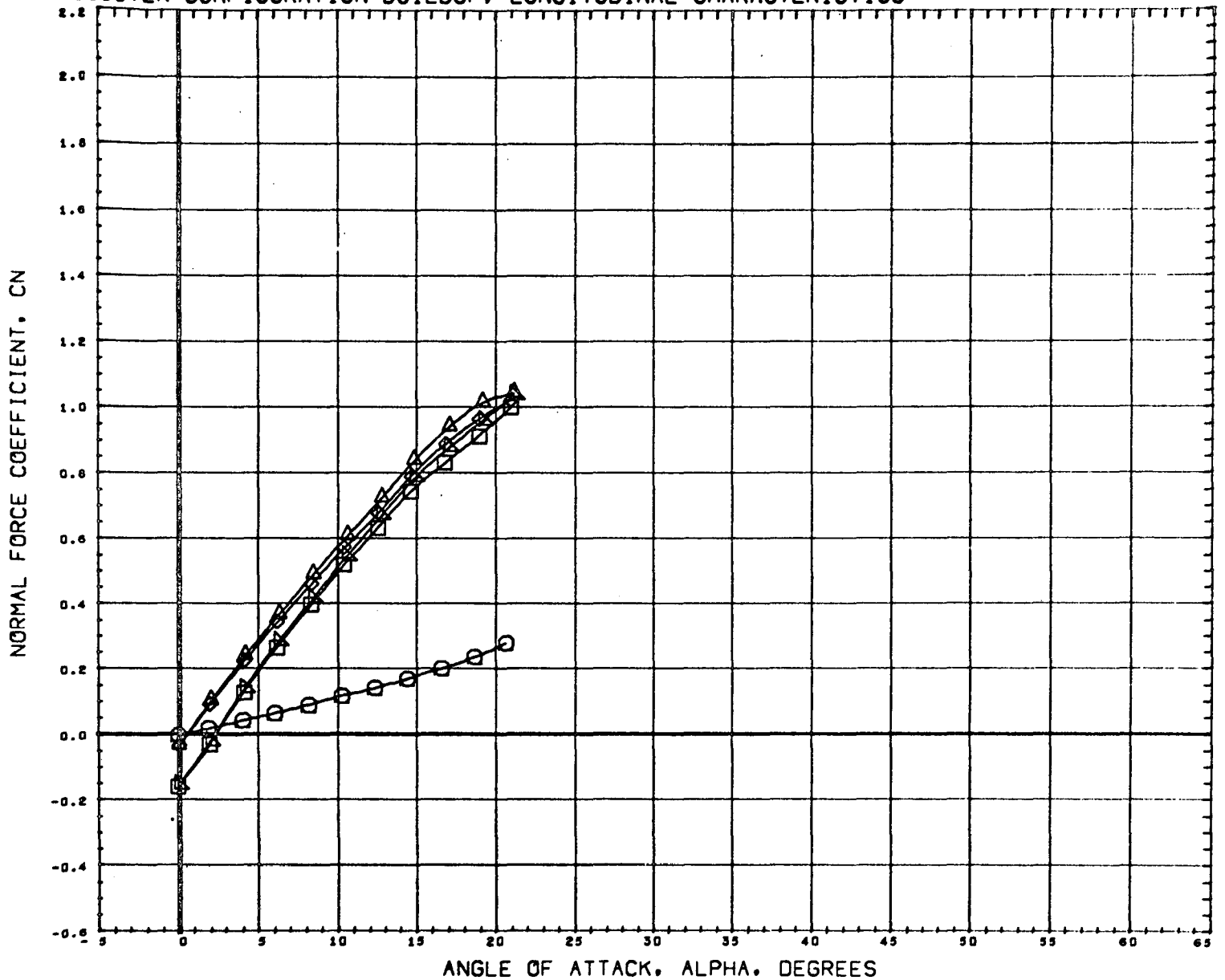
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.905

PAGE 2

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

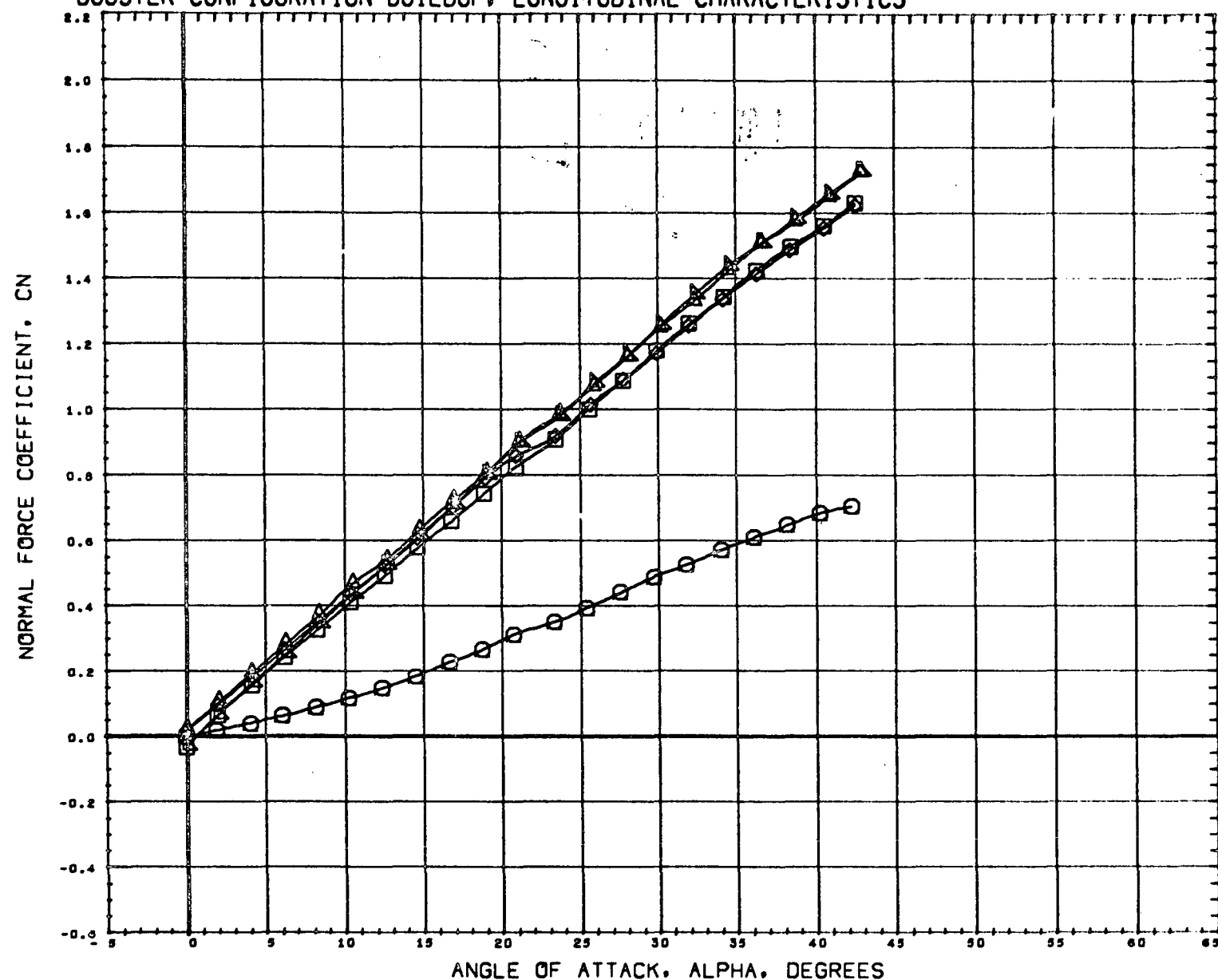
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MACH 1.197

PAGE 3

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

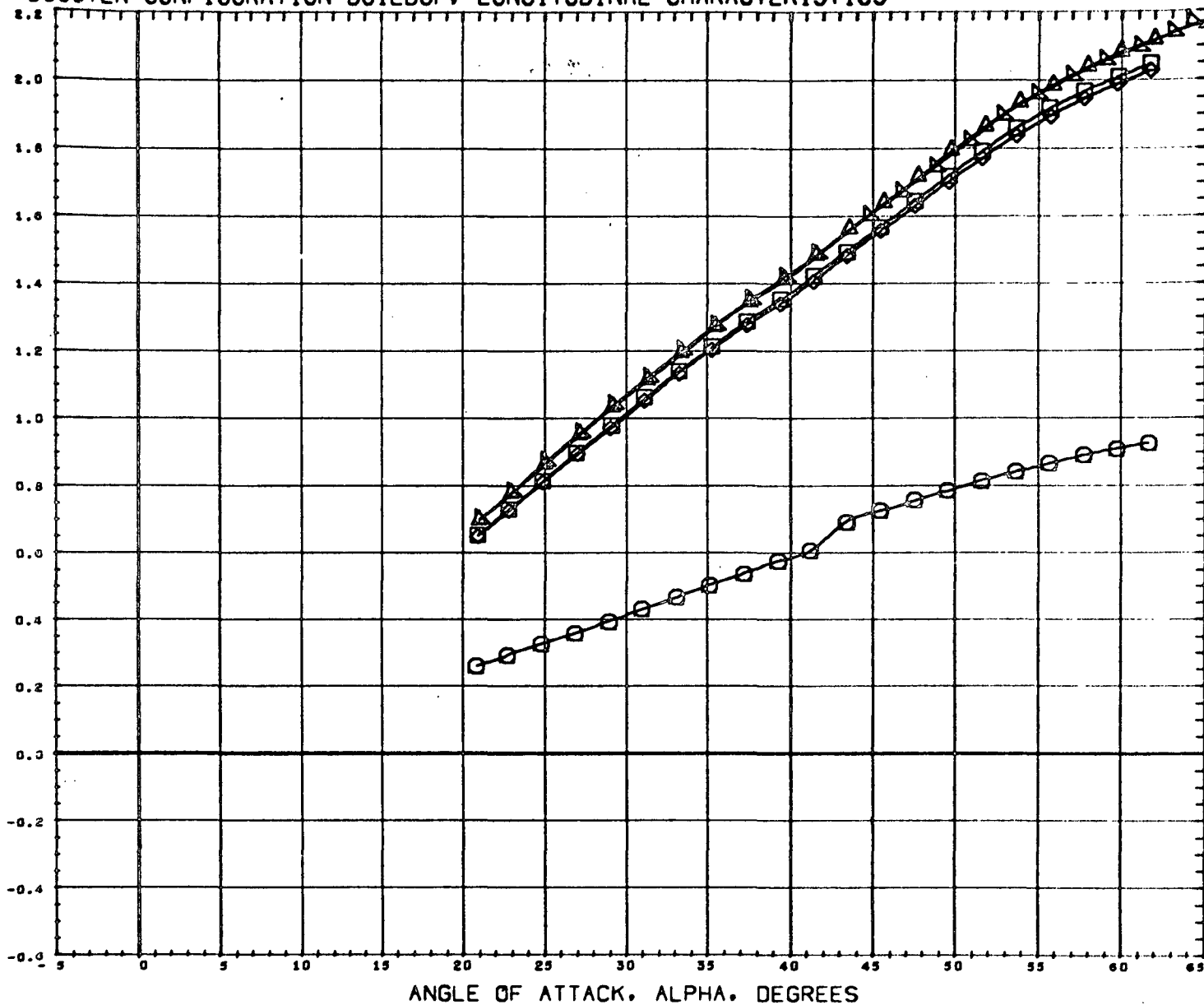


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(C96062)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C96063)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000	BREF	5.7300 INCH
(C96064)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C96065)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
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MACH 1.960

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

NORMAL FORCE COEFFICIENT, CN



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
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(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

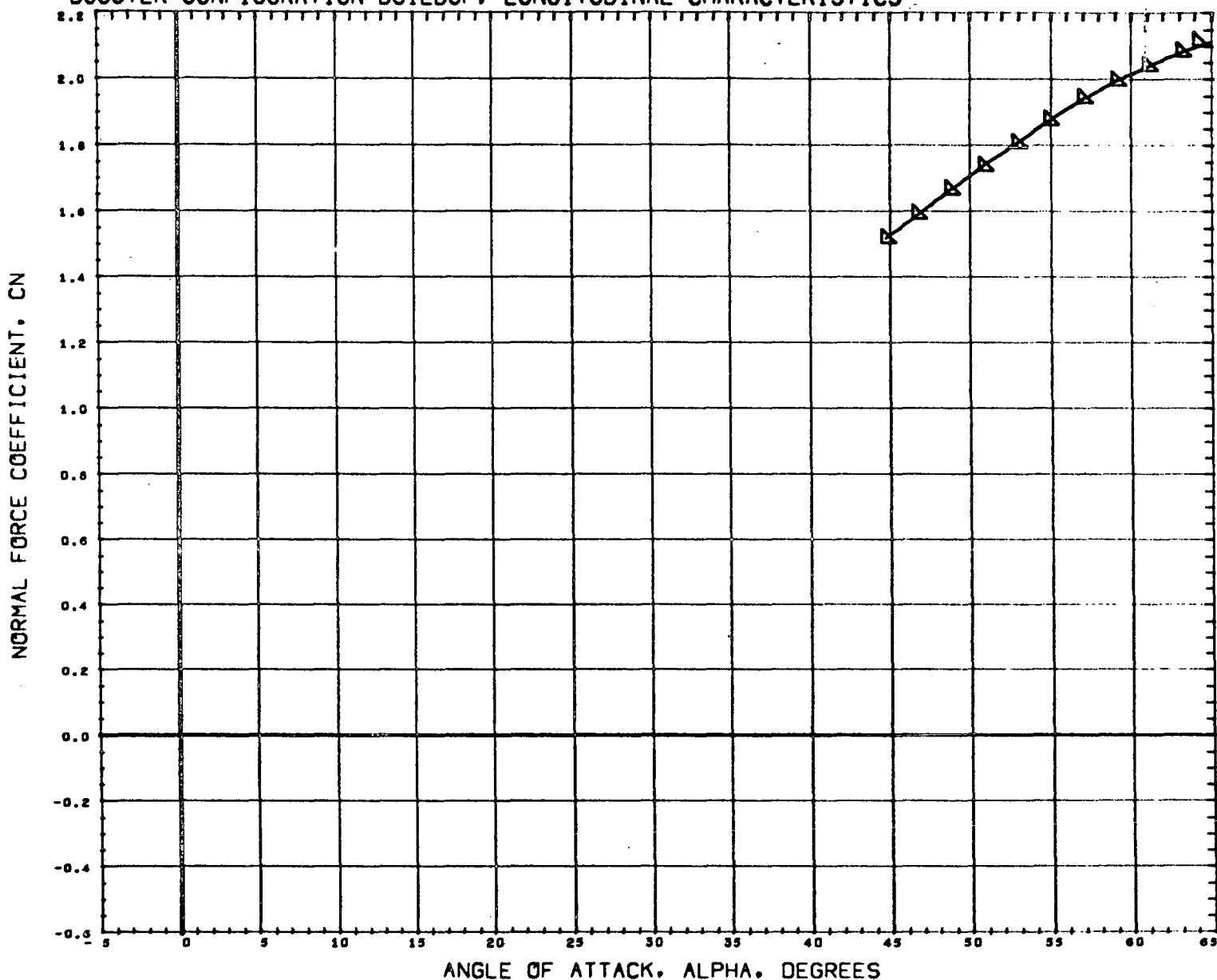
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MACH 2.740

PAGE 5

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



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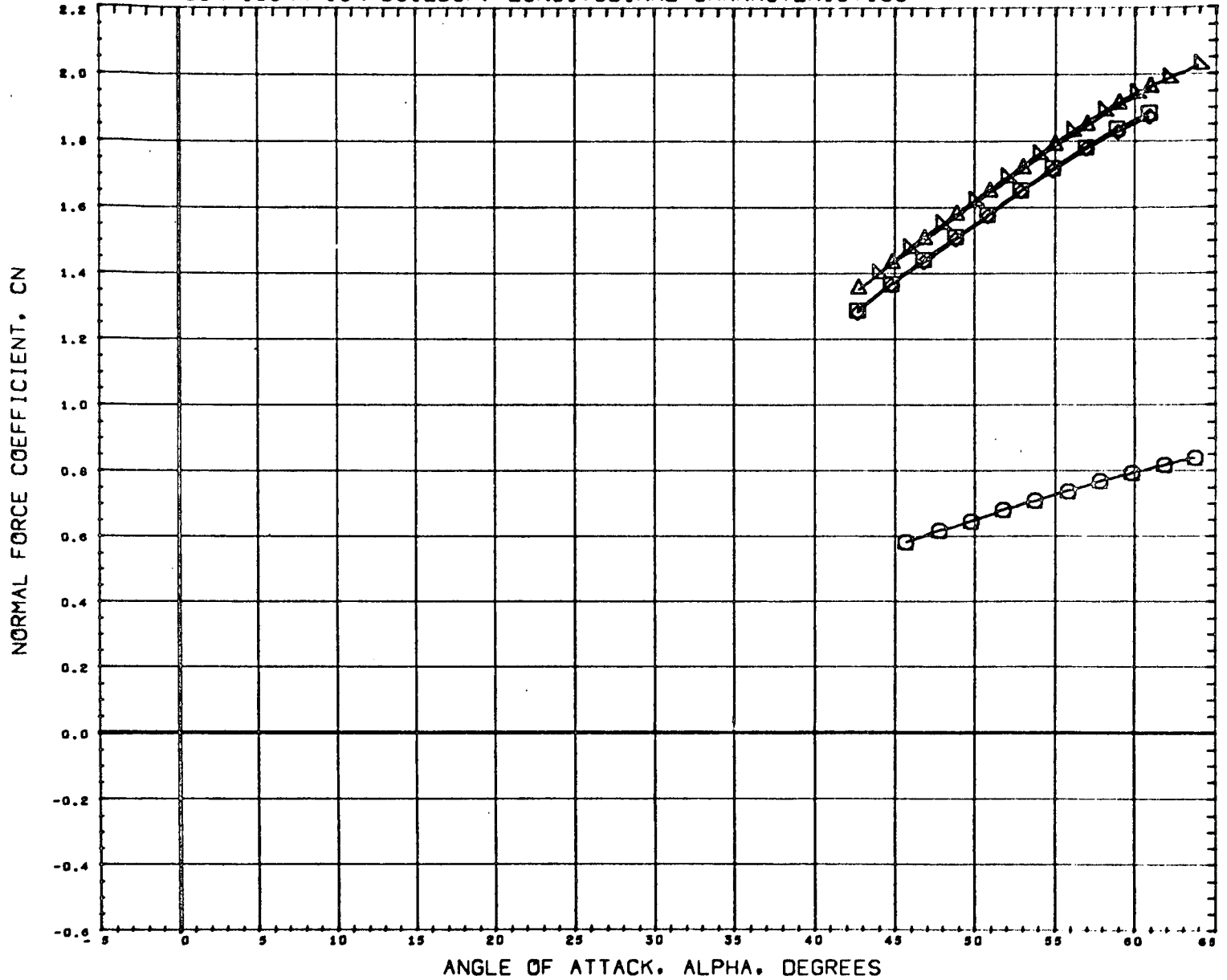
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MACH 3.480

PAGE 6

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



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(C56032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

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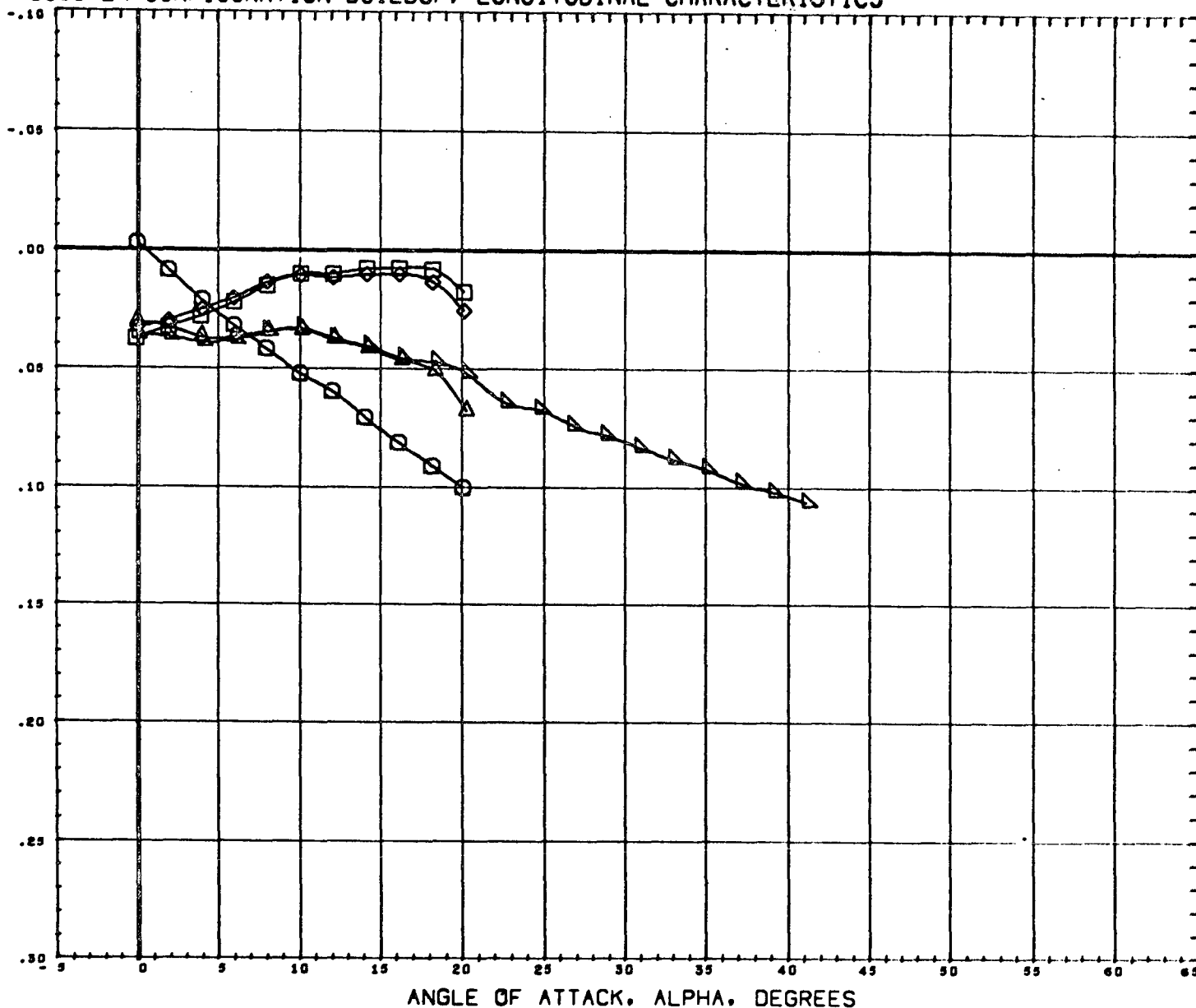
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MACH 4.959

PAGE 7

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

PITCHING MOMENT COEFFICIENT, CLM



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
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(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
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(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

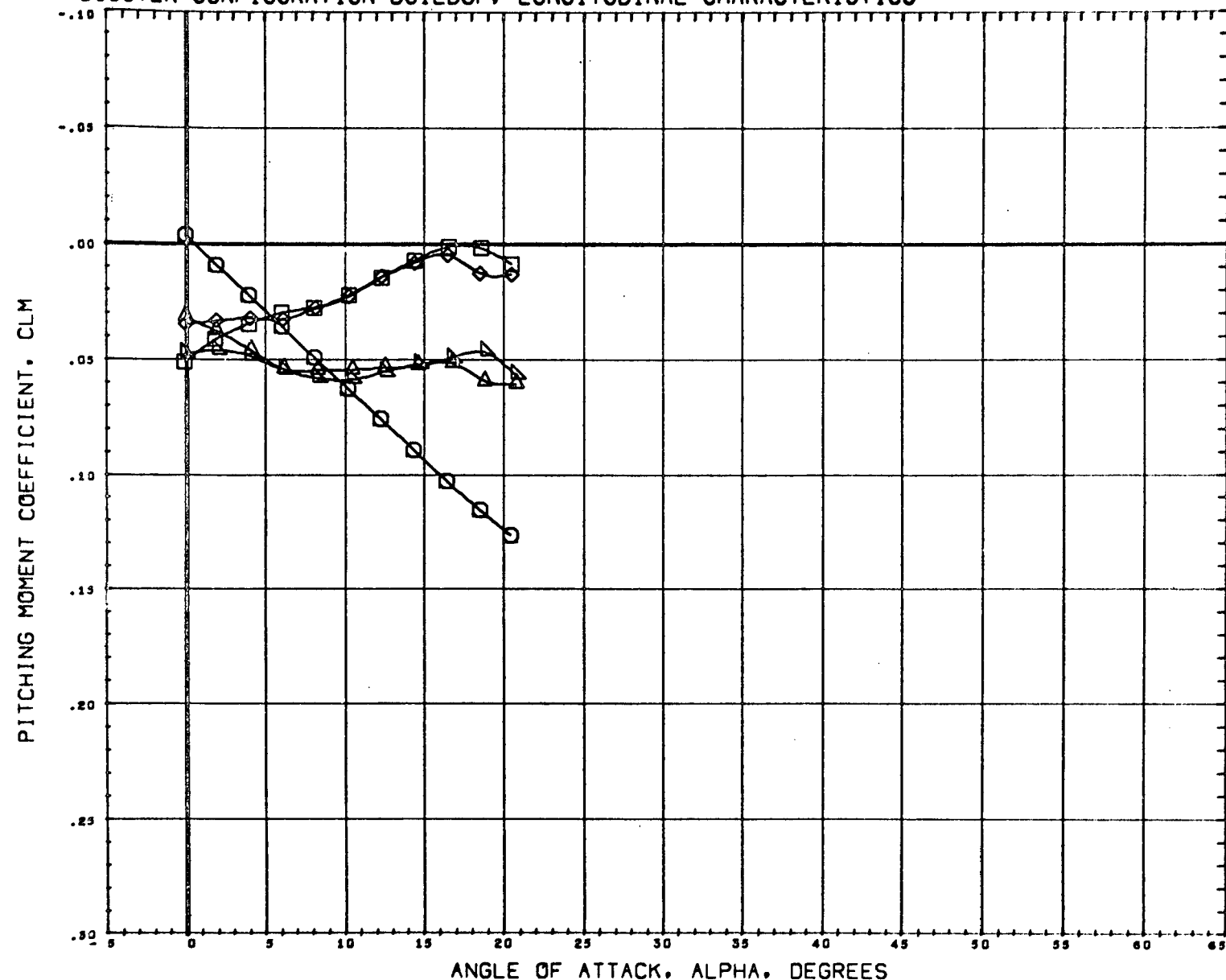
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PAGE 8

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



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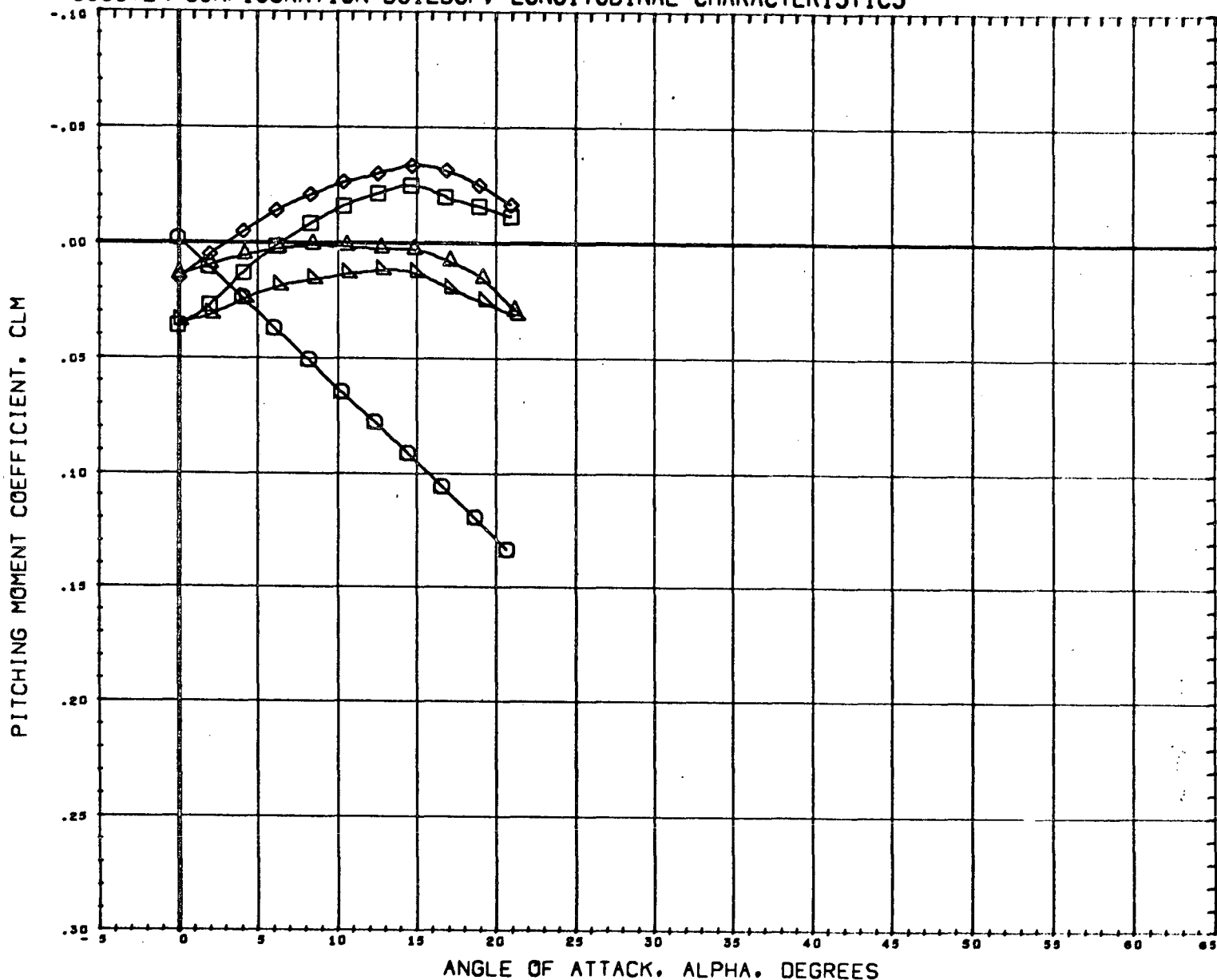
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MACH 0.905

PAGE 9

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



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(C36082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C36083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
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(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

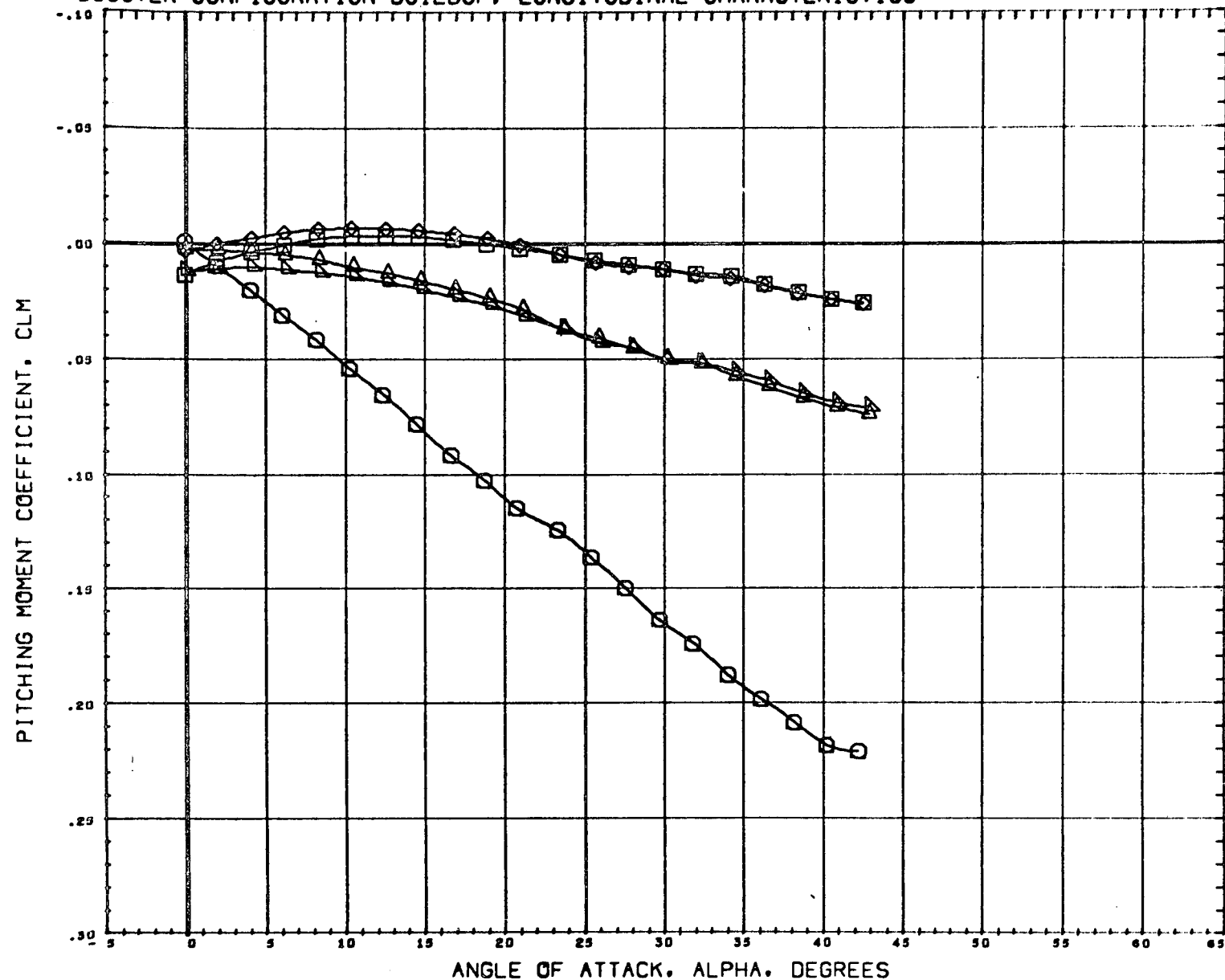
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
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MACH 1.197

PAGE 10

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

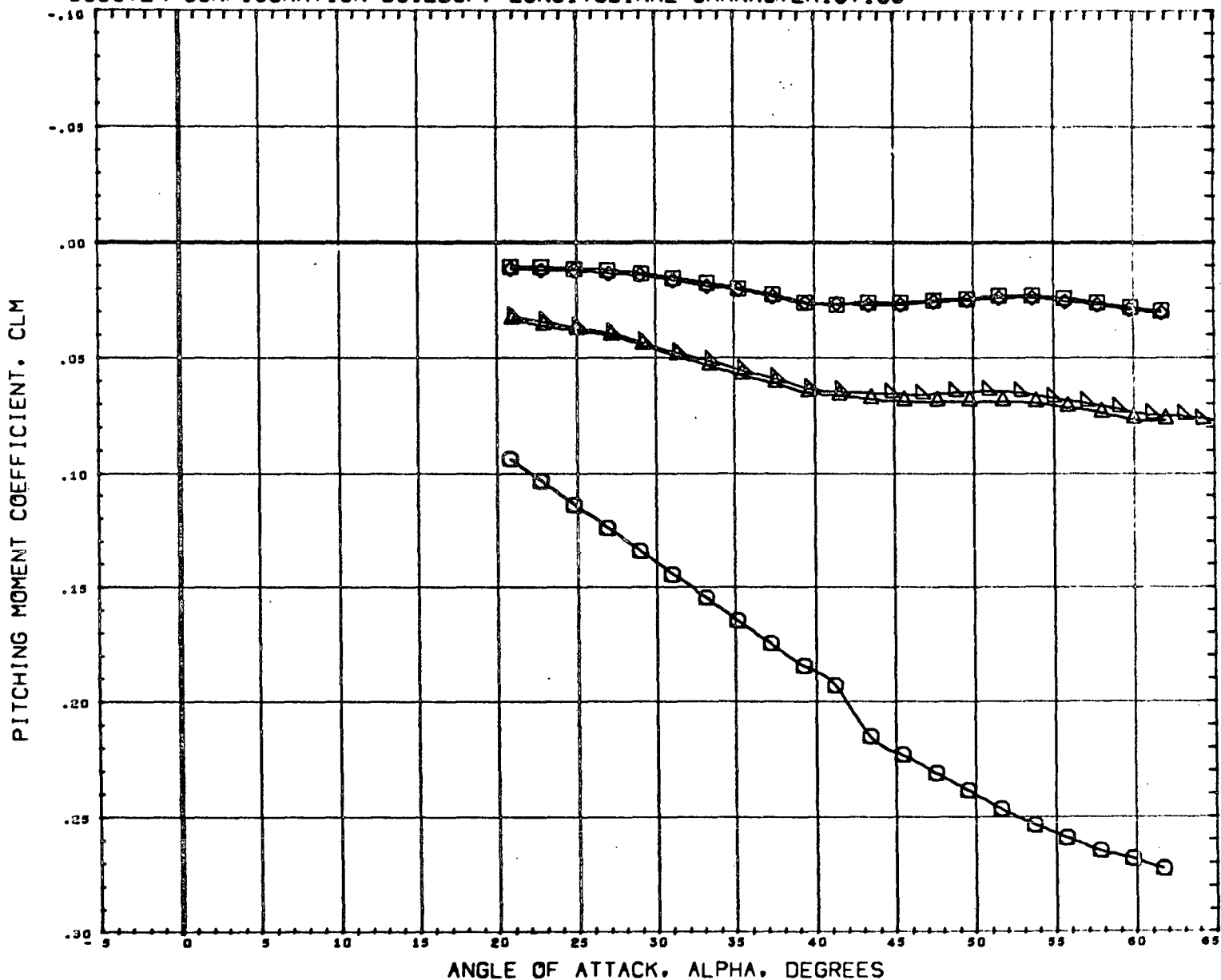


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(C36063)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000	BREF	5.7300 INCH
(C36064)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C36065)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
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MACH 1.960

PAGE 11

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



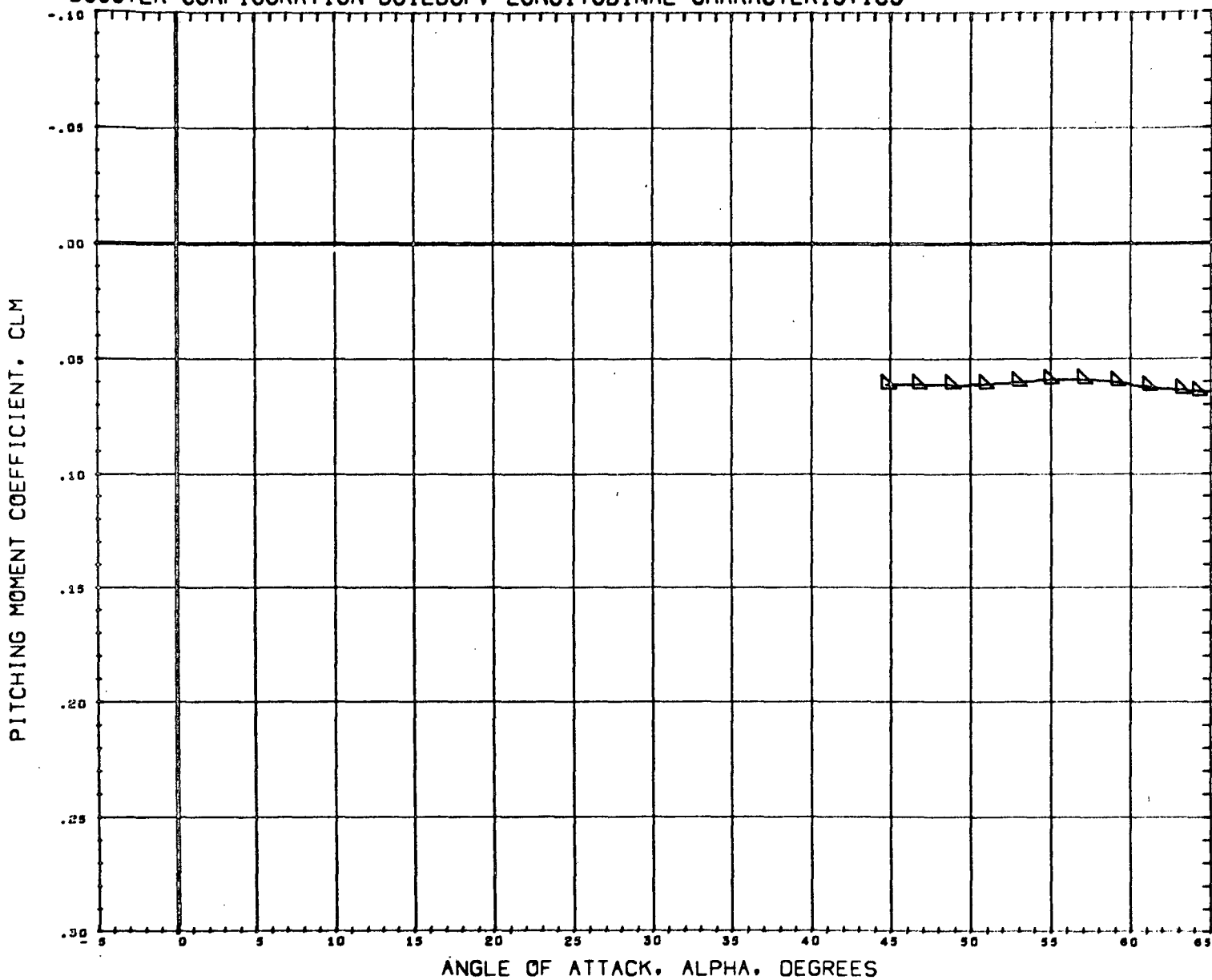
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(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

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0.000	0.000	0.000

REFERENCE INFORMATION		
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LREF	6.4400	INCH
BREF	5.7300	INCH
XMHP	4.6400	INCH
YMHP	0.0000	INCH
ZMHP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C560S1)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C560S2)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C560S3)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C560S4)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C560S5)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

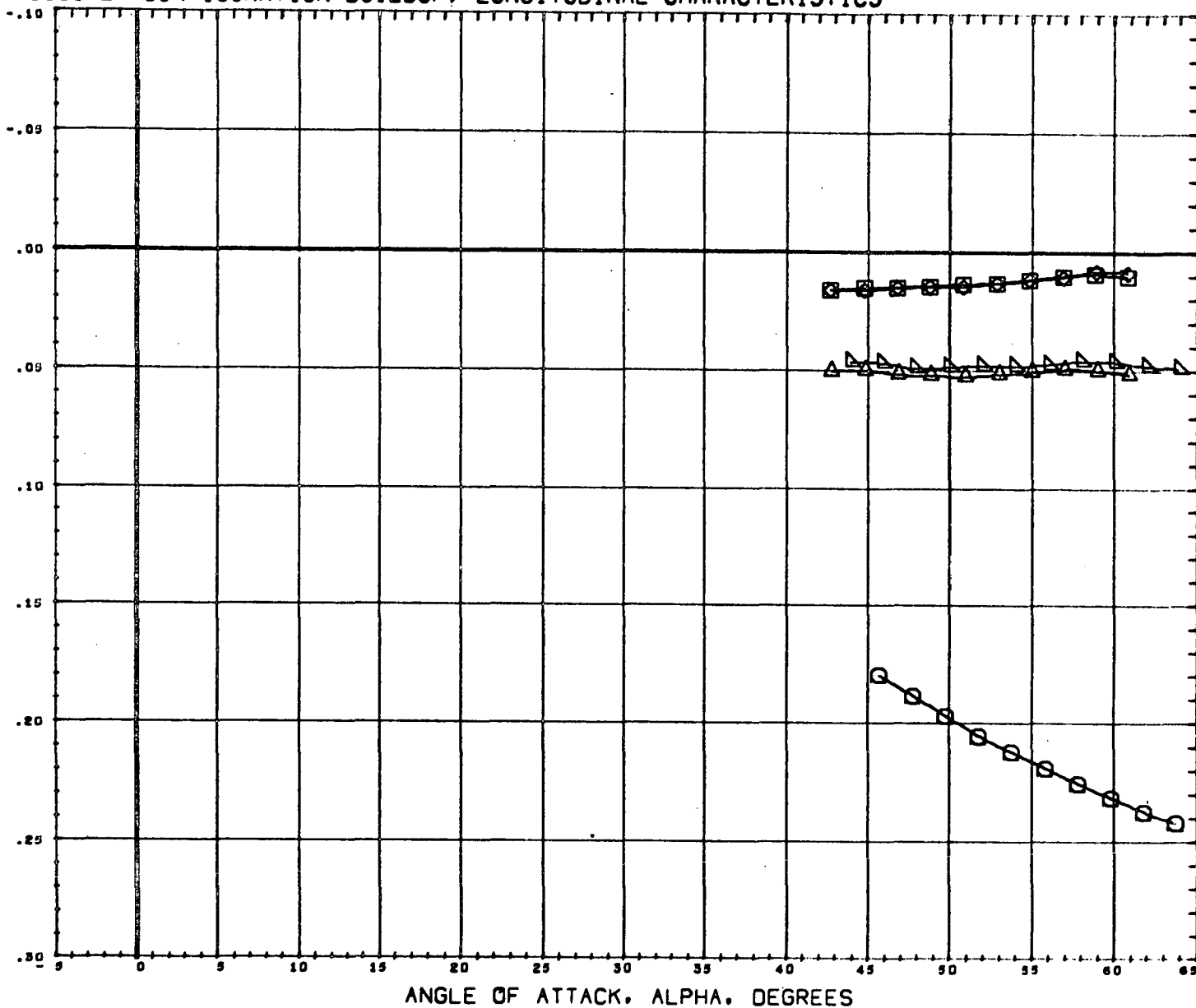
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

PITCHING MOMENT COEFFICIENT, CLM



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

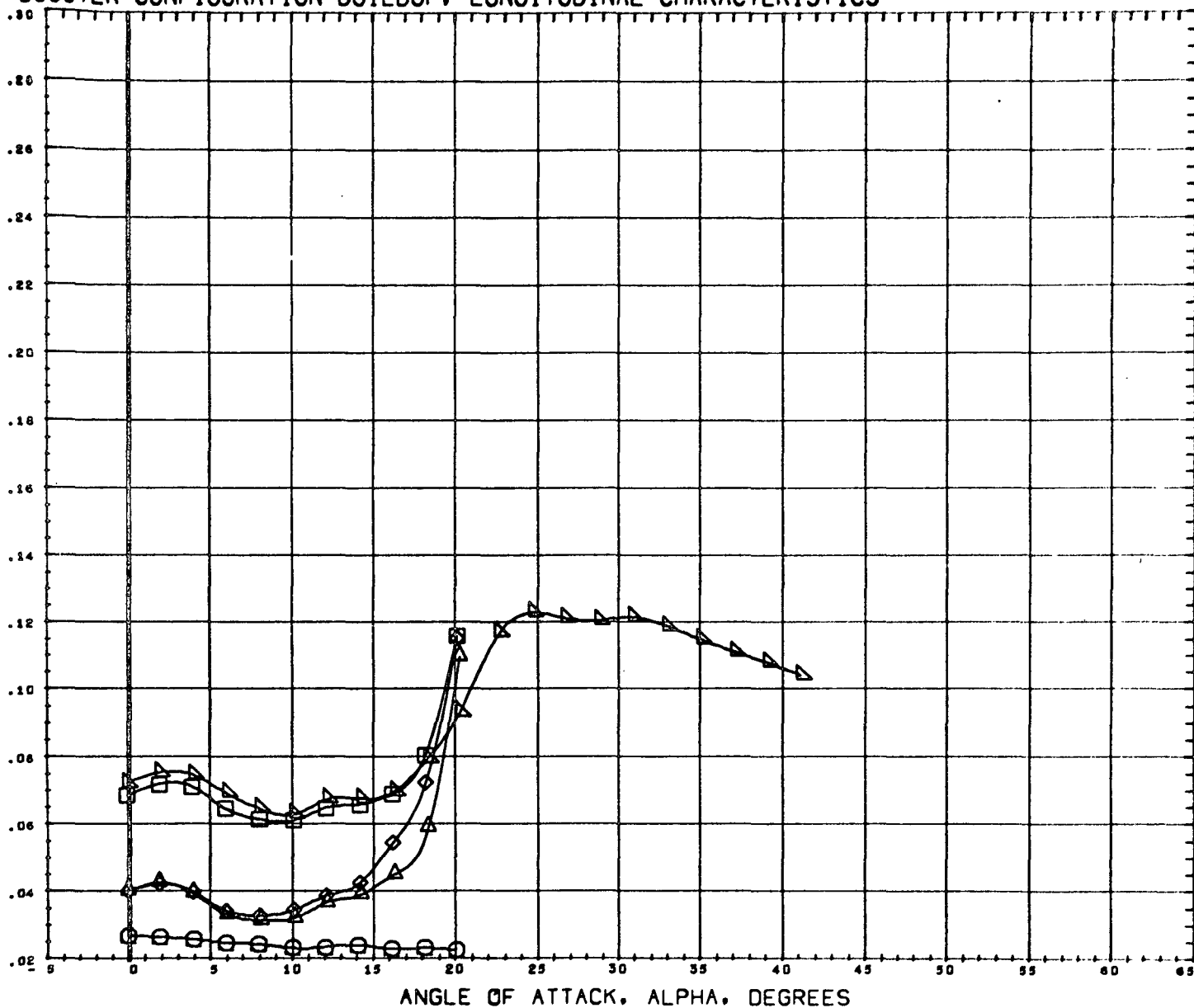
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

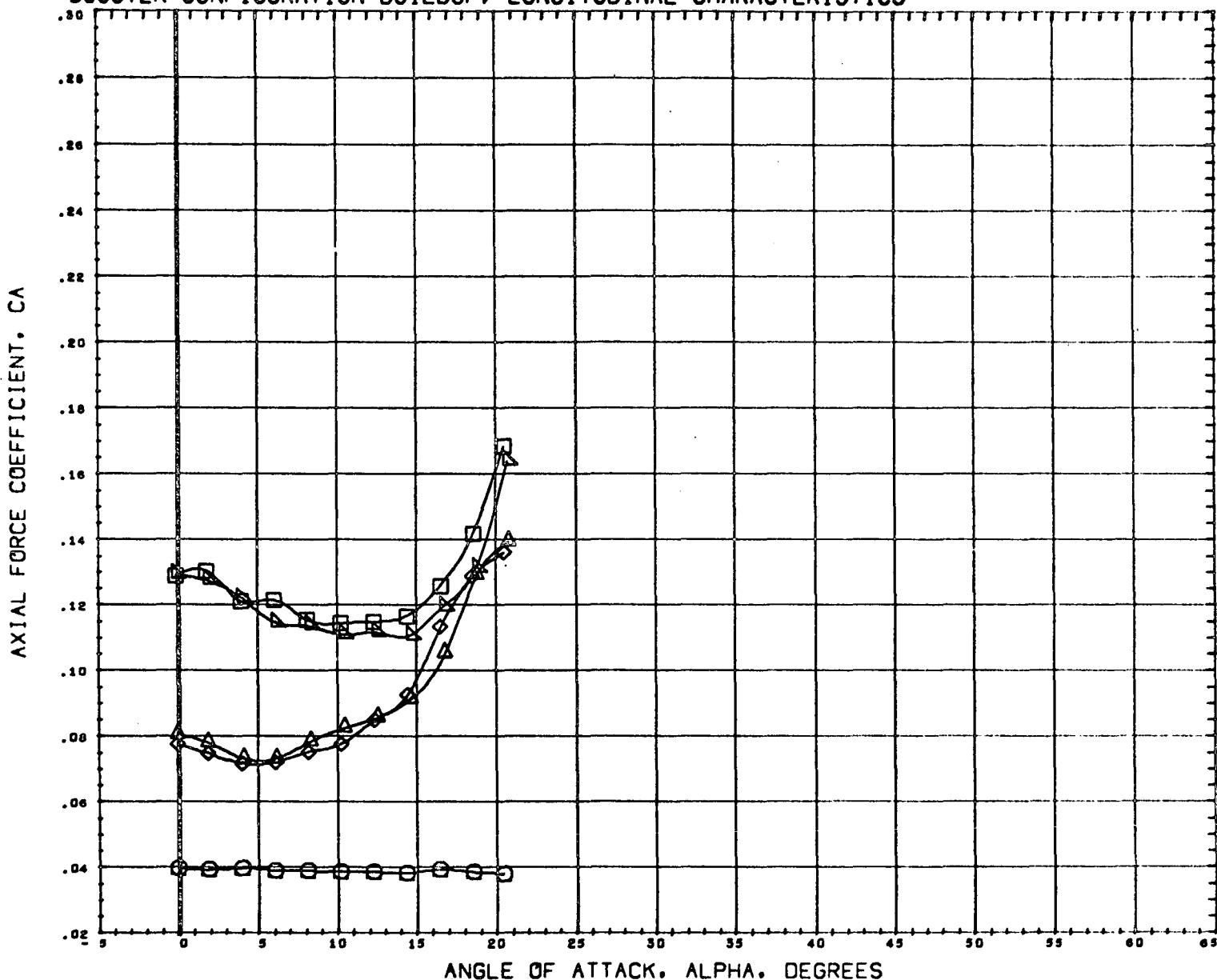
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	3.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6870	INCH
SCALE	0.0034	

MACH 0.597

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

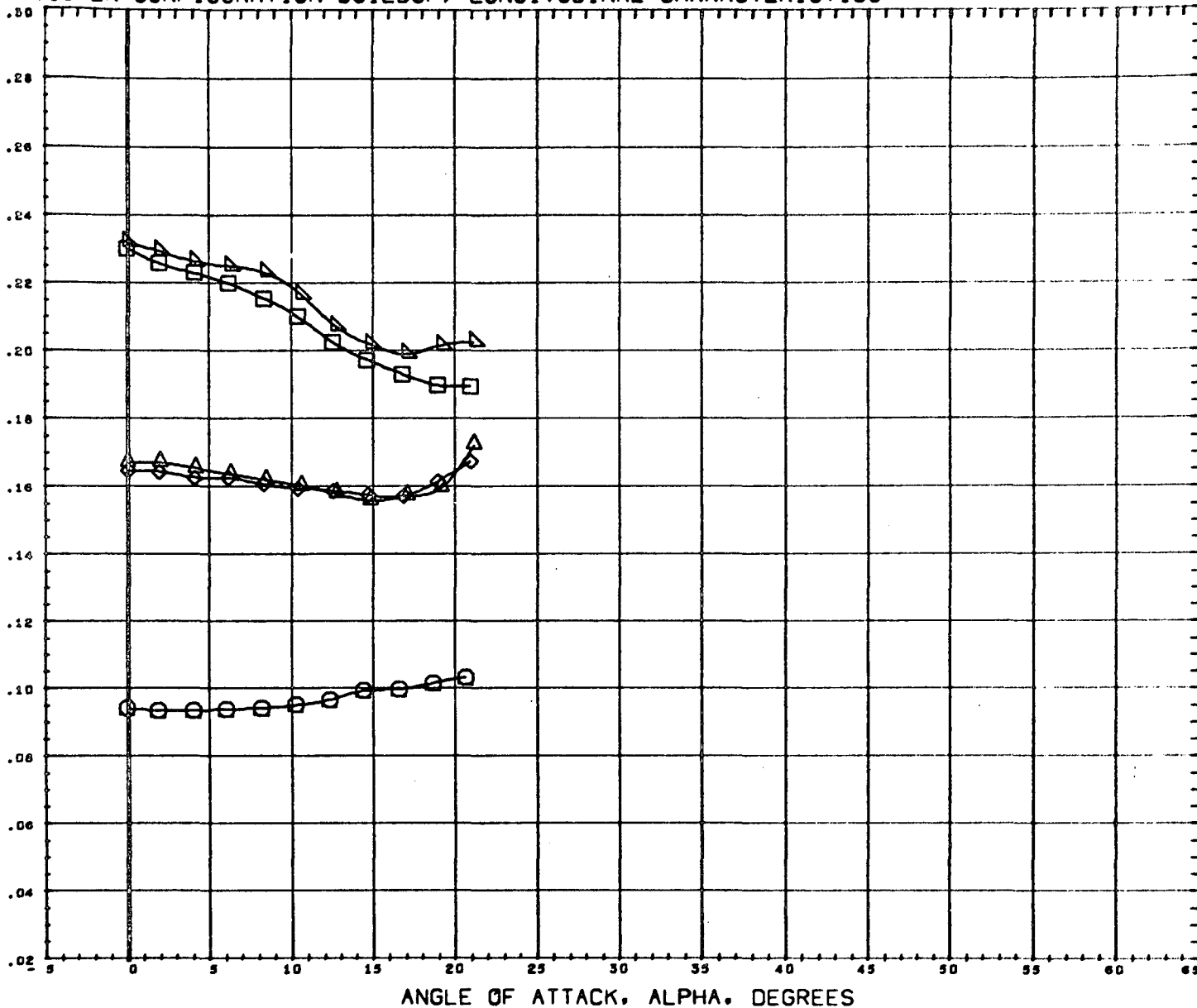
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.905

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

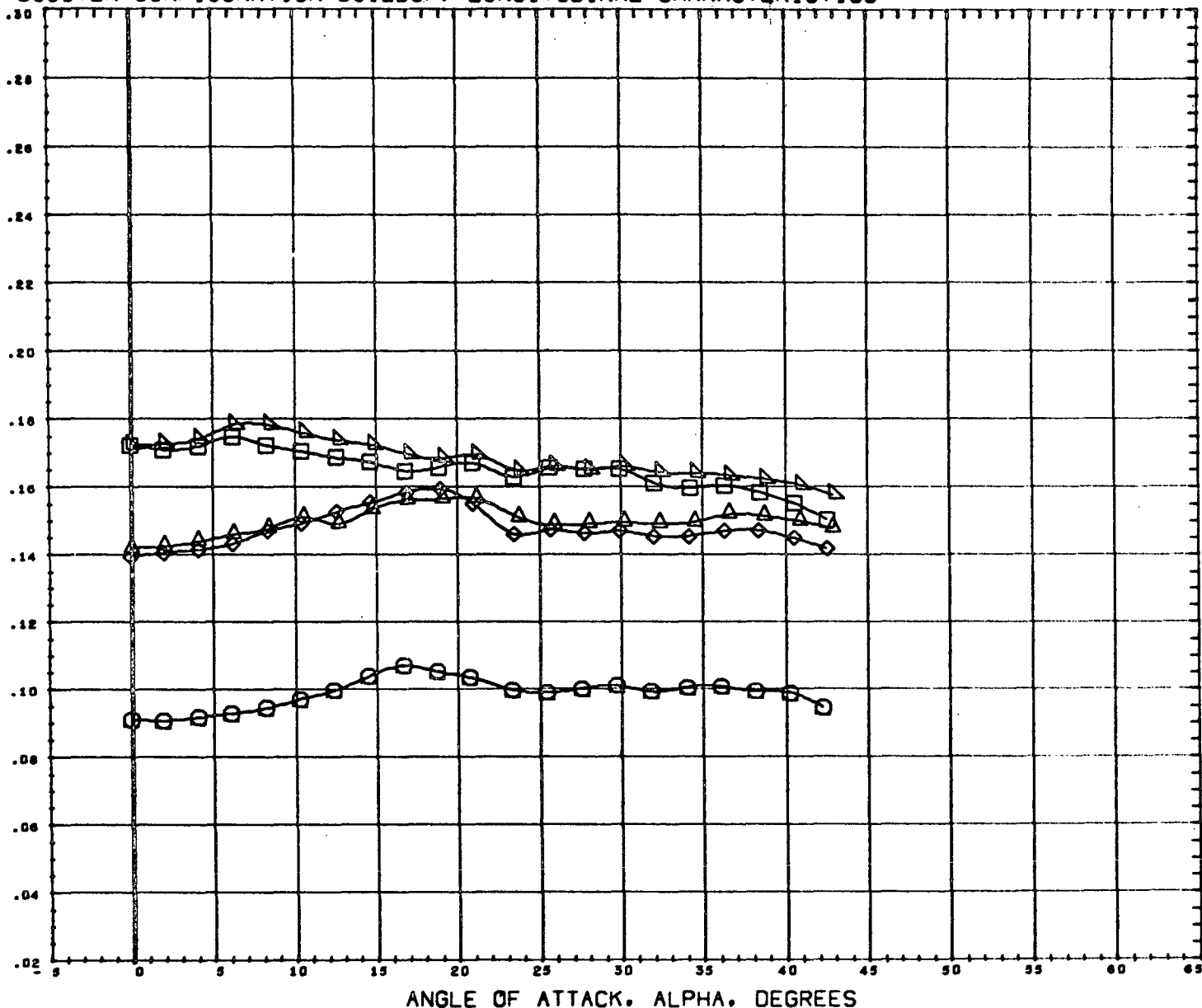
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	0.000
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

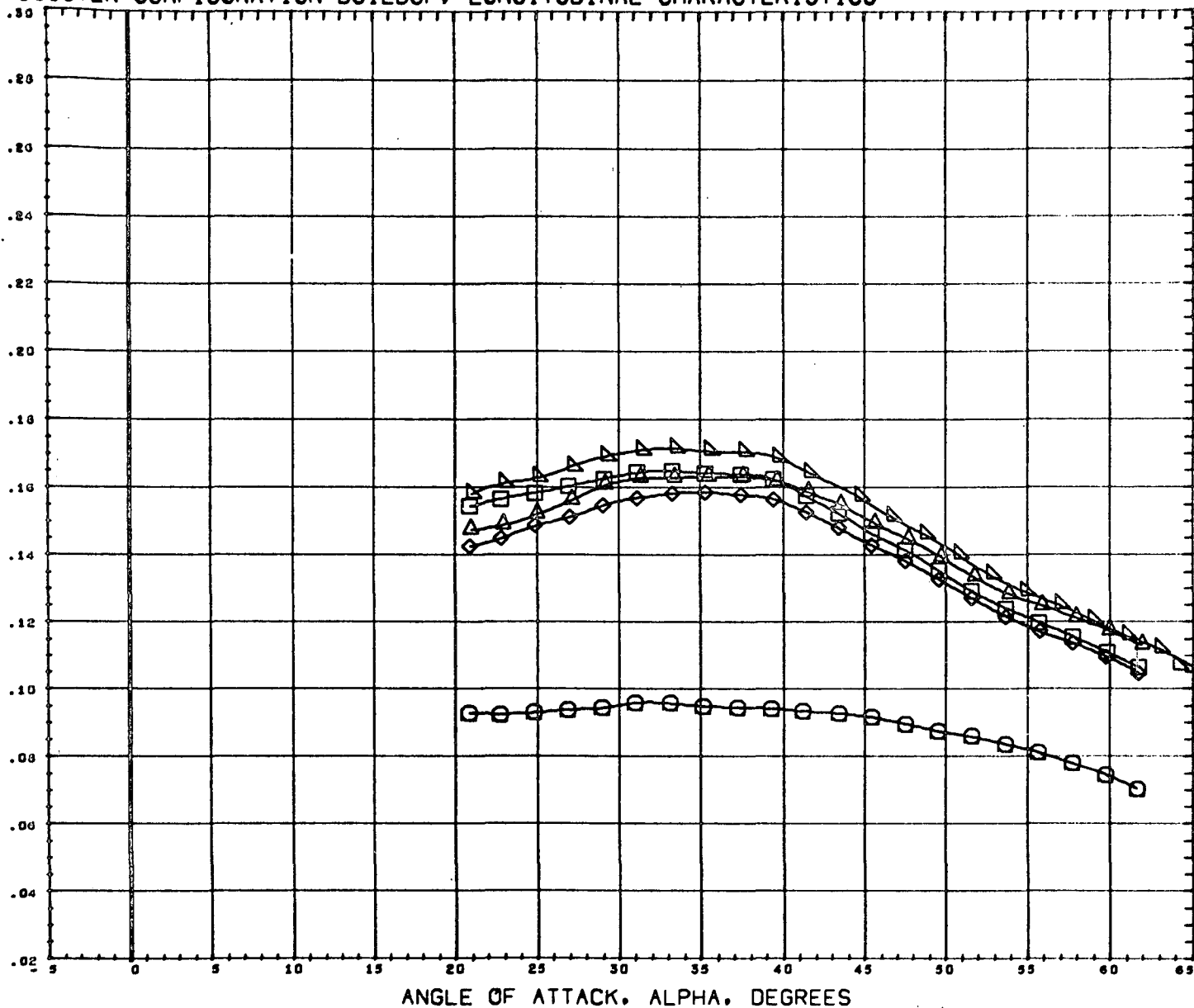
MACH 1.960

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2

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

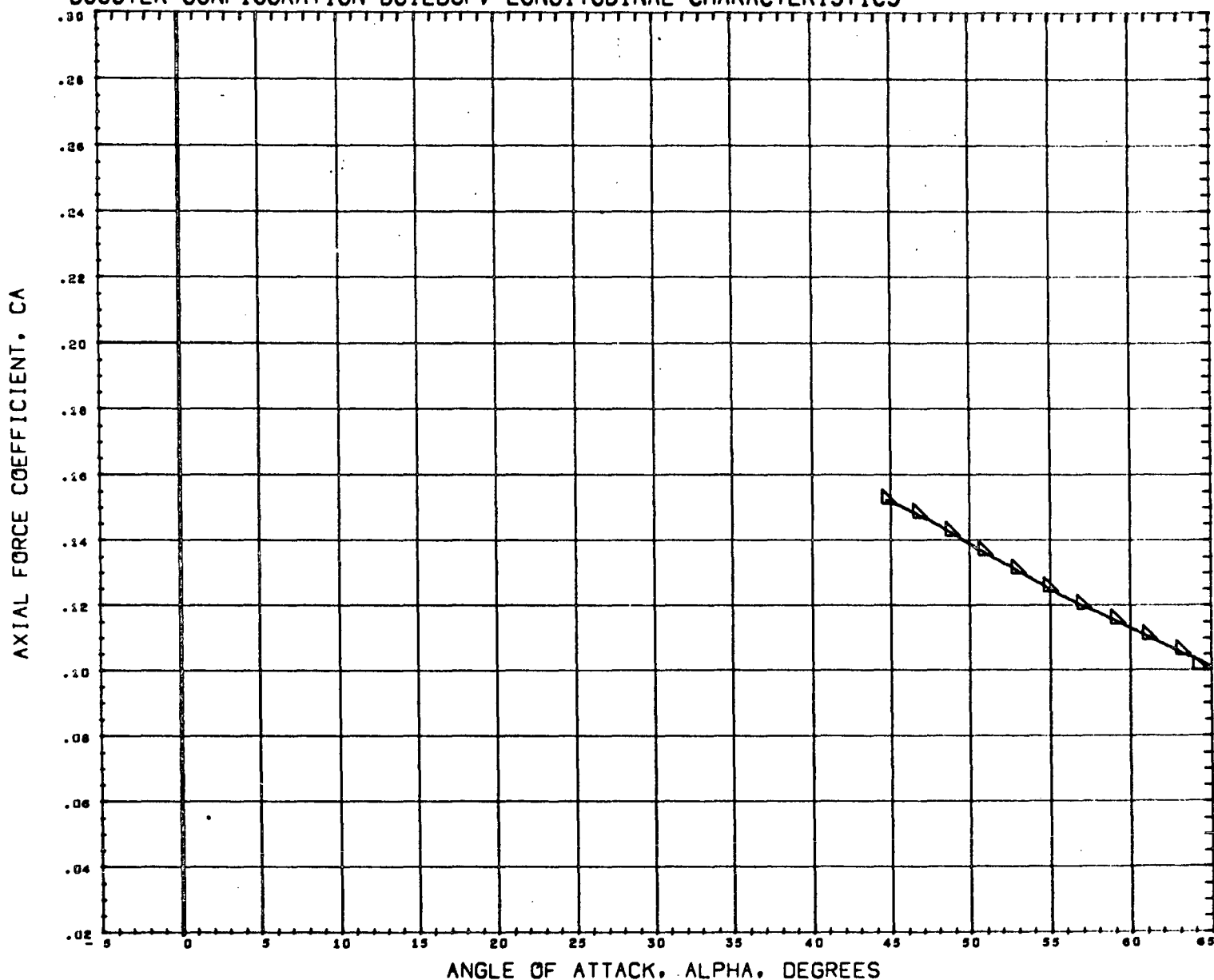
AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000		SREF	9.7600 SQ. IN
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000	BREF	5.7300 INCH
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 2.740

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C96051)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C96052)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C96053)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C96054)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1	0.000	0.000	0.000

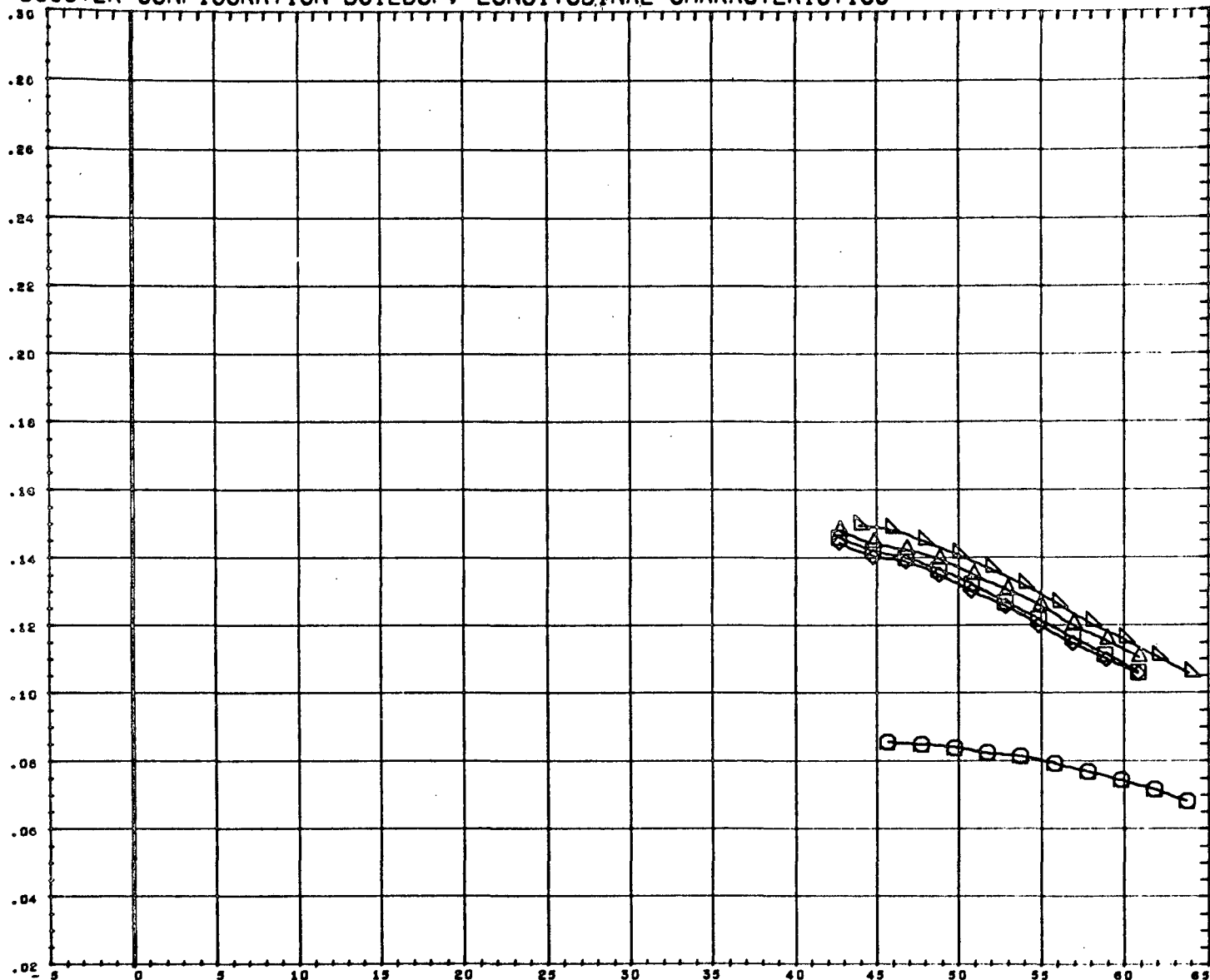
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



ANGLE OF ATTACK, ALPHA, DEGREES

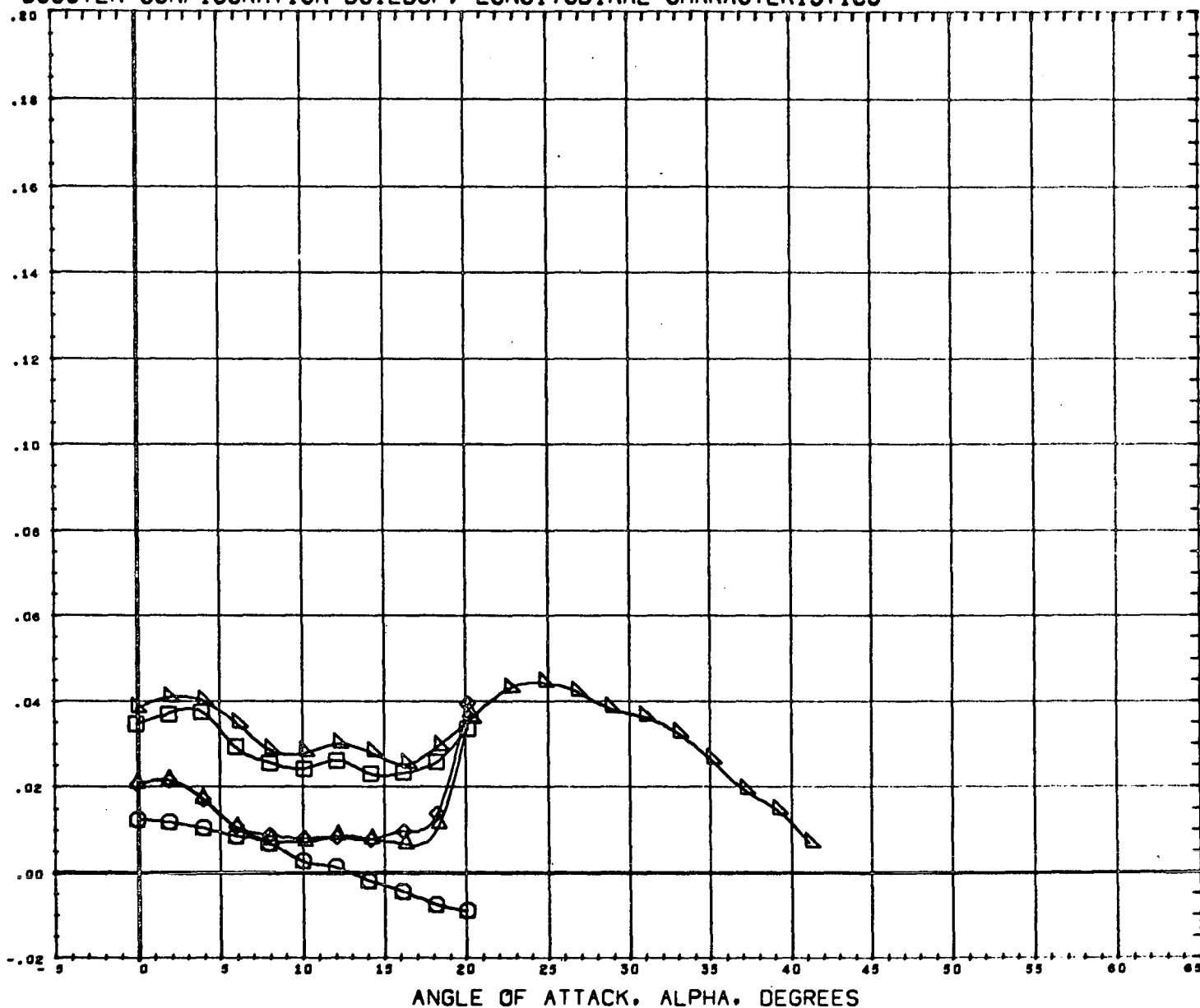
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000		SREF	9.7800 SQ. IN
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000		0.000	BREF	5.7300 INCH
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

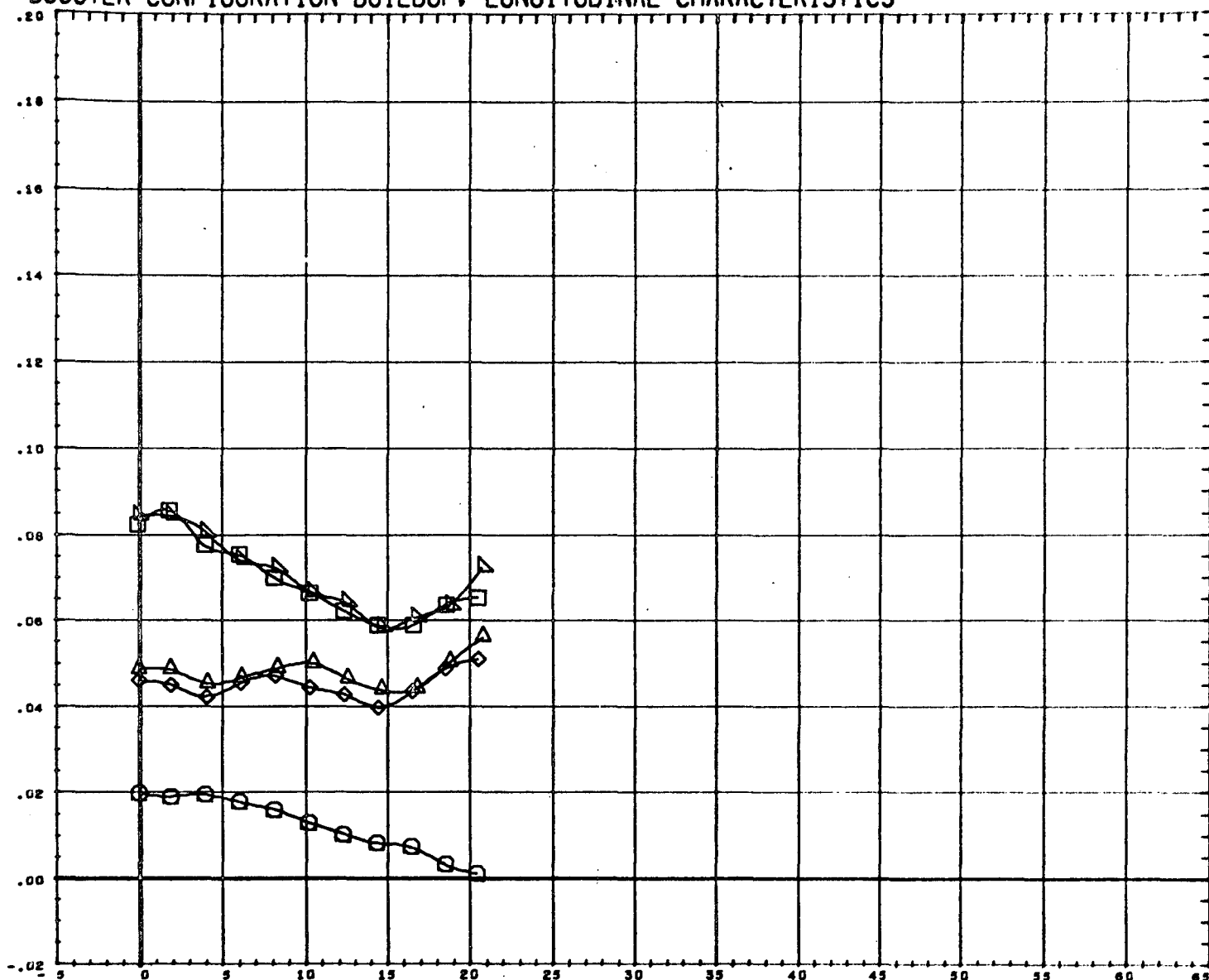
REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.597

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

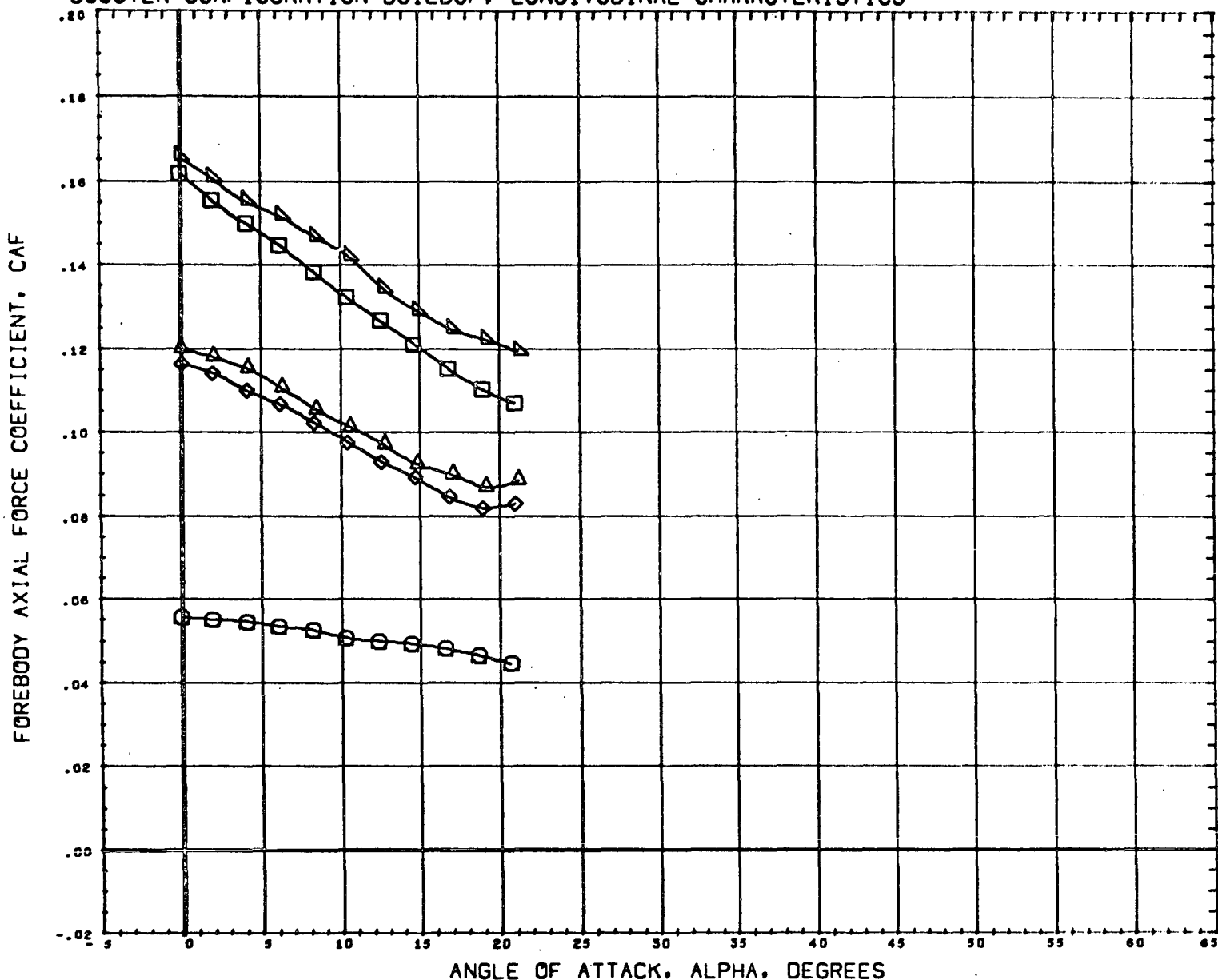
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 0.905

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

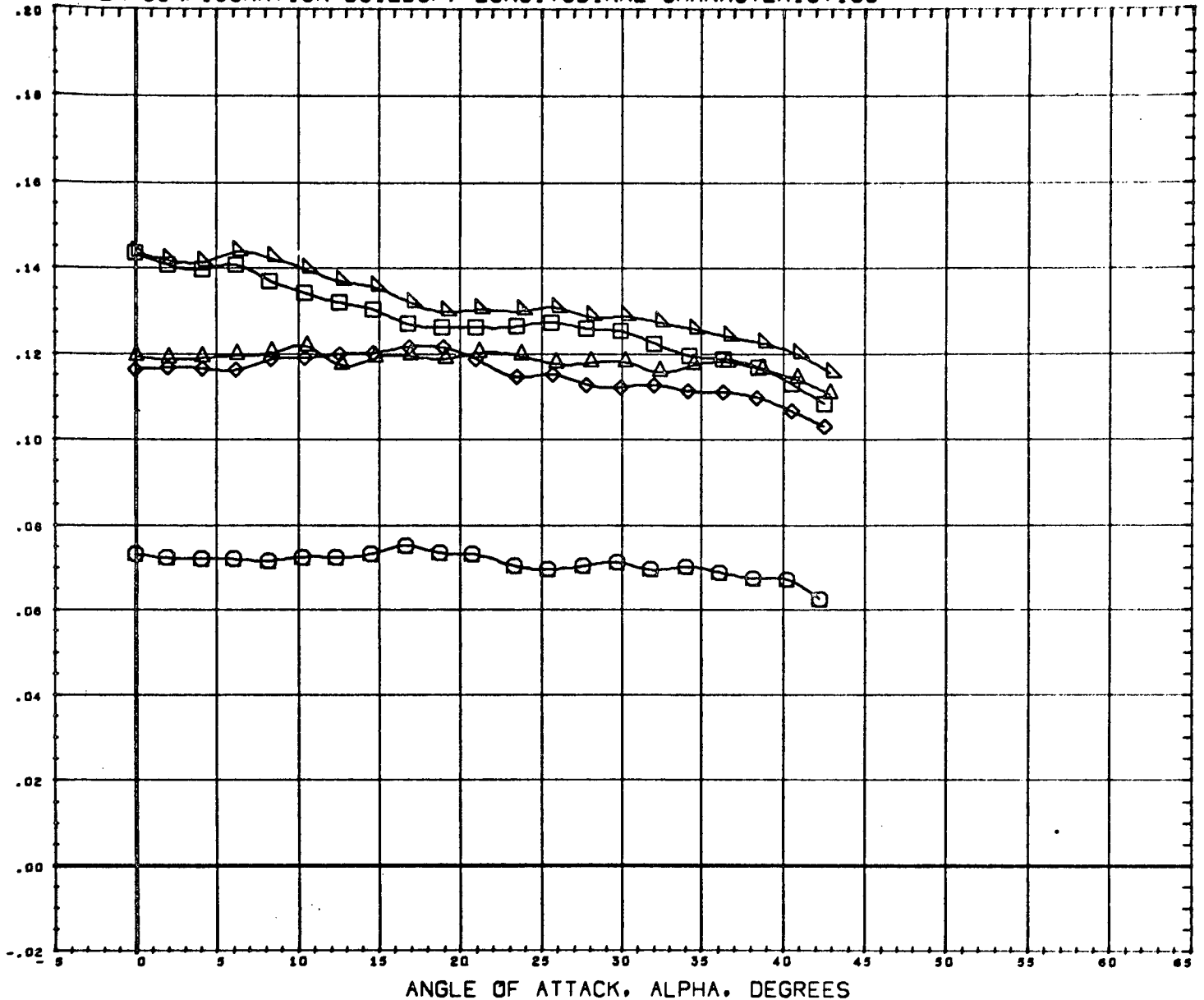
REFERENCE INFORMATION		
SREF	9.7800	50. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

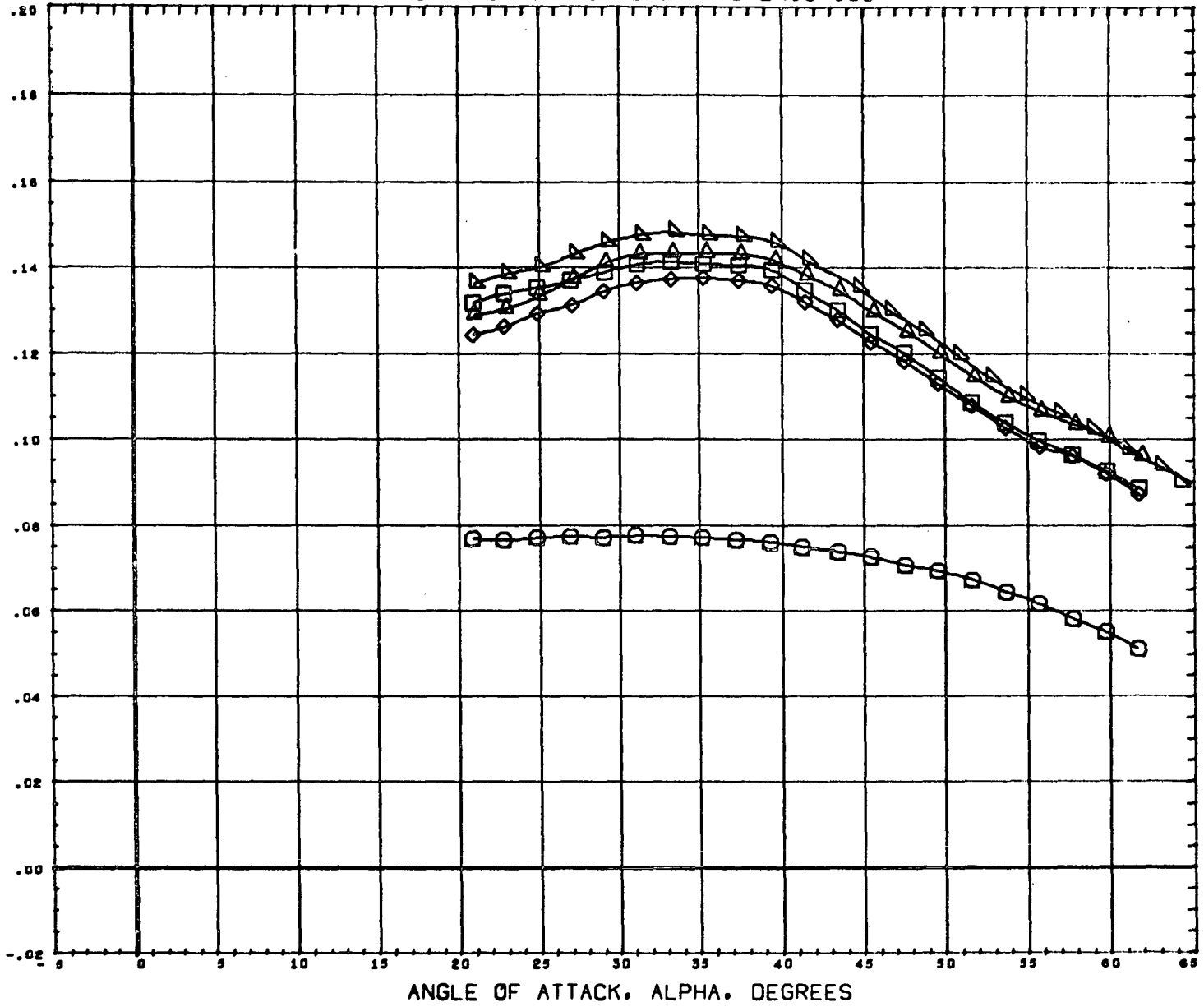
REFERENCE INFORMATION		
SREF	9.7800	30. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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FOREBODY AXIAL FORCE COEFFICIENT, CAF

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

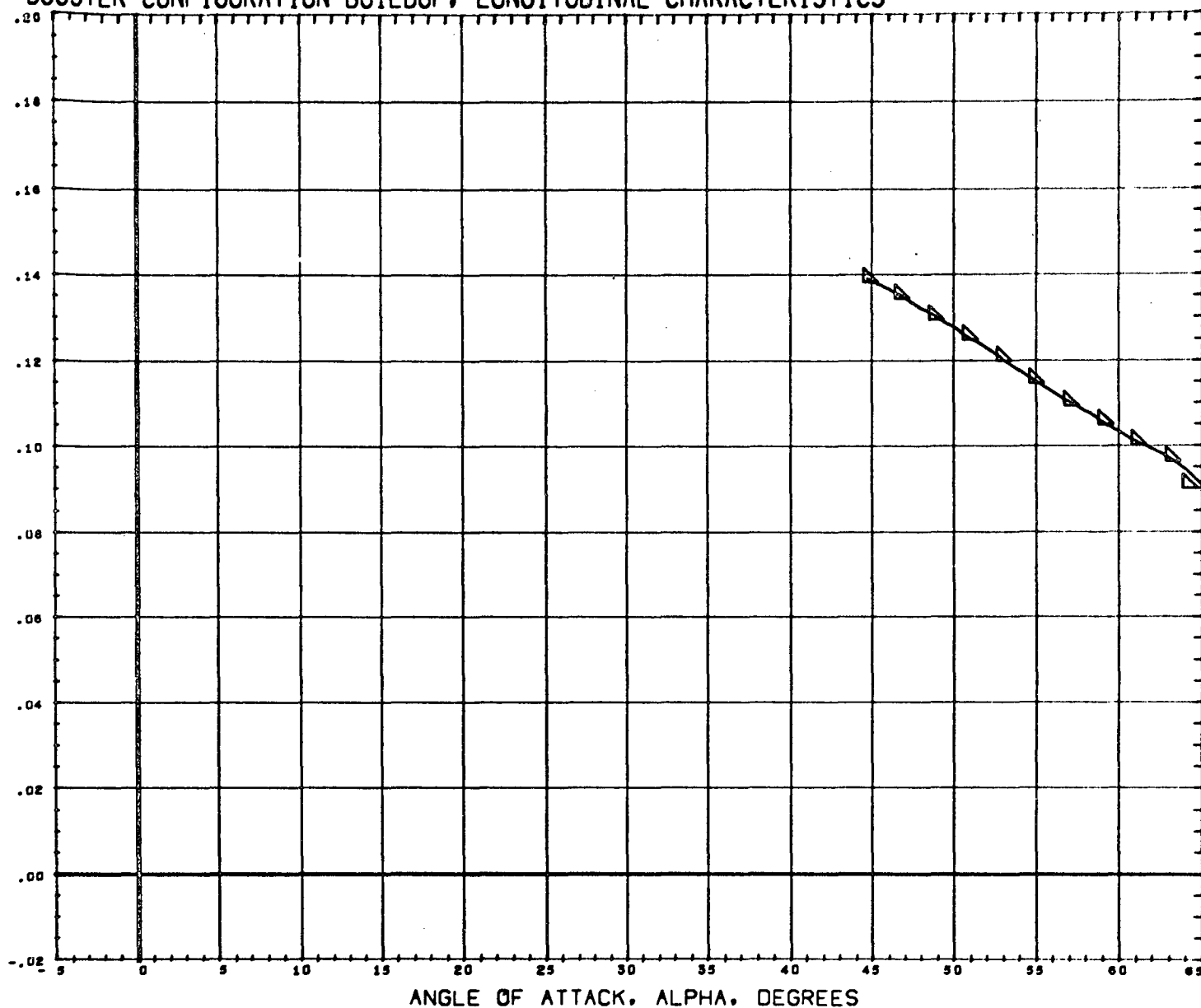


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C96061)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000		SREF	9.7800 SQ. IN
(C96062)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C96063)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000	BREF	5.7300 INCH
(C96064)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C96065)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 2.740

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56052)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56053)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56054)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

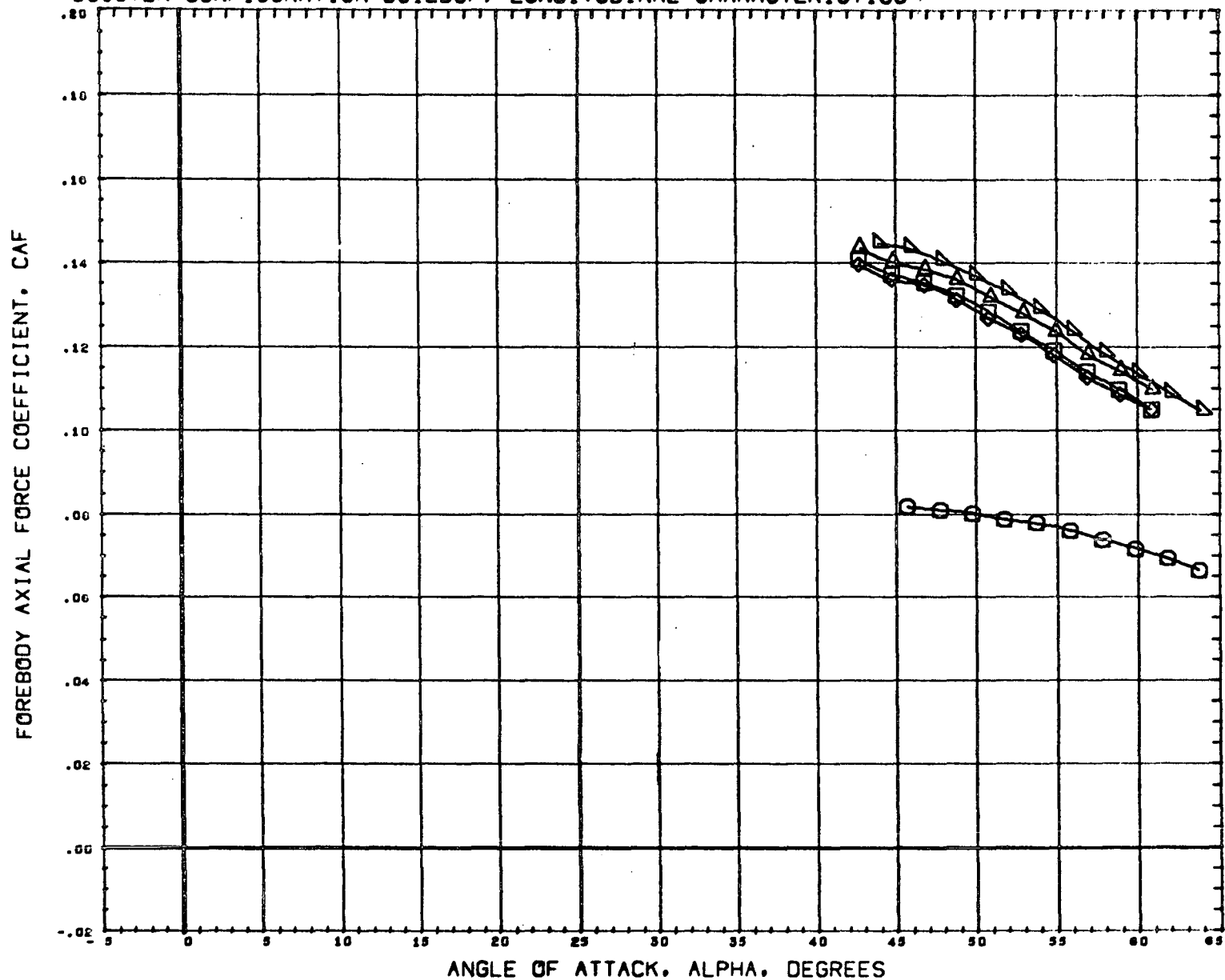
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	80. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



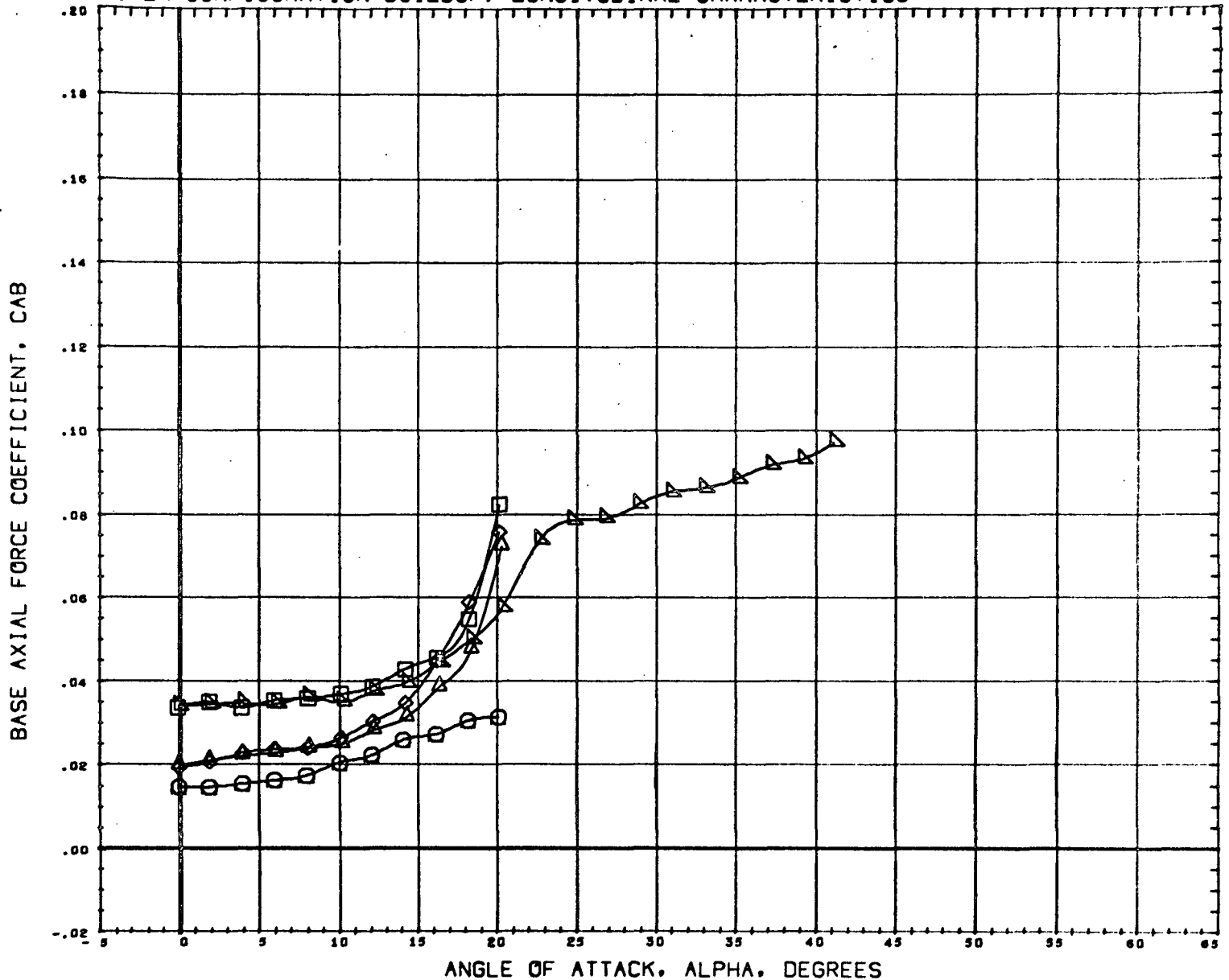
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

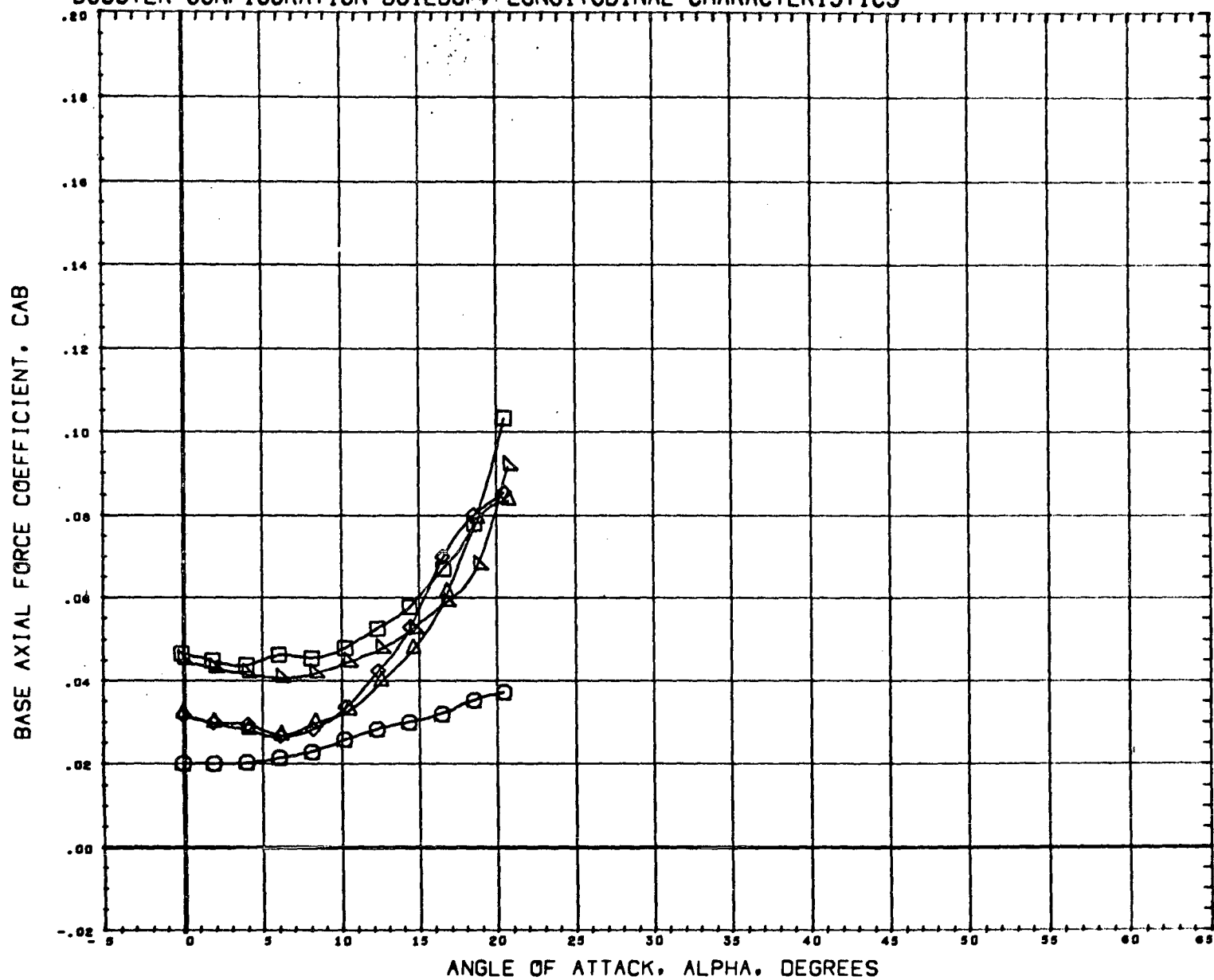
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.597

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

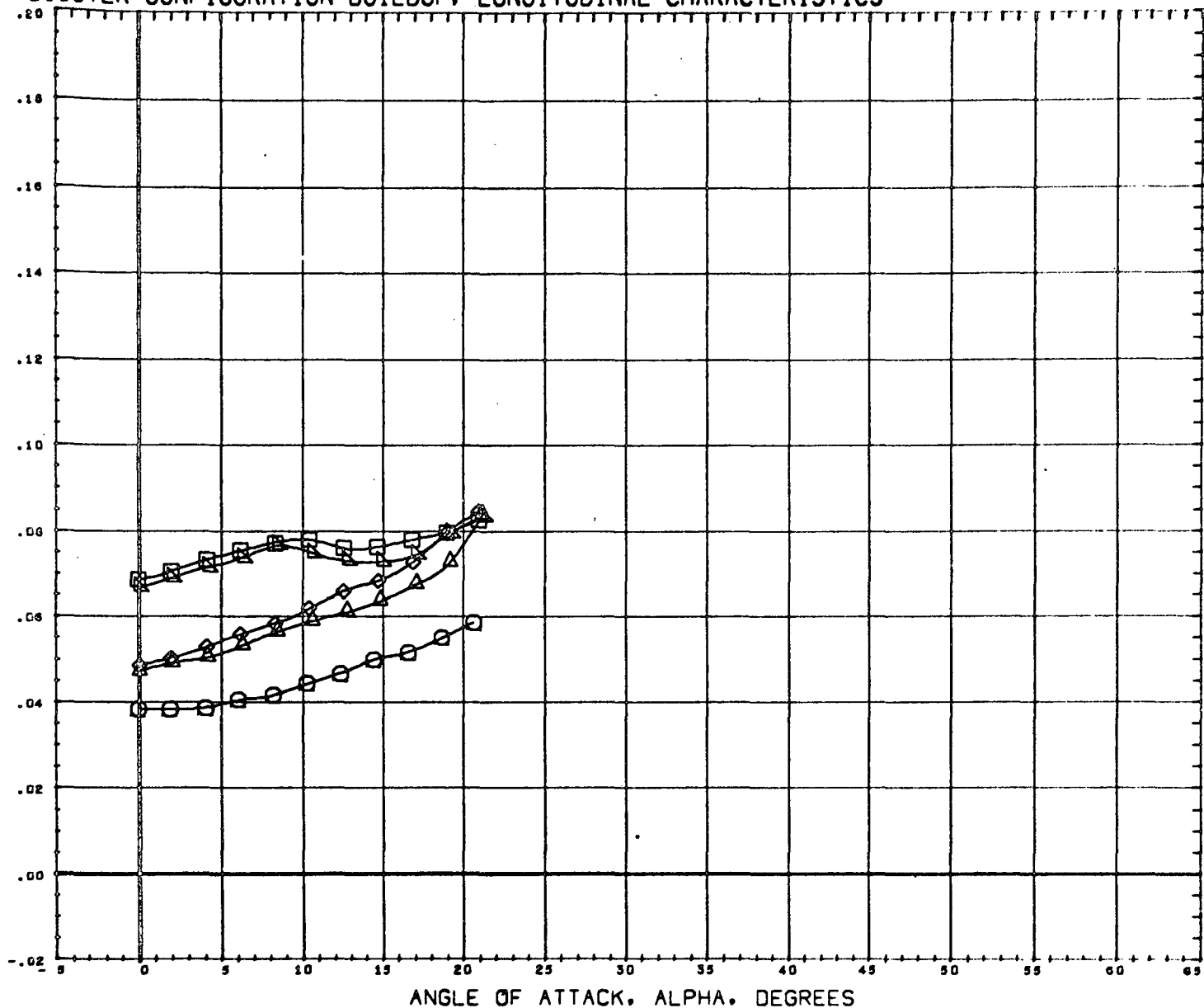
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	50. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.909

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

BASE AXIAL FORCE COEFFICIENT, CAB



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

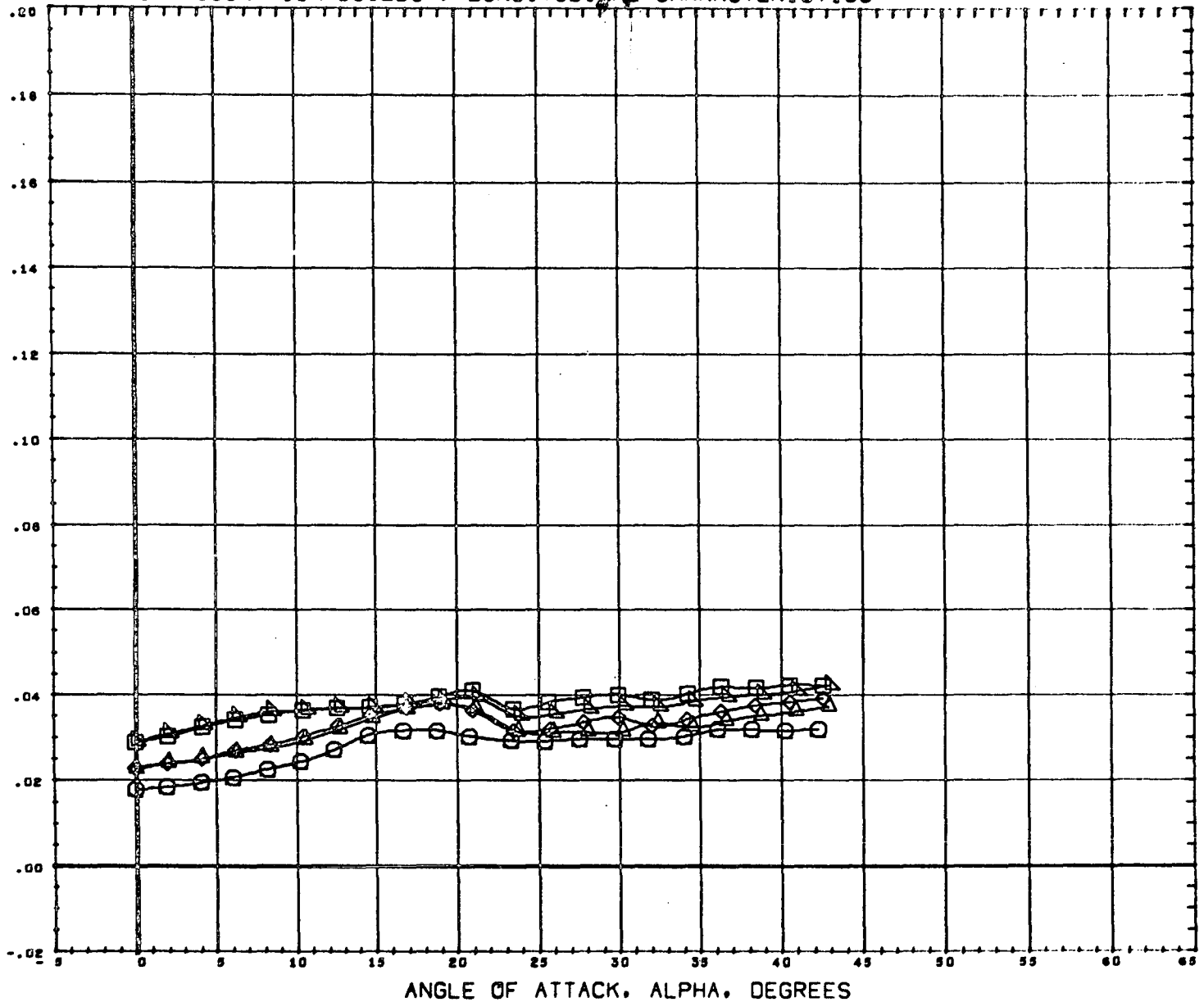
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

BASE AXIAL FORCE COEFFICIENT, CAB



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C36081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	0.000
(C36082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000
(C36083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000
(C36084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

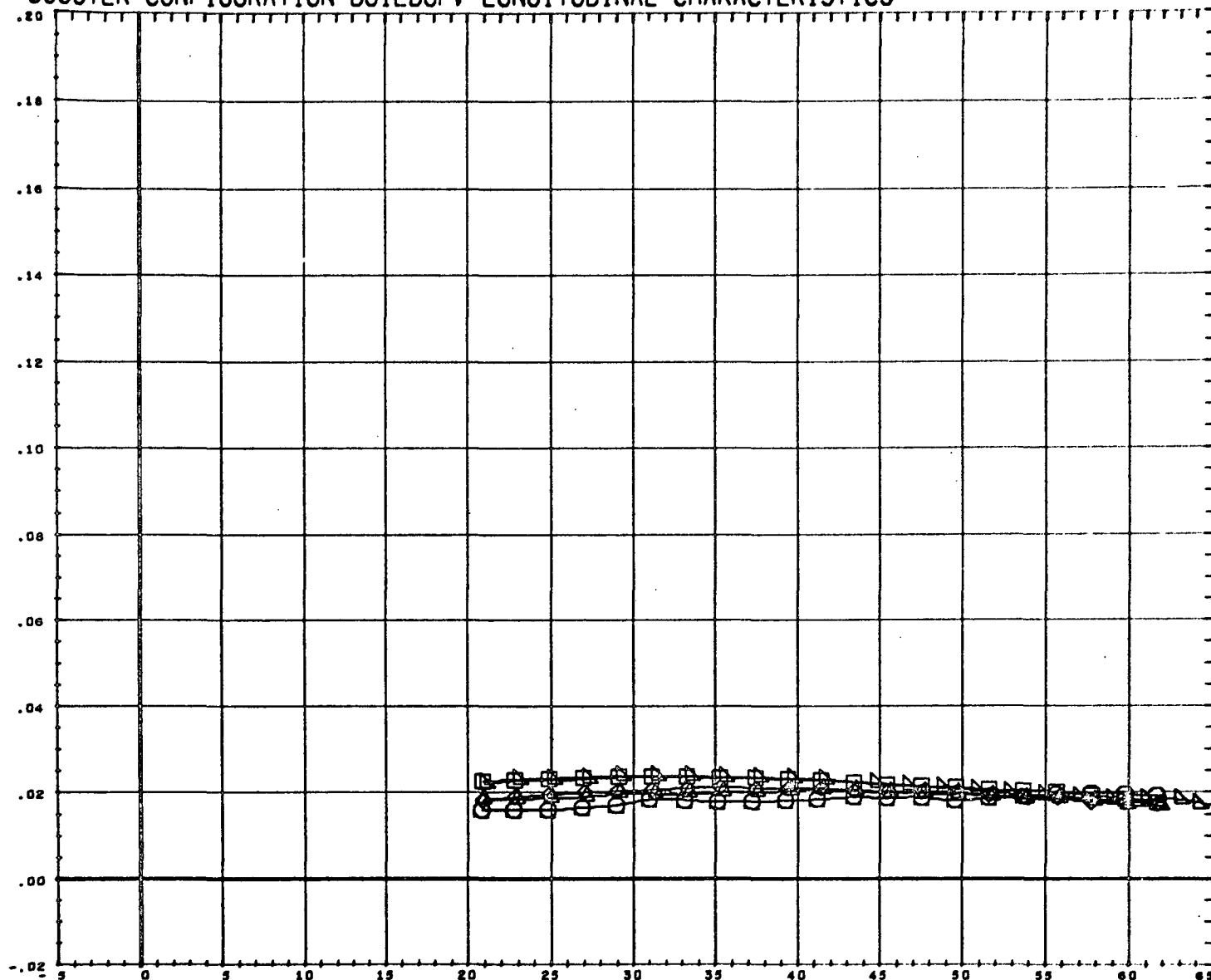
MACH 1.960

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

BASE AXIAL FORCE COEFFICIENT, CAB



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

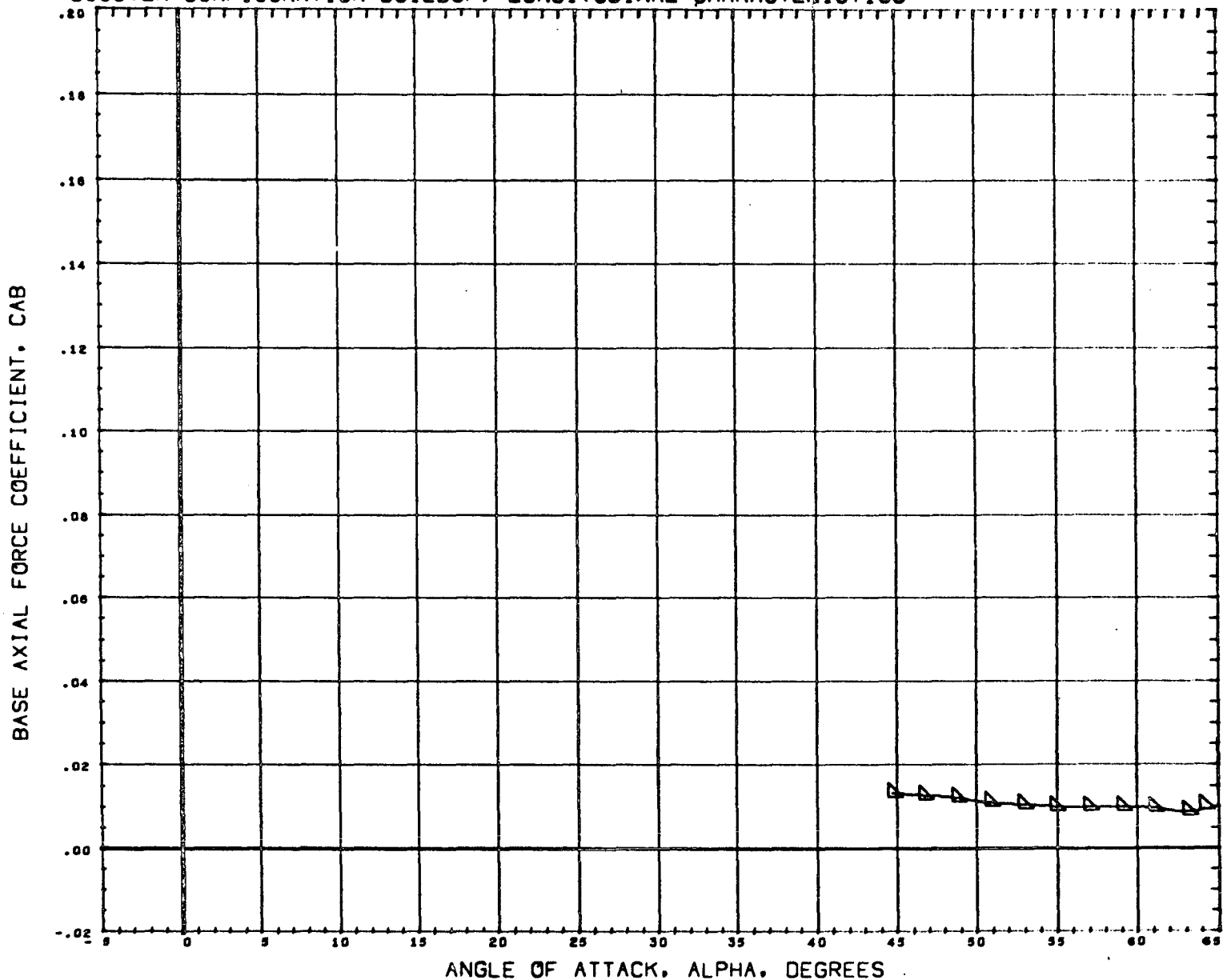
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	59. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



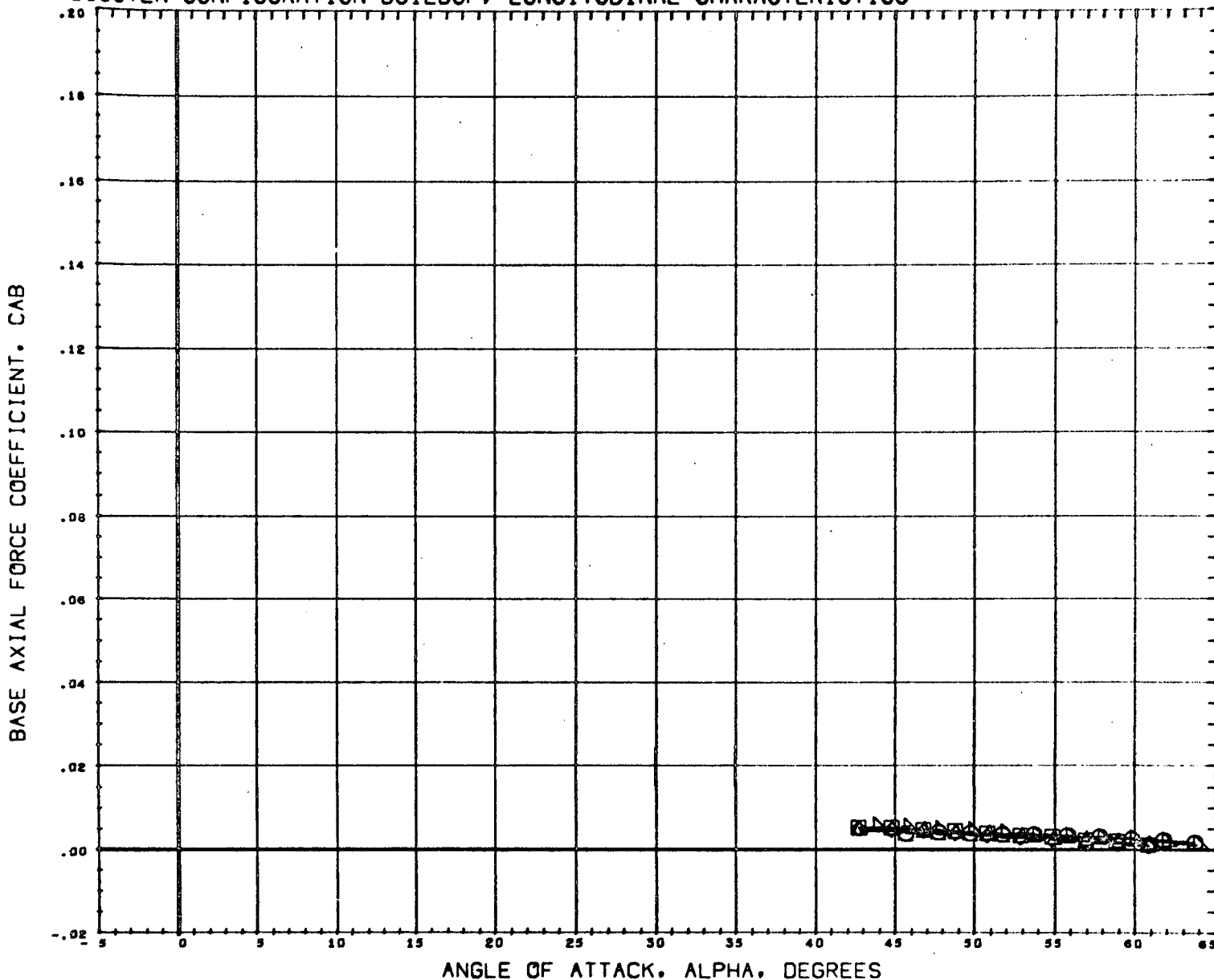
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C56081)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C56082)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C56083)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C56084)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

MACH 3.480

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
YMRP	4.6400	INCH
ZMRP	0.0000	INCH
SCALE	0.0034	

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA CANARD ELEVON

0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

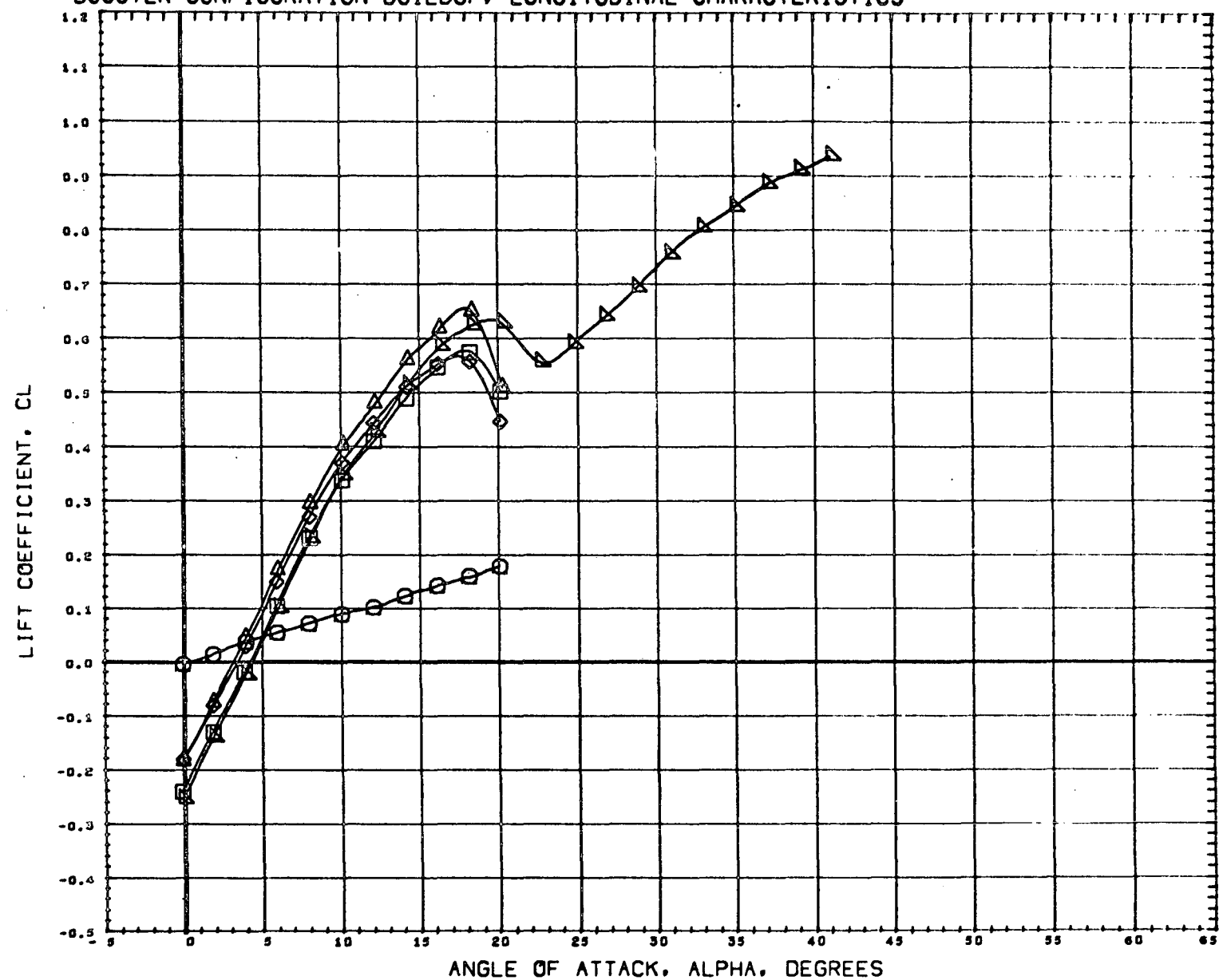
REFERENCE INFORMATION

SREF	9.7800	98. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36061)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C36062)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C36063)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C36064)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C36065)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

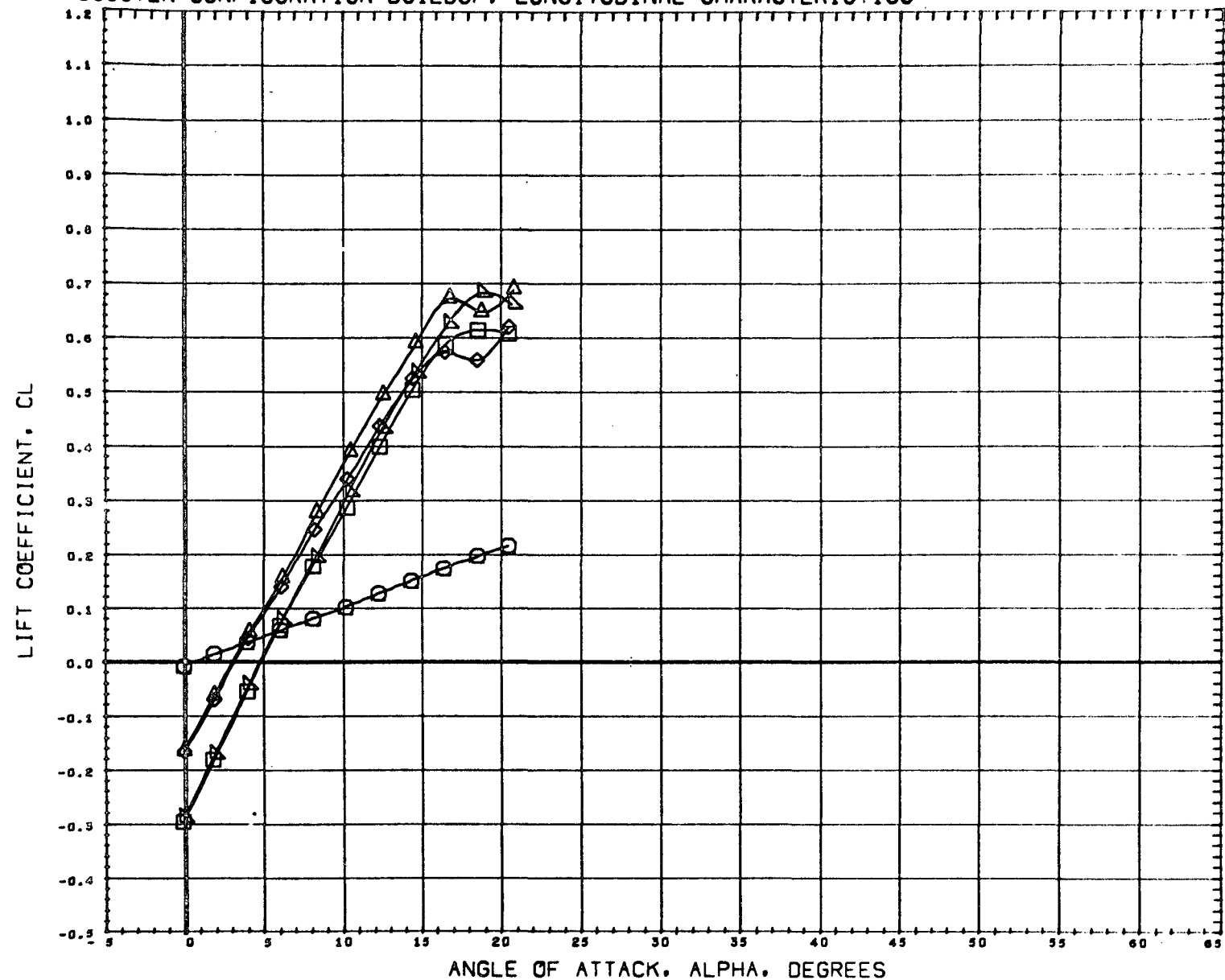
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 0.597

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



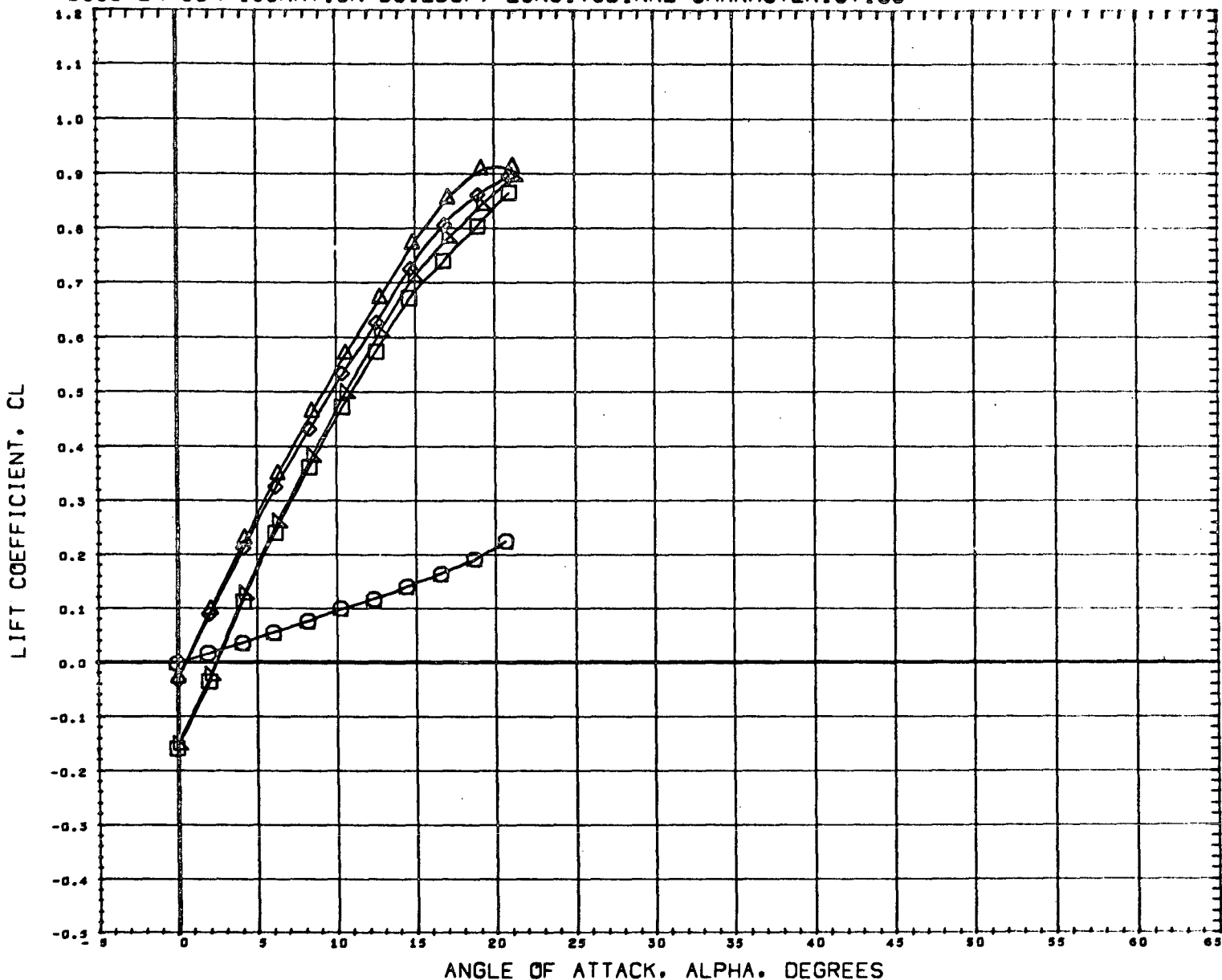
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.905

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



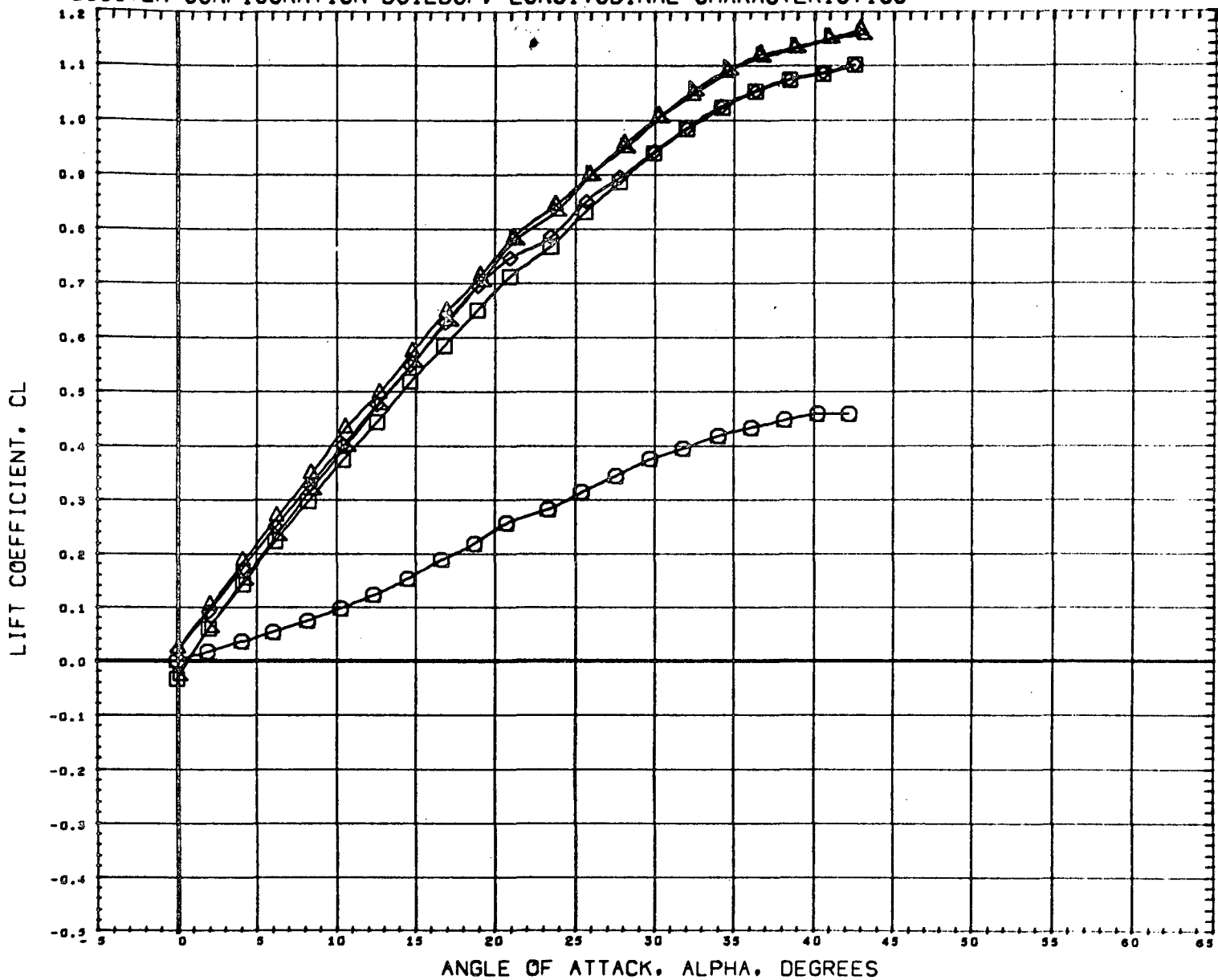
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

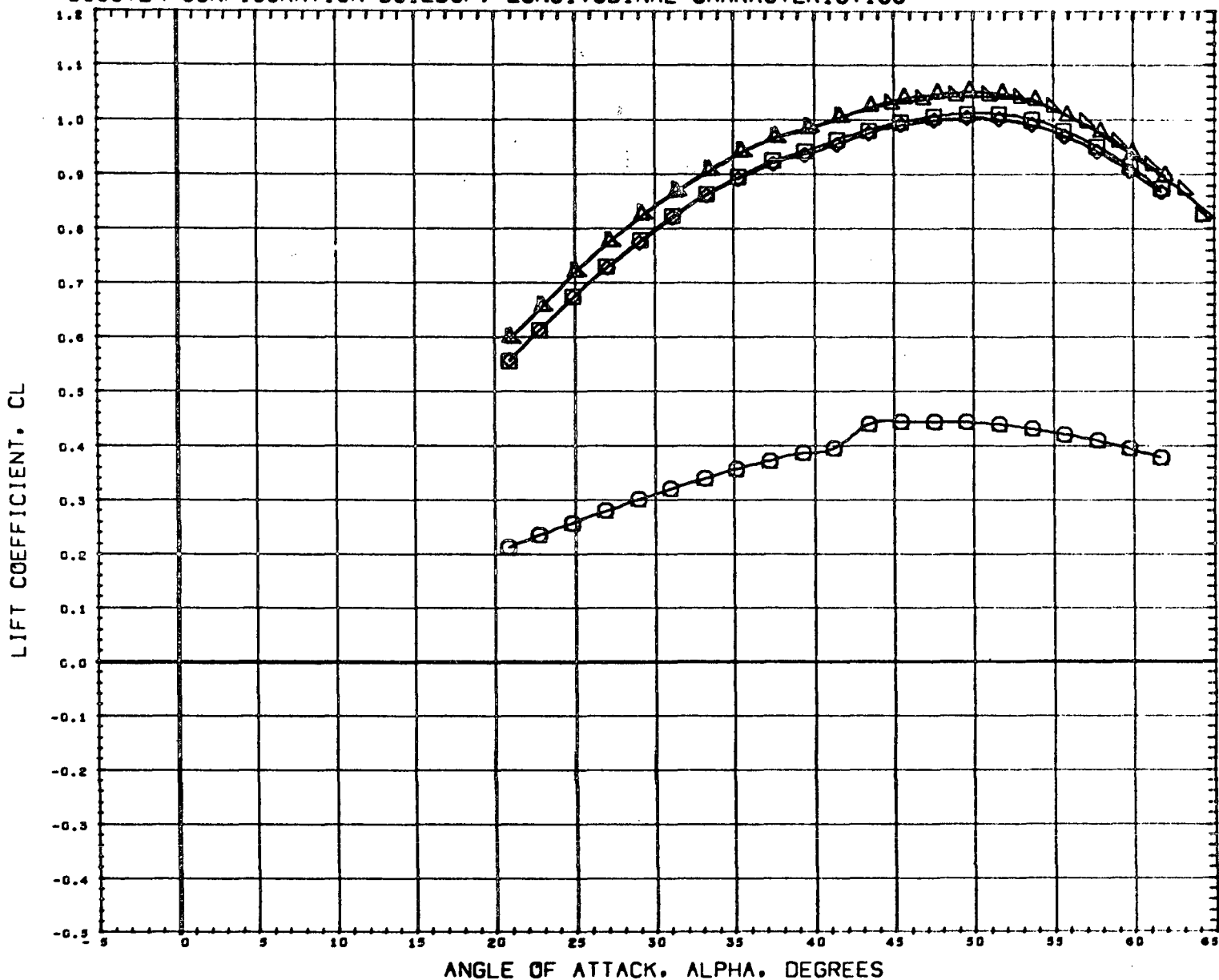


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000		SREF	9.7800 SQ. IN
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000		0.000	BREF	5.7300 INCH
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C96031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

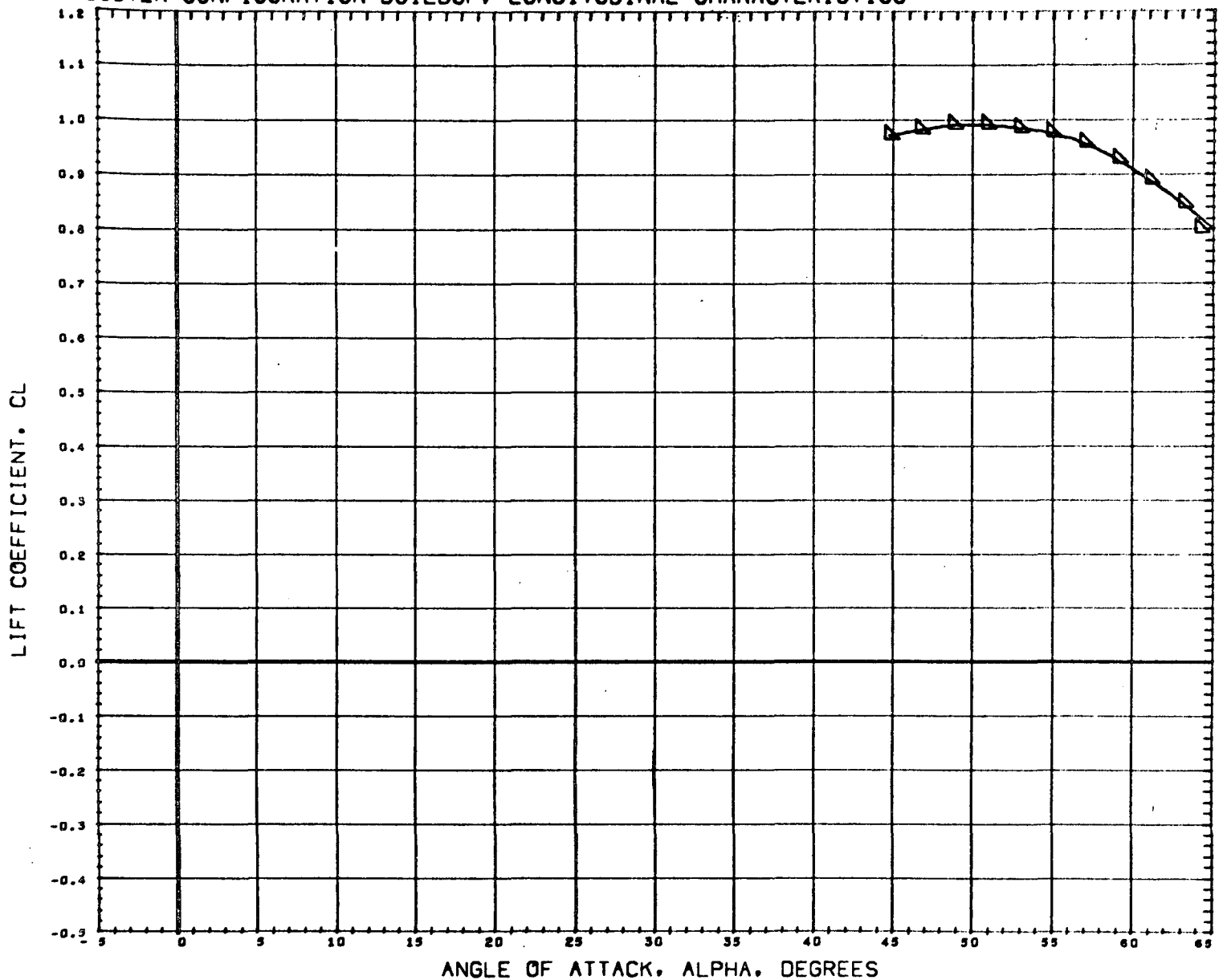
REFERENCE INFORMATION

SREF	9.7800	80. IN
LREF	6.4400	INCH
BREF	9.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



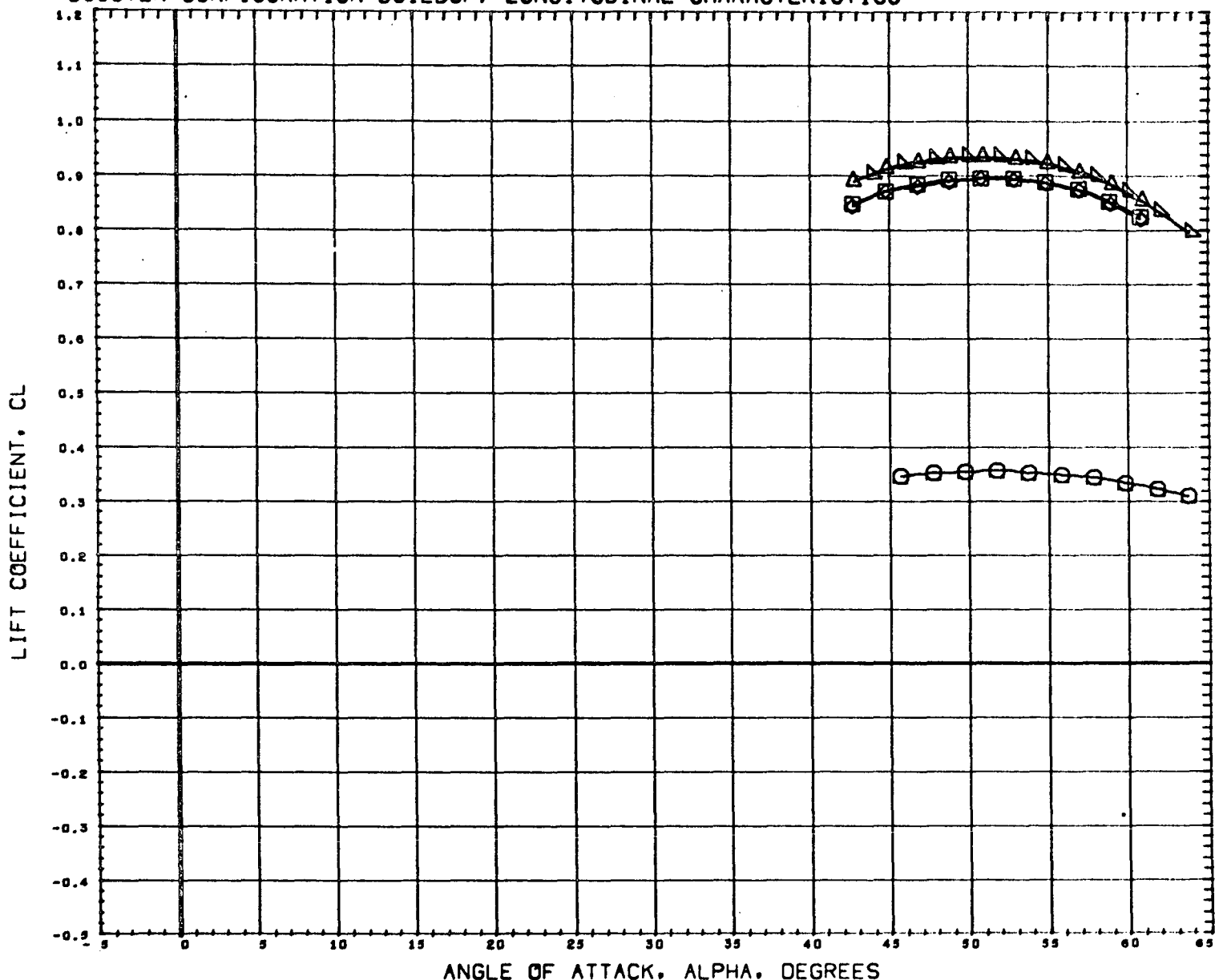
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56052)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56053)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56054)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	92. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.0670	INCH
SCALE	0.0034	

MACH 3.480

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



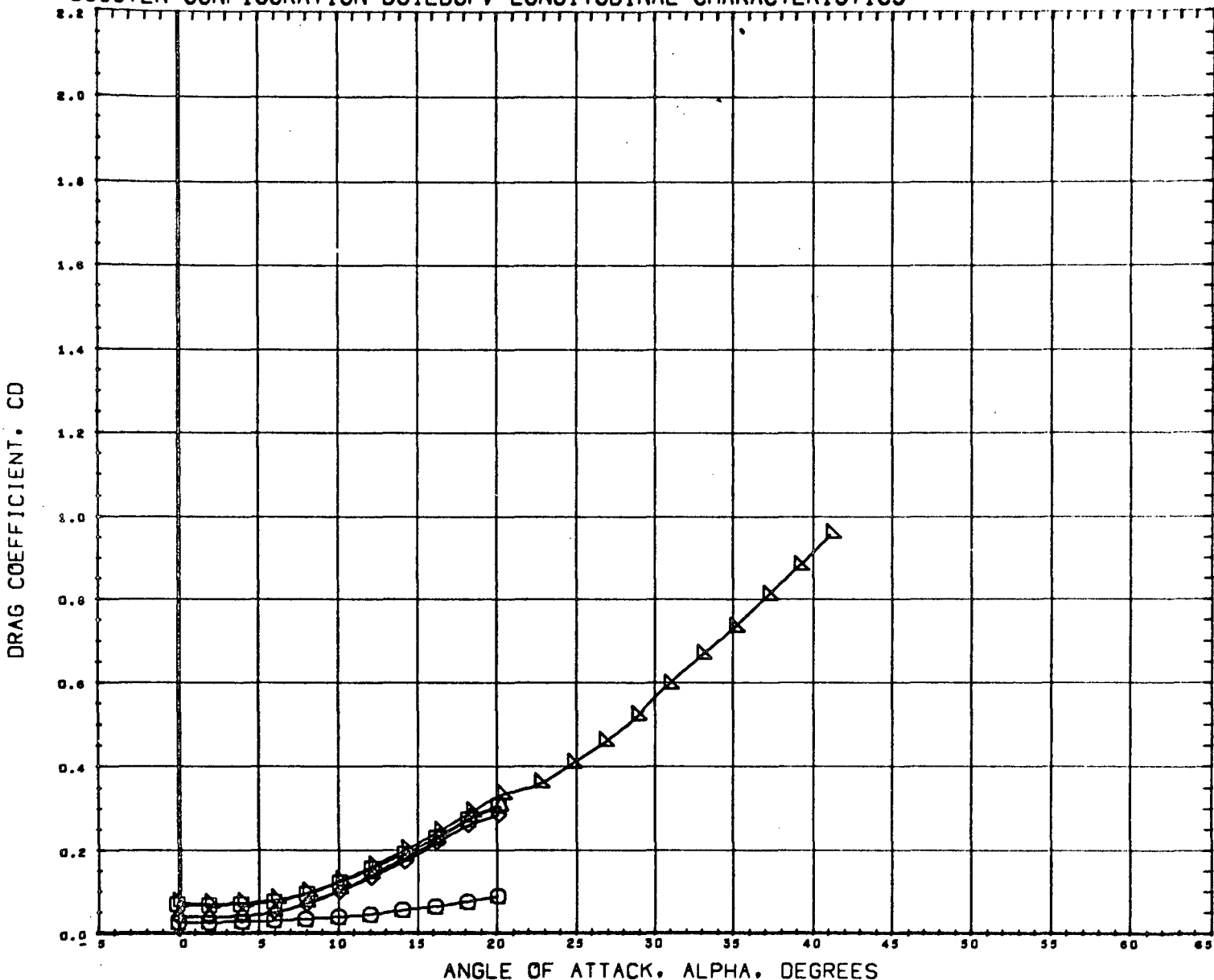
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C36081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	
(C36082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000
(C36083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000
(C36084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. in
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.939

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

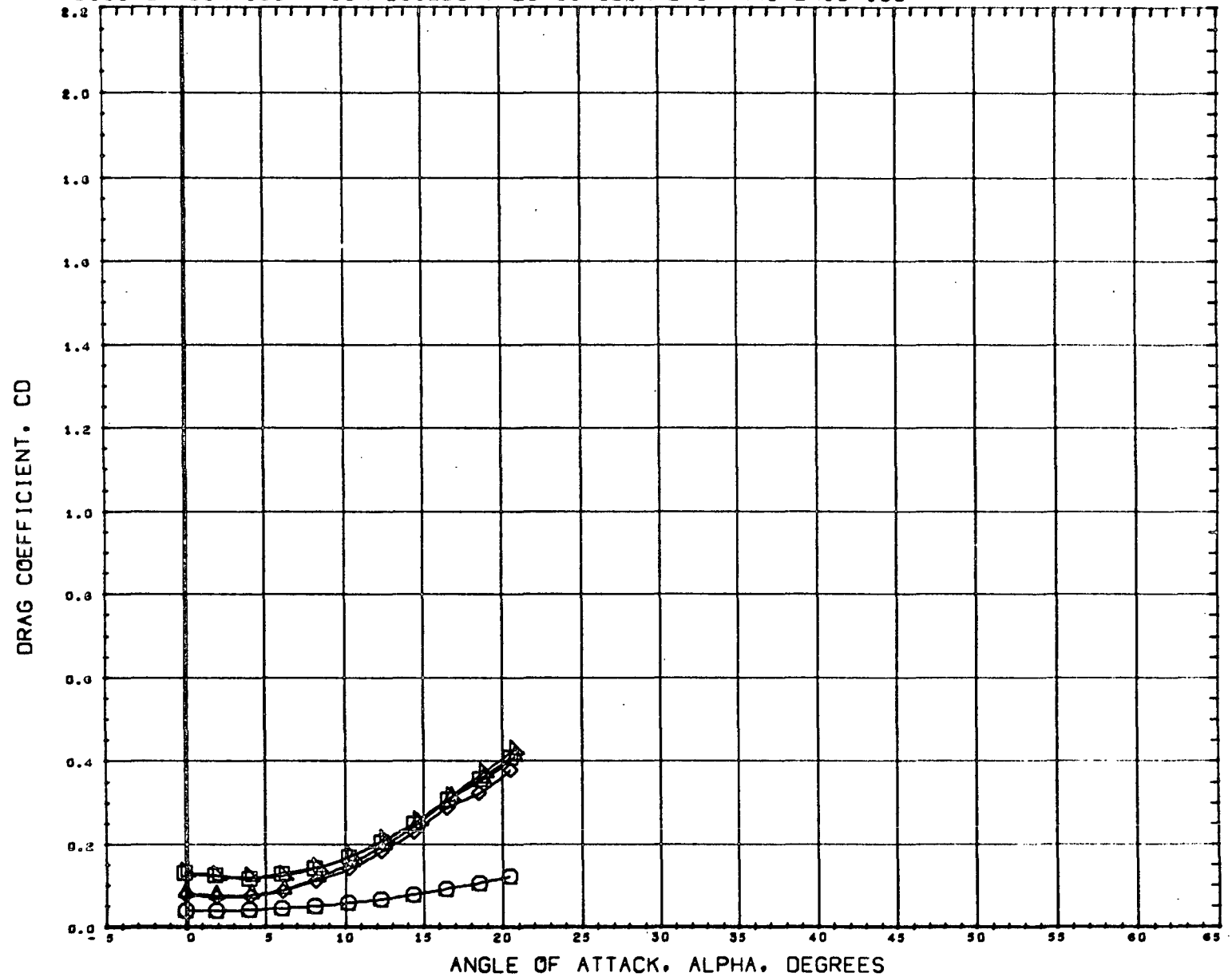
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.597

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

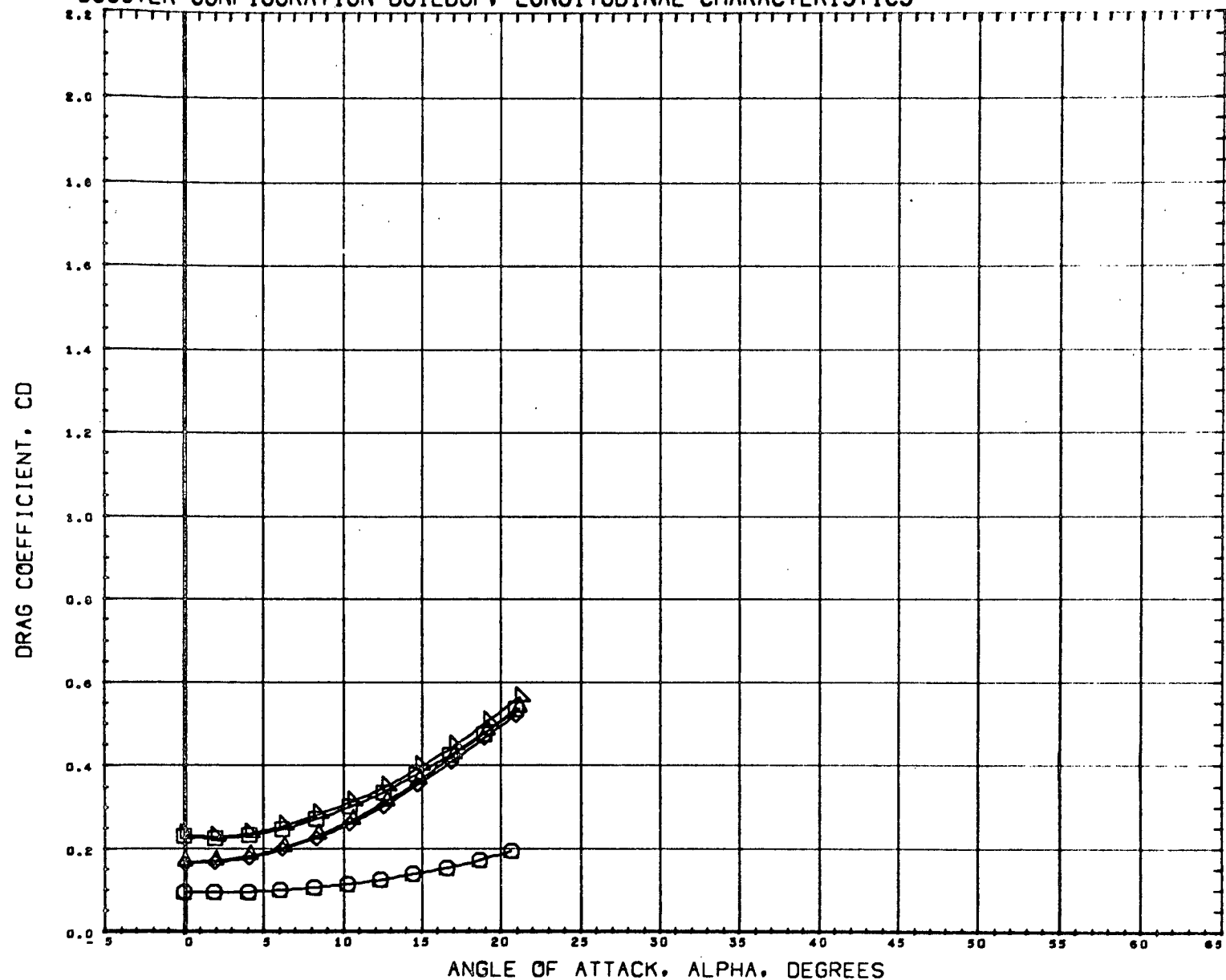
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.905

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

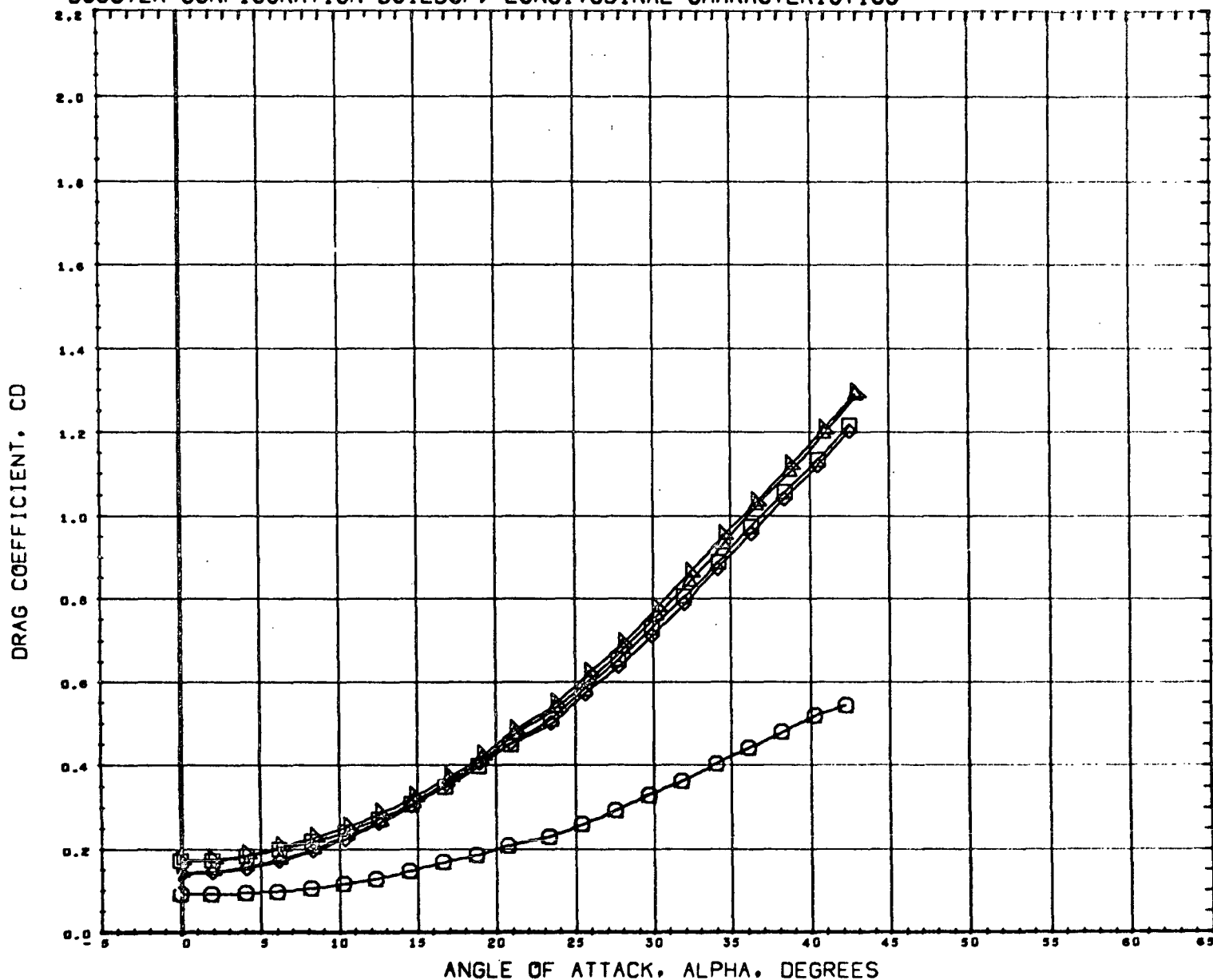
BETA	CANARD	ELEVON
0.000	0.000	
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	3.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C560S1)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C560S2)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C560S3)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C560S4)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C560S5)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

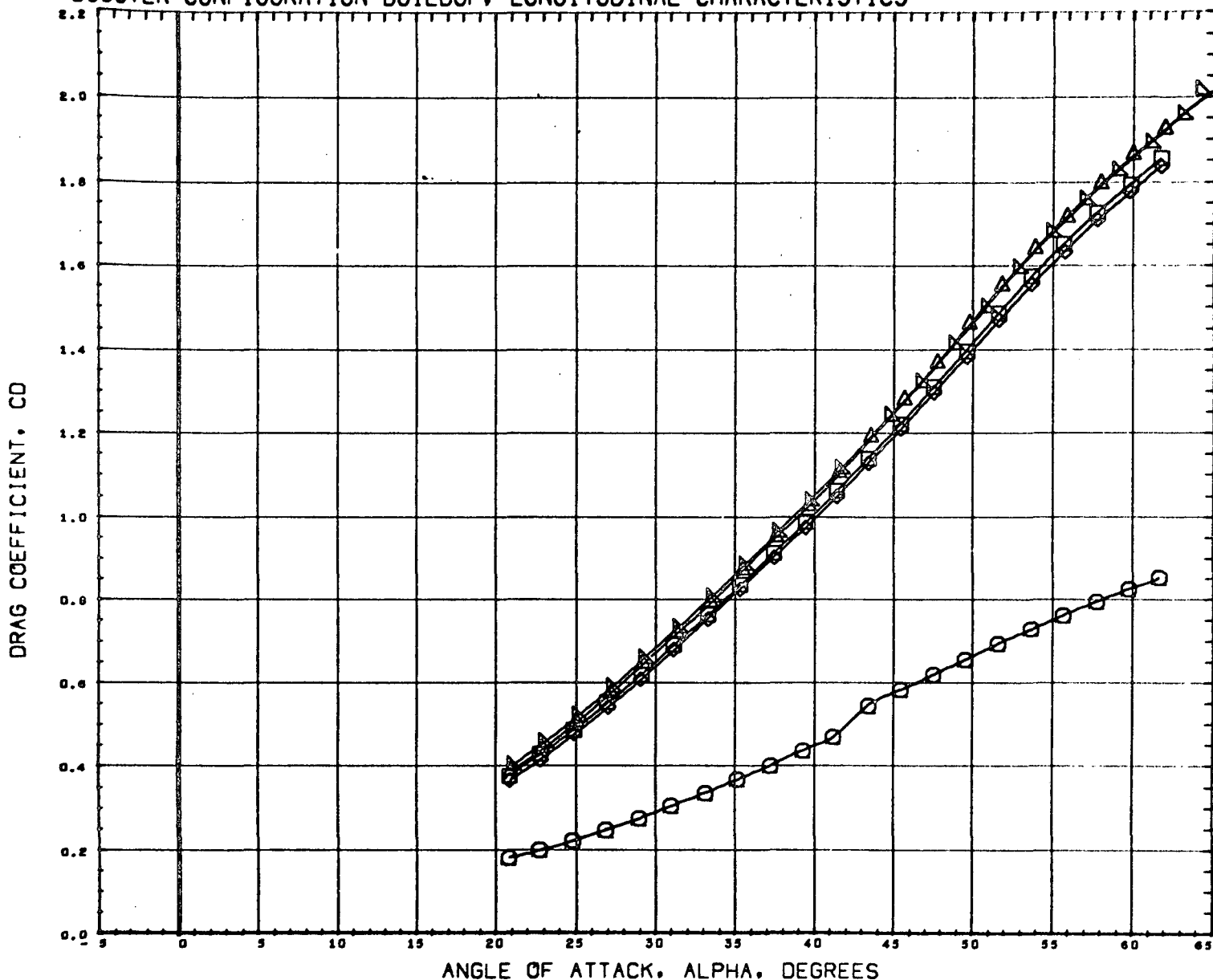
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

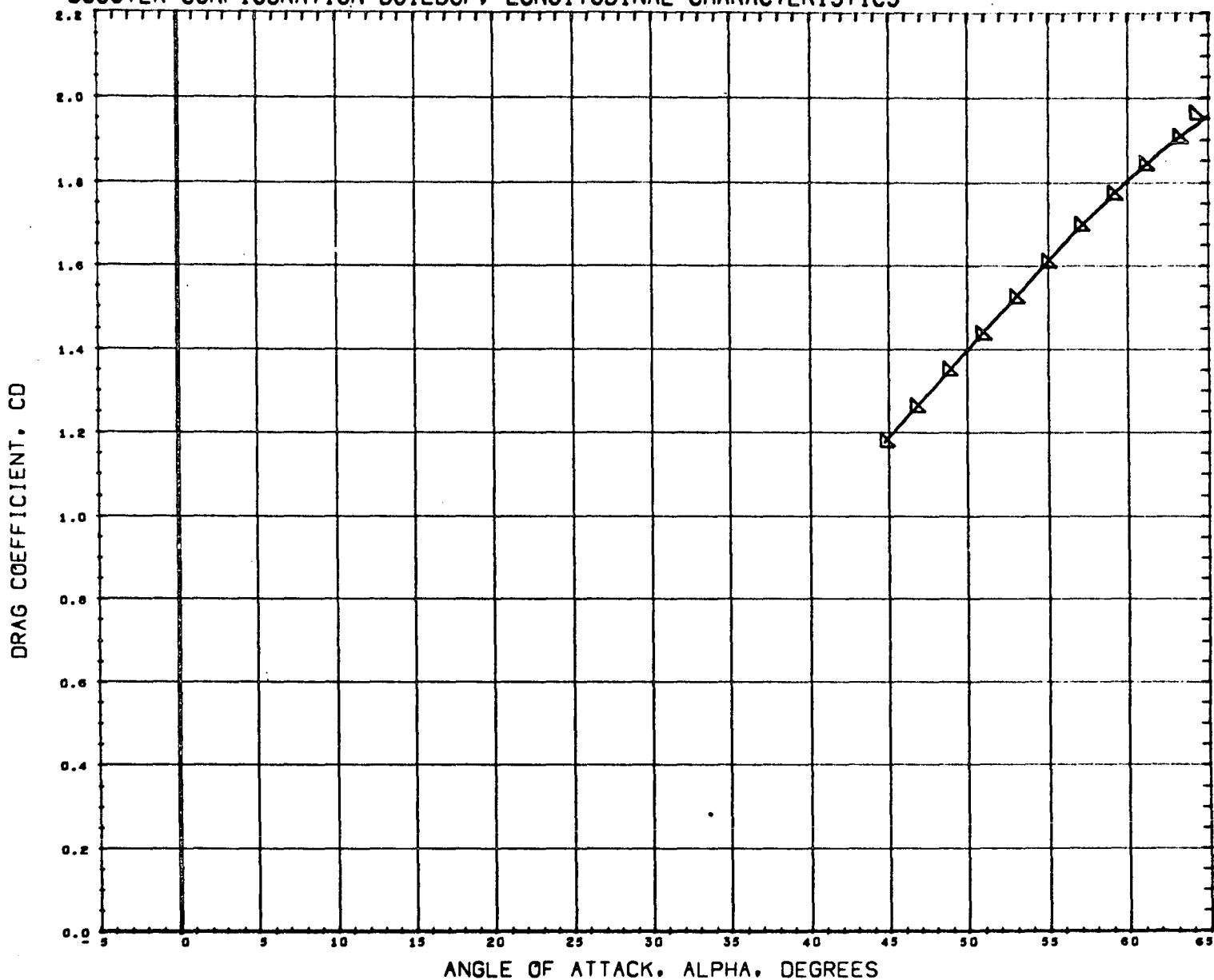
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	30. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56052)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56053)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56054)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56055)	MSFC TWT 317, RETRO-GLIDE BOOSTER, BIWIC1V1

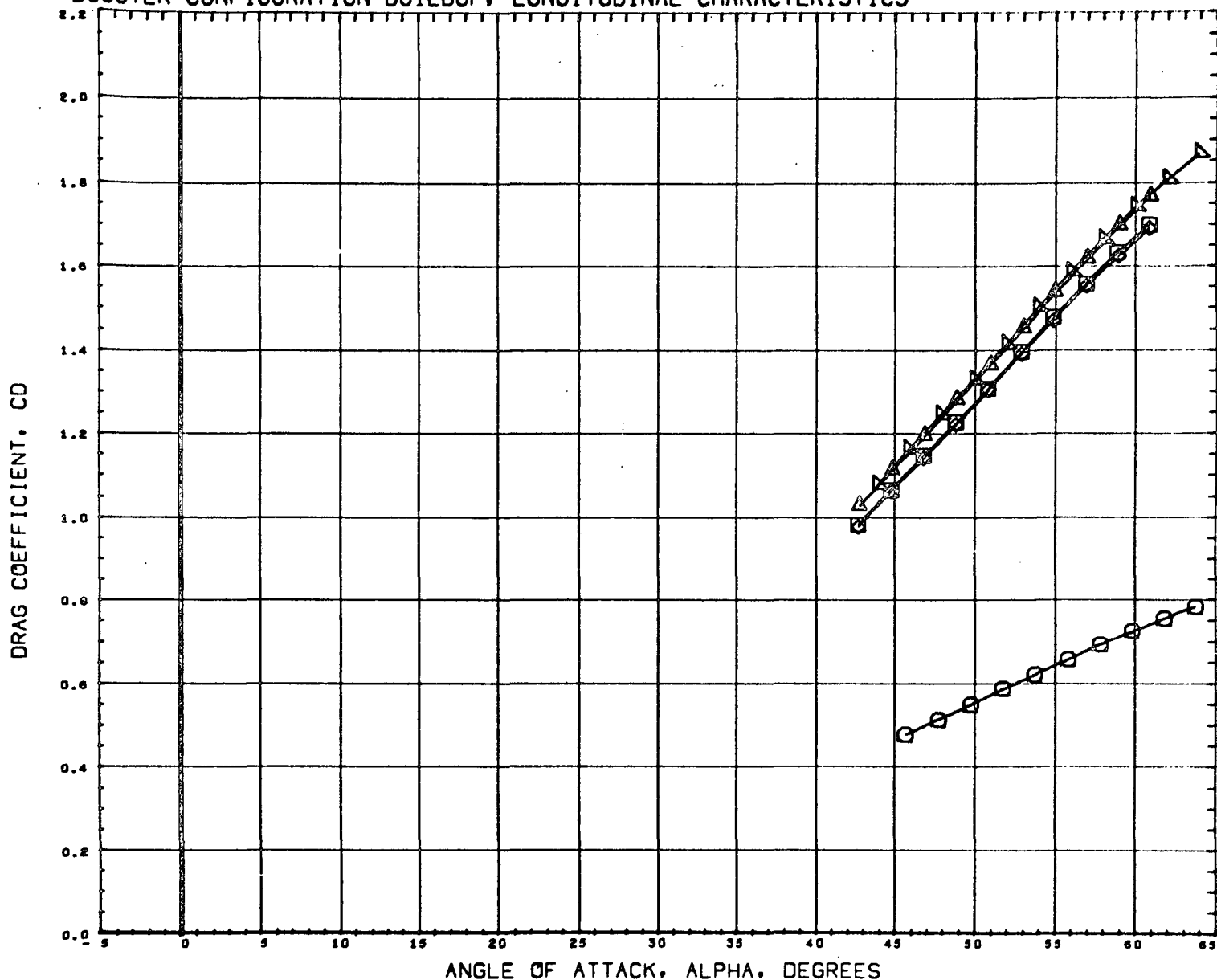
BETA	CANARD	ELEVON
0.000	0.000	
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

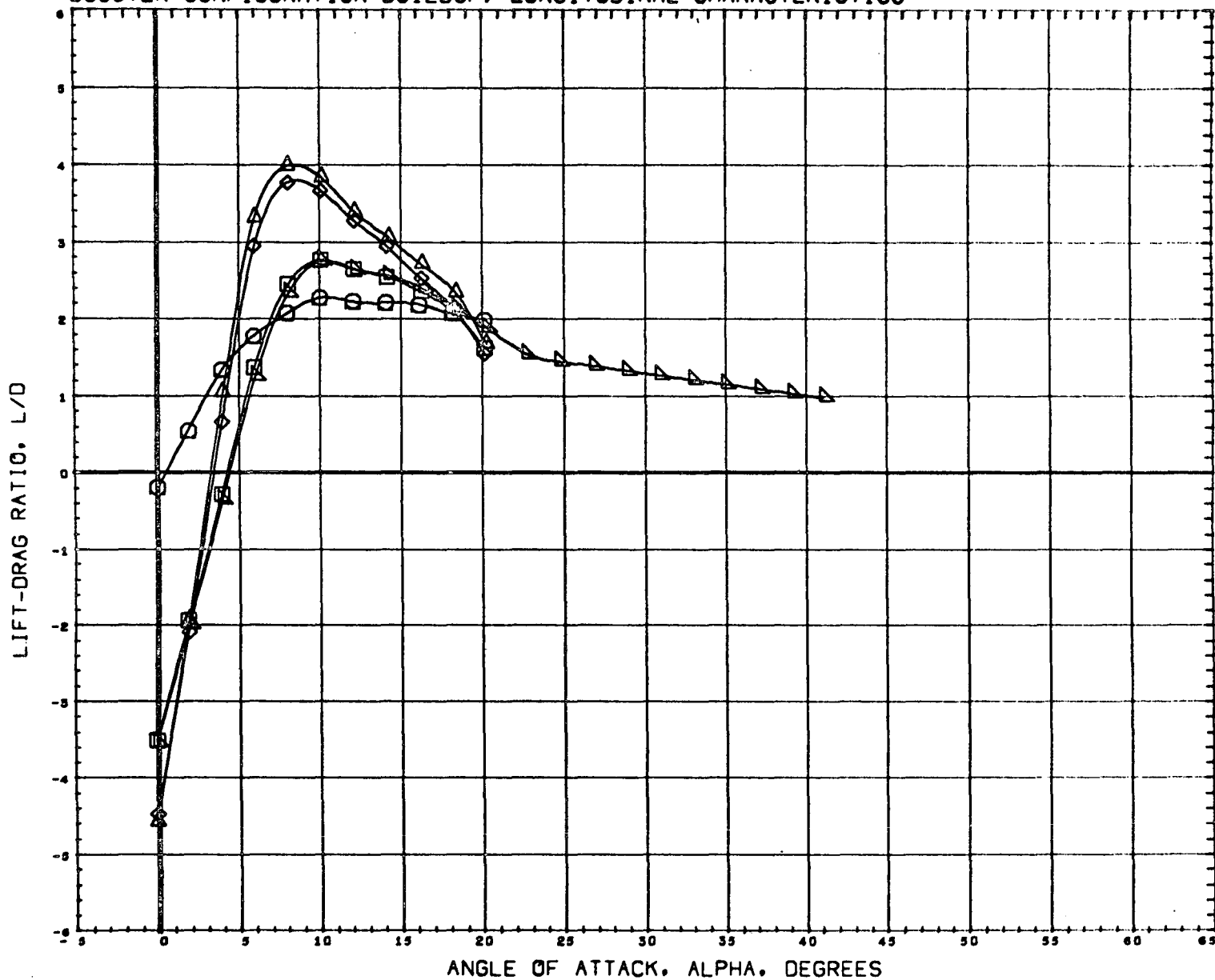


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	0.000
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

MACH 4.959

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C36082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C36083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C36084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

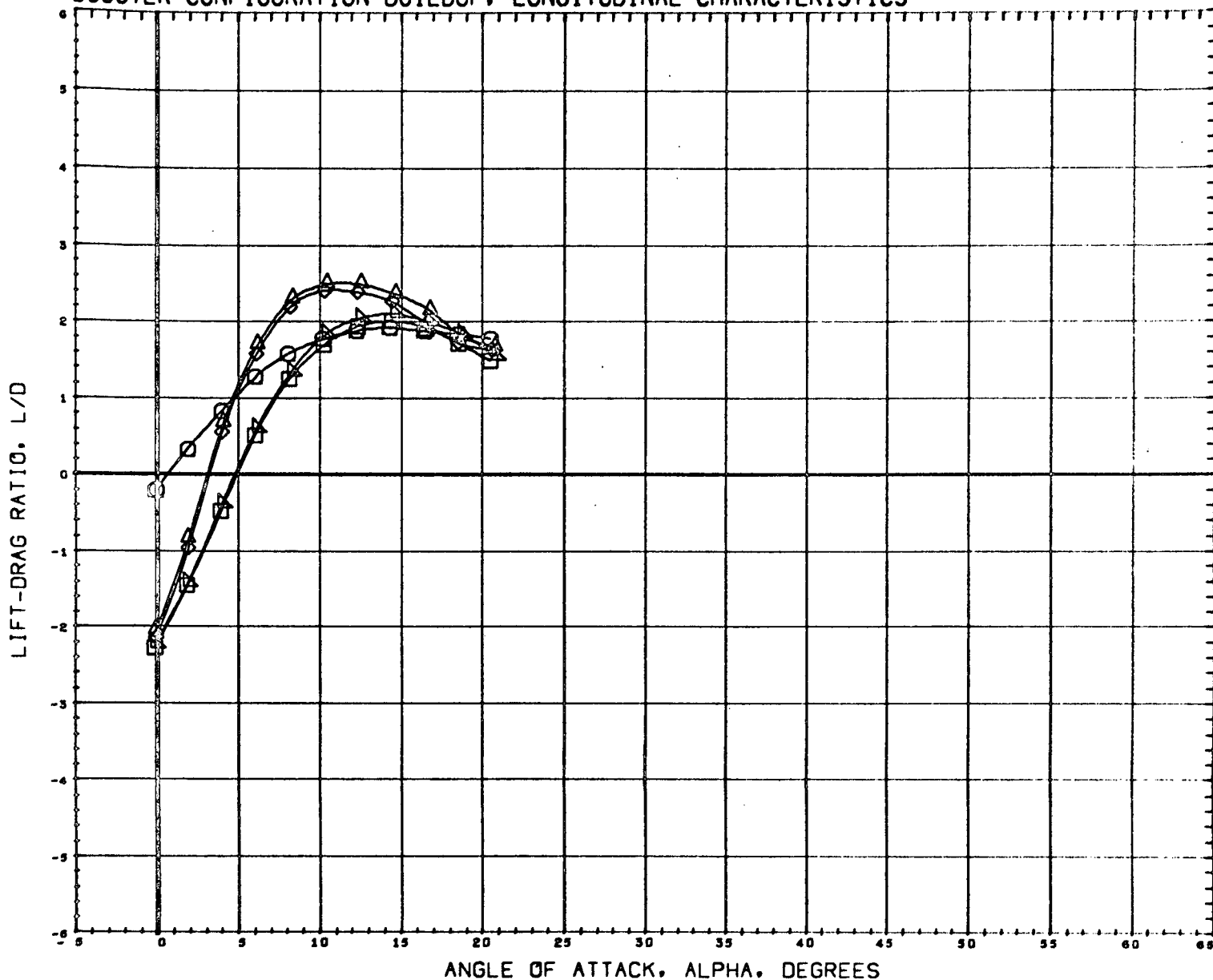
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.597

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



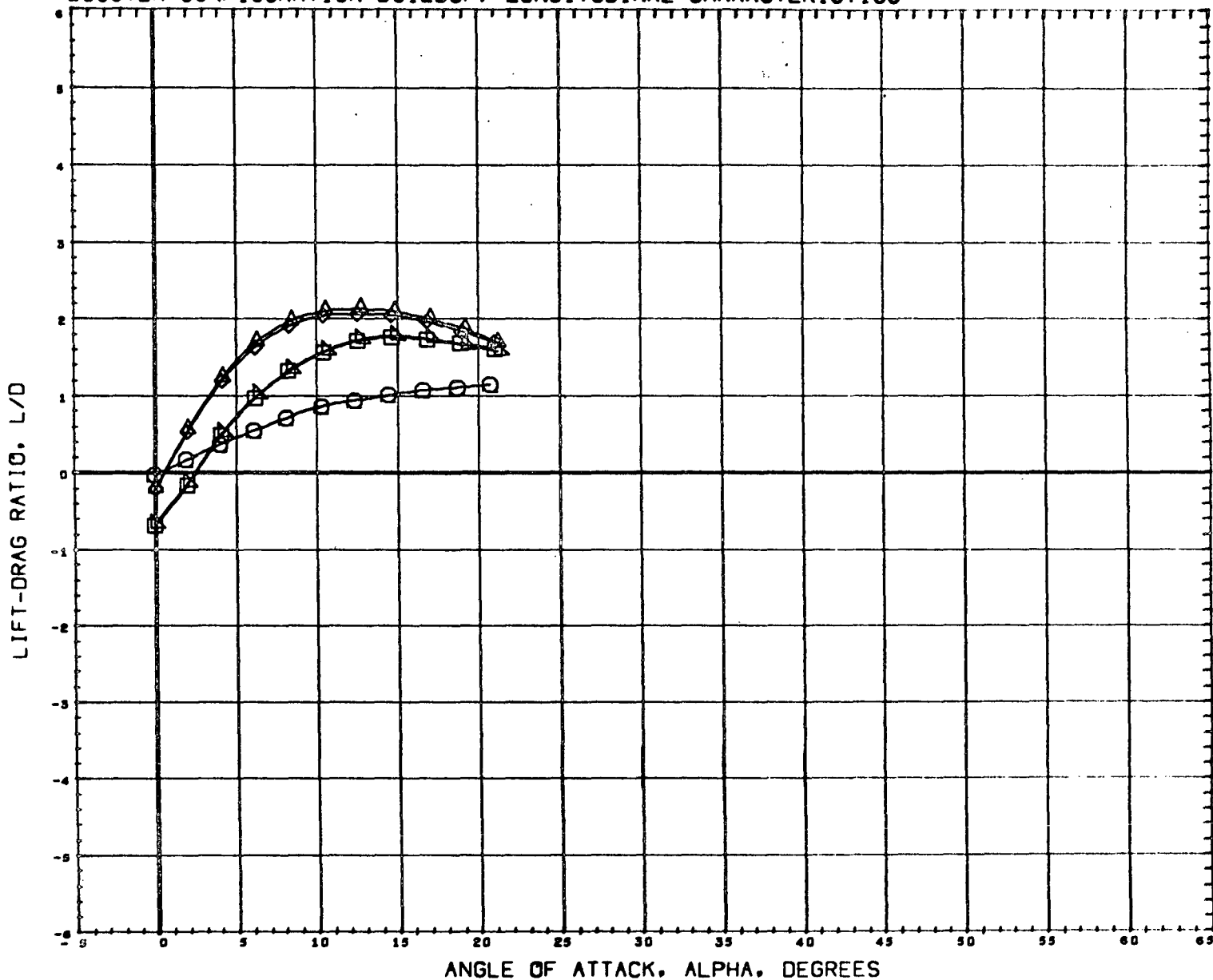
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	0.000
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

MACH 0.905

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

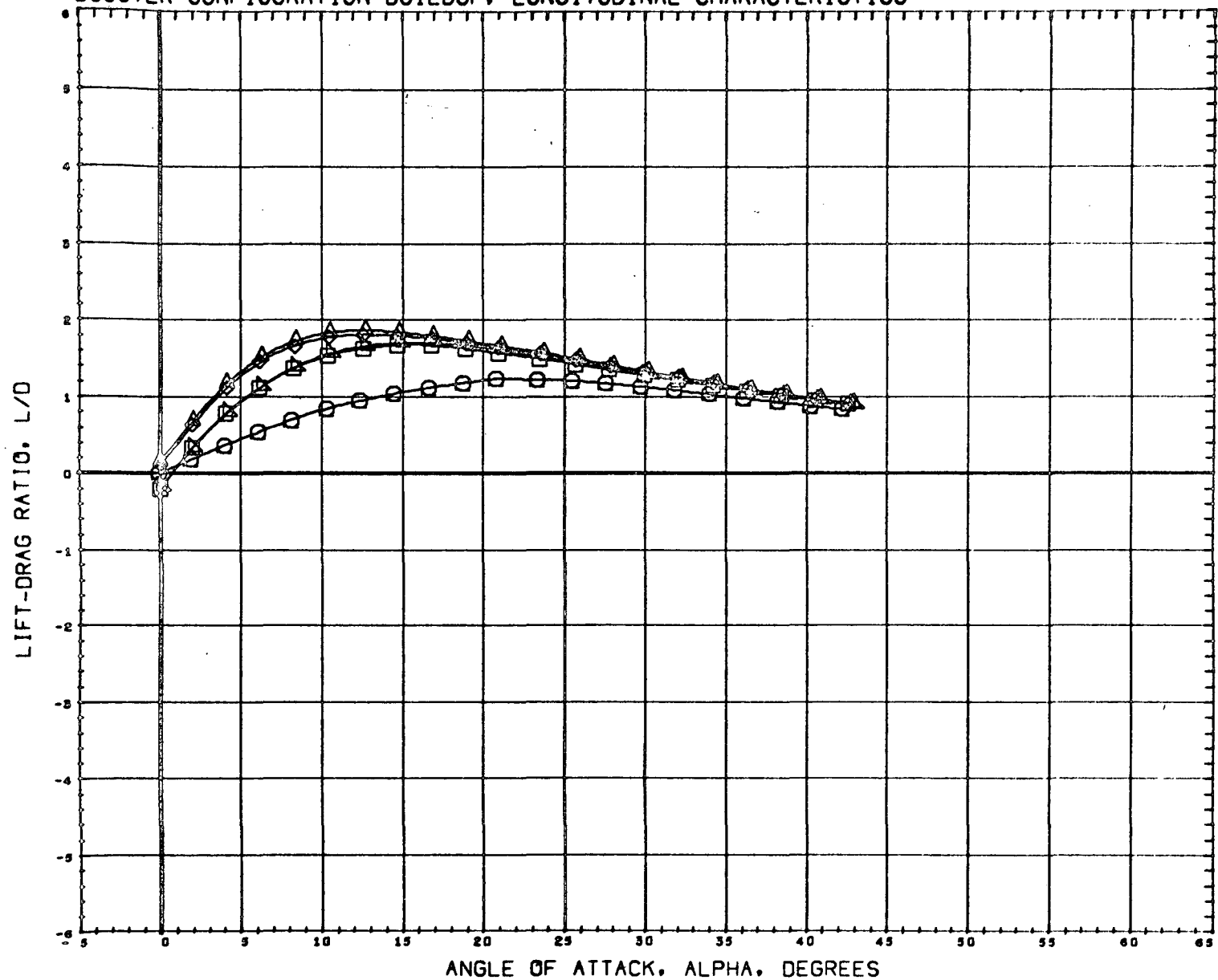
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



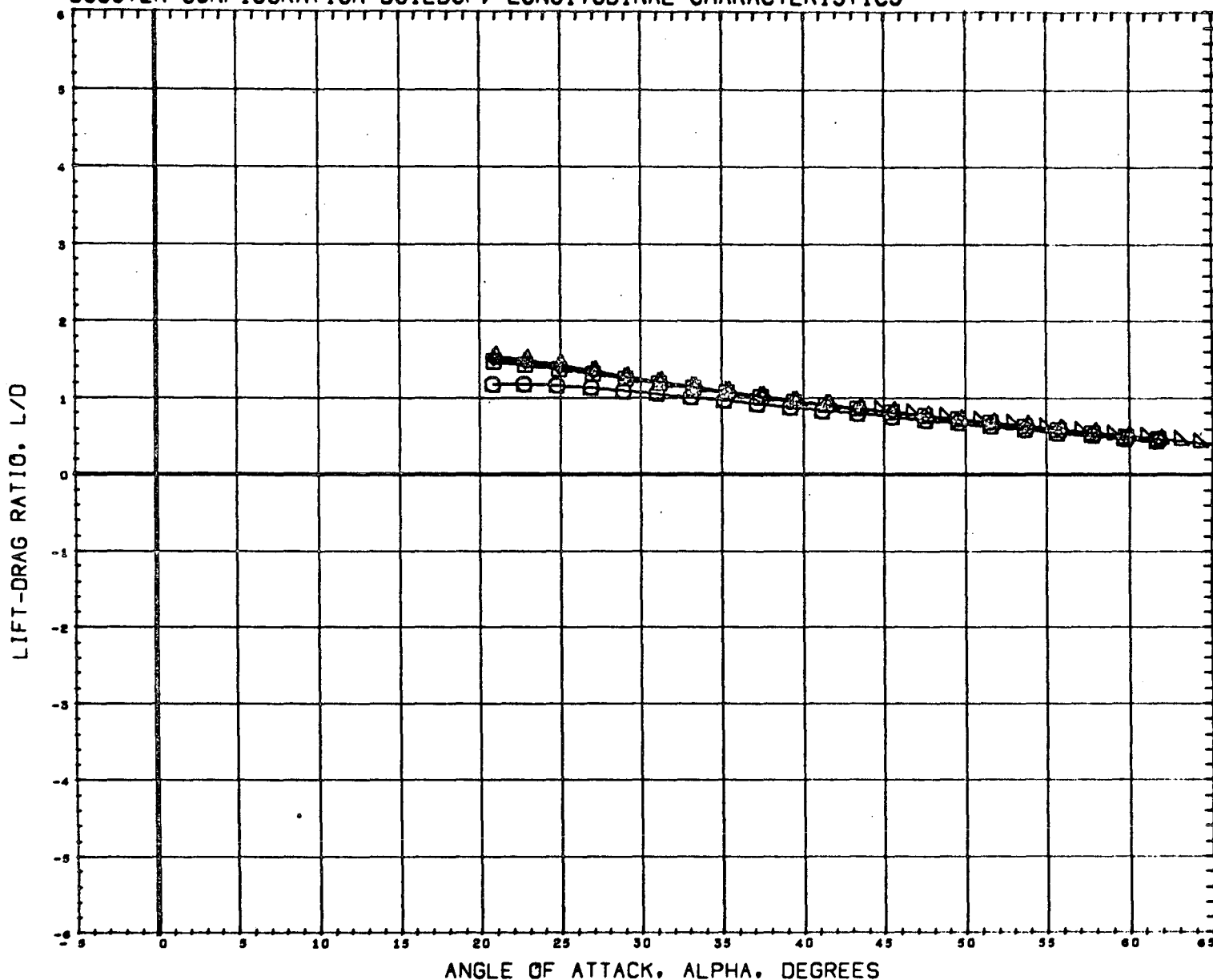
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000		0.000
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

HACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C36082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C36083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C36084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

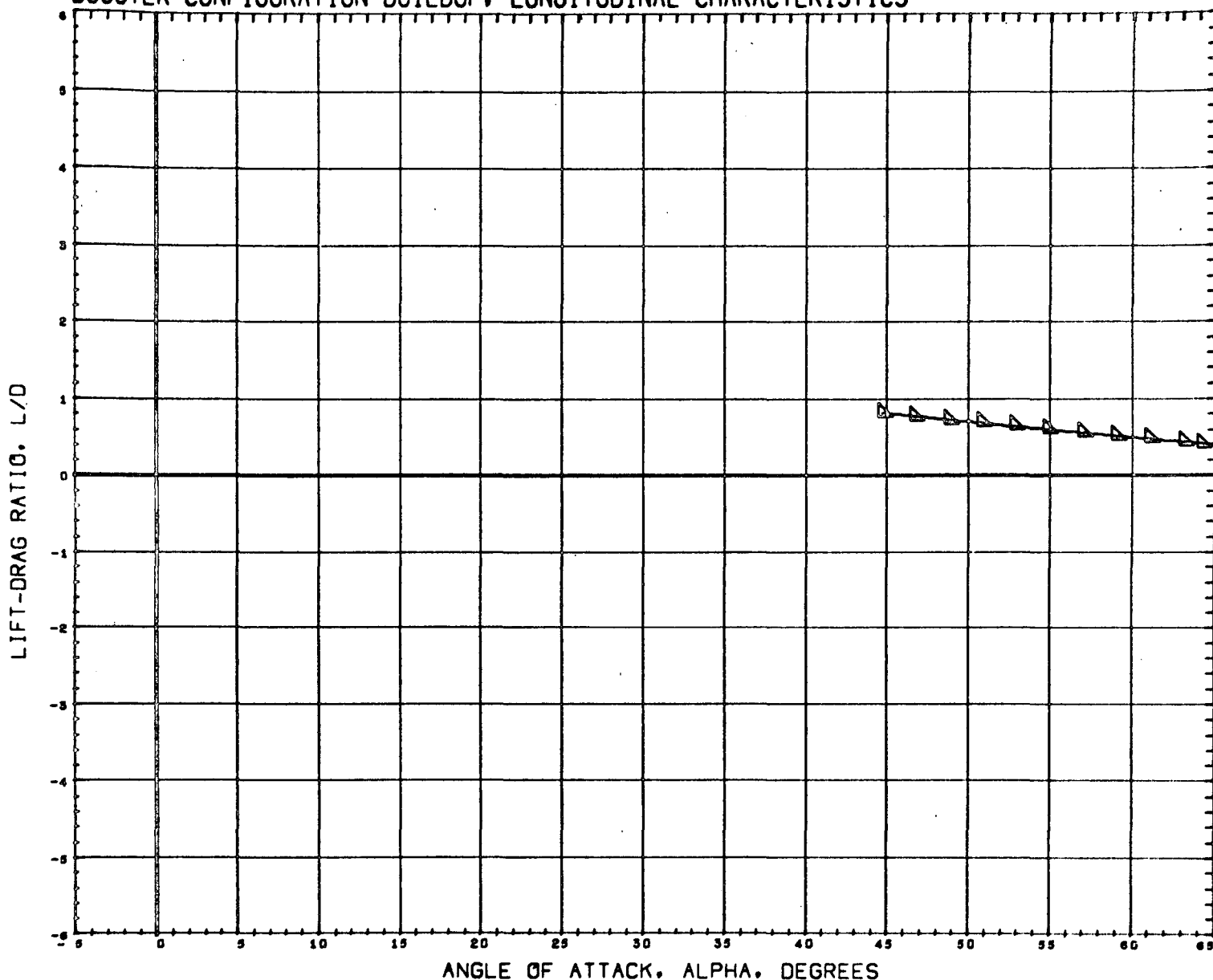
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP. LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36051)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36052)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36053)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36054)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

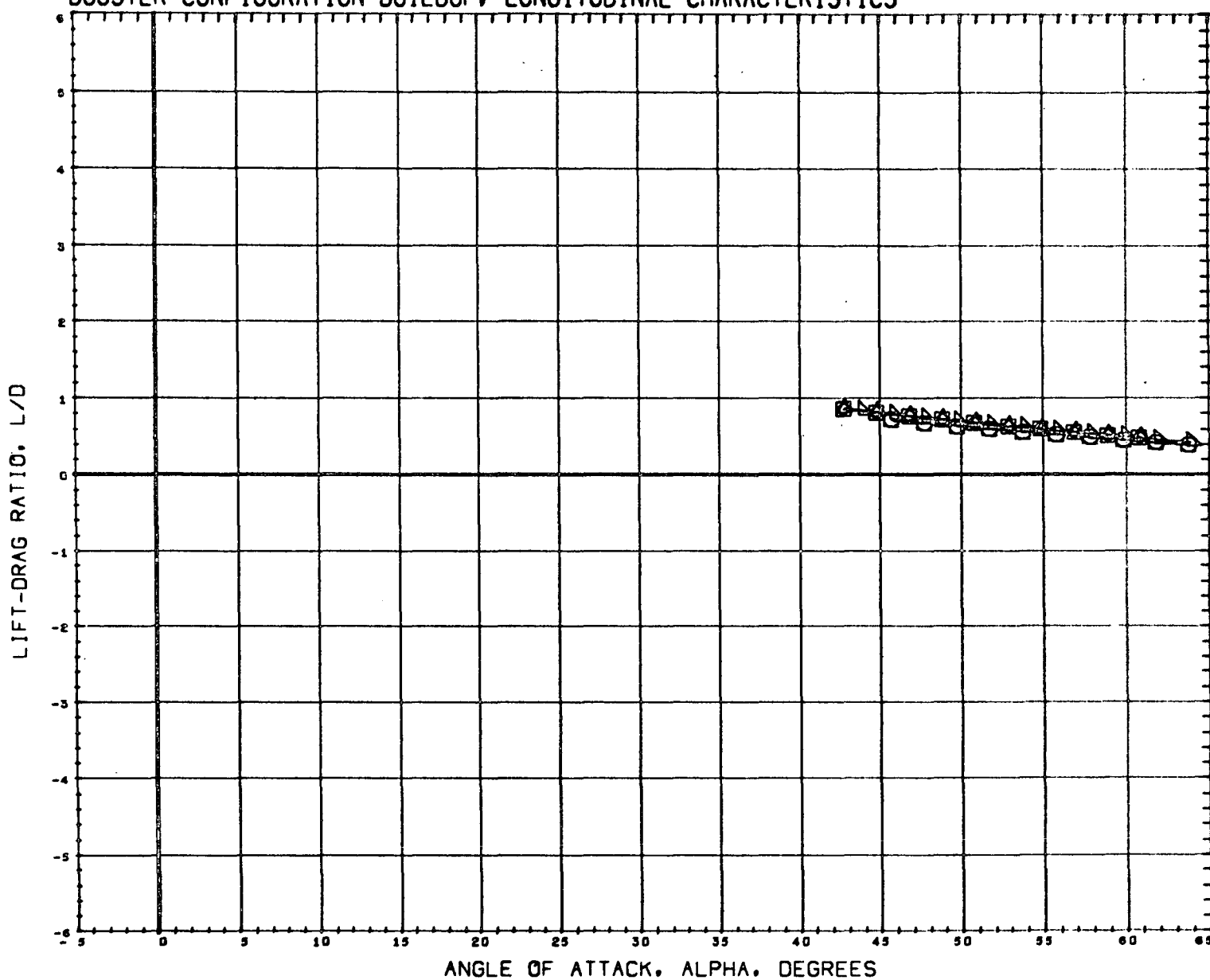
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

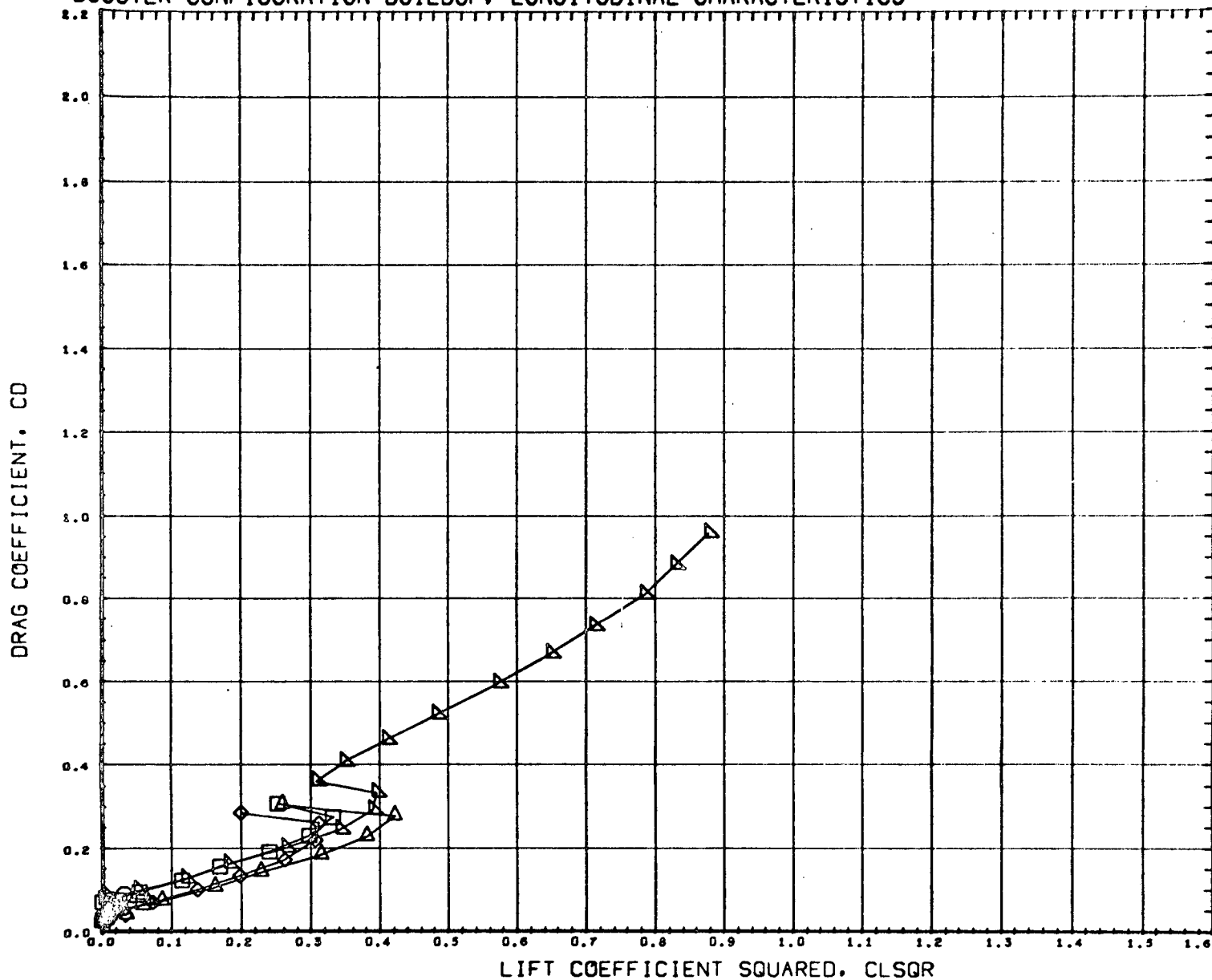


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C56031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000		SREF	9.7800 SQ. IN
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C56033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000		0.000	BREF	5.7300 INCH
(C56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA CANARD ELEVON

0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

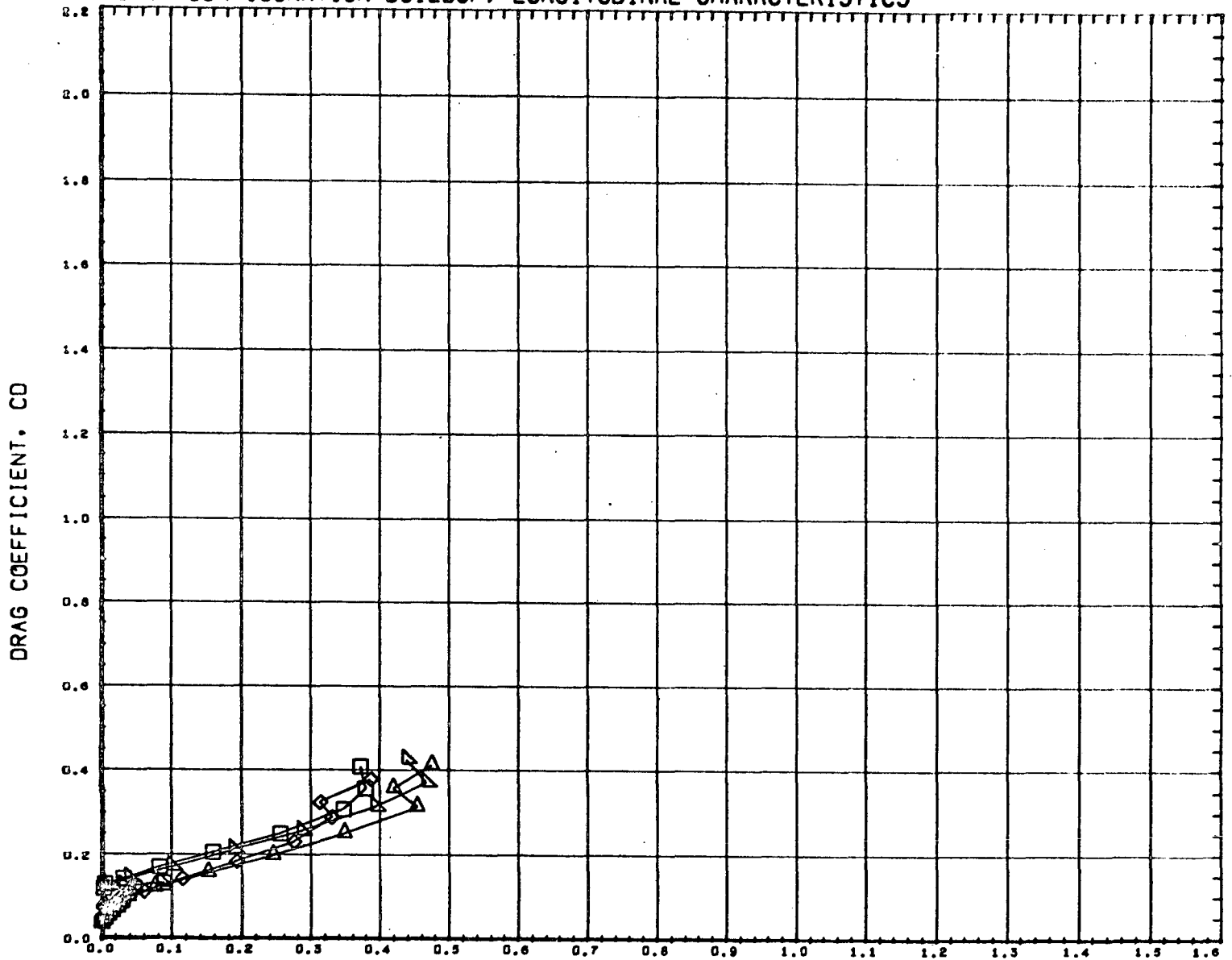
REFERENCE INFORMATION

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LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.597

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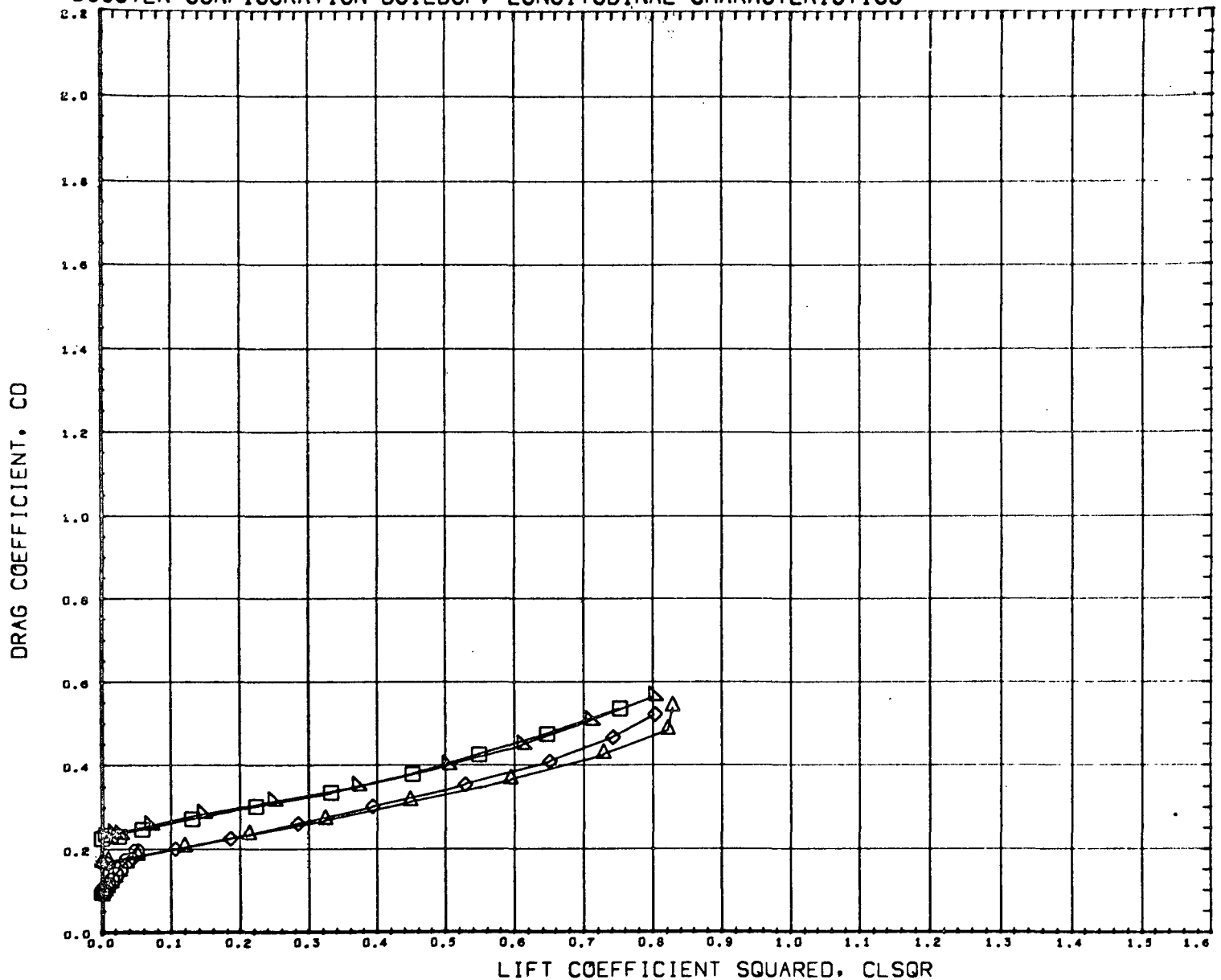
BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C56031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000		SREF	9.7800 SQ. IN
(C56032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C56033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000	BREF	5.7300 INCH
(C56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMRP	4.6400 INCH
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 0.905

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

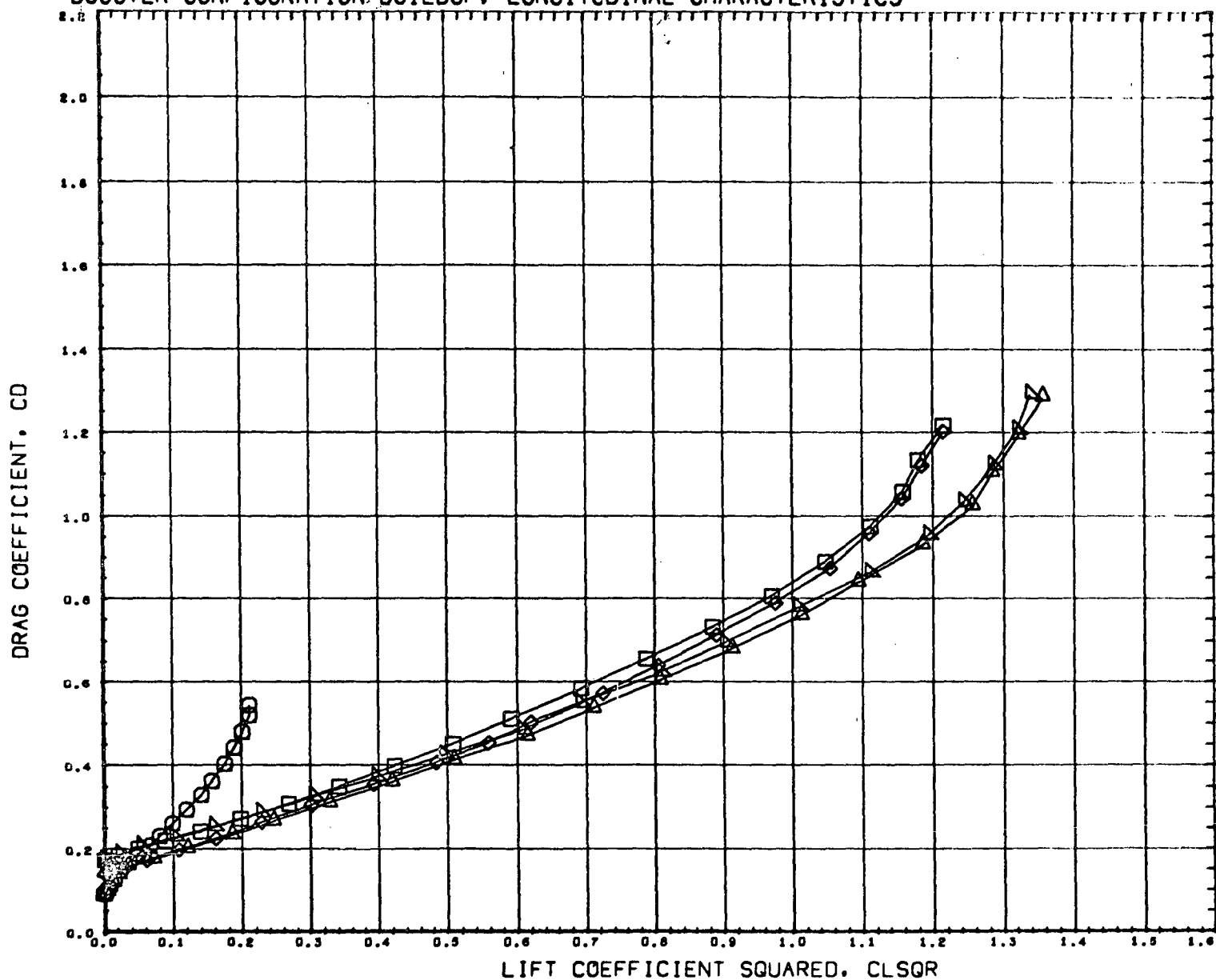
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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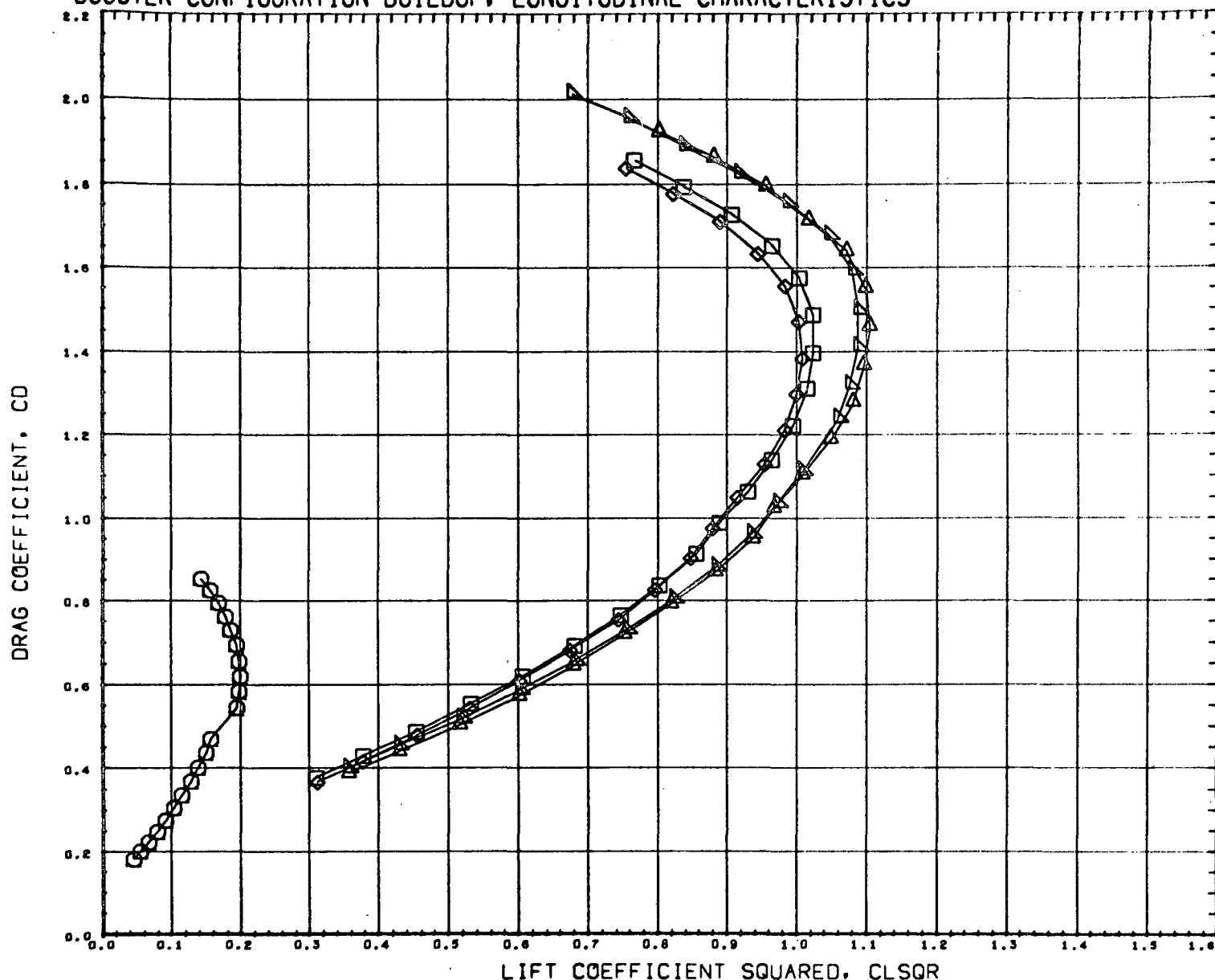
BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1	0.000	0.000	0.000	LREF	6.4400 INCH
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000	BREF	5.7300 INCH
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000	XMPP	4.6400 INCH
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YMPP	0.0000 INCH
					ZMPP	0.6670 INCH
					SCALE	0.0034

MACH 1.960

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C36001)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C36002)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C36003)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C36004)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C36005)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA CANARD ELEVON

0.000	0.000	0.000
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0.000	0.000	0.000
0.000	0.000	0.000

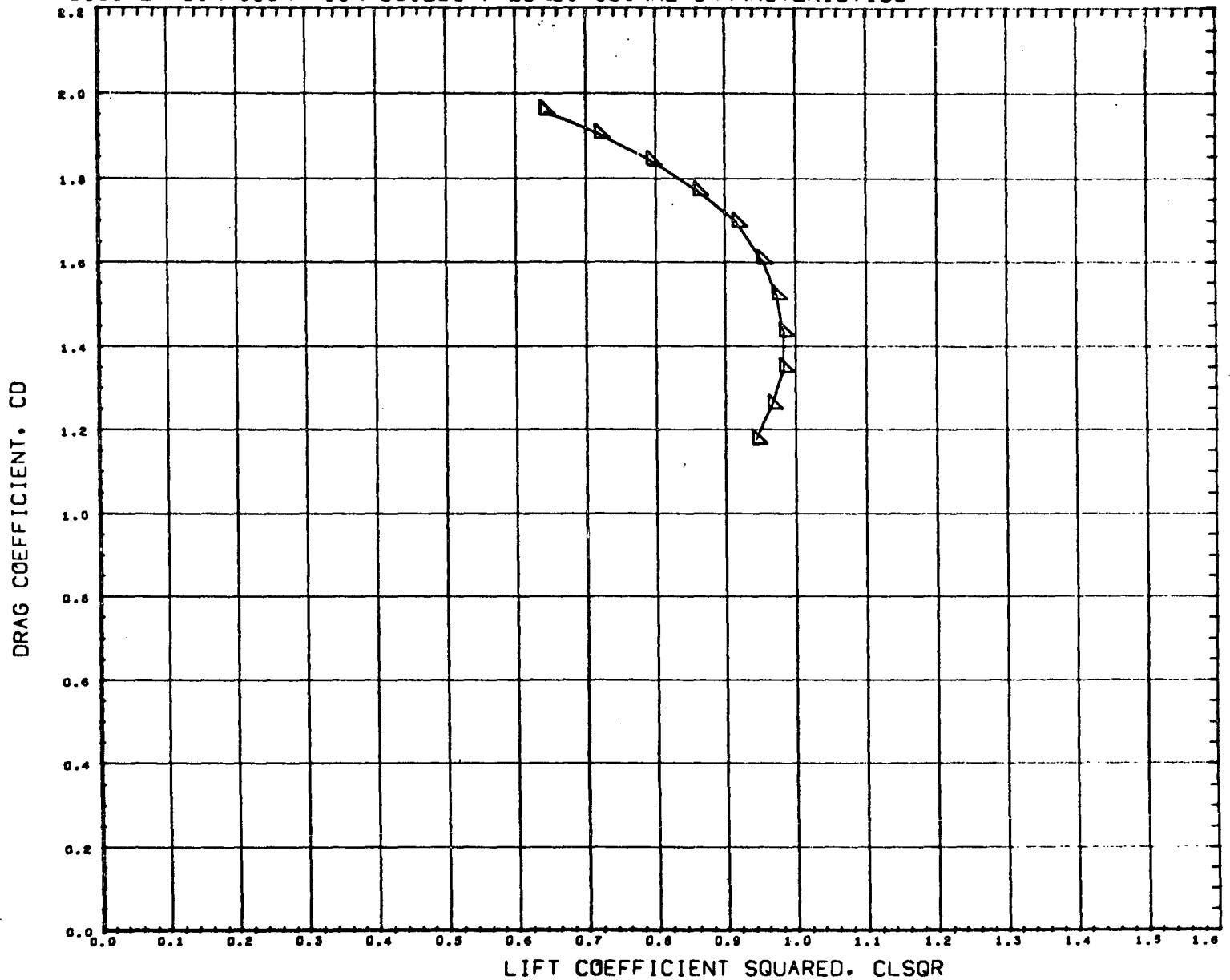
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XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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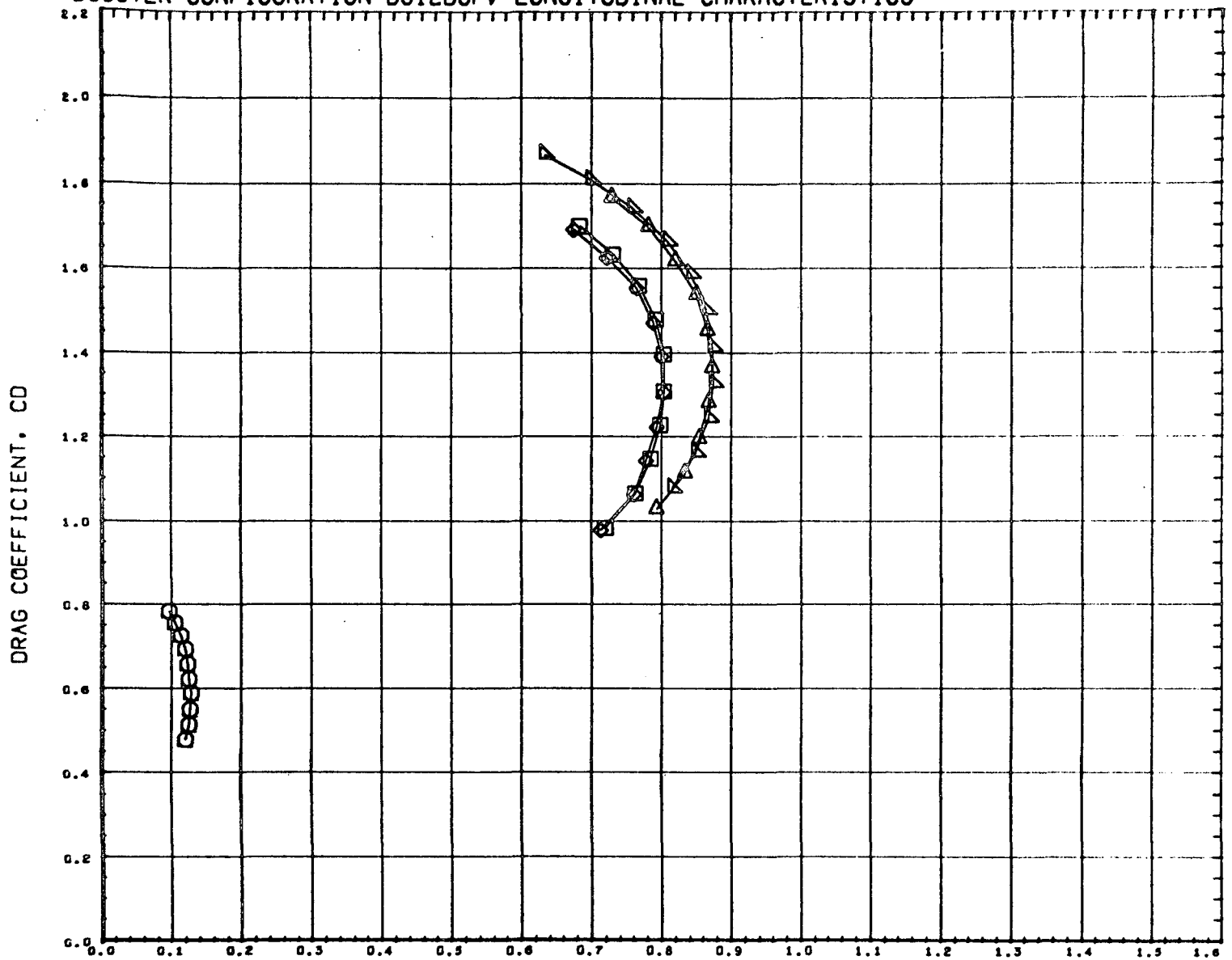
BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
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(C96052)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000	LREF	6.4400 INCH
(C96053)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000	BREF	5.7300 INCH
(C96054)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	0.000	XHRP	4.6400 INCH
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	YHRP	0.0000 INCH
					ZHRP	0.6670 INCH
					SCALE	0.0034

MACH 3.480

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



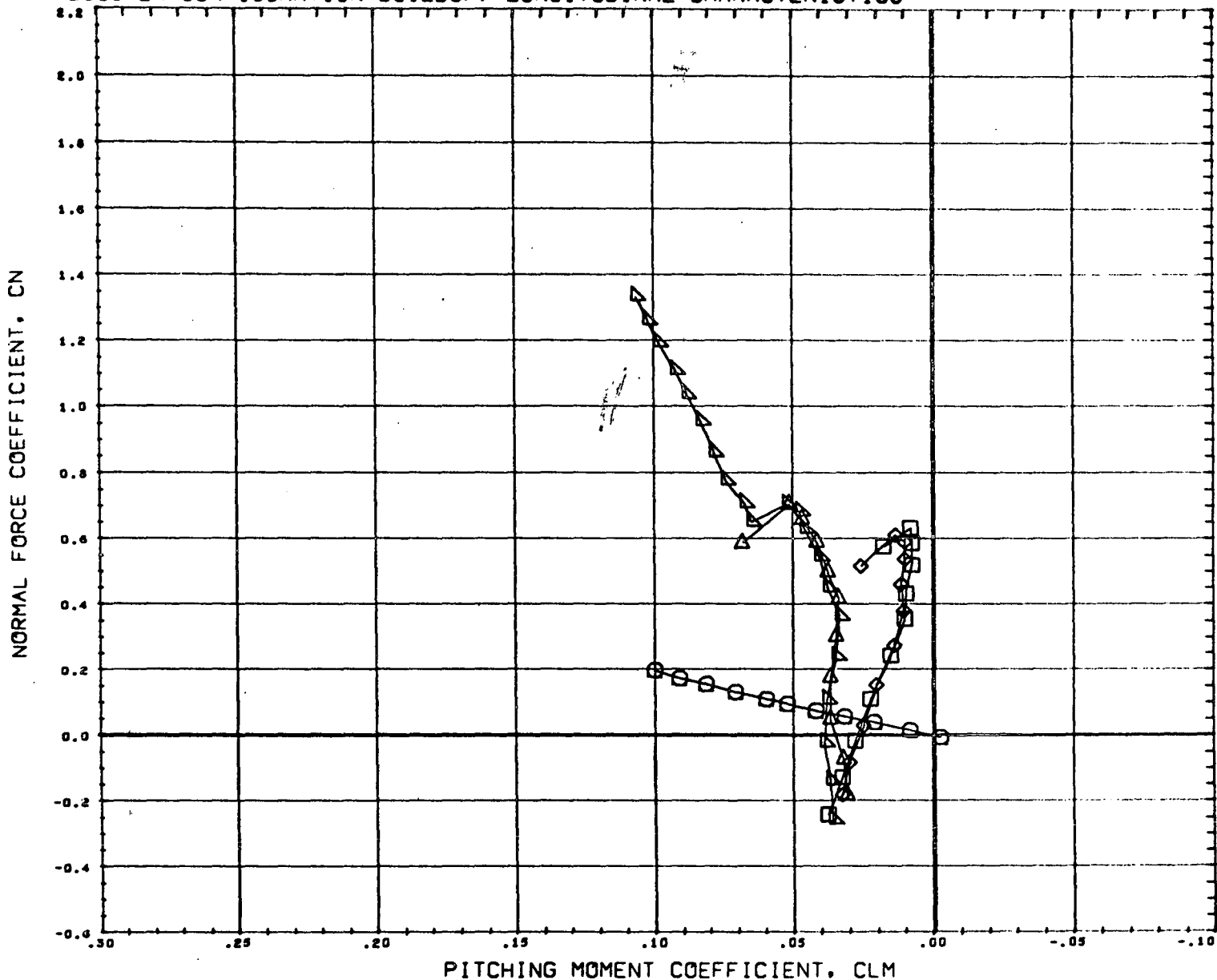
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56082)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56083)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56084)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

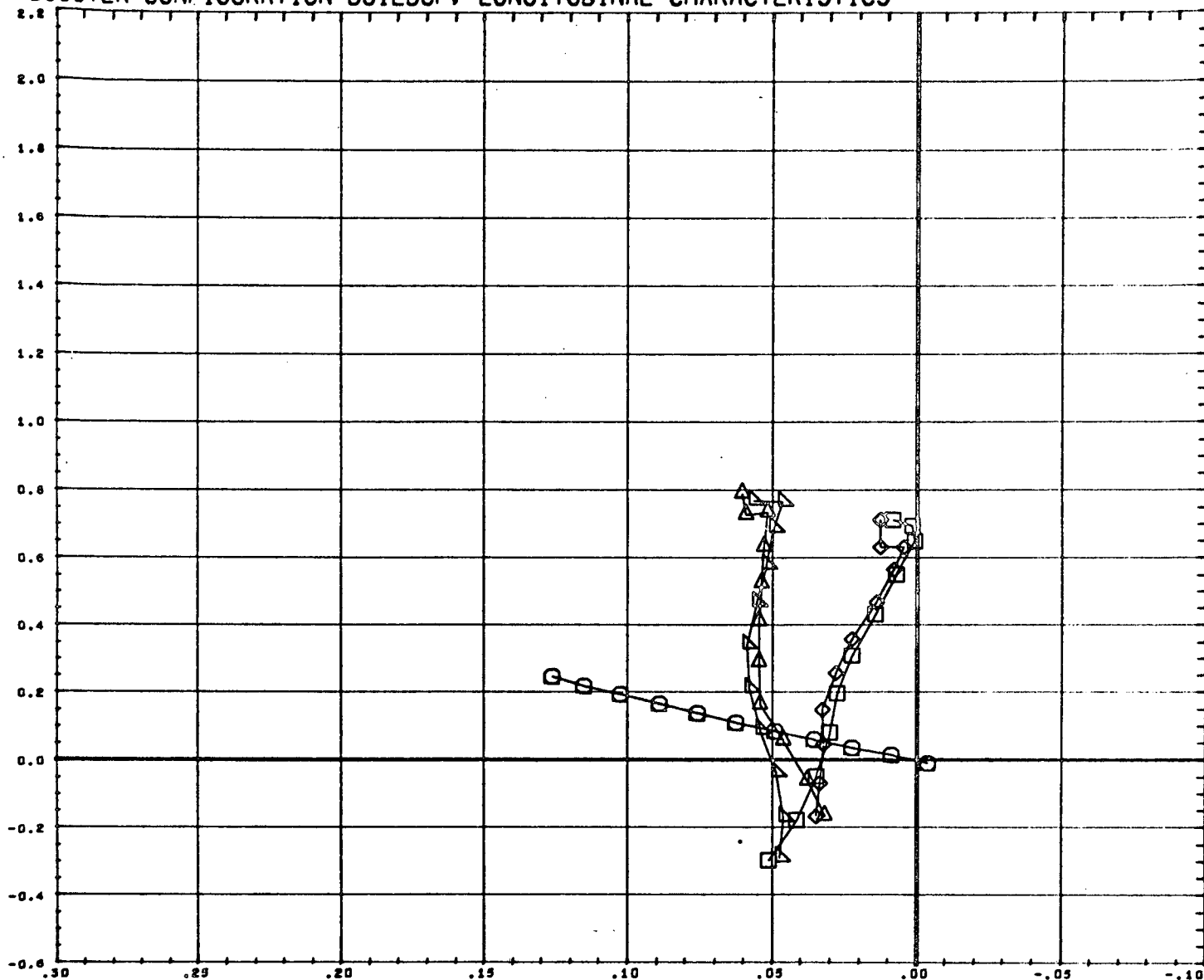
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.597

BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS

NORMAL FORCE COEFFICIENT, CN



PITCHING MOMENT COEFFICIENT, CLM

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56061)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56062)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56063)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56064)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56065)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

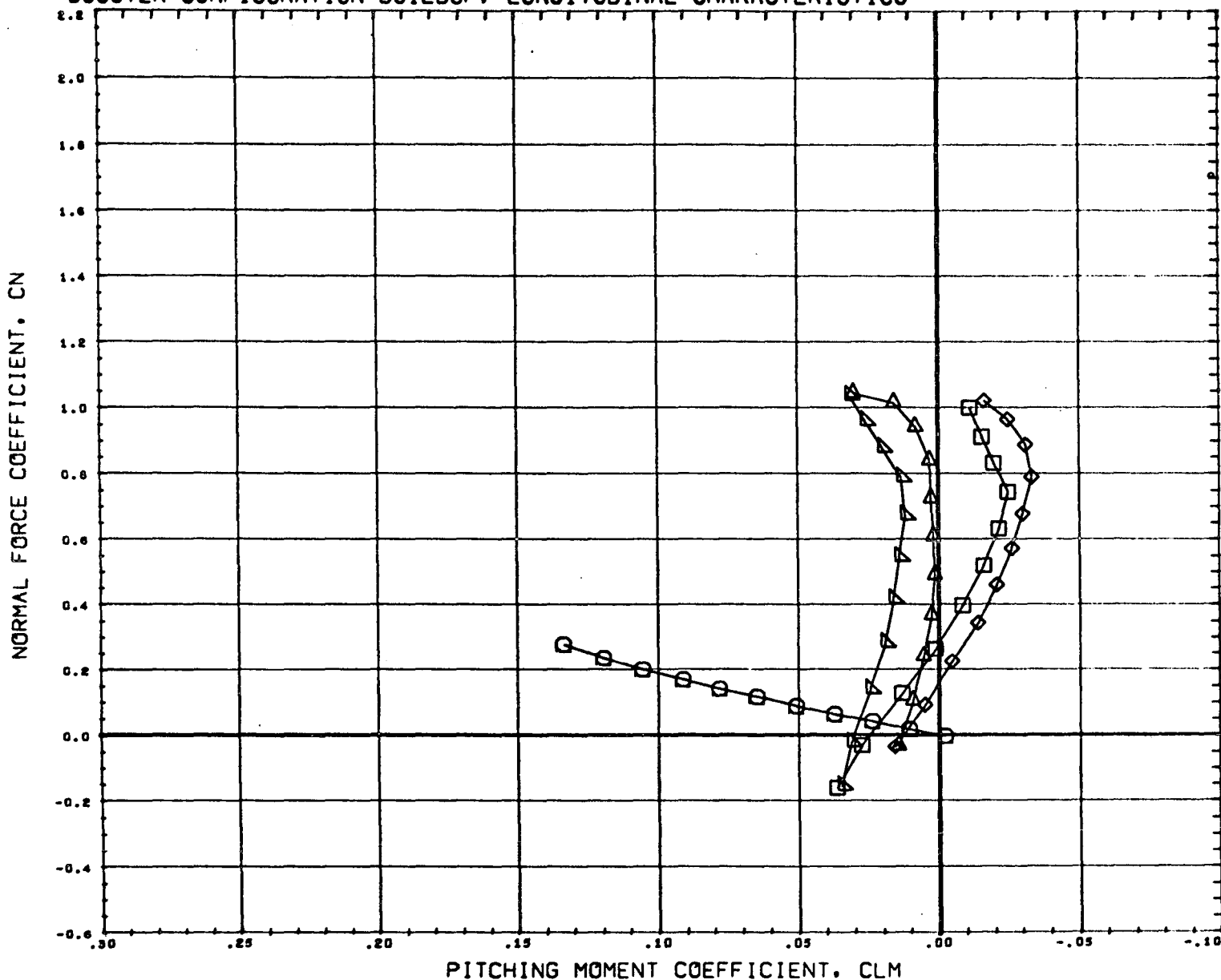
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.905

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BOOSTER CONFIGURATION BUILDUP. LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

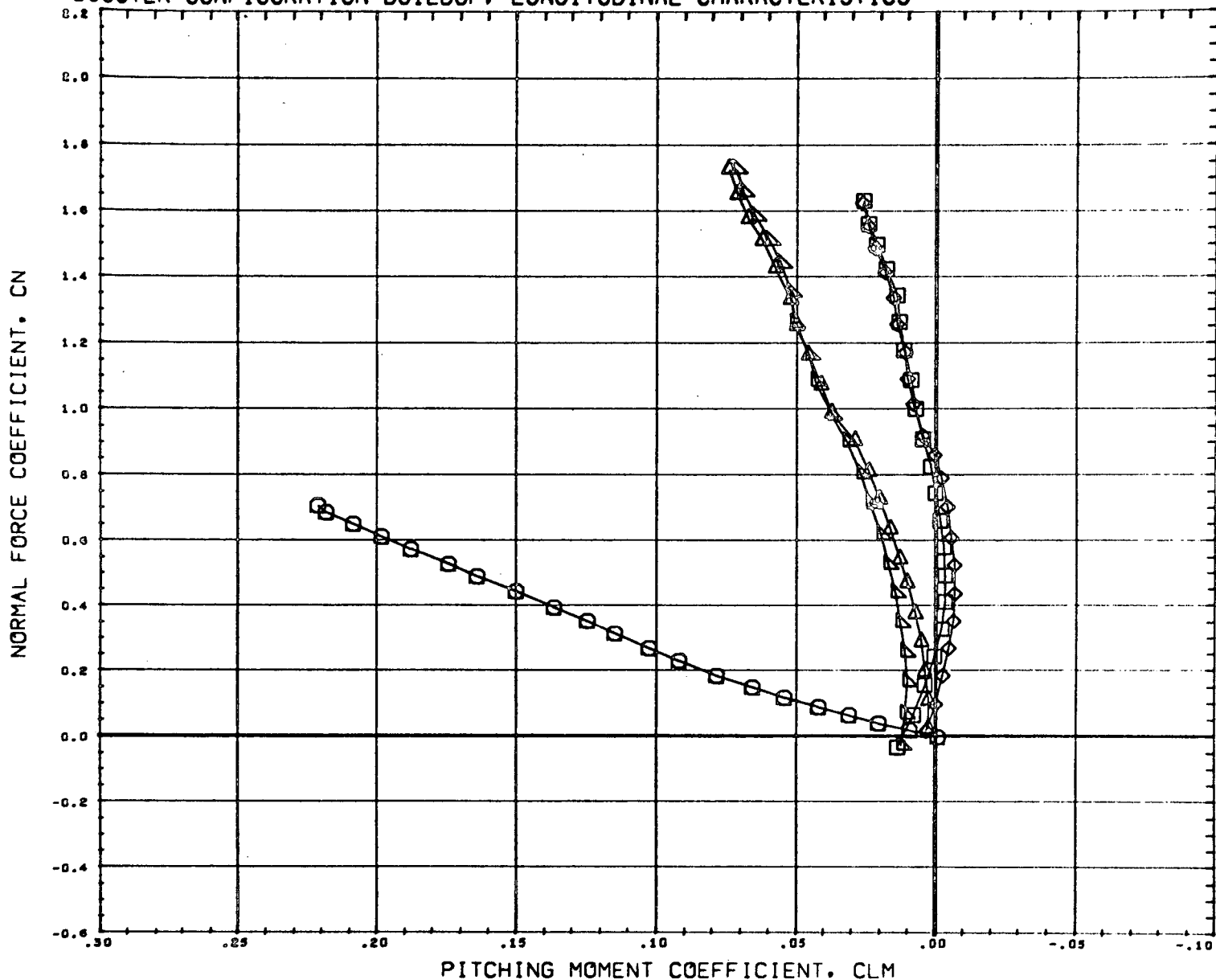
BETA	CANARD	ELEVON
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0.000	0.000	0.000
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REFERENCE INFORMATION		
SREF	9.7800	sq. in
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

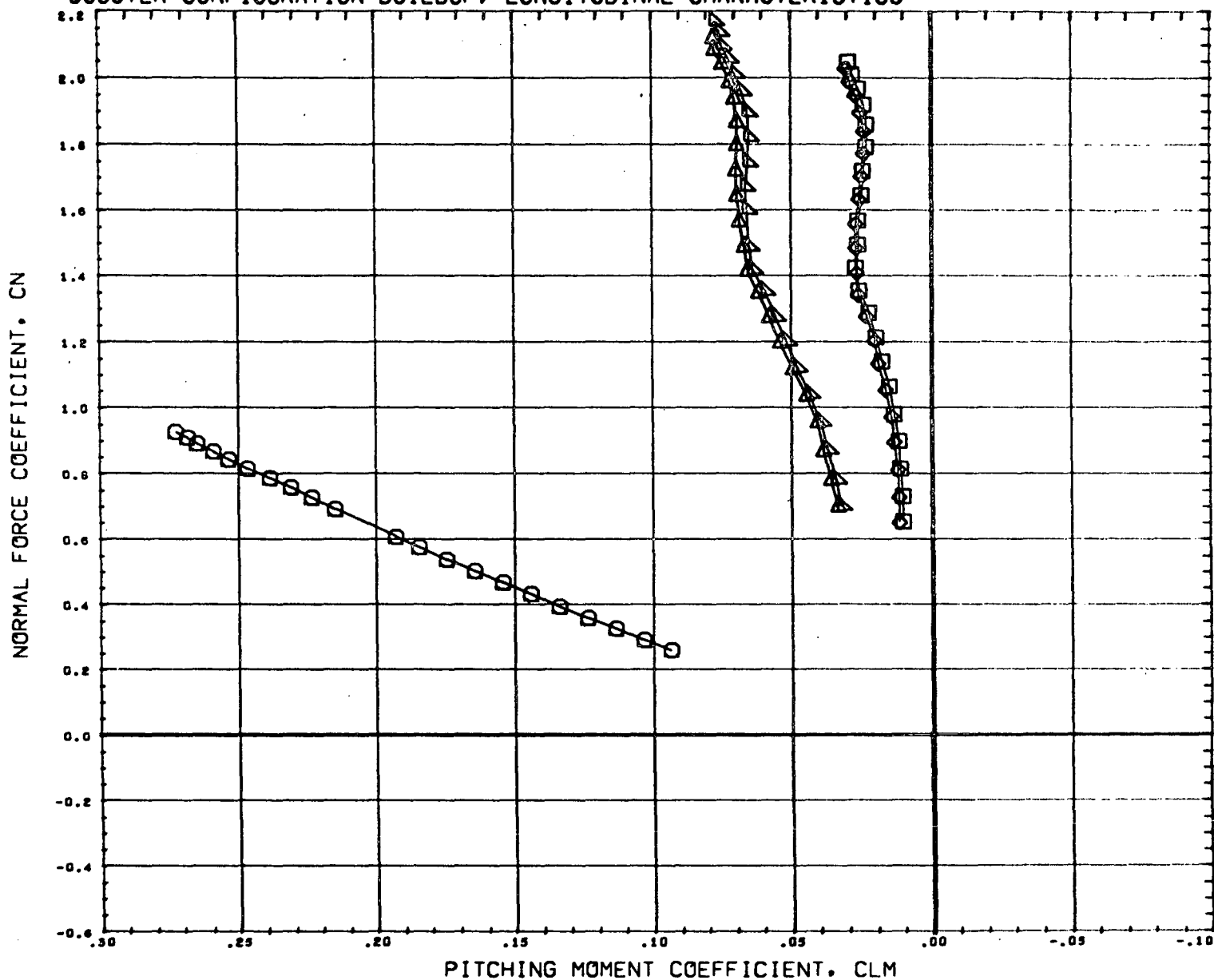
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96061)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C96062)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C96063)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C96064)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C96065)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

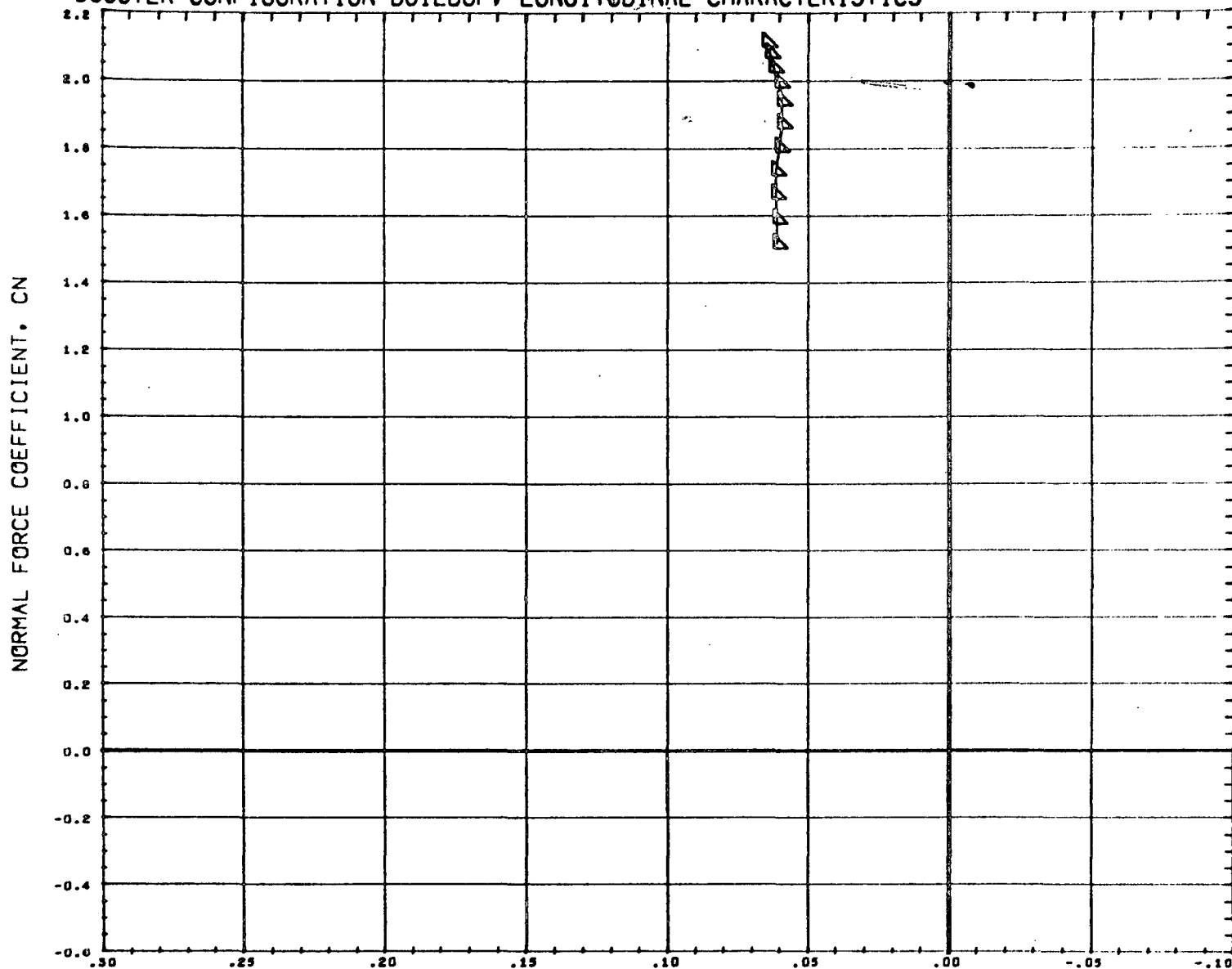
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7600	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMPP	4.6400	INCH
YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56081)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56082)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56083)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56084)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

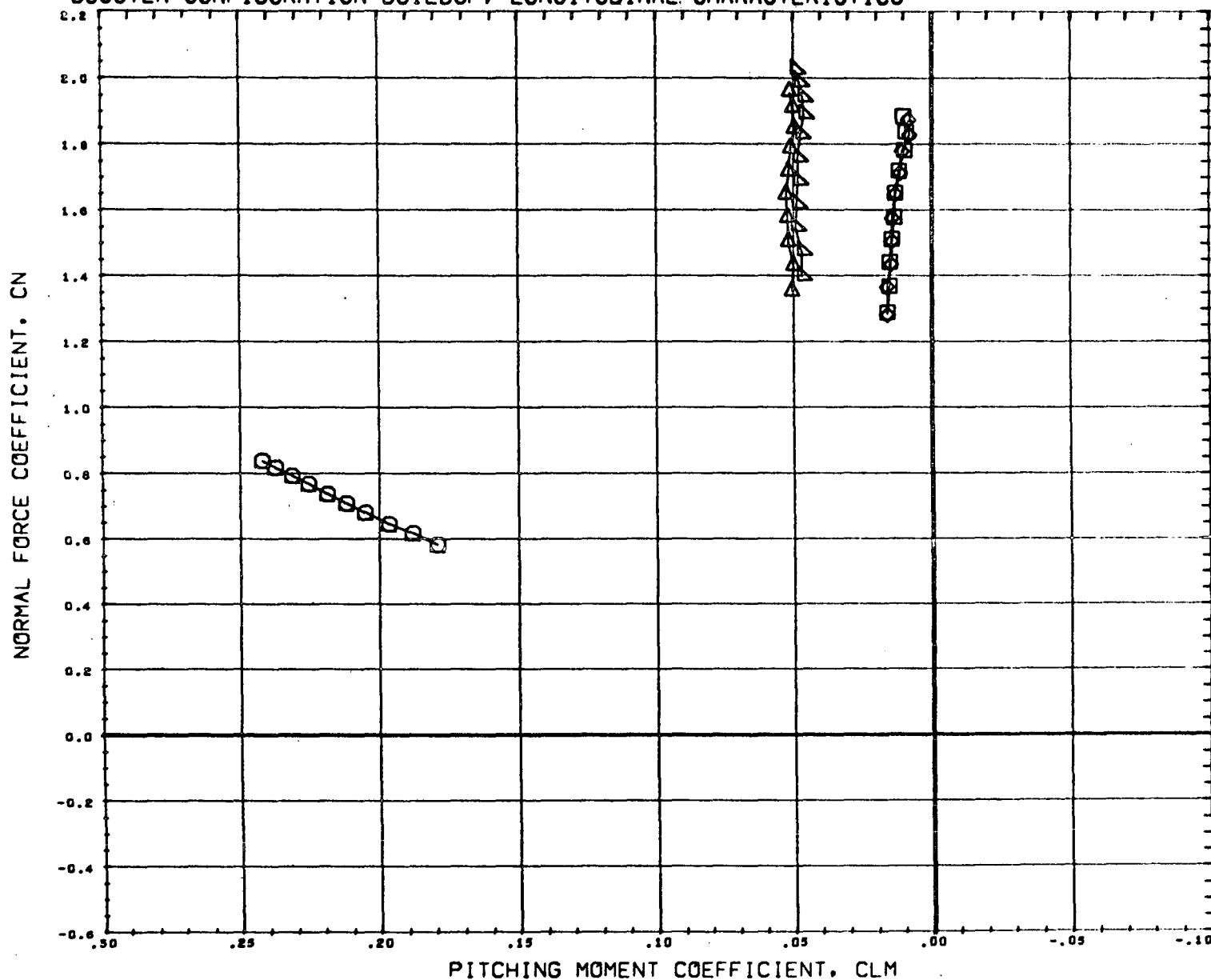
BETA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
YMRP	4.6400	INCH
ZMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER CONFIGURATION BUILDUP, LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56051)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1C1
(C56052)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(C56054)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

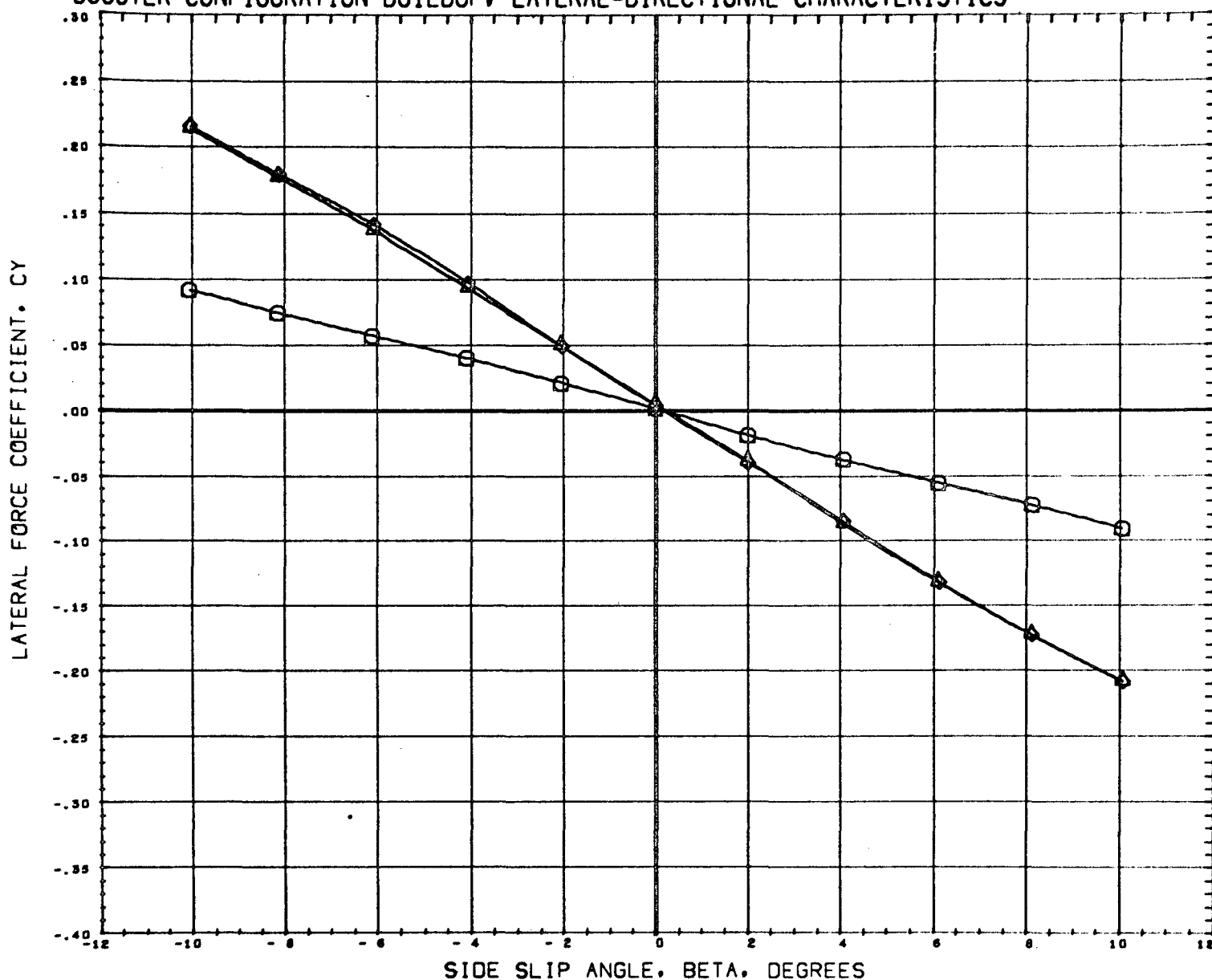
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



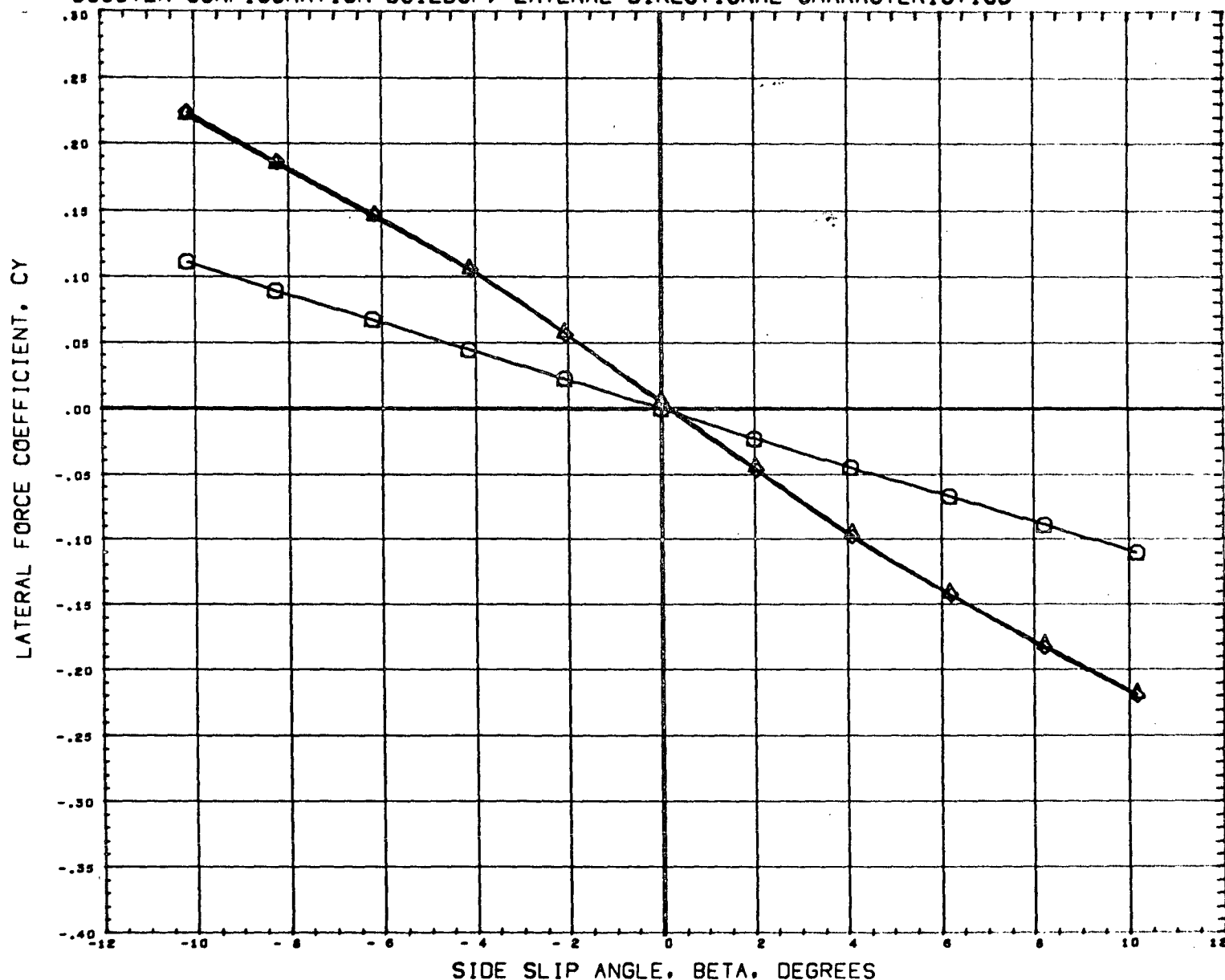
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(AS6010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000		0.000
(AS6017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(AS6024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

MACH 0.998

REFERENCE INFORMATION		
SREF	9.7800	90. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A96010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	0.000	0.000	0.000
(A96017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	0.000	0.000	0.000
(A96024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000

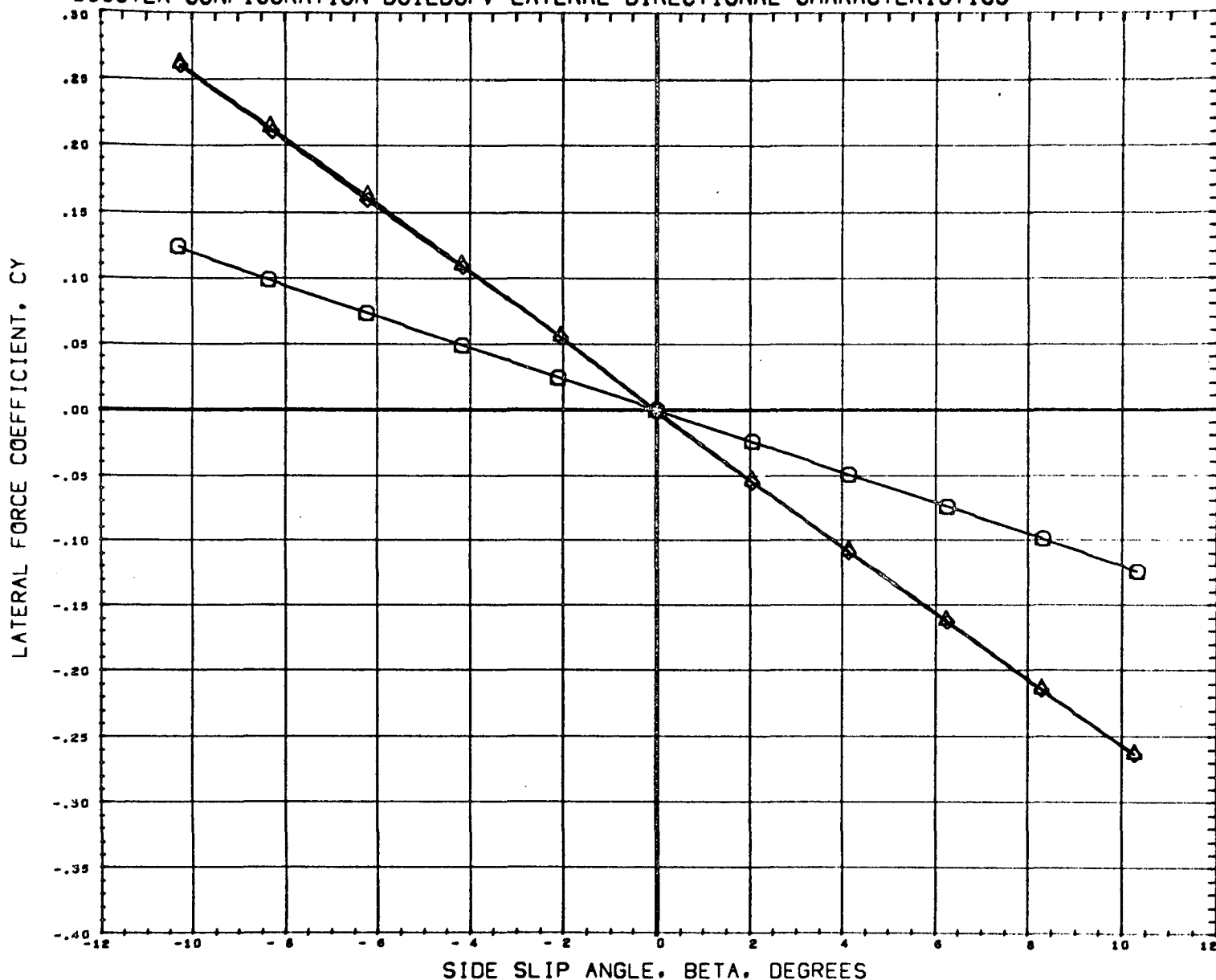
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.903

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56010) ○	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
(A56017) △	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
(A56024) ◇	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

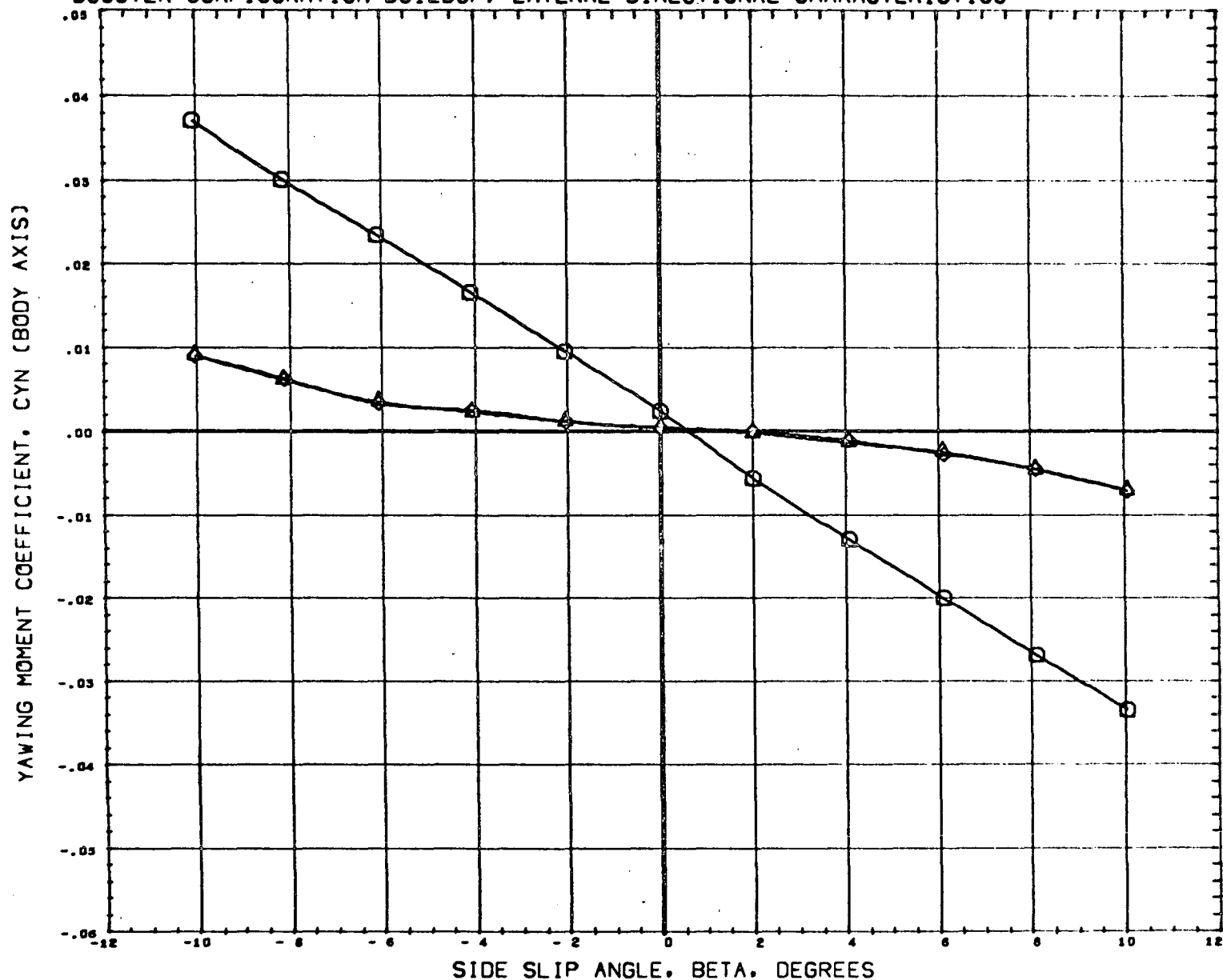
ALPHA	CANARD	ELEVON
0.000		0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A96010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A96017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A96024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

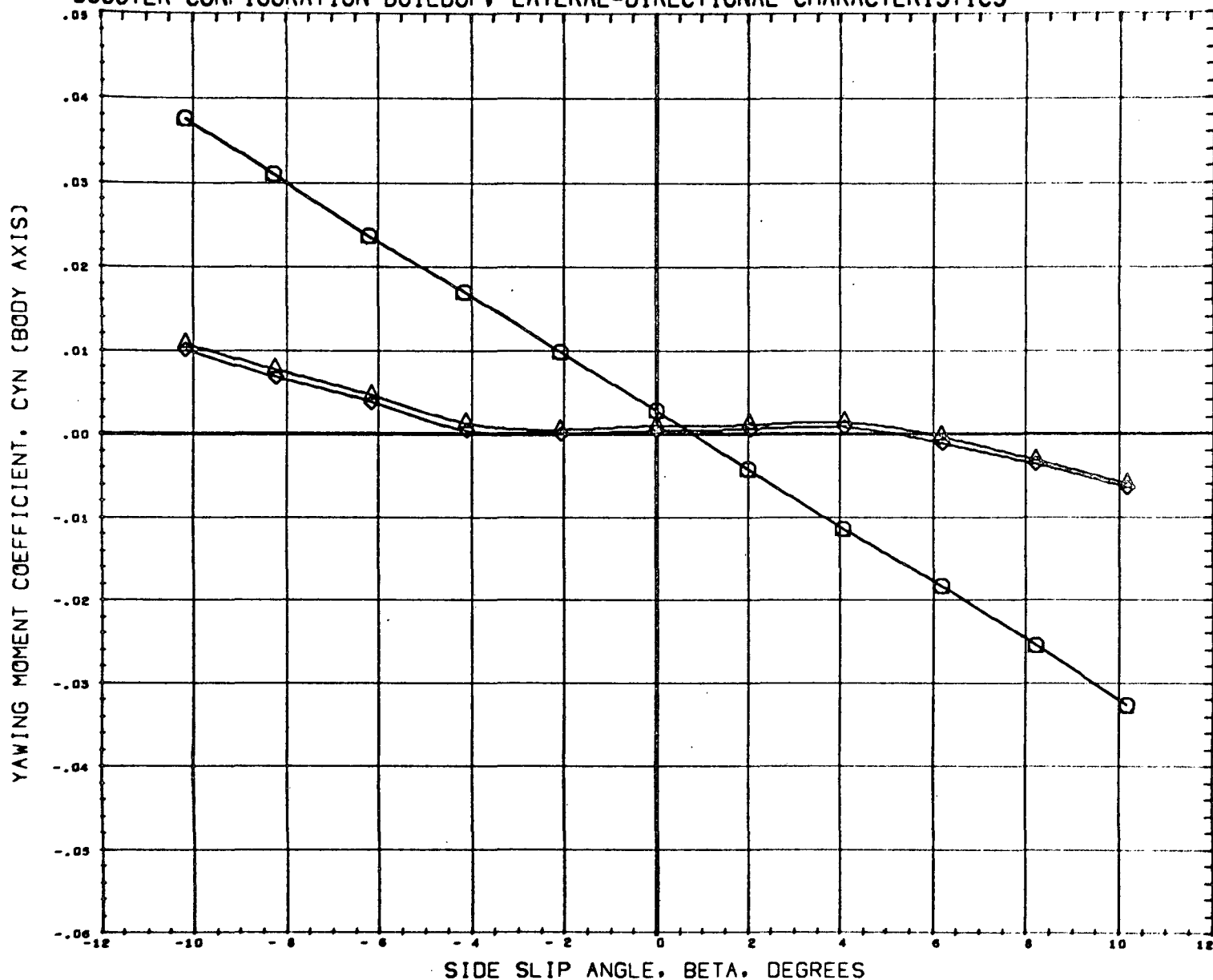
ALPHA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.398

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AS6010)	○	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(AS6017)	△	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(AS6024)	◇	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA CANARD ELEVON

0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

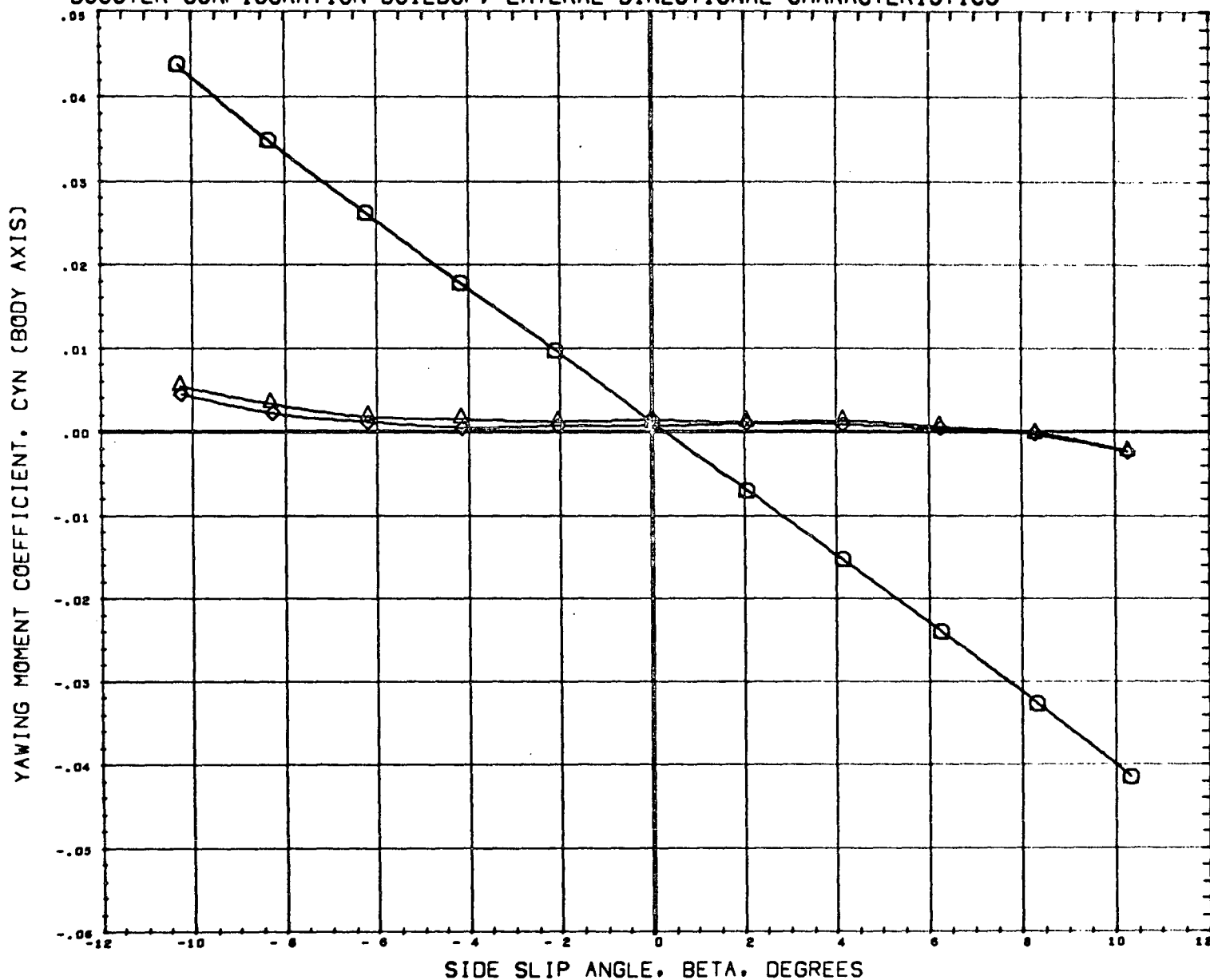
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.903

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

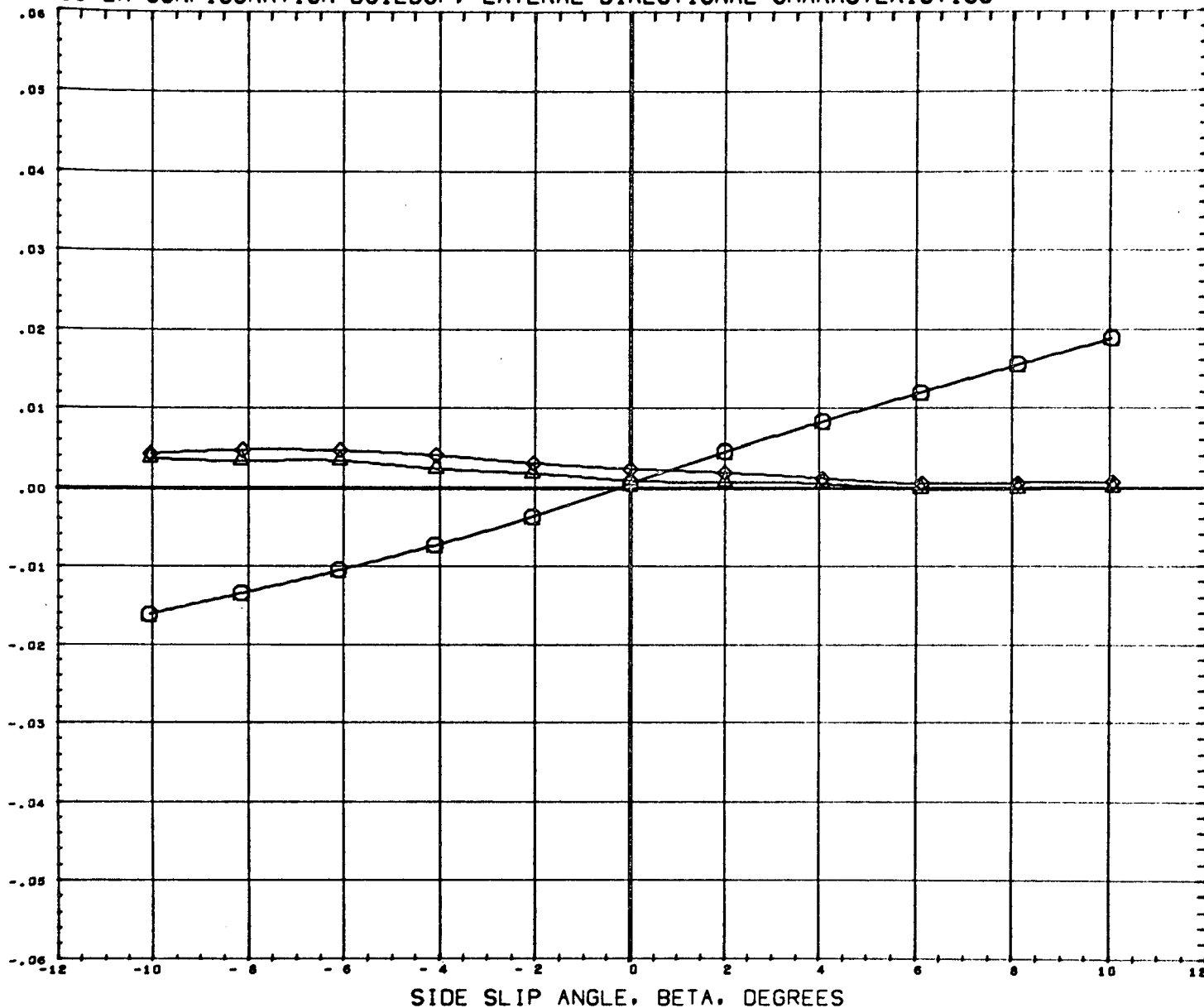
REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56010) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
 (A56017) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
 (A56024) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

ALPHA	CANARD	ELEVON
0.000		0.000
0.000	0.000	0.000
0.000	0.000	0.000

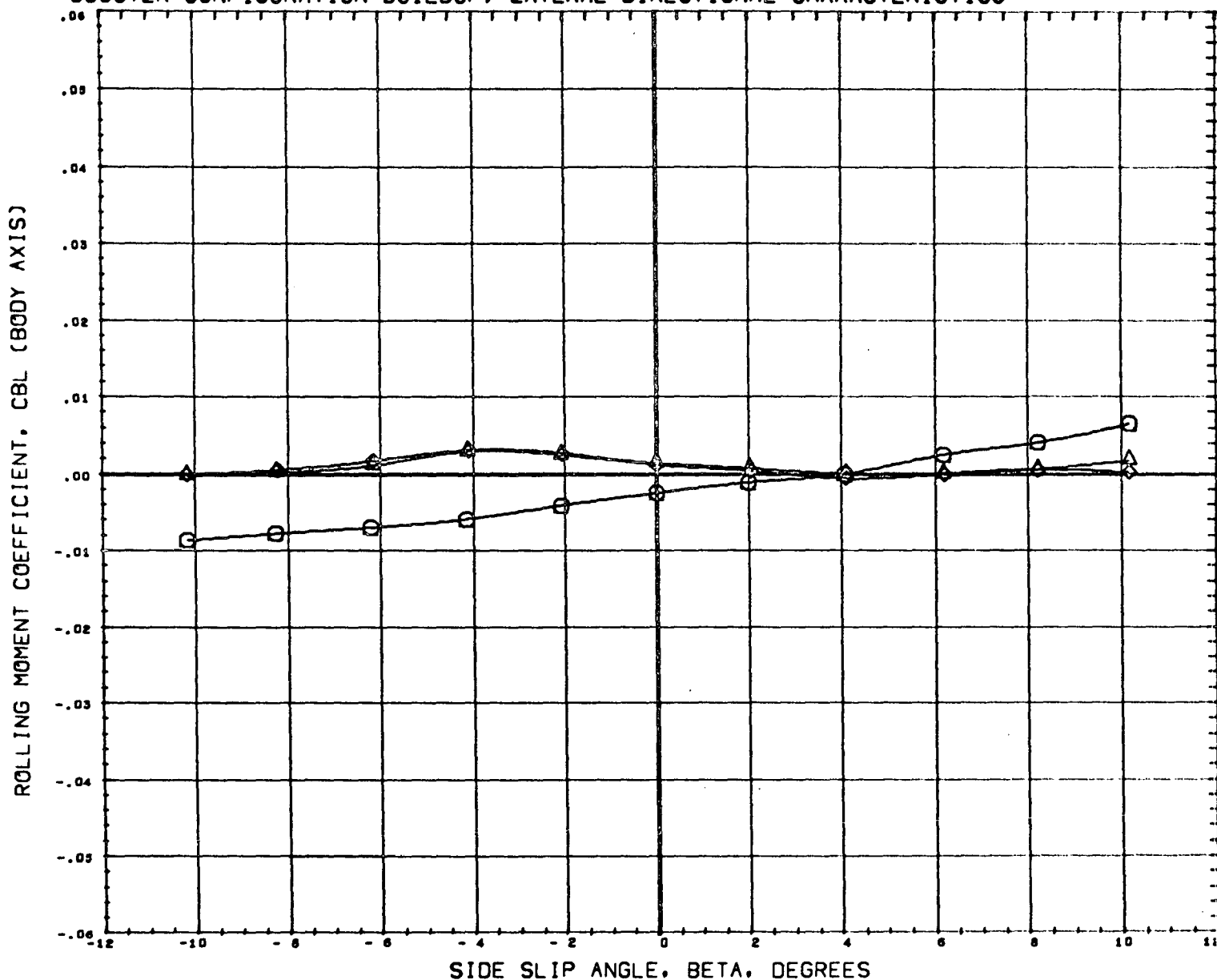
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

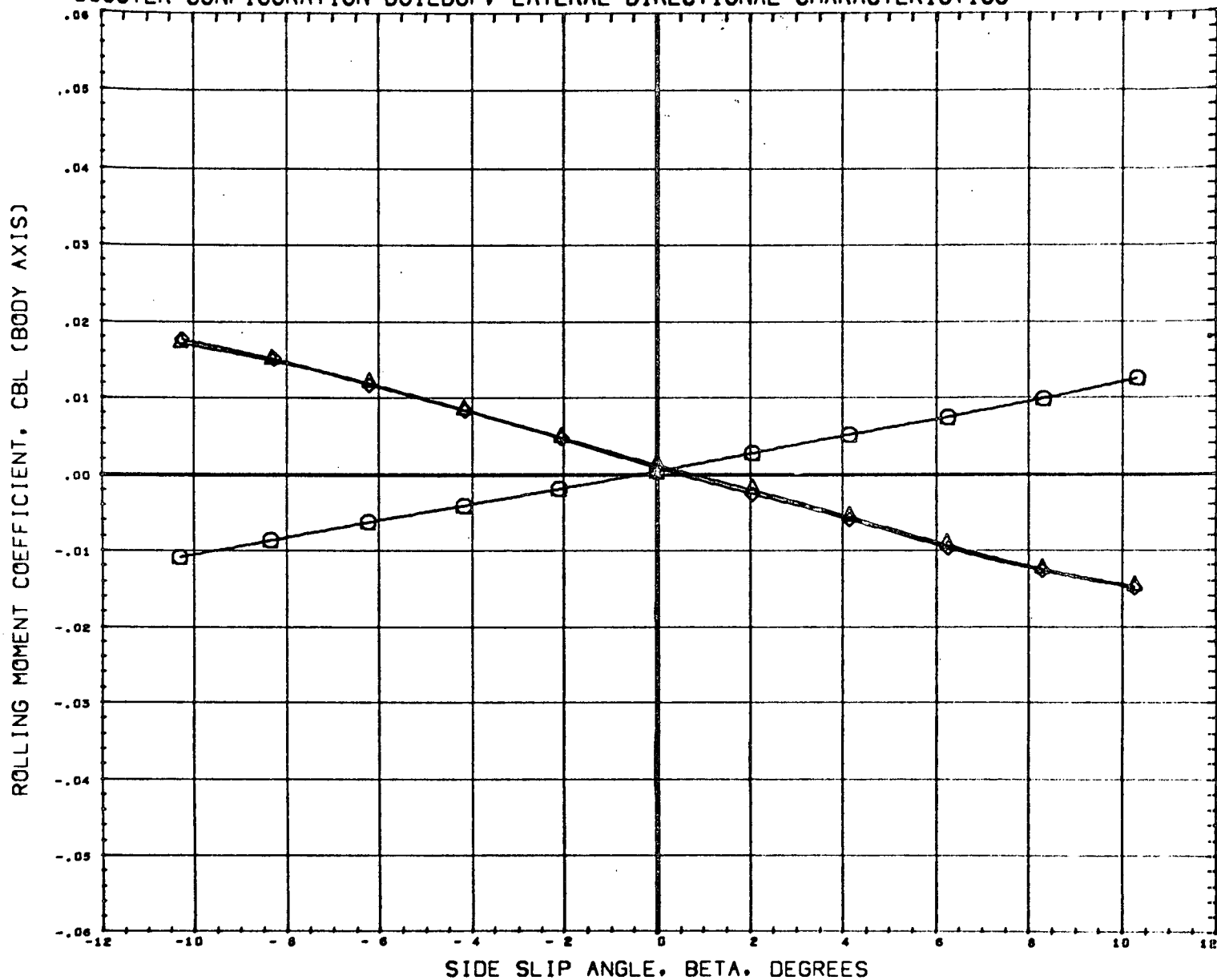
ALPHA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.903

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56G10) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56G17) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56G24) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA CANARD ELEVON
0.000 0.000 0.000
0.000 0.000 0.000
0.000 0.000 0.000

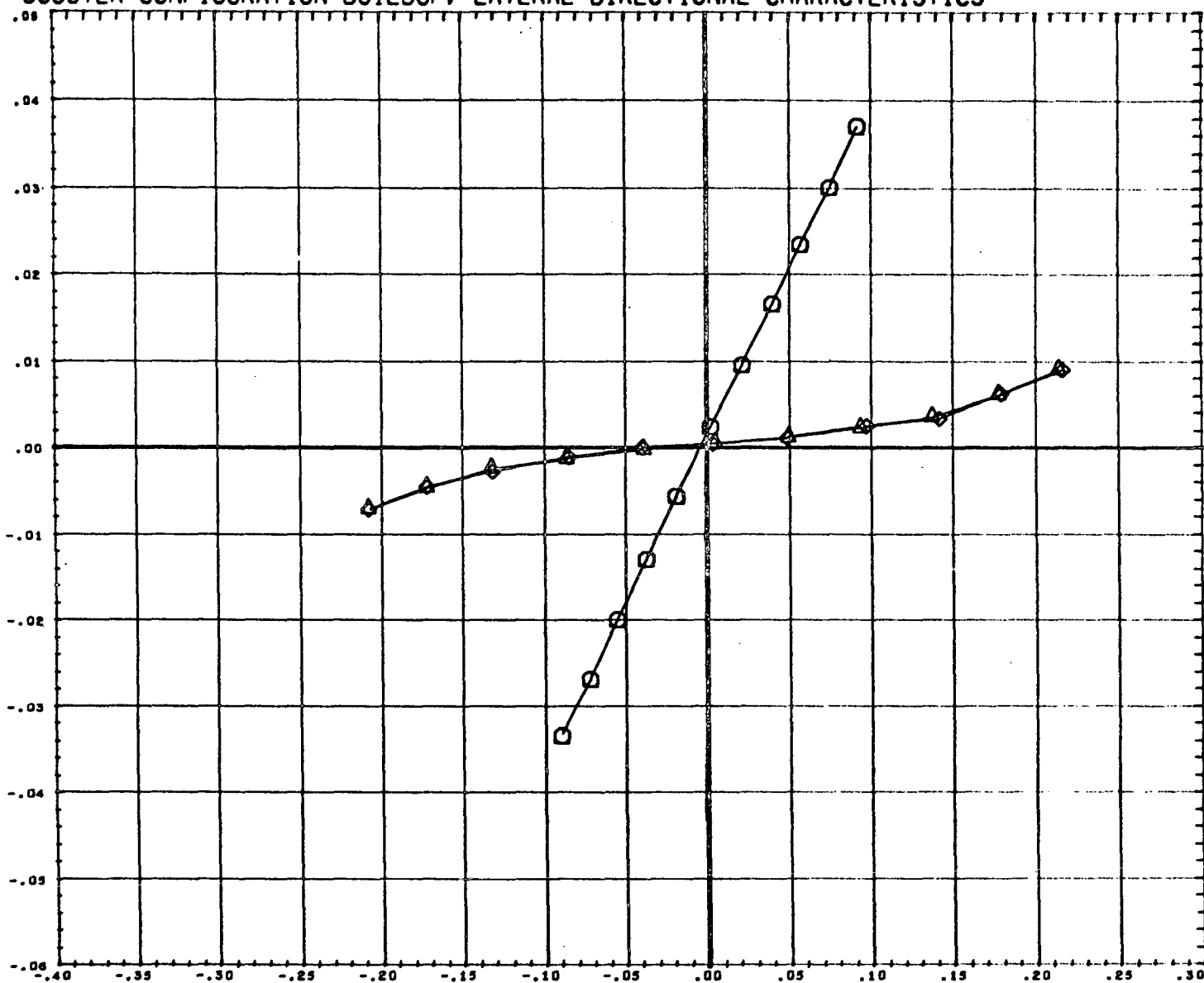
REFERENCE INFORMATION
SREF 9.7800 SQ. IN
LREF 6.4400 INCH
BREF 5.7300 INCH
XMRP 4.6400 INCH
YMRP 0.0000 INCH
ZMRP 0.6670 INCH
SCALE 0.0034

MACH 1.197

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



LATERAL FORCE COEFFICIENT, CY

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A36010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A36017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A36024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

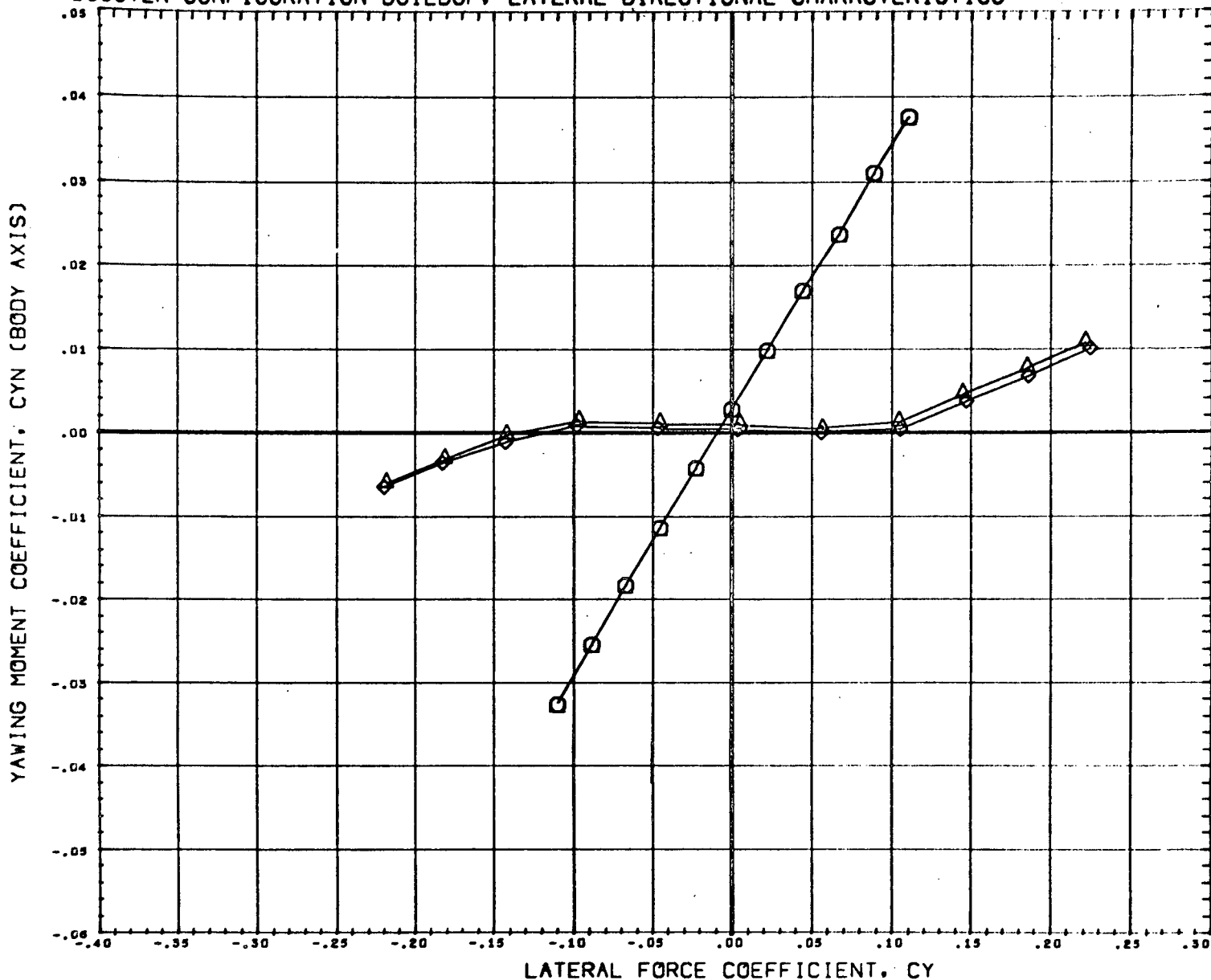
ALPHA	CANARD	ELEVON
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0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56010)	MSFC TWT 517, RETRO-GLIDE BOOSTER, Biw1
(A56017)	MSFC TWT 517, RETRO-GLIDE BOOSTER, Biw1v1
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, Biw1C1v1

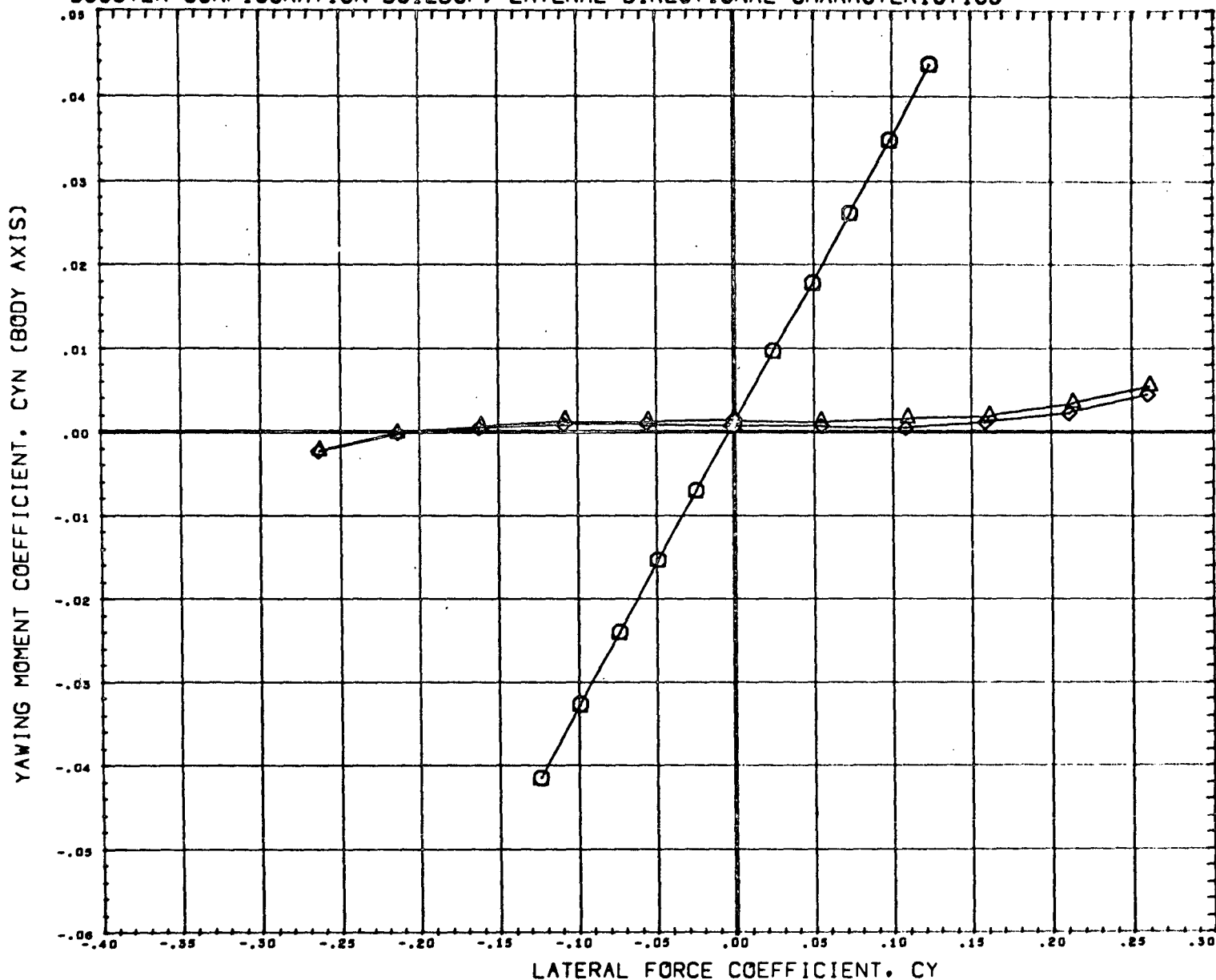
ALPHA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMPP	4.6400	INCH
YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

MACH 0.903

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A96010) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
 (A96017) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
 (A96024) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

ALPHA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	0.000
0.000	0.000	0.000

REFERENCE INFORMATION

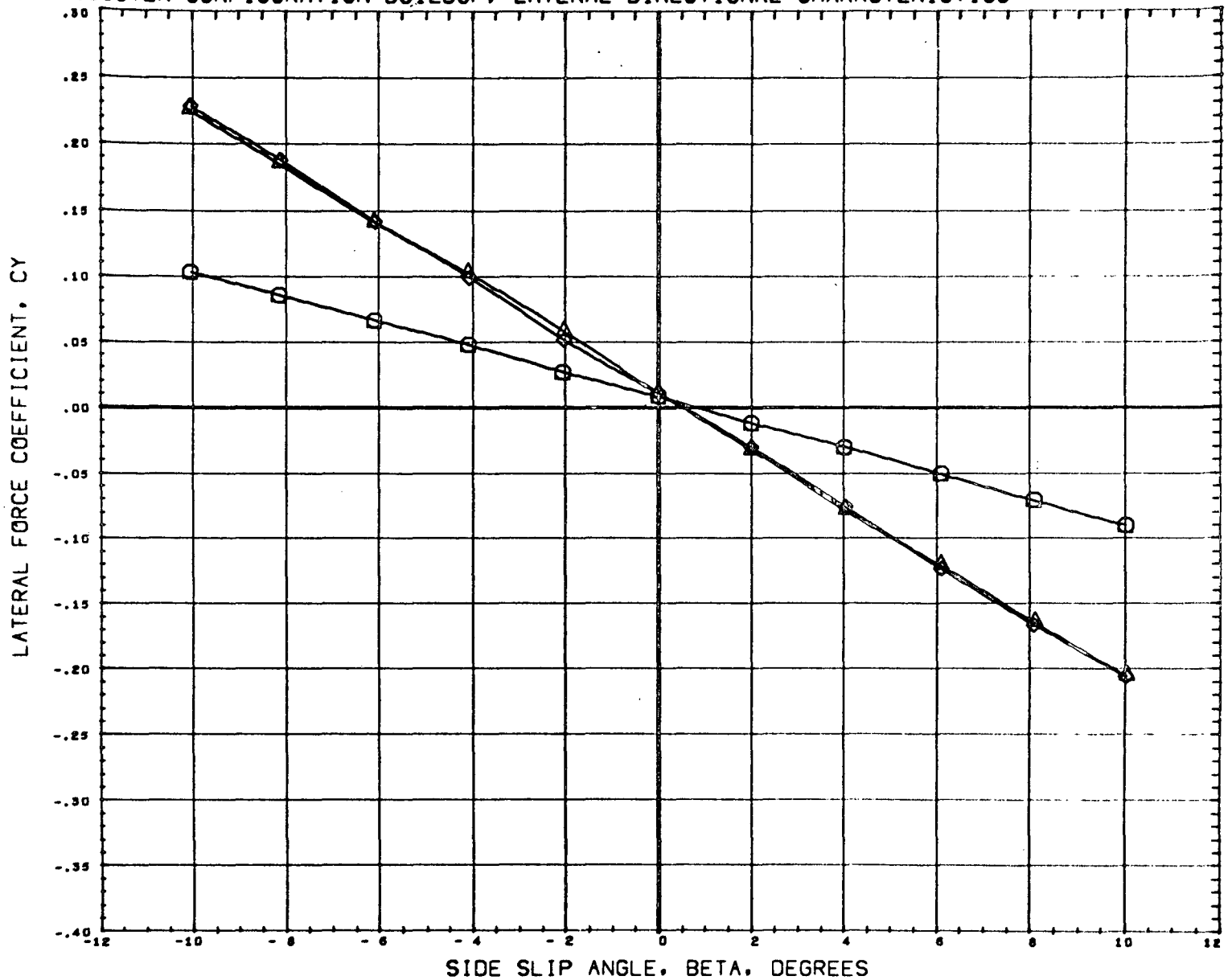
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH

1.197

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56011) ○ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
 (A56018) △ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
 (A56025) ◇ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

ALPHA	CANARD	ELEVON
15.000		0.000
15.000	0.000	0.000
15.000	0.000	0.000

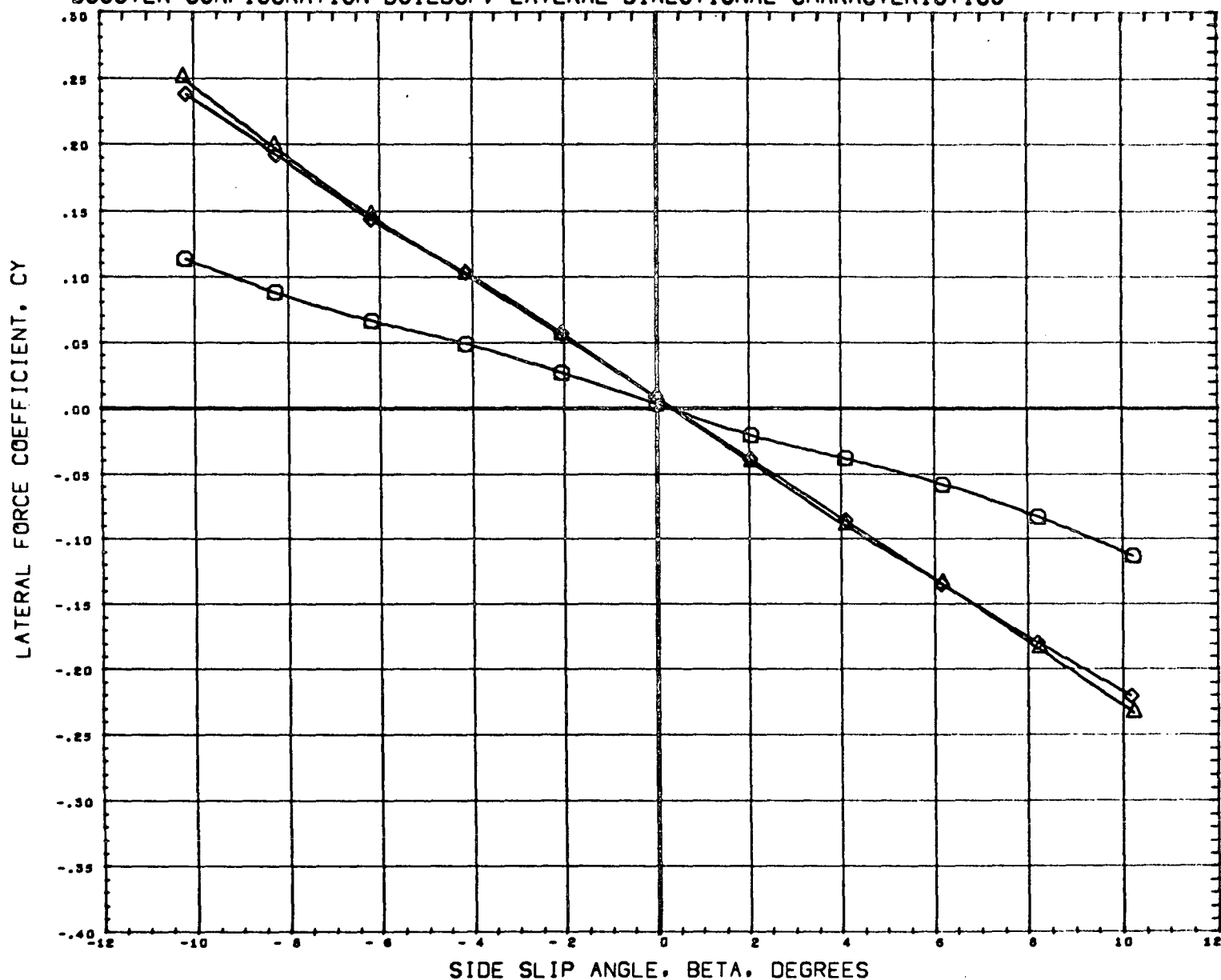
REFERENCE INFORMATION

SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.599

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



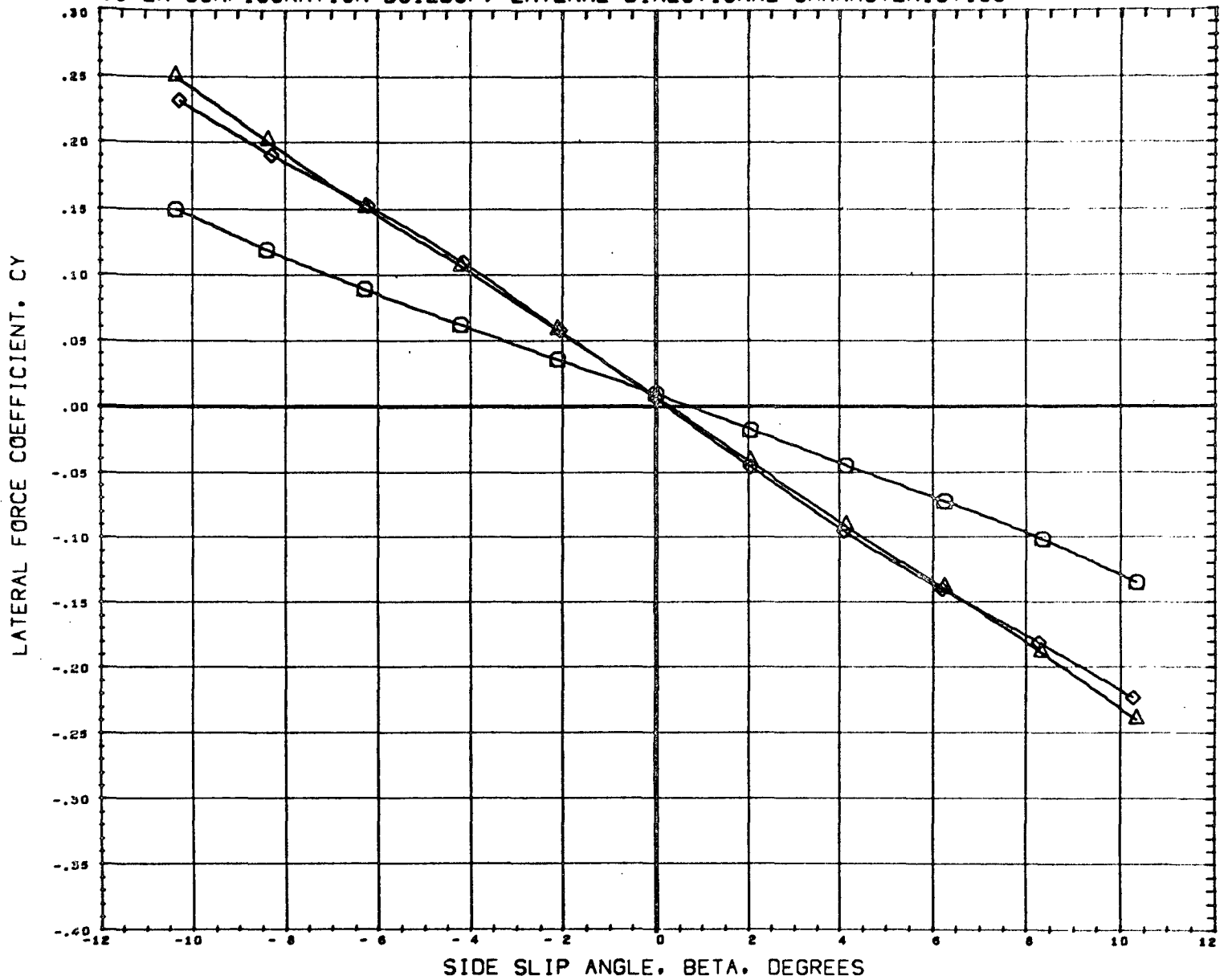
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	15.000		0.000
(A56016)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	15.000	0.000	0.000
(A56025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.901

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56011) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
 (A56018) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
 (A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

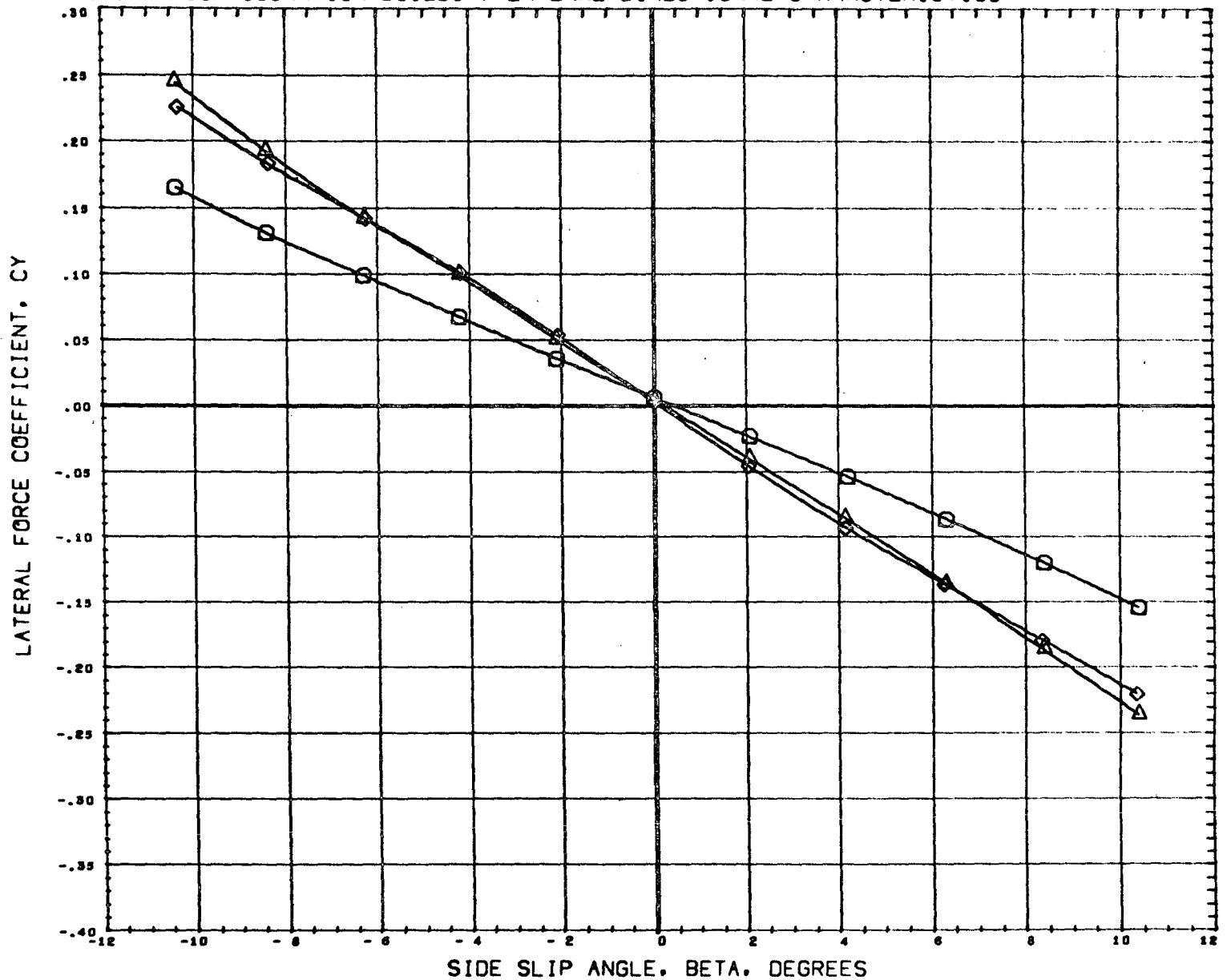
ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 1.193

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A96011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A96018)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A96025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

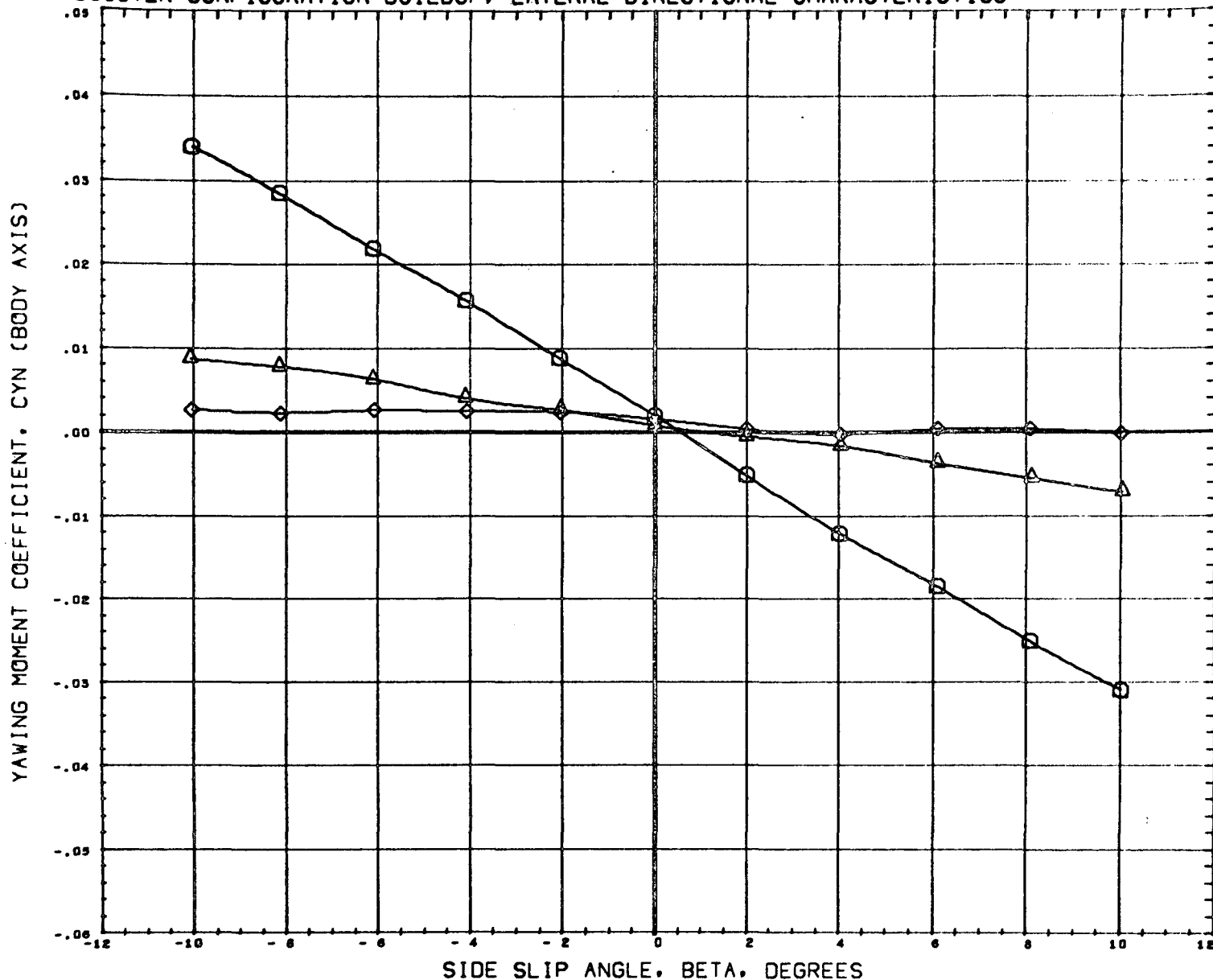
ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRRP	4.6400	INCH
YMRRP	0.0000	INCH
ZMRRP	0.6670	INCH
SCALE	0.0034	

MACH 1.984

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56C11) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
 (A56D18) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
 (A56G25) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

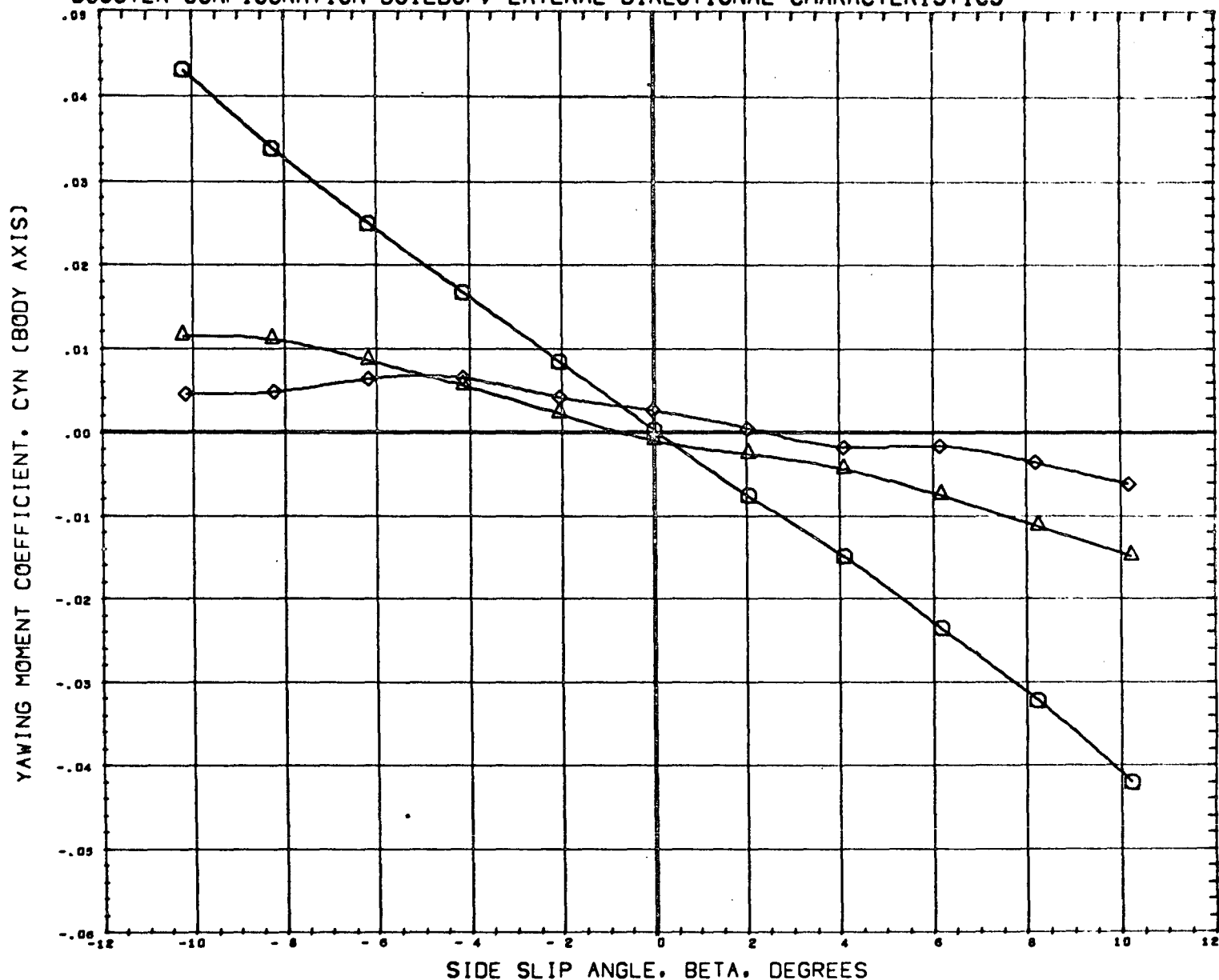
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.599

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56011) $\bigcirc$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
 (A56016) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
 (A56025) $\diamond$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

ALPHA	CANARD	ELEVON
15.000		0.000
15.000	0.000	0.000
15.000	0.000	0.000

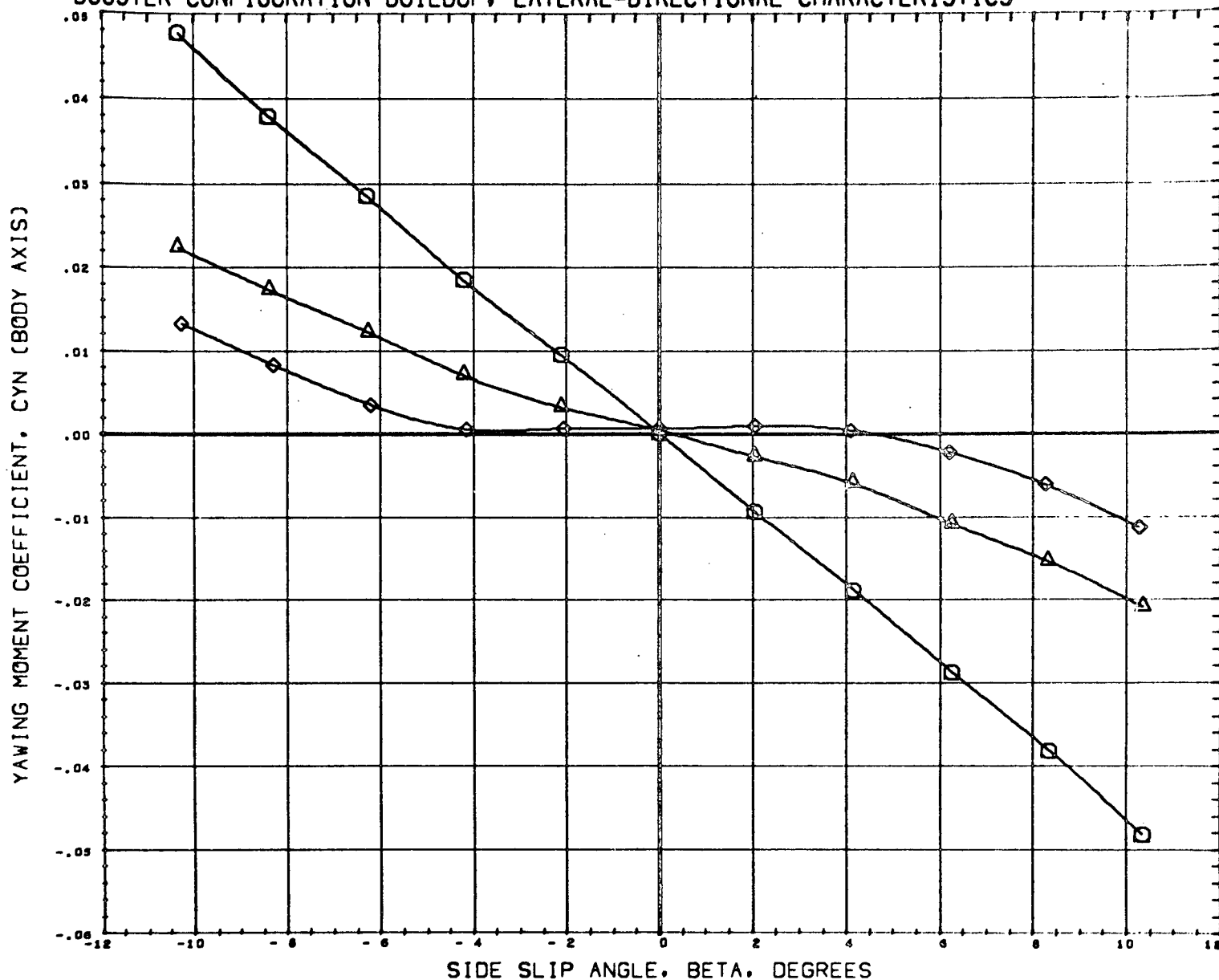
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.901

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A96011) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1

(A96018) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1

(A96025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
15.000		0.000
15.000	0.000	0.000
15.000	0.000	0.000

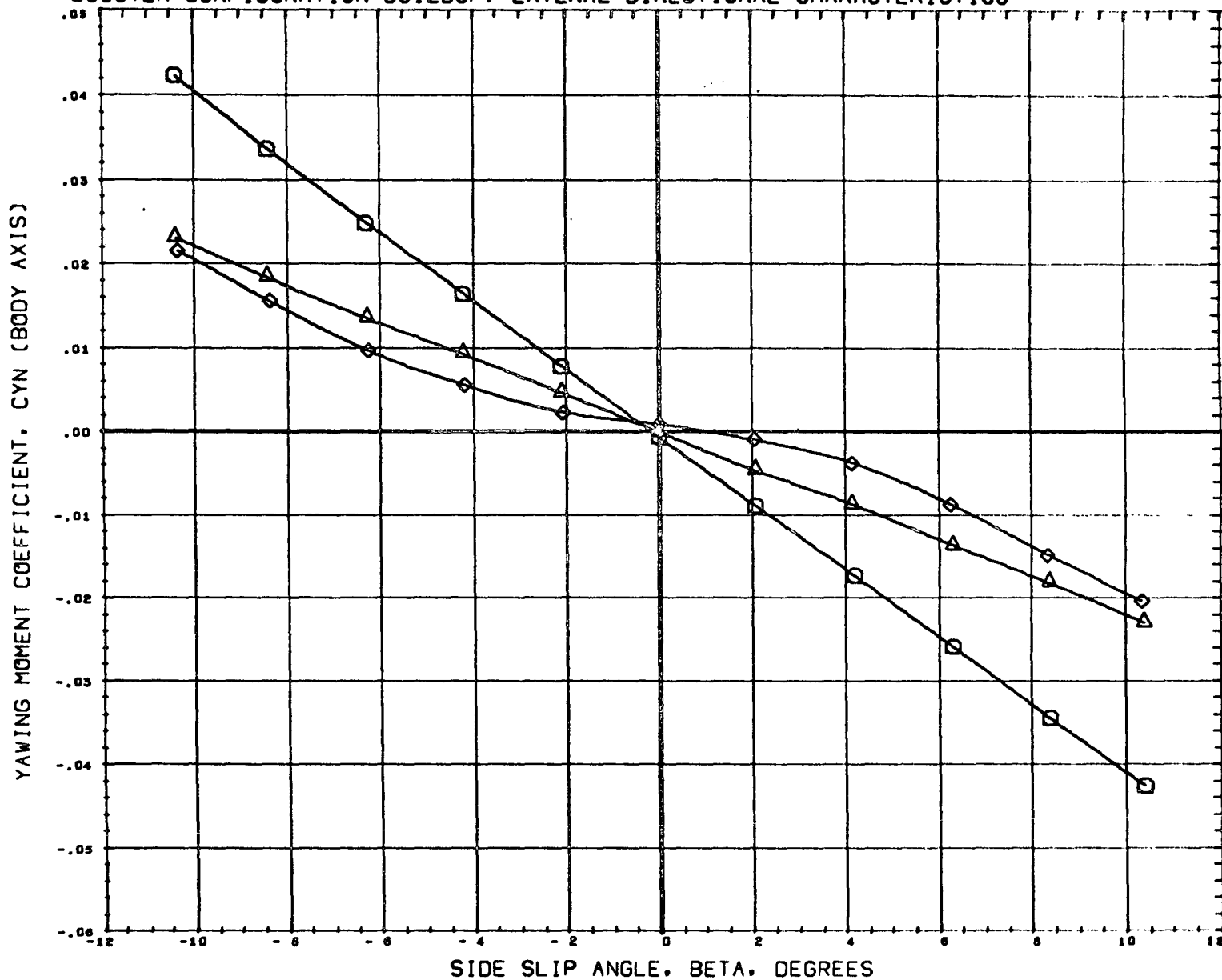
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.193

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56011)	$\square$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56018)	$\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56025)	$\diamond$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1CIV1

ALPHA	CANARD	ELEVON
15.000		0.000
15.000	0.000	0.000
15.000	0.000	0.000

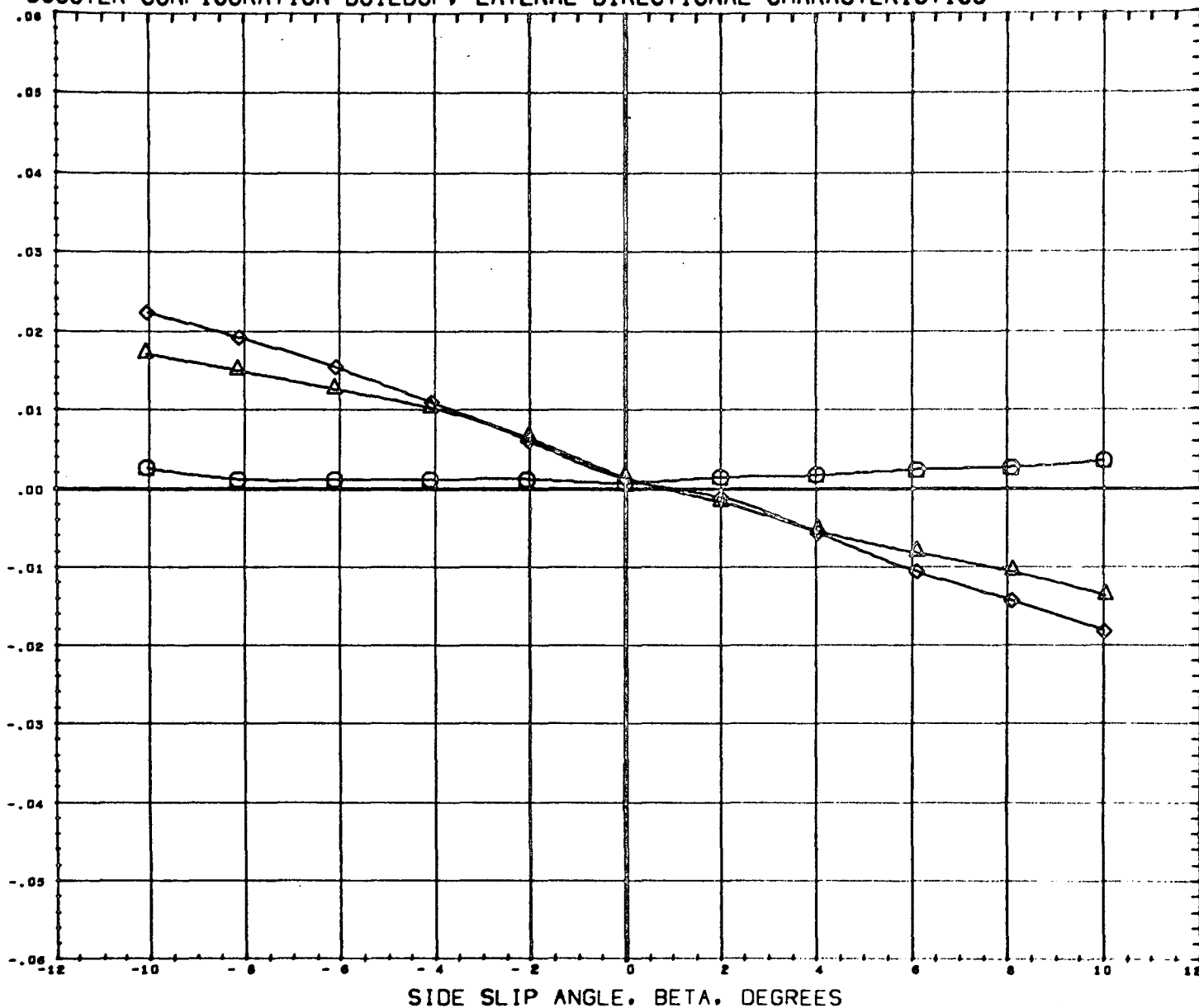
REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.964

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56011) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56010) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

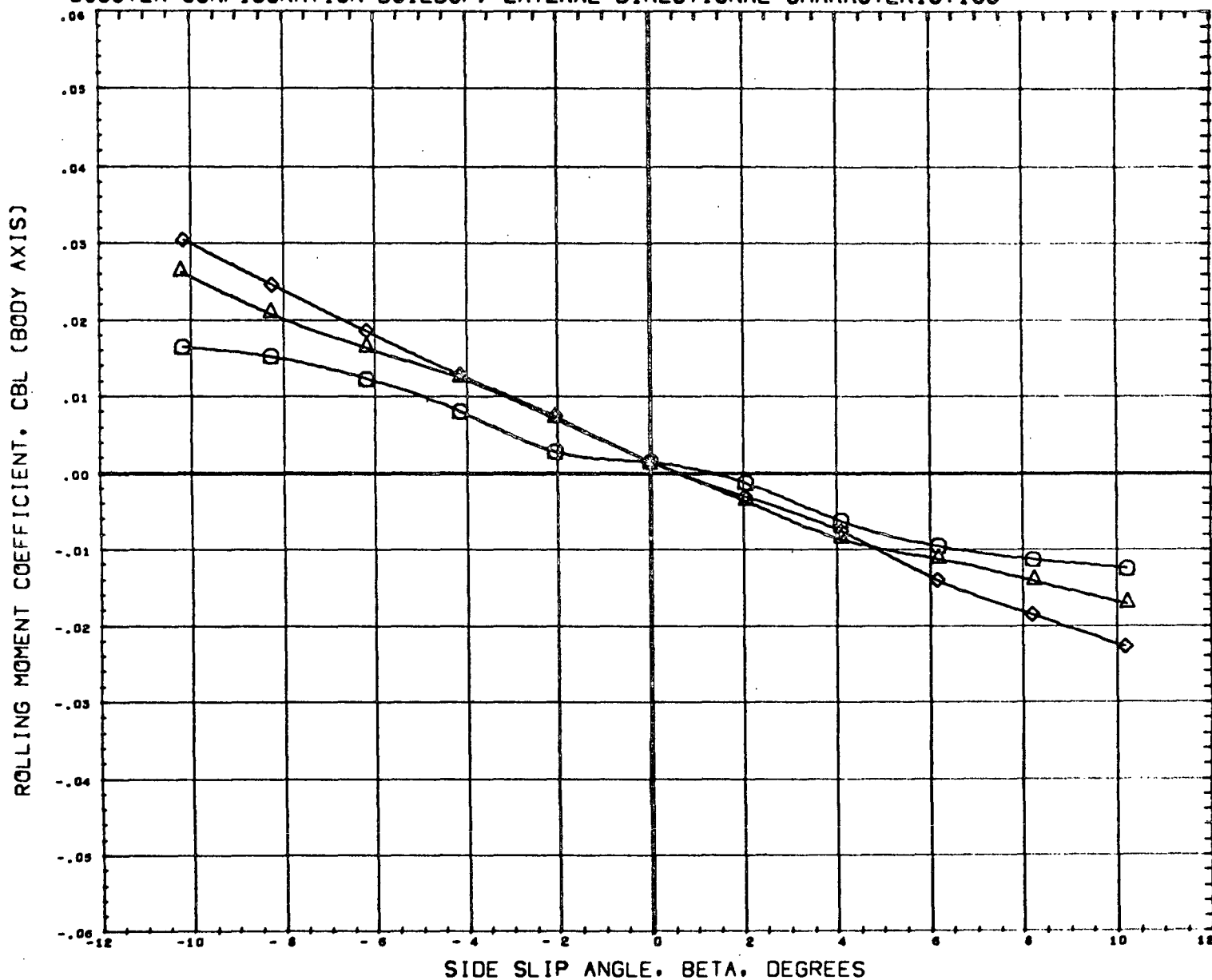
REFERENCE INFORMATION

SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 0.599

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS

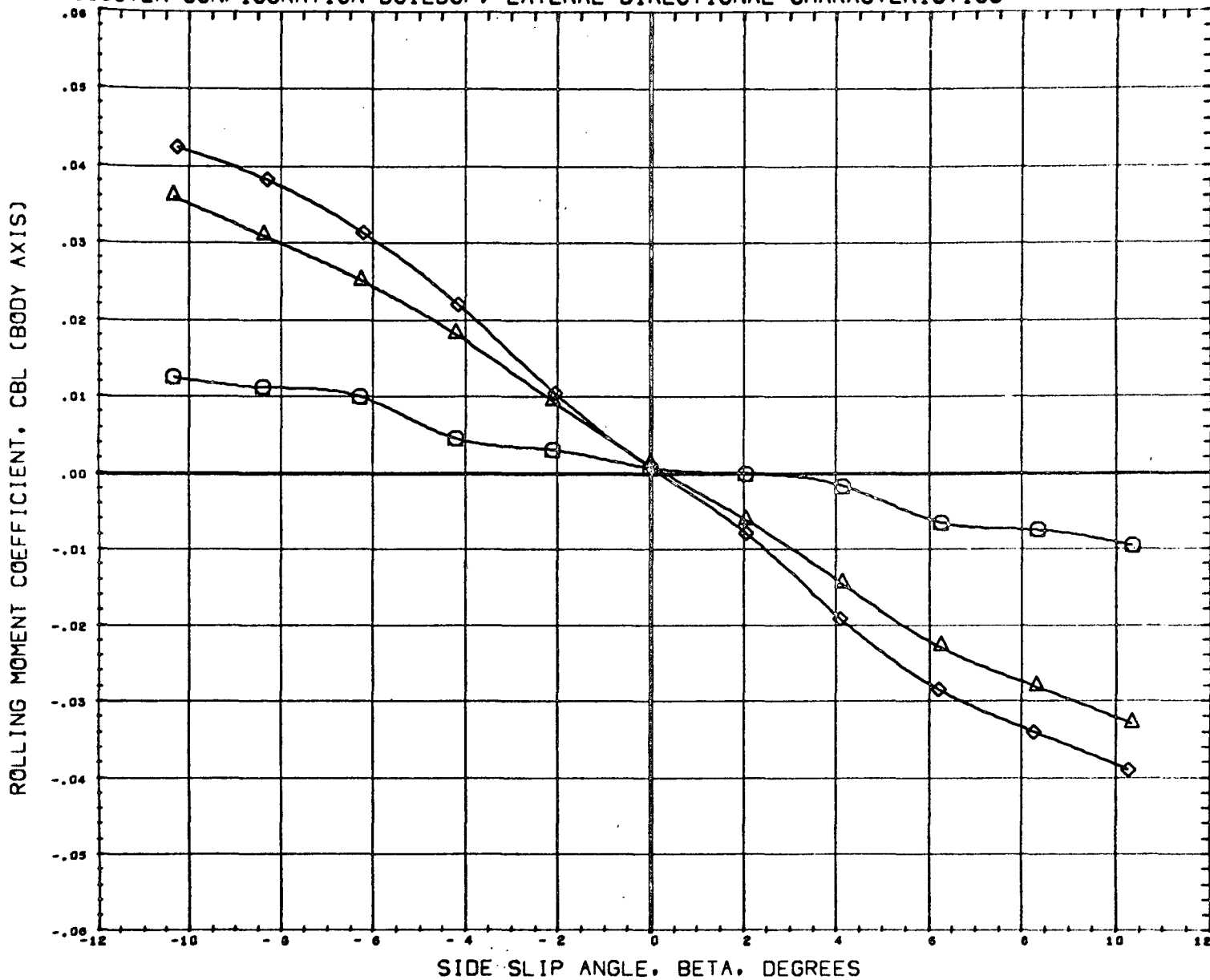


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A96011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1	15.000		0.000
(A96018)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1	15.000	0.000	0.000
(A96025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1	15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.901

BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



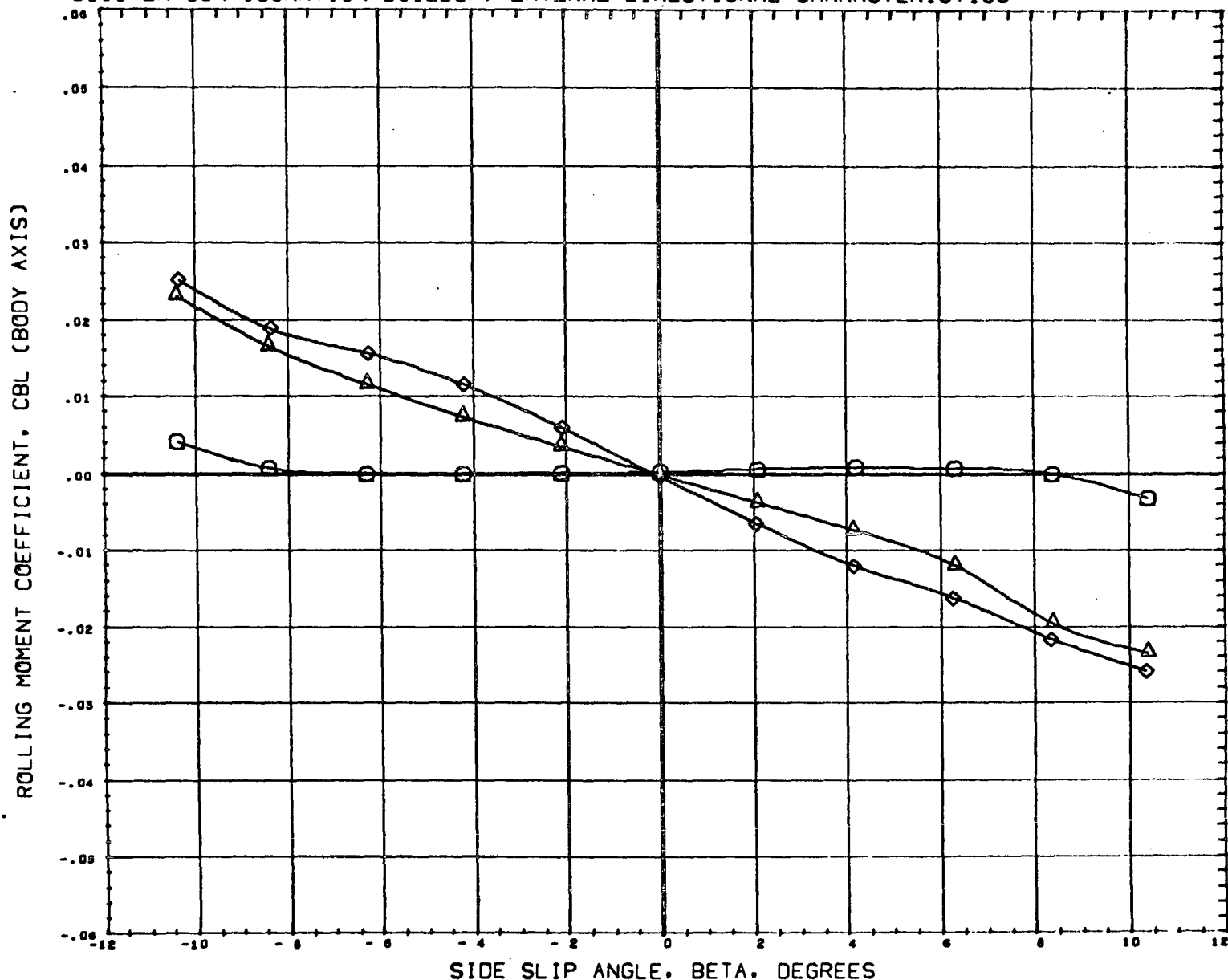
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BiWi	15.000	0.000	0.000
(A56018)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BiWiVi	15.000	0.000	0.000
(A56025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BiWiCiVi	15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.193

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



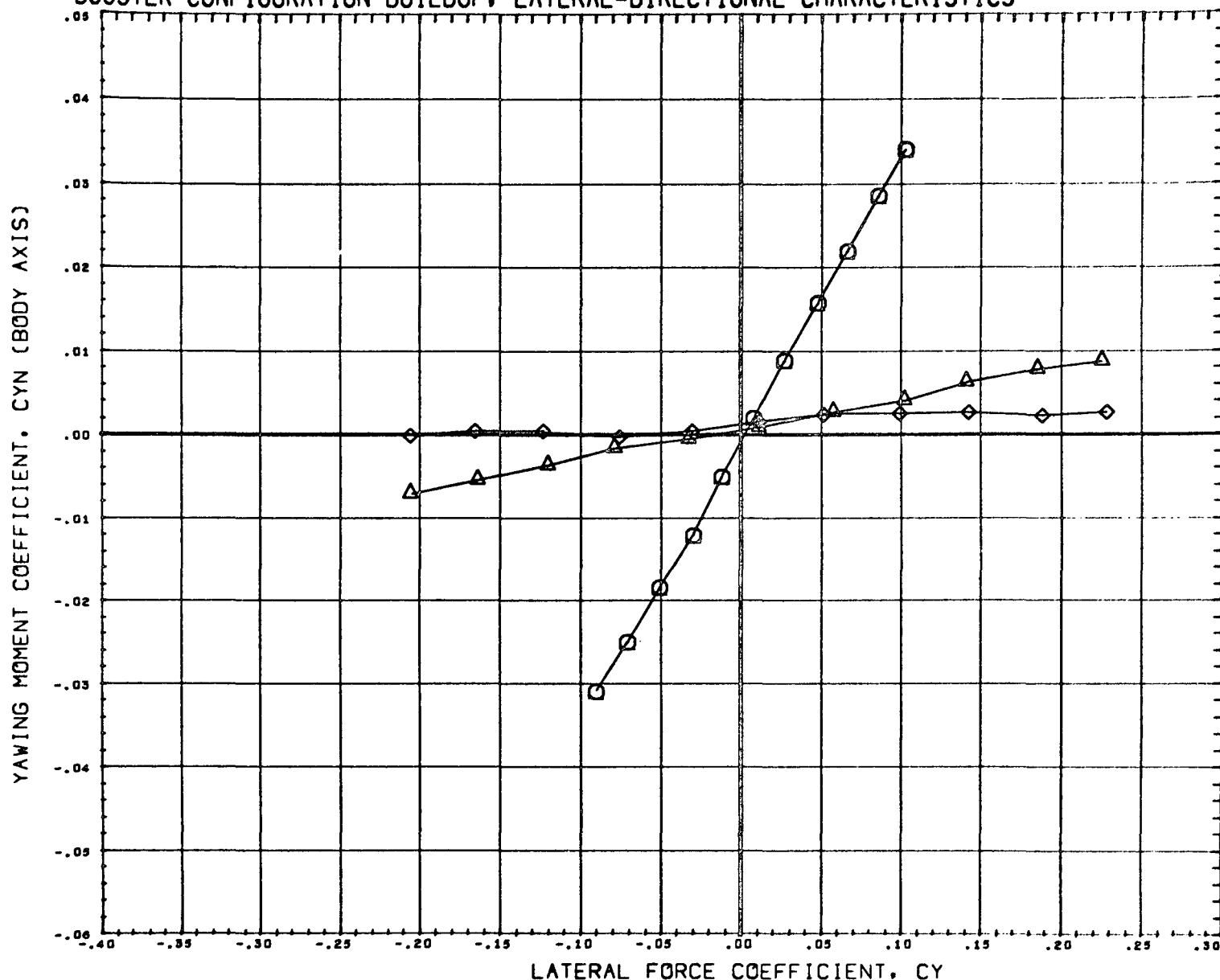
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56011)	M&FC TWT 517, RETRO-GLIDE BOOSTER, B1W1	15.000		0.000
(A56016)	M&FC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	15.000	0.000	0.000
(A56025)	M&FC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.964

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56018)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

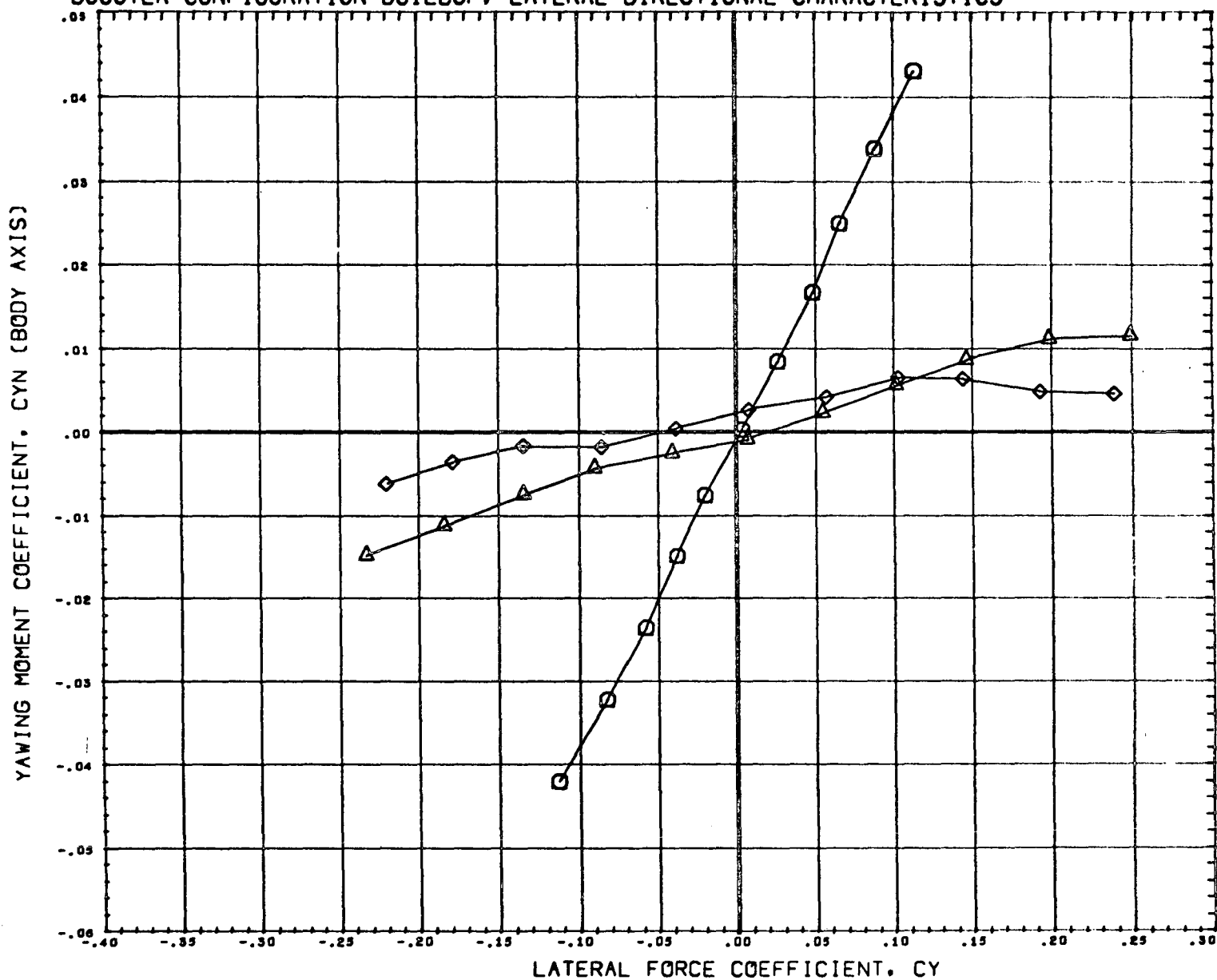
ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 0.599

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A96011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A96018)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A96025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

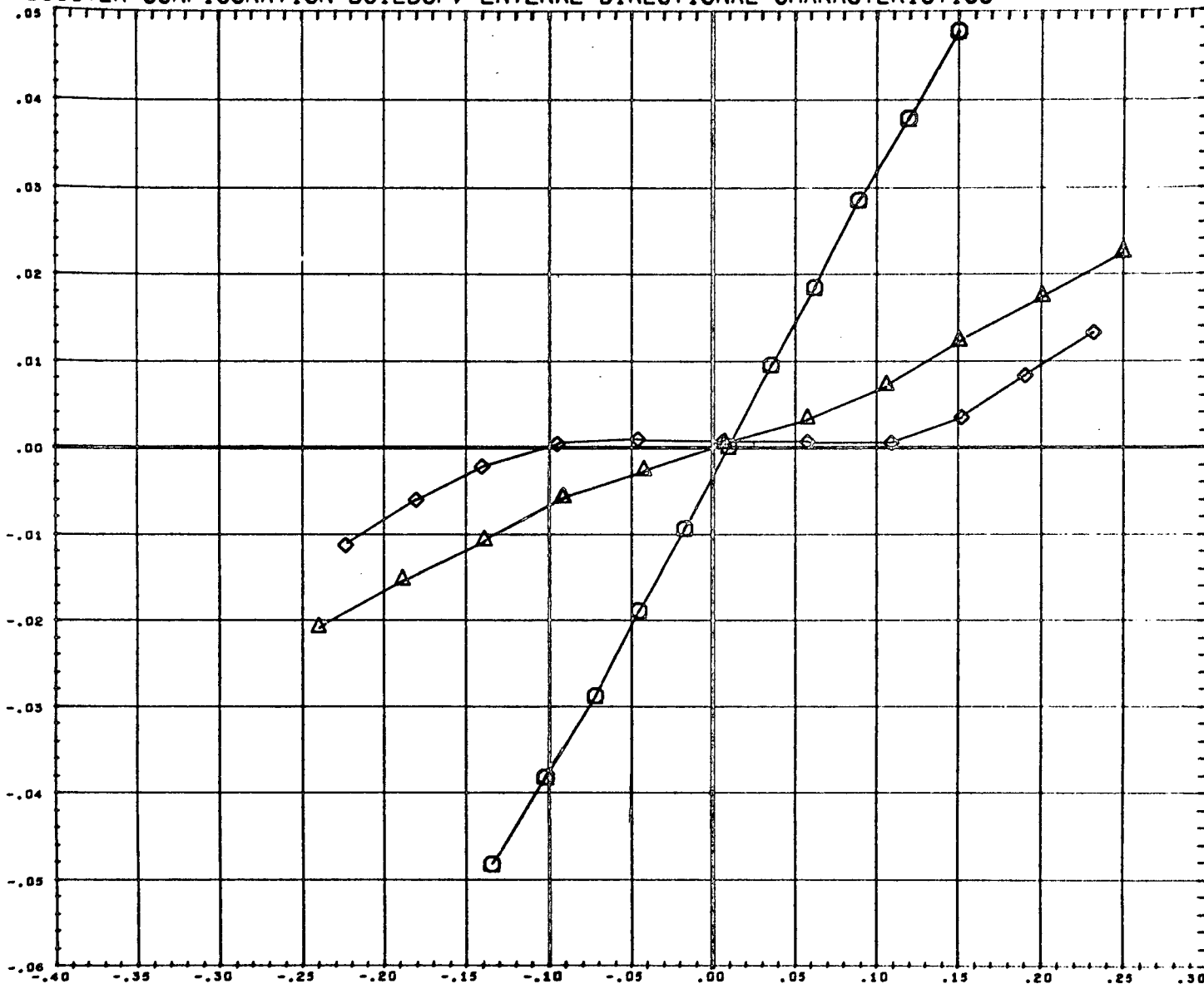
REFERENCE INFORMATION		
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BREF	5.7300	INCH
XWRP	4.6400	INCH
YWRP	0.0000	INCH
ZWRP	0.6670	INCH
SCALE	0.0034	

MACH 0.901

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



LATERAL FORCE COEFFICIENT, CY

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56011) ○ MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1
 (A56018) △ MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1V1
 (A56025) ◇ MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

ALPHA CANARD ELEVON
 15.000 0.000 0.000
 15.000 0.000 0.000
 15.000 0.000 0.000

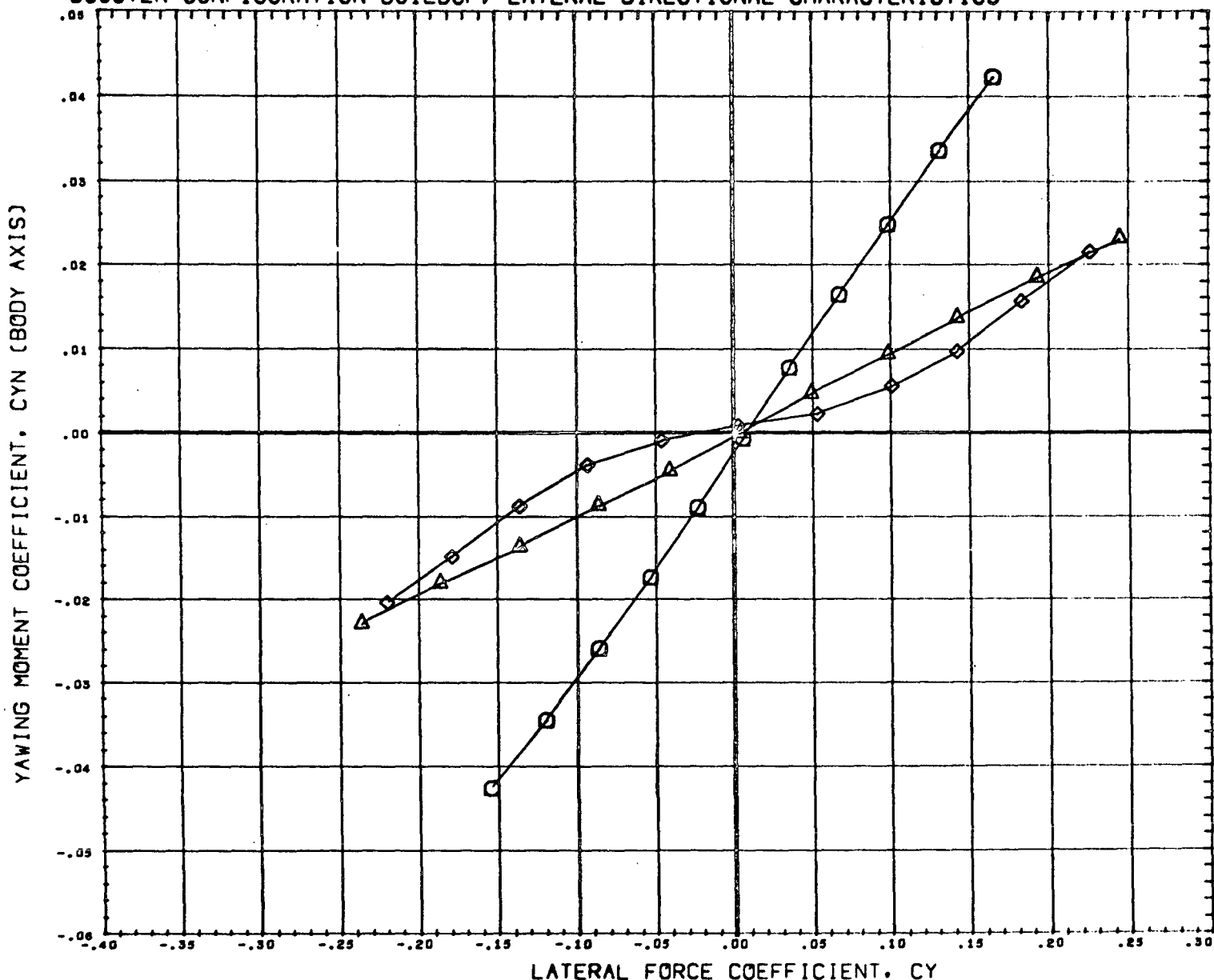
REFERENCE INFORMATION

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 LREF 6.4400 INCH
 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 1.193

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A96011)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
(A96018)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
(A96025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

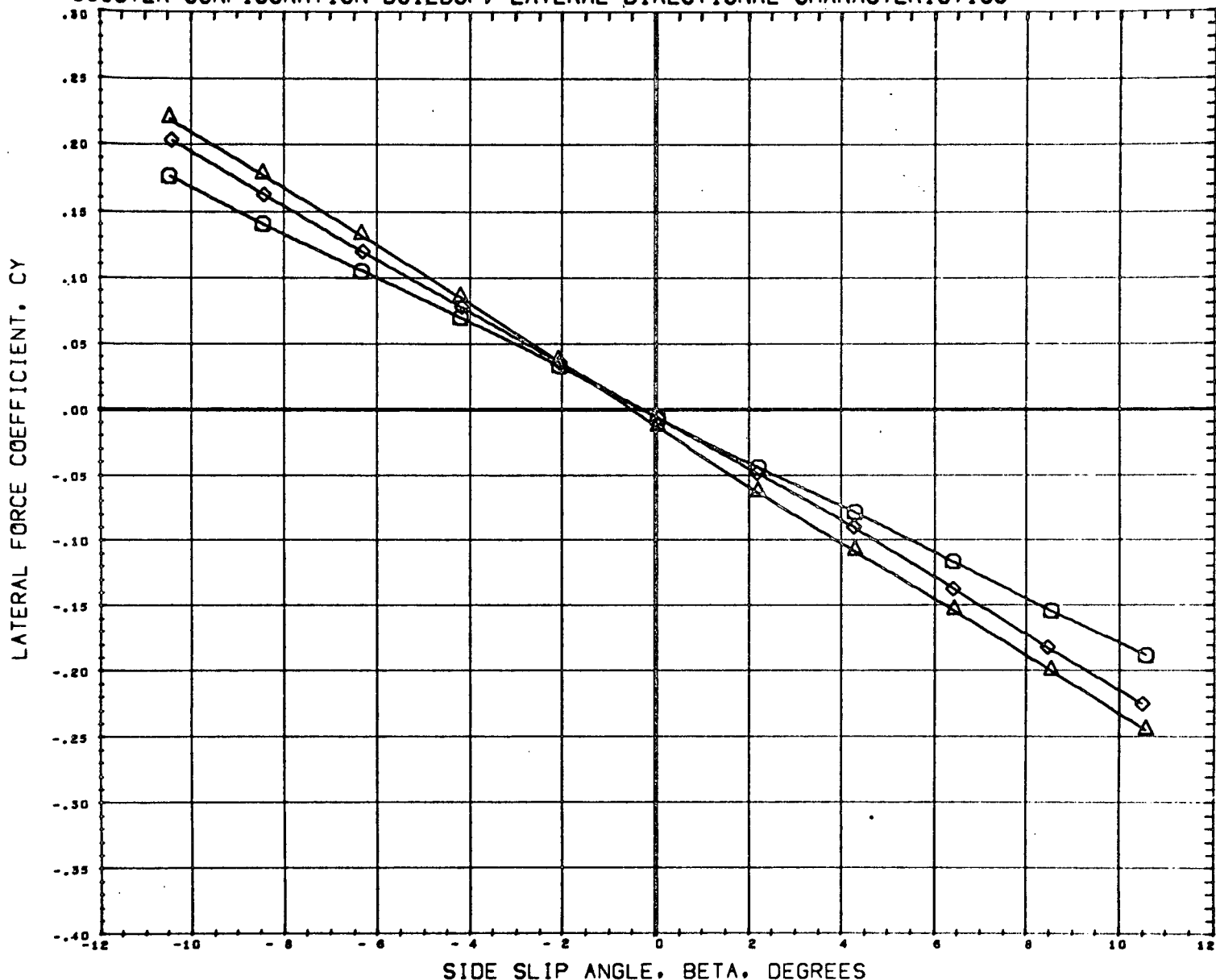
ALPHA	CANARD	ELEVON
15.000	0.000	0.000
15.000	0.000	0.000
15.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.064

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



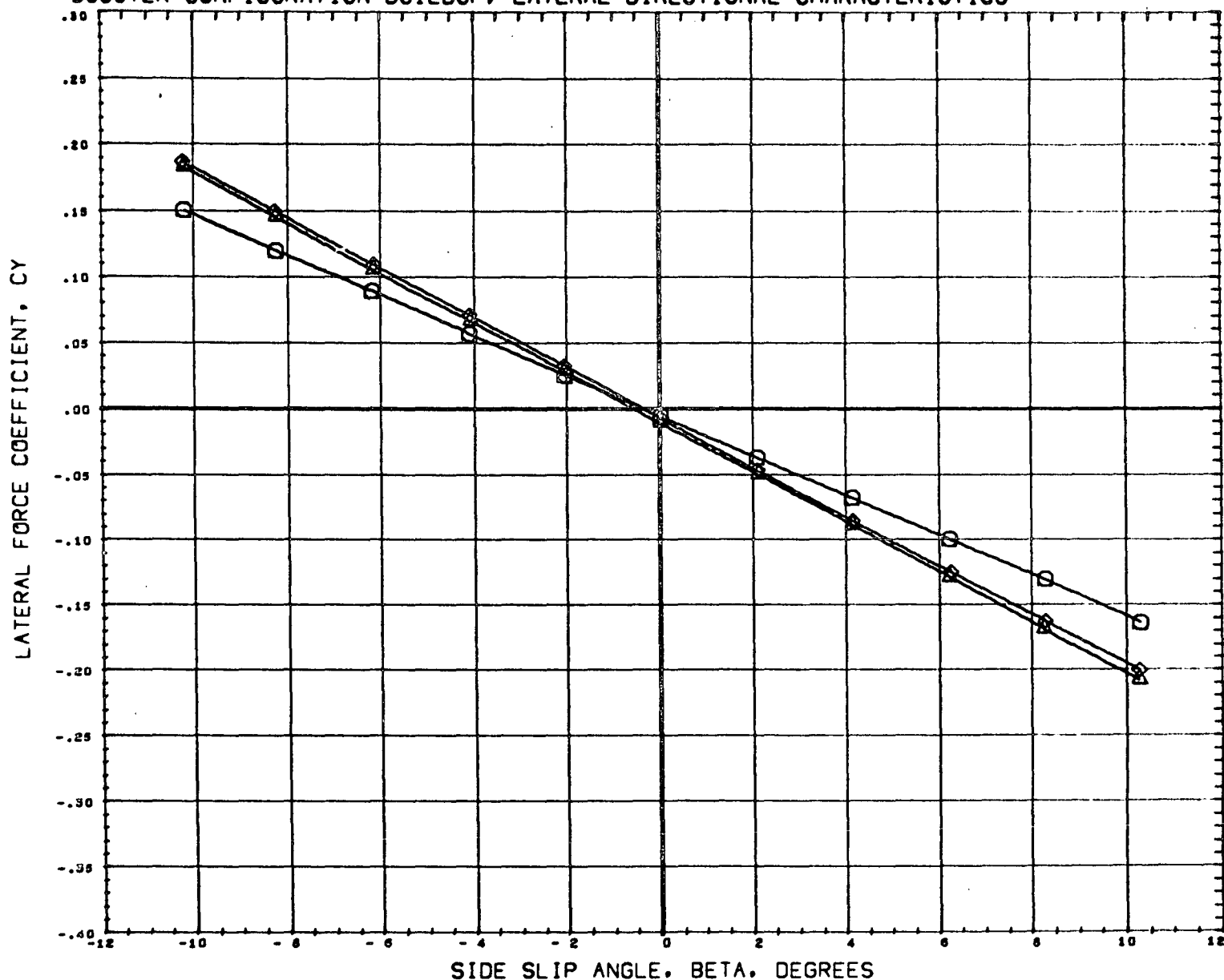
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56012)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	30.000	0.000	0.000
(A56019)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	30.000	0.000	0.000
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	0.000

MACH 1.960

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56012)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
(A56019)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

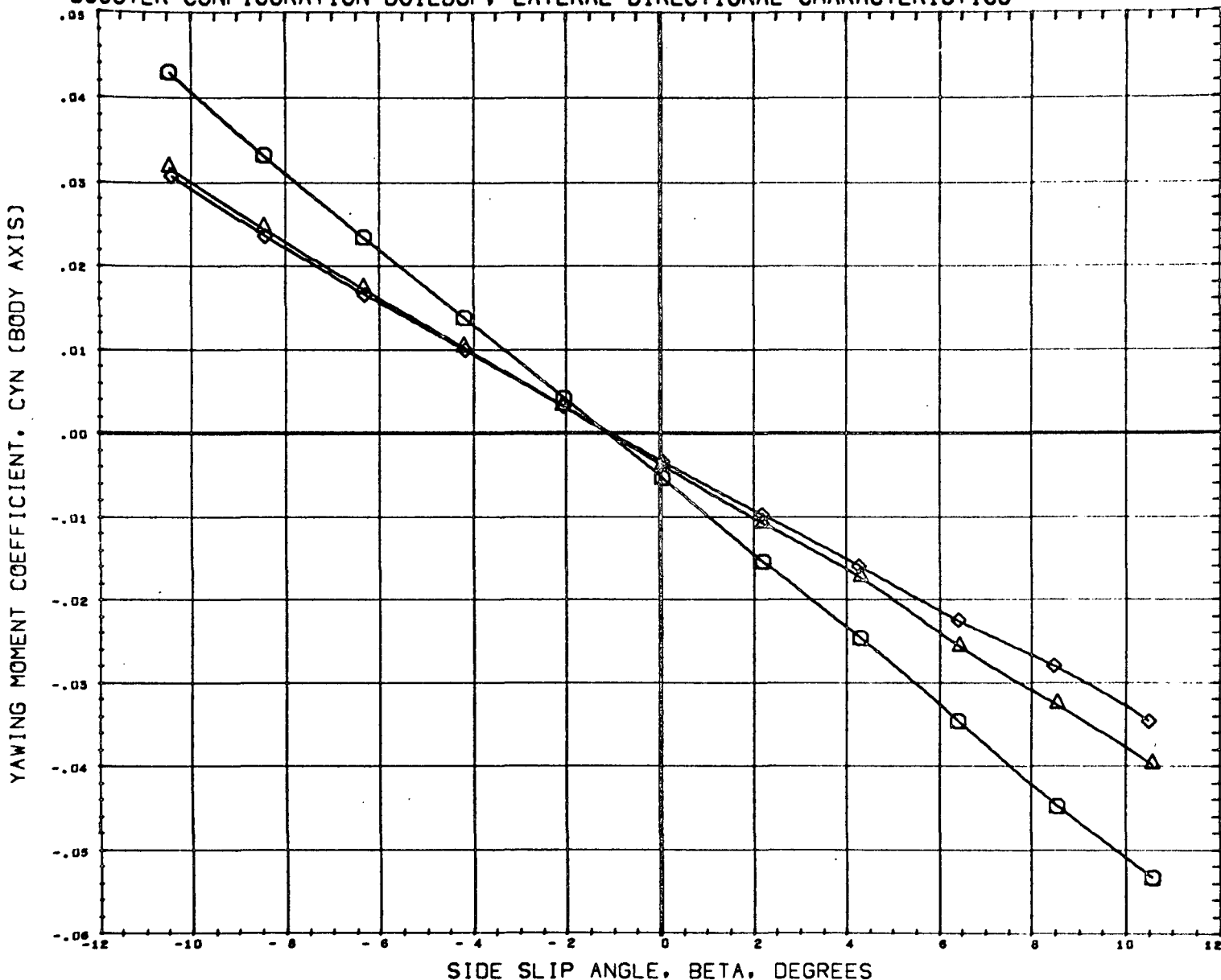
ALPHA	CANARD	ELEVON
30.000	0.000	0.000
30.000	0.000	0.000
30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56012) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
 (A56019) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
 (A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

ALPHA	CANARD	ELEVON
30.000		0.000
30.000	0.000	0.000
30.000	0.000	0.000

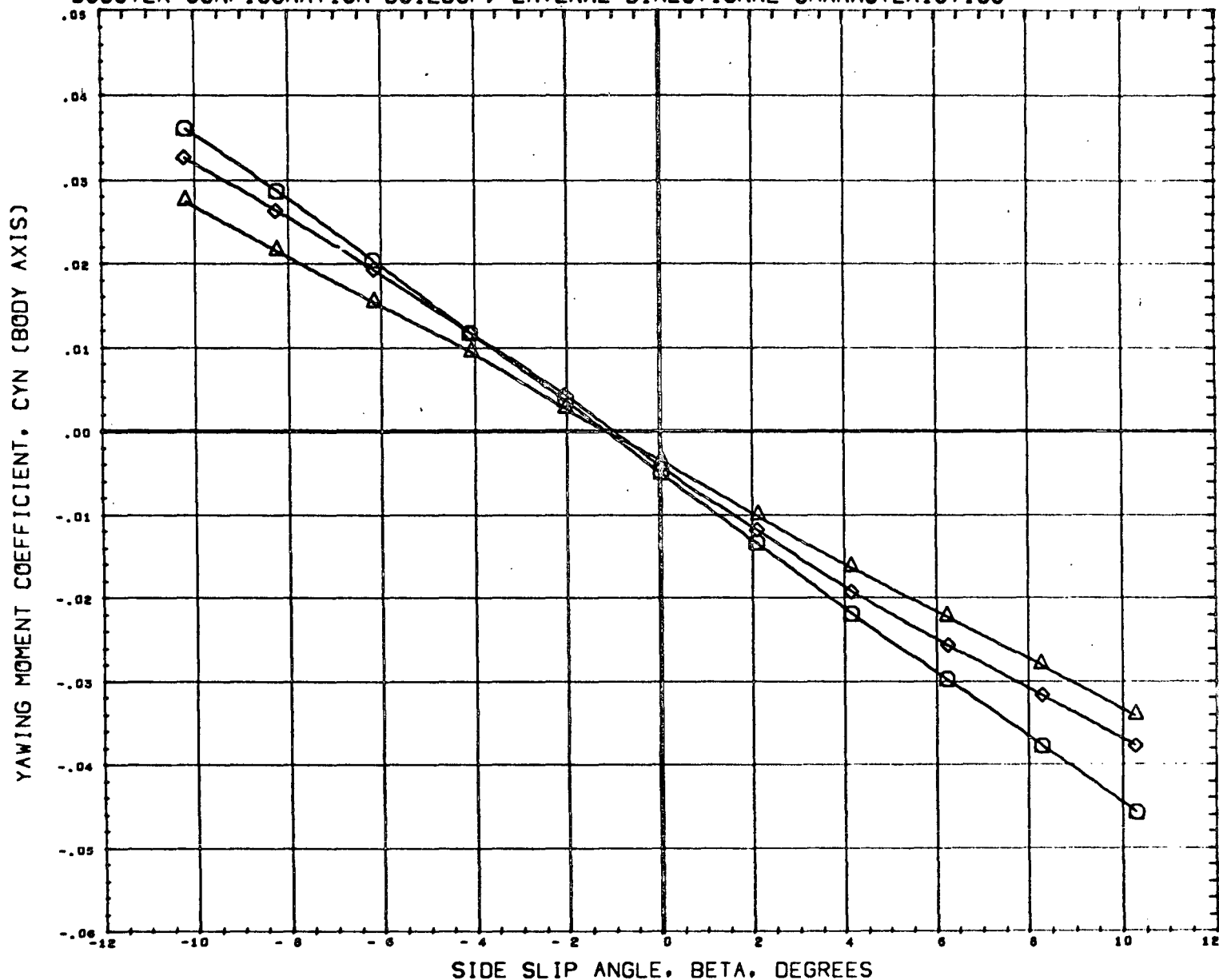
REFERENCE INFORMATION

SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



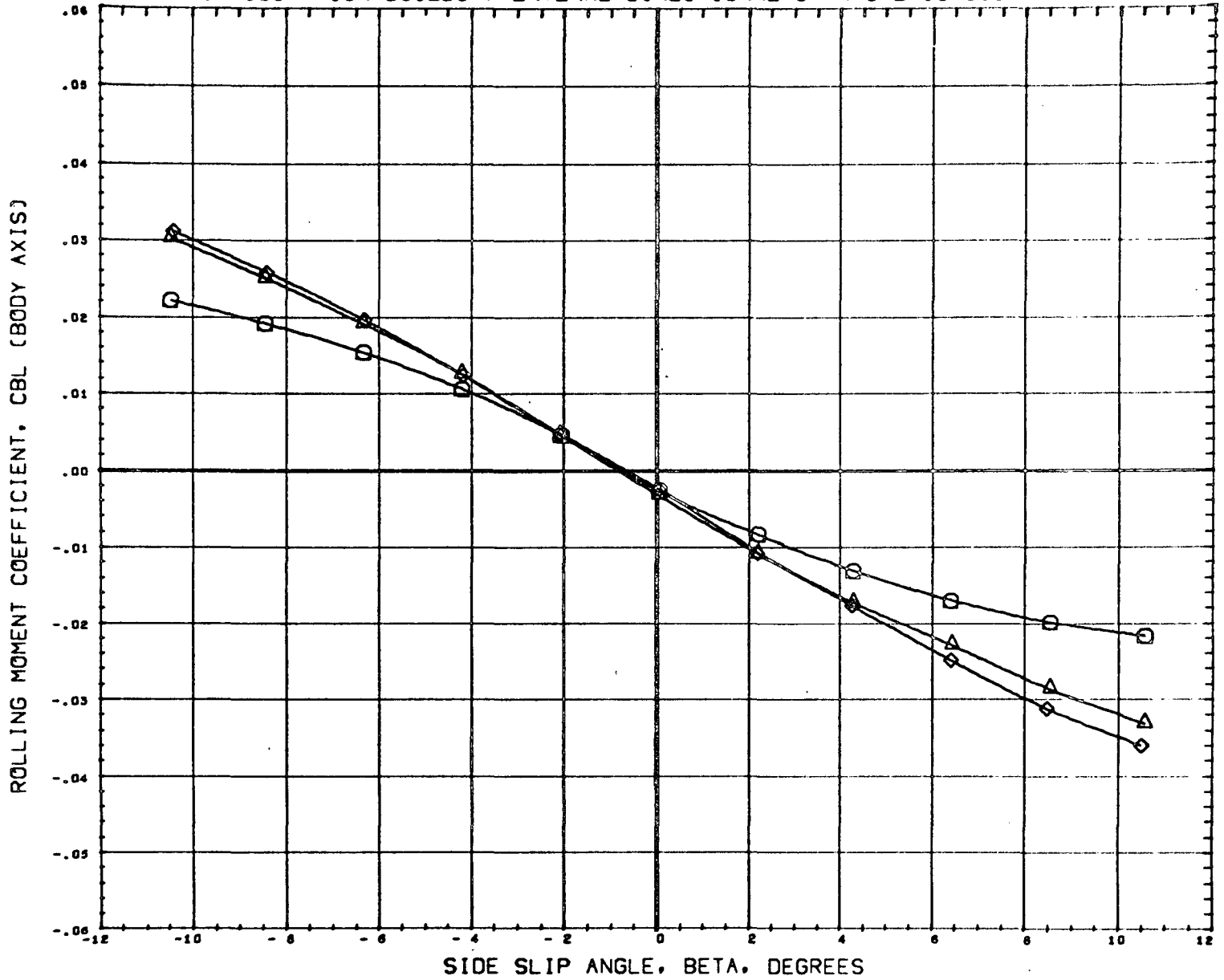
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56012) ○	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
(A56019) △	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
(A56026) ◇	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
30.000		0.000
30.000	0.000	0.000
30.000	0.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56012) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1

(A56019) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1

(A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA 30.000
CANARD 0.000
ELEVON 0.000

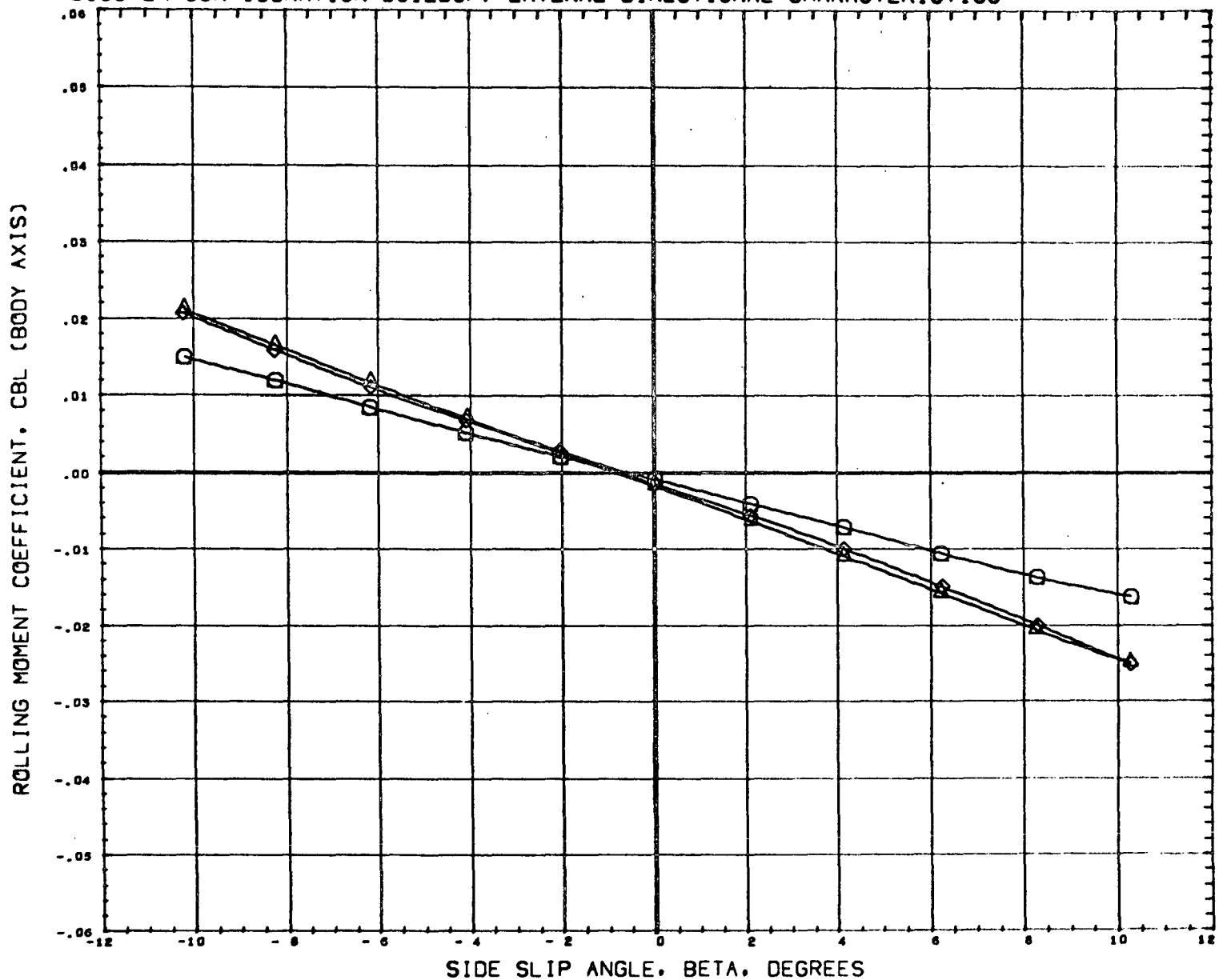
REFERENCE INFORMATION

SREF 9.7800 SQ. IN
LREF 6.4400 INCH
BREF 5.7300 INCH
XMRP 4.6400 INCH
YMRP 0.0000 INCH
ZMRP 0.6670 INCH
SCALE 0.0034

MACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



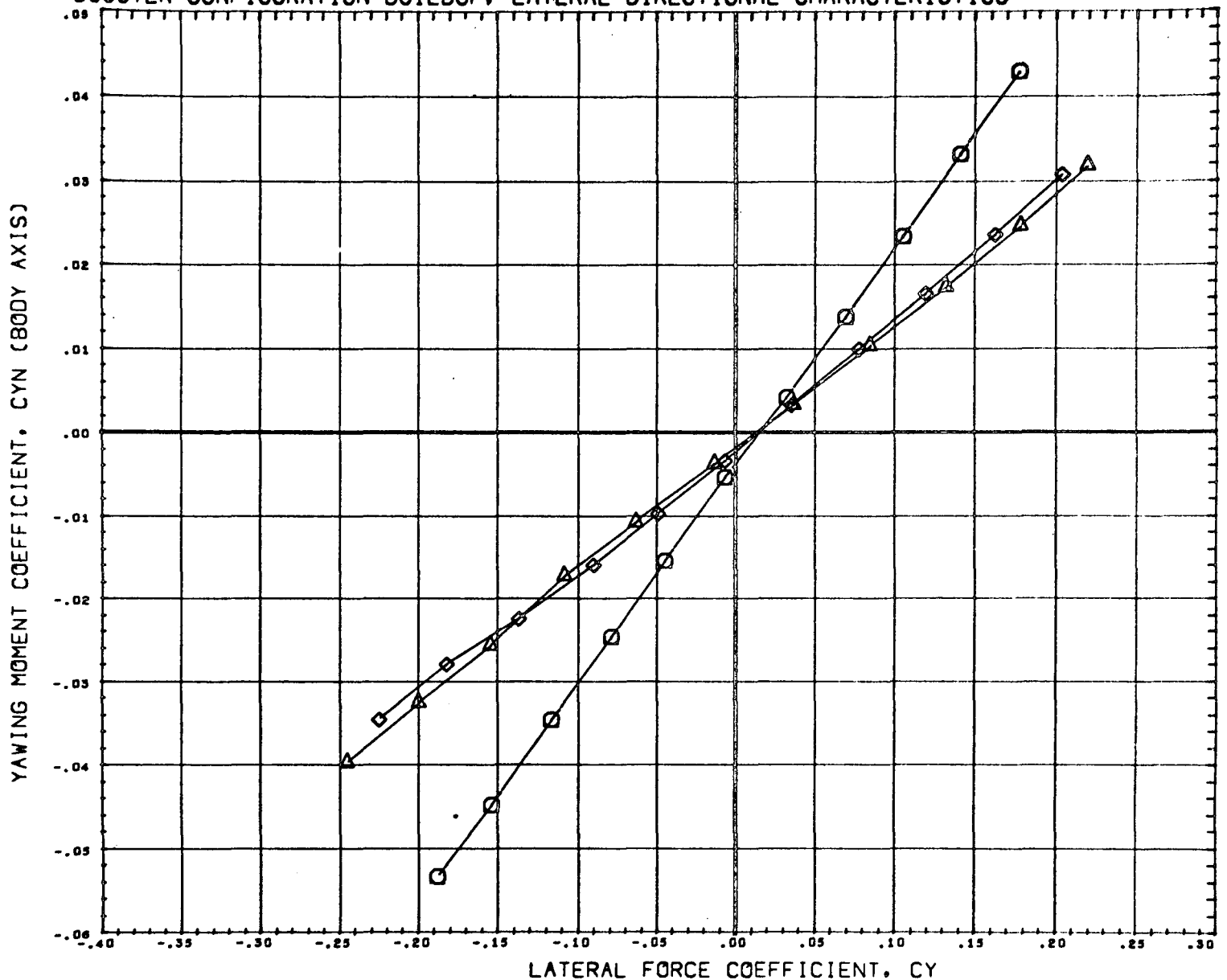
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56012)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	30.000	0.000	0.000
(A56019)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	30.000	0.000	0.000
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A36012)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1
(A36019)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1
(A36026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

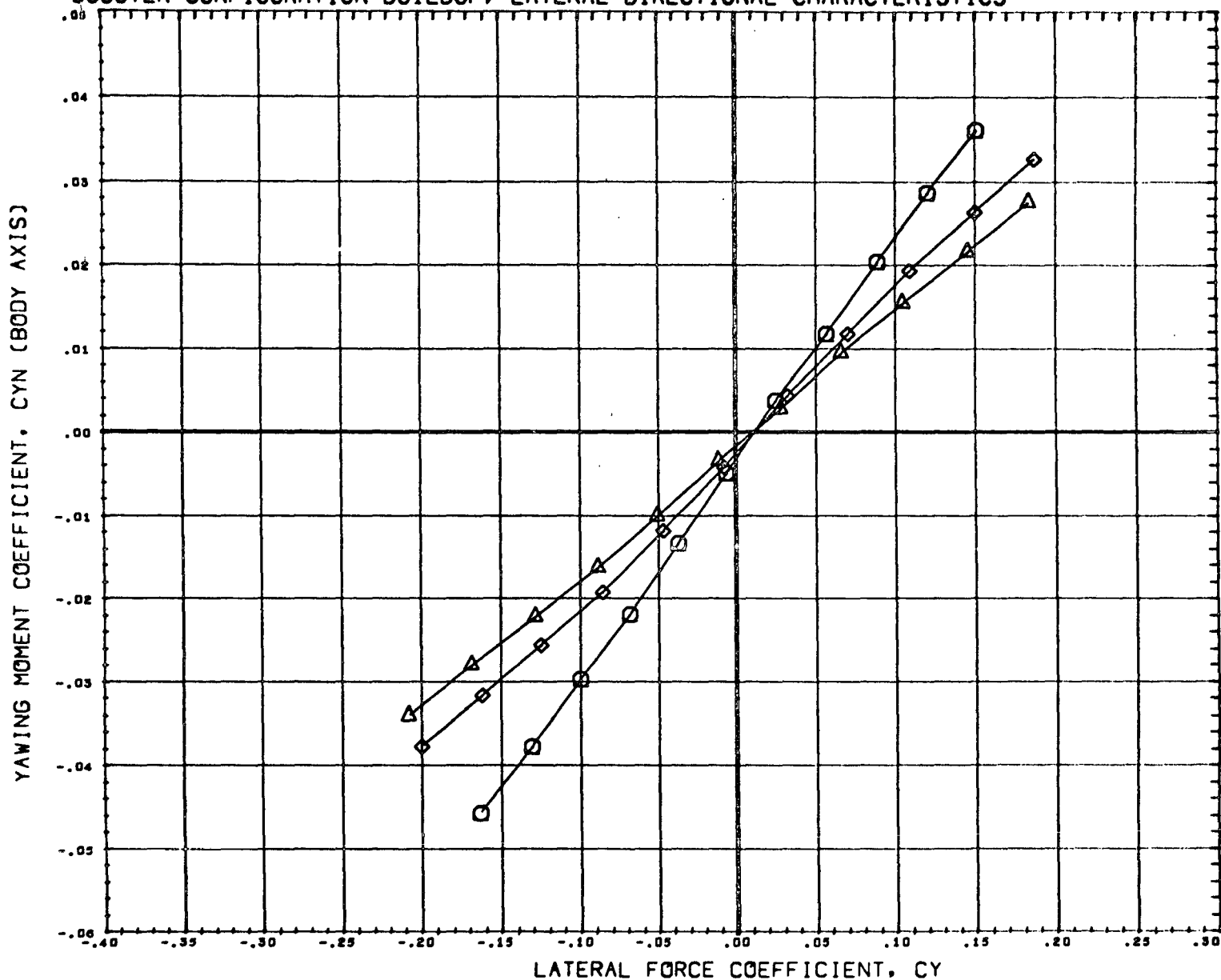
ALPHA	CANARD	ELEVON
30.000	0.000	0.000
30.000	0.000	0.000
30.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56012) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
 (A56019) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
 (A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
30.000	0.000	0.000
30.000	0.000	0.000
30.000	0.000	0.000

REFERENCE INFORMATION

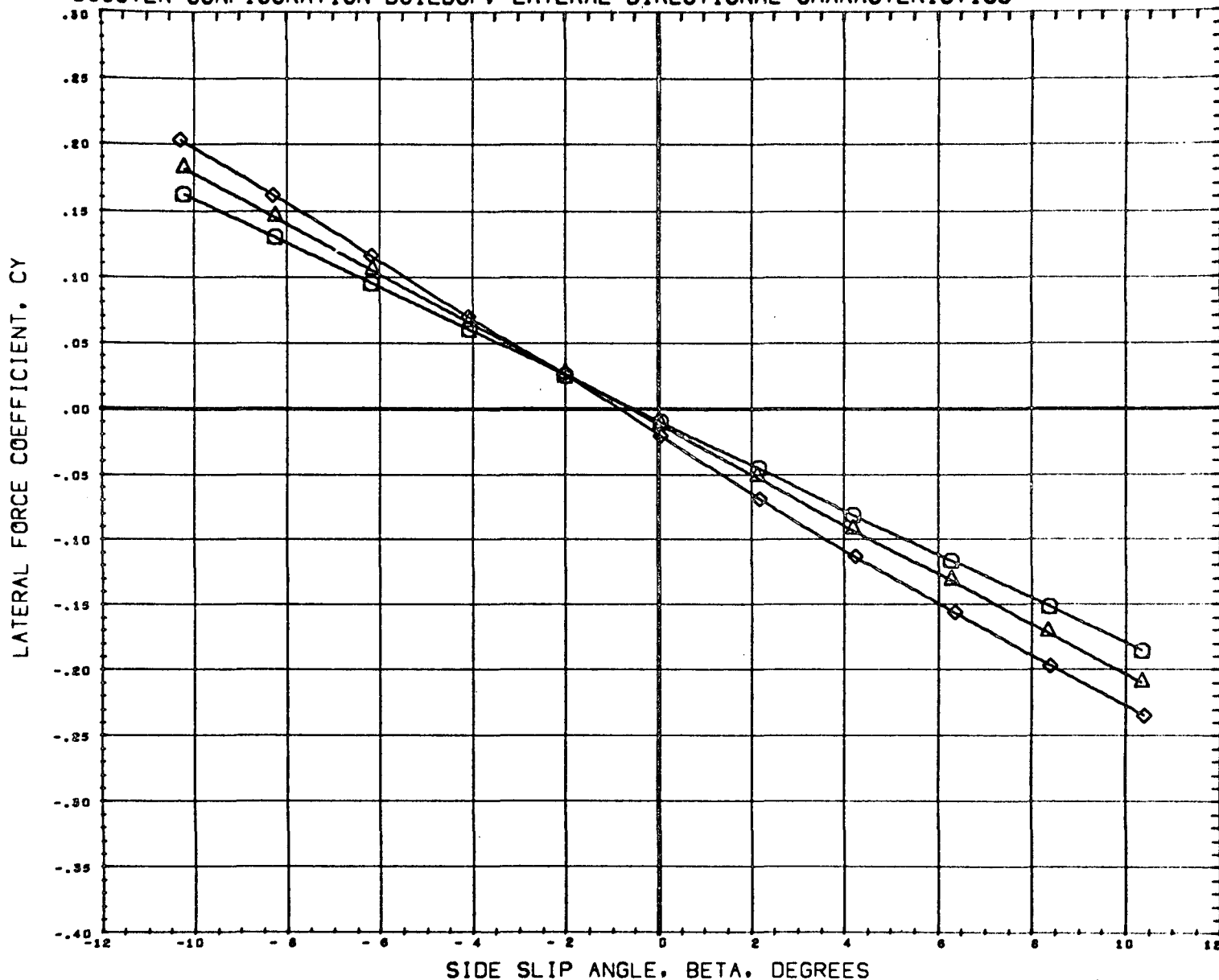
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH

2.740

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56013) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
 (A56020) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
 (B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	CANARD	ELEVON
50.000	0.000	0.000
50.000	0.000	0.000
50.000	0.000	0.000

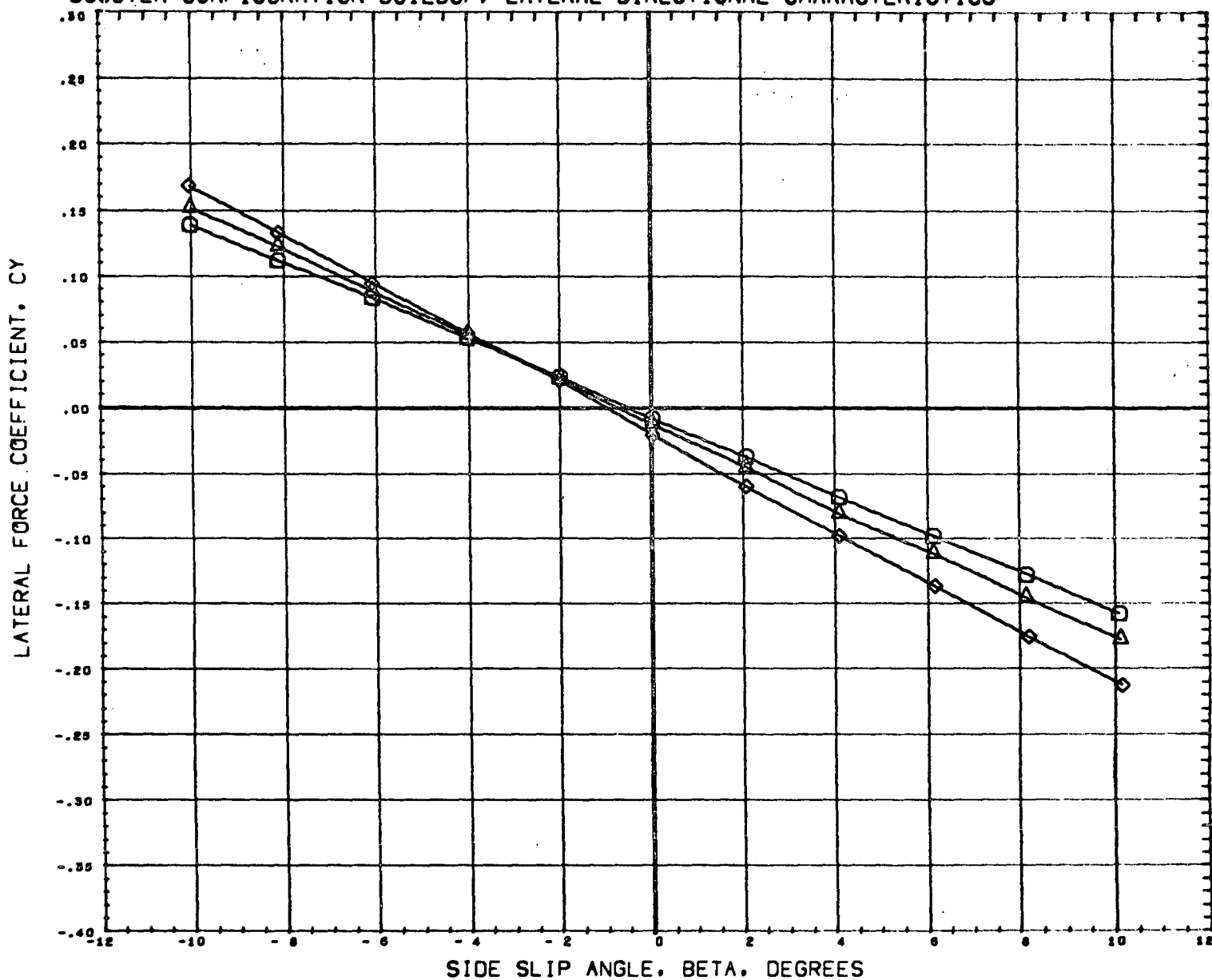
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



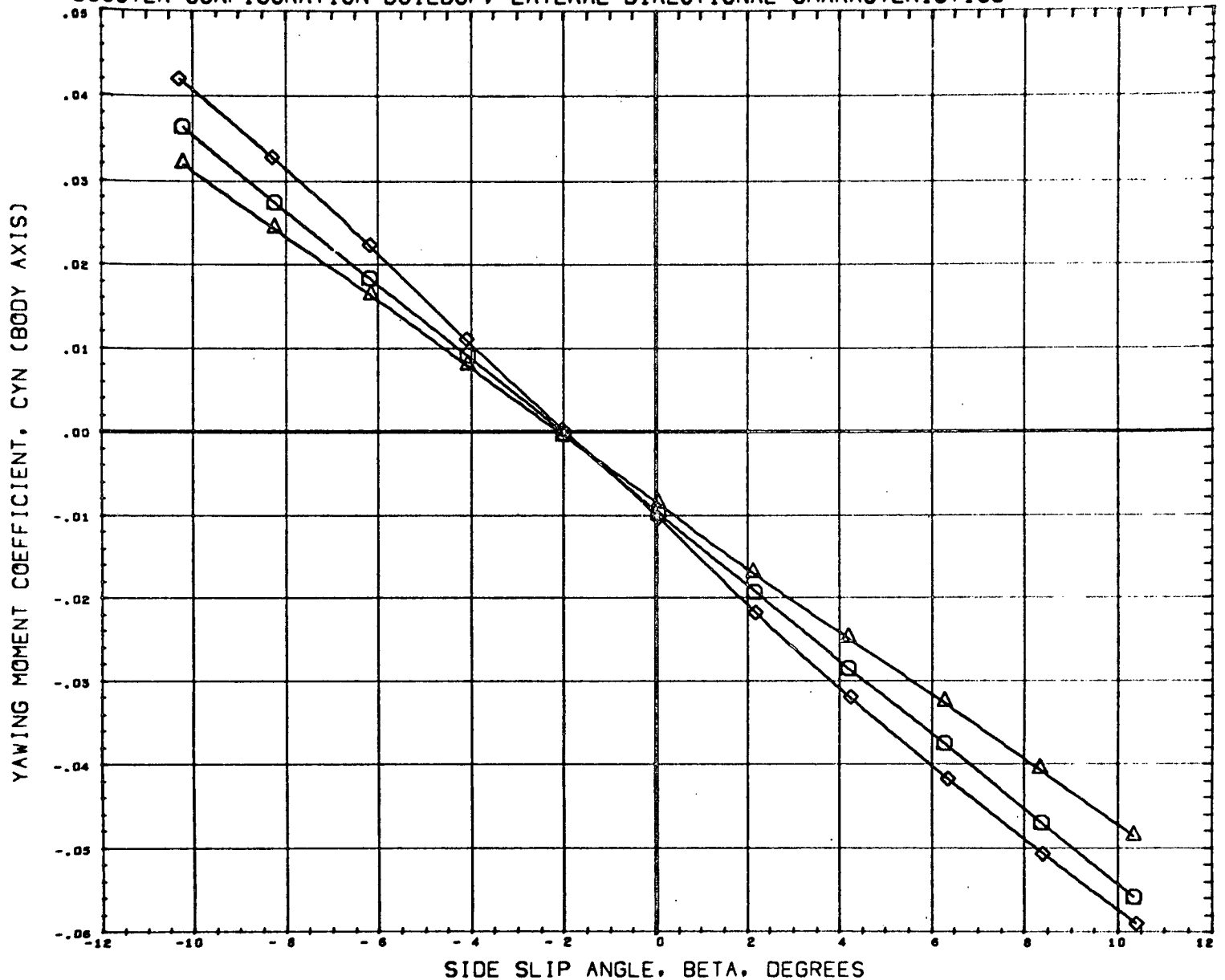
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56013)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1	50.000	0.000	0.000
(A56020)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1	50.000	0.000	0.000
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1	50.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	89. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56023) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1

(A56020) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1V1

(B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIW1C1V1

ALPHA	CANARD	ELEVON
50.000	0.000	0.000
50.000	0.000	0.000
50.000	0.000	0.000

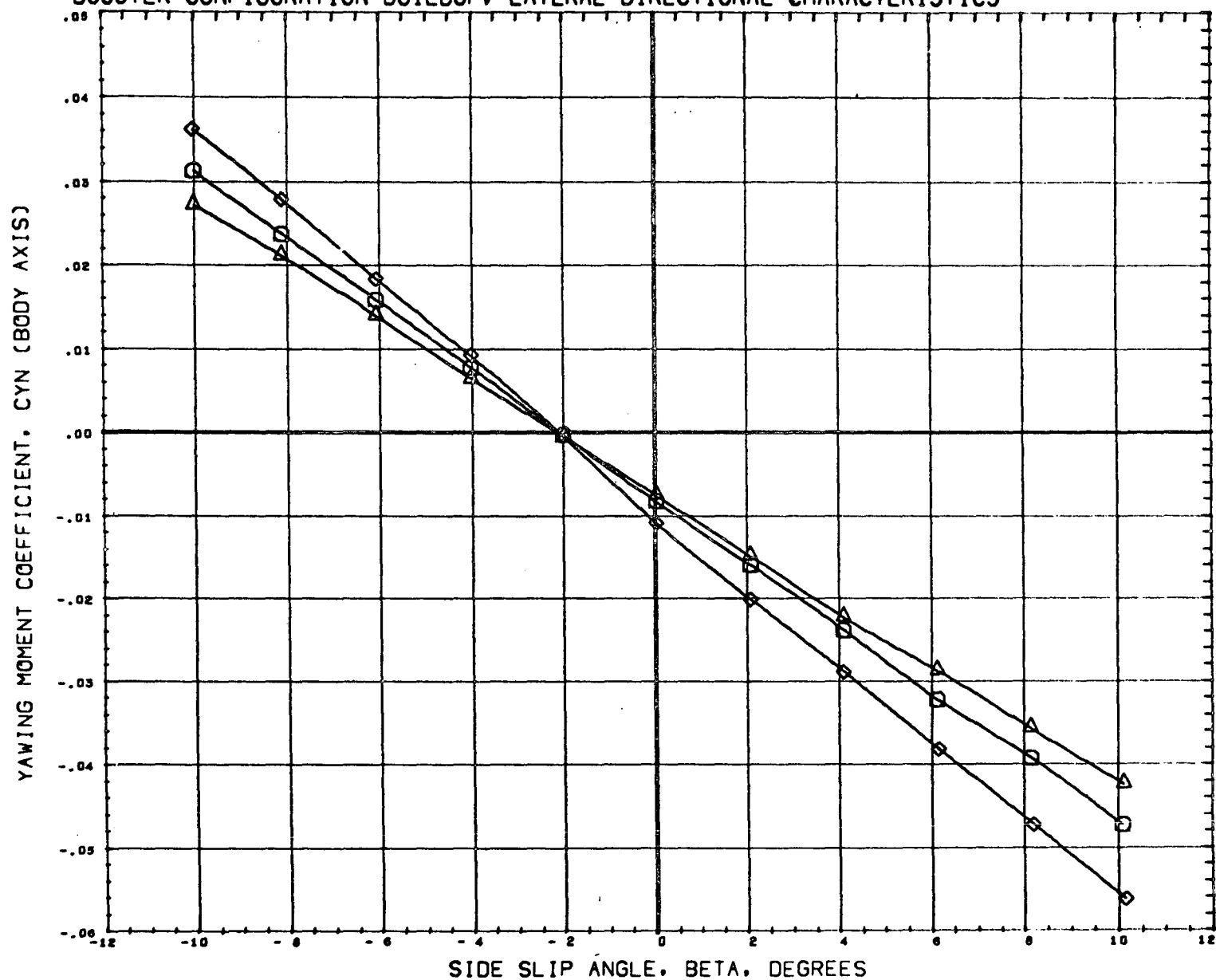
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



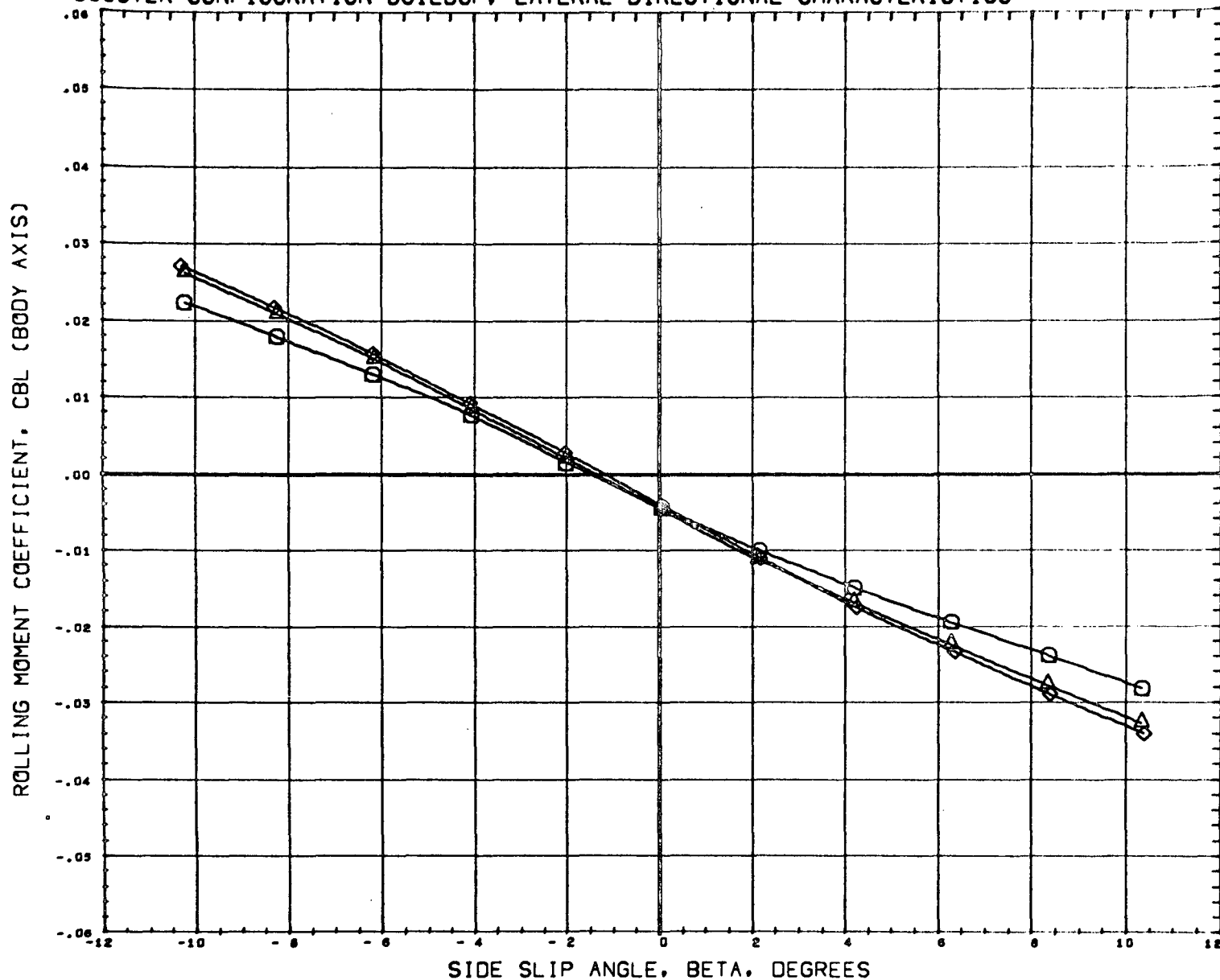
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56G13)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	50.000	0.000	0.000
(A56G20)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	50.000	0.000	0.000
(B56G27)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



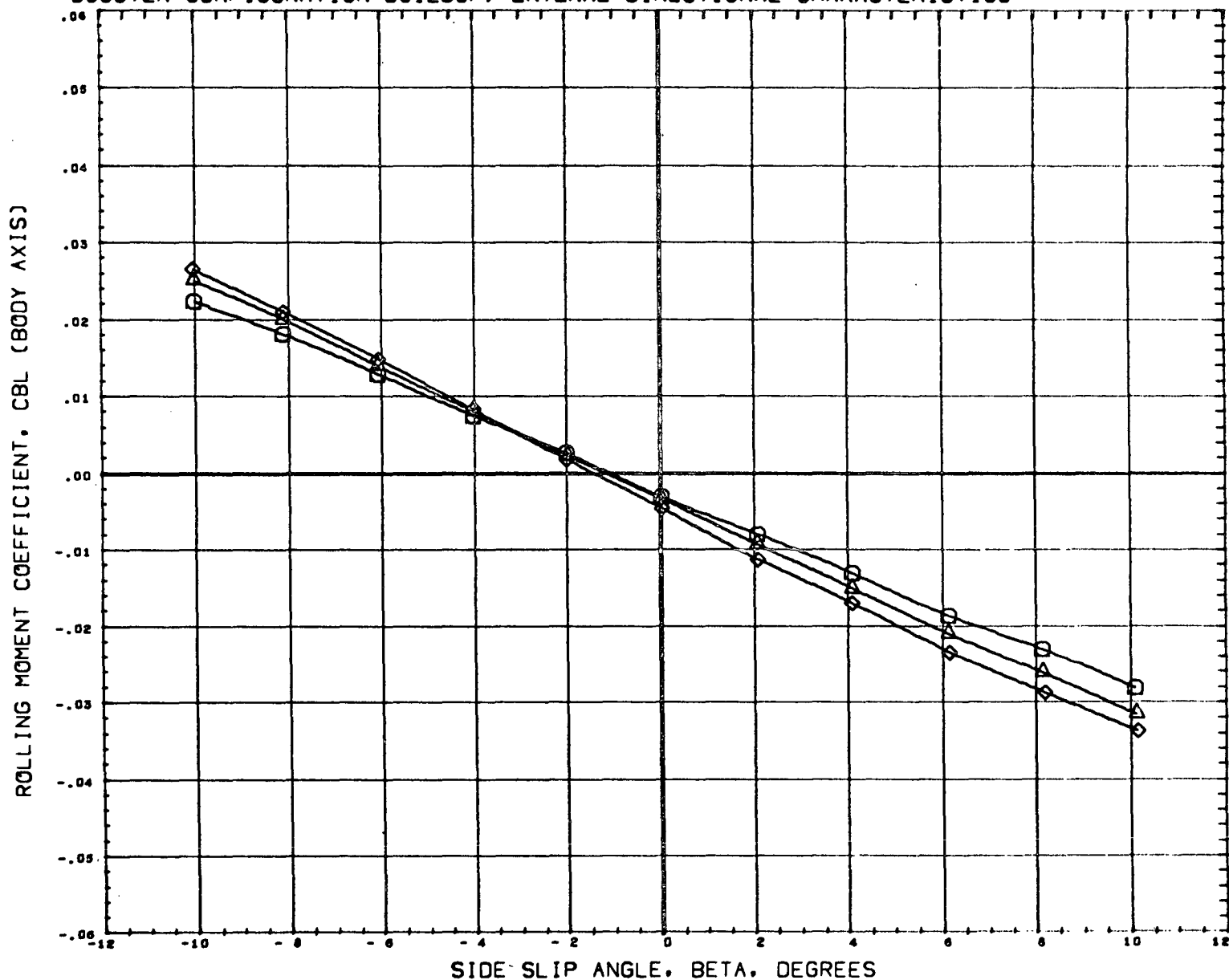
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A56013)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1	50.000	0.000	0.000
(A56020)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1V1	50.000	0.000	0.000
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1	50.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



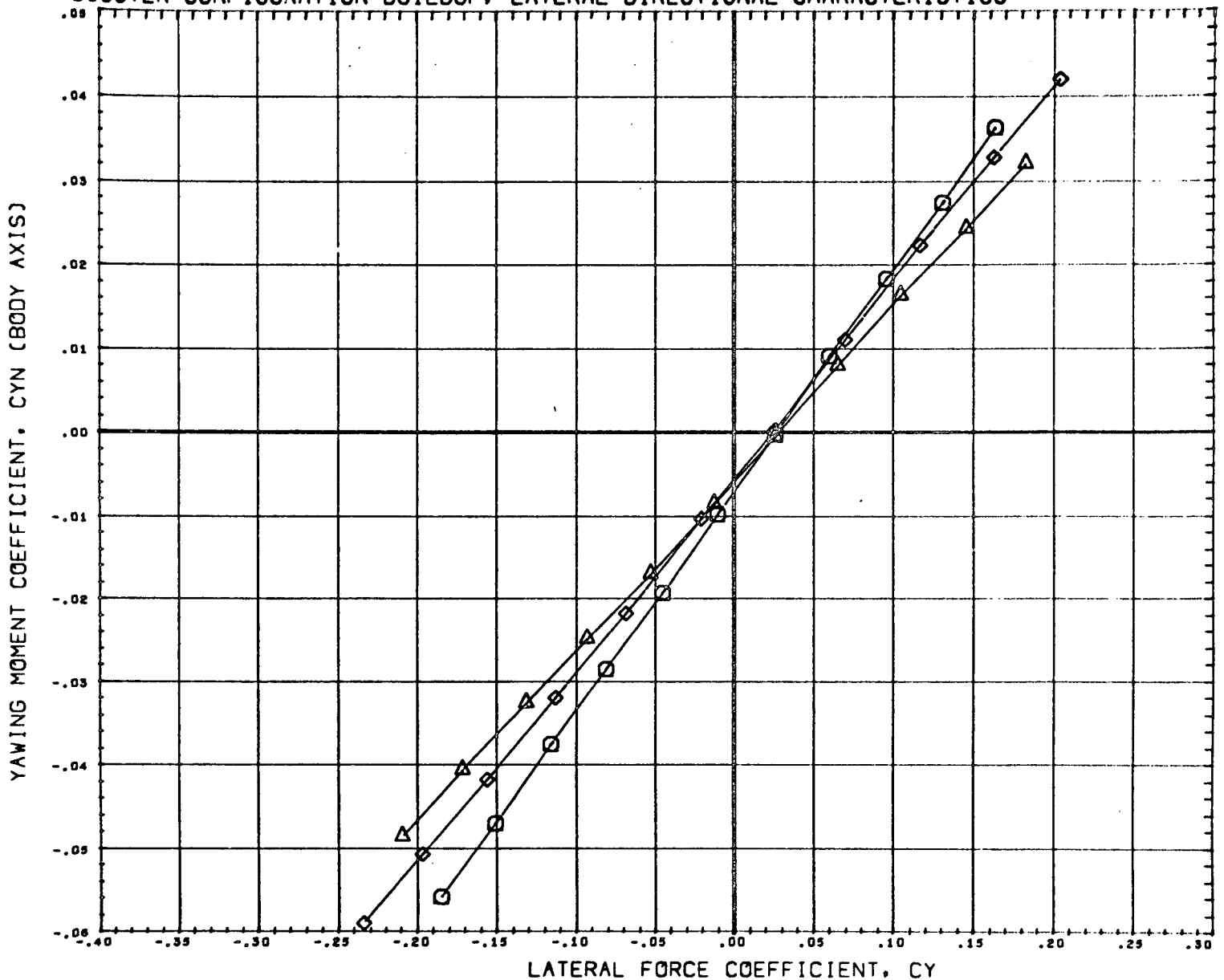
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	CANARD	ELEVON
(A96013)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1	50.000	0.000	0.000
(A96020)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1	50.000	0.000	0.000
(B96027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



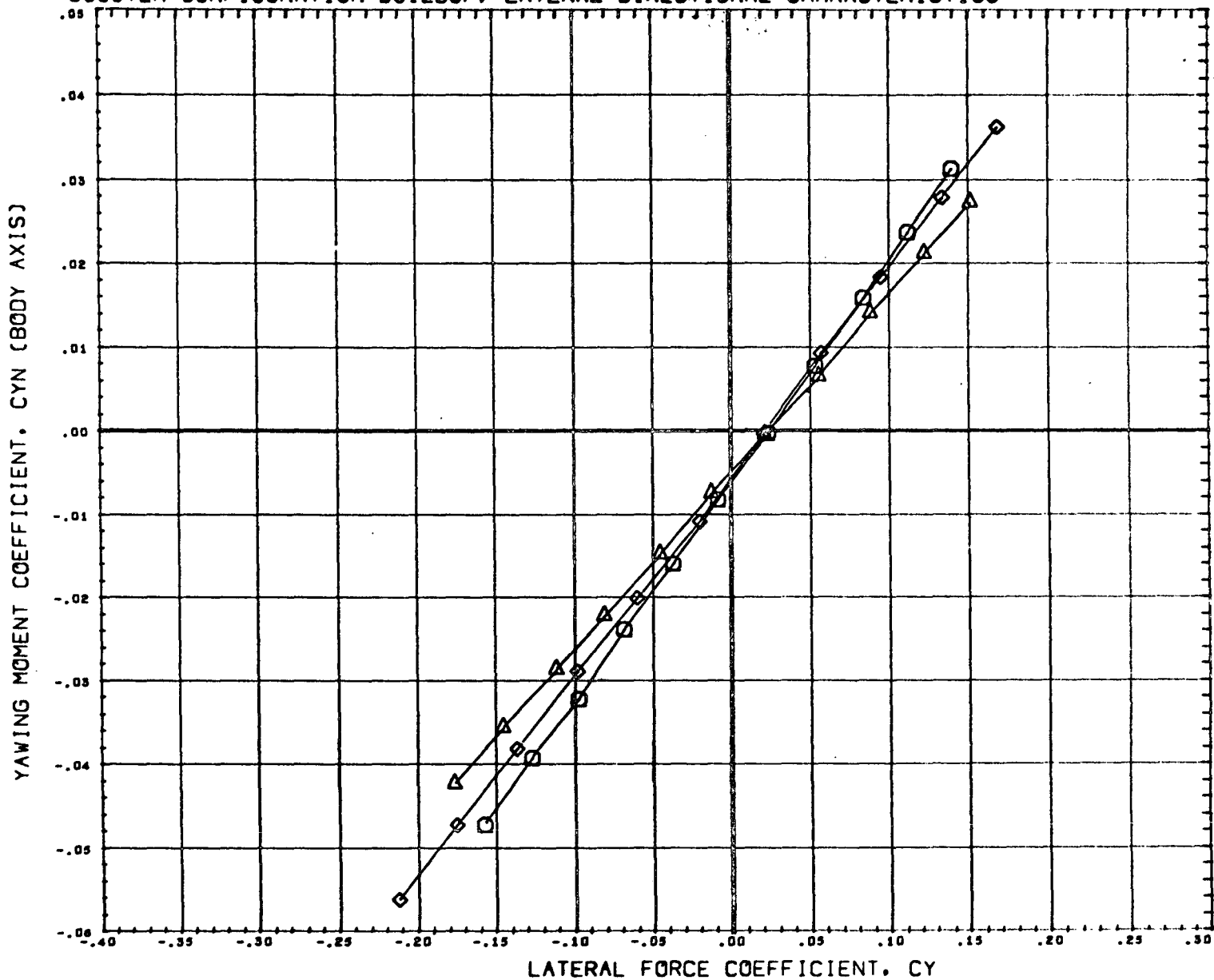
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56013)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1
(A56020)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1V1
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

ALPHA	CANARD	ELEVON
50.000		0.000
50.000	0.000	0.000
50.000	0.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

BOOSTER CONFIGURATION BUILDUP, LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A96013) $\square$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1
 (A96020) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1V1
 (B96027) $\diamond$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA CANARD ELEVON

50.000 0.000 0.000
 50.000 0.000 0.000
 50.000 0.000 0.000

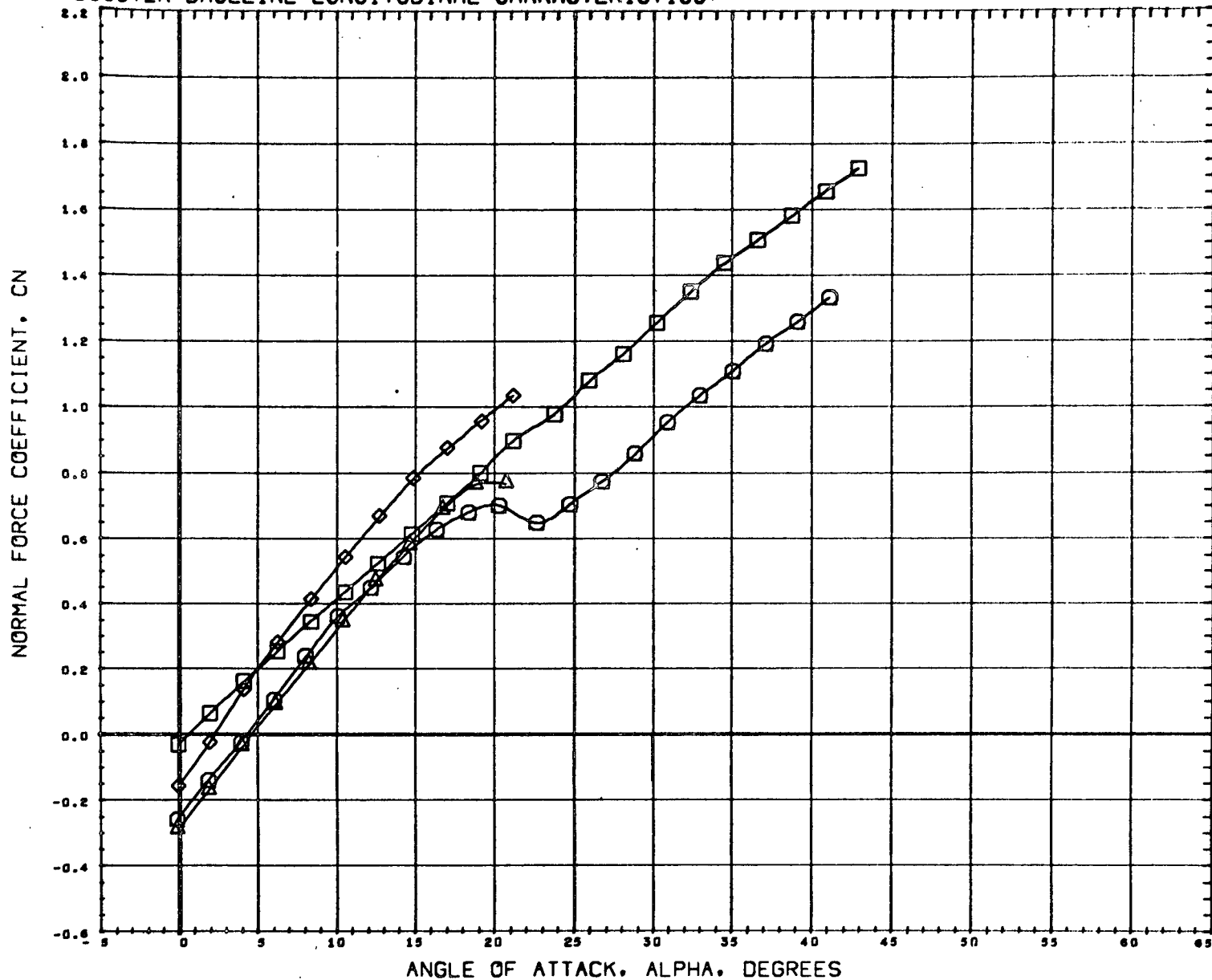
REFERENCE INFORMATION

SREF 9.7800 SQ. IN
 LREF 6.4400 INCH
 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 4.959

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
◇	0.598	BETA	0.000	ELEVON	0.000
△	0.897	RUCR-L	0.000	RUCR-R	0.000
□	1.203	CANARD	0.000		
○	1.947				

DATA HIST. CODE *6#E

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.0400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

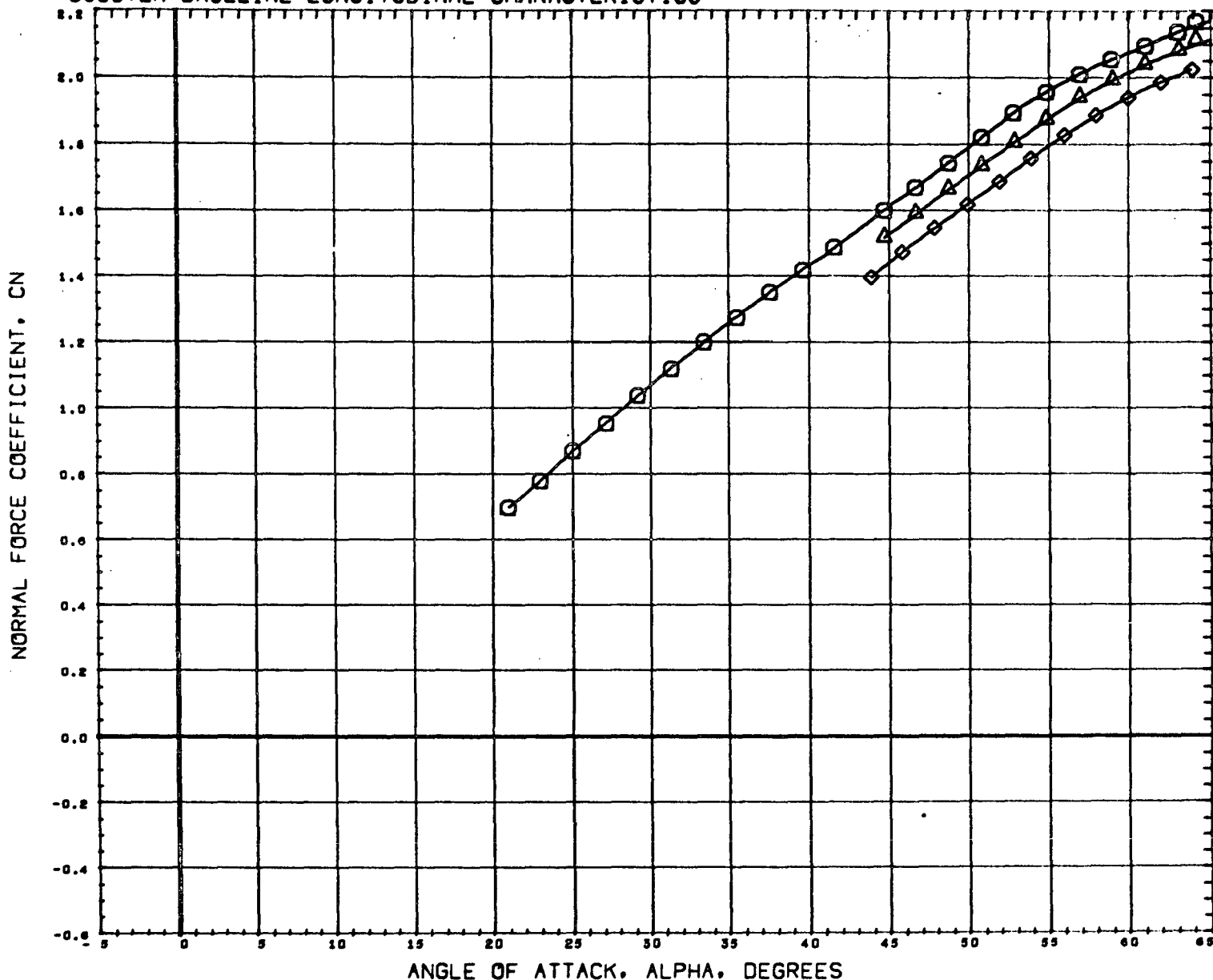
MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(C560S5)

10 FEB 72

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XHRP	4.6400	INCH
YHRP	0.0000	INCH
ZHRP	0.6670	INCH
SCALE	0.0034	

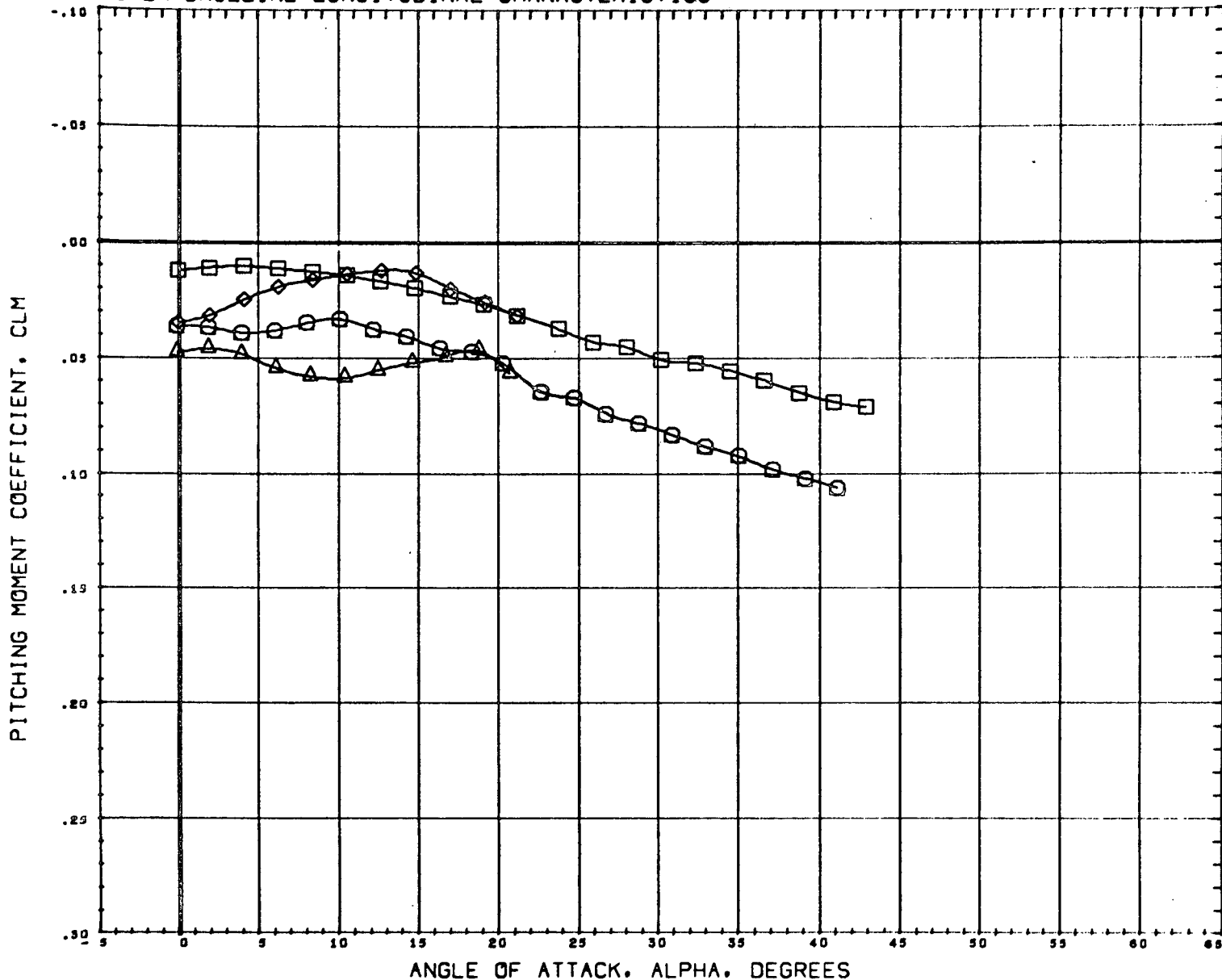
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.596	BETA	0.000	ELEVON	0.000
△	0.897	RUCR-L	0.000	RUCR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

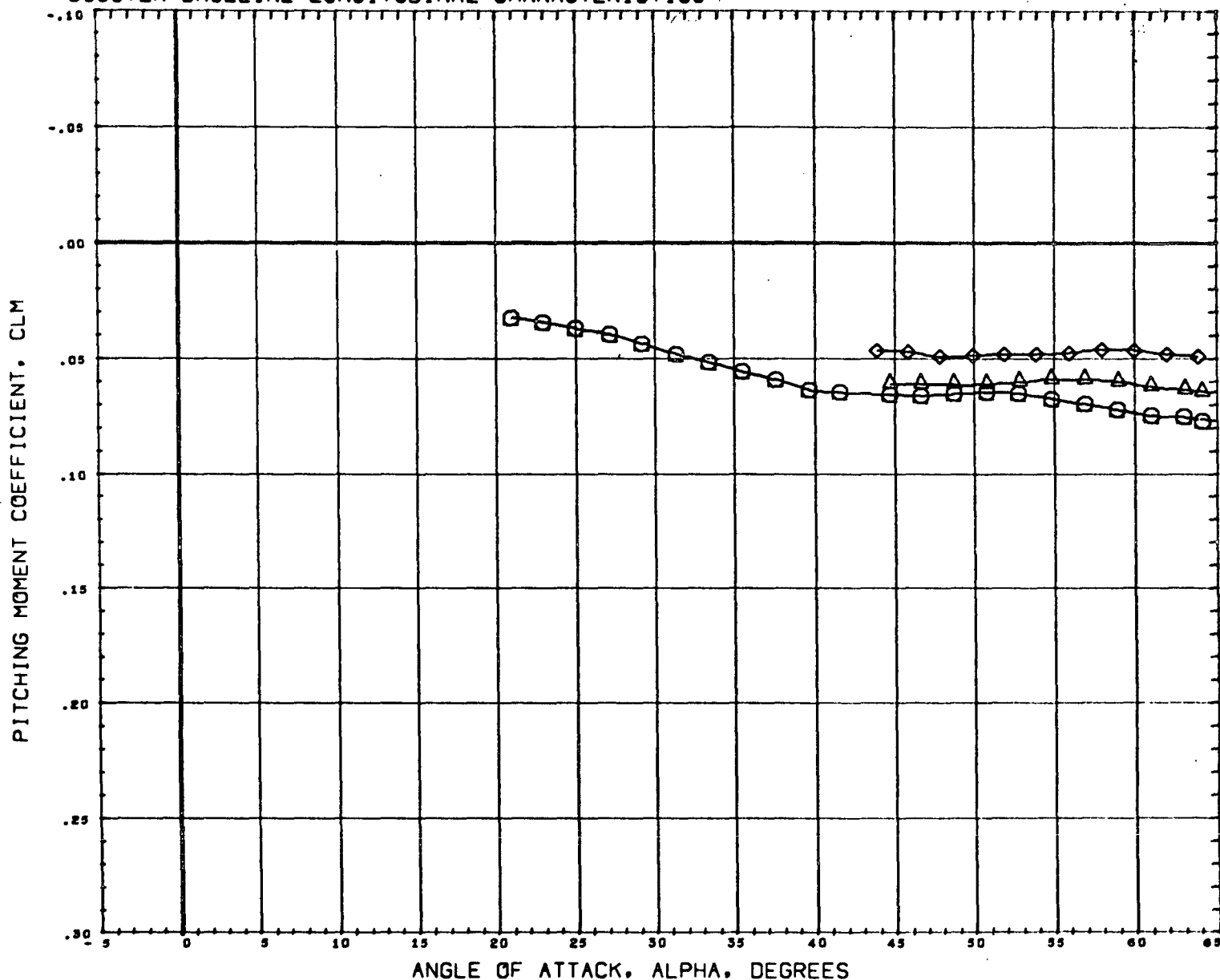
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BREF	5.7300	INCH
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

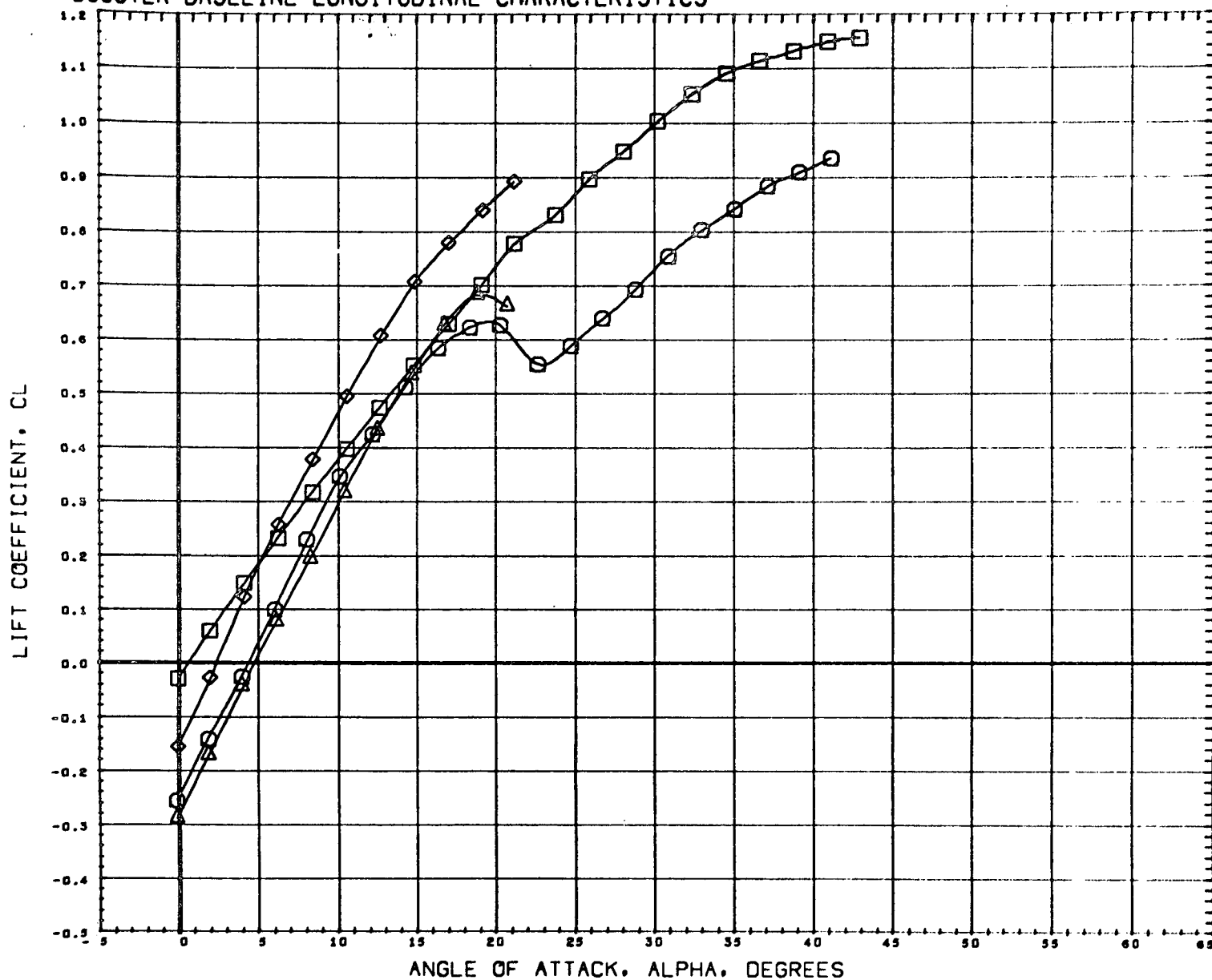
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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



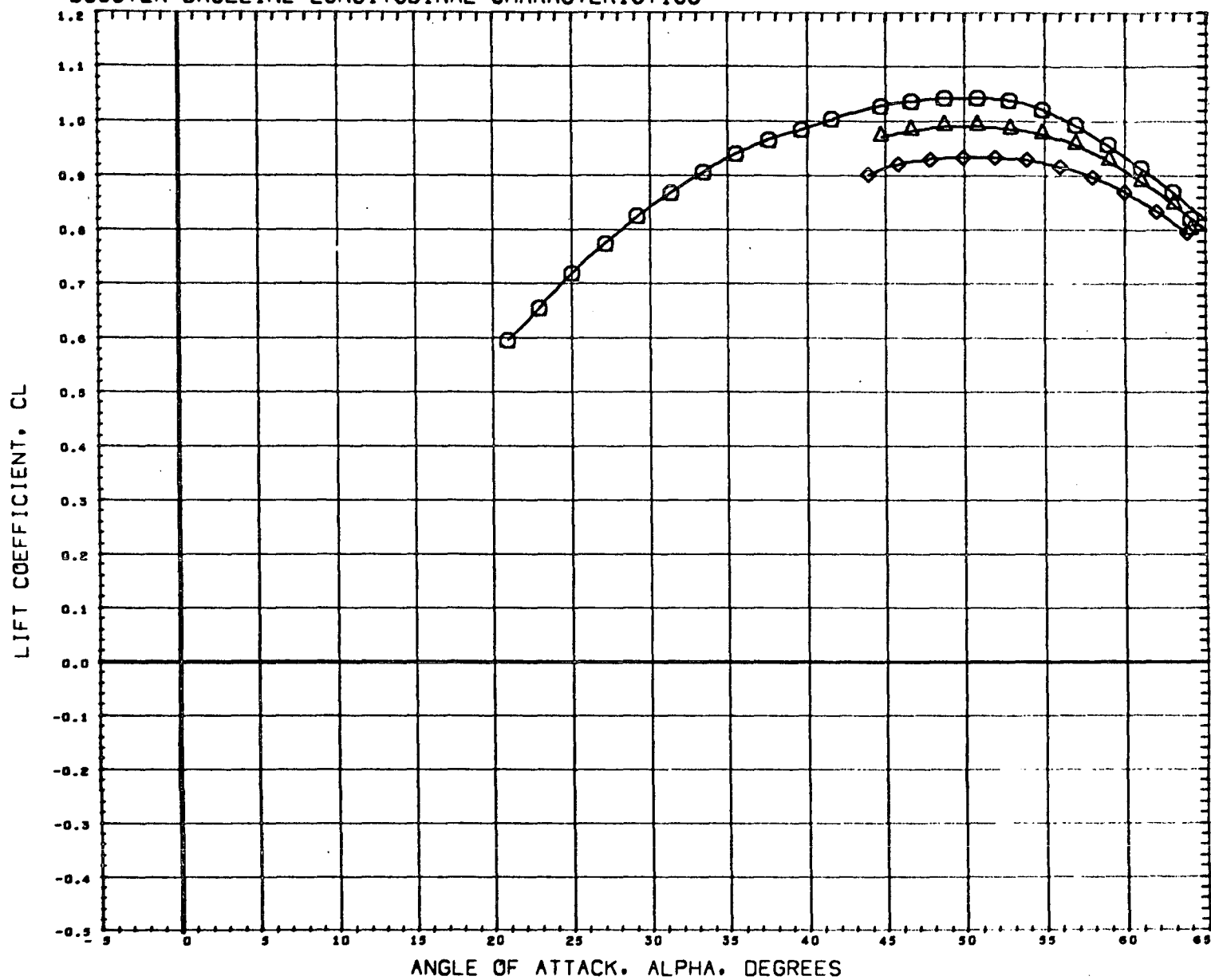
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△	0.897	RUCR-L	0.000	RUCR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.8670	INCH
SCALE	0.0034	

DATA HIST. CODE *G*E

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1 (C560S5) 10 FEB 72 PAGE 119

BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUCR-L	0.000	RUCR-R	0.000
◇	4.939	CANARD	0.000		

REFERENCE INFORMATION		
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YNRP	0.0000	INCH
ZNRP	0.6670	INCH
SCALE	0.0034	

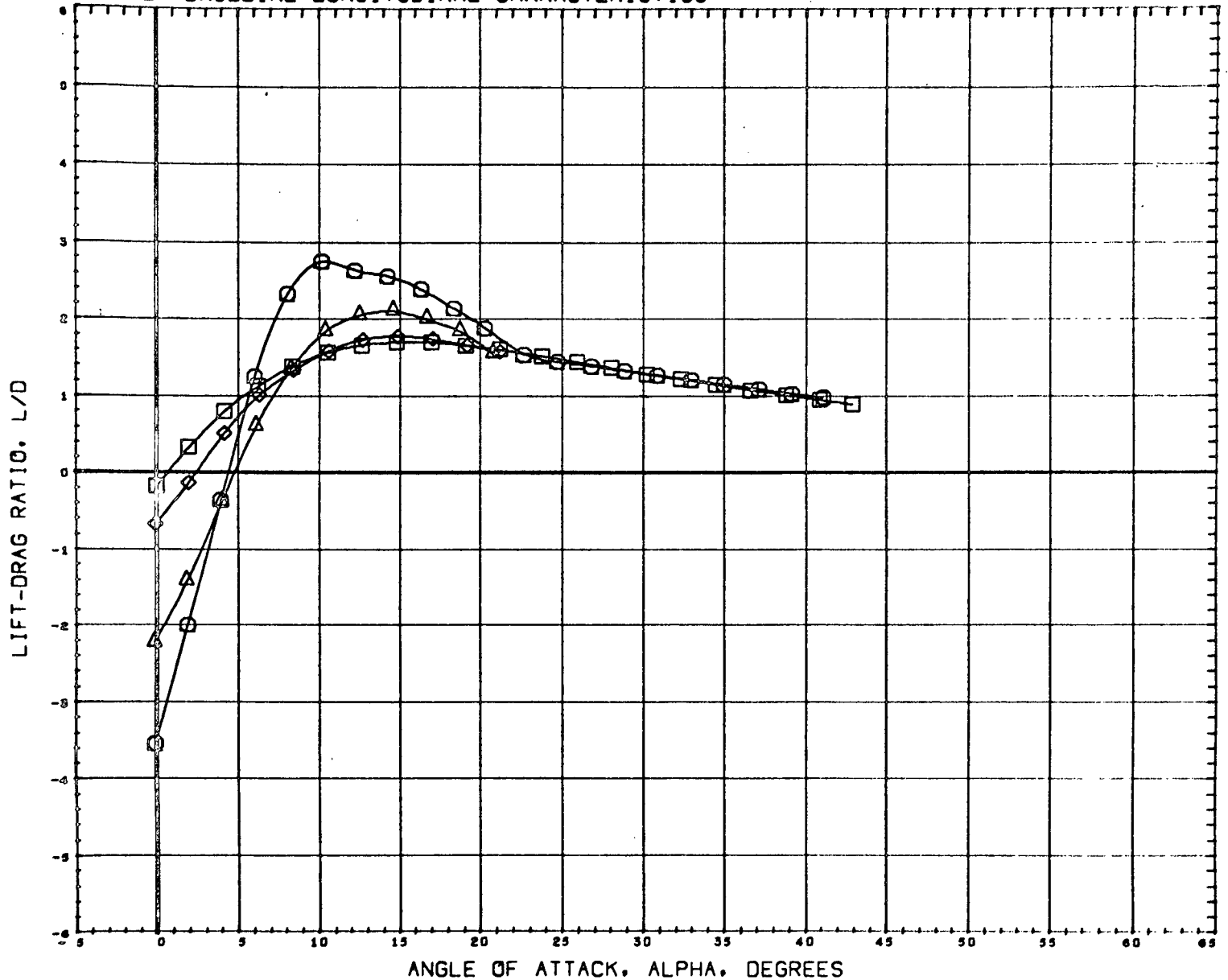
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
$\circ$	0.598	BETA	0.000	ELEVON	0.000
$\triangle$	0.897	RUCR-L	0.000	RUCR-R	0.000
$\diamond$	1.203	CANARD	0.000		
$\square$	1.947				

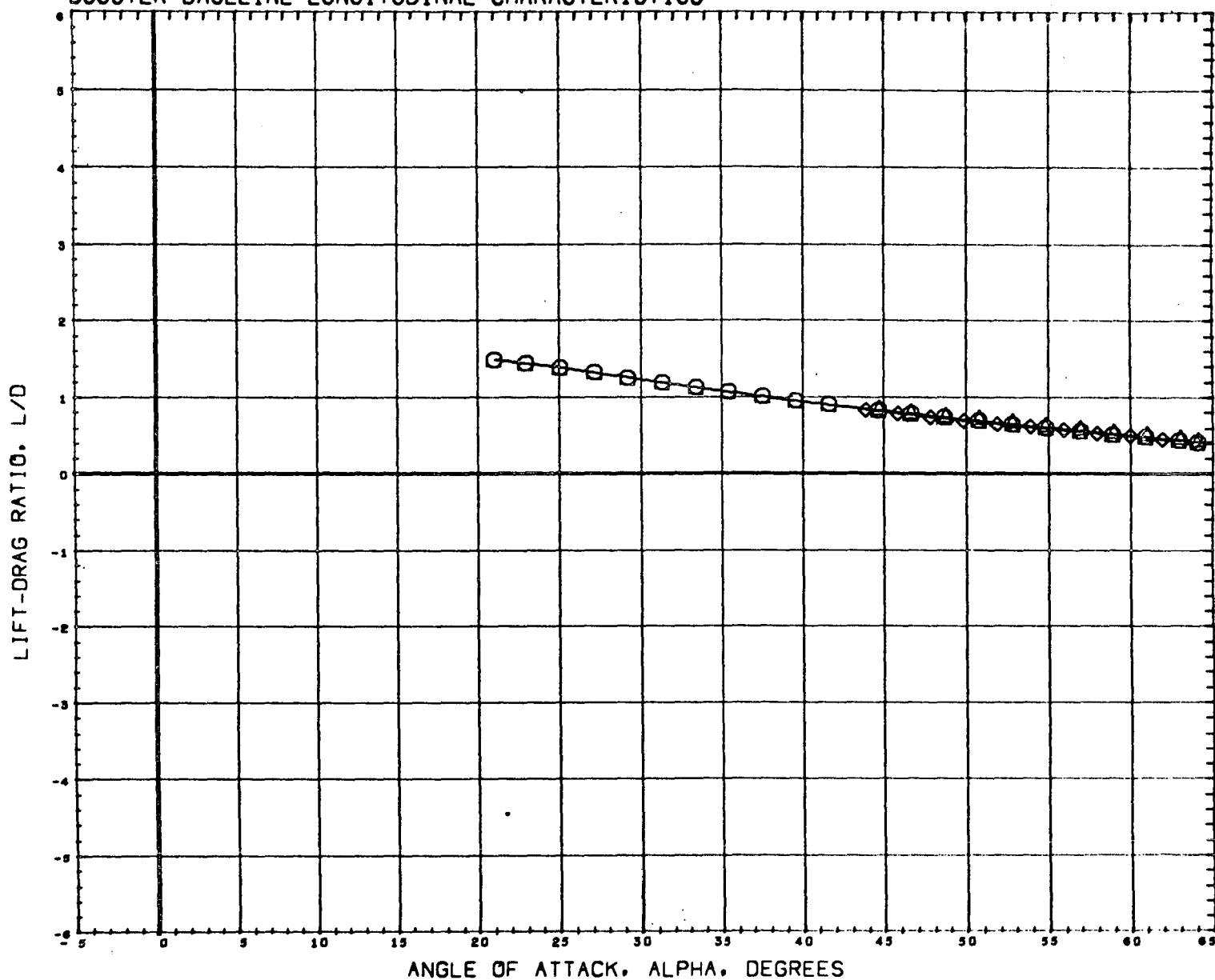
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YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES				REFERENCE INFORMATION	
○	2.740	BETA	0.000	ELEVON	0.000	SREF	9.7800 SQ. IN
△	3.480	RUCR-L	0.000	RUCR-R	0.000	LREF	6.4400 INCH
◇	4.959	CANARD	0.000			BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

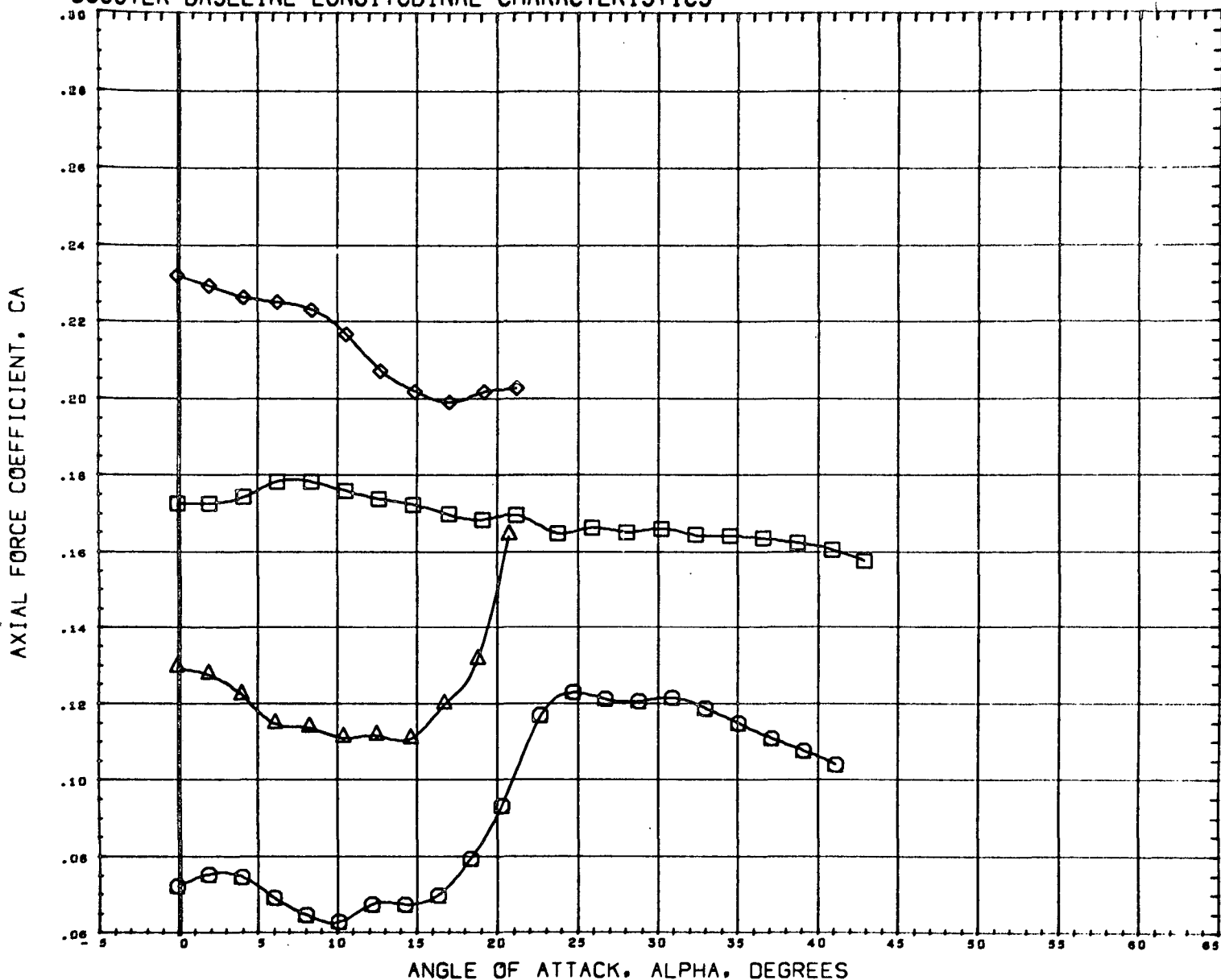
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.598	BETA	0.000	ELEVON	0.000
△	0.897	RUCR-L	0.000	RUCR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

DATA HIST. CODE #G6E

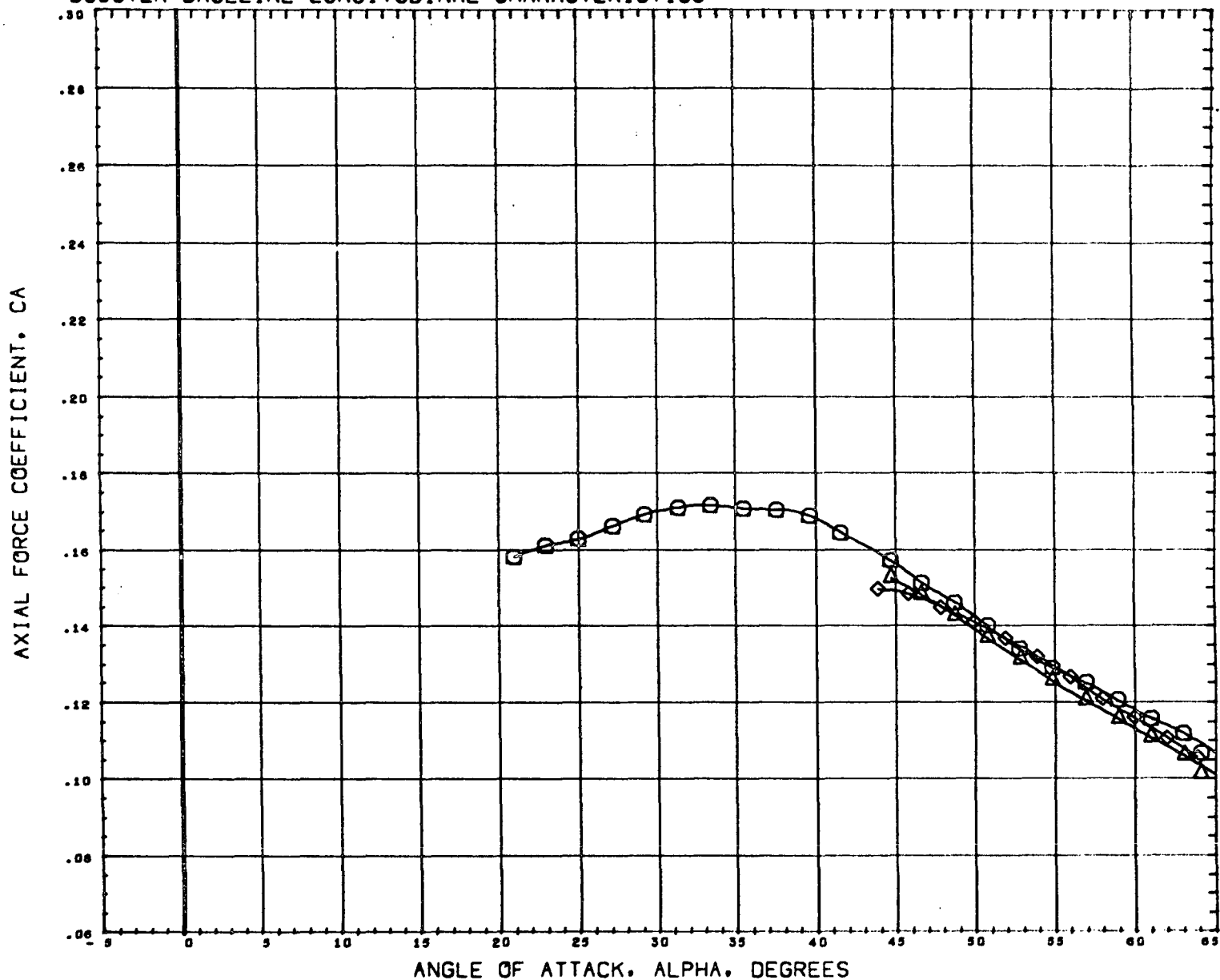
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

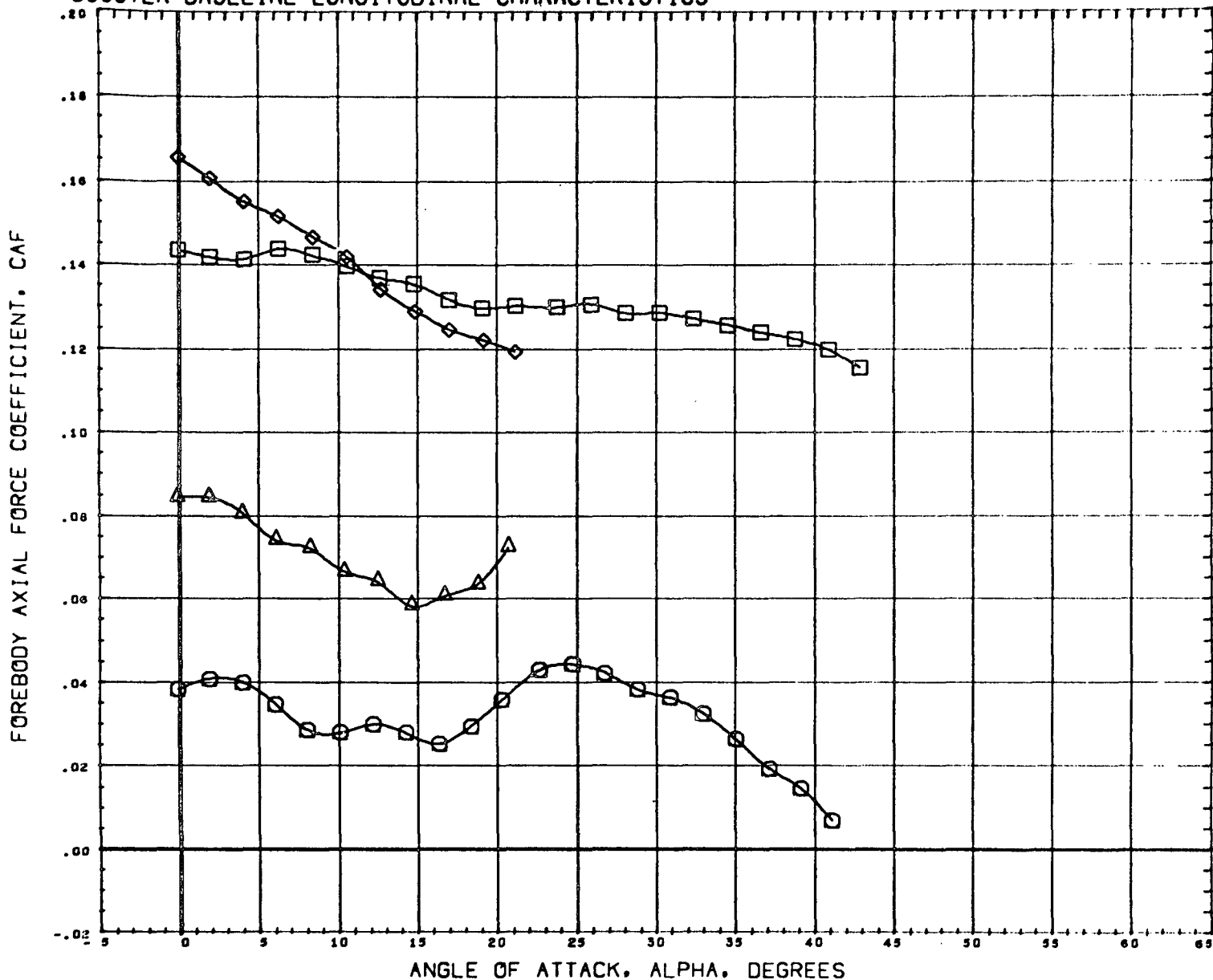
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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.598	BETA	0.000	ELEVON	0.000
△	0.897	RUCR-L	0.000	RUCR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

DATA HIST. CODE *G+E

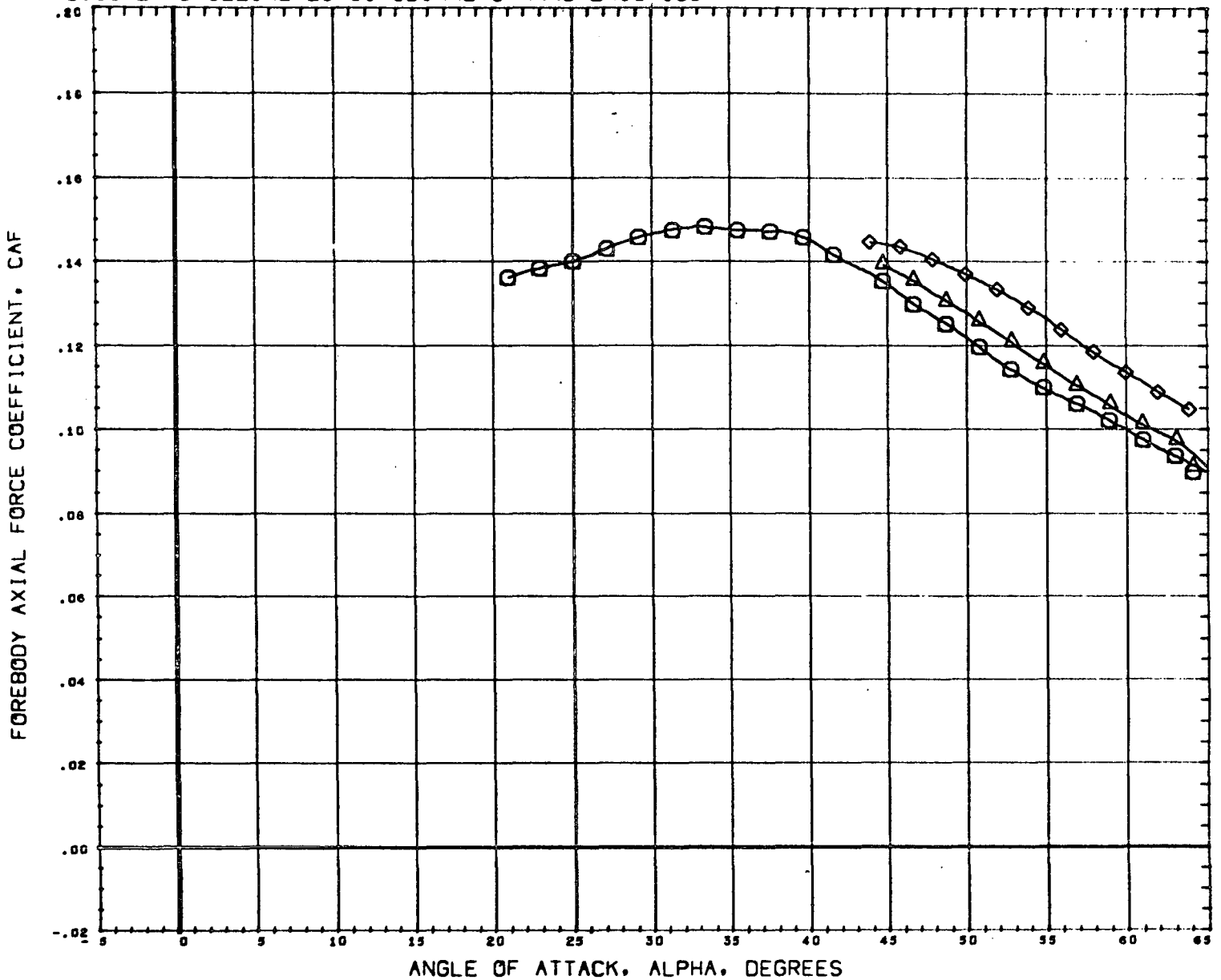
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUCR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

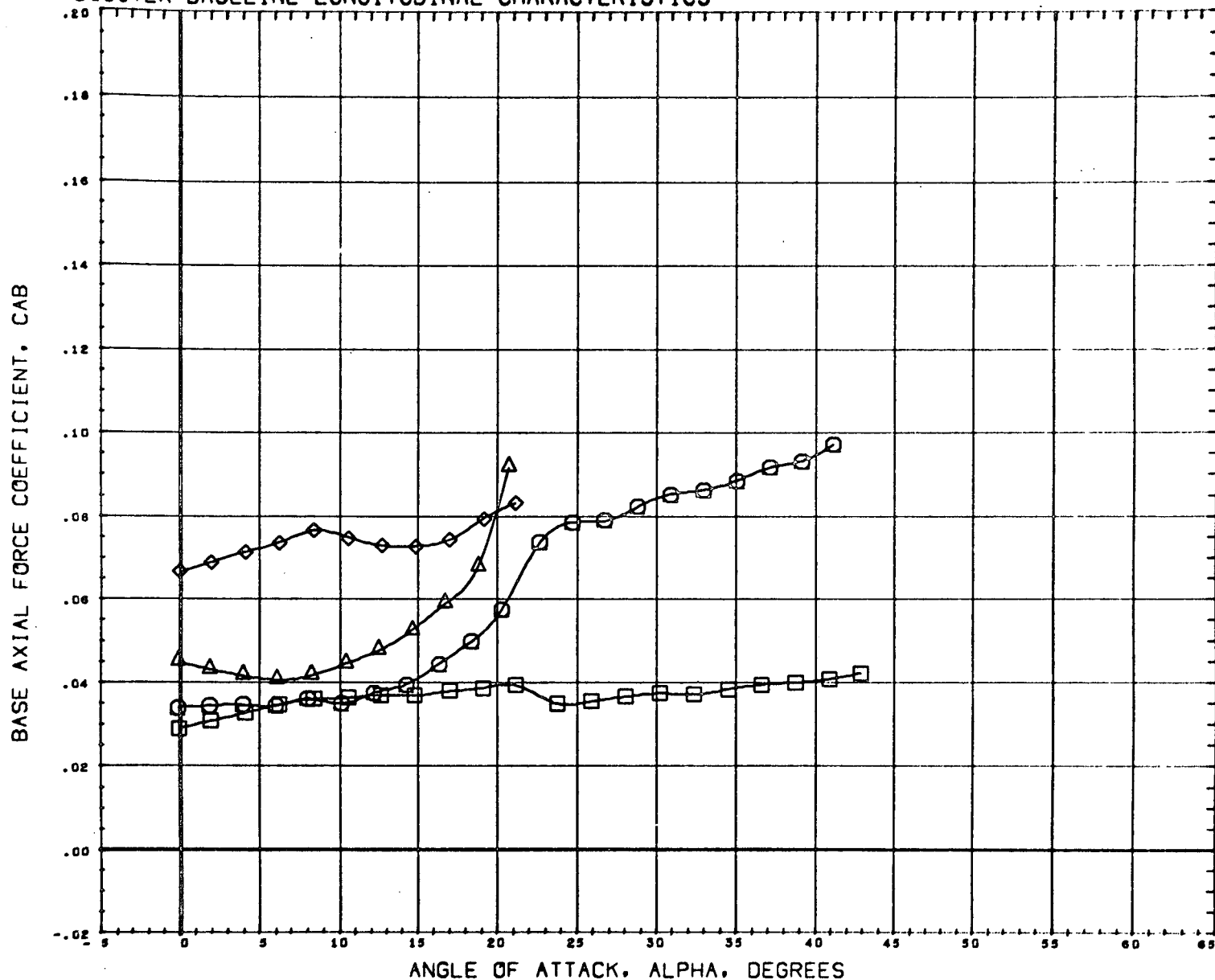
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.598	BETA	0.000	ELEVON	0.000
△	0.897	RUDR-L	0.000	RUDR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	INCH

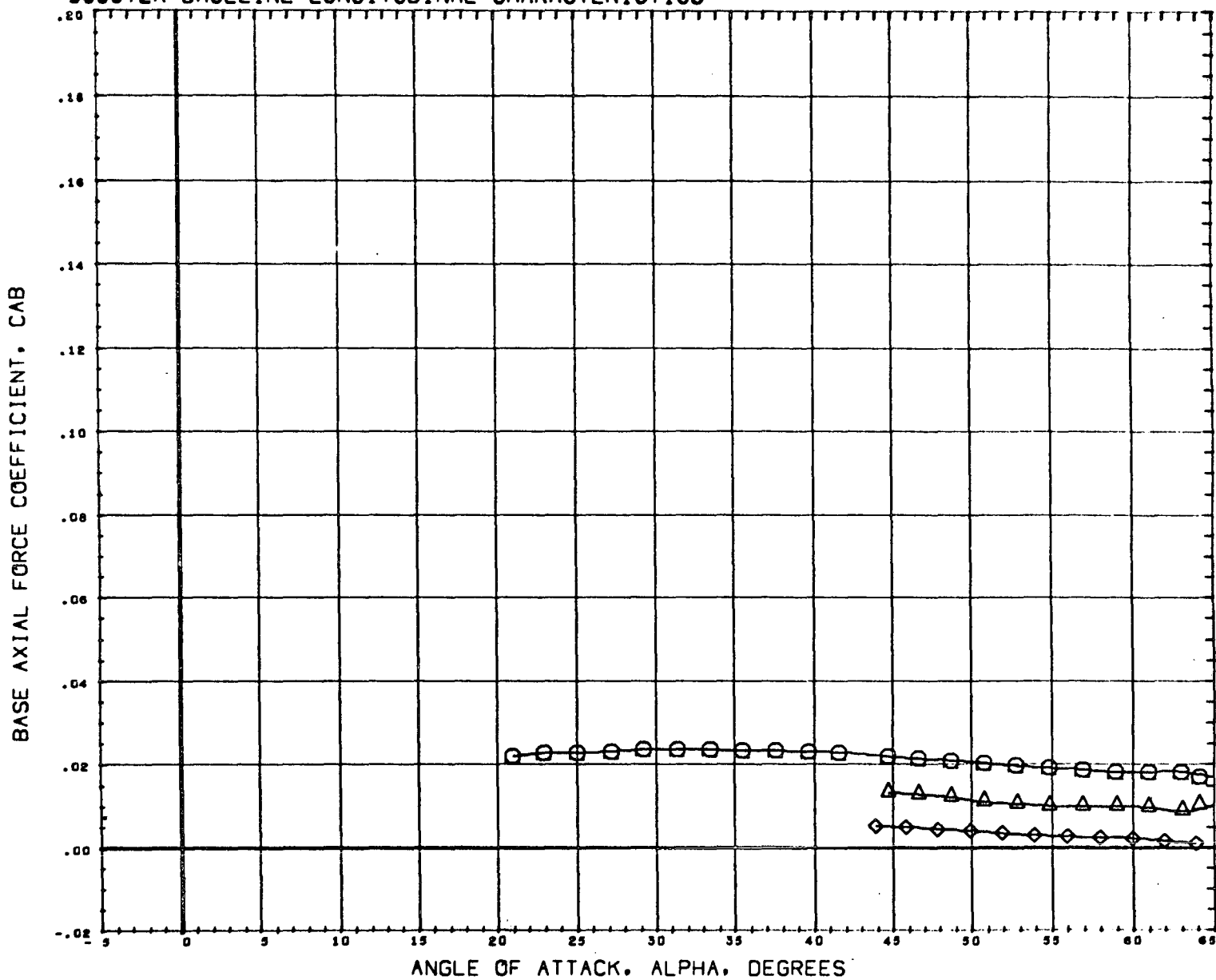
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

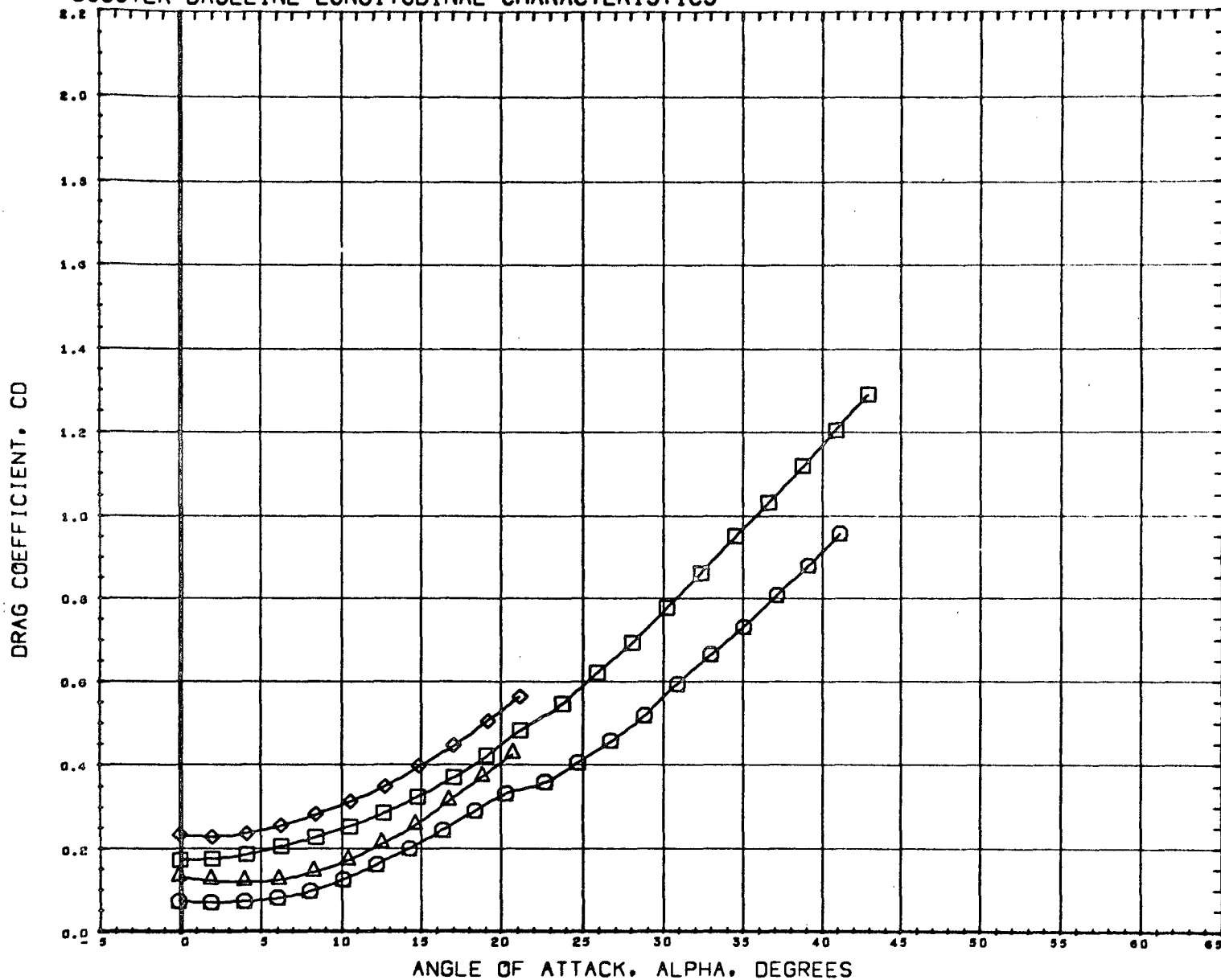
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE *G*E

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.598	BETA	0.000	ELEVON	0.000
△	0.897	RUCR-L	0.000	RUCR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

DATA HIST. CODE *66E

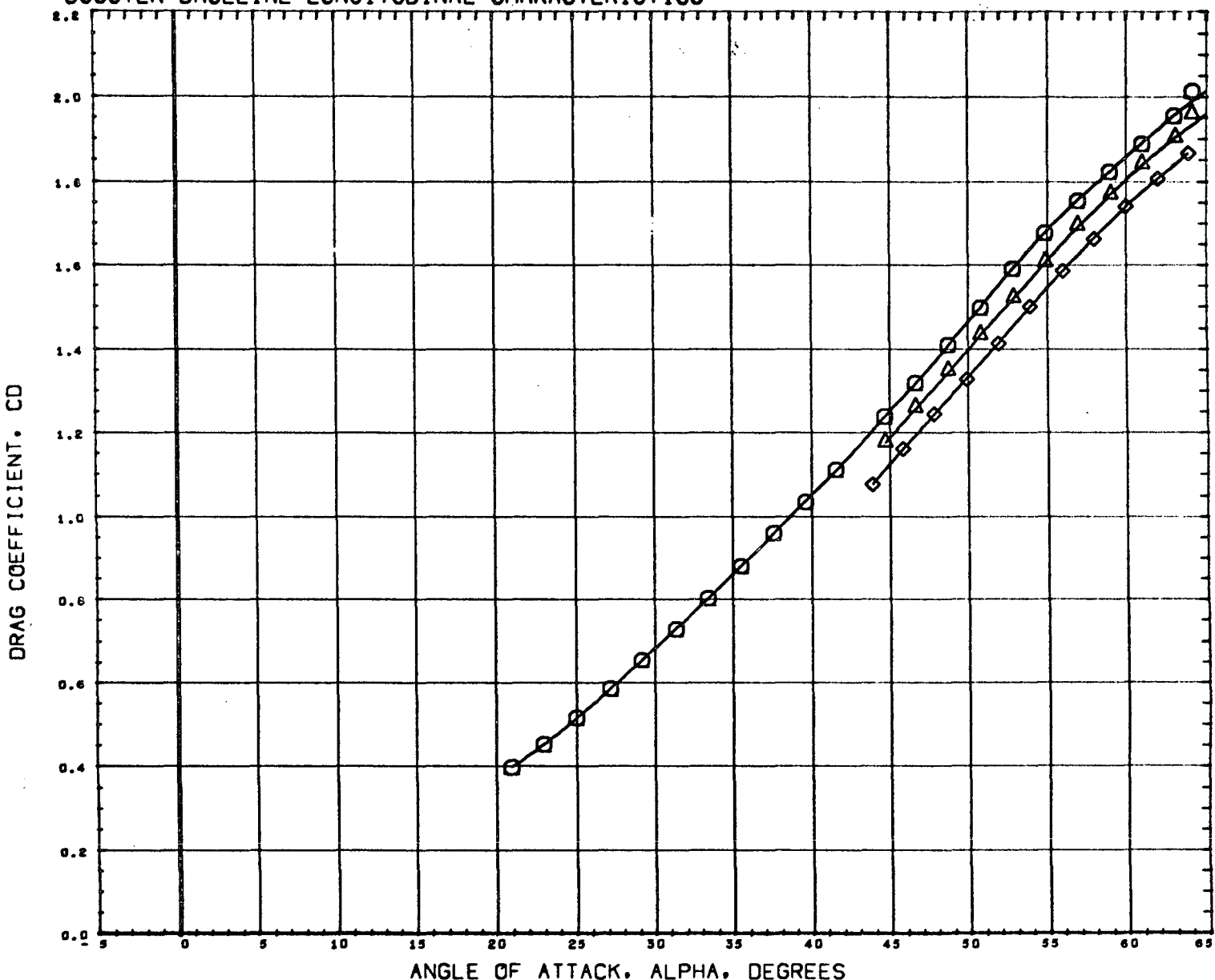
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

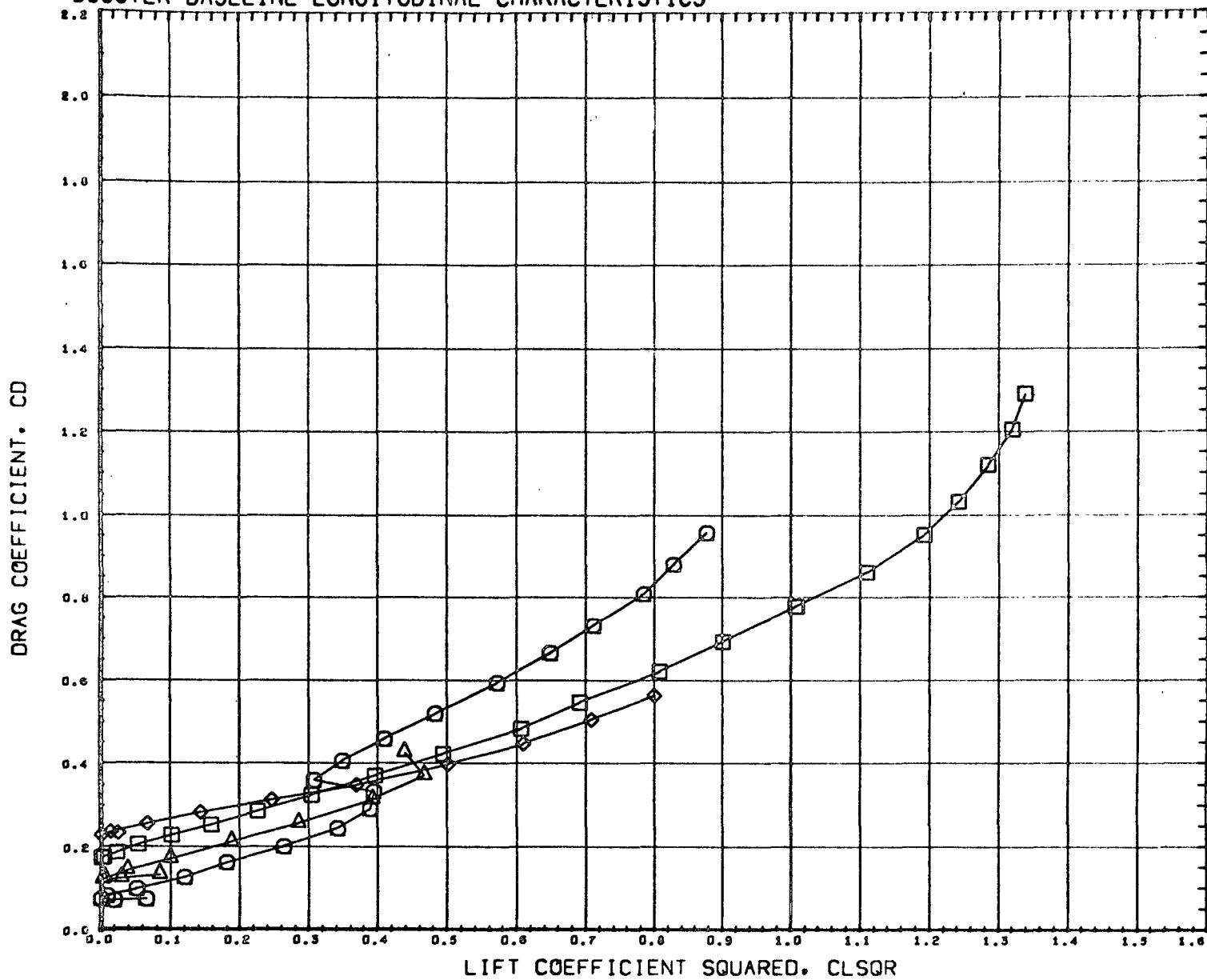
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.598	BETA 0.000 ELEVON 0.000
△	0.897	RUCR-L 0.000 RUCR-R 0.000
◇	1.203	CANARD 0.000
□	1.947	

DATA HIST. CODE *G*E

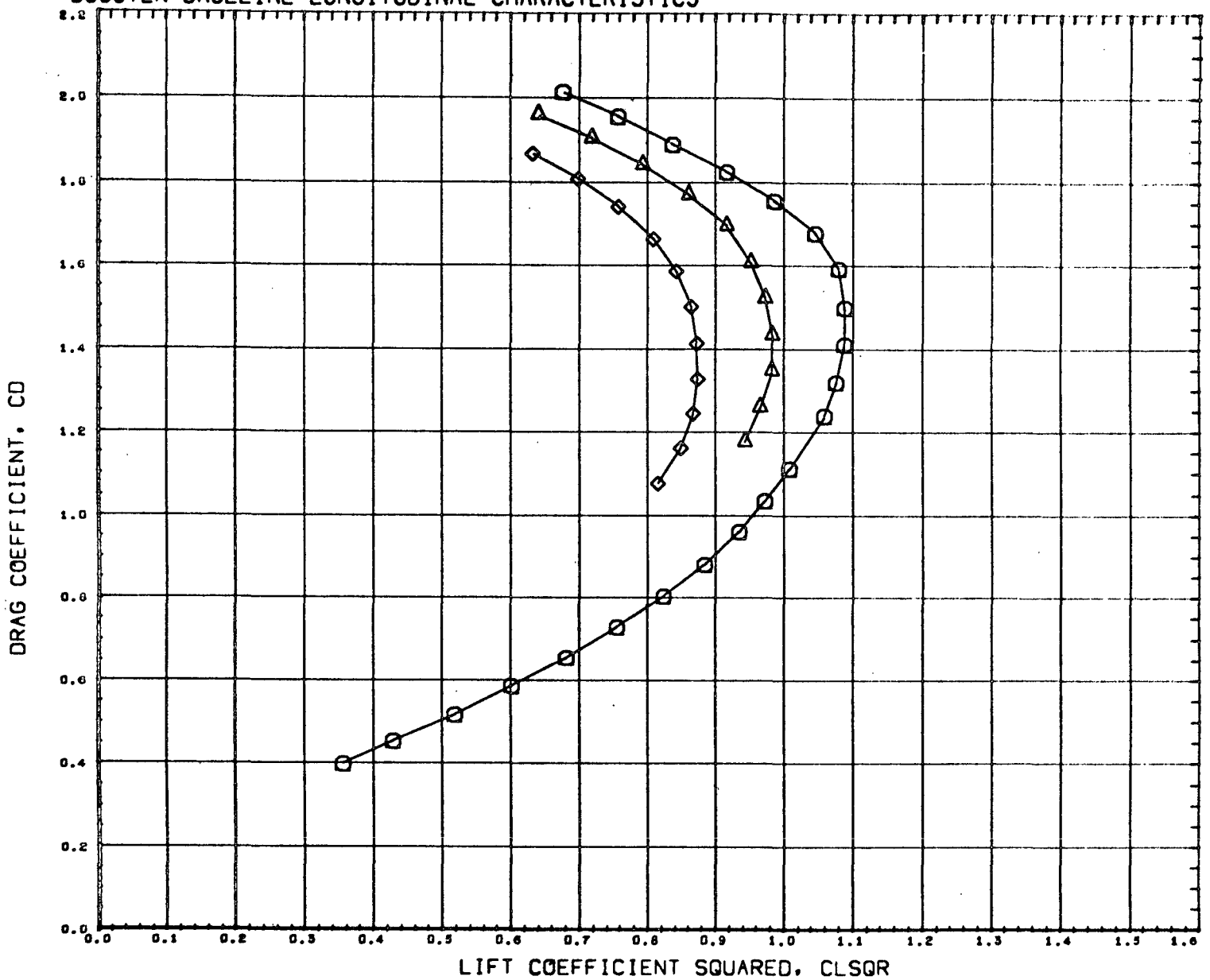
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA MIST. CODE *G*E

MSFC TWT 517. RETRO-GLIDE BOOSTER, B1W1C1V1

(C560S5)

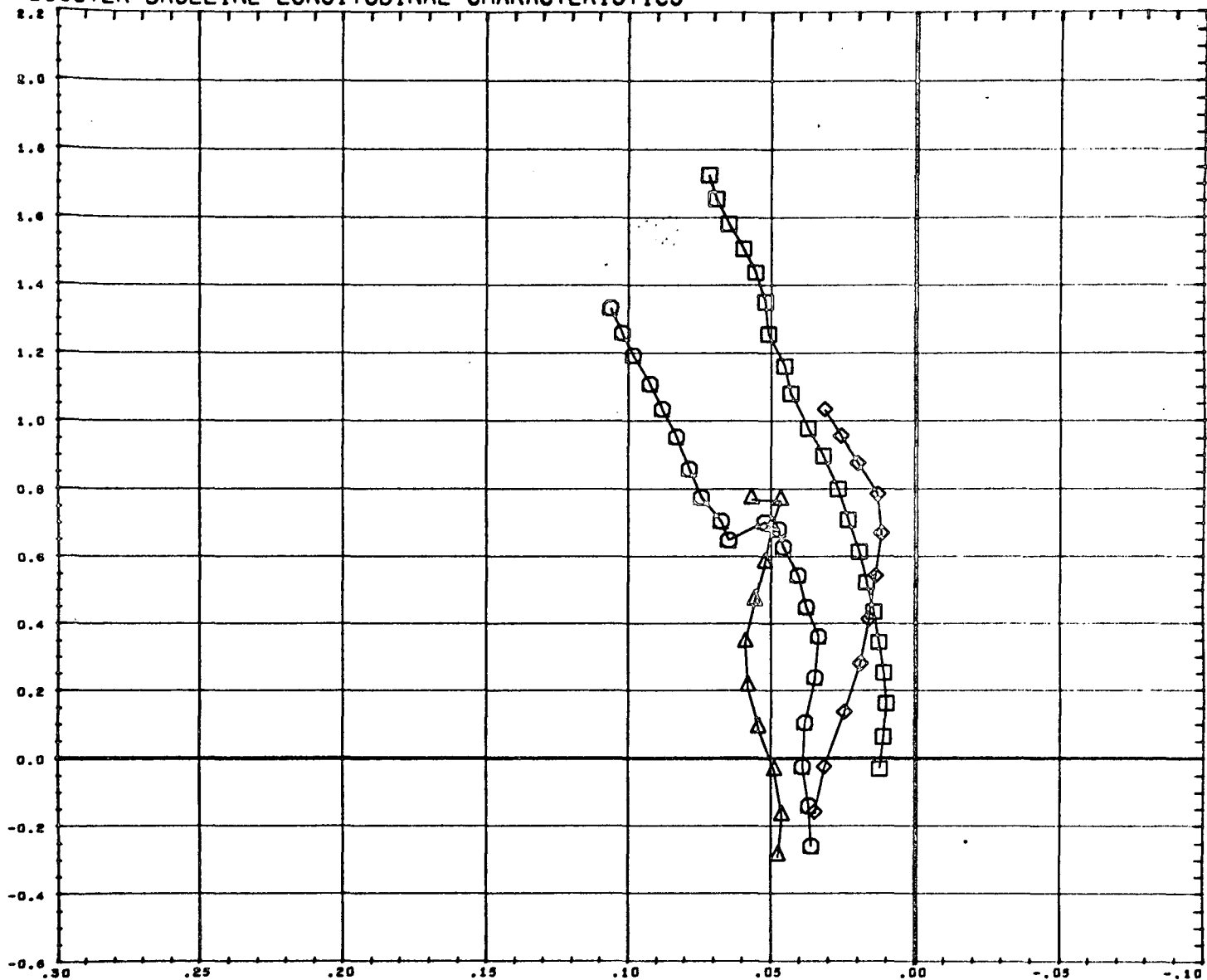
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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS

NORMAL FORCE COEFFICIENT, CN



PITCHING MOMENT COEFFICIENT, CLM

SYMBOL	MACH	PARAMETRIC VALUES			
○	0.598	BETA	0.000	ELEVON	0.000
△	0.697	RUCR-L	0.000	RUCR-R	0.000
◇	1.203	CANARD	0.000		
□	1.947				

DATA MIST. CODE 00*E

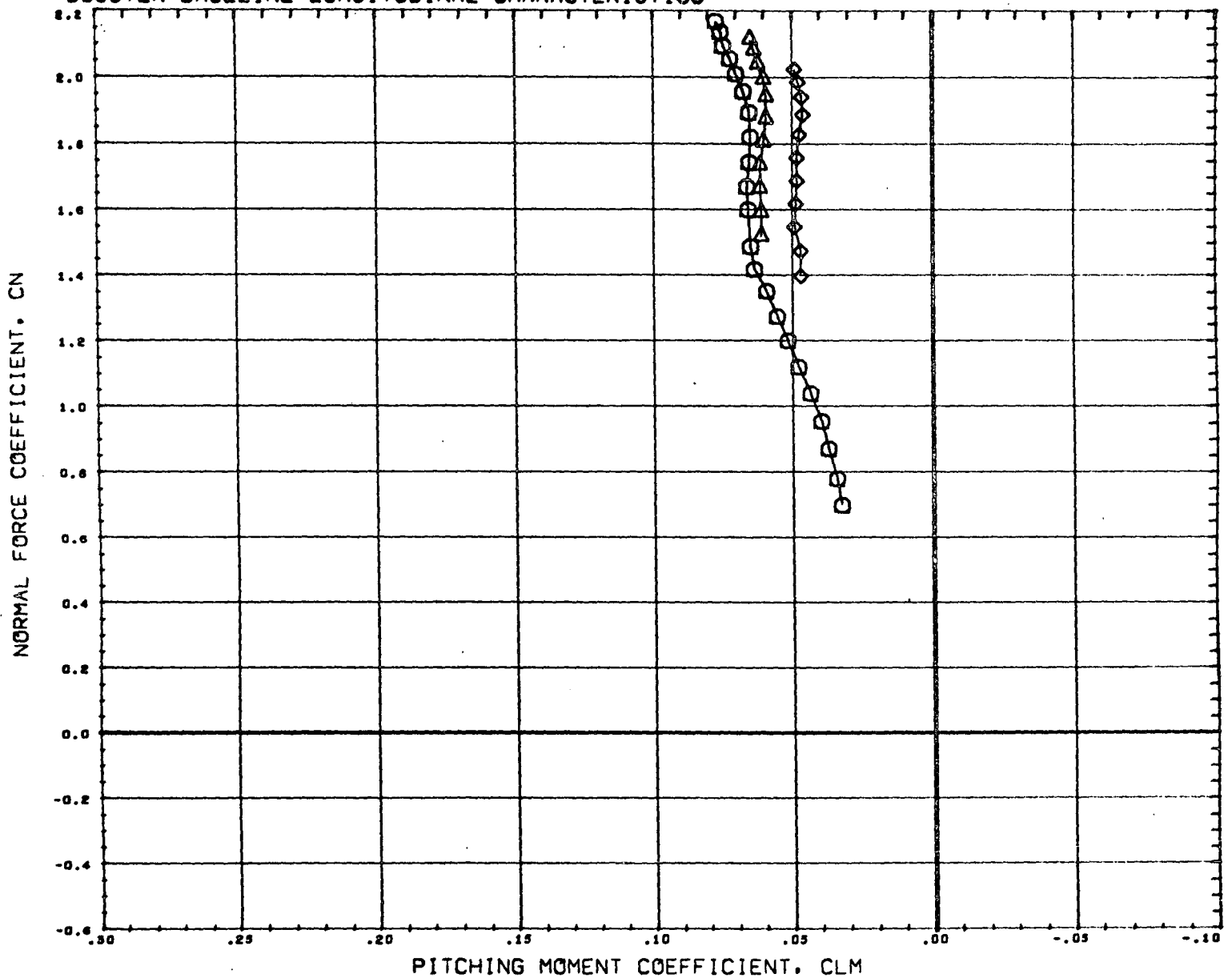
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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BOOSTER BASELINE LONGITUDINAL CHARACTERISTICS



PITCHING MOMENT COEFFICIENT, CLM

SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	BETA	0.000	ELEVON	0.000
△	3.480	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
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XMPP	4.6400	INCH
YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

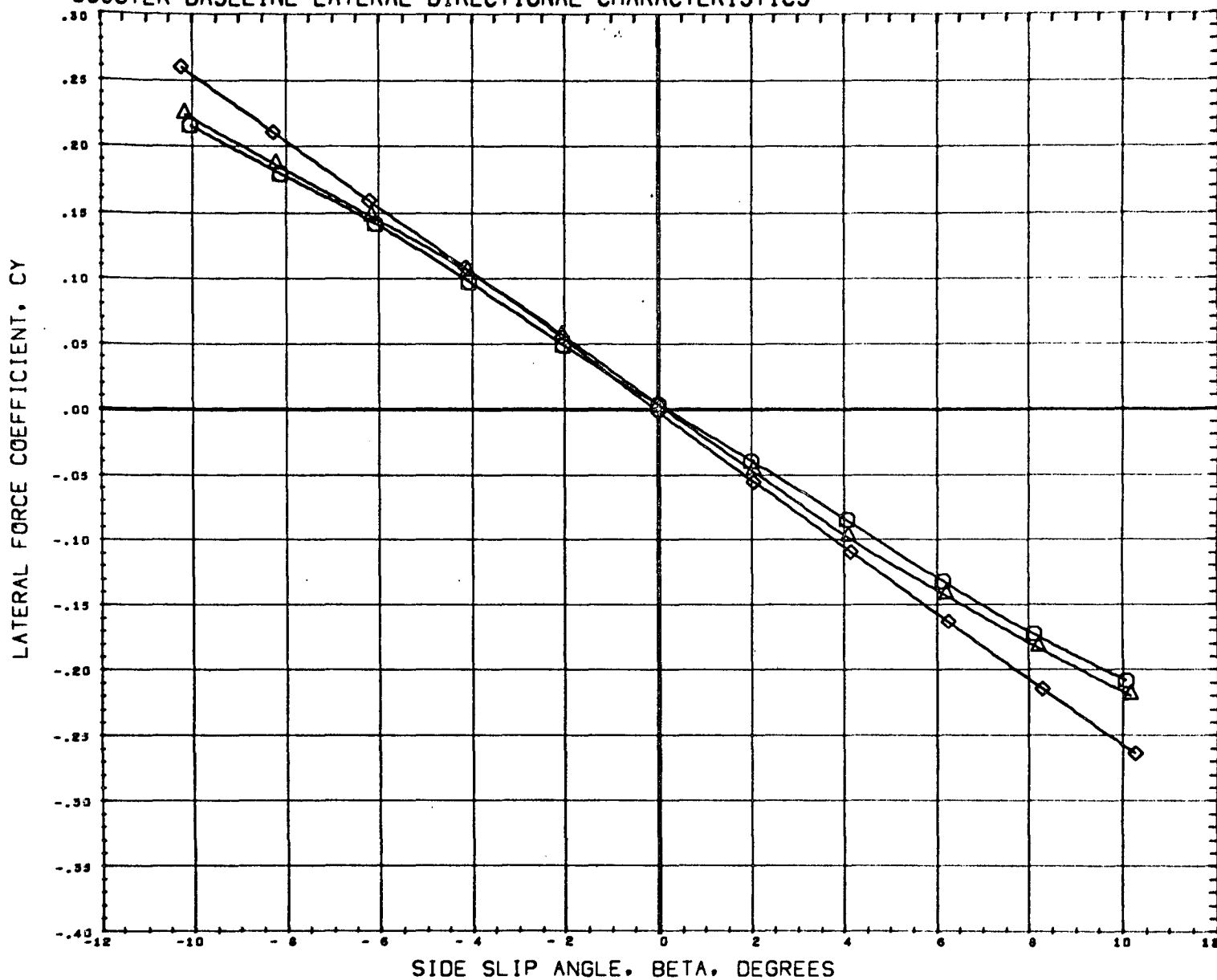
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

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BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.595	ALPHA	0.000	ELEVON	0.000
△	0.907	RUCR-L	0.000	RUCR-R	0.000
◇	1.199	CANARD	0.000		

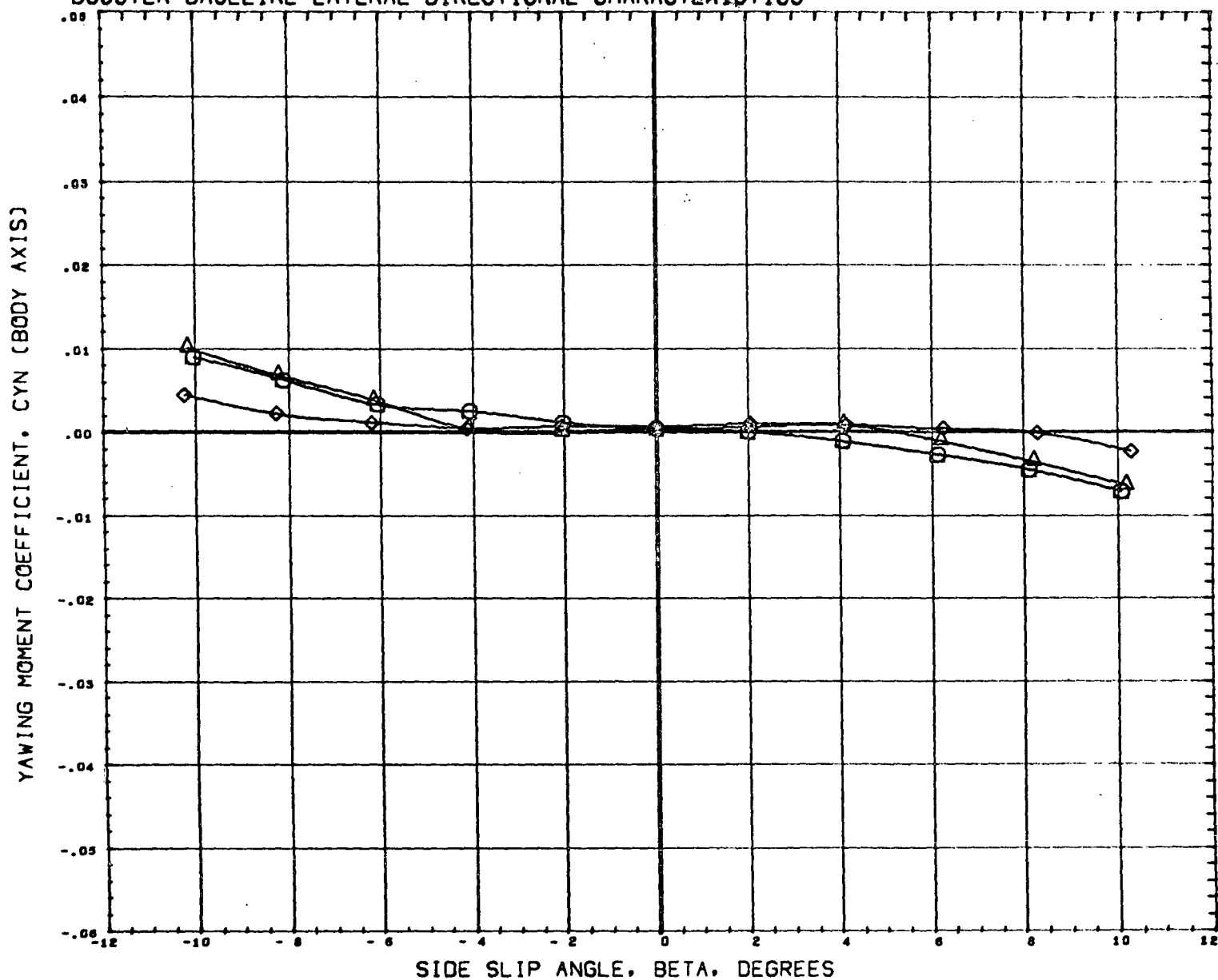
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517. RETRO-GLIDE BOOSTER, B1W1C1V1

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BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.595	ALPHA 0.000 ELEVON 0.000
△	0.907	RUCR-L 0.000 RUCR-R 0.000
◇	1.199	CANARD 0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(A56024)

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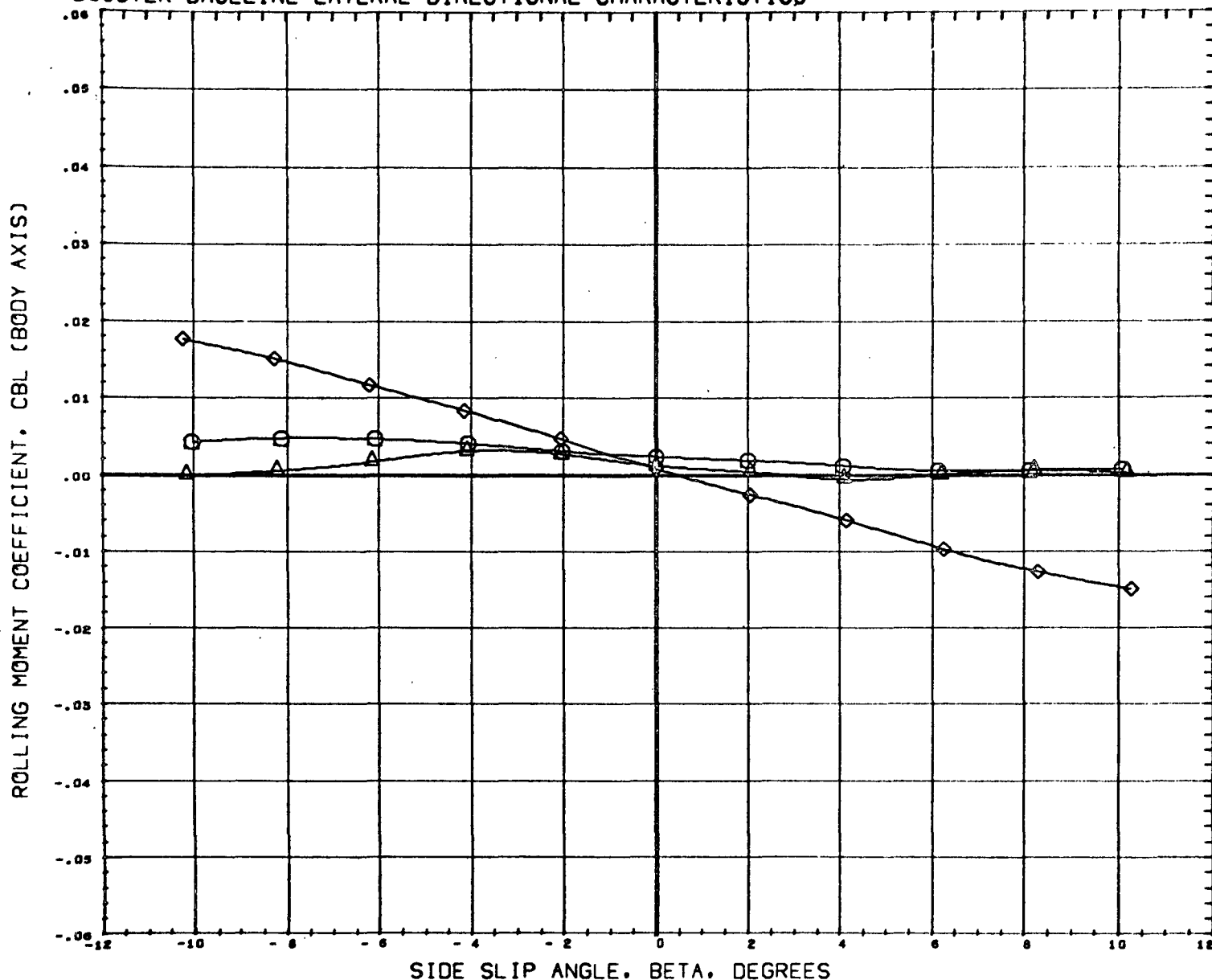
PAGE

136

4

5700

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.595	ALPHA 0.000 ELEVON 0.000
△	0.907	RUCR-L 0.000 RUCR-R 0.000
◇	1.190	CANARD 0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517. RETRO-GLIDE BOOSTER, B1W1C1V1

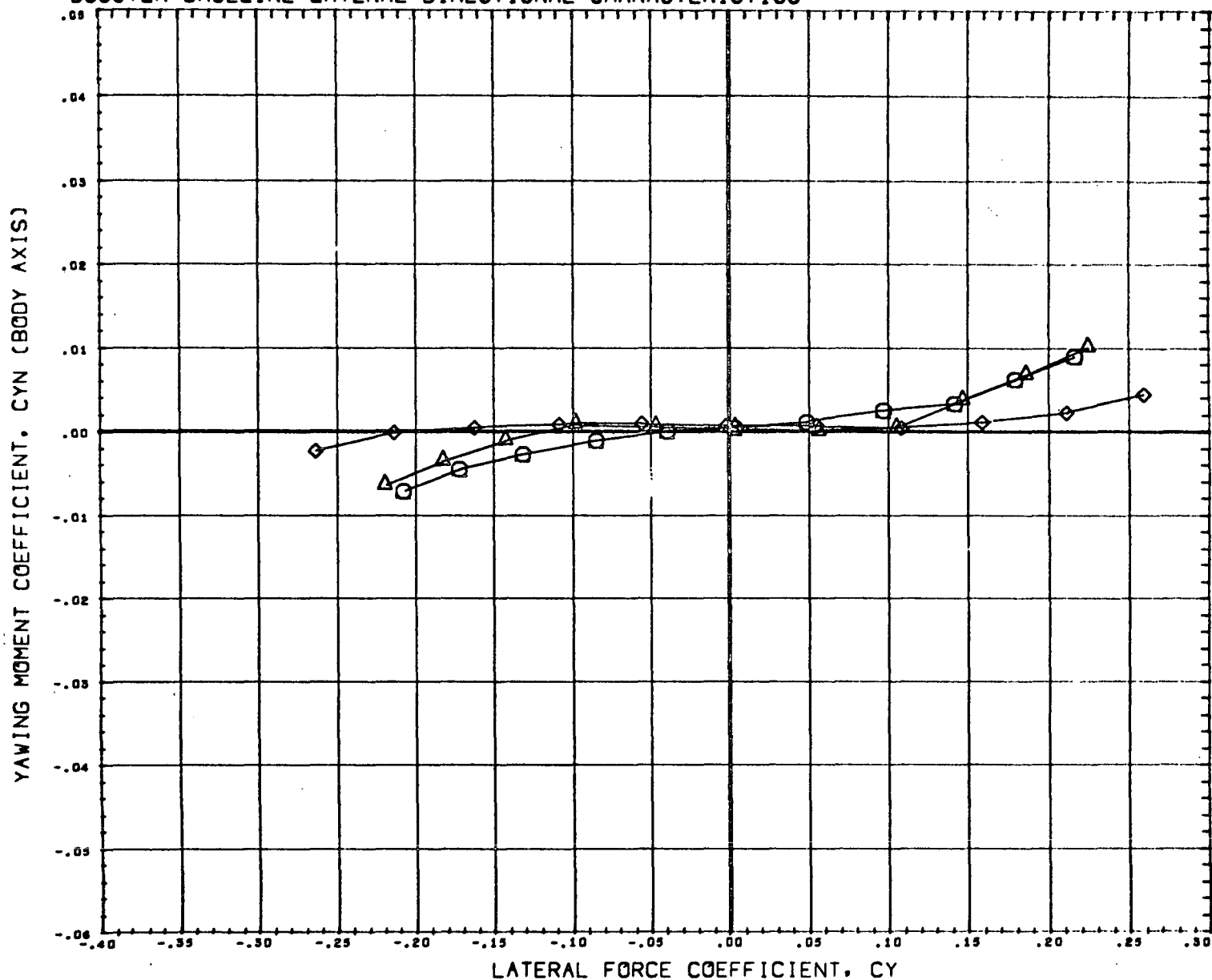
(A56024)

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137

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.595	ALPHA	0.000	ELEVON	0.000
△	0.907	RUDR-L	0.000	RUDR-R	0.000
◇	1.199	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	9.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

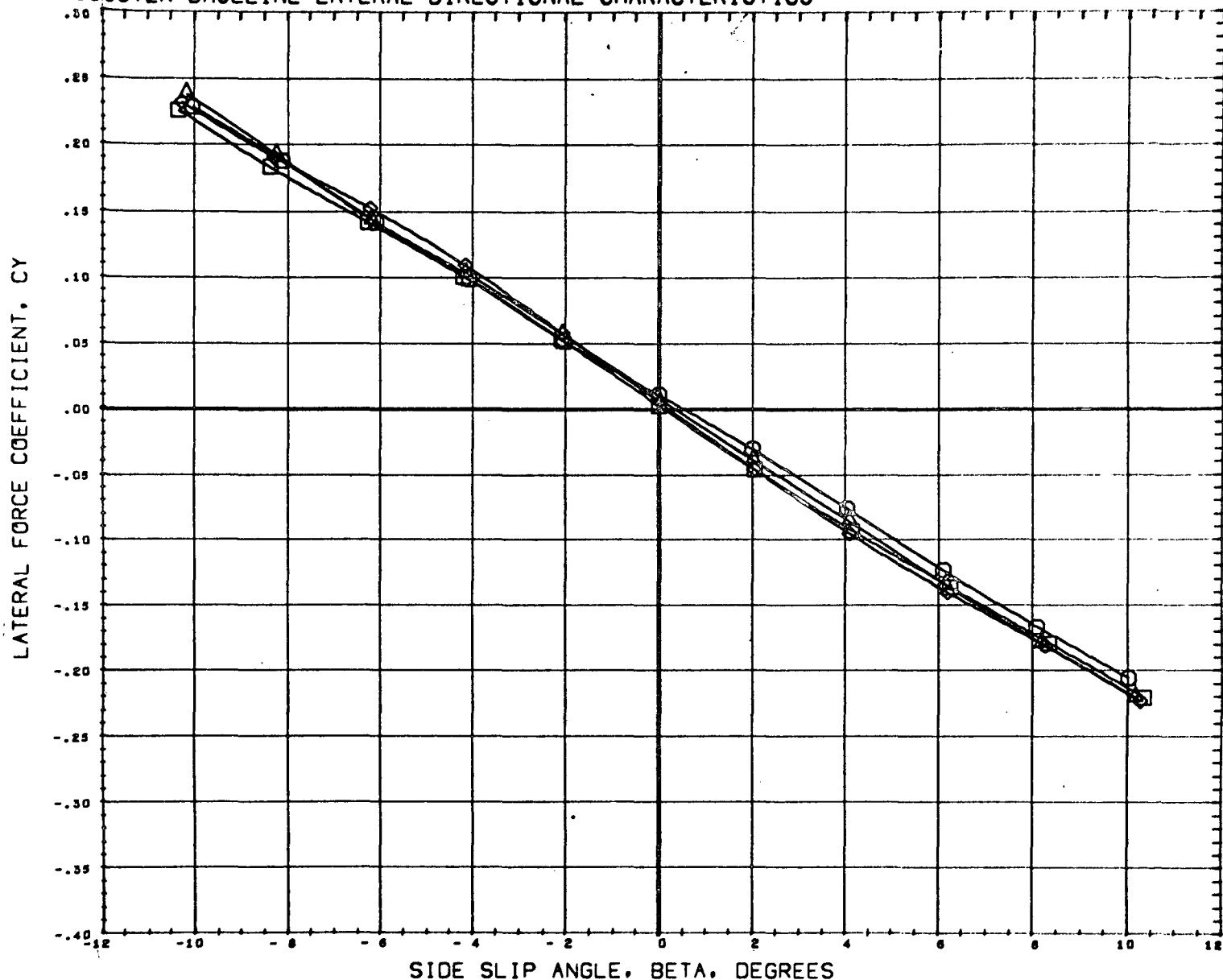
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MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

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BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
△	0.599	ALPHA	15.000	ELEVON	0.000
◇	0.900	RUCR-L	0.000	RUCR-R	0.000
□	1.196	CANARD	0.000		
	1.965				

REFERENCE FILE

REFERENCE INFORMATION		
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LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

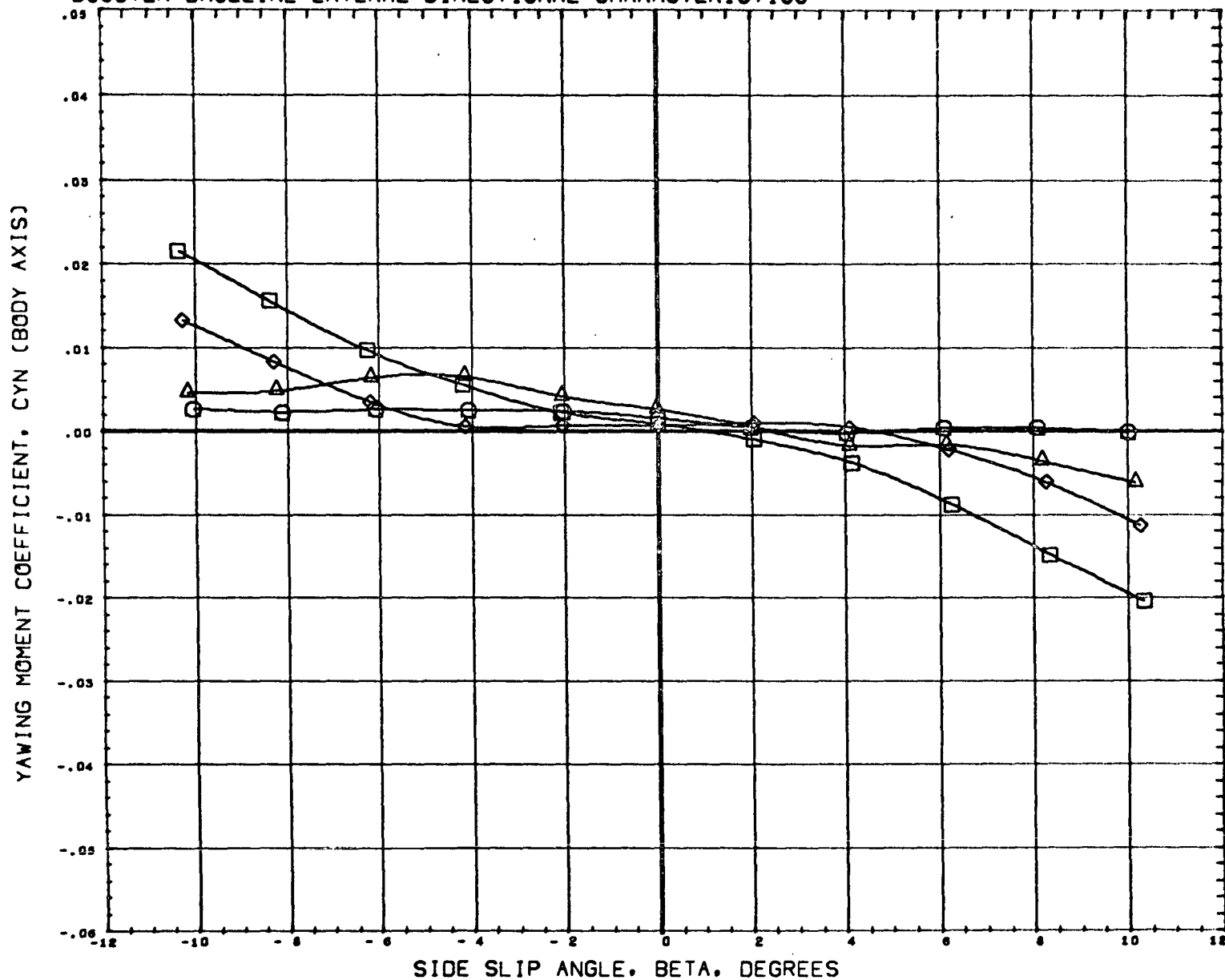
(A56025)

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139

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.599	ALPHA	15.000	ELEVON	0.000
△	0.900	RUDR-L	0.000	RUDR-R	0.000
◇	1.196	CANARD	0.000		
□	1.965				

REFERENCE INFORMATION		
SREF	9.7800	SG. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

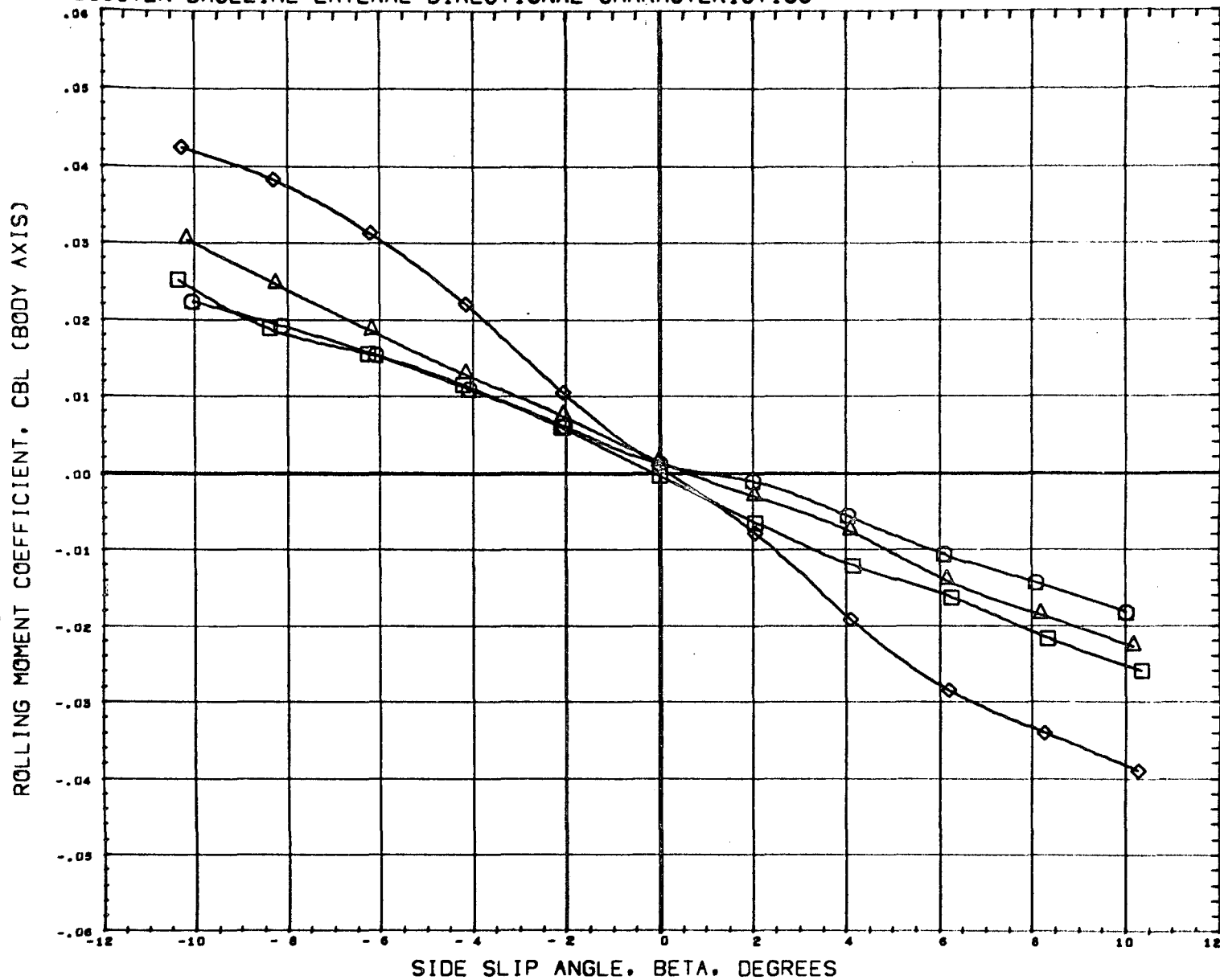
(A56025)

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PAGE

140

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.999	ALPHA	15.000	ELEVON	0.000
△	0.900	RUDR-L	0.000	RUDR-R	0.000
◇	1.196	CANARD	0.000		
□	1.965				

REFERENCE FILE

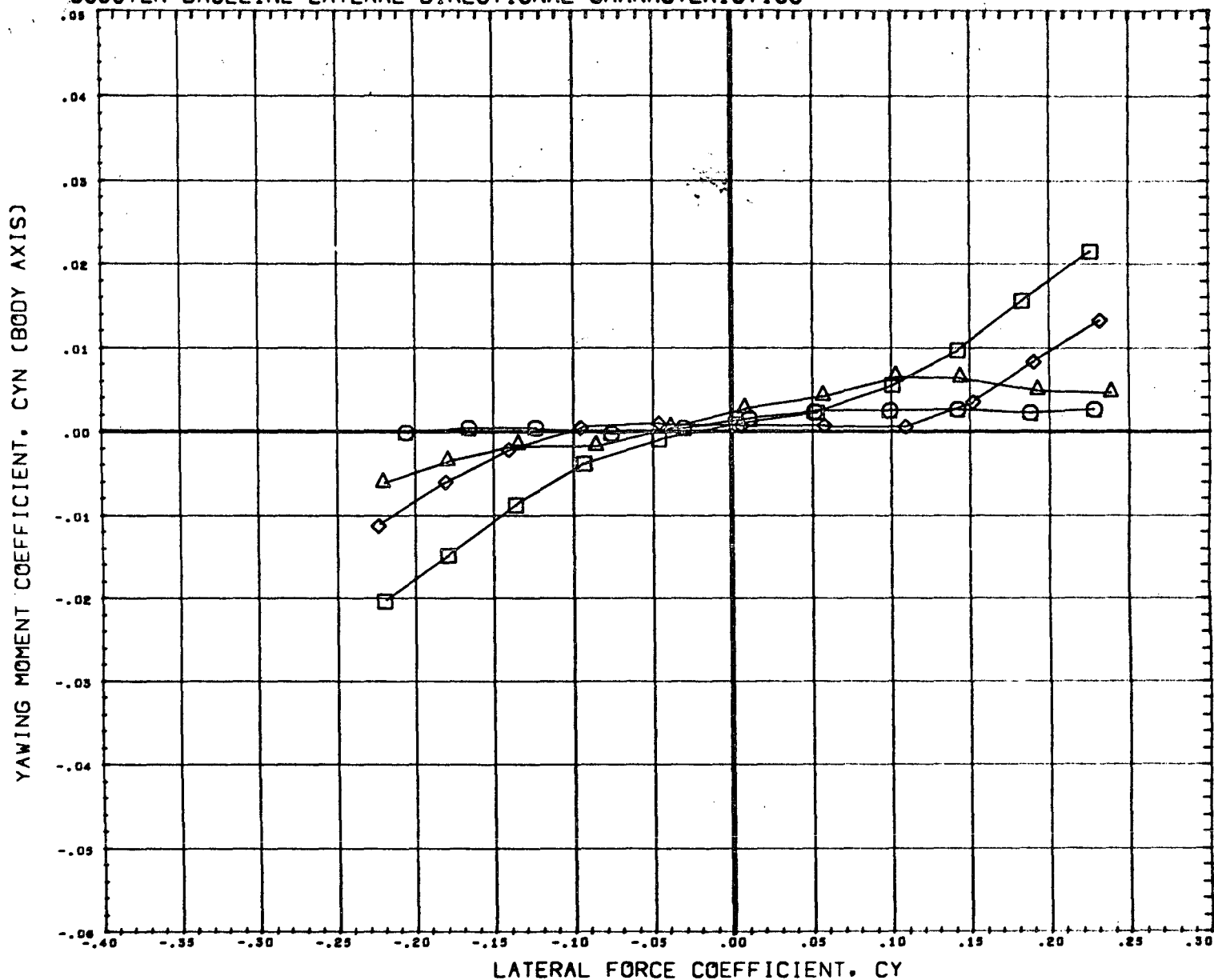
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ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(A56025) 10 FEB 72

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BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.999	ALPHA	15.000	ELEVON	0.000
△	0.900	RUDR-L	0.000	RUDR-R	0.000
◇	1.196	CANARD	0.000		
□	1.965				

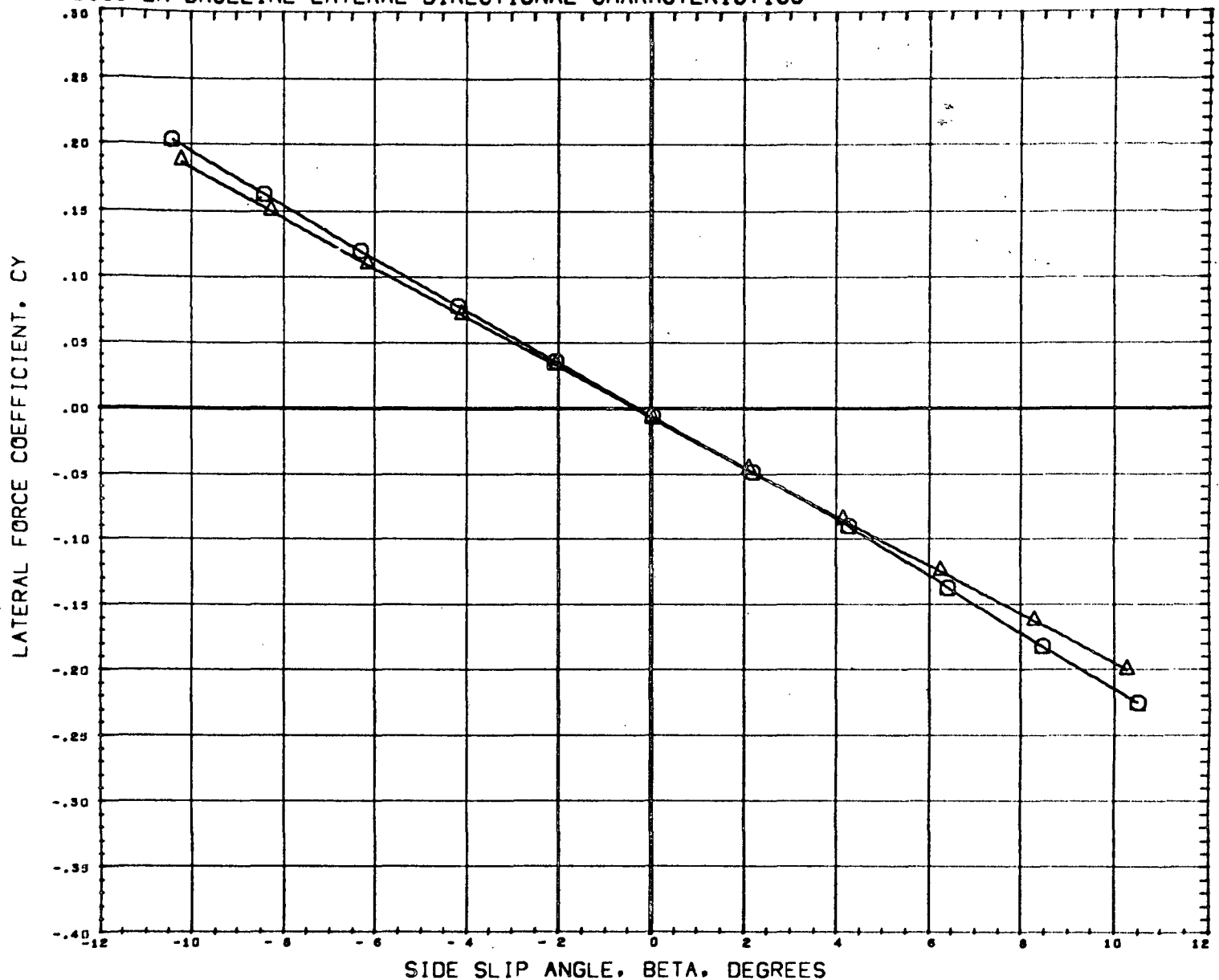
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YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(A56025) 10 FEB 72 PAGE 142

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.980	ALPHA	30.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	sq. in
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

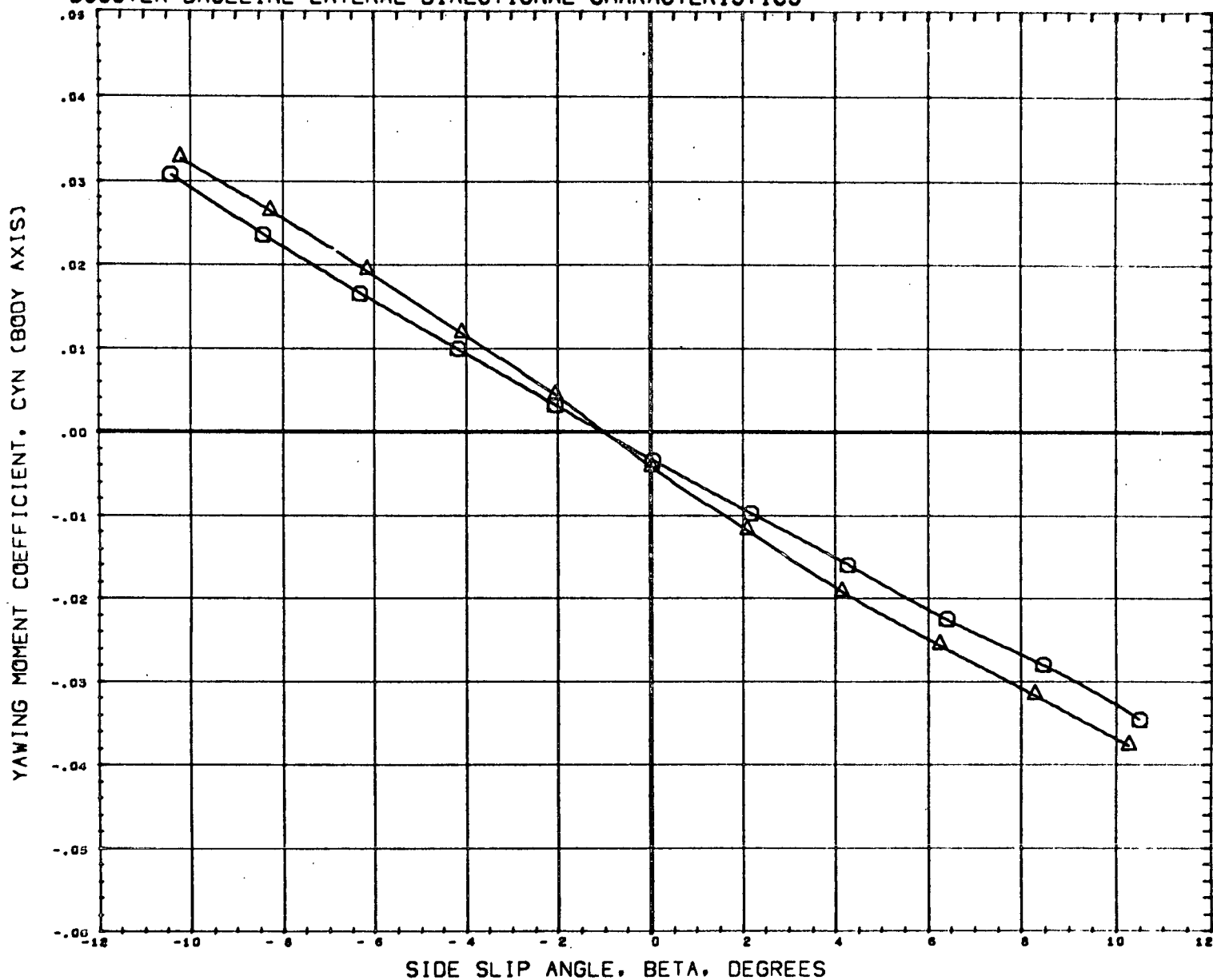
(A56026)

10 FEB 72

PAGE

143

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.960	ALPHA	30.000	ELEVON	0.000
△	2.740	RUDR-L	0.000	RUDR-R	0.000
		CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
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SCALE	0.0034	

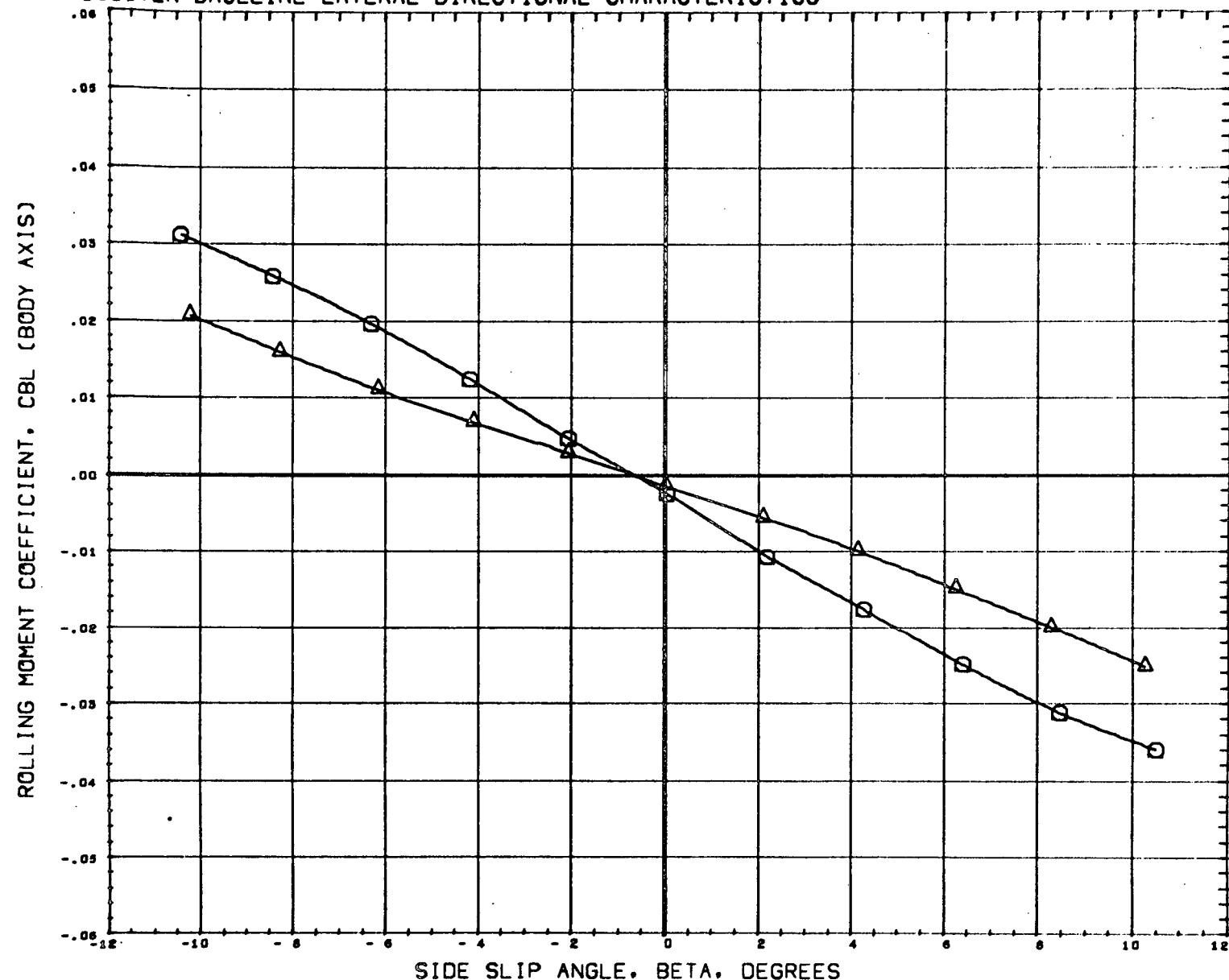
REFERENCE FILE

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(A56026) 10 FEB 72

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BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SIDE SLIP ANGLE, BETA, DEGREES

SYMBOL	MACH	PARAMETRIC VALUES			
○	1.960	ALPHA	30.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

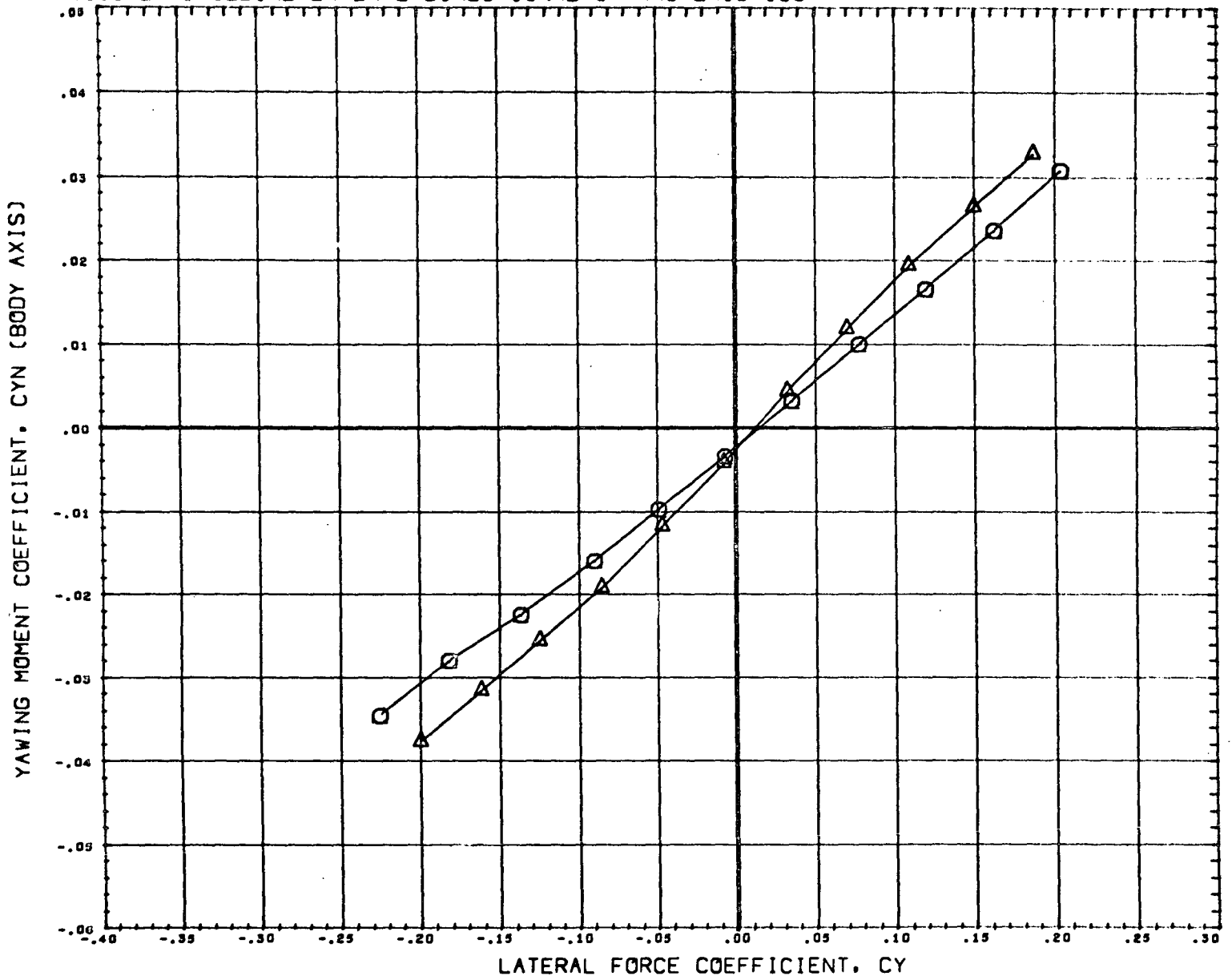
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ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(A56026) 10 FEB 72 PAGE 145

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.960	ALPHA	30.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

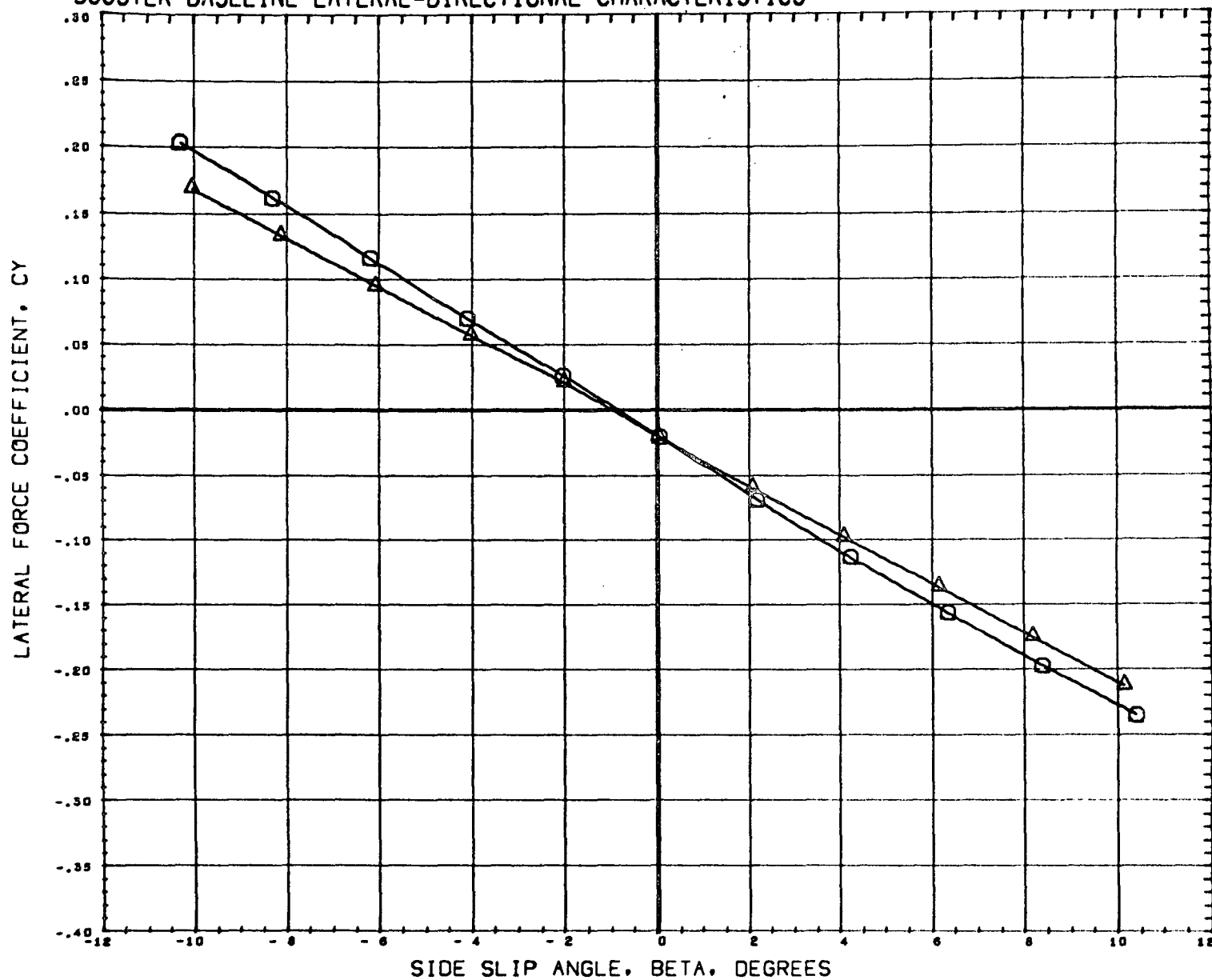
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ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(A56026) 10 FEB 72 PAGE 146

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	ALPHA	50.000	ELEVON	0.000
△	4.959	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

REFERENCE INFORMATION		
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SCALE	0.0034	

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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

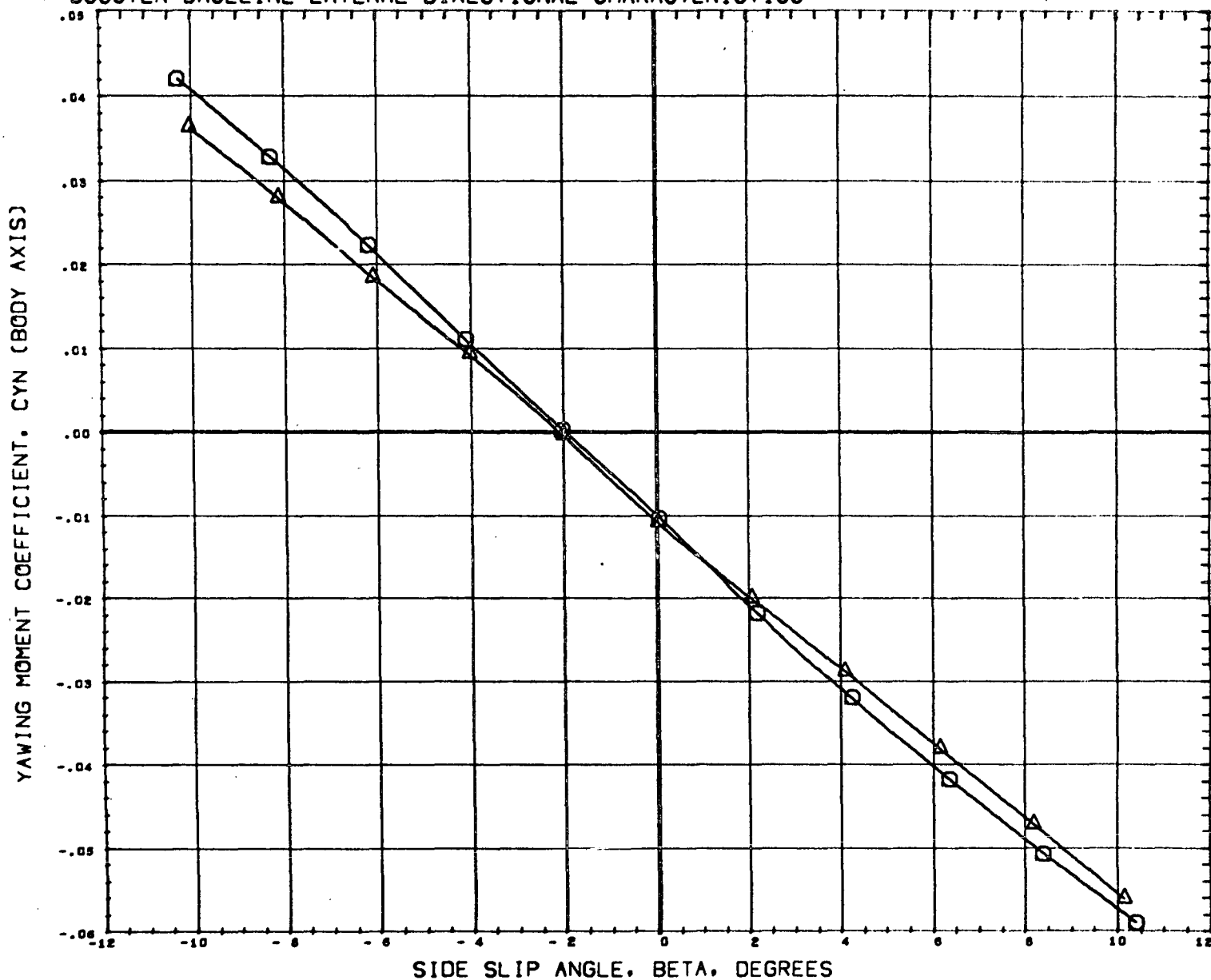
(B56027)

10 FEB 72

PAGE

147

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	ALPHA	50.000	ELEVON	0.000
△	4.959	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

DATA HIST. CODE #A

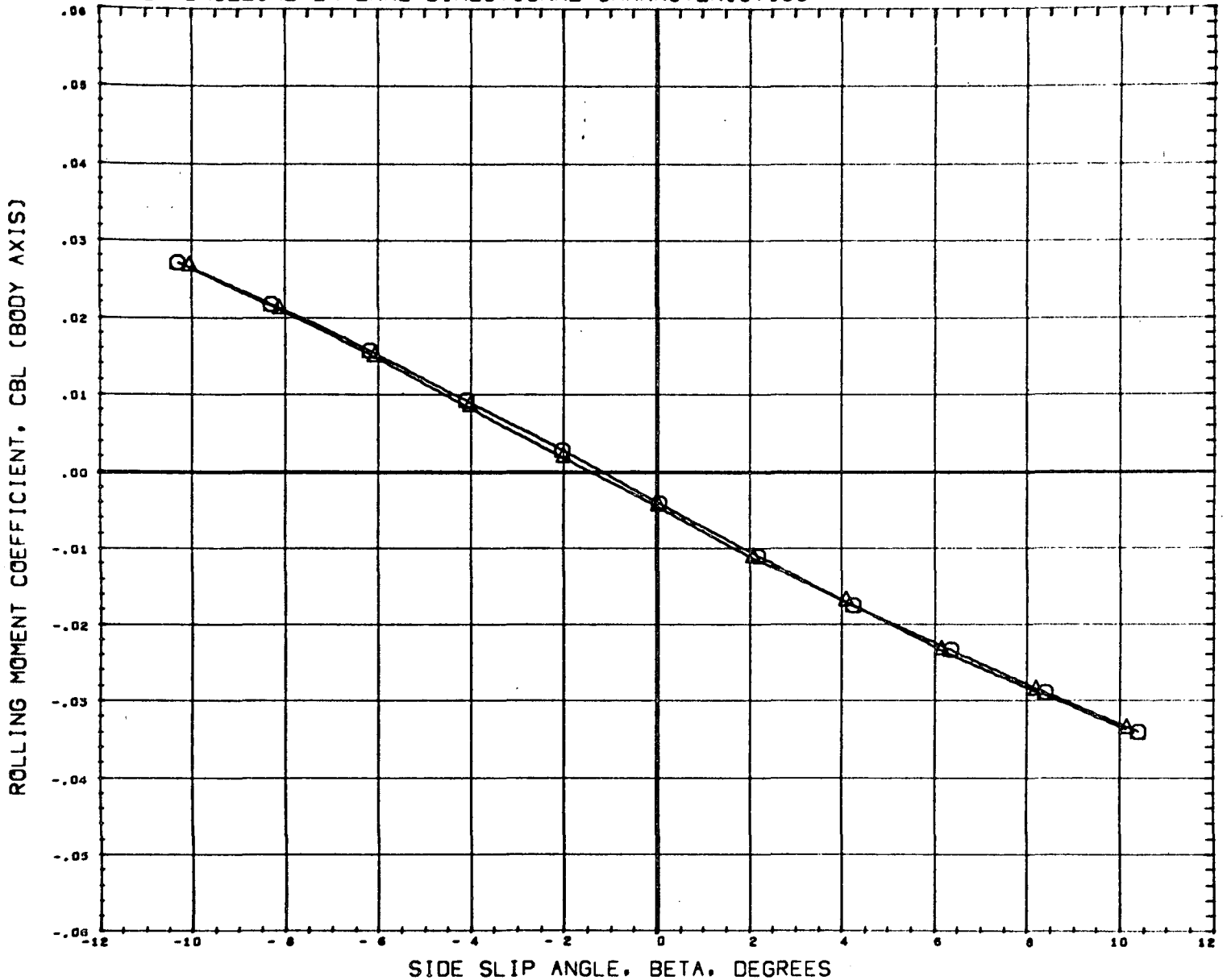
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(B56027) 10 FEB 72

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BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL  	MACH	PARAMETRIC VALUES			
	2.740	ALPHA	50.000	ELEVON	0.000
	4.959	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

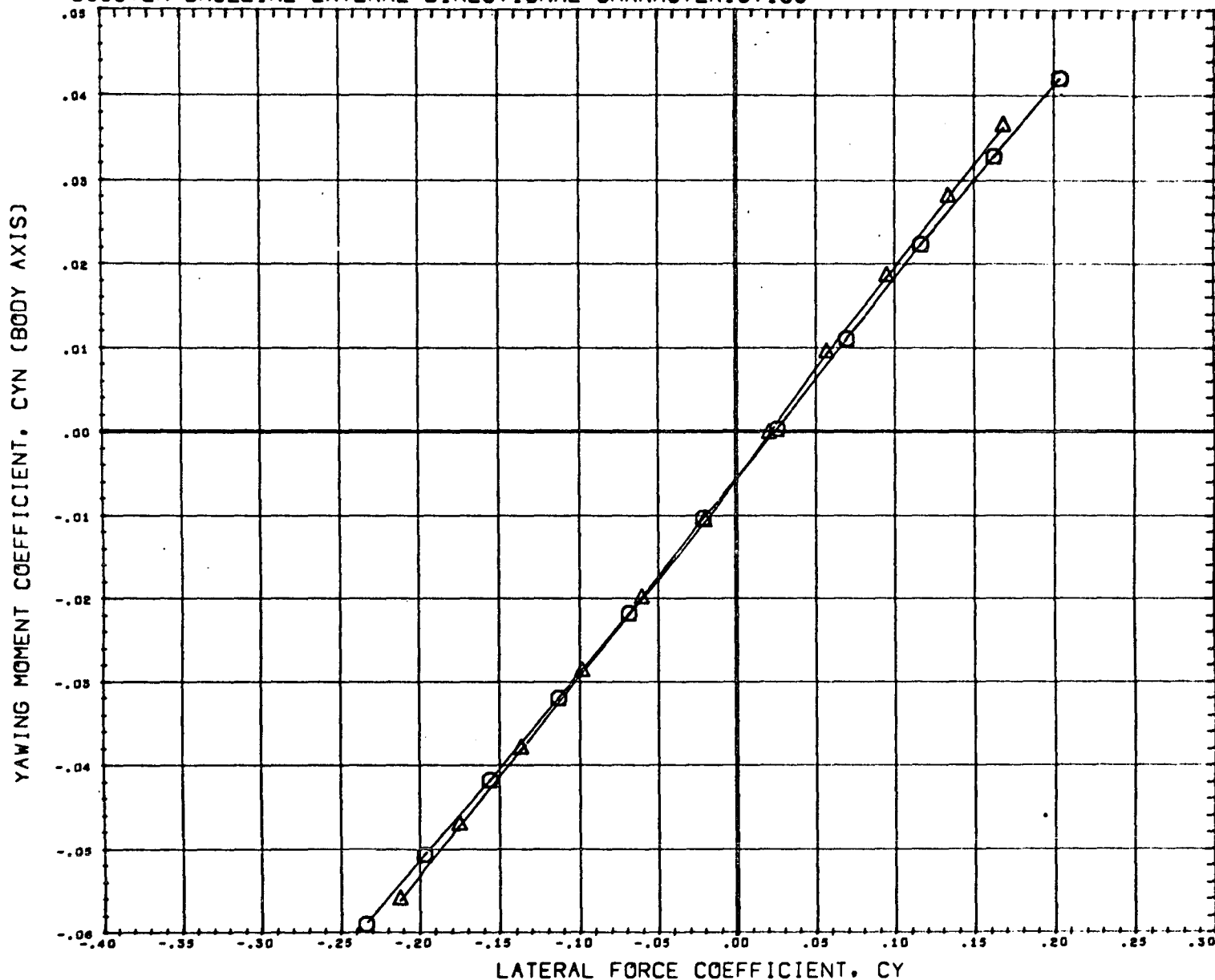
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE #A

MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(B56027) 10 FEB 72 PAGE 149

BOOSTER BASELINE LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	2.740	ALPHA	50.000	ELEVON	0.000
△	4.959	RUCR-L	0.000	RUCR-R	0.000
		CANARD	0.000		

REFERENCE INFORMATION		
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

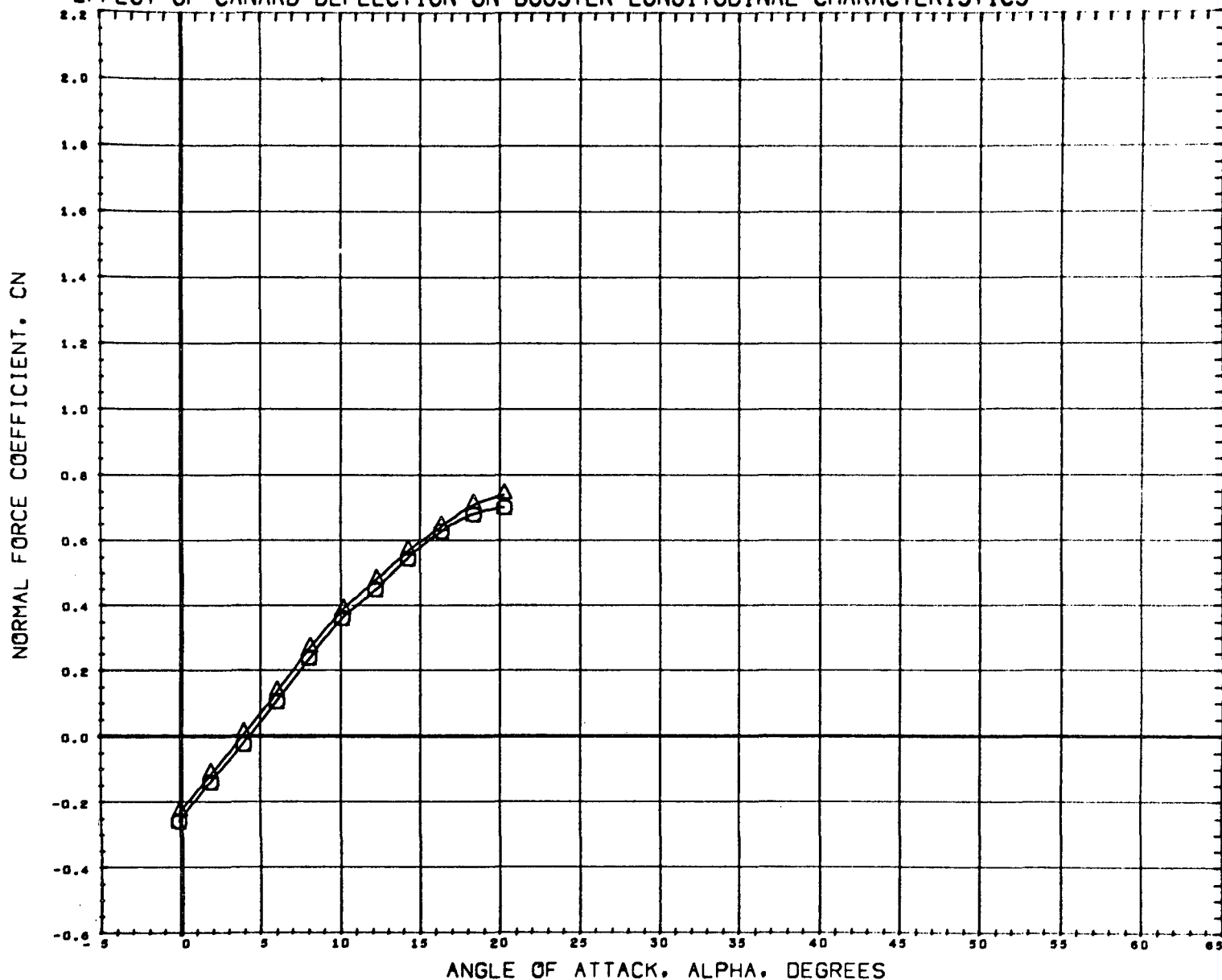
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MSFC TWT 517. RETRO-GLIDE BOOSTER. B1W1C1V1

(856027) 10 FEB 72

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C96021)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C96026)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

BETA CANARD ELEVON

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 0.000 10.000 0.000

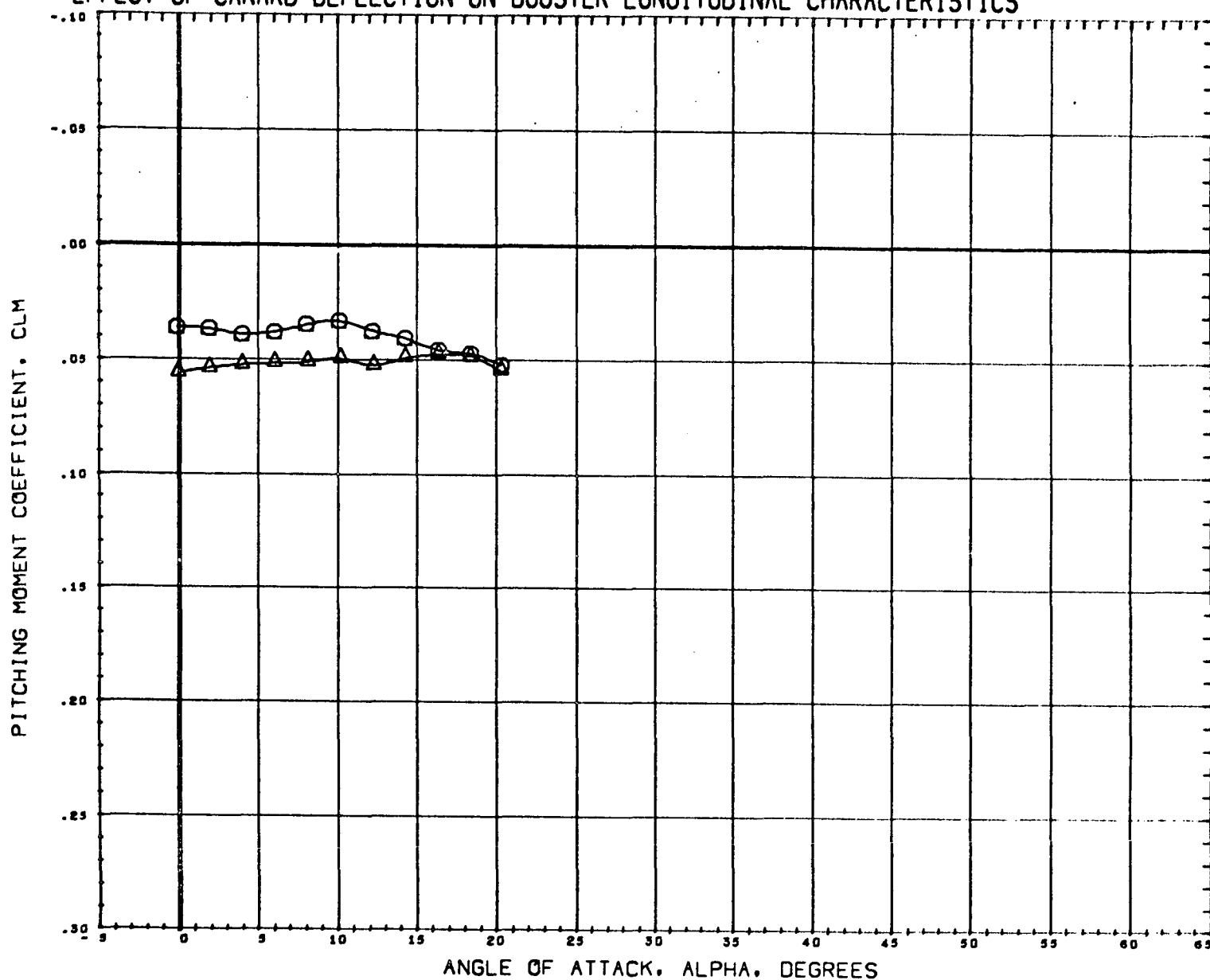
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 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 0.596

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56021) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (C56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

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0.000	10.000	0.000

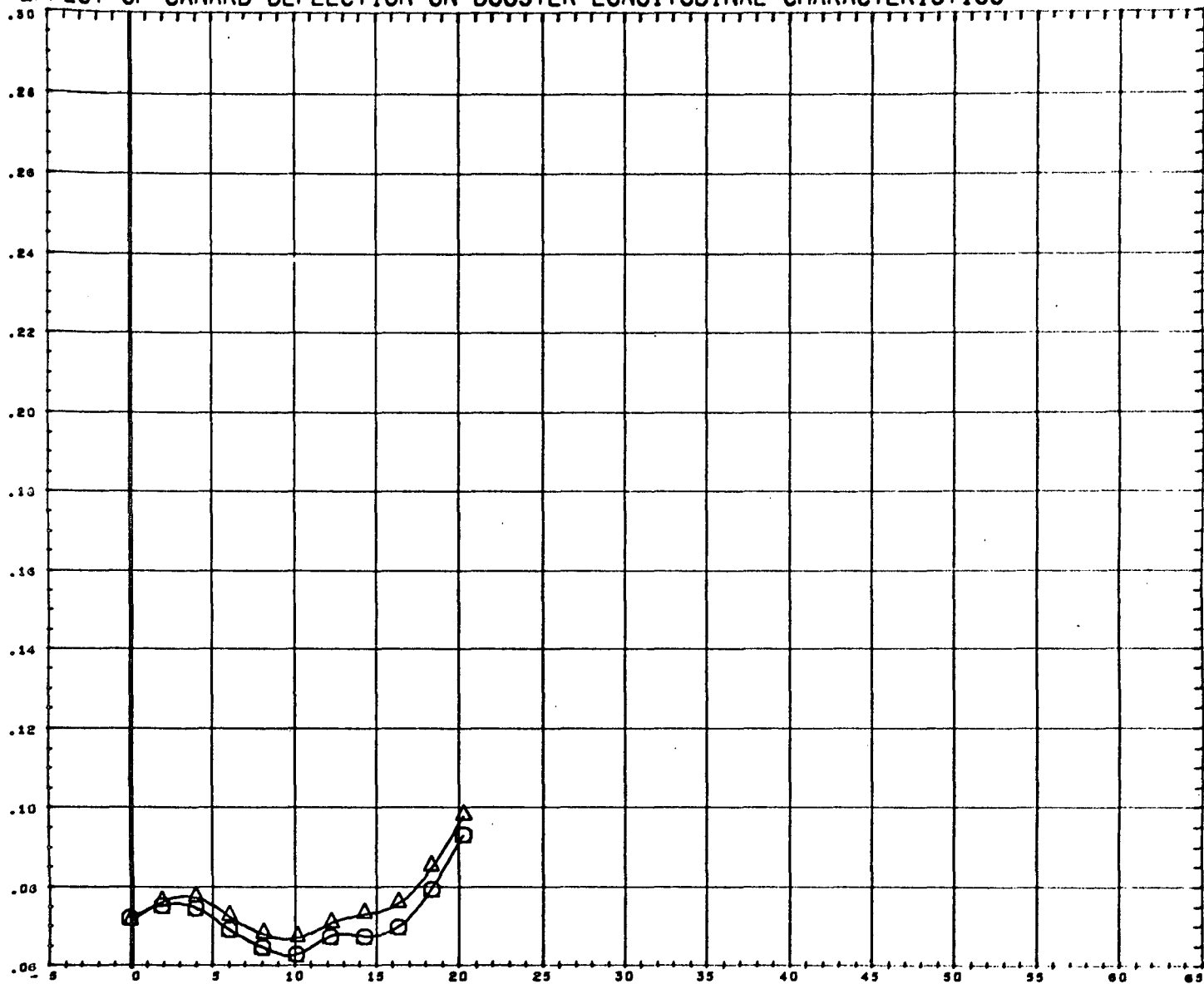
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.998

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(D56021) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56028) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA CANARD ELEVON

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0.000 10.000 0.000

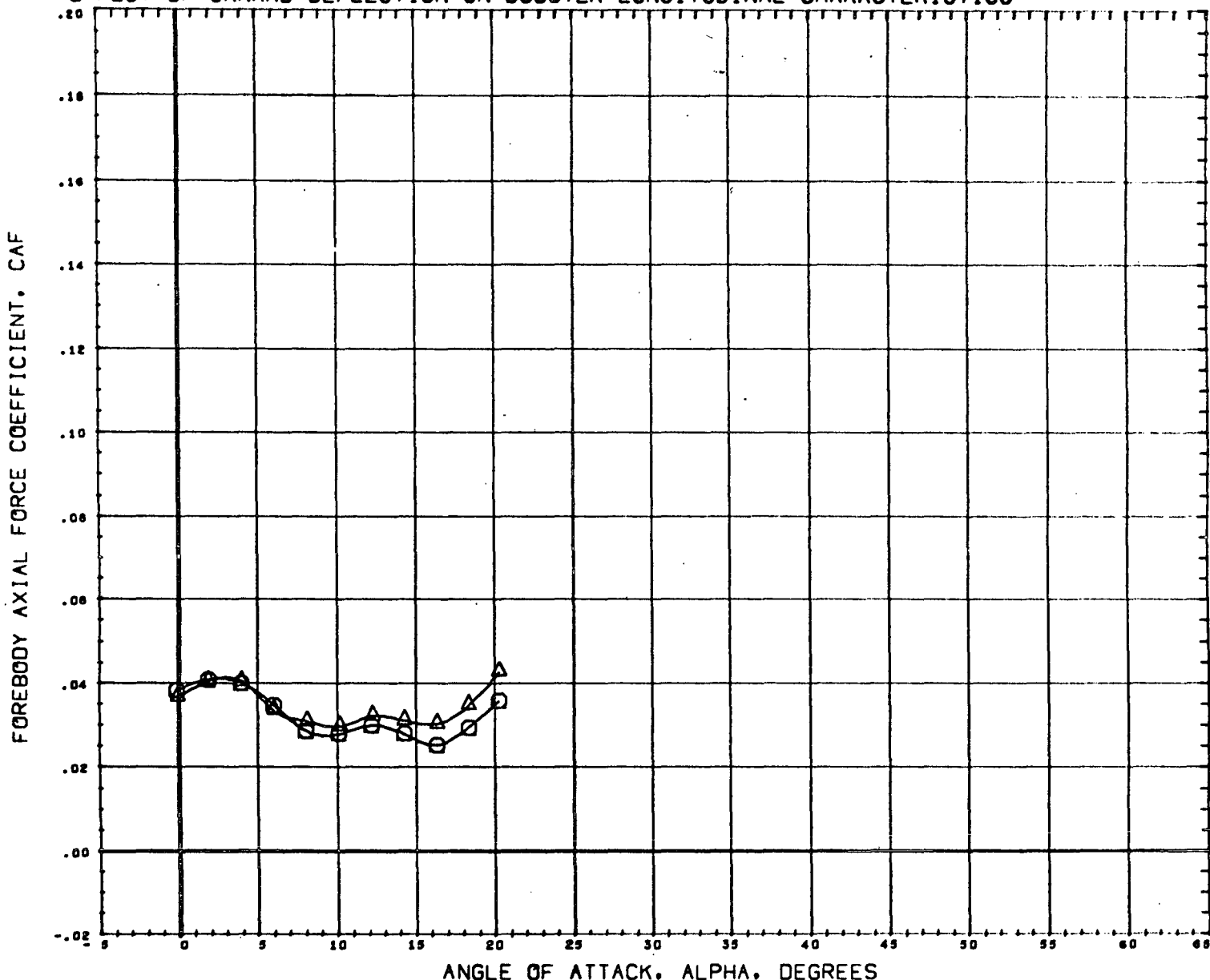
REFERENCE INFORMATION

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BREF 5.7300 INCH
XMRP 4.6400 INCH
YMRP 0.0000 INCH
ZMRP 0.6670 INCH
SCALE 0.0034

MACH 0.598

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(D56021)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56020)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

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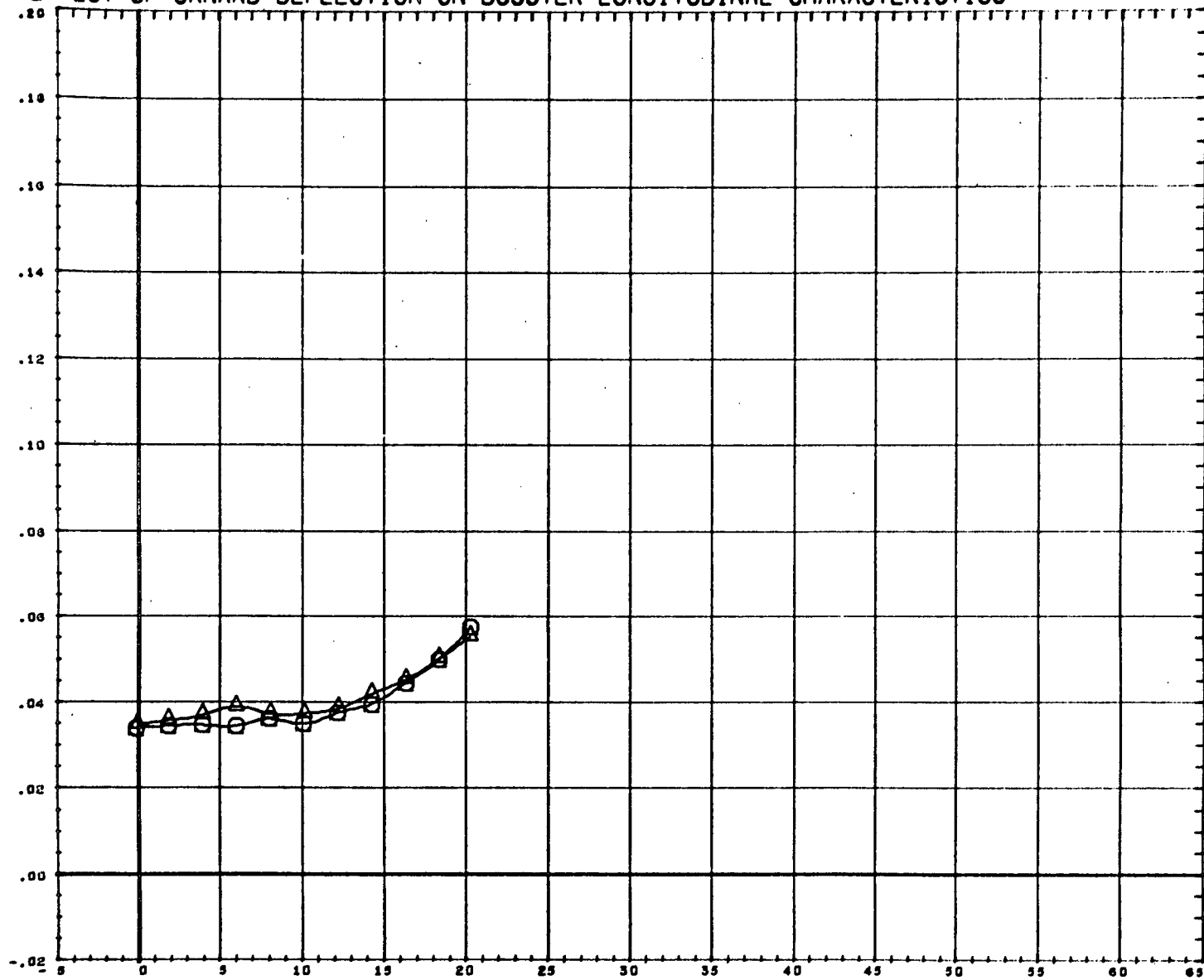
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS

BASE AXIAL FORCE COEFFICIENT, C_{AB}



ANGLE OF ATTACK, ALPHA, DEGREES

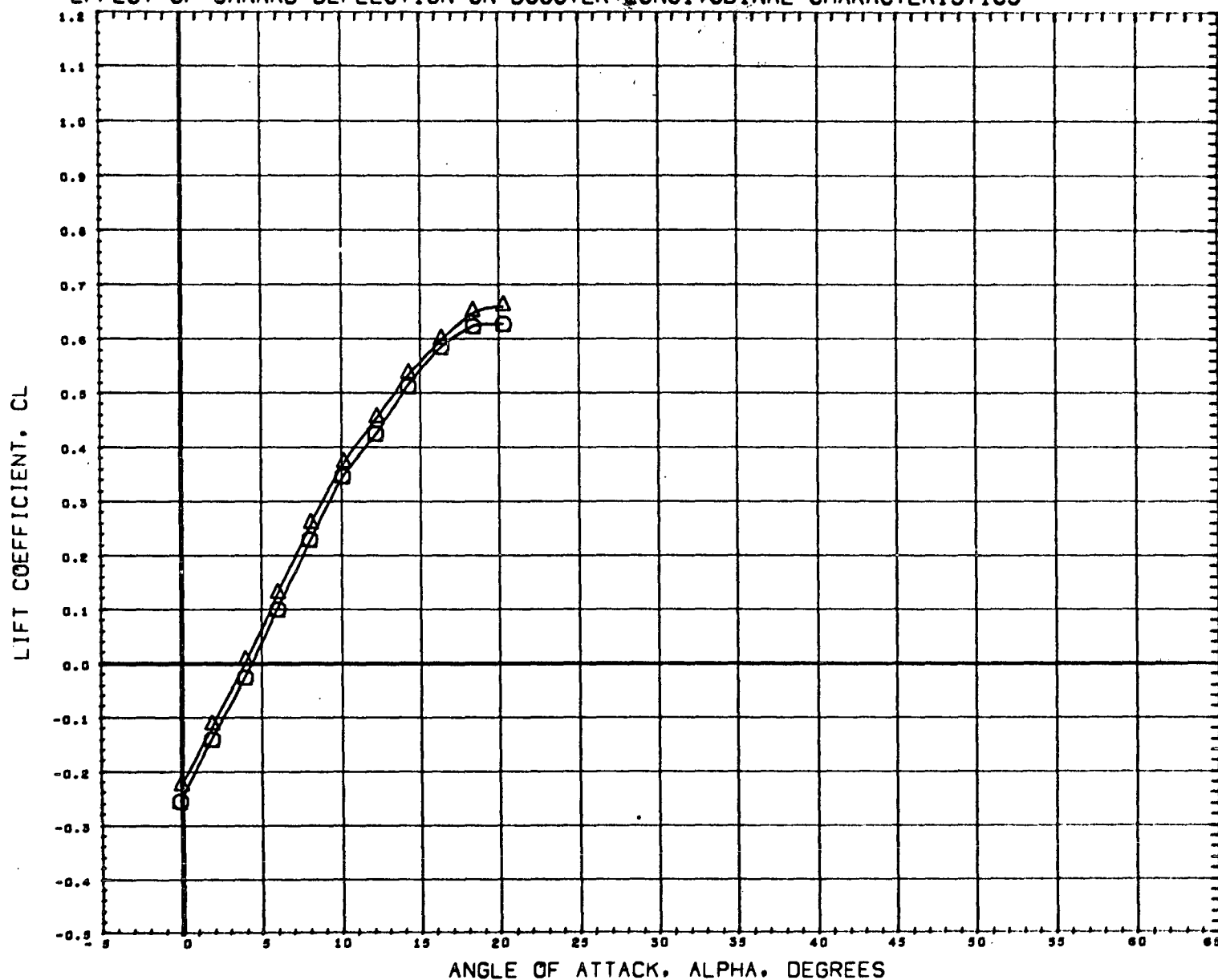
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(DS4021)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
(CS6028)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

BETA	CANARD	ELEVON
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0.000	10.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
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BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 0.598

EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (C96026) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

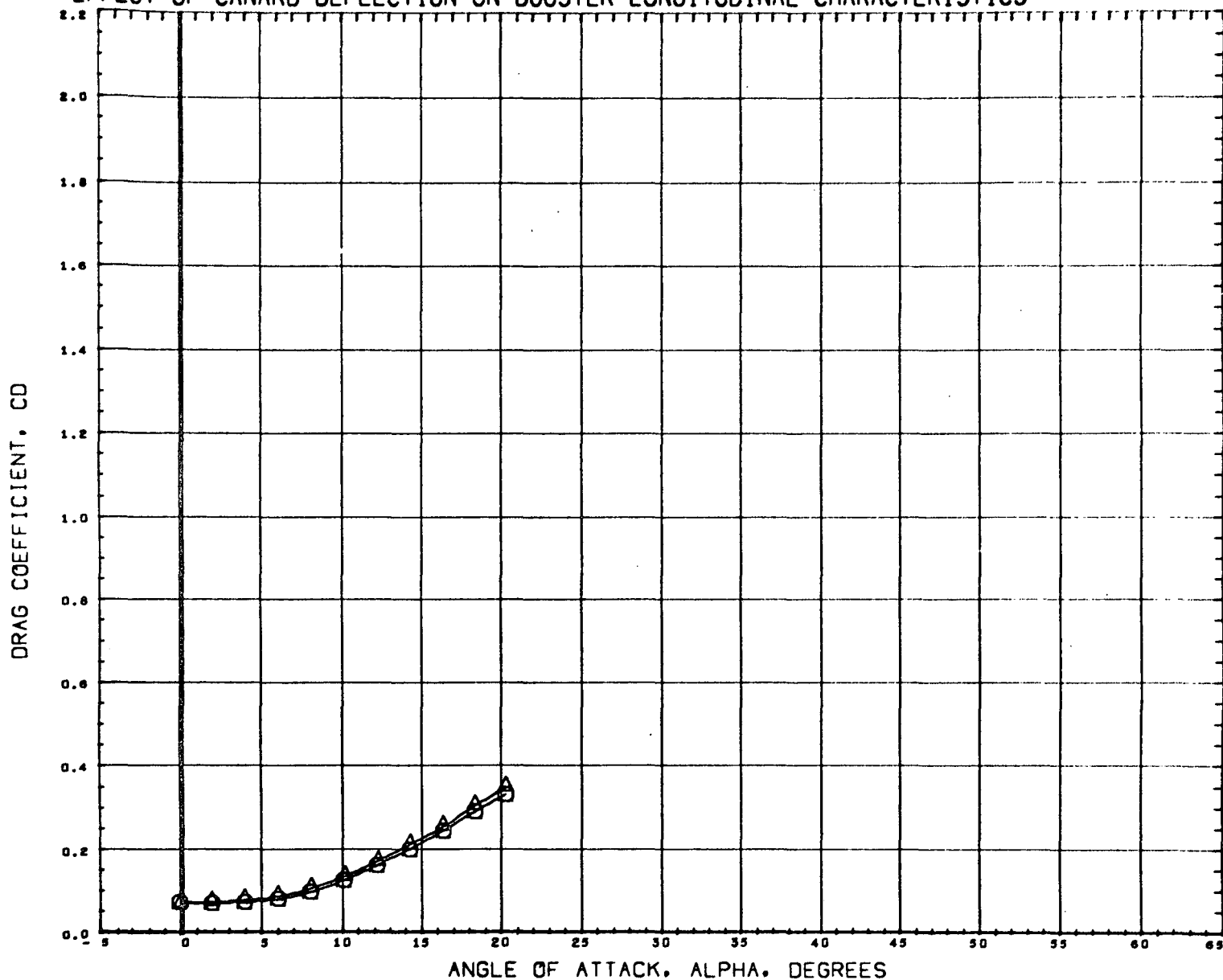
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.596

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56021) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C56028) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

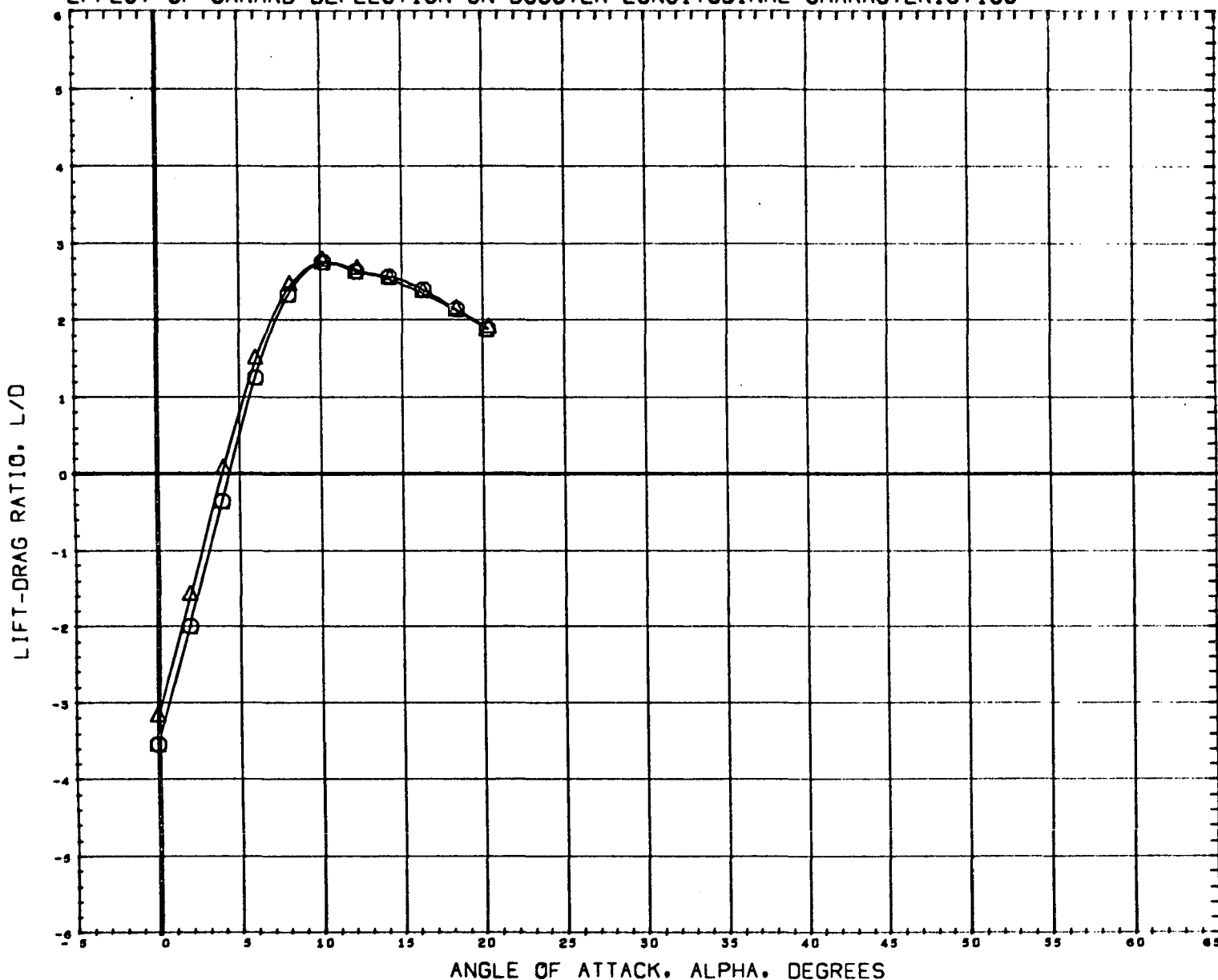
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REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(036021)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(036026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

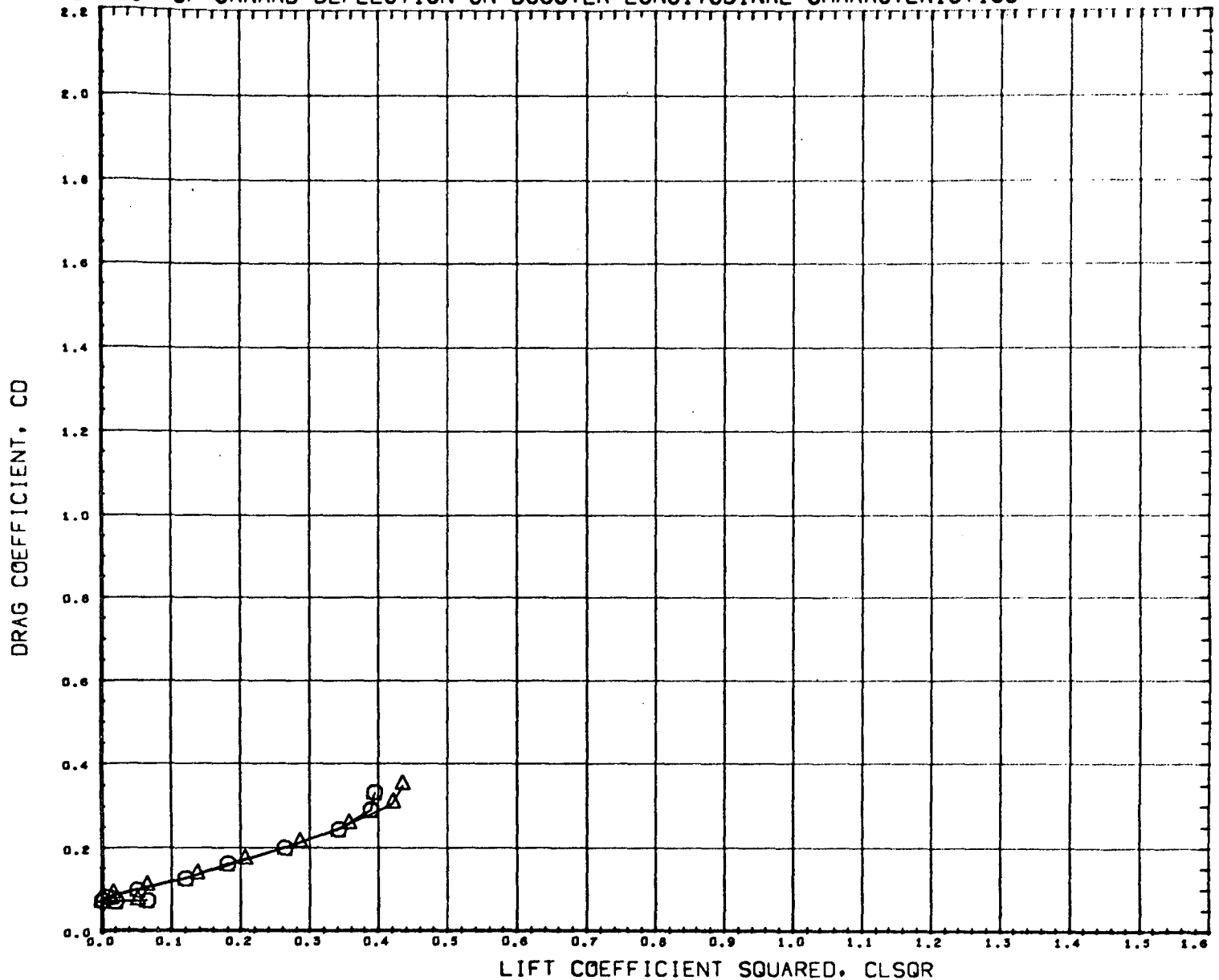
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0.000	10.000	0.000

REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.596

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56021)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56028)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

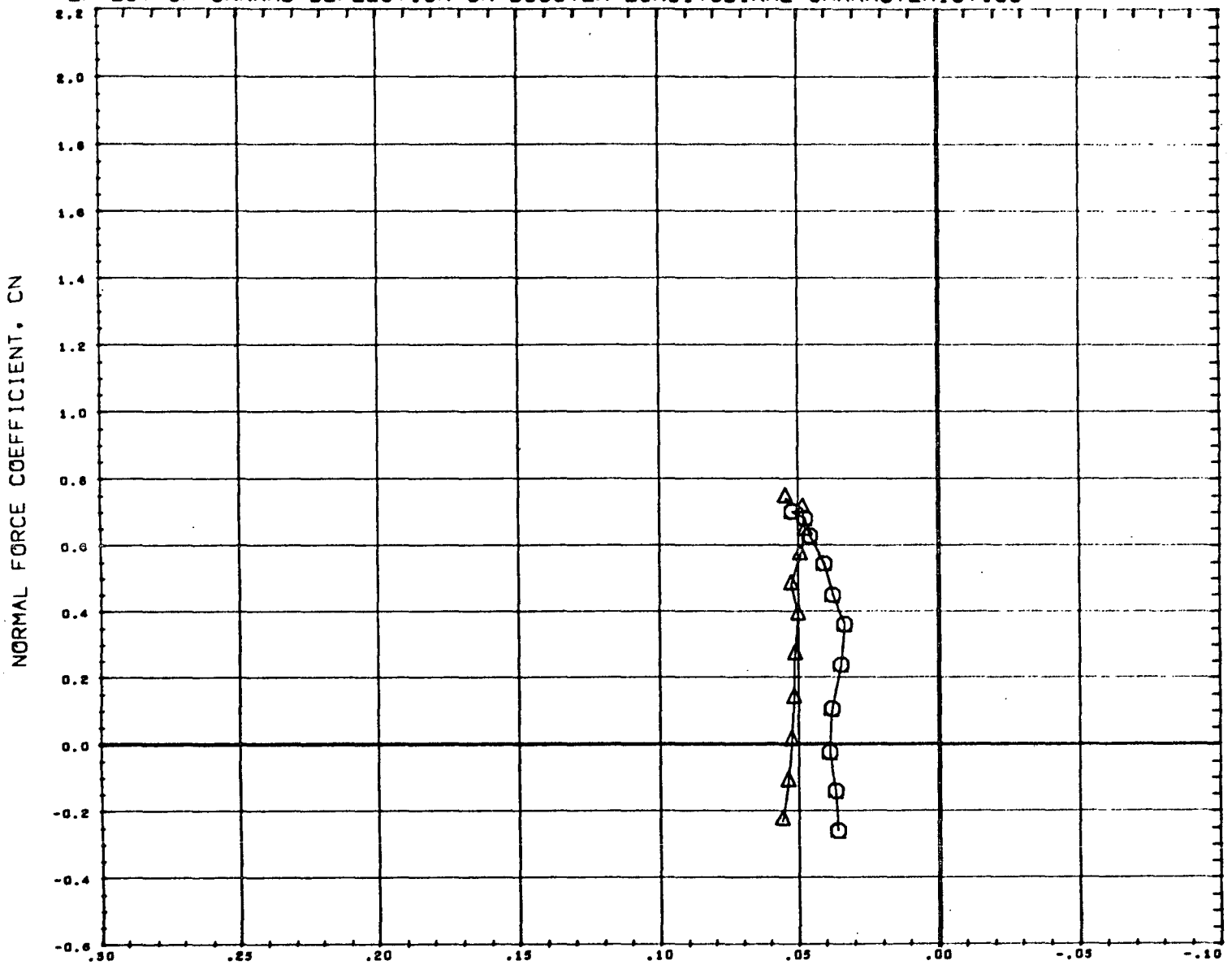
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REFERENCE INFORMATION		
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C36021) MSFC TWT 517, RETRO-GLIDE BOOSTER, 81WIC1V1
 (C36028) MSFC TWT 517, RETRO-GLIDE BOOSTER, 81WIC1V1

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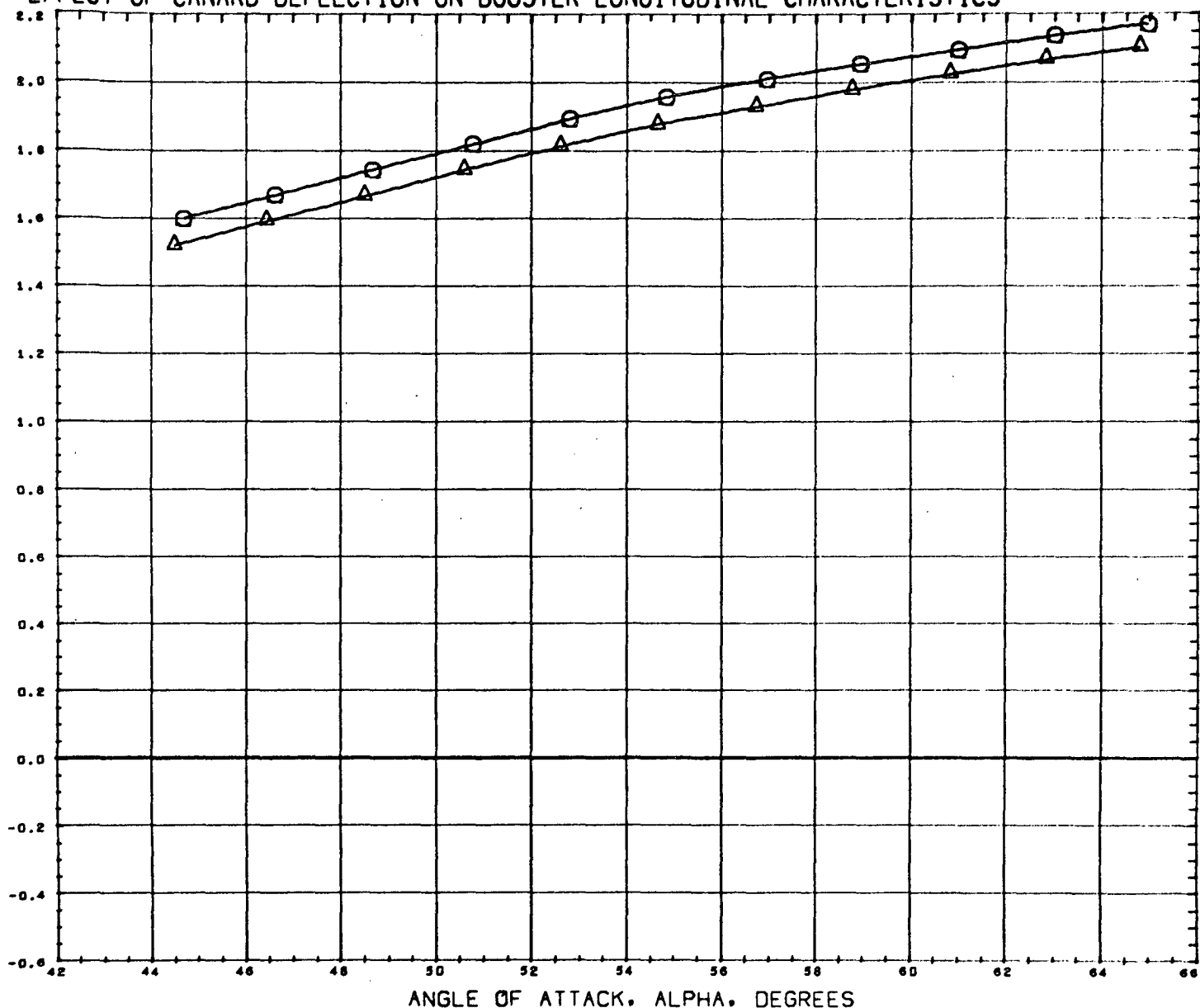
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 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 0.598

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS

NORMAL FORCE COEFFICIENT, CN



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C56023) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

BETA CANARD ELEVON

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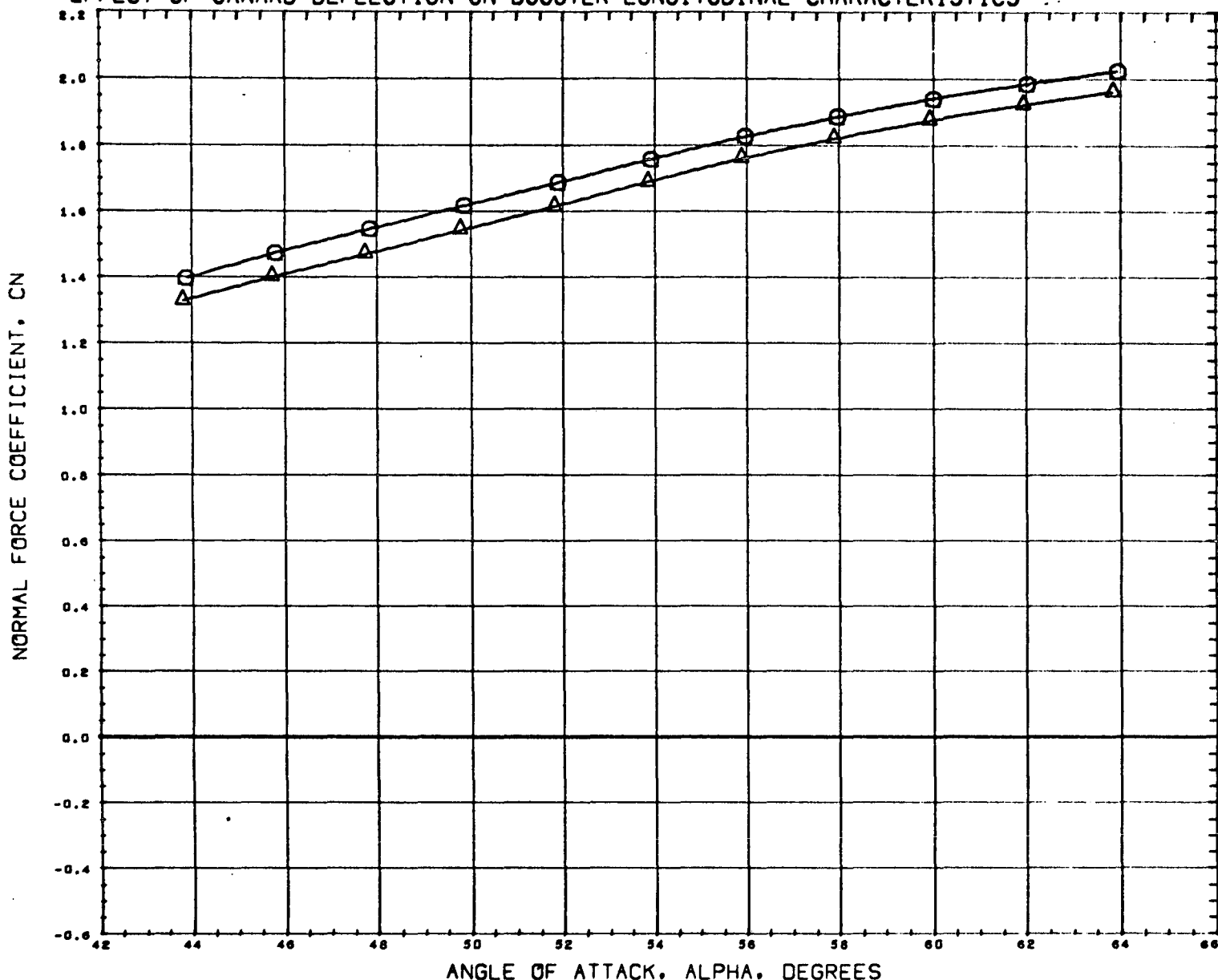
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YMRP 0.0000 INCH
ZMRP 0.6670 INCH
SCALE 0.0034

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36023) ○	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C36029) △	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

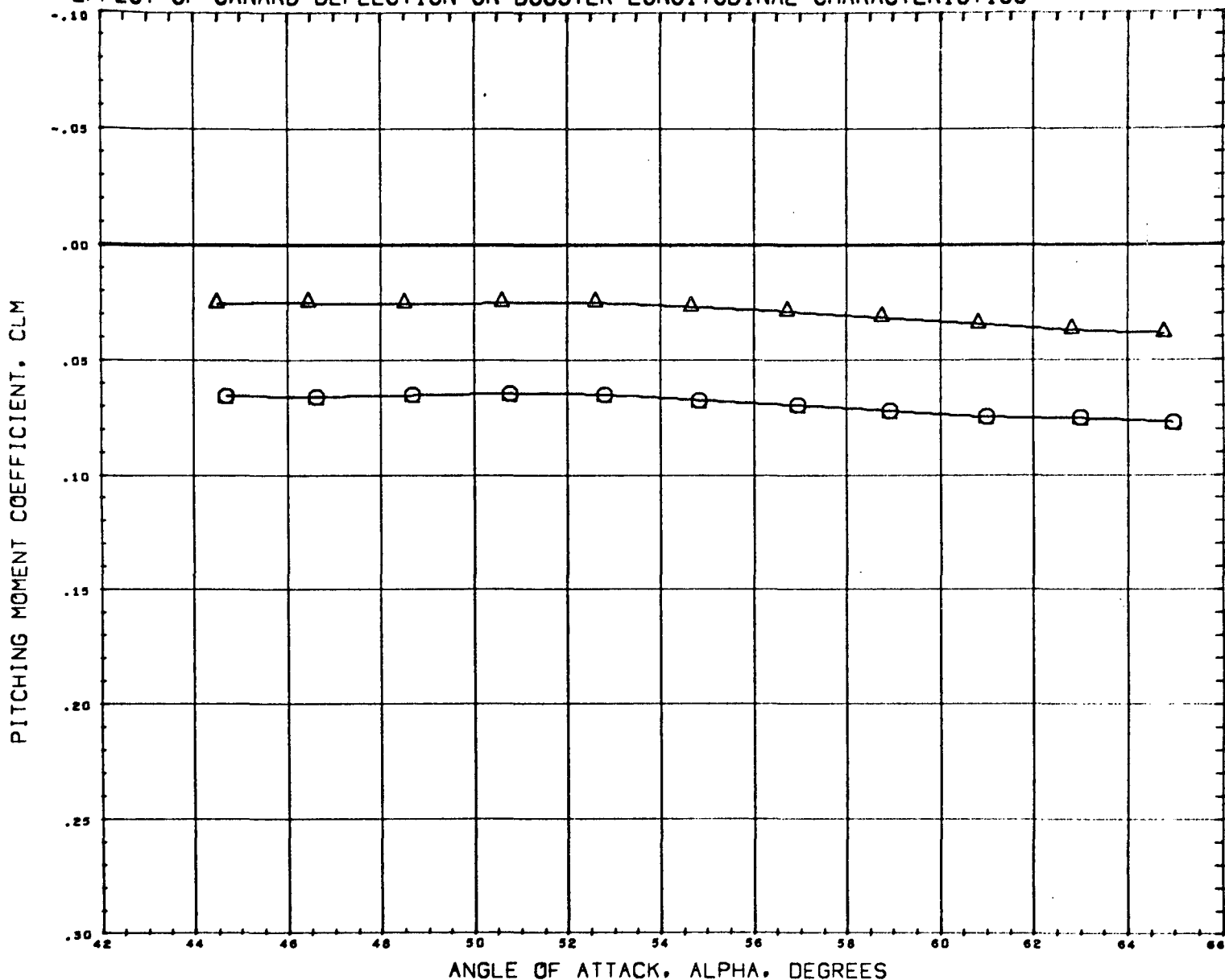
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56023) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C56029) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA CANARD ELEVON
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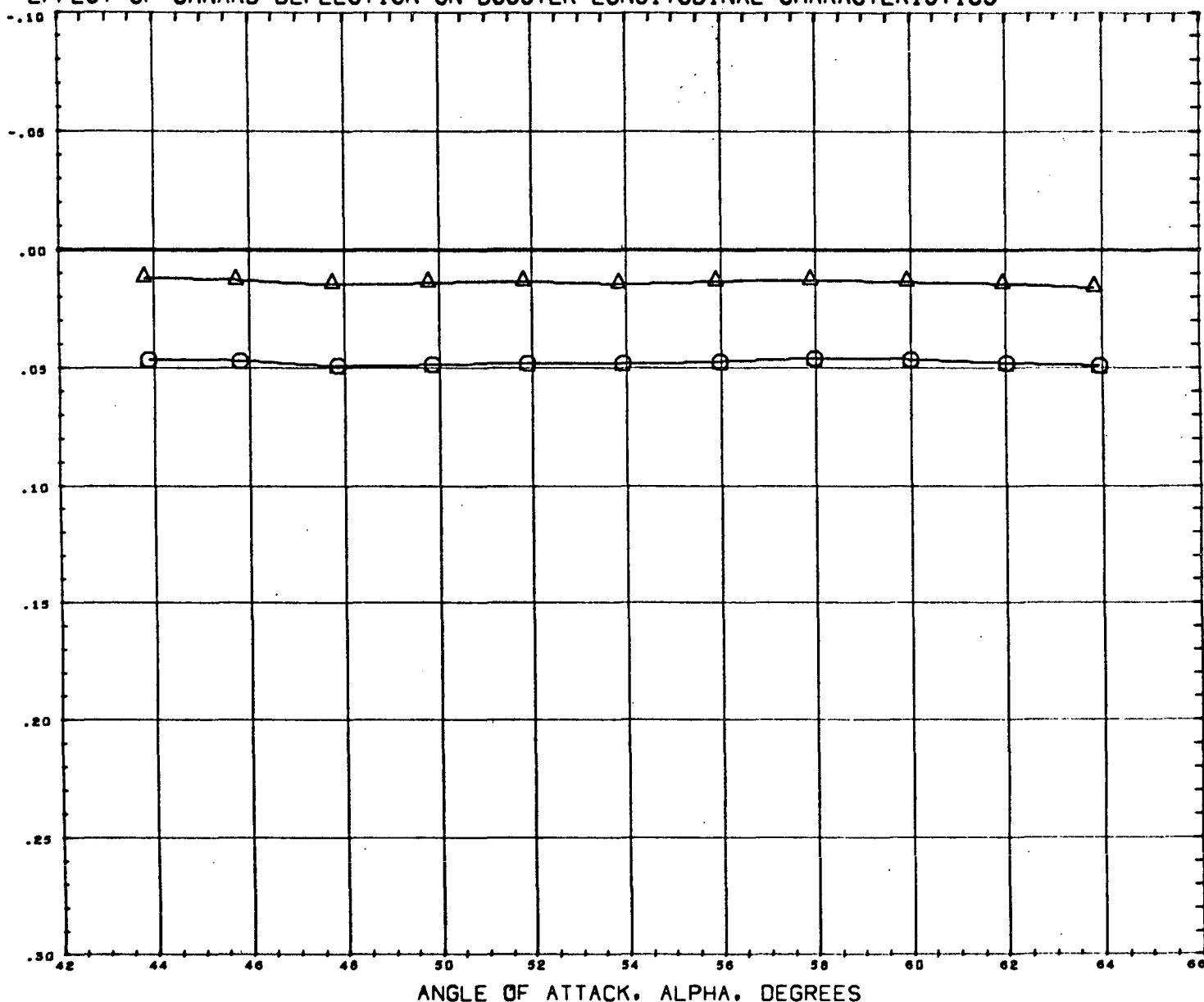
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 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS

PITCHING MOMENT COEFFICIENT, CLM



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36023)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C36029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

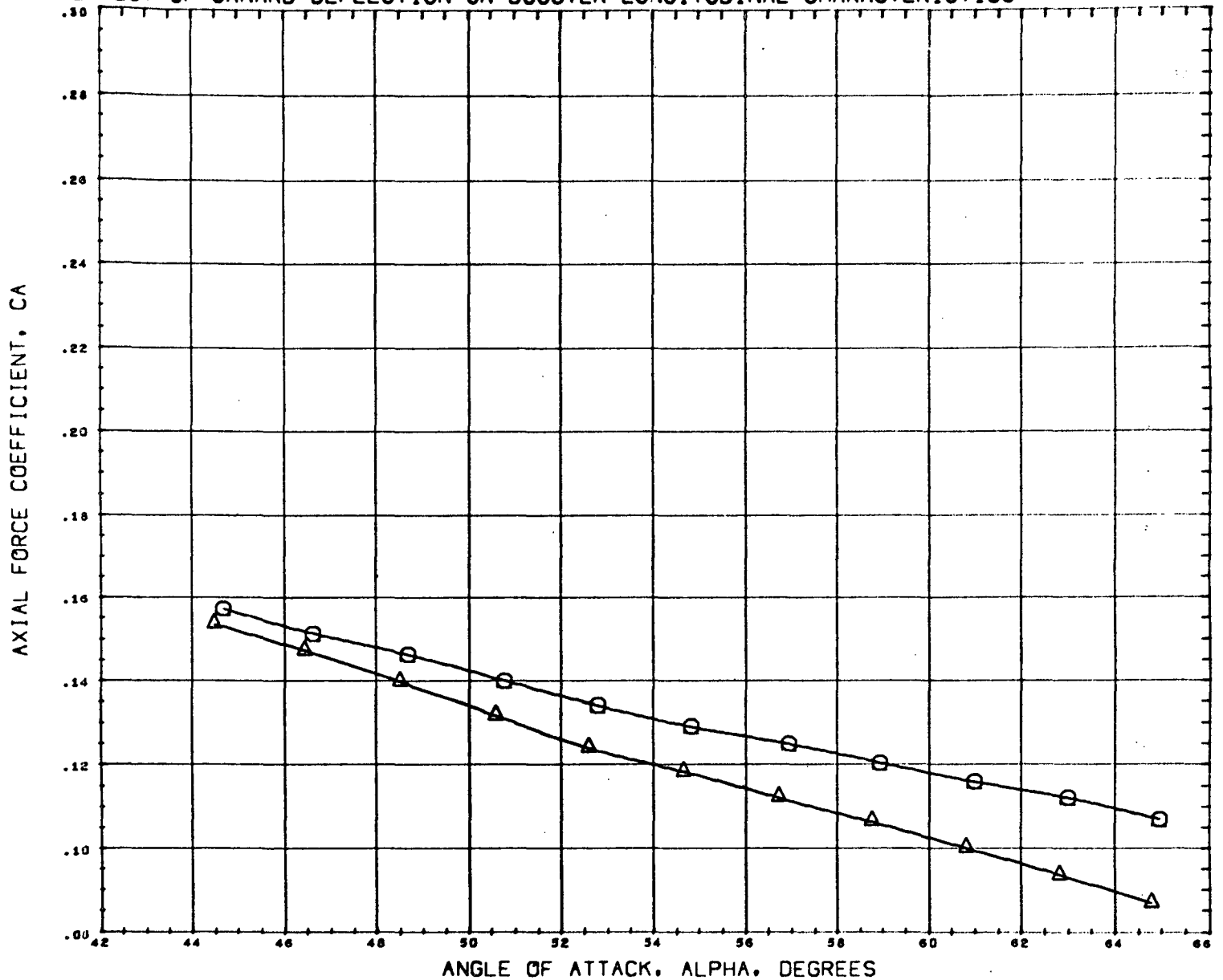
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REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56023)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
(C56029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

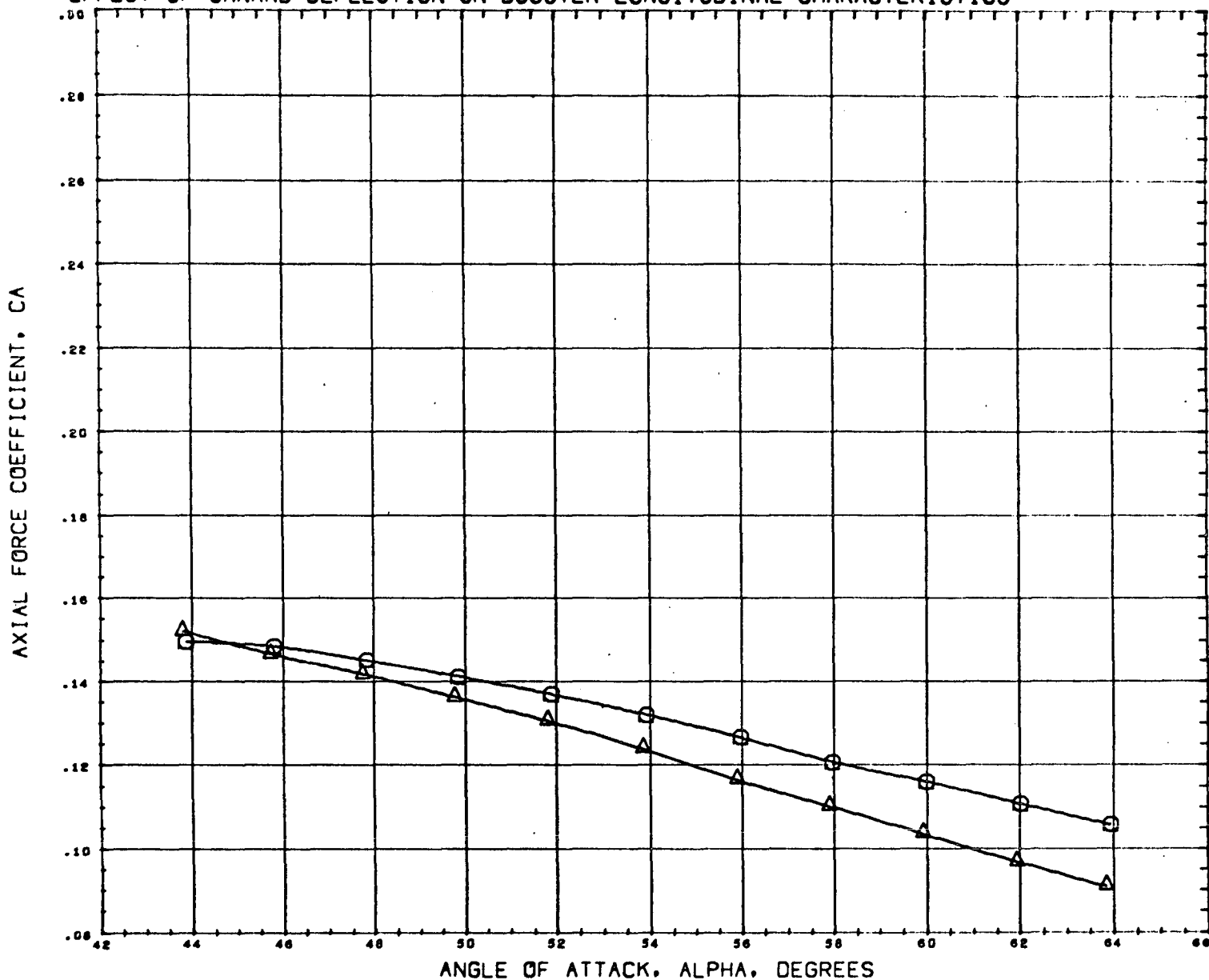
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0.000	-50.000	0.000

REFERENCE INFORMATION	
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LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C36023) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C36029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

BETA CANARD ELEVON
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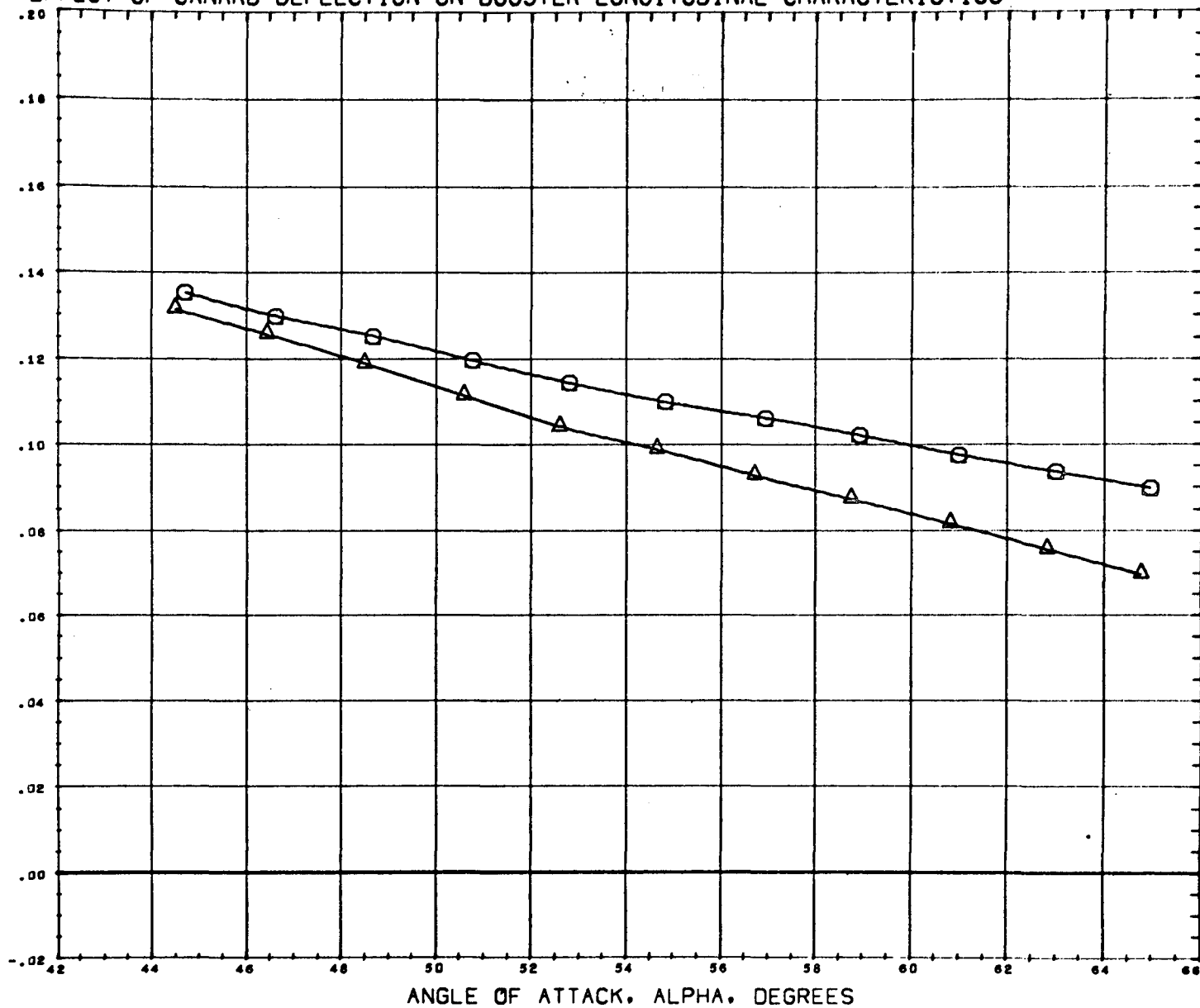
REFERENCE INFORMATION
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 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(D56023)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

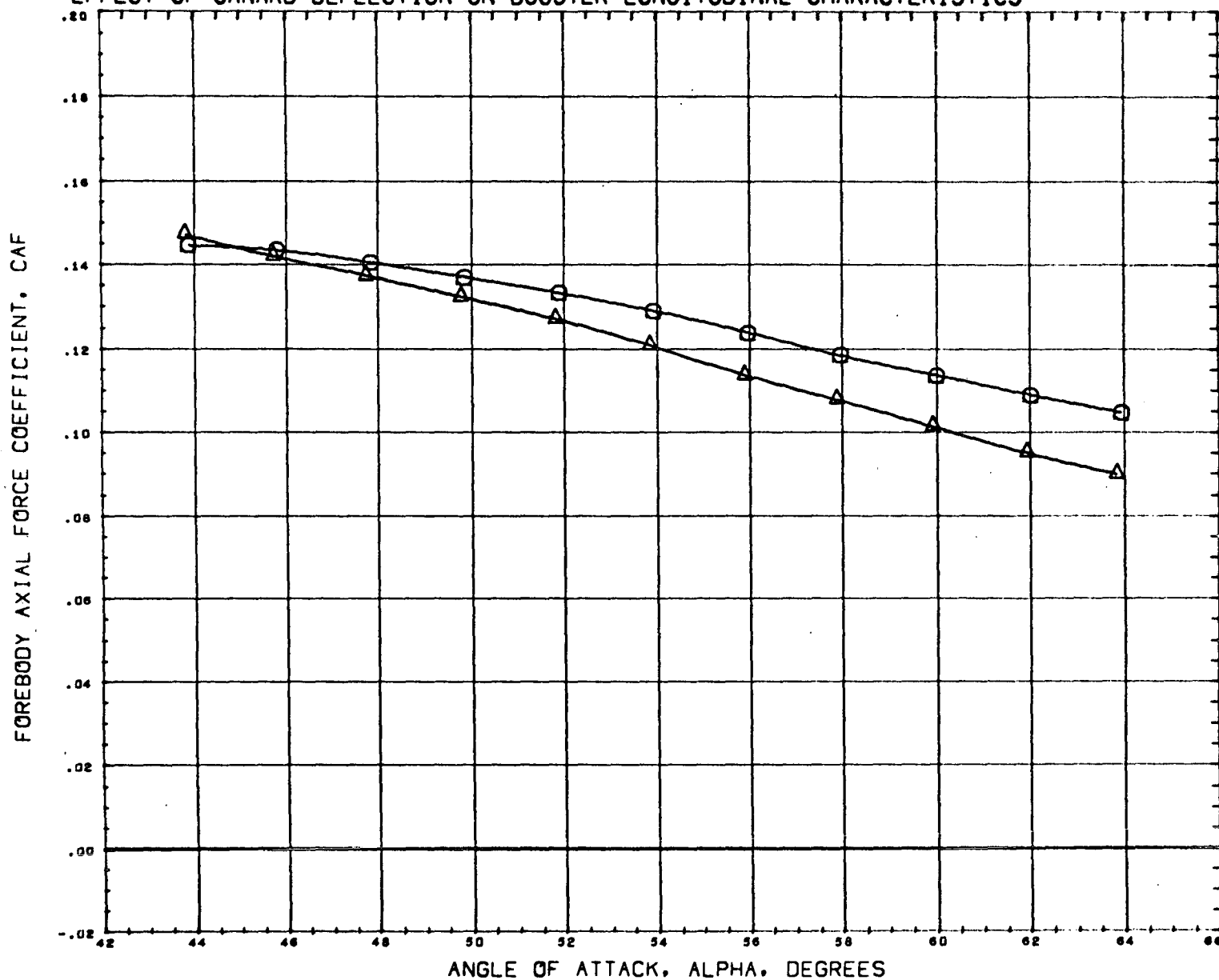
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BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



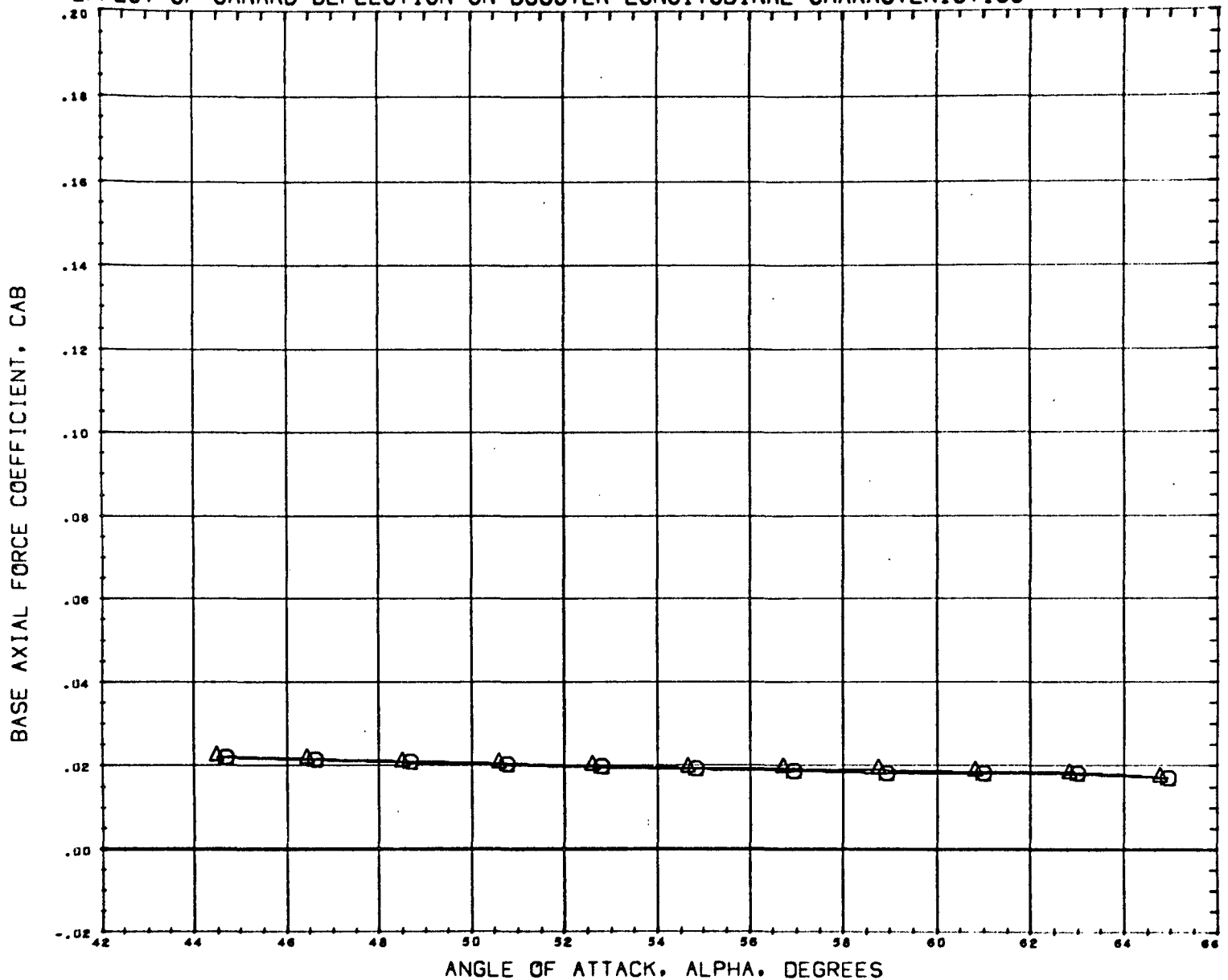
DATA SET SYMBOL CONFIGURATION DESCRIPTION
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BETA CANARD ELEVON
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REFERENCE INFORMATION
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 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
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 SCALE 0.0034

MACH 4.959

EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56023)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

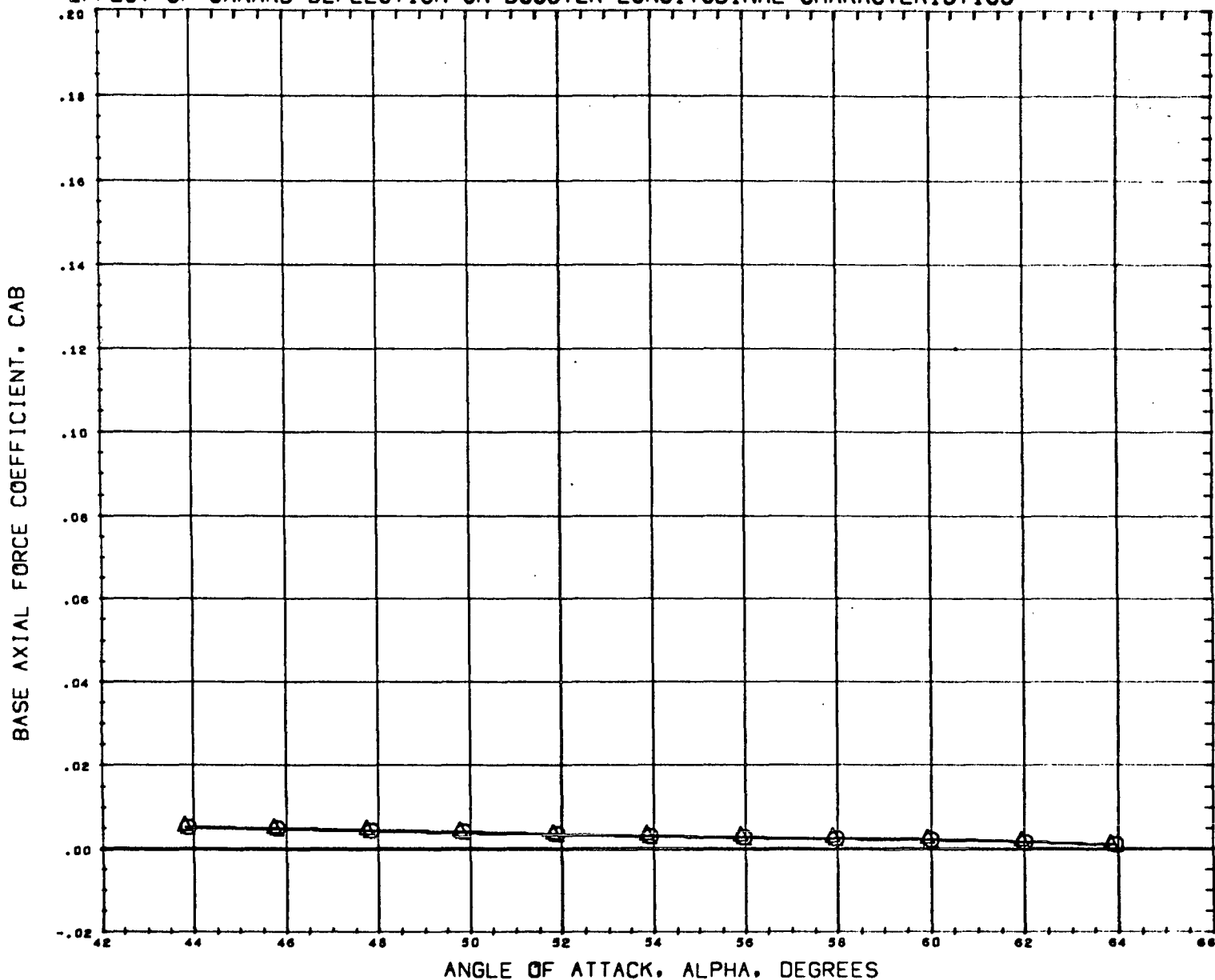
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C36023) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C36029) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

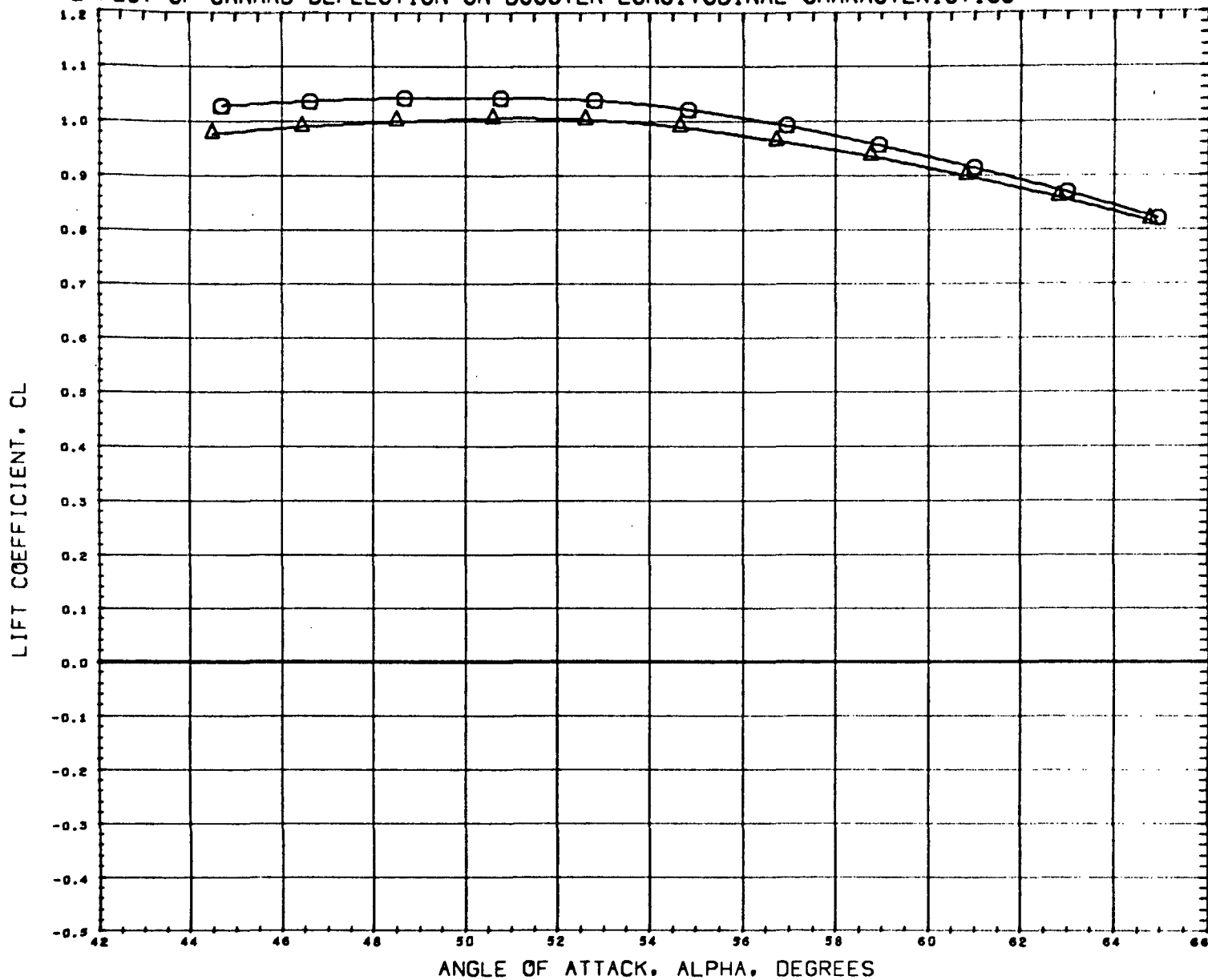
BETA CANARD ELEVON
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REFERENCE INFORMATION
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 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (C56029) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

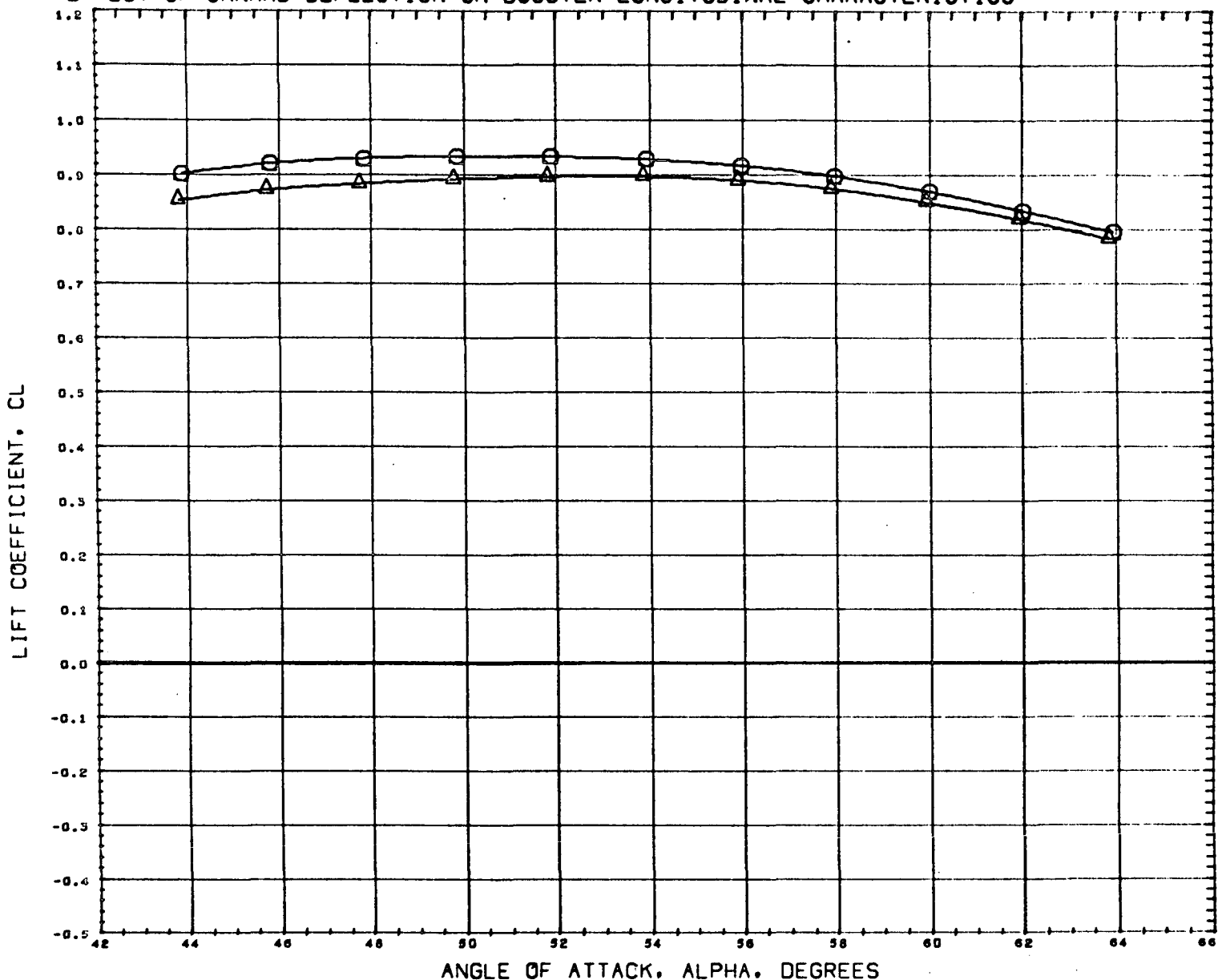
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REFERENCE INFORMATION
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 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (036029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

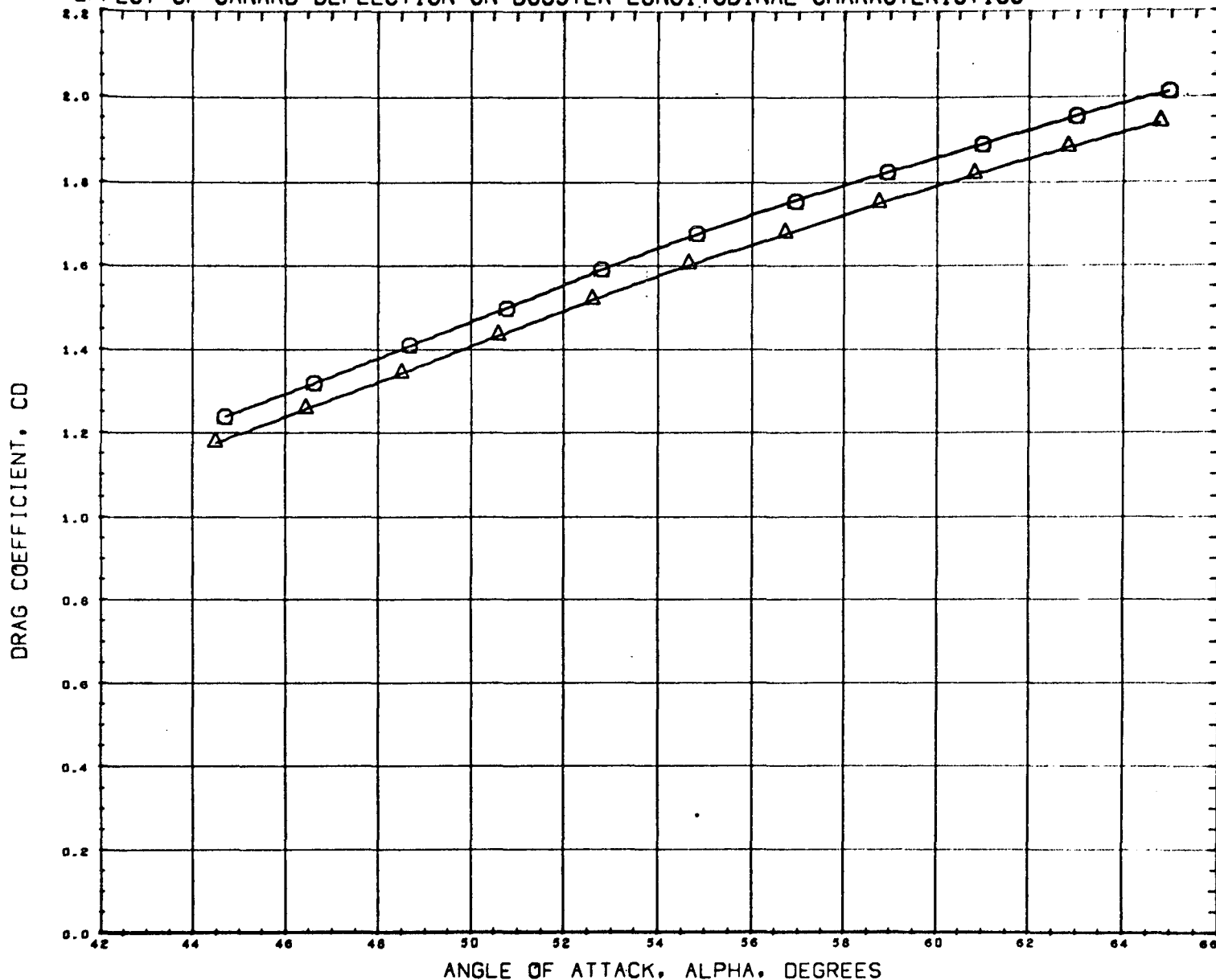
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REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (C56029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

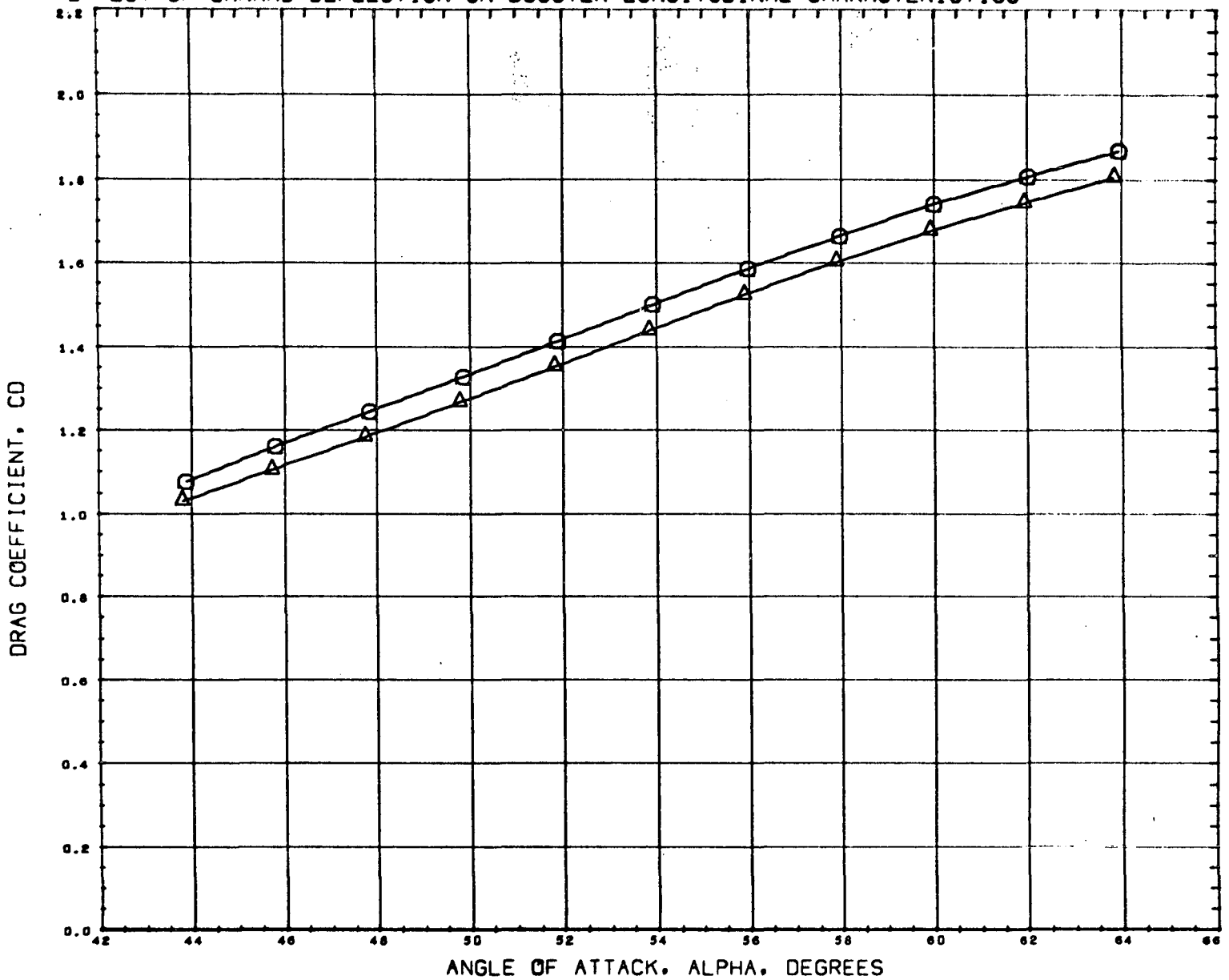
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0.000	-50.000	0.000

REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(D96023)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
(C96029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

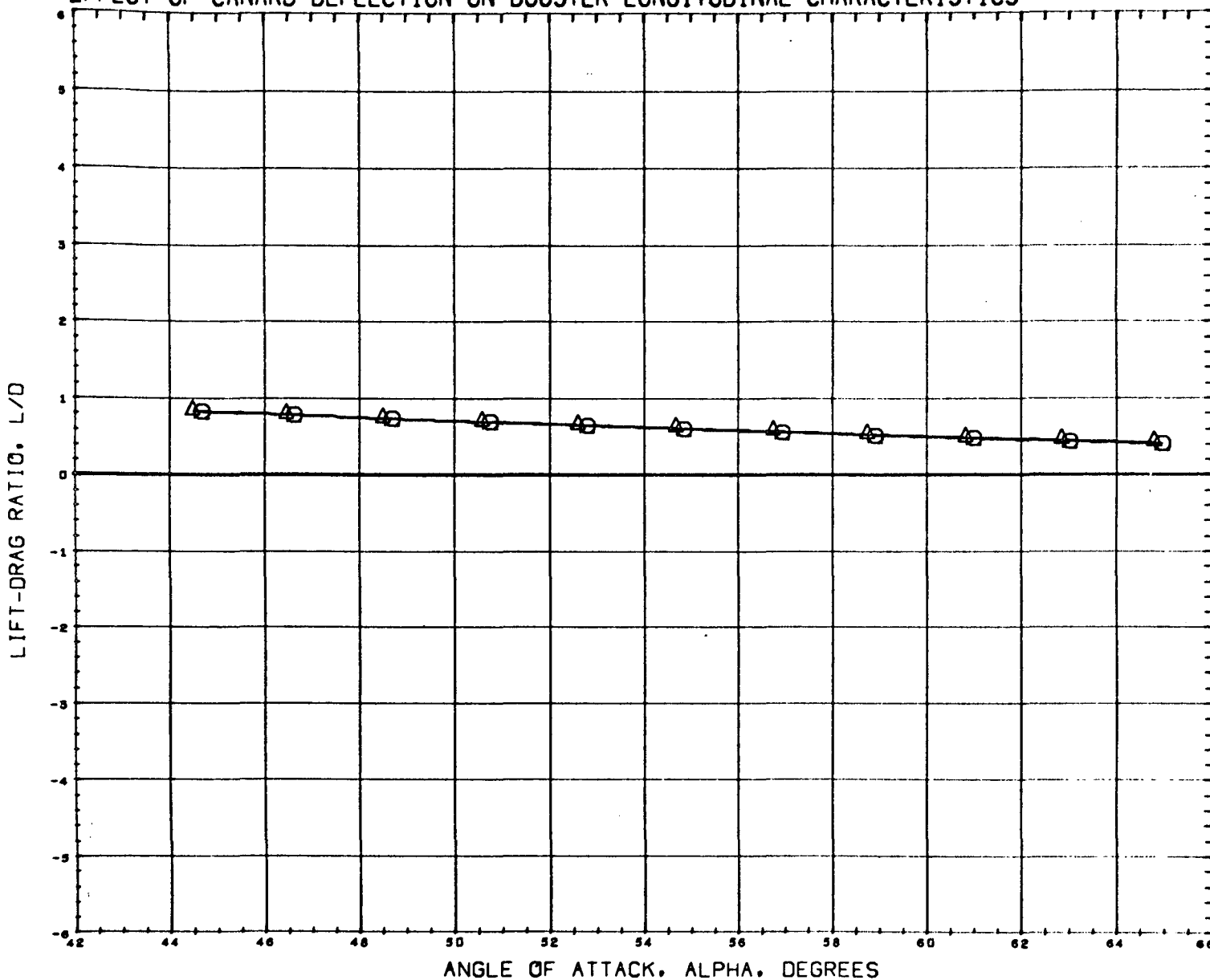
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0.000	-50.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (D56023) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C56029) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

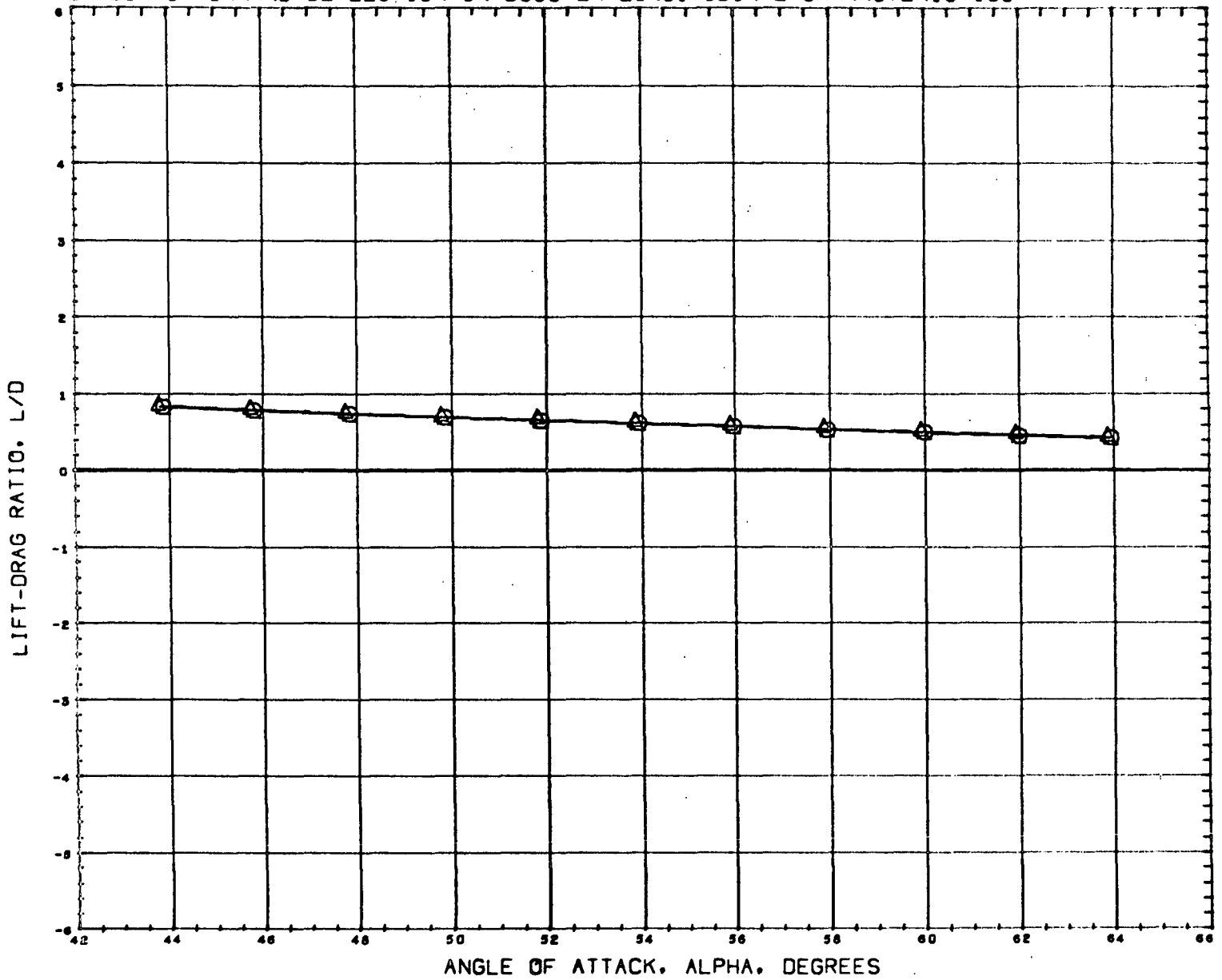
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0.000	-50.000	0.000

REFERENCE INFORMATION		
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LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C96025)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(C96029)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA CANARD ELEVON

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0.000 -50.000 0.000

REFERENCE INFORMATION

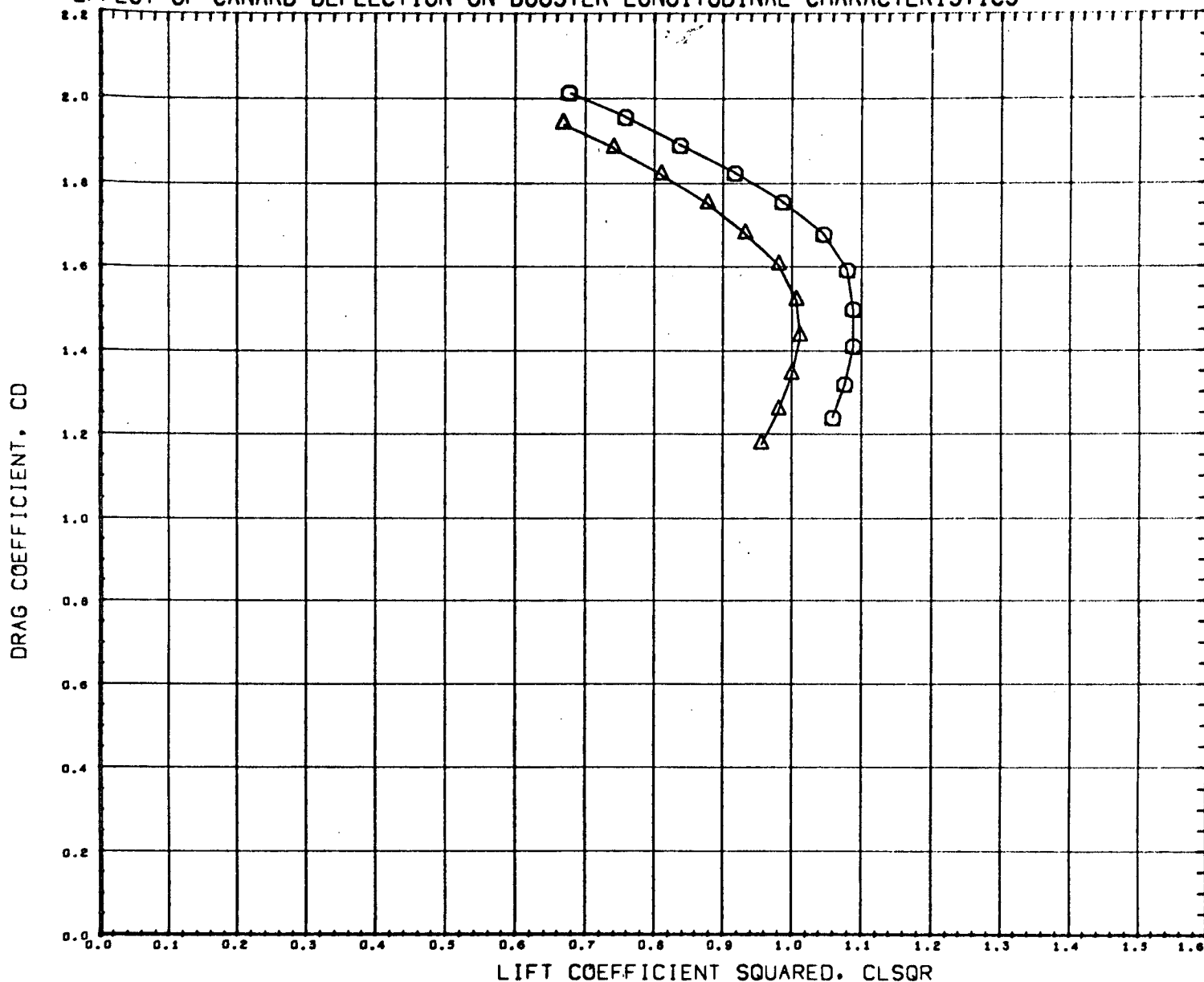
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ZMRP 0.6670 INCH
SCALE 0.0034

MACH

4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C96023)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C96029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

BETA CANARD ELEVON

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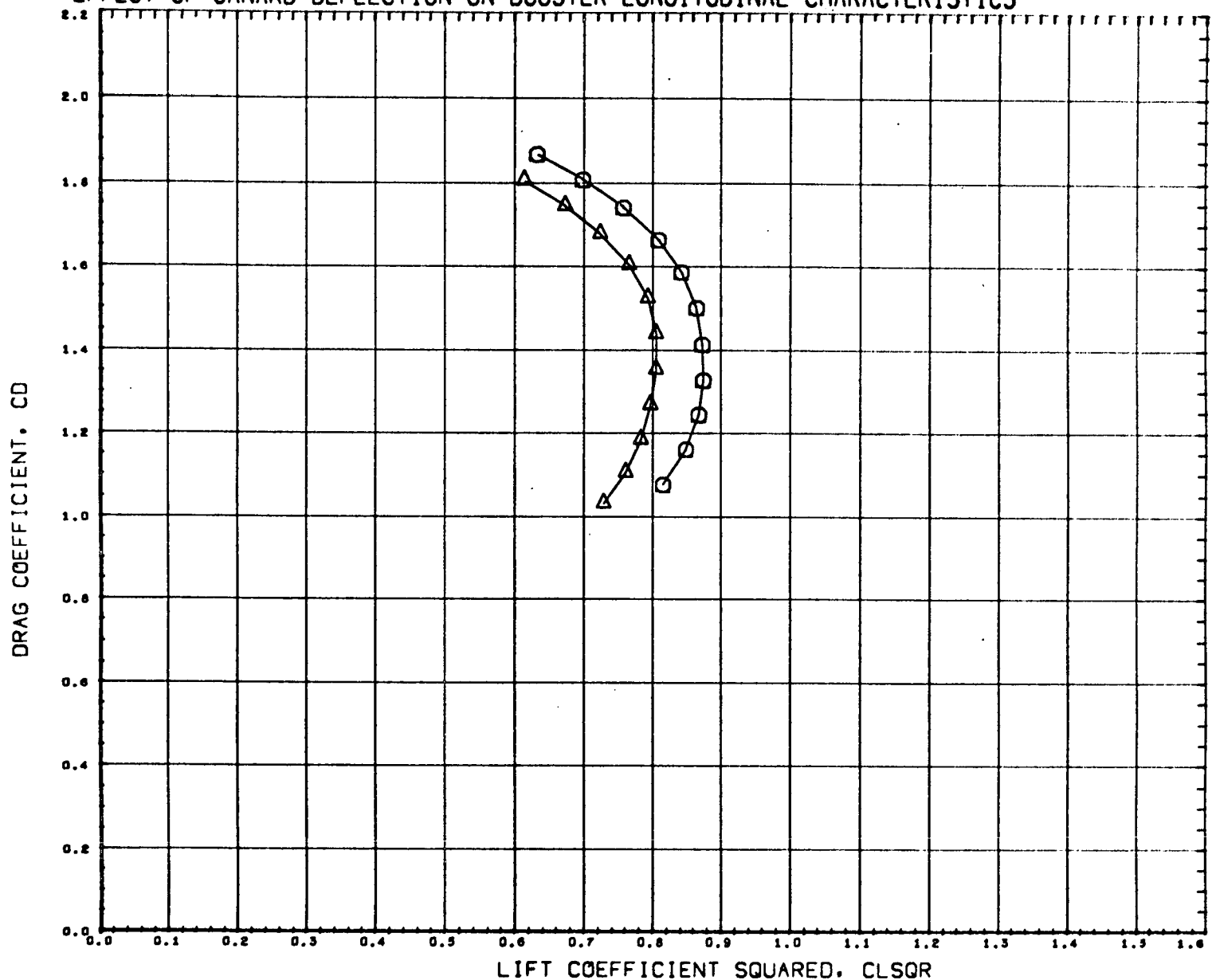
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YMRP 0.0000 INCH
ZMRP 0.6670 INCH
SCALE 0.0034

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56023) MSFC TWT 517, RETRO-GLIDE BOOSTER, BiWICIV1
 (C56029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BiWICIV1

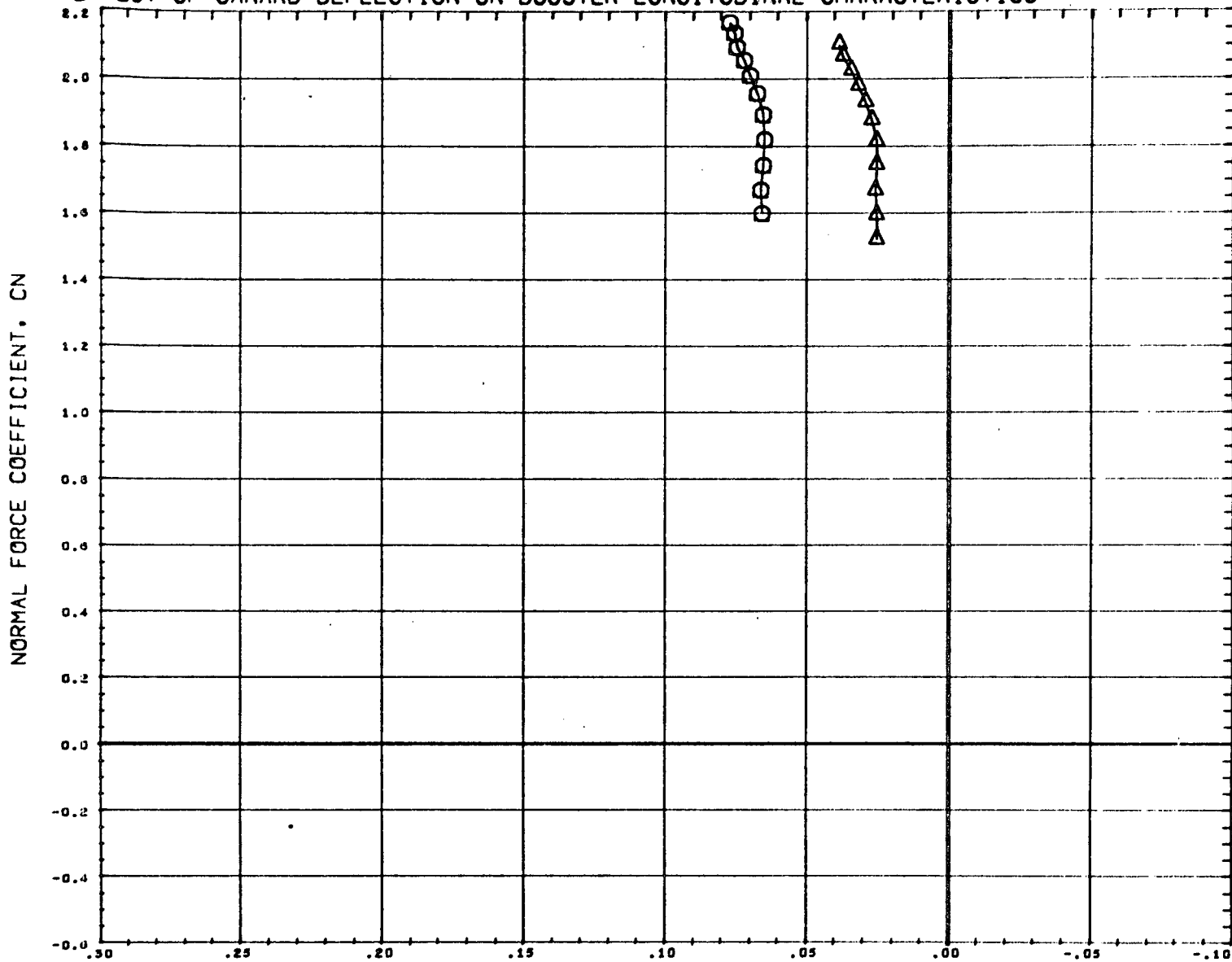
BETA CANARD ELEVON
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 0.000 -50.000 0.000

REFERENCE INFORMATION
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 BREF 5.7300 INCH
 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 4.959

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (036029) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

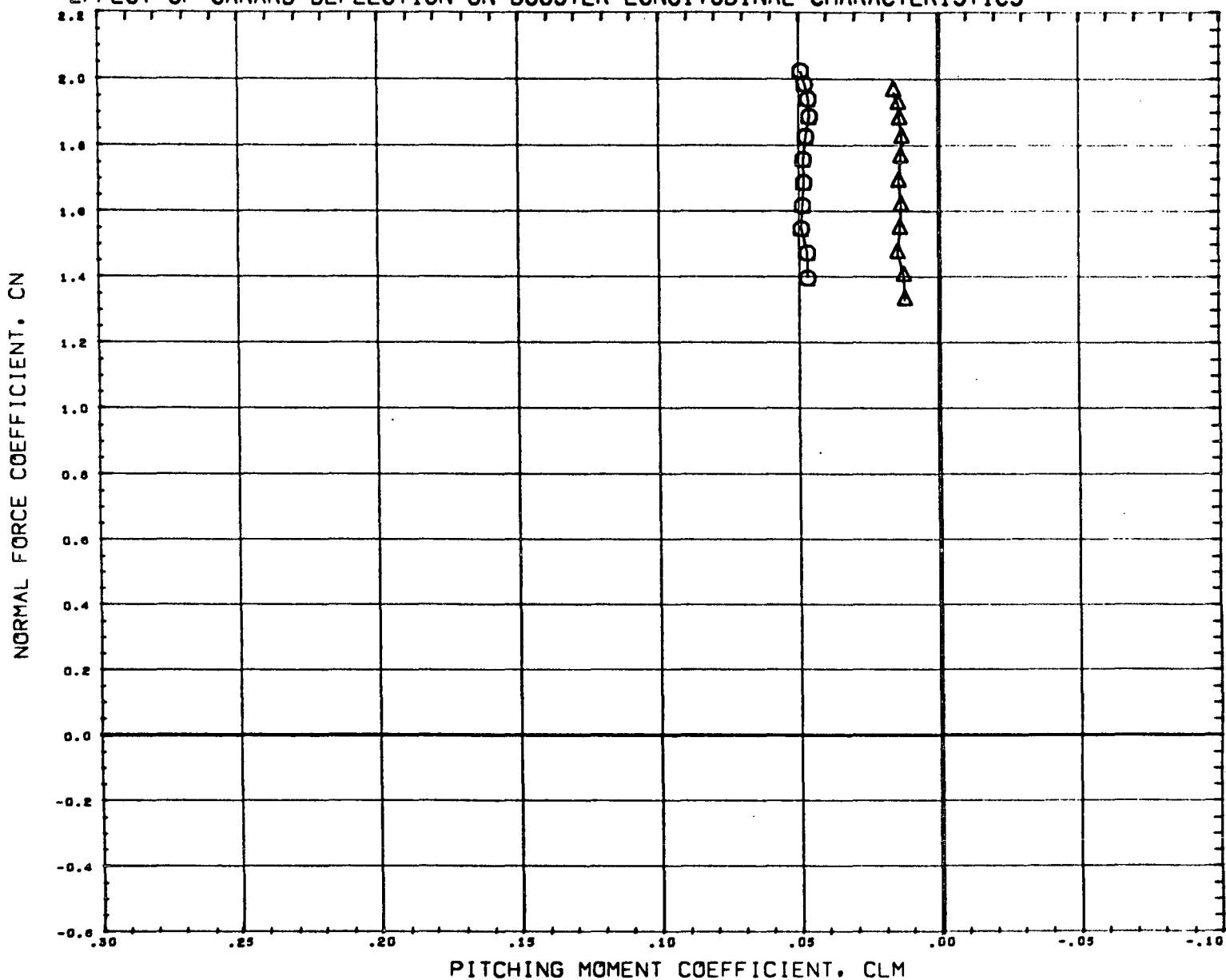
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0.000	-50.000	0.000

REFERENCE INFORMATION		
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LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF CANARD DEFLECTION ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56023)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

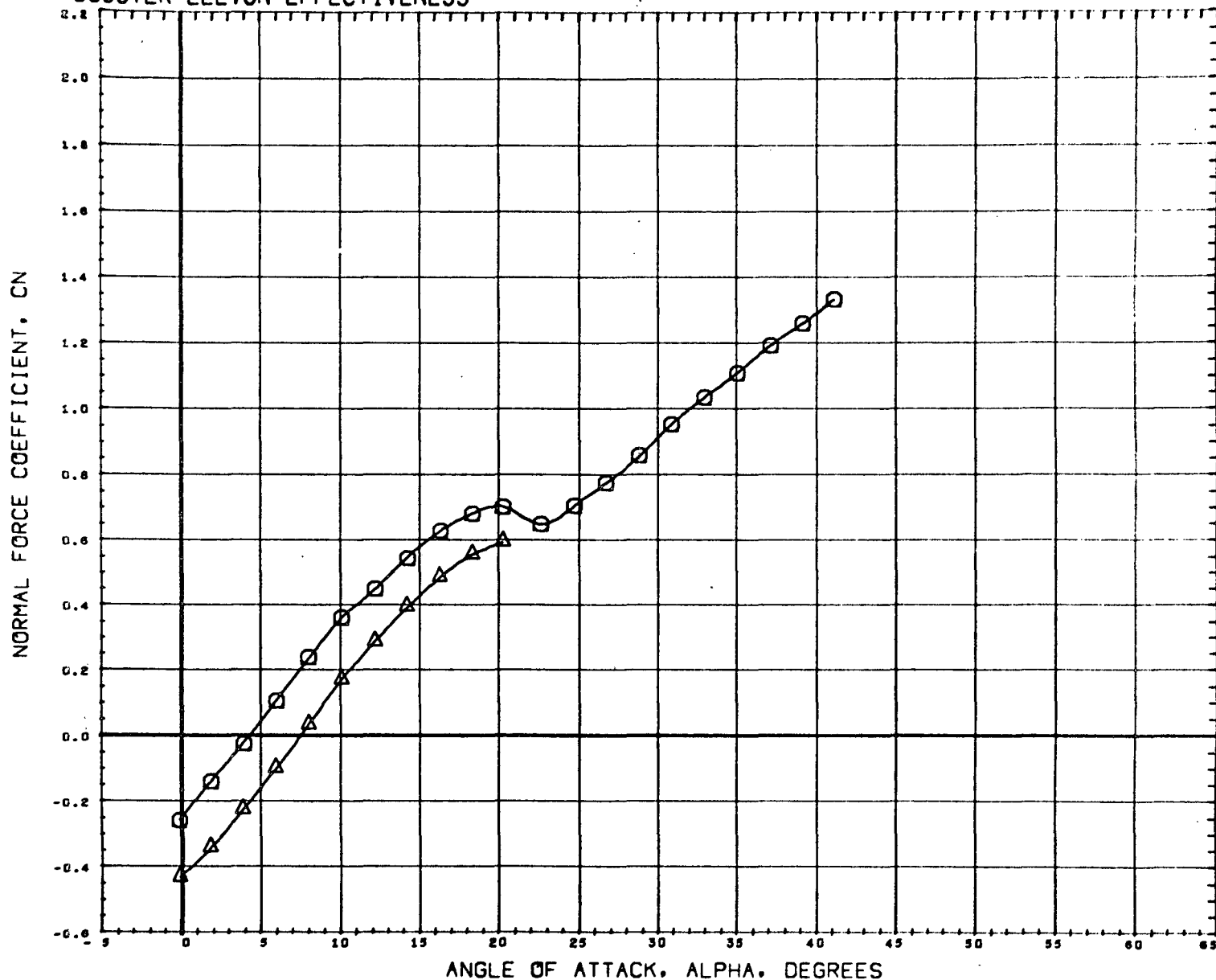
BETA	CANARD	ELEVON
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0.000	-50.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C36035) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C36036) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C36040) DATA NOT AVAILABLE FOR ALL CONDITIONS

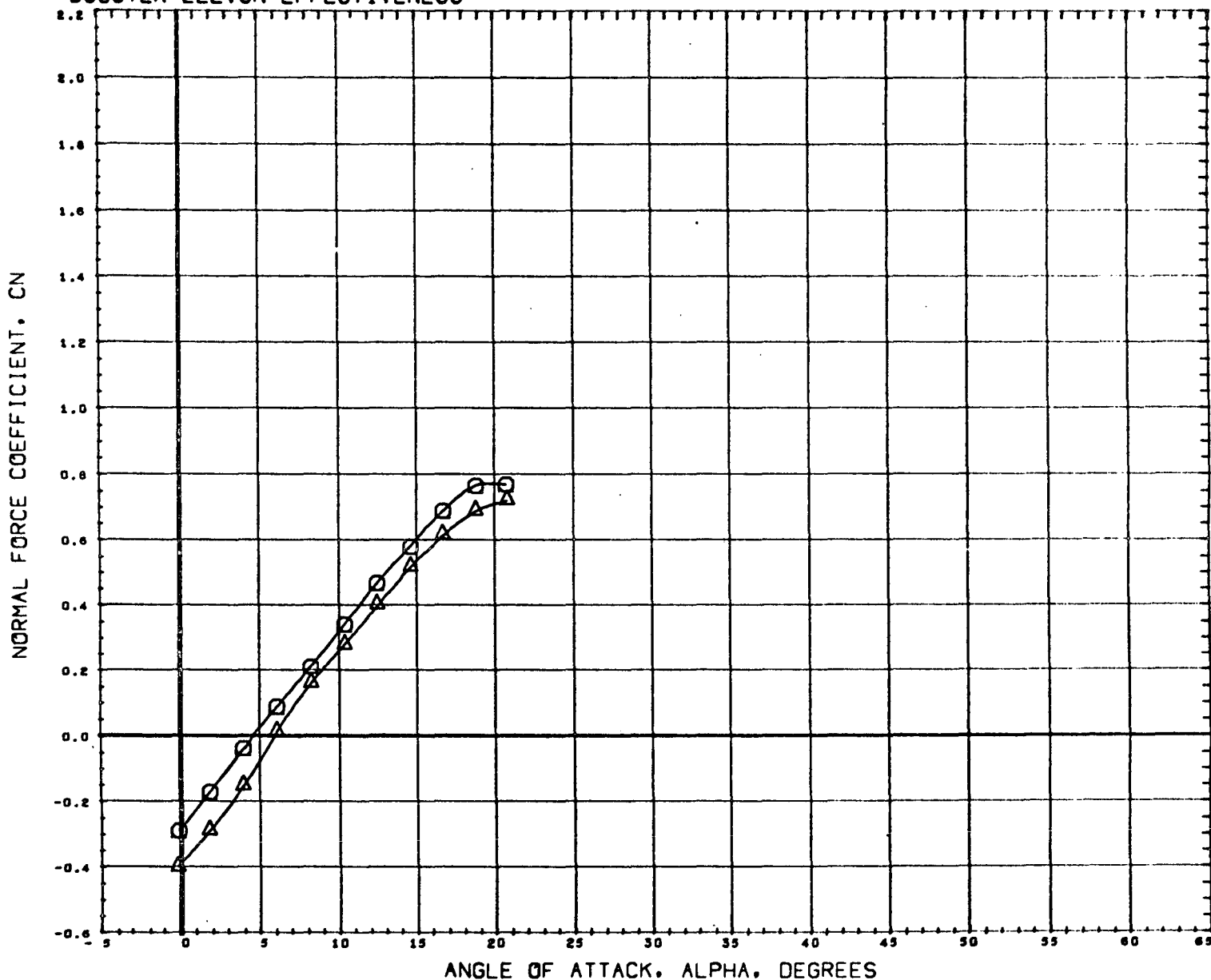
BETA CANARD ELEVON
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0.000 0.000 -10.000
0.000 0.000 10.000

REFERENCE INFORMATION
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LREF 6.4400 INCH
BREF 5.7300 INCH
XMRP 4.6400 INCH
YMRP 0.0000 INCH
ZMRP 0.6670 INCH
SCALE 0.0034

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56085) $\bigcirc$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56086) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56040) $\diamond$ DATA NOT AVAILABLE FOR ALL CONDITIONS

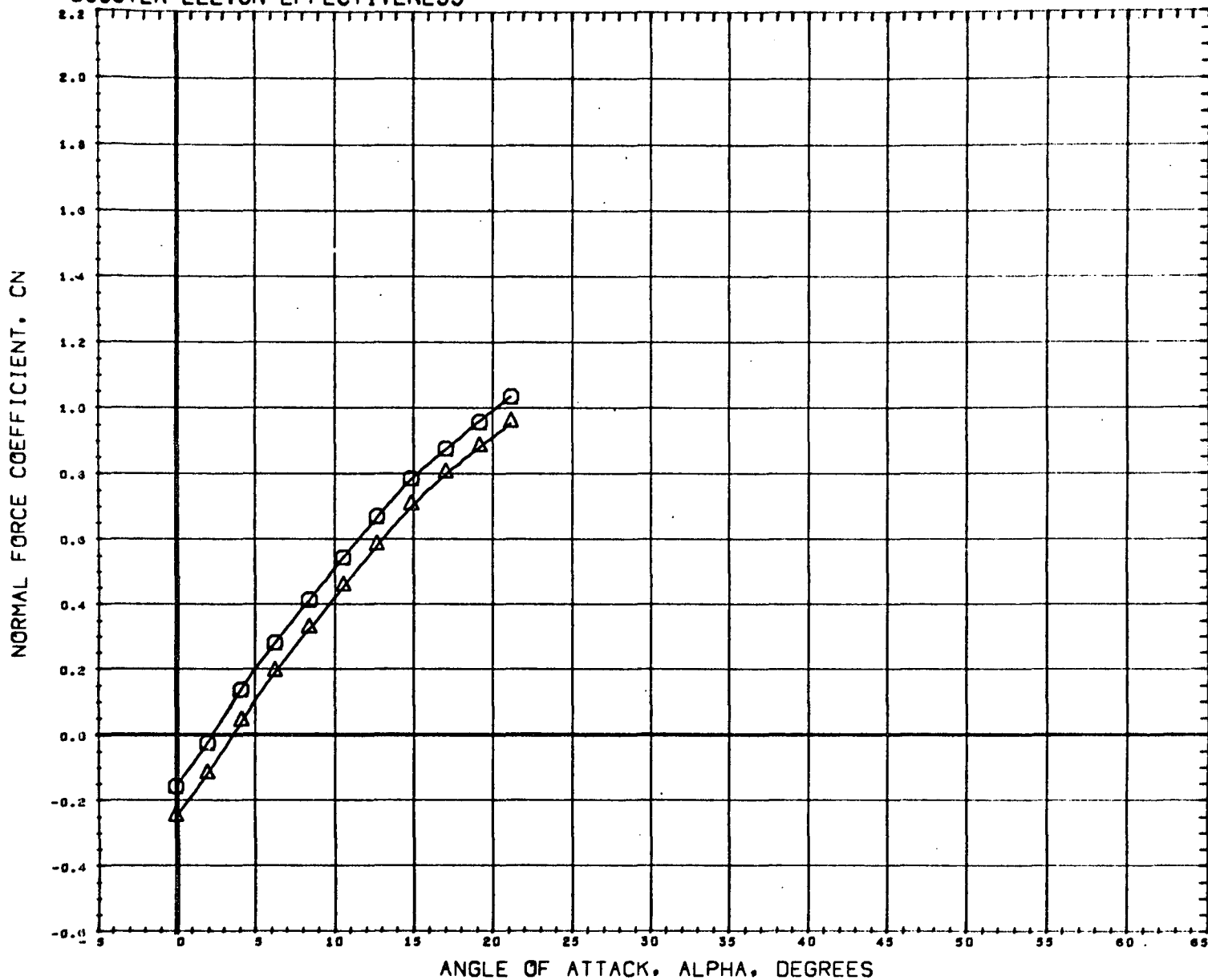
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C96035) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C96036) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C96040) DATA NOT AVAILABLE FOR ALL CONDITIONS

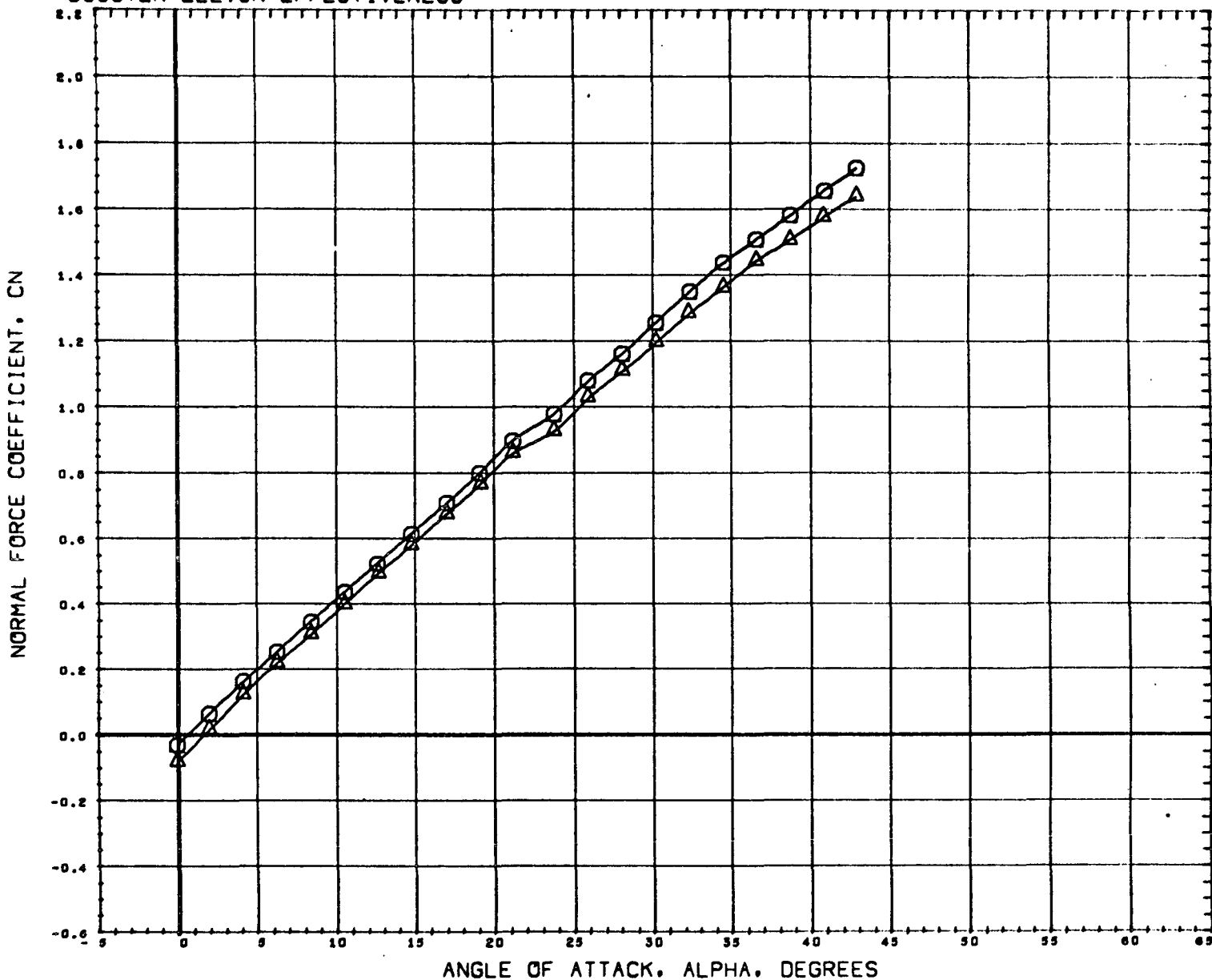
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0.000	0.000	10.000

REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(CS6085) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(CS6086) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(CS6040) DATA NOT AVAILABLE FOR ALL CONDITIONS

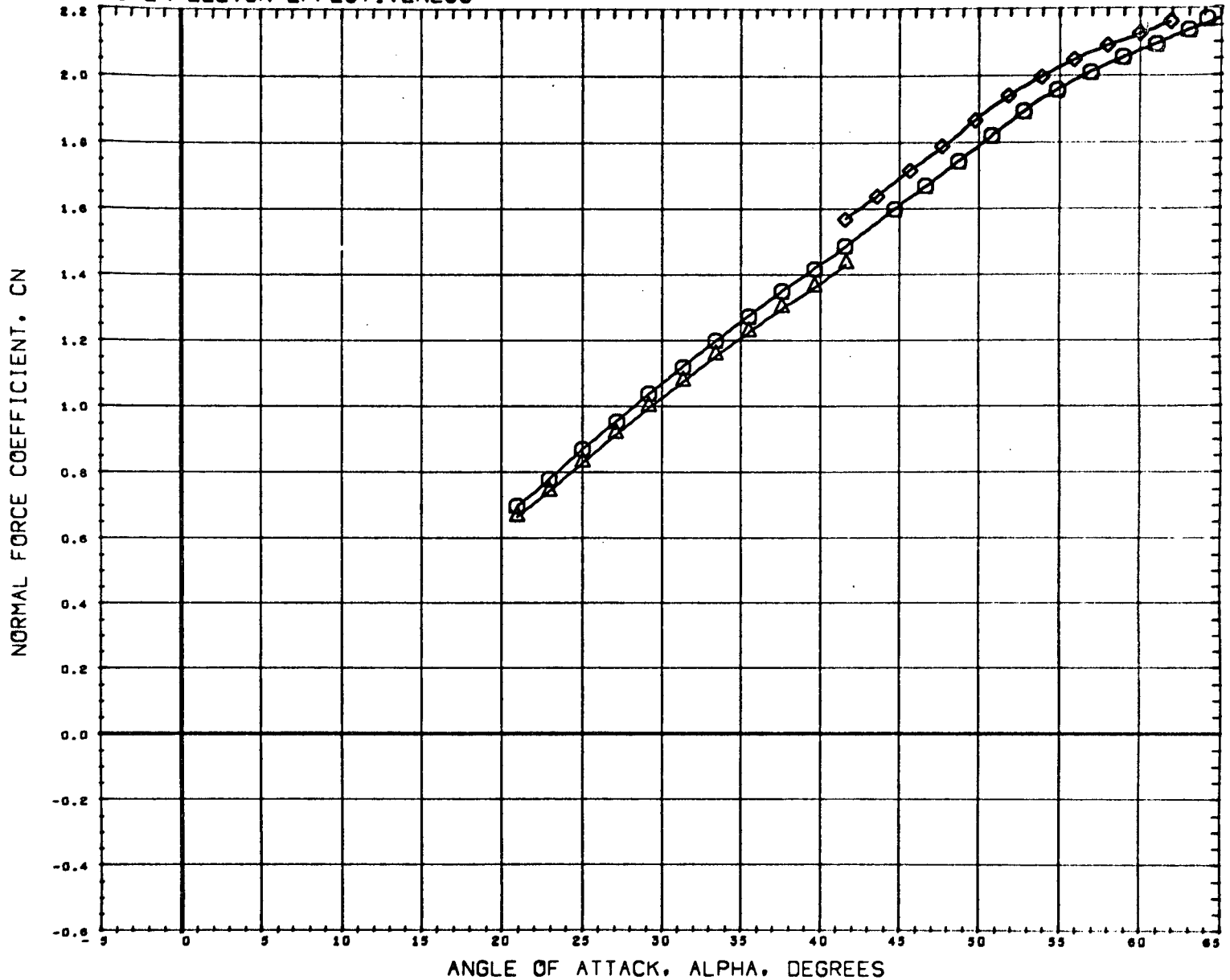
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

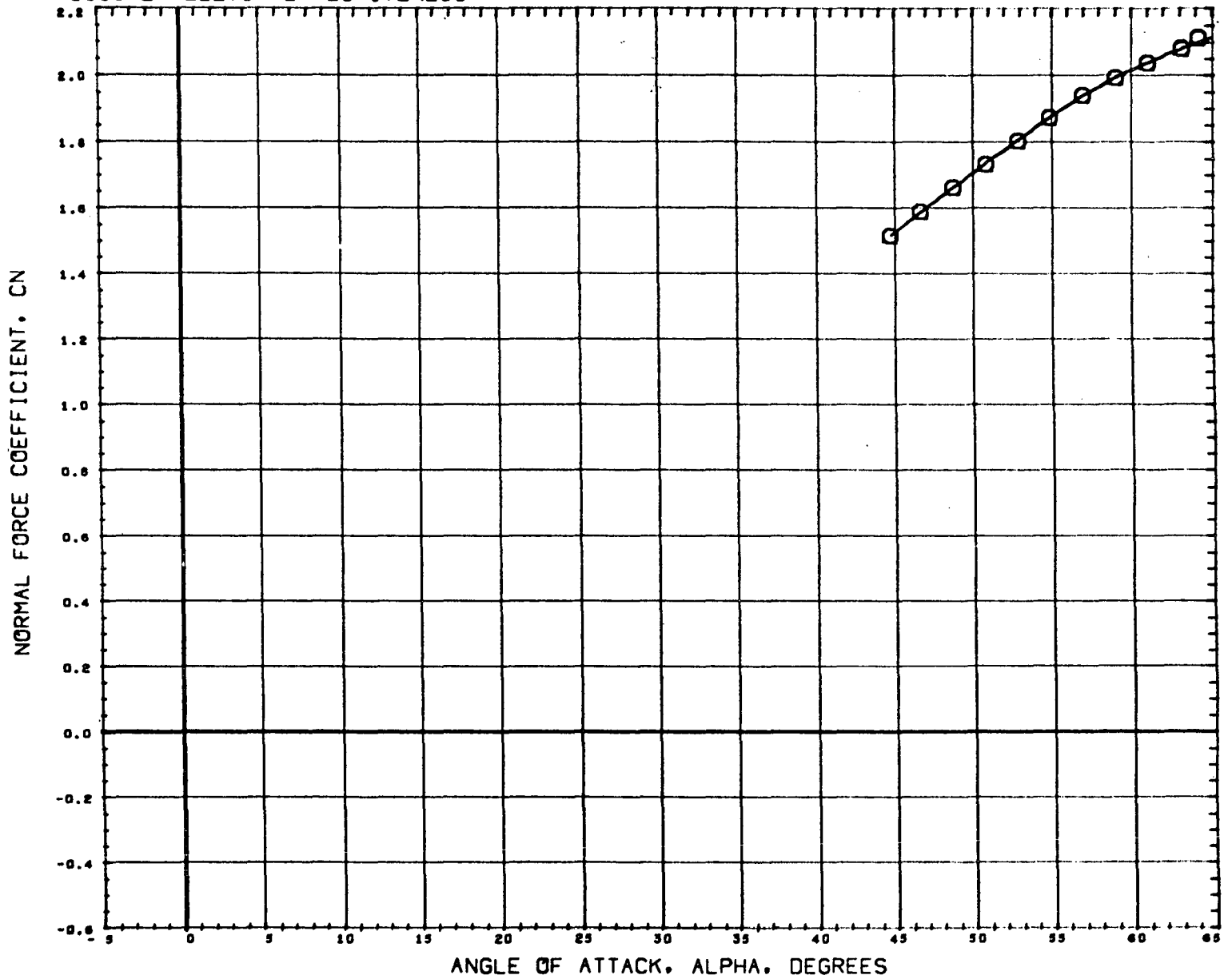
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REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
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BREF	5.7300	INCH
XHRP	4.6400	INCH
YHRP	0.0000	INCH
ZHRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C36085) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C36086) DATA NOT AVAILABLE FOR ALL CONDITIONS
 (C36040) DATA NOT AVAILABLE FOR ALL CONDITIONS

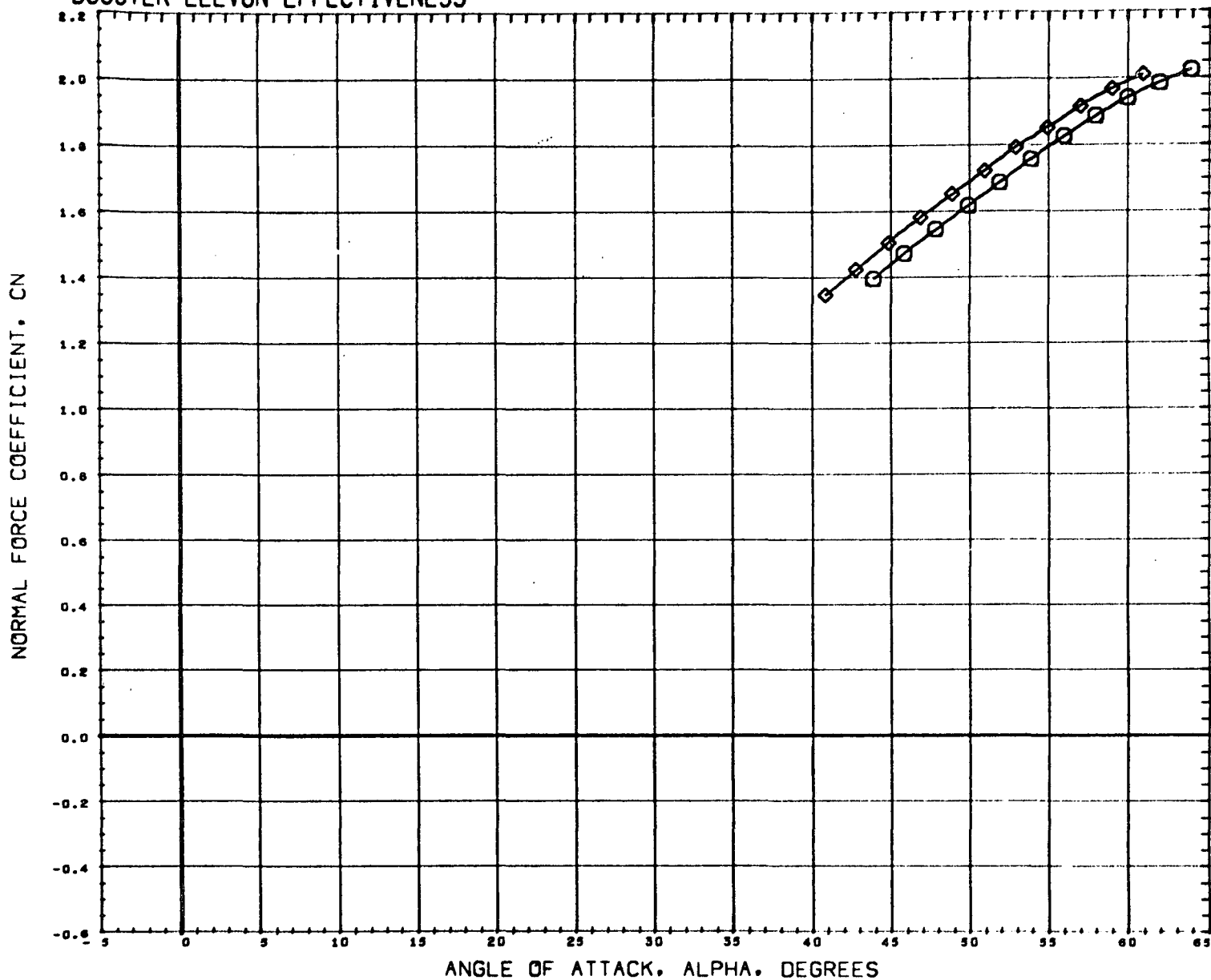
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.400

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56083) $\square$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56084) $\triangle$ DATA NOT AVAILABLE FOR ALL CONDITIONS
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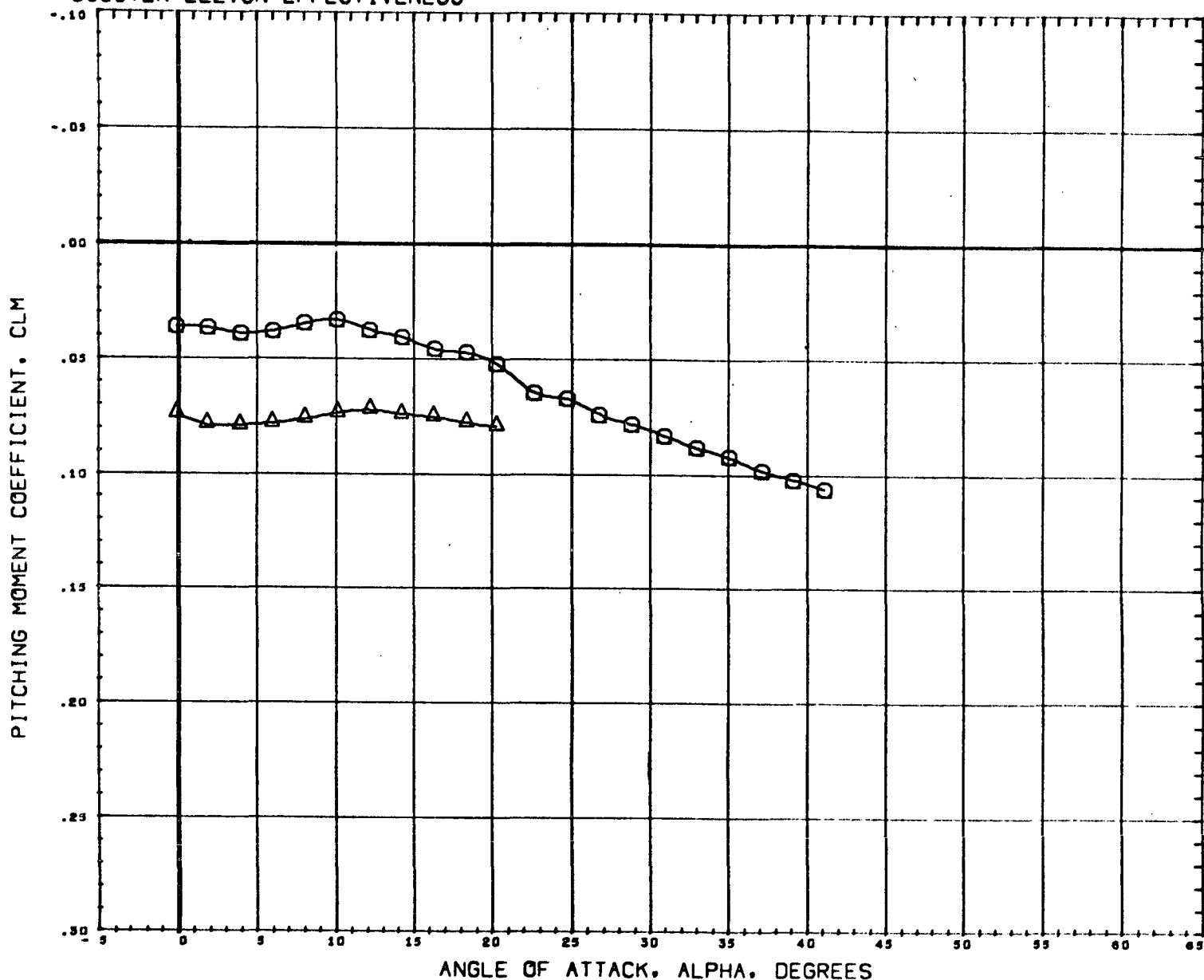
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.939

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C36085) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C36086) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C36040) DATA NOT AVAILABLE FOR ALL CONDITIONS

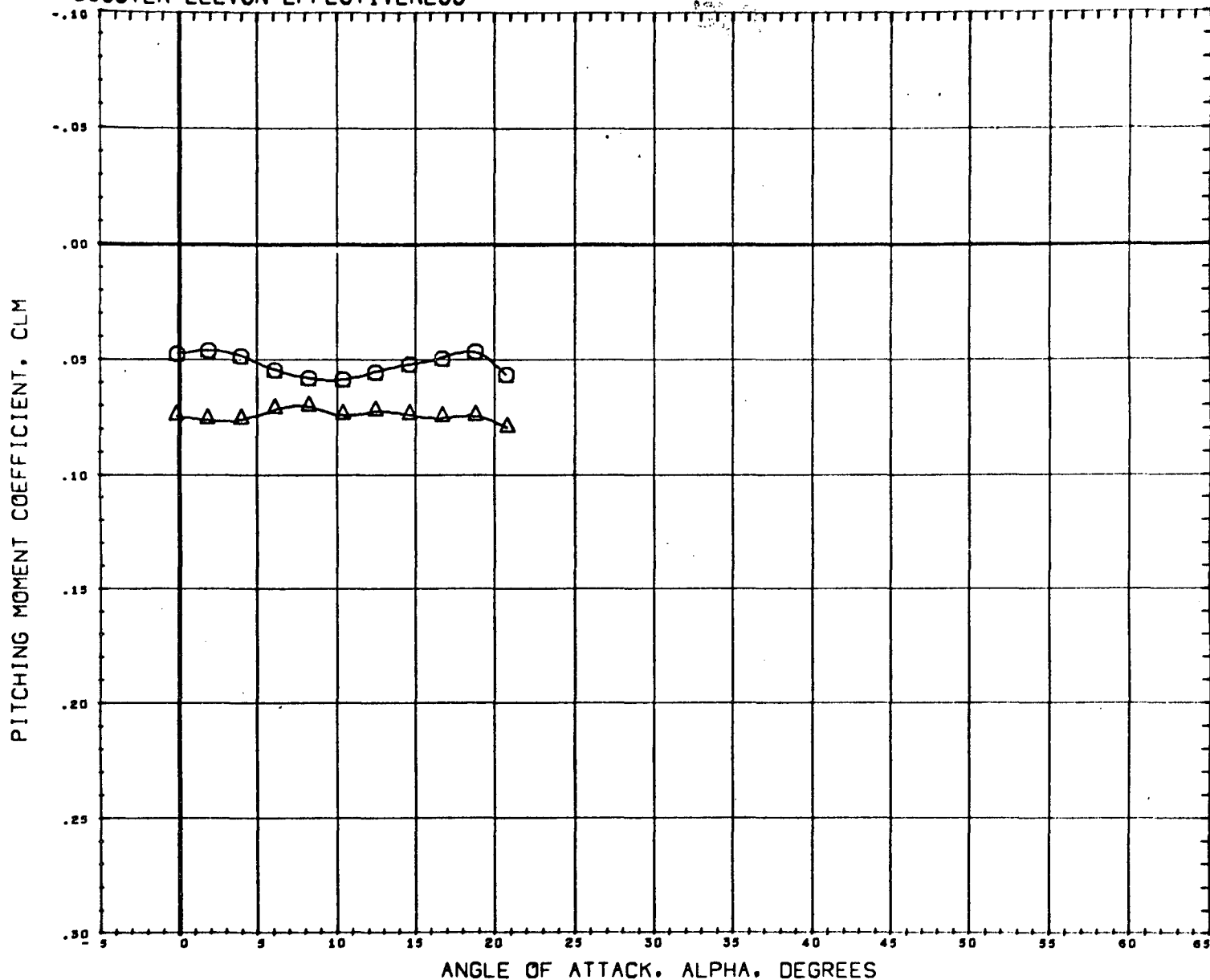
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C36055) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C36056) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C36049) DATA NOT AVAILABLE FOR ALL CONDITIONS

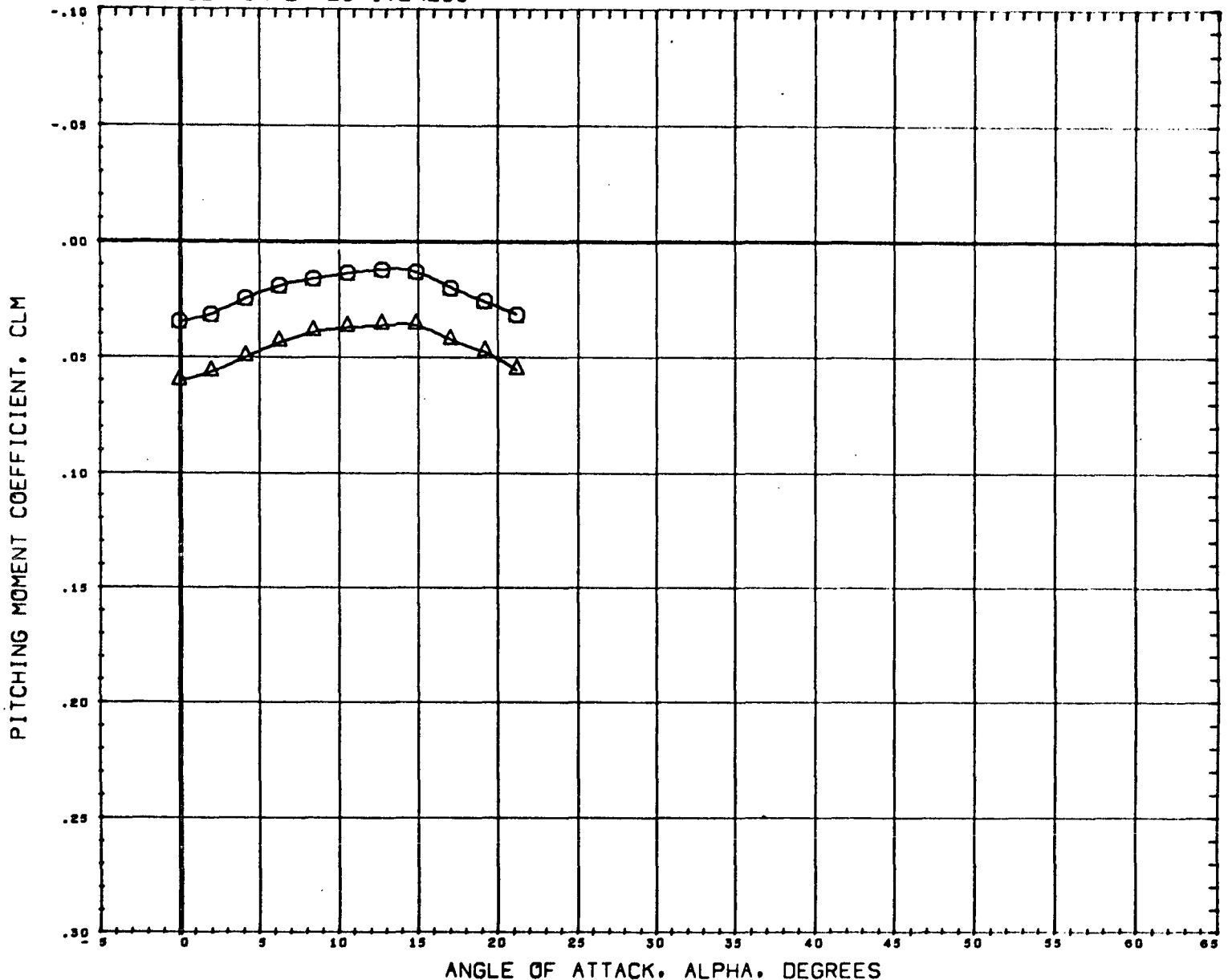
BETA	CANARD	ELEVON
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C96035) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C96036) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C96040) DATA NOT AVAILABLE FOR ALL CONDITIONS

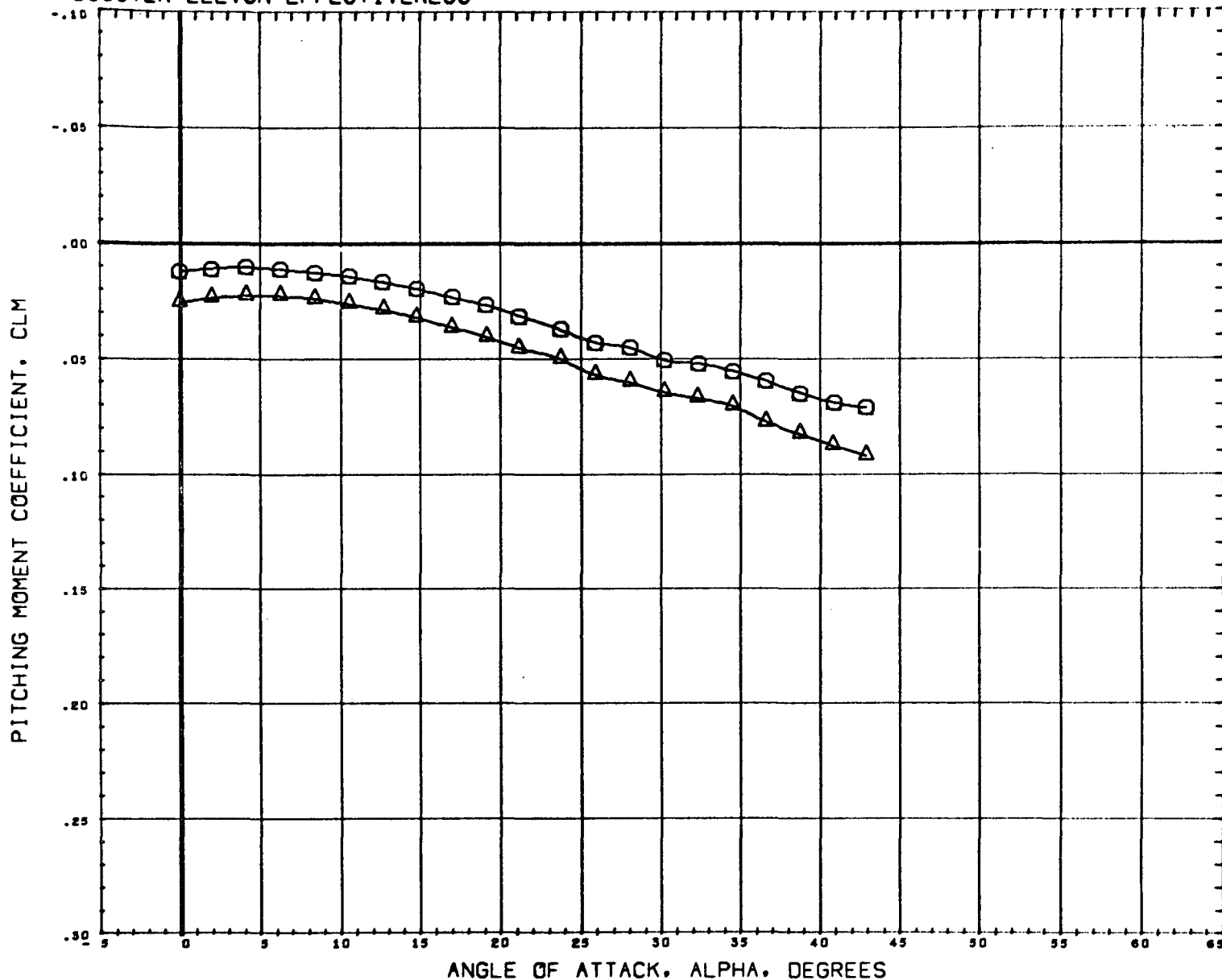
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REFERENCE INFORMATION
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 XMRP 4.6400 INCH
 YMRP 0.0000 INCH
 ZMRP 0.6670 INCH
 SCALE 0.0034

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

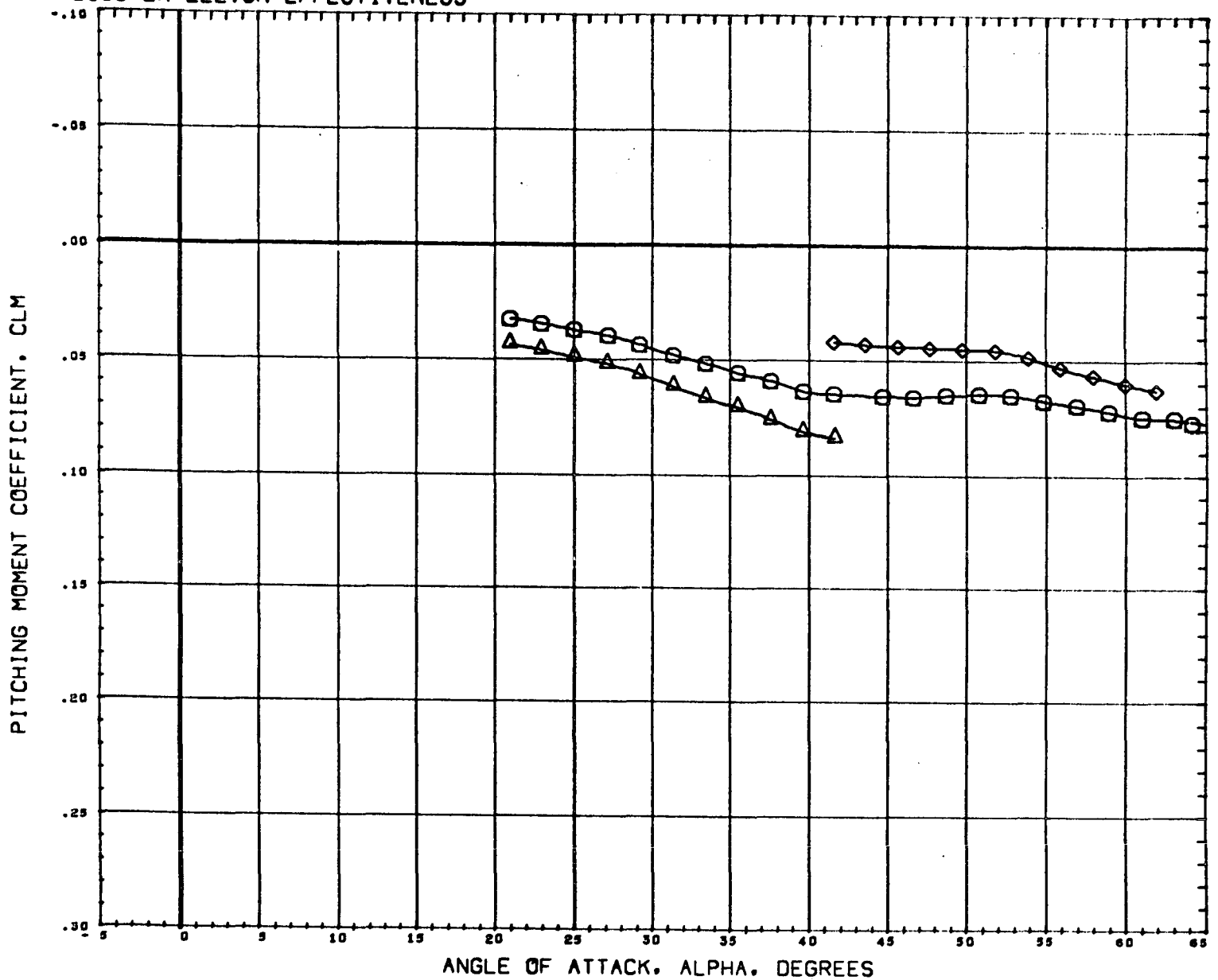
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BiW1C1V1
(C96086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BiW1C1V1
(C96040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BiW1C1V1

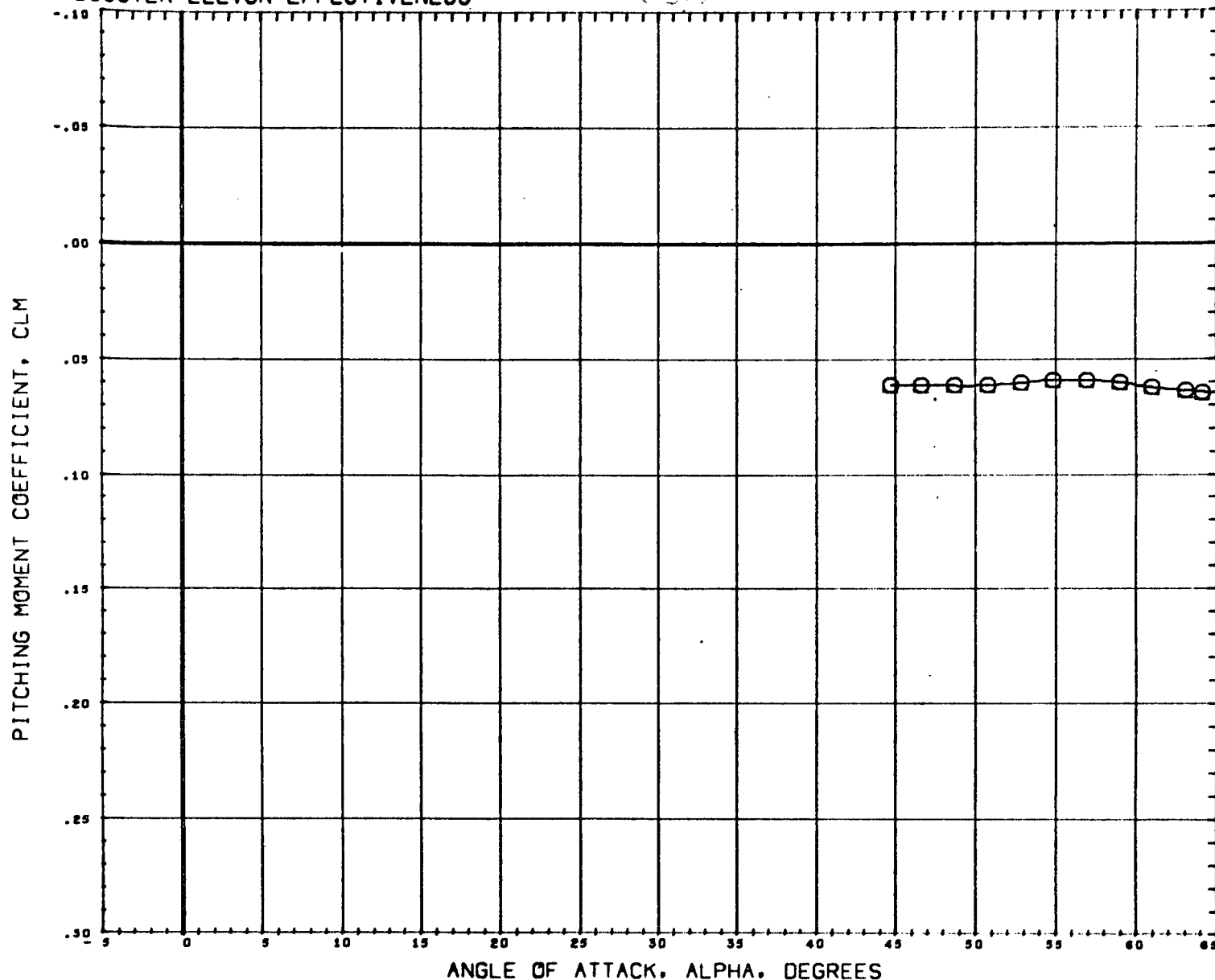
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
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BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



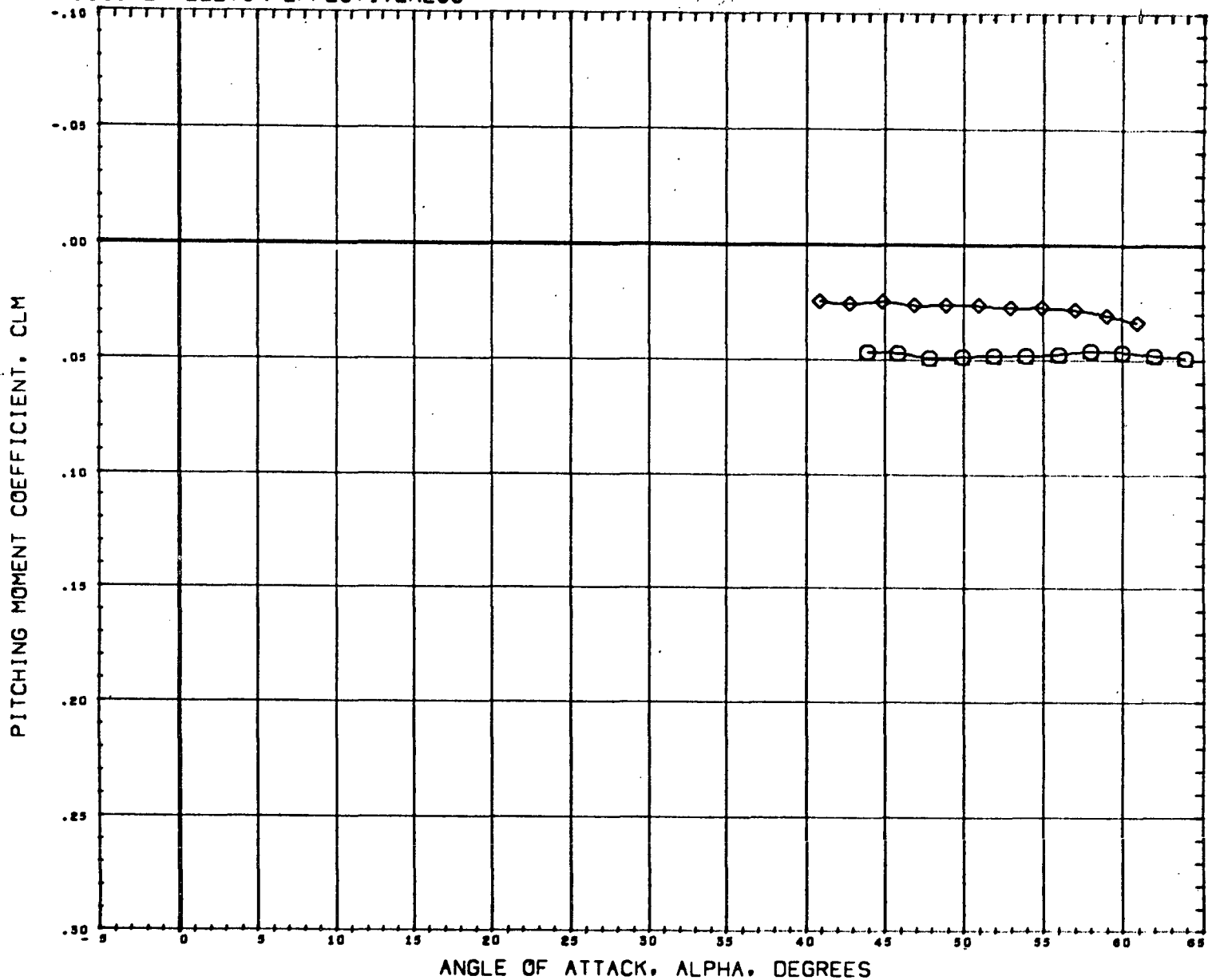
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(C56059)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1
(C56060)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 3.480

BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96005)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96006)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C96040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

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0.000	0.000	10.000

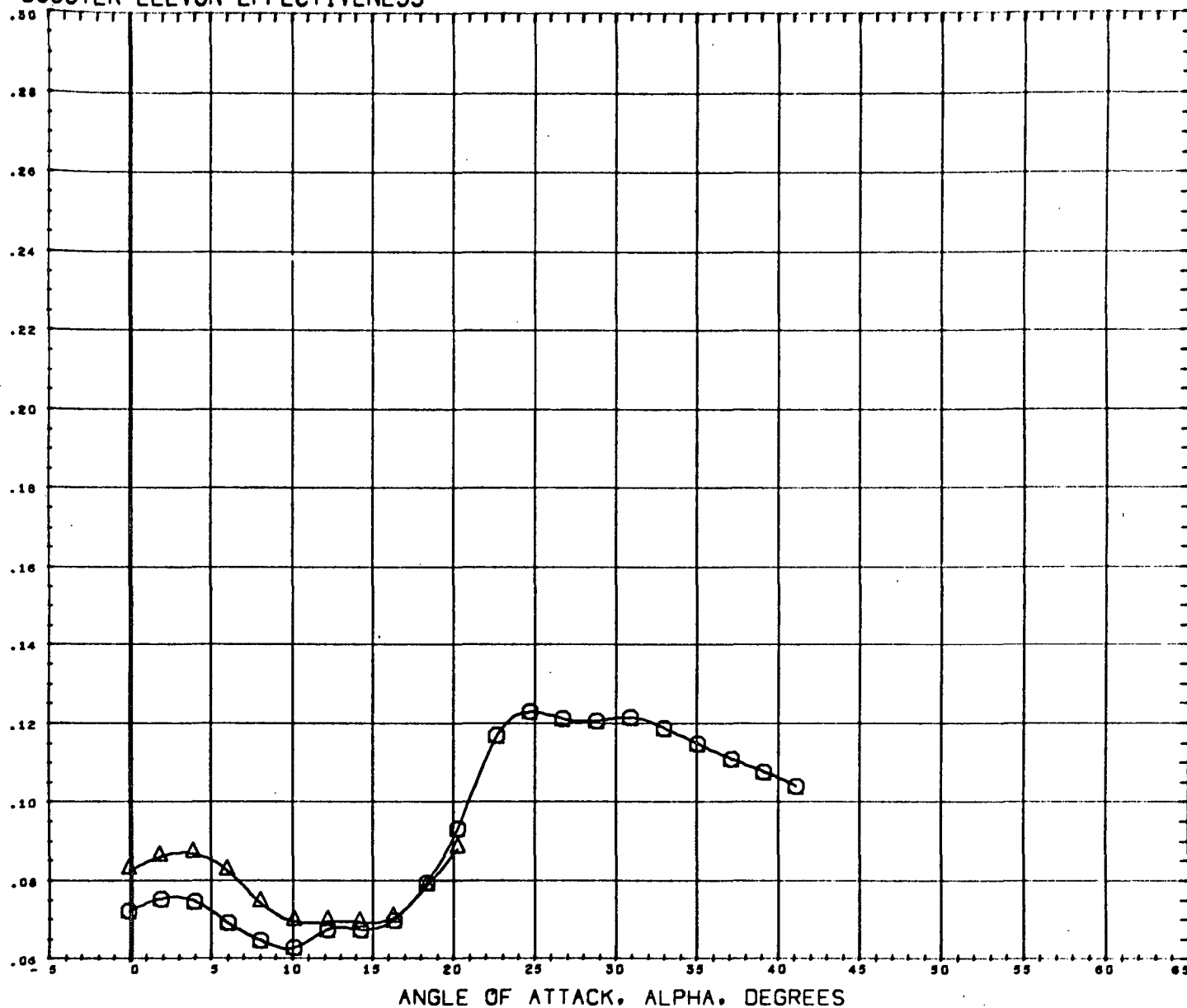
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C56085) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56086) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040) DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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REFERENCE INFORMATION

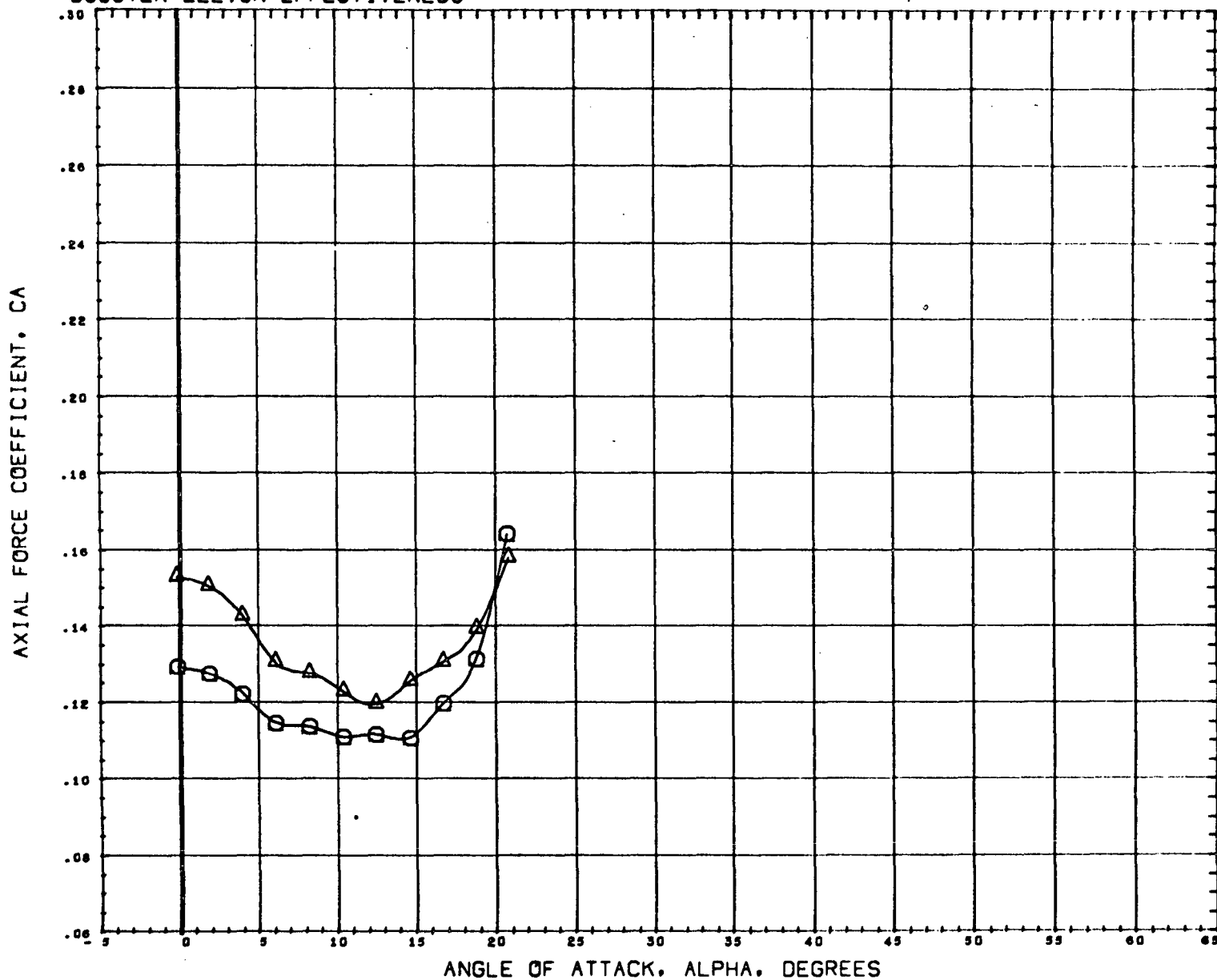
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XHRP	4.6400	INCH
YHRP	0.0000	INCH
ZHRP	0.6670	INCH
SCALE	0.0034	

MACH 0.998

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C36086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C36040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

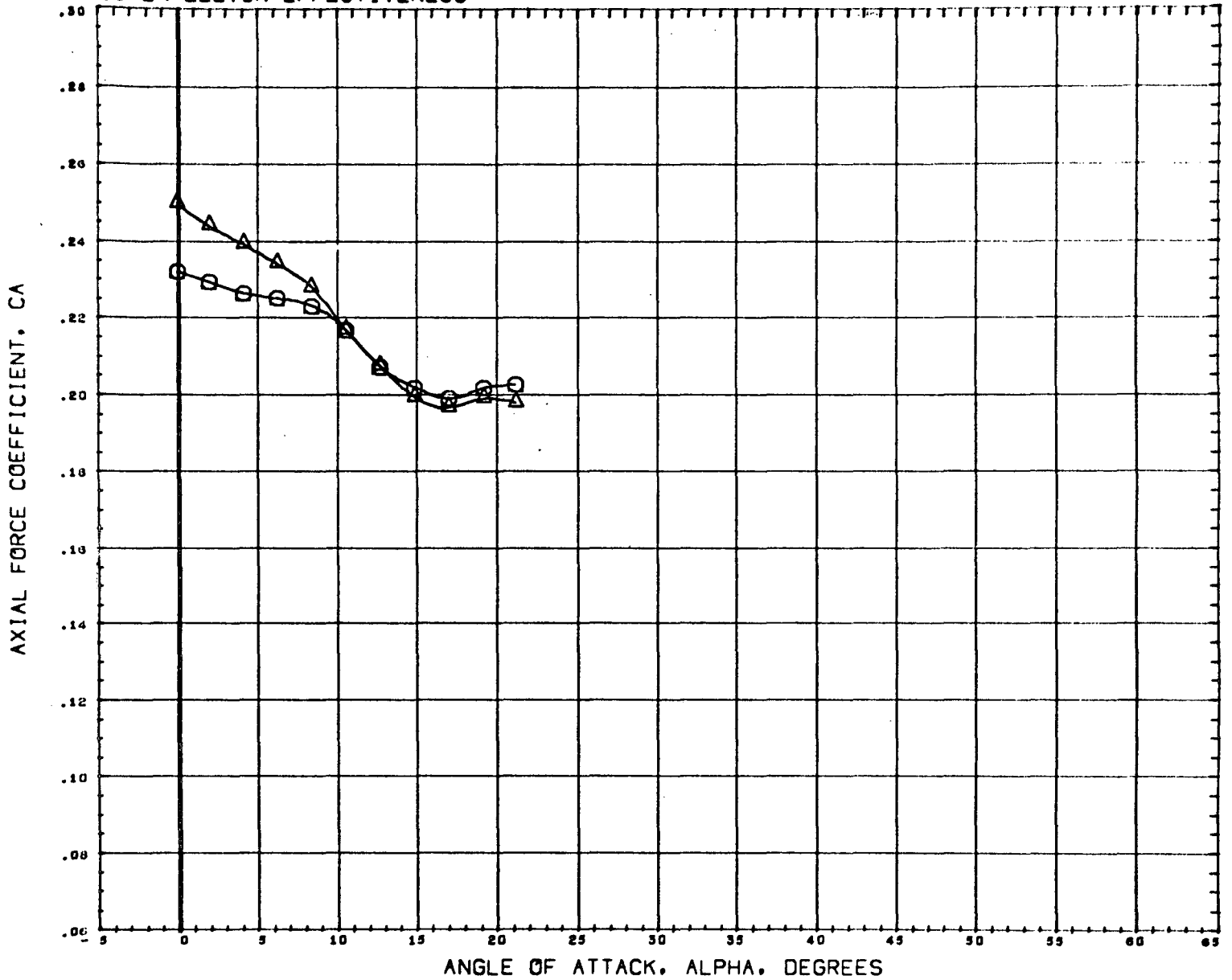
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0.000	0.000	10.000

REFERENCE INFORMATION		
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LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56055) ○ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056) △ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040) ◇ DATA NOT AVAILABLE FOR ALL CONDITIONS

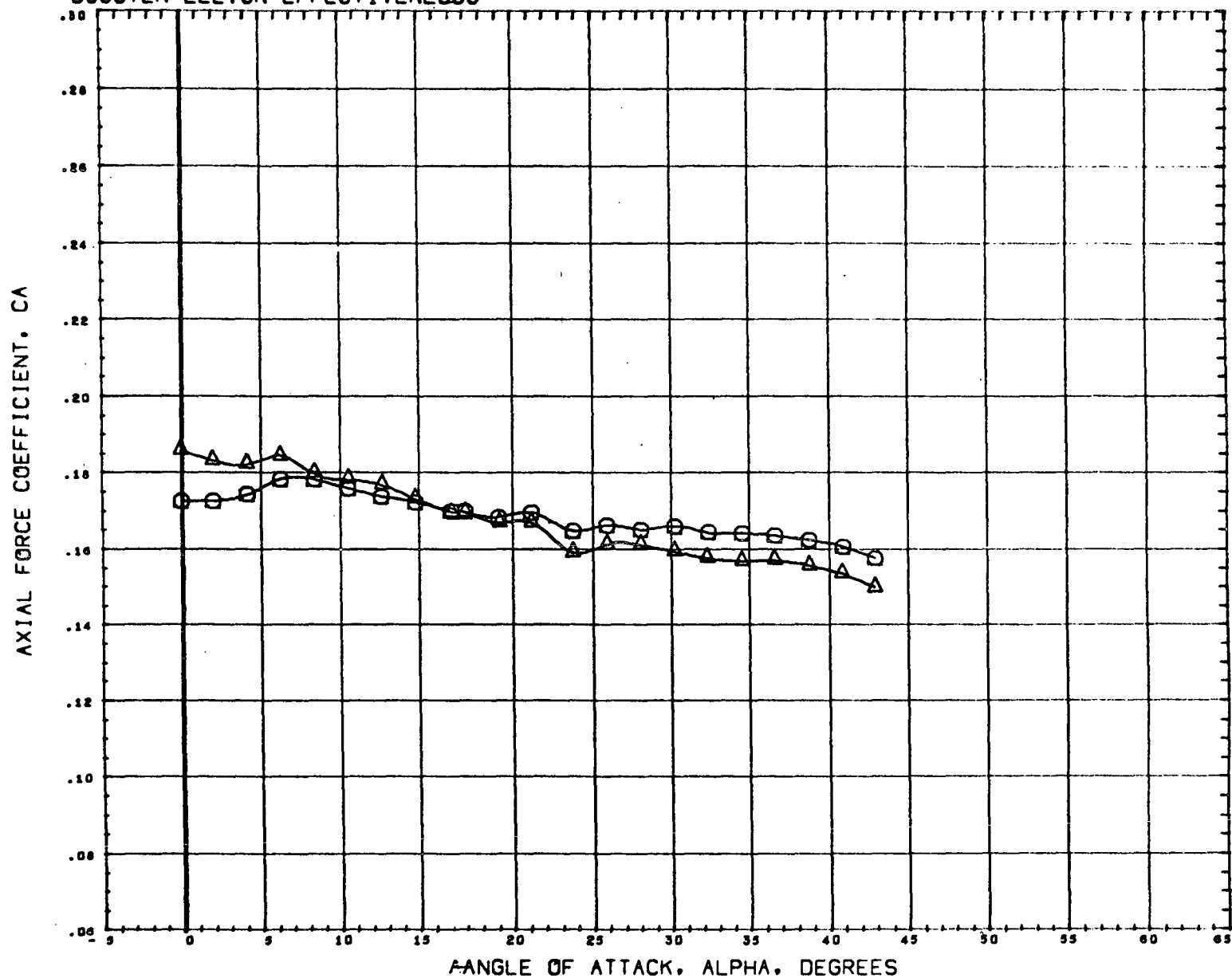
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C96085) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96086) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96040) DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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0.000	0.000	10.000

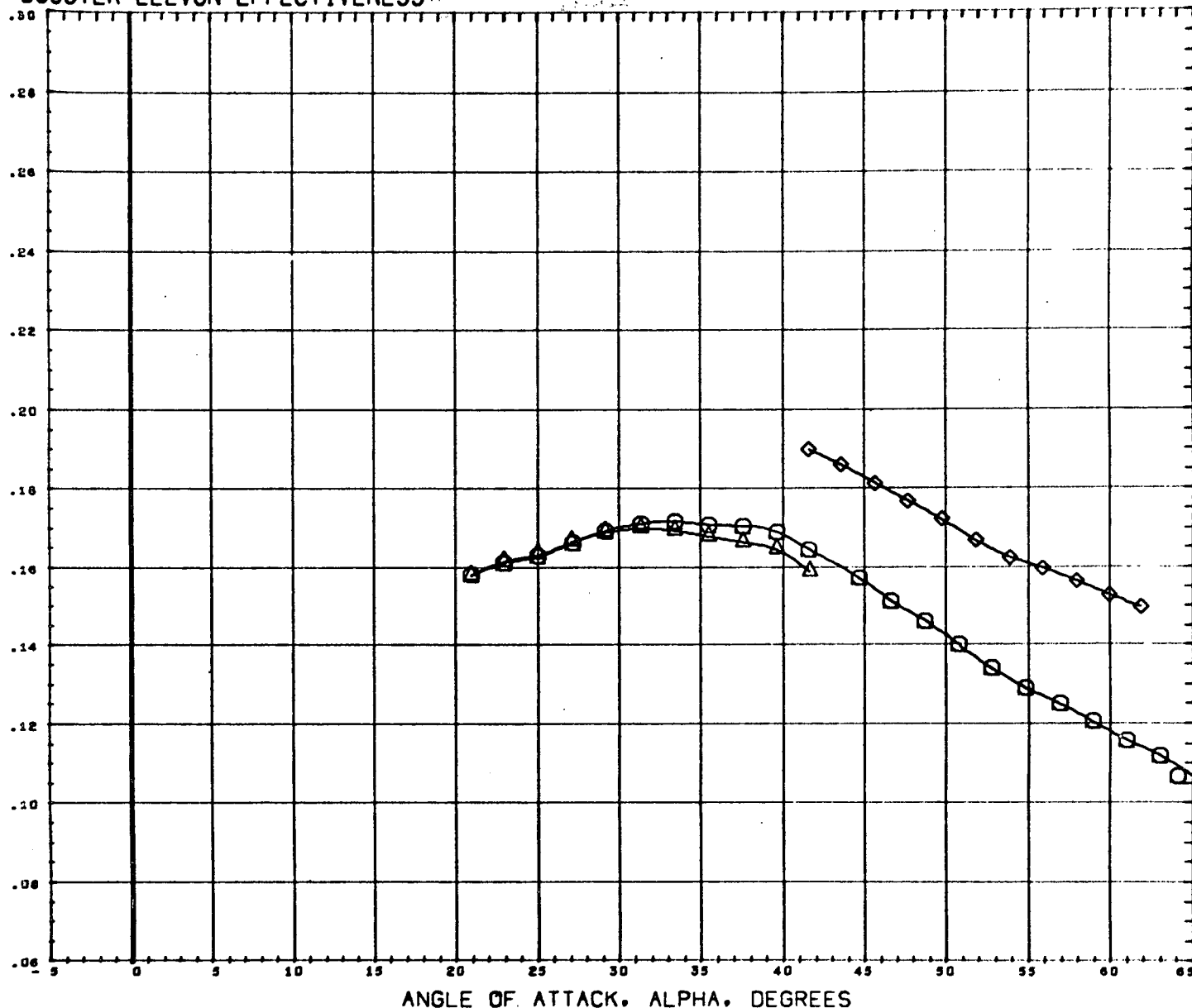
REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

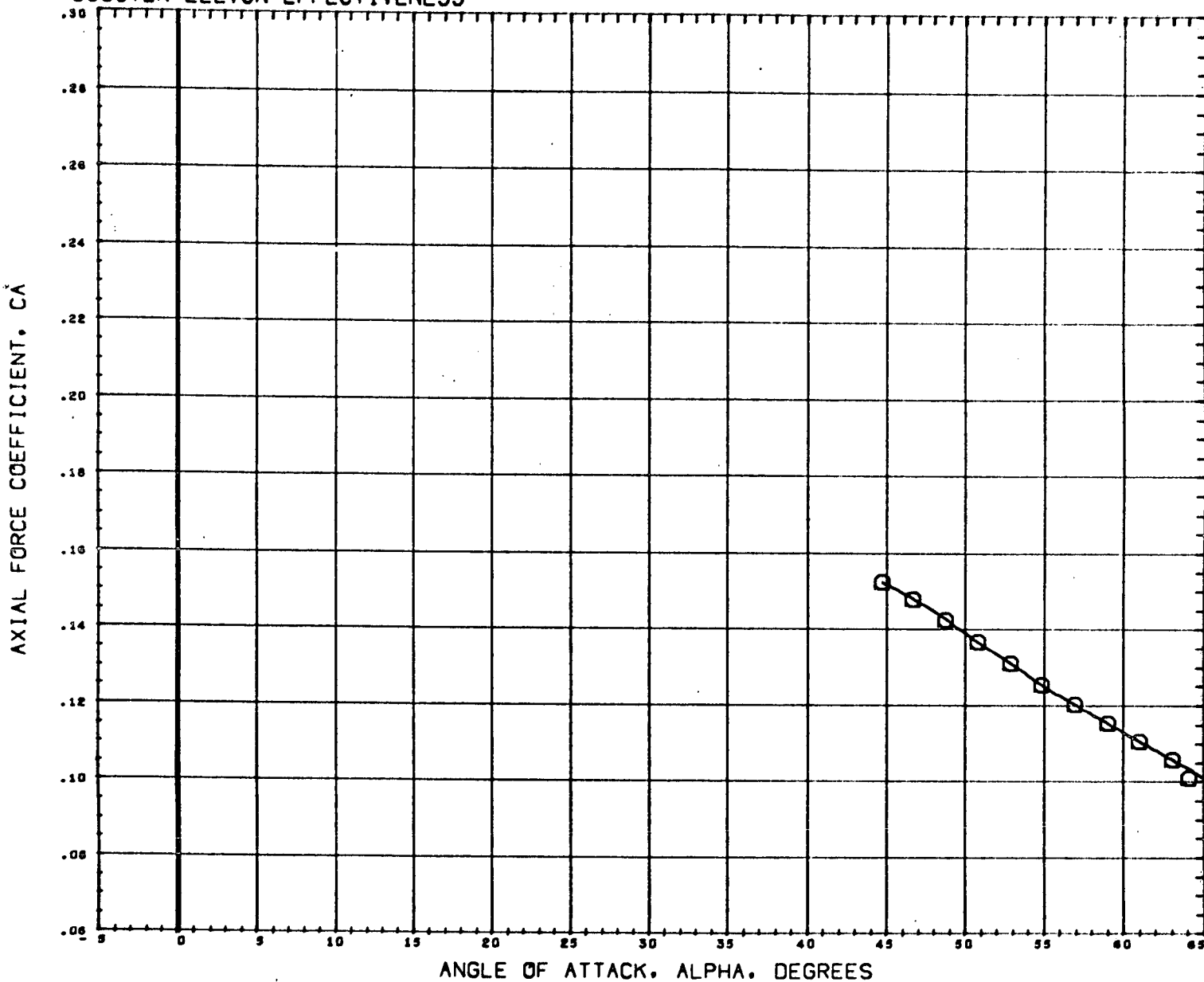
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56055) ○ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C56056) △ DATA NOT AVAILABLE FOR ALL CONDITIONS
 (C56040) ◇ DATA NOT AVAILABLE FOR ALL CONDITIONS

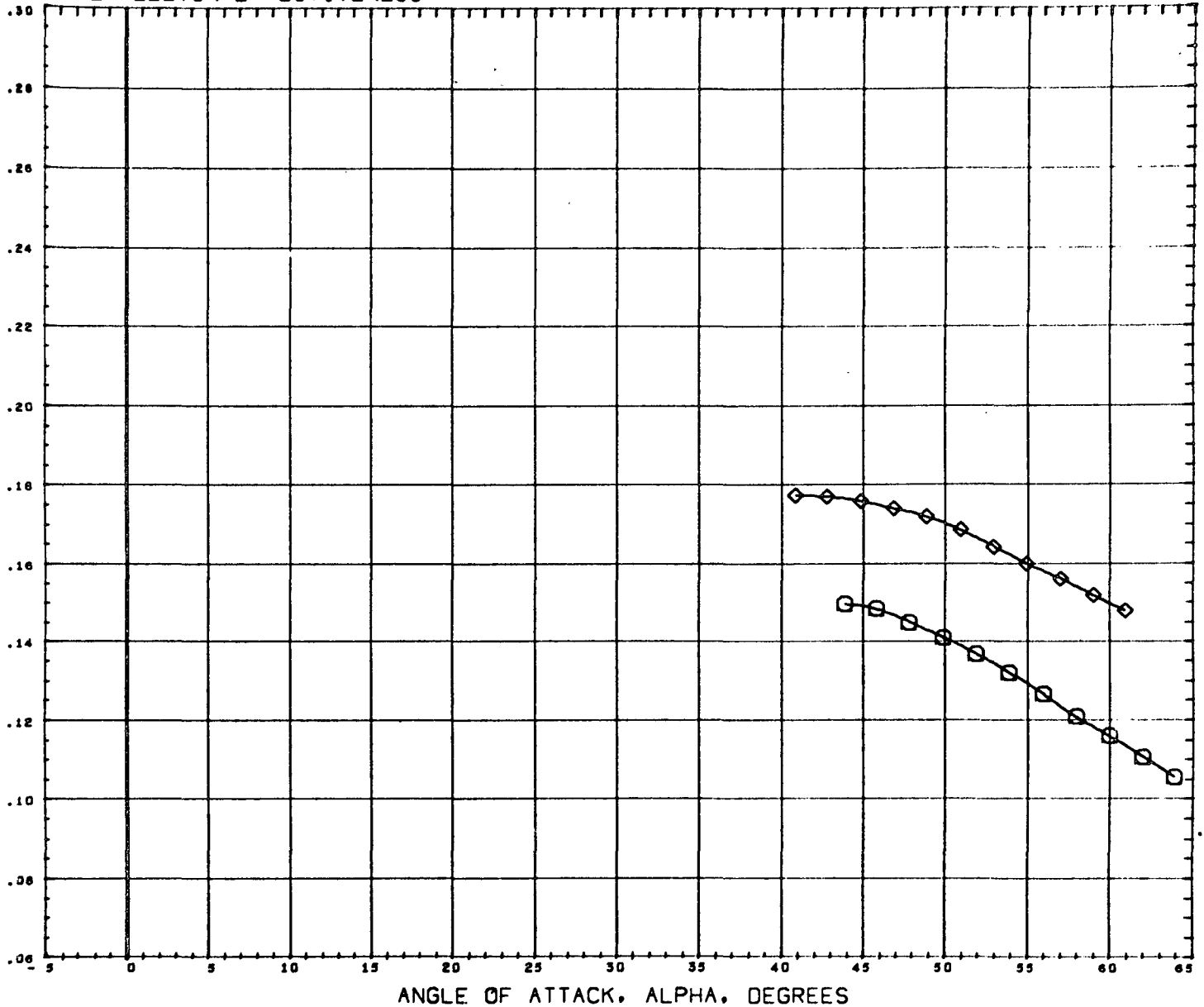
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 3.480

BOOSTER ELEVON EFFECTIVENESS

AXIAL FORCE COEFFICIENT, CA



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

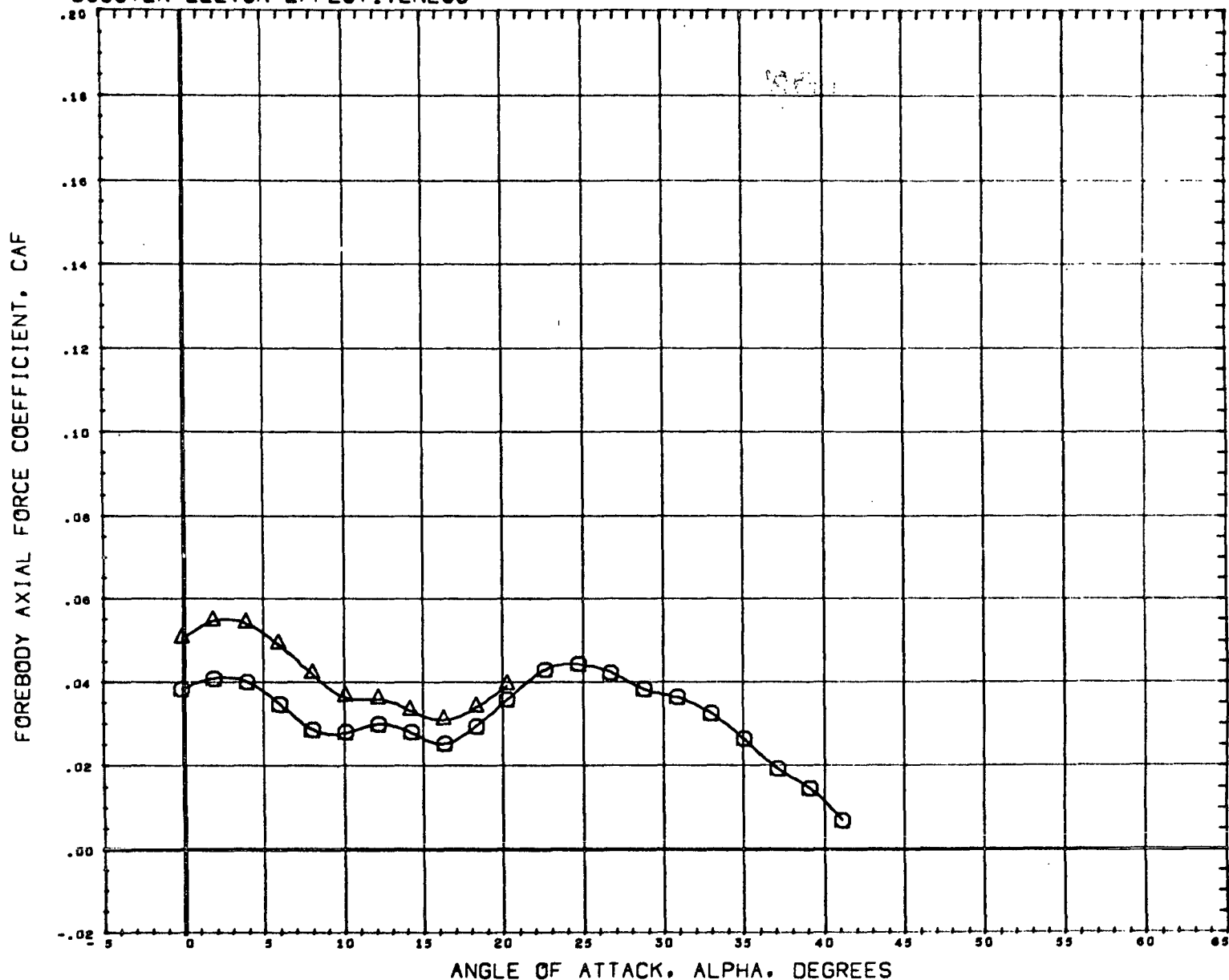
BETA	CANARD	ELEVON
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0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C36056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C36040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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0.000	0.000	10.000

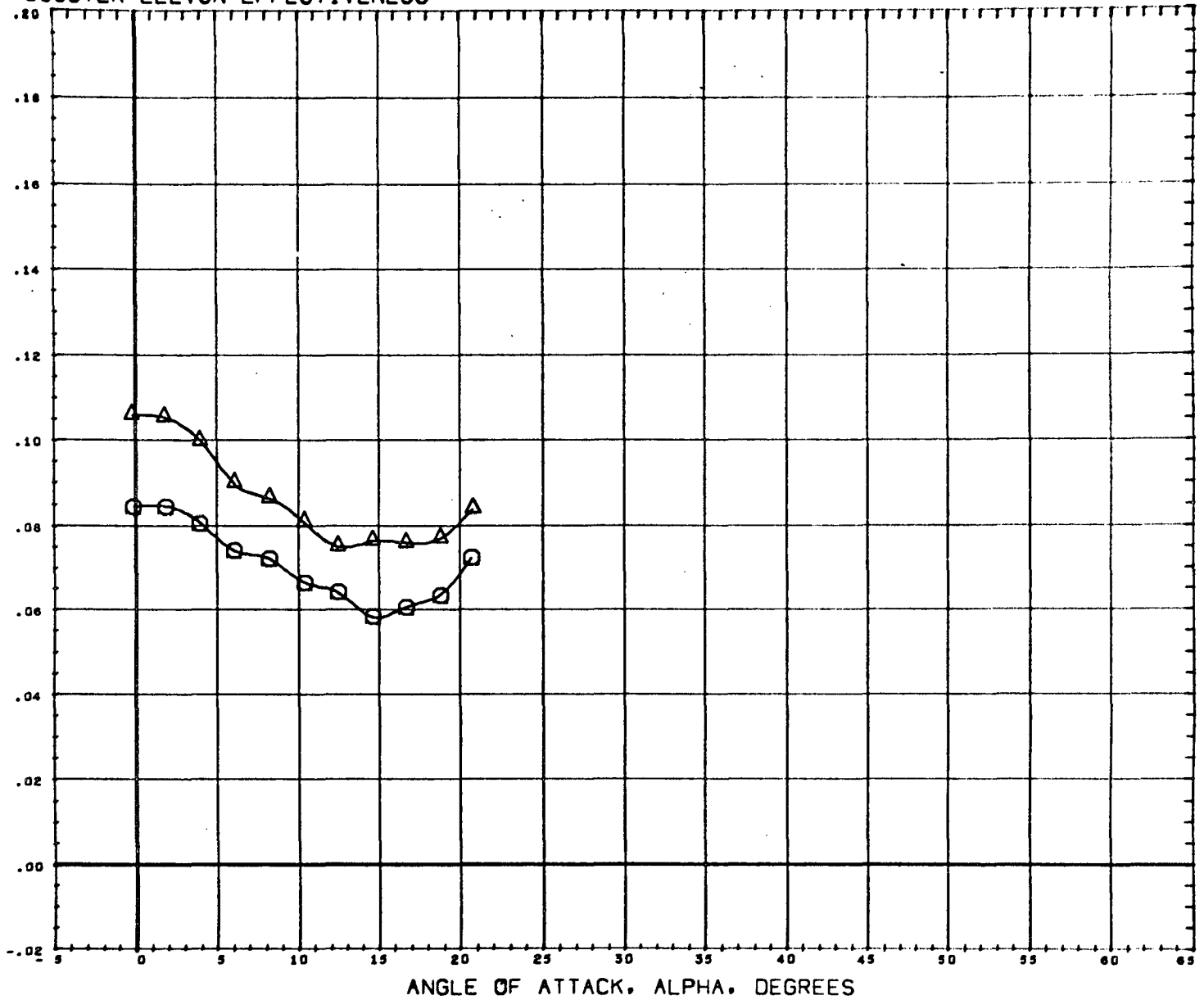
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

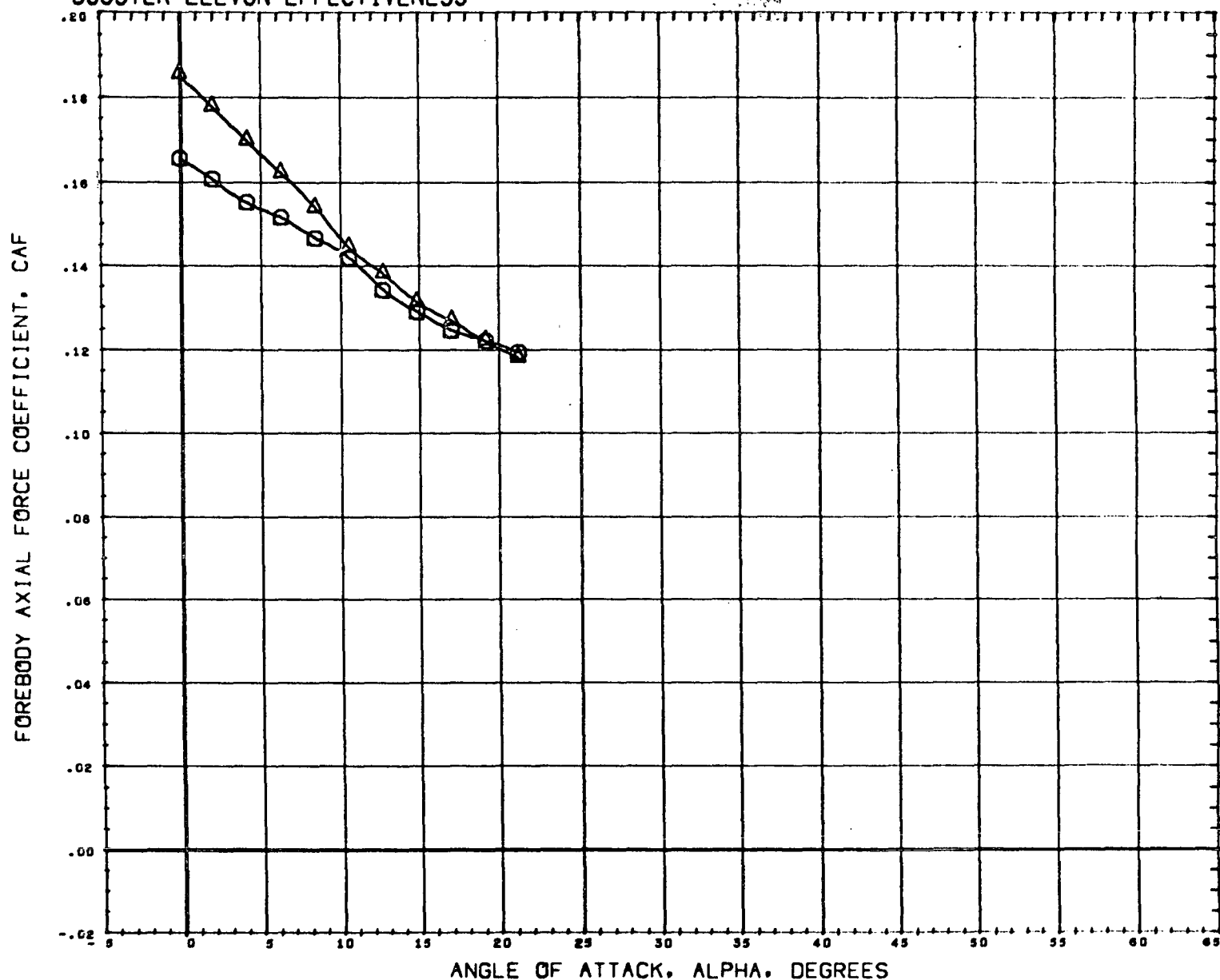
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56081) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56086) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040) DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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0.000	0.000	10.000

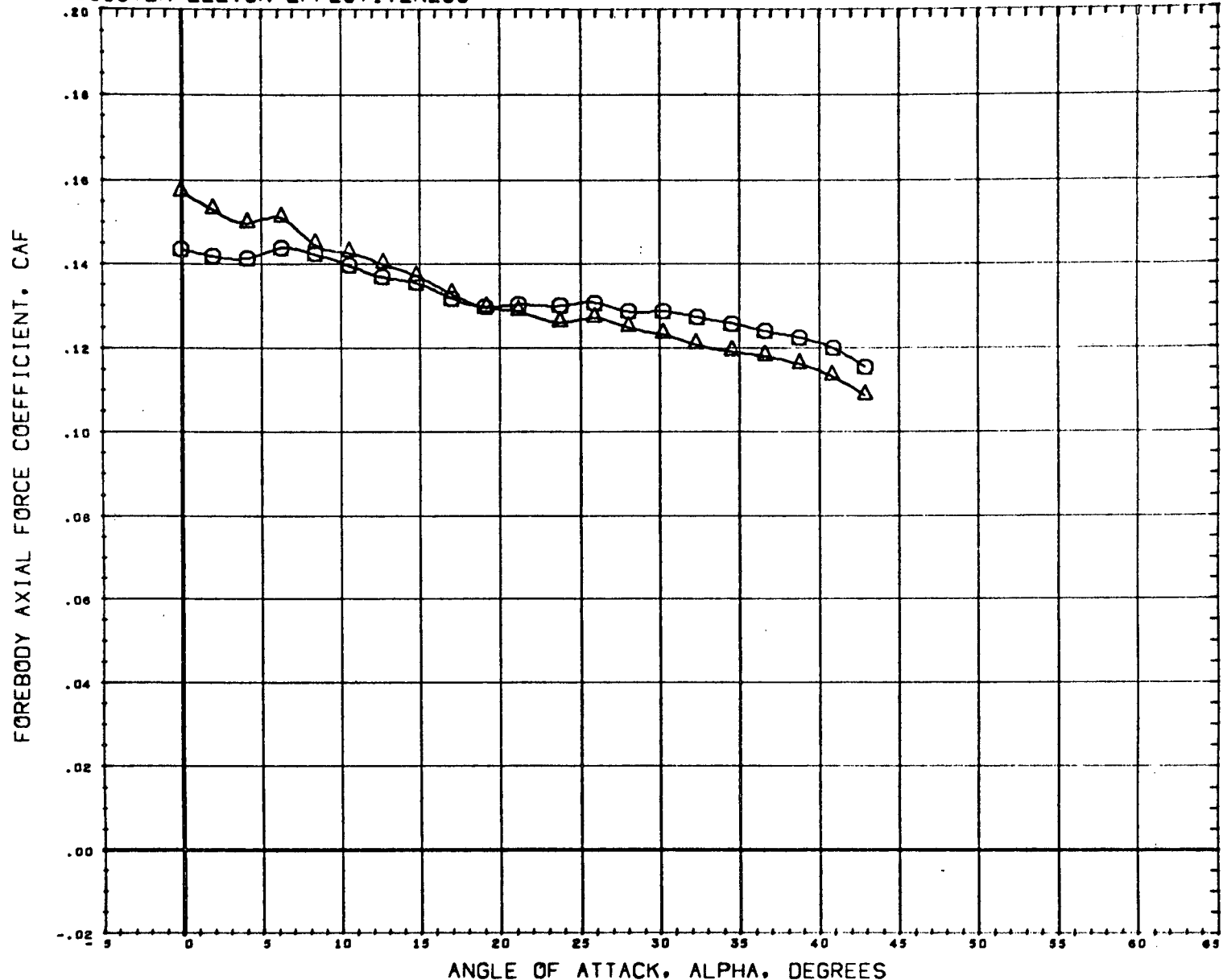
REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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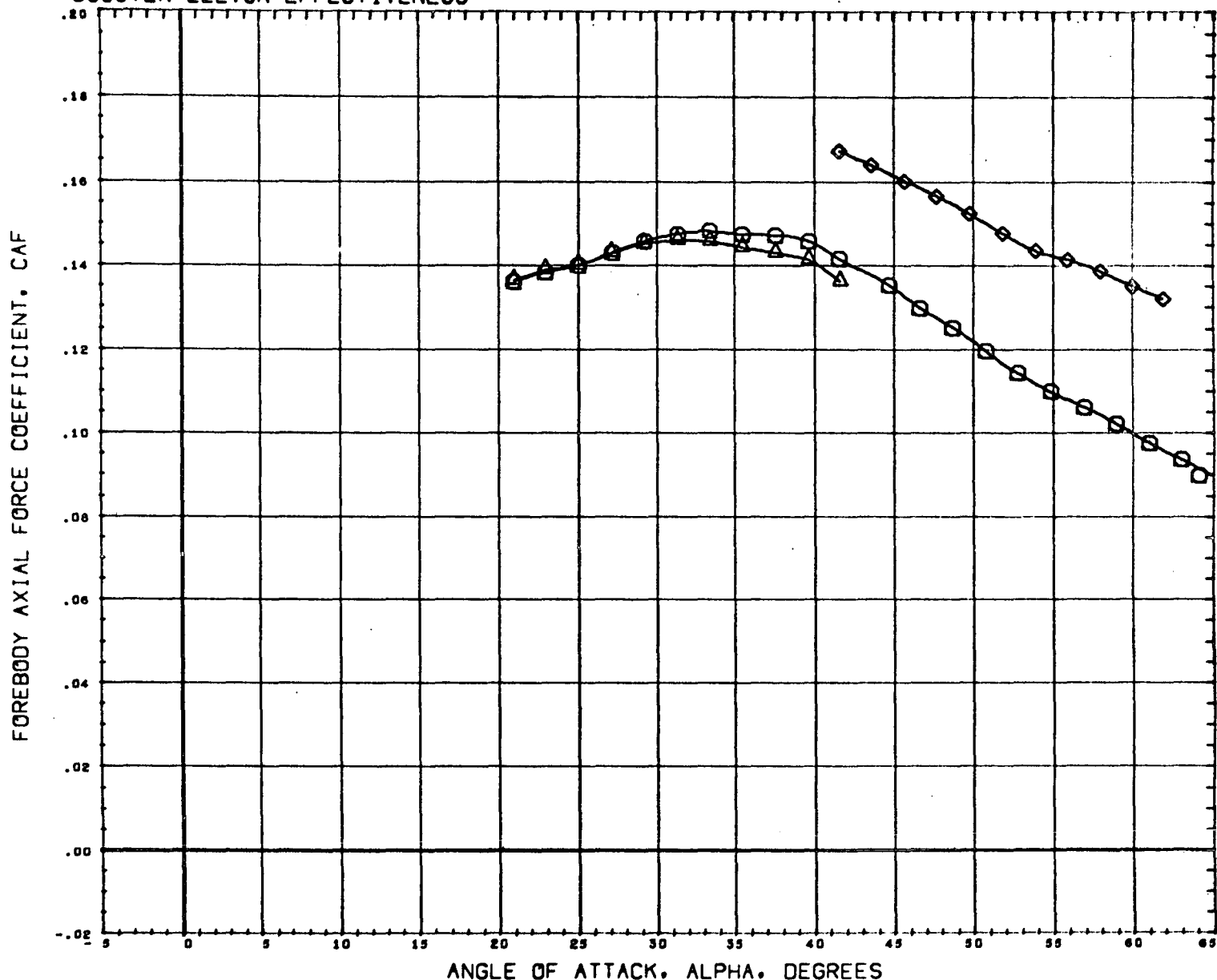
BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	CANARD	ELEVON	REFERENCE INFORMATION	
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(C56036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	-10.000	LREF	6.4400 INCH
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS	0.000	0.000	10.000	BREF	5.7300 INCH
					XMRP	4.6400 INCH
					YMRP	0.0000 INCH
					ZMRP	0.6670 INCH
					SCALE	0.0034

MACH 1.947

BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(C56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

(C56036) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

(C56040) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

BETA CANARD ELEVON

0.000 0.000 0.000

0.000 0.000 -10.000

0.000 0.000 10.000

REFERENCE INFORMATION

SREF 9.7800 SQ. IN

LREF 6.4400 INCH

BREF 5.7300 INCH

XMRP 4.6400 INCH

YMRP 0.0000 INCH

ZMRP 0.6670 INCH

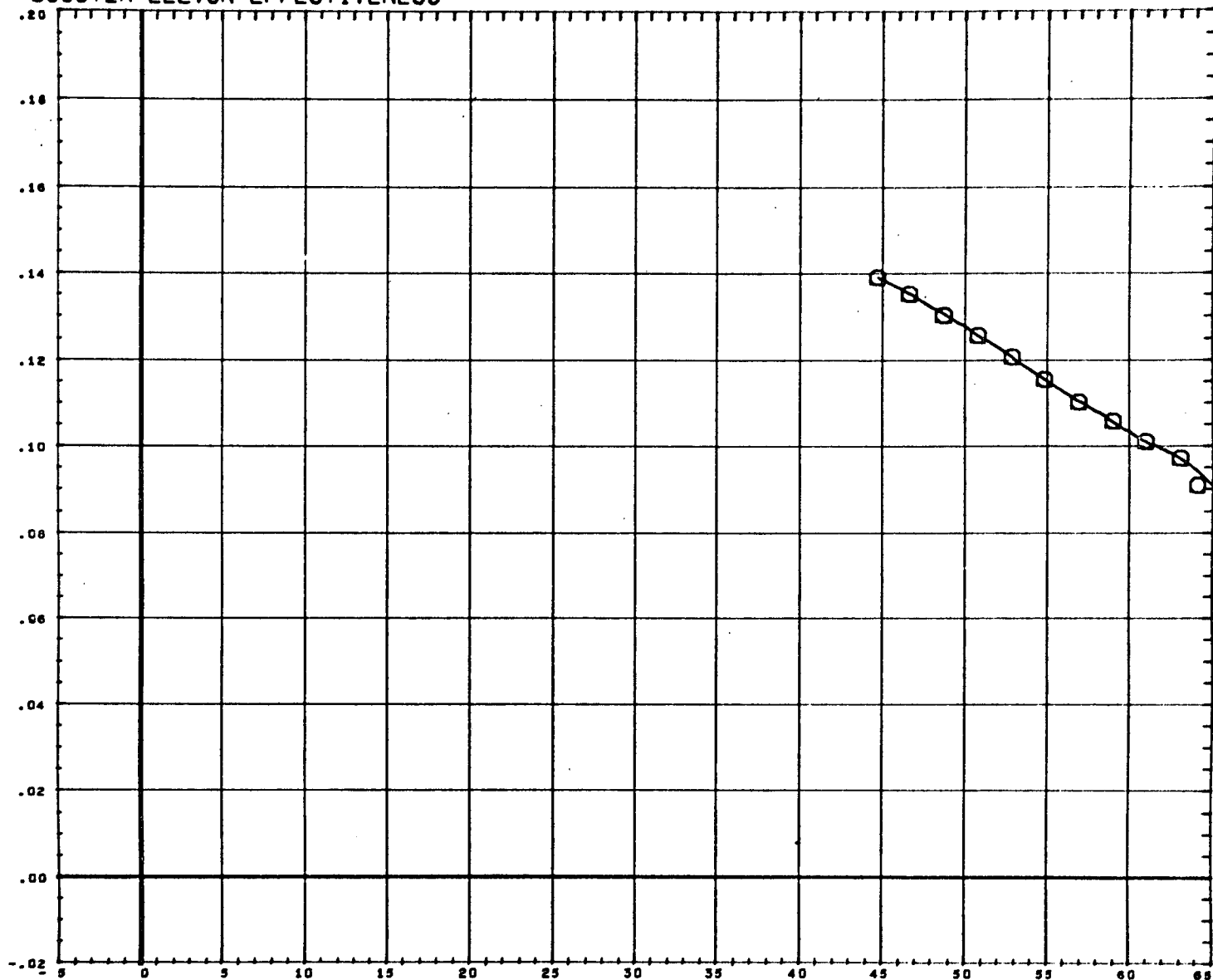
SCALE 0.0034

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS

FOREBODY AXIAL FORCE COEFFICIENT, CAF



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56086)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

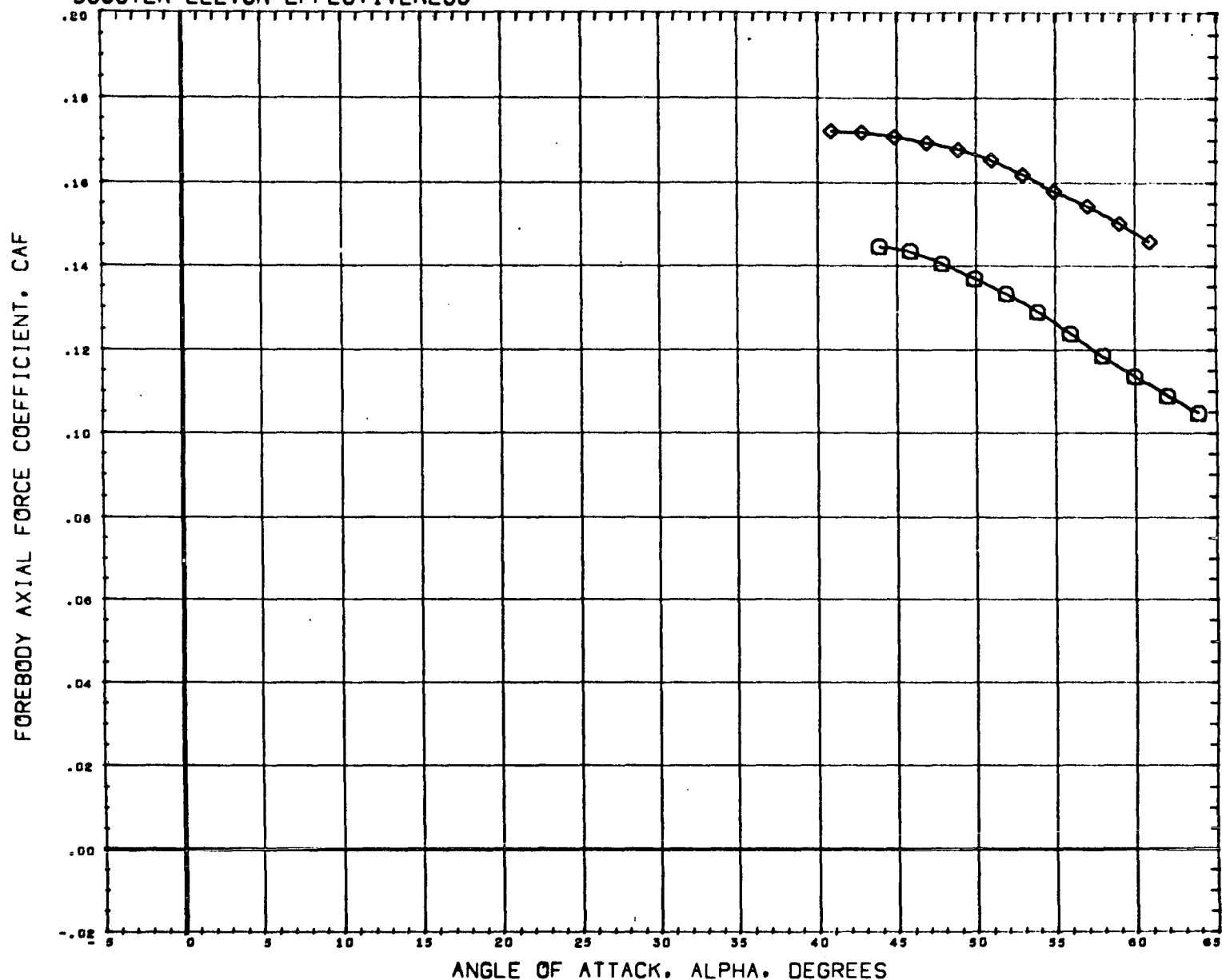
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
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BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 3.480

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C96085) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (C96086) DATA NOT AVAILABLE FOR ALL CONDITIONS
 (C96040) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

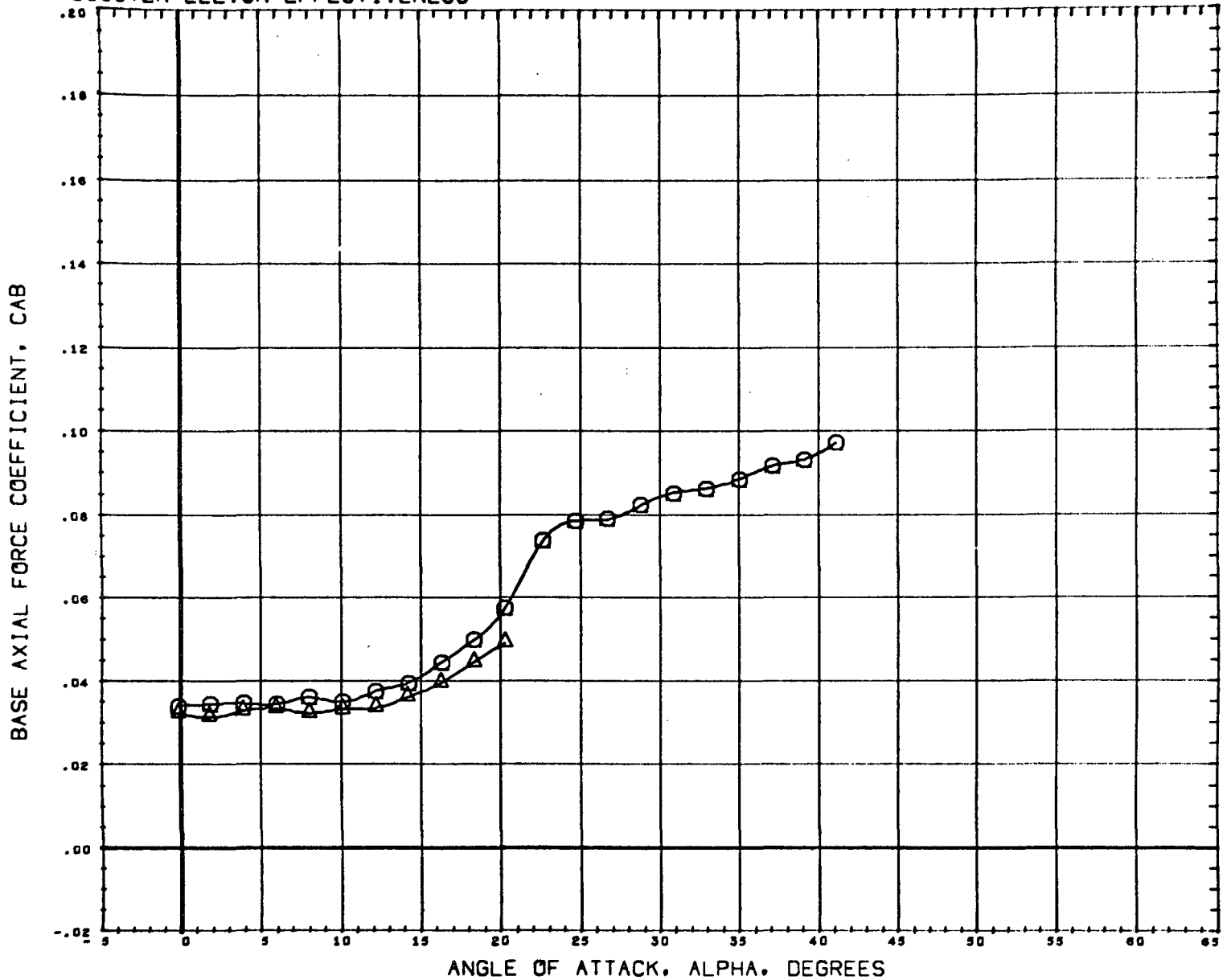
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56085) ○ MSFC TWT 317, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56086) △ MSFC TWT 317, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040) ◇ DATA NOT AVAILABLE FOR ALL CONDITIONS

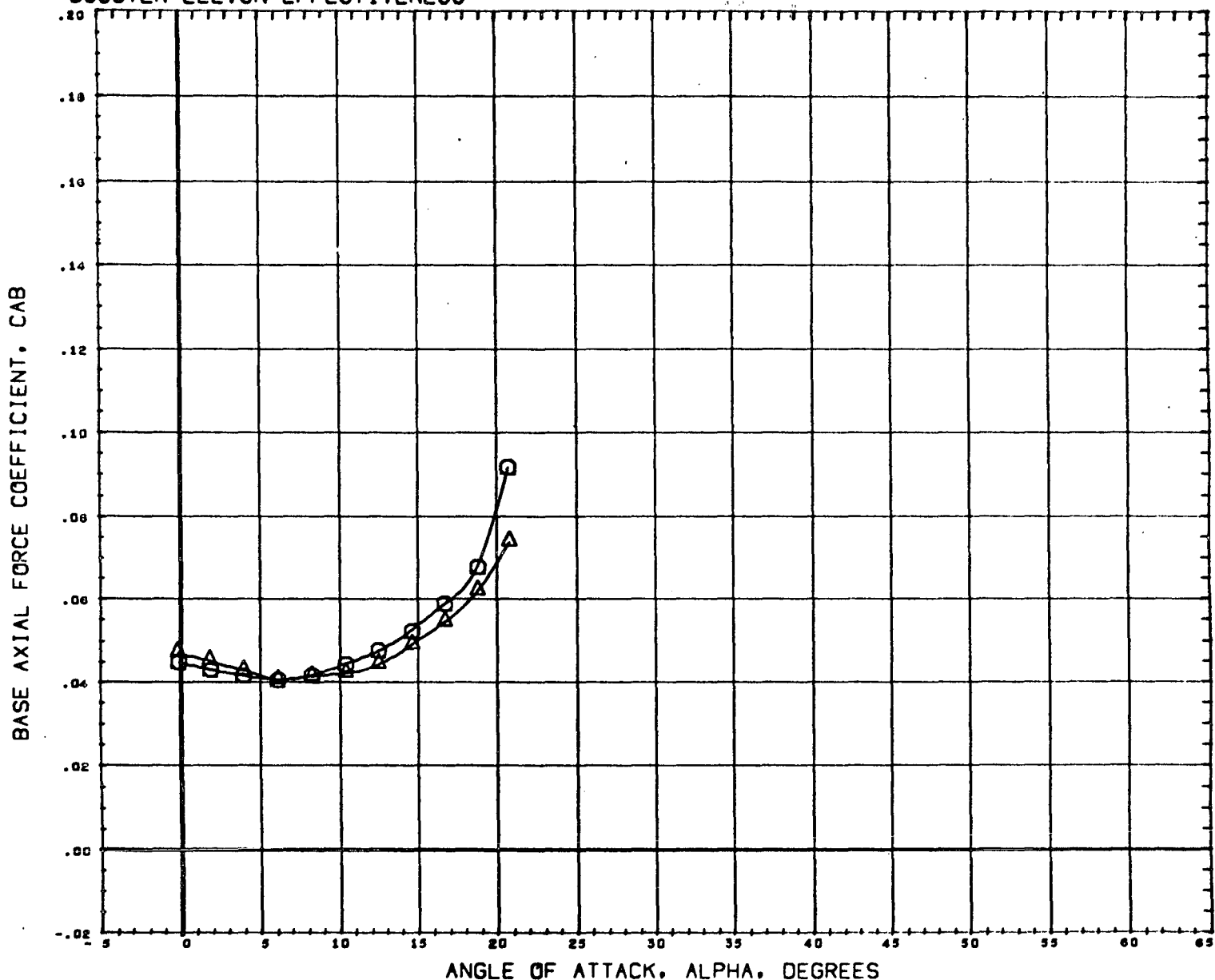
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	9.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C58085) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C58086) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C58040) DATA NOT AVAILABLE FOR ALL CONDITIONS

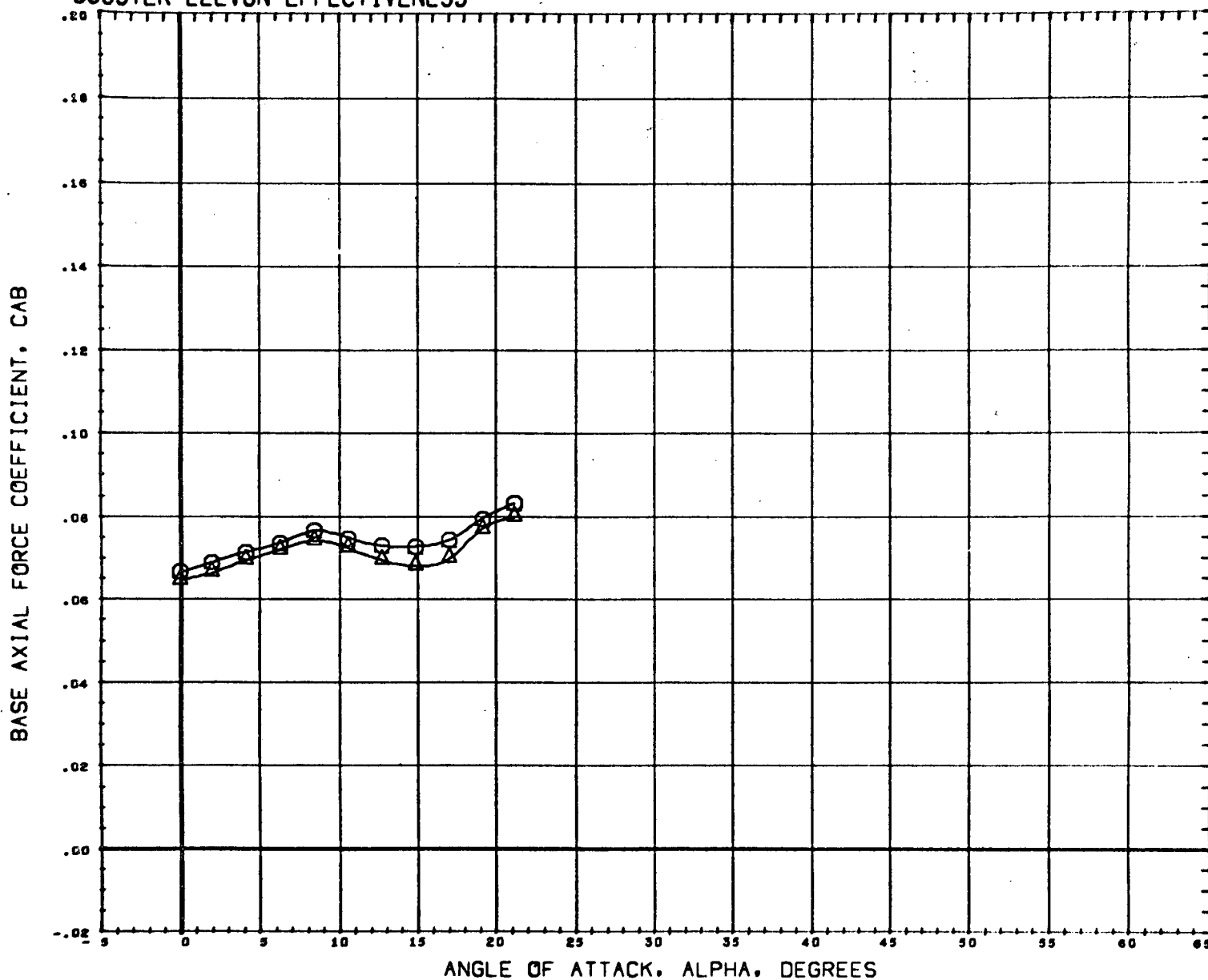
BETA	CANARD	ELEVON
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.0670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56053)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56049)	DATA NOT AVAILABLE FOR ALL CONDITIONS

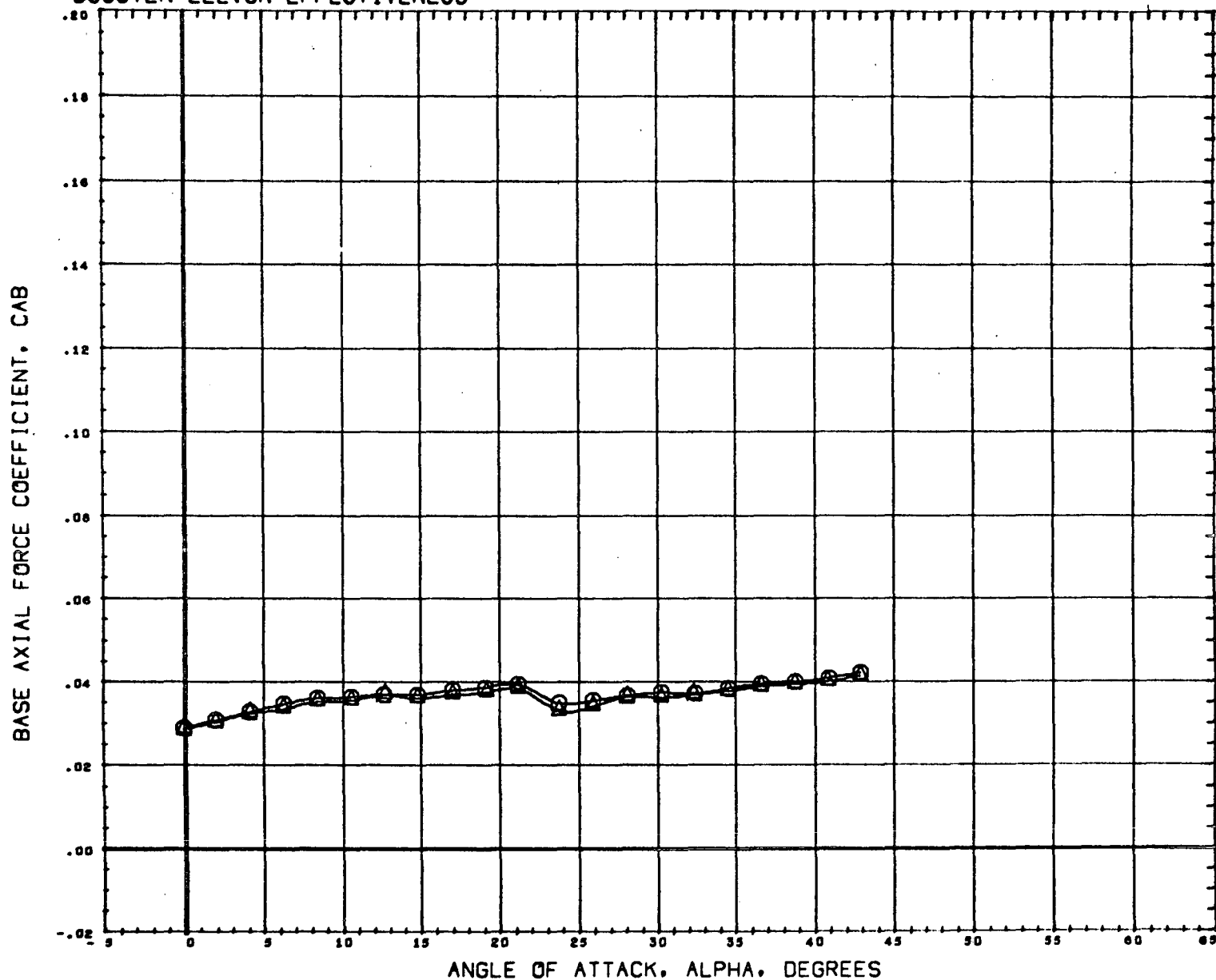
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REFERENCE INFORMATION		
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YM RP	0.0000	INCH
ZM RP	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

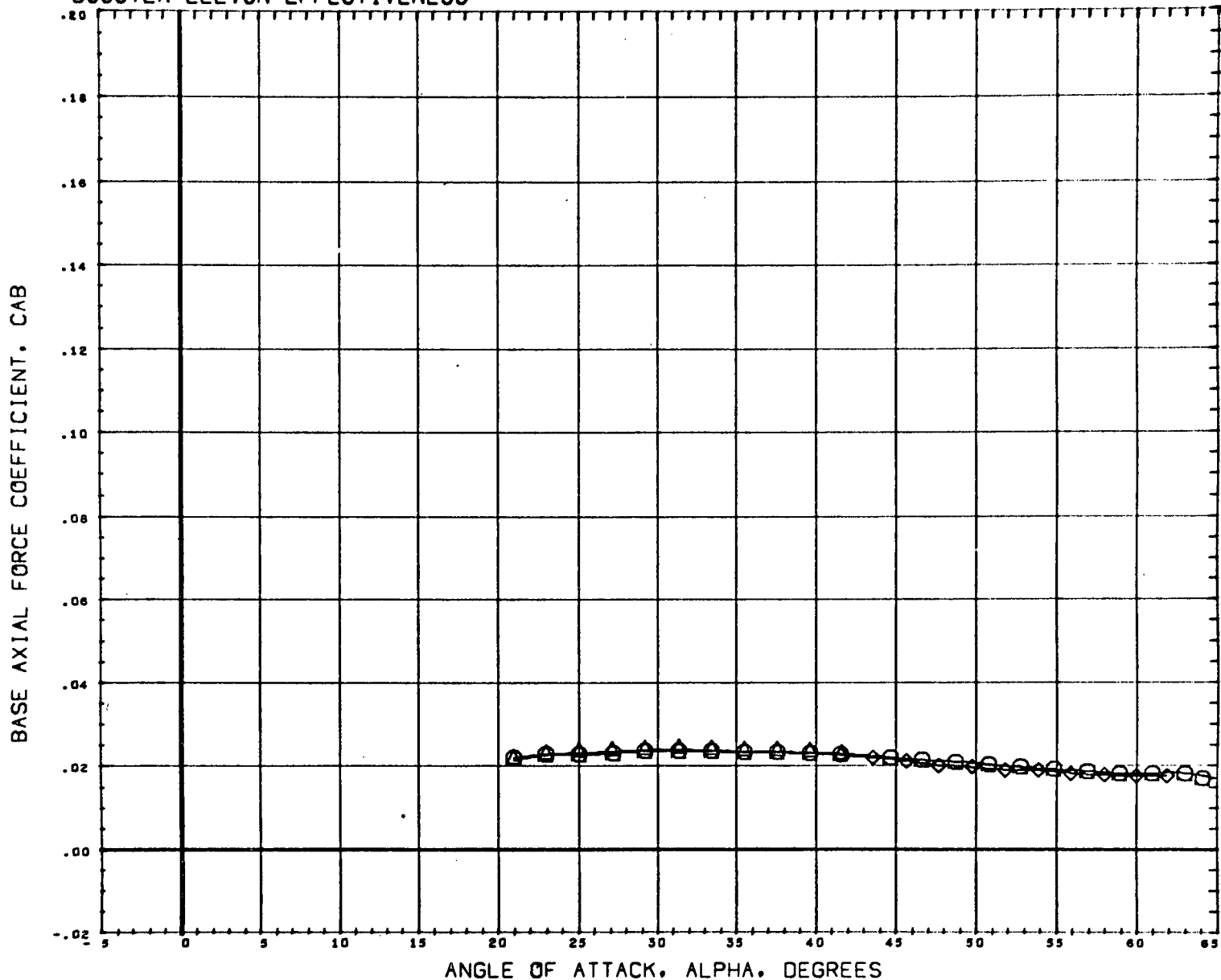
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

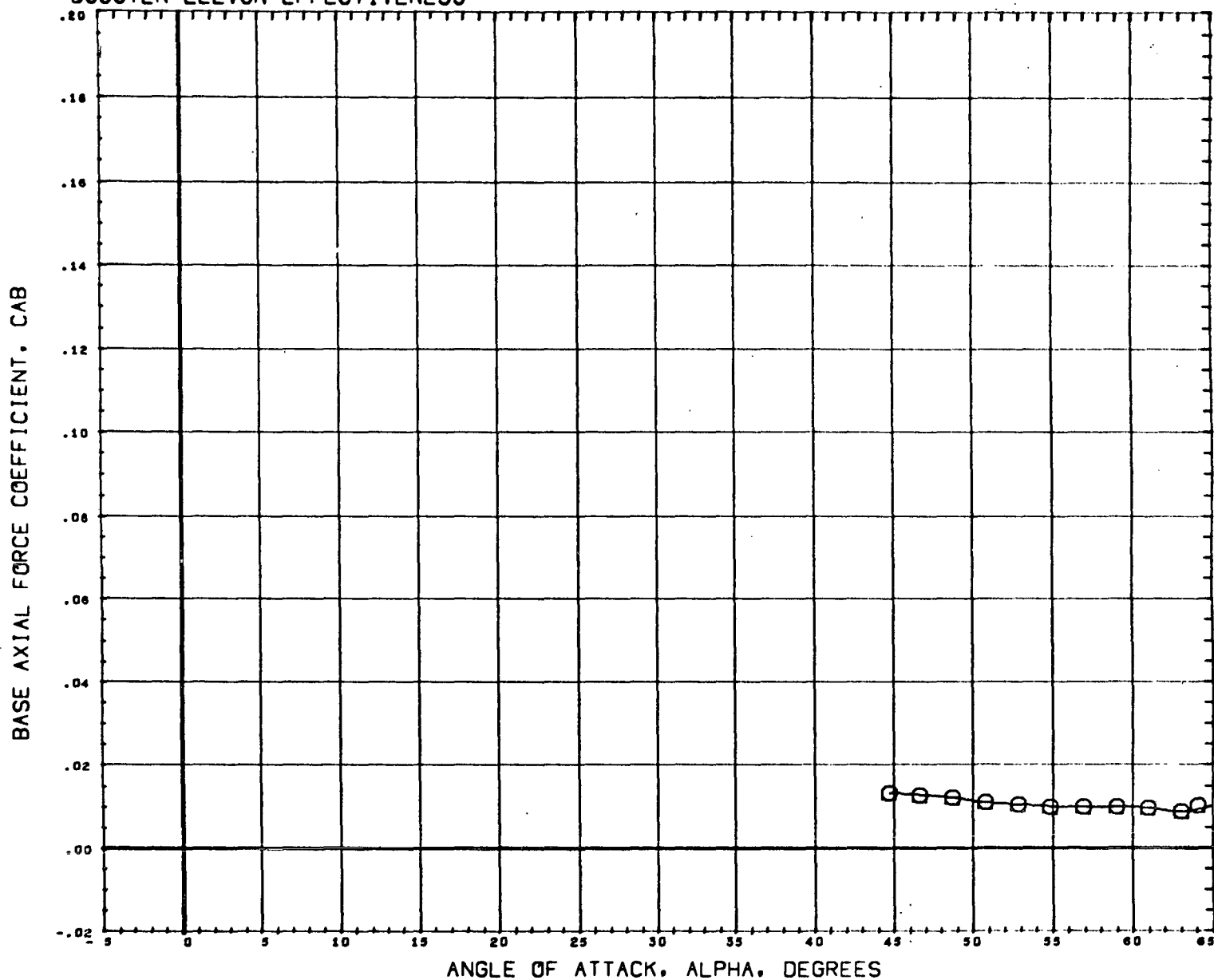
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96086)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C96046)	DATA NOT AVAILABLE FOR ALL CONDITIONS

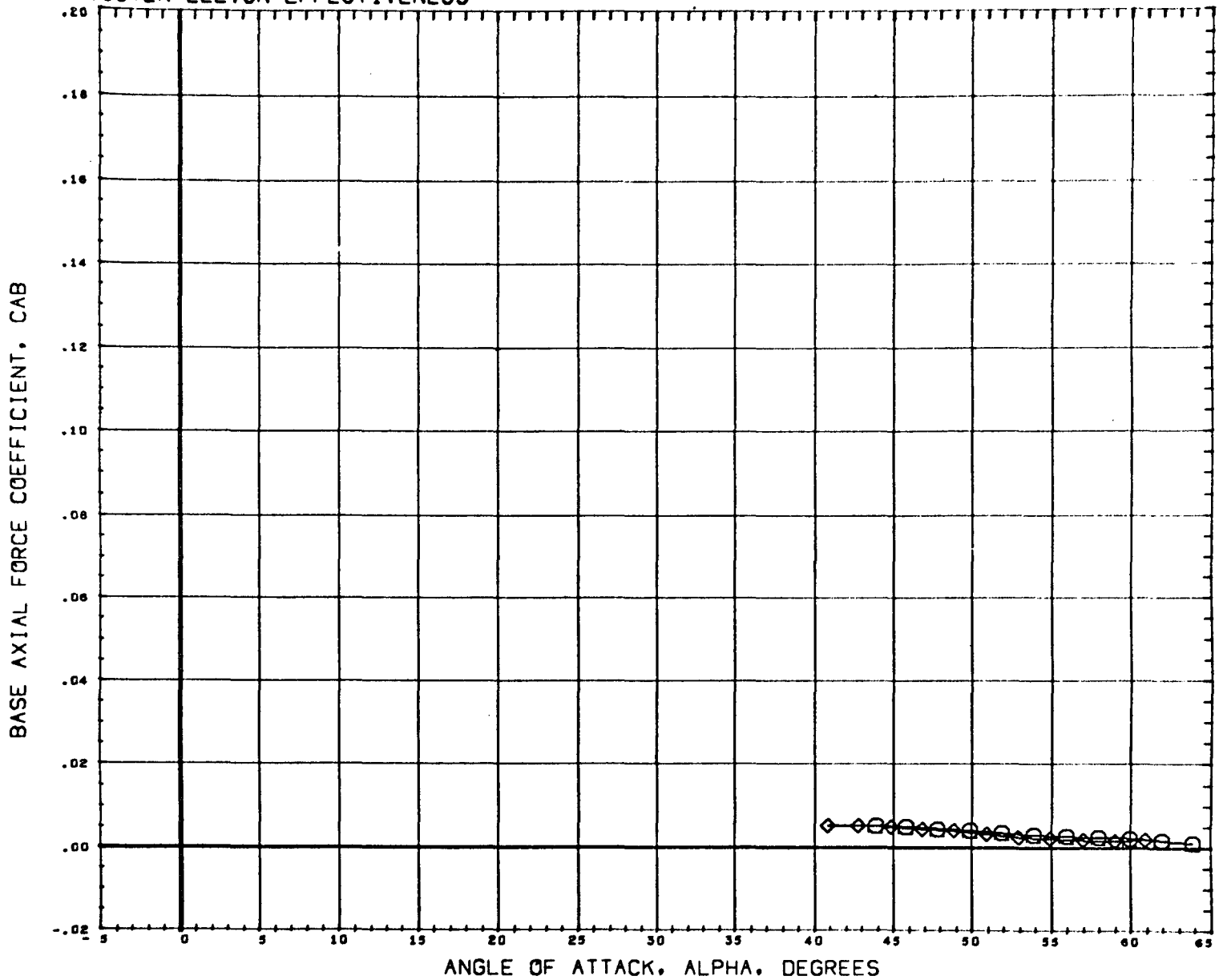
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 5.480

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BOOSTER ELEVON EFFECTIVENESS



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(C96055)	○	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96056)	△	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C96040)	◇	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

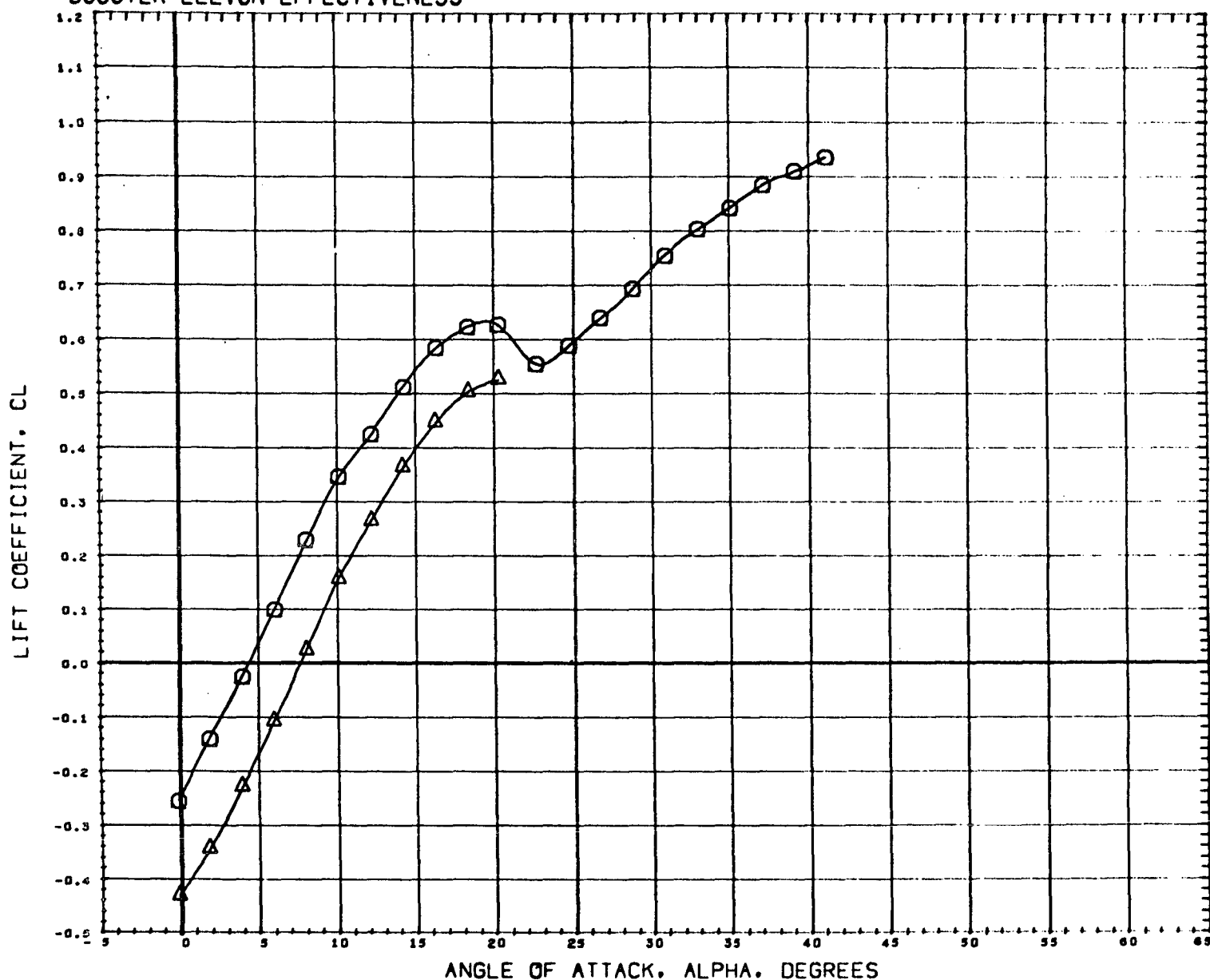
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0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56055) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040) DATA NOT AVAILABLE FOR ALL CONDITIONS

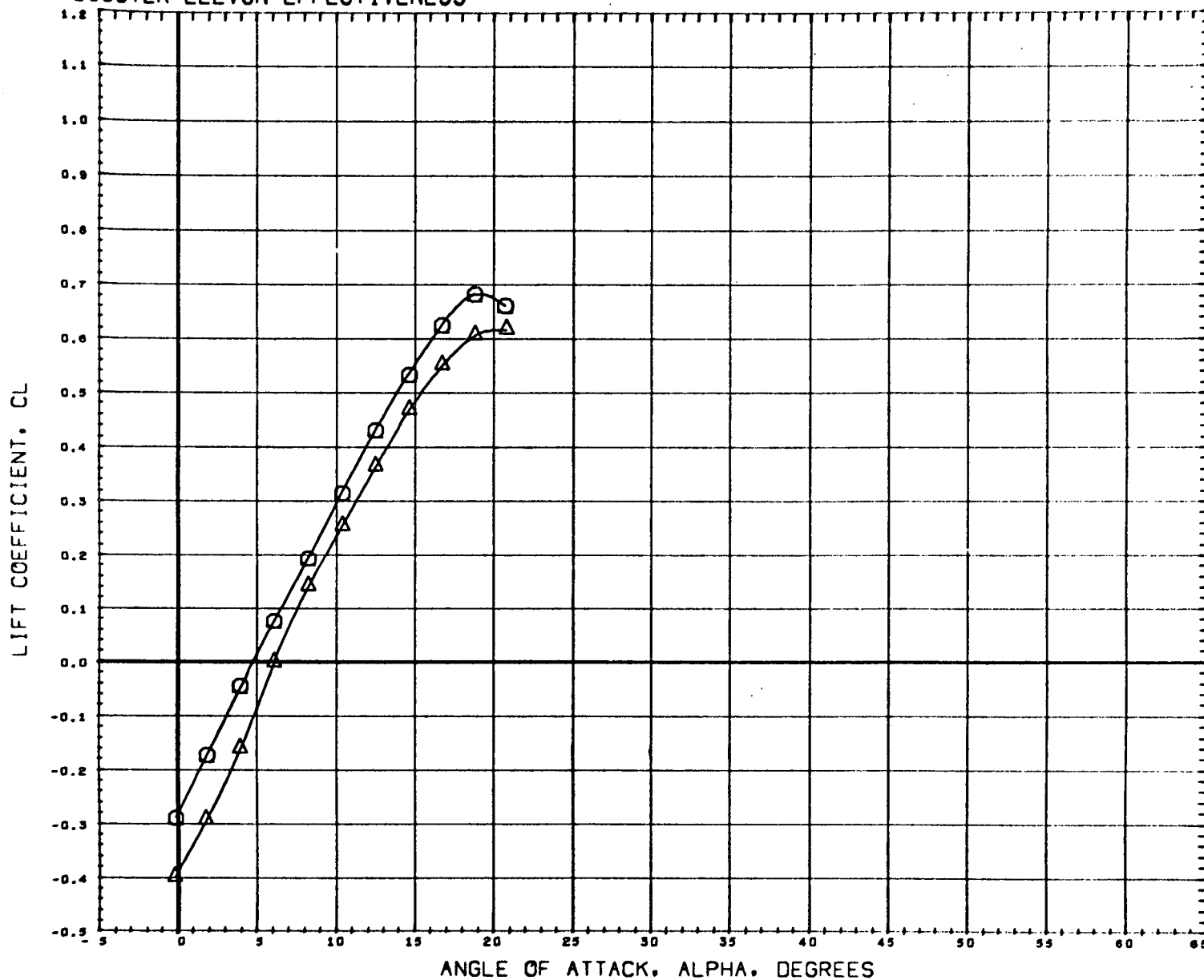
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0.000	0.000	10.000

REFERENCE INFORMATION		
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

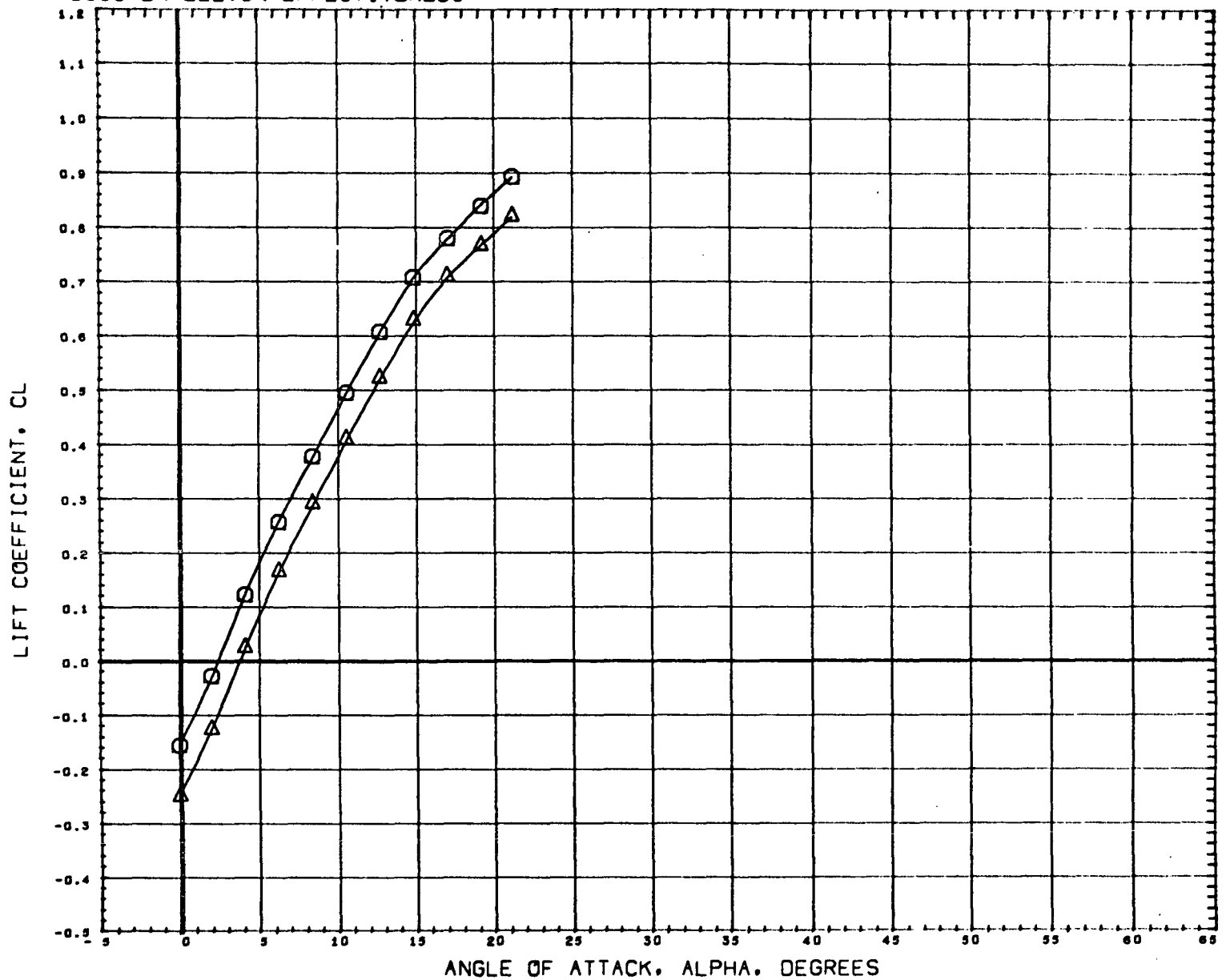
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.697

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56055) $\bigcirc$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040) $\diamond$ DATA NOT AVAILABLE FOR ALL CONDITIONS

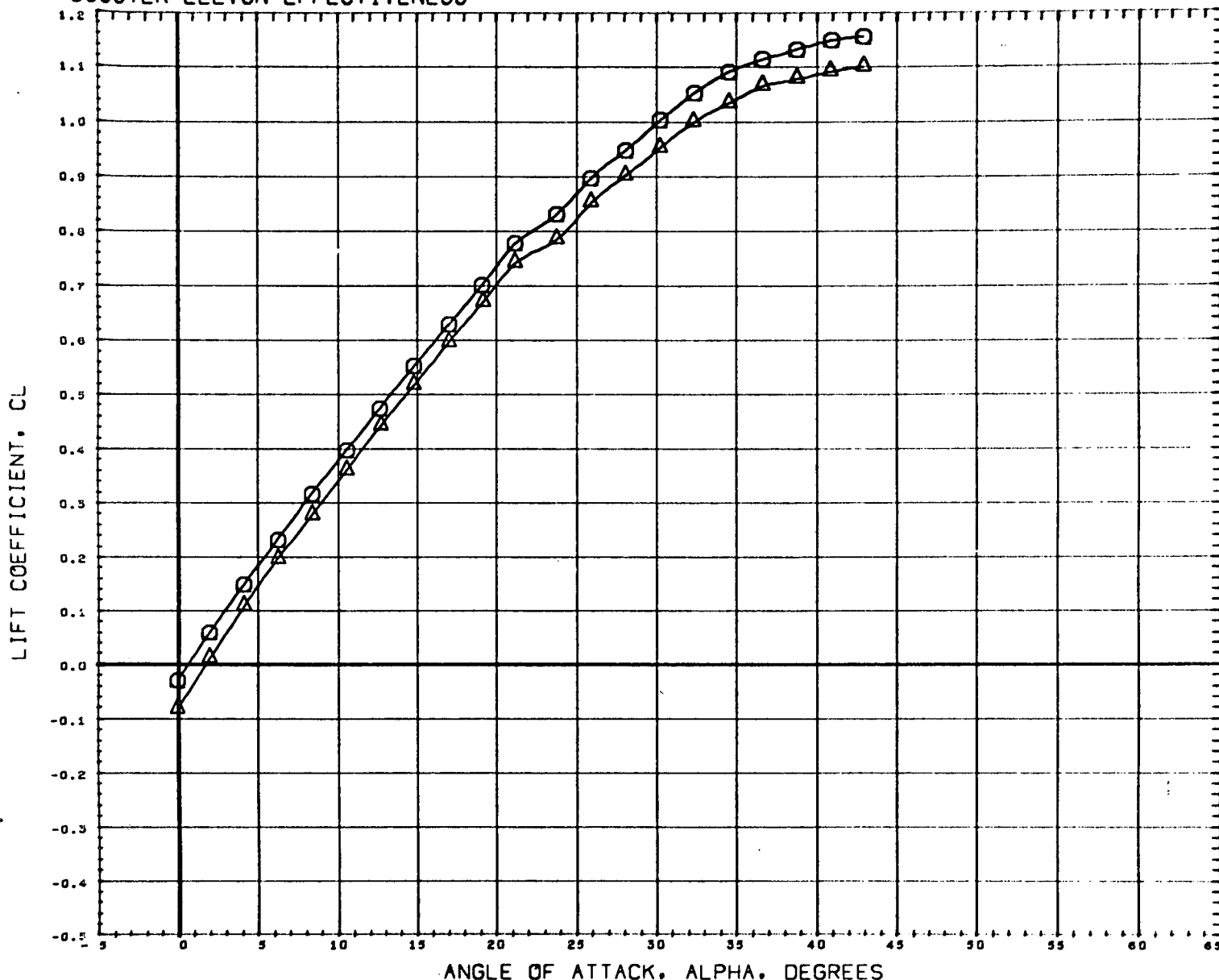
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56055) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C56056) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C56040) DATA NOT AVAILABLE FOR ALL CONDITIONS

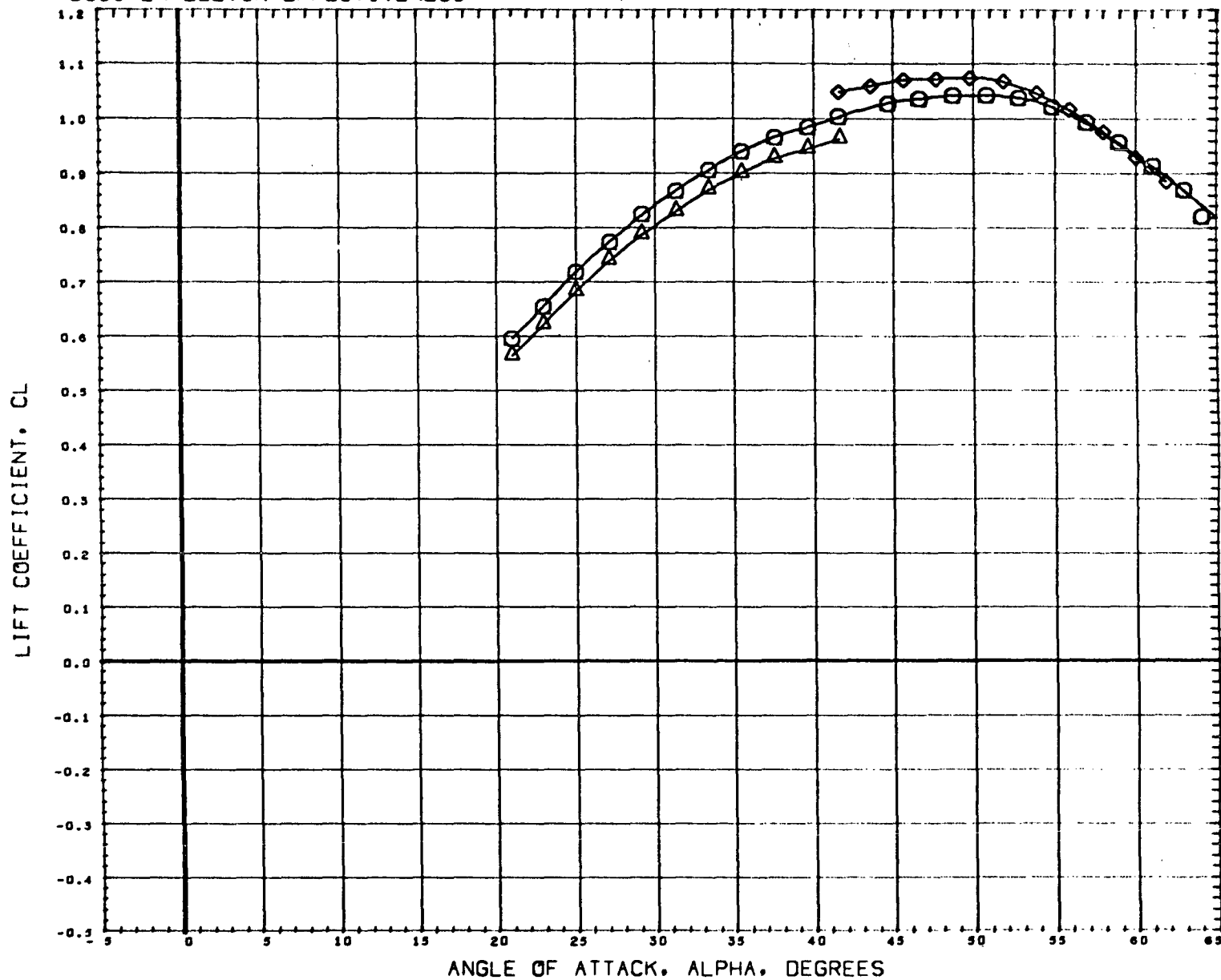
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

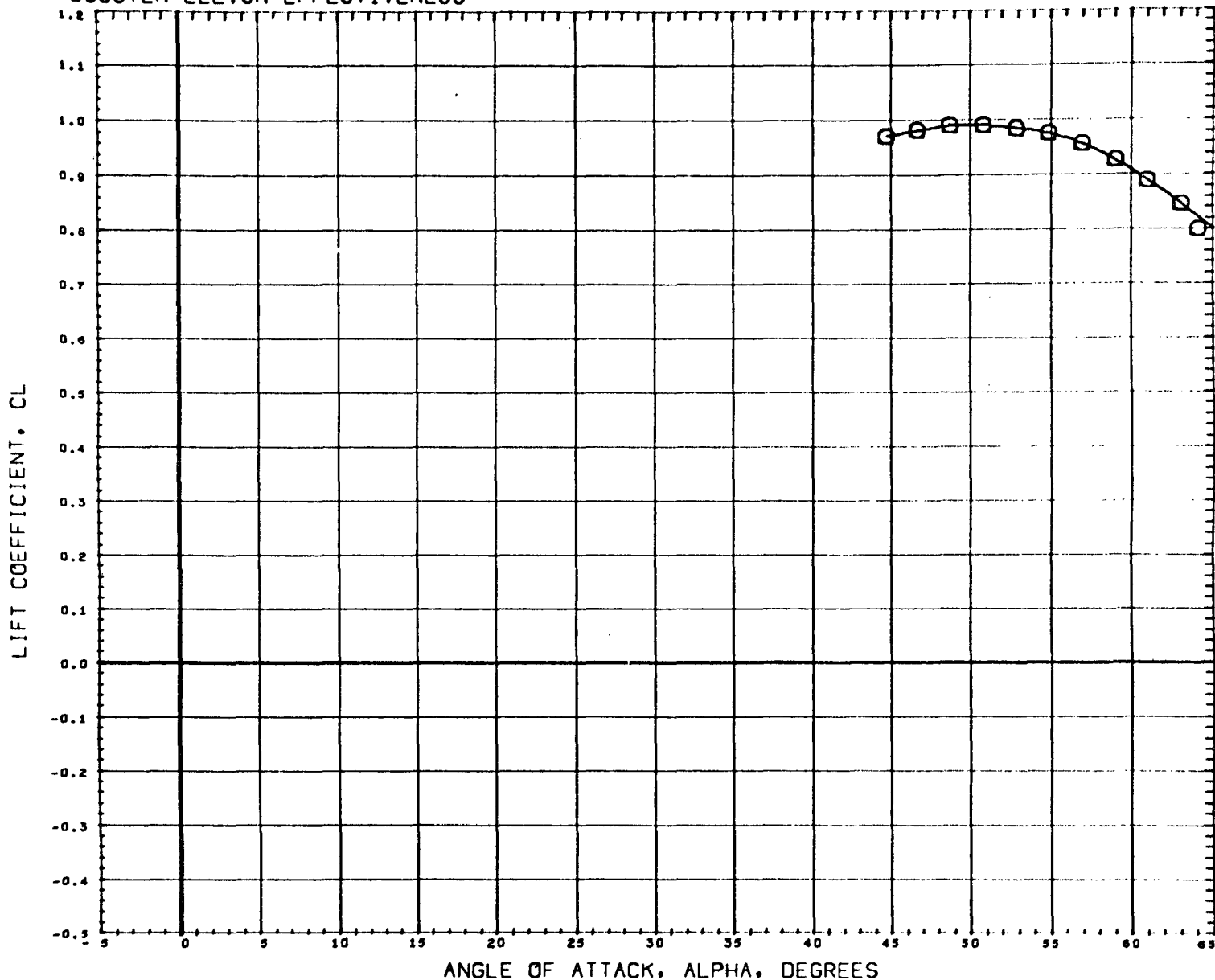
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	50. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMPP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



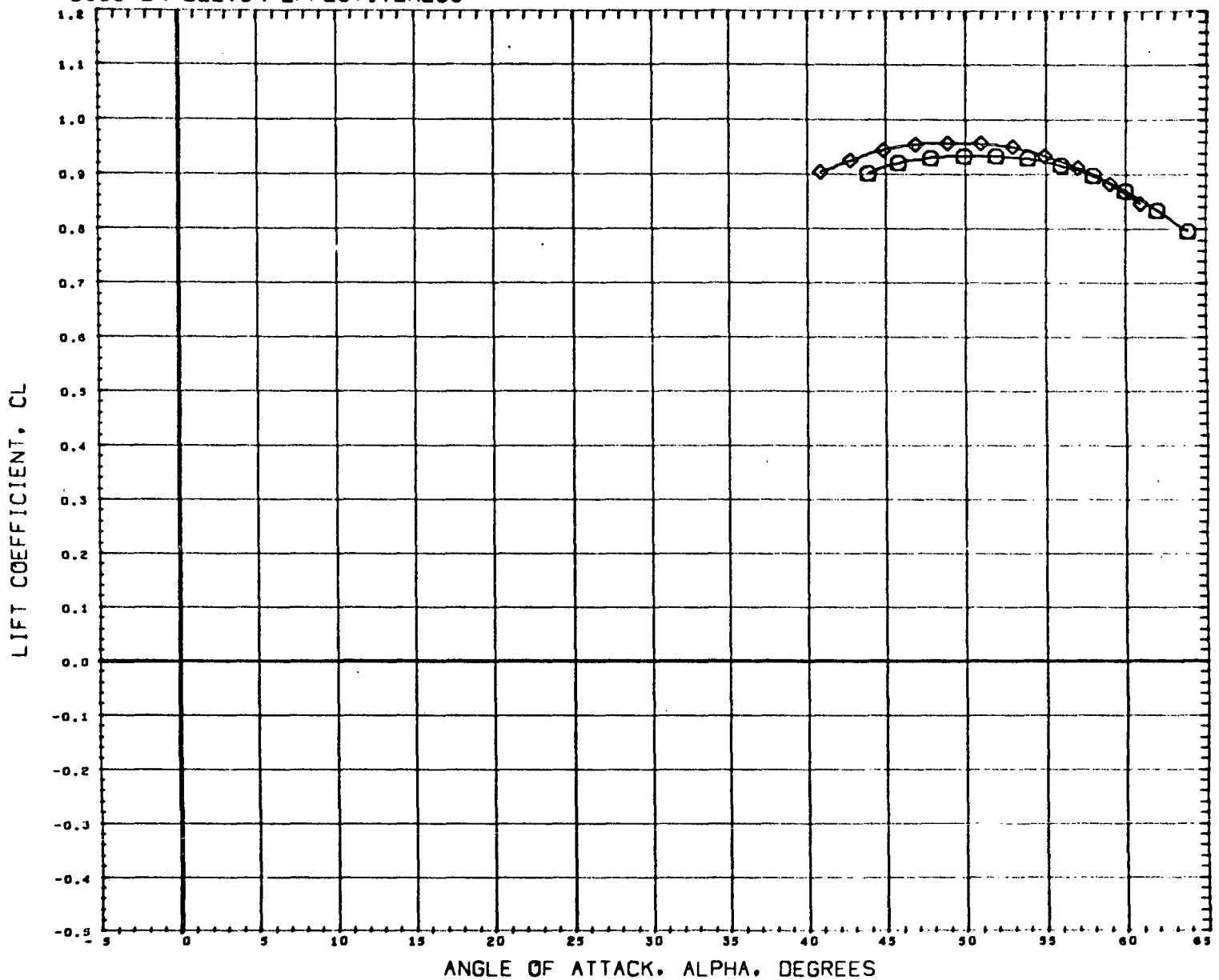
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C56036) DATA NOT AVAILABLE FOR ALL CONDITIONS
 (C56040) DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C56036) DATA NOT AVAILABLE FOR ALL CONDITIONS
 (C56040) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

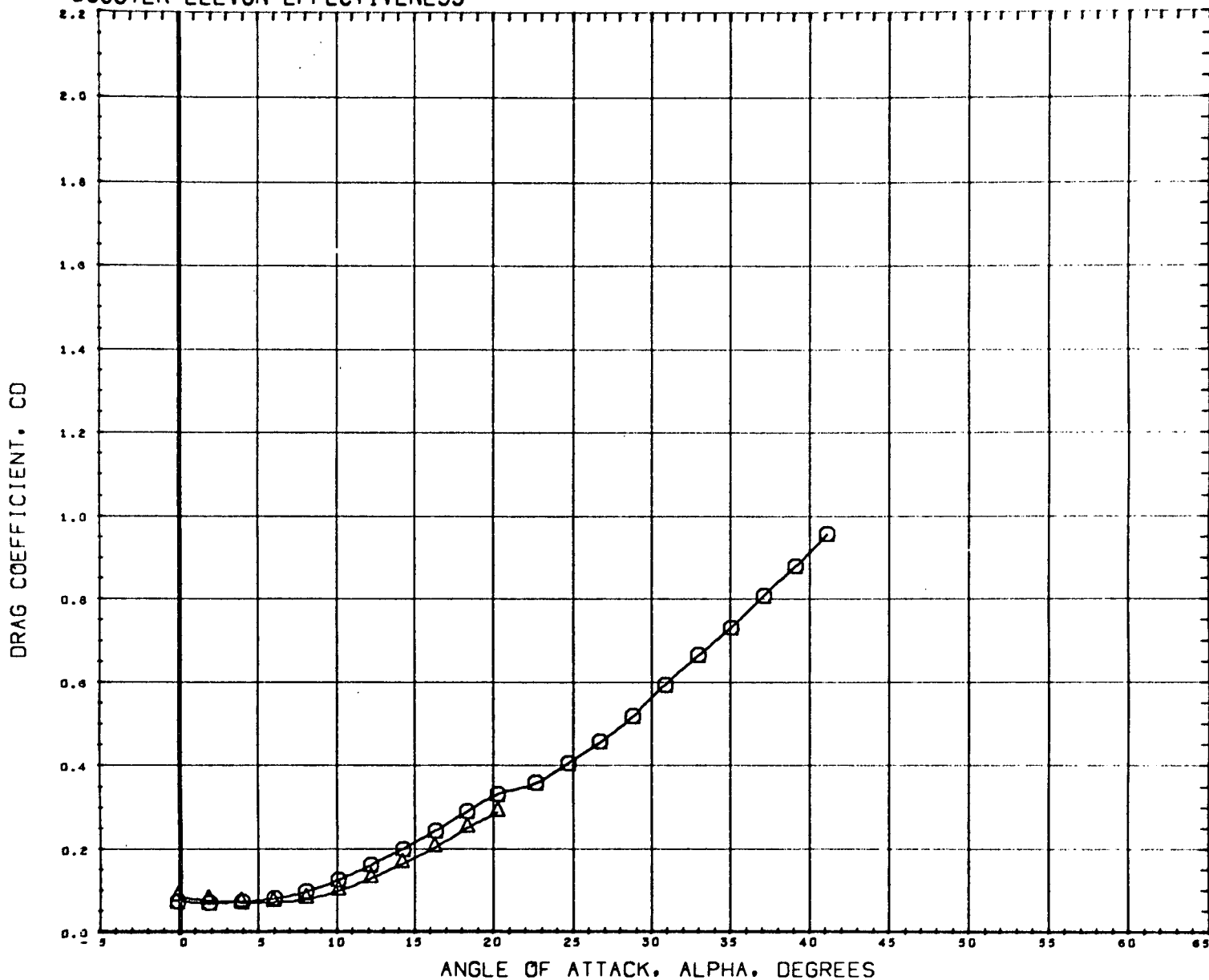
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56055) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56056) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56040) DATA NOT AVAILABLE FOR ALL CONDITIONS

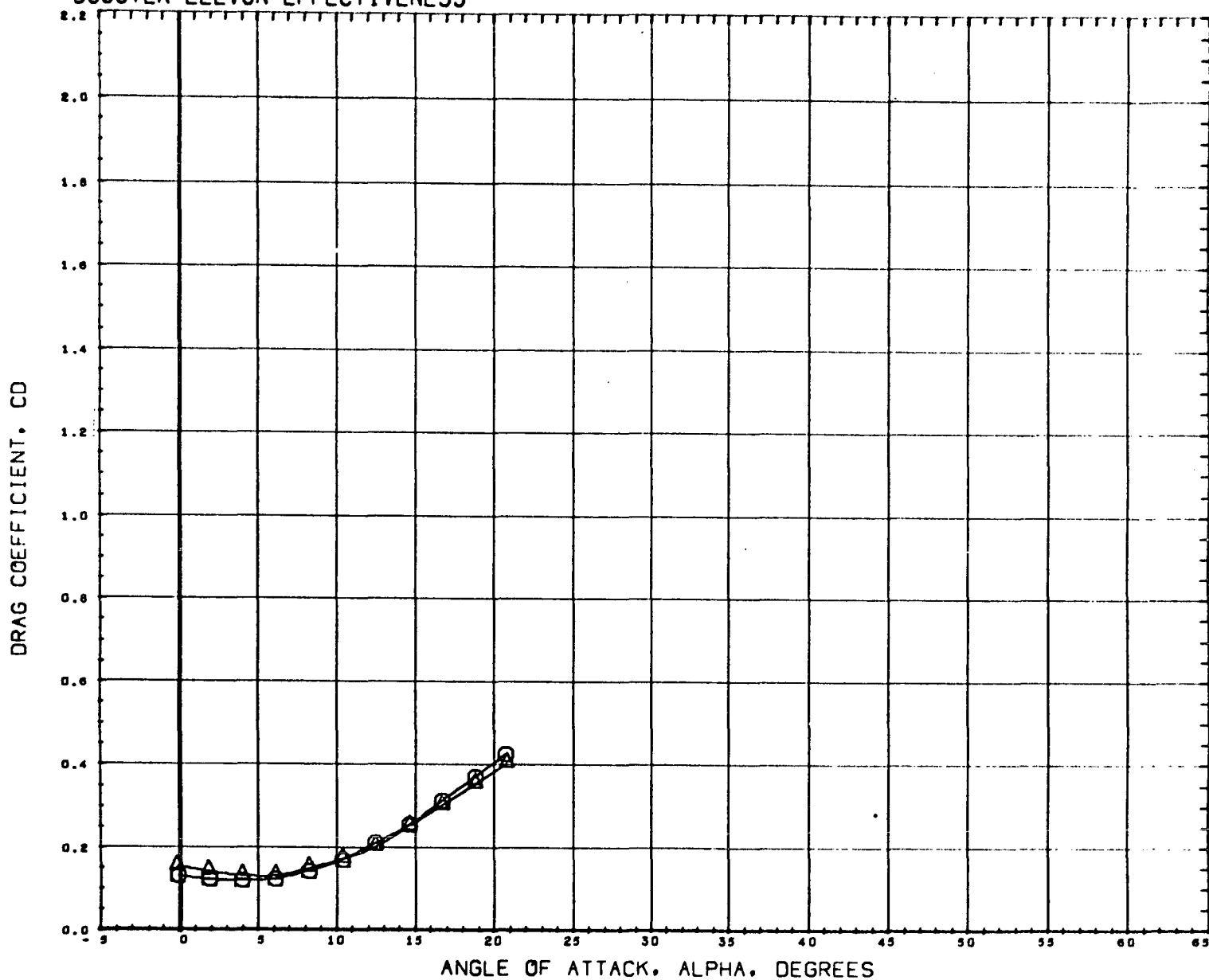
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

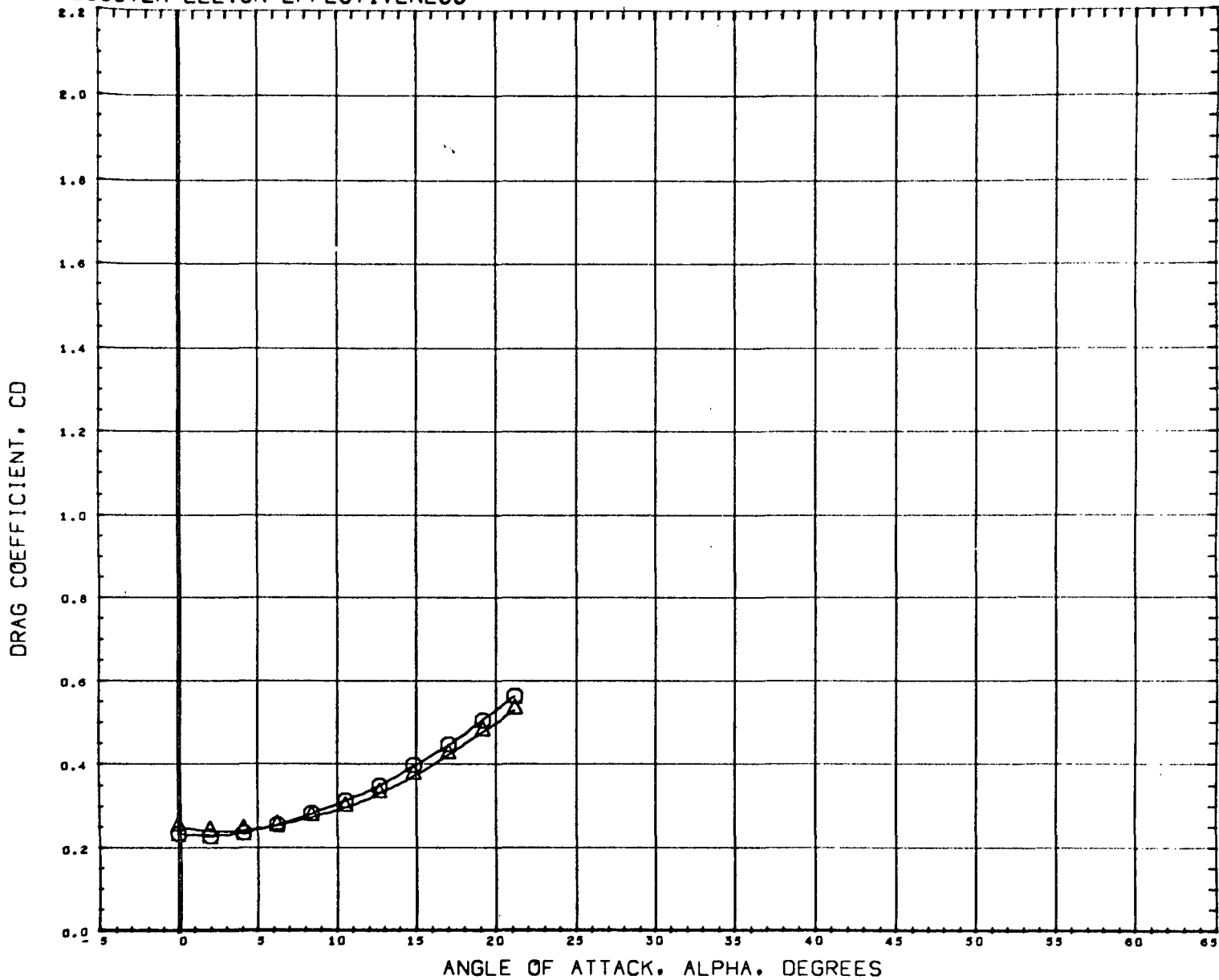
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

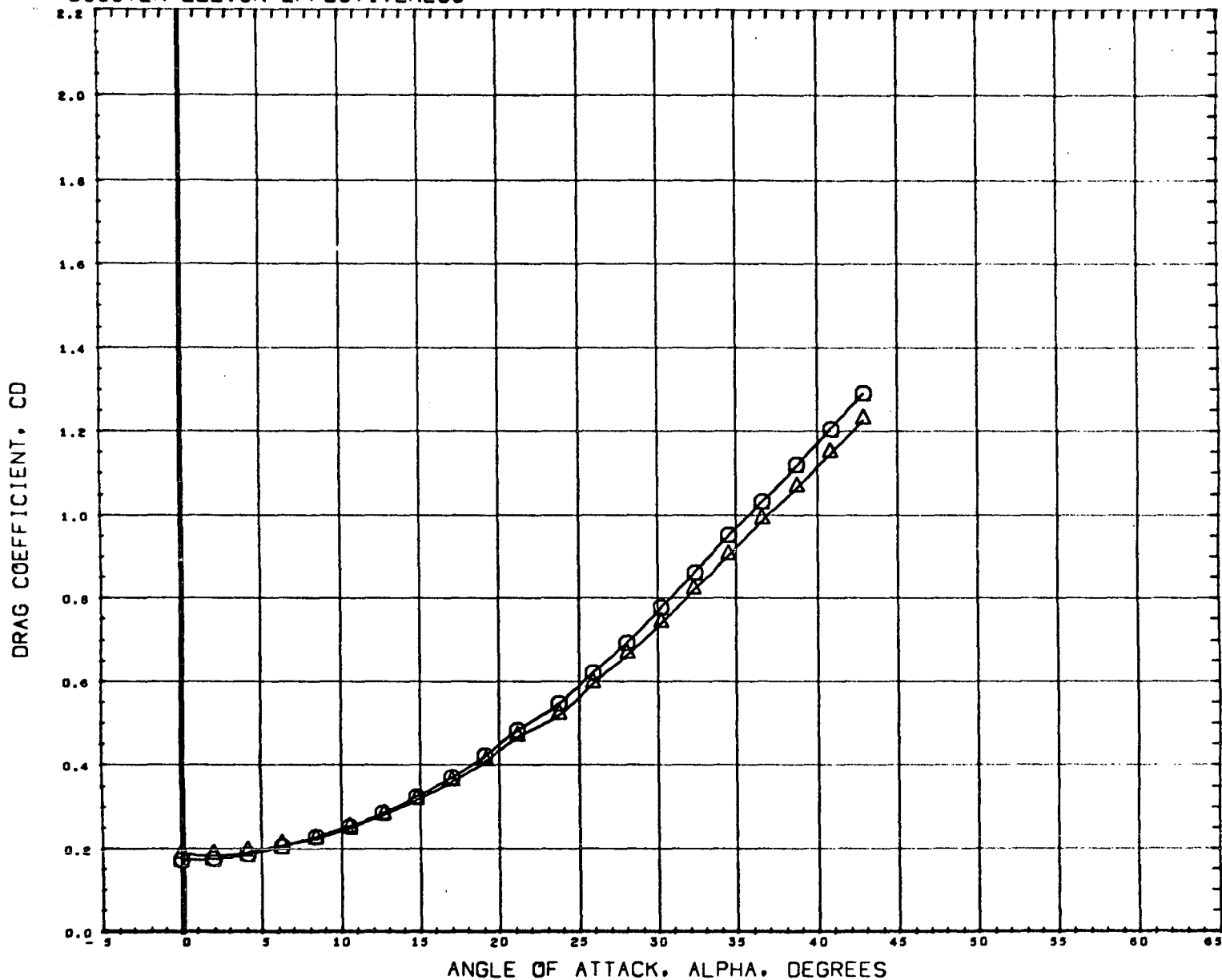
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

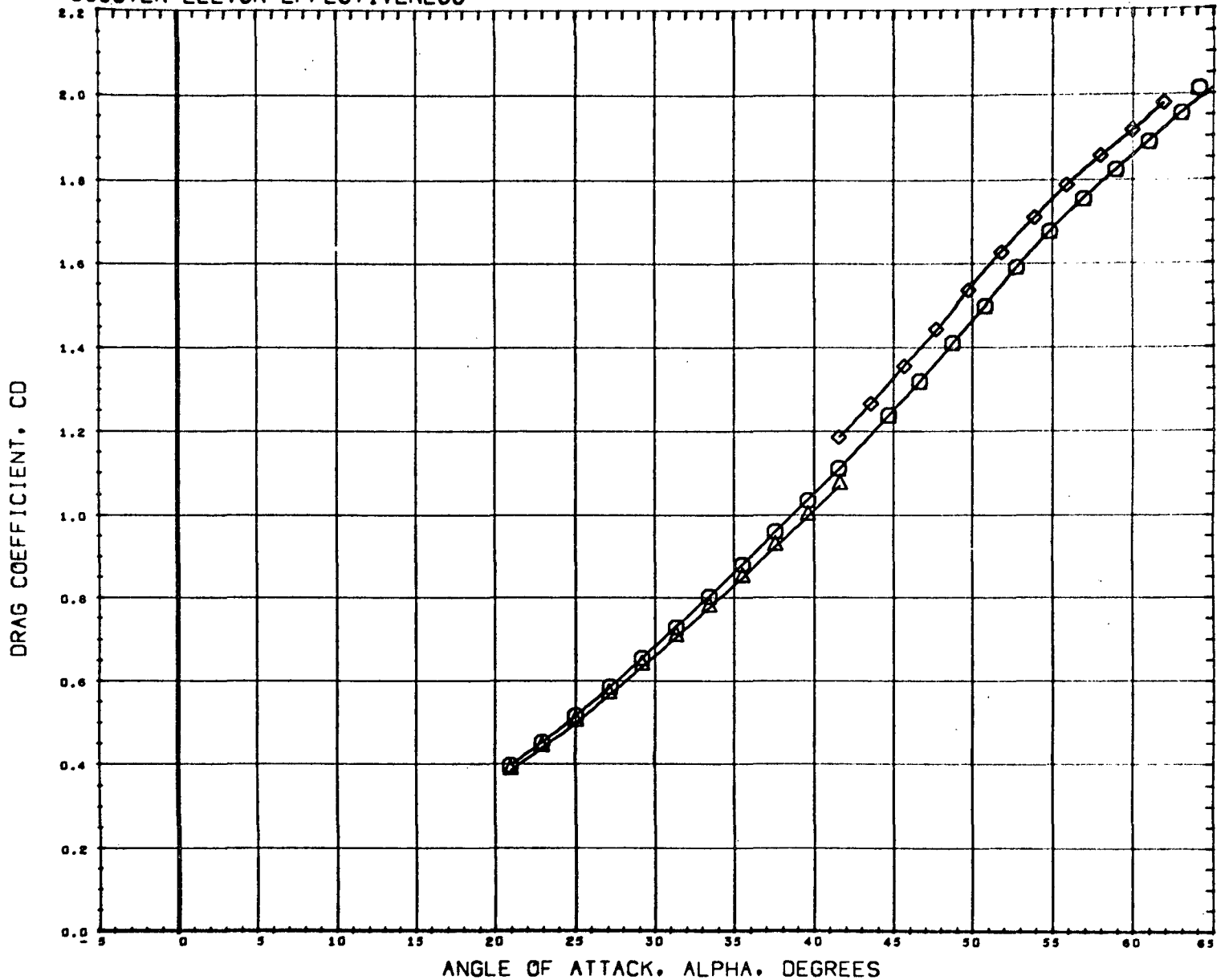
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C36056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C36040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

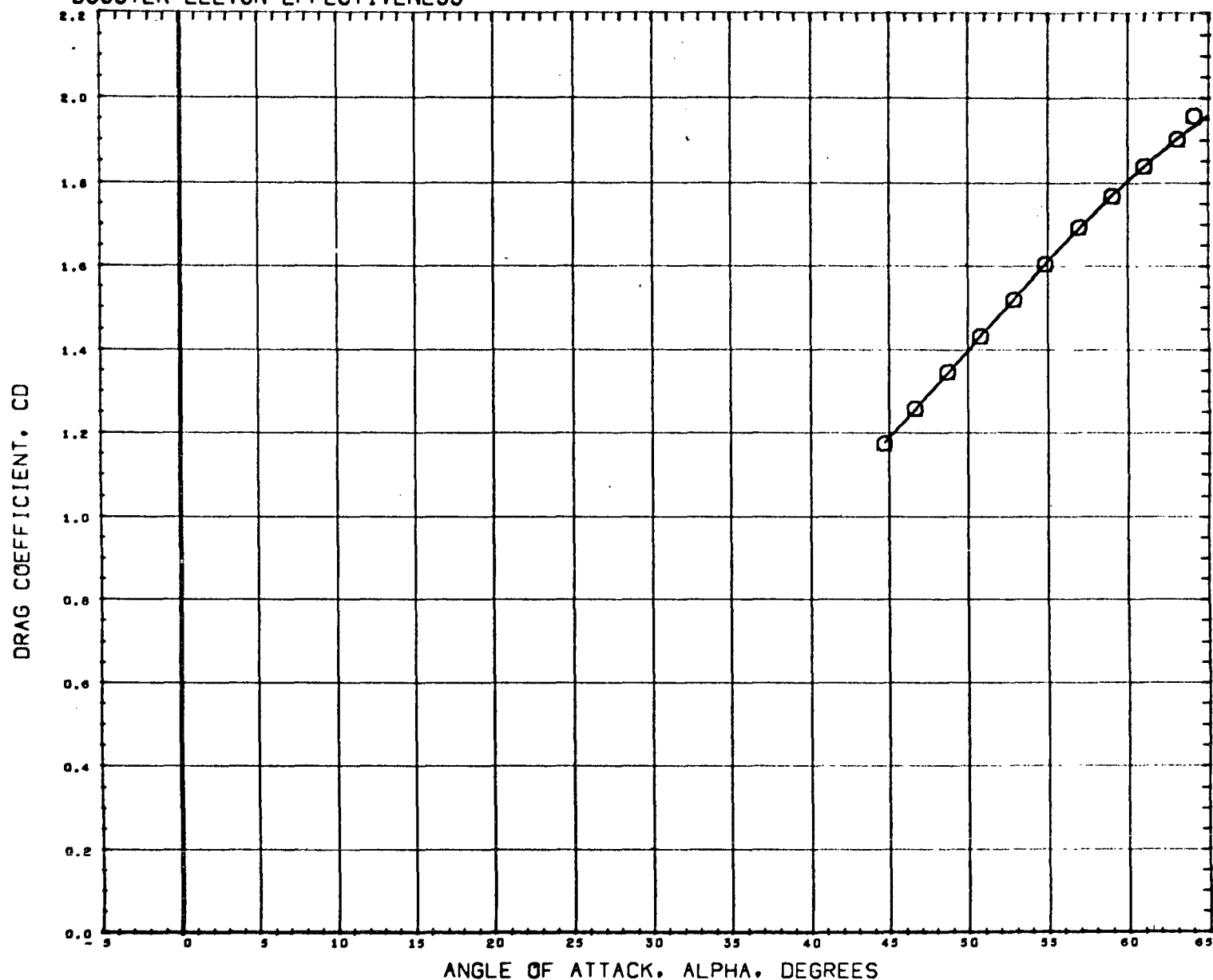
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C98055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C98056)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

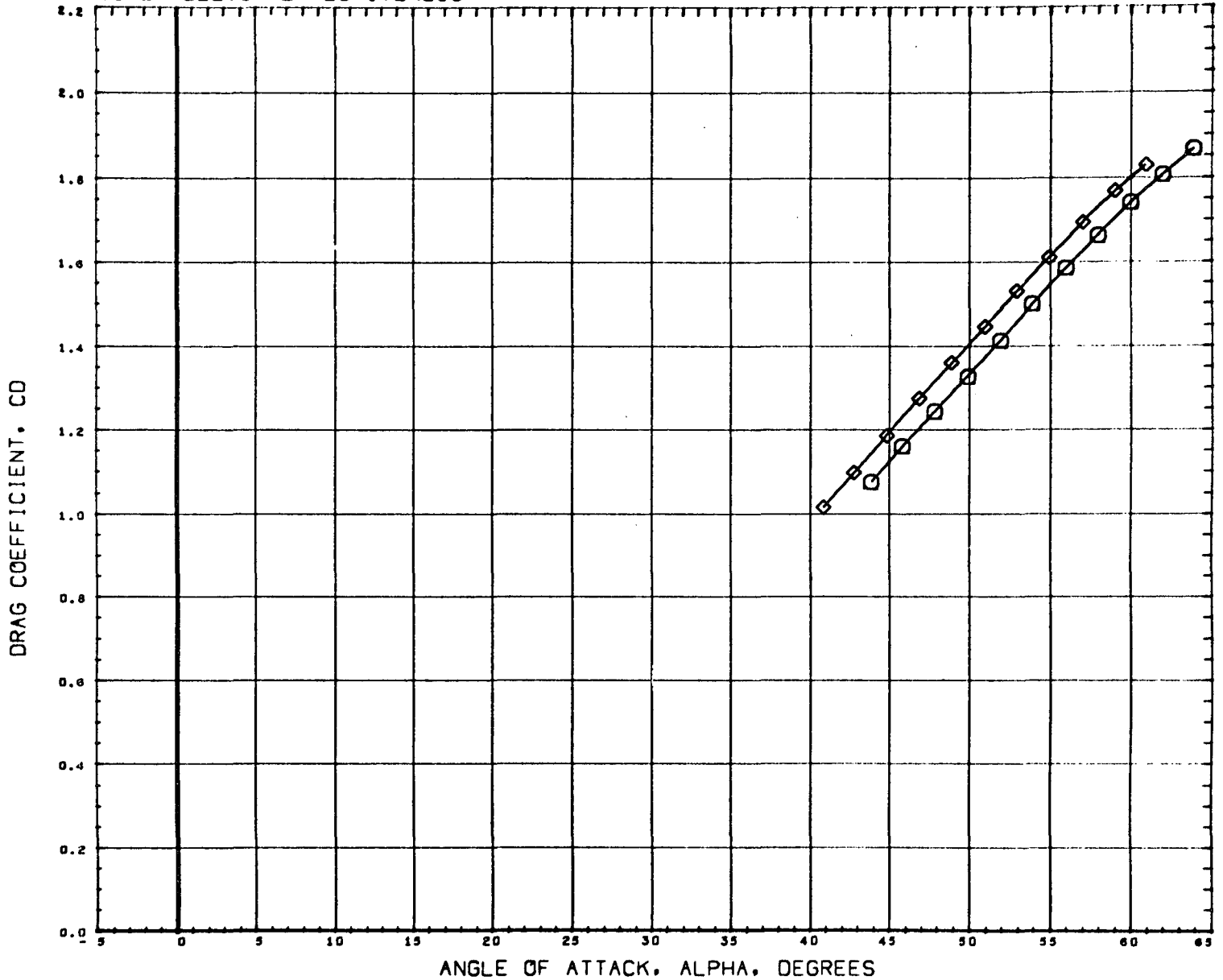
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56056)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

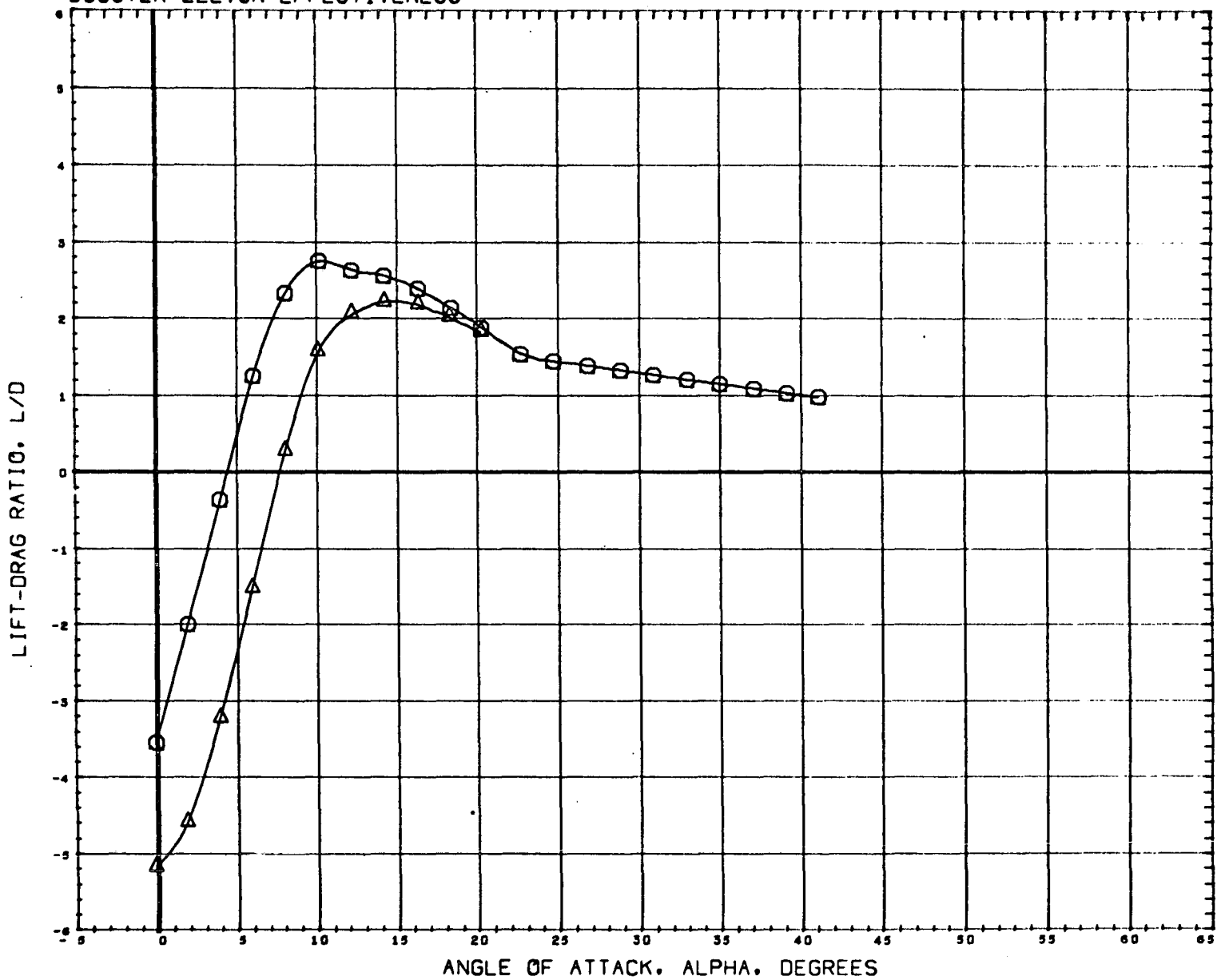
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

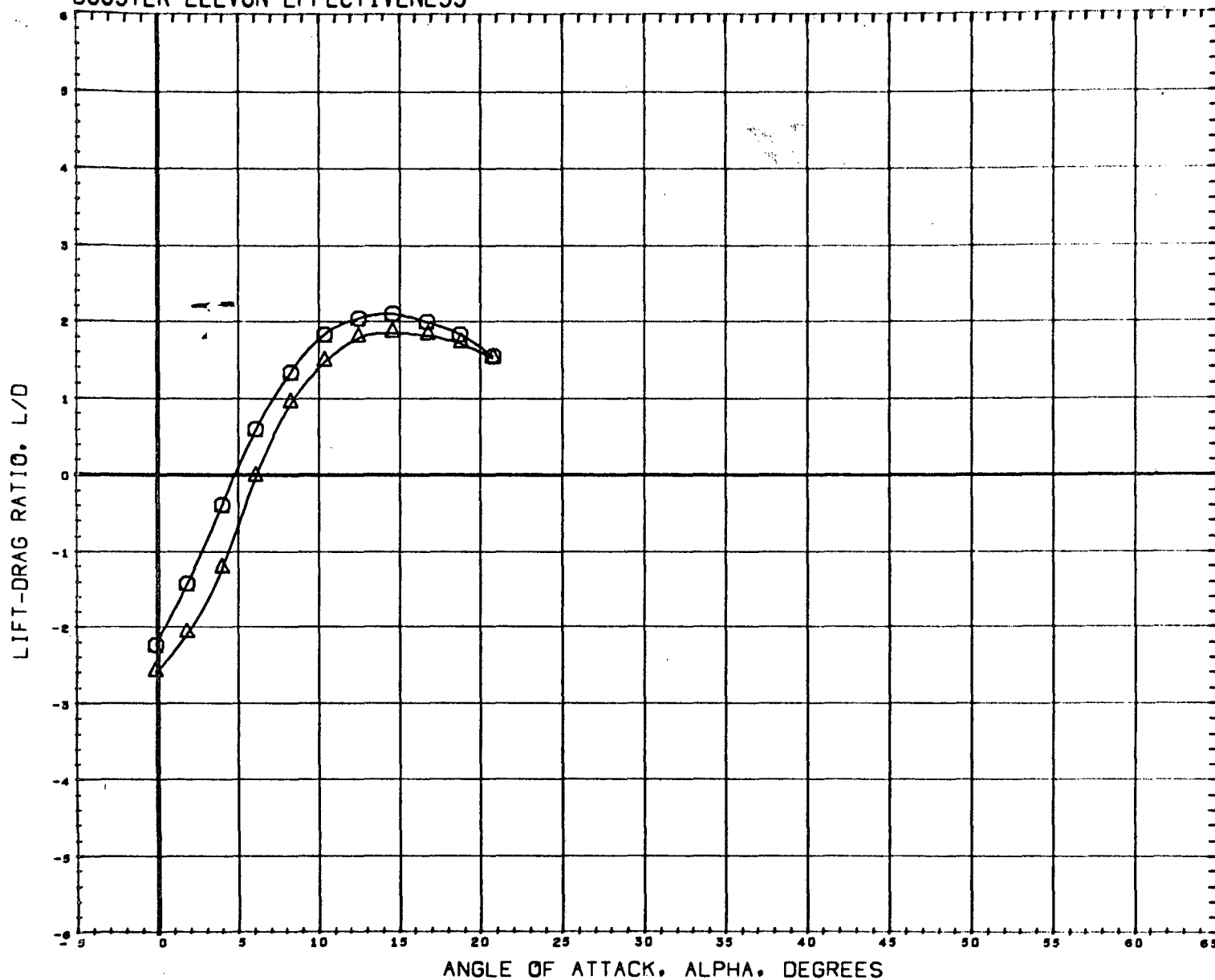
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56035) ○	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56036) △	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040) ◇	DATA NOT AVAILABLE FOR ALL CONDITIONS

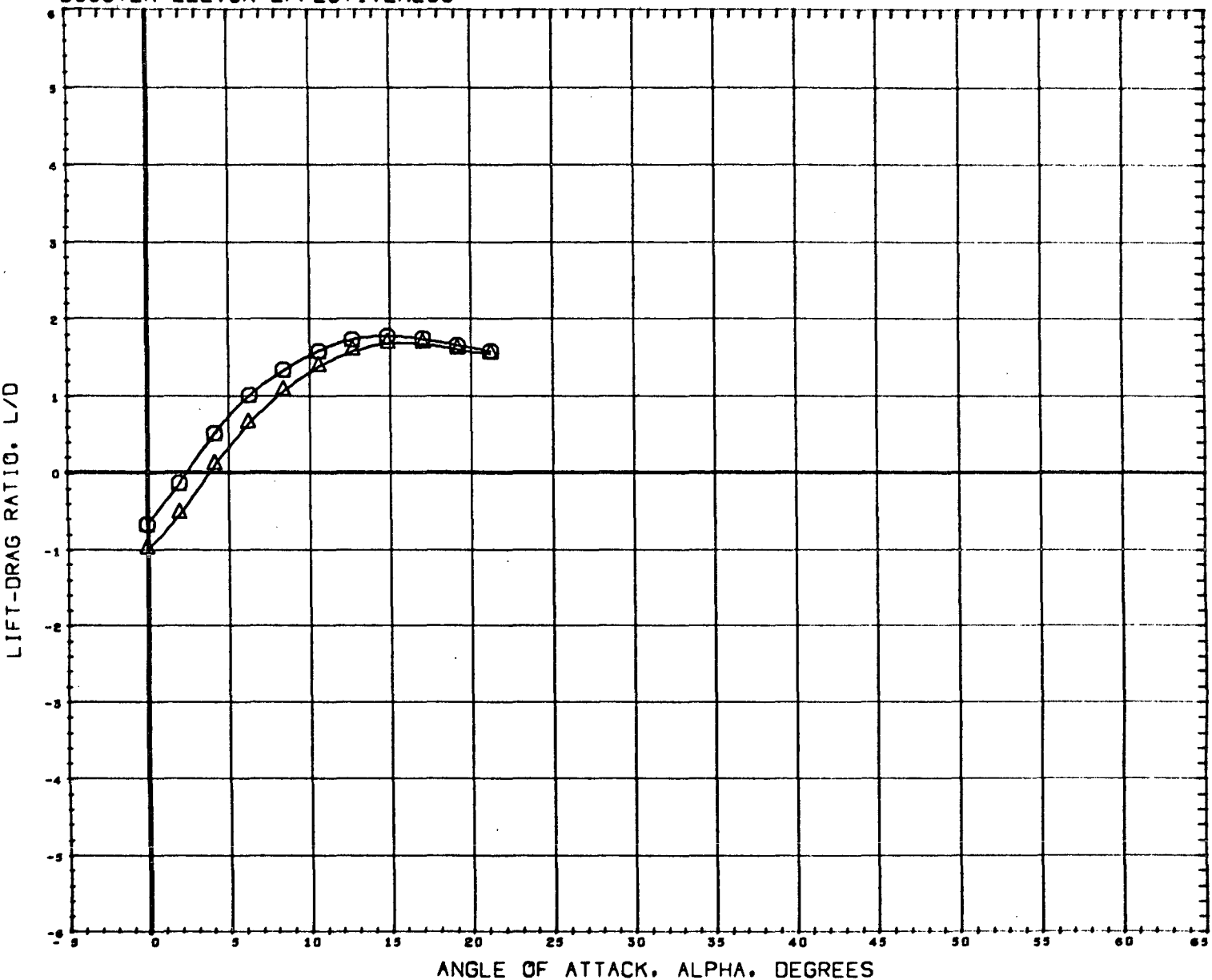
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMPP	4.6400	INCH
YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

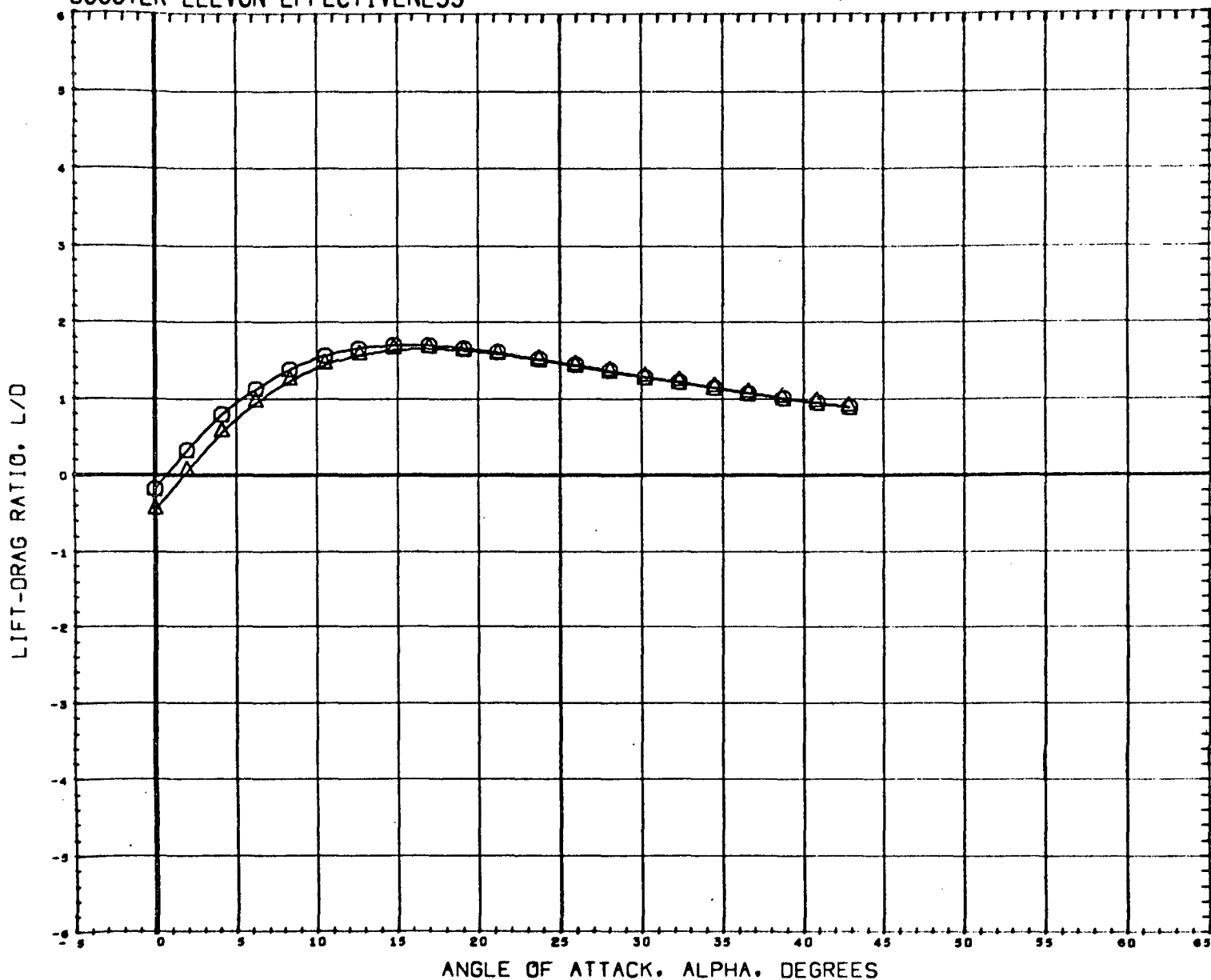
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C36086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C36040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

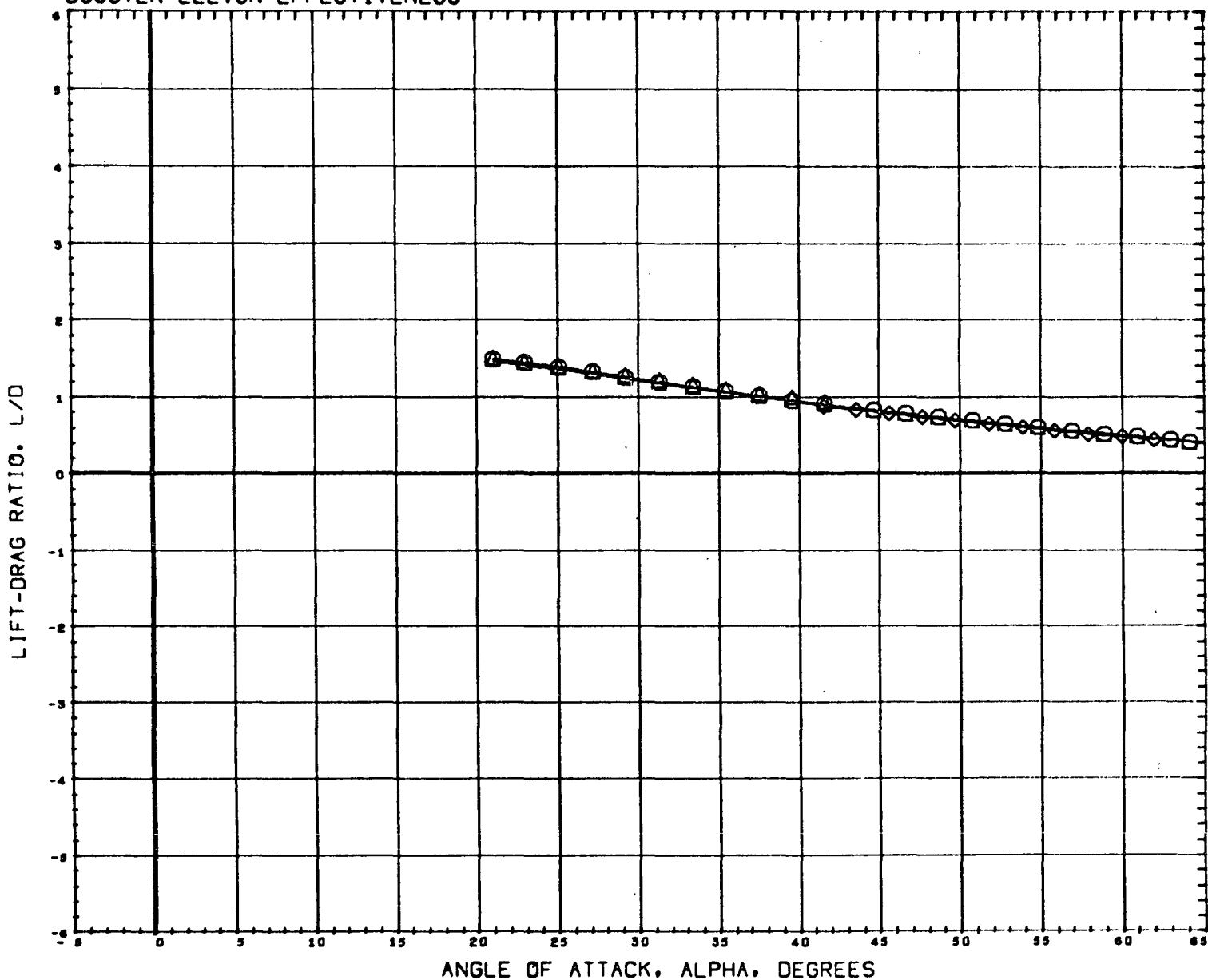
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

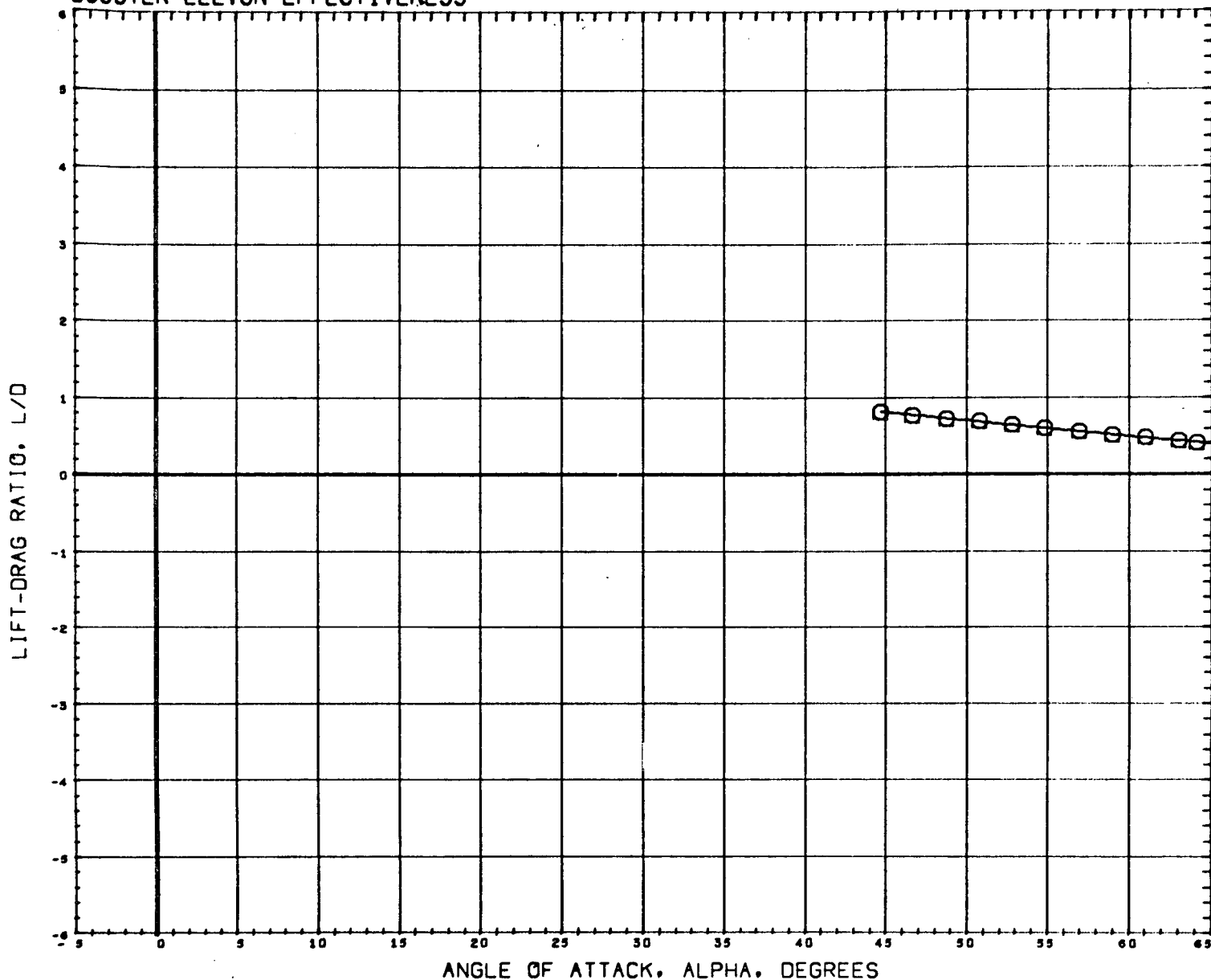
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRF	4.6400 INCH
YMRF	0.0000 INCH
ZMRF	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C98055) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C98056) DATA NOT AVAILABLE FOR ALL CONDITIONS
 (C98040) DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

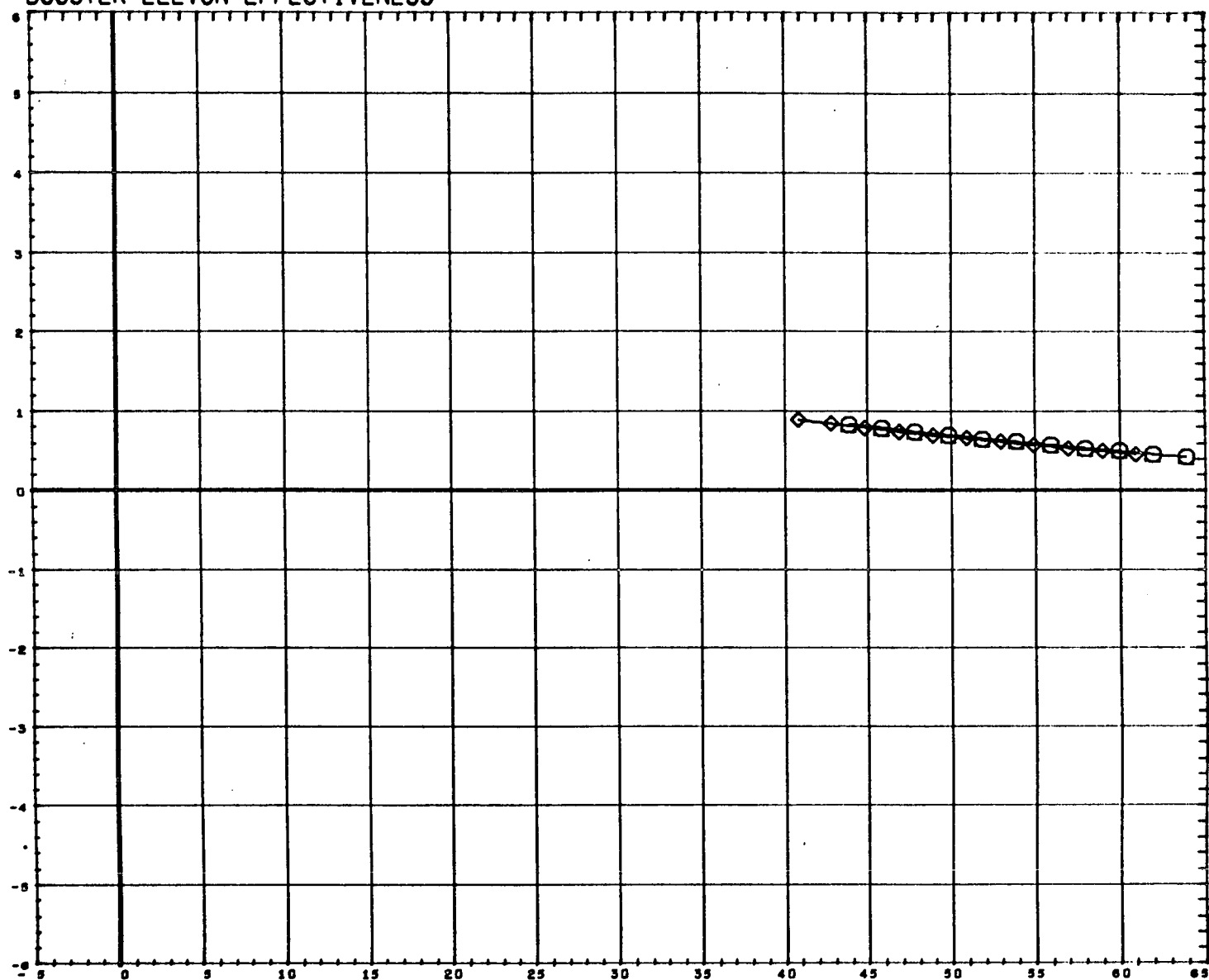
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	9.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER ELEVON EFFECTIVENESS

LIFT-DRAG RATIO, L/D



ANGLE OF ATTACK, ALPHA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C96085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96086)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C96040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

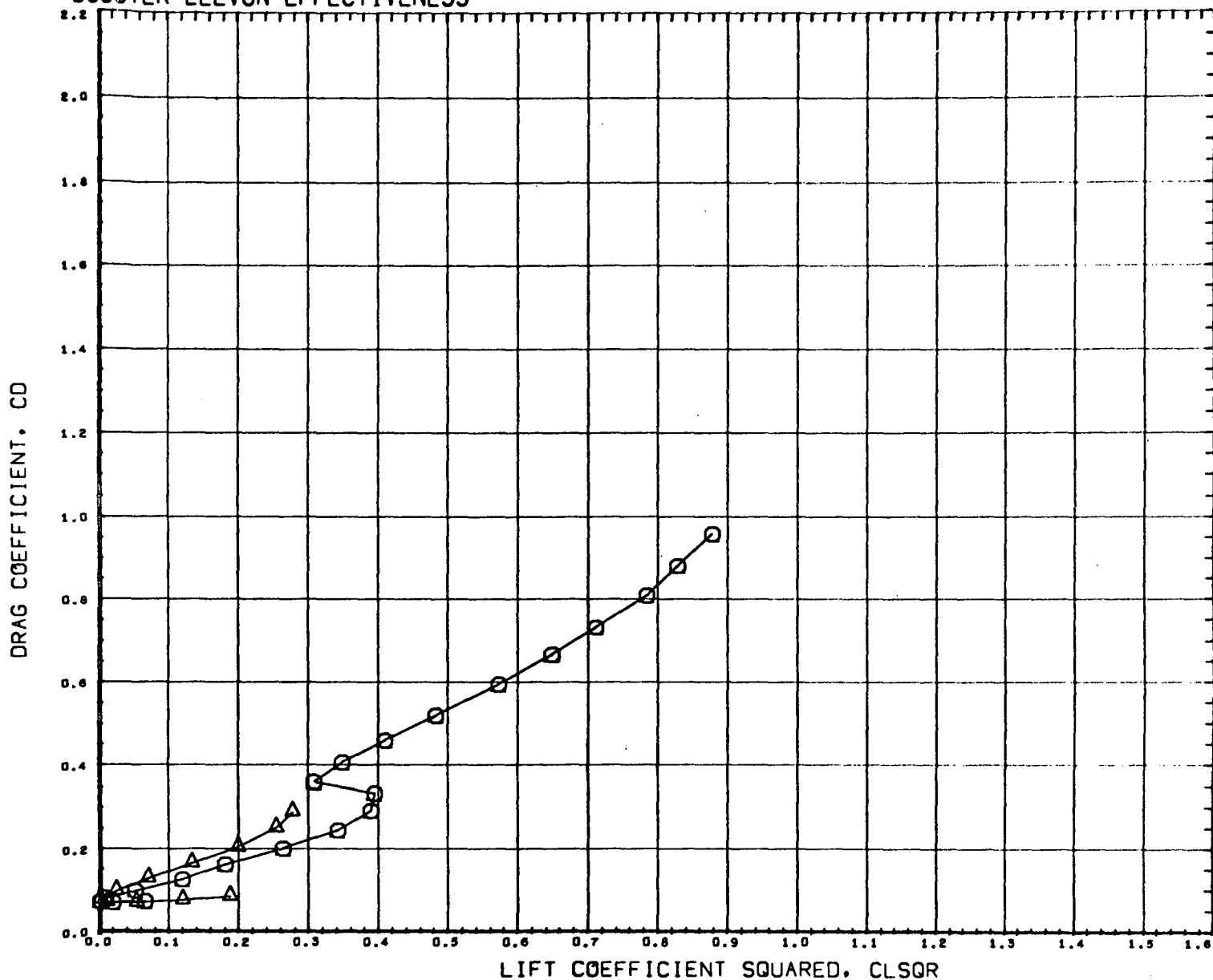
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS



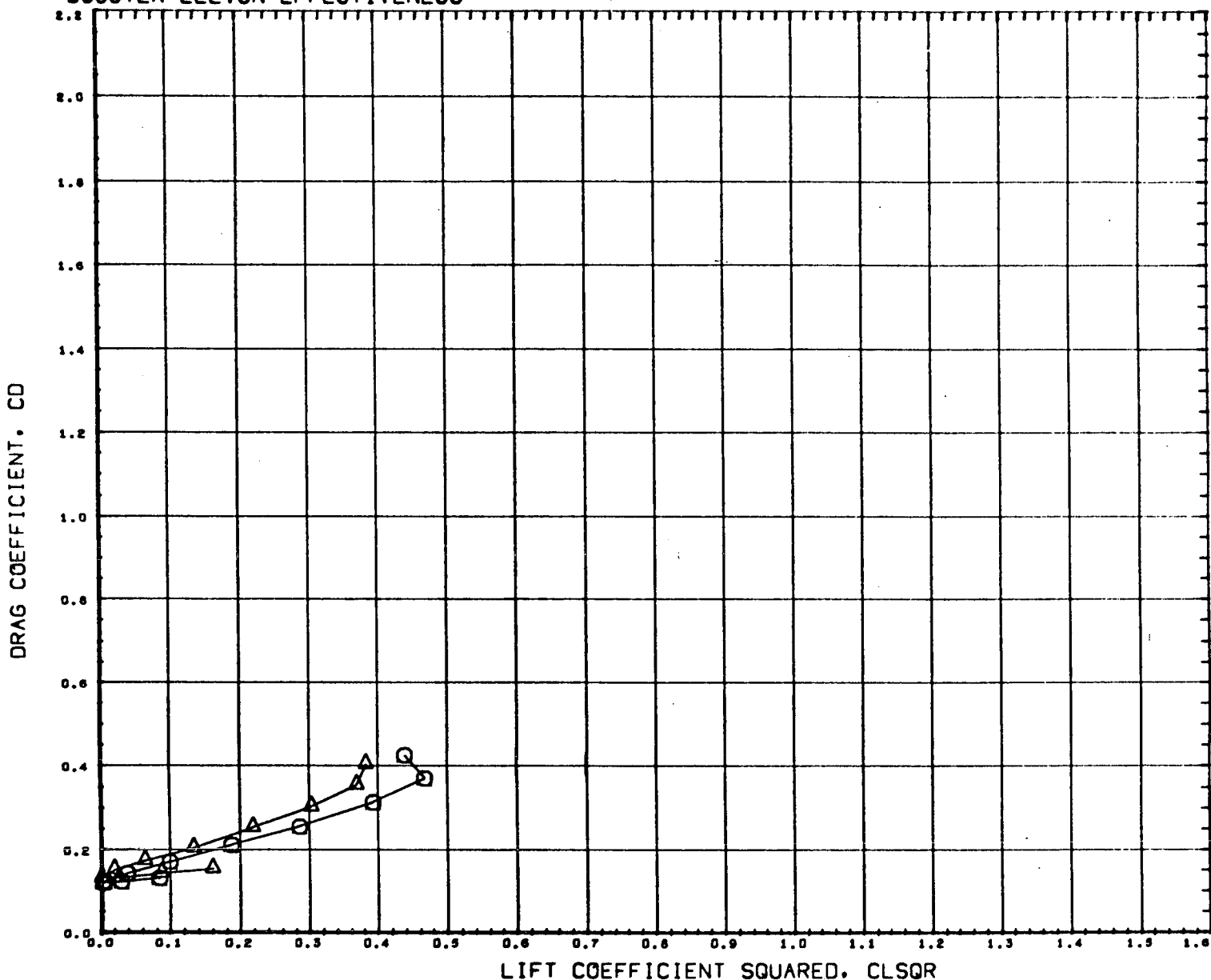
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(C56035)	○	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56036)	△	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C56043)	◇	DATA NOT AVAILABLE FOR ALL CONDITIONS

BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	50. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C56055) $\circ$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56056) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56049) $\diamond$ DATA NOT AVAILABLE FOR ALL CONDITIONS

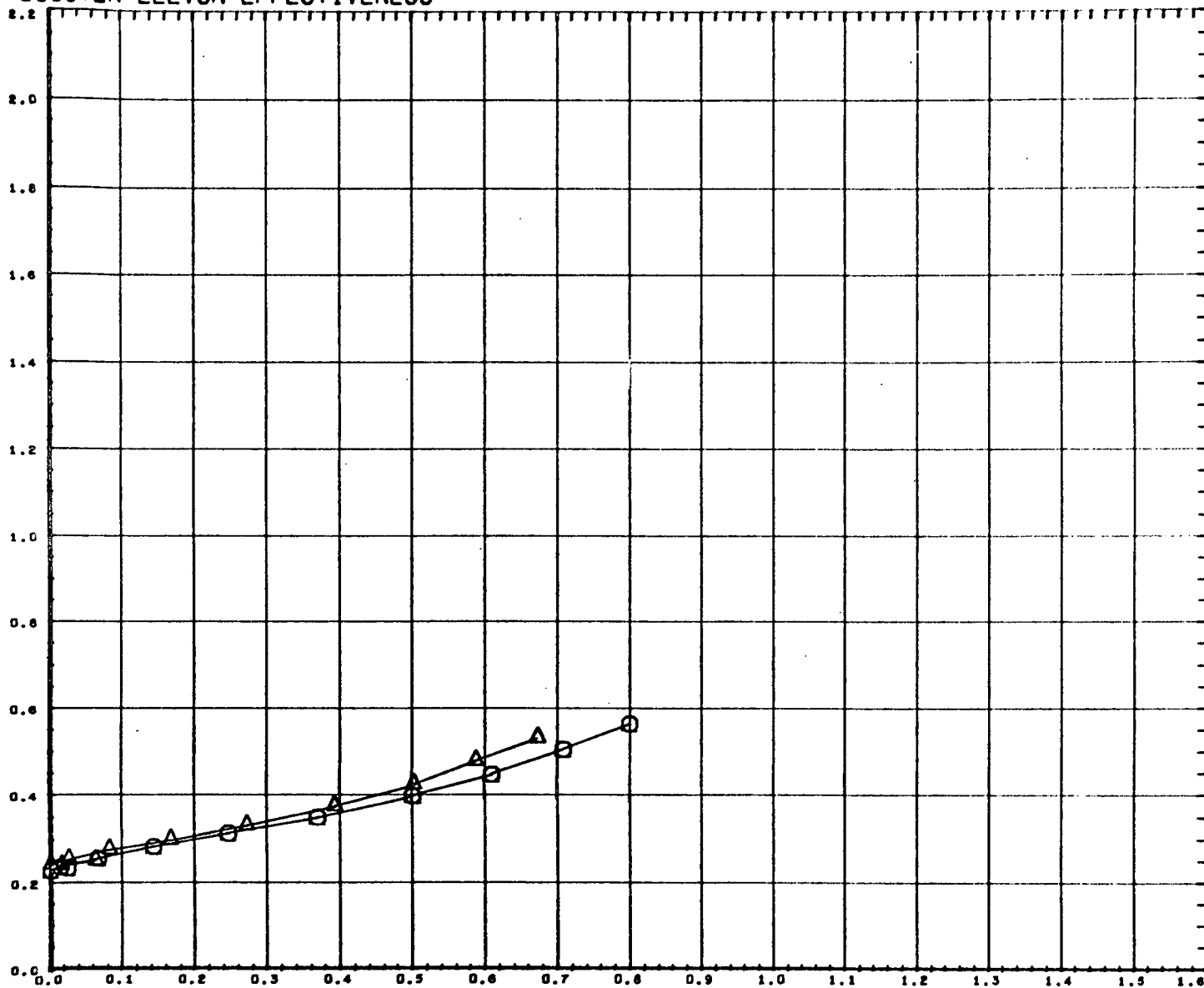
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

BOOSTER ELEVON EFFECTIVENESS

DRAG COEFFICIENT, CD



LIFT COEFFICIENT SQUARED, CLSQ

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56056)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

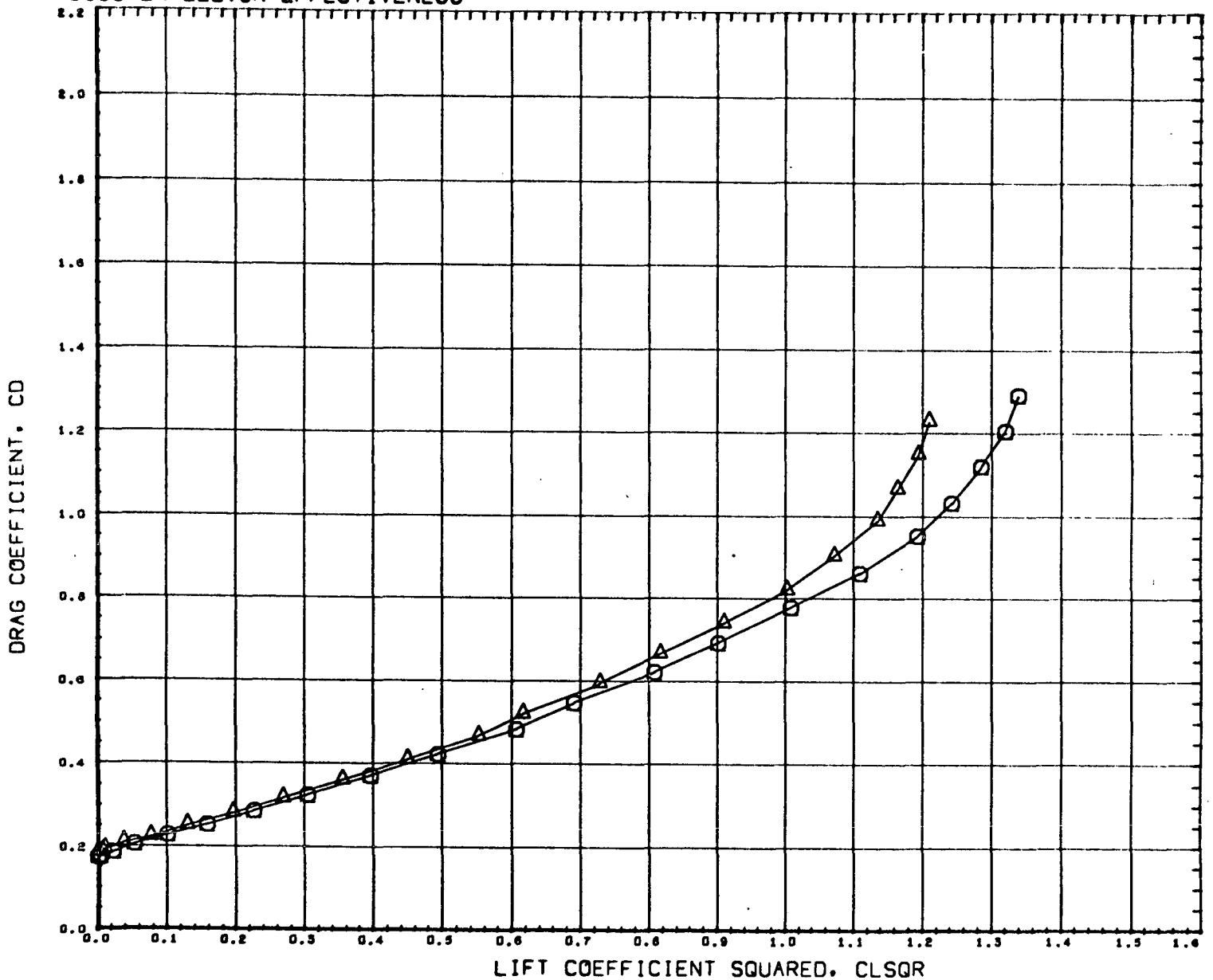
BETA	CANARD	ELEVON
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0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
(C96055)	△	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1
(C96056)	○	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1
(C96040)	◇	DATA NOT AVAILABLE FOR ALL CONDITIONS

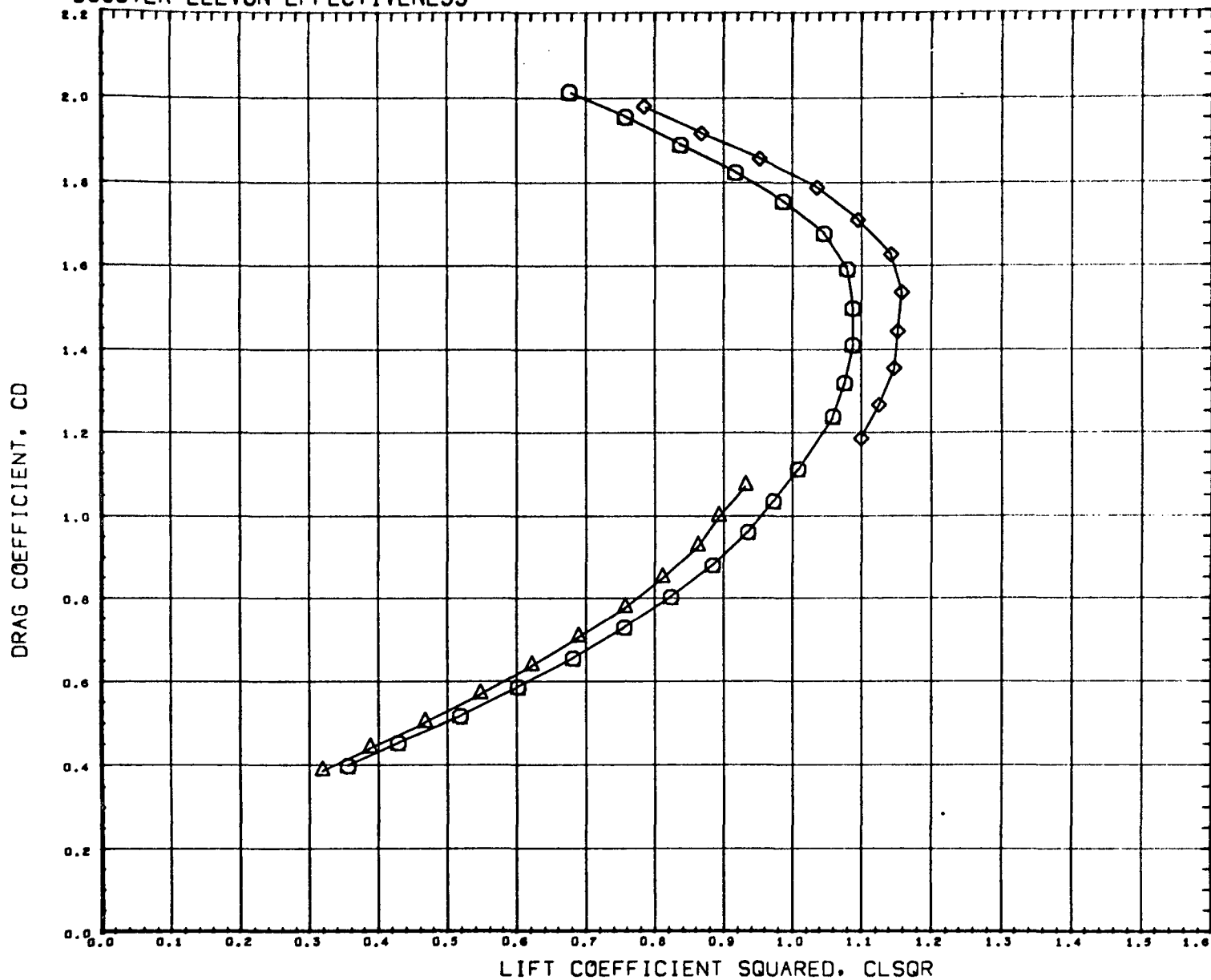
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XHRP	4.6400	INCH
YHRP	0.0000	INCH
ZHRP	0.6670	INCH
SCALE	0.0034	

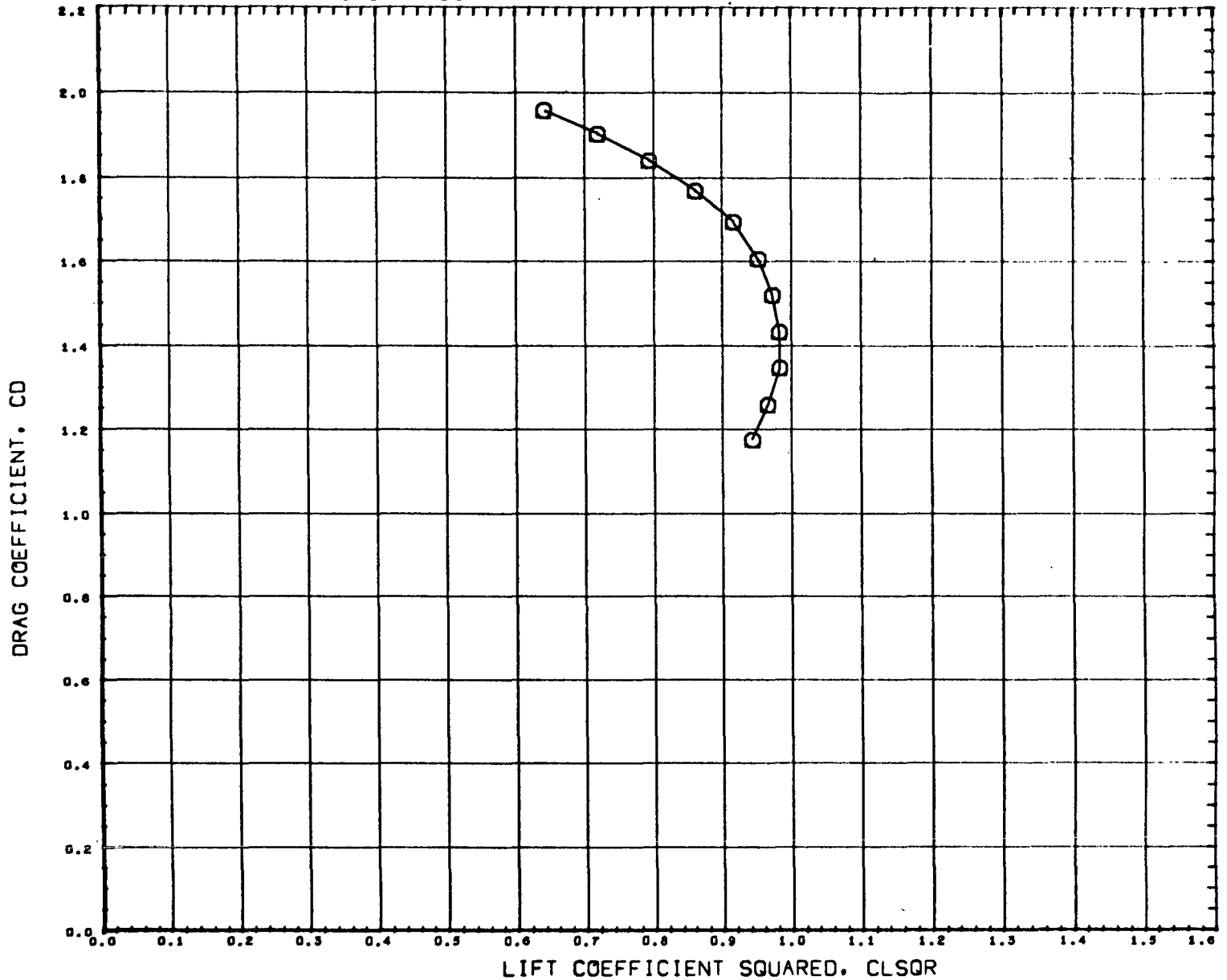
MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C36055) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C36056) DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36040) DATA NOT AVAILABLE FOR ALL CONDITIONS

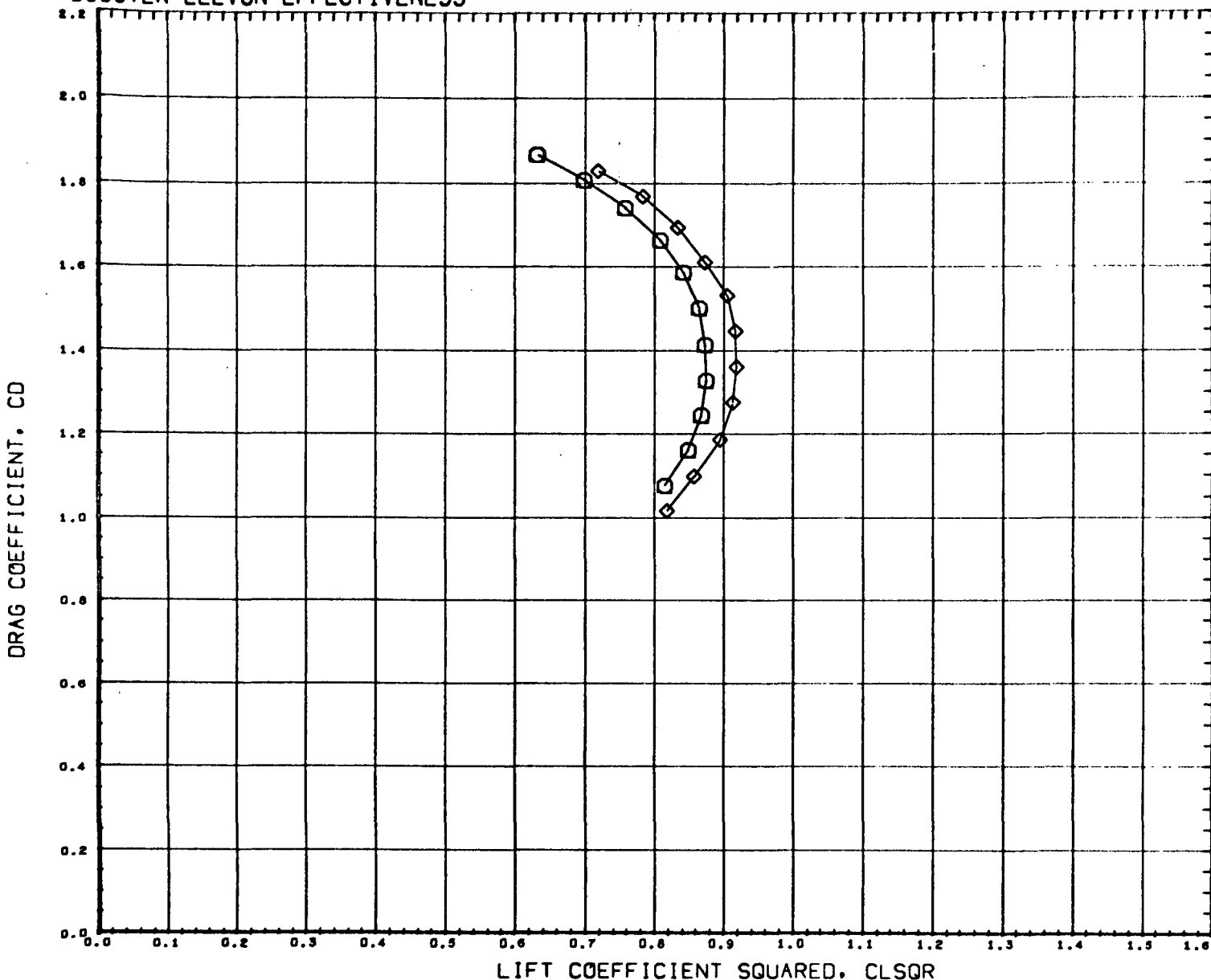
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 3.480

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36055)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C36056)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36049)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

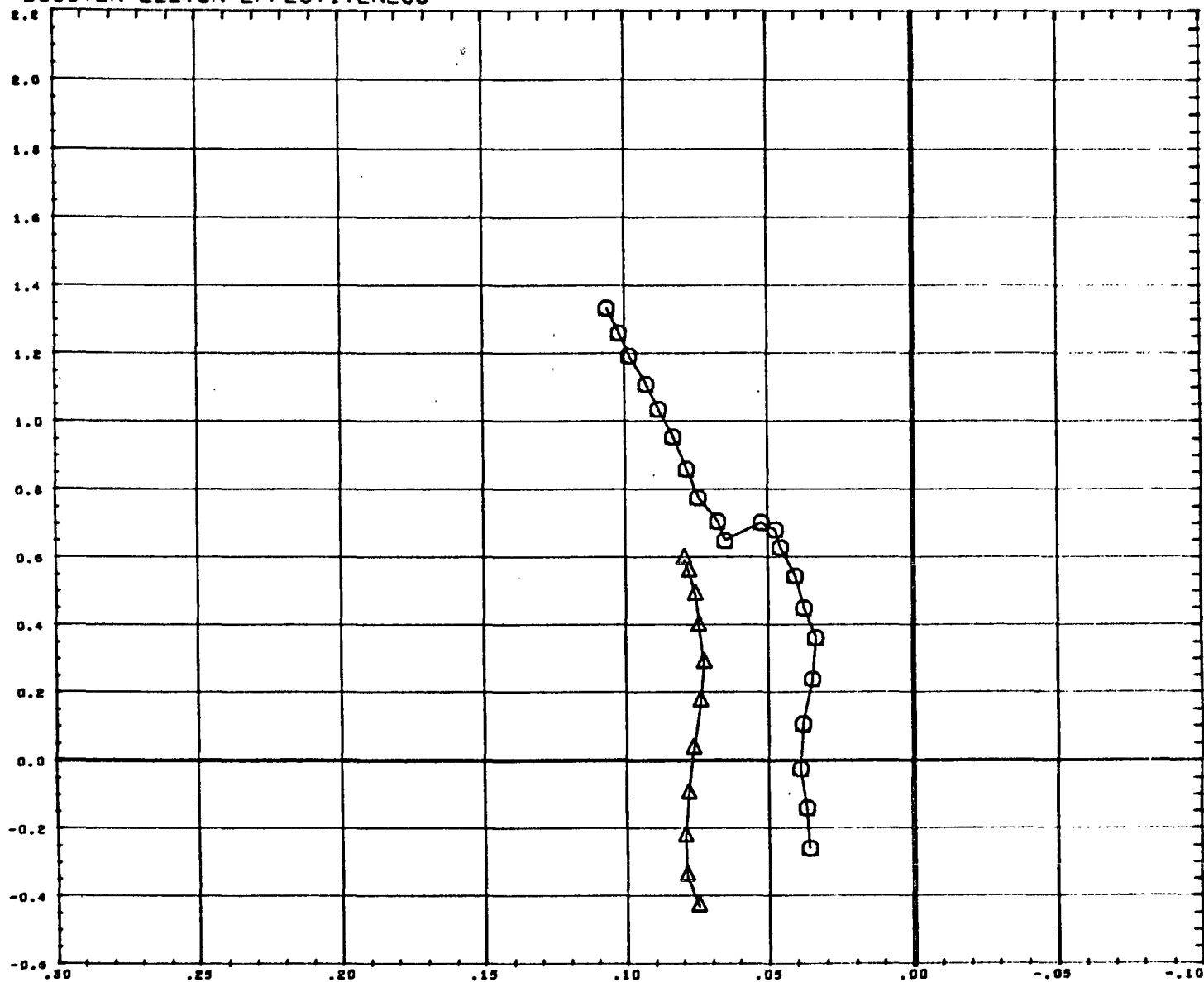
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMPP	4.6400	INCH
YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER ELEVON EFFECTIVENESS

NORMAL FORCE COEFFICIENT, CN



PITCHING MOMENT COEFFICIENT, CLM

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C96055) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C96056) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (C96046) DATA NOT AVAILABLE FOR ALL CONDITIONS

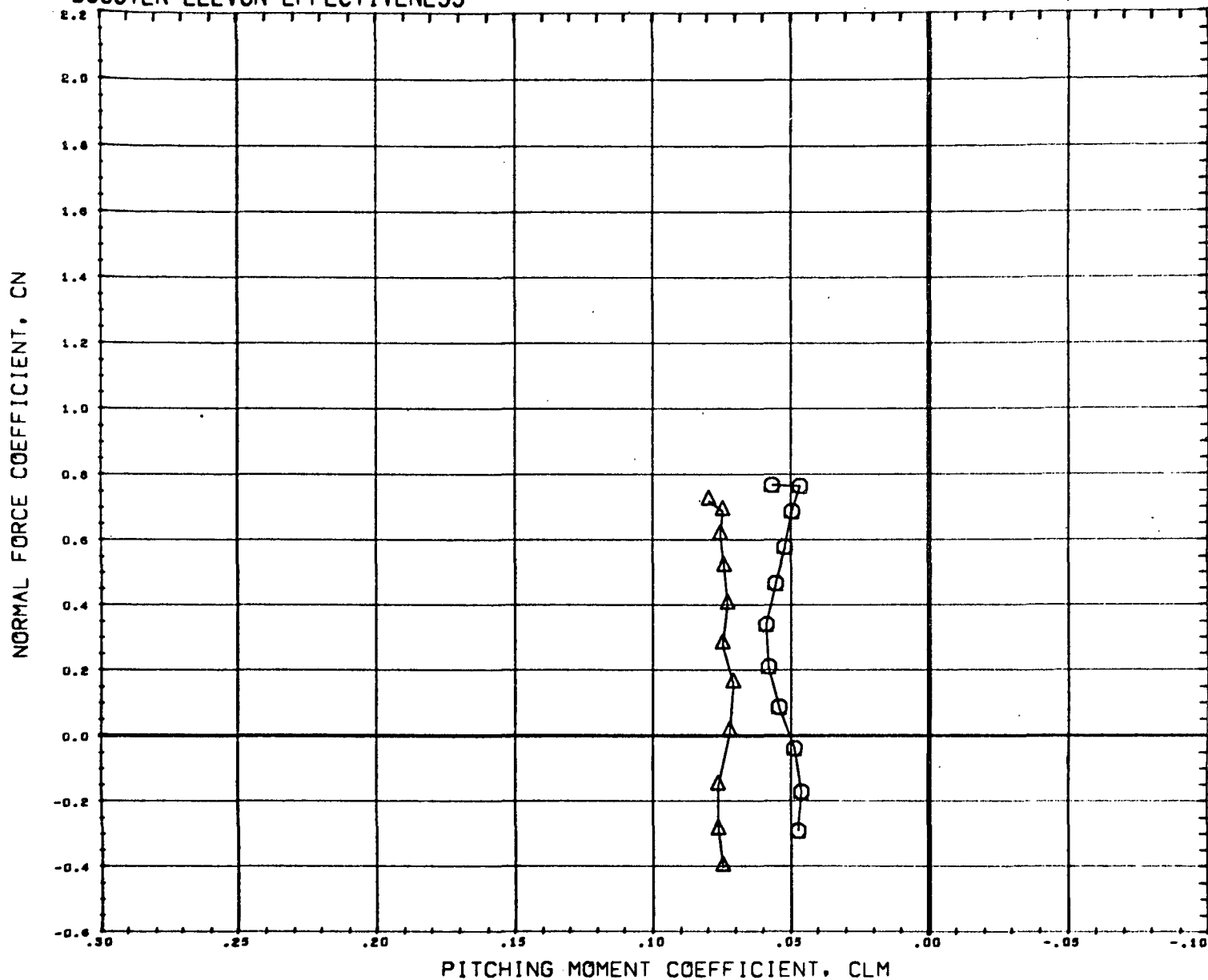
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.598

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

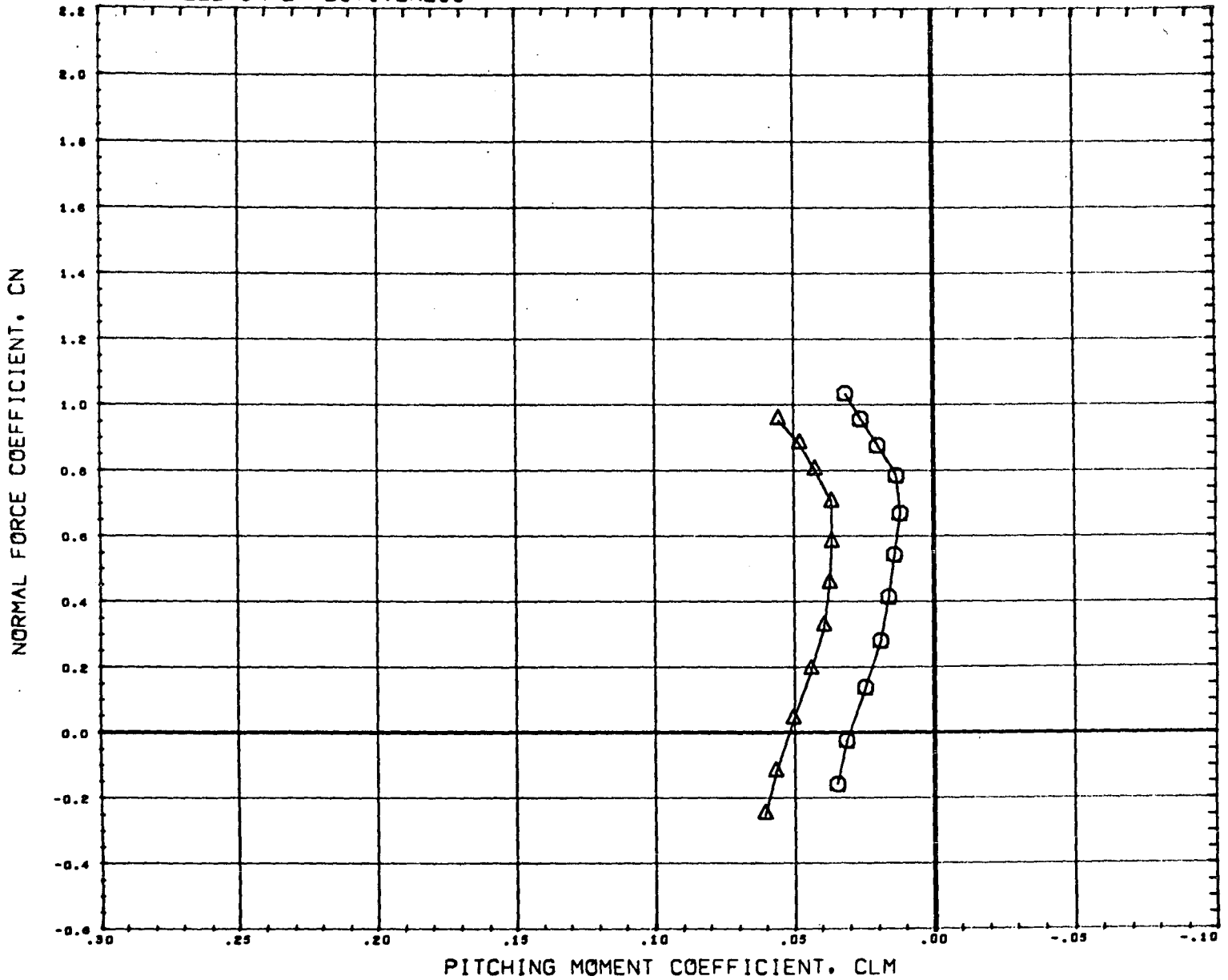
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.897

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C96035) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96036) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(C96040) DATA NOT AVAILABLE FOR ALL CONDITIONS

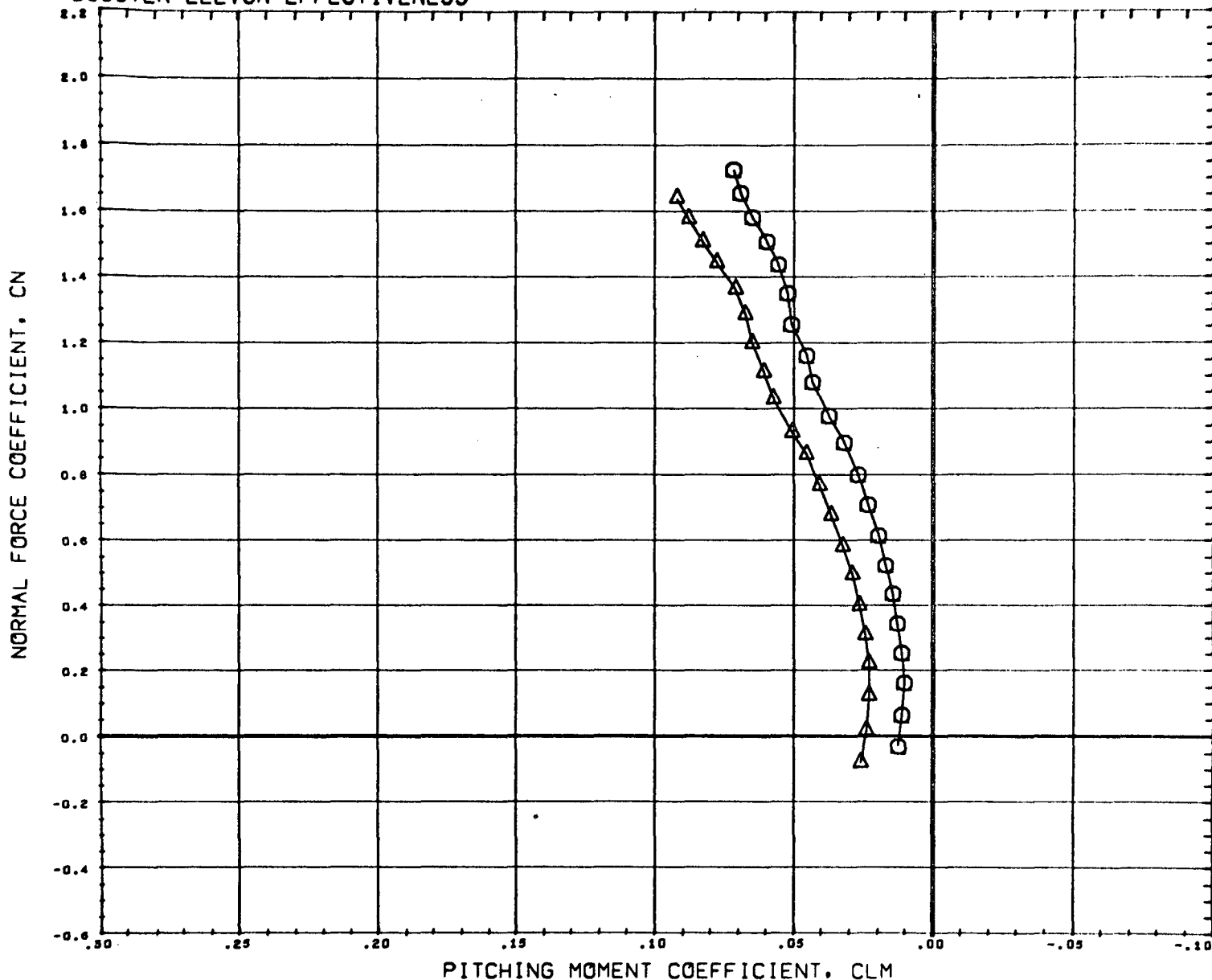
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.8670	INCH
SCALE	0.0034	

MACH 1.203

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C36055) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C36056) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (C36040) DATA NOT AVAILABLE FOR ALL CONDITIONS

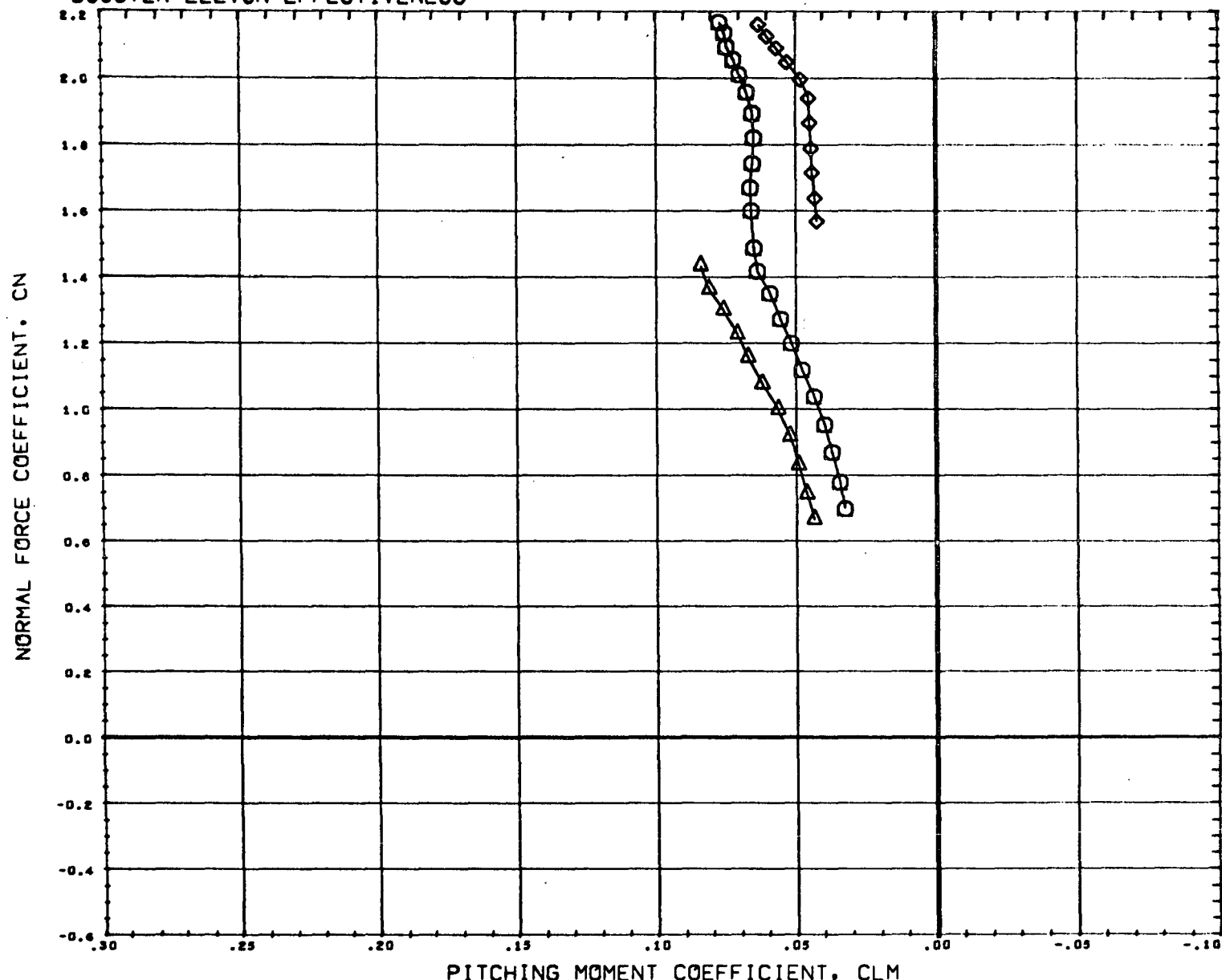
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.947

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C56089)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56086)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(C56040)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

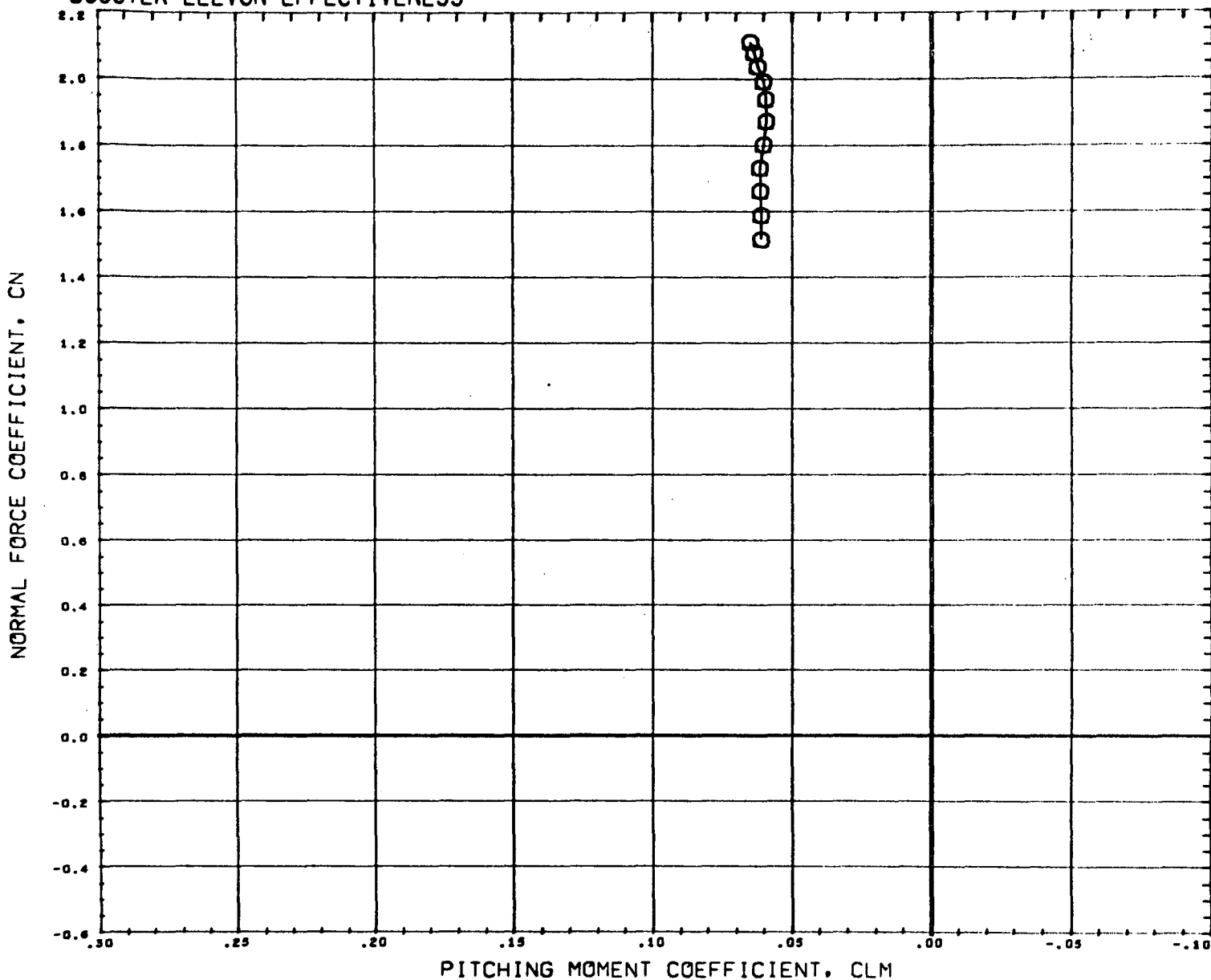
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(C36085)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BW1C1V1
(C36050)	DATA NOT AVAILABLE FOR ALL CONDITIONS
(C36040)	DATA NOT AVAILABLE FOR ALL CONDITIONS

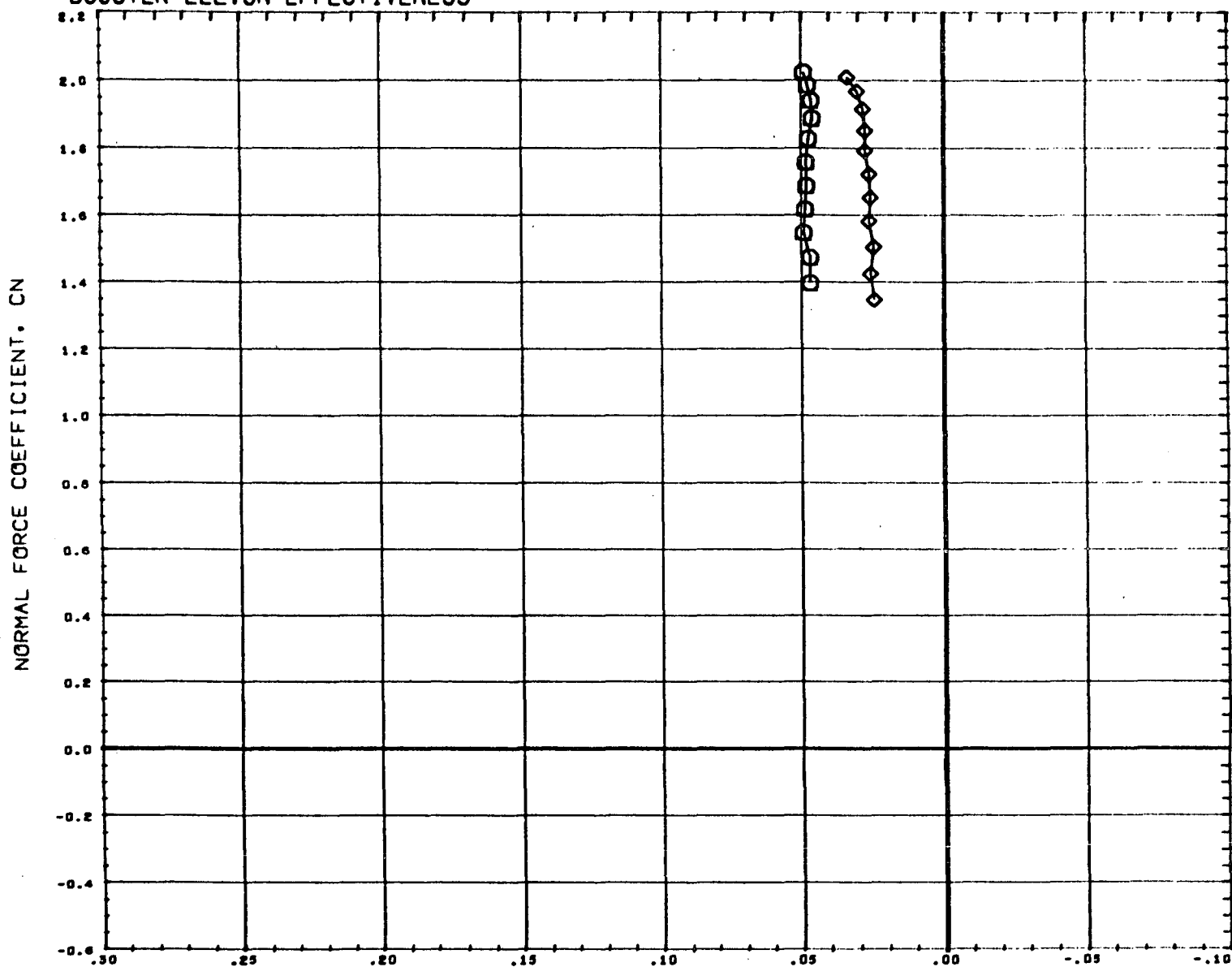
BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	9.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 5.480

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BOOSTER ELEVON EFFECTIVENESS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
(C96035) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(C96036) DATA NOT AVAILABLE FOR ALL CONDITIONS
(C96040) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

BETA	CANARD	ELEVON
0.000	0.000	0.000
0.000	0.000	-10.000
0.000	0.000	10.000

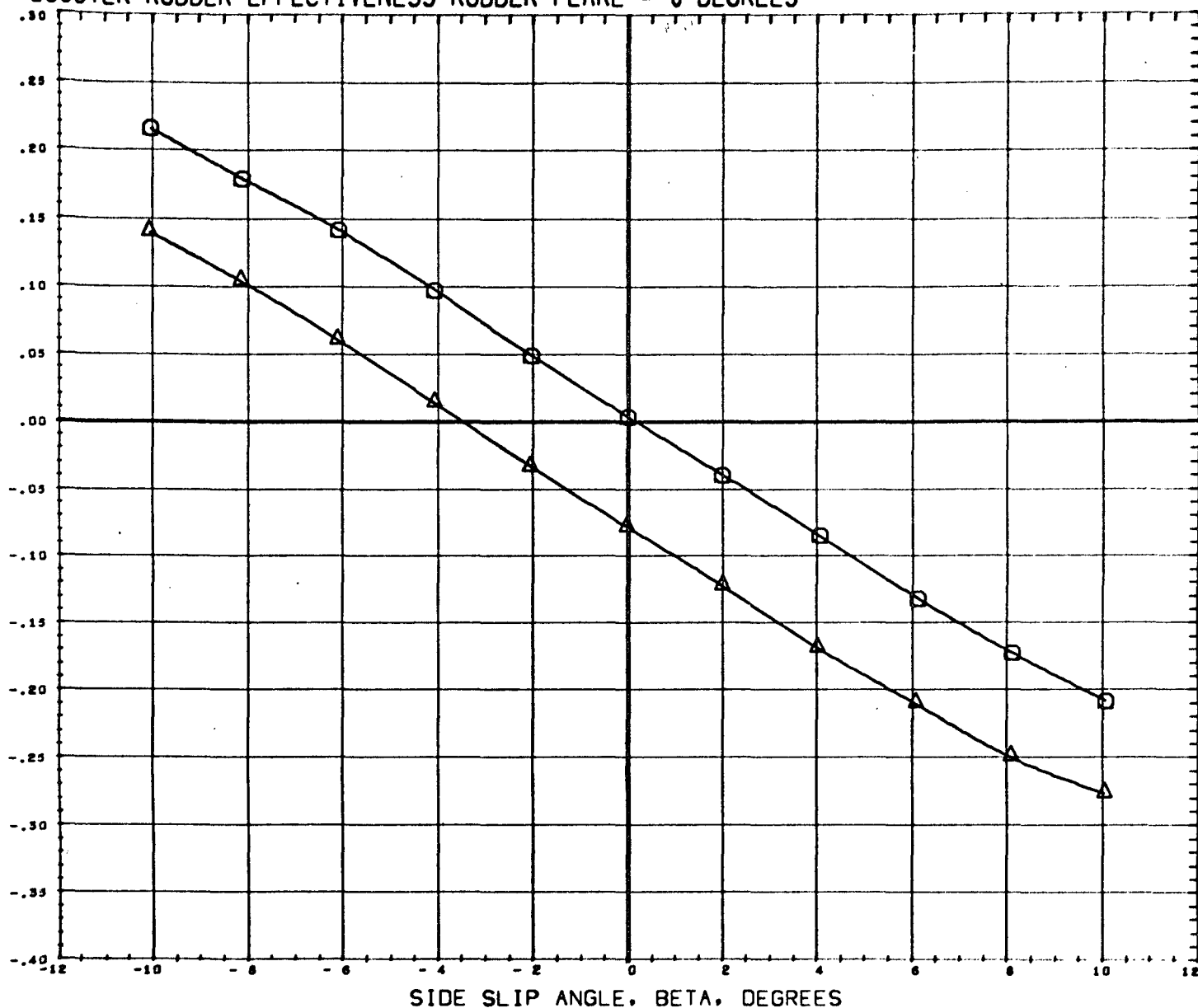
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

LATERAL FORCE COEFFICIENT, CY



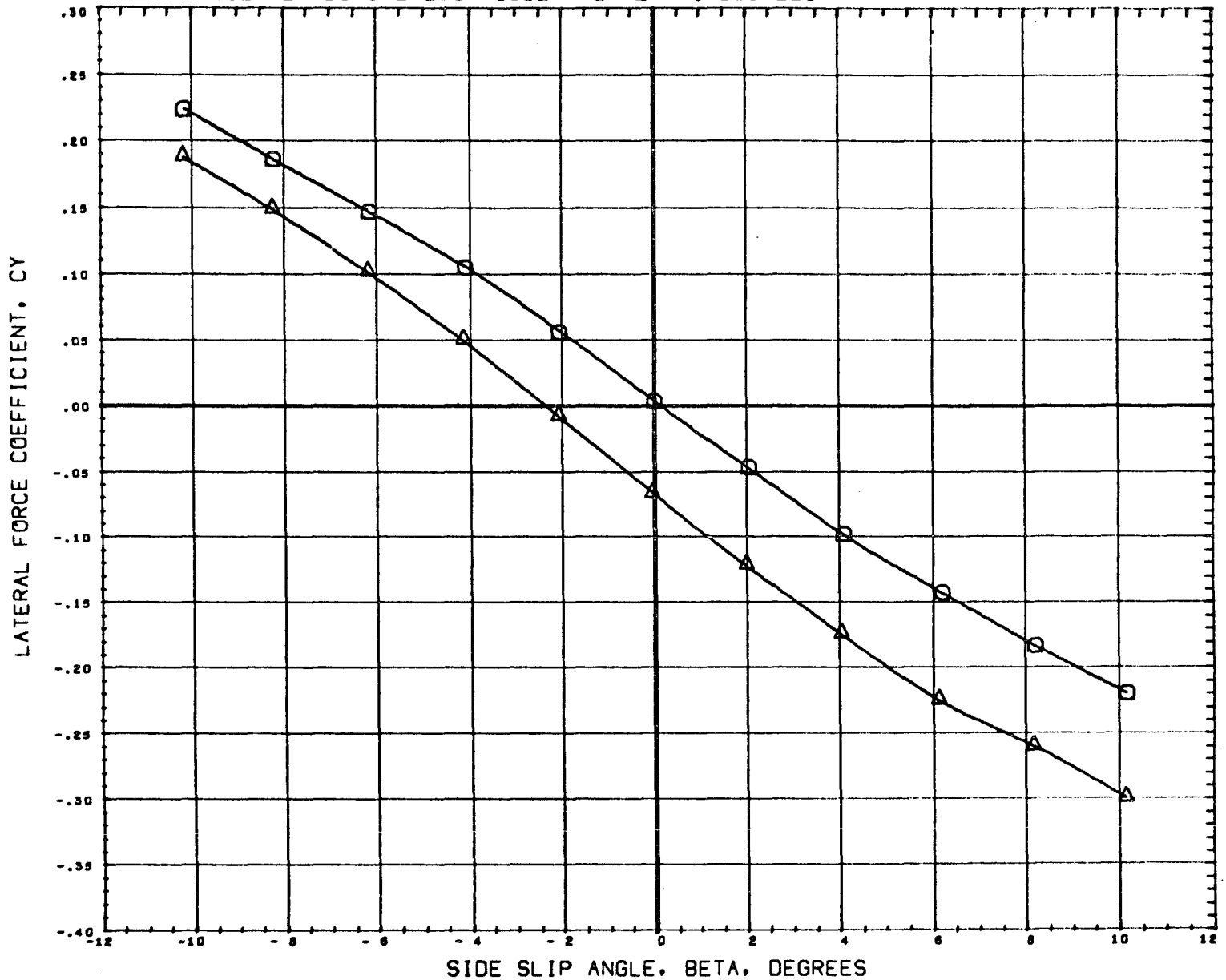
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A96024) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A96030) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMPP	4.6400 INCH
				YMPP	0.0000 INCH
				ZMPP	0.6670 INCH
				SCALE	0.0034

MACH 0.595

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56024) Q MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (A56030) A MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

ALPHA	RUDR-L	RUDR-R	ELEVON
0.000	0.000	0.000	0.000
0.000	-20.000	-20.000	0.000

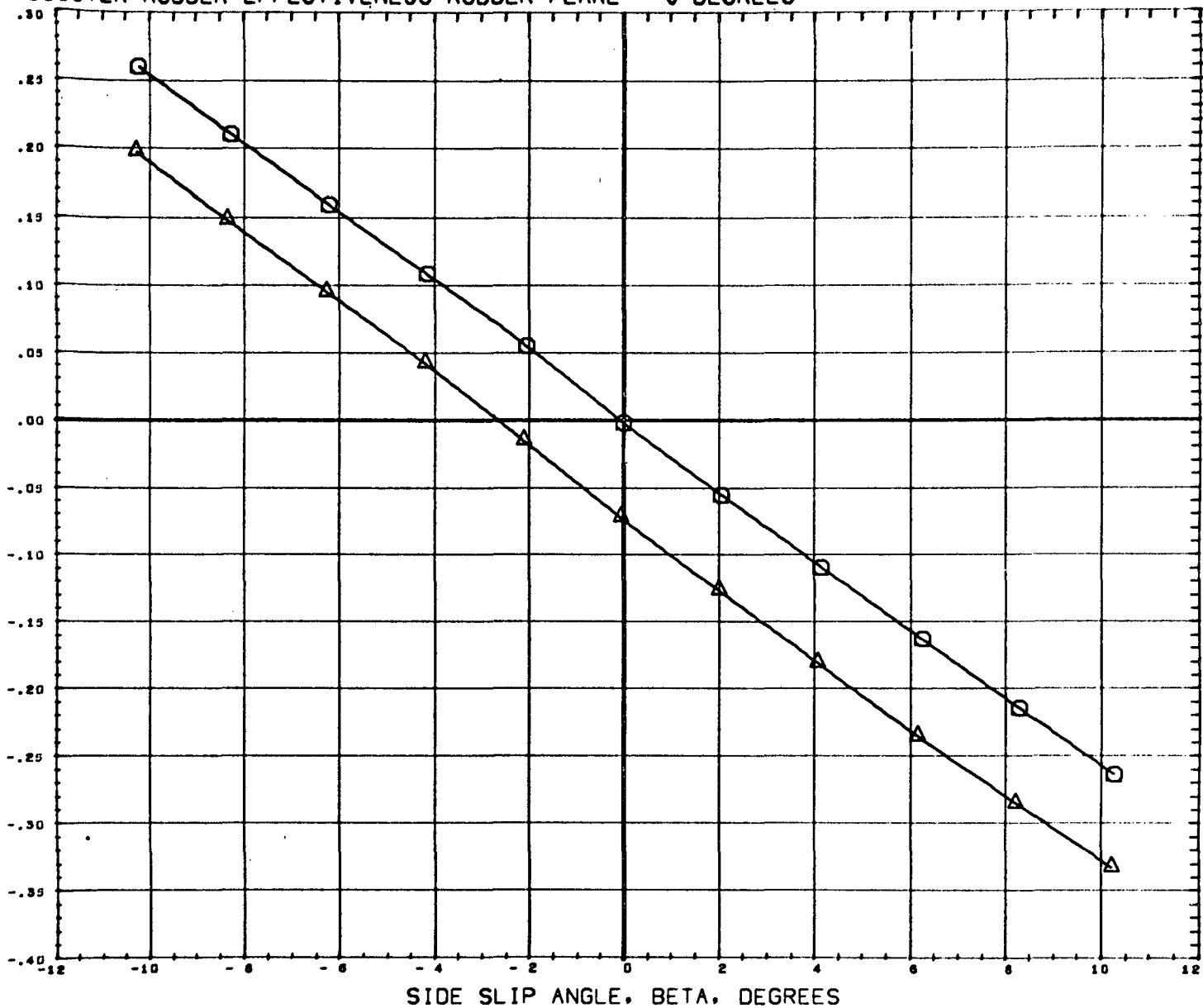
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.907

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

LATERAL FORCE COEFFICIENT, CY

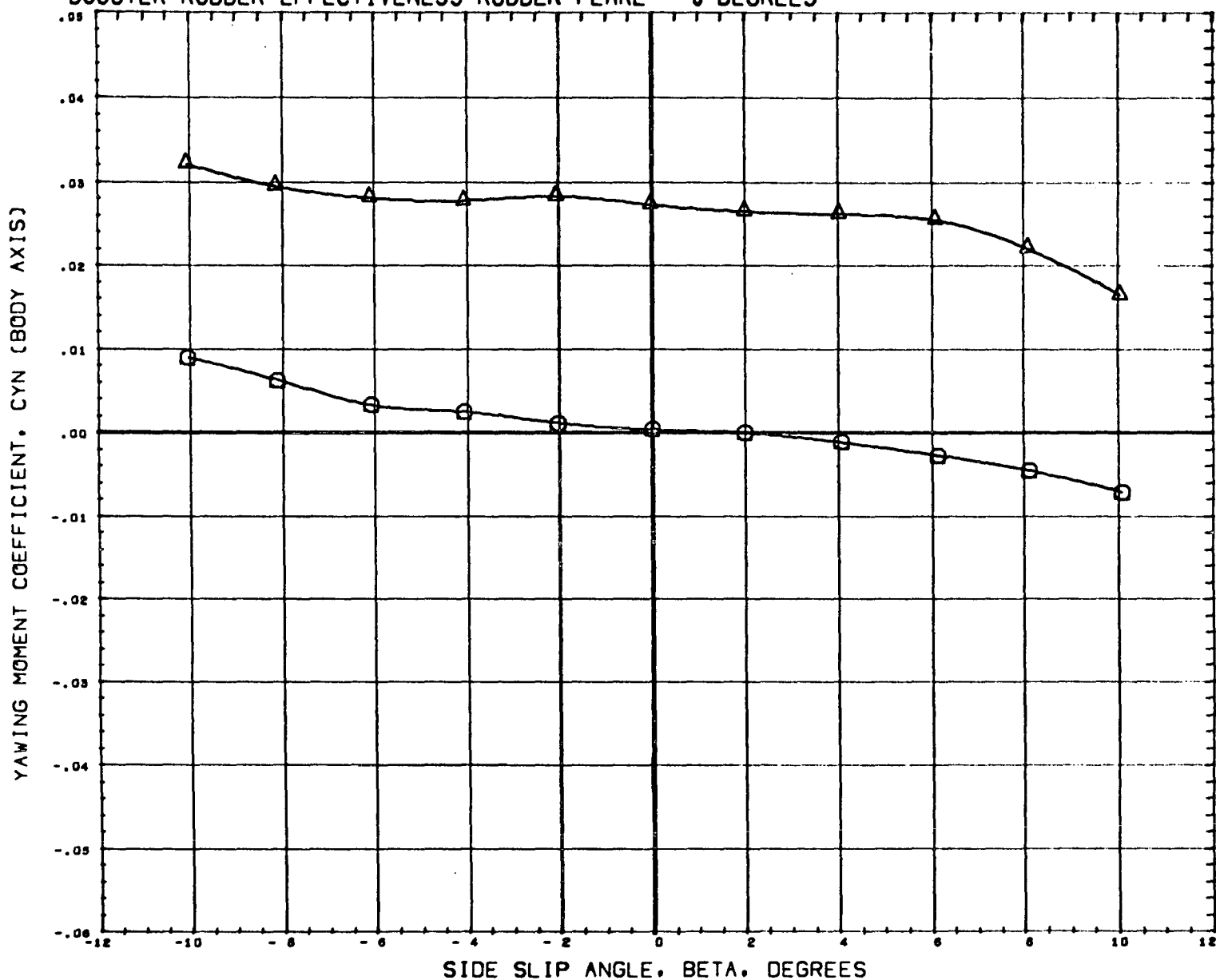


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1	0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56030)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1	0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.199

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56024)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56030)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
0.000	0.000	0.000	0.000
0.000	-20.000	-20.000	0.000

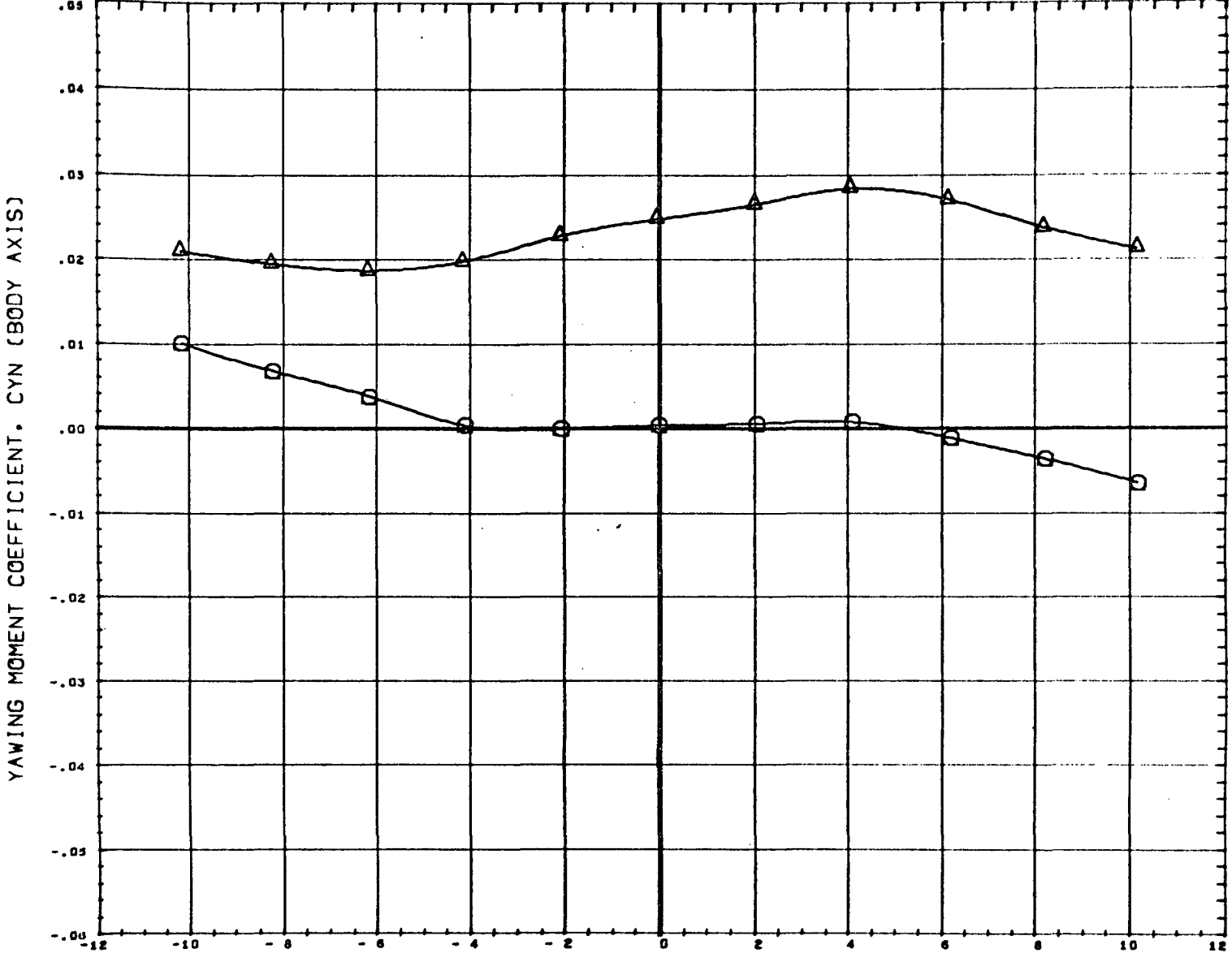
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.595

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6

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

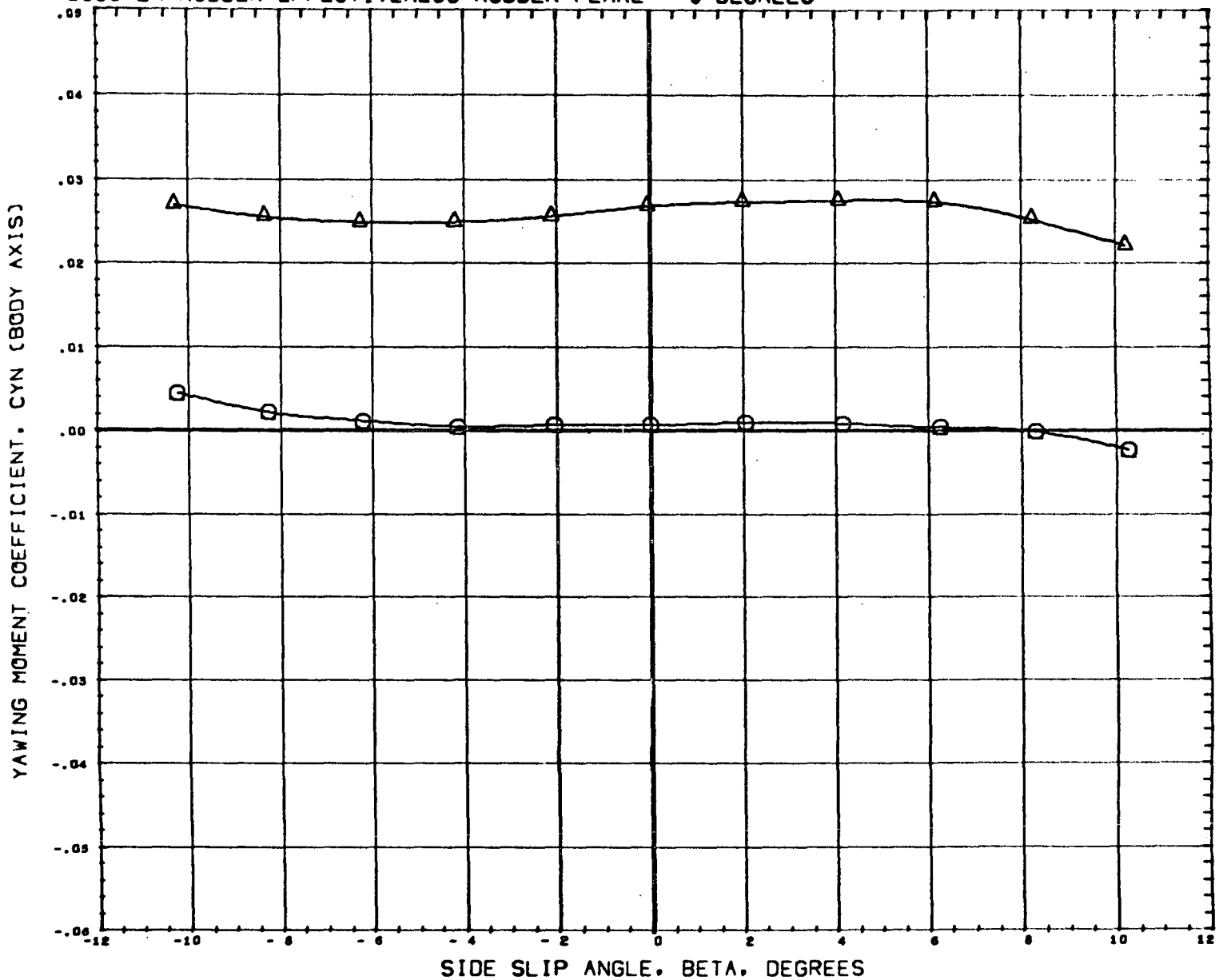


SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 0.907

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



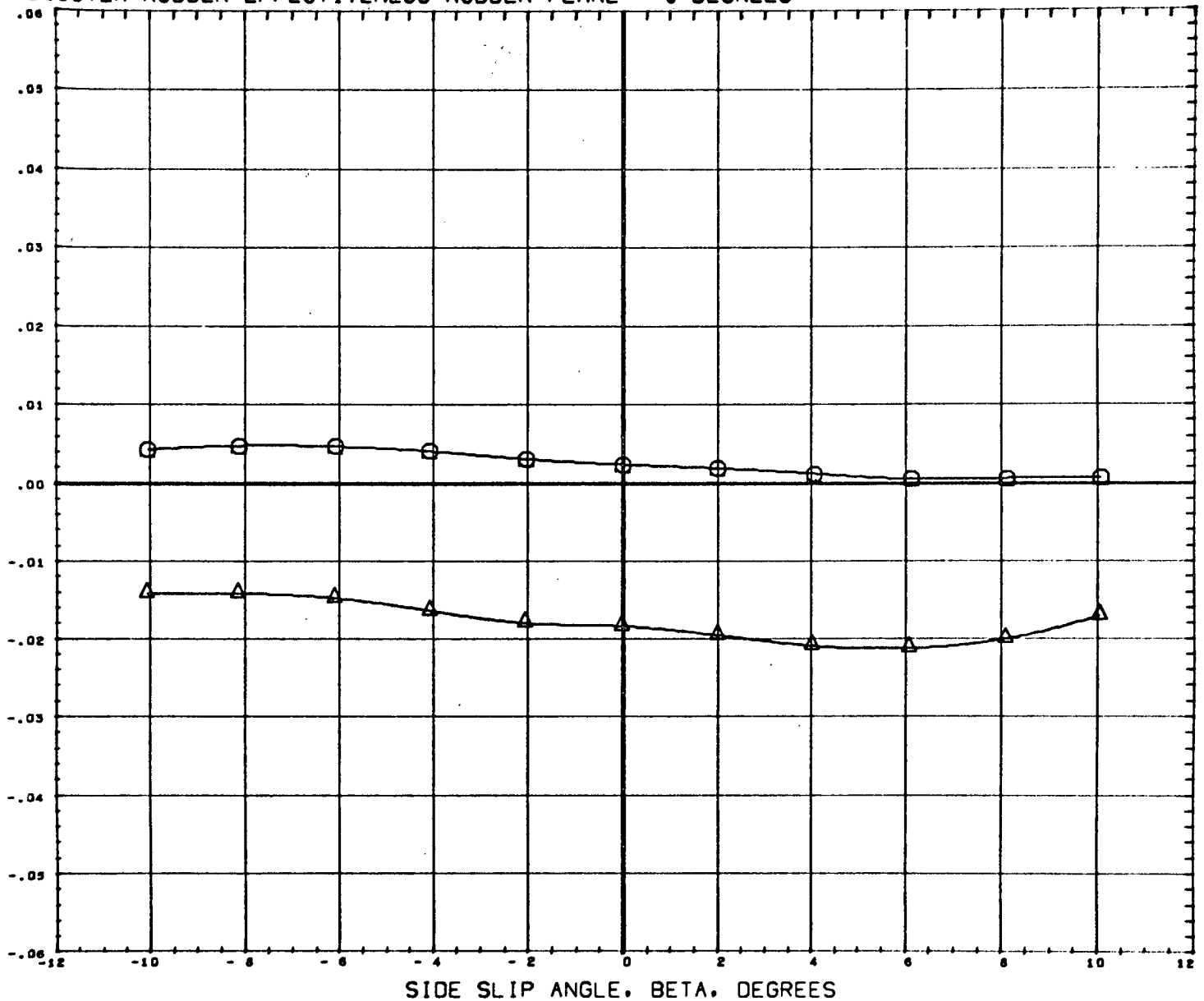
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56030)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.199

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56024)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56030)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

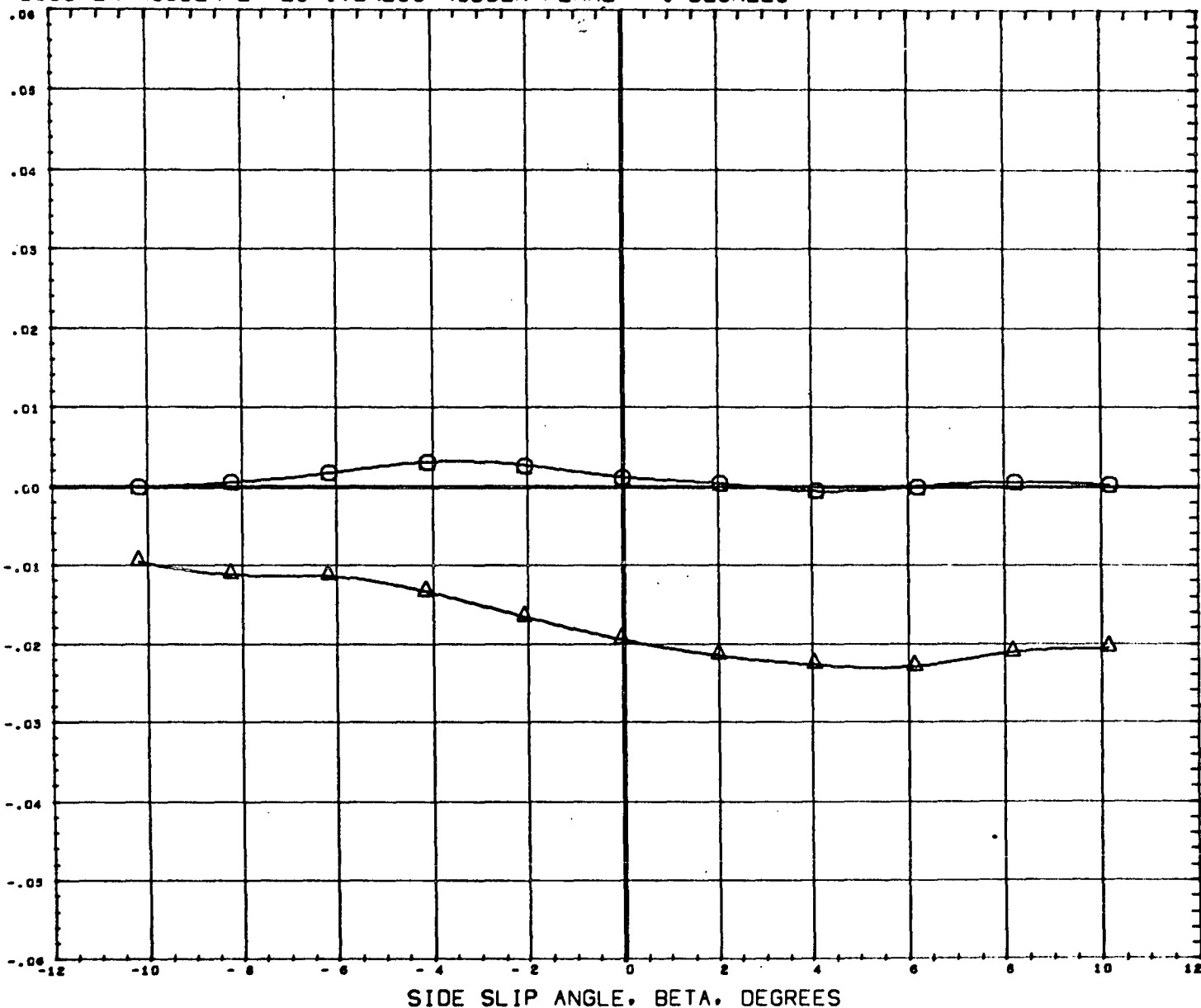
ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 0.995

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(A56030)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

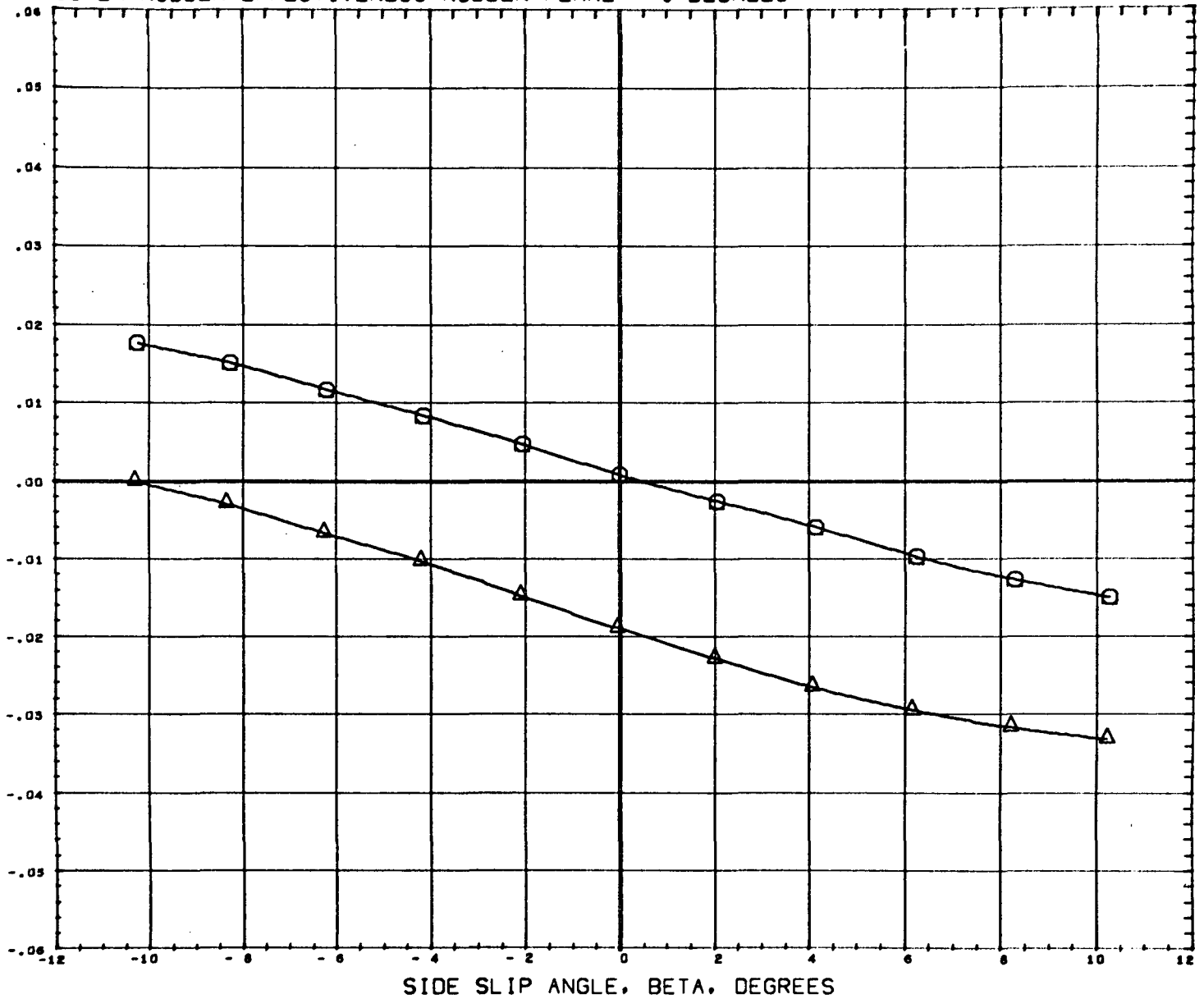
ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 0.907

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



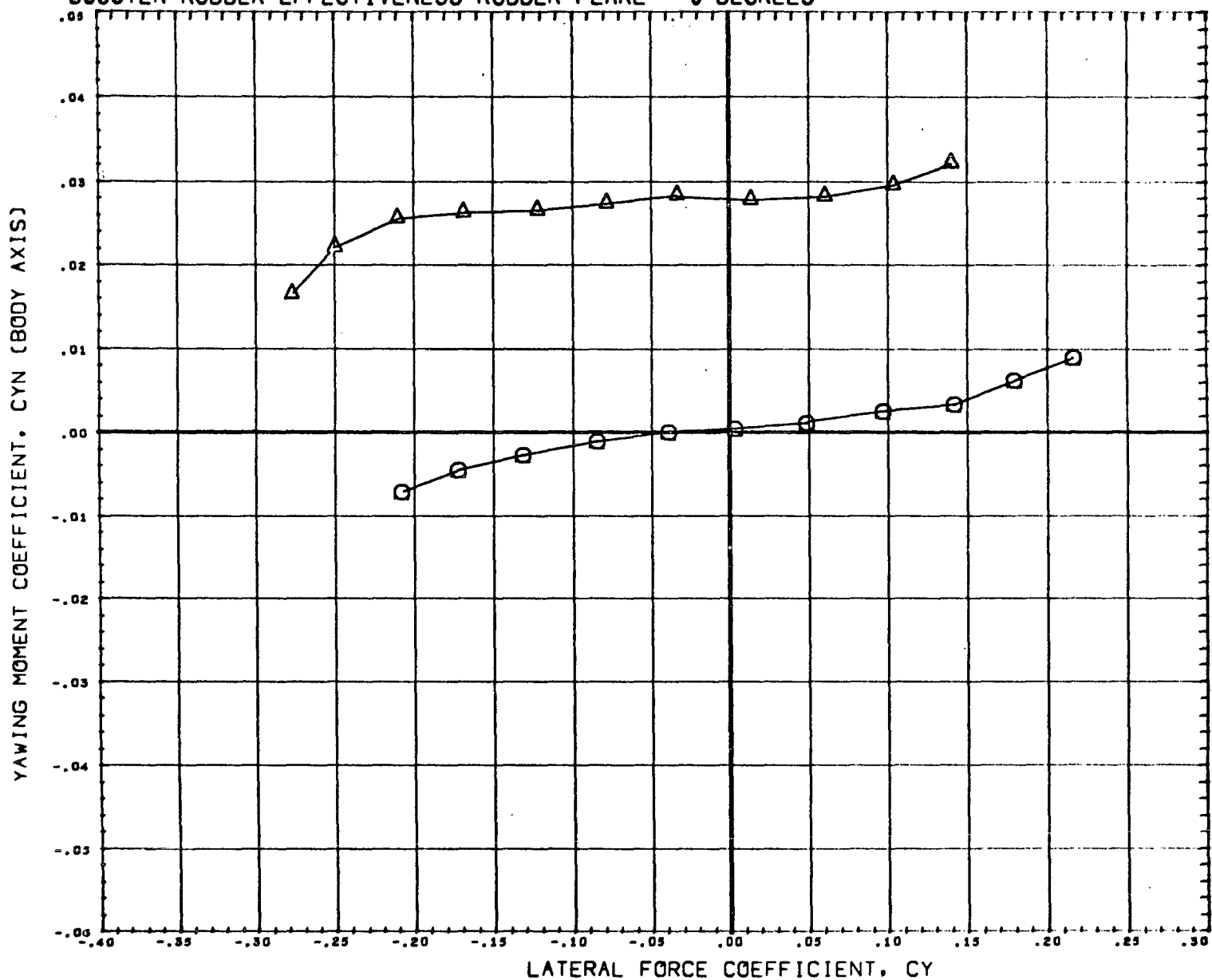
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56024) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56030) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
0.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
0.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 1.199

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56024) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (A56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

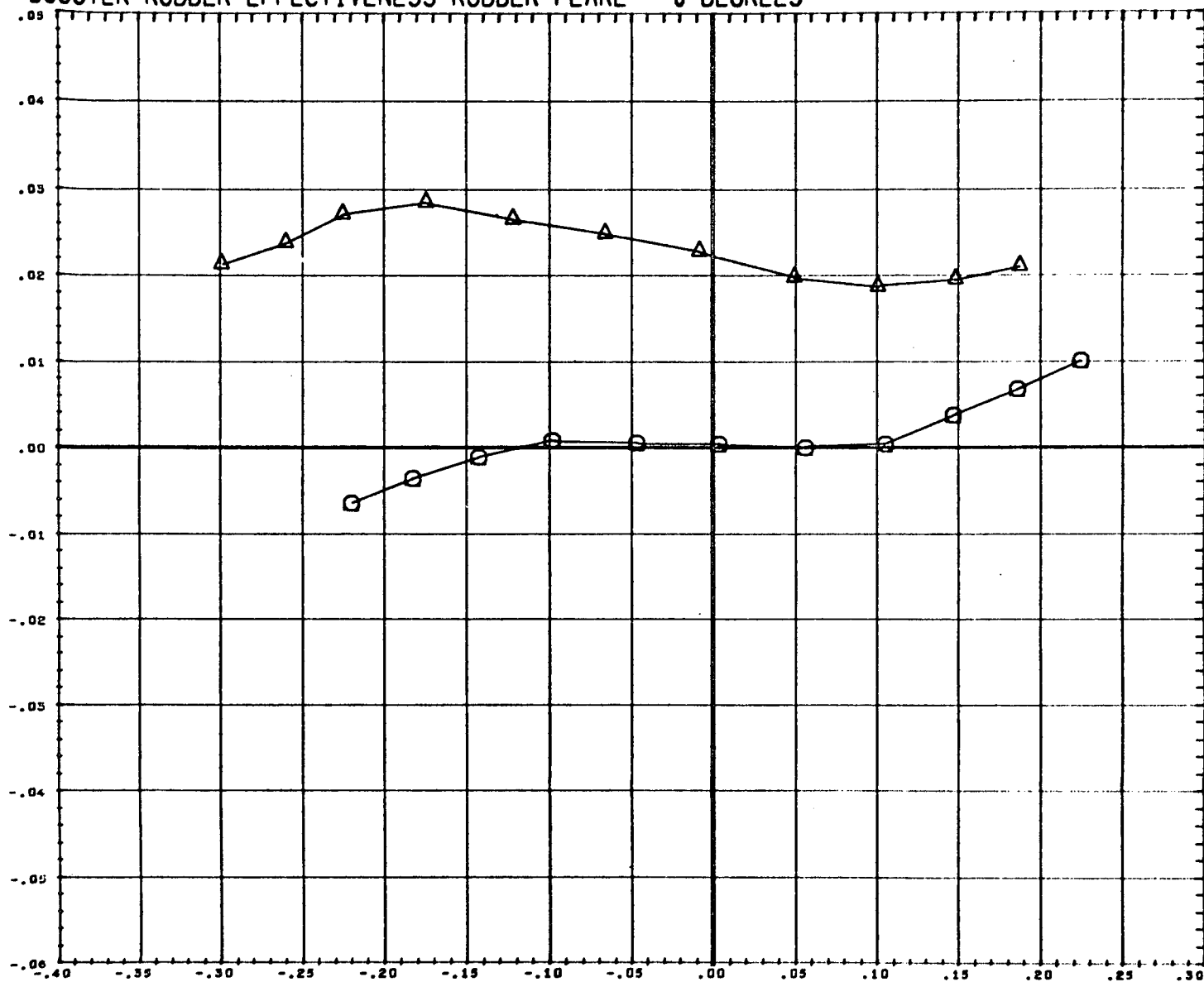
ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION
0.000	0.000	0.000	0.000	SREF 9.7800 SQ. IN
0.000	-20.000	-20.000	0.000	LREF 6.4400 INCH
				BREF 5.7300 INCH
				XMRP 4.6400 INCH
				YMRP 0.0000 INCH
				ZMRP 0.6670 INCH
				SCALE 0.0034

MACH 0.595

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



LATERAL FORCE COEFFICIENT, CY

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A96024) MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
 (A96030) MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

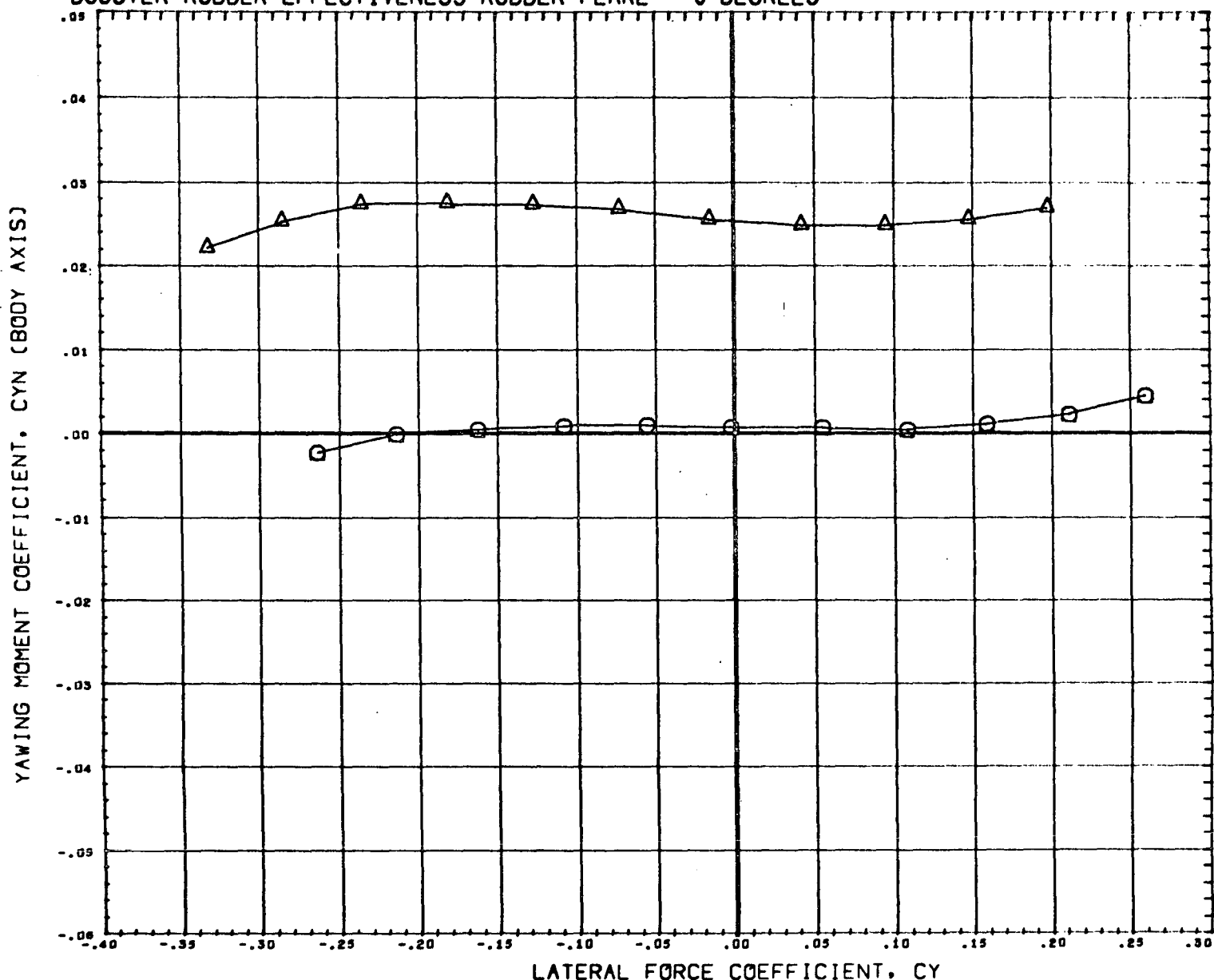
ALPHA	RUDR-L	RUDR-R	ELEVON
0.000	0.000	0.000	0.000
0.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMPP	4.6400	INCH
YMPP	0.0000	INCH
ZMPP	0.6670	INCH
SCALE	0.0034	

MACH 0.907

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56024)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(A56030)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

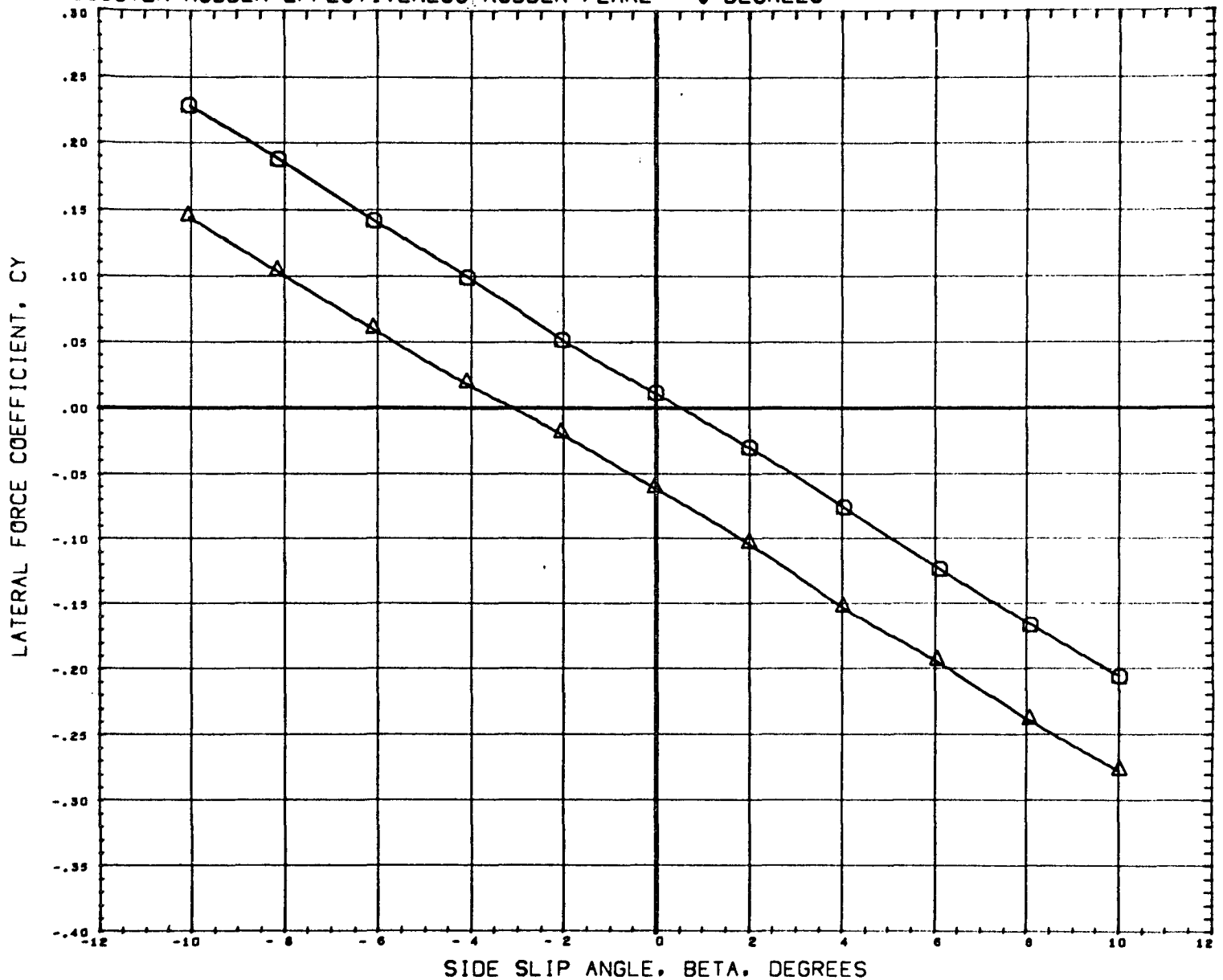
ALPHA	RUDR-L	RUDR-R	ELEVON
0.000	0.000	0.000	0.000
0.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.199

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



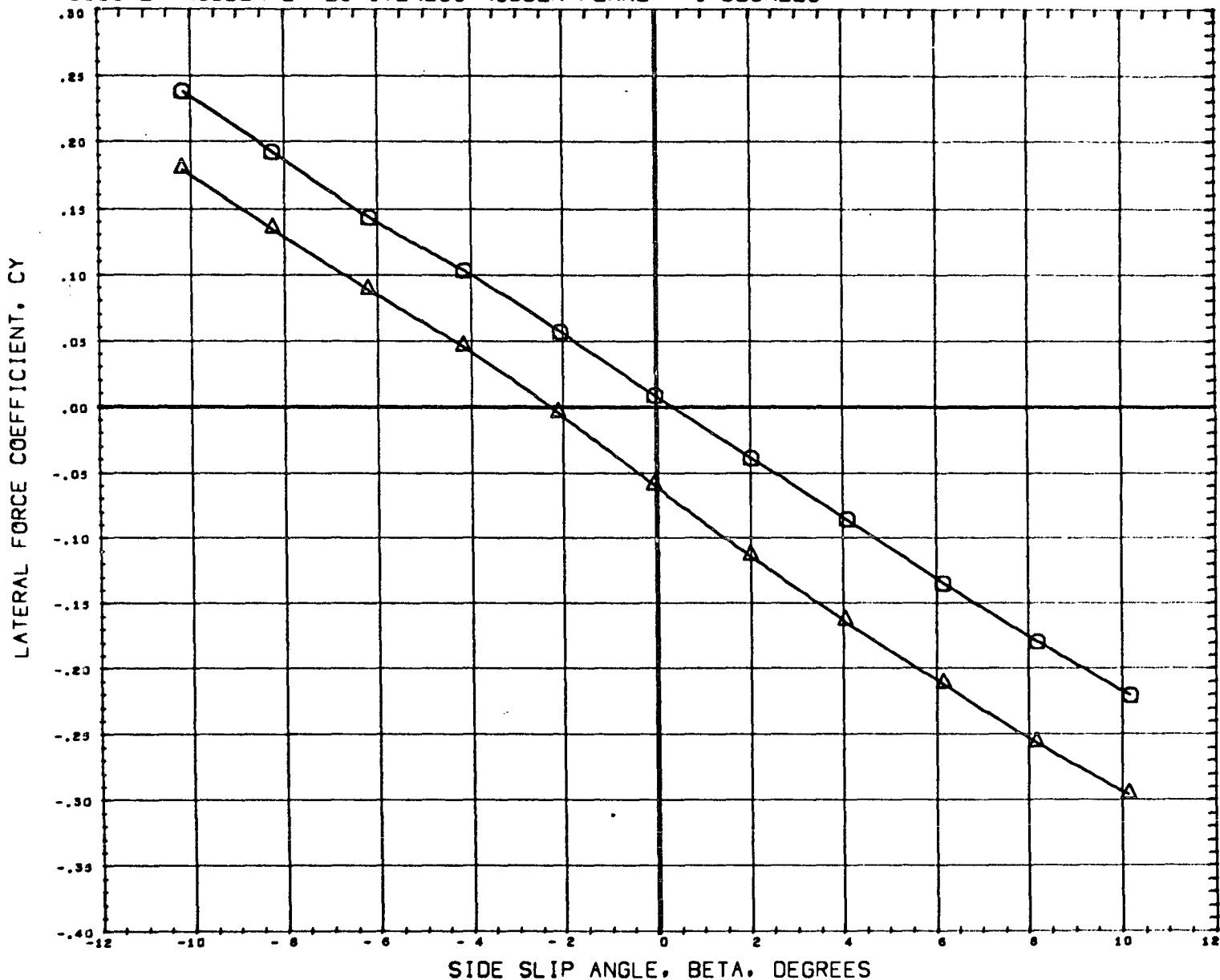
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56021) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 0.599

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

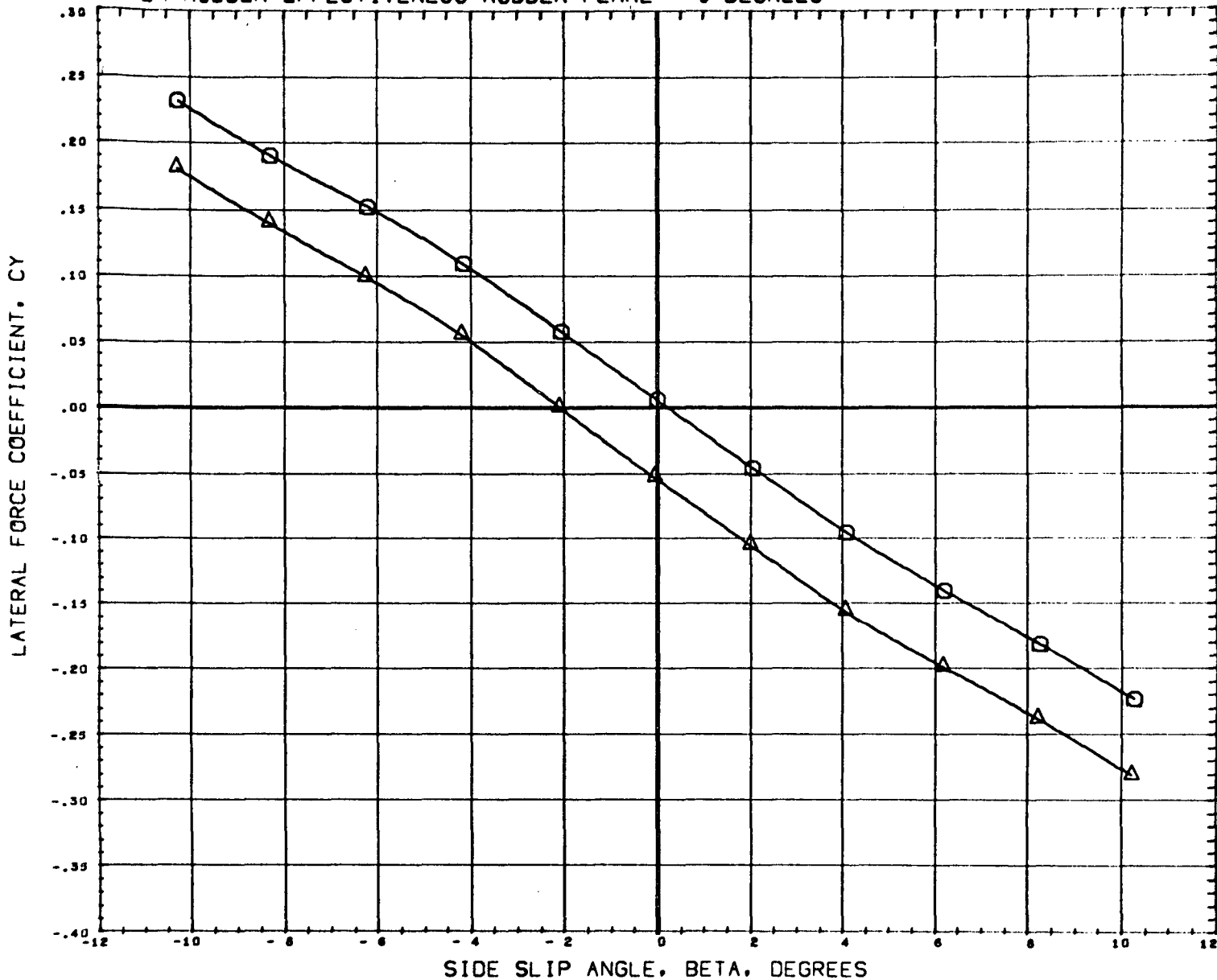
(AS6025)  MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
 (AS6031)  MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 0.900

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A56031) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

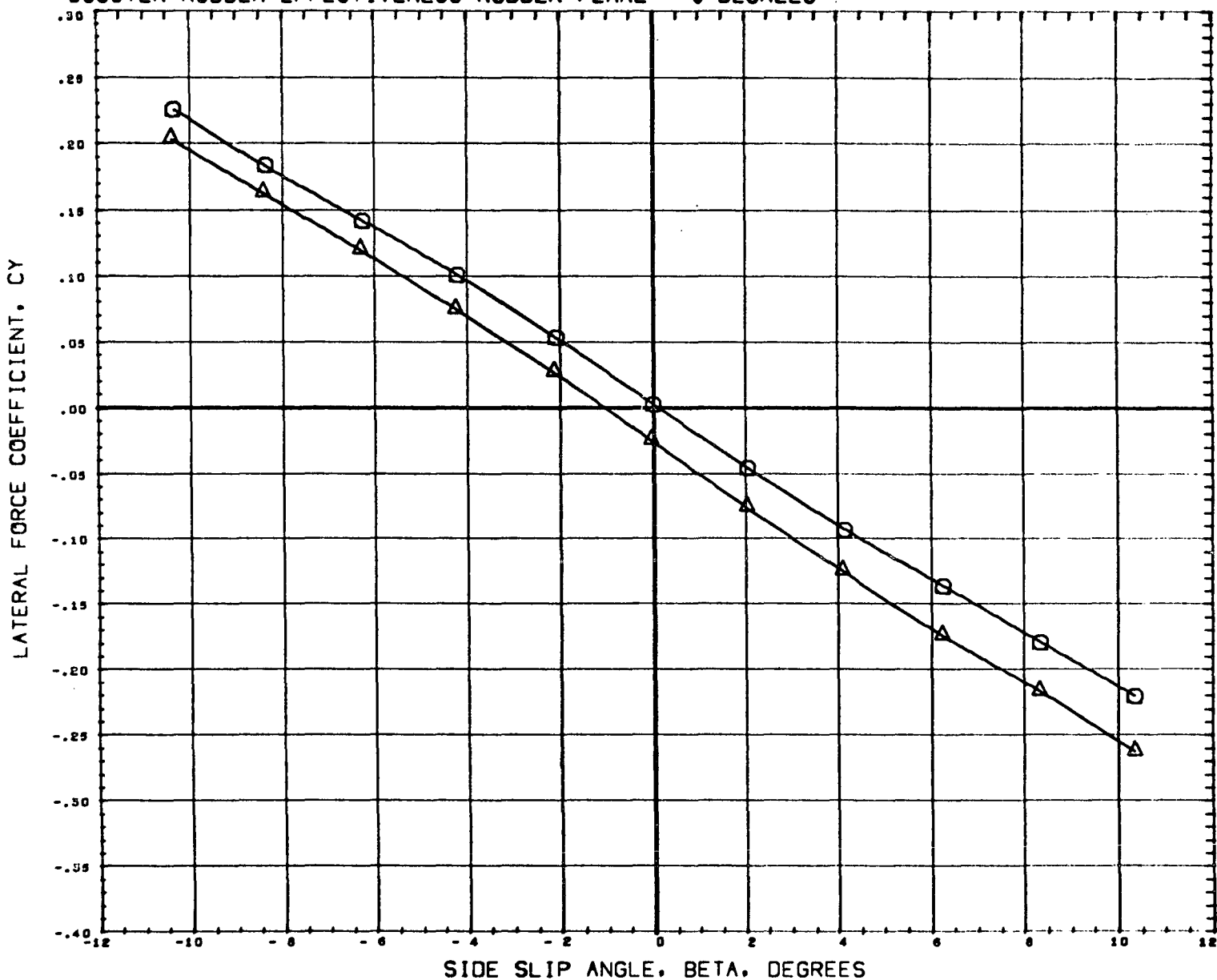
ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.196

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

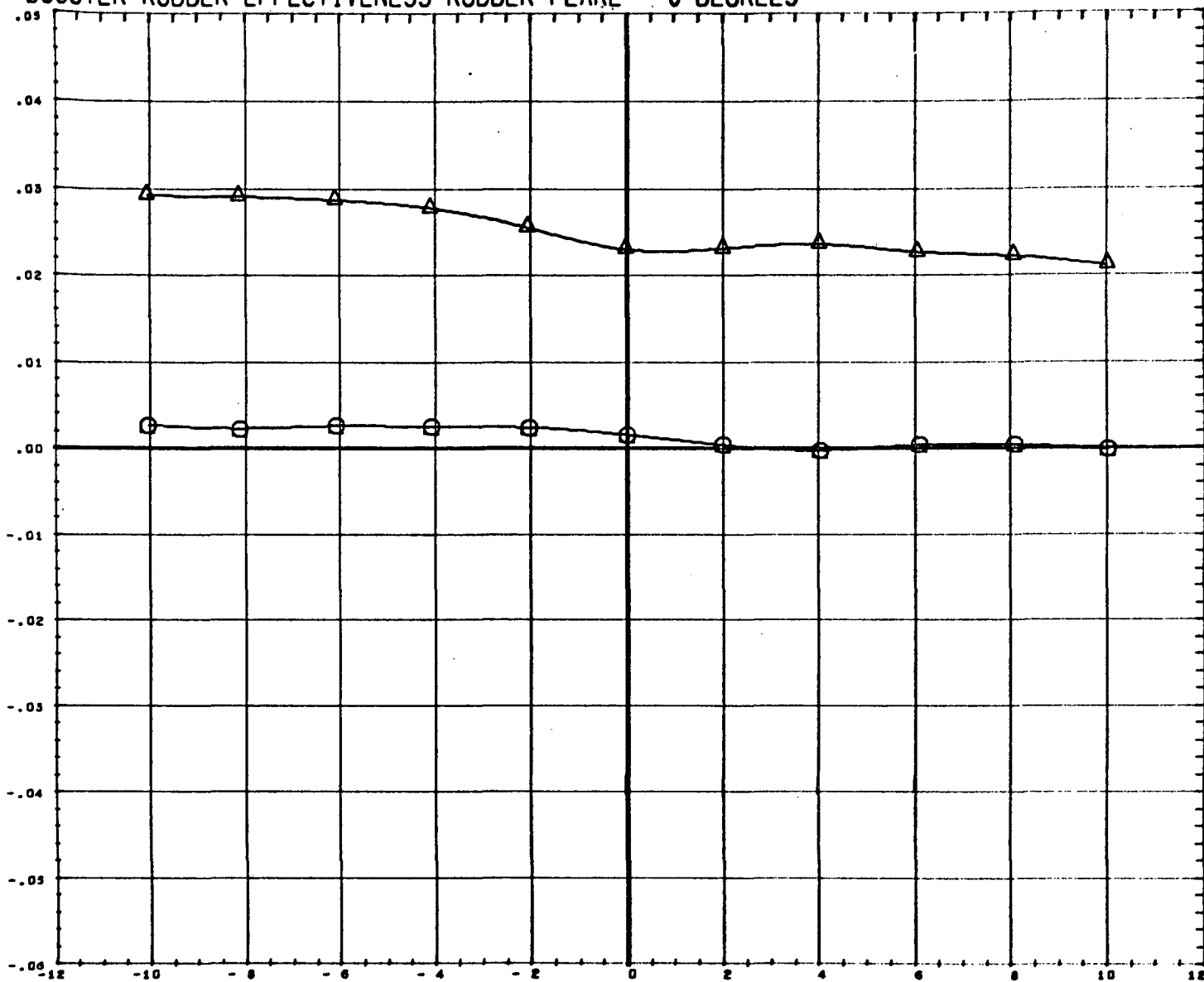


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A96025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A96031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.965

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



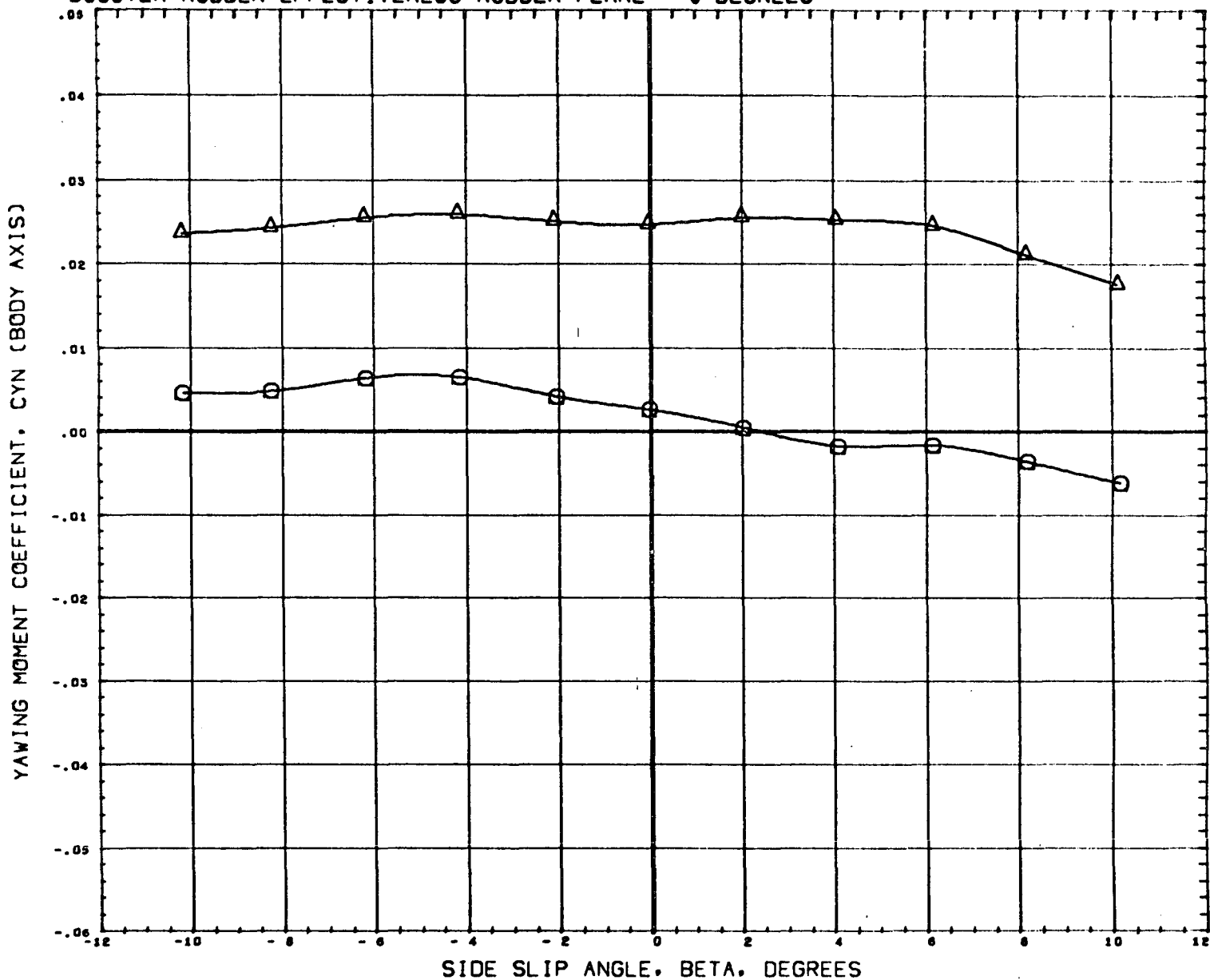
SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
(A96025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A96031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 0.999

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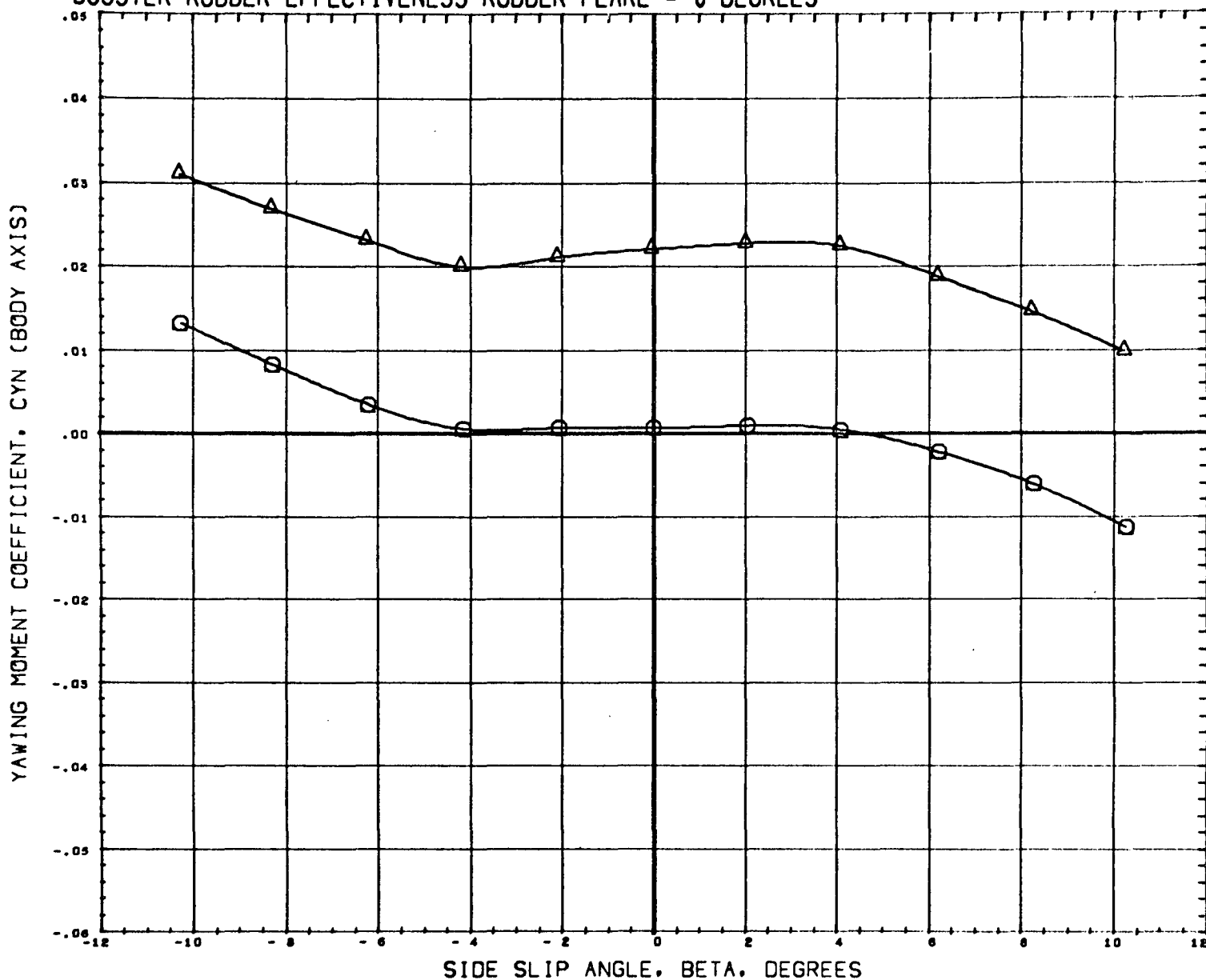
BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A96029)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A96031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 0.900

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



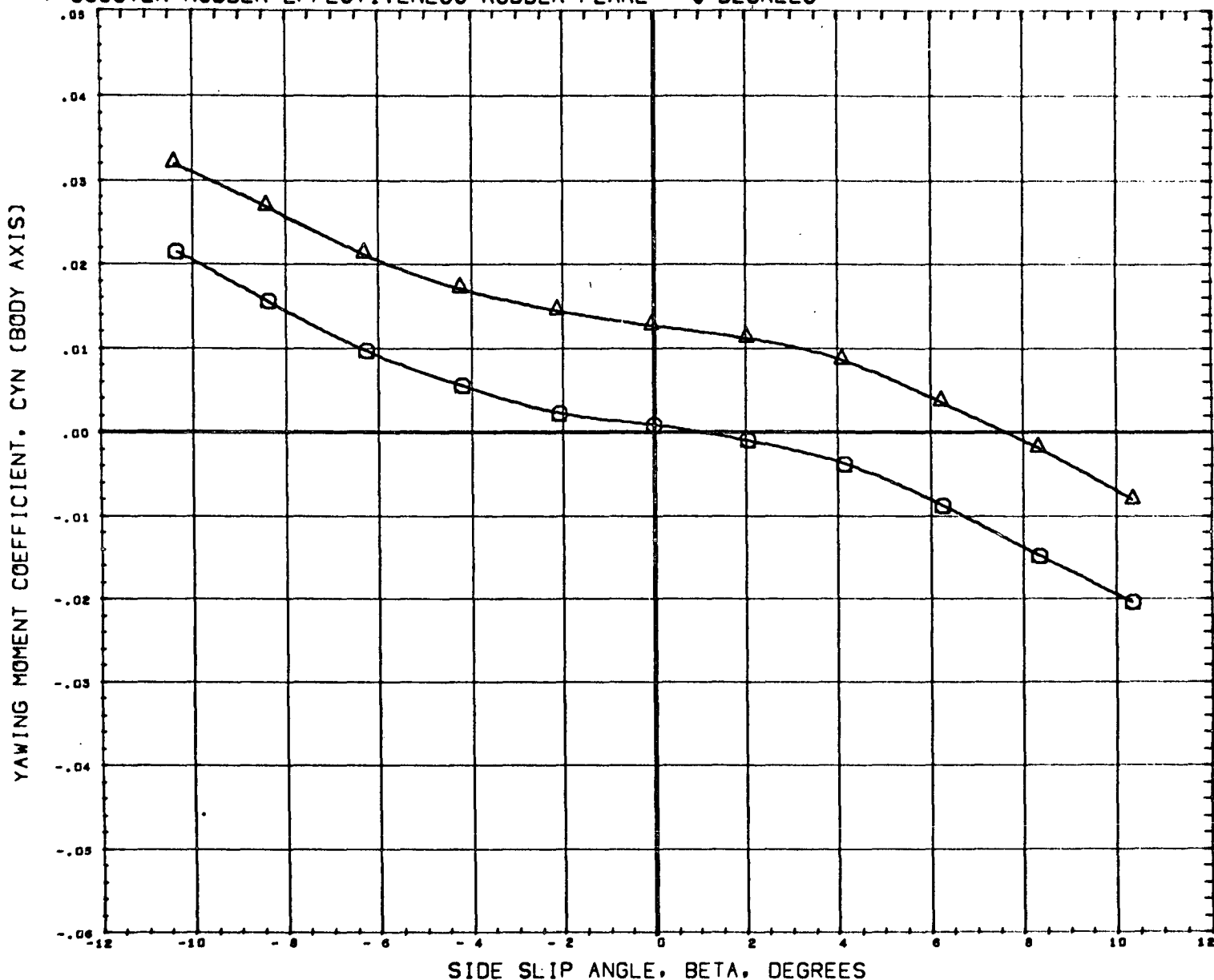
SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.196

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56025)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(A56031)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

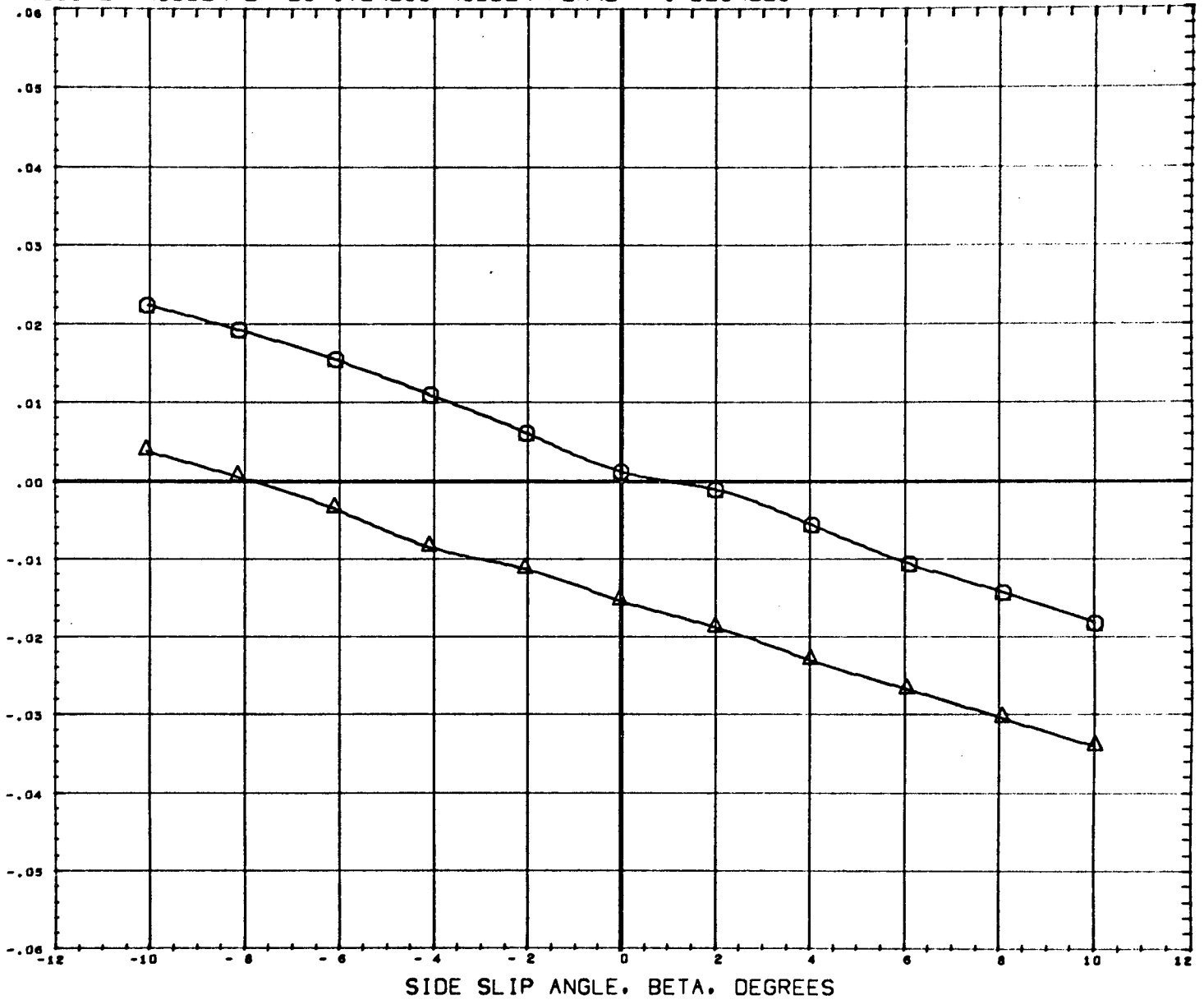
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.965

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56025)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

(A56031)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

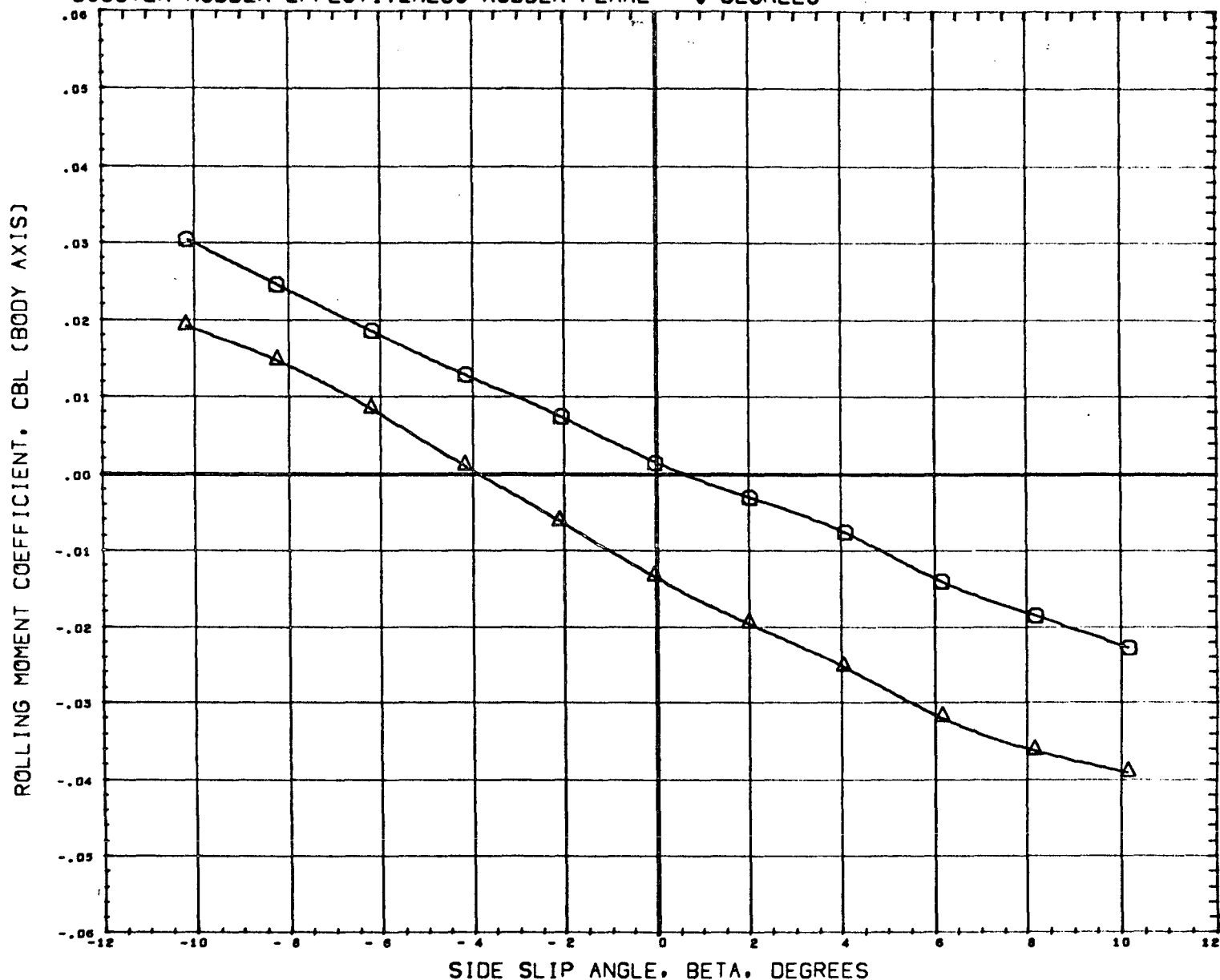
ALPHA	RUDD-L	RUDD-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.599

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

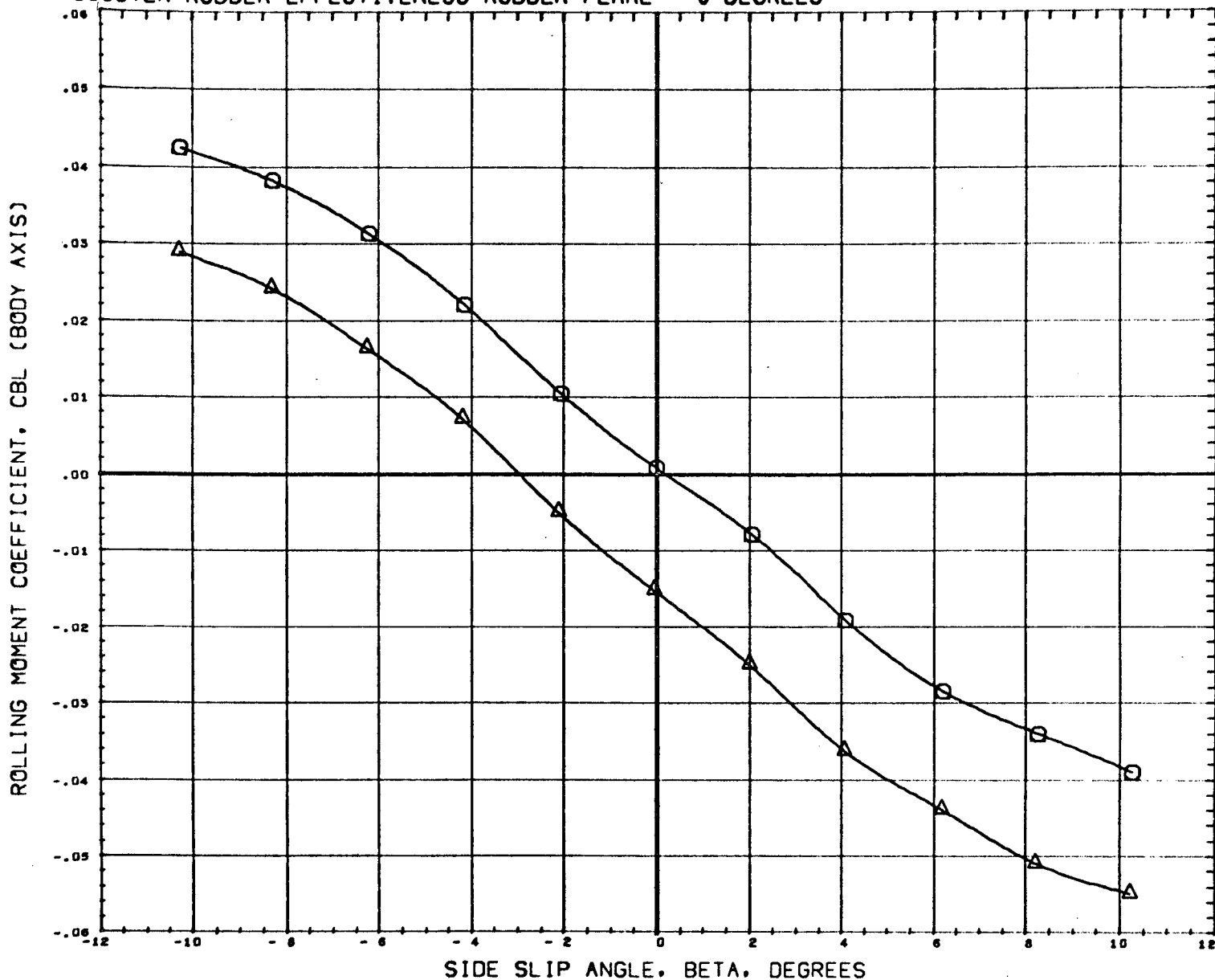


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	REFERENCE INFORMATION			
		ALPHA	RUCR-L	RUCR-R	ELEVON
(A56025)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	0.000	0.000	0.000
(A56031)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.900

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56023)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

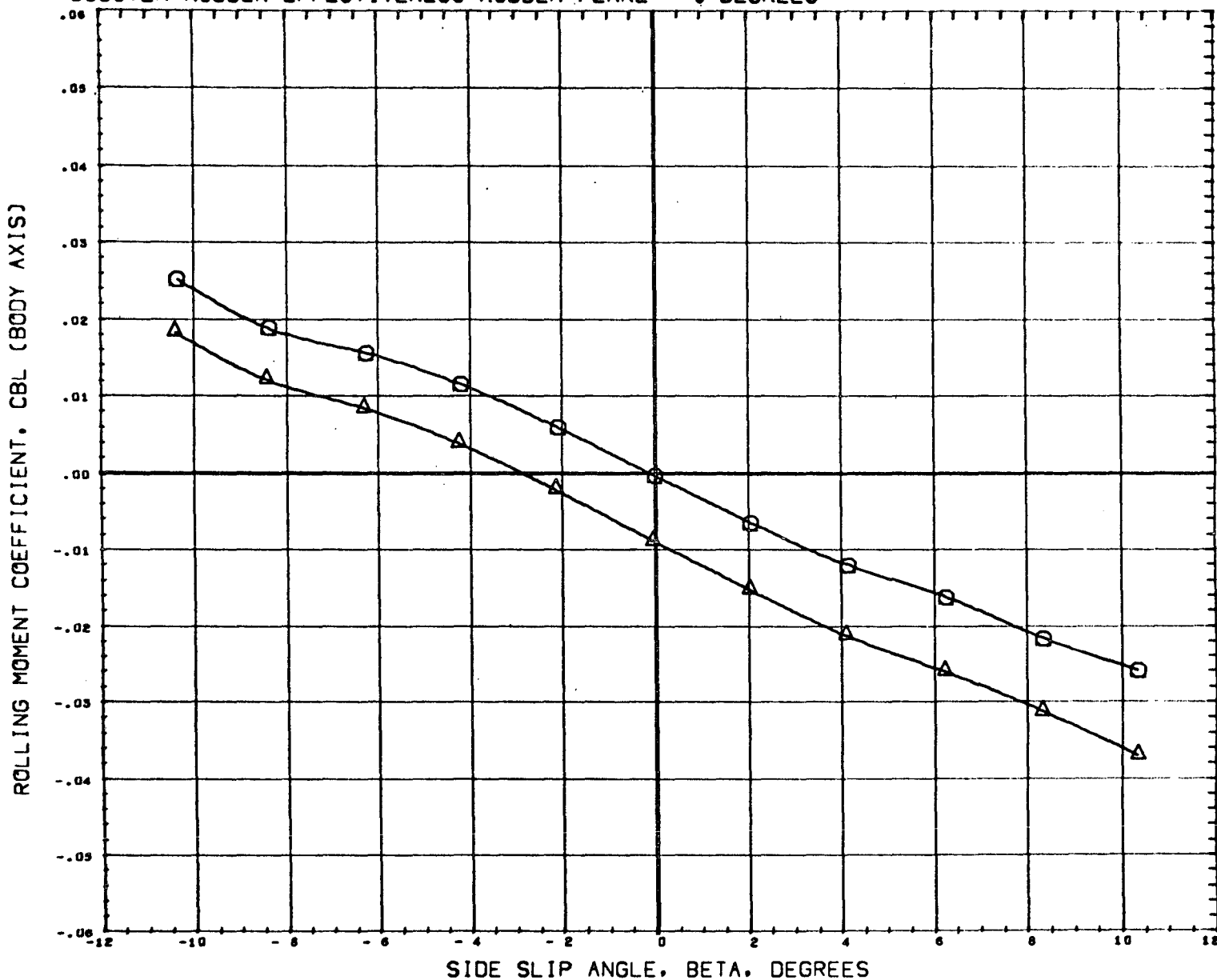
(A56031)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 1.196

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56025)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A56031)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

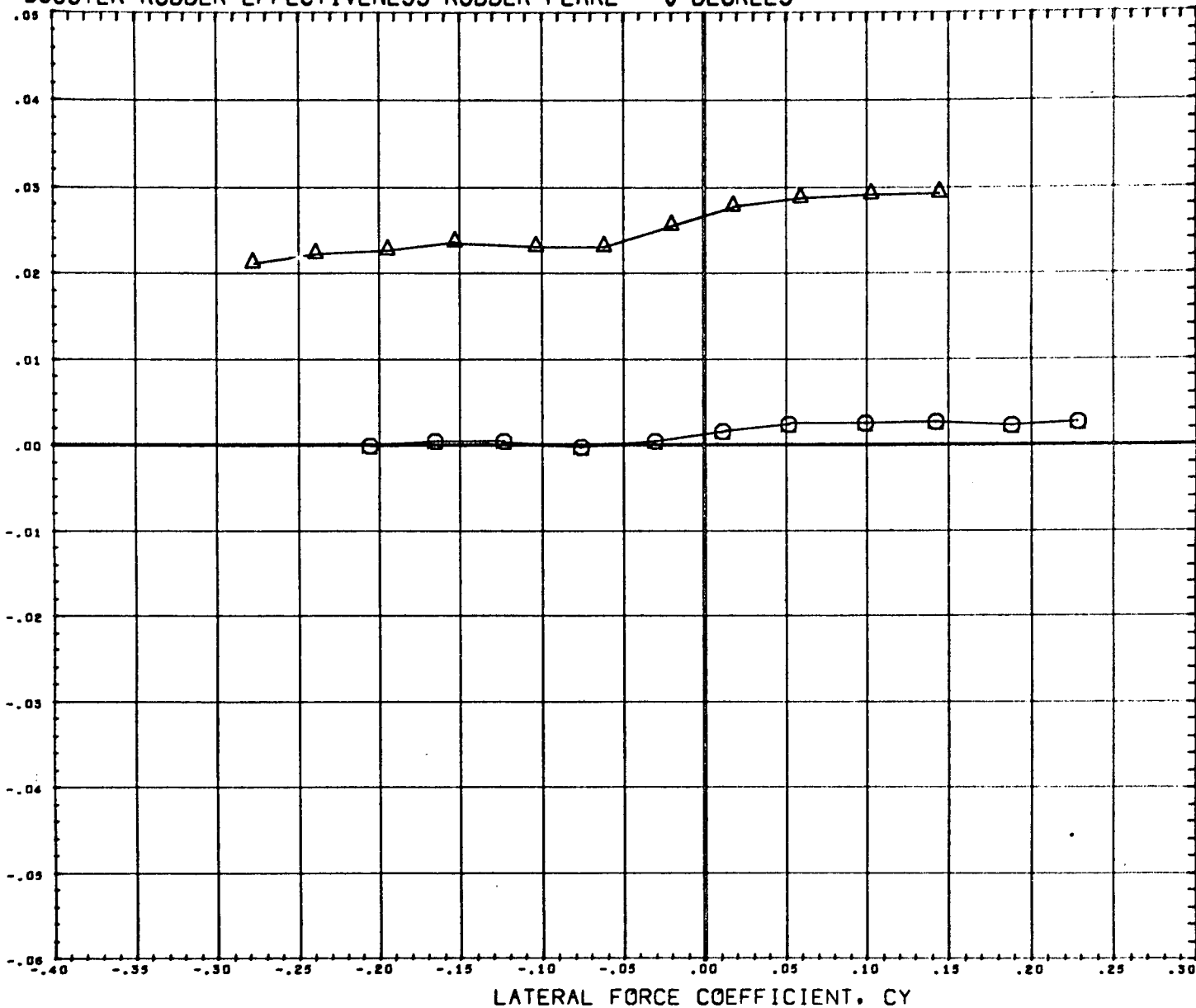
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.965

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56031) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

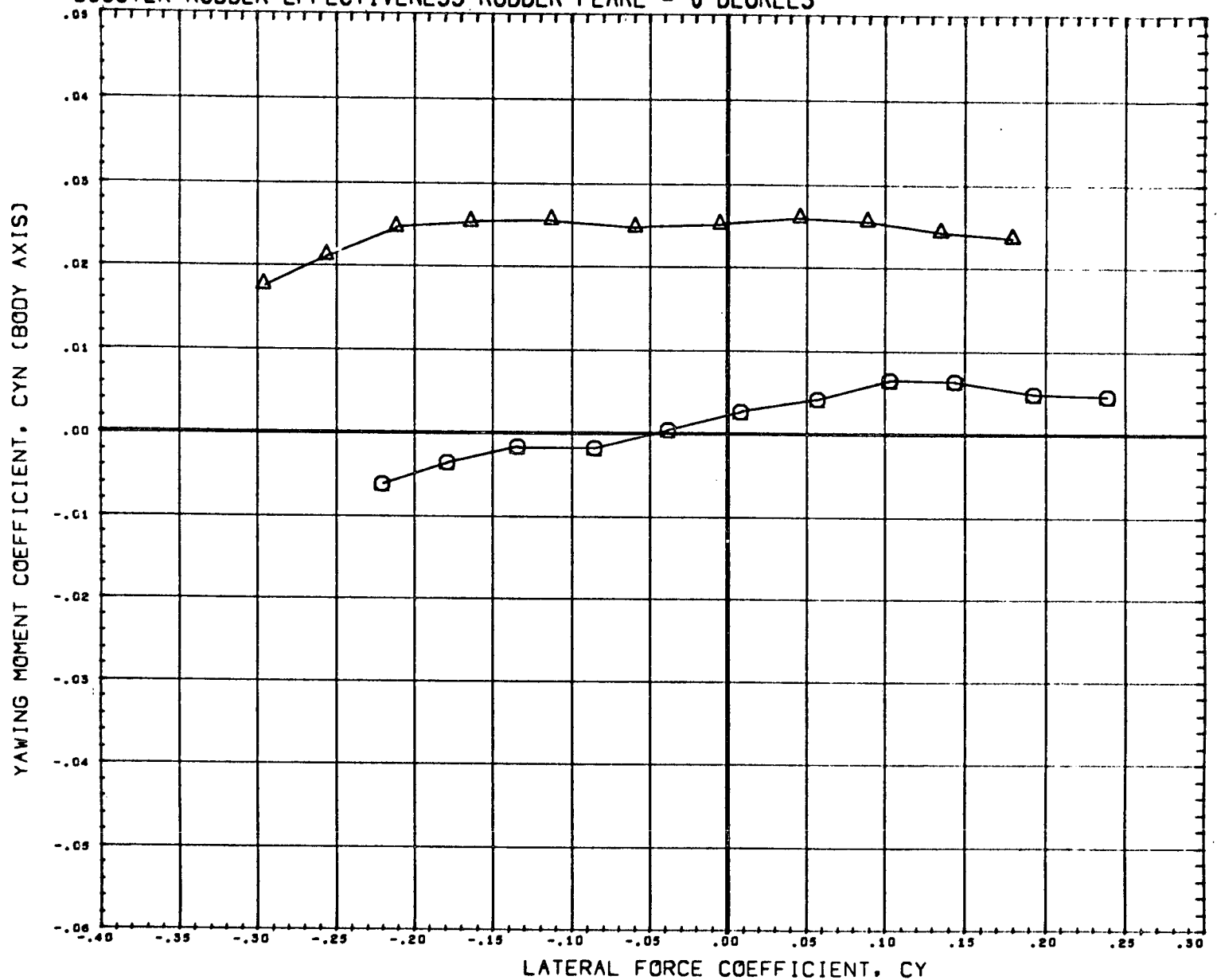
ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 0.599

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56031) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

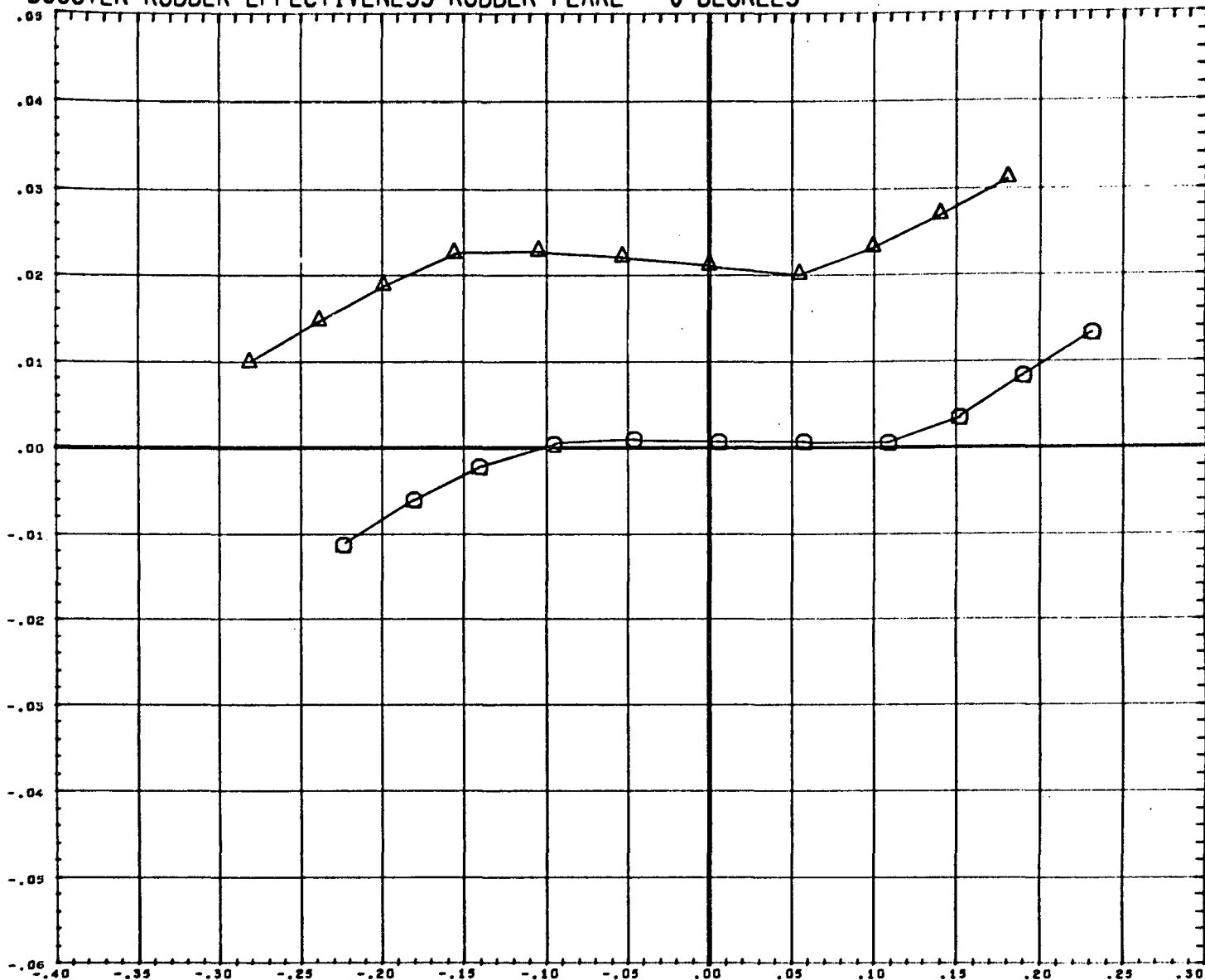
ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
15.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
15.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 0.900

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



LATERAL FORCE COEFFICIENT, CY

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(A56031) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION

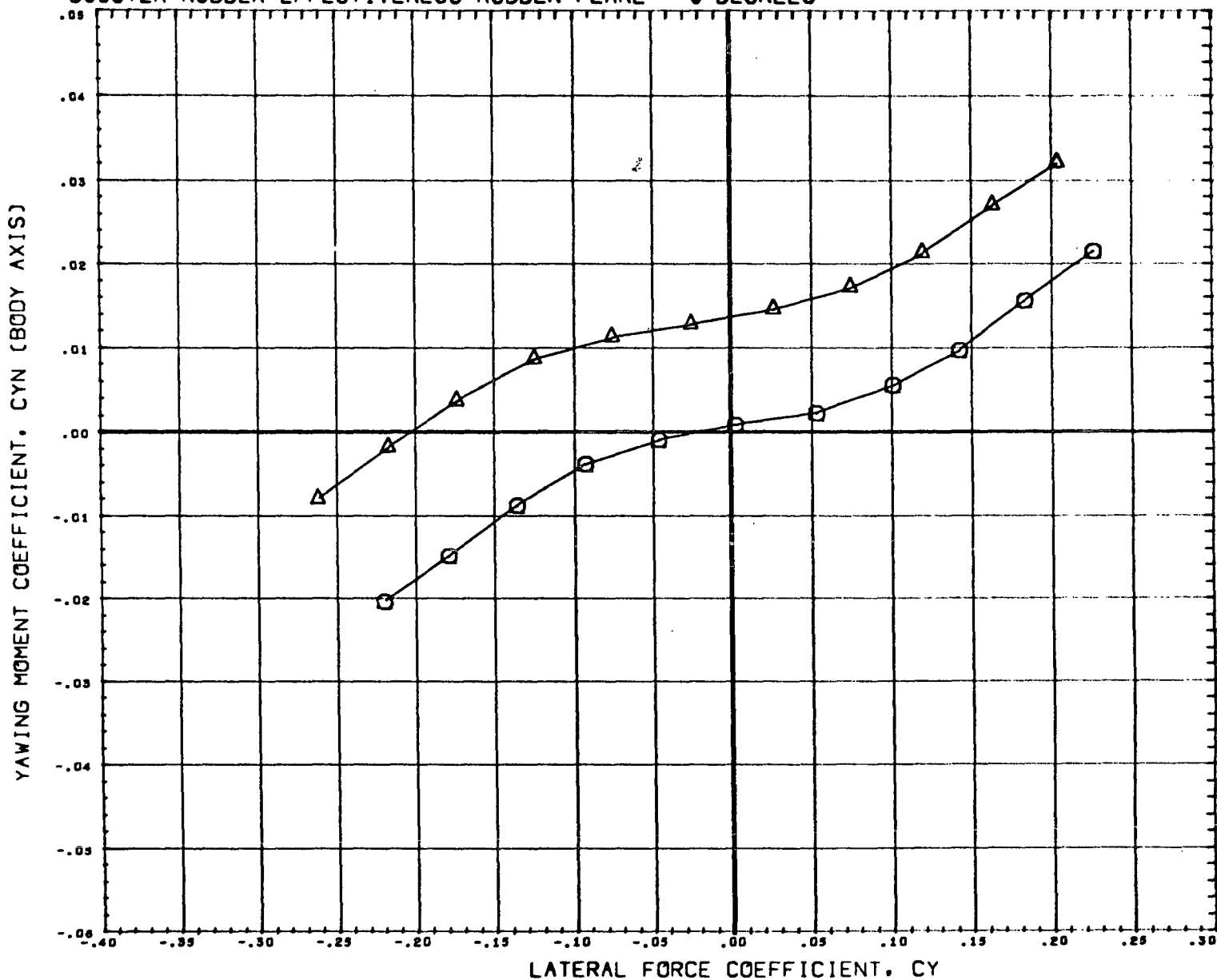
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	9.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH

1.196

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56025) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56031) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

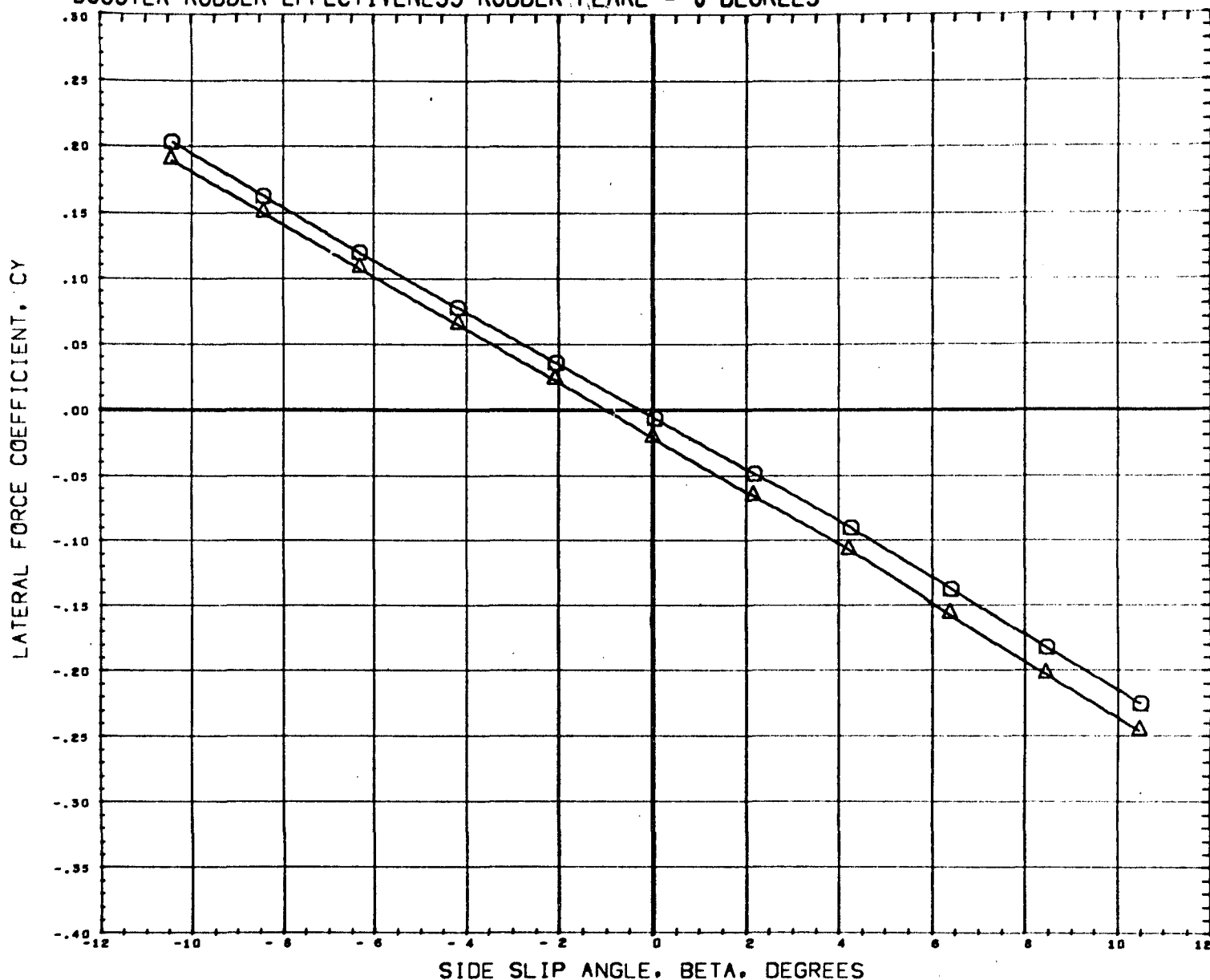
ALPHA	RUDR-L	RUDR-R	ELEVON
15.000	0.000	0.000	0.000
15.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 1.963

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

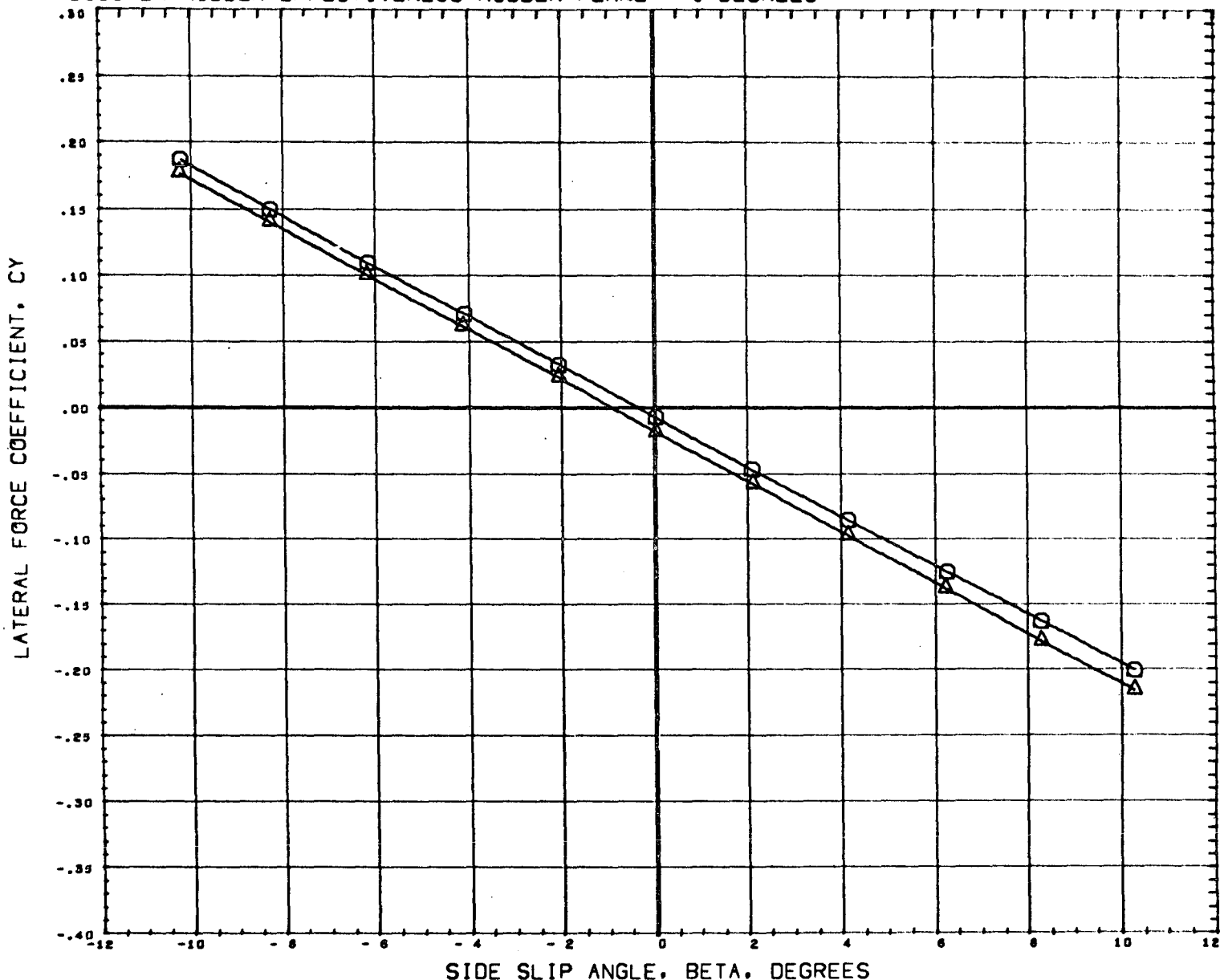


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

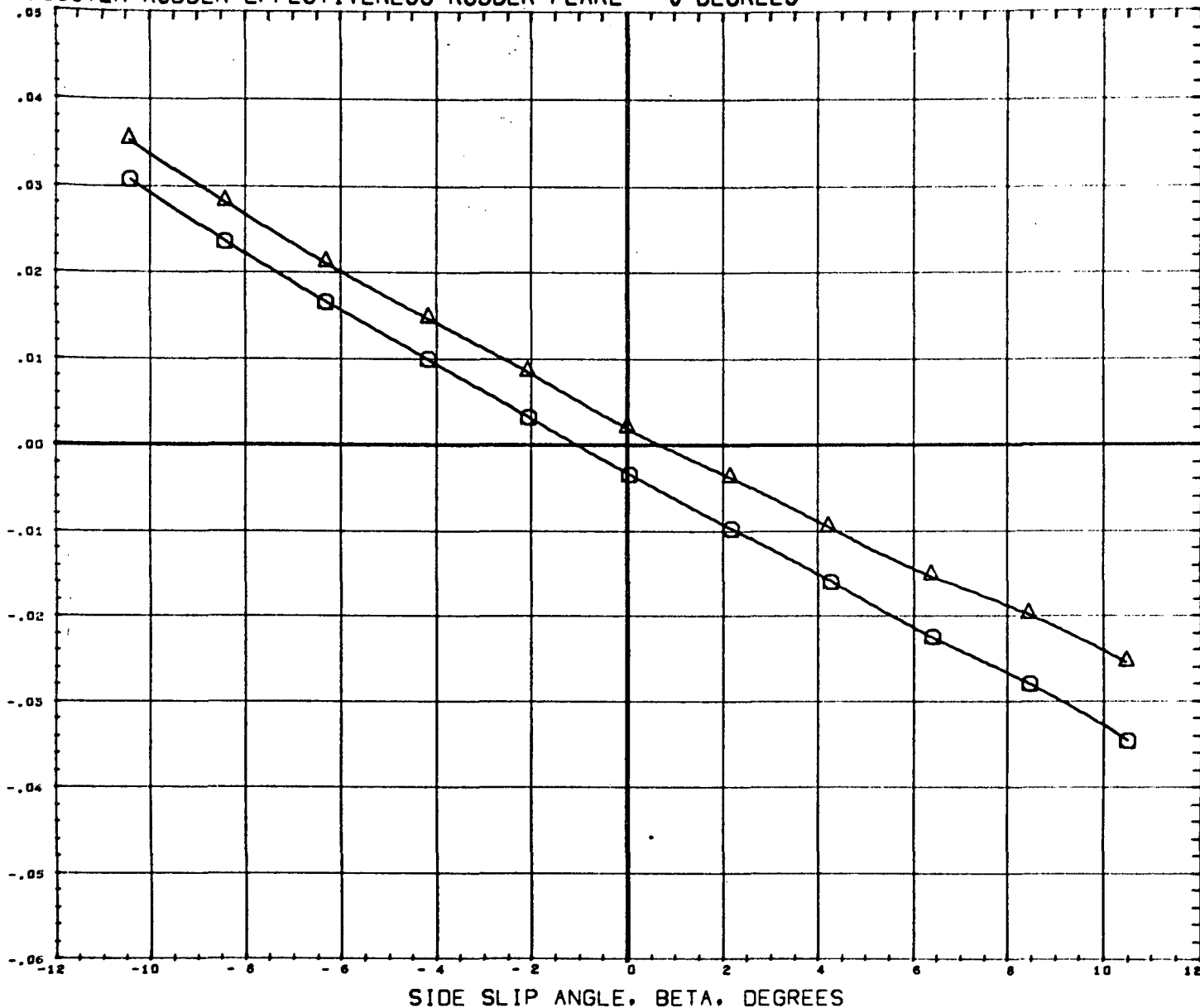


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(AS6026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	0.000	0.000	0.000	SREF	9.7805 SQ. IN
(AS6032)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XHRP	4.6400 INCH
						YHRP	0.0000 INCH
						ZHRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56026)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

(A56032)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	-20.000	-20.000	0.000

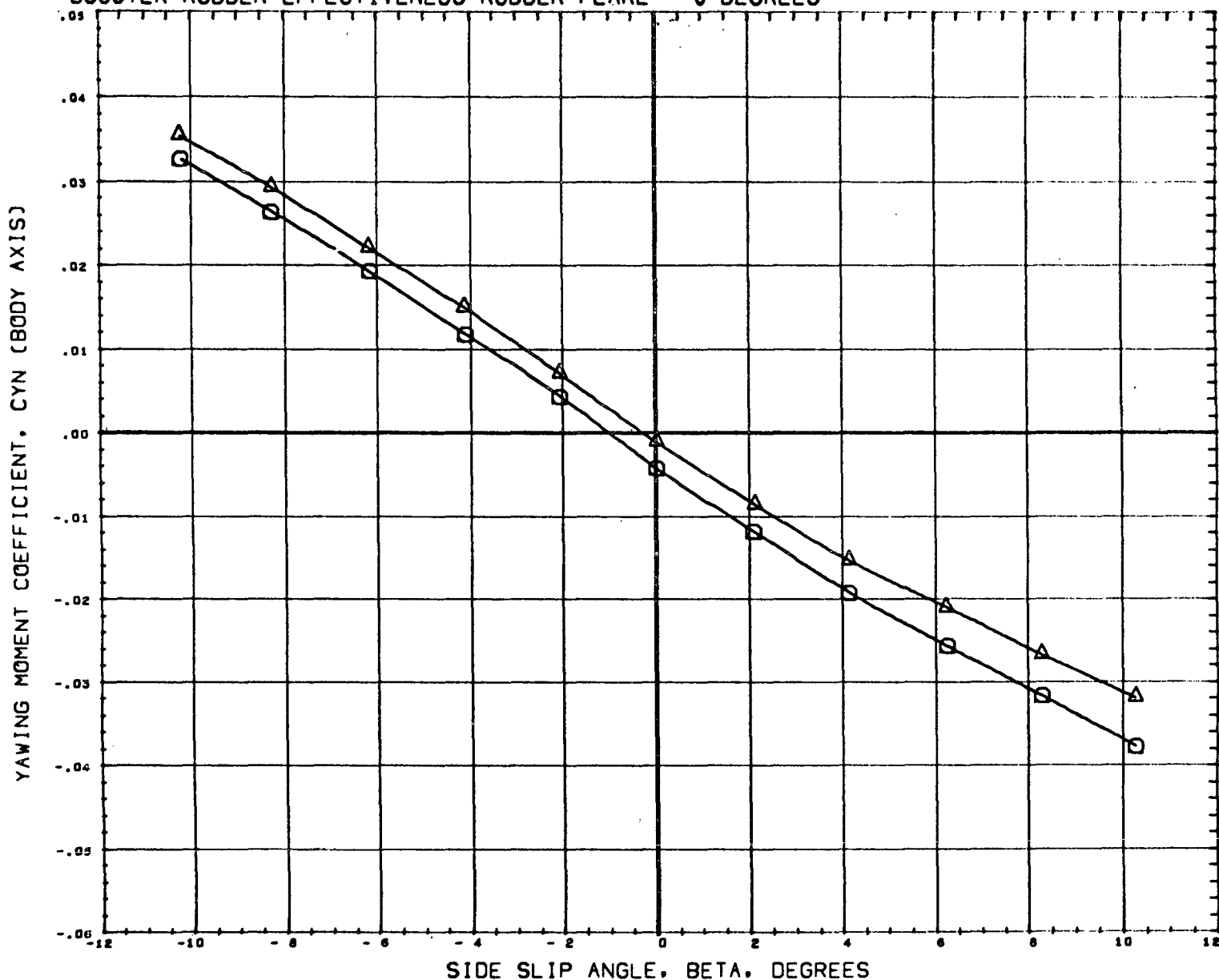
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A56032) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

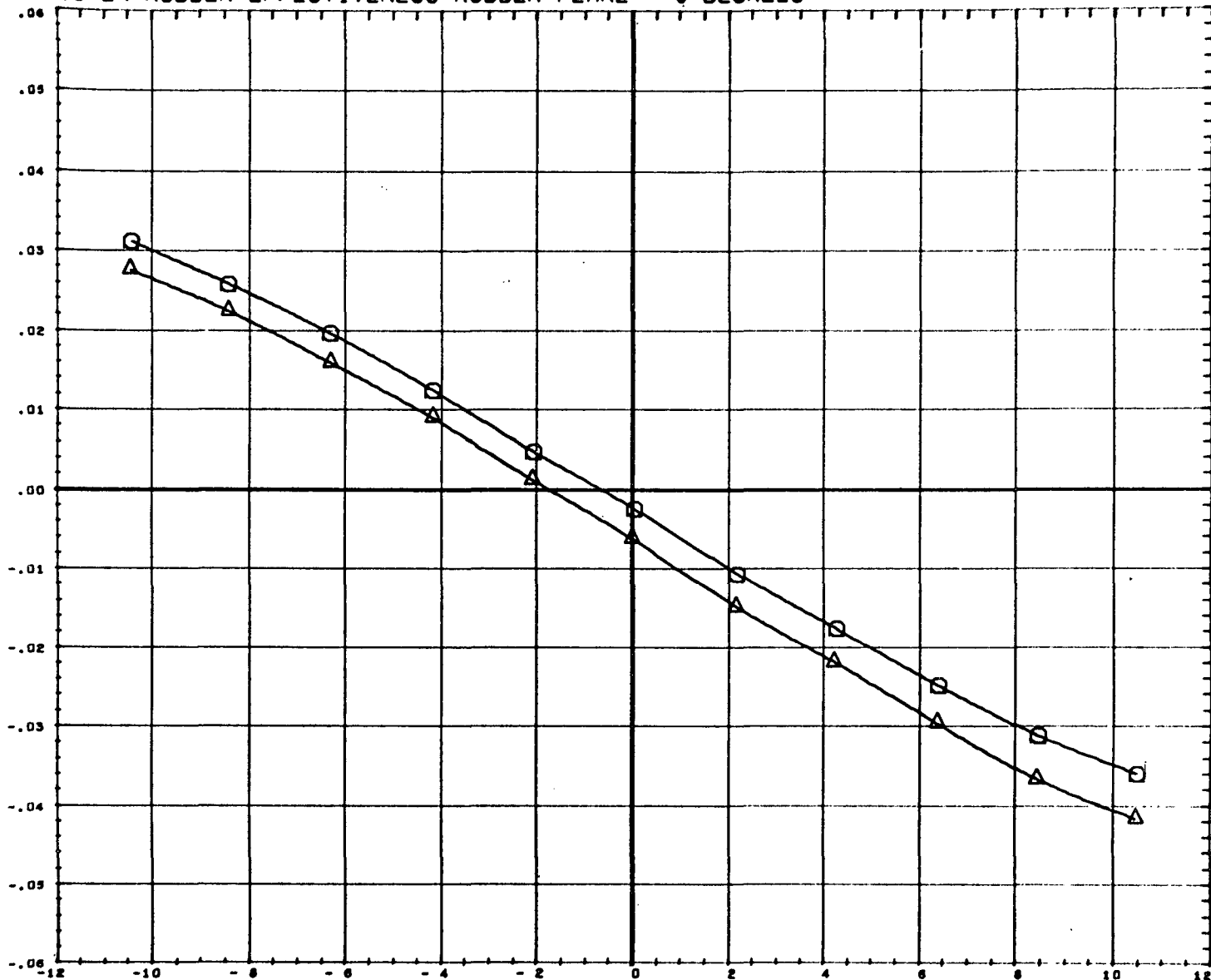
ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
30.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

(A56032) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

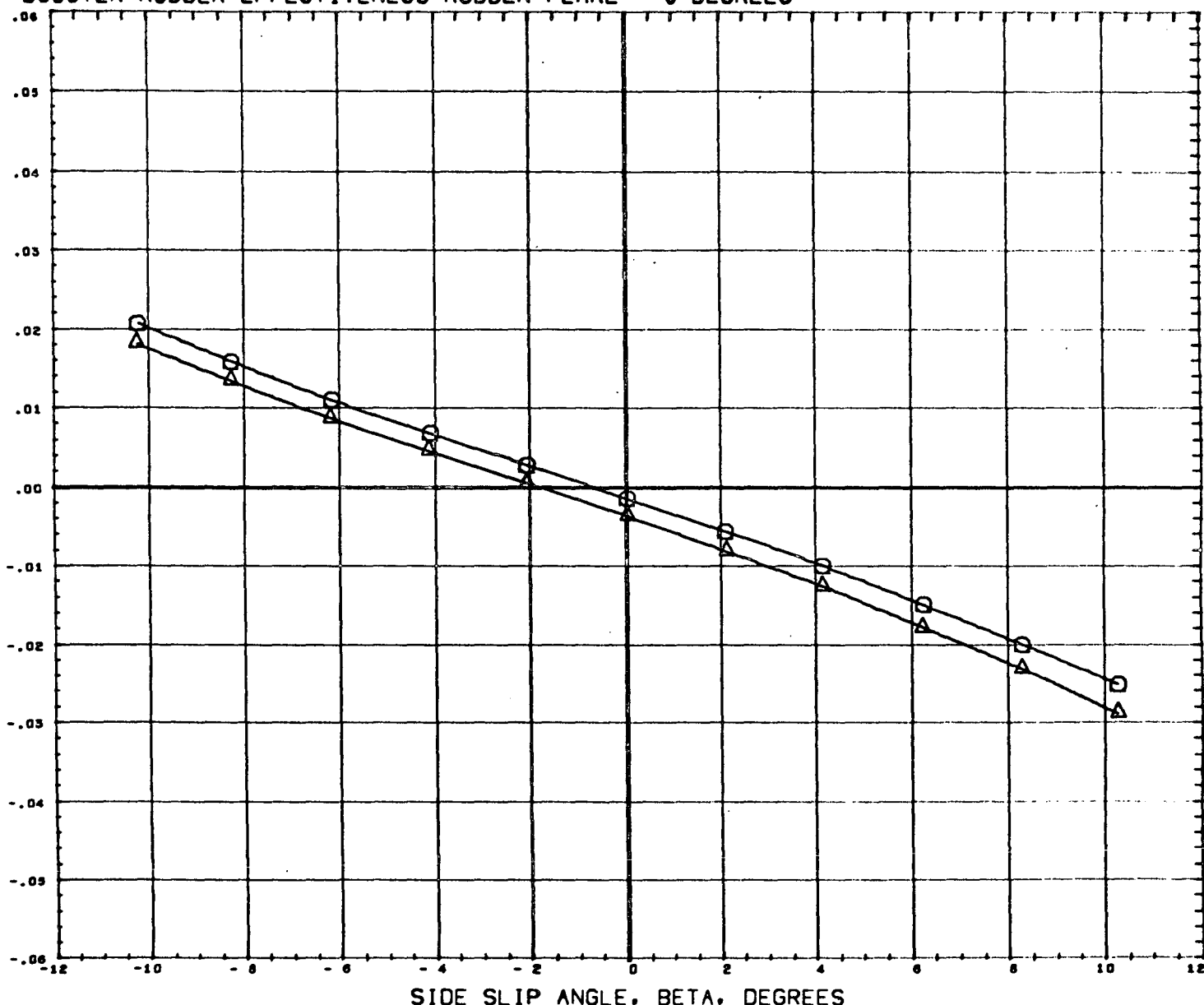
ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
30.000	-20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A36026) Q MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A36032) A MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

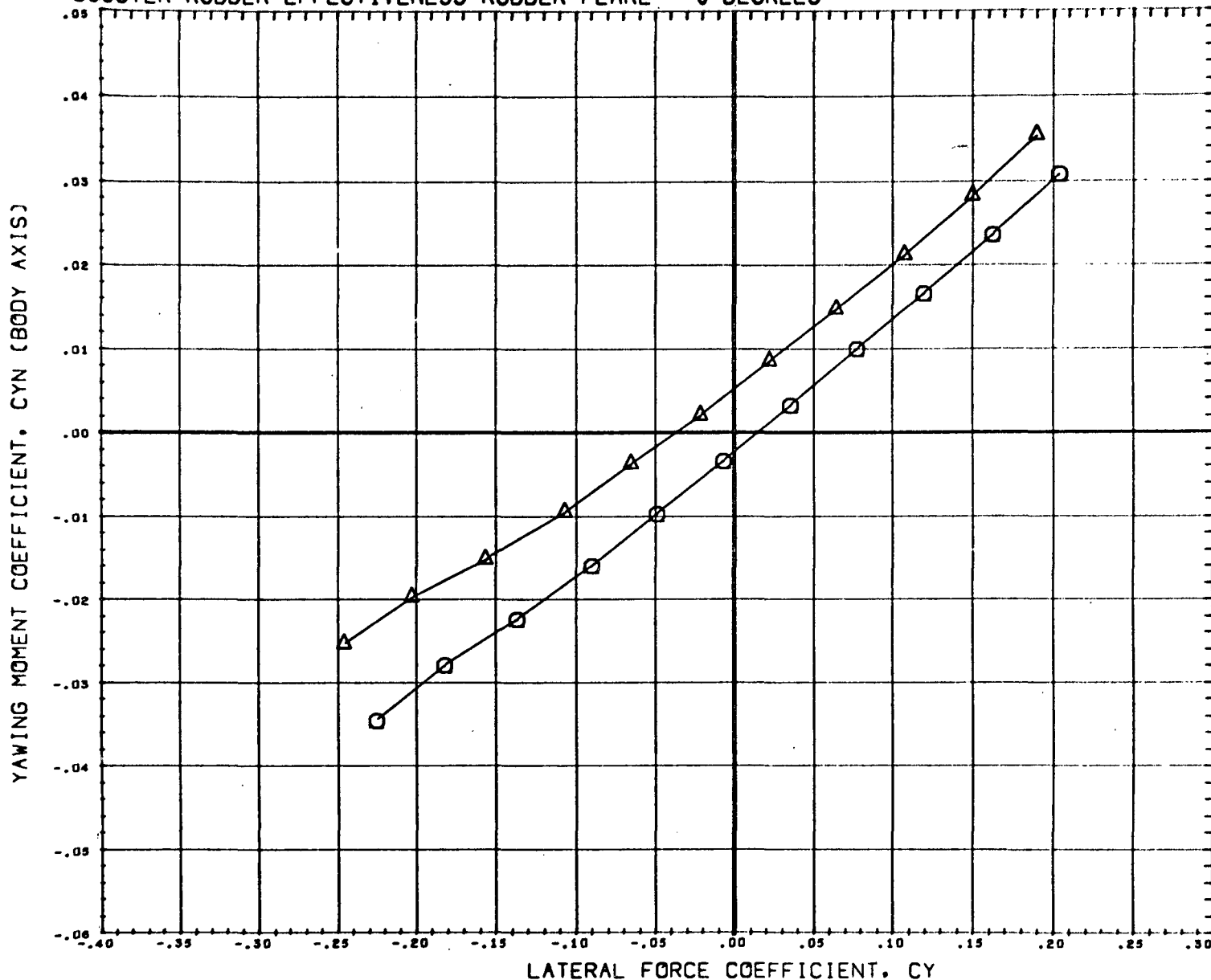
ALPHA	RUCR-L	RUCR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (A56032) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

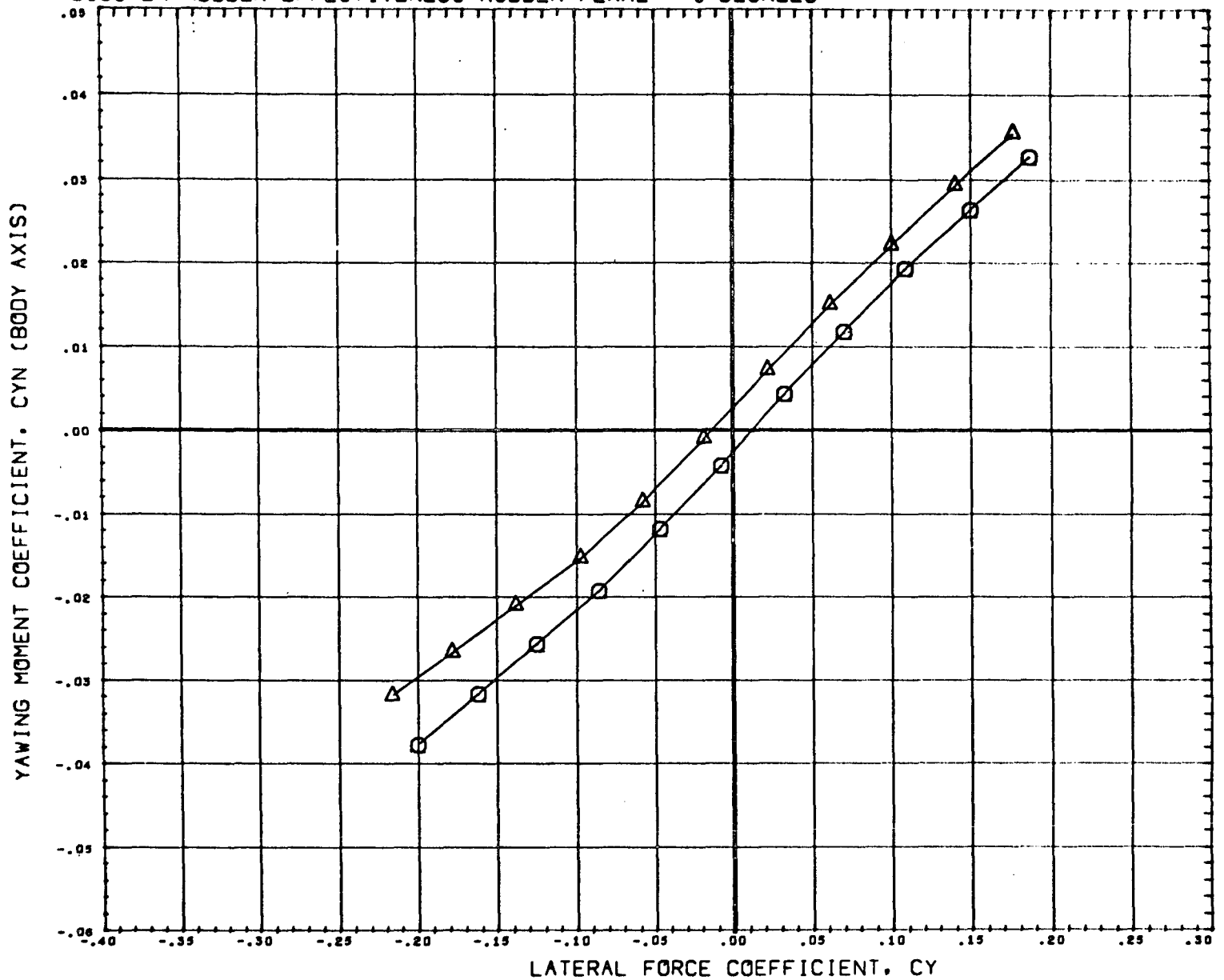
ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	90. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



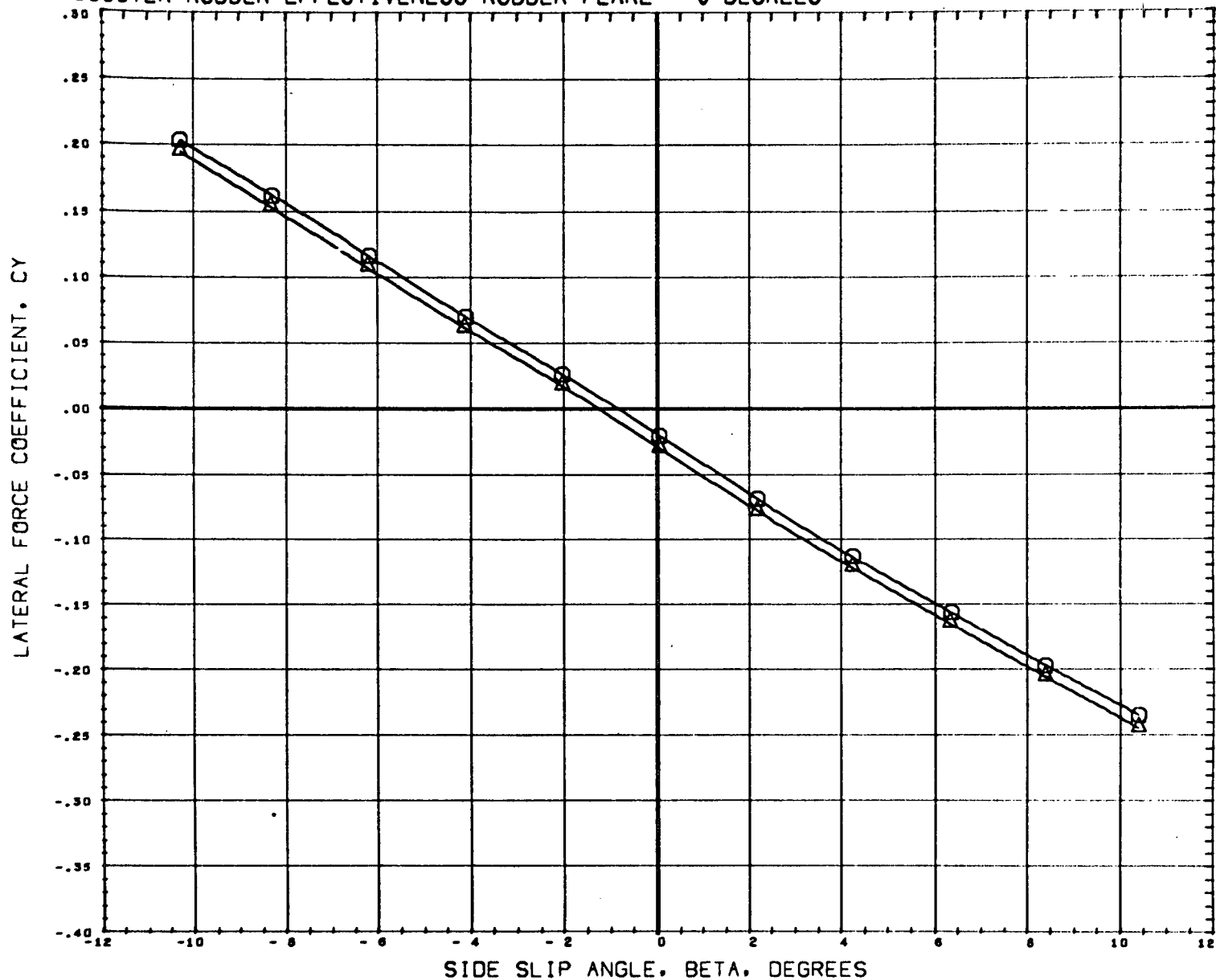
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56026) ○	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(A56032) △	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 2.740

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(A56033)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

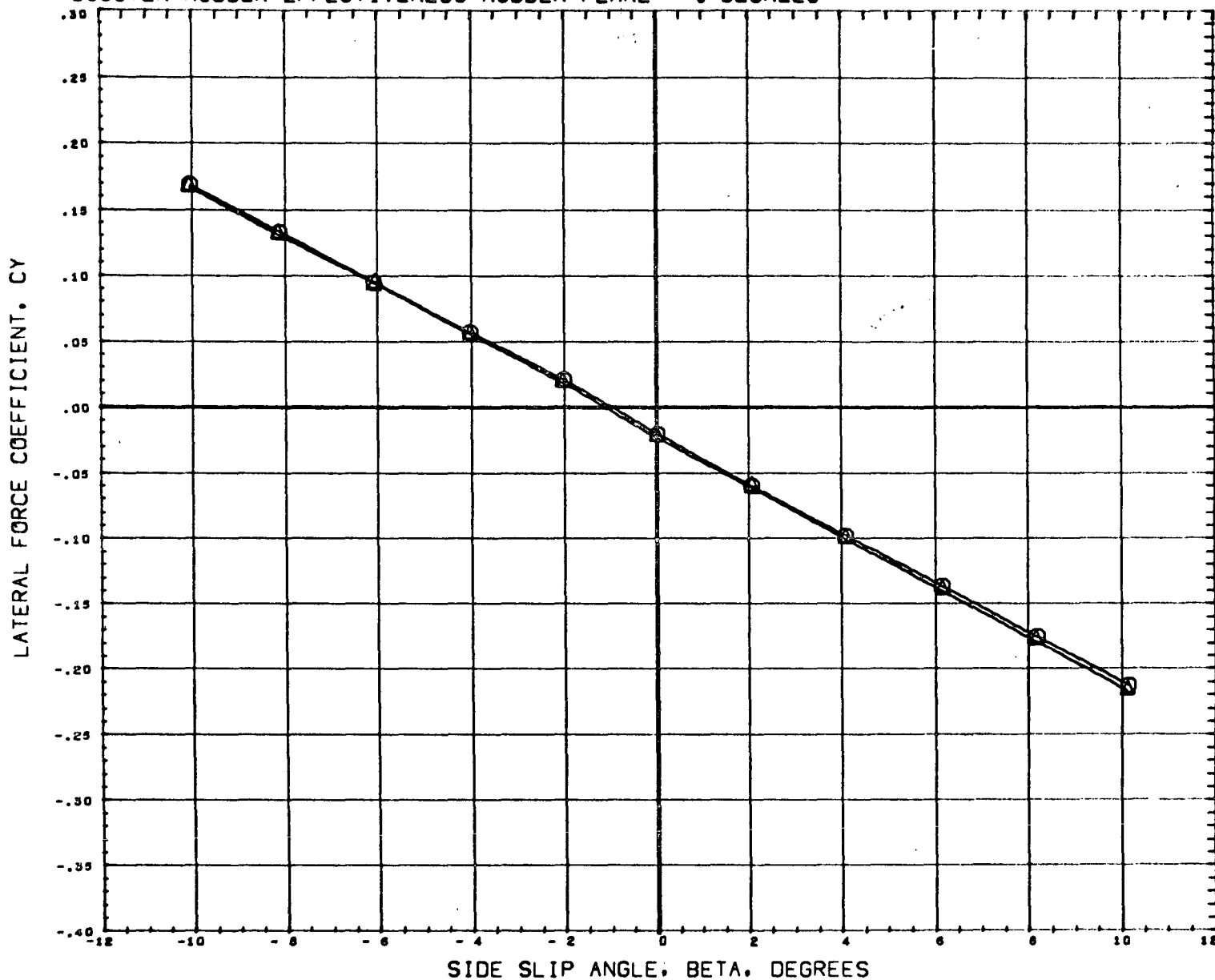
ALPHA	RUDD-L	RUDD-R	ELEVON
50.000	0.000	0.000	0.000
50.000	-20.000	-20.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56033)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	-20.000	-20.000	0.000

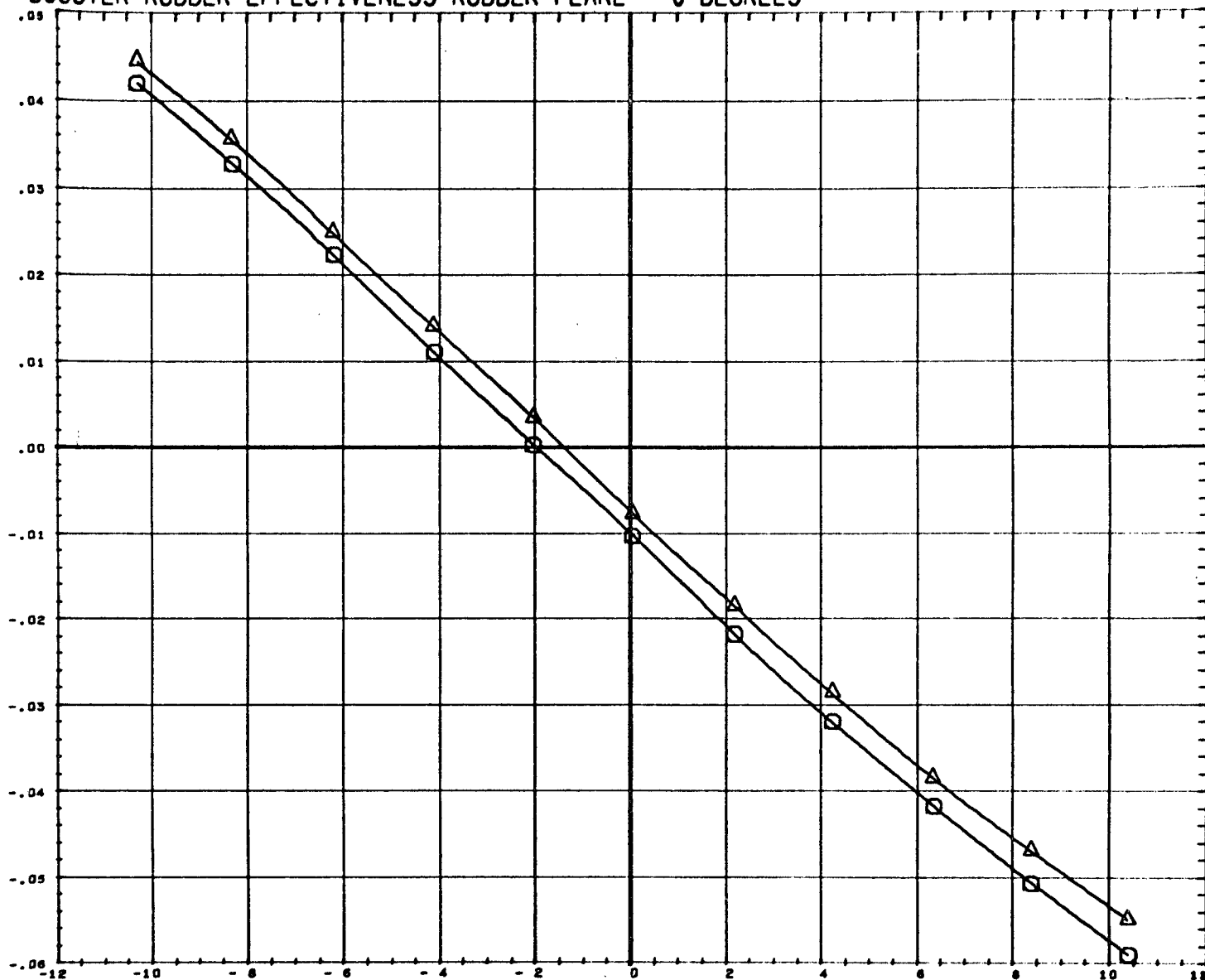
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
YMRP	4.6400	INCH
ZMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(A56033) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

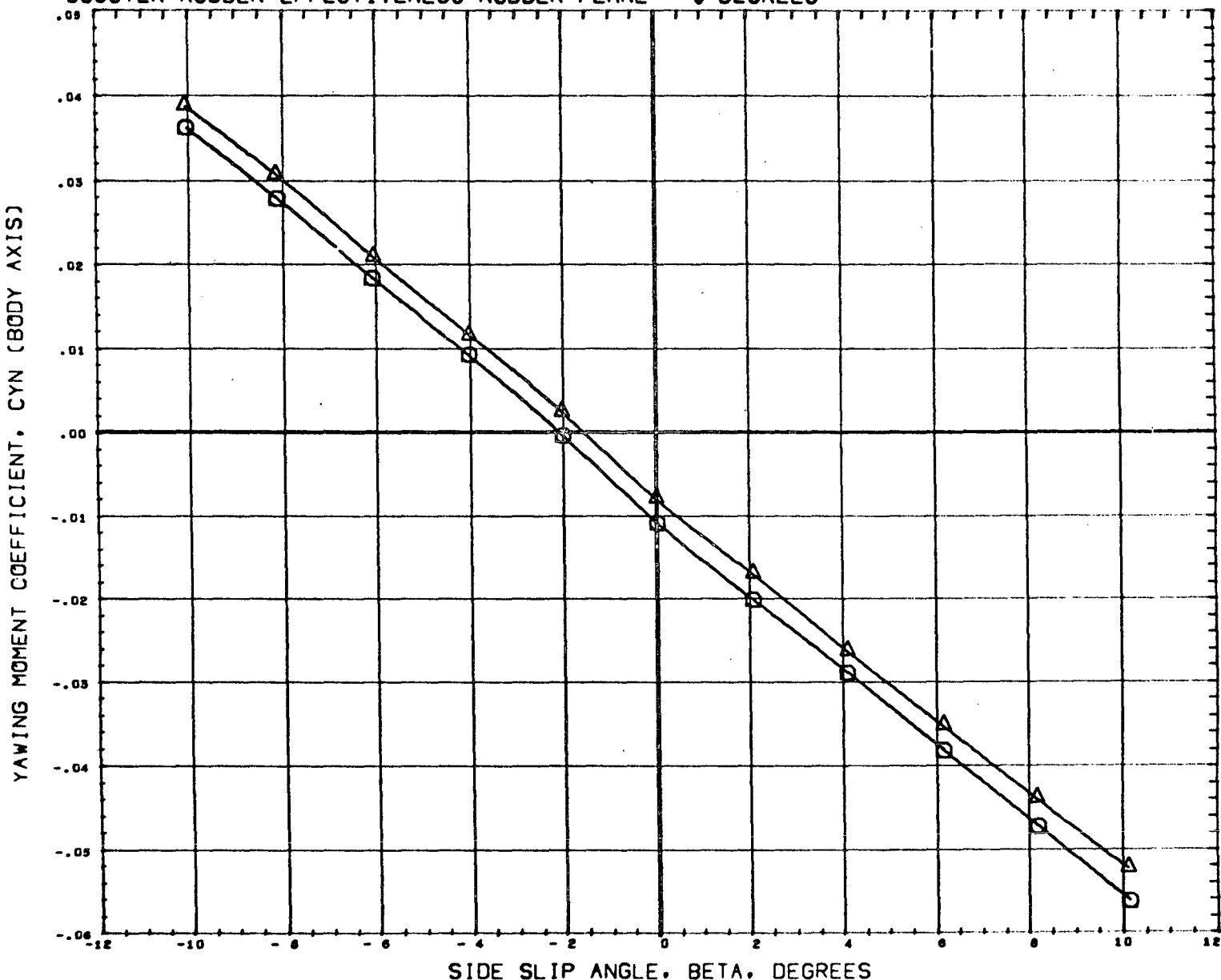
ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	-20.000	-20.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



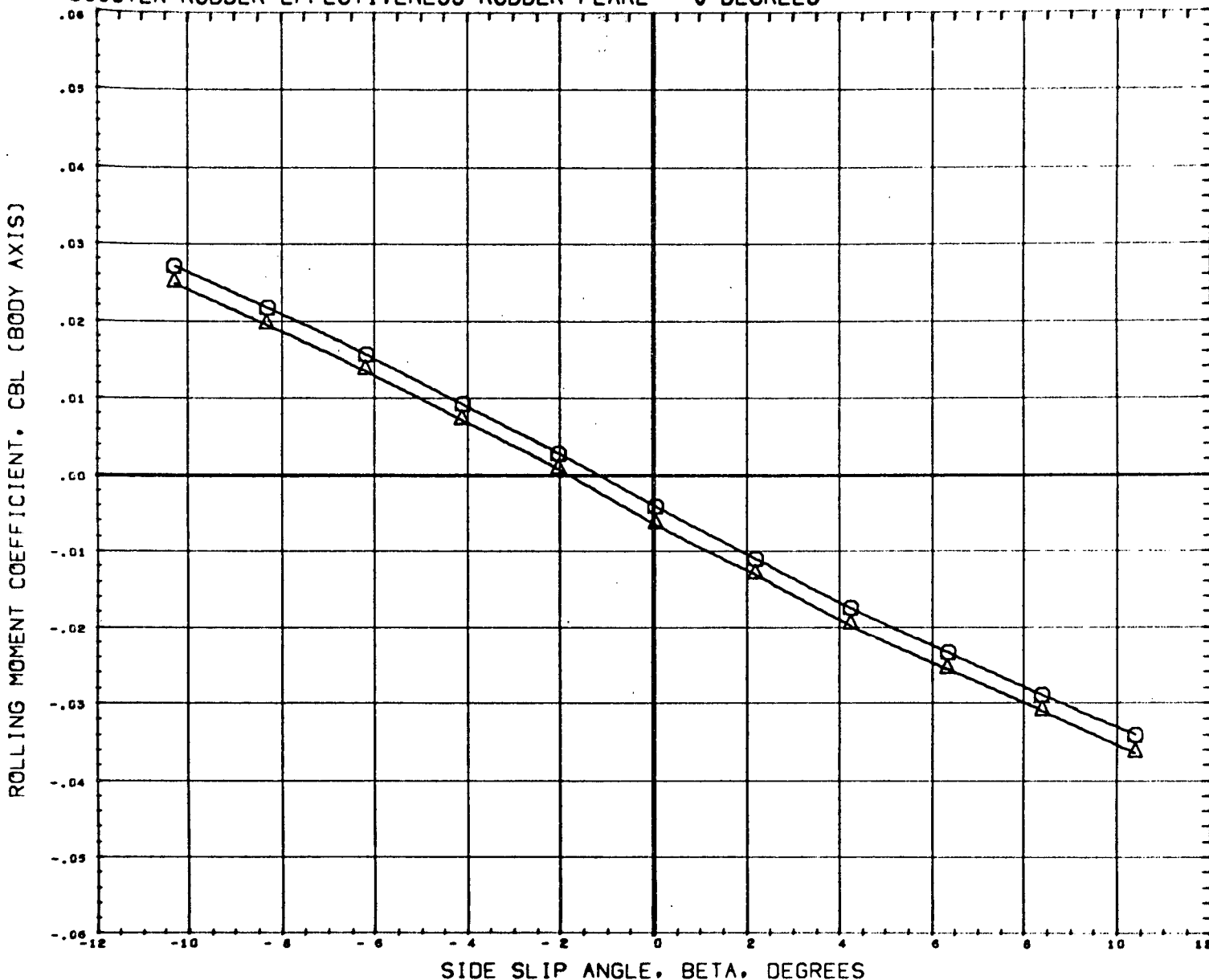
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56033) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRR	4.6400	INCH
YMRR	0.0000	INCH
ZMRR	0.6670	INCH
SCALE	0.0034	

MACH 4.959

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



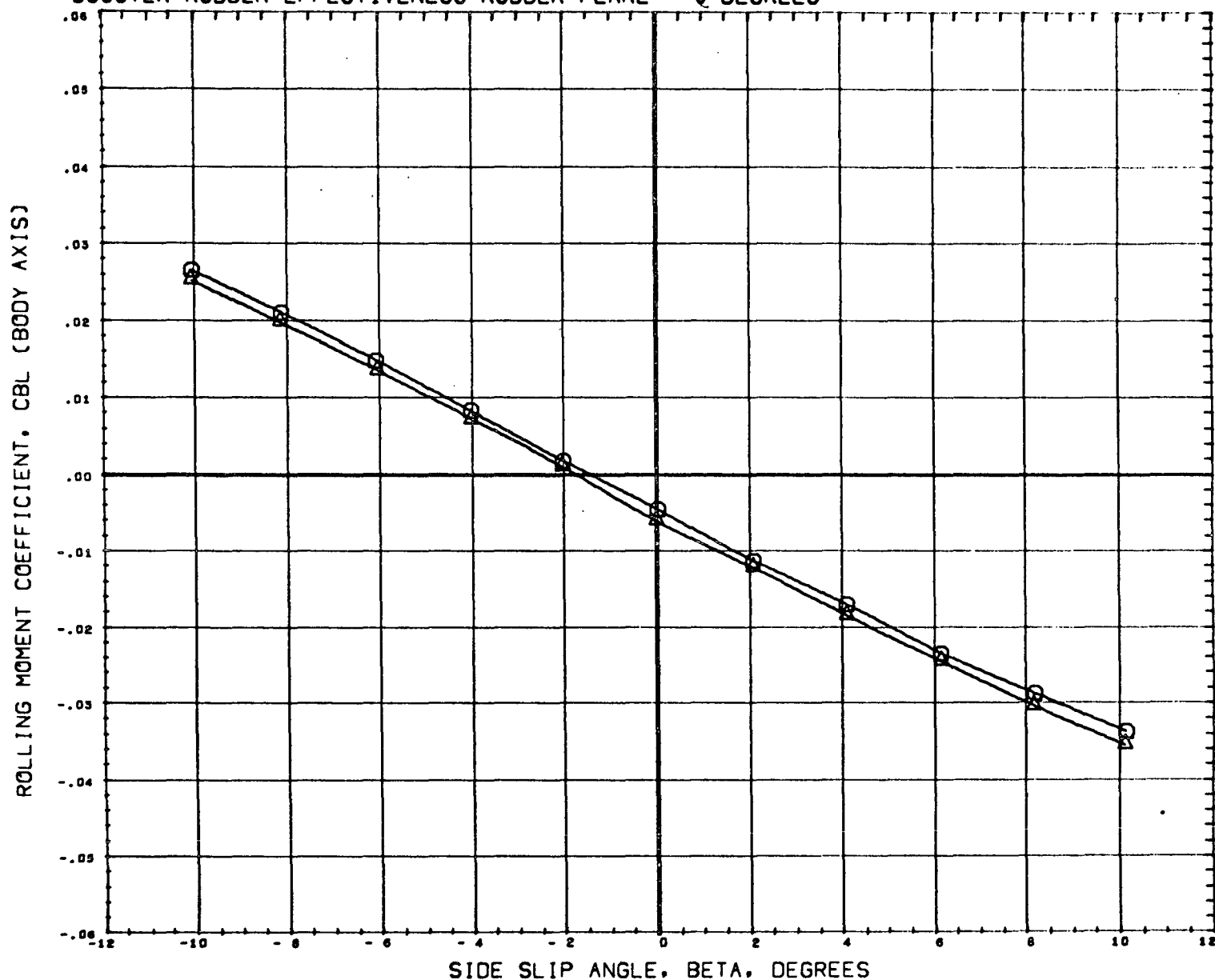
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A56033) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION		
50.000	0.000	0.000	0.000	SREF	9.7800	SQ. IN
50.000	-20.000	-20.000	0.000	LREF	6.4400	INCH
				BREF	5.7300	INCH
				XMRP	4.6400	INCH
				YMRP	0.0000	INCH
				ZMRP	0.6670	INCH
				SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES

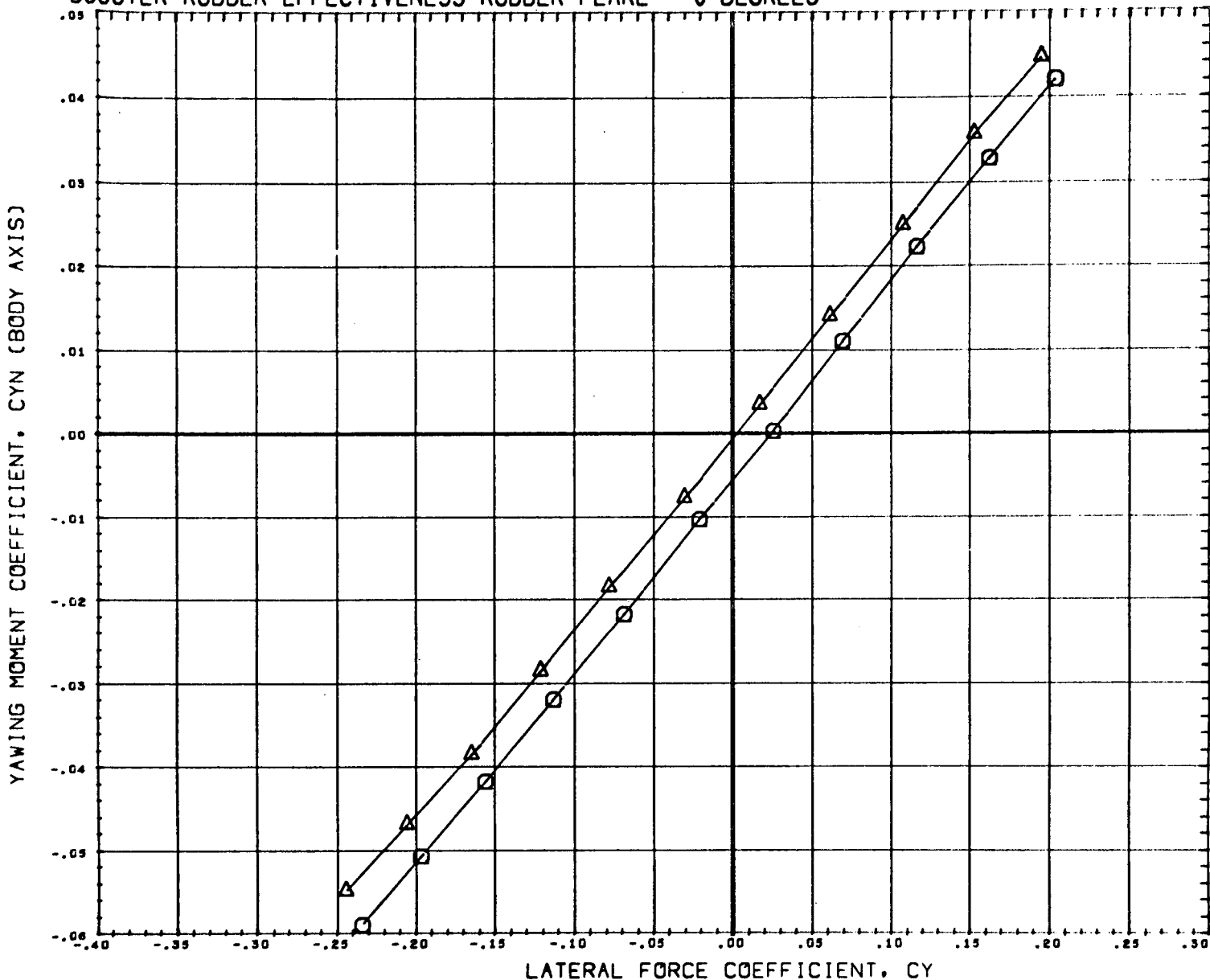


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION		
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800	SQ. IN
(A56033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	-20.000	-20.000	0.000	LREF	6.4400	INCH
						BREF	5.7300	INCH
						XMRP	4.6400	INCH
						YMRP	0.0000	INCH
						ZMRP	0.6670	INCH
						SCALE	0.0034	

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(856027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1
 (A96033)  MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1

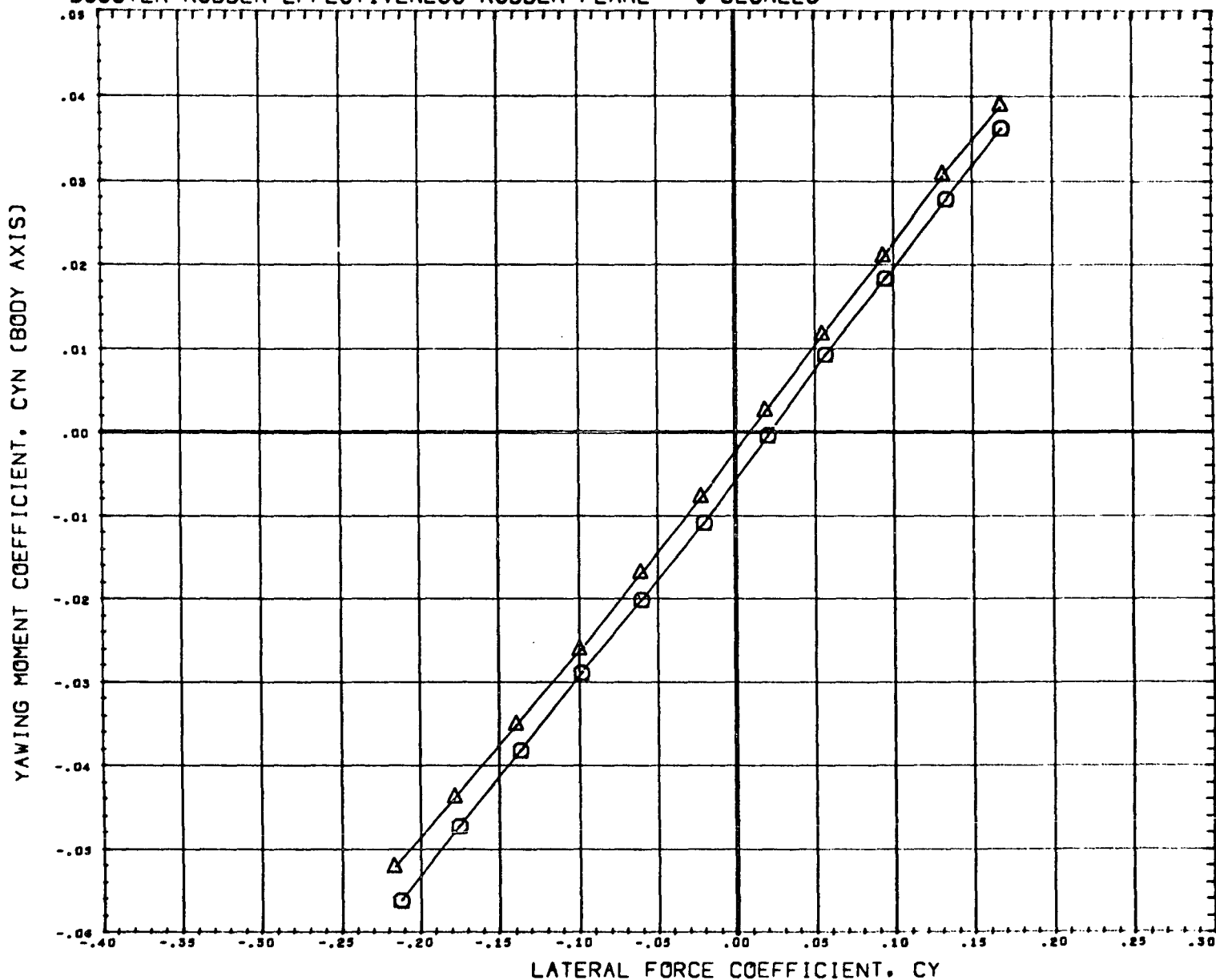
ALPHA	RUDD-L	RUDD-R	ELEVON
50.000	0.000	0.000	0.000
50.000	-20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 0 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1

(A56033)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	-20.000	-20.000	0.000

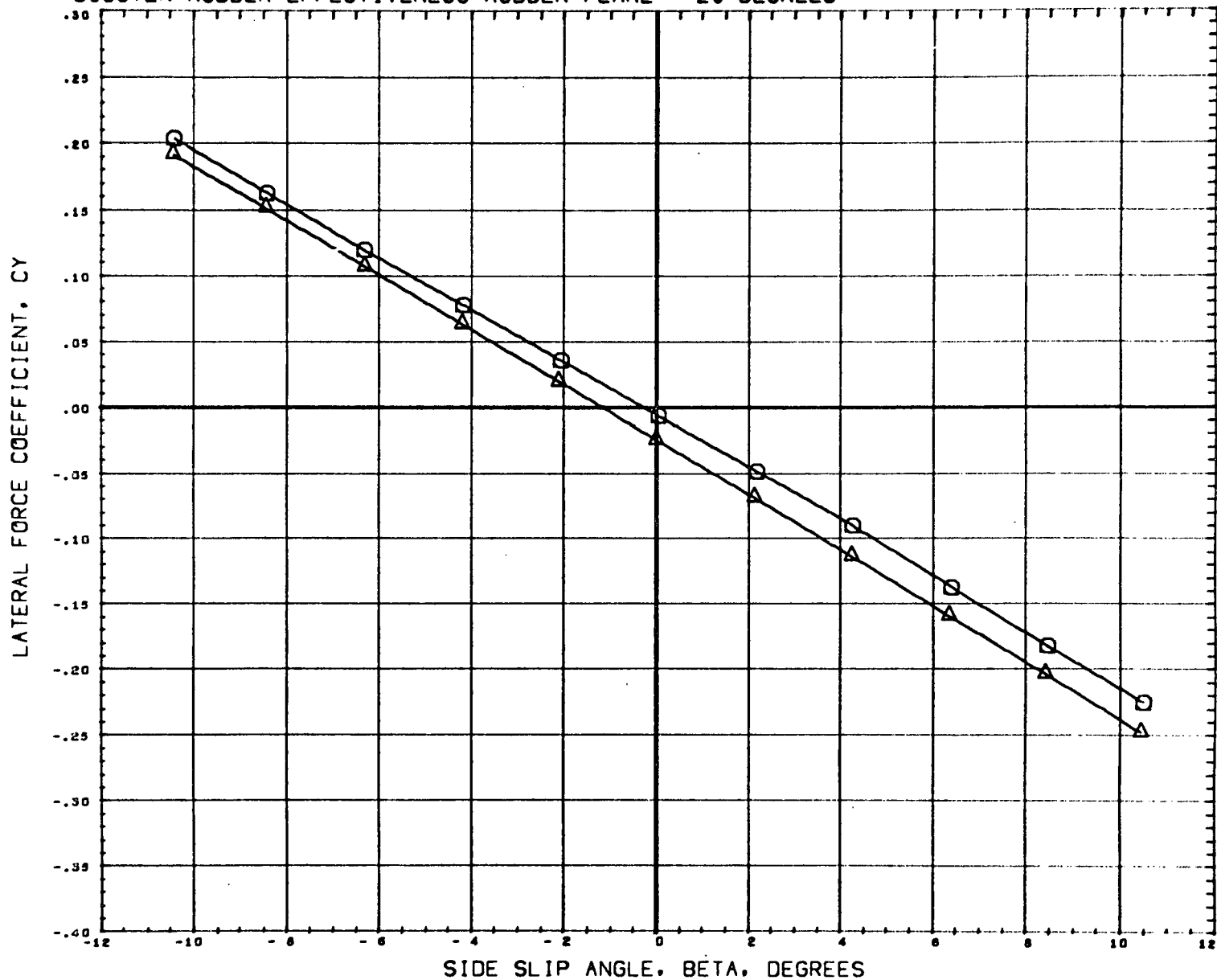
REFERENCE INFORMATION

SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

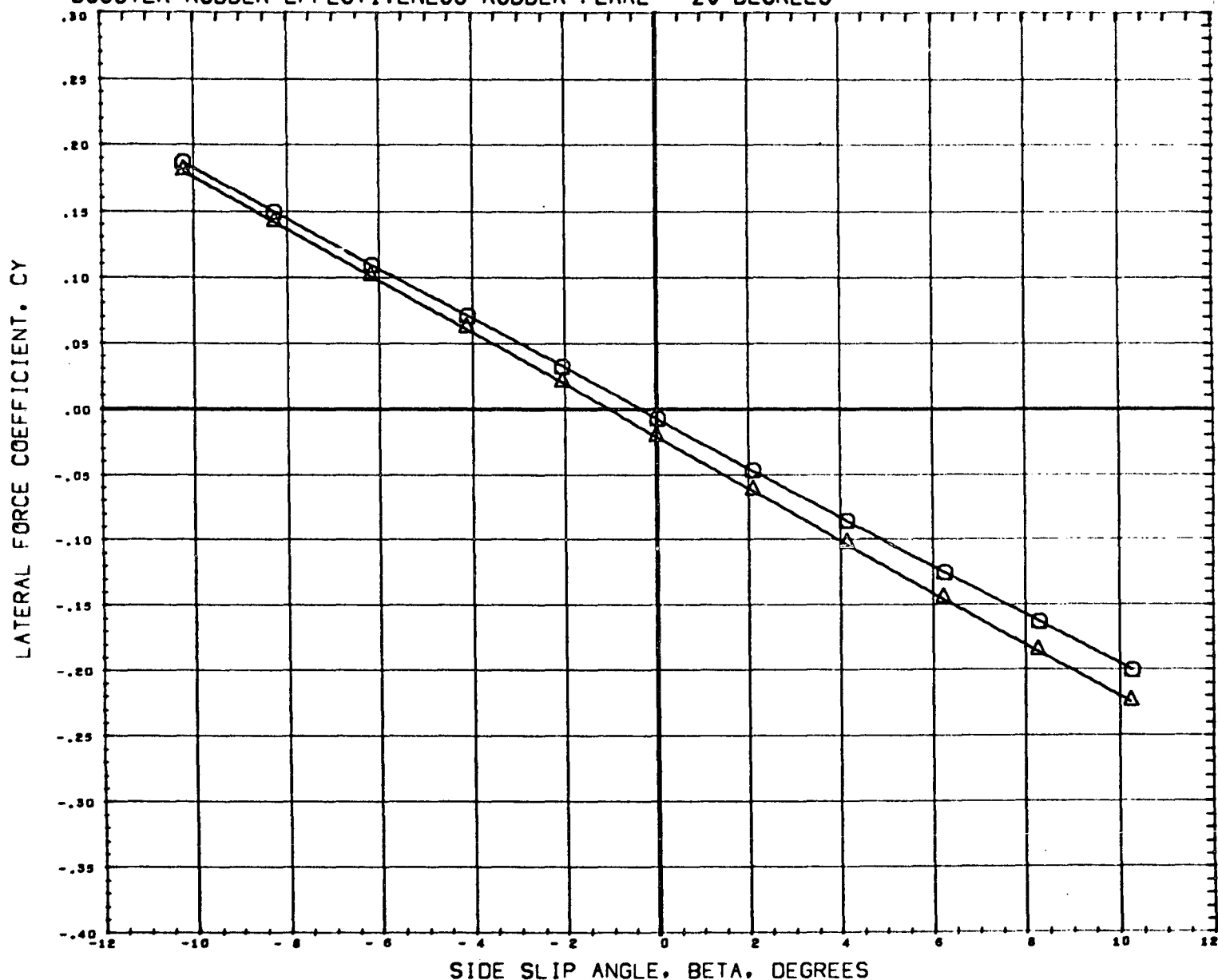


DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A96026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(A96036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

ALPHA	RUDR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
30.000	0.000	-40.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 1.960

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

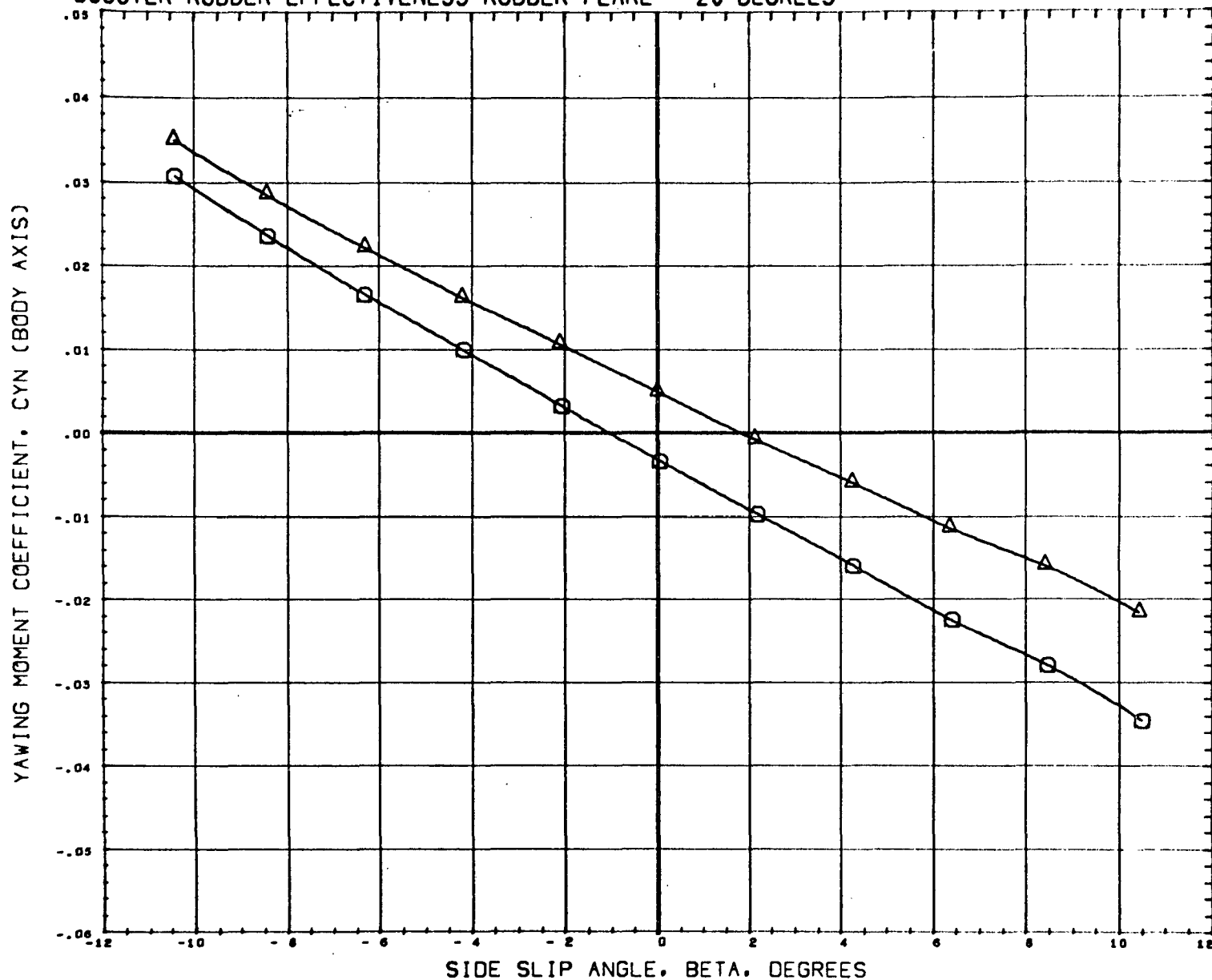


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION		
(A96026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1	30.000	0.000	0.000	0.000	SREF	9.7800	SQ. IN
(A96036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1	30.000	0.000	-40.000	0.000	LREF	6.4400	INCH
						BREF	3.7300	INCH
						XMRF	4.6400	INCH
						YMRF	0.0000	INCH
						ZMRF	0.6670	INCH
						SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

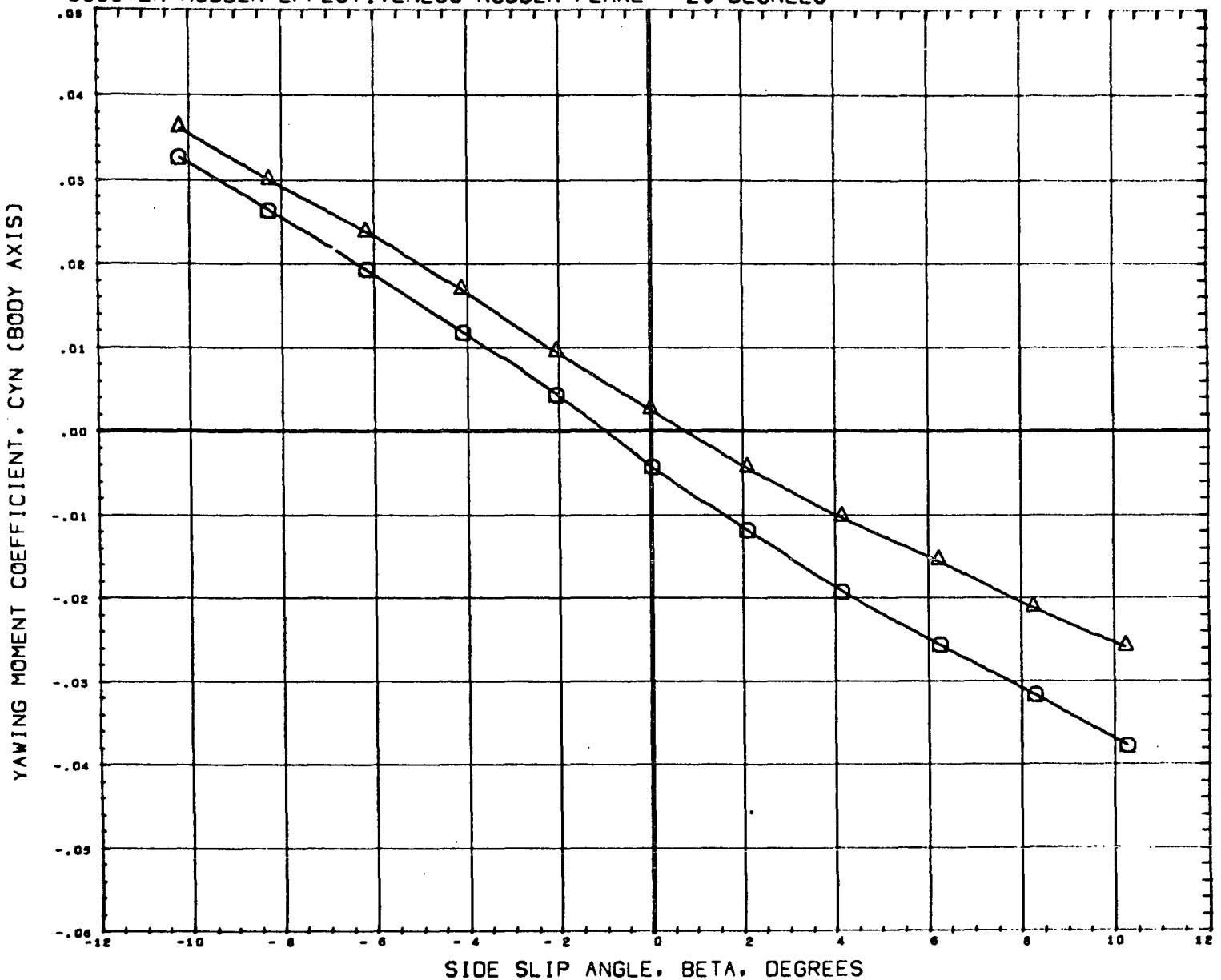


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A96026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A96036)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	-40.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AS6026)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (AS6036)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

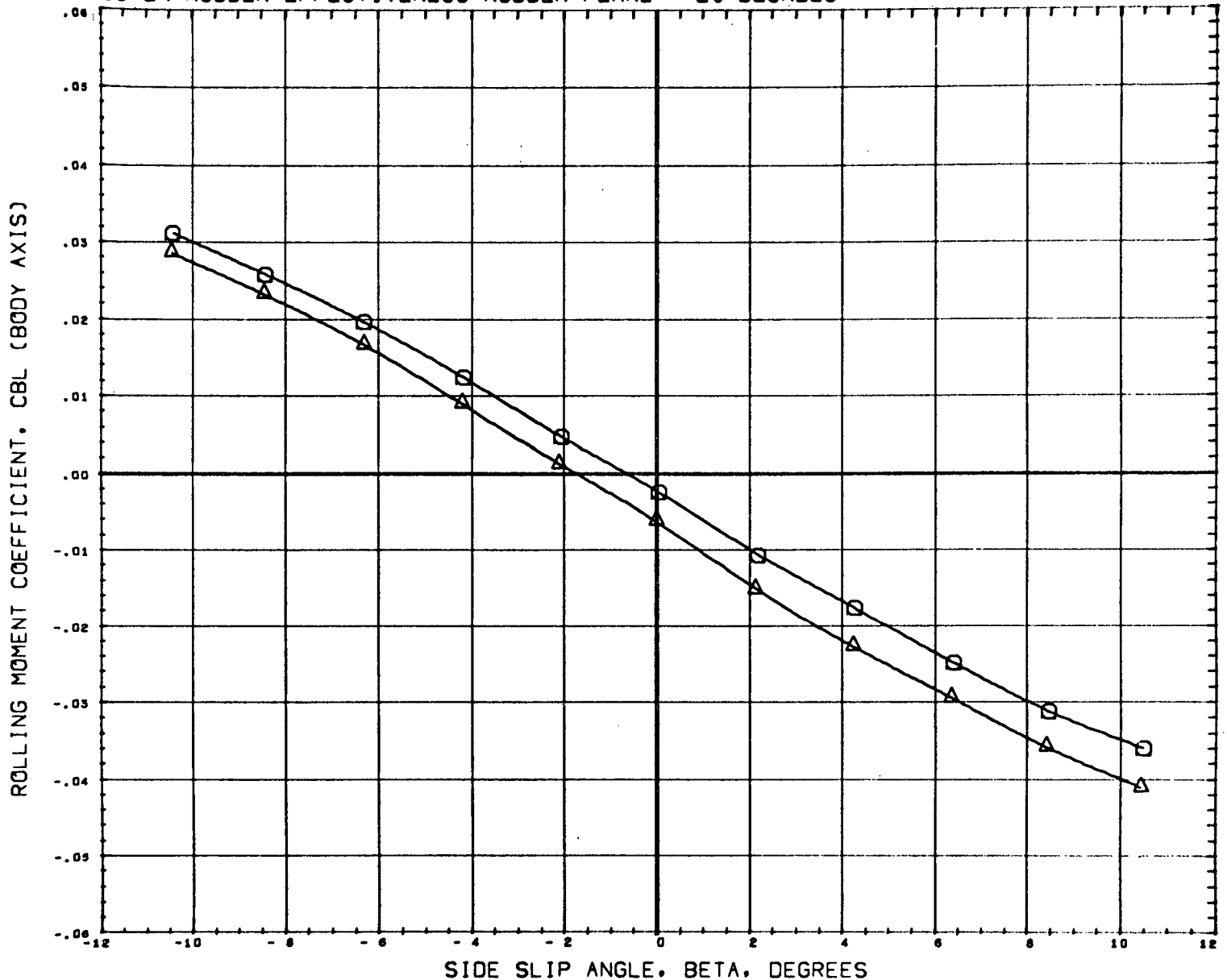
ALPHA	RUCR-L	RUCR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	0.000	-40.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A36026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A36036) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

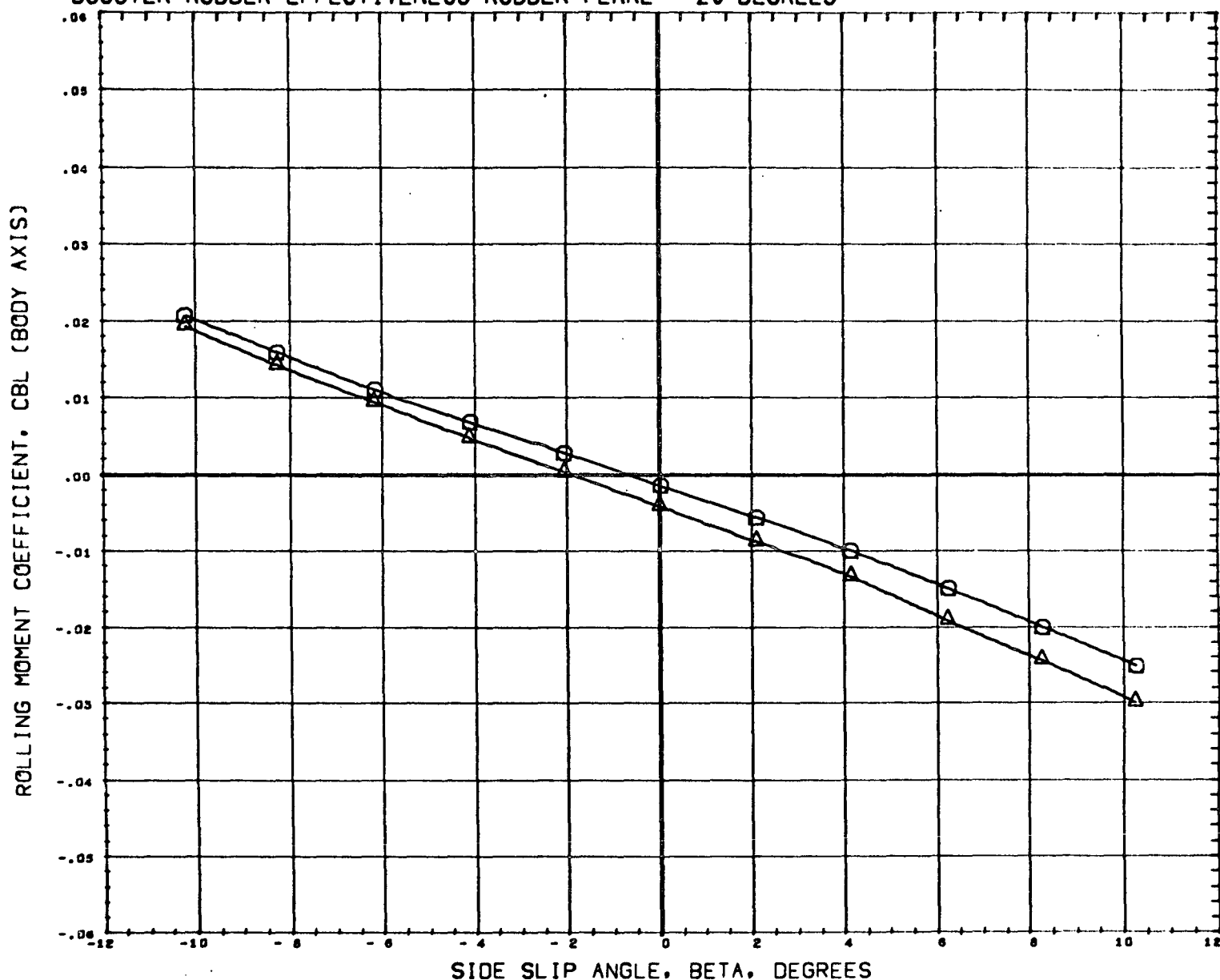
ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	0.000	-40.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



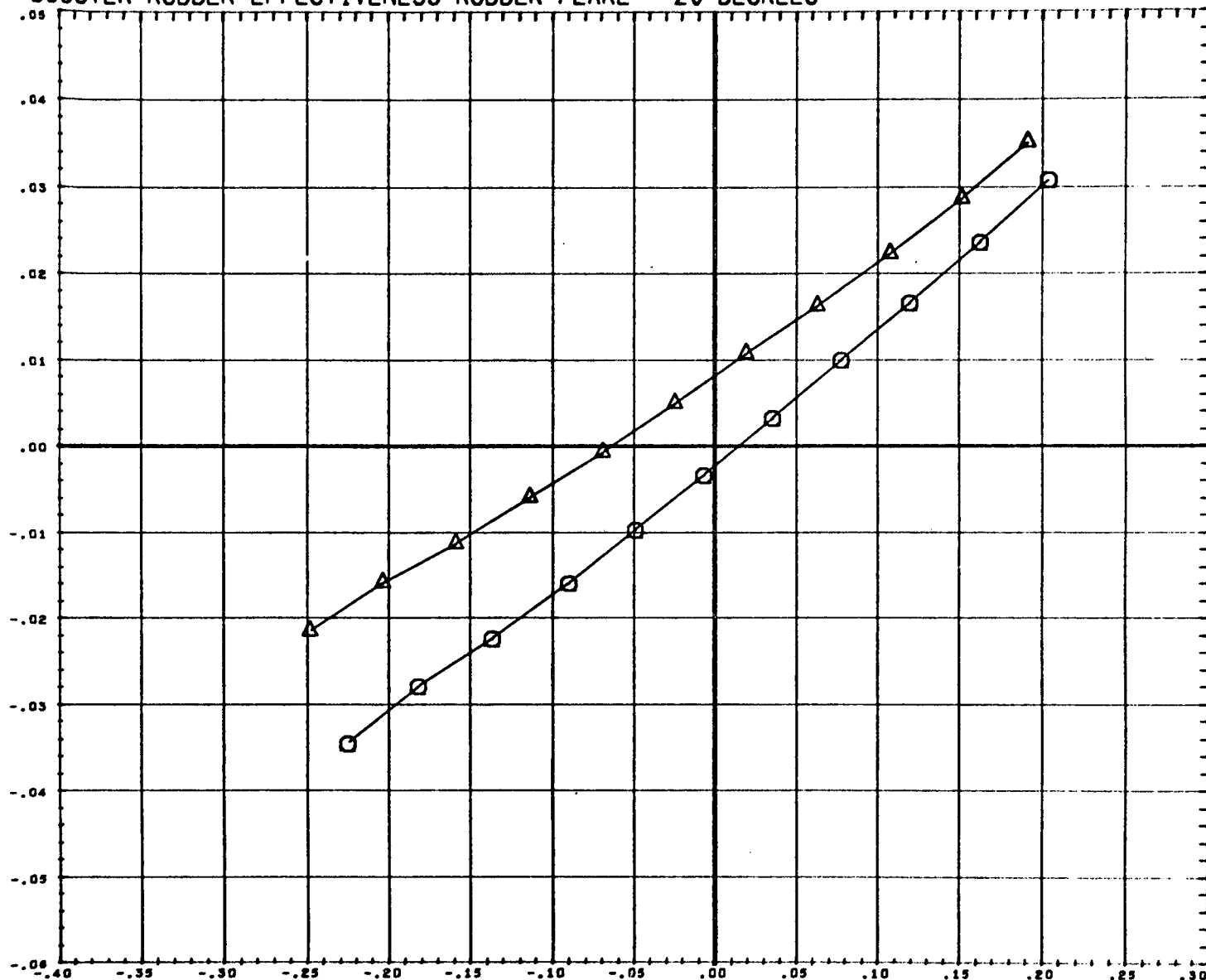
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A96026) 	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(A96036) 	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDD-L	RUDD-R	ELEVON	REFERENCE INFORMATION
30.000	0.000	0.000	0.000	SREF 9.7800 SQ. IN
30.000	0.000	-40.000	0.000	LREF 6.4400 INCH
				BREF 5.7300 INCH
				XMRP 4.6400 INCH
				YMRP 0.0000 INCH
				ZMRP 0.6670 INCH
				SCALE 0.0034

MACH 2.740

BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



LATERAL FORCE COEFFICIENT, CY

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56026)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
 (A56036)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

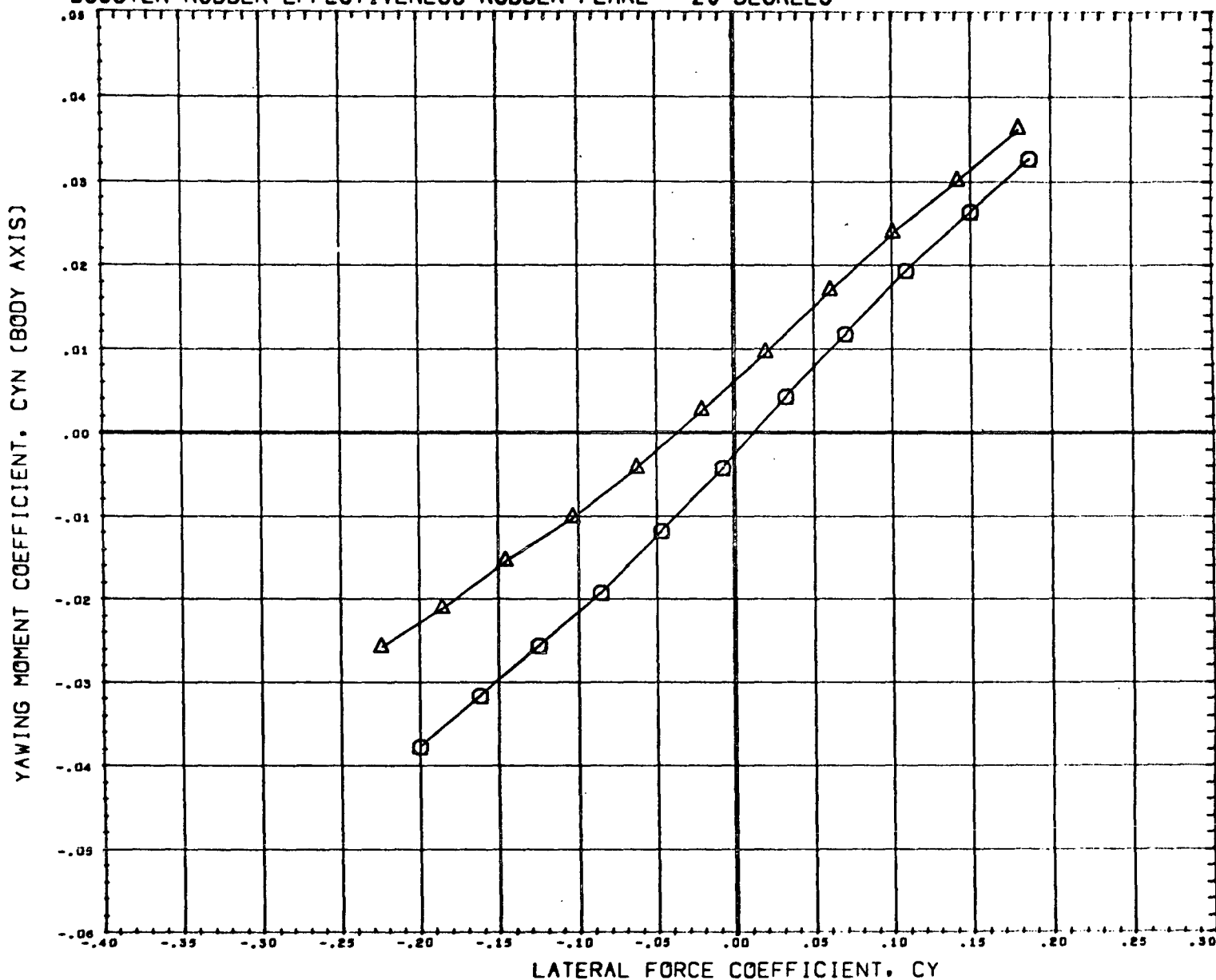
ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	0.000	-40.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A96026)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

(A96036)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

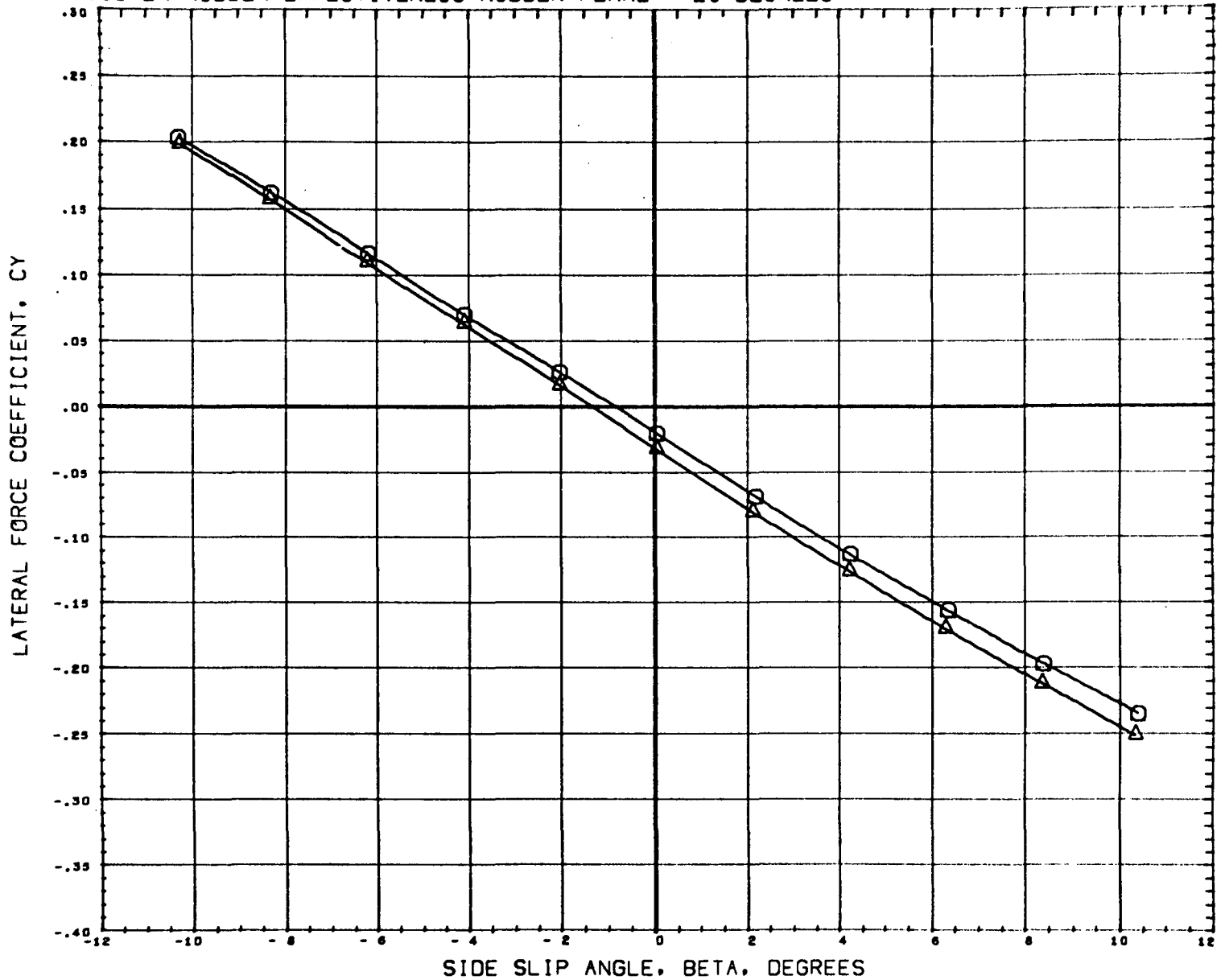
ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	0.000	-40.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

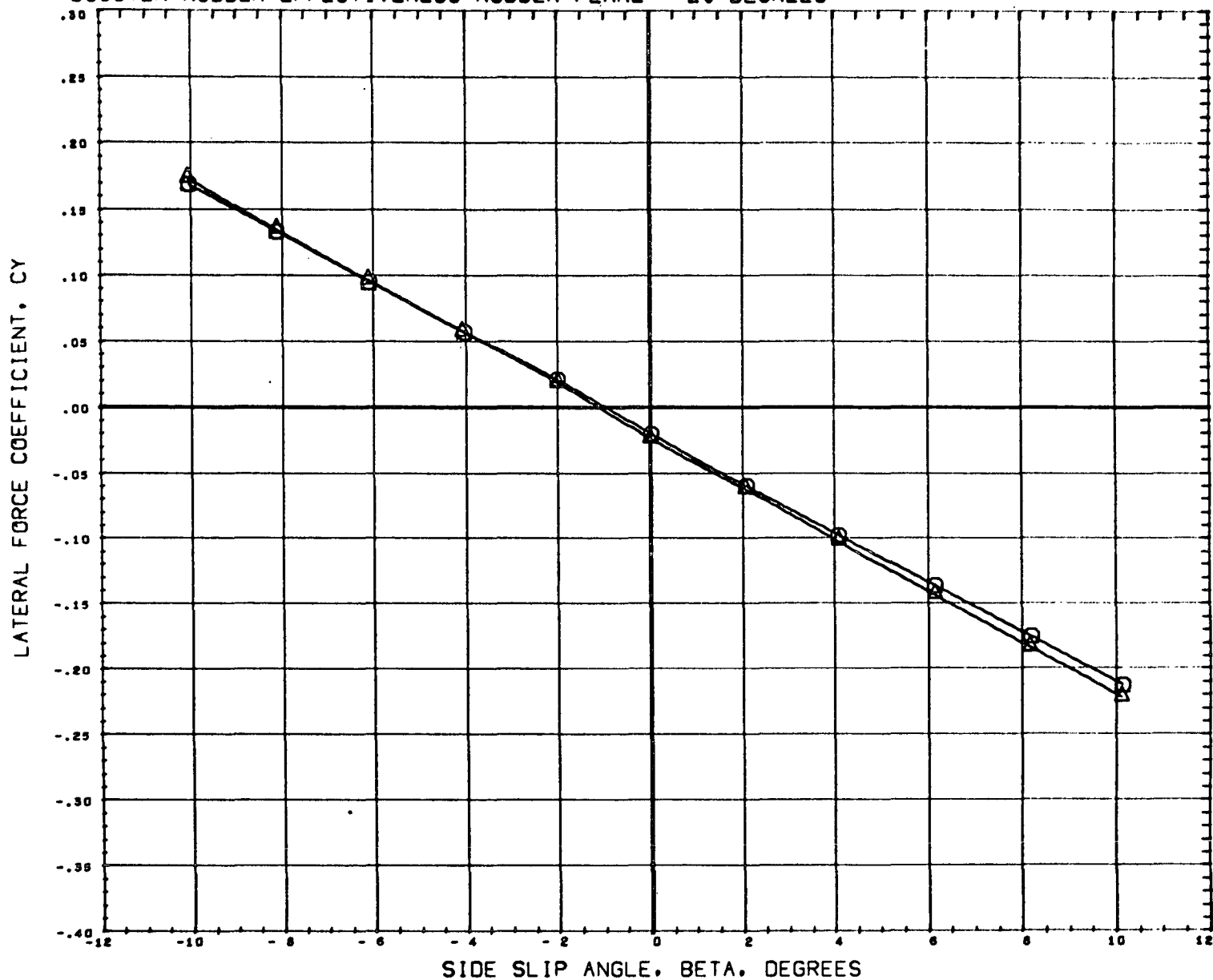


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDD-L	RUDD-R	ELEVON	REFERENCE INFORMATION	
(896027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A96037)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	-40.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(896027) ○	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(A96037) △	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

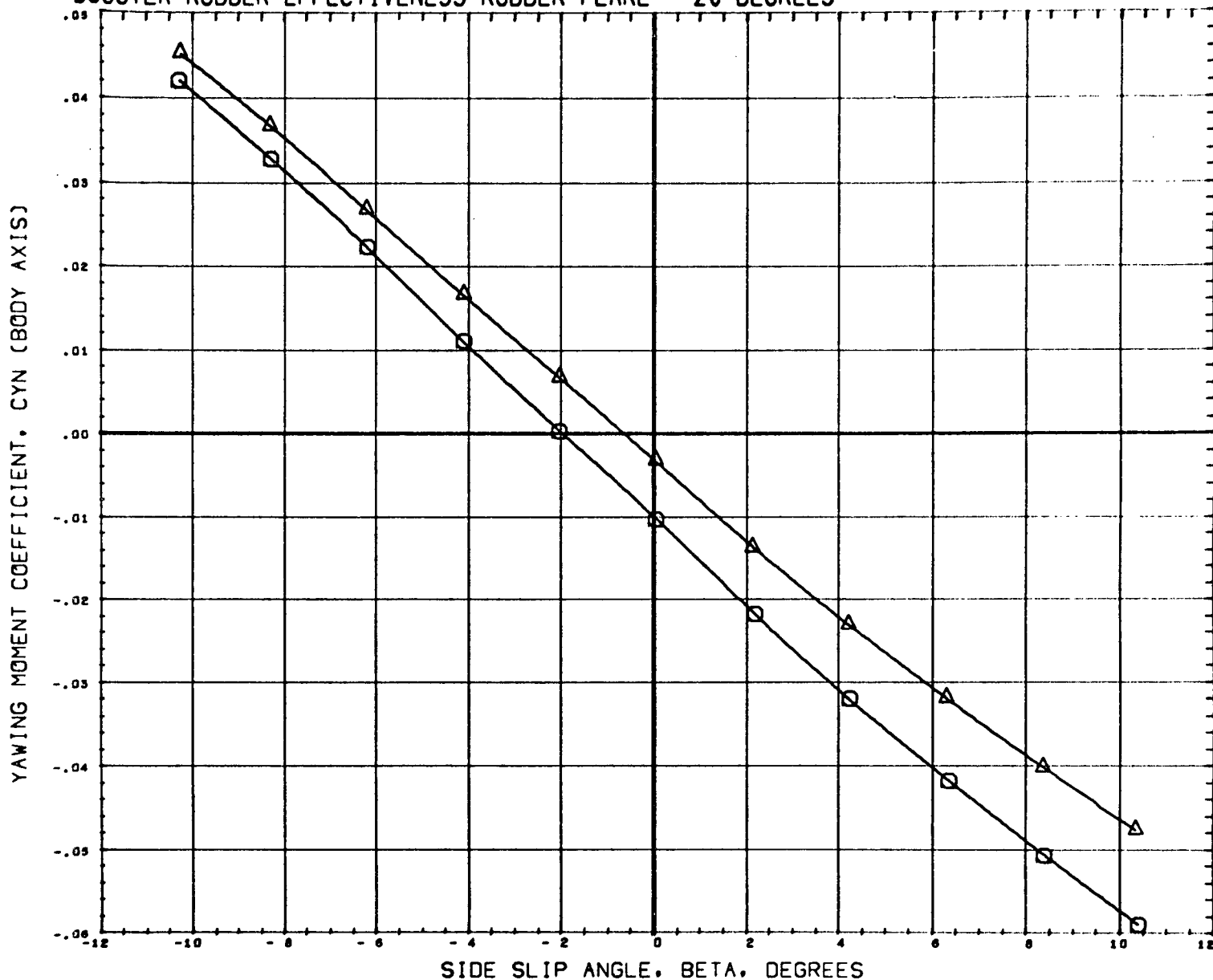
ALPHA	RUCR-L	RUCR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	0.000	-40.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56037) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	0.000	-40.000	0.000

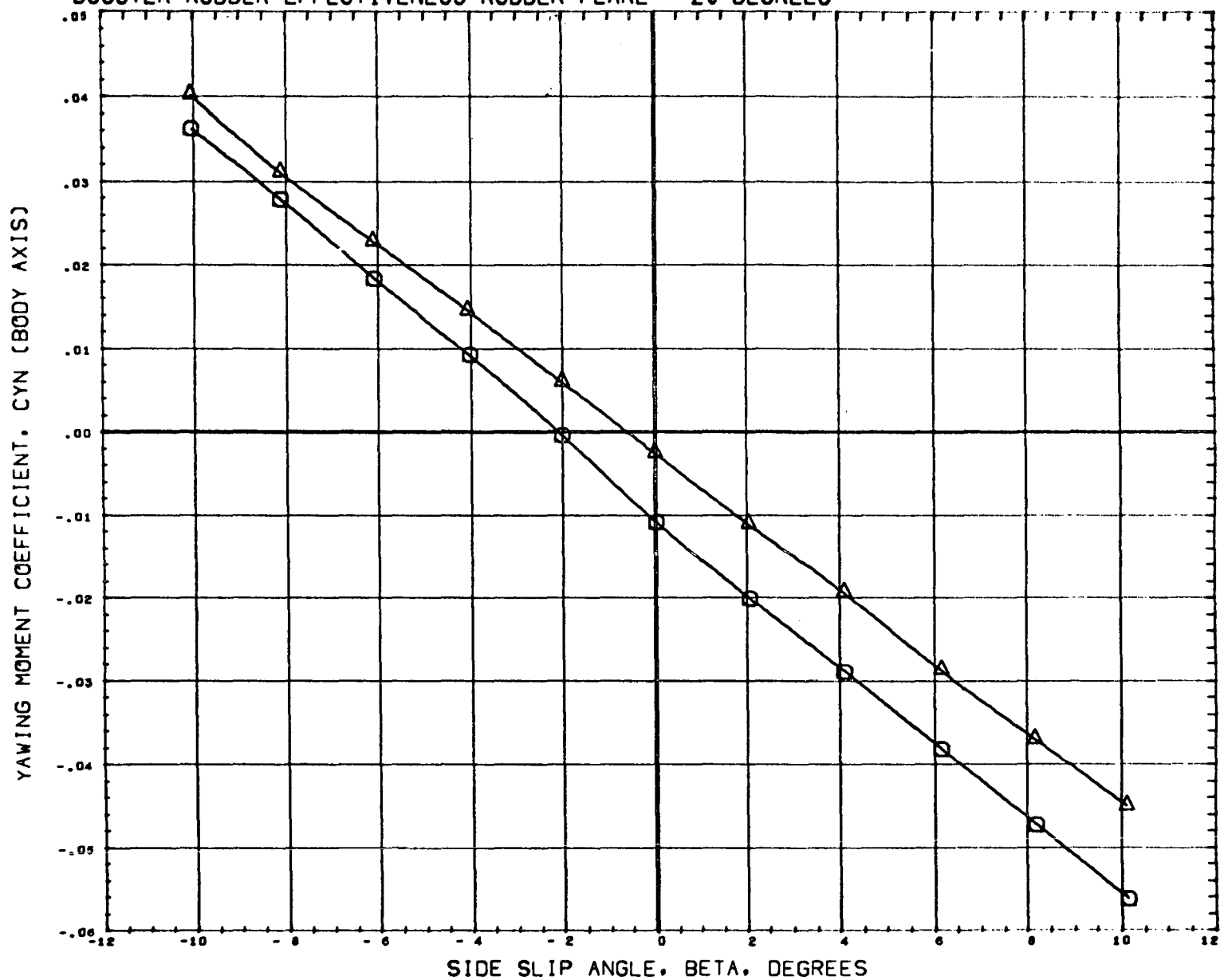
REFERENCE INFORMATION

SREF	9.7800	sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



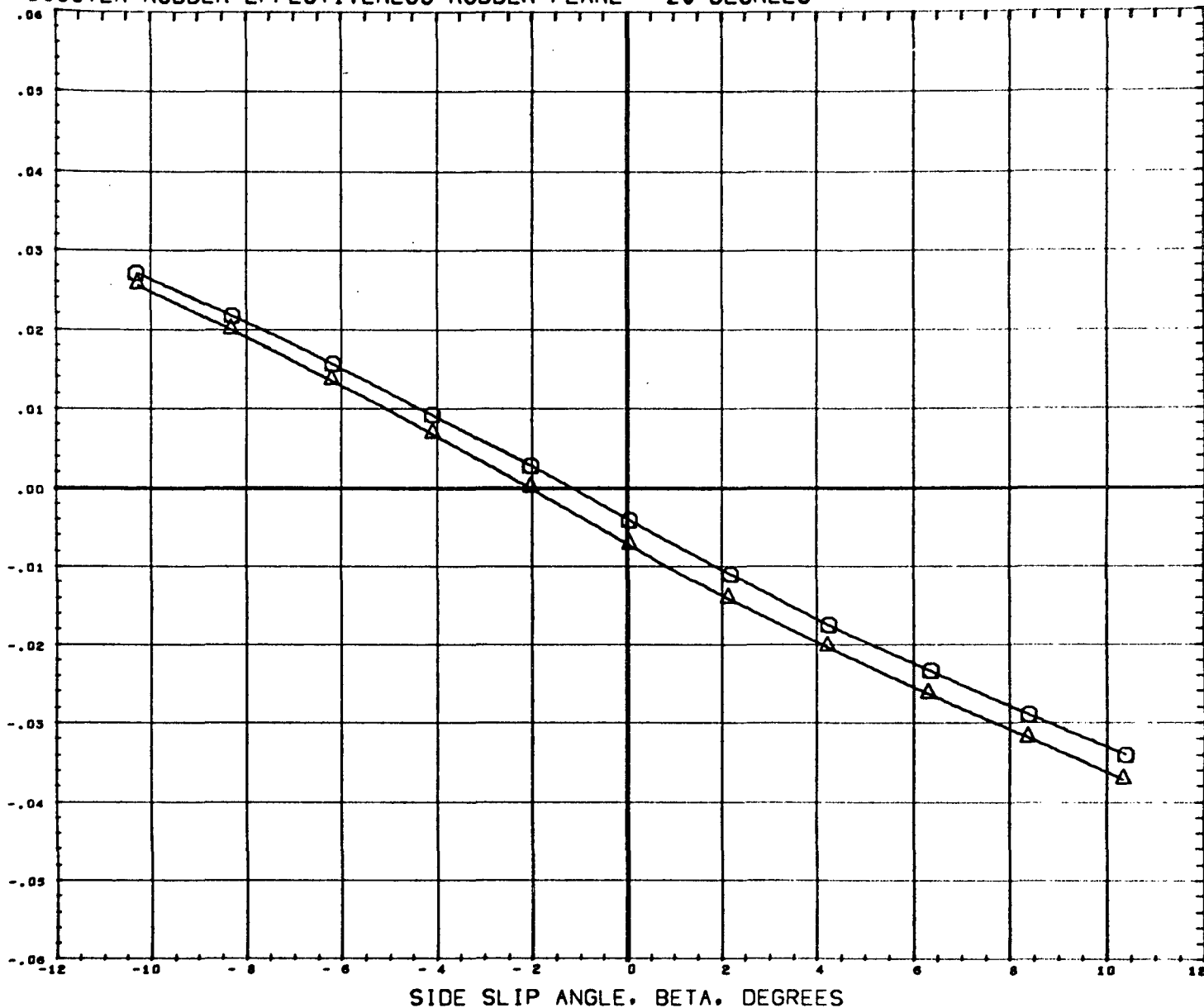
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
(B36027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56037)	MSFC TWT 517, RETRO-GLIDE BOOSTER, 81W1C1V1	50.000	0.000	-40.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(856027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

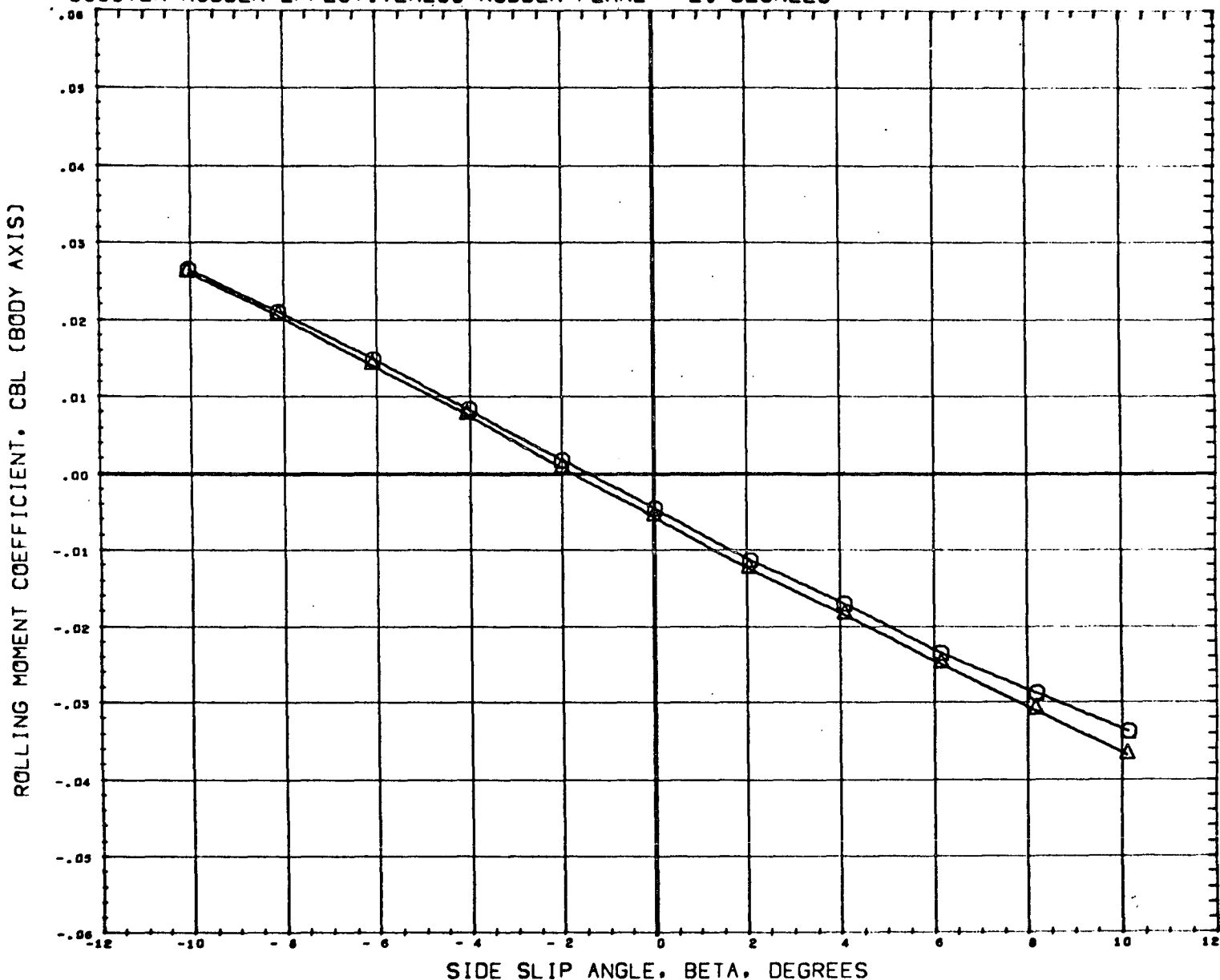
(A56037)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
50.000	0.000	-40.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1

(A56037) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1

ALPHA	RUCR-L	RUCR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	0.000	-40.000	0.000

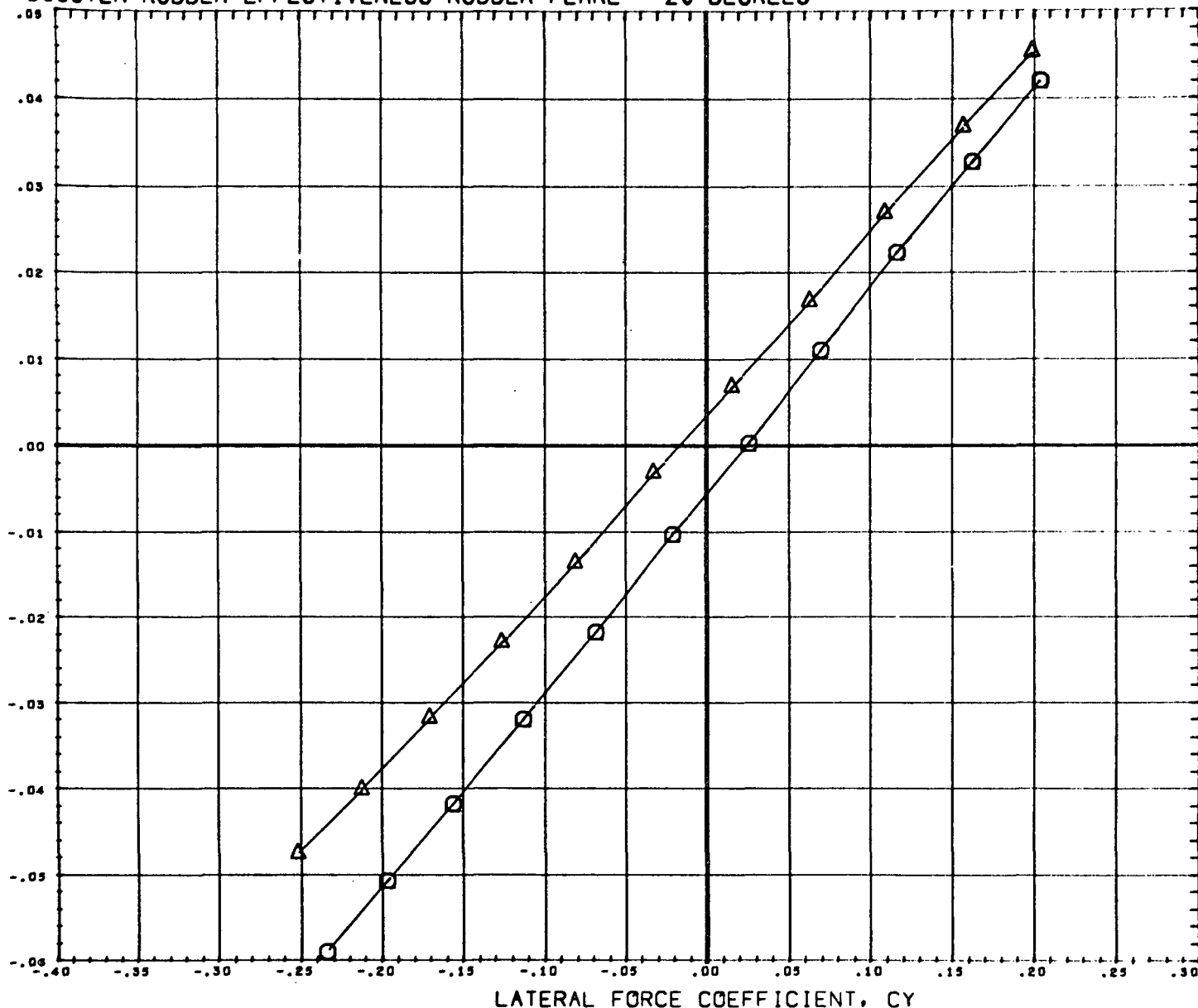
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.8670	INCH
SCALE	0.0034	

MACH 4.959

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(B56027) Δ	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(AS6037) $\circ$	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

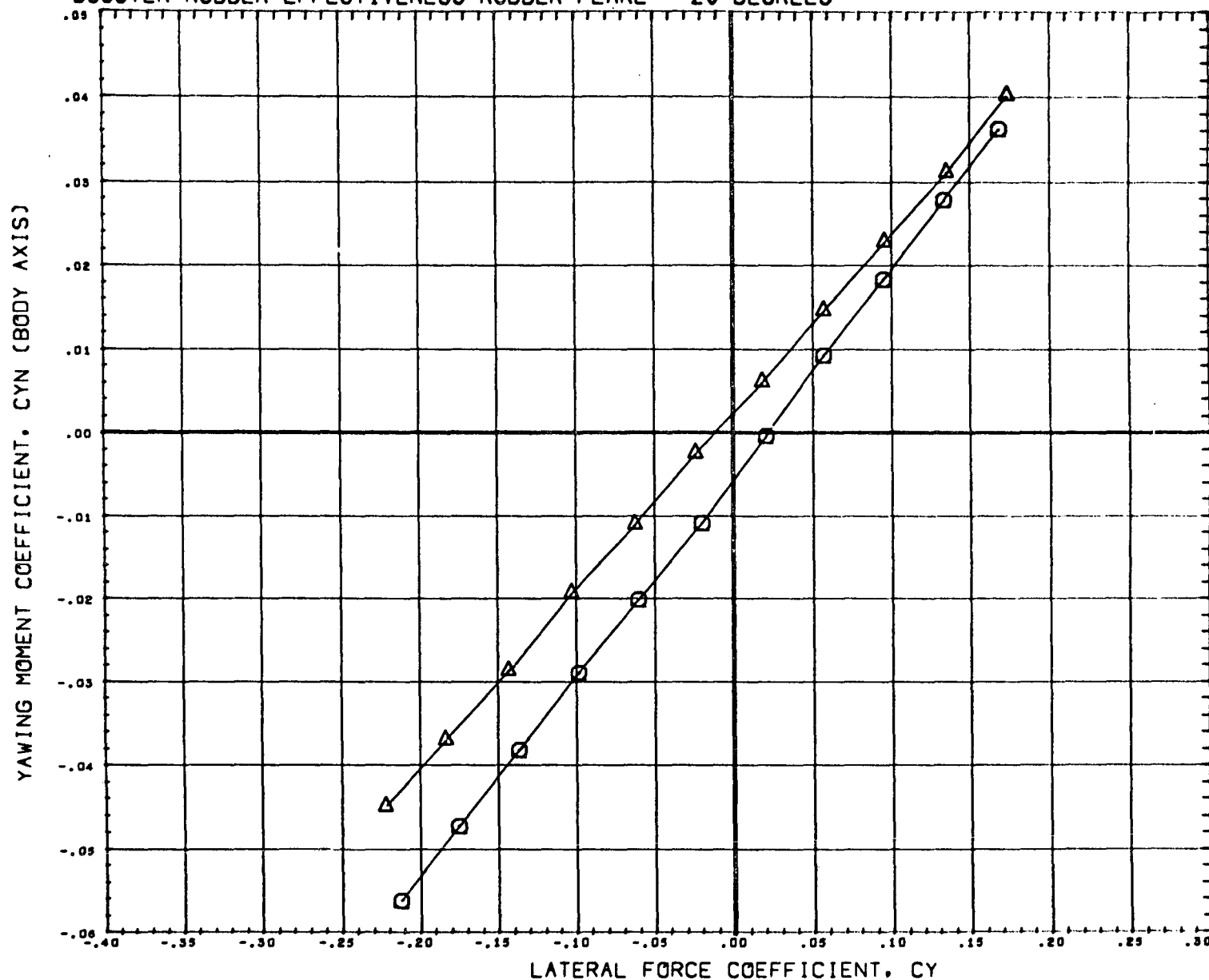
ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	0.000	-40.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRR	4.6400	INCH
YMRR	0.0000	INCH
ZMRR	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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BOOSTER RUDDER EFFECTIVENESS RUDDER FLARE = 20 DEGREES

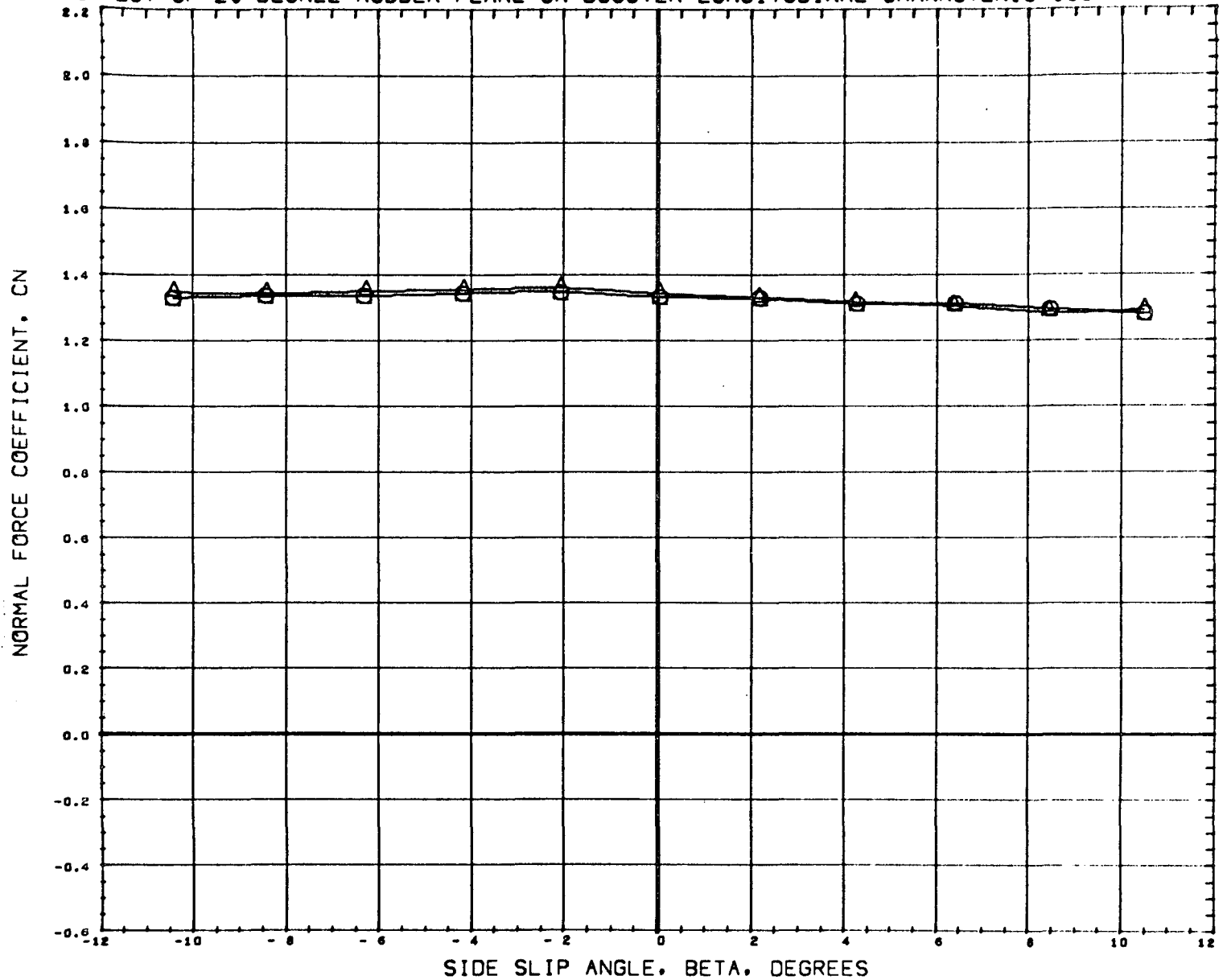


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDD-L	RUDD-R	ELEVON	REFERENCE INFORMATION	
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7600 SQ. IN
(A56037)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	-40.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.959

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

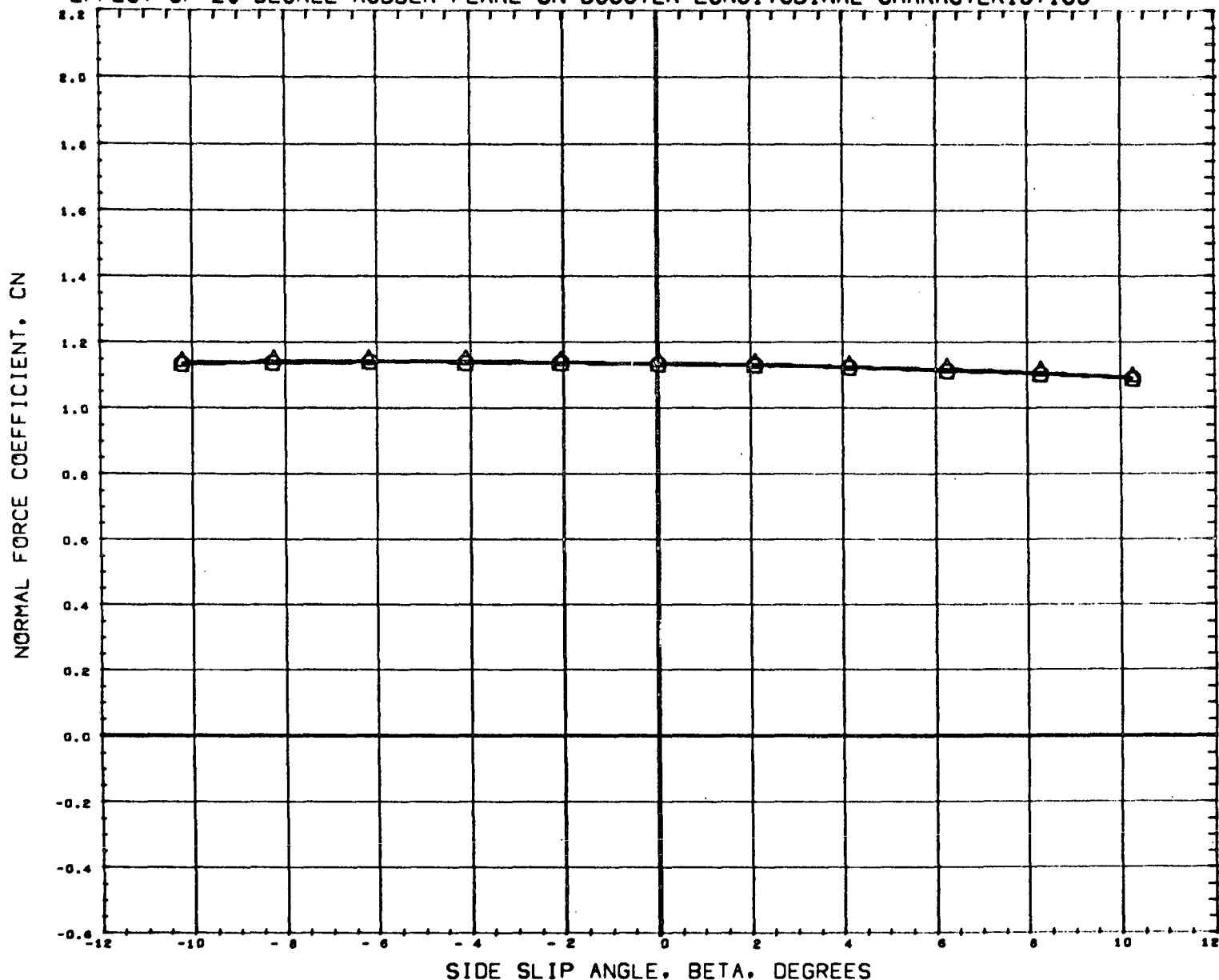


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

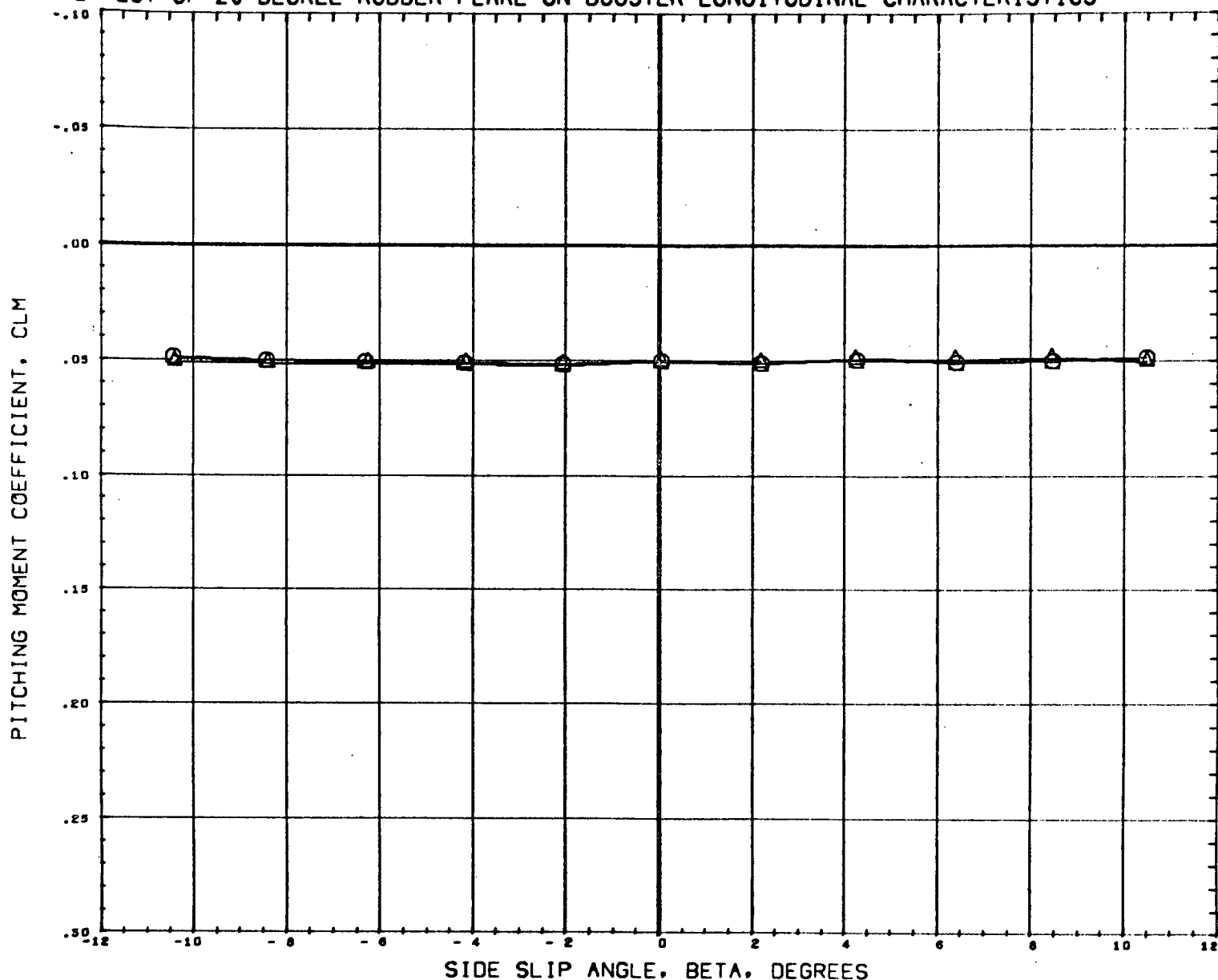


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A36026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A36034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56034) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

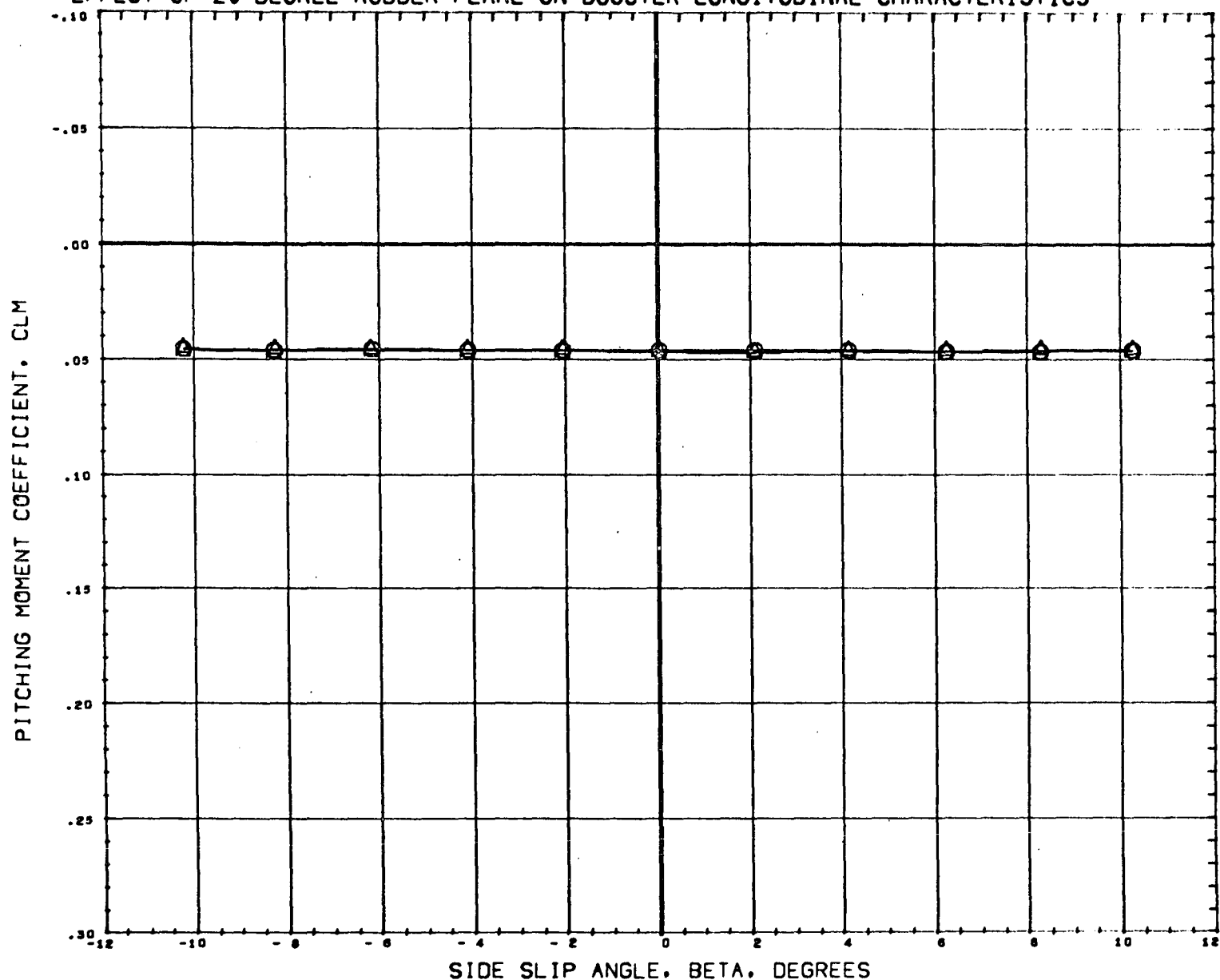
ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

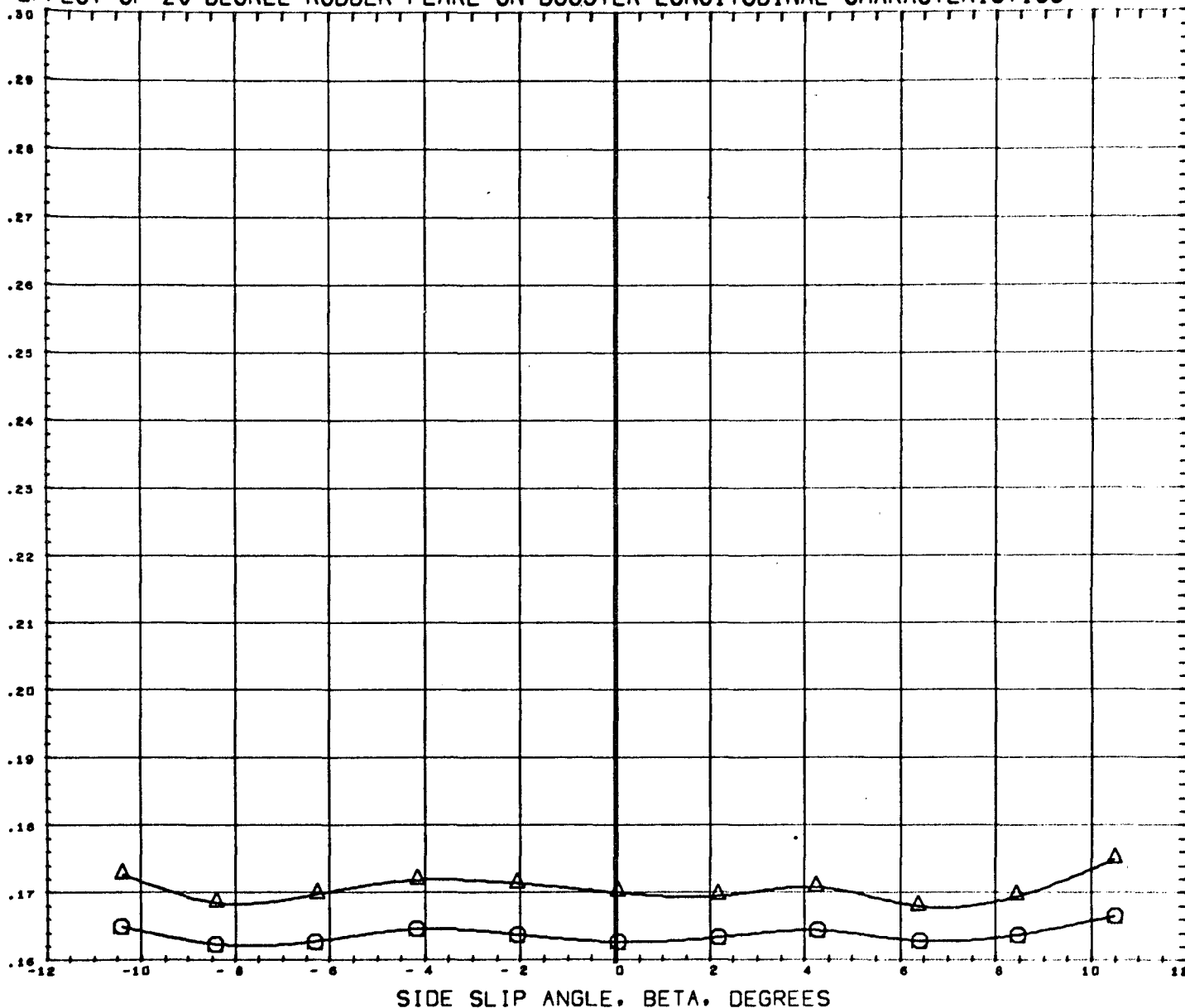


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION		
(A96026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	0.000	0.000	0.000	SREF	9.7800	39. IN
(A96034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	20.000	-20.000	0.000	LREF	6.4400	INCH
						BREF	5.7300	INCH
						XMRP	4.6400	INCH
						YMRP	0.0000	INCH
						ZMRP	0.6670	INCH
						SCALE	0.0034	

MACH 2.740

EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56026) ○ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56034) △ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

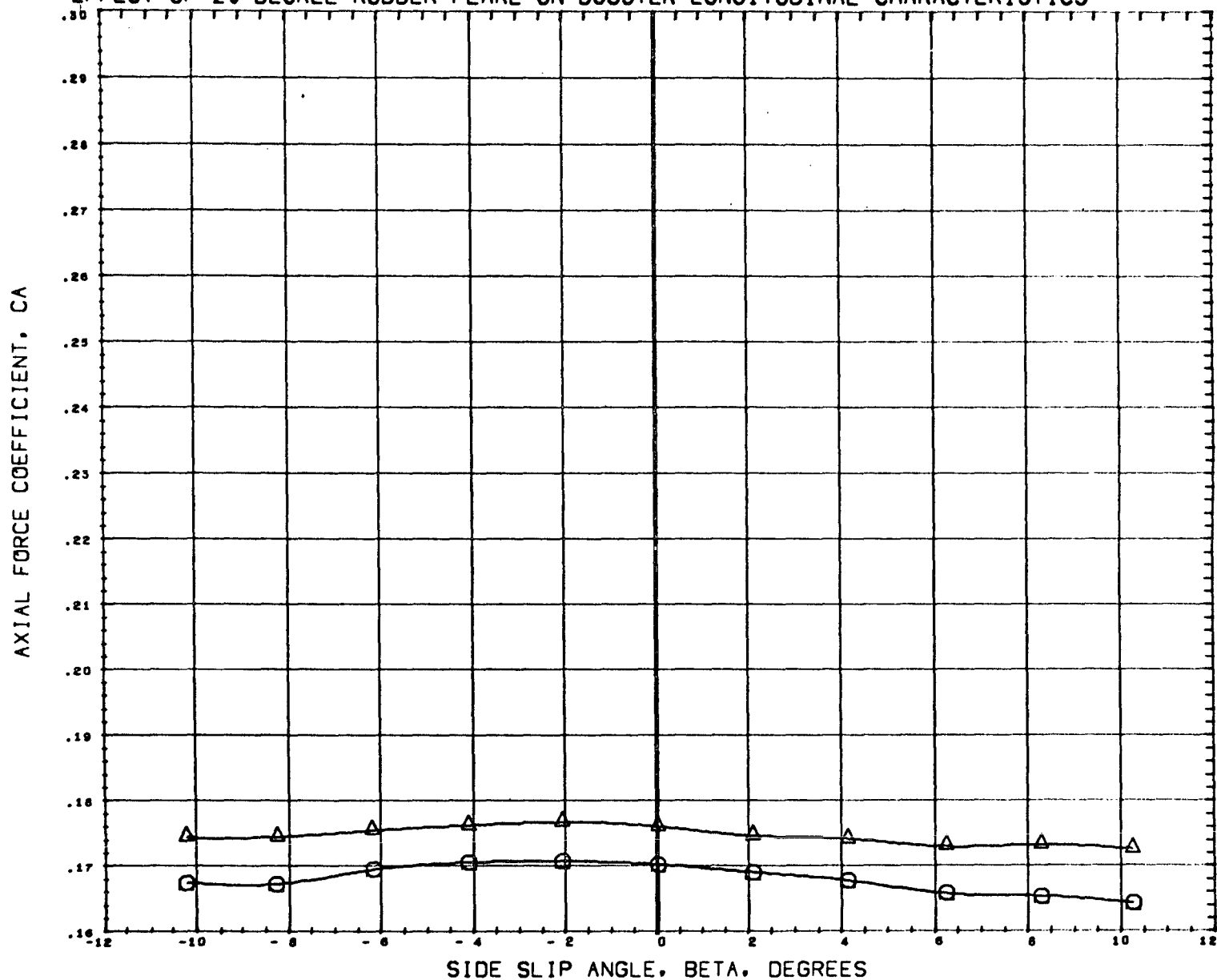
ALPHA	RUCR-L	RUCR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

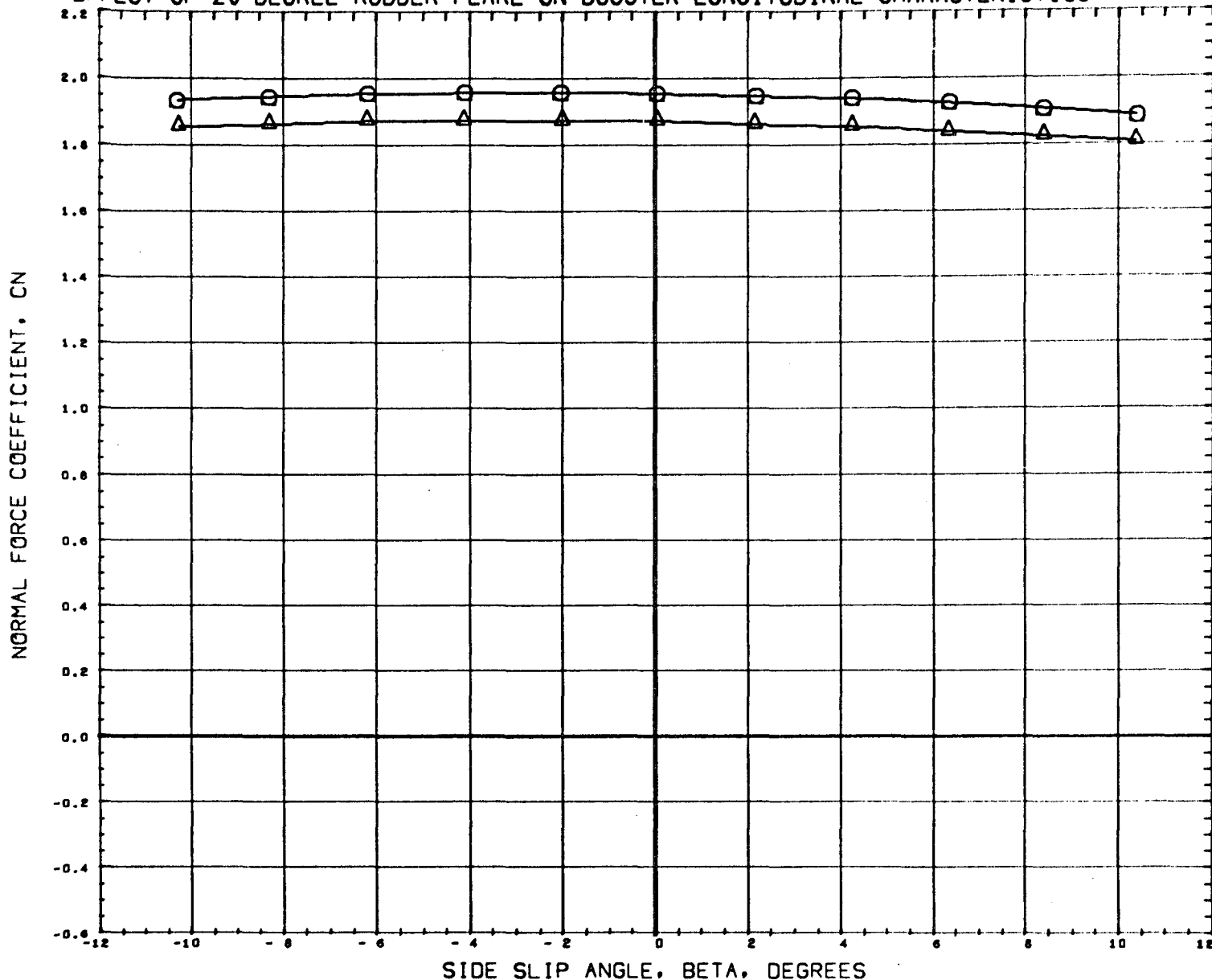


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDDER-L	RUDDER-R	ELEVON	REFERENCE INFORMATION	
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1	30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1
 (A56033)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1WIC1V1

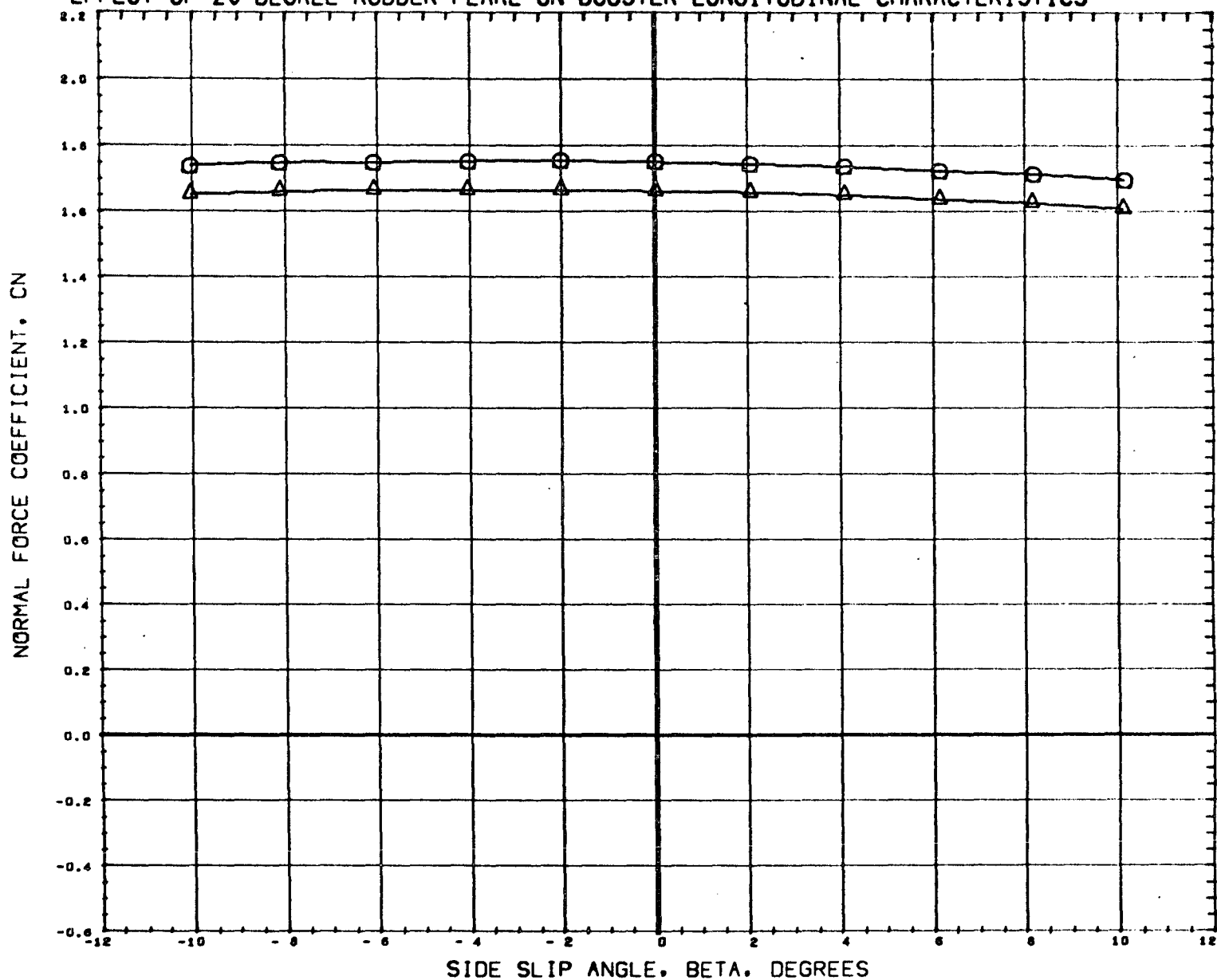
ALPHA	RUCR-L	RUCR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

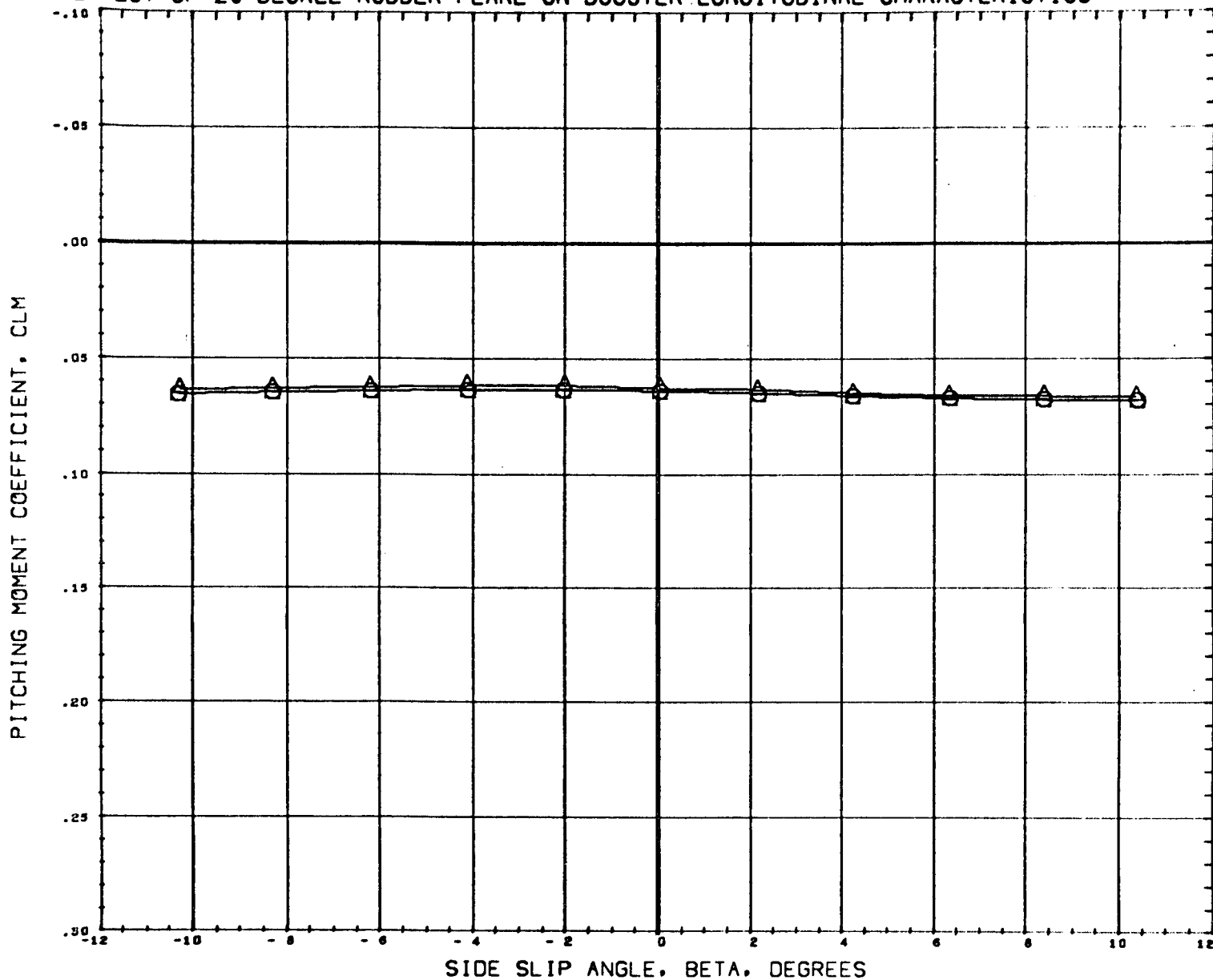
ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION	
SREF	9.7800 SQ. IN
LREF	6.4400 INCH
BREF	5.7300 INCH
XMRP	4.6400 INCH
YMRP	0.0000 INCH
ZMRP	0.6670 INCH
SCALE	0.0034

MACH 4.959

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

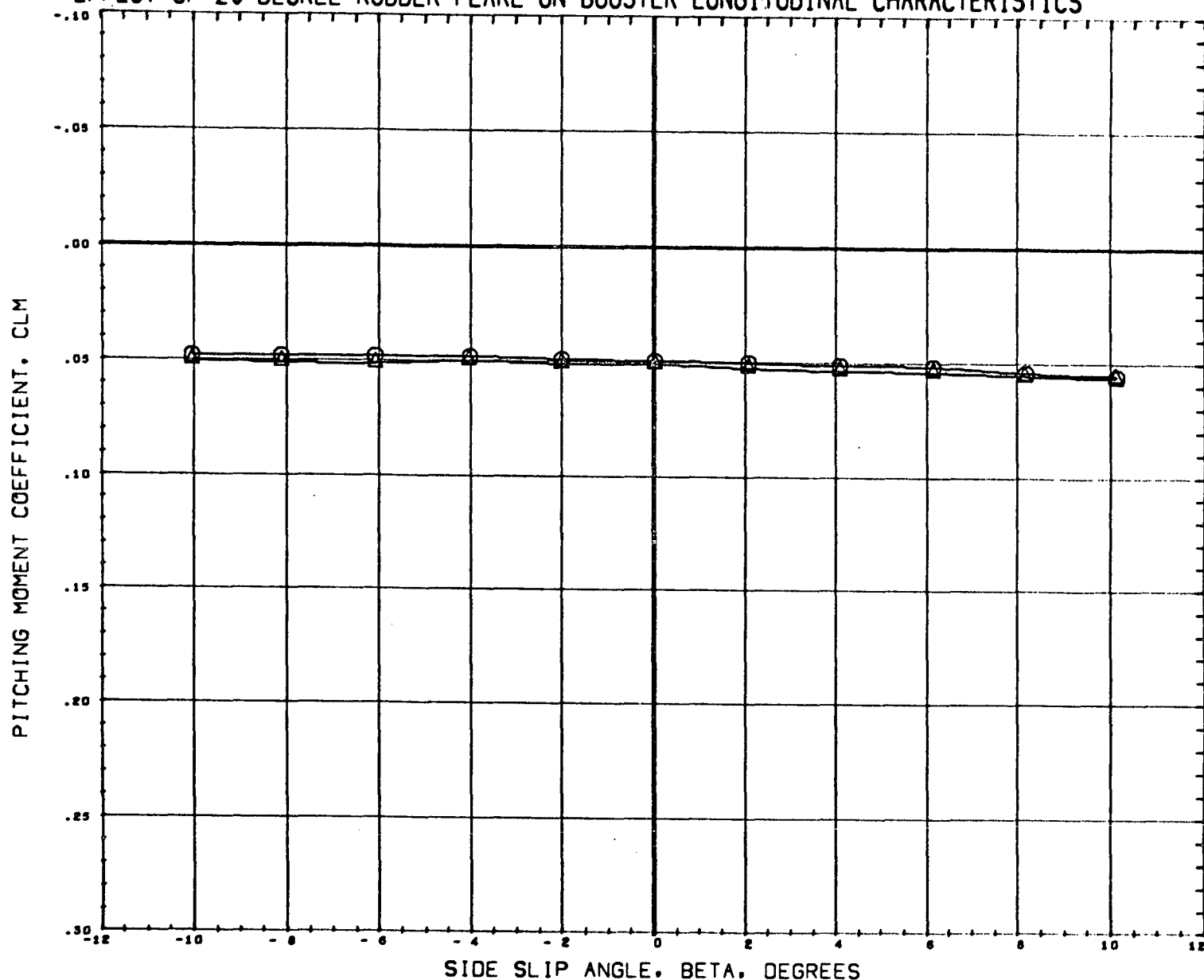


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
(B36027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A36033)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS



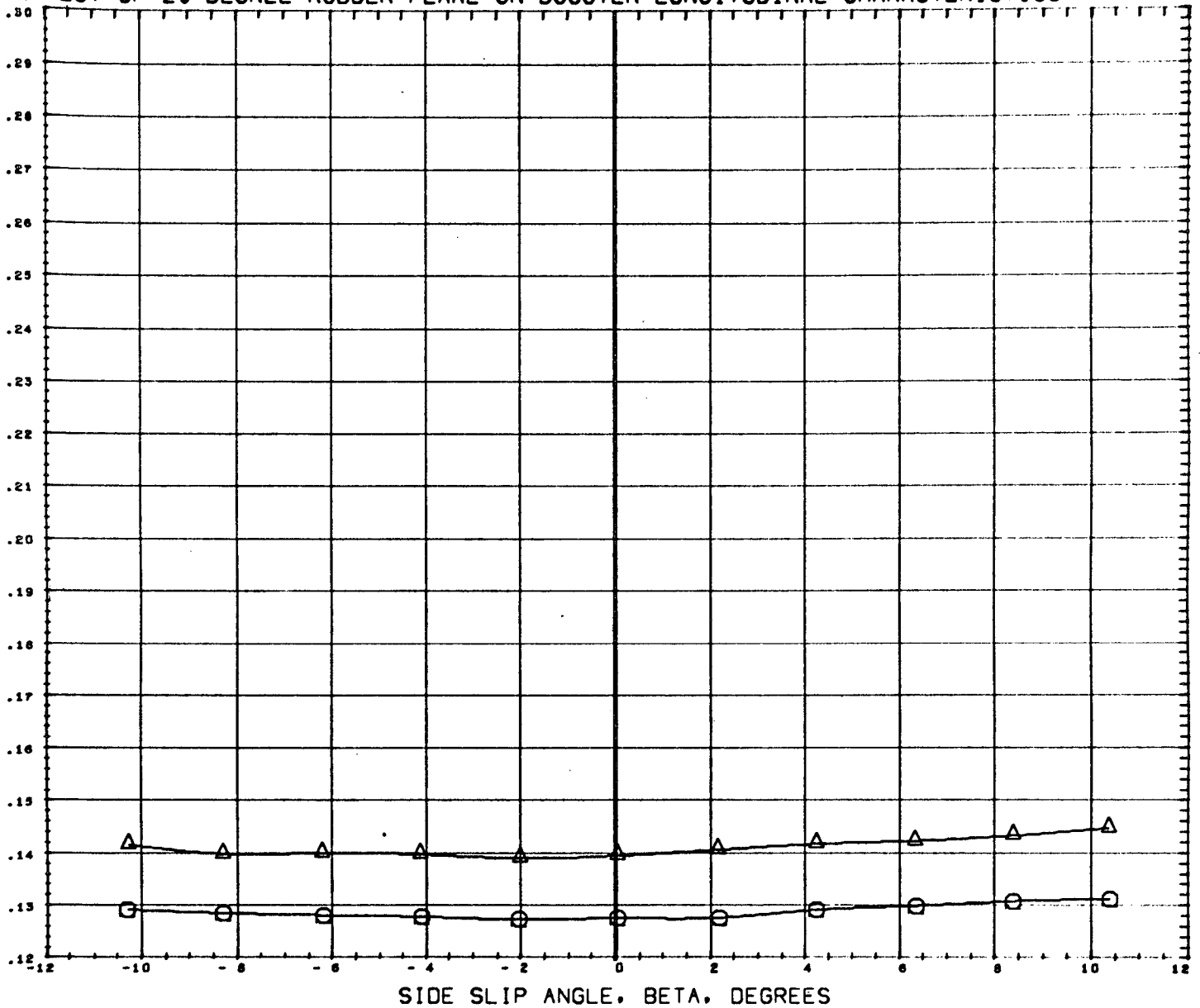
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
(856027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.959

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS

AXIAL FORCE COEFFICIENT, CA



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A56035)  MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

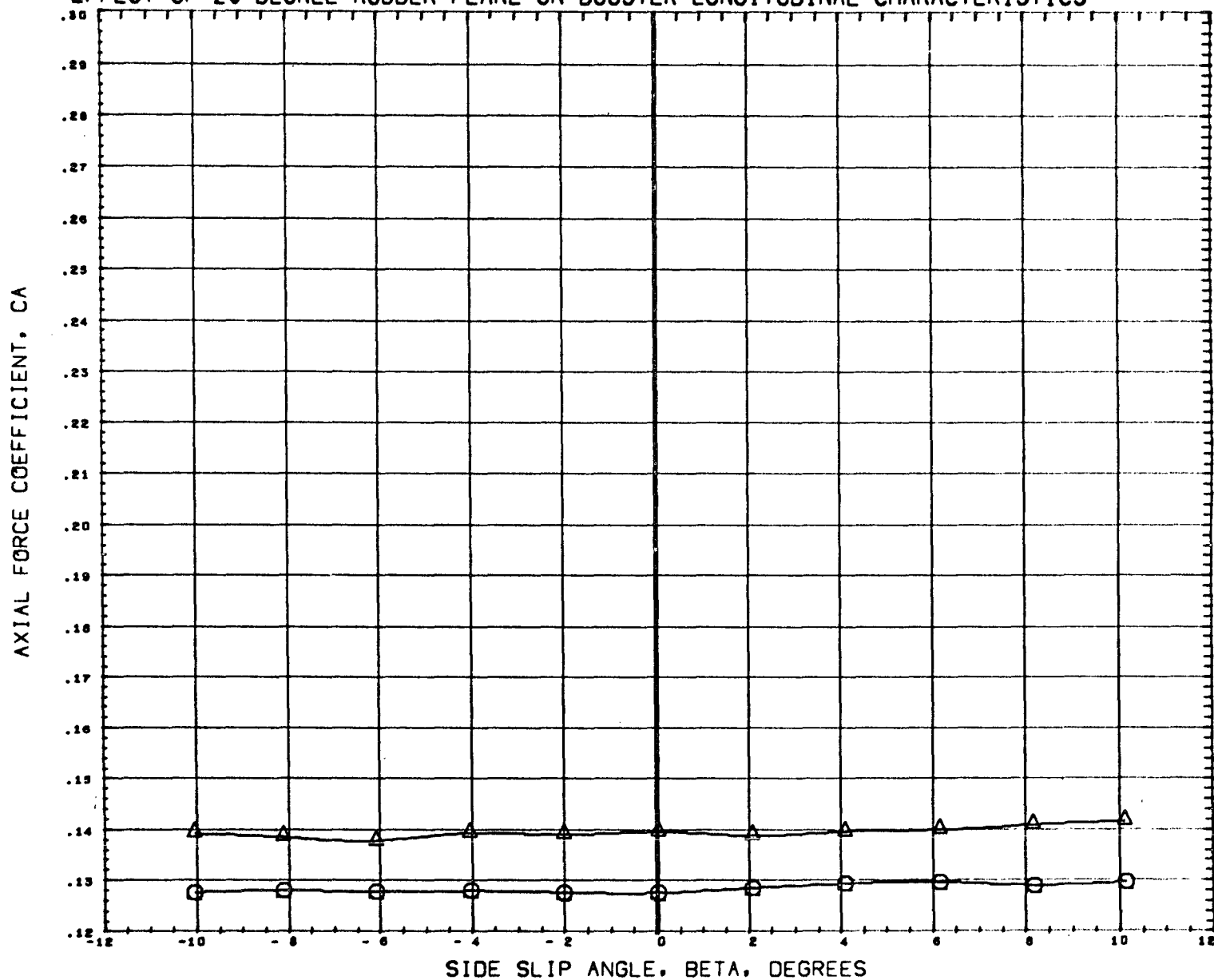
ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	50. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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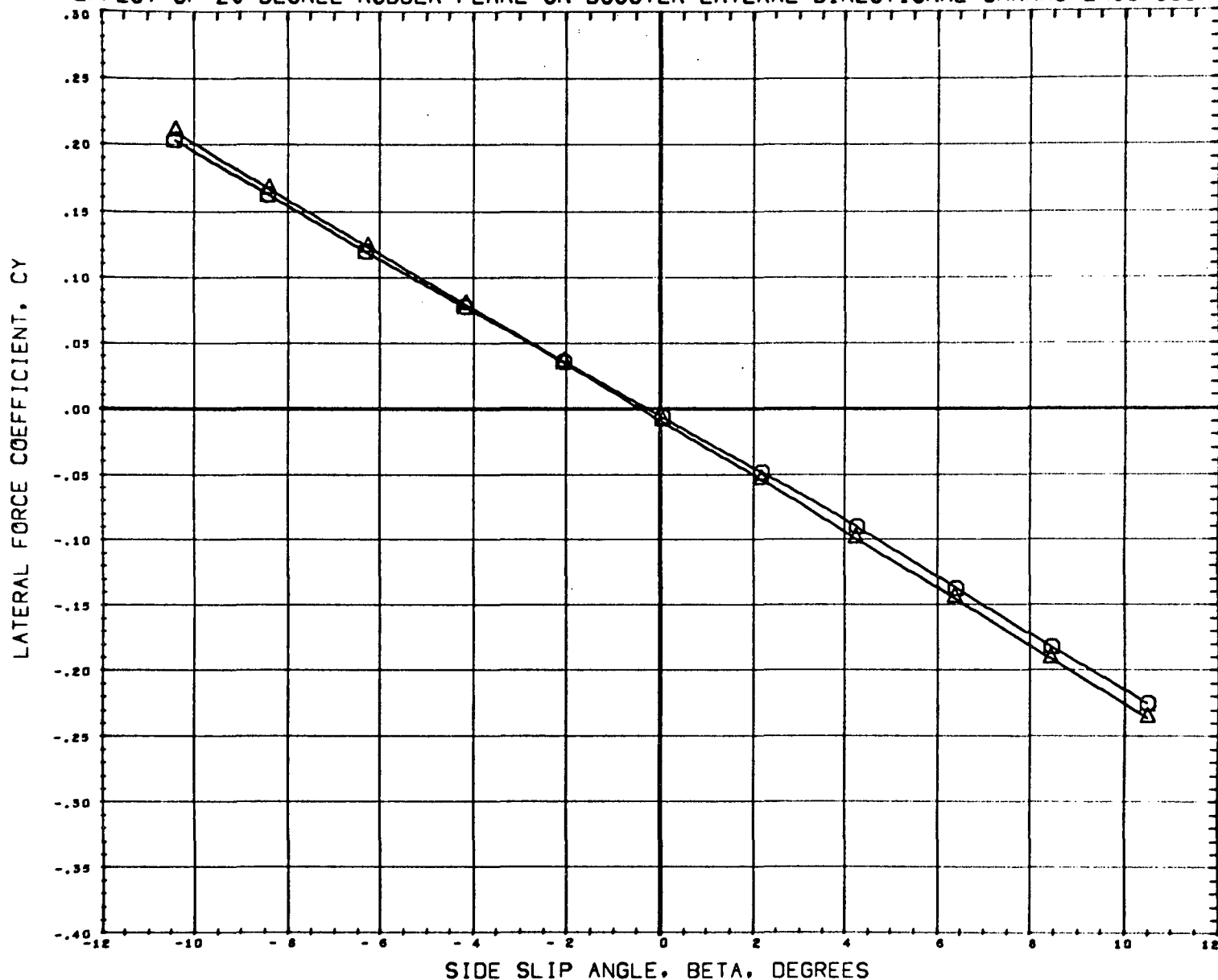
EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LONGITUDINAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDD-L	RUDD-R	ELEVON	REFERENCE INFORMATION	
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	50.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.959

EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



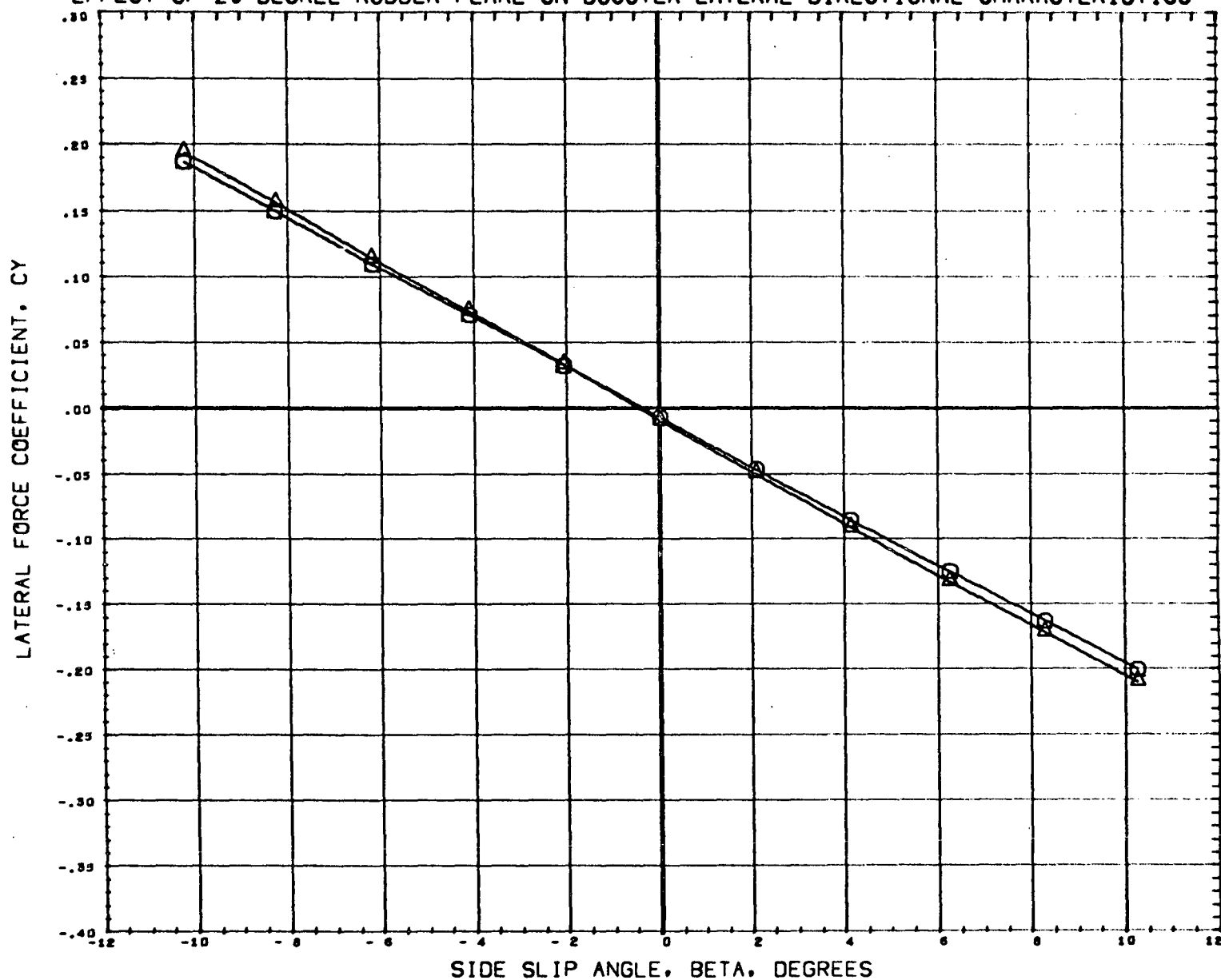
DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1
(A56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWICIV1

ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION
30.000	0.000	0.000	0.000	SREF 9.7800 SQ. IN
30.000	20.000	-20.000	0.000	LREF 6.4400 INCH
				BREF 5.7300 INCH
				XMRP 4.6400 INCH
				YMRP 0.0000 INCH
				ZMRP 0.6670 INCH
				SCALE 0.0034

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

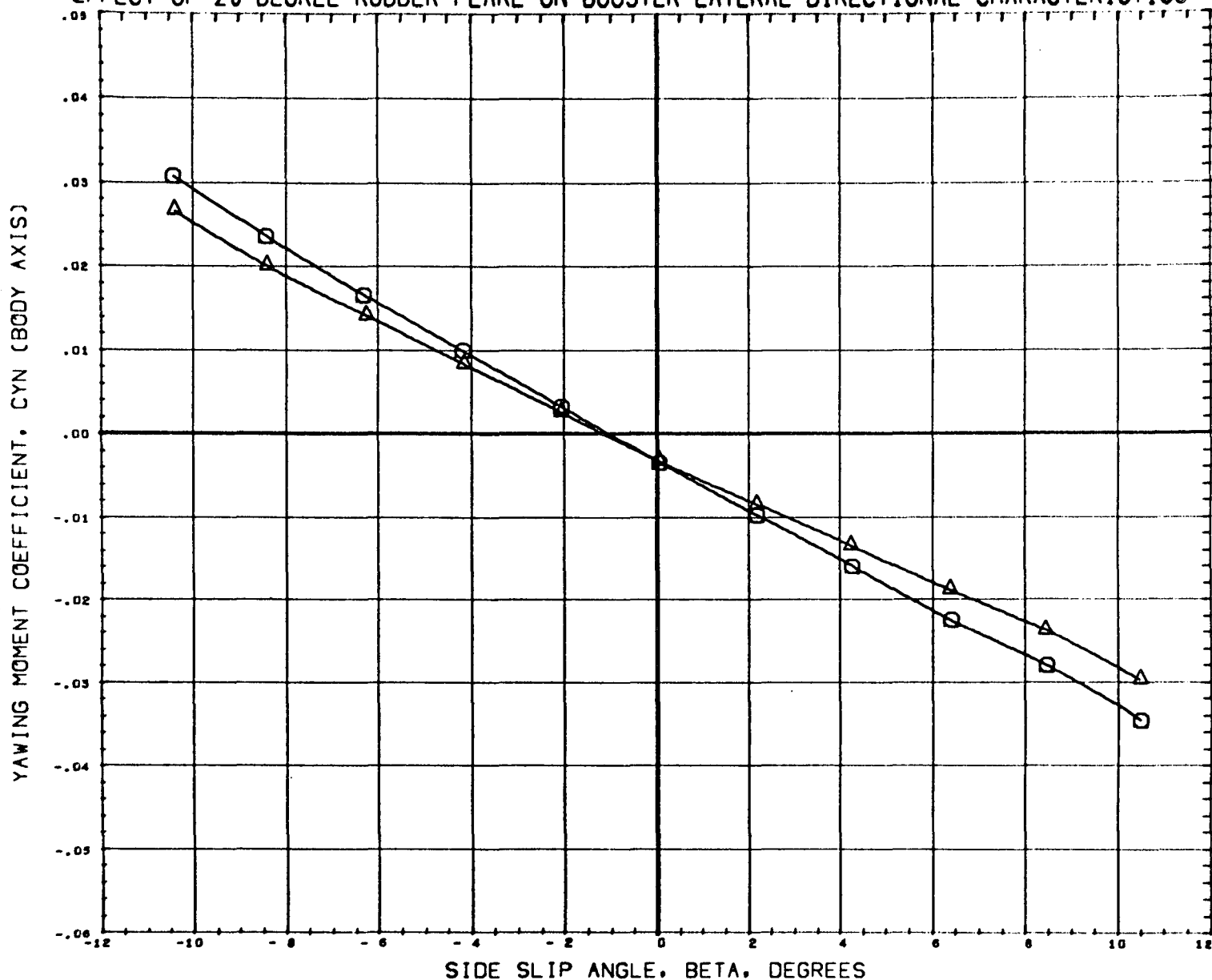


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56034) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

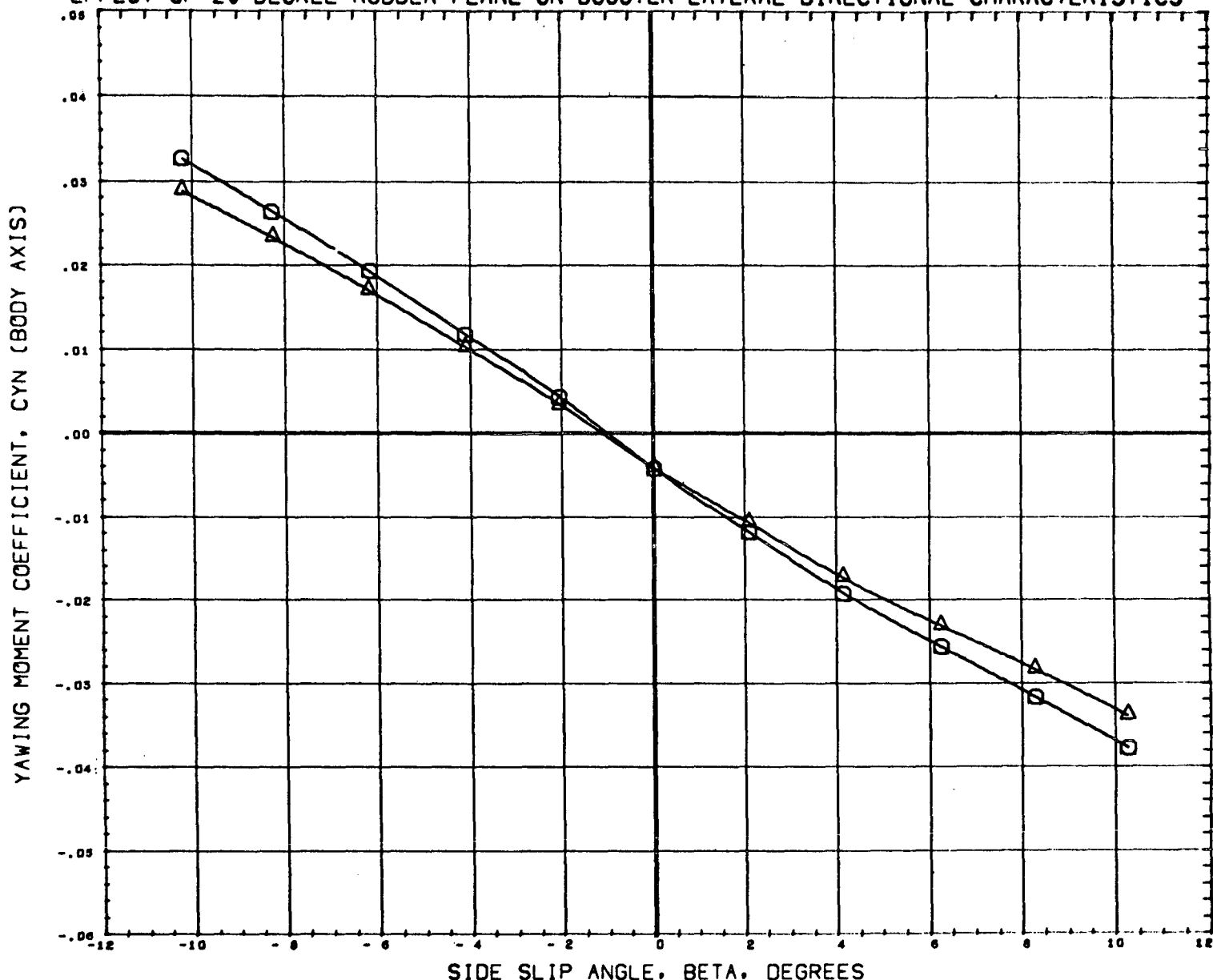
ALPHA	RUDD-L	RUDD-R	ELEVON
30.000	0.000	0.000	0.000
30.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



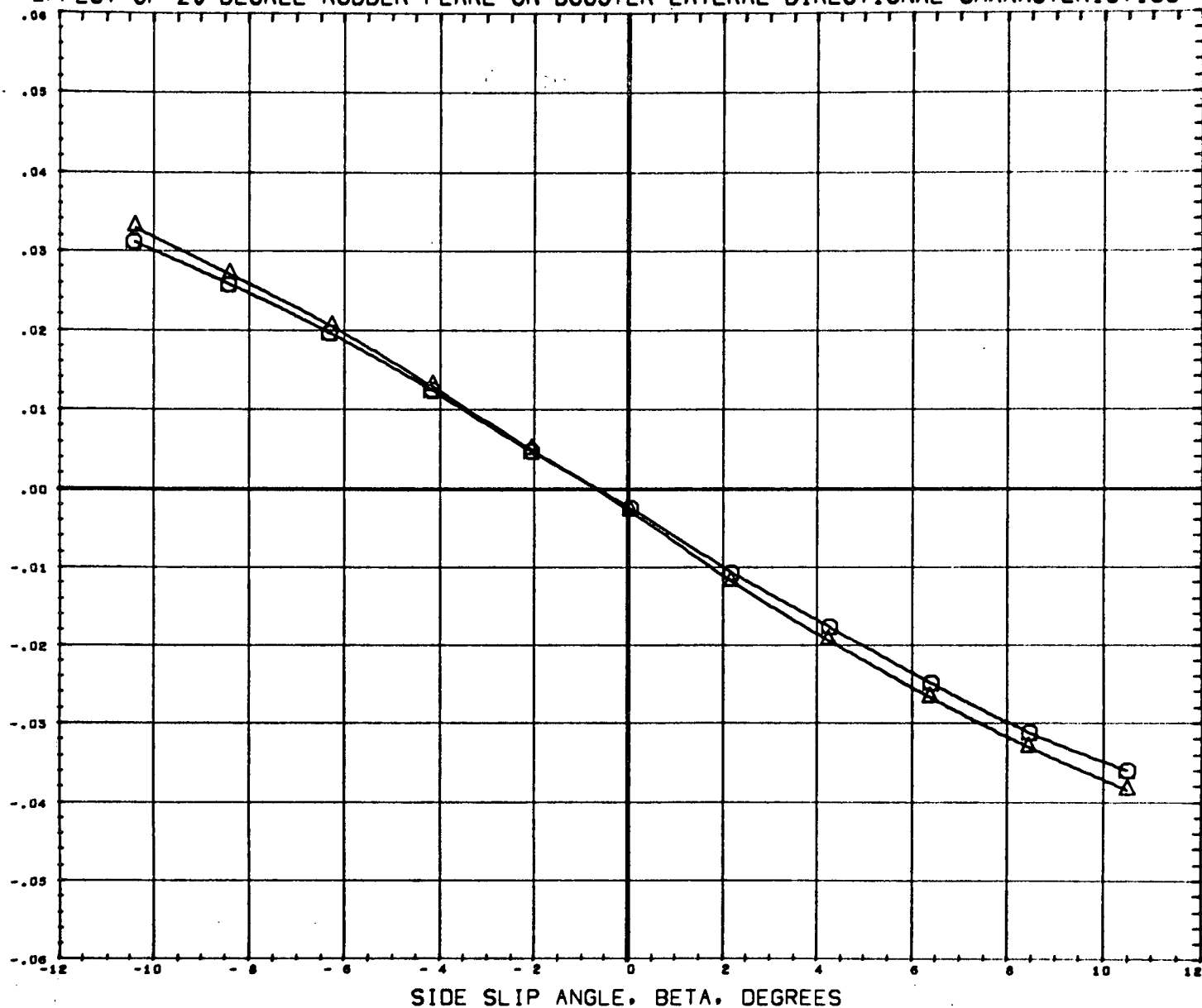
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(A56026)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56034)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1	30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

. ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A56026)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

(A56034)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

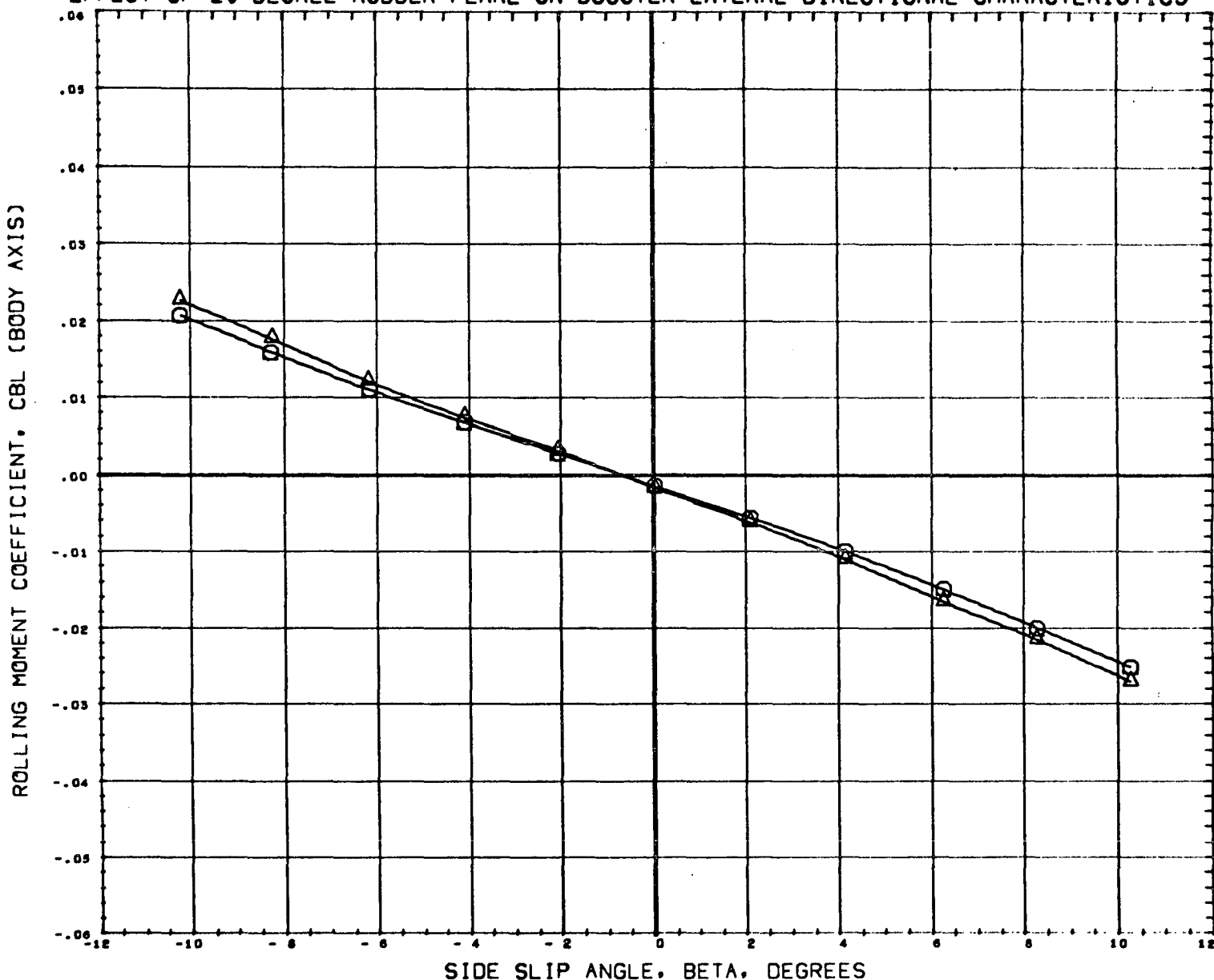
ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A36026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A36034) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

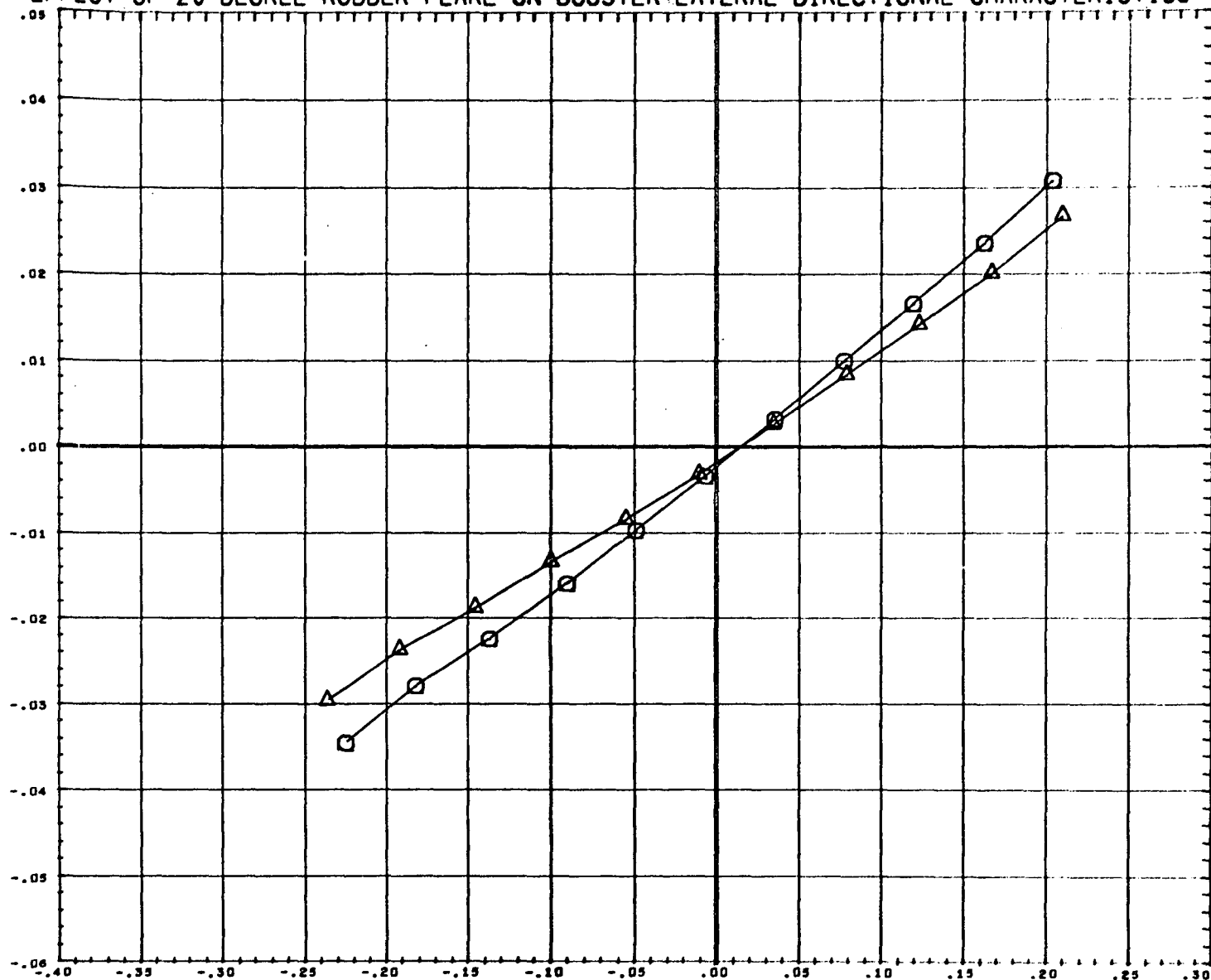
ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



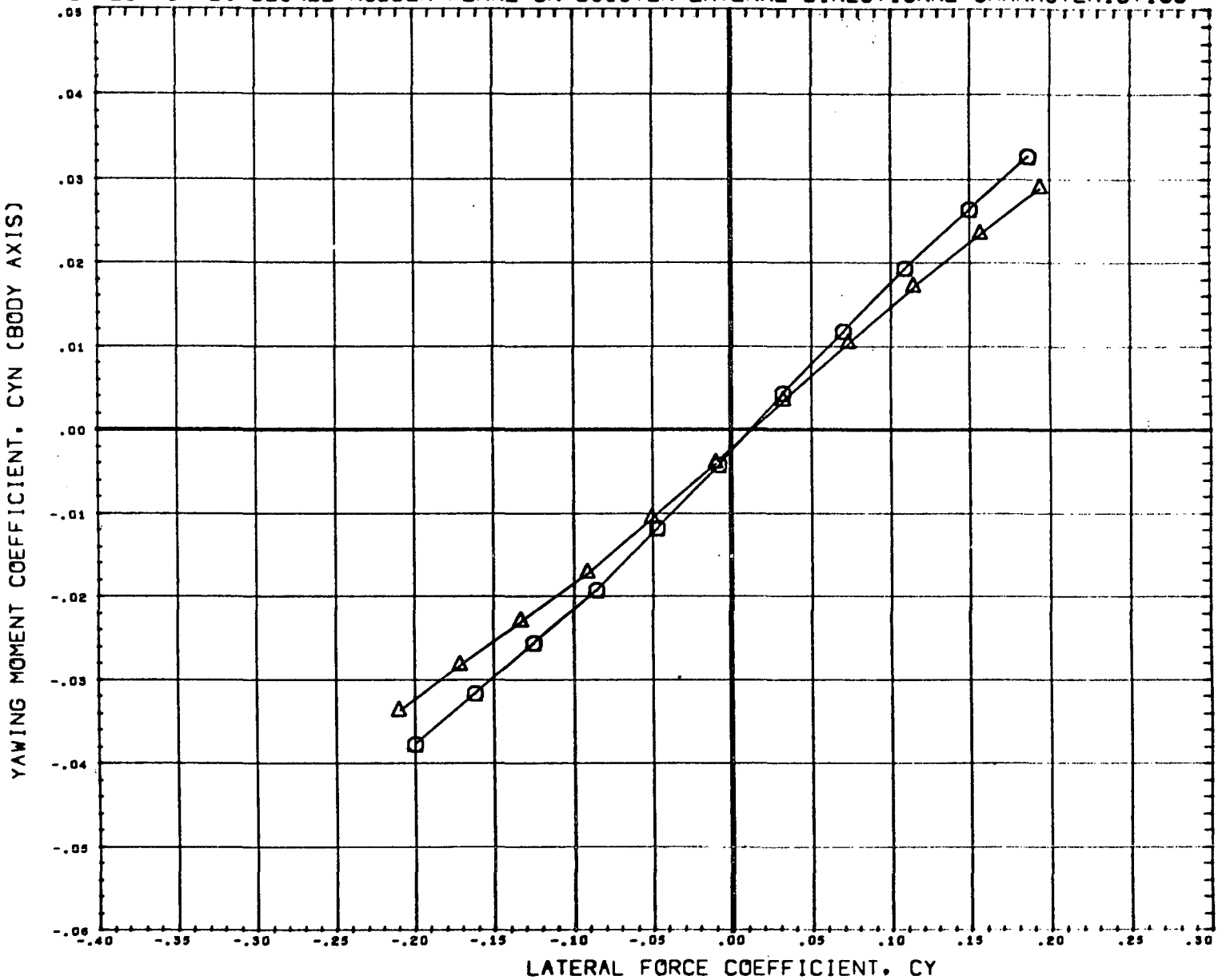
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (A56026) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56034) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUCR-L	RUCR-R	ELEVON	REFERENCE INFORMATION	
30.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
30.000	20.000	-20.000	0.000	LREF	6.4400 INCH
				BREF	5.7300 INCH
				XMRP	4.6400 INCH
				YMRP	0.0000 INCH
				ZMRP	0.6670 INCH
				SCALE	0.0034

MACH 1.960

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(A96026) $\bigcirc$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A96034) $\triangle$ MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
30.000	0.000	0.000	0.000
30.000	20.000	-20.000	0.000

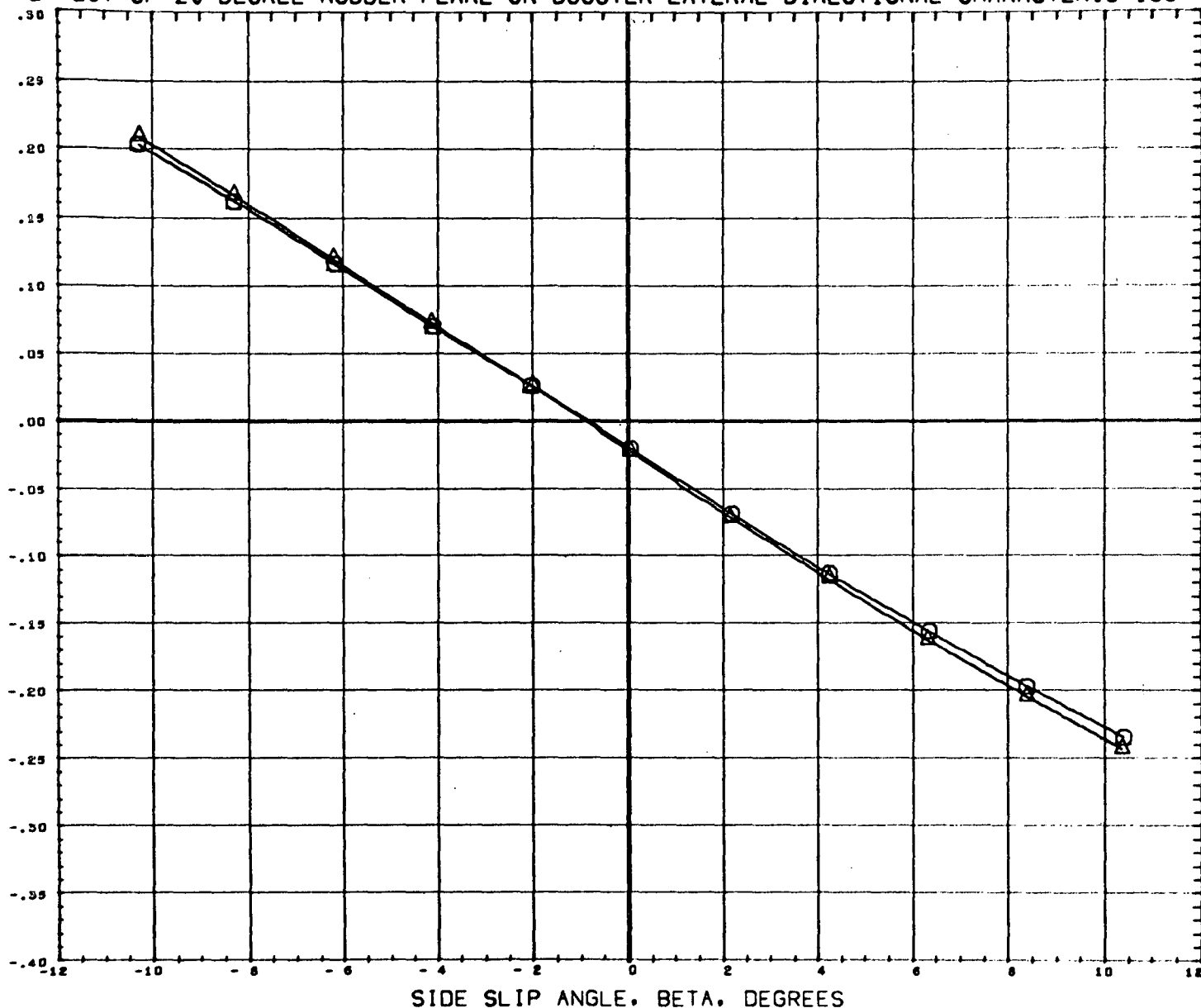
REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

LATERAL FORCE COEFFICIENT, CY



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (856027) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
 (A56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

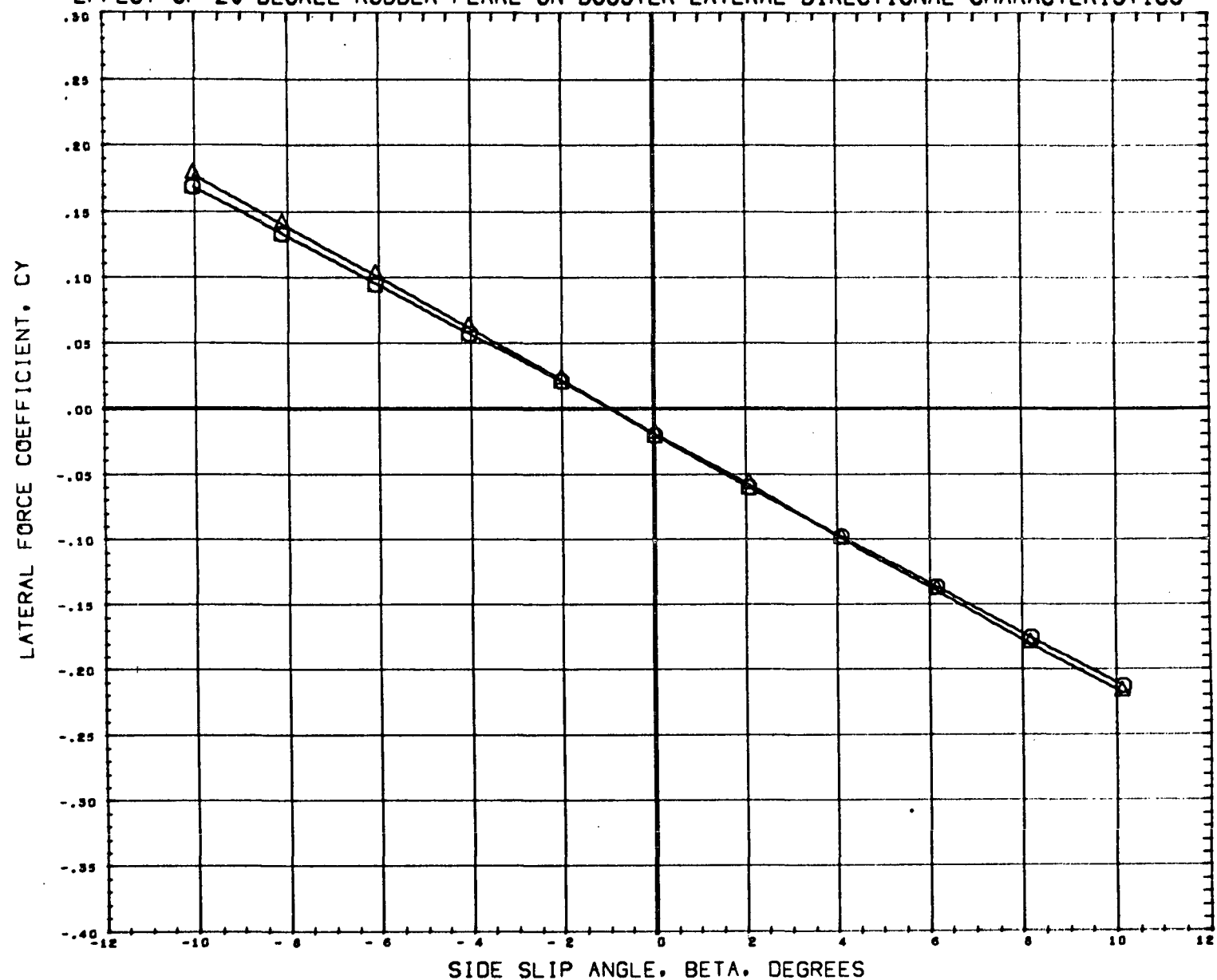
ALPHA	RUCR-L	RUCR-R	ELEVON
50.000	5.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



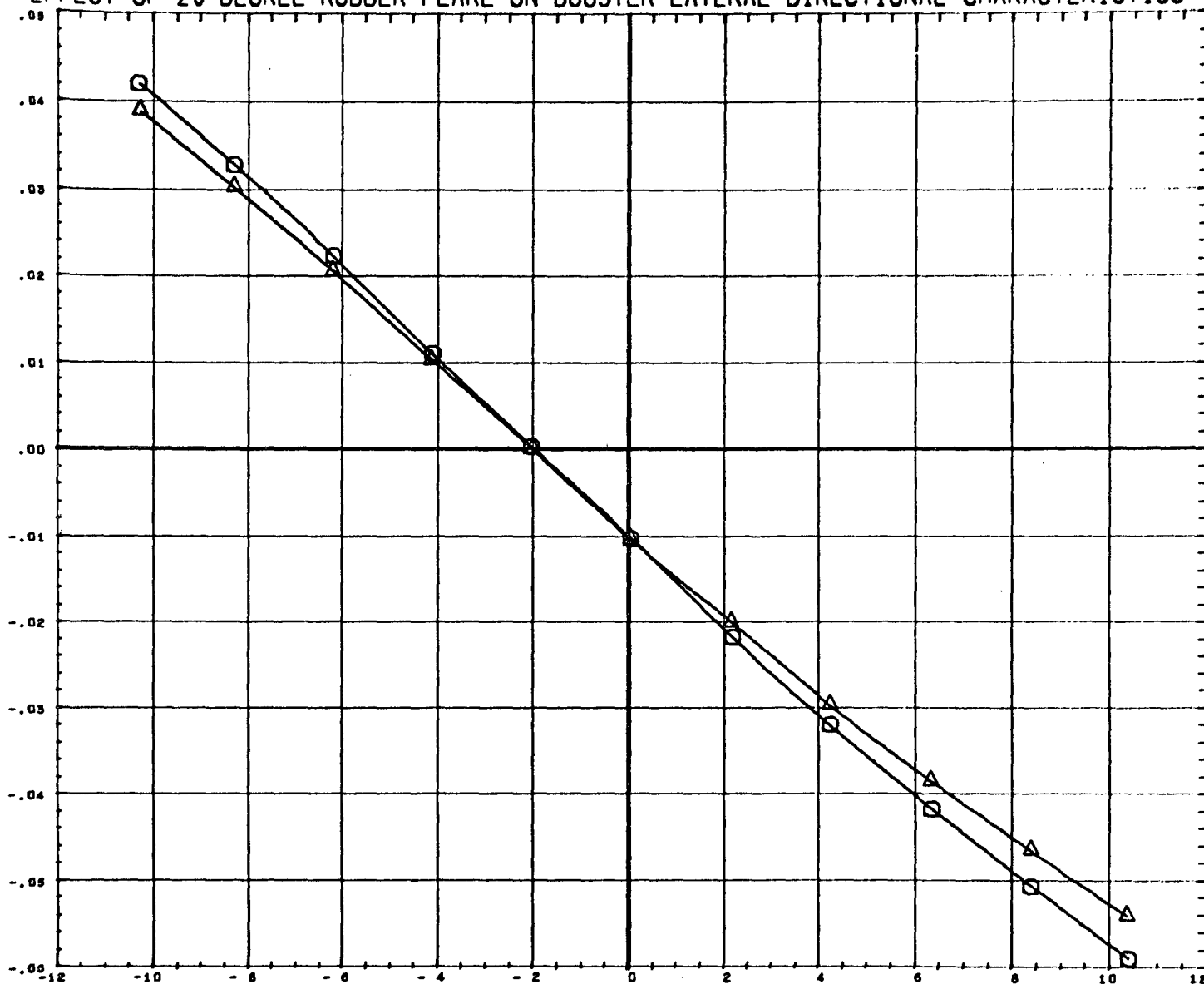
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(B36027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A36039)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.959

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



SIDE SLIP ANGLE, BETA, DEGREES

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1
(A56035)  MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1

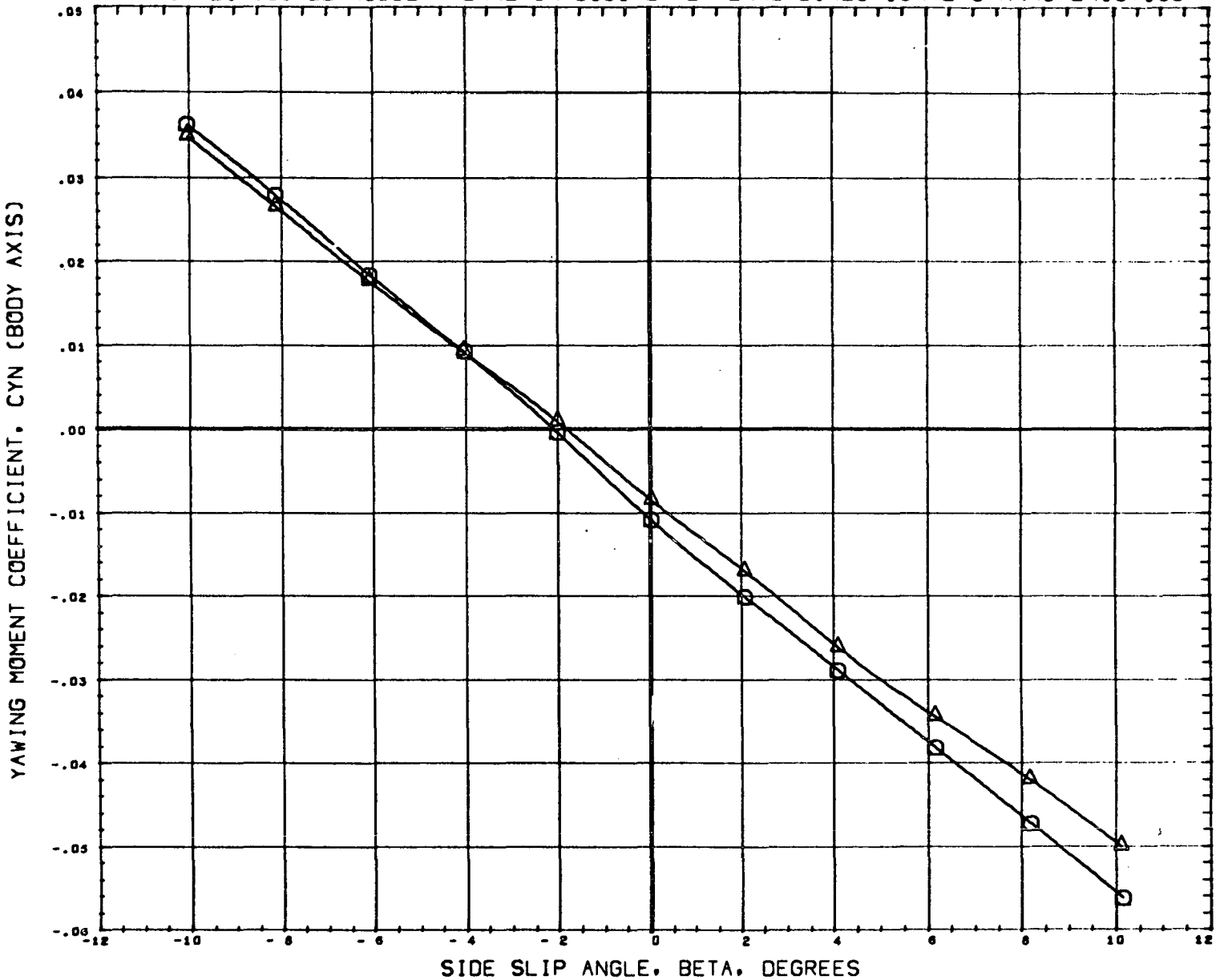
ALPHA	RUDD-L	RUDD-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	9.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



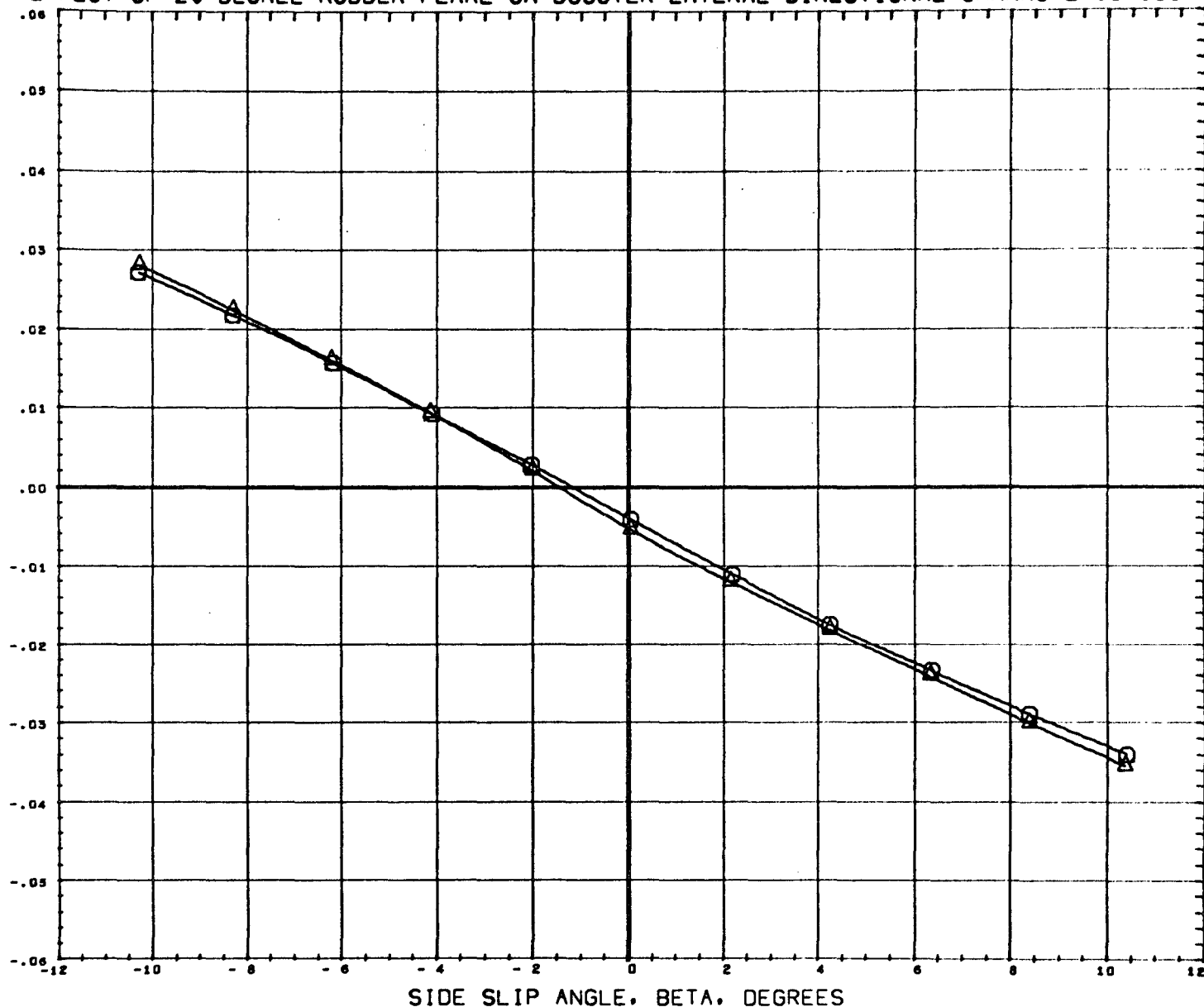
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
(B56027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	0.000	0.000	0.000	SREF	9.7800 SQ. IN
(A56035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.959

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(B56027) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(A56035) MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

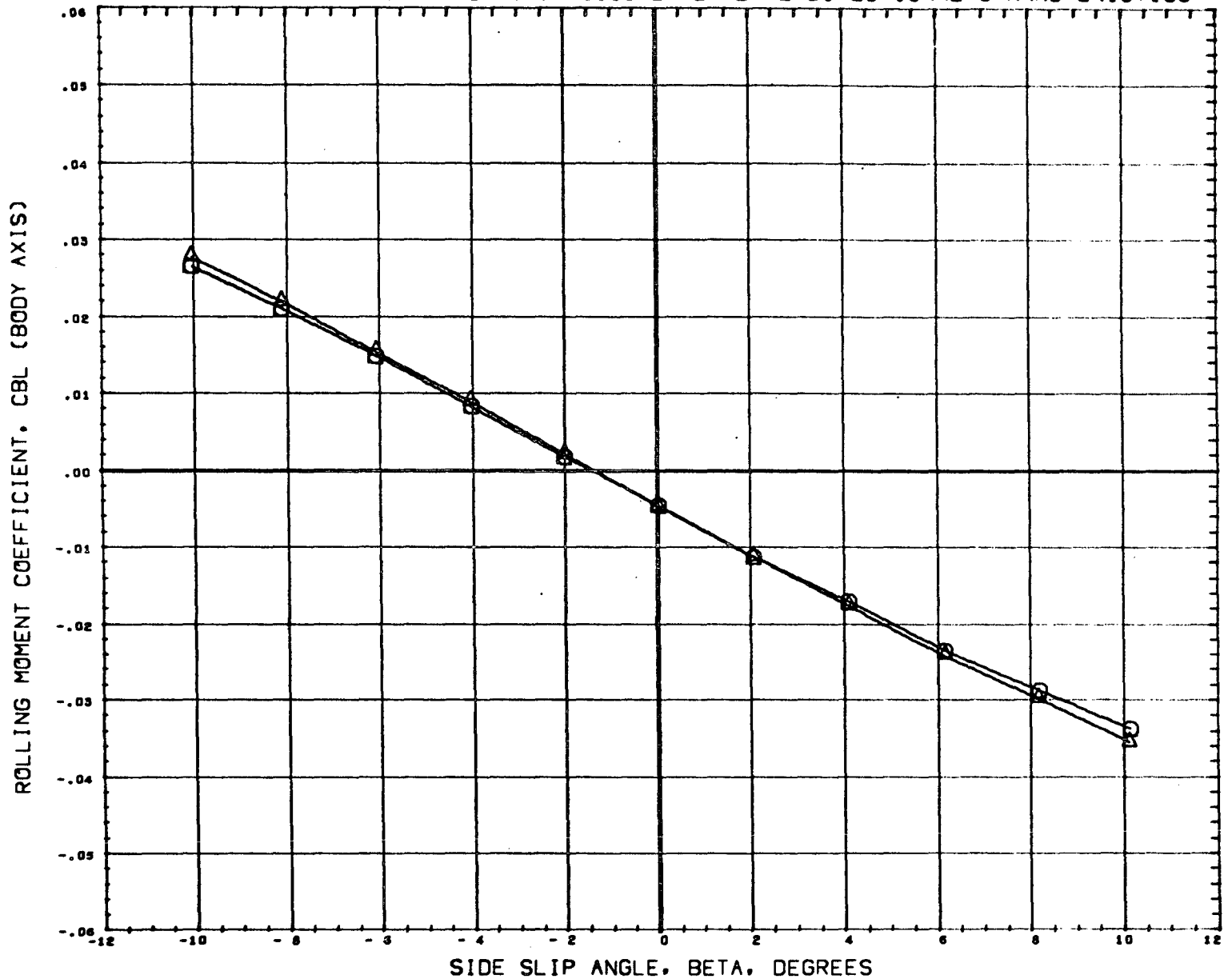
ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS



DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(B58027)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
(A58035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

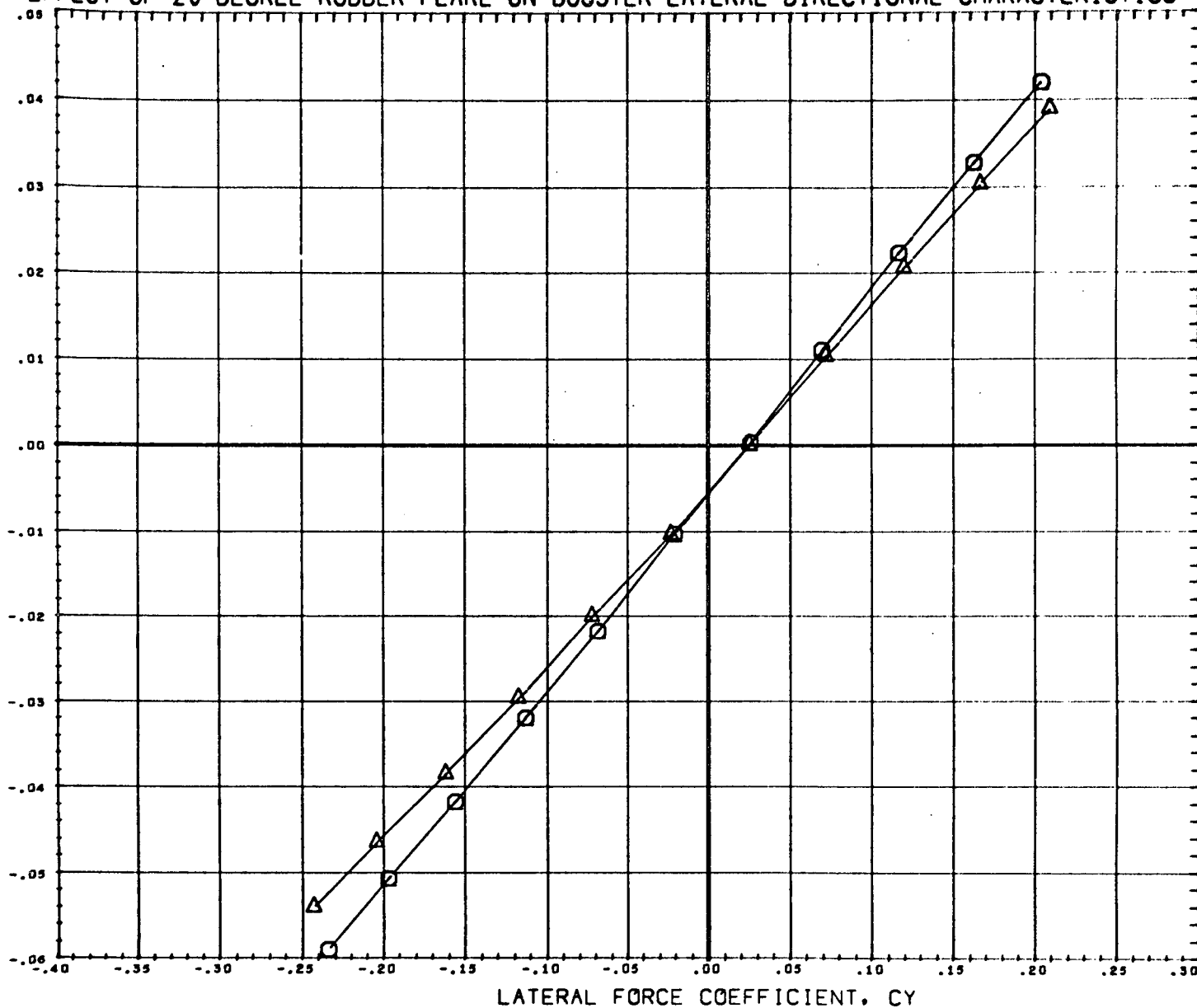
REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 4.959

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(056027) ○ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1
 (A56035) Δ MSFC TWT 517, RETRO-GLIDE BOOSTER, BIWIC1V1

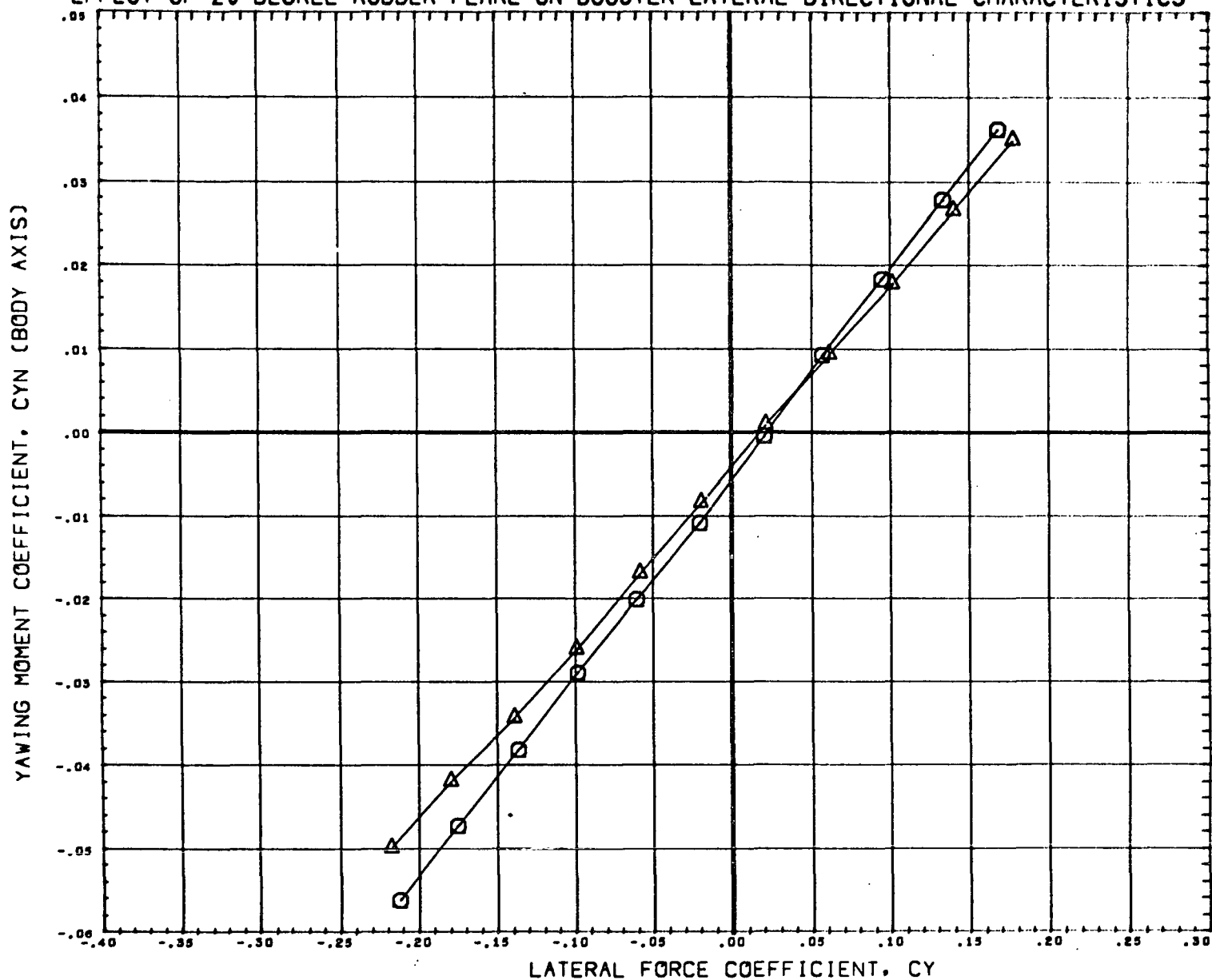
ALPHA	RUDR-L	RUDR-R	ELEVON
50.000	0.000	0.000	0.000
50.000	20.000	-20.000	0.000

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MACH 2.740

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EFFECT OF 20 DEGREE RUDDER FLARE ON BOOSTER LATERAL-DIRECTIONAL CHARACTERISTICS

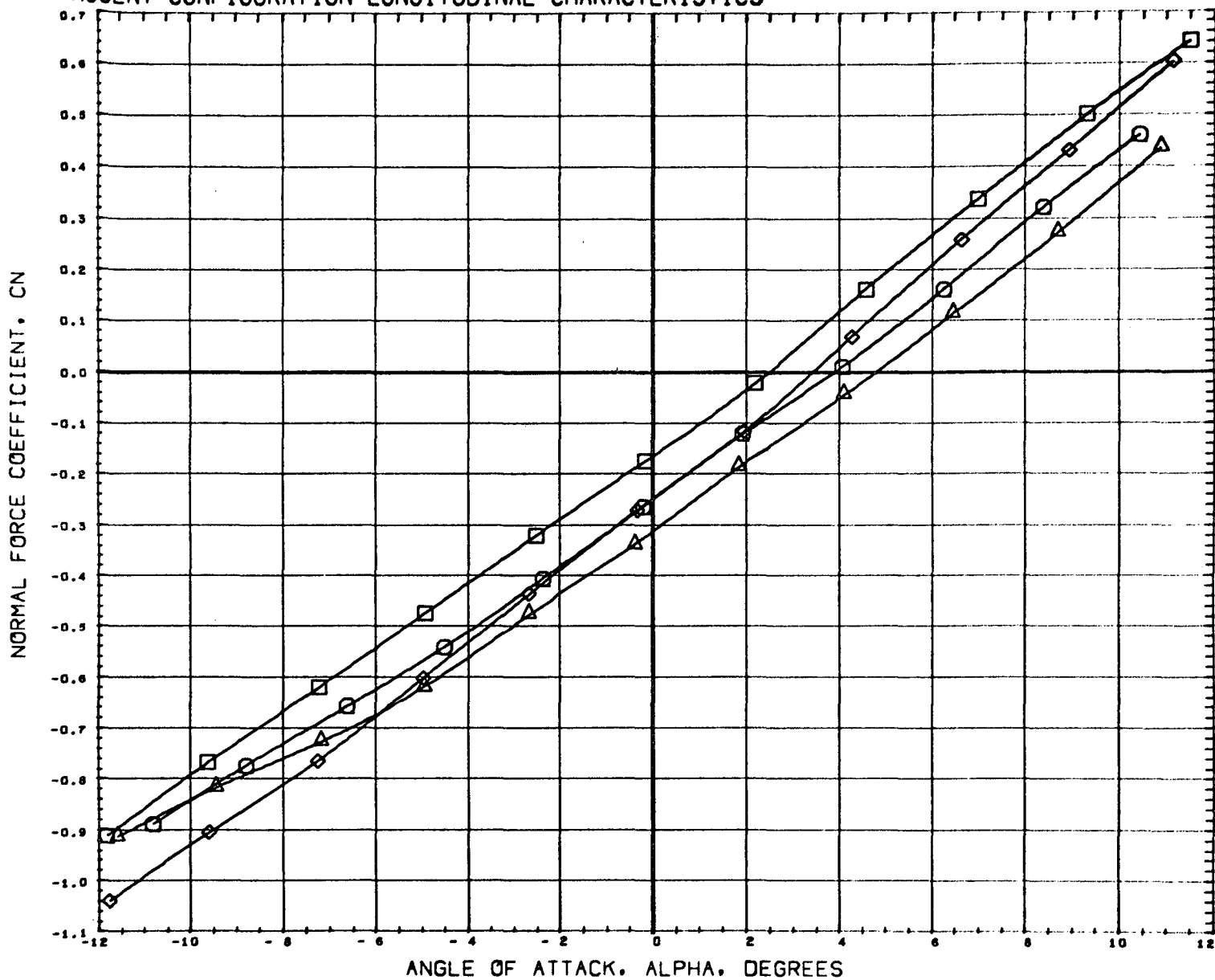


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	RUDR-L	RUDR-R	ELEVON	REFERENCE INFORMATION	
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(A96035)	MSFC TWT 517, RETRO-GLIDE BOOSTER, B1W1C1V1	50.000	20.000	-20.000	0.000	LREF	6.4400 INCH
						BREF	5.7300 INCH
						XMRP	4.6400 INCH
						YMRP	0.0000 INCH
						ZMRP	0.6670 INCH
						SCALE	0.0034

MACH 4.939

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
□	1.201				

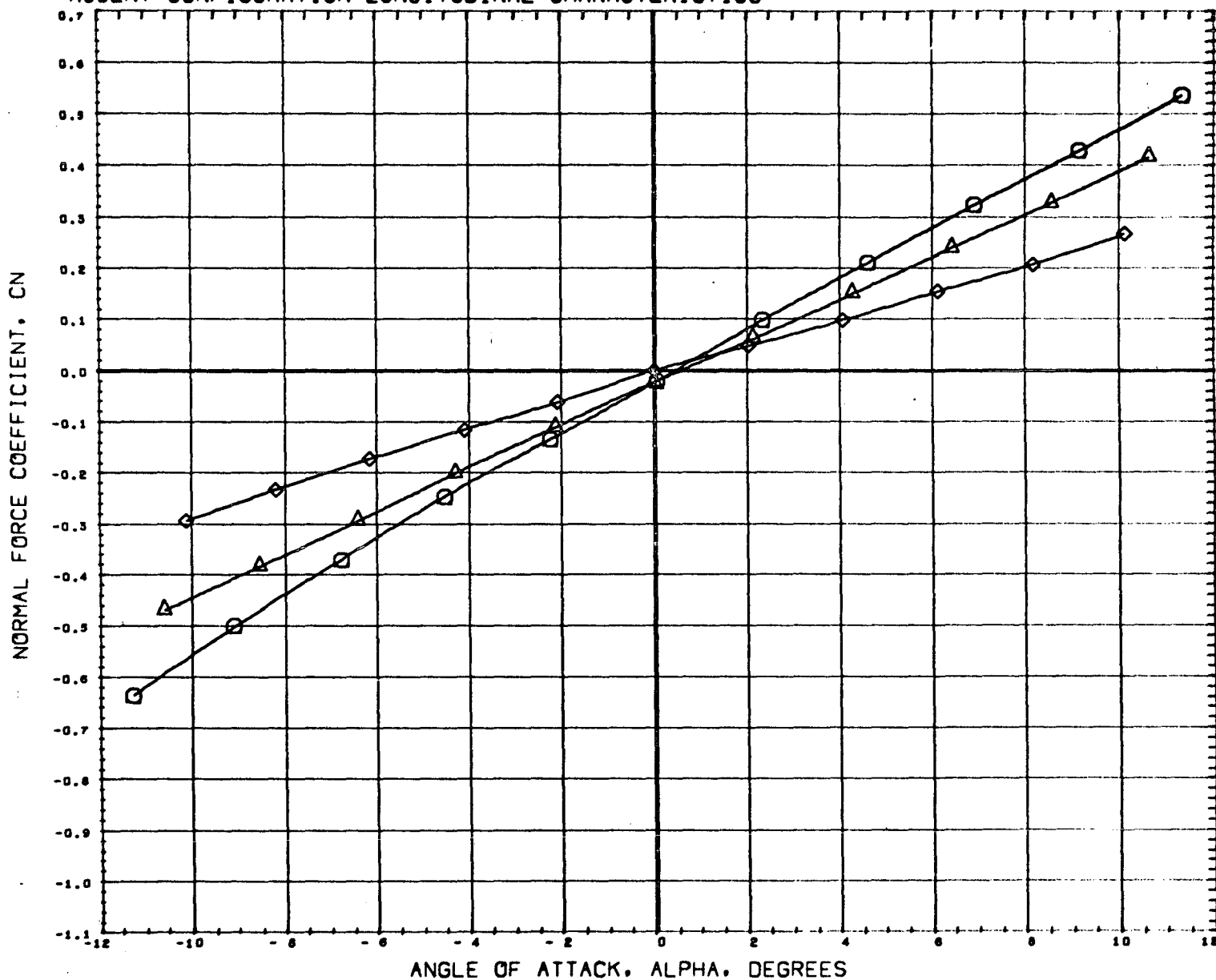
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE *E

MSFC TWT 517. RETRO-GLIDE BOOSTER, L10101

(C56041) 10 FEB 72 PAGE 339

ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

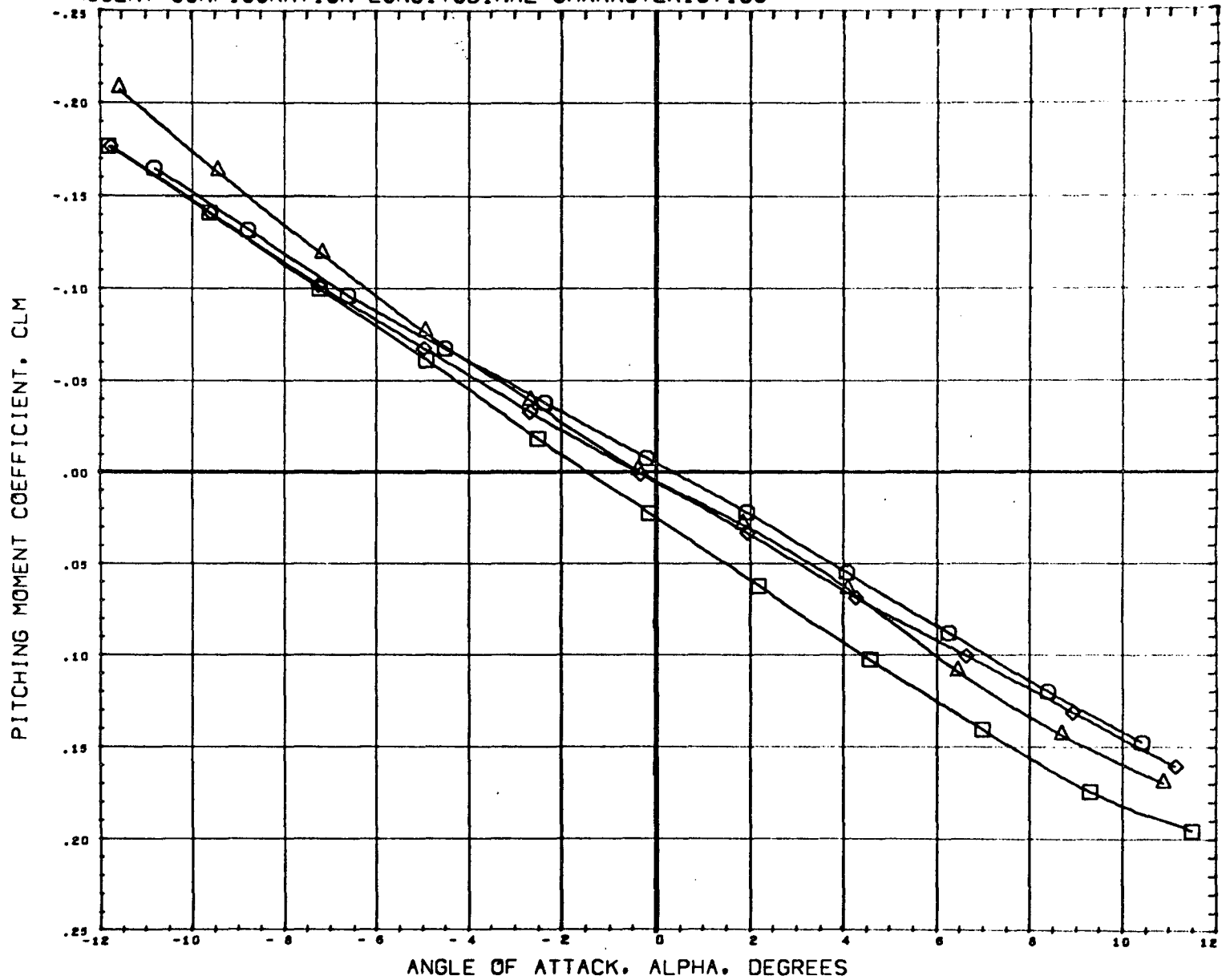
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YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE *E

MSFC TWT 517. RETRO-GLIDE BOOSTER. L10101

(C56041) 10 FEB 72 PAGE 340

ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
□	1.201				

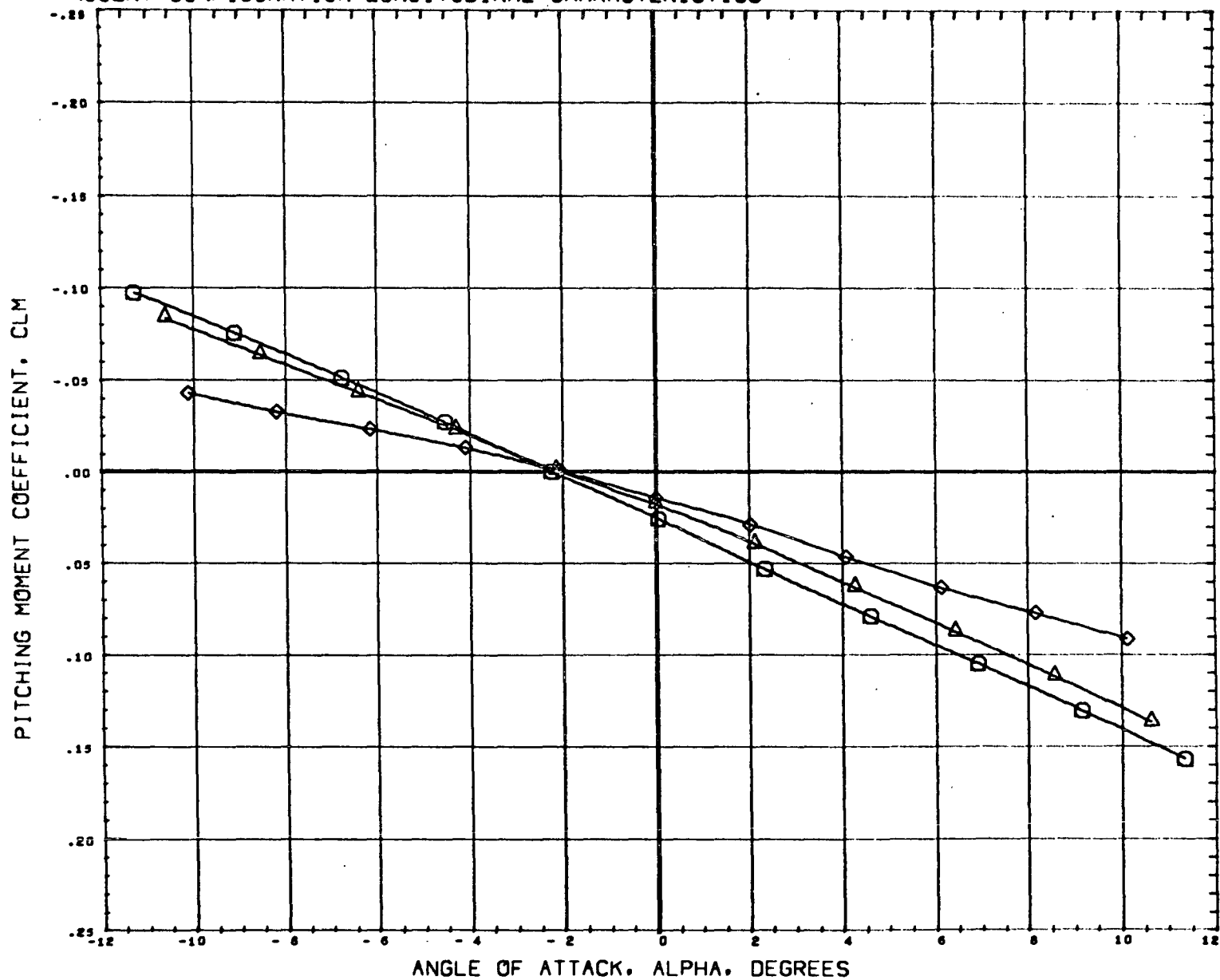
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REFERENCE INFORMATION		
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

(C56041) 10 FEB 72 PAGE 341

ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.745	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

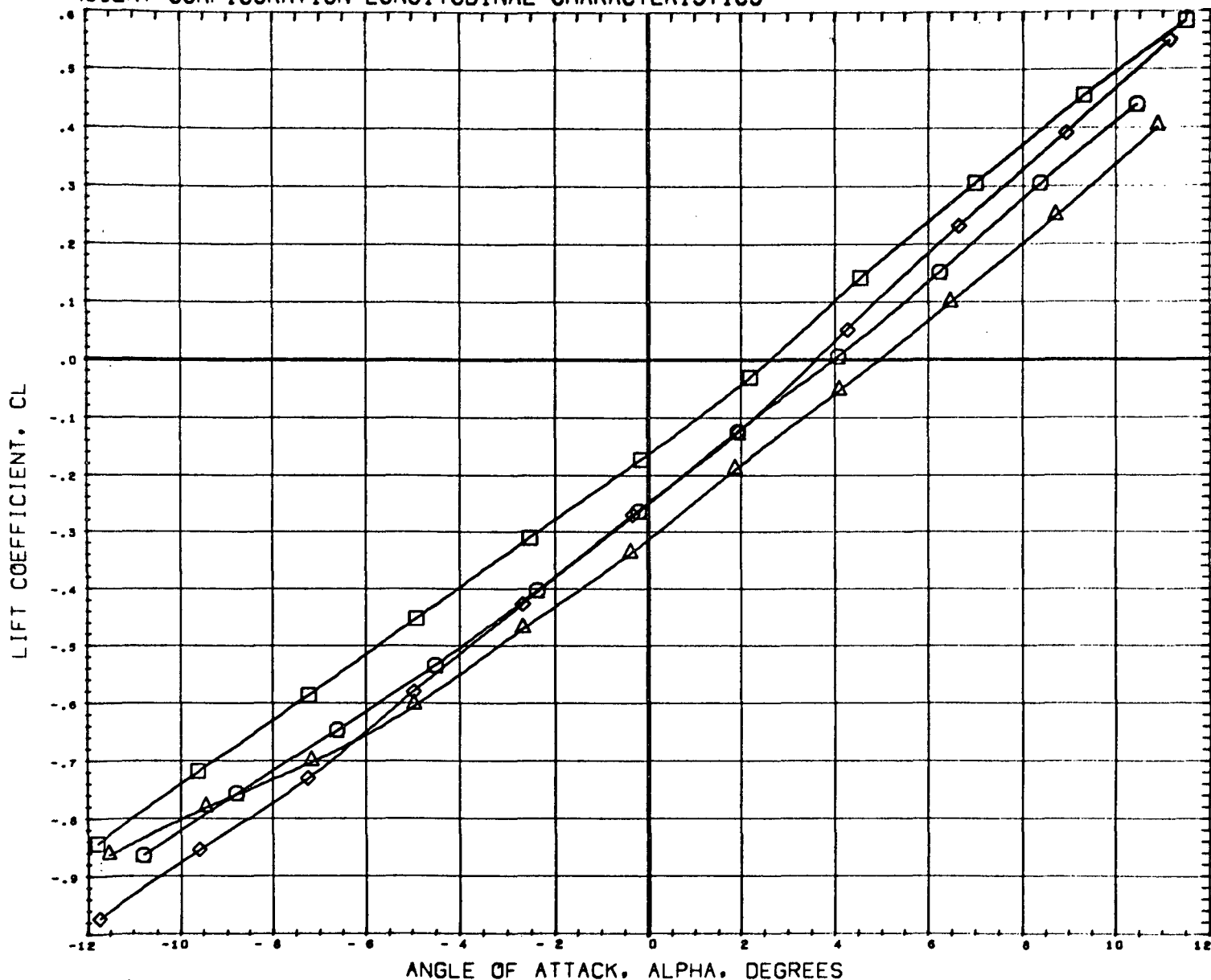
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE #E

MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

(C56041) 10 FEB 72 PAGE 342

ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
□	1.201				

DATA HIST. CODE *E

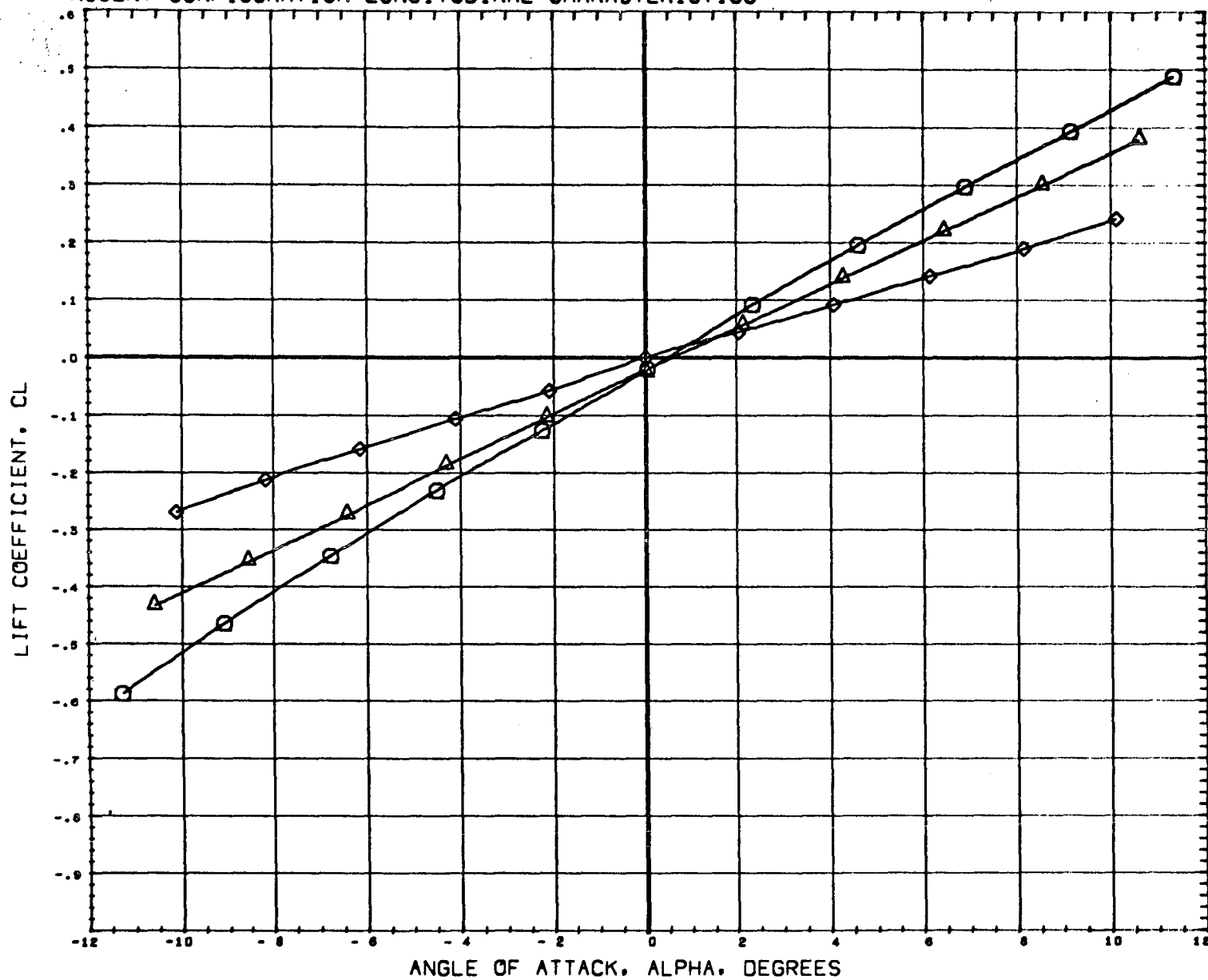
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ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

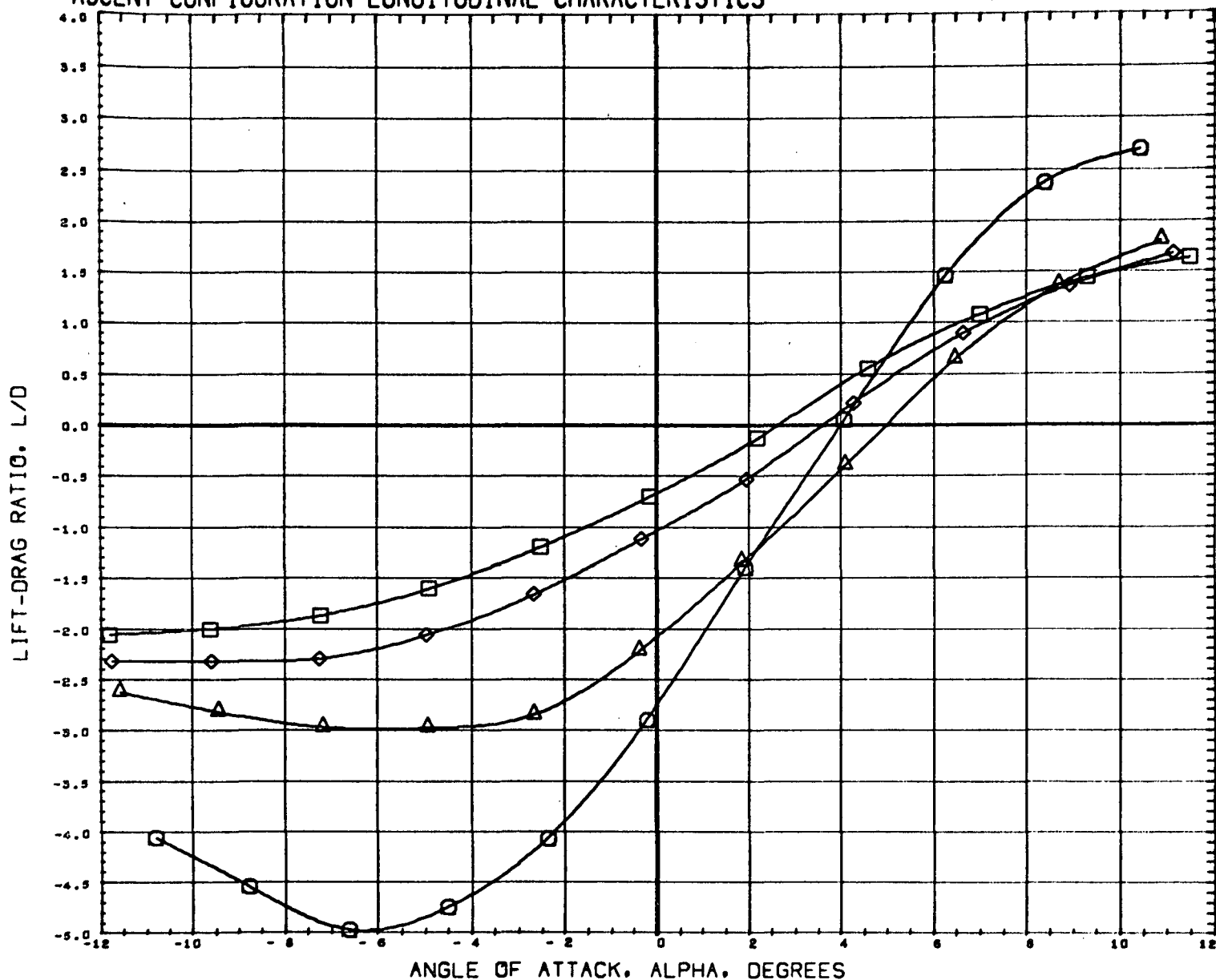
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE #E

MSFC TWT 517, RETRO-GLIDE BOOSTER, L10101

(C56041) 10 FEB 72 PAGE 344

ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	BETA	PARAMETRIC VALUES			
○	0.600		0.000	ELEVON	0.000	
△	0.901	RUCR-L	0.000	RUCR-R	0.000	
◇	0.997	CANARD	0.000			
□	1.201					

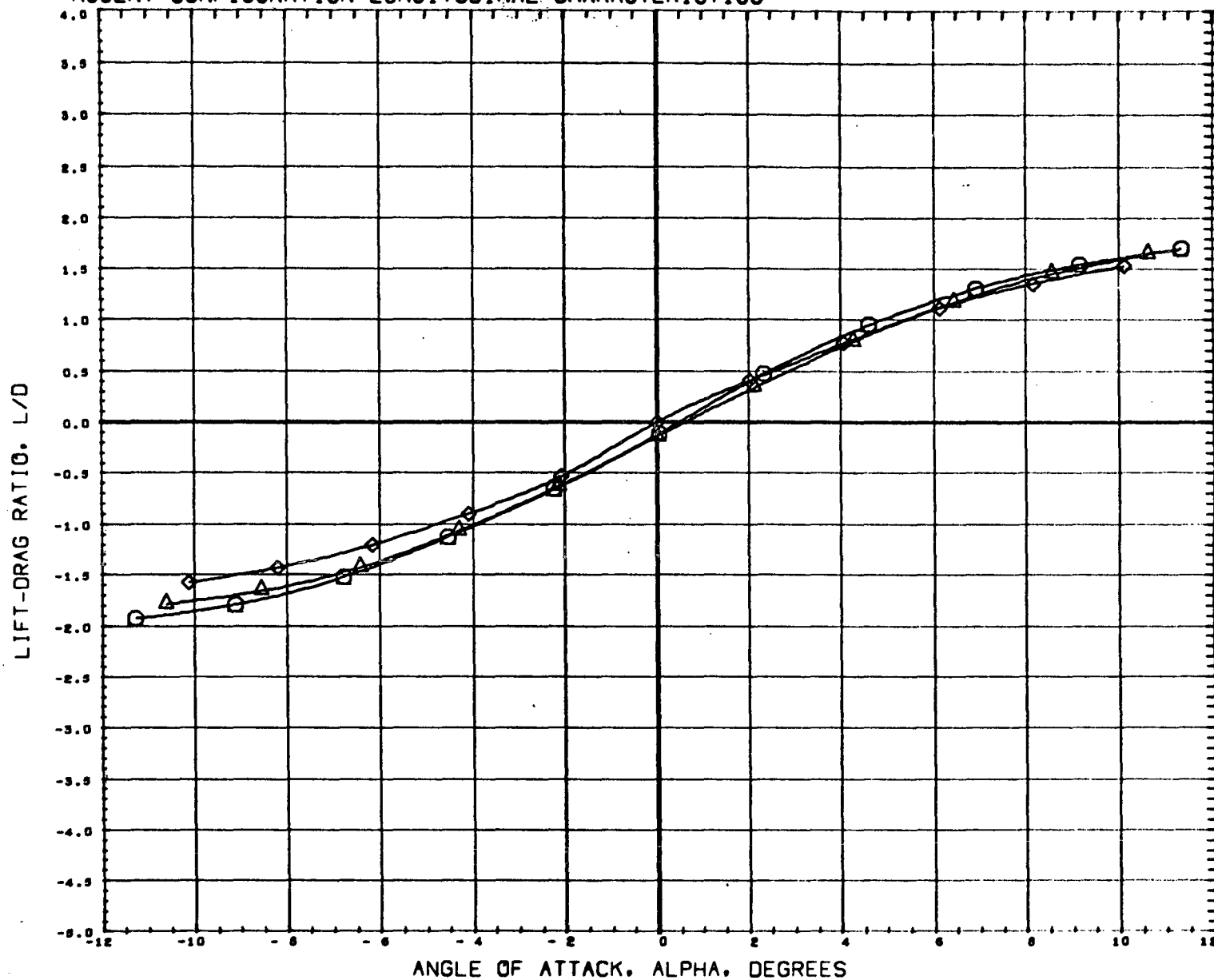
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517, RETRO-GLIDE BOOSTER, L10101

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

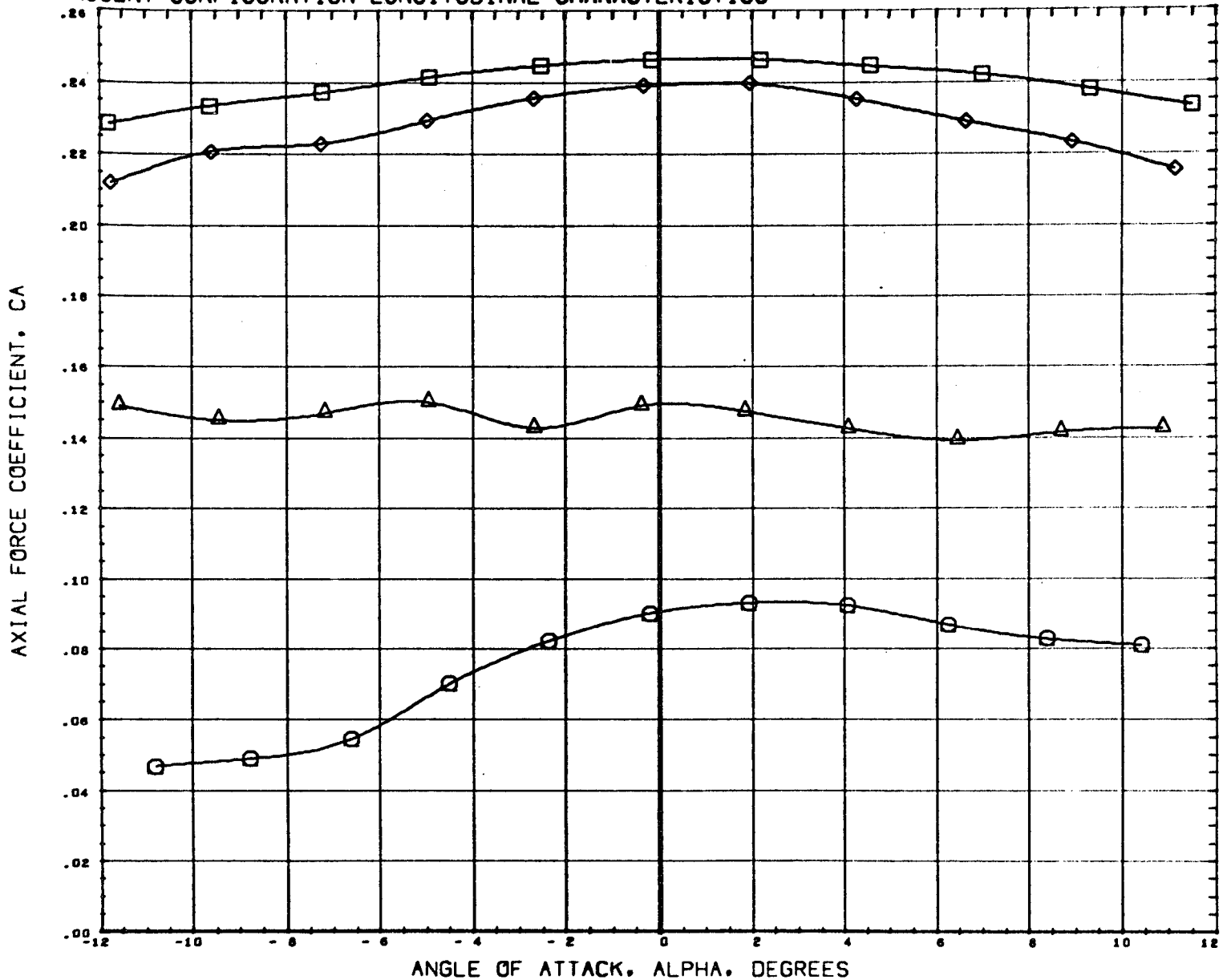
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE *E

MSFC TWT 517. RETRO-GLIDE BOOSTER. L10101

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUDR-L	0.000	RUDR-R	0.000
◇	0.997	CANARD	0.000		
□	1.201				

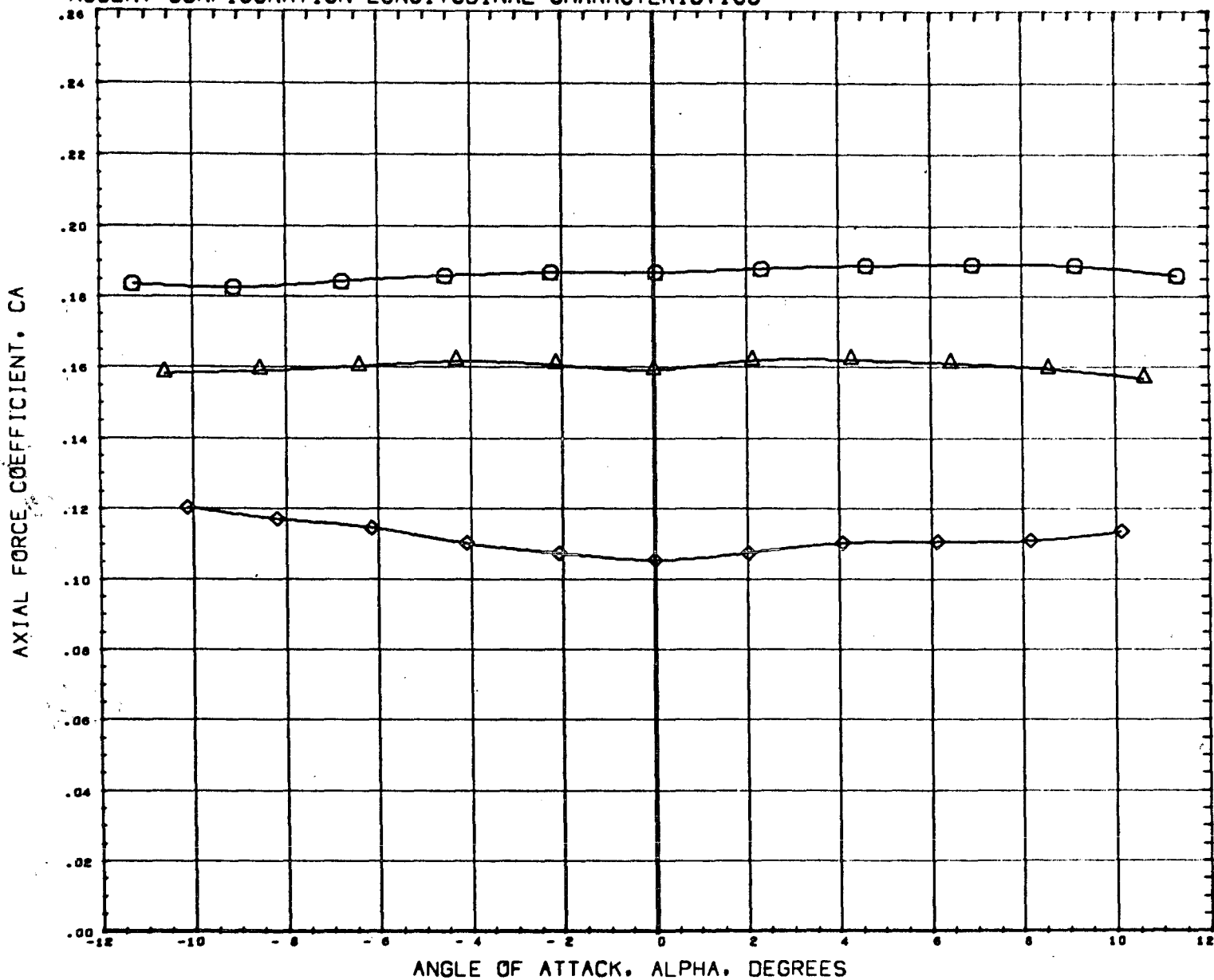
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE #E

MSFC TWT 517, RETRO-GLIDE BOOSTER, L10101

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

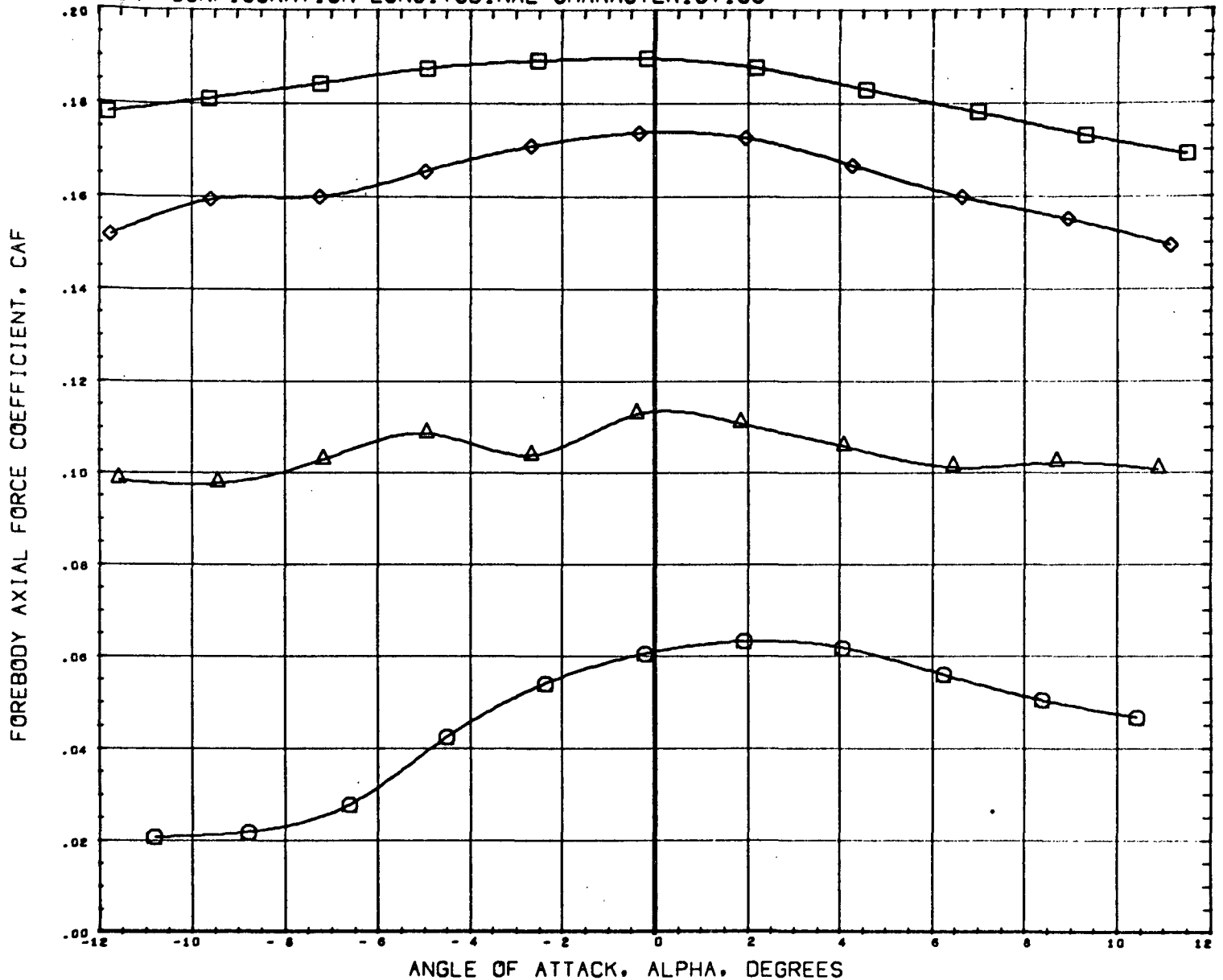
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MSFC TWT 517. RETRO-GLIDE BOOSTER, L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES				REFERENCE INFORMATION		
□	0.600	BETA	0.000	ELEVON	0.000	SREF	9.7800	Sq. IN
◇	0.901	RUCR-L	0.000	RUCR-R	0.000	LREF	6.4400	INCH
△	0.997	CANARD	0.000			BREF	5.7300	INCH
○	1.201					XMRP	4.6400	INCH
						YMRP	0.0000	INCH
						ZMRP	0.6670	INCH
						SCALE	0.0034	

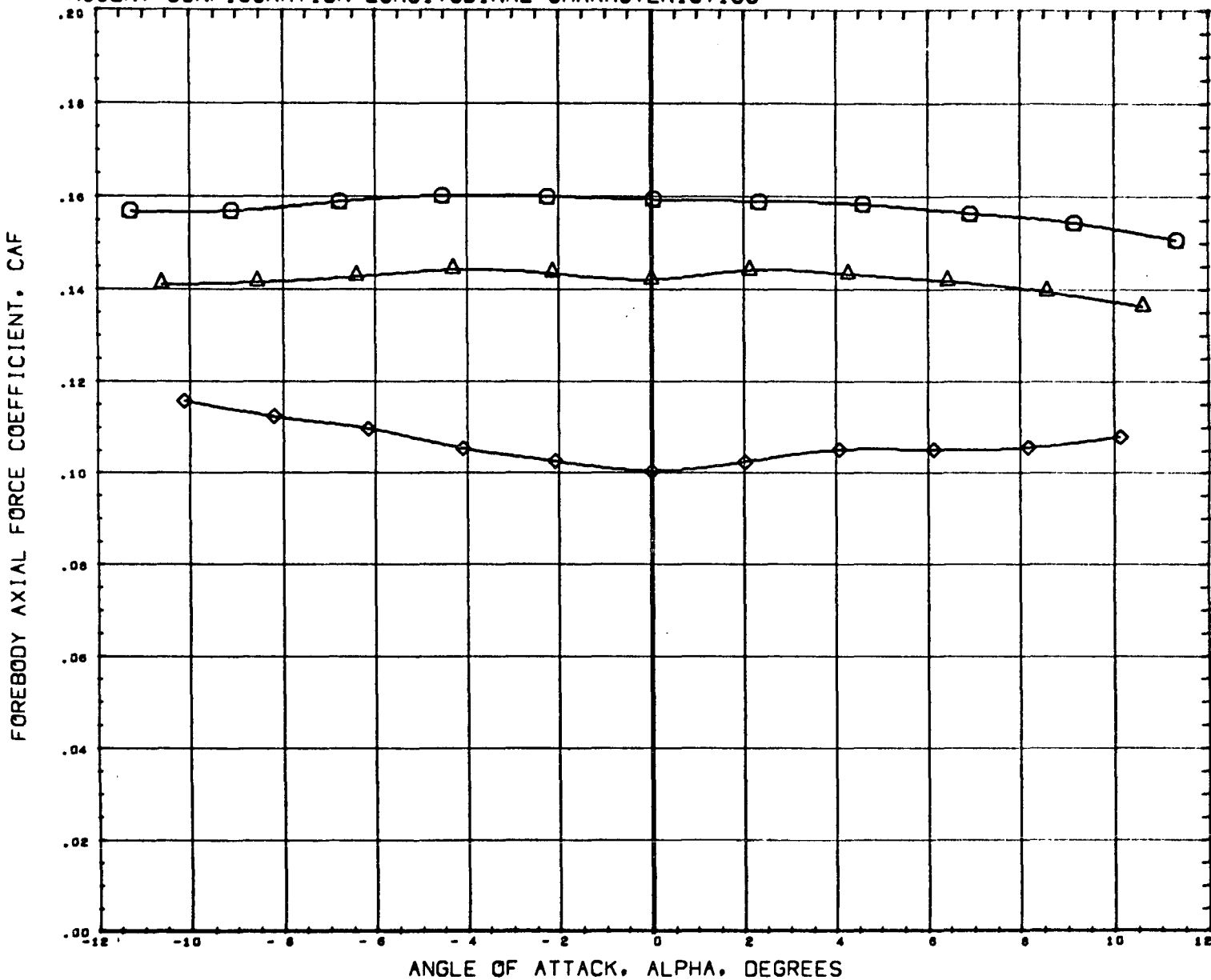
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MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

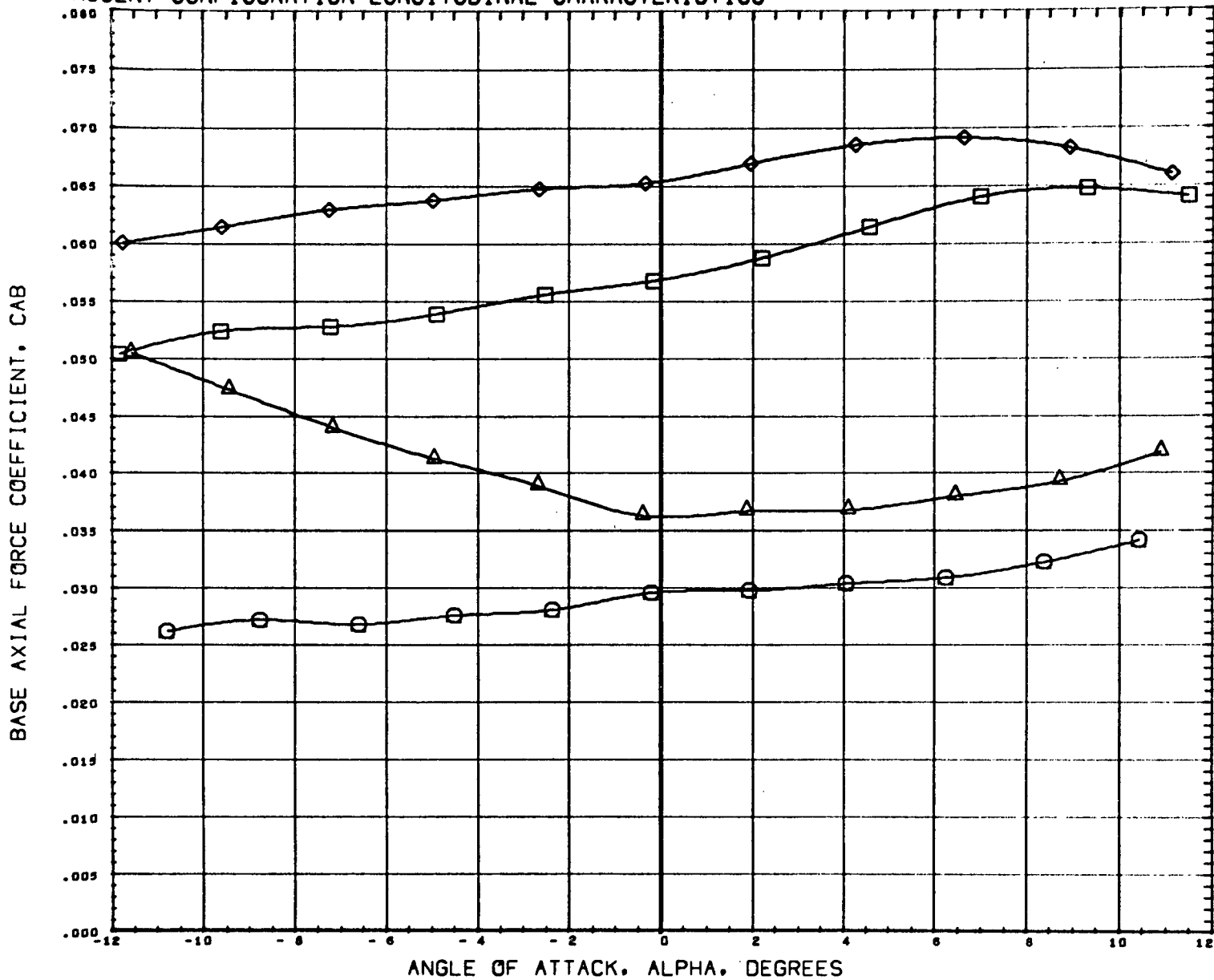
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE *E

MSFC TWT 517. RETRO-GLIDE BOOSTER. L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
◇	0.600	BETA	0.000	ELEVON	0.000
◇	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
◇	1.201				

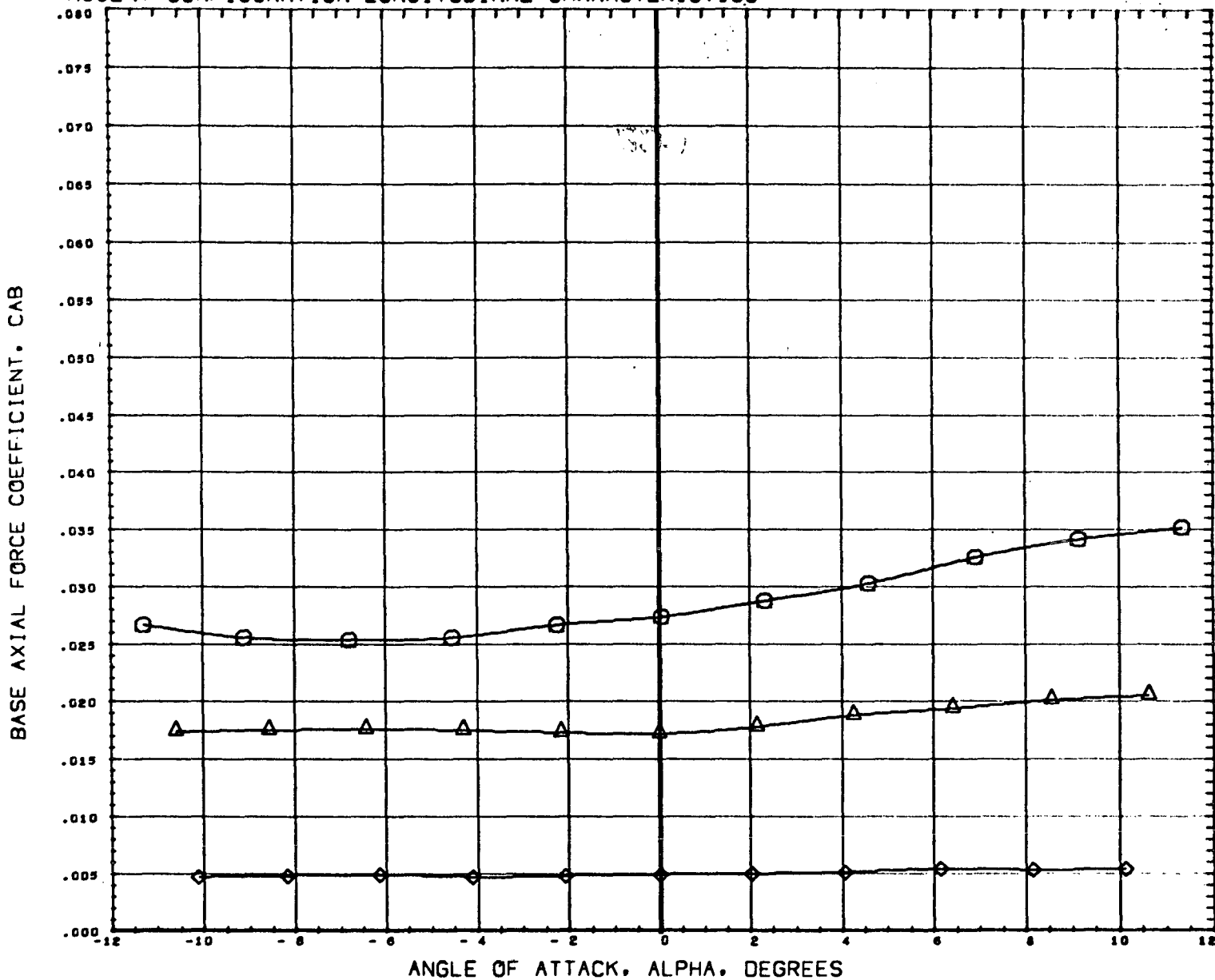
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

DATA HIST. CODE *E

MSFC TWT 517. RETRO-GLIDE BOOSTER. L101D1

(C56041) 10 FEB 72 PAGE 351

ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	sq. in
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

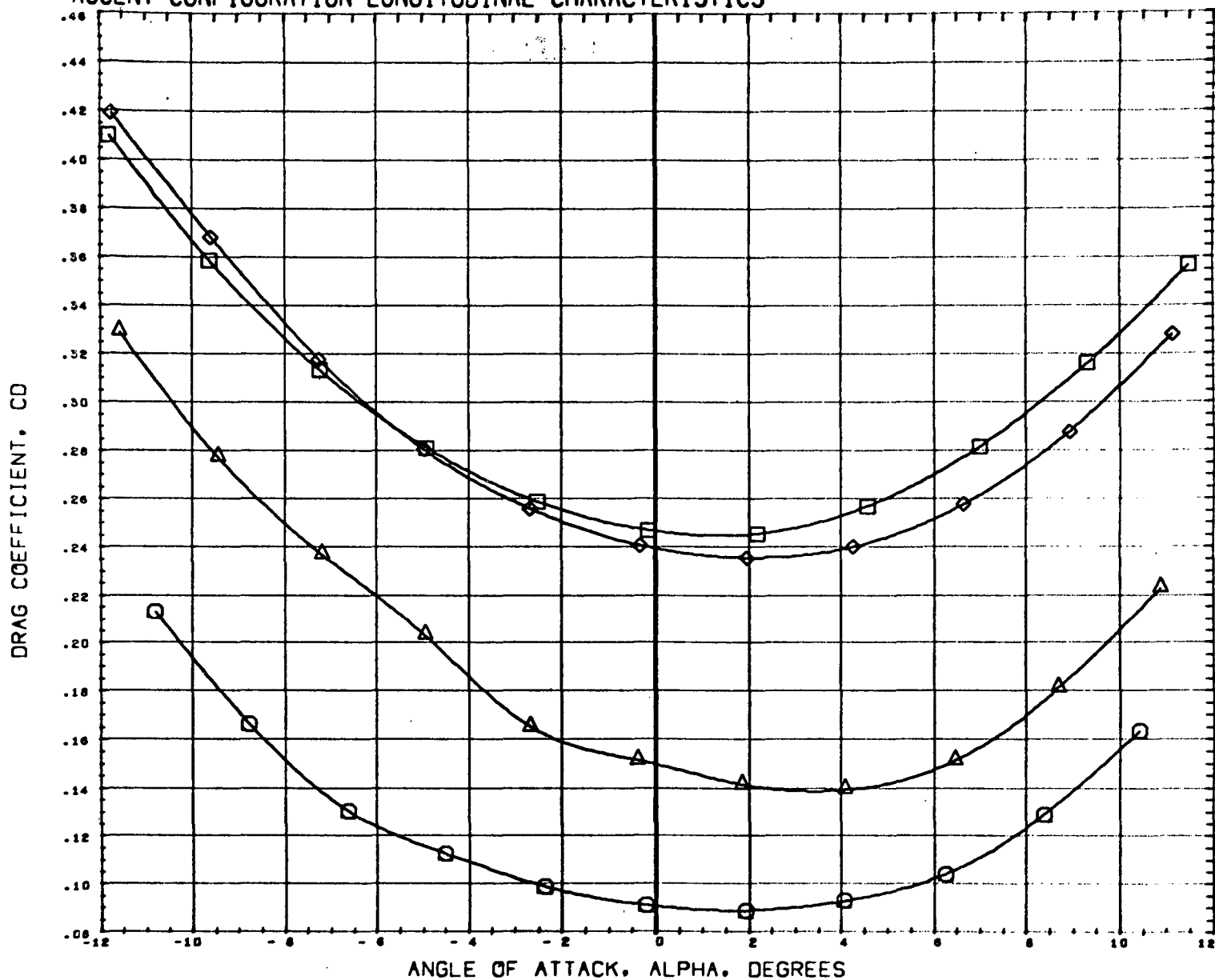
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MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
□	1.201				

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

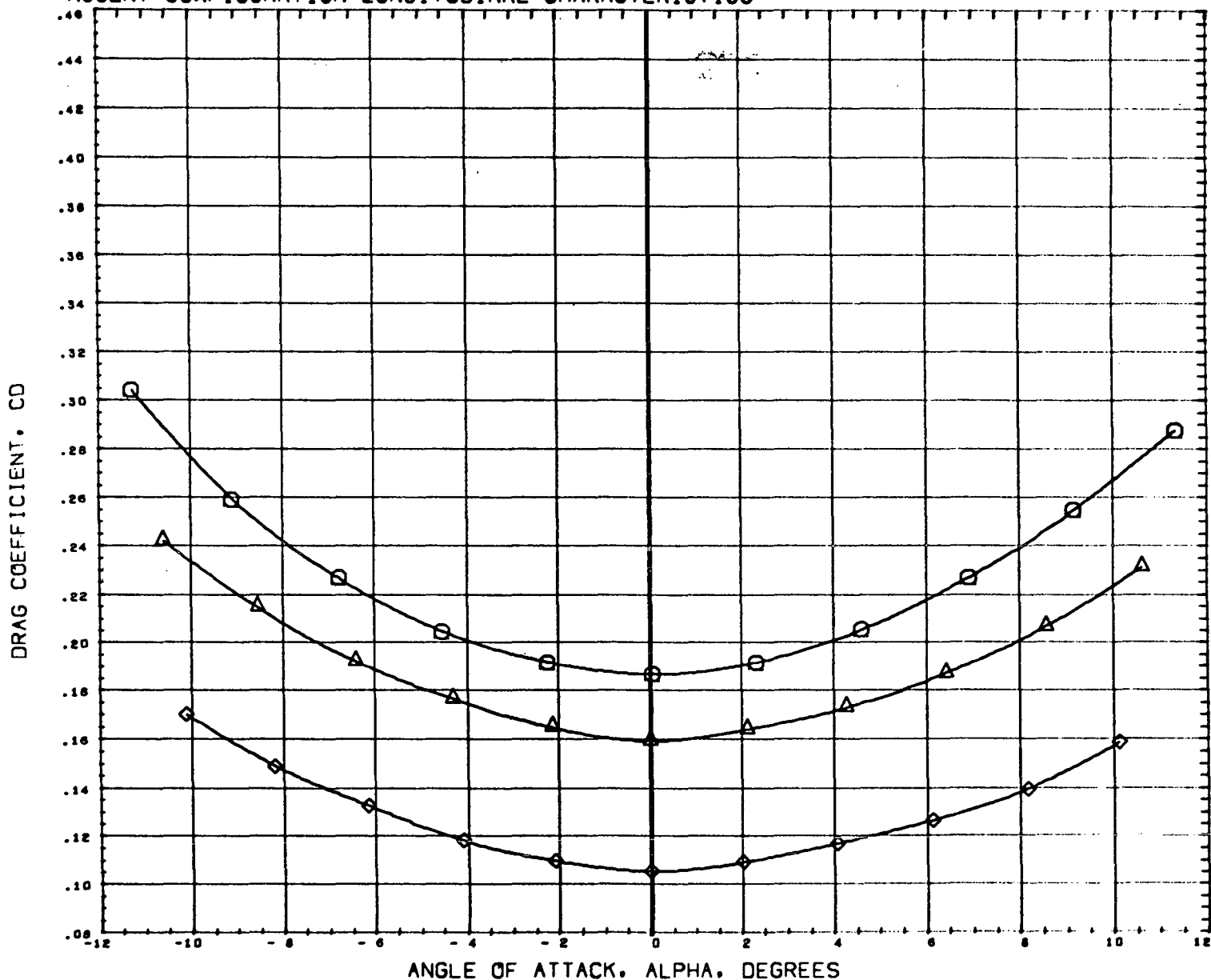
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MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
SREF	9.7800	SQ. IN
LREF	6.4400	INCH
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

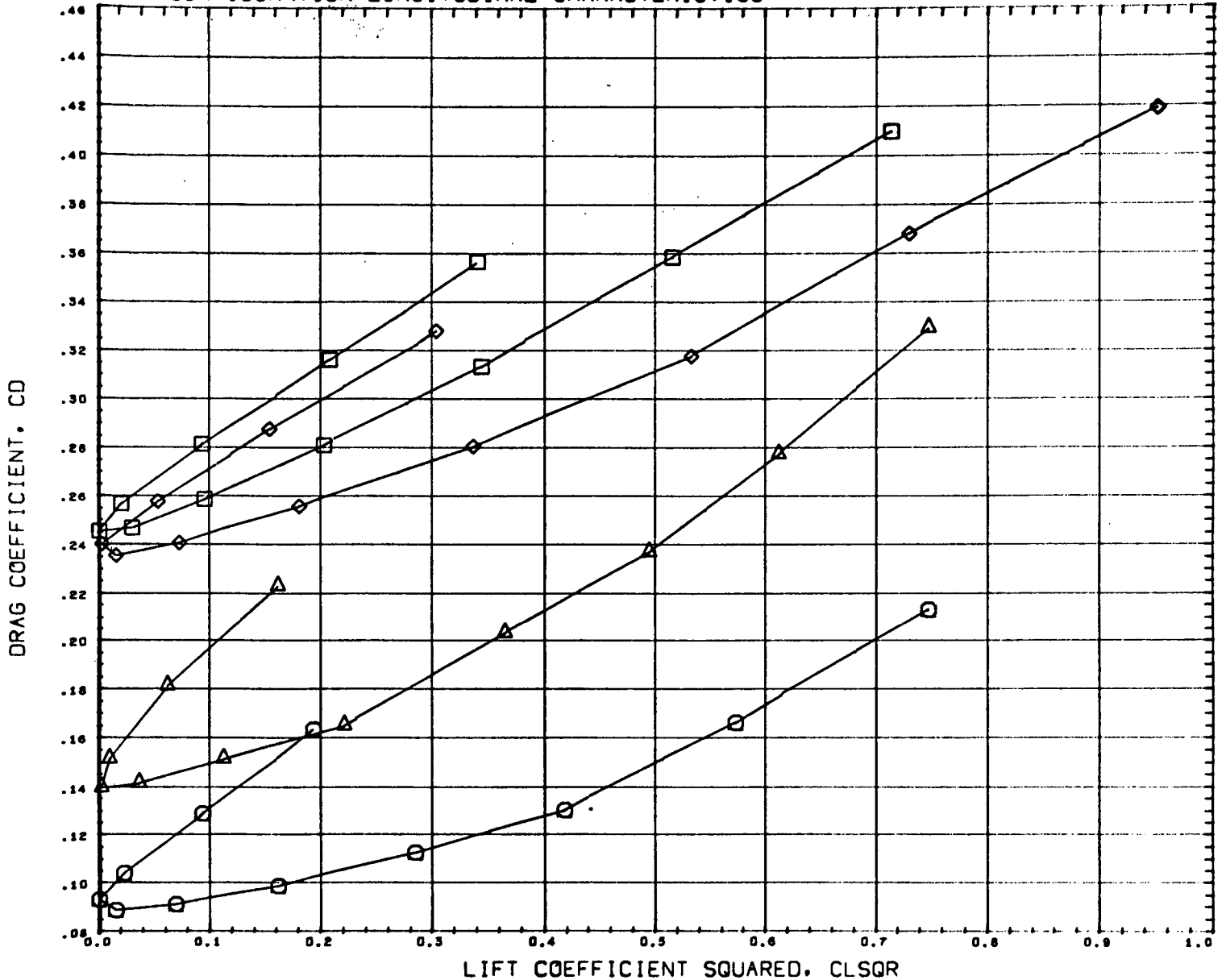
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MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
□	1.201				

REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
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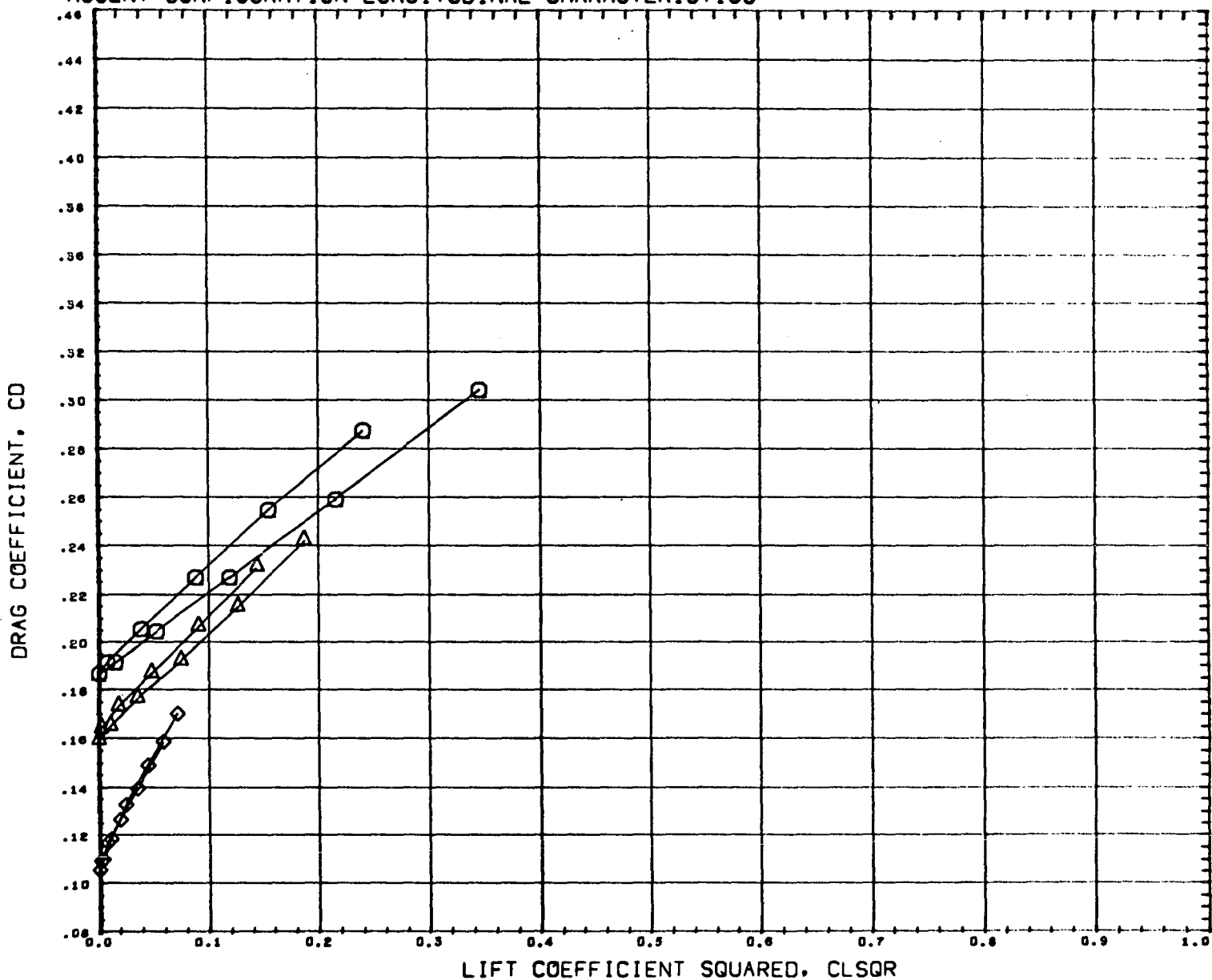
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MSFC TWT 517. RETRO-GLIDE BOOSTER. L10101

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUDR-L	0.000	RUDR-R	0.000
◇	4.939	CANARD	0.000		

REFERENCE INFORMATION		
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ZMRP	0.6670	INCH
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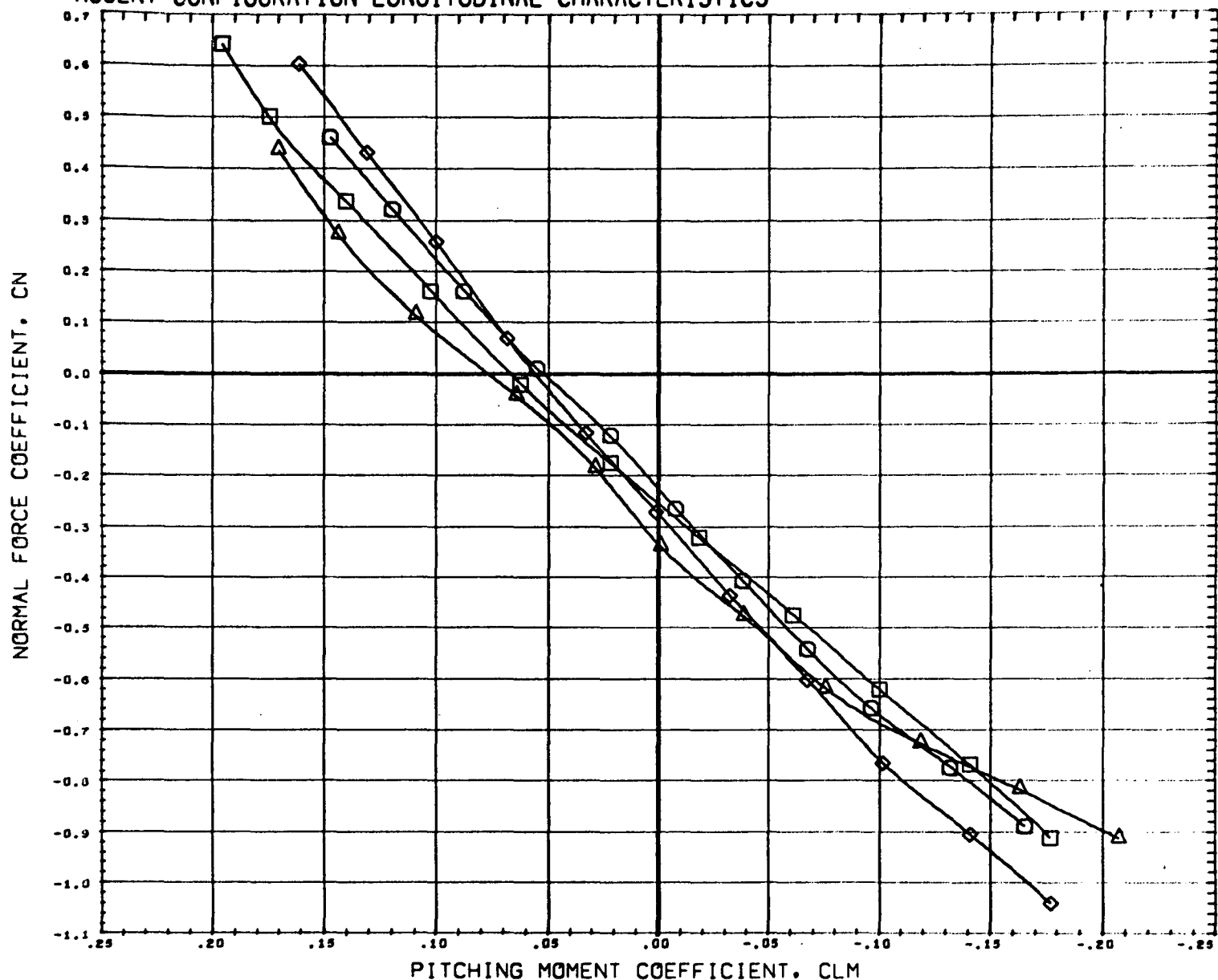
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MSFC TWT 517. RETRO-GLIDE BOOSTER. L10101

(CS6041) 10 FEB 72

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
□	0.600	BETA	0.000	ELEVON	0.000
△	0.901	RUCR-L	0.000	RUCR-R	0.000
◇	0.997	CANARD	0.000		
○	1.201				

DATA HIST. CODE #E

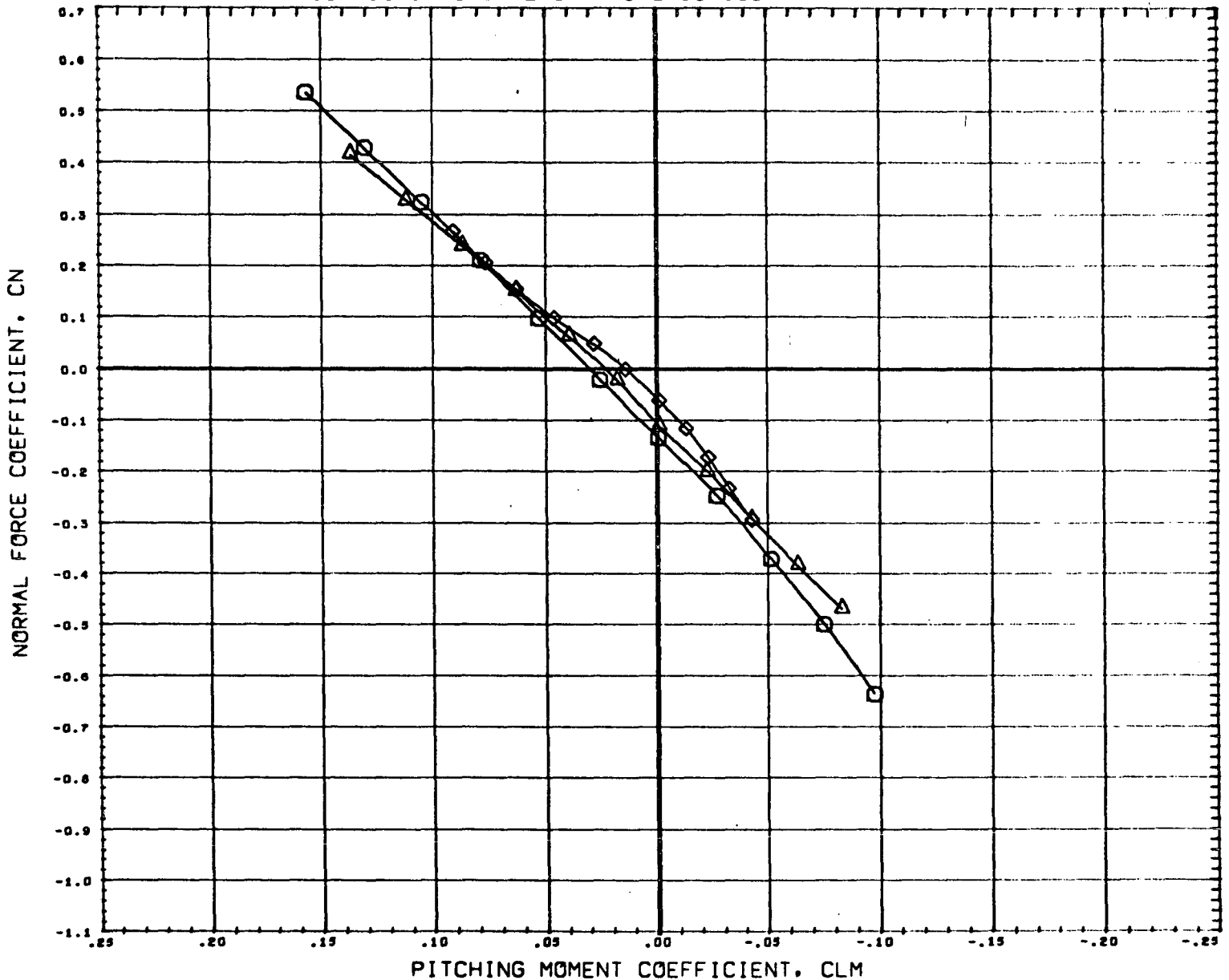
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. L101D1

(C56041) 10 FEB 72

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ASCENT CONFIGURATION LONGITUDINAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.985	BETA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE INFORMATION		
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

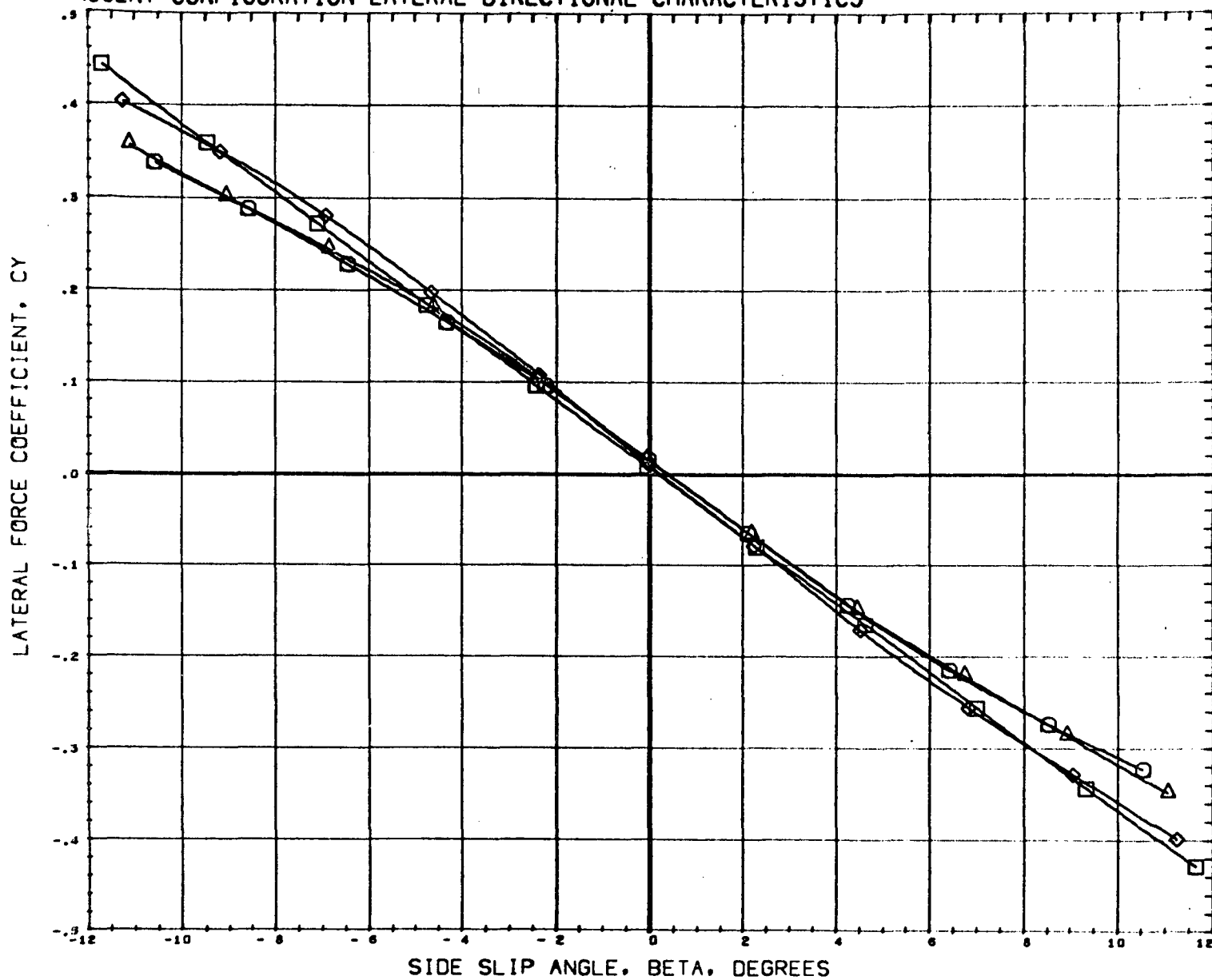
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MSFC TWT 517. RETRO-GLIDE BOOSTER. L10101

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ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.995	ALPHA	0.000	ELEVON	0.000
△	0.992	RUCR-L	0.000	RUCR-R	0.000
◇	0.993	CANARD	0.000		
□	1.201				

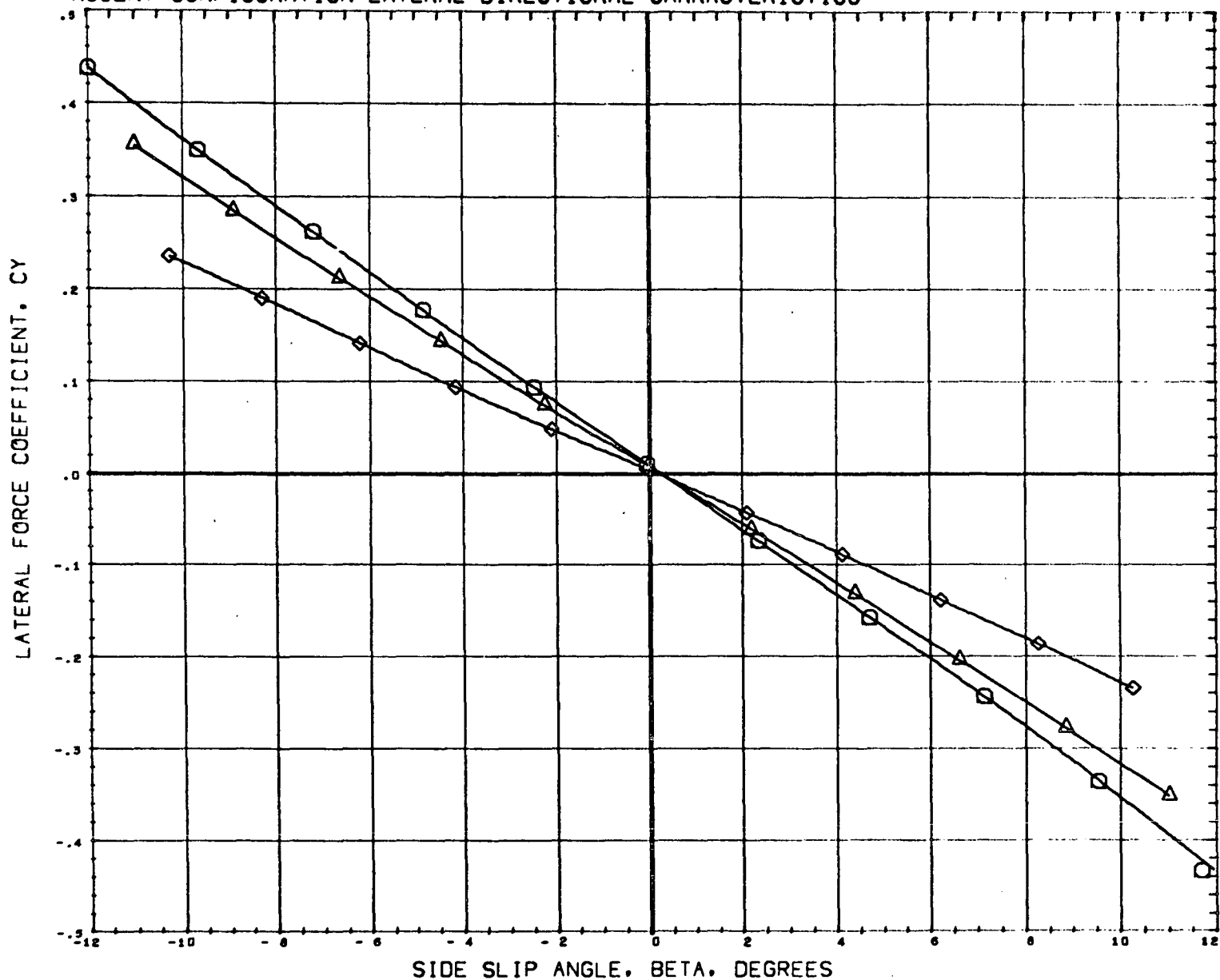
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT S17. RETRO-GLIDE BOOSTER. L101D1

(A56042) 10 FEB 72 PAGE 359

ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.954	ALPHA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE FILE

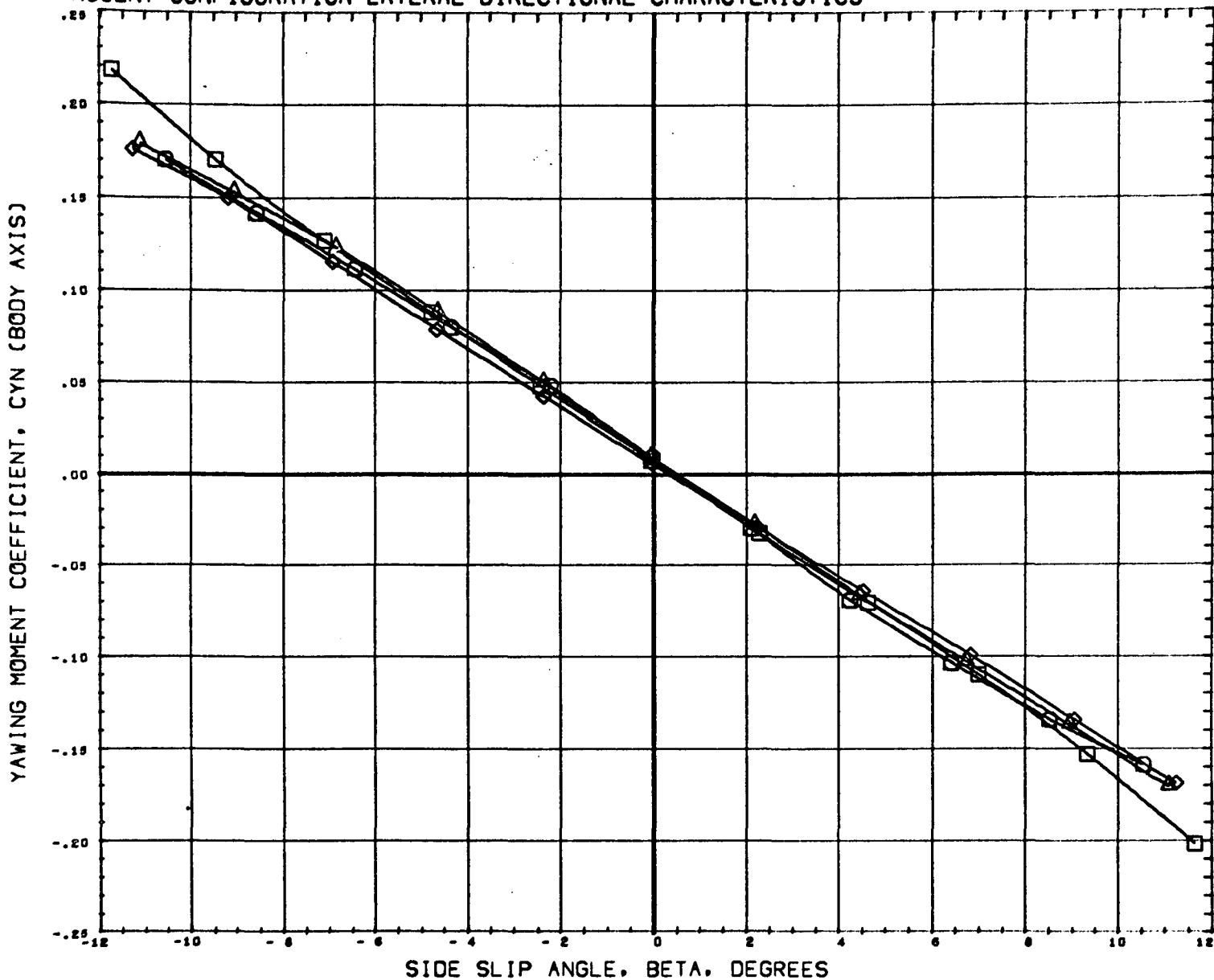
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YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

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ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.595	ALPHA 0.000 ELEVON 0.000
△	0.902	RUCR-L 0.000 RUCR-R 0.000
◇	0.993	CANARD 0.000
□	1.201	

REFERENCE INFORMATION		
SREF	9.7800	SG. IN
LREF	6.4400	INCH
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

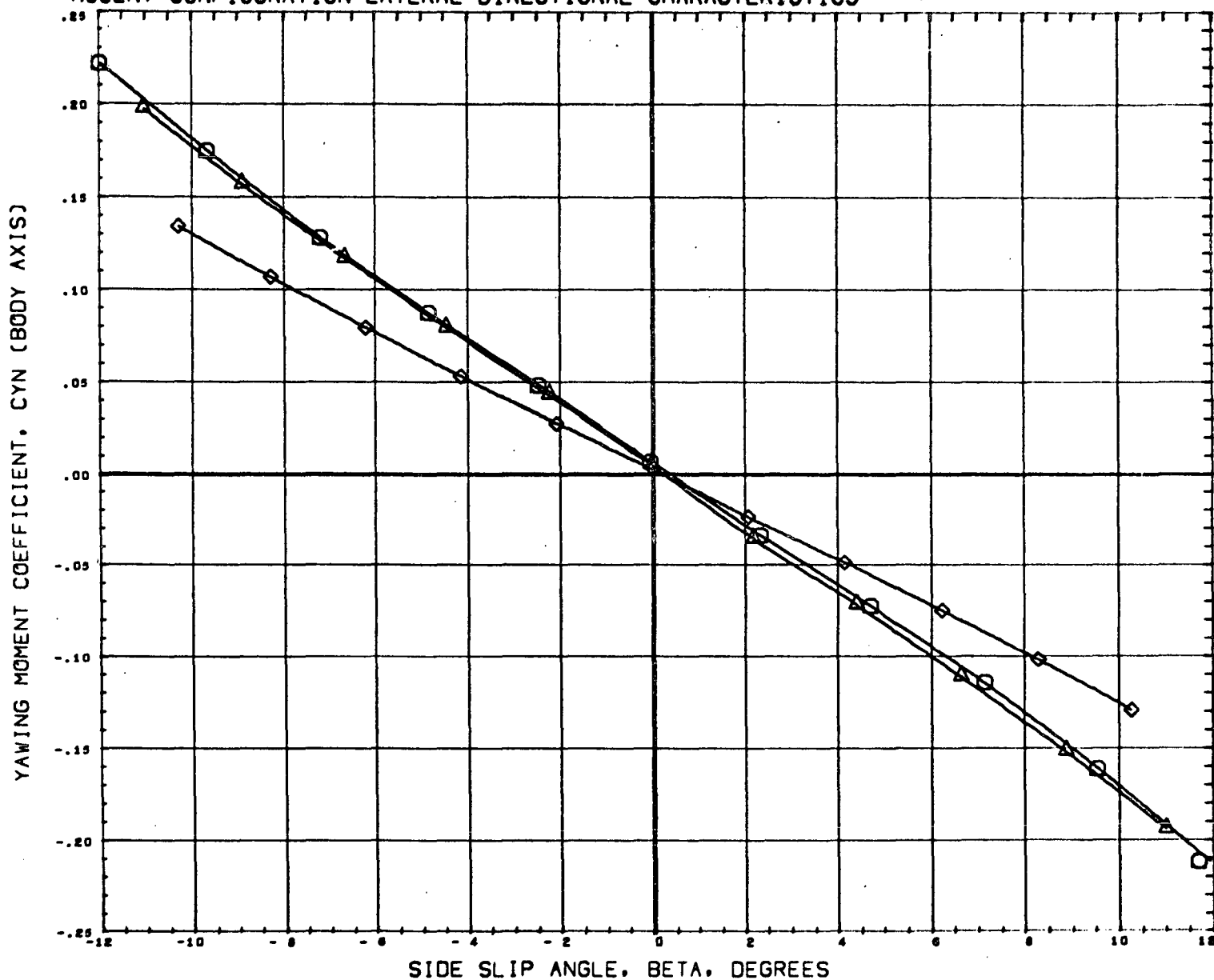
REFERENCE FILE

MSFC TWT 517, RETRO-GLIDE BOOSTER, L10101

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ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.954	ALPHA	0.000	ELEVON	0.000
△	2.740	RUDR-L	0.000	RUDR-R	0.000
◇	4.959	CANARD	0.000		

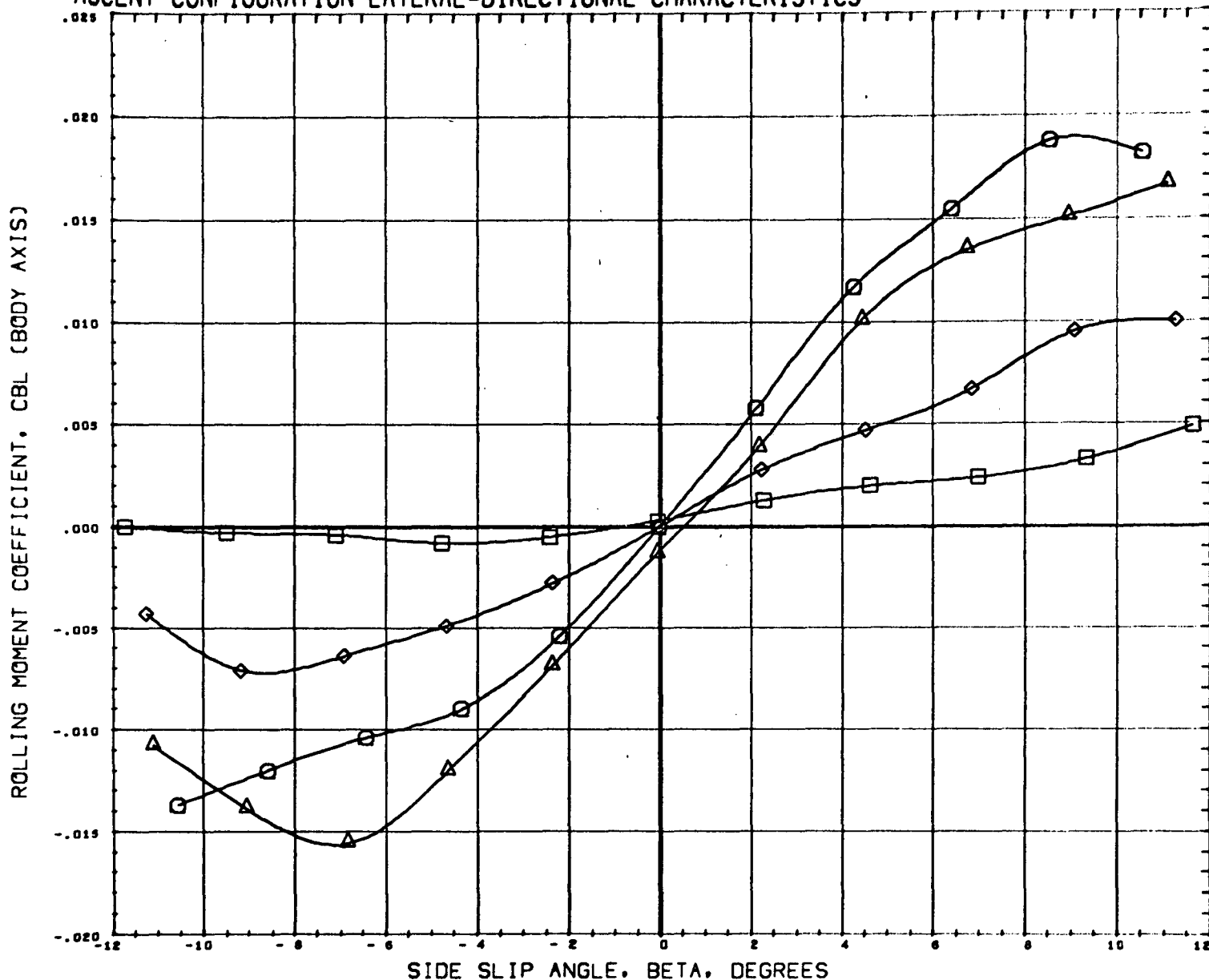
REFERENCE INFORMATION		
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BREF	3.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

REFERENCE FILE

MSFC TWT 517, RETRO-GLIDE BOOSTER, L101D1

(A56042) 10 FEB 72 PAGE 362

ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES
○	0.595	ALPHA 0.000 ELEVON 0.000
△	0.902	RUCR-L 0.000 RUCR-R 0.000
◇	0.993	CANARD 0.000
□	1.201	

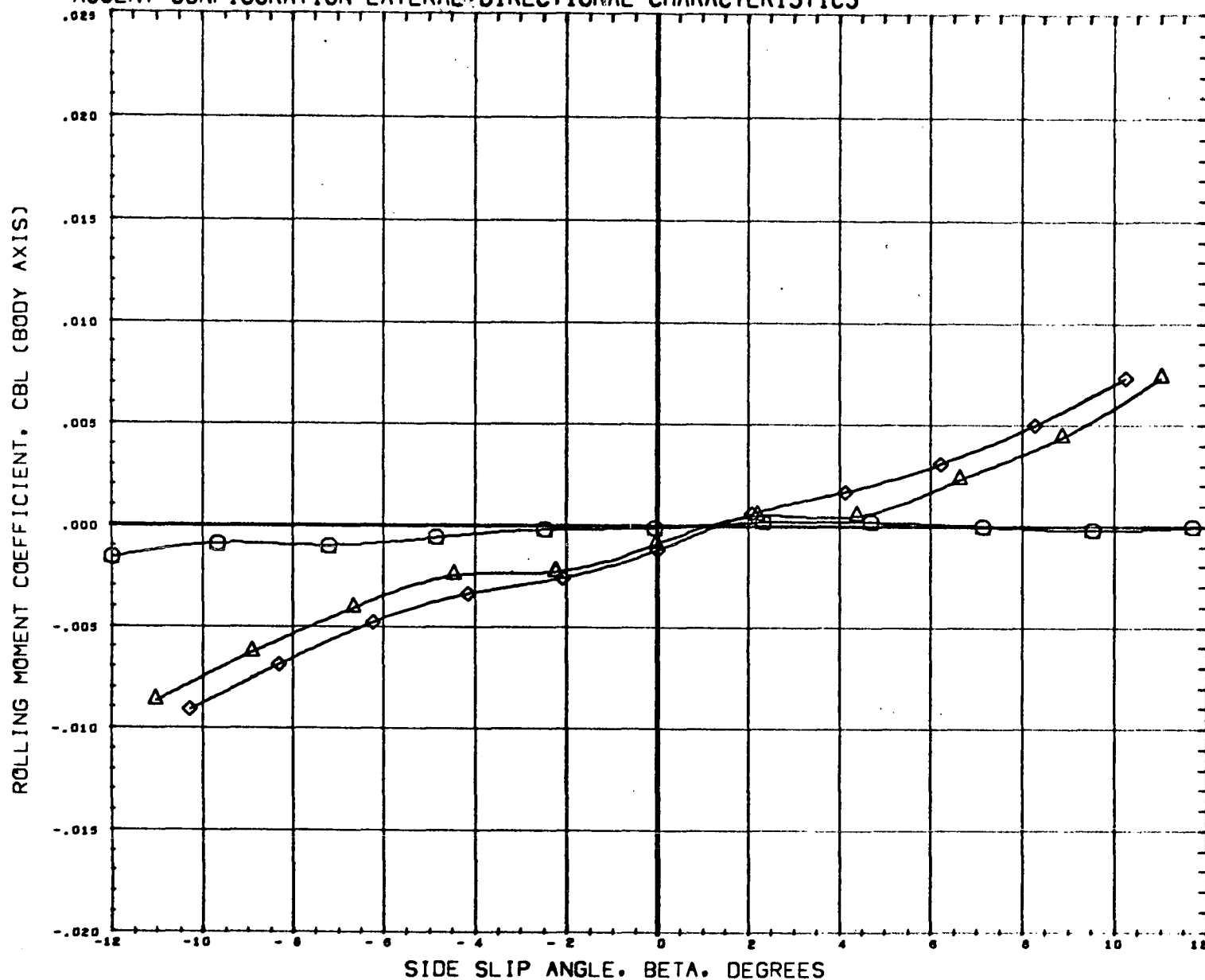
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BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. L101D1

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ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.954	ALPHA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

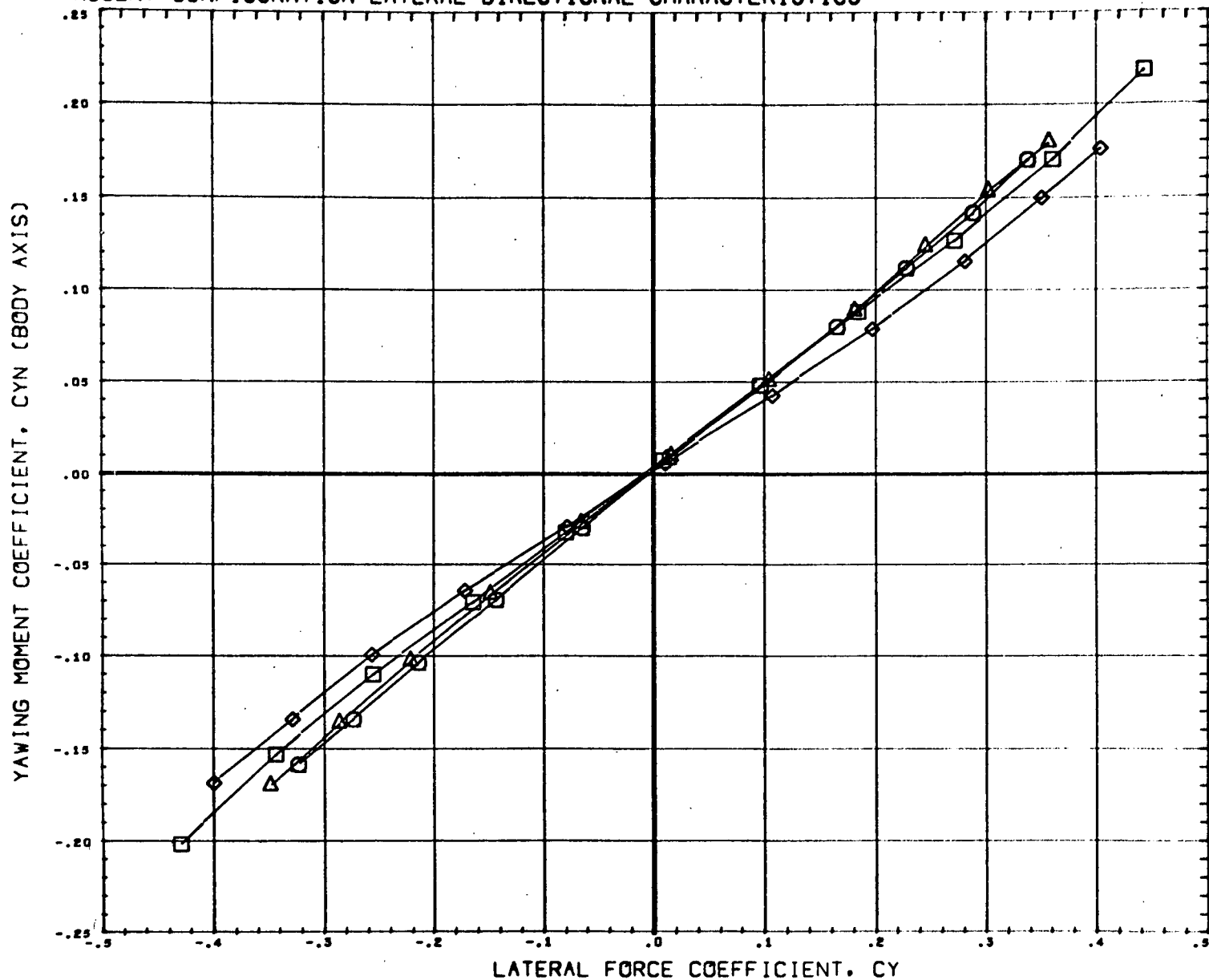
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BREF	5.7300	INCH
XMRF	4.6400	INCH
YMRF	0.0000	INCH
ZMRF	0.6670	INCH
SCALE	0.0034	

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ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	0.595	ALPHA	0.000	ELEVON	0.000
△	0.902	RUCR-L	0.000	RUCR-R	0.000
◇	0.993	CANARD	0.000		
□	1.201				

REFERENCE FILE

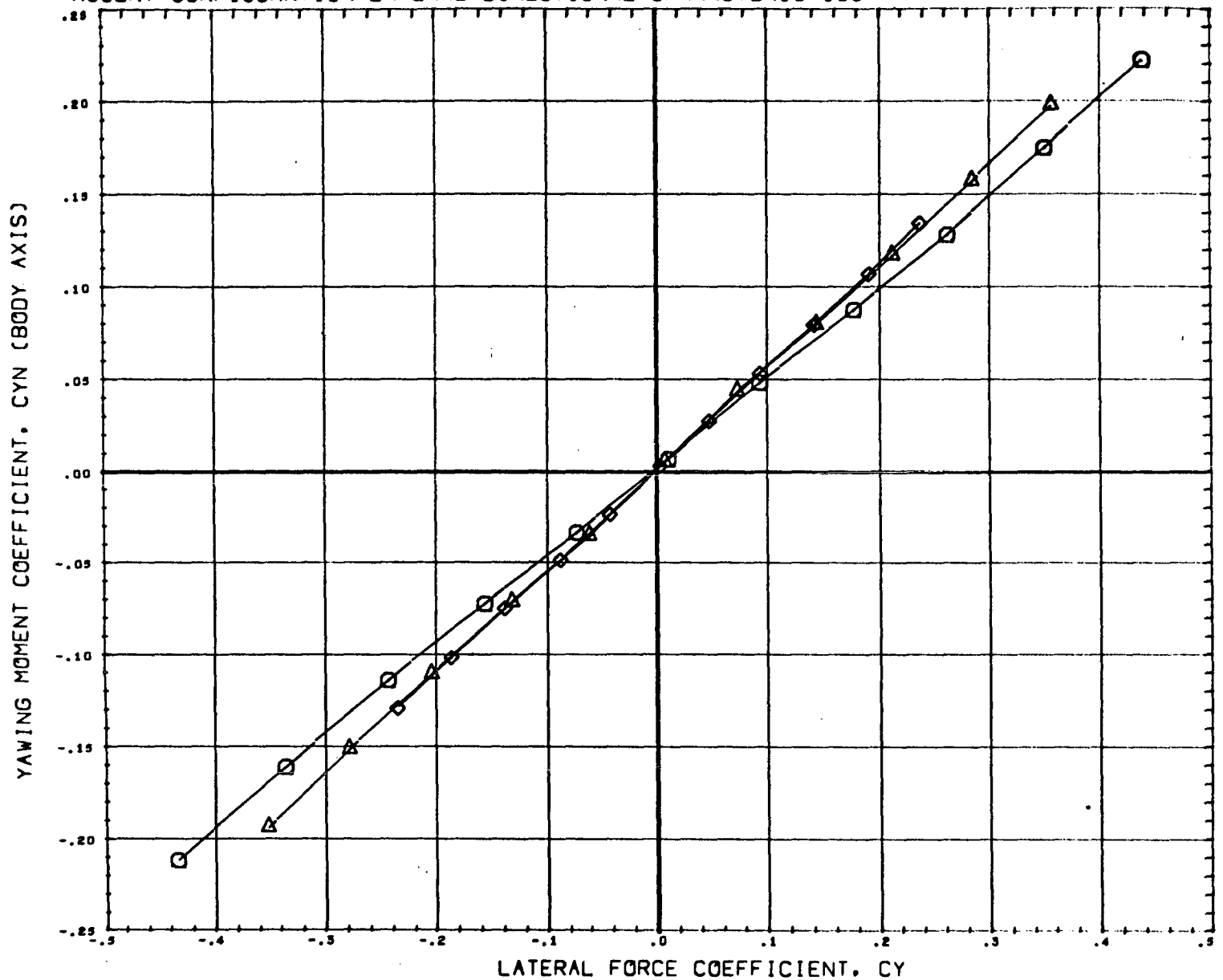
REFERENCE INFORMATION		
SREF	9.7800	Sq. IN
LREF	6.4400	INCH
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XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

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ASCENT CONFIGURATION LATERAL-DIRECTIONAL CHARACTERISTICS



SYMBOL	MACH	PARAMETRIC VALUES			
○	1.954	ALPHA	0.000	ELEVON	0.000
△	2.740	RUCR-L	0.000	RUCR-R	0.000
◇	4.959	CANARD	0.000		

REFERENCE FILE

REFERENCE INFORMATION		
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LREF	6.4400	INCH
BREF	5.7300	INCH
XMRP	4.6400	INCH
YMRP	0.0000	INCH
ZMRP	0.6670	INCH
SCALE	0.0034	

MSFC TWT 517. RETRO-GLIDE BOOSTER. L101D1

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